Lakeland Industry & Community Association

MARCH 2023

Monthly Ambient Air Quality Monitoring Report

LICA-202303

Operation and Maintenance:

Bureau Veritas Canada

Data Validation and Report:

Lakeland Industry & Community Association

April 14, 2023

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April 14, 2023

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

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

Enclosed is the March 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
5107 50 Street
Bonnyville, AB, T9N 2J7
Phone #: 780-226-7068
E-mail: monitoring@lica.ca

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

NETWORK STATION SUMMARY

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 March 2023

Cold Lake South

- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) where applicable.
- All parameters met the 90% operational uptime requirement.
- No major events were identified this month.

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.
- No major events were identified this month.

St. Lina Station

- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) where applicable.
- All parameters met the 90% operational uptime requirement.
- **THC/CH4/NMHC**: Following a successful shut-down calibration on March 11, the Thermo 55i analyzer, s/n: 1180030034, was removed, and the Thermo 55i analyzer, s/n: 1236656107, was

installed. The analyzer was allowed time to stabilize overnight for column condition. A successful installation calibration was completed on March 12. Nineteen hours of downtime were recorded.

Lac La Biche Station

- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) where applicable.
- All parameters met the 90% operational uptime requirement.
- No major events were identified this month.

Integrated Sampling

All the integrated sampling analytical results are included in the March 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.
  - Six samples were collected this month: on March 1, 7, 13, 19, 25 and 31.
- **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).
  - Six samples were collected this month: on March 1, 7, 13, 19, 25 and 31.
- **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.
  - Six samples were collected this month: on March 1, 7, 13, 19, 25 and 31.
- **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 February 27 and March 1, and were removed between March 30 and April 1.
  - 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.
- **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 March/April monitoring period were between February 27 and March 1, and they are scheduled to be removed by the end of April.
- **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.

- No canister events were recorded this month.

Revisions to Alberta's Ambient Air Quality Data Warehouse

To address the finding from the EPA 2022 annual data review, the PM2.5 data collected at the Lac La Biche station between June 17, 2022 hour 0 and June 21, 2022 hour 9 were reviewed and revised. Diagnostics during this period show sample flow = 0 L/min. Data during this period were invalidated. One hundred and six hours of downtime were recorded. Operational up time for the month was 85.3%. **EPA reference #: 411516**. The revised PM2.5 data for June 2022 was submitted to ETS on April 10. ETS **Request #: 4539334**.

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

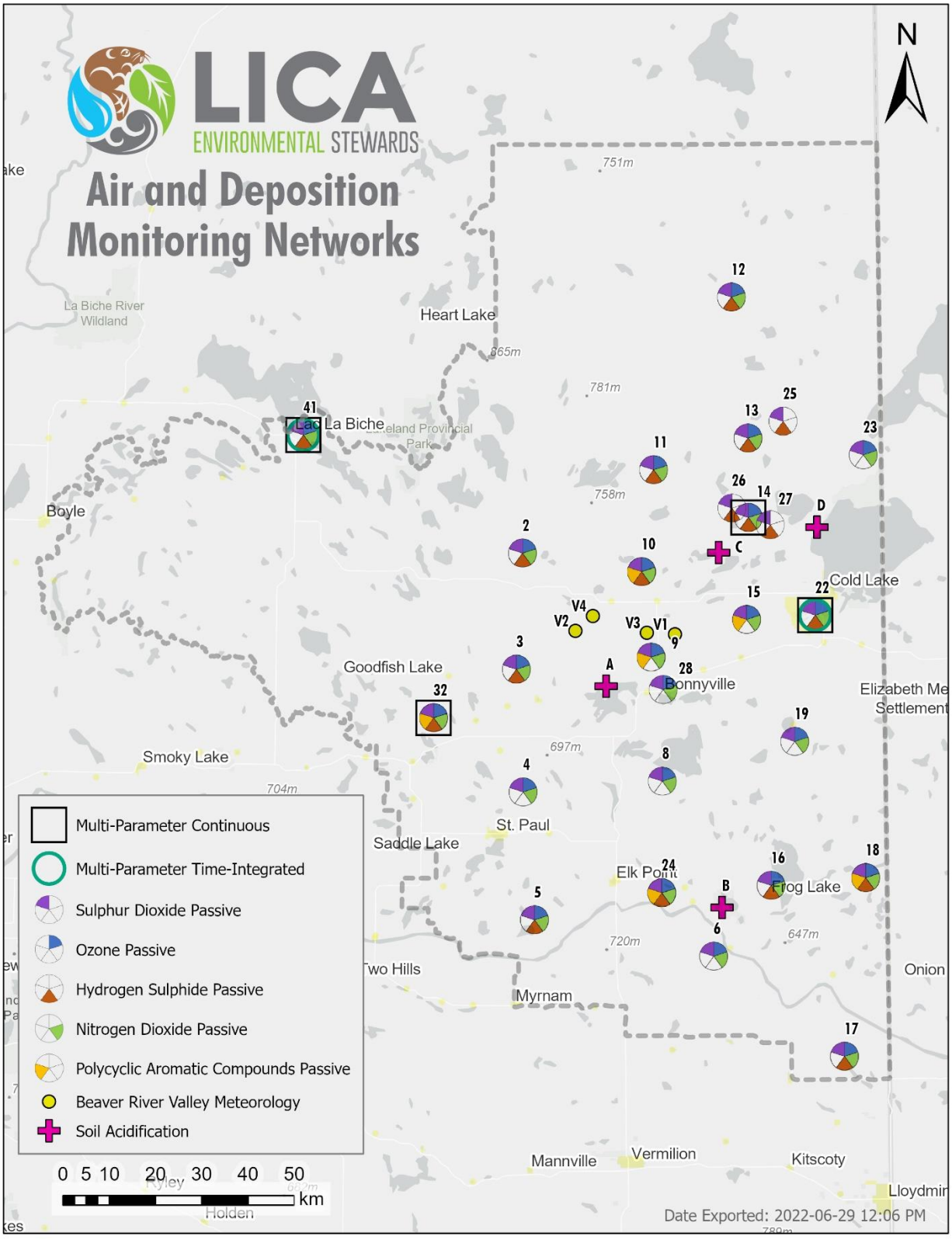
This report was reviewed by Michael Bisaga in accordance with Chapter 9 of the Air Monitoring Directive (AMD 2016).

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

April 14, 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	March 8, 2023	• The channel was put offline while the manifold was being cleaned on March 9. One hour of downtime was recorded. • No data were collected between March 9 hour 17 and March 10 hour 6. The datalogger was restarted remotely to correct the issue. A zero-span check was completed afterward to confirm the analyzer's functionality. Fifteen hours of downtime were recorded due to this event.
TRS Thermo 450i #812728560	March 8, 2023	• The channel was put offline while the manifold was being cleaned on March 9. One hour of downtime was recorded. • No data were collected between March 9 hour 17 and March 10 hour 6. The datalogger was restarted remotely to correct the issue. A zero-span check was completed afterward to confirm the analyzer's functionality. Fifteen hours of downtime were recorded due to this event.
NOx/NO/NO2 Thermo 42i #1505664393	March 8, 2023	• Unscheduled and atypical zero-span checks were triggered by the system on March 8. The cause is unknown. Three hours of downtime were recorded. • The channel was put offline while the manifold was being cleaned on March 9. One hour of downtime was recorded. • No data were collected between March 9 hour 17 and March 10 hour 6. The datalogger was restarted remotely to correct the issue. A zero-span check was completed afterward to confirm the analyzer's functionality. Fifteen hours of downtime were recorded due to this event.
O3 Thermo 49iQ #12208316585	March 9, 2023	• No data were collected between March 9 hour 17 and March 10 hour 6. The datalogger was restarted remotely to correct the issue. A zero-span check was completed afterward to confirm the analyzer's functionality. Fifteen hours of downtime were recorded due to this event.

Parameter	Calibration Date	Equipment Operational Summary
THC/CH4/NMHC Thermo 55i #1180930025	March 9, 2023	• No data were collected between March 9 hour 17 and March 10 hour 6. The datalogger was restarted remotely to correct the issue. A zero-span check was completed afterward to confirm the analyzer's functionality. Fifteen hours of downtime were recorded due to this event.
PM2.5 Teledyne T640 #575	March 9, 2023	• Annual maintenance and audit was completed on March 9. • No data were collected between March 9 hour 17 and March 10 hour 6. The datalogger was restarted remotely to correct the issue. Fourteen hours of downtime were recorded due to this event.
Parameter	**Verification Date**	**Equipment Operational Summary**
RH Rotronic HC2A-S3 #20257103	March 9, 2023	• No data were collected between March 9 hour 17 and March 10 hour 6. The datalogger was restarted remotely to correct the issue. Fourteen hours of downtime were recorded due to this event.
BP Met One 092 #Y23368	March 9, 2023	• No data were collected between March 9 hour 17 and March 10 hour 6. The datalogger was restarted remotely to correct the issue. Fourteen hours of downtime were recorded due to this event.
AT Rotronic HC2A-S3 #20257103	March 9, 2023	• No data were collected between March 9 hour 17 and March 10 hour 6. The datalogger was restarted remotely to correct the issue. Fourteen hours of downtime were recorded due to this event.
ST COMET #NA	March 9, 2023	• No data were collected between March 9 hour 17 and March 10 hour 6. The datalogger was restarted remotely to correct the issue. Fourteen hours of downtime were recorded due to this event.
WS/WD/STDWD RM Young 05305AQ #177354	March 9, 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 data were collected between March 9 hour 17 and March 10 hour 6. The datalogger was restarted remotely to correct the issue. Fourteen hours of downtime were recorded due to this event.

Monitored Data Summary for Cold Lake South Station

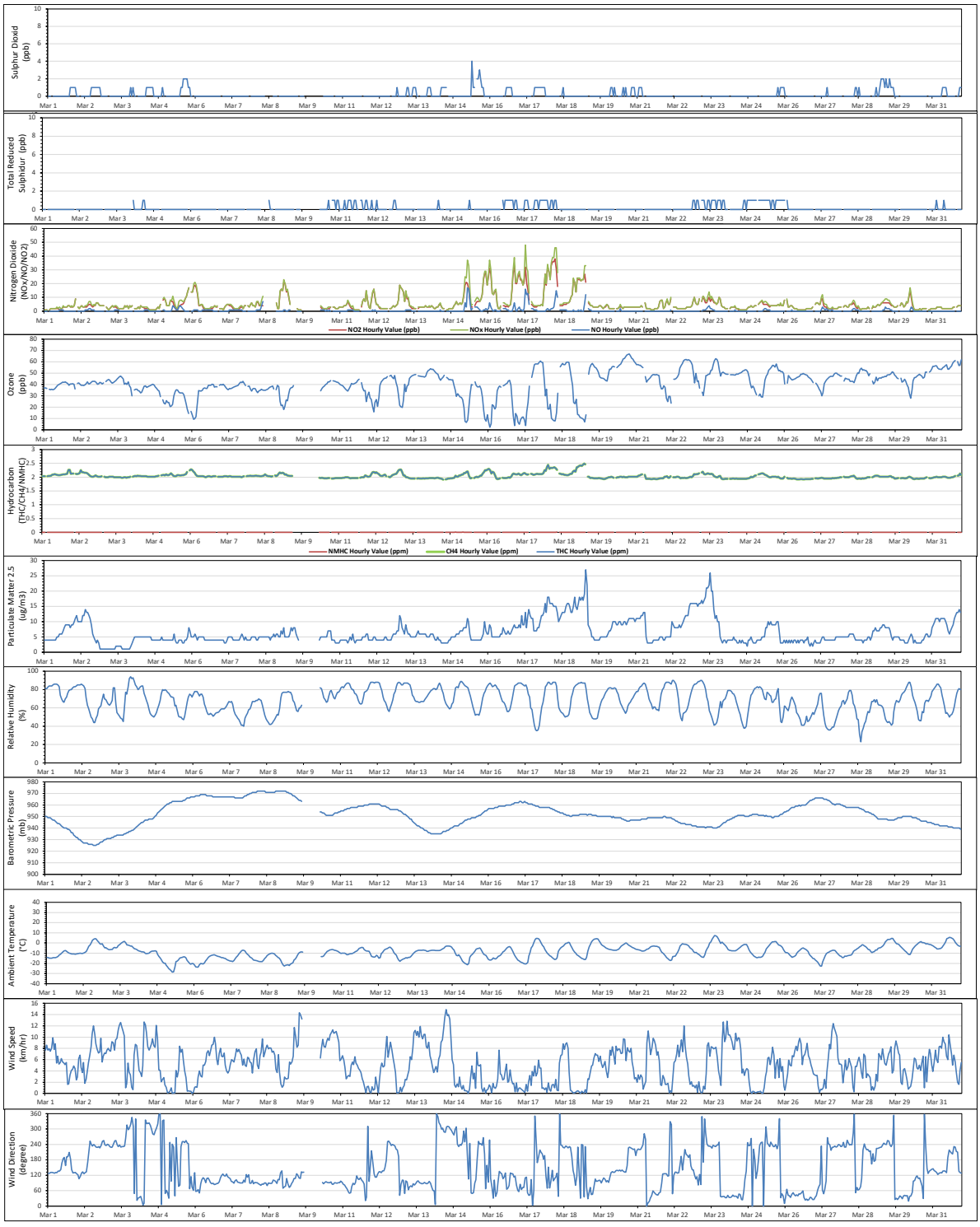
Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.2	0	4	Mar 15 at hr 9	2.8	NE	0.8	Mar 29	97.8	92.7
TRS (ppb)	-	-	-	-	-	-	0.2	0	1	Mar 4 at hr 1	8.7	NNE	0.9	Mar 25	97.8	92.7
NOx (ppb)	-	-	-	-	-	-	6.2	1	48	Mar 17 at hr 6	1.6	NE	19.7	Mar 18	97.4	92.0
NO (ppb)	-	-	-	-	-	-	0.6	0	17	Mar 15 at hr 7	0	WSW	3.0	Mar 15	97.4	92.0
NO2 (ppb)	159	-	-	0	-	-	5.5	1	38	Mar 18 at hr 6	2.5	SE	17.5	Mar 18	97.4	92.0
O3 (ppb)	76	-	-	0	-	-	41.0	2.4	66.9	Mar 20 at hr 18	7.3	SW	58.7	Mar 20	98.0	93.0
THC (ppm)	-	-	-	-	-	-	2.03	1.91	2.49	Mar 19 at hr 6	0.7	ENE	2.21	Mar 18	98.0	93.0
CH4 (ppm)	-	-	-	-	-	-	2.03	1.91	2.49	Mar 19 at hr 6	0.7	ENE	2.21	Mar 18	98.0	93.0
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.03	Mar 9 at hr 16	13.2	SE	0.00	Mar 14	98.0	93.0
PM2.5 (µg/m3)	80	29	-	0	0	-	6.5	1	27	Mar 19 at hr 7	0.1	NNE	14.6	Mar 18	98.1	97.8
RH (%)	-	-	-	-	-	-	68.1	23	94	Mar 3 at hr 21	3.3	NW	79.5	Mar 1	98.1	98.1
BP (millibar)	-	-	-	-	-	-	952	925	972	Mar 8 at hr 4	5	E	972	Mar 8	98.1	98.1
Ext. Temp. (°C)	-	-	-	-	-	-	-8.7	-28.6	7.2	Mar 23 at hr 15	8	SW	-1.0	Mar 31	98.1	98.1
Stn. Temp. (°C)	-	-	-	-	-	-	22.3	21.0	23.9	Mar 31 at hr 12	6	S	23.0	Mar 31	98.1	98.1
WSV (km/hr)	-	-	-	-	-	-	1.3	0.0	14.9	Mar 14 at hr 13	14.9	NW	7.3	Mar 3	98.1	98.1
WDV (sector)	-	-	-	-	-	-	119 (ESE)	-	-	-	-	-	-	-	98.1	98.1

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 measured ambient air quality was within the AAAQOs and/or AAAQGs for all monitored parameters.

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



Tamarack Station

Equipment Operation Summary

Parameter	Calibration Date	Equipment Operational Summary
SO2 Thermo 43i-TLE #1180930031	March 4, 2023	• Scheduled zero-span check for March 13 and 14 were completed without issues. However, results were not recorded into the system due to logger error. • Due to polling issues, data recorded on March 14 hour 11 did not meet the hourly data completeness requirements. One hour of downtime was recorded.
H2S Thermo 450i #CM17360005	March 4, 2023	• Scheduled zero-span check for March 13 and 14 were completed without issues. However, results were not recorded into the system due to logger error. • Due to polling issues, data recorded on March 14 hour 11 did not meet the hourly data completeness requirements. One hour of downtime was recorded.
NOx/NO/NO2 Thermo 42i #1180930028	March 4, 2023	• Scheduled zero-span check for March 13 and 14 were completed without issues. However, results were not recorded into the system due to logger error. • Due to polling issues, data recorded on March 14 hour 11 did not meet the hourly data completeness requirements. One hour of downtime was recorded.
O3 Thermo 49iQ #1202068570	March 5, 2023	• Scheduled zero-span check for March 13 and 14 were completed without issues. However, results were not recorded into the system due to logger error. • Due to polling issues, data recorded on March 14 hour 11 did not meet the hourly data completeness requirements. One hour of downtime was recorded.
THC/CH4/NMHC Thermo 55i #1180930026	March 5, 2023	• Scheduled zero-span check for March 13 and 14 were completed without issues. However, results were not recorded into the system due to logger error. • Due to polling issues, data recorded on March 14 hour 11 did not meet the hourly data completeness requirements. One hour of downtime was recorded.
PM2.5 Thermo Sharp 5030 #CM2209	March 5, 2023	• Due to polling issues, data recorded on March 14 hour 11 did not meet the hourly data completeness requirements. One hour of downtime was recorded.
Parameter	**Verification Date**	**Equipment Operational Summary**
RH Rotronic HC2A-S3 #20433166	March 5, 2023	• Due to polling issues, data recorded on March 14 hour 11 did not meet the hourly data completeness requirements. One hour of downtime was recorded.
BP Met One 090D #F4497	March 5, 2023	• Due to polling issues, data recorded on March 14 hour 11 did not meet the hourly data completeness requirements. One hour of downtime was recorded.

Parameter	Verification Date	Equipment Operational Summary
AT Rotronic HC2A-S3 #20433166	March 5, 2023	• Due to polling issues, data recorded on March 14 hour 11 did not meet the hourly data completeness requirements. One hour of downtime was recorded.
ST COMET #NA	March 5, 2023	• Due to polling issues, data recorded on March 14 hour 11 did not meet the hourly data completeness requirements. One hour of downtime was recorded.
Precipitation MetOne 387 #C13580	March 5, 2023	• Due to polling issues, data recorded on March 14 hour 11 did not meet the hourly data completeness requirements. One hour of downtime was recorded.
WS/WD/STDWD RM Young 05305VK #161465	March 5, 2023	• Wind direction data contained in this report represents where the wind is coming from. • An annual wind system calibration was completed on July 26, 2022. • Due to polling issues, data recorded on March 14 hour 11 did not meet the hourly data completeness requirements. One hour of downtime was 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	1.2	0	21	Mar 14 at hr 14	10.8	WNW	5.0	Mar 14	99.9	95.0
H2S (ppb)	10	3	-	0	0	-	0.0	0	1	Mar 6 at hr 19	9.2	ESE	0.0	Mar 1	99.9	94.9
NOx (ppb)	-	-	-	-	-	-	4.4	0	43	Mar 27 at hr 7	0.2	WNW	9.9	Mar 15	99.9	94.7
NO (ppb)	-	-	-	-	-	-	0.7	0	23	Mar 27 at hr 7	0.2	WNW	2.5	Mar 15	99.9	94.7
NO2 (ppb)	159	-	-	0	-	-	3.8	0	20	Mar 18 at hr 7	0	NNW	7.5	Mar 18	99.9	94.7
O3 (ppb)	76	-	-	0	-	-	41.2	17.1	64.2	Mar 20 at hr 19	4	SSW	56.7	Mar 20	99.9	94.9
THC (ppm)	-	-	-	-	-	-	2.06	1.98	2.29	Mar 23 at hr 8	2.7	SW	2.17	Mar 18	99.9	94.9
CH4 (ppm)	-	-	-	-	-	-	2.06	1.98	2.28	Mar 23 at hr 13	7.1	SSW	2.17	Mar 18	99.9	94.9
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.06	Mar 23 at hr 7	0.4	WSW	0.01	Mar 27	99.9	94.9
PM2.5 (µg/m3)	80	29	-	0	0	-	4.9	1	75	Mar 27 at hr 7	0.2	WNW	10.6	Mar 23	99.9	99.7
RH (%)	-	-	-	-	-	-	71.2	30	100	Mar 3 at hr 19	2.9	WNW	85.5	Mar 1	99.9	99.9
BP (millibar)	-	-	-	-	-	-	937	911	956	Mar 8 at hr 7	4.5	ENE	956	Mar 8	99.9	99.9
Ext. Temp. (°C)	-	-	-	-	-	-	-8.8	-26.6	8.5	Mar 23 at hr 15	7.9	SSW	-1.5	Mar 31	99.9	99.9
Stn. Temp. (°C)	-	-	-	-	-	-	21.5	18.9	23.6	Mar 4 at hr 18	7.4	N	22.3	Mar 3	99.9	99.9
Precipitation (mm)*	-	-	-	-	-	-	6.8	0.0	1.4	Mar 3 at hr 18	4.7	NNW	3.1	Mar 3	99.9	99.7
WSV (km/hr)	-	-	-	-	-	-	1.8	0.0	13.4	Mar 3 at hr 14	13.4	W	9.6	Mar 10	99.9	99.9
WDV (sector)	-	-	-	-	-	-	138 (SE)	-	-	-	-	-	-	-	99.9	99.9

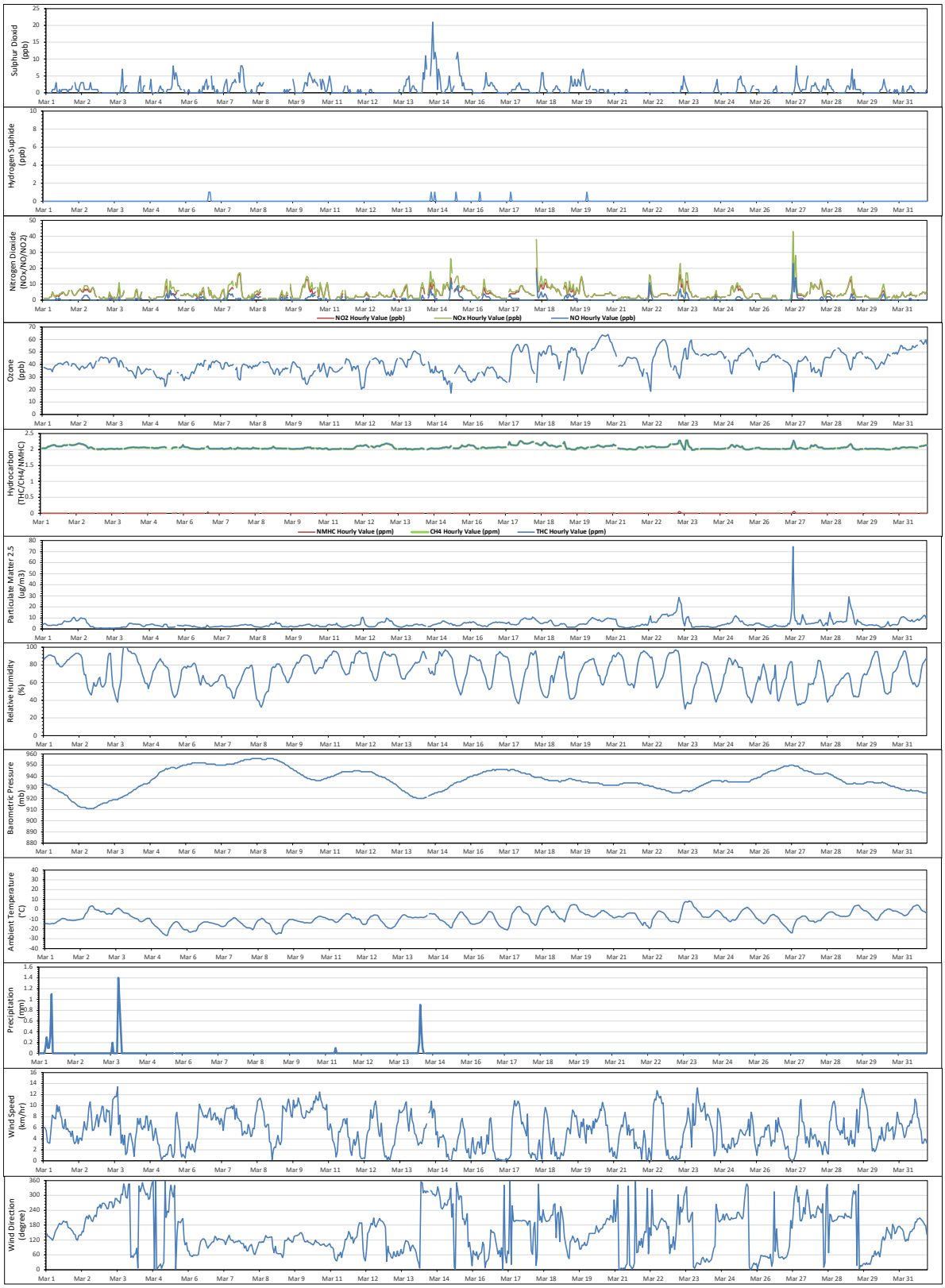
1- Date/ Time given is the first minimum and maximum value that was recorded

* 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 measured ambient air quality was within the AAAQOs and/or AAAQGs for all monitored parameters.

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



St. Lina Station

Equipment Operation Summary

Parameter	Calibration Date	Equipment Operational Summary
SO2 Thermo 43i-TLE #1180930030	March 12, 2023	• Due to polling issues, data recorded on March 16 hour 11 did not meet the hourly data completeness requirements. One hour of downtime was recorded.
H2S Thermo 450i #CM18010058	March 12, 2023	• Due to polling issues, data recorded on March 14 hour 11 did not meet the hourly data completeness requirements. One hour of downtime was recorded.
NOx/NO/NO2 Thermo 42i #1180930029	March 12, 2023	• Due to polling issues, data recorded on March 14 hour 11 did not meet the hourly data completeness requirements. One hour of downtime was recorded.
O3 Thermo 49iQ #12208316586	March 11, 2023	• Due to polling issues, data recorded on March 14 hour 11 did not meet the hourly data completeness requirements. One hour of downtime was recorded.
THC/CH4/NMHC Thermo 55i #1180030034	March 26, 2023	• Following a successful shut-down calibration on March 11, the Thermo 55i analyzer, s/n: 1180030034, was removed, and the Thermo 55i analyzer, s/n: 1236656107, was installed. The analyzer was allowed time to stabilize overnight for column conditioning. A successful installation calibration was completed on March 12. Nineteen hours of downtime were recorded. • Multiple bad injections were noted beginning March 24. A repeat calibration was attempted on March 26. However, the analyzer failed the as-found points check due to injection issues. A multi-point calibration was completed after the as-found points check to correct the injection issues. Data quality that were affected by the bad injections were discarded. Two hours of data were invalidated as a result. A total of five hours of downtime were recorded due to this event. • Due to polling issues, data recorded on March 14 hour 11 did not meet the hourly data completeness requirements. One hour of downtime was recorded. • The HC channel was put offline while maintenance was performing on the hydrogen generator on March 30. One hour of downtime was recorded.

Parameter	Calibration Date	Equipment Operational Summary
PM2.5 Thermo Sharp 5030i #CM17091001	March 12, 2023	• Due to polling issues, data recorded on March 14 hour 11 did not meet the hourly data completeness requirements. One hour of downtime was recorded.
Parameter	**Verification Date**	**Equipment Operational Summary**
RH Rotronic HC2A-S3 #20404750	March 12, 2023	• Due to polling issues, data recorded on March 14 hour 11 did not meet the hourly data completeness requirements. One hour of downtime was recorded.
BP Met One 090D #F4498	March 12, 2023	• Due to polling issues, data recorded on March 14 hour 11 did not meet the hourly data completeness requirements. One hour of downtime was recorded.
AT Rotronic HC2A-S3 #20404750	March 12, 2023	• Due to polling issues, data recorded on March 14 hour 11 did not meet the hourly data completeness requirements. One hour of downtime was recorded.
ST COMET #NA	March 12, 2023	• Due to polling issues, data recorded on March 14 hour 11 did not meet the hourly data completeness requirements. One hour of downtime was recorded.
Precipitation MetOne 387D #A23775	March 12, 2023	• Due to polling issues, data recorded on March 14 hour 11 did not meet the hourly data completeness requirements. One hour of downtime was recorded.
WS/WD/STDWD RM Young 05305VK #161466	March 12, 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. • Due to polling issues, data recorded on March 14 hour 11 did not meet the hourly data completeness requirements. One hour of downtime was recorded.

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	0.3	0	4	Mar 17 at hr 12	8.7	SSW	1.0	Mar 6	99.9	95.0
H2S (ppb)	10	3	-	0	0	-	0.0	0	1	Mar 25 at hr 23	10.7	ENE	0.0	Mar 1	99.9	94.9
NOx (ppb)	-	-	-	-	-	-	3.0	0	11	Mar 19 at hr 22	9.1	SE	5.9	Mar 20	99.9	94.7
NO (ppb)	-	-	-	-	-	-	0.1	0	3	Mar 2 at hr 12	15.6	WSW	0.5	Mar 2	99.9	94.7
NO2 (ppb)	159	-	-	0	-	-	2.8	0	11	Mar 19 at hr 22	9.1	SE	5.9	Mar 20	99.9	94.7
O3 (ppb)	76	-	-	0	-	-	45.7	27.5	71.6	Mar 20 at hr 16	12.3	SSW	61.7	Mar 20	99.9	94.9
THC (ppm)	-	-	-	-	-	-	2.07	1.95	2.45	Mar 19 at hr 23	7.4	ESE	2.20	Mar 20	96.5	91.6
CH4 (ppm)	-	-	-	-	-	-	2.07	1.95	2.45	Mar 19 at hr 23	7.4	ESE	2.20	Mar 20	96.5	91.6
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.01	Mar 15 at hr 11	3.9	ENE	0.00	Mar 26	96.5	91.6
PM2.5 (µg/m3)	80	29	-	0	0	-	5.1	0	25	Mar 19 at hr 22	9.1	SE	15.0	Mar 22	99.9	99.7
RH (%)	-	-	-	-	-	-	70.7	32	94	Mar 3 at hr 23	10.5	NW	86.0	Mar 12	99.9	99.9
BP (millibar)	-	-	-	-	-	-	919	896	938	Mar 8 at hr 21	9.6	SE	937	Mar 8	99.9	99.9
Ext. Temp. (°C)	-	-	-	-	-	-	-8.3	-22.6	8.1	Mar 23 at hr 14	6.7	SW	0.8	Mar 19	99.9	99.9
Stn. Temp. (°C)	-	-	-	-	-	-	22.6	21.5	25.1	Mar 23 at hr 15	8.5	WSW	23.5	Mar 19	99.9	99.9
Precipitation (mm)*	-	-	-	-	-	-	1.0	0.0	0.2	Mar 1 at hr 11	13.5	SSW	0.4	Mar 1	99.9	99.7
WSV (km/hr)	-	-	-	-	-	-	3.0	1.2	21.2	Mar 2 at hr 17	21.2	W	14.8	Mar 2	99.9	99.9
WDV (sector)	-	-	-	-	-	-	162 (SSE)	-	-	-	-	-	-	-	99.9	99.9

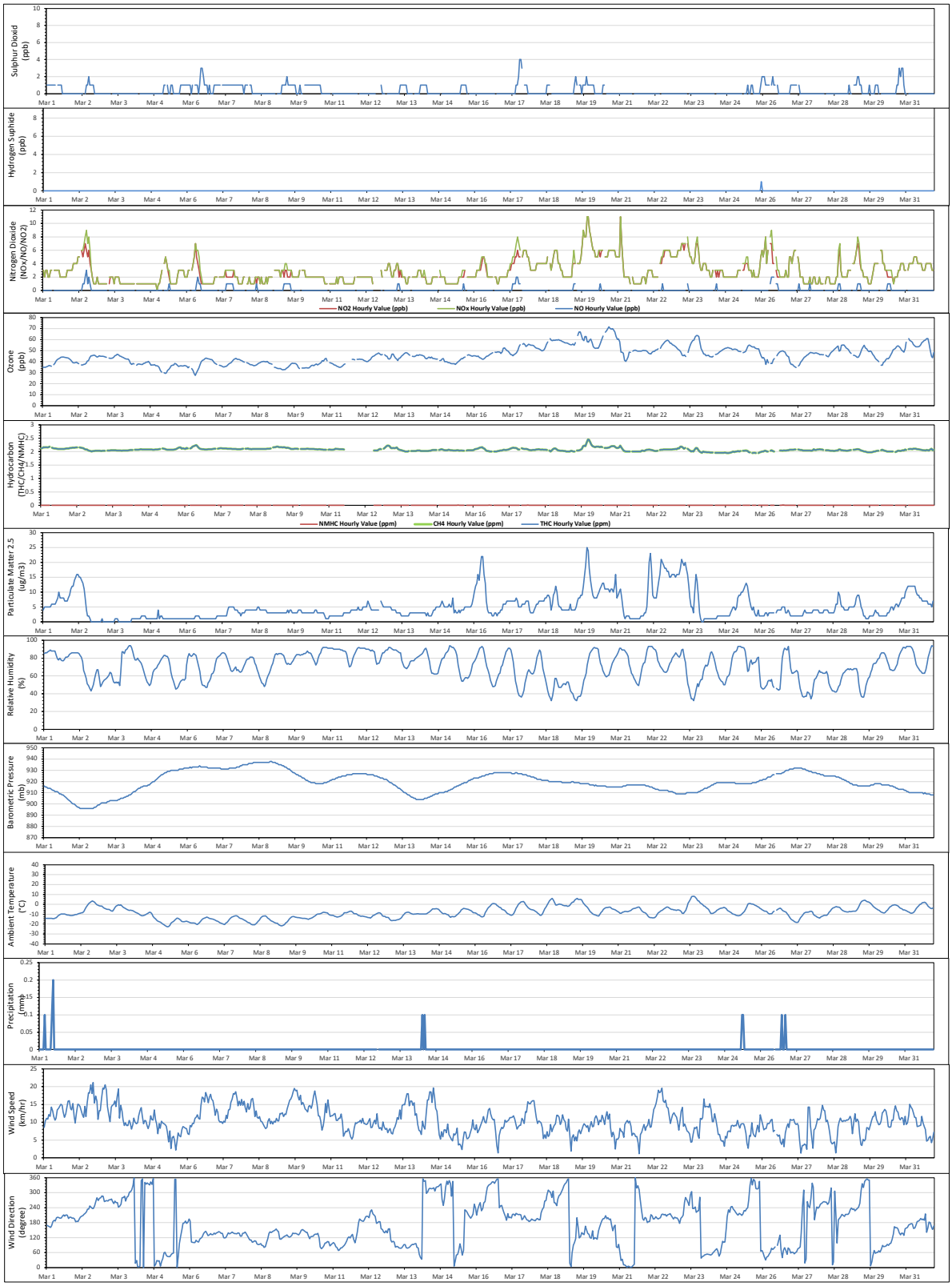
1- Date/ Time given is the first minimum and maximum value that was recorded

* 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 measured ambient air quality was within the AAAQOs and/or AAAQGs for all monitored parameters.

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



Lac La Biche Station

Equipment Operation Summary

Parameter	Calibration Date	Equipment Operational Summary
SO2 Thermo 43i-TLE #1180320043	March 16, 2023	• A shut-down calibration was completed to allow maintenance (flash voltage adjustment) on March 16. A post-repair calibration was completed afterward.
H2S API 101A #324	March 16, 2023	• The analyzer failed the daily span check on March 9. The check results went back within the acceptable limit at next daily check. No further issues were noticed.
NOx/NO/NO2 Thermo 42i #1180930027	March 17, 2023	• No operational issues were recorded this month.
O3 Thermo 49i #1002240372	March 17, 2023	• No operational issues were recorded this month.
THC/CH4/NMHC Thermo 55i #1180030044	March 17, 2023	• The analyzer failed due to depleted carrier gas on March 10. The gas cylinder was replaced on March 11. Twelve hours of downtime were recorded due to this event.
PM2.5 Thermo Sharp 5030i #CM17071016	March 18, 2023	• No operational issues were recorded this month.
Parameter	**Verification Date**	**Equipment Operational Summary**
RH Rotronic HC2A-S3 #0020357518	March 18, 2023	• No operational issues were recorded this month.
BP Met One 092 #Y23360	March 18, 2023	• No operational issues were recorded this month.
AT Rotronic HC2A-S3 #0020357518	March 18, 2023	• No operational issues were recorded this month.
ST COMET #NA	March 18, 2023	• No operational issues were recorded this month.

Parameter	Verification Date	Equipment Operational Summary
WS/WD/STDWD RM Young 05305VK #56778	March 18, 2023	• Wind direction data contained in this report represents where the wind is coming from. • The last annual wind system calibration was completed on May 9, 2022. • No operational issues were recorded this month.

Monitored Data Summary for Lac La Biche Station

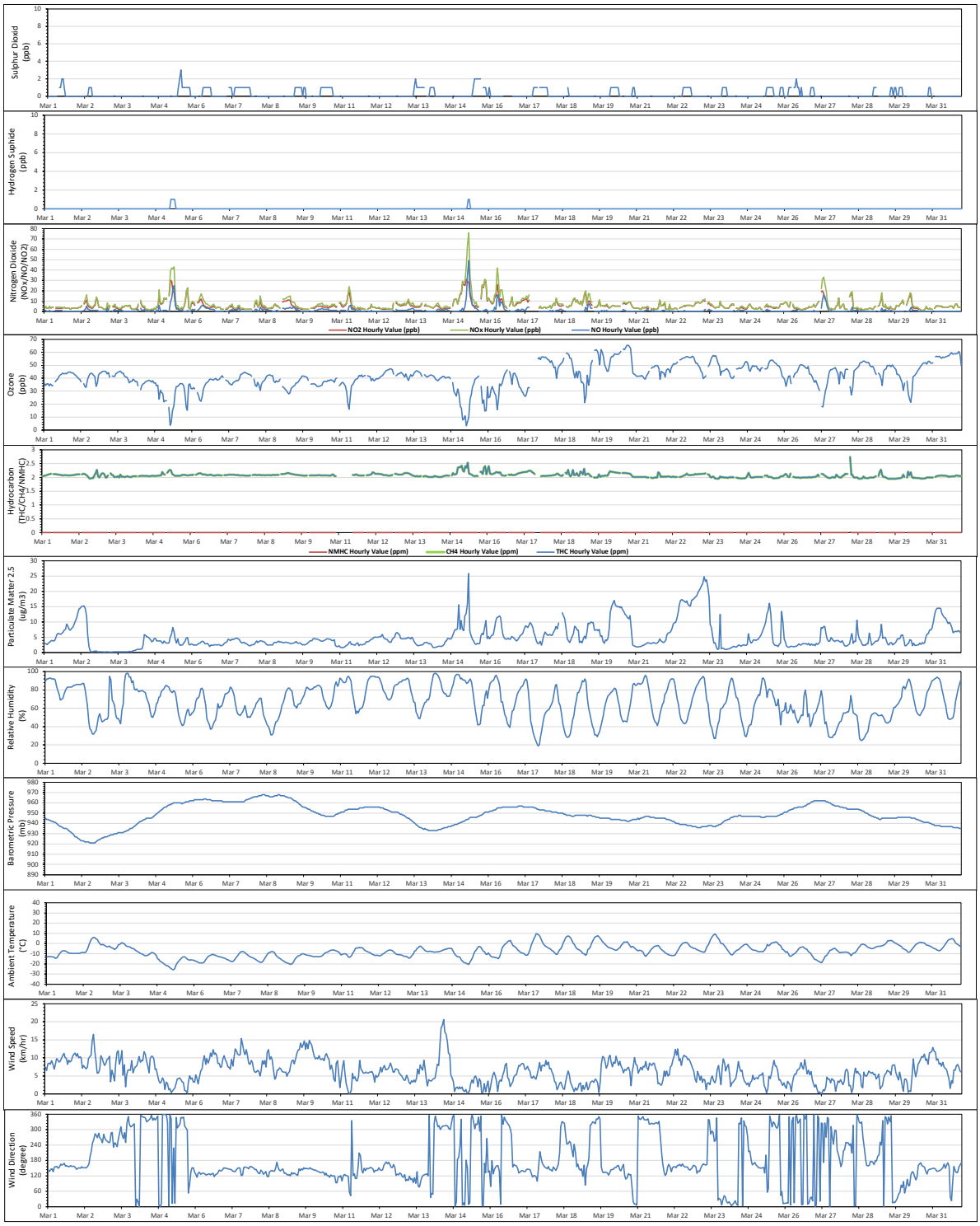
Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.2	0	3	Mar 5 at hr 12	4.3	NNW	0.7	Mar 15	100.0	94.9
H2S (ppb)	10	3	-	0	0	-	0.0	0	1	Mar 5 at hr 6	0.4	SW	0.0	Mar 1	100.0	95.0
NOx (ppb)	-	-	-	-	-	-	6.8	1	76	Mar 15 at hr 8	0.9	NNW	24.3	Mar 15	100.0	94.9
NO (ppb)	-	-	-	-	-	-	1.1	0	49	Mar 15 at hr 8	0.9	NNW	7.2	Mar 15	100.0	94.9
NO2 (ppb)	159	-	-	0	-	-	5.6	1	31	Mar 15 at hr 6	0.2	N	17.1	Mar 15	100.0	94.9
O3 (ppb)	76	-	-	0	-	-	41.9	3.2	65.6	Mar 20 at hr 17	7.4	ESE	57.1	Mar 31	100.0	95.0
THC (ppm)	-	-	-	-	-	-	2.07	1.95	2.75	Mar 28 at hr 5	2.4	WSW	2.23	Mar 15	98.4	93.7
CH4 (ppm)	-	-	-	-	-	-	2.07	1.95	2.73	Mar 28 at hr 5	2.4	WSW	2.23	Mar 15	98.4	93.7
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.02	Mar 28 at hr 5	2.4	WSW	0.00	Mar 28	98.4	93.7
PM2.5 (µg/m3)	80	29	-	0	0	-	5.2	0	26	Mar 15 at hr 8	0.9	NNW	12.8	Mar 22	100.0	99.7
RH (%)	-	-	-	-	-	-	66.5	19	98	Mar 3 at hr 18	5.4	NW	86.3	Mar 14	100.0	100.0
BP (millibar)	-	-	-	-	-	-	948	921	968	Mar 8 at hr 8	9.2	SE	967	Mar 8	100.0	100.0
Ext. Temp. (°C)	-	-	-	-	-	-	-7.4	-25.7	9.6	Mar 17 at hr 14	4.1	E	-0.7	Mar 23	100.0	100.0
Stn. Temp. (°C)	-	-	-	-	-	-	23.2	18.9	25.0	Mar 8 at hr 17	6.7	SSE	24.0	Mar 14	100.0	100.0
WSV (km/hr)	-	-	-	-	-	-	2.2	0.1	20.6	Mar 14 at hr 11	20.6	NW	10.2	Mar 7	100.0	100.0
WDV (sector)	-	-	-	-	-	-	140 (SE)	-	-	-	-	-	-	-	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 measured ambient air quality was within the AAAQOs and/or AAAQGs for all monitored parameters.

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



TABLES AND CHARTS

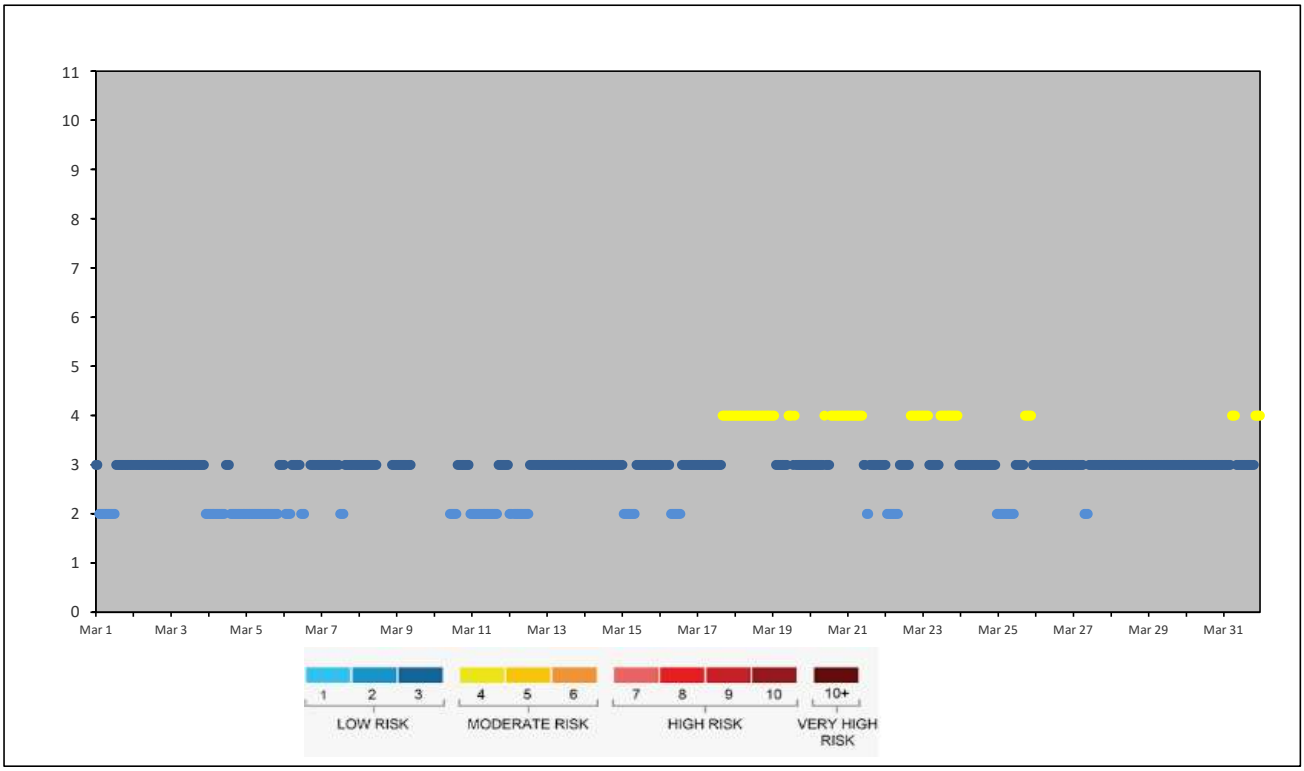
COLD LAKE SOUTH STATION

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - March 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
Mar 1	3	3	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3
Mar 2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	2
Mar 4	2	2	2	2	2	2	2	2	2	2	2	3	3	3	2	2	2	2	2	2	2	2	2	2
Mar 5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3
Mar 6	3	2	2	2	2	3	3	3	3	3	3	2	2	2				3	3	3	3	3	3	2
Mar 7	3	3	3	3	3	3	3	3	3	3	3	3	2	2	2	3	3	3	3	3	3	3	3	3
Mar 8	3	3	3	3	3	3	3	3	3	3	3	3										3	3	3
Mar 9	3	3	3	3	3	3	3	3	3	3														
Mar 10											2	2	2	2	2	3	3	3	3	3	3	3	3	2
Mar 11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3
Mar 12	2	2		2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3
Mar 13	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 14	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 15	3	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 16	3	3	3	3	3	3	3	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3
Mar 17	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4
Mar 18	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Mar 19	4	4	3	3	3	3	3	3	3	3	4	4	4	3	4	3	3	3	3	3	3	3	3	3
Mar 20	3	3	3	3	3	3	3	3	3	4	3	3	3	4	4	4	4	4	4	4	4	4	4	4
Mar 21	4	4	4	4	4	4	4	4	4	4	3	3	2	2	3	3	3	3	3	3	3	3	3	3
Mar 22	3	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4
Mar 23	4	4	4	4	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	3
Mar 24	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2
Mar 25	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4	4	3	3
Mar 26	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 27	3	3	3	3	3	3	3	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 28	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 29	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 30	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 31	3	3	3	3	3	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4



Lakeland Industry & Community Association

Cold Lake South Station - March 2023

Summary of Hourly Averages

SULPHUR DIOXIDE (SO_2) in ppb

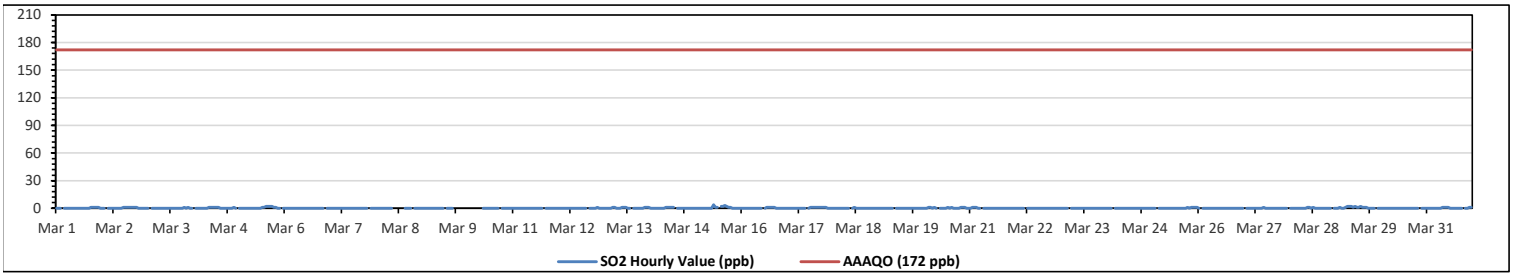
Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 172 ppb, 24-Hour 48 ppb, 30-Day 11 ppb

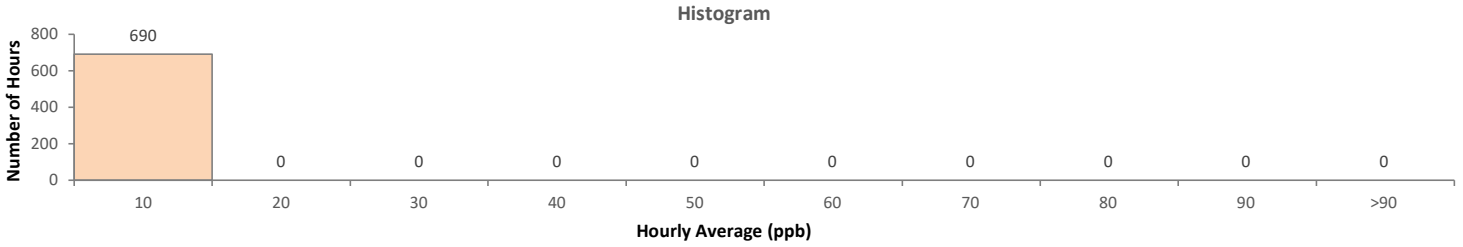
Number of 1-Hour Exceedances:	0	Number of 24-Hour Exceedances:	0	30-Day Exceedence:	0	
Maximum Hourly Value:	4	ppb	on Mar 15 at hr 9	Hours in Service:	744	
Maximum Daily Value:	0.8	ppb	on Mar 29	Hours of Data:	690	
Minimum Hourly Value:	0	ppb	on Mar 1 at hr 0	Hours of Missing Data:	16	
Minimum Daily Value:	0.0	ppb	on Mar 6	Hours of Calibration:	38	
Monthly Average:	0.2	ppb		Operational Uptime:	97.8	

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			
Mar 1	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	1	0.2
Mar 2	0	0	S	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	0.3
Mar 3	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0.1
Mar 4	S	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	1	0	S	0	1	0.3
Mar 5	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	2	1	1	0	0	S	0	0	2	0.5
Mar 6	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
Mar 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
Mar 8	0	0	0	0	0	0	0	0	0	C	C	C	C	C	C	0	0	0	0	S	0	0	0	0	0	0	NA
Mar 9	0	0	0	0	0	0	0	0	0	0	0	0	Y	0	0	0	0	K	K	K	K	K	K	K	0	0	NA
Mar 10	K	K	K	K	K	K	K	NRM	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	NA
Mar 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
Mar 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	1	0	0	0	0	1	0.0
Mar 13	0	0	0	0	1	1	0	0	0	1	1	1	0	0	S	0	0	0	0	0	0	1	1	1	0	1	0.3
Mar 14	0	0	0	0	0	0	0	0	1	1	1	1	1	S	0	0	0	0	0	0	0	0	0	0	0	1	0.2
Mar 15	0	0	0	0	0	0	0	0	0	4	1	1	S	2	2	3	2	1	1	0	0	0	0	0	0	4	0.7
Mar 16	0	0	0	0	0	0	0	0	0	0	0	S	0	1	1	1	1	1	0	0	0	0	0	0	0	1	0.2
Mar 17	0	0	0	0	0	0	0	0	0	0	S	0	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0.4
Mar 18	0	0	0	0	0	0	0	0	0	S	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Mar 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
Mar 20	0	0	1	1	0	1	0	S	0	0	0	0	1	0	1	0	0	0	0	1	1	1	0	0	0	1	0.3
Mar 21	0	1	1	1	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Mar 22	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
Mar 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
Mar 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
Mar 25	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	0	1	0.2
Mar 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
Mar 27	S	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0.0
Mar 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
Mar 29	0	0	1	0	0	1	2	2	2	1	2	1	1	2	1	1	1	0	0	0	0	S	0	0	0	2	0.8
Mar 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
Mar 31	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	S	0	0	1	1	0	1	0.3
Diurnal Maximum	0	1	1	1	1	1	2	2	2	4	2	1	1	2	2	3	2	2	1	1	1	1	1	1			
Diurnal Average	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	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.



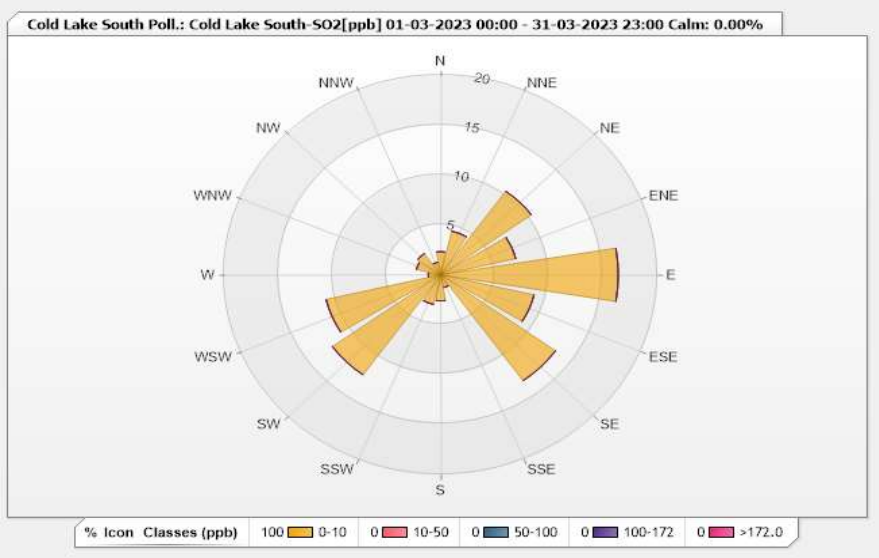


Station: Cold Lake South Poll.: Cold Lake South-SO2[ppb] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 92.74% Calm Avg: 0.00 [ppm]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	2.32	0	0	0	0	2.32
NNE	4.49	0	0	0	0	4.49
NE	10.29	0	0	0	0	10.29
ENE	7.1	0	0	0	0	7.1
E	16.38	0	0	0	0	16.38
ESE	8.84	0	0	0	0	8.84
SE	13.04	0	0	0	0	13.04
SSE	1.3	0	0	0	0	1.3
S	2.61	0	0	0	0	2.61
SSW	3.04	0	0	0	0	3.04
SW	12.32	0	0	0	0	12.32
WSW	10.87	0	0	0	0	10.87
W	1.16	0	0	0	0	1.16
WNW	2.32	0	0	0	0	2.32
NW	2.61	0	0	0	0	2.61
NNW	1.3	0	0	0	0	1.3
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Cold Lake South Station - March 2023

Summary of Hourly Averages

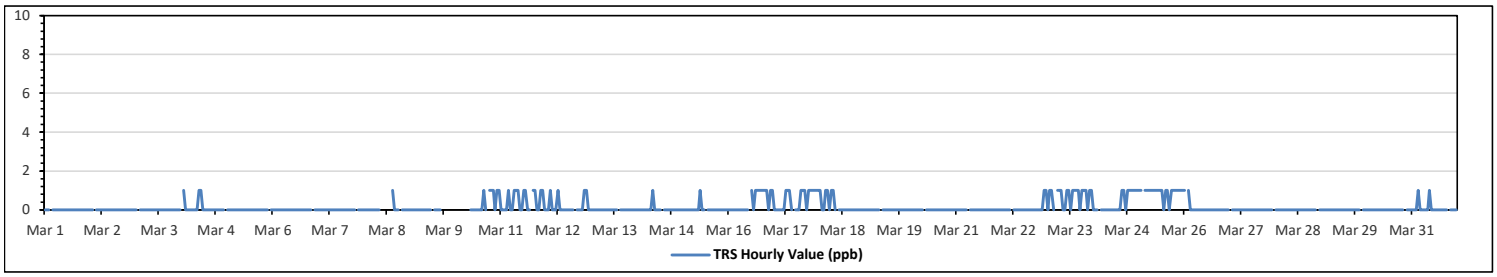
TOTAL REDUCED SULPHUR (TRS) in ppb

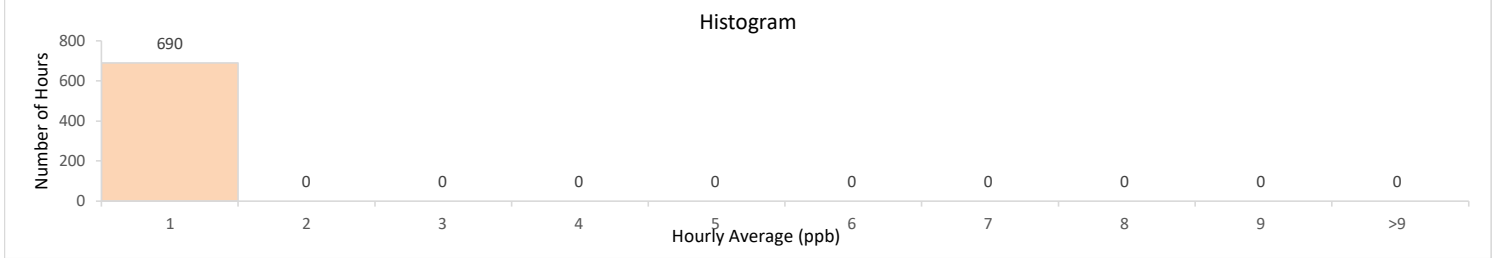
Maximum Hourly Value:	1	ppb	on Mar 4 at hr 1	Hours in Service:	744	
Maximum Daily Value:	0.9	ppb	on Mar 25	Hours of Data:	690	
Minimum Hourly Value:	0	ppb	on Mar 1 at hr 0	Hours of Missing Data:	16	
Minimum Daily Value:	0.0	ppb	on Mar 1	Hours of Calibration:	38	
Monthly Average:	0.2	ppb		Operational Uptime:	97.8	

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			
Mar 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
Mar 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
Mar 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
Mar 4	S	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0.1
Mar 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
Mar 6	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
Mar 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
Mar 8	0	0	0	0	0	0	0	0	0	C	C	C	C	C	C	1	0	0	0	S	0	0	0	0	0	1	NA
Mar 9	0	0	0	0	0	0	0	0	0	0	0	0	Y	0	0	0	0	K	K	K	K	K	K	K	0	0	NA
Mar 10	K	K	K	K	K	K	K	NRM	0	0	0	0	0	0	0	1	0	S	1	1	1	0	1	1	0	1	NA
Mar 11	0	0	0	0	1	0	0	1	1	1	0	0	1	1	0	0	S	1	1	0	0	1	1	0	0	1	0.4
Mar 12	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	S	0	0	0	0	1	1	0	0	0	1	0.2
Mar 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
Mar 14	0	0	0	0	0	0	0	0	1	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Mar 15	0	0	0	0	0	0	0	0	0	1	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Mar 16	0	0	0	0	0	0	0	0	0	0	0	S	1	0	1	1	1	1	1	1	1	0	1	1	0	1	0.4
Mar 17	0	0	0	0	0	0	1	1	1	0	S	0	0	0	1	1	1	0	1	1	1	1	1	1	0	1	0.5
Mar 18	1	0	0	1	1	0	1	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2
Mar 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
Mar 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
Mar 21	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
Mar 22	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0.1
Mar 23	0	1	1	0	S	1	1	1	0	0	1	1	0	1	1	1	1	0	1	1	1	0	1	1	0	1	0.7
Mar 24	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	1	1	1	1	0	1	0.3
Mar 25	1	1	S	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	0	1	0.9
Mar 26	1	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Mar 27	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
Mar 28	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
Mar 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
Mar 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
Mar 31	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	1	0.1
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	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.3	0.2	0.3	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.



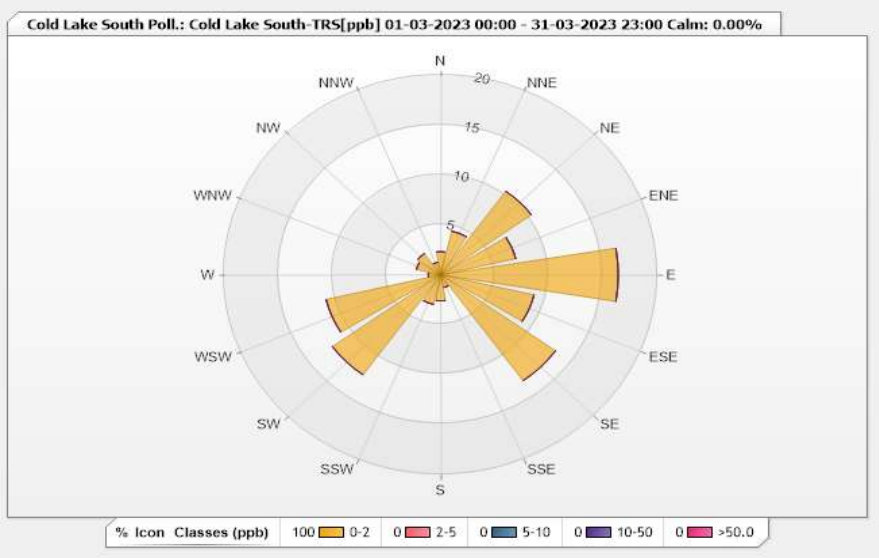


Station: Cold Lake South Poll.: Cold Lake South-TRS[ppb] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 92.74% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	2.32	0	0	0	0	2.32
NNE	4.49	0	0	0	0	4.49
NE	10.29	0	0	0	0	10.29
ENE	7.1	0	0	0	0	7.1
E	16.38	0	0	0	0	16.38
ESE	8.84	0	0	0	0	8.84
SE	13.04	0	0	0	0	13.04
SSE	1.3	0	0	0	0	1.3
S	2.61	0	0	0	0	2.61
SSW	3.04	0	0	0	0	3.04
SW	12.32	0	0	0	0	12.32
WSW	10.87	0	0	0	0	10.87
W	1.16	0	0	0	0	1.16
WNW	2.32	0	0	0	0	2.32
NW	2.61	0	0	0	0	2.61
NNW	1.3	0	0	0	0	1.3
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Cold Lake South Station - March 2023

Summary of Hourly Averages

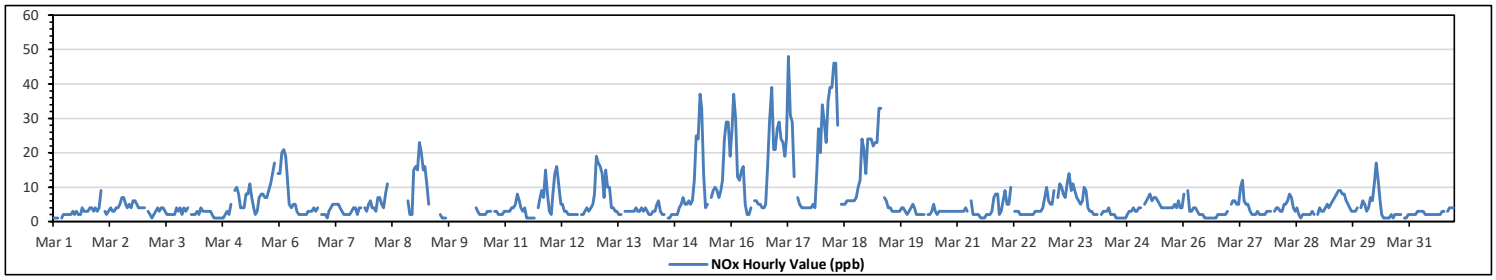
OXIDES OF NITROGEN (NOx) in ppb

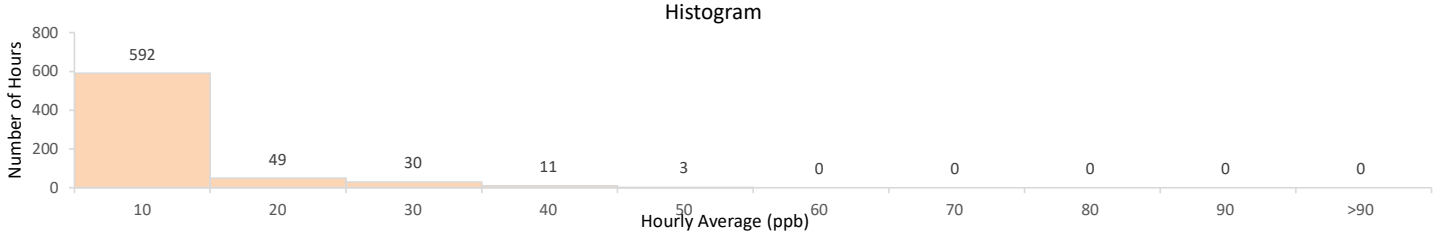
Maximum Hourly Value:	48	ppb	on Mar 17 at hr 6	Hours in Service:	744	
Maximum Daily Value:	19.7	ppb	on Mar 18	Hours of Data:	685	
Minimum Hourly Value:	1	ppb	on Mar 1 at hr 0	Hours of Missing Data:	19	
Minimum Daily Value:	2.2	ppb	on Mar 24	Hours of Calibration:	40	
Monthly Average:	6.2	ppb		Operational Uptime:	97.4	

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			
Mar 1	1	1	1	S	1	2	2	2	2	2	3	2	3	2	2	4	3	3	3	4	4	3	4	3	1	4	2.5
Mar 2	4	9	S	3	2	3	4	3	3	4	4	5	7	7	5	4	5	4	6	6	5	4	4	4	2	9	4.6
Mar 3	4	S	3	2	1	2	3	4	3	4	4	3	2	2	2	2	2	4	3	4	2	4	3	4	1	4	2.9
Mar 4	S	2	2	2	3	2	4	3	3	3	3	3	2	1	1	1	1	1	1	2	3	2	5	S	1	5	2.3
Mar 5	9	10	8	4	4	4	8	8	11	7	4	2	3	7	8	8	7	7	9	11	14	17	S	14	2	17	8.0
Mar 6	14	20	21	19	13	5	4	5	5	3	2	2	2	2	2	3	3	3	4	3	4	S	2	2	2	21	6.2
Mar 7	2	1	3	4	5	5	5	5	4	3	2	2	2	2	3	4	4	2	4	4	S	4	3	5	1	5	3.4
Mar 8	6	4	4	3	7	7	5	4	8	11	C	C	C	C	C	C	C	C	7	S	6	2	2	15	2	15	NA
Mar 9	16	15	23	20	15	16	11	5	NRM	NRM	NRM	1	Y	2	1	1	1	K	K	K	K	K	K	K	1	23	NA
Mar 10	K	K	K	K	K	K	K	NRM	4	3	2	2	2	2	3	3	3	S	3	3	2	2	2	3	2	4	NA
Mar 11	3	3	3	4	4	5	8	6	4	3	4	1	1	1	1	1	S	4	7	9	7	15	8	3	1	15	4.6
Mar 12	2	8	14	16	11	5	5	3	3	2	2	2	2	2	2	S	2	2	3	4	3	4	5	8	2	16	4.8
Mar 13	19	17	16	14	7	15	10	10	4	4	3	3	2	2	S	3	3	3	3	3	3	4	3	3	2	19	6.7
Mar 14	4	3	4	3	2	2	3	3	5	6	3	2	2	S	1	1	2	2	2	2	4	5	7	5	1	7	3.2
Mar 15	5	6	5	6	12	25	24	37	33	14	4	5	S	7	9	10	9	7	9	12	24	29	29	19	4	37	14.8
Mar 16	27	37	30	13	12	15	16	5	2	2	4	S	6	6	5	5	4	4	5	16	29	39	21	21	2	39	14.1
Mar 17	27	29	24	23	19	24	48	31	29	13	S	7	5	4	4	4	4	4	4	5	4	15	27	20	4	48	16.3
Mar 18	34	29	23	35	39	39	46	46	28	S	5	5	5	6	6	6	6	6	7	10	12	24	21	14	5	46	19.7
Mar 19	24	24	24	22	23	23	33	33	S	7	6	4	4	3	3	3	3	3	4	4	3	2	3	4	2	33	11.4
Mar 20	5	4	2	2	2	2	2	S	2	2	3	5	3	2	3	3	3	3	3	3	3	3	3	3	2	5	2.9
Mar 21	3	3	3	3	4	3	S	6	2	2	2	2	1	1	1	2	2	2	3	7	8	8	2	3	1	8	3.2
Mar 22	6	9	5	5	10	S	3	3	3	2	2	2	2	2	2	2	2	3	3	3	3	4	7	10	2	10	4.0
Mar 23	6	5	5	9	S	7	11	10	8	7	11	14	9	11	9	7	6	5	6	10	9	4	3	3	3	14	7.6
Mar 24	2	2	2	S	2	3	3	3	4	2	2	2	1	1	1	1	1	1	2	3	3	4	3	3	1	4	2.2
Mar 25	4	4	S	5	6	7	8	6	7	7	6	5	4	4	4	4	4	4	4	5	4	6	4	4	4	8	5.0
Mar 26	8	S	9	3	3	4	4	3	2	2	2	1	1	1	1	1	1	1	2	2	2	2	2	3	1	9	2.6
Mar 27	S	5	6	6	5	5	10	12	6	5	5	3	2	2	2	3	2	2	2	2	3	3	3	S	2	12	4.3
Mar 28	3	4	4	3	3	5	5	6	8	7	4	3	4	2	1	2	2	2	2	2	3	2	S	2	1	8	3.4
Mar 29	4	3	3	4	5	4	5	6	7	8	9	9	8	8	6	5	4	3	3	3	4	S	4	6	3	9	5.3
Mar 30	5	3	4	7	6	11	17	12	6	2	1	1	1	1	2	1	2	2	2	2	S	1	1	2	1	17	4.0
Mar 31	2	2	2	2	3	3	3	3	2	2	2	2	2	2	2	2	2	3	3	S	3	4	4	4	2	4	2.6
Diurnal Maximum	34	37	30	35	39	39	48	46	33	14	11	14	9	11	9	10	9	7	9	16	29	39	29	21			
Diurnal Average	8.9	9.4	9.0	8.6	7.9	8.7	10.7	9.8	7.2	4.8	3.7	3.4	3.1	3.3	3.2	3.3	3.2	3.2	4.0	5.1	6.2	7.7	6.6	6.8			

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.



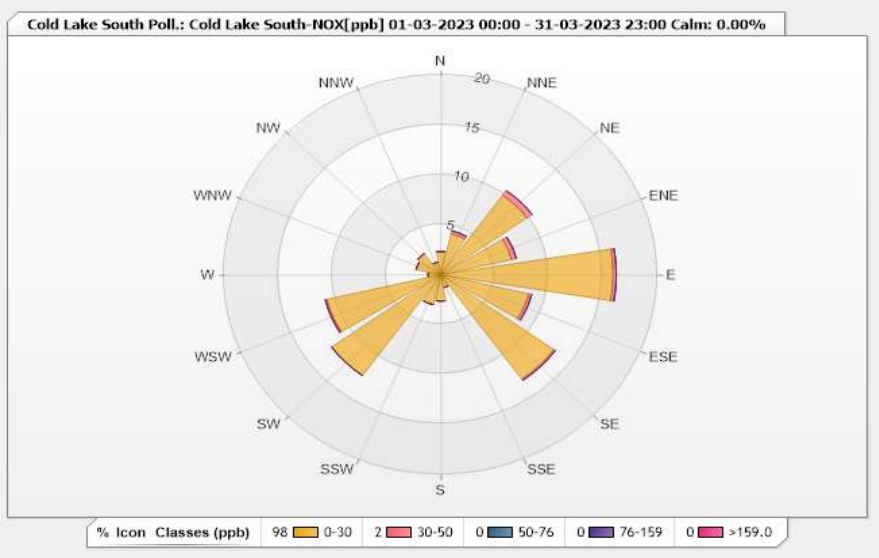


Station: Cold Lake South Poll.: Cold Lake South-NOX[ppb] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 92.07% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	2.34	0	0	0	0	2.34
NNE	4.23	0.29	0	0	0	4.52
NE	9.78	0.58	0	0	0	10.36
ENE	6.72	0.44	0	0	0	7.16
E	15.91	0.29	0	0	0	16.2
ESE	8.32	0.29	0	0	0	8.61
SE	12.85	0.15	0	0	0	13
SSE	1.31	0	0	0	0	1.31
S	2.63	0	0	0	0	2.63
SSW	3.07	0	0	0	0	3.07
SW	12.41	0	0	0	0	12.41
WSW	10.8	0.15	0	0	0	10.95
W	1.17	0	0	0	0	1.17
WNW	2.34	0	0	0	0	2.34
NW	2.63	0	0	0	0	2.63
NNW	1.31	0	0	0	0	1.31
Summary	97.82	2.19	0	0	0	100



Lakeland Industry & Community Association

Cold Lake South Station - March 2023

Summary of Hourly Averages

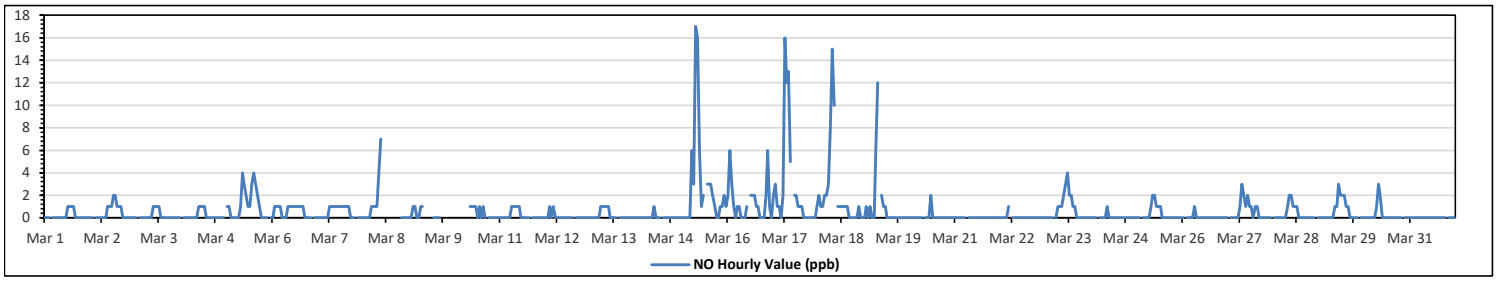
NITRIC OXIDE (NO) in ppb

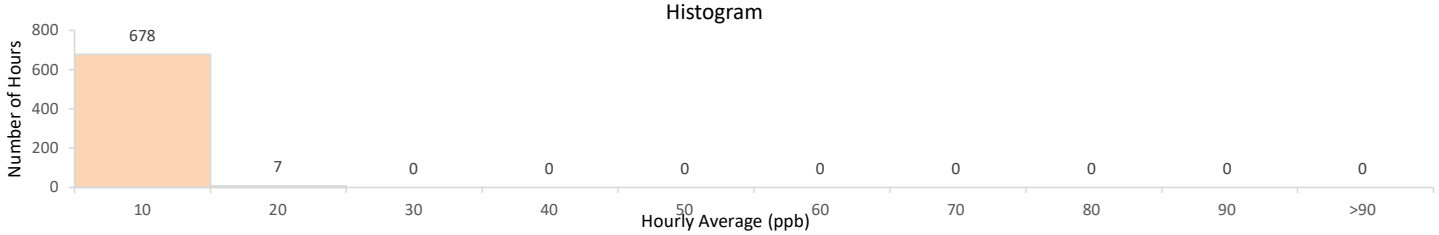
Maximum Hourly Value:	17	ppb	on Mar 15 at hr 7	Hours in Service:	744
Maximum Daily Value:	3.0	ppb	on Mar 15	Hours of Data:	685
Minimum Hourly Value:	0	ppb	on Mar 1 at hr 0	Hours of Missing Data:	19
Minimum Daily Value:	0.0	ppb	on Mar 21	Hours of Calibration:	40
Monthly Average:	0.6	ppb		Operational Uptime:	97.4

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			
Mar 1	0	0	0	S	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0.2
Mar 2	0	0	S	0	0	0	0	0	0	1	1	1	2	2	1	1	1	0	0	0	0	0	0	0	0	2	0.4
Mar 3	0	S	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2
Mar 4	S	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	S	0	1	0.2
Mar 5	1	1	0	0	0	0	0	1	4	3	2	1	1	3	4	3	2	1	0	0	0	0	S	0	0	4	1.2
Mar 6	0	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	S	0	0	0	1	0.6
Mar 7	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	S	0	0	0	0	1	0.5
Mar 8	0	0	0	0	1	1	1	1	4	7	C	C	C	C	C	C	C	C	1	S	0	0	0	0	0	7	NA
Mar 9	0	0	1	1	0	0	1	1	NRM	NRM	NRM	0	Y	0	0	0	0	K	K	K	K	K	K	K	0	1	NA
Mar 10	K	K	K	K	K	K	K	NRM	1	1	1	1	0	1	0	1	0	S	0	0	0	0	0	0	0	1	NA
Mar 11	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	S	0	0	0	0	0	0	0	0	1	0.2
Mar 12	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	0.1
Mar 13	0	0	0	0	0	1	1	1	1	1	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	1	0.2
Mar 14	0	0	0	0	0	0	0	0	0	1	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Mar 15	0	0	0	0	0	6	3	17	16	6	1	2	S	3	3	3	2	1	0	0	1	1	2	1	0	17	3.0
Mar 16	2	6	3	1	0	1	1	0	0	0	1	S	2	2	2	1	1	0	0	0	2	6	1	0	0	6	1.4
Mar 17	2	3	1	1	0	2	16	12	13	5	S	2	2	1	1	1	0	0	0	0	0	0	0	1	0	16	2.7
Mar 18	2	1	1	2	2	3	8	15	10	S	1	1	1	1	1	1	0	0	0	0	0	1	0	0	0	15	2.2
Mar 19	0	1	0	1	0	0	6	12	S	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	12	1.0
Mar 20	0	0	0	0	0	0	0	S	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.1
Mar 21	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
Mar 22	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
Mar 23	0	0	0	0	S	0	1	1	1	2	3	4	2	2	1	1	0	0	0	0	0	0	0	0	0	4	0.8
Mar 24	0	0	0	S	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Mar 25	0	0	S	0	0	0	0	1	2	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0.3
Mar 26	0	S	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Mar 27	S	0	0	0	0	0	1	3	2	1	2	1	1	0	1	1	0	0	0	0	0	0	0	S	0	3	0.6
Mar 28	0	0	0	0	0	0	0	1	2	2	1	1	0	0	0	0	0	0	0	0	0	0	S	0	0	2	0.3
Mar 29	0	0	0	0	0	0	0	0	1	1	3	2	2	2	1	1	0	0	0	0	0	S	0	0	0	3	0.6
Mar 30	0	0	0	0	0	0	1	3	2	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	3	0.3
Mar 31	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
Diurnal Maximum	2	6	3	2	2	6	16	17	16	7	3	4	2	3	4	3	2	1	1	0	2	6	2	1			
Diurnal Average	0.3	0.5	0.3	0.3	0.2	0.5	1.5	2.4	2.2	1.4	0.8	0.8	0.7	0.7	0.6	0.6	0.3	0.1	0.0	0.0	0.1	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.



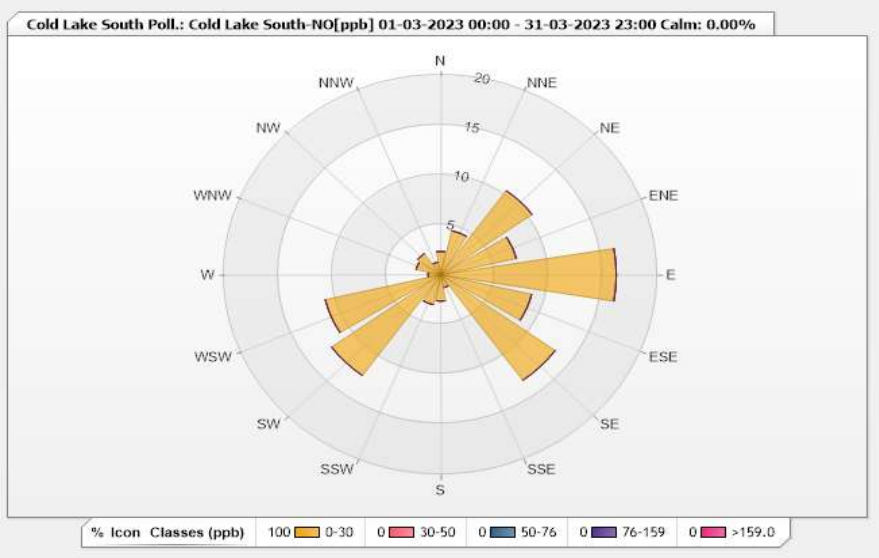


Station: Cold Lake South Poll.: Cold Lake South-NO[ppb] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 92.07% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	2.34	0	0	0	0	2.34
NNE	4.53	0	0	0	0	4.53
NE	10.36	0	0	0	0	10.36
ENE	7.15	0	0	0	0	7.15
E	16.2	0	0	0	0	16.2
ESE	8.61	0	0	0	0	8.61
SE	12.99	0	0	0	0	12.99
SSE	1.31	0	0	0	0	1.31
S	2.63	0	0	0	0	2.63
SSW	3.07	0	0	0	0	3.07
SW	12.41	0	0	0	0	12.41
WSW	10.95	0	0	0	0	10.95
W	1.17	0	0	0	0	1.17
WNW	2.34	0	0	0	0	2.34
NW	2.63	0	0	0	0	2.63
NNW	1.31	0	0	0	0	1.31
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Cold Lake South Station - March 2023

Summary of Hourly Averages

NITROGEN DIOXIDE (NO_2) in ppb

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

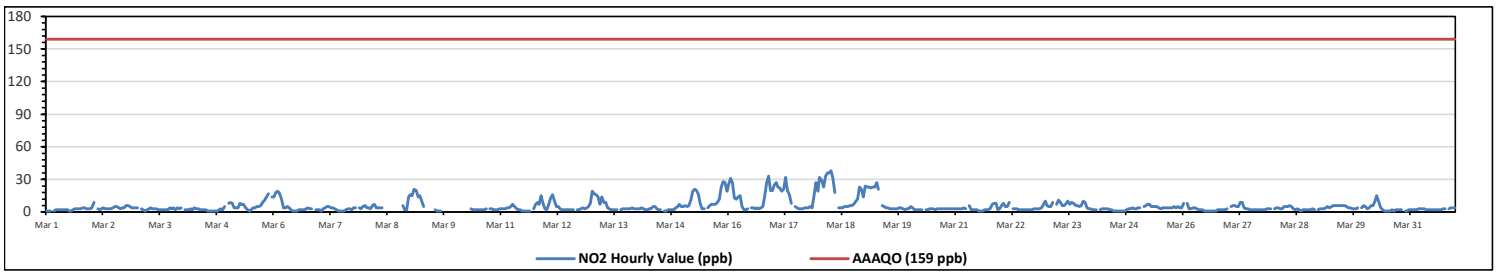
Number of 1-Hour Exceedances: 0

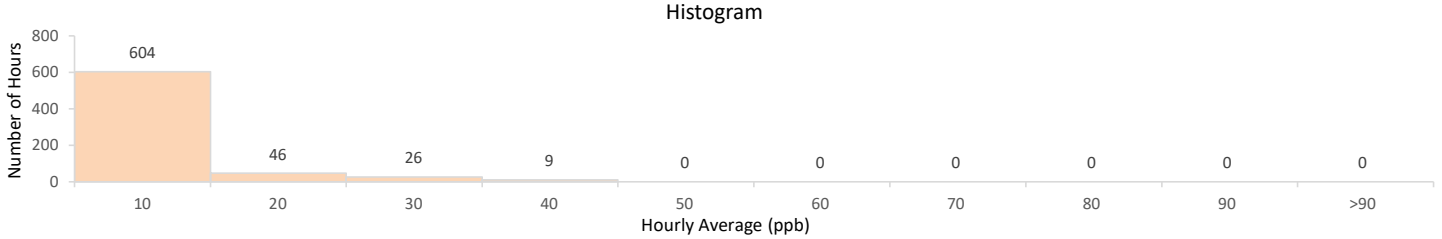
Maximum Hourly Value:	38	ppb	on Mar 18 at hr 6	Hours in Service:	744	
Maximum Daily Value:	17.5	ppb	on Mar 18	Hours of Data:	685	
Minimum Hourly Value:	1	ppb	on Mar 1 at hr 0	Hours of Missing Data:	19	
Minimum Daily Value:	2.1	ppb	on Mar 24	Hours of Calibration:	40	
Monthly Average:	5.5	ppb		Operational Uptime:	97.4	

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			
Mar 1	1	1	1	S	1	2	2	2	2	2	2	2	1	1	2	3	3	3	3	4	4	3	3	3	1	4	2.2
Mar 2	4	9	S	3	2	3	4	3	3	3	3	4	5	5	4	3	4	4	6	6	5	4	4	4	2	9	4.1
Mar 3	4	S	3	2	1	2	3	4	3	3	3	2	2	2	2	2	2	4	3	4	2	4	3	4	1	4	2.8
Mar 4	S	2	2	2	3	2	4	3	3	2	2	2	2	1	1	1	1	1	1	2	3	2	5	S	1	5	2.1
Mar 5	8	9	8	4	4	4	8	7	7	4	2	1	2	4	4	5	5	6	9	11	14	17	S	14	1	17	6.8
Mar 6	14	18	19	17	12	4	4	5	4	2	1	1	1	2	2	2	2	3	4	3	3	S	2	2	1	19	5.5
Mar 7	2	1	3	4	5	5	4	4	3	2	1	1	1	1	2	3	3	2	4	4	S	4	3	5	1	5	2.9
Mar 8	6	4	4	3	6	7	4	4	4	4	C	C	C	C	C	C	C	C	6	S	6	2	2	14	2	14	NA
Mar 9	16	15	21	20	14	15	10	5	NRM	NRM	NRM	1	Y	2	1	1	1	K	K	K	K	K	K	K	1	21	NA
Mar 10	K	K	K	K	K	K	K	NRM	3	2	2	2	2	2	2	3	S	3	3	3	2	2	2	3	2	3	NA
Mar 11	3	3	3	4	4	5	7	5	3	2	2	1	1	1	1	1	S	3	7	9	7	15	8	3	1	15	4.3
Mar 12	2	7	13	16	10	5	5	3	2	2	2	2	2	2	2	S	2	2	3	4	3	4	5	8	2	16	4.6
Mar 13	19	17	16	14	7	14	9	9	4	3	2	2	2	2	S	2	3	3	3	3	3	4	3	3	2	19	6.4
Mar 14	3	3	4	3	2	2	3	3	5	5	3	2	2	S	1	1	2	2	2	2	4	5	7	5	1	7	3.1
Mar 15	5	6	5	6	11	19	21	20	16	8	3	3	S	4	6	7	7	7	9	12	23	28	27	19	3	28	11.8
Mar 16	25	31	27	13	12	14	15	5	2	2	3	S	4	4	3	4	3	4	5	15	27	33	20	20	2	33	12.7
Mar 17	25	27	23	22	19	21	32	20	16	8	S	5	4	3	3	3	4	4	4	5	4	15	27	19	3	32	13.6
Mar 18	32	29	23	33	36	36	38	31	18	S	4	4	4	5	5	5	6	6	7	10	12	23	21	14	4	38	17.5
Mar 19	24	23	23	22	23	23	27	21	S	6	5	4	4	3	3	3	3	3	4	4	3	2	3	3	2	27	10.4
Mar 20	5	4	2	2	2	2	2	S	2	2	3	3	3	2	3	3	3	3	3	3	3	3	3	3	2	5	2.8
Mar 21	3	3	3	3	4	3	S	6	2	2	2	2	1	1	1	2	2	2	3	7	8	8	2	3	1	8	3.2
Mar 22	6	8	5	5	9	S	3	3	3	2	2	2	2	2	2	2	2	3	3	3	3	4	7	10	2	10	4.0
Mar 23	6	5	5	9	S	7	11	9	6	6	8	10	7	9	8	6	6	5	6	10	9	4	3	3	3	11	6.9
Mar 24	2	2	2	S	2	3	3	3	3	2	2	1	1	1	1	1	1	1	2	3	3	4	3	3	1	4	2.1
Mar 25	4	4	S	5	6	7	7	5	5	5	5	4	3	4	4	4	4	4	4	5	4	5	4	4	3	7	4.6
Mar 26	8	S	8	3	3	4	4	3	2	2	2	1	1	1	1	1	1	1	2	2	2	2	2	3	1	8	2.6
Mar 27	S	5	6	6	5	5	9	9	4	3	3	2	2	2	2	2	2	2	2	2	3	3	3	S	2	9	3.7
Mar 28	3	4	4	3	3	5	5	5	6	5	3	2	3	2	1	2	2	2	2	2	3	2	S	2	1	6	3.1
Mar 29	3	3	3	4	5	4	5	6	6	6	6	6	6	6	5	4	4	3	3	3	4	S	4	6	3	6	4.6
Mar 30	5	3	4	6	6	10	15	10	4	2	1	1	1	1	2	1	2	2	2	2	S	1	1	2	1	15	3.7
Mar 31	2	2	2	2	3	3	3	3	2	2	2	2	2	2	2	2	2	3	3	S	3	4	4	4	2	4	2.6
Diurnal Maximum	32	31	27	33	36	36	38	31	18	8	8	10	7	9	8	7	7	7	9	15	27	33	27	20			
Diurnal Average	8.6	8.9	8.6	8.4	7.6	8.1	9.2	7.4	4.9	3.4	2.8	2.6	2.5	2.7	2.6	2.7	2.9	3.1	3.9	5.1	6.1	7.4	6.5	6.6			

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.



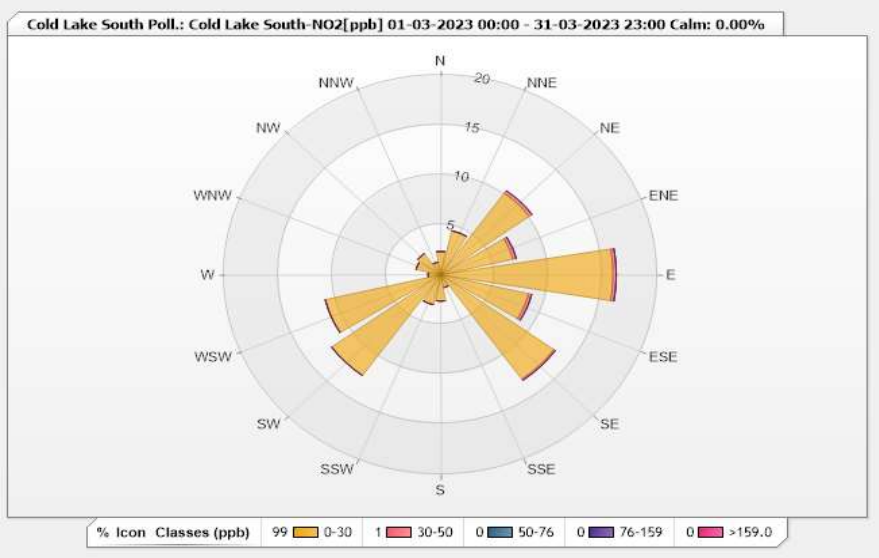


Station: Cold Lake South Poll.: Cold Lake South-NO2[ppb] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 92.07% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	2.34	0	0	0	0	2.34
NNE	4.53	0	0	0	0	4.53
NE	10.07	0.29	0	0	0	10.36
ENE	6.86	0.29	0	0	0	7.15
E	15.91	0.29	0	0	0	16.2
ESE	8.32	0.29	0	0	0	8.61
SE	12.85	0.15	0	0	0	13
SSE	1.31	0	0	0	0	1.31
S	2.63	0	0	0	0	2.63
SSW	3.07	0	0	0	0	3.07
SW	12.41	0	0	0	0	12.41
WSW	10.95	0	0	0	0	10.95
W	1.17	0	0	0	0	1.17
WNW	2.34	0	0	0	0	2.34
NW	2.63	0	0	0	0	2.63
NNW	1.31	0	0	0	0	1.31
Summary	98.7	1.31	0	0	0	100



Lakeland Industry & Community Association

Cold Lake South Station - March 2023

Summary of Hourly Averages

OZONE (O_3) in ppb

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

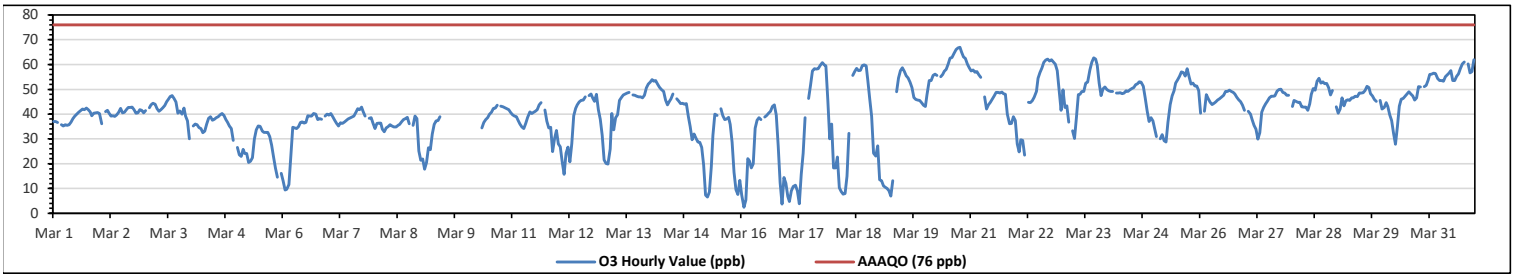
Number of 1-Hour Exceedances: 0

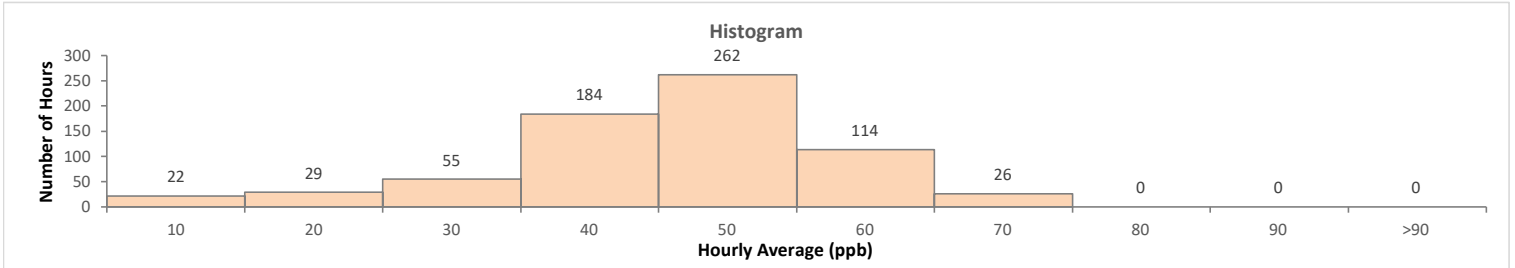
Maximum Hourly Value:	66.9	ppb	on Mar 20 at hr 18	Hours in Service:	744	
Maximum Daily Value:	58.7	ppb	on Mar 20	Hours of Data:	692	
Minimum Hourly Value:	2.4	ppb	on Mar 16 at hr 1	Hours of Missing Data:	15	
Minimum Daily Value:	25.8	ppb	on Mar 15	Hours of Calibration:	37	
Monthly Average:	41.0	ppb		Operational Uptime:	98.0	

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			
Mar 1	37.1	37	36.6	S	35.7	35.3	35.7	35.5	35.7	36.8	38.1	39.3	40	40.7	41.4	42	41.9	42.4	41.8	40.9	39.4	40.4	40.5	40.6	35.3	42.4	38.9
Mar 2	40.2	36.1	S	41	41.5	40.3	39.3	39.4	39.1	39.8	40.8	42.3	40.5	40.8	41.9	42.7	42.7	42.8	41.9	40.3	40.5	41.9	41.6	40.5	36.1	42.8	40.8
Mar 3	41.4	S	42.6	43.7	44.4	44	42.2	41.1	41.8	42.6	43.5	45	45.9	47.1	47.5	46.3	44.9	40.3	41.3	40	42.4	39.2	37.3	30.1	30.1	47.5	42.4
Mar 4	S	35.2	35.9	35.7	34.6	34.2	32.5	33.2	36	38.3	38.9	37.6	37.9	38.5	39	39.8	40.2	39.5	37.7	36.7	35.2	34.2	29.3	S	29.3	40.2	36.4
Mar 5	26.6	23.6	22.9	25.8	24.1	24.1	20.5	21	22.4	29.9	33.6	35.3	35.1	33.2	32.6	32.6	32.6	31	27.4	22.7	18.2	14.5	S	16.2	14.5	35.3	26.3
Mar 6	13	9.4	9.7	11.6	23	34.7	34.5	34.1	35	36.6	36.9	36.4	36.6	39.4	39.3	39.3	40.2	39.9	37.7	38.1	37.9	S	39.3	40	9.4	40.2	32.3
Mar 7	39.7	40.2	39	37.6	36.2	35.3	36.5	36.2	36.7	37.4	38	38.4	38.8	39.2	40.6	42.1	41.8	42.8	41	39.2	S	38.3	38.6	36.2	35.3	42.8	38.7
Mar 8	34.2	36.2	36.4	36.3	33.9	32.9	34.5	35	35.7	35.2	34.8	34.9	35.5	35.8	36.9	37.7	38.1	38.7	36.1	S	35.5	39.3	38.1	25.1	25.1	39.3	35.5
Mar 9	21.4	21.9	17.8	20.5	26.4	25.6	31.9	35.8	37.3	37.5	39	C	C	C	C	C	43.7	K	K	K	K	K	K	K	17.8	43.7	NA
Mar 10	K	K	K	K	K	K	K	NRM	34.4	36.6	37.7	38.5	40	40.7	42.3	42.4	43.6	S	43.2	43	42.6	42.1	41.9	40.6	34.4	43.6	NA
Mar 11	39.8	39.3	38.9	37.6	36	34.8	34.1	36.2	38.7	40.9	40.2	40.8	41.2	41.9	43.7	44.6	S	41.7	37.2	34.4	34.7	24.9	30	33.4	24.9	44.6	37.6
Mar 12	28	26.9	20.7	15.8	24.3	26.7	20.7	28.1	39.4	42.3	43.8	44.9	45.6	45.7	46.9	S	47.5	48.1	46.3	45.1	48	41.9	37.9	31.4	15.8	48.1	36.8
Mar 13	21.5	20.2	19.8	25.9	40.2	33.6	38.5	39.8	45.5	46.7	47.7	48.2	48.5	48.8	S	47.8	47.6	47.2	46.9	46.9	46.6	47.6	50.5	52.2	19.8	52.2	41.7
Mar 14	52.9	53.9	53.3	53.6	52.1	50.8	49.9	49.2	45.7	43.7	45.1	46.2	48.1	S	46.2	45.3	44.2	44.3	44	44.2	39.3	35	29.6	31.9	29.6	53.9	45.6
Mar 15	30.3	28.8	28.7	26.6	19.5	7.4	6.5	8.6	18.8	31.4	40	39.5	S	42.2	39.4	37.8	38	38.7	35.8	28.7	16.5	9.5	7.6	13.3	6.5	42.2	**25.8**
Mar 16	7.3	2.4	5.4	22	21.1	18.3	20	34.3	37.6	38.6	37.7	S	38.8	39.5	40.4	41.1	43.1	43.7	39.6	27.2	12.3	3.7	14.4	12.1	**2.4**	43.7	26.1
Mar 17	6.8	4.8	9	10.8	11.4	9	3.8	15.7	24.3	38.6	S	46.3	51.6	57.4	58.3	58.2	58.3	59.6	60.8	59.8	59.4	45.8	30	35.9	3.8	60.8	35.5
Mar 18	18.4	18.3	22.7	10.3	8.7	7.8	7.9	14.9	32.3	S	55.6	57.1	58.5	57.5	57.6	59.6	59.8	59.5	53.7	46.2	39.1	24.2	23.1	27.1	7.8	59.8	35.6
Mar 19	13.5	13.2	11.1	10.6	10	9.1	7	13.2	S	49	54.6	57.5	58.7	57.2	55.4	54.6	52.8	50.6	46.7	45.9	45.7	45.5	44.6	43.6	7.0	58.7	37.0
Mar 20	43.1	47.9	53.5	53.6	55.6	56.2	55.6	S	55	56	57.2	58.1	60.1	62.6	62.9	64.4	66.1	66.7	**66.9**	65	63.2	62.4	60.2	58.8	43.1	**66.9**	**58.7**
Mar 21	57.4	57.8	56.9	57.1	55.8	54.8	S	47	42	43.8	44.8	46.1	47.4	48.7	48.8	48.4	48.9	48.3	48	40	36.1	36.2	38.9	37.5	36.1	57.8	47.4
Mar 22	28	24.8	29.6	29.4	23.4	S	44.7	44.6	45.4	46.8	49.1	54.5	56.8	58.6	61	61.8	62.2	61.4	61.9	61.1	60.1	57.5	49.6	41.5	23.4	62.2	48.4
Mar 23	49.8	42.7	43.4	36.8	S	33.3	30.2	38.7	47.9	48	49.2	49.2	52.6	52.9	57.8	60.9	62.7	62.2	59.7	52.5	47.5	50.2	50.9	50	30.2	62.7	49.1
Mar 24	49.4	49.2	49.1	S	48.5	48.5	48.6	48.3	48.4	49.4	49.2	49.8	50.3	50.7	51.9	52.3	53	52.8	51.2	46.4	41.3	37	38.6	37.3	37.0	53.0	47.9
Mar 25	33.8	31	S	30.1	31.7	29.2	28.8	36.7	43.9	47.4	49.4	52.6	53.8	55.2	57	56.8	55.3	58.3	55.1	52.1	52.6	51.3	51.4	49.5	28.8	58.3	46.2
Mar 26	40.4	S	41.1	47.9	46.2	44.8	43.9	44.3	44.9	45.7	46.2	46.8	47.6	49.1	49.1	49.7	49.1	48.7	48.1	46.8	45.8	45	43.6	41.6	40.4	49.7	45.9
Mar 27	S	41.1	40	37.8	35.5	33.9	29.9	32.5	40.7	42.7	44.1	45.3	46.6	47.2	47.2	47.3	49.3	50	50.1	48.8	48.4	47.6	47.6	S	29.9	50.1	43.3
Mar 28	43.1	45.6	45.2	44.7	44.7	42.9	42.8	42.8	41.6	44.1	48	50.3	49.7	53.2	54.5	52.6	53	52.3	52.4	50.7	47.8	49.6	S	43	41.6	54.5	47.6
Mar 29	40.4	42	46.6	43.3	45.4	45.8	45.6	46.6	46.6	47.2	47.1	48.4	48.5	48.6	49.6	51.2	50.6	48.3	47.3	45.9	45.1	S	45.6	42	40.4	51.2	46.4
Mar 30	42.7	44.6	43.1	39.8	37.5	32.2	27.9	35	43.2	46.1	46.3	47.2	48.1	49	48.2	47.4	45.7	46.5	51	50.9	S	51	51.6	53.7	27.9	53.7	44.7
Mar 31	56	56.2	56.6	56.4	54.3	53.6	53.6	53.3	55	55.7	56.6	57.5	53.5	53.6	55.2	56.3	58.5	60.3	61.1	S	60.3	56.7	57.1	61.9	53.3	61.9	56.5
Diurnal Maximum	57.4	57.8	56.9	57.1	55.8	56.2	55.6	53.3	55.0	56.0	57.2	58.1	60.1	62.6	62.9	64.4	66.1	66.7	66.9	65.0	63.2	62.4	60.2	61.9			
Diurnal Average	34.2	33.2	34.1	33.7	34.5	33.8	32.7	35.2	39.7	42.5	44.4	46.0	46.8	47.4	48.0	48.4	48.5	48.5	47.1	44.3	42.2	39.7	39.6	38.1			

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.



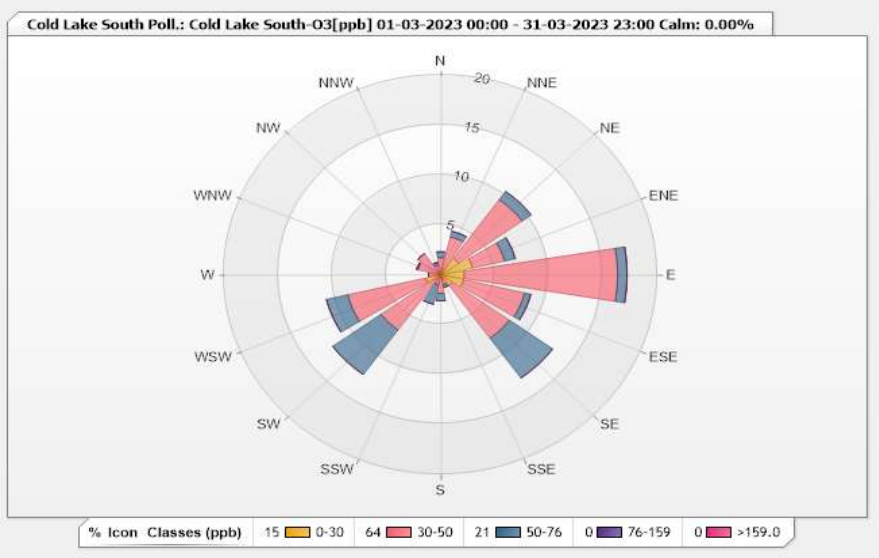


Station: Cold Lake South Poll.: Cold Lake South-O3[ppb] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 93.01% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	0.14	1.59	0.58	0	0	2.31
NNE	0.58	3.32	0.58	0	0	4.48
NE	2.02	7.23	1.01	0	0	10.26
ENE	3.03	3.03	1.01	0	0	7.07
E	2.17	14.16	0.87	0	0	17.2
ESE	2.17	5.78	0.58	0	0	8.53
SE	1.3	6.5	4.91	0	0	12.71
SSE	0.29	0.72	0.29	0	0	1.3
S	0.29	1.59	0.72	0	0	2.6
SSW	0.29	0.72	2.02	0	0	3.03
SW	0.58	6.21	5.49	0	0	12.28
WSW	1.45	7.37	2.02	0	0	10.84
W	0.14	1.01	0	0	0	1.15
WNW	0.14	2.02	0.14	0	0	2.3
NW	0.29	2.31	0	0	0	2.6
NNW	0.29	0.72	0.29	0	0	1.3
Summary	15.17	64.28	20.51	0	0	100



Lakeland Industry & Community Association

Cold Lake South Station - March 2023

Summary of Hourly Averages

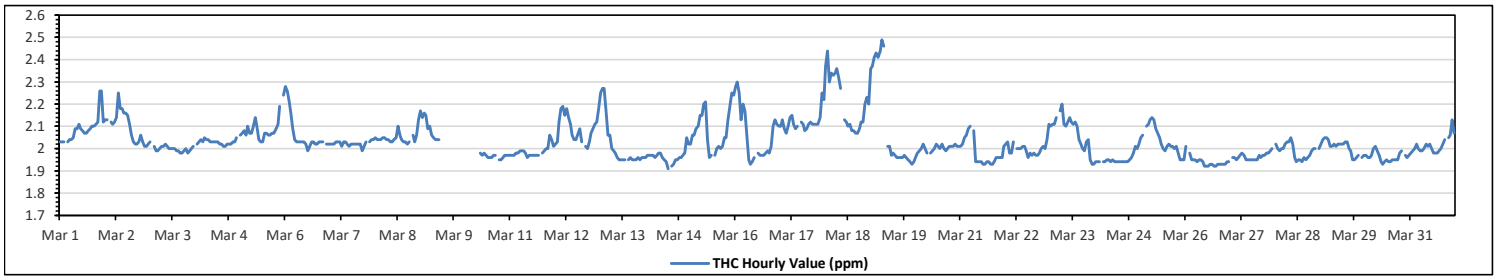
TOTAL HYDROCARBONS (THC) in ppm

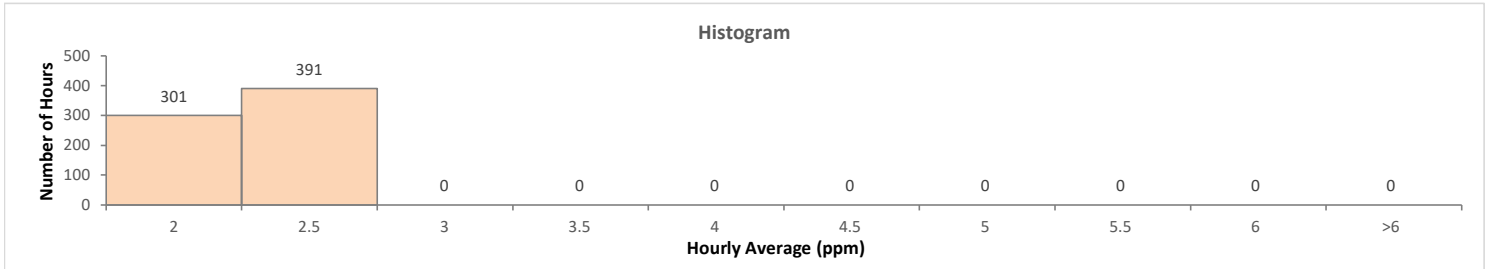
Maximum Hourly Value:	2.49	ppm	on Mar 19 at hr 6	Hours in Service:	744	
Maximum Daily Value:	2.21	ppm	on Mar 18	Hours of Data:	692	
Minimum Hourly Value:	1.91	ppm	on Mar 14 at hr 12	Hours of Missing Data:	15	
Minimum Daily Value:	1.94	ppm	on Mar 26	Hours of Calibration:	37	
Monthly Average:	2.03	ppm		Operational Uptime:	98.0	

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			
Mar 1	2.03	2.03	2.03	S	2.03	2.04	2.04	2.05	2.09	2.09	2.11	2.09	2.08	2.07	2.07	2.08	2.09	2.10	2.10	2.11	2.12	2.26	2.26	2.12	2.03	2.26	2.09
Mar 2	2.13	2.13	S	2.12	2.11	2.12	2.14	2.25	2.18	2.18	2.16	2.16	2.15	2.11	2.06	2.03	2.02	2.02	2.03	2.06	2.03	2.01	2.01	2.02	2.01	2.25	2.10
Mar 3	2.03	S	2.01	1.99	1.99	2.00	2.01	2.01	2.02	2.01	2.00	2.00	2.00	2.00	1.99	1.99	1.98	1.98	1.99	2.00	1.98	1.99	2.00	2.01	1.98	2.03	2.00
Mar 4	S	2.02	2.03	2.04	2.03	2.05	2.04	2.04	2.03	2.03	2.03	2.03	2.03	2.02	2.02	2.01	2.01	2.02	2.02	2.02	2.03	2.03	2.05	S	2.01	2.05	2.03
Mar 5	2.06	2.07	2.08	2.06	2.10	2.07	2.07	2.10	2.14	2.09	2.04	2.03	2.03	2.07	2.07	2.06	2.06	2.07	2.07	2.09	2.11	2.19	S	2.24	2.03	2.24	2.09
Mar 6	2.28	2.26	2.21	2.16	2.09	2.04	2.03	2.03	2.03	2.03	2.03	2.02	1.99	2.01	2.03	2.03	2.02	2.02	2.03	2.03	2.03	S	2.02	2.02	1.99	2.28	2.06
Mar 7	2.02	2.02	2.02	2.03	2.03	2.03	2.01	2.03	2.03	2.02	2.01	2.02	2.02	2.02	2.02	2.02	2.02	1.99	2.01	2.03	S	2.03	2.04	2.04	1.99	2.04	2.02
Mar 8	2.05	2.04	2.04	2.04	2.05	2.05	2.04	2.04	2.03	2.03	2.04	2.05	2.10	2.06	2.04	2.03	2.03	2.02	2.03	S	2.06	2.03	2.06	2.13	2.02	2.13	2.05
Mar 9	2.17	2.14	2.16	2.15	2.09	2.10	2.06	2.05	2.04	2.04	2.04	C	C	C	C	C	2.02	K	K	K	K	K	K	K	2.02	2.17	NA
Mar 10	K	K	K	K	K	K	K	NRM	1.98	1.97	1.98	1.97	1.96	1.96	1.96	1.97	1.97	S	1.95	1.95	1.96	1.97	1.97	1.97	1.95	1.98	NA
Mar 11	1.97	1.97	1.97	1.98	1.98	1.99	1.99	1.99	1.98	1.96	1.97	1.97	1.97	1.97	1.97	1.97	S	1.98	1.99	2.00	2.00	2.06	2.04	2.01	1.96	2.06	1.99
Mar 12	2.02	2.03	2.12	2.18	2.19	2.15	2.18	2.14	2.11	2.06	2.04	2.04	2.07	2.09	2.03	S	2.01	2.00	2.03	2.07	2.09	2.11	2.12	2.18	2.00	2.19	2.09
Mar 13	2.25	2.27	2.27	2.17	2.06	2.06	2.00	1.99	1.98	1.96	1.95	1.95	1.95	1.95	S	1.95	1.96	1.95	1.95	1.95	1.96	1.95	1.96	1.96	1.95	2.27	2.02
Mar 14	1.96	1.97	1.97	1.97	1.97	1.96	1.97	1.98	1.98	1.96	1.95	1.94	1.91	S	1.92	1.93	1.95	1.95	1.96	1.96	1.97	1.98	2.05	2.02	1.91	2.05	1.96
Mar 15	2.02	2.06	2.06	2.09	2.10	2.15	2.15	2.20	2.21	2.04	1.96	1.97	S	1.97	2.00	2.01	2.00	2.01	2.05	2.05	2.13	2.19	2.25	2.24	1.96	2.25	2.08
Mar 16	2.28	2.30	2.25	2.13	2.20	2.17	2.06	1.95	1.93	1.94	1.96	S	1.98	1.97	1.97	1.97	1.98	1.99	1.98	2.01	2.10	2.13	2.11	2.10	1.93	2.30	2.06
Mar 17	2.10	2.13	2.09	2.07	2.10	2.14	2.15	2.11	2.09	2.10	S	2.12	2.11	2.08	2.09	2.11	2.12	2.11	2.11	2.11	2.11	2.14	2.25	2.22	2.07	2.25	2.12
Mar 18	2.37	2.44	2.30	2.34	2.33	2.34	2.36	2.32	2.27	S	2.13	2.12	2.10	2.11	2.08	2.08	2.07	2.07	2.09	2.12	2.12	2.20	2.23	2.20	2.07	2.44	**2.21**
Mar 19	2.36	2.37	2.41	2.43	2.41	2.44	**2.49**	2.46	S	2.01	2.01	1.97	1.98	1.97	1.96	1.96	1.96	1.96	1.97	1.96	1.95	1.94	1.93	1.94	1.93	**2.49**	2.12
Mar 20	1.96	1.98	1.99	2.00	2.02	2.00	1.98	S	1.98	1.99	2.00	2.02	2.01	2.00	2.02	2.00	1.99	2.00	2.01	2.01	2.01	2.02	2.01	2.01	1.96	2.02	2.00
Mar 21	2.01	2.02	2.05	2.06	2.09	2.10	S	2.08	1.94	1.94	1.94	1.94	1.93	1.93	1.94	1.94	1.93	1.93	1.94	1.96	1.96	1.96	1.96	2.01	1.93	2.10	1.98
Mar 22	2.02	2.03	1.98	1.98	2.03	S	2.00	2.00	2.00	2.01	2.01	1.99	1.96	1.98	1.97	1.98	1.97	1.97	1.98	2.00	2.01	2.00	2.04	2.11	1.96	2.11	2.00
Mar 23	2.10	2.11	2.11	2.14	S	2.17	2.20	2.11	2.10	2.12	2.14	2.12	2.11	2.12	2.10	2.04	2.02	2.00	1.99	2.03	2.04	1.95	1.93	1.93	1.93	2.20	2.07
Mar 24	1.94	1.94	1.94	S	1.94	1.94	1.95	1.95	1.94	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.96	1.98	2.01	2.00	2.02	1.94	2.02	1.95
Mar 25	2.05	2.06	S	2.10	2.11	2.13	2.14	2.13	2.09	2.07	2.05	2.02	2.00	1.99	2.01	2.02	2.01	2.01	2.00	2.01	1.98	1.95	1.95	1.95	1.95	2.14	2.04
Mar 26	2.01	S	1.98	1.95	1.95	1.95	1.94	1.95	1.95	1.94	1.92	1.92	1.92	1.93	1.93	1.92	1.92	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.92	2.01	1.94
Mar 27	S	1.96	1.96	1.95	1.96	1.97	1.98	1.97	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.97	1.96	1.97	1.97	1.98	1.98	1.99	2.00	S	1.95	2.00	1.96
Mar 28	2.02	2.00	1.99	2.00	2.00	2.02	2.03	2.03	2.05	2.02	1.96	1.94	1.95	1.95	1.94	1.96	1.95	1.96	1.97	1.99	2.00	2.00	S	2.00	1.94	2.05	1.99
Mar 29	2.02	2.04	2.05	2.05	2.04	2.01	2.01	2.02	2.01	2.02	2.02	2.02	2.02	2.03	2.03	2.00	1.99	1.95	1.95	1.96	1.97	S	1.96	1.97	1.95	2.05	2.01
Mar 30	1.97	1.96	1.96	1.97	2.00	2.01	1.99	1.97	1.94	1.93	1.94	1.95	1.94	1.94	1.95	1.95	1.95	1.95	1.98	1.99	S	1.97	1.96	1.97	1.93	2.01	1.96
Mar 31	1.98	1.99	2.00	2.02	2.00	1.99	1.99	2.00	2.02	2.01	2.02	2.00	1.98	1.98	1.98	1.99	2.00	2.02	2.04	S	2.05	2.06	2.13	2.07	1.98	2.13	2.01
Diurnal Maximum	2.37	2.44	2.41	2.43	2.41	2.44	2.49	2.46	2.27	2.18	2.16	2.16	2.15	2.12	2.10	2.11	2.12	2.11	2.11	2.12	2.13	2.26	2.26	2.24			
Diurnal Average	2.08	2.08	2.07	2.08	2.07	2.08	2.07	2.07	2.04	2.02	2.01	2.01	2.00	2.01	2.00	2.00	2.00	2.00	2.00	2.01	2.02	2.04	2.04	2.05			

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.



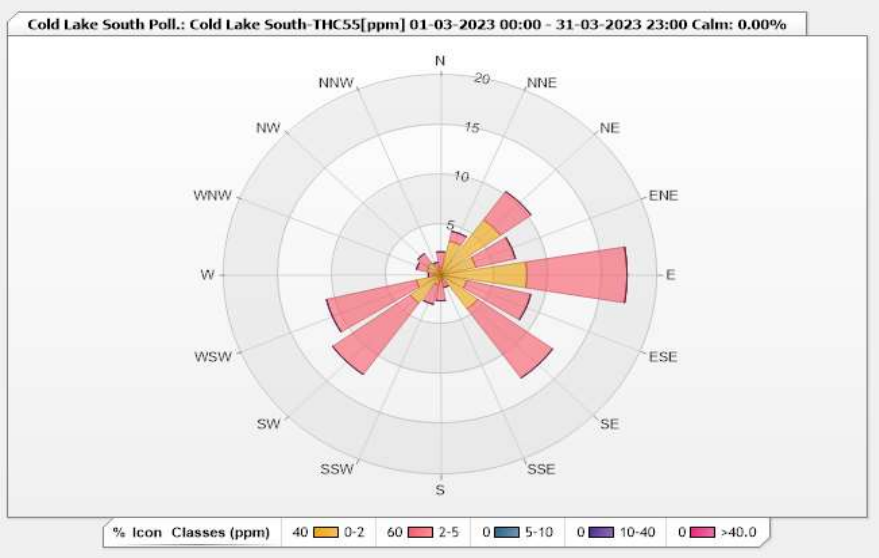


Station: Cold Lake South Poll.: Cold Lake South-THC55[ppm] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 93.01% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	0.72	1.59	0	0	0	2.31
NNE	3.47	1.01	0	0	0	4.48
NE	6.79	3.47	0	0	0	10.26
ENE	3.32	3.76	0	0	0	7.08
E	7.95	9.25	0	0	0	17.2
ESE	2.46	6.07	0	0	0	8.53
SE	4.19	8.53	0	0	0	12.72
SSE	0.29	1.01	0	0	0	1.3
S	0.58	2.02	0	0	0	2.6
SSW	1.01	2.02	0	0	0	3.03
SW	3.47	8.82	0	0	0	12.29
WSW	2.31	8.53	0	0	0	10.84
W	0.58	0.58	0	0	0	1.16
WNW	1.3	1.01	0	0	0	2.31
NW	1.45	1.16	0	0	0	2.61
NNW	0.43	0.87	0	0	0	1.3
Summary	40.32	59.7	0	0	0	100



Lakeland Industry & Community Association

Cold Lake South Station - March 2023

Summary of Hourly Averages

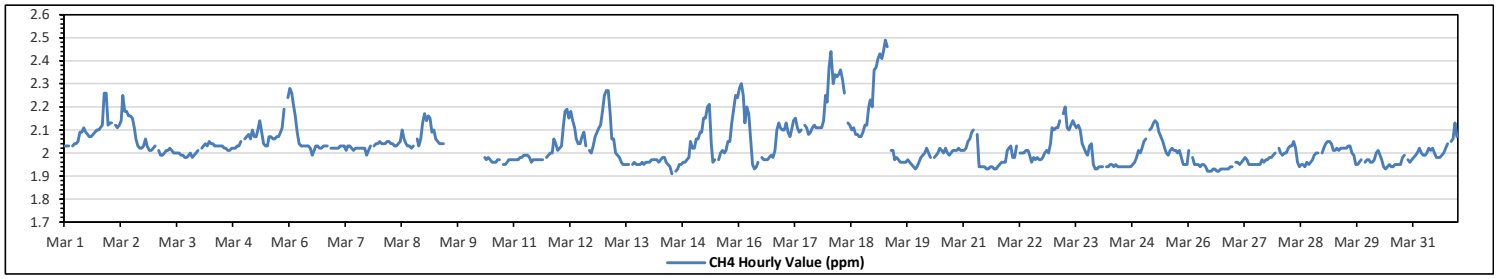
METHANE (CH4) in ppm

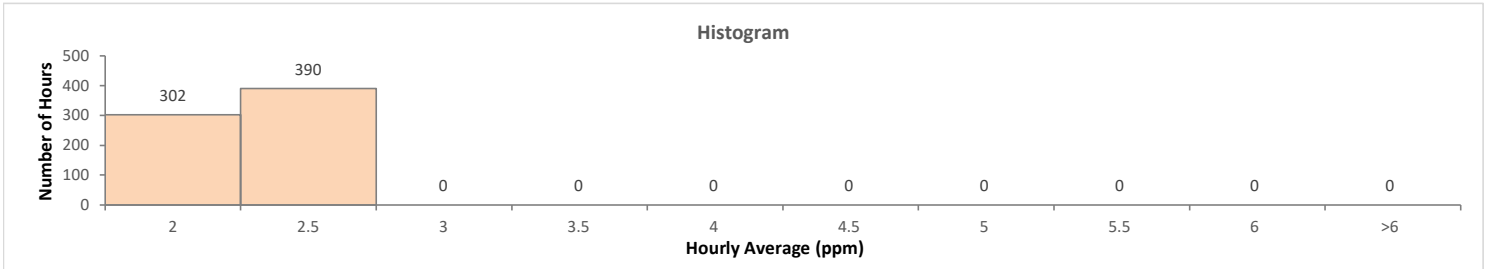
Maximum Hourly Value:	2.49	ppm	on Mar 19 at hr 6	Hours in Service:	744
Maximum Daily Value:	2.21	ppm	on Mar 18	Hours of Data:	692
Minimum Hourly Value:	1.91	ppm	on Mar 14 at hr 12	Hours of Missing Data:	15
Minimum Daily Value:	1.94	ppm	on Mar 26	Hours of Calibration:	37
Monthly Average:	2.03	ppm		Operational Uptime:	98.0

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			
Mar 1	2.03	2.03	2.03	S	2.03	2.04	2.04	2.05	2.09	2.09	2.11	2.09	2.08	2.07	2.07	2.08	2.09	2.10	2.10	2.11	2.12	2.26	2.26	2.12	2.03	2.26	2.09
Mar 2	2.13	2.13	S	2.12	2.11	2.12	2.14	2.25	2.18	2.18	2.16	2.16	2.15	2.11	2.06	2.03	2.02	2.02	2.03	2.06	2.03	2.01	2.01	2.02	2.01	2.25	2.10
Mar 3	2.03	S	2.01	1.99	1.99	2.00	2.01	2.01	2.02	2.01	2.00	2.00	2.00	2.00	1.99	1.99	1.98	1.98	1.99	2.00	1.98	1.99	2.00	2.01	1.98	2.03	2.00
Mar 4	S	2.02	2.03	2.04	2.03	2.05	2.04	2.04	2.03	2.03	2.03	2.03	2.03	2.02	2.02	2.01	2.01	2.02	2.02	2.02	2.03	2.03	2.05	S	2.01	2.05	2.03
Mar 5	2.06	2.07	2.08	2.06	2.10	2.07	2.07	2.10	2.14	2.09	2.04	2.03	2.03	2.07	2.07	2.06	2.06	2.07	2.07	2.09	2.11	2.19	S	2.24	2.03	2.24	2.09
Mar 6	2.28	2.26	2.21	2.16	2.09	2.04	2.03	2.03	2.03	2.03	2.03	2.02	1.99	2.01	2.03	2.03	2.02	2.02	2.03	2.03	2.03	S	2.02	2.02	1.99	2.28	2.06
Mar 7	2.02	2.02	2.02	2.03	2.03	2.03	2.01	2.03	2.03	2.02	2.01	2.02	2.02	2.02	2.02	2.02	2.02	1.99	2.01	2.03	S	2.03	2.04	2.04	1.99	2.04	2.02
Mar 8	2.05	2.04	2.04	2.04	2.05	2.05	2.04	2.04	2.03	2.03	2.04	2.05	2.10	2.06	2.04	2.03	2.03	2.02	2.03	S	2.06	2.03	2.06	2.13	2.02	2.13	2.05
Mar 9	2.17	2.14	2.16	2.15	2.09	2.10	2.06	2.05	2.04	2.04	2.04	C	C	C	C	C	1.99	K	K	K	K	K	K	K	1.99	2.17	NA
Mar 10	K	K	K	K	K	K	K	NRM	1.98	1.97	1.98	1.97	1.96	1.96	1.96	1.97	1.97	S	1.95	1.95	1.96	1.97	1.97	1.97	1.95	1.98	NA
Mar 11	1.97	1.97	1.97	1.98	1.98	1.99	1.99	1.99	1.98	1.96	1.97	1.97	1.97	1.97	1.97	1.97	S	1.98	1.99	2.00	2.00	2.06	2.04	2.01	1.96	2.06	1.99
Mar 12	2.02	2.03	2.12	2.18	2.19	2.15	2.18	2.14	2.11	2.06	2.04	2.04	2.07	2.09	2.03	S	2.01	2.00	2.03	2.07	2.09	2.11	2.12	2.18	2.00	2.19	2.09
Mar 13	2.25	2.27	2.27	2.17	2.06	2.06	2.00	1.99	1.98	1.96	1.95	1.95	1.95	1.95	S	1.95	1.96	1.95	1.95	1.95	1.96	1.95	1.96	1.96	1.95	2.27	2.02
Mar 14	1.96	1.97	1.97	1.97	1.97	1.96	1.97	1.98	1.98	1.96	IMMMM	1.94	1.91	S	1.92	1.93	1.95	1.95	1.96	1.96	1.97	1.98	2.05	2.02	1.91	2.05	1.97
Mar 15	2.02	2.06	2.06	2.09	2.09	2.15	2.15	2.20	2.21	2.04	1.96	1.97	S	1.97	2.00	2.01	2.00	2.01	2.05	2.05	2.13	2.19	2.25	2.24	1.96	2.25	2.08
Mar 16	2.28	2.30	2.25	2.13	2.20	2.17	2.06	1.95	1.93	1.94	1.96	S	1.98	1.97	1.97	1.97	1.98	1.99	1.98	2.01	2.10	2.13	2.11	2.10	1.93	2.30	2.06
Mar 17	2.10	2.13	2.09	2.07	2.10	2.14	2.15	2.11	2.09	2.10	S	2.12	2.11	2.08	2.09	2.11	2.12	2.11	2.11	2.11	2.11	2.14	2.25	2.22	2.07	2.25	2.12
Mar 18	2.37	2.44	2.30	2.34	2.33	2.34	2.36	2.32	2.26	S	2.13	2.12	2.10	2.11	2.08	2.08	2.07	2.07	2.09	2.12	2.12	2.20	2.23	2.20	2.07	2.44	**2.21**
Mar 19	2.36	2.37	2.41	2.43	2.41	2.44	**2.49**	2.46	S	2.01	2.01	1.97	1.98	1.97	1.96	1.96	1.96	1.96	1.97	1.96	1.95	1.94	1.93	1.94	1.93	**2.49**	2.12
Mar 20	1.96	1.98	1.99	2.00	2.02	2.00	1.98	S	1.98	1.99	2.00	2.02	2.01	2.00	2.02	2.00	1.99	2.00	2.01	2.01	2.01	2.02	2.01	2.01	1.96	2.02	2.00
Mar 21	2.01	2.02	2.05	2.06	2.09	2.10	S	2.08	1.94	1.94	1.94	1.94	1.93	1.93	1.94	1.94	1.93	1.93	1.94	1.95	1.96	1.96	1.96	2.01	1.93	2.10	1.98
Mar 22	2.02	2.03	1.98	1.98	2.03	S	2.00	2.00	2.00	2.01	2.01	1.99	1.96	1.98	1.97	1.98	1.97	1.97	1.98	2.00	2.01	2.00	2.04	2.11	1.96	2.11	2.00
Mar 23	2.10	2.11	2.11	2.14	S	2.17	2.20	2.11	2.10	2.12	2.14	2.12	2.11	2.12	2.10	2.04	2.02	2.00	1.99	2.03	2.04	1.95	1.93	1.93	1.93	2.20	2.07
Mar 24	1.94	1.94	1.94	S	1.94	1.94	1.95	1.95	1.94	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.96	1.98	2.01	2.00	2.02	1.94	2.02	1.95
Mar 25	2.05	2.06	S	2.10	2.11	2.13	2.14	2.13	2.09	2.07	2.05	2.02	2.00	1.99	2.01	2.02	2.01	2.01	2.00	2.01	1.98	1.95	1.95	1.95	1.95	2.14	2.04
Mar 26	2.01	S	1.98	1.95	1.95	1.95	1.94	1.95	1.95	1.94	1.92	1.92	1.92	1.93	1.93	1.92	1.92	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.92	2.01	1.94
Mar 27	S	1.96	1.96	1.95	1.96	1.97	1.98	1.97	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.97	1.96	1.97	1.97	1.98	1.98	1.99	2.00	S	1.95	2.00	1.96
Mar 28	2.02	2.00	1.99	2.00	2.00	2.02	2.03	2.03	2.05	2.02	1.96	1.94	1.95	1.95	1.94	1.96	1.95	1.96	1.97	1.99	2.00	2.00	S	2.00	1.94	2.05	1.99
Mar 29	2.02	2.04	2.05	2.05	2.04	2.01	2.01	2.02	2.01	2.02	2.02	2.02	2.02	2.03	2.03	2.00	1.99	1.95	1.95	1.96	1.97	S	1.96	1.97	1.95	2.05	2.01
Mar 30	1.97	1.96	1.96	1.97	2.00	2.01	1.99	1.97	1.94	1.93	1.94	1.95	1.94	1.94	1.95	1.95	1.95	1.95	1.98	1.99	S	1.97	1.96	1.97	1.93	2.01	1.96
Mar 31	1.98	1.99	2.00	2.02	2.00	1.99	1.99	2.00	2.02	2.01	2.02	2.00	1.98	1.98	1.98	1.99	2.00	2.02	2.04	S	2.05	2.06	2.13	2.07	1.98	2.13	2.01
Diurnal Maximum	2.37	2.44	2.41	2.43	2.41	2.44	2.49	2.46	2.26	2.18	2.16	2.16	2.15	2.12	2.10	2.11	2.12	2.11	2.11	2.12	2.13	2.26	2.26	2.24			
Diurnal Average	2.08	2.08	2.07	2.08	2.07	2.08	2.07	2.07	2.04	2.02	2.01	2.01	2.00	2.01	2.00	2.00	2.00	2.00	2.00	2.01	2.02	2.04	2.04	2.05			

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.



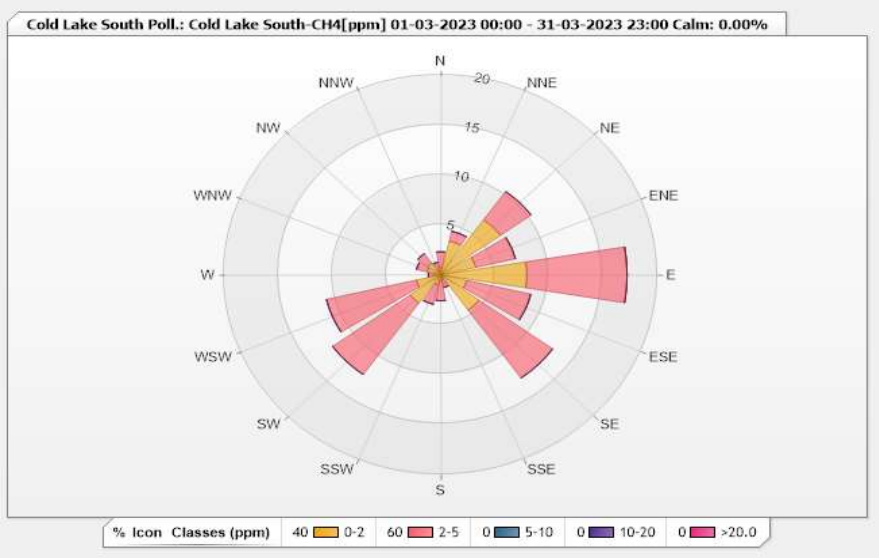


Station: Cold Lake South Poll.: Cold Lake South-CH4[ppm] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 93.01% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	0.72	1.59	0	0	0	2.31
NNE	3.47	1.01	0	0	0	4.48
NE	6.79	3.47	0	0	0	10.26
ENE	3.32	3.76	0	0	0	7.08
E	7.95	9.25	0	0	0	17.2
ESE	2.46	6.07	0	0	0	8.53
SE	4.34	8.38	0	0	0	12.72
SSE	0.29	1.01	0	0	0	1.3
S	0.58	2.02	0	0	0	2.6
SSW	1.01	2.02	0	0	0	3.03
SW	3.47	8.82	0	0	0	12.29
WSW	2.31	8.53	0	0	0	10.84
W	0.58	0.58	0	0	0	1.16
WNW	1.3	1.01	0	0	0	2.31
NW	1.45	1.16	0	0	0	2.61
NNW	0.43	0.87	0	0	0	1.3
Summary	40.47	59.55	0	0	0	100



Lakeland Industry & Community Association

Cold Lake South Station - March 2023

Summary of Hourly Averages

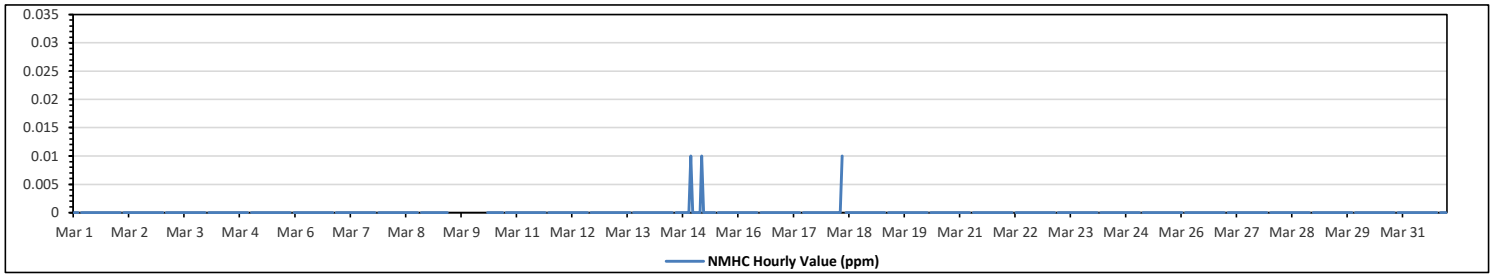
NON-METHANE HYDROCARBONS (NMHC) in ppm

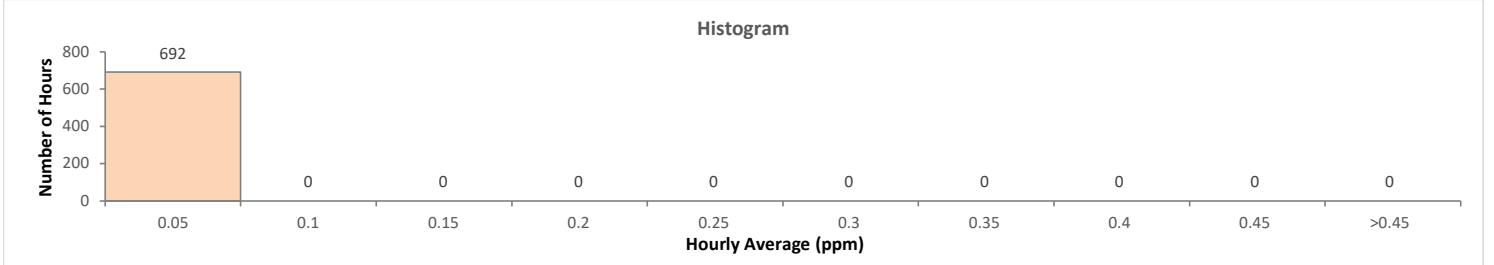
Maximum Hourly Value:	0.03	ppm	on Mar 9 at hr 16	Hours in Service:	744
Maximum Daily Value:	0.00	ppm	on Mar 14	Hours of Data:	692
Minimum Hourly Value:	0.00	ppm	on Mar 1 at hr 0	Hours of Missing Data:	15
Minimum Daily Value:	0.00	ppm	on Mar 1	Hours of Calibration:	37
Monthly Average:	0.00	ppm		Operational Uptime:	98.0

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			
Mar 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 2	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
Mar 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
Mar 4	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
Mar 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
Mar 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	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Mar 7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Mar 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
Mar 9	0.00	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	0.03	K	K	K	K	K	K	K	0.00	0.03	NA
Mar 10	K	K	K	K	K	K	K	NRM	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	NA
Mar 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
Mar 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
Mar 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
Mar 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	0.01	0.00	0.00	0.01	0.00
Mar 15	0.00	0.00	0.00	0.00	0.01	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
Mar 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
Mar 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
Mar 18	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 27	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
Mar 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	0.00	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
Mar 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
Mar 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
Mar 31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Diurnal Maximum	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	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	0.01	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.



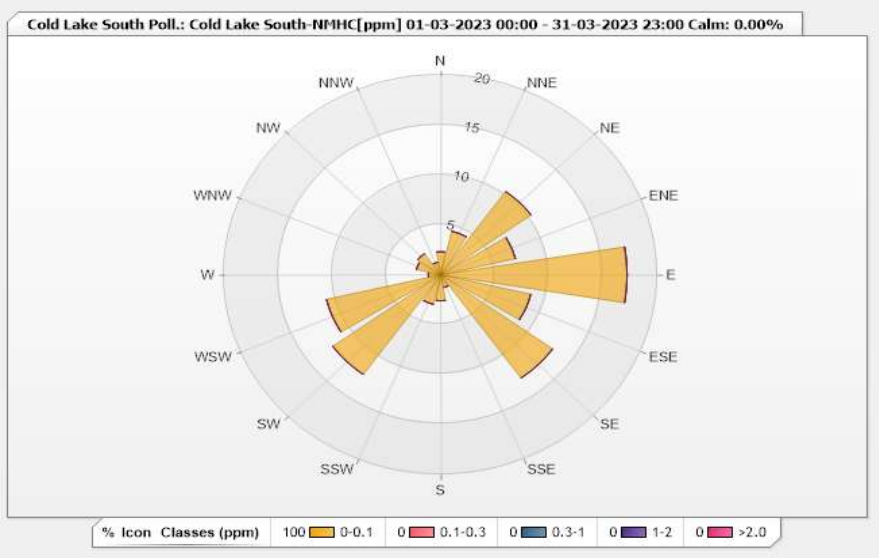


Station: Cold Lake South Poll.: Cold Lake South-NMHC[ppm] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 93.01% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	2.31	0	0	0	0	2.31
NNE	4.48	0	0	0	0	4.48
NE	10.26	0	0	0	0	10.26
ENE	7.08	0	0	0	0	7.08
E	17.2	0	0	0	0	17.2
ESE	8.53	0	0	0	0	8.53
SE	12.72	0	0	0	0	12.72
SSE	1.3	0	0	0	0	1.3
S	2.6	0	0	0	0	2.6
SSW	3.03	0	0	0	0	3.03
SW	12.28	0	0	0	0	12.28
WSW	10.84	0	0	0	0	10.84
W	1.16	0	0	0	0	1.16
WNW	2.31	0	0	0	0	2.31
NW	2.6	0	0	0	0	2.6
NNW	1.3	0	0	0	0	1.3
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Cold Lake South Station - March 2023

Summary of Hourly Averages

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

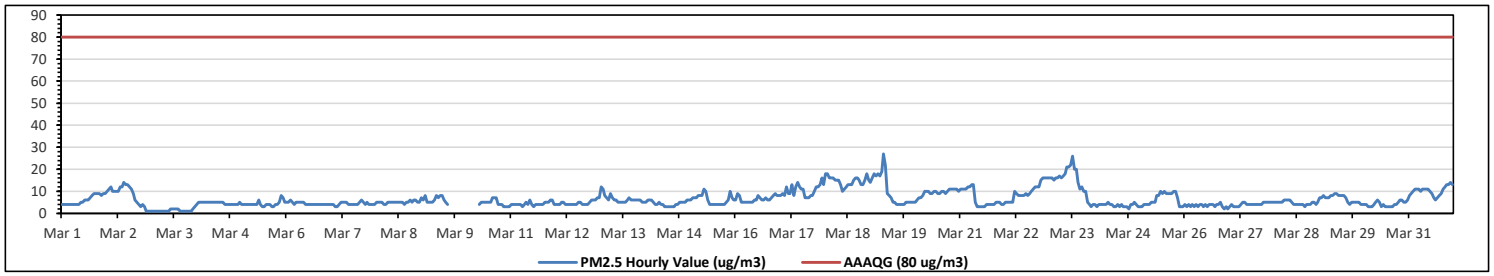
Alberta Ambient Air Quality Guideline (AAAQG): 1-Hour 80 µg/m3, Alberta Ambient Air Quality Objective (AAAQO): 24-Hour 29 µg/m3

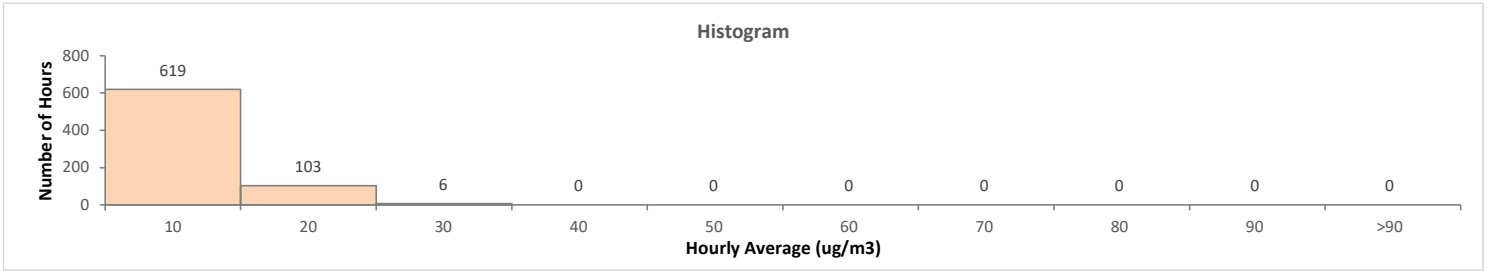
Number of 1-Hour Exceedances:	0	Number of 24-Hour Exceedances:	0
Maximum Hourly Value:	27 µg/m^3 on Mar 19 at hr 7	Hours in Service:	744
Maximum Daily Value:	14.6 µg/m^3 on Mar 18	Hours of Data:	728
Minimum Hourly Value:	1 µg/m^3 on Mar 2 at hr 21	Hours of Missing Data:	14
Minimum Daily Value:	1 µg/m^3 on Mar 3	Hours of Calibration:	2
Monthly Average:	6.5 µg/m^3	Operational Uptime:	98.1

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			
Mar 1	4	4	4	4	4	4	4	4	4	4	5	5	6	6	6	7	8	9	9	9	9	8	9	9	4	9	6.0
Mar 2	10	11	12	10	10	10	10	12	12	14	13	13	12	11	9	6	5	4	3	4	3	1	1	1	**1**	14	8.2
Mar 3	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	1	1	1	1	1	1	1	2	3	**1**	3	**1.3**
Mar 4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4	5	4	5	4.6
Mar 5	4	4	4	4	4	4	4	4	4	6	4	3	3	4	4	4	3	3	4	4	5	8	7	5	3	8	4.3
Mar 6	5	5	6	5	4	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4.4
Mar 7	4	4	3	3	4	5	5	5	5	4	4	4	4	4	4	5	6	5	4	5	4	4	4	4	3	6	4.3
Mar 8	5	5	5	5	4	4	5	5	5	5	5	5	5	5	5	4	5	5	6	5	6	6	5	5	4	6	5.0
Mar 9	7	6	8	5	5	5	5	6	8	7	8	8	6	5	4	**C**	**C**	**K**	**K**	**K**	**K**	**K**	**K**	**K**	4	8	NA
Mar 10	**K**	**K**	**K**	**K**	**K**	**K**	**K**	4	5	5	5	5	5	5	7	7	7	4	4	4	3	3	3	3	3	7	NA
Mar 11	4	4	4	4	4	4	3	4	5	4	6	4	3	4	4	4	4	4	5	5	5	6	6	4	3	6	4.3
Mar 12	4	4	4	5	5	4	4	4	4	4	4	4	5	5	4	4	4	4	5	6	6	6	7	7	4	7	4.7
Mar 13	12	11	8	7	6	9	7	6	6	5	5	5	5	5	6	7	6	6	6	6	6	6	5	5	5	12	6.5
Mar 14	5	6	6	6	5	4	4	5	4	4	3	3	3	3	3	3	4	4	5	5	5	5	6	6	3	6	4.5
Mar 15	6	7	7	7	8	8	8	11	10	6	4	4	4	4	4	4	4	4	4	5	6	10	7	6	4	11	6.2
Mar 16	6	9	8	5	5	5	5	5	5	5	6	6	8	7	6	6	7	6	6	7	8	9	8	8	5	9	6.5
Mar 17	8	9	8	12	9	9	13	8	12	14	12	11	11	7	7	7	8	8	10	12	12	13	16	13	7	16	10.4
Mar 18	18	18	16	16	16	15	15	15	13	10	11	12	13	13	13	15	16	16	15	13	13	15	18	15	10	18	**14.6**
Mar 19	14	16	18	17	18	17	19	**27**	22	9	8	7	5	5	4	4	4	4	4	5	5	5	5	5	4	**27**	10.3
Mar 20	5	6	7	7	8	10	10	10	9	9	10	10	9	9	10	10	9	10	11	11	11	11	11	10	5	11	9.3
Mar 21	11	11	11	11	12	12	13	13	5	3	3	3	3	3	4	4	4	4	4	5	5	5	4	4	3	13	6.5
Mar 22	5	5	5	5	5	10	9	8	8	8	8	9	8	9	10	11	12	12	12	15	16	16	16	16	5	16	9.9
Mar 23	16	16	15	16	16	17	16	17	18	21	21	22	26	20	20	14	11	12	10	10	5	4	3	4	3	26	**14.6**
Mar 24	4	3	4	4	4	4	4	5	4	4	3	3	4	3	4	3	3	3	2	4	4	5	4	3	2	5	3.7
Mar 25	3	3	4	4	4	4	5	5	5	8	8	10	9	10	9	9	9	9	10	10	7	3	3	3	3	10	6.4
Mar 26	4	3	4	3	4	3	4	3	4	4	3	4	3	4	4	4	3	4	4	5	3	2	3	2	2	5	3.5
Mar 27	3	4	3	3	3	3	4	5	5	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	3	5	4.1
Mar 28	5	5	5	5	5	6	6	6	6	5	4	4	4	4	4	4	3	4	4	4	5	5	4	5	3	6	4.7
Mar 29	7	7	8	7	7	7	8	8	9	9	8	8	8	8	7	5	4	5	5	5	5	5	4	4	4	9	6.6
Mar 30	4	4	3	3	3	4	5	6	5	3	4	3	3	3	3	3	4	4	5	6	6	5	5	6	3	6	4.2
Mar 31	8	9	10	11	11	11	10	11	11	11	11	10	9	7	6	7	8	9	11	12	13	13	14	13	6	14	10.3
Diurnal Maximum	18	18	18	17	18	17	19	27	22	21	21	22	26	20	20	15	16	16	15	15	16	16	18	16			
Diurnal Average	6.5	6.8	6.9	6.7	6.6	7.0	7.2	7.5	7.2	6.6	6.5	6.5	6.4	6.1	6.0	5.8	5.8	5.8	6.1	6.5	6.3	6.4	6.4	6.1			

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.



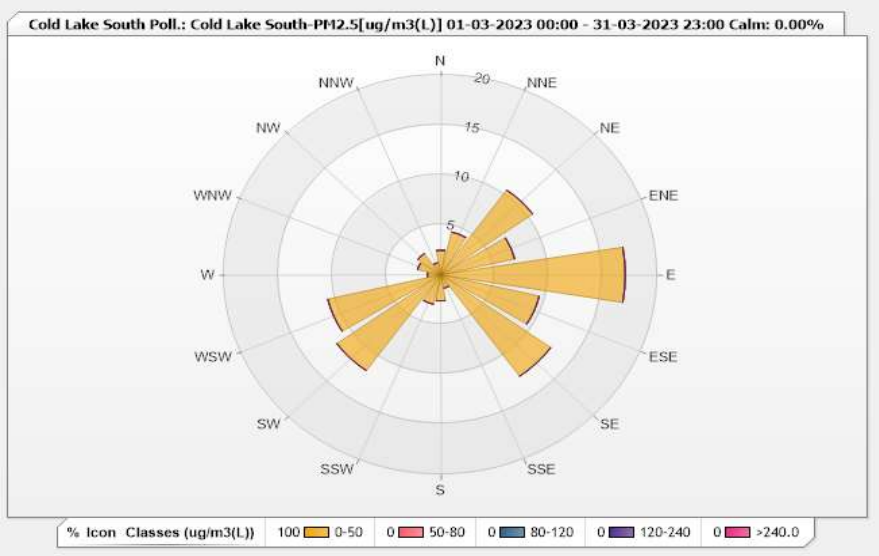


Station: Cold Lake South Poll.: Cold Lake South-PM2.5[ug/m3(L)] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 97.85% Calm Avg: 0.00 [ppm]

Direction	0-50	50-80	80-120	120-240	>240.0	Total
N	2.47	0	0	0	0	2.47
NNE	4.4	0	0	0	0	4.4
NE	10.44	0	0	0	0	10.44
ENE	7.01	0	0	0	0	7.01
E	17.03	0	0	0	0	17.03
ESE	9.34	0	0	0	0	9.34
SE	12.5	0	0	0	0	12.5
SSE	1.37	0	0	0	0	1.37
S	2.61	0	0	0	0	2.61
SSW	3.02	0	0	0	0	3.02
SW	11.81	0	0	0	0	11.81
WSW	10.71	0	0	0	0	10.71
W	1.24	0	0	0	0	1.24
WNW	2.2	0	0	0	0	2.2
NW	2.61	0	0	0	0	2.61
NNW	1.24	0	0	0	0	1.24
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Cold Lake South Station - March 2023

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

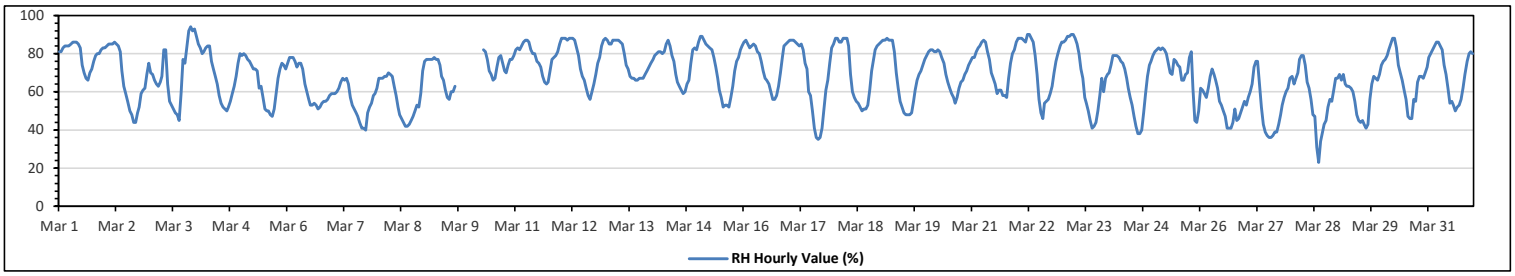
Maximum Hourly Value:	94	%	on Mar 3 at hr 21	Hours in Service:	744	
Maximum Daily Value:	79.5	%	on Mar 1	Hours of Data:	730	
Minimum Hourly Value:	23	%	on Mar 28 at hr 14	Hours of Missing Data:	14	
Minimum Daily Value:	53.0	%	on Mar 27	Hours of Calibration:	0	
Monthly Average:	68.1	%		Operational Uptime:	98.1	

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			
Mar 1	81	81	83	84	84	84	85	86	86	86	85	83	74	70	67	66	70	72	76	79	80	80	82	83	66	86	**79.5**
Mar 2	83	84	85	85	85	86	85	84	81	71	63	59	55	50	48	44	44	49	52	59	61	62	69	75	44	86	67.5
Mar 3	70	69	66	64	63	65	68	82	82	64	55	53	51	49	48	45	59	77	75	82	92	**94**	92	93	45	**94**	69.1
Mar 4	89	85	83	80	81	83	84	84	76	72	68	64	58	54	52	51	50	52	55	59	63	68	75	80	50	89	69.4
Mar 5	79	80	79	77	76	74	72	72	71	62	63	57	51	50	50	48	47	51	59	67	72	75	74	72	47	80	65.8
Mar 6	75	78	78	78	76	73	75	75	72	64	60	56	53	53	54	53	51	52	54	55	55	56	58	59	51	78	63.0
Mar 7	59	59	60	62	65	67	66	67	64	57	53	51	49	47	44	41	41	40	49	52	54	58	59	62	40	67	55.3
Mar 8	67	67	67	68	68	70	69	68	63	58	52	48	46	44	42	42	43	45	47	50	53	52	59	71	42	71	56.6
Mar 9	76	77	77	77	77	78	77	77	74	68	66	61	57	56	60	60	63	K	K	K	K	K	K	K	56	78	NA
Mar 10	K	K	K	K	K	K	K	82	81	77	71	69	66	67	73	78	79	75	71	70	74	77	77	79	66	82	NA
Mar 11	82	83	82	84	86	87	87	86	82	80	80	76	75	73	68	65	64	65	71	77	78	79	81	85	64	87	78.2
Mar 12	88	88	88	87	88	88	88	87	83	79	72	68	66	62	58	56	60	64	69	75	78	84	87	88	56	88	77.1
Mar 13	87	85	85	87	87	87	87	86	85	80	74	72	68	67	67	66	66	67	67	67	69	71	73	75	66	87	76.0
Mar 14	77	79	80	81	81	80	81	85	87	84	79	76	69	65	63	61	59	60	64	66	75	82	83	82	59	87	75.0
Mar 15	86	89	89	87	85	84	83	82	78	73	67	61	57	52	53	53	52	57	63	71	76	78	82	84	52	89	72.6
Mar 16	86	87	85	83	84	85	84	81	80	76	71	67	66	64	60	56	56	58	63	70	78	84	85	86	56	87	74.8
Mar 17	87	87	87	86	85	84	85	82	75	72	60	58	50	41	36	35	36	41	51	61	66	75	83	85	35	87	67.0
Mar 18	88	88	86	86	88	88	88	84	69	60	57	55	54	52	50	51	51	53	61	71	76	82	84	85	50	88	71.1
Mar 19	86	87	87	88	87	87	87	81	70	62	55	52	49	48	48	48	49	55	61	66	69	71	74	77	48	88	68.5
Mar 20	79	81	82	82	81	81	82	81	78	75	69	65	62	59	57	54	57	62	65	66	69	71	74	76	54	82	71.2
Mar 21	78	78	81	83	84	86	87	86	81	77	70	67	64	59	61	61	58	58	57	67	75	80	82	86	57	87	73.6
Mar 22	88	88	88	87	86	90	90	88	86	79	69	56	49	46	54	55	56	59	63	70	76	80	84	86	46	90	73.9
Mar 23	86	87	89	89	90	90	88	85	80	72	67	57	54	50	45	41	42	44	50	58	67	60	67	69	41	90	67.8
Mar 24	70	74	79	79	79	78	76	75	72	67	62	57	53	47	42	38	38	40	49	59	68	74	76	79	38	79	63.8
Mar 25	81	82	83	82	83	82	80	75	70	69	77	76	74	73	66	66	69	70	78	81	62	45	44	50	44	83	71.6
Mar 26	62	61	59	57	62	68	72	69	66	62	55	53	50	47	41	41	41	44	51	45	46	49	52	55	41	72	54.5
Mar 27	53	57	60	64	73	76	76	64	52	43	39	37	36	36	37	39	39	43	48	53	57	60	62	67	36	76	**53.0**
Mar 28	68	64	67	70	77	79	79	74	65	62	56	48	47	31	**23**	34	38	43	45	52	56	55	61	67	**23**	79	56.7
Mar 29	67	69	66	69	64	63	63	62	60	55	48	45	44	45	43	41	43	56	64	68	67	66	69	74	41	74	58.8
Mar 30	76	77	79	82	85	88	88	83	74	70	66	61	56	47	46	46	56	55	65	68	68	67	70	73	46	88	68.6
Mar 31	78	80	82	84	86	86	84	82	74	69	62	54	55	53	50	52	53	56	62	69	76	80	81	80	50	86	70.3
Diurnal Maximum	89	89	89	89	90	90	90	88	87	86	85	83	75	73	73	78	79	77	78	82	92	94	92	93			
Diurnal Average	77.7	78.4	78.7	79.1	79.9	80.6	80.5	79.2	74.7	69.2	64.2	60.1	56.7	53.5	51.8	51.2	52.6	55.4	60.2	65.1	68.5	70.5	73.3	76.1			

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

Cold Lake South Station - March 2023

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

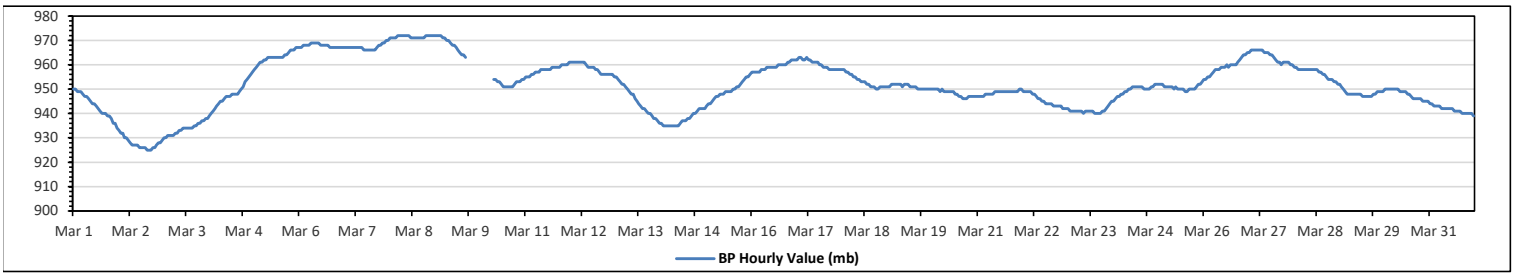
Maximum Hourly Value:	972	mb	on Mar 8 at hr 4	Hours in Service:	744	
Maximum Daily Value:	972	mb	on Mar 8	Hours of Data:	730	
Minimum Hourly Value:	925	mb	on Mar 2 at hr 15	Hours of Missing Data:	14	
Minimum Daily Value:	928	mb	on Mar 2	Hours of Calibration:	0	
Monthly Average:	952	mb		Operational Uptime:	98.1	

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
Mar 1	950	950	949	949	949	948	947	947	946	945	944	944	943	942	941	940	940	940	939	939	938	936	936	934	934	950	943
Mar 2	933	932	932	930	930	929	928	927	927	927	927	926	926	926	926	**925**	**925**	**925**	926	926	927	928	928	929	**925**	933	**928**
Mar 3	930	930	931	931	931	931	932	932	933	933	934	934	934	934	934	934	935	935	936	936	937	937	938	938	930	938	934
Mar 4	939	940	941	942	943	944	945	945	946	947	947	947	948	948	948	948	949	950	951	953	954	955	956	957	939	957	948
Mar 5	958	959	960	961	961	962	962	963	963	963	963	963	963	963	963	963	964	964	965	966	966	966	967	967	958	967	963
Mar 6	967	967	968	968	968	968	969	969	969	969	969	968	968	968	968	968	967	967	967	967	967	967	967	967	967	969	968
Mar 7	967	967	967	967	967	967	967	967	967	967	966	966	966	966	966	966	966	967	968	968	969	969	970	970	966	970	967
Mar 8	971	971	971	971	**972**	**972**	**972**	**972**	**972**	**972**	**972**	971	971	971	971	971	971	971	971	**972**	**972**	**972**	**972**	**972**	971	**972**	**972**
Mar 9	**972**	**972**	**972**	**972**	971	971	970	970	969	968	968	967	966	965	964	964	963	K	K	K	K	K	K	K	963	**972**	NA
Mar 10	K	K	K	K	K	K	K	954	954	953	953	952	951	951	951	951	951	951	952	953	953	953	954	954	951	954	NA
Mar 11	955	955	955	956	956	957	957	957	958	958	958	958	958	958	959	959	959	959	959	960	960	960	960	961	955	961	958
Mar 12	961	961	961	961	961	961	961	961	960	959	959	959	959	958	958	957	956	956	956	956	956	956	956	955	955	961	959
Mar 13	955	954	953	952	952	951	950	949	948	948	946	945	944	943	942	942	941	940	940	939	938	938	937	936	936	955	945
Mar 14	936	935	935	935	935	935	935	935	935	935	936	937	937	937	938	938	939	940	940	941	942	942	942	942	935	942	938
Mar 15	943	944	944	945	946	947	947	948	948	948	949	949	949	949	950	950	951	951	952	953	954	955	955	956	943	956	949
Mar 16	957	957	957	957	957	958	958	958	959	959	959	959	959	959	960	960	960	960	960	961	961	962	962	962	957	962	959
Mar 17	962	963	963	962	962	963	962	962	961	961	961	961	960	960	959	959	959	958	958	958	958	958	958	958	958	963	960
Mar 18	958	958	957	957	956	956	955	955	954	954	953	953	953	952	952	951	951	951	950	950	951	951	951	951	950	958	953
Mar 19	951	951	952	952	952	952	952	952	951	952	952	952	951	951	951	951	950	950	950	950	950	950	950	950	950	952	951
Mar 20	950	950	950	950	949	950	949	949	949	949	949	949	948	948	947	947	946	946	946	947	947	947	947	947	946	950	948
Mar 21	947	947	947	947	948	948	948	948	948	949	949	949	949	949	949	949	949	949	949	949	949	949	950	950	947	950	949
Mar 22	949	949	949	949	949	948	948	947	946	946	945	945	944	944	944	944	943	943	943	943	943	942	942	942	942	949	945
Mar 23	942	941	941	941	941	941	941	941	940	941	941	941	941	941	940	940	940	940	941	941	942	943	944	945	940	945	941
Mar 24	945	946	947	947	948	948	949	949	950	950	951	951	951	951	951	951	950	950	950	950	951	951	952	952	945	952	950
Mar 25	952	952	952	951	951	951	951	951	950	951	950	950	950	950	949	949	950	950	950	950	951	952	952	953	949	953	951
Mar 26	954	954	955	955	956	957	958	958	958	959	959	959	960	959	960	960	960	960	961	962	963	964	964	965	954	965	959
Mar 27	965	966	966	966	966	966	966	966	965	965	965	964	964	963	962	961	961	960	961	961	961	961	960	960	960	966	963
Mar 28	959	959	958	958	958	958	958	958	958	958	958	958	958	957	957	956	956	955	954	954	954	953	953	952	952	959	957
Mar 29	952	951	950	949	948	948	948	948	948	948	948	948	947	947	947	947	947	947	948	948	949	949	949	949	947	952	948
Mar 30	950	950	950	950	950	950	950	950	949	949	949	949	948	948	947	946	946	946	946	946	945	945	945	945	945	950	948
Mar 31	944	944	943	943	943	943	942	942	942	942	942	942	942	941	941	941	941	940	940	940	940	940	940	939	939	944	942
Diurnal Maximum	972	972	972	972	972	972	972	972	972	972	972	971	971	971	971	971	971	971	971	972	972	972	972	972			
Diurnal Average	952	953	953	952	953	953	953	953	952	952	952	952	952	952	951	951	951	951	951	951	952	952	952	952			

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 - March 2023

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

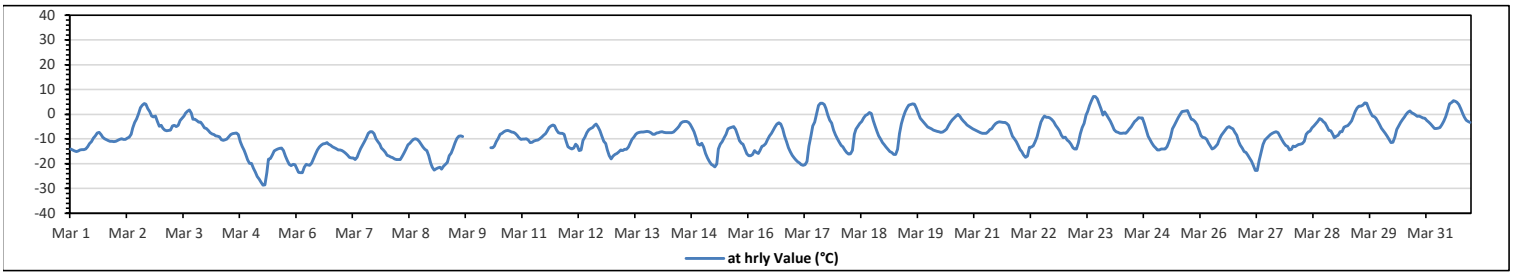
Maximum Hourly Value:	7.2	°C	on Mar 23 at hr 15	Hours in Service:	744	
Maximum Daily Value:	-1.0	°C	on Mar 31	Hours of Data:	730	
Minimum Hourly Value:	-28.6	°C	on Mar 5 at hr 6	Hours of Missing Data:	14	
Minimum Daily Value:	-20.0	°C	on Mar 5	Hours of Calibration:	0	
Monthly Average:	-8.7	°C		Operational Uptime:	98.1	

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			
Mar 1	-14.1	-14.4	-14.9	-15	-14.9	-14.5	-14.3	-14.3	-14	-13.1	-11.9	-11.1	-9.7	-8.7	-7.6	-7.4	-8.3	-9.3	-9.9	-10.3	-10.7	-10.9	-10.9	-11.1	-15.0	-7.4	-11.7
Mar 2	-10.9	-10.6	-10.2	-10	-10.2	-10.2	-9.7	-9.3	-8.1	-5.5	-3.3	-1.9	0.2	2.6	3.6	4.3	4	2.3	1.1	-0.7	-1.2	-0.7	-3	-4.9	-10.9	4.3	-3.8
Mar 3	-4.5	-5.7	-6.4	-6.6	-6.5	-6.4	-4.7	-4.4	-5	-4.4	-2.6	-1.7	-0.8	0.4	1.2	1.7	0.4	-2	-2	-2.6	-3.2	-3.2	-4.2	-5.6	-6.6	1.7	-3.3
Mar 4	-5.8	-6.5	-7.5	-8	-8.3	-8.7	-8.8	-9.1	-10.3	-10.6	-10.3	-10.1	-9.1	-8.3	-7.9	-7.8	-7.6	-8.3	-11.1	-13	-14.6	-16.2	-18.5	-19.8	-19.8	-5.8	-10.3
Mar 5	-19.9	-21.8	-23.4	-25.2	-26.2	-27.5	**-28.6**	-28.5	-23.7	-18.2	-17.9	-16.5	-14.9	-14.4	-14.1	-13.8	-13.6	-14.7	-17	-18.7	-20.3	-20.8	-20.3	-20.4	**-28.6**	-13.6	**-20.0**
Mar 6	-22.1	-23.5	-23.7	-23.6	-21.4	-20.2	-20.5	-20.7	-19.7	-17.9	-16.1	-14.4	-13.3	-12.5	-12	-11.9	-11.5	-12.1	-12.6	-13.1	-13.5	-13.9	-14.5	-14.5	-23.7	-11.5	-16.6
Mar 7	-14.8	-15.2	-15.9	-16.7	-17.4	-17.7	-17.7	-18.3	-17.4	-15.7	-13.9	-12.6	-11	-9.5	-7.8	-7.1	-7.1	-7.9	-9.9	-11.1	-12.2	-13.6	-14.5	-15.3	-18.3	-7.1	-13.3
Mar 8	-16.7	-17	-17.2	-17.5	-18	-18.3	-18.3	-18.3	-17.1	-15.6	-14.1	-12.4	-11.7	-10.9	-10.2	-10	-10.2	-10.9	-12.2	-13.2	-14.2	-14.8	-16.8	-19.7	-19.7	-10.0	-14.8
Mar 9	-21.5	-22.6	-22.1	-21.7	-21.5	-22.2	-21	-20.2	-19.4	-16.8	-15.7	-13.8	-11.6	-9.8	-8.9	-8.7	-9	K	K	K	K	K	K	K	-22.6	-8.7	NA
Mar 10	K	K	K	K	K	K	K	-13.5	-13.5	-12.9	-11	-9.8	-8.2	-7.7	-7	-6.6	-6.5	-6.8	-7.2	-7.4	-7.8	-8.5	-9.5	-10.2	-13.5	-6.5	NA
Mar 11	-10.1	-10.1	-10	-10.5	-11.5	-11.3	-10.8	-10.6	-10.5	-10	-9.2	-8.5	-7.9	-6.8	-5.4	-4.7	-4.3	-4.6	-6.3	-7.5	-7.8	-7.8	-8.2	-10.8	-11.5	-4.3	-8.6
Mar 12	-13.1	-13.7	-14	-13.6	-12.2	-12.8	-14.8	-14.4	-10.6	-9.2	-7.5	-6.3	-5.8	-5.4	-4.5	-4	-5.1	-6.7	-8.9	-10.9	-11.9	-14.4	-16.8	-18.1	-18.1	-4.0	-10.6
Mar 13	-17	-16.2	-15.8	-15.2	-14.4	-14.8	-14.2	-14.2	-13.3	-11.8	-10.2	-9.2	-8.1	-7.6	-7.3	-7.2	-7.2	-7.1	-6.9	-7.1	-7.5	-8.2	-8.1	-7.6	-17.0	-6.9	-10.7
Mar 14	-7.5	-7.2	-7.1	-7.3	-7.5	-7.5	-7.5	-7.5	-7.2	-6.4	-5.7	-4.8	-3.6	-3.1	-2.9	-3	-3.4	-4.1	-5.6	-7	-9.4	-12.2	-12.5	-11.7	-12.5	-2.9	-6.7
Mar 15	-13.3	-15.8	-17.7	-19.1	-20.3	-20.7	-21.3	-20.1	-14.1	-12.1	-11.1	-9.5	-8.2	-6	-5.5	-5.3	-5	-6.2	-8.4	-10.7	-11.7	-12.1	-14.1	-16	-21.3	-5.0	-12.7
Mar 16	-16.8	-16.8	-16.3	-14.7	-15.5	-15.8	-14.7	-13	-12.7	-11.8	-10.2	-8.7	-7.8	-6.5	-5.1	-4	-3.5	-4	-6	-8.8	-11.1	-13.5	-15.2	-16.6	-16.8	-3.5	-11.2
Mar 17	-17.6	-18.5	-19.2	-19.7	-20.4	-20.6	-20.4	-19.1	-12.9	-9	-4.7	-3.2	0.2	3.5	4.5	4.4	3.9	2.4	-0.3	-2.4	-3.6	-6.4	-8.4	-10	-20.6	4.5	-8.2
Mar 18	-11.3	-12.7	-13.1	-14.5	-15.4	-16.1	-16	-14.6	-8.1	-6.1	-4.9	-3.8	-2.9	-1.5	-0.5	-0.1	0.6	0.3	-2.5	-4.9	-7	-8.7	-10.1	-11.5	-16.1	0.6	-7.7
Mar 19	-12.3	-13.3	-14.2	-15.1	-15.5	-16.2	-16.3	-14.2	-7.9	-3.9	-1.2	1	2.6	3.6	3.9	4.2	4.1	2.4	0.3	-1.7	-2.6	-3.3	-4.2	-5.1	-16.3	4.2	-5.2
Mar 20	-5.5	-6	-6.4	-6.7	-6.9	-7.1	-7.3	-7.2	-6.6	-6.1	-4.6	-3.3	-2.2	-1.5	-0.7	0	-0.9	-1.9	-2.8	-3.6	-4.3	-4.9	-5.4	-6	-7.3	0.0	-4.5
Mar 21	-6.3	-6.6	-7	-7.5	-7.8	-7.8	-7.7	-7	-6.2	-5.9	-4.7	-3.9	-3.4	-3.1	-3.2	-3.4	-3.3	-3.8	-4.4	-6.6	-8.9	-10	-11	-12.7	-12.7	-3.1	-6.3
Mar 22	-14.3	-15.1	-16.5	-17.4	-16.9	-13.4	-13.2	-12.8	-11.1	-9.1	-6.1	-3.2	-1.7	-0.7	-1.3	-1.3	-1.6	-2.1	-3.1	-4.5	-5.6	-6.7	-8.5	-9.5	-17.4	-0.7	-8.2
Mar 23	-9.2	-10.5	-11	-12.1	-13.5	-14	-14.1	-11.6	-8	-5.4	-3.7	-0.3	1.1	3.5	5.5	7.2	7.1	6.3	4.2	2.1	-0.4	0.9	-0.2	-1.5	-14.1	**7.2**	-3.2
Mar 24	-2.8	-4.5	-6.3	-7.1	-7.4	-7.7	-7.7	-7.6	-7.7	-7	-6.1	-5.1	-4.1	-2.9	-2.2	-1.4	-1.5	-1.6	-3.7	-6.3	-8.8	-10.4	-11.7	-12.9	-12.9	-1.4	-6.0
Mar 25	-13.7	-14.4	-14.5	-14	-14.1	-14	-13.1	-11.2	-9.3	-5.9	-4.5	-3	-1.4	-0.1	1.1	1.2	1.3	1.4	-0.4	-2	-2.2	-3.1	-4.2	-6.4	-14.5	1.4	-6.1
Mar 26	-8.6	-9.4	-9.5	-10.2	-11.7	-12.8	-14.1	-13.6	-13	-12.1	-10.1	-8.5	-7.5	-6.4	-5.4	-5	-5.5	-6	-7.3	-8.5	-11	-12.6	-13.7	-15.1	-15.1	-5.0	-9.9
Mar 27	-15.5	-16.7	-17.9	-19	-20.8	-22.7	-22.7	-18.7	-15.4	-12.3	-10.5	-9.6	-8.9	-8.3	-7.7	-7.3	-7.1	-7.5	-8.9	-10.3	-11.6	-12.7	-13	-14.4	-22.7	-7.1	-13.3
Mar 28	-14.2	-12.9	-13.1	-12.7	-12.3	-12.1	-11.8	-10.9	-8.2	-7.2	-6.8	-5.6	-4.7	-3.9	-3	-1.8	-2.1	-2.9	-3.6	-5	-6.5	-6.7	-8.2	-9.5	-14.2	-1.8	-7.7
Mar 29	-8.8	-8.5	-7	-7	-5.3	-4.8	-4.6	-3.8	-2.7	-1	1.1	2.5	3.3	3.3	3.7	4.6	4.5	2.4	0.6	-0.7	-1	-1.7	-2.9	-4.3	-8.8	4.6	-1.6
Mar 30	-5.7	-6.7	-7.8	-8.9	-10.2	-11.4	-11.3	-9.2	-6.2	-4.7	-3.3	-2.1	-1.2	0	0.8	1.3	0.5	0.2	-0.3	-0.9	-0.8	-1.1	-1.5	-1.7	-11.4	1.3	-3.8
Mar 31	-2.5	-3.2	-4	-4.9	-5.8	-5.8	-5.7	-5.4	-4.2	-2.8	-1	1.4	4.2	4.7	5.5	5.2	4.8	3.9	2.2	0.3	-1.1	-2.4	-3	-3.3	-5.8	5.5	**-1.0**
Diurnal Maximum	-2.5	-3.2	-4.0	-4.9	-5.3	-4.8	-4.6	-3.8	-2.7	-1.0	1.1	2.5	4.2	4.7	5.5	7.2	7.1	6.3	4.2	2.1	-0.4	0.9	-0.2	-1.5			
Diurnal Average	-11.9	-12.5	-13.0	-13.4	-13.7	-13.8	-13.8	-13.0	-11.1	-9.4	-7.8	-6.4	-5.1	-4.0	-3.2	-2.8	-3.0	-3.6	-5.1	-6.6	-7.8	-8.7	-9.8	-10.9			

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 - March 2023

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

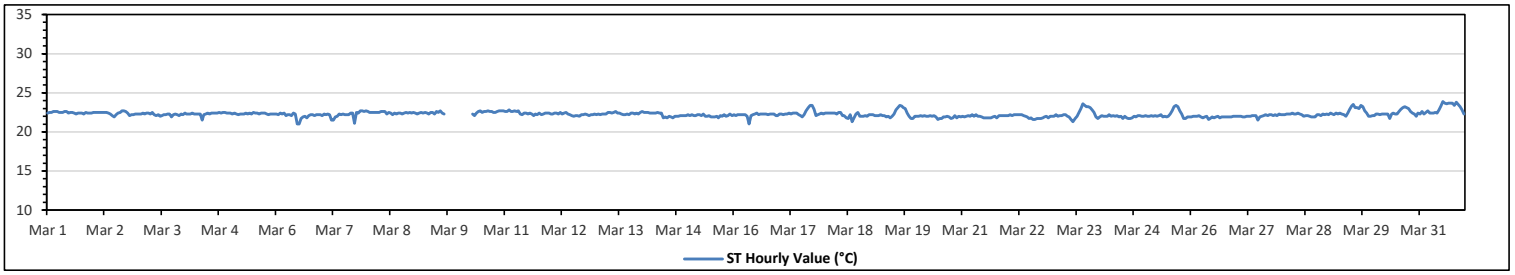
Maximum Hourly Value:	23.9	°C	on Mar 31 at hr 12	Hours in Service:	744	
Maximum Daily Value:	23.0	°C	on Mar 31	Hours of Data:	730	
Minimum Hourly Value:	21.0	°C	on Mar 6 at hr 11	Hours of Missing Data:	14	
Minimum Daily Value:	21.9	°C	on Mar 26	Hours of Calibration:	0	
Monthly Average:	22.3	°C		Operational Uptime:	98.1	

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
Mar 1	22.4	22.5	22.5	22.6	22.6	22.6	22.5	22.5	22.5	22.6	22.6	22.4	22.5	22.5	22.4	22.3	22.4	22.4	22.4	22.3	22.5	22.4	22.4	22.4	22.3	22.6	22.5
Mar 2	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.4	22.3	22.1	21.9	22.2	22.4	22.5	22.7	22.7	22.6	22.4	22.1	22.2	22.2	22.3	22.3	21.9	22.7	22.4
Mar 3	22.3	22.3	22.4	22.3	22.4	22.4	22.3	22.5	22.2	22.1	22.2	22.0	22.1	22.2	22.2	22.3	22.3	21.9	22.2	22.3	22.2	22.1	22.3	22.2	21.9	22.5	22.2
Mar 4	22.4	22.3	22.3	22.3	22.4	22.3	22.3	22.3	22.3	21.5	22.2	22.3	22.4	22.3	22.4	22.4	22.4	22.4	22.5	22.4	22.5	22.5	22.4	22.4	21.5	22.5	22.3
Mar 5	22.4	22.3	22.4	22.3	22.2	22.3	22.3	22.3	22.4	22.3	22.4	22.3	22.5	22.4	22.4	22.3	22.4	22.4	22.4	22.3	22.2	22.3	22.3	22.3	22.2	22.5	22.3
Mar 6	22.3	22.2	22.4	22.3	22.4	22.1	22.2	22.2	22.1	22.4	22.3	**21.0**	**21.0**	21.7	21.9	22.0	21.8	22.1	22.2	22.2	22.1	22.2	22.2	22.2	**21.0**	22.4	22.1
Mar 7	22.1	22.3	22.2	22.3	22.2	21.5	21.5	21.9	22.0	22.3	22.2	22.3	22.2	22.2	22.2	22.4	22.4	21.1	22.5	22.4	22.7	22.7	22.6	22.7	21.1	22.7	22.2
Mar 8	22.6	22.5	22.5	22.5	22.5	22.5	22.5	22.6	22.6	22.6	22.3	22.5	22.4	22.2	22.4	22.3	22.4	22.4	22.3	22.4	22.5	22.4	22.5	22.4	22.2	22.6	22.5
Mar 9	22.5	22.4	22.3	22.4	22.5	22.4	22.5	22.4	22.3	22.5	22.5	22.3	22.6	22.5	22.7	22.4	22.3	K	K	K	K	K	K	K	22.3	22.7	NA
Mar 10	K	K	K	K	K	K	K	22.3	22.1	22.4	22.6	22.7	22.5	22.6	22.6	22.7	22.6	22.6	22.5	22.5	22.6	22.7	22.7	22.7	22.1	22.7	NA
Mar 11	22.6	22.6	22.8	22.6	22.6	22.7	22.6	22.7	22.3	22.2	22.4	22.4	22.3	22.4	22.3	22.1	22.3	22.2	22.4	22.2	22.3	22.4	22.4	22.4	22.1	22.8	22.4
Mar 12	22.3	22.3	22.4	22.4	22.3	22.5	22.3	22.4	22.5	22.3	22.2	22.1	22.0	22.1	22.1	22.0	22.2	22.2	22.3	22.2	22.1	22.2	22.2	22.3	22.0	22.5	22.2
Mar 13	22.2	22.3	22.2	22.3	22.3	22.3	22.5	22.5	22.4	22.5	22.6	22.4	22.4	22.3	22.2	22.2	22.3	22.2	22.4	22.4	22.3	22.4	22.3	22.5	22.2	22.6	22.4
Mar 14	22.6	22.5	22.5	22.5	22.4	22.4	22.4	22.4	22.5	22.4	22.4	21.8	21.9	21.8	22.0	21.9	21.8	22.0	22.0	22.0	22.1	22.1	22.1	22.1	21.8	22.6	22.2
Mar 15	22.2	22.1	22.2	22.1	22.1	22.2	22.2	22.1	22.3	22.0	22.0	22.1	21.9	21.9	21.9	22.0	21.8	22.1	22.0	22.2	22.0	22.1	22.3	22.1	21.8	22.3	22.1
Mar 16	22.2	22.1	22.2	22.2	22.2	22.2	22.2	22.0	**21.0**	22.1	22.2	22.3	22.4	22.2	22.3	22.3	22.3	22.3	22.2	22.3	22.3	22.3	22.1	22.1	**21.0**	22.4	22.2
Mar 17	22.3	22.3	22.2	22.3	22.3	22.4	22.3	22.4	22.4	22.4	22.2	22.1	21.9	22.2	22.7	23.1	23.4	23.4	22.9	22.1	22.2	22.3	22.4	22.3	21.9	23.4	22.4
Mar 18	22.4	22.4	22.4	22.4	22.4	22.4	22.3	22.5	22.5	22.1	22.1	21.8	21.7	22.2	21.3	21.8	22.3	22.5	22.0	22.0	22.0	22.1	22.0	22.2	21.3	22.5	22.2
Mar 19	22.2	22.2	22.1	22.1	22.1	22.2	22.1	22.1	21.9	22.0	21.8	22.0	22.3	22.8	23.1	23.4	23.3	23.1	23.0	22.4	22.0	21.7	21.7	22.0	21.7	23.4	22.3
Mar 20	22.0	22.0	22.1	22.0	22.1	22.0	22.0	22.1	22.0	22.1	21.9	21.6	21.7	21.7	21.9	21.9	22.0	21.9	21.7	21.8	22.1	21.8	22.0	21.9	21.6	22.1	21.9
Mar 21	22.0	21.9	22.0	22.1	22.0	22.2	22.0	22.2	22.0	22.0	21.9	21.8	21.8	21.8	21.8	21.8	21.9	22.0	21.8	22.1	22.1	22.1	22.1	22.1	21.8	22.2	22.0
Mar 22	22.1	22.2	22.1	22.2	22.2	22.2	22.2	22.2	22.1	22.0	21.9	21.7	21.8	21.6	21.6	21.7	21.7	21.7	21.8	21.9	22.0	21.8	22.0	22.0	21.6	22.2	21.9
Mar 23	22.0	22.2	22.0	22.1	22.1	22.2	22.2	22.0	21.9	21.6	21.3	21.7	22.0	22.5	23.0	23.6	23.4	23.2	23.2	23.1	22.8	22.5	21.9	21.7	21.3	23.6	22.3
Mar 24	21.9	22.1	22.0	22.0	22.0	22.2	22.0	22.1	22.0	22.1	21.9	22.0	21.7	22.0	21.8	21.7	21.7	21.8	22.0	21.9	22.1	22.1	22.0	22.0	21.7	22.2	22.0
Mar 25	22.1	22.0	22.0	22.1	22.0	22.1	22.0	22.1	22.2	21.9	22.0	21.9	22.0	22.3	22.7	23.2	23.4	23.2	22.7	22.3	21.7	21.7	21.9	21.9	21.7	23.4	22.2
Mar 26	21.9	22.0	22.0	22.0	22.1	21.9	21.8	21.9	22.0	21.6	21.7	21.9	21.8	21.9	22.0	21.8	21.9	21.9	21.9	21.9	21.9	21.9	22.0	22.0	21.6	22.1	**21.9**
Mar 27	22.0	22.0	22.0	21.9	21.9	22.0	22.0	22.0	22.1	22.1	22.1	21.5	21.9	22.0	22.1	22.2	22.1	22.2	22.2	22.1	22.2	22.1	22.3	22.2	21.5	22.3	22.1
Mar 28	22.2	22.2	22.3	22.3	22.3	22.4	22.3	22.3	22.4	22.3	22.2	22.0	22.1	22.1	22.0	21.9	21.9	21.9	22.2	22.2	22.1	22.3	22.2	22.3	21.9	22.4	22.2
Mar 29	22.2	22.4	22.3	22.2	22.4	22.3	22.4	22.3	22.2	22.0	22.4	22.9	23.3	23.5	23.1	23.1	23.0	23.4	23.2	22.7	22.4	22.0	22.0	22.1	22.0	23.5	22.6
Mar 30	22.1	22.3	22.3	22.2	22.3	22.3	22.3	22.3	21.7	22.3	22.4	22.3	22.3	22.6	22.9	23.1	23.2	23.1	23.0	22.6	22.4	22.3	22.0	22.4	21.7	23.2	22.4
Mar 31	22.3	22.6	22.3	22.5	22.7	22.4	22.4	22.4	22.5	22.4	22.8	23.3	**23.9**	23.7	23.6	23.7	23.7	23.7	23.4	23.8	23.5	23.2	22.8	22.3	22.3	**23.9**	**23.0**
Diurnal Maximum	22.6	22.6	22.8	22.6	22.7	22.7	22.6	22.7	22.6	22.6	22.8	23.3	23.9	23.7	23.6	23.7	23.7	23.7	23.4	23.8	23.5	23.2	22.8	22.7			
Diurnal Average	22.2	22.3	22.3	22.3	22.3	22.3	22.2	22.3	22.2	22.2	22.2	22.1	22.2	22.3	22.3	22.4	22.4	22.4	22.4	22.3	22.3	22.2	22.2	22.2			

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

Cold Lake South Station - March 2023

Summary of Hourly Averages

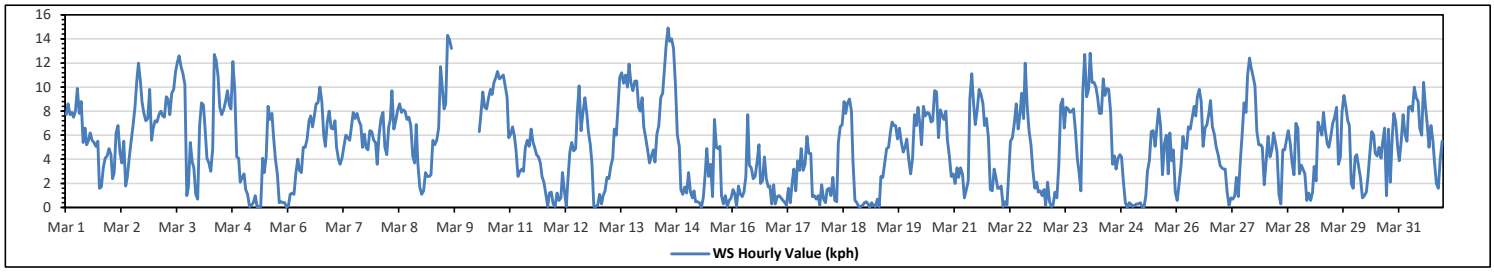
VECTOR WIND SPEED (VWS) in km/hr

Maximum Hourly Value:	14.9	kph	on Mar 14 at hr 13	Hours in Service:	744	
Maximum Daily Value:	7.3	kph	on Mar 3	Hours of Data:	730	
Minimum Hourly Value:	0.0	kph	on Mar 5 at hr 7	Hours of Missing Data:	14	
Minimum Daily Value:	2.1	kph	on Mar 15	Hours of Calibration:	0	
Monthly Average:	1.3	kph		Operational Uptime:	98.1	

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			
Mar 1	7.7	8.6	7.7	7.9	7.5	8.0	9.9	7.8	8.8	5.4	6.6	5.2	5.5	6.2	5.6	5.4	5.1	5.5	1.6	1.7	3.3	4.1	4.3	4.9	1.6	9.9	6.0
Mar 2	4.4	2.4	2.9	6.2	6.8	4.6	3.7	5.5	1.8	2.5	4.1	5.5	6.8	8.3	10.6	12.0	10.5	8.8	7.8	7.2	7.4	9.8	5.6	6.6	1.8	12.0	6.3
Mar 3	7.2	7.1	7.7	8.0	7.6	7.5	9.2	9.0	7.7	9.5	9.8	11.3	12.1	12.6	11.7	11.1	10.2	1.0	1.7	5.4	3.8	3.3	1.1	0.7	0.7	12.6	**7.3**
Mar 4	6.8	8.7	8.5	6.6	4.1	3.7	3.0	4.9	12.7	12.2	10.8	8.3	7.7	8.1	8.8	9.7	8.5	8.2	12.1	9.7	4.2	4.1	2.1	2.5	2.1	12.7	7.3
Mar 5	2.8	1.5	1.1	0.1	0.2	0.4	1.0	**0.0**	0.1	0.1	4.1	2.9	4.2	8.4	7.3	7.8	5.9	4.0	2.8	0.4	0.5	0.4	0.4	**0.0**	**0.0**	8.4	2.4
Mar 6	0.2	1.1	1.2	1.1	2.9	4.0	3.1	2.9	5.0	5.0	5.7	7.2	7.6	6.7	7.5	8.6	8.7	10.0	8.8	6.0	5.1	7.1	8.0	6.6	0.2	10.0	5.4
Mar 7	6.5	7.2	5.0	4.0	3.6	4.1	5.1	6.0	5.8	5.6	6.6	7.9	7.4	7.8	7.2	6.8	5.0	6.1	5.0	4.8	6.4	6.3	5.6	5.4	3.6	7.9	5.9
Mar 8	3.6	6.1	7.4	7.9	5.0	4.4	6.7	7.3	9.7	6.5	7.2	8.1	8.6	7.9	8.1	8.0	7.3	7.5	6.8	4.3	3.7	6.9	3.7	1.7	1.7	9.7	6.4
Mar 9	1.1	1.4	2.9	2.6	2.6	2.7	5.6	5.2	5.6	6.6	11.7	10.1	8.2	8.6	14.3	13.9	13.2	**K**	**K**	**K**	**K**	**K**	**K**	**K**	1.1	14.3	NA
Mar 10	**K**	**K**	**K**	**K**	**K**	**K**	**K**	6.3	8.0	9.6	8.3	8.2	9.1	9.8	9.4	10.4	10.8	11.3	10.7	10.8	11.0	10.1	9.1	5.8	5.8	11.3	NA
Mar 11	6.1	6.7	5.9	4.7	2.6	3.0	3.2	3.0	5.0	5.6	5.1	6.5	5.4	5.0	4.4	4.2	3.7	2.6	2.1	1.1	0.1	1.2	1.3	0.3	0.1	6.7	3.7
Mar 12	0.1	1.2	0.6	0.8	2.9	1.4	0.1	2.3	4.6	5.4	4.7	4.9	7.8	10.1	6.4	7.9	9.1	7.8	6.3	5.2	3.7	0.1	0.1	0.2	0.1	10.1	3.9
Mar 13	1.1	0.3	1.0	1.4	2.5	2.4	3.4	4.1	6.5	6.0	8.1	10.8	11.2	10.3	11.0	10.0	11.9	10.3	9.7	10.5	10.5	8.3	8.0	9.1	0.3	11.9	7.0
Mar 14	6.7	5.8	4.8	3.7	4.3	4.8	3.8	6.1	6.8	9.1	9.5	11.6	13.5	**14.9**	13.8	14.0	13.2	10.2	6.0	5.1	1.5	1.1	1.7	1.2	1.1	**14.9**	7.2
Mar 15	2.9	1.3	0.8	1.4	0.5	0.5	0.4	**0.0**	0.8	2.8	4.9	2.6	3.6	0.9	7.3	5.0	4.9	5.1	1.0	0.3	1.0	0.1	0.6	0.8	**0.0**	7.3	**2.1**
Mar 16	1.5	1.2	0.1	1.8	1.1	0.9	1.3	2.6	7.7	3.5	3.3	2.4	2.6	3.8	5.2	2.0	2.2	4.2	2.4	1.7	1.8	0.3	1.9	0.3	0.1	7.7	2.3
Mar 17	0.9	1.0	0.8	0.6	0.4	0.2	1.6	0.4	2.1	3.2	1.4	3.9	3.1	4.9	3.1	3.6	5.9	4.5	4.5	0.9	1.0	0.7	1.0	0.2	0.2	5.9	2.1
Mar 18	1.9	0.7	0.4	1.5	1.6	1.0	2.5	0.6	0.5	5.4	6.7	6.9	8.8	7.8	8.7	9.0	8.0	3.7	0.6	0.4	0.1	0.1	0.2	0.4	0.1	9.0	3.2
Mar 19	0.5	0.3	**0.0**	0.4	0.2	0.1	0.7	0.1	2.6	2.5	3.7	4.9	5.0	6.3	7.1	6.8	6.8	5.7	6.6	5.4	4.6	5.1	5.7	4.0	**0.0**	7.1	3.5
Mar 20	2.8	4.1	7.7	6.8	8.3	6.9	5.2	8.4	7.6	7.9	7.8	7.1	7.2	9.7	9.6	5.8	8.1	7.6	7.3	8.0	5.6	4.3	2.6	2.8	2.6	9.7	6.6
Mar 21	2.0	3.3	2.5	3.3	2.8	0.8	1.5	2.2	9.0	11.1	8.9	6.9	8.1	9.8	9.4	8.6	6.8	7.4	5.8	1.5	1.4	3.2	2.6	1.6	0.8	11.1	5.0
Mar 22	1.6	1.8	0.1	0.5	0.2	3.1	5.5	5.8	7.0	8.6	6.5	7.8	9.5	7.4	12.0	8.5	6.4	5.2	3.1	1.6	2.1	1.3	1.4	1.0	0.1	12.0	4.5
Mar 23	1.5	0.2	2.1	0.5	0.1	0.2	1.3	0.8	3.5	8.5	9.0	6.6	8.3	8.2	7.9	8.0	8.2	6.4	4.0	3.0	1.4	9.6	12.7	9.2	0.1	12.7	5.1
Mar 24	9.8	12.8	10.4	10.4	10.0	9.2	7.8	7.8	10.7	9.3	9.9	9.8	7.9	3.6	4.3	3.2	4.1	4.4	4.2	2.1	0.4	**0.0**	0.4	0.3	**0.0**	12.8	6.4
Mar 25	0.1	0.2	0.3	0.3	0.4	0.1	**0.0**	1.0	3.0	3.9	6.3	6.4	5.1	6.5	8.2	6.8	2.7	5.3	6.0	2.8	6.2	3.9	4.8	1.3	**0.0**	8.2	3.4
Mar 26	0.6	2.0	3.5	5.9	5.0	4.9	6.7	6.5	7.5	8.4	7.6	9.2	9.8	8.8	5.1	6.6	6.9	7.8	8.9	6.7	6.1	5.0	4.4	3.5	0.6	9.8	6.1
Mar 27	3.3	3.2	3.2	1.3	0.2	0.8	0.7	1.0	2.5	0.9	3.8	6.1	8.7	7.9	11.0	12.4	11.6	10.9	10.1	6.3	5.2	5.2	5.0	1.9	0.2	12.4	5.1
Mar 28	3.9	5.9	4.2	4.8	6.2	5.4	4.6	1.1	0.3	4.8	4.8	5.7	6.4	5.4	3.7	2.7	7.0	6.6	2.8	3.5	3.2	2.8	0.6	1.2	0.3	7.0	4.1
Mar 29	0.6	1.3	3.4	2.2	7.1	6.6	6.0	7.9	6.4	5.3	5.0	5.9	7.0	7.5	8.3	3.6	4.2	7.9	9.3	8.4	7.2	6.8	2.0	1.6	0.6	9.3	5.5
Mar 30	4.2	4.4	3.4	2.4	0.8	1.0	1.3	2.5	4.5	6.3	6.0	4.5	4.3	5.0	4.1	5.4	6.6	1.0	6.5	2.1	5.9	7.8	7.1	5.0	0.8	7.8	4.3
Mar 31	3.9	5.5	7.7	6.1	5.5	8.3	8.4	8.0	10.0	9.1	8.8	6.6	6.0	10.4	8.6	7.0	5.0	6.8	5.6	3.8	2.0	1.6	4.0	5.5	1.6	10.4	6.4
Diurnal Maximum	9.8	12.8	10.4	10.4	10.0	9.2	9.9	9.0	12.7	12.2	11.7	11.6	13.5	14.9	14.3	14.0	13.2	11.3	12.1	10.8	11.0	10.1	12.7	9.2			
Diurnal Average	3.2	3.6	3.6	3.5	3.4	3.4	3.8	4.1	5.6	6.1	6.7	6.8	7.3	7.7	8.1	7.6	7.4	6.5	5.7	4.4	3.9	4.0	3.6	2.9			

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.

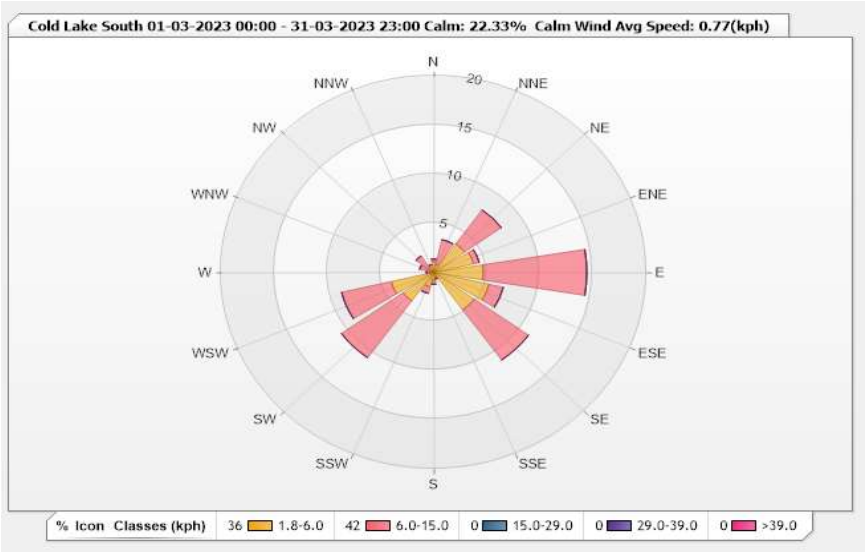


Station: Cold Lake South Monitor: WDS [kph] Monthly: 03-2023

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

Calm (WS<1.8kph): 22.33% Valid Data: 98.12%

Direction	1.8-6.0	6.0-15.0	15.0-29.0	29.0-39.0	>39.0	Total
N	1.1	0.27	0	0	0	1.37
NNE	0.82	2.6	0	0	0	3.42
NE	3.56	4.25	0	0	0	7.81
ENE	3.84	0.55	0	0	0	4.39
E	4.66	9.73	0	0	0	14.39
ESE	5.34	1.37	0	0	0	6.71
SE	4.66	6.3	0	0	0	10.96
SSE	0.55	0.14	0	0	0	0.69
S	0.82	0.41	0	0	0	1.23
SSW	1.51	0.68	0	0	0	2.19
SW	3.56	7.12	0	0	0	10.68
WSW	4.11	4.79	0	0	0	8.9
W	0.14	0.55	0	0	0	0.69
WNW	0.14	1.23	0	0	0	1.37
NW	0.55	1.51	0	0	0	2.06
NNW	0.82	0	0	0	0	0.82
Summary	36.18	41.5	0	0	0	77.68



Lakeland Industry & Community Association

Cold Lake South Station - March 2023

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

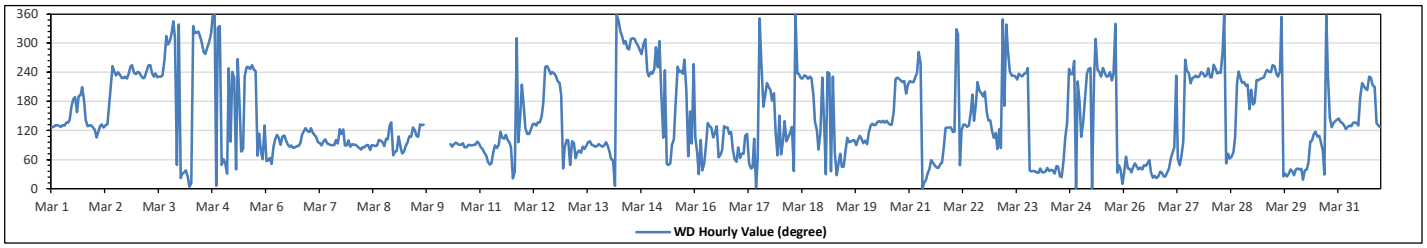
Monthly Average:	119 (ESE)	degree	
Hours in Service:	744		
Hours of Data:	730		
Hours of Missing Data:	14		
Hours of Calibration:	0		
Operational Uptime:	98.1		

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
Mar 1	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	S	S	SSE	S	S	SSW	S	SE	SE	SE	SE	SE	145	SE
Mar 2	ESE	ESE	ESE	SE	SE	SE	SE	SE	SSE	SW	WSW	WSW	SW	WSW	SW	SW	SW	SW	SW	SW	WSW	WSW	WSW	SW	217	SW
Mar 3	WSW	WSW	SW	SW	SW	WSW	WSW	WSW	WSW	SW	SW	SW	SW	SW	SW	W	NW	WNW	WNW	NW	NNW	NW	NE	NNW	248	WSW
Mar 4	NNE	NNE	NE	NE	NNE	N	NNE	NNW	NW	NW	NW	NW	WNW	W	W	WNW	WNW	NW	N	N	N	NNW	NNW	NE	336	NNW
Mar 5	ENE	NE	NNE	WSW	E	WSW	SW	NE	W	S	ENE	E	SW	WSW	WSW	WSW	WSW	WSW	WSW	ENE	ESE	ENE	ENE	SE	246	WSW
Mar 6	ENE	ENE	ENE	NE	E	E	ESE	ESE	E	ESE	ESE	E	E	E	E	E	E	E	E	E	ESE	ESE	SE	ESE	97	E
Mar 7	ESE	SE	ESE	ESE	ESE	E	E	E	E	E	E	E	E	E	E	E	E	ESE	ESE	ESE	E	E	E	E	100	E
Mar 8	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	ESE	E	SE	SE	ENE	93	E
Mar 9	ENE	ENE	ESE	E	ENE	ENE	E	E	ESE	ESE	SE	ESE	ESE	ESE	SE	SE	SE	K	K	K	K	K	K	K	NA	NA
Mar 10	K	K	K	K	K	K	K	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	NA	NA
Mar 11	E	E	ENE	ENE	NE	NE	NE	ENE	E	E	E	ESE	ESE	ESE	ESE	E	E	E	NNE	NE	NW	E	SSE	SSW	87	E
Mar 12	SSE	SE	ESE	ESE	ESE	SE	SE	SE	SE	SE	SSE	S	WSW	WSW	WSW	SW	WSW	SW	SW	SW	SW	S	NE	E	215	SSW
Mar 13	E	E	NE	E	E	ENE	ENE	ENE	ENE	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	88	E
Mar 14	ENE	ENE	ENE	N	N	NNW	NW	NW	WNW	WNW	WNW	WNW	NW	NW	NW	WNW	WNW	WNW	W	WNW	NW	WSW	SW	WSW	309	NW
Mar 15	SW	WSW	WNW	WSW	WNW	S	ESE	WSW	NE	NE	NE	E	E	S	WSW	WSW	WSW	SW	W	SSW	ENE	SSE	E	WSW	237	SW
Mar 16	ESE	ENE	NNE	E	NE	NE	E	SE	SE	SE	ESE	ESE	SE	ENE	ENE	E	SE	SE	SE	ESE	ESE	E	ENE	NE	105	ESE
Mar 17	E	ENE	ENE	ENE	ESE	ESE	NE	NE	NE	ESE	N	ENE	N	WSW	SSE	S	SW	SSW	SSW	S	SSW	ESE	ENE	SSE	173	S
Mar 18	ENE	E	SE	E	ESE	ESE	SE	NE	N	SW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	SE	ESE	E	ESE	SW	223	SW
Mar 19	SE	NNE	WSW	SW	NE	SW	ENE	NNE	NE	ENE	NE	NE	ENE	ESE	E	E	E	E	E	E	ESE	ESE	E	E	90	E
Mar 20	E	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SW	SW	SW	SW	SW	SW	SSW	SW	156	SSE
Mar 21	SW	SW	SW	SW	WSW	W	WSW	N	NNE	NNE	NNE	NE	ENE	NE	NE	NE	NE	NE	NE	E	SE	SE	SE	SE	44	NE
Mar 22	ESE	ESE	NNW	NW	NE	ESE	SE	SE	SE	SE	SSE	SSW	SE	S	SW	SSW	SSW	S	SSW	SSE	SE	SE	ESE	ESE	165	SSE
Mar 23	ESE	E	ESE	E	NNW	S	NNW	WNW	WSW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	WSW	NE	NE	NE	NE	NNE	247	WSW
Mar 24	NNE	NE	NE	NE	NE	NE	NE	NE	NE	NNE	NE	NE	NNE	NNE	ENE	ESE	SE	WSW	SW	SW	W	N	SW	S	39	NE
Mar 25	ESE	SE	S	SW	WSW	WSW	N	SW	NW	WSW	WSW	SW	WSW	WSW	SW	SW	WSW	SW	SW	NNW	NNE	NE	NE	N	249	WSW
Mar 26	NNE	ENE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	ENE	NE	NNE	NNE	NNE	NNE	NE	NNE	NNE	NNE	39	NE
Mar 27	NE	NE	ENE	ENE	E	SW	ENE	NE	ENE	E	W	WSW	WSW	SW	SW	SW	SW	SW	SW	WSW	SW	SW	SW	WSW	233	SW
Mar 28	SW	SW	WSW	WSW	SW	WSW	WSW	WNW	N	NE	ENE	ENE	ENE	ENE	ESE	SW	WSW	SW	SW	SW	SSW	SSW	SSE	SSW	219	SW
Mar 29	S	S	SW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	WSW	N	NNE	NNE	NNE	NNE	NE	NE	NNE	265	W
Mar 30	NE	NE	NE	NE	NNE	NE	NE	NE	E	E	ESE	ESE	ESE	ESE	E	ENE	NNE	N	SW	SE	SE	SE	SE	SE	99	E
Mar 31	SE	SE	SE	SE	ESE	SE	SE	SE	SE	SE	SE	S	SW	SSW	SSW	SSW	SSW	SW	SW	SSW	SSW	SE	SE	SE	159	SSE

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 - March 2023

Summary of Hourly Averages

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

WIND SPEED

Maximum Hourly Value:	14.9	kph	on Mar 14 at hr 13	Hours in Service:	744
Maximum Daily Value:	7.3	kph	on Mar 3	Hours of Data:	730
Minimum Hourly Value:	0.0	kph	on Mar 5 at hr 7	Hours of Missing Data:	14
Minimum Daily Value:	2.1	kph	on Mar 15	Hours of Calibration:	0
Monthly Average:	1.3	kph		Operational Uptime:	98.1

WIND DIRECTION

Monthly Average: 119 degree (ESE)

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
Mar 1	7.7	8.6	7.7	7.9	7.5	8.0	9.9	7.8	8.8	5.4	6.6	5.2	5.5	6.2	5.6	5.4	5.1	5.5	1.6	1.7	3.3	4.1	4.3	4.9	1.6	9.9	6.0
	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	S	S	SSE	S	S	SSW	S	SE	SE	SE	SE	SE			
Mar 2	4.4	2.4	2.9	6.2	6.8	4.6	3.7	5.5	1.8	2.5	4.1	5.5	6.8	8.3	10.6	12.0	10.5	8.8	7.8	7.2	7.4	9.8	5.6	6.6	1.8	12.0	6.3
	ESE	ESE	ESE	SE	SE	SE	SE	SE	SSE	SW	WSW	WSW	SW	WSW	SW	SW	SW	SW	SW	SW	WSW	WSW	WSW	SW			
Mar 3	7.2	7.1	7.7	8.0	7.6	7.5	9.2	9.0	7.7	9.5	9.8	11.3	12.1	12.6	11.7	11.1	10.2	1.0	1.7	5.4	3.8	3.3	1.1	0.7	0.7	12.6	**7.3**
	WSW	WSW	SW	SW	SW	WSW	WSW	WSW	WSW	SW	SW	SW	SW	SW	SW	W	NW	WNW	WNW	NW	NNW	NW	NE	NNW			
Mar 4	6.8	8.7	8.5	6.6	4.1	3.7	3.0	4.9	12.7	12.2	10.8	8.3	7.7	8.1	8.8	9.7	8.5	8.2	12.1	9.7	4.2	4.1	2.1	2.5	2.1	12.7	7.3
	NNE	NNE	NE	NE	NNE	N	NNE	NNW	NW	NW	NW	NW	WNW	W	W	WNW	WNW	NW	N	N	N	NNW	NNW	NE			
Mar 5	2.8	1.5	1.1	0.1	0.2	0.4	1.0	**0.0**	0.1	0.1	4.1	2.9	4.2	8.4	7.3	7.8	5.9	4.0	2.8	0.4	0.5	0.4	0.4	**0.0**	**0.0**	8.4	2.4
	ENE	NE	NNE	WSW	E	WSW	SW	NE	W	S	ENE	E	SW	WSW	WSW	WSW	WSW	WSW	WSW	ENE	ESE	ENE	ENE	SE			
Mar 6	0.2	1.1	1.2	1.1	2.9	4.0	3.1	2.9	5.0	5.0	5.7	7.2	7.6	6.7	7.5	8.6	8.7	10.0	8.8	6.0	5.1	7.1	8.0	6.6	0.2	10.0	5.4
	ENE	ENE	ENE	NE	E	E	ESE	ESE	E	ESE	ESE	E	E	E	E	E	E	E	E	E	ESE	ESE	SE	ESE			
Mar 7	6.5	7.2	5.0	4.0	3.6	4.1	5.1	6.0	5.8	5.6	6.6	7.9	7.4	7.8	7.2	6.8	5.0	6.1	5.0	4.8	6.4	6.3	5.6	5.4	3.6	7.9	5.9
	ESE	SE	ESE	ESE	ESE	E	E	E	E	E	E	E	E	E	E	E	E	ESE	ESE	ESE	E	E	E	E			
Mar 8	3.6	6.1	7.4	7.9	5.0	4.4	6.7	7.3	9.7	6.5	7.2	8.1	8.6	7.9	8.1	8.0	7.3	7.5	6.8	4.3	3.7	6.9	3.7	1.7	1.7	9.7	6.4
	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	ESE	E	SE	SE	ENE			
Mar 9	1.1	1.4	2.9	2.6	2.6	2.7	5.6	5.2	5.6	6.6	11.7	10.1	8.2	8.6	14.3	13.9	13.2	**K**	**K**	**K**	**K**	**K**	**K**	**K**	1.1	14.3	NA
	ENE	ENE	ESE	E	ENE	ENE	E	E	ESE	ESE	SE	ESE	ESE	ESE	SE	SE	SE	**K**	**K**	**K**	**K**	**K**	**K**	**K**			
Mar 10	**K**	**K**	**K**	**K**	**K**	**K**	**K**	6.3	8.0	9.6	8.3	8.2	9.1	9.8	9.4	10.4	10.8	11.3	10.7	10.8	11.0	10.1	9.1	5.8	5.8	11.3	NA
	K	**K**	**K**	**K**	**K**	**K**	**K**	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E			
Mar 11	6.1	6.7	5.9	4.7	2.6	3.0	3.2	3.0	5.0	5.6	5.1	6.5	5.4	5.0	4.4	4.2	3.7	2.6	2.1	1.1	0.1	1.2	1.3	0.3	0.1	6.7	3.7
	E	E	ENE	ENE	NE	NE	NE	ENE	E	E	E	ESE	ESE	ESE	ESE	E	E	E	NNE	NE	NW	E	SSE	SSW			
Mar 12	0.1	1.2	0.6	0.8	2.9	1.4	0.1	2.3	4.6	5.4	4.7	4.9	7.8	10.1	6.4	7.9	9.1	7.8	6.3	5.2	3.7	0.1	0.1	0.2	0.1	10.1	3.9
	SSE	SE	ESE	ESE	ESE	SE	SE	SE	SE	SE	SSE	S	WSW	WSW	WSW	SW	WSW	SW	SW	SW	SW	S	NE	E			
Mar 13	1.1	0.3	1.0	1.4	2.5	2.4	3.4	4.1	6.5	6.0	8.1	10.8	11.2	10.3	11.0	10.0	11.9	10.3	9.7	10.5	10.5	8.3	8.0	9.1	0.3	11.9	7.0
	E	E	NE	E	E	ENE	ENE	ENE	ENE	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E			
Mar 14	6.7	5.8	4.8	3.7	4.3	4.8	3.8	6.1	6.8	9.1	9.5	11.6	13.5	**14.9**	13.8	14.0	13.2	10.2	6.0	5.1	1.5	1.1	1.7	1.2	1.1	**14.9**	7.2
	ENE	ENE	ENE	N	N	NNW	NW	NW	WNW	WNW	WNW	WNW	NW	NW	NW	WNW	WNW	WNW	W	WNW	NW	WSW	SW	WSW			
Mar 15	2.9	1.3	0.8	1.4	0.5	0.5	0.4	**0.0**	0.8	2.8	4.9	2.6	3.6	0.9	7.3	5.0	4.9	5.1	1.0	0.3	1.0	0.1	0.6	0.8	**0.0**	7.3	**2.1**
	SW	WSW	WNW	WSW	WNW	S	ESE	WSW	NE	NE	NE	E	E	S	WSW	WSW	WSW	SW	W	SSW	ENE	SSE	E	WSW			
Mar 16	1.5	1.2	0.1	1.8	1.1	0.9	1.3	2.6	7.7	3.5	3.3	2.4	2.6	3.8	5.2	2.0	2.2	4.2	2.4	1.7	1.8	0.3	1.9	0.3	0.1	7.7	2.3
	ESE	ENE	NNE	E	NE	NE	E	SE	SE	SE	ESE	ESE	SE	ENE	ENE	E	SE	SE	SE	ESE	ESE	E	ENE	NE			
Mar 17	0.9	1.0	0.8	0.6	0.4	0.2	1.6	0.4	2.1	3.2	1.4	3.9	3.1	4.9	3.1	3.6	5.9	4.5	4.5	0.9	1.0	0.7	1.0	0.2	0.2	5.9	2.1
	E	ENE	ENE	ENE	ESE	ESE	NE	NE	NE	ESE	N	ENE	N	WSW	SSE	S	SW	SSW	SSW	S	SSW	ESE	ENE	SSE			
Mar 18	1.9	0.7	0.4	1.5	1.6	1.0	2.5	0.6	0.5	5.4	6.7	6.9	8.8	7.8	8.7	9.0	8.0	3.7	0.6	0.4	0.1	0.1	0.2	0.4	0.1	9.0	3.2
	ENE	E	SE	E	ESE	ESE	SE	NE	N	SW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	SE	ESE	E	ESE	SW			
Mar 19	0.5	0.3	**0.0**	0.4	0.2	0.1	0.7	0.1	2.6	2.5	3.7	4.9	5.0	6.3	7.1	6.8	6.8	5.7	6.6	5.4	4.6	5.1	5.7	4.0	**0.0**	7.1	3.5
	SE	NNE	WSW	SW	NE	SW	ENE	NNE	NE	ENE	NE	NE	ENE	ESE	E	E	E	E	E	E	ESE	ESE	E	E			
Mar 20	2.8	4.1	7.7	6.8	8.3	6.9	5.2	8.4	7.6	7.9	7.8	7.1	7.2	9.7	9.6	5.8	8.1	7.6	7.3	8.0	5.6	4.3	2.6	2.8	2.6	9.7	6.6
	E	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SW	SW	SW	SW	SW	SW	SSW	SW			
Mar 21	2.0	3.3	2.5	3.3	2.8	0.8	1.5	2.2	9.0	11.1	8.9	6.9	8.1	9.8	9.4	8.6	6.8	7.4	5.8	1.5	1.4	3.2	2.6	1.6	0.8	11.1	5.0
	SW	SW	SW	SW	WSW	W	WSW	N	NNE	NNE	NNE	NE	ENE	NE	NE	NE	NE	NE	NE	E	SE	SE	SE	SE			
Mar 22	1.6	1.8	0.1	0.5	0.2	3.1	5.5	5.8	7.0	8.6	6.5	7.8	9.5	7.4	12.0	8.5	6.4	5.2	3.1	1.6	2.1	1.3	1.4	1.0	0.1	12.0	4.5
	ESE	ESE	NNW	NW	NE	ESE	SE	SE	SE	SE	SSE	SSW	SE	S	SW	SSW	SSW	S	SSW	SSE	SE	SE	ESE	ESE			
Mar 23	1.5	0.2	2.1	0.5	0.1	0.2	1.3	0.8	3.5	8.5	9.0	6.6	8.3	8.2	7.9	8.0	8.2	6.4	4.0	3.0	1.4	9.6	12.7	9.2	0.1	12.7	5.1
	ESE	E	ESE	E	NNW	S	NNW	WNW	WSW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	WSW	NE	NE	NE	NE	NNE			
Mar 24	9.8	12.8	10.4	10.4	10.0	9.2	7.8	7.8	10.7	9.3	9.9	9.8	7.9	3.6	4.3	3.2	4.1	4.4	4.2	2.1	0.4	**0.0**	0.4	0.3	**0.0**	12.8	6.4
	NNE	NE	NE	NE	NE	NE	NE	NE	NE	NNE	NE	NE	NNE	NNE	ENE	ESE	SE	WSW	SW	SW	W	N	SW	S			
Mar 25	0.1	0.2	0.3	0.3	0.4	0.1	**0.0**	1.0	3.0	3.9	6.3	6.4	5.1	6.5	8.2	6.8	2.7	5.3	6.0	2.8	6.2	3.9	4.8	1.3	**0.0**	8.2	3.4
	ESE	SE	S	SW	WSW	WSW	N	SW	NW	WSW	WSW	SW	WSW	WSW	SW	SW	WSW	SW	SW	NNW	NNE	NE	NE	N			
Mar 26	0.6	2.0	3.5	5.9	5.0	4.9	6.7	6.5	7.5	8.4	7.6	9.2	9.8	8.8	5.1	6.6	6.9	7.8	8.9	6.7	6.1	5.0	4.4	3.5	0.6	9.8	6.1
	NNE	ENE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	ENE	NE	NNE	NNE	NNE	NNE	NE	NNE	NNE	NNE			
Mar 27	3.3	3.2	3.2	1.3	0.2	0.8	0.7	1.0	2.5	0.9	3.8	6.1	8.7	7.9	11.0	12.4	11.6	10.9	10.1	6.3	5.2	5.2	5.0	1.9	0.2	12.4	5.1
	NE	NE	ENE	ENE	E	SW	ENE	NE	ENE	E	W	WSW	WSW	SW	SW	SW	SW	SW	SW	WSW	SW	SW	SW	WSW			
Mar 28	3.9	5.9	4.2	4.8	6.2	5.4	4.6	1.1	0.3	4.8	4.8	5.7	6.4	5.4	3.7	2.7	7.0	6.6	2.8	3.5	3.2	2.8	0.6	1.2	0.3	7.0	4.1
	SW	SW	WSW	WSW	SW	WSW	WSW	WNW	N	NE	ENE	ENE	ENE	ENE	ESE	SW	WSW	SW	SW	SW	SSW	SSE	SSE	SSW			
Mar 29	0.6	1.3	3.4	2.2	7.1	6.6	6.0	7.9	6.4	5.3	5.0	5.9	7.0	7.5	8.3	3.6	4.2	7.9	9.3	8.4	7.2	6.8	2.0	1.6	0.6	9.3	5.5
	S	S	SW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	WSW	N	NNE	NNE	NNE	NNE	NE	NE	NNE			
Mar 30	4.2	4.4	3.4	2.4	0.8	1.0	1.3	2.5	4.5	6.3	6.0	4.5	4.3	5.0	4.1	5.4	6.6	1.0	6.5	2.1	5.9	7.8	7.1	5.0	0.8	7.8	4.3
	NE	NE	NE	NE	NNE	NE	NE	NE	E	E	ESE	ESE	ESE	ESE	E	ENE	NNE	N	SW	SE	SE	SE	SE	SE			
Mar 31	3.9	5.5	7.7	6.1	5.5	8.3	8.4	8.0	10.0	9.1	8.8	6.6	6.0	10.4	8.6	7.0	5.0	6.8	5.6	3.8	2.0	1.6	4.0	5.5	1.6	10.4	6.4
	SE	SE	SE	SE	ESE	SE	SE	SE	SE	SE	SE	SE	S	SW	SSW	SSW	SSW	SW	SW	SSW	SSW	SE	SE	SE			

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 - March 2023

Summary of Hour Standard Deviations

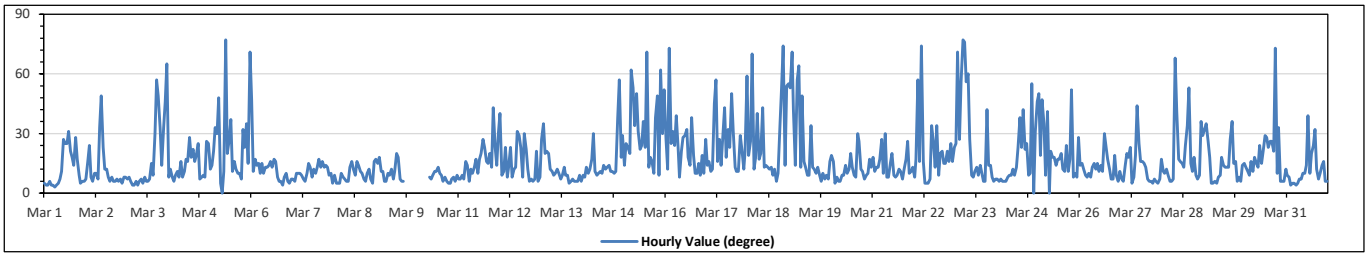
STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

Maximum Hourly Value:	77 degree on Mar 5 at hr 9	Hours in Service:	744
		Hours of Data:	730
Minimum Hourly Value:	0 degree on Mar 5 at hr 7	Hours of Missing Data:	14
		Hours of Calibration:	0
		Operational Uptime:	98.1

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		
Mar 1	5	4	4	6	4	4	3	4	5	7	11	27	25	25	31	21	18	14	28	17	9	5	6	6	3	31
Mar 2	7	16	24	8	6	10	10	7	33	49	23	12	12	8	6	8	6	6	7	6	7	5	8	8	5	49
Mar 3	7	8	6	4	4	6	4	6	7	5	8	6	6	7	15	9	30	57	49	33	14	33	46	65	4	65
Mar 4	8	12	8	6	9	11	8	16	8	11	17	16	28	18	22	16	19	25	7	8	9	8	26	25	6	28
Mar 5	12	14	21	33	30	48	5	**0**	11	77	20	27	37	11	16	12	10	10	7	32	23	35	15	71	**0**	**77**
Mar 6	47	11	17	14	15	10	15	10	13	13	14	16	13	17	16	8	6	6	4	8	10	6	5	7	4	47
Mar 7	7	6	10	10	10	9	7	6	10	15	13	8	12	10	13	17	13	16	13	14	13	9	10	5	5	17
Mar 8	9	5	5	5	10	8	7	6	6	13	16	12	9	16	14	11	10	7	6	10	12	7	5	16	5	16
Mar 9	17	15	18	11	11	6	6	10	9	12	7	11	20	18	7	6	6	**K**	**K**	**K**	**K**	**K**	**K**	**K**	6	20
Mar 10	**K**	**K**	**K**	**K**	**K**	**K**	**K**	8	7	9	11	11	13	10	9	6	8	6	5	5	7	8	6	9	5	13
Mar 11	7	7	9	7	16	14	6	12	10	13	17	10	17	20	27	23	16	15	20	13	43	23	14	30	6	43
Mar 12	40	9	11	23	8	13	23	8	12	13	31	29	23	8	30	22	12	6	7	6	7	21	6	8	6	40
Mar 13	27	35	20	21	20	12	11	9	10	12	10	7	9	13	9	9	5	6	7	6	6	6	9	6	5	35
Mar 14	9	8	13	10	12	17	30	11	9	10	11	10	14	12	13	14	11	11	10	11	38	57	18	29	8	57
Mar 15	14	25	23	20	62	53	34	50	31	22	24	36	23	71	13	18	16	10	38	49	9	62	30	52	9	71
Mar 16	27	12	73	25	31	24	39	22	8	21	28	29	32	18	14	38	19	10	10	15	9	19	10	27	8	73
Mar 17	14	16	11	12	45	57	16	27	14	30	43	18	32	23	50	31	13	11	11	29	22	12	21	59	11	59
Mar 18	19	26	70	12	18	40	17	20	43	13	14	13	12	13	9	12	6	10	34	53	74	14	54	55	6	74
Mar 19	53	71	42	14	57	64	13	49	16	13	9	9	34	13	12	10	13	9	6	10	7	9	7	16	6	71
Mar 20	19	16	5	8	6	6	9	9	14	10	12	20	13	9	8	30	26	12	11	7	9	10	17	13	5	30
Mar 21	18	11	13	13	17	27	10	30	8	8	15	20	9	8	9	12	11	7	12	17	26	10	11	13	7	30
Mar 22	8	17	57	16	74	16	5	5	5	7	34	25	13	34	9	20	21	15	15	21	16	25	16	23	5	74
Mar 23	25	71	27	56	**77**	76	56	60	27	9	8	11	13	9	14	10	6	6	42	14	14	8	6	7	6	**77**
Mar 24	7	6	7	6	6	6	8	9	9	12	9	13	23	38	23	42	22	25	9	10	55	**0**	31	46	**0**	55
Mar 25	50	19	47	35	9	41	**0**	21	18	18	14	17	17	20	12	11	24	11	17	52	8	10	8	28	**0**	52
Mar 26	14	15	12	9	8	10	8	13	15	12	15	11	14	11	30	22	17	12	7	7	19	9	6	11	6	30
Mar 27	7	6	14	20	18	23	5	8	19	44	25	16	16	15	13	7	6	6	5	7	6	5	7	17	5	44
Mar 28	11	10	12	9	6	6	7	68	41	17	16	15	13	24	34	53	15	11	18	9	7	9	36	29	6	68
Mar 29	32	35	26	18	5	5	6	5	8	9	18	14	13	13	13	27	36	15	16	6	8	6	14	15	5	36
Mar 30	13	11	9	16	11	18	15	13	24	15	21	29	28	23	26	26	21	73	10	33	6	6	6	12	6	73
Mar 31	9	8	4	5	5	4	5	7	7	10	10	14	39	10	20	24	32	12	7	10	14	16	6	6	4	39
Diurnal Minimum	5	4	4	4	4	4	0	0	5	5	7	6	6	7	6	6	5	6	4	5	6	0	5	5		
Diurnal Maximum	53	71	73	56	77	76	56	68	43	77	43	36	39	71	50	53	36	73	49	53	74	62	54	71		

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.



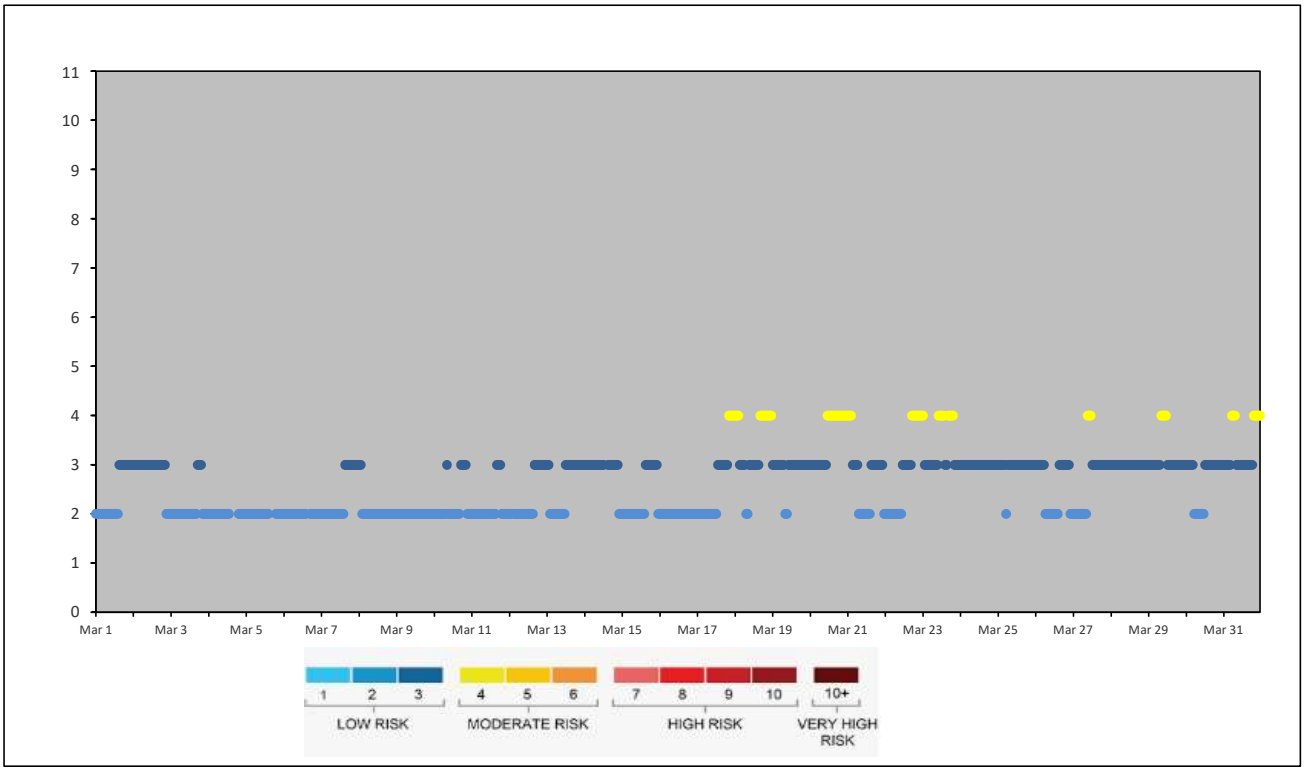
TAMARACK STATION

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - March 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
Mar 1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3
Mar 2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	2	2
Mar 3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	2	2	2	2
Mar 4	2	2	2	2	2	2	2	2	2	2	2	2	2	2						2	2	2	2	2
Mar 5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2					2	2	2	2	2
Mar 6	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2			2	2	2	2	2	2	2
Mar 7	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3
Mar 8	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mar 9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mar 10	2	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	3	3	3	3	2	2	2
Mar 11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	2	2	2	2	2
Mar 12	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3
Mar 13	3	3	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3
Mar 14	3	3	3	3	3	3	3	3	3	3	3	3	3			3	3	3	3	3	3	3	2	2
Mar 15	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	2
Mar 16	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mar 17	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	4	4	4	4
Mar 18	4	4	4	3	3	3	3	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4
Mar 19	3	3	3	3	3	3	3	3	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 20	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4
Mar 21	4	4	4	3	3	3	3	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	2
Mar 22	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4	4	4	4
Mar 23	4	3	3	3	3	3	3	3	3	3	4	4	4	4	3	3	4	4	4	4	3	3	3	3
Mar 24	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 25	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 26	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	2	2
Mar 27	2	2	2	2	2	2	2	2	2	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3
Mar 28	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 29	3	3	3	3	3	3	3	3	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3
Mar 30	3	3	3	3	3	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3
Mar 31	3	3	3	3	3	4	4	4	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4



Lakeland Industry & Community Association

Tamarack Site - March 2023

Summary of Hourly Averages

SULPHUR DIOXIDE (SO_2) in ppb

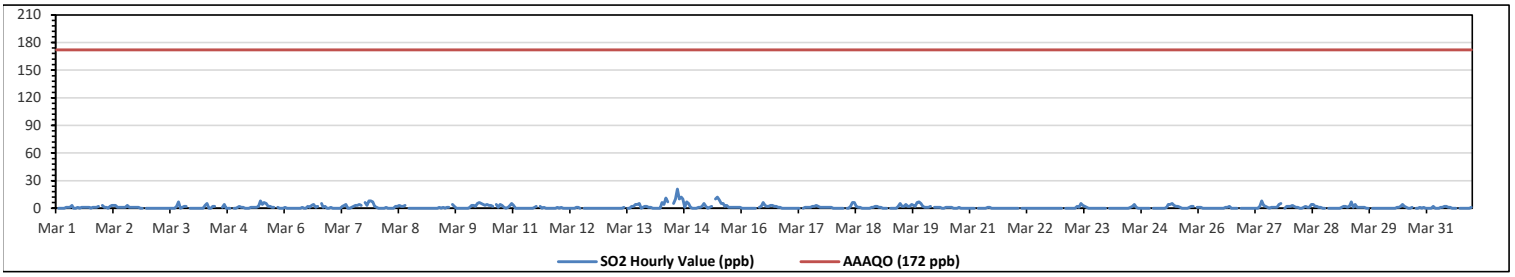
Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 172 ppb, 24-Hour 48 ppb, 30-Day 11 ppb

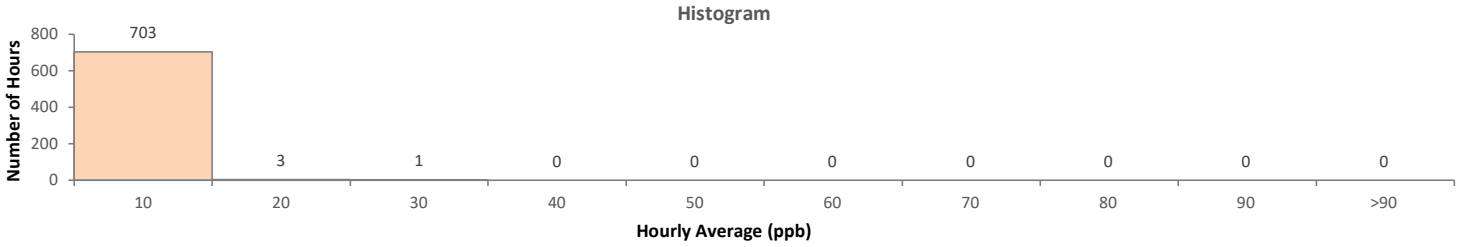
Number of 1-Hour Exceedances:	0	Number of 24-Hour Exceedances:	0	30-Day Exceedence:	0		
Maximum Hourly Value:	21	ppb	on Mar 14 at hr 14	Hours in Service:	744		
Maximum Daily Value:	5.0	ppb	on Mar 14	Hours of Data:	707		
Minimum Hourly Value:	0	ppb	on Mar 1 at hr 1	Hours of Missing Data:	1		
Minimum Daily Value:	0.0	ppb	on Mar 22	Hours of Calibration:	36		
Monthly Average:	1.2	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			
Mar 1	S	0	0	0	0	1	1	1	3	0	0	1	0	1	1	1	1	1	0	1	1	1	2	S	0	3	0.8
Mar 2	3	1	1	0	2	3	3	3	1	1	1	1	1	3	1	1	1	1	1	1	0	0	S	0	0	3	1.3
Mar 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7	0	1	2	2	S	0	0	0	7	0.6
Mar 4	0	0	0	0	0	0	3	5	0	0	2	2	C	C	C	1	4	0	0	0	S	0	0	1	0	5	0.9
Mar 5	2	1	1	0	0	0	1	1	1	1	2	8	4	6	5	2	2	1	1	S	1	0	0	0	0	8	1.7
Mar 6	1	0	0	0	0	0	0	0	0	1	0	0	2	1	3	4	1	2	S	5	1	2	0	0	0	5	1.0
Mar 7	1	0	0	0	0	0	2	3	4	0	0	1	2	3	3	4	3	S	6	3	8	8	7	2	0	8	2.6
Mar 8	1	0	0	0	0	1	0	0	0	0	2	2	3	2	2	3	S	0	0	0	0	0	0	0	0	3	0.7
Mar 9	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	S	4	2	0	0	0	0	0	0	0	4	0.4
Mar 10	0	1	3	3	2	5	6	5	4	3	4	3	3	2	S	4	1	4	3	1	0	1	3	5	0	6	2.9
Mar 11	3	0	0	0	0	0	0	0	0	0	0	1	2	S	2	0	1	0	0	0	0	0	0	1	0	3	0.4
Mar 12	0	1	0	0	0	0	0	0	0	1	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Mar 13	0	0	0	0	0	0	0	0	0	0	1	S	0	0	2	2	4	4	5	0	1	2	2	1	0	5	1.0
Mar 14	1	0	0	0	0	0	6	4	11	7	S	K	5	10	21	10	12	10	1	7	5	1	0	0	0	21	5.0
Mar 15	0	1	1	2	5	2	0	1	2	S	10	12	9	5	5	2	3	1	1	1	1	1	1	1	0	12	2.9
Mar 16	0	0	0	0	0	0	0	0	S	1	2	6	3	2	2	3	3	2	2	1	1	0	0	0	0	6	1.2
Mar 17	0	0	0	0	0	0	0	S	0	1	1	1	1	2	2	3	2	1	1	1	1	1	1	1	0	3	0.9
Mar 18	0	0	0	0	0	0	S	0	0	2	6	6	2	1	1	0	0	0	0	0	1	1	2	2	0	6	1.0
Mar 19	1	1	0	0	0	S	0	0	0	0	2	5	2	2	4	2	2	4	3	2	6	7	5	2	0	7	2.2
Mar 20	1	1	1	2	S	1	1	1	1	0	0	1	1	1	1	0	0	0	1	0	0	0	0	0	0	2	0.6
Mar 21	0	0	0	S	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Mar 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
Mar 23	0	S	0	0	0	0	0	0	2	1	5	3	2	1	0	0	0	0	0	0	0	0	0	0	0	5	0.6
Mar 24	S	0	0	0	0	0	0	0	0	0	0	0	1	2	4	1	0	0	0	0	0	0	0	S	0	4	0.4
Mar 25	0	0	0	0	0	0	0	1	4	4	5	3	2	2	1	0	0	0	0	1	2	2	S	1	0	5	1.2
Mar 26	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	S	0	0	0	2	0.3
Mar 27	0	0	0	0	0	0	0	0	2	8	3	2	1	0	1	1	1	1	4	5	S	0	2	2	0	8	1.4
Mar 28	2	3	2	1	1	0	0	1	2	1	1	4	4	2	2	1	1	0	0	S	0	0	0	0	0	4	1.2
Mar 29	0	0	0	1	2	2	1	2	7	1	4	1	1	1	1	1	0	0	S	0	0	0	0	0	0	7	1.1
Mar 30	0	0	0	0	0	0	0	0	1	1	2	4	2	1	0	0	1	S	0	0	1	0	1	0	0	4	0.6
Mar 31	0	0	0	2	0	0	0	1	1	2	2	1	1	0	0	0	S	0	0	0	0	0	0	1	0	2	0.5
Diurnal Maximum	3	3	3	3	5	5	6	5	11	8	10	12	9	10	21	10	12	10	6	7	8	8	7	5			
Diurnal Average	0.6	0.4	0.3	0.4	0.4	0.5	0.8	1.0	1.5	1.3	1.9	2.4	1.9	1.8	2.3	1.6	1.9	1.2	1.0	1.1	1.1	0.9	0.9	0.7			

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.



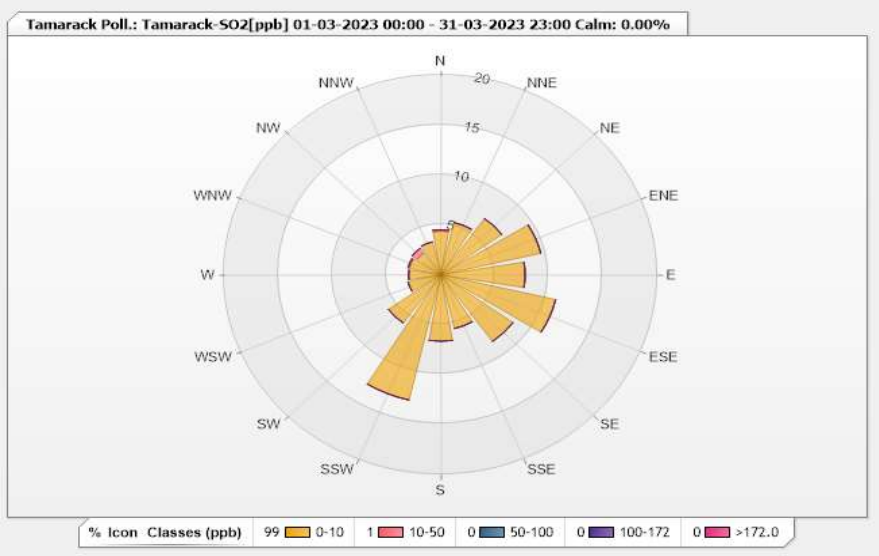


Station: Tamarack Poll.: Tamarack-SO2[ppb] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 95.03% Calm Avg: 0.00 [ppm]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	4.38	0.14	0	0	0	4.52
NNE	5.37	0	0	0	0	5.37
NE	6.93	0	0	0	0	6.93
ENE	9.48	0	0	0	0	9.48
E	7.78	0	0	0	0	7.78
ESE	10.89	0	0	0	0	10.89
SE	8.2	0	0	0	0	8.2
SSE	5.52	0	0	0	0	5.52
S	6.65	0	0	0	0	6.65
SSW	12.87	0	0	0	0	12.87
SW	5.94	0	0	0	0	5.94
WSW	3.11	0	0	0	0	3.11
W	2.97	0	0	0	0	2.97
WNW	2.97	0.14	0	0	0	3.11
NW	2.69	0.57	0	0	0	3.26
NNW	3.39	0	0	0	0	3.39
Summary	99.14	0.85	0	0	0	100



Lakeland Industry & Community Association

Tamarack Site - March 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

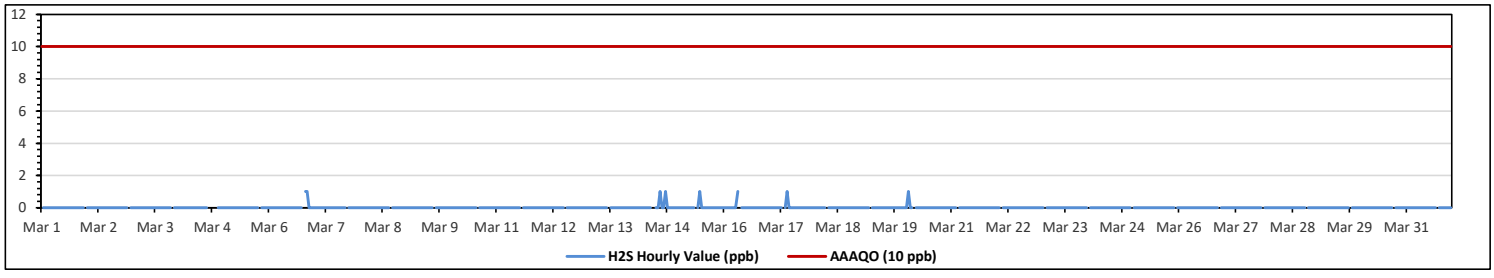
Number of 1-Hour Exceedances: 0 Number of 24-Hour Exceedances: 0

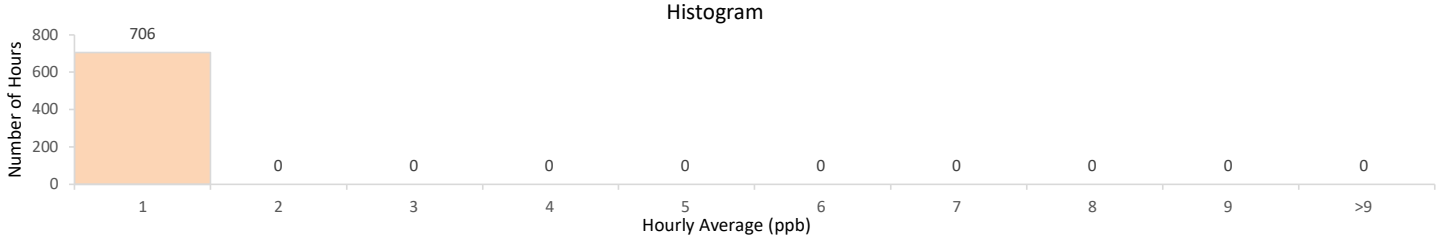
Maximum Hourly Value:	1	ppb	on Mar 6 at hr 19	Hours in Service:	744
Maximum Daily Value:	0.0	ppb	on Mar 1	Hours of Data:	706
Minimum Hourly Value:	0	ppb	on Mar 1 at hr 1	Hours of Missing Data:	1
Minimum Daily Value:	0.0	ppb	on Mar 1	Hours of Calibration:	37
Monthly Average:	0.0	ppb		Operational Uptime:	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			
Mar 1	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
Mar 2	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
Mar 3	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
Mar 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	S	0	0	0	0	0	0.0
Mar 5	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
Mar 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	1	0	0	0	0	1	0.0
Mar 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
Mar 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
Mar 9	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
Mar 10	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
Mar 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
Mar 12	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
Mar 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
Mar 14	0	0	0	0	0	0	0	0	0	0	S	K	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0.0
Mar 15	0	0	0	0	0	0	0	0	0	S	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Mar 16	0	0	0	0	0	0	0	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Mar 17	0	0	0	0	0	0	0	S	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Mar 18	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
Mar 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
Mar 20	0	1	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
Mar 21	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
Mar 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
Mar 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
Mar 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
Mar 25	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
Mar 26	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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 31	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
Diurnal Maximum	0	1	0	0	0	0	0	1	0	1	0	1	0	0	1	0	0	1	0	1	1	0	0	0			
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.



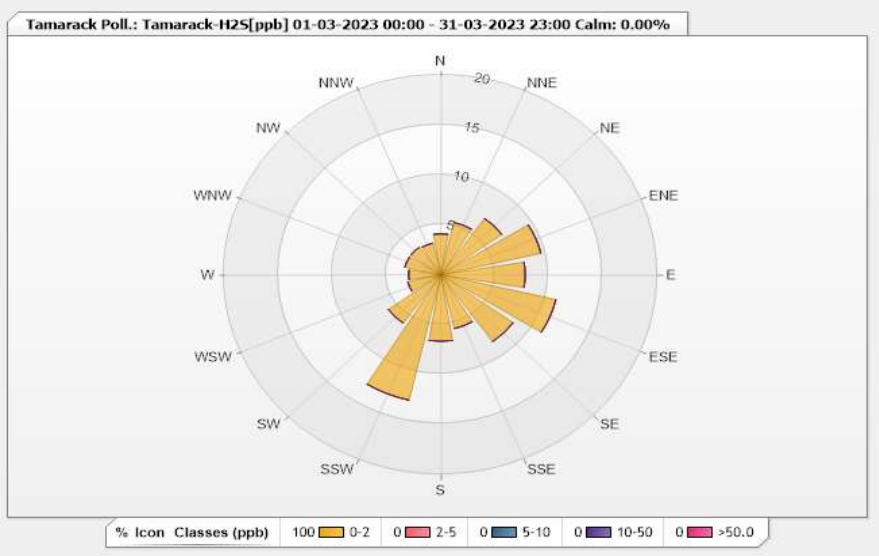


Station: Tamarack Poll.: Tamarack-H2S[ppb] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	4.11	0	0	0	0	4.11
NNE	5.38	0	0	0	0	5.38
NE	6.94	0	0	0	0	6.94
ENE	9.49	0	0	0	0	9.49
E	7.79	0	0	0	0	7.79
ESE	10.91	0	0	0	0	10.91
SE	8.22	0	0	0	0	8.22
SSE	5.52	0	0	0	0	5.52
S	6.66	0	0	0	0	6.66
SSW	12.89	0	0	0	0	12.89
SW	5.95	0	0	0	0	5.95
WSW	3.12	0	0	0	0	3.12
W	2.97	0	0	0	0	2.97
WNW	3.4	0	0	0	0	3.4
NW	3.4	0	0	0	0	3.4
NNW	3.26	0	0	0	0	3.26
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Tamarack Site - March 2023

Summary of Hourly Averages

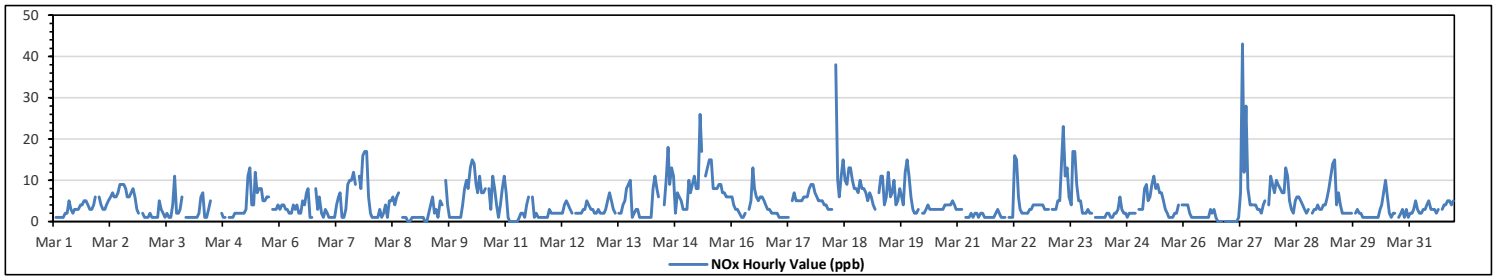
OXIDES OF NITROGEN (NOx) in ppb

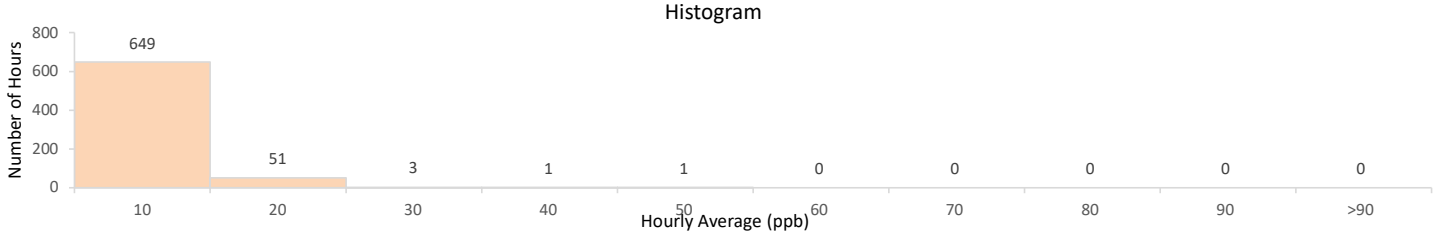
Maximum Hourly Value:	43	ppb	on Mar 27 at hr 7	Hours in Service:	744	
Maximum Daily Value:	9.9	ppb	on Mar 15	Hours of Data:	705	
Minimum Hourly Value:	0	ppb	on Mar 8 at hr 20	Hours of Missing Data:	1	
Minimum Daily Value:	1.4	ppb	on Mar 26	Hours of Calibration:	38	
Monthly Average:	4.4	ppb		Operational 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			
Mar 1	S	1	1	1	1	1	2	2	5	3	2	3	3	3	4	4	5	5	4	3	3	4	6	S	1	6	3.0
Mar 2	6	4	3	3	4	5	6	7	6	6	7	9	9	9	8	6	6	7	8	6	3	2	S	2	2	9	5.7
Mar 3	1	1	1	2	1	1	1	1	5	3	2	1	2	1	1	4	11	2	2	3	6	S	1	1	1	11	2.3
Mar 4	1	1	1	1	1	2	6	7	1	1	3	5	C	C	C	C	C	2	1	1	S	1	1	1	1	7	2.1
Mar 5	2	2	2	2	2	2	3	11	13	4	4	12	7	8	8	5	5	6	6	S	3	3	3	4	2	13	5.1
Mar 6	3	4	4	3	3	2	2	4	3	4	2	2	5	4	7	8	1	1	S	8	3	6	2	1	1	8	3.6
Mar 7	3	2	1	1	1	1	4	6	7	1	1	3	9	10	10	12	9	S	11	8	16	17	17	6	1	17	6.8
Mar 8	2	1	1	1	1	3	1	2	4	1	5	5	6	4	6	7	S	1	1	1	0	0	1	1	**0**	7	2.4
Mar 9	1	1	1	1	1	0	0	2	4	6	2	3	1	5	4	S	10	4	1	1	1	1	1	1	**0**	10	2.3
Mar 10	1	4	8	10	8	13	15	14	9	7	11	7	7	8	S	8	3	11	8	4	1	4	8	11	1	15	7.8
Mar 11	7	1	0	0	0	0	0	1	2	2	1	4	6	S	6	1	2	1	1	1	1	1	1	3	**0**	7	1.8
Mar 12	2	2	2	2	2	2	2	4	5	4	3	2	S	2	2	2	2	3	3	5	4	3	3	2	2	5	2.7
Mar 13	2	3	2	2	2	3	5	7	5	3	2	S	2	2	4	5	8	9	10	1	2	3	3	1	1	10	3.7
Mar 14	1	1	1	1	1	1	8	11	8	6	S	K	4	10	18	9	13	11	2	7	6	5	3	3	1	18	5.9
Mar 15	3	10	7	9	11	8	8	26	17	S	11	13	15	15	8	8	8	9	9	7	7	6	6	6	3	26	**9.9**
Mar 16	6	4	3	3	2	1	1	2	S	3	5	13	8	6	5	6	6	5	4	3	3	2	2	2	1	13	4.1
Mar 17	2	1	1	1	1	1	1	S	5	7	5	5	5	5	6	6	6	8	9	9	7	6	5	5	1	9	4.7
Mar 18	5	4	4	3	3	3	S	38	10	6	11	15	10	9	13	13	10	8	8	7	10	8	8	7	3	38	9.3
Mar 19	5	7	6	4	3	S	7	11	11	4	6	12	6	7	10	4	5	8	6	4	12	15	11	6	3	15	7.4
Mar 20	3	2	2	3	S	2	2	3	4	3	3	3	3	3	3	3	3	4	4	4	4	5	4	3	2	5	3.2
Mar 21	3	3	3	S	1	1	1	2	1	2	2	1	2	2	1	1	1	1	1	1	2	3	2	1	1	3	1.7
Mar 22	1	1	S	1	1	1	16	15	6	3	2	2	2	2	3	3	4	4	4	4	4	4	3	3	1	16	3.9
Mar 23	3	S	3	3	3	5	5	15	23	11	13	6	4	17	17	9	5	5	2	2	2	3	2	2	2	23	7.0
Mar 24	S	1	1	1	1	1	1	2	2	1	1	2	2	3	6	3	2	2	1	2	2	2	2	S	1	6	1.9
Mar 25	3	3	3	8	9	5	6	9	11	8	9	7	7	5	3	2	1	1	1	2	2	4	S	4	1	11	4.9
Mar 26	4	4	4	2	1	1	1	1	1	1	1	1	1	1	3	2	3	1	0	0	0	S	0	0	**0**	4	**1.4**
Mar 27	0	0	0	0	0	1	7	**43**	12	28	8	4	4	4	4	3	3	2	4	5	S	4	11	9	**0**	**43**	6.8
Mar 28	7	10	9	8	7	7	13	11	5	3	2	5	6	6	5	4	3	2	3	S	2	3	3	4	2	13	5.6
Mar 29	3	3	4	4	6	8	11	14	15	4	7	4	2	2	2	2	2	2	S	2	3	2	2	1	1	15	4.6
Mar 30	1	1	1	1	1	1	1	1	3	4	7	10	6	2	1	2	2	S	1	2	3	1	3	1	1	10	2.4
Mar 31	2	2	3	5	3	2	2	3	3	4	5	3	3	3	2	3	S	3	4	4	5	5	4	5	2	5	3.4
Diurnal Maximum	7	10	9	10	11	13	16	43	23	28	13	15	15	17	18	13	13	11	11	9	16	17	17	11			
Diurnal Average	2.9	2.8	2.7	2.9	2.7	2.8	4.6	9.2	6.9	4.8	4.8	5.6	5.1	5.4	5.9	5.0	5.0	4.4	4.1	3.7	4.0	4.2	4.1	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.



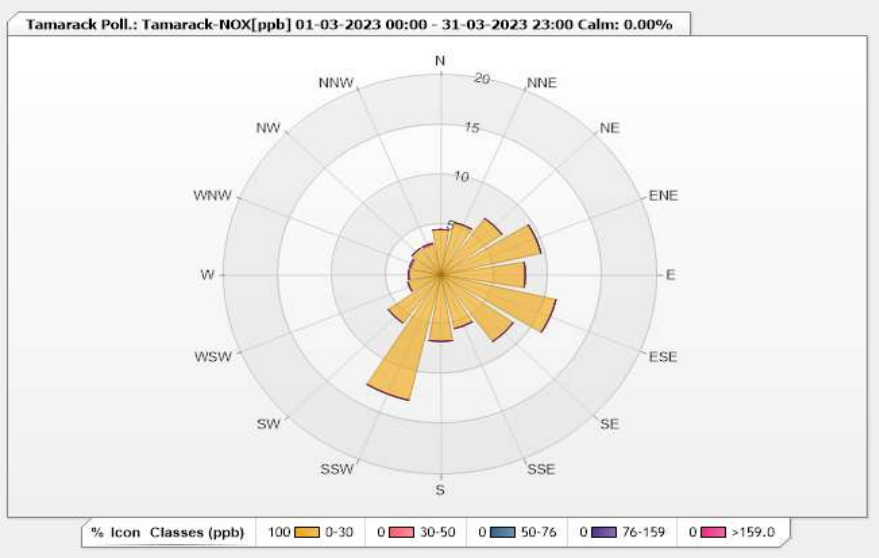


Station: Tamarack Poll.: Tamarack-NOX[ppb] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	4.54	0	0	0	0	4.54
NNE	5.39	0	0	0	0	5.39
NE	6.95	0	0	0	0	6.95
ENE	9.5	0	0	0	0	9.5
E	7.8	0	0	0	0	7.8
ESE	10.92	0	0	0	0	10.92
SE	8.23	0	0	0	0	8.23
SSE	5.53	0	0	0	0	5.53
S	6.67	0	0	0	0	6.67
SSW	12.91	0	0	0	0	12.91
SW	5.96	0	0	0	0	5.96
WSW	3.12	0	0	0	0	3.12
W	2.98	0	0	0	0	2.98
WNW	2.84	0.14	0	0	0	2.98
NW	3.26	0	0	0	0	3.26
NNW	3.12	0.14	0	0	0	3.26
Summary	100	0.28	0	0	0	100



Lakeland Industry & Community Association

Tamarack Site - March 2023

Summary of Hourly Averages

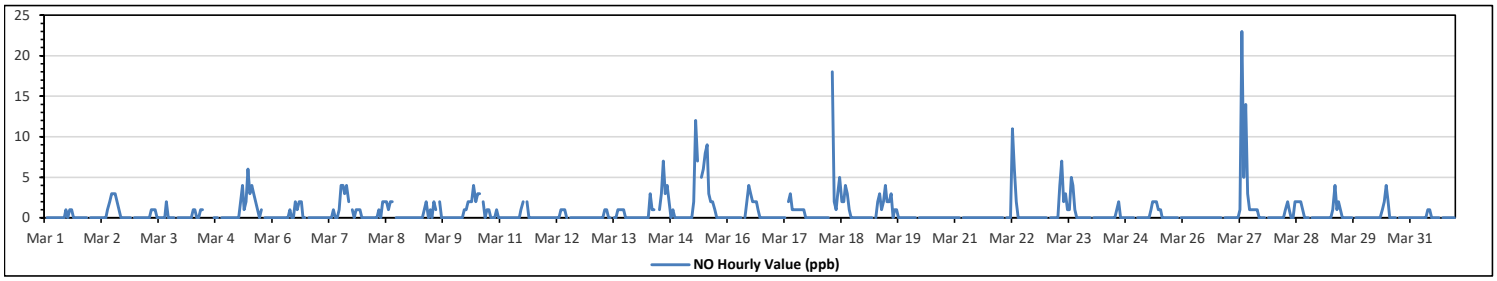
NITRIC OXIDE (NO) in ppb

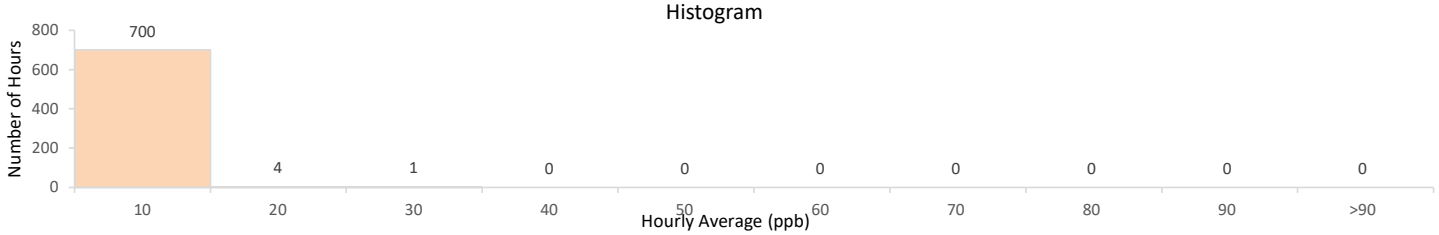
Maximum Hourly Value:	23	ppb	on Mar 27 at hr 7	Hours in Service:	744	
Maximum Daily Value:	2.5	ppb	on Mar 15	Hours of Data:	705	
Minimum Hourly Value:	0	ppb	on Mar 1 at hr 1	Hours of Missing Data:	1	
Minimum Daily Value:	0.0	ppb	on Mar 20	Hours of Calibration:	38	
Monthly Average:	0.7	ppb		Operational 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			
Mar 1	S	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	S	0	1	0.1
Mar 2	0	0	0	0	0	0	0	0	0	1	2	3	3	3	2	1	0	0	0	0	0	0	S	0	0	3	0.7
Mar 3	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	2	0	0	0	0	S	0	0	0	2	0.2
Mar 4	0	0	0	0	0	0	1	1	0	0	1	1	C	C	C	C	C	0	0	0	S	0	0	0	0	1	0.2
Mar 5	0	0	0	0	0	0	0	2	4	1	2	6	3	4	3	2	1	0	1	S	0	0	0	0	0	6	1.3
Mar 6	0	0	0	0	0	0	0	0	0	1	0	0	2	1	2	2	0	0	S	0	0	0	0	0	0	2	0.3
Mar 7	0	0	0	0	0	0	0	0	1	0	0	1	4	4	3	4	2	S	1	0	1	1	1	0	0	4	1.0
Mar 8	0	0	0	0	0	0	0	0	1	0	2	2	2	1	2	2	S	0	0	0	0	0	0	0	0	2	0.5
Mar 9	0	0	0	0	0	0	0	0	1	2	0	1	0	2	1	S	2	0	0	0	0	0	0	0	0	2	0.4
Mar 10	0	0	0	0	0	1	1	2	2	2	4	2	3	3	S	2	0	1	1	0	0	0	1	0	0	4	1.1
Mar 11	0	0	0	0	0	0	0	0	0	0	0	1	2	S	2	0	0	0	0	0	0	0	0	0	0	2	0.2
Mar 12	0	0	0	0	0	0	0	0	1	1	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Mar 13	0	0	0	0	0	0	0	1	1	0	0	S	0	0	1	1	1	0	0	0	0	0	0	0	0	1	0.3
Mar 14	0	0	0	0	0	0	0	3	1	1	S	K	1	3	7	3	4	2	0	1	0	0	0	0	0	7	1.2
Mar 15	0	0	0	0	0	0	2	12	7	S	5	6	8	9	3	2	2	1	0	0	0	0	0	0	0	12	**2.5**
Mar 16	0	0	0	0	0	0	0	0	S	0	2	4	3	2	2	2	1	0	0	0	0	0	0	0	0	4	0.7
Mar 17	0	0	0	0	0	0	0	S	2	3	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	3	0.5
Mar 18	0	0	0	0	0	0	S	18	2	1	3	5	2	2	4	3	1	0	0	0	0	0	0	0	0	18	1.8
Mar 19	0	0	0	0	0	S	0	2	3	1	2	4	2	2	3	0	1	1	0	0	0	0	0	0	0	4	0.9
Mar 20	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
Mar 21	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
Mar 22	0	0	S	0	0	0	11	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0.8
Mar 23	0	S	0	0	0	0	0	4	7	2	3	1	1	5	4	1	0	0	0	0	0	0	0	0	0	7	1.2
Mar 24	S	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	S	0	2	0.1
Mar 25	0	0	0	0	0	0	0	1	2	2	2	1	1	0	0	0	0	0	0	0	0	0	S	0	0	2	0.4
Mar 26	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
Mar 27	0	0	0	0	0	0	1	**23**	5	14	3	1	1	1	1	1	0	0	0	0	S	0	0	0	0	**23**	2.2
Mar 28	0	0	0	0	0	0	1	2	1	0	0	2	2	2	2	1	0	0	0	S	0	0	0	0	0	2	0.6
Mar 29	0	0	0	0	0	0	0	1	4	1	2	1	0	0	0	0	0	0	S	0	0	0	0	0	0	4	0.4
Mar 30	0	0	0	0	0	0	0	0	0	1	2	4	2	0	0	0	0	S	0	0	0	0	0	0	0	4	0.4
Mar 31	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	S	0	0	0	0	0	0	0	0	1	0.1
Diurnal Maximum	0	0	0	0	0	1	11	23	7	14	5	6	8	9	7	4	4	2	1	1	1	1	1	0			
Diurnal Average	0.0	0.0	0.0	0.0	0.0	0.0	0.6	2.6	1.6	1.2	1.3	1.7	1.5	1.6	1.6	1.0	0.6	0.2	0.1	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.



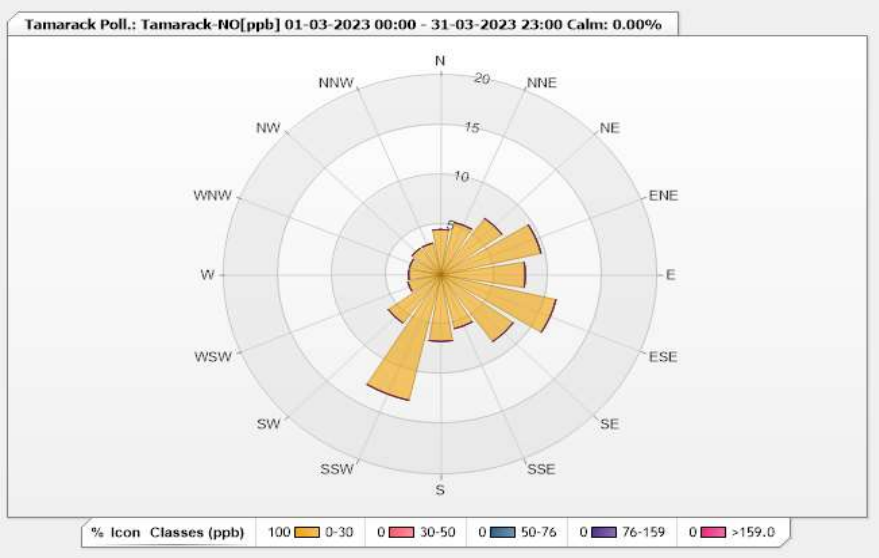


Station: Tamarack Poll.: Tamarack-NO[ppb] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	4.54	0	0	0	0	4.54
NNE	5.39	0	0	0	0	5.39
NE	6.95	0	0	0	0	6.95
ENE	9.5	0	0	0	0	9.5
E	7.8	0	0	0	0	7.8
ESE	10.92	0	0	0	0	10.92
SE	8.23	0	0	0	0	8.23
SSE	5.53	0	0	0	0	5.53
S	6.67	0	0	0	0	6.67
SSW	12.91	0	0	0	0	12.91
SW	5.96	0	0	0	0	5.96
WSW	3.12	0	0	0	0	3.12
W	2.98	0	0	0	0	2.98
WNW	2.98	0	0	0	0	2.98
NW	3.26	0	0	0	0	3.26
NNW	3.26	0	0	0	0	3.26
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Tamarack Site - March 2023

Summary of Hourly Averages

NITROGEN DIOXIDE (NO_2) in ppb

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

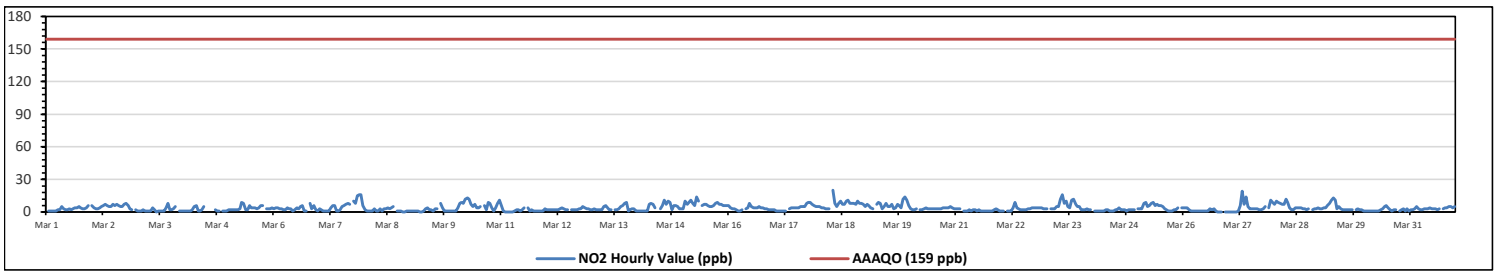
Number of 1-Hour Exceedances: 0

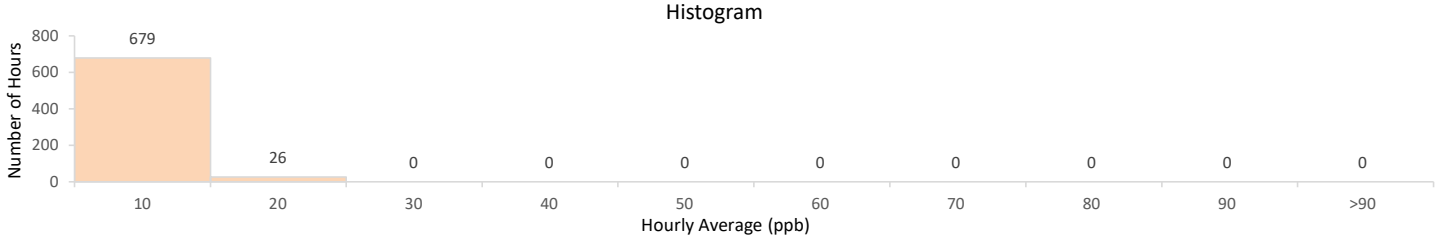
Maximum Hourly Value:	20	ppb	on Mar 18 at hr 7	Hours in Service:	744
Maximum Daily Value:	7.5	ppb	on Mar 18	Hours of Data:	705
Minimum Hourly Value:	0	ppb	on Mar 3 at hr 10	Hours of Missing Data:	1
Minimum Daily Value:	1.4	ppb	on Mar 26	Hours of Calibration:	38
Monthly Average:	3.8	ppb		Operational Uptime:	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			
Mar 1	S	1	1	1	1	1	2	2	5	3	2	2	3	2	3	4	4	5	4	3	3	4	6	S	1	6	2.8
Mar 2	6	4	3	3	4	5	6	7	6	5	5	7	6	7	6	5	5	7	8	6	3	2	S	2	2	8	5.1
Mar 3	1	1	1	2	1	1	1	1	4	2	0	1	1	1	1	4	8	2	2	3	5	S	1	1	0	8	2.0
Mar 4	1	1	1	1	1	2	5	6	1	1	2	5	C	C	C	C	C	2	1	1	S	1	1	1	1	6	1.9
Mar 5	2	2	2	2	2	2	3	9	8	2	2	6	4	4	4	3	4	6	6	S	3	3	3	4	2	9	3.7
Mar 6	3	4	4	3	3	2	2	4	3	3	1	2	4	3	5	6	1	1	S	8	3	6	2	1	1	8	3.2
Mar 7	3	2	1	1	1	1	4	6	6	1	1	2	5	6	7	8	7	S	10	8	15	16	16	6	1	16	5.8
Mar 8	2	1	1	1	1	3	1	1	3	1	3	3	4	3	4	5	S	1	1	1	0	0	1	1	0	5	1.8
Mar 9	1	1	1	1	1	0	0	1	3	4	2	2	1	3	3	S	8	4	1	1	1	1	1	1	0	8	1.8
Mar 10	1	4	8	9	8	12	13	12	7	5	7	4	4	5	S	6	2	9	8	4	1	4	8	11	1	13	6.6
Mar 11	6	1	0	0	0	0	0	1	2	2	1	2	4	S	4	1	2	1	1	1	1	1	1	3	0	6	1.5
Mar 12	2	2	2	2	2	2	2	3	4	3	2	2	S	2	2	2	2	3	3	5	4	3	3	2	2	5	2.6
Mar 13	2	3	2	2	2	2	5	6	4	2	2	S	2	2	3	5	6	8	9	1	2	3	3	1	1	9	3.3
Mar 14	1	1	1	1	1	1	7	8	7	4	S	K	3	6	11	7	10	9	2	6	6	5	3	3	1	11	4.7
Mar 15	3	10	7	9	11	8	6	14	10	S	6	7	7	6	5	5	6	8	9	7	7	6	6	6	3	14	7.3
Mar 16	6	4	3	3	2	1	1	2	S	3	4	8	5	4	4	4	5	4	4	3	3	2	2	2	1	8	3.4
Mar 17	2	1	1	1	1	1	1	S	3	4	4	4	4	4	4	5	5	5	8	9	9	7	6	5	5	1	9	4.1
Mar 18	5	4	4	3	3	3	S	20	8	5	8	10	7	7	10	11	8	8	8	7	10	8	8	7	3	20	7.5
Mar 19	5	7	6	4	3	S	7	9	8	3	5	8	5	5	7	3	4	7	6	4	12	14	11	6	3	14	6.5
Mar 20	3	2	2	3	S	2	2	3	4	3	3	3	3	3	3	3	3	4	4	4	4	5	4	3	2	5	3.2
Mar 21	3	3	3	S	1	1	1	2	1	2	2	1	2	1	1	1	1	1	1	1	2	3	2	1	1	3	1.6
Mar 22	1	1	S	1	1	1	4	9	4	3	2	2	2	2	3	3	4	4	4	4	4	4	3	3	1	9	3.0
Mar 23	3	S	3	3	3	5	5	12	16	8	10	5	4	11	12	7	5	5	2	2	2	3	2	2	2	16	5.7
Mar 24	S	1	1	1	1	1	1	2	2	1	1	1	2	2	4	2	2	2	1	2	2	2	2	S	1	4	1.6
Mar 25	3	3	3	8	9	5	6	8	9	6	7	6	6	5	3	2	1	1	1	2	2	4	S	4	1	9	4.5
Mar 26	4	4	4	2	1	1	1	1	1	1	1	1	1	1	3	2	3	1	0	0	0	S	0	0	0	4	1.4
Mar 27	0	0	0	0	0	1	6	19	7	14	5	3	3	3	3	3	2	2	3	5	S	4	11	9	0	19	4.5
Mar 28	7	10	9	8	7	7	12	9	4	2	2	4	4	4	4	3	3	2	3	S	2	3	3	4	2	12	5.0
Mar 29	3	3	4	4	6	8	11	13	11	3	5	3	2	2	2	2	2	2	S	2	3	2	2	1	1	13	4.2
Mar 30	1	1	1	1	1	1	1	1	2	3	5	6	4	2	1	2	2	S	1	2	3	1	3	1	1	6	2.0
Mar 31	2	2	3	5	3	2	2	3	3	3	4	3	3	3	2	3	S	3	4	4	5	5	4	5	2	5	3.3
Diurnal Maximum	7	10	9	9	11	12	13	20	16	14	10	10	7	11	12	11	10	9	10	9	15	16	16	11			
Diurnal Average	2.8	2.8	2.7	2.8	2.7	2.7	3.9	6.5	5.2	3.4	3.5	3.9	3.6	3.8	4.3	4.0	4.1	4.1	4.0	3.7	4.0	4.2	4.0	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.



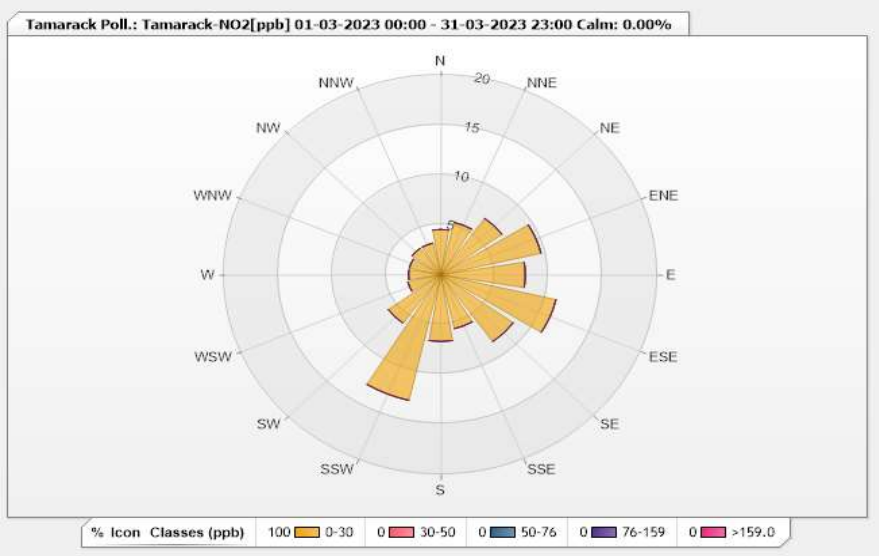


Station: Tamarack Poll.: Tamarack-NO2[ppb] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	4.54	0	0	0	0	4.54
NNE	5.39	0	0	0	0	5.39
NE	6.95	0	0	0	0	6.95
ENE	9.5	0	0	0	0	9.5
E	7.8	0	0	0	0	7.8
ESE	10.92	0	0	0	0	10.92
SE	8.23	0	0	0	0	8.23
SSE	5.53	0	0	0	0	5.53
S	6.67	0	0	0	0	6.67
SSW	12.91	0	0	0	0	12.91
SW	5.96	0	0	0	0	5.96
WSW	3.12	0	0	0	0	3.12
W	2.98	0	0	0	0	2.98
WNW	2.98	0	0	0	0	2.98
NW	3.26	0	0	0	0	3.26
NNW	3.26	0	0	0	0	3.26
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Tamarack Site - March 2023

Summary of Hourly Averages

OZONE (O_3) in ppb

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

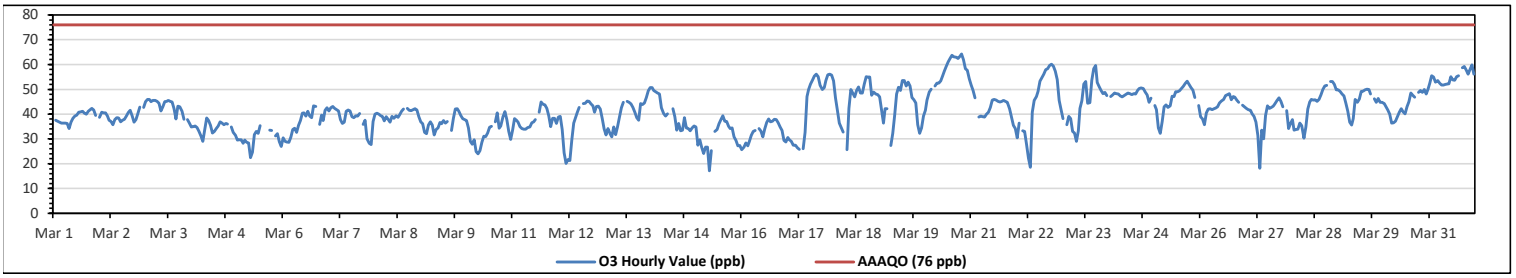
Number of 1-Hour Exceedances: 0

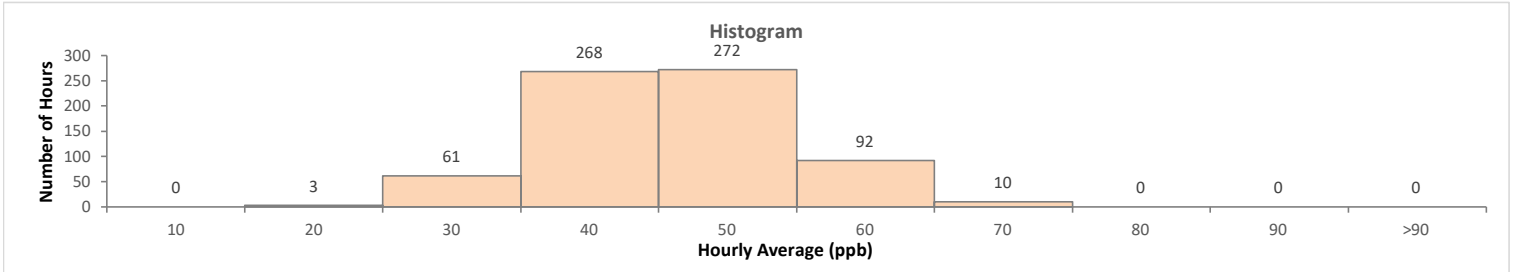
Maximum Hourly Value:	64.2	ppb	on Mar 20 at hr 19	Hours in Service:	744
Maximum Daily Value:	56.7	ppb	on Mar 20	Hours of Data:	706
Minimum Hourly Value:	17.1	ppb	on Mar 15 at hr 7	Hours of Missing Data:	1
Minimum Daily Value:	29.9	ppb	on Mar 5	Hours of Calibration:	37
Monthly Average:	41.2	ppb		Operational 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			
Mar 1	S	37.6	37.2	36.8	36.4	36.3	36.4	36.2	34.2	36.8	38.3	39.2	39.6	40.7	40.9	41.2	40.4	39.9	41.2	41.8	42.3	41.7	39.5	S	34.2	42.3	38.8
Mar 2	38.7	40.7	40.5	40.5	39.2	37.6	37	35.7	37.7	38.6	38.4	36.9	37.6	37.9	39.2	40.6	41.6	39.4	36.8	37.8	40.2	42.8	S	42.7	35.7	42.8	39.0
Mar 3	45	46	46	45	45.5	45.6	45.2	44.4	41.3	42.9	45	45.1	45.6	45.2	44.9	42.1	38	43.2	42.9	41.2	37.9	S	37.7	36.4	36.4	46.0	43.1
Mar 4	34.9	35	35.3	34.6	33.1	31.2	29.1	33.7	38.4	37.5	35.5	32.4	33	34.1	35.2	36.9	36.3	35.7	36.2	35.9	S	34.9	32.6	31.4	29.1	38.4	34.5
Mar 5	29.5	29.6	29.7	28.2	29.5	28.6	28.4	22.4	24.6	31.7	33.1	32.2	35.4	C	C	C	C	33.5	33.4	S	31.2	32.1	28.9	27	22.4	35.4	**29.9**
Mar 6	30.4	29	28.8	28.6	30.7	33.8	34.3	32.7	35.5	37.5	40.4	40.5	39.2	41.1	39.3	38.5	43.3	43.1	S	35.8	39.7	37.4	41.6	42.6	28.6	43.3	36.7
Mar 7	41.3	42.6	43.1	42.3	41.8	41.3	37.7	36.2	36.7	41.1	41.7	41.3	38.9	38.6	39.4	39.2	40.2	S	35.8	37.6	30	28.2	27.7	37	27.7	43.1	38.2
Mar 8	39.9	40.4	39.9	39.4	39.1	37.3	38.9	37.9	36.7	39.1	38.3	39.4	38.7	39.8	41.2	42	S	42.3	41.5	41.4	41.9	42.2	41.7	38.9	36.7	42.3	39.9
Mar 9	36.9	36.1	32.7	32.1	35.6	36.9	35.6	31.5	33.8	34.4	36.6	36.1	37.5	36.4	37	S	33.4	38.3	42	42.1	41.1	39.5	38.1	37.8	31.5	42.1	36.6
Mar 10	37.5	34.5	29.1	27.8	29.6	24.9	24	25.2	28.7	31.1	31	32.4	34.7	35.1	S	36.9	40.5	34.3	35.3	39	41	37.8	33.1	29.8	24.0	41.0	32.8
Mar 11	33.5	38.1	37.6	36.8	35	34.1	33.9	33.9	34.6	34.9	36.5	36.9	37.8	S	40.8	44.9	44	43.8	42.3	39.4	35	38.3	38.3	36.2	33.5	44.9	37.7
Mar 12	38.8	39.1	33.8	24.4	20.1	21.7	21.3	29.5	36.4	38.7	40.6	42.7	S	44.2	44.3	45.3	45.1	44.1	43.4	40.7	43.1	43.2	42	38.3	20.1	45.3	37.4
Mar 13	34	31.6	34.1	32	30.8	34.9	31.7	35	38.8	42.5	44.7	S	45.1	44.7	44.1	42.7	40.7	38.5	37.6	44.2	43.9	44.5	46.7	49.4	30.8	49.4	39.7
Mar 14	50.6	50.7	49.6	49	48.4	48.1	42.6	40.2	39.3	40.1	S	K	42.1	38.9	33.5	36.2	33.3	33.5	38.6	34.5	34.1	33.3	34.4	35.2	33.3	50.7	40.3
Mar 15	34.9	27.4	29.7	26.6	24.1	26.7	26.7	17.1	25.3	S	33	33.8	36.1	37.7	39.4	37.2	37.1	35.1	34.1	34.4	30.9	29.3	27.2	27.3	**17.1**	39.4	30.9
Mar 16	25.6	26.7	28.4	27.1	29.1	31.4	33.1	33.4	S	34.2	33.2	30.9	34	36.6	38	36.9	37.2	37.9	37.8	36.5	34.8	33.4	29.3	28.8	25.6	38.0	32.8
Mar 17	30.6	29.7	29.1	27.5	27.4	26.4	25.8	S	26	32.6	47.1	49.9	52.1	53.7	55.3	56.1	55.1	51.6	49.9	50.6	53.6	55.8	56.1	55.7	25.8	56.1	43.4
Mar 18	53.4	46.5	41.6	36.4	34.6	32.8	S	25.7	42.3	49.9	48.4	46.9	49.6	50.9	48.5	48.4	52.2	55	54.9	54.9	47.6	48.9	48.2	47.9	25.7	55.0	46.3
Mar 19	46.9	41.7	36.4	42.1	42.2	S	27.3	32.3	39.7	48.1	50.8	49.5	53.6	53.5	51.3	52.9	51.4	46.7	45.8	44.5	35.7	32.3	34.4	39.3	27.3	53.6	43.4
Mar 20	41.5	45.7	48.9	50.1	S	51.4	52.6	52.6	53.4	55.5	57.2	59.2	61.1	62.4	63.7	63.2	63	62.5	63.3	**64.2**	61.9	58.4	57.6	54.3	41.5	**64.2**	**56.7**
Mar 21	51.8	49.6	46.5	S	38.8	39.3	39	38.8	40	40.8	42.7	45.7	46	45.7	45.2	44.9	45.2	45.5	45.2	44.8	42.2	38.8	35.5	34.2	34.2	51.8	42.9
Mar 22	30.5	36.4	S	33.3	33.1	27.8	22.3	18.5	40.8	45.5	47.1	49.2	53.2	54.7	56.1	57.9	58.4	59.6	60.1	59.3	57.3	53.9	45.6	41.9	18.5	60.1	45.3
Mar 23	38.1	S	35.7	39.1	38.2	33.1	32.4	29	33.3	42.3	45.4	52.2	53.1	44.3	44.6	53.7	58.4	59.6	52.7	51.1	49.5	48.3	48.7	47.5	29.0	59.6	44.8
Mar 24	S	47.1	47.7	48.4	48.3	48.2	47.4	46.9	47.5	48	48.4	48.3	47.9	48.3	48.2	49.5	50.3	50.5	50.4	48.9	47.8	44.7	46.4	S	44.7	50.5	48.1
Mar 25	43.5	41.9	34.4	32.3	37	43	43.8	42.7	43.3	47.2	47.1	49	49	49.4	50.4	51.2	52.4	53.2	52	50.6	49.7	46.7	S	43.5	32.3	53.2	45.8
Mar 26	39	38	35.7	40.5	42	42.1	41.8	42.2	42.4	43	44.5	45.3	46	47.5	47.9	48.3	45.8	47.1	46.8	45.7	44.8	S	43.6	42.9	35.7	48.3	43.6
Mar 27	42.3	41.9	41.5	40.1	39.1	36.8	31.3	18.2	33.5	30	39.5	43.3	42.3	42.7	43.2	44.1	45.5	46.6	45.1	42.9	S	41.4	34.1	36.2	18.2	46.6	39.2
Mar 28	37.7	33.5	33.7	33.9	36.3	35.4	30.3	34.8	42	44.9	45.9	45.7	45.8	45.1	45.9	47.8	50	51.3	51.6	S	53.1	53.1	52	49.8	30.3	53.1	43.5
Mar 29	49.8	49.1	48.1	47.4	44.3	41.1	36.8	35.6	38.1	46	44.8	46.1	49.1	49.3	49.8	50.1	50	48.2	S	46.2	44.8	46.3	44.7	44.7	35.6	50.1	45.7
Mar 30	44.2	42.8	41.7	40	36.4	36.5	37.2	38.9	40.8	42.2	40.9	40.1	42.9	45	48.4	47.6	46.8	S	48.7	49.5	48.7	49.9	48.2	50.2	36.4	50.2	43.8
Mar 31	52.4	55.4	54.9	52.8	53.6	52.6	51.7	51.7	52	52.2	52.3	55	53.8	53.7	55.1	55.5	S	58.8	59.2	57.8	56.2	58	59.8	56.2	51.7	59.8	54.8
Diurnal Maximum	53.4	55.4	54.9	52.8	53.6	52.6	52.6	52.6	53.4	55.5	57.2	59.2	61.1	62.4	63.7	63.2	63.0	62.5	63.3	64.2	61.9	58.4	59.8	56.2			
Diurnal Average	39.8	39.5	38.4	37.2	36.6	36.6	35.2	34.4	37.9	41.0	42.3	42.9	44.0	44.7	45.2	45.9	45.6	45.5	45.0	44.6	43.4	42.6	41.2	40.8			

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.



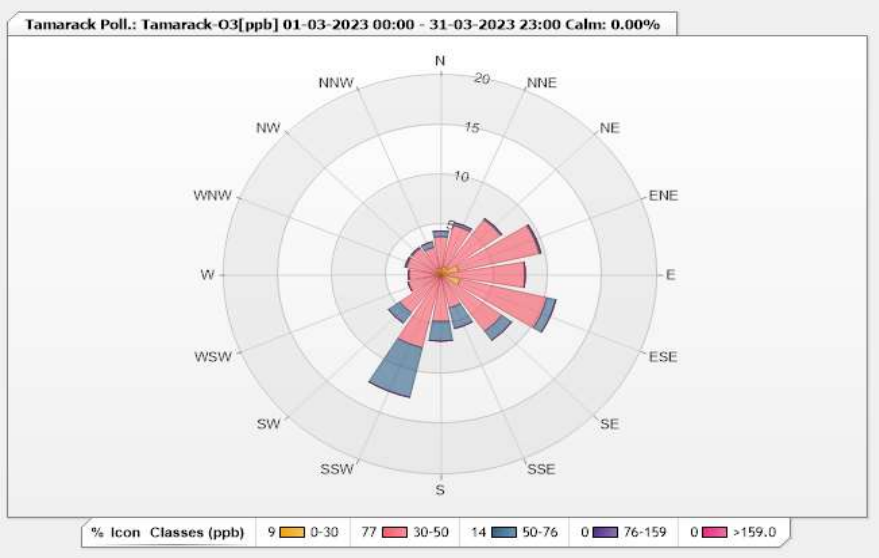


Station: Tamarack Poll.: Tamarack-O3[ppb] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	0.57	3.26	0.57	0	0	4.4
NNE	0.85	4.25	0.28	0	0	5.38
NE	0.85	5.95	0.14	0	0	6.94
ENE	1.7	7.65	0.14	0	0	9.49
E	0.14	7.65	0	0	0	7.79
ESE	1.84	8.22	0.85	0	0	10.91
SE	0.14	6.8	1.13	0	0	8.07
SSE	0.14	3.26	2.12	0	0	5.52
S	0.14	4.53	1.98	0	0	6.65
SSW	0.28	7.22	5.1	0	0	12.6
SW	0.14	4.53	1.27	0	0	5.94
WSW	0.28	2.83	0	0	0	3.11
W	0.57	2.41	0	0	0	2.98
WNW	0.28	2.97	0.14	0	0	3.39
NW	0.28	2.97	0.14	0	0	3.39
NNW	0.71	2.12	0.57	0	0	3.4
Summary	8.91	76.62	14.43	0	0	100



Lakeland Industry & Community Association

Tamarack Site - March 2023

Summary of Hourly Averages

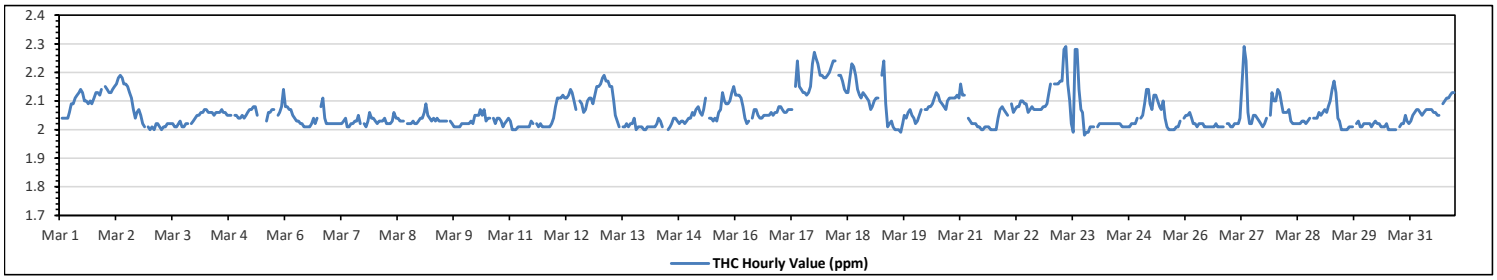
TOTAL HYDROCARBONS (THC) in ppm

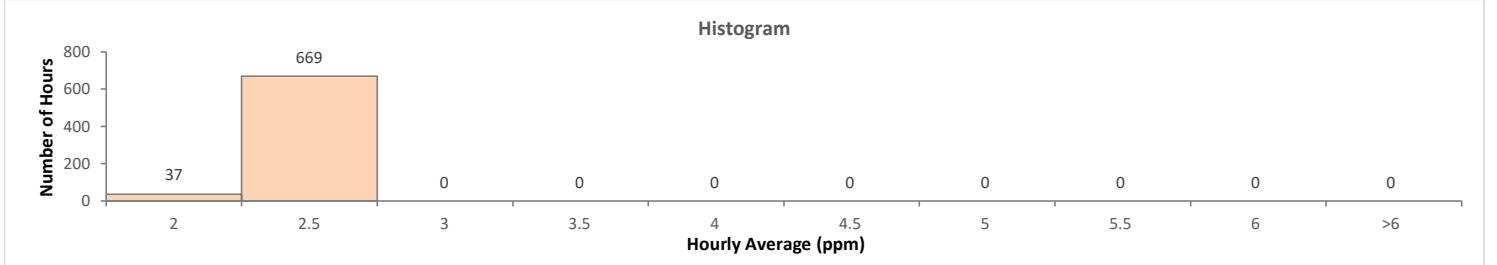
Maximum Hourly Value:	2.29	ppm	on Mar 23 at hr 8	Hours in Service:	744
Maximum Daily Value:	2.17	ppm	on Mar 18	Hours of Data:	706
Minimum Hourly Value:	1.98	ppm	on Mar 23 at hr 18	Hours of Missing Data:	1
Minimum Daily Value:	2.01	ppm	on Mar 11	Hours of Calibration:	37
Monthly Average:	2.06	ppm		Operational 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			
Mar 1	S	2.04	2.04	2.04	2.04	2.06	2.09	2.09	2.11	2.12	2.13	2.14	2.13	2.10	2.10	2.09	2.10	2.09	2.11	2.13	2.13	2.12	2.14	S	2.04	2.14	2.10
Mar 2	2.15	2.14	2.13	2.13	2.14	2.15	2.16	2.18	2.19	2.18	2.16	2.16	2.15	2.13	2.11	2.07	2.04	2.06	2.07	2.05	2.02	2.01	S	2.01	2.01	2.19	2.11
Mar 3	2.00	2.01	2.00	2.02	2.02	2.01	2.00	2.01	2.01	2.02	2.02	2.02	2.02	2.01	2.01	2.02	2.03	2.01	2.01	2.02	2.02	S	2.02	2.03	2.00	2.03	2.01
Mar 4	2.04	2.05	2.05	2.06	2.06	2.07	2.07	2.06	2.06	2.06	2.05	2.06	2.06	2.06	2.07	2.06	2.06	2.05	2.05	2.05	S	2.05	2.05	2.04	2.04	2.07	2.06
Mar 5	2.04	2.05	2.04	2.05	2.06	2.07	2.07	2.08	2.08	2.05	C	C	C	C	2.03	2.06	2.06	2.07	2.07	S	2.05	2.06	2.08	2.14	2.03	2.14	2.06
Mar 6	2.08	2.08	2.07	2.07	2.05	2.04	2.03	2.03	2.02	2.02	2.01	2.01	2.01	2.01	2.02	2.04	2.02	2.04	S	2.08	2.11	2.04	2.02	2.02	2.01	2.11	2.04
Mar 7	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.03	2.04	2.01	2.01	2.02	2.02	2.03	2.03	2.05	2.02	S	2.02	2.01	2.03	2.06	2.04	2.04	2.01	2.06	2.03
Mar 8	2.03	2.02	2.03	2.03	2.03	2.04	2.02	2.02	2.02	2.03	2.06	2.04	2.04	2.03	2.03	2.03	S	2.02	2.02	2.02	2.03	2.02	2.02	2.03	2.02	2.06	2.03
Mar 9	2.04	2.04	2.06	2.09	2.05	2.04	2.03	2.04	2.03	2.04	2.03	2.03	2.03	2.03	2.03	S	2.03	2.02	2.01	2.01	2.01	2.01	2.02	2.02	2.01	2.09	2.03
Mar 10	2.02	2.02	2.02	2.03	2.02	2.05	2.05	2.05	2.07	2.05	2.07	2.03	2.04	2.04	S	2.04	2.02	2.04	2.04	2.03	2.01	2.02	2.03	2.04	2.01	2.07	2.04
Mar 11	2.03	2.00	2.00	2.00	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.03	2.02	S	2.02	2.01	2.02	2.01	2.01	2.01	2.01	2.01	2.02	2.04	2.00	2.04	2.01
Mar 12	2.08	2.11	2.11	2.11	2.12	2.11	2.11	2.12	2.14	2.13	2.10	2.07	S	2.10	2.09	2.06	2.07	2.10	2.11	2.11	2.09	2.12	2.15	2.15	2.06	2.15	2.11
Mar 13	2.16	2.18	2.19	2.17	2.17	2.15	2.15	2.10	2.05	2.03	2.01	S	2.01	2.01	2.02	2.01	2.02	2.02	2.04	2.00	2.01	2.01	2.01	2.00	2.00	2.19	2.07
Mar 14	2.00	2.01	2.01	2.01	2.01	2.01	2.02	2.04	2.03	2.01	S	K	2.00	2.01	2.02	2.04	2.04	2.03	2.02	2.03	2.03	2.02	2.03	2.04	2.00	2.04	2.02
Mar 15	2.04	2.06	2.05	2.07	2.08	2.06	2.05	2.07	2.11	S	2.04	2.04	2.03	2.04	2.03	2.06	2.07	2.13	2.10	2.09	2.09	2.10	2.13	2.15	2.03	2.15	2.07
Mar 16	2.12	2.12	2.12	2.11	2.08	2.04	2.02	2.03	S	2.04	2.07	2.07	2.05	2.04	2.04	2.05	2.05	2.05	2.05	2.06	2.05	2.06	2.06	2.08	2.02	2.12	2.06
Mar 17	2.08	2.07	2.06	2.06	2.07	2.07	2.07	S	2.15	2.24	2.15	2.14	2.13	2.13	2.12	2.13	2.15	2.23	2.27	2.25	2.23	2.19	2.19	2.18	2.06	2.27	2.15
Mar 18	2.18	2.19	2.20	2.22	2.24	2.24	S	2.19	2.19	2.17	2.14	2.13	2.13	2.18	2.23	2.22	2.19	2.14	2.12	2.11	2.13	2.12	2.11	2.10	2.10	2.24	**2.17**
Mar 19	2.07	2.08	2.10	2.11	2.11	S	2.19	2.24	2.09	2.01	2.02	2.03	2.01	2.00	2.00	2.00	1.99	2.02	2.05	2.04	2.06	2.07	2.05	2.04	1.99	2.24	2.06
Mar 20	2.02	2.03	2.05	2.07	S	2.07	2.07	2.08	2.08	2.09	2.11	2.13	2.12	2.10	2.09	2.08	2.07	2.10	2.11	2.11	2.11	2.11	2.12	2.11	2.02	2.13	2.09
Mar 21	2.16	2.12	2.12	S	2.04	2.03	2.02	2.02	2.02	2.01	2.01	2.00	2.00	2.01	2.01	2.01	2.00	2.00	2.00	2.00	2.04	2.07	2.08	2.07	2.00	2.16	2.04
Mar 22	2.06	2.05	S	2.09	2.06	2.07	2.08	2.08	2.10	2.10	2.09	2.09	2.06	2.07	2.08	2.07	2.07	2.07	2.07	2.07	2.08	2.08	2.09	2.13	2.05	2.13	2.08
Mar 23	2.16	S	2.16	2.16	2.16	2.17	2.17	2.28	**2.29**	2.16	2.10	2.02	1.99	2.28	2.28	2.14	2.07	2.06	1.98	1.99	1.99	2.01	2.01	2.01	1.98	**2.29**	2.11
Mar 24	S	2.01	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.01	2.01	2.01	2.01	2.01	2.02	2.02	2.02	2.04	S	2.01	2.04	2.02
Mar 25	2.04	2.05	2.09	2.14	2.14	2.09	2.07	2.12	2.12	2.10	2.08	2.07	2.10	2.04	2.01	2.00	2.00	2.00	2.00	2.01	2.01	2.03	S	2.04	2.00	2.14	2.06
Mar 26	2.05	2.05	2.06	2.04	2.02	2.02	2.01	2.02	2.02	2.02	2.01	2.01	2.01	2.01	2.01	2.01	2.02	2.01	2.01	2.01	2.01	S	2.02	2.02	2.01	2.06	2.02
Mar 27	2.01	2.01	2.02	2.02	2.02	2.04	2.15	**2.29**	2.24	2.06	2.02	2.02	2.05	2.05	2.04	2.03	2.02	2.01	2.02	2.04	S	2.05	2.13	2.10	2.01	**2.29**	2.06
Mar 28	2.10	2.14	2.13	2.09	2.06	2.06	2.06	2.07	2.03	2.02	2.02	2.02	2.02	2.03	2.03	2.02	2.03	2.02	2.04	S	2.04	2.04	2.04	2.06	2.02	2.14	2.05
Mar 29	2.05	2.06	2.07	2.06	2.08	2.10	2.14	2.17	2.13	2.04	2.03	2.00	2.00	2.00	2.00	2.01	2.01	2.01	S	2.02	2.03	2.01	2.01	2.02	2.00	2.17	2.05
Mar 30	2.02	2.02	2.02	2.01	2.02	2.03	2.02	2.02	2.01	2.01	2.01	2.02	2.00	2.00	2.00	2.00	2.00	S	2.01	2.02	2.02	2.05	2.03	2.02	2.00	2.05	2.02
Mar 31	2.03	2.05	2.06	2.07	2.07	2.06	2.05	2.06	2.07	2.07	2.07	2.07	2.06	2.06	2.05	2.05	S	2.09	2.10	2.11	2.11	2.12	2.13	2.13	2.03	2.13	2.08
Diurnal Maximum	2.18	2.19	2.20	2.22	2.24	2.24	2.19	2.29	2.29	2.24	2.16	2.16	2.15	2.28	2.28	2.22	2.19	2.23	2.27	2.25	2.23	2.19	2.19	2.18			
Diurnal Average	2.06	2.06	2.07	2.07	2.07	2.07	2.07	2.09	2.08	2.06	2.06	2.05	2.05	2.06	2.05	2.05	2.04	2.05	2.05	2.05	2.05	2.06	2.06	2.06			

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.



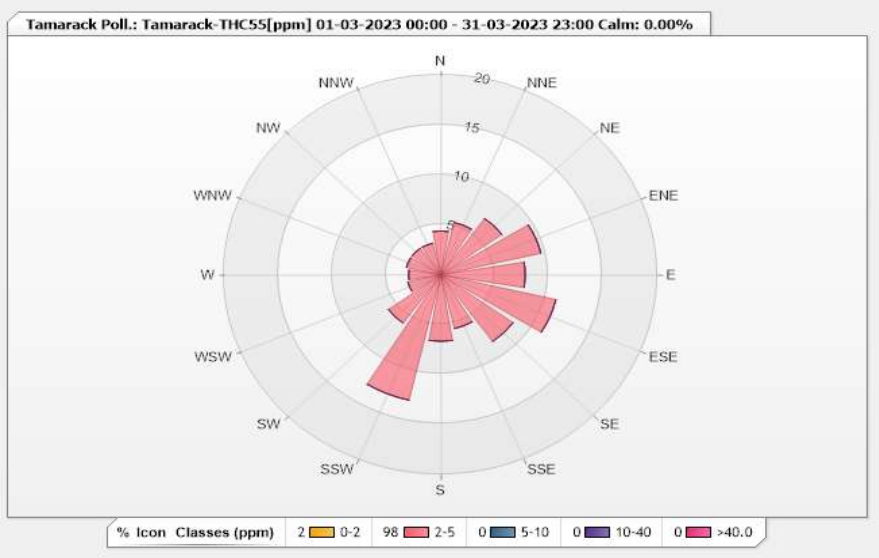


Station: Tamarack Poll.: Tamarack-THC55[ppm] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	0.28	4.11	0	0	0	4.39
NNE	0.42	4.96	0	0	0	5.38
NE	0	6.94	0	0	0	6.94
ENE	0.14	9.35	0	0	0	9.49
E	0.14	7.65	0	0	0	7.79
ESE	0	10.91	0	0	0	10.91
SE	0.14	8.07	0	0	0	8.21
SSE	0.28	5.24	0	0	0	5.52
S	0.14	6.52	0	0	0	6.66
SSW	0	12.89	0	0	0	12.89
SW	0	5.95	0	0	0	5.95
WSW	0	3.12	0	0	0	3.12
W	0	2.97	0	0	0	2.97
WNW	0	3.26	0	0	0	3.26
NW	0.14	3.12	0	0	0	3.26
NNW	0.28	2.97	0	0	0	3.25
Summary	1.96	98.03	0	0	0	100



Lakeland Industry & Community Association

Tamarack Site - March 2023

Summary of Hourly Averages

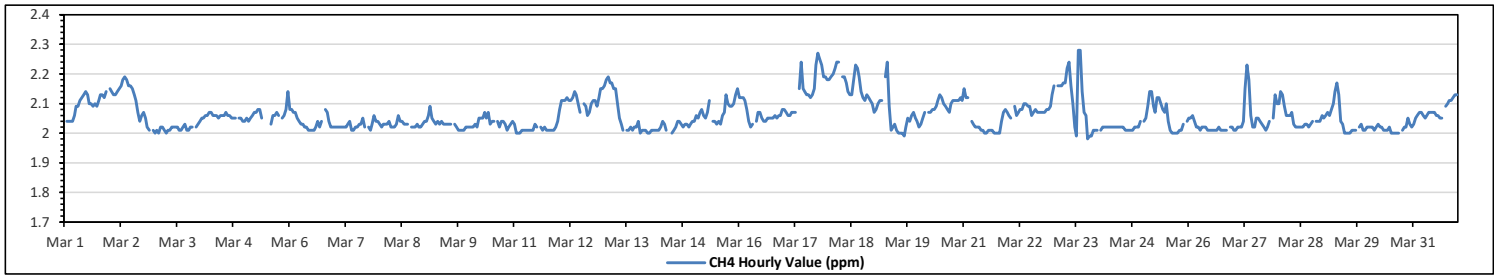
METHANE (CH4) in ppm

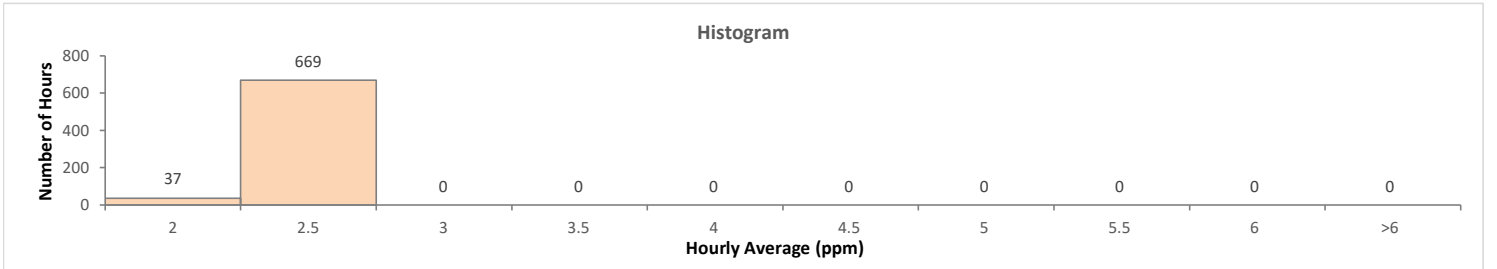
Maximum Hourly Value:	2.28	ppm	on Mar 23 at hr 13	Hours in Service:	744
Maximum Daily Value:	2.17	ppm	on Mar 18	Hours of Data:	706
Minimum Hourly Value:	1.98	ppm	on Mar 23 at hr 18	Hours of Missing Data:	1
Minimum Daily Value:	2.01	ppm	on Mar 11	Hours of Calibration:	37
Monthly Average:	2.06	ppm		Operational 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			
Mar 1	S	2.04	2.04	2.04	2.04	2.06	2.09	2.09	2.11	2.12	2.13	2.14	2.13	2.10	2.10	2.09	2.10	2.09	2.11	2.13	2.13	2.12	2.14	S	2.04	2.14	2.10
Mar 2	2.15	2.14	2.13	2.13	2.14	2.15	2.16	2.18	2.19	2.18	2.16	2.16	2.15	2.13	2.11	2.07	2.04	2.06	2.07	2.05	2.02	2.01	S	2.01	2.01	2.19	2.11
Mar 3	2.00	2.01	2.00	2.02	2.02	2.01	2.00	2.01	2.01	2.02	2.02	2.02	2.02	2.01	2.01	2.02	2.03	2.01	2.01	2.02	2.02	S	2.02	2.03	2.00	2.03	2.01
Mar 4	2.04	2.05	2.05	2.06	2.06	2.07	2.07	2.06	2.06	2.06	2.05	2.06	2.06	2.06	2.07	2.06	2.06	2.05	2.05	2.05	S	2.05	2.05	2.04	2.04	2.07	2.06
Mar 5	2.04	2.05	2.04	2.05	2.06	2.07	2.07	2.08	2.08	2.05	C	C	C	C	2.03	2.06	2.06	2.07	2.06	S	2.05	2.06	2.08	2.14	2.03	2.14	2.06
Mar 6	2.08	2.08	2.07	2.07	2.05	2.04	2.03	2.03	2.02	2.02	2.01	2.01	2.01	2.01	2.02	2.04	2.02	2.04	S	2.08	2.07	2.04	2.02	2.02	2.01	2.08	2.04
Mar 7	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.03	2.04	2.01	2.01	2.02	2.02	2.03	2.03	2.05	2.02	S	2.02	2.01	2.03	2.06	2.04	2.04	2.01	2.06	2.03
Mar 8	2.03	2.02	2.03	2.03	2.03	2.04	2.02	2.02	2.02	2.03	2.06	2.04	2.04	2.03	2.03	2.03	S	2.02	2.02	2.02	2.03	2.02	2.02	2.03	2.02	2.06	2.03
Mar 9	2.04	2.04	2.06	2.09	2.05	2.04	2.03	2.04	2.03	2.04	2.03	2.03	2.03	2.03	2.03	S	2.03	2.02	2.01	2.01	2.01	2.01	2.02	2.02	2.01	2.09	2.03
Mar 10	2.02	2.02	2.02	2.03	2.02	2.05	2.05	2.05	2.07	2.05	2.07	2.03	2.04	2.04	S	2.04	2.02	2.04	2.04	2.03	2.01	2.02	2.03	2.04	2.01	2.07	2.04
Mar 11	2.03	2.00	2.00	2.00	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.03	2.02	S	2.02	2.01	2.02	2.01	2.01	2.01	2.01	2.01	2.02	2.04	2.00	2.04	2.01
Mar 12	2.08	2.11	2.11	2.11	2.12	2.11	2.11	2.12	2.14	2.13	2.10	2.07	S	2.10	2.09	2.06	2.07	2.10	2.11	2.11	2.09	2.12	2.15	2.15	2.06	2.15	2.11
Mar 13	2.16	2.18	2.19	2.17	2.17	2.15	2.15	2.10	2.05	2.03	2.01	S	2.01	2.01	2.02	2.01	2.02	2.02	2.04	2.00	2.01	2.01	2.01	2.00	2.00	2.19	2.07
Mar 14	2.00	2.01	2.01	2.01	2.01	2.01	2.02	2.04	2.03	2.01	S	K	2.00	2.01	2.02	2.04	2.04	2.03	2.02	2.03	2.03	2.02	2.03	2.04	2.00	2.04	2.02
Mar 15	2.04	2.06	2.05	2.07	2.08	2.06	2.05	2.07	2.11	S	2.04	2.04	2.03	2.04	2.03	2.06	2.07	2.13	2.10	2.09	2.09	2.10	2.13	2.15	2.03	2.15	2.07
Mar 16	2.12	2.12	2.12	2.11	2.08	2.04	2.02	2.03	S	2.04	2.07	2.07	2.05	2.04	2.04	2.05	2.05	2.05	2.05	2.06	2.05	2.06	2.06	2.08	2.02	2.12	2.06
Mar 17	2.08	2.07	2.06	2.06	2.07	2.07	2.07	S	2.15	2.24	2.15	2.14	2.13	2.13	2.12	2.13	2.15	2.23	2.27	2.25	2.23	2.19	2.19	2.18	2.06	2.27	2.15
Mar 18	2.18	2.19	2.20	2.22	2.24	2.24	S	2.19	2.19	2.17	2.14	2.13	2.13	2.18	2.23	2.22	2.19	2.14	2.12	2.11	2.13	2.12	2.11	2.10	2.10	2.24	**2.17**
Mar 19	2.07	2.08	2.10	2.11	2.11	S	2.19	2.24	2.09	2.01	2.02	2.03	2.01	2.00	2.00	2.00	1.99	2.02	2.05	2.04	2.06	2.07	2.05	2.04	1.99	2.24	2.06
Mar 20	2.02	2.03	2.05	2.07	S	2.07	2.07	2.08	2.08	2.09	2.11	2.13	2.12	2.10	2.09	2.08	2.07	2.10	2.11	2.11	2.11	2.11	2.12	2.11	2.02	2.13	2.09
Mar 21	2.15	2.12	2.12	S	2.04	2.03	2.02	2.02	2.02	2.01	2.01	2.00	2.00	2.01	2.01	2.01	2.00	2.00	2.00	2.00	2.04	2.07	2.08	2.07	2.00	2.15	2.04
Mar 22	2.06	2.05	S	2.09	2.06	2.07	2.08	2.08	2.10	2.10	2.09	2.09	2.06	2.07	2.08	2.07	2.07	2.07	2.07	2.07	2.08	2.08	2.09	2.13	2.05	2.13	2.08
Mar 23	2.16	S	2.16	2.16	2.16	2.17	2.17	2.22	2.24	2.16	2.10	2.02	1.99	**2.28**	**2.28**	2.14	2.07	2.06	1.98	1.99	1.99	2.01	2.01	2.01	1.98	**2.28**	2.11
Mar 24	S	2.01	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.01	2.01	2.01	2.01	2.01	2.02	2.02	2.02	2.04	S	2.01	2.04	2.02
Mar 25	2.04	2.05	2.09	2.14	2.14	2.09	2.07	2.12	2.12	2.10	2.08	2.07	2.10	2.04	2.01	2.00	2.00	2.00	2.00	2.01	2.01	2.03	S	2.04	2.00	2.14	2.06
Mar 26	2.05	2.05	2.06	2.04	2.02	2.02	2.01	2.02	2.02	2.02	2.01	2.01	2.01	2.01	2.01	2.01	2.02	2.01	2.01	2.01	2.01	S	2.02	2.02	2.01	2.06	2.02
Mar 27	2.01	2.01	2.02	2.02	2.02	2.04	2.15	2.23	2.18	2.06	2.02	2.02	2.05	2.05	2.04	2.03	2.02	2.01	2.02	2.04	S	2.05	2.13	2.10	2.01	2.23	2.06
Mar 28	2.10	2.14	2.13	2.09	2.06	2.06	2.06	2.07	2.03	2.02	2.02	2.02	2.02	2.02	2.03	2.03	2.02	2.03	2.04	S	2.04	2.04	2.04	2.06	2.02	2.14	2.05
Mar 29	2.05	2.06	2.07	2.06	2.08	2.10	2.14	2.17	2.13	2.04	2.03	2.00	2.00	2.00	2.00	2.01	2.01	2.01	S	2.02	2.03	2.01	2.01	2.02	2.00	2.17	2.05
Mar 30	2.02	2.02	2.02	2.01	2.02	2.03	2.02	2.02	2.01	2.01	2.01	2.02	2.00	2.00	2.00	2.00	2.00	S	2.01	2.02	2.02	2.05	2.03	2.02	2.00	2.05	2.02
Mar 31	2.03	2.05	2.06	2.07	2.07	2.06	2.05	2.06	2.07	2.07	2.07	2.07	2.06	2.06	2.05	2.05	S	2.09	2.10	2.11	2.11	2.12	2.13	2.13	2.03	2.13	2.08
Diurnal Maximum	2.18	2.19	2.20	2.22	2.24	2.24	2.19	2.24	2.24	2.24	2.16	2.16	2.15	2.28	2.28	2.22	2.19	2.23	2.27	2.25	2.23	2.19	2.19	2.18			
Diurnal Average	2.06	2.06	2.07	2.07	2.07	2.07	2.07	2.08	2.08	2.06	2.06	2.05	2.05	2.06	2.05	2.05	2.04	2.05	2.05	2.05	2.05	2.06	2.06	2.06			

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.



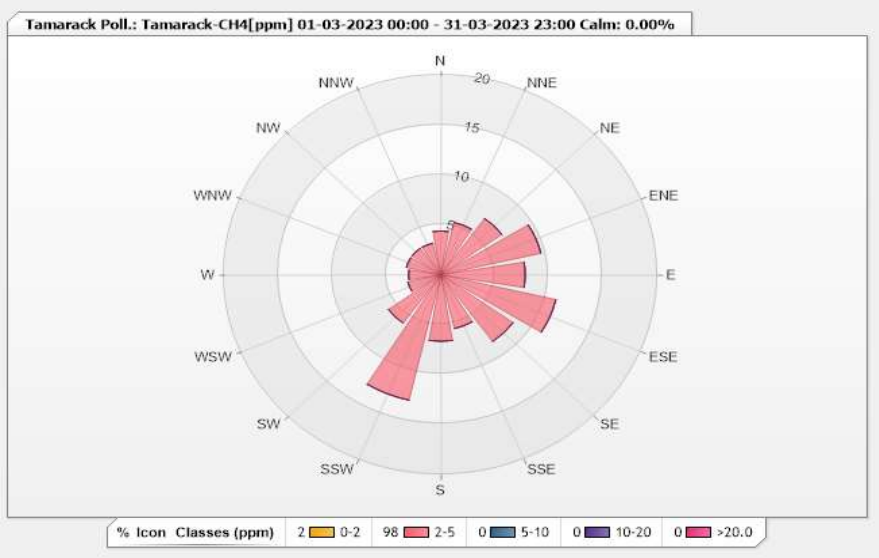


Station: Tamarack Poll.: Tamarack-CH4[ppm] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	0.28	4.11	0	0	0	4.39
NNE	0.42	4.96	0	0	0	5.38
NE	0	6.94	0	0	0	6.94
ENE	0.14	9.35	0	0	0	9.49
E	0.14	7.65	0	0	0	7.79
ESE	0	10.91	0	0	0	10.91
SE	0.14	8.07	0	0	0	8.21
SSE	0.28	5.24	0	0	0	5.52
S	0.14	6.52	0	0	0	6.66
SSW	0	12.89	0	0	0	12.89
SW	0	5.95	0	0	0	5.95
WSW	0	3.12	0	0	0	3.12
W	0	2.97	0	0	0	2.97
WNW	0	3.26	0	0	0	3.26
NW	0.14	3.12	0	0	0	3.26
NNW	0.28	2.97	0	0	0	3.25
Summary	1.96	98.03	0	0	0	100



Lakeland Industry & Community Association

Tamarack Site - March 2023

Summary of Hourly Averages

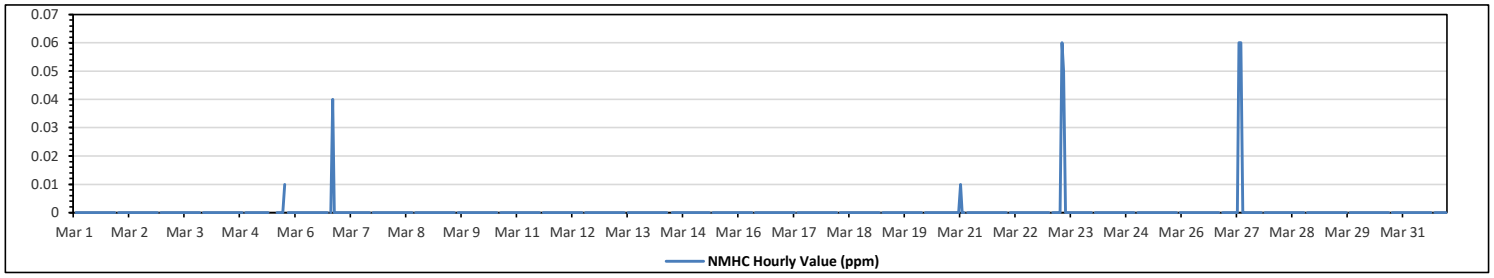
NON-METHANE HYDROCARBONS (NMHC) in ppm

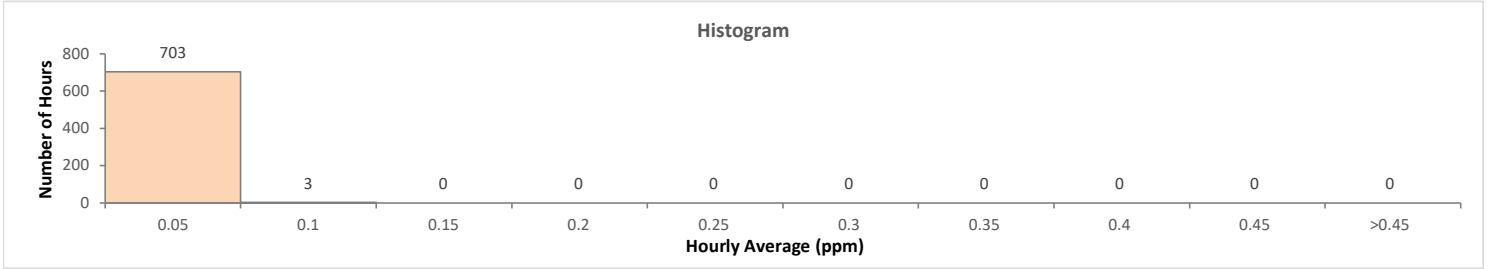
Maximum Hourly Value:	0.06	ppm	on Mar 23 at hr 7	Hours in Service:	744
Maximum Daily Value:	0.01	ppm	on Mar 27	Hours of Data:	706
Minimum Hourly Value:	0.00	ppm	on Mar 1 at hr 1	Hours of Missing Data:	1
Minimum Daily Value:	0.00	ppm	on Mar 1	Hours of Calibration:	37
Monthly Average:	0.00	ppm		Operational 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			
Mar 1	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
Mar 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Mar 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Mar 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Mar 5	0.00	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	0.01	S	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Mar 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	0.04	0.00	0.00	0.00	0.00	0.04	0.00
Mar 7	0.00	0.00	0.00	0.00	0.00	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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 15	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
Mar 16	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
Mar 17	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
Mar 18	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
Mar 19	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
Mar 20	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
Mar 21	0.01	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	0.01	0.00
Mar 22	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
Mar 23	0.00	S	0.00	0.00	0.00	0.00	0.00	0.06	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00
Mar 24	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
Mar 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Mar 26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Mar 27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	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	0.06	0.01
Mar 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	0.00	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
Mar 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 31	0.00	0.00	0.00	0.00	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
Diurnal Maximum	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.04	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.



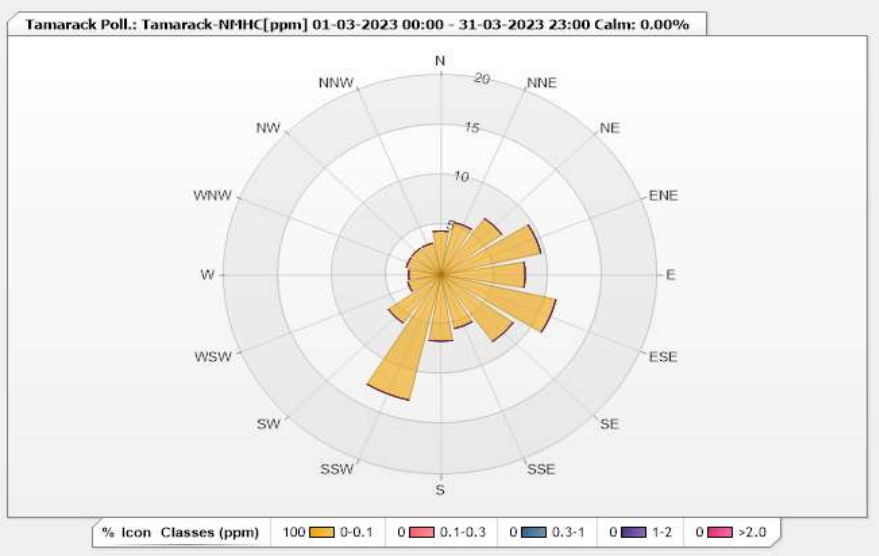


Station: Tamarack Poll.: Tamarack-NMHC[ppm] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	4.39	0	0	0	0	4.39
NNE	5.38	0	0	0	0	5.38
NE	6.94	0	0	0	0	6.94
ENE	9.49	0	0	0	0	9.49
E	7.79	0	0	0	0	7.79
ESE	10.91	0	0	0	0	10.91
SE	8.22	0	0	0	0	8.22
SSE	5.52	0	0	0	0	5.52
S	6.66	0	0	0	0	6.66
SSW	12.89	0	0	0	0	12.89
SW	5.95	0	0	0	0	5.95
WSW	3.12	0	0	0	0	3.12
W	2.97	0	0	0	0	2.97
WNW	3.26	0	0	0	0	3.26
NW	3.26	0	0	0	0	3.26
NNW	3.26	0	0	0	0	3.26
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Tamarack Site - March 2023

Summary of Hourly Averages

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

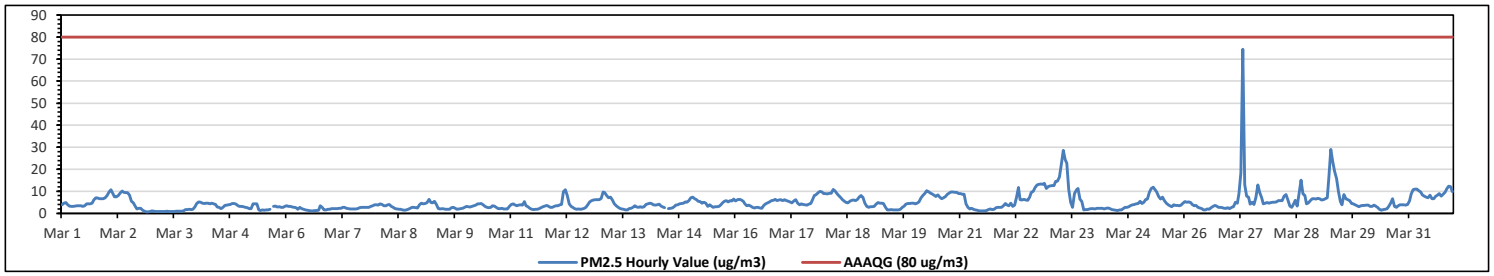
Alberta Ambient Air Quality Guideline (AAAQG): 1-Hour 80 µg/m3, Alberta Ambient Air Quality Objective (AAAQO): 24-Hour 29 µg/m3

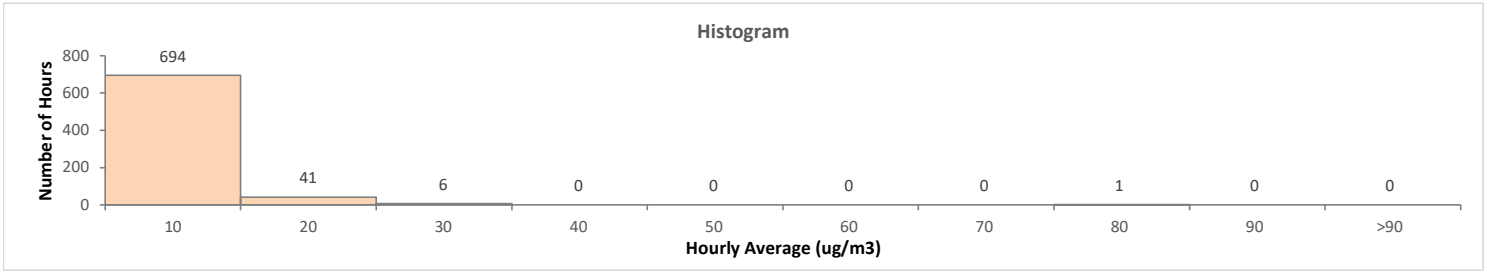
Number of 1-Hour Exceedances:	0	Number of 24-Hour Exceedances:	0
Maximum Hourly Value:	75 µg/m^3 on Mar 27 at hr 7	Hours in Service:	744
Maximum Daily Value:	10.6 µg/m^3 on Mar 23	Hours of Data:	742
Minimum Hourly Value:	1 µg/m^3 on Mar 2 at hr 22	Hours of Missing Data:	1
Minimum Daily Value:	1 µg/m^3 on Mar 3	Hours of Calibration:	1
Monthly Average:	4.9 µg/m^3	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			
Mar 1	4	5	5	4	3	3	3	3	3	3	3	3	4	4	4	4	5	6	7	7	7	7	7	7	3	7	4.7
Mar 2	8	10	11	9	8	8	8	9	10	10	9	9	8	6	5	4	2	2	2	1	1	1	1	1	1	11	5.9
Mar 3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	3	1	3	1.1
Mar 4	4	5	5	5	4	5	5	4	5	4	4	3	3	2	3	4	4	4	4	4	4	4	4	3	2	5	3.9
Mar 5	3	3	3	3	2	2	4	4	4	2	1	2	1	2	2	2	C	3	3	3	3	3	3	3	1	4	2.6
Mar 6	4	3	3	3	3	3	2	3	2	2	2	1	1	1	1	1	1	1	4	3	2	2	2	2	1	4	2.1
Mar 7	2	2	2	2	2	2	3	3	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	4	2	4	2.5
Mar 8	4	4	4	4	4	3	4	4	3	3	2	2	2	2	2	1	2	2	2	3	3	3	2	4	1	4	2.8
Mar 9	5	4	4	5	6	5	5	5	4	2	2	2	2	2	2	2	3	3	2	2	2	2	2	3	2	6	3.1
Mar 10	3	3	3	3	3	4	4	4	4	4	3	3	3	3	3	3	3	2	2	2	2	2	2	3	2	4	3.0
Mar 11	4	4	4	4	4	4	4	5	4	3	2	2	2	2	2	2	3	3	3	4	3	3	3	3	2	5	3.1
Mar 12	3	4	4	4	10	11	8	4	3	3	2	2	2	2	2	2	3	4	5	6	6	6	6	6	2	11	4.5
Mar 13	7	10	9	8	7	7	6	4	4	3	2	2	2	2	2	2	2	3	4	3	3	3	3	3	2	10	4.1
Mar 14	4	4	5	4	4	4	4	4	3	3	3	K	2	2	2	3	4	4	4	4	5	5	5	6	2	6	3.8
Mar 15	7	7	7	6	6	5	5	5	5	3	4	3	3	3	3	3	4	5	6	6	5	6	6	7	3	7	4.9
Mar 16	6	6	6	6	5	4	4	4	3	3	2	3	3	2	2	4	4	5	5	6	6	6	6	6	2	6	4.5
Mar 17	6	6	6	6	6	5	5	6	6	5	4	4	4	4	4	4	4	6	8	9	9	10	10	9	4	10	6.0
Mar 18	9	9	9	9	11	10	9	8	7	6	5	5	5	5	6	6	6	6	7	8	7	5	3	3	3	11	6.9
Mar 19	3	3	3	4	5	5	5	4	3	2	2	2	2	2	2	2	3	3	3	4	4	4	5	5	2	5	3.1
Mar 20	4	5	5	7	8	9	10	10	9	9	8	8	8	7	7	7	8	9	9	10	10	10	10	9	4	10	8.1
Mar 21	9	9	9	4	3	2	2	2	2	1	1	1	1	1	1	2	2	2	2	3	3	3	3	3	1	9	2.9
Mar 22	4	4	4	5	3	4	7	12	6	6	6	6	6	7	10	10	12	13	13	13	13	14	11	12	3	14	8.4
Mar 23	13	13	13	14	15	17	22	29	24	23	11	5	3	9	11	11	7	5	2	2	2	2	2	2	2	29	10.6
Mar 24	2	2	2	2	2	2	2	2	2	2	2	1	1	2	2	2	3	3	3	4	4	4	4	4	1	4	2.5
Mar 25	5	4	5	6	7	10	11	12	11	10	8	7	7	6	5	4	3	3	4	4	4	4	4	5	3	12	6.1
Mar 26	5	5	5	5	4	3	4	3	2	2	2	2	2	2	3	3	4	3	3	3	3	2	2	3	2	5	3.0
Mar 27	2	3	3	5	5	9	19	75	13	8	7	4	5	4	7	13	9	7	4	5	5	5	5	5	2	75	9.4
Mar 28	5	5	6	6	6	8	9	6	3	3	4	6	3	9	15	9	8	4	5	6	7	7	7	7	3	15	6.3
Mar 29	7	6	6	7	7	16	29	24	19	16	10	5	4	9	7	6	6	4	4	4	3	3	3	4	3	29	8.7
Mar 30	4	4	4	3	3	4	3	3	2	1	2	2	2	3	5	7	3	3	4	4	4	4	4	4	1	7	3.3
Mar 31	6	9	11	11	11	10	10	8	8	7	7	8	7	7	8	8	9	8	9	10	11	12	12	10	6	12	8.9
Diurnal Maximum	13	13	13	14	15	17	29	75	24	23	11	9	8	9	15	13	12	13	13	13	13	14	12	12			
Diurnal Average	4.9	5.2	5.3	5.3	5.3	5.9	6.9	8.7	5.7	4.8	4.0	3.5	3.2	3.6	4.1	4.3	4.2	4.2	4.4	4.6	4.6	4.6	4.5	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.



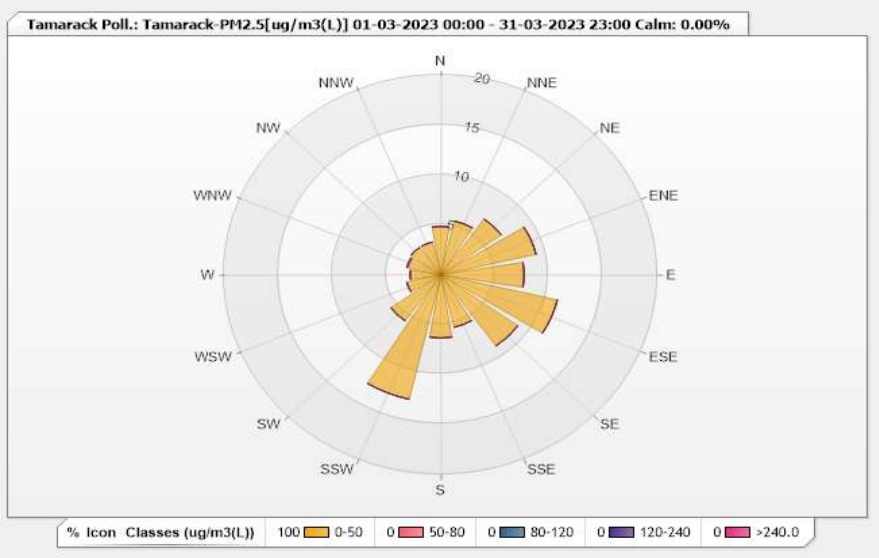


Station: Tamarack Poll.: Tamarack-PM2.5[ug/m3(L)] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 99.73% Calm Avg: 0.00 [ppm]

Direction	0-50	50-80	80-120	120-240	>240.0	Total
N	4.85	0	0	0	0	4.85
NNE	5.53	0	0	0	0	5.53
NE	6.87	0	0	0	0	6.87
ENE	9.03	0	0	0	0	9.03
E	7.68	0	0	0	0	7.68
ESE	11.05	0	0	0	0	11.05
SE	8.76	0	0	0	0	8.76
SSE	5.39	0	0	0	0	5.39
S	6.33	0	0	0	0	6.33
SSW	12.8	0	0	0	0	12.8
SW	5.66	0	0	0	0	5.66
WSW	3.23	0	0	0	0	3.23
W	2.83	0	0	0	0	2.83
WNW	3.1	0.13	0	0	0	3.23
NW	3.37	0	0	0	0	3.37
NNW	3.37	0	0	0	0	3.37
Summary	100	0.13	0	0	0	100



Lakeland Industry & Community Association

Tamarack Site - March 2023

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

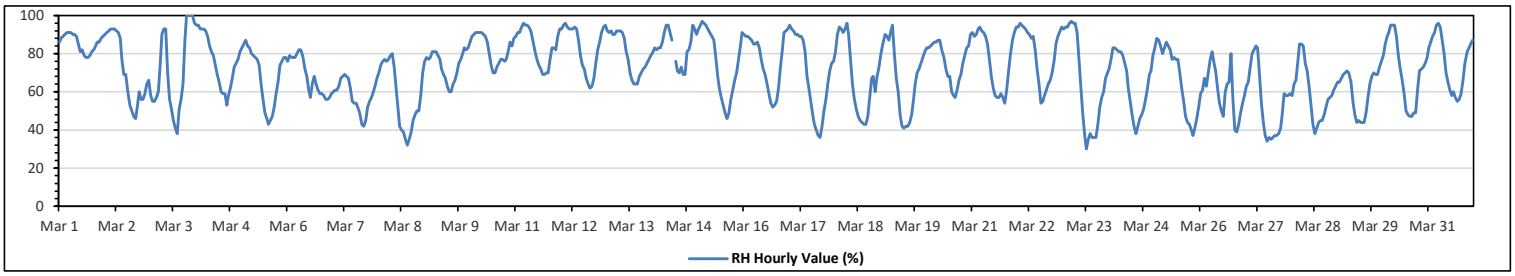
Maximum Hourly Value:	100	%	on Mar 3 at hr 19	Hours in Service:	744
Maximum Daily Value:	85.5	%	on Mar 1	Hours of Data:	743
Minimum Hourly Value:	30	%	on Mar 23 at hr 12	Hours of Missing Data:	1
Minimum Daily Value:	54.6	%	on Mar 27	Hours of Calibration:	0
Monthly Average:	71.2	%		Operational Uptime:	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			
Mar 1	86	88	89	90	91	91	91	90	90	89	85	81	82	79	78	78	79	81	82	84	86	86	88	89	78	91	**85.5**
Mar 2	90	91	92	93	93	93	92	91	88	77	69	69	61	53	50	47	46	53	60	56	56	59	64	66	46	93	71.2
Mar 3	58	55	55	57	60	75	90	93	93	70	56	51	45	41	38	51	56	64	87	**100**	**100**	**100**	**100**	96	38	**100**	70.5
Mar 4	95	95	93	93	93	92	89	84	81	79	74	69	65	60	59	59	53	58	62	67	73	75	77	81	53	95	76.1
Mar 5	83	85	87	84	83	80	79	78	77	74	64	56	49	46	43	45	47	52	59	65	74	76	78	78	43	87	68.4
Mar 6	76	79	78	78	78	80	82	82	79	72	68	61	57	64	68	64	61	59	59	58	56	56	57	59	56	82	68.0
Mar 7	60	61	61	63	67	68	69	68	67	62	55	54	54	52	49	43	42	45	52	55	57	60	63	67	42	69	58.1
Mar 8	70	74	76	77	76	77	79	80	73	62	51	42	40	39	35	32	35	39	45	48	50	50	58	70	32	80	57.4
Mar 9	76	78	77	78	81	81	81	79	77	72	69	67	63	60	60	64	66	70	75	77	80	83	82	83	60	83	74.1
Mar 10	86	89	90	91	91	91	91	90	89	86	80	74	70	70	73	75	77	77	76	77	81	86	84	88	70	91	82.6
Mar 11	89	91	91	94	96	95	95	94	92	87	82	77	74	72	69	69	70	70	77	83	83	82	89	93	69	96	83.9
Mar 12	93	95	96	94	93	93	93	94	93	87	79	74	72	67	64	62	63	67	75	82	86	91	94	95	62	96	83.4
Mar 13	92	91	92	90	90	92	92	92	91	88	81	77	70	66	64	64	64	68	70	72	73	75	77	79	64	92	79.6
Mar 14	81	83	82	83	83	86	91	95	95	91	87	**K**	76	71	70	73	69	69	81	82	86	95	93	90	69	95	83.1
Mar 15	93	95	97	96	95	93	91	89	87	78	68	62	57	53	49	46	49	56	61	66	70	77	84	91	46	97	75.1
Mar 16	90	89	89	88	87	85	85	86	83	77	72	69	65	59	54	52	53	55	62	73	82	91	92	93	52	93	76.3
Mar 17	95	93	92	90	90	89	89	87	81	68	63	56	49	43	40	37	36	42	50	56	64	71	75	76	36	95	68.0
Mar 18	81	90	94	93	91	93	96	90	77	64	56	51	47	45	44	43	43	47	57	67	68	60	68	73	43	96	68.3
Mar 19	80	85	90	89	87	91	95	80	67	60	48	42	41	42	42	44	48	56	64	70	72	75	78	81	41	95	67.8
Mar 20	83	83	84	85	86	86	87	87	82	78	72	68	68	60	58	57	61	66	69	75	79	83	84	90	57	90	76.3
Mar 21	91	89	90	93	94	92	91	89	85	77	68	62	58	57	57	59	57	54	61	71	80	87	91	94	54	94	77.0
Mar 22	94	96	95	94	93	91	90	88	89	82	72	64	54	55	58	61	64	66	70	76	85	89	92	94	54	96	79.7
Mar 23	93	94	94	96	97	96	96	91	77	62	48	37	**30**	35	38	36	36	36	43	52	57	60	67	70	**30**	97	64.2
Mar 24	72	77	83	83	82	81	81	79	75	71	62	55	48	42	38	42	46	48	51	56	62	69	71	79	38	83	64.7
Mar 25	83	88	87	84	80	83	86	84	82	77	78	77	77	70	62	55	47	44	43	40	37	41	46	52	37	88	66.8
Mar 26	59	61	67	63	70	77	81	75	71	62	54	50	47	60	64	65	80	56	40	39	43	49	54	58	39	81	60.2
Mar 27	63	65	73	80	82	84	83	69	54	44	37	34	36	35	36	37	37	38	41	48	59	58	58	59	34	84	**54.6**
Mar 28	58	64	66	76	85	85	84	75	71	63	53	43	38	41	44	45	45	48	52	56	57	58	61	63	38	85	59.6
Mar 29	65	65	67	69	70	71	70	65	55	48	44	45	44	44	44	49	57	64	68	70	69	69	73	76	44	76	60.9
Mar 30	79	85	89	91	95	95	95	89	79	72	66	59	50	48	47	47	49	49	61	71	72	73	75	78	47	95	71.4
Mar 31	83	86	89	91	95	96	94	87	80	70	65	61	58	60	57	55	56	59	66	75	81	83	85	87	55	96	75.8
Diurnal Maximum	95	96	97	96	97	96	96	95	95	91	87	81	82	79	78	78	80	81	87	100	100	100	100	96			
Diurnal Average	80.5	82.6	84.0	84.7	85.6	86.5	87.4	84.5	80.0	72.5	65.4	59.6	56.3	54.5	53.3	53.4	54.6	56.6	61.9	66.7	70.3	73.1	76.1	79.0			

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 - March 2023

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

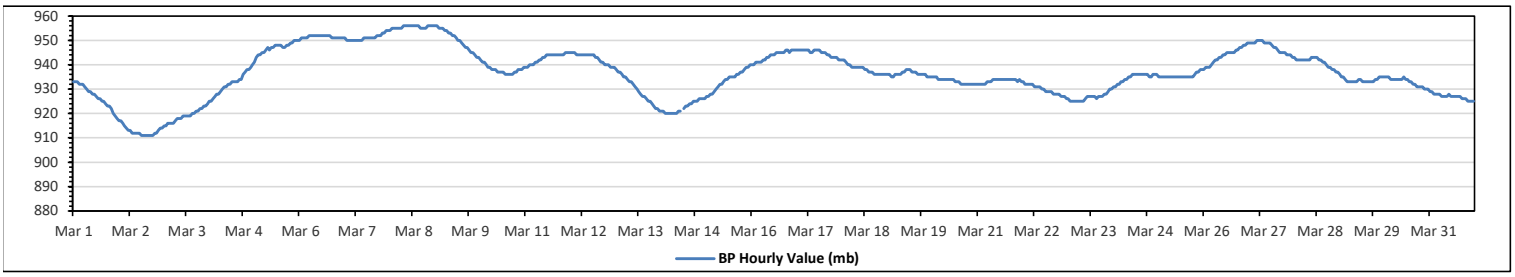
Maximum Hourly Value:	956	mb	on Mar 8 at hr 7	Hours in Service:	744
Maximum Daily Value:	956	mb	on Mar 8	Hours of Data:	743
Minimum Hourly Value:	911	mb	on Mar 2 at hr 12	Hours of Missing Data:	1
Minimum Daily Value:	913	mb	on Mar 2	Hours of Calibration:	0
Monthly Average:	937	mb		Operational Uptime:	99.9

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
Mar 1	933	933	933	932	932	932	931	930	929	929	928	928	927	926	926	925	925	924	923	923	922	920	919	918	918	933	927
Mar 2	917	917	916	915	914	913	913	912	912	912	912	912	**911**	**911**	**911**	**911**	**911**	**911**	**911**	912	912	913	914	914	**911**	917	**913**
Mar 3	915	915	916	916	916	916	917	918	918	918	919	919	919	919	919	920	920	921	921	922	922	923	923	924	915	924	919
Mar 4	925	925	926	927	928	928	929	930	931	931	932	932	933	933	933	933	934	934	936	937	938	938	939	940	925	940	932
Mar 5	941	943	944	944	945	945	946	947	946	947	947	948	948	948	948	947	947	948	948	949	949	950	950	950	941	950	947
Mar 6	950	951	951	951	951	952	952	952	952	952	952	952	952	952	952	952	952	951	951	951	951	951	951	951	950	952	951
Mar 7	951	950	950	950	950	950	950	950	950	950	951	951	951	951	951	951	951	952	952	952	953	953	954	954	950	954	951
Mar 8	954	955	955	955	955	955	955	**956**	**956**	**956**	**956**	**956**	**956**	**956**	**956**	**956**	955	955	955	955	**956**	**956**	**956**	**956**	954	**956**	**956**
Mar 9	**956**	**956**	955	955	955	954	954	953	953	952	952	951	950	950	949	948	947	947	946	945	945	944	943	943	943	**956**	950
Mar 10	942	941	941	940	939	939	938	938	938	937	937	937	937	936	936	936	936	936	937	937	938	938	938	939	936	942	938
Mar 11	939	939	940	940	940	941	941	942	942	943	943	944	944	944	944	944	944	944	944	944	944	945	945	945	939	945	943
Mar 12	945	945	945	944	944	944	944	944	944	944	944	944	944	943	943	942	941	941	940	940	940	939	939	939	939	945	943
Mar 13	938	937	937	936	935	935	934	933	933	932	931	930	929	928	927	927	926	925	925	924	923	922	922	921	921	938	930
Mar 14	921	921	920	920	920	920	920	920	920	921	921	**K**	922	923	923	924	924	925	925	925	926	926	926	926	920	926	923
Mar 15	927	927	928	928	929	930	931	932	932	933	934	934	935	935	935	935	936	936	937	937	938	939	939	940	927	940	934
Mar 16	940	940	941	941	941	941	942	942	943	943	944	944	944	945	945	945	945	945	946	946	945	946	946	946	940	946	944
Mar 17	946	946	946	946	946	946	946	945	945	946	946	946	946	945	945	945	944	944	943	943	943	943	942	942	942	946	945
Mar 18	942	942	941	940	940	939	939	939	939	939	939	939	938	938	937	937	937	936	936	936	936	936	936	936	936	942	938
Mar 19	936	936	935	935	936	936	936	936	937	937	938	938	938	937	937	937	936	936	936	936	936	935	935	935	935	938	936
Mar 20	935	935	935	934	934	934	934	934	934	934	934	934	933	933	933	932	932	932	932	932	932	932	932	932	932	935	933
Mar 21	932	932	932	932	932	933	933	933	934	934	934	934	934	934	934	934	934	934	934	934	934	933	934	933	932	934	933
Mar 22	933	932	932	932	932	932	931	931	931	931	930	930	929	929	929	929	928	928	928	928	927	927	927	926	926	933	930
Mar 23	926	925	925	925	925	925	925	925	925	926	927	927	927	927	927	926	927	927	927	928	928	929	930	930	925	930	927
Mar 24	931	931	932	932	933	933	934	934	935	935	936	936	936	936	936	936	936	936	936	935	935	936	936	936	931	936	935
Mar 25	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	936	937	937	938	938	935	938	935
Mar 26	938	939	939	939	940	941	942	942	943	943	944	944	945	945	945	945	945	946	946	947	947	948	948	949	938	949	944
Mar 27	949	949	949	949	950	950	950	950	949	949	949	949	948	947	947	946	945	945	945	945	944	944	944	943	943	950	947
Mar 28	943	942	942	942	942	942	942	942	942	943	943	943	943	942	942	941	941	940	939	939	938	938	937	937	937	943	941
Mar 29	936	935	935	934	933	933	933	933	933	933	934	934	933	933	933	933	933	933	933	934	934	935	935	935	933	936	934
Mar 30	935	935	935	934	934	934	934	934	934	934	935	934	934	933	933	932	932	931	931	931	931	930	930	930	930	935	933
Mar 31	929	929	928	928	928	928	927	927	927	927	928	927	927	927	927	927	927	926	926	926	925	925	925	925	925	929	927
Diurnal Maximum	956	956	955	955	955	955	955	956	956	956	956	956	956	956	956	956	955	955	955	955	956	956	956	956			
Diurnal Average	937	937	937	936	937	937	937	937	937	937	937	938	937	937	937	936	936	936	936	936	936	936	937	937			

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 - March 2023

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

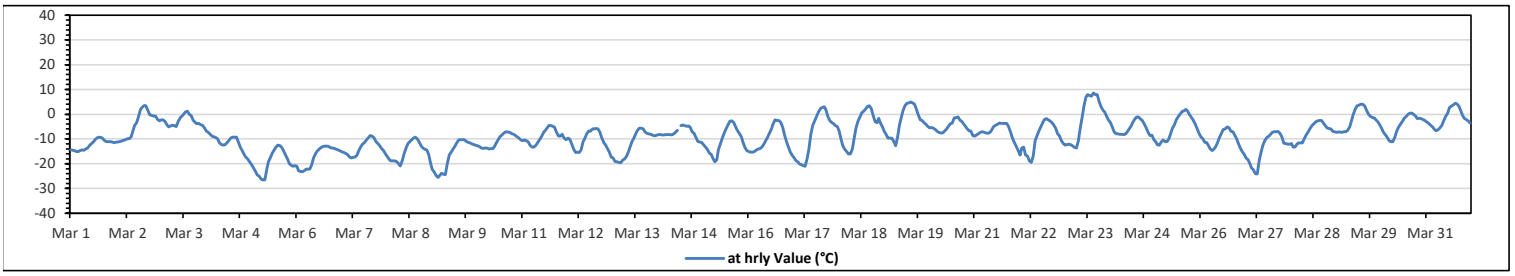
Maximum Hourly Value:	8.5	°C	on Mar 23 at hr 15	Hours in Service:	744	
Maximum Daily Value:	-1.5	°C	on Mar 31	Hours of Data:	743	
Minimum Hourly Value:	-26.6	°C	on Mar 5 at hr 6	Hours of Missing Data:	1	
Minimum Daily Value:	-19.4	°C	on Mar 5	Hours of Calibration:	0	
Monthly Average:	-8.8	°C		Operational 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			
Mar 1	-14.3	-14.6	-14.8	-15	-15	-14.7	-14.5	-14.6	-14.1	-13.7	-12.7	-11.8	-11.2	-10.2	-9.5	-9.3	-9.4	-9.8	-10.7	-11.1	-11.1	-11.1	-11.2	-11.5	-15.0	-9.3	-12.3
Mar 2	-11.3	-11.2	-11	-10.8	-10.6	-10.3	-10	-9.9	-9.1	-6.9	-4.4	-3.5	-1	1.8	2.9	3.5	3.4	1.6	-0.2	-0.5	-0.8	-0.7	-2	-2.7	-11.3	3.5	-4.3
Mar 3	-2.2	-2.2	-2.8	-4.1	-5.1	-4.7	-4.5	-4.6	-5	-3	-1.6	-0.7	0.2	0.9	1.2	0	-0.6	-2.2	-3.2	-3.9	-3.8	-4.2	-4.5	-5.5	-5.5	1.2	-2.8
Mar 4	-6.8	-7.4	-8.2	-8.8	-9.1	-9.4	-10	-11.6	-12.3	-12.5	-12.3	-11.6	-10.7	-9.7	-9.3	-9.3	-9.3	-11.2	-13.3	-14.8	-16.2	-17.2	-18	-19.2	-19.2	-6.8	-11.6
Mar 5	-20.3	-21.7	-23	-24.5	-25.1	-26.1	**-26.6**	-26.5	-22.1	-19.3	-17.5	-15.7	-14.5	-13.4	-12.5	-12.7	-13.3	-14.7	-16.4	-17.9	-19.8	-20.7	-21	-20.8	**-26.6**	-12.5	**-19.4**
Mar 6	-21.1	-22.9	-23.1	-23.2	-22.8	-22.2	-22.2	-22.2	-20.5	-17.6	-16	-14.9	-14.1	-13.4	-13	-12.9	-12.9	-13	-13.5	-13.6	-13.8	-14.2	-14.5	-14.9	-23.2	-12.9	-17.2
Mar 7	-15.2	-15.5	-15.8	-16.4	-17.3	-17.6	-17.4	-17.2	-16.5	-14.9	-13.2	-12.2	-11.5	-10.5	-9.5	-8.6	-8.8	-9.5	-11	-11.9	-12.8	-13.8	-14.6	-15.9	-17.6	-8.6	-13.7
Mar 8	-17.1	-18.2	-18.8	-18.9	-18.8	-19.1	-19.9	-20.9	-18.9	-16	-13.6	-11.8	-11	-10.5	-9.7	-9.3	-10	-11.2	-12.8	-13.7	-14.2	-14.5	-16.4	-20	-20.9	-9.3	-15.2
Mar 9	-22.3	-23.4	-24.8	-25.6	-24.7	-23.8	-24.3	-24.4	-19.8	-16.5	-15.3	-14	-12.9	-11.4	-10.4	-10.3	-10.3	-10.4	-10.9	-11.3	-11.6	-12	-12.3	-12.6	-25.6	-10.3	-16.5
Mar 10	-12.8	-13	-13.7	-13.8	-13.7	-13.7	-14	-13.9	-13.9	-13.1	-11.6	-10.3	-9	-8.4	-7.6	-7.1	-7.2	-7.4	-7.9	-8.2	-8.5	-9.1	-9.6	-10.5	-14.0	-7.1	-10.8
Mar 11	-10.7	-10.5	-10.7	-11.2	-12.7	-13.3	-13.2	-12.5	-11.3	-10.2	-8.8	-7.3	-6.4	-5.6	-4.5	-4.6	-4.8	-5.3	-7.2	-8.7	-8.8	-8.1	-9.6	-10.4	-13.3	-4.5	-9.0
Mar 12	-9.6	-10.2	-12.2	-14.2	-15.4	-15.3	-15.5	-14.5	-11.2	-9.7	-7.9	-6.8	-6.8	-5.9	-5.9	-5.8	-6	-7.3	-9.6	-11.5	-12.5	-13.8	-15.2	-17.2	-17.2	-5.8	-10.8
Mar 13	-17.7	-19.1	-19.2	-19.5	-19.6	-18.6	-18.1	-17.1	-15.2	-13.3	-11.1	-9.7	-7.9	-6.5	-5.7	-5.7	-6	-7.2	-7.7	-8	-8.1	-8.5	-8.7	-8.5	-19.6	-5.7	-11.9
Mar 14	-8.3	-8.3	-8.4	-8.4	-8.3	-8.3	-8.3	-8.4	-8	-7.4	-6.5	**K**	-4.6	-4.3	-4.6	-4.8	-4.7	-5.3	-7	-7.7	-9.4	-11	-11.2	-11.5	-11.5	-4.3	-7.6
Mar 15	-12.4	-13.2	-14.3	-15.7	-16.3	-17.8	-19.2	-18.5	-14.5	-12.1	-9.8	-7.8	-5.9	-4.3	-2.8	-2.7	-3.4	-5.1	-6.7	-7.9	-9.1	-11.3	-13.4	-14.7	-19.2	-2.7	-10.8
Mar 16	-15.1	-15.3	-15.3	-15	-14.4	-14.1	-13.9	-13.2	-12.2	-10.7	-9.2	-7.6	-5.9	-4	-2.3	-2.5	-2.6	-3.4	-5.3	-8.5	-11.1	-13.2	-15.3	-16.7	-16.7	-2.3	-10.3
Mar 17	-17.7	-18.7	-19.2	-20.1	-20.4	-20.8	-21	-18.2	-14.1	-8.2	-4.4	-2.7	-0.9	0.9	2.2	2.7	3	1.8	-0.9	-2.5	-3.3	-3.9	-4.6	-5	-21.0	3.0	-8.2
Mar 18	-7	-10.5	-12.8	-14.2	-15	-16.1	-16	-13.9	-9.2	-5.7	-3	-1.3	0.5	1.2	2.1	3.1	3.4	2.2	-0.6	-3.1	-3.5	-1.7	-3.7	-5.1	-16.1	3.4	-5.4
Mar 19	-6.8	-8.2	-9.7	-9.7	-9.7	-10.9	-12.8	-9.3	-4.3	-1.2	1.9	3.7	4.4	4.6	4.9	4.6	4.1	2	-0.4	-2.3	-2.6	-3.3	-4	-4.8	-12.8	4.9	-2.9
Mar 20	-5.6	-5.4	-5.7	-6.2	-6.9	-7.3	-7.6	-7.6	-6.8	-6.1	-4.9	-3.9	-3.6	-1.6	-1.4	-1.2	-2.4	-2.8	-3.9	-4.8	-5.8	-6.6	-6.8	-8.6	-8.6	-1.2	-5.1
Mar 21	-8.8	-8.4	-7.9	-7.3	-7.1	-7.3	-7.6	-7.8	-7.3	-6.4	-5	-4.5	-4.1	-3.6	-3.7	-3.8	-3.8	-3.8	-5	-7.2	-9.6	-11.4	-13	-14.7	-14.7	-3.6	-7.0
Mar 22	-16.5	-13.6	-13.3	-16.5	-17	-18.9	-19.4	-17	-10.7	-8.6	-6.6	-5	-3.3	-2.1	-1.8	-2.2	-2.7	-3.3	-4.3	-5.7	-7.9	-8.7	-10.7	-11.8	-19.4	-1.8	-9.5
Mar 23	-12.6	-12.3	-12.2	-12.4	-12.9	-13.4	-13.7	-10.8	-5.6	-1.1	3.7	6.9	7.9	7.5	7.3	**8.5**	7.9	7.9	5.1	3	1.6	0.9	-0.8	-2.2	-13.7	**8.5**	-1.7
Mar 24	-3.3	-5.1	-7.2	-7.9	-8	-8.1	-8.2	-8.3	-8	-7.1	-5.9	-4.7	-3.4	-2	-1.2	-1.2	-1.9	-2.6	-4	-5.6	-7.4	-8.6	-8.5	-10.4	-10.4	-1.2	-5.8
Mar 25	-11.2	-12.4	-12.5	-11.2	-10.5	-11	-11	-9.9	-8	-5.7	-4.3	-2.2	-1	0.1	1	1.3	2	1.3	0	-1.3	-2.4	-4	-5.8	-7.7	-12.5	2.0	-5.3
Mar 26	-9.1	-9.9	-11.3	-11.5	-12.8	-14	-14.8	-14.1	-13.1	-11.4	-9.4	-7.7	-6.2	-5.9	-5.2	-5.5	-6.9	-7.1	-8.5	-10.1	-12.1	-13.7	-15.1	-16.1	-16.1	-5.2	-10.5
Mar 27	-17.6	-18.3	-20	-21.7	-22.5	-23.9	-24.1	-18.9	-15.3	-12.4	-10.6	-9.4	-8.9	-8.3	-7.4	-7	-7	-6.9	-7.8	-9.1	-11.7	-11.9	-12.2	-12.2	-24.1	-6.9	-13.5
Mar 28	-11.9	-13.3	-13.2	-12.2	-11.6	-11.6	-11.6	-9.9	-8.4	-7.2	-5.8	-4.6	-3.9	-3.1	-2.7	-2.6	-2.6	-3.5	-4.5	-5.5	-5.8	-6	-6.9	-7.1	-13.3	-2.6	-7.3
Mar 29	-7.4	-7.2	-7.2	-7.3	-7.1	-7	-6.4	-5.1	-2.4	0	2	3.4	3.7	4	4.1	3.3	1.5	0	-0.9	-1.4	-1.6	-2.2	-3.1	-4.3	-7.4	4.1	-2.0
Mar 30	-5.5	-7.2	-8.3	-9.2	-10.7	-11	-11	-9.2	-6.8	-5.2	-4	-2.8	-1.5	-1	-0.1	0.4	0.4	-0.1	-0.8	-1.8	-1.7	-1.8	-2.1	-2.5	-11.0	0.4	-4.3
Mar 31	-3.2	-3.8	-4.4	-5.1	-6.2	-6.7	-6.3	-5.5	-4.4	-2.5	-0.9	0.4	2.7	3.3	3.8	4.4	4.2	3.2	1.4	-0.6	-1.7	-2.1	-2.7	-3.6	-6.7	4.4	**-1.5**
Diurnal Maximum	-2.2	-2.2	-2.8	-4.1	-5.1	-4.7	-4.5	-4.6	-2.4	0.0	3.7	6.9	7.9	7.5	7.3	8.5	7.9	7.9	5.1	3.0	1.6	0.9	-0.8	-2.2			
Diurnal Average	-11.7	-12.3	-12.9	-13.5	-13.8	-14.1	-14.3	-13.4	-11.3	-9.2	-7.4	-6.0	-4.9	-3.9	-3.3	-3.1	-3.4	-4.3	-5.8	-7.0	-8.0	-8.7	-9.6	-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

Tamarack Site - March 2023

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

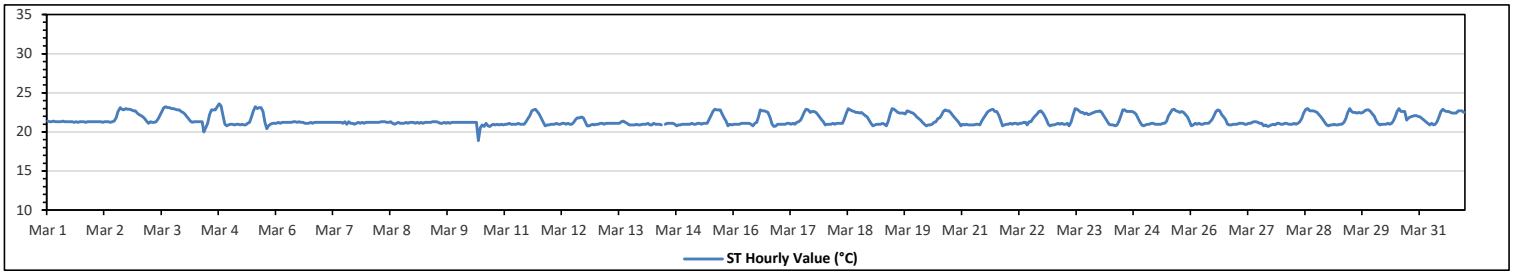
Maximum Hourly Value:	23.6	°C	on Mar 4 at hr 18	Hours in Service:	744	
Maximum Daily Value:	22.3	°C	on Mar 3	Hours of Data:	743	
Minimum Hourly Value:	18.9	°C	on Mar 10 at hr 10	Hours of Missing Data:	1	
Minimum Daily Value:	20.9	°C	on Mar 10	Hours of Calibration:	0	
Monthly Average:	21.5	°C		Operational Uptime:	99.9	

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
Mar 1	21.4	21.3	21.3	21.4	21.3	21.3	21.3	21.3	21.4	21.3	21.3	21.3	21.3	21.3	21.2	21.3	21.2	21.3	21.3	21.3	21.2	21.3	21.3	21.3	21.2	21.4	21.3
Mar 2	21.3	21.3	21.3	21.3	21.3	21.2	21.3	21.3	21.3	21.2	21.3	21.4	21.8	22.6	23.1	22.9	22.8	23.0	22.9	22.9	22.8	22.7	22.7	22.4	21.2	23.1	22.0
Mar 3	22.2	22.1	21.9	21.7	21.4	21.1	21.3	21.2	21.2	21.3	21.7	22.2	22.6	23.1	23.2	23.1	23.1	23.0	23.0	22.9	22.8	22.8	22.6	22.5	21.1	23.2	**22.3**
Mar 4	22.3	22.0	21.7	21.4	21.2	21.3	21.3	21.3	21.3	21.3	20.0	20.5	21.1	22.2	22.8	22.8	22.8	23.2	**23.6**	23.3	22.1	21.0	20.8	20.9	20.0	**23.6**	21.8
Mar 5	21.0	21.0	20.9	21.0	21.0	20.9	21.0	20.9	20.9	21.1	21.2	21.9	22.7	23.2	23.0	23.1	23.1	22.6	21.2	20.4	20.8	21.0	21.1	21.1	20.4	23.2	21.5
Mar 6	21.1	21.2	21.1	21.2	21.2	21.2	21.2	21.2	21.2	21.3	21.3	21.2	21.3	21.2	21.2	21.1	21.1	21.1	21.2	21.1	21.2	21.2	21.2	21.2	21.1	21.3	21.2
Mar 7	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.1	21.3	21.0	21.3	21.1	21.1	21.0	21.1	21.2	21.1	21.2	21.1	21.2	21.0	21.3	21.2
Mar 8	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.3	21.3	21.3	21.2	21.2	21.3	21.1	21.0	21.1	21.2	21.1	21.1	21.1	21.2	21.1	21.2	21.2	21.0	21.3	21.2
Mar 9	21.2	21.1	21.2	21.1	21.2	21.1	21.2	21.2	21.2	21.2	21.3	21.3	21.3	21.2	21.1	21.1	21.2	21.1	21.2	21.1	21.2	21.2	21.2	21.2	21.1	21.3	21.2
Mar 10	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	**18.9**	20.5	20.9	20.7	21.1	20.8	20.7	20.9	21.0	20.9	21.0	20.9	21.0	20.9	**18.9**	21.2	**20.9**
Mar 11	21.0	21.0	21.1	21.0	21.0	21.0	21.0	21.1	21.0	21.0	21.0	21.3	21.7	22.1	22.7	22.8	22.9	22.6	22.3	21.7	21.2	20.8	20.9	20.9	20.8	22.9	21.5
Mar 12	21.0	21.0	21.0	21.1	21.0	21.0	21.1	21.1	21.0	21.1	21.0	21.0	21.2	21.6	21.8	21.8	21.9	21.8	21.3	20.8	20.8	20.9	21.0	20.9	20.8	21.9	21.2
Mar 13	21.0	21.0	21.1	21.1	21.0	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.3	21.4	21.2	21.1	20.9	20.9	20.9	20.9	21.0	20.9	20.9	20.9	21.4	21.1
Mar 14	21.0	21.0	21.0	21.1	20.9	20.9	21.1	21.0	21.0	21.0	20.9	**K**	21.0	21.1	21.1	21.1	21.1	21.0	20.8	20.9	20.9	21.0	21.0	21.0	20.8	21.1	21.0
Mar 15	21.0	21.0	21.1	21.0	21.0	21.1	21.1	21.0	21.1	21.1	21.1	21.6	22.1	22.6	22.9	22.8	22.8	22.8	22.3	21.8	21.4	20.8	21.0	20.9	20.8	22.9	21.6
Mar 16	21.0	21.0	21.0	21.0	21.1	21.1	21.1	21.1	21.1	21.0	20.8	21.1	21.2	22.0	22.8	22.7	22.7	22.6	22.5	21.8	21.0	20.7	20.8	21.0	20.7	22.8	21.4
Mar 17	21.0	21.0	21.0	21.0	21.1	21.1	21.0	21.1	21.0	21.2	21.3	21.5	21.9	22.5	22.9	22.8	22.5	22.6	22.6	22.5	22.2	21.9	21.6	21.3	21.0	22.9	21.7
Mar 18	20.9	21.0	21.0	21.0	21.1	21.0	21.1	21.1	21.1	21.1	21.6	22.4	23.0	22.8	22.7	22.6	22.5	22.5	22.4	22.5	22.3	22.1	21.9	21.5	20.9	23.0	21.8
Mar 19	21.1	20.8	20.9	21.0	21.0	21.0	21.1	21.0	20.8	21.4	22.3	23.0	22.9	22.7	22.5	22.4	22.4	22.4	22.3	22.7	22.6	22.5	22.4	22.2	20.8	23.0	21.9
Mar 20	21.9	21.7	21.5	21.2	21.0	20.8	20.9	20.9	21.0	21.2	21.3	21.7	21.8	22.2	22.6	22.8	22.7	22.7	22.4	22.1	21.8	21.5	21.2	20.8	20.8	22.8	21.7
Mar 21	21.0	20.9	21.0	20.9	20.9	20.9	20.9	21.0	21.0	20.9	21.4	21.8	22.1	22.5	22.7	22.8	22.9	22.6	22.6	22.1	21.4	20.8	20.9	21.0	20.8	22.9	21.5
Mar 22	21.0	21.1	21.0	21.1	21.1	21.0	21.1	21.1	21.2	21.2	20.9	21.3	21.3	21.7	22.0	22.3	22.6	22.7	22.4	22.1	21.6	21.0	20.8	20.9	20.8	22.7	21.4
Mar 23	20.9	21.0	21.1	21.0	21.1	21.0	21.0	21.1	20.8	21.2	22.1	23.0	22.9	22.7	22.5	22.5	22.3	22.4	22.2	22.3	22.4	22.5	22.6	22.6	20.8	23.0	21.9
Mar 24	22.7	22.5	22.1	21.7	21.3	21.0	20.9	20.9	20.8	20.9	21.4	22.1	22.8	22.8	22.6	22.6	22.6	22.6	22.5	22.3	21.8	21.3	20.9	20.8	20.8	22.8	21.8
Mar 25	20.9	21.0	21.0	21.1	21.1	21.0	21.0	21.0	21.0	21.1	21.1	21.4	22.0	22.4	22.8	22.9	22.7	22.6	22.5	22.6	22.5	22.2	21.9	21.4	20.9	22.9	21.7
Mar 26	20.8	20.9	21.1	21.0	21.1	21.0	21.0	21.1	21.1	21.1	21.3	21.6	22.1	22.6	22.8	22.7	22.2	21.9	21.6	21.0	20.9	20.9	21.0	21.0	20.8	22.8	21.4
Mar 27	21.0	21.1	21.1	21.1	21.0	21.0	21.1	21.1	21.2	21.3	21.3	21.2	21.1	21.1	20.8	20.9	20.7	20.8	20.9	21.0	20.9	21.1	21.1	21.0	20.7	21.3	21.0
Mar 28	21.0	21.1	21.1	21.0	21.0	21.0	21.1	21.0	21.1	21.3	21.7	22.4	22.9	23.0	22.7	22.7	22.7	22.6	22.5	22.2	21.9	21.6	21.2	20.9	20.9	23.0	21.7
Mar 29	20.8	20.9	20.9	21.0	20.9	20.9	21.0	21.0	21.2	21.7	22.5	23.0	22.6	22.5	22.5	22.4	22.5	22.4	22.5	22.7	22.8	22.8	22.6	22.3	20.8	23.0	21.9
Mar 30	22.0	21.5	21.1	20.9	21.0	21.0	21.0	21.1	21.0	21.1	21.4	21.9	22.6	23.0	22.6	22.6	22.6	21.5	21.8	21.9	22.0	22.1	22.1	22.0	20.9	23.0	21.7
Mar 31	21.9	21.7	21.5	21.3	21.1	20.9	21.1	20.9	21.0	21.3	21.9	22.6	22.9	22.7	22.6	22.6	22.5	22.4	22.4	22.4	22.7	22.7	22.7	22.5	20.9	22.9	22.0
Diurnal Maximum	22.7	22.5	22.1	21.7	21.4	21.3	21.3	21.3	21.4	21.7	22.5	23.0	23.0	23.2	23.2	23.1	23.1	23.2	23.6	23.3	22.8	22.8	22.7	22.6			
Diurnal Average	21.3	21.2	21.2	21.1	21.1	21.0	21.1	21.1	21.1	21.2	21.3	21.7	21.9	22.1	22.2	22.2	22.2	22.1	22.0	21.8	21.7	21.5	21.4	21.3			

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

Tamarack Site - March 2023

Summary of Hourly Averages

PRECIPITATION in mm

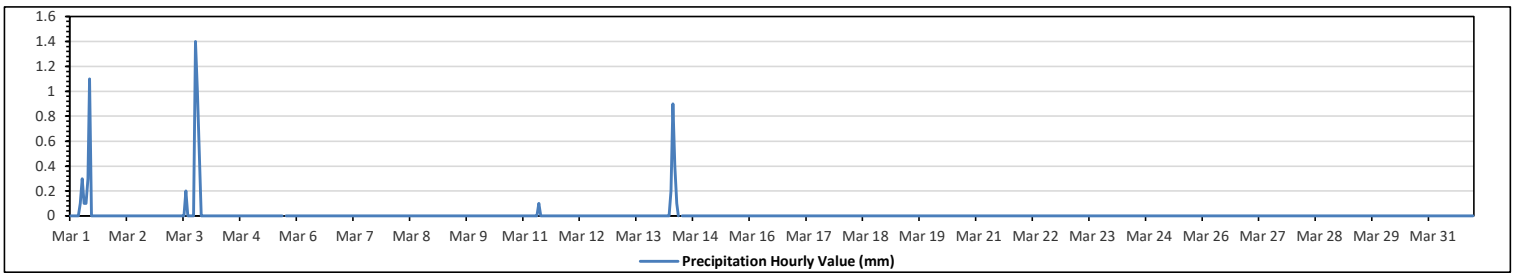
Maximum Hourly Value:	1.4	mm	on Mar 3 at hr 18	Hours in Service:	744	
Maximum Daily Value:	3.1	mm	on Mar 3	Hours of Data:	742	
Minimum Hourly Value:	0.0	mm	on Mar 1 at hr 0	Hours of Missing Data:	1	
Minimum Daily Value:	0.0	mm	on Mar 2	Hours of Calibration:	1	
Monthly Total:	6.8	mm		Operational Uptime:	99.9	

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			
Mar 1	0	0	0	0	0	0.1	0.3	0.1	0.1	0.3	1.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	1.1	2.0
Mar 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
Mar 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0	0	**1.4**	1	0.5	0	0	0	0.0	**1.4**	**3.1**
Mar 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
Mar 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**C**	0	0	0	0	0	0	0.0	0.0	0.0
Mar 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Mar 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
Mar 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
Mar 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
Mar 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
Mar 11	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	0.1	0.1
Mar 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
Mar 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
Mar 14	0	0	0	0	0	0	0.2	0.9	0.4	0.1	0	**K**	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.9	1.6
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 31	0	0	0	0	0	0	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	0.0	0.1	0.3	0.9	0.4	0.3	1.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	1.4	1.0	0.5	0.0	0.0	0.0			
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 - March 2023

Summary of Hourly Averages

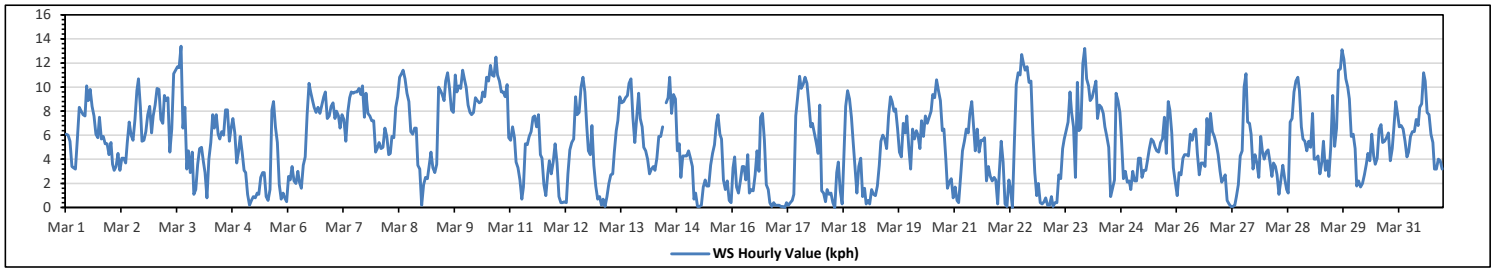
VECTOR WIND SPEED (VWS) in km/hr

Maximum Hourly Value:	13.4	kph	on Mar 3 at hr 14	Hours in Service:	744	
Maximum Daily Value:	9.6	kph	on Mar 10	Hours of Data:	743	
Minimum Hourly Value:	0.0	kph	on Mar 17 at hr 4	Hours of Missing Data:	1	
Minimum Daily Value:	2.4	kph	on Mar 5	Hours of Calibration:	0	
Monthly Average:	1.8	kph		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			
Mar 1	6.1	6.0	5.5	3.4	3.3	3.2	5.7	8.3	8.0	7.7	7.6	10.1	8.9	9.8	8.4	7.6	6.1	5.8	7.5	5.7	5.9	5.3	5.3	4.4	3.2	10.1	6.5
Mar 2	5.4	3.6	3.1	3.4	4.5	3.1	4.1	4.1	3.7	5.4	7.1	6.0	5.6	7.3	9.7	10.7	8.3	5.5	5.6	6.3	7.7	8.4	6.2	7.6	3.1	10.7	5.9
Mar 3	8.5	9.9	9.8	7.3	7.0	9.3	8.9	9.1	4.6	6.5	11.1	11.4	11.7	11.6	**13.4**	6.6	8.3	3.2	4.7	2.9	4.6	1.1	1.5	3.6	1.1	**13.4**	7.4
Mar 4	4.9	5.0	3.8	2.9	0.8	4.0	5.4	7.7	6.6	7.7	6.1	5.7	6.3	6.0	8.1	8.1	5.5	6.5	7.4	6.2	3.7	4.7	5.9	4.6	0.8	8.1	5.6
Mar 5	3.1	2.9	1.1	0.2	0.6	0.9	0.8	1.2	1.1	2.5	2.9	2.9	0.9	0.6	1.5	8.1	8.8	6.7	5.4	1.9	0.7	1.2	0.8	0.5	0.2	8.8	**2.4**
Mar 6	2.6	2.3	3.4	2.2	2.0	3.0	2.1	1.6	3.5	4.2	7.7	10.3	9.6	8.9	8.3	7.9	8.3	7.8	8.5	9.2	9.6	7.4	7.6	8.4	1.6	10.3	6.1
Mar 7	8.7	7.4	8.0	7.6	6.6	7.7	7.3	5.5	7.9	9.1	9.6	9.5	9.6	9.6	9.9	9.4	10.1	7.5	9.5	7.8	7.6	7.2	7.2	4.6	4.6	10.1	8.1
Mar 8	4.9	5.4	4.9	5.0	6.6	5.9	4.4	4.5	5.9	5.8	8.3	9.2	10.8	11.1	11.4	10.7	9.5	8.8	6.3	6.1	6.6	6.6	3.5	3.2	3.2	11.4	6.9
Mar 9	0.2	1.9	2.5	2.4	3.6	4.6	3.3	2.9	3.6	10.0	9.7	9.4	8.9	10.5	11.2	9.9	8.1	7.9	11.0	9.6	10.1	9.9	11.4	10.6	0.2	11.4	7.2
Mar 10	10.0	8.5	7.9	7.7	7.9	9.1	8.9	8.7	8.8	9.6	9.2	10.8	10.5	11.8	11.0	10.9	12.5	11.0	10.5	9.6	9.6	9.2	10.2	5.8	5.8	12.5	**9.6**
Mar 11	5.6	6.7	5.8	3.8	3.3	2.3	0.7	1.7	5.3	5.2	5.9	6.3	7.5	7.6	6.7	7.7	4.4	4.1	1.9	1.0	2.8	3.9	2.8	3.8	0.7	7.7	4.5
Mar 12	5.3	3.7	0.9	0.4	0.4	0.5	0.4	2.8	4.8	5.4	5.7	9.2	7.7	7.9	10.0	10.8	9.6	6.7	4.7	4.4	6.8	3.5	1.8	0.7	0.4	10.8	4.8
Mar 13	0.9	0.2	0.7	0.1	0.9	2.0	2.7	2.8	4.6	6.4	7.2	9.2	8.7	8.8	9.1	9.3	10.3	10.7	7.5	5.4	7.5	9.5	7.4	6.7	0.1	10.7	5.8
Mar 14	5.0	4.7	4.0	2.8	3.2	3.4	3.1	4.1	5.9	5.9	6.7	**K**	8.7	9.1	10.8	7.8	9.4	9.0	4.7	5.3	2.5	4.3	4.3	4.3	2.5	10.8	5.6
Mar 15	4.7	4.1	3.4	0.7	1.2	0.1	0.1	0.2	1.7	2.3	1.8	1.8	3.5	4.5	5.2	7.0	7.7	6.1	5.7	2.3	1.5	2.2	0.6	0.4	0.1	7.7	2.9
Mar 16	3.3	4.2	1.7	1.2	2.2	3.4	3.4	2.3	4.4	1.2	1.5	1.4	2.7	4.7	3.0	7.5	7.8	5.6	1.9	1.5	0.4	0.1	0.4	0.2	0.1	7.8	2.8
Mar 17	0.2	0.2	0.1	0.1	**0.0**	0.4	0.2	0.4	0.6	1.1	7.6	9.2	10.9	9.9	10.2	10.8	10.3	8.6	6.7	7.0	6.2	5.4	4.5	8.5	**0.0**	10.9	5.0
Mar 18	1.4	1.2	0.5	1.5	1.1	1.2	0.4	**0.0**	2.9	3.8	1.4	0.3	4.7	8.4	9.7	9.0	7.5	5.6	3.4	1.2	3.4	4.1	0.9	1.6	**0.0**	9.7	3.1
Mar 19	0.3	0.6	0.3	1.5	1.1	1.0	1.8	3.5	5.5	6.0	5.7	4.9	7.6	9.2	8.8	8.0	8.2	6.6	4.6	4.2	7.0	6.2	7.6	5.1	0.3	9.2	4.8
Mar 20	3.2	6.5	5.7	6.4	6.0	4.9	7.2	5.9	7.6	7.0	7.5	8.0	9.4	9.1	10.6	9.7	8.9	6.4	6.5	4.0	1.6	2.1	2.4	0.8	0.8	10.6	6.1
Mar 21	1.7	0.6	0.4	2.5	4.7	5.5	6.5	6.2	7.8	8.8	7.0	4.7	6.5	4.6	5.6	5.6	5.8	2.2	3.4	2.6	2.2	2.5	2.3	0.3	0.3	8.8	4.2
Mar 22	2.9	5.5	3.8	0.3	0.1	2.3	1.6	**0.0**	5.3	10.2	11.2	11.0	12.7	11.9	11.4	11.7	10.4	10.5	6.2	2.9	1.0	2.0	0.4	0.3	**0.0**	12.7	5.7
Mar 23	0.5	0.8	0.2	0.2	0.9	0.1	0.4	0.4	2.7	2.4	4.9	5.7	6.4	7.1	9.6	7.9	6.7	2.5	10.4	6.4	6.6	11.9	13.2	10.7	0.1	13.2	4.9
Mar 24	10.1	8.9	9.1	9.8	10.5	7.4	8.5	8.3	7.8	6.7	5.9	5.0	0.9	1.6	2.3	9.5	8.9	7.9	5.6	2.4	3.0	2.1	2.2	1.5	0.9	10.5	6.1
Mar 25	3.0	2.2	2.2	4.1	4.1	2.5	3.1	3.1	3.9	4.9	5.7	5.5	5.0	4.7	4.6	5.4	5.7	7.5	4.5	8.8	8.1	6.2	3.3	2.1	2.1	8.8	4.6
Mar 26	1.0	2.9	2.7	4.1	4.4	4.4	4.3	6.1	5.6	6.4	6.5	4.5	2.7	3.7	3.7	3.4	7.4	5.2	7.8	6.3	5.9	5.3	4.4	3.0	1.0	7.8	4.7
Mar 27	2.1	2.4	2.7	0.6	0.3	0.1	0.1	0.2	0.9	1.9	4.3	4.7	10.0	11.1	7.1	7.0	6.1	3.2	4.4	3.7	2.5	5.9	4.7	4.0	0.1	11.1	3.8
Mar 28	4.6	4.8	3.8	2.6	3.7	3.4	2.7	1.1	2.3	3.5	2.4	1.5	1.2	7.1	7.4	9.6	10.5	10.8	9.7	6.7	5.7	5.5	4.7	5.5	1.1	10.8	5.0
Mar 29	5.0	7.8	4.0	4.0	4.3	2.8	3.8	5.5	3.1	3.9	2.6	5.1	9.3	5.1	6.6	11.4	11.5	13.1	12.3	10.7	10.0	9.0	5.9	6.1	2.6	13.1	6.8
Mar 30	4.9	1.8	2.2	1.7	2.0	2.7	3.6	4.5	3.9	6.1	4.3	3.6	4.1	6.5	6.9	5.4	5.5	5.8	6.2	3.9	4.9	6.6	8.8	7.7	1.7	8.8	4.7
Mar 31	6.7	6.8	6.5	5.5	4.2	4.6	5.9	6.3	6.3	7.3	6.8	8.3	8.6	11.2	10.5	7.9	7.7	6.1	5.4	3.2	3.2	4.0	3.9	3.2	3.2	11.2	6.3
Diurnal Maximum	10.1	9.9	9.8	9.8	10.5	9.3	8.9	9.1	8.8	10.2	11.2	11.4	12.7	11.9	13.4	11.7	12.5	13.1	12.3	10.7	10.1	11.9	13.2	10.7			
Diurnal Average	4.1	4.2	3.6	3.1	3.3	3.4	3.6	3.8	4.7	5.6	6.2	6.5	7.1	7.8	8.2	8.5	8.3	6.9	6.4	5.1	5.1	5.3	4.7	4.2			

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.

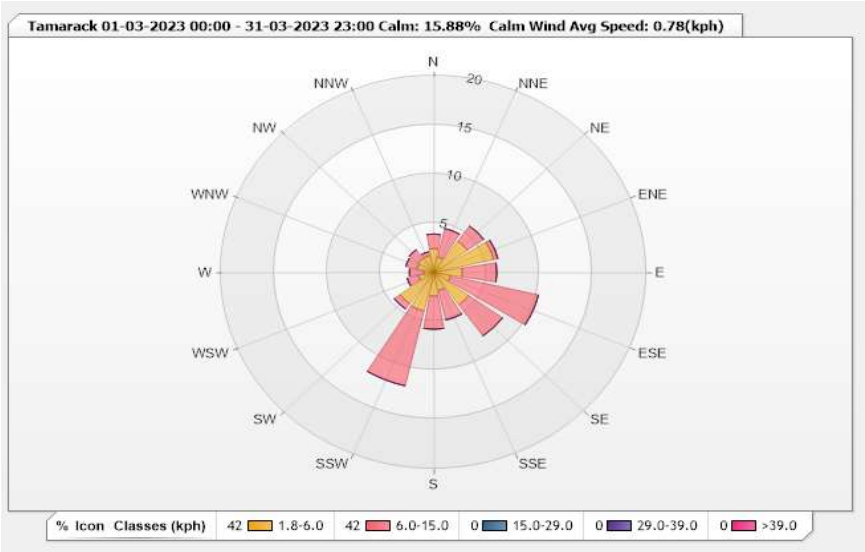


Station: Tamarack Monitor: WDS [kph] Monthly: 03-2023

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

Calm (WS<1.8kph): 15.88% Valid Data: 99.87%

Direction	1.8-6.0	6.0-15.0	15.0-29.0	29.0-39.0	>39.0	Total
N	2.42	1.48	0	0	0	3.9
NNE	1.62	2.96	0	0	0	4.58
NE	3.9	1.88	0	0	0	5.78
ENE	5.79	0.4	0	0	0	6.19
E	2.69	3.23	0	0	0	5.92
ESE	1.62	8.48	0	0	0	10.1
SE	4.04	3.9	0	0	0	7.94
SSE	1.88	3.1	0	0	0	4.98
S	2.42	3.36	0	0	0	5.78
SSW	4.04	7.81	0	0	0	11.85
SW	3.9	0.67	0	0	0	4.57
WSW	1.48	1.08	0	0	0	2.56
W	0.94	1.35	0	0	0	2.29
WNW	1.62	1.08	0	0	0	2.7
NW	1.75	1.08	0	0	0	2.83
NNW	1.75	0.4	0	0	0	2.15
Summary	41.86	42.26	0	0	0	84.12



Lakeland Industry & Community Association

Tamarack Site - March 2023

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

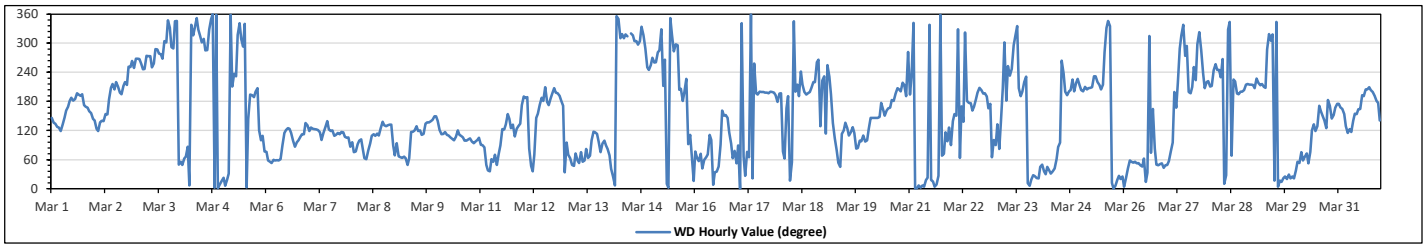
Monthly Average:	138 (SE)	degree	
Hours in Service:	744		
Hours of Data:	743		
Hours of Missing Data:	1		
Hours of Calibration:	0		
Operational Uptime:	99.9		

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
Mar 1	SE	SE	SE	SE	SE	ESE	SE	SE	SSE	SSE	S	S	S	S	SSW	SSW	S	SSW	S	SSE	SSE	SSE	SSE	SE	167	SSE
Mar 2	SE	ESE	ESE	SE	SE	SE	SSE	SSE	S	SSW	SW	SSW	SW	SSW	SSW	SSW	SSW	SW	SSW	WSW	WSW	W	WSW	W	207	SSW
Mar 3	W	W	WSW	WSW	WSW	W	W	W	WSW	WSW	WNW	WNW	W	W	W	WNW	WNW	NNW	NNW	WNW	WNW	NNW	NNW	NE	278	W
Mar 4	NE	NE	ENE	ENE	E	N	NNW	NW	NNW	N	NNW	NW	WNW	NW	WNW	WNW	NNW	N	N	N	N	N	N	NNE	343	NNW
Mar 5	NNE	N	NNE	NNE	N	SSW	SW	SW	NW	NNW	NW	WNW	NNW	N	SE	SSW	S	S	SSW	SSW	ESE	E	ESE	ENE	209	SSW
Mar 6	ENE	ENE	NE	NE	ENE	ENE	ENE	ENE	ENE	E	ESE	ESE	SE	ESE	ESE	E	E	E	E	ESE	ESE	ESE	SE	SE	105	ESE
Mar 7	ESE	SE	ESE	ESE	ESE	ESE	ESE	E	ESE	SE	SE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	E	117	ESE
Mar 8	E	ENE	ENE	E	E	E	E	ENE	ENE	ENE	E	ESE	ESE	ESE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	E	107	ESE
Mar 9	ENE	E	ENE	ENE	ENE	ENE	ENE	NE	ENE	ESE	ESE	ESE	SE	ESE	ESE	ESE	ESE	SE	SE	SE	SE	SE	SSE	SSE	121	ESE
Mar 10	SE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	E	ESE	ESE	ESE	ESE	ESE	E	E	E	ESE	E	E	E	E	ESE	107	ESE
Mar 11	E	E	E	NE	NE	NE	ENE	NE	ENE	NE	ENE	E	ESE	ESE	SE	SSE	SE	SE	SE	ESE	ESE	SE	SE	S	104	ESE
Mar 12	S	S	S	E	NE	NE	ENE	SE	SSE	S	S	S	SSW	S	S	S	SSW	SSW	SSW	SSW	S	S	S	NE	185	S
Mar 13	E	ENE	ENE	NE	NE	ENE	ENE	NE	ENE	NE	ENE	E	ENE	ENE	E	ESE	ESE	ESE	E	ENE	E	E	E	E	87	E
Mar 14	ENE	NE	NNE	N	N	N	NW	NW	NW	NW	NW	K	NW	NW	WNW	WNW	WNW	WNW	NNW	NW	WNW	WSW	WSW	WSW	315	NW
Mar 15	W	WSW	W	W	WNW	NNW	SSW	W	N	N	N	NW	W	WNW	WNW	SSW	SSW	S	SSW	SW	E	ESE	ENE	NNE	245	WSW
Mar 16	ENE	ENE	ENE	ENE	NE	ENE	ENE	ENE	ESE	E	N	NE	NE	NE	E	SSE	SSE	SSE	SE	ESE	E	ENE	ENE	NE	97	E
Mar 17	E	N	NNW	ENE	NNE	ENE	ENE	N	NNE	WSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	S	SSW	197	SSW
Mar 18	SSW	ENE	ENE	SSE	S	NNE	NE	NNW	SSW	SSW	S	WSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	W	W	SE	SW	206	SSW
Mar 19	SW	ESE	WSW	SW	SSW	SE	ESE	ENE	NE	NE	ESE	ESE	SE	SE	ESE	ESE	SE	ESE	E	E	E	E	ESE	E	107	ESE
Mar 20	E	ESE	SE	SE	SE	SE	SE	SE	S	SSE	SSE	SSE	SSE	SSE	S	S	SSW	SSW	SSW	SSW	SW	SSW	S	W	168	SSE
Mar 21	SSW	SW	NNW	N	N	N	N	N	N	NNE	NNE	NNW	NNE	NNE	N	N	NNE	N	ENE	ENE	ESE	E	SE	E	17	NNE
Mar 22	SE	SSE	SSE	NNW	ENE	SSE	SE	NW	S	S	S	SSE	SSE	S	SSW	SSW	SSW	SSW	SSW	S	SSE	S	ENE	E	181	S
Mar 23	E	SE	E	SE	SSW	WNW	S	WSW	SW	WSW	WNW	NW	NNW	SSW	S	SSW	SW	SW	NNE	N	NNE	NNE	NNE	NNE	345	NNW
Mar 24	NNE	NE	NE	NE	NNE	NE	NE	NNE	NE	NE	ENE	E	E	W	SW	SSW	S	SSW	SSW	SW	SSW	SW	SW	SSW	54	NE
Mar 25	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	SW	SSW	SSW	SSW	W	NNW	NNW	NNW	NNE	N	N	NNE	NNE	NNE	NNE	296	WNW
Mar 26	N	NNE	NE	ENE	NE	NE	NE	NE	NE	NE	NE	ENE	NNE	NNE	NW	ENE	SSE	E	NE	NE	NE	NE	NE	NE	53	NE
Mar 27	NE	ENE	ENE	E	SSW	SSE	SW	WNW	NW	NNW	W	WNW	SSW	SSW	SSW	WSW	SW	WNW	NW	WNW	SW	SSW	SW	SW	233	SW
Mar 28	SSW	SSW	WSW	WSW	WSW	WSW	SW	W	N	NNE	NNW	NNW	ENE	SW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SSW	SSW	216	SW
Mar 29	SSW	SSW	SW	SW	SSW	SW	SSW	SSW	WNW	NW	WNW	NW	NNE	NNW	N	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	2	N
Mar 30	NE	NE	NE	ENE	ENE	ENE	ENE	NE	ENE	ESE	SE	ESE	SE	S	SSE	SSE	SE	SE	S	S	SE	SSE	SSE	S	134	SE
Mar 31	S	SSE	SSE	SSE	SE	ESE	ESE	ESE	SE	SSE	SSE	SSE	SSE	S	S	SSW	SSW	SSW	SSW	SSW	S	S	S	SE	170	SSE

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 - March 2023

Summary of Hourly Averages

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

WIND SPEED

Maximum Hourly Value:	13.4	kph	on Mar 3 at hr 14	Hours in Service:	744
Maximum Daily Value:	9.6	kph	on Mar 10	Hours of Data:	743
Minimum Hourly Value:	0.0	kph	on Mar 17 at hr 4	Hours of Missing Data:	1
Minimum Daily Value:	2.4	kph	on Mar 5	Hours of Calibration:	0
Monthly Average:	1.8	kph		Operational Uptime:	99.9

WIND DIRECTION

Monthly Average: 138 degree (SE)

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			
Mar 1	6.1	6.0	5.5	3.4	3.3	3.2	5.7	8.3	8.0	7.7	7.6	10.1	8.9	9.8	8.4	7.6	6.1	5.8	7.5	5.7	5.9	5.3	5.3	4.4	3.2	10.1	6.5
	SE	SE	SE	SE	SE	ESE	SE	SE	SSE	SSE	S	S	S	S	SSW	SSW	S	SSW	S	SSE	SSE	SSE	SSE	SE			
Mar 2	5.4	3.6	3.1	3.4	4.5	3.1	4.1	4.1	3.7	5.4	7.1	6.0	5.6	7.3	9.7	10.7	8.3	5.5	5.6	6.3	7.7	8.4	6.2	7.6	3.1	10.7	5.9
	SE	ESE	ESE	SE	SE	SE	SSE	SSE	S	SSW	SW	SSW	SW	SSW	SSW	SSW	SSW	SW	SSW	WSW	WSW	W	WSW	W			
Mar 3	8.5	9.9	9.8	7.3	7.0	9.3	8.9	9.1	4.6	6.5	11.1	11.4	11.7	11.6	**13.4**	6.6	8.3	3.2	4.7	2.9	4.6	1.1	1.5	3.6	1.1	**13.4**	7.4
	W	W	WSW	WSW	WSW	W	W	W	WSW	WSW	WNW	WNW	W	W	W	WNW	WNW	NNW	NNW	WNW	WNW	NNW	NNW	NE			
Mar 4	4.9	5.0	3.8	2.9	0.8	4.0	5.4	7.7	6.6	7.7	6.1	5.7	6.3	6.0	8.1	8.1	5.5	6.5	7.4	6.2	3.7	4.7	5.9	4.6	0.8	8.1	5.6
	NE	NE	ENE	ENE	E	N	NNW	NW	NNW	N	NNW	NW	WNW	NW	WNW	WNW	NNW	N	N	N	N	N	N	NNE			
Mar 5	3.1	2.9	1.1	0.2	0.6	0.9	0.8	1.2	1.1	2.5	2.9	2.9	0.9	0.6	1.5	8.1	8.8	6.7	5.4	1.9	0.7	1.2	0.8	0.5	0.2	8.8	**2.4**
	NNE	N	NNE	NNE	N	SSW	SW	SW	NW	NNW	NW	WNW	NNW	N	SE	SSW	S	S	SSW	SSW	ESE	E	ESE	ENE			
Mar 6	2.6	2.3	3.4	2.2	2.0	3.0	2.1	1.6	3.5	4.2	7.7	10.3	9.6	8.9	8.3	7.9	8.3	7.8	8.5	9.2	9.6	7.4	7.6	8.4	1.6	10.3	6.1
	ENE	ENE	NE	NE	ENE	ENE	ENE	ENE	ENE	E	ESE	ESE	SE	ESE	ESE	E	E	E	E	ESE	ESE	ESE	SE	SE			
Mar 7	8.7	7.4	8.0	7.6	6.6	7.7	7.3	5.5	7.9	9.1	9.6	9.5	9.6	9.6	9.9	9.4	10.1	7.5	9.5	7.8	7.6	7.2	7.2	4.6	4.6	10.1	8.1
	ESE	SE	ESE	ESE	ESE	ESE	ESE	E	ESE	SE	SE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	E			
Mar 8	4.9	5.4	4.9	5.0	6.6	5.9	4.4	4.5	5.9	5.8	8.3	9.2	10.8	11.1	11.4	10.7	9.5	8.8	6.3	6.1	6.6	6.6	3.5	3.2	3.2	11.4	6.9
	E	ENE	ENE	E	E	E	E	ENE	ENE	ENE	E	ESE	ESE	ESE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	E			
Mar 9	0.2	1.9	2.5	2.4	3.6	4.6	3.3	2.9	3.6	10.0	9.7	9.4	8.9	10.5	11.2	9.9	8.1	7.9	11.0	9.6	10.1	9.9	11.4	10.6	0.2	11.4	7.2
	ENE	E	ENE	ENE	ENE	ENE	ENE	NE	ENE	ESE	ESE	ESE	SE	ESE	ESE	ESE	ESE	SE	SE	SE	SE	SE	SSE	SSE			
Mar 10	10.0	8.5	7.9	7.7	7.9	9.1	8.9	8.7	8.8	9.6	9.2	10.8	10.5	11.8	11.0	10.9	12.5	11.0	10.5	9.6	9.6	9.2	10.2	5.8	5.8	12.5	**9.6**
	SE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	E	ESE	ESE	ESE	ESE	ESE	E	E	E	ESE	E	E	E	E	ESE			
Mar 11	5.6	6.7	5.8	3.8	3.3	2.3	0.7	1.7	5.3	5.2	5.9	6.3	7.5	7.6	6.7	7.7	4.4	4.1	1.9	1.0	2.8	3.9	2.8	3.8	0.7	7.7	4.5
	E	E	E	NE	NE	NE	ENE	NE	ENE	NE	ENE	E	ESE	ESE	SE	SSE	SE	SE	SE	ESE	ESE	SE	SE	S			
Mar 12	5.3	3.7	0.9	0.4	0.4	0.5	0.4	2.8	4.8	5.4	5.7	9.2	7.7	7.9	10.0	10.8	9.6	6.7	4.7	4.4	6.8	3.5	1.8	0.7	0.4	10.8	4.8
	S	S	S	E	NE	NE	ENE	SE	SSE	S	S	S	SSW	S	S	S	SSW	SSW	SSW	SSW	S	S	S	NE			
Mar 13	0.9	0.2	0.7	0.1	0.9	2.0	2.7	2.8	4.6	6.4	7.2	9.2	8.7	8.8	9.1	9.3	10.3	10.7	7.5	5.4	7.5	9.5	7.4	6.7	0.1	10.7	5.8
	E	ENE	ENE	NE	NE	ENE	ENE	NE	ENE	NE	ENE	E	ENE	ENE	E	ESE	ESE	ESE	E	ENE	E	E	E	E			
Mar 14	5.0	4.7	4.0	2.8	3.2	3.4	3.1	4.1	5.9	5.9	6.7	**K**	8.7	9.1	10.8	7.8	9.4	9.0	4.7	5.3	2.5	4.3	4.3	4.3	2.5	10.8	5.6
	ENE	NE	NNE	N	N	N	NW	NW	NW	NW	NW	**K**	NW	NW	WNW	WNW	WNW	WNW	NNW	NW	WNW	WSW	WSW	WSW			
Mar 15	4.7	4.1	3.4	0.7	1.2	0.1	0.1	0.2	1.7	2.3	1.8	1.8	3.5	4.5	5.2	7.0	7.7	6.1	5.7	2.3	1.5	2.2	0.6	0.4	0.1	7.7	2.9
	W	WSW	W	W	WNW	NNW	SSW	W	N	N	N	NW	W	WNW	WNW	SSW	SSW	S	SSW	SW	E	ESE	ENE	NNE			
Mar 16	3.3	4.2	1.7	1.2	2.2	3.4	3.4	2.3	4.4	1.2	1.5	1.4	2.7	4.7	3.0	7.5	7.8	5.6	1.9	1.5	0.4	0.1	0.4	0.2	0.1	7.8	2.8
	ENE	ENE	ENE	ENE	NE	ENE	ENE	ENE	ESE	E	N	NE	NE	NE	E	SSE	SSE	SSE	SE	ESE	E	ENE	ENE	NE			
Mar 17	0.2	0.2	0.1	0.1	**0.0**	0.4	0.2	0.4	0.6	1.1	7.6	9.2	10.9	9.9	10.2	10.8	10.3	8.6	6.7	7.0	6.2	5.4	4.5	8.5	**0.0**	10.9	5.0
	E	N	NNW	ENE	NNE	ENE	ENE	N	NNE	WSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	S	SSW		
Mar 18	1.4	1.2	0.5	1.5	1.1	1.2	0.4	**0.0**	2.9	3.8	1.4	0.3	4.7	8.4	9.7	9.0	7.5	5.6	3.4	1.2	3.4	4.1	0.9	1.6	**0.0**	9.7	3.1
	SSW	ENE	ENE	SSE	S	NNE	NE	NNW	SSW	SSW	S	WSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	W	W	SE	SW			
Mar 19	0.3	0.6	0.3	1.5	1.1	1.0	1.8	3.5	5.5	6.0	5.7	4.9	7.6	9.2	8.8	8.0	8.2	6.6	4.6	4.2	7.0	6.2	7.6	5.1	0.3	9.2	4.8
	SW	ESE	WSW	SW	SSW	SE	ESE	ENE	NE	NE	ESE	ESE	SE	SE	ESE	ESE	SE	ESE	E	E	E	E	ESE	E			
Mar 20	3.2	6.5	5.7	6.4	6.0	4.9	7.2	5.9	7.6	7.0	7.5	8.0	9.4	9.1	10.6	9.7	8.9	6.4	6.5	4.0	1.6	2.1	2.4	0.8	0.8	10.6	6.1
	E	ESE	SE	SE	SE	SE	SE	SE	S	SSE	SSE	SSE	SSE	SSE	S	S	SSW	SSW	SSW	SSW	SW	SSW	S	W			
Mar 21	1.7	0.6	0.4	2.5	4.7	5.5	6.5	6.2	7.8	8.8	7.0	4.7	6.5	4.6	5.6	5.6	5.8	2.2	3.4	2.6	2.2	2.5	2.3	0.3	0.3	8.8	4.2
	SSW	SW	NNW	N	N	N	N	N	N	NNE	NNE	NNW	NNE	NNE	N	N	NNE	N	ENE	ENE	ESE	E	SE	E			
Mar 22	2.9	5.5	3.8	0.3	0.1	2.3	1.6	**0.0**	5.3	10.2	11.2	11.0	12.7	11.9	11.4	11.7	10.4	10.5	6.2	2.9	1.0	2.0	0.4	0.3	**0.0**	12.7	5.7
	SE	SSE	SSE	NNW	ENE	SSE	SE	NW	S	S	S	SSE	SSE	S	SSW	SSW	SSW	SSW	SSW	S	SSE	S	ENE	E			
Mar 23	0.5	0.8	0.2	0.2	0.9	0.1	0.4	0.4	2.7	2.4	4.9	5.7	6.4	7.1	9.6	7.9	6.7	2.5	10.4	6.4	6.6	11.9	13.2	10.7	0.1	13.2	4.9
	E	SE	E	SE	SSW	WNW	S	WSW	SW	WSW	WNW	NW	NNW	SSW	S	SSW	SW	SW	NNE	N	NNE	NNE	NNE	NNE			
Mar 24	10.1	8.9	9.1	9.8	10.5	7.4	8.5	8.3	7.8	6.7	5.9	5.0	0.9	1.6	2.3	9.5	8.9	7.9	5.6	2.4	3.0	2.1	2.2	1.5	0.9	10.5	6.1
	NNE	NE	NE	NE	NNE	NE	NE	NNE	NE	NE	ENE	E	E	W	SW	SSW	S	SSW	SSW	SW	SSW	SW	SW	SSW			
Mar 25	3.0	2.2	2.2	4.1	4.1	2.5	3.1	3.1	3.9	4.9	5.7	5.5	5.0	4.7	4.6	5.4	5.7	7.5	4.5	8.8	8.1	6.2	3.3	2.1	2.1	8.8	4.6
	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	SW	SSW	SSW	SSW	W	NNW	NNW	NNW	NNE	N	N	NNE	NNE	NNE	NNE			
Mar 26	1.0	2.9	2.7	4.1	4.4	4.4	4.3	6.1	5.6	6.4	6.5	4.5	2.7	3.7	3.7	3.4	7.4	5.2	7.8	6.3	5.9	5.3	4.4	3.0	1.0	7.8	4.7
	N	NNE	NE	ENE	NE	NE	NE	NE	NE	NE	NE	ENE	NNE	NNE	NW	ENE	SSE	E	NE	NE	NE	NE	NE	NE			
Mar 27	2.1	2.4	2.7	0.6	0.3	0.1	0.1	0.2	0.9	1.9	4.3	4.7	10.0	11.1	7.1	7.0	6.1	3.2	4.4	3.7	2.5	5.9	4.7	4.0	0.1	11.1	3.8
	NE	ENE	ENE	E	SSW	SSE	SW	WNW	NW	NNW	W	WNW	SSW	SSW	SSW	WSW	SW	WNW	NW	WNW	SW	SSW	SW	SW			
Mar 28	4.6	4.8	3.8	2.6	3.7	3.4	2.7	1.1	2.3	3.5	2.4	1.5	1.2	7.1	7.4	9.6	10.5	10.8	9.7	6.7	5.7	5.5	4.7	5.5	1.1	10.8	5.0
	SSW	SSW	WSW	WSW	WSW	WSW	SW	W	N	NNE	NNW	NNW	ENE	SW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SSW	SSW			
Mar 29	5.0	7.8	4.0	4.0	4.3	2.8	3.8	5.5	3.1	3.9	2.6	5.1	9.3	5.1	6.6	11.4	11.5	13.1	12.3	10.7	10.0	9.0	5.9	6.1	2.6	13.1	6.8
	SSW	SSW	SW	SW	SSW	SW	SSW	SSW	WNW	NW	WNW	NW	NNE	NNW	N	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE			
Mar 30	4.9	1.8	2.2	1.7	2.0	2.7	3.6	4.5	3.9	6.1	4.3	3.6	4.1	6.5	6.9	5.4	5.5	5.8	6.2	3.9	4.9	6.6	8.8	7.7	1.7	8.8	4.7
	NE	NE	NE	ENE	ENE	ENE	ENE	NE	ENE	ESE	SE	ESE	SE	S	SSE	SSE	SE	SE	S	S	SE	SSE	SSE	S			
Mar 31	6.7	6.8	6.5	5.5	4.2	4.6	5.9	6.3	6.3	7.3	6.8	8.3	8.6	11.2	10.5	7.9	7.7	6.1	5.4	3.2	3.2	4.0	3.9	3.2	3.2	11.2	6.3
	S	SSE	SSE	SSE	SE	ESE	ESE	ESE	SE	SSE	SSE	SSE	SSE	S	S	SSW	SSW	SSW	SSW	S	S	S	SE				

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 - March 2023

Summary of Hour Standard Deviations

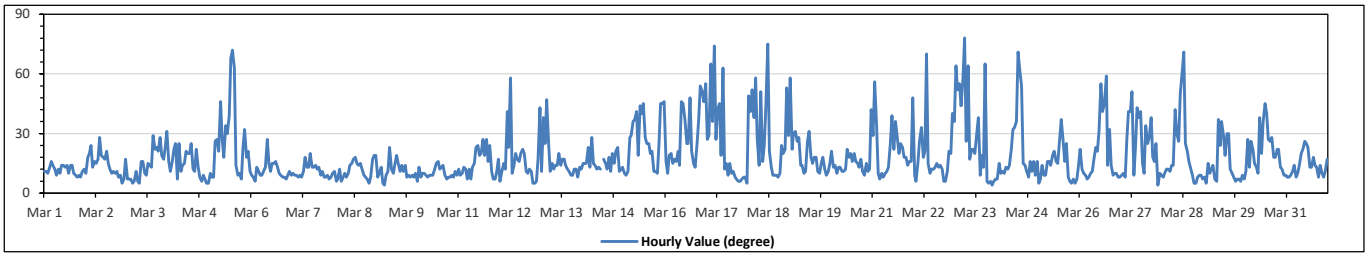
STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

Maximum Hourly Value:	78 degree on Mar 23 at hr 5	Hours in Service:	744
		Hours of Data:	743
Minimum Hourly Value:	4 degree on Mar 9 at hr 5	Hours of Missing Data:	1
		Hours of Calibration:	0
		Operational Uptime:	99.9

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		
Mar 1	11	11	10	13	16	14	12	9	12	10	14	14	13	14	10	14	14	10	9	8	9	8	11	12	8	16
Mar 2	10	18	20	24	13	16	15	17	28	19	18	17	21	15	12	10	11	10	11	8	9	5	7	17	5	28
Mar 3	7	7	7	5	6	11	6	5	16	16	10	9	15	14	13	29	22	23	21	28	19	17	23	31	5	31
Mar 4	16	11	16	22	25	7	25	11	14	15	21	20	20	25	12	11	22	13	8	6	9	7	5	5	5	25
Mar 5	10	8	8	26	27	21	46	27	18	34	30	39	68	72	63	14	9	10	7	23	32	18	21	11	7	72
Mar 6	9	8	6	13	11	9	9	11	13	27	15	11	15	15	16	13	10	9	8	8	7	9	11	9	6	27
Mar 7	10	9	9	8	9	8	11	18	13	13	20	13	13	14	12	13	9	11	8	8	9	7	8	10	7	20
Mar 8	11	6	7	12	6	8	10	8	10	14	15	17	18	15	14	15	12	9	8	7	5	8	17	19	5	19
Mar 9	19	8	10	13	5	**4**	9	11	23	12	10	14	19	15	11	14	11	14	8	9	8	9	8	10	**4**	23
Mar 10	6	13	8	10	10	9	8	9	9	9	12	15	16	12	13	14	9	7	8	8	9	8	11	9	6	16
Mar 11	12	9	10	13	12	7	12	7	13	15	23	24	19	20	27	19	27	16	24	11	7	7	11	17	7	27
Mar 12	6	11	15	12	41	23	58	10	14	20	17	16	20	22	20	11	10	12	11	5	5	6	17	43	5	58
Mar 13	11	38	25	47	25	11	15	12	14	14	20	14	17	17	14	12	11	9	9	12	12	8	13	12	8	47
Mar 14	15	15	15	23	13	28	15	14	12	13	12	**K**	17	15	12	18	11	20	15	21	23	11	12	13	11	28
Mar 15	10	9	11	28	29	36	37	41	19	44	40	45	28	25	25	20	21	11	11	10	25	45	45	46	9	46
Mar 16	16	10	19	20	15	17	16	21	14	46	45	37	25	25	48	21	15	13	25	37	54	51	46	55	10	55
Mar 17	27	29	65	36	74	27	42	45	19	63	12	15	9	15	10	11	8	7	6	6	7	8	8	5	5	74
Mar 18	49	41	52	38	58	27	14	51	16	24	44	75	21	13	9	9	9	8	10	24	20	22	53	29	8	75
Mar 19	58	22	30	31	26	28	14	14	10	11	26	31	18	15	18	18	11	10	15	18	12	9	11	15	9	58
Mar 20	21	13	14	10	13	13	11	11	12	22	18	20	16	20	16	15	13	17	11	9	15	11	12	42	9	42
Mar 21	29	56	34	10	7	10	8	10	11	13	25	39	22	36	29	20	25	23	18	18	14	16	16	48	7	56
Mar 22	9	6	15	26	33	18	21	70	15	10	12	12	13	15	13	14	12	6	6	11	21	20	40	36	6	70
Mar 23	64	52	55	44	58	**78**	26	64	17	22	22	20	30	38	9	19	13	65	6	5	6	**4**	6	7	**4**	**78**
Mar 24	7	15	10	11	10	13	12	14	22	32	33	36	71	61	54	15	14	11	8	16	11	16	9	16	7	71
Mar 25	5	7	14	9	9	16	16	14	19	21	16	15	25	37	28	16	25	8	6	5	7	5	7	14	5	37
Mar 26	22	12	10	9	7	8	10	11	18	23	21	31	55	41	45	59	14	32	14	9	10	10	8	8	7	59
Mar 27	9	10	8	27	41	41	51	9	23	43	38	41	15	10	34	25	28	38	18	16	25	**4**	10	9	**4**	51
Mar 28	8	10	12	12	11	14	14	42	30	26	50	61	71	25	21	16	12	9	5	5	8	9	9	7	5	71
Mar 29	8	5	15	10	12	14	7	6	37	24	36	29	19	30	30	12	10	8	6	7	7	6	9	7	5	37
Mar 30	11	27	13	26	22	15	13	10	38	20	36	45	40	27	26	28	18	18	22	22	13	12	9	9	9	45
Mar 31	8	8	9	11	14	8	10	14	20	22	26	25	23	13	13	18	14	13	8	14	10	8	11	17	8	26
Diurnal Minimum	5	5	6	5	5	4	6	5	9	9	10	9	9	10	9	9	8	6	5	5	5	4	5	5		
Diurnal Maximum	64	56	65	47	74	78	58	70	38	63	50	75	71	72	63	59	28	65	25	37	54	51	53	55		

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.



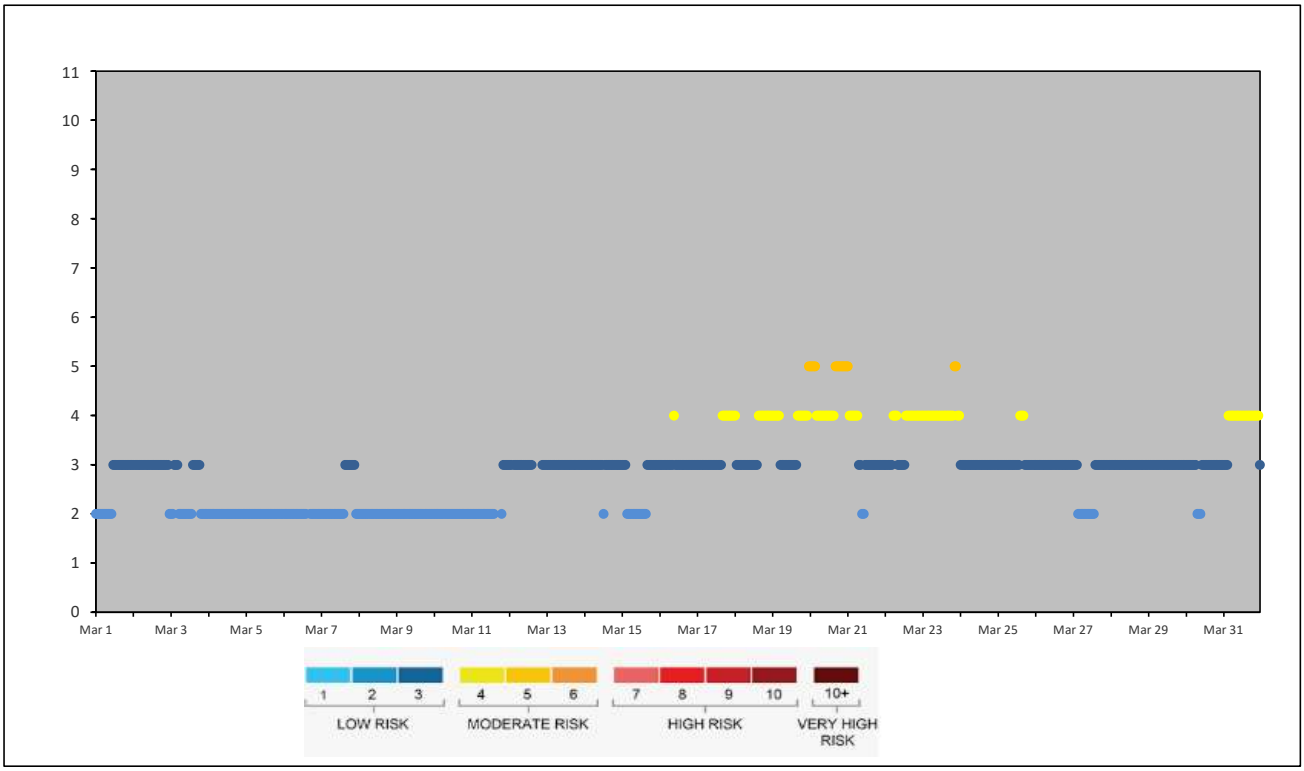
ST. LINA STATION

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - March 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
Mar 1	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2
Mar 3	2	2	3	3	3	2	2	2	2	2	2	2	2	2	3	3	3	3	3	2	2	2	2	2
Mar 4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mar 5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mar 6	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2			2	2	2	2	2	2	2
Mar 7	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	2	2
Mar 8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mar 9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mar 10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mar 11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2					2	3	3	3	3
Mar 12	3	3		3	3	3	3	3	3	3	3	3	3	3	3							3	3	3
Mar 13	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 14	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3
Mar 15	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3
Mar 16	3	3	3	3	3	3	3	3	3	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 17	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4
Mar 18	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4
Mar 19	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	5
Mar 20	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5
Mar 21	5	4	4	4	4	4	4	3	3	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 22	3	3	3	3	3	4	4	4	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4
Mar 23	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	4	4
Mar 24	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 25	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	3	3	3	3	3	3	3
Mar 26	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 27	3	3	3	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3
Mar 28	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 29	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 30	3	3	3	3	3	3	3	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 31	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3



Lakeland Industry & Community Association

St. Lina Site - March 2023

Summary of Hourly Averages

SULPHUR DIOXIDE (SO_2) in ppb

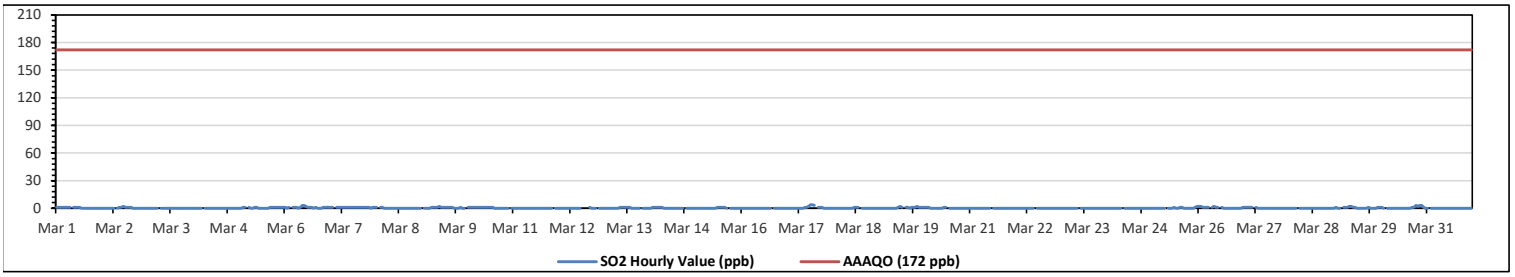
Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 172 ppb, 24-Hour 48 ppb, 30-Day 11 ppb

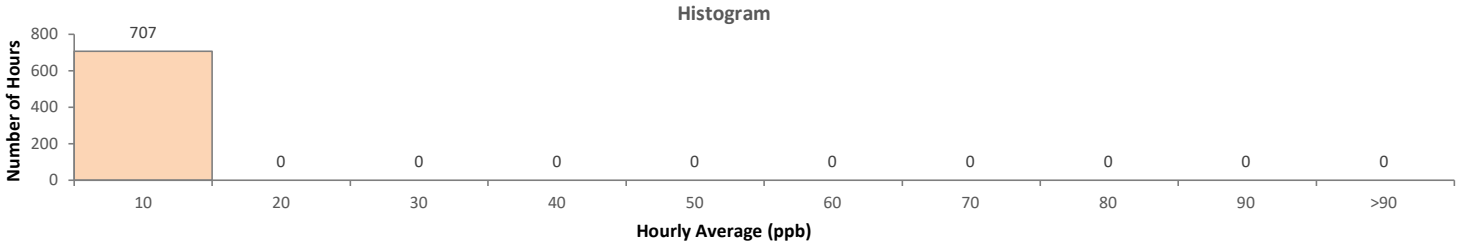
Number of 1-Hour Exceedances:	0	Number of 24-Hour Exceedances:	0	30-Day Exceedence:	0	
Maximum Hourly Value:	4	ppb	on Mar 17 at hr 12	Hours in Service:	744	
Maximum Daily Value:	1.0	ppb	on Mar 6	Hours of Data:	707	
Minimum Hourly Value:	0	ppb	on Mar 1 at hr 13	Hours of Missing Data:	1	
Minimum Daily Value:	0.0	ppb	on Mar 3	Hours of Calibration:	36	
Monthly Average:	0.3	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			
Mar 1	1	1	1	1	1	1	1	1	S	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.5
Mar 2	0	0	0	0	0	0	0	S	0	1	1	2	1	1	1	1	0	0	0	0	0	0	0	0	0	2	0.3
Mar 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
Mar 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
Mar 5	0	0	1	1	S	1	0	0	1	1	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	1	0.6
Mar 6	1	0	1	S	1	1	1	0	1	3	3	2	1	1	1	0	1	0	0	0	1	1	1	1	0	3	**1.0**
Mar 7	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	**1.0**
Mar 8	1	S	1	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
Mar 9	S	0	0	0	0	1	1	1	1	2	1	1	1	1	1	1	1	0	0	0	0	1	0	0	S	2	0.6
Mar 10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	S	0	0	1	0.6
Mar 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
Mar 12	0	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	1	0	0	0	S	0	0	0	0	1	0.1
Mar 13	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	S	0	0	0	0	0	1	0.3
Mar 14	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	1	0.3
Mar 15	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	S	0	0	0	0	0	0	0	1	0.2
Mar 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
Mar 17	0	0	0	0	0	0	0	0	0	1	1	2	**4**	**4**	3	S	1	1	1	0	0	0	0	0	0	**4**	0.8
Mar 18	0	0	0	0	0	0	0	0	0	0	0	1	1	1	S	0	0	0	0	0	0	0	0	0	0	1	0.1
Mar 19	0	0	0	0	0	0	0	0	0	0	1	2	1	S	1	1	0	1	1	1	2	1	1	1	0	2	0.6
Mar 20	1	1	1	0	0	0	0	0	0	0	1	1	S	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2
Mar 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
Mar 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
Mar 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
Mar 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
Mar 25	0	0	0	0	0	0	0	S	0	0	0	1	0	0	1	1	0	0	0	0	0	0	1	2	0	2	0.3
Mar 26	2	2	1	1	1	1	S	1	2	1	1	K	1	0	0	0	0	0	0	0	0	0	0	1	0	2	0.7
Mar 27	1	1	1	1	1	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3
Mar 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
Mar 29	1	0	0	S	1	1	1	2	2	1	1	0	0	0	0	0	0	1	0	0	0	0	1	1	0	2	0.6
Mar 30	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3	2	3	3	1	0	0	3	0.7
Mar 31	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
Diurnal Maximum	2	2	1	1	1	1	1	2	2	3	3	2	4	4	3	1	1	1	3	2	3	3	1	2			
Diurnal Average	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.5	0.5	0.6	0.5	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	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.



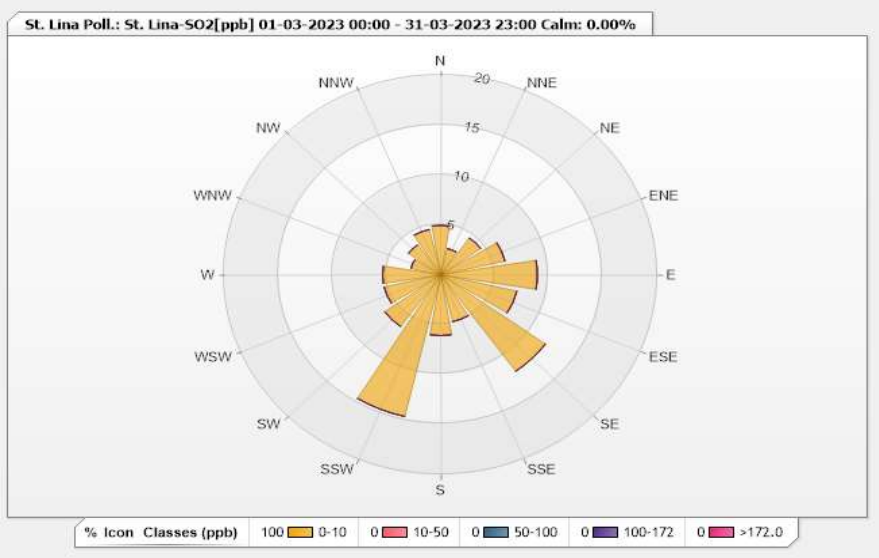


Station: St. Lina Poll.: St. Lina-SO2[ppb] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 95.03% Calm Avg: 0.00 [ppm]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	4.95	0	0	0	0	4.95
NNE	2.69	0	0	0	0	2.69
NE	4.53	0	0	0	0	4.53
ENE	6.08	0	0	0	0	6.08
E	8.91	0	0	0	0	8.91
ESE	7.21	0	0	0	0	7.21
SE	11.88	0	0	0	0	11.88
SSE	4.81	0	0	0	0	4.81
S	6.08	0	0	0	0	6.08
SSW	14.57	0	0	0	0	14.57
SW	6.36	0	0	0	0	6.36
WSW	5.37	0	0	0	0	5.37
W	5.37	0	0	0	0	5.37
WNW	2.83	0	0	0	0	2.83
NW	3.68	0	0	0	0	3.68
NNW	4.67	0	0	0	0	4.67
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

St. Lina Site - March 2023

Summary of Hourly Averages

HYDROGEN SULPHIDE (H_2S) in ppb

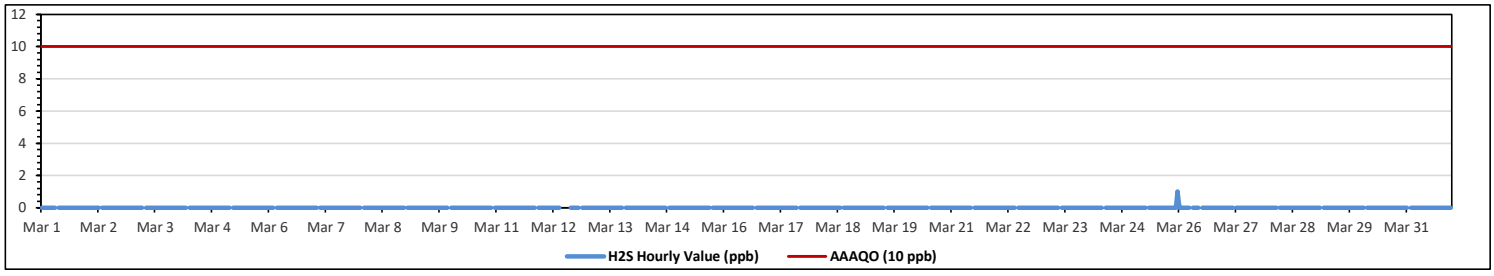
Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 10 ppb, 24-Hour 3 ppb

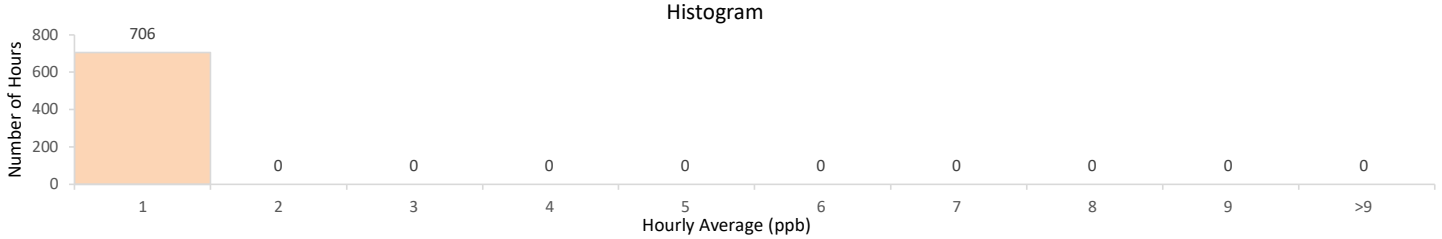
Number of 1-Hour Exceedances:	0		Number of 24-Hour Exceedances:	0		
Maximum Hourly Value:	1	ppb	on Mar 25 at hr 23	Hours in Service:	744	
Maximum Daily Value:	0.0	ppb	on Mar 1	Hours of Data:	706	
Minimum Hourly Value:	0	ppb	on Mar 1 at hr 0	Hours of Missing Data:	1	
Minimum Daily Value:	0.0	ppb	on Mar 1	Hours of Calibration:	37	
Monthly Average:	0.0	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			
Mar 1	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
Mar 2	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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 12	0	0	0	0	0	0	0	0	0	0	C	C	C	C	C	0	0	0	0	0	S	0	0	0	0	0	0.0
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 25	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.0
Mar 26	0	0	0	0	0	0	S	0	0	0	0	K	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Mar 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
Mar 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
Mar 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
Mar 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
Mar 31	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
Diurnal Maximum	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
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.



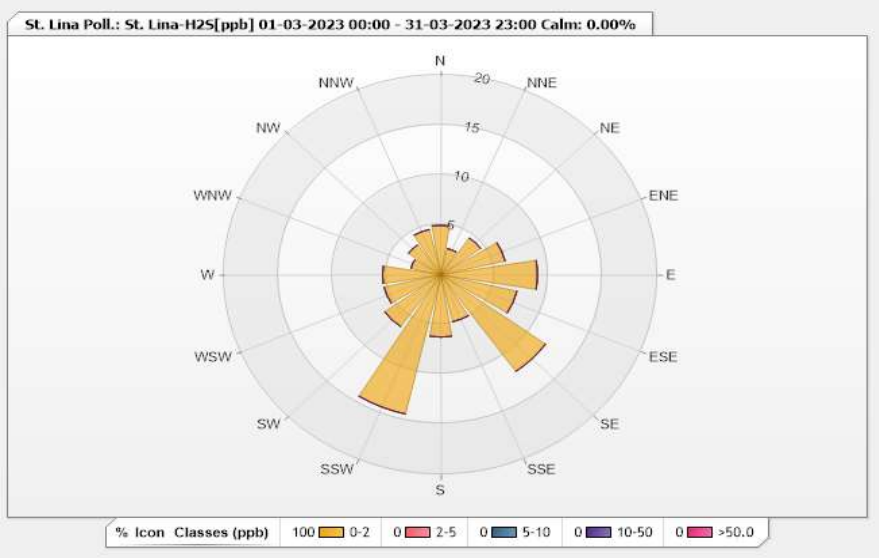


Station: St. Lina Poll.: St. Lina-H2S[ppb] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	4.96	0	0	0	0	4.96
NNE	2.69	0	0	0	0	2.69
NE	4.53	0	0	0	0	4.53
ENE	6.09	0	0	0	0	6.09
E	8.92	0	0	0	0	8.92
ESE	7.22	0	0	0	0	7.22
SE	11.9	0	0	0	0	11.9
SSE	4.82	0	0	0	0	4.82
S	6.23	0	0	0	0	6.23
SSW	14.31	0	0	0	0	14.31
SW	6.37	0	0	0	0	6.37
WSW	5.38	0	0	0	0	5.38
W	5.38	0	0	0	0	5.38
WNW	2.83	0	0	0	0	2.83
NW	3.68	0	0	0	0	3.68
NNW	4.67	0	0	0	0	4.67
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

St. Lina Site - March 2023

Summary of Hourly Averages

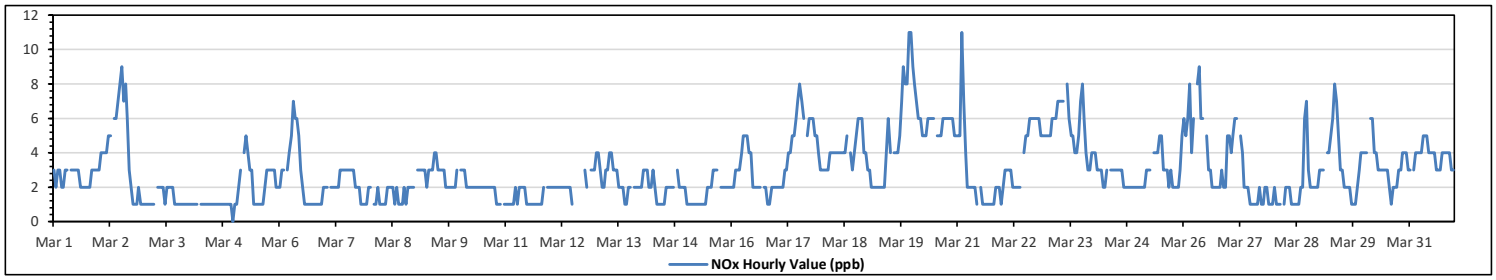
OXIDES OF NITROGEN (NOx) in ppb

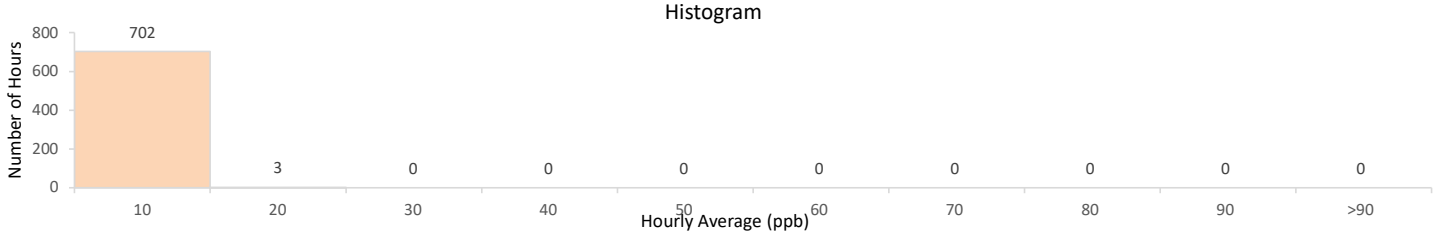
Maximum Hourly Value:	11	ppb	on Mar 19 at hr 22	Hours in Service:	744	
Maximum Daily Value:	5.9	ppb	on Mar 20	Hours of Data:	705	
Minimum Hourly Value:	0	ppb	on Mar 4 at hr 23	Hours of Missing Data:	1	
Minimum Daily Value:	1.0	ppb	on Mar 4	Hours of Calibration:	38	
Monthly Average:	3.0	ppb		Operational 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			
Mar 1	3	2	3	3	2	2	3	3	S	3	3	3	3	3	2	2	2	2	2	2	3	3	3	3	2	3	2.6
Mar 2	3	4	4	4	4	5	5	S	6	6	7	8	9	7	8	6	3	2	1	1	1	2	1	1	1	9	4.3
Mar 3	1	1	1	1	1	1	S	2	2	2	2	1	2	2	2	2	1	1	1	1	1	1	1	1	1	2	1.3
Mar 4	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	**0**	1	**1.0**
Mar 5	1	1	2	3	S	4	5	4	3	3	1	1	1	1	1	1	2	3	3	3	3	3	2	2	1	5	2.3
Mar 6	2	3	3	S	3	4	5	7	6	6	5	3	2	1	1	1	1	1	1	1	1	1	1	2	1	7	2.7
Mar 7	2	2	S	2	2	2	2	2	3	3	3	3	3	3	3	3	2	2	2	1	1	1	1	2	1	3	2.2
Mar 8	2	S	1	1	2	1	1	1	1	2	2	2	2	1	2	1	1	1	2	1	2	2	2	2	1	2	1.5
Mar 9	S	3	3	3	3	3	2	3	3	3	4	4	3	3	3	3	2	2	2	2	2	2	3	S	2	4	2.8
Mar 10	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	S	1	1	3	2.0
Mar 11	1	1	1	1	1	2	1	2	2	2	2	1	1	1	1	1	1	1	1	1	2	S	2	2	1	2	1.3
Mar 12	2	2	2	2	2	2	2	2	2	2	2	1	C	C	C	C	C	C	3	2	S	3	3	3	1	3	NA
Mar 13	4	4	3	2	2	3	3	4	4	3	3	3	2	2	2	1	1	2	2	S	2	2	2	2	1	4	2.5
Mar 14	2	3	3	3	2	2	3	2	1	1	1	1	1	2	2	2	2	2	S	3	2	2	2	2	1	3	2.0
Mar 15	1	1	1	1	1	1	1	1	1	1	1	2	2	2	3	3	3	S	2	2	2	2	2	2	1	3	1.7
Mar 16	2	2	3	3	3	4	5	5	5	4	4	2	2	2	2	2	S	2	2	1	1	2	2	2	1	5	2.7
Mar 17	2	2	2	2	3	3	4	4	5	5	6	7	8	7	6	S	5	6	6	6	5	5	4	3	2	8	4.6
Mar 18	3	3	3	3	4	4	4	4	4	4	4	4	4	5	S	4	3	4	5	6	6	6	4	4	3	6	4.1
Mar 19	3	3	2	2	2	2	2	2	2	2	4	6	4	S	4	4	4	5	7	9	8	8	**11**	**11**	2	**11**	4.7
Mar 20	9	8	7	6	6	5	5	5	6	6	6	6	S	5	5	5	6	6	6	6	6	6	5	5	5	9	**5.9**
Mar 21	5	5	**11**	7	4	2	2	2	2	2	1	S	2	1	1	1	1	1	1	1	2	2	2	1	1	**11**	2.6
Mar 22	2	3	3	3	3	2	2	2	2	2	S	4	5	5	6	6	6	6	6	6	5	5	5	5	2	6	4.1
Mar 23	5	5	6	6	6	7	7	7	7	S	8	6	5	5	4	4	5	7	8	6	4	3	3	4	3	8	5.6
Mar 24	4	4	3	3	3	2	2	3	S	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	4	2.7
Mar 25	2	2	2	2	3	3	3	S	4	4	4	5	5	3	3	3	2	3	2	2	2	2	3	5	2	5	3.0
Mar 26	6	5	6	8	4	6	S	8	9	6	6	K	5	3	3	2	2	2	2	2	3	2	2	5	2	9	4.4
Mar 27	5	4	5	6	6	S	5	4	2	2	2	1	1	1	1	1	2	1	1	2	2	1	1	1	1	6	2.5
Mar 28	2	1	1	1	S	1	2	2	2	1	1	1	1	1	2	2	6	7	3	2	2	2	2	2	1	7	2.0
Mar 29	3	3	3	S	4	4	5	6	8	7	5	3	3	2	2	2	2	1	1	1	2	3	4	4	1	8	3.4
Mar 30	4	4	S	6	6	4	4	3	3	3	3	3	3	2	1	2	2	2	3	3	4	4	4	3	1	6	3.3
Mar 31	3	S	3	4	4	4	4	5	5	5	4	4	4	4	3	3	3	4	4	4	4	4	3	3	3	5	3.8
Diurnal Maximum	9	8	11	8	6	7	7	8	9	7	8	8	9	7	8	6	6	7	8	9	8	8	11	11			
Diurnal Average	2.9	2.9	3.1	3.1	3.1	3.0	3.2	3.4	3.6	3.2	3.3	3.1	3.1	2.8	2.7	2.5	2.6	2.8	2.8	2.7	2.7	2.8	2.8	2.8			

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.



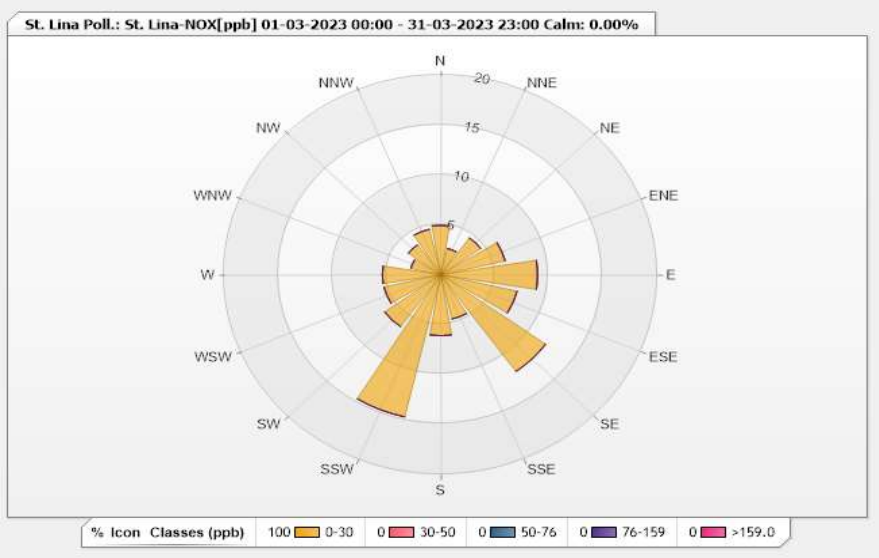


Station: St. Lina Poll.: St. Lina-NOX[ppb] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	4.96	0	0	0	0	4.96
NNE	2.7	0	0	0	0	2.7
NE	4.54	0	0	0	0	4.54
ENE	6.1	0	0	0	0	6.1
E	8.94	0	0	0	0	8.94
ESE	7.23	0	0	0	0	7.23
SE	11.91	0	0	0	0	11.91
SSE	4.54	0	0	0	0	4.54
S	6.1	0	0	0	0	6.1
SSW	14.61	0	0	0	0	14.61
SW	6.38	0	0	0	0	6.38
WSW	5.39	0	0	0	0	5.39
W	5.39	0	0	0	0	5.39
WNW	2.84	0	0	0	0	2.84
NW	3.69	0	0	0	0	3.69
NNW	4.68	0	0	0	0	4.68
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

St. Lina Site - March 2023

Summary of Hourly Averages

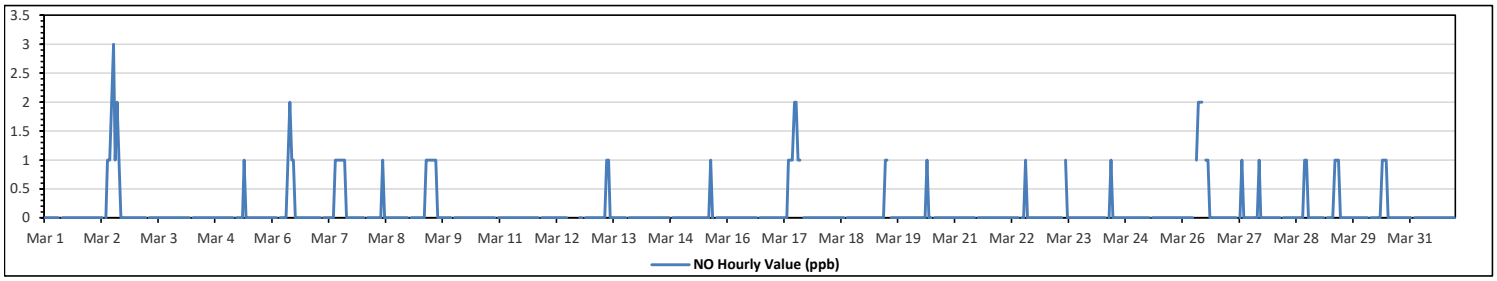
NITRIC OXIDE (NO) in ppb

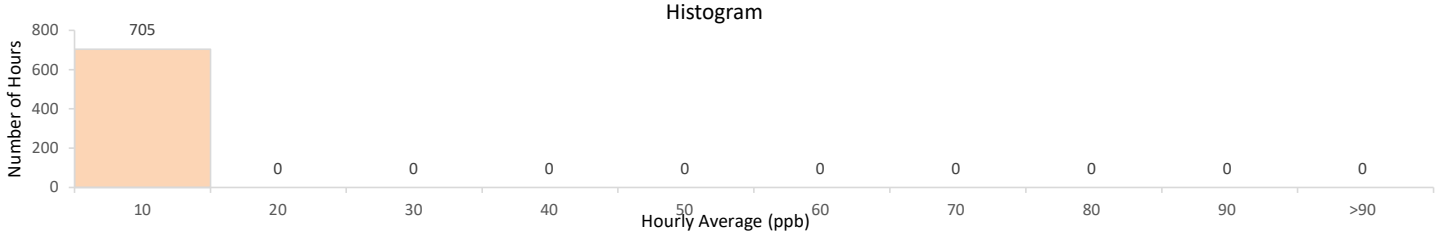
Maximum Hourly Value:	3	ppb	on Mar 2 at hr 12	Hours in Service:	744	
Maximum Daily Value:	0.5	ppb	on Mar 2	Hours of Data:	705	
Minimum Hourly Value:	0	ppb	on Mar 1 at hr 0	Hours of Missing Data:	1	
Minimum Daily Value:	0.0	ppb	on Mar 1	Hours of Calibration:	38	
Monthly Average:	0.1	ppb		Operational Uptime:	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			
Mar 1	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
Mar 2	0	0	0	0	0	0	0	S	0	1	1	2	3	1	2	1	0	0	0	0	0	0	0	0	0	3	0.5
Mar 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
Mar 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
Mar 5	0	0	0	0	S	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Mar 6	0	0	0	S	0	0	0	0	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2
Mar 7	0	0	S	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0.3
Mar 8	0	S	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Mar 9	S	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	S	0	1	0.3
Mar 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
Mar 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
Mar 12	0	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	C	C	0	0	S	0	0	0	0	0	NA
Mar 13	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	1	0.1
Mar 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
Mar 15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	S	0	0	0	0	0	0	0	1	0.0
Mar 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
Mar 17	0	0	0	0	0	0	0	0	1	1	1	2	2	1	1	S	0	0	0	0	0	0	0	0	0	2	0.4
Mar 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
Mar 19	0	0	0	0	0	0	0	0	0	0	0	1	1	S	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Mar 20	0	0	0	0	0	0	0	0	0	1	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Mar 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
Mar 22	0	0	0	0	0	0	0	0	0	0	S	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Mar 23	0	0	0	0	0	0	0	0	0	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Mar 24	0	0	0	0	0	0	0	0	S	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Mar 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
Mar 26	0	0	0	0	0	0	S	1	2	2	2	K	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0.4
Mar 27	0	0	0	0	0	S	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0.1
Mar 28	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0.1
Mar 29	0	0	0	S	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Mar 30	0	0	S	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Mar 31	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
Diurnal Maximum	0	0	0	0	0	0	0	1	2	2	2	2	3	1	2	1	1	1	0	0	0	0	0	0			
Diurnal Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.1	0.1	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.



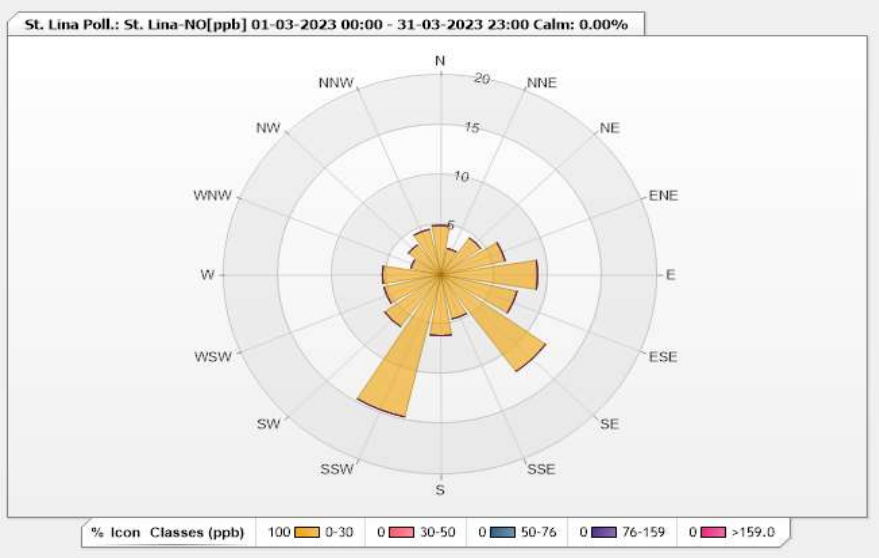


Station: St. Lina Poll.: St. Lina-NO[ppb] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	4.96	0	0	0	0	4.96
NNE	2.7	0	0	0	0	2.7
NE	4.54	0	0	0	0	4.54
ENE	6.1	0	0	0	0	6.1
E	8.94	0	0	0	0	8.94
ESE	7.23	0	0	0	0	7.23
SE	11.91	0	0	0	0	11.91
SSE	4.54	0	0	0	0	4.54
S	6.1	0	0	0	0	6.1
SSW	14.61	0	0	0	0	14.61
SW	6.38	0	0	0	0	6.38
WSW	5.39	0	0	0	0	5.39
W	5.39	0	0	0	0	5.39
WNW	2.84	0	0	0	0	2.84
NW	3.69	0	0	0	0	3.69
NNW	4.68	0	0	0	0	4.68
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

St. Lina Site - March 2023

Summary of Hourly Averages

NITROGEN DIOXIDE (NO_2) in ppb

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

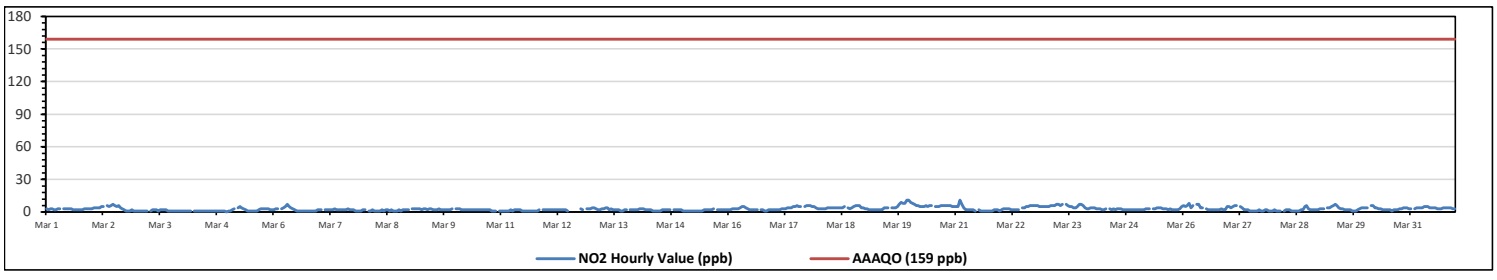
Number of 1-Hour Exceedances: 0

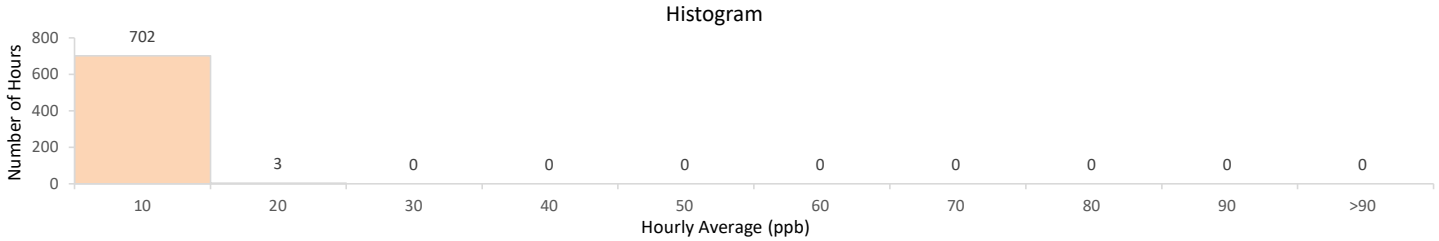
Maximum Hourly Value:	11	ppb	on Mar 19 at hr 22	Hours in Service:	744	
Maximum Daily Value:	5.9	ppb	on Mar 20	Hours of Data:	705	
Minimum Hourly Value:	0	ppb	on Mar 4 at hr 23	Hours of Missing Data:	1	
Minimum Daily Value:	1.0	ppb	on Mar 4	Hours of Calibration:	38	
Monthly Average:	2.8	ppb		Operational 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			
Mar 1	3	2	3	3	2	2	3	3	S	3	3	3	3	3	2	2	2	2	2	2	3	3	3	3	2	3	2.6
Mar 2	3	4	4	4	4	5	5	S	6	5	6	7	6	5	6	4	3	2	1	1	1	2	1	1	1	7	3.7
Mar 3	1	1	1	1	1	1	S	1	2	2	2	1	2	2	2	2	1	1	1	1	1	1	1	1	1	2	1.3
Mar 4	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	**0**	1	**1.0**
Mar 5	1	1	2	3	S	4	5	4	3	2	1	1	1	1	1	1	2	3	3	3	3	3	2	2	1	5	2.3
Mar 6	2	3	3	S	3	4	5	7	5	4	3	2	1	1	1	1	1	1	1	1	1	1	1	2	1	7	2.3
Mar 7	2	2	S	2	2	2	2	2	3	2	2	2	2	2	2	3	2	2	2	1	1	1	1	2	1	3	1.9
Mar 8	2	S	1	1	2	1	1	1	1	2	1	2	2	1	2	1	1	1	2	1	2	2	2	2	1	2	1.5
Mar 9	S	3	3	3	3	3	2	3	3	2	3	3	2	2	2	3	2	2	2	2	2	2	3	S	2	3	2.5
Mar 10	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	S	1	1	3	2.0
Mar 11	1	1	1	1	1	2	1	2	2	2	2	1	1	1	1	1	1	1	1	1	2	S	2	2	1	2	1.3
Mar 12	2	2	2	2	2	2	2	2	2	2	2	1	C	C	C	C	C	C	3	2	S	3	3	3	1	3	NA
Mar 13	4	4	3	2	2	3	3	4	4	2	3	2	2	2	2	1	1	2	2	S	2	2	2	2	1	4	2.4
Mar 14	2	3	3	3	2	2	2	2	1	1	1	1	1	2	2	2	2	2	S	2	2	2	2	2	1	3	1.9
Mar 15	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	3	S	2	2	2	2	2	2	1	3	1.6
Mar 16	2	2	3	3	3	3	4	5	5	4	3	2	2	2	2	2	S	2	2	1	1	2	2	2	1	5	2.6
Mar 17	2	2	2	2	3	3	3	4	4	4	5	5	6	5	5	S	5	6	6	6	5	5	4	3	2	6	4.1
Mar 18	3	3	3	3	4	4	4	4	4	4	4	4	4	5	S	4	3	4	5	6	6	6	4	4	3	6	4.1
Mar 19	3	3	2	2	2	2	2	2	2	2	4	4	4	S	4	4	4	5	7	9	8	8	**11**	**11**	2	**11**	4.6
Mar 20	9	8	7	6	6	5	5	5	6	5	6	6	S	5	5	5	6	6	6	6	6	6	5	5	5	9	**5.9**
Mar 21	5	5	**11**	7	4	2	2	2	2	2	1	S	2	1	1	1	1	1	1	1	2	2	2	1	1	**11**	2.6
Mar 22	2	3	3	3	3	2	2	2	2	2	S	4	4	5	5	6	6	6	6	6	5	5	5	5	2	6	4.0
Mar 23	5	5	6	6	6	7	7	6	7	S	7	6	5	5	4	4	5	7	7	6	4	3	3	4	3	7	5.4
Mar 24	4	4	3	3	3	2	2	3	S	3	2	3	2	3	3	3	2	2	2	2	2	2	2	2	2	4	2.6
Mar 25	2	2	2	2	3	3	3	S	3	3	4	4	4	3	3	3	2	3	2	2	2	2	3	5	2	5	2.8
Mar 26	6	5	6	8	4	6	S	7	7	4	4	K	3	2	2	2	2	2	2	2	3	2	2	5	2	8	3.9
Mar 27	5	4	5	6	6	S	5	4	2	2	2	1	1	1	1	1	2	1	1	2	2	1	1	1	1	6	2.5
Mar 28	2	1	1	1	S	1	2	2	2	1	1	1	1	1	2	2	5	6	3	2	2	2	2	2	1	6	2.0
Mar 29	3	3	3	S	4	4	5	6	7	6	4	3	3	2	2	2	2	1	1	1	2	3	4	4	1	7	3.3
Mar 30	4	4	S	6	6	4	4	3	3	2	2	2	2	2	1	2	2	2	3	3	4	4	4	3	1	6	3.1
Mar 31	3	S	3	4	4	4	4	5	5	5	4	4	4	4	3	3	3	4	4	4	4	4	3	3	3	5	3.8
Diurnal Maximum	9	8	11	8	6	7	7	7	7	6	7	7	6	5	6	6	6	7	7	9	8	8	11	11			
Diurnal Average	2.9	2.9	3.1	3.1	3.1	3.0	3.1	3.3	3.3	2.7	2.9	2.8	2.6	2.5	2.4	2.4	2.6	2.8	2.8	2.7	2.7	2.8	2.8	2.8			

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.



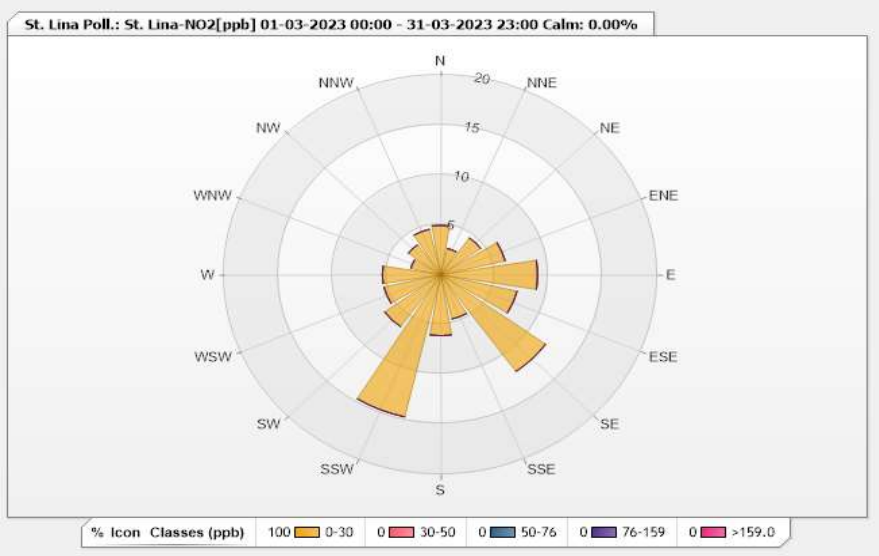


Station: St. Lina Poll.: St. Lina-NO2[ppb] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	4.96	0	0	0	0	4.96
NNE	2.7	0	0	0	0	2.7
NE	4.54	0	0	0	0	4.54
ENE	6.1	0	0	0	0	6.1
E	8.94	0	0	0	0	8.94
ESE	7.23	0	0	0	0	7.23
SE	11.91	0	0	0	0	11.91
SSE	4.54	0	0	0	0	4.54
S	6.1	0	0	0	0	6.1
SSW	14.61	0	0	0	0	14.61
SW	6.38	0	0	0	0	6.38
WSW	5.39	0	0	0	0	5.39
W	5.39	0	0	0	0	5.39
WNW	2.84	0	0	0	0	2.84
NW	3.69	0	0	0	0	3.69
NNW	4.68	0	0	0	0	4.68
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

St. Lina Site - March 2023

Summary of Hourly Averages

OZONE (O_3) in ppb

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

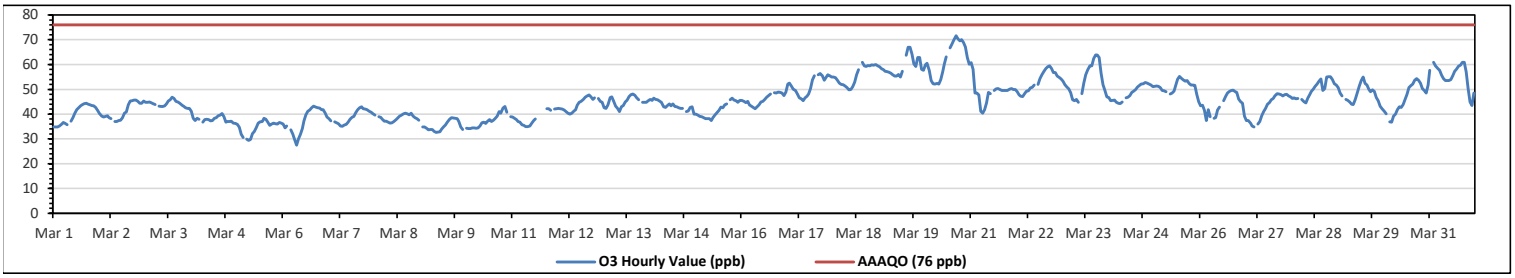
Number of 1-Hour Exceedances: 0

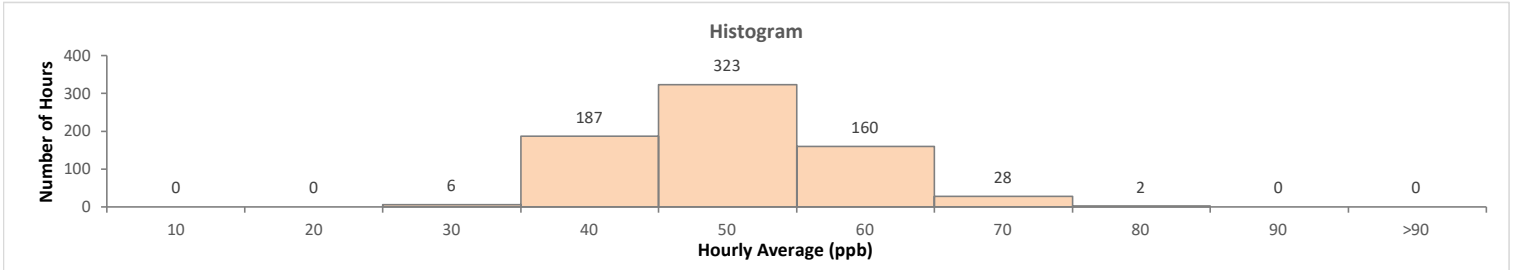
Maximum Hourly Value:	71.6	ppb	on Mar 20 at hr 16	Hours in Service:	744
Maximum Daily Value:	61.7	ppb	on Mar 20	Hours of Data:	706
Minimum Hourly Value:	27.5	ppb	on Mar 6 at hr 7	Hours of Missing Data:	1
Minimum Daily Value:	34.7	ppb	on Mar 5	Hours of Calibration:	37
Monthly Average:	45.7	ppb		Operational 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			
Mar 1	34.9	34.9	34.9	35.2	35.8	36.6	36.2	35.7	S	37.2	38.6	40.4	41.8	42.5	43.4	43.9	44.2	44.3	44	43.8	43.5	43.3	42.7	41.5	34.9	44.3	40.0
Mar 2	40.2	39.2	38.8	39.1	39.4	38.6	38.1	S	37	37.1	37.5	37.6	38.6	40.4	40.9	43.8	45.3	45.4	45.7	45.7	45.2	44.3	44.4	45.3	37.0	45.7	41.2
Mar 3	44.8	44.8	44.9	44.6	44.2	43.9	S	43.2	43.1	43.1	43.3	44.2	45.3	45.8	46.8	46.3	45.1	44.9	44.3	43.6	43.1	42.5	42.3	42.3	42.3	46.8	44.2
Mar 4	41.1	38.3	37.5	38.3	37.9	S	36.8	37.7	37.9	37.7	37.3	37.5	38.3	38.6	39.4	39.6	40.2	38.9	36.7	37.1	37.1	37.2	36.3	36.2	36.2	41.1	38.0
Mar 5	35.8	34.7	31.8	30.6	S	29.9	29.3	29.8	32.1	33.1	34.6	36.3	36.9	37.1	38.3	37.9	36.8	35.5	36	36.4	36.1	36	36.6	36.4	29.3	38.3	**34.7**
Mar 6	35.9	34.5	35.2	S	33.6	32	29.6	27.5	30	31.8	34.2	37.3	39.8	41.1	41.7	42.6	43.2	42.8	42.6	42.4	41.8	41.8	40.5	38.8	**27.5**	43.2	37.4
Mar 7	38.2	37.3	S	36.9	36.5	36.1	35.3	35.1	35.6	35.8	36.7	37.9	38.7	39.1	40.6	41.9	42.6	43	42.1	42	41.9	41.2	40.7	40.1	35.1	43.0	38.9
Mar 8	39.6	S	39	38.7	37.9	37.2	37.2	36.7	36.4	36.5	37.1	37.8	38.6	39.2	39.7	40.1	40.3	40.1	39.8	40.3	39.3	38.5	38.2	37.6	36.4	40.3	38.5
Mar 9	S	34.9	34.8	34.3	33.6	33.8	33.8	33	32.7	32.8	32.9	33.9	34.8	35.6	36.8	37.9	38.6	38.4	38.3	38.2	37	34.8	33.7	S	32.7	38.6	35.2
Mar 10	34.3	34.2	34.1	34.5	34.4	34.3	34.4	35.3	36.5	36.7	36.2	37.2	37.8	37.1	37.6	38.3	39.3	41	40.4	42.4	43.1	40.8	S	39	34.1	43.1	37.3
Mar 11	38.8	38.3	37.8	37	36.8	35.7	35.5	35	35	35.2	36.3	37.4	38	C	C	C	C	C	42.2	42.1	41.6	S	42	42.1	35.0	42.2	38.2
Mar 12	42.3	42.1	42	41.7	41	40.4	40	40.3	41.2	41.9	43.6	44.7	45.2	45.9	46.8	47.3	47.8	47	46	46.6	S	46.3	45.2	44.8	40.0	47.8	43.9
Mar 13	42.5	42.3	43.7	46.7	46.9	45.1	43.2	42.3	41	43	43.5	44.9	45.7	47.1	47.9	48.2	47.6	46.5	45.8	S	44.8	44.7	44.7	45.4	41.0	48.2	44.9
Mar 14	46	45.6	46.4	46	45.8	45.3	44.8	43	42.7	43.5	44.1	43.4	44.1	43.1	42.9	42.5	42.3	42.3	S	41	41.3	42.7	42.9	40	40.0	46.4	43.6
Mar 15	39.9	39.7	39.1	39	38.5	38.2	38.2	38.1	37.5	38.6	39.7	40.6	41.6	42.8	42.6	43.7	44.1	S	45.8	46.4	45.7	45.4	44.8	45.5	37.5	46.4	41.5
Mar 16	45.5	45.2	44.6	45.1	43.7	43.2	42.7	42.2	42.9	43.8	44.9	45.2	45.9	46.8	47.5	48.1	S	48.6	48.4	48.9	48.8	48.5	47.5	48.9	42.2	48.9	46.0
Mar 17	52.1	52.5	51.3	50.1	49.6	48.2	46.5	46.2	45.4	46.5	47.2	48.1	50.3	53.8	55.5	S	55.8	56.4	55.5	53.7	54.7	55.8	55.4	54.9	45.4	56.4	51.5
Mar 18	54.9	54.7	53.7	52.5	52	51.9	51.4	50.6	49.8	49.9	51	52.8	55.8	57.9	S	61	59.4	59.2	59.6	59.4	59.8	59.7	60	59.4	49.8	61.0	55.5
Mar 19	59.1	58.4	57.9	57.3	57.1	56.9	56.5	55.8	55.3	55.3	56	54.9	57.3	S	63.7	67	67	64.2	60.3	59.2	62.9	62.9	58.1	57.7	54.9	67.0	59.2
Mar 20	59.9	60.5	57.6	53.5	52.3	52.1	52.4	52.2	54	57	60.1	63.2	S	66.7	68.2	69.9	**71.6**	70.3	69.6	70	68.9	67.1	62.9	60.1	52.1	**71.6**	**61.7**
Mar 21	60.8	58.1	48.5	48.5	47.7	41.2	40.3	41.8	44.5	48.7	48.3	S	49.6	50.2	50.4	50	49.5	49.6	49.6	49.6	50.1	50.3	50	49.9	40.3	60.8	49.0
Mar 22	49	47.7	47.2	47.1	48.3	49.3	49.4	50.5	50.8	51.7	S	52	54.3	55.9	57.1	58.3	59.1	59.5	58.5	56.8	56.8	55.3	54.8	54.2	47.1	59.5	53.2
Mar 23	53.2	51.9	50.9	50.2	48.6	45.8	45.4	46	44.7	S	48.3	52.6	55.8	57.8	59.4	59.5	62.5	63.8	63.8	62.9	56.6	51.9	49.6	46.9	44.7	63.8	53.4
Mar 24	46.7	45.4	45.6	45.7	44.7	44.4	44.2	44.9	S	46.5	46.8	47.5	48.7	49.3	50	50.9	51.5	52.1	52.3	52.7	52.6	52.1	51.8	51	44.2	52.7	48.6
Mar 25	51.2	51.4	51.2	50.7	49.5	49.4	49	S	48.1	48.5	49.3	51.5	54.1	55.2	54.5	53.8	53.2	53.5	52.4	51.8	51.7	51.6	48	45	45.0	55.2	51.1
Mar 26	43.3	43.6	41.5	37.5	41.8	38.9	S	38.3	38.5	41.7	42.8	K	45.4	47.1	48.4	49.1	49.5	49.7	49.2	48.7	46.1	45	44.4	39.3	37.5	49.7	44.1
Mar 27	37.5	37.5	36.3	35.2	34.8	S	36	37.1	39.4	41	42.3	44	44.6	45.8	46.3	47.4	48.3	48.2	47.9	47.4	47.9	48	47.4	46.9	34.8	48.3	42.9
Mar 28	46.3	46.5	46.2	46.3	S	45.9	45	44.5	46.4	47.9	49.1	50.1	51.2	52.1	53.3	54.2	49.5	50.3	54.9	55.1	55.1	53.9	52.3	51.7	44.5	55.1	49.9
Mar 29	50.6	48.5	47.4	S	45.9	45.6	44.9	44	43.9	45.8	48.8	51.4	53.6	54.9	52.4	51.7	49.9	49	49.8	49.1	46.7	45.4	43.2	42.2	42.2	54.9	48.0
Mar 30	41.1	40.1	S	36.9	36.7	39.3	40	41.8	42.9	42.7	43.9	45.9	48	50.7	51.5	52.2	53.7	54.4	53.7	52.5	50.4	49.5	48.5	51.7	36.7	54.4	46.4
Mar 31	57.7	S	61	59.4	58.5	57.7	55.7	54.4	53.6	53.5	53.6	54	55.5	57.3	58.2	59.3	59.7	61	60.9	57	50.4	44.9	43.5	48.4	43.5	61.0	55.4
Diurnal Maximum	60.8	60.5	61.0	59.4	58.5	57.7	56.5	55.8	55.3	57.0	60.1	63.2	57.3	66.7	68.2	69.9	71.6	70.3	69.6	70.0	68.9	67.1	62.9	60.1			
Diurnal Average	45.4	44.2	44.2	43.4	43.2	42.7	41.8	41.5	42.0	42.8	43.6	45.0	45.8	47.5	48.3	49.2	49.6	49.7	49.2	48.8	48.0	47.4	46.4	46.1			

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.



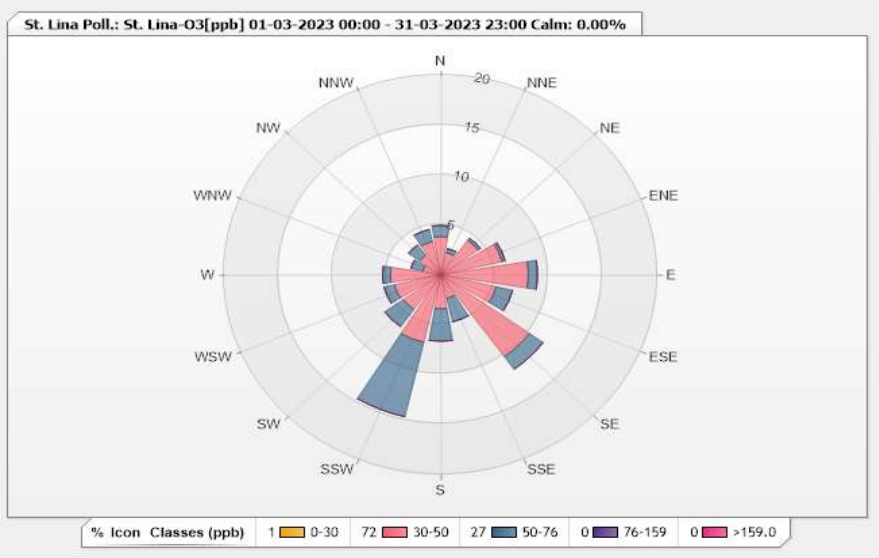


Station: St. Lina Poll.: St. Lina-O3[ppb] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	0	3.82	1.13	0	0	4.95
NNE	0	2.27	0.42	0	0	2.69
NE	0.42	3.82	0.28	0	0	4.52
ENE	0	5.81	0.28	0	0	6.09
E	0	8.07	0.85	0	0	8.92
ESE	0.28	4.96	1.56	0	0	6.8
SE	0	10.06	1.56	0	0	11.62
SSE	0	2.41	2.41	0	0	4.82
S	0	3.4	3.26	0	0	6.66
SSW	0	6.94	7.65	0	0	14.59
SW	0	4.25	2.12	0	0	6.37
WSW	0	4.39	0.99	0	0	5.38
W	0	4.67	0.71	0	0	5.38
WNW	0	1.7	1.13	0	0	2.83
NW	0	2.41	1.27	0	0	3.68
NNW	0	3.4	1.27	0	0	4.67
Summary	0.7	72.38	26.89	0	0	100



Lakeland Industry & Community Association

St. Lina Site - March 2023

Summary of Hourly Averages

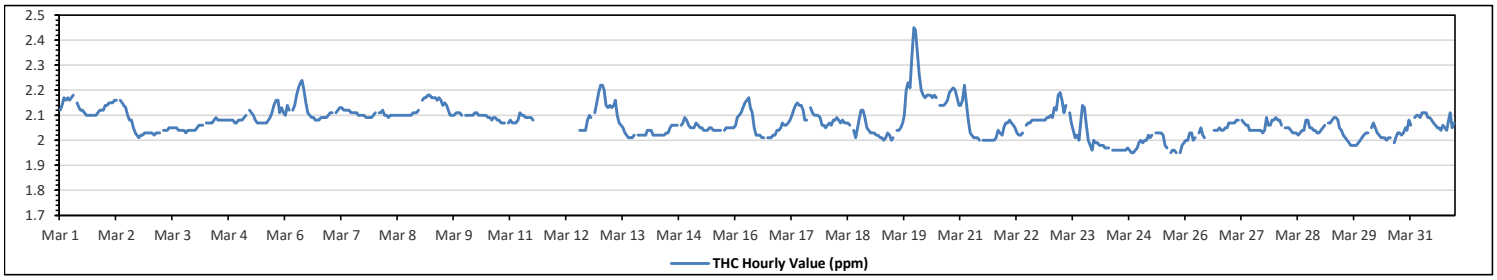
TOTAL HYDROCARBONS (THC) in ppm

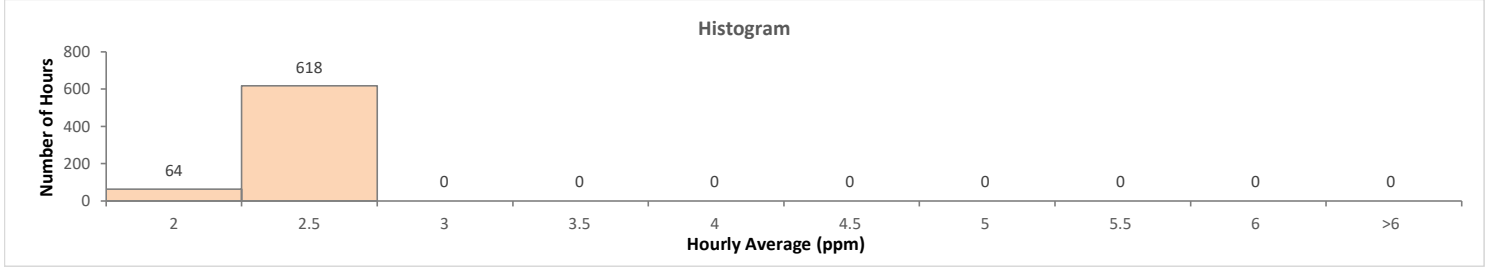
Maximum Hourly Value:	2.45	ppm	on Mar 19 at hr 23	Hours in Service:	744
Maximum Daily Value:	2.20	ppm	on Mar 20	Hours of Data:	682
Minimum Hourly Value:	1.95	ppm	on Mar 24 at hr 19	Hours of Missing Data:	26
Minimum Daily Value:	1.97	ppm	on Mar 24	Hours of Calibration:	36
Monthly Average:	2.07	ppm		Operational 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
Mar 1	2.12	2.14	2.17	2.16	2.17	2.16	2.17	2.18	S	2.15	2.13	2.12	2.12	2.11	2.10	2.10	2.10	2.10	2.10	2.10	2.11	2.12	2.12	2.12	2.10	2.18	2.13
Mar 2	2.14	2.14	2.15	2.15	2.15	2.16	2.16	S	2.16	2.15	2.14	2.13	2.10	2.08	2.08	2.05	2.03	2.02	2.01	2.02	2.02	2.03	2.03	2.03	2.01	2.16	2.09
Mar 3	2.03	2.03	2.02	2.03	2.03	2.03	S	2.04	2.04	2.04	2.05	2.05	2.05	2.05	2.05	2.04	2.04	2.04	2.04	2.03	2.04	2.04	2.04	2.04	2.02	2.05	2.04
Mar 4	2.04	2.05	2.06	2.06	2.06	S	2.07	2.07	2.07	2.07	2.08	2.09	2.08	2.08	2.08	2.08	2.08	2.08	2.08	2.08	2.08	2.07	2.07	2.08	2.04	2.09	2.07
Mar 5	2.08	2.08	2.09	2.10	S	2.12	2.11	2.10	2.08	2.07	2.07	2.07	2.07	2.07	2.07	2.08	2.09	2.11	2.14	2.16	2.16	2.11	2.13	2.11	2.07	2.16	2.10
Mar 6	2.10	2.14	2.12	S	2.12	2.14	2.18	2.21	2.23	2.24	2.20	2.15	2.11	2.10	2.09	2.09	2.08	2.08	2.08	2.09	2.09	2.09	2.09	2.10	2.08	2.24	2.13
Mar 7	2.11	2.11	S	2.11	2.12	2.13	2.13	2.12	2.12	2.12	2.12	2.11	2.11	2.11	2.11	2.10	2.10	2.10	2.10	2.09	2.09	2.09	2.09	2.10	2.09	2.13	2.11
Mar 8	2.11	S	2.11	2.11	2.12	2.10	2.10	2.09	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.11	2.11	2.11	2.12	2.09	2.12	2.10
Mar 9	S	2.16	2.17	2.17	2.18	2.18	2.17	2.17	2.17	2.16	2.17	2.16	2.14	2.15	2.14	2.12	2.10	2.10	2.10	2.11	2.11	2.11	2.10	S	2.10	2.18	2.14
Mar 10	2.10	2.10	2.10	2.10	2.10	2.11	2.11	2.10	2.10	2.10	2.10	2.10	2.09	2.09	2.08	2.09	2.09	2.08	2.08	2.07	2.07	2.07	S	2.07	2.07	2.11	2.09
Mar 11	2.08	2.07	2.07	2.07	2.08	2.11	2.10	2.10	2.09	2.09	2.09	2.09	2.08	C	C	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	2.07	2.11	NA
Mar 12	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	C	C	C	2.04	2.04	2.04	2.04	2.08	2.10	2.09	S	2.11	2.15	2.19	2.04	2.19	NA
Mar 13	2.22	2.22	2.20	2.14	2.13	2.14	2.13	2.14	2.16	2.10	2.07	2.06	2.05	2.03	2.02	2.01	2.01	2.01	2.02	S	2.02	2.02	2.02	2.02	2.01	2.22	2.08
Mar 14	2.02	2.04	2.04	2.04	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.03	2.03	2.05	2.06	2.06	2.06	2.06	S	2.06	2.07	2.09	2.08	2.06	2.02	2.09	2.04
Mar 15	2.05	2.05	2.05	2.07	2.06	2.05	2.05	2.04	2.04	2.04	2.05	2.05	2.04	2.04	2.04	2.04	2.04	S	2.04	2.05	2.05	2.05	2.05	2.05	2.04	2.07	2.05
Mar 16	2.06	2.09	2.10	2.11	2.13	2.15	2.16	2.17	2.13	2.11	2.05	2.02	2.02	2.02	2.01	2.01	S	2.01	2.01	2.01	2.02	2.02	2.04	2.04	2.01	2.17	2.06
Mar 17	2.05	2.07	2.06	2.06	2.07	2.08	2.10	2.12	2.14	2.15	2.14	2.14	2.12	2.08	2.08	S	2.13	2.11	2.10	2.10	2.10	2.09	2.06	2.06	2.05	2.15	2.10
Mar 18	2.05	2.06	2.07	2.06	2.08	2.08	2.09	2.08	2.07	2.08	2.07	2.07	2.07	2.06	S	2.04	2.01	2.05	2.09	2.12	2.12	2.09	2.05	2.04	2.01	2.12	2.07
Mar 19	2.03	2.03	2.03	2.02	2.02	2.01	2.01	2.00	2.01	2.03	2.02	2.00	2.01	S	2.04	2.04	2.05	2.07	2.10	2.20	2.23	2.21	2.34	**2.45**	2.00	**2.45**	2.08
Mar 20	2.44	2.35	2.26	2.20	2.18	2.17	2.18	2.18	2.18	2.17	2.18	2.17	S	2.14	2.14	2.14	2.15	2.16	2.19	2.20	2.21	2.20	2.17	2.14	2.14	2.44	**2.20**
Mar 21	2.14	2.16	2.22	2.15	2.08	2.03	2.02	2.01	2.01	2.01	2.00	S	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.01	2.04	2.03	2.02	2.05	2.00	2.22	2.04
Mar 22	2.07	2.07	2.08	2.07	2.06	2.05	2.03	2.02	2.02	2.03	S	2.06	2.07	2.07	2.08	2.08	2.08	2.08	2.08	2.08	2.08	2.08	2.09	2.09	2.02	2.09	2.07
Mar 23	2.10	2.09	2.13	2.12	2.18	2.19	2.16	2.11	2.14	S	2.11	2.07	2.04	2.01	2.02	2.00	2.08	2.14	2.13	2.06	2.00	1.98	1.96	2.00	1.96	2.19	2.08
Mar 24	1.99	1.99	1.98	1.98	1.98	1.97	1.97	1.97	S	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.96	1.95	1.95	1.96	1.97	1.99	1.95	1.99	1.97
Mar 25	2.00	1.99	2.00	2.00	2.02	2.01	2.02	S	2.03	2.03	2.03	2.03	2.02	1.98	1.97	X	1.95	1.96	1.96	1.95	X	1.95	1.98	1.99	1.95	2.03	1.99
Mar 26	2.00	2.00	2.03	2.03	2.00	2.01	S	2.03	2.05	2.02	2.01	K	NRM	NRM	NRM	2.04	2.04	2.04	2.05	2.04	2.04	2.05	2.05	2.07	2.00	2.07	2.03
Mar 27	2.07	2.07	2.07	2.08	2.08	S	2.08	2.07	2.06	2.06	2.04	2.04	2.04	2.04	2.04	2.04	2.04	2.03	2.04	2.09	2.06	2.06	2.08	2.08	2.03	2.09	2.06
Mar 28	2.09	2.08	2.08	2.06	S	2.05	2.05	2.05	2.04	2.03	2.03	2.03	2.02	2.03	2.04	2.04	2.08	2.08	2.05	2.05	2.04	2.04	2.03	2.03	2.02	2.09	2.05
Mar 29	2.04	2.05	2.06	S	2.07	2.07	2.08	2.09	2.09	2.08	2.05	2.04	2.02	2.01	2.00	1.99	1.98	1.98	1.98	1.98	1.99	2.00	2.01	2.02	1.98	2.09	2.03
Mar 30	2.03	2.03	S	2.05	2.07	2.05	2.03	2.02	2.01	2.01	2.01	2.00	2.01	2.01	Y	1.99	2.01	2.03	2.03	2.02	2.03	2.05	2.04	2.08	1.99	2.08	2.03
Mar 31	2.06	S	2.09	2.10	2.10	2.09	2.11	2.11	2.11	2.09	2.09	2.08	2.07	2.06	2.05	2.05	2.04	2.06	2.05	2.04	2.08	2.11	2.05	2.07	2.04	2.11	2.08
Diurnal Maximum	2.44	2.35	2.26	2.20	2.18	2.19	2.18	2.21	2.23	2.24	2.20	2.17	2.14	2.15	2.14	2.14	2.15	2.16	2.19	2.20	2.23	2.21	2.34	2.45			
Diurnal Average	2.08	2.09	2.09	2.09	2.09	2.09	2.09	2.09	2.09	2.08	2.08	2.07	2.06	2.06	2.06	2.05	2.05	2.06	2.06	2.07	2.07	2.07	2.07	2.08			

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.



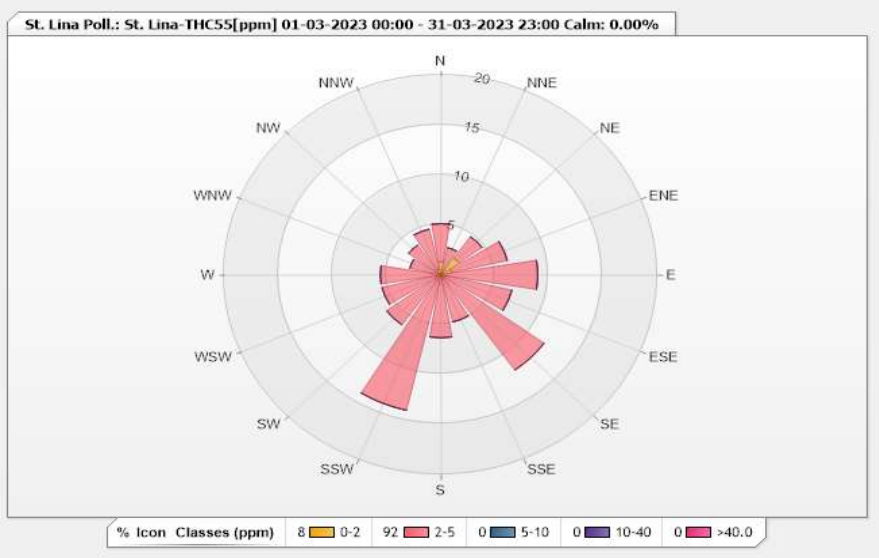


Station: St. Lina Poll.: St. Lina-THC55[ppm] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 91.67% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	1.32	3.81	0	0	0	5.13
NNE	0.15	2.64	0	0	0	2.79
NE	2.05	2.64	0	0	0	4.69
ENE	1.03	5.28	0	0	0	6.31
E	0.15	8.8	0	0	0	8.95
ESE	0.44	6.3	0	0	0	6.74
SE	0	11.73	0	0	0	11.73
SSE	0.29	4.55	0	0	0	4.84
S	0	6.3	0	0	0	6.3
SSW	0.15	13.78	0	0	0	13.93
SW	0.59	5.57	0	0	0	6.16
WSW	0.44	5.13	0	0	0	5.57
W	0.15	5.43	0	0	0	5.58
WNW	0	2.93	0	0	0	2.93
NW	0.59	3.08	0	0	0	3.67
NNW	0.59	4.11	0	0	0	4.7
Summary	7.94	92.08	0	0	0	100



Lakeland Industry & Community Association

St. Lina Site - March 2023

Summary of Hourly Averages

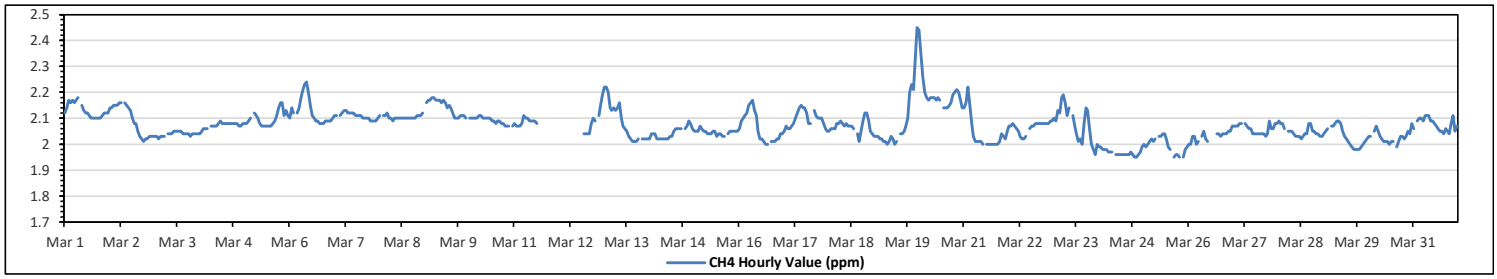
METHANE (CH4) in ppm

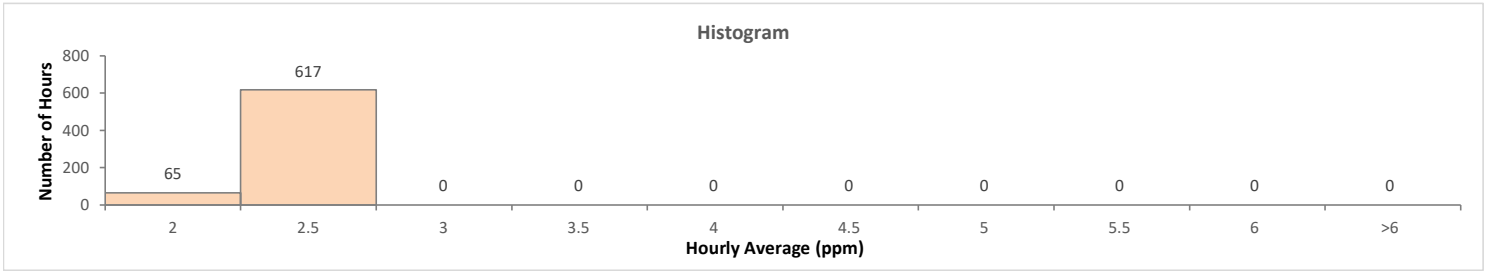
Maximum Hourly Value:	2.45	ppm	on Mar 19 at hr 23	Hours in Service:	744
Maximum Daily Value:	2.20	ppm	on Mar 20	Hours of Data:	682
Minimum Hourly Value:	1.95	ppm	on Mar 24 at hr 19	Hours of Missing Data:	26
Minimum Daily Value:	1.97	ppm	on Mar 24	Hours of Calibration:	36
Monthly Average:	2.07	ppm		Operational 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			
Mar 1	2.12	2.14	2.17	2.16	2.17	2.16	2.17	2.18	S	2.15	2.13	2.12	2.12	2.11	2.10	2.10	2.10	2.10	2.10	2.10	2.11	2.12	2.12	2.12	2.10	2.18	2.13
Mar 2	2.14	2.14	2.15	2.15	2.15	2.16	2.16	S	2.16	2.15	2.14	2.13	2.10	2.08	2.08	2.05	2.03	2.02	2.01	2.02	2.02	2.03	2.03	2.03	2.01	2.16	2.09
Mar 3	2.03	2.03	2.02	2.03	2.03	2.03	S	2.04	2.04	2.04	2.05	2.05	2.05	2.05	2.05	2.04	2.04	2.04	2.04	2.03	2.04	2.04	2.04	2.04	2.02	2.05	2.04
Mar 4	2.04	2.05	2.06	2.06	2.06	S	2.07	2.07	2.07	2.07	2.08	2.09	2.08	2.08	2.08	2.08	2.08	2.08	2.08	2.08	2.08	2.07	2.07	2.08	2.04	2.09	2.07
Mar 5	2.08	2.08	2.09	2.10	S	2.12	2.11	2.10	2.08	2.07	2.07	2.07	2.07	2.07	2.07	2.08	2.09	2.11	2.14	2.16	2.16	2.11	2.13	2.11	2.07	2.16	2.10
Mar 6	2.10	2.14	2.12	S	2.12	2.14	2.18	2.21	2.23	2.24	2.20	2.15	2.11	2.10	2.09	2.09	2.08	2.08	2.08	2.09	2.09	2.09	2.09	2.10	2.08	2.24	2.13
Mar 7	2.11	2.11	S	2.11	2.12	2.13	2.13	2.12	2.12	2.12	2.12	2.11	2.11	2.11	2.11	2.10	2.10	2.10	2.10	2.09	2.09	2.09	2.09	2.10	2.09	2.13	2.11
Mar 8	2.11	S	2.11	2.11	2.12	2.10	2.10	2.09	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.11	2.11	2.11	2.12	2.09	2.12	2.10
Mar 9	S	2.16	2.17	2.17	2.18	2.18	2.17	2.17	2.17	2.16	2.17	2.16	2.14	2.15	2.14	2.12	2.10	2.10	2.10	2.11	2.11	2.11	2.10	S	2.10	2.18	2.14
Mar 10	2.10	2.10	2.10	2.10	2.10	2.11	2.11	2.10	2.10	2.10	2.10	2.10	2.09	2.09	2.08	2.09	2.09	2.08	2.08	2.07	2.07	2.07	S	2.07	2.07	2.11	2.09
Mar 11	2.08	2.07	2.07	2.07	2.08	2.11	2.10	2.10	2.09	2.09	2.09	2.09	2.08	C	C	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	2.07	2.11	NA
Mar 12	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	C	C	C	2.04	2.04	2.04	2.04	2.08	2.10	2.09	S	2.11	2.15	2.19	2.04	2.19	NA
Mar 13	2.22	2.22	2.20	2.14	2.13	2.14	2.13	2.14	2.16	2.10	2.07	2.06	2.05	2.03	2.02	2.01	2.01	2.01	2.02	S	2.02	2.02	2.02	2.02	2.01	2.22	2.08
Mar 14	2.02	2.04	2.04	2.04	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.03	2.03	2.05	2.06	2.06	2.06	2.06	S	2.06	2.07	2.09	2.08	2.06	2.02	2.09	2.04
Mar 15	2.05	2.05	2.05	2.07	2.06	2.05	2.05	2.04	2.04	2.04	2.05	2.05	2.03	2.04	2.04	2.03	2.03	S	2.04	2.05	2.05	2.05	2.05	2.05	2.03	2.07	2.05
Mar 16	2.06	2.09	2.10	2.11	2.12	2.15	2.16	2.17	2.13	2.11	2.05	2.02	2.02	2.01	2.00	2.00	S	2.01	2.01	2.01	2.02	2.02	2.04	2.04	2.00	2.17	2.06
Mar 17	2.05	2.07	2.06	2.06	2.07	2.08	2.10	2.12	2.14	2.15	2.14	2.14	2.12	2.08	2.08	S	2.13	2.11	2.10	2.10	2.10	2.08	2.06	2.05	2.05	2.15	2.10
Mar 18	2.05	2.06	2.06	2.06	2.08	2.08	2.09	2.08	2.07	2.08	2.07	2.07	2.07	2.06	S	2.04	2.01	2.05	2.09	2.12	2.12	2.09	2.05	2.04	2.01	2.12	2.07
Mar 19	2.03	2.03	2.03	2.02	2.02	2.01	2.01	2.00	2.01	2.03	2.02	2.00	2.01	S	2.04	2.04	2.05	2.07	2.10	2.20	2.23	2.21	2.34	**2.45**	2.00	**2.45**	2.08
Mar 20	2.44	2.35	2.26	2.20	2.18	2.17	2.18	2.18	2.18	2.17	2.18	2.17	S	2.14	2.14	2.14	2.15	2.16	2.19	2.20	2.21	2.20	2.17	2.14	2.14	2.44	**2.20**
Mar 21	2.14	2.16	2.22	2.15	2.08	2.03	2.01	2.01	2.01	2.01	2.00	S	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.01	2.04	2.03	2.02	2.05	2.00	2.22	2.04
Mar 22	2.07	2.07	2.08	2.07	2.06	2.05	2.03	2.02	2.02	2.03	S	2.06	2.07	2.07	2.08	2.08	2.08	2.08	2.08	2.08	2.08	2.08	2.09	2.09	2.02	2.09	2.07
Mar 23	2.10	2.09	2.13	2.12	2.18	2.19	2.16	2.11	2.14	S	2.11	2.07	2.04	2.01	2.02	2.00	2.08	2.14	2.13	2.06	2.00	1.98	1.96	2.00	1.96	2.19	2.08
Mar 24	1.99	1.99	1.98	1.98	1.98	1.97	1.97	1.97	S	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.96	1.95	1.95	1.96	1.97	1.99	1.95	1.99	1.97
Mar 25	2.00	1.99	2.00	2.01	2.02	2.01	2.02	S	2.03	2.03	2.04	2.04	2.02	1.99	1.98	X	1.95	1.96	1.96	1.95	X	1.95	1.98	1.99	1.95	2.04	2.00
Mar 26	2.00	2.00	2.03	2.03	2.00	2.01	S	2.03	2.05	2.02	2.01	K	NRM	NRM	NRM	2.04	2.04	2.03	2.04	2.04	2.04	2.05	2.05	2.07	2.00	2.07	2.03
Mar 27	2.07	2.07	2.07	2.08	2.08	S	2.08	2.07	2.06	2.06	2.04	2.04	2.04	2.04	2.04	2.04	2.04	2.03	2.04	2.09	2.06	2.06	2.08	2.08	2.03	2.09	2.06
Mar 28	2.09	2.08	2.08	2.06	S	2.05	2.05	2.05	2.04	2.03	2.03	2.03	2.02	2.03	2.04	2.04	2.08	2.08	2.05	2.05	2.04	2.04	2.03	2.03	2.02	2.09	2.05
Mar 29	2.04	2.05	2.06	S	2.07	2.07	2.08	2.09	2.09	2.08	2.05	2.03	2.02	2.01	2.00	1.99	1.98	1.98	1.98	1.98	1.99	2.00	2.01	2.02	1.98	2.09	2.03
Mar 30	2.03	2.03	S	2.05	2.07	2.05	2.03	2.02	2.01	2.01	2.01	2.00	2.01	2.01	Y	1.99	2.01	2.03	2.03	2.02	2.03	2.05	2.04	2.08	1.99	2.08	2.03
Mar 31	2.06	S	2.09	2.10	2.10	2.09	2.11	2.11	2.11	2.09	2.09	2.08	2.07	2.06	2.05	2.05	2.04	2.06	2.05	2.04	2.08	2.11	2.05	2.07	2.04	2.11	2.08
Diurnal Maximum	2.44	2.35	2.26	2.20	2.18	2.19	2.18	2.21	2.23	2.24	2.20	2.17	2.14	2.15	2.14	2.14	2.15	2.16	2.19	2.20	2.23	2.21	2.34	2.45			
Diurnal Average	2.08	2.09	2.09	2.09	2.09	2.09	2.09	2.09	2.09	2.08	2.08	2.07	2.06	2.06	2.06	2.05	2.05	2.06	2.06	2.07	2.07	2.07	2.07	2.08			

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.



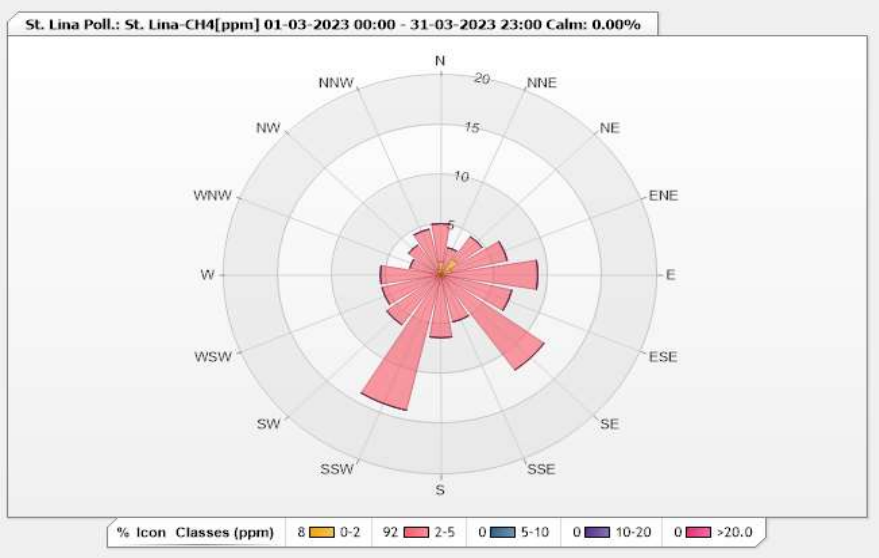


Station: St. Lina Poll.: St. Lina-CH4[ppm] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 91.67% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	1.32	3.81	0	0	0	5.13
NNE	0.15	2.64	0	0	0	2.79
NE	1.91	2.79	0	0	0	4.7
ENE	1.03	5.28	0	0	0	6.31
E	0.15	8.8	0	0	0	8.95
ESE	0.44	6.3	0	0	0	6.74
SE	0	11.73	0	0	0	11.73
SSE	0.29	4.55	0	0	0	4.84
S	0	6.3	0	0	0	6.3
SSW	0.15	13.78	0	0	0	13.93
SW	0.59	5.57	0	0	0	6.16
WSW	0.44	5.13	0	0	0	5.57
W	0.15	5.43	0	0	0	5.58
WNW	0	2.93	0	0	0	2.93
NW	0.59	3.08	0	0	0	3.67
NNW	0.59	4.11	0	0	0	4.7
Summary	7.8	92.23	0	0	0	100



Lakeland Industry & Community Association

St. Lina Site - March 2023

Summary of Hourly Averages

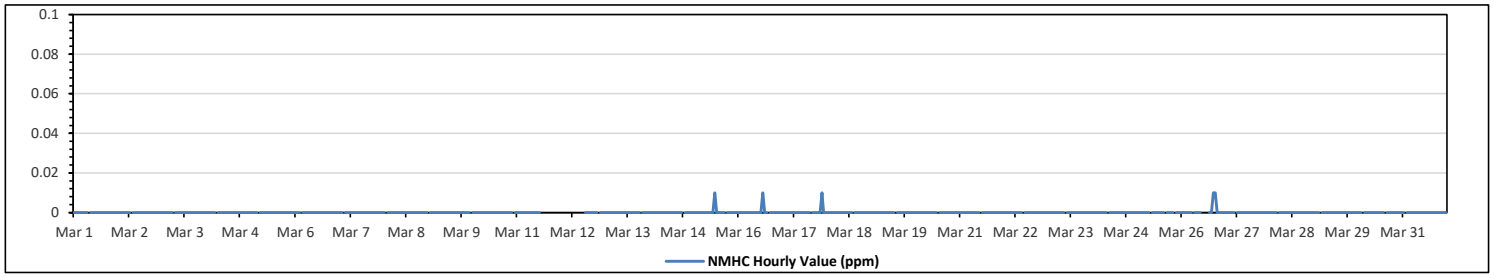
NON-METHANE HYDROCARBONS (NMHC) in ppm

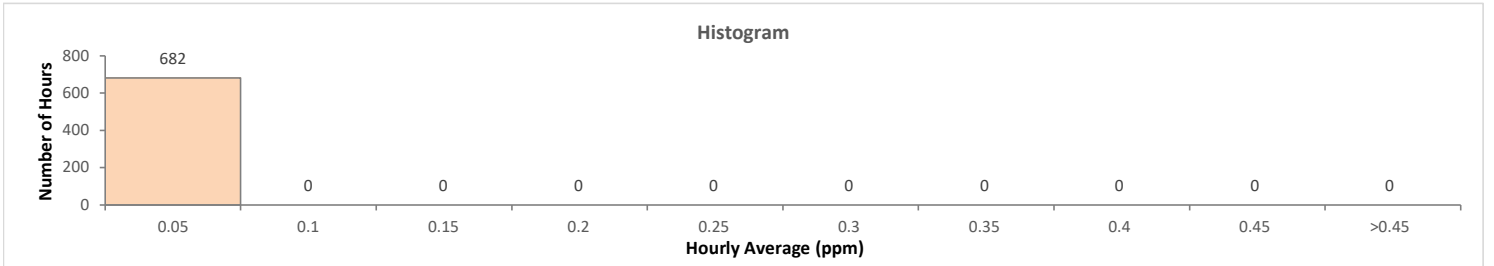
Maximum Hourly Value:	0.01	ppm	on Mar 15 at hr 11	Hours in Service:	744
Maximum Daily Value:	0.00	ppm	on Mar 26	Hours of Data:	682
Minimum Hourly Value:	0.00	ppm	on Mar 1 at hr 0	Hours of Missing Data:	26
Minimum Daily Value:	0.00	ppm	on Mar 1	Hours of Calibration:	36
Monthly Average:	0.00	ppm		Operational 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			
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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	C	C	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	0.00	0.00	NA
Mar 12	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	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	NA
Mar 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
Mar 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
Mar 15	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.01**	0.00
Mar 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	**0.01**	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.01**	0.00
Mar 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	**0.01**	0.00	0.00	0.00	**0.01**	0.00
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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	X	0.00	0.00	0.00	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00
Mar 26	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	K	NRM	NRM	NRM	0.00	0.00	**0.01**	**0.01**	0.00	0.00	0.00	0.00	0.00	0.00	**0.01**	**0.00**
Mar 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
Mar 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
Mar 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
Mar 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	Y	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 31	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
Diurnal Maximum	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	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.01	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.



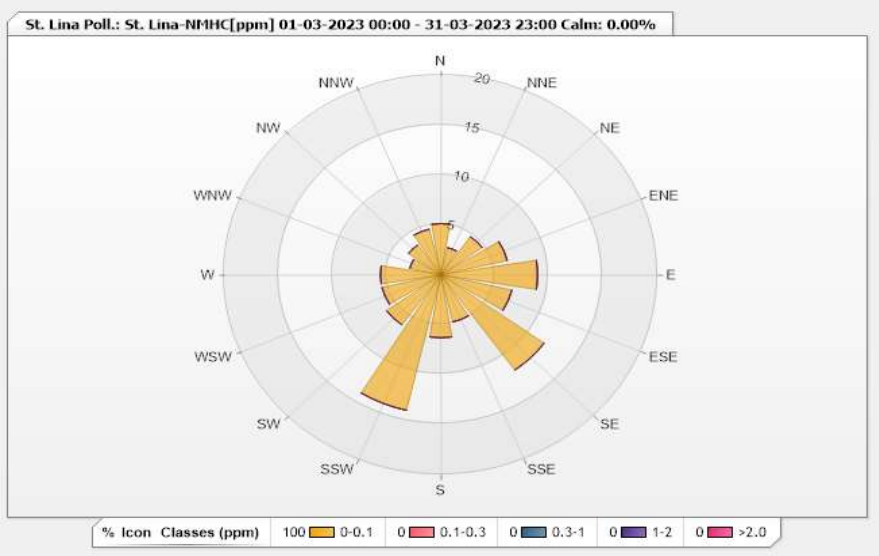


Station: St. Lina Poll.: St. Lina-NMHC[ppm] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 91.67% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	5.13	0	0	0	0	5.13
NNE	2.79	0	0	0	0	2.79
NE	4.69	0	0	0	0	4.69
ENE	6.3	0	0	0	0	6.3
E	8.94	0	0	0	0	8.94
ESE	6.74	0	0	0	0	6.74
SE	11.73	0	0	0	0	11.73
SSE	4.84	0	0	0	0	4.84
S	6.3	0	0	0	0	6.3
SSW	13.93	0	0	0	0	13.93
SW	6.16	0	0	0	0	6.16
WSW	5.57	0	0	0	0	5.57
W	5.57	0	0	0	0	5.57
WNW	2.93	0	0	0	0	2.93
NW	3.67	0	0	0	0	3.67
NNW	4.69	0	0	0	0	4.69
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

St. Lina Site - March 2023

Summary of Hourly Averages

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

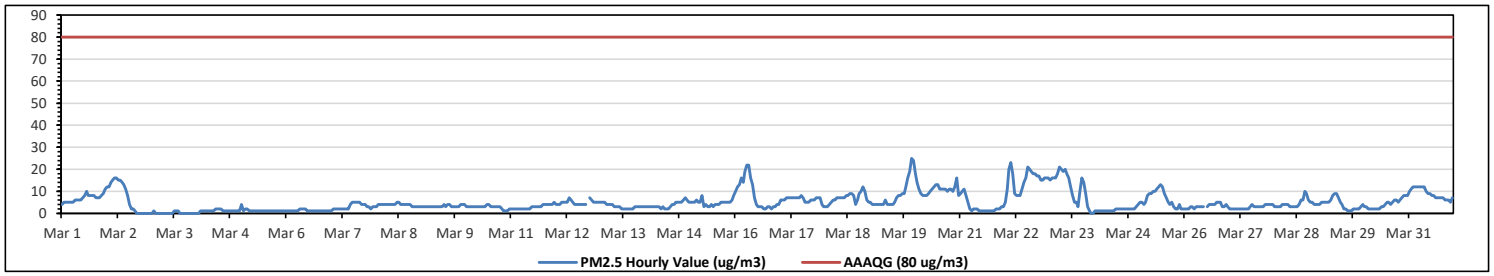
Alberta Ambient Air Quality Guideline (AAAQG): 1-Hour 80 µg/m3, Alberta Ambient Air Quality Objective (AAAQO): 24-Hour 29 µg/m3

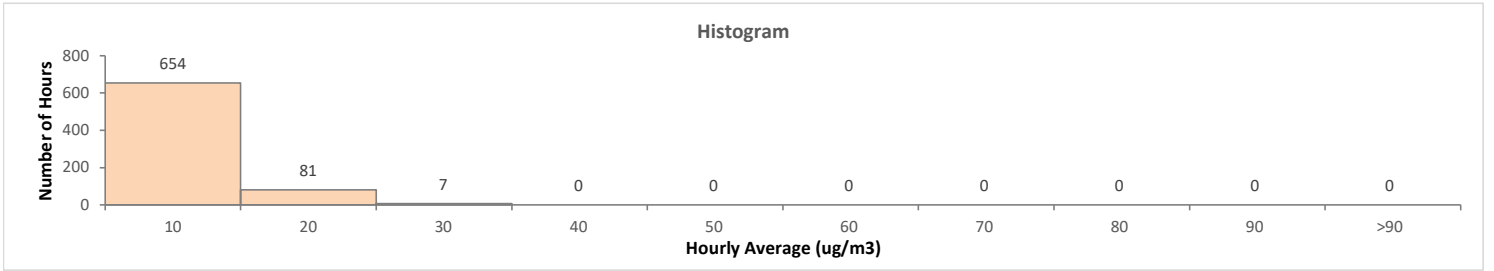
Number of 1-Hour Exceedances:	0	Number of 24-Hour Exceedances:	0
Maximum Hourly Value:	25 µg/m^3 on Mar 19 at hr 22	Hours in Service:	744
Maximum Daily Value:	15.0 µg/m^3 on Mar 22	Hours of Data:	742
Minimum Hourly Value:	0 µg/m^3 on Mar 2 at hr 16	Hours of Missing Data:	1
Minimum Daily Value:	0 µg/m^3 on Mar 3	Hours of Calibration:	1
Monthly Average:	5.1 µg/m^3	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			
Mar 1	4	5	5	5	5	5	5	6	6	6	6	7	8	10	8	8	8	8	7	7	7	8	9	11	4	11	6.8
Mar 2	12	12	14	15	16	16	15	15	14	13	11	8	4	2	2	1	0	0	0	0	0	0	0	0	**0**	16	7.1
Mar 3	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	**0**	1	**0.2**
Mar 4	0	0	1	1	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	**0**	2	1.1
Mar 5	4	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	1.2
Mar 6	1	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.2
Mar 7	1	2	2	2	2	2	2	2	2	2	4	5	5	5	5	5	4	4	4	3	3	2	3	3	1	5	3.1
Mar 8	3	4	4	4	4	4	4	4	4	4	4	5	5	4	4	4	4	4	4	3	3	3	3	3	3	5	3.8
Mar 9	3	3	3	3	3	3	3	3	3	3	3	3	4	3	4	4	3	3	3	3	3	4	4	4	3	4	3.3
Mar 10	3	3	3	3	3	3	3	3	3	3	3	4	4	3	3	3	3	3	3	2	1	1	1	2	1	4	2.8
Mar 11	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4	4	4	5	2	5	2.9
Mar 12	4	4	4	5	5	5	5	7	6	5	4	4	4	4	4	4	4	C	7	6	5	5	5	5	4	7	4.8
Mar 13	5	5	5	4	4	4	4	4	3	3	3	2	2	2	2	2	2	2	3	3	3	3	3	3	2	5	3.1
Mar 14	3	3	3	3	3	3	3	3	2	3	2	2	2	3	4	4	5	5	5	5	6	7	6	5	2	7	3.8
Mar 15	5	5	5	6	5	5	8	3	4	3	3	4	3	4	4	4	5	5	5	5	5	5	6	8	3	8	4.8
Mar 16	10	12	13	16	14	19	22	22	16	13	7	4	3	3	3	2	2	3	3	2	3	3	4	4	2	22	8.5
Mar 17	6	6	6	7	7	7	7	7	7	7	7	8	7	5	5	5	6	6	6	7	7	7	4	3	3	8	6.3
Mar 18	3	3	4	5	6	6	7	7	7	7	7	8	8	9	9	8	4	6	9	10	12	10	6	5	3	12	6.9
Mar 19	5	4	4	4	4	4	4	4	6	4	4	4	4	5	7	8	8	9	9	12	16	19	**25**	24	4	**25**	8.2
Mar 20	18	14	11	9	8	8	8	9	10	11	12	13	13	11	11	11	11	10	11	11	10	12	16	8	8	18	11.1
Mar 21	9	10	11	8	5	2	1	2	2	2	1	1	1	1	1	1	1	1	1	2	2	2	3	3	1	11	3.0
Mar 22	5	11	20	23	18	9	8	8	8	11	14	16	21	20	19	18	18	17	17	15	15	16	16	16	5	23	**15.0**
Mar 23	15	16	16	16	18	21	20	19	20	18	16	12	8	5	5	3	10	16	14	9	3	1	0	0	**0**	21	11.7
Mar 24	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	3	4	1	4	1.7
Mar 25	5	5	4	5	8	9	9	10	10	11	12	13	12	9	7	5	4	5	3	2	2	4	2	2	2	13	6.6
Mar 26	2	2	2	3	3	2	3	3	3	3	3	K	3	4	4	4	4	5	5	5	3	3	4	3	2	5	3.3
Mar 27	2	2	2	2	2	2	2	2	2	2	2	3	4	3	3	3	3	3	3	3	4	4	4	4	2	4	2.8
Mar 28	3	3	3	3	4	4	4	4	3	3	3	3	3	4	6	6	10	9	6	5	5	4	4	4	3	10	4.4
Mar 29	4	5	5	5	5	5	6	8	9	9	7	5	4	2	2	1	1	1	2	2	2	2	3	4	1	9	4.1
Mar 30	3	3	2	2	2	2	2	2	2	3	3	4	5	5	4	5	6	6	5	6	7	8	8	8	2	8	4.3
Mar 31	10	11	12	12	12	12	12	12	12	10	9	9	8	8	7	7	7	7	7	6	6	6	5	7	5	12	8.9
Diurnal Maximum	18	16	20	23	18	21	22	22	20	18	16	16	21	20	19	18	18	17	17	15	16	19	25	24			
Diurnal Average	4.9	5.1	5.5	5.7	5.5	5.4	5.6	5.6	5.5	5.4	5.1	5.2	5.0	4.6	4.6	4.3	4.5	4.9	4.9	4.6	4.6	4.8	5.0	4.9			

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.



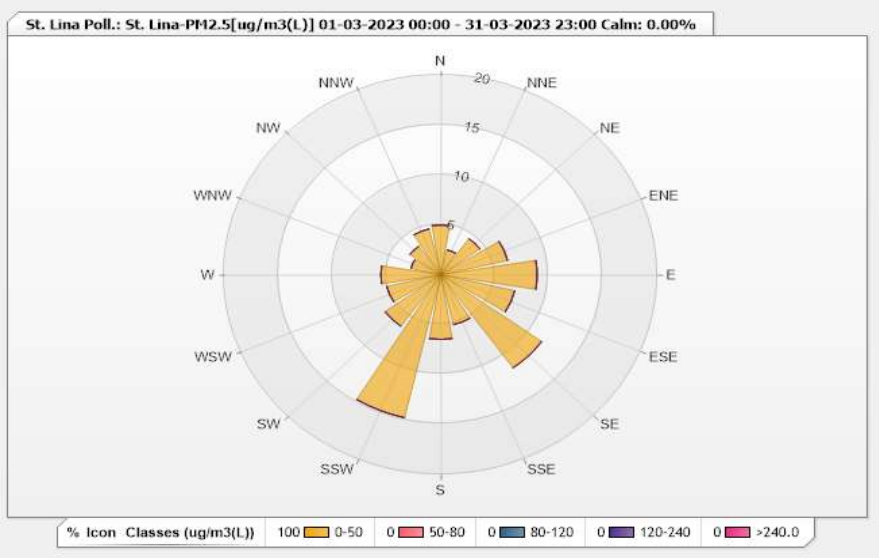


Station: St. Lina Poll.: St. Lina-PM2.5[ug/m3(L)] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 99.73% Calm Avg: 0.00 [ppm]

Direction	0-50	50-80	80-120	120-240	>240.0	Total
N	4.99	0	0	0	0	4.99
NNE	2.56	0	0	0	0	2.56
NE	4.45	0	0	0	0	4.45
ENE	6.33	0	0	0	0	6.33
E	8.89	0	0	0	0	8.89
ESE	7.01	0	0	0	0	7.01
SE	11.46	0	0	0	0	11.46
SSE	5.12	0	0	0	0	5.12
S	6.47	0	0	0	0	6.47
SSW	14.69	0	0	0	0	14.69
SW	6.33	0	0	0	0	6.33
WSW	5.12	0	0	0	0	5.12
W	5.53	0	0	0	0	5.53
WNW	2.83	0	0	0	0	2.83
NW	3.5	0	0	0	0	3.5
NNW	4.72	0	0	0	0	4.72
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

St. Lina Site - March 2023

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

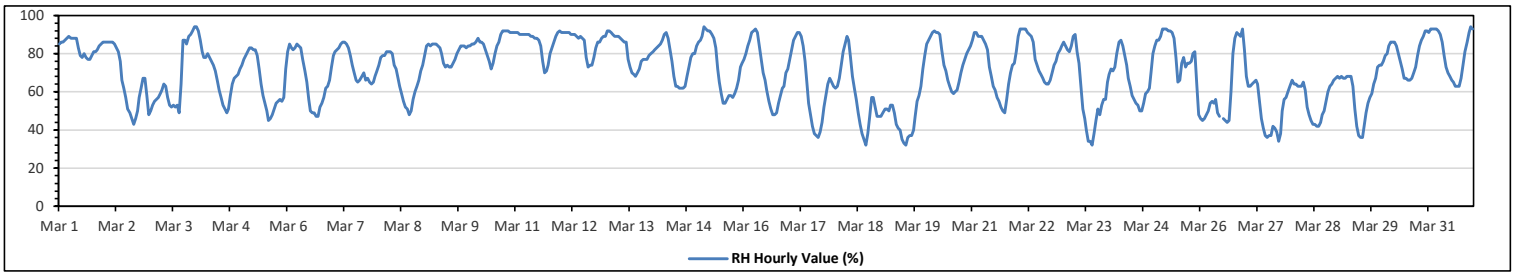
Maximum Hourly Value:	94	%	on Mar 3 at hr 23	Hours in Service:	744	
Maximum Daily Value:	86.0	%	on Mar 12	Hours of Data:	743	
Minimum Hourly Value:	32	%	on Mar 18 at hr 16	Hours of Missing Data:	1	
Minimum Daily Value:	48.0	%	on Mar 19	Hours of Calibration:	0	
Monthly Average:	70.7	%		Operational Uptime:	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			
Mar 1	85	86	86	87	88	89	88	88	88	88	83	79	78	80	78	77	77	79	81	81	82	84	85	86	77	89	83.5
Mar 2	86	86	86	86	86	85	83	81	76	66	62	57	51	49	46	43	46	50	57	62	67	67	58	48	43	86	66.0
Mar 3	50	53	55	56	57	59	61	64	63	57	53	52	53	52	53	49	64	87	87	85	89	90	92	**94**	49	**94**	65.6
Mar 4	**94**	92	87	81	78	78	80	78	76	74	71	66	61	57	53	51	49	51	58	64	67	68	69	72	49	**94**	69.8
Mar 5	74	77	79	81	83	83	82	82	79	72	64	58	54	50	45	46	48	51	54	55	56	55	57	72	45	83	64.9
Mar 6	81	85	83	82	83	85	84	83	77	71	65	56	50	49	49	47	47	52	54	57	62	63	66	73	47	85	66.8
Mar 7	79	81	82	83	85	86	86	85	83	79	74	70	66	65	66	68	70	66	67	65	64	65	68	71	64	86	73.9
Mar 8	74	78	79	79	81	81	81	80	74	72	67	63	59	55	52	51	48	50	56	60	63	66	71	74	48	81	67.3
Mar 9	79	84	85	84	85	85	85	84	83	80	75	73	74	73	73	75	77	80	82	84	84	84	83	84	73	85	80.6
Mar 10	84	85	85	86	88	86	86	85	82	79	76	72	75	80	84	86	90	92	92	92	92	91	91	91	72	92	85.4
Mar 11	91	91	90	90	90	90	90	90	89	89	88	88	87	84	76	70	71	74	80	83	86	89	91	92	70	92	85.8
Mar 12	91	91	91	91	91	90	90	90	89	88	89	88	87	78	73	74	74	78	83	86	86	88	89	89	73	91	**86.0**
Mar 13	92	92	91	90	89	89	89	88	87	86	86	77	73	70	69	68	70	72	76	77	77	77	79	80	68	92	81.0
Mar 14	81	82	83	84	85	87	90	91	88	82	76	68	63	63	62	62	62	63	68	73	78	80	80	84	62	91	76.5
Mar 15	86	87	89	**94**	93	92	92	90	88	83	72	65	59	54	54	56	58	58	57	59	62	66	73	75	54	**94**	73.4
Mar 16	77	80	84	87	91	92	93	91	84	77	70	66	61	55	51	48	48	49	54	58	62	63	70	72	48	93	70.1
Mar 17	77	82	87	89	91	91	89	84	76	64	54	48	42	38	37	36	39	44	52	58	64	67	65	63	36	91	64.0
Mar 18	62	63	67	74	81	85	89	87	78	68	62	56	49	43	38	35	**32**	38	47	57	57	52	47	47	**32**	89	58.9
Mar 19	47	49	51	51	50	53	53	49	43	41	40	35	33	**32**	36	37	37	40	47	55	58	63	72	79	**32**	79	**48.0**
Mar 20	85	87	89	91	92	91	91	90	82	74	71	66	63	60	59	60	61	65	70	74	77	80	82	84	59	92	76.8
Mar 21	87	91	91	89	89	89	87	85	82	73	68	63	61	57	55	52	50	49	56	64	70	74	75	81	49	91	72.4
Mar 22	89	93	93	93	93	91	90	89	86	77	74	71	69	67	65	64	64	66	70	74	76	80	82	84	64	93	79.2
Mar 23	86	84	82	81	84	89	90	81	75	63	51	46	40	34	34	**32**	38	45	51	48	53	56	56	65	**32**	90	61.0
Mar 24	69	72	71	73	80	86	87	84	79	74	67	63	58	56	54	53	50	50	54	59	60	62	70	80	50	87	67.1
Mar 25	84	87	87	89	93	93	93	92	92	91	88	78	65	66	75	78	73	75	75	76	80	81	64	48	48	93	80.1
Mar 26	46	45	46	48	50	54	55	54	56	49	47	**K**	46	45	44	45	60	80	88	91	90	89	93	82	44	93	61.0
Mar 27	68	63	63	64	65	66	64	55	46	41	37	36	37	37	42	41	39	34	38	50	56	57	60	63	34	68	50.9
Mar 28	66	64	64	63	63	63	65	61	52	48	45	43	43	42	42	44	48	50	55	60	63	64	66	67	42	67	55.9
Mar 29	68	67	68	67	67	68	68	68	63	51	42	37	36	36	42	49	54	57	59	64	67	73	74	74	36	74	59.1
Mar 30	76	79	80	84	86	86	86	84	80	76	72	67	67	66	66	67	70	73	79	84	87	89	92	92	66	92	78.7
Mar 31	91	93	93	93	93	92	90	86	79	73	70	68	66	65	63	63	63	67	74	81	86	91	**94**	93	63	**94**	80.3
Diurnal Maximum	94	93	93	94	93	93	93	92	92	91	89	88	87	84	84	86	90	92	92	92	92	91	94	94			
Diurnal Average	77.6	79.0	79.6	80.3	81.6	82.4	82.5	80.6	76.6	71.2	66.4	62.5	58.9	56.7	56.0	55.7	57.3	60.8	65.2	68.9	71.6	73.4	74.6	76.1			

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

St. Lina Site - March 2023

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

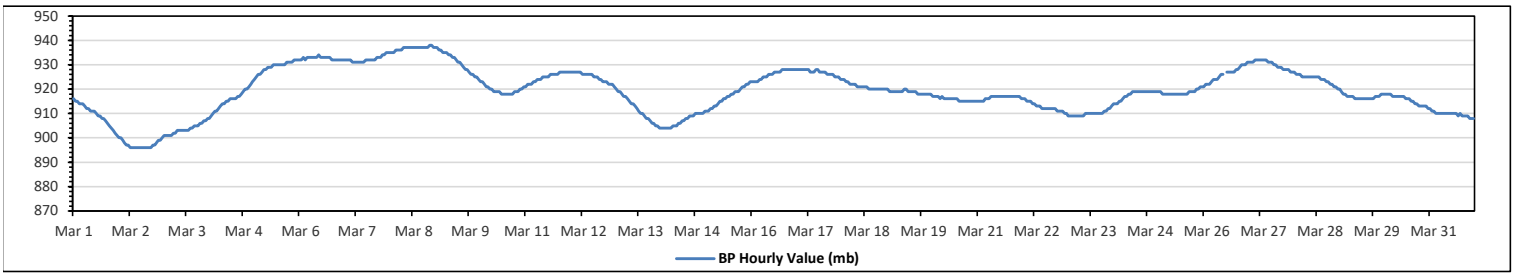
Maximum Hourly Value:	938	mb	on Mar 8 at hr 21	Hours in Service:	744		
Maximum Daily Value:	937	mb	on Mar 8	Hours of Data:	743		
Minimum Hourly Value:	896	mb	on Mar 2 at hr 6	Hours of Missing Data:	1		
Minimum Daily Value:	897	mb	on Mar 2	Hours of Calibration:	0		
Monthly Average:	919	mb		Operational Uptime:	99.9		

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
Mar 1	916	915	915	914	914	914	913	912	912	911	911	911	910	909	909	908	908	907	906	905	904	903	902	901	901	916	910
Mar 2	900	900	899	898	897	897	**896**	**896**	**896**	**896**	**896**	**896**	**896**	**896**	**896**	**896**	**896**	**896**	897	897	898	899	899	900	**896**	900	**897**
Mar 3	901	901	901	901	901	902	902	903	903	903	903	903	903	903	904	904	905	905	905	906	906	907	907	908	901	908	904
Mar 4	908	909	910	911	911	912	913	914	914	915	915	916	916	916	916	917	917	918	919	920	920	921	922	923	908	923	916
Mar 5	924	925	926	926	927	928	928	929	929	929	930	930	930	930	930	930	930	931	931	931	931	932	932	932	924	932	929
Mar 6	932	932	933	932	933	933	933	933	933	933	934	933	933	933	933	933	933	932	932	932	932	932	932	932	932	934	933
Mar 7	932	932	932	932	931	931	931	931	931	931	931	932	932	932	932	932	932	933	933	933	934	934	935	935	931	935	932
Mar 8	935	935	935	936	936	936	936	937	937	937	937	937	937	937	937	937	937	937	937	937	937	**938**	**938**	937	935	**938**	**937**
Mar 9	937	937	936	936	935	935	935	934	934	933	933	932	931	931	930	929	928	928	927	926	926	925	925	924	924	937	931
Mar 10	923	923	922	921	921	920	920	919	919	919	919	918	918	918	918	918	918	918	919	919	919	920	920	921	918	923	920
Mar 11	921	922	922	922	923	923	924	924	924	925	925	925	925	926	926	926	926	926	927	927	927	927	927	927	921	927	925
Mar 12	927	927	927	927	927	927	926	926	926	926	926	926	925	925	925	924	924	923	923	923	922	922	922	921	921	927	925
Mar 13	920	919	919	918	917	917	916	915	914	914	913	912	911	910	910	909	908	908	907	906	906	905	905	904	904	920	912
Mar 14	904	904	904	904	904	904	905	905	905	906	906	907	907	908	908	909	909	909	910	910	910	910	910	911	904	911	907
Mar 15	911	911	912	912	913	913	914	915	915	916	916	917	917	918	918	919	919	919	920	921	921	922	922	923	911	923	917
Mar 16	923	923	923	923	924	924	925	925	925	926	926	926	927	927	927	927	928	928	928	928	928	928	928	928	923	928	926
Mar 17	928	928	928	928	928	928	928	927	927	927	928	928	927	927	927	927	926	926	926	926	925	925	925	924	924	928	927
Mar 18	924	924	923	923	922	922	922	922	921	921	921	921	921	921	920	920	920	920	920	920	920	920	920	920	920	924	921
Mar 19	920	919	919	919	919	919	919	919	919	920	920	919	919	919	919	919	918	918	918	918	918	918	918	918	918	920	919
Mar 20	917	917	917	917	916	917	916	916	916	916	916	916	916	916	915	915	915	915	915	915	915	915	915	915	915	917	916
Mar 21	915	915	915	915	916	916	916	917	917	917	917	917	917	917	917	917	917	917	917	917	917	917	917	916	915	917	917
Mar 22	916	916	915	915	915	914	914	913	913	913	912	912	912	912	912	912	912	912	911	911	911	911	910	910	910	916	913
Mar 23	909	909	909	909	909	909	909	909	909	910	910	910	910	910	910	910	910	910	910	911	911	912	912	913	909	913	910
Mar 24	914	914	914	915	915	916	917	917	918	918	919	919	919	919	919	919	919	919	919	919	919	919	919	919	914	919	918
Mar 25	919	919	918	918	918	918	918	918	918	918	918	918	918	918	918	918	919	919	919	919	920	920	921	921	918	921	919
Mar 26	921	922	922	922	923	924	924	924	925	926	926	**K**	927	927	927	927	927	928	928	929	930	930	930	931	921	931	926
Mar 27	931	931	931	932	932	932	932	932	932	932	931	931	931	930	930	929	929	929	928	928	928	928	927	927	927	932	930
Mar 28	927	926	926	926	925	925	925	925	925	925	925	925	925	925	924	924	924	923	923	922	922	921	921	920	920	927	924
Mar 29	920	919	918	918	917	917	917	917	916	916	916	916	916	916	916	916	916	916	916	917	917	917	918	918	916	920	917
Mar 30	918	918	918	918	917	917	917	917	917	917	917	916	916	916	915	915	914	914	913	913	913	913	913	912	912	918	916
Mar 31	912	911	911	910	910	910	910	910	910	910	910	910	910	910	910	909	910	909	909	909	909	908	908	908	908	912	910
Diurnal Maximum	937	937	936	936	936	936	936	937	937	937	937	937	937	937	937	937	937	937	937	937	937	938	938	937			
Diurnal Average	920	919	919	919	919	919	919	919	919	920	920	919	919	919	919	919	919	919	919	919	919	919	919	919			

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 - March 2023

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

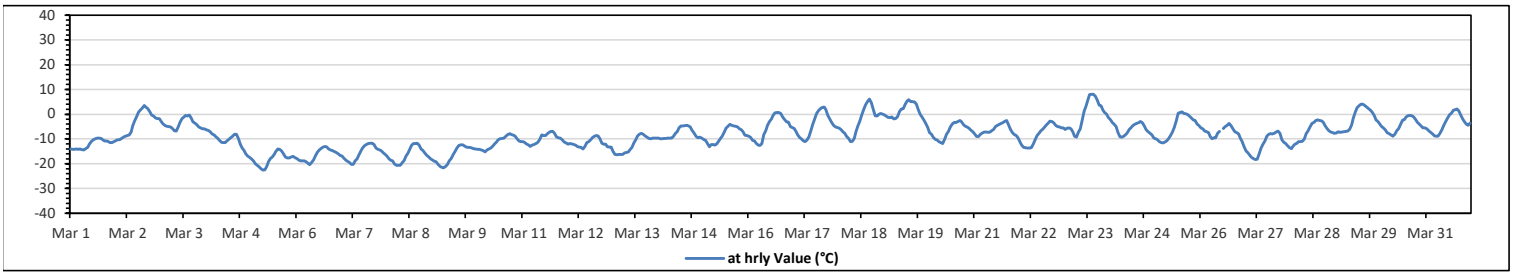
Maximum Hourly Value:	8.1	°C	on Mar 23 at hr 14	Hours in Service:	744	
Maximum Daily Value:	0.8	°C	on Mar 19	Hours of Data:	743	
Minimum Hourly Value:	-22.6	°C	on Mar 5 at hr 6	Hours of Missing Data:	1	
Minimum Daily Value:	-18.2	°C	on Mar 5	Hours of Calibration:	0	
Monthly Average:	-8.3	°C		Operational 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			
Mar 1	-14.1	-14.2	-14.2	-14.1	-14.2	-14.1	-14.3	-14.4	-13.9	-13.4	-12	-10.9	-10.4	-9.9	-9.7	-9.7	-9.8	-10.3	-10.8	-10.8	-11	-11.4	-11.4	-11.1	-14.4	-9.7	-12.1
Mar 2	-10.7	-10.4	-10.3	-9.8	-9.3	-8.9	-8.6	-8.4	-7.2	-4.6	-2.7	-1	0.8	1.7	2.5	3.5	2.9	2.2	1	-0.3	-0.8	-1.6	-1.8	-1.8	-10.7	3.5	-3.5
Mar 3	-2.9	-3.9	-4.5	-4.9	-5	-5.2	-5.8	-6.7	-6.8	-5.1	-3.2	-1.8	-1.2	-0.5	-0.8	-0.3	-1.7	-3.1	-3.6	-4.2	-5.1	-5.6	-6	-5.9	-6.8	-0.3	-3.9
Mar 4	-6.3	-6.5	-7.1	-8	-8.4	-9	-9.7	-10.6	-11.3	-11.5	-11.4	-10.8	-10.2	-9.5	-8.8	-8.1	-8.2	-9.8	-12.2	-13.6	-14.8	-16	-17	-17.4	-17.4	-6.3	-10.7
Mar 5	-18	-18.9	-20	-20.7	-21.3	-22.1	**-22.6**	-22.5	-21.1	-19.2	-17.9	-17.2	-16.3	-15.1	-14	-14.2	-14.9	-16	-17.2	-17.6	-17.6	-17.2	-17.1	-17.5	**-22.6**	-14.0	**-18.2**
Mar 6	-17.9	-18.5	-18.9	-18.9	-18.9	-19.2	-19.8	-20.4	-19.4	-18.4	-16.8	-15.3	-14.4	-13.8	-13.3	-13	-13.3	-14.1	-14.4	-14.7	-15	-15.5	-16	-16.7	-20.4	-13.0	-16.5
Mar 7	-17	-17.8	-18.6	-19.1	-19.5	-20.2	-20.3	-18.9	-18	-16.7	-15.1	-13.7	-12.8	-12.3	-11.9	-11.7	-11.7	-12.3	-13.7	-14.2	-14.5	-14.9	-15.6	-16.3	-20.3	-11.7	-15.7
Mar 8	-17.1	-18.1	-18.6	-18.8	-20.1	-20.7	-20.7	-20.6	-19.6	-18.7	-17	-15.7	-14	-12.7	-11.9	-11.9	-11.7	-12.6	-14	-14.8	-15.7	-16.7	-17.3	-18	-20.7	-11.7	-16.5
Mar 9	-18.5	-19	-19.2	-20.3	-21.1	-21.5	-21.6	-21.2	-20.4	-18.9	-17.9	-16.4	-15	-13.7	-12.7	-12.4	-12.4	-12.8	-13.2	-13.4	-13.4	-13.6	-13.9	-14.1	-21.6	-12.4	-16.5
Mar 10	-14.2	-14.2	-14.4	-14.8	-15.2	-14.4	-14.1	-13.7	-12.9	-12.1	-11.3	-10.3	-9.9	-9.8	-9.6	-8.9	-8.3	-7.9	-8.3	-8.5	-8.8	-10	-10.8	-11.1	-15.2	-7.9	-11.4
Mar 11	-11.1	-11.3	-12	-12.4	-13	-12.6	-12.3	-11.8	-11.3	-10.2	-8.4	-8.6	-8.6	-8	-7.3	-6.9	-6.9	-7.8	-9.1	-9.5	-9.6	-10.4	-11.2	-11.6	-13.0	-6.9	-10.1
Mar 12	-12.2	-11.9	-12	-12.3	-12.5	-13	-13.3	-13.4	-14	-13	-11.4	-11	-10.4	-9.4	-8.9	-8.6	-8.7	-9.9	-11.7	-12.1	-12.2	-13.1	-13.2	-13.3	-14.0	-8.6	-11.7
Mar 13	-15.1	-16.2	-16.4	-16.2	-16.2	-16.2	-15.6	-15.4	-15.2	-14.3	-13.4	-11.6	-10.4	-8.8	-8.2	-7.8	-8.1	-8.7	-9.3	-9.8	-10	-9.7	-9.7	-9.6	-16.4	-7.8	-12.2
Mar 14	-9.6	-9.9	-9.9	-9.8	-9.8	-9.7	-9.7	-9.6	-8.8	-7.8	-6.9	-5.6	-4.7	-4.7	-4.6	-4.5	-4.7	-5.1	-6.5	-7.6	-8.8	-9.5	-9.3	-9.6	-9.9	-4.5	-7.8
Mar 15	-10.2	-10.6	-11.8	-13.1	-12.3	-12.3	-12.5	-12	-11	-10	-8.8	-7.4	-5.7	-4.8	-4.1	-4.5	-4.7	-4.9	-5.1	-5.9	-6.3	-7.1	-8.5	-8.6	-13.1	-4.1	-8.4
Mar 16	-8.8	-9.4	-10.6	-10.8	-11.9	-12.5	-12.7	-11.8	-8.3	-6.7	-4.3	-3	-1.9	-0.5	0.5	0.7	0.6	0.3	-1.2	-2.1	-3.1	-3.2	-5	-5.4	-12.7	0.7	-5.5
Mar 17	-5.8	-6.8	-8.4	-9.4	-10	-10.7	-11.1	-10.5	-9.1	-6.7	-4.1	-1.9	0.3	1.5	2.3	2.7	2.9	1.8	-0.5	-1.9	-3.4	-4.4	-5.2	-5.4	-11.1	2.9	-4.3
Mar 18	-5.7	-6.3	-7	-7.7	-9	-9.8	-11.1	-10.9	-9.7	-7	-4.7	-2.8	-0.3	1.9	3.8	5.1	6.1	4.7	2	-0.6	-0.7	-0.1	0.3	0.1	-11.1	6.1	-2.9
Mar 19	-0.2	-0.8	-1.3	-1.4	-1.2	-1.9	-1.8	-1	1	2.1	2.3	4.1	5.3	5.9	5.1	5	4.9	4.1	1.7	0	-1.3	-2.3	-3.7	-5.3	-5.3	5.9	**0.8**
Mar 20	-7.5	-8.2	-9.4	-10.2	-10.5	-11	-11.5	-11.8	-10.2	-8.2	-6.9	-5.1	-4	-3.4	-3.3	-3	-2.6	-3.1	-4.2	-4.9	-5.2	-5.7	-6.4	-7.1	-11.8	-2.6	-6.8
Mar 21	-8	-9	-9	-8.1	-7.6	-7.2	-7.2	-7.4	-7.2	-6.6	-6.2	-5	-4.5	-4.1	-3.8	-3.3	-2.8	-2.6	-4.3	-6.2	-7.5	-8.3	-8.6	-9.6	-9.6	-2.6	-6.4
Mar 22	-11.3	-12.5	-13.4	-13.5	-13.6	-13.6	-13.5	-12.1	-10.3	-8.6	-7.7	-6.6	-6.1	-5.3	-4.3	-3.6	-2.8	-2.9	-3.5	-4.4	-5	-5.2	-5.5	-5.6	-13.6	-2.8	-8.0
Mar 23	-6.2	-5.7	-5.6	-6	-7.2	-8.9	-9.2	-7.4	-6	-2.4	1.2	3.2	5.5	7.9	**8.1**	**8.1**	7.2	5.7	3.6	3.4	1.6	0.6	0.1	-1.4	-9.2	**8.1**	-0.4
Mar 24	-2.1	-3.3	-4.1	-5	-7.5	-9.1	-9.3	-8.9	-8.3	-7.5	-6.2	-5.4	-4.6	-4.1	-3.7	-3.5	-3	-3.5	-4.7	-6.3	-7	-7.7	-8.4	-9.6	-9.6	-2.1	-6.0
Mar 25	-10	-10.4	-11.1	-11.4	-11.6	-11.2	-10.7	-9.7	-8.6	-7.2	-5.3	-2.7	0.4	0.7	0.9	0.3	0.2	-0.1	-0.8	-1.5	-2.2	-2.6	-4	-4.6	-11.6	0.9	-5.1
Mar 26	-5.5	-6	-6.8	-7	-7.5	-9	-9.9	-9.5	-9.5	-7.7	-6.9	**K**	-5.8	-5	-4.4	-3.8	-4.6	-6	-7	-7.5	-8	-9.7	-11.1	-13.1	-13.1	-3.8	-7.4
Mar 27	-14.9	-15.6	-16.6	-17.4	-17.9	-18.3	-18.2	-16	-13.6	-12.2	-10.8	-8.9	-8.2	-7.9	-8	-7.7	-7.2	-6.8	-7.7	-10.4	-11.3	-11.8	-12.8	-13.5	-18.3	-6.8	-12.2
Mar 28	-13.9	-12.9	-12.2	-11.7	-11.1	-11	-10.9	-10.1	-7.9	-6.6	-5.1	-3.8	-3.3	-2.6	-2.2	-2.6	-2.7	-3.2	-4.6	-5.8	-6.6	-7.2	-7.5	-7.7	-13.9	-2.2	-7.2
Mar 29	-7.6	-7.1	-7.3	-7.2	-7	-6.9	-6.8	-6.1	-4.3	-1.7	0.6	2.6	3.4	4	4.1	3.5	2.8	2.3	1.6	0.7	-0.6	-2.2	-3	-4	-7.6	4.1	-1.9
Mar 30	-4.8	-5.5	-6.3	-7.5	-7.9	-8.4	-8.8	-8.2	-6.7	-5.8	-4.1	-2.4	-2.1	-1.1	-0.6	-0.5	-0.6	-1.2	-2.1	-3.2	-4	-4.7	-5.5	-5.5	-8.8	-0.5	-4.5
Mar 31	-6	-6.7	-7.4	-8	-8.7	-8.9	-8.8	-7.8	-6.3	-4.5	-2.9	-1.5	-0.2	0.4	1.6	1.9	2.1	1.3	-0.3	-1.9	-3	-4	-4.4	-3.6	-8.9	2.1	-3.7
Diurnal Maximum	-0.2	-0.8	-1.3	-1.4	-1.2	-1.9	-1.8	-1.0	1.0	2.1	2.3	4.1	5.5	7.9	8.1	8.1	7.2	5.7	3.6	3.4	1.6	0.6	0.3	0.1			
Diurnal Average	-10.1	-10.6	-11.1	-11.5	-11.8	-12.2	-12.3	-11.9	-10.8	-9.4	-7.9	-6.6	-5.5	-4.6	-4.1	-3.9	-3.9	-4.6	-5.8	-6.8	-7.4	-8.1	-8.7	-9.2			

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

St. Lina Site - March 2023

Summary of Hourly Averages

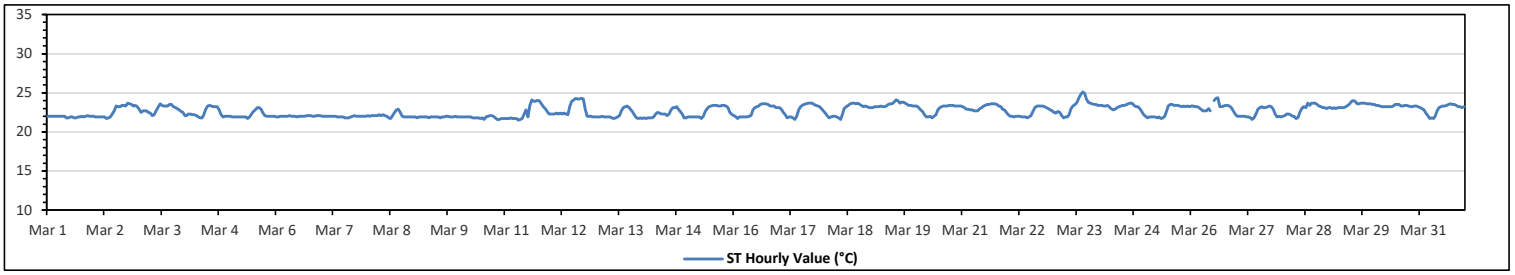
STATION TEMPERATURE (ST) in Degree Celsius

Maximum Hourly Value:	25.1	°C	on Mar 23 at hr 15	Hours in Service:	744	
Maximum Daily Value:	23.5	°C	on Mar 19	Hours of Data:	743	
Minimum Hourly Value:	21.5	°C	on Mar 11 at hr 7	Hours of Missing Data:	1	
Minimum Daily Value:	21.8	°C	on Mar 10	Hours of Calibration:	0	
Monthly Average:	22.6	°C		Operational Uptime:	99.9	

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
Mar 1	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	21.8	21.8	21.9	21.9	21.8	21.8	21.9	21.9	22.0	21.9	22.0	22.1	22.0	22.0	21.8	22.1	22.0
Mar 2	22.0	21.9	21.9	21.9	21.9	21.9	21.9	21.7	21.8	21.9	22.3	22.7	23.3	23.2	23.2	23.4	23.4	23.3	23.7	23.6	23.5	23.3	23.4	23.2	21.7	23.7	22.7
Mar 3	22.9	22.5	22.7	22.7	22.7	22.5	22.4	22.1	22.2	22.7	23.2	23.6	23.4	23.3	23.3	23.3	23.5	23.5	23.2	23.1	23.0	22.8	22.6	22.5	22.1	23.6	22.9
Mar 4	22.1	22.1	22.3	22.3	22.2	22.2	22.1	21.9	21.8	21.8	22.2	22.9	23.3	23.4	23.3	23.2	23.2	23.2	22.8	22.2	21.9	22.0	22.0	22.0	21.8	23.4	22.4
Mar 5	22.0	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.7	21.9	22.3	22.6	22.8	23.1	23.1	22.9	22.4	22.1	22.0	22.0	22.0	22.0	22.0	21.7	23.1	22.2
Mar 6	21.9	21.9	22.0	22.0	22.0	22.0	22.0	22.1	22.0	22.0	22.0	21.9	22.0	22.0	22.0	22.0	22.1	22.1	22.1	22.0	22.0	22.1	22.1	22.1	21.9	22.1	22.0
Mar 7	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	21.9	21.9	21.9	21.9	21.8	21.8	21.8	21.9	22.0	22.1	22.0	22.0	22.0	22.0	22.0	22.0	21.8	22.1	22.0
Mar 8	22.1	22.0	22.1	22.1	22.1	22.1	22.2	22.1	22.2	22.1	22.0	21.8	21.7	22.1	22.5	22.8	22.9	22.5	22.0	21.9	21.9	21.9	21.9	21.9	21.7	22.9	22.1
Mar 9	21.9	21.9	21.8	21.9	21.9	21.9	21.9	21.9	21.8	21.9	21.9	21.9	21.9	21.9	21.8	21.9	21.9	22.0	22.0	21.9	21.9	21.9	22.0	21.9	21.8	22.0	21.9
Mar 10	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.8	21.8	21.8	21.8	21.7	21.8	21.6	21.9	22.0	22.1	22.1	22.0	21.8	21.6	21.6	21.7	21.7	21.6	22.1	**21.8**
Mar 11	21.7	21.7	21.7	21.8	21.7	21.7	21.7	**21.5**	21.6	21.7	22.3	22.8	21.9	23.4	24.1	23.9	23.9	24.0	24.0	23.6	23.2	23.0	22.6	22.3	**21.5**	24.1	22.6
Mar 12	22.3	22.3	22.3	22.4	22.3	22.4	22.3	22.4	22.3	22.2	23.3	23.9	24.1	24.3	24.2	24.2	24.3	24.2	22.9	22.0	22.0	22.0	21.9	21.9	21.9	24.3	22.9
Mar 13	21.9	21.9	21.9	22.0	21.9	21.9	21.9	21.9	21.8	21.7	21.8	21.9	22.1	22.7	23.1	23.2	23.3	23.1	22.8	22.5	22.1	21.8	21.7	21.8	21.7	23.3	22.2
Mar 14	21.7	21.8	21.7	21.8	21.8	21.8	21.9	22.3	22.5	22.4	22.3	22.3	22.3	22.1	22.3	22.8	23.1	23.1	23.2	22.9	22.6	22.3	21.8	21.8	21.7	23.2	22.3
Mar 15	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.7	22.0	22.6	23.0	23.2	23.3	23.4	23.4	23.4	23.3	23.3	23.4	23.4	23.3	23.1	22.5	22.2	21.7	23.4	22.7
Mar 16	22.1	21.9	21.7	21.9	21.9	21.9	21.9	21.9	22.0	22.1	22.8	23.1	23.2	23.3	23.5	23.6	23.6	23.6	23.5	23.3	23.3	23.3	23.1	23.1	21.7	23.6	22.7
Mar 17	23.1	22.9	22.5	22.2	21.8	21.9	21.9	21.8	21.6	22.0	22.8	23.2	23.4	23.5	23.6	23.7	23.7	23.7	23.5	23.4	23.3	23.2	23.0	22.7	21.6	23.7	22.9
Mar 18	22.4	22.1	21.8	21.9	22.0	22.0	21.9	21.8	21.6	22.3	23.0	23.2	23.4	23.6	23.7	23.7	23.6	23.7	23.5	23.4	23.2	23.3	23.2	23.1	21.6	23.7	22.8
Mar 19	23.1	23.1	23.2	23.2	23.2	23.3	23.2	23.2	23.3	23.5	23.6	23.6	23.8	24.1	24.0	23.7	23.8	23.8	23.7	23.5	23.4	23.4	23.3	23.3	23.1	24.1	**23.5**
Mar 20	23.3	23.1	22.8	22.6	22.2	21.9	21.9	22.0	21.8	22.0	22.2	22.8	23.1	23.2	23.3	23.3	23.3	23.4	23.4	23.4	23.3	23.3	23.3	23.3	21.8	23.4	22.8
Mar 21	23.2	23.1	22.9	22.9	22.8	22.8	22.7	22.7	22.7	23.0	23.1	23.3	23.4	23.5	23.5	23.6	23.6	23.6	23.5	23.3	23.2	22.9	22.8	22.5	22.5	23.6	23.1
Mar 22	22.2	22.0	22.0	21.9	22.0	22.0	22.0	21.9	21.9	21.9	21.8	21.9	22.1	22.6	23.1	23.3	23.3	23.3	23.3	23.2	23.1	23.0	22.8	22.7	21.8	23.3	22.5
Mar 23	22.5	22.4	22.6	22.5	22.1	21.8	21.9	21.9	22.2	23.0	23.3	23.5	23.8	24.4	24.8	**25.1**	24.9	24.2	23.8	23.7	23.6	23.5	23.5	23.4	21.8	**25.1**	23.3
Mar 24	23.4	23.4	23.3	23.3	23.4	23.2	23.0	22.8	22.9	23.1	23.2	23.3	23.4	23.4	23.5	23.6	23.7	23.7	23.4	23.2	23.2	23.0	22.6	22.2	22.2	23.7	23.2
Mar 25	22.0	21.8	21.9	21.9	21.9	21.9	21.8	21.9	21.7	21.8	22.0	22.7	23.3	23.5	23.5	23.4	23.4	23.4	23.3	23.2	23.3	23.2	23.3	23.2	21.7	23.5	22.6
Mar 26	23.3	23.3	23.2	23.2	23.1	22.9	22.7	22.7	22.7	23.0	22.7	**K**	24.0	24.3	24.4	23.2	23.2	23.3	23.4	23.4	23.3	23.1	22.7	22.3	22.3	24.4	23.2
Mar 27	22.0	22.0	22.0	22.0	22.0	21.9	21.9	21.8	21.6	21.8	22.3	22.9	23.1	23.2	23.1	23.1	23.2	23.3	23.2	22.9	22.3	21.9	22.0	21.9	21.6	23.3	22.4
Mar 28	22.0	22.1	22.3	22.3	22.2	22.0	22.0	21.7	21.8	22.5	23.0	23.2	23.1	23.7	23.4	23.7	23.7	23.7	23.5	23.3	23.2	23.1	23.1	23.0	21.7	23.7	22.8
Mar 29	23.1	23.1	23.0	23.1	23.0	23.1	23.1	23.1	23.1	23.2	23.4	23.6	23.9	24.0	23.9	23.6	23.6	23.7	23.7	23.7	23.6	23.6	23.6	23.5	23.0	24.0	23.4
Mar 30	23.5	23.4	23.4	23.3	23.2	23.2	23.2	23.2	23.2	23.2	23.3	23.5	23.5	23.5	23.3	23.3	23.4	23.4	23.3	23.2	23.2	23.3	23.3	23.2	23.2	23.5	23.3
Mar 31	23.1	23.0	22.8	22.4	22.1	21.7	21.8	21.7	22.0	22.7	23.1	23.2	23.3	23.3	23.4	23.5	23.6	23.5	23.5	23.4	23.2	23.2	23.1	23.2	21.7	23.6	22.9
Diurnal Maximum	23.5	23.4	23.4	23.3	23.4	23.3	23.2	23.2	23.3	23.5	23.6	23.9	24.1	24.4	24.8	25.1	24.9	24.2	24.0	23.7	23.6	23.6	23.6	23.5			
Diurnal Average	22.4	22.3	22.3	22.3	22.2	22.2	22.2	22.1	22.1	22.3	22.6	22.8	22.9	23.1	23.2	23.2	23.3	23.2	23.1	22.9	22.8	22.7	22.6	22.5			

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 - March 2023

Summary of Hourly Averages

PRECIPITATION in mm

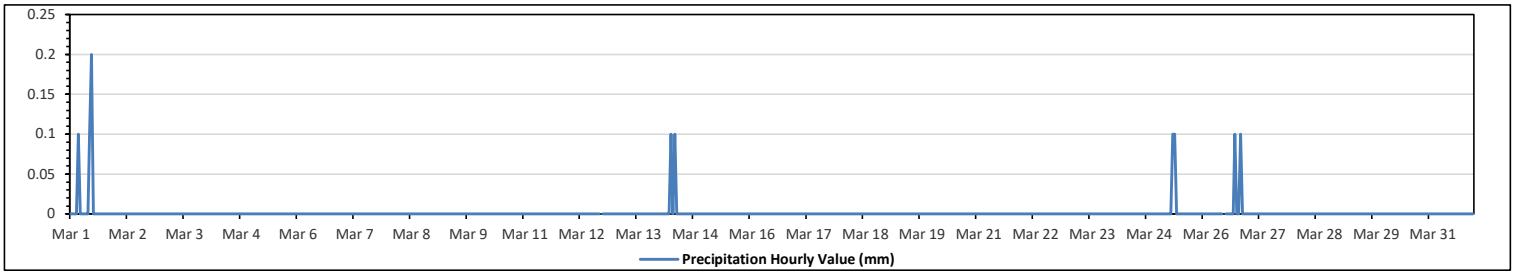
Maximum Hourly Value:	0.2	mm	on Mar 1 at hr 11	Hours in Service:	744	
Maximum Daily Value:	0.4	mm	on Mar 1	Hours of Data:	742	
Minimum Hourly Value:	0.0	mm	on Mar 1 at hr 0	Hours of Missing Data:	1	
Minimum Daily Value:	0.0	mm	on Mar 2	Hours of Calibration:	1	
Monthly Total:	1.0	mm		Operational Uptime:	99.9	

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			
Mar 1	0	0	0	0	0.1	0	0	0	0	0	0.1	**0.2**	0	0	0	0	0	0	0	0	0	0	0	0	0.0	**0.2**	**0.4**
Mar 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
Mar 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
Mar 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
Mar 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
Mar 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**C**	0	0	0	0	0	0	0.0	0.0	0.0
Mar 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
Mar 14	0	0	0	0	0	0	0.1	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	0.2
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 25	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	0	0.0	0.1	0.2
Mar 26	0	0	0	0	0	0	0	0	0	0	0	**K**	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0.0	0.1	0.2
Mar 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
Mar 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
Mar 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
Mar 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
Mar 31	0	0	0	0	0	0	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	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0			
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

St. Lina Site - March 2023

Summary of Hourly Averages

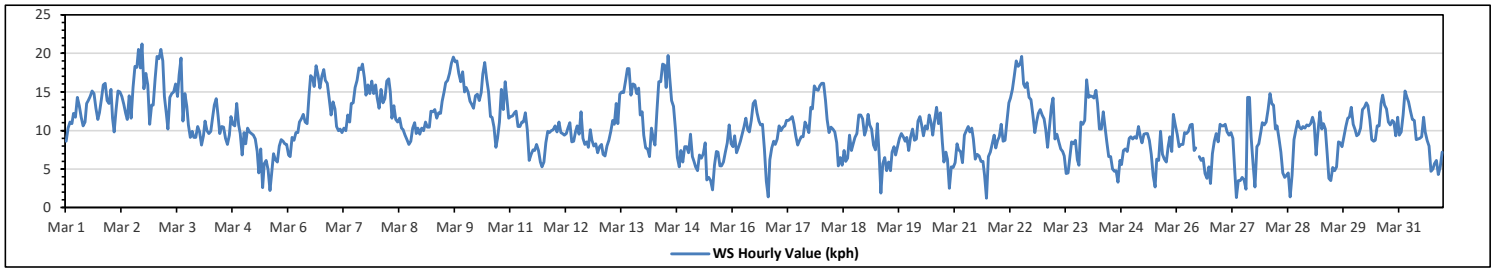
VECTOR WIND SPEED (VWS) in km/hr

Maximum Hourly Value:	21.2	kph	on Mar 2 at hr 17	Hours in Service:	744	
Maximum Daily Value:	14.8	kph	on Mar 2	Hours of Data:	743	
Minimum Hourly Value:	1.2	kph	on Mar 21 at hr 17	Hours of Missing Data:	1	
Minimum Daily Value:	6.4	kph	on Mar 15	Hours of Calibration:	0	
Monthly Average:	3.0	kph		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			
Mar 1	8.6	10.3	11.1	10.9	12.2	11.7	14.3	13.2	11.7	10.6	11.1	13.5	13.9	14.4	15.1	14.8	12.9	11.4	12.3	14.0	15.9	16.1	13.9	13.5	8.6	16.1	12.8
Mar 2	15.3	11.6	9.8	12.7	15.1	15.0	14.4	13.4	12.2	11.4	14.5	11.6	15.6	18.3	18.2	20.5	18.1	**21.2**	15.4	17.4	15.9	10.8	13.3	13.3	9.8	**21.2**	**14.8**
Mar 3	16.7	19.6	19.3	20.5	19.0	14.4	12.2	10.2	14.3	14.8	15.0	16.0	14.4	17.2	19.4	11.2	14.8	13.1	10.7	9.1	9.9	9.1	9.1	10.5	9.1	20.5	14.2
Mar 4	9.8	8.1	9.3	11.2	10.0	9.6	9.9	11.8	13.3	14.1	11.8	9.6	10.5	10.4	9.0	8.2	9.4	11.8	10.8	10.6	13.5	10.7	9.6	6.8	6.8	14.1	10.4
Mar 5	9.7	8.3	10.3	9.8	9.6	9.4	8.9	7.3	4.5	7.6	2.6	5.7	6.1	4.9	2.2	4.8	7.0	6.2	5.9	8.0	8.8	8.6	8.3	8.2	2.2	10.3	7.2
Mar 6	6.8	6.6	9.1	8.7	9.7	9.7	11.1	11.5	12.1	11.1	10.9	14.6	17.1	16.8	15.7	18.4	17.2	15.5	17.0	17.9	16.5	16.1	14.1	12.0	6.6	18.4	13.2
Mar 7	13.7	12.8	10.5	10.0	10.2	9.7	10.3	10.0	12.0	11.1	13.5	13.6	15.6	16.5	18.1	17.9	18.6	16.8	14.6	15.9	14.8	16.4	14.8	15.9	9.7	18.6	13.9
Mar 8	14.2	12.9	15.3	13.6	14.1	16.4	16.7	15.0	11.6	13.2	11.4	11.1	11.6	10.3	10.1	9.4	8.8	8.2	8.6	10.3	11.0	9.6	10.3	9.5	8.2	16.7	11.8
Mar 9	10.3	10.0	11.1	10.4	10.4	12.5	12.4	12.7	11.6	12.3	12.2	13.8	15.0	16.2	16.5	17.4	18.7	19.5	18.9	19.0	17.4	16.3	17.6	15.0	10.0	19.5	14.5
Mar 10	15.6	15.0	13.8	13.4	12.9	14.5	14.7	13.9	14.9	17.3	18.8	16.7	15.0	11.8	11.7	10.4	7.8	9.0	11.1	15.3	12.7	16.3	13.8	11.6	7.8	18.8	13.7
Mar 11	11.8	11.9	12.3	12.5	10.5	10.5	11.1	11.1	12.3	10.1	6.1	6.9	7.5	7.4	8.2	7.4	5.9	5.3	5.9	8.4	9.9	9.7	10.0	10.1	5.3	12.5	9.3
Mar 12	10.6	9.8	11.1	9.7	9.6	9.4	9.6	10.3	11.0	8.5	8.6	9.9	10.6	9.5	12.4	9.0	8.2	8.5	7.8	10.1	8.7	8.0	8.3	7.1	7.1	12.4	9.4
Mar 13	7.9	8.2	6.9	6.7	8.0	8.7	9.9	11.3	10.8	13.5	10.9	14.7	15.0	14.9	16.4	18.0	18.0	14.6	16.0	15.9	14.8	15.5	12.0	12.4	6.7	18.0	12.5
Mar 14	9.4	7.7	7.6	6.6	10.3	8.9	8.1	12.4	16.3	16.3	18.6	18.5	15.6	19.7	16.9	13.9	13.1	10.2	6.5	5.3	7.4	5.9	7.9	7.9	5.3	19.7	11.3
Mar 15	7.1	9.5	6.6	6.0	5.3	4.8	6.8	6.4	7.0	8.4	3.6	3.9	3.5	2.3	5.5	7.3	7.2	5.4	5.4	5.9	7.2	8.4	10.7	8.3	2.3	10.7	**6.4**
Mar 16	7.9	9.3	7.1	7.8	8.6	9.6	10.4	11.6	10.1	9.8	11.3	13.5	13.9	12.3	11.2	10.7	10.8	7.6	3.4	1.4	6.2	7.7	8.6	8.2	1.4	13.9	9.1
Mar 17	8.9	10.6	10.0	10.4	10.6	11.3	11.3	11.5	11.8	10.9	9.3	8.1	8.7	9.2	9.2	11.1	10.5	9.7	13.0	12.8	15.8	15.3	15.2	15.8	8.1	15.8	11.3
Mar 18	16.1	16.1	13.9	11.4	9.7	10.4	10.2	9.8	8.4	5.4	6.5	5.5	7.4	6.0	6.4	9.4	7.4	8.2	9.1	9.6	12.0	12.0	11.5	9.4	5.4	16.1	9.7
Mar 19	10.1	12.1	10.7	10.2	8.1	7.5	10.9	6.5	1.9	5.7	6.5	4.8	5.9	4.8	7.2	7.9	6.8	7.9	9.0	9.6	9.2	8.6	9.1	7.4	1.9	12.1	7.9
Mar 20	9.2	10.2	8.7	8.9	11.2	11.8	10.8	9.3	10.6	10.2	12.0	11.0	9.4	11.3	13.0	10.9	12.3	8.5	5.9	7.2	6.3	2.5	5.3	5.2	2.5	13.0	9.2
Mar 21	5.8	8.3	7.5	7.3	5.8	9.4	10.0	10.5	9.8	10.3	8.9	6.3	6.9	6.7	6.0	6.0	4.2	**1.2**	6.6	7.2	8.3	9.4	7.7	8.7	**1.2**	10.5	7.5
Mar 22	9.2	10.8	8.6	8.7	11.2	13.6	14.2	15.3	17.1	19.0	18.3	18.6	19.6	16.0	15.6	16.2	14.3	14.0	12.0	9.7	11.2	12.2	12.7	12.0	8.6	19.6	13.8
Mar 23	11.5	10.2	7.8	10.5	13.1	14.2	8.9	9.5	8.5	7.6	7.3	6.7	4.4	4.5	6.7	8.5	8.3	8.7	6.2	5.5	11.1	10.8	11.3	16.6	4.4	16.6	9.1
Mar 24	14.3	14.5	14.4	14.2	15.2	13.5	10.2	10.2	12.4	10.6	8.5	6.6	6.6	5.0	4.7	4.8	3.3	6.1	5.6	7.4	7.6	7.3	9.0	9.2	3.3	15.2	9.2
Mar 25	8.9	9.2	9.0	10.5	9.2	8.4	9.5	9.6	9.6	8.7	6.9	4.1	2.7	6.3	6.1	9.9	6.9	6.3	5.9	8.0	9.2	7.3	12.1	10.7	2.7	12.1	8.1
Mar 26	9.5	7.9	8.2	8.2	9.7	9.6	9.9	10.7	10.8	7.4	7.7	**K**	6.6	6.1	6.4	4.4	3.8	5.3	3.1	7.0	8.6	9.6	8.5	10.8	3.1	10.8	7.8
Mar 27	10.6	10.6	10.8	9.8	9.4	9.7	9.0	4.7	1.3	3.5	3.5	3.9	3.6	2.4	14.3	14.3	9.2	5.7	2.7	7.9	8.3	9.7	11.0	10.7	1.3	14.3	7.8
Mar 28	11.1	12.7	14.8	13.4	13.3	10.2	10.6	9.0	7.2	4.5	3.9	4.2	4.5	1.4	4.2	8.8	10.1	11.2	10.4	10.2	10.5	10.3	10.7	10.6	1.4	14.8	9.1
Mar 29	10.9	11.7	10.9	6.8	9.9	12.4	10.2	10.9	10.2	6.8	3.8	3.5	5.2	4.8	5.3	8.5	8.4	7.9	9.2	10.5	11.6	11.7	13.0	10.8	3.5	13.0	9.0
Mar 30	10.1	9.3	9.5	10.3	12.7	13.0	13.6	13.2	11.4	8.8	8.6	8.7	10.6	10.6	13.5	14.6	13.3	12.8	11.1	10.7	11.3	11.1	9.3	11.7	8.6	14.6	11.2
Mar 31	9.4	9.8	12.0	15.1	14.3	13.7	12.5	11.4	11.3	8.8	8.9	9.0	9.2	11.7	9.8	8.7	8.0	4.7	5.0	5.7	6.1	4.3	5.3	7.2	4.3	15.1	9.2
Diurnal Maximum	16.7	19.6	19.3	20.5	19.0	16.4	16.7	15.3	17.1	19.0	18.8	18.6	19.6	19.7	19.4	20.5	18.7	21.2	18.9	19.0	17.4	16.4	17.6	16.6			
Diurnal Average	10.7	10.8	10.6	10.5	10.9	11.1	11.1	10.8	10.6	10.3	9.7	9.8	10.1	10.0	10.8	11.1	10.4	9.8	9.2	10.1	10.9	10.6	10.8	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.

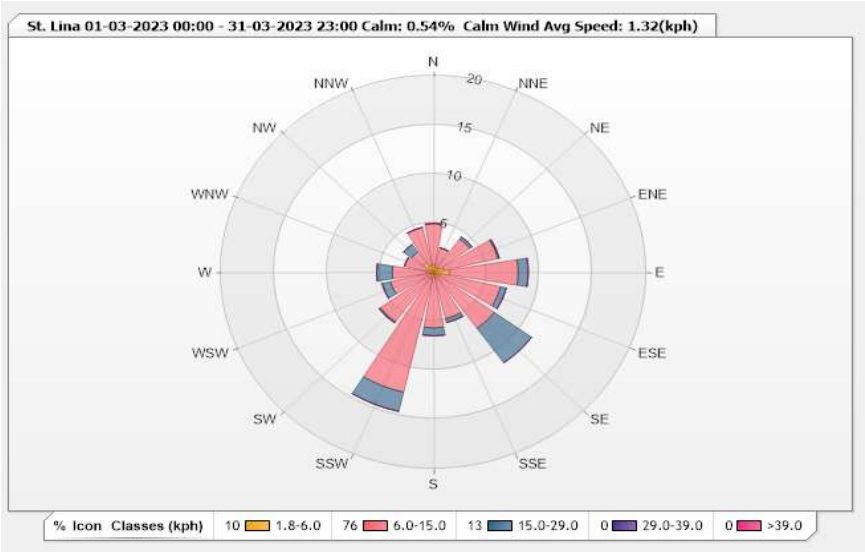


Station: St. Lina Monitor: WDS [kph] Monthly: 03-2023

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

Calm (WS<1.8kph): 0.54% Valid Data: 99.87%

Direction	1.8-6.0	6.0-15.0	15.0-29.0	29.0-39.0	>39.0	Total
N	0.81	4.17	0	0	0	4.98
NNE	0.54	2.02	0	0	0	2.56
NE	0.54	3.63	0.27	0	0	4.44
ENE	0.94	5.25	0.13	0	0	6.32
E	1.48	6.46	0.94	0	0	8.88
ESE	0.67	5.79	0.54	0	0	7
SE	0.27	6.73	4.31	0	0	11.31
SSE	0.67	4.17	0.4	0	0	5.24
S	0.27	5.38	0.81	0	0	6.46
SSW	0.67	11.84	2.02	0	0	14.53
SW	0.13	6.06	0.13	0	0	6.32
WSW	0.4	3.77	0.81	0	0	4.98
W	0.67	3.23	1.48	0	0	5.38
WNW	0.4	2.42	0	0	0	2.82
NW	1.21	1.35	0.94	0	0	3.5
NNW	0.67	4.04	0	0	0	4.71
Summary	10.34	76.31	12.78	0	0	99.43



Lakeland Industry & Community Association

St. Lina Site - March 2023

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

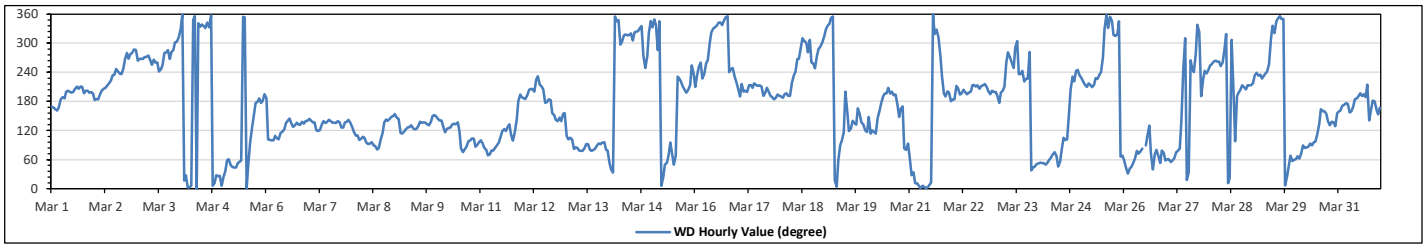
Monthly Average:	162 (SSE)	degree	
Hours in Service:	744		
Hours of Data:	743		
Hours of Missing Data:	1		
Hours of Calibration:	0		
Operational Uptime:	99.9		

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
Mar 1	SSE	SSE	SSE	SSE	SSE	S	S	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	194	SSW
Mar 2	S	S	S	SSW	SSW	SSW	SSW	SSW	SW	SW	SW	SW	WSW	WSW	SW	SW	WSW	W	W	W	W	W	WNW	WNW	237	SW
Mar 3	W	W	W	W	W	W	W	W	WSW	W	WSW	WSW	WSW	WSW	WSW	W	W	WNW	W	W	WNW	WNW	WNW	NW	269	W
Mar 4	NNW	N	NNE	NNE	N	N	N	NNW	N	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	N	NNE	NNE	NNE	NNE	N	358	N
Mar 5	NNE	NE	ENE	ENE	NE	NE	NE	NE	NE	NE	ENE	N	N	N	NE	E	SE	SSE	S	S	S	S	S	SSW	76	ENE
Mar 6	S	E	E	E	E	ESE	ESE	E	ESE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	128	SE
Mar 7	SE	SE	SE	SE	ESE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	135	SE
Mar 8	SE	ESE	ESE	ESE	E	ESE	ESE	ESE	E	E	E	E	E	E	E	E	E	ESE	SE	SE	SE	SE	SE	SSE	110	ESE
Mar 9	SSE	SE	SE	ESE	ESE	ESE	ESE	SE	SE	SE	SE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SSE	SSE	134	SE
Mar 10	SE	SE	SE	SE	ESE	ESE	SE	SE	SE	SE	SE	SE	ESE	E	ENE	E	E	E	E	ESE	ESE	E	E	E	115	ESE
Mar 11	E	E	E	E	ENE	ENE	ENE	ENE	E	E	E	ESE	ESE	ESE	ESE	SE	SE	ESE	E	ESE	SE	S	SSW	S	107	ESE
Mar 12	S	S	S	SSW	SSW	SSW	SSW	SW	SW	SSW	SSW	SSW	S	S	S	S	SSE	SSE	SE	SE	SE	SE	SSE	SSE	184	S
Mar 13	ESE	E	ESE	E	E	E	E	ENE	ENE	ENE	E	E	E	E	ENE	E	E	E	E	E	E	E	E	ENE	87	E
Mar 14	NE	NE	NNE	N	NNW	NNW	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	NNW	W	WSW	W	NW	NNW	324	NW
Mar 15	NNW	NNW	NNW	WNW	NNW	N	NNE	NE	NE	ENE	E	ENE	NE	ENE	SW	SW	SW	SSW	SSW	SSW	SSW	SSW	WSW	SW	280	W
Mar 16	SSW	SW	WSW	WSW	SW	SW	WSW	W	WNW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	N	WSW	WSW	WSW	SW	SW	292	WNW
Mar 17	SSW	S	SW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SSW	SSW	SSW	SSW	S	SSW	SSW	SSW	S	S	S	S	SSW	S	201	SSW
Mar 18	S	S	SSW	SSW	S	S	SW	SW	WSW	W	W	WNW	NW	WNW	WNW	W	NW	WSW	WSW	WSW	W	WNW	WNW	WNW	246	WSW
Mar 19	NW	NNW	NNW	NNW	N	N	NNE	N	ENE	E	E	ESE	SSW	SSE	ESE	ESE	SE	SE	SE	SSE	SSE	SE	SE	ESE	91	E
Mar 20	ESE	SE	ESE	ESE	ESE	ESE	SE	SSE	S	S	SSW	SSW	SSW	SSW	SSW	S	SSW	S	SE	SSE	SSE	E	E	E	162	SSE
Mar 21	ENE	NNE	NE	NNE	NNE	N	N	N	N	N	N	N	NNE	N	NW	NNW	NW	W	SW	SSW	S	SSW	SSW	S	357	N
Mar 22	S	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SSW	SSW	SSW	SSW	SSW	204	SSW
Mar 23	SSW	S	S	SSW	SSW	SSW	WSW	W	W	WSW	WSW	WNW	WNW	SW	SW	WSW	SW	SW	SW	W	NE	NE	NE	NE	235	SW
Mar 24	NE	NE	NE	NE	NE	NE	ENE	ENE	ENE	ENE	ENE	NE	NE	E	ESE	E	E	SSE	SSW	SW	SW	WSW	WSW	SW	68	ENE
Mar 25	SW	SW	SSW	SSW	SW	SSW	SSW	SSW	SW	SW	SW	WSW	W	NNW	N	NNW	N	NNW	NW	NW	NW	NNW	ENE	ENE	261	W
Mar 26	ENE	NE	NNE	NE	NE	NE	ENE	ENE	ENE	ENE	E	K	E	ESE	SE	ENE	NE	ENE	E	ENE	NE	ENE	ENE	ENE	66	ENE
Mar 27	ENE	ENE	NE	ENE	ENE	ENE	ENE	E	SE	WSW	NW	NNE	NE	W	WSW	WSW	W	NNW	NW	S	SW	WSW	SW	WSW	294	WNW
Mar 28	WSW	WSW	W	W	W	W	WSW	WSW	W	NW	NNE	NNE	NW	SSW	E	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	239	WSW
Mar 29	SW	SW	WSW	SW	SW	SW	SW	SW	WSW	WSW	NW	NNW	NW	NNW	N	N	N	N	N	NNE	NE	ENE	ENE	ENE	301	WNW
Mar 30	ENE	ENE	ENE	ENE	E	E	E	E	E	E	E	E	ESE	SE	SSE	SSE	SSE	SSE	SE	SE	SE	SE	SE	SSE	115	ESE
Mar 31	SSE	SSE	S	S	S	S	SSE	SSE	SSE	S	S	S	SSW	S	SSW	S	SSW	SE	SSE	S	S	SSE	SSE	SSE	175	S

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 - March 2023

Summary of Hourly Averages

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

WIND SPEED					
Maximum Hourly Value:	21.2	kph	on Mar 2 at hr 17	Hours in Service:	744
Maximum Daily Value:	14.8	kph	on Mar 2	Hours of Data:	743
Minimum Hourly Value:	1.2	kph	on Mar 21 at hr 17	Hours of Missing Data:	1
Minimum Daily Value:	6.4	kph	on Mar 15	Hours of Calibration:	0
Monthly Average:	3.0	kph		Operational Uptime:	99.9
WIND DIRECTION					
Monthly Average:	162	degree (SSE)			

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
Mar 1	8.6	10.3	11.1	10.9	12.2	11.7	14.3	13.2	11.7	10.6	11.1	13.5	13.9	14.4	15.1	14.8	12.9	11.4	12.3	14.0	15.9	16.1	13.9	13.5	8.6	16.1	12.8
	SSE	SSE	SSE	SSE	SSE	S	S	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW			
Mar 2	15.3	11.6	9.8	12.7	15.1	15.0	14.4	13.4	12.2	11.4	14.5	11.6	15.6	18.3	18.2	20.5	18.1	**21.2**	15.4	17.4	15.9	10.8	13.3	13.3	9.8	**21.2**	**14.8**
	S	S	S	SSW	SSW	SSW	SSW	SSW	SW	SW	SW	SW	WSW	WSW	SW	SW	WSW	W	W	W	W	W	WNW	WNW			
Mar 3	16.7	19.6	19.3	20.5	19.0	14.4	12.2	10.2	14.3	14.8	15.0	16.0	14.4	17.2	19.4	11.2	14.8	13.1	10.7	9.1	9.9	9.1	9.1	10.5	9.1	20.5	14.2
	W	W	W	W	W	W	W	W	WSW	W	WSW	WSW	WSW	WSW	WSW	W	W	WNW	W	W	WNW	WNW	WNW	NW			
Mar 4	9.8	8.1	9.3	11.2	10.0	9.6	9.9	11.8	13.3	14.1	11.8	9.6	10.5	10.4	9.0	8.2	9.4	11.8	10.8	10.6	13.5	10.7	9.6	6.8	6.8	14.1	10.4
	NNW	N	NNE	NNE	N	N	N	NNW	N	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	N	NNE	NNE	NNE	NNE	N			
Mar 5	9.7	8.3	10.3	9.8	9.6	9.4	8.9	7.3	4.5	7.6	2.6	5.7	6.1	4.9	2.2	4.8	7.0	6.2	5.9	8.0	8.8	8.6	8.3	8.2	2.2	10.3	7.2
	NNE	NE	ENE	ENE	NE	NE	NE	NE	NE	NE	ENE	N	N	N	NE	E	SE	SSE	S	S	S	S	S	SSW			
Mar 6	6.8	6.6	9.1	8.7	9.7	9.7	11.1	11.5	12.1	11.1	10.9	14.6	17.1	16.8	15.7	18.4	17.2	15.5	17.0	17.9	16.5	16.1	14.1	12.0	6.6	18.4	13.2
	S	E	E	E	E	ESE	ESE	E	ESE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE			
Mar 7	13.7	12.8	10.5	10.0	10.2	9.7	10.3	10.0	12.0	11.1	13.5	13.6	15.6	16.5	18.1	17.9	18.6	16.8	14.6	15.9	14.8	16.4	14.8	15.9	9.7	18.6	13.9
	SE	SE	SE	SE	ESE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE			
Mar 8	14.2	12.9	15.3	13.6	14.1	16.4	16.7	15.0	11.6	13.2	11.4	11.1	11.6	10.3	10.1	9.4	8.8	8.2	8.6	10.3	11.0	9.6	10.3	9.5	8.2	16.7	11.8
	SE	ESE	ESE	ESE	E	ESE	ESE	ESE	E	E	E	E	E	E	E	E	E	ESE	SE	SE	SE	SE	SE	SSE			
Mar 9	10.3	10.0	11.1	10.4	10.4	12.5	12.4	12.7	11.6	12.3	12.2	13.8	15.0	16.2	16.5	17.4	18.7	19.5	18.9	19.0	17.4	16.3	17.6	15.0	10.0	19.5	14.5
	SSE	SE	SE	ESE	ESE	ESE	ESE	SE	SE	SE	SE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SSE	SSE			
Mar 10	15.6	15.0	13.8	13.4	12.9	14.5	14.7	13.9	14.9	17.3	18.8	16.7	15.0	11.8	11.7	10.4	7.8	9.0	11.1	15.3	12.7	16.3	13.8	11.6	7.8	18.8	13.7
	SE	SE	SE	SE	ESE	ESE	SE	SE	SE	SE	SE	SE	ESE	E	ENE	E	E	E	E	ESE	ESE	E	E	E			
Mar 11	11.8	11.9	12.3	12.5	10.5	10.5	11.1	11.1	12.3	10.1	6.1	6.9	7.5	7.4	8.2	7.4	5.9	5.3	5.9	8.4	9.9	9.7	10.0	10.1	5.3	12.5	9.3
	E	E	E	E	ENE	ENE	ENE	ENE	E	E	E	ESE	ESE	ESE	ESE	SE	SE	ESE	E	ESE	SE	S	SSW	S			
Mar 12	10.6	9.8	11.1	9.7	9.6	9.4	9.6	10.3	11.0	8.5	8.6	9.9	10.6	9.5	12.4	9.0	8.2	8.5	7.8	10.1	8.7	8.0	8.3	7.1	7.1	12.4	9.4
	S	S	S	SSW	SSW	SSW	SSW	SW	SW	SSW	SSW	SSW	S	S	S	S	SSE	SSE	SE	SE	SE	SE	SSE	SSE			
Mar 13	7.9	8.2	6.9	6.7	8.0	8.7	9.9	11.3	10.8	13.5	10.9	14.7	15.0	14.9	16.4	18.0	18.0	14.6	16.0	15.9	14.8	15.5	12.0	12.4	6.7	18.0	12.5
	ESE	E	ESE	E	E	E	E	ENE	ENE	ENE	E	E	E	E	ENE	E	E	E	E	E	E	E	E	ENE			
Mar 14	9.4	7.7	7.6	6.6	10.3	8.9	8.1	12.4	16.3	16.3	18.6	18.5	15.6	19.7	16.9	13.9	13.1	10.2	6.5	5.3	7.4	5.9	7.9	7.9	5.3	19.7	11.3
	NE	NE	NNE	N	NNW	NNW	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	NNW	W	WSW	W	NW	NNW			
Mar 15	7.1	9.5	6.6	6.0	5.3	4.8	6.8	6.4	7.0	8.4	3.6	3.9	3.5	2.3	5.5	7.3	7.2	5.4	5.4	5.9	7.2	8.4	10.7	8.3	2.3	10.7	**6.4**
	NNW	NNW	NNW	WNW	NNW	N	NNE	NE	NE	ENE	E	ENE	NE	ENE	SW	SW	SW	SSW	SSW	SSW	SSW	SSW	WSW	SW			
Mar 16	7.9	9.3	7.1	7.8	8.6	9.6	10.4	11.6	10.1	9.8	11.3	13.5	13.9	12.3	11.2	10.7	10.8	7.6	3.4	1.4	6.2	7.7	8.6	8.2	1.4	13.9	9.1
	SSW	SW	WSW	WSW	SW	SW	WSW	W	WNW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	N	WSW	WSW	WSW	SW	SW			
Mar 17	8.9	10.6	10.0	10.4	10.6	11.3	11.3	11.5	11.8	10.9	9.3	8.1	8.7	9.2	9.2	11.1	10.5	9.7	13.0	12.8	15.8	15.3	15.2	15.8	8.1	15.8	11.3
	SSW	S	SW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SSW	SSW	SSW	SSW	S	SSW	SSW	SSW	S	S	S	S	SSW	S			
Mar 18	16.1	16.1	13.9	11.4	9.7	10.4	10.2	9.8	8.4	5.4	6.5	5.5	7.4	6.0	6.4	9.4	7.4	8.2	9.1	9.6	12.0	12.0	11.5	9.4	5.4	16.1	9.7
	S	S	SSW	SSW	S	S	SW	SW	WSW	W	W	WNW	NW	WNW	WNW	W	NW	WSW	WSW	WSW	W	WNW	WNW	WNW			
Mar 19	10.1	12.1	10.7	10.2	8.1	7.5	10.9	6.5	1.9	5.7	6.5	4.8	5.9	4.8	7.2	7.9	6.8	7.9	9.0	9.6	9.2	8.6	9.1	7.4	1.9	12.1	7.9
	NW	NNW	NNW	NNW	N	N	NNE	N	ENE	E	E	ESE	SSW	SSE	ESE	ESE	SE	SE	SE	SSE	SSE	SE	SE	ESE			
Mar 20	9.2	10.2	8.7	8.9	11.2	11.8	10.8	9.3	10.6	10.2	12.0	11.0	9.4	11.3	13.0	10.9	12.3	8.5	5.9	7.2	6.3	2.5	5.3	5.2	2.5	13.0	9.2
	ESE	SE	ESE	ESE	ESE	ESE	SE	SSE	S	S	SSW	SSW	SSW	SSW	SSW	S	SSW	S	SE	SSE	SSE	E	E	E			
Mar 21	5.8	8.3	7.5	7.3	5.8	9.4	10.0	10.5	9.8	10.3	8.9	6.3	6.9	6.7	6.0	6.0	4.2	**1.2**	6.6	7.2	8.3	9.4	7.7	8.7	**1.2**	10.5	7.5
	ENE	NNE	NE	NNE	NNE	N	N	N	N	N	N	N	NNE	N	NW	NNW	NW	W	SW	SSW	S	SSW	SSW	S			
Mar 22	9.2	10.8	8.6	8.7	11.2	13.6	14.2	15.3	17.1	19.0	18.3	18.6	19.6	16.0	15.6	16.2	14.3	14.0	12.0	9.7	11.2	12.2	12.7	12.0	8.6	19.6	13.8
	S	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SSW	SSW	SSW	SSW	SSW			
Mar 23	11.5	10.2	7.8	10.5	13.1	14.2	8.9	9.5	8.5	7.6	7.3	6.7	4.4	4.5	6.7	8.5	8.3	8.7	6.2	5.5	11.1	10.8	11.3	16.6	4.4	16.6	9.1
	SSW	S	S	SSW	SSW	SSW	WSW	W	W	WSW	WSW	WNW	WNW	SW	SW	WSW	SW	SW	SW	W	NE	NE	NE	NE			
Mar 24	14.3	14.5	14.4	14.2	15.2	13.5	10.2	10.2	12.4	10.6	8.5	6.6	6.6	5.0	4.7	4.8	3.3	6.1	5.6	7.4	7.6	7.3	9.0	9.2	3.3	15.2	9.2
	NE	NE	NE	NE	NE	NE	ENE	ENE	ENE	ENE	ENE	NE	NE	E	ESE	E	E	SSE	SSW	SW	SW	WSW	WSW	SW			
Mar 25	8.9	9.2	9.0	10.5	9.2	8.4	9.5	9.6	9.6	8.7	6.9	4.1	2.7	6.3	6.1	9.9	6.9	6.3	5.9	8.0	9.2	7.3	12.1	10.7	2.7	12.1	8.1
	SW	SW	SSW	SSW	SW	SSW	SSW	SSW	SW	SW	SW	WSW	W	NNW	N	NNW	N	NNW	NW	NW	NW	NNW	ENE	ENE			
Mar 26	9.5	7.9	8.2	8.2	9.7	9.6	9.9	10.7	10.8	7.4	7.7	K	6.6	6.1	6.4	4.4	3.8	5.3	3.1	7.0	8.6	9.6	8.5	10.8	3.1	10.8	7.8
	ENE	NE	NNE	NE	NE	NE	ENE	ENE	ENE	ENE	E	K	E	ESE	SE	ENE	NE	ENE	E	ENE	NE	ENE	ENE	ENE			
Mar 27	10.6	10.6	10.8	9.8	9.4	9.7	9.0	4.7	1.3	3.5	3.5	3.9	3.6	2.4	14.3	14.3	9.2	5.7	2.7	7.9	8.3	9.7	11.0	10.7	1.3	14.3	7.8
	ENE	ENE	NE	ENE	ENE	ENE	ENE	E	SE	WSW	NW	NNE	NE	W	WSW	WSW	W	NNW	NW	S	SW	WSW	SW	WSW			
Mar 28	11.1	12.7	14.8	13.4	13.3	10.2	10.6	9.0	7.2	4.5	3.9	4.2	4.5	1.4	4.2	8.8	10.1	11.2	10.4	10.2	10.5	10.3	10.7	10.6	1.4	14.8	9.1
	WSW	WSW	W	W	W	W	WSW	WSW	W	NW	NNE	NNE	NW	SSW	E	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW			
Mar 29	10.9	11.7	10.9	6.8	9.9	12.4	10.2	10.9	10.2	6.8	3.8	3.5	5.2	4.8	5.3	8.5	8.4	7.9	9.2	10.5	11.6	11.7	13.0	10.8	3.5	13.0	9.0
	SW	SW	WSW	SW	SW	SW	SW	SW	WSW	WSW	NW	NNW	NW	NNW	N	N	N	N	N	NNE	NE	ENE	ENE	ENE			
Mar 30	10.1	9.3	9.5	10.3	12.7	13.0	13.6	13.2	11.4	8.8	8.6	8.7	10.6	10.6	13.5	14.6	13.3	12.8	11.1	10.7	11.3	11.1	9.3	11.7	8.6	14.6	11.2
	ENE	ENE	ENE	ENE	E	E	E	E	E	E	E	E	ESE	SE	SSE	SSE	SSE	SSE	SE	SE	SE	SE	SE	SSE			
Mar 31	9.4	9.8	12.0	15.1	14.3	13.7	12.5	11.4	11.3	8.8	8.9	9.0	9.2	11.7	9.8	8.7	8.0	4.7	5.0	5.7	6.1	4.3	5.3	7.2	4.3	15.1	9.2
	SSE	SSE	S	S	S	S	SSE	SSE	SSE	S	S	S	SSW	S	SSW	S	SSW	SE	SSE	S	S	SSE	SSE	SSE			

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 - March 2023

Summary of Hour Standard Deviations

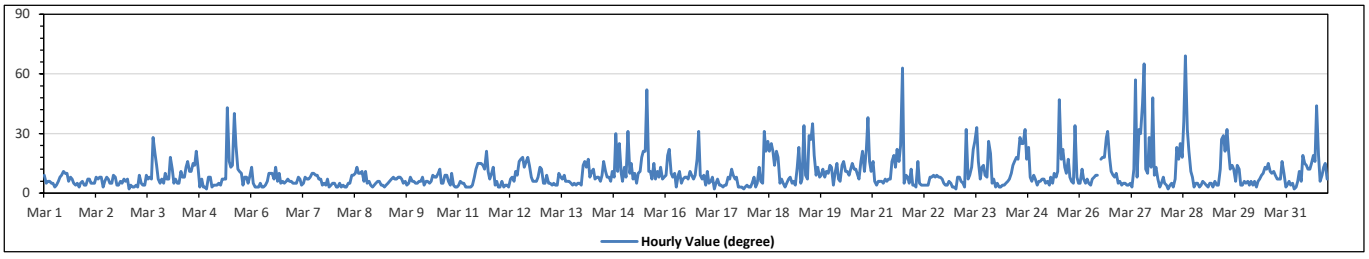
STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

Maximum Hourly Value:	69 degree on Mar 28 at hr 13	Hours in Service:	744
		Hours of Data:	743
Minimum Hourly Value:	2 degree on Mar 3 at hr 1	Hours of Missing Data:	1
		Hours of Calibration:	0
		Operational Uptime:	99.9

Day	Hourly Period Starting at (MST)																								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
Mar 1	9	5	6	6	5	5	3	4	6	8	9	11	10	10	6	8	7	5	4	5	3	5	6	4	3	11
Mar 2	4	7	7	5	5	5	8	7	8	8	3	6	8	7	5	5	9	8	4	4	6	5	7	6	3	9
Mar 3	7	**2**	4	3	3	4	3	9	5	4	4	9	7	8	7	28	20	14	7	5	7	5	10	7	**2**	28
Mar 4	7	18	12	5	7	5	5	11	8	8	13	16	11	11	15	14	21	12	3	7	3	3	**2**	8	**2**	21
Mar 5	8	3	4	4	4	5	4	7	7	7	43	16	13	14	40	24	12	11	10	4	8	8	5	9	3	43
Mar 6	13	5	3	3	3	5	3	3	4	6	10	10	10	7	13	6	10	5	6	5	6	7	6	6	3	13
Mar 7	5	5	5	8	7	4	5	8	7	7	8	10	10	9	9	7	7	4	5	4	7	3	4	5	3	10
Mar 8	5	3	3	5	3	4	3	3	5	5	9	9	10	13	10	10	11	6	11	5	6	4	3	4	3	13
Mar 9	5	6	6	4	4	3	4	5	6	7	8	7	7	8	8	7	5	6	4	5	8	6	6	5	3	8
Mar 10	5	6	6	8	4	6	6	5	6	9	8	8	10	12	5	5	9	9	6	4	10	4	3	3	3	12
Mar 11	4	6	5	5	3	3	3	3	4	8	12	15	15	15	14	12	21	11	7	10	13	4	6	3	3	21
Mar 12	3	6	3	4	4	3	7	8	6	11	9	16	17	18	13	16	18	14	8	6	6	6	8	13	3	18
Mar 13	12	5	5	9	5	5	4	5	4	4	10	8	7	9	6	6	6	5	4	5	4	5	5	4	4	12
Mar 14	14	16	13	17	8	11	12	7	8	8	6	9	16	11	8	8	6	11	8	30	11	25	10	6	6	30
Mar 15	13	8	31	10	15	7	10	5	10	11	18	21	21	52	11	11	7	15	7	11	8	13	7	8	5	52
Mar 16	9	19	22	10	8	10	3	9	11	5	7	8	8	7	11	9	7	9	17	31	9	7	9	4	3	31
Mar 17	11	5	6	8	**2**	5	7	4	4	3	4	4	8	7	12	9	7	8	3	3	3	**2**	3	4	**2**	12
Mar 18	3	3	5	8	3	5	13	6	5	31	21	26	21	25	21	14	21	18	5	7	5	3	5	7	3	31
Mar 19	8	5	6	4	13	23	5	7	34	9	7	29	27	35	19	9	13	8	9	12	8	11	10	14	4	35
Mar 20	13	4	10	15	7	6	14	16	11	11	9	12	15	12	12	9	7	16	21	11	22	38	16	11	4	38
Mar 21	16	6	4	6	6	6	5	7	6	7	7	16	19	13	22	16	24	63	5	9	8	5	12	4	4	63
Mar 22	4	3	16	5	4	4	4	4	4	8	8	9	8	9	8	8	7	5	4	4	6	5	3	3	3	16
Mar 23	**2**	8	8	6	5	3	32	7	9	13	22	26	33	16	7	13	14	9	8	26	20	5	7	3	**2**	33
Mar 24	5	3	3	4	4	5	6	7	10	14	16	18	17	28	25	25	32	17	23	8	6	9	7	4	3	32
Mar 25	6	6	7	7	5	6	4	8	5	10	8	11	47	17	22	13	10	17	8	6	5	34	8	5	4	47
Mar 26	5	12	7	5	7	5	4	7	8	9	9	K	17	18	18	28	31	18	11	9	8	10	5	6	4	31
Mar 27	4	5	5	4	4	5	3	12	57	8	32	30	45	65	12	10	28	13	48	9	13	7	3	5	3	65
Mar 28	8	5	4	**2**	4	5	3	7	23	17	25	18	36	**69**	32	21	11	8	3	5	5	3	4	6	**2**	**69**
Mar 29	5	4	3	5	5	3	6	4	4	12	27	29	21	32	21	12	14	12	6	14	12	4	4	6	3	32
Mar 30	5	6	4	6	4	6	3	6	7	9	10	13	12	15	11	10	11	9	7	7	7	16	10	3	3	16
Mar 31	4	6	4	5	**2**	3	6	11	6	19	15	14	12	12	15	19	16	44	19	6	9	13	15	7	**2**	44
Diurnal Minimum	2	2	3	2	2	3	3	3	4	3	3	4	7	7	5	5	5	4	3	3	3	2	2	3		
Diurnal Maximum	16	19	31	17	15	23	32	16	57	31	43	30	47	69	40	28	32	63	48	31	22	38	16	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 (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.



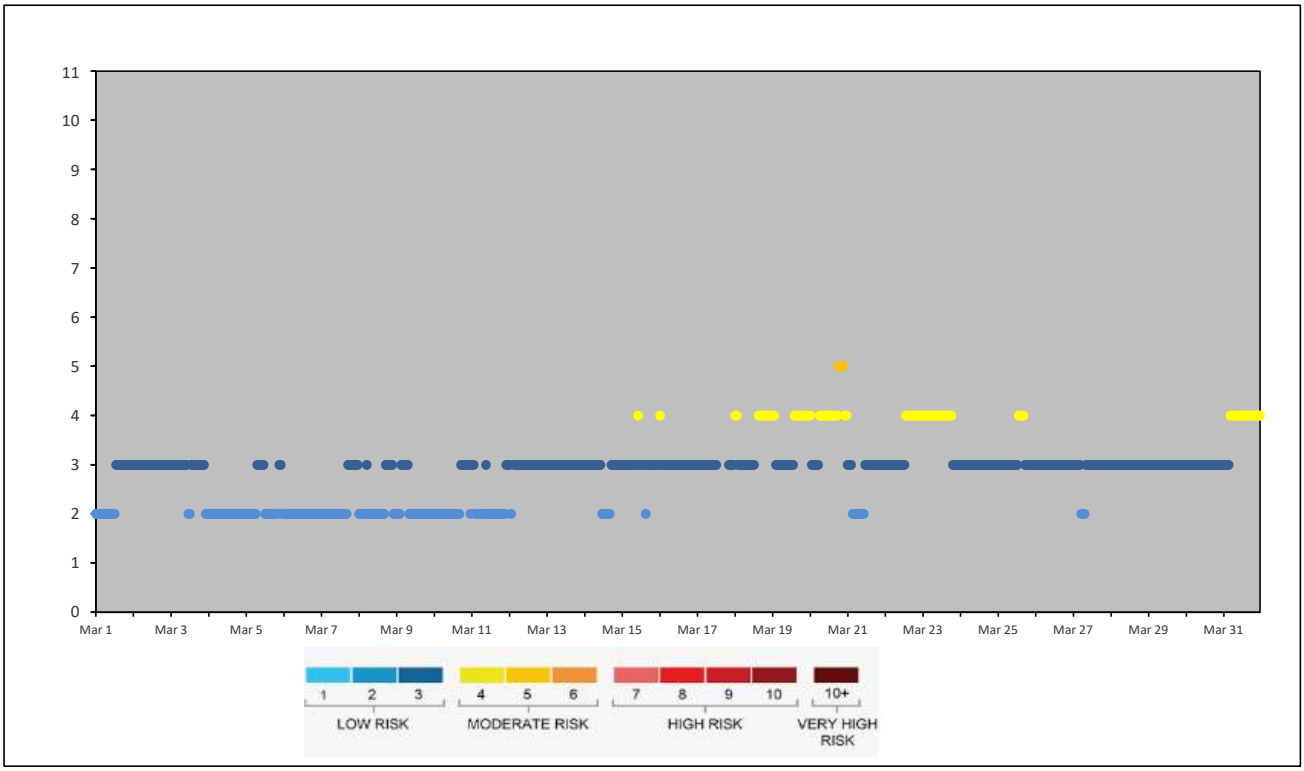
LAC LA BICHE STATION

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Lac La Biche Station - March 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
Mar 1	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3
Mar 2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 3	3	3	3	3	3	3	3	3	3	3	3	2	2	3	3	3	3	3	3	3	3	3	2	2
Mar 4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mar 5	2	2	2	2	2	2	2	3	3	3	3	3	2	2	2	2	2	2	2	2	2	3	3	2
Mar 6	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3
Mar 7	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3
Mar 8	2	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	2	2
Mar 9	2	2	2	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mar 10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	2
Mar 11	3	3	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	3	3
Mar 12	3	2		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 13	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 14	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	3	3	3	3	3	3	3
Mar 15	3	3	3	3	3	3	3	3	3	3	4	3	3	3	3	2	3	3	3	3	3	3	3	3
Mar 16	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 17	3	3	3	3	3	3	3	3	3	3	3	3	3								3	3	3	3
Mar 18	4	4	3	3	3	3	3	3	3	3	3	3	3			4	4	4	4	4	4	4	4	4
Mar 19	4	4	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4
Mar 20	4	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	4	4
Mar 21	3	3	3	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 22	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4
Mar 23	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3
Mar 24	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 25	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	3	3	3	3	3	3	3
Mar 26	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 27	3	3	3	3	3	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 28	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 29	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 30	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mar 31	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4



Lakeland Industry & Community Association

Lac La Biche Station - March 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

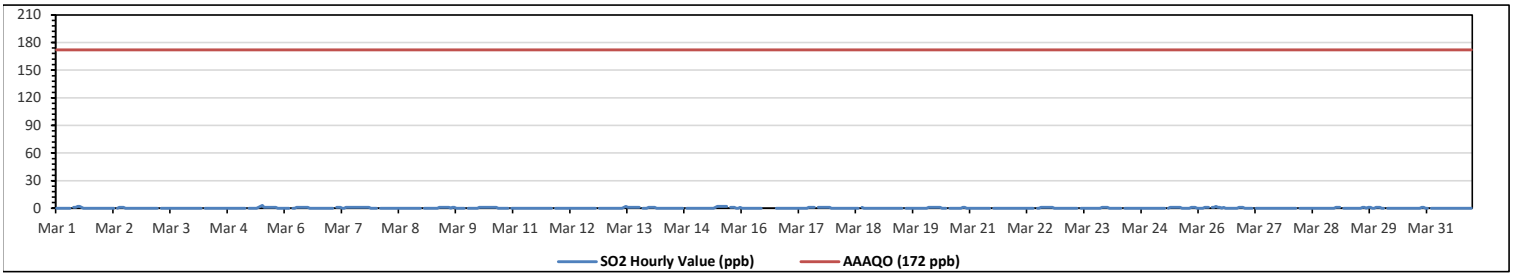
Number of 1-Hour Exceedances:	0	Number of 24-Hour Exceedances:	0	30-Day Exceedence:	0	
Maximum Hourly Value:	3	ppb	on Mar 5 at hr 12	Hours in Service:	744	
Maximum Daily Value:	0.7	ppb	on Mar 15	Hours of Data:	706	
Minimum Hourly Value:	0	ppb	on Mar 1 at hr 0	Hours of Missing Data:	0	
Minimum Daily Value:	0.0	ppb	on Mar 3	Hours of Calibration:	38	
Monthly Average:	0.2	ppb		Operational Uptime:	100.0	

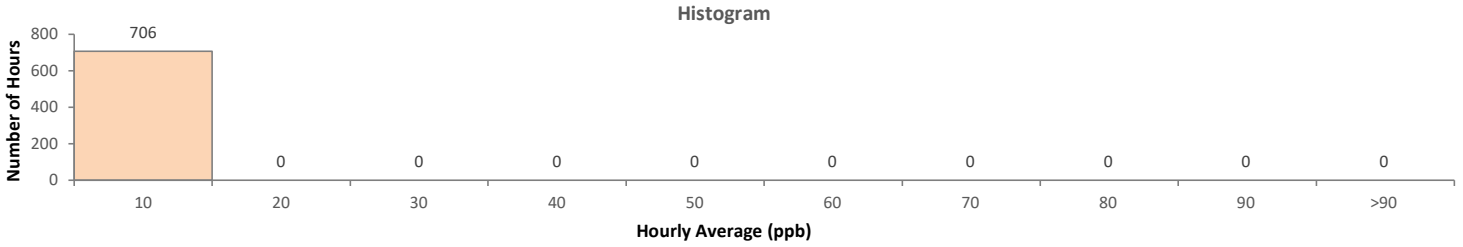
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Mar 1	0	0	0	0	0	0	0	0	S	1	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0	2	0.3
Mar 2	0	0	0	0	0	0	0	S	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Mar 3	0	0	0	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
Mar 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
Mar 5	0	0	0	0	S	0	0	0	0	0	1	2	3	1	1	1	1	1	1	1	0	0	0	0	0	3	0.6
Mar 6	0	0	0	S	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3
Mar 7	0	0	S	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0.7
Mar 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
Mar 9	S	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	1	0	0	0	0	0	S	0	1	0.4
Mar 10	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	S	0	0	1	0.4
Mar 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
Mar 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
Mar 13	0	0	0	0	0	0	0	0	0	0	1	2	1	1	1	1	1	1	1	S	0	0	0	1	0	2	0.5
Mar 14	1	1	1	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
Mar 15	0	0	0	0	0	0	0	0	0	0	1	2	2	2	2	2	2	S	1	1	1	0	0	1	0	2	0.7
Mar 16	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	C	C	C	0	0	0	0	0	0	0	0	NA
Mar 17	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	S	1	1	1	1	1	1	1	0	0	1	0.5
Mar 18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	0	0	0	0	0	0	0	0	0	1	0.0
Mar 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
Mar 20	0	0	1	1	1	1	1	1	1	0	0	0	S	0	0	0	0	0	0	0	1	1	0	0	0	1	0.4
Mar 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
Mar 22	0	0	0	0	0	0	0	0	0	0	S	0	0	1	1	1	1	1	1	1	0	0	0	0	0	1	0.3
Mar 23	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	0.1
Mar 24	1	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Mar 25	0	0	0	0	0	0	0	S	0	1	1	1	1	1	1	0	0	0	0	0	0	1	1	1	0	1	0.4
Mar 26	0	0	0	1	1	1	S	1	1	2	1	1	0	1	0	0	0	0	0	0	0	1	1	1	0	2	0.6
Mar 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
Mar 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
Mar 29	1	1	1	S	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	1	1	1	0	1	0.4
Mar 30	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0.1
Mar 31	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
Diurnal Maximum	1	1	1	1	1	1	1	1	1	2	1	2	3	2	2	2	2	1	1	1	1	1	1	1			
Diurnal Average	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.6	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	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.



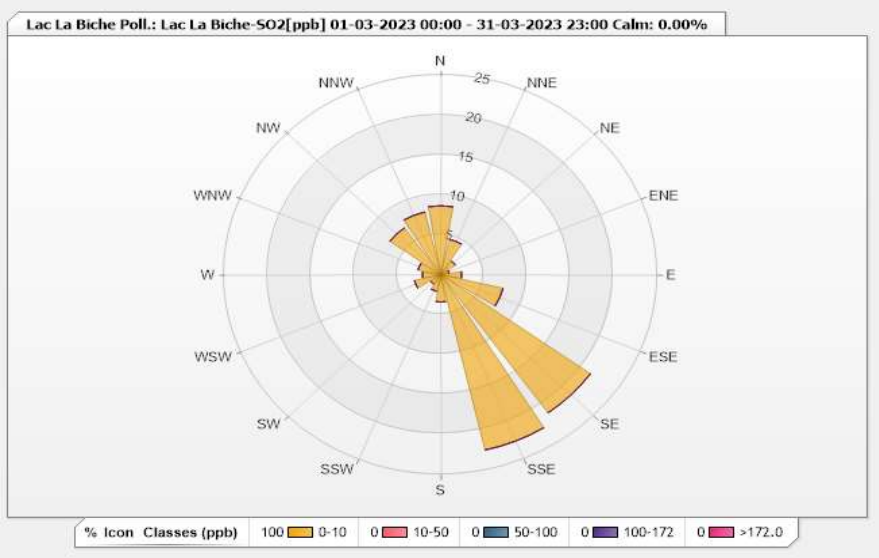


Station: Lac La Biche Poll.: Lac La Biche-SO2[ppb] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppm]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	8.64	0	0	0	0	8.64
NNE	4.53	0	0	0	0	4.53
NE	2.12	0	0	0	0	2.12
ENE	0.99	0	0	0	0	0.99
E	2.41	0	0	0	0	2.41
ESE	7.37	0	0	0	0	7.37
SE	21.25	0	0	0	0	21.25
SSE	22.52	0	0	0	0	22.52
S	3.4	0	0	0	0	3.4
SSW	2.12	0	0	0	0	2.12
SW	1.42	0	0	0	0	1.42
WSW	3.12	0	0	0	0	3.12
W	2.12	0	0	0	0	2.12
WNW	2.69	0	0	0	0	2.69
NW	7.22	0	0	0	0	7.22
NNW	8.07	0	0	0	0	8.07
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Lac La Biche Station - March 2023

Summary of Hourly Averages

HYDROGEN SULPHIDE (H_2S) in ppb

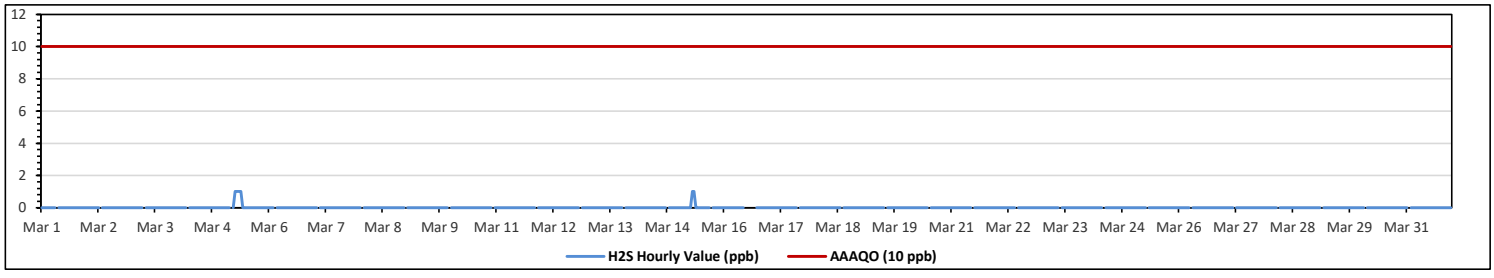
Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 10 ppb, 24-Hour 3 ppb

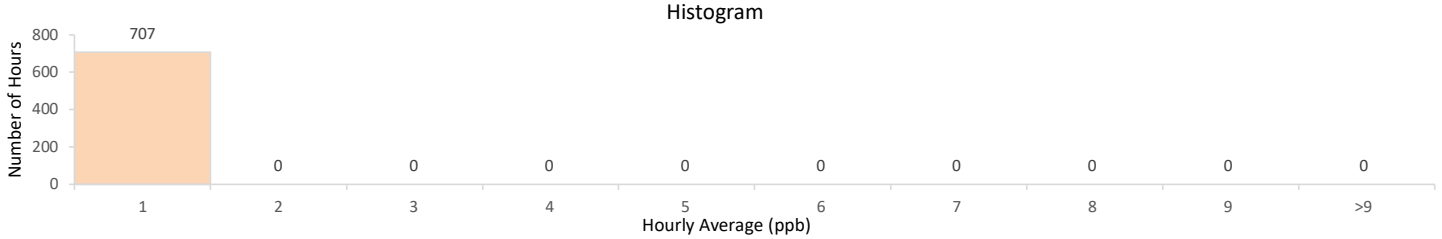
Number of 1-Hour Exceedances:	0		Number of 24-Hour Exceedances:	0	
Maximum Hourly Value:	1	ppb	on Mar 5 at hr 6	Hours in Service:	744
Maximum Daily Value:	0.0	ppb	on Mar 1	Hours of Data:	707
Minimum Hourly Value:	0	ppb	on Mar 1 at hr 0	Hours of Missing Data:	0
Minimum Daily Value:	0.0	ppb	on Mar 1	Hours 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			
Mar 1	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
Mar 2	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
Mar 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
Mar 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
Mar 5	0	0	0	0	S	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 15	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	1	0.0
Mar 16	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0.0
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 31	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
Diurnal Maximum	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Diurnal Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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.



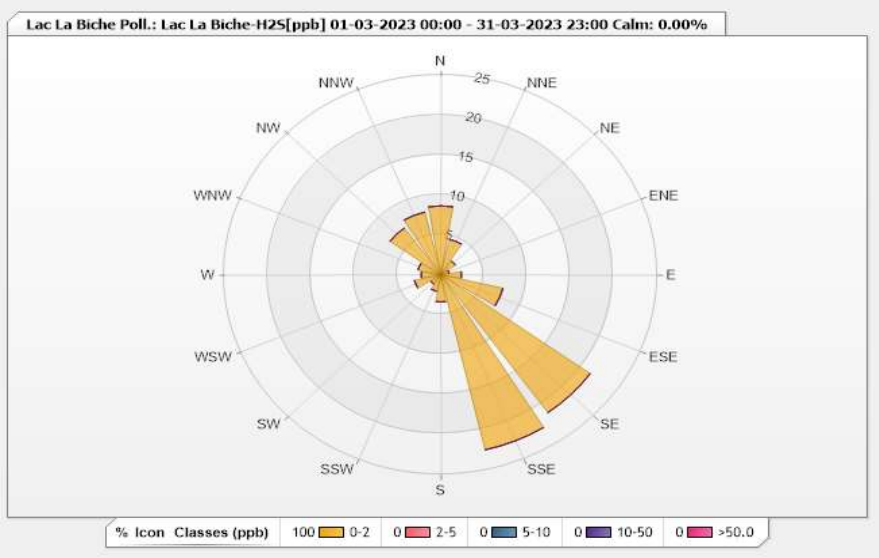


Station: Lac La Biche Poll.: Lac La Biche-H2S[ppb] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 95.03% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	8.63	0	0	0	0	8.63
NNE	4.53	0	0	0	0	4.53
NE	2.12	0	0	0	0	2.12
ENE	0.99	0	0	0	0	0.99
E	2.4	0	0	0	0	2.4
ESE	7.36	0	0	0	0	7.36
SE	21.22	0	0	0	0	21.22
SSE	22.49	0	0	0	0	22.49
S	3.39	0	0	0	0	3.39
SSW	2.12	0	0	0	0	2.12
SW	1.41	0	0	0	0	1.41
WSW	3.11	0	0	0	0	3.11
W	2.26	0	0	0	0	2.26
WNW	2.69	0	0	0	0	2.69
NW	7.21	0	0	0	0	7.21
NNW	8.06	0	0	0	0	8.06
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Lac La Biche Station - March 2023

Summary of Hourly Averages

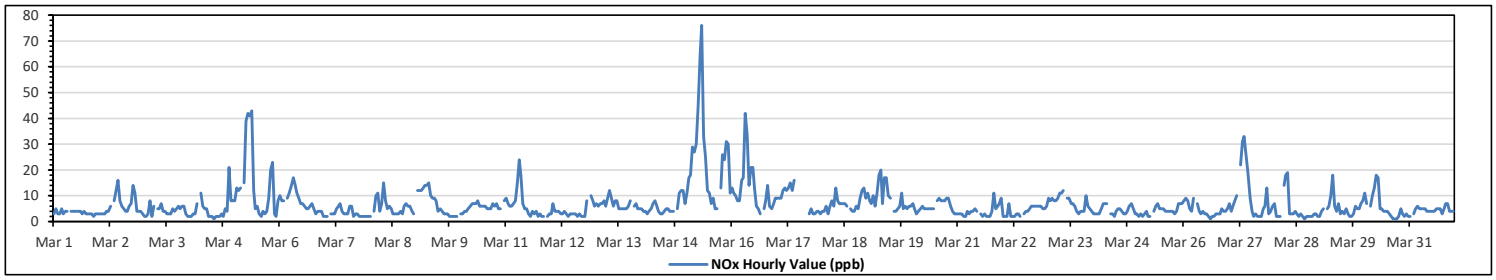
OXIDES OF NITROGEN (NOx) in ppb

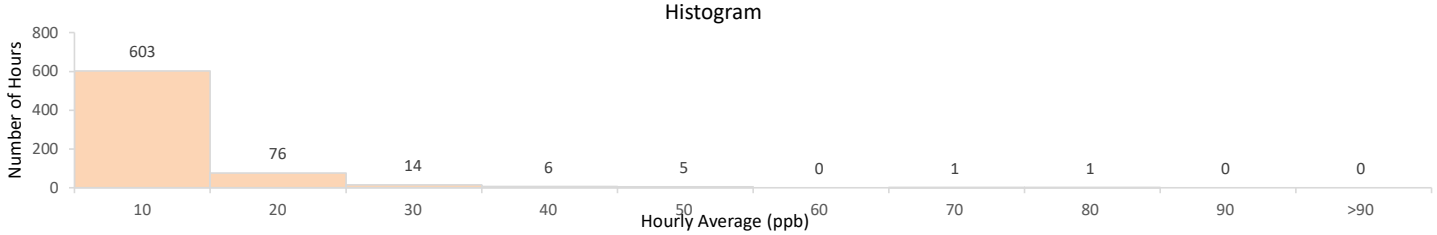
Maximum Hourly Value:	76	ppb	on Mar 15 at hr 8	Hours in Service:	744
Maximum Daily Value:	24.3	ppb	on Mar 15	Hours of Data:	706
Minimum Hourly Value:	1	ppb	on Mar 4 at hr 13	Hours of Missing Data:	0
Minimum Daily Value:	3.3	ppb	on Mar 7	Hours of Calibration:	38
Monthly Average:	6.8	ppb		Operational Uptime:	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			
Mar 1	3	5	3	3	5	3	4	4	S	4	4	4	4	4	4	3	4	3	3	3	3	2	3	3	2	5	3.5
Mar 2	3	3	3	3	4	4	6	S	8	12	16	8	6	5	4	4	6	7	14	11	4	4	4	3	3	16	6.2
Mar 3	2	2	3	8	2	6	S	5	5	7	4	4	3	3	3	5	4	5	6	5	6	6	3	2	2	8	4.3
Mar 4	2	2	3	3	7	S	11	6	5	5	2	2	2	1	2	2	2	3	2	5	4	21	8	8	1	21	4.7
Mar 5	8	13	12	13	S	15	39	42	41	43	12	5	6	3	2	4	3	4	9	20	23	3	2	8	2	43	14.3
Mar 6	10	8	8	S	9	11	14	17	14	11	9	7	7	6	5	5	6	7	5	3	4	4	4	2	2	17	7.7
Mar 7	2	2	S	3	3	3	5	6	7	4	3	3	3	6	6	2	3	3	2	2	2	2	2	2	2	7	**3.3**
Mar 8	2	S	4	10	11	4	7	15	8	5	6	5	3	3	3	3	4	3	6	7	6	6	4	3	2	15	5.6
Mar 9	S	12	12	12	13	14	14	15	10	9	9	8	4	5	4	3	3	3	2	2	2	2	2	S	2	15	7.3
Mar 10	3	3	4	4	5	6	7	7	7	8	6	6	6	6	5	5	5	7	6	7	5	5	S	8	3	8	5.7
Mar 11	9	7	6	6	7	8	15	24	18	7	5	5	3	2	4	3	4	2	3	2	2	S	2	3	2	24	6.4
Mar 12	3	7	4	4	4	3	3	4	3	2	3	3	3	3	2	3	2	2	2	8	S	10	8	6	2	10	4.0
Mar 13	7	6	7	7	8	6	9	12	9	6	8	8	5	5	5	5	5	6	8	S	6	7	5	5	5	12	6.7
Mar 14	5	4	4	3	4	5	7	8	6	4	3	3	4	5	5	4	4	4	S	5	11	12	12	7	3	12	5.6
Mar 15	11	17	18	29	27	30	45	64	**76**	33	25	12	11	7	9	5	5	S	13	26	24	31	30	11	5	**76**	**24.3**
Mar 16	13	11	10	8	8	16	17	42	34	14	21	21	13	6	5	3	S	5	8	14	6	5	7	9	3	42	12.9
Mar 17	9	9	9	12	13	12	13	15	12	16	C	C	C	C	C	C	C	3	5	3	3	4	4	3	3	16	NA
Mar 18	4	4	6	3	6	8	6	13	8	7	7	7	7	6	S	5	4	4	6	5	9	12	13	9	3	13	6.9
Mar 19	11	8	7	10	6	11	18	20	7	17	17	10	9	S	4	4	5	6	11	5	6	5	6	6	4	20	9.1
Mar 20	7	5	3	4	5	6	5	5	5	5	5	5	S	8	9	8	8	8	9	9	6	4	3	3	3	9	5.9
Mar 21	3	3	3	2	2	4	3	4	4	5	4	S	3	2	3	2	2	2	4	11	5	6	7	9	2	11	4.0
Mar 22	2	2	2	7	2	2	2	3	3	2	S	3	4	4	5	6	6	6	6	6	6	5	5	6	2	7	4.1
Mar 23	9	8	9	8	8	9	11	11	12	S	9	9	7	7	6	4	3	4	4	4	10	6	5	4	3	12	7.3
Mar 24	3	3	3	3	5	7	7	7	S	3	3	2	4	5	5	4	3	3	4	6	7	5	3	3	2	7	4.3
Mar 25	2	3	2	3	4	2	2	S	4	6	7	5	5	5	4	4	4	4	4	3	4	7	7	7	2	7	4.3
Mar 26	8	9	8	5	4	9	S	7	4	3	4	3	3	2	1	2	2	3	3	3	5	4	4	5	1	9	4.4
Mar 27	7	4	6	8	10	S	22	31	33	26	19	9	4	2	3	2	2	2	5	6	13	3	4	6	2	33	9.9
Mar 28	7	2	2	2	S	14	18	19	3	3	3	4	3	2	3	2	1	2	2	2	2	2	3	2	1	19	4.5
Mar 29	2	4	5	S	5	6	10	18	6	4	7	3	4	3	5	3	2	2	3	6	5	5	7	8	2	18	5.3
Mar 30	11	7	S	6	10	13	18	17	5	5	4	4	4	3	2	1	1	1	2	5	3	2	3	2	1	18	5.6
Mar 31	2	S	3	5	6	5	5	5	5	4	4	4	4	4	5	5	5	3	5	7	7	4	4	4	2	7	4.6
Diurnal Maximum	13	17	18	29	27	30	45	64	76	43	25	21	13	8	9	8	8	8	14	26	24	31	30	11			
Diurnal Average	5.7	6.0	5.8	6.7	7.0	8.3	11.8	15.4	12.5	9.3	7.9	5.9	5.0	4.2	4.2	3.7	3.7	3.9	5.4	6.7	6.6	6.5	5.8	5.2			

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.



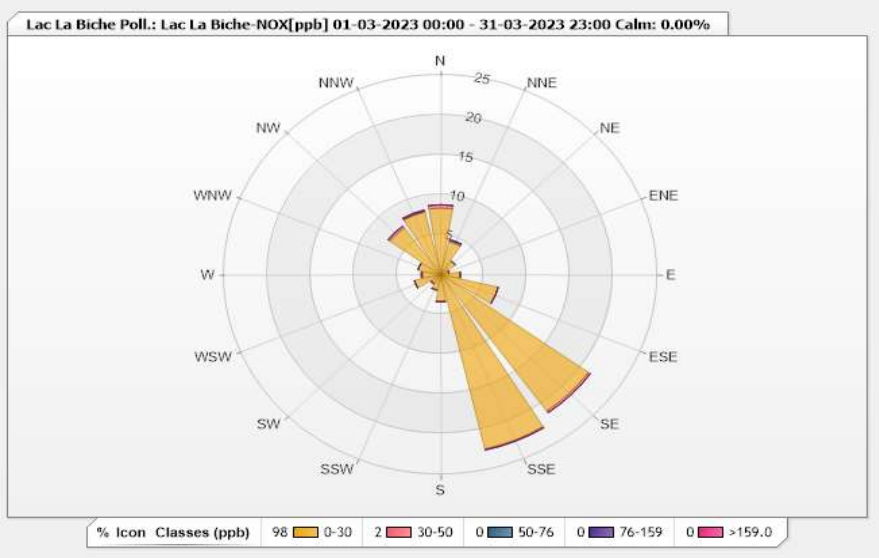


Station: Lac La Biche Poll.: Lac La Biche-NOX[ppb] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	8.36	0.42	0	0	0	8.78
NNE	4.25	0.14	0.14	0	0	4.53
NE	2.12	0	0	0	0	2.12
ENE	0.99	0	0	0	0	0.99
E	2.27	0	0	0	0	2.27
ESE	6.8	0	0	0	0	6.8
SE	20.96	0.28	0	0	0	21.24
SSE	22.38	0.14	0	0	0	22.52
S	3.26	0.14	0	0	0	3.4
SSW	1.98	0	0	0	0	1.98
SW	1.27	0.14	0	0	0	1.41
WSW	3.12	0	0	0	0	3.12
W	2.12	0.14	0	0	0	2.26
WNW	2.69	0	0	0	0	2.69
NW	7.22	0.28	0	0	0	7.5
NNW	8.07	0.14	0	0.14	0	8.35
Summary	97.86	1.82	0.14	0.14	0	100



Lakeland Industry & Community Association

Lac La Biche Station - March 2023

Summary of Hourly Averages

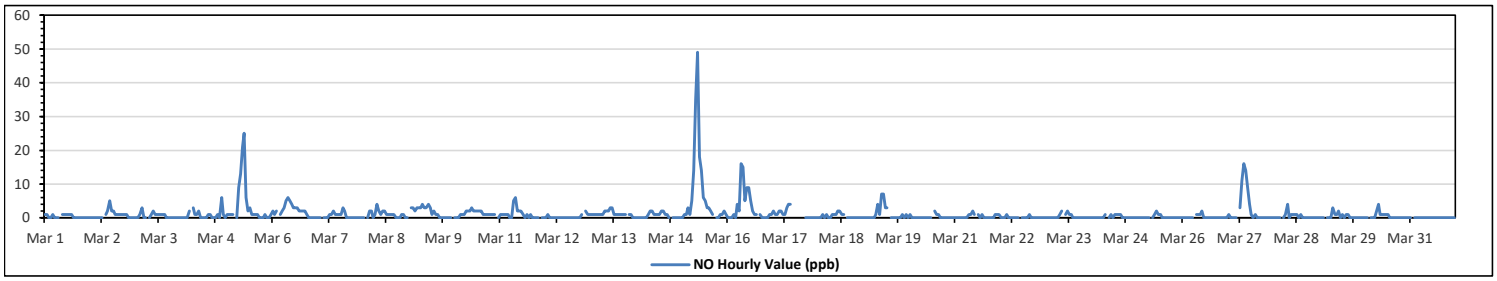
NITRIC OXIDE (NO) in ppb

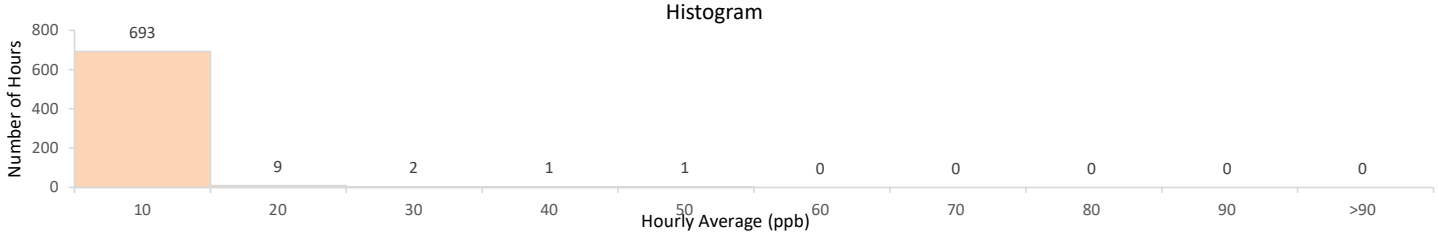
Maximum Hourly Value:	49	ppb	on Mar 15 at hr 8	Hours in Service:	744
Maximum Daily Value:	7.2	ppb	on Mar 15	Hours of Data:	706
Minimum Hourly Value:	0	ppb	on Mar 1 at hr 2	Hours of Missing Data:	0
Minimum Daily Value:	0.0	ppb	on Mar 31	Hours of Calibration:	38
Monthly Average:	1.1	ppb		Operational Uptime:	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			
Mar 1	1	1	0	0	1	0	0	0	S	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0.4
Mar 2	0	0	0	0	0	0	0	S	1	2	5	2	2	1	1	1	1	1	1	1	0	0	0	0	0	5	0.8
Mar 3	0	0	1	3	0	0	S	0	1	2	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	3	0.6
Mar 4	0	0	0	0	2	S	3	1	1	2	0	0	0	0	1	1	0	0	0	1	0	6	1	0	0	6	0.8
Mar 5	1	1	1	1	S	0	9	13	21	25	6	2	3	1	1	1	1	0	0	0	1	0	0	1	0	25	3.9
Mar 6	2	1	2	S	1	2	3	5	6	5	4	3	3	3	2	2	2	2	1	0	0	0	0	0	0	6	2.1
Mar 7	0	0	S	0	0	0	1	1	2	1	1	1	1	3	2	0	0	0	0	0	0	0	0	0	0	3	0.6
Mar 8	0	S	0	2	2	0	1	4	2	1	2	2	1	1	1	1	1	0	0	0	1	1	0	0	0	4	1.0
Mar 9	S	3	3	2	3	3	3	4	3	3	4	3	1	2	1	1	0	0	0	0	0	0	0	S	0	4	1.8
Mar 10	0	0	0	1	1	1	2	2	2	3	2	2	2	2	2	1	1	1	1	1	1	1	S	0	0	3	1.3
Mar 11	1	1	1	1	1	0	0	5	6	2	2	2	1	0	1	0	1	0	0	0	0	S	0	0	0	6	1.1
Mar 12	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	S	2	1	1	0	2	0.3
Mar 13	1	1	1	1	1	1	1	2	2	2	3	3	1	1	1	1	1	1	1	S	1	1	0	0	0	3	1.2
Mar 14	0	0	0	0	0	0	1	2	2	1	1	1	1	2	2	1	1	0	S	0	0	0	0	0	0	2	0.7
Mar 15	0	1	1	3	1	5	14	35	**49**	18	14	6	5	3	3	2	1	S	0	0	1	1	2	1	0	**49**	**7.2**
Mar 16	0	0	0	1	0	4	2	16	15	5	9	9	5	2	1	1	S	1	0	0	0	0	1	1	0	16	3.2
Mar 17	2	1	1	2	2	1	1	3	4	4	C	C	C	C	C	C	C	0	0	0	0	0	0	0	0	4	NA
Mar 18	0	0	1	0	1	0	0	1	1	1	2	2	1	1	S	0	0	0	0	0	0	0	0	0	0	2	0.5
Mar 19	0	0	0	0	0	0	1	4	1	7	7	3	3	S	0	0	0	0	0	0	1	0	1	0	0	7	1.2
Mar 20	1	0	0	0	0	0	0	0	0	0	0	0	S	2	1	1	0	0	0	0	0	0	0	0	0	2	0.2
Mar 21	0	0	0	0	0	0	0	1	1	2	1	S	1	0	1	0	0	0	0	0	0	1	1	1	0	2	0.4
Mar 22	0	0	0	1	0	0	0	0	0	0	S	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.1
Mar 23	0	0	0	0	0	0	0	1	2	S	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0.3
Mar 24	0	0	0	0	0	0	0	1	S	0	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0.3
Mar 25	0	0	0	0	0	0	0	S	0	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2
Mar 26	0	0	0	0	0	0	S	1	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2
Mar 27	1	0	0	0	0	S	3	11	16	14	9	4	1	0	1	0	0	0	0	0	0	0	0	0	0	16	2.6
Mar 28	0	0	0	0	S	0	1	4	0	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	4	0.4
Mar 29	0	0	0	S	0	0	0	3	1	1	2	0	1	0	1	1	0	0	0	0	0	0	0	0	0	3	0.4
Mar 30	0	0	S	0	0	0	0	2	4	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	4	0.5
Mar 31	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
Diurnal Maximum	2	3	3	3	3	5	14	35	49	25	14	9	5	3	3	2	2	2	1	1	1	6	2	1			
Diurnal Average	0.3	0.4	0.4	0.6	0.6	0.6	1.7	4.3	4.9	3.5	2.9	1.8	1.4	1.0	0.9	0.6	0.3	0.2	0.1	0.1	0.2	0.4	0.2	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.



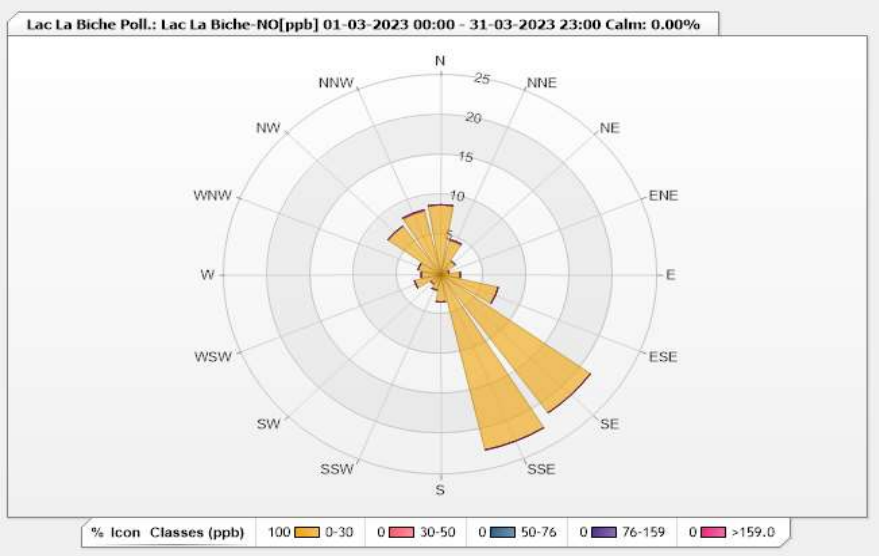


Station: Lac La Biche Poll.: Lac La Biche-NO[ppb] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	8.78	0	0	0	0	8.78
NNE	4.39	0.14	0	0	0	4.53
NE	2.12	0	0	0	0	2.12
ENE	0.99	0	0	0	0	0.99
E	2.27	0	0	0	0	2.27
ESE	6.8	0	0	0	0	6.8
SE	21.25	0	0	0	0	21.25
SSE	22.52	0	0	0	0	22.52
S	3.4	0	0	0	0	3.4
SSW	1.98	0	0	0	0	1.98
SW	1.42	0	0	0	0	1.42
WSW	3.12	0	0	0	0	3.12
W	2.27	0	0	0	0	2.27
WNW	2.69	0	0	0	0	2.69
NW	7.51	0	0	0	0	7.51
NNW	8.22	0.14	0	0	0	8.36
Summary	100	0.28	0	0	0	100



Lakeland Industry & Community Association

Lac La Biche Station - March 2023

Summary of Hourly Averages

NITROGEN DIOXIDE (NO_2) in ppb

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

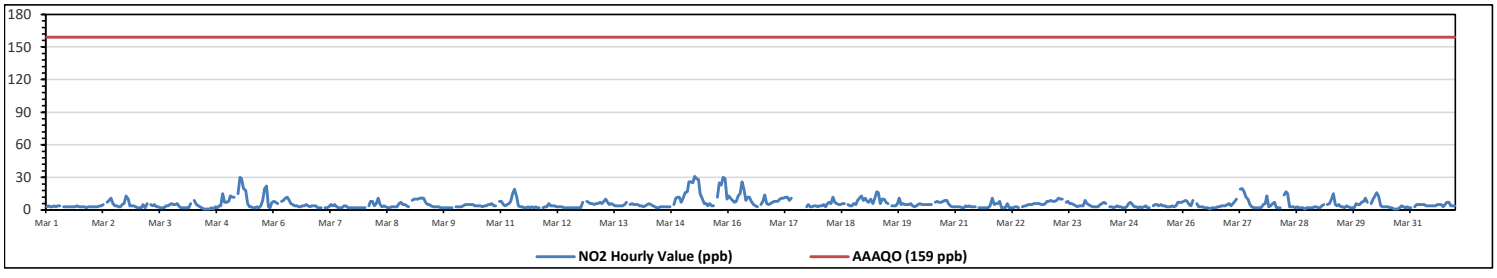
Number of 1-Hour Exceedances: 0

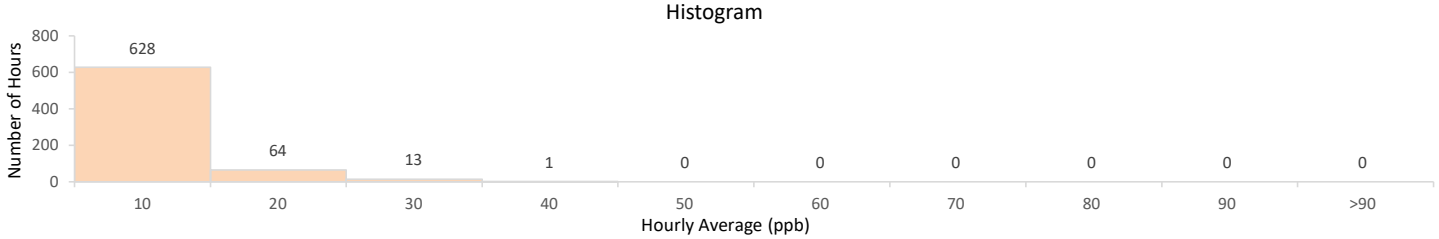
Maximum Hourly Value:	31	ppb	on Mar 15 at hr 6	Hours in Service:	744
Maximum Daily Value:	17.1	ppb	on Mar 15	Hours of Data:	706
Minimum Hourly Value:	1	ppb	on Mar 4 at hr 11	Hours of Missing Data:	0
Minimum Daily Value:	2.6	ppb	on Mar 7	Hours of Calibration:	38
Monthly Average:	5.6	ppb		Operational Uptime:	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			
Mar 1	3	4	3	3	4	3	4	4	S	3	3	3	3	3	3	3	4	3	3	3	3	2	3	3	2	4	3.2
Mar 2	3	3	3	3	4	4	5	S	7	9	11	6	4	4	3	3	5	6	13	10	4	4	4	3	3	13	5.3
Mar 3	2	2	2	5	2	6	S	5	4	5	3	3	2	2	2	4	4	5	6	5	5	6	3	2	2	6	3.7
Mar 4	2	2	2	2	6	S	9	5	4	3	2	1	1	1	1	2	1	3	2	4	4	15	7	7	1	15	3.7
Mar 5	8	13	12	12	S	15	30	29	20	18	6	3	3	2	2	3	2	4	9	20	22	3	2	7	2	30	10.7
Mar 6	8	7	6	S	8	9	11	12	9	6	5	4	4	3	3	4	4	5	4	3	4	4	4	2	2	12	5.6
Mar 7	2	2	S	2	2	3	5	4	5	3	2	2	2	4	4	2	2	2	2	2	2	2	2	2	2	5	2.6
Mar 8	2	S	4	8	8	4	6	11	5	3	4	3	2	2	3	3	3	3	6	7	5	5	4	3	2	11	4.5
Mar 9	S	9	10	10	10	11	11	11	7	5	5	4	3	3	3	3	2	2	2	2	2	2	2	S	2	11	5.4
Mar 10	3	3	3	3	4	5	5	5	5	5	4	4	4	4	3	4	4	5	5	6	4	4	S	8	3	8	4.3
Mar 11	8	5	4	5	6	8	15	19	12	4	3	3	2	2	3	2	3	2	3	2	2	S	2	3	2	19	5.1
Mar 12	3	6	4	4	4	3	3	3	3	2	2	2	2	2	2	2	2	2	2	7	S	8	7	6	2	8	3.5
Mar 13	6	5	6	6	7	6	8	10	7	5	6	5	4	4	4	4	4	5	7	S	5	6	5	5	4	10	5.7
Mar 14	5	4	4	3	4	5	6	5	4	3	2	2	3	3	3	3	3	3	S	5	11	12	12	7	2	12	4.9
Mar 15	11	16	17	26	26	25	31	29	28	15	11	6	6	4	6	4	4	S	12	25	23	30	29	10	4	31	17.1
Mar 16	13	11	9	7	8	13	15	26	19	9	12	12	8	5	4	3	S	5	8	14	6	5	6	7	3	26	9.8
Mar 17	8	8	8	10	11	11	12	12	9	11	C	C	C	C	C	C	C	3	5	3	3	4	4	3	3	12	NA
Mar 18	4	4	5	3	6	7	6	12	7	6	5	5	6	6	S	5	4	4	6	5	9	11	13	9	3	13	6.4
Mar 19	11	8	7	10	6	11	17	16	6	10	10	7	6	S	4	4	4	6	11	5	6	5	5	5	4	17	7.8
Mar 20	6	4	3	4	5	6	5	5	5	5	5	5	S	7	8	7	7	8	9	9	6	4	3	3	3	9	5.6
Mar 21	3	3	3	2	2	4	3	4	3	3	3	S	2	2	2	2	2	2	4	11	5	6	6	8	2	11	3.7
Mar 22	2	2	2	6	2	2	2	3	3	2	S	3	4	4	5	5	5	6	6	6	6	5	5	6	2	6	4.0
Mar 23	8	8	9	8	8	9	11	10	10	S	7	8	6	6	5	4	3	4	4	4	9	6	5	4	3	11	6.8
Mar 24	3	3	3	3	5	6	7	6	S	3	3	2	3	4	3	3	2	2	3	6	7	5	3	3	2	7	3.8
Mar 25	2	3	2	3	4	2	2	S	4	5	5	4	5	4	4	3	3	3	4	3	4	7	7	7	2	7	3.9
Mar 26	8	9	8	5	4	9	S	6	3	3	3	2	2	2	1	2	2	2	3	3	4	4	4	5	1	9	4.1
Mar 27	6	4	6	8	10	S	19	20	17	12	10	5	3	2	2	2	2	2	5	6	13	3	4	6	2	20	7.3
Mar 28	7	2	2	2	S	14	17	15	3	3	3	2	3	2	2	2	1	2	2	2	2	3	3	2	1	17	4.2
Mar 29	2	4	5	S	5	6	10	15	5	4	5	3	3	2	4	3	2	2	2	6	5	5	7	8	2	15	4.9
Mar 30	11	7	S	6	10	13	16	13	4	3	3	3	3	2	2	1	1	1	2	4	3	2	3	2	1	16	5.0
Mar 31	2	S	3	5	5	5	5	5	4	4	4	4	4	4	5	5	5	3	5	7	7	4	4	4	2	7	4.5
Diurnal Maximum	13	16	17	26	26	25	31	29	28	18	12	12	8	7	8	7	7	8	13	25	23	30	29	10			
Diurnal Average	5.4	5.6	5.3	6.0	6.4	7.8	10.2	11.0	7.7	5.7	5.1	4.0	3.6	3.3	3.3	3.2	3.1	3.5	5.2	6.5	6.4	6.1	5.6	5.0			

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.



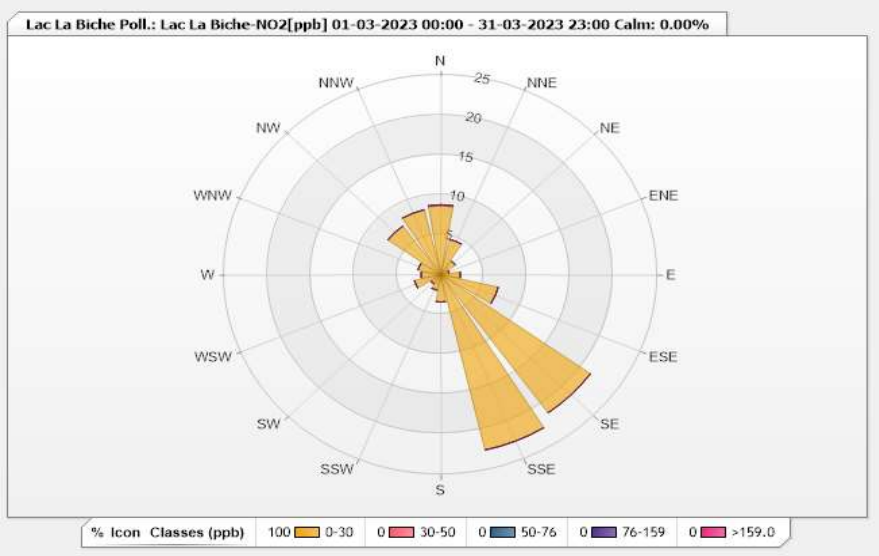


Station: Lac La Biche Poll.: Lac La Biche-NO2[ppb] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	8.64	0.14	0	0	0	8.78
NNE	4.53	0	0	0	0	4.53
NE	2.12	0	0	0	0	2.12
ENE	0.99	0	0	0	0	0.99
E	2.27	0	0	0	0	2.27
ESE	6.8	0	0	0	0	6.8
SE	21.25	0	0	0	0	21.25
SSE	22.52	0	0	0	0	22.52
S	3.4	0	0	0	0	3.4
SSW	1.98	0	0	0	0	1.98
SW	1.27	0.14	0	0	0	1.41
WSW	3.12	0	0	0	0	3.12
W	2.27	0	0	0	0	2.27
WNW	2.69	0	0	0	0	2.69
NW	7.51	0	0	0	0	7.51
NNW	8.36	0	0	0	0	8.36
Summary	100	0.28	0	0	0	100



Lakeland Industry & Community Association

Lac La Biche Station - March 2023

Summary of Hourly Averages

OZONE (O_3) in ppb

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

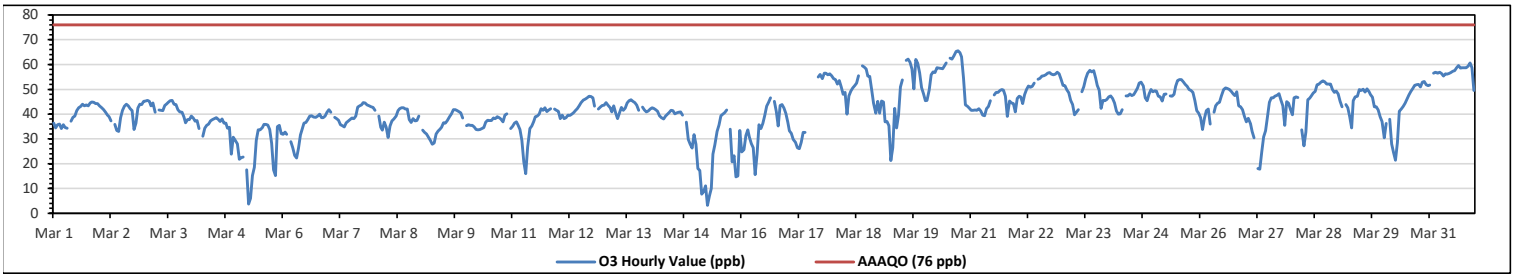
Number of 1-Hour Exceedances: 0

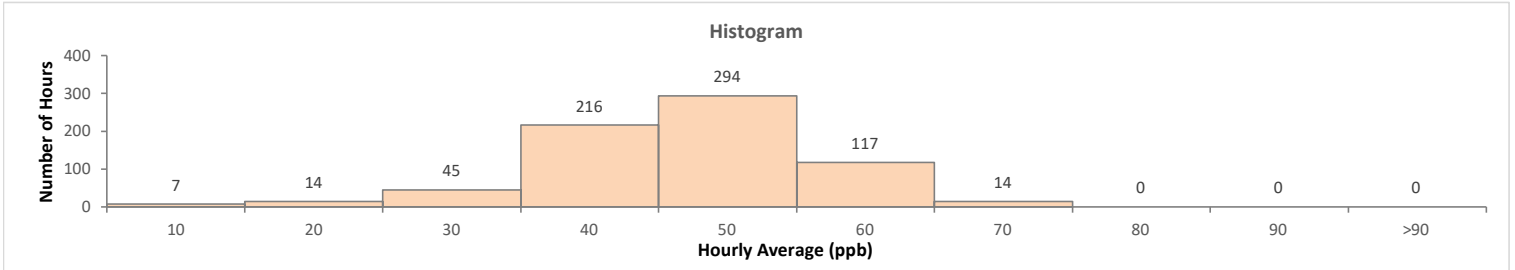
Maximum Hourly Value:	65.6	ppb	on Mar 20 at hr 17	Hours in Service:	744
Maximum Daily Value:	57.1	ppb	on Mar 31	Hours of Data:	707
Minimum Hourly Value:	3.2	ppb	on Mar 15 at hr 6	Hours of Missing Data:	0
Minimum Daily Value:	23.2	ppb	on Mar 15	Hours of Calibration:	37
Monthly Average:	41.9	ppb		Operational 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			
Mar 1	36.4	34.4	35.7	35.9	34.2	35.7	34.6	34.3	S	37.2	38.7	39.3	41.4	42.5	43.1	44	43.4	43.8	43.4	44.5	44.9	44.8	44.2	44.2	34.2	44.9	40.0
Mar 2	43.4	42.5	41.8	40.8	39.7	38.9	37.3	S	35.8	33.4	33	38.6	41.5	43.2	44	43.3	42.1	41.4	33.8	36.4	42.4	44	43.9	45.2	33.0	45.2	40.3
Mar 3	45.3	45.5	45.1	43.3	44.5	40.7	S	41.7	41.6	41.4	43.5	44.1	44.8	45.4	45.5	44	43.9	41.9	40.9	40.8	38.8	36.5	37.7	37.7	36.5	45.5	42.4
Mar 4	39.2	38.4	37.2	37.4	34.2	S	31.1	34.3	35.5	36	37.3	37.7	38.1	38.5	37.9	37	38	36.3	36.4	34.3	34.7	23.8	30.7	29.2	23.8	39.2	35.4
Mar 5	28	21.8	22.5	22.7	S	17.5	3.7	6	15.2	18.5	29.3	33.6	33.6	34.6	35.8	35.8	35.6	33.7	28.2	17.5	15.2	35	35.5	32.1	3.7	35.8	25.7
Mar 6	31.8	32.8	31.8	S	28.9	26.5	23.3	22.3	26.3	31.6	34.2	36.3	36.6	37.7	39.3	39.4	38.8	38.7	39.2	39.9	38.6	38.6	39.2	40.8	22.3	40.8	34.5
Mar 7	41.9	40.8	S	38.7	38.1	37.6	35.7	35.4	34.9	36.5	37.2	37.7	38.4	38.1	39.3	42.8	43.4	43.8	44.6	44.5	43.7	43.4	42.9	42.7	34.9	44.6	40.1
Mar 8	41.5	S	39.2	34.7	33.5	36.8	34.7	30.6	35.2	37.3	38	39.2	41.4	42.2	42.6	42.6	42	42	37.8	36.6	38.1	37.3	37.5	39.2	30.6	42.6	38.3
Mar 9	S	33.5	32.7	32	30.7	29.3	27.9	28.4	32	33.2	33.9	34.7	36.5	36.4	37.4	38.9	40.1	41.8	41.8	41.4	41	40.5	38.4	S	27.9	41.8	35.6
Mar 10	35.4	35.7	35.5	35.5	34.8	33.8	33.6	33.7	34.2	34.6	36.8	37.6	37.5	37.5	38.4	38.1	38.9	38.5	38	36.9	39.7	40.1	S	34.1	33.6	40.1	36.5
Mar 11	35.1	36.4	36.9	35.6	33.7	29.3	20.7	16	26.7	34.2	35.2	37	38.9	39.3	40	42.1	41.5	42.6	41	41.7	42.1	S	42	41.5	16.0	42.6	36.1
Mar 12	41.2	38.1	39.7	38.1	38.5	39.7	39.5	39.9	40.6	41.6	42.2	43.4	44.6	45.7	46.1	46.6	47.2	47.1	46.6	43.2	S	42	42.8	43.5	38.1	47.2	42.5
Mar 13	43.6	44.6	43.6	42.6	40.9	43.4	40.5	38.2	40.5	42.7	41.6	42.4	44.5	45.4	45.8	45.2	44.6	43.6	41.6	S	42.8	41.7	40.9	41.3	38.2	45.8	42.7
Mar 14	42	42.6	42.3	41.9	41.2	39.4	38.6	38	39.3	40	40.7	41.5	41.4	40.1	40.5	40.7	40.9	39.6	S	36.7	29.8	27.9	26.3	31.7	26.3	42.6	38.4
Mar 15	27.8	18.1	17.2	7.7	8.8	11.1	3.2	6.9	10	23.8	27.6	33.1	35.6	39.4	39.9	40.6	41.7	S	33.9	20.7	23.2	14.6	15.1	33.4	**3.2**	41.7	**23.2**
Mar 16	24.8	25.7	31.3	33.6	30.7	28.1	26.5	15.6	23.8	35.7	34.1	36.2	39.5	43.2	44.8	46.5	S	45.1	41.2	35.3	43.5	43.9	42.4	40.2	15.6	46.5	35.3
Mar 17	36.8	33.3	32.3	29.8	28.6	26.5	26.1	28.6	32.7	32.7	C	C	C	C	C	S	54.9	56	54.4	56.5	56.6	55.9	56.3	55.5	26.1	56.6	41.9
Mar 18	54.4	53.9	52.1	53.6	50.9	48	48.7	39.9	47.3	49.3	50.5	51.5	52.5	55.5	S	59.5	59	58.2	55.3	55.2	49.9	44.3	40.4	45.2	39.9	59.5	51.1
Mar 19	40.4	45.3	44.9	36.9	37	35.4	21.2	26.5	42.3	34.5	39.7	50.9	53.8	S	61.6	62.2	61	58.2	50.2	62.1	60.5	56.7	50.7	48.3	21.2	62.2	47.0
Mar 20	45.4	45.5	49.8	55.8	57	56.8	58.8	58.6	58.5	58.4	59.3	60.6	S	62.6	62.2	63.4	65.3	**65.6**	64.8	63.1	54.7	43.8	43.2	42.4	42.4	**65.6**	56.3
Mar 21	41.5	41.5	41.7	41.6	42.2	41.3	39.7	39.4	42.1	43.1	45.4	S	47.7	48.7	48.7	49.6	50	49.7	47.2	39.1	45.3	44.5	44.2	40.9	39.1	50.0	44.1
Mar 22	46.3	47.2	46.9	44.2	47.9	50	51.3	50.8	51.2	52.5	S	54.1	54.5	55.3	55.5	55.9	56.6	56.8	56.2	55.9	56.1	56.9	56.3	54.1	44.2	56.9	52.7
Mar 23	51.6	51.5	49.8	48.6	45.6	43.9	39.8	40.7	41.9	S	49	51	54.3	56.5	57.6	57	57.5	54.6	51.6	49.7	42.3	45.6	45.4	46	39.8	57.6	49.2
Mar 24	46.9	47.4	46.3	44.5	41.3	39.9	40.1	41.8	S	47.3	47.3	48.1	47.5	47.9	49.1	50.5	52.6	52.9	51.4	46.5	45.4	48.2	49.9	49	39.9	52.9	47.0
Mar 25	49.4	49.3	47.2	47	45.3	48	48.1	S	47.3	47.2	48	51.2	53.5	53.9	53.9	53	52	51.2	49.9	49.6	48.7	45.6	41.4	40.3	40.3	53.9	48.7
Mar 26	38.6	33.7	38.3	41.4	42	35.9	S	40.7	43.3	44.3	44.7	47.4	49.9	50.5	50.3	50	49.1	48.1	47.5	49	43.3	43	41.8	39.1	33.7	50.5	44.0
Mar 27	36.9	38.3	36.1	33.1	30.4	S	18.1	17.8	24.7	30.8	33.3	39	44.8	46.6	46.6	47.2	47.6	48.3	45.7	43.4	35.5	45	44.4	41.8	17.8	48.3	38.1
Mar 28	39.8	46.6	47	46.7	S	33.6	27.1	32.8	45.8	46.4	47.4	48.5	49.2	51.9	52.1	52.9	53.4	53	52.1	52.1	52.1	50	48.8	49.3	27.1	53.4	46.9
Mar 29	48.2	45.2	43	S	43.9	42.6	39	34.4	45.4	46.9	47.2	49.9	49.6	50.1	48.9	50.2	49.2	47.9	46.8	42.9	43	41.7	38.9	37	34.4	50.2	44.9
Mar 30	30.5	36.2	S	37.9	28	24.5	21.4	28.5	41.2	42	43.1	44.4	46.1	47.7	49.2	50.3	51.6	51.9	52	50.9	52.9	53.1	51.9	51.5	21.4	53.1	42.9
Mar 31	51.8	S	56.6	56.9	56.6	56.9	56.4	55.3	56.3	56.1	56.4	56.8	57.2	57.5	58.8	59.6	58.6	58.7	58.8	58.8	59.3	60.7	58.7	49.6	49.6	60.7	**57.1**
Diurnal Maximum	54.4	53.9	56.6	56.9	57.0	56.9	58.8	58.6	58.5	58.4	59.3	60.6	57.2	62.6	62.2	63.4	65.3	65.6	64.8	63.1	60.5	60.7	58.7	55.5			
Diurnal Average	40.5	39.5	40.2	39.3	38.2	36.9	33.3	33.0	37.6	39.6	41.2	43.6	44.7	46.0	46.7	47.6	48.0	47.7	45.7	44.2	43.5	43.0	42.4	42.2			

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.



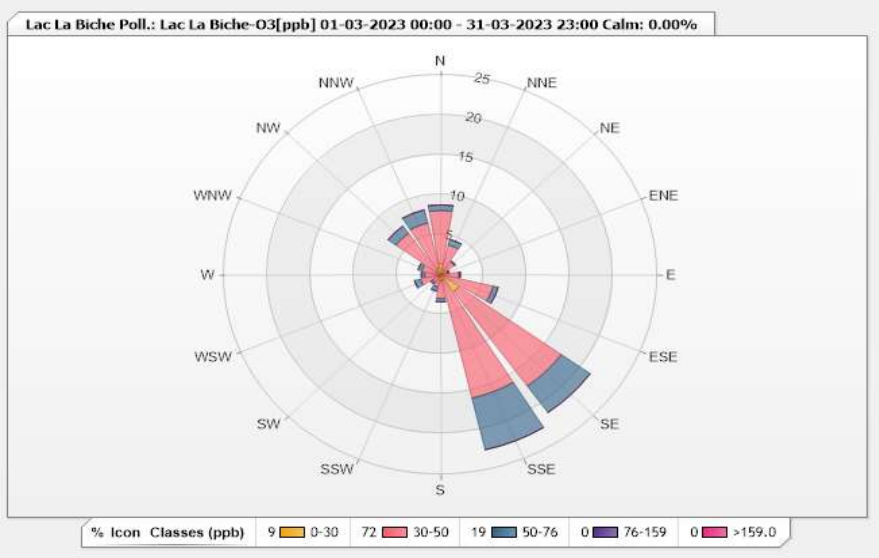


Station: Lac La Biche Poll.: Lac La Biche-O3[ppb] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 95.03% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.41	6.65	0.71	0	0	8.77
NNE	0.71	3.11	0.71	0	0	4.53
NE	0.28	1.7	0.14	0	0	2.12
ENE	0.14	0.71	0.14	0	0	0.99
E	0.57	1.56	0.14	0	0	2.27
ESE	0.28	5.94	0.57	0	0	6.79
SE	2.55	14.57	4.1	0	0	21.22
SSE	0.71	15.13	6.65	0	0	22.49
S	0.71	2.26	0.42	0	0	3.39
SSW	0.28	1.27	0.57	0	0	2.12
SW	0.14	0.99	0.28	0	0	1.41
WSW	0	2.4	0.71	0	0	3.11
W	0.14	1.7	0.42	0	0	2.26
WNW	0	2.26	0.42	0	0	2.68
NW	0.57	5.8	1.13	0	0	7.5
NNW	0.85	5.8	1.7	0	0	8.35
Summary	9.34	71.85	18.81	0	0	100



Lakeland Industry & Community Association

Lac La Biche Station - March 2023

Summary of Hourly Averages

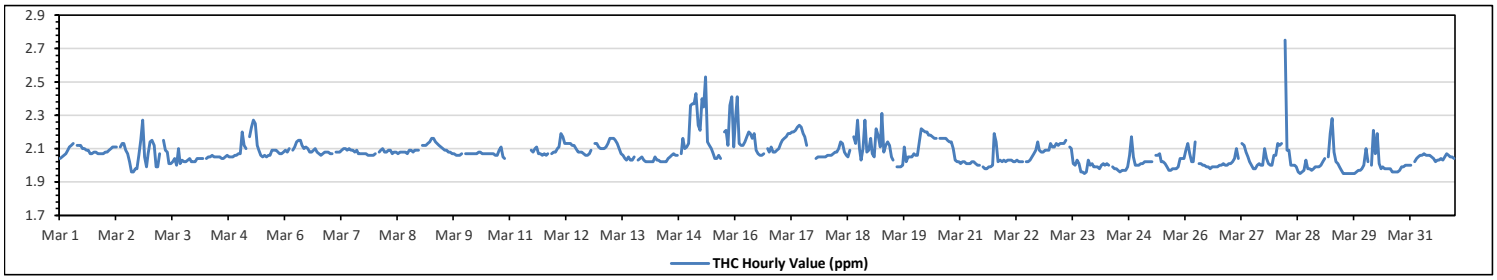
TOTAL HYDROCARBONS (THC) in ppm

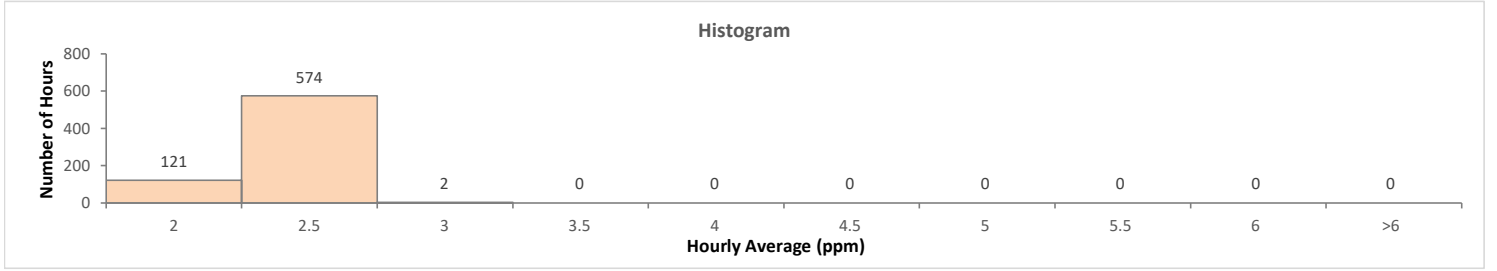
Maximum Hourly Value:	2.75	ppm	on Mar 28 at hr 5	Hours in Service:	744
Maximum Daily Value:	2.23	ppm	on Mar 15	Hours of Data:	697
Minimum Hourly Value:	1.95	ppm	on Mar 23 at hr 18	Hours of Missing Data:	12
Minimum Daily Value:	2.00	ppm	on Mar 24	Hours of Calibration:	35
Monthly Average:	2.07	ppm		Operational Uptime:	98.4

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
Mar 1	2.04	2.05	2.06	2.07	2.09	2.11	2.12	2.13	S	2.12	2.12	2.12	2.10	2.10	2.09	2.09	2.07	2.07	2.08	2.08	2.07	2.07	2.07	2.07	2.04	2.13	2.09
Mar 2	2.08	2.08	2.09	2.10	2.11	2.11	2.11	S	2.11	2.13	2.13	2.09	2.07	2.02	1.96	1.96	1.98	1.98	2.06	2.15	2.27	2.05	1.99	2.07	1.96	2.27	2.07
Mar 3	2.14	2.15	2.12	1.99	1.99	2.07	S	2.15	2.09	2.08	2.01	2.01	2.02	2.04	2.00	2.10	2.01	2.03	2.02	2.02	2.03	2.04	2.02	2.02	1.99	2.15	2.05
Mar 4	2.02	2.04	2.04	2.04	2.04	S	2.04	2.05	2.05	2.06	2.05	2.05	2.05	2.05	2.04	2.04	2.05	2.06	2.05	2.05	2.05	2.06	2.06	2.07	2.02	2.07	2.05
Mar 5	2.07	2.20	2.12	2.10	S	2.17	2.23	2.27	2.25	2.12	2.09	2.06	2.05	2.06	2.05	2.06	2.06	2.09	2.09	2.09	2.08	2.07	2.07	2.08	2.05	2.27	2.11
Mar 6	2.09	2.08	2.10	S	2.09	2.11	2.14	2.15	2.15	2.12	2.10	2.11	2.10	2.08	2.08	2.09	2.10	2.08	2.07	2.06	2.07	2.08	2.08	2.08	2.06	2.15	2.10
Mar 7	2.07	2.07	S	2.08	2.08	2.08	2.09	2.10	2.10	2.09	2.10	2.09	2.09	2.08	2.09	2.07	2.07	2.07	2.07	2.07	2.06	2.06	2.06	2.06	2.06	2.10	2.08
Mar 8	2.07	S	2.08	2.09	2.10	2.08	2.08	2.09	2.09	2.07	2.08	2.08	2.07	2.08	2.08	2.08	2.08	2.07	2.09	2.09	2.08	2.09	2.09	2.09	2.07	2.10	2.08
Mar 9	S	2.12	2.12	2.12	2.13	2.14	2.16	2.16	2.14	2.13	2.12	2.11	2.10	2.09	2.09	2.08	2.08	2.07	2.07	2.06	2.06	2.06	2.07	S	2.06	2.16	2.10
Mar 10	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.08	2.08	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.06	2.06	2.09	2.11	2.05	2.04	S	X	2.04	2.11	2.07
Mar 11	X	X	X	X	X	X	X	X	X	X	X	2.09	2.08	2.10	2.11	2.07	2.07	2.06	2.07	2.06	2.07	S	2.07	2.08	2.06	2.11	NA
Mar 12	2.08	2.10	2.11	2.19	2.17	2.13	2.13	2.13	2.13	2.12	2.12	2.10	2.08	2.08	2.08	2.07	2.06	2.06	2.07	2.09	S	2.13	2.13	2.11	2.06	2.19	2.11
Mar 13	2.10	2.10	2.10	2.11	2.13	2.16	2.16	2.16	2.15	2.13	2.10	2.07	2.06	2.04	2.03	2.05	2.03	2.03	2.05	S	2.03	2.04	2.05	2.03	2.03	2.16	2.08
Mar 14	2.02	2.02	2.02	2.02	2.02	2.05	2.03	2.03	2.02	2.02	2.02	2.02	2.04	2.05	2.06	2.07	2.06	2.06	S	2.07	2.16	2.10	2.11	2.13	2.02	2.16	2.05
Mar 15	2.36	2.37	2.37	2.43	2.24	2.21	2.40	2.35	2.53	2.14	2.12	2.10	2.07	2.04	2.04	2.06	2.04	S	2.20	2.21	2.12	2.36	2.41	2.11	2.04	2.53	**2.23**
Mar 16	2.29	2.41	2.13	2.12	2.12	2.14	2.17	2.20	2.19	2.16	2.19	2.09	2.07	2.06	2.06	2.07	S	2.10	2.08	2.11	2.08	2.08	2.09	2.10	2.06	2.41	2.14
Mar 17	2.13	2.15	2.16	2.17	2.19	2.19	2.20	2.20	2.21	2.23	2.24	2.23	2.19	2.17	2.12	S	C	C	C	2.04	2.05	2.05	2.05	2.05	2.04	2.24	2.15
Mar 18	2.05	2.06	2.06	2.06	2.07	2.08	2.08	2.10	2.14	2.13	2.08	2.06	2.05	2.09	S	2.17	2.13	2.27	2.10	2.03	2.10	2.27	2.08	2.09	2.03	2.27	2.10
Mar 19	2.16	2.07	2.05	2.22	2.18	2.11	2.31	2.08	2.12	2.14	2.12	2.05	2.03	S	1.99	1.99	1.99	2.00	2.11	2.02	2.05	2.05	2.05	2.07	1.99	2.31	2.09
Mar 20	2.06	2.06	2.14	2.22	2.21	2.20	2.20	2.18	2.18	2.17	2.16	2.16	S	2.16	2.16	2.16	2.16	2.15	2.14	2.14	2.10	2.03	2.02	2.02	2.02	2.22	2.14
Mar 21	2.01	2.02	2.02	2.01	2.01	2.01	2.02	2.02	2.01	2.00	2.00	S	1.99	1.98	1.98	1.99	1.99	2.00	2.19	2.14	2.02	2.03	2.02	2.03	1.98	2.19	2.02
Mar 22	2.02	2.03	2.03	2.03	2.02	2.02	2.03	2.02	2.02	2.02	S	2.02	2.02	2.03	2.05	2.07	2.09	2.14	2.09	2.08	2.08	2.09	2.09	2.09	2.02	2.14	2.05
Mar 23	2.13	2.11	2.11	2.13	2.12	2.13	2.13	2.13	2.15	S	2.11	2.10	2.01	2.00	2.03	2.01	1.96	1.96	1.95	1.96	2.03	2.00	2.01	1.99	1.95	2.15	2.05
Mar 24	1.99	1.99	1.98	2.00	2.01	2.00	2.01	2.00	S	1.99	1.98	1.98	1.97	1.96	1.97	1.97	1.97	1.99	2.06	2.17	2.05	2.00	2.00	2.00	1.96	2.17	2.00
Mar 25	2.01	2.01	2.02	2.02	2.02	2.02	2.02	S	2.06	2.06	2.07	2.02	2.02	2.01	1.99	1.97	1.97	1.98	1.98	1.98	1.99	2.04	2.04	2.04	1.97	2.07	2.01
Mar 26	2.09	2.13	2.07	2.02	2.02	2.14	S	2.01	2.01	2.00	2.00	1.99	1.99	1.98	1.99	1.99	1.99	1.99	2.00	2.00	2.01	2.00	2.00	2.01	1.98	2.14	2.02
Mar 27	2.01	2.02	2.04	2.10	2.04	S	2.13	2.12	2.08	2.05	2.02	2.00	1.98	1.98	2.00	2.01	2.00	2.00	2.10	2.04	2.01	2.00	2.00	2.06	1.98	2.13	2.03
Mar 28	2.06	2.13	2.12	2.13	S	**2.75**	2.09	2.09	2.00	2.00	2.00	1.99	1.96	1.95	1.96	1.97	2.03	1.98	1.98	1.97	1.98	1.99	1.99	1.99	1.95	**2.75**	2.05
Mar 29	2.00	2.02	2.04	S	2.05	2.19	2.28	2.08	2.02	2.01	1.99	1.97	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.97	1.97	1.98	2.00	1.95	2.28	2.01
Mar 30	2.10	2.02	S	2.00	2.21	2.07	2.19	2.01	1.98	1.99	1.98	1.98	1.98	1.98	1.96	1.96	1.96	1.96	1.97	1.99	1.99	2.00	2.00	2.00	1.96	2.21	2.01
Mar 31	2.00	S	2.02	2.04	2.05	2.06	2.06	2.07	2.06	2.06	2.06	2.05	2.04	2.02	2.03	2.03	2.04	2.03	2.05	2.07	2.06	2.05	2.05	2.04	2.00	2.07	2.05
Diurnal Maximum	2.36	2.41	2.37	2.43	2.24	2.75	2.40	2.35	2.53	2.23	2.24	2.23	2.19	2.17	2.16	2.17	2.16	2.27	2.20	2.21	2.27	2.36	2.41	2.13			
Diurnal Average	2.08	2.10	2.09	2.10	2.09	2.13	2.13	2.11	2.11	2.08	2.08	2.06	2.04	2.04	2.04	2.04	2.04	2.04	2.06	2.06	2.06	2.06	2.06	2.05			

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.



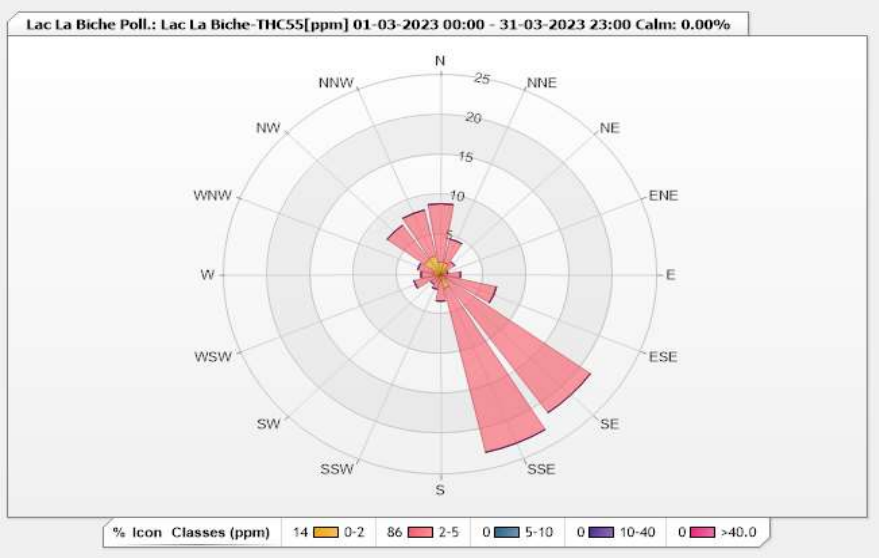


Station: Lac La Biche Poll.: Lac La Biche-THC55[ppm] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 93.68% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	1.58	7.32	0	0	0	8.9
NNE	1.58	3.01	0	0	0	4.59
NE	0.86	1.15	0	0	0	2.01
ENE	0.14	0.72	0	0	0	0.86
E	0.14	2.15	0	0	0	2.29
ESE	0.57	6.03	0	0	0	6.6
SE	0.72	20.52	0	0	0	21.24
SSE	1.72	21.09	0	0	0	22.81
S	0.72	2.58	0	0	0	3.3
SSW	0	1.87	0	0	0	1.87
SW	0	1.43	0	0	0	1.43
WSW	0	3.16	0	0	0	3.16
W	0.86	1.43	0	0	0	2.29
WNW	0.86	1.87	0	0	0	2.73
NW	2.3	5.31	0	0	0	7.61
NNW	2.44	5.88	0	0	0	8.32
Summary	14.49	85.52	0	0	0	100



Lakeland Industry & Community Association

Lac La Biche Station - March 2023

Summary of Hourly Averages

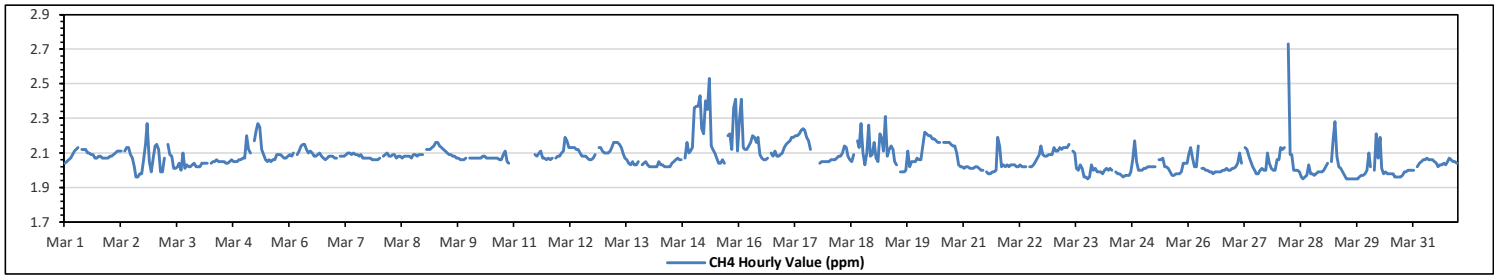
METHANE (CH4) in ppm

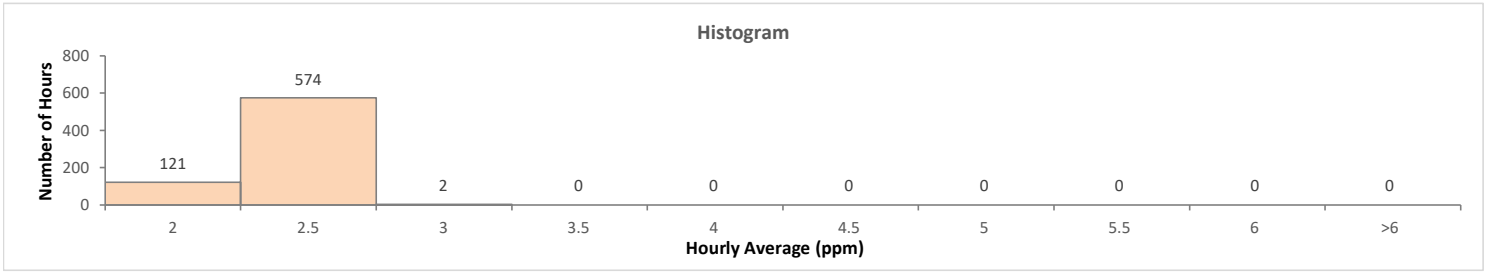
Maximum Hourly Value:	2.73	ppm	on Mar 28 at hr 5	Hours in Service:	744
Maximum Daily Value:	2.23	ppm	on Mar 15	Hours of Data:	697
Minimum Hourly Value:	1.95	ppm	on Mar 23 at hr 18	Hours of Missing Data:	12
Minimum Daily Value:	2.00	ppm	on Mar 24	Hours of Calibration:	35
Monthly Average:	2.07	ppm		Operational Uptime:	98.4

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
Mar 1	2.04	2.05	2.06	2.07	2.09	2.11	2.12	2.13	S	2.12	2.12	2.12	2.10	2.10	2.09	2.09	2.07	2.07	2.08	2.08	2.07	2.07	2.07	2.07	2.04	2.13	2.09
Mar 2	2.08	2.08	2.09	2.10	2.11	2.11	2.11	S	2.11	2.13	2.13	2.09	2.07	2.02	1.96	1.96	1.98	1.98	2.06	2.15	2.27	2.05	1.99	2.07	1.96	2.27	2.07
Mar 3	2.14	2.15	2.12	1.99	1.99	2.07	S	2.15	2.09	2.08	2.01	2.01	2.02	2.04	2.00	2.10	2.01	2.03	2.02	2.02	2.03	2.04	2.02	2.02	1.99	2.15	2.05
Mar 4	2.02	2.04	2.04	2.04	2.04	S	2.04	2.05	2.05	2.06	2.05	2.05	2.05	2.05	2.04	2.04	2.05	2.06	2.05	2.05	2.05	2.06	2.06	2.07	2.02	2.07	2.05
Mar 5	2.07	2.20	2.12	2.10	S	2.17	2.23	2.27	2.25	2.12	2.09	2.06	2.05	2.06	2.05	2.06	2.06	2.09	2.09	2.09	2.08	2.07	2.07	2.08	2.05	2.27	2.11
Mar 6	2.09	2.08	2.10	S	2.09	2.11	2.14	2.15	2.15	2.12	2.10	2.11	2.10	2.08	2.08	2.09	2.10	2.08	2.07	2.06	2.07	2.08	2.08	2.08	2.06	2.15	2.10
Mar 7	2.07	2.07	S	2.08	2.08	2.08	2.09	2.10	2.10	2.09	2.10	2.09	2.09	2.08	2.09	2.07	2.07	2.07	2.07	2.07	2.06	2.06	2.06	2.06	2.06	2.10	2.08
Mar 8	2.07	S	2.08	2.09	2.10	2.08	2.08	2.09	2.09	2.07	2.08	2.08	2.07	2.08	2.08	2.08	2.08	2.07	2.09	2.09	2.08	2.09	2.09	2.09	2.07	2.10	2.08
Mar 9	S	2.12	2.12	2.12	2.13	2.14	2.16	2.16	2.14	2.13	2.12	2.11	2.10	2.09	2.09	2.08	2.08	2.07	2.07	2.06	2.06	2.06	2.07	S	2.06	2.16	2.10
Mar 10	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.08	2.08	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.06	2.06	2.09	2.11	2.05	2.04	S	X	2.04	2.11	2.07
Mar 11	X	X	X	X	X	X	X	X	X	X	X	2.09	2.08	2.10	2.11	2.07	2.07	2.06	2.07	2.06	2.07	S	2.07	2.08	2.06	2.11	NA
Mar 12	2.08	2.10	2.11	2.19	2.17	2.13	2.13	2.13	2.13	2.12	2.12	2.10	2.08	2.08	2.08	2.07	2.06	2.06	2.07	2.09	S	2.13	2.13	2.11	2.06	2.19	2.11
Mar 13	2.10	2.10	2.10	2.11	2.13	2.16	2.16	2.16	2.15	2.13	2.10	2.07	2.06	2.04	2.03	2.05	2.03	2.03	2.05	S	2.03	2.04	2.05	2.03	2.03	2.16	2.08
Mar 14	2.02	2.02	2.02	2.02	2.02	2.05	2.03	2.03	2.02	2.02	2.02	2.02	2.04	2.05	2.06	2.07	2.06	2.06	S	2.07	2.16	2.10	2.11	2.13	2.02	2.16	2.05
Mar 15	2.36	2.37	2.37	2.43	2.24	2.21	2.40	2.35	2.53	2.14	2.12	2.10	2.07	2.04	2.04	2.06	2.04	S	2.20	2.21	2.12	2.36	2.41	2.11	2.04	2.53	**2.23**
Mar 16	2.29	2.41	2.13	2.12	2.12	2.14	2.16	2.20	2.19	2.16	2.19	2.09	2.07	2.06	2.06	2.07	S	2.10	2.08	2.11	2.08	2.08	2.09	2.10	2.06	2.41	2.13
Mar 17	2.13	2.15	2.16	2.17	2.19	2.19	2.20	2.20	2.21	2.23	2.24	2.23	2.19	2.17	2.12	S	C	C	C	2.04	2.05	2.05	2.05	2.05	2.04	2.24	2.15
Mar 18	2.05	2.06	2.06	2.06	2.07	2.08	2.08	2.10	2.14	2.13	2.08	2.06	2.05	2.09	S	2.17	2.13	2.27	2.10	2.03	2.10	2.26	2.08	2.09	2.03	2.27	2.10
Mar 19	2.16	2.07	2.05	2.21	2.18	2.11	2.31	2.08	2.12	2.14	2.12	2.05	2.03	S	1.99	1.99	1.99	2.00	2.11	2.02	2.05	2.05	2.05	2.07	1.99	2.31	2.08
Mar 20	2.06	2.06	2.14	2.22	2.21	2.20	2.20	2.18	2.18	2.17	2.16	2.16	S	2.16	2.16	2.16	2.16	2.15	2.14	2.14	2.10	2.03	2.02	2.02	2.02	2.22	2.14
Mar 21	2.01	2.02	2.02	2.01	2.01	2.01	2.02	2.02	2.01	2.00	2.00	S	1.99	1.98	1.98	1.99	1.99	2.00	2.19	2.14	2.02	2.03	2.02	2.03	1.98	2.19	2.02
Mar 22	2.02	2.03	2.03	2.03	2.02	2.02	2.03	2.02	2.02	2.02	S	2.02	2.02	2.03	2.05	2.07	2.09	2.14	2.09	2.08	2.08	2.09	2.09	2.09	2.02	2.14	2.05
Mar 23	2.13	2.11	2.11	2.13	2.12	2.13	2.13	2.13	2.15	S	2.11	2.10	2.01	2.00	2.03	2.01	1.96	1.96	1.95	1.96	2.03	2.00	2.01	1.99	1.95	2.15	2.05
Mar 24	1.99	1.99	1.98	2.00	2.01	2.00	2.01	2.00	S	1.99	1.98	1.98	1.97	1.96	1.97	1.97	1.97	1.99	2.06	2.17	2.05	2.00	2.00	2.00	1.96	2.17	2.00
Mar 25	2.01	2.01	2.02	2.02	2.02	2.02	2.02	S	2.06	2.06	2.07	2.02	2.02	2.01	1.99	1.97	1.97	1.98	1.98	1.98	1.99	2.04	2.04	2.04	1.97	2.07	2.01
Mar 26	2.09	2.13	2.07	2.02	2.02	2.14	S	2.01	2.01	2.00	2.00	1.99	1.99	1.98	1.99	1.99	1.99	1.99	2.00	2.00	2.01	2.00	2.00	2.01	1.98	2.14	2.02
Mar 27	2.01	2.02	2.04	2.10	2.04	S	2.13	2.12	2.08	2.05	2.02	2.00	1.98	1.98	2.00	2.01	2.00	2.00	2.10	2.04	2.01	2.00	2.00	2.06	1.98	2.13	2.03
Mar 28	2.06	2.13	2.12	2.13	S	**2.73**	2.09	2.09	2.00	2.00	2.00	1.99	1.96	1.95	1.96	1.97	2.03	1.98	1.98	1.97	1.98	1.99	1.99	1.99	1.95	**2.73**	2.05
Mar 29	2.00	2.02	2.04	S	2.05	2.19	2.28	2.08	2.02	2.01	1.99	1.97	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.97	1.97	1.98	2.00	1.95	2.28	2.01
Mar 30	2.10	2.02	S	2.00	2.21	2.07	2.19	2.01	1.98	1.99	1.98	1.98	1.98	1.98	1.96	1.96	1.96	1.96	1.97	1.99	1.99	2.00	2.00	2.00	1.96	2.21	2.01
Mar 31	2.00	S	2.02	2.04	2.05	2.06	2.06	2.07	2.06	2.06	2.06	2.05	2.04	2.02	2.03	2.03	2.04	2.03	2.05	2.07	2.06	2.05	2.05	2.04	2.00	2.07	2.05
Diurnal Maximum	2.36	2.41	2.37	2.43	2.24	2.73	2.40	2.35	2.53	2.23	2.24	2.23	2.19	2.17	2.16	2.17	2.16	2.27	2.20	2.21	2.27	2.36	2.41	2.13			
Diurnal Average	2.08	2.10	2.09	2.10	2.09	2.13	2.13	2.11	2.11	2.08	2.08	2.06	2.04	2.04	2.04	2.04	2.04	2.04	2.06	2.06	2.06	2.06	2.06	2.05			

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.



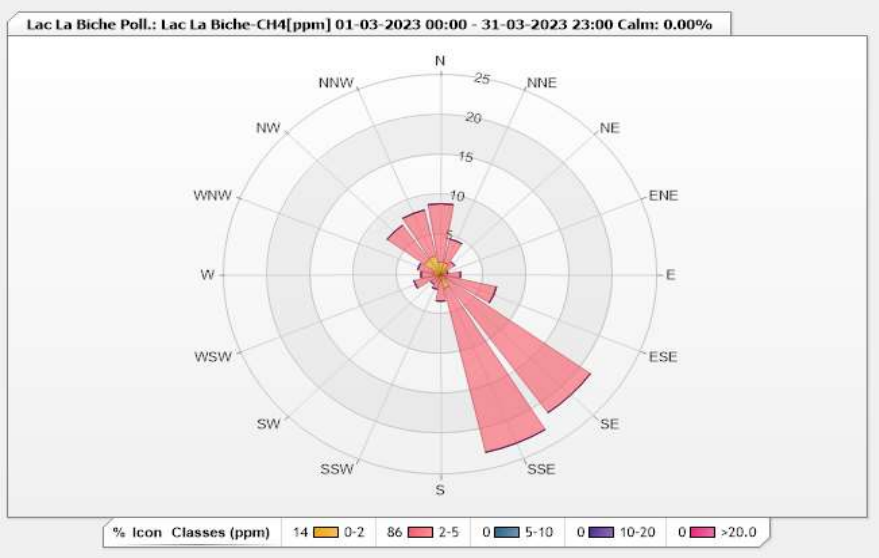


Station: Lac La Biche Poll.: Lac La Biche-CH4[ppm] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 93.68% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	1.58	7.32	0	0	0	8.9
NNE	1.58	3.01	0	0	0	4.59
NE	0.86	1.15	0	0	0	2.01
ENE	0.14	0.72	0	0	0	0.86
E	0.14	2.15	0	0	0	2.29
ESE	0.57	6.03	0	0	0	6.6
SE	0.72	20.52	0	0	0	21.24
SSE	1.72	21.09	0	0	0	22.81
S	0.72	2.58	0	0	0	3.3
SSW	0	1.87	0	0	0	1.87
SW	0	1.43	0	0	0	1.43
WSW	0	3.16	0	0	0	3.16
W	0.86	1.43	0	0	0	2.29
WNW	0.86	1.87	0	0	0	2.73
NW	2.3	5.31	0	0	0	7.61
NNW	2.44	5.88	0	0	0	8.32
Summary	14.49	85.52	0	0	0	100



Lakeland Industry & Community Association

Lac La Biche Station - March 2023

Summary of Hourly Averages

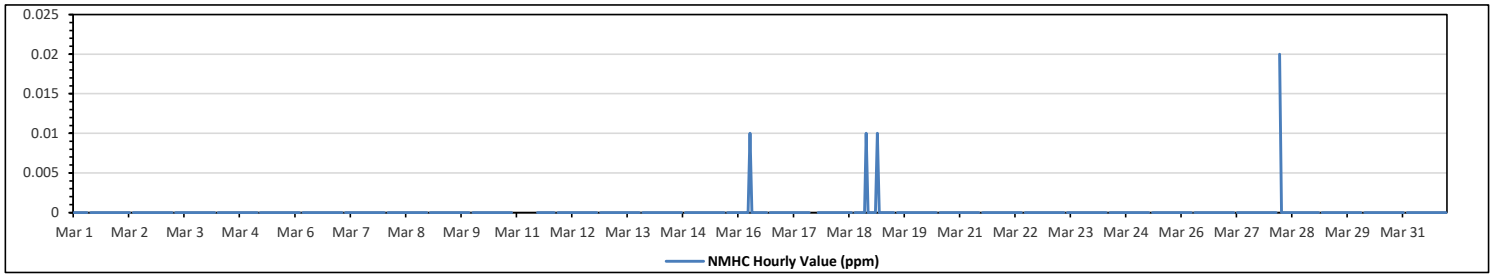
NON-METHANE HYDROCARBONS (NMHC) in ppm

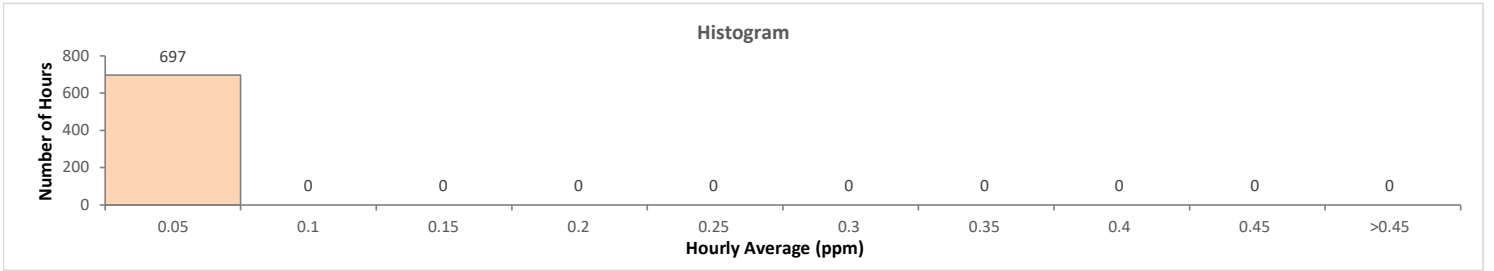
Maximum Hourly Value:	0.02	ppm	on Mar 28 at hr 5	Hours in Service:	744
Maximum Daily Value:	0.00	ppm	on Mar 28	Hours of Data:	697
Minimum Hourly Value:	0.00	ppm	on Mar 1 at hr 0	Hours of Missing Data:	12
Minimum Daily Value:	0.00	ppm	on Mar 1	Hours of Calibration:	35
Monthly Average:	0.00	ppm		Operational Uptime:	98.4

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			
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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	X	0.00	0.00	0.00
Mar 11	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	S	0.00	0.00	0.00	0.00	NA
Mar 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
Mar 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
Mar 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
Mar 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	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
Mar 16	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Mar 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	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 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	0.01	0.00	0.00	0.00	0.01	0.00
Mar 19	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	S	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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 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
Mar 28	0.00	0.00	0.00	0.00	S	**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	0.00	0.00	**0.02**	**0.00**
Mar 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
Mar 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 31	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
Diurnal Maximum	0.00	0.00	0.00	0.01	0.00	0.02	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	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.



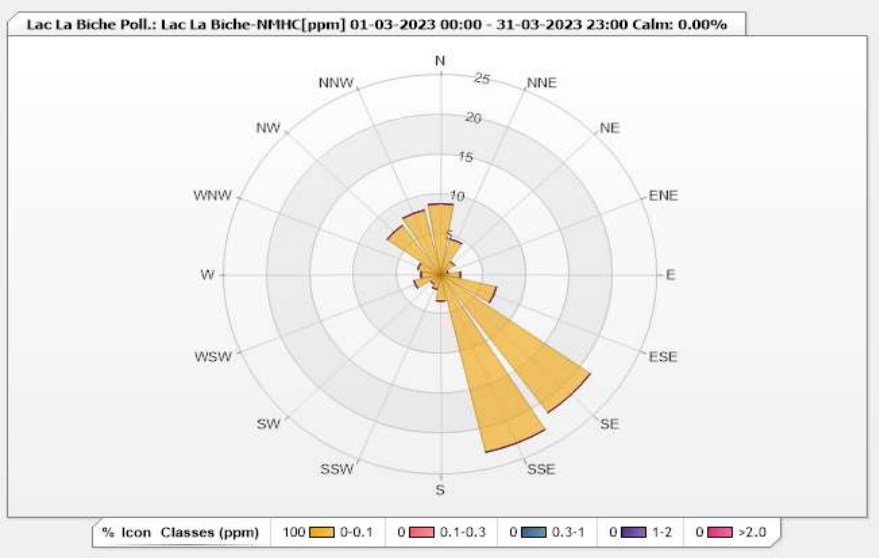


Station: Lac La Biche Poll.: Lac La Biche-NMHC[ppm] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 93.68% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	8.9	0	0	0	0	8.9
NNE	4.59	0	0	0	0	4.59
NE	2.01	0	0	0	0	2.01
ENE	0.86	0	0	0	0	0.86
E	2.3	0	0	0	0	2.3
ESE	6.6	0	0	0	0	6.6
SE	21.23	0	0	0	0	21.23
SSE	22.81	0	0	0	0	22.81
S	3.3	0	0	0	0	3.3
SSW	1.87	0	0	0	0	1.87
SW	1.43	0	0	0	0	1.43
WSW	3.16	0	0	0	0	3.16
W	2.3	0	0	0	0	2.3
WNW	2.73	0	0	0	0	2.73
NW	7.6	0	0	0	0	7.6
NNW	8.32	0	0	0	0	8.32
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Lac La Biche Station - March 2023

Summary of Hourly Averages

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

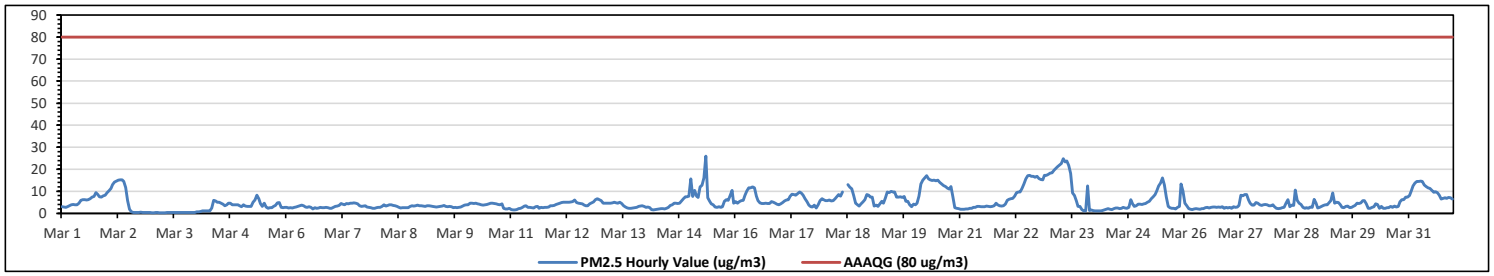
Alberta Ambient Air Quality Guideline (AAAQG): 1-Hour 80 µg/m3, Alberta Ambient Air Quality Objective (AAAQO): 24-Hour 29 µg/m3

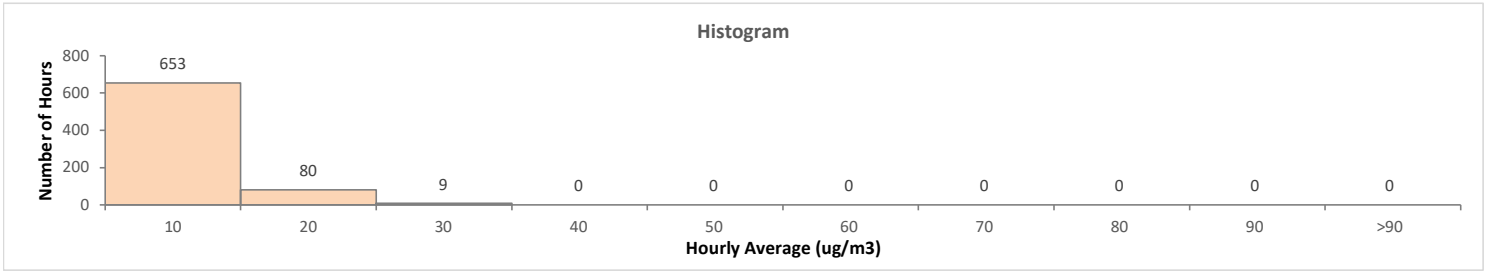
Number of 1-Hour Exceedances:	0	Number of 24-Hour Exceedances:	0
Maximum Hourly Value:	26 µg/m^3 on Mar 15 at hr 8	Hours in Service:	744
Maximum Daily Value:	12.8 µg/m^3 on Mar 22	Hours of Data:	742
Minimum Hourly Value:	0 µg/m^3 on Mar 3 at hr 0	Hours of Missing Data:	0
Minimum Daily Value:	0 µg/m^3 on Mar 3	Hours of Calibration:	2
Monthly Average:	5.2 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			
Mar 1	3	3	3	3	3	4	4	4	4	5	6	6	6	6	6	7	7	8	9	9	8	7	8	8	3	9	5.7
Mar 2	9	10	11	13	14	15	15	15	15	14	12	6	2	1	0	0	0	0	1	0	0	0	0	0	0	15	6.5
Mar 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	**0.3**
Mar 4	1	1	1	1	1	1	1	1	2	6	6	5	5	5	4	4	4	5	5	4	4	4	4	3	1	6	3.2
Mar 5	3	4	3	3	3	3	5	6	8	7	4	3	5	3	2	3	3	3	4	5	5	3	3	3	2	8	3.8
Mar 6	3	2	3	2	3	3	3	4	4	4	3	3	3	3	2	3	2	2	3	3	3	3	3	2	2	4	2.7
Mar 7	2	3	3	3	4	4	4	4	4	4	5	5	5	5	4	4	3	3	3	3	3	3	2	2	2	5	3.5
Mar 8	3	3	3	3	4	3	4	4	4	4	4	3	3	2	3	3	3	3	3	3	3	4	4	3	2	4	3.1
Mar 9	4	3	3	3	3	3	3	3	3	3	3	3	4	3	3	3	3	3	3	3	3	3	3	4	3	4	3.1
Mar 10	4	4	5	5	4	5	4	4	4	4	4	4	4	5	5	4	4	4	4	4	2	2	2	2	2	5	3.8
Mar 11	2	2	2	2	2	2	3	3	4	3	3	3	2	3	3	2	3	3	3	3	3	4	4	4	2	4	2.6
Mar 12	4	4	5	5	5	5	5	5	5	5	6	5	5	4	4	4	3	3	4	5	5	6	7	6	3	7	4.8
Mar 13	6	5	5	5	5	5	5	5	5	5	5	4	4	3	2	2	2	2	3	3	3	3	3	3	2	6	3.8
Mar 14	3	3	3	2	2	2	2	2	2	2	2	2	3	4	4	5	5	4	5	6	7	8	8	8	2	8	3.7
Mar 15	16	8	10	8	7	12	13	16	**26**	7	6	4	4	3	3	3	3	3	6	6	6	8	10	5	3	**26**	8.0
Mar 16	5	5	5	6	6	8	10	12	12	12	12	8	6	5	4	4	5	4	4	5	5	5	4	4	4	12	6.5
Mar 17	4	5	6	6	6	8	9	9	8	9	10	9	8	7	5	4	3	3	4	2	4	6	7	6	2	10	6.1
Mar 18	6	6	6	6	6	7	8	9	8	10	**C**	**C**	13	12	11	8	5	4	3	4	5	6	9	8	3	13	7.1
Mar 19	7	7	3	4	3	4	5	5	7	10	9	10	10	10	7	7	8	7	8	5	6	4	3	4	3	10	6.4
Mar 20	4	5	8	13	15	16	17	16	15	15	15	15	15	14	13	13	12	11	11	12	8	3	2	2	2	17	11.2
Mar 21	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	4	5	4	4	3	4	2	5	2.9
Mar 22	4	6	6	7	7	8	9	10	10	11	13	16	17	17	17	17	16	17	16	15	15	17	17	18	4	18	**12.8**
Mar 23	18	19	20	20	21	22	23	25	23	24	22	18	9	8	6	3	3	2	1	1	13	1	2	1	1	25	12.7
Mar 24	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	3	2	2	3	6	4	3	3	4	1	6	2.4
Mar 25	4	4	4	4	5	6	7	8	9	10	12	14	16	13	7	3	3	2	2	2	3	3	13	10	2	16	6.8
Mar 26	5	3	2	2	2	2	2	2	2	2	2	3	3	2	3	3	3	3	3	3	3	2	3	2	2	5	2.5
Mar 27	3	2	3	3	3	4	8	8	9	9	6	5	4	4	5	5	4	4	4	4	4	4	3	4	2	9	4.5
Mar 28	3	2	2	2	3	3	5	6	3	4	4	11	6	5	4	3	2	3	2	3	3	6	5	2	2	11	3.7
Mar 29	3	3	4	4	4	5	6	9	5	5	5	4	3	3	3	3	3	3	3	3	4	5	4	5	3	9	4.1
Mar 30	6	4	2	2	3	3	4	4	2	3	2	2	3	3	3	3	3	3	3	3	5	6	6	7	2	7	3.8
Mar 31	8	10	13	14	15	15	15	14	13	12	12	11	10	10	10	9	8	7	7	7	7	7	7	7	7	15	10.2
Diurnal Maximum	18	19	20	20	21	22	23	25	26	24	22	18	17	17	17	17	16	17	16	15	15	17	17	18			
Diurnal Average	4.6	4.4	4.7	4.9	5.2	5.8	6.5	7.0	7.1	6.8	6.5	6.2	5.8	5.3	4.9	4.4	4.1	4.0	4.2	4.5	4.7	4.4	5.0	4.6			

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.



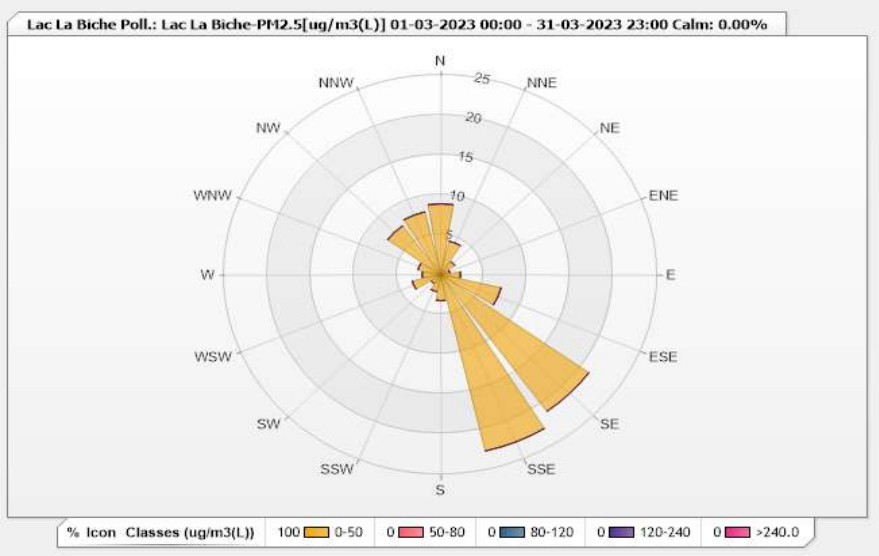


Station: Lac La Biche Poll.: Lac La Biche-PM2.5[ug/m3(L)] Monthly: 03-2023

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

Calm: 0.00% Valid Data: 99.73% Calm Avg: 0.00 [ppm]

Direction	0-50	50-80	80-120	120-240	>240.0	Total
N	8.89	0	0	0	0	8.89
NNE	4.31	0	0	0	0	4.31
NE	2.02	0	0	0	0	2.02
ENE	1.08	0	0	0	0	1.08
E	2.29	0	0	0	0	2.29
ESE	7.14	0	0	0	0	7.14
SE	21.02	0	0	0	0	21.02
SSE	22.64	0	0	0	0	22.64
S	3.23	0	0	0	0	3.23
SSW	2.16	0	0	0	0	2.16
SW	1.35	0	0	0	0	1.35
WSW	3.37	0	0	0	0	3.37
W	2.16	0	0	0	0	2.16
WNW	2.7	0	0	0	0	2.7
NW	7.55	0	0	0	0	7.55
NNW	8.09	0	0	0	0	8.09
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Lac La Biche Station - March 2023

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

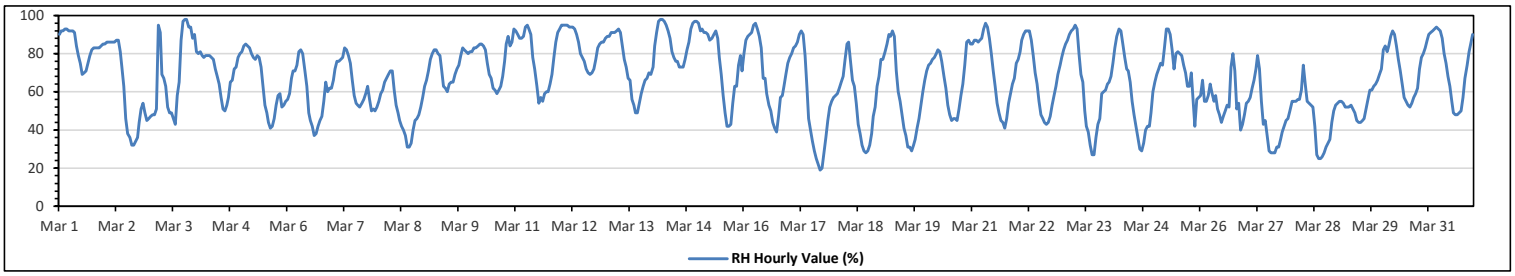
Maximum Hourly Value:	98	%	on Mar 3 at hr 18	Hours in Service:	744	
Maximum Daily Value:	86.3	%	on Mar 14	Hours of Data:	744	
Minimum Hourly Value:	19	%	on Mar 17 at hr 16	Hours of Missing Data:	0	
Minimum Daily Value:	46.2	%	on Mar 28	Hours of Calibration:	0	
Monthly Average:	66.5	%		Operational Uptime:	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			
Mar 1	90	92	92	93	93	92	92	92	91	84	79	75	69	70	71	75	79	82	83	83	83	83	84	85	69	93	83.8
Mar 2	85	86	86	86	86	86	87	87	81	73	63	46	38	36	32	32	34	36	44	51	54	49	45	46	32	87	60.4
Mar 3	47	48	48	51	95	91	69	67	63	52	49	49	46	43	58	65	87	97	**98**	**98**	94	94	88	90	43	**98**	70.3
Mar 4	81	80	81	79	78	79	79	79	78	77	72	68	64	57	51	50	53	57	65	66	72	73	78	80	50	81	70.7
Mar 5	81	84	85	84	83	80	78	77	79	78	73	63	53	49	44	41	42	46	53	58	59	52	53	55	41	85	64.6
Mar 6	56	59	67	71	71	74	81	82	80	71	63	49	45	42	37	38	42	45	47	55	65	60	62	62	37	82	59.3
Mar 7	66	72	76	76	77	78	83	82	79	75	66	58	54	53	52	54	56	59	63	56	50	51	50	52	50	83	64.1
Mar 8	55	59	61	65	67	69	71	71	61	53	49	45	42	40	37	31	31	33	40	45	46	48	52	57	31	71	51.2
Mar 9	63	66	71	77	80	82	82	80	79	72	63	62	60	64	65	65	69	72	74	79	83	82	81	80	60	83	73.0
Mar 10	81	81	83	83	84	85	85	84	82	75	69	67	62	61	59	61	63	68	76	85	89	84	86	93	59	93	76.9
Mar 11	92	90	88	88	89	94	95	93	90	78	72	63	54	57	55	59	60	60	64	69	78	86	91	93	54	95	77.4
Mar 12	95	95	95	95	94	94	94	93	90	86	80	78	76	72	70	69	70	72	77	83	85	86	86	88	69	95	84.3
Mar 13	89	89	91	91	91	92	93	91	84	77	73	67	66	56	53	49	49	54	59	63	66	67	70	69	49	93	72.9
Mar 14	73	84	91	97	**98**	**98**	97	95	92	88	81	78	76	76	73	73	73	77	82	86	93	96	97	97	73	**98**	**86.3**
Mar 15	96	92	93	91	91	90	87	88	90	92	88	78	69	58	49	42	42	43	54	63	63	74	79	71	42	96	74.3
Mar 16	80	87	89	90	91	95	96	93	89	83	67	67	59	53	50	44	41	39	47	57	58	63	69	75	39	96	70.1
Mar 17	78	80	83	84	86	90	92	90	79	62	46	40	34	29	25	22	**19**	20	28	36	45	52	55	57	**19**	92	55.5
Mar 18	58	59	62	65	68	77	85	86	76	66	63	54	43	38	32	29	28	29	32	38	47	52	63	68	28	86	54.9
Mar 19	77	77	81	85	90	89	92	89	71	60	55	48	41	37	31	31	29	32	35	41	46	53	60	66	29	92	59.0
Mar 20	71	74	75	77	78	80	82	81	76	68	62	53	48	45	46	46	45	51	58	64	74	86	87	85	45	87	67.2
Mar 21	85	87	87	86	87	88	93	96	94	88	80	71	63	54	49	45	44	41	46	54	59	64	67	75	41	96	71.0
Mar 22	77	81	87	90	92	92	92	87	79	70	64	55	48	46	44	43	44	47	53	58	63	69	74	78	43	92	68.0
Mar 23	82	85	87	90	92	93	95	93	80	69	65	50	42	39	32	27	27	36	43	46	59	60	61	64	27	95	63.2
Mar 24	65	68	75	83	89	93	92	85	78	72	71	65	55	48	42	36	30	29	33	40	42	42	49	60	29	93	60.1
Mar 25	65	69	72	75	74	83	93	93	90	82	72	80	81	80	79	74	70	63	63	70	57	42	56	57	42	93	72.5
Mar 26	58	66	55	55	58	64	59	55	58	51	48	44	47	50	53	52	73	80	71	51	54	40	43	48	40	80	55.5
Mar 27	54	55	57	62	66	72	79	72	55	43	45	37	29	28	28	28	31	31	35	39	42	45	46	50	28	79	47.0
Mar 28	55	55	55	56	56	61	74	64	55	54	53	52	42	27	25	25	26	28	31	33	35	44	50	53	25	74	**46.2**
Mar 29	54	55	55	54	52	52	52	53	51	49	45	44	44	45	46	51	56	61	61	63	64	66	69	72	44	72	54.8
Mar 30	82	84	81	84	89	92	90	84	77	71	64	57	55	53	52	54	57	59	62	72	78	80	83	87	52	92	72.8
Mar 31	90	91	92	93	94	93	92	88	80	75	68	63	55	49	48	48	49	50	57	67	74	81	85	90	48	94	73.8
Diurnal Maximum	96	95	95	97	98	98	97	96	94	92	88	80	81	80	79	75	87	97	98	98	94	96	97	97			
Diurnal Average	73.6	75.8	77.5	79.2	81.9	83.8	84.9	82.9	77.6	70.8	64.8	58.9	53.5	50.2	48.0	47.1	49.0	51.5	55.9	60.3	63.8	65.3	68.4	71.1			

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

Lac La Biche Station - March 2023

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

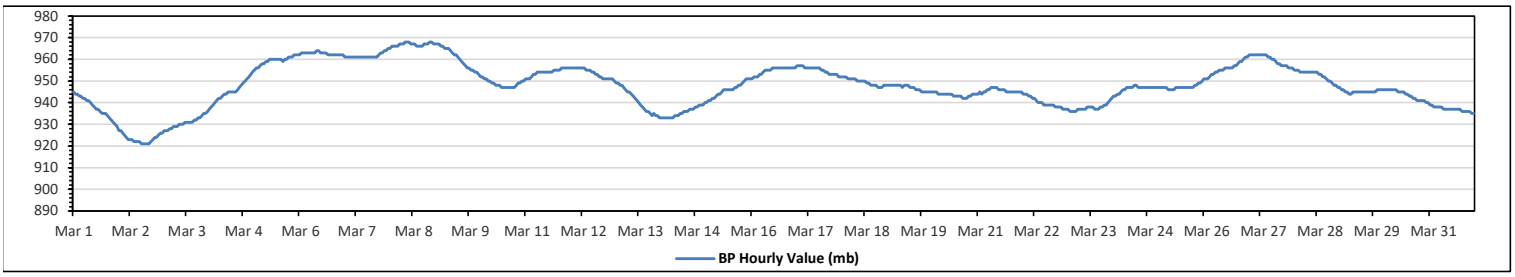
Maximum Hourly Value:	968	mb	on Mar 8 at hr 8	Hours in Service:	744	
Maximum Daily Value:	967	mb	on Mar 8	Hours of Data:	744	
Minimum Hourly Value:	921	mb	on Mar 2 at hr 12	Hours of Missing Data:	0	
Minimum Daily Value:	923	mb	on Mar 2	Hours of Calibration:	0	
Monthly Average:	948	mb		Operational Uptime:	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
Mar 1	945	944	944	943	943	942	942	941	941	940	939	938	937	937	936	935	935	935	934	933	932	931	930	929	929	945	938
Mar 2	927	927	926	925	924	923	923	923	922	922	922	922	**921**	**921**	**921**	**921**	**921**	922	923	924	924	925	926	926	**921**	927	**923**
Mar 3	927	927	927	928	928	929	929	929	930	930	930	931	931	931	931	931	932	932	933	933	934	935	935	936	927	936	931
Mar 4	937	938	939	940	941	942	942	943	944	944	945	945	945	945	945	946	947	948	949	950	951	952	953	954	937	954	945
Mar 5	955	956	956	957	958	958	959	959	960	960	960	960	960	960	960	959	960	960	961	961	961	962	962	962	955	962	959
Mar 6	962	963	963	963	963	963	963	963	963	964	964	963	963	963	963	962	962	962	962	962	962	962	962	962	962	964	963
Mar 7	961	961	961	961	961	961	961	961	961	961	961	961	961	961	961	961	961	961	962	963	963	964	964	965	961	965	962
Mar 8	965	966	966	966	966	967	967	967	**968**	**968**	**968**	967	967	967	966	966	966	966	967	967	967	**968**	**968**	967	965	**968**	**967**
Mar 9	967	967	967	966	966	965	965	965	964	963	962	962	961	960	959	958	957	956	956	955	955	954	954	953	953	967	961
Mar 10	952	952	951	951	950	950	949	949	948	948	948	947	947	947	947	947	947	947	947	948	949	949	950	950	947	952	949
Mar 11	951	951	951	952	953	953	954	954	954	954	954	954	954	954	954	955	955	955	955	956	956	956	956	956	951	956	954
Mar 12	956	956	956	956	956	956	956	956	955	955	955	954	954	953	953	952	952	951	951	951	951	951	951	950	950	956	954
Mar 13	949	949	948	948	947	946	945	945	944	943	942	941	940	939	938	937	936	936	935	934	935	934	934	933	933	949	941
Mar 14	933	933	933	933	933	933	933	934	934	934	935	935	936	936	936	937	937	937	938	938	939	939	939	940	933	940	936
Mar 15	940	941	941	942	942	943	944	944	945	946	946	946	946	946	946	947	947	948	948	949	950	951	951	951	940	951	946
Mar 16	951	952	952	952	953	953	954	955	955	955	955	956	956	956	956	956	956	956	956	956	956	956	956	956	951	956	955
Mar 17	957	957	957	957	956	956	956	956	956	956	956	956	956	955	955	954	954	953	953	953	953	953	952	952	952	957	955
Mar 18	952	952	952	951	951	951	951	951	950	950	950	950	950	949	949	948	948	948	948	947	947	947	948	948	947	952	950
Mar 19	948	948	948	948	948	948	948	948	947	948	948	948	947	947	947	947	946	946	946	945	945	945	945	945	945	948	947
Mar 20	945	945	945	944	944	944	944	944	944	944	944	943	943	943	943	943	942	942	942	943	943	944	944	944	942	945	944
Mar 21	944	945	944	945	945	946	946	947	947	947	947	946	946	946	946	945	945	945	945	945	945	945	945	945	944	947	946
Mar 22	944	944	944	943	943	942	942	941	940	940	940	939	939	939	939	939	939	938	938	938	938	937	937	937	937	944	940
Mar 23	937	936	936	936	936	937	937	937	937	937	938	938	938	938	937	937	937	938	938	939	939	940	941	942	936	942	938
Mar 24	943	943	944	944	945	946	946	947	947	947	947	948	948	947	947	947	947	947	947	947	947	947	947	947	943	948	946
Mar 25	947	947	947	947	947	946	946	946	946	947	947	947	947	947	947	947	947	947	947	948	948	949	949	950	946	950	947
Mar 26	951	951	951	952	953	953	954	954	955	955	955	956	956	956	956	956	957	957	958	959	959	960	961	961	951	961	956
Mar 27	962	962	962	962	962	962	962	962	962	962	961	961	960	960	959	958	958	957	957	957	957	956	956	956	956	962	960
Mar 28	955	955	955	954	954	954	954	954	954	954	954	954	954	953	953	952	952	951	950	950	949	948	948	947	947	955	952
Mar 29	947	946	946	945	945	944	944	945	945	945	945	945	945	945	945	945	945	945	945	945	946	946	946	946	944	947	945
Mar 30	946	946	946	946	946	946	946	945	945	945	945	944	944	943	943	942	942	941	941	941	941	941	940	940	940	946	944
Mar 31	939	939	938	938	938	938	938	937	937	937	937	937	937	937	937	937	937	936	936	936	936	936	935	935	935	939	937
Diurnal Maximum	967	967	967	966	966	967	967	967	968	968	968	967	967	967	966	966	966	966	967	967	967	968	968	967			
Diurnal Average	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	947	947	947	947	948	948	948	948	948			

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 - March 2023

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

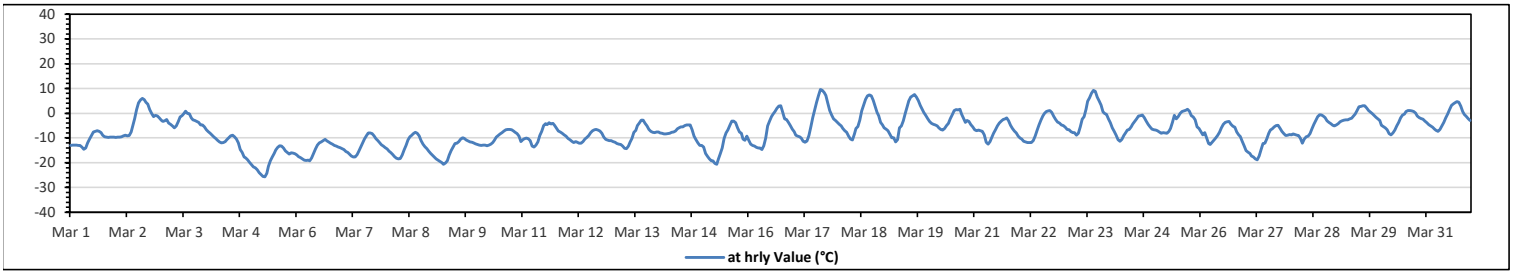
Maximum Hourly Value:	9.6	°C	on Mar 17 at hr 14	Hours in Service:	744	
Maximum Daily Value:	-0.7	°C	on Mar 23	Hours of Data:	744	
Minimum Hourly Value:	-25.7	°C	on Mar 5 at hr 7	Hours of Missing Data:	0	
Minimum Daily Value:	-18.8	°C	on Mar 5	Hours of Calibration:	0	
Monthly Average:	-7.4	°C		Operational 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			
Mar 1	-13	-12.9	-12.9	-12.9	-13	-13	-13.6	-14.6	-14.1	-12	-10.5	-9	-7.6	-7.3	-7.1	-7.4	-7.9	-8.9	-9.5	-9.6	-9.8	-9.7	-9.7	-9.7	-14.6	-7.1	-10.7
Mar 2	-9.8	-9.7	-9.7	-9.5	-9.1	-8.8	-9.1	-9	-7.6	-5.1	-2.1	1.4	4.2	5.3	6	5.4	4.5	3.7	1.5	-0.1	-1.4	-0.9	-1.1	-1.9	-9.8	6.0	-2.6
Mar 3	-2.8	-3.4	-3.1	-2.6	-4	-4.4	-5.2	-5.9	-5.1	-3.5	-1.6	-1	-0.1	0.8	-0.1	-0.2	-1.9	-2.7	-2.9	-3.3	-3.8	-4.7	-4.7	-5.6	-5.9	0.8	-3.0
Mar 4	-6.6	-7.5	-8.2	-8.9	-9.7	-10.2	-10.9	-11.6	-12	-11.9	-11.5	-10.7	-9.9	-9.1	-8.9	-9.5	-10.5	-12	-14.8	-15.8	-17.6	-18	-18.9	-19.8	-19.8	-6.6	-11.9
Mar 5	-20.8	-21.6	-22.1	-22.8	-23.9	-24.8	-25.6	**-25.7**	-24.3	-21.4	-19.2	-17.6	-16.3	-14.9	-13.8	-13.1	-13.2	-14.1	-15.2	-15.9	-16.5	-16	-16.1	-16.4	**-25.7**	-13.1	**-18.8**
Mar 6	-16.9	-17.5	-17.9	-18.5	-19	-19.1	-19	-19.2	-18.1	-16.2	-14.5	-12.9	-12	-11.6	-11	-10.6	-11.2	-11.6	-12.1	-12.5	-13	-13.2	-13.6	-13.9	-19.2	-10.6	-14.8
Mar 7	-14.3	-14.7	-15.5	-15.9	-16.5	-17.2	-17.7	-17.7	-16.8	-15.5	-13.8	-12.1	-10.5	-9.1	-8	-8	-8.3	-9.1	-10.3	-11	-12	-12.8	-13.3	-13.9	-17.7	-8.0	-13.1
Mar 8	-14.4	-15.3	-15.9	-16.7	-17.5	-18.2	-18.5	-18.3	-16.9	-14.9	-13	-10.8	-9.5	-9	-8.3	-7.8	-8.1	-9.1	-11.1	-12.6	-13.5	-14.3	-15.3	-16.3	-18.5	-7.8	-13.6
Mar 9	-16.9	-17.7	-18.5	-19	-19.4	-19.9	-20.6	-20.1	-19.2	-17	-15	-13.7	-12.3	-12.2	-11.4	-10.5	-10	-10.2	-10.8	-11.2	-11.6	-11.7	-12	-12.4	-20.6	-10.0	-14.7
Mar 10	-12.7	-12.9	-13	-12.9	-12.9	-13.1	-12.9	-12.6	-11.9	-10.9	-9.6	-9	-8.4	-7.9	-7.2	-6.6	-6.5	-6.5	-6.7	-7.2	-7.7	-8.3	-9.2	-11.4	-13.1	-6.5	-9.9
Mar 11	-10.7	-10.3	-10.1	-10.4	-11.1	-13.2	-13.6	-12.9	-11.6	-9	-7.3	-5	-4.2	-4.6	-3.9	-4.3	-4.1	-4.8	-6.1	-7.2	-7.6	-8.2	-8.7	-9.3	-13.6	-3.9	-8.3
Mar 12	-10.2	-10.7	-11.3	-11.8	-11.5	-11.7	-12.1	-12.1	-11.5	-10.5	-9.8	-9	-7.9	-7.1	-6.7	-6.5	-6.8	-7.2	-8.1	-9.6	-10.6	-10.8	-11	-11.1	-12.1	-6.5	-9.8
Mar 13	-11.4	-11.7	-12.3	-12.6	-12.7	-13.2	-14.2	-14.3	-13.3	-11.7	-10.2	-7.7	-6.9	-5	-4	-2.8	-2.8	-4.1	-5.1	-6.5	-7.4	-7.7	-7.9	-7.6	-14.3	-2.8	-8.9
Mar 14	-7.6	-8	-8.2	-8.4	-8.4	-8.3	-8.1	-7.8	-7.6	-7.2	-6.3	-6	-5.6	-5.5	-5	-4.7	-4.7	-4.7	-6.6	-9.3	-10.7	-12	-13	-13	-13.0	-4.7	-7.8
Mar 15	-13.6	-16.3	-17.4	-18.5	-19.2	-19.3	-20.3	-20.6	-18.6	-16.4	-14.1	-10.2	-8	-6.6	-4.8	-3.2	-3.2	-3.9	-5.9	-7.6	-8.2	-10.5	-10.9	-9.3	-20.6	-3.2	-11.9
Mar 16	-10.9	-12.5	-13	-13.3	-13.8	-14	-14.1	-14.8	-13.1	-10.1	-5.1	-3.2	-1.4	-0.3	0.6	2	2.8	3	0.4	-2.3	-2.6	-3.8	-5	-6.4	-14.8	3.0	-6.3
Mar 17	-7.5	-8.8	-9.3	-9.5	-10.1	-11.3	-11.7	-11.2	-9	-5.6	-1.8	1.3	4.4	7.1	**9.6**	9.1	8.3	7.1	4	1.1	-0.8	-2.2	-2.9	-3.8	-11.7	**9.6**	-2.2
Mar 18	-4.5	-5.2	-6.2	-7.1	-7.8	-9.2	-10.5	-10.8	-8.5	-6.2	-5.4	-2.8	0.9	3.3	5.6	7	7.4	6.9	5.2	2.7	0.3	-1	-3.7	-4.7	-10.8	7.4	-2.3
Mar 19	-5.9	-6.4	-7.1	-8.5	-10	-9.9	-11.6	-10.7	-5.9	-5.1	-3.1	0	2.6	4.9	6.5	7	7.5	6.5	5.1	3.1	1.6	0.3	-0.9	-2.1	-11.6	7.5	-1.8
Mar 20	-3.4	-4.1	-4.4	-4.7	-5.2	-5.9	-6.5	-6.8	-6.2	-5	-4.1	-2.1	-0.6	1.1	1.4	1.3	1.6	-0.3	-2	-3.7	-2.9	-3.4	-4.6	-5.6	-6.8	1.6	-3.2
Mar 21	-6.6	-7.1	-6.8	-7	-7.4	-8.7	-11.7	-12.6	-11.4	-9.9	-8.2	-6.6	-5.1	-4	-3.2	-2.5	-2.3	-1.9	-3.1	-4.9	-6.2	-7.2	-8	-9.3	-12.6	-1.9	-6.7
Mar 22	-10.1	-10.5	-11.3	-11.6	-11.9	-11.8	-11.8	-11	-9.3	-6.9	-4.7	-2.8	-1.1	0	0.6	0.9	1	0.3	-1.3	-2.5	-3.6	-4	-4.7	-5	-11.9	1.0	-5.5
Mar 23	-5.7	-6.5	-6.7	-7.5	-7.9	-7.9	-8.8	-8.1	-5.5	-2.4	-1.4	1.6	4.8	6.3	8	9.2	8.8	6.5	4.9	3.3	0.5	-0.1	-0.5	-2.2	-8.8	9.2	**-0.7**
Mar 24	-3.9	-5.9	-7.3	-8.9	-10.7	-11.3	-10.6	-9	-7.9	-6.8	-6.5	-5.6	-4.3	-3.4	-2.2	-1.2	-1	-0.8	-1.8	-3.2	-4.4	-5.5	-6.4	-6.7	-11.3	-0.8	-5.6
Mar 25	-6.8	-7.1	-7.6	-8.1	-7.9	-8	-8.1	-7.4	-6.2	-3.7	-0.9	-2.3	-1.4	0	0.6	0.9	1.2	1.6	0.8	-1	-1.6	-2.7	-5.6	-6.2	-8.1	1.6	-3.6
Mar 26	-7.5	-8.7	-7.9	-10.1	-12.3	-12.7	-11.7	-10.8	-10.1	-9	-7.7	-5.9	-4.5	-3.7	-3.5	-3.3	-4.4	-5.3	-5.7	-7.6	-8.7	-9.4	-11.3	-13.1	-13.1	-3.3	-8.1
Mar 27	-15.1	-15.7	-16.3	-17.2	-17.6	-18.4	-18.8	-17.3	-14.8	-12.3	-12.1	-10.3	-8.1	-6.8	-6.3	-5.5	-5	-4.8	-6.1	-7.3	-8.3	-9	-8.9	-8.6	-18.8	-4.8	-11.3
Mar 28	-8.7	-8.4	-8.6	-8.8	-9	-10.2	-12.1	-10.5	-9.5	-9.2	-8.3	-6.3	-4.4	-2.9	-1.4	-0.6	-0.7	-1.1	-1.8	-3.1	-3.8	-4.2	-4.9	-5.2	-12.1	-0.6	-6.0
Mar 29	-4.7	-4.2	-3.5	-3.1	-2.8	-2.7	-2.7	-2.3	-2	-1.3	-0.4	1.1	2.6	2.7	3	3	2.1	1.1	0.4	-0.2	-1	-1.7	-2.3	-3	-4.7	3.0	-0.9
Mar 30	-4.8	-5.4	-6	-6.7	-8.3	-8.7	-8	-6.8	-5.2	-3.8	-1.9	-0.8	-0.3	0.6	1	1	0.9	0.7	0.1	-1.1	-1.8	-2.1	-2.4	-3.2	-8.7	1.0	-3.0
Mar 31	-3.9	-4.6	-5.1	-5.7	-6.4	-6.9	-7.3	-6.5	-5.1	-3.8	-1.9	-0.3	1.4	3.1	3.8	4.3	4.7	4.5	2.8	0.7	-0.5	-1.3	-2.1	-3	-7.3	4.7	-1.6
Diurnal Maximum	-2.8	-3.4	-3.1	-2.6	-2.8	-2.7	-2.7	-2.3	-2.0	-1.3	-0.4	1.6	4.8	7.1	9.6	9.2	8.8	7.1	5.2	3.3	1.6	0.3	-0.5	-1.9			
Diurnal Average	-9.4	-10.0	-10.4	-10.9	-11.5	-12.0	-12.5	-12.2	-10.9	-9.2	-7.5	-5.8	-4.2	-3.1	-2.3	-1.8	-2.0	-2.6	-3.9	-5.3	-6.3	-7.0	-7.7	-8.4			

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

Lac La Biche Station - March 2023

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

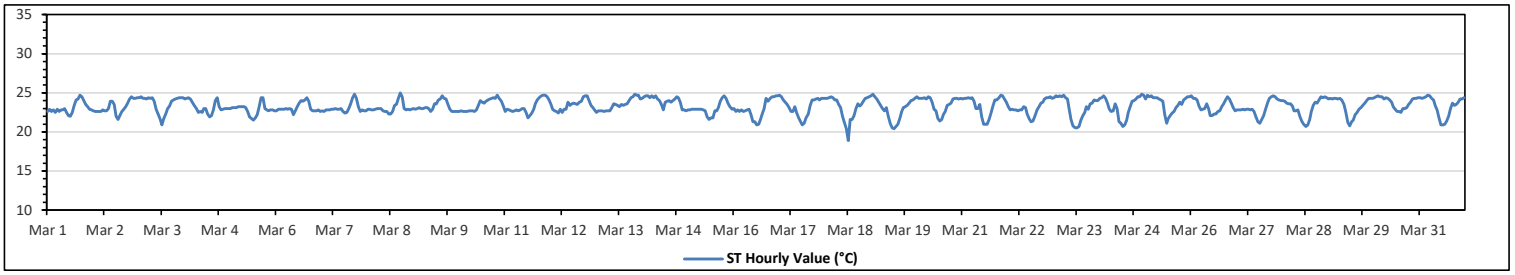
Maximum Hourly Value:	25.0	°C	on Mar 8 at hr 17	Hours in Service:	744	
Maximum Daily Value:	24.0	°C	on Mar 14	Hours of Data:	744	
Minimum Hourly Value:	18.9	°C	on Mar 18 at hr 12	Hours of Missing Data:	0	
Minimum Daily Value:	22.9	°C	on Mar 5	Hours of Calibration:	0	
Monthly Average:	23.2	°C		Operational 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
Mar 1	22.6	22.9	22.6	22.8	22.5	22.9	22.6	22.8	22.8	23.0	22.5	22.1	22.0	22.5	23.4	24.1	24.2	24.7	24.5	24.0	23.5	23.2	22.9	22.8	22.0	24.7	23.1
Mar 2	22.7	22.6	22.6	22.6	22.6	22.8	22.7	22.7	23.0	23.9	23.9	23.5	22.0	21.6	22.2	22.6	22.9	23.2	23.7	24.2	24.5	24.3	24.3	24.4	21.6	24.5	23.1
Mar 3	24.4	24.5	24.3	24.3	24.2	24.4	24.3	24.4	23.9	22.9	22.2	21.6	20.9	21.7	22.3	23.0	23.3	23.9	24.1	24.2	24.3	24.4	24.4	24.4	20.9	24.5	23.6
Mar 4	24.2	24.3	24.4	24.2	23.8	23.4	23.0	22.5	22.6	22.5	23.0	23.0	22.3	21.9	22.1	22.8	24.0	24.4	23.2	22.8	22.9	23.0	23.0	23.0	21.9	24.4	23.2
Mar 5	23.0	23.1	23.1	23.1	23.2	23.2	23.2	23.2	23.1	22.6	21.9	21.7	21.5	21.8	22.2	23.2	24.4	24.4	23.0	22.8	22.7	22.8	22.8	22.7	21.5	24.4	**22.9**
Mar 6	22.7	22.9	22.9	22.9	22.9	23.0	22.9	23.0	22.9	22.2	22.7	23.2	23.7	24.0	23.9	24.1	24.4	23.9	22.9	22.7	22.7	22.7	22.8	22.6	22.2	24.4	23.1
Mar 7	22.7	22.6	22.8	22.8	22.8	22.9	22.9	23.0	22.9	22.9	23.0	22.6	22.4	22.5	23.0	23.6	24.4	24.8	24.3	23.2	22.6	22.8	22.7	22.7	22.4	24.8	23.0
Mar 8	22.9	22.9	22.8	22.8	22.9	23.0	23.0	23.0	22.7	22.6	22.6	22.3	22.3	22.6	23.4	23.5	24.3	**25.0**	24.5	23.0	22.8	22.9	22.8	22.9	22.3	**25.0**	23.1
Mar 9	23.0	22.9	23.0	23.1	23.0	23.0	23.1	23.1	23.0	22.6	22.9	23.6	23.6	24.1	24.2	24.6	24.3	24.2	23.5	22.9	22.6	22.6	22.6	22.6	22.6	24.6	23.3
Mar 10	22.6	22.7	22.6	22.6	22.6	22.7	22.7	22.7	22.6	22.8	23.4	24.0	23.8	23.7	23.9	24.1	24.2	24.3	24.4	24.3	24.7	24.3	23.9	23.3	22.6	24.7	23.5
Mar 11	22.6	22.9	22.8	22.7	22.6	22.7	22.8	22.7	22.8	23.0	23.0	22.5	21.8	22.1	22.4	22.9	23.6	24.1	24.4	24.6	24.7	24.7	24.5	24.1	21.8	24.7	23.2
Mar 12	23.5	22.9	22.7	22.6	22.4	22.9	22.5	22.9	22.9	23.8	23.4	23.6	23.7	23.6	23.5	23.8	23.9	24.5	24.6	24.6	24.0	23.4	23.1	22.8	22.4	24.6	23.4
Mar 13	22.5	22.7	22.7	22.7	22.6	22.7	22.7	22.7	23.1	23.6	23.5	23.4	23.2	23.5	23.4	23.5	23.6	24.0	24.4	24.5	24.8	24.7	24.7	24.2	22.5	24.8	23.5
Mar 14	24.3	24.5	24.6	24.6	24.4	24.6	24.4	24.6	24.2	24.0	23.5	22.8	23.8	23.9	24.0	23.8	24.0	24.2	24.5	24.4	23.8	22.8	22.8	22.7	22.7	24.6	**24.0**
Mar 15	22.8	22.8	22.9	22.9	22.9	22.9	22.9	22.9	22.8	22.7	21.9	21.6	21.8	21.8	22.7	22.7	23.1	23.9	24.4	24.6	24.3	23.7	23.2	22.9	21.6	24.6	23.0
Mar 16	23.0	22.6	22.8	22.6	22.8	22.6	22.7	22.8	22.9	22.2	21.3	21.3	20.9	21.0	21.5	22.3	23.0	24.3	23.9	24.3	24.5	24.5	24.6	24.6	20.9	24.6	22.9
Mar 17	24.7	24.5	24.1	23.8	23.5	23.1	22.6	22.6	23.2	22.4	21.8	21.3	20.9	21.1	21.8	22.3	23.4	24.1	24.1	24.2	24.3	24.1	24.3	24.3	20.9	24.7	23.2
Mar 18	24.3	24.3	24.4	24.5	24.4	24.1	24.1	23.5	23.1	22.0	21.3	20.4	**18.9**	21.6	21.6	22.1	23.0	23.6	23.3	23.5	23.9	24.3	24.4	24.5	**18.9**	24.5	23.1
Mar 19	24.6	24.8	24.5	24.2	23.8	23.4	23.0	22.7	23.1	22.0	21.1	20.5	20.4	20.7	21.0	21.7	22.6	23.1	23.2	23.4	23.7	24.0	24.1	24.3	20.4	24.8	22.9
Mar 20	24.5	24.3	24.3	24.3	24.4	24.2	24.5	24.4	23.8	22.9	22.7	21.7	21.4	21.6	22.2	22.6	23.4	23.5	23.7	24.2	24.3	24.3	24.2	24.3	21.4	24.5	23.6
Mar 21	24.2	24.3	24.3	24.4	24.3	24.4	23.9	23.0	23.0	23.5	21.9	21.0	21.0	21.0	21.6	22.4	23.3	24.1	24.1	24.4	24.7	24.6	24.2	23.8	21.0	24.7	23.4
Mar 22	23.2	22.8	22.9	22.8	22.8	22.7	22.8	22.8	23.2	23.1	22.3	21.7	21.3	21.4	22.0	22.8	23.2	23.7	23.8	24.2	24.4	24.4	24.5	24.3	21.3	24.5	23.0
Mar 23	24.4	24.6	24.5	24.6	24.5	24.7	24.4	24.2	23.0	21.6	20.8	20.5	20.5	20.7	21.5	22.1	22.5	23.2	22.9	23.6	23.7	24.1	24.0	24.0	20.5	24.7	23.1
Mar 24	24.3	24.4	24.6	24.3	23.7	23.0	22.6	22.7	23.6	23.0	21.3	21.1	20.7	20.9	21.5	22.5	23.2	23.9	24.0	24.2	24.5	24.5	24.8	24.7	20.7	24.8	23.3
Mar 25	24.2	24.7	24.5	24.6	24.4	24.4	24.4	24.2	24.1	23.9	22.2	21.1	21.7	22.1	22.4	22.6	23.1	23.4	23.8	23.5	24.1	24.3	24.5	24.5	21.1	24.7	23.6
Mar 26	24.6	24.3	24.3	24.1	23.3	22.8	22.9	23.0	23.6	23.0	22.1	22.1	22.3	22.3	22.6	22.7	23.2	23.6	24.1	24.5	24.2	23.7	23.1	22.7	22.1	24.6	23.3
Mar 27	22.8	22.8	22.8	22.9	22.8	22.9	22.9	22.8	22.9	22.6	21.9	21.3	21.1	21.6	22.1	22.9	23.8	24.3	24.5	24.6	24.5	24.2	24.1	24.0	21.1	24.6	23.0
Mar 28	24.0	23.9	23.7	23.6	23.6	23.3	22.7	22.7	22.8	22.0	21.4	21.0	20.7	20.9	21.6	22.6	23.4	23.8	23.7	24.1	24.5	24.4	24.5	24.4	20.7	24.5	23.1
Mar 29	24.2	24.3	24.2	24.3	24.3	24.2	24.3	24.1	23.5	22.5	21.2	20.8	21.3	21.5	22.2	22.5	22.9	23.1	23.4	23.7	24.0	24.3	24.3	24.3	20.8	24.3	23.3
Mar 30	24.4	24.5	24.6	24.5	24.5	24.2	24.4	24.3	24.1	23.8	23.2	22.9	22.6	22.6	22.5	23.0	23.0	23.1	23.5	23.8	24.2	24.3	24.3	24.4	22.5	24.6	23.8
Mar 31	24.4	24.3	24.4	24.5	24.7	24.6	24.3	24.1	23.4	22.8	21.8	20.9	20.9	21.0	21.4	22.0	23.0	23.7	23.4	23.5	23.8	24.2	24.2	24.4	20.9	24.7	23.3
Diurnal Maximum	24.7	24.8	24.6	24.6	24.7	24.7	24.5	24.6	24.2	24.0	23.9	24.0	23.8	24.1	24.2	24.6	24.4	25.0	24.6	24.6	24.8	24.7	24.8	24.7			
Diurnal Average	23.6	23.6	23.6	23.6	23.5	23.4	23.3	23.2	23.2	22.9	22.3	22.0	21.8	22.0	22.5	22.9	23.5	23.9	23.9	23.9	23.9	23.9	23.8	23.7			

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

Lac La Biche Station - March 2023

Summary of Hourly Averages

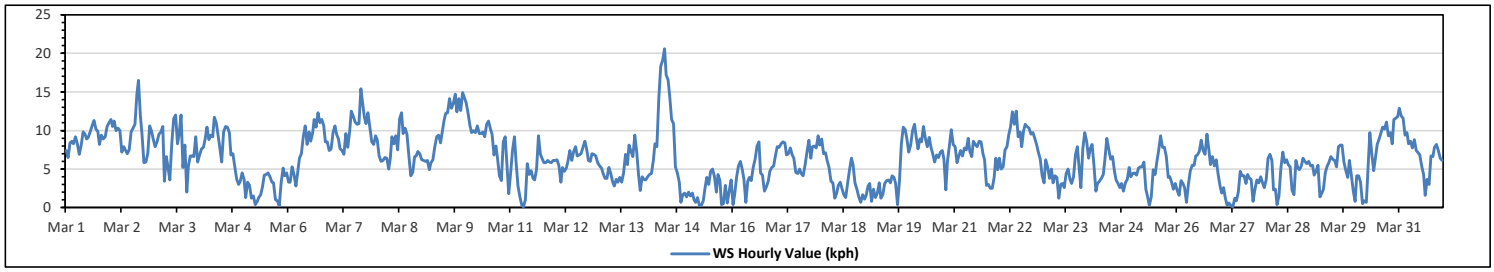
VECTOR WIND SPEED (VWS) in km/hr

Maximum Hourly Value:	20.6	kph	on Mar 14 at hr 11	Hours in Service:	744	
Maximum Daily Value:	10.2	kph	on Mar 7	Hours of Data:	744	
Minimum Hourly Value:	0.1	kph	on Mar 11 at hr 7	Hours of Missing Data:	0	
Minimum Daily Value:	2.2	kph	on Mar 15	Hours of Calibration:	0	
Monthly Average:	2.2	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			
Mar 1	7.4	6.5	8.4	8.6	8.3	9.2	8.3	6.9	8.1	9.8	9.5	8.9	9.1	9.8	10.6	11.3	10.2	9.9	8.2	9.4	8.9	9.2	10.5	11.0	6.5	11.3	9.1
Mar 2	11.4	10.5	11.2	10.0	10.3	10.0	7.2	7.9	7.4	7.0	7.5	9.8	10.3	10.8	14.7	16.5	11.9	9.5	5.8	5.9	7.0	10.6	9.9	8.9	5.8	16.5	9.7
Mar 3	7.9	8.5	9.5	9.8	10.5	3.4	6.6	5.3	3.6	8.3	11.5	12.0	8.3	9.5	12.0	5.2	8.1	2.0	5.4	6.7	6.7	6.6	9.2	5.9	2.0	12.0	7.6
Mar 4	6.8	7.6	7.8	8.8	10.4	8.8	9.4	9.2	11.7	11.0	9.3	7.8	5.9	9.8	10.5	10.4	9.7	6.8	7.0	5.3	3.7	3.0	3.4	4.5	3.0	11.7	7.9
Mar 5	3.7	1.3	3.3	2.9	1.2	1.5	0.4	0.8	1.3	1.7	2.8	4.2	4.3	4.5	4.0	3.3	3.2	1.0	0.9	0.2	3.3	5.1	4.1	4.5	0.2	5.1	2.6
Mar 6	3.3	3.3	5.3	4.3	2.8	4.7	6.4	7.0	9.2	10.6	8.2	9.8	8.6	9.6	11.4	10.4	12.3	11.0	11.4	10.6	8.5	8.5	7.4	7.6	2.8	12.3	8.0
Mar 7	9.7	10.6	9.5	8.9	7.6	7.4	6.9	9.6	7.8	9.9	12.5	11.9	11.1	10.8	10.9	15.4	13.7	11.7	10.9	12.3	10.4	8.5	8.2	9.3	6.9	15.4	**10.2**
Mar 8	8.8	6.7	6.0	6.1	6.5	6.4	5.0	6.4	9.2	8.3	9.3	7.5	11.5	12.3	9.6	10.3	9.5	6.7	4.1	4.6	6.6	6.7	7.3	7.0	4.1	12.3	7.6
Mar 9	6.2	6.1	6.0	6.1	4.9	5.8	6.2	7.9	9.2	9.4	8.4	9.7	11.3	12.2	12.3	14.1	12.9	13.5	14.7	12.4	14.1	12.6	14.9	14.2	4.9	14.9	10.2
Mar 10	13.6	12.2	10.6	9.7	10.0	9.7	10.6	9.6	9.6	9.8	9.2	10.8	11.2	10.2	9.5	6.8	8.0	6.4	4.1	3.5	8.5	9.2	5.2	1.8	1.8	13.6	8.7
Mar 11	4.5	7.5	9.2	5.9	2.8	1.4	0.3	**0.1**	1.0	5.7	4.3	4.8	3.8	3.6	5.0	9.3	6.9	6.4	5.8	5.8	6.1	5.9	5.8	6.1	**0.1**	9.3	4.9
Mar 12	6.1	6.2	5.4	3.3	5.2	4.7	5.1	6.0	7.4	6.1	7.3	7.9	6.7	6.8	7.0	7.8	8.6	7.5	6.1	6.0	7.0	6.9	6.7	5.8	3.3	8.6	6.4
Mar 13	5.4	5.1	4.4	3.8	3.8	5.2	4.4	3.3	2.8	3.7	3.3	3.9	3.3	4.5	6.9	5.6	8.1	7.3	6.6	9.4	7.2	4.1	2.2	4.0	2.2	9.4	4.9
Mar 14	3.7	3.6	4.0	4.3	4.4	6.1	8.3	7.9	14.1	18.3	19.1	**20.6**	17.2	16.6	14.5	11.4	10.9	5.3	4.5	3.3	0.7	1.7	1.9	1.4	0.7	**20.6**	8.5
Mar 15	2.0	1.5	1.9	1.0	0.7	1.3	0.2	0.3	0.9	2.7	3.9	3.0	4.7	5.0	4.0	2.0	4.3	3.5	0.4	0.5	2.9	0.6	2.1	3.6	0.2	5.0	**2.2**
Mar 16	0.4	1.7	3.9	5.4	6.0	4.9	3.7	0.7	3.4	3.9	3.5	5.2	6.3	8.0	8.5	4.5	4.2	2.1	2.7	3.4	4.7	5.2	5.4	6.6	0.4	8.5	4.3
Mar 17	7.9	7.8	8.3	8.5	8.4	6.8	7.0	7.7	6.8	6.4	4.6	4.4	5.0	4.4	4.1	5.5	7.2	8.7	6.4	7.9	8.0	7.7	9.3	8.1	4.1	9.3	7.0
Mar 18	8.9	7.0	7.1	6.1	5.2	3.4	3.2	1.2	1.9	2.9	3.3	2.4	1.6	1.3	3.1	4.9	6.4	5.6	3.2	2.4	1.4	0.7	1.7	1.1	0.7	8.9	3.6
Mar 19	1.6	2.8	3.1	0.8	2.4	1.3	1.9	3.2	1.2	1.7	3.1	3.5	3.6	3.2	4.1	3.9	3.1	0.4	3.4	8.3	10.4	10.1	9.0	7.2	0.4	10.4	3.9
Mar 20	8.1	10.0	10.8	9.0	7.6	8.9	8.5	10.5	9.0	7.9	9.1	7.7	7.0	5.9	6.8	6.5	7.2	7.4	6.3	2.3	6.0	8.0	10.1	8.2	2.3	10.8	7.9
Mar 21	7.9	5.8	6.6	7.4	6.7	7.7	7.5	9.0	7.3	6.6	8.6	8.2	7.9	8.6	8.5	7.0	6.2	2.9	3.0	2.5	2.5	3.9	6.4	4.9	2.5	9.0	6.4
Mar 22	6.4	5.0	5.3	7.5	7.9	9.5	10.4	12.4	10.8	12.5	9.2	9.8	7.9	10.0	10.8	10.5	10.3	9.5	9.7	9.0	8.1	7.2	6.3	4.1	4.1	12.5	8.8
Mar 23	3.2	6.2	5.3	3.8	5.0	3.2	4.1	3.9	1.2	3.0	3.1	2.6	4.4	5.0	3.7	3.1	4.0	6.8	7.9	5.4	2.6	7.6	9.7	8.6	1.2	9.7	4.7
Mar 24	6.4	7.6	8.2	5.4	2.1	3.1	3.4	3.8	4.3	6.2	9.0	7.6	6.3	6.6	4.7	3.6	3.1	2.6	3.1	2.1	3.2	3.7	5.2	4.0	2.1	9.0	4.8
Mar 25	4.4	4.5	4.2	5.1	5.3	5.3	5.9	2.4	1.5	0.3	1.4	4.9	4.3	5.8	7.4	9.3	7.8	7.8	6.6	3.9	4.0	3.2	2.4	3.1	0.3	9.3	4.6
Mar 26	2.2	1.6	3.5	3.1	2.6	0.7	3.0	4.8	5.5	5.5	6.7	6.8	7.3	8.7	7.4	6.9	9.5	7.5	5.6	6.6	5.4	6.2	4.3	2.8	0.7	9.5	5.2
Mar 27	1.9	2.6	1.3	0.3	0.6	0.2	**0.1**	1.2	0.9	2.0	4.7	4.1	4.1	3.1	4.3	3.8	3.7	0.8	2.4	3.6	3.2	4.0	3.3	2.6	**0.1**	4.7	2.5
Mar 28	3.6	6.4	6.9	6.1	2.3	2.4	0.4	1.5	5.1	7.2	5.8	6.2	5.6	5.3	2.2	1.7	6.1	5.1	4.9	5.4	6.4	6.0	5.7	6.0	0.4	7.2	4.8
Mar 29	5.4	5.5	4.2	4.7	5.5	1.4	1.9	2.4	4.6	5.4	5.8	6.6	6.3	6.1	5.3	7.9	8.1	8.1	5.9	4.8	3.9	6.1	4.3	2.2	1.4	8.1	5.1
Mar 30	0.8	4.1	4.1	3.3	0.5	0.9	0.7	4.8	9.7	7.0	4.8	6.3	8.2	8.9	9.7	10.4	10.2	11.1	9.3	9.7	8.3	11.4	11.6	11.8	0.5	11.8	7.0
Mar 31	12.9	11.9	11.6	9.4	9.7	8.3	8.6	7.7	8.8	7.4	7.1	6.8	5.4	4.3	1.6	3.7	3.0	6.7	6.6	7.8	8.2	7.4	6.4	6.1	1.6	12.9	7.4
Diurnal Maximum	13.6	12.2	11.6	10.0	10.5	10.0	10.6	12.4	14.1	18.3	19.1	20.6	17.2	16.6	14.7	16.5	13.7	13.5	14.7	12.4	14.1	12.6	14.9	14.2			
Diurnal Average	5.9	6.1	6.4	5.8	5.4	5.0	5.0	5.3	6.0	6.7	7.0	7.3	7.0	7.5	7.6	7.5	7.7	6.5	5.9	5.8	6.1	6.4	6.4	5.9			

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.

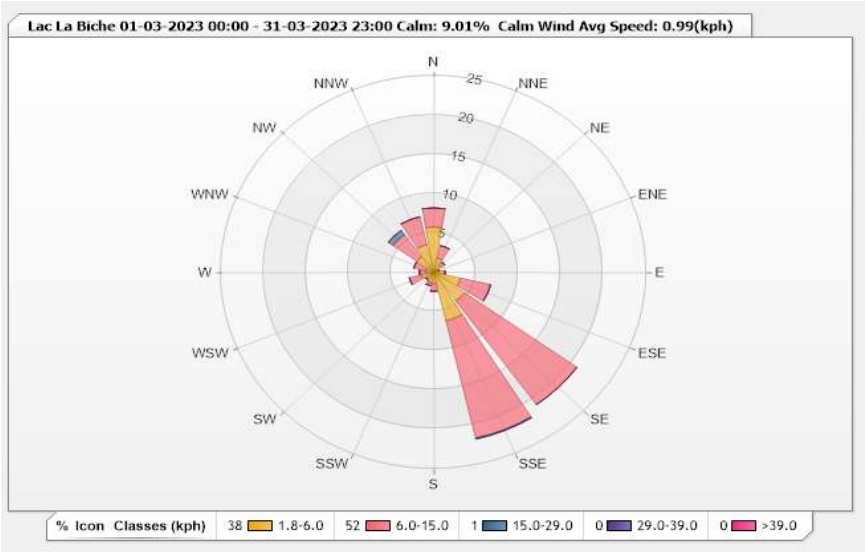


Station: Lac La Biche Monitor: WDS [kph] Monthly: 03-2023

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

Calm (WS<1.8kph): 9.01% 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	5.78	2.42	0	0	0	8.2
NNE	1.88	1.61	0	0	0	3.49
NE	1.08	0.54	0	0	0	1.62
ENE	0.54	0.13	0	0	0	0.67
E	1.34	0	0	0	0	1.34
ESE	3.23	3.63	0	0	0	6.86
SE	4.44	16.26	0	0	0	20.7
SSE	6.32	15.32	0.13	0	0	21.77
S	1.48	0.94	0	0	0	2.42
SSW	1.34	0.4	0	0	0	1.74
SW	0.94	0.27	0	0	0	1.21
WSW	1.48	1.48	0	0	0	2.96
W	0.94	0.67	0.13	0	0	1.74
WNW	0.94	1.48	0	0	0	2.42
NW	2.42	3.49	0.67	0	0	6.58
NNW	3.63	3.63	0	0	0	7.26
Summary	37.78	52.27	0.93	0	0	90.98



Lakeland Industry & Community Association

Lac La Biche Station - March 2023

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

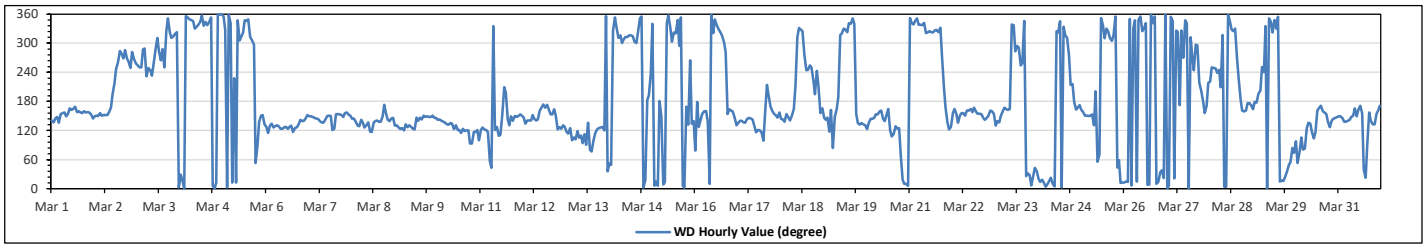
Monthly Average:	140 (SE)	degree	
Hours in Service:	744		
Hours of Data:	744		
Hours of Missing Data:	0		
Hours of Calibration:	0		
Operational Uptime:	100.0		

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
Mar 1	SE	SE	SE	SE	SE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SE	155	SSE
Mar 2	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSW	SW	WSW	W	WNW	W	W	WNW	W	W	WSW	W	W	WSW	221	SW
Mar 3	WSW	WSW	WSW	WNW	WNW	SW	WSW	WSW	SW	W	WNW	NW	W	W	WNW	WSW	NW	N	NW	NW	NW	NW	NW	N	285	WNW
Mar 4	NNE	NNE	N	N	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	NNW	NNW	NNW	NNW	N	N	N	NNE	N	N	N	350	N
Mar 5	N	NW	N	N	NNW	NNE	SW	NNE	NNW	NW	NW	NW	NNW	NNW	NNW	NW	NW	WNW	NE	E	SE	SSE	SSE	SE	348	NNW
Mar 6	SE	ESE	SE	SE	SE	SE	SE	SE	ESE	ESE	SE	SE	ESE	SE	SE	ESE	SE	SE	SE	SE	SE	SE	SE	SSE	130	SE
Mar 7	SSE	SSE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SSE	SSE	ESE	ESE	SSE	SSE	SSE	SSE	SE	SSE	SSE	SSE	SSE	147	SE
Mar 8	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	ESE	SE	SE	SE	SE	SE	SSE	S	SSE	SE	SE	SE	SE	138	SE
Mar 9	SE	SE	SE	ESE	SE	ESE	SE	SE	SE	SE	ESE	ESE	SE	SE	SE	SE	SSE	SE	SSE	SE	SE	SSE	SE	SE	140	SE
Mar 10	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	SE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	E	E	ESE	ESE	ESE	E	127	SE
Mar 11	ESE	SE	ESE	ESE	ESE	ENE	NE	NNW	ESE	SE	ESE	ESE	SSE	SSW	SSW	SE	SE	SSE	SE	SSE	SE	SSE	SSE	SSE	139	SE
Mar 12	SE	SE	SE	SE	SE	SSE	SE	SE	SE	SSE	SSE	S	SSE	S	SSE	SSE	SSE	SSE	SSE	ESE	SE	ESE	SE	SE	149	SSE
Mar 13	ESE	ESE	SE	E	ESE	E	ESE	ESE	ESE	E	ESE	E	SE	E	ENE	E	ESE	ESE	SE	SE	SE	ESE	N	NE	108	ESE
Mar 14	NE	NE	NW	N	NNW	NW	NW	WNW	NW	NW	NW	NW	NW	NW	WNW	WNW	NW	N	N	N	NNE	S	S	SW	317	NW
Mar 15	NNW	N	NNE	N	S	SSE	N	NNE	NNW	N	NNW	WNW	NW	NW	NNW	WNW	N	N	N	SSE	SE	W	SE	SE	345	NNW
Mar 16	ENE	S	SE	SE	SSE	SSE	SSE	SE	N	N	NW	NNW	NNW	NNW	NW	NW	WNW	W	SSE	SSE	SSE	SSE	SE	SE	154	SSE
Mar 17	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	ESE	ESE	ESE	E	SSE	SSW	S	SSE	SSE	SSE	SSE	SE	SSE	147	SE
Mar 18	SE	SE	SE	SSE	SE	SE	SSE	SSE	SSW	NW	NNW	NNW	NW	W	WSW	WSW	WSW	WSW	SW	SSW	WSW	SSW	SSE	SSE	189	S
Mar 19	SE	SE	SE	ESE	SSE	E	SE	SSE	S	NW	NW	NNW	NNW	NW	NNW	NNW	N	NNW	SSE	SE	SE	SE	SE	SE	129	SE
Mar 20	ESE	SE	SE	SE	SE	SSE	SSE	SSE	SSE	SE	SE	SSE	SSE	ESE	ESE	ESE	SE	ESE	SE	ENE	NNE	N	N	N	129	SE
Mar 21	N	NNW	NNW	NNW	N	NNW	NNW	NNW	NNW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	W	SSW	SSE	SE	ESE	SE	334	NNW
Mar 22	SSE	SSE	SSE	SE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	SE	SSE	SSE	SSE	SSE	155	SSE
Mar 23	SE	SE	SE	SSE	SSE	SSE	SSE	SSE	SSE	NNW	NNW	W	WNW	WNW	WSW	WSW	NNW	NNE	NNE	NNE	N	NNE	NE	NE	43	NE
Mar 24	NNE	NNE	NNE	NNE	N	N	NNE	NNE	N	N	NW	NW	NNW	N	NNW	NW	NW	W	SSW	SW	S	SSE	SSE	S	352	N
Mar 25	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SSW	NE	ENE	N	NNW	NW	NNW	NW	NW	WNW	NW	N	NE	ENE	NNE	NNE	339	NNW
Mar 26	NNE	NNE	NNE	N	N	NNW	NNW	NNE	NNW	N	NW	NNW	NNW	N	N	N	NNW	N	N	NNE	NE	NE	NNE	N	360	N
Mar 27	N	N	N	NNW	NNE	NW	NW	S	NW	W	NNW	NNW	N	NW	W	WSW	WNW	WNW	SW	SSW	S	SSE	S	SW	282	W
Mar 28	SW	WSW	WSW	WSW	WSW	WSW	SSW	NW	N	N	N	NNW	NNW	NW	NNW	W	SW	S	SSE	SSE	SSE	S	S	S	241	WSW
Mar 29	SSE	S	S	SSW	SSW	WSW	WSW	NNW	N	N	NNW	NW	NNW	NNW	N	NNE	NNE	NNE	NNE	NE	NE	NE	E	ENE	10	N
Mar 30	E	NE	ENE	ESE	E	E	SE	SE	SE	ESE	ESE	ESE	SSE	SSE	S	SSE	SSE	SSE	SE	SE	SE	SE	SE	SE	141	SE
Mar 31	SSE	SSE	SE	SE	SE	SE	SE	SE	SSE	SSE	SSE	SSE	S	SSE	NE	NNE	E	SSE	SE	SE	SE	SSE	SSE	S	146	SE

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 - March 2023

Summary of Hourly Averages

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

WIND SPEED

Maximum Hourly Value:	20.6	kph	on Mar 14 at hr 11	Hours in Service:	744
Maximum Daily Value:	10.2	kph	on Mar 7	Hours of Data:	744
Minimum Hourly Value:	0.1	kph	on Mar 11 at hr 7	Hours of Missing Data:	0
Minimum Daily Value:	2.2	kph	on Mar 15	Hours of Calibration:	0
Monthly Average:	2.2	kph		Operational Uptime:	100.0

WIND DIRECTION

Monthly Average: 140 degree (SE)

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			
Mar 1	7.4	6.5	8.4	8.6	8.3	9.2	8.3	6.9	8.1	9.8	9.5	8.9	9.1	9.8	10.6	11.3	10.2	9.9	8.2	9.4	8.9	9.2	10.5	11.0	6.5	11.3	9.1
	SE	SE	SE	SE	SE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SE			
Mar 2	11.4	10.5	11.2	10.0	10.3	10.0	7.2	7.9	7.4	7.0	7.5	9.8	10.3	10.8	14.7	16.5	11.9	9.5	5.8	5.9	7.0	10.6	9.9	8.9	5.8	16.5	9.7
	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSW	SW	WSW	W	WNW	W	W	WNW	W	W	WSW	W	W	WSW			
Mar 3	7.9	8.5	9.5	9.8	10.5	3.4	6.6	5.3	3.6	8.3	11.5	12.0	8.3	9.5	12.0	5.2	8.1	2.0	5.4	6.7	6.7	6.6	9.2	5.9	2.0	12.0	7.6
	WSW	WSW	WSW	WNW	WNW	SW	WSW	WSW	SW	W	WNW	NW	W	W	WNW	WSW	NW	N	NW	NW	NW	NW	NW	N			
Mar 4	6.8	7.6	7.8	8.8	10.4	8.8	9.4	9.2	11.7	11.0	9.3	7.8	5.9	9.8	10.5	10.4	9.7	6.8	7.0	5.3	3.7	3.0	3.4	4.5	3.0	11.7	7.9
	NNE	NNE	N	N	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	NNW	NNW	NNW	NNW	N	N	N	NNE	N	N	N			
Mar 5	3.7	1.3	3.3	2.9	1.2	1.5	0.4	0.8	1.3	1.7	2.8	4.2	4.3	4.5	4.0	3.3	3.2	1.0	0.9	0.2	3.3	5.1	4.1	4.5	0.2	5.1	2.6
	N	NW	N	N	NNW	NNE	SW	NNE	NNW	NW	NW	NW	NNW	NNW	NNW	NW	NW	WNW	NE	E	SE	SSE	SSE	SE			
Mar 6	3.3	3.3	5.3	4.3	2.8	4.7	6.4	7.0	9.2	10.6	8.2	9.8	8.6	9.6	11.4	10.4	12.3	11.0	11.4	10.6	8.5	8.5	7.4	7.6	2.8	12.3	8.0
	SE	ESE	SE	SE	SE	SE	SE	SE	ESE	ESE	SE	SE	ESE	SE	SE	ESE	SE	SE	SE	SE	SE	SE	SE	SSE			
Mar 7	9.7	10.6	9.5	8.9	7.6	7.4	6.9	9.6	7.8	9.9	12.5	11.9	11.1	10.8	10.9	15.4	13.7	11.7	10.9	12.3	10.4	8.5	8.2	9.3	6.9	15.4	**10.2**
	SSE	SSE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SSE	SSE	ESE	ESE	SSE	SSE	SSE	SSE	SE	SSE	SSE	SSE	SSE			
Mar 8	8.8	6.7	6.0	6.1	6.5	6.4	5.0	6.4	9.2	8.3	9.3	7.5	11.5	12.3	9.6	10.3	9.5	6.7	4.1	4.6	6.6	6.7	7.3	7.0	4.1	12.3	7.6
	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	ESE	SE	SE	SE	SE	SE	SSE	S	SSE	SE	SE	SE	SE			
Mar 9	6.2	6.1	6.0	6.1	4.9	5.8	6.2	7.9	9.2	9.4	8.4	9.7	11.3	12.2	12.3	14.1	12.9	13.5	14.7	12.4	14.1	12.6	14.9	14.2	4.9	14.9	10.2
	SE	SE	SE	ESE	SE	ESE	SE	SE	SE	SE	ESE	ESE	SE	SE	SE	SE	SSE	SE	SSE	SE	SE	SSE	SE	SE			
Mar 10	13.6	12.2	10.6	9.7	10.0	9.7	10.6	9.6	9.6	9.8	9.2	10.8	11.2	10.2	9.5	6.8	8.0	6.4	4.1	3.5	8.5	9.2	5.2	1.8	1.8	13.6	8.7
	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	SE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	E	E	ESE	ESE	ESE	E			
Mar 11	4.5	7.5	9.2	5.9	2.8	1.4	0.3	**0.1**	1.0	5.7	4.3	4.8	3.8	3.6	5.0	9.3	6.9	6.4	5.8	5.8	6.1	5.9	5.8	6.1	**0.1**	9.3	4.9
	ESE	SE	ESE	ESE	ESE	ENE	NE	NNW	ESE	SE	ESE	ESE	SSE	SSW	SSW	SE	SE	SSE	SE	SSE	SE	SSE	SSE	SSE			
Mar 12	6.1	6.2	5.4	3.3	5.2	4.7	5.1	6.0	7.4	6.1	7.3	7.9	6.7	6.8	7.0	7.8	8.6	7.5	6.1	6.0	7.0	6.9	6.7	5.8	3.3	8.6	6.4
	SE	SE	SE	SE	SE	SSE	SE	SE	SE	SSE	SSE	S	SSE	S	SSE	SSE	SSE	SSE	SSE	ESE	SE	ESE	SE	SE			
Mar 13	5.4	5.1	4.4	3.8	3.8	5.2	4.4	3.3	2.8	3.7	3.3	3.9	3.3	4.5	6.9	5.6	8.1	7.3	6.6	9.4	7.2	4.1	2.2	4.0	2.2	9.4	4.9
	ESE	ESE	SE	E	ESE	E	ESE	ESE	ESE	E	ESE	E	SE	E	ENE	E	ESE	ESE	SE	SE	SE	ESE	N	NE			
Mar 14	3.7	3.6	4.0	4.3	4.4	6.1	8.3	7.9	14.1	18.3	19.1	**20.6**	17.2	16.6	14.5	11.4	10.9	5.3	4.5	3.3	0.7	1.7	1.9	1.4	0.7	**20.6**	8.5
	NE	NE	NW	N	NNW	NW	NW	WNW	NW	NW	NW	NW	NW	NW	WNW	WNW	NW	N	N	N	NNE	S	S	SW			
Mar 15	2.0	1.5	1.9	1.0	0.7	1.3	0.2	0.3	0.9	2.7	3.9	3.0	4.7	5.0	4.0	2.0	4.3	3.5	0.4	0.5	2.9	0.6	2.1	3.6	0.2	5.0	**2.2**
	NNW	N	NNE	N	S	SSE	N	NNE	NNW	N	NNW	WNW	NW	NW	NNW	WNW	N	N	N	SSE	SE	W	SE	SE			
Mar 16	0.4	1.7	3.9	5.4	6.0	4.9	3.7	0.7	3.4	3.9	3.5	5.2	6.3	8.0	8.5	4.5	4.2	2.1	2.7	3.4	4.7	5.2	5.4	6.6	0.4	8.5	4.3
	ENE	S	SE	SE	SSE	SSE	SSE	SE	N	N	NW	NNW	NNW	NNW	NW	NW	WNW	W	SSE	SSE	SSE	SSE	SE	SE			
Mar 17	7.9	7.8	8.3	8.5	8.4	6.8	7.0	7.7	6.8	6.4	4.6	4.4	5.0	4.4	4.1	5.5	7.2	8.7	6.4	7.9	8.0	7.7	9.3	8.1	4.1	9.3	7.0
	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	ESE	ESE	ESE	E	SSE	SSW	S	SSE	SSE	SSE	SSE	SE	SSE			
Mar 18	8.9	7.0	7.1	6.1	5.2	3.4	3.2	1.2	1.9	2.9	3.3	2.4	1.6	1.3	3.1	4.9	6.4	5.6	3.2	2.4	1.4	0.7	1.7	1.1	0.7	8.9	3.6
	SE	SE	SE	SSE	SE	SE	SSE	SSE	SSW	NW	NNW	NNW	NW	W	WSW	WSW	WSW	WSW	SW	SSW	WSW	SSW	SSE	SSE			
Mar 19	1.6	2.8	3.1	0.8	2.4	1.3	1.9	3.2	1.2	1.7	3.1	3.5	3.6	3.2	4.1	3.9	3.1	0.4	3.4	8.3	10.4	10.1	9.0	7.2	0.4	10.4	3.9
	SE	SE	SE	ESE	SSE	E	SE	SSE	S	NW	NW	NNW	NNW	NW	NNW	NNW	N	NNW	SSE	SE	SE	SE	SE	SE			
Mar 20	8.1	10.0	10.8	9.0	7.6	8.9	8.5	10.5	9.0	7.9	9.1	7.7	7.0	5.9	6.8	6.5	7.2	7.4	6.3	2.3	6.0	8.0	10.1	8.2	2.3	10.8	7.9
	ESE	SE	SE	SE	SE	SSE	SSE	SSE	SSE	SE	SE	SSE	SSE	ESE	ESE	ESE	SE	ESE	SE	ENE	NNE	N	N	N			
Mar 21	7.9	5.8	6.6	7.4	6.7	7.7	7.5	9.0	7.3	6.6	8.6	8.2	7.9	8.6	8.5	7.0	6.2	2.9	3.0	2.5	2.5	3.9	6.4	4.9	2.5	9.0	6.4
	N	NNW	NNW	NNW	N	NNW	NNW	NNW	NNW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	W	SSW	SSE	SE	ESE	SE			
Mar 22	6.4	5.0	5.3	7.5	7.9	9.5	10.4	12.4	10.8	12.5	9.2	9.8	7.9	10.0	10.8	10.5	10.3	9.5	9.7	9.0	8.1	7.2	6.3	4.1	4.1	12.5	8.8
	SSE	SSE	SSE	SE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	SE	SSE	SSE	SSE	SSE			
Mar 23	3.2	6.2	5.3	3.8	5.0	3.2	4.1	3.9	1.2	3.0	3.1	2.6	4.4	5.0	3.7	3.1	4.0	6.8	7.9	5.4	2.6	7.6	9.7	8.6	1.2	9.7	4.7
	SE	SE	SE	SSE	SSE	SSE	SSE	SSE	SSE	NNW	NNW	W	WNW	WNW	WSW	WSW	NNW	NNE	NNE	NNE	N	NNE	NE	NE			
Mar 24	6.4	7.6	8.2	5.4	2.1	3.1	3.4	3.8	4.3	6.2	9.0	7.6	6.3	6.6	4.7	3.6	3.1	2.6	3.1	2.1	3.2	3.7	5.2	4.0	2.1	9.0	4.8
	NNE	NNE	NNE	NNE	N	N	NNE	NNE	N	N	NW	NW	NNW	N	NNW	NW	NW	W	SSW	SW	S	SSE	SSE	S			
Mar 25	4.4	4.5	4.2	5.1	5.3	5.3	5.9	2.4	1.5	0.3	1.4	4.9	4.3	5.8	7.4	9.3	7.8	7.8	6.6	3.9	4.0	3.2	2.4	3.1	0.3	9.3	4.6
	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SSW	NE	ENE	N	NNW	NW	NNW	NW	NW	WNW	NW	N	NE	ENE	NNE	NNE			
Mar 26	2.2	1.6	3.5	3.1	2.6	0.7	3.0	4.8	5.5	5.5	6.7	6.8	7.3	8.7	7.4	6.9	9.5	7.5	5.6	6.6	5.4	6.2	4.3	2.8	0.7	9.5	5.2
	NNE	NNE	NNE	N	N	NNW	NNW	NNE	NNW	N	NW	NNW	NNW	N	N	N	NNW	N	N	NNE	NE	NE	NNE	N			
Mar 27	1.9	2.6	1.3	0.3	0.6	0.2	**0.1**	1.2	0.9	2.0	4.7	4.1	4.1	3.1	4.3	3.8	3.7	0.8	2.4	3.6	3.2	4.0	3.3	2.6	**0.1**	4.7	2.5
	N	N	N	NNW	NNE	NW	NW	S	NW	W	NNW	NNW	N	NW	W	WSW	WNW	WNW	SW	SSW	S	SSE	S	SW			
Mar 28	3.6	6.4	6.9	6.1	2.3	2.4	0.4	1.5	5.1	7.2	5.8	6.2	5.6	5.3	2.2	1.7	6.1	5.1	4.9	5.4	6.4	6.0	5.7	6.0	0.4	7.2	4.8
	SW	WSW	WSW	WSW	WSW	WSW	SSW	NW	N	N	N	NNW	NNW	NW	NNW	W	SW	S	SSE	SSE	SSE	S	S	S			
Mar 29	5.4	5.5	4.2	4.7	5.5	1.4	1.9	2.4	4.6	5.4	5.8	6.6	6.3	6.1	5.3	7.9	8.1	8.1	5.9	4.8	3.9	6.1	4.3	2.2	1.4	8.1	5.1
	SSE	S	S	SSW	SSW	WSW	WSW	NNW	N	N	NNW	NW	NNW	NNW	N	NNE	NNE	NNE	NNE	NE	NE	NE	E	ENE			
Mar 30	0.8	4.1	4.1	3.3	0.5	0.9	0.7	4.8	9.7	7.0	4.8	6.3	8.2	8.9	9.7	10.4	10.2	11.1	9.3	9.7	8.3	11.4	11.6	11.8	0.5	11.8	7.0
	E	NE	ENE	ESE	E	E	SE	SE	SE	ESE	ESE	ESE	SSE	SSE	S	SSE	SSE	SSE	SE	SE	SE	SE	SE	SE			
Mar 31	12.9	11.9	11.6	9.4	9.7	8.3	8.6	7.7	8.8	7.4	7.1	6.8	5.4	4.3	1.6	3.7	3.0	6.7	6.6	7.8	8.2	7.4	6.4	6.1	1.6	12.9	7.4
	SSE	SSE	SE	SE	SE	SE	SE	SE	SSE	SSE	SSE	SSE	S	SSE	NE	NNE	E	SSE	SE	SE	SE	SSE	SSE	S			

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 - March 2023

Summary of Hour Standard Deviations

STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

Maximum Hourly Value:	69 degree on Mar 27 at hr 17	Hours in Service:	744
		Hours of Data:	744
Minimum Hourly Value:	3 degree on Mar 1 at hr 8	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		
Mar 1	6	7	6	6	6	5	5	8	**3**	5	10	9	12	12	10	8	8	7	9	5	5	6	4	8	**3**	12
Mar 2	8	7	5	6	6	5	7	7	6	14	12	12	16	9	12	9	6	9	18	12	5	19	5	5	5	19
Mar 3	5	6	10	12	11	22	6	11	25	8	16	7	19	14	23	11	16	38	22	7	5	10	6	17	5	38
Mar 4	7	11	8	6	6	6	7	7	5	9	11	20	19	9	9	9	8	11	5	8	6	12	8	7	5	20
Mar 5	10	34	8	17	50	17	59	19	26	23	11	14	19	28	26	31	21	31	47	33	13	6	7	9	6	59
Mar 6	8	14	7	11	11	7	6	4	4	5	8	11	13	10	10	7	7	5	7	6	6	5	7	6	4	14
Mar 7	7	5	6	6	6	7	6	6	8	8	6	8	11	12	11	6	6	6	6	4	5	5	6	6	4	12
Mar 8	6	8	9	5	5	6	9	4	5	11	9	22	13	9	12	10	9	7	7	12	7	6	5	4	4	22
Mar 9	7	4	6	4	6	6	6	6	8	6	10	9	11	10	7	7	7	8	7	6	6	6	6	5	4	11
Mar 10	6	6	5	6	6	6	5	6	7	7	11	8	9	8	15	13	11	11	12	12	6	6	8	24	5	24
Mar 11	7	5	4	8	9	34	14	21	46	13	11	13	40	33	28	13	11	13	6	4	4	5	4	4	4	46
Mar 12	5	4	4	7	4	5	5	6	7	14	15	18	19	18	19	16	10	12	10	7	5	4	8	11	4	19
Mar 13	11	11	11	9	9	18	13	25	28	19	30	30	26	24	10	16	8	10	10	6	9	16	30	10	6	30
Mar 14	12	16	21	21	13	7	9	7	5	5	5	5	5	9	11	11	15	15	11	15	59	15	23	34	5	59
Mar 15	39	35	12	42	34	31	45	62	31	19	16	22	18	14	27	33	18	14	25	19	16	59	22	11	11	62
Mar 16	53	21	18	10	10	8	7	64	20	22	20	16	17	9	7	15	18	47	18	21	8	7	14	6	6	64
Mar 17	**3**	7	**3**	4	4	8	5	4	10	9	8	11	9	12	11	30	15	7	12	5	4	5	5	4	**3**	30
Mar 18	5	5	7	5	15	11	10	17	25	26	17	12	21	47	20	11	8	6	11	13	34	54	12	16	5	54
Mar 19	27	9	12	55	14	48	18	21	19	18	7	14	12	6	16	19	20	47	13	6	4	**3**	7	17	**3**	55
Mar 20	6	5	6	6	6	6	11	6	10	11	8	16	19	29	15	14	12	14	14	30	8	7	7	9	5	30
Mar 21	7	6	8	10	8	10	7	7	15	15	9	9	9	8	10	10	11	17	29	23	10	19	12	5	5	29
Mar 22	8	11	10	7	6	4	4	4	7	6	12	9	16	11	9	8	7	7	4	5	7	5	6	12	4	16
Mar 23	37	13	8	14	11	26	9	12	29	23	26	33	15	15	25	30	25	17	5	6	34	8	13	16	5	37
Mar 24	7	7	6	8	14	9	10	14	13	24	8	10	20	12	20	20	19	44	12	15	15	6	7	10	6	44
Mar 25	5	13	8	7	5	6	8	30	36	68	52	13	23	17	17	10	9	9	23	19	20	40	17	12	5	68
Mar 26	17	40	11	22	8	57	48	23	19	22	10	11	22	11	15	20	16	15	20	11	11	8	15	26	8	57
Mar 27	10	7	26	44	10	33	37	15	40	36	20	25	29	40	41	38	42	**69**	16	5	12	9	12	14	5	**69**
Mar 28	19	6	6	9	26	21	46	33	8	8	13	15	17	17	45	57	13	18	10	4	7	5	5	**3**	**3**	57
Mar 29	5	11	17	7	6	27	23	24	13	15	24	12	17	12	20	12	7	5	7	8	5	10	13	47	5	47
Mar 30	65	18	7	23	65	40	64	13	8	12	13	17	15	14	12	14	11	8	14	7	7	6	6	6	6	65
Mar 31	4	4	4	6	4	**3**	5	6	10	12	13	19	28	26	64	32	53	10	12	5	5	10	9	8	**3**	64
Diurnal Minimum	3	4	3	4	4	3	4	4	3	5	5	5	5	6	7	6	6	5	4	4	4	3	4	3		
Diurnal Maximum	65	40	26	55	65	57	64	64	46	68	52	33	40	47	64	57	53	69	47	33	59	59	30	47		

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.
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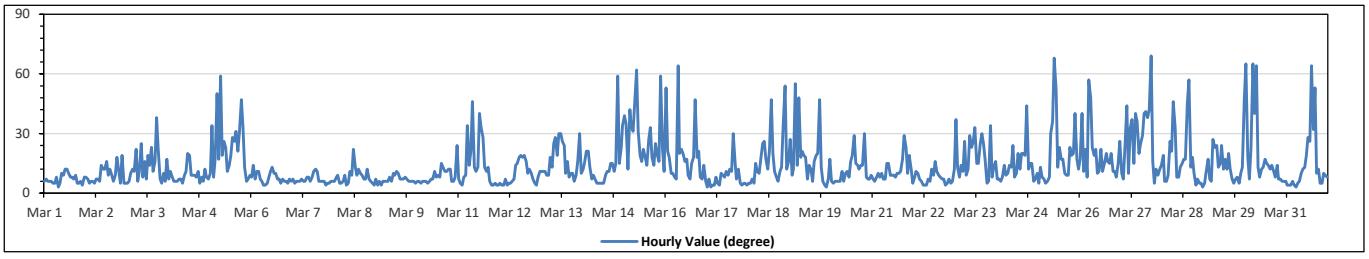


END OF REPORT

This page, 155 of 155 ends the March 2023 Monthly Ambient Air Quality Monitoring Report.

Lakeland Industry & Community Association

MARCH 2023

Ambient Air Monitoring Calibration Report

- COLD LAKE SOUTH STATION-

CAL-LICA-202303-01174

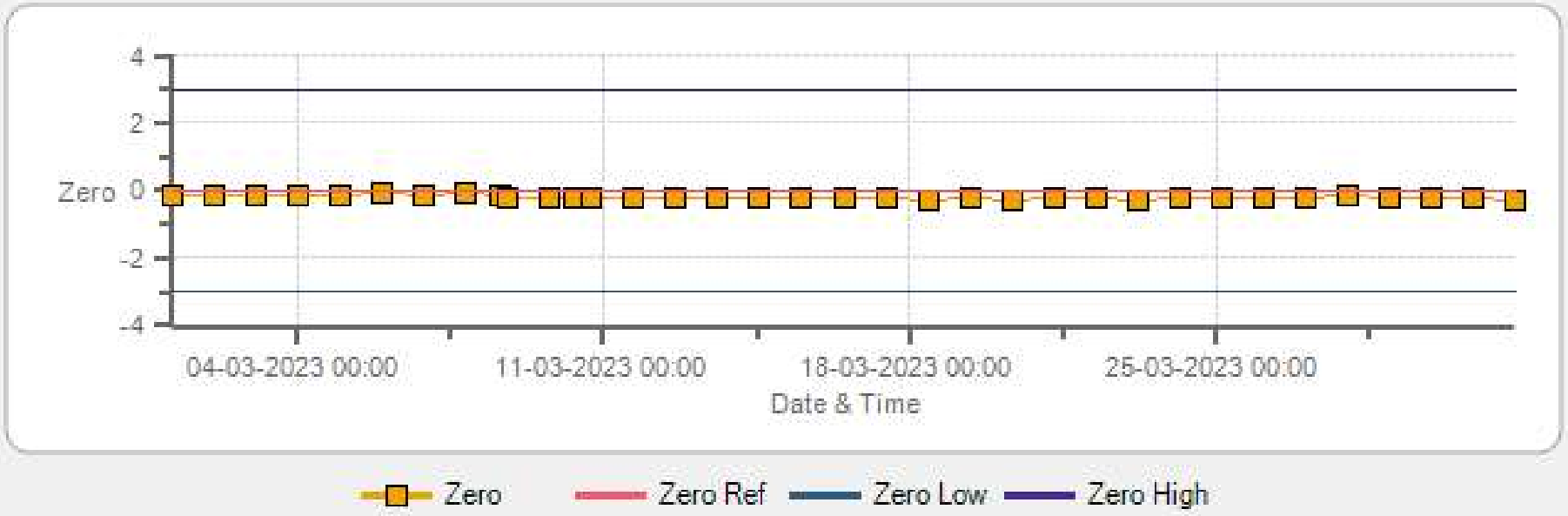
Station Operation and Maintenance:
Bureau Veritas Canada

Data Validation and Report:
LICA / Bureau Veritas Canada

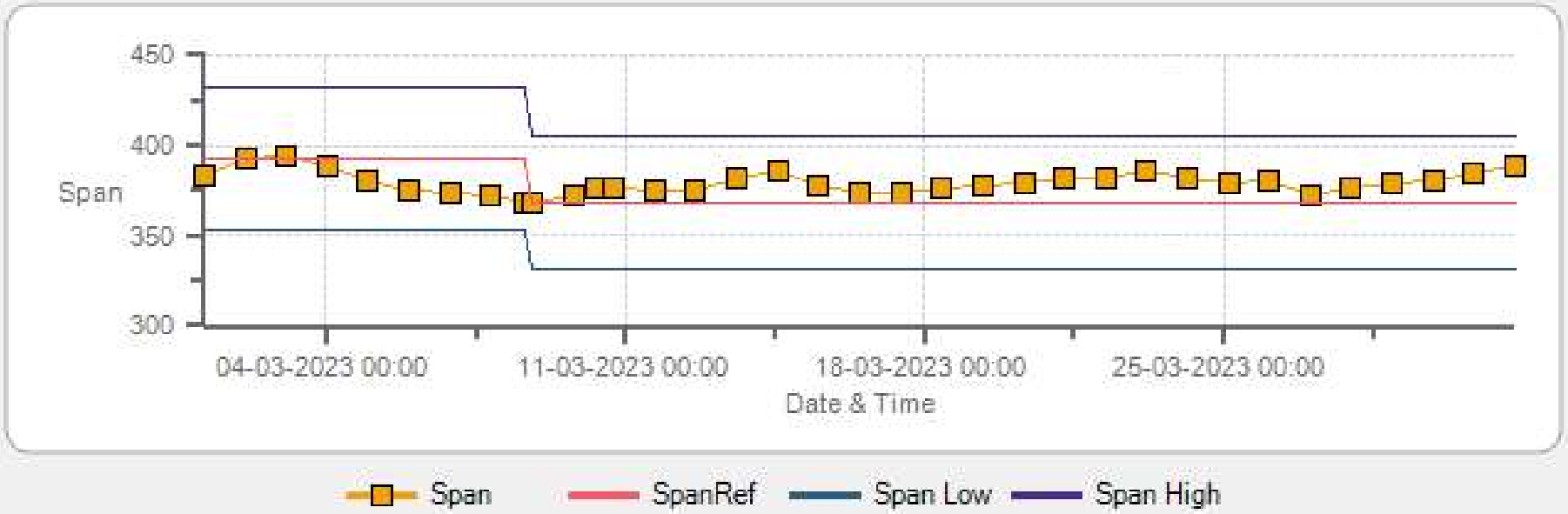
April 14, 2023

DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

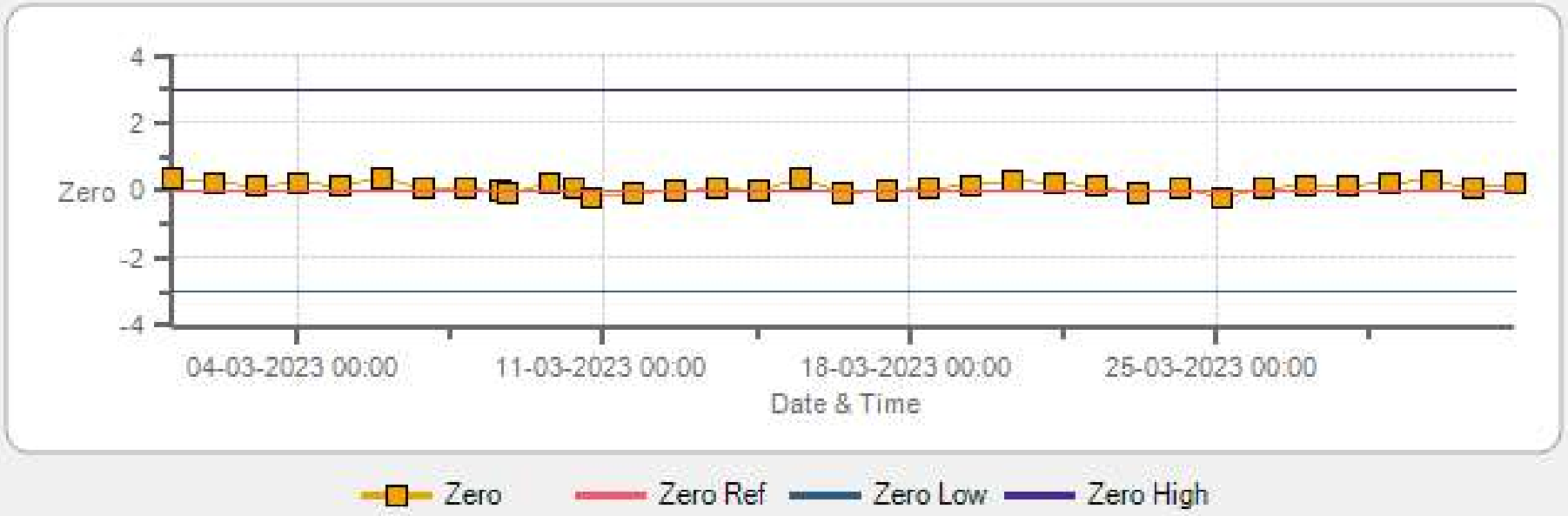
SO2[ppb] Calibration: Cold Lake South Monthly: 03-2023 Type: SpanAndZero - Zero



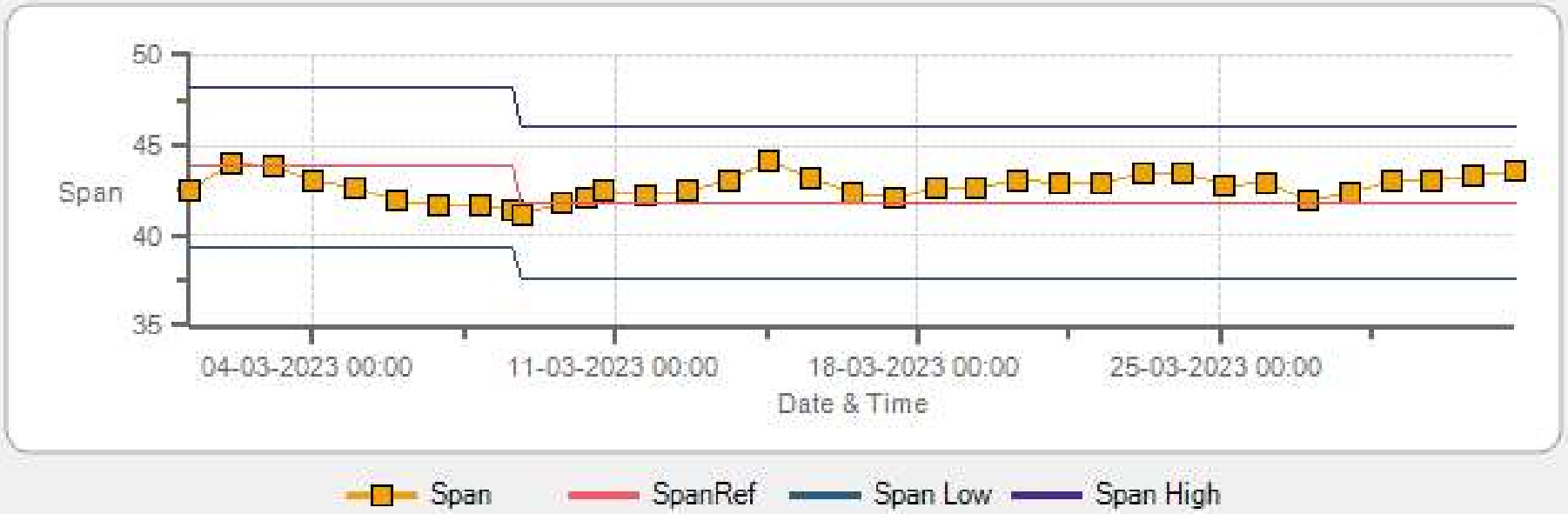
SO2[ppb] Calibration: Cold Lake South Monthly: 03-2023 Type: SpanAndZero - Span



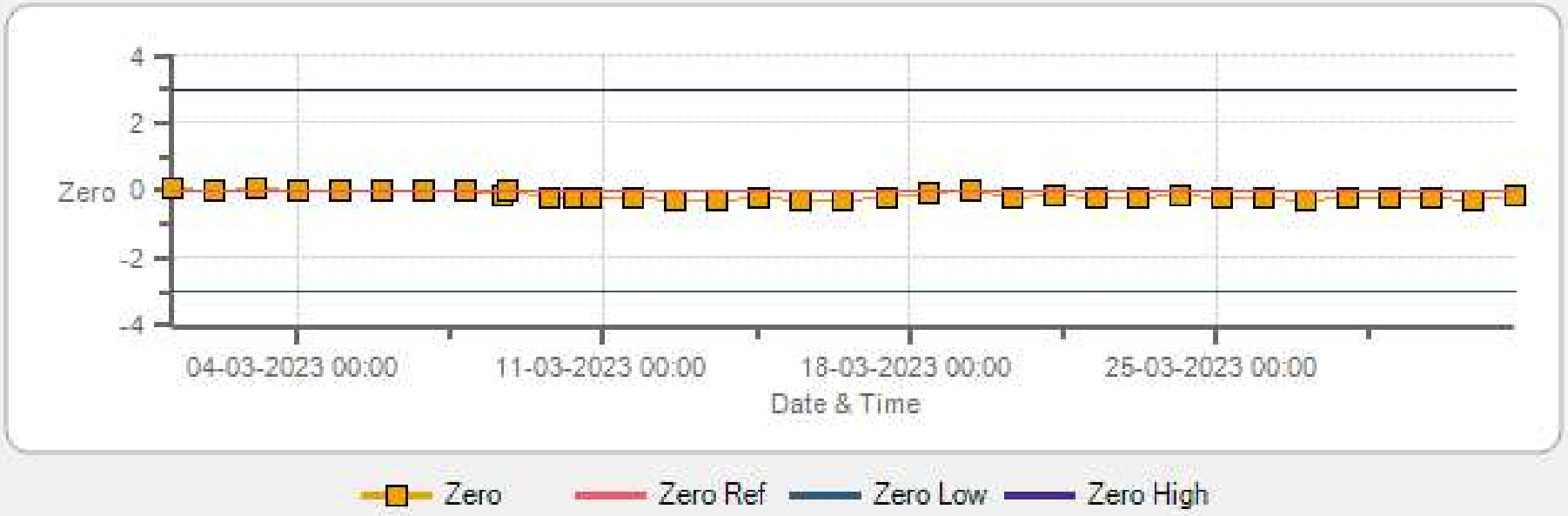
TRS[ppb] Calibration: Cold Lake South Monthly: 03-2023 Type: SpanAndZero - Zero



TRS[ppb] Calibration: Cold Lake South Monthly: 03-2023 Type: SpanAndZero - Span

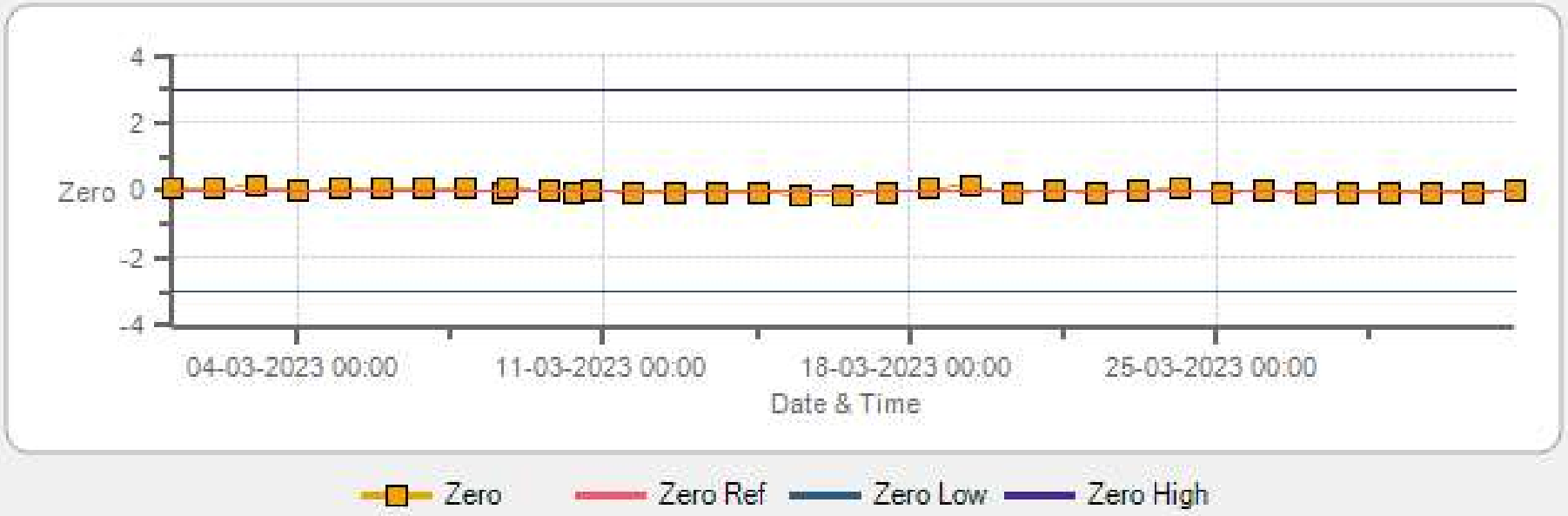


NOX[ppb] Calibration: Cold Lake South Monthly: 03-2023 Type: SpanAndZero - Zero

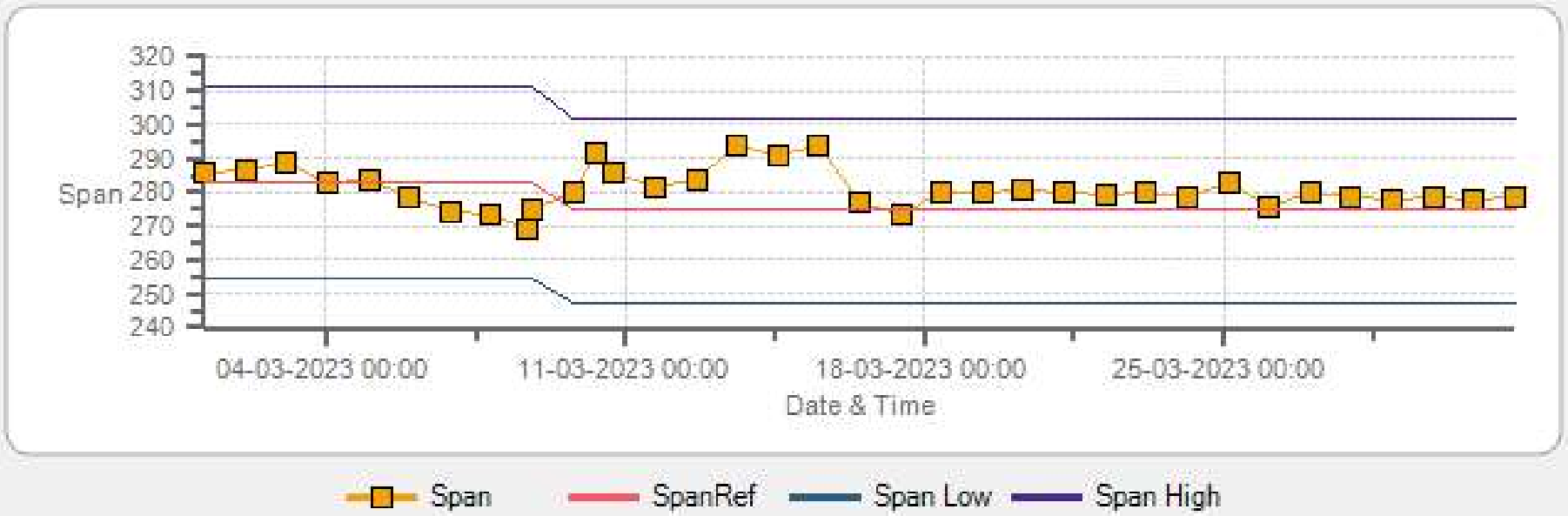


NOX[ppb] Calibration: Cold Lake South Monthly: 03-2023 Type: SpanAndZero - Span

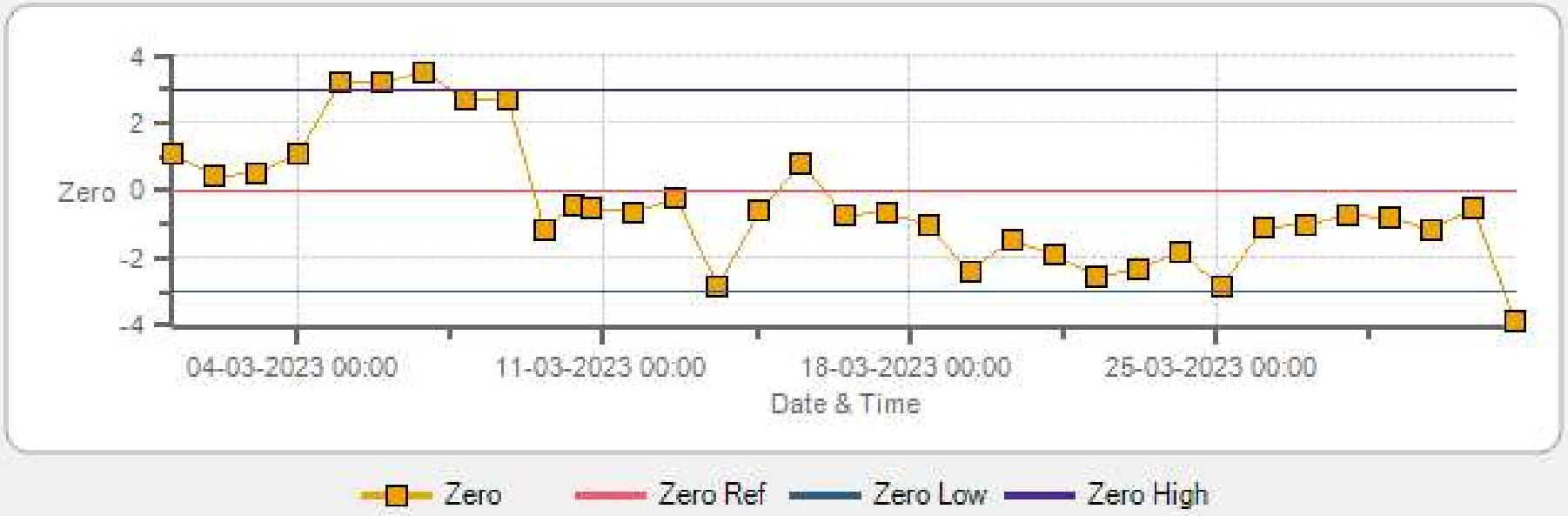
NO2[ppb] Calibration: Cold Lake South Monthly: 03-2023 Type: SpanAndZero - Zero



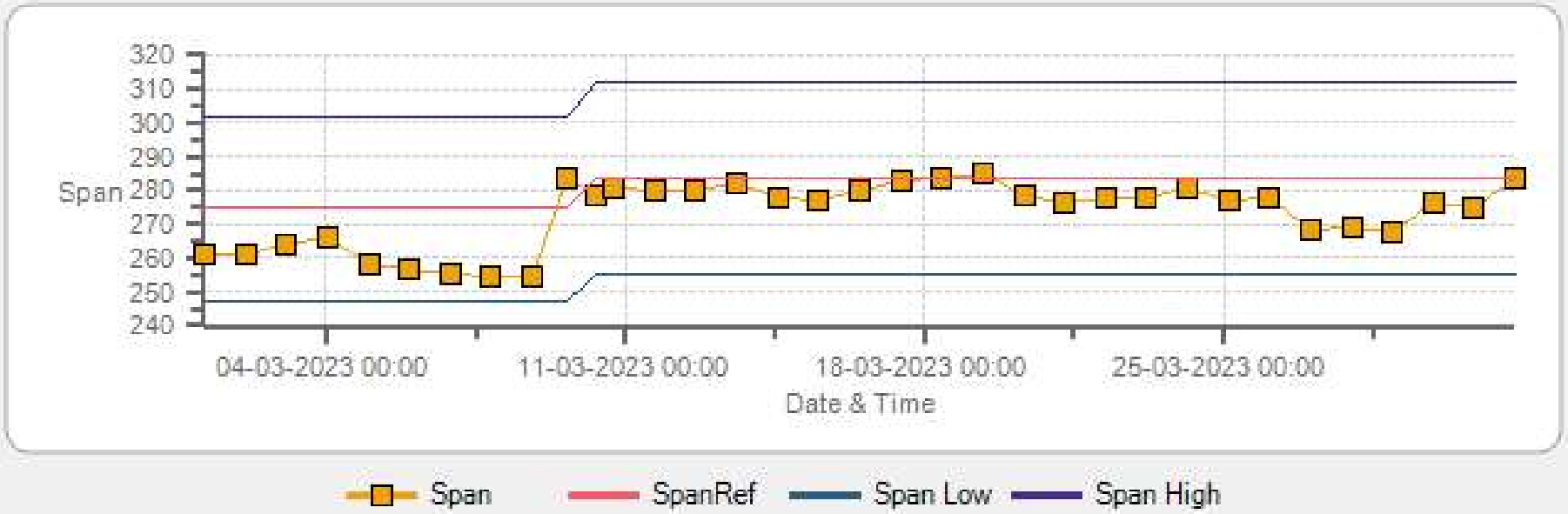
NO2[ppb] Calibration: Cold Lake South Monthly: 03-2023 Type: SpanAndZero - Span

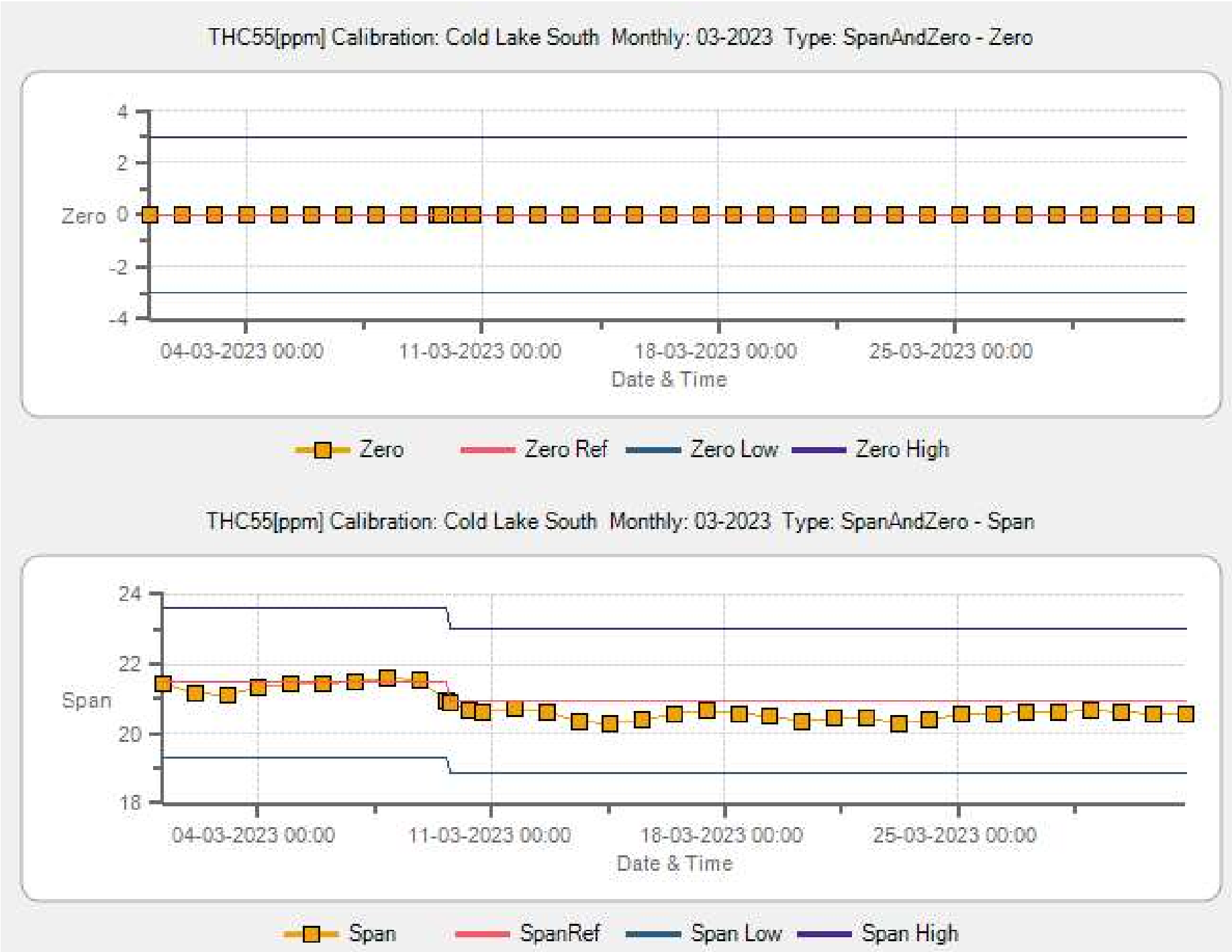


O3[ppb] Calibration: Cold Lake South Monthly: 03-2023 Type: SpanAndZero - Zero

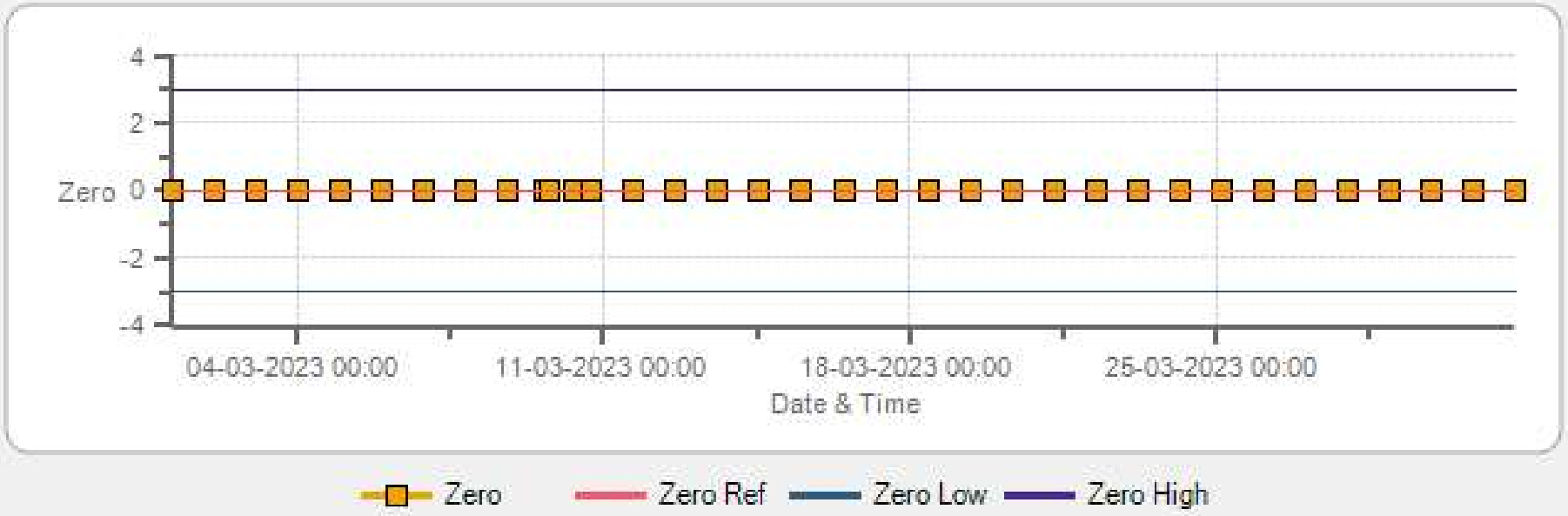


O3[ppb] Calibration: Cold Lake South Monthly: 03-2023 Type: SpanAndZero - Span

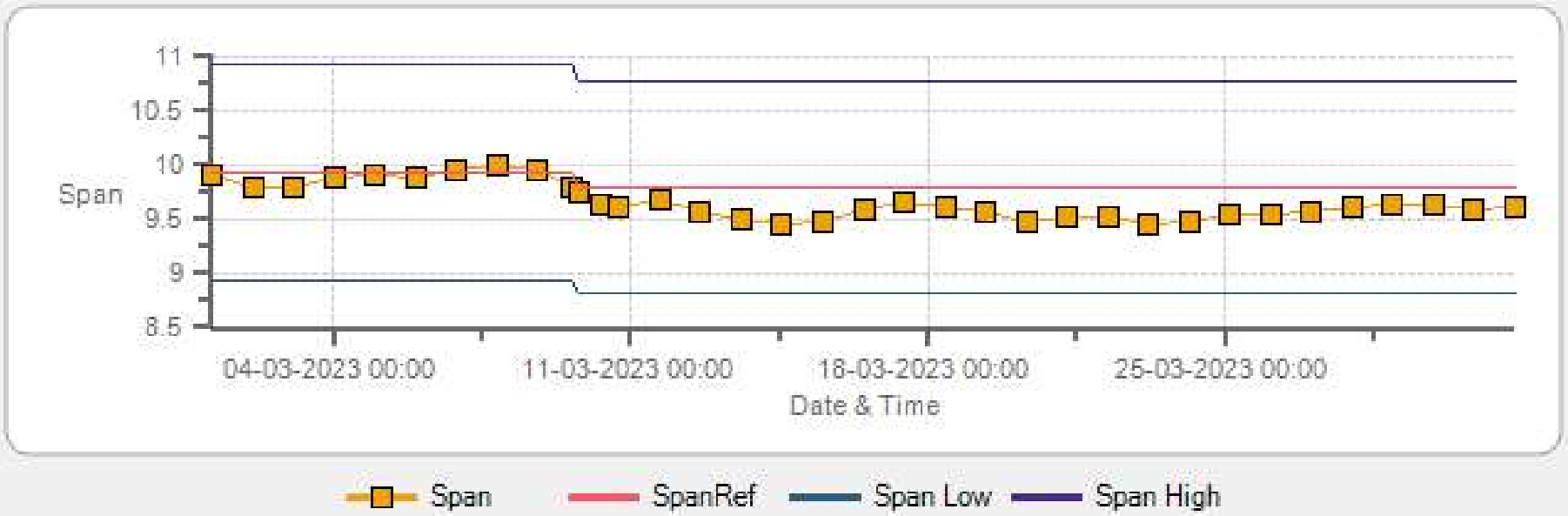



THC55[ppm] Calibration: Cold Lake South Monthly: 03-2023 Type: SpanAndZero - Zero
4
2
Zero 0
-2
-4
04-03-2023 00:00
11-03-2023 00:00
18-03-2023 00:00
25-03-2023 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
THC55[ppm] Calibration: Cold Lake South Monthly: 03-2023 Type: SpanAndZero - Span
24
22
Span
20
18
04-03-2023 00:00
11-03-2023 00:00
18-03-2023 00:00
25-03-2023 00:00
Date & Time
Span
SpanRef
Span Low
Span High

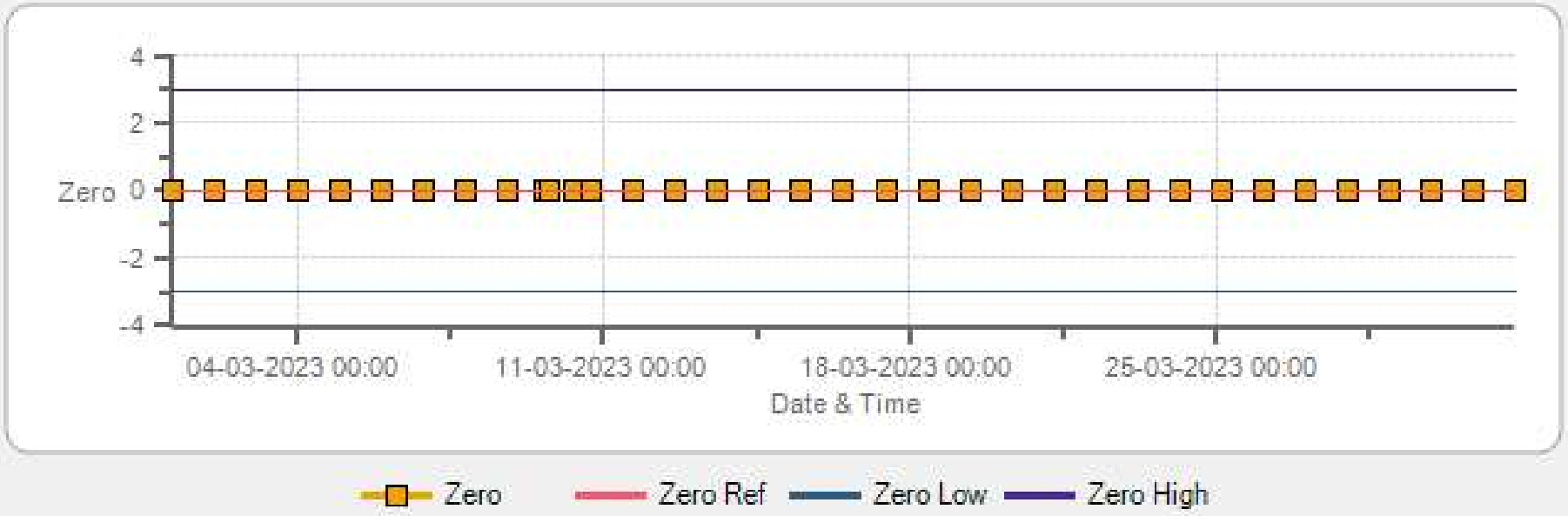
CH4[ppm] Calibration: Cold Lake South Monthly: 03-2023 Type: SpanAndZero - Zero



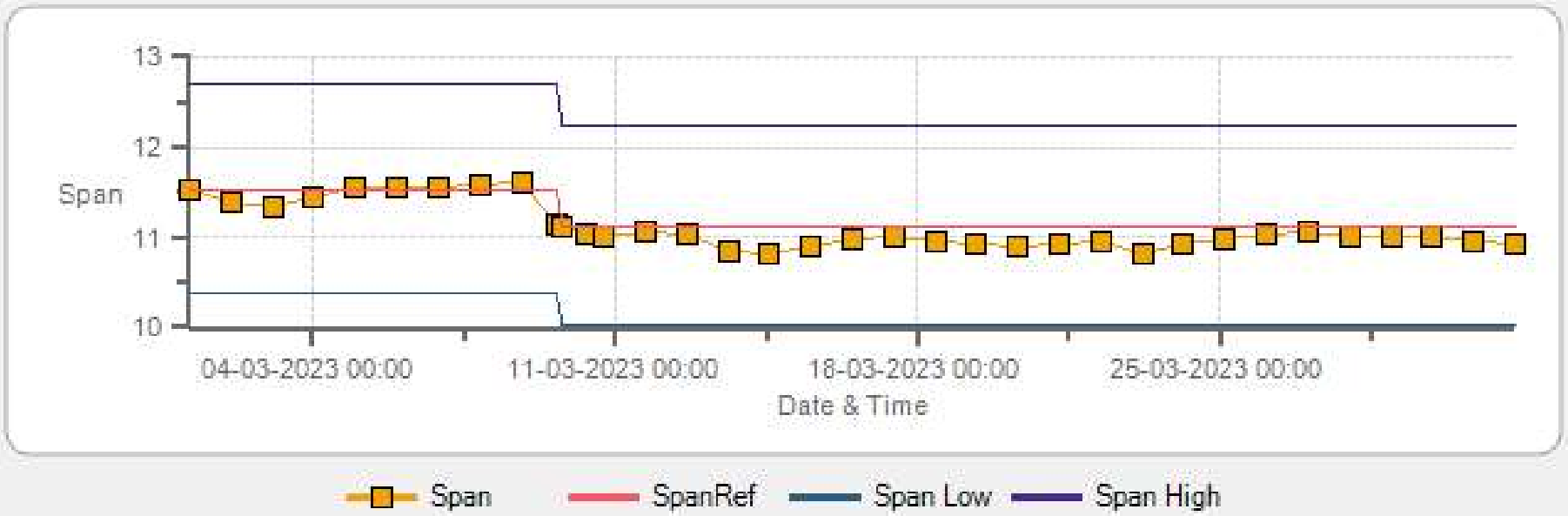
CH4[ppm] Calibration: Cold Lake South Monthly: 03-2023 Type: SpanAndZero - Span



NMHC[ppm] Calibration: Cold Lake South Monthly: 03-2023 Type: SpanAndZero - Zero



NMHC[ppm] Calibration: Cold Lake South Monthly: 03-2023 Type: SpanAndZero - Span



MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution

DATE:	08-Mar-2023	PREVIOUS CALIBRATION DATE:	05-Feb-2023
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	0.994
CLIENT:	LICA	TEMPERATURE (°C):	23.5
LOCATION:	CLS	BAROMETRIC (mBar):	972
PURPOSE	Routine	START TIME (MST):	09:45
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:10

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1180260018	FLOW (mL/min)	445
INITIAL		FINAL	
BKG/OFFSET	2.38	BKG/OFFSET	2.46
COEF/SLOPE	1.019	COEF/SLOPE	1.011
Expected (reference) Value	392.9	Expected (reference) Value	367.8

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010	MODEL:	T701
ID:	26701218	ID:	132
MFC CALIBRATION DATE:	13-Sep-2022	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):	1900	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	374.4	375.8	1.002	0.998
4982	17.60	5000	177.41	n/a	176.8	n/a	1.003
4990	8.80	4999	88.72	n/a	87.8	n/a	1.010

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.003	-0.1%

COMMENTS:

Sample inlet filter was changed.


SO2[ppb] Station: Cold Lake South Daily: 08-03-2023 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:	08-Mar-2023	PREVIOUS CALIBRATION DATE:	05-Feb-2023
PARAMETER:	TRS	PREVIOUS CORRECTION FACTOR:	0.989
CLIENT:	LICA	TEMPERATURE (°C):	23.5
LOCATION:	CLS	BAROMETRIC (mBar):	972
PURPOSE	Routine	START TIME (MST):	09:41
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:05

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	812728560	FLOW (mL/min)	507
INITIAL		FINAL	
BKG/OFFSET	25.9	BKG/OFFSET	25.4
COEF/SLOPE	1.165	COEF/SLOPE	1.162
Expected (reference) Value	43.8	Expected (reference) Value	41.8

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	21-Oct-2022	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):	1500	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:	10:02	SO2 Conc (ppb)	380
END TIME:	10:17	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	79	77.9	0.987	1.001
7472	28.20	7500	37.98	n/a	38.1	n/a	0.997
7486	14.10	7500	18.99	n/a	19.4	n/a	0.979

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.997	0.2%

COMMENTS:

Sample inlet filter was changed.

TRS[ppb] Station: Cold Lake South Daily: 08-03-2023 Type: AVG 1 Min. [1 Min.]

NOx Calibration by Dilution/Gas-Phase Titration

CALIBRATION:

DATE:	08-Mar-2023	PREVIOUS CALIBRATION DATE:	05-Feb-2023
CLIENT:	LICA	TEMPERATURE (°C):	23.5
LOCATION:	CLS	BAROMETRIC (mBar):	972
PURPOSE	Routine	START TIME (MST):	09:47
PERFORMED BY:	Alex Yakupov	END TIME (MST):	17:21

ANALYZER:

MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
SERIAL #:	1505664393	NOx	1.002
FLOW (mL/min)	702	NO	1.002
RANGE (ppb)	500	NO2	1.001
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:	26701218	ID:	132	CYLINDER (psi):	1900		LOW ID:	n/a
MFC CALIBRATION DATE:	13-Sep-2022	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	4.8	n/a	BKG/OFFSET:	4.9	4.7	n/a
SLOPE/COEF/CE:	1.008	1.036	0.999	SLOPE/COEF/CE:	1.008	1.023	0.999

EXPECTED (REFERENCE) VALUE:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	286.0	2.8	283.2		277.1	2.5	274.7

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	0.0	0.0	0.0	0.0						
4961	37.20	4998	380.3	384.1	3.7	374.6	378.3	3.7	379.8	383.8	4.0	1.015	1.015		1.001	1.001	
4982	17.60	5000	179.9	181.6	1.8	n/a	n/a	n/a	179.8	181.5	1.6	n/a	n/a		1.000	1.001	
4990	8.80	4999	90.0	90.8	0.9	n/a	n/a	n/a	89.8	90.6	0.8	n/a	n/a		1.002	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	378.6	382.2	3.5				
AS-FOUND HIGH	37.20	4998	235	116.8	379.0	262.1	261.8	258.6	1.012	98.78%
ADJUSTED HIGH	37.20	4998	235	115.8	381.8	265.9	262.8	262.4	1.002	99.85%
MID	37.20	4998	110	253.8	382.3	128.5	124.8	125	0.998	100.16%
LOW	37.20	4998	40	329.0	382.0	53.0	49.6	49.5	1.002	99.80%
NO2 COEF/CONVERTER EFFICIENCY ADJUSTED									AVERAGE:	99.94%

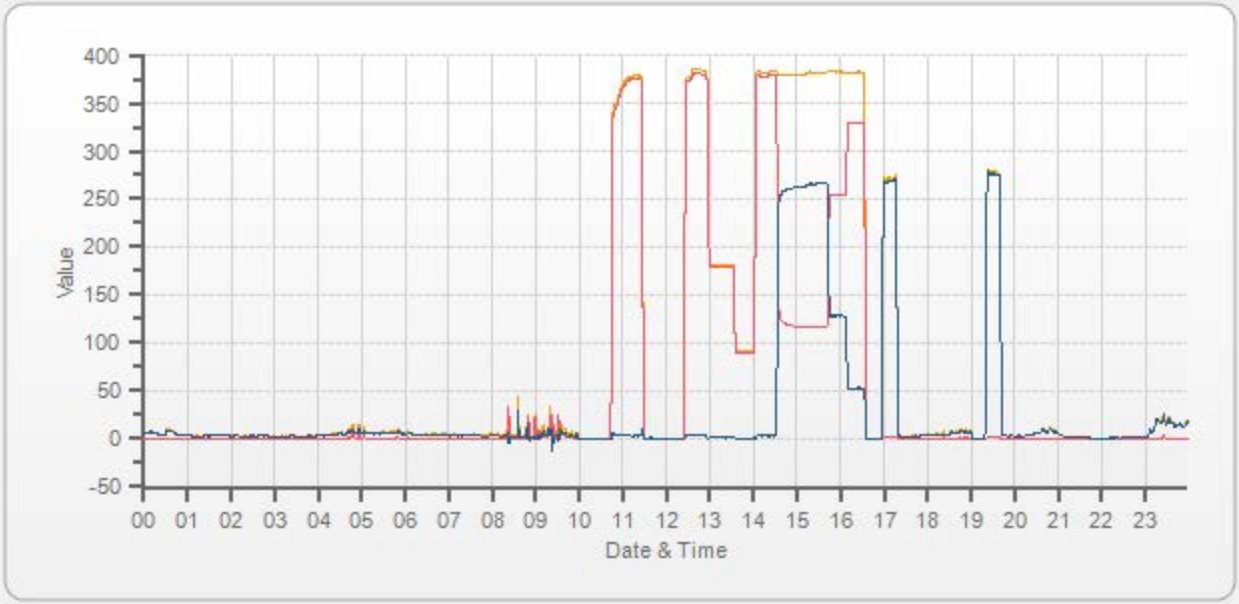
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
NO	1.000	0.999	0.01%
NOx	1.000	0.999	-0.01%
NO2	1.000	0.998	0.03%

COMMENTS:

Sample inlet filter was changed.

Station: Cold Lake South Daily: 08-03-2023 Type: AVG 1 Min. [1 Min.]



Ozone Calibration by Photometer (Varying UV Lamp)

DATE:	09-Mar-2023	PREVIOUS CALIBRATION DATE:	06-Feb-2023
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	1.003
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	CLS	BAROMETRIC (mBar):	967
PURPOSE	Routine	START TIME (MST):	10:50
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:28

ANALYZER:

MAKE/MODEL	Thermo 49iQ	RANGE	500 ppb
SERIAL #	12208316585	FLOW (mL/min)	1.33
INITIAL		FINAL	
BKG/OFFSET	0.1	BKG/OFFSET	4
COEF/SLOPE	1.066	COEF/SLOPE	1.176
Expected (reference) Value	274.7	Expected (reference) Value	283.8

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	21-Oct-2022	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	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED Initial	INDICATED Final	Initial	Final
5000		5000	0.0	3.9	-0.1		
5000		5000	379.0	350.4	376.6	1.094	1.006
5000		5000	180.0	n/a	181.8	n/a	0.990
5000		5000	61.0	n/a	61.4	n/a	0.992

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.994	0.2%

COMMENTS:

Sample inlet filter was changed.


O3[ppb] Station: Cold Lake South Daily: 09-03-2023 Type: AVG 1 Min. [1 Min.]
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:	09-Mar-2023	PREVIOUS CALIBRATION DATE:	06-Feb-2023
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	CLS	BAROMETRIC (mBar):	967
PURPOSE	Routine	START TIME (MST):	10:51
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:27

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	1180930025	1131
PARAMETER:	CH4	NMHC	THC
RANGE (ppm):	20	20	40
PREVIOUS CF:	0.999	0.999	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:	26701218	ID:	134	CYLINDER (psi):	1400		LOW ID:	n/a
MFC CALIBRATION DATE:	13-Sep-2022	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
	9.93	11.54	21.48		9.80	11.13	20.94

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	14.81	14.01	28.83	14.53	13.50	28.03	0.980	0.964	0.972	0.999	1.000	0.999
3063	37.30	3100	7.26	6.75	14.01	n/a	n/a	n/a	7.17	6.80	13.97	n/a	n/a	n/a	1.012	0.993	1.003
3081	18.60	3100	3.62	3.37	6.98	n/a	n/a	n/a	3.57	3.39	6.96	n/a	n/a	n/a	1.013	0.993	1.003

LINEAR REGRESSION ANALYSIS:

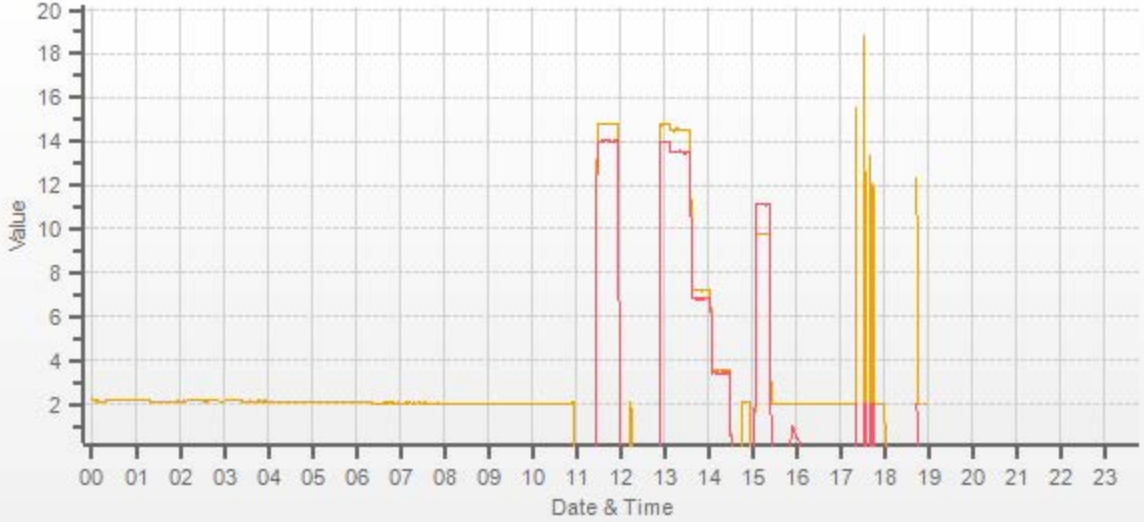
	CORRELATION	SLOPE	INTERCEPT
CH4	1.000	1.002	-0.2%
NMHC	1.000	1.000	0.1%
THC	1.000	1.001	-0.1%

Comments:

Sample inlet filter was changed.
H2 = AMA HG300 #2105670171

Use Zero Chrom? **Yes**

Station: Cold Lake South Daily: 09-03-2023 Type: AVG 1 Min. [1 Min.]



Teledyne T640 Audit/Calibration

Date/Previous Audit Date:	March 9, 2023	February 6, 2023	**Weather Conditions:**	A few clouds	
Company:	LICA		**Start Time (mst):**	14:53	
Station:	Cold Lake South		**End Time (mst):**	17:16	
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: Cold Lake South
Digital Manometer: DeltaCal DC1 S/N 177246 / Sep 03, 2023
Temperature: Vaisala / HM70 / #T1640130/ Jun 14, 2023
Pressure: Vaisala / HM70 / #T1640130/ Jun 14, 2023

DIAGNOSTICS:

Ambient Pressure (mmHg)	721.9	Ambient Temp (°C)	-8.3	ASC Heater Duty (%)	0.0
Box Temp (°C)	27.4	Current PMT HV (V)	1441	LED Temp (°C)	35.51
P3 Value	50	PMT Setting (V)	1444	Pump PWM (%)	44
Sample Flow (L/min)	4.99	Sample RH (%RH)	5.8	Sample Temp (°C)	24.2

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)	722.0	721.9	722	721.9	+/- 10 mm Hg
Ambient Temperature (°C)	-8.70	-8.3	n/a		+/- 2°C
Sample Flow (L/min)	5.00	4.99	5.00	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

Quarterly Audit/Calibration:

SpanDust™ Standard	Peak at Channel	Lot No:	Expiry:
	10.9	100128-050-046	31-Jan-2025

Additional Checks and Maintenance:		***Completed***
Every 6 Months	1. Clean Optical Chamber	Yes
	2. Clean RH Sensor	Yes
	3. Clean Temp Sensor	Yes
Every 12 months (or if valve or pump PWM value approaches 80%)	1. New internal Disposable Filter Unit (DFU) [inside front panel]	No

Comments:

No issues.

Meteorological System Checklist

Date:	March 9, 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 14, 2023		
Reference Temperature (°C):	-12.3		
Station - Ambient Temperature (°C):	-12.7		
Temperature Difference (°C):	0.4		
BAROMETRIC PRESSURE SENSOR CHECK			
Reference Barometer ID:	DeltaCal / DC1 / #177246 / Sep 03, 2023		
Reference Pressure - Units/Reading:	millibar	969	
Station Pressure - Units/Reading:	millibar	967	
Pressure Tolerance +/- 15% of error:	824 - 1114	0.21%	
RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK			
Reference Hygrometer ID:	Vaisala / HM70 / #T1640130, Exp. Date: Jun 14, 2023		
Reference Hygrometer % RH- Reading:	56.40		
Station Hygrometer % RH- Reading:	58.90		
RH Tolerance +/- 15% of difference:	47.94 - 64.86	-4.4%	
ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK			
WIND SPEED		WIND DIRECTION	
Previous check date:	February 6, 2023	Previous check date:	February 6, 2023
Wind Speed Observed (kph):	10 - 20	Wind Direction Observed:	SE
Wind speed on Data Logger (kph):	13	Wind Direction on Data Logger:	SE
	Annual audit: Jul 6, 2022	Wind Direction Pass/Fail?:	Pass

Comments

Station (Trailer) temperature vs Reference gauge: 22.2 vs 21.6, 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

MARCH 2023

Ambient Air Monitoring Calibration Report

- TAMARACK STATION-

CAL-LICA-202303-01248

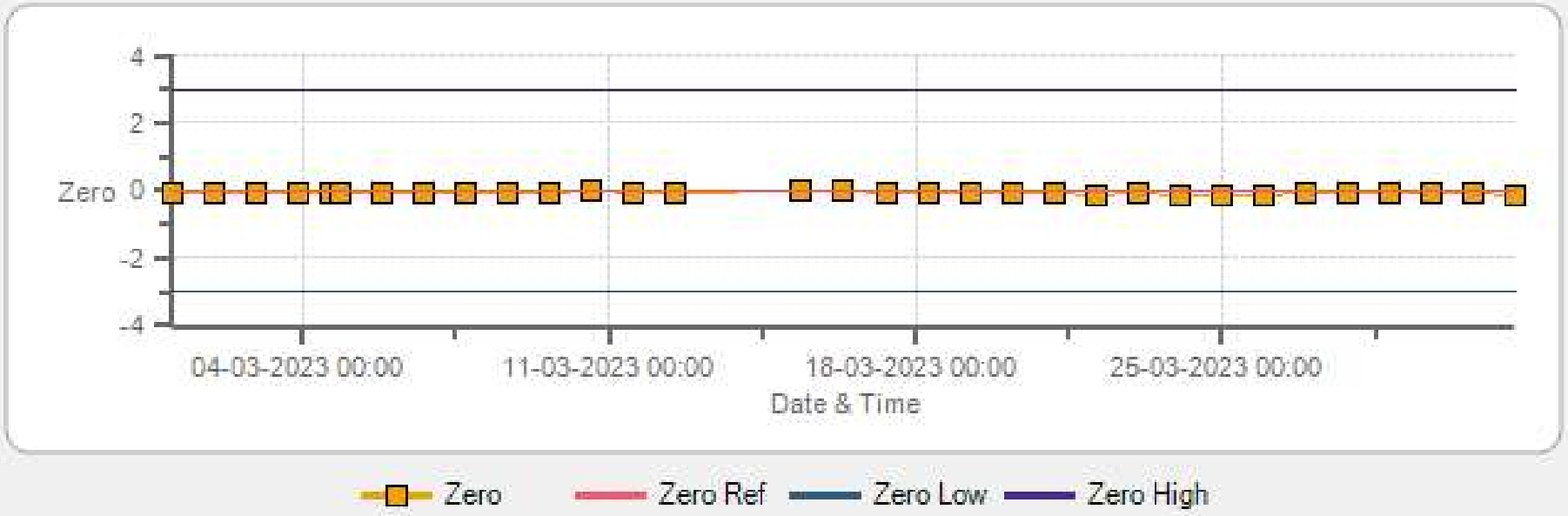
Station Operation and Maintenance:
Bureau Veritas Canada

Data Validation and Report:
LICA / Bureau Veritas Canada

April 14, 2023

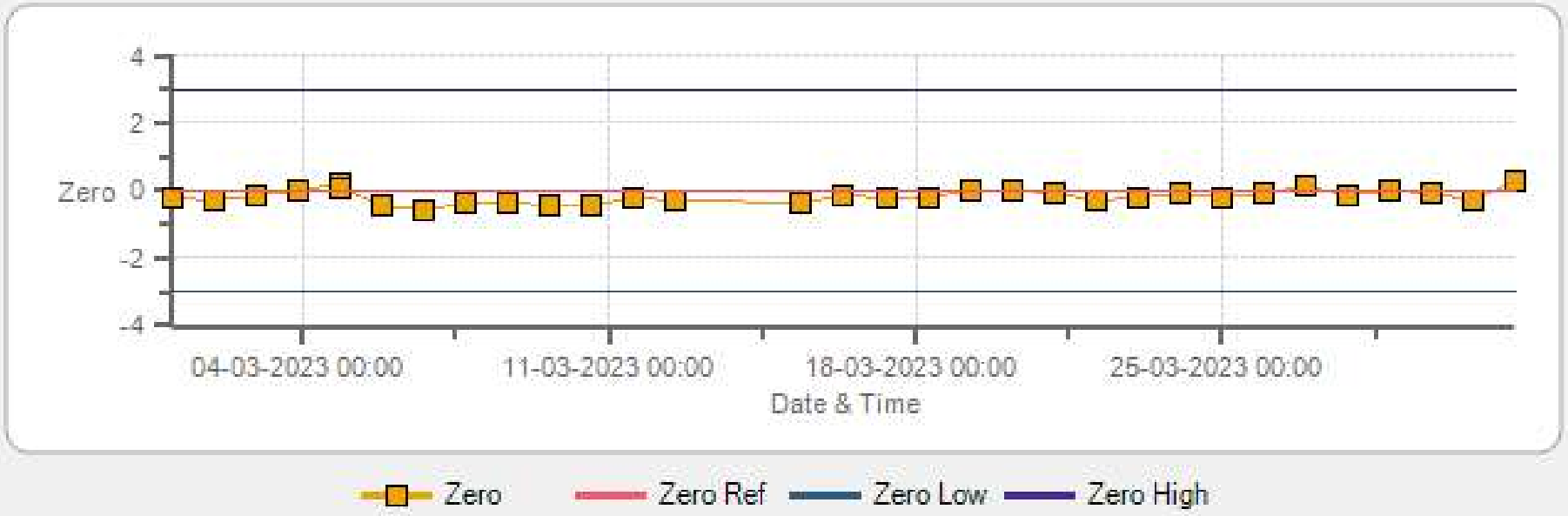
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2[ppb] Calibration: Tamarack Monthly: 03-2023 Type: SpanAndZero - Zero



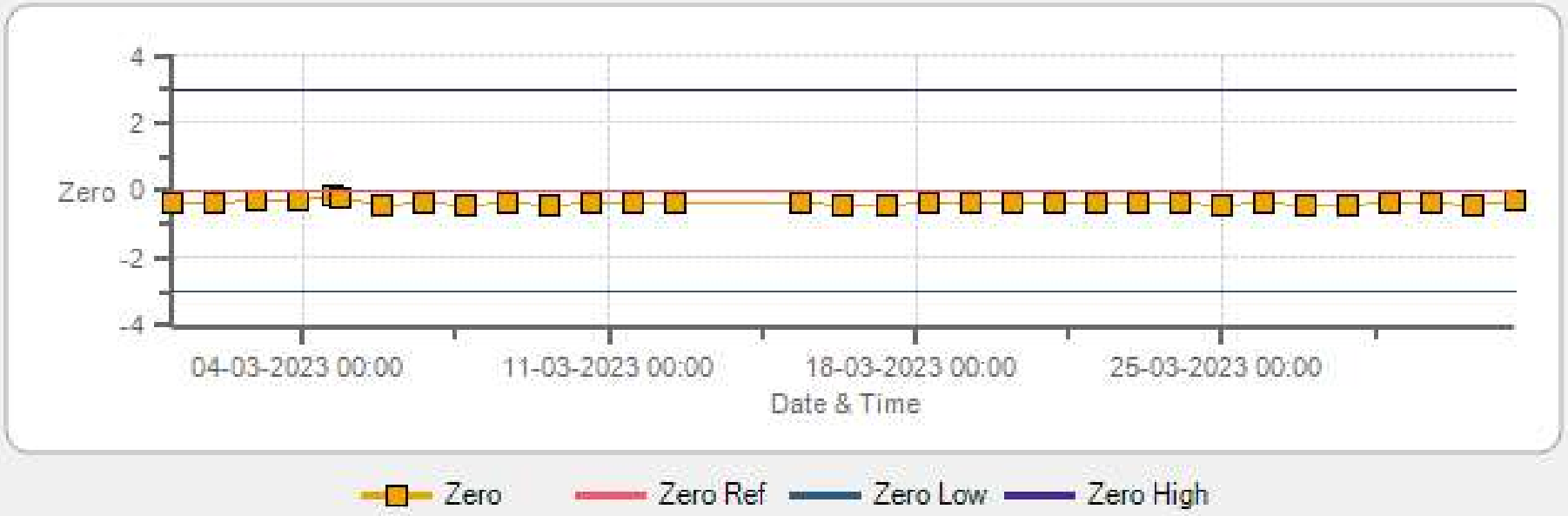
SO2[ppb] Calibration: Tamarack Monthly: 03-2023 Type: SpanAndZero - Span

H2S[ppb] Calibration: Tamarack Monthly: 03-2023 Type: SpanAndZero - Zero



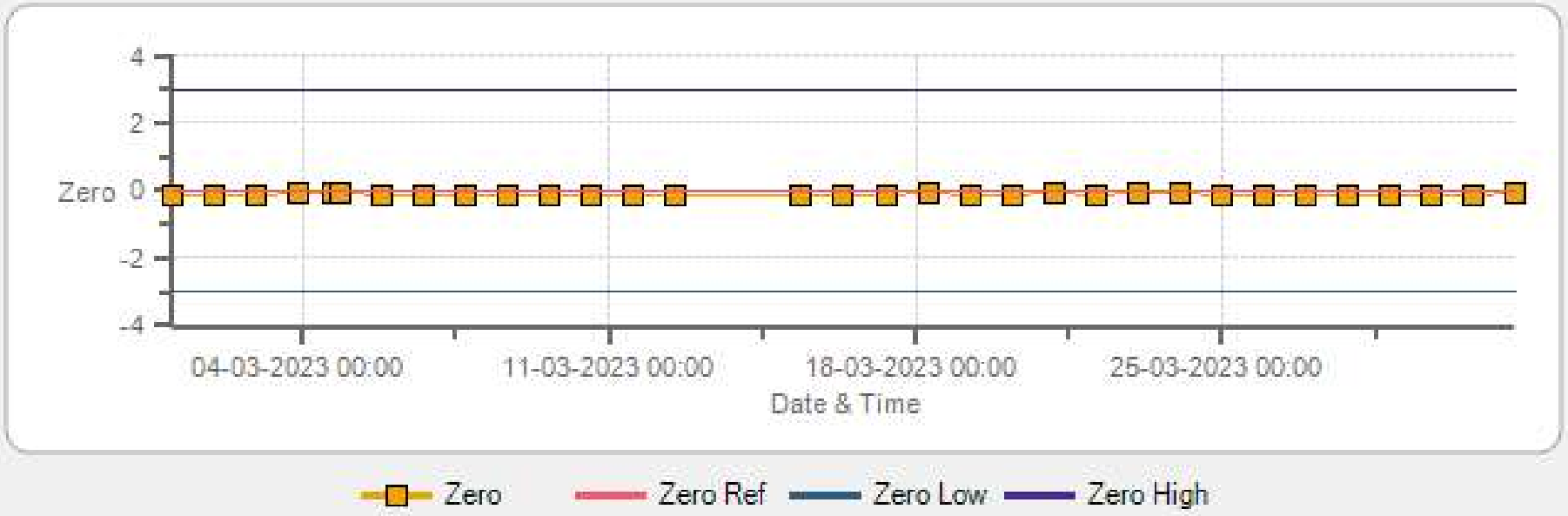
H2S[ppb] Calibration: Tamarack Monthly: 03-2023 Type: SpanAndZero - Span

NOX[ppb] Calibration: Tamarack Monthly: 03-2023 Type: SpanAndZero - Zero



NOX[ppb] Calibration: Tamarack Monthly: 03-2023 Type: SpanAndZero - Span

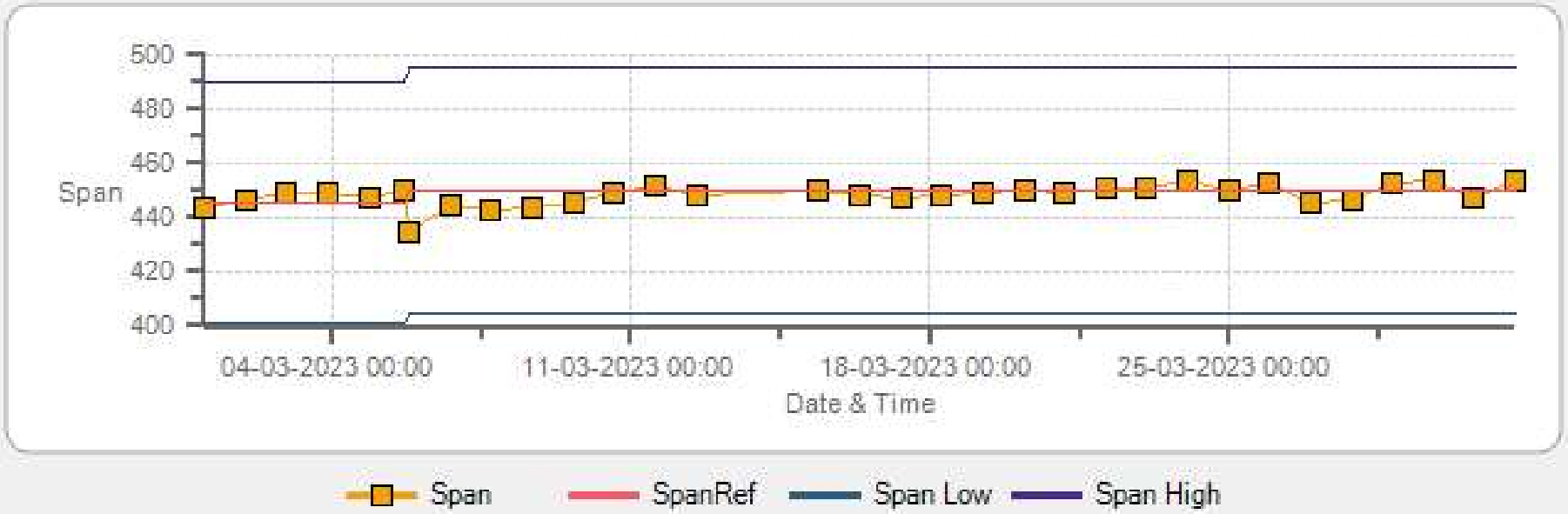
NO2[ppb] Calibration: Tamarack Monthly: 03-2023 Type: SpanAndZero - Zero

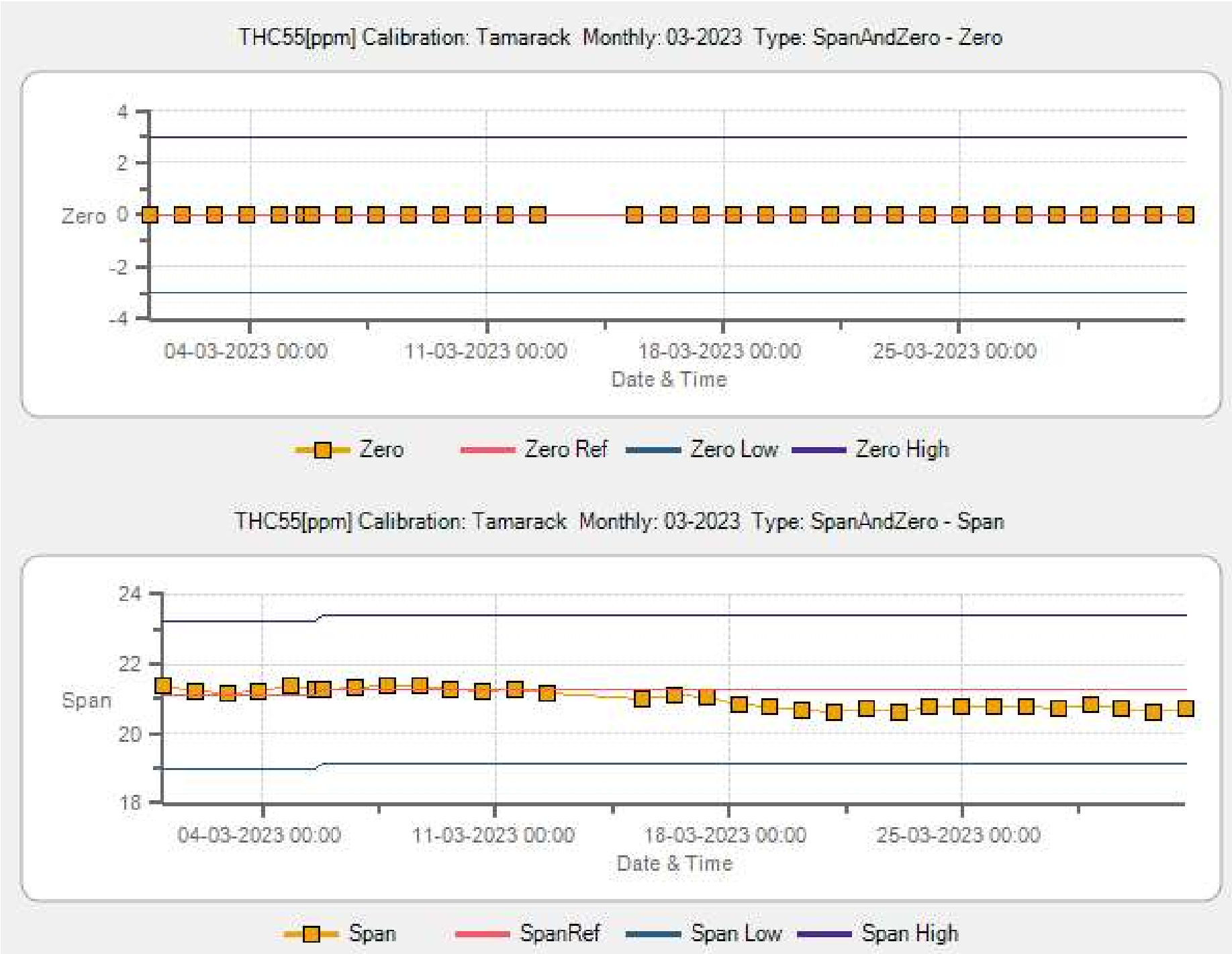


NO2[ppb] Calibration: Tamarack Monthly: 03-2023 Type: SpanAndZero - Span

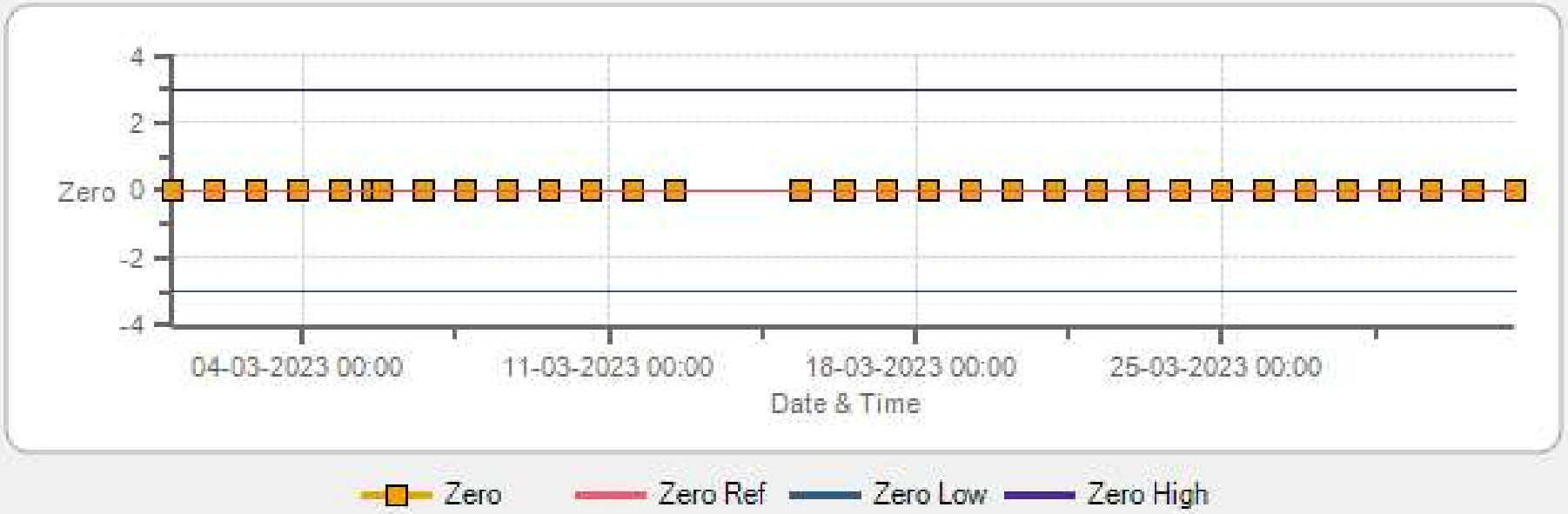
O3[ppb] Calibration: Tamarack Monthly: 03-2023 Type: SpanAndZero - Zero

O3[ppb] Calibration: Tamarack Monthly: 03-2023 Type: SpanAndZero - Span

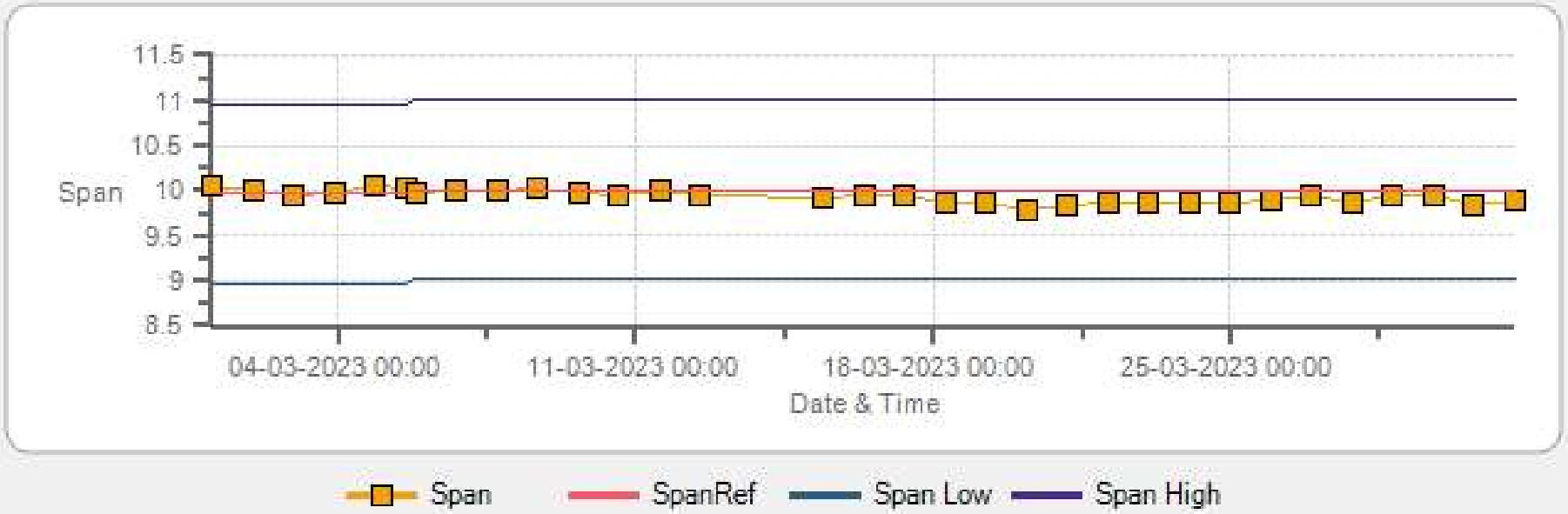



THC55[ppm] Calibration: Tamarack Monthly: 03-2023 Type: SpanAndZero - Zero
4
2
Zero 0
-2
-4
04-03-2023 00:00
11-03-2023 00:00
18-03-2023 00:00
25-03-2023 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
THC55[ppm] Calibration: Tamarack Monthly: 03-2023 Type: SpanAndZero - Span
24
22
Span
20
18
04-03-2023 00:00
11-03-2023 00:00
18-03-2023 00:00
25-03-2023 00:00
Date & Time
Span
SpanRef
Span Low
Span High

CH4[ppm] Calibration: Tamarack Monthly: 03-2023 Type: SpanAndZero - Zero



CH4[ppm] Calibration: Tamarack Monthly: 03-2023 Type: SpanAndZero - Span




NMHC[ppm] Calibration: Tamarack Monthly: 03-2023 Type: SpanAndZero - Zero
4
2
Zero 0
-2
-4
04-03-2023 00:00
11-03-2023 00:00
18-03-2023 00:00
25-03-2023 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
NMHC[ppm] Calibration: Tamarack Monthly: 03-2023 Type: SpanAndZero - Span
13
12
Span
11
10
04-03-2023 00:00
11-03-2023 00:00
18-03-2023 00:00
25-03-2023 00:00
Date & Time
Span
SpanRef
Span Low
Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution

DATE:	04-Mar-2023	PREVIOUS CALIBRATION DATE:	11-Feb-2023
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	0.998
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Tamarack	BAROMETRIC (mBar):	932
PURPOSE	Routine	START TIME (MST):	11:48
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:14

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1180930031	FLOW (mL/min)	445
INITIAL		FINAL	
BKG/OFFSET	2.82	BKG/OFFSET	2.84
COEF/SLOPE	1.025	COEF/SLOPE	1.036
Expected (reference) Value	198.8	Expected (reference) Value	194.5

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	21-Oct-2022	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):	1700	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:

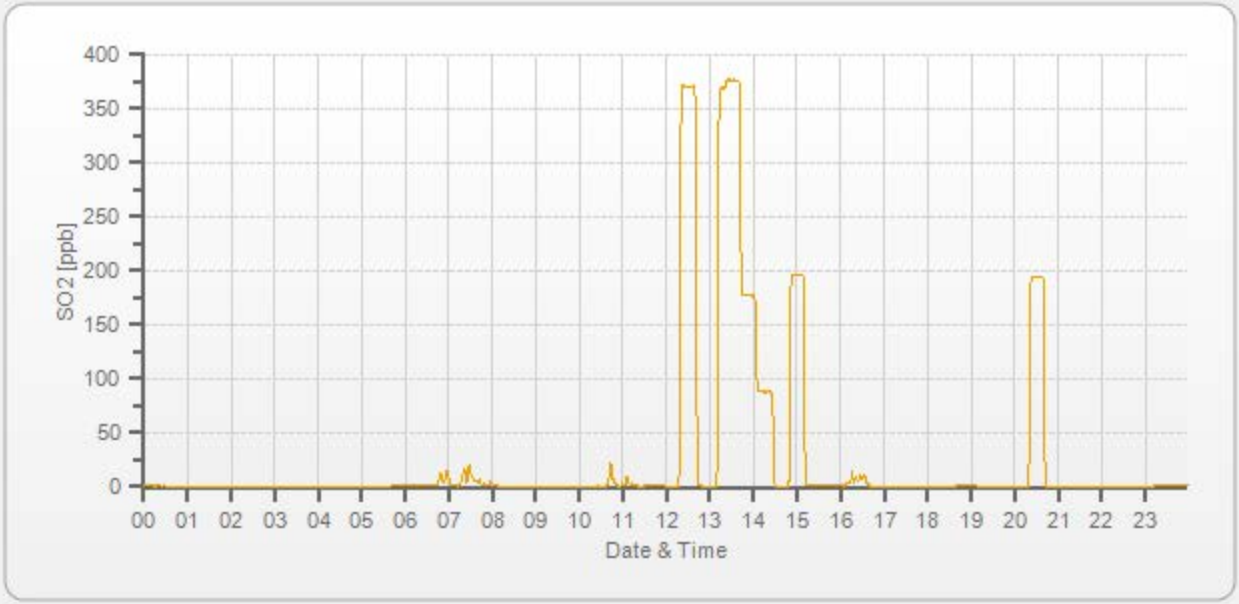
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
5000		5000	0.00	-0.1	0		
4961	37.20	4998	375.13	370.8	376.2	1.011	0.997
4982	17.60	5000	177.41	n/a	176.4	n/a	1.006
4990	8.80	4999	88.72	n/a	87.4	n/a	1.015

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.004	-0.2%

COMMENTS:

Sample inlet filter was changed.


SO2[ppb] Station: Tamarack Daily: 04-03-2023 Type: AVG 1 Min. [1 Min.]
400
350
300
250
200
150
100
50
0
SO2 [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
SO2 [ppb]

H2S Analyzer Calibration by Dilution

DATE:	04-Mar-2023	PREVIOUS CALIBRATION DATE:	11-Feb-2023
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	0.998
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Tamarack	BAROMETRIC (mBar):	932
PURPOSE	Routine	START TIME (MST):	16:08
PERFORMED BY:	Alex Yakupov	END TIME (MST):	19:57

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	CM 17360005	FLOW (mL/min)	915
INITIAL		FINAL	
BKG/OFFSET	33.4	BKG/OFFSET	33.4
COEF/SLOPE	0.795	COEF/SLOPE	0.801
Expected (reference) Value	44.9	Expected (reference) Value	43.7

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	134
MFC CALIBRATION DATE:	21-Oct-2022	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):	900	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:	16:11	SO2 Conc (ppb)	380
END TIME:	16:26	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	77.3	77.9	1.010	1.001
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

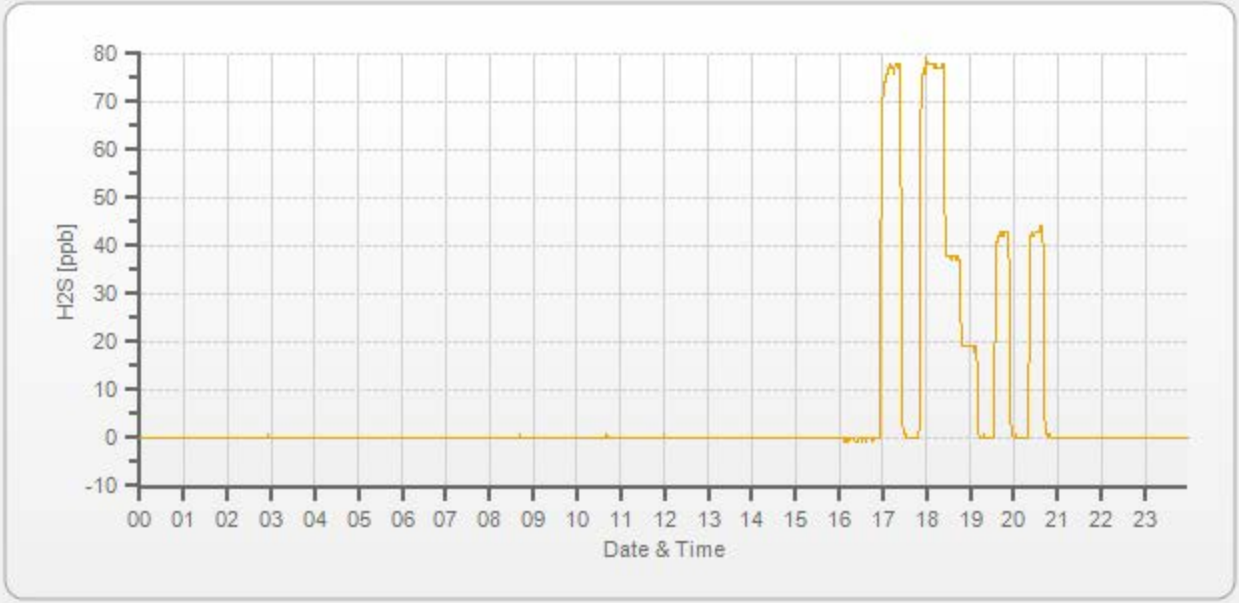
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.999	0.0%

COMMENTS:

Sample inlet filter was changed.

H2S[ppb] Station: Tamarack Daily: 04-03-2023 Type: AVG 1 Min. [1 Min.]



NOx Calibration by Dilution/Gas-Phase Titration

CALIBRATION:

DATE:	04-Mar-2023	PREVIOUS CALIBRATION DATE:	11-Feb-2023
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Tamarack	BAROMETRIC (mBar):	932
PURPOSE	Routine	START TIME (MST):	11:52
PERFORMED BY:	Alex Yakupov	END TIME (MST):	17:01

ANALYZER:

MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
SERIAL #:	1180930028	NOx	1.000
FLOW (mL/min)	837	NO	1.001
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 D	MODEL:	T701	NO/NOx (PPM):	51.1	51.6	HIGH EXPIRY:	n/a
ID:	11900613	ID:	134	CYLINDER (psi):	1700		LOW ID:	n/a
MFC CALIBRATION DATE:	21-Oct-2022	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:	2.1	1.8	n/a	BKG/OFFSET:	2	1.8	n/a
SLOPE/COEF/CE:	1.01	1.024	1	SLOPE/COEF/CE:	1.009	1.022	1

EXPECTED (REFERENCE) VALUE:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	284.6	1.7	283.0		281.0	1.5	279.5

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			CONCENTRATION (ppb)									CORRECTION FACTOR (CF.)					
(mL/min)			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	0.0	0.0	0.0	0.0						
4961	37.20	4998	380.3	384.1	3.7	381.4	386.1	4.7	379.7	383.5	3.7	0.997	0.995		1.002	1.001	
4982	17.60	5000	179.9	181.6	1.8	n/a	n/a	n/a	179.8	181.5	1.8	n/a	n/a		1.000	1.001	
4990	8.80	4999	90.0	90.8	0.9	n/a	n/a	n/a	89.5	90.3	0.9	n/a	n/a		1.005	1.006	

GPT CALIBRATION:

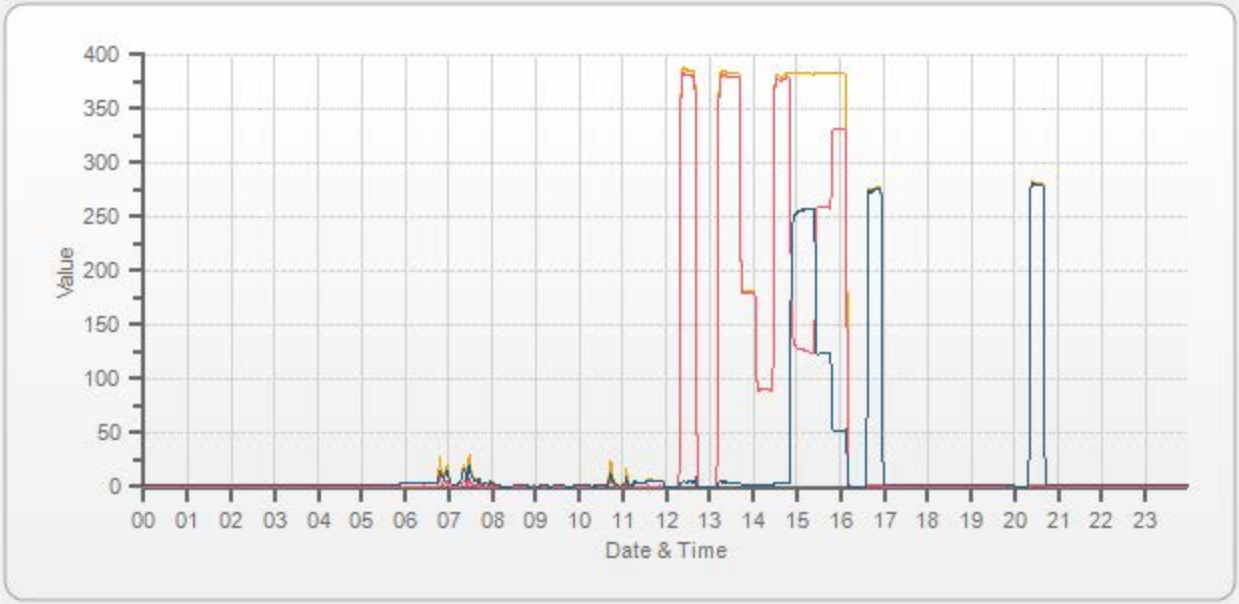
Point	CALIBRATOR			INDICATED (ppb)			NO DROP / O3 Conc (ppb)	NO2 GAIN (ppb)	NO2 Corr. FACTOR	CONV. EFFICIENCY
	GAS	TOTAL	O3 SETPOINT	NO	NOx	NO2				
REFERENCE	37.20	4998	0	379.1	382.9	3.8				
AS-FOUND HIGH	37.20	4998	235	126.1	383.0	256.8	253	253	1.000	100.00%
ADJUSTED HIGH	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**n/a**	**n/a**	n/a
MID	37.20	4998	110	259.2	383.1	124.0	119.9	120.2	0.998	100.25%
LOW	37.20	4998	40	331.4	382.9	51.6	47.7	47.8	0.998	100.21%
NO2 adjustment not required.									AVERAGE:	100.15%

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
NO	1.000	0.999	-0.01%
NOx	1.000	0.999	-0.03%
NO2	1.000	0.999	0.05%

COMMENTS:

Sample inlet filter was changed.


Station: Tamarack Daily: 04-03-2023 Type: AVG 1 Min. [1 Min.]
400
350
300
250
200
150
100
50
0
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-Mar-2023	PREVIOUS CALIBRATION DATE:	12-Feb-2023
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	1.002
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Tamarack	BAROMETRIC (mBar):	947
PURPOSE	Routine	START TIME (MST):	13:21
PERFORMED BY:	Alex Yakupov	END TIME (MST):	16:57

ANALYZER:

MAKE/MODEL	Thermo 49iQ	RANGE	500 ppb
SERIAL #	1202068570	FLOW (mL/min)	1380
INITIAL		FINAL	
BKG/OFFSET	3.8	BKG/OFFSET	4.8
COEF/SLOPE	1.027	COEF/SLOPE	1.036
Expected (reference) Value	445.6	Expected (reference) Value	450

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	134
MFC CALIBRATION DATE:	21-Oct-2022	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:

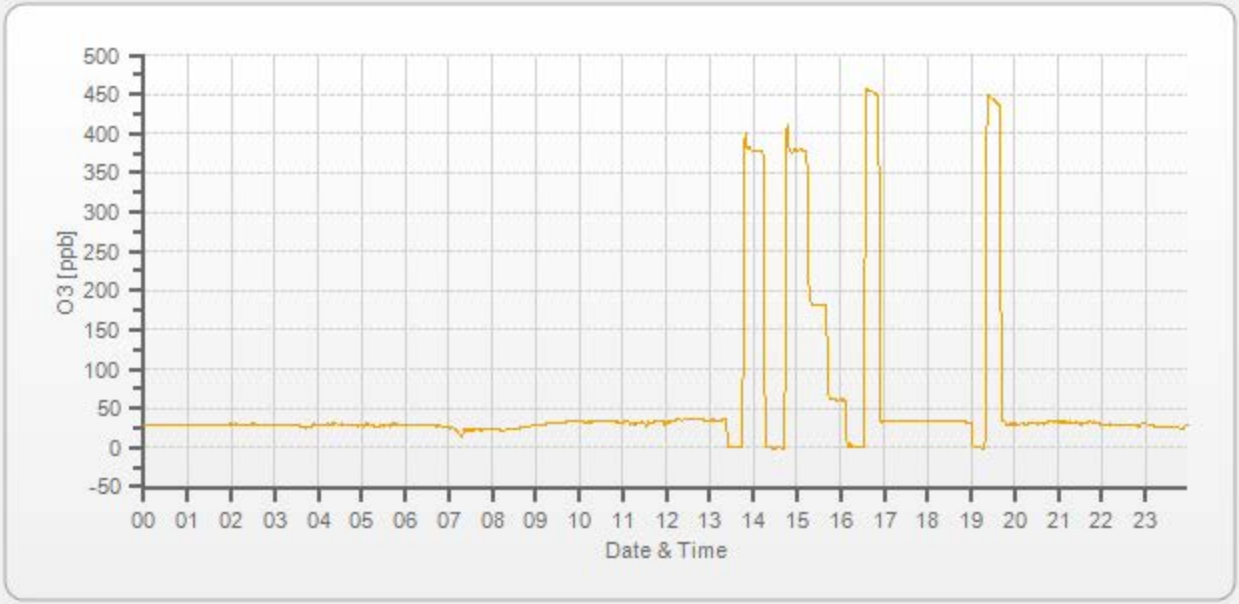
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED Initial	INDICATED Final	Initial	Final
5000		5000	0.0	0.8	0.0		
5000		5000	378.0	378.1	378.2	1.002	0.999
5000		5000	180.0	n/a	180.8	n/a	0.996
5000		5000	61.0	n/a	61.3	n/a	0.995

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	0.1%

COMMENTS:

Sample inlet filter was changed.


O3[ppb] Station: Tamarack Daily: 05-03-2023 Type: AVG 1 Min. [1 Min.]
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:	05-Mar-2023	PREVIOUS CALIBRATION DATE:	12-Feb-2023
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Tamarack	BAROMETRIC (mBar):	947
PURPOSE	Routine	START TIME (MST):	10:30
PERFORMED BY:	Alex Yakupov	END TIME (MST):	13:59

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	1180930026	1210
PARAMETER:	CH4	NMHC	THC
RANGE (ppm):	20	20	40
PREVIOUS CF:	0.999	0.996	0.997

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 23593		HIGH ID:	n/a
MODEL:	2010 D	MODEL:	T701	CH_4/C_3H_8 (ppm):	603.0	204.0	HIGH EXPIRY:	n/a
ID:	11900613	ID:	132	CYLINDER (psi):	1300		LOW ID:	n/a
MFC CALIBRATION DATE:	21-Oct-2022	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
	9.40	10.87	20.27		10.01	11.28	21.29

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	14.67	13.69	28.36	14.50	13.51	28.04	0.989	0.986	0.988	1.001	0.999	0.999
3063	37.30	3100	7.26	6.75	14.01	n/a	n/a	n/a	7.25	6.73	13.98	n/a	n/a	n/a	1.001	1.003	1.002
3081	18.60	3100	3.62	3.37	6.98	n/a	n/a	n/a	3.62	3.34	6.96	n/a	n/a	n/a	0.999	1.008	1.003

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
CH4	1.000	0.999	0.0%
NMHC	1.000	1.001	-0.1%
THC	1.000	1.001	-0.1%

Comments:

Sample inlet filter was changed.

Use Zero Chrom? **Yes**

Station: Tamarack Daily: 05-03-2023 Type: AVG 1 Min. [1 Min.]

Thermo 5030 SHARP Monitor Monthly Check

Date:	March 5, 2023	**Performed By/Reviewer:**	Alex Yakupov / Chris Wesson
Company:	LICA	**Start Time (mst):**	16:14
Station Name/Location:	Tamarack	**End Time (mst):**	17:00
Previous Audit Date:	February 12, 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:	5/10	**Error Code:**	0.00

Reference Standards:

	Air Flow			
	Manometer	**Orifice**	**Pressure:**	**Temperature:**
Make:	DeltaCal	DeltaCal	DeltaCal	Vaisala
Model:	DC1	DC1	DC1	HM70
Serial Number:	177246	177246	177246	T1640130
Calibration Expiration Date:	September 7, 2023	September 7, 2023	September 7, 2023	June 14, 2023

As found temperature and pressure:

Tolerance +/- 4°C		**Tolerance +/- 13.33 hPa**	
SHARP T1 °C:	-12.0	**SHARP P3 (hPa):**	951.000
Reference °C:	-13.0	**Reference (hPa):**	949.000
Difference °C:	-1.0	**Difference (hPa) :**	2.000

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

Tolerance +/- 4°C		**Tolerance +/- 13.33 hPa**	
SHARP T1 °C:	-12.0	**SHARP P3 (hPa):**	951.000
Reference °C:	-13.0	**Reference (hPa):**	949.000
Difference °C:	-1.0	**Difference :**	2.000

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 (%)	55.40	**Reference AirFlow (l/min)**	16.71
		Difference (l/min)	0.04

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 (%)	51.30	**Reference AirFlow (l/min)**	16.71
		Difference (l/min)	0.04

Inlet Assembly:

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

Comments:

Leak check: 16.62 vs 16.71, 0.09 < 0.80 lpm, passed.

Meteorological System Checklist

Date:	March 5, 2023
Technician:	Alex Yakupov
Station:	Tamarack / Audit time: 17:01 - 18:08

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	no	17:18 - test with water and snow. 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 14, 2023
Reference Temperature (^{o}C):	-12.7
Station - Ambient Temperature (^{o}C):	-13.2
Temperature Difference (^{o}C):	0.5

BAROMETRIC PRESSURE SENSOR CHECK

Reference Barometer ID:	DeltaCal / DC1 / #177246 / Exp. Date: Sep 7, 2023	
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 HMP76B #T1640130, Exp. Date: Jun 14, 2023	
Reference Hygrometer % RH- Reading:	56.30	
Station Hygrometer % RH- Reading:	48.00	
RH Tolerance +/- 15% of difference:	47.86 - 64.75	14.7%

ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK

WIND SPEED		WIND DIRECTION	
Previous check date:	February 12, 2023	Previous check date:	February 12, 2023
Wind Speed Observed (kph):	10 to 20	Wind Direction Observed:	S
Wind speed on Data Logger (kph):	11.7	Wind Direction on Data Logger:	S
	Annual audit: Jul 26, 2022	Wind Direction Pass/Fail?:	Pass

Comments

Station (Trailer) temperature vs Reference gauge temperature: 23.4 vs 24.1, difference = 0.7 => 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

End of Report

Lakeland Industry & Community Association

MARCH 2023

Ambient Air Monitoring Calibration Report

- ST. LINA STATION-

CAL-LICA-202303-01250

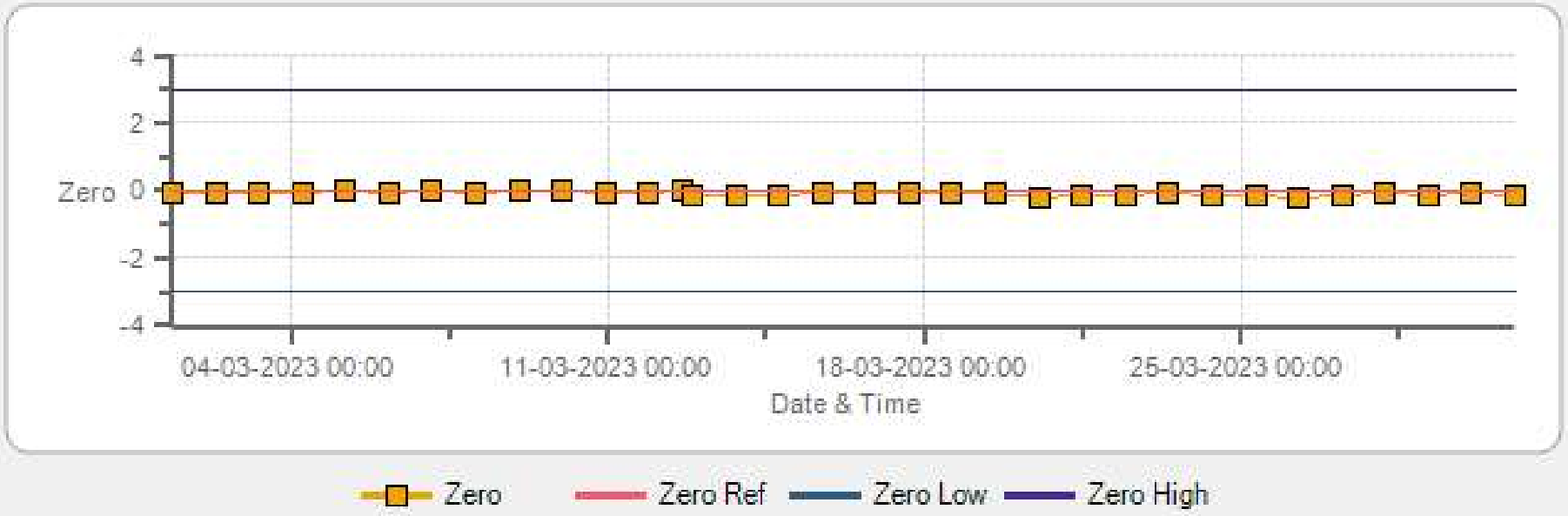
Station Operation and Maintenance:
Bureau Veritas Canada

Data Validation and Report:
LICA / Bureau Veritas Canada

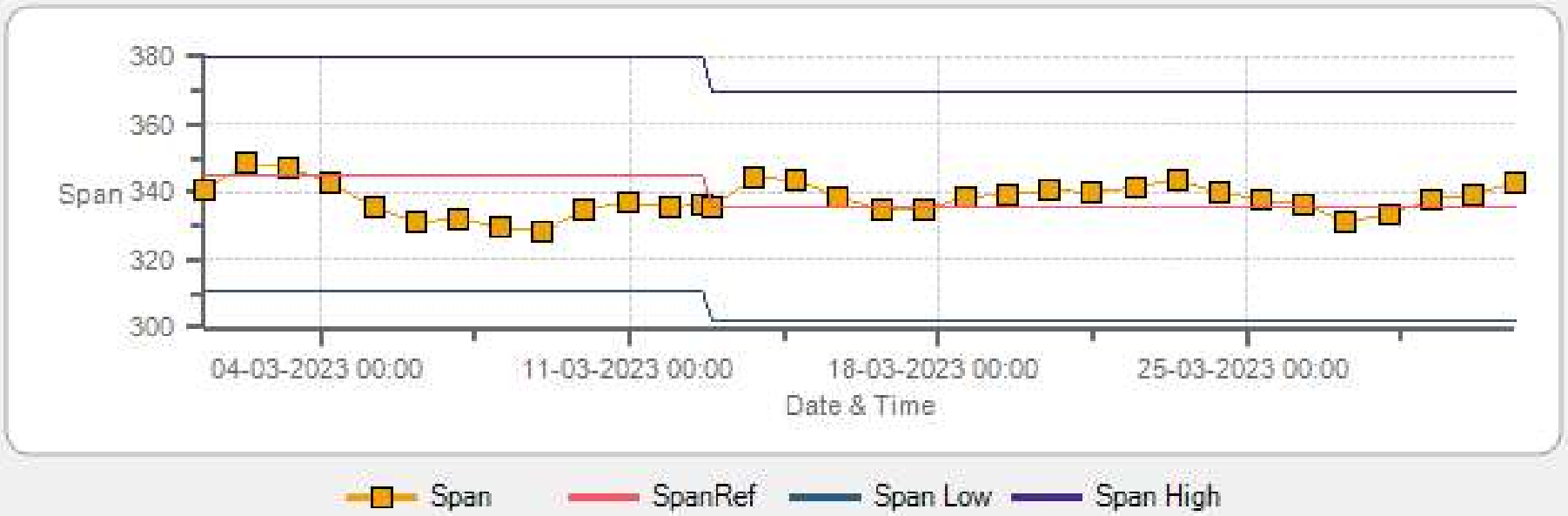
April 14, 2023

DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2[ppb] Calibration: St. Lina Monthly: 03-2023 Type: SpanAndZero - Zero

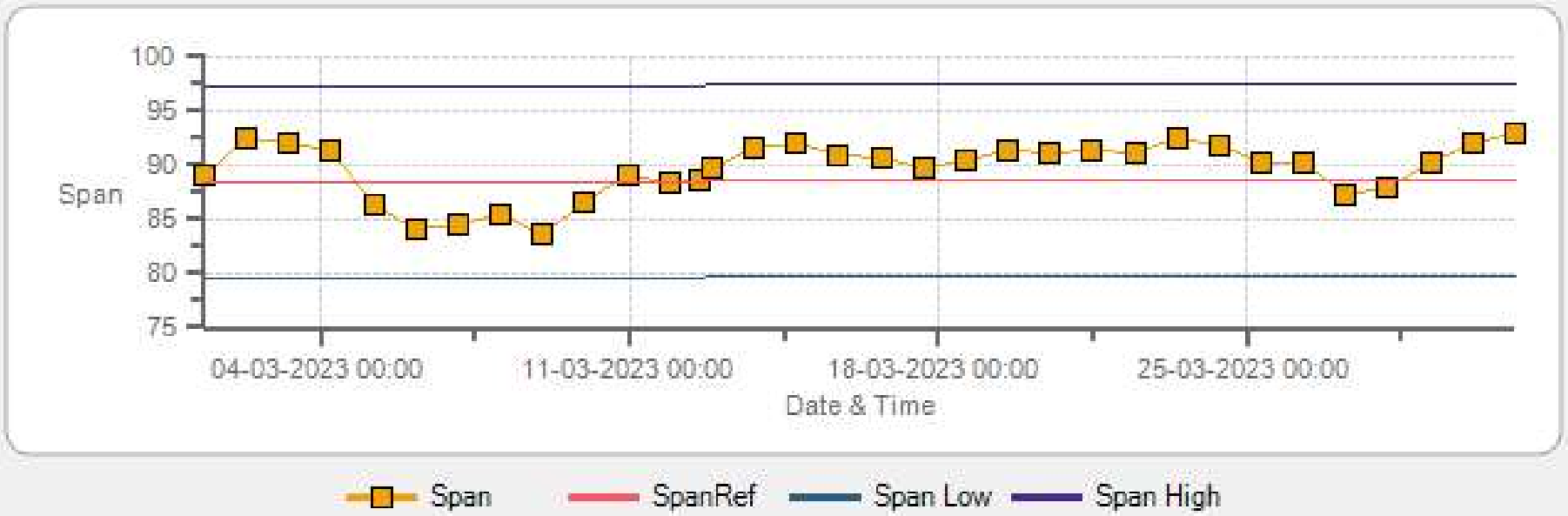


SO2[ppb] Calibration: St. Lina Monthly: 03-2023 Type: SpanAndZero - Span

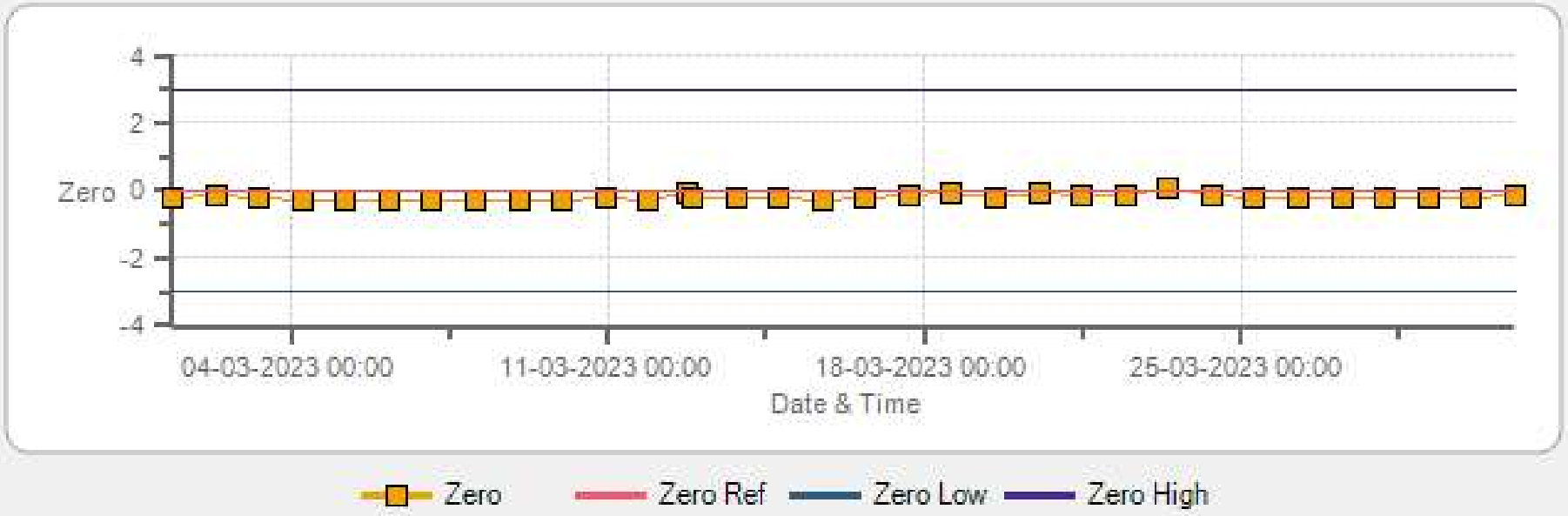


H2S[ppb] Calibration: St. Lina Monthly: 03-2023 Type: SpanAndZero - Zero

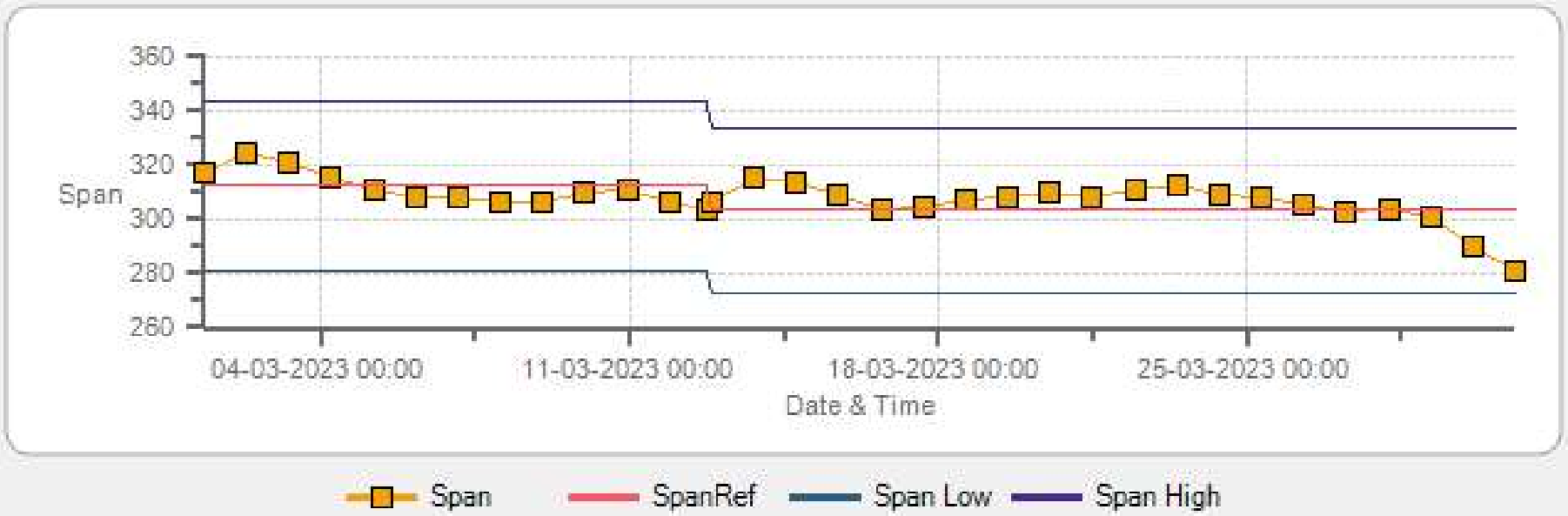
H2S[ppb] Calibration: St. Lina Monthly: 03-2023 Type: SpanAndZero - Span



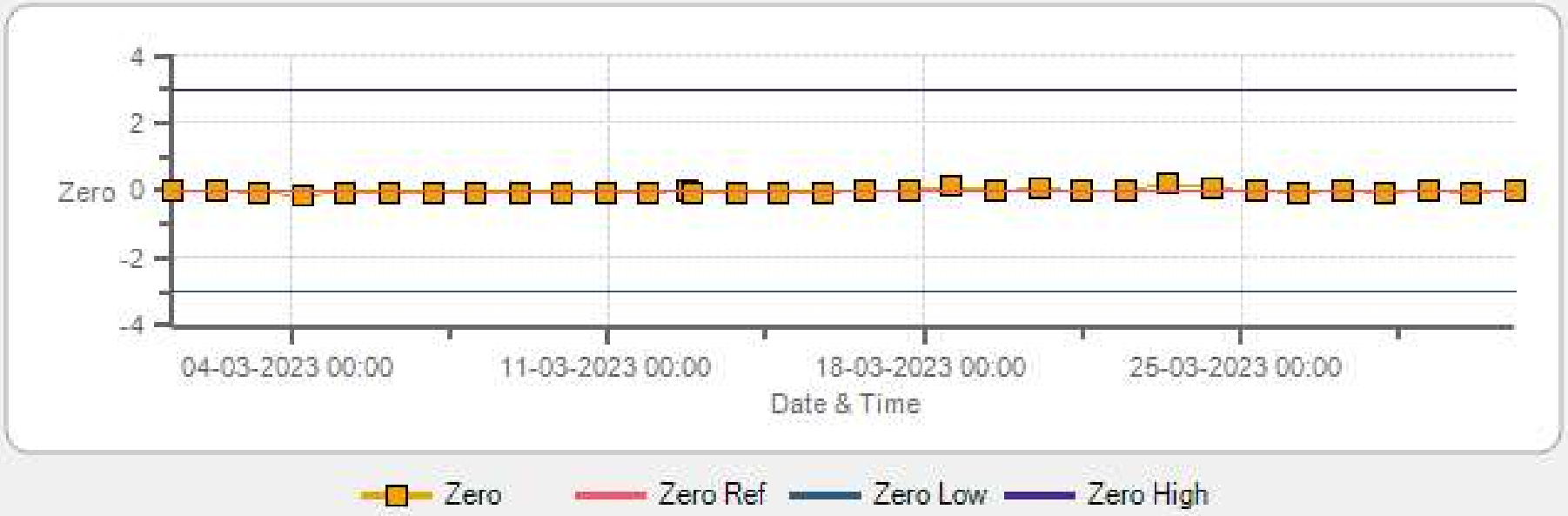
NOX[ppb] Calibration: St. Lina Monthly: 03-2023 Type: SpanAndZero - Zero



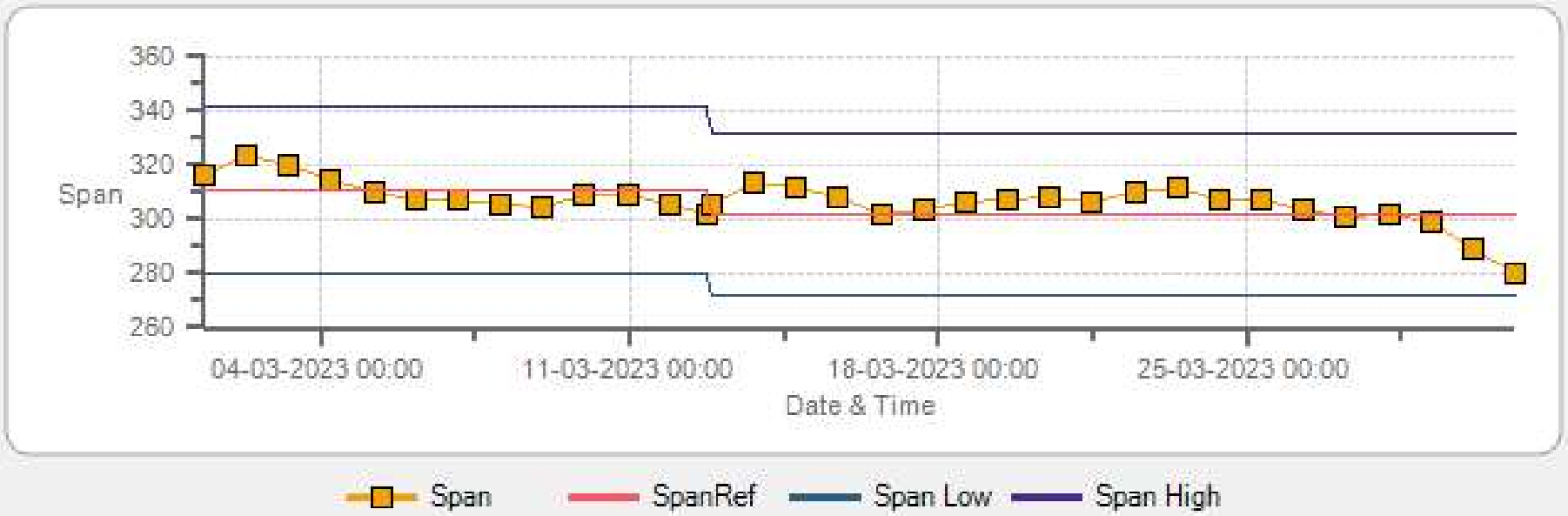
NOX[ppb] Calibration: St. Lina Monthly: 03-2023 Type: SpanAndZero - Span

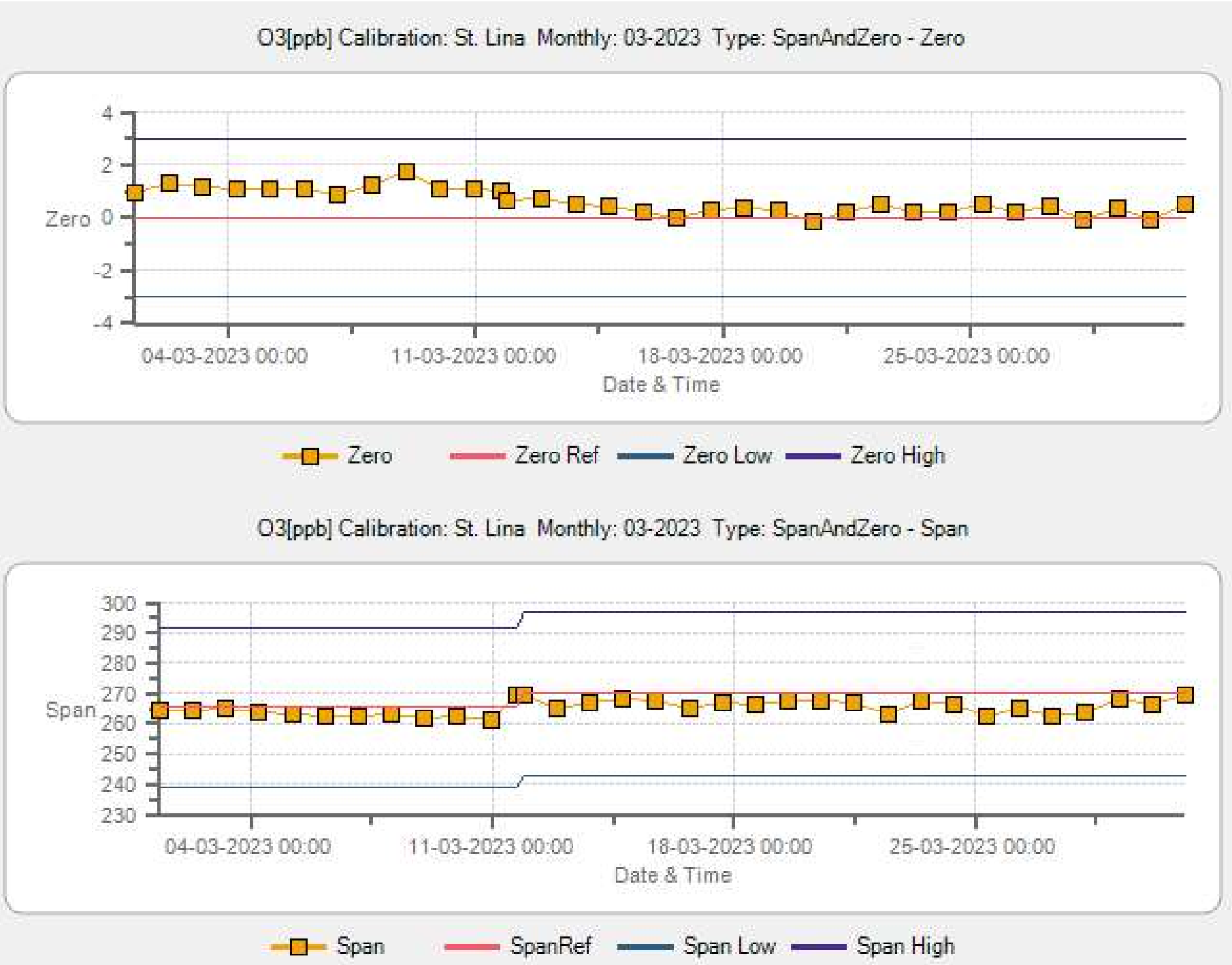


NO2[ppb] Calibration: St. Lina Monthly: 03-2023 Type: SpanAndZero - Zero

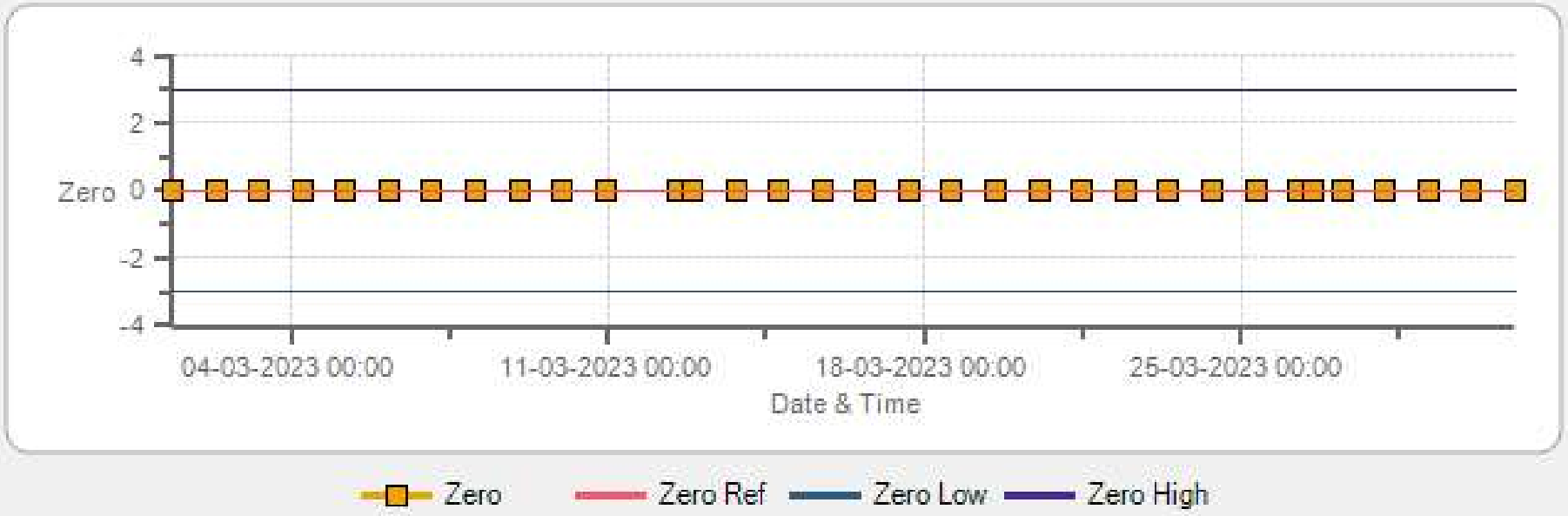


NO2[ppb] Calibration: St. Lina Monthly: 03-2023 Type: SpanAndZero - Span

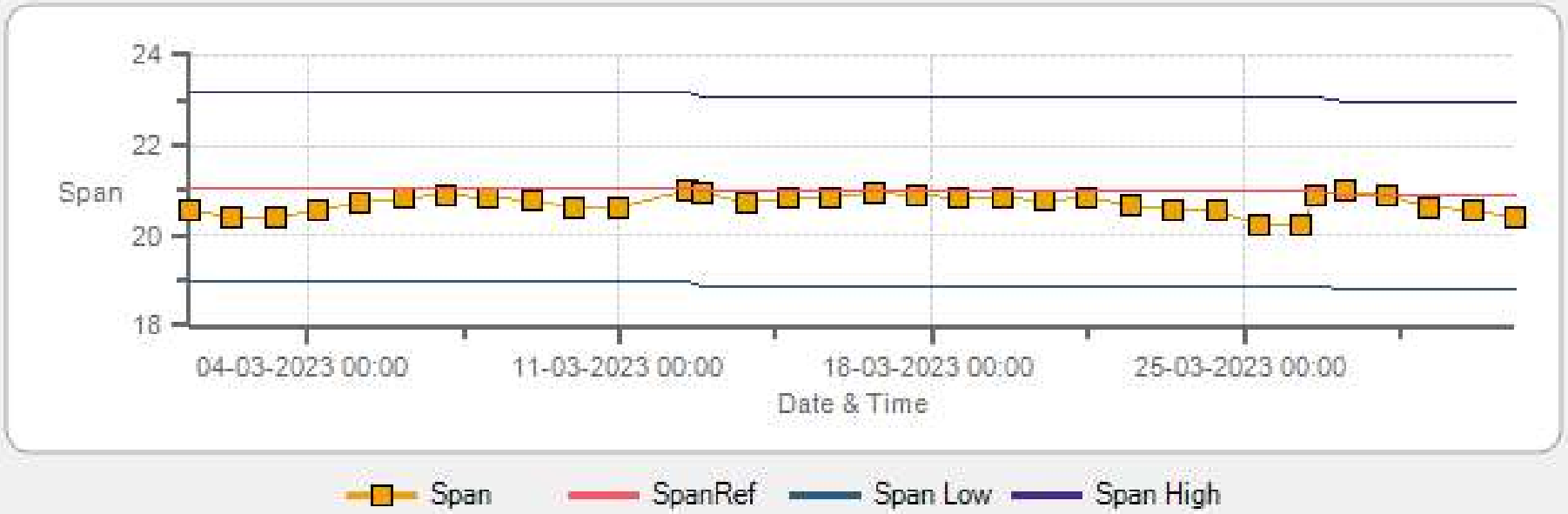



O3[ppb] Calibration: St. Lina Monthly: 03-2023 Type: SpanAndZero - Zero
Zero
4
2
0
-2
-4
04-03-2023 00:00
11-03-2023 00:00
18-03-2023 00:00
25-03-2023 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
O3[ppb] Calibration: St. Lina Monthly: 03-2023 Type: SpanAndZero - Span
Span
300
290
280
270
260
250
240
230
04-03-2023 00:00
11-03-2023 00:00
18-03-2023 00:00
25-03-2023 00:00
Date & Time
Span
SpanRef
Span Low
Span High

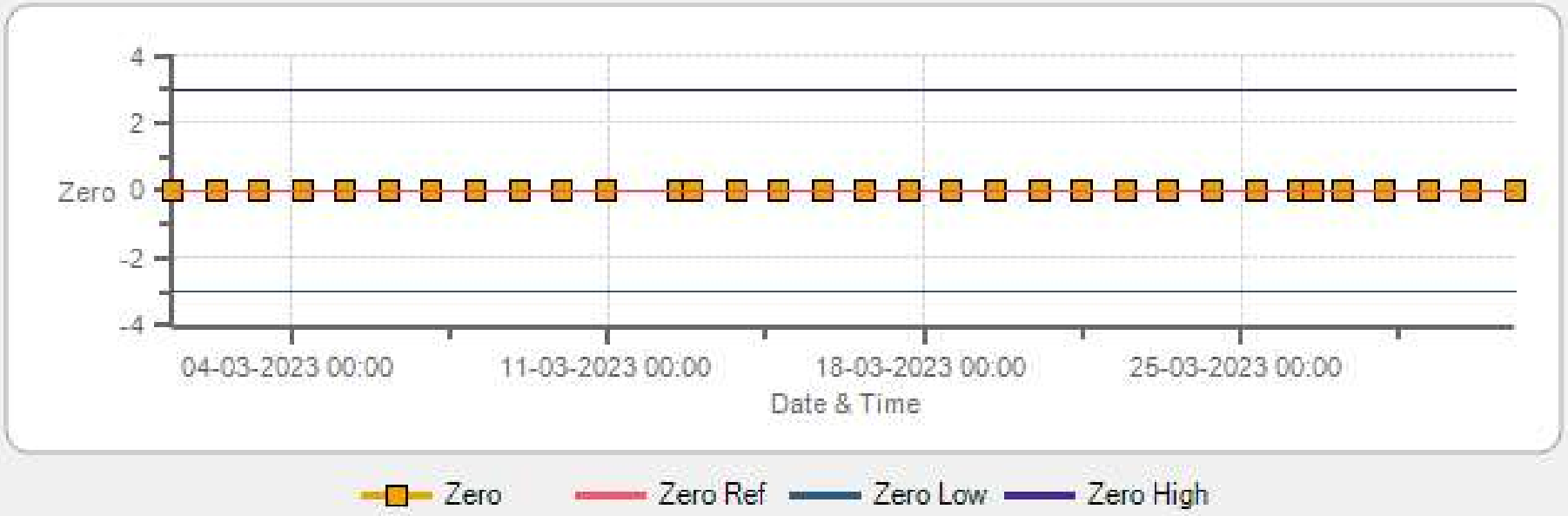
THC55[ppm] Calibration: St. Lina Monthly: 03-2023 Type: SpanAndZero - Zero



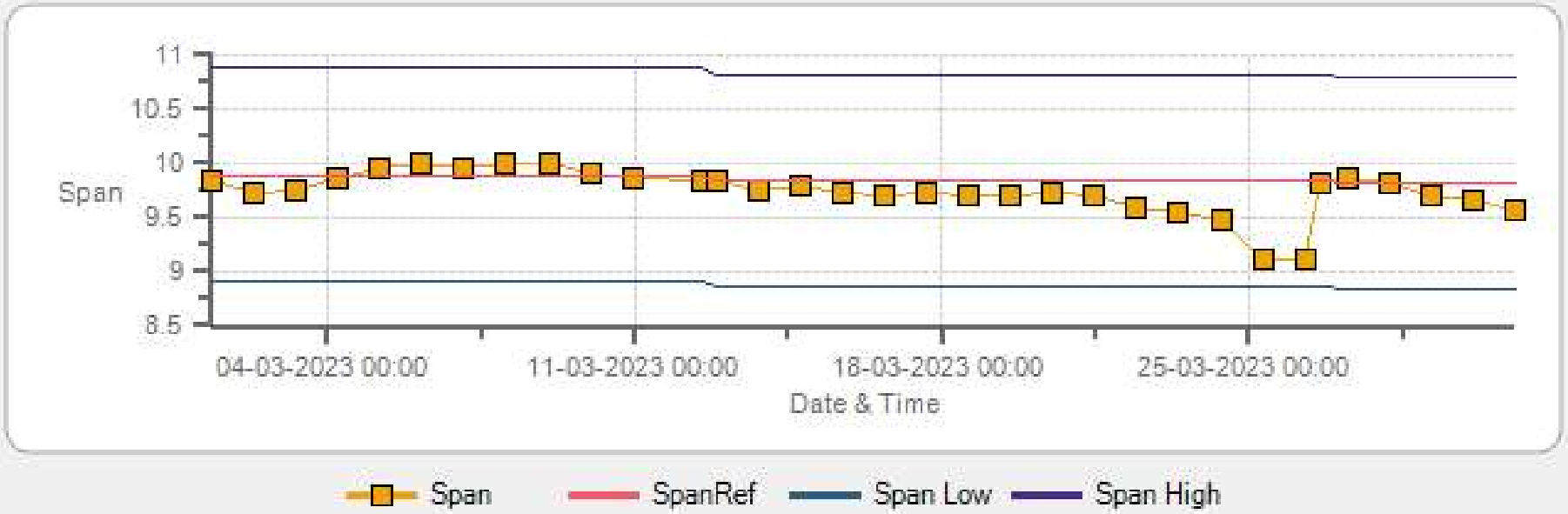
THC55[ppm] Calibration: St. Lina Monthly: 03-2023 Type: SpanAndZero - Span



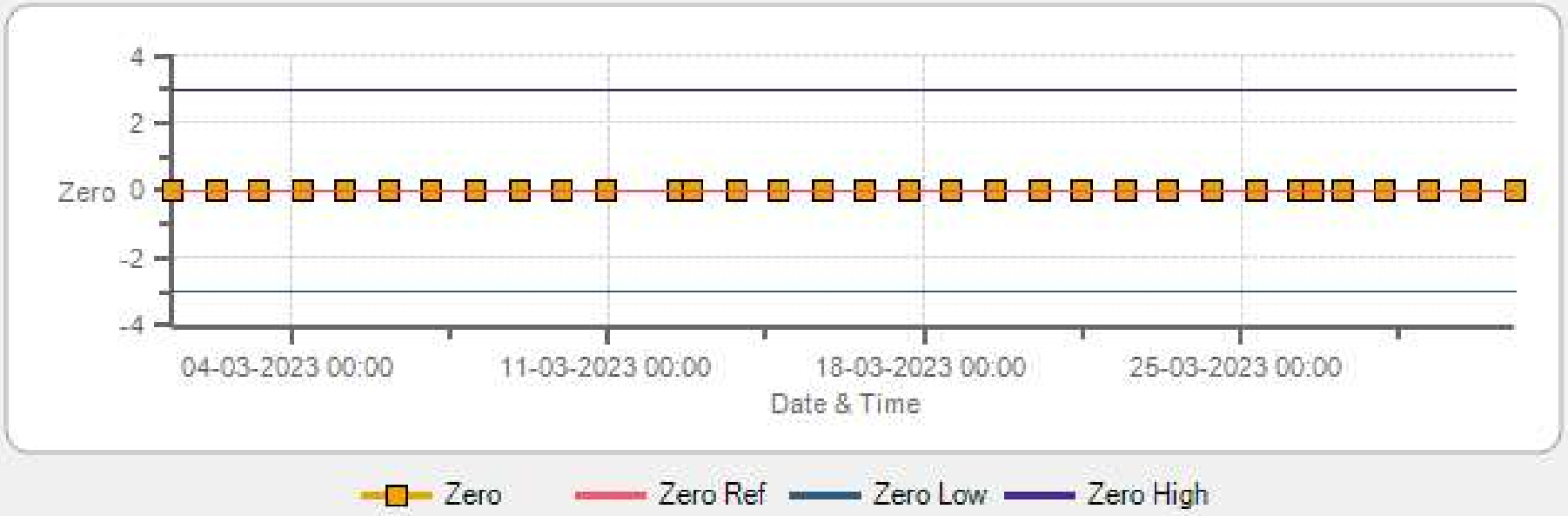
CH4[ppm] Calibration: St. Lina Monthly: 03-2023 Type: SpanAndZero - Zero



CH4[ppm] Calibration: St. Lina Monthly: 03-2023 Type: SpanAndZero - Span



NMHC[ppm] Calibration: St. Lina Monthly: 03-2023 Type: SpanAndZero - Zero



NMHC[ppm] Calibration: St. Lina Monthly: 03-2023 Type: SpanAndZero - Span

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution

DATE:	12-Mar-2023	PREVIOUS CALIBRATION DATE:	18-Feb-2023
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	0.997
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	926
PURPOSE	Routine	START TIME (MST):	12:17
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:45

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1180930030	FLOW (mL/min)	435
INITIAL		FINAL	
BKG/OFFSET	5.2	BKG/OFFSET	5.12
COEF/SLOPE	1.229	COEF/SLOPE	1.221
Expected (reference) Value	348	Expected (reference) Value	336

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010	MODEL:	T701
ID:	26701218	ID:	132
MFC CALIBRATION DATE:	13-Sep-2022	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):	1900	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	377	375.3	0.995	1.000
4982	17.60	5000	177.41	n/a	176.7	n/a	1.004
4990	8.80	4999	88.72	n/a	87.2	n/a	1.017

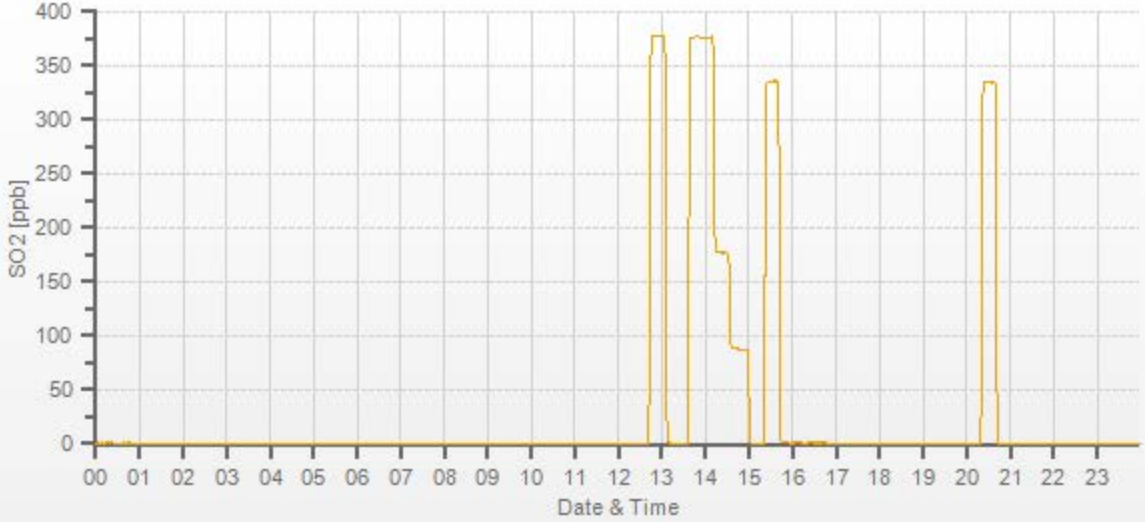
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.002	-0.2%

COMMENTS:

Sample inlet filter was changed.

SO2[ppb] Station: St. Lina Daily: 12-03-2023 Type: AVG 1 Min. [1 Min.]



H2S Analyzer Calibration by Dilution

DATE:	12-Mar-2023	PREVIOUS CALIBRATION DATE:	18-Feb-2023
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	1.005
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	926
PURPOSE	Routine	START TIME (MST):	10:17
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:24

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	CM18010058	FLOW (mL/min)	798
INITIAL		FINAL	
BKG/OFFSET	53.9	BKG/OFFSET	53.3
COEF/SLOPE	1.003	COEF/SLOPE	1.013
Expected (reference) Value	89.9	Expected (reference) Value	88.7

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	21-Oct-2022	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):	900	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:	10:21	SO2 Conc (ppb)	n/a
END TIME:	10:36	Analyzer Response (ppb)	n/a

CALIBRATION:

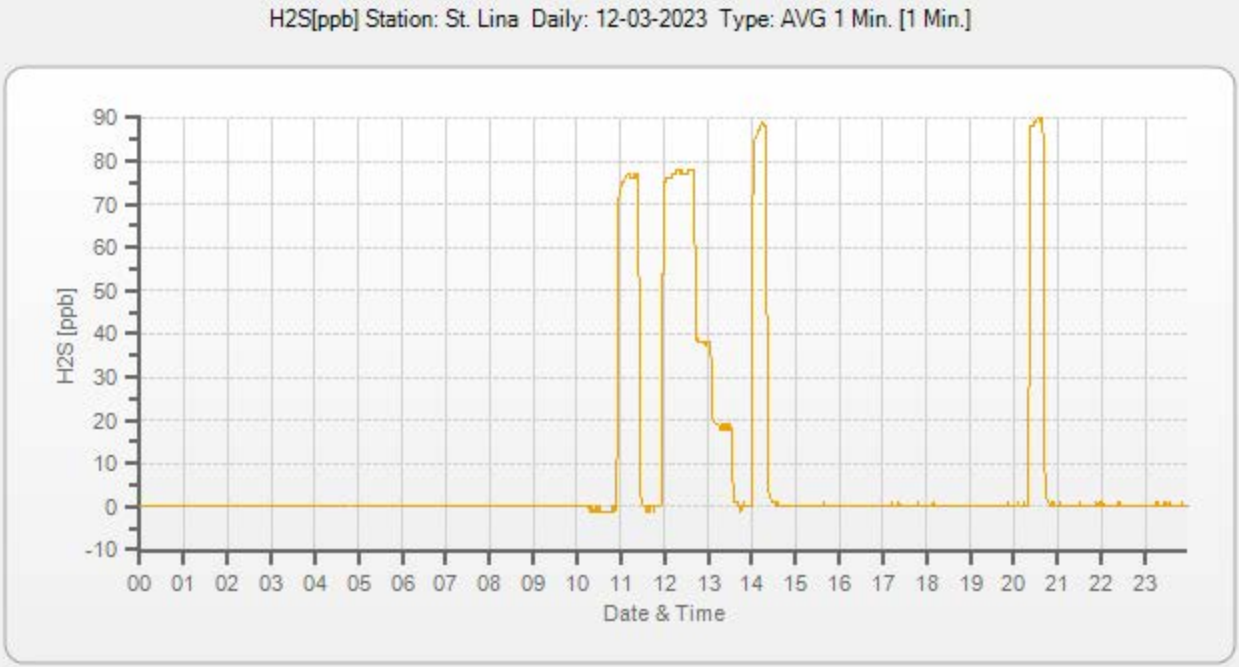
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
7500		7500	0.00	-0.6	0		
7442	57.90	7500	77.97	76.8	78.2	1.007	0.997
7472	28.20	7500	37.98	n/a	38	n/a	0.999
7486	14.10	7500	18.99	n/a	19	n/a	0.999

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.003	0.0%

COMMENTS:

Sample inlet filter was changed.


H2S[ppb] Station: St. Lina Daily: 12-03-2023 Type: AVG 1 Min. [1 Min.]
H2S [ppb]
90
80
70
60
50
40
30
20
10
0
-10
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
H2S [ppb]

NOx Calibration by Dilution/Gas-Phase Titration

CALIBRATION:

				ANALYZER:			
DATE:	12-Mar-2023	PREVIOUS CALIBRATION DATE:	18-Feb-2023	MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
CLIENT:	LICA	TEMPERATURE (°C):	22.0	SERIAL #:	1180930029	NOx	1.000
LOCATION:	St. Lina	BAROMETRIC (mBar):	926	FLOW (mL/min)	827	NO	1.003
PURPOSE	Routine	START TIME (MST):	12:18	RANGE (ppb)	500	NO2	1.001
PERFORMED BY:	Alex Yakupov	END TIME (MST):	17:36	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:	26701218	ID:	132	CYLINDER (psi):	1900		LOW ID:	n/a
MFC CALIBRATION DATE:	13-Sep-2022	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:	4.3	4.1	n/a	BKG/OFFSET:	4.3	4.1	n/a
SLOPE/COEF/CE:	1.011	0.874	1	SLOPE/COEF/CE:	1.009	0.868	1

EXPECTED (REFERENCE) VALUE:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	312.4	1.6	310.8		303.4	1.4	302.0

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			CONCENTRATION (ppb)									CORRECTION FACTOR (CF.)					
(mL/min)			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	-0.1	0.0	0.0	0.0	0.0						
4961	37.20	4998	380.3	384.1	3.7	381.7	386.2	4.6	380.2	383.7	3.5	0.996	0.994		1.000	1.001	
4982	17.60	5000	179.9	181.6	1.8	n/a	n/a	n/a	179.8	181.5	1.7	n/a	n/a		1.000	1.001	
4990	8.80	4999	90.0	90.8	0.9	n/a	n/a	n/a	89.6	90.5	0.9	n/a	n/a		1.004	1.004	

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	380.6	384.0	3.4				
AS-FOUND HIGH	37.20	4998	240	126.6	384.0	257.4	254	254	1.000	100.00%
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	250.0	383.9	133.9	130.6	130.5	1.001	99.92%
LOW	37.20	4998	45	333.4	383.9	50.6	47.2	47.2	1.000	100.00%
NO2 adjustment not required.									AVERAGE:	99.97%

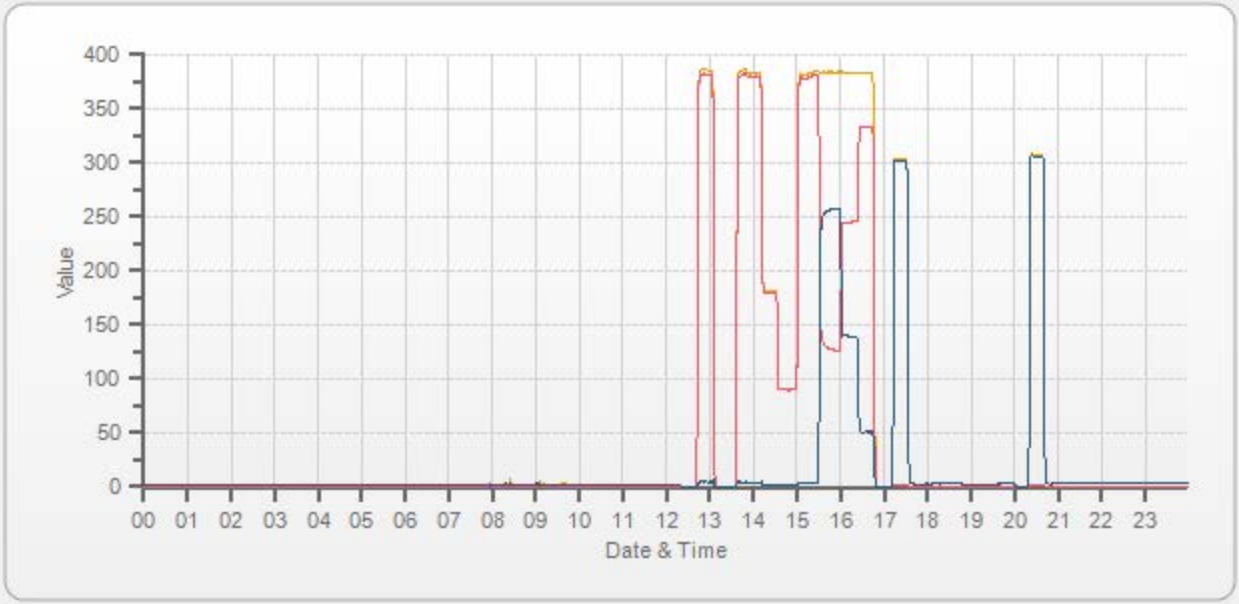
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
NO	1.000	1.000	-0.03%
NOx	1.000	0.999	-0.02%
NO2	1.000	1.000	-0.01%

COMMENTS:

Sample inlet filter was changed.

Station: St. Lina Daily: 12-03-2023 Type: AVG 1 Min. [1 Min.]



Ozone Calibration by Photometer (Varying UV Lamp)

DATE:	11-Mar-2023	PREVIOUS CALIBRATION DATE:	19-Feb-2023
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	1.002
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	925
PURPOSE	Routine	START TIME (MST):	13:27
PERFORMED BY:	Alex Yakupov	END TIME (MST):	17:05

ANALYZER:

MAKE/MODEL	Thermo 49iQ	RANGE	500 ppb
SERIAL #	12208316586	FLOW (mL/min)	1330
INITIAL		FINAL	
BKG/OFFSET	0.3	BKG/OFFSET	0.5
COEF/SLOPE	1.016	COEF/SLOPE	1.026
Expected (reference) Value	265.4	Expected (reference) Value	270

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	21-Oct-2022	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	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED Initial	INDICATED Final	Initial	Final
5000		5000	0.0	0.3	0.0		
5000		5000	378.0	376.1	378.2	1.006	0.999
5000		5000	180.0	n/a	181.0	n/a	0.994
5000		5000	60.0	n/a	61.5	n/a	0.976

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.999	0.2%

COMMENTS:

Sampe inlet filter was changed.


O3[ppb] Station: St. Lina Daily: 11-03-2023 Type: AVG 1 Min. [1 Min.]
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:	11-Mar-2023	PREVIOUS CALIBRATION DATE:	19-Feb-2023
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	925
PURPOSE	Removal/Shut-down	START TIME (MST):	13:25
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:00

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	1180030034	1022
PARAMETER:	CH4	NMHC	THC
RANGE (ppm):	20	20	40
PREVIOUS CF:	0.999	1.001	1.000

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:	26701218	ID:	132	CYLINDER (psi):	1400		LOW ID:	n/a
MFC CALIBRATION DATE:	13-Sep-2022	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
	11.18	9.89	21.07		n/a	n/a	n/a

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	n/a	n/a	n/a						
3025	74.60	3100	14.51	13.50	28.01	14.71	12.88	27.63	n/a	n/a	n/a	0.986	1.048	1.014	n/a	n/a	n/a
3063	37.30	3100	7.26	6.75	14.01	7.44	6.59	14.03	n/a	n/a	n/a	0.975	1.024	0.998	n/a	n/a	n/a
3081	18.60	3100	3.62	3.37	6.98	3.74	3.39	7.13	n/a	n/a	n/a	0.967	0.993	0.980	n/a	n/a	n/a

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
CH4	1.000	1.013	0.2%
NMHC	1.000	0.951	0.5%
THC	1.000	0.984	0.3%

Comments:

H2 = AMA HG300, #210567070.

Shutdown calibration to remove the analyzer for repair. Reason: NMHC channel is noisy.

Use Zero Chrom? **Yes**

Station: St. Lina Daily: 11-03-2023 Type: AVG 1 Min. [1 Min.]

Methane/Non-Methane Analyzer Calibration by Dilution

CALIBRATION:

DATE:	12-Mar-2023	PREVIOUS CALIBRATION DATE:	n/a
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	926
PURPOSE	Install/Post-Repair	START TIME (MST):	10:18
PERFORMED BY:	Alex Yakupov	END TIME (MST):	12:49

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	1236656107	1012
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:	26701218	ID:	132	CYLINDER (psi):	1400		LOW ID:	n/a
MFC CALIBRATION DATE:	13-Sep-2022	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		9.84	11.14	20.99

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	13.50	28.02	n/a	n/a	n/a	0.999	1.000	1.000
3063	37.30	3100	7.26	6.75	14.01	n/a	n/a	n/a	7.28	6.73	14.01	n/a	n/a	n/a	0.997	1.003	1.000
3081	18.60	3100	3.62	3.37	6.98	n/a	n/a	n/a	3.63	3.33	6.96	n/a	n/a	n/a	0.997	1.011	1.003

LINEAR REGRESSION ANALYSIS:

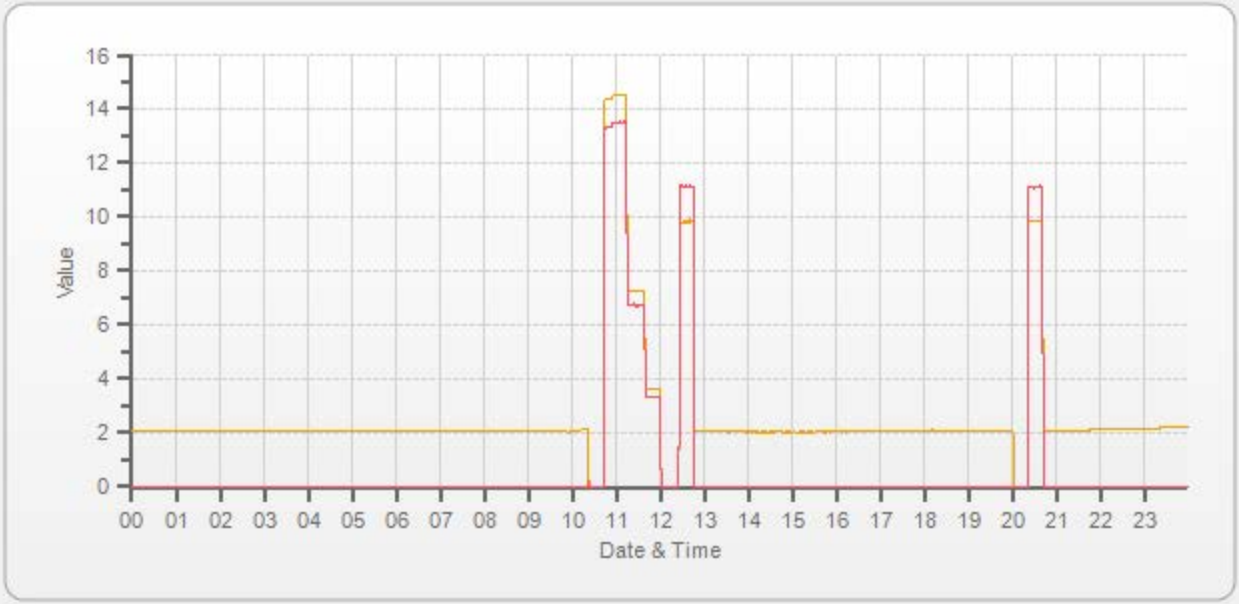
	CORRELATION	SLOPE	INTERCEPT
CH4	1.000	1.001	0.0%
NMHC	1.000	1.001	-0.1%
THC	1.000	1.001	0.0%

Comments:

Sample inlet filter was changed.
H2 = AMA HG300, #210567070.

Use Zero Chrom? **Yes**

Station: St. Lina Daily: 12-03-2023 Type: AVG 1 Min. [1 Min.]



Methane/Non-Methane Analyzer Calibration by Dilution

CALIBRATION:

DATE:	26-Mar-2023	PREVIOUS CALIBRATION DATE:	26-Mar-2023
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	926
PURPOSE	Repeat	START TIME (MST):	11:22
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:00

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	1236656107	1012
PARAMETER:	CH4	NMHC	THC
RANGE (ppm):	20	20	40
PREVIOUS CF:	0.999	1.000	1.000

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):	1300		LOW ID:	n/a
MFC CALIBRATION DATE:	15-Mar-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
	9.84	11.14	20.99		9.82	11.07	20.89

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	13.02	13.65	26.62	14.51	13.53	28.03	**1.115**	0.989	1.052	1.000	0.998	0.999
3063	37.30	3100	7.26	6.75	14.01	n/a	n/a	n/a	7.25	6.77	14.02	n/a	n/a	n/a	1.001	0.997	0.999
3081	18.60	3100	3.62	3.37	6.98	n/a	n/a	n/a	3.63	3.40	7.03	n/a	n/a	n/a	0.997	0.990	0.993

LINEAR REGRESSION ANALYSIS:

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

Comments:

Repeat calibration was completed to fix bad injection issue
AF high unacceptable for CH4 and THC due to instability.
H2 generator, AMA instr. HG300, #210567070.

Use Zero Chrom? **Yes**

Station: St. Lina Daily: 26-03-2023 Type: AVG 1 Min. [1 Min.]

Thermo 5030i SHARP Monitor Monthly Check

Date:	March 12, 2023	**Performed By/Reviewer:**	Alex Yakupov / Chris Wesson
Company:	LICA	**Start Time (mst):**	16:53
Station Name/Location:	St. Lina	**End Time (mst):**	17:41
Previous Audit Date:	February 19, 2023	**Calibration Purpose:**	routine monthly
Parameter:	PM 2.5	**Weather Conditions:**	Overcast

SHARP 5030i Information and Status:

Serial Number: CM 17091001 **Filter Tape Counter** 118

Reference Standards:

	Air Flow			
	Manometer	**Orifice**	**Pressure:**	**Temp / RH:**
Make:	DeltaCal	DeltaCal	Vaisala HM70	Vaisala HM70
Model:	DC1	DC1	HMP 76B	HMP 76B
Serial Number:	177246	177246	T1640130	T1640130
Calibration Expiration Date:	September 7, 2023	September 7, 2023	June 14, 2023	June 14, 2023

Ambient Temperature (°C)

	Reference	SHARP	Difference
#1	-7.90	-8.3	0.4

Range	Action
< ± 2°C	OK
2-3 °C	Recalibrate
> 3°C	*Fail*

Ambient Relative Humidity (%RH)

As Found:

	Reference	SHARP	Difference
#1	78.10	79.8	-1.7

Range	Action
< ± 2 %RH	OK
2-5 %RH	Recalibrate
> 5 %RH	*Fail*

Barometric Pressure (mmHg)

As Found:

	Reference	SHARP	Difference
#1	692.8	692.7	0.1

Range	Action
< ± 10 mmHg	OK
10-12 mmHg	Recalibrate
> 12 mmHg	*Fail*

Flow Audit (L/min)

As Found:

	Reference	SHARP
#1	16.69	16.67
#2	16.69	16.67
#3	16.68	16.67
Average	16.69	16.67

% Difference -0.10%

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	16.69	16.67	0.02	16.55	16.62	-0.07
					LEAK RATE:	**-0.09**

Leak Limit: 0.80 L/min

Meteorological System Checklist

Date:	March 12, 2023
Technician:	Alex Yakupov / Audit time: 17:42 - 18:51
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	no	17:51 - 17:56 tested with snow and water.
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	TRUE

AMBIENT TEMPERATURE SENSOR CHECK

Parameter:	Temperature @ 2 metres
Reference Thermometer ID:	Vaisala / HM70 / #T1640130/ Jun 14, 2023
Reference Temperature (°C):	-8.4
Station - Ambient Temperature (°C):	-9.6
Temperature Difference (°C):	1.2

BAROMETRIC PRESSURE SENSOR CHECK

Reference Barometer ID:	DeltaCal / DC1 / #177246 / Sep 03, 2023	
Reference Pressure - Units/Reading:	millibar	926
Station Pressure - Units/Reading:	millibar	924
Pressure Tolerance +/- 15% of error:	787 - 1065	0.22%

RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK

Reference Hygrometer ID:	Vaisala / HM70 / #T1640130/ Jun 14, 2023	
Reference Hygrometer % RH- Reading:	81.00	
Station Hygrometer % RH- Reading:	77.30	
RH Tolerance +/- 15% of difference:	68.85 - 93.15	4.6%

ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK

WIND SPEED		WIND DIRECTION	
Previous check date:	February 18, 2023	Previous check date:	February 18, 2023
Wind Speed Observed (kph):	1-10	Wind Direction Observed:	SE
Wind speed on Data Logger (kph):	8.1	Wind Direction on Data Logger:	SE
	Annual audit: Jul 22, 2022	Wind Direction Pass/Fail?:	Pass

Comments

Station (Trailer) temperature vs Reference gauge temperature: 24.3 vs 23.6

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

MARCH 2023

Ambient Air Monitoring Calibration Report

- LAC LA BICHE STATION-

CAL-LICA-202303-01690

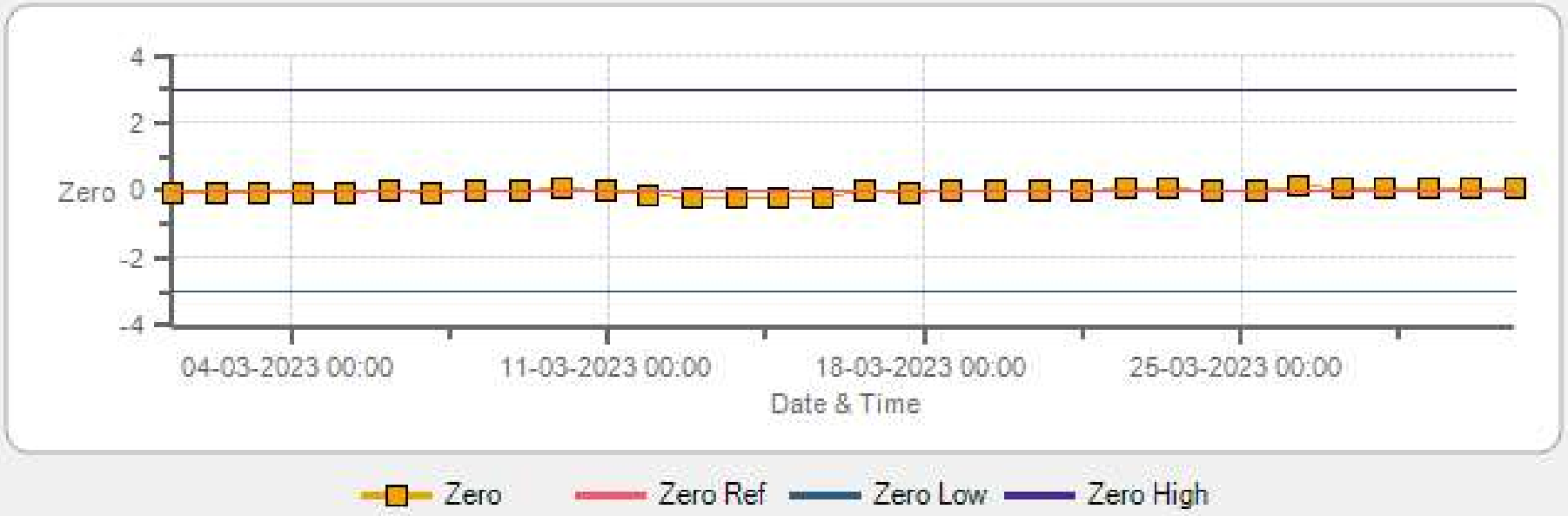
Station Operation and Maintenance:
Bureau Veritas Canada

Data Validation and Report:
LICA / Bureau Veritas Canada

April 14, 2023

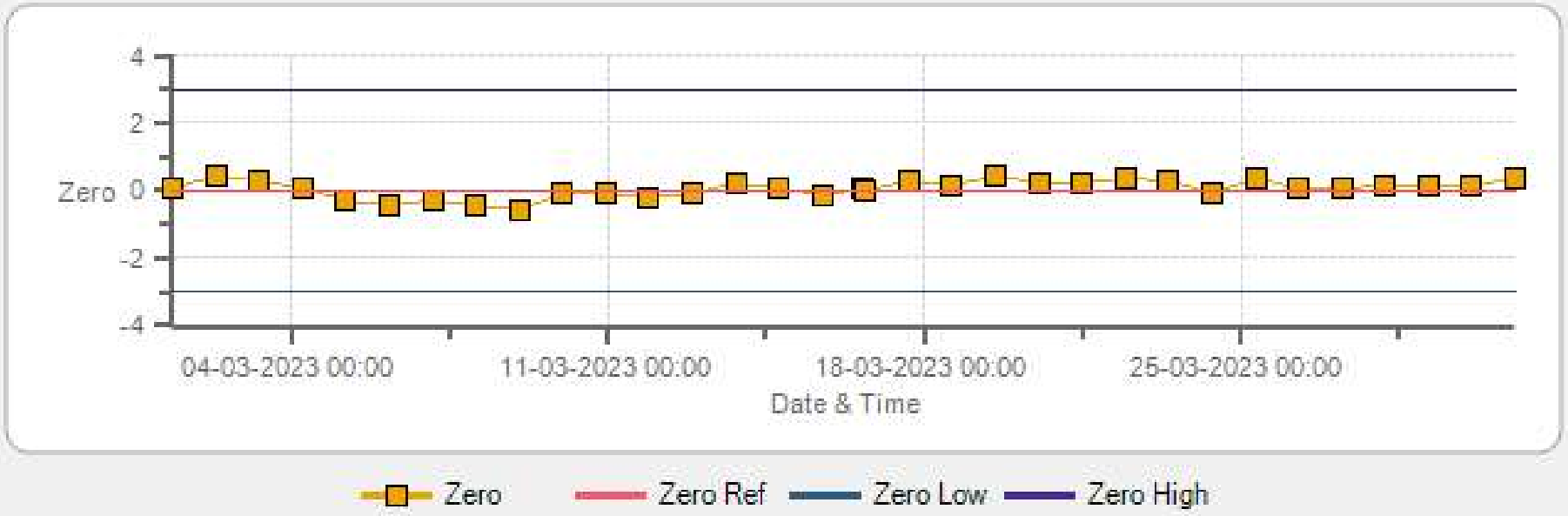
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2[ppb] Calibration: Lac La Biche Monthly: 03-2023 Type: SpanAndZero - Zero



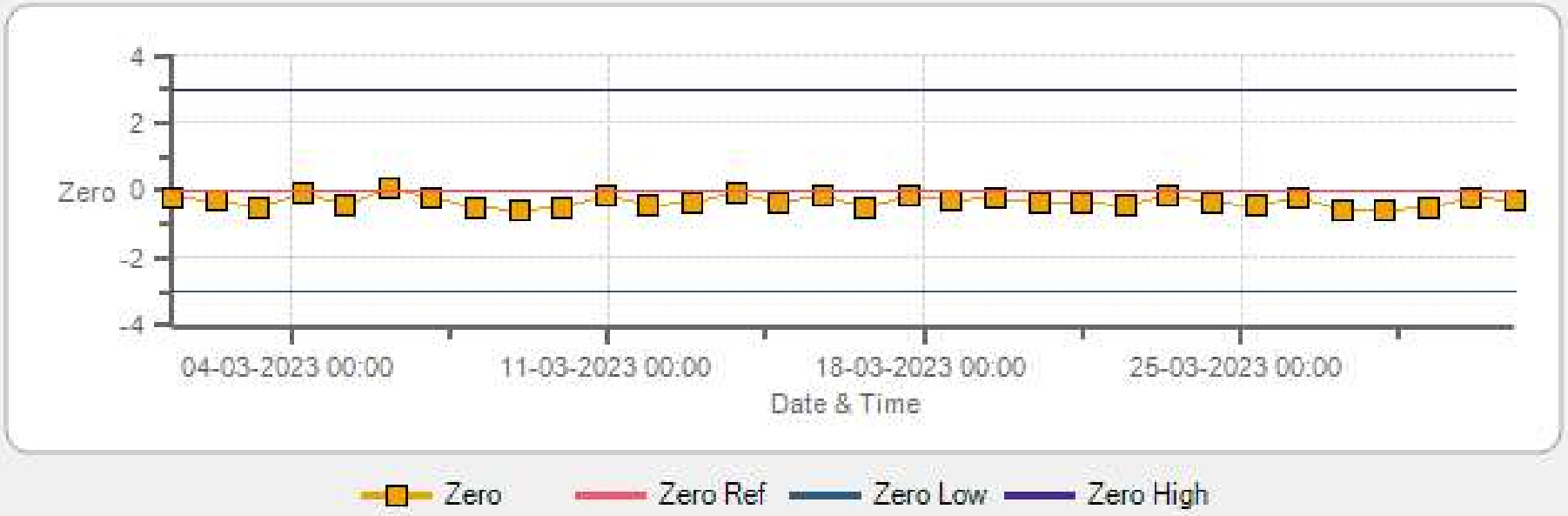
SO2[ppb] Calibration: Lac La Biche Monthly: 03-2023 Type: SpanAndZero - Span

H2S[ppb] Calibration: Lac La Biche Monthly: 03-2023 Type: SpanAndZero - Zero

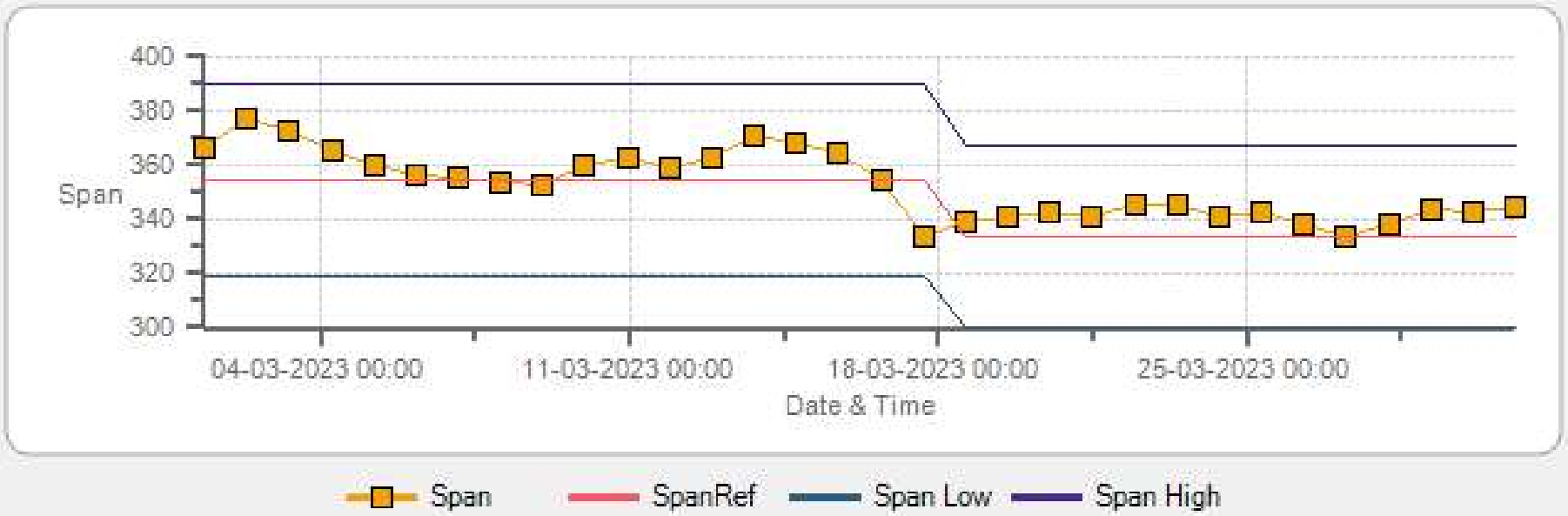


H2S[ppb] Calibration: Lac La Biche Monthly: 03-2023 Type: SpanAndZero - Span

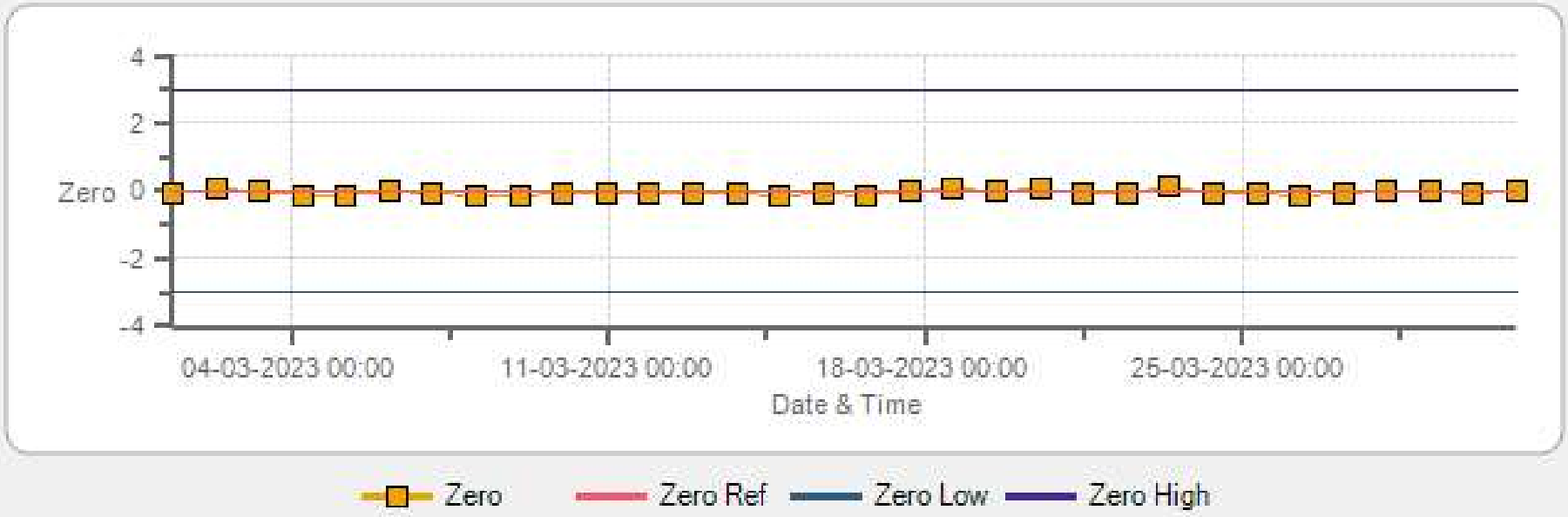
NOX[ppb] Calibration: Lac La Biche Monthly: 03-2023 Type: SpanAndZero - Zero



NOX[ppb] Calibration: Lac La Biche Monthly: 03-2023 Type: SpanAndZero - Span

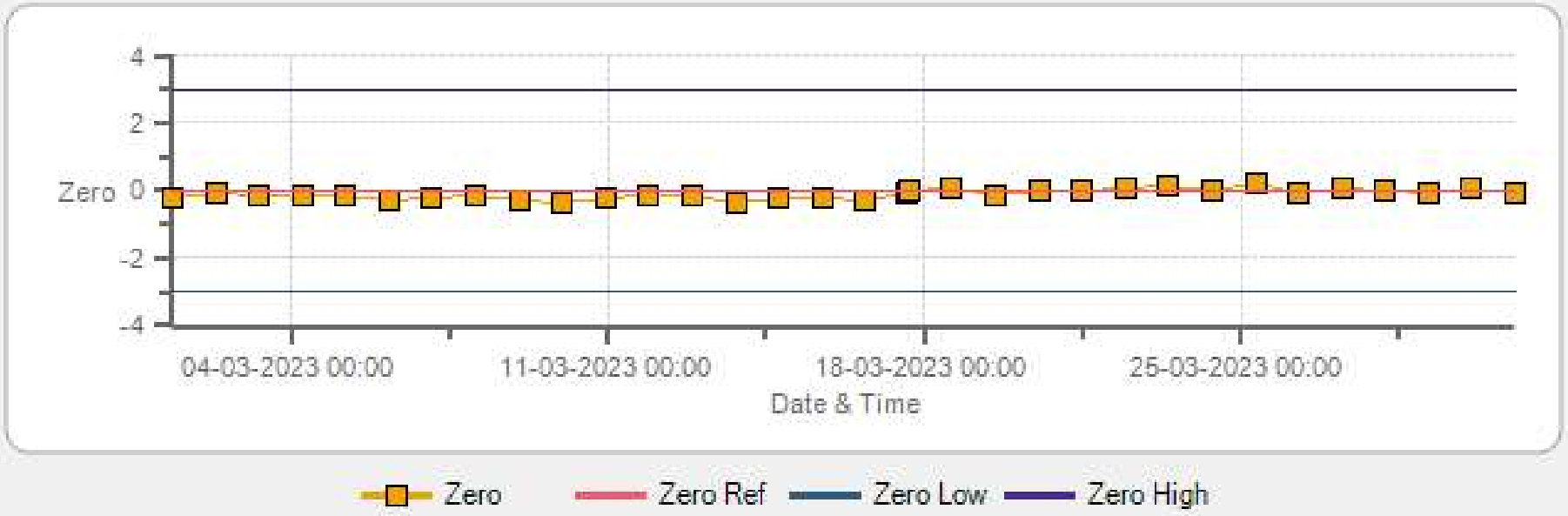


NO2[ppb] Calibration: Lac La Biche Monthly: 03-2023 Type: SpanAndZero - Zero

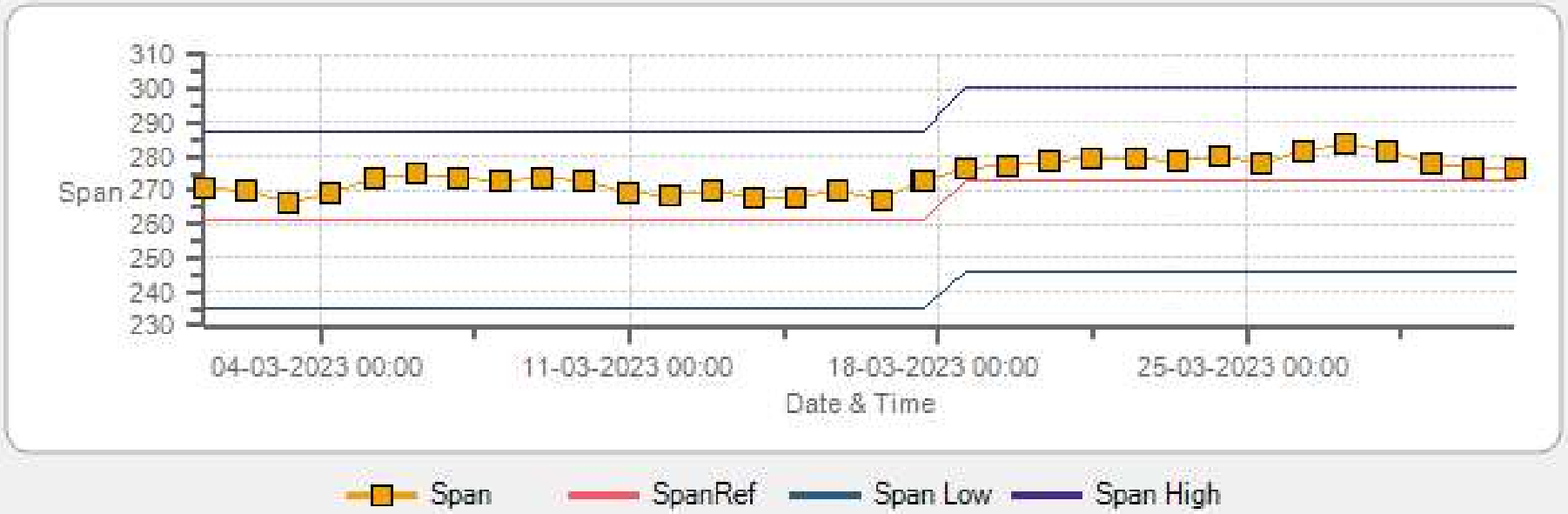


NO2[ppb] Calibration: Lac La Biche Monthly: 03-2023 Type: SpanAndZero - Span

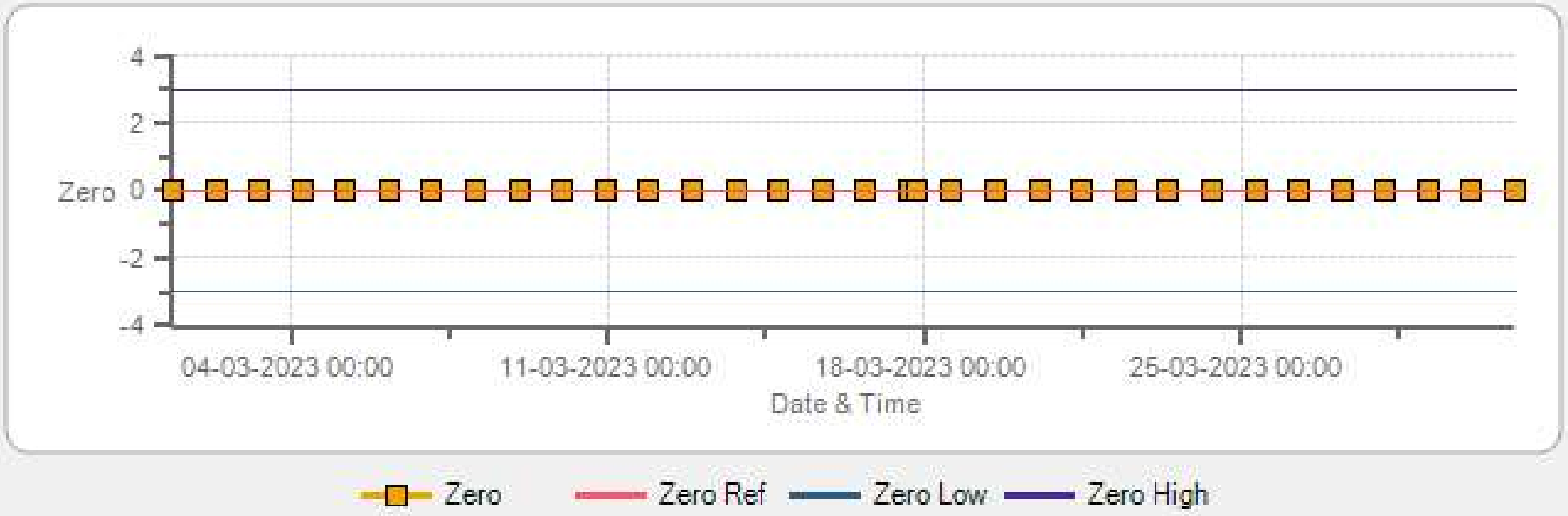
O3[ppb] Calibration: Lac La Biche Monthly: 03-2023 Type: SpanAndZero - Zero



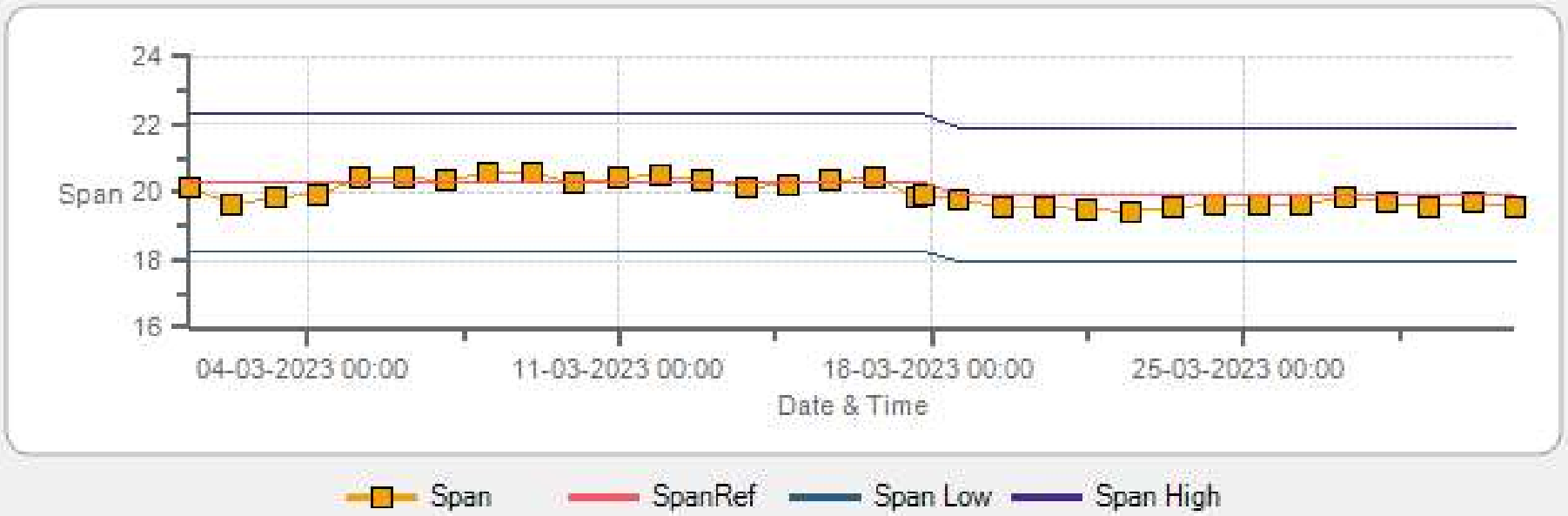
O3[ppb] Calibration: Lac La Biche Monthly: 03-2023 Type: SpanAndZero - Span

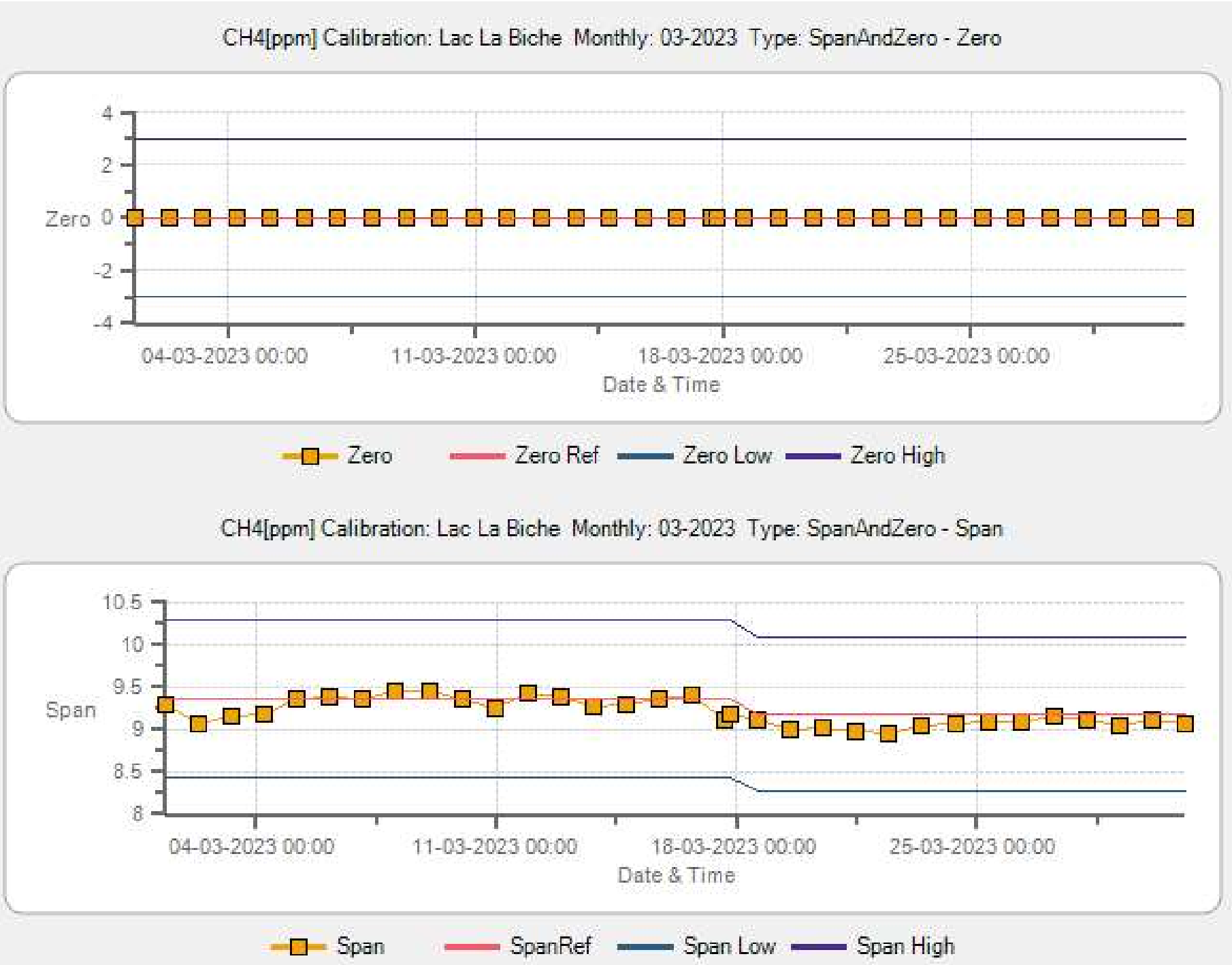


THC55[ppm] Calibration: Lac La Biche Monthly: 03-2023 Type: SpanAndZero - Zero

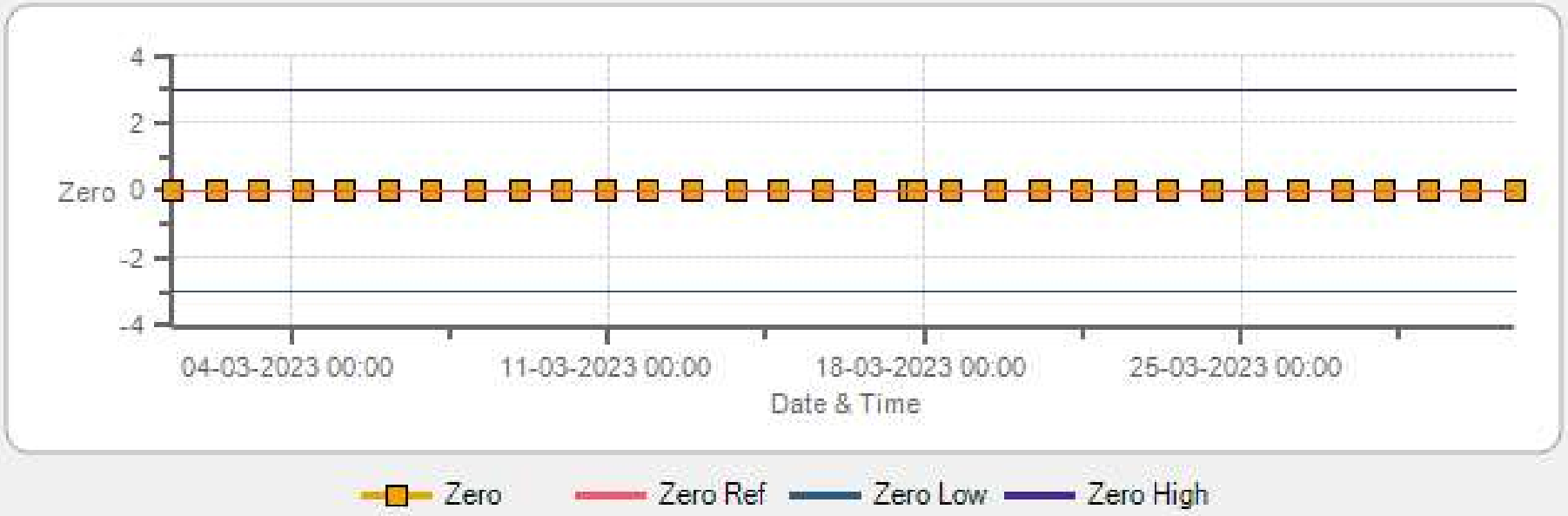


THC55[ppm] Calibration: Lac La Biche Monthly: 03-2023 Type: SpanAndZero - Span

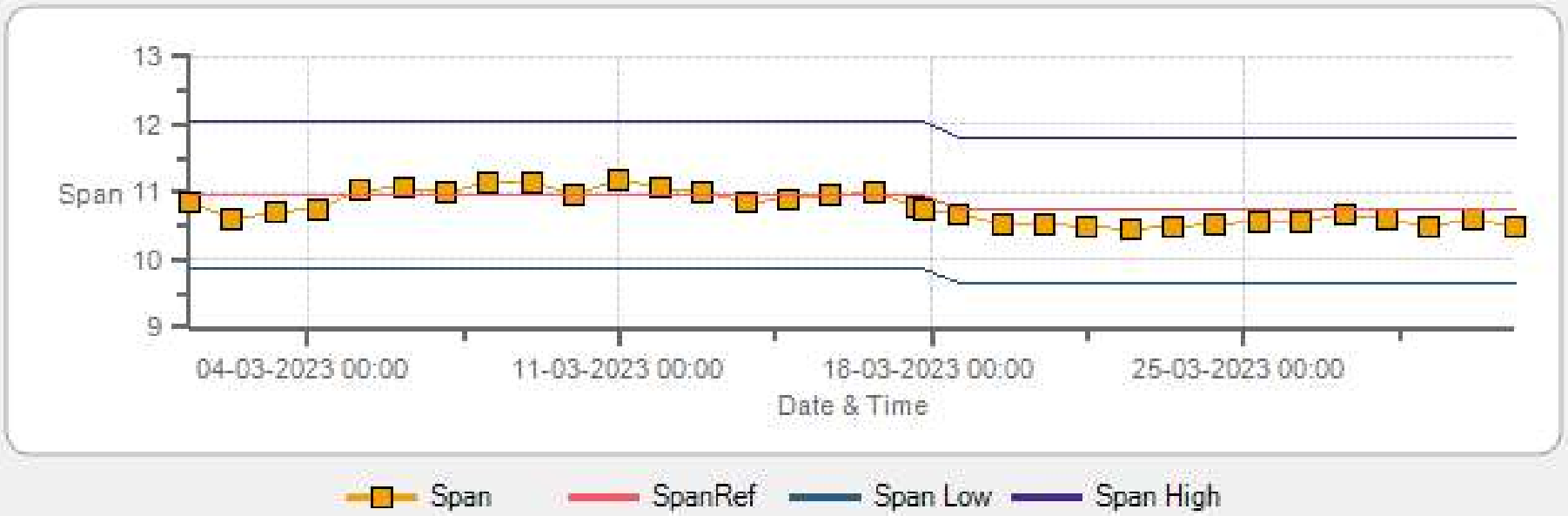



CH4[ppm] Calibration: Lac La Biche Monthly: 03-2023 Type: SpanAndZero - Zero
4
2
Zero 0
-2
-4
04-03-2023 00:00
11-03-2023 00:00
18-03-2023 00:00
25-03-2023 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
CH4[ppm] Calibration: Lac La Biche Monthly: 03-2023 Type: SpanAndZero - Span
10.5
10
9.5
Span 9
8.5
8
04-03-2023 00:00
11-03-2023 00:00
18-03-2023 00:00
25-03-2023 00:00
Date & Time
Span
SpanRef
Span Low
Span High

NMHC[ppm] Calibration: Lac La Biche Monthly: 03-2023 Type: SpanAndZero - Zero



NMHC[ppm] Calibration: Lac La Biche Monthly: 03-2023 Type: SpanAndZero - Span



MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution

DATE:	16-Mar-2023	PREVIOUS CALIBRATION DATE:	17-Feb-2023
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	0.996
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Lac La Biche	BAROMETRIC (mBar):	955
PURPOSE	Removal/Shut-down	START TIME (MST):	11:11
PERFORMED BY:	Alex Yakupov	END TIME (MST):	13:11

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1180320043	FLOW (mL/min)	461
INITIAL		FINAL	
BKG/OFFSET	6.9	BKG/OFFSET	n/a
COEF/SLOPE	1.197	COEF/SLOPE	n/a
Expected (reference) Value	460.6	Expected (reference) Value	n/a

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010	MODEL:	T701
ID:	17100415	ID:	132
MFC CALIBRATION DATE:	15-Mar-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):	1700	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	-0.16	n/a		
4961	37.20	4998	375.13	371.7	n/a	1.009	n/a
4982	17.60	5000	177.41	175.15	n/a	1.012	n/a
4990	8.80	4999	88.72	86.7	n/a	1.021	n/a

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.992	-0.1%

COMMENTS:

Shutdown calibration was completed to recalibrate flash voltage.

SO2 Analyzer Calibration by Dilution

DATE:	16-Mar-2023	PREVIOUS CALIBRATION DATE:	n/a
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	n/a
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Lac La Biche	BAROMETRIC (mBar):	955
PURPOSE	Install/Post-Repair	START TIME (MST):	13:35
PERFORMED BY:	Alex Yakupov	END TIME (MST):	17:20

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1180320043	FLOW (mL/min)	461
INITIAL		FINAL	
BKG/OFFSET	n/a	BKG/OFFSET	6.68
COEF/SLOPE	n/a	COEF/SLOPE	1.368
Expected (reference) Value	n/a	Expected (reference) Value	441

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010	MODEL:	T701
ID:	17100415	ID:	132
MFC CALIBRATION DATE:	15-Mar-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):	1700	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	n/a	0		
4961	37.20	4998	375.13	n/a	375.85	n/a	0.998
4982	17.60	5000	177.41	n/a	177.51	n/a	0.999
4990	8.80	4999	88.72	n/a	88.9	n/a	0.998

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.002	0.0%

COMMENTS:

Sample inlet filter was changed. Flash voltage was adjusted.

SO2[ppb] Station: Lac La Biche Daily: 16-03-2023 Type: AVG 1 Min. [1 Min.]

H2S Analyzer Calibration by Dilution

DATE:	16-Mar-2023	PREVIOUS CALIBRATION DATE:	17-Feb-2023
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	0.995
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Lac La Biche	BAROMETRIC (mBar):	955
PURPOSE	Routine	START TIME (MST):	11:10
PERFORMED BY:	Alex Yakupov	END TIME (MST):	16:40

ANALYZER:

MAKE/MODEL	API 101A	RANGE	100 ppb
SERIAL #	324	FLOW (mL/min)	527
INITIAL		FINAL	
BKG/OFFSET	31	BKG/OFFSET	30.3
COEF/SLOPE	1.037	COEF/SLOPE	1.03
Expected (reference) Value	29.3	Expected (reference) Value	27.5

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	15-Mar-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):	800	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:	11:16	SO2 Conc (ppb)	380
END TIME:	11:31	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	-0.4	0		
7442	57.90	7500	77.97	78	77.9	0.995	1.001
7472	28.20	7500	37.98	n/a	38	n/a	0.999
7486	14.10	7500	18.99	n/a	19.1	n/a	0.994

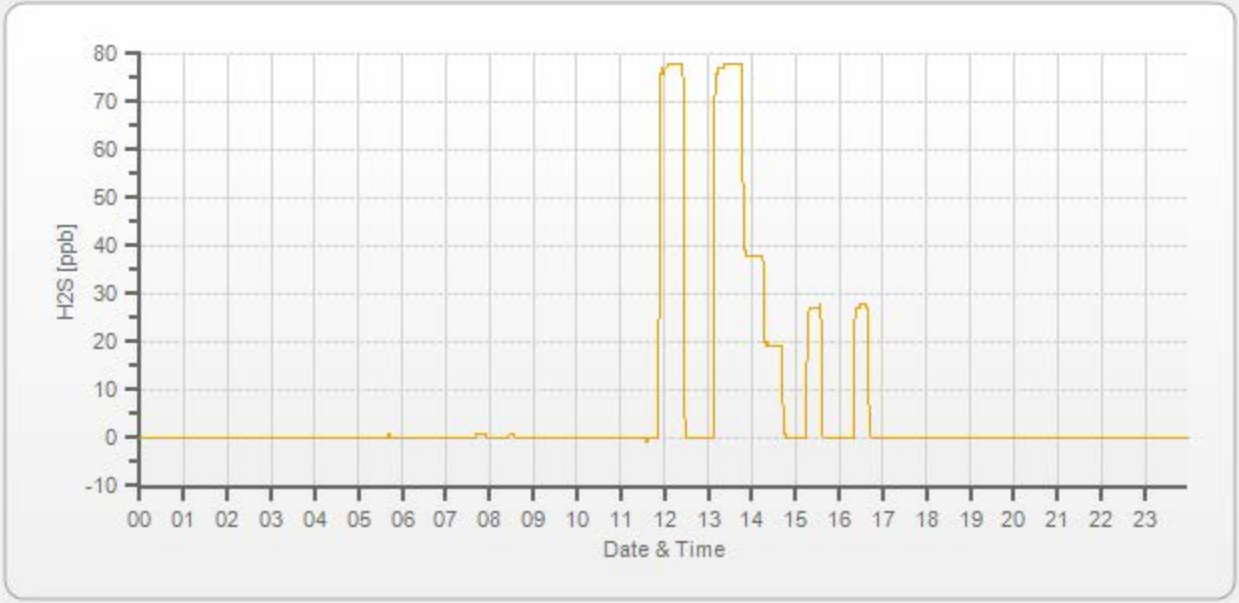
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.999	0.1%

COMMENTS:

Sample inlet filter was changed. This analyzer is BV owned.

H2S[ppb] Station: Lac La Biche Daily: 16-03-2023 Type: AVG 1 Min. [1 Min.]



NOx Calibration by Dilution/Gas-Phase Titration

CALIBRATION:

				ANALYZER:			
DATE:	17-Mar-2023	PREVIOUS CALIBRATION DATE:	17-Feb-2023	MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
CLIENT:	LICA	TEMPERATURE (°C):	22.0	SERIAL #:	1180930027	NOx	1.001
LOCATION:	Lac La Biche	BAROMETRIC (mBar):	955	FLOW (mL/min)	680	NO	1.002
PURPOSE	Routine	START TIME (MST):	10:04	RANGE (ppb)	500	NO2	0.997
PERFORMED BY:	Alex Yakupov	END TIME (MST):	16:15	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):	1700		LOW ID:	n/a
MFC CALIBRATION DATE:	15-Mar-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:	9	8.7	n/a	BKG/OFFSET:	8.6	8.8	n/a
SLOPE/COEF/CE:	1.009	0.896	1.003	SLOPE/COEF/CE:	1.008	0.888	1.003

EXPECTED (REFERENCE) VALUE:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	354.4	2.2	352.2		333.5	2.3	331.2

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			CONCENTRATION (ppb)									CORRECTION FACTOR (CF.)					
(mL/min)			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	0.0	0.2	0.0	0.0	0.0						
4961	37.20	4998	380.3	384.1	3.7	384.2	388.6	4.4	379.6	383.7	4.1	0.989	0.988		1.002	1.001	
4982	17.60	5000	179.9	181.6	1.8	n/a	n/a	n/a	179.1	181.0	1.9	n/a	n/a		1.004	1.003	
4990	8.80	4999	90.0	90.8	0.9	n/a	n/a	n/a	89.1	89.9	0.7	n/a	n/a		1.010	1.010	

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	378.6	382.5	3.9				
AS-FOUND HIGH	37.20	4998	235	122.2	383.4	261.2	256.4	257.3	0.997	100.35%
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	259.1	385.1	126.0	119.5	122.1	0.979	102.18%
LOW	37.20	4998	40	333.6	383.6	50.0	45	46.1	0.976	102.44%
NO2 adjustment not required.									AVERAGE:	101.66%

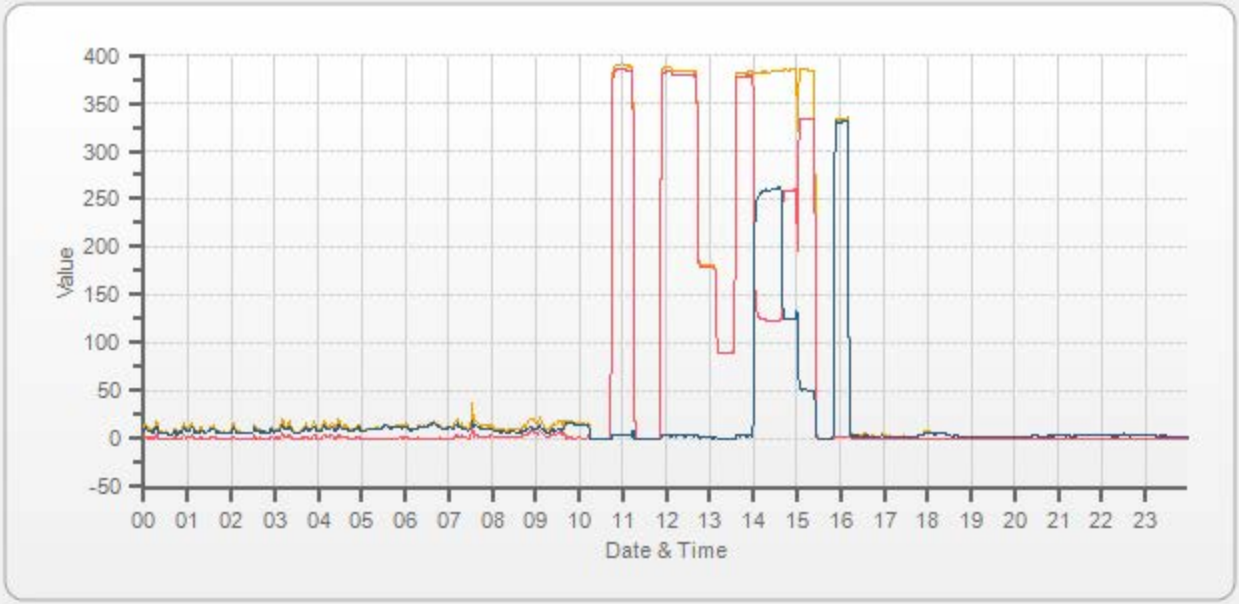
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
NO	1.000	0.999	-0.07%
NOx	1.000	1.000	-0.09%
NO2	1.000	0.998	0.37%

COMMENTS:

Sample inlet filter was changed.
15:00 - scheduled ZS check interfered with the calibration.

Station: Lac La Biche Daily: 17-03-2023 Type: AVG 1 Min. [1 Min.]



Ozone Calibration by Photometer (Varying UV Lamp)

DATE:	17-Mar-2023	PREVIOUS CALIBRATION DATE:	16-Feb-2023
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	0.995
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Lac La Biche	BAROMETRIC (mBar):	955
PURPOSE	Routine	START TIME (MST):	10:05
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:24

ANALYZER:

MAKE/MODEL	Thermo 49i	RANGE	500 ppb
SERIAL #	1002240372	FLOW (mL/min)	1456
INITIAL		FINAL	
BKG/OFFSET	0.1	BKG/OFFSET	-0.1
COEF/SLOPE	1.037	COEF/SLOPE	1.057
Expected (reference) Value	261	Expected (reference) Value	273

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	15-Mar-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	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED Initial	INDICATED Final	Initial	Final
5000		5000	0.0	0.2	0.0		
5000		5000	378.0	380.4	378.6	0.994	0.998
5000		5000	180.0	n/a	180.6	n/a	0.997
5000		5000	61.0	n/a	62.4	n/a	0.978

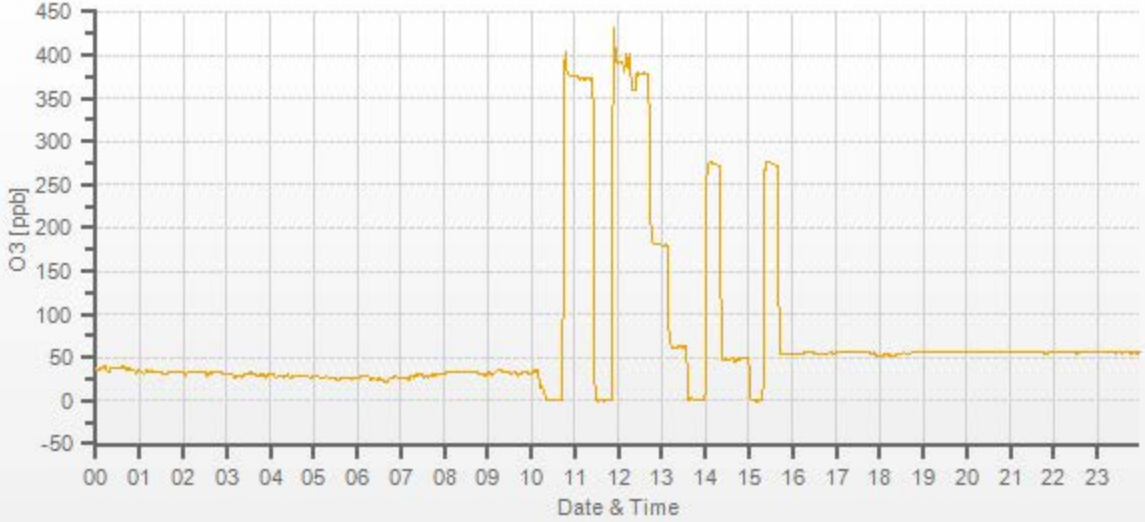
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	0.1%

COMMENTS:

Sample inlet filter was changed.
12:08 - High point restarted (calibrator reset due to unstable output).

O3[ppb] Station: Lac La Biche Daily: 17-03-2023 Type: AVG 1 Min. [1 Min.]



Methane/Non-Methane Analyzer Calibration by Dilution

CALIBRATION:

DATE:	17-Mar-2023	PREVIOUS CALIBRATION DATE:	17-Feb-2023
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Lac La Biche	BAROMETRIC (mBar):	955
PURPOSE	Routine	START TIME (MST):	15:48
PERFORMED BY:	Alex Yakupov	END TIME (MST):	19:17

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	1180320044	1022
PARAMETER:	CH4	NMHC	THC
RANGE (ppm):	20	20	40
PREVIOUS CF:	1.000	0.996	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):	1300		LOW ID:	n/a
MFC CALIBRATION DATE:	15-Mar-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
	9.36	10.95	20.31		9.18	10.74	19.93

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	14.66	13.80	28.46	14.51	13.53	28.04	0.990	0.978	0.984	1.000	0.998	0.999
3063	37.30	3100	7.26	6.75	14.01	n/a	n/a	n/a	7.24	6.76	14.00	n/a	n/a	n/a	1.002	0.999	1.000
3081	18.60	3100	3.62	3.37	6.98	n/a	n/a	n/a	3.61	3.35	6.96	n/a	n/a	n/a	1.002	1.005	1.003

LINEAR REGRESSION ANALYSIS:

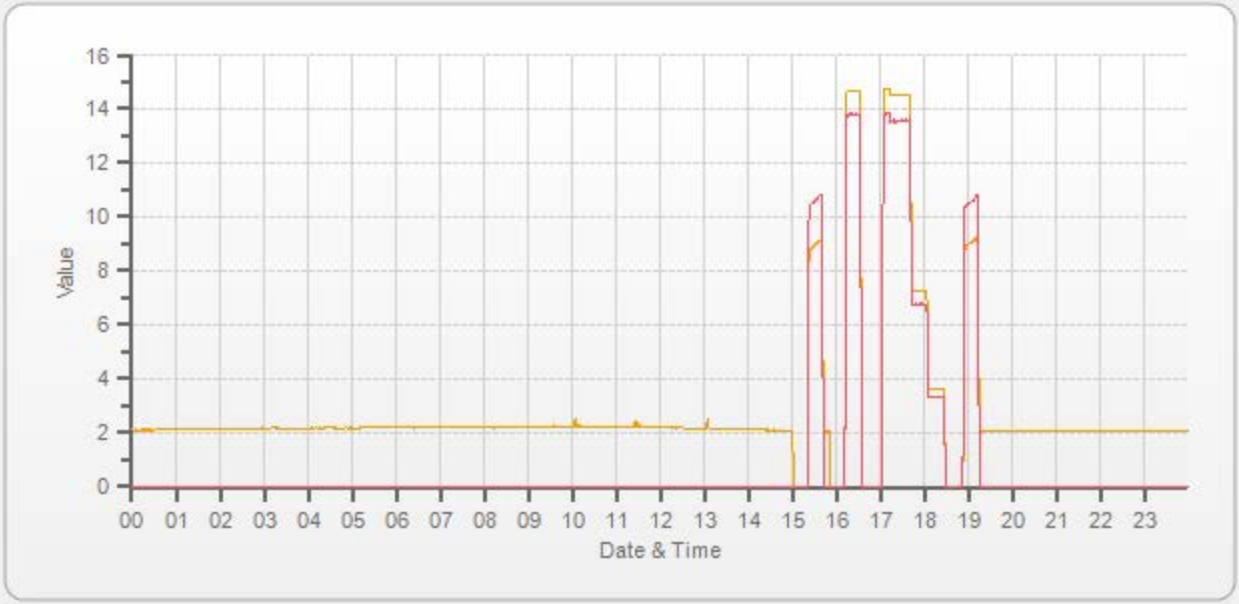
	CORRELATION	SLOPE	INTERCEPT
CH4	1.000	1.000	0.0%
NMHC	1.000	1.003	-0.1%
THC	1.000	1.001	0.0%

Comments:

Sample inlet filter was changed.

Use Zero Chrom? **Yes**

Station: Lac La Biche Daily: 17-03-2023 Type: AVG 1 Min. [1 Min.]



Thermo 5030i SHARP Monitor Monthly Check

Date:	March 18, 2023	**Performed By/Reviewer:**	Alex Yakupov / Chris Wesson
Company:	LICA	**Start Time (mst):**	10:42
Station Name/Location:	Lac La Biche	**End Time (mst):**	11:33
Previous Audit Date:	February 17, 2022	**Calibration Purpose:**	routine monthly
Parameter:	PM 2.5	**Weather Conditions:**	Mainly sunny

SHARP 5030i Information and Status:

Serial Number: CM 17071016 **Filter Tape Counter** 241

Reference Standards:

	Air Flow			
	Manometer	**Orifice**	**Pressure:**	**Temp / RH:**
Make:	DeltaCal	DeltaCal	Delta Cal	Vaisala HMP76B
Model:	DC1	DC1	DC1	HMP 76B
Serial Number:	177246	177246	177246	T1640130
Calibration Expiration Date:	September 7, 2023	September 7, 2023	September 7, 2023	June 14, 2023

Ambient Temperature (°C)

	Reference	SHARP	Difference
#1	-4.60	-4.9	0.3

Range	Action
< ± 2°C	OK
2-3 °C	Recalibrate
> 3°C	*Fail*

Ambient Relative Humidity (%RH)

As Found:

	Reference	SHARP	Difference
#1	61.60	60.1	1.5

Range	Action
< ± 2 %RH	OK
2-5 %RH	Recalibrate
> 5 %RH	*Fail*

Barometric Pressure (mmHg)

As Found:

	Reference	SHARP	Difference
#1	713.0	712.8	0.2

Range	Action
< ± 10 mmHg	OK
10-12 mmHg	Recalibrate
> 12 mmHg	*Fail*

Flow Audit (L/min)

As Found:

	Reference	SHARP
#1	16.70	16.67
#2	16.71	16.67
#3	16.70	16.67
Average	16.70	16.67

% Difference -0.20%

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	16.70	16.67	0.03	16.53	16.63	-0.10

LEAK RATE: **-0.13**

Leak Limit: 0.80 L/min

Meteorological System Checklist

Date:	March 18, 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 14, 2023		
Reference Temperature (°C):	-2.5		
Station - Ambient Temperature (°C):	-2.8		
Temperature Difference (°C):	0.3		
BAROMETRIC PRESSURE SENSOR CHECK			
Reference Barometer ID:	DeltaCal / DC1 / #177246 / Sep 03, 2023		
Reference Pressure - Units/Reading:	millibar	951	
Station Pressure - Units/Reading:	millibar	950	
Pressure Tolerance +/- 15% of error:	808 - 1094	0.11%	
RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK			
Reference Hygrometer ID:	Vaisala / HM70 / #T1640130/ Jun 14, 2023		
Reference Hygrometer % RH- Reading:	61.40		
Station Hygrometer % RH- Reading:	52.70		
RH Tolerance +/- 15% of difference:	52.19 - 70.61	14.2%	
ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK			
WIND SPEED		WIND DIRECTION	
Previous check date:	February 17, 2023	Previous check date:	February 17, 2023
Wind Speed Observed (kph):	1-10	Wind Direction Observed:	NW
Wind speed on Data Logger (kph):	2.6	Wind Direction on Data Logger:	NW
	Annual audit: May 22, 2022	Wind Direction Pass/Fail?:	Pass

Comments

Station (Trailer) temperature vs Reference gauge: 20.4 vs 21.1 - 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.

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