



Lakeland Industry & Community Association

APRIL 2023

Monthly Ambient Air Quality Monitoring Report

LICA-202304

Operation and Maintenance:

Bureau Veritas Canada

Data Validation and Report:

Lakeland Industry & Community Association

May 26, 2023

Pages may be left blank for double-sided printing



Lakeland Industry & Community Association

5107 50 St

Bonnyville, AB, T9N 2J7

Phone #: 780-226-7068

E-mail: monitoring@lica.ca

www.lica.ca

May 26, 2023

Alberta Environment and Protected Areas (EPA)

11th Floor, Oxbridge Place

9820 106 Street

Edmonton, AB, T5K 2J6

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

Enclosed is the April 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.

TABLE OF CONTENTS

COVER LETTER.....	3
TABLE OF CONECTCS	4
LIST OF ACRONYMS.....	5
NETWORK STATION SUMMARY	6
Listing of Continuous Monitoring Stations and Integrated Sampling Stations.....	6
List of Contractors performing air monitoring activities	7
Monitoring Notes during the Month of April 2023	7
Cold Lake South	7
Tamarack	7
St. Lina Station	7
Lac La Biche Station	8
Integrated Sampling	8
Revisions to Alberta’s Ambient Air Quality Data Warehouse.....	9
Deviations from Authorized Monitoring Methods	9
Disclaimer.....	9
Certification.....	10
Map of LICA Continuous Monitoring Network	11
CONTINUOUS NETWORK EQUIPMENT AND MONITORING RESULTS SUMMARY	12
Cold Lake South Station	13
Tamarack Station	16
St. Lina Station	21
Lac La Biche Station.....	25
TABLES AND CHARTS.....	30
COLD LAKE SOUTH STATION	31
TAMARACK STATION.....	62
ST. LINA STATION	94
LAC LA BICHE STATION.....	126
END OF REPORT	157

LIST OF ACRONYMS

AAAQOs	Alberta Ambient Air Quality Objectives
AEP	Alberta Environment and Parks
AMD	Air Monitoring Directive
AT	Ambient Temperature
BP	Barometric Pressure
CH ₄	Methane
EPEA	Environmental Protection and Enhancement Act
H ₂ S	Hydrogen Sulphide
kph	kilometers per hour
LICA	Lakeland Industry & Community Association
mb	millibar
mm	millimeter
NMHC	Non-Methane Hydrocarbons
NO	Nitric Oxide
NO ₂	Nitrogen Dioxide
NO _x	Oxide of Nitrogen
PAC	Polycyclic Aromatic Compounds
ppb	parts per billion
ppm	parts per million
RH	Relative Humidity
SO ₂	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 April 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, except PM2.5. One one-hour PM2.5 exceedance was recorded on April 11 hour 5, at concentration of 82 ug/m3. **EPA reference #: 411587.**
- 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.

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 April 2023 Integrated Sampling Report.

- **VOCs Sampling System:**
 - The VOC sampler is programmed to collect a 24-hour sample of air every sixth day as per the National Air Pollution Surveillance schedule (NAPS).
 - Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) where applicable.
 - Five samples were collected this month: on April 6, 12, 18, 24 and 30.
- **PAHs Sampling System:**
 - The PUF sampler is programmed to collect a 24-hour sample of air every sixth day as per the National Air Pollution Surveillance schedule (NAPS).
 - Five samples were collected this month: on April 6, 12, 18, 24 and 30.
- **Partisol Sampling System:**
 - The Partisol sampler is programmed 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.
 - Five samples were collected this month: on April 6, 12, 18, 24 and 30.
- **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 March 30 and April 1, and were removed between April 28 and April 30.
 - 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 installed between March 30 and April 1, and were removed between April 28 and April 30. The media for the May/June monitoring period were installed at the time the media for March/April were removed.
- **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

No revisions to historical data previously submitted to the Alberta's Ambient Air Quality Data Warehouse were made this month.

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).

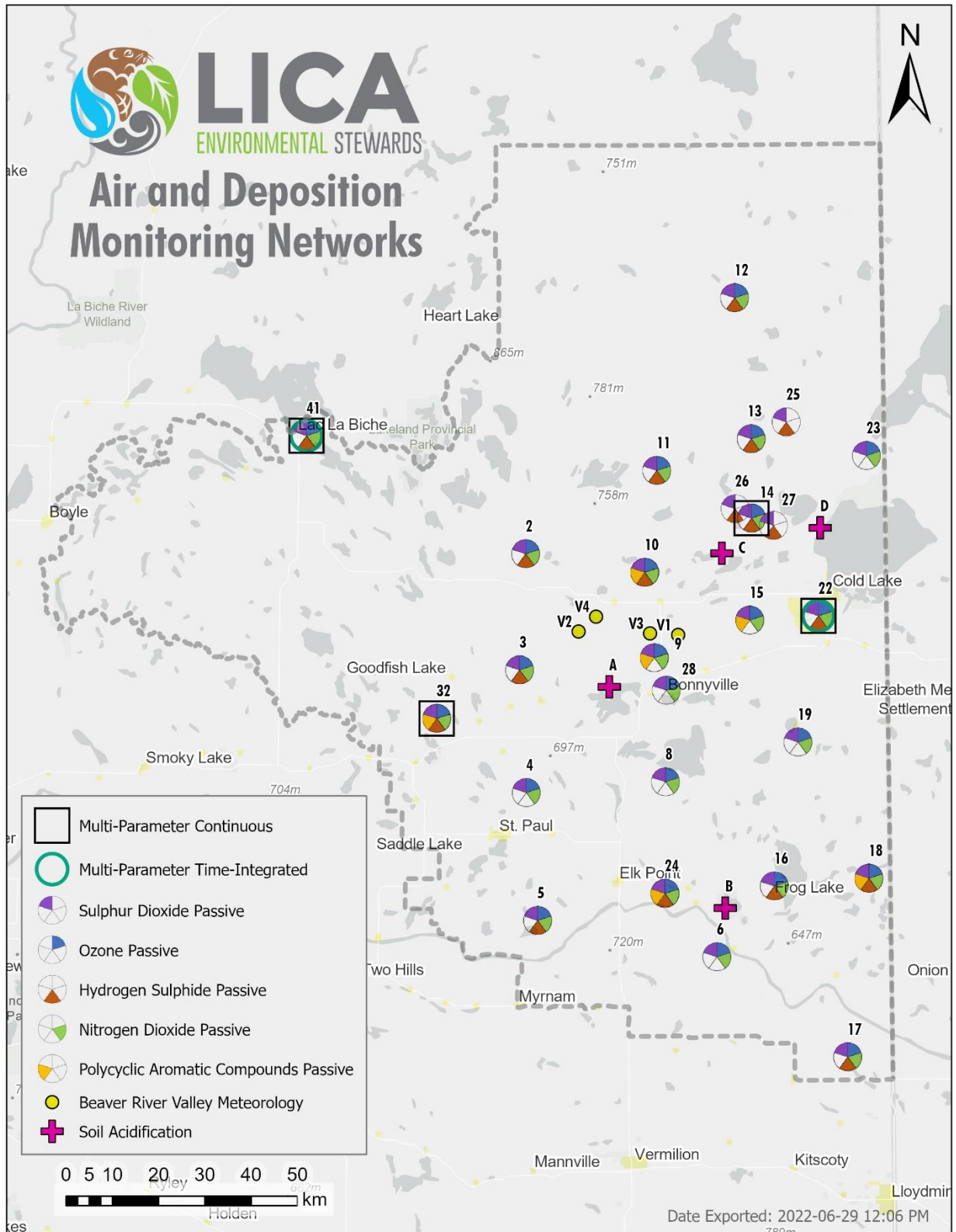
I certify that I have reviewed and verified this report and that the information is complete, accurate and representative of the monitoring results, reporting timeframe and the specified analysis, summarization and reporting requirements. I also certify that at the time of this report's submission, all 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

May 26, 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	April 9, 2023	<ul style="list-style-type: none"> Due to intermittent polling issues, hourly data that was collected on April 11 hour 6 did not meet the hourly data completeness requirement. One hour of downtime was recorded as a result.
TRS Thermo 450i #812728560 TRS convertor CD Nova CDN-101 #501	April 9, 2023	<ul style="list-style-type: none"> Due to intermittent polling issues, hourly data that was collected on April 11 hour 6 did not meet the hourly data completeness requirement. One hour of downtime was recorded as a result.
NOx/NO/NO2 Thermo 42i #1505664393	April 9, 2023	<ul style="list-style-type: none"> Due to intermittent polling issues, hourly data that was collected on April 11 hour 6 did not meet the hourly data completeness requirement. One hour of downtime was recorded as a result.
O3 Thermo 49iQ #12208316585	April 10, 2023	<ul style="list-style-type: none"> Due to intermittent polling issues, hourly data that was collected on April 11 hour 6 did not meet the hourly data completeness requirement. One hour of downtime was recorded as a result.
THC/CH4/NMHC Thermo 55i #1180930025 H2 Generator HG300 #210567071	April 10, 2023	<ul style="list-style-type: none"> Due to intermittent polling issues, hourly data that was collected on April 11 hour 6 did not meet the hourly data completeness requirement. One hour of downtime was recorded as a result.
PM2.5 Teledyne T640 #575	April 10, 2023	<ul style="list-style-type: none"> Due to intermittent polling issues, hourly data that was collected on April 11 hour 6 did not meet the hourly data completeness requirement. One hour of downtime was recorded as a result.

Parameter	Verification Date	Equipment Operational Summary
RH Rotronic HC2A-S3 #20257103	April 10, 2023	<ul style="list-style-type: none"> Due to intermittent polling issues, hourly data that was collected on April 11 hour 6 did not meet the hourly data completeness requirement. One hour of downtime was recorded as a result.
BP Met One 092 #Y23368	April 10, 2023	<ul style="list-style-type: none"> Due to intermittent polling issues, hourly data that was collected on April 11 hour 6 did not meet the hourly data completeness requirement. One hour of downtime was recorded as a result.
AT Rotronic HC2A-S3 #20257103	April 10, 2023	<ul style="list-style-type: none"> Due to intermittent polling issues, hourly data that was collected on April 11 hour 6 did not meet the hourly data completeness requirement. One hour of downtime was recorded as a result.
ST COMET #NA	April 10, 2023	<ul style="list-style-type: none"> Due to intermittent polling issues, hourly data that was collected on April 11 hour 6 did not meet the hourly data completeness requirement. One hour of downtime was recorded as a result.
WS/WD/STDWD RM Young 05305AQ #177354	April 10, 2023	<ul style="list-style-type: none"> 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. Due to intermittent polling issues, hourly data that was collected on April 11 hour 6 did not meet the hourly data completeness requirement. One hour of downtime was recorded as a result.

Monitored Data Summary for Cold Lake South Station

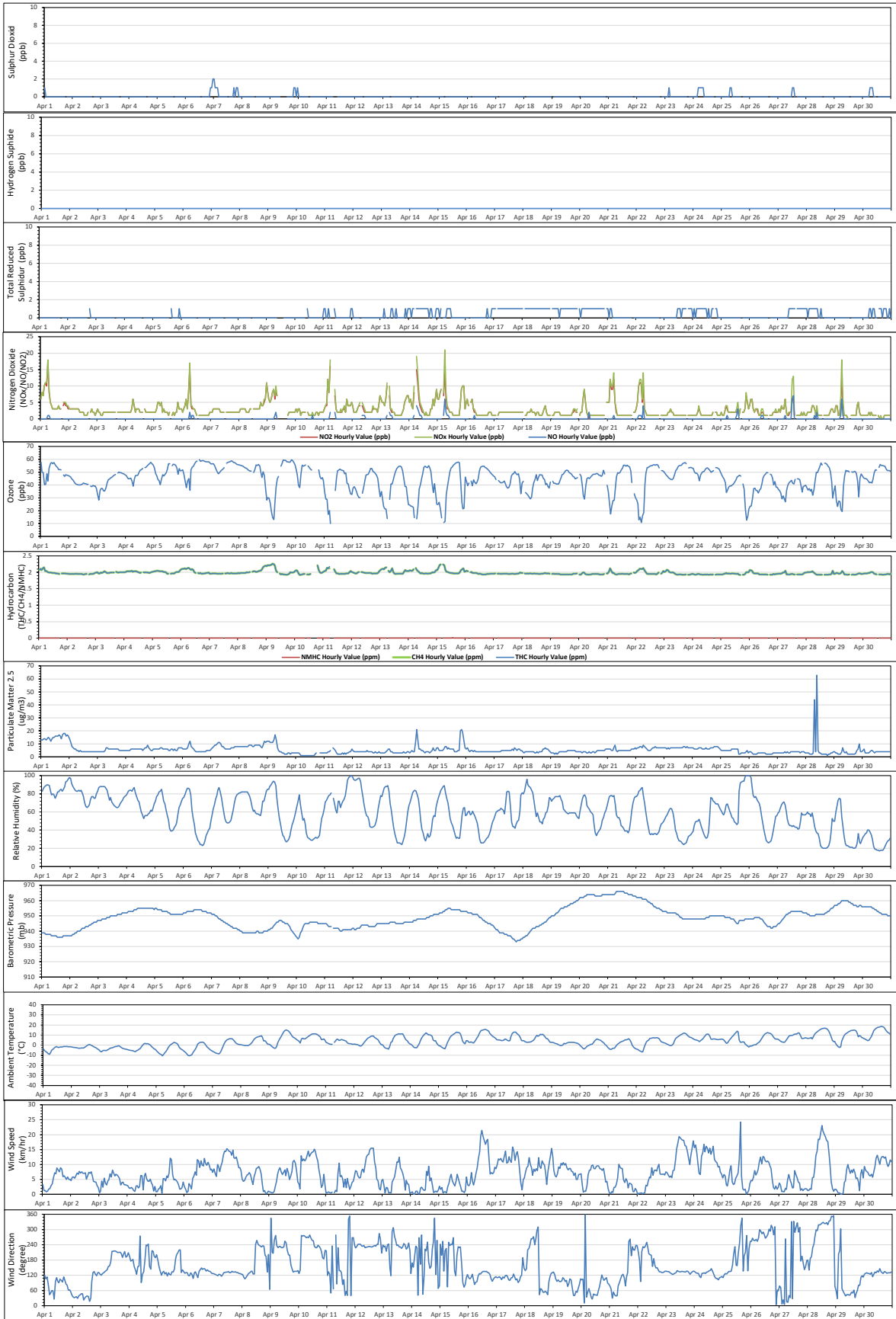
Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.0	0	2	Apr 6 at hr 23	8.4	SE	0.3	Apr 7	99.9	95.0
TRS (ppb)	-	-	-	-	-	-	0.3	0	1	Apr 2 at hr 18	6	SE	1.0	Apr 17	99.9	95.0
NOx (ppb)	-	-	-	-	-	-	2.9	0	21	Apr 15 at hr 6	0.5	ENE	6.0	Apr 1	99.9	94.6
NO (ppb)	-	-	-	-	-	-	0.1	0	7	Apr 27 at hr 13	7.9	WNW	0.6	Apr 27	99.9	94.6
NO2 (ppb)	159	-	-	0	-	-	2.7	0	17	Apr 1 at hr 6	1.9	ENE	5.7	Apr 1	99.9	94.6
O3 (ppb)	76	-	-	0	-	-	44.8	10.1	59.9	Apr 6 at hr 14	11.2	SE	55.0	Apr 7	99.9	94.8
THC (ppm)	-	-	-	-	-	-	1.99	1.92	2.26	Apr 9 at hr 5	2.7	SW	2.06	Apr 9	99.9	94.8
CH4 (ppm)	-	-	-	-	-	-	1.99	1.92	2.26	Apr 9 at hr 5	2.7	SW	2.06	Apr 9	99.9	94.8
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.01	Apr 15 at hr 13	2.8	ESE	0.00	Apr 15	99.9	94.8
PM2.5 (µg/m3)	80	29	-	0	0	-	5.5	1	63	Apr 28 at hr 9	18.5	NW	15.1	Apr 1	99.9	99.6
RH (%)	-	-	-	-	-	-	58.9	17	100	Apr 11 at hr 22	4	W	85.8	Apr 1	99.9	99.9
BP (millibar)	-	-	-	-	-	-	949	933	966	Apr 21 at hr 7	5.6	ENE	965	Apr 21	99.9	99.9
Ext. Temp. (°C)	-	-	-	-	-	-	3.7	-10.6	18.3	Apr 30 at hr 15	12.6	SE	12.3	Apr 30	99.9	99.9
Stn. Temp. (°C)	-	-	-	-	-	-	23.2	21.3	24.6	Apr 7 at hr 14	14.4	SE	24.3	Apr 24	99.9	99.9
WSV (km/hr)	-	-	-	-	-	-	2.8	0.0	24.2	Apr 25 at hr 15	24.2	NW	12.8	Apr 23	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

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 Apr 2023 - Cold Lake South Station



Tamarack Station

Equipment Operation Summary

Parameter	Calibration Date	Equipment Operational Summary
SO2 Thermo 43i-TLE #1180930031	April 15, 2023	<ul style="list-style-type: none"> No issues were identified this month.
H2S Thermo 450i #CM17360005	April 15, 2023	<ul style="list-style-type: none"> No issues were identified this month.
NOx/NO/NO2 Thermo 42i #1180930028	April 15, 2023	<ul style="list-style-type: none"> No issues were identified this month.
O3 Thermo 49iQ #1202068570	April 16, 2023	<ul style="list-style-type: none"> No issues were identified this month.
THC/CH4/NMHC Thermo 55i #1180930026	April 16, 2023	<ul style="list-style-type: none"> Maintenance was performed on the hydrogen generator to replenish desiccant cartridge on April 16 hour 9 and hour 10. Two hours of downtime were recorded due to this event.
PM2.5 Thermo Sharp 5030 #CM2209	April 16, 2023	<ul style="list-style-type: none"> No issues were identified this month.
Parameter	Verification Date	Equipment Operational Summary
RH Rotronic HC2A-S3 #20433166	April 16, 2023	<ul style="list-style-type: none"> No issues were identified this month.
BP Met One 090D #F4497	April 16, 2023	<ul style="list-style-type: none"> No issues were identified this month.
AT Rotronic HC2A-S3 #20433166	April 16, 2023	<ul style="list-style-type: none"> No issues were identified this month.
ST COMET #NA	April 16, 2023	<ul style="list-style-type: none"> No issues were identified this month.

Parameter	Verification Date	Equipment Operational Summary
Precipitation MetOne 387 #C13580	April 16, 2023	<ul style="list-style-type: none"> No issues were identified this month.
WS/WD/STDWD RM Young 05305VK #161465	April 16, 2023	<ul style="list-style-type: none"> 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. No issues were identified this month.

Monitored Data Summary for Tamarack Site

Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.7	0	11	Apr 16 at hr 20	9.1	ESE	3.9	Apr 17	100.0	95.0
H2S (ppb)	10	3	-	0	0	-	0.0	0	6	Apr 22 at hr 0	1.1	SSW	0.0	Apr 1	100.0	95.0
NOx (ppb)	-	-	-	-	-	-	3.9	0	32	Apr 15 at hr 22	2.9	ESE	11.0	Apr 17	100.0	94.7
NO (ppb)	-	-	-	-	-	-	0.3	0	12	Apr 15 at hr 7	0.3	N	1.6	Apr 17	100.0	94.7
NO2 (ppb)	159	-	-	0	-	-	3.5	0	28	Apr 15 at hr 22	2.9	ESE	9.5	Apr 17	100.0	94.7
O3 (ppb)	76	-	-	0	-	-	41.8	13.7	57.4	Apr 15 at hr 16	7.6	SW	52.7	Apr 7	100.0	95.0
THC (ppm)	-	-	-	-	-	-	2.03	1.96	3.53	Apr 22 at hr 0	1.1	SSW	2.10	Apr 15	99.7	94.8
CH4 (ppm)	-	-	-	-	-	-	2.03	1.96	3.53	Apr 22 at hr 0	1.1	SSW	2.10	Apr 15	99.7	94.8
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.11	Apr 29 at hr 3	0.5	S	0.01	Apr 15	99.7	94.8
PM2.5 (µg/m3)	80	29	-	1	0	-	5.6	1	82	Apr 11 at hr 5	1.8	S	12.9	Apr 11	100.0	99.6
RH (%)	-	-	-	-	-	-	61.1	14	100	Apr 1 at hr 23	5.2	NE	90.0	Apr 1	100.0	100.0
BP (millibar)	-	-	-	-	-	-	935	920	952	Apr 21 at hr 8	5.7	E	950	Apr 21	100.0	100.0
Ext. Temp. (°C)	-	-	-	-	-	-	3.1	-12.6	18.0	Apr 30 at hr 15	11.5	SE	11.3	Apr 30	100.0	100.0
Stn. Temp. (°C)	-	-	-	-	-	-	22.5	20.8	23.1	Apr 21 at hr 10	9.8	ESE	22.8	Apr 19	100.0	100.0
Precipitation (mm)*	-	-	-	-	-	-	9.5	0.0	3.8	Apr 25 at hr 15	9.2	NW	4.3	Apr 25	100.0	100.0
WSV (km/hr)	-	-	-	-	-	-	3.0	0.1	18.0	Apr 10 at hr 8	18	WNW	11.9	Apr 17	100.0	100.0
WDV (sector)	-	-	-	-	-	-	156 (SSE)	-	-	-	-	-	-	-	100.0	100.0

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

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

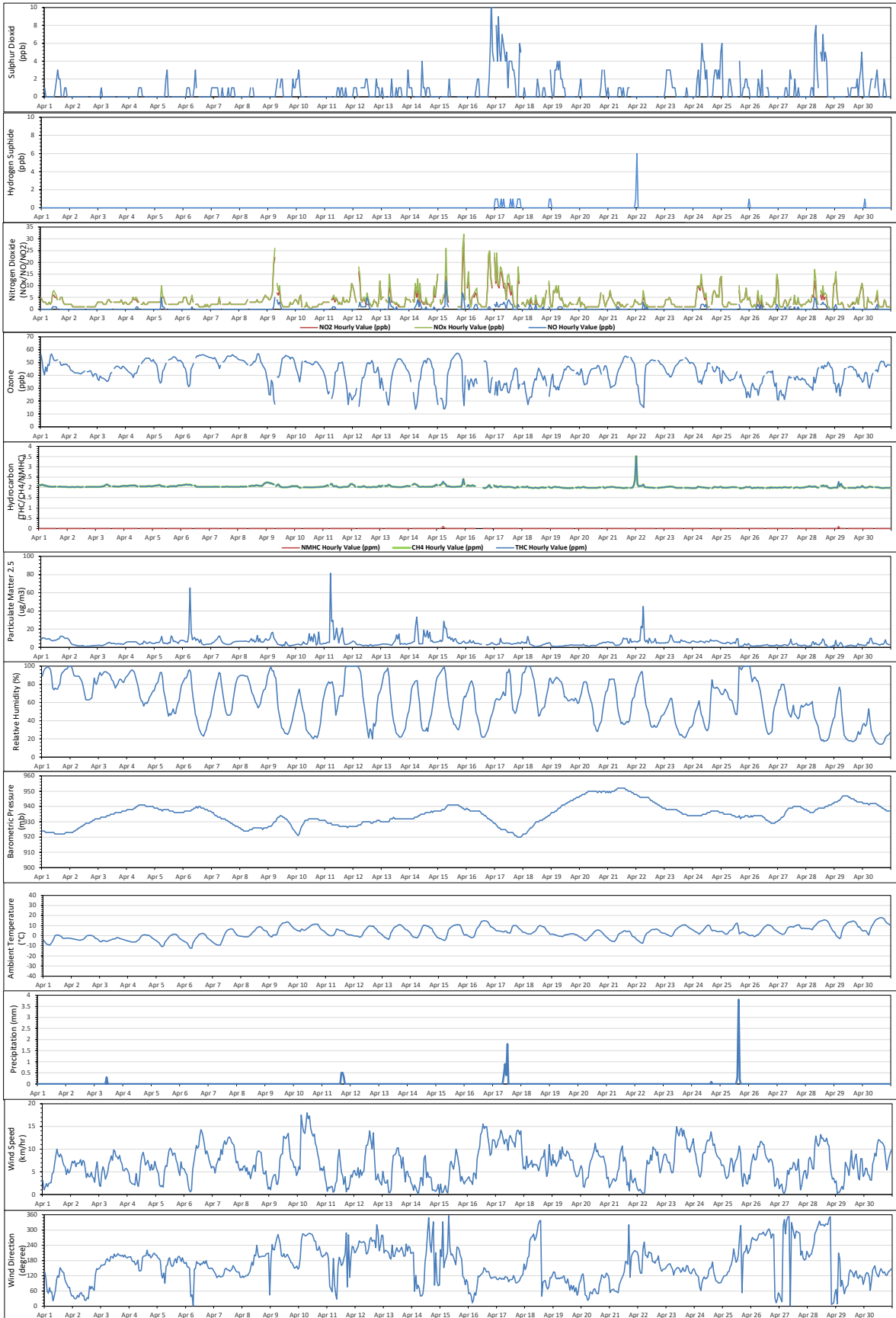
Alberta Ambient Air Quality Objectives (AAQOs) and/or Alberta Ambient Air Quality Guidelines (AAQGs) Exceedances

The following exceedances of AAQO was observed at the Tamarack Site.

Date	Time (MST)	Parameter	Average Period	AAQOs / AAQGs	Concentration	Wind speed	Wind Direction	Reference #
Apr 11	5	PM2.5	1-Hour	80 µg/m3	82 µg/m3	1.8 km/hr	188° (S)	411587

- The exceedance of the PM2.5 objective on April 11 is believed to be the result of local buildup of emissions, likely from nearby unpaved roads, given the low wind speeds recorded at the time.

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



St. Lina Station

Equipment Operation Summary

Parameter	Calibration Date	Equipment Operational Summary
SO2 Thermo 43i-TLE #1180930030	April 06, 2023	<ul style="list-style-type: none"> No issues were identified this month.
H2S Thermo 450i #CM18010058	April 06, 2023	<ul style="list-style-type: none"> No issues were identified this month.
NOx/NO/NO2 Thermo 42i #1180930029	April 06, 2023	<ul style="list-style-type: none"> An additional zero-span check was initiated on April 1 hour 6 to investigate the span drift concern. It was concluded that the cause was due to depleted permeation tube. The permeation tube was replaced on April 6, and the expected span value was entered on April 9. One hour of downtime was recorded due to the additional quality check.
O3 Thermo 49iQ #12208316586	April 08, 2023	<ul style="list-style-type: none"> No issues were identified this month.
THC/CH4/NMHC Thermo 55i #1236656107	April 08, 2023	<ul style="list-style-type: none"> No issues were identified this month. The carrier gas cylinder was replaced during the monthly calibration on April 8.
PM2.5 Thermo Sharp 5030i #CM17091001	April 08, 2023	<ul style="list-style-type: none"> No issues were identified this month.
Parameter	Verification Date	Equipment Operational Summary
RH Rotronic HC2A-S3 #20404750	April 08, 2023	<ul style="list-style-type: none"> Due to polling issues, data recorded on April 6 hour 10 did not meet the hourly data completeness requirements. One hour of downtime was recorded.
BP Met One 090D #F4498	April 08, 2023	<ul style="list-style-type: none"> Due to polling issues, data recorded on April 6 hour 10 did not meet the hourly data completeness requirements. One hour of downtime was recorded.
AT Rotronic HC2A-S3 #20404750	April 08, 2023	<ul style="list-style-type: none"> Due to polling issues, data recorded on April 6 hour 10 did not meet the hourly data completeness requirements. One hour of downtime was recorded.

Parameter	Verification Date	Equipment Operational Summary
ST COMET #NA	April 08, 2023	<ul style="list-style-type: none"> No issues were identified this month.
Precipitation MetOne 387D #A23775	April 08, 2023	<ul style="list-style-type: none"> Due to polling issues, data recorded on April 6 hour 10 did not meet the hourly data completeness requirements. One hour of downtime was recorded.
WS/WD/STDWD RM Young 05305VK #161466	April 08, 2023	<ul style="list-style-type: none"> 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 April 6 hour 10 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	0.0	0	2	Apr 2 at hr 8	6.2	E	0.3	Apr 2	100.0	94.8
H2S (ppb)	10	3	-	0	0	-	0.0	0	1	Apr 5 at hr 20	8.7	SSE	0.0	Apr 1	100.0	94.8
NOx (ppb)	-	-	-	-	-	-	1.7	0	6	Apr 2 at hr 6	6.8	ENE	4.0	Apr 1	99.9	94.4
NO (ppb)	-	-	-	-	-	-	0.0	0	2	Apr 17 at hr 14	4.4	E	0.2	Apr 2	99.9	94.4
NO2 (ppb)	159	-	-	0	-	-	1.7	0	6	Apr 2 at hr 6	6.8	ENE	4.0	Apr 1	99.9	94.4
O3 (ppb)	76	-	-	0	-	-	45.1	29.1	57.9	Apr 6 at hr 16	17.8	SSE	53.6	Apr 1	100.0	94.8
THC (ppm)	-	-	-	-	-	-	2.00	1.94	2.16	Apr 8 at hr 22	12.9	S	2.08	Apr 6	100.0	94.8
CH4 (ppm)	-	-	-	-	-	-	2.00	1.94	2.16	Apr 8 at hr 22	12.9	S	2.08	Apr 6	100.0	94.8
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.02	Apr 3 at hr 18	7	S	0.00	Apr 7	100.0	94.8
PM2.5 (µg/m3)	80	29	-	0	0	-	3.8	0	17	Apr 1 at hr 6	5.5	E	11.3	Apr 1	100.0	99.6
RH (%)	-	-	-	-	-	-	63.2	16	98	Apr 1 at hr 3	8.5	ESE	93.0	Apr 1	99.9	99.9
BP (millibar)	-	-	-	-	-	-	917	903	933	Apr 21 at hr 8	11.3	E	932	Apr 21	99.9	99.9
Ext. Temp. (°C)	-	-	-	-	-	-	3.2	-10.6	19.0	Apr 30 at hr 16	16.7	SSE	12.3	Apr 30	99.9	99.9
Stn. Temp. (°C)	-	-	-	-	-	-	22.9	21.5	24.9	Apr 8 at hr 10	1.9	W	23.7	Apr 8	100.0	100.0
Precipitation (mm)*	-	-	-	-	-	-	19.3	0.0	3.7	Apr 25 at hr 14	15.9	NNW	9.2	Apr 17	99.9	99.9
WSV (km/hr)	-	-	-	-	-	-	4.6	1.9	25.4	Apr 12 at hr 14	25.4	WSW	18.7	Apr 23	99.9	99.9
WDV (sector)	-	-	-	-	-	-	167 (SSE)	-	-	-	-	-	-	-	99.9	99.9

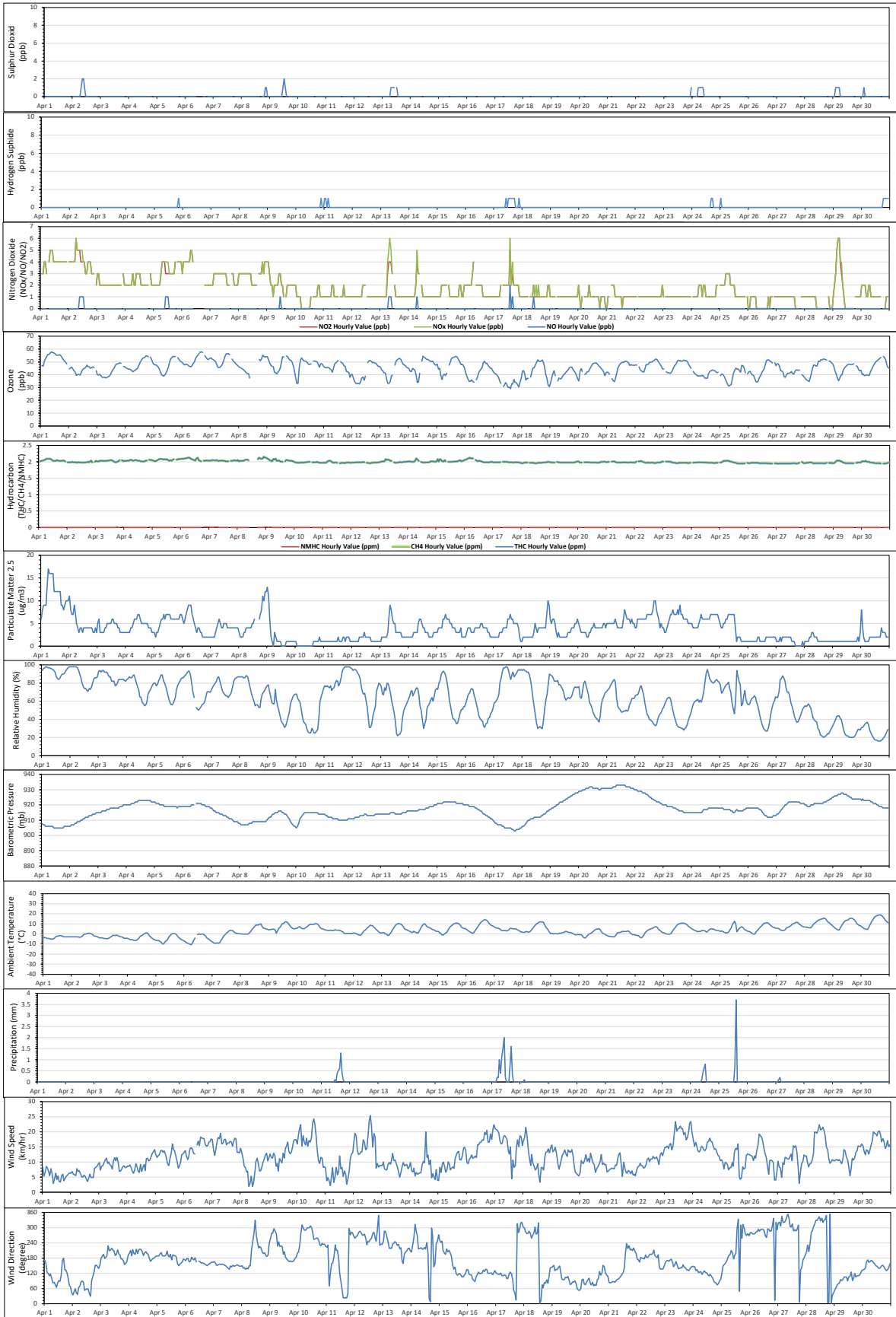
1- Date/ Time given is the first minimum and maximum value that was recorded

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

Alberta Ambient Air Quality Objectives (AAQOs) and/or Alberta Ambient Air Quality Guidelines (AAQGs) Exceedances

The measured ambient air quality was within the AAQOs and/or AAQGs for all monitored parameters.

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



Lac La Biche Station

Equipment Operation Summary

cccccc	Calibration Date	Equipment Operational Summary
SO2 Thermo 43i-TLE #1180320043	April 21, 2023	<ul style="list-style-type: none"> The datalogger was shutdown by its UPS on April 18 hour 10, and it was restarted manually on April 20 hour 10. As a result, no data were collected during this period. The root cause for this incident is unknown at this month. Plans are in place to upgrade UPS firmware and enable online alerts to prevent future occurrences. Forty-nine hours of downtime were recorded due to this event. A zero-span check was initiated after the datalogger reset on April 20. The analyzer passed the check requirements.
H2S API 101A #324	April 27, 2023	<ul style="list-style-type: none"> The datalogger was shutdown by its UPS on April 18 hour 10, and it was restarted manually on April 20 hour 10. As a result, no data were collected during this period. The root cause for this incident is unknown at this month. Plans are in place to upgrade UPS firmware and enable online alerts to prevent future occurrences. Forty-nine hours of downtime were recorded due to this event. The monthly calibration was performed after the datalogger was reset on April 20. The analyzer spanned high due to deteriorating sample pump on April 25 and April 26. A successful shut-down calibration was completed on April 27 before the sample pump was rebuilt. A successful post-repair was completed afterwards. Six hours of downtime were recorded due to this event.
NOx/NO/NO2 Thermo 42i #1180930027	April 21, 2023	<ul style="list-style-type: none"> The datalogger was shutdown by its UPS on April 18 hour 10, and it was restarted manually on April 20 hour 10. As a result, no data were collected during this period. The root cause for this incident is unknown at this month. Plans are in place to upgrade UPS firmware and enable online alerts to prevent future occurrences. Forty-nine hours of downtime were recorded due to this event. A successful shut-down calibration was completed prior to maintenance/sample pump exchange on April 20. The analyzer was allowed time to stabilize overnight. A successful post-repair calibration was completed on April 21. Seventeen hours of downtime were recorded due to this maintenance event.

Parameter	Calibration Date	Equipment Operational Summary
O3 Thermo 49i #1002240372	April 21, 2023	<ul style="list-style-type: none"> The datalogger was shutdown by its UPS on April 18 hour 10, and it was restarted manually on April 20 hour 10. As a result, no data were collected during this period. The root cause for this incident is unknown at this month. Plans are in place to upgrade UPS firmware and enable online alerts to prevent future occurrences. Forty-nine hours of downtime were recorded due to this event. A zero-span check was initiated after the datalogger reset on April 20. The analyzer passed the check requirements.
THC/CH4/NMHC Thermo 55i #1180030044	April 22, 2023	<ul style="list-style-type: none"> The datalogger was shutdown by its UPS on April 18 hour 10, and it was restarted manually on April 20 hour 10. As a result, no data were collected during this period. The root cause for this incident is unknown at this month. Plans are in place to upgrade UPS firmware and enable online alerts to prevent future occurrences. Forty-nine hours of downtime were recorded due to this event. A zero-span check was initiated after the datalogger reset on April 20. The analyzer passed the check requirements. Twelve hours of downtime were recorded due to this event.
PM2.5 Thermo Sharp 5030i #CM17071016	April 22, 2023	<ul style="list-style-type: none"> The datalogger was shutdown by its UPS on April 18 hour 10, and it was restarted manually on April 20 hour 10. As a result, no data were collected during this period. The root cause for this incident is unknown at this month. Plans are in place to upgrade UPS firmware and enable online alerts to prevent future occurrences. Forty-nine hours of downtime were recorded due to this event.
Parameter	Verification Date	Equipment Operational Summary
RH Rotronic HC2A-S3 #0020357518	April 22, 2023	<ul style="list-style-type: none"> The datalogger was shutdown by its UPS on April 18 hour 10, and it was restarted manually on April 20 hour 10. As a result, no data were collected during this period. The root cause for this incident is unknown at this month. Plans are in place to upgrade UPS firmware and enable online alerts to prevent future occurrences. Forty-nine hours of downtime were recorded due to this event.

Parameter	Verification Date	Equipment Operational Summary
BP Met One 092 #Y23360	April 22, 2023	<ul style="list-style-type: none"> The datalogger was shutdown by its UPS on April 18 hour 10, and it was restarted manually on April 20 hour 10. As a result, no data were collected during this period. The root cause for this incident is unknown at this month. Plans are in place to upgrade UPS firmware and enable online alerts to prevent future occurrences. Forty-nine hours of downtime were recorded due to this event.
AT Rotronic HC2A-S3 #0020357518	April 22, 2023	<ul style="list-style-type: none"> The datalogger was shutdown by its UPS on April 18 hour 10, and it was restarted manually on April 20 hour 10. As a result, no data were collected during this period. The root cause for this incident is unknown at this month. Plans are in place to upgrade UPS firmware and enable online alerts to prevent future occurrences. Forty-nine hours of downtime were recorded due to this event.
ST COMET #NA	April 22, 2023	<ul style="list-style-type: none"> The datalogger was shutdown by its UPS on April 18 hour 10, and it was restarted manually on April 20 hour 10. As a result, no data were collected during this period. The root cause for this incident is unknown at this month. Plans are in place to upgrade UPS firmware and enable online alerts to prevent future occurrences. Forty-nine hours of downtime were recorded due to this event.
WS/WD/STDWD RM Young 05305VK #56778	April 22, 2023	<ul style="list-style-type: none"> 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. The datalogger was shutdown by its UPS on April 18 hour 10, and it was restarted manually on April 20 hour 10. As a result, no data were collected during this period. The root cause for this incident is unknown at this month. Plans are in place to upgrade UPS firmware and enable online alerts to prevent future occurrences. Forty-nine hours of downtime were recorded due to this event.

Monitored Data Summary for Lac La Biche Station

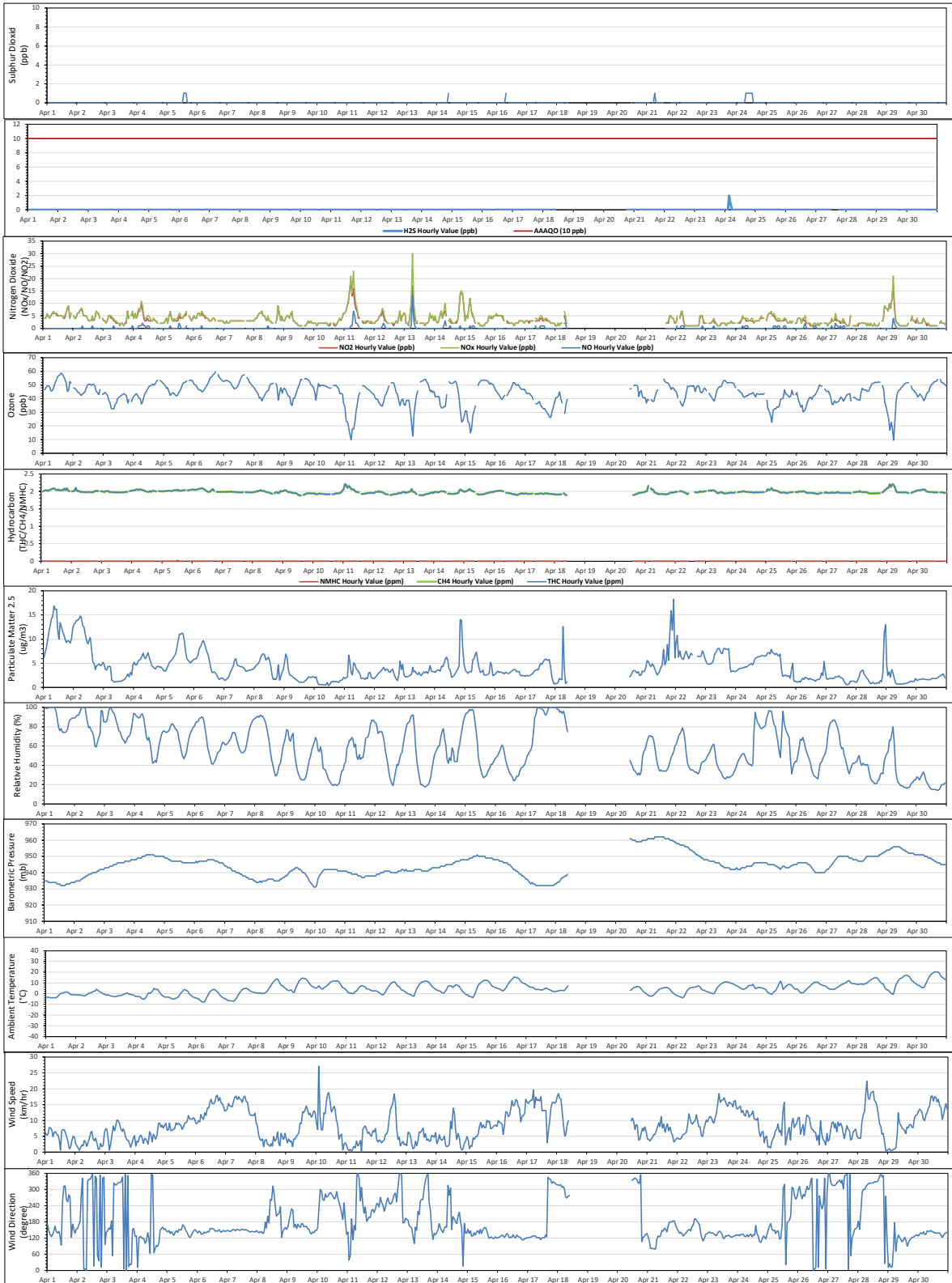
Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.0	0	1	Apr 5 at hr 13	7.2	SSE	0.3	Apr 24	93.2	88.2
H2S (ppb)	10	3	-	0	0	-	0.0	0	2	Apr 24 at hr 3	12.5	SE	0.0	Apr 1	92.4	87.3
NOx (ppb)	-	-	-	-	-	-	3.7	1	30	Apr 13 at hr 6	1.4	SSE	7.5	Apr 11	90.8	85.3
NO (ppb)	-	-	-	-	-	-	0.2	0	13	Apr 13 at hr 6	1.4	SSE	0.8	Apr 11	90.8	85.3
NO2 (ppb)	159	-	-	0	-	-	3.5	1	19	Apr 11 at hr 5	1.2	SSE	6.6	Apr 11	90.8	85.3
O3 (ppb)	76	-	-	0	-	-	44.1	9.5	59.7	Apr 6 at hr 17	18	SSE	52.0	Apr 7	93.2	88.3
THC (ppm)	-	-	-	-	-	-	1.98	1.88	2.21	Apr 11 at hr 1	0.9	NE	2.04	Apr 1	92.9	88.0
CH4 (ppm)	-	-	-	-	-	-	1.98	1.88	2.21	Apr 11 at hr 1	0.9	NE	2.04	Apr 1	92.9	88.0
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.03	Apr 5 at hr 12	8.4	SSE	0.00	Apr 5	92.9	88.0
PM2.5 (µg/m3)	80	29	-	0	0	-	4.2	0	18	Apr 21 at hr 22	3.6	SSE	11.4	Apr 1	93.2	92.8
RH (%)	-	-	-	-	-	-	57.6	14	100	Apr 1 at hr 0	6.1	S	88.6	Apr 1	93.2	93.2
BP (millibar)	-	-	-	-	-	-	945	931	962	Apr 21 at hr 7	6.8	ESE	961	Apr 21	93.2	93.2
Ext. Temp. (°C)	-	-	-	-	-	-	4.4	-7.9	20.4	Apr 30 at hr 15	15.9	SE	13.6	Apr 30	93.2	93.2
Stn. Temp. (°C)	-	-	-	-	-	-	23.0	20.5	24.7	Apr 6 at hr 4	11.9	SE	23.6	Apr 5	93.2	93.2
WSV (km/hr)	-	-	-	-	-	-	3.6	0.1	27.2	Apr 10 at hr 2	27.2	WNW	15.0	Apr 7	93.2	93.2
WDV (sector)	-	-	-	-	-	-	147 (SE)	-	-	-	-	-	-	-	93.2	93.2

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 Apr 2023 - Lac La Biche Station



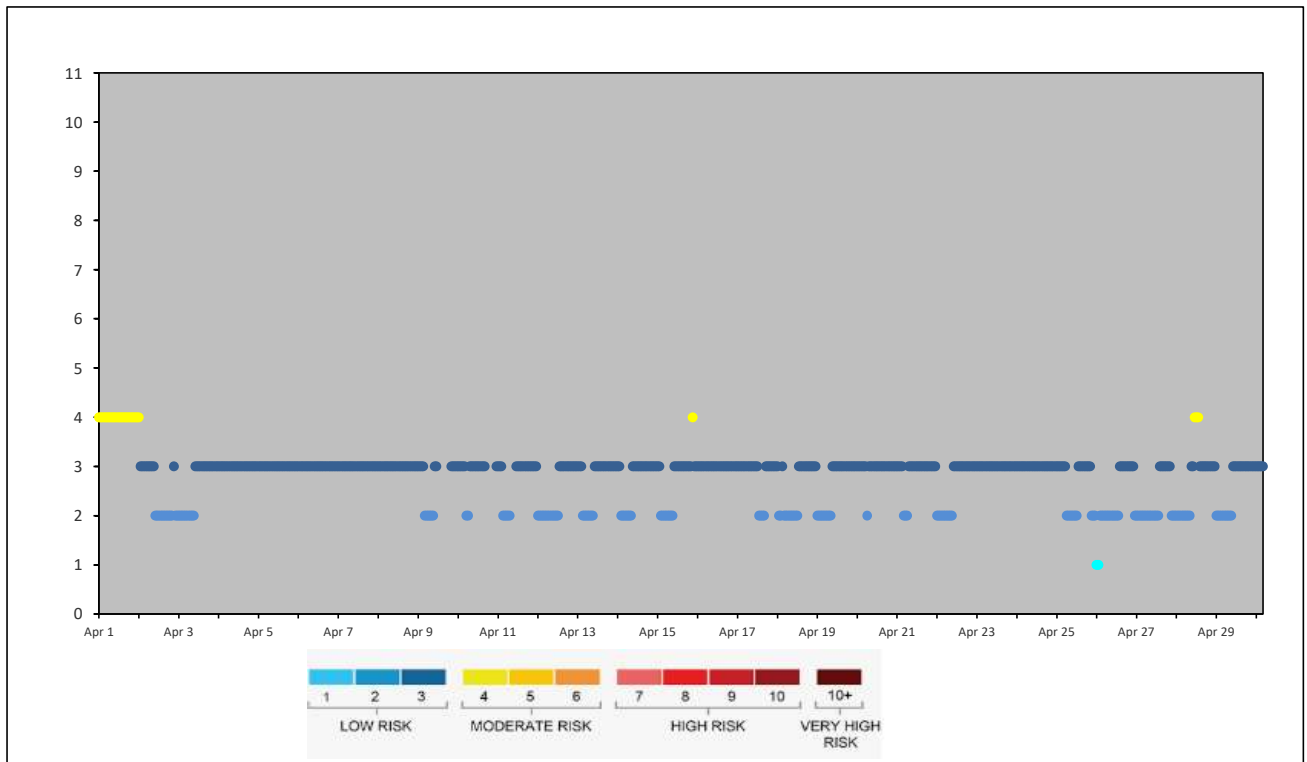
TABLES AND CHARTS

COLD LAKE SOUTH STATION

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION
Cold Lake South Station - April 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
Apr 1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Apr 2	4	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	3	2	2
Apr 3	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Apr 4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Apr 5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Apr 6	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Apr 7	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Apr 8	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Apr 9	3	3	3	2	2	2	2	2	2	2	3	3									3	3	3	3
Apr 10	3	3	3	3	3	2	2	3	3	3	3	3	3	3	3	3								3
Apr 11	3	3	3	2	2	2	2	2																3
Apr 12	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3
Apr 13	3	3	3	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Apr 14	3	3	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Apr 15	3	3	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	4	3	3
Apr 16	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Apr 17	3	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2								3
Apr 18	3	2	2	3	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3
Apr 19	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Apr 20	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Apr 21	3	3	3	3	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Apr 22	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Apr 23	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Apr 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
Apr 25	3	3	3	3	3	3	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	2	2
Apr 26	1	1	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	2
Apr 27	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	2	2	2
Apr 28	2	2	2	2	2	2	2	2	2	3	3	4	4	4	3	3	3	3	3	3	3	3	3	3
Apr 29	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Apr 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

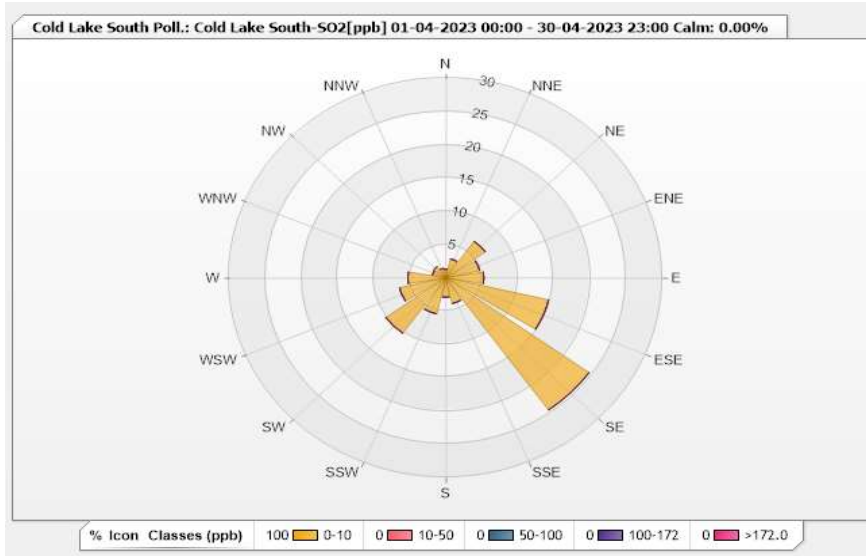


Station: Cold Lake South Poll.: Cold Lake South-SO2[ppb] Monthly: 04-2023

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

Calm: 0.00% Valid Data: 95.00% Calm Avg: 0.00 [ppm]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	1.32	0	0	0	0	1.32
NNE	2.92	0	0	0	0	2.92
NE	6.73	0	0	0	0	6.73
ENE	4.82	0	0	0	0	4.82
E	5.26	0	0	0	0	5.26
ESE	14.62	0	0	0	0	14.62
SE	24.42	0	0	0	0	24.42
SSE	3.95	0	0	0	0	3.95
S	2.92	0	0	0	0	2.92
SSW	5.56	0	0	0	0	5.56
SW	10.23	0	0	0	0	10.23
WSW	6.58	0	0	0	0	6.58
W	5.26	0	0	0	0	5.26
WNW	1.9	0	0	0	0	1.9
NW	2.05	0	0	0	0	2.05
NNW	1.46	0	0	0	0	1.46
Summary	100	0	0	0	0	100

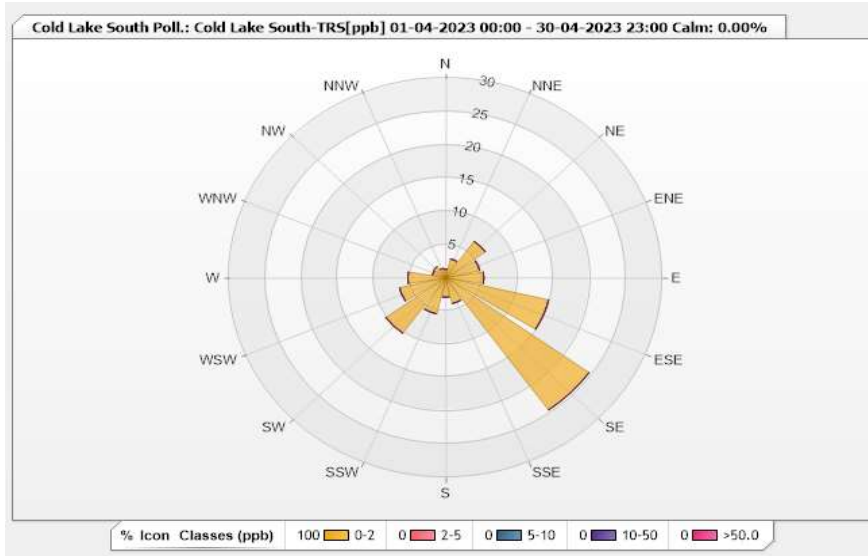


Station: Cold Lake South Poll.: Cold Lake South-TRS[ppb] Monthly: 04-2023

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

Calm: 0.00% Valid Data: 95.00% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	1.32	0	0	0	0	1.32
NNE	2.92	0	0	0	0	2.92
NE	6.73	0	0	0	0	6.73
ENE	4.82	0	0	0	0	4.82
E	5.26	0	0	0	0	5.26
ESE	14.62	0	0	0	0	14.62
SE	24.42	0	0	0	0	24.42
SSE	3.95	0	0	0	0	3.95
S	2.92	0	0	0	0	2.92
SSW	5.56	0	0	0	0	5.56
SW	10.23	0	0	0	0	10.23
WSW	6.58	0	0	0	0	6.58
W	5.26	0	0	0	0	5.26
WNW	1.9	0	0	0	0	1.9
NW	2.05	0	0	0	0	2.05
NNW	1.46	0	0	0	0	1.46
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Cold Lake South Station - April 2023

Summary of Hourly Averages

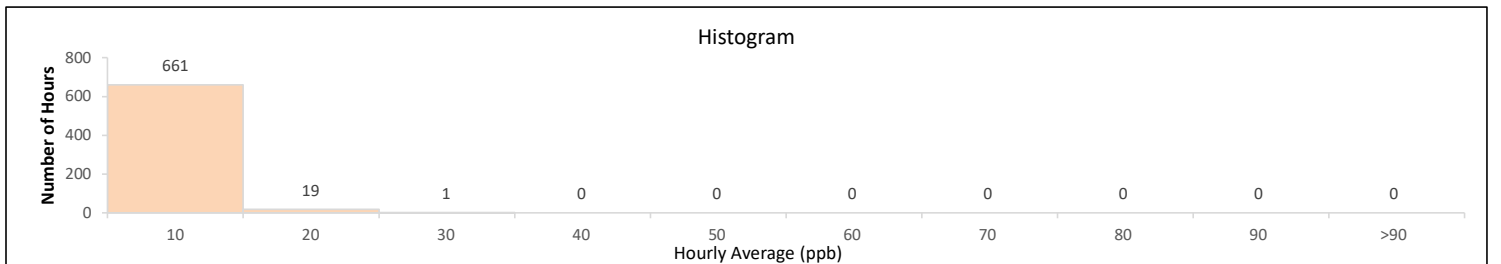
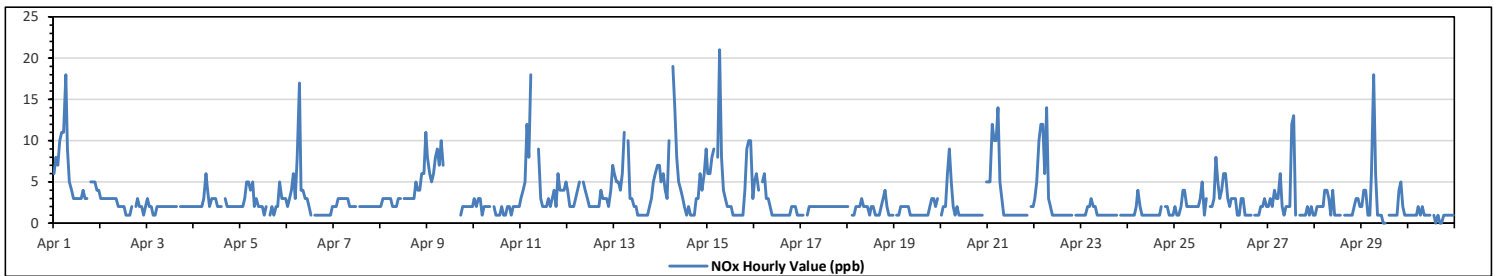
OXIDES OF NITROGEN (NOx) in ppb

Maximum Hourly Value:	21	ppb	on Apr 15 at hr 6	Hours in Service:	720
Maximum Daily Value:	6.0	ppb	on Apr 1	Hours of Data:	681
Minimum Hourly Value:	0	ppb	on Apr 29 at hr 11	Hours of Missing Data:	1
Minimum Daily Value:	1.0	ppb	on Apr 30	Hours of Calibration:	38
Monthly Average:	2.9	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	
Apr 1	6	8	7	10	11	11	18	9	5	4	3	3	3	3	3	4	3	3	S	5	5	5	4	4	3	18	6.0	
Apr 2	3	3	3	3	3	3	3	3	3	2	2	2	2	1	1	1	2	S	2	3	2	2	1	2	1	3	2.3	
Apr 3	3	2	2	1	1	2	2	2	2	2	2	2	2	2	2	2	S	2	2	2	2	2	2	2	1	3	2.0	
Apr 4	2	2	2	2	2	3	6	4	2	3	3	2	2	2	2	S	3	2	2	2	2	2	2	2	2	6	2.5	
Apr 5	2	2	3	5	5	4	5	2	3	2	2	2	1	2	S	1	2	1	2	2	5	3	3	3	1	5	2.7	
Apr 6	2	3	4	6	3	8	17	4	4	3	3	2	1	S	1	1	1	1	1	1	1	1	1	2	1	17	3.1	
Apr 7	2	2	3	3	3	3	3	3	2	2	2	2	S	2	2	2	2	2	2	2	2	2	2	2	2	3	2.3	
Apr 8	2	3	3	3	3	3	2	2	2	3	S	3	3	3	3	3	3	3	5	4	4	6	6	11	2	11	3.6	
Apr 9	8	6	5	6	8	9	7	10	7	C	C	C	C	C	C	C	C	1	2	2	2	2	2	2	1	10	NA	
Apr 10	3	2	3	3	1	2	2	2	2	S	2	1	1	1	2	1	1	2	2	1	2	2	2	2	1	3	1.8	
Apr 11	3	4	5	12	8	18	K	16	S	9	3	2	2	2	2	3	2	3	4	2	6	4	4	5	2	18	5.5	
Apr 12	4	2	2	2	3	4	5	S	5	4	3	2	2	2	2	2	2	2	4	3	3	3	2	4	7	2	7	3.1
Apr 13	6	5	5	4	6	11	S	10	3	3	2	2	1	1	1	1	1	1	2	3	5	6	7	7	1	11	4.0	
Apr 14	5	6	4	3	10	S	19	14	8	5	4	3	2	1	2	1	1	1	3	3	6	4	6	9	1	19	5.2	
Apr 15	6	6	8	9	S	8	21	8	4	3	2	2	2	1	1	1	1	1	1	4	9	10	10	3	1	21	5.3	
Apr 16	5	6	4	S	5	6	3	3	2	1	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	6	2.3	
Apr 17	1	1	S	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	1.9	
Apr 18	2	S	1	1	2	2	2	3	2	2	2	2	2	2	1	1	1	2	3	4	2	1	1	1	1	4	1.8	
Apr 19	S	1	1	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	2	3	3	2	3	S	1	3	1.6	
Apr 20	1	2	2	6	9	5	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	S	5	1	9	2.1	
Apr 21	5	5	12	10	10	14	5	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	2	1	14	3.5	
Apr 22	3	5	10	12	12	6	14	3	2	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	14	3.5	
Apr 23	1	1	1	2	2	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	3	1.3	
Apr 24	1	1	1	1	2	4	2	1	1	1	1	1	1	1	1	1	1	2	S	2	2	1	1	1	1	4	1.3	
Apr 25	2	1	1	2	4	4	2	2	2	2	2	2	2	3	5	1	3	S	2	2	3	8	5	3	1	8	2.7	
Apr 26	4	6	6	3	2	3	3	3	1	1	3	3	1	1	1	1	S	1	1	1	2	2	3	2	1	6	2.3	
Apr 27	2	3	2	4	3	3	6	2	1	2	2	2	12	13	1	S	1	1	1	1	1	2	1	2	1	13	3.0	
Apr 28	1	2	2	2	2	4	4	3	1	4	1	1	1	1	S	1	1	1	1	1	2	3	3	2	1	4	1.9	
Apr 29	2	4	4	1	1	6	18	6	1	1	1	0	0	S	1	1	1	1	1	4	5	2	1	1	0	18	2.7	
Apr 30	1	1	1	1	1	2	1	2	1	1	1	1	1	S	1	0	1	0	0	1	1	1	1	1	0	2	1.0	
Diurnal Maximum	8	8	12	12	12	18	21	16	8	9	4	3	12	13	5	4	3	4	5	6	9	10	10	11				
Diurnal Average	3.0	3.3	3.7	4.1	4.3	5.3	6.4	4.4	2.5	2.4	2.0	1.7	1.9	2.0	1.6	1.4	1.5	1.6	1.8	2.4	2.9	2.8	2.9	3.0				

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

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.

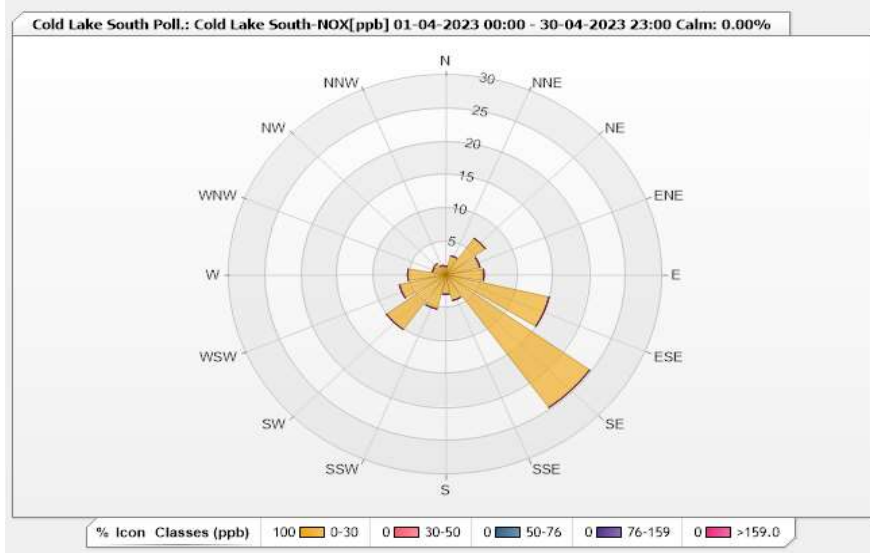


Station: Cold Lake South Poll.: Cold Lake South-NOX[ppb] Monthly: 04-2023

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

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

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.32	0	0	0	0	1.32
NNE	2.94	0	0	0	0	2.94
NE	6.75	0	0	0	0	6.75
ENE	4.85	0	0	0	0	4.85
E	5.29	0	0	0	0	5.29
ESE	14.68	0	0	0	0	14.68
SE	24.52	0	0	0	0	24.52
SSE	3.96	0	0	0	0	3.96
S	2.94	0	0	0	0	2.94
SSW	5.29	0	0	0	0	5.29
SW	10.13	0	0	0	0	10.13
WSW	6.61	0	0	0	0	6.61
W	5.29	0	0	0	0	5.29
WNW	1.91	0	0	0	0	1.91
NW	2.06	0	0	0	0	2.06
NNW	1.47	0	0	0	0	1.47
Summary	100	0	0	0	0	100

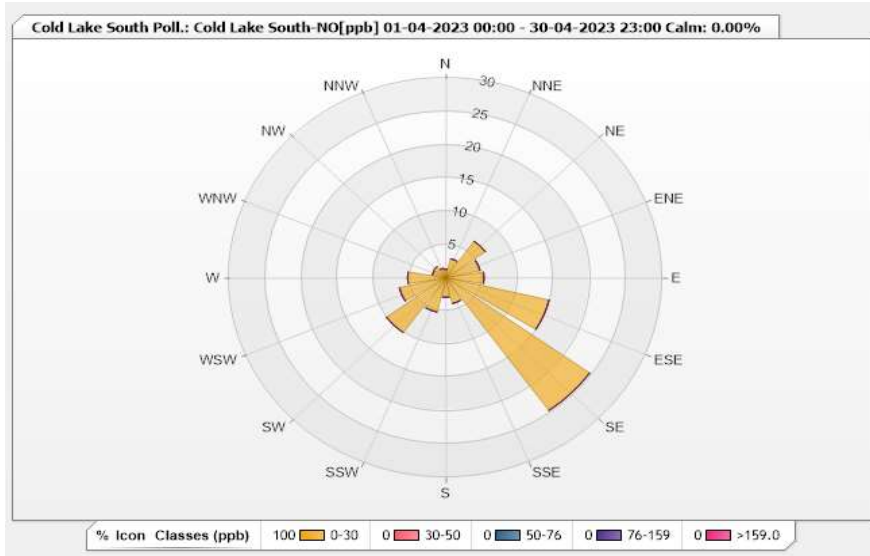


Station: Cold Lake South Poll.: Cold Lake South-NO[ppb] Monthly: 04-2023

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

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

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.32	0	0	0	0	1.32
NNE	2.94	0	0	0	0	2.94
NE	6.75	0	0	0	0	6.75
ENE	4.85	0	0	0	0	4.85
E	5.29	0	0	0	0	5.29
ESE	14.68	0	0	0	0	14.68
SE	24.52	0	0	0	0	24.52
SSE	3.96	0	0	0	0	3.96
S	2.94	0	0	0	0	2.94
SSW	5.29	0	0	0	0	5.29
SW	10.13	0	0	0	0	10.13
WSW	6.61	0	0	0	0	6.61
W	5.29	0	0	0	0	5.29
WNW	1.91	0	0	0	0	1.91
NW	2.06	0	0	0	0	2.06
NNW	1.47	0	0	0	0	1.47
Summary	100	0	0	0	0	100

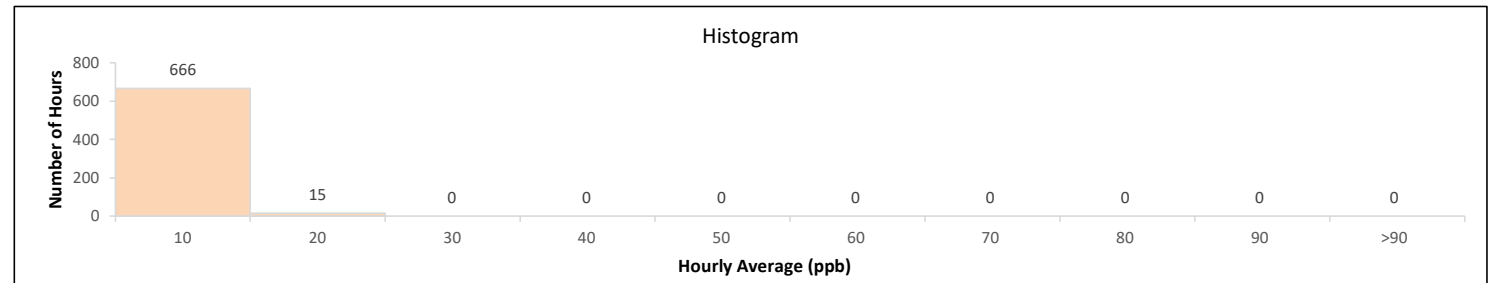
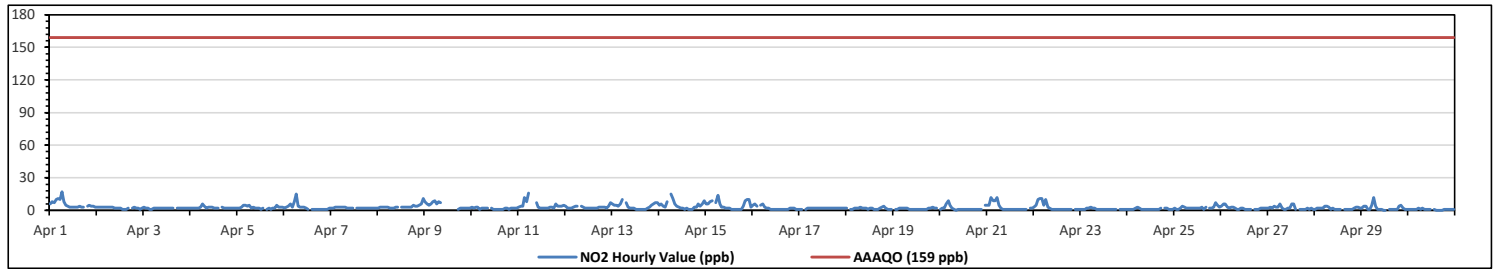


Lakeland Industry & Community Association
Cold Lake South Station - April 2023
Summary of Hourly Averages
NITROGEN DIOXIDE (NO₂) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 159 ppb																											
Number of 1-Hour Exceedances: 0																											
Maximum Hourly Value: 17 ppb on Apr 1 at hr 6												Hours in Service: 720															
Maximum Daily Value: 5.7 ppb on Apr 1												Hours of Data: 681															
Minimum Hourly Value: 0 ppb on Apr 20 at hr 8												Hours of Missing Data: 1															
Minimum Daily Value: 0.9 ppb on Apr 30												Hours of Calibration: 38															
Monthly Average: 2.7 ppb												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
Apr 1	6	8	7	10	11	10	17	8	5	4	3	3	3	3	3	4	3	3	S	4	5	4	4	3	3	17	5.7
Apr 2	3	3	3	3	3	3	3	3	3	2	2	2	2	1	1	1	2	S	2	3	2	2	1	2	1	3	2.3
Apr 3	3	2	2	1	1	2	2	2	2	2	2	2	2	2	2	2	S	2	2	2	2	2	2	2	1	3	2.0
Apr 4	2	2	2	2	2	3	6	4	2	3	3	3	2	2	2	S	3	2	2	2	2	2	2	2	2	6	2.5
Apr 5	2	2	3	5	4	5	2	3	2	2	2	1	2	2	S	1	2	1	2	2	2	5	3	3	1	5	2.7
Apr 6	2	3	4	6	3	8	15	4	3	3	3	2	1	2	S	1	1	1	1	1	1	1	1	1	1	15	3.0
Apr 7	2	2	3	3	3	3	3	3	2	2	2	2	S	2	2	2	2	2	2	2	2	2	2	2	2	3	2.3
Apr 8	2	3	3	3	3	3	2	2	2	3	3	S	3	3	3	3	3	5	4	4	5	6	11	2	11	3.6	
Apr 9	8	6	5	6	8	9	6	8	7	C	C	C	C	C	C	C	1	2	2	2	2	2	2	2	1	9	NA
Apr 10	3	2	3	3	1	2	2	2	2	S	2	1	1	1	1	1	1	2	2	1	2	2	2	2	1	3	1.8
Apr 11	3	4	4	12	8	16	K	13	S	7	3	2	2	2	2	2	3	3	2	6	4	4	4	5	2	16	5.0
Apr 12	4	2	2	3	4	4	S	4	3	2	2	2	2	2	2	2	3	3	3	3	3	2	4	7	2	7	2.9
Apr 13	6	5	5	4	6	10	S	7	3	2	2	2	1	1	1	1	1	2	3	5	6	7	7	1	10	3.8	
Apr 14	5	6	4	3	8	S	15	11	6	4	3	2	2	1	2	1	1	1	3	6	4	6	9	1	15	4.6	
Apr 15	6	6	8	9	S	7	14	6	3	3	2	2	2	1	1	1	1	1	4	9	10	10	3	1	14	4.8	
Apr 16	5	6	4	S	5	6	3	2	2	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	6	2.2	
Apr 17	1	1	S	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	1.9
Apr 18	2	S	1	1	2	2	2	3	2	2	2	2	2	2	1	1	2	3	4	2	1	1	1	1	4	1.8	
Apr 19	S	1	1	2	2	2	2	2	1	1	1	1	1	1	1	1	1	2	2	3	2	2	S	1	3	1.5	
Apr 20	1	2	2	6	9	5	2	1	0	1	1	1	1	1	1	1	1	1	1	1	1	S	5	0	9	2.0	
Apr 21	5	5	12	9	9	12	5	2	1	1	1	1	1	1	1	1	1	1	1	1	S	2	2	1	12	3.3	
Apr 22	3	5	10	11	11	5	10	3	2	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	11	3.2
Apr 23	1	1	1	2	2	3	2	2	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	3	1.3
Apr 24	1	1	1	1	2	3	2	1	1	1	1	1	1	1	1	1	1	2	S	2	2	1	1	1	1	3	1.3
Apr 25	2	1	1	2	4	3	2	2	2	2	2	2	2	2	3	1	3	S	2	2	3	7	5	3	1	7	2.5
Apr 26	4	6	6	3	2	3	3	2	1	1	2	2	1	1	1	1	S	1	1	1	2	2	2	2	1	6	2.2
Apr 27	2	3	2	4	3	3	6	2	1	1	2	2	6	6	1	S	1	1	1	1	2	1	2	1	1	6	2.3
Apr 28	1	2	2	2	2	4	4	3	1	2	1	1	1	1	1	1	1	1	1	1	2	3	3	2	1	4	1.8
Apr 29	2	4	4	1	1	5	12	4	1	1	1	0	0	S	1	1	1	1	1	4	5	2	1	1	0	12	2.3
Apr 30	1	1	1	1	1	2	1	2	1	1	1	1	S	1	0	0	0	0	1	1	1	1	1	1	0	2	0.9
Diurnal Maximum	8	8	12	12	11	16	17	13	7	7	3	3	6	6	3	4	3	3	5	6	9	10	10	11			
Diurnal Average	3.0	3.3	3.7	4.1	4.2	5.0	5.4	3.7	2.3	2.1	1.9	1.6	1.7	1.7	1.4	1.3	1.5	1.5	1.8	2.3	2.9	2.7	2.8	3.0			

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

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.

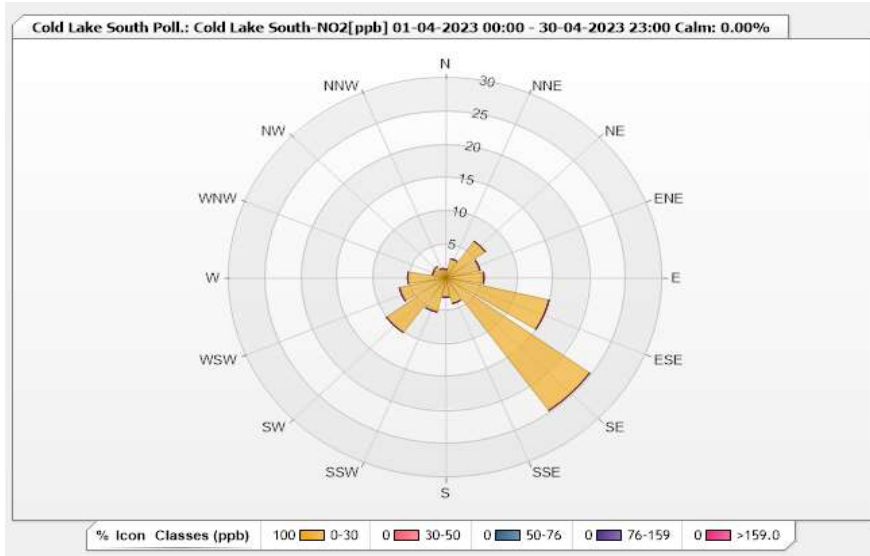


Station: Cold Lake South Poll.: Cold Lake South-NO2[ppb] Monthly: 04-2023

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

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

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.32	0	0	0	0	1.32
NNE	2.94	0	0	0	0	2.94
NE	6.75	0	0	0	0	6.75
ENE	4.85	0	0	0	0	4.85
E	5.29	0	0	0	0	5.29
ESE	14.68	0	0	0	0	14.68
SE	24.52	0	0	0	0	24.52
SSE	3.96	0	0	0	0	3.96
S	2.94	0	0	0	0	2.94
SSW	5.29	0	0	0	0	5.29
SW	10.13	0	0	0	0	10.13
WSW	6.61	0	0	0	0	6.61
W	5.29	0	0	0	0	5.29
WNW	1.91	0	0	0	0	1.91
NW	2.06	0	0	0	0	2.06
NNW	1.47	0	0	0	0	1.47
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Cold Lake South Station - April 2023

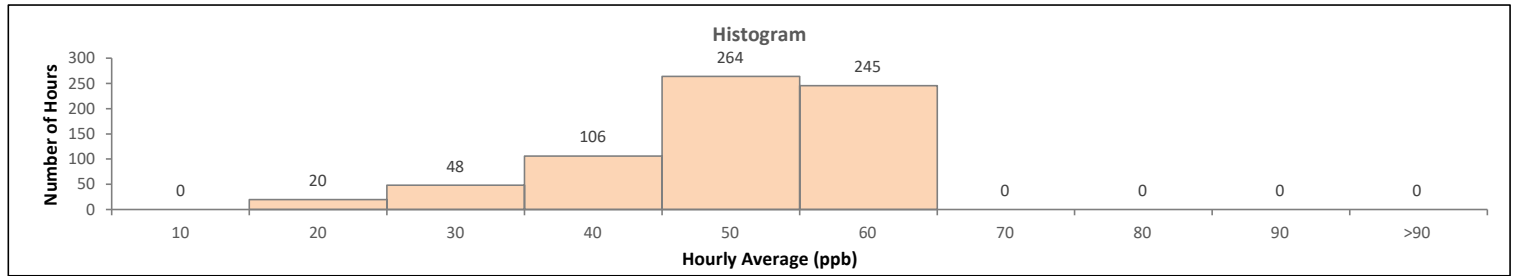
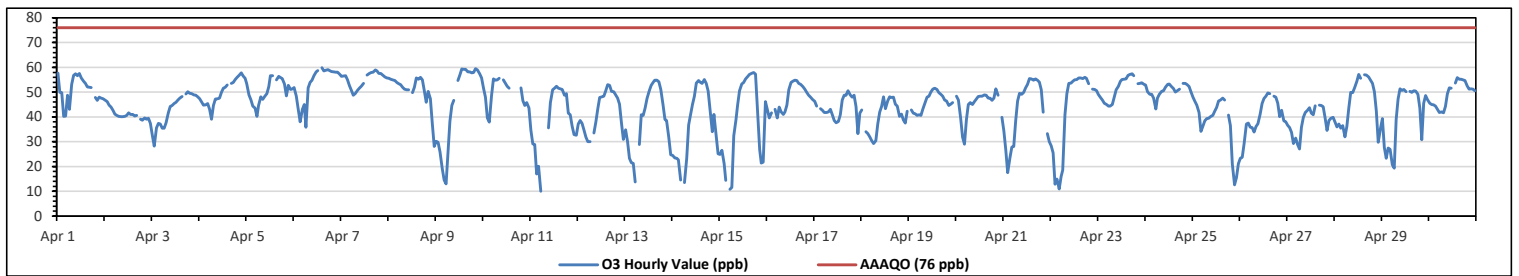
Summary of Hourly Averages

OZONE (O₃) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 76 ppb																											
Number of 1-Hour Exceedances: 0																											
Maximum Hourly Value: 59.9 ppb on Apr 6 at hr 14												Hours in Service: 720															
Maximum Daily Value: 55.0 ppb on Apr 7												Hours of Data: 683															
Minimum Hourly Value: 10.1 ppb on Apr 11 at hr 5												Hours of Missing Data: 1															
Minimum Daily Value: 37.6 ppb on Apr 14												Hours of Calibration: 36															
Monthly Average: 44.8 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			
Apr 1	57.7	49.9	49.8	40.2	40.4	48.8	43.1	53.1	56.8	57.4	56.6	57.6	55.8	54.4	53.6	52.1	52	51.9	S	47.8	46.7	48	47.7	47.4	40.2	57.7	50.8
Apr 2	46.8	46.2	44.8	43.9	42.7	41.2	40.6	40.2	40.1	40.1	40.2	40.6	41.6	41	41	40.4	40.6	S	39.1	38.7	39.6	39.1	39.4	37.4	37.4	46.8	41.1
Apr 3	32.7	28.3	35.6	37.4	37.1	35.5	35.4	37.6	41.6	44.2	44.6	45.5	45.9	46.9	47.6	48.2	S	49.3	50.1	49.6	49.5	48.9	48.8	48.1	28.3	50.1	43.0
Apr 4	47.4	46	44.8	44.9	45.4	43.1	39.1	44.7	47.3	47.4	47.7	49.9	51.6	52	52.9	S	53.6	54	55.1	56	56.8	57.8	56.5	55.6	39.1	57.8	50.0
Apr 5	53.4	48.9	47	44.4	43.6	40.2	44.6	48.1	47.1	48.2	49.4	52.2	56.6	56.6	S	55	56.3	55.9	55.5	53.3	48.5	52.8	51.1	51.3	40.2	56.6	50.4
Apr 6	51.9	48.4	43.1	38	43.1	45.1	35.9	51.8	54	54.8	56.6	58.2	58.6	S	59.9	58.5	58.8	59.1	58.6	58.3	58.2	58.1	58.1	57.2	35.9	59.9	53.2
Apr 7	56.4	56.5	56.6	55	52.6	50.4	48.8	49.5	50.7	51.7	52.3	53.5	S	56.9	57.5	57.9	58.1	58.9	58.5	57.5	57.5	56.7	56.1	55.8	48.8	58.9	55.0
Apr 8	55.6	55.2	55	54.7	53.9	53.4	53	52	51.2	50.9	50.9	S	49.8	52	55.7	55.2	56	54.9	50.5	45.9	50.3	47.4	37.2	28.2	28.2	56.0	50.8
Apr 9	30.2	29.8	25.9	19.2	14.6	13	25.7	38.3	44.7	46.7	S	54.7	56.9	59.4	59.2	59.2	58.2	58.2	57.8	57.9	59.5	59	57.4	55.7	13.0	59.5	45.3
Apr 10	51.7	47.9	39.6	37.9	48.5	55.4	54.8	55	55.6	S	54.9	53.7	52.4	51.7	C	C	C	C	C	51.8	46.5	44.7	45.8	43.5	37.9	55.6	49.5
Apr 11	34.7	29.1	28.8	17	20.1	10.1	K	22	S	35.6	45.8	51	51.6	52.3	51.7	51.4	51.1	48.8	49.4	41.5	40.9	36.2	32.9	32.7	10.1	52.3	37.9
Apr 12	37.1	38.6	37.4	34.7	31.9	30.1	S	33.5	37.9	43.2	47.8	48.1	48.3	50.6	53	52.8	50.3	50.2	48.9	47.7	45.2	37.6	30.9	30.1	53.0	42.0	
Apr 13	34.9	30.2	23.4	21.5	21.3	13.8	S	28.8	40.9	40.7	43.6	47.5	50.6	52.8	54	54.8	54.8	54.2	51.1	44.9	39	38.6	31.7	24.7	13.8	54.8	39.0
Apr 14	24.4	23.5	23.3	22.6	14.6	S	13.6	23.4	36.8	40.2	45.1	48.4	53.7	54.7	53.9	53.5	55.1	53.5	50.4	41.5	34.1	41	32.5	25.1	13.6	55.1	37.6
Apr 15	24.8	26.5	21.2	14.4	S	10.8	11.6	32.4	39	44.8	50.5	53.3	54	55.4	56.3	57.2	57.5	57.9	57.3	43.3	26.8	21.4	21.8	46.1	10.8	57.9	38.4
Apr 16	43	39.5	41.6	S	43.1	39.5	44	42.1	41	42.1	44.8	51	53.9	54.4	54.8	54.7	53.6	53.1	52.2	51.2	49.9	48.8	48	47.1	39.5	54.8	47.5
Apr 17	46.3	44.3	S	43.4	42.7	41.7	41.8	42.1	43.1	40.9	38.6	37.6	38.2	40.9	46.9	48.7	48.8	50.5	48.9	48	48.8	44.2	33.3	41.5	33.3	50.5	43.5
Apr 18	42.8	S	34.1	33.2	32	30.5	29.3	30.5	37.1	41.9	44.2	48.1	43.4	46.4	48.1	47.8	47.9	45.2	44.3	40.2	41.2	38.9	37.5	42.3	29.3	48.1	40.3
Apr 19	S	42.9	41.5	41.3	40.7	40.9	40.7	43.3	45.7	48	48.4	50	51.2	51.7	51.1	49.8	49.1	48.3	46.9	46.4	44.7	45.2	45.8	S	40.7	51.7	46.1
Apr 20	48.3	46.9	39.5	31.9	29	38.9	45.1	45.8	45	46.1	47.2	48.2	48.4	48.4	48.9	48.8	47.6	47.7	46.7	47.7	51.4	48.7	S	39.9	29.0	51.4	45.0
Apr 21	34.4	26.8	17.5	23.5	27.9	28.1	38.4	46.4	49.6	49.1	49.9	51.8	53.2	55.5	55.4	54.8	55.4	54.8	54.1	50.9	41.9	S	33.2	30.1	17.5	55.5	42.7
Apr 22	28.4	25.5	12.9	15	10.9	16	18.6	40.9	49.4	53.5	53.7	54.4	55	55.1	55.7	55.8	55.5	56	55.6	53.4	S	51.2	51.1	50.6	10.9	56.0	42.4
Apr 23	49.1	47.8	46.9	45.6	45	44.3	44.3	45.1	47.9	51	52.3	54.3	55.1	55.2	55.4	56.8	57.2	57.4	56.6	S	53.4	53.6	53.8	53.2	44.3	57.4	51.4
Apr 24	52.9	50.2	49.2	49.1	47.7	43.2	47.7	49.1	50.3	50.6	52	53.2	53.3	52.4	51.5	50	50.6	51.2	S	53.5	53.6	53	52.2	50	43.2	53.6	50.7
Apr 25	47.9	46.3	44.8	41.8	34.2	36.2	38.5	39.3	39.4	40.2	40.7	42.3	43.8	46.4	46.9	47.6	46.8	S	40.8	36.5	21	12.6	15.6	21.2	12.6	47.9	37.9
Apr 26	23.3	23.7	29.4	37.1	37.5	35.8	35.7	33.9	36.1	37.2	41.2	45.4	47.5	48.4	49.7	49.5	S	48.4	48	45.6	40.1	42.7	38.4	38.1	23.3	49.7	39.7
Apr 27	36.6	35.7	33.8	29.3	31.4	28.9	27	35.8	39.8	41.7	42.7	43.7	41.5	40.9	44.5	S	44.8	44.7	44.1	39.5	34.6	38.6	39.4	39.8	27.0	44.8	38.2
Apr 28	37.9	36	37.1	35.4	36.5	32	36.3	43.5	49.9	49.8	51.8	54.3	57.1	55.6	S	57	56.9	56.2	54.8	53.6	50.1	42.4	29.8	35.3	29.8	57.1	45.6
Apr 29	39.3	27.8	23.4	27.5	26.9	20.7	19.4	39	47.2	51.4	50.7	51.1	50.1	S	50.3	49.9	50.6	50.4	49.1	43.6	30.8	45.6	48.6	47	19.4	51.4	40.9
Apr 30	45.6	45.1	44.9	44.4	43.1	41.8	42.1	41.6	44.2	49.3	51.8	51.6	S	53.7	55.9	55.2	55.2	54.9	54.7	52.5	51.2	51.3	51.2	50.6	41.6	55.9	49.2
Diurnal Maximum	57.7	56.5	56.6	55.0	53.9	55.4	54.8	55.0	56.8	57.4	56.6	58.2	58.6	59.4	59.9	59.2	58.8	59.1	58.6	58.3	59.5	59.0	58.1	57.2			
Diurnal Average	41.9	39.4	37.0	35.3	35.8	34.8	36.6	41.2	45.0	46.0	48.0	50.0	50.7	51.4	52.2	52.7	52.8	52.8	51.1	48.3	45.3	45.2	42.5	42.3			

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

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.

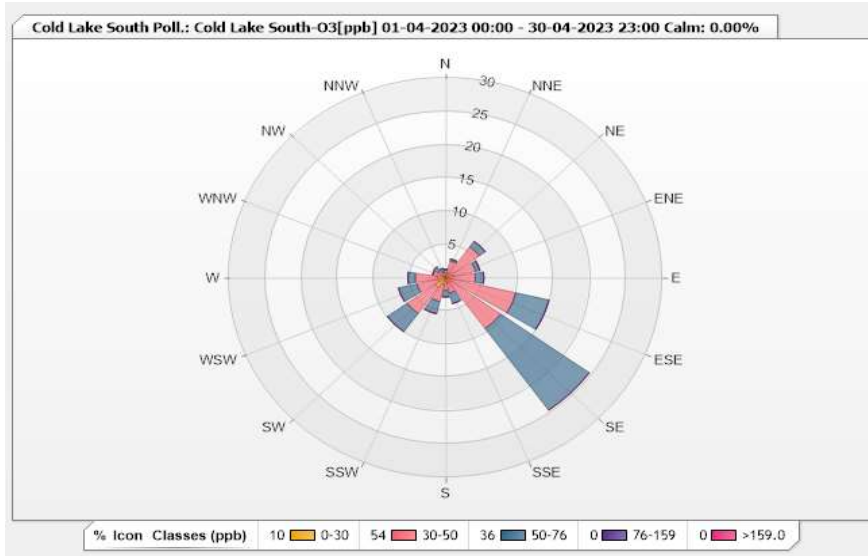


Station: Cold Lake South Poll.: Cold Lake South-O3[ppb] Monthly: 04-2023

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

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

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	0.15	1.02	0.15	0	0	1.32
NNE	0.73	1.9	0.29	0	0	2.92
NE	0.73	4.98	1.02	0	0	6.73
ENE	1.02	3.22	0.59	0	0	4.83
E	0.29	3.81	1.17	0	0	5.27
ESE	0.15	9.81	4.69	0	0	14.65
SE	0.88	8.49	15.08	0	0	24.45
SSE	0.59	1.76	1.61	0	0	3.96
S	0.15	1.76	1.02	0	0	2.93
SSW	1.02	2.64	1.9	0	0	5.56
SW	1.76	4.83	3.37	0	0	9.96
WSW	1.02	3.07	2.64	0	0	6.73
W	1.17	3.07	1.02	0	0	5.26
WNW	0.29	1.61	0	0	0	1.9
NW	0	1.32	0.73	0	0	2.05
NNW	0	0.88	0.59	0	0	1.47
Summary	9.95	54.17	35.87	0	0	100



Lakeland Industry & Community Association

Cold Lake South Station - April 2023

Summary of Hourly Averages

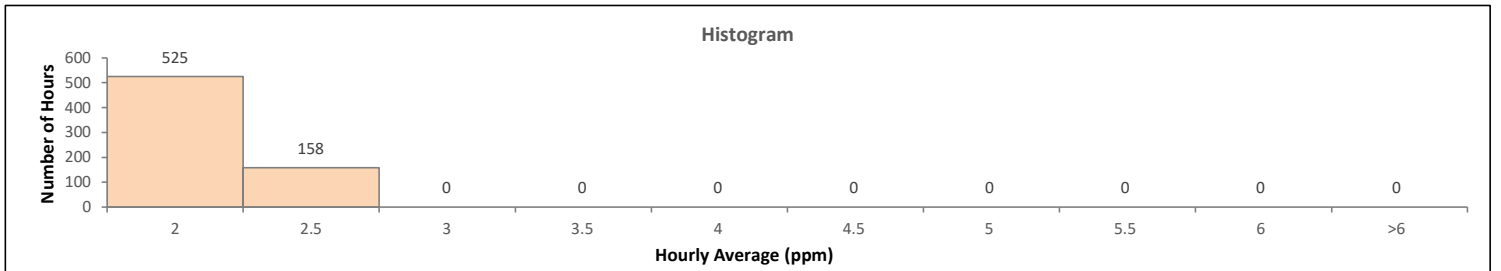
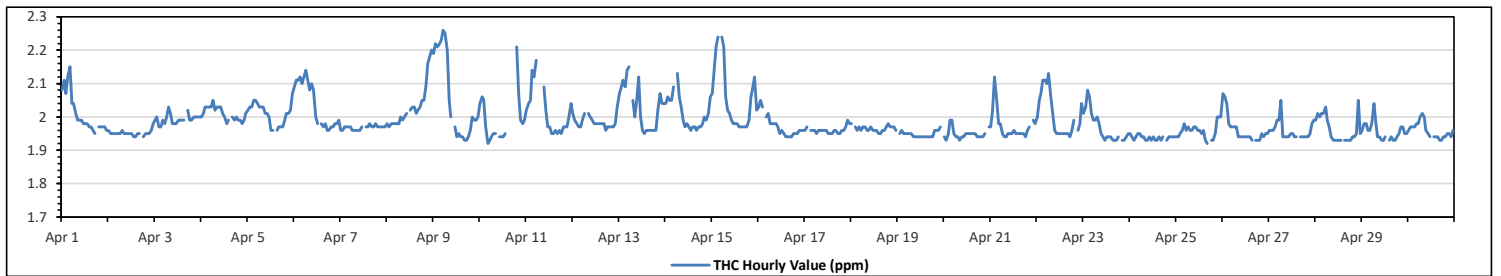
TOTAL HYDROCARBONS (THC) in ppm

Maximum Hourly Value:	2.26 ppm	on Apr 9 at hr 5	Hours in Service:	720
Maximum Daily Value:	2.06 ppm	on Apr 9	Hours of Data:	683
Minimum Hourly Value:	1.92 ppm	on Apr 10 at hr 4	Hours of Missing Data:	1
Minimum Daily Value:	1.94 ppm	on Apr 24	Hours of Calibration:	36
Monthly Average:	1.99 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	
Apr 1	2.08	2.11	2.07	2.12	2.15	2.04	2.04	2.01	1.99	1.99	1.99	1.98	1.98	1.98	1.97	1.97	1.96	1.95	S	1.97	1.97	1.97	1.97	1.96	1.95	2.15	2.01	
Apr 2	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.95	1.95	1.95	1.95	1.94	1.94	1.95	1.95	S	1.94	1.95	1.95	1.96	1.98	1.98	1.98	1.98	1.98	1.98	
Apr 3	1.99	2.00	1.97	1.97	1.99	1.98	2.00	2.03	2.01	1.98	1.98	1.98	1.99	1.99	1.99	S	2.02	1.99	1.99	2.00	2.00	2.00	2.00	2.00	1.97	2.03	1.99	
Apr 4	2.00	2.01	2.03	2.03	2.03	2.26	2.25	2.20	2.03	2.03	2.03	2.01	2.00	1.98	1.99	S	2.00	1.99	2.00	1.99	1.98	1.99	2.01	1.98	2.05	2.01	1.98	
Apr 5	2.02	2.03	2.03	2.05	2.05	2.04	2.03	2.03	2.03	2.01	2.01	2.00	1.96	1.96	S	1.96	1.97	1.97	1.97	1.99	2.01	2.01	2.02	2.07	1.96	2.07	2.01	
Apr 6	2.09	2.11	2.11	2.12	2.10	2.12	2.14	2.11	2.08	2.10	2.08	2.00	1.98	S	1.98	1.97	1.98	1.96	1.96	1.97	1.97	1.98	1.98	1.99	1.96	2.14	2.04	
Apr 7	1.96	1.96	1.97	1.97	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.97	S	1.97	1.97	1.98	1.97	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.98	1.97	
Apr 8	1.98	1.97	1.98	1.98	1.98	1.98	1.98	2.00	1.99	2.00	2.01	S	2.02	2.03	2.03	2.01	2.02	2.03	2.05	2.05	2.09	2.16	2.18	2.20	1.97	2.20	2.03	
Apr 9	2.19	2.22	2.21	2.22	2.23	2.26	2.25	2.20	2.05	2.00	S	1.97	1.94	1.95	1.94	1.94	1.93	1.93	1.94	1.96	2.00	1.99	1.99	2.00	1.93	2.26	2.06	
Apr 10	2.04	2.06	2.05	1.97	1.92	1.93	1.94	1.95	1.95	S	1.94	1.94	1.94	1.95	C	C	C	C	C	2.21	2.07	1.99	1.98	1.99	1.92	2.21	1.99	
Apr 11	2.02	2.04	2.05	2.14	2.12	2.17	K	2.15	S	2.09	2.02	1.97	1.97	1.95	1.95	1.96	1.95	1.96	1.95	1.97	1.97	1.97	2.00	2.04	1.95	2.17	2.02	
Apr 12	2.01	1.99	1.98	1.97	1.97	1.99	2.01	S	2.01	2.00	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.96	1.97	1.97	1.97	1.97	1.98	2.03	1.96	2.03	1.98	
Apr 13	2.07	2.09	2.11	2.09	2.14	2.15	S	2.13	2.06	2.00	2.05	2.12	2.00	1.96	1.95	1.96	1.96	1.96	1.96	1.96	2.02	2.07	2.04	2.04	1.95	2.15	2.03	
Apr 14	2.04	2.06	2.05	2.05	2.09	S	2.13	2.06	2.03	1.99	1.97	1.98	1.97	1.96	1.97	1.96	1.97	1.96	1.97	1.98	2.00	1.99	2.01	2.06	1.96	2.13	2.01	
Apr 15	2.07	2.14	2.21	2.24	S	2.24	2.21	2.06	2.02	2.01	1.99	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.99	2.06	2.09	2.12	2.02	1.97	2.24	2.05	
Apr 16	2.03	2.05	2.03	S	2.00	2.01	1.98	1.98	1.98	1.98	1.97	1.95	1.96	1.95	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.96	1.96	1.96	1.94	2.05	1.97	
Apr 17	1.96	1.97	S	1.96	1.96	1.96	1.95	1.96	1.96	1.96	1.96	1.96	1.95	1.95	1.95	1.96	1.96	1.95	1.95	1.96	1.96	1.97	1.99	1.98	1.95	1.99	1.96	
Apr 18	1.98	S	1.97	1.96	1.97	1.96	1.97	1.96	1.96	1.96	1.97	1.96	1.96	1.96	1.95	1.95	1.96	1.96	1.96	1.97	1.98	1.97	1.97	1.96	1.95	1.98	1.96	
Apr 19	S	1.95	1.96	1.95	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.96	1.96	1.96	1.97	S	1.94	1.97	1.95	
Apr 20	1.94	1.93	1.95	1.99	1.99	1.95	1.94	1.94	1.93	1.94	1.94	1.94	1.95	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.95	S	1.97	1.93	1.99	1.95	
Apr 21	1.97	2.02	2.12	2.05	1.98	1.98	1.95	1.94	1.94	1.95	1.95	1.95	1.96	1.95	1.95	1.95	1.95	1.95	1.94	1.96	1.97	S	1.99	1.98	1.94	2.12	1.97	
Apr 22	2.00	2.05	2.07	2.11	2.11	2.10	2.13	2.06	2.01	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.94	1.96	1.99	S	1.96	1.98	2.04	1.94	2.13	2.01	2.01	
Apr 23	2.01	2.03	2.08	2.06	2.01	1.99	1.99	2.00	1.98	1.95	1.94	1.93	1.94	1.94	1.94	1.93	1.93	1.93	1.94	S	1.93	1.93	1.94	1.95	1.93	2.08	1.97	
Apr 24	1.95	1.94	1.93	1.94	1.95	1.95	1.94	1.94	1.93	1.93	1.94	1.93	1.94	1.93	1.93	1.94	1.93	1.94	S	1.93	1.94	1.94	1.94	1.94	1.93	1.95	1.94	
Apr 25	1.94	1.94	1.95	1.96	1.98	1.96	1.97	1.96	1.96	1.97	1.96	1.96	1.95	1.96	1.95	1.96	1.93	1.92	S	1.93	1.93	1.95	2.00	2.00	1.92	2.00	1.96	
Apr 26	2.07	2.06	2.04	1.98	1.97	1.97	1.97	1.97	1.94	1.94	1.94	1.94	1.94	1.94	1.93	S	1.93	1.93	1.93	1.93	1.95	1.94	1.95	1.95	1.93	2.07	1.96	
Apr 27	1.96	1.96	1.96	1.97	1.99	1.99	2.05	1.94	1.94	1.94	1.94	1.95	1.95	1.94	1.94	S	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.98	1.99	1.94	2.05	1.96
Apr 28	1.99	2.01	2.00	2.01	2.01	2.03	1.99	1.97	1.94	1.93	1.93	1.93	1.93	1.93	S	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.95	2.05	1.93	2.05	1.96	
Apr 29	1.96	1.98	1.98	1.96	1.96	1.98	2.04	1.99	1.94	1.94	1.93	1.93	1.94	S	1.93	1.94	1.93	1.93	1.93	1.94	1.95	1.97	1.95	1.95	1.93	2.04	1.96	
Apr 30	1.96	1.97	1.97	1.97	1.98	1.98	2.00	2.01	2.00	1.96	1.95	1.94	S	1.94	1.94	1.94	1.93	1.93	1.94	1.94	1.95	1.95	1.94	1.96	1.93	2.01	1.96	
Diurnal Maximum	2.19	2.22	2.21	2.24	2.23	2.26	2.25	2.20	2.08	2.10	2.12	2.01	2.02	2.03	2.03	2.01	2.02	2.03	2.05	2.21	2.09	2.16	2.18	2.20				
Diurnal Average	2.01	2.02	2.03	2.03	2.02	2.02	2.01	1.98	1.98	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.96	1.96	1.97	1.98	1.98	1.99	2.00				

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

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.

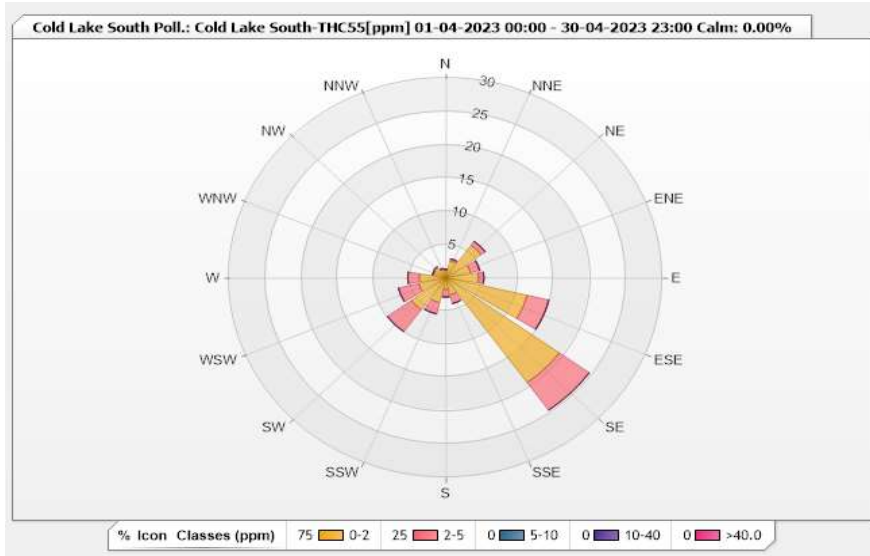


Station: Cold Lake South Poll.: Cold Lake South-THC55[ppm] Monthly: 04-2023

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

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

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	1.17	0.15	0	0	0	1.32
NNE	2.64	0.29	0	0	0	2.93
NE	6	0.73	0	0	0	6.73
ENE	3.51	1.32	0	0	0	4.83
E	4.54	0.73	0	0	0	5.27
ESE	11.57	3.07	0	0	0	14.64
SE	19.33	5.12	0	0	0	24.45
SSE	2.64	1.32	0	0	0	3.96
S	1.76	1.17	0	0	0	2.93
SSW	3.81	1.76	0	0	0	5.57
SW	5.86	4.1	0	0	0	9.96
WSW	3.81	2.93	0	0	0	6.74
W	3.66	1.61	0	0	0	5.27
WNW	1.76	0.15	0	0	0	1.91
NW	1.9	0.15	0	0	0	2.05
NNW	1.32	0.15	0	0	0	1.47
Summary	75.28	24.75	0	0	0	100



Lakeland Industry & Community Association

Cold Lake South Station - April 2023

Summary of Hourly Averages

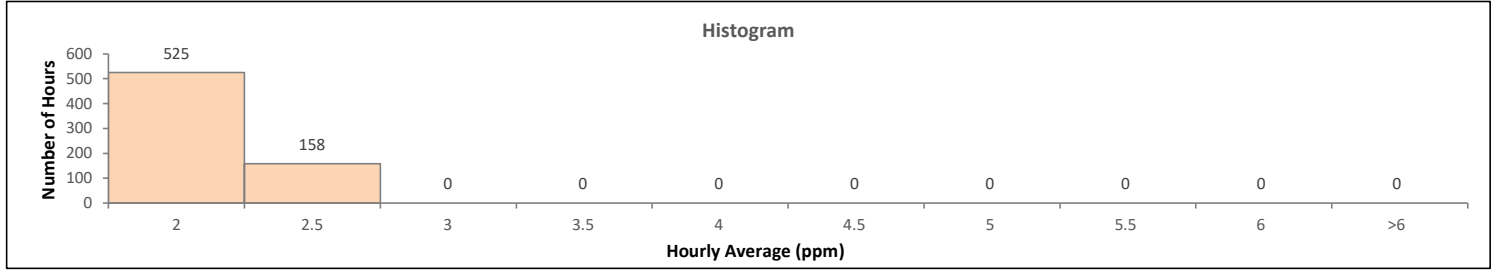
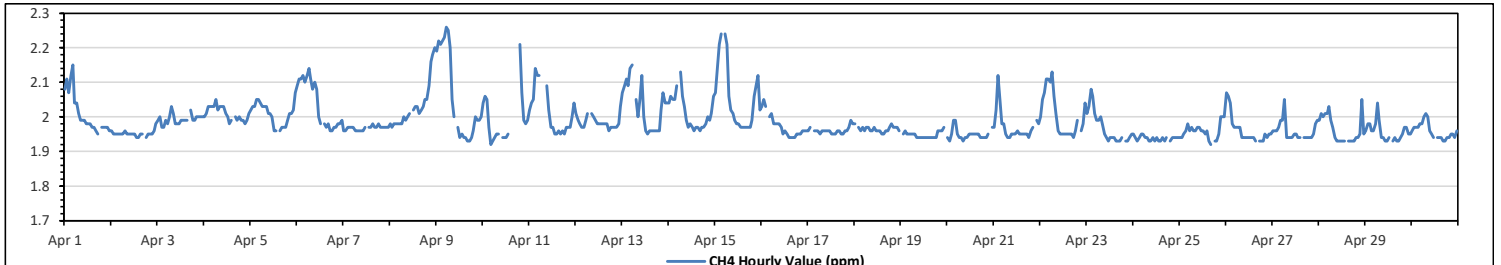
METHANE (CH4) in ppm

Maximum Hourly Value:	2.26 ppm	on Apr 9 at hr 5	Hours in Service:	720
Maximum Daily Value:	2.06 ppm	on Apr 9	Hours of Data:	683
Minimum Hourly Value:	1.92 ppm	on Apr 10 at hr 4	Hours of Missing Data:	1
Minimum Daily Value:	1.94 ppm	on Apr 24	Hours of Calibration:	36
Monthly Average:	1.99 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	
Apr 1	2.08	2.11	2.07	2.12	2.15	2.04	2.04	2.01	1.99	1.99	1.99	1.98	1.98	1.98	1.97	1.97	1.96	1.95	S	1.97	1.97	1.97	1.97	1.96	1.95	2.15	2.01	
Apr 2	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.95	1.95	1.95	1.95	1.95	1.94	1.94	1.95	1.95	S	1.94	1.95	1.95	1.96	1.98	1.94	1.98	1.95	1.95	
Apr 3	1.99	2.00	1.97	1.97	1.99	1.98	2.00	2.03	2.01	1.98	1.98	1.98	1.99	1.99	1.99	S	2.02	1.99	1.99	2.00	2.00	2.00	2.00	2.00	1.97	2.03	1.99	
Apr 4	2.00	2.01	2.03	2.03	2.03	2.03	2.05	2.02	2.03	2.03	2.03	2.01	2.00	1.98	1.99	S	2.00	1.99	2.00	1.99	1.99	1.98	1.99	2.01	1.98	2.05	2.01	
Apr 5	2.02	2.03	2.03	2.05	2.05	2.04	2.03	2.03	2.03	2.01	2.01	2.00	1.96	1.96	S	1.96	1.97	1.97	1.97	1.99	2.01	2.01	2.02	2.07	1.96	2.07	2.01	
Apr 6	2.09	2.11	2.11	2.12	2.10	2.12	2.14	2.11	2.08	2.10	2.08	2.00	1.98	S	1.98	1.97	1.98	1.96	1.96	1.97	1.97	1.98	1.98	1.99	1.96	2.14	2.04	
Apr 7	1.96	1.96	1.97	1.97	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.97	S	1.97	1.97	1.98	1.97	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.98	1.97	
Apr 8	1.98	1.97	1.98	1.98	1.98	1.98	1.98	2.00	1.99	2.00	2.01	S	2.02	2.03	2.03	2.01	2.02	2.03	2.05	2.05	2.09	2.16	2.18	2.20	1.97	2.20	2.03	
Apr 9	2.19	2.22	2.21	2.22	2.23	2.26	2.25	2.20	2.05	2.00	S	1.97	1.94	1.95	1.94	1.94	1.93	1.93	1.94	1.96	2.00	1.99	1.99	2.00	1.93	2.26	2.06	
Apr 10	2.04	2.06	2.05	1.97	1.92	1.93	1.94	1.95	1.95	S	1.94	1.94	1.94	1.95	C	C	C	C	C	2.21	2.07	1.99	1.98	1.99	1.92	2.21	1.99	
Apr 11	2.02	2.04	2.05	2.14	2.12	2.12	K	2.15	S	2.09	2.02	1.97	1.97	1.95	1.95	1.96	1.95	1.96	1.95	1.97	1.97	1.97	2.00	2.04	1.95	2.15	2.02	
Apr 12	2.01	1.99	1.98	1.97	1.97	1.99	2.01	S	2.01	2.00	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.96	1.97	1.97	1.97	1.97	1.98	2.03	1.96	2.03	1.98	
Apr 13	2.07	2.09	2.11	2.09	2.14	2.15	S	2.13	2.06	2.00	2.05	2.12	2.00	1.96	1.95	1.96	1.96	1.96	1.96	1.96	2.02	2.07	2.04	2.04	1.95	2.15	2.03	
Apr 14	2.04	2.06	2.05	2.05	2.09	S	2.13	2.06	2.03	1.99	1.97	1.98	1.97	1.96	1.97	1.96	1.97	1.96	1.97	1.98	2.00	1.99	2.01	2.06	1.96	2.13	2.01	
Apr 15	2.07	2.14	2.21	2.24	S	2.24	2.21	2.06	2.02	2.01	1.99	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.99	2.06	2.09	2.12	2.02	1.97	2.24	2.05	
Apr 16	2.03	2.05	2.03	S	2.00	2.01	1.98	1.98	1.98	1.98	1.97	1.95	1.96	1.95	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.96	1.96	1.96	1.94	2.05	1.97	
Apr 17	1.96	1.97	S	1.96	1.96	1.96	1.95	1.96	1.96	1.96	1.96	1.96	1.95	1.95	1.95	1.96	1.96	1.95	1.95	1.96	1.96	1.97	1.99	1.98	1.95	1.99	1.96	
Apr 18	1.98	S	1.97	1.96	1.97	1.96	1.97	1.96	1.96	1.96	1.97	1.96	1.96	1.96	1.95	1.95	1.96	1.96	1.96	1.97	1.98	1.97	1.97	1.97	1.95	1.98	1.96	
Apr 19	S	1.95	1.96	1.95	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.96	1.96	1.96	1.97	S	1.94	1.97	1.95	
Apr 20	1.94	1.93	1.95	1.99	1.99	1.95	1.94	1.94	1.93	1.94	1.94	1.94	1.95	1.95	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.95	S	1.97	1.93	1.99	1.95
Apr 21	1.97	2.02	2.12	2.05	1.98	1.98	1.95	1.94	1.94	1.95	1.95	1.95	1.96	1.95	1.95	1.95	1.95	1.95	1.94	1.96	1.97	S	1.99	1.98	1.94	2.12	1.97	
Apr 22	2.00	2.05	2.07	2.11	2.11	2.10	2.13	2.06	2.01	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.94	1.96	1.99	S	1.96	1.98	2.04	1.94	2.13	2.01	
Apr 23	2.01	2.03	2.08	2.06	2.01	1.99	1.99	2.00	1.98	1.95	1.94	1.93	1.94	1.94	1.93	1.93	1.93	1.93	1.94	S	1.93	1.93	1.94	1.95	1.93	2.08	1.97	
Apr 24	1.95	1.94	1.93	1.94	1.95	1.95	1.94	1.94	1.93	1.93	1.94	1.93	1.94	1.93	1.93	1.94	1.93	1.94	1.93	S	1.93	1.94	1.94	1.94	1.94	1.93	1.95	1.94
Apr 25	1.94	1.94	1.95	1.96	1.98	1.96	1.97	1.96	1.96	1.97	1.96	1.96	1.95	1.96	1.95	1.96	1.93	1.92	S	1.93	1.93	1.95	2.00	2.00	2.00	1.92	2.00	1.96
Apr 26	2.07	2.06	2.04	1.98	1.97	1.97	1.97	1.97	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.93	1.92	S	1.93	1.93	1.93	1.95	1.94	1.95	1.95	1.93	2.07	1.96
Apr 27	1.96	1.96	1.96	1.97	1.99	1.99	2.05	1.94	1.94	1.94	1.94	1.95	1.95	1.94	1.94	S	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.98	1.99	1.94	2.05	1.96
Apr 28	1.99	2.01	2.00	2.01	2.03	1.99	1.97	1.94	1.93	1.93	1.93	1.93	1.93	1.93	S	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.95	2.05	1.95	1.93	2.05	1.96
Apr 29	1.96	1.98	1.98	1.96	1.96	1.98	2.04	1.99	1.94	1.94	1.93	1.93	1.94	S	1.93	1.94	1.93	1.93	1.93	1.94	1.95	1.97	1.97	1.95	1.95	1.93	2.04	1.96
Apr 30	1.96	1.97	1.97	1.97	1.98	1.98	2.00	2.01	2.00	1.96	1.95	1.94	S	1.94	1.94	1.94	1.93	1.93	1.93	1.94	1.94	1.95	1.95	1.94	1.96	1.93	2.01	1.96
Diurnal Maximum	2.19	2.22	2.21	2.24	2.23	2.26	2.25	2.20	2.08	2.10	2.12	2.01	2.02	2.03	2.03	2.01	2.02	2.03	2.05	2.21	2.09	2.16	2.18	2.20				
Diurnal Average	2.01	2.02	2.03	2.03	2.02	2.02	2.01	1.98	1.98	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.96	1.96	1.97	1.98	1.98	1.99	2.00				

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

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.

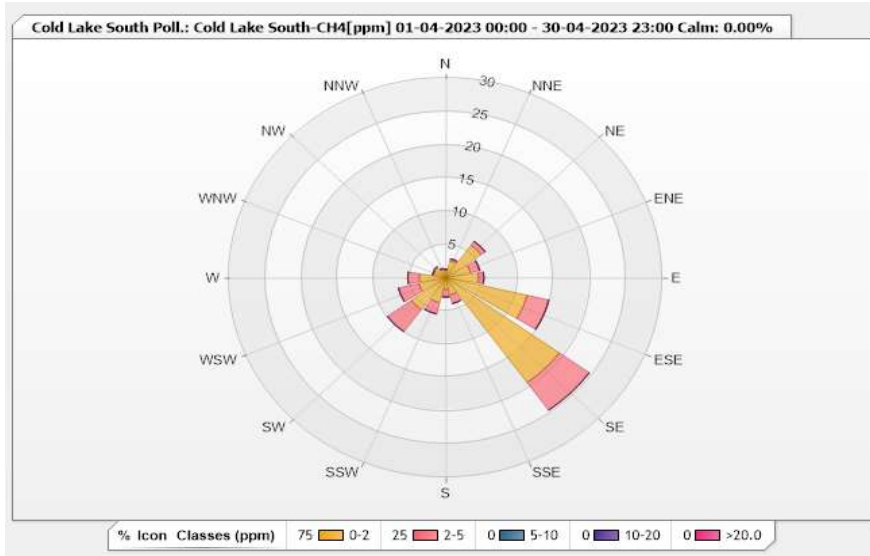


Station: Cold Lake South Poll.: Cold Lake South-CH4[ppm] Monthly: 04-2023

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

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

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	1.17	0.15	0	0	0	1.32
NNE	2.64	0.29	0	0	0	2.93
NE	6	0.73	0	0	0	6.73
ENE	3.51	1.32	0	0	0	4.83
E	4.54	0.73	0	0	0	5.27
ESE	11.57	3.07	0	0	0	14.64
SE	19.33	5.12	0	0	0	24.45
SSE	2.64	1.32	0	0	0	3.96
S	1.76	1.17	0	0	0	2.93
SSW	3.81	1.76	0	0	0	5.57
SW	5.86	4.1	0	0	0	9.96
WSW	3.81	2.93	0	0	0	6.74
W	3.66	1.61	0	0	0	5.27
WNW	1.76	0.15	0	0	0	1.91
NW	1.9	0.15	0	0	0	2.05
NNW	1.32	0.15	0	0	0	1.47
Summary	75.28	24.75	0	0	0	100



Lakeland Industry & Community Association

Cold Lake South Station - April 2023

Summary of Hourly Averages

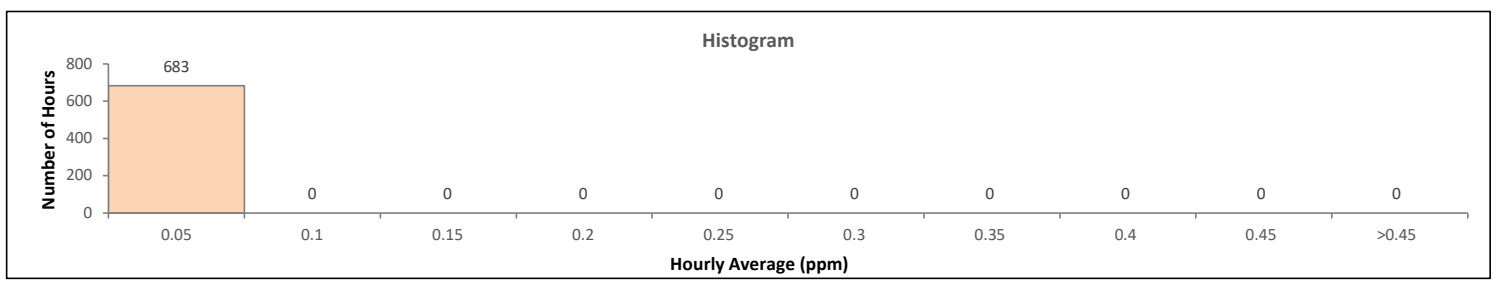
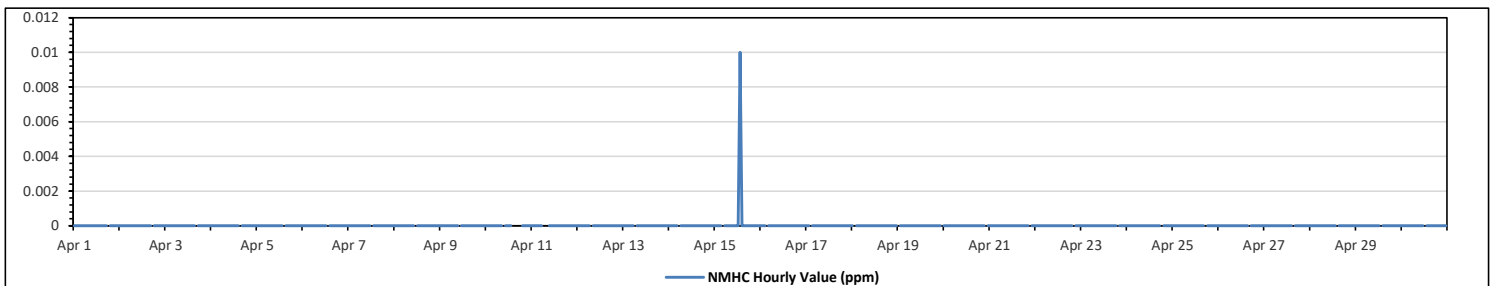
NON-METHANE HYDROCARBONS (NMHC) in ppm

Maximum Hourly Value:	0.01 ppm	on Apr 15 at hr 13	Hours in Service:	720
Maximum Daily Value:	0.00 ppm	on Apr 15	Hours of Data:	683
Minimum Hourly Value:	0.00 ppm	on Apr 1 at hr 0	Hours of Missing Data:	1
Minimum Daily Value:	0.00 ppm	on Apr 1	Hours of Calibration:	36
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				
Apr 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 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	0.01	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	0.01	0.00	0.00	
Apr 16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 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	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	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
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	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
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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.

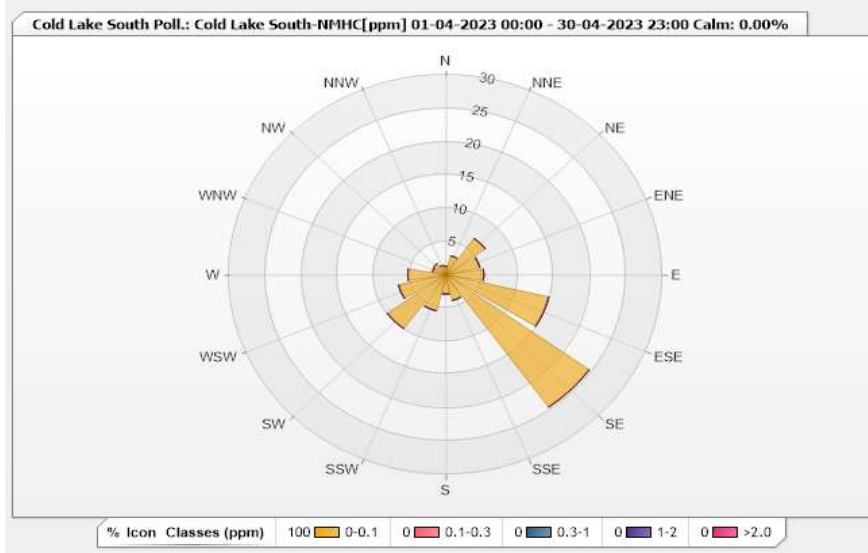


Station: Cold Lake South Poll.: Cold Lake South-NMHC[ppm] Monthly: 04-2023

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

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

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	1.32	0	0	0	0	1.32
NNE	2.93	0	0	0	0	2.93
NE	6.73	0	0	0	0	6.73
ENE	4.83	0	0	0	0	4.83
E	5.27	0	0	0	0	5.27
ESE	14.64	0	0	0	0	14.64
SE	24.45	0	0	0	0	24.45
SSE	3.95	0	0	0	0	3.95
S	2.93	0	0	0	0	2.93
SSW	5.56	0	0	0	0	5.56
SW	9.96	0	0	0	0	9.96
WSW	6.73	0	0	0	0	6.73
W	5.27	0	0	0	0	5.27
WNW	1.9	0	0	0	0	1.9
NW	2.05	0	0	0	0	2.05
NNW	1.46	0	0	0	0	1.46
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

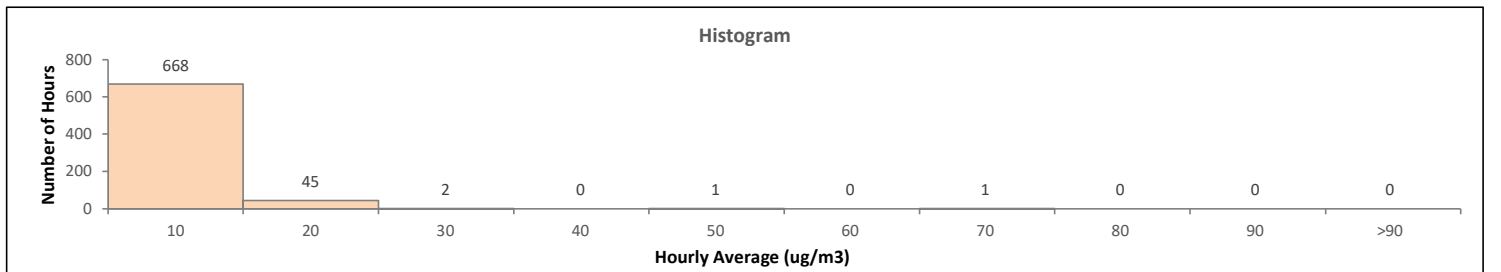
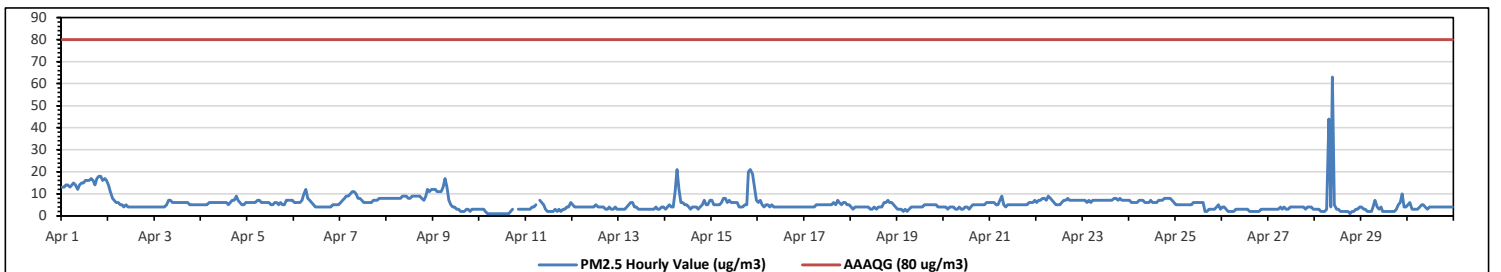
Cold Lake South Station - April 2023

Summary of Hourly Averages

PARTICULATE MATTER 2.5 (PM_{2.5}) in µg/m³

Alberta Ambient Air Quality Guideline (AAAQG): 1-Hour 80 µg/m ³ , Alberta Ambient Air Quality Objective (AAAQO): 24-Hour 29 µg/m ³																																															
Number of 1-Hour Exceedances:	0	Number of 24-Hour Exceedances:	0																																												
Maximum Hourly Value:	63 µg/m ³ on Apr 28 at hr 9	Hours in Service:	720																																												
Maximum Daily Value:	15.1 µg/m ³ on Apr 1	Hours of Data:	717																																												
Minimum Hourly Value:	1 µg/m ³ on Apr 10 at hr 4	Hours of Missing Data:	1																																												
Minimum Daily Value:	2 µg/m ³ on Apr 10	Hours of Calibration:	2																																												
Monthly Average:	5.5 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																							
Apr 1	13	13	14	14	13	14	15	14	12	14	15	15	16	16	16	17	16	14	17	18	18	16	17	16	12	18	15.1																				
Apr 2	14	11	8	7	6	6	5	5	4	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	14	5.3																				
Apr 3	4	4	4	4	4	4	5	7	7	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	4	7	5.3																				
Apr 4	5	5	5	5	6	6	6	6	6	6	6	6	6	6	5	6	7	7	9	7	6	5	5	6	5	9	6.0																				
Apr 5	6	6	6	6	6	7	7	6	6	6	6	6	5	5	6	6	5	6	5	5	7	7	7	7	5	7	6.0																				
Apr 6	6	6	6	6	7	10	12	8	7	6	5	4	4	4	4	4	4	4	4	4	5	5	5	5	4	12	5.6																				
Apr 7	6	7	8	9	9	10	11	11	10	8	8	7	6	6	6	6	7	7	7	8	8	8	8	8	6	11	7.8																				
Apr 8	8	8	8	8	8	8	8	8	9	9	9	8	8	9	9	9	9	9	8	7	9	12	11	12	7	12	8.8																				
Apr 9	12	12	11	11	11	13	17	13	7	5	4	4	3	3	2	2	2	3	3	2	3	3	3	3	2	17	6.3																				
Apr 10	3	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	2	3	C	C	3	3	3	3	1	3	1.8																				
Apr 11	3	3	3	4	4	5	K	7	6	5	3	2	2	2	2	3	2	3	2	3	3	4	4	6	2	7	3.5																				
Apr 12	5	4	4	4	4	4	4	4	4	4	4	4	5	4	4	4	3	3	4	3	4	3	4	3	3	5	3.9																				
Apr 13	3	3	3	3	4	5	6	6	4	4	3	3	3	3	3	3	3	3	3	4	3	3	4	4	3	6	3.6																				
Apr 14	3	4	5	4	4	11	21	12	6	6	5	5	4	3	4	4	4	3	4	5	7	5	5	7	3	21	5.9																				
Apr 15	7	5	5	5	5	6	8	8	6	7	6	6	6	6	4	4	4	5	5	20	21	19	13	7	4	21	7.8																				
Apr 16	6	7	5	4	5	5	4	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	7	4.4																				
Apr 17	4	4	4	4	4	4	5	5	5	5	5	5	5	5	5	6	5	7	6	5	6	6	5	5	4	7	5.0																				
Apr 18	4	3	4	4	4	4	4	4	4	4	3	3	4	3	4	4	4	6	6	7	6	6	5	4	3	7	4.3																				
Apr 19	3	3	3	2	3	2	3	4	4	4	4	4	4	4	5	5	5	5	5	5	5	4	4	4	2	5	3.9																				
Apr 20	4	4	3	4	4	4	3	3	3	3	3	4	4	4	3	4	5	5	5	5	5	6	6	4	3	6	4.2																				
Apr 21	6	6	6	5	5	7	9	5	4	5	5	5	5	5	5	5	5	5	5	5	6	6	6	7	4	9	5.5																				
Apr 22	6	7	7	8	8	7	9	8	7	6	5	5	5	5	6	7	8	7	7	7	7	7	7	7	5	9	6.9																				
Apr 23	7	7	6	7	6	7	7	7	7	7	7	7	7	7	7	7	8	8	7	8	7	7	7	7	6	8	7.0																				
Apr 24	7	6	6	6	6	7	7	7	6	6	6	7	6	6	6	7	7	7	8	8	8	8	7	6	6	8	6.7																				
Apr 25	5	5	5	5	5	5	5	5	5	6	6	6	6	6	6	2	2	3	3	3	3	4	5	3	2	6	4.5																				
Apr 26	4	4	3	2	2	2	2	3	3	3	3	3	3	3	2	2	2	2	2	2	3	3	3	3	2	4	2.7																				
Apr 27	3	3	3	3	3	3	4	3	4	3	3	4	4	4	4	4	4	4	4	3	4	4	4	3	3	4	3.5																				
Apr 28	3	3	3	2	2	2	3	44	4	63	5	3	3	2	2	2	2	2	1	2	2	3	3	4	1	63	6.9																				
Apr 29	4	3	3	2	2	2	4	7	4	3	4	2	2	2	2	2	2	3	5	6	10	4	4	4	2	10	3.5																				
Apr 30	5	6	3	3	3	3	4	5	5	4	3	4	4	4	4	4	4	4	4	4	4	4	4	4	3	6	4.0																				
Diurnal Maximum	14	13	14	14	13	14	21	44	12	63	15	15	16	16	16	17	16	14	17	20	21	19	17	16																							
Diurnal Average	5.6	5.5	5.2	5.1	5.1	5.8	6.9	7.7	5.5	7.3	5.0	4.9	4.8	4.7	4.8	4.8	4.8	5.0	5.1	5.8	6.0	6.1	5.7	5.6																							
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.

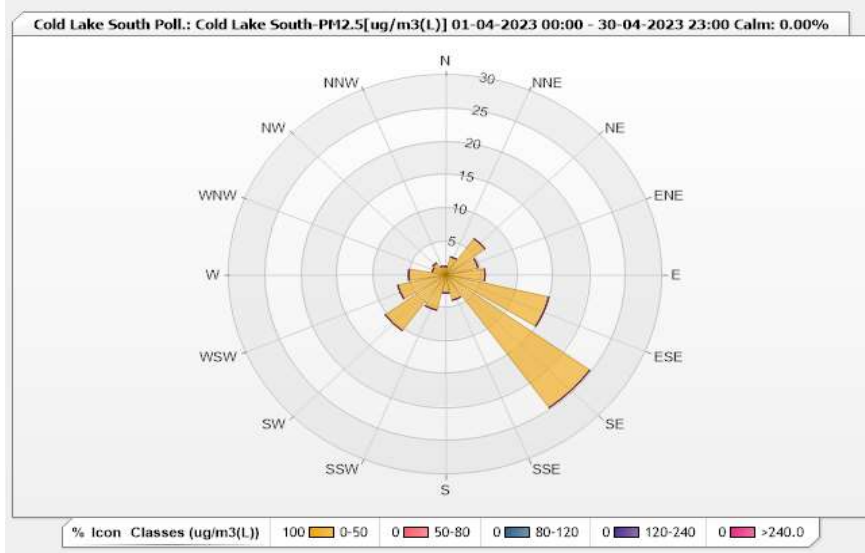


Station: Cold Lake South Poll.: Cold Lake South-PM2.5[ug/m3(L)] Monthly: 04-2023

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

Calm: 0.00% Valid Data: 99.58% Calm Avg: 0.00 [ppm]

Direction	0-50	50-80	80-120	120-240	>240.0	Total
N	1.26	0	0	0	0	1.26
NNE	2.79	0	0	0	0	2.79
NE	6.69	0	0	0	0	6.69
ENE	4.6	0	0	0	0	4.6
E	5.44	0	0	0	0	5.44
ESE	14.64	0	0	0	0	14.64
SE	24.55	0	0	0	0	24.55
SSE	3.91	0	0	0	0	3.91
S	2.79	0	0	0	0	2.79
SSW	5.44	0	0	0	0	5.44
SW	10.32	0	0	0	0	10.32
WSW	6.83	0	0	0	0	6.83
W	5.16	0	0	0	0	5.16
WNW	1.95	0	0	0	0	1.95
NW	2.09	0.14	0	0	0	2.23
NNW	1.39	0	0	0	0	1.39
Summary	100	0.14	0	0	0	100



Lakeland Industry & Community Association

Cold Lake South Station - April 2023

Summary of Hourly Averages

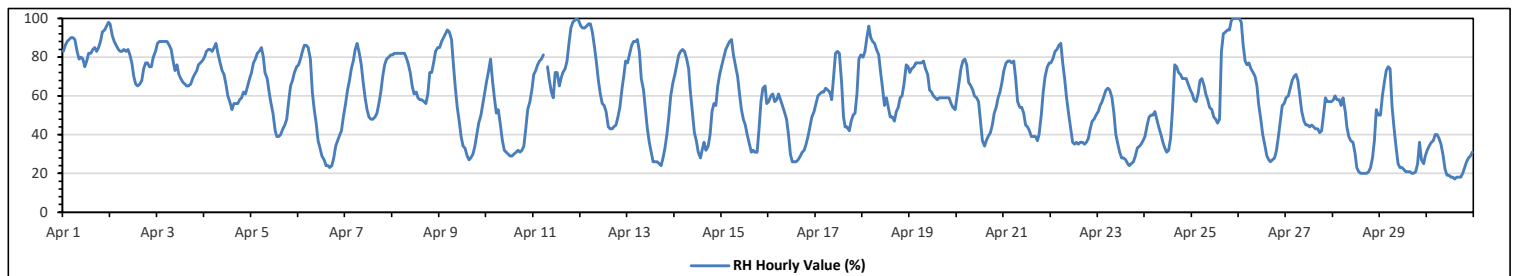
RELATIVE HUMIDITY (RH) in %

Maximum Hourly Value:	100 %	on Apr 11 at hr 22	Hours in Service:	720
Maximum Daily Value:	85.8 %	on Apr 1	Hours of Data:	719
Minimum Hourly Value:	17 %	on Apr 30 at hr 14	Hours of Missing Data:	1
Minimum Daily Value:	26.9 %	on Apr 30	Hours of Calibration:	0
Monthly Average:	58.9 %		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
Apr 1	83	86	88	89	90	90	89	83	79	80	79	75	78	82	82	84	85	83	85	88	93	94	96	98	75	98	85.8
Apr 2	97	91	88	86	84	83	83	84	83	84	81	77	70	66	65	66	68	74	77	77	75	75	80	83	65	97	79.0
Apr 3	87	88	88	88	88	88	86	84	78	73	76	71	69	67	66	65	65	66	69	71	73	76	77	78	65	88	76.5
Apr 4	80	83	84	84	83	85	87	81	77	73	71	66	60	57	53	56	56	56	58	59	62	61	65	69	53	87	69.4
Apr 5	72	77	79	82	83	85	80	72	69	62	56	51	42	39	39	40	43	45	48	57	65	68	72	75	39	85	62.5
Apr 6	76	79	83	86	86	85	79	62	53	46	37	33	29	27	24	24	23	24	28	34	37	40	42	49	23	86	49.4
Apr 7	56	63	68	74	78	84	87	82	76	67	59	53	49	48	48	49	51	56	62	70	76	79	80	81	48	87	66.5
Apr 8	81	82	82	82	82	82	80	77	72	65	61	62	59	58	58	57	56	61	72	72	77	83	85	56	85	72.0	
Apr 9	85	88	90	92	94	93	89	76	64	54	47	39	34	33	29	27	28	30	34	40	46	50	55	61	27	94	57.4
Apr 10	67	73	79	68	59	51	53	46	37	32	31	30	29	29	30	31	32	31	32	34	43	53	57	63	29	79	45.4
Apr 11	71	73	76	78	79	81	K	75	69	62	59	72	72	65	69	72	74	78	87	95	98	99	100	99	59	100	78.4
Apr 12	96	95	95	96	97	97	93	85	77	68	61	56	55	52	44	43	43	44	45	49	54	64	71	78	43	97	69.1
Apr 13	77	82	86	88	88	89	83	69	63	53	43	36	31	26	26	26	25	24	28	33	40	49	60	67	24	89	53.8
Apr 14	71	76	81	83	84	83	79	74	63	51	41	37	31	28	32	36	32	34	40	52	56	55	65	71	28	84	56.5
Apr 15	76	80	84	86	88	89	81	75	70	61	53	48	45	40	35	31	32	31	31	43	57	64	65	56	31	89	59.2
Apr 16	57	60	61	57	58	61	58	55	52	48	40	30	26	26	26	27	29	31	32	35	39	44	49	52	26	61	43.9
Apr 17	56	60	61	62	62	64	63	62	58	68	82	83	82	67	49	44	44	42	47	50	51	61	79	81	42	83	61.6
Apr 18	80	83	90	96	90	88	87	84	81	72	64	55	59	54	49	47	52	54	59	60	66	76	75	47	96	69.6	
Apr 19	72	74	75	77	77	77	77	78	74	71	63	62	60	59	58	59	59	59	59	59	59	56	54	53	53	78	65.5
Apr 20	60	67	74	78	79	76	67	65	63	60	59	57	47	37	34	37	39	41	45	51	54	59	62	67	34	79	57.4
Apr 21	73	77	78	78	77	78	69	57	54	54	51	45	44	42	39	39	39	37	40	50	62	70	75	77	37	78	58.5
Apr 22	77	79	83	84	86	87	77	69	59	50	43	36	35	36	35	36	36	35	36	38	43	47	48	50	35	87	54.4
Apr 23	52	55	57	60	63	64	63	59	51	40	36	31	28	28	27	25	24	25	26	29	33	34	35	37	24	64	40.9
Apr 24	39	45	49	50	50	52	48	44	40	36	33	31	32	38	53	76	75	72	71	69	69	69	66	63	31	76	52.9
Apr 25	61	58	57	61	68	69	65	61	58	54	53	49	48	46	48	83	92	93	94	94	99	100	100	100	46	100	71.3
Apr 26	100	98	86	78	76	77	74	72	70	65	56	48	40	35	29	27	26	27	28	32	39	47	55	56	26	100	55.9
Apr 27	59	60	64	68	70	71	68	60	52	47	45	45	44	45	44	43	43	41	42	50	59	57	57	57	41	71	53.8
Apr 28	58	60	58	58	55	59	52	44	39	37	36	31	23	21	20	20	20	20	21	23	28	37	53	50	20	60	38.5
Apr 29	50	60	67	73	75	74	55	44	33	25	23	23	22	21	21	21	20	20	21	25	36	27	25	29	20	75	37.1
Apr 30	32	34	36	37	40	40	38	35	30	22	19	19	18	18	17	18	18	18	20	23	26	28	29	31	17	40	26.9
Diurnal Maximum	100	98	95	96	97	97	93	85	83	84	82	83	82	82	82	84	92	93	94	95	99	100	100	100			
Diurnal Average	70.0	72.9	74.9	76.0	76.3	76.7	72.8	67.2	61.6	56.2	52.1	48.3	45.5	43.0	41.6	43.7	44.2	44.8	47.4	52.0	56.8	60.2	64.4	66.4			

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

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 - April 2023

Summary of Hourly Averages

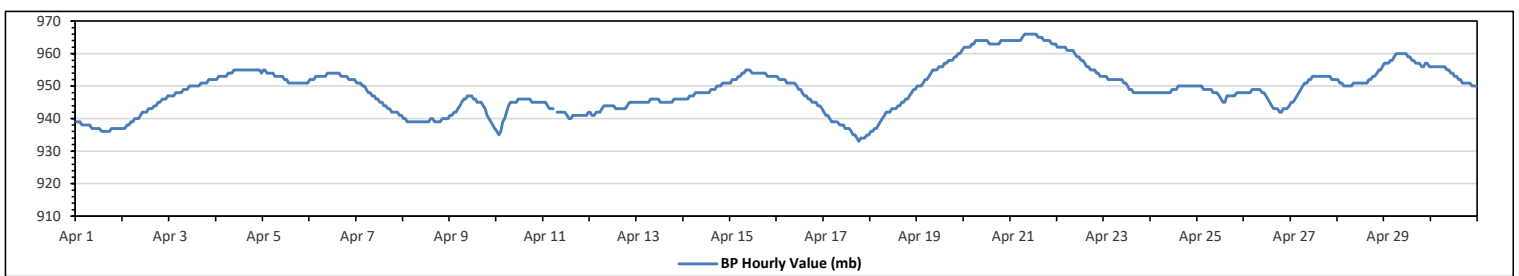
BAROMETRIC PRESSURE (BP) in millibar

Maximum Hourly Value:	966	mb	on Apr 21 at hr 7	Hours in Service:	720
Maximum Daily Value:	965	mb	on Apr 21	Hours of Data:	719
Minimum Hourly Value:	933	mb	on Apr 17 at hr 18	Hours of Missing Data:	1
Minimum Daily Value:	937	mb	on Apr 17	Hours of Calibration:	0
Monthly Average:	949	mb		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
Apr 1	939	939	939	938	938	938	938	938	937	937	937	937	936	936	936	936	937	937	937	937	937	937	937	936	939	937	
Apr 2	937	937	938	938	939	939	940	940	940	941	942	942	942	943	943	943	944	944	945	945	946	946	946	947	937	947	942
Apr 3	947	947	947	948	948	948	948	949	949	949	950	950	950	950	950	950	951	951	951	951	952	952	952	952	947	952	950
Apr 4	952	953	953	953	953	953	954	954	954	955	955	955	955	955	955	955	955	955	955	955	955	955	955	954	952	955	954
Apr 5	955	955	954	954	954	954	953	953	953	953	953	952	952	951	951	951	951	951	951	951	951	951	951	951	951	955	952
Apr 6	952	952	952	953	953	953	953	953	953	954	954	954	954	954	954	954	953	953	953	953	952	952	952	952	952	954	953
Apr 7	951	951	951	950	950	949	948	948	947	947	946	946	945	945	944	944	943	943	942	942	942	942	941	941	941	951	946
Apr 8	940	940	939	939	939	939	939	939	939	939	939	939	939	939	940	940	939	939	939	939	940	940	940	940	939	940	939
Apr 9	941	941	942	942	943	944	945	946	946	947	947	946	946	946	945	945	945	944	943	941	940	939	938	937	937	947	943
Apr 10	936	935	936	939	940	942	944	945	945	945	945	946	946	946	946	946	946	946	945	945	945	945	945	945	945	946	944
Apr 11	945	945	944	943	943	943	K	942	942	942	942	942	941	940	940	941	941	941	941	941	941	941	941	942	940	945	942
Apr 12	942	941	941	942	942	942	943	944	944	944	944	944	943	943	943	943	943	943	944	945	945	945	945	945	941	945	943
Apr 13	945	945	945	945	945	945	945	946	946	946	946	946	945	945	945	945	945	945	946	946	946	946	946	946	945	946	945
Apr 14	946	946	946	947	947	947	948	948	948	948	948	948	948	948	949	949	949	950	950	950	951	951	951	951	946	951	949
Apr 15	951	952	952	952	953	953	954	954	955	955	955	954	954	954	954	954	954	954	954	953	953	953	953	953	951	955	953
Apr 16	953	952	952	952	952	951	951	951	951	951	950	949	949	948	947	947	946	946	945	945	945	944	944	943	943	953	949
Apr 17	942	941	941	940	939	939	939	939	938	938	937	937	937	936	935	935	934	933	934	934	935	935	935	935	933	942	937
Apr 18	936	936	937	937	938	939	940	941	942	942	942	943	943	943	944	944	945	945	946	947	948	949	949	949	936	949	943
Apr 19	950	950	950	951	952	952	953	954	955	955	955	956	956	956	957	957	958	958	958	959	959	960	960	961	950	961	956
Apr 20	962	962	962	962	963	963	964	964	964	964	964	964	964	963	963	963	963	963	963	964	964	964	964	964	962	964	963
Apr 21	964	964	964	964	964	964	965	966	966	966	966	966	966	966	966	965	965	965	964	964	964	964	963	963	963	966	965
Apr 22	962	962	962	962	962	961	961	961	961	960	959	959	958	958	957	956	956	955	955	955	954	954	953	953	953	962	958
Apr 23	953	953	952	952	952	952	952	952	952	951	951	950	949	949	949	948	948	948	948	948	948	948	948	948	948	948	950
Apr 24	948	948	948	948	948	948	948	948	948	948	948	949	949	949	950	950	950	950	950	950	950	950	950	950	948	950	949
Apr 25	950	950	950	949	949	949	949	949	948	948	948	947	946	945	945	947	947	947	947	947	947	947	948	948	945	950	948
Apr 26	948	948	948	948	949	949	949	949	949	948	948	947	946	945	944	943	943	943	942	943	943	943	943	944	942	949	946
Apr 27	945	945	946	947	948	949	950	951	951	952	952	953	953	953	953	953	953	953	953	952	952	952	952	945	949	951	
Apr 28	952	951	951	950	950	950	950	951	951	951	951	951	951	951	951	951	952	952	953	953	954	955	955	950	956	952	
Apr 29	957	957	957	958	958	959	960	960	960	960	960	960	959	959	958	958	957	957	957	956	956	957	957	956	956	956	958
Apr 30	956	956	956	956	956	956	956	956	955	955	954	954	953	953	952	952	951	951	951	951	951	950	950	950	950	956	953
Diurnal Maximum	964	964	964	964	964	964	965	966	966	966	966	966	966	966	965	965	965	964	964	964	964	964	964	964	964	964	964
Diurnal Average	949	948	949	949	949	949	950	950	950	950	950	950	949	949	949	949	949	949	949	949	949	949	949	949	949	949	949

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

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.



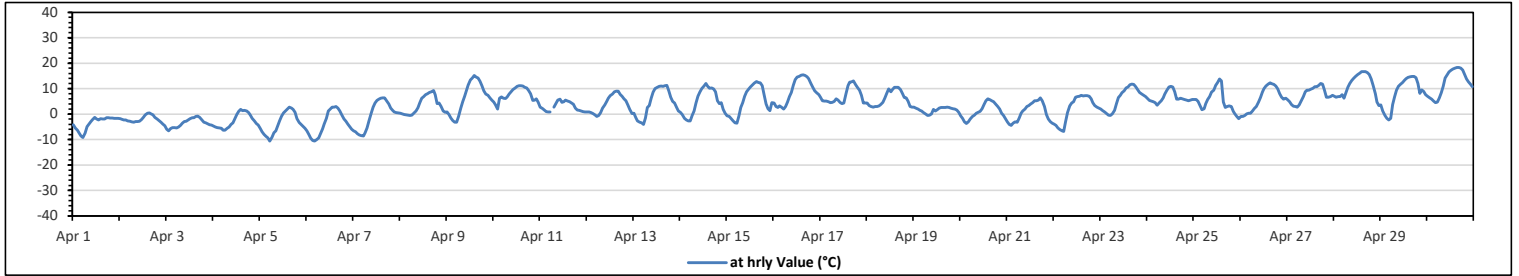
Lakeland Industry & Community Association
Cold Lake South Station - April 2023
Summary of Hourly Averages
AMBIENT TEMPERATURE (AT) in Degree Celsius

Maximum Hourly Value:	18.3 °C	on Apr 30 at hr 15	Hours in Service:	720
Maximum Daily Value:	12.3 °C	on Apr 30	Hours of Data:	719
Minimum Hourly Value:	-10.6 °C	on Apr 5 at hr 5	Hours of Missing Data:	1
Minimum Daily Value:	-3.7 °C	on Apr 5	Hours of Calibration:	0
Monthly Average:	3.7 °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
Apr 1	-4.2	-5.5	-6.4	-7.6	-8.6	-9.2	-7.5	-5	-3.9	-2.9	-2.1	-1.3	-2	-2.3	-1.8	-1.9	-1.9	-1.4	-1.4	-1.5	-1.5	-1.7	-1.7	-1.7	-9.2	-1.3	-3.5
Apr 2	-1.8	-2.1	-2.3	-2.4	-2.6	-2.8	-3	-3.2	-2.9	-2.9	-2.2	-1.3	-0.3	0.3	0.4	0.1	-0.3	-1.2	-1.9	-2.5	-3.2	-3.9	-4.6	-4.6	0.4	-2.1	
Apr 3	-6	-6.6	-5.7	-5.3	-5.3	-5.4	-5.1	-4.4	-3.6	-2.9	-2.8	-2.3	-1.8	-1.4	-1.4	-1	-0.8	-1.3	-2.3	-3.2	-3.5	-3.8	-4.2	-4.3	-6.6	-0.8	-3.5
Apr 4	-4.7	-5.1	-5.3	-5.4	-5.5	-6.3	-6.4	-5.5	-5.1	-4	-3.5	-1.8	-0.1	1.1	1.8	1.4	1.5	1.2	0.6	-0.5	-1.6	-2.6	-3.7	-4.3	-6.4	1.8	-2.7
Apr 5	-5.6	-7	-7.9	-8.8	-9.3	-10.6	-9.1	-7.4	-6.5	-4.6	-2.5	-0.8	0.4	1.3	2	2.7	2.3	1.8	0.7	-1.8	-3.3	-4	-4.8	-5.6	-10.6	2.7	-3.7
Apr 6	-6.6	-7.9	-9.4	-10.4	-10.6	-10.1	-9.3	-7.6	-5.8	-3.9	-1.6	1.3	2	2.7	2.8	2.9	2.4	1.3	-0.3	-1.9	-2.8	-3.9	-5	-5.9	-10.6	2.9	-3.7
Apr 7	-6.5	-7	-7.8	-8.2	-8.4	-8.6	-7.4	-5.4	-2.7	0.3	2.7	4.3	5.4	5.9	6.3	6.4	6.4	5.3	4	2.4	1.5	0.9	0.6	0.4	-8.6	6.4	-0.4
Apr 8	0.3	0.1	-0.2	-0.3	-0.4	-0.5	-0.4	0.3	1.2	2.5	4.5	6.2	6.8	7.7	8.1	8.5	8.7	9.3	7.7	4.2	4.3	3.1	1.3	0.7	-0.5	9.3	3.5
Apr 9	0.8	-0.2	-1.5	-2.5	-3.2	-3.2	-1	2.4	4.9	7	9	11.4	13.4	14.2	15.1	14.6	14.1	12.9	11.1	9.2	7.9	7.3	6.4	5.5	-3.2	15.1	6.5
Apr 10	4.7	3.8	2	6.2	6.8	6.3	6.1	6.8	7.9	8.8	9.6	10.3	10.9	11.1	11.1	11	10.6	10.3	9.3	8	5.4	5.5	6	4.6	2.0	11.1	7.6
Apr 11	2.8	2.2	1.6	1	0.8	0.8	K	2.8	4.1	5.5	5.8	4.6	4.9	5.5	5.1	4.8	4.3	3.9	2.4	1.6	1.5	1.2	1	0.8	0.8	5.8	3.0
Apr 12	0.9	0.8	0.6	0.2	-0.3	-0.9	-0.6	0.6	2.3	3.6	5	6.3	7.2	7.9	8.7	9	9	7.8	7	6	5.3	3.6	1.8	0.2	-0.9	9.0	3.8
Apr 13	0.3	-1.4	-2.7	-3.2	-3.4	-4.1	-1.5	2.6	3.4	6.3	8.6	10	10.5	10.9	11	10.9	11.1	11.2	9.2	6.6	5	4.3	2.5	1.3	-4.1	11.2	4.6
Apr 14	0.7	-0.2	-1.6	-2.4	-2.7	-2.6	-0.6	1.3	4.3	7	8.6	10	11	12.1	11	10.2	10.3	9.8	8.7	5.2	4.1	4.4	1.8	0.3	-2.7	12.1	4.6
Apr 15	-0.7	-1	-1.8	-2.7	-3.4	-3.6	-0.8	2.6	4.5	7	8.8	9.8	10.7	11.4	12.2	12.8	12.4	12.3	11.1	7.5	4	2.1	1.4	4.4	-3.6	12.8	5.0
Apr 16	4.3	3	2.6	3.2	2.8	1.9	3	4.7	6.9	8.5	11.2	13.6	14.5	14.9	15.3	15.4	15.2	14.7	13.9	12	10.5	9.2	8.3	7.6	1.9	15.4	9.1
Apr 17	6.6	5.3	5.1	5.1	4.8	4.4	4.6	5	6	5.5	4.6	4.2	4.3	8.2	11.1	12.5	12.7	13	11.5	10.4	9.4	7.3	4.3	4.3	4.2	13.0	7.1
Apr 18	4.3	3.4	3	2.8	3	3	3.2	3.8	4.6	6.2	8.2	9.8	8.8	9.6	10.6	10.5	10.6	9.6	8.2	6.5	6.4	5	2.9	2.8	2.8	10.6	6.1
Apr 19	2.7	2.4	2	1.5	1.2	0.5	0.1	-0.5	-0.4	0.1	1.8	1.3	1.7	2.3	2.6	2.6	2.6	2.7	2.6	2.4	2.1	2	1.6	0.7	-0.5	2.7	1.6
Apr 20	-0.7	-1.7	-3	-3.7	-3.1	-2	-0.9	-0.4	0.3	0.7	1.1	2.1	3.8	5.2	6	5.6	5.2	4.8	4	2.9	1.9	0.3	-0.5	-1.8	-3.7	6.0	1.1
Apr 21	-3	-4.1	-4.4	-3.6	-3.1	-3.2	-1.5	0.3	1.3	2	2.9	3.4	4	4.5	5.3	5.2	5.5	6.4	5.2	3	-0.1	-1.9	-2.9	-3.6	-4.4	6.4	0.7
Apr 22	-3.9	-4.5	-5.4	-6.1	-6.6	-6.8	-2.9	0.6	3.2	4.3	4.8	6.7	6.9	7	7.3	7.1	7.2	7.2	7	6	4.5	3.3	2.8	2.3	-6.8	7.3	2.2
Apr 23	1.9	1.4	0.8	0.2	-0.4	-0.5	0.1	1.5	4.2	6.5	7.4	8.4	9.2	10.3	10.7	11.5	11.8	11.6	10.8	9.6	8.5	7.9	7.4	6.9	-0.5	11.8	6.2
Apr 24	6.1	5.4	5.1	4.8	4.4	3.5	4.5	5.3	6.4	7.9	9.3	10.7	10.9	10.7	8.7	5.8	5.8	6.2	6	5.7	5.5	5.3	5.5	5.7	3.5	10.9	6.5
Apr 25	5.7	5.7	5	3.4	1.7	2.1	4.2	5.7	6.9	8.6	9.4	11.2	12.4	13.8	13.1	4.7	2.6	2.9	3.2	2.9	1.1	0.1	-0.9	-1.8	-1.8	13.8	5.2
Apr 26	-1	-1	-0.6	0.1	0.3	0.3	1.2	2.2	2.9	4.7	6.5	8.6	10	11	11.8	12.3	11.9	11.6	11	9.9	8.1	6.6	5.8	6.2	-1.0	12.3	5.9
Apr 27	5.6	4.9	3.8	3.1	2.9	2.8	3.6	5.1	6.9	8.8	9.4	9.4	9.7	10.1	10.8	10.8	11.3	12.1	11.8	9.4	6.6	6.7	6.9	7.3	2.8	12.1	7.5
Apr 28	7	6.6	6.9	6.9	7.6	6.2	8.4	10.6	12.1	13.2	14	14.8	15.6	16.1	16.6	16.7	16.7	16.3	15.6	13.7	11.2	8.1	4.7	3.4	3.4	16.7	11.2
Apr 29	3.6	1.3	-0.5	-1.7	-2.4	-1.6	3.8	6.8	9.4	10.9	11.7	12.4	13.3	13.9	14.4	14.7	14.9	14.9	14.3	12.1	8.2	9.5	8.9	7.6	-2.4	14.9	8.4
Apr 30	7	6.4	5.8	5.1	4.4	4.7	6.4	8.3	10.9	14.1	15.6	16.5	17.2	17.7	18	18.3	18.3	18.1	17.4	15.6	13.8	12.6	11.8	10.8	4.4	18.3	12.3
Diurnal Maximum	7.0	6.6	6.9	6.9	7.6	6.3	8.4	10.6	12.1	14.1	15.6	16.5	17.2	17.7	18.0	18.3	18.3	18.1	17.4	15.6	13.8	12.6	11.8	10.8			
Diurnal Average	0.7	-0.1	-0.7	-1.0	-1.3	-1.5	-0.3	1.3	2.8	4.3	5.5	6.6	7.3	8.1	8.5	8.2	8.1	7.9	7.0	5.4	4.1	3.2	2.2	1.7			

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

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.



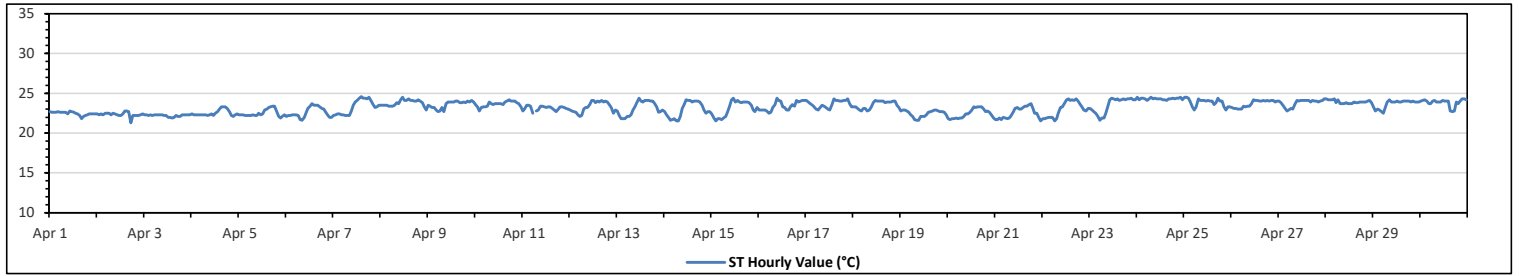
Lakeland Industry & Community Association
Cold Lake South Station - April 2023
Summary of Hourly Averages
STATION TEMPERATURE (ST) in Degree Celsius

Maximum Hourly Value:	24.6	°C	on Apr 7 at hr 14	Hours in Service:	720
Maximum Daily Value:	24.3	°C	on Apr 24	Hours of Data:	719
Minimum Hourly Value:	21.3	°C	on Apr 2 at hr 17	Hours of Missing Data:	1
Minimum Daily Value:	22.2	°C	on Apr 3	Hours of Calibration:	0
Monthly Average:	23.2	°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	
Apr 1	22.7	22.6	22.6	22.6	22.7	22.6	22.6	22.6	22.6	22.4	22.8	22.7	22.6	22.5	22.4	22.2	21.8	22.1	22.2	22.3	22.4	22.4	22.4	22.4	21.8	22.8	22.5	
Apr 2	22.4	22.3	22.4	22.3	22.5	22.5	22.5	22.3	22.5	22.4	22.3	22.2	22.2	22.4	22.8	22.8	22.7	21.3	22.2	22.2	22.2	22.2	22.3	22.4	21.3	22.8	22.3	
Apr 3	22.3	22.3	22.2	22.3	22.2	22.3	22.3	22.3	22.3	22.3	22.2	22.2	22.0	22.0	21.9	22.0	22.2	22.1	22.1	22.3	22.3	22.3	22.3	22.3	21.9	22.3	22.2	
Apr 4	22.4	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.2	22.3	22.4	22.2	22.5	22.7	23.0	23.3	23.3	23.3	23.1	22.7	22.2	22.1	22.3	22.4	22.1	23.3	22.5	
Apr 5	22.3	22.3	22.3	22.2	22.2	22.2	22.2	22.3	22.2	22.2	22.5	22.3	22.4	22.9	23.0	23.2	23.3	23.4	23.4	22.8	22.1	21.9	22.1	22.3	21.9	23.4	22.5	
Apr 6	22.1	22.2	22.2	22.3	22.3	22.3	22.2	21.7	21.6	22.0	22.5	23.1	23.4	23.7	23.5	23.5	23.5	23.3	23.1	23.0	22.6	22.2	22.0	22.0	21.6	23.7	22.6	
Apr 7	22.2	22.3	22.4	22.4	22.3	22.3	22.2	22.2	22.2	22.8	23.5	23.9	24.1	24.4	24.6	24.4	24.4	24.3	24.5	24.1	23.6	23.2	23.3	23.5	22.2	24.6	23.3	
Apr 8	23.5	23.5	23.5	23.5	23.4	23.4	23.4	23.5	23.8	23.7	24.2	24.5	24.1	24.1	24.3	24.1	24.1	24.0	24.0	24.2	24.0	23.8	23.3	22.9	22.9	24.5	23.8	
Apr 9	23.5	23.4	23.2	23.2	22.9	22.7	22.8	23.2	22.7	23.7	23.9	23.9	23.9	23.9	24.0	24.0	23.8	23.8	23.9	23.8	24.0	23.9	24.1	23.9	22.7	24.1	23.6	
Apr 10	23.6	23.3	22.8	23.2	23.3	23.3	23.4	23.9	23.7	23.6	23.7	23.7	23.7	23.7	23.6	23.9	24.0	24.2	24.0	24.0	23.8	24.0	23.8	23.7	23.3	22.8	24.2	23.6
Apr 11	22.8	23.0	23.5	23.5	23.4	22.5	K	22.8	22.9	23.4	23.4	23.3	23.2	23.3	23.3	23.1	22.9	22.7	23.0	23.3	23.3	23.2	23.1	23.0	22.5	23.5	23.1	
Apr 12	22.9	22.8	22.7	22.6	22.3	22.1	22.2	23.0	23.2	23.2	23.6	24.1	24.1	23.8	24.0	23.9	24.1	23.9	24.0	23.9	23.6	23.2	22.5	22.9	22.1	24.1	23.3	
Apr 13	22.8	22.2	21.8	21.8	21.8	22.1	22.1	22.3	22.9	23.3	23.8	24.4	24.0	23.9	24.1	24.1	24.1	24.0	24.0	23.7	23.3	22.6	22.7	22.9	21.8	24.4	23.1	
Apr 14	22.7	22.3	22.0	21.6	21.7	21.8	21.5	21.5	22.1	23.1	23.6	24.2	24.1	24.1	23.9	24.0	24.0	24.0	23.9	23.5	22.9	22.5	22.7	22.7	21.5	24.2	22.9	
Apr 15	22.4	21.9	21.5	21.8	21.8	21.7	21.9	22.1	22.7	23.4	24.2	24.4	23.9	24.1	23.9	23.8	23.9	23.9	23.9	23.8	23.5	22.9	22.7	23.2	21.5	24.4	23.1	
Apr 16	22.9	22.9	22.9	22.9	22.8	22.5	22.6	23.2	23.6	24.4	24.1	24.0	23.3	23.2	22.9	22.9	23.3	23.6	23.4	24.1	23.9	24.0	24.1	24.1	22.5	24.4	23.4	
Apr 17	24.1	23.9	23.7	23.5	23.3	23.0	22.9	23.2	23.5	23.4	23.2	23.0	22.9	23.6	24.3	24.1	24.1	24.0	24.0	24.1	24.1	24.0	23.7	23.3	22.9	24.3	23.6	
Apr 18	23.3	23.3	23.1	22.9	22.8	23.1	23.1	22.8	22.9	23.3	23.8	24.1	24.0	24.0	24.0	24.0	23.8	23.9	23.9	23.9	24.0	24.0	23.5	23.2	22.8	24.1	23.5	
Apr 19	22.8	22.9	22.9	22.8	22.6	22.3	22.1	21.7	21.6	21.6	22.1	22.1	22.3	22.6	22.7	22.8	22.9	22.9	22.8	22.7	22.7	22.6	22.3	21.6	22.9	22.5	23.5	
Apr 20	21.8	21.7	21.8	21.8	21.9	21.8	21.9	21.9	22.1	22.4	22.4	22.6	22.9	23.3	23.2	23.3	23.3	23.3	23.0	22.7	22.8	22.6	22.3	21.9	21.7	23.3	22.4	
Apr 21	21.7	21.7	21.9	21.7	22.0	21.9	21.8	21.9	22.2	22.6	23.1	23.2	23.0	23.0	23.2	23.4	23.4	23.6	23.7	23.1	22.5	22.5	22.0	21.5	21.5	23.7	22.5	
Apr 22	21.8	21.8	21.9	22.0	22.0	22.0	21.5	21.8	22.5	23.2	23.3	23.7	24.2	24.3	24.1	24.2	24.1	24.3	24.0	23.6	23.3	22.9	22.8	23.1	21.5	24.3	23.0	
Apr 23	23.1	22.9	22.7	22.5	22.1	21.6	21.9	21.9	22.4	23.2	24.2	24.4	24.3	24.2	24.3	24.1	24.2	24.3	24.2	24.3	24.3	24.4	24.2	24.2	21.6	24.4	23.5	
Apr 24	24.5	24.2	24.4	24.4	24.3	24.1	24.3	24.5	24.3	24.4	24.3	24.3	24.3	24.2	24.2	24.1	24.3	24.3	24.4	24.3	24.4	24.4	24.5	24.2	24.1	24.5	24.3	
Apr 25	24.5	24.5	24.4	23.9	23.3	22.9	23.3	24.3	24.1	24.1	24.1	24.0	24.1	24.0	24.0	23.6	23.8	24.4	24.0	24.0	23.3	22.9	23.3	23.3	22.9	24.5	23.8	
Apr 26	23.2	23.1	23.1	23.0	23.0	23.0	23.4	23.3	23.4	23.4	23.7	24.2	24.1	24.1	24.0	24.0	24.1	24.0	24.1	24.0	24.1	24.1	23.9	24.0	23.0	24.2	23.7	
Apr 27	24.0	23.8	23.5	23.1	22.8	22.9	23.1	23.0	23.6	24.1	24.0	24.1	24.1	24.1	24.1	24.1	23.9	24.1	24.0	24.0	23.9	24.0	24.1	24.3	22.8	24.3	23.8	
Apr 28	24.3	24.2	24.2	24.2	24.3	23.8	24.2	23.7	23.7	23.7	23.8	23.7	23.7	23.7	23.9	23.8	23.8	23.9	23.9	23.9	24.0	24.1	23.8	23.7	24.3	23.9	23.9	
Apr 29	23.3	22.8	23.0	22.9	22.7	22.5	23.2	23.9	24.2	23.9	23.9	23.9	24.0	23.9	23.9	24.0	24.0	24.0	23.9	24.0	23.9	24.0	23.9	23.9	22.5	24.2	23.7	
Apr 30	24.0	24.1	24.2	24.0	23.7	23.7	24.0	24.1	23.9	23.9	24.1	24.0	24.0	24.0	22.8	22.7	22.8	23.9	23.7	24.0	24.3	24.3	24.2	22.7	24.3	23.8		
Diurnal Maximum	24.5	24.5	24.4	24.4	24.3	24.1	24.3	24.5	24.3	24.4	24.3	24.5	24.3	24.4	24.6	24.4	24.4	24.4	24.5	24.3	24.4	24.4	24.5	24.3				
Diurnal Average	23.0	22.9	22.8	22.8	22.7	22.6	22.7	22.8	22.9	23.2	23.4	23.6	23.5	23.6	23.6	23.6	23.6	23.6	23.6	23.6	23.5	23.4	23.2	23.2	23.1			

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

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 - April 2023

Summary of Hourly Averages

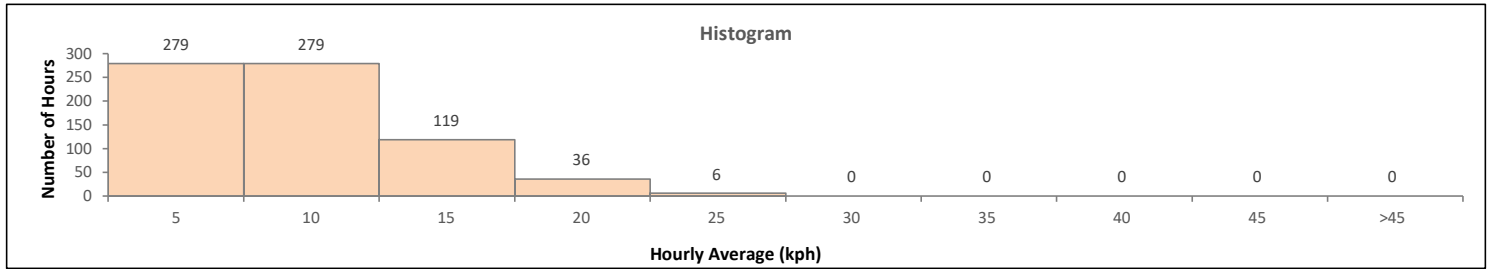
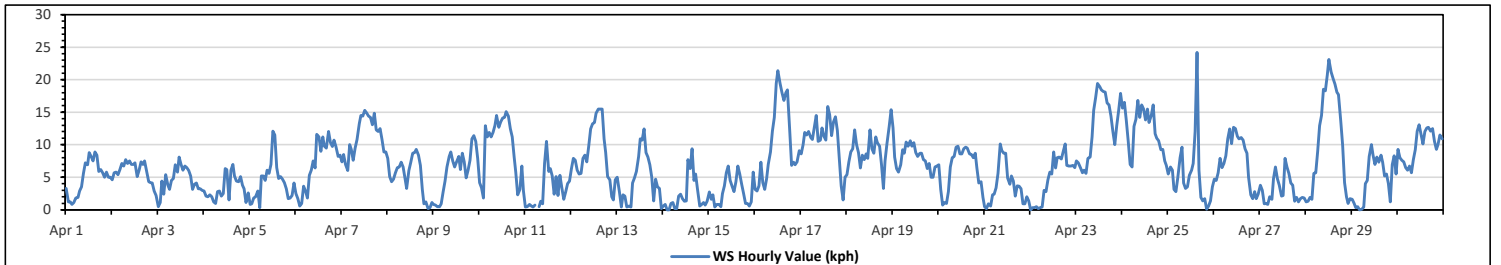
VECTOR WIND SPEED (VWS) in km/hr

Maximum Hourly Value:	24.2	kph	on Apr 25 at hr 15	Hours in Service:	720
Maximum Daily Value:	12.8	kph	on Apr 23	Hours of Data:	719
Minimum Hourly Value:	0.0	kph	on Apr 14 at hr 2	Hours of Missing Data:	1
Minimum Daily Value:	2.2	kph	on Apr 14	Hours of Calibration:	0
Monthly Average:	2.8	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
Apr 1	3.3	1.2	1.2	0.8	1.1	1.8	1.9	2.9	3.5	5.6	7.2	6.9	8.8	8.2	7.5	8.9	8.4	5.9	6.2	5.7	5.0	5.8	5.0	5.0	0.8	8.9	4.9
Apr 2	4.6	5.7	5.8	5.4	6.2	7.1	6.7	7.7	7.1	7.5	7.0	7.0	7.2	5.1	6.1	7.4	7.0	7.5	6.0	4.3	4.2	4.1	2.9	2.2	2.2	7.7	5.9
Apr 3	0.5	1.1	4.4	2.4	5.4	3.8	3.1	4.5	4.8	6.9	5.8	8.1	7.0	6.1	6.7	6.5	6.0	5.2	3.1	3.9	4.1	3.2	3.2	3.0	0.5	8.1	4.5
Apr 4	2.9	2.1	2.0	2.3	2.0	1.2	1.0	2.8	2.9	2.1	2.5	6.3	6.2	1.5	6.1	7.0	5.2	4.4	4.3	5.1	3.8	3.2	1.1	2.6	1.0	7.0	3.4
Apr 5	0.8	0.9	1.8	2.0	2.9	0.3	5.2	5.2	4.5	6.1	5.6	7.0	12.1	11.5	6.5	4.8	5.1	4.7	4.2	3.2	1.7	1.8	2.2	4.1	0.3	12.1	4.3
Apr 6	2.5	1.7	0.6	1.0	3.6	2.9	1.8	5.3	6.1	7.5	6.4	11.6	11.2	9.0	11.2	9.8	9.5	12.0	10.3	9.7	10.7	9.7	8.2	8.4	0.6	12.0	7.1
Apr 7	7.4	8.5	7.0	6.0	10.0	9.3	7.6	9.5	10.8	13.2	14.5	14.4	15.3	14.9	14.4	14.2	13.1	14.8	12.3	12.0	12.5	10.8	8.9	8.9	6.0	15.3	11.3
Apr 8	7.9	5.1	4.3	4.7	5.7	6.5	6.6	7.3	6.6	4.8	3.3	6.0	7.3	8.7	8.8	9.3	8.4	6.8	3.1	0.9	1.2	0.2	0.3	1.1	0.2	9.3	5.2
Apr 9	0.8	0.7	0.5	0.5	0.9	2.7	4.4	6.6	8.2	8.9	7.5	6.6	7.4	8.2	6.2	8.7	7.4	4.9	6.1	7.6	10.9	11.4	10.5	7.9	0.5	11.4	6.1
Apr 10	4.2	3.4	1.8	12.9	11.2	11.9	11.2	11.9	13.0	14.5	12.7	13.5	14.1	14.2	15.1	14.4	12.5	11.2	8.1	5.8	2.3	3.1	6.7	2.9	1.8	15.1	9.7
Apr 11	0.4	0.5	0.8	0.6	0.4	0.7	K	0.5	1.3	0.9	7.1	10.5	5.9	6.3	5.2	2.4	5.1	2.2	5.3	3.4	1.6	2.7	4.0	4.4	0.4	10.5	3.1
Apr 12	6.3	7.9	7.6	6.1	5.5	5.6	7.9	8.4	7.4	9.8	12.4	13.2	13.4	14.8	15.5	15.5	15.5	10.9	8.8	5.1	4.6	2.0	1.5	4.6	1.5	15.5	8.8
Apr 13	5.0	2.7	0.4	2.3	2.1	0.4	0.6	0.4	4.1	4.9	5.9	8.2	10.9	10.7	12.4	8.8	8.1	6.9	5.0	1.4	4.7	3.5	3.3	0.2	0.2	12.4	4.7
Apr 14	0.6	0.8	0.0	0.0	1.0	1.1	0.2	0.2	2.1	2.4	1.7	1.3	1.4	7.7	6.3	9.4	4.5	5.5	3.1	0.6	0.8	1.1	0.7	1.3	0.0	9.4	2.2
Apr 15	2.7	1.6	2.3	0.4	0.8	0.8	0.5	2.5	3.7	5.7	6.7	4.5	3.6	2.8	4.3	6.7	5.5	3.9	2.5	1.0	1.0	0.6	1.2	5.8	0.4	6.7	3.0
Apr 16	3.1	2.9	3.7	7.3	4.2	3.1	4.8	7.0	8.9	12.1	14.2	19.4	21.4	19.4	18.0	16.8	18.0	18.4	12.3	6.8	7.3	6.9	7.4	9.1	2.9	21.4	10.5
Apr 17	8.6	10.0	11.9	11.5	12.0	11.1	10.8	12.7	14.5	10.5	10.7	12.6	11.3	10.7	15.9	14.6	11.4	13.5	14.3	12.2	7.9	3.7	1.5	5.0	1.5	15.9	10.8
Apr 18	5.4	7.4	8.9	9.4	12.3	10.0	8.8	6.4	8.4	7.7	8.6	7.9	12.3	9.4	8.7	11.2	10.3	9.8	6.9	3.3	7.5	10.2	12.8	15.4	3.3	15.4	9.1
Apr 19	12.6	8.1	6.3	5.8	6.9	9.2	8.7	10.4	9.8	10.6	9.8	10.3	8.8	8.2	8.7	8.7	7.7	7.5	6.3	7.1	5.0	5.0	6.6	6.7	5.0	12.6	8.1
Apr 20	6.9	3.1	0.7	1.1	1.0	2.8	6.6	8.0	8.2	9.6	9.8	8.6	8.6	9.4	9.6	9.5	8.6	8.5	8.0	8.7	6.4	4.1	4.3	1.9	0.7	9.8	6.4
Apr 21	0.5	0.2	0.9	0.6	2.3	2.4	3.4	5.6	10.1	9.1	8.7	8.7	4.9	3.9	5.2	4.4	2.1	3.7	3.6	3.2	0.9	0.9	2.0	1.4	0.2	10.1	3.7
Apr 22	0.0	0.3	0.3	0.5	0.2	0.3	0.4	3.0	2.8	4.6	5.8	5.5	8.9	6.4	8.0	8.1	7.8	9.0	10.1	6.8	6.7	6.7	6.8	6.5	0.0	10.1	4.8
Apr 23	7.5	7.2	6.4	5.7	6.1	5.6	7.9	8.1	11.2	15.3	17.2	19.4	18.9	18.4	18.2	18.1	16.4	16.1	14.4	12.0	10.0	12.9	15.2	17.9	5.6	19.4	12.8
Apr 24	15.6	16.5	13.7	10.5	7.0	6.6	12.8	13.9	16.8	14.2	16.1	15.5	13.8	15.5	13.4	14.5	16.1	11.7	11.0	10.6	9.2	9.3	7.5	6.8	6.6	16.8	12.4
Apr 25	5.5	6.6	6.1	3.1	2.8	5.0	8.0	9.6	4.1	3.3	3.5	5.3	6.1	7.1	12.0	24.2	6.1	1.9	1.4	1.7	0.1	0.6	1.4	3.5	0.1	24.2	5.4
Apr 26	4.7	4.5	5.7	7.9	6.5	7.1	8.3	10.9	12.4	10.2	12.7	12.5	11.3	10.9	11.1	10.7	9.4	8.7	5.0	2.3	1.7	2.8	1.7	2.4	1.7	12.7	7.6
Apr 27	3.8	3.0	0.9	1.0	0.8	2.0	1.6	4.8	6.6	4.8	3.8	2.1	2.2	7.9	6.6	5.6	4.1	3.8	1.3	1.9	1.2	1.7	1.9	1.8	0.8	7.9	3.1
Apr 28	1.2	1.3	1.9	1.6	5.6	5.7	9.0	12.9	14.5	18.5	18.3	20.7	23.1	21.2	20.2	19.3	18.1	17.7	13.7	9.9	4.2	2.0	1.0	1.7	1.0	23.1	11.0
Apr 29	1.6	1.0	0.3	0.5	0.0	0.1	0.4	4.0	4.5	8.2	10.0	8.4	7.0	8.1	7.3	8.4	7.3	5.2	5.5	4.0	1.2	6.9	8.3	5.5	0.0	10.0	4.7
Apr 30	9.3	8.0	7.6	7.4	6.5	6.1	6.7	5.7	7.7	9.2	12.1	13.1	11.6	10.1	12.0	12.6	12.7	12.1	12.5	10.5	9.3	10.0	11.5	10.9	5.7	13.1	9.8
Diurnal Maximum	15.6	16.5	13.7	12.9	12.3	11.9	12.8	13.9	16.8	18.5	18.3	20.7	23.1	21.2	20.2	24.2	18.1	18.4	14.4	12.2	12.5	12.9	15.2	17.9			
Diurnal Average	4.5	4.1	3.9	4.0	4.4	4.4	5.4	6.6	7.6	8.3	8.9	9.8	10.1	9.9	10.2	10.7	9.2	8.5	7.2	5.7	4.9	4.9	5.0	5.3			

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

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.

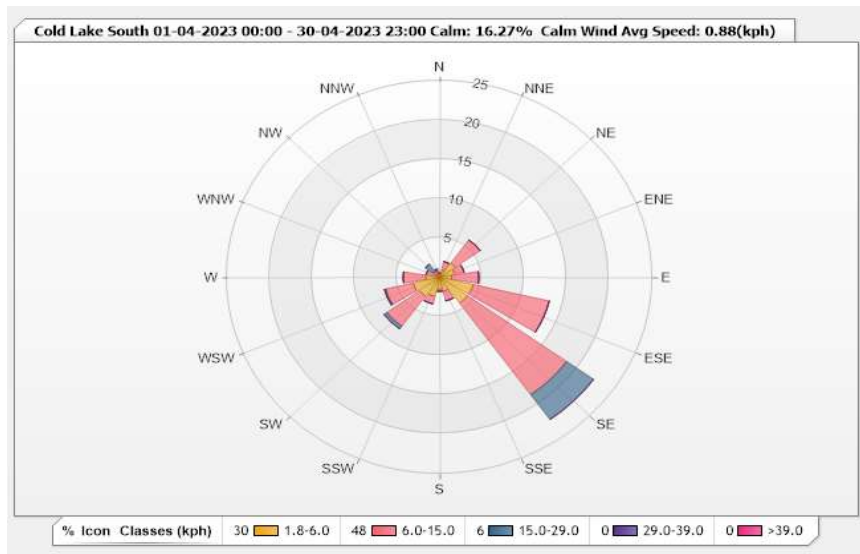


Station: Cold Lake South Monitor: WDS [kph] Monthly: 04-2023

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

Calm (WS<1.8kph): 16.27% Valid Data: 99.86%

Direction	1.8-6.0	6.0-15.0	15.0-29.0	29.0-39.0	>39.0	Total
N	0.56	0	0	0	0	0.56
NNE	0.97	1.11	0	0	0	2.08
NE	2.23	3.62	0	0	0	5.85
ENE	1.81	1.11	0	0	0	2.92
E	1.39	3.2	0	0	0	4.59
ESE	4.03	9.18	0	0	0	13.21
SE	4.03	14.33	3.89	0	0	22.25
SSE	1.81	1.25	0	0	0	3.06
S	1.53	0.28	0	0	0	1.81
SSW	2.5	0.97	0	0	0	3.47
SW	2.92	4.73	0.42	0	0	8.07
WSW	3.2	3.34	0.14	0	0	6.68
W	1.67	2.64	0	0	0	4.31
WNW	0.28	1.39	0	0	0	1.67
NW	0.56	0.42	1.11	0	0	2.09
NNW	0.42	0.42	0.28	0	0	1.12
Summary	29.91	47.99	5.84	0	0	83.74



Lakeland Industry & Community Association

Cold Lake South Station - April 2023

Summary of Hourly Averages

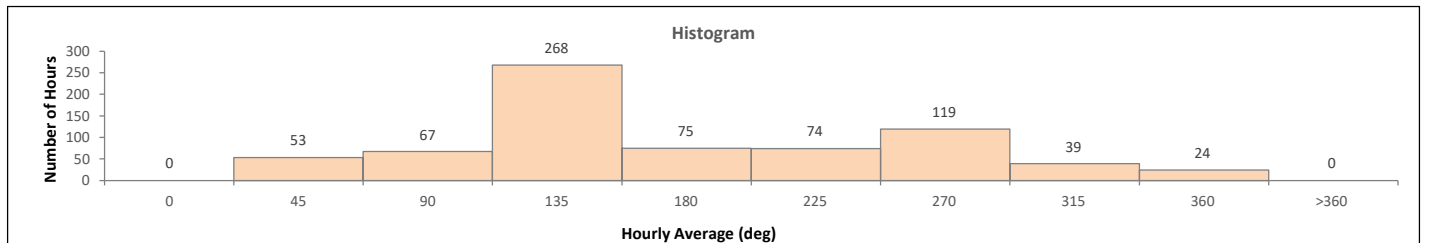
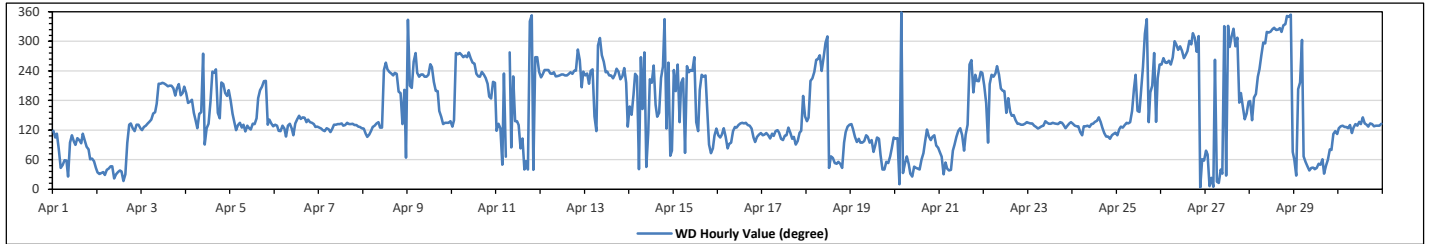
WIND DIRECTION (VWD) in sector

Monthly Average:	138 (SE) degree	Hours in Service:	720
		Hours of Data:	719
		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
Apr 1	ESE	ESE	ESE	E	NE	NE	ENE	ENE	NNE	E	ESE	E	E	ESE	E	E	ESE	E	E	ENE	ENE	ENE	NE	87	E	
Apr 2	NE	NNE	NNE	NE	NNE	NE	NE	NE	NE	NNE	NNE	NE	NE	NE	NNE	NNE	E	SE	ESE	ESE	SE	SE	ESE	54	NE	
Apr 3	ESE	SE	SE	SE	SE	SE	SSE	SSE	S	SSW	SSW	SW	SSW	SSW	SSW	SSW	SSW	SSW	S	SSW	SSW	S	SSW	SSW	193	S
Apr 4	SSW	S	S	SSE	SE	ESE	SSE	SSE	W	E	ESE	SE	S	WSW	SW	WSW	SSE	SE	SW	SSW	SSW	S	SSW	SSW	184	S
Apr 5	S	SSE	SE	ESE	SE	SE	SE	ESE	SE	ESE	ESE	SE	SE	SE	S	SSW	SSW	SW	SW	SE	SE	SE	SE	SE	144	SE
Apr 6	SE	SE	ESE	ESE	SE	ESE	ESE	SE	SE	ESE	ESE	SE	SE	SSE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	135	SE
Apr 7	SE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	129	SE
Apr 8	ESE	ESE	ESE	ESE	ESE	SE	SE	SE	SE	SE	SE	WSW	WSW	WSW	SW	SW	SW	SW	SSW	SSW	SE	SSW	ENE	178	S	
Apr 9	NNW	SSW	SSW	WSW	W	SW	SW	SW	SW	SW	SW	SW	WSW	WSW	SW	SSW	SSW	SSE	SE	SE	SE	SE	SE	SE	193	S
Apr 10	SE	SE	W	W	W	W	W	W	W	W	W	WSW	WSW	SW	SW	SW	SW	SW	SSW	S	S	SW	SW	249	WSW	
Apr 11	ESE	SE	ESE	NE	SW	ENE	K	W	E	SW	SE	SE	E	ESE	NE	ENE	NE	NNW	N	NE	W	W	SW	101	E	
Apr 12	SW	SW	WSW	WSW	WSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	WSW	WSW	WNW	W	SSW	WSW	235	SW	
Apr 13	SW	SW	SSW	WSW	WSW	SE	ESE	WNW	NW	W	WSW	SW	WSW	SW	SW	SW	WSW	WSW	SW	WSW	SW	SE	SSW	239	WSW	
Apr 14	SSE	SSE	S	SW	SW	NE	W	SSE	W	NE	ESE	SW	SW	WSW	S	SE	SSE	SW	WSW	NNW	ESE	WSW	ENE	190	S	
Apr 15	WSW	SSW	WSW	SE	SW	SW	ENE	WSW	SW	WSW	WSW	W	SE	ESE	SSW	SW	SW	SSW	E	ENE	E	ESE	ENE	215	SSW	
Apr 16	ESE	ESE	ESE	ESE	ESE	E	E	ESE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	ESE	E	ESE	ESE	ESE	ESE	123	ESE	
Apr 17	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	E	ESE	ESE	E	ESE	ESE	SE	ESE	E	ESE	E	ESE	ESE	S	111	ESE	
Apr 18	SE	SE	SW	SW	SW	W	W	W	WSW	W	WNW	NW	NE	ENE	ENE	NE	NE	NE	NE	E	ESE	SE	SE	108	ESE	
Apr 19	SE	ESE	ESE	E	E	E	E	ESE	ESE	E	E	ENE	E	ENE	E	ENE	NE	NE	NE	NE	ENE	E	ESE	93	E	
Apr 20	E	ESE	N	N	NNE	NE	ENE	NE	NNE	NE	NE	NE	NE	ENE	ENE	E	ESE	ESE	E	ESE	ESE	E	E	69	ENE	
Apr 21	ENE	ENE	NNE	NE	NE	NE	NE	NE	E	ESE	ESE	ESE	ENE	ESE	SE	WSW	W	SSW	SW	SW	SW	SW	SW	110	ESE	
Apr 22	SSW	S	E	SSW	SW	SW	WSW	SW	SSW	SSW	SSW	SSE	S	SSE	SSE	SSE	SE	SE	SE	SE	SE	SE	SE	156	SSE	
Apr 23	SE	SE	SE	SE	SE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	SE	SE	133	SE	
Apr 24	SE	SE	SE	SE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	ESE	ESE	E	ESE	ESE	ESE	126	SE	
Apr 25	ESE	ESE	SE	SE	SE	SE	SE	SSE	SSW	SW	SSE	SSW	WSW	NW	NNW	SE	SSW	SSW	W	SE	SW	WSW	179	S		
Apr 26	WSW	W	WSW	WSW	W	WSW	W	WNW	WNW	W	WNW	W	W	W	WNW	WNW	NW	NW	W	NW	N	ENE	ENE	283	W	
Apr 27	ENE	ENE	N	NNE	N	W	NNE	NNE	NE	NNE	NNW	NNE	NNW	WNW	NW	NW	WNW	NW	S	SSW	SSE	SE	SSE	344	NNW	
Apr 28	S	SE	S	S	SW	WSW	W	WNW	WNW	NW	NW	NW	NNW	NW	NW	NNW	NNW	N	N	N	N	ENE	ENE	317	NW	
Apr 29	ENE	NNE	SSW	SW	WNW	ENE	NE	NE	NE	NE	NE	NE	NE	NE	ENE	ENE	NE	ENE	E	E	ESE	ESE	ESE	60	ENE	
Apr 30	ESE	SE	SE	SE	SE	ESE	SE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	130	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
X	InValid Data (Machine Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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 - April 2023

Summary of Hourly Averages

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

WIND SPEED					
Maximum Hourly Value:	24.2	kph	on Apr 25 at hr 15	Hours in Service:	720
Maximum Daily Value:	12.8	kph	on Apr 23	Hours of Data:	719
Minimum Hourly Value:	0.0	kph	on Apr 14 at hr 2	Hours of Missing Data:	1
Minimum Daily Value:	2.2	kph	on Apr 14	Hours of Calibration:	0
Monthly Average:	2.8	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
Apr 1	3.3	1.2	1.2	0.8	1.1	1.8	1.9	2.9	3.5	5.6	7.2	6.9	8.8	8.2	7.5	8.9	8.4	5.9	6.2	5.7	5.0	5.8	5.0	5.0	0.8	8.9	4.9
Apr 2	4.6	5.7	5.8	5.4	6.2	7.1	6.7	7.7	7.1	7.5	7.0	7.0	7.2	5.1	6.1	7.4	7.0	7.5	6.0	4.3	4.2	4.1	2.9	2.2	2.2	7.7	5.9
Apr 3	0.5	1.1	4.4	2.4	5.4	3.8	3.1	4.5	4.8	6.9	5.8	8.1	7.0	6.1	6.7	6.5	6.0	5.2	3.1	3.9	4.1	3.2	3.2	3.0	0.5	8.1	4.5
Apr 4	2.9	2.1	2.0	2.3	2.0	1.2	1.0	2.8	2.9	2.1	2.5	6.3	6.2	1.5	6.1	7.0	5.2	4.4	4.3	5.1	3.8	3.2	1.1	2.6	1.0	7.0	3.4
Apr 5	0.8	0.9	1.8	2.0	2.9	0.3	5.2	5.2	4.5	6.1	5.6	7.0	12.1	11.5	6.5	4.8	5.1	4.7	4.2	3.2	1.7	1.8	2.2	4.1	0.3	12.1	4.3
Apr 6	2.5	1.7	0.6	1.0	3.6	2.9	1.8	5.3	6.1	7.5	6.4	11.6	11.2	9.0	11.2	9.8	9.5	12.0	10.3	9.7	10.7	9.7	8.2	8.4	0.6	12.0	7.1
Apr 7	7.4	8.5	7.0	6.0	10.0	9.3	7.6	9.5	10.8	13.2	14.5	14.4	15.3	14.9	14.4	14.2	13.1	14.8	12.3	12.0	12.5	10.8	8.9	8.9	6.0	15.3	11.3
Apr 8	7.9	5.1	4.3	4.7	5.7	6.5	6.6	7.3	6.6	4.8	3.3	6.0	7.3	8.7	8.8	9.3	8.4	6.8	3.1	0.9	1.2	0.2	0.3	1.1	0.2	9.3	5.2
Apr 9	0.8	0.7	0.5	0.5	0.9	2.7	4.4	6.6	8.2	8.9	7.5	6.6	7.4	8.2	6.2	8.7	7.4	4.9	6.1	7.6	10.9	11.4	10.5	7.9	0.5	11.4	6.1
Apr 10	4.2	3.4	1.8	12.9	11.2	11.9	11.2	11.9	13.0	14.5	12.7	13.5	14.1	14.2	15.1	14.4	12.5	11.2	8.1	5.8	2.3	3.1	6.7	2.9	1.8	15.1	9.7
Apr 11	0.4	0.5	0.8	0.6	0.4	0.7	K	0.5	1.3	0.9	7.1	10.5	5.9	6.3	5.2	2.4	5.1	2.2	5.3	3.4	1.6	2.7	4.0	4.4	0.4	10.5	3.1
Apr 12	6.3	7.9	7.6	6.1	5.5	5.6	7.9	8.4	7.4	9.8	12.4	13.2	13.4	14.8	15.5	15.5	15.5	10.9	8.8	5.1	4.6	2.0	1.5	4.6	1.5	15.5	8.8
Apr 13	5.0	2.7	0.4	2.3	2.1	0.4	0.6	0.4	4.1	4.9	5.9	8.2	10.9	10.7	12.4	8.8	8.1	6.9	5.0	1.4	4.7	3.5	3.3	0.2	0.2	12.4	4.7
Apr 14	0.6	0.8	0.0	0.0	1.0	1.1	0.2	0.2	2.1	2.4	1.7	1.3	1.4	7.7	6.3	9.4	4.5	5.5	3.1	0.6	0.8	1.1	0.7	1.3	0.0	9.4	2.2
Apr 15	2.7	1.6	2.3	0.4	0.8	0.8	0.5	2.5	3.7	5.7	6.7	4.5	3.6	2.8	4.3	6.7	5.5	3.9	2.5	1.0	1.0	0.6	1.2	5.8	0.4	6.7	3.0
Apr 16	3.1	2.9	3.7	7.3	4.2	3.1	4.8	7.0	8.9	12.1	14.2	19.4	21.4	19.4	18.0	16.8	18.0	18.4	12.3	6.8	7.3	6.9	7.4	9.1	2.9	21.4	10.5
Apr 17	8.6	10.0	11.9	11.5	12.0	11.1	10.8	12.7	14.5	10.5	10.7	12.6	11.3	10.7	15.9	14.6	11.4	13.5	14.3	12.2	7.9	3.7	1.5	5.0	1.5	15.9	10.8
Apr 18	5.4	7.4	8.9	9.4	12.3	10.0	8.8	6.4	8.4	7.7	8.6	7.9	12.3	9.4	8.7	11.2	10.3	9.8	6.9	3.3	7.5	10.2	12.8	15.4	3.3	15.4	9.1
Apr 19	12.6	8.1	6.3	5.8	6.9	9.2	8.7	10.4	9.8	10.6	9.8	10.3	8.8	8.2	8.7	8.7	7.7	7.5	6.3	7.1	5.0	5.0	6.6	6.7	5.0	12.6	8.1
Apr 20	6.9	3.1	0.7	1.1	1.0	2.8	6.6	8.0	8.2	9.6	9.8	8.6	8.6	9.4	9.6	9.5	8.6	8.5	8.0	8.7	6.4	4.1	4.3	1.9	0.7	9.8	6.4
Apr 21	0.5	0.2	0.9	0.6	2.3	2.4	3.4	5.6	10.1	9.1	8.7	8.7	4.9	3.9	5.2	4.4	2.1	3.7	3.6	3.2	0.9	0.9	2.0	1.4	0.2	10.1	3.7
Apr 22	0.0	0.3	0.3	0.5	0.2	0.3	0.4	3.0	2.8	4.6	5.8	5.5	8.9	6.4	8.0	8.1	7.8	9.0	10.1	6.8	6.7	6.7	6.8	6.5	0.0	10.1	4.8
Apr 23	7.5	7.2	6.4	5.7	6.1	5.6	7.9	8.1	11.2	15.3	17.2	19.4	18.9	18.4	18.2	18.1	16.4	16.1	14.4	12.0	10.0	12.9	15.2	17.9	5.6	19.4	12.8
Apr 24	15.6	16.5	13.7	10.5	7.0	6.6	12.8	13.9	16.8	14.2	16.1	15.5	13.8	15.5	13.4	14.5	16.1	11.7	11.0	10.6	9.2	9.3	7.5	6.8	6.6	16.8	12.4
Apr 25	5.5	6.6	6.1	3.1	2.8	5.0	8.0	9.6	4.1	3.3	3.5	5.3	6.1	7.1	12.0	24.2	6.1	1.9	1.4	1.7	0.1	0.6	1.4	3.5	0.1	24.2	5.4
Apr 26	4.7	4.5	5.7	7.9	6.5	7.1	8.3	10.9	12.4	10.2	12.7	12.5	11.3	10.9	11.1	10.7	9.4	8.7	5.0	2.3	1.7	2.8	1.7	2.4	1.7	12.7	7.6
Apr 27	3.8	3.0	0.9	1.0	0.8	2.0	1.6	4.8	6.6	4.8	3.8	2.1	2.2	7.9	6.6	5.6	4.1	3.8	1.3	1.9	1.2	1.7	1.9	1.8	0.8	7.9	3.1
Apr 28	1.2	1.3	1.9	1.6	5.6	5.7	9.0	12.9	14.5	18.5	18.3	20.7	23.1	21.2	20.2	19.3	18.1	17.7	13.7	9.9	4.2	2.0	1.0	1.7	1.0	23.1	11.0
Apr 29	1.6	1.0	0.3	0.5	0.0	0.1	0.4	4.0	4.5	8.2	10.0	8.4	7.0	8.1	7.3	8.4	7.3	5.2	5.5	4.0	1.2	6.9	8.3	5.5	0.0	10.0	4.7
Apr 30	9.3	8.0	7.6	7.4	6.5	6.1	6.7	5.7	7.7	9.2	12.1	13.1	11.6	10.1	12.0	12.6	12.7	12.1	12.5	10.5	9.3	10.0	11.5	10.9	5.7	13.1	9.8

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

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 - April 2023
Summary of Hour Standard Deviations

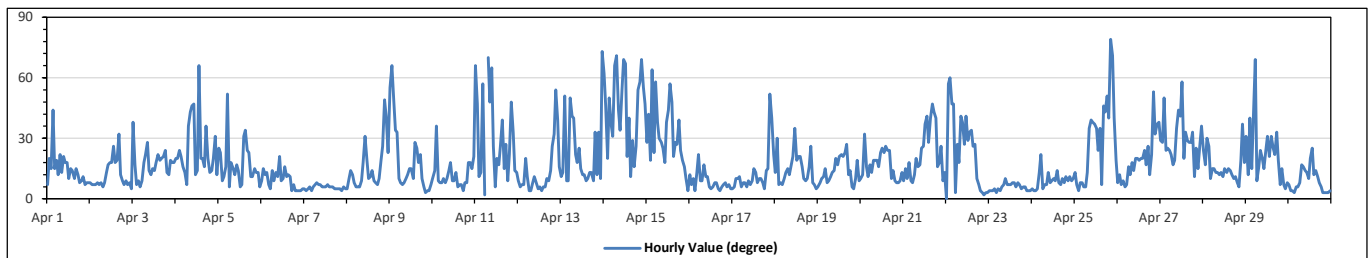
STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

Maximum Hourly Value: 79 degree on Apr 25 at hr 20		Hours in Service: 720	
Minimum Hourly Value: 0 degree on Apr 22 at hr 0		Hours of Data: 719	
		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
Apr 1	7	20	15	44	15	19	12	22	13	21	18	18	10	15	14	10	15	12	8	9	11	7	8	8	7	44
Apr 2	8	7	7	7	8	7	8	6	8	13	17	18	18	26	18	19	32	12	9	7	9	7	8	5	5	32
Apr 3	38	17	7	9	6	9	18	22	28	14	12	15	14	18	22	19	20	21	24	13	12	19	18	18	6	38
Apr 4	20	20	24	21	16	13	7	36	43	46	47	12	14	66	20	20	16	36	20	13	14	20	31	12	7	66
Apr 5	25	23	9	11	16	52	6	18	15	12	17	14	6	7	31	34	24	23	11	11	15	13	13	6	6	52
Apr 6	9	15	12	13	7	5	14	9	13	11	21	9	10	16	11	12	11	4	7	4	4	4	4	5	4	21
Apr 7	5	4	5	6	4	6	7	8	7	7	6	6	6	7	6	6	5	5	5	5	4	4	6	5	4	8
Apr 8	5	10	14	12	8	6	6	6	9	18	31	19	10	11	14	9	8	7	10	19	26	49	41	23	5	49
Apr 9	55	66	51	34	33	10	8	7	8	10	12	15	15	10	28	25	18	22	10	6	3	4	4	7	3	66
Apr 10	10	14	36	9	8	8	10	8	10	14	18	9	9	13	6	7	7	4	8	8	18	18	15	21	4	36
Apr 11	66	47	11	13	57	2	K	70	48	65	26	6	20	17	26	39	15	27	9	22	48	33	14	13	2	70
Apr 12	9	6	7	7	20	11	4	4	8	11	8	5	6	4	6	6	10	9	14	26	32	54	39	16	4	54
Apr 13	11	13	51	9	9	50	41	40	22	18	25	15	12	12	9	10	13	13	9	33	12	33	10	73	9	73
Apr 14	62	46	20	50	37	31	66	71	44	34	54	69	67	21	40	11	29	16	26	54	58	69	55	47	11	71
Apr 15	28	42	19	64	23	58	38	30	28	25	18	38	44	57	48	21	28	27	39	24	19	16	10	4	4	64
Apr 16	12	7	10	4	13	22	9	9	17	11	11	6	5	6	8	8	5	4	6	7	8	6	7	5	4	22
Apr 17	5	6	10	10	11	6	8	8	6	9	7	9	15	13	8	10	10	8	5	14	15	52	40	22	5	52
Apr 18	13	30	7	8	7	10	13	15	12	17	21	35	19	21	21	16	10	9	10	16	26	8	7	5	5	35
Apr 19	6	8	10	11	15	8	9	11	13	14	20	17	21	22	21	23	27	12	14	6	5	10	19	9	5	27
Apr 20	10	12	32	16	11	17	13	19	19	19	16	23	25	23	26	24	24	10	14	9	8	8	9	13	8	32
Apr 21	9	15	10	18	9	8	12	20	16	17	25	26	37	41	28	40	47	43	40	16	18	26	9	13	8	47
Apr 22	0	57	60	47	47	3	27	18	41	38	27	41	29	33	34	26	27	10	7	4	3	2	3	3	0	60
Apr 23	4	4	4	5	3	5	4	6	7	10	7	7	7	8	8	6	8	7	5	6	6	4	4	4	3	10
Apr 24	5	4	4	5	13	22	5	7	7	13	8	9	10	9	14	8	7	10	8	11	9	11	9	10	4	22
Apr 25	13	7	4	8	8	6	6	13	35	39	38	37	35	24	35	7	46	43	51	40	79	71	40	19	4	79
Apr 26	8	12	7	9	6	7	16	12	18	14	20	20	19	20	24	17	26	12	22	53	32	37	38	6	53	
Apr 27	29	28	50	24	25	24	22	17	19	35	44	41	58	20	33	29	28	28	33	11	25	15	25	36	11	58
Apr 28	24	17	30	26	10	15	15	13	13	12	13	11	15	13	15	14	12	10	11	8	6	19	37	18	6	37
Apr 29	31	12	40	15	40	69	9	16	24	20	15	24	31	21	31	25	22	33	19	7	15	7	5	8	5	69
Apr 30	7	4	4	3	6	6	8	17	16	14	13	10	20	25	12	14	11	8	6	3	3	3	3	4	3	25
Diurnal Minimum	0	4	4	3	3	2	4	4	4	6	7	6	5	5	4	6	6	5	4	5	3	3	2	3	3	
Diurnal Maximum	66	66	60	64	57	69	66	71	48	65	54	69	67	66	48	40	47	43	51	54	79	71	55	73		

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

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.



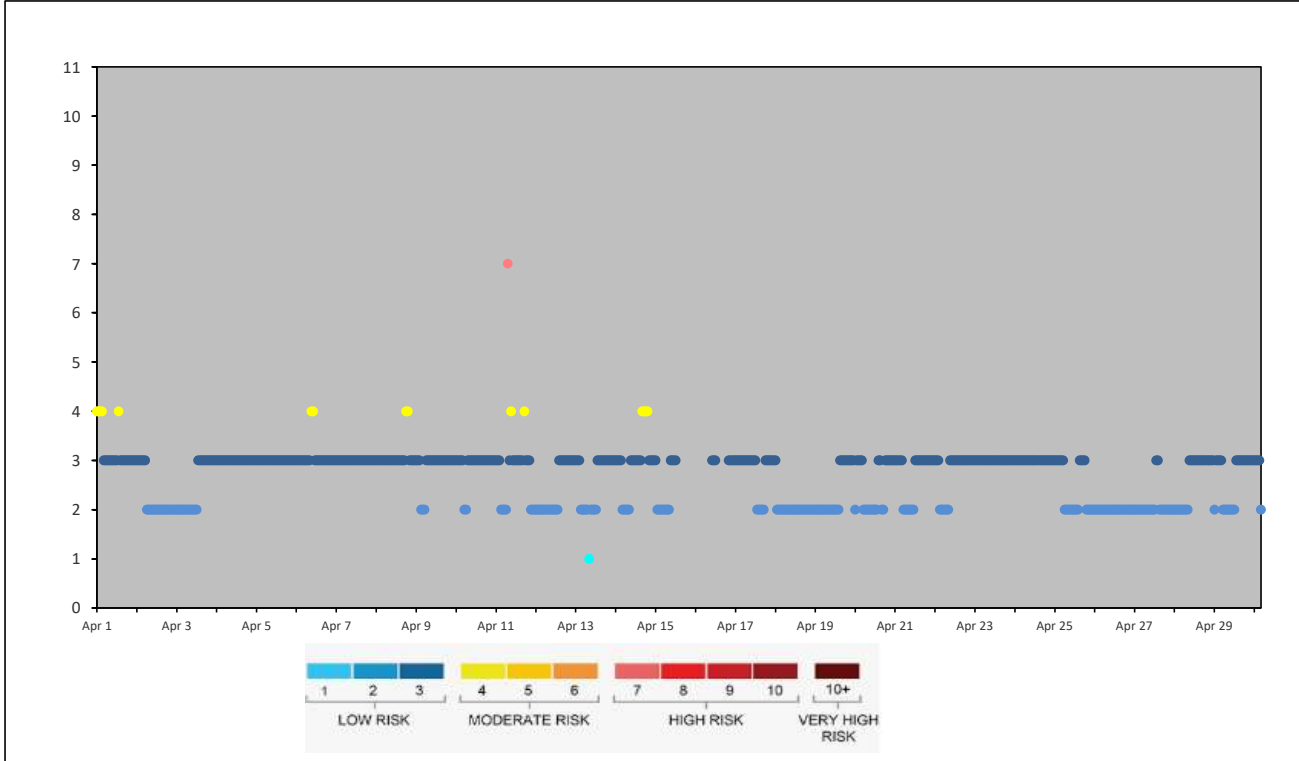
TAMARACK STATION

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

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



Lakeland Industry & Community Association

Tamarack Site - April 2023

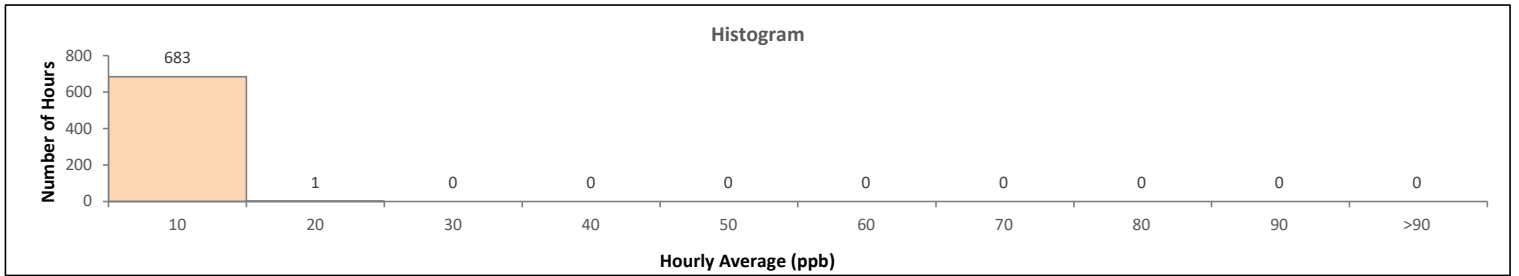
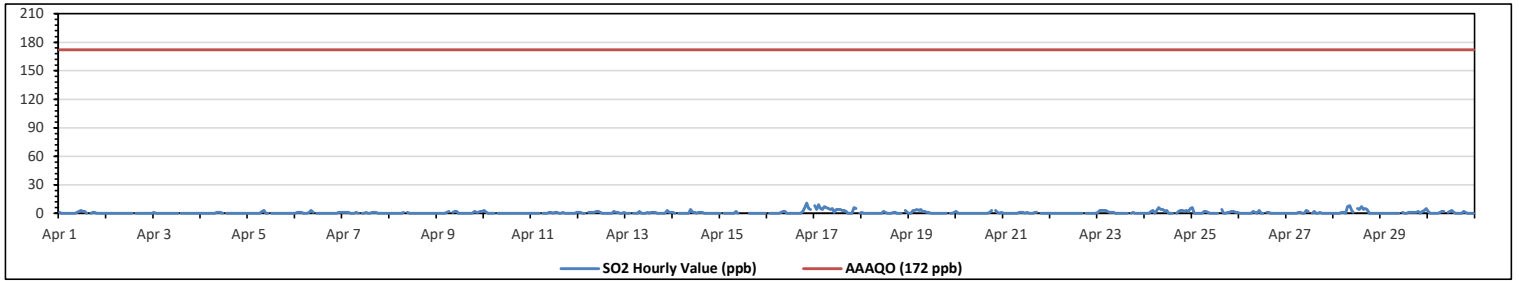
Summary of Hourly Averages

SULPHUR DIOXIDE (SO₂) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 172 ppb, 24-Hour 48 ppb, 30-Day 11 ppb																																			
Number of 1-Hour Exceedances:						0						Number of 24-Hour Exceedances:						0						30-Day Exceedence:						0					
Maximum Hourly Value:						11 ppb on Apr 16 at hr 20						Hours in Service:						720																	
Maximum Daily Value:						3.9 ppb on Apr 17						Hours of Data:						684																	
Minimum Hourly Value:						0 ppb on Apr 1 at hr 1						Hours of Missing Data:						0																	
Minimum Daily Value:						0.0 ppb on Apr 2						Hours of Calibration:						36																	
Monthly Average:						0.7 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											
Apr 1	1	0	0	0	0	0	0	0	0	1	2	3	2	0	S	0	1	1	0	0	0	0	0	0	0	0	0	3	0.6						
Apr 2	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	0.0						
Apr 3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0.0							
Apr 4	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	0	1	0.1							
Apr 5	0	0	0	0	0	0	0	2	3	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.2							
Apr 6	0	1	1	1	0	0	0	1	3	1	S	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	3	0.4							
Apr 7	1	1	1	1	0	0	0	1	0	S	0	0	1	0	0	1	1	1	0	0	0	0	0	0	0	0	1	0.4							
Apr 8	0	0	0	0	0	0	0	1	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1							
Apr 9	0	0	0	0	0	1	2	S	1	2	2	0	0	0	0	0	0	0	0	0	2	1	1	2	2	0	2	0.7							
Apr 10	3	1	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.2							
Apr 11	0	0	0	0	0	S	0	0	0	1	1	0	1	1	0	0	1	0	0	0	0	0	0	1	0	1	0	1.0							
Apr 12	1	1	0	0	S	1	1	1	1	2	2	1	0	0	0	0	0	0	2	1	1	0	0	1	0	2	0.7								
Apr 13	0	0	0	S	0	0	0	2	0	0	0	1	0	1	1	1	0	0	0	0	0	3	1	1	0	3	0.5								
Apr 14	1	0	S	0	0	0	0	0	0	4	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	4	0.4							
Apr 15	0	S	0	0	0	0	0	2	0	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	2	0.1							
Apr 16	S	0	0	0	0	0	0	1	2	2	0	0	0	0	0	0	0	0	2	6	11	5	4	S	0	11	1.5								
Apr 17	8	4	9	5	4	7	6	5	4	5	1	4	4	4	3	3	2	0	0	0	6	5	S	S	0	9	3.9								
Apr 18	1	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	1	1	0	0	0	S	3	1	0	3	0.4							
Apr 19	0	0	3	3	4	3	4	2	2	1	1	0	0	0	0	0	0	0	0	0	S	0	0	1	0	4	1.0								
Apr 20	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	S	3	1	0	1	0	3	0.5								
Apr 21	0	0	0	0	0	0	0	0	1	1	1	0	1	0	0	0	1	1	S	0	0	0	0	0	0	0	1	0.3							
Apr 22	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	0.0							
Apr 23	1	3	3	3	3	2	1	1	1	0	0	0	0	0	0	0	0	S	0	1	0	0	0	0	0	0	3	0.8							
Apr 24	0	0	0	2	3	0	3	6	4	4	2	3	0	0	S	0	2	3	3	2	3	2	5	0	6	2.0									
Apr 25	6	0	0	0	0	0	2	2	1	0	0	0	0	0	S	4	0	0	1	1	2	2	1	1	0	6	1.0								
Apr 26	0	0	0	0	0	0	0	2	1	0	3	0	S	1	1	0	0	0	0	0	0	0	0	0	0	3	0.3								
Apr 27	0	0	0	0	0	1	1	0	0	3	2	S	0	2	0	0	1	0	0	0	0	0	0	0	0	3	0.4								
Apr 28	0	0	0	0	1	1	0	7	8	3	1	S	5	4	7	4	5	4	0	0	0	0	0	0	0	8	2.2								
Apr 29	0	0	0	0	0	0	0	0	0	0	S	1	0	0	1	1	1	1	1	2	0	2	3	5	0	5	0.8								
Apr 30	2	0	0	0	0	0	1	2	2	S	1	2	3	1	0	0	0	0	2	1	0	0	0	0	0	0	3	0.7							
Diurnal Maximum	8	4	9	5	4	7	6	7	8	5	3	4	5	4	7	4	5	4	3	6	11	5	4	5											
Diurnal Average	1.0	0.4	0.6	0.5	0.5	0.5	0.7	1.3	1.3	1.0	0.8	0.7	0.7	0.5	0.6	0.6	0.4	0.4	0.6	0.6	0.9	0.8	0.6	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
X Invalid Data (Equipment Malfunction /Recovery) **NRM** UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) **P** Power Failure

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.

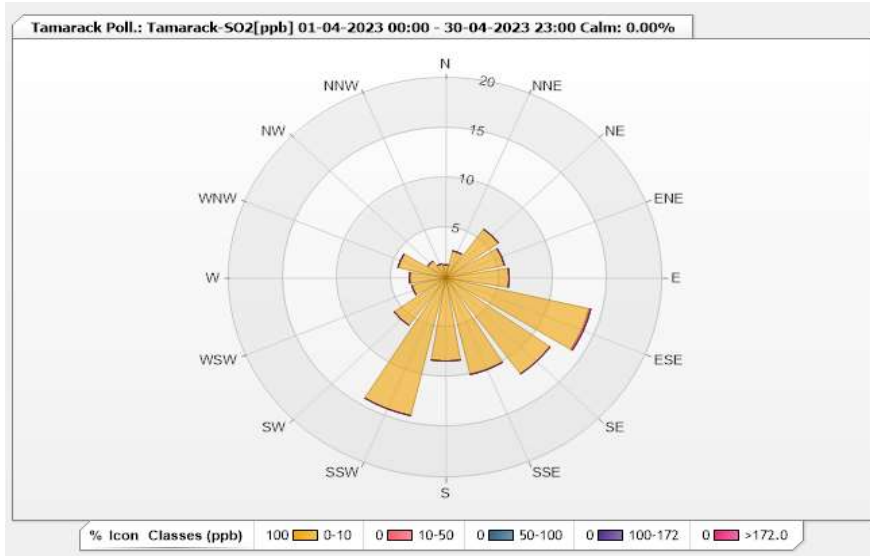


Station: Tamarack Poll.: Tamarack-SO2[ppb] Monthly: 04-2023

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

Calm: 0.00% Valid Data: 95.00% Calm Avg: 0.00 [ppm]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	1.32	0	0	0	0	1.32
NNE	2.78	0	0	0	0	2.78
NE	5.99	0	0	0	0	5.99
ENE	5.56	0	0	0	0	5.56
E	5.85	0	0	0	0	5.85
ESE	13.6	0.15	0	0	0	13.75
SE	11.84	0	0	0	0	11.84
SSE	9.94	0	0	0	0	9.94
S	8.33	0	0	0	0	8.33
SSW	14.18	0	0	0	0	14.18
SW	5.85	0	0	0	0	5.85
WSW	3.22	0	0	0	0	3.22
W	3.36	0	0	0	0	3.36
WNW	4.53	0	0	0	0	4.53
NW	2.05	0	0	0	0	2.05
NNW	1.46	0	0	0	0	1.46
Summary	100	0.15	0	0	0	100

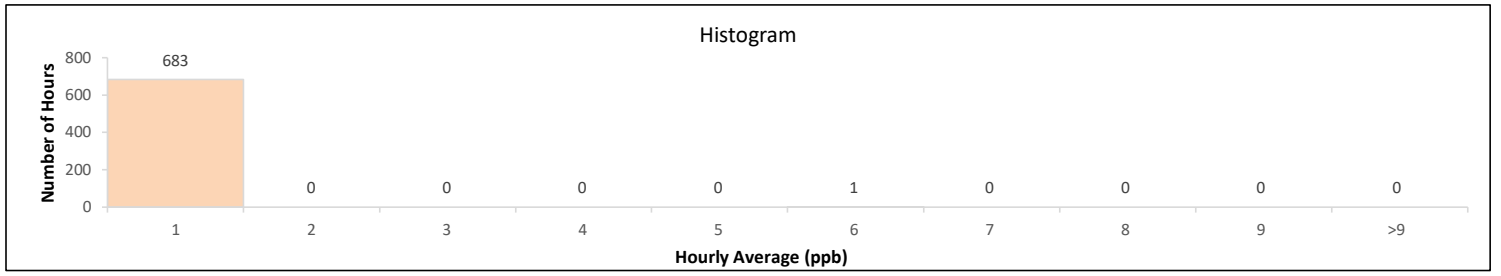
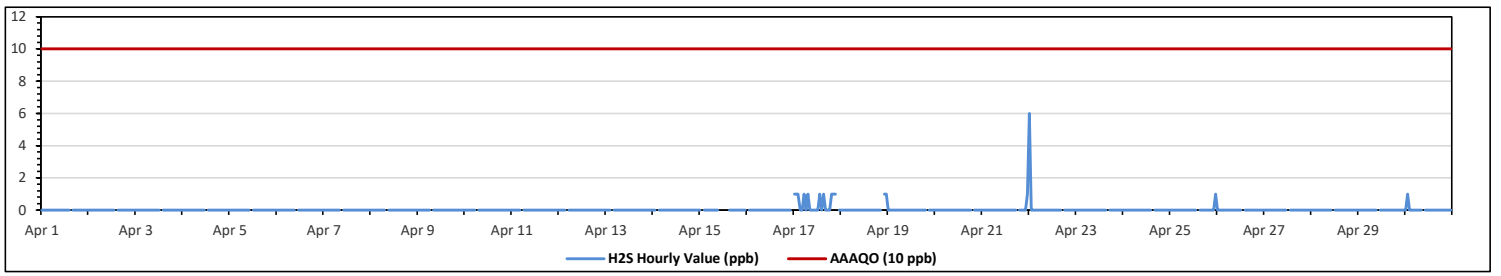


Lakeland Industry & Community Association
Tamarack Site - April 2023
Summary of Hourly Averages
HYDROGEN SULPHIDE (H₂S) in ppb

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:	6	ppb	on Apr 22 at hr 0													Hours in Service:	720												
Maximum Daily Value:	0.0	ppb	on Apr 1													Hours of Data:	684												
Minimum Hourly Value:	0	ppb	on Apr 1 at hr 0													Hours of Missing Data:	0												
Minimum Daily Value:	0.0	ppb	on Apr 1													Hours of Calibration:	36												
Monthly Average:	0.0	ppb														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		
Apr 1	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		
Apr 2	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		
Apr 3	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		
Apr 4	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		
Apr 5	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		
Apr 6	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		
Apr 7	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		
Apr 8	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		
Apr 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		
Apr 10	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		
Apr 11	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		
Apr 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.0		
Apr 13	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		
Apr 14	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		
Apr 15	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		
Apr 16	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		
Apr 17	1	1	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		
Apr 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		
Apr 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		
Apr 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		
Apr 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		
Apr 22	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	6	0.0		
Apr 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		
Apr 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		
Apr 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		
Apr 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		
Apr 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		
Apr 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		
Apr 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		
Apr 30	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	1	0.0		
Diurnal Maximum	6	1	1	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0.0		
Diurnal Average	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
X InValid Data (Equipment Malfunction /Recovery) **NRM** UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) **P** Power Failure

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.

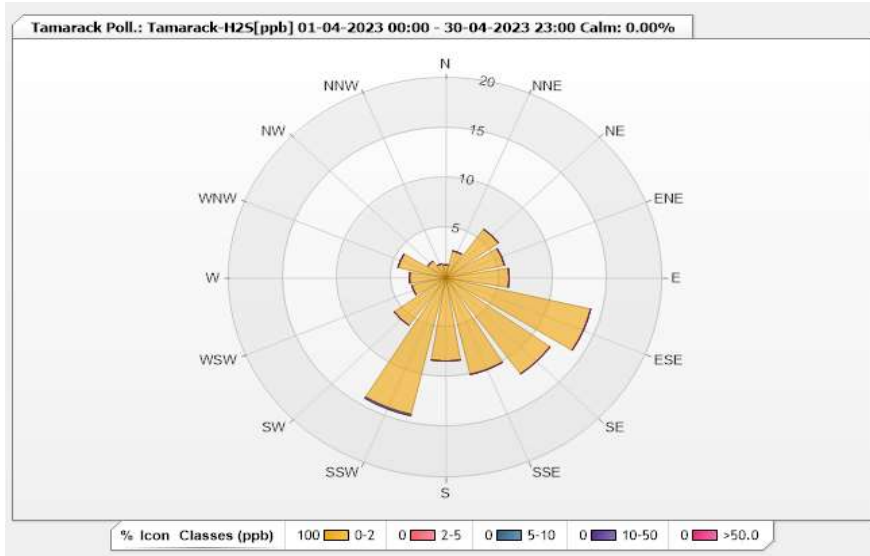


Station: Tamarack Poll.: Tamarack-H2S[ppb] Monthly: 04-2023

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

Calm: 0.00% Valid Data: 95.00% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	1.32	0	0	0	0	1.32
NNE	2.78	0	0	0	0	2.78
NE	5.99	0	0	0	0	5.99
ENE	5.56	0	0	0	0	5.56
E	5.85	0	0	0	0	5.85
ESE	13.74	0	0	0	0	13.74
SE	11.84	0	0	0	0	11.84
SSE	9.94	0	0	0	0	9.94
S	8.33	0	0	0	0	8.33
SSW	14.04	0	0.15	0	0	14.19
SW	5.85	0	0	0	0	5.85
WSW	3.22	0	0	0	0	3.22
W	3.36	0	0	0	0	3.36
WNW	4.53	0	0	0	0	4.53
NW	2.05	0	0	0	0	2.05
NNW	1.46	0	0	0	0	1.46
Summary	100	0	0.15	0	0	100



Lakeland Industry & Community Association

Tamarack Site - April 2023

Summary of Hourly Averages

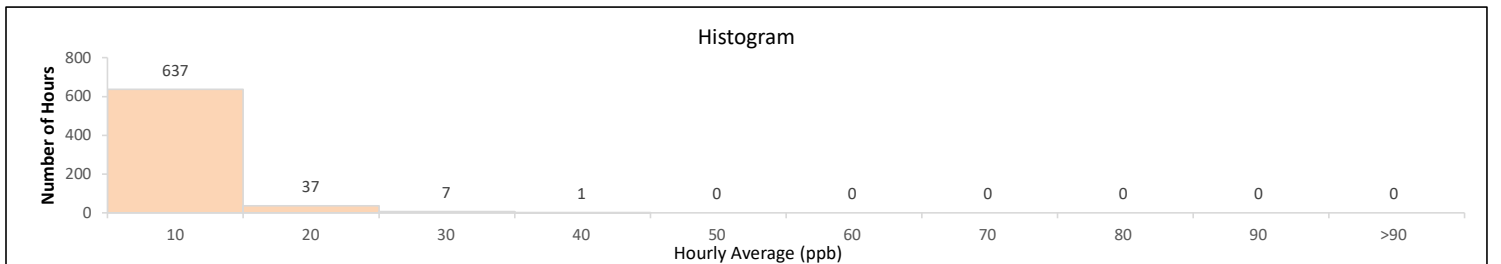
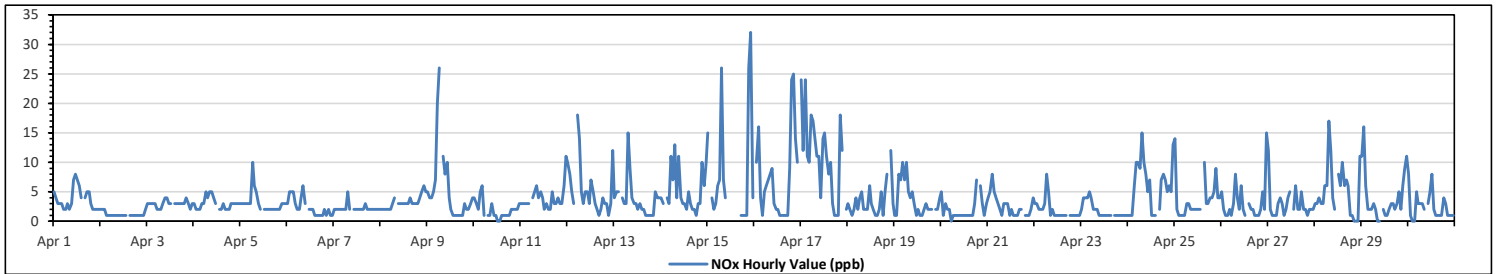
OXIDES OF NITROGEN (NOx) in ppb

Maximum Hourly Value:	32	ppb	on Apr 15 at hr 22	Hours in Service:	720
Maximum Daily Value:	11.0	ppb	on Apr 17	Hours of Data:	682
Minimum Hourly Value:	0	ppb	on Apr 10 at hr 12	Hours of Missing Data:	0
Minimum Daily Value:	1.2	ppb	on Apr 2	Hours of Calibration:	38
Monthly Average:	3.9	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	
Apr 1	5	4	3	3	3	2	2	3	2	3	7	8	7	6	4	S	4	5	5	3	2	2	2	2	2	2	8	3.8
Apr 2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	2	1.2
Apr 3	3	3	3	3	3	2	2	2	2	3	4	4	3	3	S	3	3	3	3	3	3	3	2	3	3	2	4	3.0
Apr 4	3	2	2	2	3	3	5	4	5	4	3	S	2	2	3	2	2	2	2	3	3	3	3	3	3	2	5	3.0
Apr 5	3	3	3	3	3	3	10	6	5	3	2	S	2	2	2	2	2	2	2	2	2	2	3	3	3	2	10	3.1
Apr 6	3	5	5	5	3	2	2	4	6	3	S	2	2	2	1	1	1	1	1	2	1	2	1	1	1	1	6	2.4
Apr 7	2	2	2	2	2	2	2	5	2	S	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	2	5	2.2
Apr 8	2	2	2	2	2	2	3	4	S	3	3	3	3	3	3	4	3	3	3	3	3	4	5	6	5	2	6	3.2
Apr 9	5	4	4	5	7	20	26	S	11	8	10	4	2	1	1	1	1	1	1	3	2	2	3	4	1	26	5.5	
Apr 10	4	3	2	5	6	1	S	1	1	3	1	1	0	0	1	1	1	1	1	2	2	2	2	3	0	6	1.9	
Apr 11	3	3	3	3	3	S	4	5	6	4	5	4	2	3	2	2	5	3	3	4	3	3	6	11	2	11	3.9	
Apr 12	10	8	5	3	S	18	14	5	3	5	5	3	7	5	3	2	1	2	4	3	3	1	3	12	1	18	5.4	
Apr 13	4	5	5	S	4	3	3	15	9	4	3	3	2	3	2	2	1	1	1	1	1	5	4	4	1	15	3.7	
Apr 14	4	3	S	4	3	11	7	13	4	11	4	3	3	2	5	3	2	2	1	3	3	10	6	10	1	13	5.1	
Apr 15	15	S	4	2	3	6	7	26	7	4	C	C	C	C	C	C	C	1	1	1	1	26	32	4	1	32	NA	
Apr 16	S	10	16	4	1	5	6	7	8	9	3	2	2	1	1	1	1	1	9	24	25	14	10	S	1	25	7.3	
Apr 17	24	12	24	11	10	18	17	14	11	11	4	14	15	11	8	10	3	1	1	1	18	12	S	2	1	24	11.0	
Apr 18	3	2	1	2	4	2	4	5	2	2	6	3	2	1	1	2	5	1	5	8	S	12	3	1	1	12	3.4	
Apr 19	1	1	8	7	10	7	10	5	4	5	3	1	2	1	1	2	3	2	2	2	S	2	2	4	1	10	3.7	
Apr 20	5	1	3	2	2	0	1	1	1	1	1	1	1	1	1	1	3	7	S	6	3	1	3	0	7	2.0		
Apr 21	4	5	8	5	4	3	2	1	3	3	3	1	2	1	1	2	2	S	1	1	1	2	4	1	1	8	2.6	
Apr 22	3	3	2	2	2	3	8	5	1	2	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	8	1.9
Apr 23	2	4	4	4	5	4	2	2	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	5	1.9
Apr 24	1	1	1	6	10	10	9	15	10	8	5	7	1	1	1	S	2	7	8	7	5	6	5	13	1	15	6.0	
Apr 25	14	2	1	1	1	1	3	3	2	2	2	2	2	2	S	10	3	3	4	4	5	9	4	4	1	14	3.7	
Apr 26	5	2	1	1	2	1	3	8	4	2	6	2	1	S	3	2	2	1	1	2	5	2	15	1	1	15	3.1	
Apr 27	12	2	1	1	1	3	4	3	1	2	4	5	S	2	6	2	2	5	2	2	1	2	2	2	1	1	12	2.9
Apr 28	3	3	4	3	3	6	6	17	12	4	2	S	8	6	10	6	7	6	1	1	0	0	11	0	1	17	5.2	
Apr 29	11	16	6	2	2	2	3	2	0	0	S	2	1	1	2	3	3	2	3	5	2	6	9	11	0	16	4.1	
Apr 30	8	1	0	0	5	3	3	3	2	0	S	3	5	8	2	1	1	1	4	3	1	1	1	1	1	0	8	2.5
Diurnal Maximum	24	16	24	11	10	20	26	26	12	11	10	14	15	11	10	10	7	7	9	24	25	26	32	15				
Diurnal Average	5.7	3.9	4.3	3.2	3.7	5.0	5.8	6.4	4.4	4.0	3.4	3.3	3.1	2.4	2.6	2.6	2.3	2.4	2.6	3.2	3.8	4.6	4.4	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
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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.

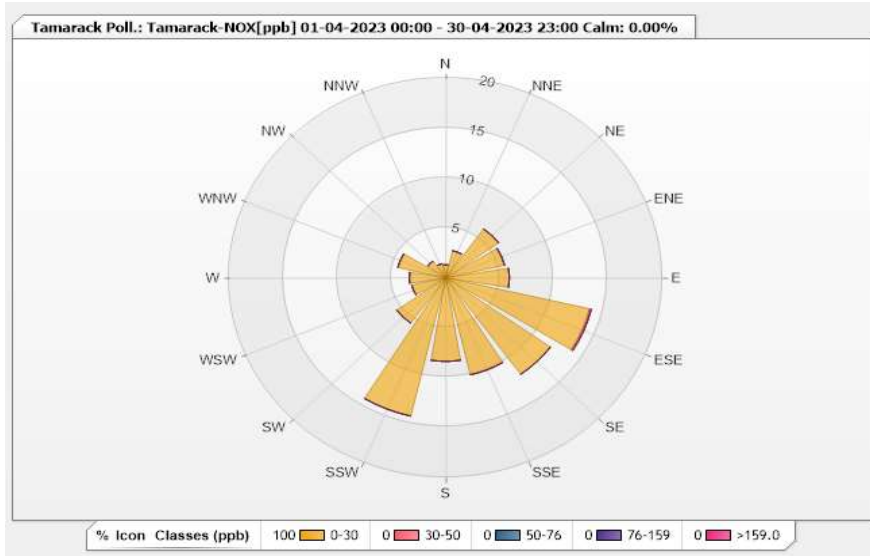


Station: Tamarack Poll.: Tamarack-NOX[ppb] Monthly: 04-2023

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

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

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.32	0	0	0	0	1.32
NNE	2.79	0	0	0	0	2.79
NE	6.01	0	0	0	0	6.01
ENE	5.57	0	0	0	0	5.57
E	5.87	0	0	0	0	5.87
ESE	13.64	0.15	0	0	0	13.79
SE	11.88	0	0	0	0	11.88
SSE	9.97	0	0	0	0	9.97
S	8.36	0	0	0	0	8.36
SSW	14.22	0	0	0	0	14.22
SW	5.57	0	0	0	0	5.57
WSW	3.23	0	0	0	0	3.23
W	3.37	0	0	0	0	3.37
WNW	4.55	0	0	0	0	4.55
NW	2.05	0	0	0	0	2.05
NNW	1.47	0	0	0	0	1.47
Summary	100	0.15	0	0	0	100

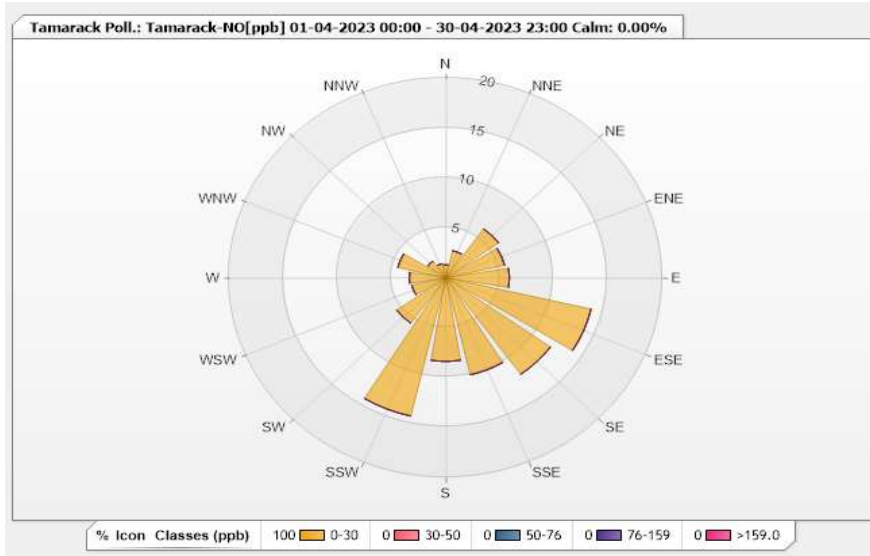


Station: Tamarack Poll.: Tamarack-NO[ppb] Monthly: 04-2023

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

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

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.32	0	0	0	0	1.32
NNE	2.79	0	0	0	0	2.79
NE	6.01	0	0	0	0	6.01
ENE	5.57	0	0	0	0	5.57
E	5.87	0	0	0	0	5.87
ESE	13.78	0	0	0	0	13.78
SE	11.88	0	0	0	0	11.88
SSE	9.97	0	0	0	0	9.97
S	8.36	0	0	0	0	8.36
SSW	14.22	0	0	0	0	14.22
SW	5.57	0	0	0	0	5.57
WSW	3.23	0	0	0	0	3.23
W	3.37	0	0	0	0	3.37
WNW	4.55	0	0	0	0	4.55
NW	2.05	0	0	0	0	2.05
NNW	1.47	0	0	0	0	1.47
Summary	100	0	0	0	0	100

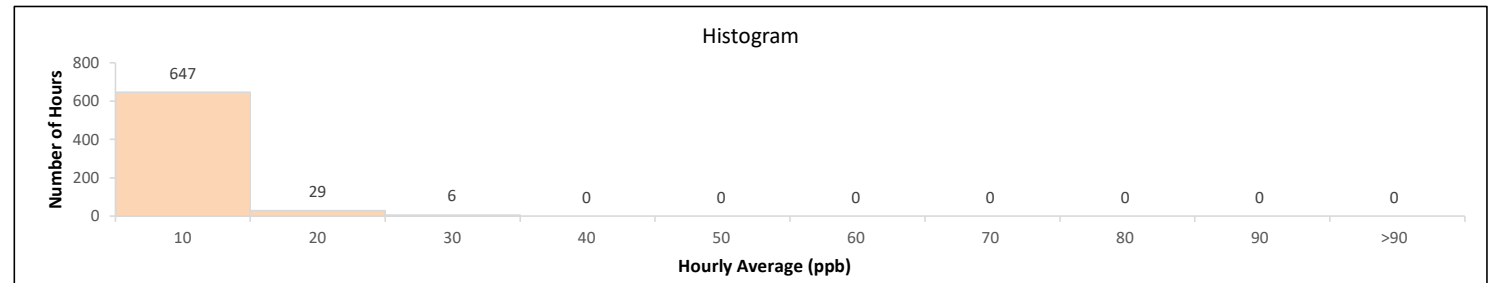
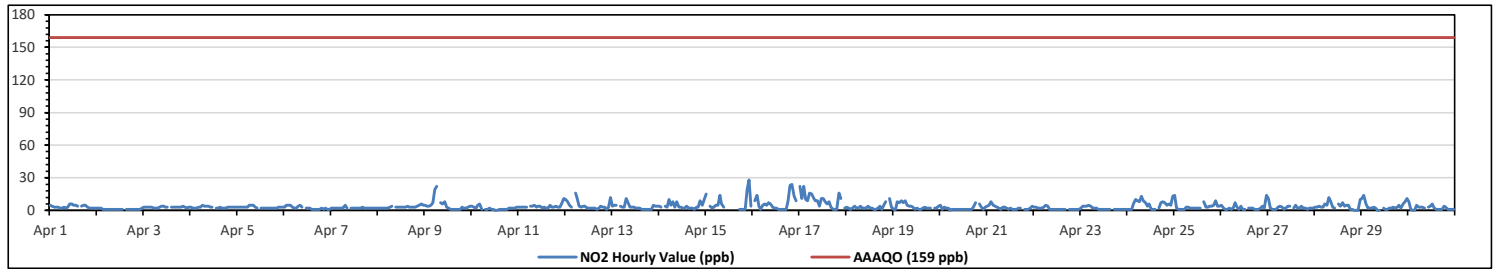


Lakeland Industry & Community Association
Tamarack Site - April 2023
Summary of Hourly Averages
NITROGEN DIOXIDE (NO₂) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 159 ppb																													
Number of 1-Hour Exceedances: 0																													
Maximum Hourly Value: 28 ppb on Apr 15 at hr 22												Hours in Service: 720																	
Maximum Daily Value: 9.5 ppb on Apr 17												Hours of Data: 682																	
Minimum Hourly Value: 0 ppb on Apr 10 at hr 12												Hours of Missing Data: 0																	
Minimum Daily Value: 1.2 ppb on Apr 2												Hours of Calibration: 38																	
Monthly Average: 3.5 ppb												Operational Uptime: 100.0																	
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23					
Apr 1	5	4	3	3	3	2	2	3	2	3	6	6	5	5	4	S	4	5	5	3	2	2	2	2	2	2	2	6	3.5
Apr 2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	2	2	1.2	
Apr 3	3	3	3	3	3	2	2	2	3	4	4	3	3	S	3	3	3	3	3	3	4	3	2	3	3	3	2	4	3.0
Apr 4	3	2	2	2	3	3	5	4	4	4	3	S	2	2	3	2	2	2	2	3	3	3	3	3	3	2	5	2.9	
Apr 5	3	3	3	3	3	3	5	5	5	3	2	S	2	2	2	2	2	2	2	2	2	3	3	3	3	2	5	2.8	
Apr 6	3	5	5	5	3	2	2	4	5	3	S	2	2	2	1	1	1	1	1	2	1	2	1	1	1	1	5	2.4	
Apr 7	2	2	2	2	2	2	2	5	2	S	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	2	5	2.2	
Apr 8	2	2	2	2	2	2	3	4	S	3	3	3	3	3	3	4	3	3	3	3	4	5	6	5	2	6	3.2		
Apr 9	5	4	4	5	7	19	22	S	7	6	8	3	2	1	1	1	1	1	1	3	2	2	3	4	1	22	4.9		
Apr 10	4	3	2	5	6	1	S	1	1	2	1	1	0	0	1	1	1	1	1	2	2	2	2	3	4	0	6	1.9	
Apr 11	3	3	3	3	3	S	4	4	5	3	4	4	2	3	2	2	5	3	3	4	3	3	6	11	2	11	3.7		
Apr 12	10	8	5	3	S	16	11	4	3	4	4	2	2	2	2	2	1	2	4	3	3	1	3	12	1	16	4.7		
Apr 13	4	5	5	S	4	3	3	11	7	3	3	3	2	2	2	1	1	1	1	1	1	5	4	4	1	11	3.3		
Apr 14	4	3	S	4	3	10	5	8	3	8	3	3	2	2	4	2	2	2	1	3	3	9	5	10	1	10	4.3		
Apr 15	15	S	4	2	3	5	5	14	6	3	C	C	C	C	C	C	C	1	1	1	1	19	28	4	1	28	NA		
Apr 16	S	9	14	4	1	5	6	5	7	6	3	2	2	1	1	1	1	1	9	23	24	13	9	S	1	24	6.7		
Apr 17	22	11	22	10	9	16	15	12	9	9	4	11	11	8	6	8	3	1	1	1	16	11	S	2	1	22	9.5		
Apr 18	3	2	1	2	4	2	2	4	2	2	2	4	2	2	1	1	2	4	1	5	8	S	11	3	1	11	3.0		
Apr 19	1	1	8	7	9	7	9	5	4	4	3	1	2	1	1	2	3	2	2	2	S	2	2	4	1	9	3.6		
Apr 20	5	1	3	2	2	0	1	1	1	1	1	1	1	1	1	1	1	3	7	S	6	3	1	3	0	7	2.0		
Apr 21	4	5	8	5	4	3	2	1	3	3	2	1	2	1	1	1	2	2	S	1	1	1	2	4	1	8	2.6		
Apr 22	3	3	2	2	2	3	5	4	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	5	1.7	
Apr 23	2	4	4	4	5	4	2	2	2	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	5	1.9	
Apr 24	1	1	1	6	10	9	8	13	9	7	4	6	1	1	1	S	2	7	8	7	5	6	5	13	1	13	5.7		
Apr 25	14	2	1	1	1	1	3	3	2	2	2	2	2	2	S	8	3	3	4	4	5	9	4	4	1	14	3.6		
Apr 26	5	2	1	1	2	1	2	7	3	1	4	1	S	2	2	2	1	1	1	2	4	2	14	1	1	14	2.7		
Apr 27	11	2	1	1	1	3	4	3	1	2	4	4	S	2	5	2	2	4	2	2	1	2	2	2	1	11	2.7		
Apr 28	3	3	4	3	3	6	5	12	8	3	2	S	6	4	7	4	5	5	1	1	0	0	0	10	0	12	4.1		
Apr 29	11	14	6	2	2	3	2	0	0	S	2	1	1	2	2	3	2	3	5	2	6	8	11	0	0	14	3.9		
Apr 30	8	1	0	0	5	3	3	3	2	S	3	4	6	2	1	1	1	1	4	3	1	1	1	1	0	8	2.4		
Diurnal Maximum	22	14	22	10	10	19	22	14	9	9	8	11	11	8	7	8	5	7	9	23	24	19	28	14					
Diurnal Average	5.6	3.8	4.2	3.2	3.7	4.7	4.9	5.1	3.7	3.3	3.0	2.9	2.5	2.0	2.2	2.2	2.2	2.3	2.6	3.2	3.7	4.2	4.1	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
X InValid Data (Equipment Malfunction /Recovery) **NRM** UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) **P** Power Failure

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.

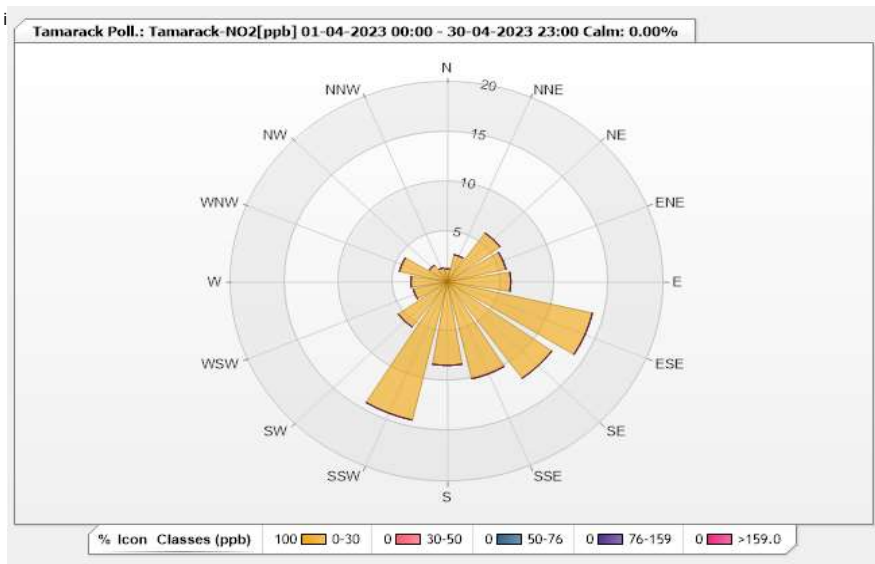


Station: Tamarack Poll.: Tamarack-NO2[ppb] Monthly: 04-2023

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

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

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.32	0	0	0	0	1.32
NNE	2.79	0	0	0	0	2.79
NE	6.01	0	0	0	0	6.01
ENE	5.57	0	0	0	0	5.57
E	5.87	0	0	0	0	5.87
ESE	13.78	0	0	0	0	13.78
SE	11.88	0	0	0	0	11.88
SSE	9.97	0	0	0	0	9.97
S	8.36	0	0	0	0	8.36
SSW	14.22	0	0	0	0	14.22
SW	5.57	0	0	0	0	5.57
WSW	3.23	0	0	0	0	3.23
W	3.37	0	0	0	0	3.37
WNW	4.55	0	0	0	0	4.55
NW	2.05	0	0	0	0	2.05
NNW	1.47	0	0	0	0	1.47
Summary	100	0	0	0	0	100



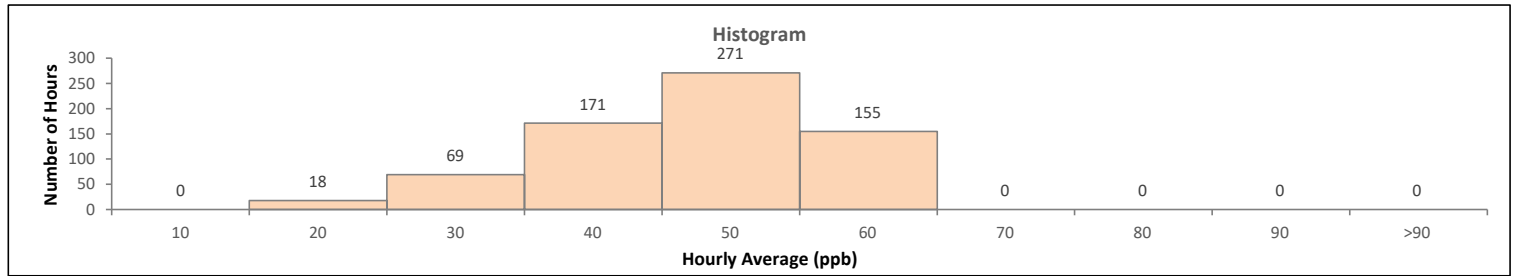
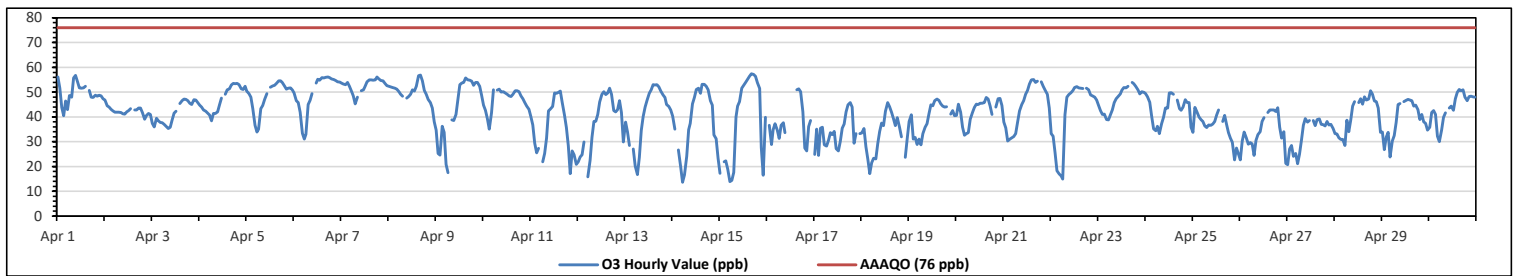
Lakeland Industry & Community Association

Tamarack Site - April 2023
Summary of Hourly Averages

OZONE (O₃) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 76 ppb																																						
Number of 1-Hour Exceedances:															0																							
Maximum Hourly Value:															57.4 ppb on Apr 15 at hr 16																							
Maximum Daily Value:															52.7 ppb on Apr 7																							
Minimum Hourly Value:															13.7 ppb on Apr 14 at hr 5																							
Minimum Daily Value:															32.8 ppb on Apr 18																							
Monthly Average:															41.8 ppb																							
Hours in Service:															720																							
Hours of Data:															684																							
Hours of Missing Data:															0																							
Hours of Calibration:															36																							
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														
Apr 1	56.1	51.6	43.8	40.5	46.4	43	48.6	47.9	55.7	56.8	54.3	51.8	51.6	51.8	52.3	S	50.7	48	47.8	48.8	48.4	48.8	48.5	47.4	40.5	56.8	49.6											
Apr 2	46.9	44.5	43.9	43.1	42.5	41.9	41.9	41.9	41.8	41.3	41.2	42.1	42.6	43.4	S	42.9	42.9	43.5	43.6	41.8	39.1	40.7	41.4	41	39.1	46.9	42.4											
Apr 3	37.4	36	39.4	38.5	37.8	37.7	37	36.2	35.3	35.9	38.8	41.5	42.3	S	45.4	46.5	47.2	47.1	46.5	45.6	45.1	47	46.9	45.8	35.3	47.2	41.6											
Apr 4	44.8	43.9	42.8	42.3	41.5	40.8	38.4	41.4	41.4	42	44.9	47.6	S	49.2	50.9	51.4	52.9	53.6	53.4	53.6	53	51.4	51.1	52.4	38.4	53.6	47.2											
Apr 5	50.4	49.4	48	43.4	36.6	33.9	35.1	43.4	44.7	47.1	49.5	S	52	52.5	52.8	53.6	54.5	54.5	53.9	52.5	51.2	51.7	51.8	50.8	33.9	54.5	48.4											
Apr 6	49.7	46.5	45.7	41.9	33.4	31	33	45	46.7	49.4	S	53.7	55.2	54.8	55.9	55.7	56	56.2	55.9	55.4	55.1	54.7	54.2	54.1	31.0	56.2	49.5											
Apr 7	53.7	53.3	53	53.9	52.4	50.1	48.5	45.3	47.9	S	50.5	50.9	52.3	54.2	55	55	54.8	55	56.1	55.4	54.7	54.5	53.6	52.6	45.3	56.1	52.7											
Apr 8	52.3	52.1	51.9	51.7	51.2	50.3	49.2	48.3	S	47.6	48.2	49.1	50.9	50.4	52.4	56.6	56.9	54.5	50.7	49.1	47.1	45.8	43.6	38.1	38.1	56.9	49.9											
Apr 9	34.7	25.2	24.6	36.2	33.8	20.9	17.6	S	38.8	38.6	41	47.1	53	53.7	54	55.7	55	54.8	54.4	52.8	54	53.9	52.4	48.8	17.6	55.7	43.5											
Apr 10	44.8	42.7	39.3	35	41.6	S	50.8	51.2	50	50.1	49.7	49.1	48.5	48.2	49.2	50.6	50.6	50.2	48.5	47.4	45.7	44.3	43.1	35.0	51.2	47.0	47.0											
Apr 11	40.1	36.8	29.4	29.5	27.3	S	21.9	25.2	31.4	42.5	43.3	44.2	49.7	49.6	49.9	50.4	45.8	40.8	35.7	28.4	17.2	26.3	24.7	20.9	17.2	50.4	35.1											
Apr 12	21.9	23.9	24.7	29.9	S	15.8	22.4	31.8	38.2	38.3	41.1	46	49.2	50.2	49	49.7	51.6	49.2	42.6	42.1	43	46.5	41.8	29.9	15.8	51.6	38.2											
Apr 13	37.9	33.9	28.5	S	27.1	20.2	16.8	23.7	34.6	40.2	44	46.7	49.6	51	53	52.9	53	52.1	50.4	48.9	47.8	45.1	44.2	42.9	16.8	53.0	41.1											
Apr 14	40.4	35.1	S	26.7	20	13.7	16.6	24.2	34.9	37.4	45.3	47.8	51.1	51.7	49.6	53.1	53.1	52.4	50.9	46.6	44.8	32.8	31.2	23.3	13.7	53.1	38.4											
Apr 15	17.3	S	21.9	22.2	19.1	13.9	14.4	17.7	40	44.4	46.1	51.6	52.8	53.9	55.4	56.4	57.4	57.1	56.3	53.8	51.5	27.8	16.5	39.9	13.9	57.4	38.6											
Apr 16	S	36.6	28.8	34.8	37.3	34.7	31.3	36.6	37.6	33.6	C	C	C	C	C	51	51.3	50.1	42.1	27.5	26.3	36.1	38.6	S	26.3	51.3	NA											
Apr 17	24.9	35	24.5	35.4	35.9	28.7	28.3	30.6	33.7	32.9	34.2	27.2	26.4	30.2	35.5	37.1	42	44.9	45.7	43.9	29.4	33.3	S	33.2	24.5	45.7	33.6											
Apr 18	33.5	35.3	28	23	17.2	21.6	23.3	23.1	29.3	34.2	37.5	36.5	42.3	45.8	44.1	41.9	39.3	36.5	39.7	35.8	32	S	23.8	31.2	17.2	45.8	32.8											
Apr 19	38.2	40.9	31	31.7	28.8	31.1	28.7	33.2	35.9	37.2	41.3	44.9	44.5	46.6	47.2	46.7	45.3	44.3	43.9	44.1	S	41.2	42.6	40.5	28.7	47.2	39.6											
Apr 20	40.7	45.2	41.9	35.8	32.7	33.3	33.6	39.1	41.7	43.8	45.2	45.1	45.6	45.6	45.8	47.8	47.3	44.5	41	S	44	47.4	47.5	44.6	32.7	47.8	42.6											
Apr 21	37.9	35.6	30.4	31.1	31.6	32.1	33.3	37.9	42.4	45	46.6	49.1	50.7	53.3	54.9	55.1	54	54.4	S	54.2	52.3	50.6	49.2	43.6	30.4	55.1	44.6											
Apr 22	33.3	32.3	25.7	18.3	17	16.2	14.9	40.9	48	49	49.8	50.7	51.9	52.2	51.8	51.7	51.5	S	51.6	51	48.9	48.5	47.9	46.8	14.9	52.2	41.3											
Apr 23	45	42.6	41.1	41.2	39	38.8	40.5	42.8	45.8	47.4	48.4	49.3	50.8	51.9	51.8	52.3	S	53.9	53.4	52.4	50.9	49.3	50.1	49.9	38.8	53.9	47.3											
Apr 24	49.4	48.1	45.9	40.2	35.2	34.5	36.3	33.3	37.3	39.8	43.6	43.5	49.7	49.8	49.2	S	46.9	43.4	42.7	43.9	47	45.7	45.7	35.9	33.3	49.8	42.9											
Apr 25	33.8	43.8	42.2	40	39	38.2	36.4	35.7	36.8	36.7	37.1	38.2	40.8	42.9	S	38.2	40.6	37	33.7	31.5	29.8	22.7	27.4	25.1	22.7	43.8	36.0											
Apr 26	22.7	30.3	33.9	31.5	29	29.6	29.1	24.5	30.6	32.9	34	38.2	39.7	S	41.7	42.9	42.9	42.9	42.2	43.7	35.9	31.5	34.1	21.3	21.3	43.7	34.1											
Apr 27	20.7	27	28.5	24.2	25.2	21.2	25	30.6	36.6	39.3	37.9	38.6	S	38.6	36.5	39	39.2	37	36.9	36.4	38.2	36.8	37	35.3	20.7	39.3	33.3											
Apr 28	33.2	33.1	31.6	30.9	30.9	28.5	38.7	34.1	38.7	44.4	46.1	S	45.7	47.4	45.2	48.1	46.9	47.2	50.5	49.1	46.4	46.2	43.6	33.8	28.5	50.5	40.9											
Apr 29	33.9	26.8	31.9	33.8	23.9	30.4	32.6	37.8	45.1	45.4	S	46.1	46.7	47.1	46.8	46.5	44.3	44.8	43	39	41	38.1	37.4	34.7	23.9	47.1	39.0											
Apr 30	35.8	41.8	42.6	41.1	32.3	30	34.7	39.8	41.6	S	43.6	44.4	42.7	47.4	49.9	51.1	50.6	50.9	47.9	46.5	48.2	48.4	48.1	48	30.0	51.1	43.8											
Diurnal Maximum	56.1	53.3	53.0	53.9	52.4	50.9	49.2	50.8	55.7	56.8	54.3	53.7	55.2	54.8	55.9	56.6	57.4	57.1	56.3	55.4	55.1	54.7	54.2	54.1														
Diurnal Average	38.3	38.9	36.0	35.3	33.3	31.5	31.3	36.0	40.1	41.9	43.8	45.2	47.4	48.7	49.0	49.2	49.1	48.3	47.0	45.6	43.8	43.1	42.0	39.8														
C	Monthly Calibration															S	Daily Zero-Span Check										Q	Quality Assurance										
X	Collection Error															ND	No Data (Machine Not in Service)										Y	Routine Maintenance					P	Power Failure				
K	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.

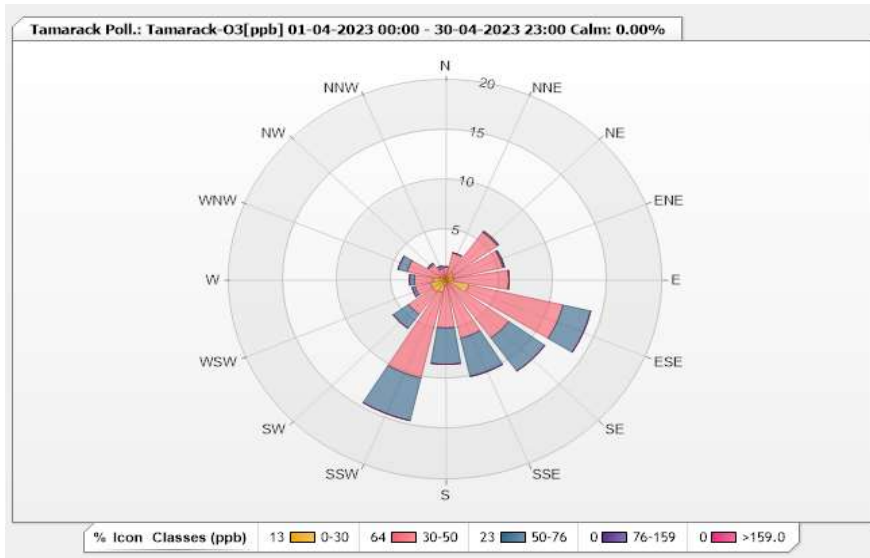


Station: Tamarack Poll.: Tamarack-O3[ppb] Monthly: 04-2023

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

Calm: 0.00% Valid Data: 95.00% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	0.29	1.02	0	0	0	1.31
NNE	0.29	2.49	0	0	0	2.78
NE	0.88	4.97	0.15	0	0	6
ENE	0.73	4.68	0.15	0	0	5.56
E	0.73	5.12	0	0	0	5.85
ESE	2.19	8.92	2.63	0	0	13.74
SE	0.29	6.87	4.09	0	0	11.25
SSE	0.15	5.85	3.95	0	0	9.95
S	0.58	4.24	3.65	0	0	8.47
SSW	1.32	8.77	4.39	0	0	14.48
SW	1.46	2.78	1.75	0	0	5.99
WSW	1.46	1.46	0.29	0	0	3.21
W	1.17	1.75	0.44	0	0	3.36
WNW	0.58	3.07	0.88	0	0	4.53
NW	0.15	1.75	0.15	0	0	2.05
NNW	0.44	0.73	0.29	0	0	1.46
Summary	12.71	64.47	22.81	0	0	100

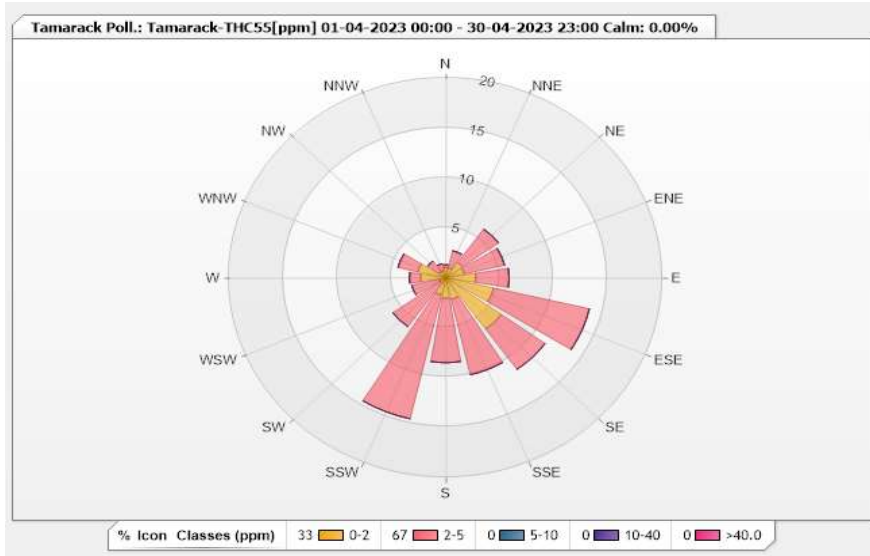


Station: Tamarack Poll.: Tamarack-THC55[ppm] Monthly: 04-2023

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

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

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	1.02	0.29	0	0	0	1.31
NNE	1.02	1.76	0	0	0	2.78
NE	1.9	4.1	0	0	0	6
ENE	1.76	3.81	0	0	0	5.57
E	2.78	3.07	0	0	0	5.85
ESE	4.54	9.08	0	0	0	13.62
SE	6.3	4.98	0	0	0	11.28
SSE	2.2	7.76	0	0	0	9.96
S	2.05	6.44	0	0	0	8.49
SSW	1.76	12.74	0	0	0	14.5
SW	0.59	5.42	0	0	0	6.01
WSW	0.59	2.64	0	0	0	3.23
W	2.34	1.02	0	0	0	3.36
WNW	2.64	1.9	0	0	0	4.54
NW	0.73	1.32	0	0	0	2.05
NNW	0.73	0.73	0	0	0	1.46
Summary	32.95	67.06	0	0	0	100

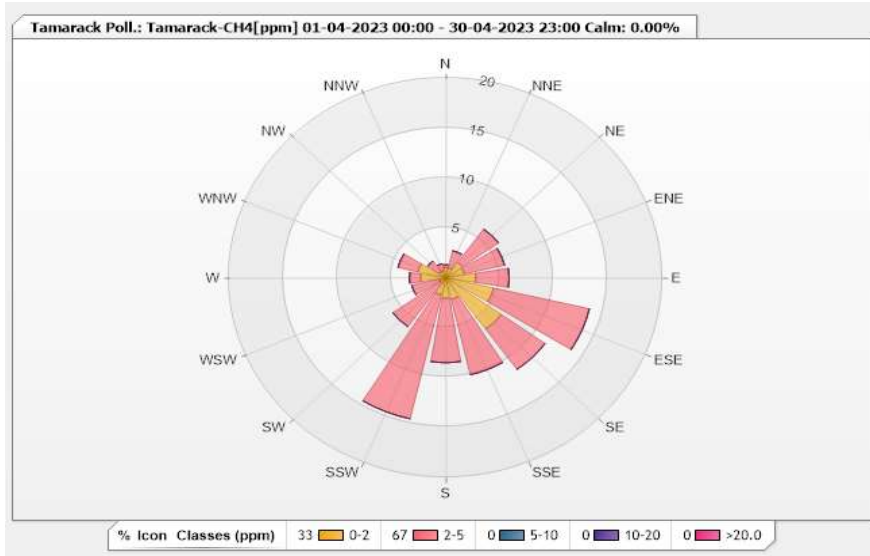


Station: Tamarack Poll.: Tamarack-CH4[ppm] Monthly: 04-2023

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

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

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	1.02	0.29	0	0	0	1.31
NNE	1.02	1.76	0	0	0	2.78
NE	1.9	4.1	0	0	0	6
ENE	1.76	3.81	0	0	0	5.57
E	2.78	3.07	0	0	0	5.85
ESE	4.54	9.08	0	0	0	13.62
SE	6.3	4.98	0	0	0	11.28
SSE	2.2	7.76	0	0	0	9.96
S	2.05	6.44	0	0	0	8.49
SSW	1.76	12.74	0	0	0	14.5
SW	0.59	5.42	0	0	0	6.01
WSW	0.59	2.64	0	0	0	3.23
W	2.34	1.02	0	0	0	3.36
WNW	2.64	1.9	0	0	0	4.54
NW	0.73	1.32	0	0	0	2.05
NNW	0.73	0.73	0	0	0	1.46
Summary	32.95	67.06	0	0	0	100



Lakeland Industry & Community Association

Tamarack Site - April 2023

Summary of Hourly Averages

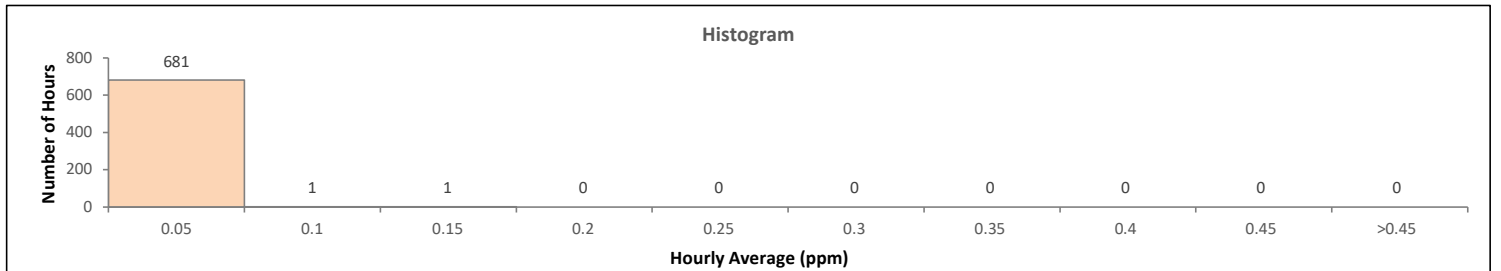
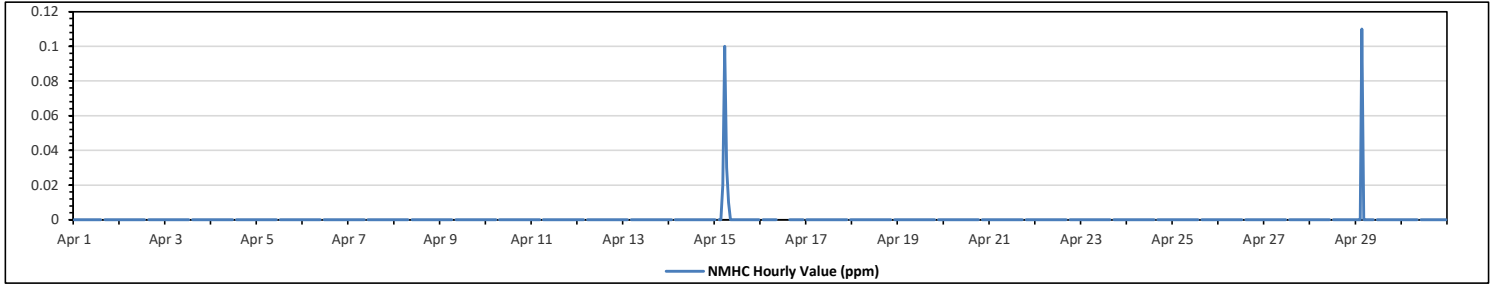
NON-METHANE HYDROCARBONS (NMHC) in ppm

Maximum Hourly Value:	0.11 ppm	on Apr 29 at hr 3	Hours in Service:	720
Maximum Daily Value:	0.01 ppm	on Apr 15	Hours of Data:	683
Minimum Hourly Value:	0.00 ppm	on Apr 1 at hr 0	Hours of Missing Data:	2
Minimum Daily Value:	0.00 ppm	on Apr 1	Hours of Calibration:	35
Monthly Average:	0.00 ppm		Operational Uptime:	99.7

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average									
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23								
Apr 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 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	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		
Apr 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	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	
Apr 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	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	
Apr 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	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	
Apr 6	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 7	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 8	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 9	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 10	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 11	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 12	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 13	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 14	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 15	0.00	S	0.00	0.00	0.02	0.10	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.01	
Apr 16	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Y	Y	C	C	C	C	0.00	0.00	0.00	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	NA
Apr 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	0.00	0.00	0.00	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	
Apr 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	0.00	0.00	0.00	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	
Apr 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	0.00	0.00	0.00	0.00	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	
Apr 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	0.00	0.00	0.00	0.00	0.00	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	
Apr 21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	
Apr 22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	
Apr 23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	
Apr 24	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	
Apr 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	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	S	0.00	0.00	0.00	0.00	
Apr 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	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	S	0.00	0.00	0.00	0.00	
Apr 27	0.00	0.00	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	S	0.00	0.00	0.00	0.00	
Apr 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	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	S	0.00	0.00	0.00	0.00	
Apr 29	0.00	0.00	0.00	0.11	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	0.11	0.00	0.00	0.00	
Apr 30	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Diurnal Maximum	0.00	0.00	0.00	0.11	0.02	0.10	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Diurnal Average	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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.

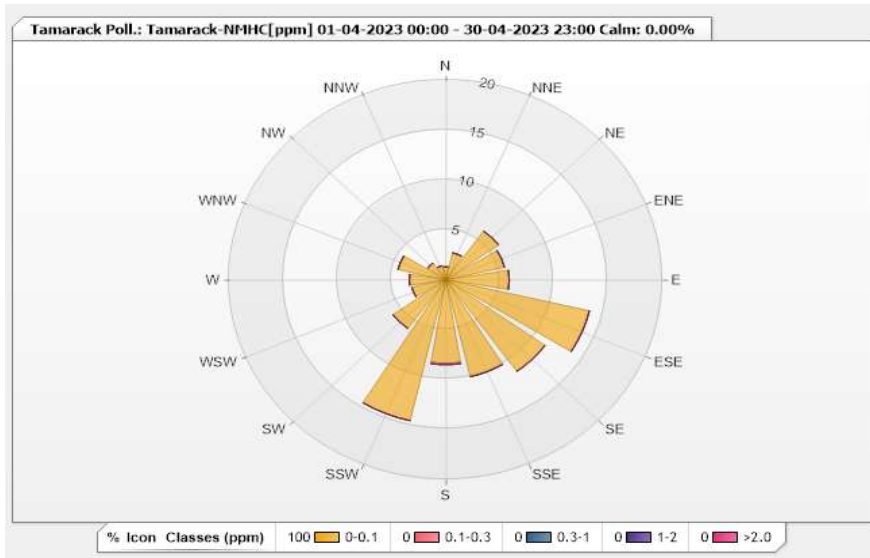


Station: Tamarack Poll.: Tamarack-NMHC[ppm] Monthly: 04-2023

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

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

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	1.32	0	0	0	0	1.32
NNE	2.78	0	0	0	0	2.78
NE	6	0	0	0	0	6
ENE	5.56	0	0	0	0	5.56
E	5.86	0	0	0	0	5.86
ESE	13.62	0	0	0	0	13.62
SE	11.27	0	0	0	0	11.27
SSE	9.96	0	0	0	0	9.96
S	8.35	0.15	0	0	0	8.5
SSW	14.49	0	0	0	0	14.49
SW	6	0	0	0	0	6
WSW	3.22	0	0	0	0	3.22
W	3.37	0	0	0	0	3.37
WNW	4.54	0	0	0	0	4.54
NW	2.05	0	0	0	0	2.05
NNW	1.46	0	0	0	0	1.46
Summary	100	0.15	0	0	0	100



Lakeland Industry & Community Association

Tamarack Site - April 2023

Summary of Hourly Averages

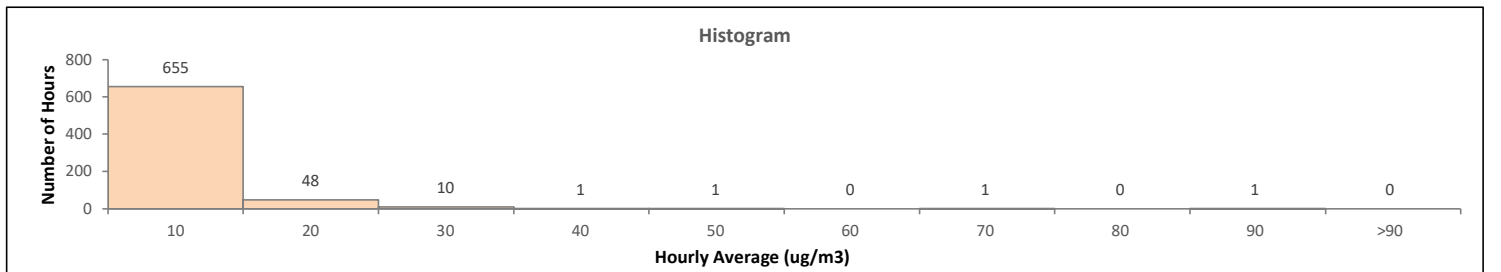
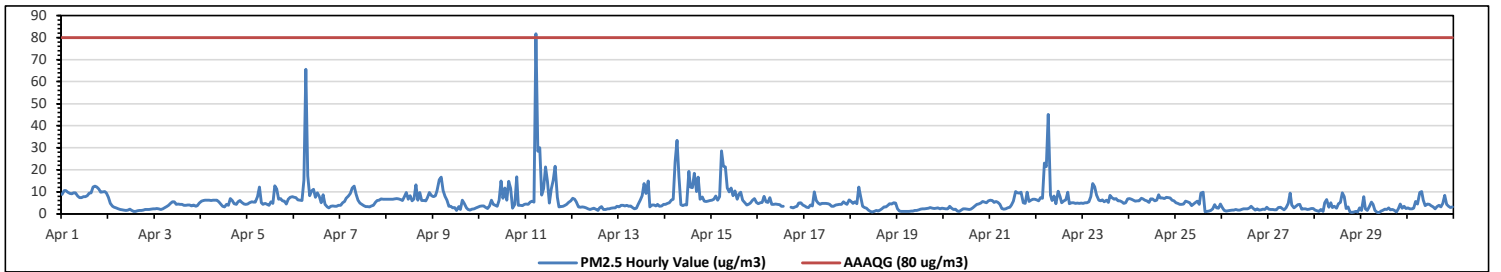
PARTICULATE MATTER 2.5 (PM_{2.5}) in µg/m³

Alberta Ambient Air Quality Guideline (AAAQG): 1-Hour 80 µg/m ³ , Alberta Ambient Air Quality Objective (AAAQO): 24-Hour 29 µg/m ³	
Number of 1-Hour Exceedances:	1
Number of 24-Hour Exceedances:	0
Maximum Hourly Value:	82 µg/m ³ on Apr 11 at hr 5
Maximum Daily Value:	12.9 µg/m ³ on Apr 11
Minimum Hourly Value:	1 µg/m ³ on Apr 29 at hr 9
Minimum Daily Value:	2 µg/m ³ on Apr 19
Monthly Average:	5.6 µg/m ³
Hours in Service:	720
Hours of Data:	717
Hours of Missing Data:	0
Hours of Calibration:	3
Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily 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
Apr 1	9	11	11	10	9	9	10	10	8	7	7	8	8	8	9	10	12	13	12	11	10	10	10	9	7	13	9.6
Apr 2	8	5	4	3	3	2	2	2	2	2	2	2	2	1	1	2	2	2	2	2	2	2	2	2	1	8	2.3
Apr 3	2	2	2	2	2	3	3	4	5	6	5	4	5	4	4	4	4	4	4	4	4	3	4	5	2	6	3.7
Apr 4	6	6	6	6	6	6	6	6	6	5	5	3	3	4	4	7	6	5	4	6	6	5	5	4	3	7	5.3
Apr 5	5	5	5	5	5	8	12	5	4	5	4	4	5	5	13	11	7	7	6	6	5	7	8	8	4	13	6.4
Apr 6	8	7	6	6	6	15	66	17	8	10	11	8	10	8	5	9	4	3	3	3	4	4	4	4	3	66	9.5
Apr 7	4	5	6	7	8	9	12	13	9	6	5	4	4	3	3	3	4	4	5	6	6	7	7	7	3	13	6.1
Apr 8	7	7	7	7	7	7	7	7	6	8	10	7	8	6	7	13	6	10	6	6	6	7	10	8	6	13	7.4
Apr 9	8	8	11	16	17	11	8	6	4	3	3	3	2	3	2	6	5	3	2	2	2	2	3	3	2	17	5.4
Apr 10	3	4	4	3	2	4	6	4	4	3	6	15	7	12	6	15	12	3	4	17	4	4	4	4	2	17	6.2
Apr 11	5	4	5	6	5	82	28	30	9	11	21	15	5	11	15	22	8	3	3	3	4	4	5	6	3	82	12.9
Apr 12	7	7	5	3	3	3	3	3	2	2	2	3	2	2	3	2	2	2	2	2	3	3	3	3	2	7	3.0
Apr 13	3	4	4	4	4	3	4	3	2	3	5	6	8	14	9	15	3	4	4	4	4	4	3	4	2	15	5.0
Apr 14	4	5	5	6	7	24	33	17	4	4	4	4	19	12	12	19	10	17	7	8	6	6	6	6	4	33	10.1
Apr 15	6	7	8	6	8	29	22	21	12	10	12	8	10	7	9	10	6	5	4	4	5	6	7	5	4	29	9.4
Apr 16	5	5	5	8	5	5	7	4	4	5	4	4	4	4	C	C	C	3	3	3	4	5	5	4	3	8	4.6
Apr 17	4	3	3	4	4	10	6	5	4	5	5	5	5	4	4	4	4	4	4	4	6	5	4	6	3	10	4.6
Apr 18	6	5	6	5	12	8	4	3	3	2	1	1	1	2	1	2	2	3	3	4	5	5	5	5	1	12	3.7
Apr 19	2	1	1	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3	2	3	3	2	3	1	3	1.9
Apr 20	2	2	2	4	3	2	2	1	1	2	2	2	2	2	2	3	4	4	5	5	6	5	6	1	6	3.1	
Apr 21	6	6	5	6	5	4	2	2	2	3	3	4	6	10	10	9	10	5	5	10	6	6	7	7	2	10	5.8
Apr 22	6	6	7	7	23	21	45	9	6	8	5	10	8	5	6	6	10	5	5	5	5	5	5	5	5	45	9.3
Apr 23	5	5	5	6	8	14	12	9	6	6	6	5	6	5	8	7	7	7	6	6	5	5	5	7	5	14	6.7
Apr 24	7	7	6	6	6	6	7	7	6	6	5	7	7	6	6	9	7	7	7	8	7	7	6	6	5	9	6.6
Apr 25	5	5	4	4	5	6	5	5	4	5	6	4	9	10	1	1	1	2	2	4	3	3	5	1	10	4.3	
Apr 26	3	2	1	1	2	2	2	2	2	2	2	2	2	2	3	3	2	2	2	2	2	2	2	3	1	3	2.1
Apr 27	2	2	2	2	2	3	2	2	3	5	9	4	3	4	4	4	2	2	2	2	2	2	2	2	2	9	2.9
Apr 28	2	1	1	2	1	5	7	3	5	3	3	3	5	5	10	8	2	3	1	1	1	1	1	3	1	10	3.1
Apr 29	2	8	2	2	3	5	4	2	1	1	2	2	2	3	2	2	2	1	2	5	3	3	2	1	8	2.5	
Apr 30	3	2	2	3	6	5	10	10	6	4	5	4	4	3	2	3	4	3	5	8	4	4	3	3	2	10	4.4
Diurnal Maximum	9	11	11	16	23	82	66	30	12	11	21	15	19	14	15	22	12	17	12	17	10	10	10	9			
Diurnal Average	4.7	4.8	4.7	5.9	10.3	11.3	7.1	4.6	4.6	5.2	5.3	4.7	5.3	4.5	5.5	5.9	7.2	5.2	4.5	4.0	4.4	4.4	4.6	4.8			

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

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.

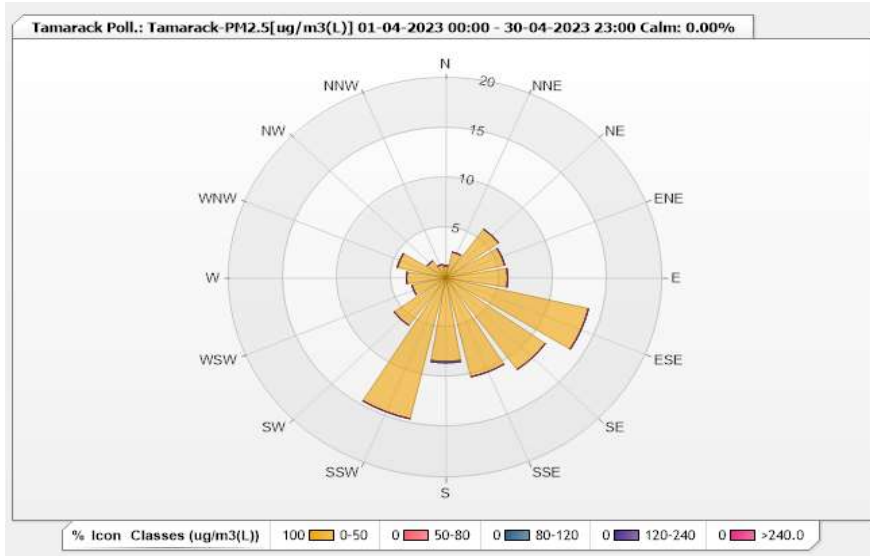


Station: Tamarack Poll.: Tamarack-PM2.5[ug/m3(L)] Monthly: 04-2023

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

Calm: 0.00% Valid Data: 99.58% Calm Avg: 0.00 [ppm]

Direction	0-50	50-80	80-120	120-240	>240.0	Total
N	1.12	0.14	0	0	0	1.26
NNE	2.65	0	0	0	0	2.65
NE	6	0	0	0	0	6
ENE	5.58	0	0	0	0	5.58
E	5.72	0	0	0	0	5.72
ESE	13.53	0	0	0	0	13.53
SE	11.3	0	0	0	0	11.3
SSE	10.18	0	0	0	0	10.18
S	8.37	0	0.14	0	0	8.51
SSW	14.5	0	0	0	0	14.5
SW	5.86	0	0	0	0	5.86
WSW	3.21	0	0	0	0	3.21
W	3.63	0	0	0	0	3.63
WNW	4.6	0	0	0	0	4.6
NW	2.09	0	0	0	0	2.09
NNW	1.39	0	0	0	0	1.39
Summary	100	0.14	0.14	0	0	100



Lakeland Industry & Community Association

Tamarack Site - April 2023

Summary of Hourly Averages

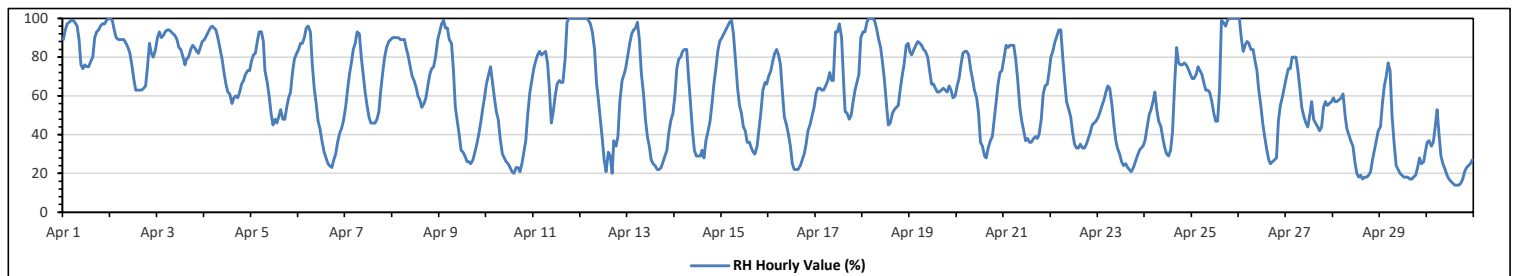
RELATIVE HUMIDITY (RH) in %

Maximum Hourly Value:	100 %	on Apr 1 at hr 23	Hours in Service:	720
Maximum Daily Value:	90.0 %	on Apr 1	Hours of Data:	720
Minimum Hourly Value:	14 %	on Apr 30 at hr 14	Hours of Missing Data:	0
Minimum Daily Value:	25.7 %	on Apr 30	Hours of Calibration:	0
Monthly Average:	61.1 %		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	
Apr 1	89	94	97	98	99	99	98	96	89	76	74	76	75	75	78	80	90	93	94	96	97	97	99	100	74	100	90.0	
Apr 2	100	99	94	90	89	89	89	89	87	85	82	76	69	63	63	63	63	64	65	75	87	82	80	84	63	100	80.3	
Apr 3	90	93	90	91	93	94	94	93	92	91	89	85	84	80	76	79	80	84	86	85	83	82	85	88	76	94	87.0	
Apr 4	89	91	93	95	96	95	94	89	84	79	72	66	62	61	56	59	60	59	62	66	68	71	73	73	56	96	75.5	
Apr 5	78	81	82	88	93	93	88	73	67	60	51	45	48	46	49	53	48	48	54	59	62	72	79	82	45	93	66.6	
Apr 6	84	87	87	90	95	96	93	76	64	56	47	43	37	31	28	25	24	23	27	30	36	41	43	47	23	96	54.6	
Apr 7	54	63	71	77	84	87	93	92	80	71	62	55	49	46	46	46	48	52	63	72	80	85	88	89	46	93	68.9	
Apr 8	90	90	90	90	89	89	89	85	81	75	70	68	64	60	58	54	56	59	65	71	74	75	80	89	54	90	75.5	
Apr 9	93	97	99	95	95	89	87	73	54	47	40	32	31	29	26	26	25	27	31	35	40	47	53	59	25	99	55.4	
Apr 10	66	71	75	67	59	52	48	38	30	28	26	25	23	21	20	23	23	21	25	31	37	50	62	68	20	75	41.2	
Apr 11	74	78	81	83	81	82	83	77	66	46	52	60	66	68	67	67	79	98	100	100	100	100	100	100	46	100	79.5	
Apr 12	100	100	100	100	99	97	93	84	67	58	48	38	27	21	31	29	20	37	34	39	57	68	71	74	20	100	62.2	
Apr 13	80	87	92	94	95	98	89	72	61	48	39	34	27	25	24	22	22	23	26	29	32	41	47	51	22	98	52.4	
Apr 14	60	74	79	80	83	84	84	69	58	42	32	29	29	29	32	28	37	42	47	56	66	74	83	88	28	88	57.7	
Apr 15	90	92	94	96	98	99	92	77	64	55	51	44	42	36	36	33	31	30	34	43	52	63	67	66	30	99	61.9	
Apr 16	70	73	78	82	84	81	76	62	49	45	40	34	25	22	22	22	24	27	30	35	42	45	49	54	22	84	48.8	
Apr 17	61	64	64	63	63	65	68	72	68	68	93	93	97	90	68	52	51	48	50	57	63	67	71	90	48	97	68.6	
Apr 18	93	93	98	100	100	100	99	95	89	85	77	68	56	45	46	51	53	54	55	63	70	76	86	87	45	100	76.6	
Apr 19	83	81	84	86	88	87	86	84	83	80	73	66	66	64	62	62	63	64	63	62	65	63	59	60	59	88	72.3	
Apr 20	65	69	76	82	83	83	81	73	68	63	59	51	36	34	29	28	33	37	39	48	57	66	72	73	28	83	58.5	
Apr 21	79	86	85	86	86	86	79	69	54	47	42	37	38	36	36	38	39	38	40	48	61	65	66	73	36	86	58.9	
Apr 22	80	83	88	91	94	94	80	68	57	53	49	41	35	33	33	35	33	33	35	38	41	45	46	47	33	94	55.5	
Apr 23	49	52	55	58	62	65	64	55	45	37	33	30	26	24	25	23	22	21	23	26	29	32	33	34	21	65	38.5	
Apr 24	37	44	50	53	57	62	53	47	44	38	33	30	29	32	41	67	85	77	76	76	77	76	74	71	29	85	55.4	
Apr 25	69	69	71	75	73	71	66	63	63	62	57	51	47	47	63	99	98	96	99	100	100	100	100	100	47	100	76.6	
Apr 26	100	90	83	86	88	87	84	84	78	73	64	55	46	39	32	27	25	26	27	28	47	55	59	64	25	100	60.3	
Apr 27	69	74	74	80	80	80	73	64	54	49	46	44	50	57	48	46	44	42	44	54	57	55	56	57	42	80	58.2	
Apr 28	59	57	57	58	59	61	49	43	40	37	34	26	20	18	19	17	18	18	19	21	27	32	37	42	17	61	36.2	
Apr 29	44	56	65	70	77	73	50	37	24	22	20	19	18	18	18	17	17	18	19	23	28	25	26	31	17	77	34.0	
Apr 30	36	37	34	36	44	53	40	29	25	22	19	17	16	15	14	14	14	15	17	21	23	24	25	27	14	53	25.7	
Diurnal Maximum	100	100	100	100	100	100	99	96	92	91	93	97	90	78	99	98	98	98	100	100	100	100	100	100	100	100	100	100
Diurnal Average	74.4	77.5	79.5	81.3	82.9	83.0	78.7	70.9	62.8	56.6	52.5	47.9	44.6	42.2	41.5	42.8	44.2	45.8	48.3	52.9	58.6	62.5	65.6	68.9				

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

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 - April 2023

Summary of Hourly Averages

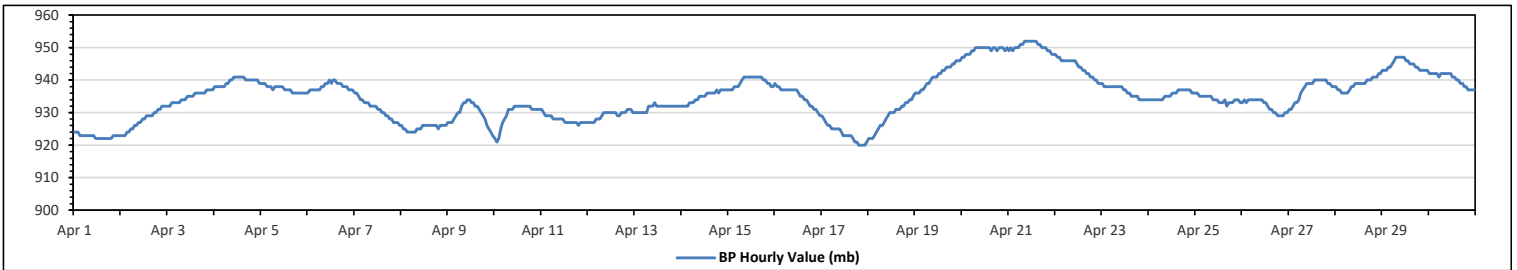
BAROMETRIC PRESSURE (BP) in millibar

Maximum Hourly Value:	952	mb	on Apr 21 at hr 8	Hours in Service:	720
Maximum Daily Value:	950	mb	on Apr 21	Hours of Data:	720
Minimum Hourly Value:	920	mb	on Apr 17 at hr 19	Hours of Missing Data:	0
Minimum Daily Value:	923	mb	on Apr 1	Hours of Calibration:	0
Monthly Average:	935	mb		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	
Apr 1	924	924	924	923	923	923	923	923	923	923	922	922	922	922	922	922	922	922	922	922	923	923	923	923	922	924	923	
Apr 2	923	923	923	924	924	925	925	926	926	927	927	928	928	929	929	929	929	930	930	931	931	932	932	932	923	932	928	
Apr 3	932	932	933	933	933	933	933	934	934	934	935	935	935	935	936	936	936	936	936	936	937	937	937	937	932	937	935	
Apr 4	938	938	938	938	938	938	939	939	940	940	941	941	941	941	941	941	940	940	940	940	940	940	940	939	938	941	940	
Apr 5	939	939	939	938	938	938	937	938	938	938	938	938	937	937	937	937	936	936	936	936	936	936	936	936	936	939	937	
Apr 6	936	937	937	937	937	937	937	938	938	939	939	940	939	940	940	939	939	939	938	938	938	937	937	937	936	940	938	
Apr 7	936	936	935	934	934	933	933	933	932	932	932	931	931	930	930	929	929	928	928	927	927	927	926	926	926	936	931	
Apr 8	926	925	925	924	924	924	924	924	925	925	925	926	926	926	926	926	926	926	926	925	926	926	926	926	924	926	925	
Apr 9	927	927	927	928	929	930	930	932	933	933	934	934	933	933	932	932	931	930	929	928	926	926	925	924	923	923	934	930
Apr 10	922	921	922	925	927	928	929	931	931	931	932	932	932	932	932	932	932	932	932	932	931	931	931	931	921	932	930	
Apr 11	931	930	929	929	929	929	928	928	928	928	928	928	927	927	927	927	927	927	927	927	926	927	927	927	926	931	928	
Apr 12	927	927	927	927	928	928	928	929	930	930	930	930	930	930	930	929	929	930	930	930	931	931	931	930	927	931	929	
Apr 13	930	930	930	930	930	930	930	932	932	932	933	932	932	932	932	932	932	932	932	932	932	932	932	932	930	933	931	
Apr 14	932	932	932	932	933	933	933	934	934	935	935	935	935	936	936	936	936	936	937	936	937	937	937	937	932	937	935	
Apr 15	937	937	937	938	938	938	939	940	941	941	941	941	941	941	941	941	941	941	940	940	939	939	938	938	937	941	940	
Apr 16	939	938	938	937	937	937	937	937	937	937	937	937	936	936	935	934	934	933	932	932	931	931	930	929	929	939	935	
Apr 17	929	928	927	926	926	925	925	925	925	924	923	923	923	923	923	922	921	921	920	920	920	920	921	920	929	929	924	
Apr 18	922	922	922	923	924	925	926	926	927	928	929	930	930	930	931	931	932	932	933	933	934	934	935	922	935	929	929	
Apr 19	936	936	936	937	937	938	939	939	940	941	941	941	942	942	943	943	944	944	944	945	945	946	946	946	936	946	941	
Apr 20	947	947	948	948	948	949	949	950	950	950	950	950	950	950	950	949	950	950	949	950	950	950	949	950	947	950	949	
Apr 21	949	950	949	950	950	950	951	951	952	952	952	952	952	952	952	951	951	950	950	950	949	949	948	948	948	952	950	
Apr 22	948	947	947	946	946	946	946	946	946	946	946	945	944	944	943	943	942	942	941	941	940	940	939	939	939	948	944	
Apr 23	939	938	938	938	938	938	938	938	938	938	938	937	937	936	936	935	935	935	935	935	934	934	934	934	934	939	936	
Apr 24	934	934	934	934	934	934	934	934	935	935	935	935	936	936	936	937	937	937	937	937	937	937	937	936	934	937	935	
Apr 25	936	936	935	935	935	935	935	935	935	934	934	934	933	933	933	933	934	932	933	933	933	933	934	934	932	936	934	
Apr 26	933	934	933	934	934	934	934	934	934	934	934	933	933	932	931	931	930	930	929	929	929	929	930	930	929	934	932	
Apr 27	931	931	932	933	933	934	936	937	938	939	939	939	939	940	940	940	940	940	940	939	939	939	938	938	931	940	937	
Apr 28	938	937	937	936	936	936	936	937	938	938	939	939	939	939	939	939	940	940	940	941	941	941	942	942	936	942	939	
Apr 29	943	943	943	944	944	945	946	947	947	947	947	947	946	946	945	945	944	944	943	943	943	943	943	943	943	947	945	
Apr 30	942	942	942	942	942	942	942	942	942	942	942	941	941	940	940	939	939	938	938	937	937	937	937	937	937	942	940	
Diurnal Maximum	949	950	949	950	950	950	951	951	952	952	952	952	952	952	952	951	951	950	950	950	950	950	949	950	949	950	950	
Diurnal Average	934	934	934	934	934	934	935	935	936	936	936	936	936	936	936	935	935	935	935	935	935	935	935	935	935	935	935	

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

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.



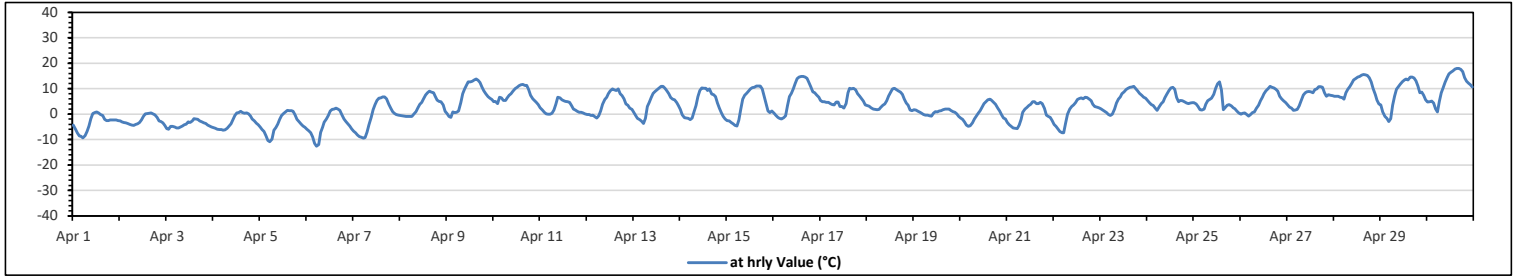
Lakeland Industry & Community Association
Tamarack Site - April 2023
Summary of Hourly Averages
AMBIENT TEMPERATURE (AT) in Degree Celsius

Maximum Hourly Value:	18.0 °C	on Apr 30 at hr 15	Hours in Service:	720
Maximum Daily Value:	11.3 °C	on Apr 30	Hours of Data:	720
Minimum Hourly Value:	-12.6 °C	on Apr 6 at hr 5	Hours of Missing Data:	0
Minimum Daily Value:	-4.1 °C	on Apr 3	Hours of Calibration:	0
Monthly Average:	3.1 °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
Apr 1	-4.3	-5.9	-7.5	-8.6	-8.7	-9.3	-8.4	-6.8	-4.7	-1.8	0.2	0.5	0.8	0.4	-0.1	-0.5	-2.1	-2.5	-2.5	-2.4	-2.3	-2.3	-2.4	-2.5	-9.3	0.8	-3.5
Apr 2	-2.7	-3.1	-3.3	-3.5	-3.7	-4	-4.3	-4.4	-4.1	-3.8	-3.3	-2.3	-0.9	0.1	0.2	0.3	0.4	0.1	-0.3	-1.3	-2.6	-2.9	-3.5	-4.4	-4.4	0.4	-2.4
Apr 3	-5.7	-5.9	-4.9	-4.9	-5.1	-5.4	-5.4	-5.1	-4.7	-4.2	-3.9	-3.1	-3.3	-2.7	-1.8	-2	-2.1	-2.7	-3.1	-3.5	-3.7	-4.3	-4.7	-5.1	-5.9	-1.8	-4.1
Apr 4	-5.3	-5.6	-5.9	-6.1	-6.1	-6.3	-6.2	-5.6	-4.7	-3.8	-2.2	-0.5	0.4	0.6	1.1	0.6	0.3	0.4	0.1	-0.8	-1.9	-2.7	-3.6	-4.2	-6.3	1.1	-2.8
Apr 5	-5.1	-6.1	-6.8	-8.5	-10.4	-10.8	-9.8	-6.4	-5.3	-3.9	-2.1	-0.6	0.2	0.8	1.5	1.4	1.4	1.1	-0.3	-2.1	-3.1	-3.9	-4.7	-5.2	-10.8	1.5	-3.7
Apr 6	-5.9	-6.6	-7.4	-9	-11.5	-12.6	-12	-7.2	-5.2	-3.2	-1.9	-0.5	1.3	1.8	2	2.3	2	1.5	-0.1	-1.9	-2.9	-3.8	-4.7	-5.8	-12.6	2.3	-3.8
Apr 7	-6.7	-7.4	-8.2	-8.9	-9.1	-9.4	-9.2	-7.1	-4.2	-1.2	1.7	3.8	5.4	6.2	6.4	6.8	6.8	6	3.9	2.3	1	0.3	-0.2	-0.4	-9.4	6.8	-0.9
Apr 8	-0.5	-0.7	-0.8	-1	-0.9	-1	-0.9	0	1	2.5	3.9	4.6	5.8	7.5	8.3	9	8.6	8.3	7	5.5	5	4.8	3.6	1.1	-1.0	9.0	3.4
Apr 9	0.2	-0.9	-1.3	0.9	0.6	0.7	1.2	4.4	8.1	9.9	11.1	12.6	12.6	12.9	13.4	13.7	13.3	12.4	10.7	9.2	8.1	6.9	6.3	5.7	-1.3	13.7	7.2
Apr 10	4.9	5	4.2	6.6	6.4	5.4	5.4	6.4	7.3	8.1	9	10	10.6	11.1	11.5	11.6	11.3	11.3	9.6	7.3	6	5.3	4.6	3.7	3.7	11.6	7.6
Apr 11	2.5	1.6	0.7	0.1	0	0	0.3	1.6	3.9	6.6	6.4	5.6	5.2	5	4.9	4.6	3.4	1.9	1.6	1.1	0.7	0.7	0.4	0.1	0.0	6.6	2.5
Apr 12	-0.1	-0.2	-0.5	-0.4	-1.1	-1.5	-0.7	1.3	3.9	5.7	6.6	8.1	9.2	9.9	9.5	9.3	9.8	8.1	7.2	6	4	3.5	2.4	1.8	-1.5	9.9	4.2
Apr 13	0.5	-0.7	-1.6	-2.2	-2.8	-3.7	-1.6	2.9	4.6	6.5	8.2	8.9	9.6	10.3	10.9	10.9	10.1	9.2	8.1	6.5	5.8	5.6	4.4	3.4	-3.7	10.9	4.7
Apr 14	1.8	-0.3	-1.4	-1.5	-1.7	-2.2	-1.5	1	3.4	6.9	9.3	10.3	10.2	10.1	9.3	9.8	7.9	7.7	6.9	4.3	2.3	0.6	-1	-2	-2.2	10.3	3.8
Apr 15	-2.5	-2.7	-3.3	-3.8	-4.4	-4.7	-2.3	2	5.8	7.4	8.2	9.2	9.9	10.4	10.6	11	11	11	9.9	7	4.2	1.3	0.5	1.2	-4.7	11.0	4.0
Apr 16	0.3	-0.5	-1.2	-1.7	-1.9	-1.4	-0.7	3.4	6.9	8.2	9.8	12	13.9	14.6	14.8	14.9	14.5	14	12.7	10.7	8.8	8.4	7.5	6.7	-1.9	14.9	7.3
Apr 17	5.4	4.8	4.8	4.6	4.6	4.1	3.8	3.6	4.7	4.7	3	3	2.4	4.1	8.3	10.1	9.9	10.2	9.5	8	7.1	6.1	5.1	3.6	2.4	10.2	5.6
Apr 18	3.4	3.1	2.5	1.9	1.8	1.7	1.8	2.6	3.5	4	5.2	7.1	8.8	9.8	10.1	9.6	9.1	8.6	7.8	5.9	4.3	3.5	1.6	1.4	1.4	10.1	5.0
Apr 19	1.7	1.6	1.1	0.7	0.3	-0.2	-0.4	-0.4	-0.7	-0.8	0.3	1	0.8	1.2	1.4	1.7	1.9	2	1.9	1.5	1	0.7	0.1	-0.9	-0.9	2.0	0.7
Apr 20	-1.5	-2.1	-3	-4.3	-4.8	-4.6	-3.5	-1.9	-0.8	0.3	1.4	2.8	4.2	4.8	5.6	5.8	5.4	4.6	3.9	2.4	1.2	-0.3	-1.5	-1.9	-4.8	5.8	0.5
Apr 21	-3.3	-4.2	-4.8	-5.4	-5.5	-5.7	-4.3	-2.1	0.7	1.9	2.6	3.4	3.9	4.8	4.8	4.2	4.2	4.6	4.2	2.2	-0.4	-1	-1.3	-2.5	-5.7	4.8	0.0
Apr 22	-4	-4.8	-5.8	-6.8	-7.3	-7.4	-3.6	0	2	2.9	3.6	4.5	5.7	6.1	6.4	6	6.6	6.5	5.9	5.2	3.9	3	2.7	2.5	-7.4	6.6	1.4
Apr 23	2.1	1.6	1.1	0.5	-0.1	-0.6	0	2	4.3	5.9	6.8	8	8.7	9.6	10.1	10.5	10.7	10.9	10	9.1	8.2	7.3	6.7	6.2	-0.6	10.9	5.8
Apr 24	5.4	4.4	3.7	3.4	2.4	1.5	2.9	4.1	4.8	6.4	7.8	9.3	10.3	10.5	9.7	6.5	4.8	5.4	5.2	4.8	4.3	4.2	4.3	4.4	1.5	10.5	5.4
Apr 25	4.5	4	2.9	1.7	1.6	1.9	3.9	5.2	5.7	6.2	7.8	10.1	11.9	12.6	9.5	1.7	2.6	3.5	3.8	3.2	2.5	2.1	1.2	0.4	0.4	12.6	4.6
Apr 26	0	0.3	0.4	-0.1	-0.8	-0.2	0.6	0.9	2.2	3.5	5.3	6.7	8.1	9.2	10	10.9	10.5	10.3	9.7	9	7	6	5.2	4.4	-0.8	10.9	5.0
Apr 27	3.6	2.7	2.4	1.5	1.6	1.8	3.2	5.2	7.5	8.4	8.7	8.9	8.7	8.4	9.6	9.9	10.8	10.8	10.6	8.3	7	7.6	7.4	7.2	1.5	10.8	6.7
Apr 28	7	7	7	6.7	6.5	5.9	8.3	9.7	10.8	12	13.4	13.9	14.5	14.9	15.3	15.6	15.4	15.1	14.3	12.7	10	7.6	5.5	4	4.0	15.6	10.5
Apr 29	3.6	0.9	-0.9	-1.7	-2.9	-1.8	3.5	7	9.7	10.8	11.8	12.8	13.4	13.8	13.5	14.6	14.5	14.1	13.1	11	8.4	8.6	7.4	5.6	-2.9	14.6	8.0
Apr 30	4.7	4.8	5.1	4.3	2.1	0.9	5	8.3	10.4	12.5	14.6	15.8	16.4	17	17.7	18	18	17.6	16.7	14.3	12.9	12.2	11.5	10.7	0.9	18.0	11.3
Diurnal Maximum	7.0	7.0	7.0	6.7	6.5	5.9	8.3	9.7	10.8	12.5	14.6	15.8	16.4	17.0	17.7	18.0	18.0	17.6	16.7	14.3	12.9	12.2	11.5	10.7			
Diurnal Average	0.1	-0.5	-1.1	-1.5	-2.0	-2.3	-1.2	0.8	2.6	4.0	5.1	6.2	7.0	7.5	7.8	7.6	7.4	7.1	6.3	4.9	3.6	2.8	2.0	1.3			

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

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.



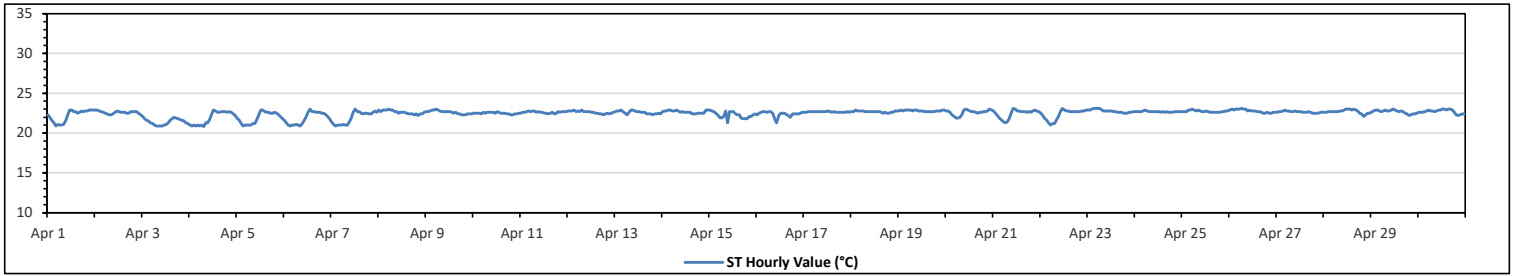
Lakeland Industry & Community Association
Tamarack Site - April 2023
Summary of Hourly Averages
STATION TEMPERATURE (ST) in Degree Celsius

Maximum Hourly Value:	23.1 °C	on Apr 21 at hr 10	Hours in Service:	720
Maximum Daily Value:	22.8 °C	on Apr 19	Hours of Data:	720
Minimum Hourly Value:	20.8 °C	on Apr 4 at hr 7	Hours of Missing Data:	0
Minimum Daily Value:	21.4 °C	on Apr 3	Hours of Calibration:	0
Monthly Average:	22.5 °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
Apr 1	22.3	22.0	21.6	21.3	20.9	21.1	21.0	21.0	21.1	21.6	22.3	22.9	22.9	22.7	22.7	22.5	22.6	22.8	22.7	22.8	22.8	22.9	22.9	22.9	20.9	22.9	22.2
Apr 2	22.9	22.9	22.8	22.7	22.6	22.5	22.4	22.3	22.3	22.4	22.6	22.8	22.7	22.6	22.6	22.6	22.5	22.5	22.7	22.7	22.7	22.7	22.5	22.3	22.3	22.9	22.6
Apr 3	22.1	21.8	21.6	21.5	21.3	21.2	21.0	20.9	20.9	20.9	20.9	21.0	21.1	21.3	21.6	21.8	22.0	21.9	21.8	21.7	21.6	21.5	21.3	21.2	20.9	22.1	21.4
Apr 4	21.0	20.9	21.0	20.9	21.0	20.9	21.0	20.8	21.3	21.3	21.7	22.3	22.9	22.8	22.6	22.6	22.7	22.7	22.7	22.6	22.7	22.6	22.4	22.2	20.8	22.9	21.9
Apr 5	21.9	21.6	21.2	20.9	21.0	21.0	21.0	21.0	21.2	21.2	21.6	22.3	22.9	22.9	22.7	22.6	22.6	22.5	22.5	22.6	22.5	22.3	22.1	21.8	20.9	22.9	21.9
Apr 6	21.6	21.3	21.0	20.9	21.0	21.0	21.1	21.0	20.9	21.2	21.5	22.0	22.6	23.0	22.7	22.7	22.6	22.6	22.6	22.5	22.5	22.3	22.1	21.8	20.9	23.0	21.9
Apr 7	21.4	21.1	20.9	21.0	21.0	21.0	21.1	21.0	21.0	21.4	21.9	22.6	23.0	22.7	22.7	22.5	22.4	22.5	22.5	22.4	22.4	22.6	22.8	22.6	20.9	23.0	21.9
Apr 8	22.9	22.7	22.9	22.9	22.9	23.0	22.9	22.9	22.7	22.7	22.5	22.6	22.6	22.6	22.5	22.4	22.4	22.4	22.3	22.4	22.2	22.4	22.4	22.6	22.2	23.0	22.6
Apr 9	22.7	22.7	22.8	22.9	22.9	23.0	22.9	22.8	22.7	22.7	22.7	22.7	22.7	22.6	22.5	22.6	22.4	22.4	22.3	22.3	22.3	22.4	22.4	22.4	22.3	23.0	22.6
Apr 10	22.5	22.5	22.5	22.5	22.4	22.6	22.5	22.6	22.6	22.6	22.6	22.5	22.7	22.6	22.5	22.5	22.4	22.4	22.3	22.3	22.3	22.4	22.4	22.5	22.3	22.7	22.5
Apr 11	22.5	22.6	22.6	22.7	22.8	22.7	22.8	22.8	22.6	22.7	22.6	22.6	22.5	22.5	22.4	22.5	22.6	22.4	22.5	22.7	22.6	22.7	22.7	22.7	22.4	22.8	22.6
Apr 12	22.8	22.8	22.8	22.9	22.7	22.8	22.7	22.9	22.7	22.7	22.7	22.7	22.6	22.6	22.5	22.4	22.4	22.3	22.4	22.5	22.4	22.5	22.6	22.6	22.3	22.9	22.6
Apr 13	22.7	22.8	22.8	22.9	22.7	22.5	22.3	22.6	22.9	22.8	22.7	22.7	22.6	22.6	22.6	22.6	22.4	22.4	22.4	22.3	22.4	22.4	22.5	22.4	22.3	22.9	22.6
Apr 14	22.7	22.8	22.8	22.9	22.9	22.8	22.8	22.9	22.8	22.6	22.7	22.6	22.6	22.6	22.6	22.4	22.4	22.4	22.5	22.5	22.5	22.9	22.9	22.4	22.4	22.9	22.7
Apr 15	22.9	22.8	22.7	22.5	22.3	22.0	21.9	22.1	22.8	21.3	22.7	22.7	22.7	22.4	22.3	22.3	21.9	21.8	21.8	21.8	22.1	22.1	22.3	22.4	21.3	22.9	22.3
Apr 16	22.3	22.5	22.6	22.7	22.7	22.6	22.7	22.7	22.4	21.7	21.3	22.2	22.5	22.5	22.5	22.3	22.2	22.0	22.4	22.4	22.4	22.4	22.5	22.6	21.3	22.7	22.4
Apr 17	22.6	22.6	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.8	22.7	22.6	22.7	22.6	22.6	22.6	22.6	22.6	22.6	22.6	22.7	22.6	22.6	22.8
Apr 18	22.7	22.7	22.9	22.8	22.8	22.8	22.8	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.6	22.5	22.6	22.5	22.5	22.5	22.6	22.6	22.8	22.8	22.5	22.9	22.7
Apr 19	22.8	22.9	22.8	22.9	22.9	22.9	22.9	22.8	22.9	22.9	22.8	22.8	22.8	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.8	22.8	22.9	22.9	22.7	22.9	22.8
Apr 20	22.8	22.8	22.6	22.3	22.1	21.9	21.9	22.0	22.3	22.9	23.0	22.9	22.8	22.7	22.7	22.6	22.5	22.6	22.6	22.7	22.7	22.8	23.0	22.9	21.9	23.0	22.6
Apr 21	22.8	22.5	22.2	21.9	21.7	21.4	21.3	21.4	21.8	22.5	23.1	23.0	22.8	22.8	22.7	22.7	22.6	22.6	22.7	22.6	22.8	22.9	22.8	22.7	21.3	23.1	22.4
Apr 22	22.5	22.2	21.9	21.6	21.3	21.0	21.2	21.2	21.6	22.1	22.7	23.1	22.9	22.8	22.8	22.7	22.7	22.7	22.7	22.7	22.7	22.8	22.8	22.9	21.0	23.1	22.3
Apr 23	22.9	22.9	23.0	23.1	23.1	23.1	23.1	22.9	22.8	22.8	22.8	22.8	22.8	22.7	22.7	22.6	22.6	22.6	22.5	22.5	22.5	22.6	22.6	22.7	22.5	23.1	22.8
Apr 24	22.7	22.7	22.7	22.7	22.8	22.9	22.8	22.7	22.7	22.7	22.7	22.7	22.7	22.6	22.6	22.6	22.6	22.6	22.6	22.6	22.7	22.7	22.7	22.7	22.6	22.9	22.7
Apr 25	22.7	22.7	22.7	22.9	22.9	23.0	22.9	22.8	22.9	22.8	22.7	22.7	22.8	22.7	22.6	22.6	22.6	22.6	22.6	22.6	22.6	22.7	22.7	22.8	22.6	23.0	22.7
Apr 26	22.9	23.0	22.9	23.0	23.0	23.0	23.1	23.0	23.0	22.8	22.9	22.8	22.8	22.8	22.7	22.7	22.6	22.5	22.5	22.6	22.5	22.6	22.5	22.6	22.5	23.1	22.8
Apr 27	22.6	22.7	22.7	22.8	22.9	22.8	22.8	22.7	22.7	22.8	22.7	22.7	22.7	22.6	22.6	22.6	22.6	22.5	22.5	22.5	22.5	22.5	22.6	22.6	22.5	22.9	22.7
Apr 28	22.6	22.6	22.7	22.7	22.7	22.7	22.7	22.7	22.8	22.8	22.9	23.0	23.0	23.0	22.9	23.0	22.9	22.8	22.5	22.4	22.1	22.3	22.5	22.5	22.1	23.0	22.7
Apr 29	22.6	22.8	22.9	22.9	22.8	22.7	22.8	22.9	22.8	22.8	22.9	23.0	22.9	22.8	22.7	22.8	22.7	22.5	22.4	22.2	22.3	22.4	22.4	22.5	22.2	23.0	22.7
Apr 30	22.6	22.6	22.6	22.7	22.8	22.9	22.8	22.8	22.7	22.8	22.9	22.9	23.0	23.0	22.9	23.0	23.0	22.9	22.6	22.3	22.2	22.3	22.4	22.4	22.2	23.0	22.7
Diurnal Maximum	22.9	23.0	23.0	23.1	23.1	23.1	23.0	23.0	22.9	23.1	23.1	23.0	23.0	22.9	23.0	23.0	22.9	22.7	22.8	22.8	22.9	23.0	22.9	22.9	21.3	23.1	22.4
Diurnal Average	22.5	22.5	22.4	22.4	22.3	22.3	22.3	22.3	22.3	22.3	22.5	22.6	22.7	22.7	22.6	22.6	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	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
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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 - April 2023
Summary of Hourly Averages

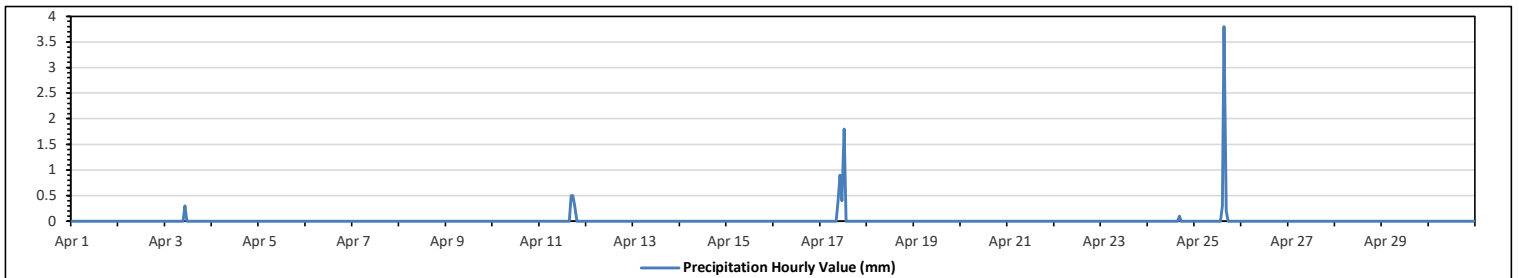
PRECIPITATION in mm

Maximum Hourly Value:	3.8 mm on Apr 25 at hr 15	Hours in Service:	720
Maximum Daily Value:	4.3 mm on Apr 25	Hours of Data:	720
Minimum Hourly Value:	0.0 mm on Apr 1 at hr 0	Hours of Missing Data:	0
Minimum Daily Value:	0.0 mm on Apr 1	Hours of Calibration:	0
Monthly Total:	9.5 mm	Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Total		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Apr 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	
Apr 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	0.0
Apr 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	0.3	0.3
Apr 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	0.0
Apr 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	0.0
Apr 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	0.0
Apr 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	0.0
Apr 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	0.0
Apr 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	0.0
Apr 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	0.0
Apr 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.5	0.3	0	0	0	0	0	0.0	0.5	1.3
Apr 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	0.0
Apr 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	0.0
Apr 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Apr 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	0.0
Apr 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	0.0
Apr 17	0	0	0	0	0	0	0	0	0	0	0.4	0.9	0.4	1.8	0	0	0	0	0	0	0	0	0	0	0	0.0	1.8	3.5
Apr 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	0.0
Apr 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	0.0
Apr 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	0.0
Apr 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	0.0
Apr 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	0.0
Apr 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	0.0
Apr 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0.0	0.1	0.1
Apr 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	3.8	0.2	0	0	0	0	0	0	0	0	0.0	3.8	4.3
Apr 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	0.0
Apr 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	0.0
Apr 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	0.0
Apr 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	0.0
Apr 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	0.0
Diurnal Maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.9	0.4	1.8	0.0	0.3	3.8	0.5	0.5	0.3	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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

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 - April 2023

Summary of Hourly Averages

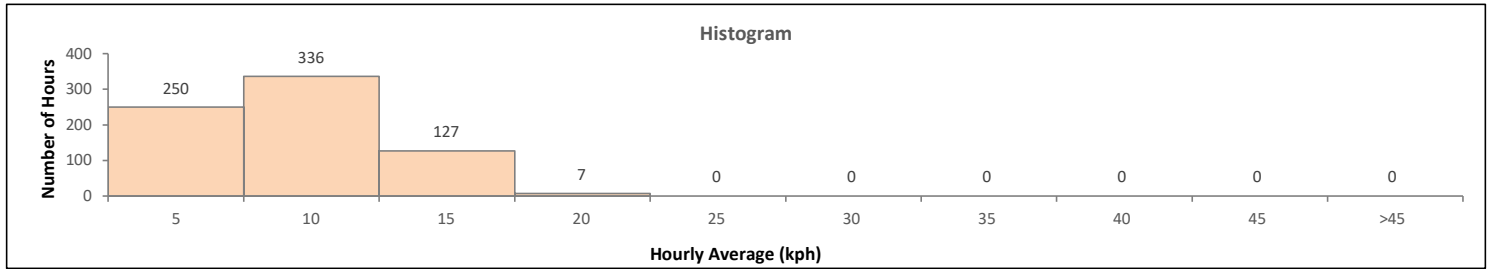
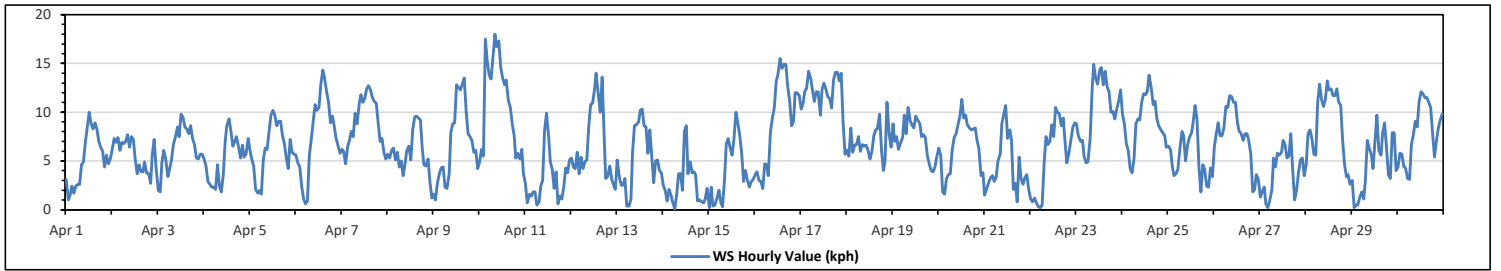
VECTOR WIND SPEED (VWS) in km/hr

Maximum Hourly Value:	18.0 kph	on Apr 10 at hr 8	Hours in Service:	720
Maximum Daily Value:	11.9 kph	on Apr 17	Hours of Data:	720
Minimum Hourly Value:	0.1 kph	on Apr 14 at hr 6	Hours of Missing Data:	0
Minimum Daily Value:	2.7 kph	on Apr 14	Hours of Calibration:	0
Monthly Average:	3.0 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
Apr 1	3.1	1.0	1.6	2.4	1.7	2.4	2.6	2.6	4.6	4.9	6.9	8.7	10.0	8.8	8.3	8.9	8.3	7.0	6.4	6.0	4.4	5.6	4.7	5.2	1.0	10.0	5.3
Apr 2	6.2	7.3	6.9	7.4	6.1	6.9	6.8	7.0	7.7	6.4	7.5	7.2	5.4	3.7	4.6	3.9	3.9	4.9	3.8	3.7	2.7	5.6	7.2	4.3	2.7	7.7	5.7
Apr 3	2.0	1.8	4.8	6.1	5.2	3.4	4.1	5.1	6.7	7.4	8.5	7.5	9.8	9.5	8.5	8.3	7.8	8.6	7.3	6.7	5.3	5.2	5.7	5.7	1.8	9.8	6.3
Apr 4	5.2	4.5	2.9	2.6	2.3	2.3	2.1	4.6	2.4	1.8	3.6	7.0	8.6	9.3	8.0	6.5	6.9	7.5	6.4	5.3	6.6	5.4	5.7	7.3	1.8	9.3	5.2
Apr 5	6.0	5.2	4.5	2.1	1.7	2.0	1.6	5.1	6.3	6.2	8.0	9.7	10.2	9.7	8.6	9.1	9.1	7.6	6.8	5.3	4.2	7.2	5.9	5.7	1.6	10.2	6.2
Apr 6	5.6	4.8	4.4	2.4	1.1	0.6	0.9	5.6	7.2	9.1	10.8	10.2	10.5	12.9	14.3	13.6	12.3	11.0	8.9	9.6	8.7	7.4	6.5	5.8	0.6	14.3	7.7
Apr 7	6.2	6.0	4.7	6.5	7.2	8.0	7.5	9.9	8.8	10.9	11.8	11.0	11.4	12.4	12.7	12.3	11.5	11.1	10.9	8.9	7.0	7.3	5.9	5.2	4.7	12.7	9.0
Apr 8	5.7	5.3	6.1	6.3	5.1	5.9	4.4	5.0	3.5	4.7	6.0	6.5	5.1	8.2	9.5	9.6	9.4	9.2	6.2	4.6	4.5	5.2	2.8	1.2	1.2	9.6	5.8
Apr 9	1.6	1.0	2.7	3.8	4.3	4.4	2.3	2.2	3.7	7.9	8.8	8.9	12.8	12.5	12.3	12.9	13.5	10.1	7.8	7.5	7.1	5.9	6.1	4.2	1.0	13.5	6.8
Apr 10	4.9	6.2	5.5	17.5	15.2	13.8	13.4	15.7	18.0	16.7	17.3	14.6	13.5	12.8	13.3	11.2	10.5	8.8	7.6	5.3	5.8	5.2	6.2	3.7	3.7	18.0	10.9
Apr 11	2.7	0.7	1.6	1.4	1.8	1.8	0.5	0.8	2.4	3.0	8.1	9.9	7.4	4.9	4.1	2.2	3.9	0.6	1.4	1.1	2.3	4.3	3.8	5.1	0.5	9.9	3.2
Apr 12	5.3	4.4	4.2	5.9	3.7	5.4	4.2	4.9	5.1	8.5	10.8	10.9	12.3	14.0	11.8	10.0	13.6	7.8	3.2	3.4	4.5	3.1	2.6	2.1	2.1	14.0	6.7
Apr 13	5.1	3.3	2.5	2.5	3.2	0.4	0.4	1.1	5.9	8.6	8.7	9.0	10.2	10.3	8.6	8.5	5.8	8.2	5.5	2.8	5.0	5.1	4.0	3.8	0.4	10.3	5.4
Apr 14	2.5	2.0	0.9	2.1	1.5	0.7	0.1	1.6	3.7	3.7	2.0	8.0	8.6	3.7	4.9	3.8	3.9	3.6	0.9	1.0	0.8	0.7	1.1	2.2	0.1	8.6	2.7
Apr 15	0.2	2.3	0.4	0.5	1.1	2.0	0.7	0.3	2.9	6.8	7.3	6.3	5.6	7.3	10.0	8.9	7.6	5.8	2.9	4.0	3.0	2.3	2.9	3.1	0.2	10.0	3.9
Apr 16	3.6	3.9	3.0	2.9	2.2	4.7	4.6	3.5	8.0	9.4	10.5	13.2	13.8	15.5	14.5	14.9	14.9	12.9	11.1	8.6	9.1	12.0	12.0	11.7	2.2	15.5	9.2
Apr 17	10.3	10.9	12.1	12.5	14.2	13.4	12.3	11.1	12.1	12.1	9.7	12.3	13.0	12.4	11.6	11.4	10.4	13.3	14.1	14.1	13.2	14.0	8.9	5.7	5.7	14.2	11.9
Apr 18	6.1	5.5	8.4	5.9	6.6	6.7	7.5	6.0	6.7	6.5	6.6	6.2	5.2	6.0	7.6	8.2	8.3	9.8	6.1	4.0	5.0	11.0	7.7	6.4	4.0	11.0	6.8
Apr 19	8.8	7.0	7.5	6.2	6.9	7.4	9.7	7.8	10.5	9.1	8.7	8.4	9.6	9.2	8.8	7.5	7.7	7.4	5.6	4.7	4.0	3.9	4.4	5.5	3.9	10.5	7.3
Apr 20	6.3	5.6	1.8	1.6	3.2	3.6	3.7	6.2	7.4	7.8	8.7	9.6	11.3	9.4	9.7	8.7	8.4	8.2	8.3	8.4	7.2	6.3	3.5	3.8	1.6	11.3	6.6
Apr 21	1.5	2.1	2.7	3.3	3.5	2.9	3.3	5.0	5.7	8.8	9.8	10.7	7.3	8.2	7.2	2.1	2.7	0.8	5.4	3.2	2.6	3.3	3.6	2.1	0.8	10.7	4.5
Apr 22	1.1	0.8	1.2	0.7	0.3	0.2	0.5	4.7	7.5	6.7	7.0	8.7	7.5	10.5	10.0	9.9	8.6	9.4	6.8	4.8	5.7	7.2	8.5	8.9	0.2	10.5	5.7
Apr 23	8.8	7.6	7.0	7.1	5.5	4.8	4.9	7.3	12.2	14.9	13.5	12.9	14.3	14.6	12.8	14.2	12.6	12.1	10.0	10.1	9.3	10.3	11.1	12.3	4.8	14.9	10.4
Apr 24	9.8	8.8	6.8	6.1	4.2	3.8	5.2	8.8	9.3	9.2	11.0	11.9	11.8	12.2	13.8	12.5	10.8	11.1	9.4	8.6	8.2	7.9	7.6	6.4	3.8	13.8	9.0
Apr 25	6.5	6.2	4.4	3.5	3.7	4.1	6.4	8.0	7.6	5.0	6.5	7.4	7.9	9.0	10.7	9.2	4.4	1.8	4.6	4.1	2.4	2.3	4.3	3.4	1.8	10.7	5.6
Apr 26	6.4	7.8	8.9	7.6	7.6	8.4	10.6	10.5	11.7	11.6	11.0	11.0	9.0	8.1	7.8	7.1	7.8	7.8	7.2	5.7	1.8	2.1	3.6	3.2	1.8	11.7	7.7
Apr 27	1.3	1.9	2.3	0.6	0.2	0.9	2.1	5.3	4.4	5.8	5.6	5.9	7.1	6.7	5.3	5.5	7.8	4.0	1.0	2.0	3.8	5.1	5.3	3.5	0.2	7.8	3.9
Apr 28	4.6	7.8	8.2	7.3	5.7	5.6	11.0	12.9	11.3	10.6	11.3	13.2	12.3	12.4	11.7	11.7	12.4	11.1	10.7	7.1	4.6	3.4	3.6	2.6	2.6	13.2	8.9
Apr 29	3.0	0.2	0.5	0.5	1.2	1.8	1.1	3.0	7.1	6.3	5.6	4.2	7.0	9.7	6.1	5.6	7.9	8.9	6.4	3.6	3.2	7.9	7.9	4.0	0.2	9.7	4.7
Apr 30	4.4	5.8	5.7	4.5	4.2	3.2	3.1	6.7	7.7	9.1	8.5	11.1	12.1	11.9	11.5	11.5	11.1	10.5	7.9	5.4	7.0	8.2	9.1	9.8	3.1	12.1	7.9
Diurnal Maximum	10.3	10.9	12.1	17.5	15.2	13.8	13.4	15.7	18.0	16.7	17.3	14.6	14.3	15.5	14.5	14.9	14.9	13.3	14.1	14.1	13.2	14.0	12.0	12.3			
Diurnal Average	4.8	4.6	4.5	4.7	4.3	4.4	4.6	5.9	7.3	8.0	8.7	9.4	9.7	9.9	9.6	9.0	8.8	8.0	6.7	5.7	5.3	6.0	5.7	5.1			

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

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.

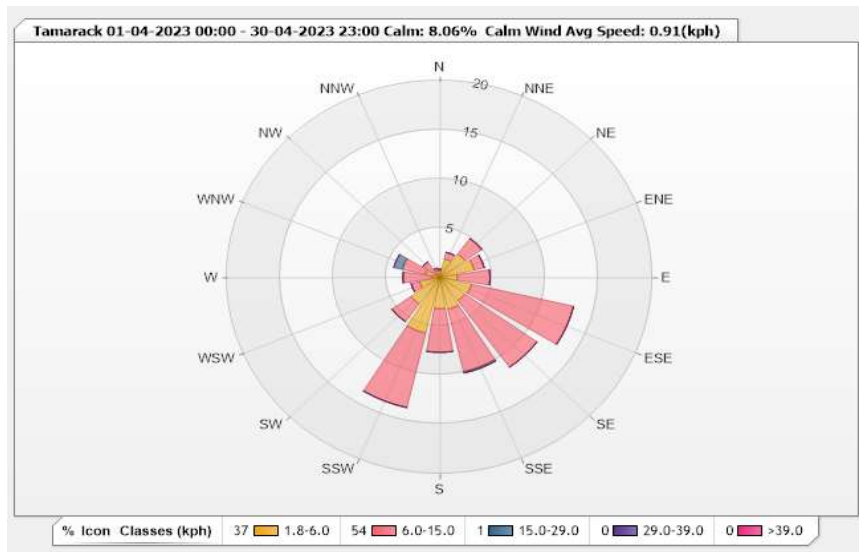


Station: Tamarack Monitor: WDS [kph] Monthly: 04-2023

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

Calm (WS<1.8kph): 8.06% Valid Data: 100.00%

Direction	1.8-6.0	6.0-15.0	15.0-29.0	29.0-39.0	>39.0	Total
N	0.69	0.14	0	0	0	0.83
NNE	1.94	0.69	0	0	0	2.63
NE	2.92	1.94	0	0	0	4.86
ENE	3.33	0.97	0	0	0	4.3
E	1.67	3.06	0	0	0	4.73
ESE	3.06	9.86	0	0	0	12.92
SE	2.92	8.33	0	0	0	11.25
SSE	3.33	6.53	0.14	0	0	10
S	3.19	4.44	0	0	0	7.63
SSW	5.83	7.78	0	0	0	13.61
SW	3.33	2.22	0	0	0	5.55
WSW	1.94	0.83	0	0	0	2.77
W	0.69	2.78	0	0	0	3.47
WNW	1.39	2.22	0.83	0	0	4.44
NW	0.42	1.53	0	0	0	1.95
NNW	0.69	0.28	0	0	0	0.97
Summary	37.34	53.6	0.97	0	0	91.91



Lakeland Industry & Community Association

Tamarack Site - April 2023

Summary of Hourly Averages

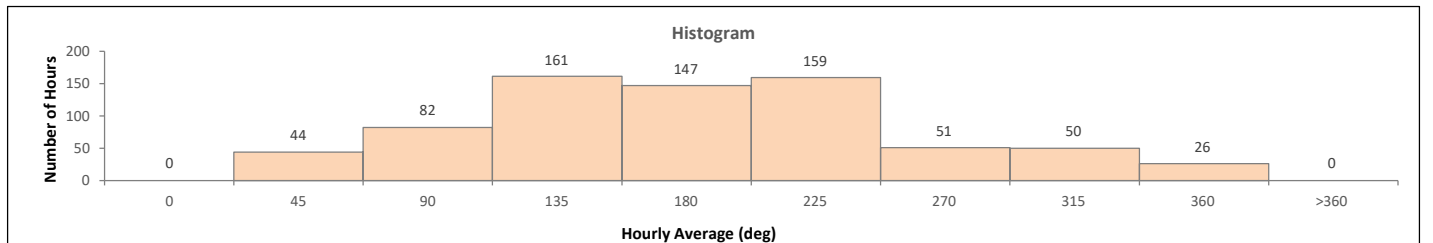
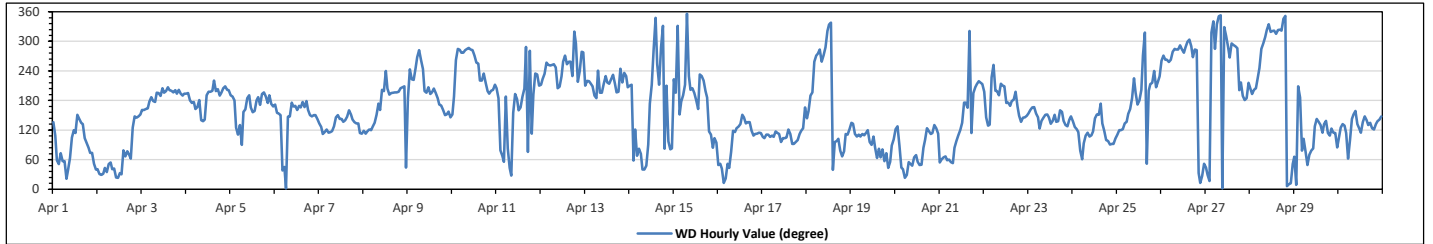
WIND DIRECTION (VWD) in sector

Monthly Average:	156 (SSE) degree	Hours in Service:	720
		Hours of Data:	720
		Hours of Missing Data:	0
		Hours of Calibration:	0
		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Average			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Degree	Quadrant	
Apr 1	SE	ESE	ENE	NE	ENE	ENE	ENE	NNE	NE	ENE	ESE	ESE	ESE	SSE	SE	SE	SE	ESE	E	E	ENE	ENE	NE	NE	100	E	
Apr 2	NE	NNE	NNE	NNE	NE	NE	NE	NE	NE	NE	NNE	NNE	NNE	NNE	ENE	ENE	ENE	ENE	ENE	SE	SE	SE	SE	SSE	55	NE	
Apr 3	SSE	SSE	SSE	SSE	S	S	S	S	SSW	SSW	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	SSW	192	S	
Apr 4	SSW	SSW	S	S	SSE	SSE	S	SE	SE	SE	S	SSW	SSW	SSW	SSW	SSW	SSW	S	SSW	SSW	SSW	SSW	SSW	SSW	193	S	
Apr 5	S	S	S	SE	ESE	SE	E	SSE	SSE	S	S	SSE	SSE	SSE	S	S	S	S	SSW	S	S	S	S	SSE	175	S	
Apr 6	S	SSE	SSE	SSE	NE	NE	N	SE	SE	S	SSE	SSE	SSE	SSE	S	SSE	S	SSE	SSE	SE	SE	SSE	SSE	SE	162	SSE	
Apr 7	SE	SE	ESE	ESE	ESE	ESE	ESE	ESE	SE	SE	SSE	SE	SE	SE	SE	SE	SSE	SSE	SE	SE	SE	SE	ESE	ESE	135	SE	
Apr 8	ESE	ESE	ESE	ESE	ESE	SE	SE	SSE	S	SSE	SSW	SSW	SSW	SSW	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	NE	176	S
Apr 9	S	WSW	SW	SW	WSW	W	W	W	WSW	SSW	SSW	SSW	S	SSW	SSW	SSW	S	SSE	SSE	SSE	SSE	SSE	SE	SE	192	S	
Apr 10	SSE	S	W	WNW	W	W	W	W	WNW	WNW	W	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	260	WSW	
Apr 11	SSW	S	ENE	ENE	NE	S	E	NE	NNE	SSE	S	SSE	SSE	S	SSW	WNW	ENE	W	ESE	S	SW	SW	SSW	188	S		
Apr 12	SSW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	247	WSW	
Apr 13	SSW	SW	SW	SSW	SSW	S	S	WSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	215	SSW	
Apr 14	SSW	SSW	ENE	ESE	ENE	E	ENE	NE	NE	E	S	SSW	WNW	NNW	WSW	SSW	WNW	NNW	E	SSW	E	E	E	E	196	SSW	
Apr 15	SW	SSW	NNW	SSE	S	S	SSW	N	SW	SSW	SSW	S	SSE	SW	SW	SW	SSW	S	ESE	ESE	E	ESE	E	E	193	S	
Apr 16	NE	NE	NE	NNE	NNE	NE	NE	ENE	ESE	ESE	ESE	SE	ESE	ESE	SE	SE	SE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	119	ESE	
Apr 17	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	E	ESE	ESE	ESE	ESE	E	E	E	ESE	ESE	ESE	ESE	ESE	ESE	108	ESE	
Apr 18	SE	SSE	S	SSW	WSW	W	W	WNW	WSW	W	WNW	NW	NNW	NNW	NE	E	E	E	ENE	ENE	ENE	ESE	ESE	ESE	125	SE	
Apr 19	SE	SE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	E	ESE	E	ENE	E	ENE	E	ENE	E	ENE	ENE	NE	NE	E	E	97	E	
Apr 20	ESE	SE	E	NE	NE	NNE	NNE	NE	NE	NE	ENE	ENE	NE	NE	E	E	ESE	ESE	ESE	ESE	SE	ESE	ESE	ESE	81	E	
Apr 21	NE	ENE	ENE	ENE	ENE	NE	NE	E	ESE	ESE	SE	S	SSE	NW	ESE	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	125	SE	
Apr 22	SSW	SE	SE	SE	SW	WSW	SSW	S	SSW	SSW	SSW	S	S	SSE	S	S	SSW	SSE	SSE	SE	SE	SE	SE	SSE	176	S	
Apr 23	SSE	SSE	SSE	SSE	SE	ESE	SE	SE	SSE	SSE	SE	SE	SE	SSE	SE	SE	SSE	SSE	SE	SE	SE	SE	SE	SE	145	SE	
Apr 24	SE	SE	ESE	ESE	ENE	ENE	E	ESE	ESE	ESE	ESE	SE	SSE	SSE	S	SE	ESE	E	E	E	E	E	E	ESE	120	ESE	
Apr 25	ESE	ESE	ESE	ESE	SE	SE	SSE	SSE	S	SW	SSW	S	S	SSW	W	NW	NE	SSW	SSW	SW	WSW	SSW	SW	SW	185	S	
Apr 26	W	W	W	W	WSW	W	W	WNW	WNW	WNW	WNW	WNW	W	WNW	WNW	WNW	WNW	W	WNW	W	NNE	NNE	NNE	NE	283	W	
Apr 27	NE	NNE	NNE	NW	NNW	WNW	NNW	N	N	NNW	NW	NNW	W	WNW	WNW	WNW	WNW	WNW	SSW	SW	S	S	S	SW	295	WNW	
Apr 28	SSW	S	SSW	SSW	SW	WSW	WNW	WNW	NW	NNW	NW	NW	NW	NW	NW	NW	NNW	N	N	N	NNE	NE	NE	311	NW		
Apr 29	ENE	N	SSW	S	ENE	E	ENE	NE	ENE	ENE	E	SE	SE	SE	SE	ESE	SE	SE	ESE	ESE	ESE	ESE	ESE	ESE	112	ESE	
Apr 30	ESE	SE	SE	SE	ESE	ENE	E	SE	SSE	SE	ESE	ESE	SE	SE	SE	SE	SE	SE	ESE	ESE	SE	SE	SE	SE	133	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
X InValid Data (Machine Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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 - April 2023

Summary of Hourly Averages

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

WIND SPEED			
Maximum Hourly Value:	18.0 kph	on Apr 10 at hr 8	Hours in Service: 720
Maximum Daily Value:	11.9 kph	on Apr 17	Hours of Data: 720
Minimum Hourly Value:	0.1 kph	on Apr 14 at hr 6	Hours of Missing Data: 0
Minimum Daily Value:	2.7 kph	on Apr 14	Hours of Calibration: 0
Monthly Average:	3.0 kph		Operational Uptime: 100.0

WIND DIRECTION			
Monthly Average:	156 degree (SSE)		

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
Apr 1	3.1	1.0	1.6	2.4	1.7	2.4	2.6	2.6	4.6	4.9	6.9	8.7	10.0	8.8	8.3	8.9	8.3	7.0	6.4	6.0	4.4	5.6	4.7	5.2	1.0	10.0	5.3
Apr 2	6.2	7.3	6.9	7.4	6.1	6.9	6.8	7.0	7.7	6.4	7.5	7.2	5.4	3.7	4.6	3.9	3.9	4.9	3.8	3.7	2.7	5.6	7.2	4.3	2.7	7.7	5.7
Apr 3	2.0	1.8	4.8	6.1	5.2	3.4	4.1	5.1	6.7	7.4	8.5	7.5	9.8	9.5	8.5	8.3	7.8	8.6	7.3	6.7	5.3	5.2	5.7	5.7	1.8	9.8	6.3
Apr 4	5.2	4.5	2.9	2.6	2.3	2.1	4.6	2.4	1.8	3.6	7.0	8.6	9.3	8.0	6.5	6.9	7.5	6.4	5.3	6.6	5.4	5.7	7.3	7.3	1.8	9.3	5.2
Apr 5	6.0	5.2	4.5	2.1	1.7	2.0	1.6	5.1	6.3	6.2	8.0	9.7	10.2	9.7	8.6	9.1	9.1	7.6	6.8	5.3	4.2	7.2	5.9	5.7	1.6	10.2	6.2
Apr 6	5.6	4.8	4.4	2.4	1.1	0.6	0.9	5.6	7.2	9.1	10.8	10.2	10.5	12.9	14.3	13.6	12.3	11.0	8.9	9.6	8.7	7.4	6.5	5.8	0.6	14.3	7.7
Apr 7	6.2	6.0	4.7	6.5	7.2	8.0	7.5	9.9	8.8	10.9	11.8	11.0	11.4	12.4	12.7	12.3	11.5	11.1	10.9	8.9	7.0	7.3	5.9	5.2	4.7	12.7	9.0
Apr 8	5.7	5.3	6.1	6.3	5.1	5.9	4.4	5.0	3.5	4.7	6.0	6.5	5.1	8.2	9.5	9.6	9.4	9.2	6.2	4.6	4.5	5.2	2.8	1.2	1.2	9.6	5.8
Apr 9	1.6	1.0	2.7	3.8	4.3	4.4	2.3	2.2	3.7	7.9	8.8	8.9	12.8	12.5	12.3	12.9	13.5	10.1	7.8	7.5	7.1	5.9	6.1	4.2	1.0	13.5	6.8
Apr 10	4.9	6.2	5.5	17.5	15.2	13.8	13.4	15.7	18.0	16.7	17.3	14.6	13.5	12.8	13.3	11.2	10.5	8.8	7.6	5.3	5.8	5.2	6.2	3.7	3.7	18.0	10.9
Apr 11	2.7	0.7	1.6	1.4	1.8	1.8	0.5	0.8	2.4	3.0	8.1	9.9	7.4	4.9	4.1	2.2	3.9	0.6	1.4	1.1	2.3	4.3	3.8	5.1	0.5	9.9	3.2
Apr 12	5.3	4.4	4.2	5.9	3.7	5.4	4.2	4.9	5.1	8.5	10.8	10.9	12.3	14.0	11.8	10.0	13.6	7.8	3.2	3.4	4.5	3.1	2.6	2.1	2.1	14.0	6.7
Apr 13	5.1	3.3	2.5	2.5	3.2	0.4	0.4	1.1	5.9	8.6	8.7	9.0	10.2	10.3	8.6	8.5	5.8	8.2	5.5	2.8	5.0	5.1	4.0	3.8	0.4	10.3	5.4
Apr 14	2.5	2.0	0.9	2.1	1.5	0.7	0.1	1.6	3.7	3.7	2.0	8.0	8.6	3.7	4.9	3.8	3.9	3.6	0.9	1.0	0.8	0.7	1.1	2.2	0.1	8.6	2.7
Apr 15	0.2	2.3	0.4	0.5	1.1	2.0	0.7	0.3	2.9	6.8	7.3	6.3	5.6	7.3	10.0	8.9	7.6	5.8	2.9	4.0	3.0	2.3	2.9	3.1	0.2	10.0	3.9
Apr 16	3.6	3.9	3.0	2.9	2.2	4.7	4.6	3.5	8.0	9.4	10.5	13.2	13.8	15.5	14.5	14.9	14.9	12.9	11.1	8.6	9.1	12.0	11.0	11.7	2.2	15.5	9.2
Apr 17	10.3	10.9	12.1	12.5	14.2	13.4	12.3	11.1	12.1	12.1	9.7	12.3	13.0	12.4	11.6	11.4	10.4	13.3	14.1	14.1	13.2	14.0	8.9	5.7	5.7	14.2	11.9
Apr 18	6.1	5.5	8.4	5.9	6.6	6.7	7.5	6.0	6.7	6.5	6.6	6.2	5.2	6.0	7.6	8.2	8.3	9.8	6.1	4.0	5.0	11.0	7.7	6.4	4.0	11.0	6.8
Apr 19	8.8	7.0	7.5	6.2	6.9	7.4	9.7	7.8	10.5	9.1	8.7	8.4	9.6	9.2	8.8	7.5	7.7	7.4	5.6	4.7	4.0	3.9	4.4	5.5	3.9	10.5	7.3
Apr 20	6.3	5.6	1.8	1.6	3.2	3.6	3.7	6.2	7.4	7.8	8.7	9.6	11.3	9.4	9.7	8.7	8.4	8.2	8.3	8.4	7.2	6.3	3.5	3.8	1.6	11.3	6.6
Apr 21	1.5	2.1	2.7	3.3	3.5	2.9	3.3	5.0	5.7	8.8	9.8	10.7	7.3	8.2	7.2	2.1	2.7	0.8	5.4	3.2	2.6	3.3	3.6	2.1	0.8	10.7	4.5
Apr 22	1.1	0.8	1.2	0.7	0.3	0.2	0.5	4.7	7.5	6.7	7.0	8.7	7.5	10.5	10.0	9.9	8.6	9.4	6.8	4.8	5.7	7.2	8.5	8.9	0.2	10.5	5.7
Apr 23	8.8	7.6	7.0	7.1	5.5	4.8	4.9	7.3	12.2	14.9	13.5	12.9	14.3	14.6	12.8	14.2	12.6	12.1	10.0	10.1	9.3	10.3	11.1	12.3	4.8	14.9	10.4
Apr 24	9.8	8.8	6.8	6.1	4.2	3.8	5.2	8.8	9.3	9.2	11.0	11.9	11.8	12.2	13.8	12.5	10.8	11.1	9.4	8.6	8.2	7.9	7.6	6.4	3.8	13.8	9.0
Apr 25	6.5	6.2	4.4	3.5	3.7	4.1	6.4	8.0	7.6	5.0	6.5	7.4	7.9	9.0	10.7	9.2	4.4	1.8	4.6	4.1	2.4	2.3	4.3	3.4	1.8	10.7	5.6
Apr 26	6.4	7.8	8.9	7.6	7.6	8.4	10.6	10.5	11.7	11.6	11.0	11.0	9.0	8.1	7.8	7.1	7.8	7.8	7.2	5.7	1.8	2.1	3.6	3.2	1.8	11.7	7.7
Apr 27	1.3	1.9	2.3	0.6	0.2	0.9	2.1	5.3	4.4	5.8	5.6	5.9	7.1	6.7	5.3	5.5	7.8	4.0	1.0	2.0	3.8	5.1	5.3	3.5	0.2	7.8	3.9
Apr 28	4.6	7.8	8.2	7.3	5.7	5.6	11.0	12.9	11.3	10.6	11.3	13.2	12.3	12.4	11.7	11.7	12.4	11.1	10.7	7.1	4.6	3.4	3.6	2.6	2.6	13.2	8.9
Apr 29	3.0	0.2	0.5	0.5	1.2	1.8	1.1	3.0	7.1	6.3	5.6	4.2	7.0	9.7	6.1	5.6	7.9	8.9	6.4	3.6	3.2	7.9	7.9	4.0	0.2	9.7	4.7
Apr 30	4.4	5.8	5.7	4.5	4.2	3.2	3.1	6.7	7.7	9.1	8.5	11.1	12.1	11.9	11.5	11.5	11.1	10.5	7.9	5.4	7.0	8.2	9.1	9.8	3.1	12.1	7.9

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

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 - April 2023
Summary of Hour Standard Deviations

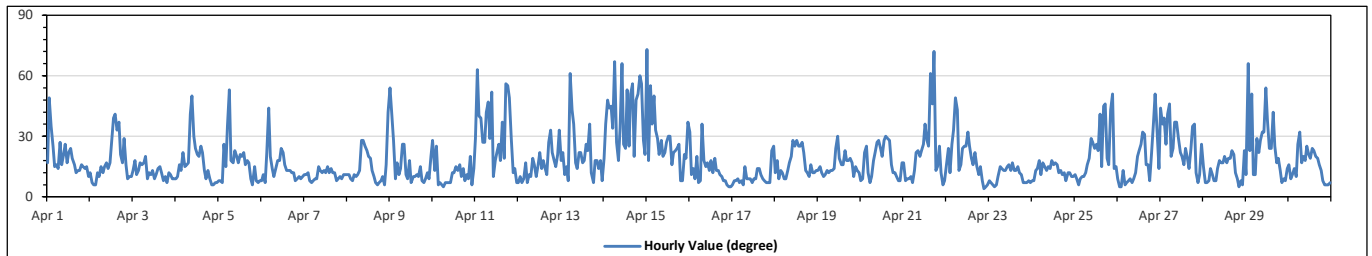
STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

Maximum Hourly Value: 73 degree on Apr 15 at hr 0		Hours in Service: 720	
Minimum Hourly Value: 4 degree on Apr 22 at hr 21		Hours of Data: 720	
		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		
Apr 1	17	49	35	25	15	16	14	27	16	21	26	17	22	24	19	16	12	13	13	16	15	14	15	10	10	49
Apr 2	12	7	6	6	12	10	15	12	15	17	14	17	27	39	41	33	37	21	17	29	16	9	10	10	10	41
Apr 3	13	18	11	13	17	16	17	20	9	12	11	13	9	11	14	15	12	8	10	7	12	11	9	9	20	
Apr 4	9	10	16	13	22	15	16	17	41	50	30	24	21	20	25	22	13	9	13	9	6	6	7	7	50	
Apr 5	8	8	7	26	15	35	53	18	17	23	20	17	21	20	22	16	18	17	9	6	15	8	7	8	53	
Apr 6	8	11	7	22	44	20	14	10	14	18	18	24	22	16	13	13	13	12	12	8	9	10	9	10	44	
Apr 7	11	11	12	8	7	8	9	9	15	13	12	13	12	15	12	14	12	12	8	9	10	9	11	11	15	
Apr 8	11	11	9	8	11	10	11	13	28	28	25	23	20	19	13	10	7	6	7	8	10	6	16	42	42	
Apr 9	54	40	28	9	17	11	14	26	26	11	9	18	7	10	10	11	10	15	8	7	9	12	9	20	54	
Apr 10	28	13	25	6	7	6	5	7	7	7	12	12	15	13	16	10	14	8	11	9	20	6	14	28	28	
Apr 11	29	63	40	39	27	27	42	47	29	52	10	18	22	26	18	37	19	56	55	49	29	12	14	7	63	
Apr 12	7	10	7	9	17	7	11	10	19	16	10	16	22	14	18	14	11	27	33	22	18	15	21	33	33	
Apr 13	18	22	11	15	8	61	43	36	17	14	22	22	17	18	26	23	36	12	7	18	18	14	18	8	61	
Apr 14	19	36	48	44	45	34	67	27	18	34	66	26	24	53	25	51	56	20	48	51	60	56	28	21	67	
Apr 15	73	18	55	36	50	33	29	21	28	20	22	27	30	30	16	22	23	24	26	8	8	21	19	37	73	
Apr 16	32	11	14	9	20	7	8	36	18	15	17	13	18	12	19	13	13	11	10	8	8	6	5	5	36	
Apr 17	6	8	8	9	7	8	6	15	9	9	9	7	9	9	14	14	11	9	8	7	7	7	23	25	25	
Apr 18	12	18	9	13	12	9	9	13	17	20	28	25	28	25	25	27	22	13	12	10	16	12	12	13	9	28
Apr 19	13	15	12	10	11	13	12	13	13	14	24	30	19	16	16	23	18	18	19	17	10	15	13	12	10	30
Apr 20	8	9	22	25	12	7	10	18	22	27	28	24	20	28	30	29	28	16	12	12	10	8	8	17	7	30
Apr 21	17	8	9	9	10	7	13	22	23	20	23	26	36	28	25	61	46	72	13	15	25	12	6	8	72	
Apr 22	16	24	12	26	33	49	43	13	16	24	25	25	32	25	19	16	22	15	11	15	8	4	5	6	4	49
Apr 23	8	7	6	5	6	10	15	14	13	13	15	16	13	17	13	13	15	12	11	7	7	8	7	5	17	
Apr 24	8	8	13	14	18	11	17	15	13	15	14	18	16	17	16	12	13	11	12	8	12	12	10	10	8	18
Apr 25	11	9	6	9	10	10	12	16	19	29	27	24	26	23	41	15	45	46	19	16	43	51	14	15	6	51
Apr 26	9	5	5	13	6	7	8	9	7	9	12	20	23	26	32	31	16	16	8	22	37	51	33	14	5	51
Apr 27	44	36	39	26	41	46	20	24	37	37	29	22	20	16	24	19	14	24	35	36	12	7	11	26	7	46
Apr 28	15	7	7	8	14	11	8	8	14	18	17	17	20	17	19	19	23	21	12	9	5	8	6	23	5	23
Apr 29	11	66	23	51	11	11	29	22	28	32	32	54	38	24	24	42	25	17	19	13	7	9	8	14	7	66
Apr 30	16	9	11	14	10	26	32	17	20	18	25	21	19	24	23	20	19	16	13	8	6	6	6	7	6	32
Diurnal Minimum	6	5	5	5	6	6	5	7	7	7	7	7	7	9	10	10	7	6	7	6	5	4	5	5	5	5
Diurnal Maximum	73	66	55	51	50	61	67	47	41	52	66	54	38	53	41	61	56	72	55	51	60	56	33	42	42	42

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

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.



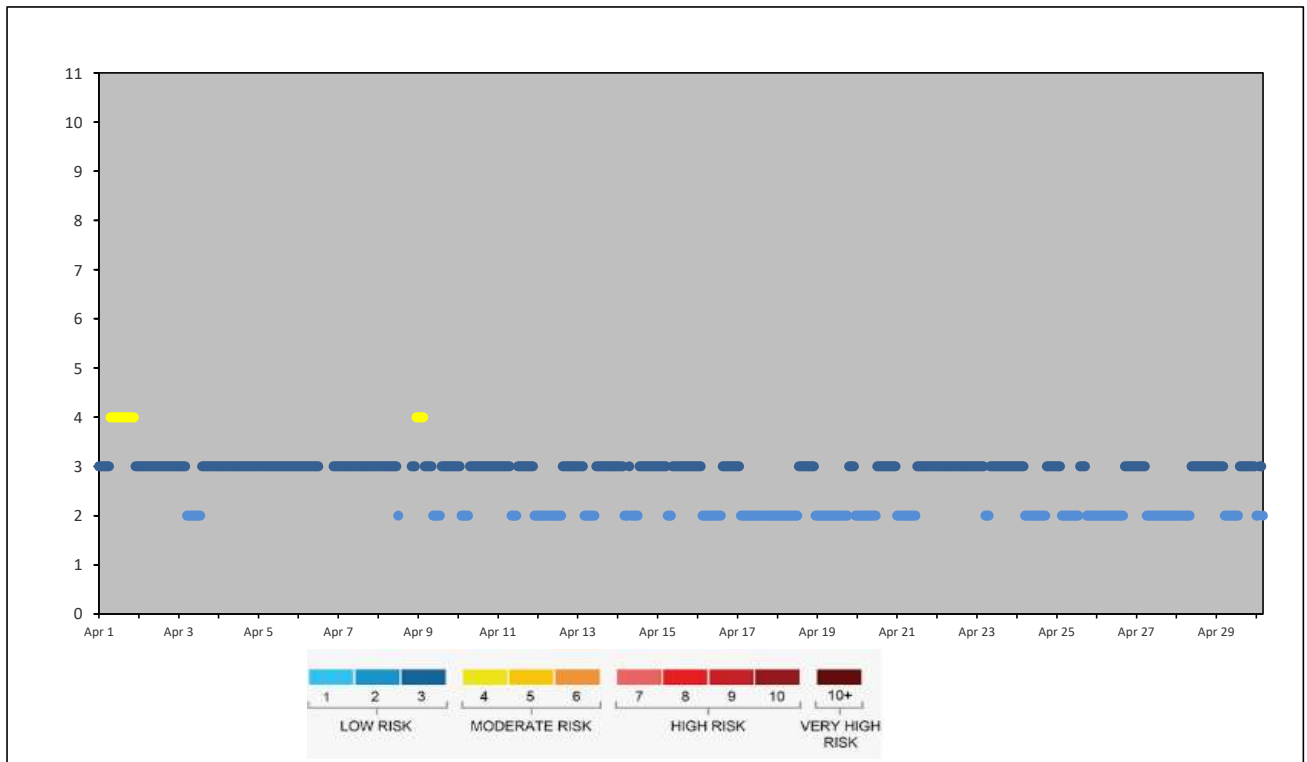
ST. LINA STATION

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

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



Lakeland Industry & Community Association

St. Lina Site - April 2023

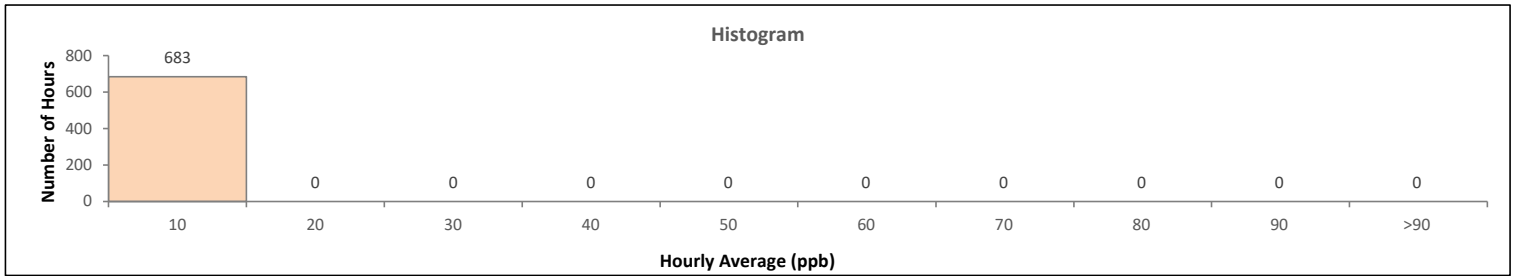
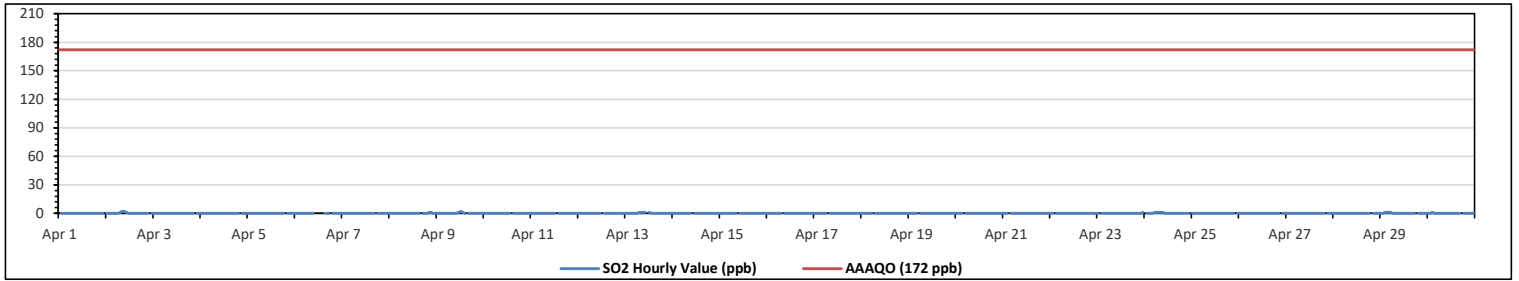
Summary of Hourly Averages

SULPHUR DIOXIDE (SO₂) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 172 ppb, 24-Hour 48 ppb, 30-Day 11 ppb																												
Number of 1-Hour Exceedances: 0					Number of 24-Hour Exceedances: 0					30-Day Exceedence: 0																		
Maximum Hourly Value: 2 ppb on Apr 2 at hr 8					Hours in Service: 720																							
Maximum Daily Value: 0.3 ppb on Apr 2					Hours of Data: 683																							
Minimum Hourly Value: 0 ppb on Apr 1 at hr 1					Hours of Missing Data: 0																							
Minimum Daily Value: 0.0 ppb on Apr 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				
Apr 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	
Apr 2	0	0	0	0	0	0	0	0	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.3
Apr 3	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	
Apr 4	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	
Apr 5	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	
Apr 6	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	C	0	0	0	0	S	0	0	0	0	0	0.0	
Apr 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	
Apr 8	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	
Apr 9	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	S	0	0	0	0	0	0	0	0	0	0	2	0.2
Apr 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	
Apr 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	
Apr 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	
Apr 13	0	0	0	0	0	0	0	1	1	1	1	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2
Apr 14	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	0.0
Apr 15	0	0	0	0	0	0	0	0	0	S	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Apr 16	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	0.0
Apr 17	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	0.0
Apr 18	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	0.0
Apr 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	0.0
Apr 20	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	0.0
Apr 21	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	0.0
Apr 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	0.0
Apr 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	1	1.0	
Apr 24	S	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0.2	
Apr 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	
Apr 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	
Apr 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	
Apr 28	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	
Apr 29	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	1	0.2	
Apr 30	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0.0	
Diurnal Maximum	0	0	1	1	1	1	1	2	2	1	1	2	1	0	0	0	0	0	0	0	1	1	0	1				
Diurnal Average	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

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

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.

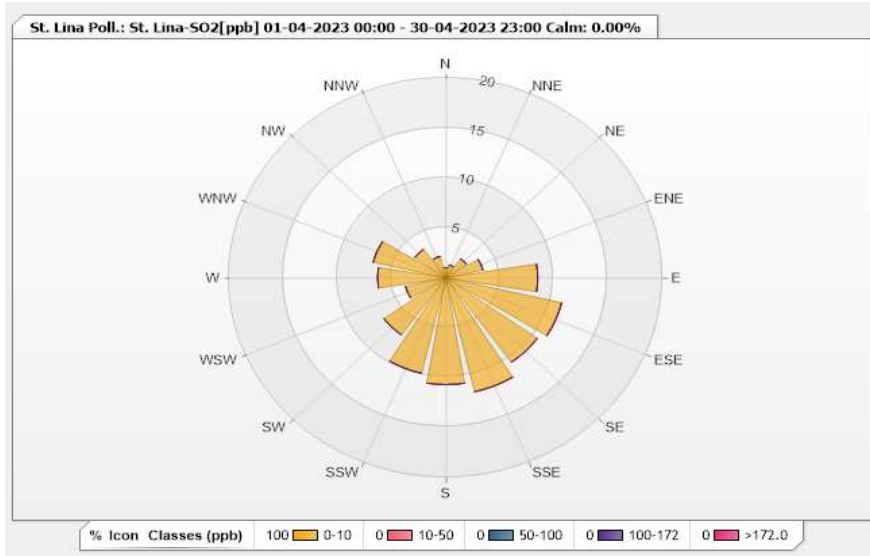


Station: St. Lina Poll.: St. Lina-SO2[ppb] Monthly: 04-2023

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

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

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	1.02	0	0	0	0	1.02
NNE	1.32	0	0	0	0	1.32
NE	2.34	0	0	0	0	2.34
ENE	3.51	0	0	0	0	3.51
E	8.49	0	0	0	0	8.49
ESE	10.98	0	0	0	0	10.98
SE	10.4	0	0	0	0	10.4
SSE	11.71	0	0	0	0	11.71
S	10.69	0	0	0	0	10.69
SSW	9.81	0	0	0	0	9.81
SW	7.03	0	0	0	0	7.03
WSW	3.81	0	0	0	0	3.81
W	6.3	0	0	0	0	6.3
WNW	6.88	0	0	0	0	6.88
NW	3.51	0	0	0	0	3.51
NNW	2.2	0	0	0	0	2.2
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

St. Lina Site - April 2023

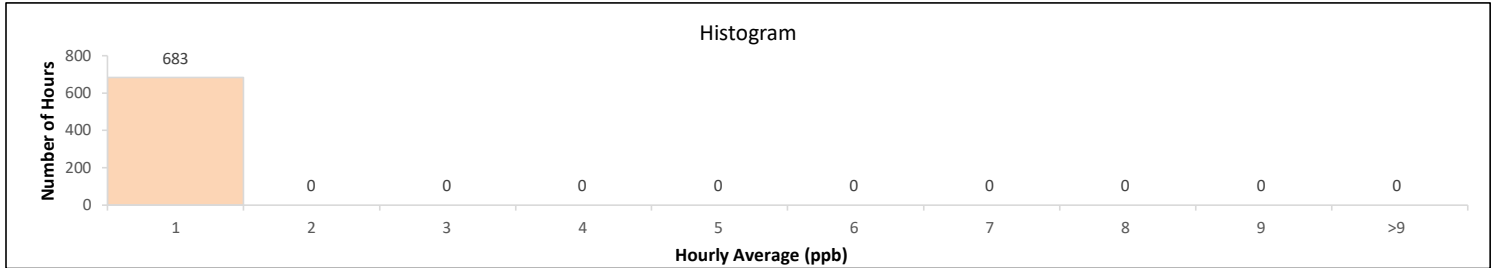
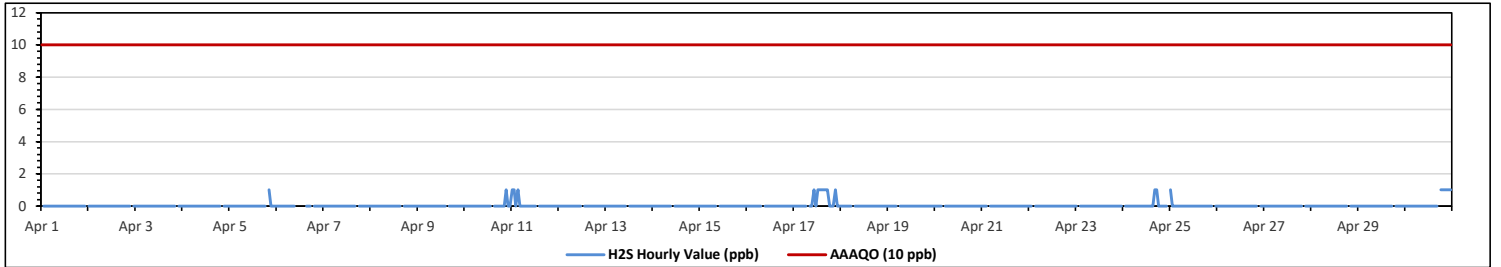
Summary of Hourly Averages

HYDROGEN SULPHIDE (H₂S) 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 Apr 5 at hr 20										Hours in Service:					720									
Maximum Daily Value:										0.0 ppb on Apr 1										Hours of Data:					683									
Minimum Hourly Value:										0 ppb on Apr 1 at hr 1										Hours of Missing Data:					0									
Minimum Daily Value:										0.0 ppb on Apr 1										Hours of Calibration:					37									
Monthly Average:										0.0 ppb										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							
Apr 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							
Apr 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							
Apr 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							
Apr 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							
Apr 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	0	0	0	1	0.0							
Apr 6	0	0	0	0	0	0	0	0	0	0	C	C	C	C	C	0	0	0	0	S	0	0	0	0	0	0	0.0							
Apr 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							
Apr 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							
Apr 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							
Apr 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	1	0	0.0							
Apr 11	1	1	0	1	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	1	0.0							
Apr 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							
Apr 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							
Apr 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0							
Apr 15	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							
Apr 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							
Apr 17	0	0	0	0	0	0	0	0	0	0	S	0	0	1	1	1	1	1	0	0	0	0	0	0	1	0	0.0							
Apr 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							
Apr 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							
Apr 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							
Apr 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							
Apr 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							
Apr 23	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							
Apr 24	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	1	0.0							
Apr 25	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	1	0.0							
Apr 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							
Apr 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							
Apr 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							
Apr 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							
Apr 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							
Diurnal Maximum	1	1	0	1	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1							
Diurnal Average	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	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
X InValid Data (Equipment Malfunction /Recovery) **NRM** UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) **P** Power Failure

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.

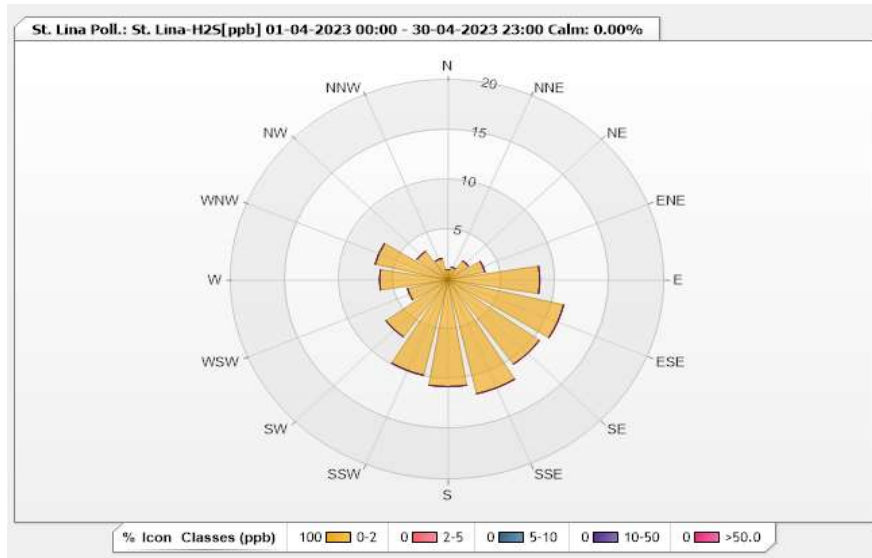


Station: St. Lina Poll.: St. Lina-H2S[ppb] Monthly: 04-2023

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

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

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	1.02	0	0	0	0	1.02
NNE	1.32	0	0	0	0	1.32
NE	2.34	0	0	0	0	2.34
ENE	3.51	0	0	0	0	3.51
E	8.49	0	0	0	0	8.49
ESE	10.98	0	0	0	0	10.98
SE	10.4	0	0	0	0	10.4
SSE	11.71	0	0	0	0	11.71
S	10.69	0	0	0	0	10.69
SSW	9.81	0	0	0	0	9.81
SW	7.03	0	0	0	0	7.03
WSW	3.81	0	0	0	0	3.81
W	6.3	0	0	0	0	6.3
WNW	6.88	0	0	0	0	6.88
NW	3.51	0	0	0	0	3.51
NNW	2.2	0	0	0	0	2.2
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

St. Lina Site - April 2023

Summary of Hourly Averages

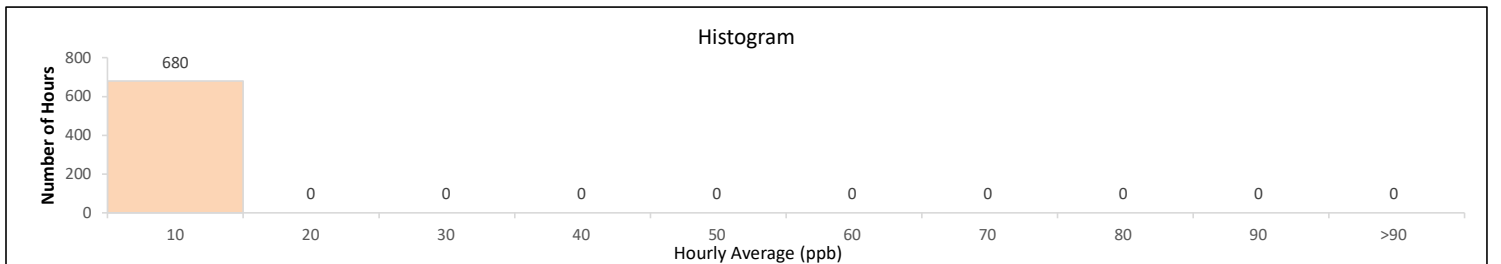
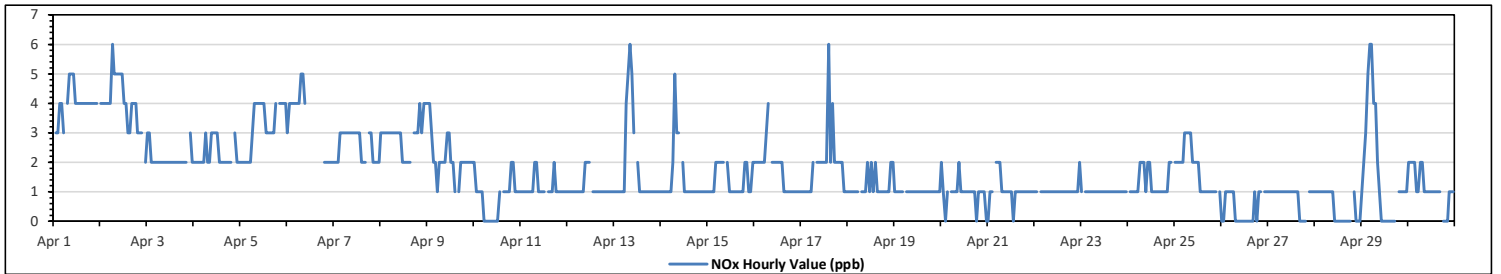
OXIDES OF NITROGEN (NOx) in ppb

Maximum Hourly Value:	6 ppb	on Apr 2 at hr 6	Hours in Service:	720
Maximum Daily Value:	4.0 ppb	on Apr 1	Hours of Data:	680
Minimum Hourly Value:	0 ppb	on Apr 10 at hr 5	Hours of Missing Data:	1
Minimum Daily Value:	0.4 ppb	on Apr 26	Hours of Calibration:	39
Monthly Average:	1.7 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	
Apr 1	S	3	3	4	4	3	NRM	4	5	5	5	4	4	4	4	4	4	4	4	4	4	4	4	3	5	4.0		
Apr 2	4	4	4	4	4	4	6	5	5	5	5	5	4	4	3	3	4	4	4	3	3	3	S	2	2	6	2.1	
Apr 3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	S	3	2	2	2.3	
Apr 4	2	2	2	2	2	2	3	2	2	3	3	3	2	2	2	2	2	2	2	2	2	S	3	2	2	2	2.3	
Apr 5	2	2	2	2	2	2	3	4	4	4	4	4	4	3	3	3	3	3	4	S	4	4	4	4	2	4	3.2	
Apr 6	3	4	4	4	4	4	4	5	5	4	C	C	C	C	C	C	C	C	2	S	2	2	2	2	2	5	NA	
Apr 7	2	2	2	3	3	3	3	3	3	3	3	3	3	2	2	2	2	S	3	3	2	2	2	2	2	3	2.6	
Apr 8	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2	2	S	3	3	3	3	4	3	4	4	2	2.9	
Apr 9	4	4	3	2	2	1	2	2	2	2	3	3	2	2	1	S	1	2	2	2	2	2	2	2	2	1	2.2	
Apr 10	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	S	1	1	1	1	1	2	2	1	1	0	0.8	
Apr 11	1	1	1	1	1	1	1	2	2	1	1	1	1	S	1	1	1	2	1	1	1	1	1	1	1	1	1.1	
Apr 12	1	1	1	1	1	1	1	1	1	2	2	2	S	2	1	1	1	1	1	1	1	1	1	1	1	1	1.1	
Apr 13	1	1	1	1	1	1	4	5	6	5	3	S	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1.8	
Apr 14	1	1	1	1	1	1	2	5	3	3	S	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.4	
Apr 15	1	1	1	1	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	2	2	1	1	2	1	2	1.4	
Apr 16	2	2	2	2	2	2	3	4	S	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1.7	
Apr 17	1	1	1	1	1	1	2	S	2	2	2	2	2	2	6	2	4	2	2	2	2	2	2	2	1	1	1.9	
Apr 18	1	1	1	1	1	1	S	1	1	1	2	1	2	1	2	1	1	1	1	1	1	1	1	2	2	1	1.2	
Apr 19	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	
Apr 20	2	1	0	1	S	1	1	1	1	2	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	0	2.0	
Apr 21	0	1	1	S	2	2	2	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	2.0	
Apr 22	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2.0	
Apr 23	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	
Apr 24	S	1	1	1	1	1	2	2	2	1	2	2	1	1	1	1	1	1	1	1	1	1	2	2	S	1	2	1.3
Apr 25	2	2	2	2	2	3	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	S	1	1	1.7	
Apr 26	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	S	1	1	0.4	
Apr 27	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	S	1	1	1	0.8	
Apr 28	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	S	1	0	0	0	0.5	
Apr 29	1	2	3	5	6	6	4	4	2	1	0	0	0	0	0	0	0	0	0	0	S	1	1	1	1	1	1.7	
Apr 30	2	2	2	2	1	1	2	2	1	1	1	1	1	1	1	1	1	S	0	0	0	1	1	1	1	1	1.1	
Diurnal Maximum	4	4	4	5	6	6	6	5	6	5	5	5	4	4	6	4	4	4	4	4	4	4	4	4	4	4	4	
Diurnal Average	1.6	1.7	1.7	1.8	1.9	1.8	2.2	2.3	2.2	2.1	1.9	1.7	1.6	1.4	1.5	1.3	1.4	1.5	1.4	1.5	1.6	1.6	1.6	1.5	1.5	1.5	1.5	

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

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.

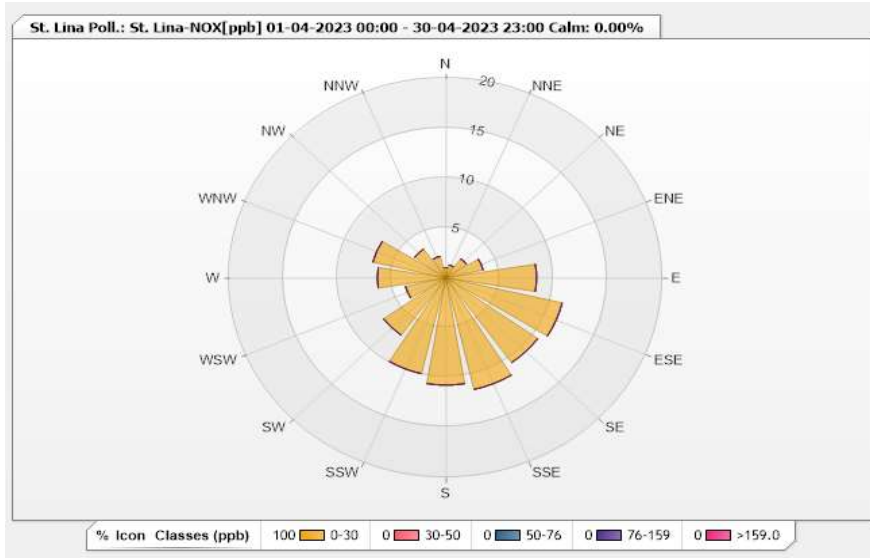


Station: St. Lina Poll.: St. Lina-NOX[ppb] Monthly: 04-2023

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

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

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.03	0	0	0	0	1.03
NNE	1.32	0	0	0	0	1.32
NE	2.35	0	0	0	0	2.35
ENE	3.53	0	0	0	0	3.53
E	8.38	0	0	0	0	8.38
ESE	11.03	0	0	0	0	11.03
SE	10.44	0	0	0	0	10.44
SSE	11.47	0	0	0	0	11.47
S	10.74	0	0	0	0	10.74
SSW	9.85	0	0	0	0	9.85
SW	7.06	0	0	0	0	7.06
WSW	3.82	0	0	0	0	3.82
W	6.32	0	0	0	0	6.32
WNW	6.91	0	0	0	0	6.91
NW	3.53	0	0	0	0	3.53
NNW	2.21	0	0	0	0	2.21
Summary	100	0	0	0	0	100

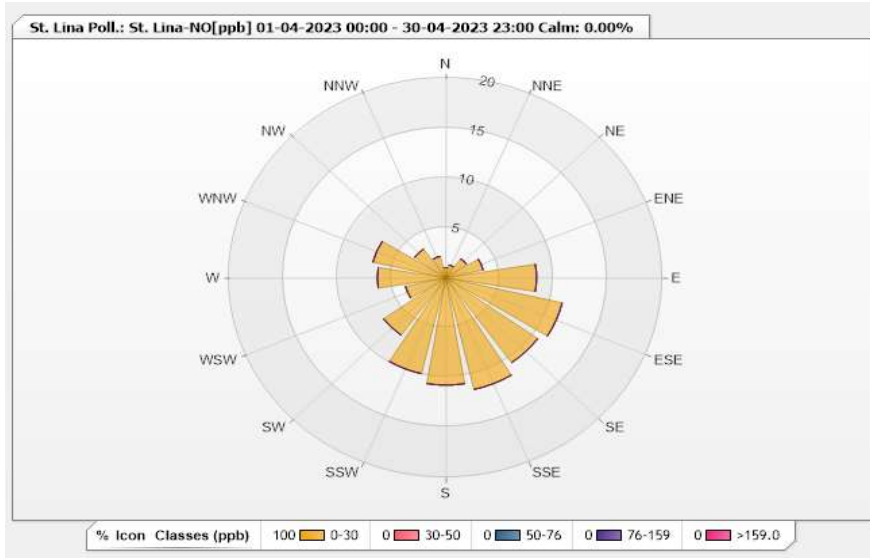


Station: St. Lina Poll.: St. Lina-NO[ppb] Monthly: 04-2023

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

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

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.03	0	0	0	0	1.03
NNE	1.32	0	0	0	0	1.32
NE	2.35	0	0	0	0	2.35
ENE	3.53	0	0	0	0	3.53
E	8.38	0	0	0	0	8.38
ESE	11.03	0	0	0	0	11.03
SE	10.44	0	0	0	0	10.44
SSE	11.47	0	0	0	0	11.47
S	10.74	0	0	0	0	10.74
SSW	9.85	0	0	0	0	9.85
SW	7.06	0	0	0	0	7.06
WSW	3.82	0	0	0	0	3.82
W	6.32	0	0	0	0	6.32
WNW	6.91	0	0	0	0	6.91
NW	3.53	0	0	0	0	3.53
NNW	2.21	0	0	0	0	2.21
Summary	100	0	0	0	0	100



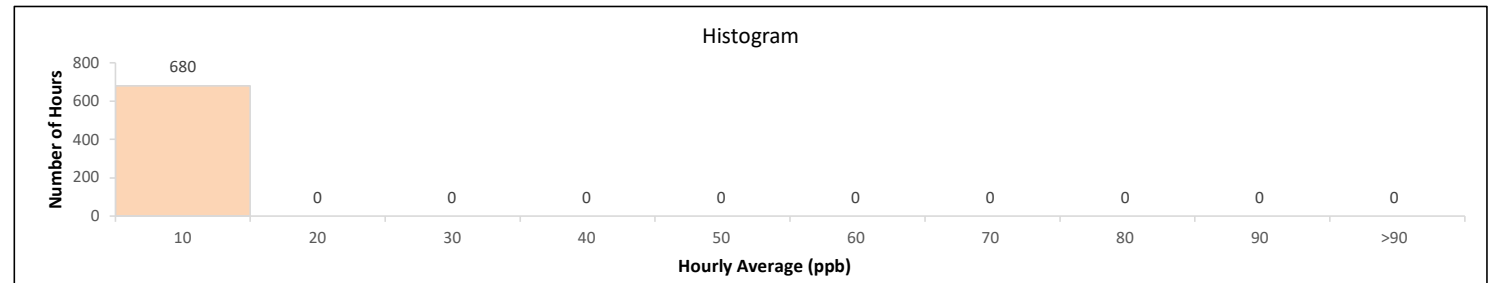
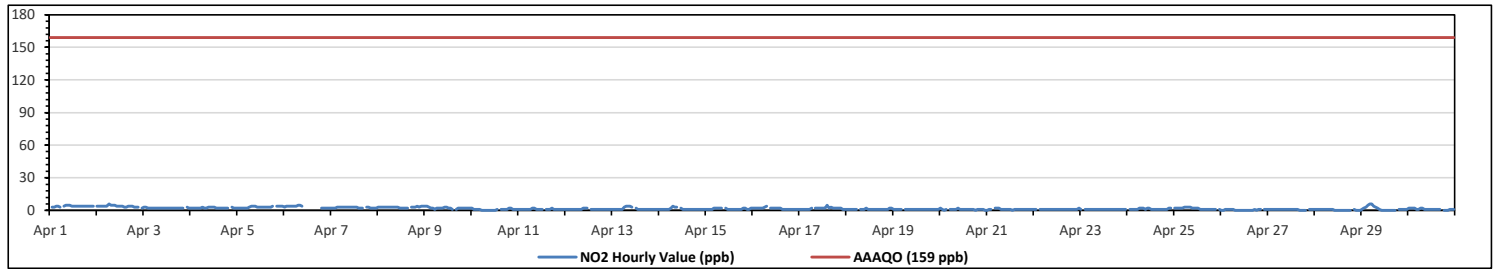
Lakeland Industry & Community Association

St. Lina Site - April 2023

Summary of Hourly Averages

NITROGEN DIOXIDE (NO₂) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 159 ppb																											
Number of 1-Hour Exceedances: 0																											
Maximum Hourly Value: 6 ppb on Apr 2 at hr 6												Hours in Service: 720															
Maximum Daily Value: 4.0 ppb on Apr 1												Hours of Data: 680															
Minimum Hourly Value: 0 ppb on Apr 10 at hr 5												Hours of Missing Data: 1															
Minimum Daily Value: 0.4 ppb on Apr 26												Hours of Calibration: 39															
Monthly Average: 1.7 ppb												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
Apr 1	S	3	3	4	4	3	NRM	4	5	5	5	4	4	4	4	4	4	4	4	4	4	4	4	S	3	5	4.0
Apr 2	4	4	4	4	4	4	6	5	5	5	4	4	4	4	3	3	4	4	4	3	3	3	S	2	2	6	3.9
Apr 3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	S	3	2	3	2.1
Apr 4	2	2	2	2	2	2	3	2	2	3	3	3	3	2	2	2	2	2	2	2	2	S	3	2	2	3	2.3
Apr 5	2	2	2	2	2	2	3	4	4	4	3	3	3	3	3	3	3	4	S	4	4	4	4	4	2	4	3.1
Apr 6	3	4	4	4	4	4	4	5	5	4	C	C	C	C	C	C	C	2	S	2	2	2	2	2	2	5	NA
Apr 7	2	2	2	3	3	3	3	3	3	3	3	3	3	3	2	2	2	S	3	3	2	2	2	2	2	3	2.6
Apr 8	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2	2	S	3	3	3	4	3	4	4	2	4	2.9
Apr 9	4	4	3	2	2	1	2	2	2	2	3	3	2	2	1	S	1	2	2	2	2	2	2	2	1	4	2.2
Apr 10	2	1	1	1	1	0	0	0	0	0	0	0	0	1	S	1	1	1	1	2	2	1	1	1	0	2	0.8
Apr 11	1	1	1	1	1	1	1	2	2	1	1	1	1	S	1	1	1	2	1	1	1	1	1	1	1	2	1.1
Apr 12	1	1	1	1	1	1	1	1	1	2	2	2	S	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1
Apr 13	1	1	1	1	1	1	3	4	4	4	3	S	2	1	1	1	1	1	1	1	1	1	1	1	1	4	1.6
Apr 14	1	1	1	1	1	1	2	4	3	3	S	2	1	1	1	1	1	1	1	1	1	1	1	1	1	4	1.4
Apr 15	1	1	1	1	2	2	2	2	2	2	S	2	1	1	1	1	1	1	1	1	2	2	1	1	2	2	1.4
Apr 16	2	2	2	2	2	2	3	4	S	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	4	1.7
Apr 17	1	1	1	1	1	1	2	S	2	2	2	2	2	2	5	2	3	2	2	2	2	2	2	1	1	5	1.8
Apr 18	1	1	1	1	1	1	S	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1.1
Apr 19	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0
Apr 20	2	1	0	1	S	1	1	1	1	1	2	1	1	1	1	1	1	1	0	1	1	1	1	1	0	2	1.0
Apr 21	0	1	1	S	2	2	2	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	2	1.0
Apr 22	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	1.0
Apr 23	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0
Apr 24	S	1	1	1	1	1	2	2	2	1	2	2	1	1	1	1	1	1	1	1	1	2	2	S	1	2	1.3
Apr 25	2	2	2	2	2	3	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	S	1	3	1.7
Apr 26	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	S	1	1	0.4	
Apr 27	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	S	1	1	1	0.8
Apr 28	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	S	1	0	0	1	0.5
Apr 29	1	2	3	5	6	6	4	3	2	1	0	0	0	0	0	0	0	0	0	0	S	1	1	1	1	6	1.7
Apr 30	2	2	2	2	1	1	2	2	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	0	2	1.1
Diurnal Maximum	4	4	4	5	6	6	6	5	5	5	5	4	4	4	5	4	4	4	4	4	4	4	4	4	4	4	4
Diurnal Average	1.6	1.7	1.7	1.8	1.9	1.8	2.1	2.2	2.1	2.0	1.8	1.6	1.5	1.4	1.5	1.3	1.3	1.5	1.4	1.5	1.6	1.6	1.6	1.5	1.5	1.5	
C	Monthly Calibration						S	Daily Zero-Span Check						Q	Quality Assurance												
K	Collection Error						ND	No Data (Machine Not in Service)						Y	Routine Maintenance												
X	Invalid Data (Equipment Malfunction /Recovery)						NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)						P	Power Failure												

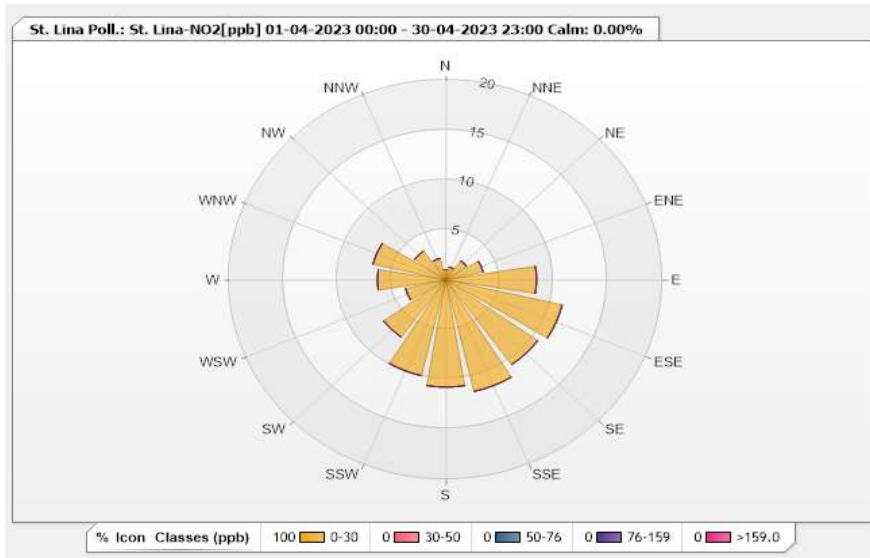


Station: St. Lina Poll.: St. Lina-NO2[ppb] Monthly: 04-2023

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

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

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.03	0	0	0	0	1.03
NNE	1.32	0	0	0	0	1.32
NE	2.35	0	0	0	0	2.35
ENE	3.53	0	0	0	0	3.53
E	8.38	0	0	0	0	8.38
ESE	11.03	0	0	0	0	11.03
SE	10.44	0	0	0	0	10.44
SSE	11.47	0	0	0	0	11.47
S	10.74	0	0	0	0	10.74
SSW	9.85	0	0	0	0	9.85
SW	7.06	0	0	0	0	7.06
WSW	3.82	0	0	0	0	3.82
W	6.32	0	0	0	0	6.32
WNW	6.91	0	0	0	0	6.91
NW	3.53	0	0	0	0	3.53
NNW	2.21	0	0	0	0	2.21
Summary	100	0	0	0	0	100

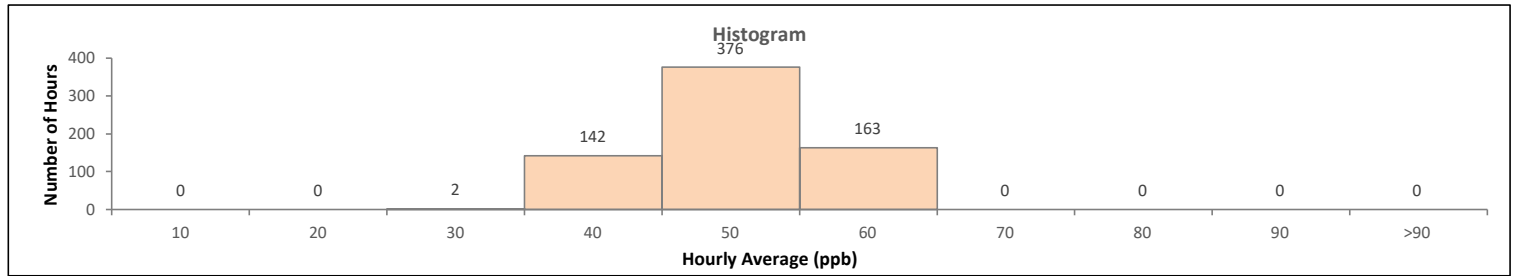
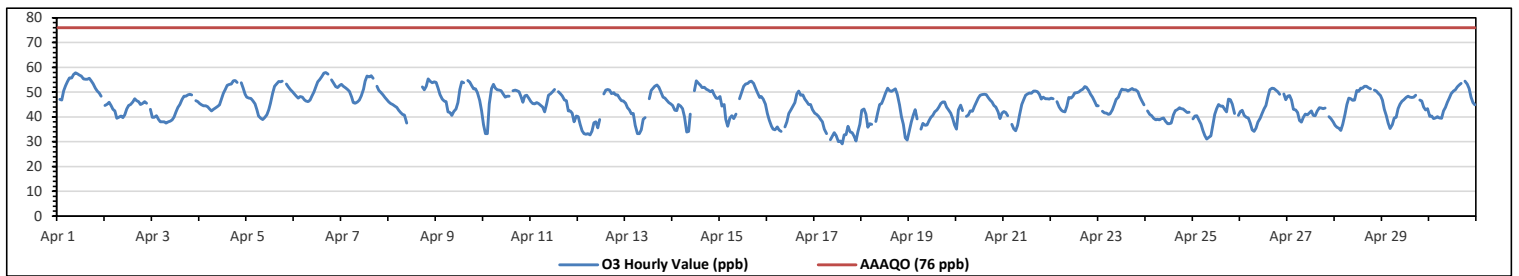


Lakeland Industry & Community Association

St. Lina Site - April 2023
Summary of Hourly Averages
OZONE (O₃) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 76 ppb																																															
Number of 1-Hour Exceedances: 0																																															
Maximum Hourly Value: 57.9 ppb on Apr 6 at hr 16												Hours in Service: 720																																			
Maximum Daily Value: 53.6 ppb on Apr 1												Hours of Data: 683																																			
Minimum Hourly Value: 29.1 ppb on Apr 17 at hr 14												Hours of Missing Data: 0																																			
Minimum Daily Value: 34.3 ppb on Apr 17												Hours of Calibration: 37																																			
Monthly Average: 45.1 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																							
Apr 1	S	47.1	46.8	50.6	52.6	54.3	55.8	55.8	57.1	57.8	57.4	56.9	56.5	55.3	55.2	55.2	55.6	54.6	53.4	51.7	50.4	49.7	48.4	S	46.8	57.8	53.6																				
Apr 2	44.7	45.2	45.9	44.7	43.1	42.4	39.4	39.9	40.4	39.7	40.9	43.3	44.7	45	46	47.4	46.6	46.1	45	45.5	46.2	45.6	S	43.1	39.4	47.4	43.9																				
Apr 3	39.9	39.8	40.5	39.1	38	38	38.1	37.5	38	38.3	38.9	40	42	43.8	45	47.1	48.4	48.4	48.9	49.1	48.9	S	46.5	46.2	37.5	49.1	42.6																				
Apr 4	45.4	44.9	44.5	44.5	44.1	43.2	42.4	43.1	43.5	44.2	44.9	47.3	49.6	51.1	52.7	53.2	53.3	54.6	54.7	53.9	S	53.8	51.7	49.2	42.4	54.7	48.3																				
Apr 5	47.9	47.6	47.5	46.6	45.3	42.9	40.4	39.4	39	39.7	40.9	43	45.5	49.6	52.4	53.3	54.3	54.2	54.4	S	53.3	52.1	50.9	50.1	39.0	54.4	47.4																				
Apr 6	49.5	48.3	47.6	48.2	48	47	46.4	46.1	46.9	48.5	50	52.5	54.2	55.1	56.4	57.7	57.9	57.3	S	54.9	53.6	52.2	51.9	52.7	46.1	57.9	51.4																				
Apr 7	53.2	52.3	51.8	51.1	50.3	48	45.7	45.6	46	46.9	48.5	51.2	54.4	56.5	56.2	56.6	55.6	S	52.3	50.7	49.9	48.9	47.8	47	45.6	56.6	50.7																				
Apr 8	46	45.5	45	44.3	43.8	42.7	41.7	41	40.8	37.5	C	C	C	C	C	49.3	S	52.1	50.9	52.3	55.3	54.3	53.8	54.2	37.5	55.3	47.3																				
Apr 9	54	51.6	49	47.2	46.4	46.2	42	41.7	40.6	42.2	43.3	45.8	51.1	54.2	53.8	S	54.7	54.1	52.6	51.4	51.3	49.8	46.7	42.4	40.6	54.7	48.4																				
Apr 10	36.9	33.2	33.3	45.3	51.5	53.1	51.7	50.9	50.8	50.5	49.2	48	48.3	48.4	S	50.6	50.8	50.5	50.2	48.2	45.9	48.5	48.7	47.5	33.2	53.1	47.5																				
Apr 11	46.1	45.5	45.3	45.7	45.5	44.6	43.9	42	45.2	48.7	49.3	50.1	51.1	S	50.2	49.4	48.5	46.9	46.5	42.5	42.4	41.5	38	40.4	38.0	51.1	45.6																				
Apr 12	40.1	37	34.5	33.3	33	33.3	32.8	34.3	37.6	38.1	35.6	39	S	49.3	50.8	51.1	50.8	49.4	49.8	48.9	47.6	46.5	46.4	42.8	51.1	42.1	42.1																				
Apr 13	45.6	43.7	42.9	41.3	41.4	36.7	33.3	33.2	34.8	39.1	39.7	S	47.4	50.7	51.6	52.4	52.9	52	50.1	48	47.6	46.9	45.7	45.3	33.2	52.9	44.4																				
Apr 14	44.6	42.7	42.6	45	44.3	43.4	40.1	33.9	34.2	41.2	S	50.6	54.5	53.5	52.8	51.9	52	51.2	50.8	50.1	50.7	49.2	47.7	47.5	33.9	54.5	46.7																				
Apr 15	48.2	44.3	45	39.1	36.2	39.6	40.5	39.3	41.2	S	47.4	50	52.4	53.3	53.6	54.2	54.4	53.5	51.7	49.8	47.8	48.2	47.2	45.2	36.2	54.4	47.0																				
Apr 16	41.4	38.7	36.3	35	34.8	36	34.7	34.2	S	36	38	41.4	43	44.4	45.7	49.3	50.4	48.8	48.9	47.3	46.2	45	45	43	34.2	50.4	41.9																				
Apr 17	41.5	41.1	40.3	39.1	38	35	33.2	S	30.8	32.3	33.7	32.5	30	30.3	29.1	32.8	32.9	36.2	33.9	33.7	32.2	30.3	34	37	29.1	41.5	34.3																				
Apr 18	42.7	43.3	41.2	35.8	37.2	37	S	38.2	41.8	45.1	45.4	47.4	49.6	51.7	50.6	50.3	50.8	51.4	49.1	44.9	40.1	37	31.6	30.7	30.7	51.7	43.2																				
Apr 19	34	38	40.8	43	39.2	S	35.1	37.4	36.7	36.8	38.4	39.9	40.7	42	42.9	43.9	45.5	46	46	44	42.7	41.5	39.4	36.8	34.0	46.0	40.5																				
Apr 20	35.1	42.8	44.8	42.6	S	40.3	40.8	42.4	42.3	44.2	45.9	47.6	48.8	49	49.1	49	47.8	46.8	46	44.7	43.9	42	39.3	41.5	35.1	49.1	44.2																				
Apr 21	42.2	41.7	40.5	S	37	35.2	34.5	36.6	40.8	45.1	47	48.7	49.3	49.7	49.6	50.4	50.4	50.2	49.2	47.3	47.9	47.4	47.4	47.3	34.5	50.4	45.0																				
Apr 22	47.7	47.4	S	46.2	43.9	42.8	42.3	42	44.3	47.8	47.7	48.4	49.7	49.8	50	50.7	51.2	52.2	52	50.7	49.2	47.9	46.2	44.5	42.0	52.2	47.6																				
Apr 23	44.5	S	42.3	41.6	41.5	41.1	41.3	42.9	44.9	47.1	47.9	50	51.2	51	50.9	50.4	50.9	51.5	50.9	51	50.2	48.1	46.6	44.9	41.1	51.5	47.1																				
Apr 24	S	42.5	41.1	40.5	39.4	38.9	39.1	38.9	39.3	39.6	38.3	37.2	37.2	37.5	40.9	42.6	43	43.7	43.4	43.3	42.5	41.7	41.9	S	37.2	43.7	40.6																				
Apr 25	39.2	40.4	40.5	38.7	37.1	34.6	32.5	31	31.7	32.4	36.6	41.1	43.4	45.1	44.4	44.3	43.1	42	47.3	47	45.2	41.4	S	40.6	31.0	47.3	40.0																				
Apr 26	42.2	42.7	40.7	39.9	39.5	37.5	34.8	34.2	35.4	37.9	39.4	41.4	43.2	44.6	48	51	51.7	51.5	50.8	50.2	49.2	S	49.3	47	34.2	51.7	43.6																				
Apr 27	48.4	48.6	46.8	43.1	42.9	41.8	38.6	37.9	39.8	41.2	40.9	41.6	42.5	40.7	40.5	42.3	43.7	43.6	43.4	43.6	S	40.1	39.3	38.1	37.9	48.6	42.1																				
Apr 28	36.7	35.9	35.4	34.6	37	41.1	45	47.7	47.4	46.7	46.9	50.7	50.3	51.7	51.6	52.3	52.3	51.8	51.4	S	50.8	50.4	49.6	48.6	34.6	52.3	46.3																				
Apr 29	46.9	43.1	40.6	37.5	35.3	36.9	39.6	39.9	43.4	45.2	46.3	47	47.8	48.3	48	47.8	48	48.7	S	46.9	46.4	44	42.9	43.4	35.3	48.7	44.1																				
Apr 30	40.3	40.4	39.3	39.5	40.1	39.5	39.4	42.4	43.8	45.9	47.6	49.4	50.4	51	52.1	52.9	53.6	S	54.4	53.3	51.5	47.9	45.7	44.9	39.3	54.4	46.3																				
Diurnal Maximum	54.0	52.3	51.8	51.1	52.6	54.3	55.8	55.8	57.1	57.8	57.4	56.9	56.5	55.5	56.4	57.7	57.9	57.3	54.7	54.9	55.3	54.3	53.8	54.2																							
Diurnal Average	43.7	43.3	42.5	42.2	41.6	41.1	40.2	40.3	41.3	42.6	43.8	45.8	47.5	48.3	48.9	49.6	50.0	49.6	49.2	48.0	47.5	46.2	45.3	44.5																							
C	Monthly Calibration											S	Daily Zero-Span Check											Q	Quality Assurance																						
K	Collection Error											ND	No Data (Machine Not in Service)											Y	Routine Maintenance											P	Power Failure										
X	Invalid Data (Equipment Malfunction /Recovery)											NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)																																		

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

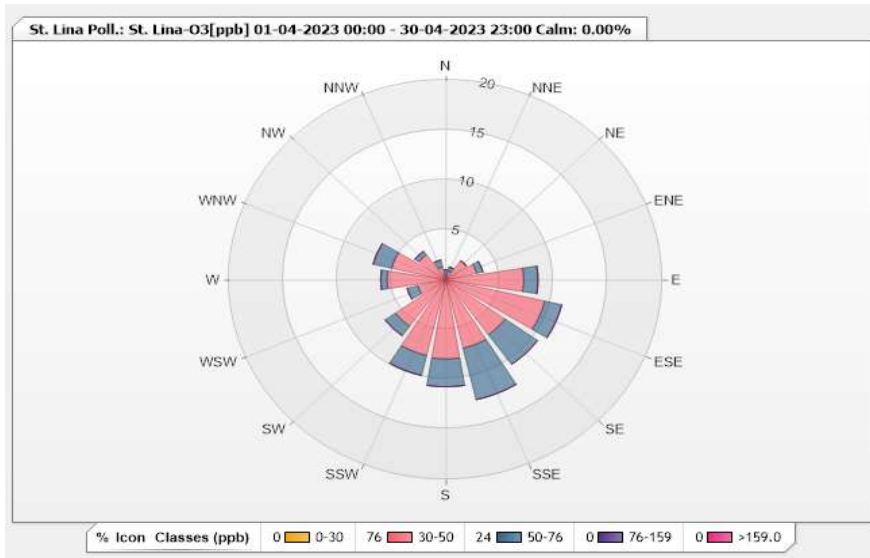


Station: St. Lina Poll.: St. Lina-O3[ppb] Monthly: 04-2023

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

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

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	0	0.29	0.73	0	0	1.02
NNE	0	0.88	0.44	0	0	1.32
NE	0	2.35	0	0	0	2.35
ENE	0	2.93	0.59	0	0	3.52
E	0.15	7.04	1.32	0	0	8.51
ESE	0	9.38	1.61	0	0	10.99
SE	0.15	6.6	3.67	0	0	10.42
SSE	0	7.04	5.28	0	0	12.32
S	0	7.92	2.79	0	0	10.71
SSW	0	7.77	2.05	0	0	9.82
SW	0	5.72	1.17	0	0	6.89
WSW	0	2.64	1.03	0	0	3.67
W	0	5.43	0.59	0	0	6.02
WNW	0	5.13	1.76	0	0	6.89
NW	0	3.08	0.44	0	0	3.52
NNW	0	1.32	0.73	0	0	2.05
Summary	0.3	75.52	24.2	0	0	100



Lakeland Industry & Community Association

St. Lina Site - April 2023

Summary of Hourly Averages

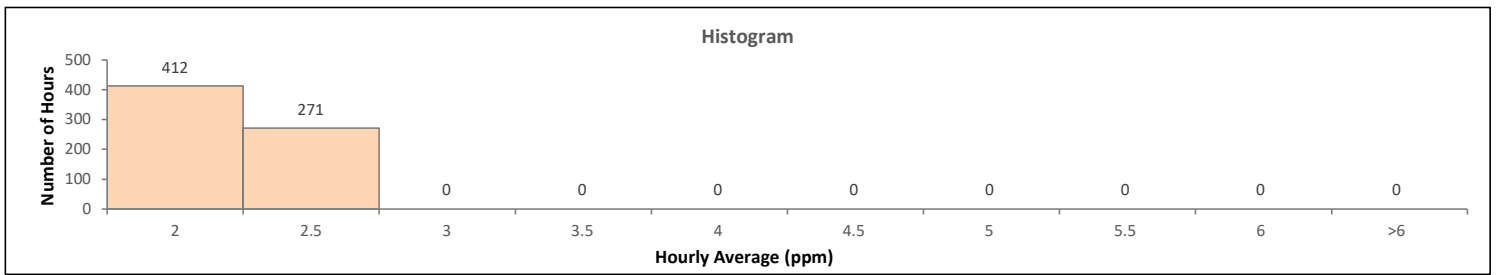
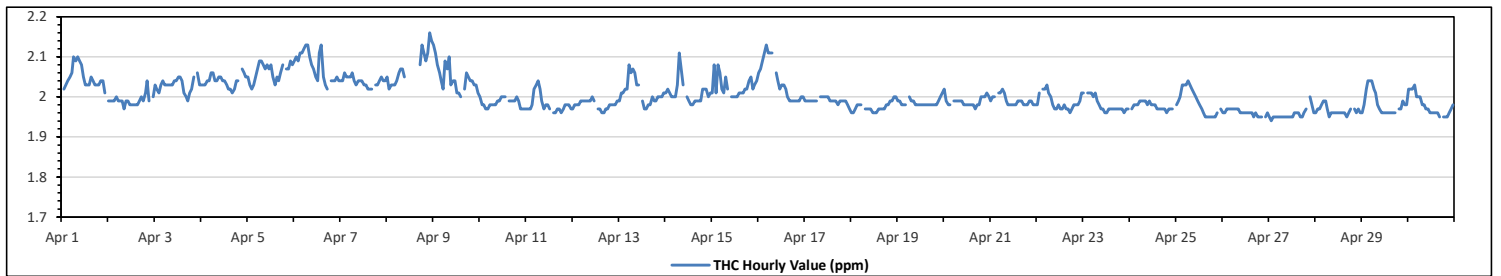
TOTAL HYDROCARBONS (THC) in ppm

Maximum Hourly Value:	2.16 ppm	on Apr 8 at hr 22	Hours in Service:	720
Maximum Daily Value:	2.08 ppm	on Apr 6	Hours of Data:	683
Minimum Hourly Value:	1.94 ppm	on Apr 27 at hr 1	Hours of Missing Data:	0
Minimum Daily Value:	1.96 ppm	on Apr 27	Hours of Calibration:	37
Monthly Average:	2.00 ppm		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	
Apr 1	S	2.02	2.03	2.04	2.05	2.06	2.10	2.09	2.10	2.09	2.08	2.05	2.03	2.03	2.03	2.05	2.04	2.03	2.03	2.03	2.04	2.04	2.01	S	2.01	2.10	2.05	
Apr 2	1.99	1.99	1.99	1.99	2.00	1.99	1.99	1.99	1.97	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.99	2.00	1.99	2.01	2.04	1.99	S	2.00	1.97	2.04	1.99	
Apr 3	2.03	2.02	2.01	2.03	2.04	2.03	2.03	2.03	2.03	2.03	2.04	2.04	2.05	2.05	2.04	2.01	2.00	1.99	2.01	2.02	2.05	S	2.06	2.03	1.99	2.06	2.03	
Apr 4	2.03	2.03	2.03	2.04	2.04	2.06	2.06	2.04	2.04	2.05	2.05	2.04	2.04	2.03	2.02	2.02	2.01	2.02	2.04	2.04	S	2.07	2.06	2.05	2.01	2.07	2.04	
Apr 5	2.05	2.03	2.02	2.03	2.05	2.07	2.09	2.09	2.08	2.07	2.08	2.07	2.08	2.05	2.03	2.05	2.04	2.06	2.08	S	2.07	2.07	2.09	2.08	2.02	2.09	2.06	
Apr 6	2.09	2.10	2.09	2.11	2.11	2.12	2.13	2.13	2.10	2.08	2.07	2.05	2.04	2.11	2.13	2.05	2.03	2.02	S	2.02	2.03	2.04	2.04	2.05	2.04	2.02	2.13	2.08
Apr 7	2.04	2.04	2.06	2.05	2.05	2.05	2.06	2.04	2.03	2.04	2.04	2.04	2.03	2.03	2.03	2.02	2.02	S	2.03	2.03	2.04	2.05	2.04	2.04	2.02	2.06	2.04	
Apr 8	2.05	2.02	2.03	2.03	2.03	2.04	2.06	2.07	2.07	2.05	C	C	C	C	C	2.08	S	2.08	2.13	2.11	2.09	2.11	2.16	2.14	2.02	2.16	2.08	
Apr 9	2.13	2.11	2.08	2.06	2.04	2.02	2.09	2.07	2.10	2.03	2.04	2.04	2.01	2.01	2.00	S	2.02	2.06	2.05	2.04	2.04	2.03	2.03	2.01	2.00	2.13	2.05	
Apr 10	2.00	1.98	1.98	1.97	1.97	1.98	1.98	1.98	1.98	1.99	1.99	2.00	2.00	2.00	S	1.99	1.99	1.99	1.99	2.00	1.99	1.97	1.97	1.97	1.97	2.00	1.99	
Apr 11	1.97	1.97	1.97	1.98	2.02	2.03	2.04	2.02	1.99	1.97	1.98	1.98	1.97	S	1.96	1.96	1.97	1.97	1.96	1.97	1.98	1.98	1.98	1.97	1.97	1.96	2.04	1.98
Apr 12	1.97	1.98	1.98	1.98	1.99	1.99	1.99	1.99	1.99	2.00	1.99	S	1.97	1.97	1.96	1.96	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.99	1.96	2.00	1.98	
Apr 13	1.99	2.01	2.01	2.02	2.02	2.08	2.06	2.07	2.06	2.03	2.03	S	1.99	1.97	1.97	1.98	1.98	2.00	1.99	1.99	2.00	2.00	2.00	2.01	1.97	2.08	2.01	
Apr 14	2.01	2.02	2.01	2.00	2.00	2.00	2.03	2.11	2.07	2.03	S	2.00	1.99	1.98	1.98	1.99	1.99	1.99	1.99	2.02	2.02	2.00	2.01	1.98	2.11	2.01	2.01	
Apr 15	2.01	2.08	2.01	2.08	2.06	2.02	2.01	2.05	2.02	S	2.00	2.00	2.00	2.00	2.01	2.01	2.01	2.02	2.02	2.04	2.05	2.02	2.03	2.04	2.00	2.08	2.03	
Apr 16	2.06	2.07	2.09	2.11	2.13	2.11	2.11	2.11	S	2.06	2.04	2.02	2.03	2.03	2.02	2.00	1.99	1.99	1.99	1.99	1.99	1.99	2.00	2.00	1.99	2.13	2.04	
Apr 17	1.99	1.99	1.99	1.99	1.99	1.99	1.99	S	2.00	2.00	2.00	2.00	1.99	1.99	1.99	1.99	1.98	1.99	1.99	1.99	1.99	1.99	1.98	1.97	2.00	1.99	1.99	
Apr 18	1.96	1.96	1.97	1.98	1.98	1.98	S	1.97	1.97	1.97	1.96	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.99	1.99	2.00	2.00	1.96	2.00	1.97	
Apr 19	1.99	1.99	1.98	1.98	1.98	S	2.00	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.99	2.00	2.01	1.98	2.01	1.99	
Apr 20	2.02	1.99	1.98	1.98	S	1.99	1.99	1.99	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.97	1.98	1.98	2.00	2.00	2.01	2.00	1.97	2.02	1.99	1.99	
Apr 21	1.99	2.00	2.00	S	2.01	2.01	2.02	2.01	1.99	1.98	1.98	1.98	1.98	1.98	1.99	1.99	1.99	1.98	1.98	1.98	1.99	1.99	1.98	1.98	1.98	2.02	1.99	
Apr 22	1.98	2.01	S	2.02	2.02	2.03	2.01	2.00	1.98	1.97	1.97	1.98	1.97	1.97	1.98	1.97	1.97	1.96	1.97	1.98	1.98	1.98	1.99	2.01	1.96	2.03	1.99	
Apr 23	2.01	S	2.01	2.01	2.01	2.00	2.01	1.99	1.98	1.97	1.97	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.97	1.97	1.96	2.01	1.98	
Apr 24	S	1.97	1.98	1.98	1.98	1.99	1.99	1.99	1.99	1.98	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.96	1.97	1.97	1.97	S	1.96	1.99	1.98	
Apr 25	1.98	1.99	2.00	2.03	2.03	2.03	2.04	2.03	2.02	2.01	2.00	1.99	1.98	1.97	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.96	S	1.97	1.95	2.04	1.99
Apr 26	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.95	S	1.95	1.96	1.97	1.96	
Apr 27	1.95	1.94	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.96	1.95	1.95	1.95	1.96	1.97	S	2.00	1.98	1.96	1.94	2.00	1.96	
Apr 28	1.96	1.97	1.97	1.98	1.99	1.99	1.97	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.95	1.96	1.97	S	1.97	1.96	1.97	1.96	1.95	1.99	1.97	
Apr 29	1.96	1.98	2.02	2.04	2.04	2.04	2.02	2.01	1.98	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	S	1.97	1.97	1.99	1.98	1.98	1.96	2.04	1.98	
Apr 30	2.02	2.02	2.02	2.03	2.00	2.00	2.00	1.98	1.98	1.97	1.97	1.96	1.96	1.96	1.96	1.95	1.95	S	1.95	1.95	1.95	1.96	1.97	1.98	1.95	2.03	1.98	
Diurnal Maximum	2.13	2.11	2.09	2.11	2.13	2.12	2.13	2.13	2.10	2.09	2.08	2.07	2.08	2.11	2.13	2.08	2.04	2.08	2.13	2.11	2.09	2.11	2.16	2.14				
Diurnal Average	2.01	2.01	2.01	2.02	2.02	2.02	2.03	2.02	2.01	2.01	2.00	2.00	1.99	1.99	1.99	1.99	1.98	1.99	2.00	2.00	2.00	2.00	2.01	2.00				

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

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.

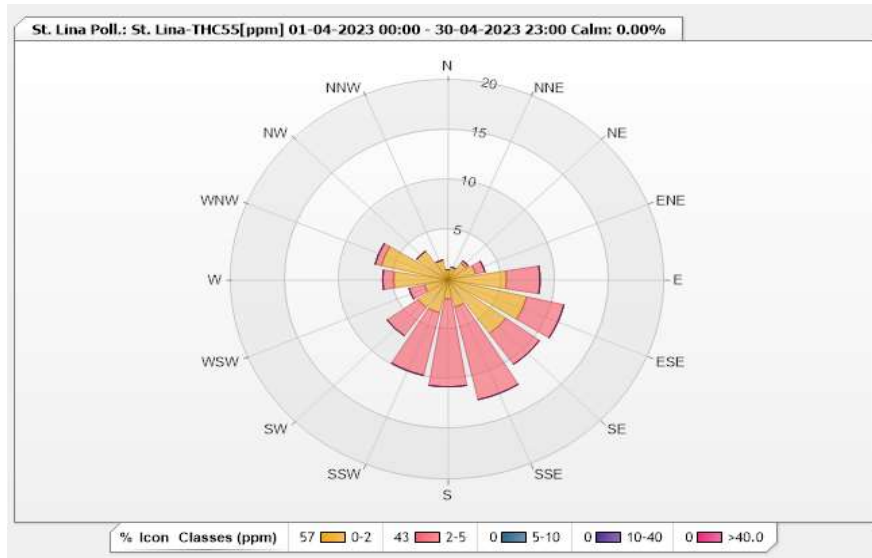


Station: St. Lina Poll.: St. Lina-THC55[ppm] Monthly: 04-2023

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

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

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	1.03	0	0	0	0	1.03
NNE	1.32	0	0	0	0	1.32
NE	2.05	0.29	0	0	0	2.34
ENE	2.64	0.88	0	0	0	3.52
E	5.43	3.08	0	0	0	8.51
ESE	7.48	3.52	0	0	0	11
SE	6.6	3.81	0	0	0	10.41
SSE	2.79	9.53	0	0	0	12.32
S	1.91	8.8	0	0	0	10.71
SSW	3.37	6.45	0	0	0	9.82
SW	3.37	3.52	0	0	0	6.89
WSW	2.2	1.47	0	0	0	3.67
W	4.99	1.03	0	0	0	6.02
WNW	6.3	0.59	0	0	0	6.89
NW	3.52	0	0	0	0	3.52
NNW	2.05	0	0	0	0	2.05
Summary	57.05	42.97	0	0	0	100



Lakeland Industry & Community Association

St. Lina Site - April 2023

Summary of Hourly Averages

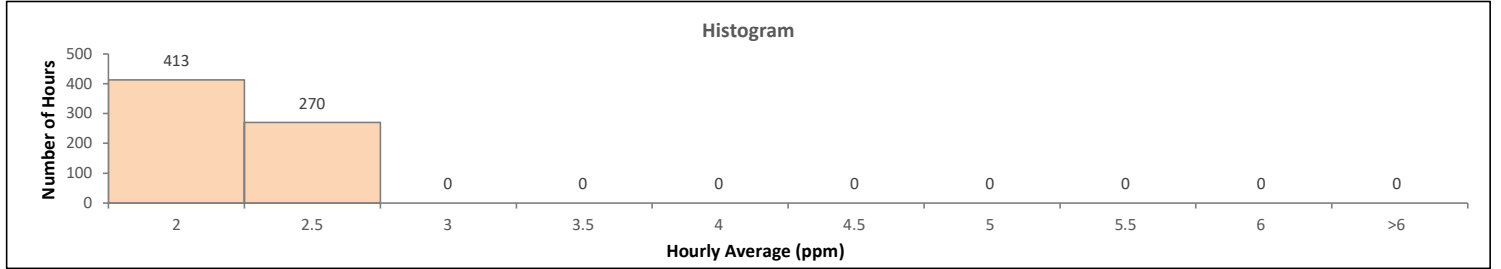
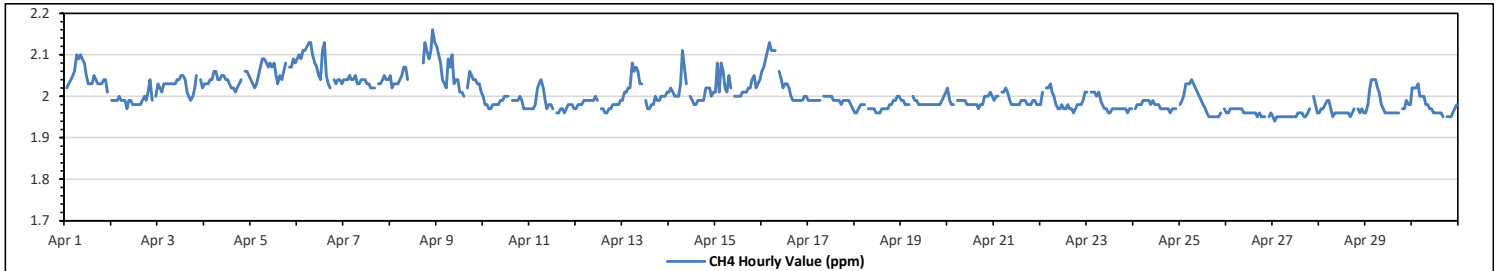
METHANE (CH4) in ppm

Maximum Hourly Value:	2.16 ppm	on Apr 8 at hr 22	Hours in Service:	720
Maximum Daily Value:	2.08 ppm	on Apr 6	Hours of Data:	683
Minimum Hourly Value:	1.94 ppm	on Apr 27 at hr 1	Hours of Missing Data:	0
Minimum Daily Value:	1.96 ppm	on Apr 27	Hours of Calibration:	37
Monthly Average:	2.00 ppm		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		
Apr 1	S	2.02	2.03	2.04	2.05	2.06	2.10	2.09	2.10	2.09	2.08	2.05	2.03	2.03	2.03	2.05	2.04	2.03	2.03	2.03	2.04	2.04	2.01	S	2.01	2.10	2.05		
Apr 2	1.99	1.99	1.99	1.99	2.00	1.99	1.99	1.99	1.97	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.99	2.00	1.99	2.01	2.04	1.99	S	2.00	1.97	2.04	1.99		
Apr 3	2.03	2.02	2.01	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.04	2.04	2.05	2.05	2.04	2.01	2.00	1.99	2.00	2.02	2.05	S	2.04	2.02	1.99	2.05	2.03		
Apr 4	2.03	2.03	2.03	2.04	2.04	2.06	2.06	2.04	2.04	2.05	2.05	2.04	2.04	2.03	2.02	2.02	2.01	2.02	2.03	2.04	S	2.06	2.06	2.05	2.01	2.06	2.04		
Apr 5	2.04	2.03	2.02	2.03	2.05	2.07	2.09	2.09	2.08	2.07	2.08	2.07	2.08	2.05	2.03	2.05	2.04	2.06	2.08	S	2.07	2.07	2.09	2.08	2.02	2.09	2.06		
Apr 6	2.09	2.10	2.09	2.11	2.11	2.12	2.13	2.13	2.10	2.08	2.07	2.05	2.04	2.11	2.13	2.05	2.03	2.02	S	2.04	2.03	2.04	2.04	2.04	2.03	2.02	2.13	2.08	
Apr 7	2.04	2.04	2.04	2.05	2.04	2.05	2.03	2.03	2.04	2.04	2.04	2.04	2.03	2.03	2.02	2.02	2.02	S	2.03	2.03	2.04	2.05	2.04	2.04	2.02	2.05	2.04		
Apr 8	2.05	2.02	2.03	2.03	2.03	2.04	2.05	2.07	2.07	2.04	C	C	C	C	C	2.08	S	2.08	2.13	2.11	2.09	2.11	2.16	2.13	2.02	2.16	2.07		
Apr 9	2.12	2.10	2.08	2.04	2.03	2.02	2.09	2.07	2.10	2.03	2.04	2.04	2.01	2.01	2.00	S	2.02	2.06	2.05	2.04	2.04	2.03	2.03	2.01	2.00	2.12	2.05		
Apr 10	2.00	1.98	1.98	1.97	1.97	1.98	1.98	1.98	1.98	1.99	1.99	2.00	2.00	2.00	S	1.99	1.99	1.99	1.99	2.00	1.99	1.97	1.97	1.97	1.97	2.00	1.99		
Apr 11	1.97	1.97	1.97	1.98	2.02	2.03	2.04	2.02	1.99	1.97	1.98	1.98	1.97	S	1.96	1.96	1.97	1.97	1.96	1.97	1.98	1.98	1.98	1.97	1.97	1.96	2.04	1.98	
Apr 12	1.97	1.98	1.98	1.98	1.99	1.99	1.99	1.99	1.99	2.00	1.99	S	1.97	1.97	1.96	1.96	1.97	1.97	1.98	1.98	1.98	1.98	1.98	1.99	1.96	2.00	1.98		
Apr 13	1.99	2.01	2.01	2.02	2.02	2.08	2.06	2.07	2.06	2.03	2.03	S	1.99	1.97	1.97	1.98	1.98	2.00	1.99	1.99	2.00	2.00	2.00	2.01	1.97	2.08	2.01		
Apr 14	2.01	2.02	2.01	2.00	2.00	2.00	2.03	2.11	2.07	2.03	S	2.00	1.99	1.98	1.98	1.99	1.99	1.99	1.99	2.02	2.02	2.02	2.00	2.01	1.98	2.11	2.01		
Apr 15	2.01	2.08	2.01	2.08	2.06	2.02	2.01	2.05	2.02	S	2.00	2.00	2.00	2.00	2.01	2.01	2.01	2.02	2.02	2.04	2.05	2.02	2.03	2.04	2.00	2.08	2.03		
Apr 16	2.06	2.07	2.09	2.11	2.13	2.11	2.11	2.11	S	2.06	2.04	2.02	2.03	2.03	2.02	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.99	2.00	1.99	2.13	2.04		
Apr 17	1.99	1.99	1.99	1.99	1.99	1.99	1.99	S	2.00	2.00	2.00	2.00	1.99	1.99	1.99	1.99	1.99	1.98	1.99	1.99	1.99	1.98	1.97	1.97	2.00	1.99			
Apr 18	1.96	1.96	1.97	1.98	1.98	1.98	S	1.97	1.97	1.97	1.96	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.99	1.99	2.00	2.00	1.96	2.00	1.97		
Apr 19	1.99	1.99	1.98	1.98	1.98	S	2.00	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.99	2.00	2.01	1.98	2.01	1.99	
Apr 20	2.02	1.99	1.98	1.98	S	1.99	1.99	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.97	1.98	1.98	1.98	2.00	2.00	2.01	2.00	1.97	2.02	1.99	1.99		
Apr 21	1.99	2.00	2.00	S	2.01	2.01	2.02	2.01	1.99	1.98	1.98	1.98	1.98	1.98	1.99	1.99	1.99	1.98	1.98	1.98	1.99	1.99	1.98	1.98	1.98	2.02	1.99		
Apr 22	1.98	2.01	S	2.02	2.02	2.03	2.01	2.00	1.98	1.97	1.97	1.98	1.97	1.97	1.98	1.97	1.97	1.96	1.97	1.98	1.98	1.98	1.99	2.01	1.96	2.03	1.99		
Apr 23	2.01	S	2.01	2.01	2.00	2.01	1.99	1.98	1.97	1.97	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.97	1.97	1.96	2.01	1.98		
Apr 24	S	1.97	1.98	1.98	1.98	1.99	1.99	1.99	1.99	1.98	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.96	1.97	1.97	1.97	S	1.96	1.99	1.98		
Apr 25	1.98	1.99	2.00	2.03	2.03	2.03	2.04	2.03	2.02	2.01	2.00	1.99	1.98	1.97	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.96	S	1.97	1.95	2.04	1.99
Apr 26	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.97	1.96	1.96	
Apr 27	1.95	1.94	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.96	1.95	1.95	1.95	1.96	1.97	S	2.00	1.98	1.96	1.94	2.00	1.96		
Apr 28	1.96	1.97	1.97	1.98	1.99	1.99	1.97	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.95	1.96	1.97	S	1.97	1.96	1.97	1.96	1.95	1.99	1.97		
Apr 29	1.96	1.98	2.02	2.04	2.04	2.04	2.02	2.01	1.98	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	S	1.97	1.97	1.99	1.98	1.98	1.96	2.04	1.98		
Apr 30	2.02	2.02	2.02	2.03	2.00	2.00	2.00	1.98	1.98	1.97	1.97	1.96	1.96	1.96	1.96	1.95	S	1.95	1.95	1.95	1.96	1.97	1.98	1.98	1.95	2.03	1.98		
Diurnal Maximum	2.12	2.10	2.09	2.11	2.13	2.12	2.13	2.13	2.10	2.09	2.08	2.07	2.08	2.11	2.13	2.08	2.04	2.08	2.13	2.11	2.09	2.11	2.16	2.13					
Diurnal Average	2.01	2.01	2.01	2.02	2.02	2.02	2.03	2.02	2.01	2.01	2.00	2.00	1.99	1.99	1.99	1.99	1.98	1.99	1.99	2.00	2.00	2.00	2.01	2.00					

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

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.

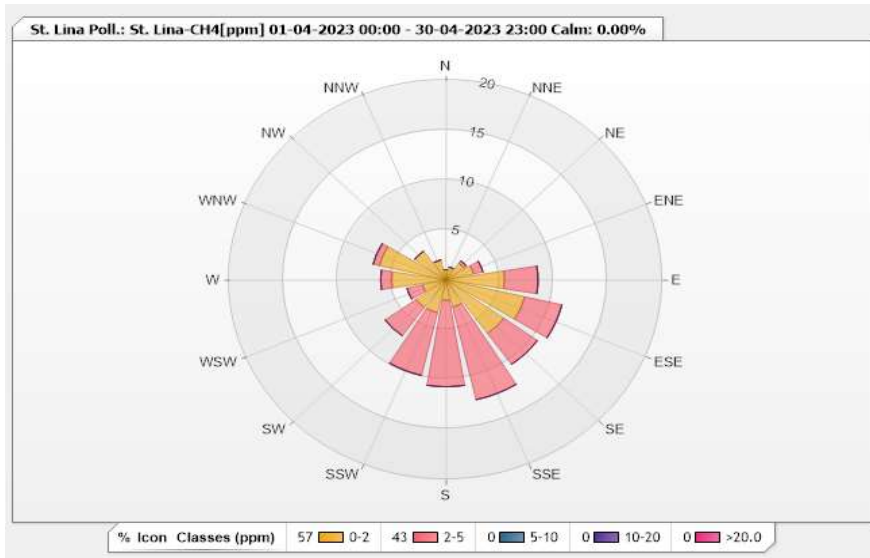


Station: St. Lina Poll.: St. Lina-CH4[ppm] Monthly: 04-2023

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

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

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	1.03	0	0	0	0	1.03
NNE	1.32	0	0	0	0	1.32
NE	2.05	0.29	0	0	0	2.34
ENE	2.64	0.88	0	0	0	3.52
E	5.43	3.08	0	0	0	8.51
ESE	7.48	3.52	0	0	0	11
SE	6.6	3.81	0	0	0	10.41
SSE	2.79	9.53	0	0	0	12.32
S	2.05	8.65	0	0	0	10.7
SSW	3.37	6.45	0	0	0	9.82
SW	3.37	3.52	0	0	0	6.89
WSW	2.2	1.47	0	0	0	3.67
W	4.99	1.03	0	0	0	6.02
WNW	6.3	0.59	0	0	0	6.89
NW	3.52	0	0	0	0	3.52
NNW	2.05	0	0	0	0	2.05
Summary	57.19	42.82	0	0	0	100



Lakeland Industry & Community Association

St. Lina Site - April 2023

Summary of Hourly Averages

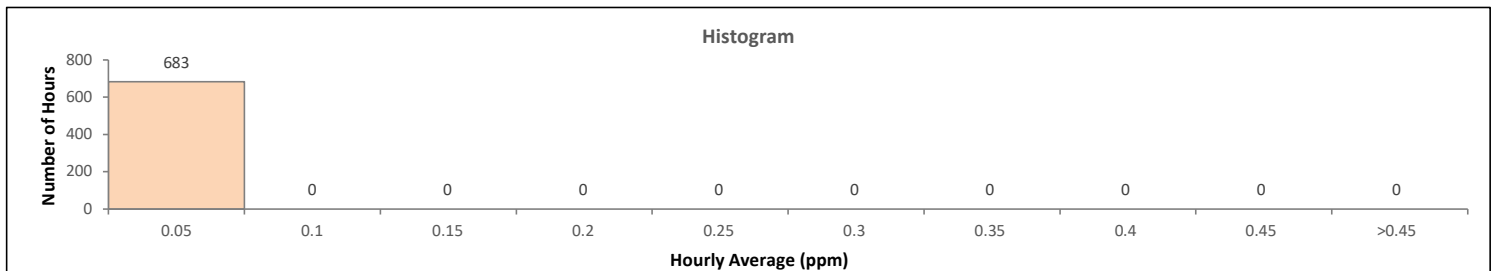
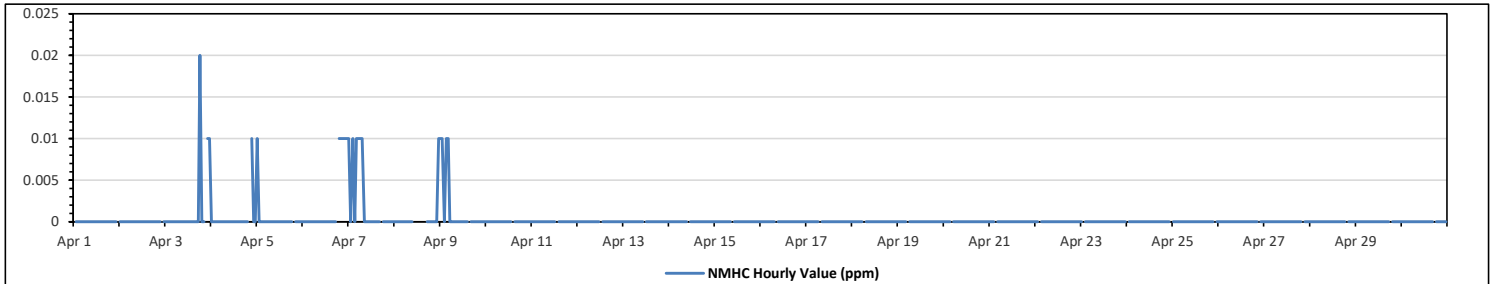
NON-METHANE HYDROCARBONS (NMHC) in ppm

Maximum Hourly Value:	0.02 ppm	on Apr 3 at hr 18	Hours in Service:	720
Maximum Daily Value:	0.00 ppm	on Apr 7	Hours of Data:	683
Minimum Hourly Value:	0.00 ppm	on Apr 1 at hr 1	Hours of Missing Data:	0
Minimum Daily Value:	0.00 ppm	on Apr 1	Hours of Calibration:	37
Monthly Average:	0.00 ppm		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
Apr 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
Apr 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	0.00	S	0.00	0.00	0.00
Apr 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	0.02	0.00	0.00	0.00	S	0.01	0.01	0.00	0.02
Apr 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	0.00	S	0.01	0.00	0.00	0.00	0.01
Apr 5	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.01	0.00
Apr 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	S	0.01	0.01	0.01	0.01	0.01	0.01	0.00
Apr 7	0.01	0.00	0.01	0.00	0.01	0.01	0.01	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	0.01	0.00
Apr 8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C	C	C	C	C	C	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00
Apr 9	0.01	0.01	0.00	0.01	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
Apr 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
Apr 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	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
Apr 12	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
Apr 13	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
Apr 14	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
Apr 15	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
Apr 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
Apr 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
Apr 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
Apr 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
Apr 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
Apr 21	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
Apr 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
Apr 23	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
Apr 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
Apr 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	0.00	S	0.00	0.00	0.00
Apr 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	0.00	0.00	S	0.00	0.00	0.00
Apr 27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Apr 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
Apr 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
Apr 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
Diurnal Maximum	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
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	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 / 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.

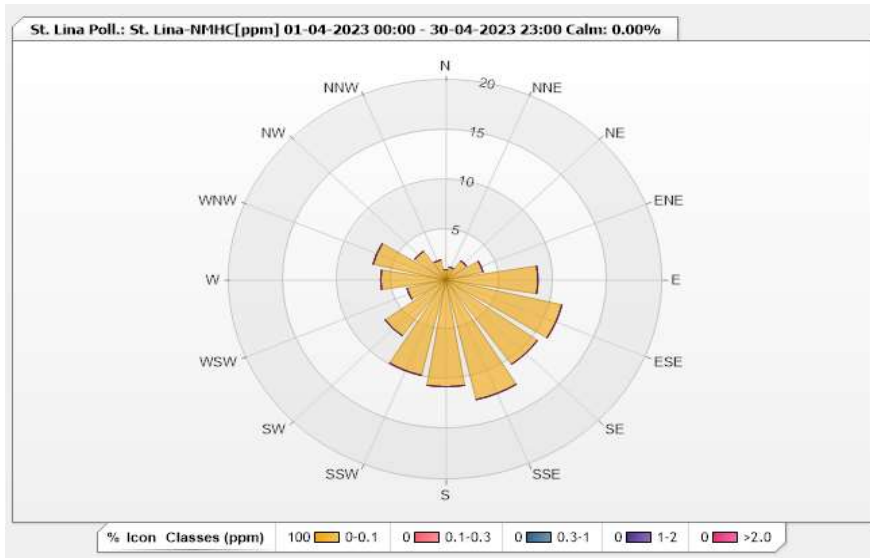


Station: St. Lina Poll.: St. Lina-NMHC[ppm] Monthly: 04-2023

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

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

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	1.03	0	0	0	0	1.03
NNE	1.32	0	0	0	0	1.32
NE	2.35	0	0	0	0	2.35
ENE	3.52	0	0	0	0	3.52
E	8.5	0	0	0	0	8.5
ESE	11	0	0	0	0	11
SE	10.41	0	0	0	0	10.41
SSE	12.32	0	0	0	0	12.32
S	10.7	0	0	0	0	10.7
SSW	9.82	0	0	0	0	9.82
SW	6.89	0	0	0	0	6.89
WSW	3.67	0	0	0	0	3.67
W	6.01	0	0	0	0	6.01
WNW	6.89	0	0	0	0	6.89
NW	3.52	0	0	0	0	3.52
NNW	2.05	0	0	0	0	2.05
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

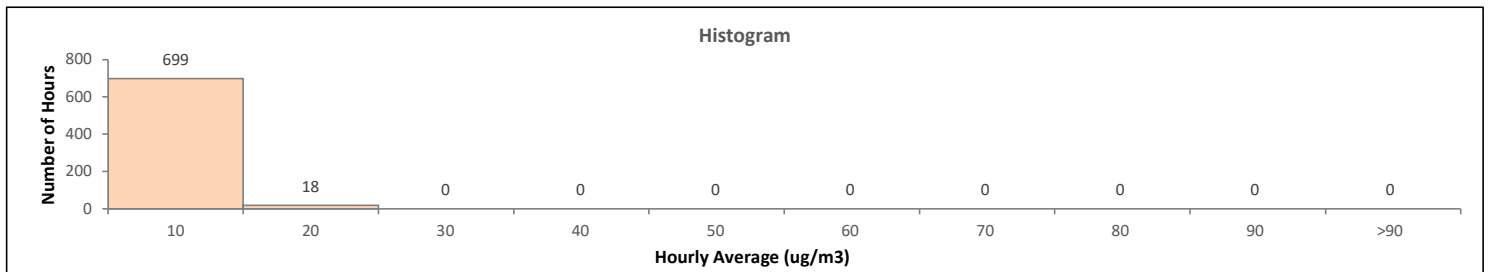
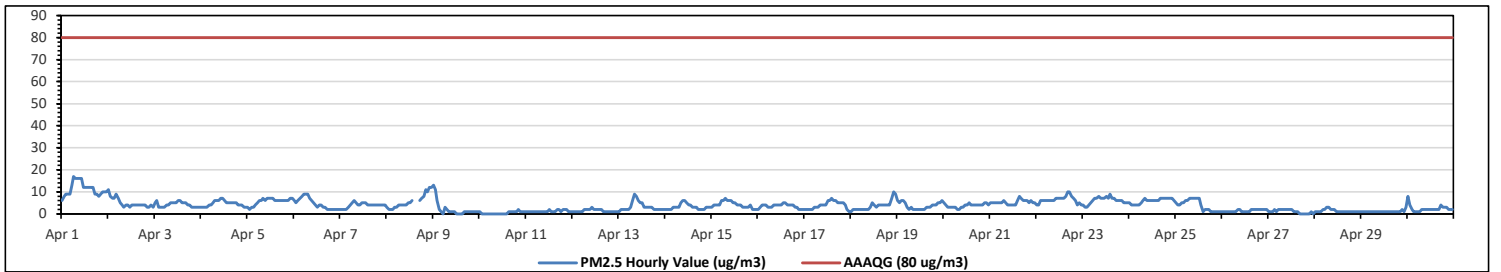
St. Lina Site - April 2023

Summary of Hourly Averages

PARTICULATE MATTER 2.5 (PM_{2.5}) in µg/m³

Alberta Ambient Air Quality Guideline (AAAQG): 1-Hour 80 µg/m ³ , Alberta Ambient Air Quality Objective (AAAQO): 24-Hour 29 µg/m ³																																															
Number of 1-Hour Exceedances: 0												Number of 24-Hour Exceedances: 0																																			
Maximum Hourly Value: 17 µg/m ³ on Apr 1 at hr 6												Hours in Service: 720																																			
Maximum Daily Value: 11.3 µg/m ³ on Apr 1												Hours of Data: 717																																			
Minimum Hourly Value: 0 µg/m ³ on Apr 9 at hr 5												Hours of Missing Data: 0																																			
Minimum Daily Value: 0 µg/m ³ on Apr 10												Hours of Calibration: 3																																			
Monthly Average: 3.8 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																				
Apr 1	6	8	9	9	13	17	16	16	16	16	12	12	12	12	12	12	9	9	8	9	10	10	10	6	17	11.3																					
Apr 2	11	8	7	7	9	7	5	4	3	4	4	3	4	4	4	4	4	4	4	3	3	4	3	3	3	11	4.9																				
Apr 3	5	6	3	3	3	3	4	4	5	5	5	5	6	6	5	5	5	4	4	3	3	3	3	3	3	6	4.2																				
Apr 4	3	3	3	3	4	4	5	6	6	6	7	7	7	6	5	5	5	5	5	4	4	4	3	3	3	7	4.6																				
Apr 5	3	2	3	3	4	5	6	6	7	6	7	7	7	7	6	6	6	6	6	6	6	6	7	7	2	7	5.6																				
Apr 6	6	5	6	7	8	9	9	9	9	7	6	5	4	3	4	4	3	3	2	2	2	2	2	2	2	9	4.7																				
Apr 7	2	2	2	2	3	4	5	6	5	4	4	4	5	5	5	4	4	4	4	4	4	4	4	4	2	6	3.9																				
Apr 8	3	2	2	2	3	3	4	4	4	4	4	5	5	6	C	C	C	6	7	8	11	10	12	12	2	12	5.6																				
Apr 9	13	11	6	2	1	0	3	2	1	1	1	1	0	0	0	0	1	1	1	1	1	1	1	1	0	13	2.1																				
Apr 10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	2	1	1	1	1	0	2	0.5																				
Apr 11	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	2	2	1	2	2	2	2	1	1	1	2	1.3																				
Apr 12	1	1	1	1	1	1	2	2	2	2	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	3	1.5																				
Apr 13	1	2	2	2	2	2	3	6	9	8	6	5	5	3	3	3	3	2	2	2	2	2	2	2	1	9	3.3																				
Apr 14	2	2	2	2	3	3	3	3	5	6	6	5	4	4	3	3	3	2	2	2	2	2	3	3	2	6	3.2																				
Apr 15	3	4	4	4	4	6	6	7	6	6	6	5	5	4	4	4	3	3	3	3	3	4	2	2	2	7	4.2																				
Apr 16	2	3	4	4	4	3	3	3	4	4	4	4	4	4	5	5	4	4	4	4	3	3	2	2	2	5	3.5																				
Apr 17	2	2	2	2	2	3	3	3	4	4	4	4	6	6	7	6	6	5	5	5	5	5	4	2	1	7	3.9																				
Apr 18	1	2	2	2	2	2	2	2	2	2	3	5	4	3	4	4	4	4	4	4	4	7	10	9	1	10	3.7																				
Apr 19	6	5	6	6	5	3	2	3	2	2	2	2	2	2	2	3	3	3	4	4	4	5	5	6	2	6	3.6																				
Apr 20	5	4	3	3	3	3	3	2	2	3	3	4	4	5	4	4	4	4	4	4	4	5	5	4	2	5	3.7																				
Apr 21	5	5	5	5	5	5	5	6	5	4	4	4	4	4	6	8	7	6	6	6	5	6	5	5	4	8	5.3																				
Apr 22	4	4	6	6	6	6	6	6	6	6	7	7	7	7	7	8	10	10	8	7	6	4	5	4	4	10	6.4																				
Apr 23	4	3	3	4	5	6	7	7	8	7	7	7	8	7	9	7	7	6	6	6	6	5	5	5	3	9	6.0																				
Apr 24	5	4	4	4	4	4	5	6	7	6	6	6	6	6	6	7	7	7	7	7	7	7	7	6	4	7	5.8																				
Apr 25	5	4	4	5	5	6	6	7	7	7	7	7	7	4	1	2	2	2	1	1	1	1	1	1	1	7	3.9																				
Apr 26	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	2	2	2	2	2	2	2	2	2	1	2	1.5																				
Apr 27	1	1	1	2	1	2	2	2	2	2	2	2	2	1	1	1	0	0	0	0	0	0	1	0	0	2	1.1																				
Apr 28	1	1	1	1	2	2	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1.4																				
Apr 29	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	3	1	3	1.1																				
Apr 30	8	4	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	4	3	3	3	2	2	2	1	8	2.4																				
Diurnal Maximum	13	11	9	9	9	13	17	16	16	16	16	12	12	12	12	12	10	9	8	11	10	12	12																								
Diurnal Average	3.7	3.4	3.2	3.4	3.6	4.1	4.3	4.4	4.3	4.3	4.1	4.2	3.9	3.8	3.9	3.7	3.6	3.5	3.6	3.6	3.7	3.5																									
C	Monthly Calibration											S	Daily Zero-Span Check											Q	Quality Assurance																						
K	Collection Error											ND	No Data (Machine Not in Service)											Y	Routine Maintenance											P	Power Failure										
X	Invalid Data (Equipment Malfunction /Recovery)											NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)																																		

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

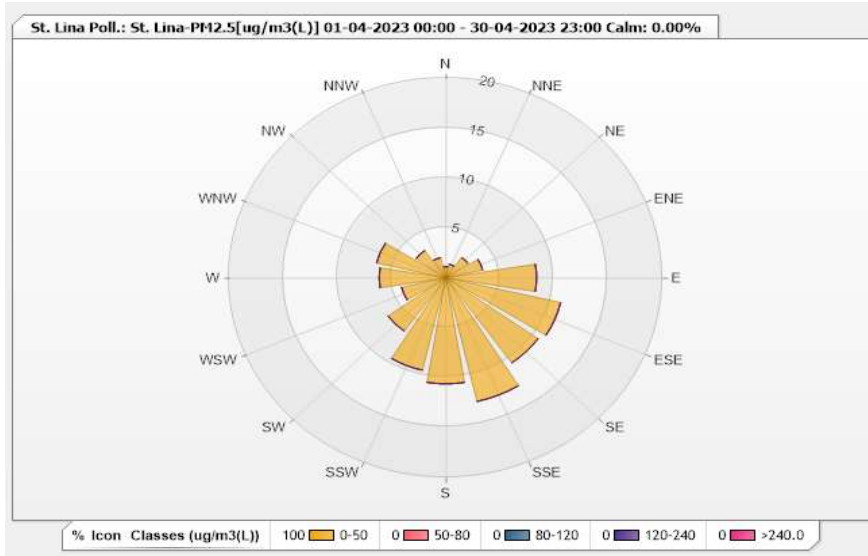


Station: St. Lina Poll.: St. Lina-PM2.5[ug/m3(L)] Monthly: 04-2023

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

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

Direction	0-50	50-80	80-120	120-240	>240.0	Total
N	1.12	0	0	0	0	1.12
NNE	1.4	0	0	0	0	1.4
NE	2.51	0	0	0	0	2.51
ENE	3.49	0	0	0	0	3.49
E	8.38	0	0	0	0	8.38
ESE	10.89	0	0	0	0	10.89
SE	10.47	0	0	0	0	10.47
SSE	12.71	0	0	0	0	12.71
S	10.61	0	0	0	0	10.61
SSW	9.5	0	0	0	0	9.5
SW	6.56	0	0	0	0	6.56
WSW	4.19	0	0	0	0	4.19
W	6.15	0	0	0	0	6.15
WNW	6.56	0	0	0	0	6.56
NW	3.35	0	0	0	0	3.35
NNW	2.09	0	0	0	0	2.09
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

St. Lina Site - April 2023

Summary of Hourly Averages

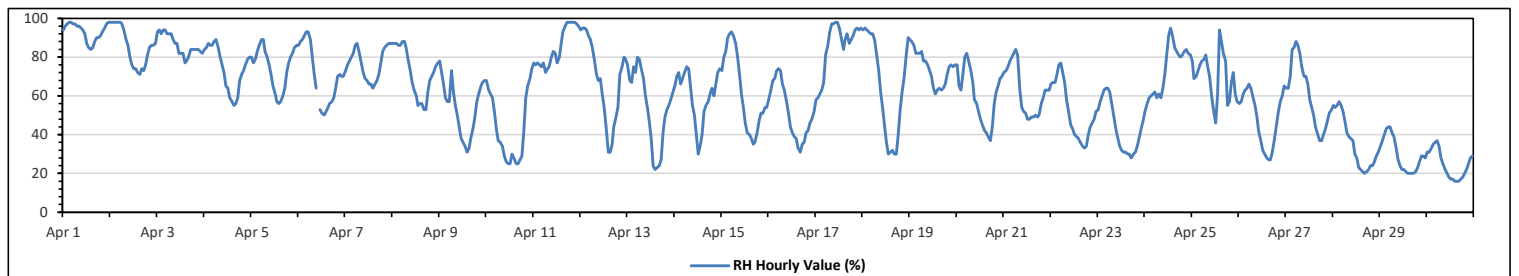
RELATIVE HUMIDITY (RH) in %

Maximum Hourly Value:	98	%	on Apr 1 at hr 3	Hours in Service:	720
Maximum Daily Value:	93.0	%	on Apr 1	Hours of Data:	719
Minimum Hourly Value:	16	%	on Apr 30 at hr 14	Hours of Missing Data:	1
Minimum Daily Value:	24.6	%	on Apr 30	Hours of Calibration:	0
Monthly Average:	63.2	%		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
Apr 1	94	96	97	98	98	97	97	96	96	95	94	92	87	85	84	85	88	90	90	91	93	95	97	98	84	98	93.0
Apr 2	98	98	98	98	98	98	97	94	89	86	80	76	74	74	72	71	74	73	76	81	85	86	86	87	71	98	85.4
Apr 3	93	94	92	94	94	92	92	92	89	87	87	82	82	82	77	78	80	84	84	84	84	84	83	82	77	94	86.3
Apr 4	84	85	87	86	86	88	89	85	80	76	72	65	64	59	57	55	56	59	68	71	73	76	79	80	55	89	74.2
Apr 5	80	77	79	83	86	89	89	83	80	76	71	65	61	57	56	57	60	64	72	77	80	82	85	86	56	89	74.8
Apr 6	86	88	89	91	93	93	89	80	71	64	K	53	51	50	52	54	56	57	59	64	70	71	70	70	50	93	70.5
Apr 7	73	76	78	80	82	86	87	82	77	72	69	68	66	66	64	66	68	71	77	83	85	86	87	87	64	87	76.5
Apr 8	87	87	87	86	86	88	88	85	79	73	67	63	60	55	56	56	53	53	62	68	70	72	75	77	53	88	72.2
Apr 9	78	72	66	59	57	57	73	62	55	50	44	38	36	34	31	33	38	43	49	57	61	65	67	68	31	78	53.9
Apr 10	68	63	61	59	52	43	37	36	34	29	26	25	30	28	25	25	27	29	42	59	65	69	74	25	74	43.0	
Apr 11	77	76	77	76	75	77	72	74	75	80	83	82	77	80	86	93	96	98	98	98	98	98	97	96	72	98	85.0
Apr 12	94	95	95	94	91	89	85	78	71	68	69	61	54	44	31	31	35	44	49	54	71	75	80	79	31	95	68.2
Apr 13	76	68	67	75	72	80	79	74	69	60	54	47	38	24	22	23	24	27	41	49	53	55	58	62	22	80	54.0
Apr 14	65	70	72	66	69	72	75	74	66	55	50	40	30	35	40	52	55	57	61	64	60	66	72	74	30	75	60.0
Apr 15	73	80	83	90	92	93	91	87	80	71	61	54	46	41	40	38	35	36	41	47	51	51	54	54	35	93	62.0
Apr 16	58	63	68	69	73	74	73	66	63	57	51	44	41	39	38	33	31	35	36	41	42	46	48	52	31	74	51.7
Apr 17	58	59	61	63	67	81	86	93	97	97	98	98	95	89	84	89	92	87	89	91	94	95	94	95	58	98	85.5
Apr 18	94	95	94	93	92	92	89	82	73	62	54	45	36	30	31	32	30	30	40	53	62	69	81	90	30	95	64.4
Apr 19	89	88	86	82	82	82	83	78	78	76	73	70	64	61	63	64	63	64	66	71	75	76	75	76	61	89	74.4
Apr 20	76	65	63	71	80	82	78	73	67	58	56	52	48	45	42	41	39	37	44	56	62	65	69	70	37	82	60.0
Apr 21	72	73	75	78	80	82	84	81	63	54	52	51	48	48	49	49	50	49	50	56	59	63	63	63	48	84	62.2
Apr 22	66	67	67	71	76	77	72	67	58	51	45	43	40	39	38	36	34	33	34	40	44	46	48	52	33	77	51.8
Apr 23	53	57	60	63	64	64	62	55	49	43	39	34	32	31	31	30	30	28	30	31	34	39	43	47	28	64	43.7
Apr 24	52	56	59	60	61	62	59	61	59	64	71	81	91	95	91	85	83	81	80	81	83	84	82	81	52	95	73.4
Apr 25	78	69	70	73	76	78	79	81	75	70	59	52	46	61	94	88	82	78	55	57	67	72	61	57	46	94	69.9
Apr 26	56	57	61	63	64	66	64	59	55	49	42	37	32	30	28	27	27	31	38	45	52	57	60	65	27	66	48.5
Apr 27	64	64	70	84	85	88	86	82	75	70	70	66	58	54	50	44	40	37	37	40	43	47	51	53	37	88	60.8
Apr 28	55	54	55	57	55	52	46	41	39	38	37	30	28	23	22	21	20	21	22	24	24	26	29	31	20	57	35.4
Apr 29	34	37	40	43	44	44	41	39	33	27	24	22	22	21	20	20	20	20	21	23	26	29	29	28	20	44	29.5
Apr 30	31	31	33	35	36	37	34	28	25	22	20	18	17	17	16	16	16	17	18	20	22	25	28	29	16	37	24.6
Diurnal Maximum	98	98	98	98	98	98	97	96	97	97	98	98	95	95	94	93	96	98	98	98	98	98	97	98			
Diurnal Average	72.1	72.0	73.0	74.7	75.5	76.8	75.9	72.3	67.3	62.7	59.2	55.1	51.6	50.0	49.8	49.7	50.0	51.0	53.9	58.6	62.7	65.5	67.3	68.8			

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

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 - April 2023

Summary of Hourly Averages

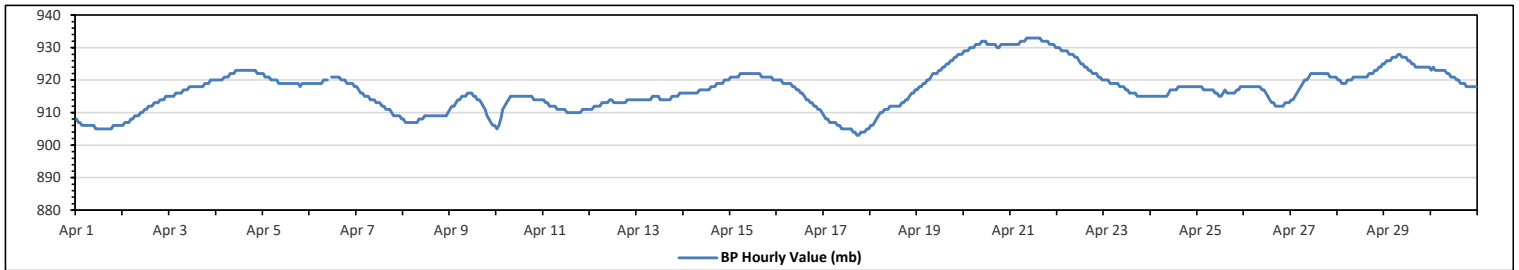
BAROMETRIC PRESSURE (BP) in millibar

Maximum Hourly Value:	933	mb	on Apr 21 at hr 8	Hours in Service:	720
Maximum Daily Value:	932	mb	on Apr 21	Hours of Data:	719
Minimum Hourly Value:	903	mb	on Apr 17 at hr 17	Hours of Missing Data:	1
Minimum Daily Value:	905	mb	on Apr 17	Hours of Calibration:	0
Monthly Average:	917	mb		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	
Apr 1	908	907	907	906	906	906	906	906	906	906	905	905	905	905	905	905	905	905	905	906	906	906	906	906	905	908	906	
Apr 2	906	907	907	907	908	908	909	909	909	910	910	911	911	912	912	912	913	913	913	914	914	914	914	915	915	906	915	911
Apr 3	915	915	915	916	916	916	916	917	917	917	918	918	918	918	918	918	918	918	919	919	919	920	920	920	915	920	918	
Apr 4	920	920	920	920	921	921	922	922	922	922	923	923	923	923	923	923	923	923	923	923	923	922	922	922	920	923	922	
Apr 5	922	921	921	921	920	920	920	920	919	919	919	919	919	919	919	919	919	919	919	918	919	919	919	919	918	918	920	
Apr 6	919	919	919	919	919	919	919	920	920	920	K	921	921	921	921	921	920	920	920	919	919	919	919	918	918	921	920	
Apr 7	918	917	916	916	915	915	914	914	914	914	913	913	913	912	912	911	911	911	910	909	909	909	909	908	908	918	913	
Apr 8	908	907	907	907	907	907	907	908	908	908	909	909	909	909	909	909	909	909	909	909	909	909	909	910	907	910	908	
Apr 9	911	912	912	913	914	914	915	915	915	916	916	915	915	915	914	914	913	912	911	909	908	907	906	906	906	916	912	
Apr 10	905	906	908	911	912	913	914	915	915	915	915	915	915	915	915	915	915	915	915	914	914	914	914	914	905	915	913	
Apr 11	914	913	913	912	912	912	912	911	911	911	911	911	910	910	910	910	910	910	910	910	911	911	911	911	910	914	911	
Apr 12	911	911	912	912	912	912	913	913	913	913	914	914	913	913	913	913	913	913	913	914	914	914	914	914	911	914	913	
Apr 13	914	914	914	914	914	914	914	914	915	915	915	915	914	914	914	914	914	915	915	915	915	916	916	914	916	915	915	
Apr 14	916	916	916	916	916	916	916	916	917	917	917	917	917	917	918	918	918	919	919	919	920	920	920	916	920	918	916	
Apr 15	921	921	921	921	921	922	922	922	922	922	922	922	922	922	922	922	921	921	921	921	921	921	921	920	920	922	921	
Apr 16	920	920	920	919	919	919	919	919	918	918	918	917	917	916	916	915	914	914	913	913	912	912	911	911	910	920	916	
Apr 17	909	908	908	907	907	907	907	906	906	905	905	905	905	905	905	904	904	903	903	904	904	904	905	905	903	909	905	
Apr 18	906	906	907	908	909	910	910	911	911	911	912	912	912	912	912	913	913	913	914	914	915	916	916	917	906	917	912	
Apr 19	917	918	918	919	919	920	920	921	922	922	922	923	923	924	924	925	925	926	926	927	927	928	928	928	917	928	923	
Apr 20	929	929	929	930	930	930	931	931	931	932	932	932	931	931	931	931	931	931	930	930	931	931	931	931	929	932	931	
Apr 21	931	931	931	931	931	932	932	932	933	933	933	933	933	933	933	933	932	932	932	932	931	931	931	930	930	933	932	
Apr 22	930	930	929	929	929	929	928	928	928	927	927	926	925	925	924	924	923	923	922	922	922	921	921	920	920	930	926	
Apr 23	920	920	920	919	919	919	919	919	918	918	918	917	917	916	916	916	916	915	915	915	915	915	915	915	915	920	917	
Apr 24	915	915	915	915	915	915	915	915	916	917	917	917	917	917	918	918	918	918	918	918	918	918	918	918	915	918	917	
Apr 25	918	918	918	917	917	917	917	917	917	916	916	915	915	916	917	916	916	916	916	916	916	917	917	918	915	918	917	
Apr 26	918	918	918	918	918	918	918	918	917	917	916	915	914	913	913	912	912	912	912	912	912	912	913	913	912	918	915	
Apr 27	914	914	915	916	917	918	919	920	920	921	922	922	922	922	922	922	922	922	922	921	921	921	921	914	922	920		
Apr 28	920	920	919	919	919	920	920	920	921	921	921	921	921	921	921	921	922	922	922	922	923	923	924	924	919	925	921	
Apr 29	925	926	926	926	927	927	927	928	928	927	927	927	926	926	925	925	924	924	924	924	924	924	924	924	924	928	926	
Apr 30	923	924	923	923	923	923	923	922	922	922	921	921	921	920	920	919	919	919	918	918	918	918	918	918	918	924	921	
Diurnal Maximum	931	931	931	931	931	932	932	932	933	933	933	933	933	933	933	933	932	932	932	932	931	931	931	931	930	933	932	
Diurnal Average	917	917	917	917	917	917	917	918	918	918	918	918	917	917	917	917	917	917	917	917	917	917	917	917	917	917	917	

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

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.



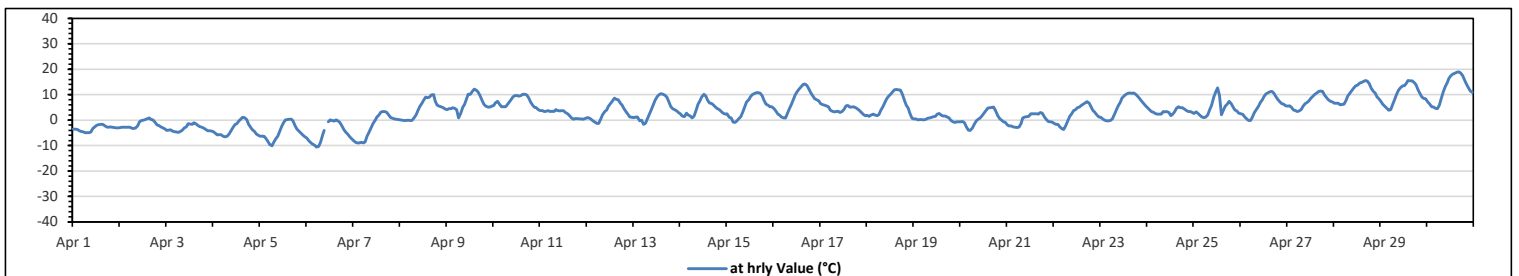
Lakeland Industry & Community Association
St. Lina Site - April 2023
Summary of Hourly Averages
AMBIENT TEMPERATURE (AT) in Degree Celsius

Maximum Hourly Value:	19.0 °C	on Apr 30 at hr 16	Hours in Service:	720
Maximum Daily Value:	12.3 °C	on Apr 30	Hours of Data:	719
Minimum Hourly Value:	-10.6 °C	on Apr 6 at hr 5	Hours of Missing Data:	1
Minimum Daily Value:	-5.0 °C	on Apr 6	Hours of Calibration:	0
Monthly Average:	3.2 °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
Apr 1	-3.6	-3.6	-3.7	-4.2	-4.5	-4.6	-5	-5	-5	-4.7	-3.3	-2.6	-2.1	-1.8	-1.7	-1.7	-2.2	-2.7	-2.8	-2.7	-2.8	-2.9	-3	-3	-5.0	-1.7	-3.3
Apr 2	-2.9	-2.8	-2.8	-2.8	-2.8	-2.8	-3.2	-3.3	-3	-2.3	-0.7	-0.2	0	0.2	0.6	0.8	0.2	0.1	-0.8	-1.9	-2.2	-2.6	-3	-3.5	-3.5	0.8	-1.7
Apr 3	-4	-3.9	-3.8	-4.3	-4.6	-4.7	-4.8	-4.5	-3.9	-3.1	-2.6	-1.4	-1.5	-1.6	-1.1	-1.4	-2.1	-2.5	-2.8	-3.2	-3.7	-4.2	-4.2	-4.3	-4.8	-1.1	-3.3
Apr 4	-4.6	-5.2	-5.8	-5.7	-5.8	-6.4	-6.5	-6.3	-5.4	-4.2	-2.9	-1.8	-1.4	-0.4	0.3	1.1	1	0.2	-1.7	-2.8	-3.7	-4.5	-5.4	-5.9	-6.5	1.1	-3.5
Apr 5	-6.4	-6.4	-6.4	-7.2	-8.3	-9.6	-10.1	-8.6	-7.3	-6.4	-4.4	-2.5	-1.1	0.1	0.2	0.3	0.3	-0.4	-2.2	-3.6	-4.5	-5.2	-6	-6.6	-10.1	0.3	-4.7
Apr 6	-7.1	-8.1	-8.9	-9.4	-9.9	-10.6	-10.4	-8.6	-5.9	-4	K	-0.7	0.1	-0.2	-0.4	0.1	-0.3	-1	-2.2	-3.8	-4.8	-5.5	-6.6	-7.4	-10.6	0.1	-5.0
Apr 7	-8.1	-8.8	-9	-9	-8.8	-9	-8.6	-6.4	-4.8	-2.9	-1.3	-0.1	1.2	2	3.1	3.4	3.3	3.1	2	1	0.7	0.4	0.3	0.2	-9.0	3.4	-2.3
Apr 8	0.1	0	-0.1	-0.1	0	-0.1	-0.1	0.7	2	3.7	5.4	6.5	7.7	9	8.8	9	9.8	10	7.5	5.8	5.5	5.2	4.9	4.3	-0.1	10.0	4.4
Apr 9	4.1	4.5	4.4	4.8	4.6	4.1	0.8	2.8	5	6.3	8.1	10.1	10.2	11.2	12.2	11.8	11	9.6	7.9	6.3	5.5	5.1	5.1	5.5	0.8	12.2	6.7
Apr 10	5.7	6.8	7.3	6.2	5.3	5.2	5.3	6	7	8	9.1	9.6	9.6	9.4	9.6	10.1	10.2	9.9	8.7	7.1	5.7	5	4.8	4.2	4.2	10.2	7.3
Apr 11	3.8	3.7	3.4	3.5	3.7	3.3	3.5	3.4	4.1	3.8	3.6	3.7	3.6	3	2.5	1.7	0.8	0.3	0.5	0.5	0.4	0.4	0.3	0.6	0.3	4.1	2.4
Apr 12	1	0.8	0.3	-0.3	-0.8	-1.2	-1.2	0.3	2.1	3.4	4	5.4	6.4	7.5	8.6	8.2	8.1	6.8	5.8	4.4	3.3	2.4	1.2	1.1	-1.2	8.6	3.2
Apr 13	1	1.2	1.2	-0.3	0	-1.6	-1.3	0.4	2.2	4	5.9	7.8	9.3	10	10.4	10.2	9.7	9	7.2	5.4	4.5	4.1	3.6	3	-1.6	10.4	4.5
Apr 14	2.5	1.6	1.4	2.7	2	1.6	0.9	1.6	3.7	6.1	7.5	9.2	10.2	9.4	7.9	6.8	6.5	5.8	5.1	4.4	4.2	3.4	2.7	2.4	0.9	10.2	4.6
Apr 15	2.5	1.1	0.9	-0.8	-1	-0.3	0.6	1.4	3.1	5.1	7.1	8.1	9.1	10	10.4	10.8	10.8	10.5	9.5	7.7	6.3	5.8	5.3	5.3	-1.0	10.8	5.4
Apr 16	4.5	3.5	2.4	2	1.2	0.8	0.8	2.7	4.5	6.1	8.1	9.8	11.1	12.2	13.2	14	14.2	13.6	12.4	10.7	9.5	8.4	8	7.5	0.8	14.2	7.6
Apr 17	6.5	6.1	5.9	5.6	5.2	3.9	3.5	3.2	3.4	3.5	2.9	3.4	4.2	5.6	5.7	5.1	5.1	5.2	4.9	4.3	3.7	2.9	2.2	1.7	1.7	6.5	4.3
Apr 18	1.8	1.5	1.9	2.3	2	1.7	2.2	3.7	5.2	6.9	8.3	9.4	10.3	11	11.9	12.1	11.9	11.8	10.2	7.9	5.9	4.7	2.5	0.7	0.7	12.1	6.2
Apr 19	0.4	0.4	0.1	0.2	0.2	0.1	0.2	0.7	0.9	1.1	1.4	1.5	2.4	2.6	1.9	1.6	1.6	1.3	0.8	0	-0.7	-0.9	-0.7	-0.7	-0.9	2.6	0.7
Apr 20	-0.7	-0.6	-1.1	-2.7	-3.9	-4.1	-3	-1.5	-0.3	0.3	0.9	1.7	2.8	3.8	4.7	4.8	5	5.1	3.7	1.7	0.5	0	-0.7	-1	-4.1	5.1	0.6
Apr 21	-1.9	-2.4	-2.4	-2.6	-2.8	-2.9	-2.7	-1.3	0.8	1.2	1.4	1.5	2.5	2.5	2.5	2.5	2.4	2.9	2.7	1.2	0.2	-0.6	-0.7	-0.8	-2.9	2.9	0.1
Apr 22	-1.2	-1.6	-1.7	-2.6	-3.5	-3.7	-2.4	-0.6	1.5	2.5	3.7	4.2	4.8	5.1	5.7	6.3	6.8	7.2	6.7	5.1	3.9	3.1	2	1.3	-3.7	7.2	2.2
Apr 23	1.1	0.4	0	-0.3	-0.3	-0.2	0.4	2.3	4.1	5.7	7	8.6	9.5	10.1	10.5	10.7	10.6	10.7	10.1	9.4	8.5	7.3	6.5	5.6	-0.3	10.7	5.8
Apr 24	4.8	4.1	3.4	3.1	2.6	2.3	2.3	2.4	3.4	3.2	3.4	3	1.7	2.3	3.3	4.7	5.2	4.8	4.8	4.3	3.7	3.4	3.3	3	1.7	5.2	3.4
Apr 25	2.6	3.2	2.6	1.8	1.2	1	1.3	2	4	5.7	9	11	12.7	9.6	2.1	3.9	5.5	6.3	7.3	6.4	5	4	3.6	2.7	1.0	12.7	4.8
Apr 26	2.5	2.2	1.2	0.4	-0.1	-0.1	1.3	2.9	4.2	5.5	7	8.1	9.3	10.3	10.8	11.1	11.2	10.5	9.3	8.2	7.2	6.5	6.3	5.6	-0.1	11.2	5.9
Apr 27	5.5	5.6	5	4	3.7	3.4	3.6	4.2	5.6	6.5	6.9	7.5	8.5	9.4	10.2	10.7	11.3	11.4	11.3	9.8	8.9	8.1	7.4	7.1	3.4	11.4	7.3
Apr 28	6.7	6.7	6.6	6	6.1	6.2	7.6	9.5	10.6	11.5	12.5	13.5	13.8	14.5	14.9	15.1	15.6	15.3	14.3	12.5	11.4	10.6	9.2	8.4	6.0	15.6	10.8
Apr 29	7.4	6.3	5.4	4.6	3.9	4.2	6.1	8	10	11.7	12.7	13.5	13.6	14.3	15.5	15.4	15.4	14.8	13.9	12	10.5	9.2	8.5	8.3	3.9	15.5	10.2
Apr 30	7.2	6.3	5.3	5.1	4.6	4.4	5.8	8.5	11	13	14.9	16.4	17.5	18.1	18.5	18.8	19	18.5	17.5	15.7	14	12.6	11.4	10.9	4.4	19.0	12.3
Diurnal Maximum	7.4	6.8	7.3	6.2	6.1	6.2	7.6	9.5	11.0	13.0	14.9	16.4	17.5	18.1	18.5	18.8	19.0	18.5	17.5	15.7	14.0	12.6	11.4	10.9			
Diurnal Average	1.0	0.8	0.4	0.0	-0.4	-0.7	-0.4	0.7	2.1	3.2	4.7	5.5	6.2	6.6	6.8	6.9	6.9	6.6	5.7	4.5	3.6	2.9	2.3	1.9			

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

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.



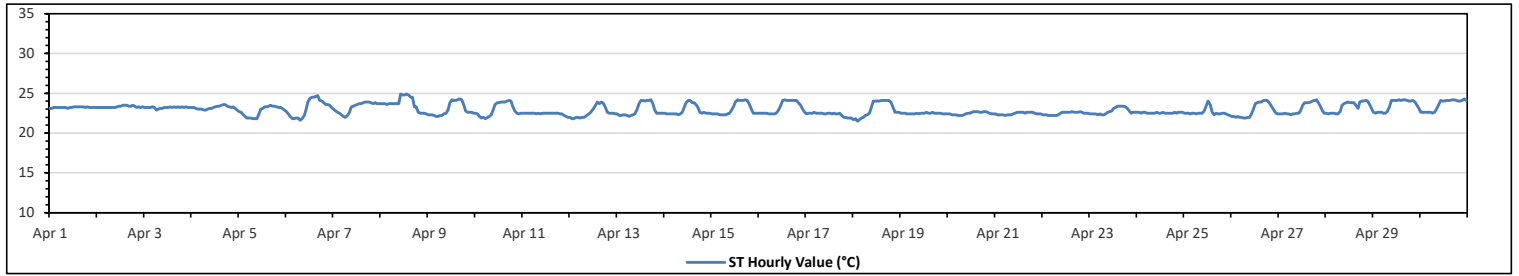
Lakeland Industry & Community Association
St. Lina Site - April 2023
Summary of Hourly Averages
STATION TEMPERATURE (ST) in Degree Celsius

Maximum Hourly Value:	24.9 °C	on Apr 8 at hr 10	Hours in Service:	720
Maximum Daily Value:	23.7 °C	on Apr 8	Hours of Data:	720
Minimum Hourly Value:	21.5 °C	on Apr 18 at hr 2	Hours of Missing Data:	0
Minimum Daily Value:	22.4 °C	on Apr 17	Hours of Calibration:	0
Monthly Average:	22.9 °C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Apr 1	23.1	23.1	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.1	23.2	23.2	23.3	23.3	23.3	23.3	23.3	23.3	23.2	23.3	23.2	23.2	23.2	23.2	23.1	23.3	23.2
Apr 2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.3	23.4	23.4	23.5	23.5	23.5	23.4	23.4	23.5	23.4	23.2	23.3	23.2	23.3	23.2	23.5	23.3
Apr 3	23.2	23.2	23.2	23.2	23.3	23.2	22.9	23.0	23.1	23.1	23.2	23.2	23.2	23.3	23.2	23.3	23.2	23.3	23.2	23.3	23.2	23.3	23.2	23.2	22.9	23.3	23.2
Apr 4	23.2	23.2	23.1	23.0	23.0	23.0	22.9	22.9	23.0	23.1	23.1	23.2	23.3	23.4	23.4	23.5	23.6	23.6	23.4	23.3	23.2	23.3	23.1	22.9	22.9	23.6	23.2
Apr 5	22.7	22.6	22.3	22.1	21.9	21.9	21.9	21.8	21.8	21.8	22.3	23.0	23.1	23.3	23.3	23.4	23.5	23.4	23.4	23.3	23.2	23.2	23.1	22.9	21.8	23.5	22.7
Apr 6	22.7	22.4	22.1	21.8	21.8	21.9	21.9	21.6	21.8	22.2	22.9	23.9	24.4	24.5	24.5	24.6	24.7	24.1	24.0	23.8	23.6	23.6	23.5	23.2	21.6	24.7	23.1
Apr 7	23.0	22.8	22.6	22.5	22.3	22.1	22.0	22.2	22.6	23.3	23.4	23.5	23.6	23.7	23.7	23.8	23.9	23.9	23.9	23.8	23.7	23.8	23.7	23.7	22.0	23.9	23.2
Apr 8	23.7	23.7	23.7	23.6	23.7	23.7	23.7	23.7	23.7	23.7	24.9	24.8	24.8	24.9	24.8	24.5	24.5	23.3	23.3	22.6	22.5	22.5	22.5	22.4	22.4	24.9	23.7
Apr 9	22.3	22.3	22.3	22.2	22.1	22.1	22.2	22.2	22.4	22.5	22.9	23.8	24.2	24.1	24.1	24.2	24.3	24.2	23.6	22.8	22.6	22.6	22.6	22.5	22.1	24.3	23.0
Apr 10	22.5	22.4	22.1	21.9	22.0	21.8	22.0	22.1	22.3	22.9	23.6	23.8	23.8	23.9	23.9	23.9	24.0	24.1	24.0	23.4	22.8	22.8	22.5	22.4	22.5	21.8	24.1
Apr 11	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.4	22.5	22.4	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.4	22.4	22.2	22.1	22.0	22.0	22.5
Apr 12	22.0	21.8	21.8	22.0	22.0	21.9	22.0	22.0	22.1	22.3	22.5	22.8	23.1	23.5	23.9	23.7	23.9	23.7	23.2	22.6	22.5	22.5	22.5	22.4	21.8	23.9	22.6
Apr 13	22.4	22.2	22.2	22.3	22.3	22.2	22.1	22.2	22.3	22.4	22.9	23.7	24.1	24.1	24.0	24.1	24.1	24.2	23.7	22.9	22.5	22.5	22.5	22.5	22.1	24.2	22.9
Apr 14	22.5	22.4	22.4	22.4	22.4	22.4	22.4	22.3	22.4	22.6	23.2	23.8	24.1	24.1	23.8	23.8	23.6	23.2	22.6	22.5	22.6	22.5	22.5	22.5	22.3	24.1	22.9
Apr 15	22.4	22.4	22.4	22.4	22.3	22.3	22.3	22.3	22.4	22.5	22.9	23.3	23.9	24.2	24.1	24.1	24.1	24.2	24.1	23.7	23.0	22.5	22.5	22.5	22.3	24.2	23.0
Apr 16	22.5	22.5	22.5	22.5	22.5	22.4	22.4	22.4	22.4	22.6	22.9	23.5	24.1	24.2	24.1	24.1	24.1	24.1	24.1	24.1	23.8	23.5	23.1	22.7	22.4	24.2	23.2
Apr 17	22.4	22.5	22.5	22.5	22.6	22.5	22.5	22.5	22.5	22.4	22.4	22.5	22.5	22.4	22.5	22.4	22.4	22.5	22.2	22.0	22.0	21.9	21.9	21.9	21.9	22.6	22.4
Apr 18	21.7	21.8	21.5	21.7	21.9	22.0	22.2	22.3	22.5	23.2	24.0	24.0	24.0	24.1	24.1	24.1	24.1	24.1	23.9	23.2	22.6	22.6	22.6	21.5	24.1	23.0	
Apr 19	22.5	22.5	22.5	22.4	22.4	22.4	22.4	22.5	22.4	22.5	22.5	22.5	22.6	22.5	22.5	22.6	22.5	22.5	22.5	22.5	22.4	22.4	22.4	22.4	22.4	22.6	22.5
Apr 20	22.4	22.4	22.3	22.3	22.3	22.2	22.2	22.2	22.3	22.4	22.5	22.5	22.6	22.7	22.7	22.7	22.6	22.6	22.7	22.7	22.6	22.5	22.4	22.4	22.2	22.7	22.5
Apr 21	22.4	22.3	22.3	22.3	22.3	22.2	22.3	22.3	22.3	22.4	22.5	22.6	22.6	22.6	22.6	22.5	22.6	22.6	22.6	22.6	22.5	22.4	22.4	22.2	22.2	22.6	22.4
Apr 22	22.3	22.3	22.3	22.2	22.2	22.2	22.2	22.2	22.3	22.5	22.6	22.6	22.6	22.6	22.6	22.7	22.6	22.6	22.6	22.7	22.6	22.5	22.5	22.2	22.2	22.7	22.5
Apr 23	22.4	22.4	22.4	22.4	22.3	22.4	22.3	22.3	22.4	22.6	22.7	22.8	23.1	23.2	23.4	23.4	23.4	23.3	23.1	22.8	22.5	22.6	22.6	22.3	23.4	22.8	
Apr 24	22.6	22.6	22.5	22.6	22.6	22.5	22.5	22.5	22.5	22.6	22.6	22.5	22.5	22.6	22.5	22.5	22.5	22.5	22.5	22.6	22.5	22.6	22.6	22.5	22.5	22.6	22.5
Apr 25	22.5	22.5	22.5	22.4	22.5	22.5	22.4	22.5	22.5	22.5	22.8	23.4	24.0	23.6	22.6	22.3	22.5	22.4	22.4	22.5	22.5	22.4	22.3	22.2	22.2	24.0	22.6
Apr 26	22.1	22.1	22.0	22.1	22.0	22.0	21.9	21.9	22.0	22.0	22.4	23.0	23.7	23.8	23.9	23.9	24.1	24.1	24.1	23.8	23.4	23.0	22.6	22.4	21.9	24.1	22.8
Apr 27	22.4	22.4	22.4	22.5	22.4	22.4	22.3	22.4	22.4	22.5	22.5	22.8	23.5	23.8	23.8	23.8	23.9	24.0	24.1	24.2	23.8	23.4	22.8	22.5	22.3	24.2	23.0
Apr 28	22.5	22.4	22.5	22.5	22.5	22.4	22.4	22.7	23.5	23.7	23.8	23.9	23.8	23.8	23.8	23.5	23.1	23.9	24.0	24.0	24.1	24.0	23.6	23.1	22.4	24.1	23.3
Apr 29	22.6	22.5	22.6	22.6	22.6	22.5	22.7	23.3	24.1	24.1	24.1	24.1	24.2	24.1	24.2	24.2	24.1	24.0	24.0	24.1	23.9	23.5	23.1	22.5	24.2	23.5	
Apr 30	22.6	22.6	22.6	22.6	22.6	22.5	22.6	23.0	23.6	24.1	24.0	24.0	24.1	24.1	24.1	24.2	24.2	24.1	24.0	24.0	24.1	24.3	24.1	22.5	24.3	23.5	
Diurnal Maximum	23.7	23.7	23.7	23.6	23.7	23.7	23.7	23.7	23.7	24.1	24.9	24.8	24.8	24.9	24.8	24.6	24.7	24.2	24.1	24.2	24.1	24.1	24.3	24.1			
Diurnal Average	22.6	22.5	22.5	22.5	22.5	22.4	22.4	22.4	22.6	22.8	23.0	23.3	23.5	23.6	23.5	23.5	23.5	23.5	23.4	23.2	23.0	22.9	22.8	22.7			

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

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 - April 2023
Summary of Hourly Averages

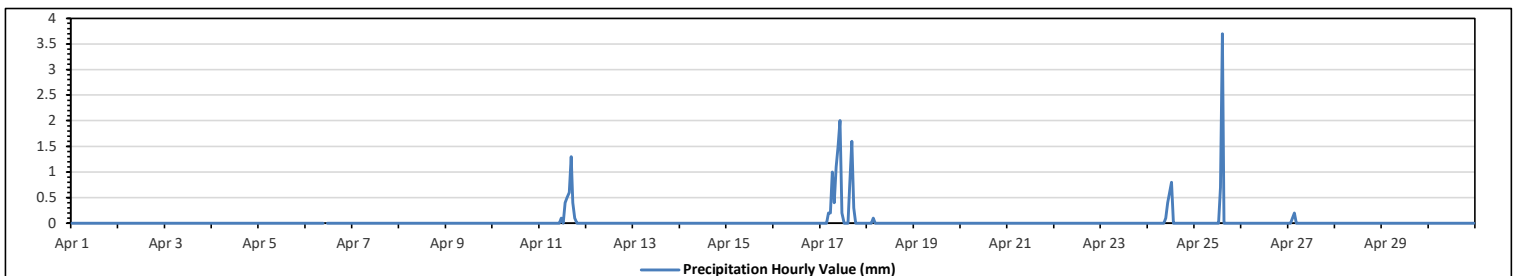
PRECIPITATION in mm

Maximum Hourly Value:	3.7 mm on Apr 25 at hr 14	Hours in Service:	720
Maximum Daily Value:	9.2 mm on Apr 17	Hours of Data:	719
Minimum Hourly Value:	0.0 mm on Apr 1 at hr 0	Hours of Missing Data:	1
Minimum Daily Value:	0.0 mm on Apr 1	Hours of Calibration:	0
Monthly Total:	19.3 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
Apr 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
Apr 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
Apr 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
Apr 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
Apr 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
Apr 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
Apr 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
Apr 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
Apr 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
Apr 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
Apr 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	1.3	3.4
Apr 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	2.0	9.2
Apr 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
Apr 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Apr 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
Apr 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
Apr 17	0	0	0	0	0	0.2	0.2	1	0.4	1.1	1.5	2	0.2	0	0	0	0.7	1.6	0.3	0	0	0	0	0	0.0	2.0	9.2
Apr 18	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	0.1
Apr 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
Apr 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
Apr 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
Apr 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
Apr 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
Apr 24	0	0	0	0	0	0	0	0	0	0	0.1	0.4	0.6	0.8	0	0	0	0	0	0	0	0	0	0	0.0	0.8	1.9
Apr 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	3.7	0	0	0	0	0	0	0	0	0.0	3.7	4.4
Apr 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
Apr 27	0	0	0.1	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2	0.3
Apr 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
Apr 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
Apr 30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Diurnal Maximum	0.0	0.0	0.1	0.2	0.2	0.2	1.0	0.4	1.1	1.5	2.0	0.6	0.8	0.7	3.7	0.7	1.6	0.4	0.1	0.0	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	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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

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 - April 2023

Summary of Hourly Averages

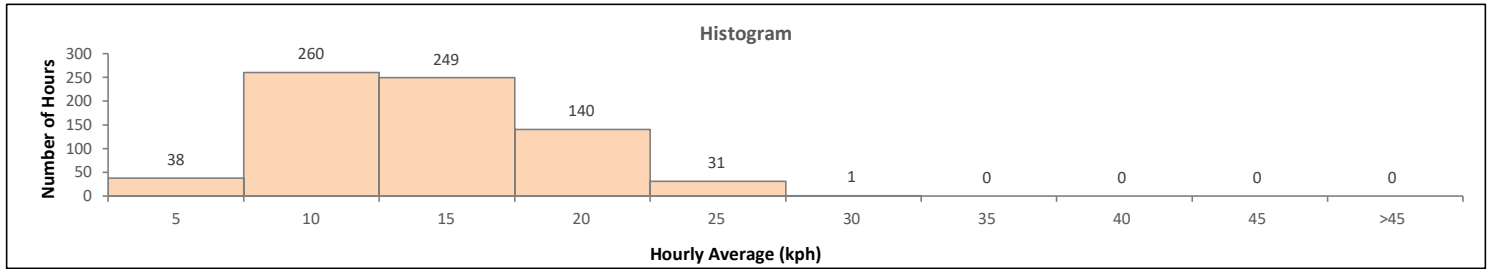
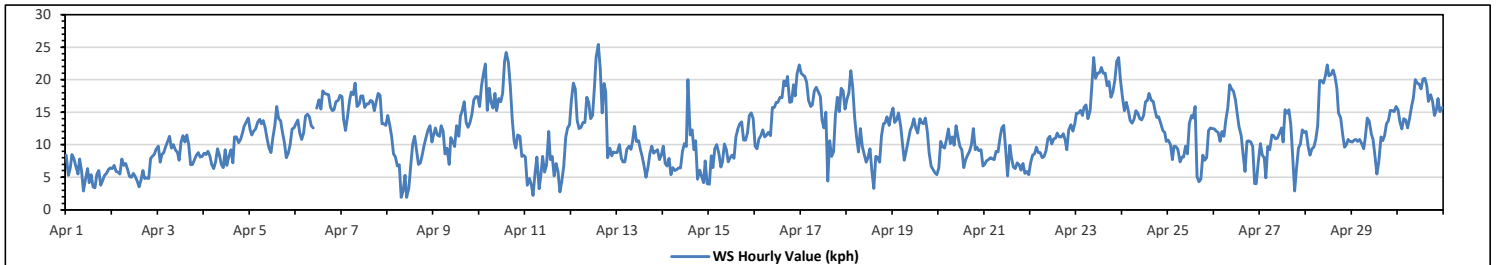
VECTOR WIND SPEED (VWS) in km/hr

Maximum Hourly Value:	25.4 kph	on Apr 12 at hr 14	Hours in Service:	720
Maximum Daily Value:	18.7 kph	on Apr 23	Hours of Data:	719
Minimum Hourly Value:	1.9 kph	on Apr 8 at hr 7	Hours of Missing Data:	1
Minimum Daily Value:	5.7 kph	on Apr 1	Hours of Calibration:	0
Monthly Average:	4.6 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
Apr 1	8.4	5.3	6.5	8.5	7.9	6.7	5.5	7.8	6.0	2.9	4.6	6.3	4.2	5.4	3.5	3.4	5.5	6.0	3.8	4.5	5.3	5.6	6.2	6.4	2.9	8.5	5.7
Apr 2	6.3	6.8	5.9	5.8	5.5	7.8	6.8	7.1	6.2	5.1	5.0	5.6	5.2	4.4	3.5	4.6	6.0	4.8	4.9	4.8	7.9	8.2	8.5	9.3	3.5	9.3	6.1
Apr 3	9.8	7.3	8.5	8.8	9.7	10.6	11.3	9.5	10.0	9.2	8.8	7.6	10.4	11.4	10.4	11.5	10.0	6.9	7.0	7.7	8.4	8.8	8.1	8.2	6.9	11.5	9.2
Apr 4	8.7	8.5	9.0	8.3	6.9	6.3	7.4	9.4	8.4	7.0	6.5	9.2	6.8	8.3	9.2	7.2	11.2	10.3	10.8	11.8	12.8	13.4	14.1	6.3	14.1	9.3	
Apr 5	12.3	11.5	12.1	12.4	13.5	13.9	13.2	13.7	12.6	10.9	9.5	8.8	11.1	12.9	15.9	14.0	13.7	11.9	10.3	8.0	8.7	10.0	12.4	12.6	8.0	15.9	11.9
Apr 6	13.2	13.8	11.8	10.8	11.8	14.4	14.7	14.3	12.9	12.6	K	15.6	16.9	15.5	18.3	17.9	17.8	17.7	15.8	15.2	15.4	16.6	16.8	17.6	10.8	18.3	15.1
Apr 7	17.4	13.9	12.2	14.6	16.9	18.1	17.7	19.5	15.9	16.3	17.5	17.5	15.7	16.3	16.3	16.8	16.7	15.2	16.6	17.9	17.6	13.2	13.0	12.2	19.5	16.1	
Apr 8	14.5	13.1	11.3	8.6	8.1	6.7	6.9	1.9	2.9	5.3	1.9	3.4	6.9	10.1	11.3	9.5	7.0	7.2	8.5	9.8	11.0	12.3	12.9	10.4	1.9	14.5	8.4
Apr 9	11.5	12.6	11.5	11.3	12.9	12.1	8.6	9.5	7.0	11.1	10.4	9.7	12.9	11.3	14.4	15.3	16.6	13.4	12.7	13.4	14.7	16.9	17.4	17.4	7.0	17.4	12.7
Apr 10	15.9	19.1	20.9	22.4	15.3	18.7	16.5	15.6	17.9	15.2	17.1	16.6	17.9	22.8	24.2	22.7	19.0	13.9	10.5	9.5	11.5	11.3	8.2	8.4	8.2	24.2	16.3
Apr 11	8.1	3.8	4.8	3.8	2.2	5.5	8.1	3.2	5.1	8.2	5.8	6.8	12.0	7.7	8.2	5.2	7.1	5.9	2.7	4.4	6.7	11.1	12.6	13.1	2.2	13.1	6.8
Apr 12	16.9	19.5	18.6	13.7	12.5	12.7	13.4	13.4	17.3	16.5	14.0	14.5	18.9	23.4	25.4	21.8	14.9	19.4	18.2	8.0	9.5	8.3	8.9	8.8	8.0	25.4	15.4
Apr 13	8.8	10.0	7.9	7.4	7.4	9.3	9.8	9.3	10.5	12.8	10.5	10.6	9.4	8.2	6.7	5.0	6.5	8.6	9.8	8.7	9.0	9.2	7.7	8.4	5.0	12.8	8.8
Apr 14	9.8	7.1	6.7	7.9	5.4	6.5	6.0	6.2	6.4	6.4	9.0	10.2	9.7	20.0	11.5	12.3	9.2	10.6	4.7	6.1	5.1	4.2	7.5	4.0	4.0	20.0	8.0
Apr 15	3.9	8.3	6.5	9.4	10.0	8.6	6.6	7.4	10.1	9.3	7.4	8.0	8.4	7.9	11.2	12.4	13.2	13.5	10.7	10.7	11.8	14.5	14.9	14.0	3.9	14.9	9.9
Apr 16	9.8	9.4	10.9	11.4	12.3	11.2	11.5	11.9	11.4	15.7	15.7	16.5	16.5	17.3	17.2	19.8	19.1	20.5	16.5	16.6	19.2	17.5	20.9	22.3	9.4	22.3	15.5
Apr 17	21.0	20.7	20.5	19.6	16.8	15.9	16.2	18.3	18.8	18.2	17.4	13.8	12.6	15.0	4.4	10.6	8.2	8.9	14.6	17.3	15.1	18.7	18.3	15.5	4.4	21.0	15.7
Apr 18	17.0	18.0	21.4	18.8	14.2	11.2	8.9	12.5	9.7	8.5	7.3	7.9	9.4	5.9	3.3	8.2	8.1	7.3	11.4	13.2	13.3	14.3	13.0	14.7	3.3	21.4	11.6
Apr 19	15.6	13.4	13.8	14.9	12.8	9.9	7.6	9.0	10.5	12.3	12.8	14.0	12.6	11.8	14.0	13.4	13.2	14.1	12.1	8.7	6.7	6.2	5.7	5.4	5.4	15.6	11.3
Apr 20	6.4	10.5	9.7	9.5	10.8	12.4	10.2	11.2	9.9	12.9	11.2	9.7	9.2	6.5	7.7	8.3	9.0	10.0	12.5	9.2	9.6	9.1	9.2	6.7	6.4	12.9	9.6
Apr 21	7.0	7.5	7.7	8.0	7.8	7.7	9.0	8.9	11.3	12.6	13.0	9.2	5.2	9.9	8.0	6.6	6.3	7.2	6.9	6.1	7.1	5.6	5.9	5.4	5.2	13.0	7.9
Apr 22	7.2	8.4	8.6	9.6	8.8	8.8	8.0	8.2	9.1	10.9	11.3	10.1	10.9	11.0	11.8	11.2	11.2	11.7	10.7	9.2	12.3	13.1	12.1	13.2	7.2	13.2	10.3
Apr 23	14.8	14.8	15.3	14.5	15.8	16.1	14.0	15.3	19.6	23.4	20.2	21.0	21.1	21.9	21.0	21.0	19.1	19.7	17.3	18.1	19.9	22.8	23.4	19.8	14.0	23.4	18.7
Apr 24	17.3	15.2	16.5	15.3	13.7	13.3	13.9	15.2	14.8	14.0	13.8	14.5	16.6	16.8	17.9	16.8	16.7	15.2	14.2	14.3	13.2	12.2	11.9	10.5	10.5	17.9	14.7
Apr 25	10.7	10.0	7.7	9.8	9.7	9.3	7.4	8.1	8.1	9.8	8.6	13.3	14.5	14.1	15.9	5.1	4.3	4.7	8.4	7.6	8.0	12.2	12.6	12.5	4.3	15.9	9.7
Apr 26	12.4	12.1	11.9	10.5	12.0	11.3	13.8	15.6	19.2	18.6	18.2	16.9	14.6	12.8	11.4	8.5	5.9	10.5	10.6	10.4	9.7	4.0	4.0	7.1	4.0	19.2	11.8
Apr 27	10.2	8.4	8.0	4.9	9.7	9.2	11.5	11.4	10.9	11.0	11.7	12.6	10.4	15.4	14.8	15.4	13.1	8.1	2.9	6.4	9.5	10.1	12.3	11.9	2.9	15.4	10.4
Apr 28	12.0	9.8	8.4	9.4	9.6	10.8	12.9	19.9	19.9	19.5	20.6	22.3	20.6	20.8	21.5	20.5	18.7	14.9	14.1	11.6	9.6	10.0	10.8	10.5	8.4	22.3	14.9
Apr 29	10.4	10.7	10.8	10.5	10.8	10.1	9.4	11.2	14.1	13.6	11.6	10.8	8.3	5.5	7.4	11.2	10.6	11.4	13.2	13.7	15.3	15.2	15.1	15.9	5.5	15.9	11.5
Apr 30	15.4	13.5	12.4	14.0	13.8	12.6	14.0	15.8	17.2	20.0	19.5	19.3	18.6	20.1	20.2	19.1	16.7	17.7	16.7	14.5	15.4	17.1	15.1	15.7	12.4	20.2	16.4
Diurnal Maximum	21.0	20.7	21.4	22.4	16.9	18.7	17.7	19.9	19.9	23.4	20.6	22.3	21.1	23.4	25.4	22.7	19.1	20.5	18.2	18.1	19.9	22.8	23.4	22.3			
Diurnal Average	11.8	11.4	11.3	11.1	10.8	10.9	10.7	11.3	11.8	12.3	11.8	12.1	12.3	13.0	12.9	12.5	11.8	11.6	11.0	10.5	11.3	11.7	12.0	11.8			

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

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.

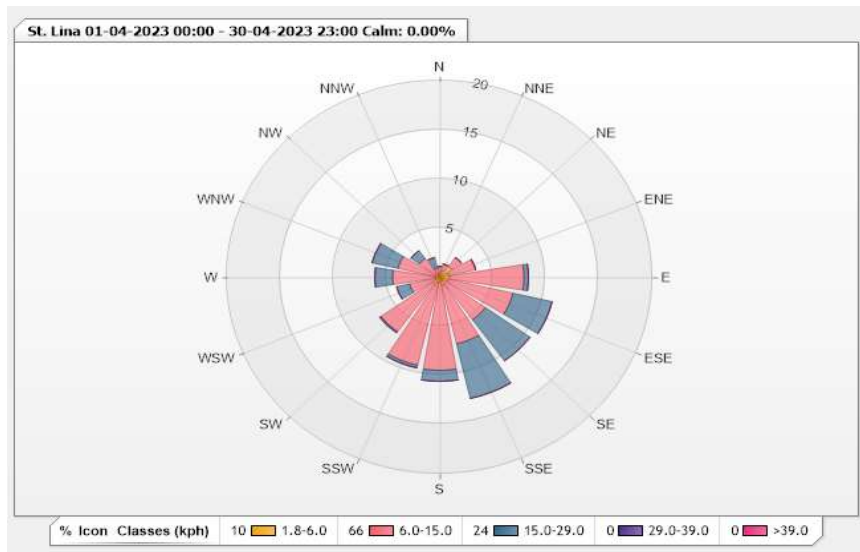


Station: St. Lina Monitor: WDS [kph] Monthly: 04-2023

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

Calm (WS<1.8kph): 0.00% Valid Data: 99.86%

Direction	1.8-6.0	6.0-15.0	15.0-29.0	29.0-39.0	>39.0	Total
N	0.28	0.83	0	0	0	1.11
NNE	0.7	0.7	0	0	0	1.4
NE	1.39	1.11	0	0	0	2.5
ENE	0.83	2.64	0	0	0	3.47
E	0.97	6.95	0.42	0	0	8.34
ESE	0.83	6.26	3.76	0	0	10.85
SE	0.28	5.01	5.15	0	0	10.44
SSE	0.83	6.12	5.7	0	0	12.65
S	0.42	9.04	1.11	0	0	10.57
SSW	0.56	8.62	0.28	0	0	9.46
SW	0.83	5.98	0.14	0	0	6.95
WSW	0.42	2.5	1.25	0	0	4.17
W	0.42	4.03	1.67	0	0	6.12
WNW	0.42	3.62	2.5	0	0	6.54
NW	0.28	2.09	0.97	0	0	3.34
NNW	0.28	0.7	1.11	0	0	2.09
Summary	9.74	66.2	24.06	0	0	100



Lakeland Industry & Community Association

St. Lina Site - April 2023

Summary of Hourly Averages

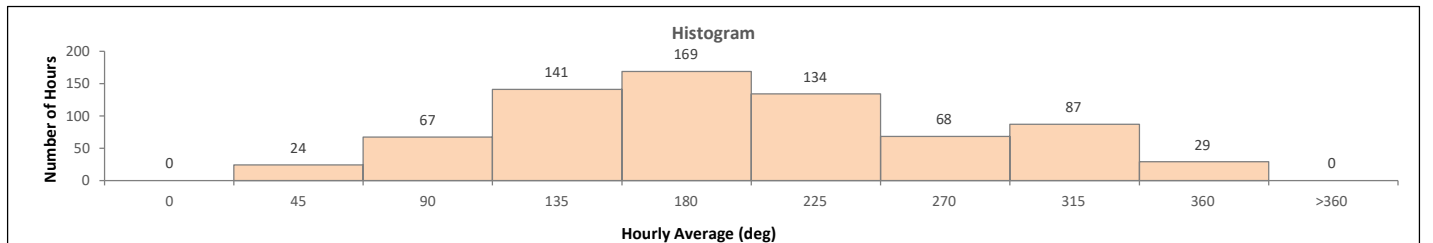
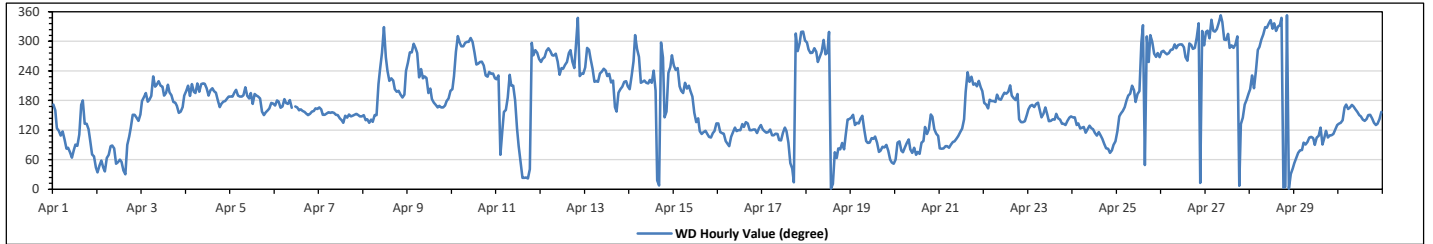
WIND DIRECTION (VWD) in sector

Monthly Average:	167 (SSE) degree	Hours in Service:	720
		Hours of Data:	719
		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
Apr 1	S	SSE	ESE	ESE	ESE	ESE	E	E	E	ENE	ENE	E	E	E	ESE	S	S	SE	SE	ESE	E	ENE	ENE	NE	107	ESE
Apr 2	NE	NE	ENE	NE	NE	ENE	ENE	E	E	E	NE	NE	ENE	NE	NE	NNE	E	ESE	SE	SSE	SSE	SE	SE	SSE	85	E
Apr 3	S	S	SSW	S	S	S	SW	SSW	SSW	SW	SSW	SSW	S	SSW	SSW	SSW	S	S	SSE	SSE	SSE	SSE	SSE	S	192	S
Apr 4	SSW	SSW	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	SSW	SSW	SSW	S	SSE	S	S	S	S	S	S	194	SSW
Apr 5	S	S	SSW	SSW	S	S	S	S	SSW	S	S	SSW	S	S	S	S	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	183	S
Apr 6	SSE	S	SSE	SSE	SSE	S	S	S	SSE	K	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	165	SSE
Apr 7	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	151	SSE
Apr 8	SSE	SE	SE	SE	SE	SE	SE	SE	SSE	SSE	WSW	W	NNW	W	WSW	SW	SW	SSW	SSW	S	S	S	WSW	190	S	
Apr 9	WSW	W	W	WNW	WNW	W	SW	WSW	SW	SW	SW	SSW	SSW	S	S	S	SSE	SSE	SSE	SSE	SSE	S	S	SSW	207	SSW
Apr 10	SSW	SW	W	NW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NNW	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	SW	269	W
Apr 11	SW	SW	ENE	ESE	SSE	SSE	S	SW	SSW	SSW	S	ESE	E	NE	NNE	NNE	NNE	NNE	NE	WNW	W	W	W	W	239	WSW
Apr 12	WSW	W	W	WNW	W	W	W	W	WSW	SW	WSW	WSW	WSW	WSW	WSW	W	W	WSW	WSW	WNW	NNW	SW	SW	SW	263	W
Apr 13	WSW	WNW	W	W	WSW	SW	SW	SW	WSW	WSW	WSW	WSW	SW	SW	SW	SSE	SSE	SSW	SSW	SSW	SW	SW	SSW	227	SW	
Apr 14	SSW	SW	WSW	NW	WNW	W	SW	SW	SW	SW	SSW	SW	SW	WSW	SSW	NNE	N	WNW	W	SE	SSE	SW	WSW	W	240	WSW
Apr 15	WSW	WSW	WSW	SSW	SSW	SSW	SW	SSW	SSW	S	SSE	SE	SE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	150	SSE
Apr 16	SE	ESE	ESE	ESE	E	E	E	ESE	ESE	SE	ESE	ESE	SE	SE	SE	SE	SE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	120	ESE
Apr 17	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	E	ESE	SE	ESE	E	NE	NE	NNE	NW	W	WNW	NW	NW	WNW	97	E	
Apr 18	WNW	WNW	W	W	WNW	W	WSW	W	W	WNW	W	NW	N	NNE	ENE	ENE	E	E	E	E	ESE	SE	SE	SE	292	WNW
Apr 19	SE	SSE	SE	SE	SE	SSE	ESE	E	E	ESE	E	ESE	E	ENE	ENE	E	E	E	ENE	ENE	NE	NE	NE	NE	106	ESE
Apr 20	ENE	E	E	ENE	ENE	E	E	E	ENE	E	ENE	ENE	ENE	E	E	SE	ESE	ESE	SSE	SE	ESE	ESE	ESE	ESE	97	E
Apr 21	E	E	E	E	E	E	E	E	E	E	ESE	ESE	ESE	SE	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	131	SE
Apr 22	S	S	SSE	S	S	S	S	S	S	S	S	S	SSW	SSW	SSW	SSW	S	S	S	SE	SE	SE	SE	SE	176	S
Apr 23	SSE	SSE	S	SSE	S	S	SSE	SE	SSE	SSE	SSE	SE	SE	SE	SE	SSE	SE	SE	SE	SE	SE	SE	SE	SE	150	SSE
Apr 24	SE	SE	SE	SE	ESE	SE	SE	ESE	ESE	SE	ESE	ESE	ESE	ESE	ESE	E	E	E	E	ENE	ENE	E	E	E	113	ESE
Apr 25	ESE	SE	SSE	SSE	S	S	SSW	SSW	SSW	S	S	SSW	WNW	NNW	NE	NW	WSW	NW	WNW	W	W	W	W	224	SW	
Apr 26	W	W	W	W	W	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	W	W	WNW	WNW	WNW	WNW	WNW	NW	NNW	NNE	NW	288	WNW
Apr 27	NW	NW	NW	NNW	NW	NW	NW	NNW	N	NNW	NNW	NNW	NW	WNW	WNW	WNW	WNW	WNW	NW	N	SE	SE	S	SSW	303	WNW
Apr 28	SSW	SW	SSW	WSW	W	WNW	WNW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	N	N	N	N	NNE	NE	328	NNW
Apr 29	NE	ENE	ENE	ENE	E	E	E	ESE	ESE	ESE	E	ESE	ESE	SE	E	E	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	100	E
Apr 30	SE	SE	SE	SSE	S	SSE	SSE	SSE	SSE	SSE	SE	SE	SE	SE	SE	SE	SSE	SSE	SE	SE	SE	SE	SE	SE	150	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
X InValid Data (Machine Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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 - April 2023

Summary of Hourly Averages

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

WIND SPEED		
Maximum Hourly Value:	25.4 kph	on Apr 12 at hr 14
Maximum Daily Value:	18.7 kph	on Apr 23
Minimum Hourly Value:	1.9 kph	on Apr 8 at hr 7
Minimum Daily Value:	5.7 kph	on Apr 1
Monthly Average:	4.6 kph	
Hours in Service:	720	
Hours of Data:	719	
Hours of Missing Data:	1	
Hours of Calibration:	0	
Operational Uptime:	99.9	

WIND DIRECTION		
Monthly Average:	167 degree (SSE)	

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
Apr 1	8.4	5.3	6.5	8.5	7.9	6.7	5.5	7.8	6.0	2.9	4.6	6.3	4.2	5.4	3.5	3.4	5.5	6.0	3.8	4.5	5.3	5.6	6.2	6.4	2.9	8.5	5.7
Apr 2	6.3	6.8	5.9	5.8	5.5	7.8	6.8	7.1	6.2	5.1	5.0	5.6	5.2	4.4	3.5	4.6	6.0	4.8	4.9	4.8	7.9	8.2	8.5	9.3	3.5	9.3	6.1
Apr 3	9.8	7.3	8.5	8.8	9.7	10.6	11.3	9.5	10.0	9.2	8.8	7.6	10.4	11.4	10.4	11.5	10.0	6.9	7.0	7.7	8.4	8.8	8.1	8.2	6.9	11.5	9.2
Apr 4	8.7	8.5	9.0	8.3	6.9	6.3	7.4	9.4	8.4	7.0	6.5	9.2	6.8	8.3	9.2	7.2	11.2	10.3	10.8	11.8	12.8	13.8	13.4	14.1	6.3	14.1	9.3
Apr 5	12.3	11.5	12.1	12.4	13.5	13.9	13.2	13.7	12.6	10.9	9.5	8.8	11.1	12.9	15.9	14.0	13.7	11.9	10.3	8.0	8.7	10.0	12.4	12.6	8.0	15.9	11.9
Apr 6	13.2	13.8	11.8	10.8	11.8	14.4	14.7	14.3	12.9	12.6	K	15.6	16.9	15.5	18.3	17.9	17.8	17.7	15.8	15.2	15.4	16.6	16.8	17.6	10.8	18.3	15.1
Apr 7	17.4	13.9	12.2	14.6	16.9	18.1	17.7	19.5	15.9	16.3	17.5	17.5	15.7	16.3	16.3	16.8	16.7	15.2	16.6	17.9	17.6	13.2	13.2	13.0	12.2	19.5	16.1
Apr 8	14.5	13.1	11.3	8.6	8.1	6.7	6.9	1.9	2.9	5.3	1.9	3.4	6.9	10.1	11.3	9.5	7.0	7.2	8.5	9.8	11.0	12.3	12.9	10.4	1.9	14.5	8.4
Apr 9	11.5	12.6	11.5	11.3	12.9	12.1	8.6	9.5	7.0	11.1	10.4	9.7	12.9	11.3	14.4	15.3	16.6	13.4	12.7	13.4	14.7	16.9	17.4	17.4	7.0	17.4	12.7
Apr 10	15.9	19.1	20.9	22.4	15.3	18.7	16.5	15.6	17.9	15.2	17.1	16.6	17.9	22.8	24.2	22.7	19.0	13.9	10.5	9.5	11.5	11.3	8.2	8.4	8.2	24.2	16.3
Apr 11	8.1	3.8	4.8	3.8	2.2	5.5	8.1	3.2	5.1	8.2	5.8	6.8	12.0	7.7	8.2	5.2	7.1	5.9	2.7	4.4	6.7	11.1	12.6	13.1	2.2	13.1	6.8
Apr 12	16.9	19.5	18.6	13.7	12.5	12.7	13.4	13.4	17.3	16.5	14.0	14.5	18.9	23.4	25.4	21.8	14.9	19.4	18.2	8.0	9.5	8.3	8.9	8.8	8.0	25.4	15.4
Apr 13	8.8	10.0	7.9	7.4	7.4	9.3	9.8	9.3	10.5	12.8	10.5	10.6	9.4	8.2	6.7	5.0	6.5	8.6	9.8	8.7	9.0	9.2	7.7	8.4	5.0	12.8	8.8
Apr 14	9.8	7.1	6.7	7.9	5.4	6.5	6.0	6.2	6.4	6.4	9.0	10.2	9.7	20.0	11.5	12.3	9.2	10.6	4.7	6.1	5.1	4.2	7.5	4.0	4.0	20.0	8.0
Apr 15	3.9	8.3	6.5	9.4	10.0	8.6	6.6	7.4	10.1	9.3	7.4	8.0	8.4	7.9	11.2	12.4	13.2	13.5	10.7	10.7	11.8	14.5	14.9	14.0	3.9	14.9	9.9
Apr 16	9.8	9.4	10.9	11.4	12.3	11.2	11.5	11.9	11.4	15.7	15.7	16.5	16.5	17.3	17.2	19.8	19.1	20.5	16.5	16.6	19.2	17.5	20.9	22.3	9.4	22.3	15.5
Apr 17	21.0	20.7	20.5	19.6	16.8	15.9	16.2	18.3	18.8	18.2	17.4	13.8	12.6	15.0	4.4	10.6	8.2	8.9	14.6	17.3	15.1	18.7	18.3	15.5	4.4	21.0	15.7
Apr 18	17.0	18.0	21.4	18.8	14.2	11.2	8.9	12.5	9.7	8.5	7.3	7.9	9.4	5.9	3.3	8.2	8.1	7.3	11.4	13.2	13.3	14.3	13.0	14.7	3.3	21.4	11.6
Apr 19	15.6	13.4	13.8	14.9	12.8	9.9	7.6	9.0	10.5	12.3	12.8	14.0	12.6	11.8	14.0	13.4	13.2	14.1	12.1	8.7	6.7	6.2	5.7	5.4	5.4	15.6	11.3
Apr 20	6.4	10.5	9.7	9.5	10.8	12.4	10.2	11.2	9.9	12.9	11.2	9.7	9.2	6.5	7.7	8.3	9.0	10.0	12.5	9.2	9.6	9.1	9.2	6.7	6.4	12.9	9.6
Apr 21	7.0	7.5	7.7	8.0	7.8	7.7	9.0	8.9	11.3	12.6	13.0	9.2	5.2	9.9	8.0	6.6	6.3	7.2	6.9	6.1	7.1	5.6	5.9	5.4	5.2	13.0	7.9
Apr 22	7.2	8.4	8.6	9.6	8.8	8.8	8.0	8.2	9.1	10.9	11.3	10.1	10.9	11.0	11.8	11.2	11.2	11.7	10.7	9.2	12.3	13.1	12.1	13.2	7.2	13.2	10.3
Apr 23	14.8	14.8	15.3	14.5	15.8	16.1	14.0	15.3	19.6	23.4	20.2	21.0	21.1	21.9	21.0	21.0	19.1	19.7	17.3	18.1	19.9	22.8	23.4	19.8	14.0	23.4	18.7
Apr 24	17.3	15.2	16.5	15.3	13.7	13.3	13.9	15.2	14.8	14.0	13.8	14.5	16.6	16.8	17.9	16.8	16.7	15.2	14.2	14.3	13.2	12.2	11.9	10.5	10.5	17.9	14.7
Apr 25	10.7	10.0	7.7	9.8	9.7	9.3	7.4	8.1	8.1	9.8	8.6	13.3	14.5	14.1	15.9	5.1	4.3	4.7	8.4	7.6	8.0	12.2	12.6	12.5	4.3	15.9	9.7
Apr 26	12.4	12.1	11.9	10.5	12.0	11.3	13.8	15.6	19.2	18.6	18.2	16.9	14.6	12.8	11.4	8.5	5.9	10.5	10.6	10.4	9.7	4.0	4.0	7.1	4.0	19.2	11.8
Apr 27	10.2	8.4	8.0	4.9	9.7	9.2	11.5	11.4	10.9	11.0	11.7	12.6	10.4	15.4	14.8	15.4	13.1	8.1	2.9	6.4	9.5	10.1	12.3	11.9	2.9	15.4	10.4
Apr 28	12.0	9.8	8.4	9.4	9.6	10.8	12.9	19.9	19.9	19.5	20.6	22.3	20.6	20.8	21.5	20.5	18.7	14.9	14.1	11.6	9.6	10.0	10.8	10.5	8.4	22.3	14.9
Apr 29	10.4	10.7	10.8	10.5	10.8	10.1	9.4	11.2	14.1	13.6	11.6	10.8	8.3	5.5	7.4	11.2	10.6	11.4	13.2	13.7	15.3	15.2	15.1	15.9	5.5	15.9	11.5
Apr 30	15.4	13.5	12.4	14.0	13.8	12.6	14.0	15.8	17.2	20.0	19.5	19.3	18.6	20.1	20.2	19.1	16.7	17.7	16.7	14.5	15.4	17.1	15.1	15.7	12.4	20.2	16.4

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

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

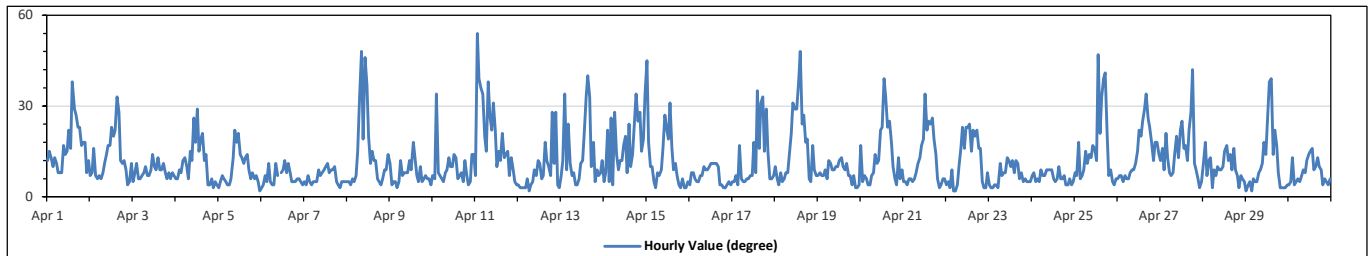
St. Lina Site - April 2023

Summary of Hour Standard Deviations

STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

Maximum Hourly Value:		54 degree on Apr 11 at hr 1										Hours in Service:		720													
Minimum Hourly Value:		2 degree on Apr 5 at hr 23										Hours of Data:		719													
												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	
Apr 1	12	15	13	10	13	11	8	8	8	17	14	15	22	16	38	29	27	23	23	17	18	18	8	12	8	38	
Apr 2	7	8	16	7	6	7	6	8	11	14	17	17	23	20	22	33	28	12	11	12	9	4	5	11	4	33	
Apr 3	5	8	11	6	6	7	8	10	7	7	9	14	10	9	13	9	11	8	6	8	6	8	7	5	14		
Apr 4	6	6	9	8	12	13	10	6	15	12	26	18	29	15	19	21	12	14	4	6	3	5	4	3	29		
Apr 5	3	5	7	6	5	4	4	6	13	22	18	21	14	13	11	13	14	9	6	8	6	7	5	2	22		
Apr 6	3	4	7	5	11	5	4	4	11	7	K	8	9	12	8	11	8	5	5	5	6	5	4	3	12		
Apr 7	5	4	7	5	4	5	5	5	9	7	8	9	10	11	8	9	9	10	5	4	3	5	5	5	11		
Apr 8	5	5	4	6	5	7	15	33	48	19	46	37	20	11	15	12	12	6	5	4	6	9	9	14	48		
Apr 9	11	4	5	5	3	5	12	7	8	8	8	12	9	18	13	7	5	10	5	6	7	6	6	4	18		
Apr 10	7	6	34	8	7	6	5	8	9	13	10	10	14	13	6	7	8	5	12	7	4	5	14	14	34		
Apr 11	7	54	39	36	34	20	15	38	27	22	31	22	10	15	12	21	13	14	15	7	13	9	5	4	54		
Apr 12	4	3	3	3	3	6	2	4	5	9	7	12	11	6	7	18	12	10	7	28	11	28	4	3	28		
Apr 13	7	12	34	9	24	11	7	8	4	4	6	11	12	21	33	40	33	10	18	5	9	7	8	12	40		
Apr 14	5	8	22	5	26	4	28	14	9	12	12	17	20	8	24	10	14	23	34	25	28	15	19	34	34		
Apr 15	45	18	10	10	5	3	8	7	9	16	27	23	19	31	16	9	11	7	4	3	6	3	5	3	45		
Apr 16	4	8	8	6	5	5	7	7	10	9	9	10	11	11	11	11	10	4	4	3	3	4	5	4	11		
Apr 17	5	5	7	4	17	6	5	5	6	6	7	7	18	8	35	16	31	33	15	29	15	6	6	7	35		
Apr 18	10	6	4	8	5	6	8	8	14	21	31	29	29	38	48	24	27	18	19	6	5	17	9	7	48		
Apr 19	7	8	7	7	9	6	12	11	9	9	10	10	12	13	10	9	11	7	7	4	7	3	3	4	13		
Apr 20	17	5	7	6	4	4	7	8	14	11	12	22	23	39	33	23	25	18	10	6	4	13	6	9	39		
Apr 21	5	5	4	6	6	5	6	8	11	13	17	19	34	22	25	24	26	19	14	6	3	4	6	6	34		
Apr 22	4	5	3	9	2	2	4	10	16	23	16	23	23	24	15	22	20	22	16	16	5	3	3	8	24		
Apr 23	4	3	3	4	4	3	11	7	8	8	13	12	10	12	8	12	11	6	8	5	6	5	5	3	13		
Apr 24	7	8	5	6	5	9	7	7	9	9	9	9	6	5	6	10	6	6	7	4	4	6	4	5	10		
Apr 25	8	7	18	6	7	9	15	11	14	13	17	16	12	47	21	33	39	41	21	7	9	5	4	6	47		
Apr 26	6	7	7	5	7	6	6	8	9	9	11	15	22	20	25	29	34	26	23	18	12	18	18	14	34		
Apr 27	12	16	9	21	13	8	7	8	14	20	13	22	25	16	17	12	22	28	42	11	9	6	3	5	42		
Apr 28	11	18	7	12	13	3	9	7	10	9	9	10	15	17	12	14	9	16	9	7	3	7	6	5	3		
Apr 29	2	4	5	2	6	5	5	8	9	11	18	14	25	38	39	14	22	17	8	3	3	3	3	4	18		
Apr 30	4	5	13	4	5	6	5	7	9	8	12	14	15	16	9	10	13	10	9	4	6	5	4	6	16		
Diurnal Minimum	2	3	3	2	2	2	4	4	4	6	7	6	5	6	7	5	4	4	4	3	3	3	3	2			
Diurnal Maximum	45	54	39	36	34	20	28	38	48	23	46	37	34	47	48	40	39	41	42	29	28	28	19	34			
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.



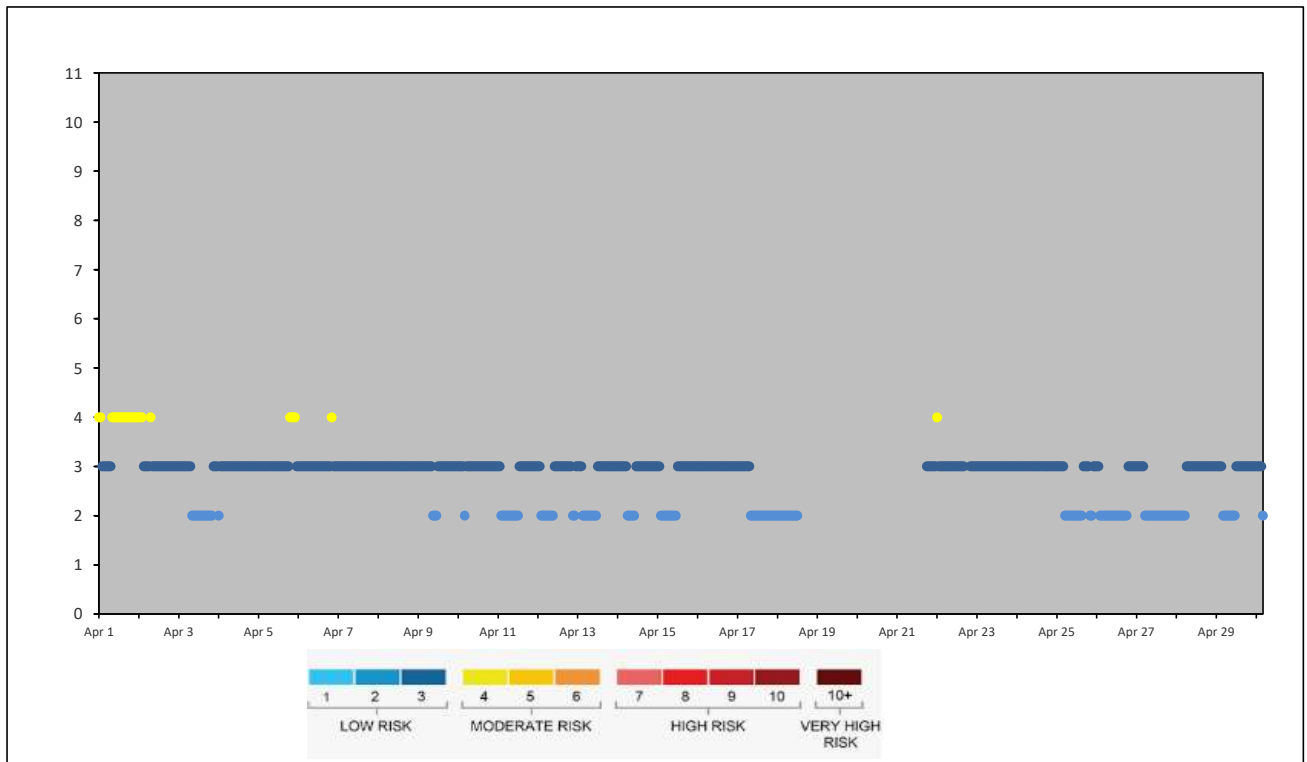
LAC LA BICHE STATION

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

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



Lakeland Industry & Community Association

Lac La Biche Station - April 2023

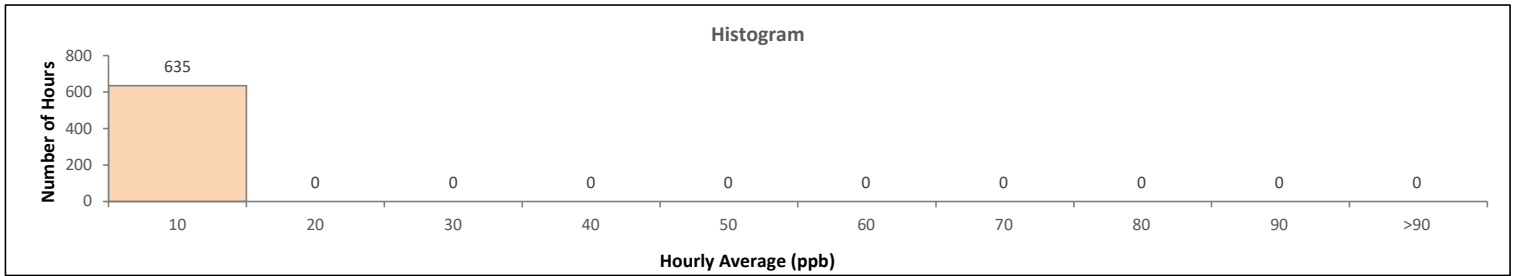
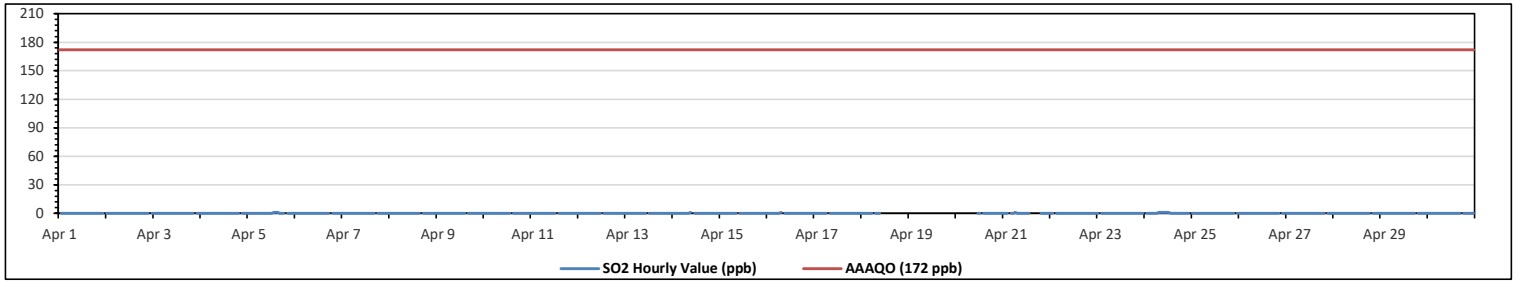
Summary of Hourly Averages

SULPHUR DIOXIDE (SO₂) 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: 1 ppb on Apr 5 at hr 13												Hours in Service: 720																
Maximum Daily Value: 0.3 ppb on Apr 24												Hours of Data: 635																
Minimum Hourly Value: 0 ppb on Apr 1 at hr 1												Hours of Missing Data: 49																
Minimum Daily Value: 0.0 ppb on Apr 1												Hours of Calibration: 36																
Monthly Average: 0.0 ppb												Operational Uptime: 93.2																
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				
Apr 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	
Apr 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	
Apr 3	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	
Apr 4	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	
Apr 5	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	S	0	0	0	0	0	0.1	
Apr 6	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	
Apr 7	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	
Apr 8	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	
Apr 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	
Apr 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	
Apr 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	
Apr 12	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	
Apr 13	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	
Apr 14	0	0	0	0	0	0	0	0	0	0	0	0	0	1	S	0	0	0	0	0	0	0	0	0	0	0	0.0	
Apr 15	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	
Apr 16	0	0	0	0	0	0	0	0	0	0	0	0	0	1	S	0	0	0	0	0	0	0	0	0	0	0	0.0	
Apr 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	
Apr 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	
Apr 19	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-
Apr 20	K	K	K	K	K	K	K	K	K	K	K	K	K	S	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
Apr 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	
Apr 22	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	
Apr 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	
Apr 24	S	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	S	0	0.3	
Apr 25	0	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	
Apr 26	0	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	
Apr 27	0	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	
Apr 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	
Apr 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	
Apr 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	
Diurnal Maximum	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
X Invalid Data (Equipment Malfunction /Recovery) **NRM** UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) **P** Power Failure

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.

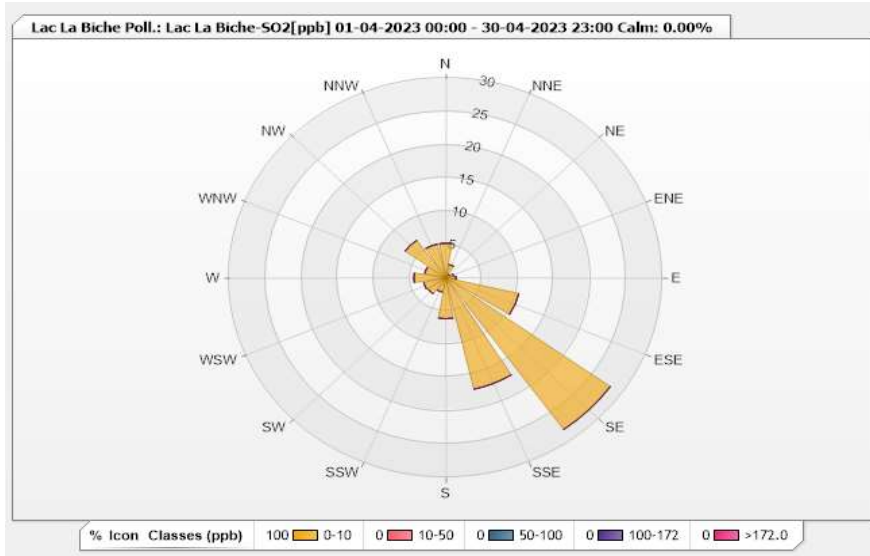


Station: Lac La Biche Poll.: Lac La Biche-SO2[ppb] Monthly: 04-2023

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

Calm: 0.00% Valid Data: 88.19% Calm Avg: 0.00 [ppm]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	5.2	0	0	0	0	5.2
NNE	2.05	0	0	0	0	2.05
NE	0.63	0	0	0	0	0.63
ENE	1.1	0	0	0	0	1.1
E	1.42	0	0	0	0	1.42
ESE	10.39	0	0	0	0	10.39
SE	28.03	0	0	0	0	28.03
SSE	17.17	0	0	0	0	17.17
S	6.14	0	0	0	0	6.14
SSW	2.2	0	0	0	0	2.2
SW	2.99	0	0	0	0	2.99
WSW	3.15	0	0	0	0	3.15
W	4.41	0	0	0	0	4.41
WNW	2.99	0	0	0	0	2.99
NW	6.93	0	0	0	0	6.93
NNW	5.2	0	0	0	0	5.2
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Lac La Biche Station - April 2023

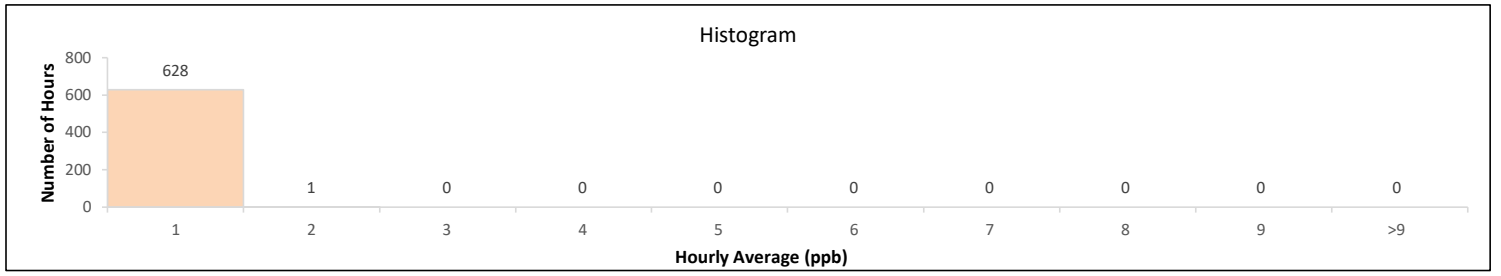
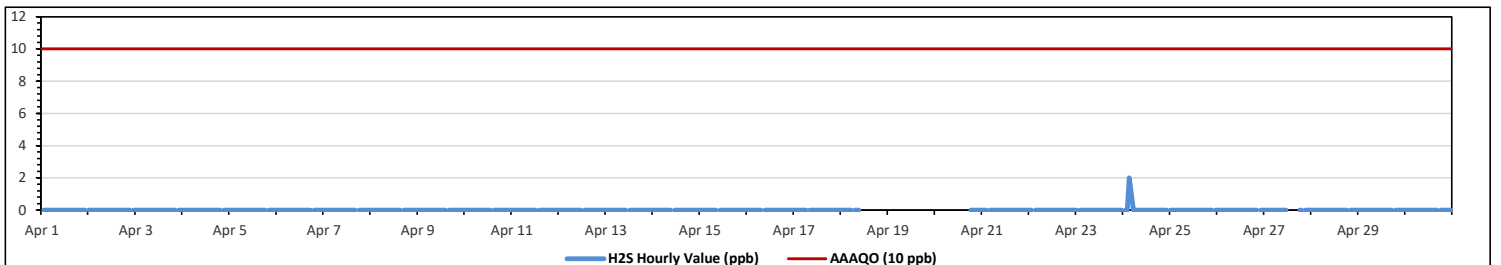
Summary of Hourly Averages

HYDROGEN SULPHIDE (H₂S) 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:	2	ppb	on Apr 24 at hr 3											Hours in Service:	720												
Maximum Daily Value:	0.0	ppb	on Apr 1											Hours of Data:	629												
Minimum Hourly Value:	0	ppb	on Apr 1 at hr 1											Hours of Missing Data:	55												
Minimum Daily Value:	0.0	ppb	on Apr 1											Hours of Calibration:	36												
Monthly Average:	0.0	ppb												Operational Uptime:	92.4												
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
Apr 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
Apr 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
Apr 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
Apr 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
Apr 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
Apr 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
Apr 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
Apr 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
Apr 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
Apr 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
Apr 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
Apr 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
Apr 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
Apr 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Apr 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
Apr 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
Apr 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
Apr 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
Apr 19	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-
Apr 20	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-
Apr 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
Apr 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
Apr 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
Apr 24	S	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	2	0.0
Apr 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
Apr 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
Apr 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
Apr 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
Apr 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
Apr 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
Diurnal Maximum	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Diurnal Average	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
X InValid Data (Equipment Malfunction /Recovery) **NRM** UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) **P** Power Failure

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.

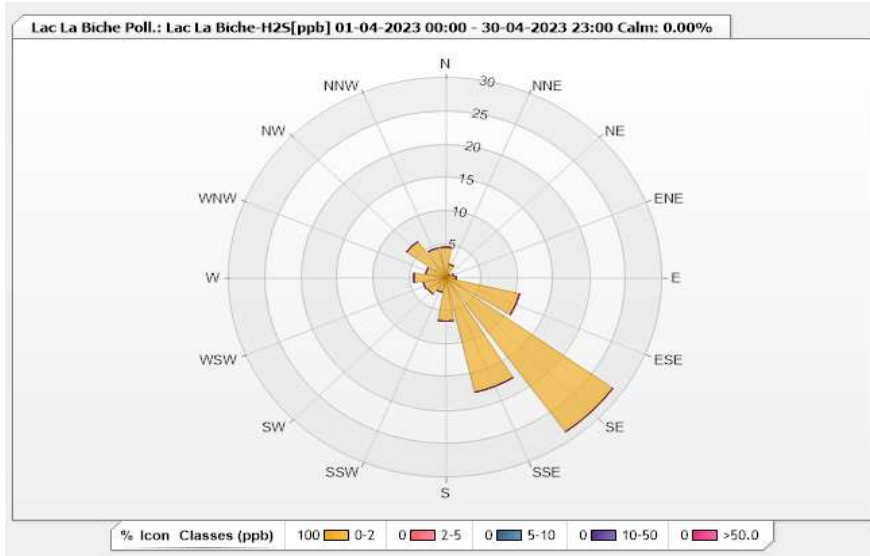


Station: Lac La Biche Poll.: Lac La Biche-H2S[ppb] Monthly: 04-2023

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

Calm: 0.00% Valid Data: 87.36% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	4.61	0	0	0	0	4.61
NNE	2.07	0	0	0	0	2.07
NE	0.64	0	0	0	0	0.64
ENE	1.11	0	0	0	0	1.11
E	1.43	0	0	0	0	1.43
ESE	10.49	0	0	0	0	10.49
SE	28.46	0	0	0	0	28.46
SSE	17.65	0	0	0	0	17.65
S	6.52	0	0	0	0	6.52
SSW	2.23	0	0	0	0	2.23
SW	3.02	0	0	0	0	3.02
WSW	3.18	0	0	0	0	3.18
W	4.45	0	0	0	0	4.45
WNW	2.86	0	0	0	0	2.86
NW	6.68	0	0	0	0	6.68
NNW	4.61	0	0	0	0	4.61
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Lac La Biche Station - April 2023

Summary of Hourly Averages

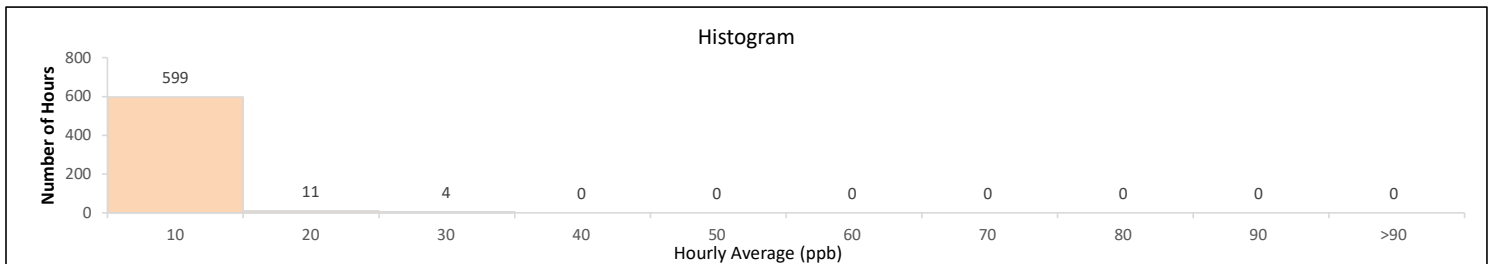
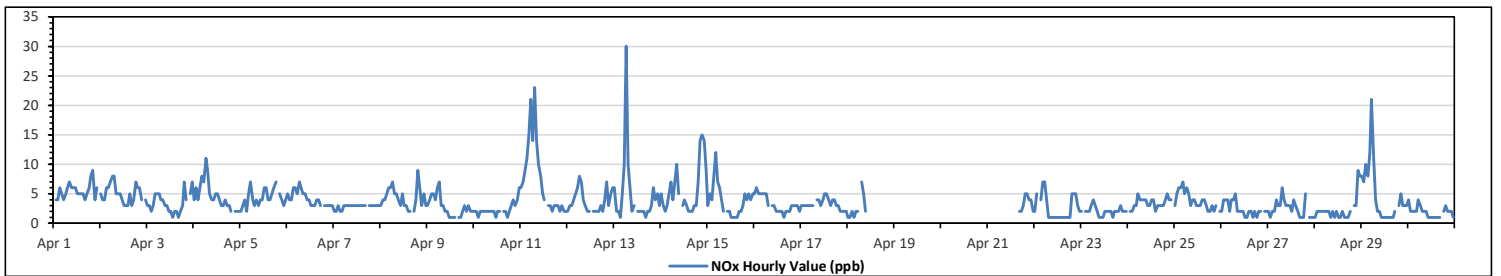
OXIDES OF NITROGEN (NOx) in ppb

Maximum Hourly Value:	30	ppb	on Apr 13 at hr 6	Hours in Service:	720
Maximum Daily Value:	7.5	ppb	on Apr 11	Hours of Data:	614
Minimum Hourly Value:	1	ppb	on Apr 3 at hr 13	Hours of Missing Data:	66
Minimum Daily Value:	1.9	ppb	on Apr 30	Hours of Calibration:	40
Monthly Average:	3.7	ppb		Operational Uptime:	90.8

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	
Apr 1	S	4	4	6	5	4	5	6	7	6	6	5	5	5	5	4	5	6	8	9	4	6	S	4	9	5.5		
Apr 2	5	4	4	6	6	7	8	8	5	5	4	3	3	3	5	3	4	7	6	6	4	S	4	3	8	5.0		
Apr 3	3	3	2	3	5	5	5	4	4	3	3	2	2	1	2	2	1	2	3	7	4	S	5	7	1	7	3.4	
Apr 4	4	6	4	6	8	7	11	9	5	4	4	5	5	4	3	3	4	3	2	2	S	2	2	2	11	4.6		
Apr 5	2	3	4	2	5	7	4	3	4	3	4	4	6	6	4	4	5	6	7	S	5	4	3	4	2	7	4.3	
Apr 6	5	4	4	6	6	5	7	6	5	5	4	4	3	3	3	4	4	3	S	3	3	3	3	3	3	7	4.2	
Apr 7	2	2	3	2	2	3	3	3	3	3	3	3	3	3	3	3	3	S	3	3	3	3	3	3	2	3	2.8	
Apr 8	3	4	4	5	6	6	7	5	5	4	3	5	3	3	2	2	S	2	4	9	6	3	5	3	2	9	4.3	
Apr 9	3	4	5	5	4	6	7	3	3	2	2	1	1	1	1	S	1	1	2	3	2	3	2	2	1	7	2.8	
Apr 10	2	2	1	2	2	2	2	2	2	2	2	1	2	2	S	2	2	1	2	3	4	3	4	6	1	6	2.3	
Apr 11	6	7	9	11	15	21	14	23	14	10	8	5	4	S	3	3	2	3	3	3	2	3	2	2	2	23	7.5	
Apr 12	2	3	3	4	5	6	8	7	4	3	2	2	S	2	2	2	2	3	2	4	7	3	5	6	2	8	3.8	
Apr 13	6	2	2	1	5	10	30	10	6	2	3	S	2	2	2	2	1	2	2	3	6	4	5	3	1	30	4.8	
Apr 14	5	3	2	3	5	7	4	7	10	5	S	3	4	3	2	2	2	3	3	7	14	15	14	9	2	15	5.7	
Apr 15	3	5	4	8	12	7	6	4	2	S	2	2	1	1	1	1	2	2	3	5	4	5	4	5	1	12	3.9	
Apr 16	5	6	5	5	5	5	3	S	3	3	2	2	2	2	2	2	2	2	3	3	3	3	2	2	1	6	3.2	
Apr 17	3	3	3	3	3	3	3	S	4	4	3	4	5	5	4	3	4	4	3	3	2	2	2	2	2	5	3.3	
Apr 18	1	1	2	1	2	3	S	7	5	2	K	K	K	K	K	K	K	K	K	K	K	K	K	K	1	7	NA	
Apr 19	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-
Apr 20	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	2	2	NA
Apr 21	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	C	C	C	C	C	C	C	NRM	NRM	NRM	NRM	NRM	NRM	2	2	NA	
Apr 22	2	5	S	4	7	7	4	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	3	2	1	7	2.7	
Apr 23	2	S	2	2	2	3	4	3	2	1	1	1	2	2	2	2	1	2	2	2	3	2	2	2	1	4	2.0	
Apr 24	S	2	2	3	3	5	4	4	4	4	3	3	4	4	2	3	3	3	3	4	5	4	4	S	2	5	3.5	
Apr 25	3	5	6	6	7	5	6	5	3	4	4	3	3	3	4	4	3	2	2	3	2	3	S	S	2	7	3.8	
Apr 26	2	4	4	4	2	4	4	5	2	2	2	2	1	1	2	2	1	2	1	2	2	S	2	2	1	5	2.4	
Apr 27	2	1	2	2	4	3	3	6	4	3	3	3	2	4	3	2	1	1	1	1	5	S	1	1	1	6	2.5	
Apr 28	1	2	2	2	2	2	2	2	1	2	1	2	1	1	2	1	1	1	2	S	3	3	9	8	1	9	2.3	
Apr 29	8	7	10	8	12	21	11	4	2	2	1	1	1	1	1	1	1	1	2	S	3	5	3	3	3	1	21	4.8
Apr 30	4	2	2	2	2	4	3	2	2	2	1	1	1	1	1	1	1	S	2	3	2	2	2	1	1	4	1.9	
Diurnal Maximum	8	7	10	11	15	21	30	23	14	10	8	6	6	6	5	5	5	6	7	9	14	15	14	9				
Diurnal Average	3.4	3.6	3.7	4.1	5.3	6.2	6.5	5.5	4.2	3.3	3.0	2.8	2.7	2.6	2.4	2.4	2.2	2.5	2.9	4.2	4.5	3.6	3.9	3.4				

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

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.

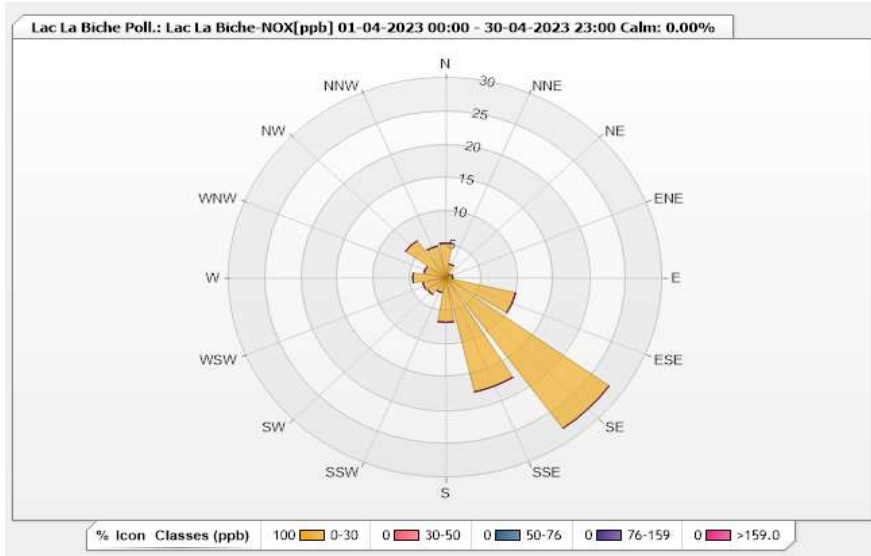


Station: Lac La Biche Poll.: Lac La Biche-NOX[ppb] Monthly: 04-2023

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

Calm: 0.00% Valid Data: 85.28% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	5.21	0	0	0	0	5.21
NNE	2.12	0	0	0	0	2.12
NE	0.65	0	0	0	0	0.65
ENE	0.98	0	0	0	0	0.98
E	0.98	0	0	0	0	0.98
ESE	9.93	0	0	0	0	9.93
SE	27.85	0	0	0	0	27.85
SSE	17.59	0	0	0	0	17.59
S	6.68	0	0	0	0	6.68
SSW	2.28	0	0	0	0	2.28
SW	3.09	0	0	0	0	3.09
WSW	3.26	0	0	0	0	3.26
W	4.56	0	0	0	0	4.56
WNW	3.09	0	0	0	0	3.09
NW	6.84	0	0	0	0	6.84
NNW	4.89	0	0	0	0	4.89
Summary	100	0	0	0	0	100

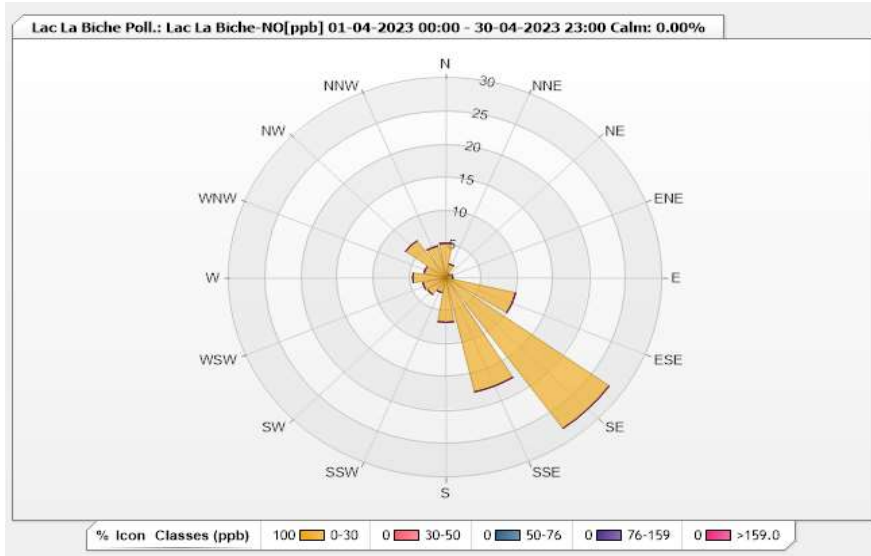


Station: Lac La Biche Poll.: Lac La Biche-NO[ppb] Monthly: 04-2023

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

Calm: 0.00% Valid Data: 85.28% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	5.21	0	0	0	0	5.21
NNE	2.12	0	0	0	0	2.12
NE	0.65	0	0	0	0	0.65
ENE	0.98	0	0	0	0	0.98
E	0.98	0	0	0	0	0.98
ESE	9.93	0	0	0	0	9.93
SE	27.85	0	0	0	0	27.85
SSE	17.59	0	0	0	0	17.59
S	6.68	0	0	0	0	6.68
SSW	2.28	0	0	0	0	2.28
SW	3.09	0	0	0	0	3.09
WSW	3.26	0	0	0	0	3.26
W	4.56	0	0	0	0	4.56
WNW	3.09	0	0	0	0	3.09
NW	6.84	0	0	0	0	6.84
NNW	4.89	0	0	0	0	4.89
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Lac La Biche Station - April 2023

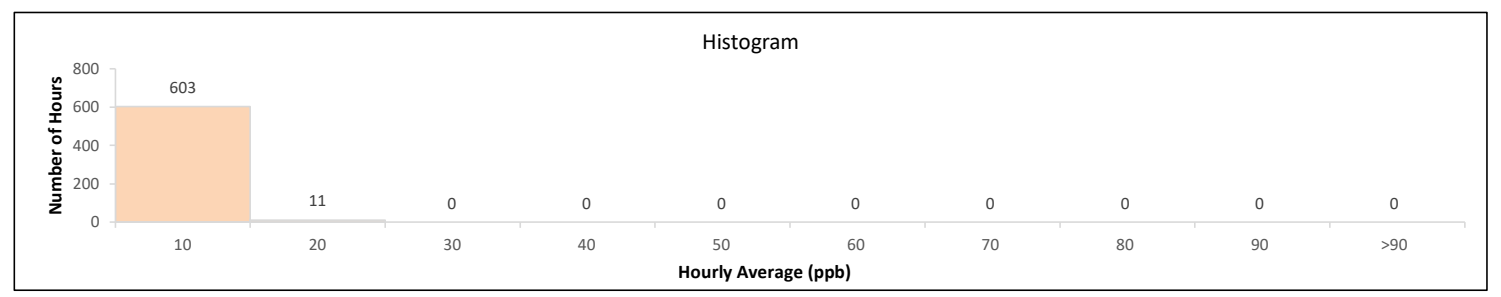
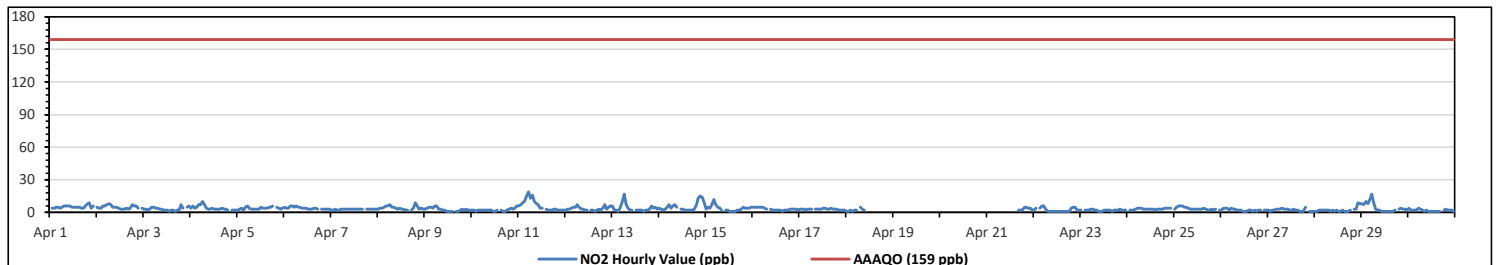
Summary of Hourly Averages

NITROGEN DIOXIDE (NO₂) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 159 ppb																												
Number of 1-Hour Exceedances: 0																												
Maximum Hourly Value: 19 ppb on Apr 11 at hr 5												Hours in Service: 720																
Maximum Daily Value: 6.6 ppb on Apr 11												Hours of Data: 614																
Minimum Hourly Value: 1 ppb on Apr 3 at hr 13												Hours of Missing Data: 66																
Minimum Daily Value: 1.9 ppb on Apr 30												Hours of Calibration: 40																
Monthly Average: 3.5 ppb												Operational Uptime: 90.8																
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	
Apr 1	S	4	4	5	5	4	5	6	6	6	6	5	5	5	5	5	4	4	6	8	9	4	6	S	4	9	5.3	
Apr 2	5	4	4	6	6	7	8	7	5	5	4	3	3	3	3	4	3	4	7	6	6	4	S	4	3	8	4.9	
Apr 3	3	3	2	3	5	5	4	4	3	3	2	2	2	1	2	2	1	2	2	7	4	S	5	6	1	7	3.2	
Apr 4	4	6	4	5	7	7	10	7	4	3	3	4	3	3	3	3	4	3	3	2	S	2	2	2	2	10	4.1	
Apr 5	2	3	4	2	5	6	4	3	3	3	3	5	4	4	4	5	6	S	5	4	3	4	3	4	2	6	3.9	
Apr 6	5	4	4	6	6	5	6	5	5	4	4	4	3	3	3	4	4	3	S	3	3	3	3	3	3	6	4.0	
Apr 7	2	2	3	2	2	3	3	3	3	3	3	3	3	3	3	3	3	S	3	3	3	3	3	3	2	3	2.8	
Apr 8	3	4	4	5	6	6	7	5	5	4	3	4	3	3	2	S	2	4	9	6	3	3	4	3	2	9	4.2	
Apr 9	3	4	5	5	4	6	6	3	3	2	2	1	1	1	1	S	1	1	2	3	2	3	2	2	1	6	2.7	
Apr 10	2	2	1	2	2	2	2	2	2	2	1	1	2	1	2	S	2	1	1	2	3	4	3	4	6	1	6	2.2
Apr 11	6	7	9	10	15	19	13	16	10	8	7	4	4	S	3	2	2	2	3	3	2	2	2	2	2	19	6.6	
Apr 12	2	3	3	4	5	5	7	5	3	3	2	2	S	2	2	1	2	3	2	4	7	3	5	6	1	7	3.5	
Apr 13	6	2	2	1	5	10	17	7	4	2	2	S	2	2	2	2	1	2	2	3	6	4	5	3	1	17	4.0	
Apr 14	4	3	2	3	5	7	4	6	7	5	S	3	3	2	2	2	2	2	3	7	13	15	14	9	2	15	5.3	
Apr 15	3	5	4	8	12	7	5	4	2	S	2	2	1	1	1	1	2	2	3	5	4	4	4	5	1	12	3.8	
Apr 16	5	5	5	5	5	5	4	3	S	3	2	2	2	2	2	2	1	2	2	3	3	3	3	2	1	5	3.1	
Apr 17	3	3	3	2	3	3	3	S	3	3	3	3	4	4	3	3	4	3	3	3	2	2	2	2	2	4	2.9	
Apr 18	1	1	2	1	2	2	S	5	3	2	2	K	K	K	K	K	K	K	K	K	K	K	K	K	1	5	NA	
Apr 19	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-
Apr 20	K	K	K	K	K	K	K	K	K	K	K	1	C	C	C	C	C	NRM	NRM	NRM	NRM	NRM	NRM	NRM	1	1	NA	
Apr 21	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	C	C	C	C	C	C	2	2	2	5	5	4	4	2	2	5	NA	
Apr 22	2	4	S	4	6	6	3	1	1	1	1	1	1	1	1	1	1	1	1	4	5	5	2	2	1	6	2.4	
Apr 23	2	S	2	2	2	3	3	2	2	1	1	1	2	2	2	2	1	2	2	2	3	2	2	2	1	3	2.0	
Apr 24	S	2	2	2	3	4	4	4	3	3	3	3	3	3	2	3	3	3	3	4	4	4	4	S	2	4	3.1	
Apr 25	3	5	6	6	6	5	5	4	3	3	3	3	3	3	3	4	3	2	2	3	2	3	S	2	2	6	3.6	
Apr 26	2	4	4	4	2	4	3	3	2	2	1	1	1	1	2	2	1	2	1	2	2	S	2	2	1	4	2.2	
Apr 27	2	1	2	2	3	3	3	4	3	3	2	2	3	2	2	1	1	1	1	5	S	1	1	1	1	5	2.2	
Apr 28	1	1	2	2	2	2	2	2	1	2	1	2	1	1	2	1	1	1	1	2	S	3	3	9	8	1	9	2.3
Apr 29	8	7	10	8	12	17	9	3	2	2	1	1	1	1	1	1	1	2	S	3	4	3	3	2	1	17	4.4	
Apr 30	4	2	2	2	2	4	3	2	1	2	1	1	1	1	1	1	1	S	2	3	2	2	2	1	1	4	1.9	
Diurnal Maximum	8	7	10	10	15	19	17	16	10	8	7	5	5	5	5	5	5	5	7	9	13	15	14	9				
Diurnal Average	3.3	3.5	3.7	4.0	5.1	5.8	5.5	4.5	3.4	3.1	2.7	2.4	2.4	2.3	2.3	2.3	2.2	2.3	2.8	4.1	4.4	3.6	3.8	3.4				

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

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.

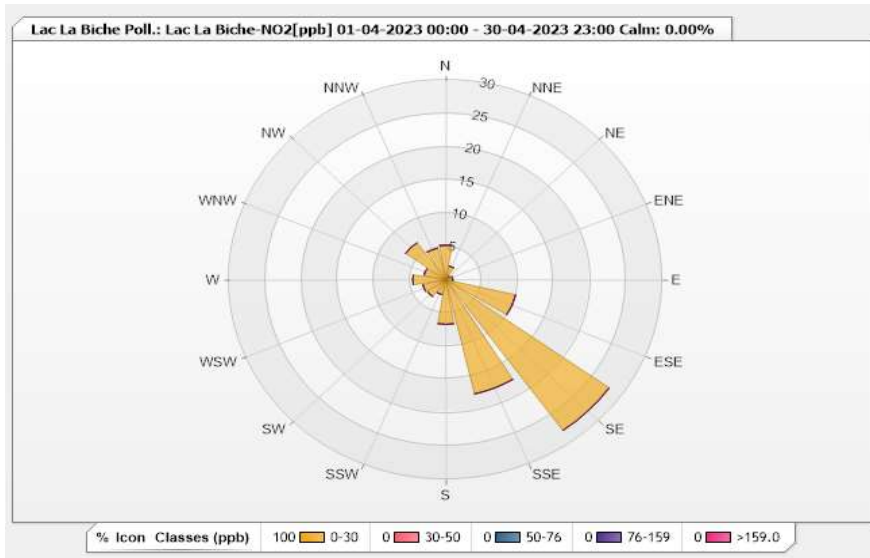


Station: Lac La Biche Poll.: Lac La Biche-NO2[ppb] Monthly: 04-2023

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

Calm: 0.00% Valid Data: 85.28% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	5.21	0	0	0	0	5.21
NNE	2.12	0	0	0	0	2.12
NE	0.65	0	0	0	0	0.65
ENE	0.98	0	0	0	0	0.98
E	0.98	0	0	0	0	0.98
ESE	9.93	0	0	0	0	9.93
SE	27.85	0	0	0	0	27.85
SSE	17.59	0	0	0	0	17.59
S	6.68	0	0	0	0	6.68
SSW	2.28	0	0	0	0	2.28
SW	3.09	0	0	0	0	3.09
WSW	3.26	0	0	0	0	3.26
W	4.56	0	0	0	0	4.56
WNW	3.09	0	0	0	0	3.09
NW	6.84	0	0	0	0	6.84
NNW	4.89	0	0	0	0	4.89
Summary	100	0	0	0	0	100



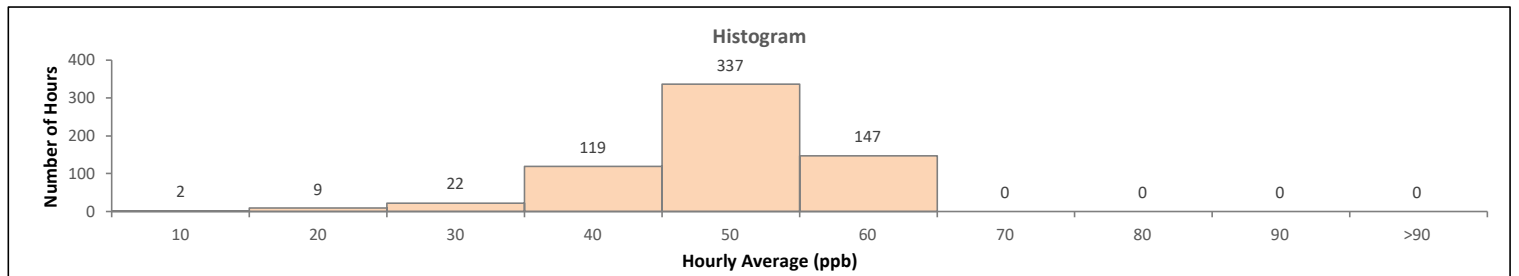
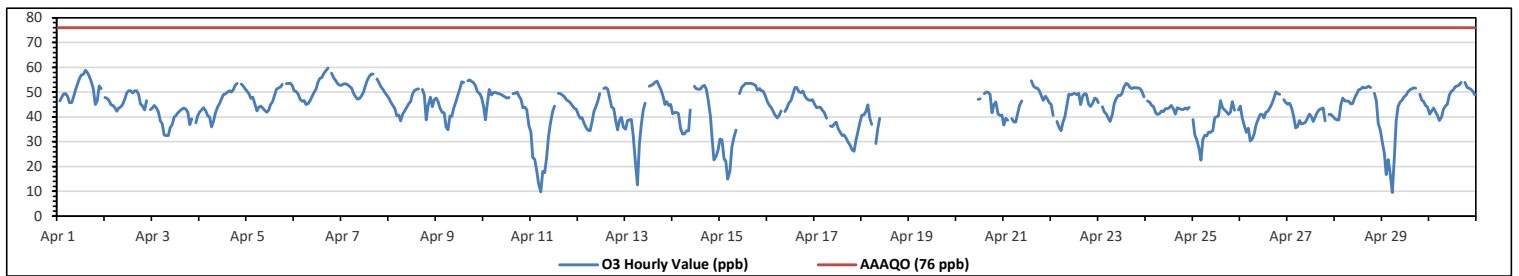
Lakeland Industry & Community Association

Lac La Biche Station - April 2023

Summary of Hourly Averages

OZONE (O₃) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 76 ppb																											
Number of 1-Hour Exceedances: 0																											
Maximum Hourly Value: 59.7 ppb on Apr 6 at hr 17												Hours in Service: 720															
Maximum Daily Value: 52.0 ppb on Apr 7												Hours of Data: 636															
Minimum Hourly Value: 9.5 ppb on Apr 29 at hr 5												Hours of Missing Data: 49															
Minimum Daily Value: 34.9 ppb on Apr 11												Hours of Calibration: 35															
Monthly Average: 44.1 ppb												Operational Uptime: 93.2															
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
Apr 1	S	46.4	48	49.3	49.5	48.4	45.8	45.7	48.1	50.9	53.1	55.5	56.9	57.3	58.8	58	56.4	54.3	51.8	45.1	46.5	52.5	51.5	S	45.1	58.8	51.4
Apr 2	47.8	47.5	46.5	44.9	44.6	43.7	42.3	43.5	44.1	45.3	47.3	49.7	50.6	50.6	49.7	50.5	50.5	49.2	45.3	44.5	42.9	46.5	S	43	42.3	50.6	46.5
Apr 3	43.6	44.6	43.6	42.1	38.5	37.3	32.8	32.5	32.5	35.7	36.9	39.9	40.7	41.6	42.4	43.2	43.6	43.1	41.9	36.9	39.2	S	37.7	40.5	32.5	44.6	39.6
Apr 4	42	42.9	43.7	42.4	40.5	40	36	38.2	41.5	44	45.5	47.3	49	49.3	49.9	50.6	50	51	52.7	53.5	S	53.3	52.5	51.4	36.0	53.5	46.4
Apr 5	50.6	49.4	47.5	48	45	42.4	43.8	44.3	43.6	42.7	41.9	42.9	44.9	46.2	48.8	51.2	51.8	52.1	53.1	S	53.4	53.6	53.5	52.5	41.9	53.6	48.0
Apr 6	50.5	50.1	49.1	47.1	46.3	46.5	45	45.4	46.6	48.2	49.8	51.3	53.8	55.5	56	57.5	58.5	59.7	S	57.7	55.7	54.7	53.4	52.7	45.0	59.7	51.8
Apr 7	52.7	53.3	53.4	53	52.4	51.7	49.8	48.4	47.2	47.4	48.3	50	52.2	54.6	56.4	57.3	57.3	S	55.4	54	52.2	51.1	49.8	48.8	47.2	57.3	52.0
Apr 8	47.6	46	44.8	43.4	40.5	40.8	38.4	41.1	42.3	43.8	45.3	46.2	49.1	50.7	51.1	51.3	S	51.1	48.9	38.8	44.6	48	44.1	47	38.4	51.3	45.4
Apr 9	47.7	46.2	43.6	41.8	41.6	36	34.9	40.4	40.3	43.5	46.3	48.9	51.4	54.2	53.9	S	54.5	54.9	54.3	53.8	52.5	50.2	49.5	47.8	34.9	54.9	47.3
Apr 10	44.3	38.8	45.6	51.1	48.9	49.8	49.9	49.6	49.5	49	48.5	48	47.7	47.8	S	49.5	49.6	50	48.4	47.2	43.7	43.9	43	36.4	36.4	51.1	47.0
Apr 11	34	23.6	23	18.6	13.1	9.8	18	17.6	23.3	32	37.4	42.2	44.4	S	49.6	49.4	48.9	48.1	47	46.4	45.7	44.6	43.6	43.1	9.8	49.6	34.9
Apr 12	41.1	39.4	39.7	37.5	35.9	34.7	34.5	37.9	42.2	44.1	46.3	49.4	S	51.5	51.9	51.2	47.8	44.1	43.4	38.6	34.9	38.7	39.8	35.9	34.5	51.9	41.8
Apr 13	35.1	38.6	38.8	39	32.2	22.6	12.6	28.8	36.8	42.7	45.6	S	52.3	52.7	53.2	53.9	54.4	52.7	51.1	48.4	45	46.1	44.6	45.1	12.6	54.4	42.3
Apr 14	41.3	41.8	41.7	41.4	35.2	33.1	33.1	34.4	34.4	42.8	S	52.4	51.3	51.2	51.2	52.2	52.8	51.3	47	40.4	30.4	22.7	24.1	26.7	22.7	52.8	40.6
Apr 15	31	30.8	22.9	22.3	15	18.1	27.7	31.4	34.7	S	49.5	52	52.8	53.5	53.5	53.6	53.6	53.1	52.8	50.8	51.5	50.6	50.4	48.3	15.0	53.6	41.7
Apr 16	46.1	44.8	43.5	42.3	40.8	39.6	40.6	42.5	S	42.2	43.6	45.6	46.7	49.1	51.9	51.9	50.3	49.8	50.4	48.5	47.4	46.8	46.7	47	39.6	51.9	46.0
Apr 17	45.1	43.7	43.9	43.8	42.7	41.8	39.4	S	36.4	36.1	37.1	37.9	35.1	33.8	32.5	32.8	31.4	29.9	28.5	26.6	26.2	30.7	34.1	37.7	26.2	45.1	36.0
Apr 18	40.7	40.9	42.2	44.9	39.6	37	S	29.2	35.2	39.4	K	K	K	K	K	K	K	K	K	K	K	K	K	K	29.2	44.9	NA
Apr 19	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-
Apr 20	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	40.6	50.0	NA
Apr 21	36.8	39.4	38.7	S	39.3	38.1	37.9	41.3	44.7	46.4	C	C	C	C	54.5	52.4	51.8	51.6	50.5	48.6	46.7	48.3	47.2	45.7	36.8	54.5	45.3
Apr 22	45	40.7	S	38.2	35.7	34.5	37.5	40.2	44.6	49.2	48.9	49.3	49.6	49	49.6	45.1	48.6	49.4	49.2	45.2	44.2	45.4	47.7	47.2	34.5	49.6	45.0
Apr 23	45.8	S	44.1	42.1	41	39.3	38.2	41.1	45.4	47.4	48.8	48.6	49.4	52	53.5	53.1	51.9	51.5	51.8	51.8	51.5	50.4	48.1	38.2	53.5	47.8	
Apr 24	S	46.4	45.9	44.7	44.1	41.5	41	41.3	42.4	42.2	43.4	43.4	43.7	44.6	43.3	41.2	43.7	43.4	43.1	43	43.6	43.1	43.8	S	41.0	46.4	43.3
Apr 25	39	32.7	30.8	27.2	22.5	30.9	32.7	32.4	33.9	33.8	34.6	39.5	40.1	40.5	46.5	43.5	42.8	42.1	41.1	41.9	46.1	42.7	S	42.8	22.5	46.5	37.4
Apr 26	44.4	39.6	36.8	33.8	35.4	30.4	31.1	33	36.8	38.9	41	41	39.6	41.9	42.3	43.6	45.5	47.7	50.2	49.4	49.2	S	47	45.8	30.4	50.2	41.1
Apr 27	45.2	45.6	43.7	40.6	35.6	36.1	38.6	37.1	37.4	37.8	39.4	41.2	40.1	38.2	40	41.7	43	43.4	43.6	38.4	S	41.1	41	40.1	35.6	45.6	40.4
Apr 28	39.2	38.9	38.9	44.8	47.6	46.4	46.4	46.3	45.3	45.5	47.7	49.5	51	51.2	52	51.8	51.9	52.4	51.9	S	49.6	46.6	37.4	34.4	34.4	52.4	46.4
Apr 29	29.6	25.4	16.8	22.8	17.5	9.5	22.8	38.3	44.2	45.9	46.7	48	48.8	50.1	51	51.4	51.8	51.6	S	49.2	46.8	46.2	44.6	43.9	9.5	51.8	39.3
Apr 30	41.2	42.4	43.5	42.1	40.6	38.6	40	43.3	44.3	45.2	48.7	50.3	51	52.2	52.5	52.9	54	S	54	51.9	51.6	51.1	50.3	48.9	38.6	54.0	47.4
Diurnal Maximum	52.7	53.3	53.4	53.0	52.4	51.7	49.9	49.6	49.5	50.9	53.1	55.5	56.9	57.3	58.8	58.0	58.5	59.7	55.4	57.7	55.7	54.7	53.5	52.7			
Diurnal Average	42.6	41.5	40.8	40.3	37.9	36.4	36.7	38.7	40.7	43.0	44.9	46.8	47.7	48.8	49.8	49.7	49.9	49.1	48.0	46.0	45.7	45.8	44.9	43.9			

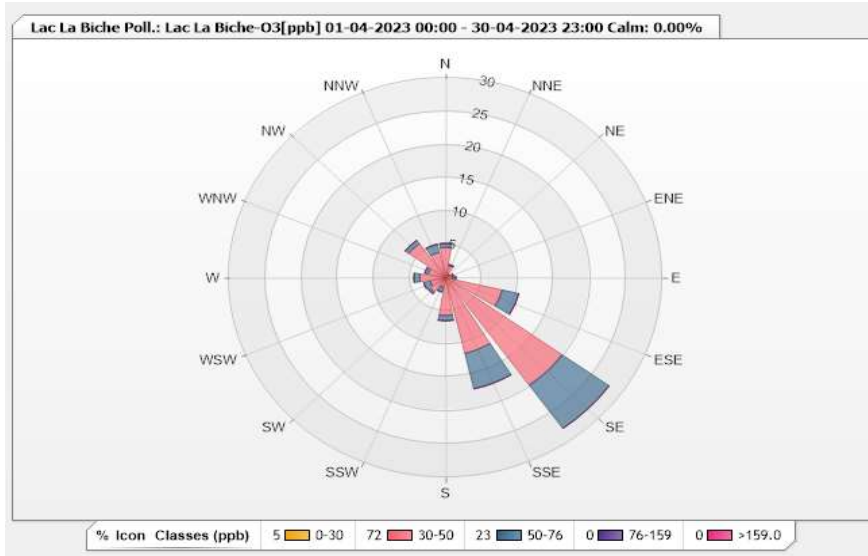


Station: Lac La Biche Poll.: Lac La Biche-O3[ppb] Monthly: 04-2023

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

Calm: 0.00% Valid Data: 88.33% Calm Avg: 0.00 [ppm]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	0.47	4.09	0.63	0	0	5.19
NNE	0.47	1.42	0.16	0	0	2.05
NE	0.16	0.47	0	0	0	0.63
ENE	0.47	0.47	0.16	0	0	1.1
E	0.16	0.79	0.47	0	0	1.42
ESE	0.16	7.86	2.36	0	0	10.38
SE	0.94	18.87	8.02	0	0	27.83
SSE	1.1	10.53	5.5	0	0	17.13
S	0.31	5.35	0.79	0	0	6.45
SSW	0.16	1.26	0.79	0	0	2.21
SW	0	2.67	0.31	0	0	2.98
WSW	0	2.2	0.94	0	0	3.14
W	0.16	3.46	0.79	0	0	4.41
WNW	0	2.52	0.47	0	0	2.99
NW	0.16	6.13	0.63	0	0	6.92
NNW	0.47	3.46	1.26	0	0	5.19
Summary	5.19	71.55	23.28	0	0	100



Lakeland Industry & Community Association

Lac La Biche Station - April 2023

Summary of Hourly Averages

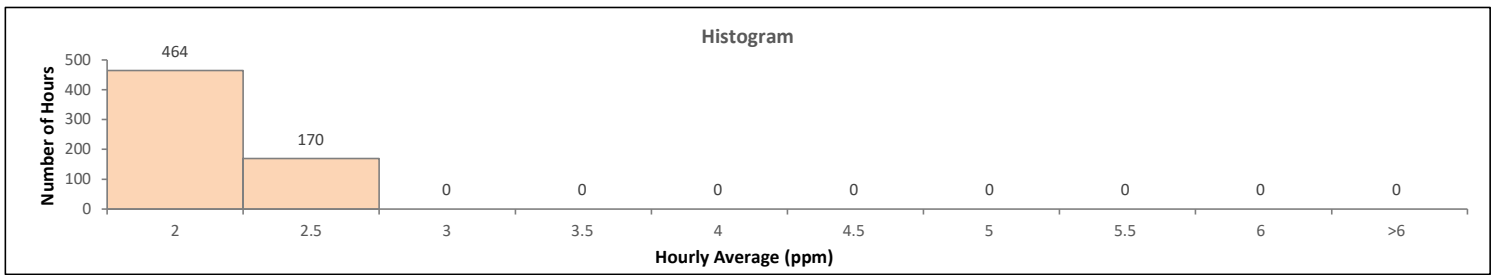
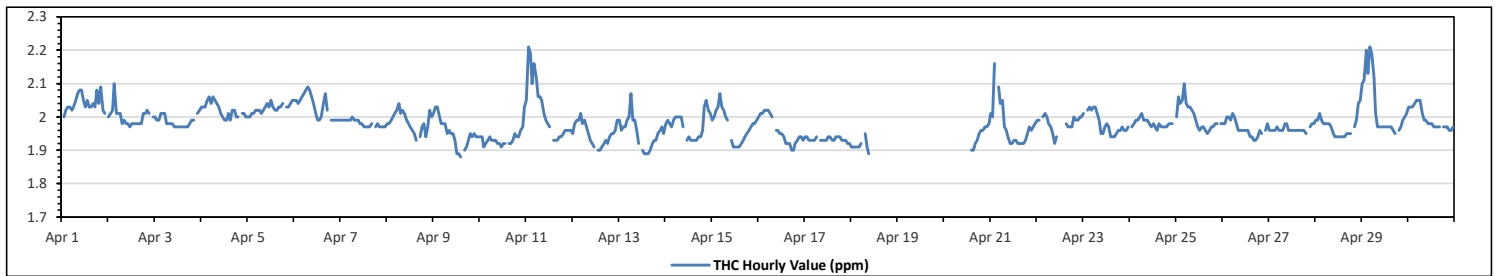
TOTAL HYDROCARBONS (THC) in ppm

Maximum Hourly Value:	2.21 ppm	on Apr 11 at hr 1	Hours in Service:	720
Maximum Daily Value:	2.04 ppm	on Apr 1	Hours of Data:	634
Minimum Hourly Value:	1.88 ppm	on Apr 9 at hr 14	Hours of Missing Data:	51
Minimum Daily Value:	1.93 ppm	on Apr 17	Hours of Calibration:	35
Monthly Average:	1.98 ppm		Operational Uptime:	92.9

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	
Apr 1	S	2.00	2.02	2.03	2.03	2.02	2.03	2.05	2.07	2.08	2.08	2.05	2.03	2.05	2.03	2.03	2.04	2.03	2.08	2.04	2.09	2.02	2.01	S	2.00	2.09	2.04	
Apr 2	2.00	2.01	2.02	2.10	2.01	2.01	2.01	1.98	1.99	1.98	1.98	1.97	1.98	1.98	1.98	1.98	1.98	1.98	2.01	2.01	2.02	2.01	S	2.00	1.97	2.10	2.00	
Apr 3	2.00	1.99	1.99	2.01	2.01	1.98	1.98	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.99	1.99	S	2.01	2.02	1.97	2.02	1.99		
Apr 4	2.03	2.03	2.03	2.05	2.06	2.04	2.06	2.05	2.04	2.03	2.01	2.00	1.99	1.99	2.01	1.99	2.02	2.02	2.00	2.00	S	2.01	2.01	2.00	1.99	2.06	2.02	
Apr 5	2.00	2.00	2.01	2.01	2.02	2.02	2.02	2.01	2.02	2.03	2.04	2.03	2.05	2.03	2.02	2.02	2.03	2.03	2.04	S	2.03	2.03	2.04	2.05	2.00	2.05	2.03	
Apr 6	2.05	2.05	2.04	2.05	2.06	2.07	2.08	2.09	2.08	2.06	2.04	2.01	1.99	1.99	2.00	2.04	2.07	2.02	S	1.99	1.99	1.99	1.99	1.99	1.99	2.09	2.03	
Apr 7	1.99	1.99	1.99	1.99	1.99	1.99	2.00	1.99	1.99	1.99	1.98	1.98	1.97	1.97	1.97	1.97	1.98	S	1.97	1.98	1.97	1.97	1.97	1.97	1.97	2.00	1.98	
Apr 8	1.98	1.98	1.99	2.00	2.01	2.02	2.04	2.01	2.02	2.01	1.99	1.98	1.97	1.96	1.95	1.93	S	1.94	1.97	1.98	1.94	1.97	2.02	2.00	1.93	2.04	1.99	
Apr 9	2.01	2.03	2.03	2.00	1.98	1.98	1.98	1.95	1.96	1.95	1.95	1.93	1.89	1.89	1.88	S	1.90	1.91	1.93	1.95	1.94	1.95	1.94	1.94	1.88	2.03	1.95	
Apr 10	1.94	1.94	1.91	1.92	1.93	1.94	1.93	1.93	1.92	1.92	1.91	1.92	1.92	S	1.92	1.92	1.93	1.95	1.94	1.94	1.96	1.97	2.03	1.91	2.03	1.94		
Apr 11	2.05	2.21	2.19	2.10	2.16	2.12	2.06	2.06	2.05	2.01	1.99	1.98	1.97	S	1.93	1.93	1.93	1.94	1.94	1.95	1.96	1.96	1.96	1.96	1.93	2.21	2.02	
Apr 12	1.95	1.98	1.99	1.99	2.01	1.98	1.99	1.97	1.95	1.93	1.92	1.91	S	1.90	1.90	1.91	1.92	1.93	1.92	1.94	1.95	1.95	1.96	1.99	1.90	2.01	1.95	
Apr 13	1.99	1.96	1.97	1.97	1.99	2.00	2.07	1.99	1.99	1.96	1.92	S	1.90	1.89	1.89	1.89	1.90	1.92	1.93	1.93	1.95	1.96	1.97	1.95	1.89	2.07	1.95	
Apr 14	1.98	1.99	1.98	1.97	1.99	2.00	2.00	2.00	1.97	S	1.93	1.94	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.96	2.03	2.05	2.02	2.01	1.93	2.05	1.97	
Apr 15	1.99	2.00	2.02	2.03	2.07	2.03	2.02	2.00	1.99	S	1.93	1.91	1.91	1.91	1.91	1.92	1.93	1.94	1.95	1.96	1.97	1.98	1.98	1.99	1.91	2.07	1.97	
Apr 16	2.00	2.01	2.01	2.02	2.02	2.02	2.01	2.00	S	1.96	1.96	1.96	1.95	1.95	1.94	1.92	1.92	1.92	1.90	1.90	1.92	1.93	1.94	1.93	1.90	2.02	1.96	
Apr 17	1.94	1.94	1.93	1.93	1.93	1.93	1.94	S	1.93	1.93	1.93	1.93	1.94	1.94	1.93	1.93	1.94	1.94	1.93	1.93	1.93	1.93	1.92	1.92	1.89	1.94	1.93	
Apr 18	1.91	1.91	1.91	1.91	1.91	1.92	S	1.95	1.91	1.89	K	K	K	K	K	K	K	K	K	K	K	K	K	K	1.92	1.92	1.92	
Apr 19	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-	
Apr 20	K	K	K	K	K	K	K	K	K	K	K	Y	Y	S	1.90	1.90	1.92	1.93	1.95	1.96	1.96	1.97	1.97	1.98	1.90	1.98	NA	
Apr 21	2.01	2.00	2.16	S	2.09	2.04	2.05	1.97	1.96	1.94	1.92	1.92	1.93	1.93	1.92	1.92	1.92	1.92	1.93	1.95	1.97	1.96	1.97	1.98	1.92	2.16	1.97	
Apr 22	1.99	1.99	S	2.00	2.01	2.00	1.98	1.97	1.95	1.92	1.94	C	C	C	C	1.98	1.97	1.97	2.00	1.99	1.99	2.00	2.00	1.92	2.01	1.98		
Apr 23	2.01	S	2.02	2.03	2.02	2.03	2.03	2.01	1.99	1.95	1.95	1.97	1.98	1.97	1.94	1.94	1.94	1.95	1.96	1.96	1.97	1.96	1.96	1.97	1.94	2.03	1.98	
Apr 24	S	1.97	1.98	1.99	1.99	2.00	2.01	1.99	1.99	1.99	1.98	1.97	1.98	1.97	1.96	1.98	1.97	1.97	1.97	1.97	1.98	1.98	1.98	S	1.96	2.01	1.98	
Apr 25	2.00	2.06	2.04	2.05	2.10	2.04	2.03	2.03	2.02	2.01	1.99	1.97	1.96	1.97	1.97	1.96	1.95	1.96	1.97	1.97	1.98	1.98	S	1.98	1.95	2.10	2.00	
Apr 26	1.98	1.98	2.00	2.00	1.99	2.01	2.00	1.98	1.96	1.96	1.96	1.96	1.96	1.96	1.94	1.94	1.93	1.93	1.94	1.96	1.95	S	1.96	1.98	1.93	2.01	1.97	
Apr 27	1.96	1.96	1.96	1.96	1.97	1.96	1.96	1.96	1.98	1.98	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.95	S	1.97	1.98	1.98	1.95	1.98	1.96	
Apr 28	1.99	1.99	2.01	1.99	1.98	1.98	1.98	1.98	1.97	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.95	1.95	S	1.97	1.99	2.04	2.05	1.94	2.05	1.97	
Apr 29	2.10	2.11	2.20	2.13	2.21	2.19	2.12	2.01	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.95	S	1.96	1.97	1.99	2.00	2.01	1.95	2.21	2.03	
Apr 30	2.03	2.03	2.04	2.05	2.05	2.05	2.01	1.99	1.99	1.98	1.98	1.98	1.98	1.97	1.97	1.97	1.97	S	1.97	1.97	1.97	1.96	1.96	1.96	1.97	1.96	2.05	2.00
Diurnal Maximum	2.10	2.21	2.20	2.13	2.21	2.19	2.12	2.09	2.08	2.08	2.08	2.05	2.05	2.05	2.03	2.04	2.07	2.03	2.08	2.04	2.09	2.05	2.04	2.05				
Diurnal Average	2.00	2.00	2.02	2.01	2.02	2.01	2.02	2.00	1.99	1.98	1.97	1.96	1.96	1.96	1.95	1.95	1.96	1.96	1.96	1.97	1.97	1.98	1.98	1.99				

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

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.

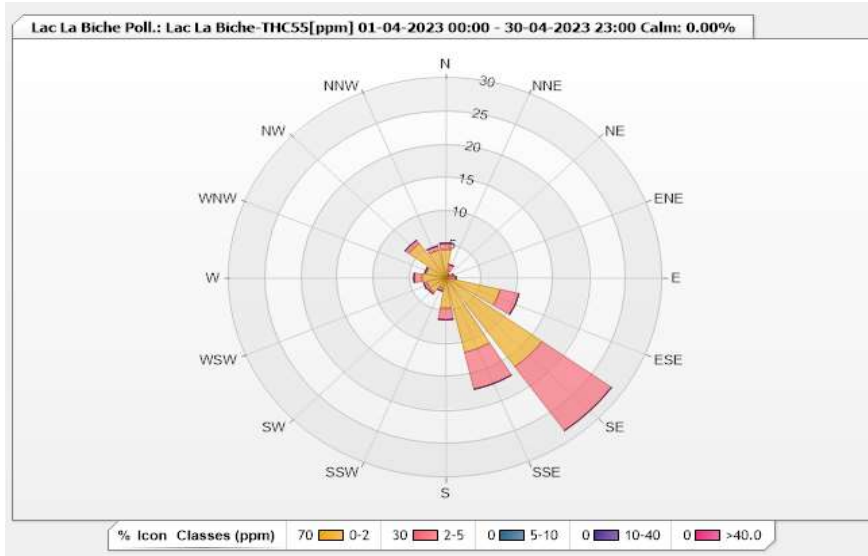


Station: Lac La Biche Poll.: Lac La Biche-THC55[ppm] Monthly: 04-2023

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

Calm: 0.00% Valid Data: 88.06% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	4.26	0.95	0	0	0	5.21
NNE	1.1	0.95	0	0	0	2.05
NE	0.32	0.32	0	0	0	0.64
ENE	0.32	0.79	0	0	0	1.11
E	0.32	1.1	0	0	0	1.42
ESE	7.73	2.68	0	0	0	10.41
SE	16.4	11.83	0	0	0	28.23
SSE	11.51	5.68	0	0	0	17.19
S	4.57	1.74	0	0	0	6.31
SSW	1.58	0.47	0	0	0	2.05
SW	2.68	0.32	0	0	0	3
WSW	2.68	0.47	0	0	0	3.15
W	3.31	1.1	0	0	0	4.41
WNW	2.84	0.16	0	0	0	3
NW	6.31	0.63	0	0	0	6.94
NNW	4.26	0.63	0	0	0	4.89
Summary	70.19	29.82	0	0	0	100



Lakeland Industry & Community Association

Lac La Biche Station - April 2023

Summary of Hourly Averages

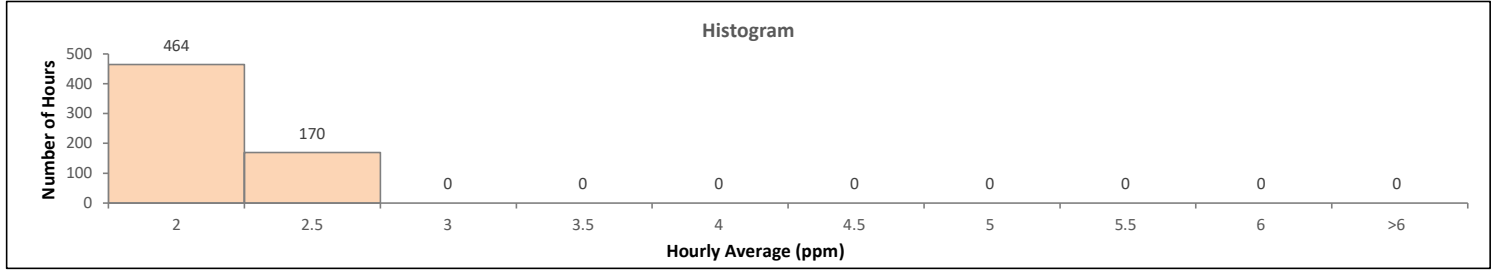
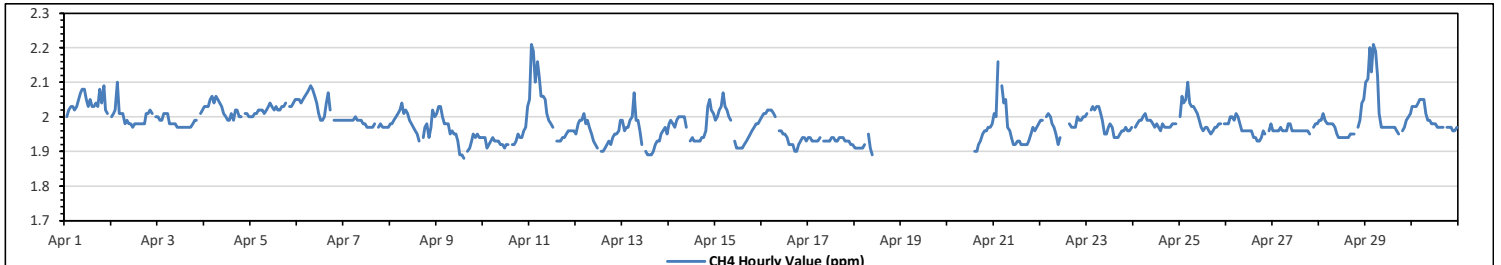
METHANE (CH4) in ppm

Maximum Hourly Value:	2.21	ppm	on Apr 11 at hr 1	Hours in Service:	720
Maximum Daily Value:	2.04	ppm	on Apr 1	Hours of Data:	634
Minimum Hourly Value:	1.88	ppm	on Apr 9 at hr 14	Hours of Missing Data:	51
Minimum Daily Value:	1.93	ppm	on Apr 17	Hours of Calibration:	35
Monthly Average:	1.98	ppm		Operational Uptime:	92.9

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	
Apr 1	S	2.00	2.02	2.03	2.03	2.02	2.03	2.05	2.07	2.08	2.08	2.05	2.03	2.05	2.03	2.03	2.04	2.03	2.08	2.04	2.09	2.02	2.01	S	2.00	2.09	2.04	
Apr 2	2.00	2.01	2.02	2.10	2.01	2.01	2.01	1.98	1.99	1.98	1.98	1.97	1.98	1.98	1.98	1.98	1.98	1.98	1.98	2.01	2.01	2.02	2.01	S	2.00	1.97	2.10	2.00
Apr 3	2.00	1.99	1.99	2.01	2.01	2.01	1.98	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.99	1.99	1.99	S	2.01	2.02	1.97	2.02	1.99	
Apr 4	2.03	2.03	2.03	2.05	2.06	2.04	2.06	2.05	2.04	2.03	2.01	2.00	1.99	1.99	2.01	1.99	2.02	2.02	2.00	2.00	S	2.01	2.01	2.00	1.99	2.06	2.02	
Apr 5	2.00	2.00	2.01	2.01	2.02	2.02	2.02	2.01	2.02	2.03	2.04	2.03	2.02	2.03	2.02	2.02	2.03	2.03	2.04	S	2.03	2.03	2.04	2.05	2.00	2.05	2.02	
Apr 6	2.05	2.05	2.04	2.05	2.06	2.07	2.08	2.09	2.08	2.06	2.04	2.01	1.99	1.99	2.00	2.04	2.07	2.02	S	1.99	1.99	1.99	1.99	1.99	1.99	1.99	2.03	
Apr 7	1.99	1.99	1.99	1.99	1.99	1.99	2.00	1.99	1.99	1.99	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.98	S	1.97	1.98	1.97	1.97	1.97	1.97	2.00	1.98	
Apr 8	1.98	1.98	1.99	2.00	2.01	2.02	2.04	2.01	2.02	2.01	1.99	1.98	1.97	1.96	1.95	1.93	S	1.94	1.97	1.98	1.94	1.97	2.02	2.00	1.93	2.04	1.99	
Apr 9	2.01	2.03	2.03	2.00	1.98	1.98	1.98	1.95	1.96	1.95	1.95	1.93	1.89	1.89	1.88	S	1.90	1.91	1.93	1.95	1.94	1.95	1.94	1.94	1.88	2.03	1.95	
Apr 10	1.94	1.94	1.91	1.92	1.93	1.94	1.93	1.93	1.92	1.92	1.91	1.92	1.92	S	1.92	1.92	1.93	1.95	1.94	1.94	1.96	1.97	2.03	1.91	2.03	1.94		
Apr 11	2.05	2.21	2.19	2.10	2.16	2.12	2.06	2.06	2.05	2.01	1.99	1.98	1.97	S	1.93	1.93	1.93	1.94	1.94	1.95	1.96	1.96	1.96	1.96	1.93	2.21	2.02	
Apr 12	1.95	1.98	1.99	1.99	2.01	1.98	1.99	1.97	1.95	1.93	1.92	1.91	S	1.90	1.90	1.91	1.92	1.93	1.92	1.94	1.95	1.95	1.96	1.99	1.90	2.01	1.95	
Apr 13	1.99	1.96	1.97	1.97	1.99	2.00	2.07	1.99	1.99	1.96	1.92	S	1.93	1.94	1.93	1.89	1.89	1.90	1.92	1.93	1.93	1.95	1.96	1.97	1.95	1.89	2.07	1.95
Apr 14	1.98	1.99	1.98	1.97	1.99	2.00	2.00	2.00	1.97	S	1.93	1.94	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.96	2.03	2.05	2.02	2.01	1.93	2.05	1.97	
Apr 15	1.99	2.00	2.02	2.03	2.07	2.03	2.02	2.00	1.99	S	1.93	1.91	1.91	1.91	1.91	1.92	1.93	1.94	1.95	1.96	1.97	1.98	1.98	1.99	1.91	2.07	1.97	
Apr 16	2.00	2.01	2.02	2.02	2.02	2.02	2.01	2.00	S	1.96	1.96	1.96	1.95	1.95	1.94	1.92	1.92	1.92	1.90	1.90	1.92	1.93	1.94	1.93	1.90	2.02	1.96	
Apr 17	1.94	1.94	1.93	1.93	1.93	1.93	1.94	S	1.93	1.93	1.93	1.93	1.94	1.94	1.93	1.93	1.94	1.94	1.93	1.93	1.93	1.93	1.92	1.92	1.89	1.94	1.93	
Apr 18	1.91	1.91	1.91	1.91	1.91	1.92	S	1.95	1.91	1.89	K	K	K	K	K	K	K	K	K	K	K	K	K	K	1.92	1.92	1.92	
Apr 19	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-	
Apr 20	K	K	K	K	K	K	K	K	K	K	K	Y	Y	S	1.90	1.90	1.92	1.93	1.95	1.96	1.96	1.97	1.97	1.98	1.90	1.98	NA	
Apr 21	2.01	2.00	2.16	S	2.09	2.04	2.05	1.97	1.96	1.94	1.92	1.92	1.93	1.93	1.92	1.92	1.92	1.92	1.93	1.95	1.97	1.96	1.97	1.98	1.92	2.16	1.97	
Apr 22	1.99	1.99	S	2.00	2.01	2.00	1.98	1.97	1.95	1.92	1.94	C	C	C	C	1.98	1.97	1.97	1.97	2.00	1.99	1.99	2.00	2.00	1.92	2.01	1.98	
Apr 23	2.01	S	2.02	2.03	2.02	2.03	2.03	2.01	1.99	1.95	1.95	1.97	1.98	1.97	1.94	1.94	1.94	1.95	1.96	1.96	1.97	1.96	1.96	1.97	1.94	2.03	1.98	
Apr 24	S	1.97	1.98	1.99	1.99	2.00	2.01	1.99	1.99	1.99	1.98	1.97	1.98	1.97	1.96	1.98	1.97	1.97	1.97	1.97	1.98	1.98	1.98	S	1.96	2.01	1.98	
Apr 25	2.00	2.06	2.04	2.05	2.10	2.04	2.03	2.03	2.02	2.01	1.99	1.97	1.96	1.97	1.97	1.96	1.95	1.96	1.97	1.97	1.98	1.98	S	1.98	1.95	2.10	2.00	
Apr 26	1.98	1.98	2.00	2.00	1.99	2.01	2.00	1.98	1.96	1.96	1.96	1.96	1.96	1.96	1.94	1.94	1.93	1.93	1.94	1.96	1.95	S	1.96	1.98	1.93	2.01	1.97	
Apr 27	1.96	1.96	1.96	1.96	1.97	1.96	1.96	1.96	1.98	1.98	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.95	S	1.97	1.98	1.98	1.95	1.98	1.96	
Apr 28	1.99	1.99	2.01	1.99	1.98	1.98	1.98	1.98	1.97	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.95	1.95	S	1.97	1.99	2.04	2.05	1.94	2.05	1.97	
Apr 29	2.10	2.11	2.20	2.13	2.21	2.19	2.12	2.01	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.95	S	1.96	1.97	1.99	2.00	2.01	1.95	2.21	2.03	
Apr 30	2.03	2.03	2.03	2.04	2.05	2.05	2.01	1.99	1.99	1.98	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	S	1.97	1.97	1.97	1.96	1.96	1.97	1.96	2.05	2.00
Diurnal Maximum	2.10	2.21	2.20	2.13	2.21	2.19	2.12	2.09	2.08	2.08	2.08	2.05	2.03	2.05	2.03	2.04	2.07	2.03	2.08	2.04	2.09	2.05	2.04	2.05				
Diurnal Average	2.00	2.00	2.02	2.01	2.02	2.01	2.02	2.00	1.99	1.98	1.97	1.96	1.96	1.96	1.95	1.95	1.96	1.96	1.96	1.97	1.97	1.98	1.98	1.99				

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

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.

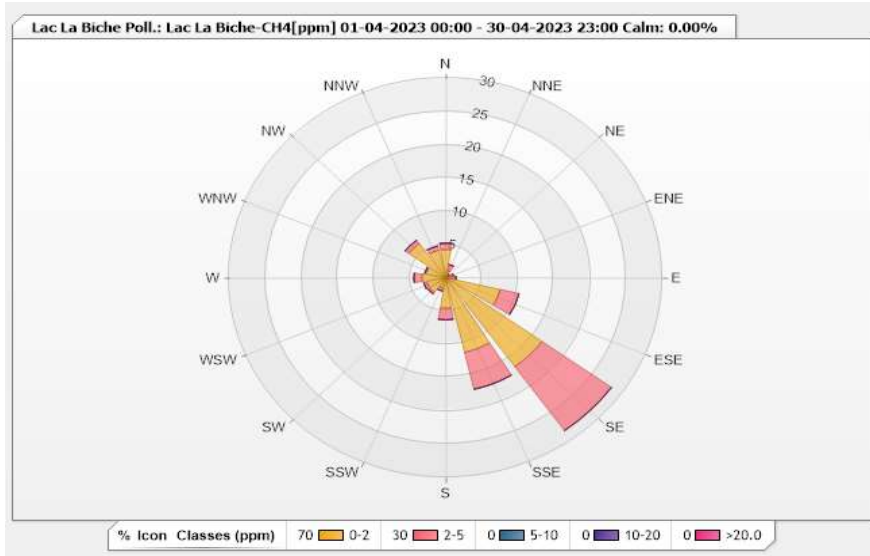


Station: Lac La Biche Poll.: Lac La Biche-CH4[ppm] Monthly: 04-2023

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

Calm: 0.00% Valid Data: 88.06% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	4.26	0.95	0	0	0	5.21
NNE	1.1	0.95	0	0	0	2.05
NE	0.32	0.32	0	0	0	0.64
ENE	0.32	0.79	0	0	0	1.11
E	0.32	1.1	0	0	0	1.42
ESE	7.73	2.68	0	0	0	10.41
SE	16.4	11.83	0	0	0	28.23
SSE	11.51	5.68	0	0	0	17.19
S	4.57	1.74	0	0	0	6.31
SSW	1.58	0.47	0	0	0	2.05
SW	2.68	0.32	0	0	0	3
WSW	2.68	0.47	0	0	0	3.15
W	3.31	1.1	0	0	0	4.41
WNW	2.84	0.16	0	0	0	3
NW	6.31	0.63	0	0	0	6.94
NNW	4.26	0.63	0	0	0	4.89
Summary	70.19	29.82	0	0	0	100



Lakeland Industry & Community Association

Lac La Biche Station - April 2023

Summary of Hourly Averages

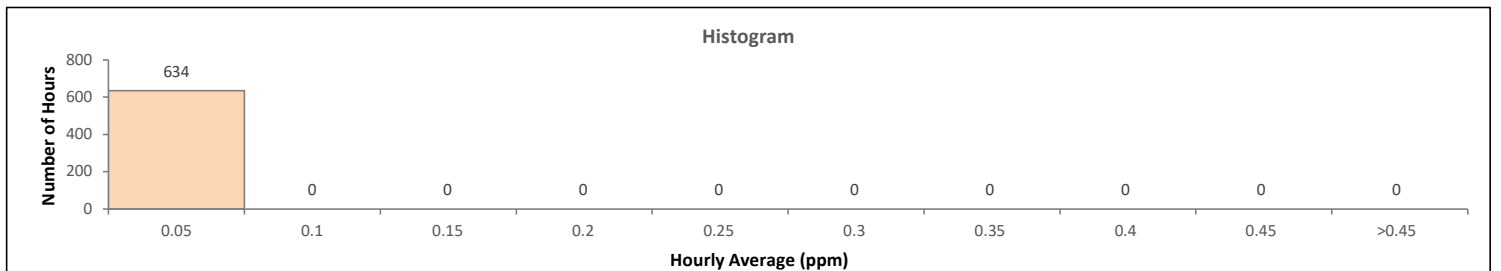
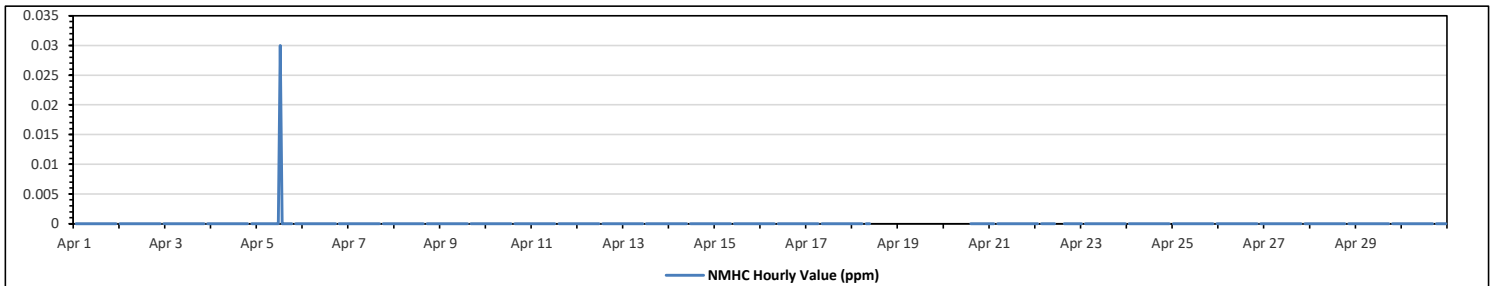
NON-METHANE HYDROCARBONS (NMHC) in ppm

Maximum Hourly Value:	0.03 ppm	on Apr 5 at hr 12	Hours in Service:	720
Maximum Daily Value:	0.00 ppm	on Apr 5	Hours of Data:	634
Minimum Hourly Value:	0.00 ppm	on Apr 1 at hr 1	Hours of Missing Data:	51
Minimum Daily Value:	0.00 ppm	on Apr 1	Hours of Calibration:	35
Monthly Average:	0.00 ppm		Operational Uptime:	92.9

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	
Apr 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	
Apr 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	0.00	S	0.00	0.00	0.00	
Apr 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	0.00	0.00	S	0.00	0.00	0.00	
Apr 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	0.00	0.00	S	0.00	0.00	0.00	0.00	
Apr 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	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.03	0.00	
Apr 6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 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	
Apr 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr 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	
Apr 12	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	
Apr 13	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	
Apr 14	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	
Apr 15	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	
Apr 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	
Apr 17	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	
Apr 18	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	0.00	0.00	NA
Apr 19	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-
Apr 20	K	K	K	K	K	K	K	K	K	K	K	Y	Y	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	NA
Apr 21	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	0.00
Apr 22	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 23	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	0.00
Apr 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	
Apr 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	0.00	S	0.00	0.00	0.00	
Apr 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	0.00	0.00	S	0.00	0.00	0.00	
Apr 27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Apr 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	0.00
Apr 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	0.00
Apr 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	S	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	0.03	0.00	0.00	0.00	0.00	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 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	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 / 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.

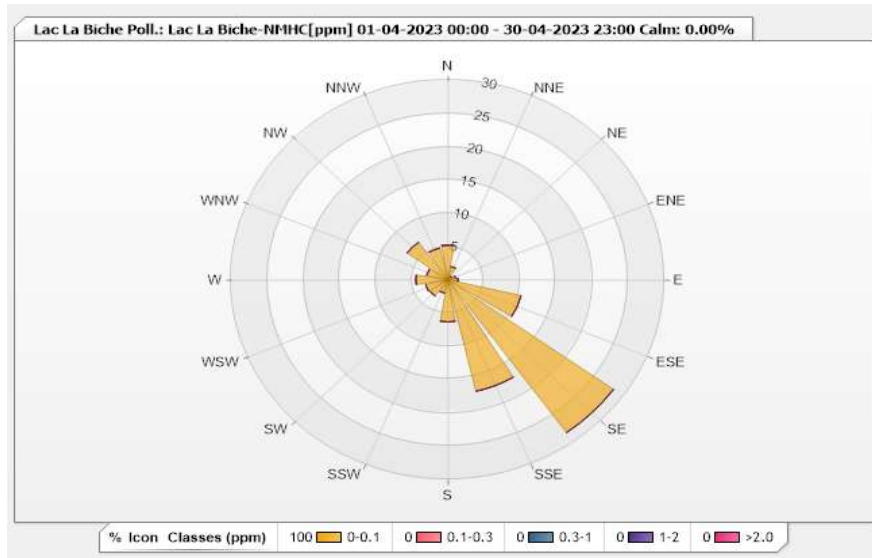


Station: Lac La Biche Poll.: Lac La Biche-NMHC[ppm] Monthly: 04-2023

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

Calm: 0.00% Valid Data: 88.06% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	5.21	0	0	0	0	5.21
NNE	2.05	0	0	0	0	2.05
NE	0.63	0	0	0	0	0.63
ENE	1.1	0	0	0	0	1.1
E	1.42	0	0	0	0	1.42
ESE	10.41	0	0	0	0	10.41
SE	28.23	0	0	0	0	28.23
SSE	17.19	0	0	0	0	17.19
S	6.31	0	0	0	0	6.31
SSW	2.05	0	0	0	0	2.05
SW	3	0	0	0	0	3
WSW	3.15	0	0	0	0	3.15
W	4.42	0	0	0	0	4.42
WNW	3	0	0	0	0	3
NW	6.94	0	0	0	0	6.94
NNW	4.89	0	0	0	0	4.89
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

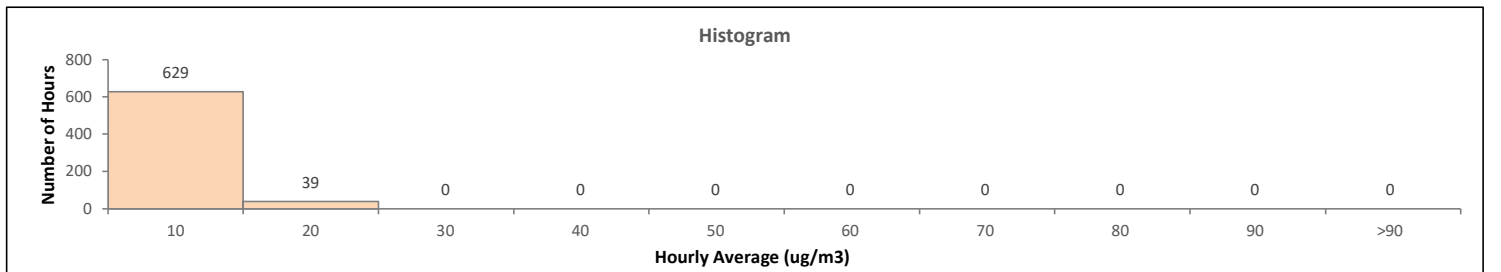
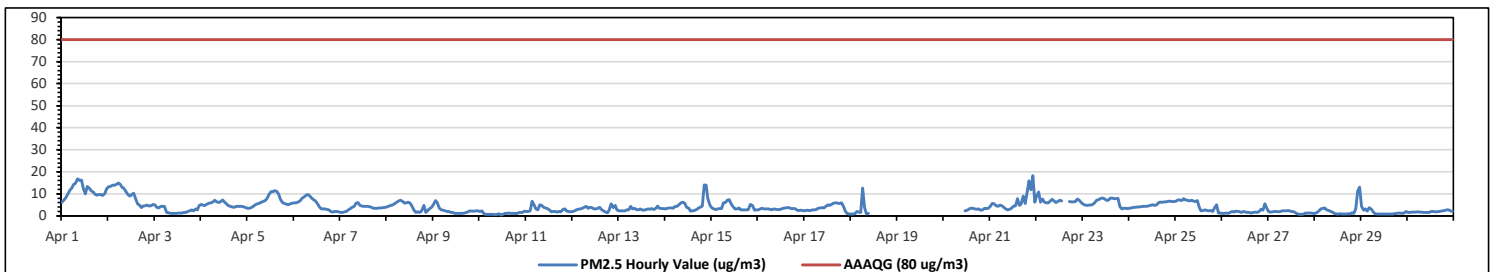
Lac La Biche Station - April 2023

Summary of Hourly Averages

PARTICULATE MATTER 2.5 (PM_{2.5}) in µg/m³

Alberta Ambient Air Quality Guideline (AAAQG): 1-Hour 80 µg/m ³ , Alberta Ambient Air Quality Objective (AAAO): 24-Hour 29 µg/m ³																																															
Number of 1-Hour Exceedances:	0	Number of 24-Hour Exceedances:	0																																												
Maximum Hourly Value:	18 µg/m ³ on Apr 21 at hr 22	Hours in Service:	720																																												
Maximum Daily Value:	11.4 µg/m ³ on Apr 1	Hours of Data:	668																																												
Minimum Hourly Value:	0 µg/m ³ on Apr 10 at hr 11	Hours of Missing Data:	49																																												
Minimum Daily Value:	1 µg/m ³ on Apr 10	Hours of Calibration:	3																																												
Monthly Average:	4.2 µg/m ³	Operational Uptime:	93.2																																												
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																				
Apr 1	6	7	8	10	12	13	14	15	17	16	16	12	10	13	13	12	11	10	9	10	10	9	10	12	6	17	11.4																				
Apr 2	13	13	14	14	14	15	14	13	13	11	10	9	10	10	8	5	5	4	5	5	5	5	5	5	4	15	9.3																				
Apr 3	5	4	4	4	4	4	2	1	1	1	1	1	1	1	1	2	2	2	2	3	2	3	3	5	1	5	2.5																				
Apr 4	5	5	5	5	6	6	6	7	6	6	7	7	6	5	5	4	4	4	4	4	4	4	4	4	4	7	5.2																				
Apr 5	3	3	4	5	5	6	6	6	7	7	8	10	11	11	11	10	7	6	6	5	5	5	6	3	3	11	6.8																				
Apr 6	6	6	6	7	8	9	9	10	9	8	7	7	6	4	3	3	3	3	3	2	2	2	2	2	2	10	5.2																				
Apr 7	2	2	2	2	3	3	4	4	6	6	5	5	4	4	4	4	3	3	4	4	4	4	4	4	2	6	3.7																				
Apr 8	4	5	5	6	6	7	7	7	7	6	6	6	6	4	3	2	2	2	2	5	2	2	3	4	2	7	4.3																				
Apr 9	5	7	6	4	3	3	2	2	2	2	2	1	1	1	1	1	1	2	2	2	2	2	2	2	1	7	2.4																				
Apr 10	2	2	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	2	2	2	0	2	1.1																				
Apr 11	2	2	2	7	5	3	3	5	5	4	4	3	3	2	2	2	2	2	2	3	3	2	2	2	2	7	2.9																				
Apr 12	2	2	3	3	3	4	4	4	4	4	4	3	3	4	4	3	2	2	1	3	6	4	5	3	1	6	3.2																				
Apr 13	2	2	2	2	3	3	4	3	3	3	3	3	3	3	3	3	3	3	3	3	5	3	3	3	2	5	3.0																				
Apr 14	3	4	4	4	3	4	4	5	6	6	6	4	4	2	2	2	3	3	4	5	14	14	8	5	2	14	4.9																				
Apr 15	4	3	3	3	3	3	6	6	7	7	6	4	3	3	4	3	3	3	3	3	5	5	3	3	3	7	3.9																				
Apr 16	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	3	3	3	3	2	3	2	2	4	3.1																				
Apr 17	2	3	2	2	3	3	3	3	4	4	4	5	5	5	6	6	6	6	6	6	4	2	1	1	1	6	3.7																				
Apr 18	1	1	1	2	2	2	13	4	1	1	K	K	K	K	K	K	K	K	K	K	K	K	K	K	1	13	NA																				
Apr 19	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-																				
Apr 20	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	2	4	NA																				
Apr 21	4	6	5	5	4	5	5	4	3	3	3	3	4	5	8	5	5	9	6	11	16	12	18	6	3	18	6.4																				
Apr 22	9	11	6	8	6	6	6	7	8	7	6	7	7	7	7	7	7	7	6	6	7	8	7	6	6	11	6.9																				
Apr 23	5	5	5	5	5	5	6	7	7	8	8	8	7	7	8	8	8	8	8	4	3	3	3	3	3	8	6.1																				
Apr 24	3	4	4	4	4	4	4	4	4	4	5	5	5	5	5	6	6	6	6	6	7	7	7	7	3	7	5.1																				
Apr 25	7	7	7	7	8	7	7	7	7	7	7	7	4	2	2	3	2	2	2	2	4	5	1	1	1	8	4.8																				
Apr 26	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	3	5	4	1	1	5	1.9																				
Apr 27	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	2	1.6																				
Apr 28	1	2	2	3	4	4	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	3	11	13	1	13	2.6																				
Apr 29	4	3	3	2	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	4	1.6																				
Apr 30	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	2	2	2	3	1.9																				
Diurnal Maximum	13	13	14	14	14	15	14	15	17	16	16	12	11	13	13	12	11	10	9	11	16	14	18	13																							
Diurnal Average	3.9	4.1	4.0	4.3	4.5	4.6	5.1	4.9	4.9	4.7	4.7	4.4	4.1	4.0	3.9	3.6	3.5	3.6	3.5	3.8	4.4	4.2	4.5	4.0																							
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.

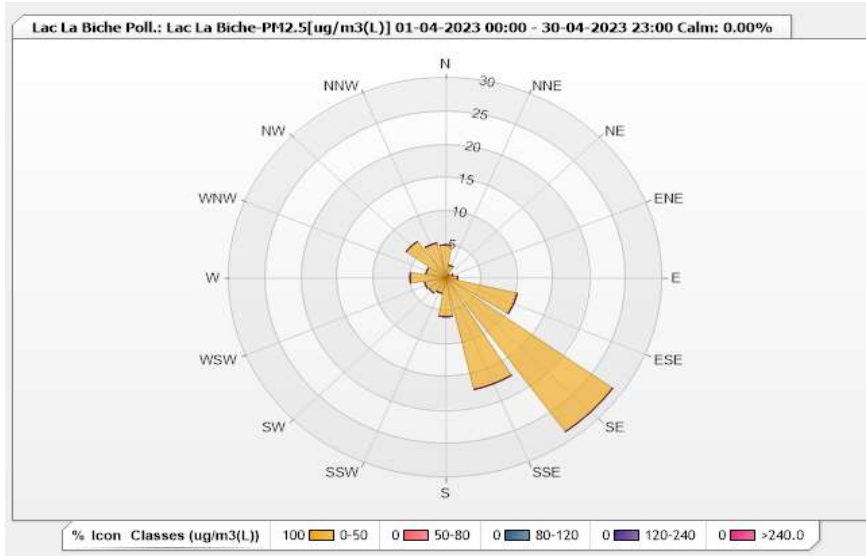


Station: Lac La Biche Poll.: Lac La Biche-PM2.5[ug/m3(L)] Monthly: 04-2023

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

Calm: 0.00% Valid Data: 92.78% Calm Avg: 0.00 [ppm]

Direction	0-50	50-80	80-120	120-240	>240.0	Total
N	4.94	0	0	0	0	4.94
NNE	1.95	0	0	0	0	1.95
NE	0.6	0	0	0	0	0.6
ENE	1.05	0	0	0	0	1.05
E	1.65	0	0	0	0	1.65
ESE	10.18	0	0	0	0	10.18
SE	28.44	0	0	0	0	28.44
SSE	17.22	0	0	0	0	17.22
S	5.84	0	0	0	0	5.84
SSW	2.4	0	0	0	0	2.4
SW	2.84	0	0	0	0	2.84
WSW	2.99	0	0	0	0	2.99
W	4.94	0	0	0	0	4.94
WNW	2.84	0	0	0	0	2.84
NW	6.74	0	0	0	0	6.74
NNW	5.39	0	0	0	0	5.39
Summary	100	0	0	0	0	100



Lakeland Industry & Community Association

Lac La Biche Station - April 2023

Summary of Hourly Averages

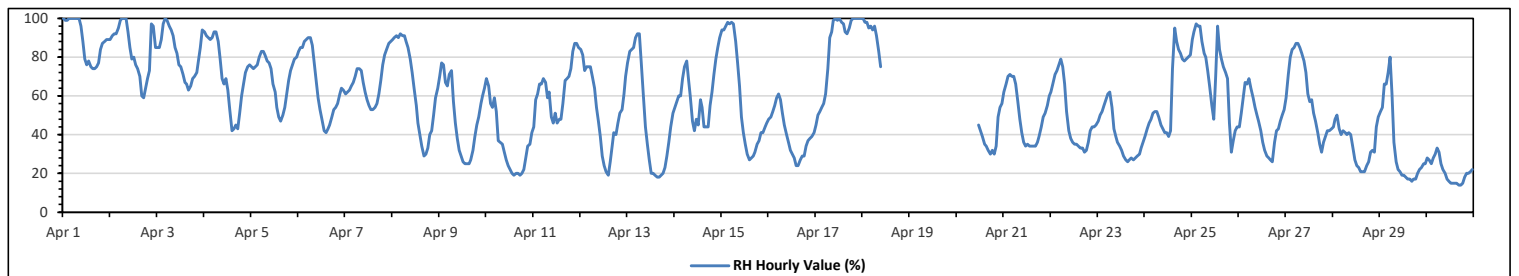
RELATIVE HUMIDITY (RH) in %

Maximum Hourly Value:	100	%	on Apr 1 at hr 0	Hours in Service:	720
Maximum Daily Value:	88.6	%	on Apr 1	Hours of Data:	671
Minimum Hourly Value:	14	%	on Apr 30 at hr 16	Hours of Missing Data:	49
Minimum Daily Value:	21.1	%	on Apr 30	Hours of Calibration:	0
Monthly Average:	57.6	%		Operational Uptime:	93.2

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	
Apr 1	100	99	99	100	100	100	100	100	100	96	88	79	76	78	75	74	74	75	77	84	87	88	89	89	74	100	88.6	
Apr 2	89	91	92	92	95	99	100	100	100	93	85	79	80	76	74	70	60	59	64	69	73	97	96	85	59	100	84.1	
Apr 3	85	85	89	97	100	99	96	94	91	85	82	76	75	71	67	66	63	65	69	70	72	78	85	94	63	100	81.4	
Apr 4	93	91	90	89	90	93	93	88	79	69	66	69	63	53	42	43	45	43	51	60	66	72	75	76	42	93	70.8	
Apr 5	75	74	75	76	80	83	83	81	78	77	74	66	62	54	49	47	50	54	61	68	73	76	79	80	47	83	69.8	
Apr 6	83	85	85	88	89	90	90	86	77	68	59	53	48	42	41	43	45	49	53	54	56	61	64	63	41	90	65.5	
Apr 7	61	62	63	65	67	70	74	74	73	67	62	58	55	53	53	54	56	61	68	76	81	84	87	88	53	88	67.2	
Apr 8	89	90	91	90	92	91	91	88	85	79	72	64	55	46	40	34	29	30	33	40	42	50	59	64	29	92	64.3	
Apr 9	70	77	76	67	65	71	73	57	46	38	32	29	26	25	25	25	27	32	39	45	49	56	60	64	25	77	48.9	
Apr 10	69	65	56	54	59	52	37	36	35	31	27	24	22	20	19	20	20	19	20	22	28	34	35	41	19	69	35.2	
Apr 11	44	58	61	66	66	69	67	59	62	49	46	51	46	48	48	56	68	69	70	74	83	87	87	85	44	87	63.3	
Apr 12	84	81	73	75	75	75	70	64	54	47	39	29	24	21	19	26	34	41	40	46	51	53	61	70	19	84	52.2	
Apr 13	77	83	84	85	90	92	92	77	59	44	35	27	20	19	18	18	19	20	23	29	36	44	51	18	92	48.4		
Apr 14	54	57	60	60	69	75	78	68	60	47	42	48	45	58	54	44	44	44	55	62	71	79	85	90	42	90	60.4	
Apr 15	94	94	96	98	97	98	97	88	77	65	49	41	35	30	27	28	29	31	35	37	41	41	44	46	27	98	59.1	
Apr 16	48	49	52	55	59	61	58	51	45	40	36	32	30	28	24	24	27	29	29	34	37	38	39	41	24	61	40.3	
Apr 17	45	50	52	54	56	61	74	90	93	99	100	99	100	98	97	93	92	95	99	100	100	100	100	100	45	100	85.3	
Apr 18	100	98	98	95	96	94	96	91	83	75	K	K	K	K	K	K	K	K	K	K	K	K	K	K	75	100	NA	
Apr 19	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-	
Apr 20	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	30	56	NA	
Apr 21	62	66	70	71	70	70	66	58	48	41	36	34	35	34	34	34	34	36	39	44	49	51	55	60	34	71	49.9	
Apr 22	62	66	71	73	76	79	75	66	52	42	38	36	35	35	34	33	33	31	32	36	42	44	44	45	31	79	49.2	
Apr 23	47	50	52	55	58	61	62	54	43	39	36	34	32	29	27	26	27	28	27	28	29	30	33	36	26	62	39.3	
Apr 24	39	43	46	48	51	52	52	49	45	43	41	41	39	42	74	95	88	84	82	79	78	79	80	81	39	95	60.5	
Apr 25	89	93	97	96	96	88	82	80	73	65	55	48	70	96	84	79	75	72	69	46	31	37	42	44	31	97	71.1	
Apr 26	44	51	59	67	66	69	64	59	54	50	47	42	36	32	29	28	27	26	36	42	43	47	50	53	26	69	46.7	
Apr 27	59	71	80	84	85	87	87	85	82	78	72	61	57	58	51	47	41	35	31	36	39	42	42	43	31	87	60.5	
Apr 28	44	48	50	43	40	42	41	40	41	40	33	27	24	23	21	21	21	24	26	31	32	31	44	49	21	50	34.8	
Apr 29	52	54	66	66	72	80	61	36	26	22	21	19	19	18	17	17	17	17	17	20	22	23	25	25	16	80	33.8	
Apr 30	28	27	25	28	30	33	31	25	22	20	17	16	15	15	15	15	14	14	15	18	20	20	21	22	14	33	21.1	
Diurnal Maximum	100	99	99	100	100	100	100	100	100	99	100	99	100	98	97	95	92	95	99	100	100	100	100	100	100	100	100	100
Diurnal Average	67.4	69.9	71.7	72.8	74.6	76.2	74.6	69.4	63.7	57.5	51.5	47.4	45.2	44.4	42.6	42.6	42.5	43.3	46.0	49.1	52.1	56.5	60.0	62.2				

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

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 - April 2023

Summary of Hourly Averages

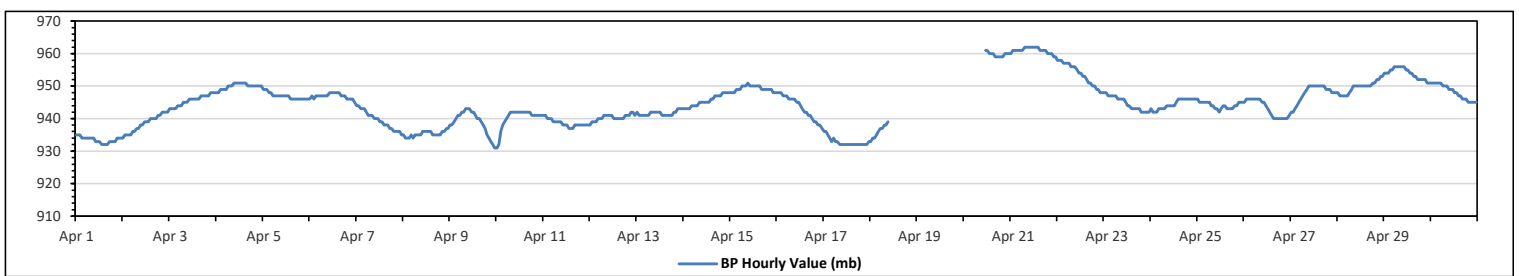
BAROMETRIC PRESSURE (BP) in millibar

Maximum Hourly Value:	962	mb	on Apr 21 at hr 7	Hours in Service:	720
Maximum Daily Value:	961	mb	on Apr 21	Hours of Data:	671
Minimum Hourly Value:	931	mb	on Apr 9 at hr 23	Hours of Missing Data:	49
Minimum Daily Value:	933	mb	on Apr 17	Hours of Calibration:	0
Monthly Average:	945	mb		Operational Uptime:	93.2

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			
Apr 1	935	935	935	934	934	934	934	934	934	934	933	933	933	932	932	932	933	933	933	933	934	934	934	932	935	934
Apr 2	934	935	935	935	935	936	936	937	937	938	938	939	939	939	940	940	940	940	941	941	942	942	942	942	942	938
Apr 3	943	943	943	943	944	944	944	945	945	945	946	946	946	946	946	946	947	947	947	947	948	948	948	943	948	946
Apr 4	948	948	949	949	949	949	950	950	950	951	951	951	951	951	951	951	950	950	950	950	950	950	950	948	951	950
Apr 5	949	949	949	948	948	947	947	947	947	947	947	947	947	946	946	946	946	946	946	946	946	946	946	946	949	947
Apr 6	946	947	946	947	947	947	947	947	947	947	948	948	948	948	948	948	947	947	947	946	946	946	946	945	948	947
Apr 7	944	944	943	943	943	942	941	941	941	940	940	940	939	939	938	938	938	937	937	936	936	936	935	935	944	939
Apr 8	935	934	934	934	935	934	935	935	935	935	936	936	936	936	936	935	935	935	935	935	935	936	936	937	937	935
Apr 9	938	938	939	940	941	941	942	942	943	943	943	942	942	941	940	940	939	938	937	935	934	933	932	931	931	939
Apr 10	931	932	936	938	939	940	941	942	942	942	942	942	942	942	942	942	942	942	941	941	941	941	941	941	942	940
Apr 11	941	941	940	940	940	939	939	939	939	939	938	938	938	937	937	937	938	938	938	938	938	938	938	938	937	939
Apr 12	938	939	939	939	940	940	940	941	941	941	941	941	940	940	940	940	940	940	941	941	941	942	942	941	942	940
Apr 13	942	941	941	941	941	941	941	942	942	942	942	942	942	941	941	941	941	941	941	942	942	943	943	943	941	942
Apr 14	943	943	943	943	944	944	944	944	945	945	945	945	945	945	946	946	947	947	947	947	948	948	948	948	943	948
Apr 15	948	948	948	949	949	949	950	950	950	951	950	950	950	950	950	950	949	949	949	949	949	949	948	948	949	949
Apr 16	948	948	948	947	947	947	946	946	946	946	945	945	944	943	942	942	941	941	940	939	939	938	937	937	948	943
Apr 17	936	936	935	934	933	934	933	933	932	932	932	932	932	932	932	932	932	932	932	932	932	932	932	932	932	933
Apr 18	933	934	934	935	936	937	937	938	938	939	K	K	K	K	K	K	K	K	K	K	K	K	K	K	933	939
Apr 19	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-
Apr 20	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	959	961
Apr 21	960	961	961	961	961	961	961	962	962	962	962	962	962	962	962	961	961	961	961	960	960	959	959	959	959	962
Apr 22	958	958	958	957	957	957	957	956	956	956	955	954	954	953	953	952	951	951	950	950	949	949	948	948	948	954
Apr 23	948	948	947	947	947	947	947	946	946	946	946	945	944	944	943	943	943	943	942	942	942	942	942	942	942	945
Apr 24	943	942	942	942	943	943	943	944	944	944	944	944	944	945	946	946	946	946	946	946	946	946	946	946	942	944
Apr 25	946	945	945	945	945	945	945	944	944	943	943	942	943	944	944	943	943	943	943	944	944	945	945	945	942	944
Apr 26	945	946	946	946	946	946	946	946	946	945	945	944	943	942	941	940	940	940	940	940	940	940	940	941	940	943
Apr 27	942	942	943	944	945	946	947	948	949	950	950	950	950	950	950	950	950	949	949	949	948	948	948	942	950	
Apr 28	948	947	947	947	947	947	948	949	950	950	950	950	950	950	950	950	950	951	951	952	952	953	953	947	953	
Apr 29	954	954	954	955	955	956	956	956	956	956	955	955	954	954	953	953	952	952	952	952	952	952	951	951	951	954
Apr 30	951	951	951	951	951	950	950	950	949	949	949	948	948	947	947	946	946	946	945	945	945	945	945	945	945	948
Diurnal Maximum	960	961	961	961	961	961	961	962	962	962	962	962	962	962	961	961	961	961	960	960	960	960	960	960	960	960
Diurnal Average	944	944	944	944	944	944	945	945	945	945	945	945	945	945	945	945	945	944	944	944	944	944	944	944	944	944

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

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.



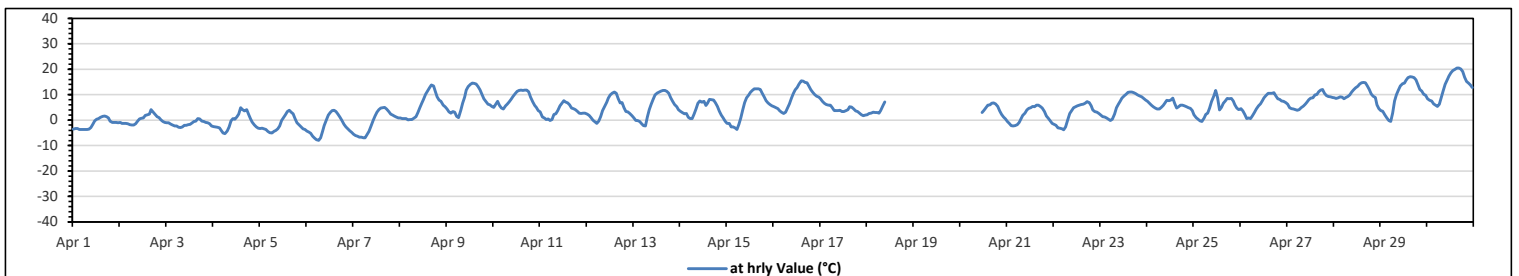
Lakeland Industry & Community Association
Lac La Biche Station - April 2023
Summary of Hourly Averages
AMBIENT TEMPERATURE (AT) in Degree Celsius

Maximum Hourly Value:	20.4 °C	on Apr 30 at hr 15	Hours in Service:	720
Maximum Daily Value:	13.6 °C	on Apr 30	Hours of Data:	671
Minimum Hourly Value:	-7.9 °C	on Apr 6 at hr 6	Hours of Missing Data:	49
Minimum Daily Value:	-2.2 °C	on Apr 6	Hours of Calibration:	0
Monthly Average:	4.4 °C		Operational Uptime:	93.2

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		
Apr 1	-3.6	-3.3	-3.3	-3.7	-3.7	-3.7	-3.7	-3.7	-3.6	-2.9	-1.7	-0.3	0.3	0.5	1.1	1.5	1.6	1.4	0.9	-0.4	-0.9	-0.9	-1.1	-3.7	1.6	-1.4			
Apr 2	-1	-1.2	-1.3	-1.3	-1.4	-1.8	-2	-1.9	-1.4	-0.4	0.4	0.7	0.8	1.8	2.1	2.3	4.1	3.2	2.3	1.4	1	0.1	-0.5	-0.9	-2.0	4.1	0.2		
Apr 3	-1.1	-1.1	-1.5	-1.9	-2.3	-2.4	-2.8	-2.9	-2.6	-2.1	-2.1	-1.8	-1.6	-1.1	-0.5	-0.4	0.5	0.4	-0.4	-0.6	-0.9	-1.1	-1.4	-2.3	-2.9	0.5	-1.4		
Apr 4	-2.5	-2.6	-2.8	-3.1	-4.2	-5.1	-5.3	-4.3	-2.7	-0.3	0.6	0.3	1.3	2.4	4.8	4.2	3.6	4.1	2.2	0.4	-0.8	-2	-2.7	-3.2	-5.3	4.8	-0.7		
Apr 5	-3.3	-3.2	-3.4	-3.7	-4.5	-5	-5.1	-4.5	-4	-3.5	-2.3	-0.1	1	2.1	3.3	3.9	3	2.5	0.5	-1.1	-2	-2.7	-3.4	-3.7	-5.1	3.9	-1.6		
Apr 6	-4.3	-4.7	-5.2	-6.3	-7.1	-7.7	-7.9	-7	-4.5	-2.2	0.1	2	3	3.7	3.9	3.4	2.3	1.3	0	-1.6	-2.6	-3.5	-4.2	-4.8	-7.9	3.9	-2.2		
Apr 7	-5.5	-6.1	-6.4	-6.7	-6.7	-6.9	-6.9	-5.7	-4.4	-2.2	-0.1	1.6	3.1	4.1	4.7	4.9	5	4.3	3.4	2.4	1.9	1.6	1.2	0.9	-6.9	5.0	-0.8		
Apr 8	0.8	0.5	0.5	0.6	0.1	0.2	0.2	0.7	1.4	2.9	4.9	6.6	8.1	10.1	11.4	12.6	13.8	13.4	11.4	9.2	7.9	7.4	5.9	5.2	0.1	13.8	5.7		
Apr 9	4.3	3.2	2.8	3.3	3.1	1.5	1	3.9	6.8	9	11.8	13.2	14	14.5	14.4	14.2	13.2	11.9	10.1	8.4	7.4	6.3	6	5.4	1.0	14.5	7.9		
Apr 10	5	6	7.3	5.7	4.7	4.3	5.6	6.2	7.1	8.2	9.3	10.4	11.2	11.6	11.8	11.7	11.8	11.8	11.1	9	7.1	5.7	5	3.8	3.8	11.8	8.0		
Apr 11	3.2	1.3	0.9	0.2	0.4	-0.1	0.2	2.2	2.5	3.7	5.6	6.6	7.6	7.1	6.8	6	4.7	4.4	4.1	3.5	2.8	2.6	2.7	2.8	-0.1	7.6	3.4		
Apr 12	2.4	1.8	1	0	-0.7	-1.3	-0.4	1.4	3.7	5.5	7	8.6	9.9	10.7	11	10.5	8.4	6.8	6.9	4.9	3.3	3.2	2.6	1.7	-1.3	11.0	4.5		
Apr 13	0.8	-0.1	-0.2	-0.6	-1.4	-2.2	-2.3	1.2	4.1	6.2	8.2	9.8	10.7	11	11.4	11.6	11.6	11.2	10.5	8.8	7.4	6.1	5.3	4.2	-2.3	11.6	5.6		
Apr 14	3.5	2.9	2.5	2.6	1.1	0.5	0.5	2.4	4.3	6.7	7.5	7	7.4	5.7	6.6	8.2	8.1	7.9	6.8	5.4	3.5	1.9	0.9	-0.4	-0.4	8.2	4.3		
Apr 15	-1.2	-1.2	-2.6	-2.6	-3.1	-3.7	-1.7	0.9	4	6.9	8.7	9.9	10.9	11.6	12.3	12.3	12.3	12	10.6	9.2	7.6	6.8	6.1	5.6	-3.7	12.3	5.5		
Apr 16	5.2	4.9	4.4	3.8	3.1	2.6	3.1	4.7	6.4	8.5	10.4	11.9	12.8	14.1	15.4	15.3	14.9	14.7	13.6	11.9	10.9	10	9.4	9	2.6	15.4	9.2		
Apr 17	8.3	7.3	6.6	6.1	5.9	5.8	4.9	3.8	3.8	3.8	3.9	3.4	3.3	3.7	4.1	5.2	5.1	4.4	3.6	3.4	2.7	2.1	1.7	1.9	1.7	8.3	4.4		
Apr 18	2.1	2.6	2.8	3.1	3	3	2.7	3.8	5.6	7.1	K	K	K	K	K	K	K	K	K	K	K	K	K	K	2.1	7.1	NA		
Apr 19	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K		
Apr 20	K	K	K	K	K	K	K	K	K	K	K	K	K	2.9	3.9	4.9	5.8	6	6.6	6.8	6.4	5.4	3.6	2.2	1.2	0.4	0.4	6.8	NA
Apr 21	-0.5	-1.2	-2.2	-2.3	-2.2	-1.8	-0.9	0.5	1.8	2.8	4	4.6	4.8	5.4	5.3	5.8	5.4	4.7	3.3	1.6	0.7	-0.3	-1.3	-2.3	-3.8	5.8	1.8		
Apr 22	-1.6	-2.1	-3	-3.2	-3.5	-3.8	-2.6	-0.2	2.6	3.8	4.8	5.3	5.6	5.8	6.1	6.3	6.6	7.2	6.9	5.6	4	3.3	3.1	2.6	-3.8	7.2	2.5		
Apr 23	1.9	1.4	1.3	0.8	0.3	-0.1	0.3	2.4	4.9	6.3	7.5	8.6	9.5	10.2	10.9	11	11	10.8	10.4	9.8	9.5	9.2	8.5	7.9	-0.1	11.0	6.4		
Apr 24	7.3	6.6	5.9	5.2	4.7	4.3	4.3	5	5.7	6.6	7.8	7.6	7.9	8.6	6.5	4.7	5.2	5.8	5.8	5.6	5.3	4.9	4.6	3.8	3.8	8.6	5.8		
Apr 25	2.1	1	0.3	-0.3	-0.6	0.9	2.2	2.7	4.7	7.2	9.4	11.7	8.7	4	5	6.6	7.5	8.5	8.4	8.5	7.5	6	4.7	4.1	-0.6	11.7	5.0		
Apr 26	4.5	3.6	2.2	0.6	0.9	0.6	1.7	3	4.3	5.6	6.4	7.6	8.8	9.6	10.6	10.6	10.6	10.8	9.5	8.4	8.2	7.5	7.3	6.9	0.6	10.8	6.2		
Apr 27	6.2	4.8	4.4	4.3	4.1	3.9	4.2	4.8	5.5	6.2	7	8	8.6	8.8	9.8	10	11.1	11.8	12	10.5	9.6	9.3	9.2	8.9	3.9	12.0	7.6		
Apr 28	8.8	8.5	8.7	9.1	9	8.4	8.9	9.3	9.8	11	11.9	12.7	13.3	14.1	14.7	14.9	14.7	13.4	12.1	10.3	9.4	8.9	6	4.5	4.5	14.9	10.5		
Apr 29	3.7	3.5	2	0.8	-0.2	-0.6	2.7	7.5	10	11.8	13.4	14.3	14.5	15.7	16.6	17.1	17	16.7	15.8	13.9	12.1	11.4	10.2	9.7	-0.6	17.1	10.0		
Apr 30	8.4	7.8	7.5	6.4	5.9	5.4	6.3	8.9	11.5	14	16	17.4	18.6	19.4	20	20.4	20.4	20.1	19	16.8	15.2	14.5	13.8	12.8	5.4	20.4	13.6		
Diurnal Maximum	8.8	8.5	8.7	9.1	9.0	8.4	8.9	9.3	11.5	14.0	16.0	17.4	18.6	19.4	20.0	20.4	20.4	20.1	19.0	16.8	15.2	14.5	13.8	12.8					
Diurnal Average	1.9	1.5	1.0	0.6	0.2	-0.2	0.3	1.6	3.1	4.7	5.9	6.8	7.4	7.9	8.4	8.6	8.6	8.3	7.5	6.2	5.1	4.3	3.6	3.0					

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

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.



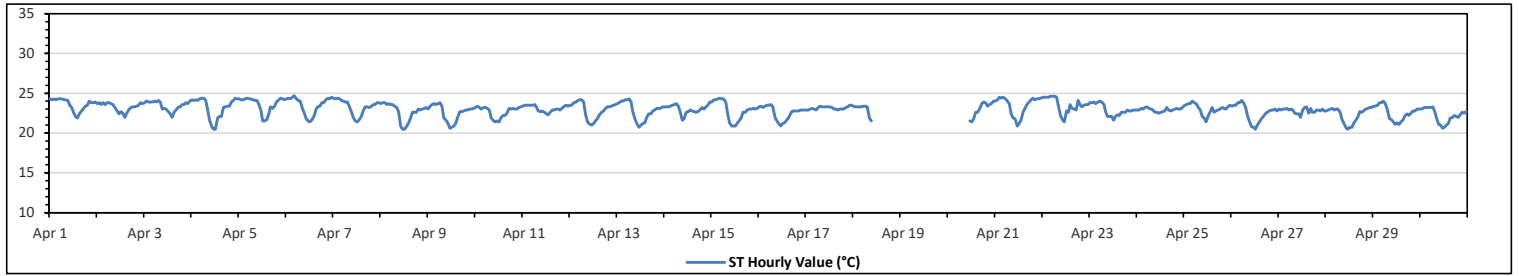
Lakeland Industry & Community Association
Lac La Biche Station - April 2023
Summary of Hourly Averages
STATION TEMPERATURE (ST) in Degree Celsius

Maximum Hourly Value:	24.7 °C	on Apr 6 at hr 4	Hours in Service:	720
Maximum Daily Value:	23.6 °C	on Apr 5	Hours of Data:	671
Minimum Hourly Value:	20.5 °C	on Apr 4 at hr 11	Hours of Missing Data:	49
Minimum Daily Value:	22.2 °C	on Apr 30	Hours of Calibration:	0
Monthly Average:	23.0 °C		Operational Uptime:	93.2

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
Apr 1	24.3	24.2	24.3	24.2	24.3	24.3	24.3	24.2	24.2	24.1	23.5	23.2	22.5	22.1	21.9	22.5	22.8	23.1	23.4	23.5	24.0	23.8	23.8	23.9	21.9	24.3	23.6
Apr 2	23.7	23.8	23.6	23.8	23.6	23.8	23.8	23.7	23.6	23.2	22.8	22.4	22.7	22.5	22.0	22.5	22.9	23.2	23.3	23.3	23.4	23.5	23.8	23.7	22.0	23.8	23.3
Apr 3	23.8	24.0	23.9	23.9	23.9	24.0	23.9	24.1	23.9	23.0	23.1	23.0	22.7	22.4	22.0	22.6	22.9	23.2	23.3	23.6	23.6	23.8	23.7	24.0	22.0	24.1	23.4
Apr 4	24.2	24.1	24.2	24.1	24.3	24.4	24.4	24.1	22.9	21.6	20.9	20.5	20.5	21.9	22.1	22.1	23.2	23.3	23.4	23.4	23.9	24.1	24.4	24.3	20.5	24.4	23.2
Apr 5	24.3	24.2	24.2	24.3	24.4	24.3	24.3	24.2	24.1	24.1	23.7	22.9	21.5	21.5	21.7	22.4	23.3	23.1	23.4	23.9	24.2	24.4	24.3	24.2	21.5	24.4	23.6
Apr 6	24.3	24.4	24.3	24.5	24.7	24.4	24.1	24.0	23.2	22.5	21.9	21.5	21.4	21.7	22.1	23.0	23.3	23.4	23.8	23.8	24.2	24.4	24.3	24.5	21.4	24.7	23.5
Apr 7	24.4	24.3	24.4	24.3	24.1	24.0	23.9	23.9	23.3	22.7	22.0	21.5	21.4	21.7	22.1	22.8	23.3	23.3	23.2	23.3	23.6	23.6	23.8	23.8	21.4	24.4	23.3
Apr 8	23.7	23.8	23.8	23.6	23.7	23.6	23.6	23.4	23.2	22.6	20.9	20.5	20.5	20.8	21.3	21.9	22.6	22.6	22.6	23.0	22.9	23.0	23.1	23.2	20.5	23.8	22.7
Apr 9	23.0	23.4	23.6	23.7	23.6	23.7	23.8	23.4	21.9	21.6	21.2	20.6	20.7	20.9	21.2	22.0	22.7	22.7	22.8	22.9	22.9	23.0	23.0	23.1	20.6	23.8	22.6
Apr 10	23.2	23.4	23.2	23.0	23.2	23.2	23.1	22.9	21.9	21.6	21.4	21.5	21.4	21.9	22.2	22.2	22.5	23.1	23.0	23.1	23.0	23.0	23.2	23.3	21.4	23.4	22.6
Apr 11	23.4	23.5	23.5	23.5	23.5	23.5	23.6	23.3	22.8	22.7	22.8	22.6	22.4	22.3	22.6	22.9	22.9	23.0	23.0	22.9	23.1	23.4	23.5	23.4	22.3	23.6	23.1
Apr 12	23.5	23.5	23.8	23.9	24.1	24.2	24.2	23.9	22.3	21.4	21.1	21.0	21.2	21.5	21.8	22.3	22.6	22.8	23.1	23.3	23.3	23.4	23.5	23.6	21.0	24.2	22.9
Apr 13	23.7	23.8	24.0	24.0	24.2	24.2	24.3	23.9	22.6	21.8	21.2	20.7	21.0	21.2	21.3	22.0	22.4	22.4	22.8	22.9	23.1	23.1	23.1	23.3	20.7	24.3	22.8
Apr 14	23.3	23.3	23.3	23.4	23.5	23.6	23.7	23.4	22.6	21.6	21.8	22.6	22.7	22.9	22.8	22.7	22.6	22.7	22.9	23.2	23.0	23.3	23.5	23.9	21.6	23.9	23.0
Apr 15	23.9	24.2	24.2	24.3	24.4	24.3	24.3	23.9	22.4	21.3	20.9	20.9	20.9	21.3	21.6	22.0	22.6	22.6	22.9	23.0	23.0	23.1	23.0	23.1	20.9	24.4	22.8
Apr 16	23.3	23.4	23.2	23.4	23.5	23.5	23.6	23.3	22.0	21.5	21.2	20.9	21.2	21.3	21.6	22.0	22.4	22.8	22.8	22.8	22.9	22.9	22.9	22.9	20.9	23.6	22.6
Apr 17	22.9	22.9	23.0	23.1	23.0	22.9	23.2	23.4	23.3	23.3	23.3	23.3	23.3	23.2	23.0	23.0	22.9	23.0	23.0	23.0	23.0	23.2	23.3	23.5	22.9	23.5	23.1
Apr 18	23.4	23.3	23.3	23.3	23.3	23.4	23.4	23.3	21.9	21.5	K	K	K	K	K	K	K	K	K	K	K	K	K	21.5	23.4	NA	
Apr 19	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-	
Apr 20	K	K	K	K	K	K	K	K	K	K	K	K	K	K	21.5	21.4	21.8	22.6	22.6	23.1	23.7	23.9	23.8	23.4	23.6	23.7	24.0
Apr 21	24.0	24.2	24.5	24.4	24.5	24.3	24.0	23.7	22.4	21.9	21.8	20.9	21.2	21.7	22.6	23.1	23.6	23.9	24.2	24.4	24.2	24.3	24.3	24.4	21.4	24.0	NA
Apr 22	24.5	24.5	24.5	24.5	24.6	24.6	24.6	24.5	23.5	22.2	21.7	21.4	22.8	22.6	23.6	23.1	23.0	22.9	24.1	23.5	23.3	23.5	23.6	23.6	20.9	24.5	23.4
Apr 23	23.8	23.8	23.9	23.7	23.9	24.0	23.9	23.6	22.7	22.1	22.1	22.1	21.6	22.1	22.3	22.2	22.6	22.6	22.6	22.9	22.8	22.9	22.9	22.9	21.6	24.0	22.9
Apr 24	22.9	22.9	23.1	23.0	23.2	23.3	23.1	23.0	22.9	22.6	22.6	22.5	22.6	22.7	22.8	23.2	22.9	22.8	22.9	23.0	23.1	23.0	23.0	23.2	22.5	23.3	22.9
Apr 25	23.5	23.6	23.7	23.7	24.0	23.8	23.7	23.2	22.9	22.1	21.9	21.4	22.1	22.7	23.2	22.6	22.8	22.9	23.0	23.2	23.1	23.0	23.3	23.5	21.4	24.0	23.0
Apr 26	23.4	23.5	23.5	23.8	23.8	24.1	23.8	23.3	22.1	21.4	20.8	20.7	20.5	21.0	21.4	21.8	22.1	22.4	22.6	22.8	22.9	22.9	23.0	22.8	20.5	24.1	22.5
Apr 27	23.0	22.9	23.0	23.0	23.1	22.9	23.0	22.9	22.5	22.4	22.4	22.0	22.9	23.2	23.3	22.5	23.1	22.6	22.6	22.6	22.9	22.9	22.8	23.0	22.0	23.3	22.8
Apr 28	22.8	22.9	23.0	23.1	22.9	23.0	23.0	22.6	21.7	21.2	20.6	20.5	20.7	20.7	21.3	21.6	22.1	22.7	22.6	22.8	23.0	23.1	23.2	23.2	20.5	23.2	22.3
Apr 29	23.4	23.4	23.5	23.8	23.8	24.0	23.7	23.0	21.8	21.7	21.4	21.1	21.3	21.1	21.4	21.7	22.2	22.4	22.2	22.5	22.8	22.8	23.0	23.0	21.1	24.0	22.5
Apr 30	23.0	23.1	23.2	23.2	23.2	23.3	22.8	21.9	21.1	21.0	20.6	20.7	21.0	21.2	21.9	22.0	22.2	22.1	22.0	22.3	22.6	22.5	22.7	20.6	23.3	22.2	
Diurnal Maximum	24.5	24.5	24.5	24.5	24.7	24.6	24.6	24.5	24.2	24.1	23.7	23.3	23.3	23.2	23.6	23.2	23.6	23.9	24.2	24.4	24.2	24.4	24.4	24.4	24.4	24.5	
Diurnal Average	23.6	23.7	23.7	23.7	23.8	23.8	23.8	23.5	22.7	22.2	21.9	21.6	21.6	21.8	22.1	22.4	22.8	22.9	23.1	23.2	23.3	23.3	23.4	23.5			

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

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 - April 2023

Summary of Hourly Averages

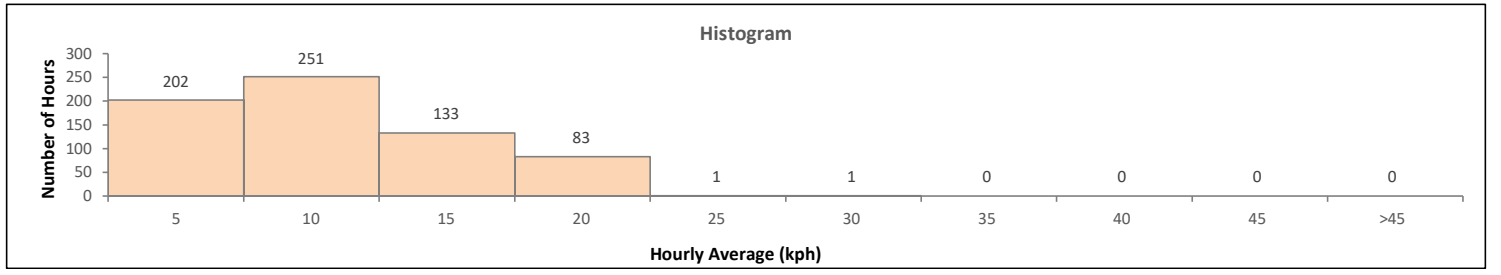
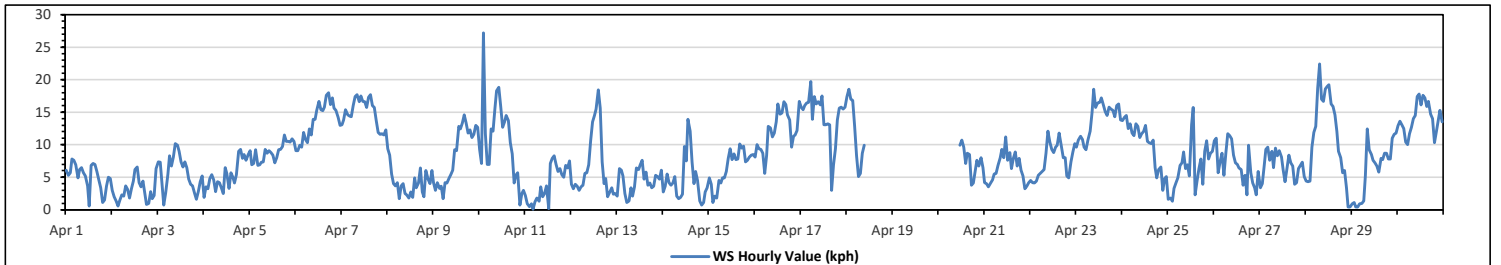
VECTOR WIND SPEED (VWS) in km/hr

Maximum Hourly Value:	27.2 kph	on Apr 10 at hr 2	Hours in Service:	720
Maximum Daily Value:	15.0 kph	on Apr 7	Hours of Data:	671
Minimum Hourly Value:	0.1 kph	on Apr 11 at hr 4	Hours of Missing Data:	49
Minimum Daily Value:	3.0 kph	on Apr 2	Hours of Calibration:	0
Monthly Average:	3.6 kph		Operational Uptime:	93.2

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
Apr 1	6.1	5.3	5.7	7.8	7.6	6.9	4.9	6.2	6.5	5.7	5.2	3.7	0.6	6.8	7.1	7.0	5.9	4.6	3.4	1.1	1.5	3.6	5.0	4.8	0.6	7.8	5.1
Apr 2	3.0	2.0	1.4	0.6	1.5	2.3	2.1	3.7	3.1	1.8	3.2	4.4	6.2	6.6	4.2	3.5	4.4	2.8	0.8	1.0	2.8	1.7	2.2	6.3	0.6	6.6	3.0
Apr 3	7.4	7.3	4.3	0.7	2.6	5.5	8.3	6.7	8.1	10.2	9.9	9.0	7.4	6.6	7.4	6.5	4.7	3.9	3.7	2.6	1.6	2.8	4.3	5.2	0.7	10.2	5.7
Apr 4	1.9	3.5	3.2	4.8	5.4	4.6	2.8	4.3	4.2	3.4	2.5	6.5	5.6	3.3	5.7	5.0	4.1	5.4	9.0	9.3	7.9	8.5	7.6	8.5	1.9	9.3	5.3
Apr 5	9.1	6.9	7.1	9.2	6.8	6.9	7.3	7.4	9.3	8.7	9.1	8.8	8.4	7.2	8.0	9.2	9.3	9.7	11.5	10.5	10.5	10.4	10.9	10.5	6.8	11.5	8.9
Apr 6	9.1	9.1	9.9	9.6	11.9	10.8	10.3	12.4	11.5	13.9	13.9	15.3	16.7	15.4	15.2	15.8	17.6	18.0	16.2	17.2	15.6	15.3	14.2	13.0	9.1	18.0	13.7
Apr 7	13.1	13.8	15.4	14.6	14.4	14.3	16.0	17.4	17.7	16.6	17.5	16.7	16.6	15.7	17.3	17.7	16.0	15.7	13.7	11.9	11.6	11.7	11.5	12.3	11.5	17.7	15.0
Apr 8	9.4	8.4	5.5	4.0	3.7	4.2	1.7	3.7	4.0	2.5	2.3	1.8	2.7	1.9	4.9	3.4	4.1	6.4	2.7	2.0	6.0	4.7	4.0	6.0	1.7	9.4	4.2
Apr 9	4.2	3.0	4.2	3.3	3.6	1.7	4.2	4.1	4.9	5.4	6.1	9.2	9.1	12.8	12.4	13.3	14.6	13.3	11.8	12.3	11.1	11.6	13.0	12.7	1.7	14.6	8.4
Apr 10	9.3	7.1	27.2	11.7	7.0	7.0	12.4	12.1	15.6	18.3	18.8	15.9	12.7	13.5	14.5	13.7	10.3	8.6	4.1	5.3	5.7	0.7	2.5	3.0	0.7	27.2	10.7
Apr 11	2.2	0.9	0.5	0.9	0.1	1.2	1.8	1.3	3.5	2.0	2.5	3.7	0.2	7.1	7.9	8.3	7.0	5.9	6.3	5.4	5.0	6.8	6.4	7.5	0.1	8.3	3.9
Apr 12	3.9	3.2	3.9	3.6	3.0	3.5	3.8	5.6	5.7	6.9	10.6	13.5	14.5	15.5	18.4	15.6	7.4	4.0	4.8	2.0	2.7	3.4	2.4	2.5	2.0	18.4	6.7
Apr 13	2.1	6.3	6.1	5.2	2.5	1.1	1.4	3.4	2.1	3.5	6.4	6.2	6.9	7.6	4.7	5.8	3.8	4.1	3.4	3.6	5.3	5.1	4.7	6.1	1.1	7.6	4.5
Apr 14	2.7	3.6	5.5	4.2	3.8	4.1	5.1	2.1	1.7	1.9	2.4	9.7	7.5	13.9	12.1	7.3	4.0	5.9	4.5	1.4	0.7	1.1	2.7	3.4	0.7	13.9	4.6
Apr 15	4.9	3.9	1.1	2.1	1.8	4.5	4.1	4.9	4.9	5.9	7.9	9.4	7.7	8.6	7.7	7.8	10.1	9.5	9.8	7.4	7.6	8.1	8.4	8.5	1.1	10.1	6.5
Apr 16	8.1	10.0	9.4	9.3	8.7	5.6	8.4	12.8	12.6	11.2	11.8	13.5	16.3	14.7	14.9	16.6	16.2	14.6	13.8	9.6	11.3	11.5	12.2	16.7	5.6	16.7	12.1
Apr 17	15.8	15.4	16.0	16.4	16.5	19.7	13.9	17.4	16.3	16.6	16.1	17.5	13.1	13.1	13.2	13.1	3.0	6.9	9.4	13.8	15.6	15.8	15.5	15.8	3.0	19.7	14.4
Apr 18	17.4	18.5	17.0	16.8	12.8	8.3	5.1	5.6	8.7	9.9	K	K	K	K	K	K	K	K	K	K	K	K	K	K	5.1	18.5	NA
Apr 19	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-
Apr 20	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-
Apr 21	4.2	4.0	3.5	4.1	4.6	5.5	5.6	6.8	8.0	9.3	8.0	11.2	7.6	8.8	6.3	7.9	8.9	6.7	7.9	6.1	5.2	3.2	3.6	4.2	3.2	11.2	6.3
Apr 22	4.5	4.2	4.1	4.4	5.3	5.6	5.9	6.2	8.7	12.1	10.4	9.3	8.8	9.6	9.9	11.8	9.8	8.0	8.0	5.2	4.9	7.4	8.9	10.2	4.1	12.1	7.6
Apr 23	9.6	10.7	11.3	10.8	9.6	9.2	10.7	12.1	15.0	18.5	15.7	16.4	16.5	17.2	16.2	15.1	14.5	15.8	15.5	15.3	14.3	16.0	16.3	13.8	9.2	18.5	14.0
Apr 24	13.7	14.2	14.5	12.5	13.2	11.8	11.4	13.2	12.8	11.1	11.7	12.0	13.0	10.5	10.3	10.2	10.7	6.5	4.9	6.2	6.6	3.0	4.8	5.1	3.0	14.5	10.2
Apr 25	1.6	1.8	1.3	3.3	4.1	4.9	6.8	7.2	8.9	6.3	6.9	5.2	13.1	15.7	2.3	4.4	6.3	7.8	3.9	9.0	10.6	7.8	8.7	9.0	1.3	15.7	6.5
Apr 26	10.6	11.0	5.7	7.4	8.7	5.3	8.7	11.7	11.4	10.9	8.4	7.2	7.0	6.4	6.2	3.8	5.3	2.3	9.9	5.7	4.1	3.4	2.3	5.9	2.3	11.7	7.1
Apr 27	3.4	4.0	6.8	9.3	9.6	7.6	9.0	6.5	9.5	8.3	9.1	8.1	6.2	4.3	6.3	8.4	7.2	6.7	3.9	4.2	6.3	6.8	7.3	5.1	3.4	9.6	6.8
Apr 28	4.4	4.3	4.4	9.6	11.9	12.8	18.7	22.4	17.0	16.7	18.6	19.0	19.2	16.3	15.9	14.6	12.0	9.0	8.0	5.7	6.0	3.4	0.4	0.4	0.4	22.4	11.3
Apr 29	0.9	1.1	0.4	0.4	0.9	1.0	1.4	5.2	12.4	9.2	8.5	7.6	7.2	6.7	5.8	7.9	7.7	8.7	8.7	7.8	7.8	11.0	11.6	11.8	0.4	12.4	6.3
Apr 30	12.9	13.6	13.1	12.5	10.4	10.0	11.7	12.7	14.0	14.5	17.4	17.8	16.1	17.6	17.2	15.9	16.7	14.7	14.0	10.3	12.0	13.5	15.3	13.5	10.0	17.8	14.1
Diurnal Maximum	17.4	18.5	27.2	16.8	16.5	19.7	18.7	22.4	17.7	18.5	18.8	19.0	19.2	17.6	18.4	17.7	17.6	18.0	16.2	17.2	15.6	16.0	16.3	16.7			
Diurnal Average	7.0	7.0	7.4	7.1	6.9	6.6	7.3	8.4	9.2	9.3	9.7	10.3	9.9	10.5	10.0	9.9	8.9	8.2	7.8	7.1	7.4	7.3	7.7	8.2			

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

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.

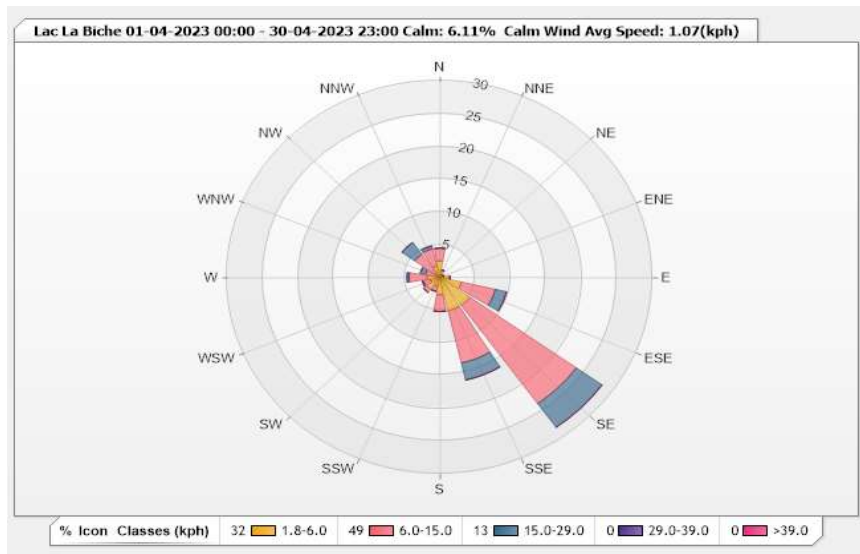


Station: Lac La Biche Monitor: WDS [kph] Monthly: 04-2023

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

Calm (WS<1.8kph): 6.11% Valid Data: 93.19%

Direction	1.8-6.0	6.0-15.0	15.0-29.0	29.0-39.0	>39.0	Total
N	2.53	1.94	0	0	0	4.47
NNE	1.04	0.15	0	0	0	1.19
NE	0.45	0	0	0	0	0.45
ENE	0.6	0	0	0	0	0.6
E	1.34	0.15	0	0	0	1.49
ESE	3.13	4.92	1.64	0	0	9.69
SE	5.22	18.48	4.47	0	0	28.17
SSE	5.22	8.2	2.68	0	0	16.1
S	2.68	2.53	0	0	0	5.21
SSW	1.34	0.89	0	0	0	2.23
SW	2.24	0.6	0	0	0	2.84
WSW	1.34	1.04	0.15	0	0	2.53
W	1.79	2.53	0.3	0	0	4.62
WNW	0.3	1.79	0.75	0	0	2.84
NW	0.75	3.58	2.24	0	0	6.57
NNW	1.79	2.68	0.45	0	0	4.92
Summary	31.76	49.48	12.68	0	0	93.92



Lakeland Industry & Community Association

Lac La Biche Station - April 2023

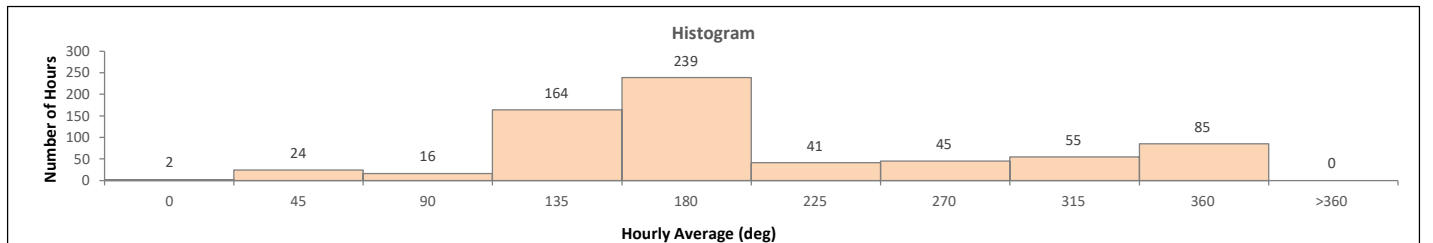
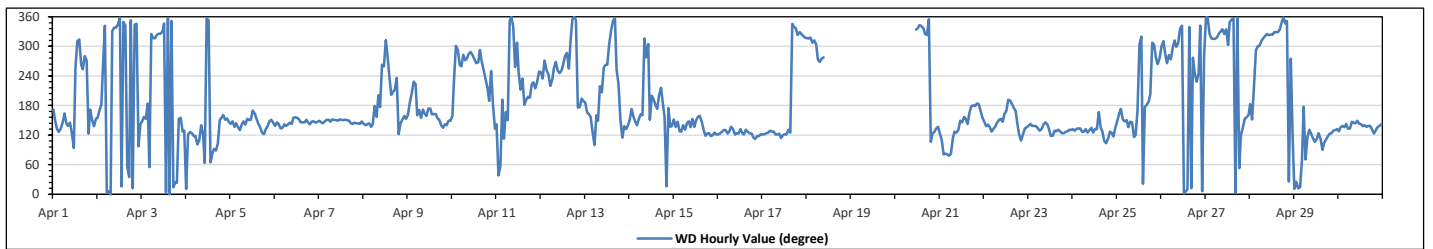
Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

Monthly Average:		147 (SE) degree										Hours of Service:		720													
												Hours of Data:		671													
												Hours of Missing Data:		49													
												Hours of Calibration:		0													
												Operational Uptime:		93.2													
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	
Apr 1	S	SE	SE	SE	SE	SE	SSE	SE	SE	SE	ESE	E	WSW	NW	NW	W	WSW	W	W	ESE	S	SSE	SE	SSE	160	SSE	
Apr 2	SSE	SSE	S	W	NNW	N	N	N	NNW	NNW	NNW	N	NNE	N	NNW	NE	NE	N	NNE	NNW	NNW	E	SE	SE	9	N	
Apr 3	SE	SSE	SSE	S	NE	NW	NW	NW	NW	NW	NW	NNW	N	N	N	N	NNE	NNE	NNE	SSE	SSE	SE	SE	SE	349	NNW	
Apr 4	NNE	ESE	SE	ESE	ESE	E	ESE	SE	ESE	ENE	N	N	ENE	E	E	E	ESE	SSE	SSE	SSE	SSE	SE	SE	SE	121	ESE	
Apr 5	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SSE	SSE	SSE	SSE	SE	SE	SE	ESE	SE	SE	SE	SE	SE	SE	143	SE	
Apr 6	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SSE	SSE	SSE	SE	SE	SE	SSE	SE	SE	SE	SE	SE	SE	146	SE	
Apr 7	SSE	SE	SE	SE	SSE	SSE	SE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	SE	SE	SE	SE	SE	SE	148	SE	
Apr 8	SE	SE	SE	SE	SE	SE	S	SSE	SSW	S	W	WSW	NW	W	WSW	SSW	SSW	SSW	SSW	SE	SE	SSE	SSE	SE	170	SSE	
Apr 9	SSE	S	SSW	SW	SW	SSE	S	SSE	S	SSE	S	S	SSE	SSE	SSE	SSE	SE	SE	SE	SE	SE	SE	SE	SE	158	SSE	
Apr 10	SSE	SW	WNW	WNW	W	WSW	W	W	W	WNW	WNW	W	W	W	W	WNW	SSW	SSW	SSW	SSW	S	WSW	S	SE	272	W	
Apr 11	SE	NE	ENE	S	ESE	SSE	SSE	N	N	NNW	WSW	NW	WSW	SSW	SW	S	S	SSW	SSW	SW	SW	SSW	SW	WSW	218	SW	
Apr 12	WSW	SW	W	WSW	WSW	SW	SW	WSW	W	WSW	WSW	WSW	W	W	WNW	WSW	NW	N	N	S	S	SSW	S	SE	263	W	
Apr 13	S	SSE	SSE	SE	E	SSE	SSE	SW	SSW	WSW	W	W	WNW	NNW	N	N	WSW	SW	SSE	ESE	SE	SE	SE	SE	196	SSW	
Apr 14	SSE	S	SSE	SE	SE	SSE	SSE	SSE	NW	W	WNW	SSE	SSW	S	S	S	SSW	SW	S	SSE	NNE	S	SE	SE	175	S	
Apr 15	SSE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SE	SSE	SSE	SE	SE	ESE	ESE	ESE	ESE	ESE	SE	SE	SE	136	SE	
Apr 16	ESE	ESE	SE	SE	SE	ESE	SE	SE	SE	ESE	ESE	ESE	SE	ESE	SE	SE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	125	SE	
Apr 17	ESE	ESE	ESE	SE	SE	SE	SE	ESE	ESE	ESE	ESE	ESE	ESE	SE	SE	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	110	ESE	
Apr 18	NW	NW	NW	NW	NW	WNW	W	W	W	W	K	K	K	K	K	K	K	K	K	K	K	K	K	K	NA	NA	
Apr 19	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	
Apr 20	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	NA	NA	
Apr 21	ESE	ESE	E	E	ENE	E	ESE	SE	SE	SE	SSE	SE	SSE	SE	SSE	S	S	S	S	SSE	SE	ESE	ESE	SE	SE	140	SE
Apr 22	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SE	SSE	SE	SSE	S	S	S	S	SSE	SE	ESE	ESE	ESE	SE	SE	153	SSE
Apr 23	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	ESE	SE	SE	SE	ESE	ESE	SE	SE	ESE	ESE	SE	SE	SE	132	SE
Apr 24	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SE	SE	ESE	ESE	ESE	SE	ESE	SE	SE	130	SE
Apr 25	SSE	SSE	S	SSE	SE	SSE	SE	SE	SE	ESE	ESE	SSE	WNW	NW	NNE	S	S	S	SSW	NW	WNW	W	W	W	222	SW	
Apr 26	WNW	NW	W	W	W	W	WNW	NW	WNW	NW	NNW	NNW	N	N	N	NNW	NNE	W	WSW	SW	WSW	NNW	N	W	306	NW	
Apr 27	N	N	NW	NW	NW	NW	NW	NW	NNW	NNW	NW	NNW	WNW	NNW	N	N	N	NE	ESE	SE	SSE	SSE	SE	SE	337	NNW	
Apr 28	S	SSE	SW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	NNW	N	NNE	W	ESE	322	NW	
Apr 29	NNE	NNE	NNE	NNE	ENE	S	ENE	ESE	SE	ESE	ESE	ESE	ESE	ESE	E	ESE	ESE	ESE	ESE	ESE	ESE	SE	SE	SE	118	ESE	
Apr 30	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	139	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
X InValid Data (Machine Malfunction /Recovery) **NRM** UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) **P** Power Failure

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 - April 2023

Summary of Hourly Averages

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

WIND SPEED		
Maximum Hourly Value:	27.2 kph on Apr 10 at hr 2	Hours in Service: 720
Maximum Daily Value:	15.0 kph on Apr 7	Hours of Data: 671
Minimum Hourly Value:	0.1 kph on Apr 11 at hr 4	Hours of Missing Data: 49
Minimum Daily Value:	3.0 kph on Apr 2	Hours of Calibration: 0
Monthly Average:	3.6 kph	Operational Uptime: 93.2

WIND DIRECTION		
Monthly Average:	147 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
Apr 1	6.1	5.3	5.7	7.8	7.6	6.9	4.9	6.2	6.5	5.7	5.2	3.7	0.6	6.8	7.1	7.0	5.9	4.6	3.4	1.1	1.5	3.6	5.0	4.8	0.6	7.8	5.1
Apr 2	3.0	2.0	1.4	0.6	1.5	2.3	2.1	3.7	3.1	1.8	3.2	4.4	6.2	6.6	4.2	3.5	4.4	2.8	0.8	1.0	2.8	1.7	2.2	6.3	0.6	6.6	3.0
Apr 3	7.4	7.3	4.3	0.7	2.6	5.5	8.3	6.7	8.1	10.2	9.9	9.0	7.4	6.6	7.4	6.5	4.7	3.9	3.7	2.6	1.6	2.8	4.3	5.2	0.7	10.2	5.7
Apr 4	1.9	3.5	3.2	4.8	5.4	4.6	2.8	4.3	4.2	3.4	2.5	6.5	5.6	3.3	5.7	5.0	4.1	5.4	9.0	9.3	7.9	8.5	7.6	8.5	1.9	9.3	5.3
Apr 5	9.1	6.9	7.1	9.2	6.8	6.9	7.3	7.4	9.3	8.7	9.1	8.8	8.4	7.2	8.0	9.2	9.3	9.7	11.5	10.5	10.5	10.4	10.9	10.5	6.8	11.5	8.9
Apr 6	9.1	9.1	9.9	9.6	11.9	10.8	10.3	12.4	11.5	13.9	13.9	15.3	16.7	15.4	15.2	15.8	17.6	18.0	16.2	17.2	15.6	15.3	14.2	13.0	9.1	18.0	13.7
Apr 7	13.1	13.8	15.4	14.6	14.4	14.3	16.0	17.4	17.7	16.6	17.5	16.7	16.6	15.7	17.3	17.7	16.0	15.7	13.7	11.9	11.6	11.7	11.5	12.3	11.5	17.7	15.0
Apr 8	9.4	8.4	5.5	4.0	3.7	4.2	1.7	3.7	4.0	2.5	2.3	1.8	2.7	1.9	4.9	3.4	4.1	6.4	2.7	2.0	6.0	4.7	4.0	6.0	1.7	9.4	4.2
Apr 9	4.2	3.0	4.2	3.3	3.6	1.7	4.2	4.1	4.9	5.4	6.1	9.2	9.1	12.8	12.4	13.3	14.6	13.3	11.8	12.3	11.1	11.6	13.0	12.7	1.7	14.6	8.4
Apr 10	9.3	7.1	27.2	11.7	7.0	7.0	12.4	12.1	15.6	18.3	18.8	15.9	12.7	13.5	14.5	13.7	10.3	8.6	4.1	5.3	5.7	0.7	2.5	3.0	0.7	27.2	10.7
Apr 11	2.2	0.9	0.5	0.9	0.1	1.2	1.8	1.3	3.5	2.0	2.5	3.7	0.2	7.1	7.9	8.3	7.0	5.9	6.3	5.4	5.0	6.8	6.4	7.5	0.1	8.3	3.9
Apr 12	3.9	3.2	3.9	3.6	3.0	3.5	3.8	5.6	5.7	6.9	10.6	13.5	14.5	15.5	18.4	15.6	7.4	4.0	4.8	2.0	2.7	3.4	2.4	2.5	2.0	18.4	6.7
Apr 13	2.1	6.3	6.1	5.2	2.5	1.1	1.4	3.4	2.1	3.5	6.4	6.2	6.9	7.6	4.7	5.8	3.8	4.1	3.4	3.6	5.3	5.1	4.7	6.1	1.1	7.6	4.5
Apr 14	2.7	3.6	5.5	4.2	3.8	4.1	5.1	2.1	1.7	1.9	2.4	9.7	7.5	13.9	12.1	7.3	4.0	5.9	4.5	1.4	0.7	1.1	2.7	3.4	0.7	13.9	4.6
Apr 15	4.9	3.9	1.1	2.1	1.8	4.5	4.1	4.9	4.9	5.9	7.9	9.4	7.7	8.6	7.7	7.8	10.1	9.5	9.8	7.4	7.6	8.1	8.4	8.5	1.1	10.1	6.5
Apr 16	8.1	10.0	9.4	9.3	8.7	5.6	8.4	12.8	12.6	11.2	11.8	13.5	16.3	14.7	14.9	16.6	16.2	14.6	13.8	9.6	11.3	11.5	12.2	16.7	5.6	16.7	12.1
Apr 17	15.8	15.4	16.0	16.4	16.5	19.7	13.9	17.4	16.3	16.6	16.1	17.5	13.1	13.1	13.2	13.1	3.0	6.9	9.4	13.8	15.6	15.8	15.5	15.8	3.0	19.7	14.4
Apr 18	17.4	18.5	17.0	16.8	12.8	8.3	5.1	5.6	8.7	9.9	K	K	K	K	K	K	K	K	K	K	K	K	K	K	5.1	18.5	NA
Apr 19	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-
Apr 20	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	3.8	10.7	NA
Apr 21	4.2	4.0	3.5	4.1	4.6	5.5	5.6	6.8	8.0	9.3	8.0	11.2	7.6	8.8	6.3	7.9	8.9	6.7	7.9	6.1	5.2	3.2	3.6	4.2	3.2	11.2	6.3
Apr 22	4.5	4.2	4.1	4.4	5.3	5.6	5.9	6.2	8.7	12.1	10.4	9.3	8.8	9.6	9.9	11.8	9.8	8.0	8.0	5.2	4.9	7.4	8.9	10.2	4.1	12.1	7.6
Apr 23	9.6	10.7	11.3	10.8	9.6	9.2	10.7	12.1	15.0	18.5	15.7	16.4	16.5	17.2	16.2	15.1	14.5	15.8	15.5	15.3	14.3	16.0	16.3	13.8	9.2	18.5	14.0
Apr 24	13.7	14.2	14.5	12.5	13.2	11.8	11.4	13.2	12.8	11.1	11.7	12.0	13.0	10.5	10.3	10.2	10.7	6.5	4.9	6.2	6.6	3.0	4.8	5.1	3.0	14.5	10.2
Apr 25	1.6	1.8	1.3	3.3	4.1	4.9	6.8	7.2	8.9	6.3	6.9	5.2	13.1	15.7	2.3	4.4	6.3	7.8	3.9	9.0	10.6	7.8	8.7	9.0	1.3	15.7	6.5
Apr 26	10.6	11.0	5.7	7.4	8.7	5.3	8.7	11.7	11.4	10.9	8.4	7.2	7.0	6.4	6.2	3.8	5.3	2.3	9.9	5.7	4.1	3.4	2.3	5.9	2.3	11.7	7.1
Apr 27	3.4	4.0	6.8	9.3	9.6	7.6	9.0	6.5	9.5	8.3	9.1	8.1	6.2	4.3	6.3	8.4	7.2	6.7	3.9	4.2	6.3	6.8	7.3	5.1	3.4	9.6	6.8
Apr 28	4.4	4.3	4.4	9.6	11.9	12.8	18.7	22.4	17.0	16.7	18.6	19.0	19.2	16.3	15.9	14.6	12.0	9.0	8.0	5.7	6.0	3.4	0.4	0.4	0.4	22.4	11.3
Apr 29	0.9	1.1	0.4	0.4	0.9	1.0	1.4	5.2	12.4	9.2	8.5	7.6	7.2	6.7	5.8	7.9	7.7	8.7	8.7	7.8	7.8	11.0	11.6	11.8	0.4	12.4	6.3
Apr 30	12.9	13.6	13.1	12.5	10.4	10.0	11.7	12.7	14.0	14.5	17.4	17.8	16.1	17.6	17.2	15.9	16.7	14.7	14.0	10.3	12.0	13.5	15.3	13.5	10.0	17.8	14.1

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

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 - April 2023
Summary of Hour Standard Deviations

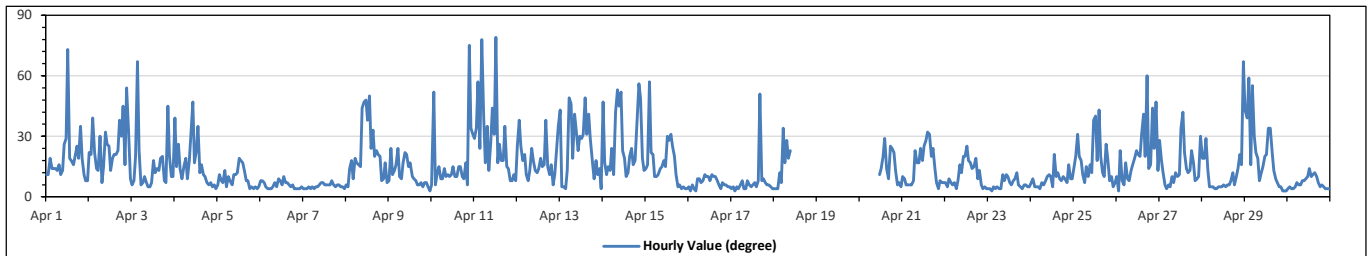
STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

Maximum Hourly Value: 79 degree on Apr 11 at hr 12		Hours in Service: 720	
Minimum Hourly Value: 3 degree on Apr 9 at hr 23		Hours of Data: 671	
		Hours of Missing Data: 49	
		Hours of Calibration: 0	
		Operational Uptime: 93.2	

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	
Apr 1	11	11	19	14	14	14	13	16	11	13	26	29	73	19	18	16	20	25	19	35	19	11	8	8	8	73	
Apr 2	22	21	39	22	14	13	30	7	15	32	26	25	13	19	21	21	23	38	30	45	16	54	33	9	5	67	
Apr 3	6	8	20	67	23	6	7	10	7	5	5	7	18	12	14	13	19	20	8	7	45	20	10	10	5	64	
Apr 4	39	15	26	14	9	15	19	9	18	31	47	17	23	35	12	16	11	10	7	6	7	5	6	4	4	47	
Apr 5	6	11	8	7	13	5	10	8	6	11	11	12	19	18	17	13	8	8	4	5	4	5	4	5	4	19	
Apr 6	8	8	7	5	4	4	4	5	7	5	9	8	6	10	7	7	6	5	6	4	4	4	4	5	4	10	
Apr 7	4	4	4	5	4	5	4	5	5	6	7	7	6	6	6	6	6	8	6	5	6	6	5	5	4	8	
Apr 8	6	5	14	18	9	19	17	16	15	44	47	48	38	50	24	33	20	23	21	20	8	9	17	7	5	50	
Apr 9	8	24	11	13	16	24	10	9	17	22	21	15	17	10	9	8	6	6	7	5	7	7	5	3	3	24	
Apr 10	6	52	6	12	15	9	9	14	10	11	10	11	15	10	10	15	15	10	9	17	6	75	34	31	6	75	
Apr 11	29	34	57	24	78	39	17	35	13	27	44	31	79	17	26	18	18	35	15	14	8	8	11	8	8	79	
Apr 12	25	38	25	18	21	11	8	13	24	18	13	12	14	19	15	16	38	15	11	16	6	11	24	35	6	38	
Apr 13	43	5	5	4	13	49	46	19	41	33	23	30	29	31	49	31	41	29	17	9	18	11	14	4	4	49	
Apr 14	47	17	11	15	13	24	11	42	53	45	52	23	19	10	12	20	24	16	18	37	56	49	19	13	10	56	
Apr 15	14	16	57	22	21	10	10	11	14	15	18	15	30	28	31	25	20	11	5	6	4	5	4	4	4	57	
Apr 16	5	3	6	4	3	9	9	7	8	11	10	10	8	11	10	10	8	6	4	7	6	6	5	5	3	11	
Apr 17	4	5	3	5	4	6	8	4	4	8	6	5	6	7	5	8	51	8	9	7	6	6	5	4	3	51	
Apr 18	4	4	4	12	7	34	17	28	19	23	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	34	
Apr 19	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-
Apr 20	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	34	
Apr 21	10	9	6	6	6	6	8	23	17	17	24	18	25	28	32	31	20	24	14	7	4	8	7	7	4	32	
Apr 22	7	5	9	7	6	7	4	8	16	12	20	20	25	18	17	14	15	19	9	13	6	4	5	4	4	25	
Apr 23	4	4	3	5	4	5	4	4	11	8	11	10	7	6	8	9	12	6	5	4	6	6	5	5	3	12	
Apr 24	7	9	5	5	5	4	7	6	8	10	11	10	5	21	10	12	9	8	10	9	7	16	9	9	4	21	
Apr 25	15	20	31	20	18	11	7	15	10	16	12	38	40	18	43	20	12	10	26	19	8	10	5	7	5	43	
Apr 26	10	3	23	8	6	17	9	8	13	16	19	23	21	20	31	41	20	60	14	16	44	24	47	13	3	60	
Apr 27	28	18	12	6	4	6	5	10	7	12	10	11	34	42	22	14	12	13	23	17	8	9	10	30	4	42	
Apr 28	19	19	29	13	5	5	5	4	4	5	5	5	6	5	6	6	8	12	6	10	14	21	16	67	4	67	
Apr 29	43	39	59	16	55	30	22	19	8	12	15	20	21	34	34	22	13	9	7	5	5	3	3	3	3	59	
Apr 30	4	5	4	4	5	7	6	6	8	8	9	10	14	10	11	12	10	7	5	6	5	4	4	4	4	14	
Diurnal Minimum	4	3	3	4	3	4	4	4	4	5	5	5	5	5	5	5	6	5	4	4	4	3	3	3	3		
Diurnal Maximum	47	52	59	67	78	49	46	42	53	45	52	48	79	50	49	41	51	60	30	45	56	75	47	67	67		

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

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



END OF REPORT

This page, 157 of 157 ends the April 2023 Monthly Ambient Air Quality Monitoring Report.



Lakeland Industry & Community Association

APRIL 2023

Ambient Air Monitoring Calibration Report

- COLD LAKE SOUTH STATION-

CAL-LICA-202304-01174

Station Operation and Maintenance:

Bureau Veritas Canada

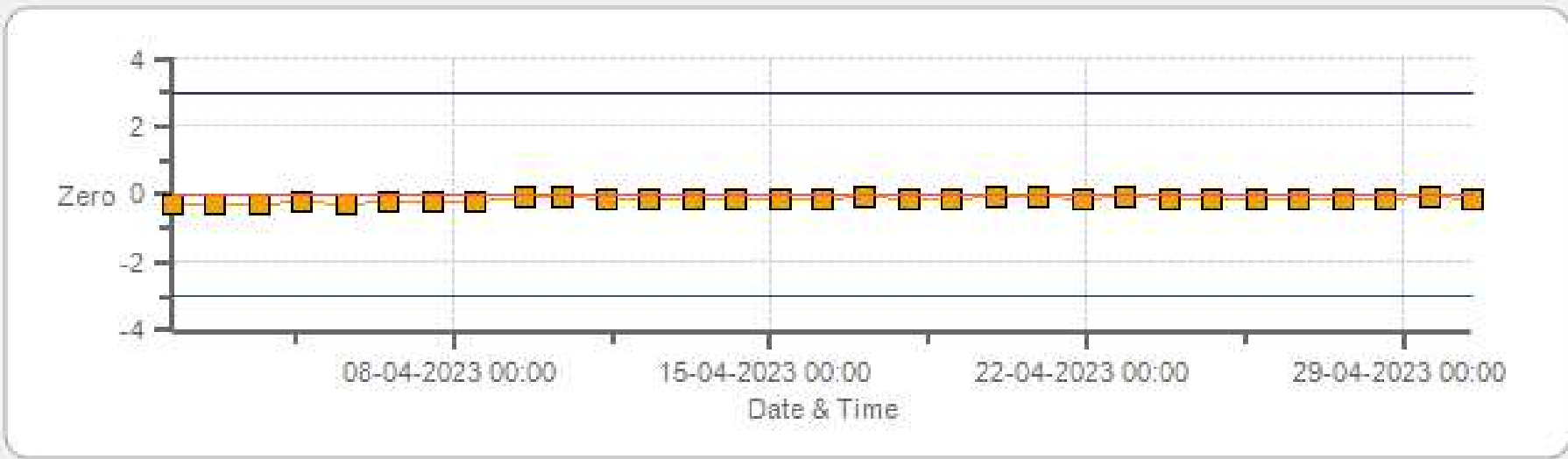
Data Validation and Report:

LICA / Bureau Veritas Canada

May 25, 2023

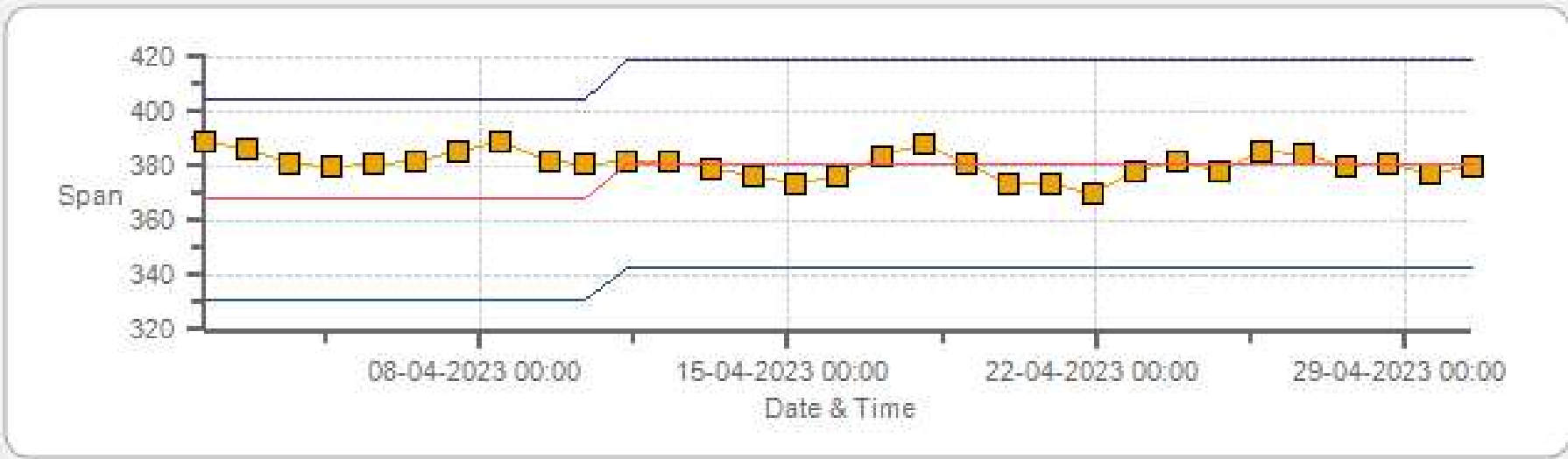
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2[ppb] Calibration: Cold Lake South Monthly: 04-2023 Type: SpanAndZero - Zero



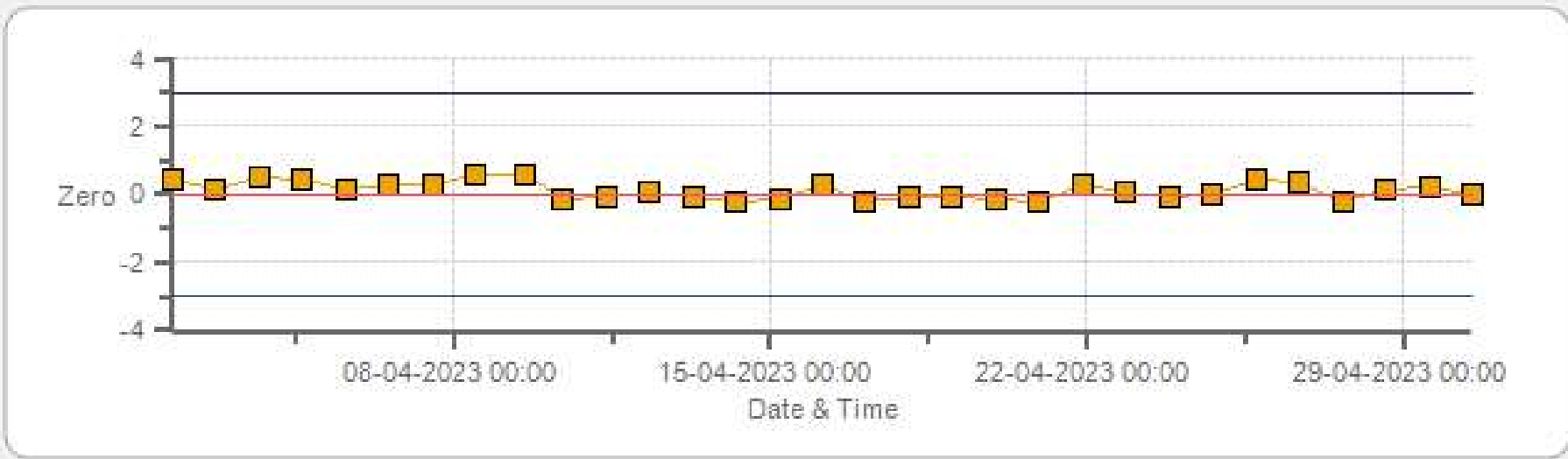
Zero Zero Ref Zero Low Zero High

SO2[ppb] Calibration: Cold Lake South Monthly: 04-2023 Type: SpanAndZero - Span



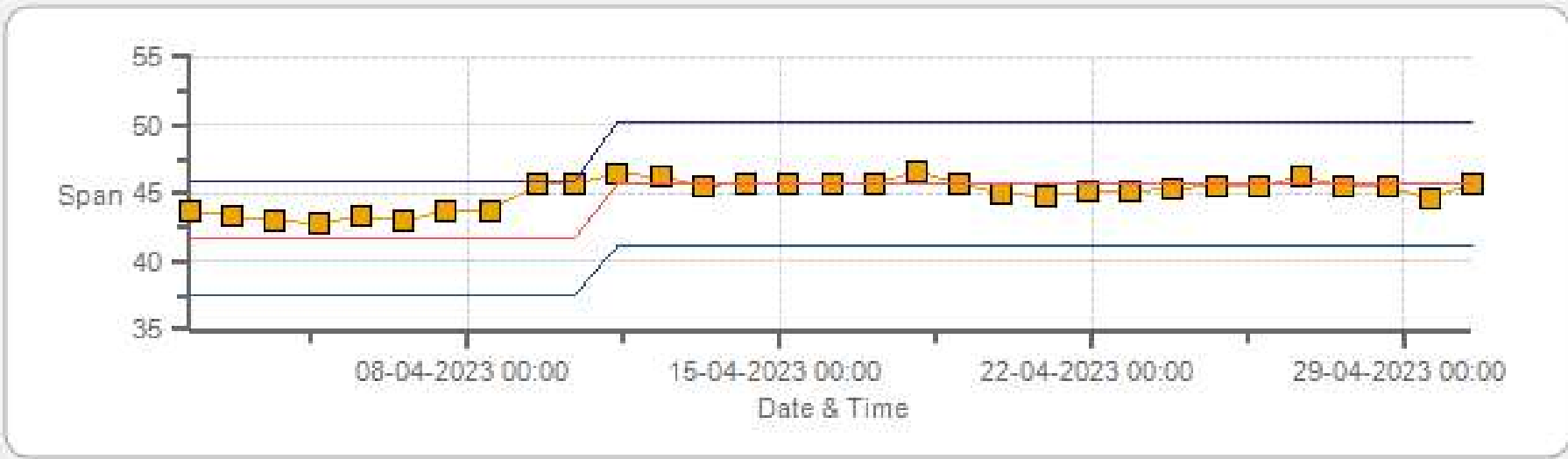
Span Span Ref Span Low Span High

TRS[ppb] Calibration: Cold Lake South Monthly: 04-2023 Type: SpanAndZero - Zero



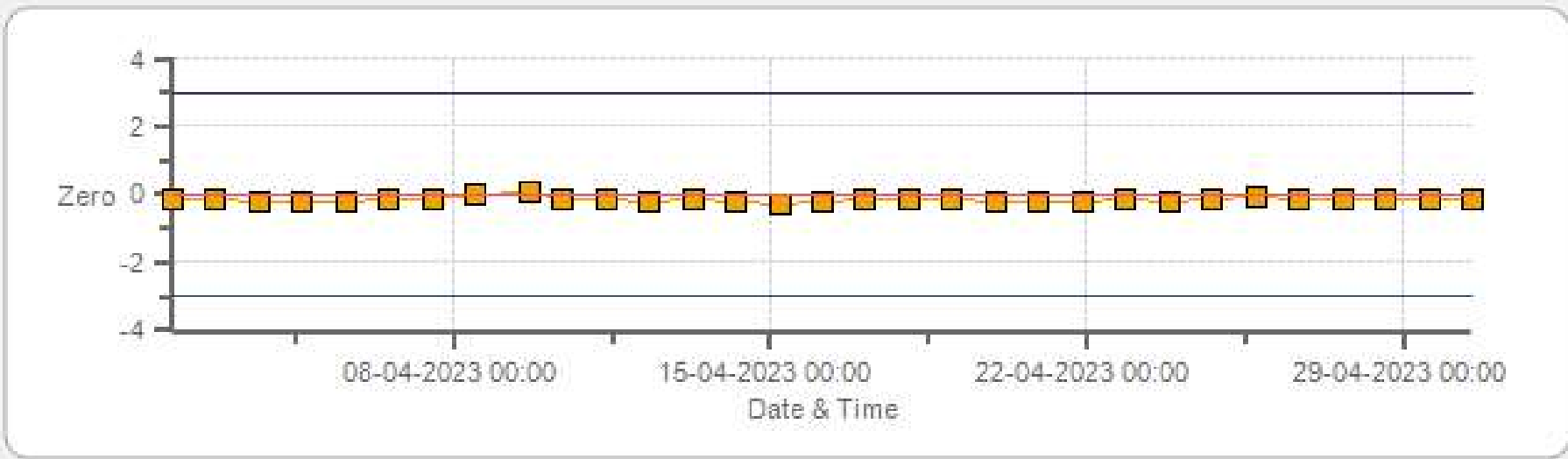
Zero Zero Ref Zero Low Zero High

TRS[ppb] Calibration: Cold Lake South Monthly: 04-2023 Type: SpanAndZero - Span



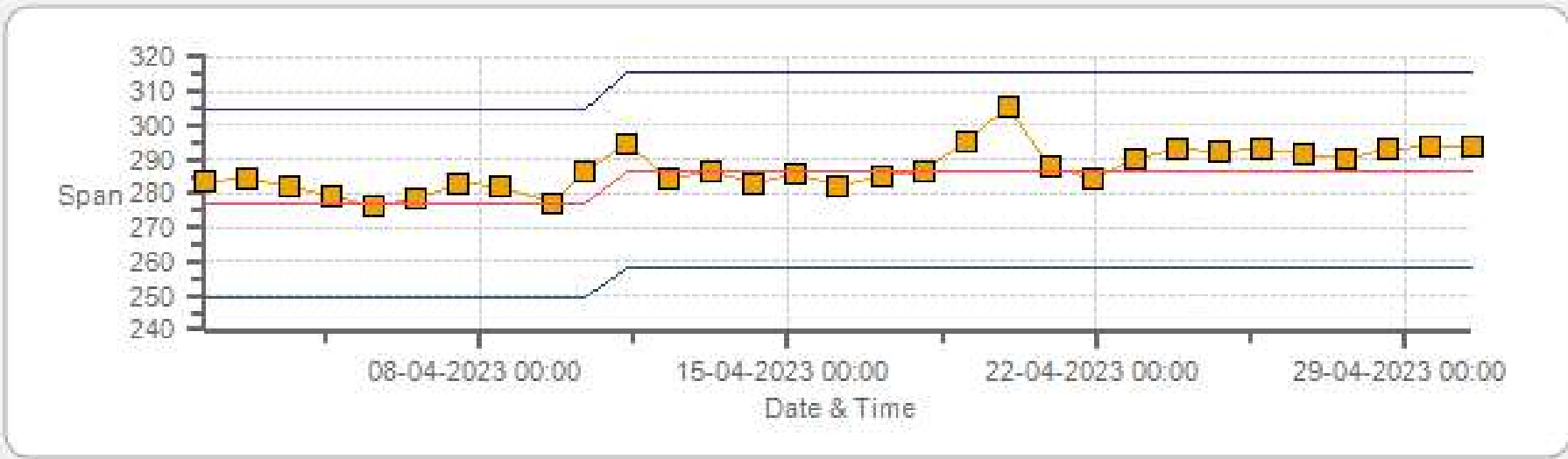
Span SpanRef Span Low Span High

NOX[ppb] Calibration: Cold Lake South Monthly: 04-2023 Type: SpanAndZero - Zero



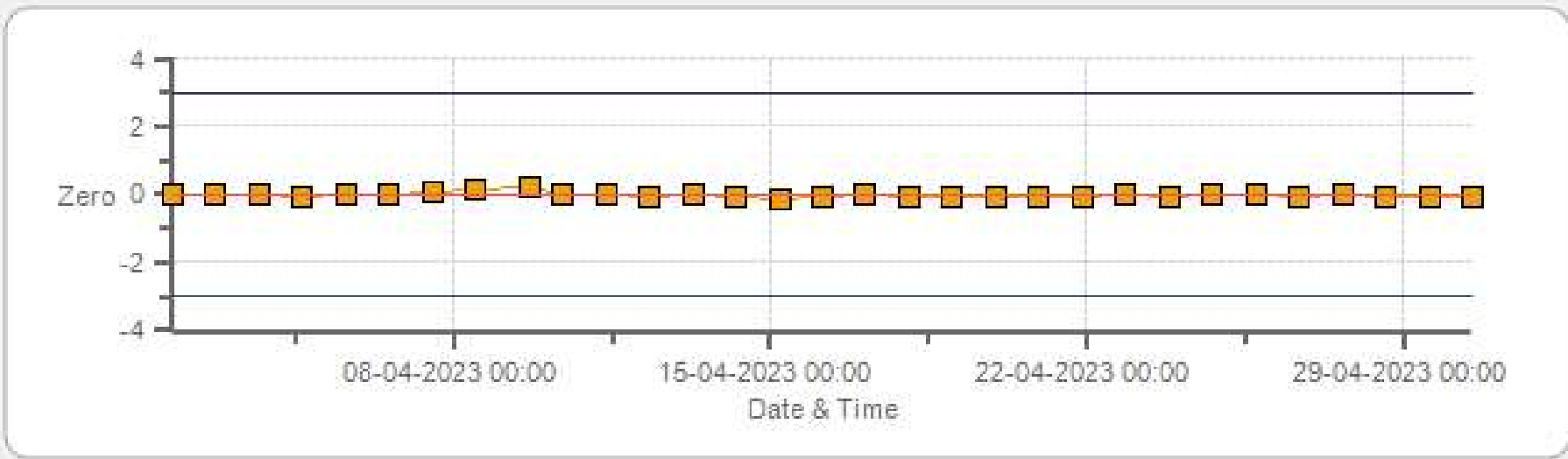
Zero Zero Ref Zero Low Zero High

NOX[ppb] Calibration: Cold Lake South Monthly: 04-2023 Type: SpanAndZero - Span



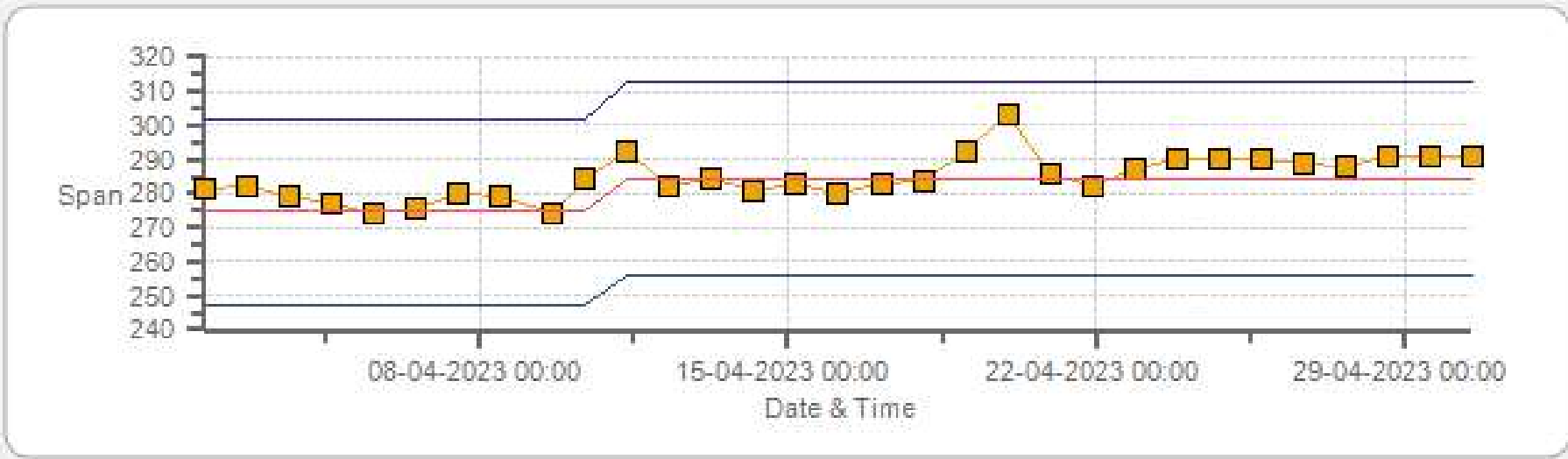
Span Span Ref Span Low Span High

NO2[ppb] Calibration: Cold Lake South Monthly: 04-2023 Type: SpanAndZero - Zero



Zero Zero Ref Zero Low Zero High

NO2[ppb] Calibration: Cold Lake South Monthly: 04-2023 Type: SpanAndZero - Span



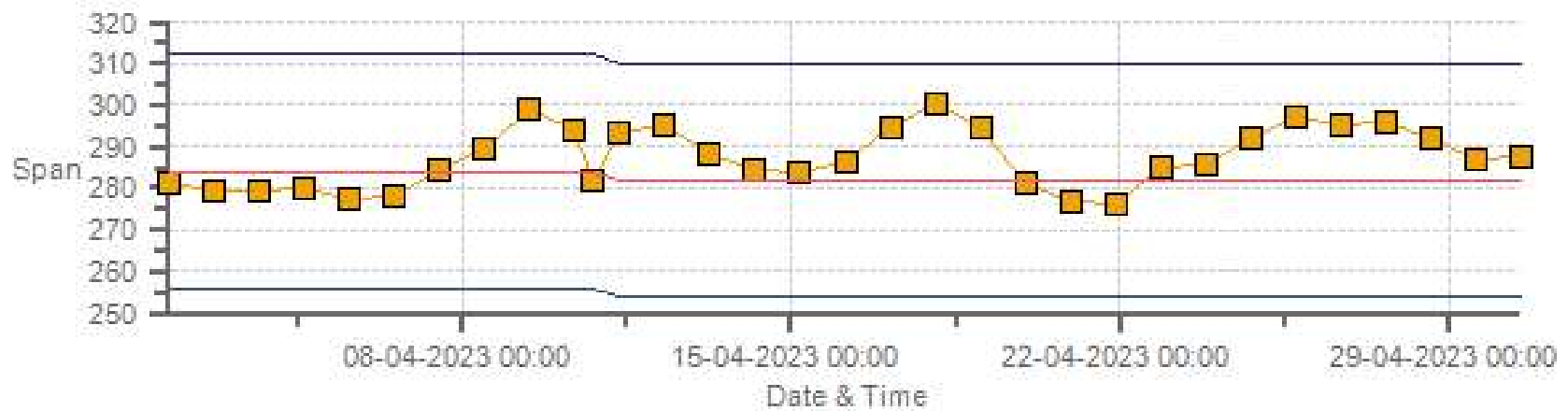
Span Span Ref Span Low Span High

O3[ppb] Calibration: Cold Lake South Monthly: 04-2023 Type: SpanAndZero - Zero



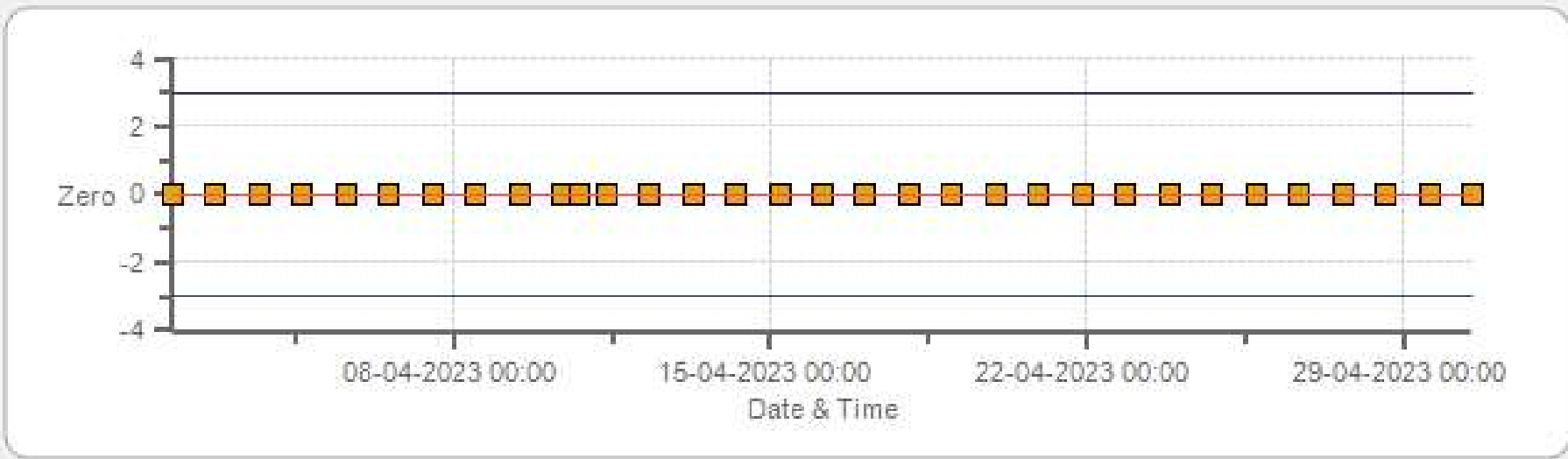
Zero Zero Ref Zero Low Zero High

O3[ppb] Calibration: Cold Lake South Monthly: 04-2023 Type: SpanAndZero - Span



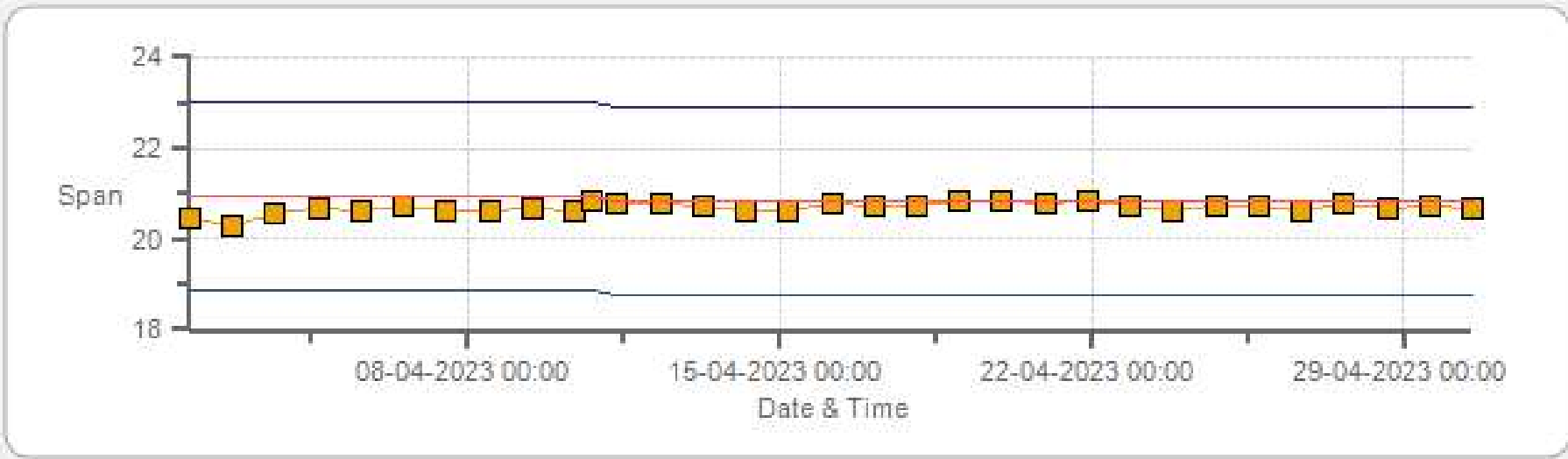
Span SpanRef Span Low Span High

THC55[ppm] Calibration: Cold Lake South Monthly: 04-2023 Type: SpanAndZero - Zero



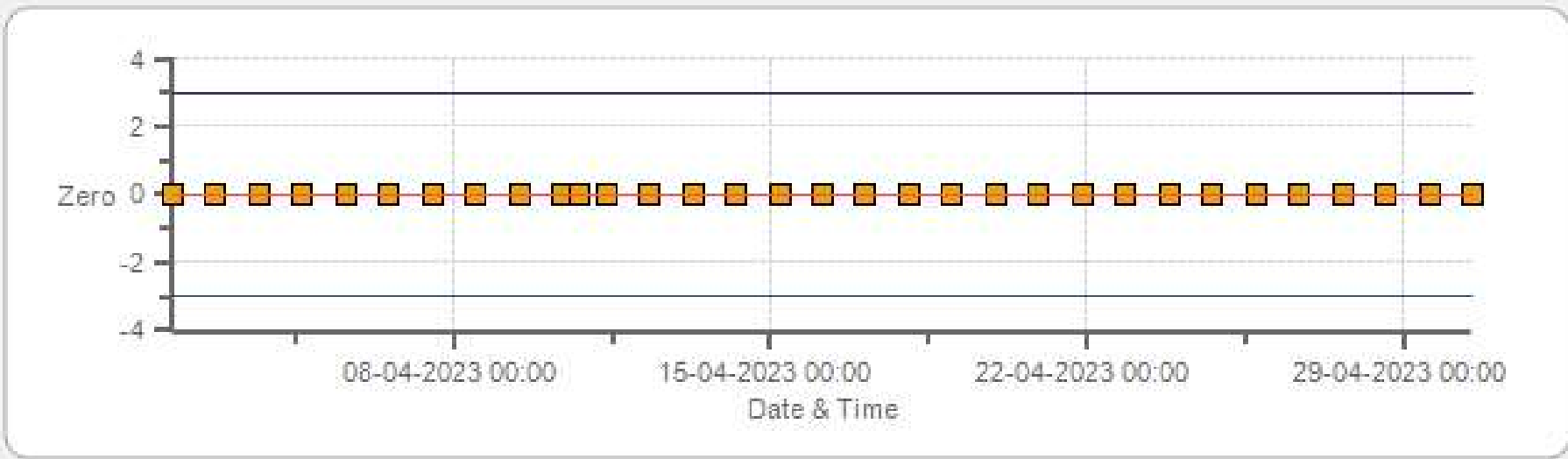
Zero Zero Ref Zero Low Zero High

THC55[ppm] Calibration: Cold Lake South Monthly: 04-2023 Type: SpanAndZero - Span



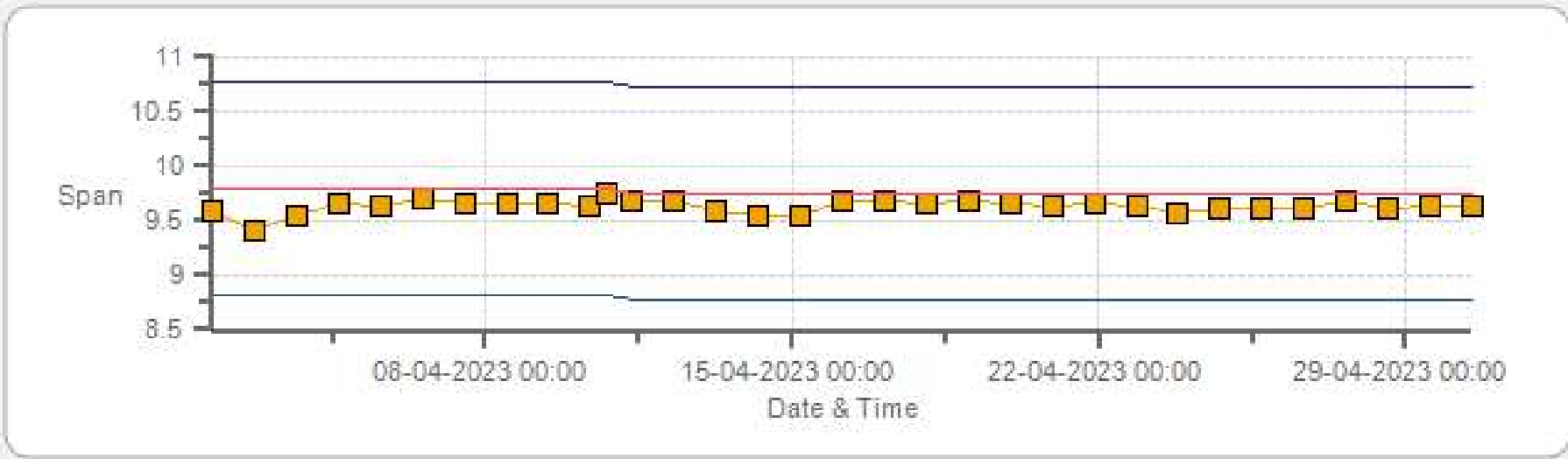
Span Span Ref Span Low Span High

CH4[ppm] Calibration: Cold Lake South Monthly: 04-2023 Type: SpanAndZero - Zero



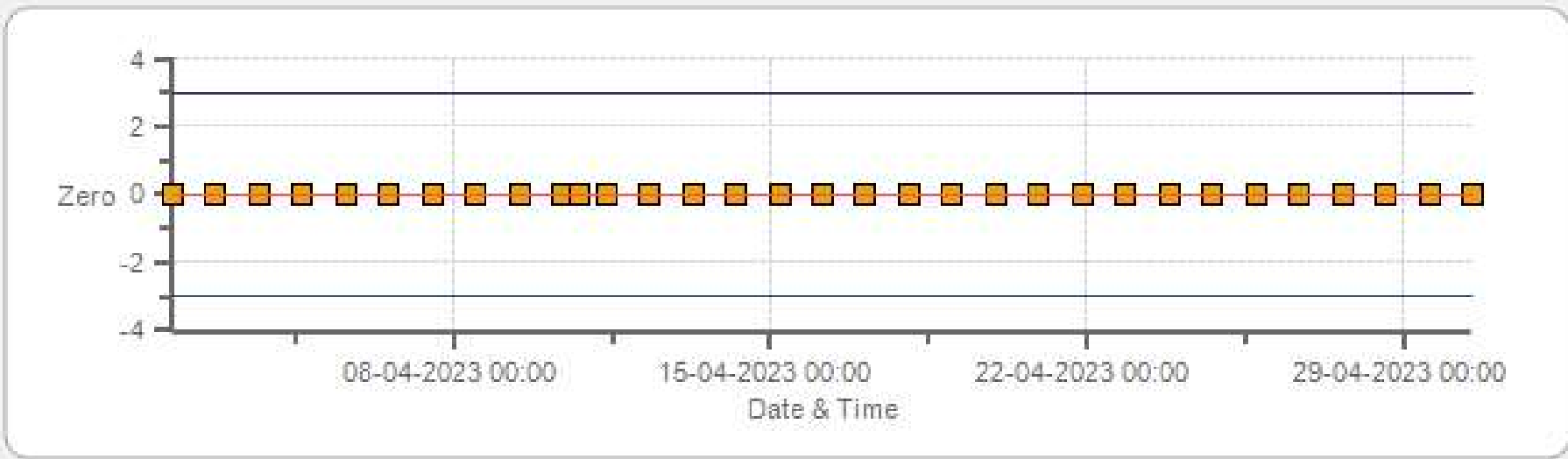
Zero Zero Ref Zero Low Zero High

CH4[ppm] Calibration: Cold Lake South Monthly: 04-2023 Type: SpanAndZero - Span



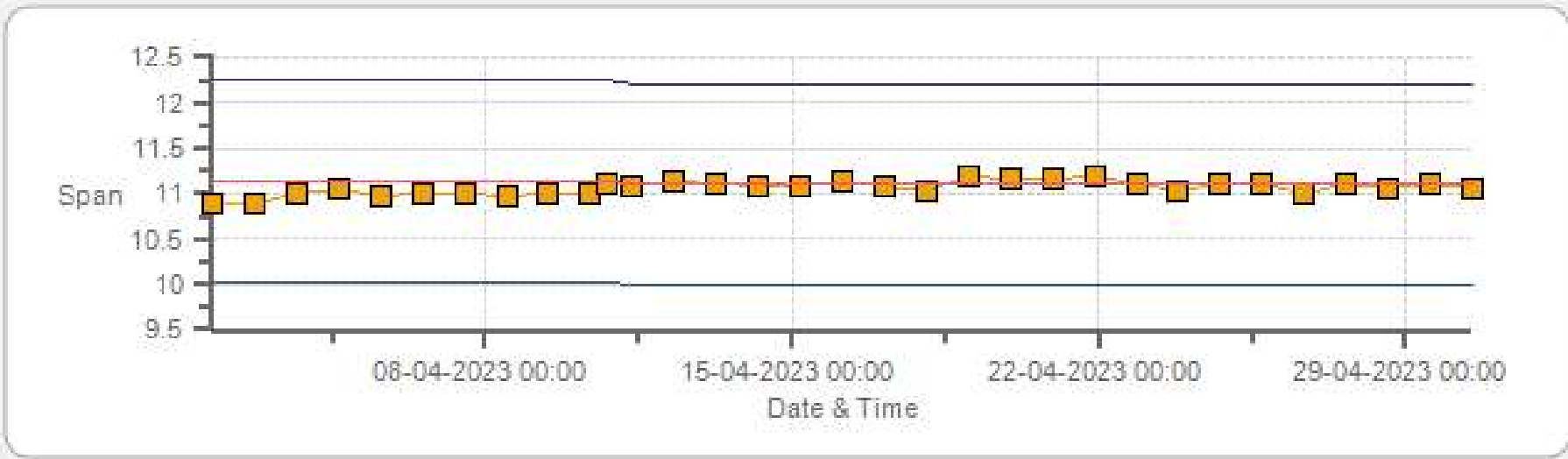
Span Span Ref Span Low Span High

NMHC[ppm] Calibration: Cold Lake South Monthly: 04-2023 Type: SpanAndZero - Zero



Zero Zero Ref Zero Low Zero High

NMHC[ppm] Calibration: Cold Lake South Monthly: 04-2023 Type: SpanAndZero - Span



Span SpanRef Span Low Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution



DATE:	09-Apr-2023	PREVIOUS CALIBRATION DATE:	08-Mar-2023
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	0.998
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	CLS	BAROMETRIC (mBar):	946
PURPOSE:	Routine	START TIME (MST):	09:01
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:10

ANALYZER:

MAKE/MODEL	Thermo 431-TLE	RANGE	500 ppb
SERIAL #	1180260018	FLOW (mL/min)	434
INITIAL		FINAL	
BKG/OFFSET	2.46	BKG/OFFSET	2.31
COEF/SLOPE	1.011	COEF/SLOPE	0.996
Expected (reference) Value	367.8	Expected (reference) Value	381

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:

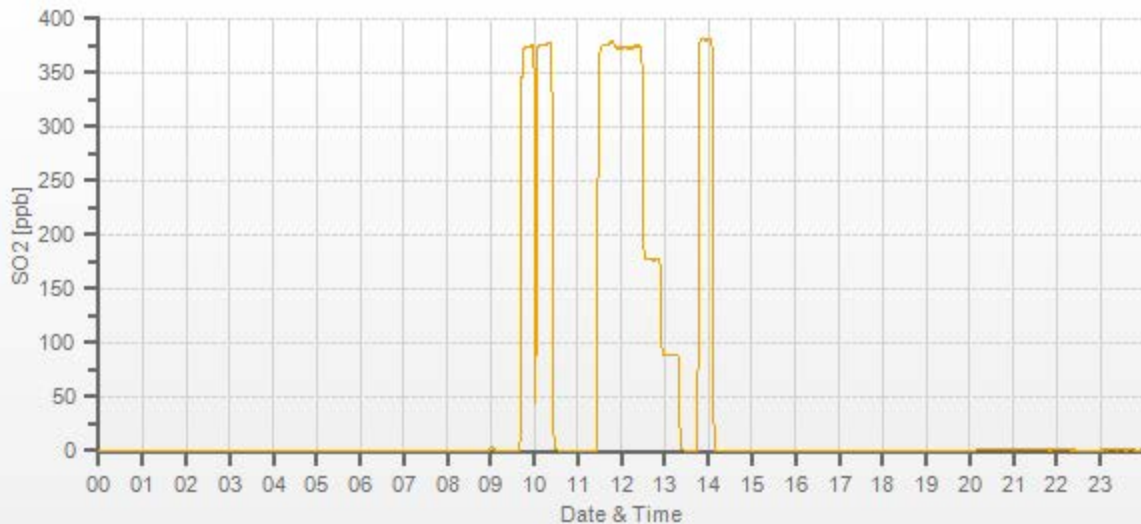
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
5000	 	5000	0.00	-0.2	0	 	
4961	37.20	4998	375.13	376.3	373.5	0.996	1.004
4982	17.60	5000	177.41	n/a	176.5	n/a	1.005
4990	8.80	4999	88.72	n/a	87.7	n/a	1.012

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.996	-0.1%

COMMENTS:

Sample inlet filter was changed.
10:00 - Daily ZS check. As Found High restarted



TRS Analyzer Calibration by Dilution



DATE:	09-Apr-2023	PREVIOUS CALIBRATION DATE:	08-Mar-2023
PARAMETER:	TRS	PREVIOUS CORRECTION FACTOR:	1.001
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	CLS	BAROMETRIC (mBar):	946
PURPOSE:	Routine	START TIME (MST):	09:00
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:10

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	812728560	FLOW (mL/min)	489
INITIAL		FINAL	
BKG/OFFSET	25.4	BKG/OFFSET	27.6
COEF/SLOPE	1.162	COEF/SLOPE	1.233
Expected (reference) Value	41.8	Expected (reference) Value	45.7

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):	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:	09:04	SO2 Conc (ppb)	380
END TIME:	09:19	Analyzer Response (ppb)	0.0

CALIBRATION:

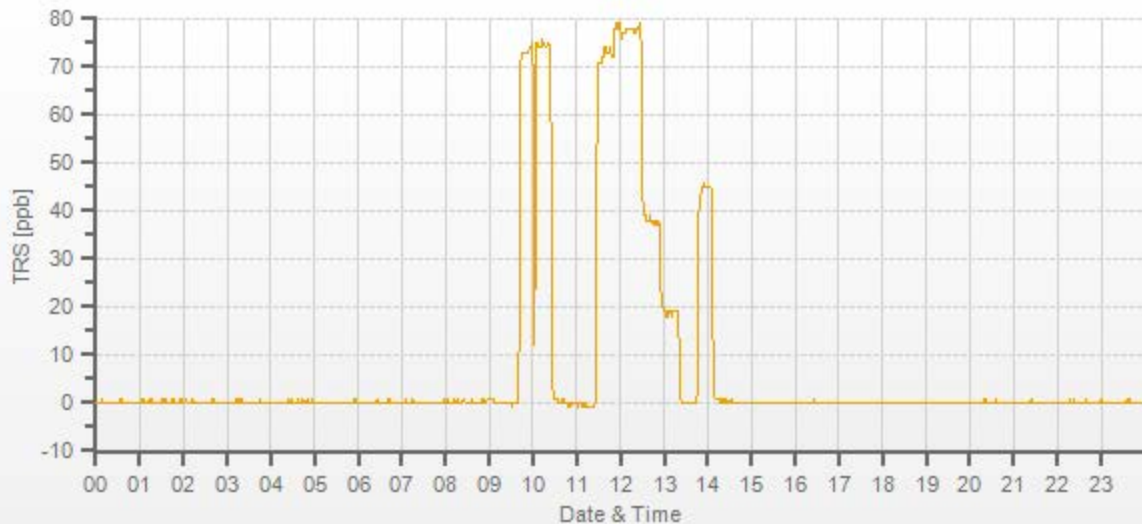
FLOW RATES			CONCENTRATION (ppb)			CORRECTION FACTOR	
(mL/min)			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
7500	7500	7500	0.00	0.3	0	1.001	1.001
7442	57.90	7500	77.97	75.1	78.3	1.042	0.996
7472	28.20	7500	37.98	n/a	38.2	n/a	0.994
7486	14.10	7500	18.99	n/a	19	n/a	0.999

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.005	0.0%

COMMENTS:

<p>Sample inlet filter was changed.</p> <p>10:00 - Daily ZS check. As Found High restarted</p> <p>Converter = CDNova CDN-101 #501</p>



NOx Calibration by Dilution/Gas-Phase Titration



CALIBRATION:				ANALYZER:			
DATE:	09-Apr-2023	PREVIOUS CALIBRATION DATE:	08-Mar-2023	MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
CLIENT:	LICA	TEMPERATURE (°C):	22.0	SERIAL #:	1505664393	NOx	1.001
LOCATION:	CLS	BAROMETRIC (mBar):	946	FLOW (mL/min)	680	NO	1.001
PURPOSE:	Routine	START TIME (MST):	09:02	RANGE (ppb)	500	NO2	1.002
PERFORMED BY:	Alex Yakupov	END TIME (MST):	16:23	GPT FOR O3?		No	

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:	4.9	4.7	n/a	BKG/OFFSET:	5.1	4.9	n/a
SLOPE/COEF/CE:	1.008	1.023	0.999	SLOPE/COEF/CE:	1.007	1.047	0.999

EXPECTED (REFERENCE) VALUE:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	277.1	2.5	274.7		286.7	2.5	284.2

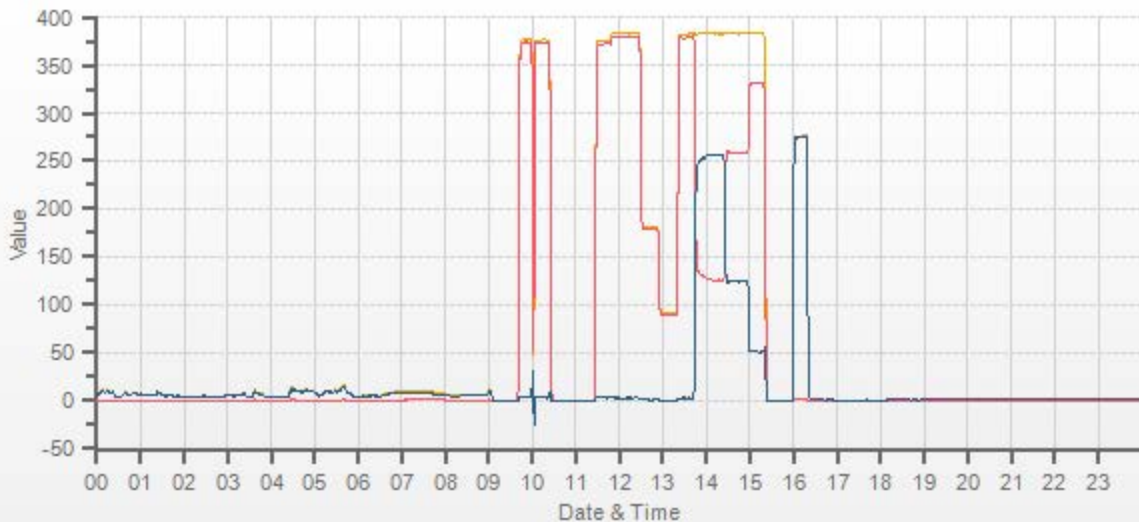
CALIBRATION PARAMETERS:							
POINT	NO TARGET (PPB)		NO2 TARGET (PPB)		NO2 RANGE		O3 POINT
HIGH	380		250		230-265		n/a
MID	180		125		115-150		n/a
LOW	90		45		40-55		n/a
EXTRA 1	n/a		n/a		n/a		n/a

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	37.20	5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.022	1.020	1.002	1.003	1.000	1.001
4961	37.20	4998	380.3	384.1	3.7	372.2	376.6	4.4	379.4	382.8	3.4	1.022	1.020	1.002	1.003	1.000	1.001
4982	17.60	5000	179.9	181.6	1.8	n/a	n/a	n/a	179.8	181.5	1.6	n/a	n/a	1.000	1.001	1.000	1.001
4990	8.80	4999	90.0	90.8	0.9	n/a	n/a	n/a	89.7	90.8	1.0	n/a	n/a	1.003	1.000	1.000	1.000

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	379.9	383.1	3.2	250.3	250.3	1.000	100.00%	
AS-FOUND HIGH	37.20	4998	235	129.6	383.1	253.5	250.3	250.3	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	258.8	383.2	124.4	121.1	121.2	0.999	100.08%	
LOW	37.20	4998	40	331.5	383.3	51.7	48.4	48.5	0.998	100.21%	
NO2 adjustment not required.									AVERAGE:	100.10%	

LINEAR REGRESSION ANALYSIS:				COMMENTS:
	CORRELATION	SLOPE	INTERCEPT	
NO	1.000	0.998	0.01%	
NOx	1.000	0.997	0.04%	
NO2	1.000	0.999	0.03%	

Sample inlet filter was changed.
10:00 - Daily ZS check. As Found High restarted



CAL-LICA-202304-01174

Ozone Calibration by Photometer (Varying UV Lamp)



DATE:	10-Apr-2023	PREVIOUS CALIBRATION DATE:	09-Mar-2023
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	1.006
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	CLS	BAROMETRIC (mBar):	943
PURPOSE:	Routine	START TIME (MST):	14:30
PERFORMED BY:	Alex Yakupov	END TIME (MST):	18:51

ANALYZER:

MAKE/MODEL	Thermo 49iQ	RANGE	500 ppb
SERIAL #	12208316585	FLOW (mL/min)	1.31
INITIAL		FINAL	
BKG/OFFSET	4	BKG/OFFSET	0.2
COEF/SLOPE	1.176	COEF/SLOPE	1.168
Expected (reference) Value	283.8	Expected (reference) Value	281.7

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	Final
				Initial	Final		
5000	XXXXXXXXXX	5000	0.0	-3.5	0.0	XXXXXX	XXXXXX
5000	XXXXXXXXXX	5000	378.0	382.5	375.5	0.979	1.007
5000	XXXXXXXXXX	5000	180.0	n/a	182.4	n/a	0.987
5000	XXXXXXXXXX	5000	61.0	n/a	61.6	n/a	0.990

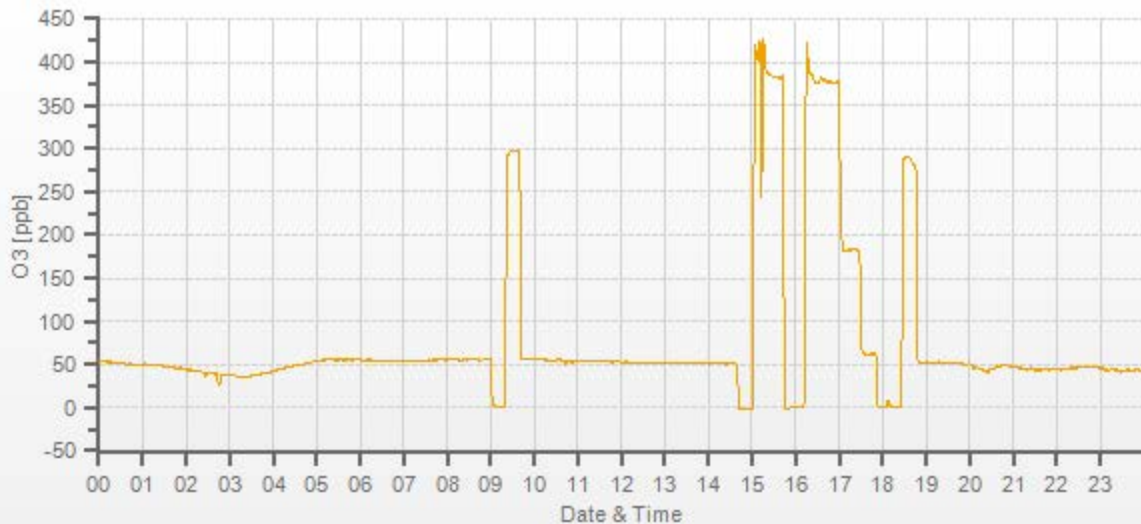
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.993	0.2%

COMMENTS:

Sample inlet filter was changed.
15:12 - the calibrator was reset and as-found high restarted

O3[ppb] Station: Cold Lake South Daily: 10-04-2023 Type: AVG 1 Min. [1 Min.]



CAL-LICA-202304-01174

Methane/Non-Methane Analyzer Calibration by Dilution



CALIBRATION:				ANALYZER:			
DATE:	10-Apr-2023	PREVIOUS CALIBRATION DATE:	09-Mar-2023	VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
CLIENT:	LICA	TEMPERATURE (°C):	22.0		Thermo 55i	1180930025	1120
LOCATION:	CLS	BAROMETRIC (mBar):	943	PARAMETER:	CH4	NMHC	THC
PURPOSE	Routine	START TIME (MST):	14:31	RANGE (ppm):	20	20	40
PERFORMED BY:	Alex Yakupov	END TIME (MST):	18:50	PREVIOUS CF:	0.999	1.000	0.999

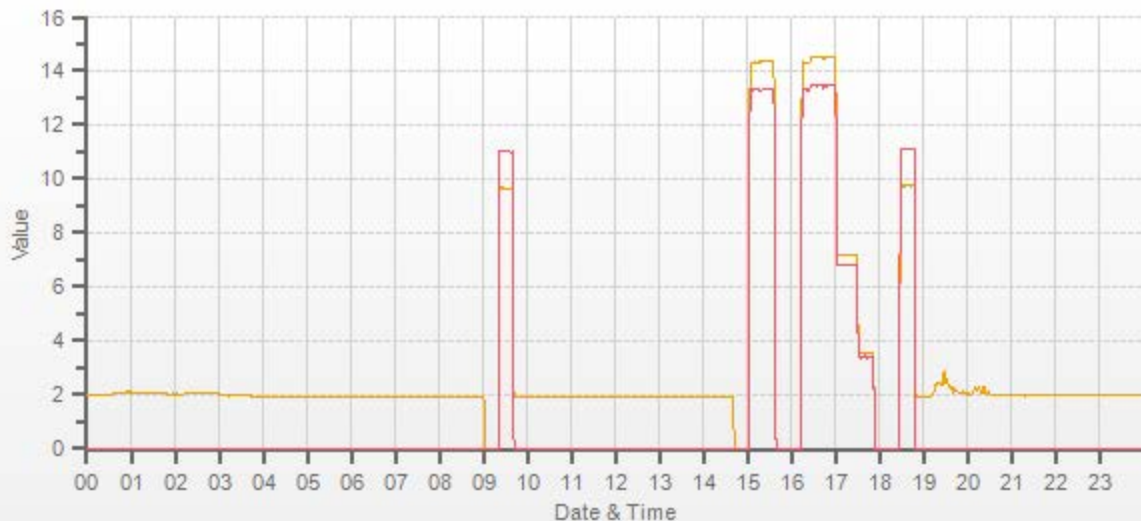
CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:		FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 23593	HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	CH ₄ /C ₃ H ₈ (ppm):	603.0 204.0	HIGH EXPIRY:	n/a
ID:	17100415	ID:	134	CYLINDER (psi):	1200	LOW ID:	n/a
MFC CALIBRATION DATE:	15-Mar-2023	OXIDIZER ID:	n/a	EXPIRY DATE	18-Aug-2029	LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:							
POINT (CH ₄ /NMHC)	HIGH	MID	LOW	CH ₄ EQUIVILANCE			
TARGET	14	7	3.5	C ₃ H ₈ as CH ₄		561.0	
RANGE	12 - 16	6 - 8	2 - 4	THC as CH ₄		1164.0	

EXPECTED (REFERENCE) VALUE:							
INITIAL	CH ₄	NMHC	THC	FINAL	CH ₄	NMHC	THC
	9.80	11.13	20.94		9.75	11.10	20.85

FLOW RATE			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
(mL/min)			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC
3100	74.60	3100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.011	1.014	1.012	1.001	1.004	1.002
3025	74.60	3100	14.51	13.50	28.01	14.35	13.32	27.68	14.50	13.45	27.95	1.011	1.014	1.012	1.001	1.004	1.002
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	6.97	n/a	n/a	n/a	1.013	0.993	1.002

LINEAR REGRESSION ANALYSIS:				Comments:			
	CORRELATION	SLOPE	INTERCEPT	Sample inlet filter was changed. H2=HG300 #210567071			
CH ₄	1.000	1.000	-0.2%				
NMHC	1.000	0.996	0.1%				
THC	1.000	0.998	0.0%	Use Zero Chrom?		Yes	



CAL-LICA-202304-01174



Teledyne T640 Audit/Calibration

Date/Previous Audit Date:	April 10, 2023	March 9, 2023	Weather Conditions:	Mainly sunny	
Company:	LICA		Start Time (mst):	18:32	
Station:	Cold Lake South		End Time (mst):	19:44	
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: DeltaCal DC1 S/N 177246 / Sep 03, 2023			Temperature: Vaisala / HM70 / #T1640130/ Jun 14, 2023		
Digital Manometer: DeltaCal DC1 S/N 177246 / Sep 03, 2023			Pressure: Fisher / FB 61291/ #130168457/ Feb 28, 2024		
DIAGNOSTICS:					
Ambient Pressure (mmHg)	707.8	Ambient Temp (°C)	9.6	ASC Heater Duty (%)	0.0
Box Temp (°C)	29.0	Current PMT HV (V)	1430	LED Temp (°C)	32.48
P3 Value	49	PMT Setting (V)	1432	Pump PWM (%)	42
Sample Flow (L/min)	5.00	Sample RH (%RH)	35.0	Sample Temp (°C)	26.3
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)	708.0	707.8	722	721.9	+/- 10 mm Hg
Ambient Temperature (°C)	9.10	9.6	n/a		+/- 2°C
Sample Flow (L/min)	5.00	5.01	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
Comments:					
No issues.					

Meteorological System Checklist



Date:	April 10, 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):	10.5		
Station - Ambient Temperature (°C):	9.4		
Temperature Difference (°C):	1.1		
BAROMETRIC PRESSURE SENSOR CHECK			
Reference Barometer ID:	Fisher / FB 61291/ #130168457/ Feb 28, 2024		
Reference Pressure - Units/Reading:	millibar	943	
Station Pressure - Units/Reading:	millibar	945	
Pressure Tolerance +/- 15% of error:	802 - 1084	-0.21%	
RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK			
Reference Hygrometer ID:	Vaisala / HM70 / #T1640130, Exp. Date: Jun 14, 2023		
Reference Hygrometer % RH- Reading:	57.60		
Station Hygrometer % RH- Reading:	32.50		
RH Tolerance +/- 15% of difference:	48.96 - 66.24	43.6%	
ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK			
WIND SPEED		WIND DIRECTION	
Previous check date:	March 9, 2023	Previous check date:	March 9, 2023
Wind Speed Observed (kph):	10 - 20	Wind Direction Observed:	SW
Wind speed on Data Logger (kph):	11.2	Wind Direction on Data Logger:	SW
	Annual audit: Jul 6, 2022	Wind Direction Pass/Fail?:	Pass
Comments			
Station (Trailer) temperature vs Reference gauge: 24.8 vs 24.5, passed. Wind system: Model 05305AQ. Signal box # 32400			



Meteorological Sensor Audit/Calibration

Location Information

Company: LICA
 Audit Location: Cold Lake South
 Audit Date: July 6, 2022
 Calibration Purpose: routine annual

Performed By: Alex Yakupov
 Reviewed By: Chris Wesson
 Start/End Time (mst): 15:54 / 17:48
 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

APRIL 2023

Ambient Air Monitoring Calibration Report

- TAMARACK STATION-

CAL-LICA-202304-01248

Station Operation and Maintenance:

Bureau Veritas Canada

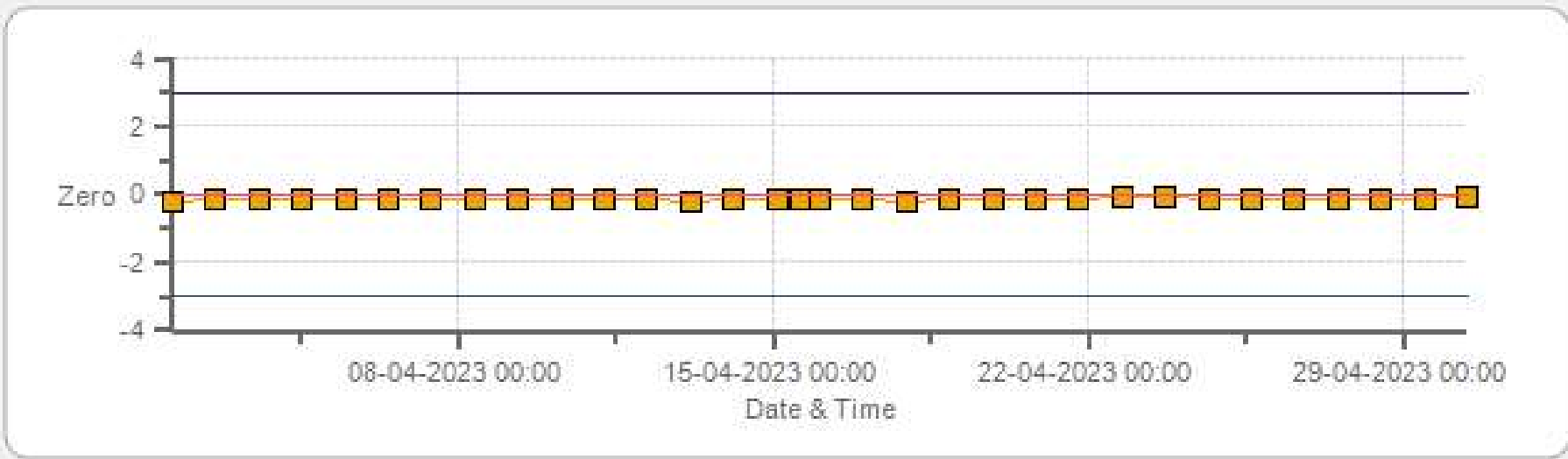
Data Validation and Report:

LICA / Bureau Veritas Canada

May 25, 2023

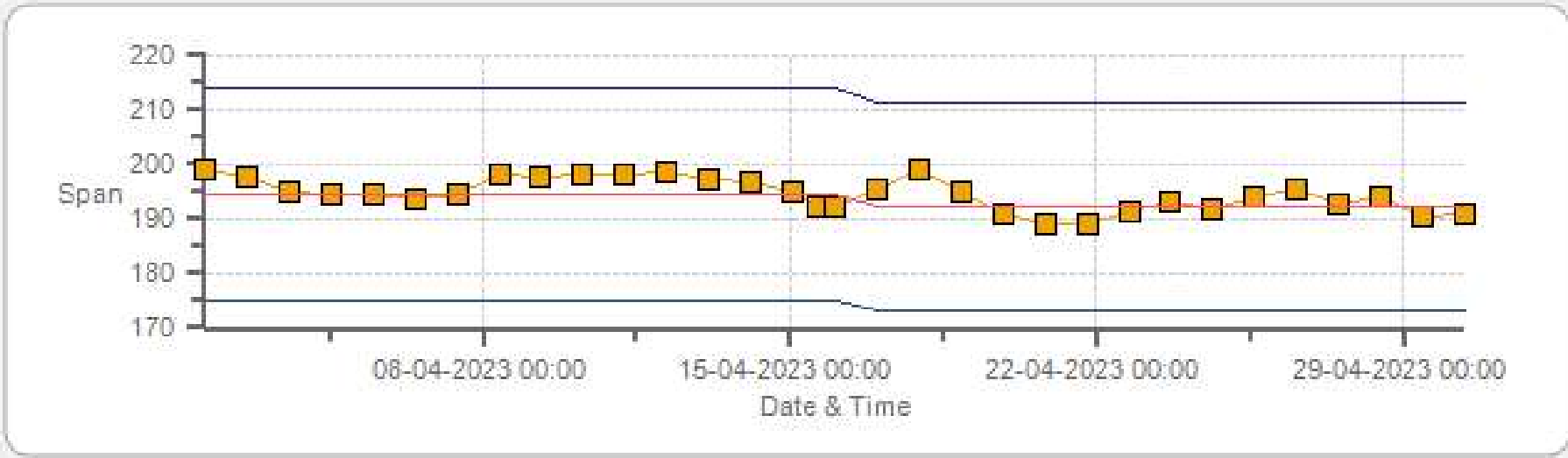
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2[ppb] Calibration: Tamarack Monthly: 04-2023 Type: SpanAndZero - Zero



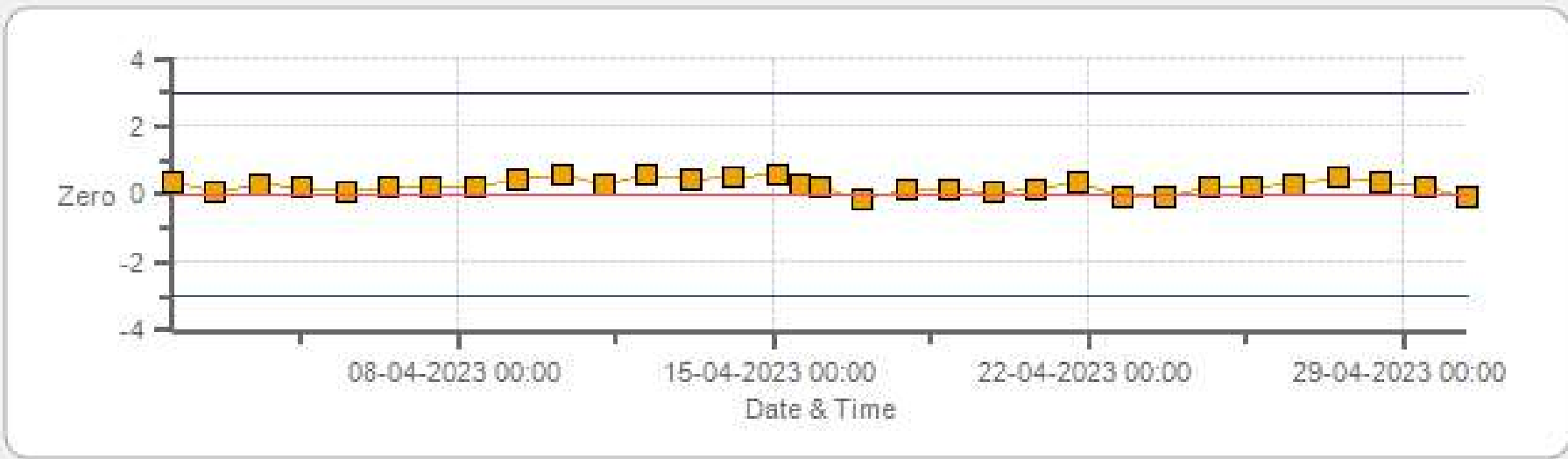
Zero Zero Ref Zero Low Zero High

SO2[ppb] Calibration: Tamarack Monthly: 04-2023 Type: SpanAndZero - Span



Span SpanRef Span Low Span High

H2S[ppb] Calibration: Tamarack Monthly: 04-2023 Type: SpanAndZero - Zero



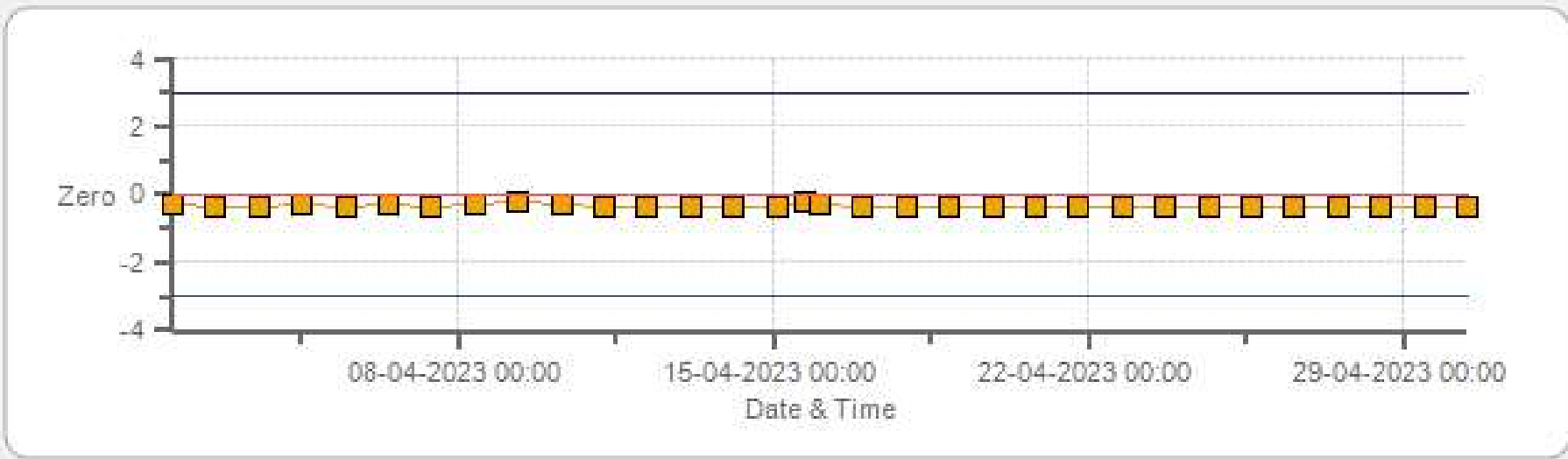
Zero Zero Ref Zero Low Zero High

H2S[ppb] Calibration: Tamarack Monthly: 04-2023 Type: SpanAndZero - Span



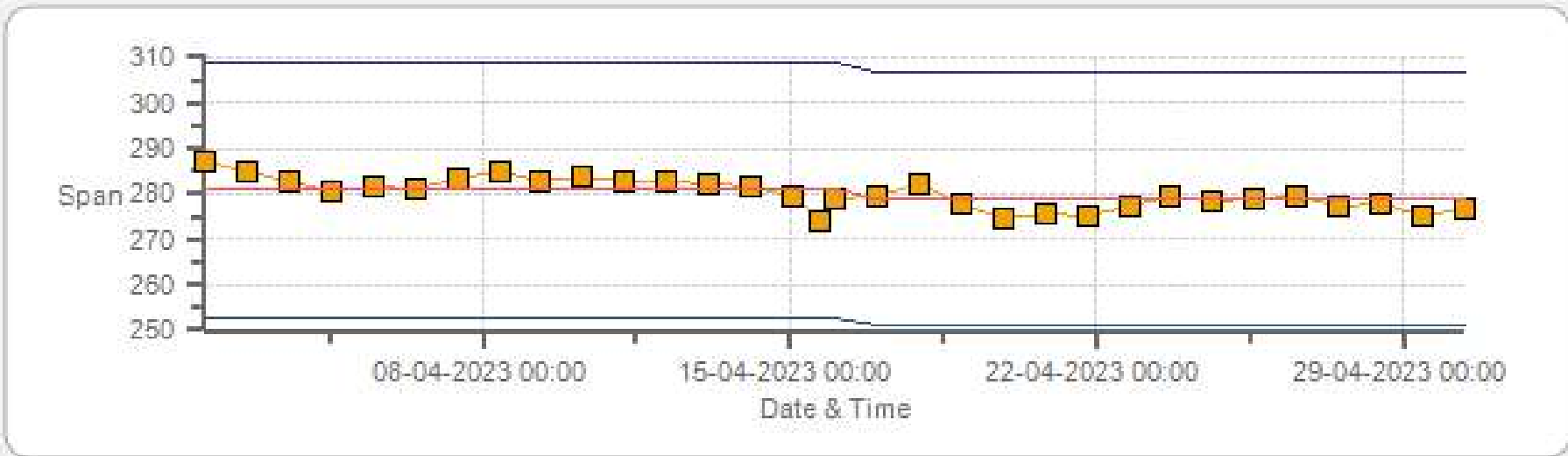
Span SpanRef Span Low Span High

NOX[ppb] Calibration: Tamarack Monthly: 04-2023 Type: SpanAndZero - Zero



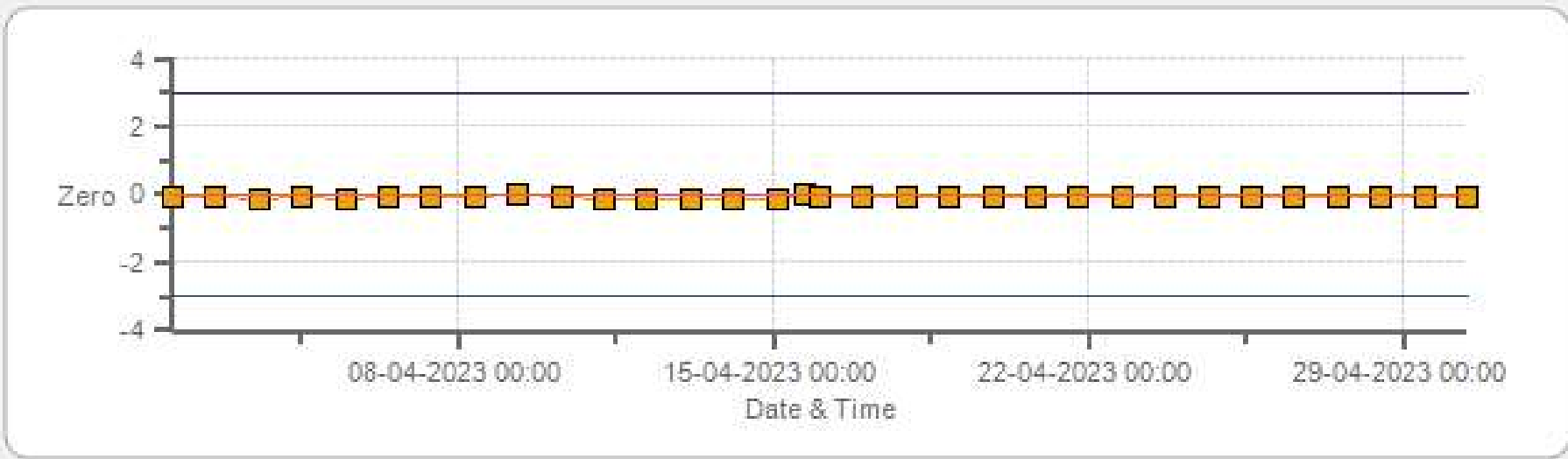
Zero Zero Ref Zero Low Zero High

NOX[ppb] Calibration: Tamarack Monthly: 04-2023 Type: SpanAndZero - Span



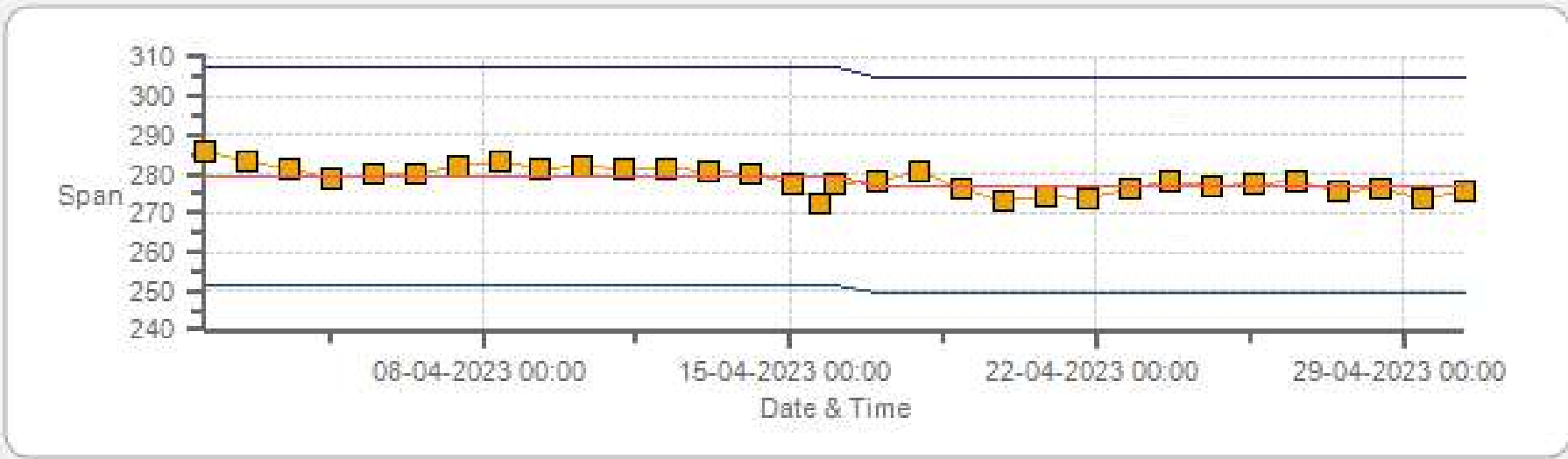
Span SpanRef Span Low Span High

NO2[ppb] Calibration: Tamarack Monthly: 04-2023 Type: SpanAndZero - Zero



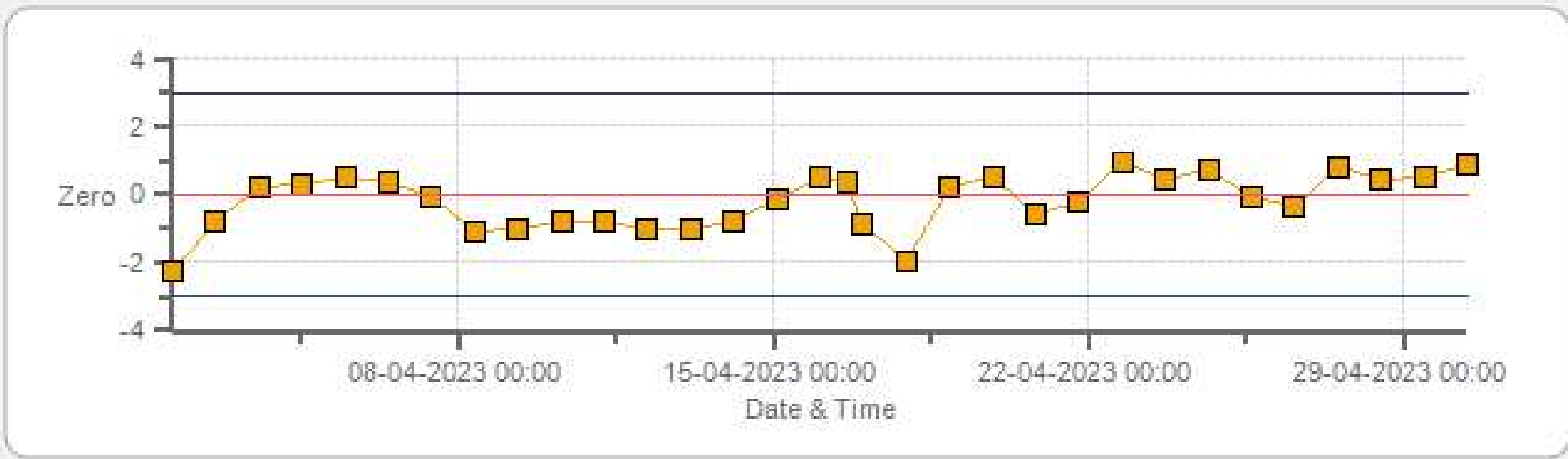
Zero Zero Ref Zero Low Zero High

NO2[ppb] Calibration: Tamarack Monthly: 04-2023 Type: SpanAndZero - Span



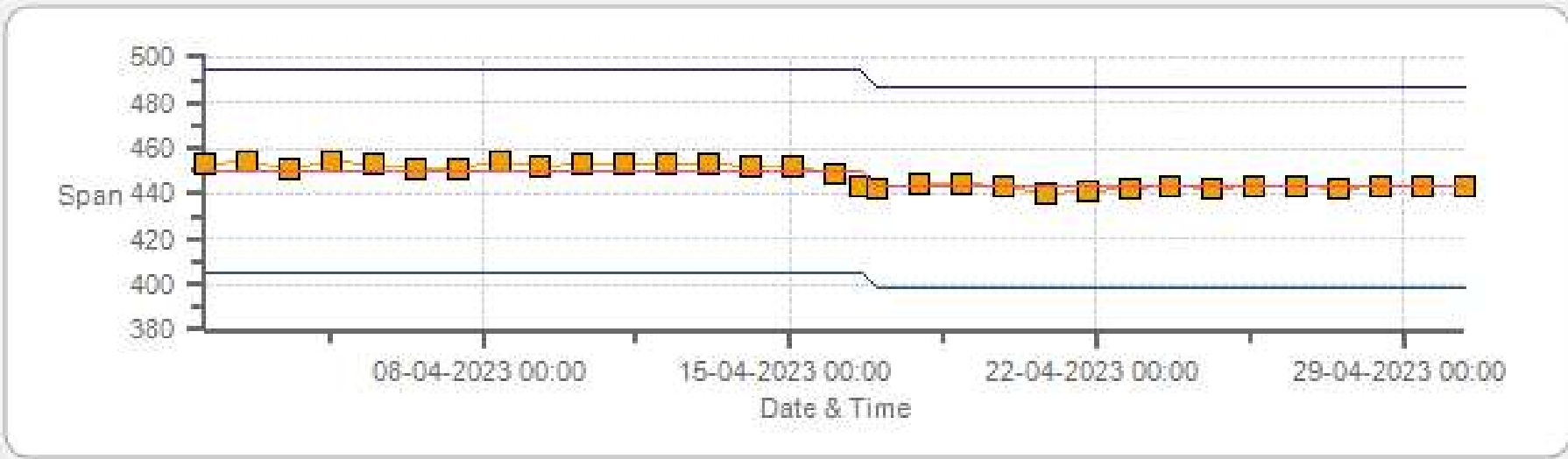
Span Span Ref Span Low Span High

O3[ppb] Calibration: Tamarack Monthly: 04-2023 Type: SpanAndZero - Zero



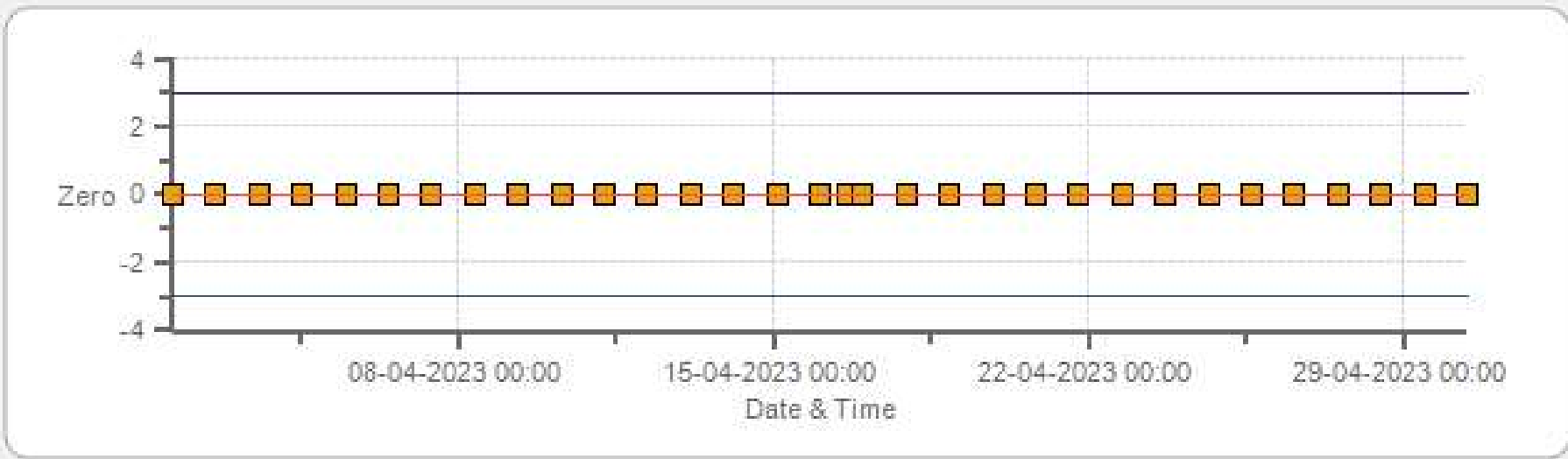
Zero Zero Ref Zero Low Zero High

O3[ppb] Calibration: Tamarack Monthly: 04-2023 Type: SpanAndZero - Span



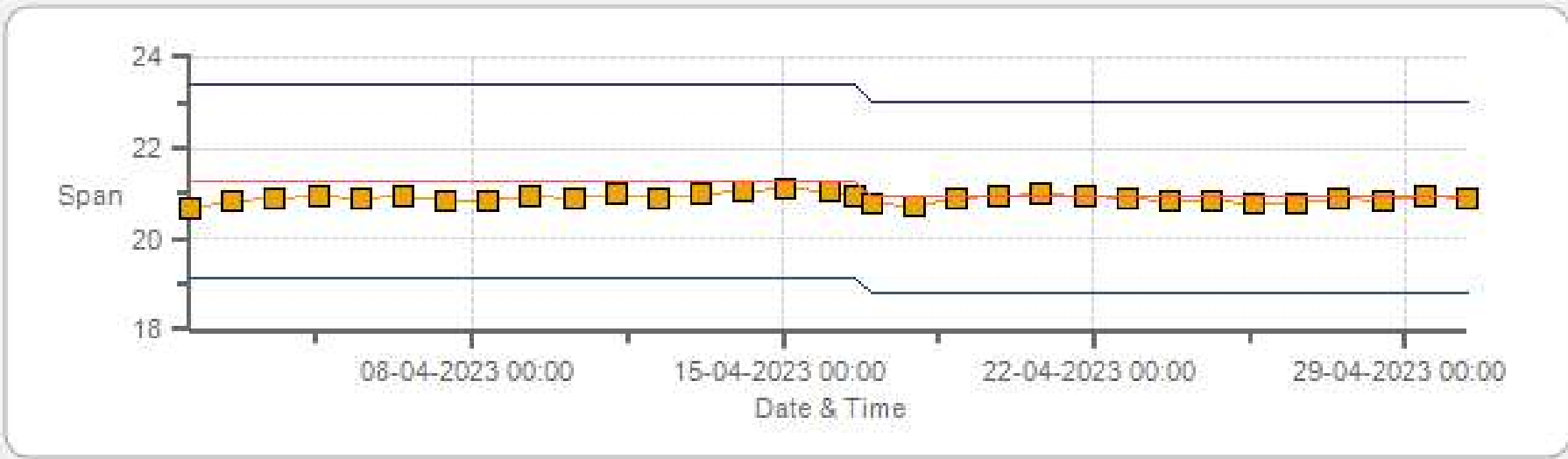
Span SpanRef Span Low Span High

THC55[ppm] Calibration: Tamarack Monthly: 04-2023 Type: SpanAndZero - Zero



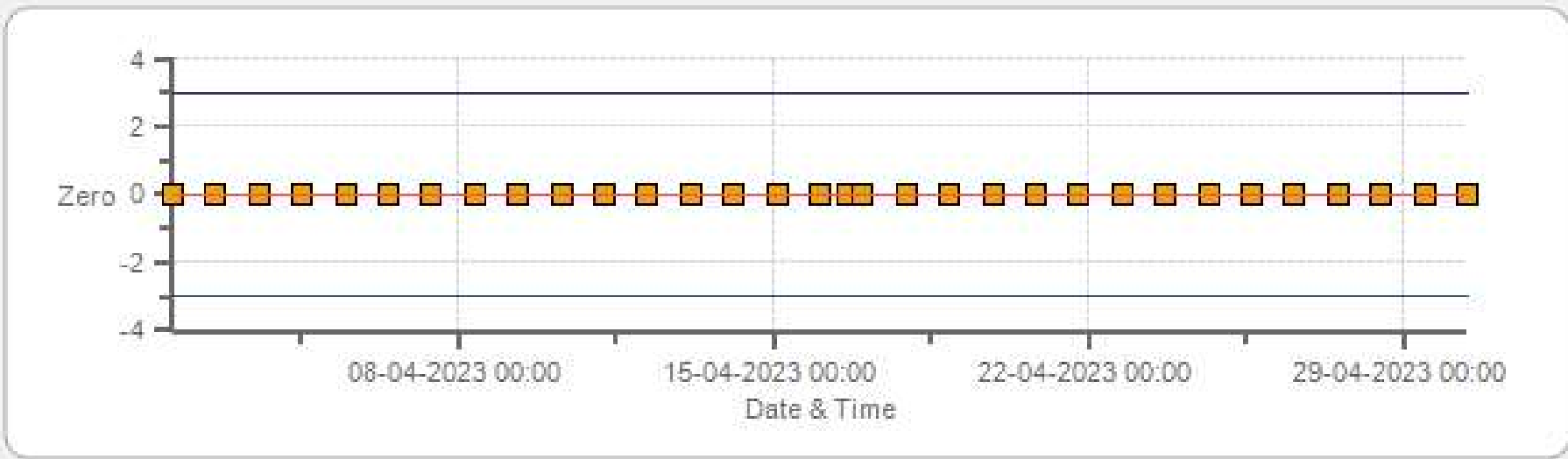
Zero Zero Ref Zero Low Zero High

THC55[ppm] Calibration: Tamarack Monthly: 04-2023 Type: SpanAndZero - Span



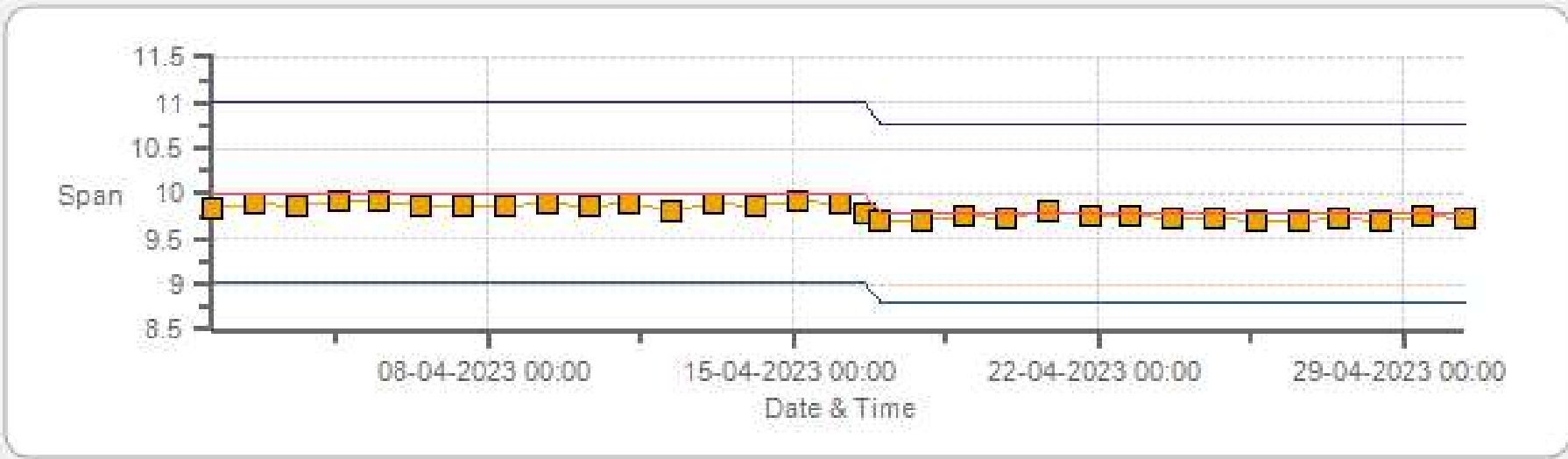
Span Span Ref Span Low Span High

CH4[ppm] Calibration: Tamarack Monthly: 04-2023 Type: SpanAndZero - Zero



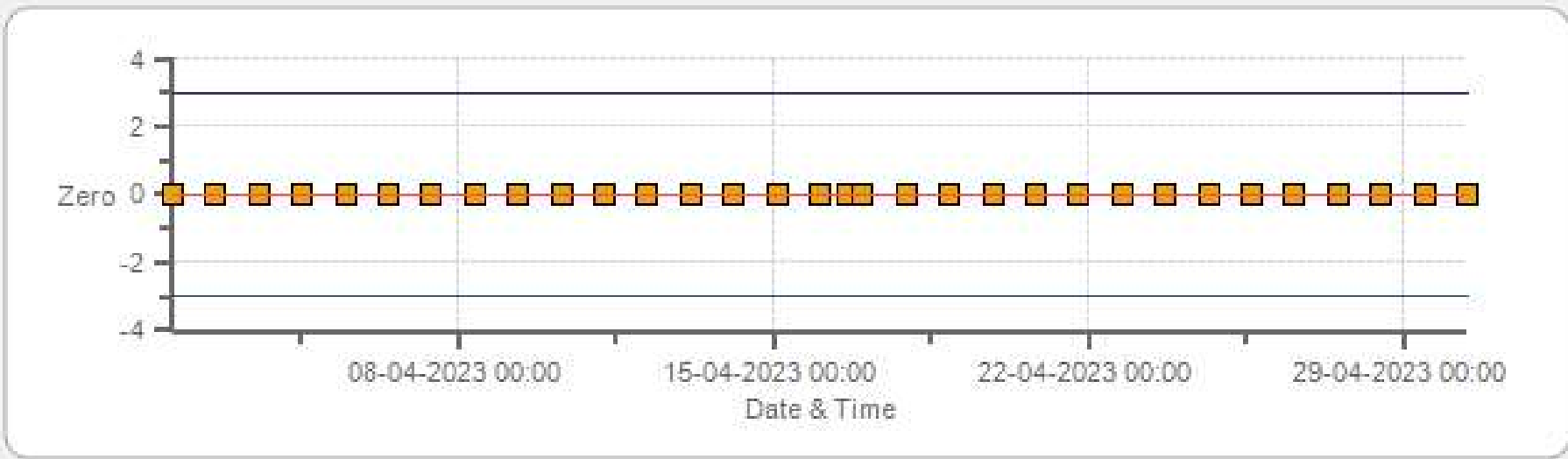
Zero Zero Ref Zero Low Zero High

CH4[ppm] Calibration: Tamarack Monthly: 04-2023 Type: SpanAndZero - Span



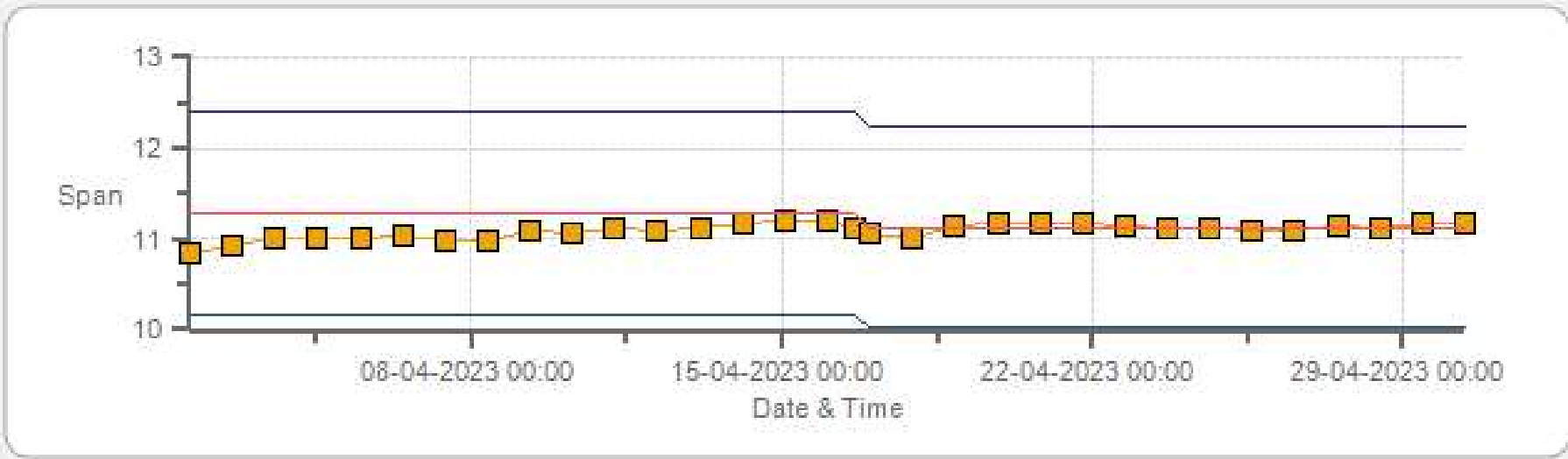
Span SpanRef Span Low Span High

NMHC[ppm] Calibration: Tamarack Monthly: 04-2023 Type: SpanAndZero - Zero



Zero Zero Ref Zero Low Zero High

NMHC[ppm] Calibration: Tamarack Monthly: 04-2023 Type: SpanAndZero - Span



Span SpanRef Span Low Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution



DATE:	15-Apr-2023	PREVIOUS CALIBRATION DATE:	04-Mar-2023
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	0.997
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Tamarack	BAROMETRIC (mBar):	941
PURPOSE:	Routine	START TIME (MST):	10:23
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:50

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1180930031	FLOW (mL/min)	445
INITIAL		FINAL	
BKG/OFFSET	2.84	BKG/OFFSET	2.77
COEF/SLOPE	1.036	COEF/SLOPE	1.021
Expected (reference) Value	194.5	Expected (reference) Value	192.3

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010	MODEL:	T701
ID:	17100415	ID:	132
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL 127895	HIGH ID	n/a
CONC (ppm):	50.40	EXPIRY DATE	n/a
CYLINDER (psi):	1500	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	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
5000	37.20	5000	0.00	-0.1	0	0.989	0.997
4961	37.20	4998	375.13	379.2	376.4	0.989	0.997
4982	17.60	5000	177.41	n/a	177.2	n/a	1.001
4990	8.80	4999	88.72	n/a	87.8	n/a	1.010

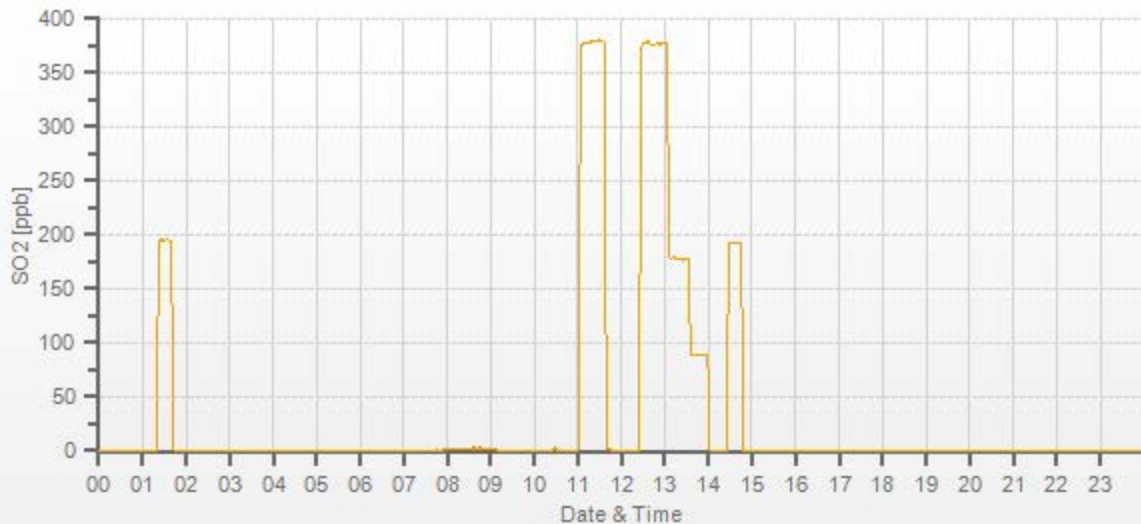
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.004	-0.1%

COMMENTS:

Sample inlet filter was changed.

SO2[ppb] Station: Tamarack Daily: 15-04-2023 Type: AVG 1 Min. [1 Min.]



CAL-LICA-202304-01248

H2S Analyzer Calibration by Dilution



DATE:	15-Apr-2023	PREVIOUS CALIBRATION DATE:	04-Mar-2023
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	1.001
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Tamarack	BAROMETRIC (mBar):	941
PURPOSE:	Routine	START TIME (MST):	10:16
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:50

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	CM 17360005	FLOW (mL/min)	915
INITIAL		FINAL	
BKG/OFFSET	33.4	BKG/OFFSET	33.8
COEF/SLOPE	0.801	COEF/SLOPE	0.798
Expected (reference) Value	43.7	Expected (reference) Value	43.4

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	134
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0002287	HIGH ID	n/a
CONC (ppm):	10.10	EXPIRY DATE	n/a
CYLINDER (psi):	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:	10:19	SO2 Conc (ppb)	380
END TIME:	10:34	Analyzer Response (ppb)	0.0

CALIBRATION:

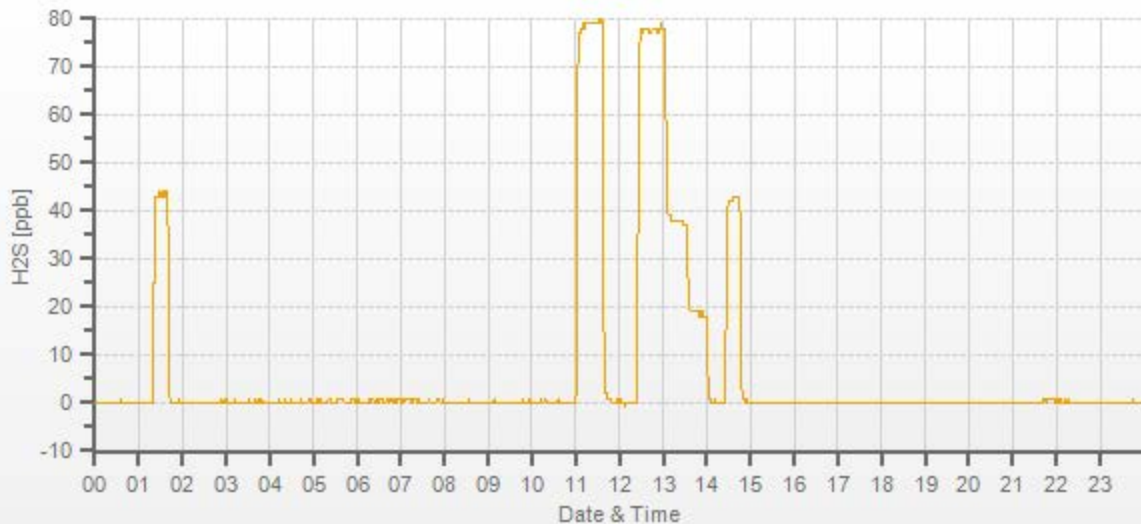
FLOW RATES			CONCENTRATION (ppb)			CORRECTION FACTOR	
(mL/min)			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
7500	7500	7500	0.00	0.4	0	0.983	0.998
7442	57.90	7500	77.97	79.7	78.1	0.983	0.998
7472	28.20	7500	37.98	n/a	38.1	n/a	0.997
7486	14.10	7500	18.99	n/a	18.7	n/a	1.015

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.003	-0.1%

COMMENTS:

Sample inlet filter was changed.



NOx Calibration by Dilution/Gas-Phase Titration



CALIBRATION:				ANALYZER:			
DATE:	15-Apr-2023	PREVIOUS CALIBRATION DATE:	04-Mar-2023	MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
CLIENT:	LICA	TEMPERATURE (°C):	22.0	SERIAL #:	1180930028	NOx	1.001
LOCATION:	Tamarack	BAROMETRIC (mBar):	941	FLOW (mL/min)	838	NO	1.002
PURPOSE:	Routine	START TIME (MST):	10:24	RANGE (ppb)	500	NO2	1.000
PERFORMED BY:	Alex Yakupov	END TIME (MST):	16:44	GPT FOR O3?		No	

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:		FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 127895	HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	NO/NOx (PPM):	51.1 51.6	HIGH EXPIRY:	n/a
ID:	17100415	ID:	134	CYLINDER (psi):	1500	LOW ID:	n/a
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a	EXPIRY DATE	27-Oct-2030	LOW EXPIRY:	n/a

CALIBRATION SETTINGS:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
BKG/OFFSET:	2	1.8	n/a	BKG/OFFSET:	2	1.9	n/a
SLOPE/COEF/CE:	1.009	1.022	1	SLOPE/COEF/CE:	1.008	1.022	1

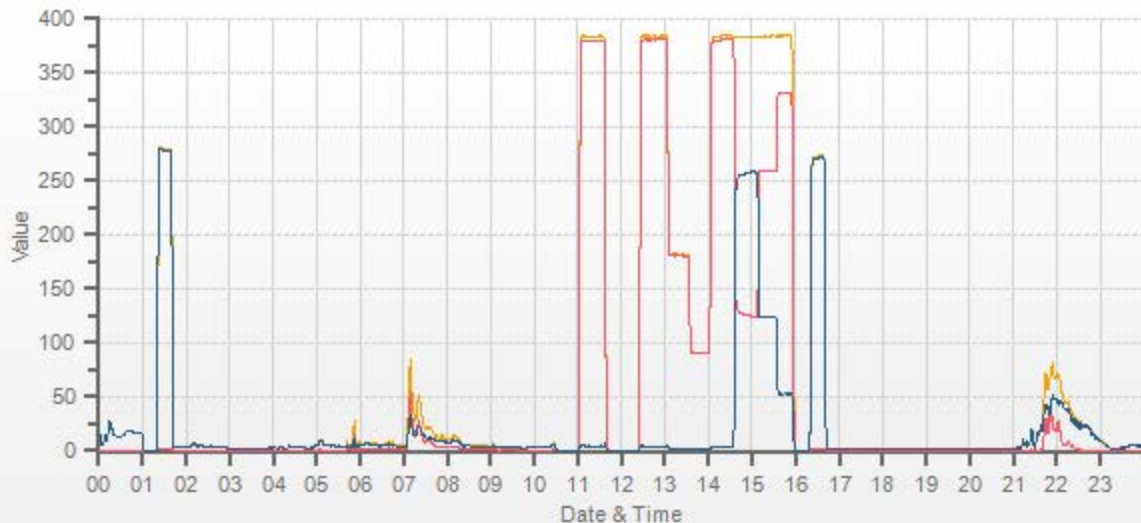
EXPECTED (REFERENCE) VALUE:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	281.0	1.5	279.5		278.7	1.4	277.2

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

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	37.20	5000	0.0	0.0	0.0	-0.1	-0.1	0.1	0.0	0.0	0.0	1.001	1.000	0.999	1.000	0.997	0.997
4961	37.20	4998	380.3	384.1	3.7	380.0	384.1	4.1	380.9	384.1	3.2	1.001	1.000	0.999	1.000	0.997	0.997
4982	17.60	5000	179.9	181.6	1.8	n/a	n/a	n/a	180.6	182.1	1.5	n/a	n/a	0.996	0.997	0.997	0.997
4990	8.80	4999	90.0	90.8	0.9	n/a	n/a	n/a	90.2	91.1	0.8	n/a	n/a	0.997	0.997	0.997	0.997

GPT CALIBRATION:											
Point	CALIBRATOR			INDICATED (ppb)			NO DROP / O3 Conc (ppb)	NO2 GAIN (ppb)	NO2 Corr. FACTOR	CONV. EFFICIENCY	
	GAS	TOTAL	O3 SETPOINT	NO	NOx	NO2					
REFERENCE	37.20	4998	0	381.3	384.4	3.1	256	255.4	1.002	99.77%	
AS-FOUND HIGH	37.20	4998	235	125.3	383.8	258.5	256	255.4	1.002	99.77%	
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	259.6	384.4	124.7	121.7	121.6	1.001	99.92%	
LOW	37.20	4998	40	332.1	384.6	52.4	49.2	49.3	0.998	100.20%	
NO2 adjustment not required.									AVERAGE:	99.96%	

LINEAR REGRESSION ANALYSIS:				COMMENTS:
	CORRELATION	SLOPE	INTERCEPT	
NO	1.000	1.001	0.03%	
NOx	1.000	1.000	0.04%	
NO2	1.000	0.997	0.06%	



CAL-LICA-202304-01248

Ozone Calibration by Photometer (Varying UV Lamp)



DATE:	16-Apr-2023	PREVIOUS CALIBRATION DATE:	05-Mar-2023
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	0.999
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Tamarack	BAROMETRIC (mBar):	937
PURPOSE:	Routine	START TIME (MST):	10:39
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:52

ANALYZER:

MAKE/MODEL	Thermo 49iQ	RANGE	500 ppb
SERIAL #	1202068570	FLOW (mL/min)	1360
INITIAL		FINAL	
BKG/OFFSET	4.8	BKG/OFFSET	4.7
COEF/SLOPE	1.036	COEF/SLOPE	1.029
Expected (reference) Value	450	Expected (reference) Value	443

CALIBRATION SYSTEM:

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

CALIBRATION PARAMETERS:

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

CALIBRATION:

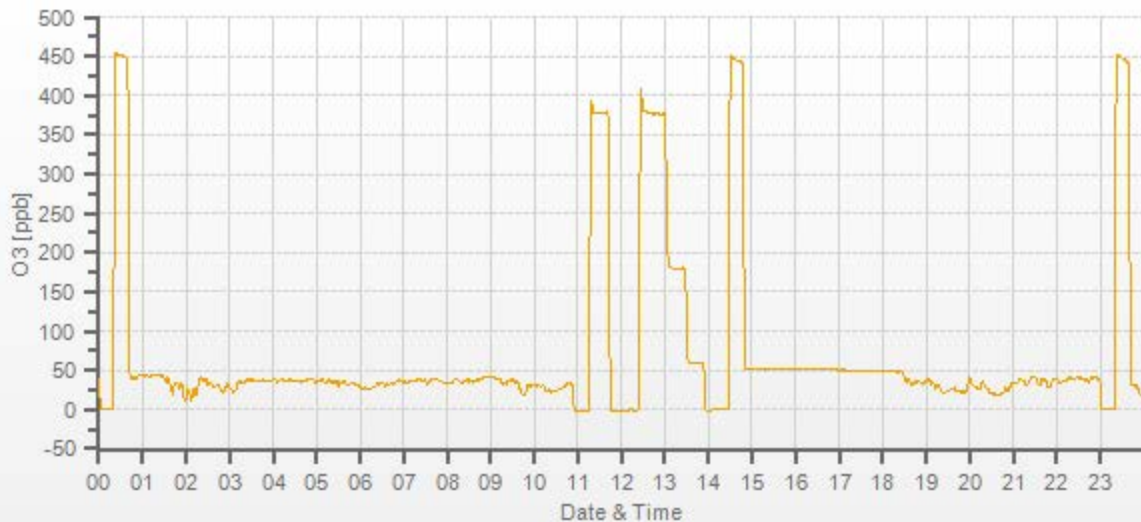
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
5000	XXXXXXXXXX	5000	0.0	-1.3	0.0	XXXXXXXXXX	XXXXXXXXXX
5000	XXXXXXXXXX	5000	378.0	378.6	377.1	0.995	1.002
5000	XXXXXXXXXX	5000	180.0	n/a	180.1	n/a	0.999
5000	XXXXXXXXXX	5000	60.0	n/a	59.4	n/a	1.010

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.998	0.0%

COMMENTS:

Sample inlet filter was changed.



Methane/Non-Methane Analyzer Calibration by Dilution



CALIBRATION:				ANALYZER:			
DATE:	16-Apr-2023	PREVIOUS CALIBRATION DATE:	05-Mar-2023	VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
CLIENT:	LICA	TEMPERATURE (°C):	22.0		Thermo 55i	1180930026	1200
LOCATION:	Tamarack	BAROMETRIC (mBar):	937	PARAMETER:	CH4	NMHC	THC
PURPOSE:	Routine	START TIME (MST):	10:41	RANGE (ppm):	20	20	40
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:52	PREVIOUS CF:	1.001	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 ₃ H ₈ (ppm):	603.0 204.0	HIGH EXPIRY:	n/a
ID:	17100415	ID:	132	CYLINDER (psi):	1200	LOW ID:	n/a
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	115	EXPIRY DATE	18-Aug-2029	LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

POINT (CH ₄ /NMHC)	HIGH	MID	LOW	CH ₄ EQUIVILANCE	
TARGET	14	7	3.5	C ₃ H ₈ as CH ₄	561.0
RANGE	12 - 16	6 - 8	2 - 4	THC as CH ₄	1164.0

EXPECTED (REFERENCE) VALUE:

INITIAL	CH ₄	NMHC	THC	FINAL	CH ₄	NMHC	THC
	10.01	11.28	21.29		9.79	11.13	20.92

CALIBRATION:

FLOW RATE			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
(mL/min)			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC
3100	74.60	3100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.008	1.007	1.008	1.000	0.999	0.999
3025	74.60	3100	14.51	13.50	28.01	14.40	13.40	27.80	14.51	13.52	28.04	1.008	1.007	1.008	1.000	0.999	0.999
3063	37.30	3100	7.26	6.75	14.01	n/a	n/a	n/a	7.24	6.72	13.96	n/a	n/a	n/a	1.002	1.004	1.003
3081	18.60	3100	3.62	3.37	6.98	n/a	n/a	n/a	3.62	3.35	6.97	n/a	n/a	n/a	0.999	1.005	1.002

LINEAR REGRESSION ANALYSIS:

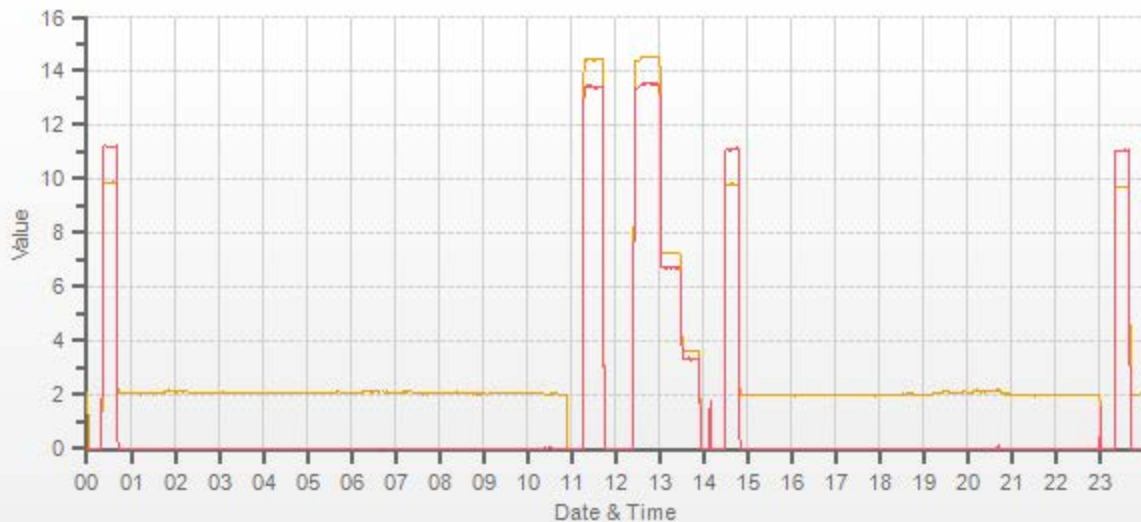
	CORRELATION	SLOPE	INTERCEPT
CH ₄	1.000	1.000	0.0%
NMHC	1.000	1.002	-0.1%
THC	1.000	1.001	-0.1%

Comments:

Sample inlet filter was changed.

Use Zero Chrom?

Yes



CAL-LICA-202304-01248



Thermo 5030 SHARP Monitor Calibration

Date:	April 16, 2023	Performed By/Reviewer:	Alex Yakupov	Chris Wesson
Company:	LICA	Start Time (mst):	14:37	
Station Name/Location:	Tamarack	End Time (mst):	16:17	
Previous Audit Date:	March 5, 2023	Calibration Purpose:	quarterly	
Parameter:	PM 2.5	Weather Conditions:	Mainly sunny	

SHARP Information and Status:				
Serial Number/Owner:	CM - 2209	LICA	Status Code	0
Approx. % Tape Reaming	5/10		Error Code	0

Reference Standards/I.D./Cert. Date:				
High Flow:	DeltaCal / DC-1 / s/n 177246 / Sep 07, 2023			
Digital Manometer:	DeltaCal / DC-1 / s/n 177246 / Sep 07, 2023			
Temperature:	VAISALA / HMP76B / T1640130 / June 14, 2023			
Pressure:	Fisher / FB61291 / sn: 130168457 / Feb 28, 2024			

As Found Temperatures, Pressure, Humidity:						
	T1 (°C)	T2 (°C)	T3 (°C)	T4 (°C)	P3 (hPa)	RH (%)
SHARP:	15	24	24	23	937	13
Reference:	15.0	24.0	24.0	24.0	936.0	14.0
Difference:	0.0	0.0	0.0	1.0	1.0	1.0
	Temp Limit: ± 4 °C					
	Pressure Limit: ± 13.33 hPa					
	RH Limit: ± 2%					

As Left Temperature and Pressure (same as above if as found adequate):						
	T1 (°C)	T2 (°C)	T3 (°C)	T4 (°C)	P3 (hPa)	RH (%)
SHARP:	15	24	24	24	937	13
Reference:	15.0	24.0	24.0	24.0	936.0	14.0
Difference:	0.0	0.0	0.0	0.0	1.0	7.1%
	Temp Limit: ± 4 °C					
	Pressure Limit: ± 13.33 hPa					
	RH Limit: ± 2%					

Mass Foil Calibration:			
	Mass Foil:	ZERO:	Span Sensitivity
Mass Foil ID:	9015	QLF:	OLD: 7029
Spanfoil Value (µg):	1294	CONFID:	NEW: 7000

Nephelometer Zero:				
	As Found		As Left	
Analog	169.00		Analog 170.00	
NEPH	2.20		NEPH -0.10	
C14	4.90		C14 14.00	
Conc	1.40		Conc -0.10	

Flow rate:				
	As Found		As Left	
SHARP AirFlow l/hr	1000		SHARP AirFlow l/hr 1000	
Reference AirFlow (l/min)	16.71		Reference AirFlow (l/min) 16.67	
Reference AirFlow (l/hr)	1003		Reference AirFlow (l/hr) 1000	
% Difference:	-0.3%		Difference: 0.0%	
	Tolerance +/- 5%			

Inlet Assembly:		
	Yes/No?	If no, explain:
PM10 Inlet Cleaned	yes	
PM2.5 Cyclone Cleaned	yes	

Pump Assembly:		
	Yes/No?	If no, explain:
Pump Inspected / Cleaned	yes	
Pump Vanes Replaced	no	Not required

Comments:

Leak check: 16.67 vs 16.54, 0.13 < 0.80 lpm, passed.

Meteorological System Checklist



Date:	April 16, 2023
Technician:	Alex Yakupov
Station:	Tamarack / Audit time: 14:12 - 15:06

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	14:12-14:20
Is the screen on the housing? (screen should be on between July and September)	no	
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 (°C):	15.4
Station - Ambient Temperature (°C):	14.7
Temperature Difference (°C):	0.7

BAROMETRIC PRESSURE SENSOR CHECK

Reference Barometer ID:	Fisher / FB 61291/ #130168457/ Feb 28, 2024		
Reference Pressure - Units/Reading:	millibar	936	
Station Pressure - Units/Reading:	millibar	935	
Pressure Tolerance +/- 15% of error:	796 - 1076	0.11%	

RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK

Reference Hygrometer ID:	Vaisala HMP76B #T1640130, Exp. Date: Jun 14, 2023		
Reference Hygrometer % RH- Reading:	21.60		
Station Hygrometer % RH- Reading:	21.70		
RH Tolerance +/- 15% of difference:	18.36 - 24.84	-0.5%	

ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK

WIND SPEED		WIND DIRECTION	
Previous check date:	March 5, 2023	Previous check date:	March 5, 2023
Wind Speed Observed (kph):	10 to 20	Wind Direction Observed:	SE
Wind speed on Data Logger (kph):	14.9	Wind Direction on Data Logger:	SE
	Annual audit: Jul 26, 2022	Wind Direction Pass/Fail?:	Pass

Comments

Station (Trailer) temperature vs Reference gauge temperature: 21.6 vs 21.4, difference = 0.2 => Passed.



Meteorological Sensor Audit/Calibration

Location Information

Company: LICA
 Audit Location: Tamarack
 Audit Date: July 26, 2022
 Calibration Purpose: routine annual

Performed By: Alex Yakupov
 Reviewed By: Chris Wesson
 Start/End Time (mst): 16:01 / 17:14
 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

APRIL 2023

Ambient Air Monitoring Calibration Report

- ST. LINA STATION-

CAL-LICA-202304-01250

Station Operation and Maintenance:

Bureau Veritas Canada

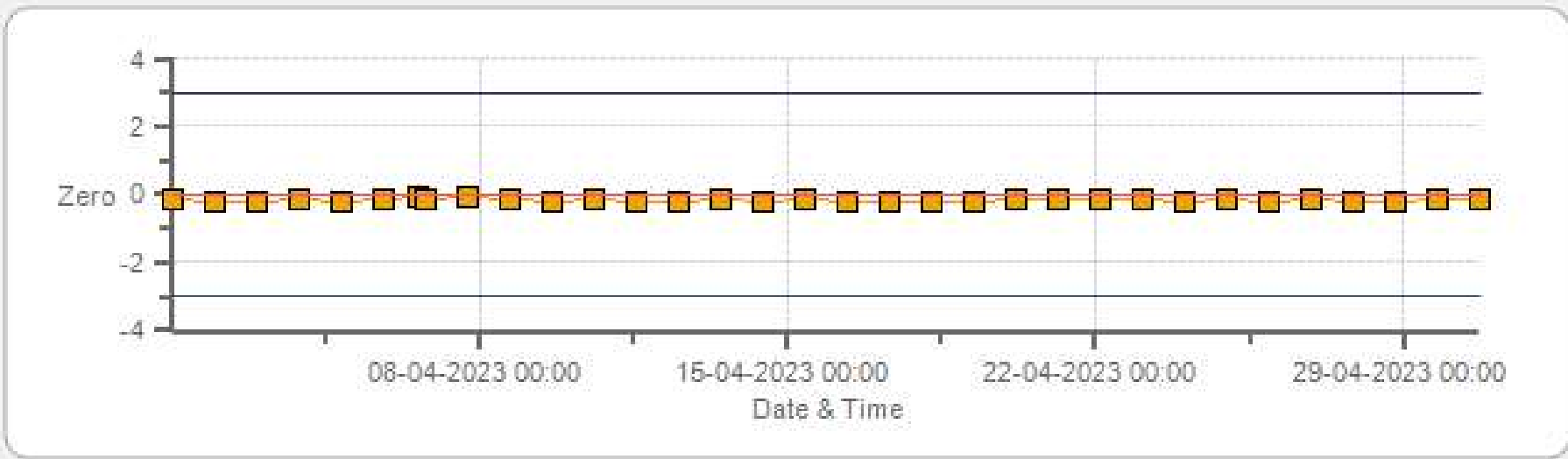
Data Validation and Report:

LICA / Bureau Veritas Canada

May 25, 2023

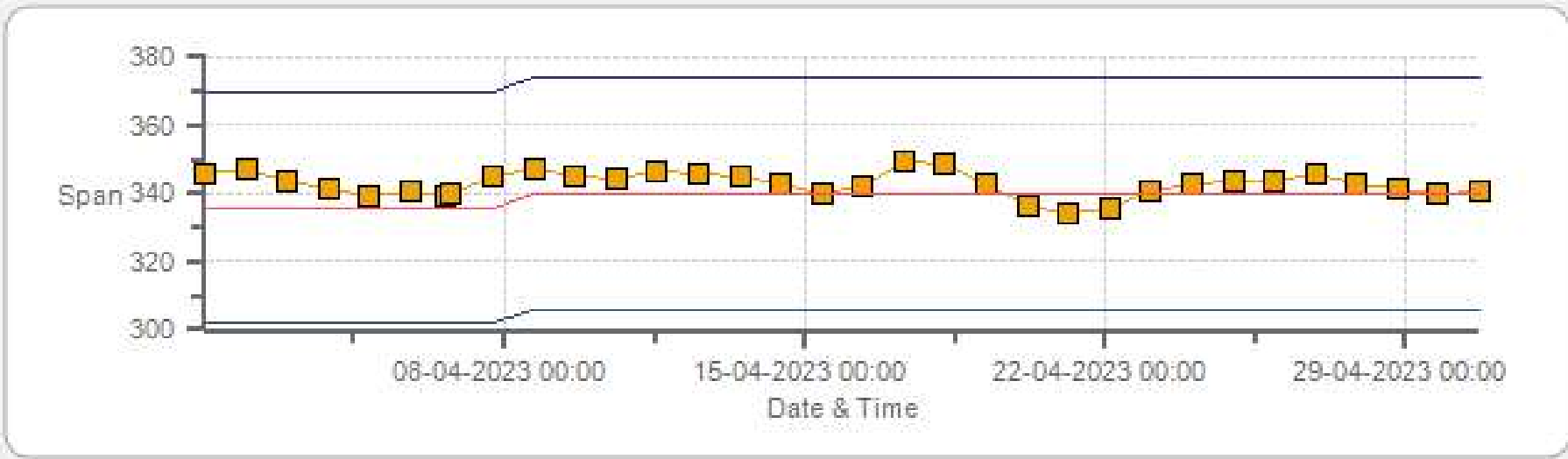
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2[ppb] Calibration: St. Lina Monthly: 04-2023 Type: SpanAndZero - Zero



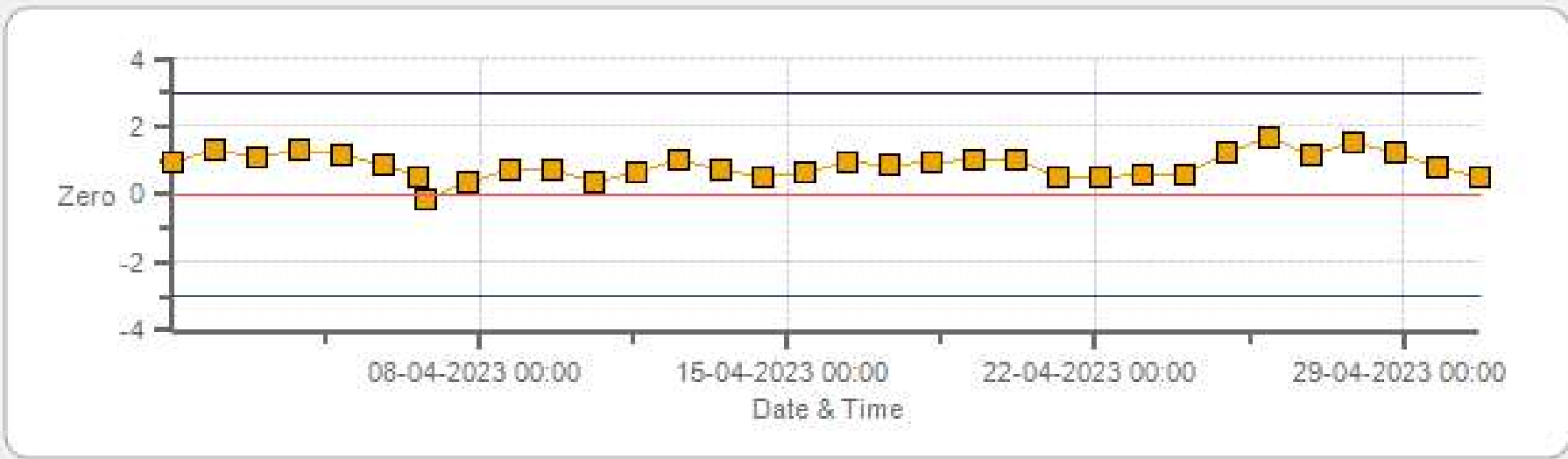
Zero Zero Ref Zero Low Zero High

SO2[ppb] Calibration: St. Lina Monthly: 04-2023 Type: SpanAndZero - Span



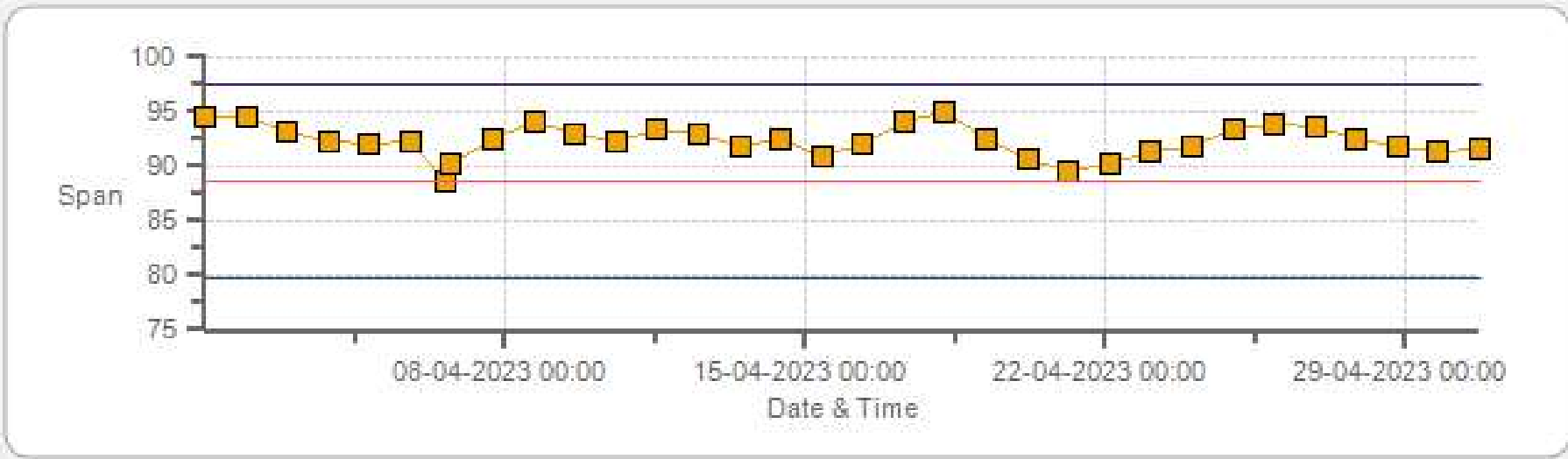
Span SpanRef Span Low Span High

H2S[ppb] Calibration: St. Lina Monthly: 04-2023 Type: SpanAndZero - Zero



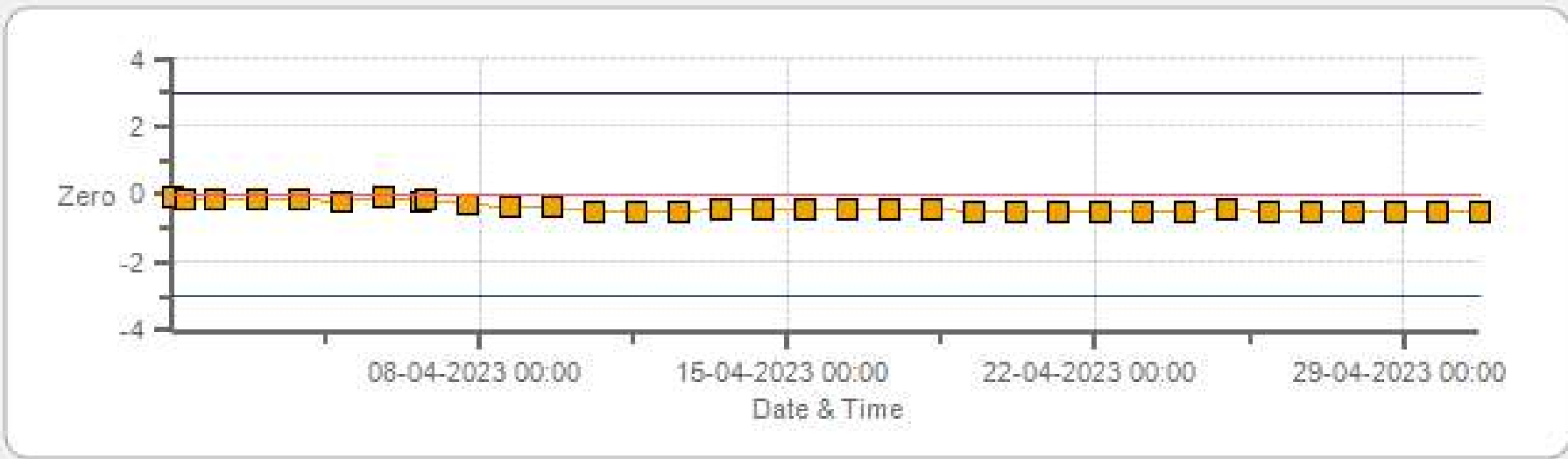
Zero Zero Ref Zero Low Zero High

H2S[ppb] Calibration: St. Lina Monthly: 04-2023 Type: SpanAndZero - Span



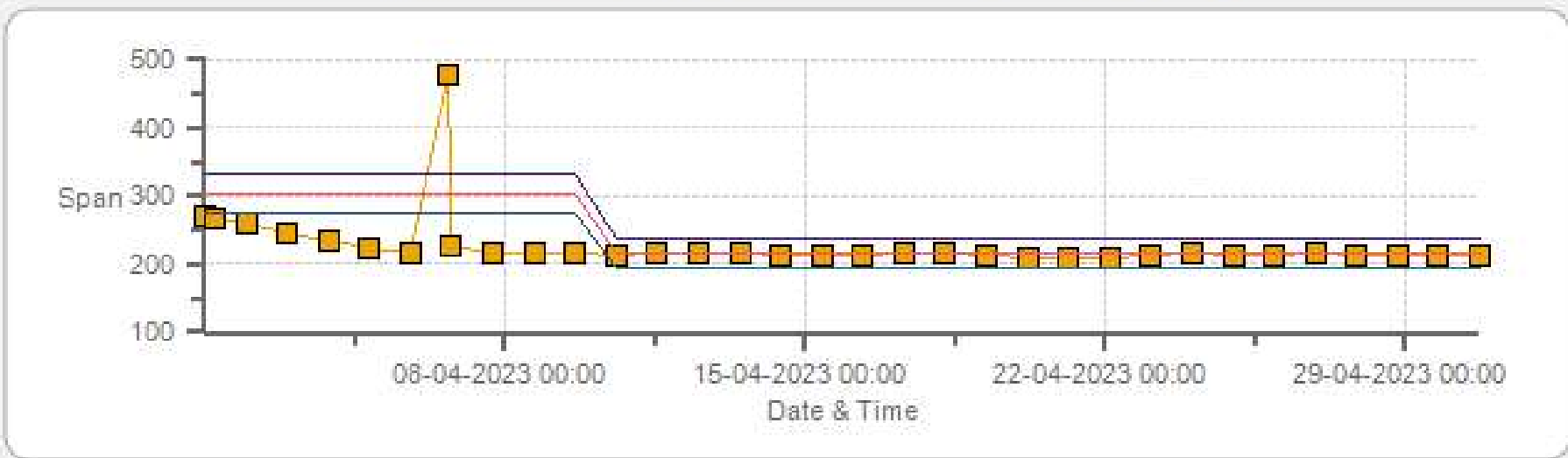
Span SpanRef Span Low Span High

NOX[ppb] Calibration: St. Lina Monthly: 04-2023 Type: SpanAndZero - Zero



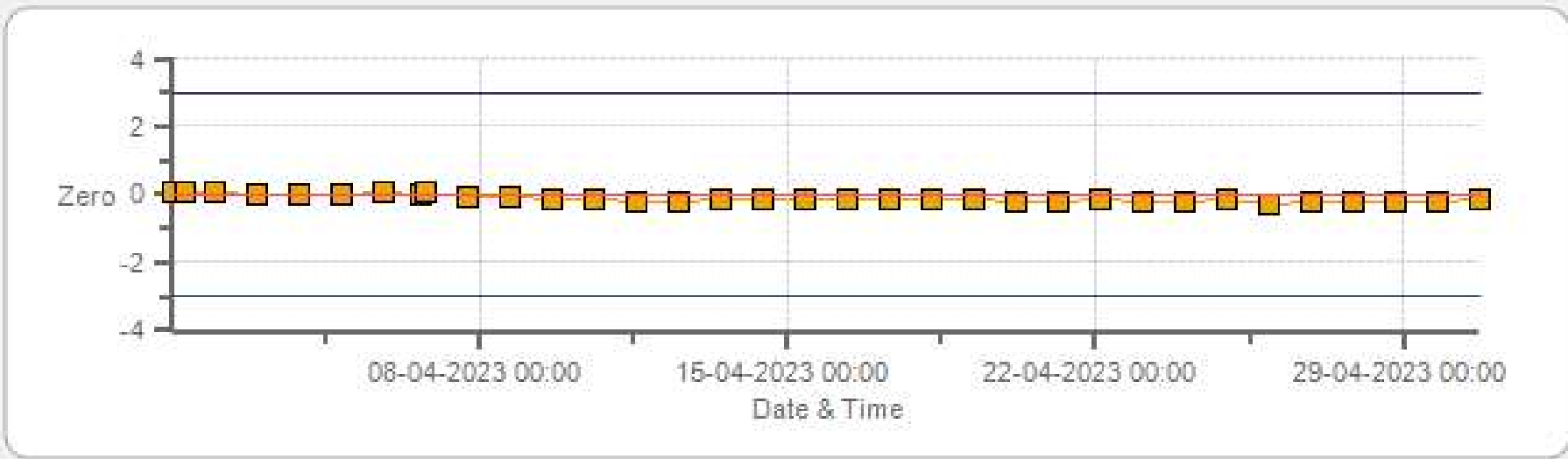
Zero Zero Ref Zero Low Zero High

NOX[ppb] Calibration: St. Lina Monthly: 04-2023 Type: SpanAndZero - Span



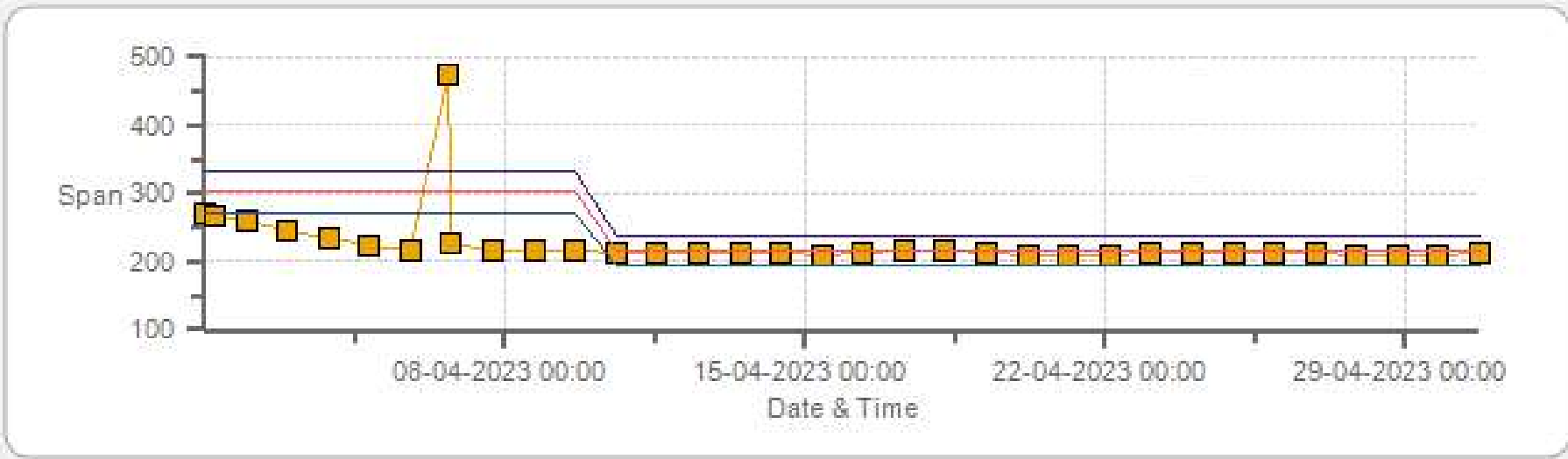
Span SpanRef Span Low Span High

NO2[ppb] Calibration: St. Lina Monthly: 04-2023 Type: SpanAndZero - Zero



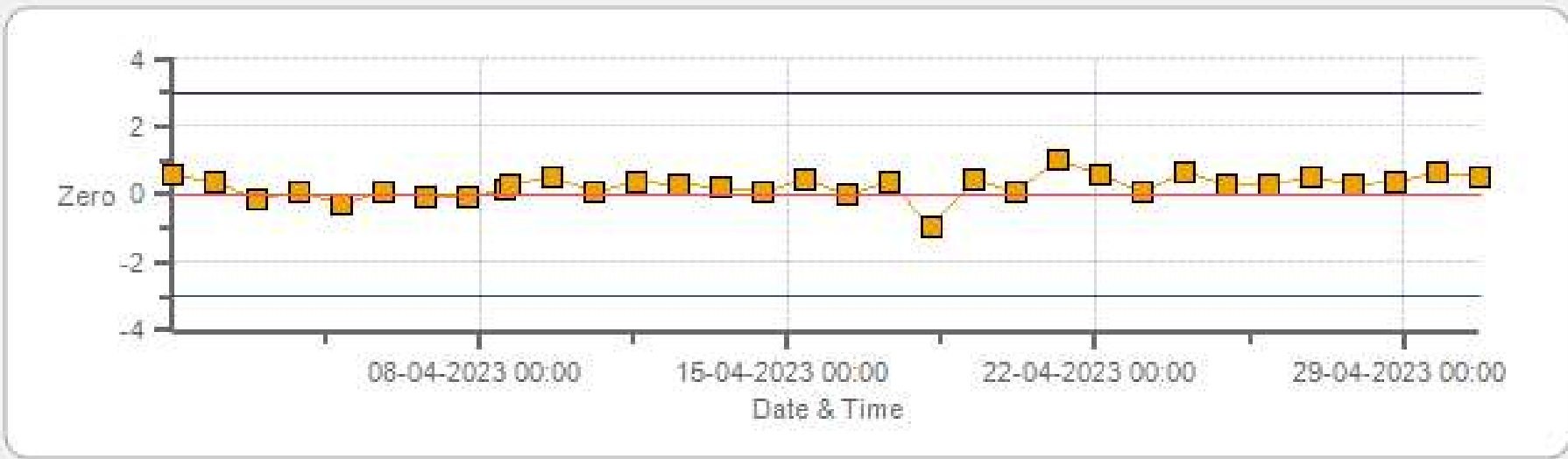
Legend: Zero (Yellow square), Zero Ref (Red line), Zero Low (Blue line), Zero High (Purple line)

NO2[ppb] Calibration: St. Lina Monthly: 04-2023 Type: SpanAndZero - Span



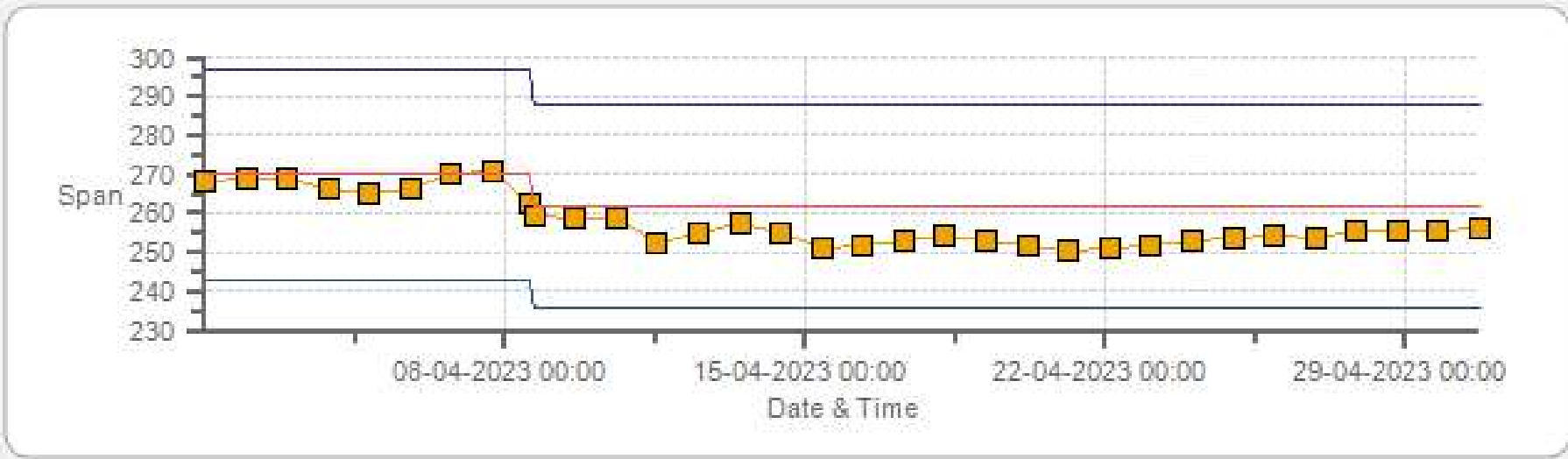
Legend: Span (Yellow square), SpanRef (Red line), Span Low (Blue line), Span High (Purple line)

O3[ppb] Calibration: St. Lina Monthly: 04-2023 Type: SpanAndZero - Zero



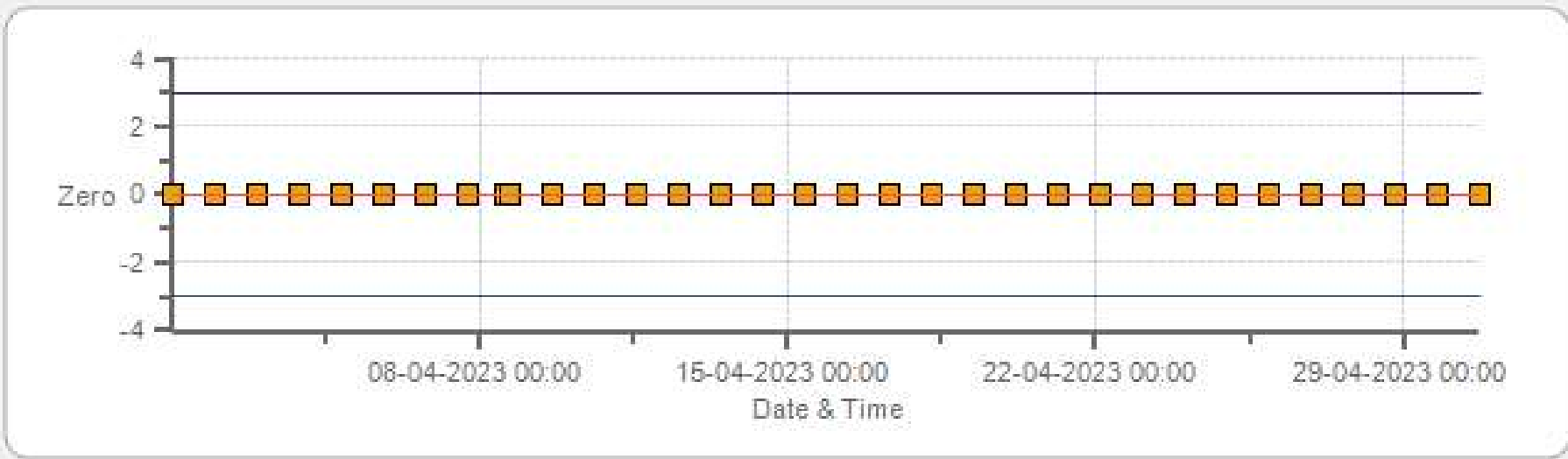
Zero Zero Ref Zero Low Zero High

O3[ppb] Calibration: St. Lina Monthly: 04-2023 Type: SpanAndZero - Span



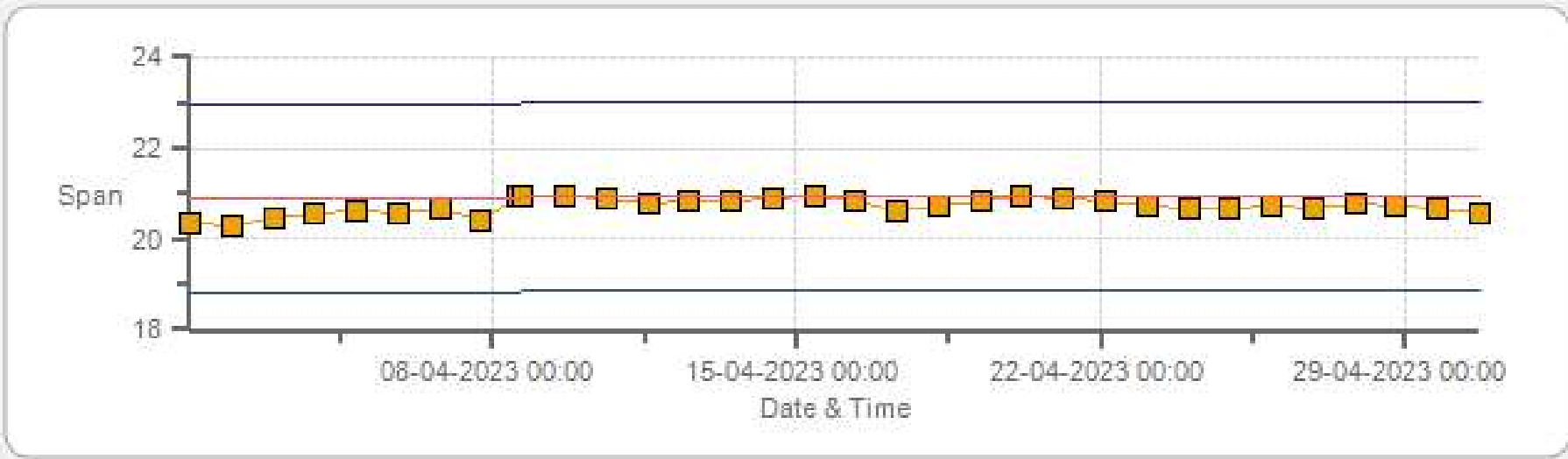
Span SpanRef Span Low Span High

THC55[ppm] Calibration: St. Lina Monthly: 04-2023 Type: SpanAndZero - Zero



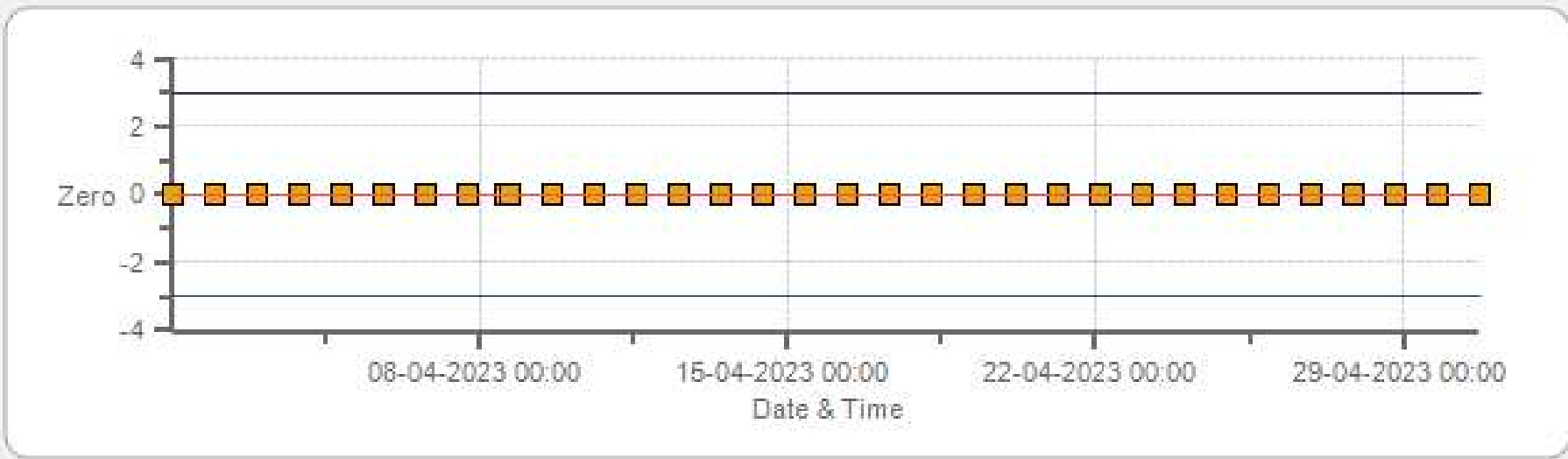
Zero Zero Ref Zero Low Zero High

THC55[ppm] Calibration: St. Lina Monthly: 04-2023 Type: SpanAndZero - Span



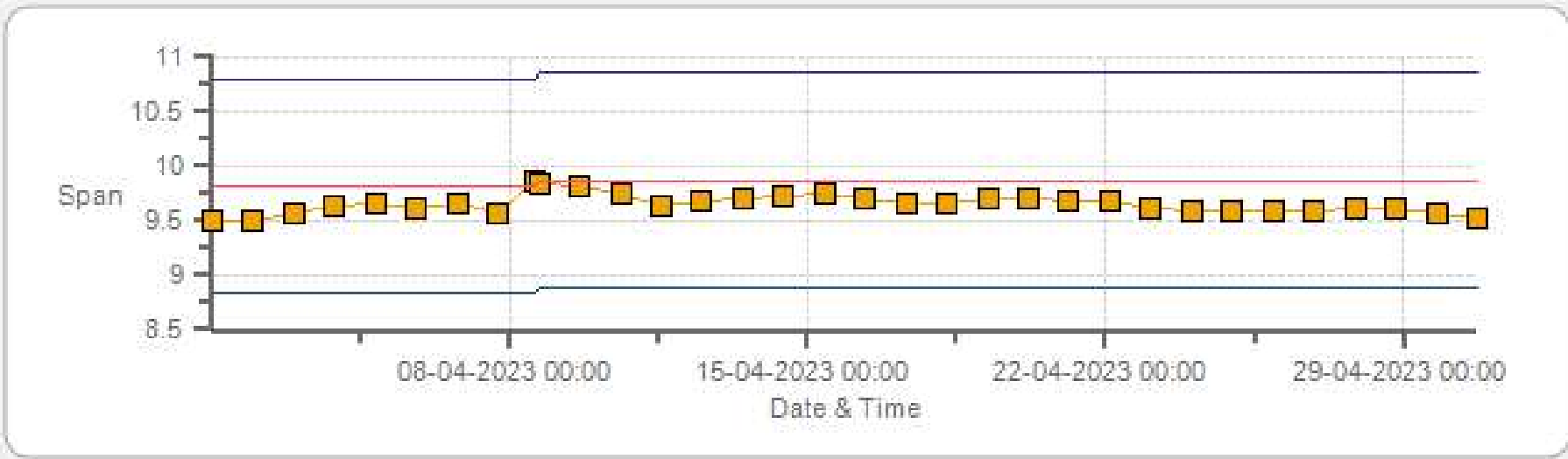
Span SpanRef Span Low Span High

CH4[ppm] Calibration: St. Lina Monthly: 04-2023 Type: SpanAndZero - Zero



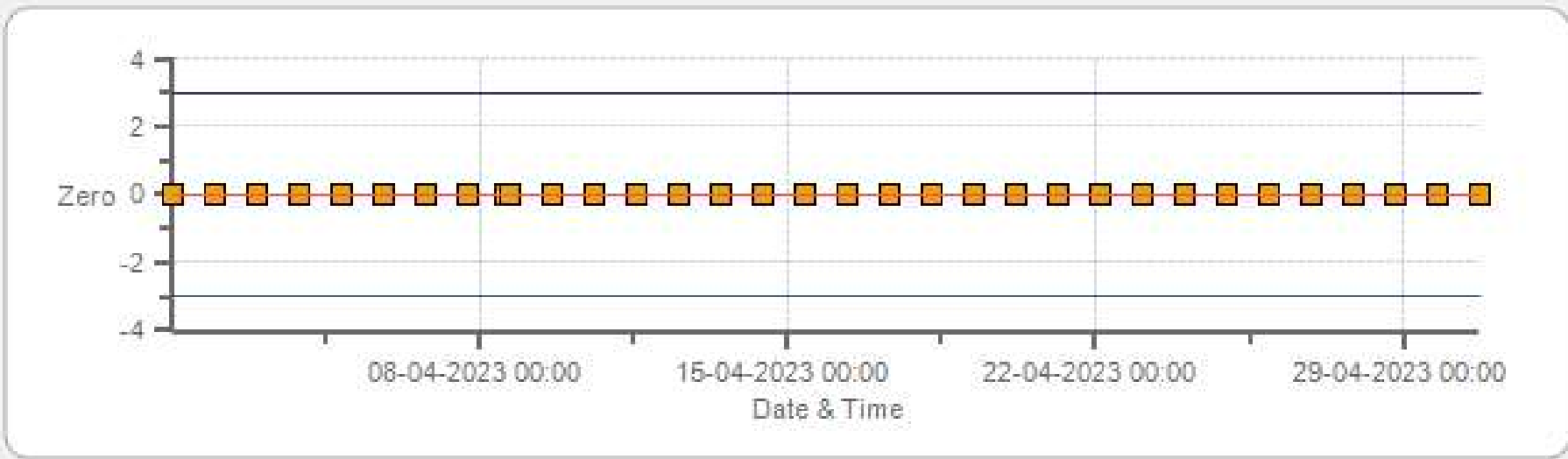
Zero Zero Ref Zero Low Zero High

CH4[ppm] Calibration: St. Lina Monthly: 04-2023 Type: SpanAndZero - Span



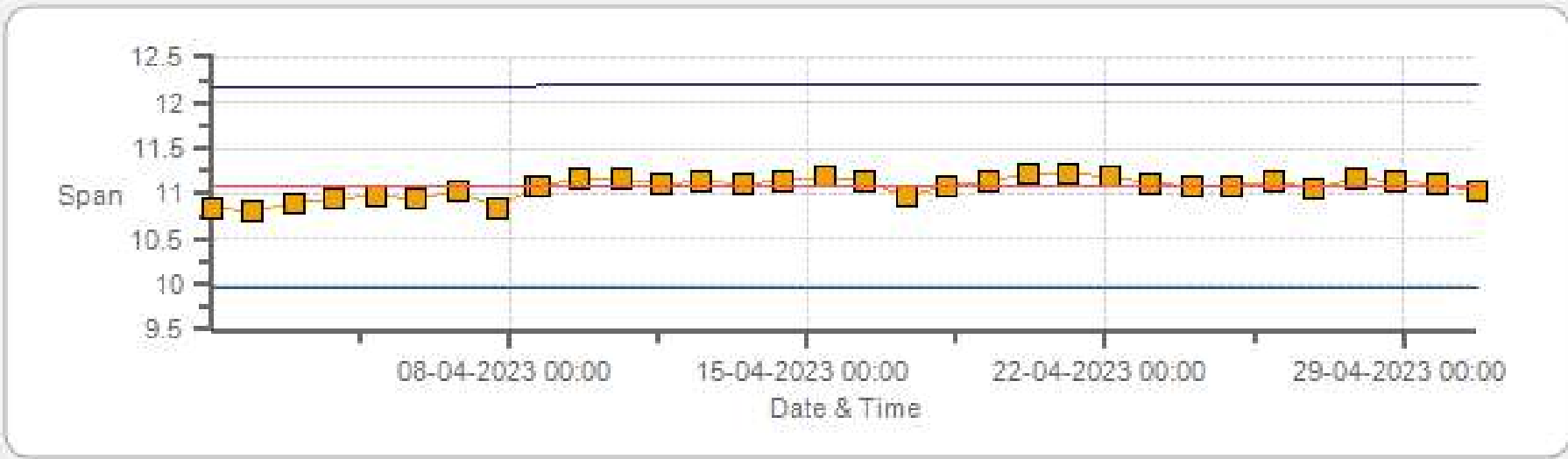
Span SpanRef Span Low Span High

NMHC[ppm] Calibration: St. Lina Monthly: 04-2023 Type: SpanAndZero - Zero



Zero Zero Ref Zero Low Zero High

NMHC[ppm] Calibration: St. Lina Monthly: 04-2023 Type: SpanAndZero - Span



Span SpanRef Span Low Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution



DATE:	06-Apr-2023	PREVIOUS CALIBRATION DATE:	12-Mar-2023
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	920
PURPOSE:	Routine	START TIME (MST):	10:43
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:49

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1180930030	FLOW (mL/min)	433
INITIAL		FINAL	
BKG/OFFSET	5.12	BKG/OFFSET	5.09
COEF/SLOPE	1.221	COEF/SLOPE	1.221
Expected (reference) Value	336	Expected (reference) Value	340

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010	MODEL:	T701
ID:	26701218	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:

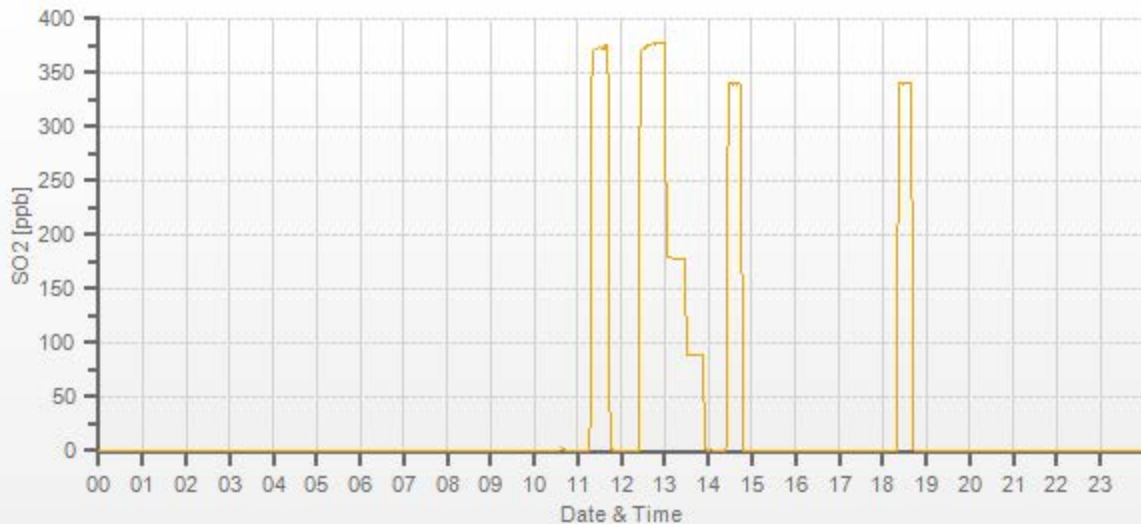
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
5000	37.20	5000	0.00	-0.2	0	1.002	0.995
4961	37.20	4998	375.13	374.1	377.1	1.002	0.995
4982	17.60	5000	177.41	n/a	177.5	n/a	0.999
4990	8.80	4999	88.72	n/a	88.1	n/a	1.007

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.006	-0.1%

COMMENTS:

Sample inlet filter was changed.



H2S Analyzer Calibration by Dilution



DATE:	06-Apr-2023	PREVIOUS CALIBRATION DATE:	12-Mar-2023
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	0.997
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	920
PURPOSE:	Routine	START TIME (MST):	10:42
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:49

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	CM18010058	FLOW (mL/min)	791
INITIAL		FINAL	
BKG/OFFSET	53.3	BKG/OFFSET	54.1
COEF/SLOPE	1.013	COEF/SLOPE	1.008
Expected (reference) Value	88.7	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:	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:	10:43	SO2 Conc (ppb)	380
END TIME:	10:58	Analyzer Response (ppb)	0.3

CALIBRATION:

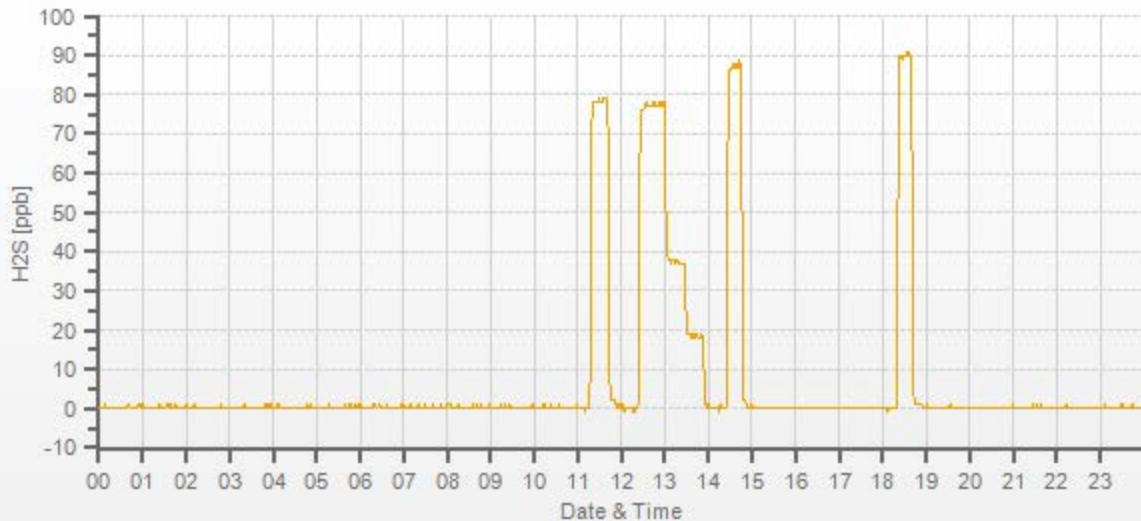
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
7500	7500	7500	0.00	0.5	0	0.997	1.001
7442	57.90	7500	77.97	79.5	77.9	0.987	1.001
7472	28.20	7500	37.98	n/a	38	n/a	0.999
7486	14.10	7500	18.99	n/a	19.2	n/a	0.989

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.998	0.1%

COMMENTS:

Sample inlet filter was changed.



NOx Calibration by Dilution/Gas-Phase Titration



CALIBRATION:				ANALYZER:			
DATE:	06-Apr-2023	PREVIOUS CALIBRATION DATE:	12-Mar-2023	MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
CLIENT:	LICA	TEMPERATURE (°C):	22.0	SERIAL #:	1180930029	NOx	1.001
LOCATION:	St. Lina	BAROMETRIC (mBar):	920	FLOW (mL/min)	827	NO	1.000
PURPOSE:	Routine	START TIME (MST):	10:44	RANGE (ppb)	500	NO2	1.000
PERFORMED BY:	Alex Yakupov	END TIME (MST):	16:42	GPT FOR O3?		No	

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):	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:	4.3	4.1	n/a	BKG/OFFSET:	4.6	4.3	n/a
SLOPE/COEF/CE:	1.009	0.868	1	SLOPE/COEF/CE:	1.01	0.877	1

EXPECTED (REFERENCE) VALUE:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	303.4	1.4	302.0		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

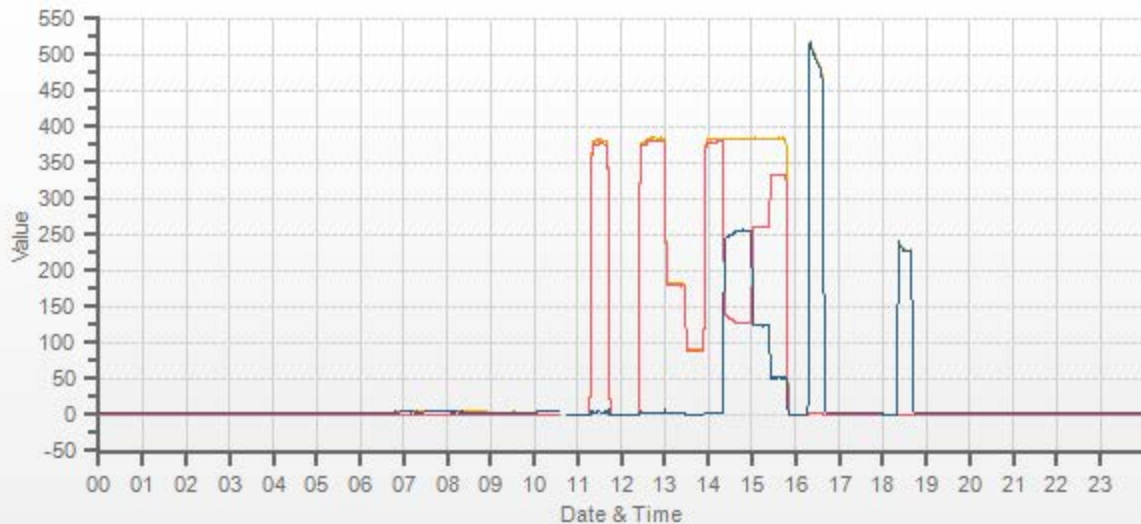
FLOW RATE			CONCENTRATION (ppb)									CORRECTION FACTOR (CF.)					
(mL/min)			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2
5000	37.20	5000	0.0	0.0	0.0	-0.1	0.2	0.3	0.0	0.0	0.0	1.010	1.009	1.001	1.000	1.001	1.000
4961	37.20	4998	380.3	384.1	3.7	376.4	380.7	4.3	380.1	384.0	3.9	1.010	1.009	1.001	1.000	1.001	1.000
4982	17.60	5000	179.9	181.6	1.8	n/a	n/a	n/a	179.6	181.6	2.0	n/a	n/a	1.002	1.000	1.002	1.000
4990	8.80	4999	90.0	90.8	0.9	n/a	n/a	n/a	89.5	90.5	1.0	n/a	n/a	1.005	1.004	1.005	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	379.5	383.1	3.7	252.4	252.4	1.000	100.00%	
AS-FOUND HIGH	37.20	4998	240	127.1	383.2	256.1	252.4	252.4	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	259.9	383.5	123.6	119.6	119.9	0.997	100.25%	
LOW	37.20	4998	45	332.4	384.1	51.6	47.1	47.9	0.983	101.70%	
NO2 adjustment not required.									AVERAGE:	100.65%	

LINEAR REGRESSION ANALYSIS:				COMMENTS:
	CORRELATION	SLOPE	INTERCEPT	
NO	1.000	1.000	-0.04%	
NOx	1.000	1.000	-0.03%	
NO2	1.000	0.996	0.18%	

Sample inlet filter was changed.
A new permeation device was installed; the EV will be adjusted in 72 hours.

Station: St. Lina Daily: 06-04-2023 Type: AVG 1 Min. [1 Min.]



CAL-LICA-202304-01250

NOX [ppb] NO [ppb] NO2 [ppb]

Ozone Calibration by Photometer (Varying UV Lamp)



DATE:	08-Apr-2023	PREVIOUS CALIBRATION DATE:	11-Mar-2023
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	0.999
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	920
PURPOSE:	Routine	START TIME (MST):	10:12
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:20

ANALYZER:

MAKE/MODEL	Thermo 49iQ	RANGE	500 ppb
SERIAL #	12208316586	FLOW (mL/min)	1310
INITIAL		FINAL	
BKG/OFFSET	0.5	BKG/OFFSET	1
COEF/SLOPE	1.026	COEF/SLOPE	1.017
Expected (reference) Value	270	Expected (reference) Value	262

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:

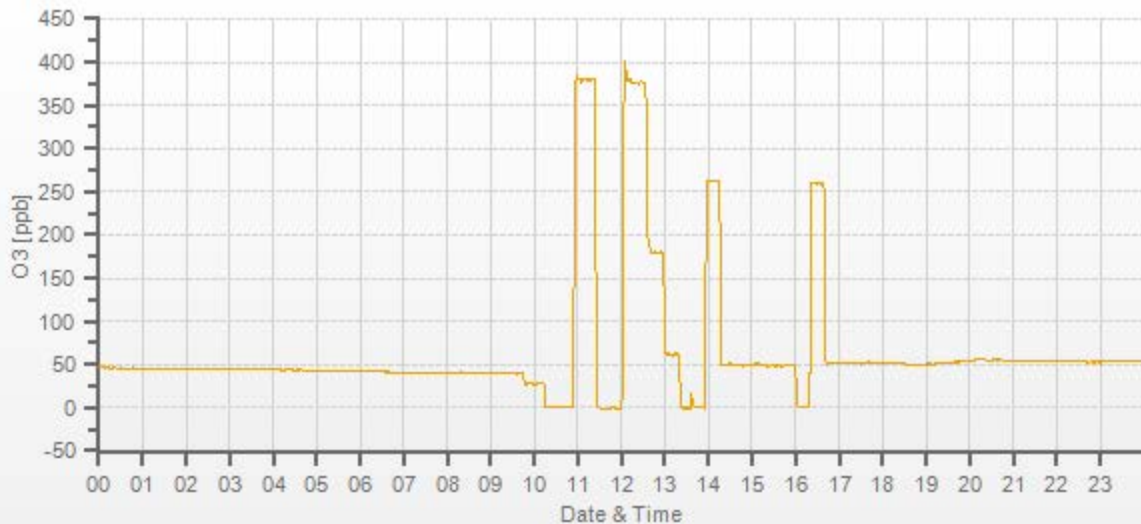
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
5000	XXXXXXXXXX	5000	0.0	0.2	0.0	XXXXXX	XXXXXX
5000	XXXXXXXXXX	5000	378.0	379.7	376.9	0.996	1.003
5000	XXXXXXXXXX	5000	180.0	n/a	180.0	n/a	1.000
5000	XXXXXXXXXX	5000	60.0	n/a	61.6	n/a	0.974

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.995	0.2%

COMMENTS:

Sampe inlet filter was changed.



Methane/Non-Methane Analyzer Calibration by Dilution



CALIBRATION:				ANALYZER:			
DATE:	08-Apr-2023	PREVIOUS CALIBRATION DATE:	26-Mar-2023	VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
CLIENT:	LICA	TEMPERATURE (°C):	22.0		Thermo 55i	1236656107	1012
LOCATION:	St. Lina	BAROMETRIC (mBar):	920	PARAMETER:	CH4	NMHC	THC
PURPOSE	Routine	START TIME (MST):	10:10	RANGE (ppm):	20	20	40
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:20	PREVIOUS CF:	1.000	0.998	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 ₃ H ₈ (ppm):	603.0 204.0	HIGH EXPIRY:	n/a
ID:	17100415	ID:	132	CYLINDER (psi):	1200	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 ₃ H ₈ as CH ₄		561.0
RANGE	12 - 16	6 - 8	2 - 4	THC as CH ₄		1164.0

EXPECTED (REFERENCE) VALUE:

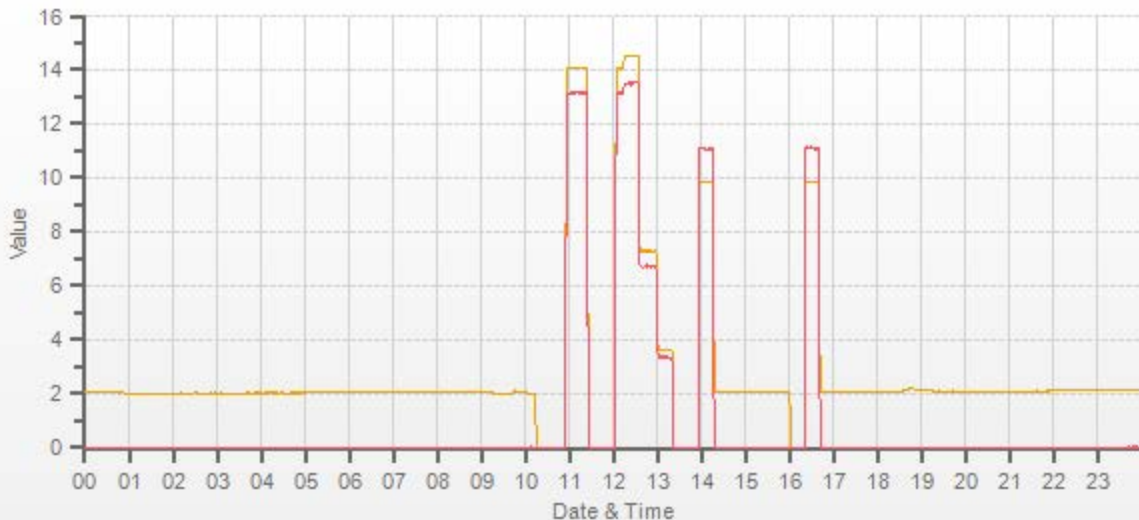
INITIAL	CH4	NMHC	THC	FINAL	CH4	NMHC	THC
	9.82	11.07	20.89		9.87	11.08	20.95

CALIBRATION:

FLOW RATE			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
(mL/min)			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	X	3100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X	X	X	X	X	X
3025	74.60	3100	14.51	13.50	28.01	14.09	13.15	27.24	14.52	13.51	28.03	1.030	1.027	1.028	0.999	0.999	0.999
3063	37.30	3100	7.26	6.75	14.01	n/a	n/a	n/a	7.30	6.75	14.05	n/a	n/a	n/a	0.994	1.000	0.997
3081	18.60	3100	3.62	3.37	6.98	n/a	n/a	n/a	3.65	3.36	7.02	n/a	n/a	n/a	0.991	1.002	0.995

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT	Comments:	
CH4	1.000	1.000	0.1%	Sample inlet filter was changed. A new N2 gas cylinder was connected.	
NMHC	1.000	1.001	0.0%		
THC	1.000	1.000	0.0%		
				Use Zero Chrom?	Yes



CAL-LICA-202304-01250

Thermo 5030i SHARP Monitor Calibration

Date: <u>April 8, 2023</u>	Performed By/Reviewer: <u>Alex Yakupov</u> <u>Chris Wesson</u>
Company: <u>LICA</u>	Start Time (mst): <u>14:35</u>
Station Name/Location: <u>St. Lina</u>	End Time (mst): <u>16:44</u>
Previous Audit Date: <u>March 12, 2023</u>	Calibration Purpose: <u>Quarterly</u>
Parameter: <u>PM 2.5</u>	Weather Conditions: <u>Mainly sunny</u>

SHARP 5030i Information and Status:

Serial Number: <u>CM 17091001</u>	Filter Tape Counter: <u>148</u>
-----------------------------------	---------------------------------

Reference Standards:

Air Flow		Pressure:		Temp / RH:	
Make:	Manometer	Orifice	Fisher	VAISALA	
Model:	<u>DeltaCal</u>	<u>DeltaCal</u>	<u>FB61291</u>	<u>HMP76B</u>	
Serial Number:	<u>177246</u>	<u>177246</u>	<u>130168457</u>	<u>SN: T1640130</u>	
Expiry Date:	<u>September 1, 2023</u>	<u>September 1, 2023</u>	<u>February 28, 2024</u>	<u>June 14, 2023</u>	

Ambient Temperature (°C)

As Found:			As Left: (same as found if acceptable)			Temp Limit: ± 2°C
Reference	SHARP	Difference	Reference	SHARP	Difference	
#1	<u>11.27</u>	<u>11.2</u>	<u>0.1</u>	<u>11.27</u>	<u>11.2</u>	<u>0.1</u>
#2	<u>11.27</u>	<u>11.2</u>	<u>0.1</u>	<u>11.27</u>	<u>11.2</u>	<u>0.1</u>
#3	<u>11.27</u>	<u>11.2</u>	<u>0.1</u>	<u>11.27</u>	<u>11.2</u>	<u>0.1</u>
Average	<u>11.3</u>	<u>11.2</u>	<u>0.1</u>	<u>11.3</u>	<u>11.2</u>	<u>0.1</u>

Ambient Relative Humidity (%RH)

As Found:			As Left: (same as found if acceptable)			RH Limit: ± 2 %RH
Reference	SHARP	Offset (ZERO)	Reference	SHARP	Offset (ZERO)	
#1	<u>48.71</u>	<u>48.7</u>	<u>0.0</u>	<u>48.71</u>	<u>48.7</u>	<u>0.0</u>
#2	<u>48.71</u>	<u>48.7</u>	<u>0.0</u>	<u>48.71</u>	<u>48.7</u>	<u>0.0</u>
#3	<u>48.71</u>	<u>48.7</u>	<u>0.0</u>	<u>48.71</u>	<u>48.7</u>	<u>0.0</u>
Average	<u>48.7</u>	<u>48.7</u>	<u>0.0</u>	<u>48.7</u>	<u>48.7</u>	<u>0.0</u>

Flow Temperature (°C)

As Found:			As Left: (same as found if acceptable)			Temp Limit: ± 2°C
Reference	SHARP	Difference	Reference	SHARP	Difference	
#1	<u>23.60</u>	<u>24.0</u>	<u>-0.4</u>	<u>23.60</u>	<u>24.0</u>	<u>-0.4</u>
#2	<u>23.60</u>	<u>23.9</u>	<u>-0.3</u>	<u>23.60</u>	<u>23.9</u>	<u>-0.3</u>
#3	<u>23.70</u>	<u>24.0</u>	<u>-0.3</u>	<u>23.70</u>	<u>24.0</u>	<u>-0.3</u>
Average	<u>23.6</u>	<u>24.0</u>	<u>-0.3</u>	<u>23.6</u>	<u>24.0</u>	<u>-0.3</u>

Barometric Pressure (mmHg)

As Found:			As Left: (same as found if acceptable)			BP Limit: ± 2 mmHg
Reference	SHARP	Difference	Reference	SHARP	Difference	
#1	<u>690.0</u>	<u>688.0</u>	<u>2.0</u>	<u>690.0</u>	<u>690.0</u>	<u>0.0</u>

Nephelometer Relative Humidity (%RH)

As Found:			As Left: (same as found if acceptable)			RH Limit: ± 2 %RH
Reference	SHARP	Difference	Reference	SHARP	Difference	
#1	<u>19.20</u>	<u>19.7</u>	<u>-0.5</u>	<u>19.20</u>	<u>19.7</u>	<u>-0.5</u>

Nephelometer Temperature (%RH)

As Found:			As Left: (same as found if acceptable)			Temp Limit: ± 2°C
Reference	SHARP	Difference	Reference	SHARP	Difference	
#1	<u>24.60</u>	<u>25.7</u>	<u>-1.1</u>	<u>24.60</u>	<u>25.7</u>	<u>-1.1</u>

Nephelometer Source Level

As Found:		As Left: (same as found if acceptable)		IRED Limit (as found): 60-70 mA Adjusted IRED Limit (as left): 65 mA
Variable	Value	Variable	Value	
IRED	<u>67</u>	IRED	<u>67</u>	
SRC LEVEL	<u>47</u>	SRC LEVEL	<u>47</u>	

Detector Calibration (Auto)

Detector Auto Calibration Completed: <u>YES</u>	As Left:
	Variable Value
	HIGH VOLT <u>1400</u>
	BETA REF TH <u>310</u>
	ALPHA TH <u>820</u>
	DIFF HV <u>2</u>

Mass Coefficient (Auto)

Zero		Span		Foil Set: CM1597
Variable	Value	Variable	Value	
MASS COEF	<u>7112.5</u>	MASS COEF	<u>7129.2</u>	
FOIL VALUE	<u>1045</u>	FOIL VALUE	<u>1045</u>	
Beta Avg	<u>9633</u>	Beta Avg	<u>8319</u>	
difference	<u>Foil set # 4804</u>	difference	<u>0.2</u>	

Flow Calibration (L/min)

As Found:			As Left: (same as found if acceptable)			Flow Limit: 16.67 ± 0.33 L/min
Reference	SHARP	Difference	Reference	SHARP	Difference	
#1	<u>16.68</u>	<u>16.67</u>	<u>0.01</u>	<u>16.68</u>	<u>16.67</u>	<u>0.01</u>
#2	<u>16.68</u>	<u>16.67</u>	<u>0.01</u>	<u>16.68</u>	<u>16.67</u>	<u>0.01</u>
#3	<u>16.69</u>	<u>16.68</u>	<u>0.01</u>	<u>16.69</u>	<u>16.68</u>	<u>0.01</u>
Average	<u>16.68</u>	<u>16.67</u>	<u>0.01</u>	<u>16.68</u>	<u>16.67</u>	<u>0.01</u>

Leak Check (L/min)

Without Leak Check Adapter			With leak Check Adapter			Leak Limit: 0.08 L/min
Reference	SHARP	Difference	Reference	SHARP	Difference	
#1	<u>16.68</u>	<u>16.67</u>	<u>0.01</u>	<u>16.60</u>	<u>16.63</u>	<u>-0.03</u>
					LEAK RATE:	<u>-0.04</u>

Meteorological System Checklist



Date:	April 8, 2023
Technician:	Alex Yakupov / Audit time: 15:15 - 16:26
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	tested 15:24-15:32
Is the screen on the housing? (screen should be on between July and September)	no	15:32
Is the housing clean?	yes	No issues. Response is timely and accurate.
Is the area around the housing clean and free from obstacles?	yes	

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

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

AMBIENT TEMPERATURE SENSOR CHECK

Parameter:	Temperature @ 2 metres
Reference Thermometer ID:	Vaisala / HM70 / #T1640130/ Jun 14, 2023
Reference Temperature (°C):	10.6
Station - Ambient Temperature (°C):	8.4
Temperature Difference (°C):	2.2

BAROMETRIC PRESSURE SENSOR CHECK

Reference Barometer ID:	Fisher / FB 61291/ #130168457/ Feb 28, 2024		
Reference Pressure - Units/Reading:	millibar	921	
Station Pressure - Units/Reading:	millibar	909	
Pressure Tolerance +/- 15% of error:	783 - 1059	1.30%	

RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK

Reference Hygrometer ID:	Vaisala / HM70 / #T1640130/ Jun 14, 2023		
Reference Hygrometer % RH- Reading:	53.40		
Station Hygrometer % RH- Reading:	57.10		
RH Tolerance +/- 15% of difference:	45.39 - 61.41	-6.9%	

ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK

WIND SPEED		WIND DIRECTION	
Previous check date:	March 12, 2023	Previous check date:	March 12, 2023
Wind Speed Observed (kph):	10-20	Wind Direction Observed:	SW
Wind speed on Data Logger (kph):	11.6	Wind Direction on Data Logger:	SW
	Annual audit: Jul 22, 2022	Wind Direction Pass/Fail?:	Pass

Comments

Station (Trailer) temperature vs Reference gauge temperature: 24.7 vs 24.4



Meteorological Sensor Audit/Calibration

Location Information

Company: LICA
 Audit Location: St. Lina
 Audit Date: July 22, 2022
 Calibration Purpose: routine annual

Performed By: Alex Yakupov
 Reviewed By: Chris Wesson
 Start/End Time (mst): 15:07 / 16:23
 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

APRIL 2023

Ambient Air Monitoring Calibration Report

- LAC LA BICHE STATION-

CAL-LICA-202304-01690

Station Operation and Maintenance:

Bureau Veritas Canada

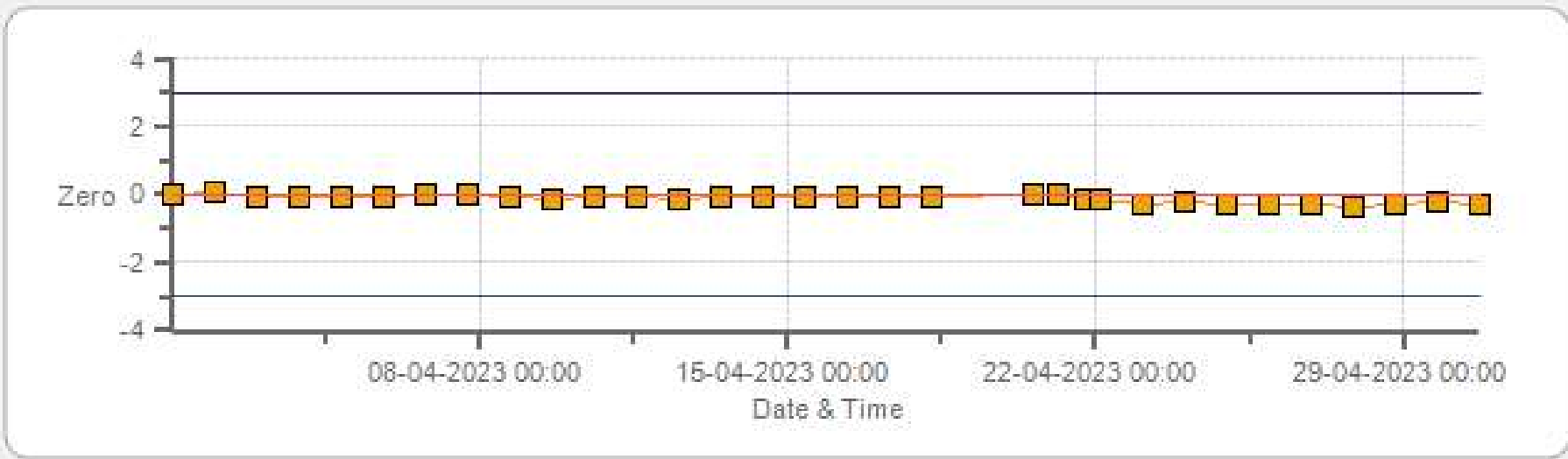
Data Validation and Report:

LICA / Bureau Veritas Canada

May 25, 2023

DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2[ppb] Calibration: Lac La Biche Monthly: 04-2023 Type: SpanAndZero - Zero



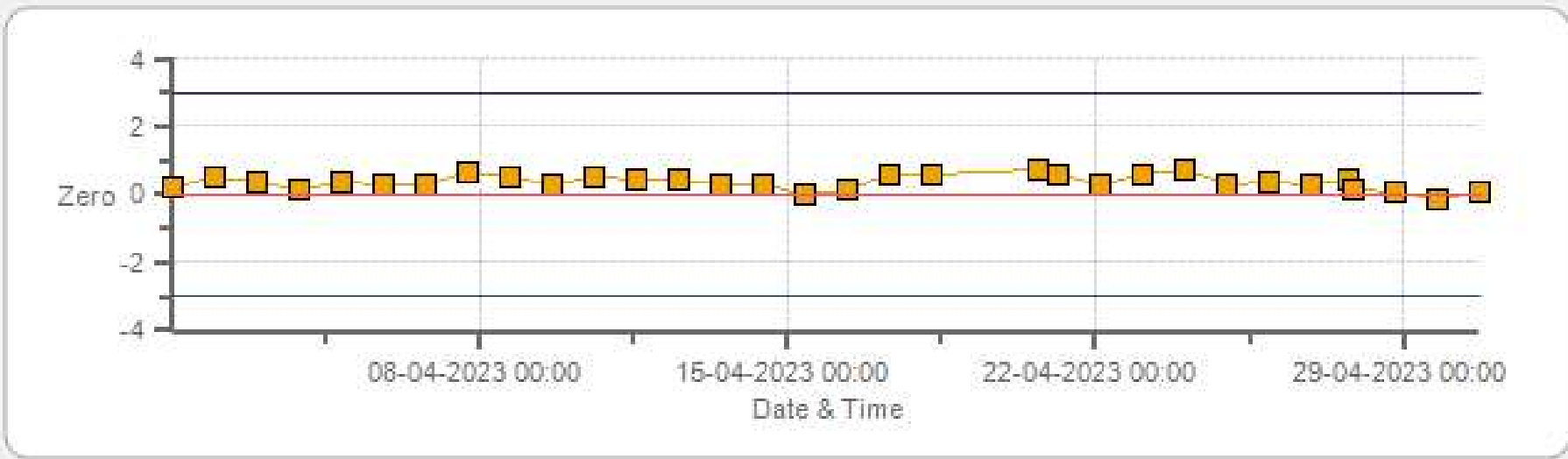
Zero Zero Ref Zero Low Zero High

SO2[ppb] Calibration: Lac La Biche Monthly: 04-2023 Type: SpanAndZero - Span



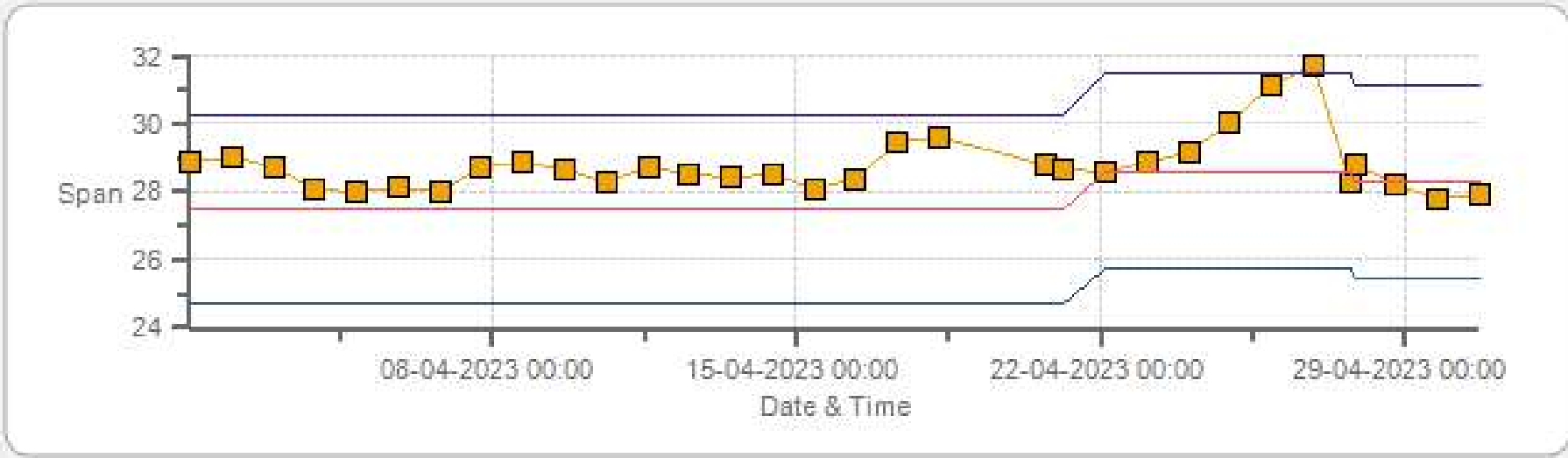
Span Span Ref Span Low Span High

H2S[ppb] Calibration: Lac La Biche Monthly: 04-2023 Type: SpanAndZero - Zero



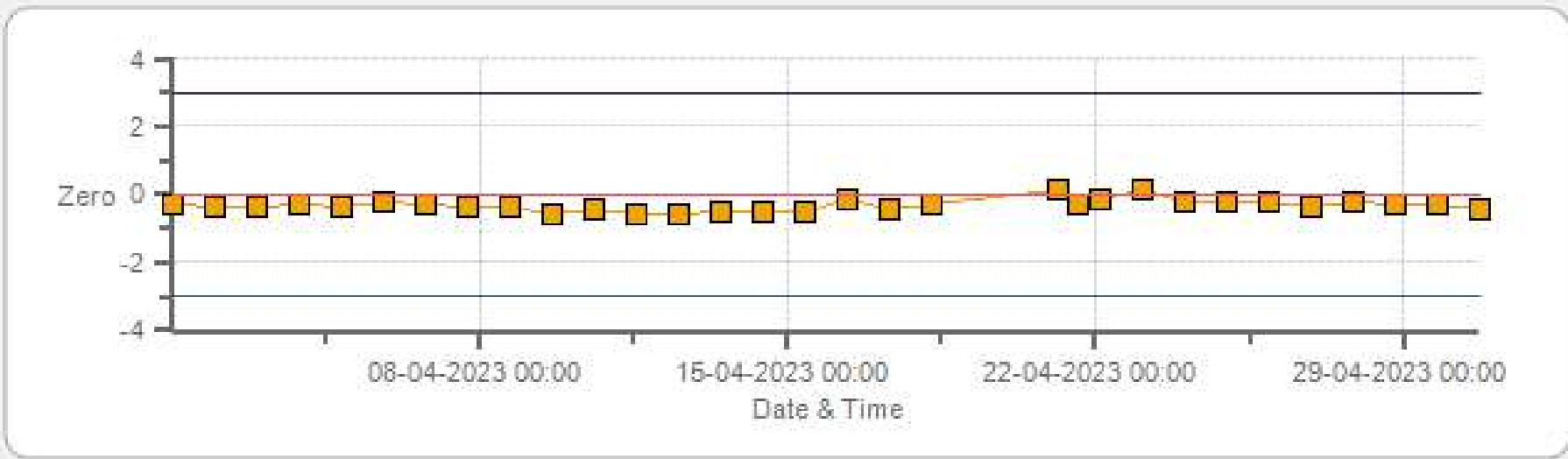
Zero Zero Ref Zero Low Zero High

H2S[ppb] Calibration: Lac La Biche Monthly: 04-2023 Type: SpanAndZero - Span



Span Span Ref Span Low Span High

NOX[ppb] Calibration: Lac La Biche Monthly: 04-2023 Type: SpanAndZero - Zero



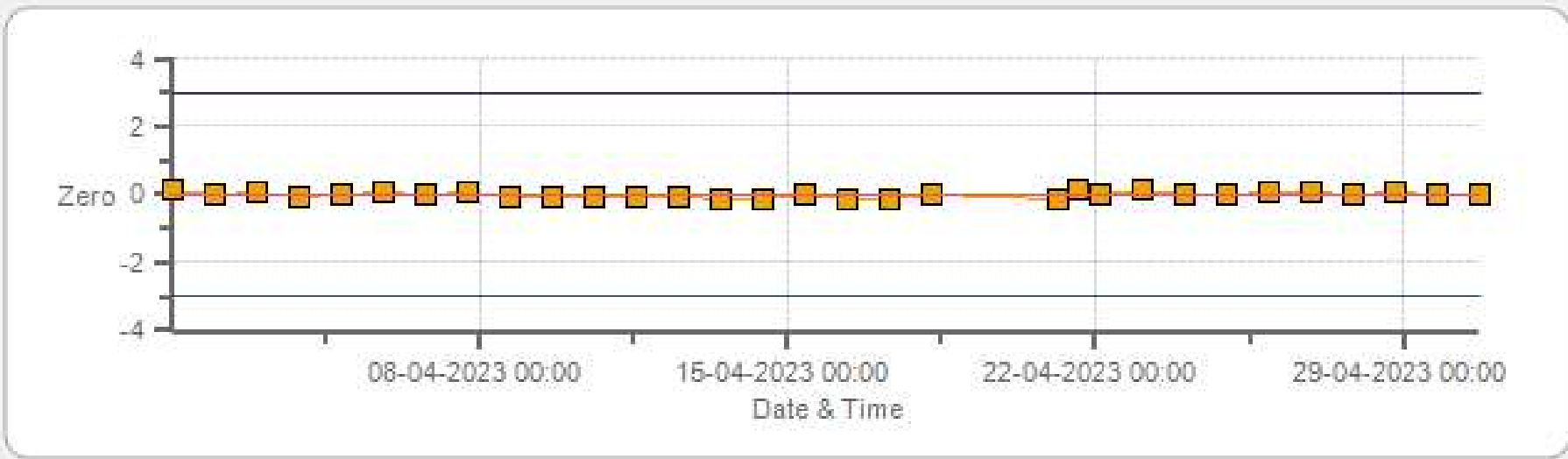
Zero Zero Ref Zero Low Zero High

NOX[ppb] Calibration: Lac La Biche Monthly: 04-2023 Type: SpanAndZero - Span



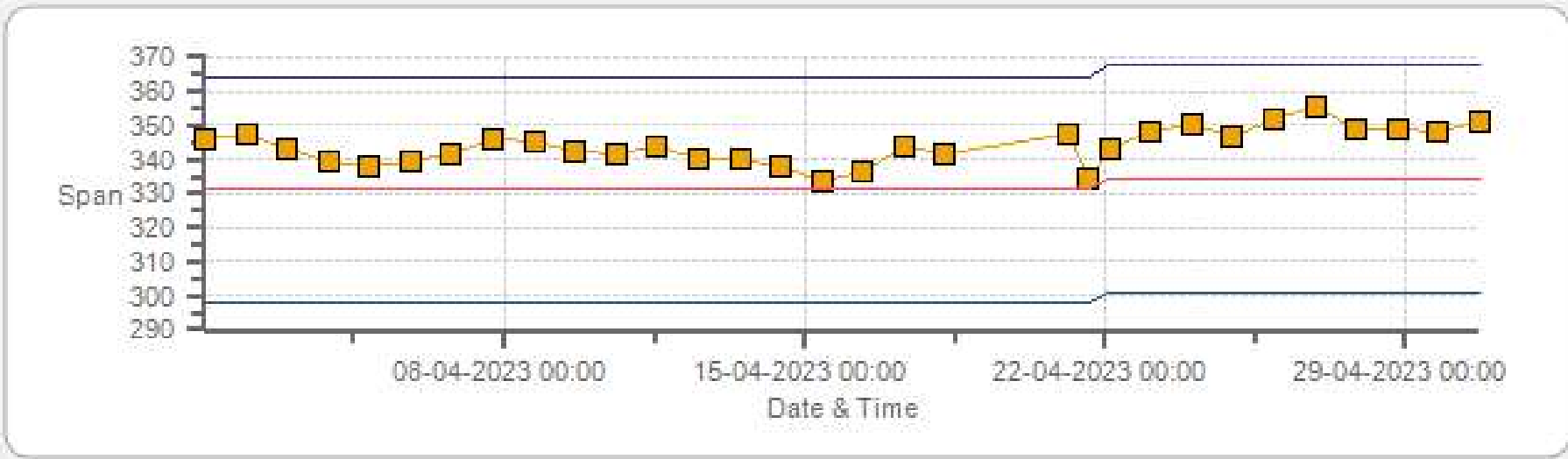
Span SpanRef Span Low Span High

NO2[ppb] Calibration: Lac La Biche Monthly: 04-2023 Type: SpanAndZero - Zero



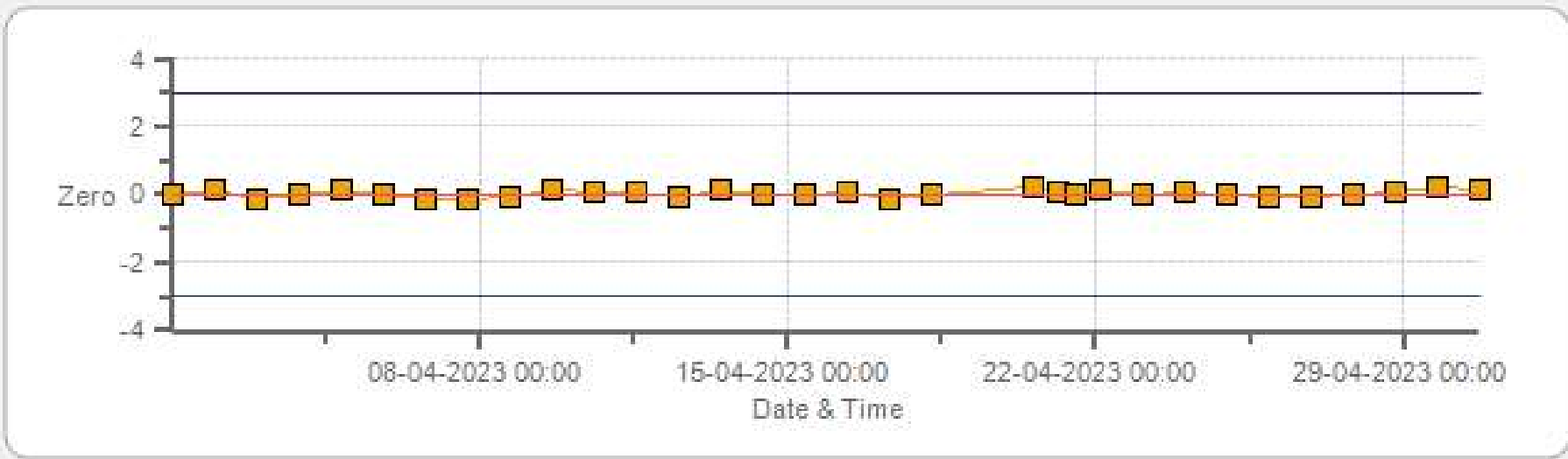
Zero Zero Ref Zero Low Zero High

NO2[ppb] Calibration: Lac La Biche Monthly: 04-2023 Type: SpanAndZero - Span



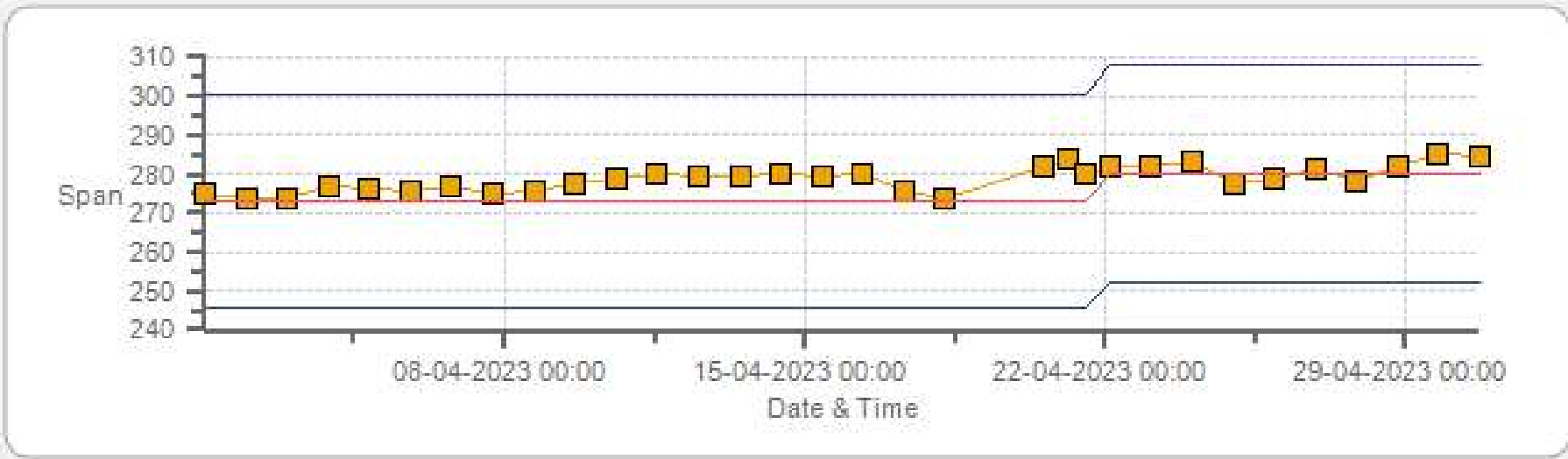
Span SpanRef Span Low Span High

O3[ppb] Calibration: Lac La Biche Monthly: 04-2023 Type: SpanAndZero - Zero



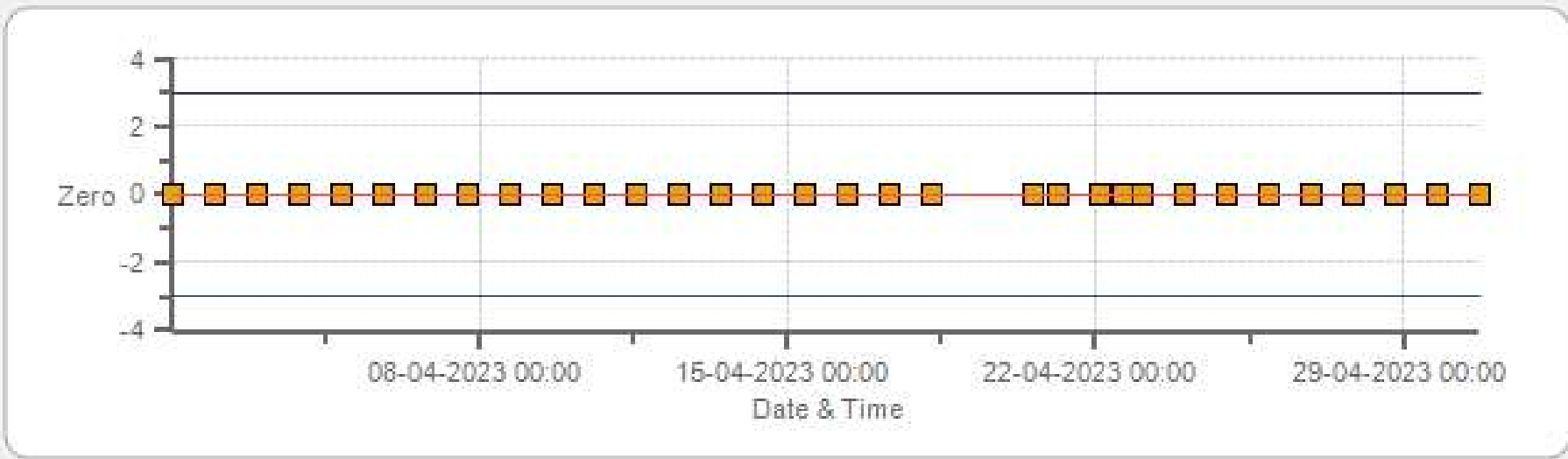
Zero Zero Ref Zero Low Zero High

O3[ppb] Calibration: Lac La Biche Monthly: 04-2023 Type: SpanAndZero - Span



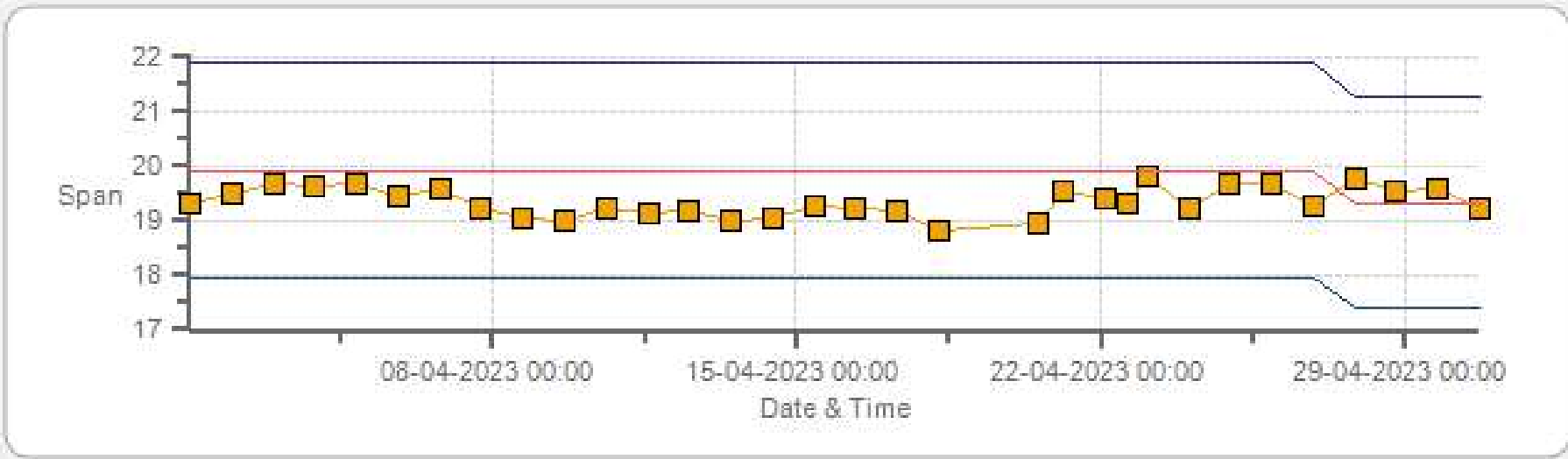
Span Span Ref Span Low Span High

THC55[ppm] Calibration: Lac La Biche Monthly: 04-2023 Type: SpanAndZero - Zero



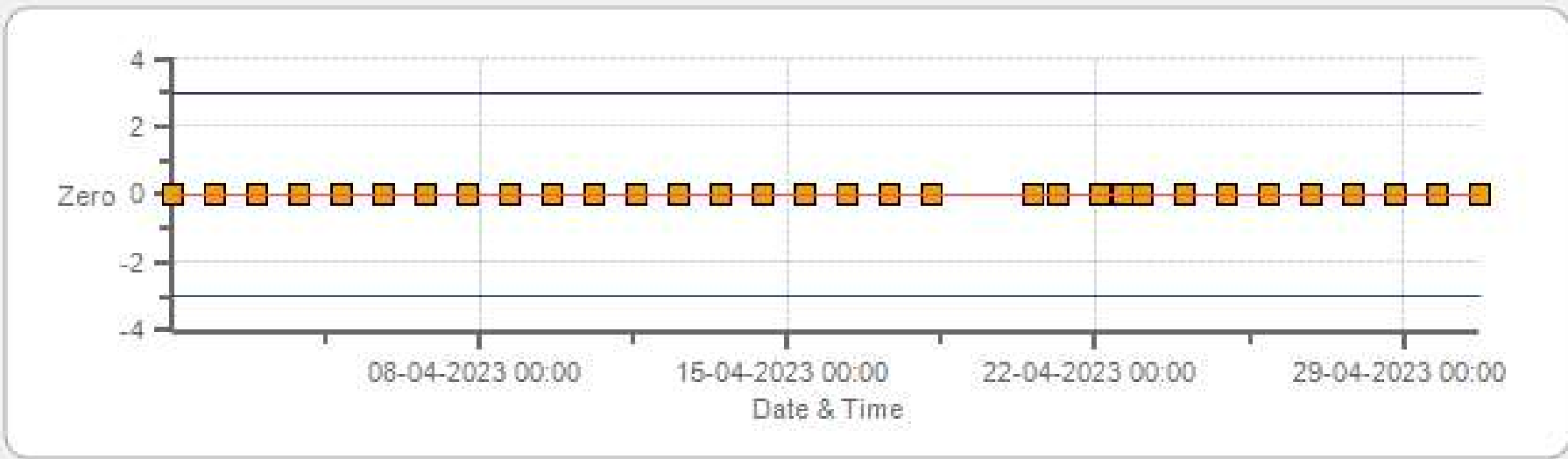
Zero Zero Ref Zero Low Zero High

THC55[ppm] Calibration: Lac La Biche Monthly: 04-2023 Type: SpanAndZero - Span



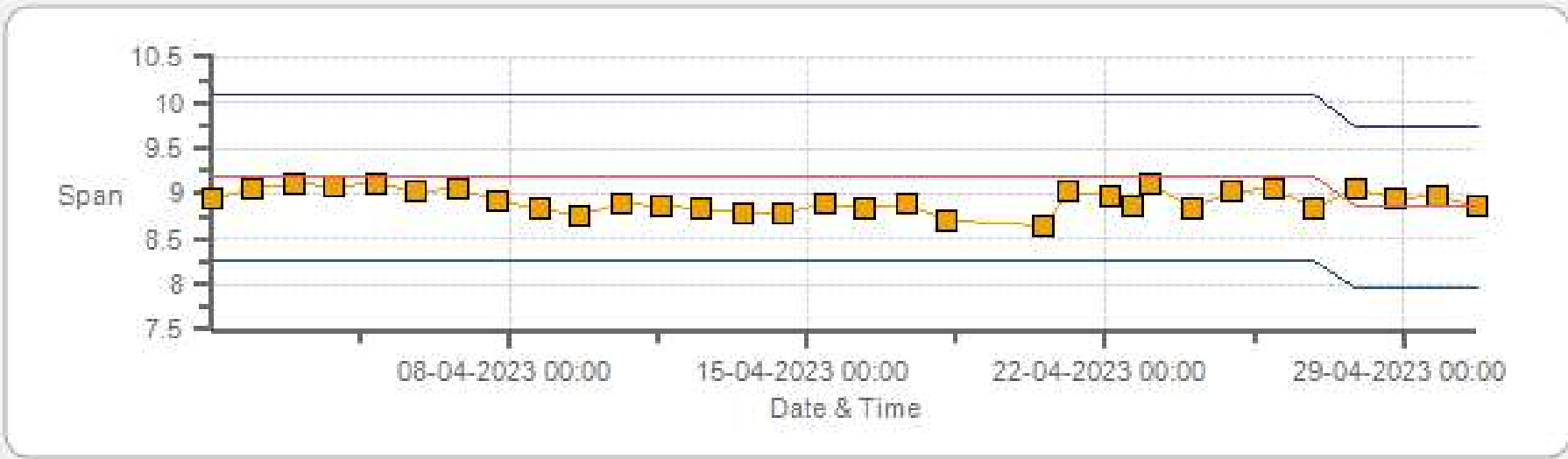
Span Span Ref Span Low Span High

CH4[ppm] Calibration: Lac La Biche Monthly: 04-2023 Type: SpanAndZero - Zero



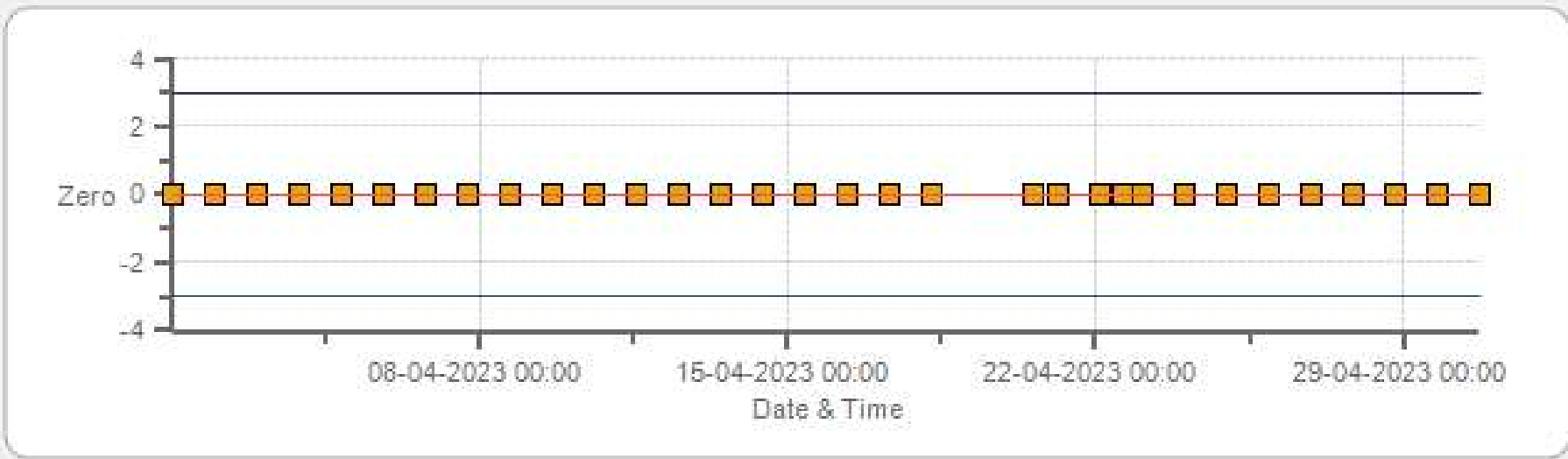
Zero Zero Ref Zero Low Zero High

CH4[ppm] Calibration: Lac La Biche Monthly: 04-2023 Type: SpanAndZero - Span



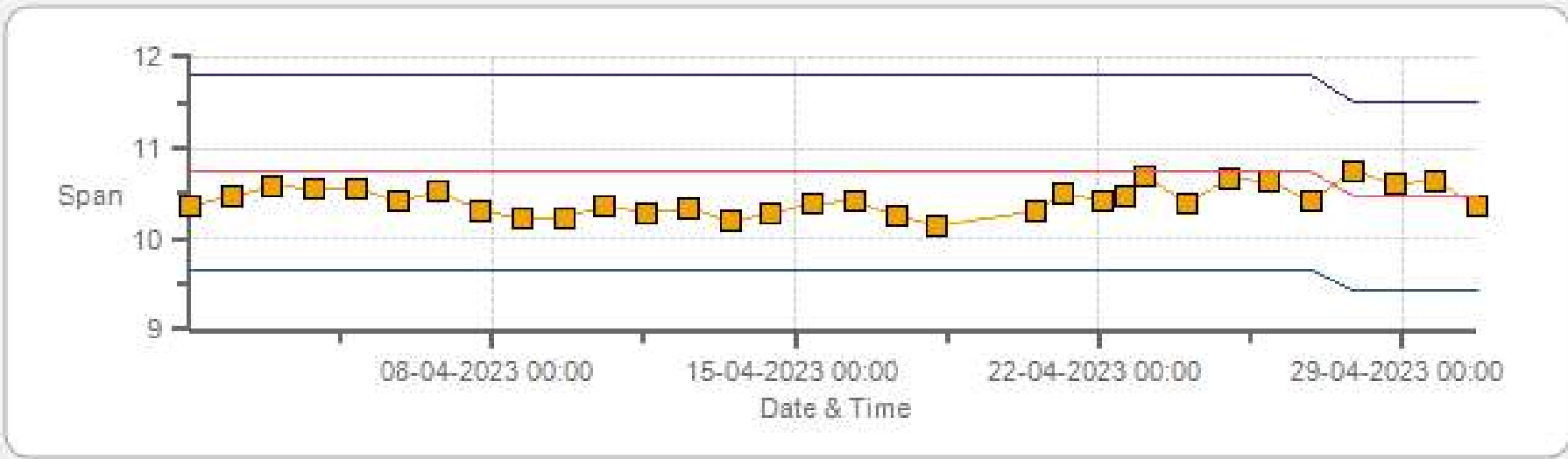
Span Span Ref Span Low Span High

NMHC[ppm] Calibration: Lac La Biche Monthly: 04-2023 Type: SpanAndZero - Zero



Zero Zero Ref Zero Low Zero High

NMHC[ppm] Calibration: Lac La Biche Monthly: 04-2023 Type: SpanAndZero - Span



Span SpanRef Span Low Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution



DATE:	21-Apr-2023	PREVIOUS CALIBRATION DATE:	16-Mar-2023
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	0.998
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Lac La Biche	BAROMETRIC (mBar):	962
PURPOSE:	Routine	START TIME (MST):	14:36
PERFORMED BY:	Alex Yakupov	END TIME (MST):	18:29

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1180320043	FLOW (mL/min)	463
INITIAL		FINAL	
BKG/OFFSET	6.68	BKG/OFFSET	6.77
COEF/SLOPE	1.368	COEF/SLOPE	1.349
Expected (reference) Value	441	Expected (reference) Value	436

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010	MODEL:	T701
ID:	17100415	ID:	132
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL 127895	HIGH ID	n/a
CONC (ppm):	50.40	EXPIRY DATE	n/a
CYLINDER (psi):	1500	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:

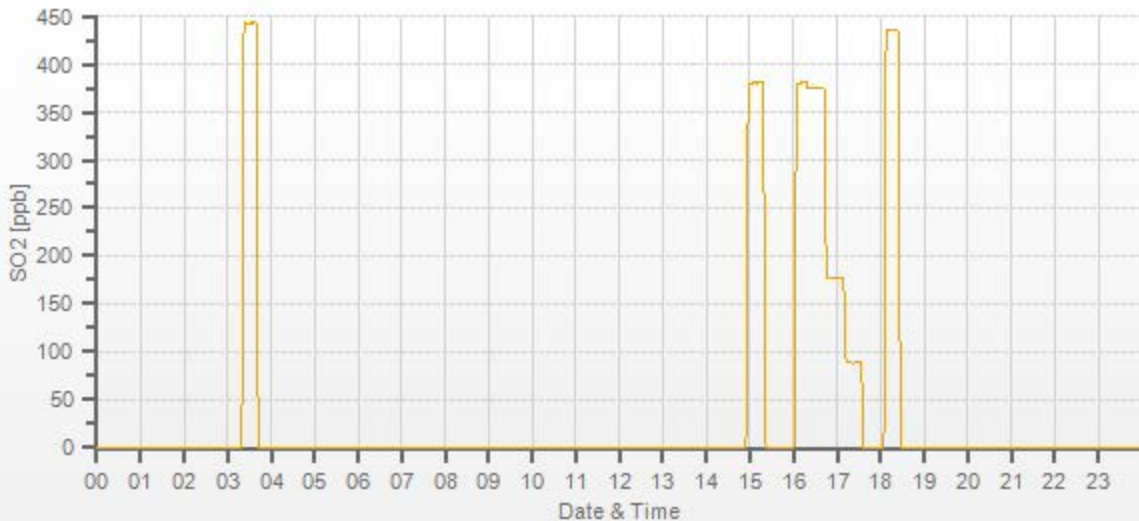
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
5000	37.20	5000	0.00	0.17	0	0.986	1.000
4961	37.20	4998	375.13	380.7	375.14	0.986	1.000
4982	17.60	5000	177.41	n/a	177.08	n/a	1.002
4990	8.80	4999	88.72	n/a	88.57	n/a	1.002

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	0.0%

COMMENTS:

Sample inlet filter was changed.



H2S Analyzer Calibration by Dilution



DATE:	20-Apr-2023	PREVIOUS CALIBRATION DATE:	16-Mar-2023
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	1.001
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Lac La Biche	BAROMETRIC (mBar):	960
PURPOSE:	Routine	START TIME (MST):	12:35
PERFORMED BY:	Alex Yakupov	END TIME (MST):	17:20

ANALYZER:

MAKE/MODEL	API 101A	RANGE	100 ppb
SERIAL #	324	FLOW (mL/min)	516
INITIAL		FINAL	
BKG/OFFSET	30.3	BKG/OFFSET	30
COEF/SLOPE	1.03	COEF/SLOPE	1.05
Expected (reference) Value	27.5	Expected (reference) Value	28.6

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0002287	HIGH ID	n/a
CONC (ppm):	10.10	EXPIRY DATE	n/a
CYLINDER (psi):	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:	12:42	SO2 Conc (ppb)	380
END TIME:	12:57	Analyzer Response (ppb)	0.0

CALIBRATION:

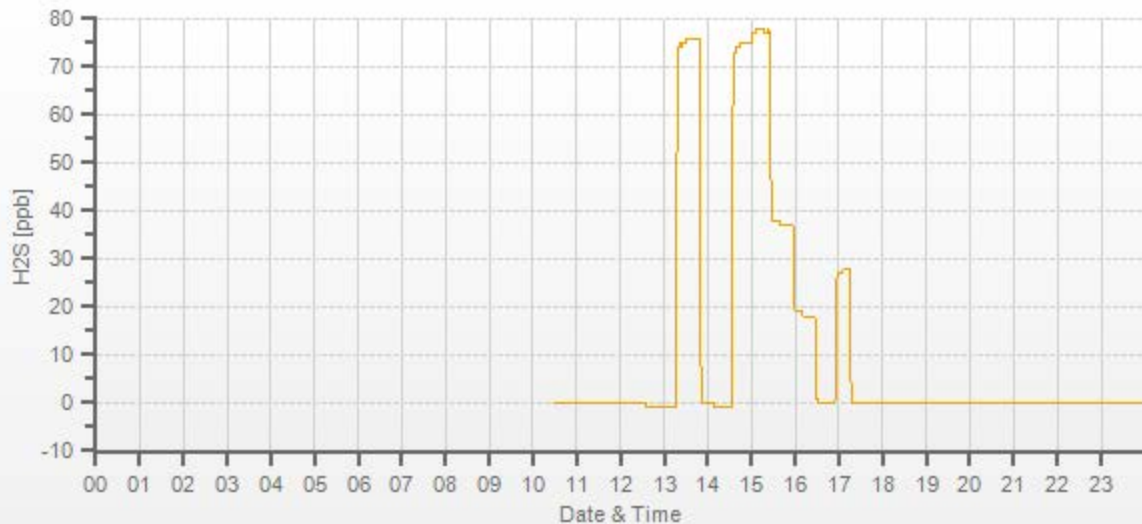
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
7500	7500	7500	0.00	-0.1	0	1.001	1.001
7442	57.90	7500	77.97	77.1	78.2	1.010	0.997
7472	28.20	7500	37.98	n/a	38.1	n/a	0.997
7486	14.10	7500	18.99	n/a	19.1	n/a	0.994

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.003	0.0%

COMMENTS:

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



H2S Analyzer Calibration by Dilution



DATE:	27-Apr-2023	PREVIOUS CALIBRATION DATE:	20-Apr-2023
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	0.997
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Lac La Biche	BAROMETRIC (mBar):	950
PURPOSE:	Removal/Shut-down	START TIME (MST):	11:50
PERFORMED BY:	Alex Yakupov	END TIME (MST):	13:42

ANALYZER:

MAKE/MODEL	API 101A	RANGE	100 ppb
SERIAL #	324	FLOW (mL/min)	457
INITIAL		FINAL	
BKG/OFFSET	30	BKG/OFFSET	n/a
COEF/SLOPE	1.05	COEF/SLOPE	n/a
Expected (reference) Value	28.6	Expected (reference) Value	n/a

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0002287	HIGH ID	n/a
CONC (ppm):	10.10	EXPIRY DATE	n/a
CYLINDER (psi):	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:	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	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
7500	 	7500	0.00	0.2	n/a	 	
7442	57.90	7500	77.97	78.2	n/a	1.000	n/a
7472	28.20	7500	37.98	37.9	n/a	1.007	n/a
7486	14.10	7500	18.99	19.1	n/a	1.005	n/a

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	0.1%

COMMENTS:

Shutdown calibration to repair a sample pump.
This analyzer is BV owned.

H2S Analyzer Calibration by Dilution



DATE:	27-Apr-2023	PREVIOUS CALIBRATION DATE:	n/a
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	n/a
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Lac La Biche	BAROMETRIC (mBar):	950
PURPOSE:	Install/Post-Repair	START TIME (MST):	14:07
PERFORMED BY:	Alex Yakupov	END TIME (MST):	17:49

ANALYZER:

MAKE/MODEL	API 101A	RANGE	100 ppb
SERIAL #	324	FLOW (mL/min)	521
INITIAL		FINAL	
BKG/OFFSET	n/a	BKG/OFFSET	31.3
COEF/SLOPE	n/a	COEF/SLOPE	1.06
Expected (reference) Value	n/a	Expected (reference) Value	28.3

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0002287	HIGH ID	n/a
CONC (ppm):	10.10	EXPIRY DATE	n/a
CYLINDER (psi):	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:	n/a	SO2 Conc (ppb)	n/a
END TIME:	n/a	Analyzer Response (ppb)	n/a

CALIBRATION:

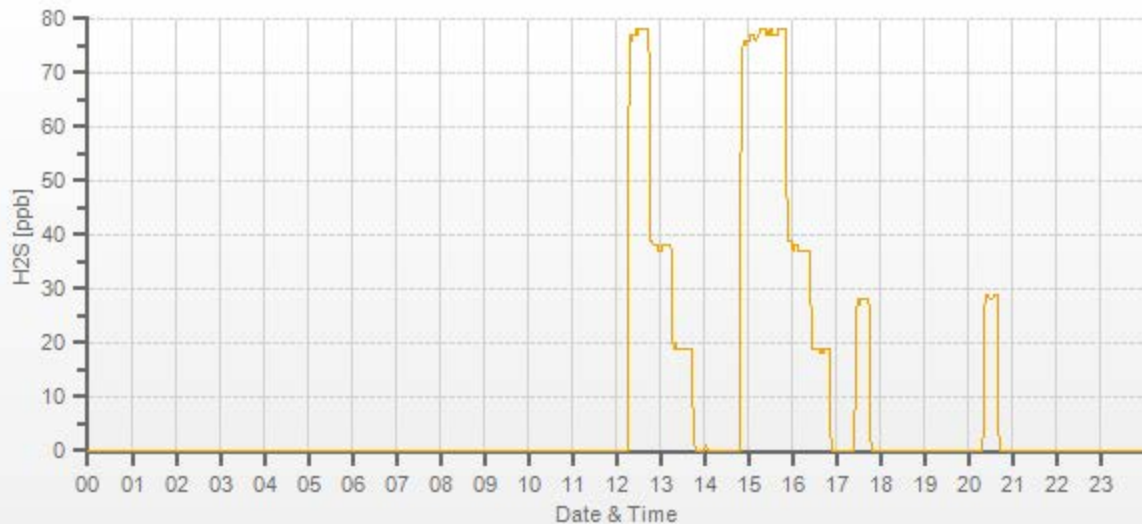
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
7500	7500	7500	0.00	n/a	0	n/a	n/a
7442	57.90	7500	77.97	n/a	77.8	n/a	1.002
7472	28.20	7500	37.98	n/a	37.9	n/a	1.002
7486	14.10	7500	18.99	n/a	18.9	n/a	1.005

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.998	0.0%

COMMENTS:

Sample pump was rebuilt. This analyzer is BV owned.



NOx Calibration by Dilution/Gas-Phase Titration



CALIBRATION:				ANALYZER:			
DATE:	20-Apr-2023	PREVIOUS CALIBRATION DATE:	17-Mar-2023	MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
CLIENT:	LICA	TEMPERATURE (°C):	22.0	SERIAL #:	1180930027	NOx	1.001
LOCATION:	Lac La Biche	BAROMETRIC (mBar):	960	FLOW (mL/min)	672	NO	1.002
PURPOSE:	Removal/Shut-down	START TIME (MST):	12:37	RANGE (ppb)	500	NO2	0.997
PERFORMED BY:	Alex Yakupov	END TIME (MST):	16:26	GPT FOR O3?			No

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):	1500	LOW ID:	n/a
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a	EXPIRY DATE	27-Oct-2030	LOW EXPIRY:	n/a

CALIBRATION SETTINGS:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
BKG/OFFSET:	8.6	8.8	n/a	BKG/OFFSET:	n/a	n/a	n/a
SLOPE/COEF/CE:	1.008	0.888	1.003	SLOPE/COEF/CE:	n/a	n/a	n/a

EXPECTED (REFERENCE) VALUE:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	333.5	2.3	331.2		n/a	n/a	n/a

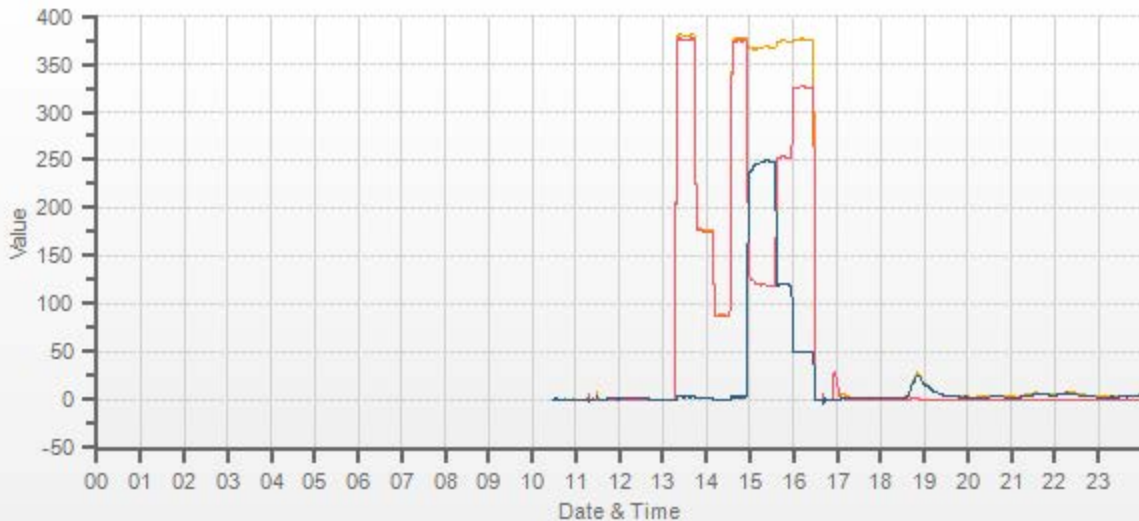
CALIBRATION PARAMETERS:							
POINT	NO TARGET (PPB)		NO2 TARGET (PPB)		NO2 RANGE		O3 POINT
HIGH	380		250		230-265		n/a
MID	180		125		115-150		n/a
LOW	90		45		40-55		n/a
EXTRA 1	n/a		n/a		n/a		n/a

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	37.20	5000	0.0	0.0	0.0	0.2	0.2	0.0	n/a	n/a	n/a	1.013	1.013	1.024	1.024	1.028	1.028
4961	37.20	4998	380.3	384.1	3.7	375.6	379.4	3.8	n/a	n/a	n/a	1.013	1.013	1.024	1.024	1.028	1.028
4982	17.60	5000	179.9	181.6	1.8	175.9	177.7	1.8	n/a	n/a	n/a	1.024	1.023	1.028	1.028	1.028	1.028
4990	8.80	4999	90.0	90.8	0.9	87.7	88.5	0.8	n/a	n/a	n/a	1.028	1.029	1.028	1.028	1.028	1.028

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	373.7	377.1	3.4	254.2	245.1	1.037	96.42%	
AS-FOUND HIGH	37.20	4998	235	119.5	368.0	248.5	254.2	245.1	1.037	96.42%	
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	252.9	372.7	119.8	120.8	116.4	1.038	96.36%	
LOW	37.20	4998	40	325.5	375.5	50.0	48.2	46.6	1.034	96.68%	
NO2 adjustment not required.									AVERAGE:	96.49%	

LINEAR REGRESSION ANALYSIS:				COMMENTS:
	CORRELATION	SLOPE	INTERCEPT	
NO	1.000	0.988	-0.14%	
NOx	1.000	0.988	-0.15%	
NO2	1.000	0.964	0.02%	

Shutdown calibration to completed maintenance/cleaning and install a new sample pump.



CAL-LICA-2023004-01690

NOx Calibration by Dilution/Gas-Phase Titration



CALIBRATION:				ANALYZER:			
DATE:	21-Apr-2023	PREVIOUS CALIBRATION DATE:	n/a	MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
CLIENT:	LICA	TEMPERATURE (°C):	22.0	SERIAL #:	1180930027	NOx	n/a
LOCATION:	Lac La Biche	BAROMETRIC (mBar):	962	FLOW (mL/min)	793	NO	n/a
PURPOSE:	Install/Post-Repair	START TIME (MST):	09:42	RANGE (ppb)	500	NO2	n/a
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:13	GPT FOR O3?		No	

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):	1500	LOW ID:	n/a
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a	EXPIRY DATE	27-Oct-2030	LOW EXPIRY:	n/a

CALIBRATION SETTINGS:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
BKG/OFFSET:	n/a	n/a	n/a	BKG/OFFSET:	8.6	8.6	n/a
SLOPE/COEF/CE:	n/a	n/a	n/a	SLOPE/COEF/CE:	1.005	0.84	1.002

EXPECTED (REFERENCE) VALUE:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	n/a	n/a	n/a		336.4	1.9	334.5

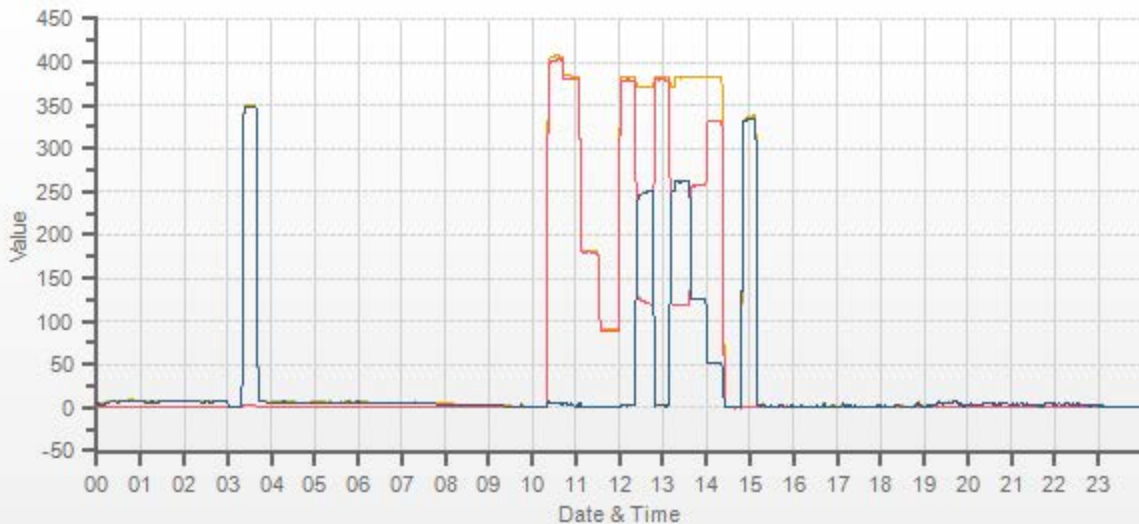
CALIBRATION PARAMETERS:							
POINT	NO TARGET (PPB)		NO2 TARGET (PPB)		NO2 RANGE		O3 POINT
HIGH	380		250		230-265		n/a
MID	180		125		115-150		n/a
LOW	90		45		40-55		n/a
EXTRA 1	n/a		n/a		n/a		n/a

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	5000	0.0	0.0	0.0	n/a	n/a	n/a	0.0	0.0	0.0	n/a	n/a	n/a	n/a	n/a	n/a
4961	37.20	4998	380.3	384.1	3.7	n/a	n/a	n/a	381.0	383.6	2.6	n/a	n/a	n/a	0.998	1.001	n/a
4982	17.60	5000	179.9	181.6	1.8	n/a	n/a	n/a	179.9	181.6	1.7	n/a	n/a	n/a	1.000	1.000	n/a
4990	8.80	4999	90.0	90.8	0.9	n/a	n/a	n/a	90.0	90.6	0.7	n/a	n/a	n/a	0.999	1.003	n/a

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	379.6	382.4	2.8	n/a	n/a	n/a	n/a	
AS-FOUND HIGH	37.20	4998	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
ADJUSTED HIGH	37.20	4998	235	120.0	382.5	262.4	259.6	259.6	1.000	100.00%	
MID	37.20	4998	110	256.9	382.9	126.0	122.7	123.2	0.996	100.41%	
LOW	37.20	4998	40	330.9	382.5	51.6	48.7	48.8	0.998	100.21%	
NO2 adjustment not required.									AVERAGE:	100.31%	

LINEAR REGRESSION ANALYSIS:				COMMENTS:
	CORRELATION	SLOPE	INTERCEPT	
NO	1.000	1.002	-0.02%	
NOx	1.000	0.999	0.00%	
NO2	1.000	1.005	-0.03%	

Sample inlet filter was changed. Orifice was cleaned and a new sample pump was installed.



CAL-LICA-2023004-01690

Ozone Calibration by Photometer (Varying UV Lamp)



DATE:	21-Apr-2023	PREVIOUS CALIBRATION DATE:	17-Mar-2023
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	0.998
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Lac La Biche	BAROMETRIC (mBar):	962
PURPOSE:	Routine	START TIME (MST):	09:59
PERFORMED BY:	Alex Yakupov	END TIME (MST):	13:48

ANALYZER:

MAKE/MODEL	Thermo 49i	RANGE	500 ppb
SERIAL #	1002240372	FLOW (mL/min)	1457
INITIAL		FINAL	
BKG/OFFSET	-0.1	BKG/OFFSET	-0.1
COEF/SLOPE	1.057	COEF/SLOPE	1.054
Expected (reference) Value	273	Expected (reference) Value	280

CALIBRATION SYSTEM:

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

CALIBRATION PARAMETERS:

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

CALIBRATION:

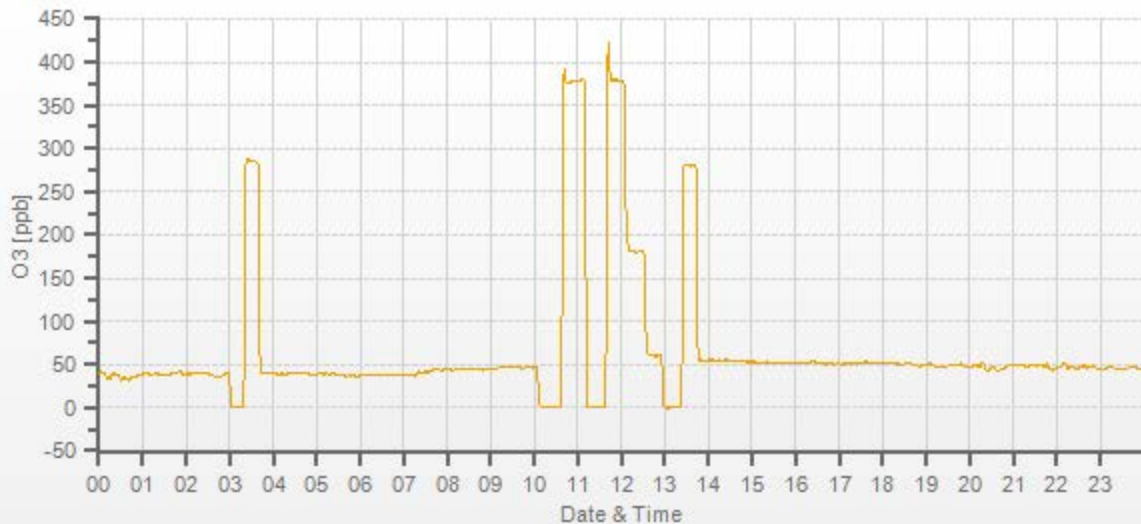
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
5000	XXXXXX	5000	0.0	0.3	0.0	XXXXXX	XXXXXX
5000	XXXXXX	5000	378.0	378.3	378.0	1.000	1.000
5000	XXXXXX	5000	180.0	n/a	182.0	n/a	0.989
5000	XXXXXX	5000	60.0	n/a	59.6	n/a	1.007

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.001	0.0%

COMMENTS:

Sample inlet filter was changed.



Methane/Non-Methane Analyzer Calibration by Dilution



CALIBRATION:				ANALYZER:			
DATE:	22-Apr-2023	PREVIOUS CALIBRATION DATE:	17-Mar-2023	VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
CLIENT:	LICA	TEMPERATURE (°C):	22.0		Thermo 55i	1180320044	1020
LOCATION:	Lac La Biche	BAROMETRIC (mBar):	955	PARAMETER:	CH4	NMHC	THC
PURPOSE	Routine	START TIME (MST):	11:15	RANGE (ppm):	20	20	40
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:06	PREVIOUS CF:	1.000	0.998	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 ₃ H ₈ (ppm):	603.0 204.0	HIGH EXPIRY:	n/a
ID:	17100415	ID:	134	CYLINDER (psi):	1200	LOW ID:	n/a
MFC CALIBRATION DATE:	12-Apr-2023	OXIDIZER ID:	n/a	EXPIRY DATE	18-Aug-2029	LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

POINT (CH4/NMHC)	HIGH	MID	LOW	CH4 EQUIVILANCE	
TARGET	14	7	3.5	C ₃ H ₈ as CH ₄	561.0
RANGE	12 - 16	6 - 8	2 - 4	THC as CH ₄	1164.0

EXPECTED (REFERENCE) VALUE:

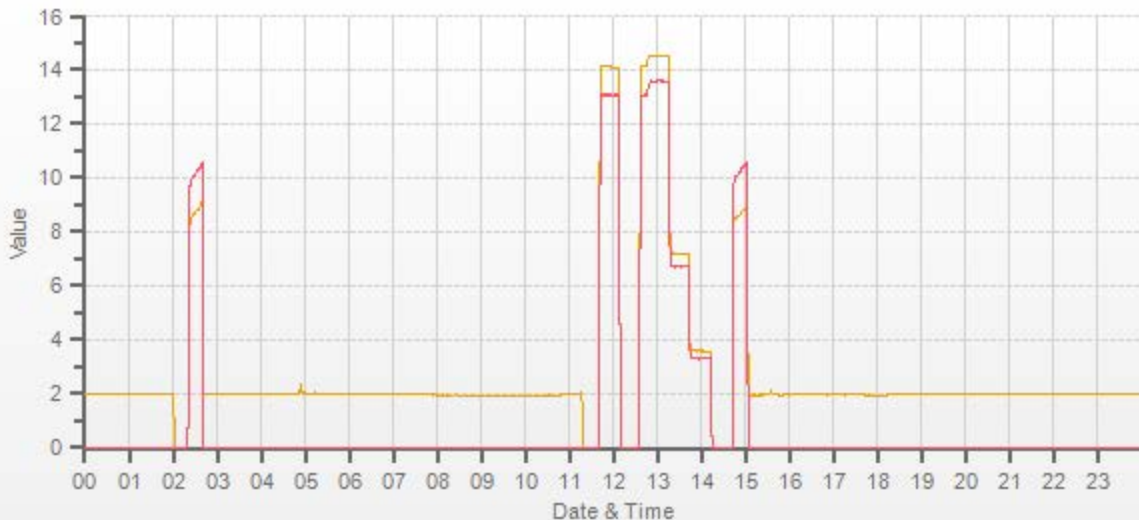
INITIAL	CH4	NMHC	THC	FINAL	CH4	NMHC	THC
	9.18	10.74	19.93		8.85	10.47	19.32

CALIBRATION:

FLOW RATE			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
(mL/min)			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	X	3100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X	X	X	X	X	X
3025	74.60	3100	14.51	13.50	28.01	14.15	13.08	27.22	14.52	13.59	28.10	1.026	1.032	1.029	0.999	0.993	0.997
3063	37.30	3100	7.26	6.75	14.01	n/a	n/a	n/a	7.22	6.74	13.96	n/a	n/a	n/a	1.005	1.001	1.003
3081	18.60	3100	3.62	3.37	6.98	n/a	n/a	n/a	3.59	3.35	6.94	n/a	n/a	n/a	1.008	1.005	1.006

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT	Comments:	
CH4	1.000	1.001	-0.1%	Sample inlet filter was changed.	
NMHC	1.000	1.007	-0.1%		
THC	1.000	1.004	-0.1%		
				Use Zero Chrom?	Yes



CAL-LICA-2023004-01690

Thermo 5030i SHARP Monitor Calibration

Date: <u>April 22, 2023</u>	Performed By/Reviewer: <u>Alex Yakupov</u> <u>Chris Wesson</u>
Company: <u>LICA</u>	Start Time (mst): <u>14:28</u>
Station Name/Location: <u>Lac La Biche</u>	End Time (mst): <u>16:39</u>
Previous Audit Date: <u>March 18, 2023</u>	Calibration Purpose: <u>Quarterly</u>
Parameter: <u>PM 2.5</u>	Weather Conditions: <u>A few clouds</u>

SHARP 5030i Information and Status:

Serial Number: <u>CM 17071016</u>	Filter Tape Counter: <u>306</u>
-----------------------------------	---------------------------------

Reference Standards:

Air Flow		Manometer		Orifice		Pressure:		Temp / RH:	
Make:	<u>DeltaCal</u>	<u>DeltaCal</u>	<u>DeltaCal</u>	<u>Fisher Scientific</u>		<u>Vaisala HMP76B</u>			
Model:	<u>DC1</u>	<u>DC1</u>	<u>DC1</u>	<u>FB 61291</u>		<u>HMP 76B</u>			
Serial Number:	<u>177246</u>	<u>177246</u>	<u>177246</u>	<u>130168457</u>		<u>T1640130</u>			
Expiry Date:	<u>September 7, 2023</u>	<u>September 7, 2023</u>	<u>September 7, 2023</u>	<u>February 28, 2024</u>		<u>June 14, 2023</u>			

Ambient Temperature (°C)

	As Found:			As Left: (same as found if acceptable)			Temp Limit: ± 2°C
	Reference	SHARP	Difference	Reference	SHARP	Difference	
#1	6.40	5.8	0.6	6.20	6.2	0.0	
#2	6.40	5.8	0.6	6.20	6.2	0.0	
#3	6.60	5.9	0.7	6.20	6.2	0.0	
Average	6.5	5.8	0.6	6.2	6.2	0.0	

Ambient Relative Humidity (%RH)

	As Found:			As Left: (same as found if acceptable)			RH Limit: ± 2 %RH
	Reference	SHARP	Offset (ZERO)	Reference	SHARP	Offset (ZERO)	
#1	34.10	32.5	1.6	33.30	33.3	0.0	
#2	34.10	32.6	1.5	33.30	33.3	0.0	
#3	34.10	32.6	1.5	33.30	33.3	0.0	
Average	34.1	32.6	1.5	33.3	33.3	0.0	

Flow Temperature (°C)

	As Found:			As Left: (same as found if acceptable)			Temp Limit: ± 2°C
	Reference	SHARP	Difference	Reference	SHARP	Difference	
#1	20.60	20.8	-0.2	20.60	20.8	-0.2	
#2	20.60	20.8	-0.2	20.60	20.8	-0.2	
#3	20.60	20.8	-0.2	20.60	20.8	-0.2	
Average	20.6	20.8	-0.2	20.6	20.8	-0.2	

Barometric Pressure (mmHg)

	As Found:			As Left: (same as found if acceptable)			BP Limit: ± 2 mmHg
	Reference	SHARP	Difference	Reference	SHARP	Difference	
#1	712.0	712.0	2.0	712.0	712.0	0.0	

Nephelometer Relative Humidity (%RH)

	As Found:			As Left: (same as found if acceptable)			RH Limit: ± 2 %RH
	Reference	SHARP	Difference	Reference	SHARP	Difference	
#1	16.40	16.1	0.3	16.40	16.1	0.3	

Nephelometer Temperature (%RH)

	As Found:			As Left: (same as found if acceptable)			Temp Limit: ± 2°C
	Reference	SHARP	Difference	Reference	SHARP	Difference	
#1	23.40	23.2	0.2	23.40	23.2	0.2	

Nephelometer Source Level

	As Found:		As Left: (same as found if acceptable)		IRED Limit (as found): 60-70 mA Adjusted IRED Limit (as left): 65 mA
	Variable	Value	Variable	Value	
	IRED	64	IRED	64	
	SRC LEVEL	47	SRC LEVEL	47	

Detector Calibration (Auto)

Detector Auto Calibration Completed: <u>YES</u>	As Left:
	Variable Value
	HIGH VOLT <u>1400</u>
	BETA REF TH <u>300</u>
	ALPHA TH <u>790</u>
	DIFF HV <u>5</u>

Mass Coefficient (Auto)

Zero		Span		Foil Set: CM1597
Variable	Value	Variable	Value	
MASS COEF	<u>6949.3</u>	MASS COEF	<u>7047.6</u>	
FOIL VALUE	<u>1328</u>	FOIL VALUE	<u>1328</u>	
Beta Avg	<u>9608</u>	Beta Avg	<u>7958</u>	
difference	<u>Foil set # 9258</u>	difference	<u>1.4</u>	

Flow Calibration (L/min)

	As Found:			As Left: (same as found if acceptable)			Flow Limit: 16.67 ± 0.33 L/min
	Reference	SHARP	Difference	Reference	SHARP	Difference	
#1	16.61	16.67	-0.06	16.67	16.67	0.00	
#2	16.61	16.67	-0.06	16.67	16.67	0.00	
#3	16.62	16.67	-0.05	16.67	16.67	0.00	
Average	16.61	16.67	-0.06	16.67	16.67	0.00	

Leak Check (L/min)

	Without Leak Check Adapter			With leak Check Adapter			Leak Limit: 0.08 L/min
	Reference	SHARP	Difference	Reference	SHARP	Difference	
#1	16.67	16.67	0.00	16.53	16.66	-0.13	
					LEAK RATE:	<u>-0.13</u>	

Meteorological System Checklist



Date:	April 22, 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):	6.9		
Station - Ambient Temperature (°C):	6.2		
Temperature Difference (°C):	0.7		
BAROMETRIC PRESSURE SENSOR CHECK			
Reference Barometer ID:	Fisher Scientific / FB 61291 / #130168457/ Feb 28, 2024		
Reference Pressure - Units/Reading:	millibar	950	
Station Pressure - Units/Reading:	millibar	952	
Pressure Tolerance +/- 15% of error:	808 - 1093	-0.21%	
RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK			
Reference Hygrometer ID:	Vaisala / HM70 / #T1640130/ Jun 14, 2023		
Reference Hygrometer % RH- Reading:	30.10		
Station Hygrometer % RH- Reading:	33.30		
RH Tolerance +/- 15% of difference:	25.59 - 34.62	-10.6%	
ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK			
WIND SPEED		WIND DIRECTION	
Previous check date:	March 18, 2023	Previous check date:	March 18, 2023
Wind Speed Observed (kph):	1-10	Wind Direction Observed:	S
Wind speed on Data Logger (kph):	7.9	Wind Direction on Data Logger:	S
	Annual audit: May 9, 2022	Wind Direction Pass/Fail?:	Pass
Comments			
Station (Trailer) temperature vs Reference gauge: 24.3 vs 24.9 - passed.			



Meteorological Sensor Audit/Calibration

Location Information

Company: LICA
 Audit Location: Lac La Biche
 Audit Date: May 9, 2022
 Calibration Purpose: installation

Performed By: Alex Yakupov
 Reviewed By: Chris Wesson
 Start/End Time (mst): 17:47/18:45
 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 (SO₂)	Bureau Veritas EMS SOP-00209: Ambient Sulphur Monitoring
HYDROGEN SULPHIDE (H₂S)	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 (NO_x), NITRIC OXIDE (NO) & NITROGEN DIOXIDE (NO₂)	Bureau Veritas EMS SOP-00213: Ambient NO/NO₂/NO_x 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