



Lakeland Industry & Community Association

APRIL 2021

Monthly Ambient Air Quality Monitoring Report

LICA-202104

Operation and Maintenance:

Bureau Veritas Canada

Data Validation and Report:

Lakeland Industry & Community Association

May 13, 2021

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May 13, 2021

Alberta Environment and Parks (AEP)

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RE: LICA – April 2021 Monthly Ambient Air Quality Monitoring Report

Enclosed is the April 2021 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

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This report has been reviewed by Michael Bisaga of the LICA Airshed.

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LIST OF ACRONYMS

AAAQOs	Alberta Ambient Air Quality Objectives
AEP	Alberta Environment and Parks
AMD	Air Monitoring Directive
AT	Ambient Temperature
BP	Barometric Pressure
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
Station ID		1174	1248	1250
Coordinates		54.41402,	54.604935,	54.215961,
		-110.23316	-110.452637	-111.503304
Continuous Monitoring Parameter	SO2	√	√	√
	TRS	√		
	H2S		√	√
	THC	√	√	√
	CH4	√	√	√
	NMHC	√	√	√
	NOX	√	√	√
	NO	√	√	√
	NO2	√	√	√
	O3	√		√
	PM2.5	√		√
	TPX	√	√	√
	RH	√	√	√
	BP		√	√
	PRECIPTATION		√	√
	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

Monitoring Notes during the Month of April 2021

Cold Lake South

- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) where applicable.
- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters failed to meet the 90% operational uptime requirement this month. This requirement was not met because the power was disconnected on March 26 in order to relocate the station and replace the meteorological tower. All monitoring channels were back online on either April 19 or April 20. (**Notification-LICA-20210324**)
- **All parameters:** Two hours of data were discarded due to a power outage that affected data quality on April 23. The scheduled daily zero-span check result, which occurred at hour 13, was not recorded in the calibration log due to the power outage.
- **TRS:** A repeat multi-point calibration was performed on April 26 to correct analyzer drift in daily span results. Five hours of downtime were recorded due to this additional quality check.
- **WS/WD/STDWD:** The wind channels were put offline while a new wind tower was being installed on April 23. Five hours of downtime were recorded due to this event.

Tamarack (formerly Maskwa)

- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) where applicable.
- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters met the 90% operational uptime requirement.

- **O3:** A shut down calibration was performed on April 6 before maintenance was performed on the analyzer to correct analyzer drift in daily zero results. A successful post-repair calibration was completed afterwards. One hour of downtime was recorded due to this event.
- **RH/TPX:** On April 13, the Rotronic HC2A-S3, s/n: 20257103, was removed for factory maintenance and re-certification. A new Rotronic HC2A-S3, s/n: 002043316, was installed and audited.

St. Lina Station

- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) where applicable.
- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters met the 90% operational uptime requirement.
- **H2S:** The analyzer failed the scheduled and repeat span check on April 18. The span results were back within the limit on April 19 and 20. A successful repeat multi-point calibration was completed on April 21 to verify analyzer accuracy and to correct the drift issue. As the analyzer passed the April 21 calibration, no data were discarded. However, five hours of downtime were recorded due to additional quality checks.
- **THC/CH4/NMHC:** Repeat zero-span checks were completed on April 1 hour 20 and April 6 hour 6 to investigate failed zero responses. The check results were right on the target concentrations. As no issues were observed after April 6 and the analyzer passed the monthly calibration check on April 15, no further actions were required.

Integrated Sampling

All the integrated sampling analytical results are included in the April 2021 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 North American Pollution Surveillance schedule (NAPS).
 - The VOCs sampling program was paused for the AQM station relocation project on March 26. The program was resumed on April 19.
 - Two samples were collected this month: on April 22 and 28.
- **PAHs Sampling System:**
 - The PAH sampler is programmed to collect a 24-hour sample of air every sixth day as per the North American Pollution Surveillance schedule (NAPS).
 - The PAHs sampling program was paused for the AQM station relocation project on March 26. The program was resumed on April 19.
 - Two samples were collected this month: on April 22 and 28.
- **Partisol Sampling System:**
 - The Partisol sampler is programmed to collect a 24-hour sample of air every sixth day as per the North American Pollution Surveillance schedule (NAPS).
 - The Partisol sampling program was paused for the AQM station relocation project on March 26. The program was resumed on April 19.
 - Two samples were collected this month: on April 22 and 28.
- **Passive Sampling System:**
 - The passive sample filters were installed at the stations between March 30 and April 1, and were removed between April 28 and April 30.
 - A total of 9 duplicate samples were collected: 2 for H2S, 3 for SO2, 2 for NO2 and 2 for O3.

- No samples were collected at passive station #40. This station was co-located with the PAMS and was decommissioned when the PAMS was removed from the Bonnyville-East location in early January. Passive H₂S monitoring may return to this location in 2021 to provide ongoing measurements in the vicinity of known sources including the nearby sewage lagoons and Jessie Lake.
- **PAC Sampling System:**
 - The PAC sampling program began in April 2019, and is designed to collect a 2-month integrated sample.
 - The PAC sampling program is temporary paused as the EC laboratory is currently closed.

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

At the Tamarack station, nearby trees exceed the height allowed under section 2.3 of the wind speed and wind direction siting criteria in Chapter 3 of the AMD. This non-conformance was documented in the updated station site documents. Further actions are being considered including siting the wind sensor so that it meets AMD Chapter 3 siting requirements, or obtaining written authorization from "The Director" to deviate from AMD Siting requirements.

At the Cold Lake South station, the height of the existing wind sensor tower is shorter than the AMD requirements listed in section 2.3 of the wind speed and wind direction siting criteria in Chapter 3 of the AMD. This non-conformance was documented in the updated station site documents. Further actions are being considered including siting the wind sensor so that it meets AMD Chapter 3 siting requirements, or obtaining written authorization from "The Director" to deviate from AMD Siting requirements.

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 Mike Bisaga in accordance with Chapter 9 of the Air Monitoring Directive (AMD 2016).

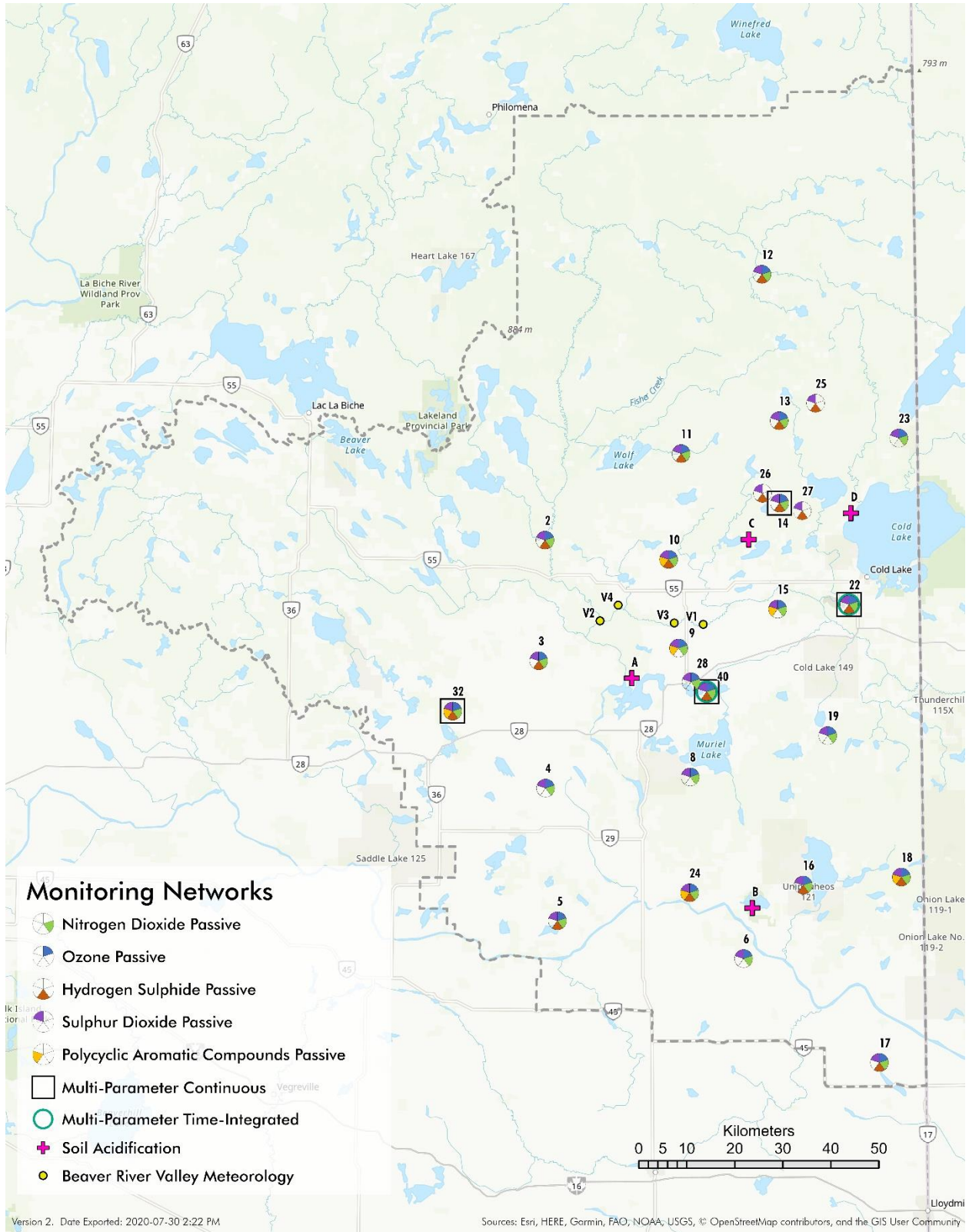
I certify that I have reviewed and verified this report and that the information is complete, accurate and representative of the monitoring results, reporting timeframe and the specified analysis, summarization and reporting requirements. I also certify that at the time of this report's submission, all air data have been electronically uploaded to Alberta's Ambient Air Quality Data Warehouse as required by the AMD, with the exception of electronic submission for the results of intermittent samples, Partisol samples and passive samples. Electronic submission for the intermittent sample, Partisol sample and passive sample results will be performed during the preparation of the April 2021 integrated sampling report. 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 13, 2021

Map of LICA Continuous Monitoring Network



CONTINUOUS NETWORK EQUIPMENT AND MONITORING RESULTS SUMMARY

Cold Lake South Station

Equipment Operation Summary

Parameter	Make / Model	Serial Number	Calibration Date
Sulphur Dioxide (SO₂)	Thermo / 43i-TLE	1180260018	April 19, 2021
<ul style="list-style-type: none"> No data were collected between March 26 hour 9 and April 19 hour 9 as the power to the air monitoring station was shut down for the station relocation. Four hundred forty-two hours of downtime were recorded in April. 			
Total Reduced Sulphur (TRS)	Thermo / 450i	812728560	April 19, 2021
<ul style="list-style-type: none"> No data were collected between March 26 hour 9 and April 19 hour 8 as the power to the air monitoring station was shut down for the station relocation. Four hundred forty-one hours of downtime were recorded in April. A repeat multi-point calibration was performed on April 26 to correct analyzer drift in daily span results. Five hours of downtime were recorded due to this additional quality check. 			
Total Hydrocarbons / Methane/ Non-methane Hydrocarbons (THC/CH₄/NMHC)	Thermo / 55i	1180030034	April 19, 2021
<ul style="list-style-type: none"> No data were collected between March 26 hour 9 and April 19 hour 15 as the power to the air monitoring station was shut down for the station relocation. Four hundred forty-eight hours of downtime were recorded in April. 			
Oxide of Nitrogen / Nitric Oxide/ Nitrogen Dioxide (NO_x/NO/NO₂)	Thermo / 42i	1505664393	April 19, 2021
<ul style="list-style-type: none"> No data were collected between March 26 hour 9 and April 19 hour 9 as the power to the air monitoring station was shut down for the station relocation. Four hundred forty-two hours of downtime were recorded in April. 			
Ozone (O₃)	Thermo / 49i	700419951	April 19, 2021
<ul style="list-style-type: none"> No data were collected between March 26 hour 9 and April 19 hour 15 as the power to the air monitoring station was shut down for the station relocation. Four hundred forty-eight hours of downtime were recorded in April. 			

Parameter	Make / Model	Serial Number	Calibration Date
Particulate Matter 2.5 (PM2.5)	Teledyne T640	575	April 20, 2021
<ul style="list-style-type: none"> No data were collected between March 26 hour 9 and April 20 hour 7 as the power to the air monitoring station was shut down for the station relocation. Four hundred sixty-four hours of downtime were recorded in April. 			
Parameter	Make / Model	Serial Number	System Check Date
Relative Humidity (RH)	Rotronic HC2A-S3	20404750	April 20, 2021
<ul style="list-style-type: none"> No data were collected between March 26 hour 9 and April 20 hour 8 as the power to the air monitoring station was shut down for the station relocation. Four hundred sixty-five hours of downtime were recorded in April. 			
Barometric Pressure (BP)	Met One / Part 092	Y23368	April 20, 2021
<ul style="list-style-type: none"> No data were collected between March 26 hour 9 and April 20 hour 8 as the power to the air monitoring station was shut down for the station relocation. Four hundred sixty-five hours of downtime were recorded in April. 			
Ambient Temperature (AT)	Rotronic HC2A-S3	20404750	April 20, 2021
<ul style="list-style-type: none"> No data were collected between March 26 hour 9 and April 20 hour 8 as the power to the air monitoring station was shut down for the station relocation. Four hundred sixty-five hours of downtime were recorded in April. 			
Station Temperature (ST)	BV-supplied	n/a	n/a
<ul style="list-style-type: none"> No data were collected between March 26 hour 9 and April 20 hour 8 as the power to the air monitoring station was shut down for the station relocation. Four hundred sixty-five hours of downtime were recorded in April. 			
Wind Speed (WS) / Wind Direction (WD)/ Stand Deviation Wind Direction (STDWD)	RM Young 05305AQ	177354	April 20, 2021
<ul style="list-style-type: none"> Wind direction data contained in this report represents where the wind is coming from. An installation calibration was performed on April 20, 2021. No data were collected between March 26 hour 9 and April 20 hour 9 as the power to the air monitoring station was shut down for the station relocation. Four hundred sixty-six hours of downtime were recorded in April. The wind channels were put offline while a new wind tower was being installed on April 23. Five hours of downtime were recorded due to this event. 			

Monitored Data Summary for Cold Lake South Station

Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.1	0	2	April 26 at hour 8	7.3	SW	0.3	April 26	38.3	36.2
TRS (ppb)	-	-	-	-	-	-	0.1	0	1	April 19 at hour 22	N	N	0.7	April 20	37.8	35.5
NOx (ppb)	-	-	-	-	-	-	3.1	0	28	April 21 at hour 5	0	N	4.8	April 21	38.3	36.0
NO (ppb)	-	-	-	-	-	-	0.4	0	8	April 21 at hour 5	0	N	0.9	April 21	38.3	36.0
NO2 (ppb)	159	-	-	0	-	-	2.6	0	20	April 21 at hour 5	0	N	4.3	April 24	38.3	36.0
O3 (ppb)	76	-	-	0	-	-	33.4	4.3	53.1	April 21 at hour 13	13.2	SW	39.0	April 26	37.5	35.5
THC (ppm)	-	-	-	-	-	-	1.92	1.80	2.28	April 25 at hour 5	0.6	WSW	1.98	April 20	37.5	35.5
CH4 (ppm)	-	-	-	-	-	-	1.92	1.80	2.27	April 25 at hour 5	0.6	WSW	1.97	April 20	37.5	35.5
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.10	April 20 at hour 5	NA	NA	0.01	April 20	37.5	35.5
PM2.5 (µg/m3)	80	29	-	0	0	-	4.6	1	10	April 21 at hour 6	0.9	SE	6.4	April 26	35.3	35.0
RH (%)	-	-	-	-	-	-	53.1	17	96	April 29 at hour 1	2	SW	81.3	April 28	35.1	35.1
BP (millibar)	-	-	-	-	-	-	949	933	963	April 20 at hour 9	NA	NA	956	April 29	35.1	35.1
Ext. Temp. (°C)	-	-	-	-	-	-	2.1	-9.2	21.2	April 30 at hour 14	20.3	WNW	13.4	April 30	35.1	35.1
Stn. Temp. (°C)	-	-	-	-	-	-	21.7	20.5	23.2	April 20 at hour 18	9.4	SW	22.1	April 25	35.1	35.1
WSV (km/hr)	-	-	-	-	-	-	3.1	0.0	21.2	April 21 at hour 20	21.2	N	12.8	April 22	34.3	33.6
WDV (sector)	-	-	-	-	-	-	321 (NW)	-	-	-	-	-	-	-	34.3	33.6

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

NA - Valid data unavailable

Alberta Ambient Air Quality Objectives (AAAQOs) Exceedances

The measured ambient air quality was within the AAAQOs for all monitored parameters.

Tamarack Station

Equipment Operation Summary

Parameter	Make / Model	Serial Number	Calibration Date
Sulphur Dioxide (SO2)	Thermo / 43i-TLE	1180930031	April 7, 2021
<ul style="list-style-type: none"> No issues were identified this month. 			
Hydrogen Sulphide (H2S)	Thermo / 450i	CM17360005	April 7, 2021
<ul style="list-style-type: none"> No issues were identified this month. 			
Oxide of Nitrogen / Nitric Oxide/ Nitrogen Dioxide (NOx/NO/NO2)	Thermo / 42i	1180930028	April 7, 2021
<ul style="list-style-type: none"> No issues were identified this month. 			
Ozone (O3)	Thermo / 49iQ	1202068570	April 6, 2021
<ul style="list-style-type: none"> A shut down calibration was performed on April 6 before maintenance was performed on the analyzer to correct analyzer drift in daily zero results. A successful post-repair calibration was completed afterwards. One hour of downtime was recorded due to this event. 			
Total Hydrocarbons / Methane/ Non-methane Hydrocarbons (THC/CH4/NMHC)	Thermo / 55i	1314057759	April 6, 2021
<ul style="list-style-type: none"> No issues were identified this month. 			
Particulate Matter 2.5 (PM2.5)	Thermo / Sharp 5030	CM 2209	April 7, 2021
<ul style="list-style-type: none"> No issues were identified this month. 			

Parameter	Make / Model	Serial Number	System Check Date
Relative Humidity (RH)	Rotronic / HC2A-S3	20257103 / 20433166	April 13, 2021
<ul style="list-style-type: none"> On April 13, the Rotronic HC2A-S3, s/n: 20257103, was removed for factory maintenance and re-certification. A new Rotronic HC2A-S3, s/n: 002043316, was installed and audited. 			
Ambient Temperature (AT)	Rotronic / HC2A-S3	20257103 / 20433166	April 13, 2021
<ul style="list-style-type: none"> No issues were identified this month. 			
Barometric Pressure (BP)	Met One / Part 090D	F4997	February 2, 2021
<ul style="list-style-type: none"> No issues were identified this month. 			
Station Temperature (ST)	BV-supplied	n/a	n/a
<ul style="list-style-type: none"> No issues were identified this month. 			
Precipitation (PRECIP)	Met One / Part 387	F4481	February 2, 2021
<ul style="list-style-type: none"> No issues were identified this month. 			
Wind Speed (WS) / Wind Direction (WD)/ Standard Deviation Wind Direction (STDWD)	RM Young / 05305VK	161465	February 2, 2021
<ul style="list-style-type: none"> Wind direction data contained in this report represents where the wind is coming from. The last wind system calibration was completed on September 10, 2020. 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	15	April 8 at hour 1	7.7	NW	2.3	April 4	100.0	95.0
H2S (ppb)	10	3	-	0	0	-	0.0	0	1	April 10 at hour 1	6.4	ESE	0.2	April 29	100.0	95.0
NOx (ppb)	-	-	-	-	-	-	2.9	0	31	April 8 at hour 1	7.7	NW	6.0	April 5	100.0	94.7
NO (ppb)	-	-	-	-	-	-	0.4	0	7	April 30 at hour 18	10.3	WNW	1.1	April 4	100.0	94.7
NO2 (ppb)	159	-	-	0	-	-	2.5	0	29	April 8 at hour 1	7.7	NW	5.5	April 8	100.0	94.7
O3 (ppb)	76	-	-	0	-	-	37.5	5.7	56.0	April 20 at hour 18	8.7	SW	44.5	April 21	99.9	94.6
THC (ppm)	-	-	-	-	-	-	1.93	1.84	2.83	April 16 at hour 7	0.9	WNW	2.08	April 15	100.0	95.1
CH4 (ppm)	-	-	-	-	-	-	1.93	1.84	2.39	April 16 at hour 7	0.9	WNW	2.01	April 15	100.0	95.1
NMHC (ppm)	-	-	-	-	-	-	0.01	0.00	0.45	April 16 at hour 7	0.9	WNW	0.07	April 15	100.0	95.1
PM2.5 (µg/m3)	80	29	-	0	0	-	4.2	0	67	April 20 at hour 6	1	WSW	9.3	April 15	100.0	99.9
RH (%)	-	-	-	-	-	-	51.6	15	100	April 4 at hour 19	6.1	NNW	79.8	April 28	99.7	99.7
BP (millibar)	-	-	-	-	-	-	938	919	958	April 13 at hour 7	1.7	ESE	956	April 13	100.0	100.0
Ext. Temp. (°C)	-	-	-	-	-	-	2.7	-9.1	19.4	April 16 at hour 16	7.1	NNW	12.7	April 30	99.7	99.7
Stn. Temp. (°C)	-	-	-	-	-	-	21.9	19.7	34.3	April 3 at hour 1	3.2	SSW	24.9	April 2	100.0	100.0
Precipitation (mm)*	-	-	-	-	-	-	7.2	0.0	1.1	April 27 at hour 10	6.4	E	0.2	April 27	100.0	100.0
WSV (km/hr)	-	-	-	-	-	-	1.9	0.1	21.2	April 30 at hour 13	21.2	W	10.6	April 22	100.0	100.0
WDV (sector)	-	-	-	-	-	-	322 (NW)	-	-	-	-	-	-	-	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 (AAAQOs) Exceedances

The measured ambient air quality was within the AAAQOs for all monitored parameters.

St. Lina Station

Equipment Operation Summary

Parameter	Make / Model	Serial Number	Calibration Date
Sulphur Dioxide (SO₂)	Thermo / 43i-TLE	1180930030	April 14, 2021
<ul style="list-style-type: none"> No issues were identified this month. 			
Hydrogen Sulphide (H₂S)	Thermo / 450i	CM18010058	April 21, 2021
<ul style="list-style-type: none"> A successful monthly calibration was completed on April 14. The analyzer failed the scheduled and repeat span check on April 18. The span results were back within the limit on April 19 and 20. A successful repeat multi-point calibration was completed on April 21 to verify analyzer accuracy and to correct the drift issue. As the analyzer passed the April 21 calibration, no data were discarded. However, five hours of downtime were recorded due to additional quality checks. 			
Oxide of Nitrogen / Nitric Oxide/ Nitrogen Dioxide (NO_x/NO/NO₂)	Thermo / 42i	1180930029	April 14, 2021
<ul style="list-style-type: none"> No issues were identified this month. 			
Total Hydrocarbons / Methane/ Non-methane Hydrocarbons (THC/CH₄/NMHC)	Thermo / 55i	1180930025	April 15, 2021
<ul style="list-style-type: none"> Repeat zero-span checks were completed on April 1 hour 20 and April 6 hour 6 to investigate failed zero responses. The check results were right on the target concentrations. As no issues were observed after April 6 and the analyzer passed the monthly calibration check on April 15, no further actions were required. 			
Ozone (O₃)	Thermo / 49i	1002240371	April 15, 2021
<ul style="list-style-type: none"> No issues were identified this month. 			
Particulate Matter 2.5 (PM_{2.5})	Thermo / Sharp 5030i	CM17091001	April 8, 2021
<ul style="list-style-type: none"> No issues were identified this month. 			

Parameter	Make / Model	Serial Number	System Check Date
Relative Humidity (RH)	Vaisala Oyj. Finland / HMP155	R2640785	December 23, 2020
<ul style="list-style-type: none"> No issues were identified this month. 			
Ambient Temperature (AT)	Vaisala Oyj. Finland / HMP155	R2640785	December 23, 2020
<ul style="list-style-type: none"> No issues were identified this month. 			
Barometric Pressure (BP)	Met One / Part 090D	F4998	December 23, 2020
<ul style="list-style-type: none"> No issues were identified this month. 			
Station Temperature (ST)	BV-supplied	n/a	n/a
<ul style="list-style-type: none"> No issues were identified this month. 			
Precipitation (PRECIP)	Met One / Part 387D	A23775	January 28, 2021
<ul style="list-style-type: none"> No issues were identified this month. 			
Wind Speed (WS) / Wind Direction (WD)/ Standard Deviation Wind Direction (STDWD)	RM Young / 05305VK	161466	March 16, 2021
<ul style="list-style-type: none"> Wind direction data contained in this report represents where the wind is coming from. The annual wind system calibration was completed on March 16, 2021. No issues were identified this month. 			

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	0.1	0	4	April 2 at hour 17	11.7	WSW	0.7	April 26	100.0	95.0
H2S (ppb)	10	3	-	0	0	-	0.1	0	1	April 5 at hour 14	17.8	WSW	0.5	April 18	99.3	94.3
NOx (ppb)	-	-	-	-	-	-	1.2	0	7	April 1 at hour 7	10.5	SSW	2.3	April 12	100.0	94.7
NO (ppb)	-	-	-	-	-	-	0.0	0	2	April 1 at hour 7	10.5	SSW	0.3	April 1	100.0	94.7
NO2 (ppb)	159	-	-	0	-	-	1.2	0	5	April 1 at hour 7	10.5	SSW	2.2	April 12	100.0	94.7
O3 (ppb)	76	-	-	0	-	-	41.7	23.1	54.7	April 14 at hour 20	7.7	S	50.7	April 15	100.0	95.0
THC (ppm)	-	-	-	-	-	-	1.85	1.77	2.11	April 13 at hour 1	10.2	ESE	1.93	April 13	99.7	94.8
CH4 (ppm)	-	-	-	-	-	-	1.85	1.77	2.11	April 13 at hour 1	10.2	ESE	1.93	April 13	99.7	94.8
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.00	April 1 at hour 0	12.7	SSE	0.00	April 1	99.7	94.8
PM2.5 (µg/m3)	80	29	-	0	0	-	3.8	1	19	April 12 at hour 22	9.1	NNE	6.6	April 7	100.0	99.9
RH (%)	-	-	-	-	-	-	50.3	20	96	April 17 at hour 21	12.2	NNE	83.0	April 28	100.0	100.0
BP (millibar)	-	-	-	-	-	-	920	902	938	April 13 at hour 1	10.2	ESE	936	April 13	100.0	100.0
Ext. Temp. (°C)	-	-	-	-	-	-	3.7	-6.8	20.1	April 30 at hour 15	24.1	WNW	13.6	April 30	100.0	100.0
Stn. Temp. (°C)	-	-	-	-	-	-	22.8	20.4	24.9	April 1 at hour 13	12.8	SW	23.9	April 1	100.0	100.0
Precipitation (mm)*	-	-	-	-	-	-	5.6	0.0	0.7	April 10 at hour 21	11.8	N	0.1	April 28	100.0	100.0
WSV (km/hr)	-	-	-	-	-	-	3.2	0.4	34.8	April 30 at hour 12	34.8	WNW	16.1	April 22	100.0	100.0
WDV (sector)	-	-	-	-	-	-	308 (NW)	-	-	-	-	-	-	-	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

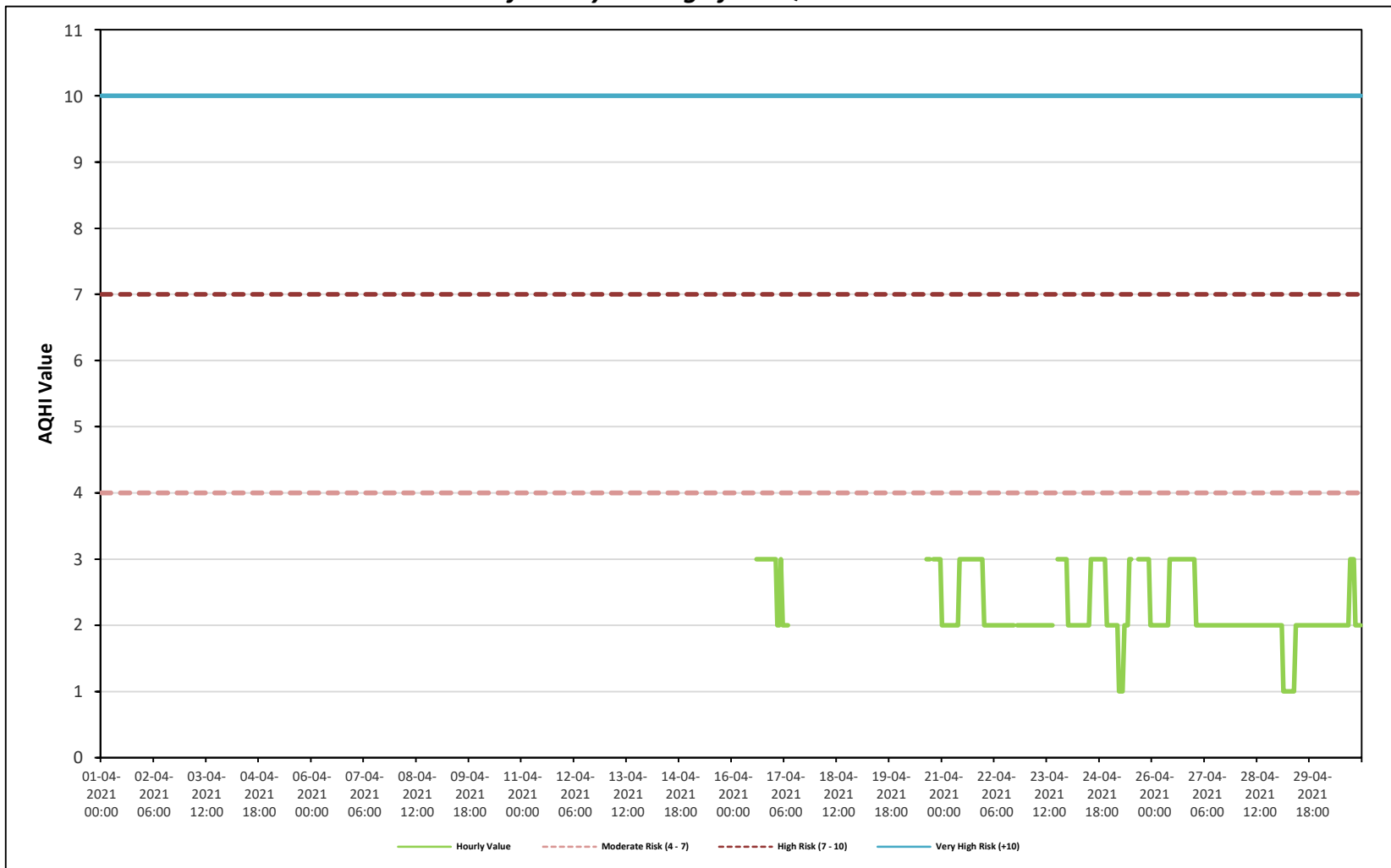
Alberta Ambient Air Quality Objectives (AAAQOs) Exceedances

The measured ambient air quality was within the AAAQOs for all monitored parameters.

TABLES AND CHARTS

COLD LAKE SOUTH STATION

Timeseries Chart of Hourly Average for AQHI - Cold Lake South Station





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Cold Lake South Station - April 2021

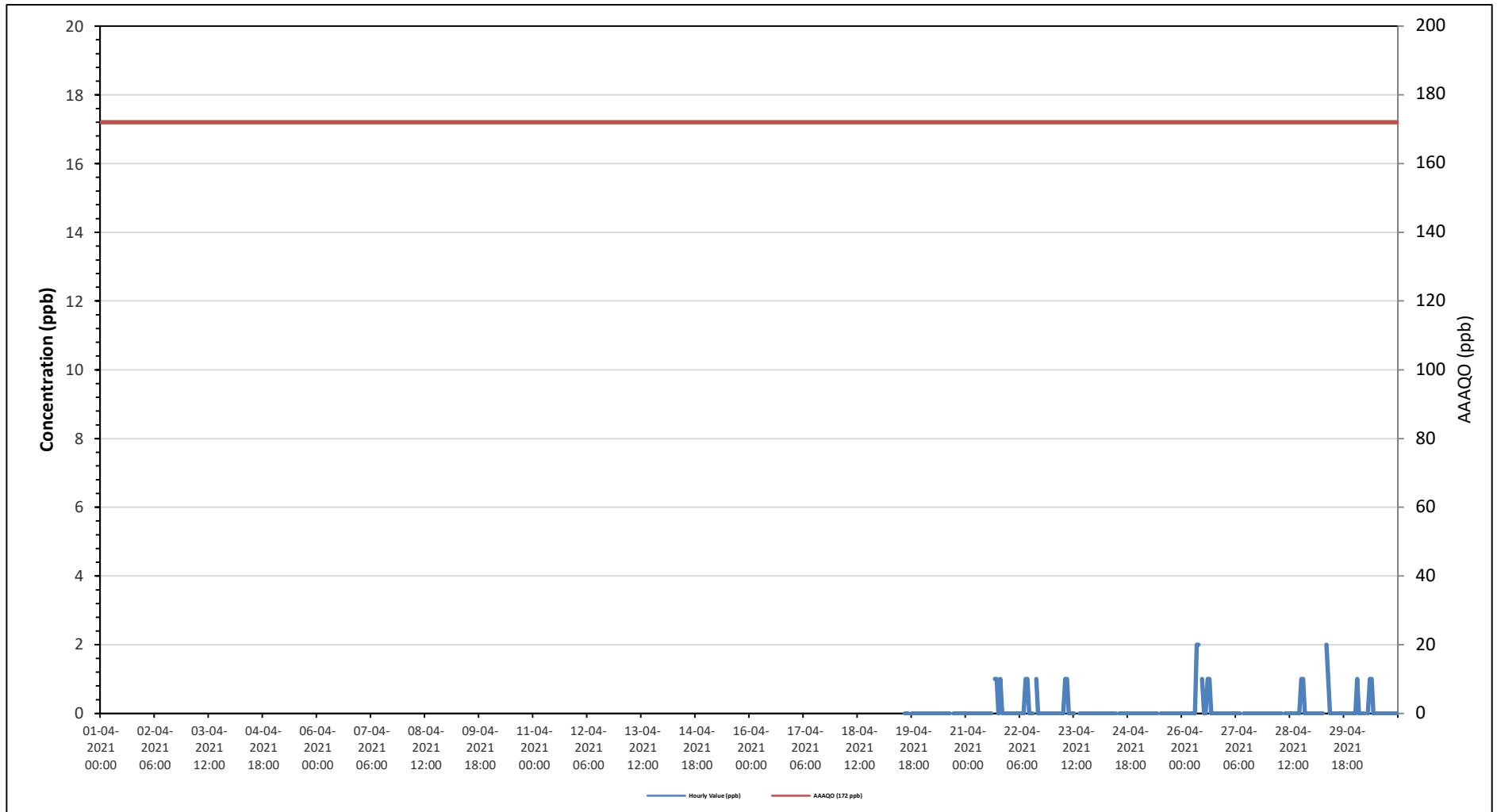
Summary of Hourly Averages

SULPHUR DIOXIDE (SO₂) in ppb

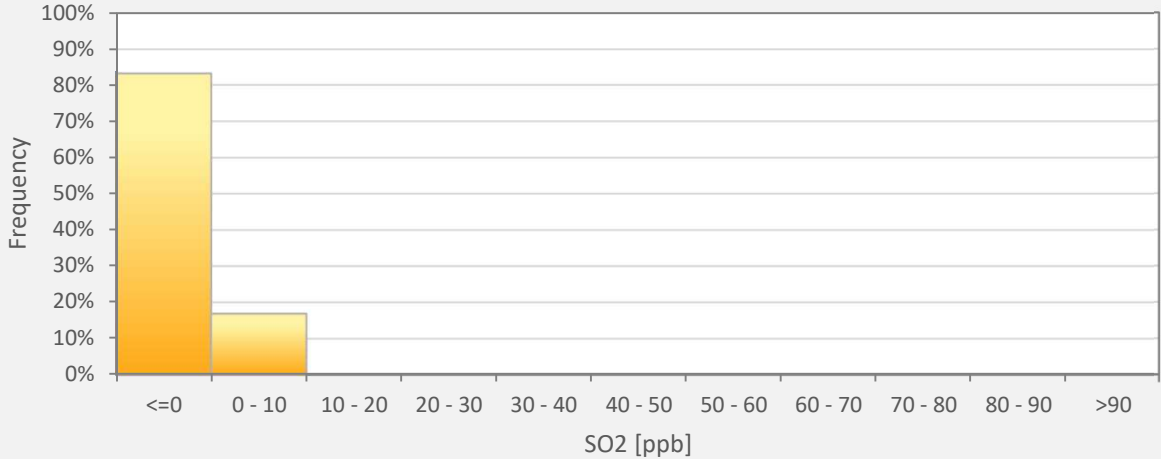
Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 172 ppb, 24-Hour 48 ppb, 30-Day 11 ppb																													
Number of 1-Hour Exceedences: 0						Number of 24-Hour Exceedences: 0						30-Day Exceedence: 0																	
Maximum Hourly Value: 2 ppb on April 26 at hour 8													Hours in Service: 720																
Maximum Daily Value: 0.3 ppb on April 26													Hours of Data: 261																
Minimum Hourly Value: 0 ppb on April 19 at hour 14													Hours of Missing Data: 444																
Minimum Daily Value: 0.0 ppb on April 20													Hours of Calibration: 15																
Monthly Average: 0.1 ppb													Operational Uptime: 38.3																
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23					
Apr 1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 5	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 6	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 7	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 8	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 12	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 13	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 14	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 15	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 16	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 17	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 18	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 19	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
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	1	0.1
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	1	0.1
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	1	0.1
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	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	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	2	0.3
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
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	1	0.1
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	2	0.1
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	0	0	1	0.1
Diurnal Maximum	0	1	0	0	0	0	0	1	2	2	1	1	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
Daiurnal Average	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.6	0.5	0.1	0.1	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.2	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										N	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.

Timeseries Chart of Hourly Average for SO2 - Cold Lake South Station



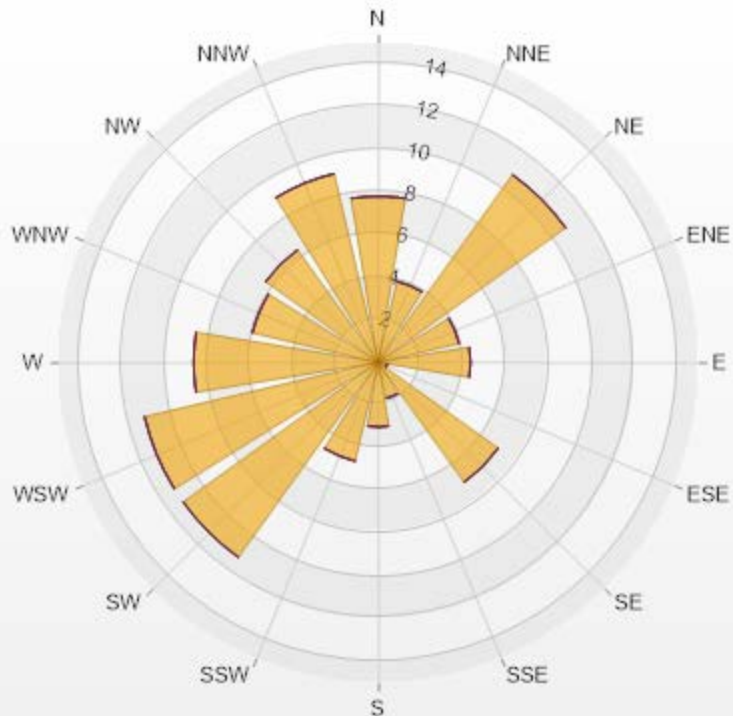
SO2[ppb] Histogram: Cold Lake South Monthly: 04-2021 1 Hr.



Classes	SO2
<=0	83.14%
0 - 10	16.86%
10 - 20	0.00%
20 - 30	0.00%
30 - 40	0.00%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Cold Lake South Poll.: Cold Lake South-SO2[ppb] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 32.22% Calm Avg: 0.00 [ppb]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	7.76	0	0	0	0	7.76
NNE	3.88	0	0	0	0	3.88
NE	10.78	0	0	0	0	10.78
ENE	3.88	0	0	0	0	3.88
E	4.31	0	0	0	0	4.31
ESE	0.43	0	0	0	0	0.43
SE	6.9	0	0	0	0	6.9
SSE	1.72	0	0	0	0	1.72
S	3.02	0	0	0	0	3.02
SSW	4.74	0	0	0	0	4.74
SW	11.21	0	0	0	0	11.21
WSW	11.21	0	0	0	0	11.21
W	8.62	0	0	0	0	8.62
WNW	6.03	0	0	0	0	6.03
NW	6.47	0	0	0	0	6.47
NNW	9.05	0	0	0	0	9.05
Summary	100	0	0	0	0	100



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% Icon Classes (ppb)

100 0-10

0 10-50

0 50-100

0 100-172

0 >172.0



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Cold Lake South Station - April 2021

Summary of Hourly Averages

TOTAL REDUCED SULPHUR (TRS) in ppb

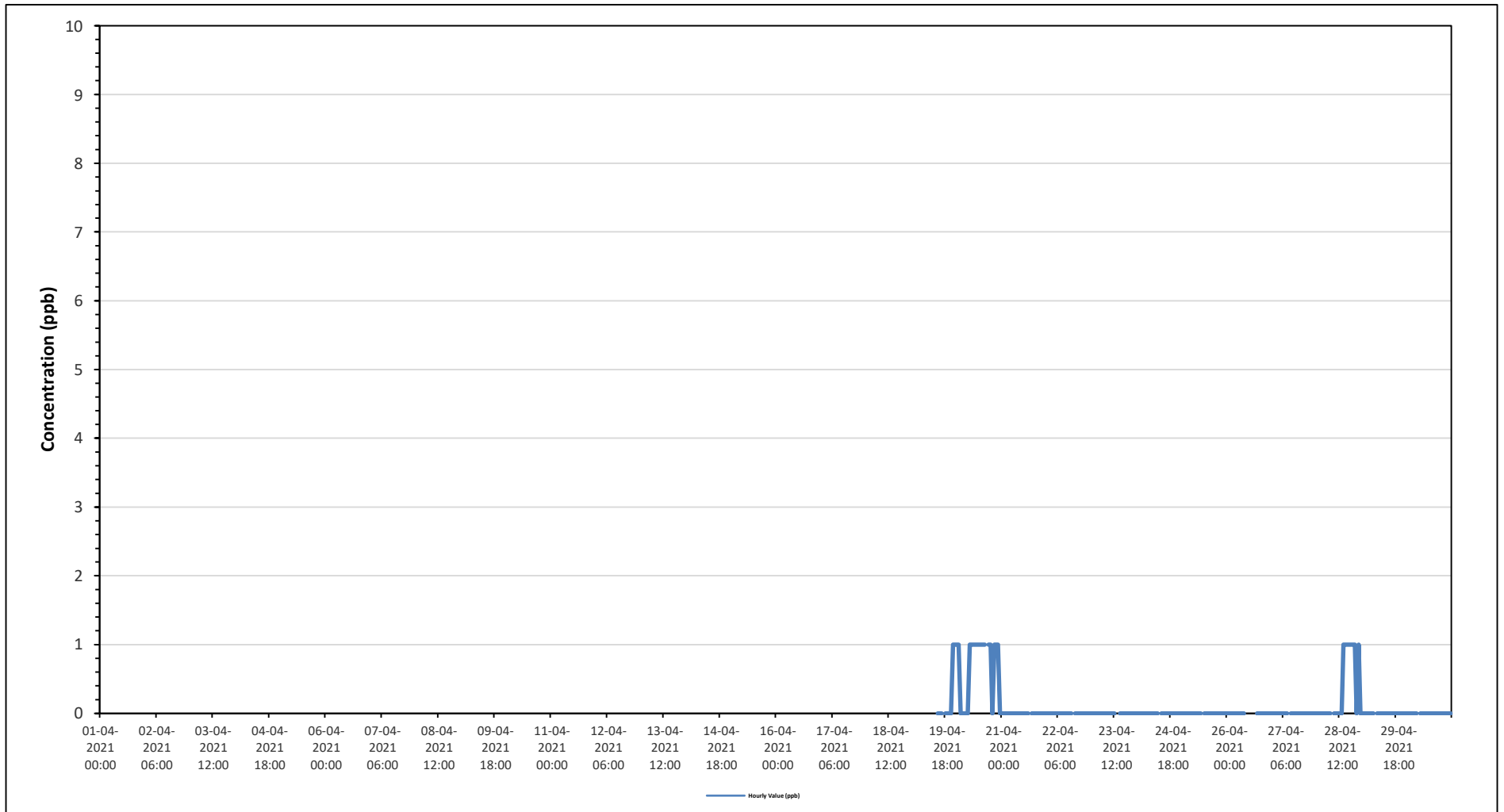
Maximum Hourly Value:	1 ppb on April 19 at hour 22	Hours in Service:	720
Maximum Daily Value:	0.7 ppb on April 20	Hours of Data:	256
Minimum Hourly Value:	0 ppb on April 19 at hour 14	Hours of Missing Data:	448
Minimum Daily Value:	0.0 ppb on April 21	Hours of Calibration:	16
Monthly Average:	0.1 ppb	Operational Uptime:	37.8

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	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 5	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 6	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 7	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 8	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 12	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 13	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 14	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 15	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 16	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 17	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 18	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 19	N	N	N	N	N	N	N	N	N	C	C	C	C	C	0	0	0	S	0	0	0	0	1	1	0	1	1	0
Apr 20	1	1	0	0	0	0	0	1	1	1	1	1	1	1	1	1	S	1	1	0	1	1	1	0	0	1	0.7	0
Apr 21	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	0.0
Apr 22	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	0.0
Apr 23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	P	P	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	S	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	S	0	0	0	0	0	0	0	0	0	0	0.0
Apr 26	0	0	0	0	0	0	0	0	0	S	NRM	NRM	NRM	NRM	NRM	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Apr 27	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 28	0	0	0	0	0	0	0	0	S	0	0	0	0	0	1	1	1	1	1	1	1	1	0	1	0	0	1	0.3
Apr 29	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	0.0
Apr 30	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Diurnal Maximum	1.0	1.0	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	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Diurnal Average	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.3	0.1	0.1	0.1

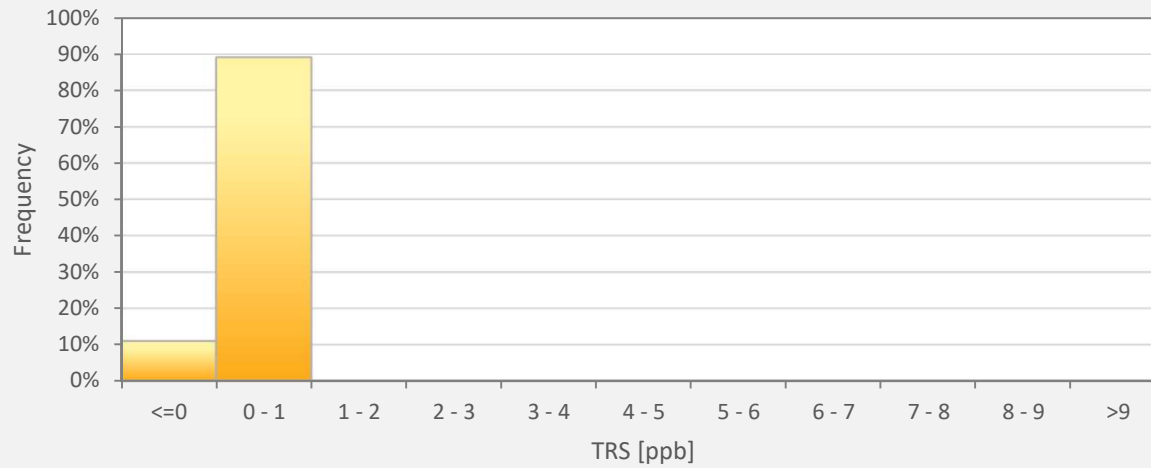
C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N No Data (Machine Not in Service)	Y Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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.

Timeseries Chart of Hourly Average for TRS - Cold Lake South Station



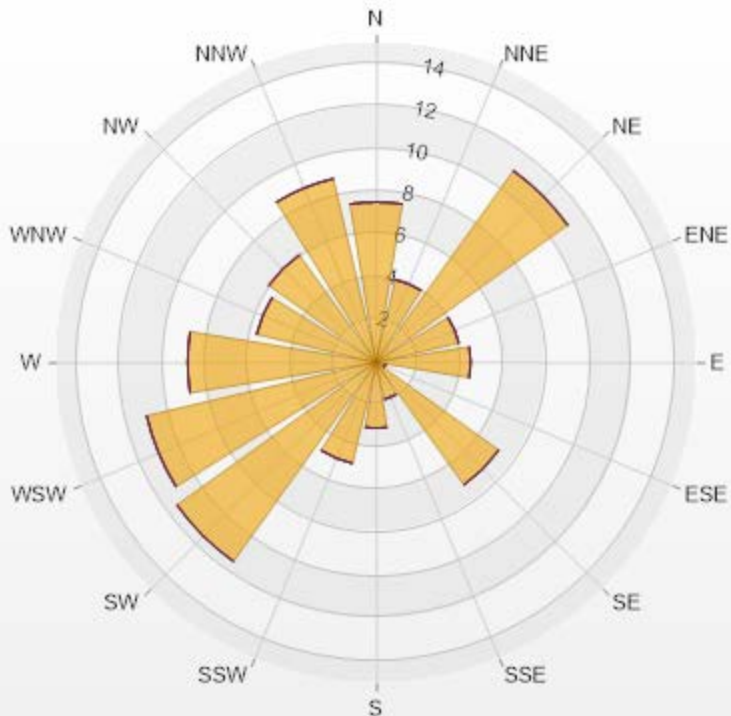
TRS[ppb] Histogram: Cold Lake South Monthly: 04-2021 1 Hr.



Classes	TRS
<=0	10.94%
0 - 1	89.06%
1 - 2	0.00%
2 - 3	0.00%
3 - 4	0.00%
4 - 5	0.00%
5 - 6	0.00%
6 - 7	0.00%
7 - 8	0.00%
8 - 9	0.00%
>9	0.00%

Wind: Cold Lake South Poll.: Cold Lake South-TRS[ppb] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 31.53% Calm Avg: 0.00 [ppb]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	7.49	0	0	0	0	7.49
NNE	3.96	0	0	0	0	3.96
NE	11.01	0	0	0	0	11.01
ENE	3.96	0	0	0	0	3.96
E	4.41	0	0	0	0	4.41
ESE	0.44	0	0	0	0	0.44
SE	7.05	0	0	0	0	7.05
SSE	1.76	0	0	0	0	1.76
S	3.08	0	0	0	0	3.08
SSW	4.85	0	0	0	0	4.85
SW	11.45	0	0	0	0	11.45
WSW	11.01	0	0	0	0	11.01
W	8.81	0	0	0	0	8.81
WNW	5.73	0	0	0	0	5.73
NW	6.17	0	0	0	0	6.17
NNW	8.81	0	0	0	0	8.81
Summary	100	0	0	0	0	100



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% Icon Classes (ppb)

100 0-2

0 2-5

0 5-10

0 10-50

0 >50.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - April 2021

Summary of Hourly Averages

OXIDES OF NITROGEN (NOx) in ppb

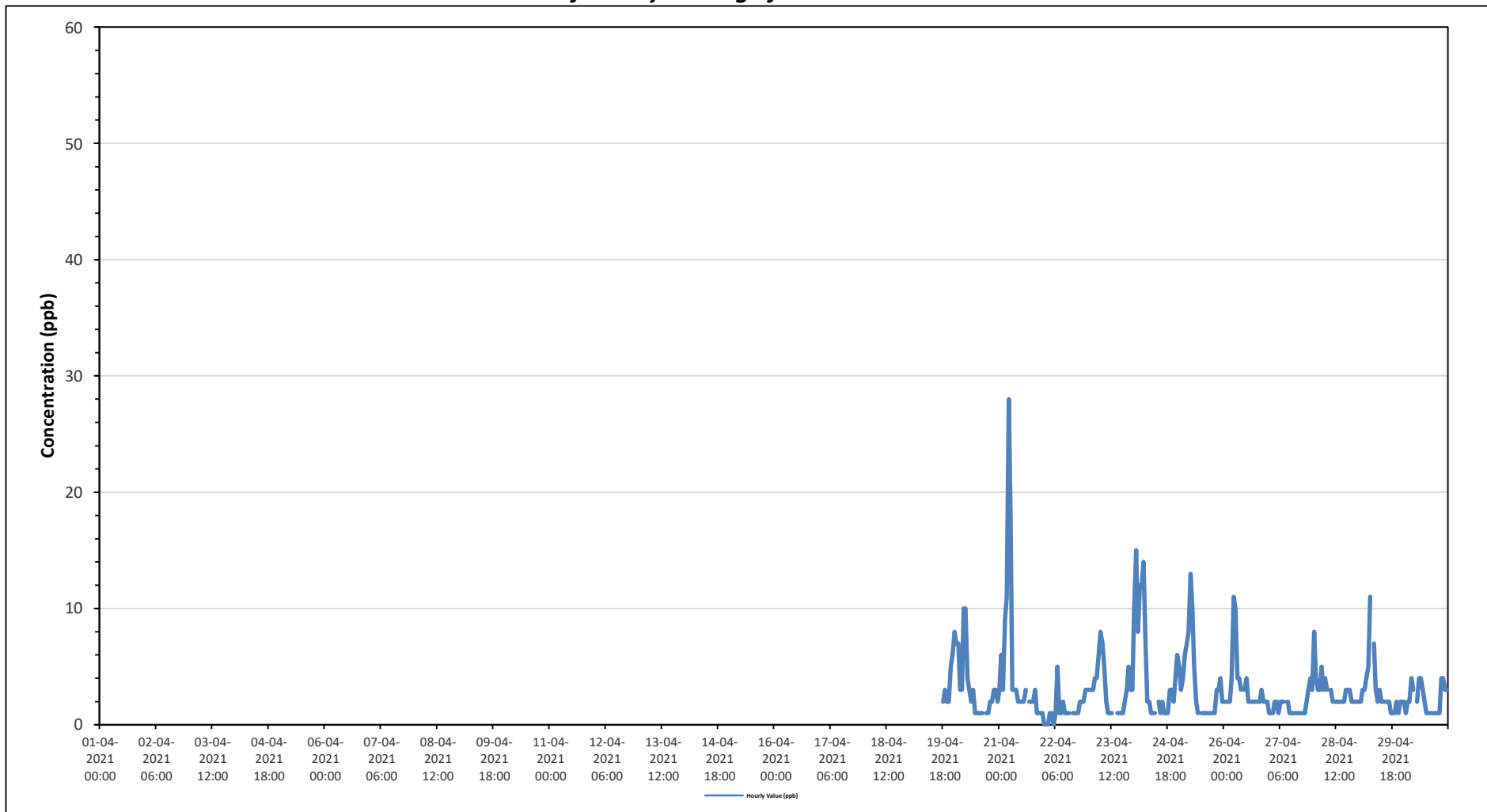
Maximum Hourly Value:	28 ppb on April 21 at hour 5	Hours in Service:	720
Maximum Daily Value:	4.8 ppb on April 21	Hours of Data:	259
Minimum Hourly Value:	0 ppb on April 22 at hour 0	Hours of Missing Data:	444
Minimum Daily Value:	1.3 ppb on April 22	Hours of Calibration:	17
Monthly Average:	3.1 ppb	Operational Uptime:	38.3

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23					
Apr 1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 5	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 6	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 7	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 8	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 12	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 13	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 14	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 15	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 16	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 17	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 18	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 19	N	N	N	N	N	N	N	N	N	N	C	C	C	C	C	C	1	S	2	3	2	2	5	6	1	6	-	-	-
Apr 20	8	7	7	3	3	10	10	4	3	2	3	1	1	1	1	1	S	1	1	2	2	3	3	2	1	10	3.4	-	-
Apr 21	3	6	3	9	11	28	18	3	3	3	2	2	2	2	3	S	2	2	2	3	1	1	1	1	1	28	4.8	-	-
Apr 22	0	0	0	1	1	0	1	5	1	1	2	1	1	1	S	1	1	1	1	2	2	2	3	3	0	5	1.3	-	-
Apr 23	3	3	3	4	4	6	8	7	5	2	1	1	1	P	P	1	1	1	1	2	3	5	3	3	1	8	3.1	-	-
Apr 24	10	15	8	12	12	14	7	2	2	1	1	1	S	2	1	2	1	1	1	3	3	2	4	6	1	15	4.8	-	-
Apr 25	5	3	4	6	7	8	13	10	5	2	1	S	1	1	1	1	1	1	1	3	3	4	2	1	13	3.7	-	-	-
Apr 26	2	2	2	2	4	11	10	4	4	3	S	3	4	2	2	2	2	2	2	3	2	2	2	2	2	11	3.2	-	-
Apr 27	1	1	1	2	2	1	2	2	2	S	2	1	1	1	1	1	1	1	1	1	2	3	4	3	1	4	1.6	-	-
Apr 28	8	4	3	3	5	3	4	3	S	3	2	2	2	2	2	2	2	3	3	3	2	2	2	2	2	8	2.9	-	-
Apr 29	2	2	3	3	4	5	11	S	7	3	2	3	2	2	2	2	1	1	1	2	1	2	1	2	1	11	2.8	-	-
Apr 30	2	1	2	2	4	3	S	2	4	4	3	2	1	1	1	1	1	1	1	1	4	4	3	3	1	4	2.2	-	-
Diurnal Maximum	10	15	8	12	12	28	18	10	7	4	3	3	4	2	3	2	3	3	3	4	5	5	6						
Diurnal Average	4.0	4.0	3.3	4.3	5.2	8.1	8.4	4.2	3.6	2.4	1.9	1.7	1.6	1.5	1.6	1.4	1.4	1.4	1.4	2.0	2.4	2.5	3.0	2.9					

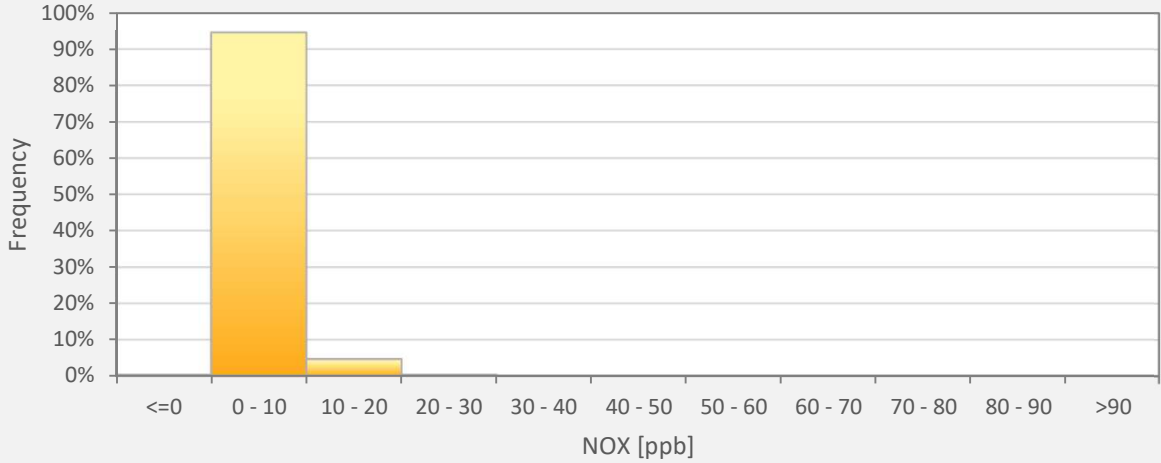
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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.

Timeseries Chart of Hourly Average for NOx - Cold Lake South Station



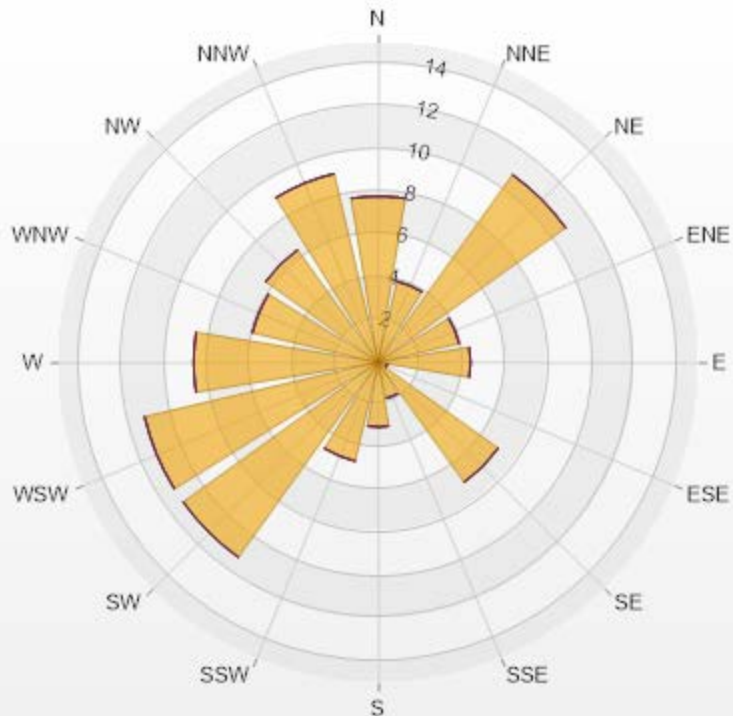
NOX[ppb] Histogram: Cold Lake South Monthly: 04-2021 1 Hr.



Classes	NOX
<=0	0.39%
0 - 10	94.59%
10 - 20	4.63%
20 - 30	0.39%
30 - 40	0.00%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Cold Lake South Poll.: Cold Lake South-NOX[ppb] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 32.22% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	7.76	0	0	0	0	7.76
NNE	3.88	0	0	0	0	3.88
NE	10.78	0	0	0	0	10.78
ENE	3.88	0	0	0	0	3.88
E	4.31	0	0	0	0	4.31
ESE	0.43	0	0	0	0	0.43
SE	6.9	0	0	0	0	6.9
SSE	1.72	0	0	0	0	1.72
S	3.02	0	0	0	0	3.02
SSW	4.74	0	0	0	0	4.74
SW	11.21	0	0	0	0	11.21
WSW	11.21	0	0	0	0	11.21
W	8.62	0	0	0	0	8.62
WNW	6.03	0	0	0	0	6.03
NW	6.47	0	0	0	0	6.47
NNW	9.05	0	0	0	0	9.05
Summary	100	0	0	0	0	100



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% Icon Classes (ppb)

100  0-30

0  30-50

0  50-76

0  76-159

0  >159.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - April 2021

Summary of Hourly Averages

NITRIC OXIDE (NO) in ppb

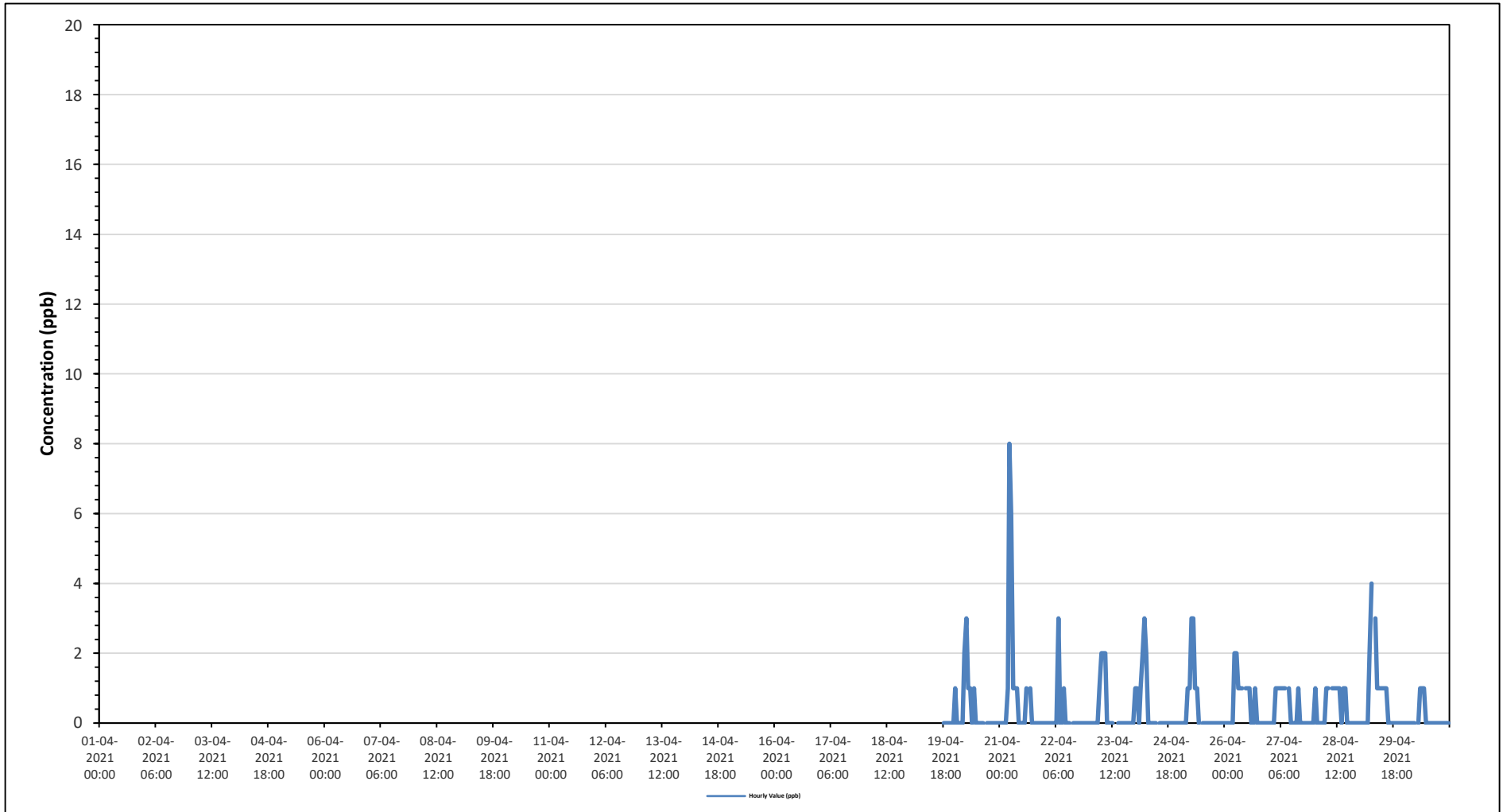
Maximum Hourly Value:	8 ppb on April 21 at hour 5	Hours in Service:	720
Maximum Daily Value:	0.9 ppb on April 21	Hours of Data:	259
Minimum Hourly Value:	0 ppb on April 19 at hour 16	Hours of Missing Data:	444
Minimum Daily Value:	0.1 ppb on April 30	Hours of Calibration:	17
Monthly Average:	0.4 ppb	Operational Uptime:	38.3

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23				
Apr 1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 5	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 6	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 7	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 8	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 12	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 13	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 14	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 15	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 16	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 17	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 18	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 19	N	N	N	N	N	N	N	N	N	N	C	C	C	C	C	C	0	S	0	0	0	0	0	0	0	0	0	-
Apr 20	1	0	0	0	0	2	3	1	1	0	1	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0
Apr 21	0	0	0	0	1	8	6	1	1	1	0	0	0	0	1	S	1	0	0	0	0	0	0	0	0	0	0	0
Apr 22	0	0	0	0	0	0	0	3	0	0	1	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0
Apr 23	0	0	0	0	0	1	2	2	2	0	0	0	0	P	P	0	0	0	0	0	0	0	0	0	0	0	0	0
Apr 24	1	1	0	1	2	3	2	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apr 25	0	0	0	0	1	1	3	3	1	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apr 26	0	0	0	0	0	2	2	1	1	1	S	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Apr 27	0	0	0	1	1	1	1	1	1	S	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Apr 28	1	0	0	0	0	0	1	1	S	1	1	1	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0
Apr 29	0	0	0	0	0	2	4	S	3	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Apr 30	0	0	0	0	0	0	S	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diurnal Maximum	1	1	0	1	2	8	6	3	3	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
Diurnal Average	0.3	0.1	0.0	0.2	0.5	1.8	2.4	1.3	1.1	0.6	0.6	0.3	0.3	0.3	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

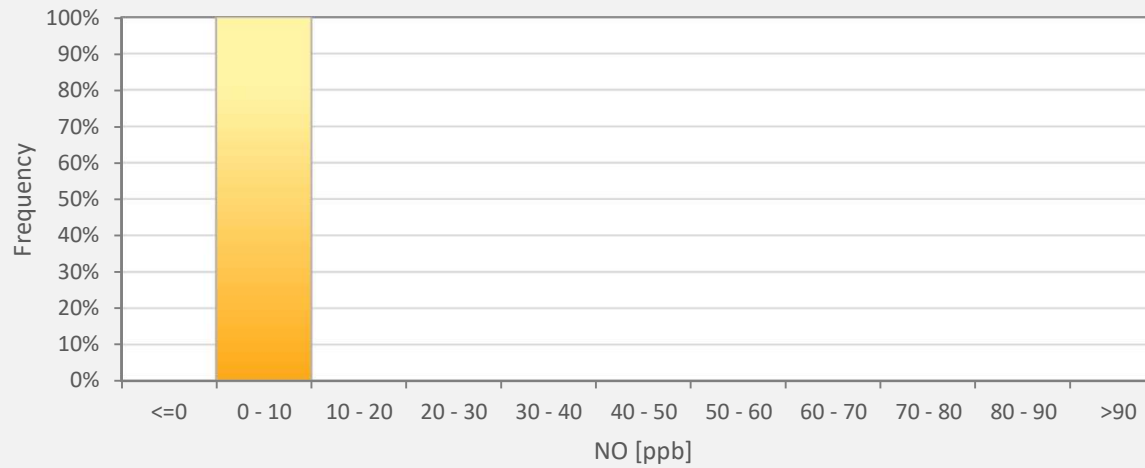
C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N No Data (Machine Not in Service)	Y Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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.

Timeseries Chart of Hourly Average for NO - Cold Lake South Station



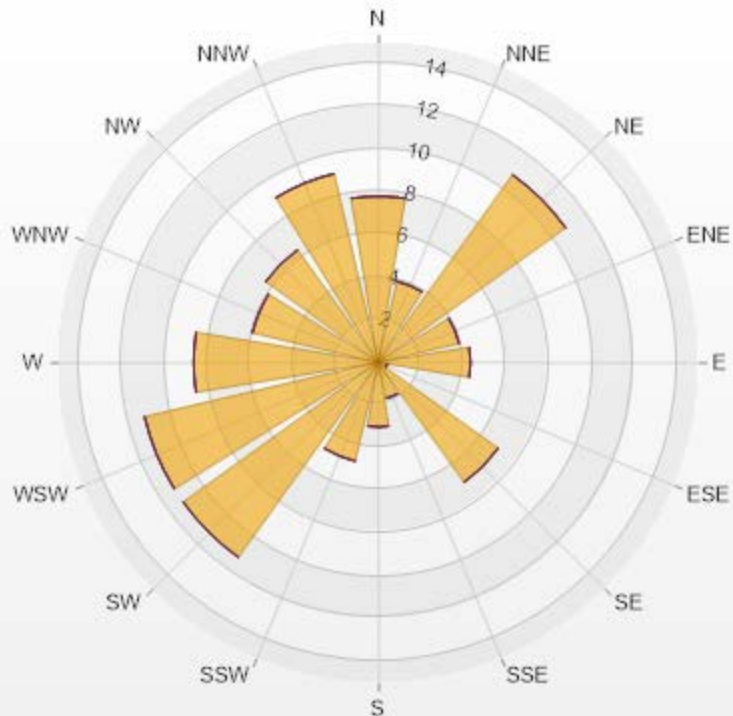
NO[ppb] Histogram: Cold Lake South Monthly: 04-2021 1 Hr.



Classes	NO
<=0	0.00%
0 - 10	100.00%
10 - 20	0.00%
20 - 30	0.00%
30 - 40	0.00%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Cold Lake South Poll.: Cold Lake South-NO[ppb] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 32.22% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	7.76	0	0	0	0	7.76
NNE	3.88	0	0	0	0	3.88
NE	10.78	0	0	0	0	10.78
ENE	3.88	0	0	0	0	3.88
E	4.31	0	0	0	0	4.31
ESE	0.43	0	0	0	0	0.43
SE	6.9	0	0	0	0	6.9
SSE	1.72	0	0	0	0	1.72
S	3.02	0	0	0	0	3.02
SSW	4.74	0	0	0	0	4.74
SW	11.21	0	0	0	0	11.21
WSW	11.21	0	0	0	0	11.21
W	8.62	0	0	0	0	8.62
WNW	6.03	0	0	0	0	6.03
NW	6.47	0	0	0	0	6.47
NNW	9.05	0	0	0	0	9.05
Summary	100	0	0	0	0	100



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% Icon Classes (ppb)

100

0-30

0

30-50

0

50-76

0

76-159

0

>159.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

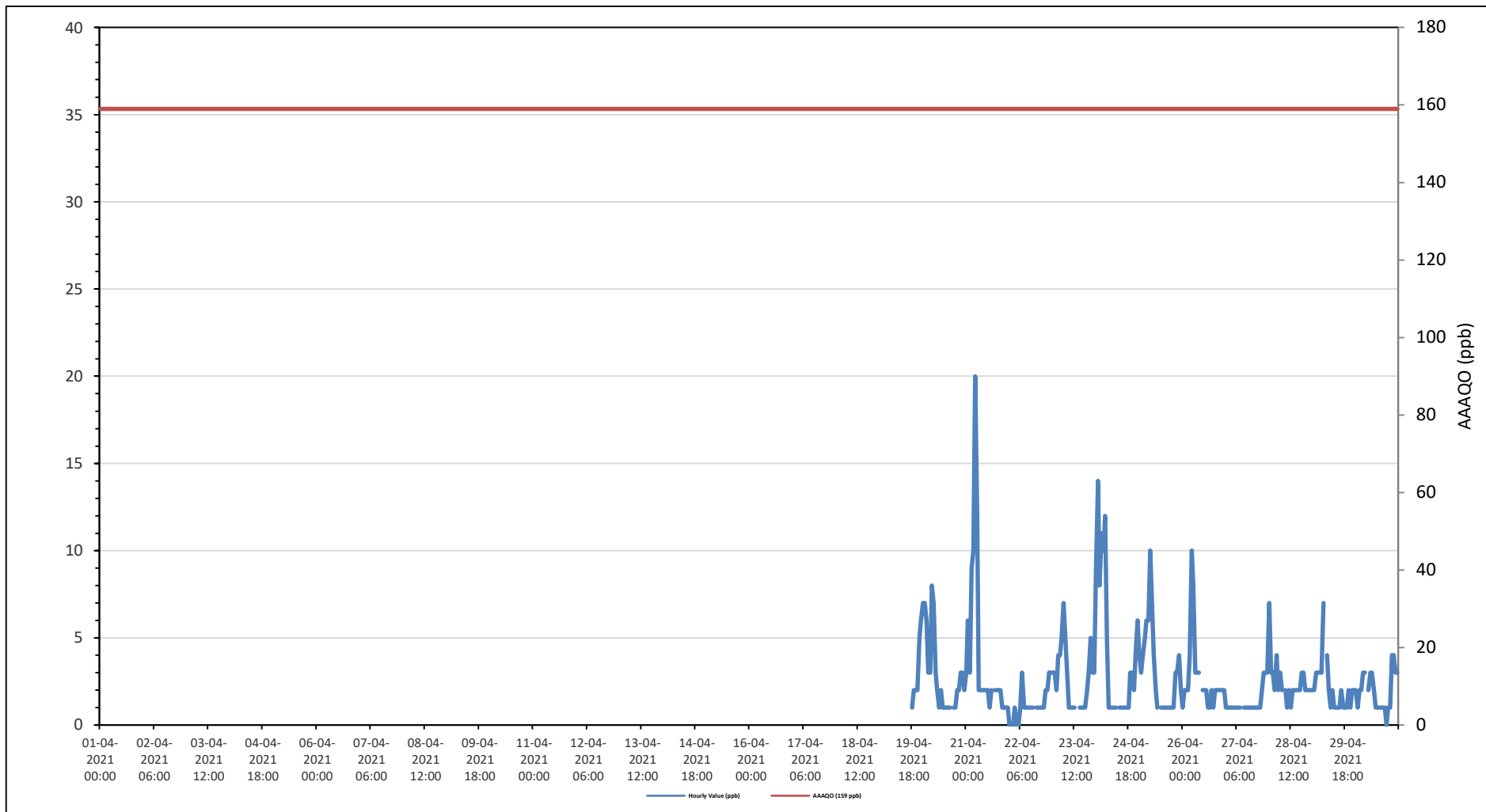
Cold Lake South Station - April 2021

Summary of Hourly Averages

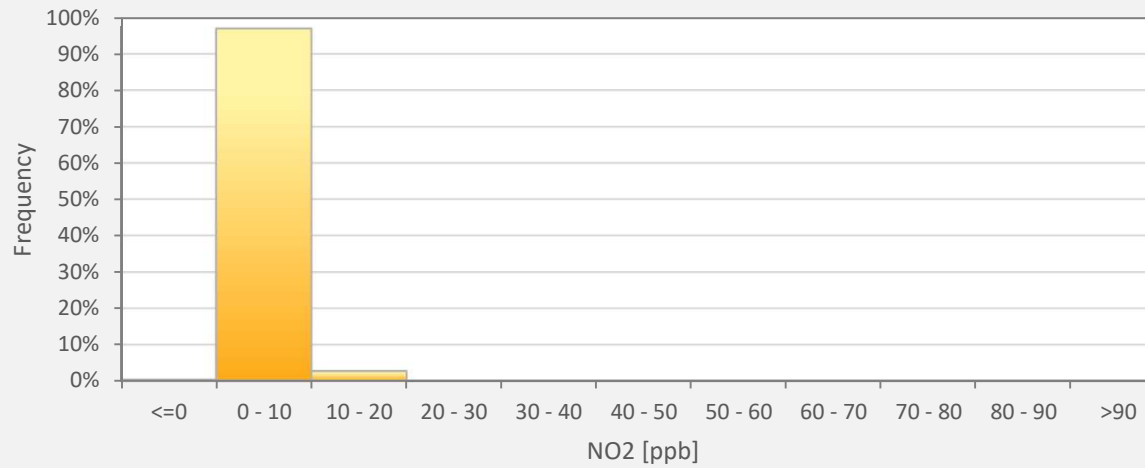
NITROGEN DIOXIDE (NO₂) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 159 ppb																													
Number of 1-Hour Exceedences: 0																													
Maximum Hourly Value: 20 ppb on April 21 at hour 5													Hours in Service: 720																
Maximum Daily Value: 4.3 ppb on April 24													Hours of Data: 259																
Minimum Hourly Value: 0 ppb on April 22 at hour 0													Hours of Missing Data: 444																
Minimum Daily Value: 1.1 ppb on April 22													Hours of Calibration: 17																
Monthly Average: 2.6 ppb													Operational Uptime: 38.3																
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23					
Apr 1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 5	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 6	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 7	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 8	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 12	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 13	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 14	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 15	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 16	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 17	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 18	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 19	N	N	N	N	N	N	N	N	N	N	C	C	C	C	C	C	C	1	S	1	2	2	2	5	6	1	6	-	
Apr 20	7	7	6	3	3	8	7	3	2	1	2	1	1	1	1	1	S	1	1	2	2	3	3	2	1	8	3.0		
Apr 21	3	6	3	9	10	20	12	2	2	2	2	2	2	1	2	S	2	2	2	2	1	1	1	1	1	20	3.9		
Apr 22	0	0	0	1	0	0	1	3	1	1	1	1	1	1	S	1	1	1	1	1	2	2	3	3	0	3	1.1		
Apr 23	3	3	2	4	4	5	7	5	3	1	1	1	1	1	P	P	1	1	1	1	2	3	5	3	3	1	7	2.7	
Apr 24	9	14	8	11	10	12	5	1	1	1	1	1	S	1	1	1	1	1	1	1	3	3	2	4	6	1	14	4.3	
Apr 25	4	3	4	5	6	6	10	7	4	2	1	S	1	1	1	1	1	1	1	1	3	3	4	2	1	10	3.1		
Apr 26	1	2	2	2	4	10	8	3	3	3	S	2	2	2	1	1	2	1	2	2	2	2	2	2	1	10	2.7		
Apr 27	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	2	3	3	1	3	1.3		
Apr 28	7	3	3	2	4	2	3	2	S	2	1	2	1	2	2	2	2	2	3	3	2	2	2	2	1	7	2.4		
Apr 29	2	2	3	3	3	3	7	S	4	2	1	2	1	1	1	1	2	1	1	1	2	1	2	2	1	7	2.1		
Apr 30	2	1	2	2	3	3	S	2	3	3	2	1	1	1	1	1	1	0	1	1	4	4	3	3	0	4	2.0		
Diurnal Maximum	9	14	8	11	10	20	12	7	4	3	2	2	2	2	2	2	2	2	3	3	4	5	5	6					
Daiurnal Average	3.5	3.8	3.1	3.9	4.4	6.4	6.1	2.9	2.4	1.8	1.3	1.4	1.2	1.2	1.2	1.1	1.4	1.1	1.3	1.8	2.3	2.5	2.9	2.9					
C	Monthly Calibration										S	Daily Zero-Span Check										Q	Quality Assurance						
K	Collection Error										N	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.																													

Timeseries Chart of Hourly Average for NO2 - Cold Lake South Station



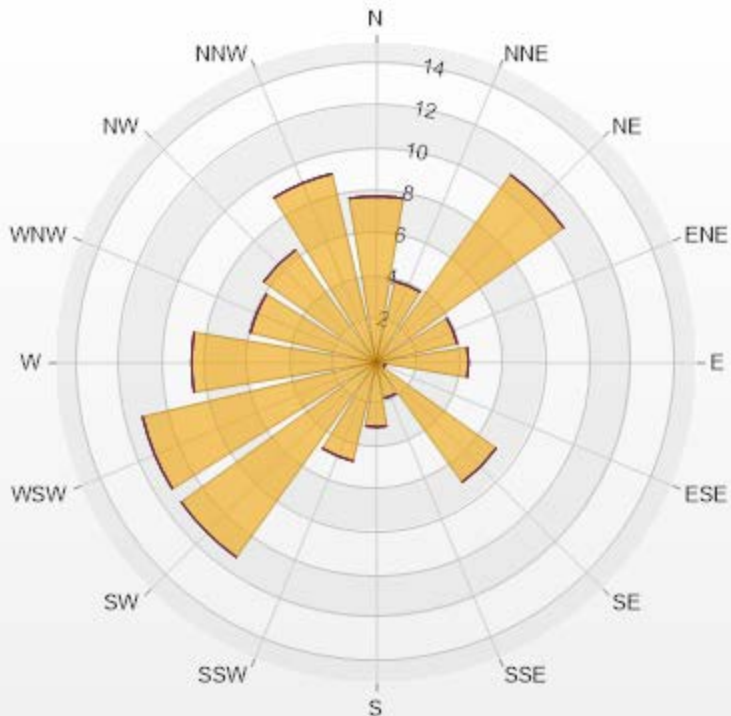
NO2[ppb] Histogram: Cold Lake South Monthly: 04-2021 1 Hr.



Classes	NO2
<=0	0.39%
0 - 10	96.91%
10 - 20	2.70%
20 - 30	0.00%
30 - 40	0.00%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Cold Lake South Poll.: Cold Lake South-NO2[ppb] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 32.22% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	7.76	0	0	0	0	7.76
NNE	3.88	0	0	0	0	3.88
NE	10.78	0	0	0	0	10.78
ENE	3.88	0	0	0	0	3.88
E	4.31	0	0	0	0	4.31
ESE	0.43	0	0	0	0	0.43
SE	6.9	0	0	0	0	6.9
SSE	1.72	0	0	0	0	1.72
S	3.02	0	0	0	0	3.02
SSW	4.74	0	0	0	0	4.74
SW	11.21	0	0	0	0	11.21
WSW	11.21	0	0	0	0	11.21
W	8.62	0	0	0	0	8.62
WNW	6.03	0	0	0	0	6.03
NW	6.47	0	0	0	0	6.47
NNW	9.05	0	0	0	0	9.05
Summary	100	0	0	0	0	100



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% Icon Classes (ppb)

100  0-30

0  30-50

0  50-76

0  76-159

0  >159.0



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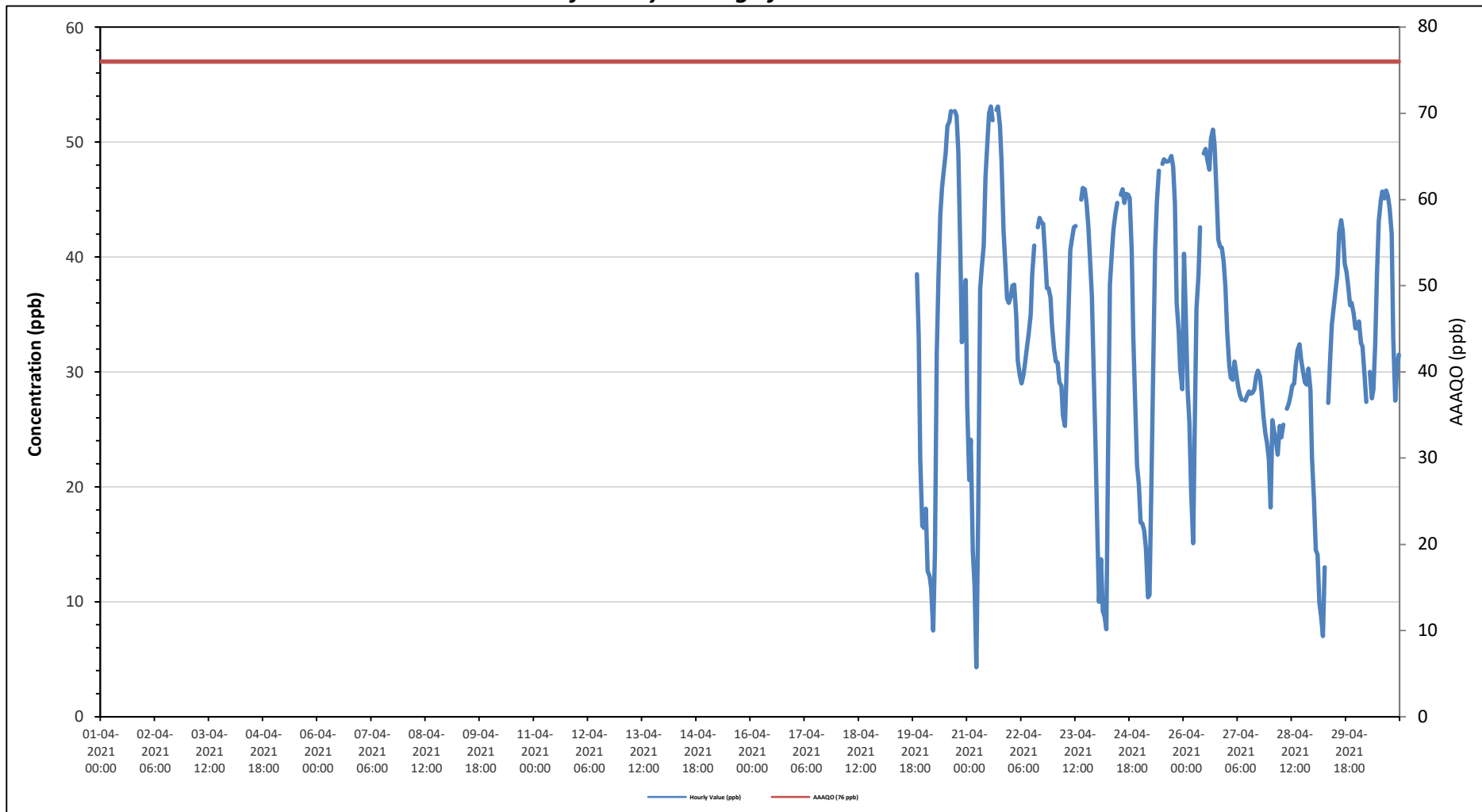
Cold Lake South Station - April 2021

Summary of Hourly Averages

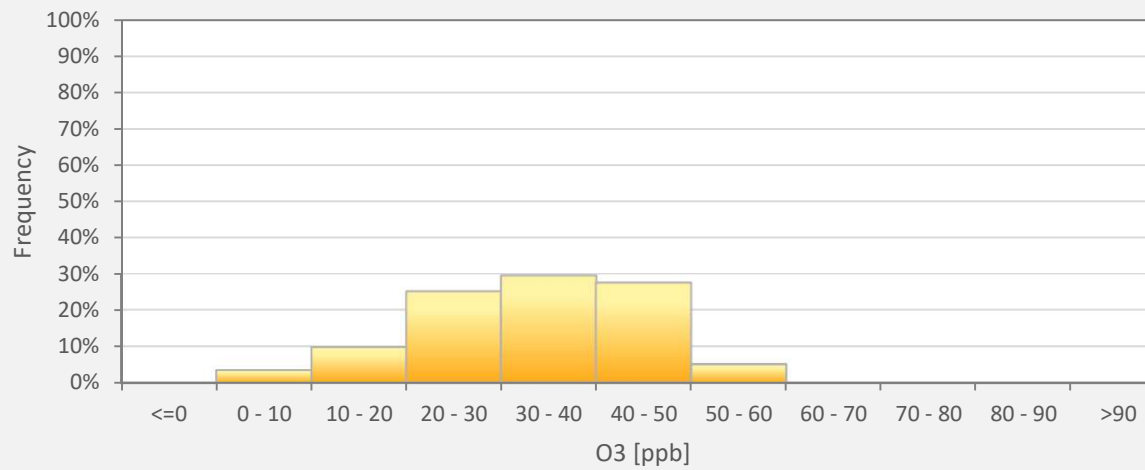
OZONE (O₃) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 76 ppb																													
Number of 1-Hour Exceedences: 0																													
Maximum Hourly Value: 53.1 ppb on April 21 at hour 13												Hours in Service: 720																	
Maximum Daily Value: 39.0 ppb on April 26												Hours of Data: 256																	
Minimum Hourly Value: 4.3 ppb on April 21 at hour 5												Hours of Missing Data: 450																	
Minimum Daily Value: 27.2 ppb on April 28												Hours of Calibration: 14																	
Monthly Average: 33.4 ppb												Operational Uptime: 37.5																	
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23					
Apr 1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 5	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 6	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 7	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 8	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 12	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 13	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 14	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 15	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 16	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 17	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 18	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 19	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	C	C	C	C	38.5	33.0	22.3	16.6	16.6	38.5	-	
Apr 20	16.4	18.1	12.7	12.2	11.2	7.5	14.5	31.6	38.4	43.7	46.1	47.6	49.0	51.4	51.8	52.7	S	52.7	52.3	49.1	40.3	32.6	35.7	38.0	7.5	52.7	35.0		
Apr 21	27.0	20.6	24.1	14.4	11.4	4.3	17.2	37.2	39.0	41.0	47.0	49.8	52.5	53.1	51.9	S	52.8	53.1	51.4	48.4	42.3	39.4	36.4	36.0	4.3	53.1	37.0		
Apr 22	36.6	37.5	37.6	34.9	31.0	29.7	29.0	30.8	32.1	33.3	35.0	38.5	41.0	S	42.6	43.4	43.0	42.9	40.5	37.3	37.3	36.5	34.0	29.0	43.4	36.3			
Apr 23	32.0	30.9	30.8	29.1	28.8	26.2	25.3	30.6	34.6	40.6	41.6	42.6	42.7	P	P	45.0	46.0	45.9	44.7	42.7	39.7	36.6	30.1	23.9	23.9	46.0	35.9		
Apr 24	15.6	10.0	13.7	9.2	8.7	7.6	23.5	37.6	40.5	42.4	43.8	44.7	S	45.4	45.9	44.7	45.5	45.4	45.1	40.5	33.1	27.0	21.8	20.2	7.6	45.9	31.0		
Apr 25	16.9	16.8	16.2	14.6	10.4	10.6	21.0	30.9	40.6	44.8	47.5	S	48.1	48.5	48.3	48.3	48.4	48.8	47.9	44.7	36.0	33.5	30.2	28.5	10.4	48.8	34.0		
Apr 26	40.3	34.8	28.5	25.7	19.6	15.1	25.0	35.5	38.4	42.6	S	49.0	49.4	48.4	47.6	50.3	51.1	49.8	45.6	41.5	40.9	40.8	39.6	37.4	15.1	51.1	39.0		
Apr 27	33.5	30.6	29.5	29.3	30.9	29.8	28.7	28.0	27.6	S	27.5	27.9	28.3	28.1	28.2	28.5	29.6	30.1	29.6	28.3	26.1	24.7	23.8	22.4	22.4	33.5	28.3		
Apr 28	18.2	25.8	24.8	24.0	22.8	25.3	24.3	25.4	S	26.8	27.2	28.0	28.8	29.0	30.6	31.9	32.4	31.1	30.0	29.1	28.9	30.3	28.4	22.5	18.2	32.4	27.2		
Apr 29	18.8	14.5	14.1	9.9	8.7	7.0	13.0	S	27.3	31.3	34.1	35.7	37.1	38.5	42.1	43.2	42.3	39.4	38.7	37.4	35.8	36.0	35.1	33.8	7.0	43.2	29.3		
Apr 30	33.8	34.4	32.5	32.2	29.7	27.4	S	30.0	27.7	28.5	32.4	38.5	43.1	44.9	45.7	45.1	45.8	45.3	44.2	42.0	33.0	27.5	30.4	31.5	27.4	45.8	35.9		
Diurnal Maximum	40.3	37.5	37.6	34.9	31.0	29.8	29.0	37.6	40.6	44.8	47.5	49.8	52.5	53.1	51.9	52.7	52.8	53.1	52.3	49.1	42.3	40.8	39.6	38.0					
Diurnal Average	26.3	24.9	24.0	21.4	19.4	17.3	22.2	31.7	34.5	37.4	38.1	39.9	41.8	42.8	43.6	43.2	43.7	44.1	42.9	40.4	36.0	33.2	30.9	28.7					
C	Monthly Calibration							S	Daily Zero-Span Check							Q	Quality Assurance												
K	Collection Error							N	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.																													

Timeseries Chart of Hourly Average for O3 - Cold Lake South Station



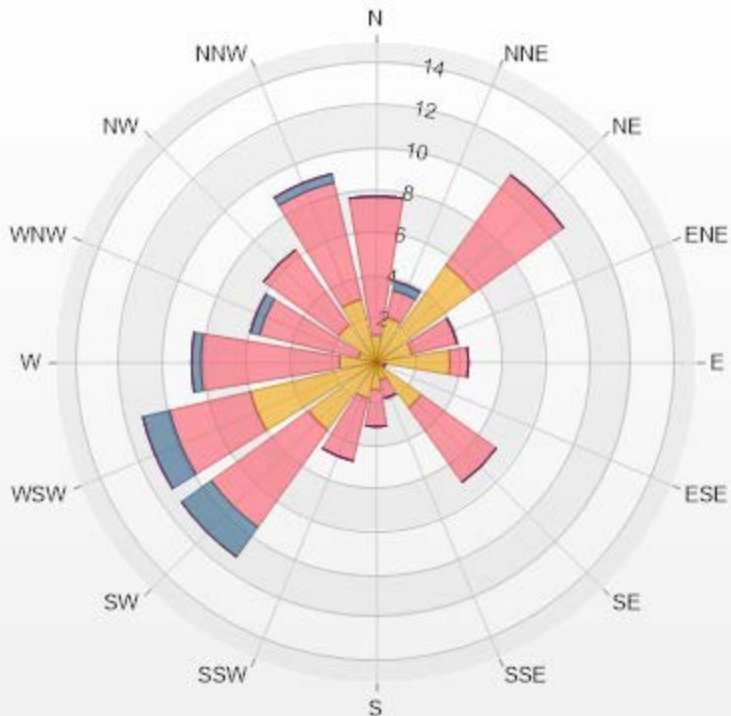
O3[ppb] Histogram: Cold Lake South Monthly: 04-2021 1 Hr.



Classes	O3
<=0	0.00%
0 - 10	3.52%
10 - 20	9.77%
20 - 30	25.00%
30 - 40	29.30%
40 - 50	27.34%
50 - 60	5.08%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Cold Lake South Poll.: Cold Lake South-O3[ppb] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 32.22% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.29	6.47	0	0	0	7.76
NNE	2.16	1.29	0.43	0	0	3.88
NE	5.6	5.17	0	0	0	10.77
ENE	1.72	2.16	0	0	0	3.88
E	3.45	0.86	0	0	0	4.31
ESE	0	0.43	0	0	0	0.43
SE	2.59	4.31	0	0	0	6.9
SSE	0.86	0.86	0	0	0	1.72
S	1.29	1.72	0	0	0	3.01
SSW	1.72	3.02	0	0	0	4.74
SW	3.88	5.6	1.72	0	0	11.2
WSW	6.03	3.88	1.29	0	0	11.2
W	1.72	6.47	0.43	0	0	8.62
WNW	0.86	4.74	0.43	0	0	6.03
NW	2.16	4.31	0	0	0	6.47
NNW	3.02	5.6	0.43	0	0	9.05
Summary	38.35	56.89	4.73	0	0	100



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% Icon Classes (ppb)	38	0-30	57	30-50	5	50-76	0	76-159	0	>159.0
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LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - April 2021

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

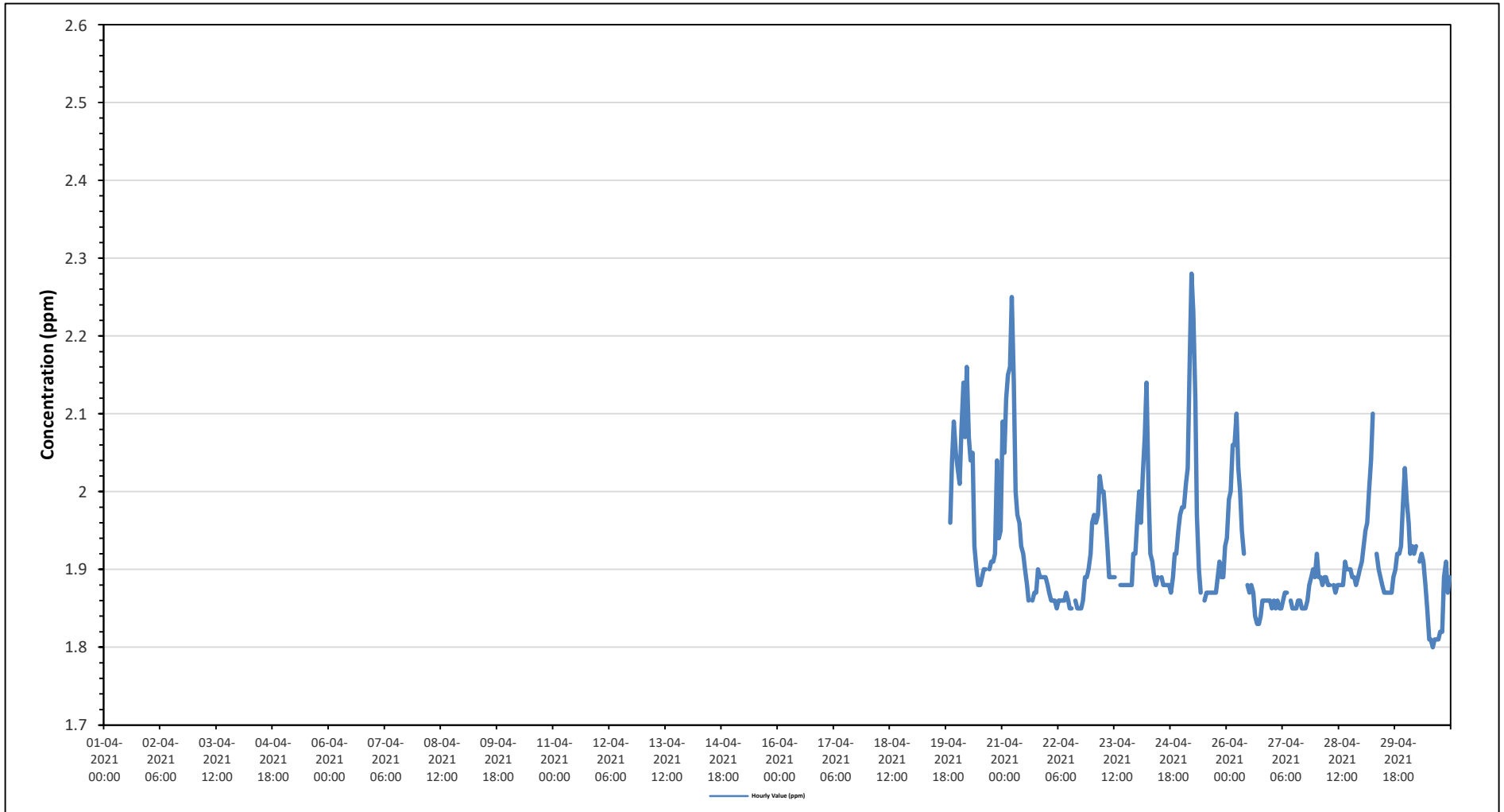
Maximum Hourly Value: 2.28 ppm on April 25 at hour 5	Hours in Service: 720
Maximum Daily Value: 1.98 ppm on April 20	Hours of Data: 256
Minimum Hourly Value: 1.80 ppm on April 30 at hour 14	Hours of Missing Data: 450
Minimum Daily Value: 1.86 ppm on April 27	Hours of Calibration: 14
Monthly Average: 1.92 ppm	Operational Uptime: 37.5

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23					
Apr 1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 5	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 6	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 7	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 8	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 12	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 13	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 14	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 15	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 16	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 17	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 18	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 19	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	C	C	C	C	1.96	2.04	2.09	2.05	1.96	2.09	-	-	-
Apr 20	2.03	2.01	2.08	2.14	2.07	2.16	2.07	2.04	2.05	1.93	1.90	1.88	1.88	1.89	1.90	1.90	S	1.90	1.91	1.91	1.92	2.04	1.94	1.95	1.88	2.16	1.98	-	-
Apr 21	2.09	2.05	2.12	2.15	2.16	2.25	2.14	2.00	1.97	1.96	1.93	1.92	1.90	1.88	1.86	S	1.86	1.87	1.87	1.90	1.89	1.89	1.89	1.89	1.86	2.25	1.98	-	-
Apr 22	1.88	1.87	1.86	1.86	1.86	1.85	1.86	1.86	1.86	1.86	1.87	1.86	1.85	1.85	S	1.86	1.85	1.85	1.85	1.86	1.89	1.89	1.90	1.92	1.85	1.92	1.87	-	-
Apr 23	1.96	1.97	1.96	1.97	2.02	2.00	2.00	1.97	1.93	1.89	1.89	1.89	1.89	P	P	1.88	1.88	1.88	1.88	1.88	1.88	1.92	1.92	1.88	2.02	1.92	-	-	-
Apr 24	1.96	2.00	1.96	2.02	2.07	2.14	2.00	1.92	1.91	1.89	1.88	1.89	S	1.89	1.88	1.88	1.88	1.88	1.87	1.89	1.92	1.92	1.95	1.97	1.87	2.14	1.94	-	-
Apr 25	1.98	1.98	2.01	2.03	2.17	2.28	2.23	2.12	1.97	1.90	1.87	S	1.86	1.87	1.87	1.87	1.87	1.87	1.87	1.89	1.91	1.89	1.89	1.93	1.86	2.28	1.96	-	-
Apr 26	1.94	1.99	2.00	2.06	2.06	2.10	2.03	2.00	1.95	1.92	S	1.88	1.87	1.88	1.87	1.84	1.83	1.83	1.84	1.86	1.86	1.86	1.86	1.86	1.83	2.10	1.92	-	-
Apr 27	1.85	1.86	1.85	1.86	1.85	1.85	1.86	1.87	1.87	S	1.86	1.85	1.85	1.85	1.86	1.86	1.85	1.85	1.85	1.86	1.88	1.89	1.90	1.89	1.85	1.90	1.86	-	-
Apr 28	1.92	1.89	1.89	1.88	1.89	1.89	1.88	1.88	S	1.88	1.87	1.88	1.88	1.88	1.88	1.88	1.91	1.90	1.90	1.90	1.89	1.89	1.88	1.89	1.87	1.92	1.89	-	-
Apr 29	1.91	1.93	1.95	1.96	2.00	2.04	2.10	S	1.92	1.90	1.89	1.88	1.87	1.87	1.87	1.87	1.89	1.90	1.92	1.92	1.93	1.98	2.03	1.87	2.10	1.93	-	-	-
Apr 30	1.99	1.96	1.92	1.93	1.92	1.93	S	1.91	1.92	1.91	1.88	1.85	1.81	1.81	1.80	1.81	1.81	1.82	1.82	1.89	1.91	1.87	1.89	1.80	1.99	1.88	-	-	-
Diurnal Maximum	2.09	2.05	2.12	2.15	2.17	2.28	2.23	2.12	2.05	1.96	1.93	1.92	1.90	1.89	1.90	1.91	1.90	1.90	1.91	1.92	1.96	2.04	2.09	2.05					
Diurnal Average	1.96	1.96	1.96	1.99	2.01	2.04	2.02	1.96	1.94	1.90	1.88	1.88	1.87	1.87	1.87	1.87	1.86	1.87	1.87	1.88	1.90	1.92	1.92	1.93					

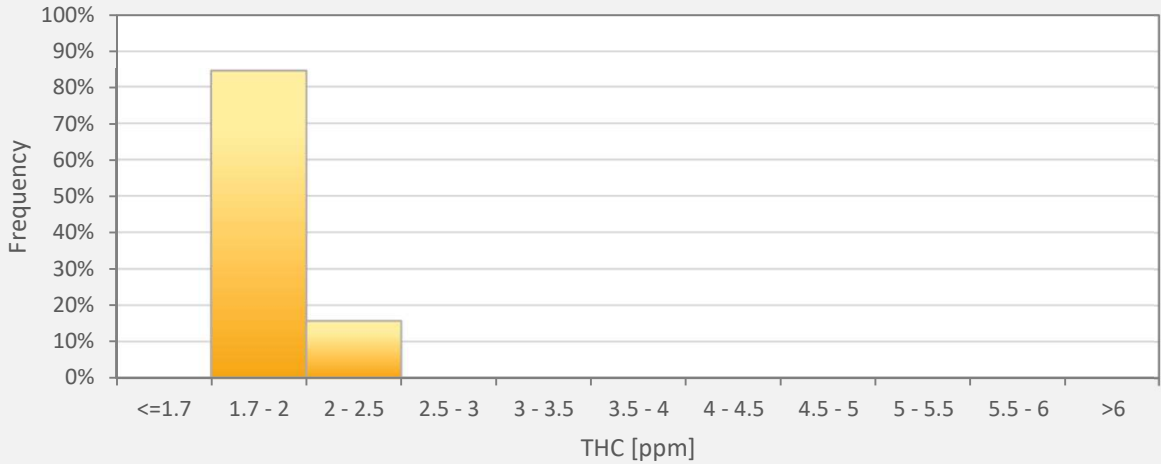
C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N No Data (Machine Not in Service)	Y Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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.

Timeseries Chart of Hourly Average for THC - Cold Lake South Station



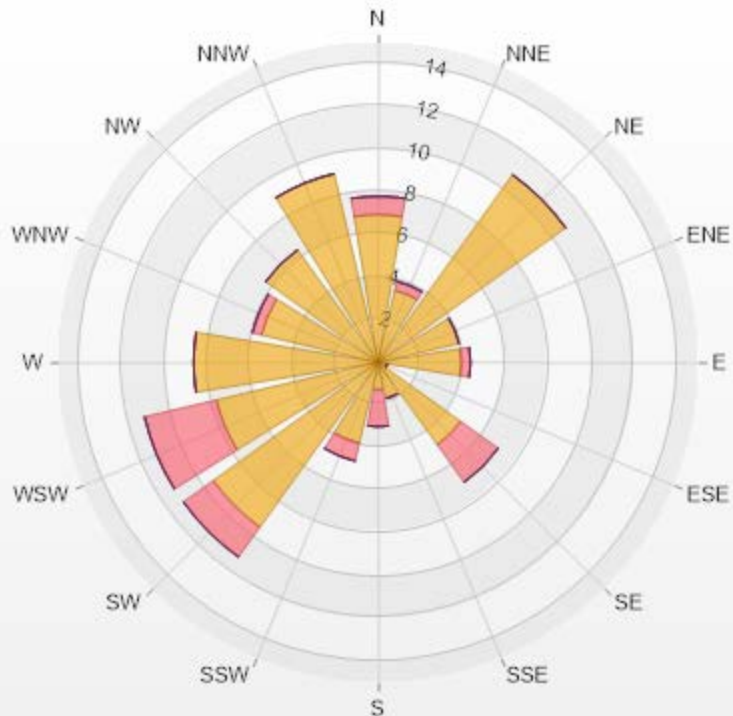
THC55[ppm] Histogram: Cold Lake South Monthly: 04-2021 1 Hr.



Classes	THC55
<=1.7	0.00%
1.7 - 2	84.38%
2 - 2.5	15.63%
2.5 - 3	0.00%
3 - 3.5	0.00%
3.5 - 4	0.00%
4 - 4.5	0.00%
4.5 - 5	0.00%
5 - 5.5	0.00%
5.5 - 6	0.00%
>6	0.00%

Wind: Cold Lake South Poll.: Cold Lake South-THC55[ppm] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 32.22% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	6.9	0.86	0	0	0	7.76
NNE	3.45	0.43	0	0	0	3.88
NE	10.78	0	0	0	0	10.78
ENE	3.88	0	0	0	0	3.88
E	3.88	0.43	0	0	0	4.31
ESE	0.43	0	0	0	0	0.43
SE	4.74	2.16	0	0	0	6.9
SSE	1.72	0	0	0	0	1.72
S	1.29	1.72	0	0	0	3.01
SSW	3.88	0.86	0	0	0	4.74
SW	9.48	1.72	0	0	0	11.2
WSW	7.76	3.45	0	0	0	11.21
W	8.62	0	0	0	0	8.62
WNW	5.6	0.43	0	0	0	6.03
NW	6.47	0	0	0	0	6.47
NNW	9.05	0	0	0	0	9.05
Summary	87.93	12.06	0	0	0	100



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% Icon Classes (ppm)

88

0-2

12

2-5

0

5-10

0

10-40

0

>40.0



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Cold Lake South Station - April 2021

Summary of Hourly Averages

METHANE (CH4) in ppm

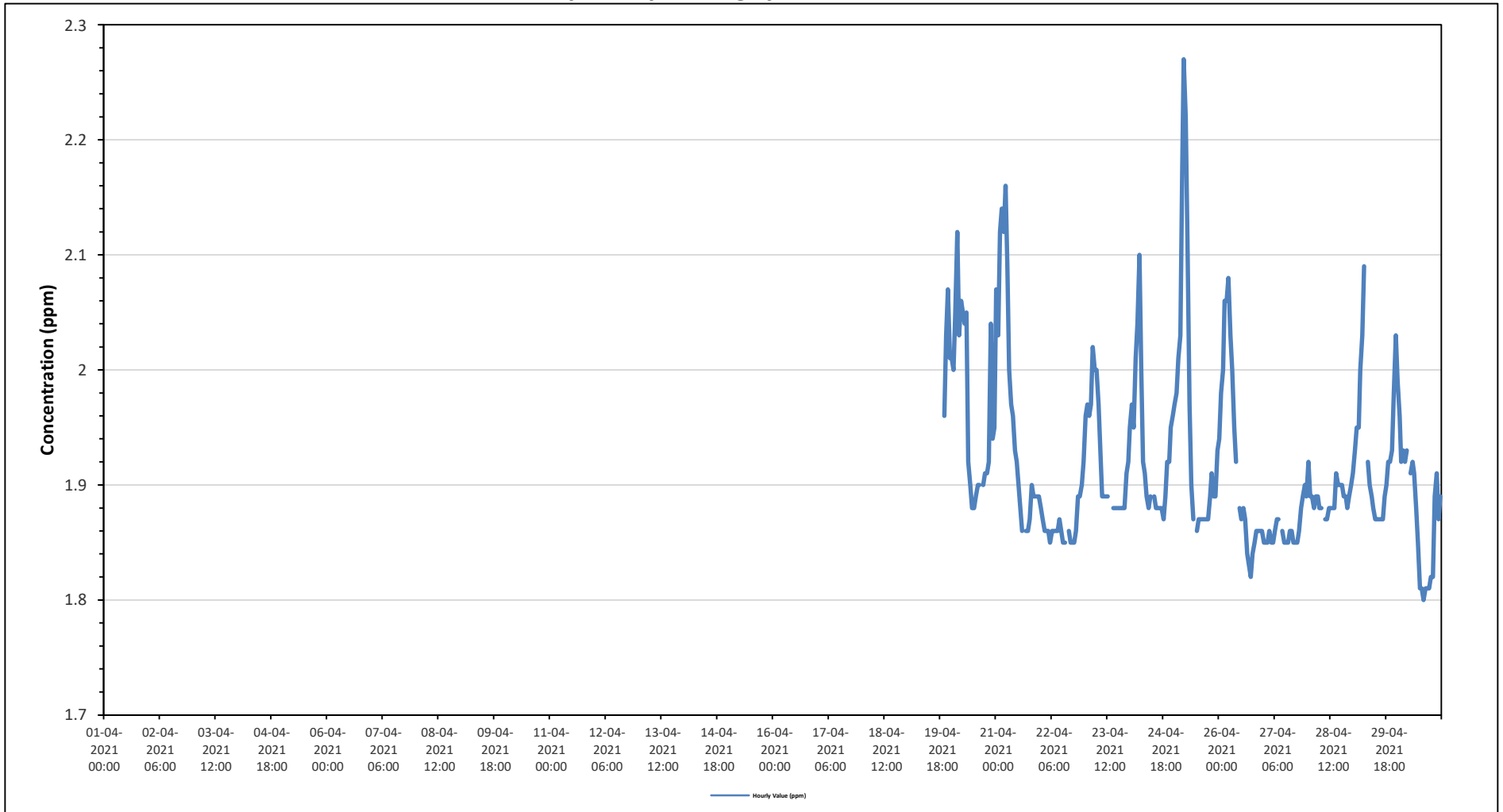
Maximum Hourly Value:	2.27 ppm on April 25 at hour 5	Hours in Service:	720
Maximum Daily Value:	1.97 ppm on April 20	Hours of Data:	256
Minimum Hourly Value:	1.80 ppm on April 30 at hour 14	Hours of Missing Data:	450
Minimum Daily Value:	1.86 ppm on April 27	Hours of Calibration:	14
Monthly Average:	1.92 ppm	Operational Uptime:	37.5

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23				
Apr 1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 5	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 6	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 7	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 8	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 12	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 13	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 14	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 15	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 16	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 17	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 18	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 19	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	C	C	C	C	1.96	2.03	2.07	2.01	1.96	2.07	-	-
Apr 20	2.01	2.00	2.05	2.12	2.03	2.06	2.05	2.04	2.05	1.92	1.90	1.88	1.88	1.89	1.90	1.90	S	1.90	1.91	1.91	1.92	2.04	1.94	1.95	1.88	2.12	1.97	
Apr 21	2.07	2.03	2.12	2.14	2.12	2.16	2.09	2.00	1.97	1.96	1.93	1.92	1.90	1.88	1.86	S	1.86	1.86	1.87	1.90	1.89	1.89	1.89	1.89	1.86	2.16	1.97	
Apr 22	1.88	1.87	1.86	1.86	1.86	1.85	1.86	1.86	1.86	1.86	1.87	1.86	1.85	1.85	S	1.86	1.85	1.85	1.85	1.86	1.89	1.89	1.90	1.92	1.85	1.92	1.87	
Apr 23	1.96	1.97	1.96	1.97	2.02	2.00	2.00	1.97	1.93	1.89	1.89	1.89	1.89	P	P	1.88	1.88	1.88	1.88	1.88	1.88	1.91	1.92	1.88	2.02	1.92		
Apr 24	1.95	1.97	1.95	2.01	2.04	2.10	2.00	1.92	1.91	1.89	1.88	1.89	S	1.89	1.88	1.88	1.88	1.88	1.87	1.89	1.92	1.92	1.95	1.96	1.87	2.10	1.93	
Apr 25	1.97	1.98	2.01	2.03	2.17	2.27	2.22	2.11	1.97	1.90	1.87	S	1.86	1.87	1.87	1.87	1.87	1.87	1.87	1.89	1.91	1.89	1.89	1.93	1.86	2.27	1.96	
Apr 26	1.94	1.98	2.00	2.06	2.06	2.08	2.03	2.00	1.95	1.92	S	1.88	1.87	1.88	1.87	1.84	1.83	1.82	1.84	1.85	1.86	1.86	1.86	1.86	1.82	2.08	1.92	
Apr 27	1.85	1.85	1.85	1.86	1.85	1.85	1.86	1.87	1.87	S	1.86	1.85	1.85	1.85	1.86	1.86	1.85	1.85	1.85	1.86	1.88	1.89	1.90	1.89	1.85	1.90	1.86	
Apr 28	1.92	1.89	1.89	1.88	1.89	1.89	1.88	1.88	S	1.87	1.87	1.88	1.88	1.88	1.88	1.91	1.90	1.90	1.90	1.89	1.89	1.88	1.89	1.90	1.87	1.92	1.89	
Apr 29	1.91	1.93	1.95	1.95	2.00	2.03	2.09	S	1.92	1.90	1.89	1.88	1.87	1.87	1.87	1.87	1.87	1.89	1.90	1.92	1.92	1.93	1.98	2.03	1.87	2.09	1.93	
Apr 30	1.99	1.96	1.92	1.93	1.92	1.93	S	1.91	1.92	1.91	1.88	1.85	1.81	1.81	1.80	1.81	1.81	1.82	1.82	1.89	1.91	1.87	1.89	1.88	1.80	1.99	1.88	
Diurnal Maximum	2.07	2.03	2.12	2.14	2.17	2.27	2.22	2.11	2.05	1.96	1.93	1.92	1.90	1.89	1.90	1.91	1.90	1.90	1.91	1.92	1.96	2.04	2.07	2.03				
Diurnal Average	1.95	1.95	1.96	1.98	2.00	2.02	2.01	1.96	1.94	1.90	1.88	1.88	1.87	1.87	1.87	1.87	1.86	1.86	1.87	1.88	1.90	1.92	1.92	1.93				

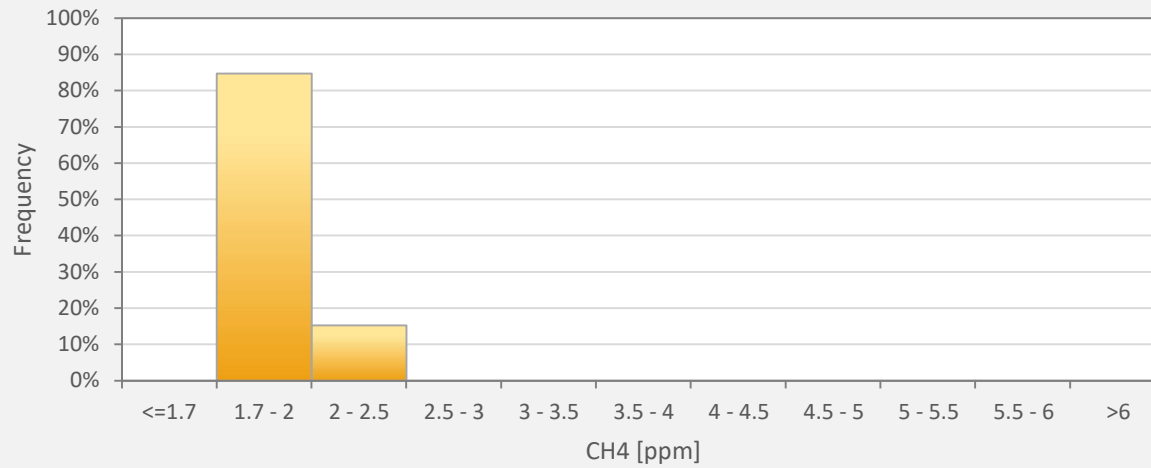
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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.

Timeseries Chart of Hourly Average for CH4 - Cold Lake South Station



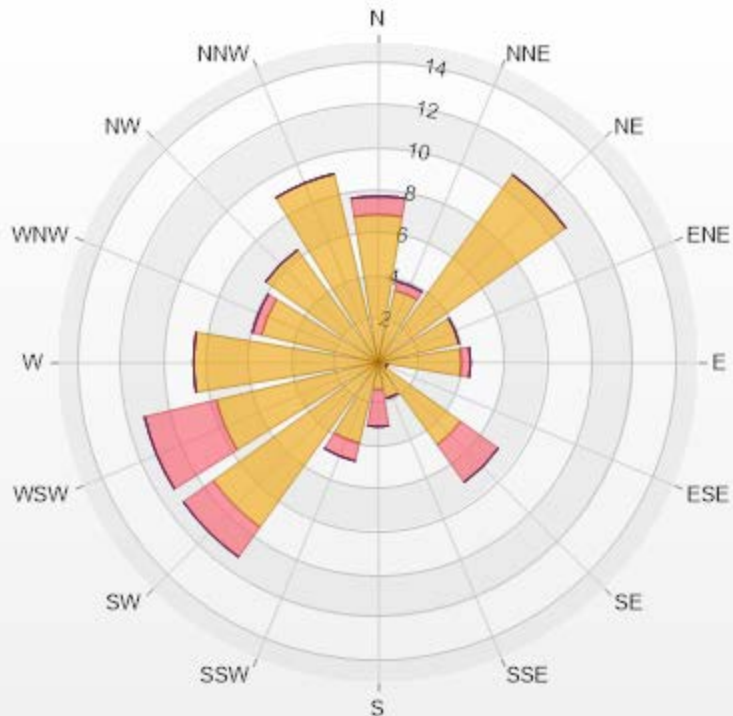
CH4[ppm] Histogram: Cold Lake South Monthly: 04-2021 1 Hr.



Classes	CH4
<=1.7	0.00%
1.7 - 2	84.77%
2 - 2.5	15.23%
2.5 - 3	0.00%
3 - 3.5	0.00%
3.5 - 4	0.00%
4 - 4.5	0.00%
4.5 - 5	0.00%
5 - 5.5	0.00%
5.5 - 6	0.00%
>6	0.00%

Wind: Cold Lake South Poll.: Cold Lake South-CH4[ppm] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 32.22% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	6.9	0.86	0	0	0	7.76
NNE	3.45	0.43	0	0	0	3.88
NE	10.78	0	0	0	0	10.78
ENE	3.88	0	0	0	0	3.88
E	3.88	0.43	0	0	0	4.31
ESE	0.43	0	0	0	0	0.43
SE	4.74	2.16	0	0	0	6.9
SSE	1.72	0	0	0	0	1.72
S	1.29	1.72	0	0	0	3.01
SSW	3.88	0.86	0	0	0	4.74
SW	9.48	1.72	0	0	0	11.2
WSW	7.76	3.45	0	0	0	11.21
W	8.62	0	0	0	0	8.62
WNW	5.6	0.43	0	0	0	6.03
NW	6.47	0	0	0	0	6.47
NNW	9.05	0	0	0	0	9.05
Summary	87.93	12.06	0	0	0	100



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% Icon Classes (ppm)

88

0-2

12

2-5

0

5-10

0

10-20

0

>20.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - April 2021

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

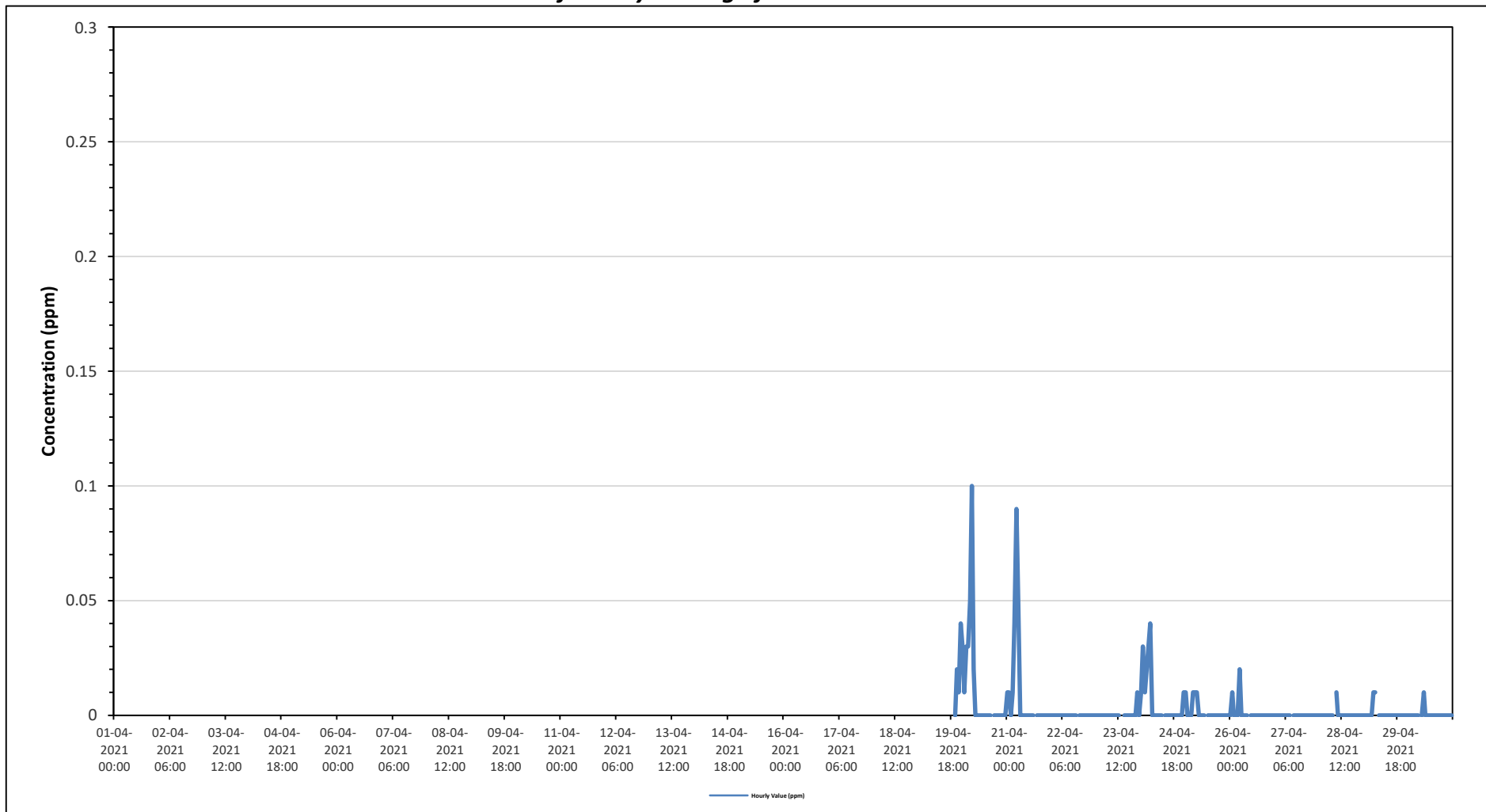
Maximum Hourly Value:	0.10 ppm on April 20 at hour 5	Hours in Service:	720
Maximum Daily Value:	0.01 ppm on April 20	Hours of Data:	256
Minimum Hourly Value:	0.00 ppm on April 19 at hour 20	Hours of Missing Data:	450
Minimum Daily Value:	0.00 ppm on April 22	Hours of Calibration:	14
Monthly Average:	0.00 ppm	Operational Uptime:	37.5

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23				
Apr 1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 5	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 6	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 7	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 8	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 12	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 13	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 14	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 15	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 16	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 17	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 18	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 19	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	C	C	C	C	0.00	0.02	0.01	0.04	0.00	0.04	-	-
Apr 20	0.03	0.01	0.03	0.03	0.05	0.10	0.02	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	0.10	0.01
Apr 21	0.01	0.01	0.00	0.01	0.04	0.09	0.05	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	0.09	0.01
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	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 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	P	P	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 24	0.01	0.03	0.01	0.02	0.03	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
Apr 25	0.01	0.00	0.00	0.00	0.01	0.01	0.01	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	0.01	0.00	0.00
Apr 26	0.00	0.01	0.00	0.00	0.00	0.02	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	0.02	0.00	0.00
Apr 27	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 28	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	0.00	0.00	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
Apr 29	0.00	0.00	0.00	0.00	0.00	0.01	0.01	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Apr 30	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Diurnal Maximum	0.03	0.03	0.03	0.03	0.05	0.10	0.05	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.04
Diurnal Average	0.01	0.01	0.00	0.01	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

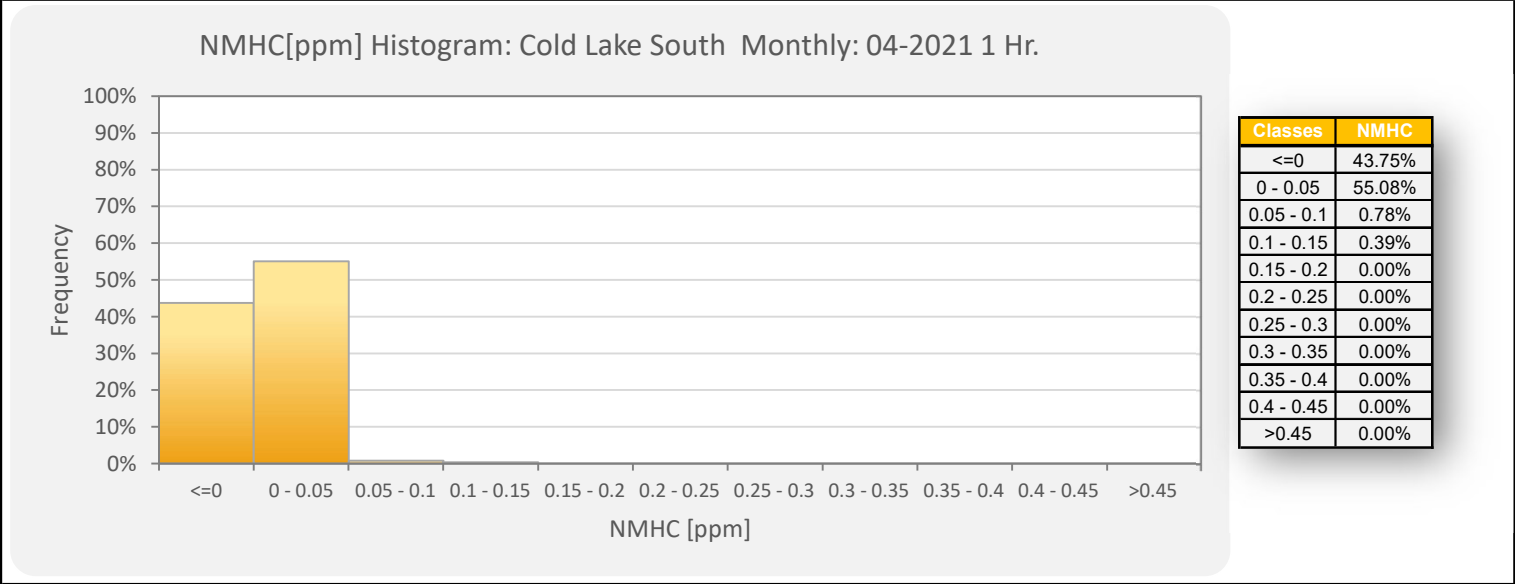
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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.

Timeseries Chart of Hourly Average for NMHC - Cold Lake South Station

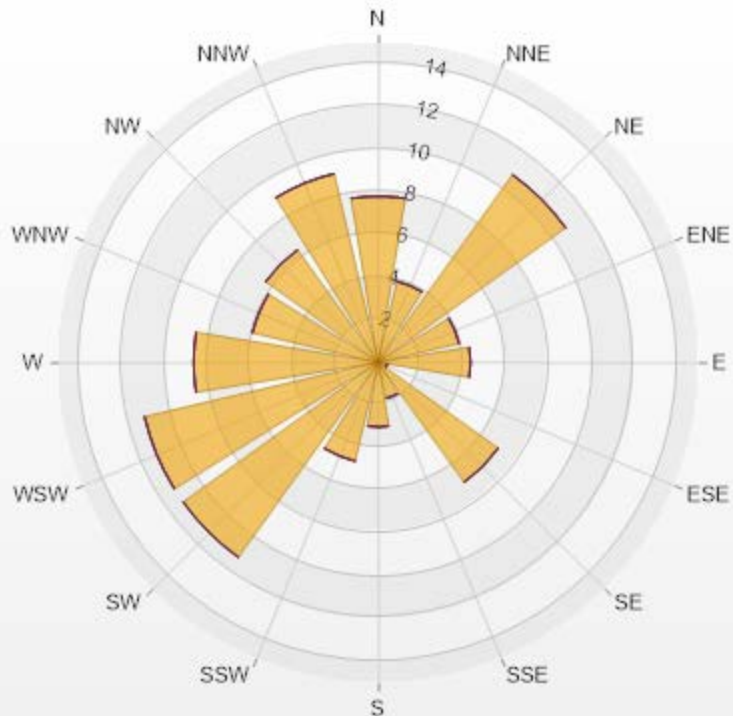


NMHC[ppm] Histogram: Cold Lake South Monthly: 04-2021 1 Hr.



Wind: Cold Lake South Poll.: Cold Lake South-NMHC[ppm] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 32.22% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-0.9	0.9-2	>2.0	Total
N	7.76	0	0	0	0	7.76
NNE	3.88	0	0	0	0	3.88
NE	10.78	0	0	0	0	10.78
ENE	3.88	0	0	0	0	3.88
E	4.31	0	0	0	0	4.31
ESE	0.43	0	0	0	0	0.43
SE	6.9	0	0	0	0	6.9
SSE	1.72	0	0	0	0	1.72
S	3.02	0	0	0	0	3.02
SSW	4.74	0	0	0	0	4.74
SW	11.21	0	0	0	0	11.21
WSW	11.21	0	0	0	0	11.21
W	8.62	0	0	0	0	8.62
WNW	6.03	0	0	0	0	6.03
NW	6.47	0	0	0	0	6.47
NNW	9.05	0	0	0	0	9.05
Summary	100	0	0	0	0	100




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% Icon Classes (ppm)

100  0-0.1

0  0.1-0.3

0  0.3-0.9

0  0.9-2

0  >2.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - April 2021

Summary of Hourly Averages

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

Alberta Ambient Air Quality Guidelines (AAAQG): 1-Hour 80 µg/m³, Alberta Ambient Air Quality Objectives (AAAO): 24-Hour 29 µg/m³
 Number of 1-Hour Exceedences: 0 Number of 24-Hour Exceedences: 0

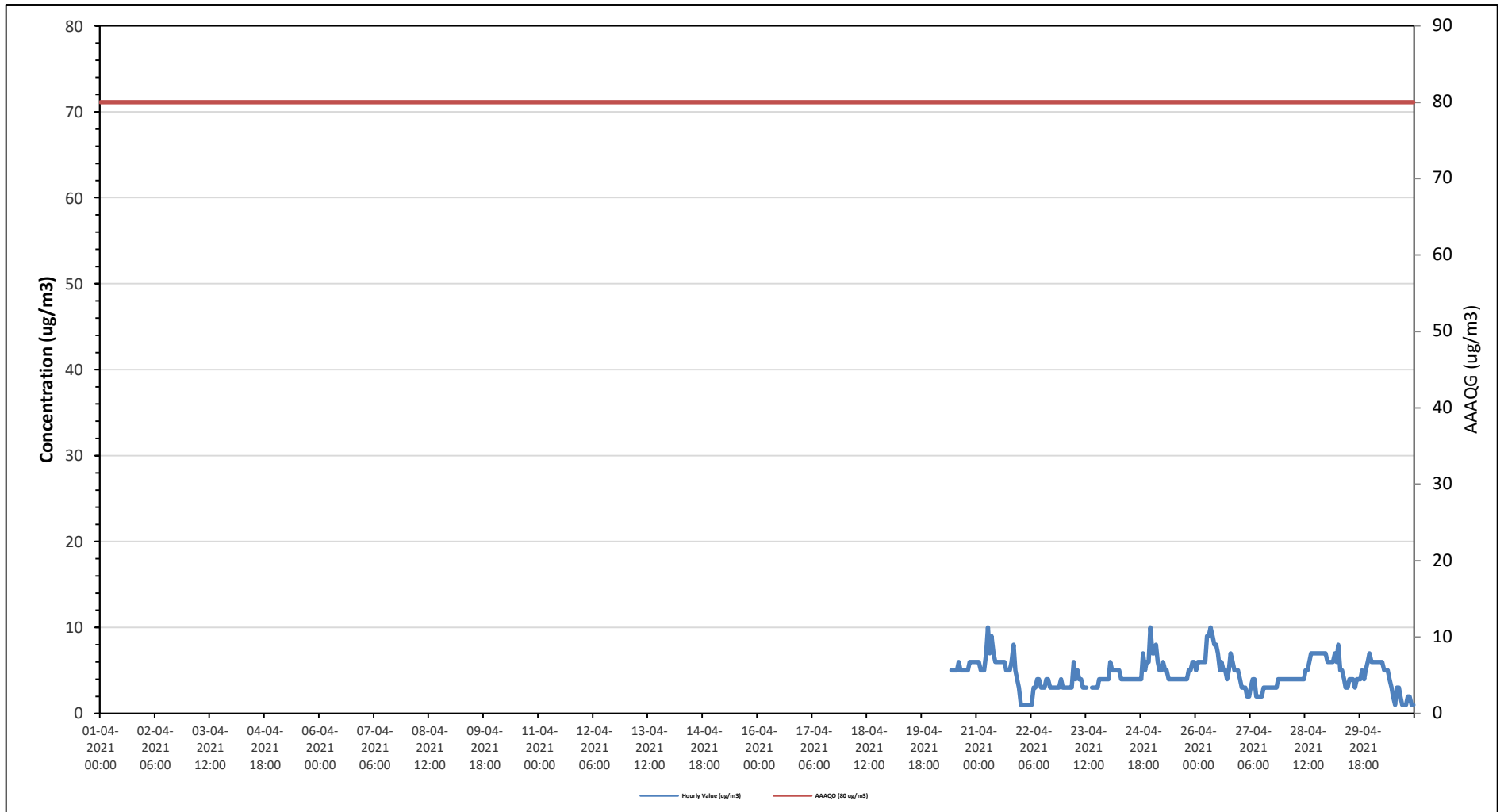
Maximum Hourly Value:	10 µg/m ³ on April 21 at hour 6	Hours in Service:	720
Maximum Daily Value:	6.4 µg/m ³ on April 26	Hours of Data:	252
Minimum Hourly Value:	1 µg/m ³ on April 22 at hour 0	Hours of Missing Data:	466
Minimum Daily Value:	3 µg/m ³ on April 22	Hours of Calibration:	2
Monthly Average:	4.6 µg/m ³	Operational Uptime:	35.3

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23		
Apr 1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-		
Apr 2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 5	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 6	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 7	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 8	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 12	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 13	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 14	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 15	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 16	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 17	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 18	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 19	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 20	N	N	N	N	N	N	N	N	N	C	C	5	5	5	5	6	5	5	5	5	5	5	6	6	6	6	5	6	-
Apr 21	6	6	5	5	5	7	10	7	9	7	6	6	6	6	6	6	5	5	5	5	6	8	5	4	3	3	10	6.0	
Apr 22	1	1	1	1	1	1	1	3	3	4	4	3	3	3	4	4	3	3	3	3	3	3	3	4	3	1	4	2.6	
Apr 23	3	3	3	3	3	6	4	5	4	4	3	3	3	P	P	3	3	3	3	4	4	4	4	4	3	6	3.6		
Apr 24	4	6	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	7	5	6	6	10	4	10	4.9	
Apr 25	7	7	8	6	5	5	6	5	5	4	4	4	4	4	4	4	4	4	4	4	5	5	6	6	4	8	5.0		
Apr 26	5	6	6	6	6	6	9	9	10	9	8	7	5	6	5	5	4	5	7	6	5	5	5	4	4	10	6.4		
Apr 27	4	3	3	3	2	2	3	4	4	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	2	4	3.0		
Apr 28	4	4	4	4	4	4	4	4	4	4	4	4	5	5	6	7	7	7	7	7	7	7	7	7	4	7	5.3		
Apr 29	6	6	6	6	7	6	8	5	5	4	3	3	4	4	4	3	4	4	4	5	4	5	6	7	3	8	5.0		
Apr 30	6	6	6	6	6	6	6	5	5	4	3	2	1	3	3	2	1	1	1	2	2	1	1	1	1	1	6	3.5	
Diurnal Maximum	7	7	8	6	7	7	10	9	10	9	8	8	7	6	6	7	7	7	7	7	8	7	7	10					
Diurnal Average	4.6	4.8	4.7	4.5	4.4	4.8	5.6	5.1	5.3	4.7	4.3	4.1	4.1	4.0	4.6	4.3	4.1	3.9	4.0	4.7	4.8	4.7	4.8	5.1					

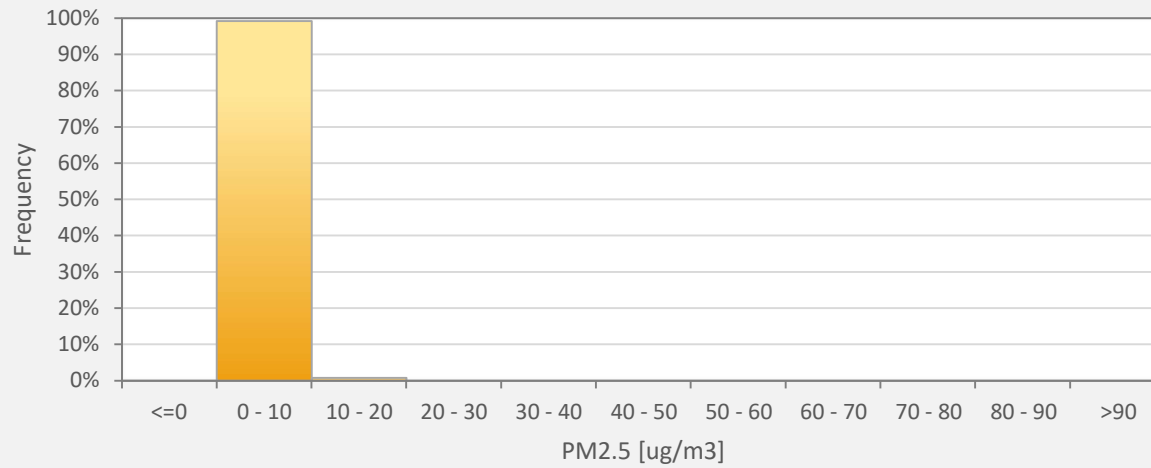
C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N No Data (Machine Not in Service)	Y Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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.

Timeseries Chart of Hourly Average for PM2.5 - Cold Lake South Station



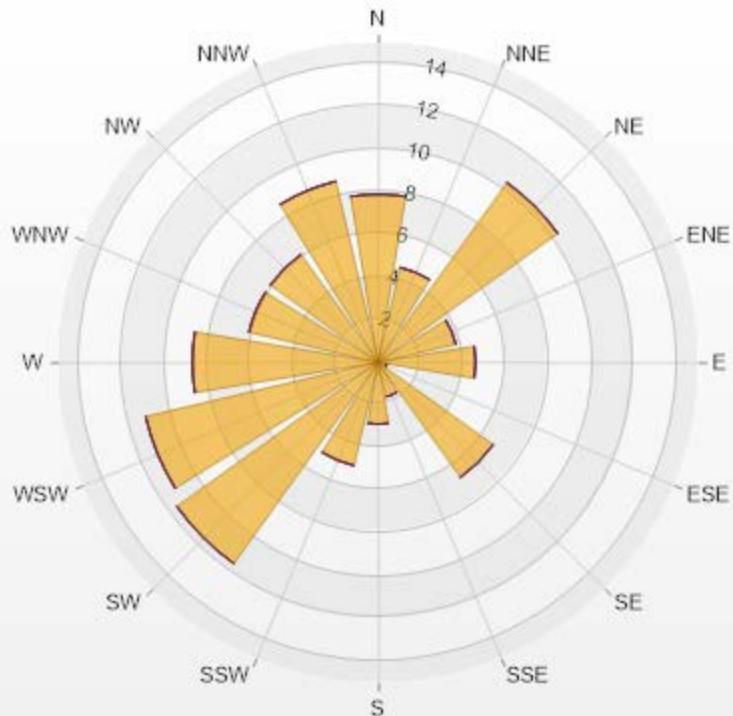
PM2.5[ug/m3(L)] Histogram: Cold Lake South Monthly: 04-2021 1 Hr.



Classes	PM2.5
<=0	0.00%
0 - 10	99.21%
10 - 20	0.79%
20 - 30	0.00%
30 - 40	0.00%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Cold Lake South Poll.: Cold Lake South-PM2.5[ug/m3(L)] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 33.61% Calm Avg: 0.00 [ug/m3(L)]

Direction	0-50	50-80	80-120	120-240	>240.0	Total
N	7.85	0	0	0	0	7.85
NNE	4.55	0	0	0	0	4.55
NE	10.33	0	0	0	0	10.33
ENE	3.72	0	0	0	0	3.72
E	4.55	0	0	0	0	4.55
ESE	0.41	0	0	0	0	0.41
SE	6.61	0	0	0	0	6.61
SSE	1.65	0	0	0	0	1.65
S	2.89	0	0	0	0	2.89
SSW	4.96	0	0	0	0	4.96
SW	11.57	0	0	0	0	11.57
WSW	11.16	0	0	0	0	11.16
W	8.68	0	0	0	0	8.68
WNW	6.2	0	0	0	0	6.2
NW	6.2	0	0	0	0	6.2
NNW	8.68	0	0	0	0	8.68
Summary	100	0	0	0	0	100




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% Icon Classes (ug/m3(L))

100  0-50

0  50-80

0  80-120

0  120-240

0  >240.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - April 2021

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

Maximum Hourly Value:	96 %	on April 29 at hour 1	Hours in Service:	720
Maximum Daily Value:	81.3 %	on April 28	Hours of Data:	253
Minimum Hourly Value:	17 %	on April 20 at hour 16	Hours of Missing Data:	467
Minimum Daily Value:	38.0 %	on April 30	Hours of Calibration:	0
Monthly Average:	53.1 %		Operational Uptime:	35.1

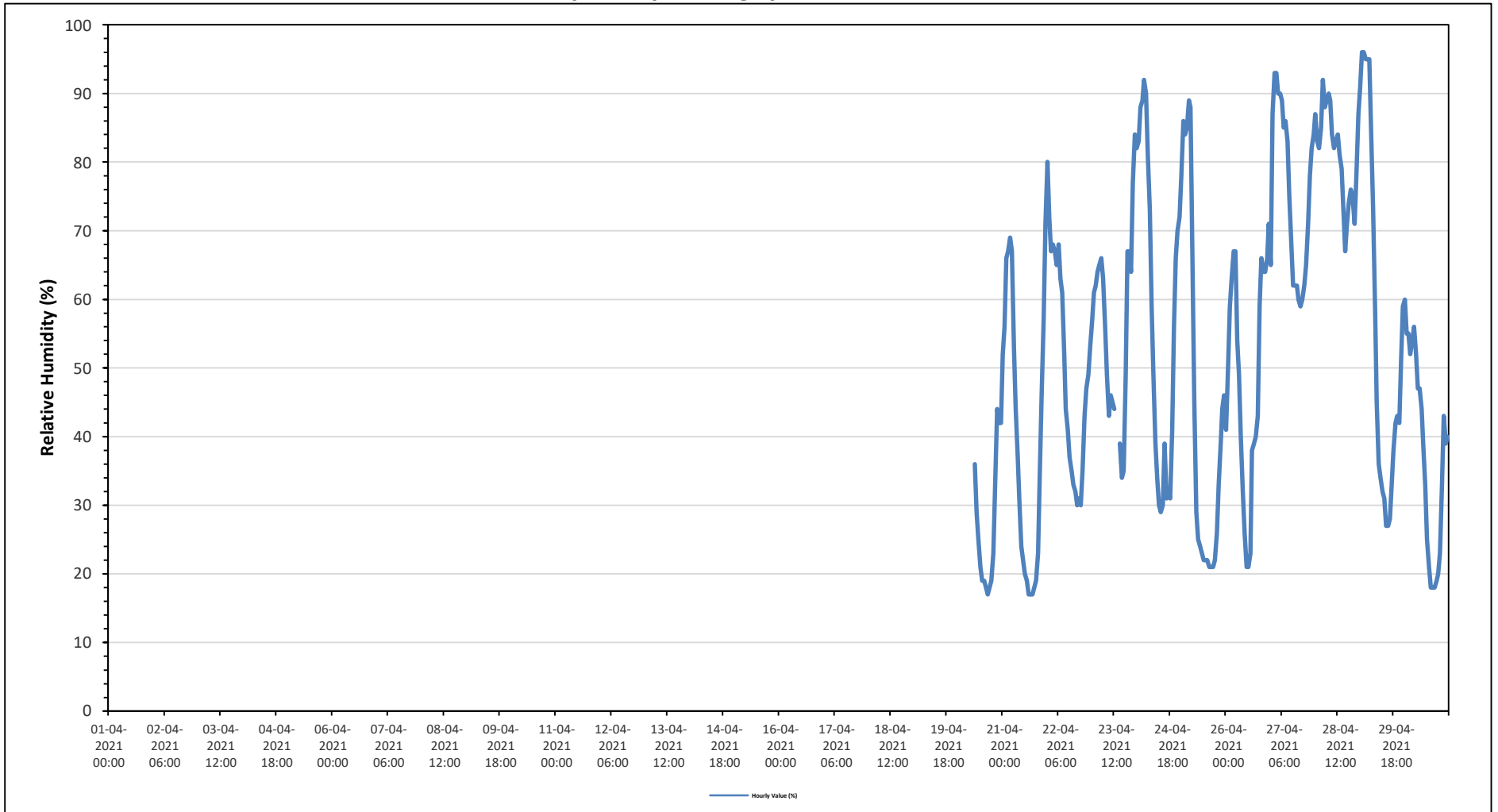
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23				
Apr 1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 5	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 6	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 7	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 8	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 12	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 13	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 14	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 15	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 16	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 17	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 18	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 19	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 20	N	N	N	N	N	N	N	N	N	36	29	25	21	19	19	18	17	18	19	23	33	44	42	42	17	44	-	
Apr 21	52	56	66	67	69	67	53	44	37	31	24	22	20	19	17	17	17	18	19	23	35	46	57	71	17	71	39.5	
Apr 22	80	72	67	68	67	65	68	63	61	52	44	41	37	35	33	32	30	31	30	35	43	47	49	53	30	80	50.1	
Apr 23	57	61	62	64	65	66	63	56	49	43	46	45	44	P	P	39	34	35	49	67	67	64	77	84	34	84	56.2	
Apr 24	82	83	88	89	92	90	81	73	59	49	39	34	30	29	30	39	31	32	31	41	56	66	70	72	29	92	57.8	
Apr 25	78	86	84	85	89	88	65	45	29	25	24	23	22	22	22	21	21	21	22	26	33	39	44	46	21	89	44.2	
Apr 26	41	49	59	63	67	67	54	49	40	32	26	21	21	23	38	39	40	43	59	66	64	64	66	71	21	71	48.4	
Apr 27	65	87	93	93	90	90	89	85	86	83	75	68	62	62	62	60	59	60	62	65	71	78	82	84	59	93	75.5	
Apr 28	87	83	82	85	92	88	89	90	89	84	82	83	84	81	79	73	67	71	74	76	75	71	78	87	67	92	81.3	
Apr 29	91	96	96	95	95	95	83	73	58	45	36	34	32	31	27	27	28	33	38	42	43	42	51	59	27	96	56.3	
Apr 30	60	55	55	52	54	56	52	47	47	44	39	33	25	21	18	18	18	19	20	23	33	43	39	40	18	60	38.0	
Diurnal Maximum	91	96	96	95	95	95	89	90	89	84	82	83	84	81	79	73	67	71	74	76	75	78	82	87				
Daiurnal Average	69.3	72.8	75.2	76.1	78.0	77.2	69.7	62.5	55.5	47.6	42.2	39.0	36.2	34.2	34.5	34.8	32.9	34.6	38.5	44.3	50.3	54.9	59.5	64.5				

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	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.

Timeseries Chart of Hourly Average for RH - Cold Lake South Station





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - April 2021

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

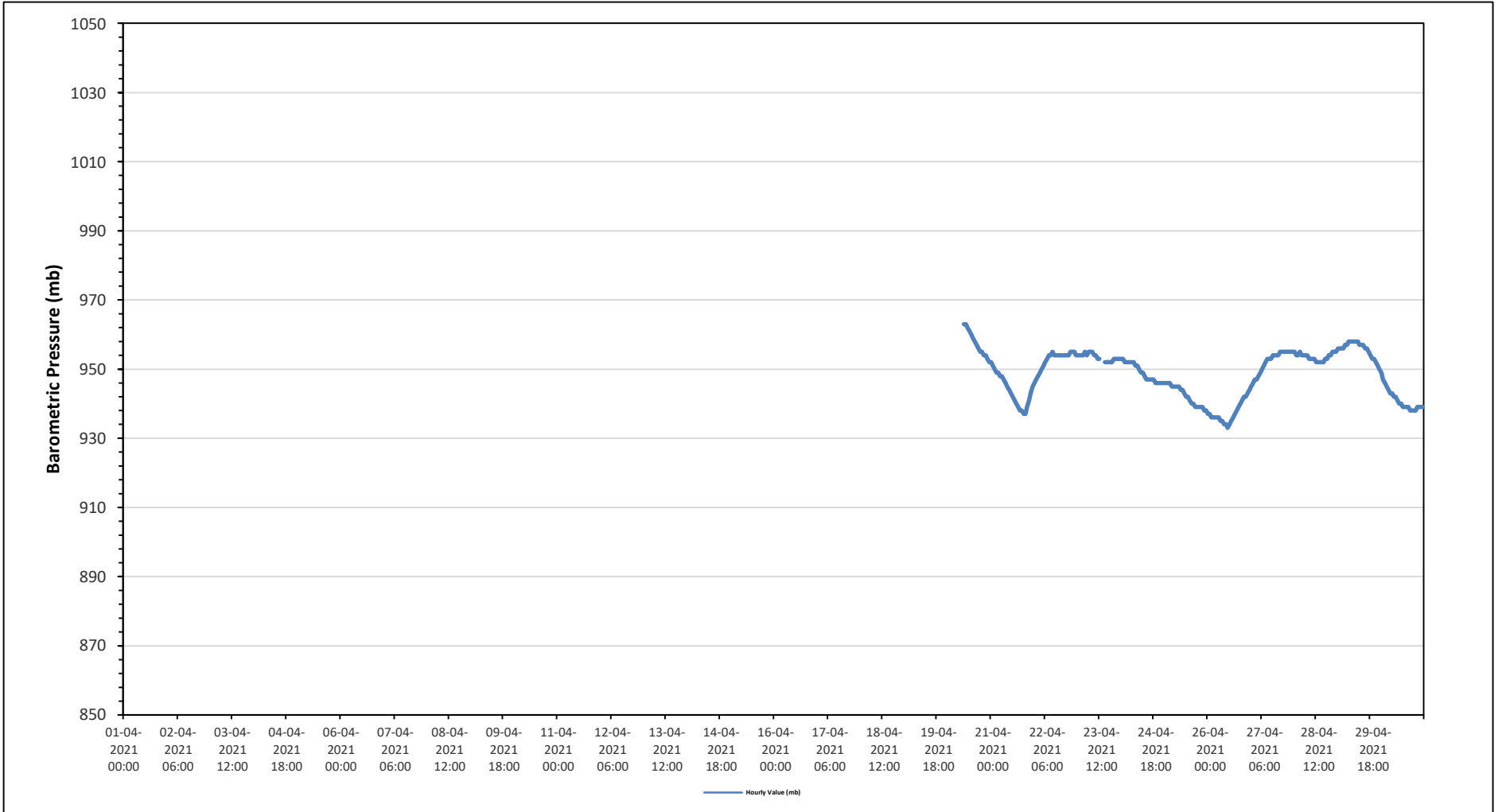
Maximum Hourly Value:	963 mb on April 20 at hour 9	Hours in Service:	720
Maximum Daily Value:	956 mb on April 29	Hours of Data:	253
Minimum Hourly Value:	933 mb on April 26 at hour 11	Hours of Missing Data:	467
Minimum Daily Value:	937 mb on April 26	Hours of Calibration:	0
Monthly Average:	949 mb	Operational Uptime:	35.1

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23					
Apr 1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-		
Apr 2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 5	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 6	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 7	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 8	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 12	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 13	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 14	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 15	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 16	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 17	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 18	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 19	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 20	N	N	N	N	N	N	N	N	N	963	963	962	961	960	959	958	957	956	955	955	954	954	953	952	952	952	963	-	-
Apr 21	952	951	950	949	949	948	948	947	946	945	944	943	942	941	940	939	938	938	937	937	939	941	943	945	937	952	944	-	
Apr 22	946	947	948	949	950	951	952	953	954	954	955	954	954	954	954	954	954	954	954	954	955	955	955	954	946	955	953	-	
Apr 23	954	954	954	954	955	954	955	955	955	954	954	953	953	P	P	952	952	952	952	952	953	953	953	953	952	955	953	-	
Apr 24	953	953	952	952	952	952	952	952	951	951	950	949	949	948	947	947	947	947	947	946	946	946	946	946	946	946	953	949	-
Apr 25	946	946	946	946	945	945	945	945	945	944	944	943	942	942	941	940	940	939	939	939	939	939	938	938	938	946	942	-	
Apr 26	937	937	936	936	936	936	936	935	935	934	934	933	934	935	936	937	938	939	940	941	942	942	943	944	933	944	937	-	
Apr 27	945	946	947	947	948	949	950	951	952	953	953	953	954	954	954	955	955	955	955	955	955	955	955	955	945	955	952	-	
Apr 28	955	954	954	955	954	954	954	954	953	953	953	953	952	952	952	952	952	953	953	954	954	955	955	955	952	955	954	-	
Apr 29	956	956	956	956	957	957	958	958	958	958	958	958	957	957	957	956	956	955	954	953	953	952	951	950	950	958	956	-	
Apr 30	949	947	946	945	944	943	943	942	942	941	940	940	939	939	939	938	938	938	938	938	939	939	939	939	938	949	941	-	
Diurnal Maximum	956	956	956	956	957	957	958	958	958	963	963	962	961	960	959	958	957	956	955	955	955	955	955	955	955	952	944	-	
Diurnal Average	949	949	949	949	949	949	949	949	949	950	950	949	949	948	948	948	948	948	948	948	948	948	948	948	948	948	948	-	

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	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.

Timeseries Chart of Hourly Average for BP - Cold Lake South Station





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - April 2021

Summary of Hourly Averages

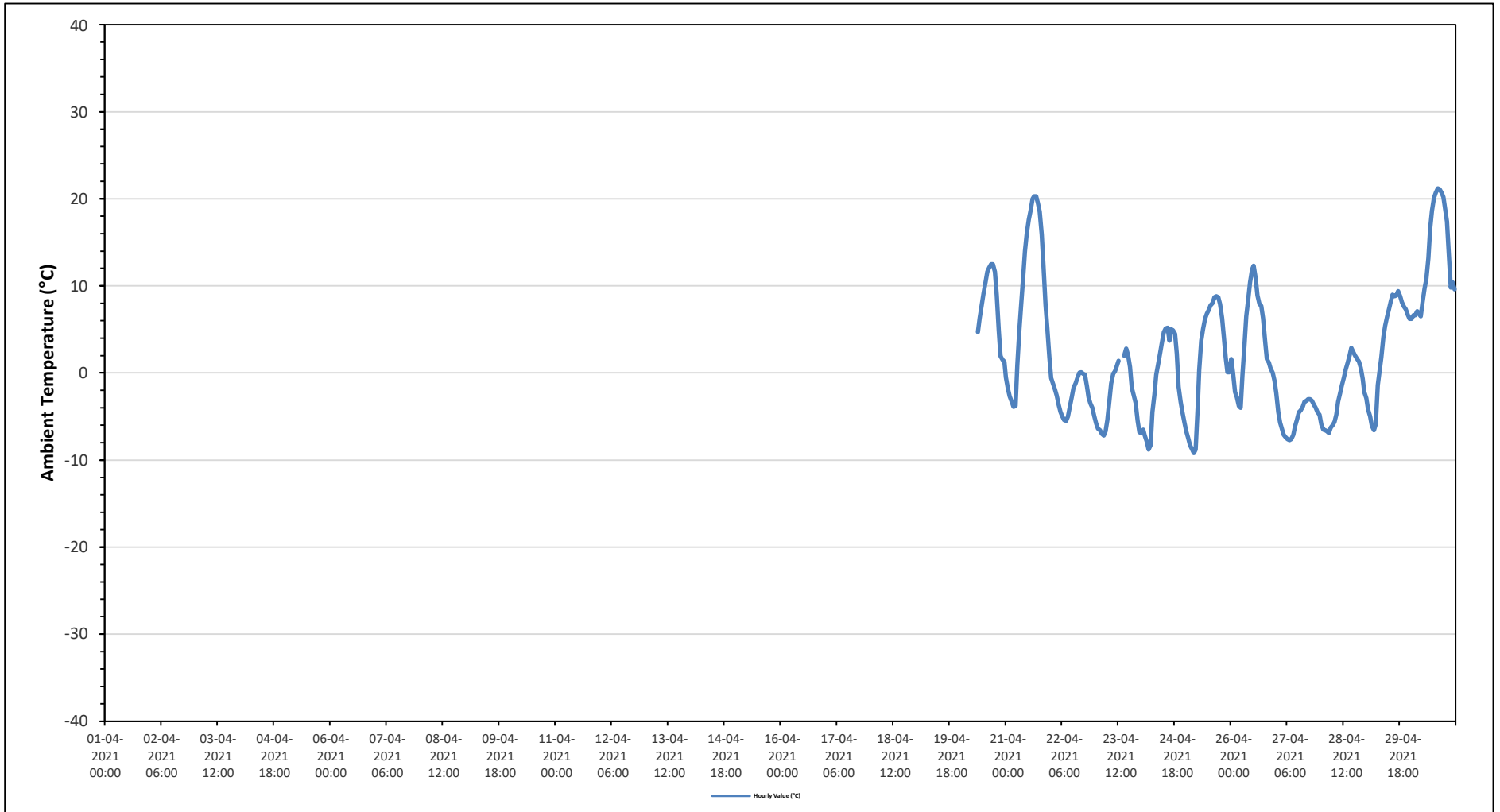
AMBIENT TEMPERATURE (AT) in Degree Celsius

Maximum Hourly Value:	21.2 °C	on April 30 at hour 14	Hours in Service:	720
Maximum Daily Value:	13.4 °C	on April 30	Hours of Data:	253
Minimum Hourly Value:	-9.2 °C	on April 25 at hour 4	Hours of Missing Data:	467
Minimum Daily Value:	-5.0 °C	on April 27	Hours of Calibration:	0
Monthly Average:	2.1 °C		Operational Uptime:	35.1

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average																	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23																
Apr 1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-																
Apr 2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-															
Apr 3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-															
Apr 4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-															
Apr 5	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-															
Apr 6	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-															
Apr 7	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-															
Apr 8	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-															
Apr 9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-															
Apr 10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-															
Apr 11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-															
Apr 12	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-															
Apr 13	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-															
Apr 14	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-															
Apr 15	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-															
Apr 16	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-															
Apr 17	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-															
Apr 18	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-															
Apr 19	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-															
Apr 20	N	N	N	N	N	N	N	N	N	4.7	6.3	7.8	9.1	10.4	11.6	12.1	12.5	11.6	9	4.9	1.9	1.5	1.3	1.3	12.5	-	-	-															
Apr 21	-0.5	-1.8	-2.7	-3.3	-3.9	-3.8	0.9	4.9	7.8	10.6	14	16	17.6	18.6	20	20.3	19.5	18.5	15.9	12.2	7.8	5.1	1.8	-3.9	20.3	9.0	-	-															
Apr 22	-0.6	-1.3	-1.9	-2.6	-3.7	-4.5	-5	-5.4	-5.5	-5	-3.8	-2.8	-1.7	-1.2	-0.6	0	0.1	-0.1	-0.2	-1.6	-2.8	-3.5	-4	-4.9	-5.5	0.1	-2.6	-															
Apr 23	-5.8	-6.4	-6.6	-7	-7.2	-6.7	-5.4	-3.2	-1.2	-0.1	0.2	0.8	1.4	P	P	2	2.8	2.1	0.7	-1.7	-2.6	-3.4	-5.5	-6.8	-7.2	2.8	-2.7	-															
Apr 24	-6.9	-6.5	-7.2	-7.9	-8.8	-8.3	-4.5	-2.5	-0.2	0.9	2.2	3.4	4.7	5.1	5.2	3.7	5	4.9	4.5	2.2	-1.6	-3.3	-4.5	-5.7	-8.8	5.2	-1.1	-															
Apr 25	-6.7	-7.5	-8.3	-8.7	-9.2	-8.8	-4	0.3	3.7	5	6.2	6.8	7.2	7.8	8	8.7	8.8	8.7	7.9	6.3	4.1	1.8	0.1	0.1	-9.2	8.8	1.6	-															
Apr 26	1.6	0	-2.2	-2.8	-3.8	-4	-0.3	3.2	6.5	8.5	10.4	11.9	12.3	10.9	8.9	7.9	7.7	6.3	3.7	1.6	1.2	0.5	0	-0.9	-4.0	12.3	3.7	-															
Apr 27	-2.3	-4.5	-5.7	-6.4	-7.1	-7.4	-7.6	-7.7	-7.6	-7.1	-6.1	-5.4	-4.5	-4.3	-3.9	-3.3	-3.2	-3	-3	-3.2	-3.6	-4	-4.5	-4.8	-7.7	-2.3	-5.0	-															
Apr 28	-5.9	-6.5	-6.6	-6.7	-6.9	-6.3	-6	-5.6	-4.8	-3.3	-2.3	-1.4	-0.5	0.4	1.1	2	2.9	2.4	2	1.6	1.3	0.6	-0.7	-2.2	-6.9	2.9	-2.1	-															
Apr 29	-2.9	-4.2	-5	-6.1	-6.6	-5.9	-1.4	0.2	1.8	4.1	5.4	6.5	7.3	8.2	9	8.8	8.9	9.4	8.8	8.1	7.6	7.3	6.7	6.2	-6.6	9.4	3.4	-															
Apr 30	6.2	6.6	6.6	7.1	6.8	6.5	8.1	9.7	10.8	13.2	16.6	18.6	20.1	20.7	21.2	21.1	20.7	20.2	18.8	17.4	13.8	9.8	10.4	9.6	6.2	21.2	13.4	-															
Diurnal Maximum	6.2	6.6	6.6	7.1	6.8	6.5	8.1	9.7	10.8	13.2	16.6	18.6	20.1	20.7	21.2	21.1	20.7	20.2	18.8	17.4	13.8	9.8	10.4	9.6																			
Daiurnal Average	-2.4	-3.2	-4.0	-4.4	-5.0	-4.9	-2.5	-0.6	1.1	2.9	4.5	5.7	6.6	7.7	8.1	7.6	7.9	7.5	6.7	5.1	3.1	1.4	0.4	-0.6																			
C	Monthly Calibration										S	Daily Zero-Span Check										Q	Quality Assurance																				
K	Collection Error										N	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.

Timeseries Chart of Hourly Average for AT - Cold Lake South Station





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - April 2021

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

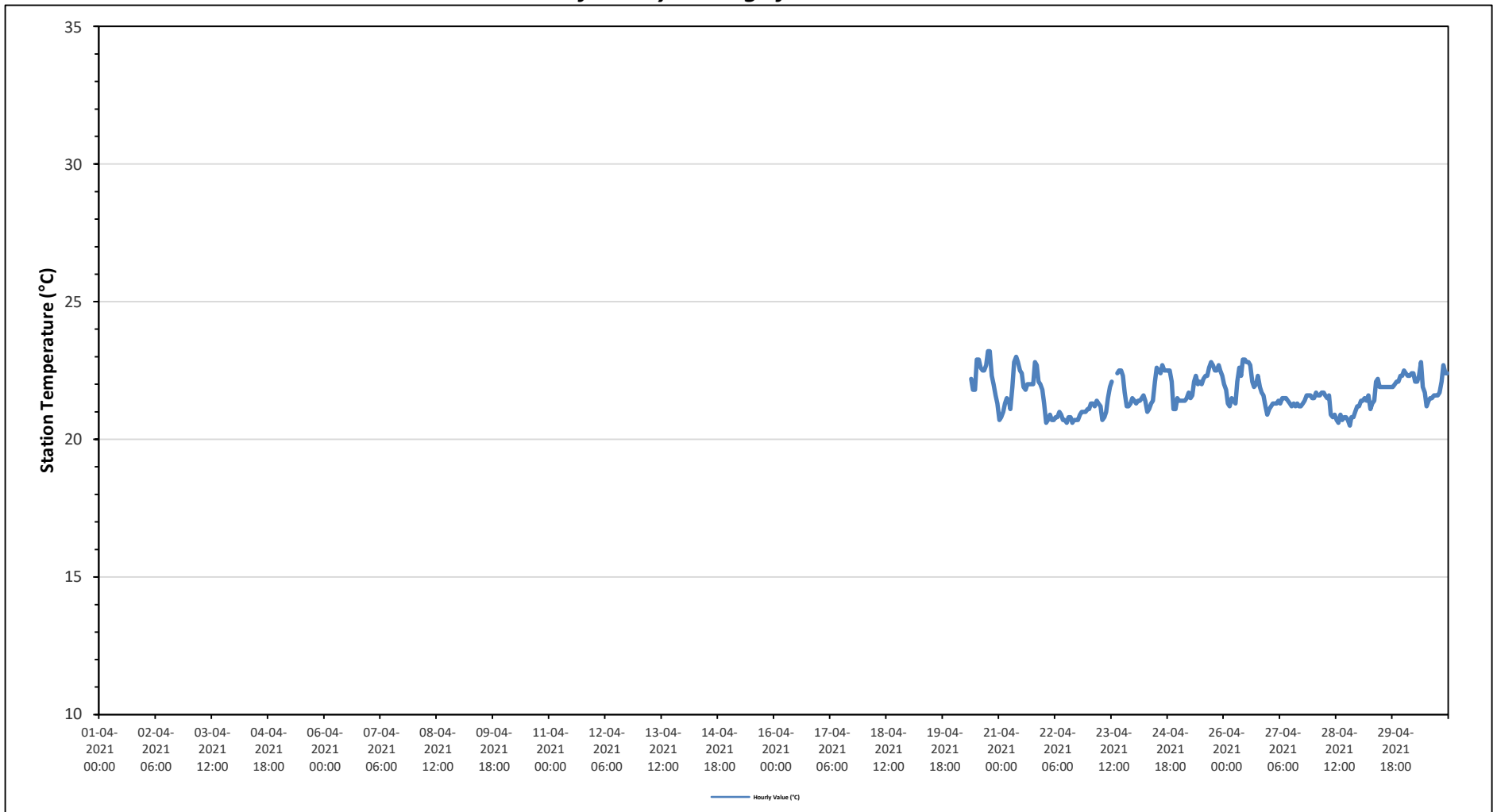
Maximum Hourly Value:	23.2 °C	on April 20 at hour 18	Hours in Service:	720
Maximum Daily Value:	22.1 °C	on April 25	Hours of Data:	253
Minimum Hourly Value:	20.5 °C	on April 28 at hour 19	Hours of Missing Data:	467
Minimum Daily Value:	20.8 °C	on April 22	Hours of Calibration:	0
Monthly Average:	21.7 °C		Operational Uptime:	35.1

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Apr 1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 5	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 6	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 7	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 8	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 12	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 13	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 14	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 15	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 16	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 17	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 18	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 19	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 20	N	N	N	N	N	N	N	N	N	22.2	21.8	21.8	22.9	22.9	22.6	22.5	22.5	22.7	23.2	23.2	22.3	22.0	21.6	21.3	21.3	21.3	23.2	-
Apr 21	20.7	20.8	21.0	21.3	21.5	21.4	21.1	21.9	22.8	23.0	22.8	22.5	22.4	21.9	21.8	22.0	22.0	22.0	22.8	22.7	22.1	22.0	21.8	20.7	20.7	23.0	21.9	
Apr 22	21.3	20.6	20.7	20.9	20.7	20.8	20.8	21.0	20.9	20.7	20.7	20.6	20.8	20.8	20.6	20.7	20.7	20.7	20.9	21.0	21.0	21.0	21.1	20.6	21.3	20.8	20.8	
Apr 23	21.1	21.3	21.3	21.2	21.4	21.3	21.2	20.7	20.8	21.0	21.5	21.9	22.1	P	P	22.4	22.5	22.5	22.3	21.7	21.2	21.2	21.3	21.5	20.7	22.5	21.5	
Apr 24	21.4	21.3	21.4	21.4	21.5	21.6	21.4	21.0	21.1	21.3	21.4	22.1	22.6	22.5	22.4	22.7	22.5	22.5	22.5	22.5	22.1	21.1	21.1	21.5	21.0	22.7	21.8	
Apr 25	21.4	21.4	21.4	21.4	21.5	21.7	21.5	21.6	22.1	22.3	22.0	22.1	22.0	22.2	22.3	22.3	22.6	22.8	22.7	22.5	22.5	22.5	22.3	21.4	22.8	22.1	22.0	
Apr 26	22.0	21.8	21.3	21.2	21.5	21.4	21.3	22.1	22.6	22.3	22.9	22.9	22.8	22.8	22.7	22.1	21.9	22.0	22.3	21.9	21.7	21.6	21.2	20.9	20.9	22.9	22.0	
Apr 27	21.1	21.2	21.3	21.3	21.3	21.4	21.3	21.5	21.5	21.5	21.4	21.3	21.2	21.3	21.2	21.3	21.2	21.2	21.3	21.4	21.6	21.6	21.6	21.5	21.1	21.6	21.4	
Apr 28	21.5	21.7	21.6	21.6	21.7	21.7	21.6	21.5	21.6	20.9	20.8	20.9	20.7	20.6	20.9	20.7	20.8	20.8	20.7	20.5	20.8	20.8	21.0	21.2	20.5	21.7	21.1	
Apr 29	21.2	21.4	21.4	21.5	21.4	21.6	21.1	21.3	21.4	22.1	22.2	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	22.0	22.1	22.1	22.3	22.3	21.1	22.3	21.8	
Apr 30	22.5	22.4	22.3	22.3	22.4	22.4	22.1	22.1	22.3	22.8	21.9	21.7	21.2	21.4	21.5	21.5	21.6	21.6	21.6	21.7	22.1	22.1	22.7	22.4	21.2	22.8	22.0	
Diurnal Maximum	22.5	22.4	22.3	22.3	22.4	22.4	22.1	22.1	22.8	23.0	22.9	22.9	22.9	22.9	22.7	22.7	22.6	22.8	23.2	23.2	22.7	22.7	22.5	22.4				
Daiurnal Average	21.4	21.4	21.4	21.4	21.5	21.5	21.3	21.5	21.7	21.8	21.8	21.9	21.8	21.8	21.8	21.8	21.8	21.9	21.9	21.9	21.8	21.7	21.6	21.6				

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	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.

Timeseries Chart of Hourly Average for ST - Cold Lake South Station





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - April 2021

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

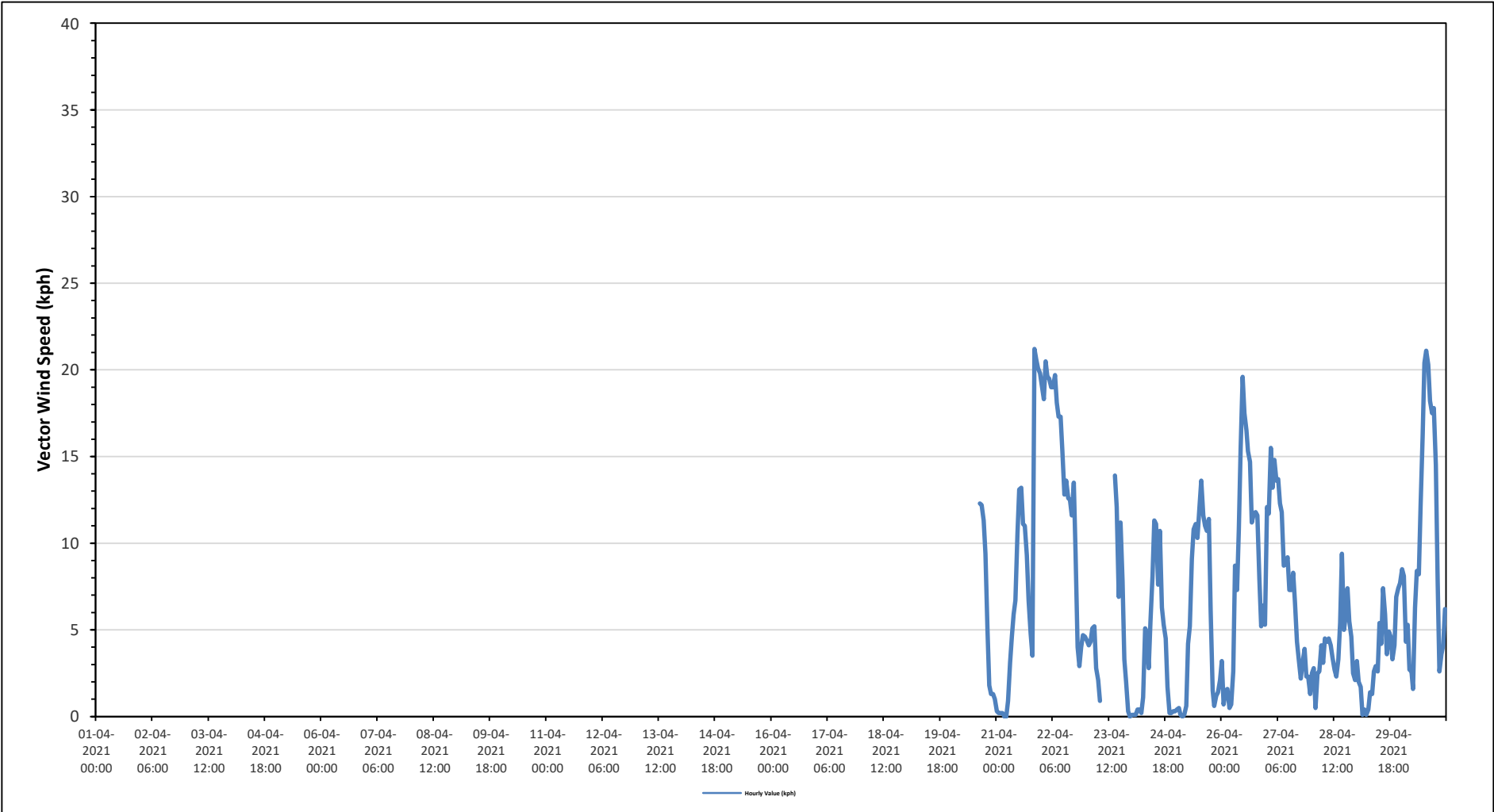
Maximum Hourly Value:	21.2 kph	on April 21 at hour 20	Hours in Service:	720
Maximum Daily Value:	12.8 kph	on April 22	Hours of Data:	242
Minimum Hourly Value:	0.0 kph	on April 21 at hour 4	Hours of Missing Data:	473
Minimum Daily Value:	1.4 kph	on April 29	Hours of Calibration:	5
Monthly Average:	3.1 kph		Operational Uptime:	34.3

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Apr 1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	
Apr 2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 5	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 6	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 7	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 8	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 12	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 13	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 14	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 15	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 16	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 17	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 18	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 19	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-
Apr 20	N	N	N	N	N	N	N	N	N	N	C	C	C	C	C	12.3	12.2	11.3	9.4	5.0	1.8	1.3	1.3	1.0	-	-	-	
Apr 21	0.3	0.2	0.2	0.2	0.0	0.0	0.9	3.1	4.6	5.9	6.7	10.5	13.1	13.2	11.1	11.0	9.3	6.7	4.8	3.5	21.2	20.6	20.1	19.8	0.0	21.2	3.5	
Apr 22	19.1	18.3	20.5	19.6	19.5	19.0	19.0	19.7	18.1	17.3	17.3	15.3	12.8	13.6	12.6	12.5	11.6	13.5	9.4	4.0	2.9	4.0	4.7	4.6	2.9	20.5	12.8	
Apr 23	4.4	4.1	4.3	5.1	5.2	2.8	2.1	0.9	Y	Y	Y	Y	Y	P	P	13.9	12.1	6.9	11.2	7.8	3.3	2.0	0.3	0.0	0.0	13.9	-	
Apr 24	0.1	0.1	0.1	0.4	0.4	0.2	1.1	5.1	4.9	2.8	5.5	8.1	11.3	11.1	7.6	10.7	6.3	5.3	4.5	1.7	0.2	0.2	0.3	0.3	0.1	11.3	1.9	
Apr 25	0.4	0.5	0.1	0.0	0.1	0.6	4.2	5.2	9.1	10.8	11.1	10.3	12.1	13.6	11.6	11.0	10.7	11.4	6.1	1.5	0.6	1.2	1.4	2.1	0.0	13.6	5.2	
Apr 26	3.2	0.7	1.5	1.6	0.5	0.7	2.6	8.7	7.3	10.8	15.4	19.6	17.5	16.5	15.3	14.7	11.2	11.7	11.8	11.6	7.9	5.2	6.4	5.3	0.5	19.6	3.4	
Apr 27	12.1	11.7	15.5	13.2	14.8	13.6	13.7	12.3	11.8	8.7	8.8	9.2	7.3	7.3	8.3	6.6	4.3	3.3	2.2	3.1	3.9	2.3	2.3	1.3	1.3	15.5	7.6	
Apr 28	2.5	2.8	0.5	2.5	2.6	4.1	3.1	4.5	4.3	4.5	4.1	3.4	2.7	2.3	3.3	5.4	9.4	5.0	5.8	7.4	5.5	4.6	2.5	2.1	0.5	9.4	1.9	
Apr 29	3.2	2.0	1.7	0.1	0.4	0.1	0.4	1.4	1.3	2.6	2.9	2.6	5.4	4.2	7.4	5.9	3.6	4.9	4.6	3.3	4.1	6.9	7.4	7.7	0.1	7.7	1.4	
Apr 30	8.5	8.1	4.3	5.3	2.7	2.6	1.6	6.3	8.4	8.2	12.2	16.2	20.4	21.1	20.3	18.2	17.5	17.8	14.5	7.9	2.6	3.6	4.1	6.2	1.6	21.1	6.8	
Diurnal Maximum	19	18	21	20	20	19	19	20	18	17	17	20	20	21	20	18	18	18	15	12	21	21	20	20				
Diurnal Average	5.4	4.9	4.9	4.8	4.6	4.4	4.9	6.7	7.8	8.0	9.3	10.6	11.4	11.4	10.8	11.1	9.8	8.9	7.7	5.2	4.9	4.7	4.6	4.6				

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	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

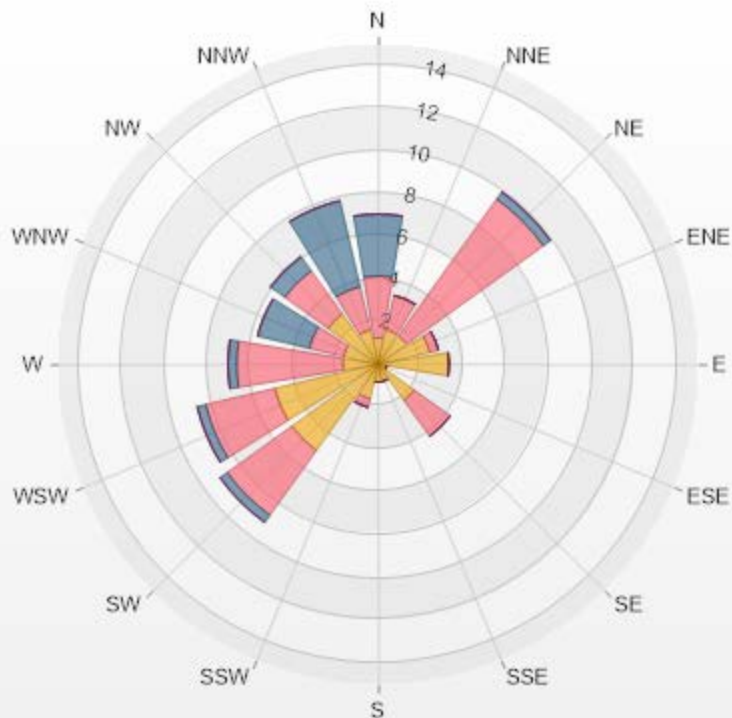
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for VWS - Cold Lake South Station



Wind: Cold Lake South Monitor: WDS [kph] Monthly: 04-2021 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 20.66% Valid Data: 33.61%

Direction	1.8-6.0	6.0-15.0	15.0-29.0	29.0-39.0	>39.0	Total
N	1.24	2.89	2.89	0	0	7.02
NNE	1.65	1.65	0	0	0	3.3
NE	1.65	7.85	0.41	0	0	9.91
ENE	2.48	0.41	0	0	0	2.89
E	3.31	0	0	0	0	3.31
ESE	0.41	0	0	0	0	0.41
SE	2.07	2.07	0	0	0	4.14
SSE	0.83	0	0	0	0	0.83
S	0.83	0	0	0	0	0.83
SSW	1.65	0.41	0	0	0	2.06
SW	4.96	3.72	0.41	0	0	9.09
WSW	4.96	3.31	0.41	0	0	8.68
W	1.65	4.96	0.41	0	0	7.02
WNW	1.65	1.65	2.48	0	0	5.78
NW	2.89	2.48	0.83	0	0	6.2
NNW	1.65	2.07	4.13	0	0	7.85
Summary	33.88	33.47	11.97	0	0	79.32



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% Icon Classes (kph)

34 1.8-6.0

33 6.0-15.0

12 15.0-29.0

0 29.0-39.0

0 >39.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - April 2021

Summary of Hourly Averages

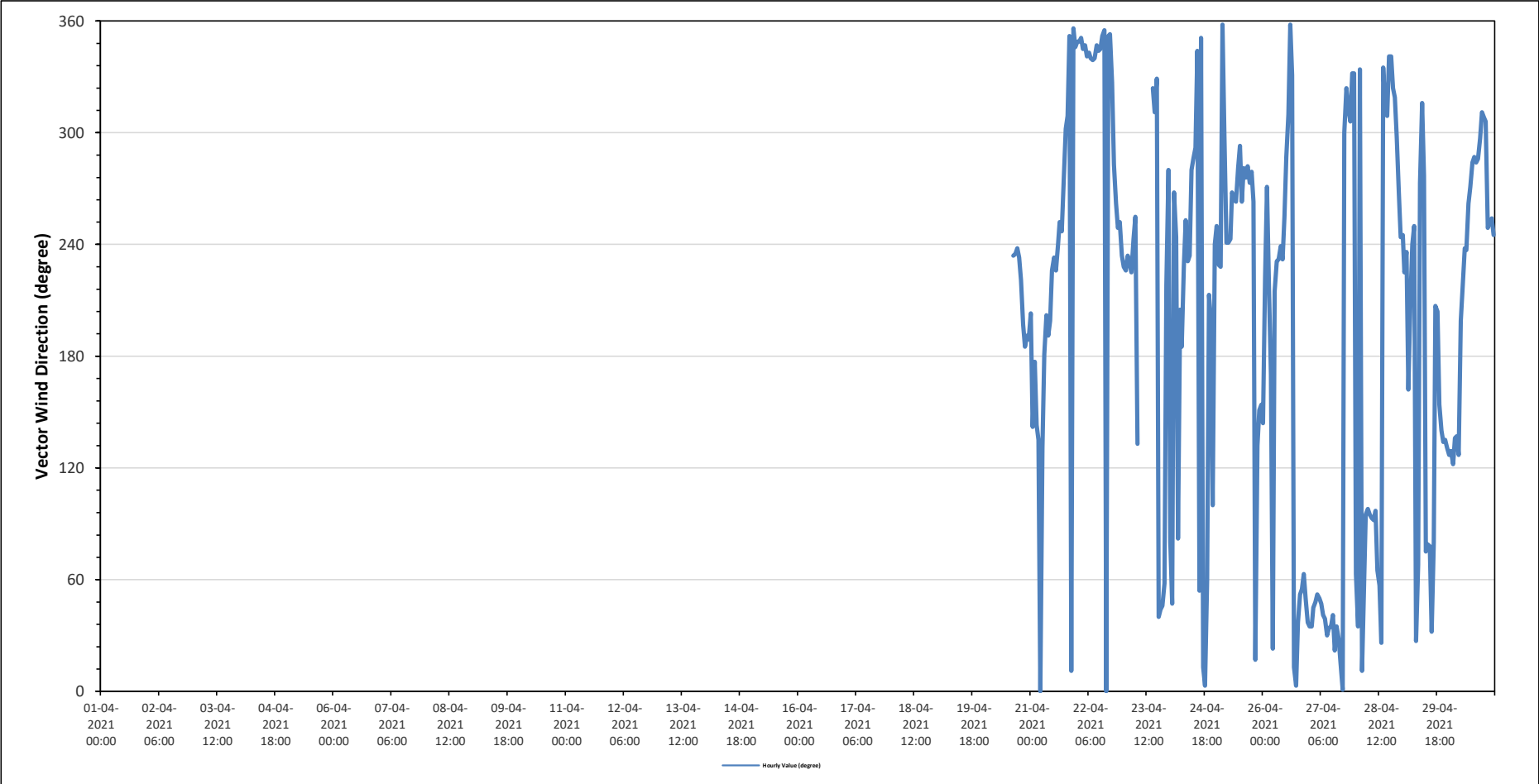
WIND DIRECTION (VWD) in sector

Monthly Average:	321 (NW) degree	Hours in Service:	720
		Hours of Data:	242
		Hours of Missing Data:	473
		Hours of Calibration:	5
		Operational Uptime:	34.3

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	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-
Apr 2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-
Apr 3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-
Apr 4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-
Apr 5	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-
Apr 6	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-
Apr 7	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-
Apr 8	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-
Apr 9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-
Apr 10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-
Apr 11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-
Apr 12	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-
Apr 13	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-
Apr 14	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-
Apr 15	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-
Apr 16	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-
Apr 17	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-
Apr 18	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-
Apr 19	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-
Apr 20	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-
Apr 21	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-
Apr 22	SSW	SE	S	SE	SE	N	SE	S	SSW	S	SSW	SW	SW	SW	WSW	WSW	SW	W	WNW	NW	N	NNE	N	NNW	289	WNW
Apr 23	NNW	NNW	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	N	N	N	NW	W	WSW	WSW	SW	SW	343	NNW
Apr 24	SW	SW	SW	SW	SW	WSW	WSW	SE	Y	Y	Y	Y	Y	P	P	NW	NW	NNW	NE	NE	NE	ENE	SW	W	-	NW
Apr 25	E	NE	W	WSW	E	SSW	S	SW	WSW	SW	SW	W	WNW	WNW	NNW	NE	N	NNE	N	ENE	SSW	SSW	E	WSW	307	NW
Apr 26	WSW	SW	SW	N	WNW	WSW	WSW	WSW	W	W	W	W	WNW	W	W	W	W	W	W	NNE	SE	SSE	SSE	W	270	W
Apr 27	SE	SW	W	SSW	SSE	NNE	SSW	SW	SW	WSW	SW	WSW	WNW	NW	N	NNW	NNE	N	NE	NE	NE	ENE	NE	NE	319	NW
Apr 28	NE	NE	NE	NE	NE	NE	NE	NE	NE	NNE	NE	NE	NE	NNE	NE	NNE	N	WNW	NW	NW	NW	NNW	NNW	W	34	NE
Apr 29	ENE	NE	NNW	NNE	NE	E	E	E	E	E	ENE	ENE	ENE	NNW	NW	NW	NNW	NNW	NW	NW	NNW	W	WSW	W	6	N
Apr 30	WSW	SW	SW	SSE	SSW	WSW	WSW	NNE	ENE	W	NW	W	ENE	ENE	ENE	NNE	E	SSW	SSW	SSE	SE	SE	SE	SE	127	SE
Apr 30	SE	SE	ESE	SE	SE	SE	SSW	SW	SW	SW	W	W	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	WSW	WSW	WSW	WSW	274	W

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.

Timeseries Chart of Hourly Average for VWD - Cold Lake South Station





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - April 2021

Summary of Hourly Averages

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

WIND SPEED																																													
Maximum Hourly Value:	21.2	kph	on April 21	at hour 20	Hours in Service:	720																																							
Maximum Daily Value:	12.8	kph	on April 22																							Hours of Data:	242																		
Minimum Hourly Value:	0.0	kph	on April 21	at hour 4	Hours of Missing Data:	473																																							
Minimum Daily Value:	1.4	kph	on April 29																							Hours of Calibration:	5																		
Monthly Average:	3.1	kph																							Operational Uptime:	34.3																			
WIND DIRECTION																																													
Monthly Average:	321 (NW) degree																																												
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	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-																	
Apr 2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-																	
Apr 3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-																	
Apr 4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-																	
Apr 5	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-																	
Apr 6	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-																	
Apr 7	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-																	
Apr 8	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-																	
Apr 9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-																	
Apr 10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-																	
Apr 11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-																	
Apr 12	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-																	
Apr 13	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-																	
Apr 14	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-																	
Apr 15	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-																	
Apr 16	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-																	
Apr 17	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-																	
Apr 18	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-																	
Apr 19	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-																	
Apr 20	N	N	N	N	N	N	N	N	N	N	C	C	C	C	C	12.3	12.2	11.3	9.4	5.0	1.8	1.3	1.3	1.0	-	-	-																		
	N	N	N	N	N	N	N	N	N	N	C	C	C	C	C	SW	SW	SW	SW	SW	SSW	S	S	S																					



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - April 2021

Summary of Hourly Averages

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

WIND SPEED																												
Maximum Hourly Value:	21.2	kph	on April 21 at hour 20	Hours in Service:	720																							
Maximum Daily Value:	12.8	kph	on April 22	Hours of Data:	242																							
Minimum Hourly Value:	0.0	kph	on April 21 at hour 4	Hours of Missing Data:	473																							
Minimum Daily Value:	1.4	kph	on April 29	Hours of Calibration:	5																							
Monthly Average:	3.1	kph		Operational Uptime:	34.3																							
WIND DIRECTION																												
Monthly Average:	321 (NW) degree																											
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 21	0.3	0.2	0.2	0.2	0.0	0.0	0.9	3.1	4.6	5.9	6.7	10.5	13.1	13.2	11.1	11.0	9.3	6.7	4.8	3.5	21.2	20.6	20.1	19.8	0.0	21.2	3.5	
	SSW	SE	S	SE	SE	N	SE	S	SSW	S	SSW	SW	SW	SW	WSW	WSW	WSW	W	WNW	NW	N	NNE	N	NNW				
Apr 22	19.1	18.3	20.5	19.6	19.5	19.0	19.0	19.7	18.1	17.3	17.3	15.3	12.8	13.6	12.6	12.5	11.6	13.5	9.4	4.0	2.9	4.0	4.7	4.6	2.9	20.5	12.8	
	NNW	NNW	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	N	N	N	N	NW	W	W	WSW	WSW	SW				
Apr 23	4.4	4.1	4.3	5.1	5.2	2.8	2.1	0.9	Y	Y	Y	Y	Y	Y	P	P	13.9	12.1	6.9	11.2	7.8	3.3	2.0	0.3	0.0	0.0	13.9	-
	SW	SW	SW	SW	WSW	WSW	SE	Y	Y	Y	Y	Y	Y	P	P	NW	NW	NNW	NE	NE	NE	ENE	SW	W				
Apr 24	0.1	0.1	0.1	0.4	0.4	0.2	1.1	5.1	4.9	2.8	5.5	8.1	11.3	11.1	7.6	10.7	6.3	5.3	4.5	1.7	0.2	0.2	0.3	0.3	0.1	11.3	1.9	
	E	NE	W	WSW	E	SSW	S	SW	WSW	SW	SW	W	WNW	WNW	NNW	NE	N	NNE	N	ENE	SSW	SSW	E	WSW				
Apr 25	0.4	0.5	0.1	0.0	0.1	0.6	4.2	5.2	9.1	10.8	11.1	10.3	12.1	13.6	11.6	11.0	10.7	11.4	6.1	1.5	0.6	1.2	1.4	2.1	0.0	13.6	5.2	
	WSW	SW	SW	N	WNW	WSW	WSW	WSW	W	W	W	WNW	W	W	W	W	W	W	W	W	NNE	SE	SSE	SSE				
Apr 26	3.2	0.7	1.5	1.6	0.5	0.7	2.6	8.7	7.3	10.8	15.4	19.6	17.5	16.5	15.3	14.7	11.2	11.7	11.8	11.6	7.9	5.2	6.4	5.3	0.5	19.6	3.4	
	SE	SW	W	SSW	SSE	NNE	SSW	SW	SW	WSW	SW	WSW	WNW	NW	N	NNW	NNE	N	NE	NE	NE	ENE	NE	NE				
Apr 27	12.1	11.7	15.5	13.2	14.8	13.6	13.7	12.3	11.8	8.7	8.8	9.2	7.3	7.3	8.3	6.6	4.3	3.3	2.2	3.1	3.9	2.3	2.3	1.3	1.3	15.5	7.6	
	NE	NE	NE	NE	NE	NE	NE	NE	NE	NNE	NE	NE	NE	NNE	NE	NNE	NNE	N	WNW	NW	NW	NW	NNW	NNW				
Apr 28	2.5	2.8	0.5	2.5	2.6	4.1	3.1	4.5	4.3	4.5	4.1	3.4	2.7	2.3	3.3	5.4	9.4	5.0	5.8	7.4	5.5	4.6	2.5	2.1	0.5	9.4	1.9	
	ENE	NE	NNW	NNE	NE	E	E	E	E	E	E	ENE	ENE	NNE	NNW	NW	NW	NNW	NNW	NW	NW	WNW	W	WSW				
Apr 29	3.2	2.0	1.7	0.1	0.4	0.1	0.4	1.4	1.3	2.6	2.9	2.6	5.4	4.2	7.4	5.9	3.6	4.9	4.6	3.3	4.1	6.9	7.4	7.7	0.1	7.7	1.4	
	WSW	SW	SW	SSE	SSW	WSW	WSW	NNE	ENE	W	NW	W	ENE	ENE	ENE	NNE	E	SSW	SSW	SSE	SE	SE	SE	SE				
Apr 30	8.5	8.1	4.3	5.3	2.7	2.6	1.6	6.3	8.4	8.2	12.2	16.2	20.4	21.1	20.3	18.2	17.5	17.8	14.5	7.9	2.6	3.6	4.1	6.2	1.6	21.1	6.8	
	SE	SE	ESE	SE	SE	SSW	SW	SW	SW	W	W	WNW	WNW	WNW	WNW	NNW	NW	NW	NW	NW	WSW	WSW	WSW	WSW				
C	Monthly Calibration							S	Daily Zero-Span Check							Q	Quality Assurance											
K	Collection Error							N	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 2021

Summary of Hour Standard Deviations

STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

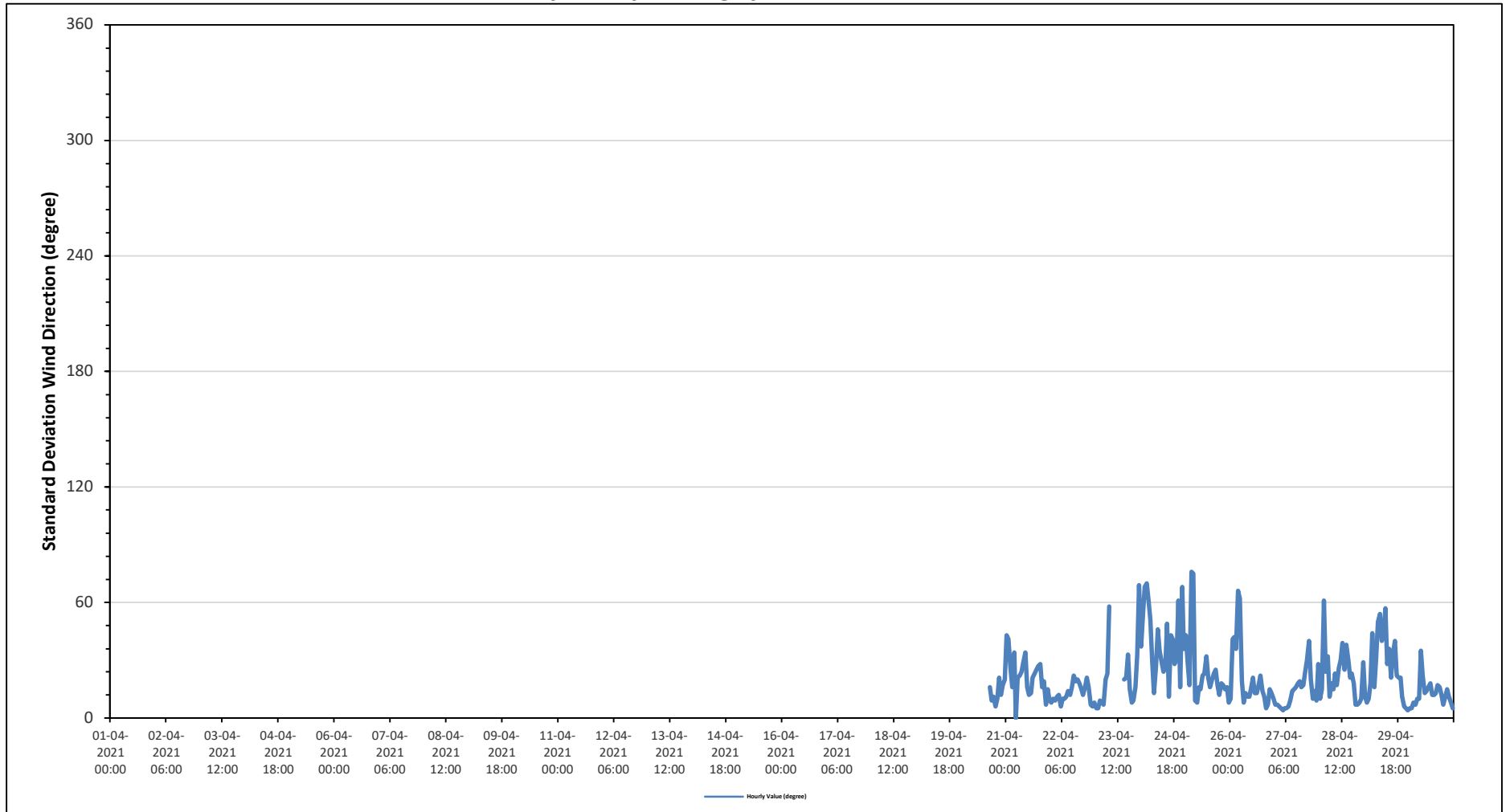
Maximum Hourly Value:	76 degree on April 25 at hour 3	Hours in Service:	720
Minimum Hourly Value:	0 degree on April 21 at hour 5	Hours of Data:	242
		Hours of Missing Data:	473
		Hours of Calibration:	5
		Operational Uptime:	34.3

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	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N			
Apr 2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		
Apr 3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		
Apr 4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		
Apr 5	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		
Apr 6	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		
Apr 7	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		
Apr 8	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		
Apr 9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		
Apr 10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		
Apr 11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		
Apr 12	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		
Apr 13	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		
Apr 14	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		
Apr 15	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		
Apr 16	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		
Apr 17	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		
Apr 18	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		
Apr 19	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		
Apr 20	N	N	N	N	N	N	N	N	N	N	C	C	C	C	C		16	9	11	6	10	21	12	17	20	6	21
Apr 21	43	41	26	16	34	0	21	22	24	29	34	16	12	13	21	23	25	27	28	16	19	7	15	9	0	43	
Apr 22	8	10	9	11	12	6	10	10	11	14	12	16	22	19	20	18	15	12	16	21	16	7	6	8	6	22	
Apr 23	5	5	9	8	7	20	23	58	Y	Y	Y	Y	Y	P	P	20	21	33	15	8	9	16	33	69	5	69	
Apr 24	37	53	68	70	61	51	30	13	27	46	35	29	24	26	49	11	43	41	28	31	61	16	68	36	11	70	
Apr 25	43	29	17	76	75	9	8	16	15	22	23	32	21	16	20	23	25	17	12	18	17	15	16	8	8	76	
Apr 26	10	41	42	36	66	62	19	8	13	11	11	15	21	13	13	17	22	14	11	5	7	15	13	10	5	66	
Apr 27	7	7	6	5	4	5	5	6	9	14	15	16	18	19	16	17	24	30	40	20	10	14	9	28	4	40	
Apr 28	10	15	61	24	32	11	18	15	23	17	26	30	39	25	38	30	21	23	18	7	7	8	10	29	7	61	
Apr 29	11	8	10	18	44	16	31	50	54	40	45	57	28	36	21	33	40	22	21	11	6	5	4	4	4	57	
Apr 30	5	5	8	7	10	10	35	22	13	14	16	18	12	12	13	17	16	12	7	11	15	11	8	5	5	35	
Diurnal Minimum	5	5	6	5	4	0	5	6	9	11	11	15	12	12	13	11	9	11	6	5	7	6	5	4			
Diurnal Maximum	43	53	68	76	75	62	35	58	54	46	45	57	39	36	49	33	43	41	40	31	61	16	68	69			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	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

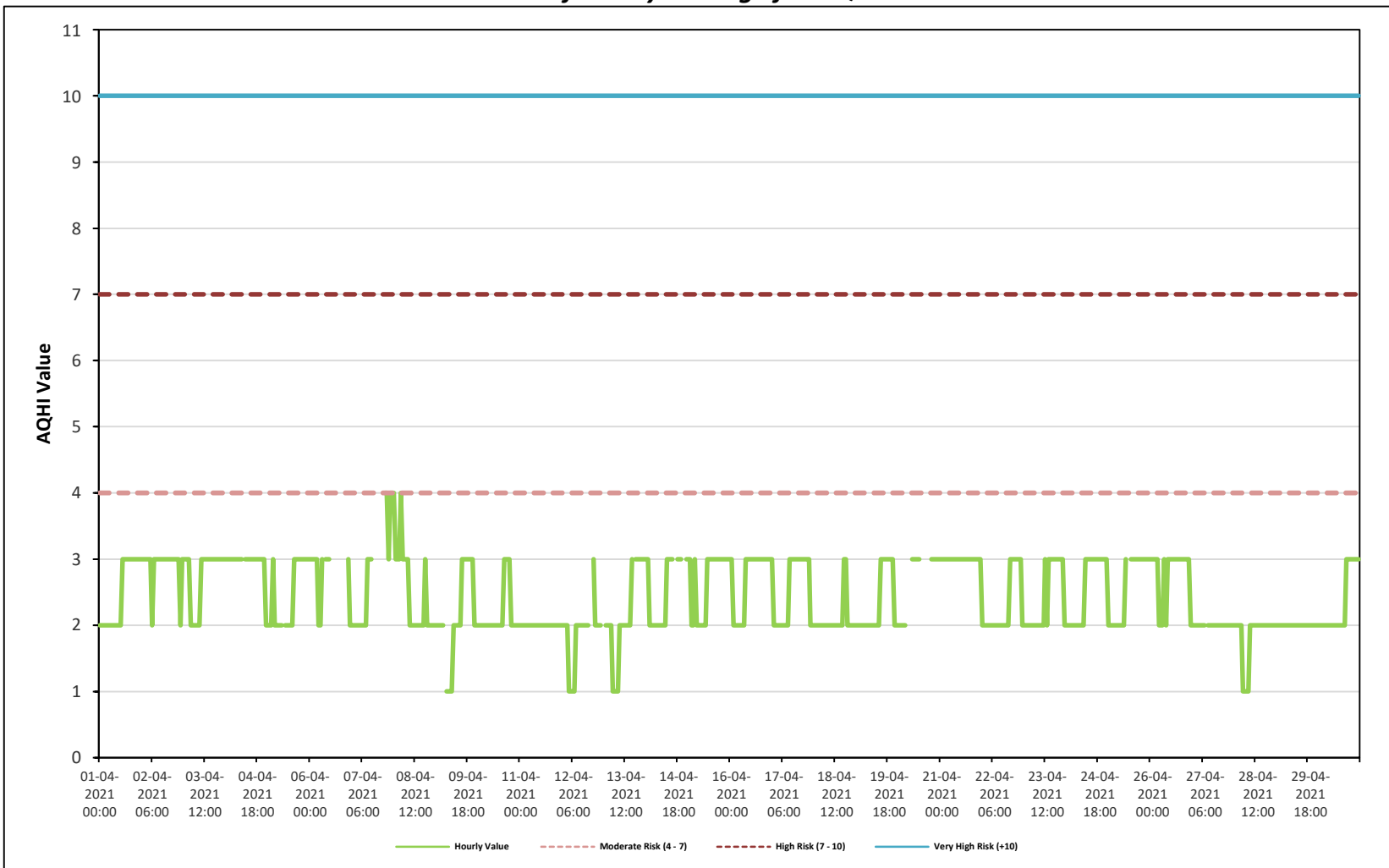
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for STDWD - Cold Lake South Station



TAMARACK STATION

Timeseries Chart of Hourly Average for AQHI - Tamarack Site





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Tamarack Site - April 2021

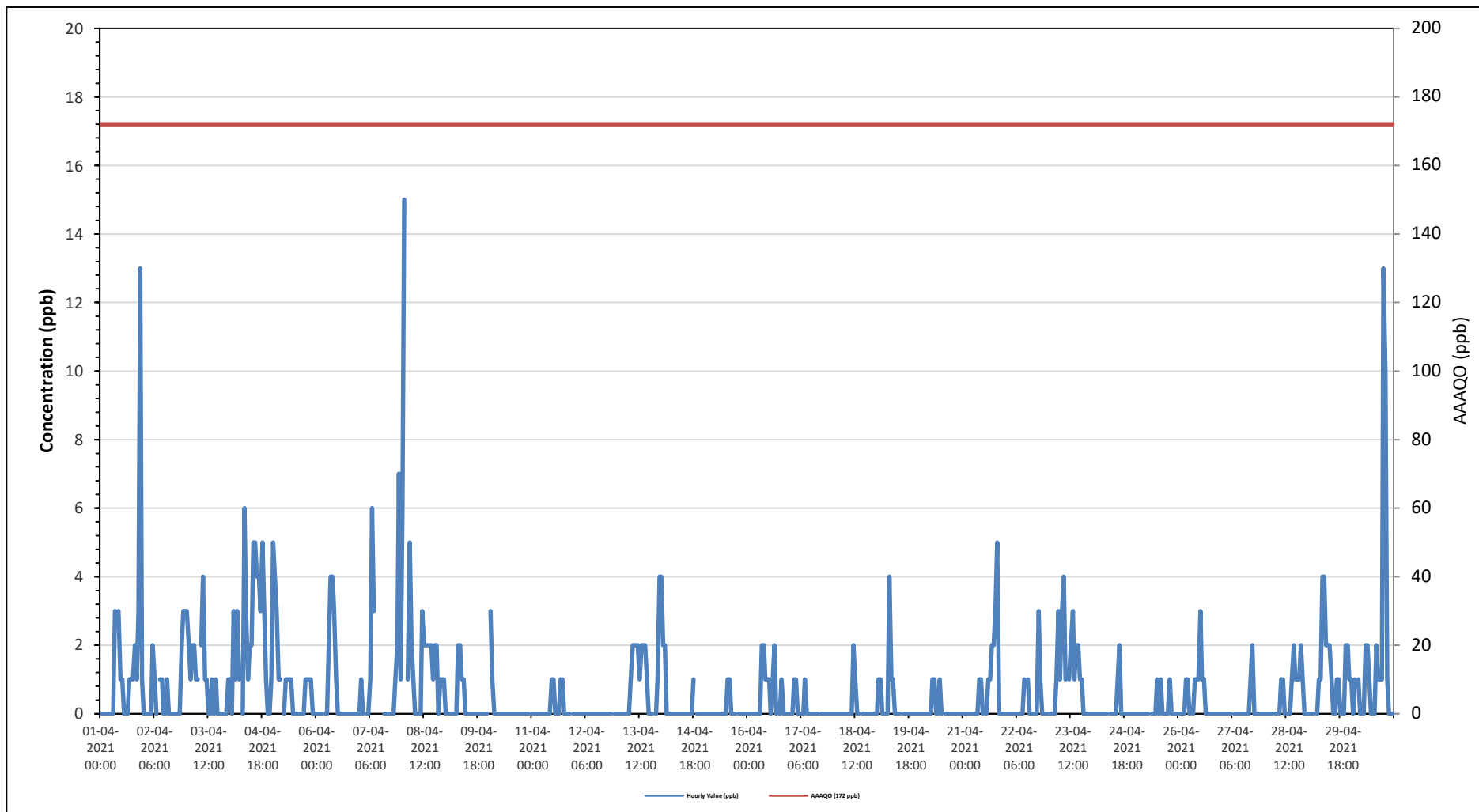
Summary of Hourly Averages

SULPHUR DIOXIDE (SO₂) in ppb

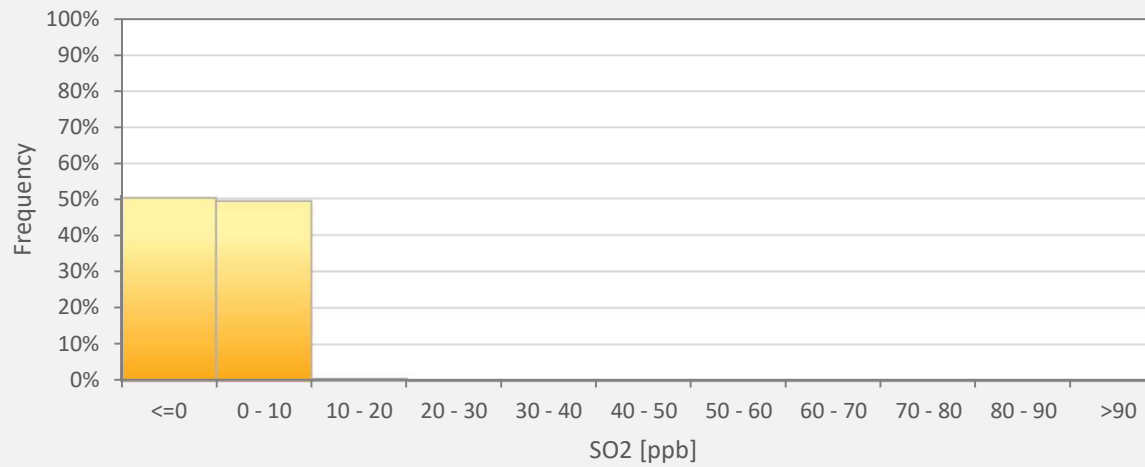
Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 172 ppb, 24-Hour 48 ppb, 30-Day 11 ppb																											
Number of 1-Hour Exceedences: 0					Number of 24-Hour Exceedences: 0					30-Day Exceedence: 0																	
Maximum Hourly Value: 15 ppb on April 8 at hour 1										Hours in Service: 720																	
Maximum Daily Value: 2.3 ppb on April 4										Hours of Data: 684																	
Minimum Hourly Value: 0 ppb on April 1 at hour 0										Hours of Missing Data: 0																	
Minimum Daily Value: 0.0 ppb on April 12										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	0	0	0	0	0	0	0	0	3	S	3	1	1	0	0	0	1	1	1	2	1	3	13	1	0	13	1.3
Apr 2	0	0	0	0	0	2	1	0	S	1	1	0	0	1	0	0	0	0	0	0	0	2	3	3	0	3	0.6
Apr 3	3	2	1	2	2	1	1	S	2	4	1	1	0	0	1	0	1	0	0	0	0	0	0	1	0	4	1.0
Apr 4	1	0	3	1	3	1	S	0	6	3	1	2	2	5	5	4	4	3	5	3	1	0	0	1	0	6	2.3
Apr 5	5	4	3	1	1	S	0	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	0	0	0	5	1.0
Apr 6	0	0	0	0	S	0	0	2	4	4	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0.6
Apr 7	0	1	0	S	0	0	1	6	3	C	C	C	C	C	0	0	0	0	0	0	1	2	7	1	0	7	1.2
Apr 8	6	15	S	1	5	2	1	0	0	0	0	3	2	2	2	2	2	1	2	2	0	1	1	1	0	15	2.2
Apr 9	0	S	0	0	0	0	0	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.3
Apr 10	S	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	3	0.2
Apr 11	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	S	0	0	1	0.2
Apr 12	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 13	0	0	0	0	0	0	0	1	2	2	2	2	1	2	2	2	1	0	0	0	S	0	1	4	0	4	1.0
Apr 14	4	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	S	0	0	0	0	0	4	0.4
Apr 15	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	S	0	0	0	0	0	0	1	0.1
Apr 16	0	0	0	0	0	0	0	0	2	2	1	1	1	0	1	2	0	S	0	1	0	0	0	0	0	2	0.5
Apr 17	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	1	0.1
Apr 18	0	0	0	0	0	0	0	0	0	0	2	1	0	0	S	0	0	0	0	0	0	0	0	0	0	2	0.1
Apr 19	0	1	1	0	0	0	0	4	1	1	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	4	0.3
Apr 20	0	0	0	0	0	0	0	1	1	0	0	1	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Apr 21	0	0	0	0	0	0	0	0	0	1	1	0	S	0	1	1	2	2	3	5	0	0	0	0	0	5	0.7
Apr 22	0	0	0	0	0	0	0	0	0	0	1	S	1	0	0	0	0	0	3	1	0	0	0	0	0	3	0.3
Apr 23	0	0	0	0	1	3	1	3	4	1	S	1	2	3	1	2	2	1	1	0	0	0	0	0	0	4	1.1
Apr 24	0	0	0	0	0	0	0	0	0	S	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	2	0.1
Apr 25	0	0	0	0	0	0	0	0	S	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	1	0.1
Apr 26	0	0	0	0	1	1	0	S	0	1	1	1	3	1	1	0	0	0	0	0	0	0	0	0	0	3	0.4
Apr 27	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	2	0.1
Apr 28	0	0	0	0	0	S	0	0	0	1	1	0	0	0	0	1	2	1	1	1	2	1	0	0	0	2	0.5
Apr 29	0	0	0	0	S	0	1	1	4	4	2	2	2	1	0	0	1	1	0	0	0	2	2	1	0	4	1.0
Apr 30	1	0	1	S	1	0	0	0	2	2	1	0	0	0	2	1	1	1	13	10	1	0	0	0	0	13	1.6
Diurnal Maximum	6	15	3	2	5	3	1	6	6	4	3	3	3	5	5	4	4	3	13	10	2	3	13	4			
Diurnal Average	0.7	1.0	0.4	0.2	0.5	0.4	0.2	0.8	1.4	1.1	0.8	0.7	0.6	0.6	0.7	0.6	0.7	0.5	1.1	0.9	0.2	0.4	0.9	0.4			
C	Monthly Calibration										S Daily Zero-Span Check					Q Quality Assurance											
K	Collection Error										N 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.

Timeseries Chart of Hourly Average for SO₂ - Tamarack Site



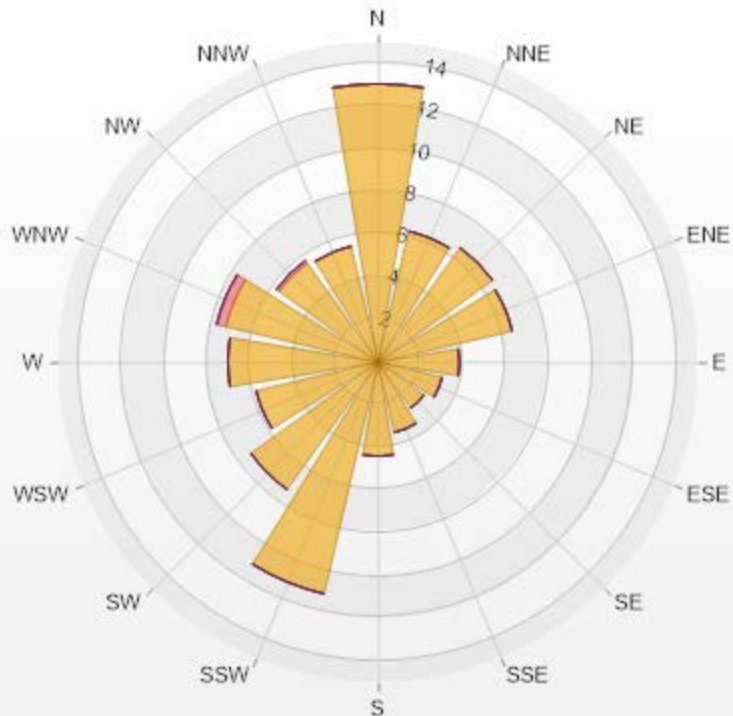
SO2[ppb] Histogram: Tamarack Monthly: 04-2021 1 Hr.



Classes	SO2
<=0	50.15%
0 - 10	49.27%
10 - 20	0.58%
20 - 30	0.00%
30 - 40	0.00%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Tamarack Poll.: Tamarack-SO2[ppb] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 95.00% Calm Avg: 0.00 [ppb]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	13.01	0	0	0	0	13.01
NNE	6.29	0	0	0	0	6.29
NE	6.58	0	0	0	0	6.58
ENE	6.43	0	0	0	0	6.43
E	3.8	0	0	0	0	3.8
ESE	3.07	0	0	0	0	3.07
SE	2.63	0	0	0	0	2.63
SSE	3.36	0	0	0	0	3.36
S	4.39	0	0	0	0	4.39
SSW	11.11	0	0	0	0	11.11
SW	7.31	0	0	0	0	7.31
WSW	5.85	0	0	0	0	5.85
W	7.02	0	0	0	0	7.02
WNW	7.31	0.44	0	0	0	7.75
NW	5.7	0.15	0	0	0	5.85
NNW	5.56	0	0	0	0	5.56
Summary	99.42	0.59	0	0	0	100



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% Icon Classes (ppb)

99 0-10

1 10-50

0 50-100

0 100-172

0 >172.0



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Tamarack Site - April 2021

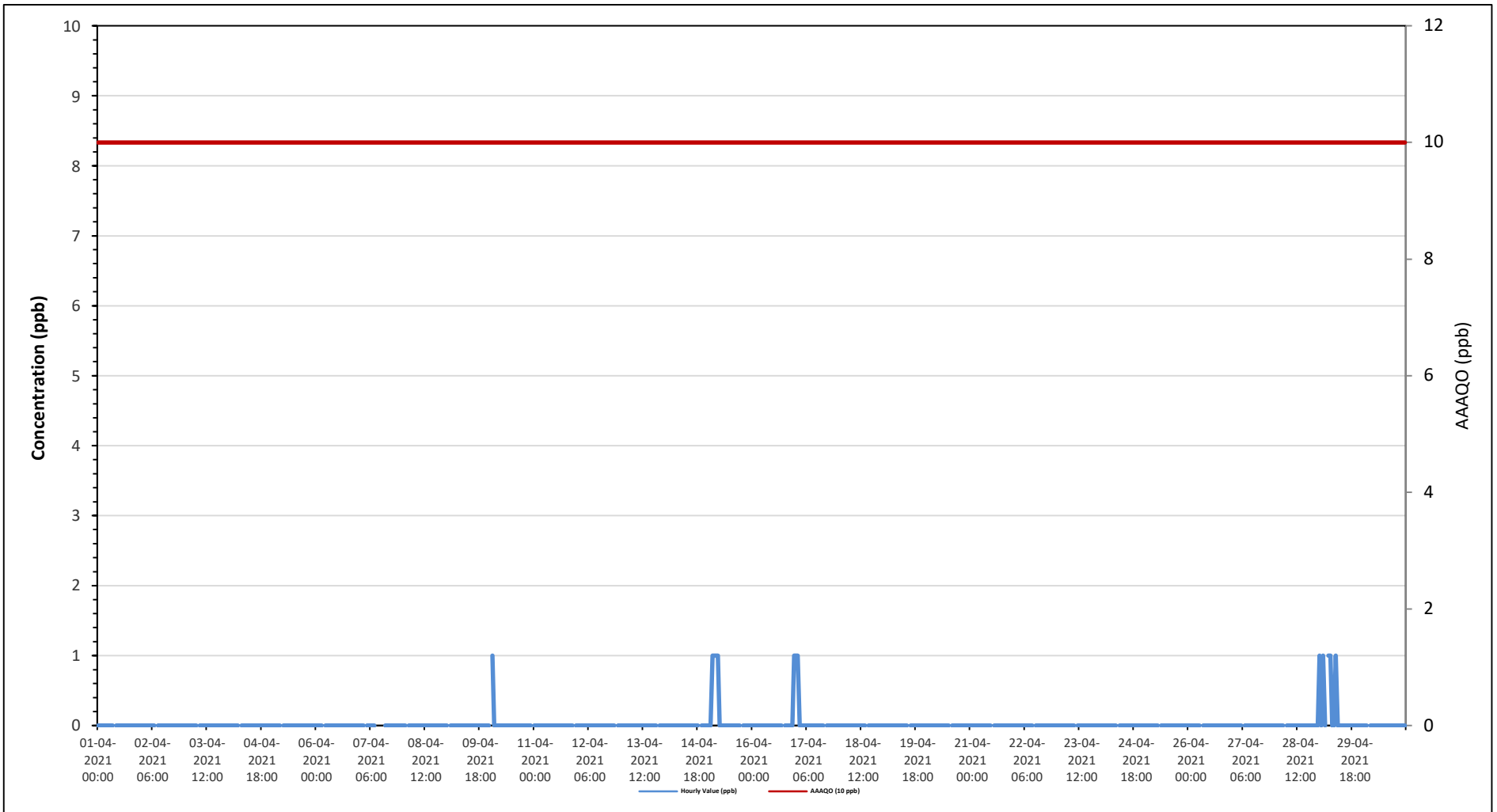
Summary of Hourly Averages

HYDROGEN SULPHIDE (H₂S) in ppb

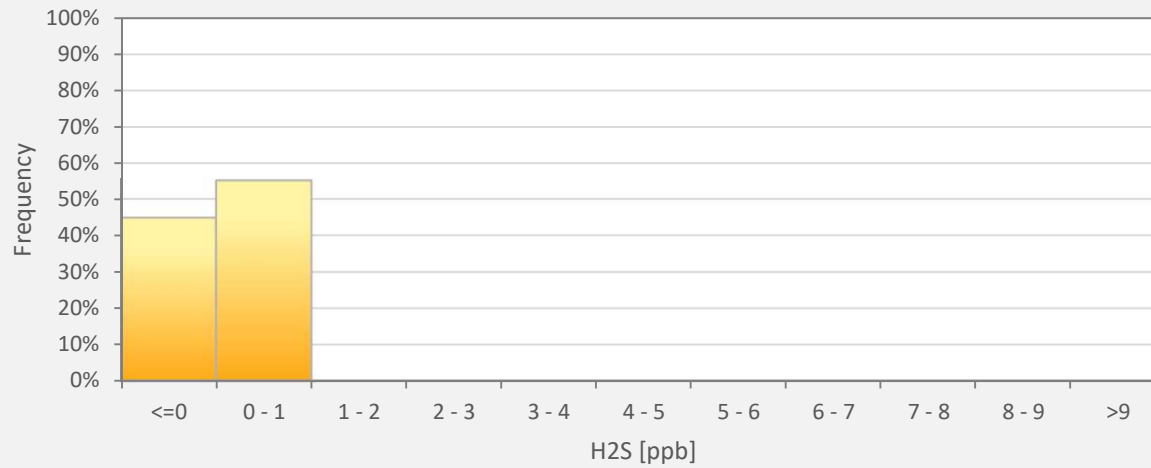
Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 10 ppb, 24-Hour 3 ppb																																	
Number of 1-Hour Exceedances: 0					Number of 24-Hour Exceedances: 0																												
Maximum Hourly Value: 1 ppb on April 10 at hour 1					Hours in Service: 720																												
Maximum Daily Value: 0.2 ppb on April 29					Hours of Data: 684																												
Minimum Hourly Value: 0 ppb on April 1 at hour 0					Hours of Missing Data: 0																												
Minimum Daily Value: 0.0 ppb on April 1					Hours of Calibration: 36																												
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	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 2	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					
Apr 3	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 4	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
Apr 5	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					
Apr 6	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 7	0	0	0	S	0	0	0	0	0	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
Apr 8	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 9	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 10	S	1	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					
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	S	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	S	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	S	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	S	0	0	0	0	0	0					
Apr 15	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0					
Apr 16	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	1	0					
Apr 17	1	1	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 18	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 19	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 20	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 21	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 22	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 23	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 24	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 25	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 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	0	S	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	S	0	0	0	0	0	0					
Apr 29	1	0	1	0	S	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
Apr 30	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					
Diurnal Maximum	1.0	1.0	1.0	1.0	1.0	1.0	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	0.0	0.0	0.0	0.0	0.0	1.0	1.0					
Diurnal Average	0.1	0.1	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	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										N	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.

Timeseries Chart of Hourly Average for H2S - Tamarack Site



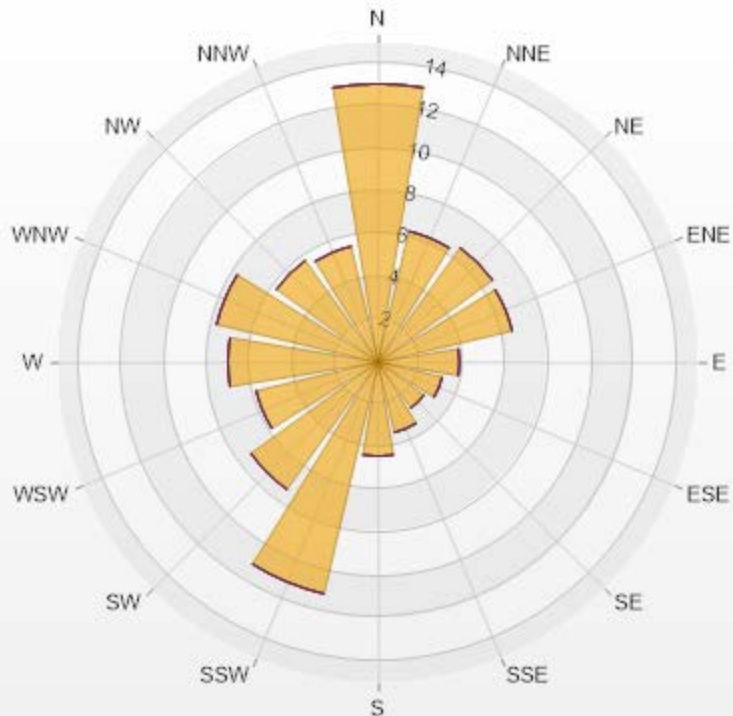
H2S[ppb] Histogram: Tamarack Monthly: 04-2021 1 Hr.



Classes	H2S
<=0	44.88%
0 - 1	55.12%
1 - 2	0.00%
2 - 3	0.00%
3 - 4	0.00%
4 - 5	0.00%
5 - 6	0.00%
6 - 7	0.00%
7 - 8	0.00%
8 - 9	0.00%
>9	0.00%

Wind: Tamarack Poll.: Tamarack-H2S[ppb] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 95.00% Calm Avg: 0.00 [ppb]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	13.01	0	0	0	0	13.01
NNE	6.29	0	0	0	0	6.29
NE	6.58	0	0	0	0	6.58
ENE	6.43	0	0	0	0	6.43
E	3.8	0	0	0	0	3.8
ESE	3.07	0	0	0	0	3.07
SE	2.63	0	0	0	0	2.63
SSE	3.36	0	0	0	0	3.36
S	4.39	0	0	0	0	4.39
SSW	11.11	0	0	0	0	11.11
SW	7.31	0	0	0	0	7.31
WSW	5.85	0	0	0	0	5.85
W	7.02	0	0	0	0	7.02
WNW	7.75	0	0	0	0	7.75
NW	5.85	0	0	0	0	5.85
NNW	5.56	0	0	0	0	5.56
Summary	100	0	0	0	0	100



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% Icon Classes (ppb)

100 0-2

0 2-5

0 5-10

0 10-50

0 >50.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - April 2021

Summary of Hourly Averages

OXIDES OF NITROGEN (NOx) in ppb

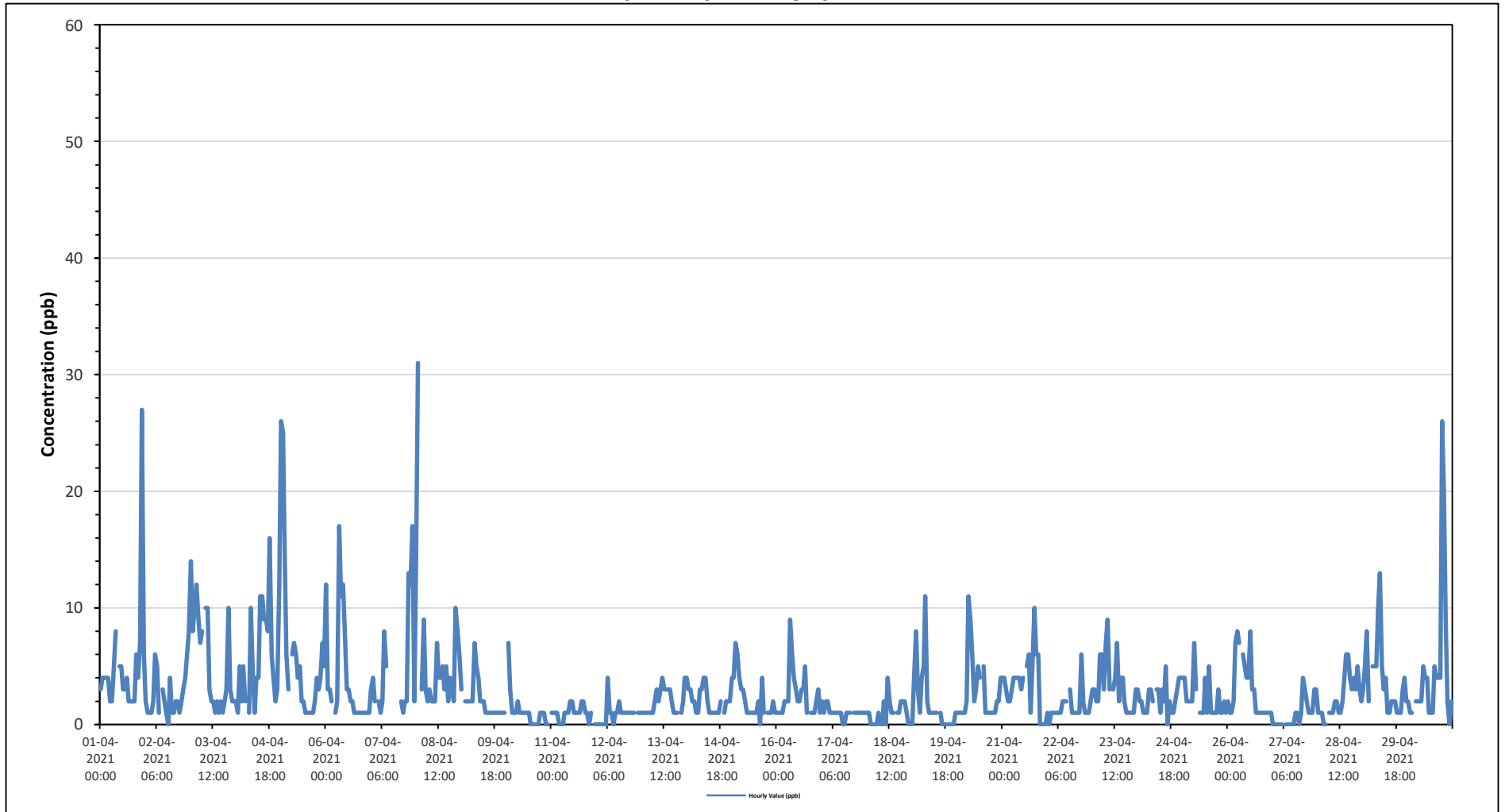
Maximum Hourly Value:	31 ppb on April 8 at hour 1	Hours in Service:	720
Maximum Daily Value:	6.0 ppb on April 5	Hours of Data:	682
Minimum Hourly Value:	0 ppb on April 2 at hour 12	Hours of Missing Data:	0
Minimum Daily Value:	0.9 ppb on April 12	Hours of Calibration:	38
Monthly Average:	2.9 ppb	Operational 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	3	4	4	4	4	2	2	5	8	S	5	5	3	3	4	2	2	2	2	6	4	7	27	6	2	27	5.0	
Apr 2	2	1	1	1	2	6	5	1	S	3	2	1	0	4	1	1	2	2	1	2	3	4	6	8	0	8	2.6	
Apr 3	14	8	10	12	9	7	8	S	10	10	3	2	2	1	2	1	2	1	2	3	10	3	2	2	1	14	5.4	
Apr 4	2	1	5	2	5	2	S	1	10	5	1	4	4	11	11	9	9	8	16	6	4	2	3	12	1	16	5.8	
Apr 5	26	25	15	6	3	S	6	7	6	4	5	2	2	1	1	1	1	1	2	4	3	4	7	5	1	26	6.0	
Apr 6	12	3	3	2	S	1	2	17	11	12	8	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	17	3.9
Apr 7	3	4	2	S	2	1	2	8	5	C	C	C	C	C	C	2	1	2	2	13	12	17	2	1	17	-		
Apr 8	15	31	S	3	9	3	2	3	2	2	2	7	4	4	5	3	5	2	4	3	2	10	8	6	2	31	5.9	
Apr 9	3	S	2	2	2	2	2	7	5	4	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	7	2.0	
Apr 10	S	7	3	1	1	1	2	1	1	1	1	1	1	0	0	0	0	1	1	1	1	0	0	S	0	7	1.1	
Apr 11	1	1	1	1	0	0	0	1	1	1	2	2	1	1	1	1	2	2	1	1	0	1	S	S	0	2	1.0	
Apr 12	0	0	0	0	0	0	4	1	1	0	1	1	2	1	1	1	1	1	1	1	1	S	1	1	0	4	0.9	
Apr 13	1	1	1	1	1	1	1	2	3	2	3	4	3	3	3	3	2	1	1	1	S	1	2	4	1	4	2.0	
Apr 14	4	3	3	2	2	1	1	3	3	4	4	2	1	1	1	1	1	1	1	S	1	2	2	2	1	4	2.0	
Apr 15	4	4	7	6	4	3	3	2	1	1	1	1	1	1	2	0	4	1	1	S	1	1	2	1	0	7	2.3	
Apr 16	1	1	1	1	2	2	2	9	6	4	3	2	2	3	3	5	1	S	1	1	1	2	3	1	1	9	2.5	
Apr 17	2	1	2	2	1	1	1	1	1	1	1	0	0	1	1	1	S	1	1	1	1	1	1	1	0	2	1.0	
Apr 18	1	1	0	0	0	0	1	0	0	2	0	4	2	1	1	S	1	1	2	2	2	1	0	0	0	4	1.0	
Apr 19	0	4	8	3	1	4	5	11	2	1	1	1	1	1	S	1	0	0	0	0	0	0	0	1	0	11	2.0	
Apr 20	1	1	1	1	1	2	11	9	6	2	3	5	4	S	5	1	1	1	1	1	1	2	2	4	1	11	2.9	
Apr 21	4	4	3	2	2	3	4	4	4	4	3	4	S	5	6	1	5	10	6	6	0	0	0	0	0	10	3.5	
Apr 22	1	0	1	1	1	1	1	1	2	2	2	2	S	3	1	1	1	1	6	2	1	1	1	2	0	6	1.5	
Apr 23	3	3	2	2	6	6	3	7	9	3	S	3	4	7	2	4	4	2	1	1	1	1	1	3	1	9	3.4	
Apr 24	3	2	2	1	1	1	3	3	2	S	3	3	1	3	2	5	0	2	1	1	2	3	4	4	0	5	2.3	
Apr 25	4	4	2	2	2	2	7	3	S	1	1	1	4	1	5	1	1	1	1	3	1	1	2	1	1	7	2.2	
Apr 26	2	1	1	2	7	8	7	S	6	5	4	4	8	3	3	1	1	1	1	1	1	1	1	1	1	1	8	3.0
Apr 27	0	0	0	0	0	0	S	0	0	0	0	0	1	1	0	1	4	3	2	1	1	1	3	3	0	4	0.9	
Apr 28	1	1	1	0	0	S	1	1	1	2	2	1	1	2	4	6	6	4	3	4	3	5	3	2	0	6	2.3	
Apr 29	3	5	8	2	S	5	5	5	10	13	5	3	4	1	1	2	2	2	1	1	1	3	4	2	1	13	3.8	
Apr 30	2	1	1	S	2	2	2	2	5	4	4	1	1	1	5	4	4	4	26	20	9	2	0	2	0	26	4.5	
Diurnal Maximum	26	31	15	12	9	8	11	17	11	13	8	7	8	11	11	9	9	10	26	20	13	12	27	12				
Diurnal Average	4.1	4.2	3.1	2.2	2.5	2.4	3.3	4.1	4.3	3.4	2.6	2.5	2.3	2.3	2.6	2.1	2.3	2.0	3.1	2.7	2.4	2.5	3.6	2.7				

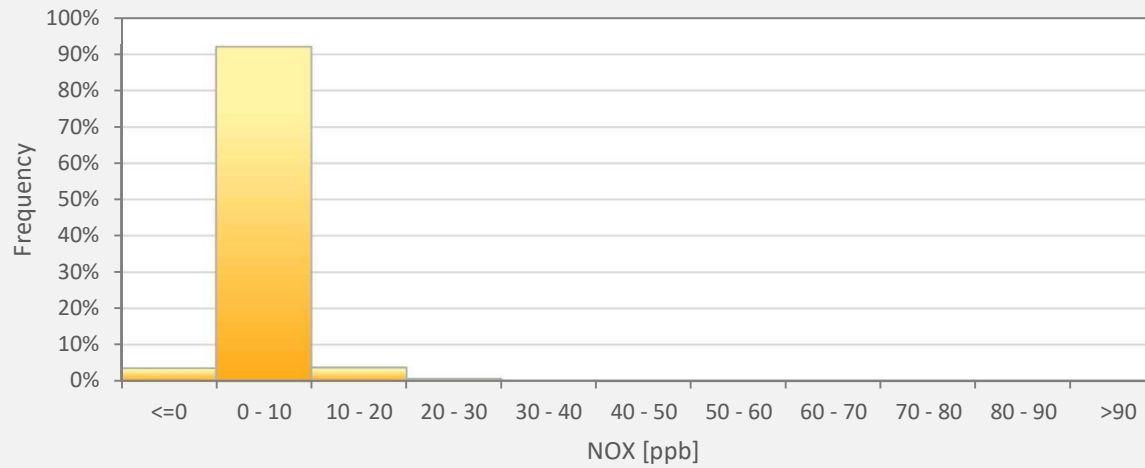
C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N No Data (Machine Not in Service)	Y Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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.

Timeseries Chart of Hourly Average for NOx - Tamarack Site



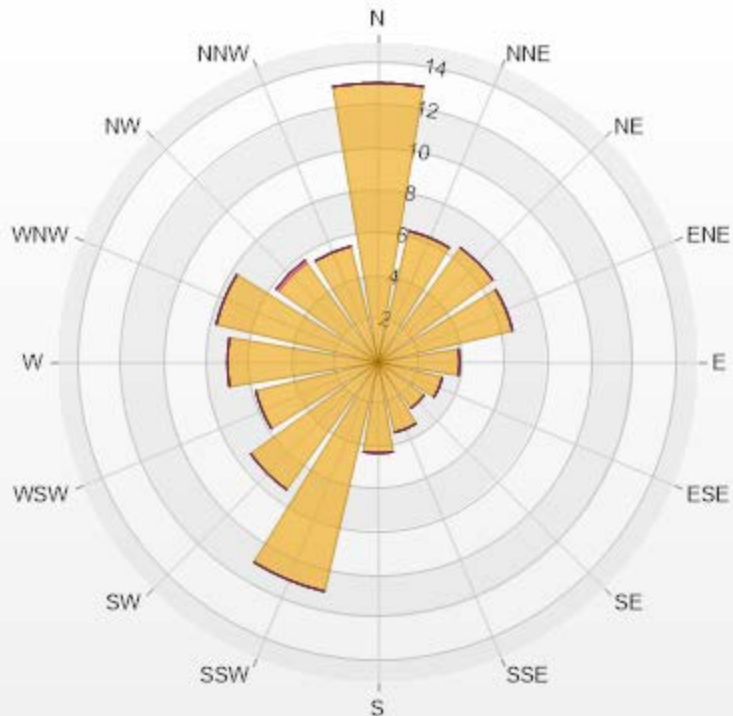
NOX[ppb] Histogram: Tamarack Monthly: 04-2021 1 Hr.



Classes	NOX
<=0	3.52%
0 - 10	92.08%
10 - 20	3.67%
20 - 30	0.59%
30 - 40	0.15%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Tamarack Poll.: Tamarack-NOX[ppb] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.72% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	13.05	0	0	0	0	13.05
NNE	6.3	0	0	0	0	6.3
NE	6.6	0	0	0	0	6.6
ENE	6.45	0	0	0	0	6.45
E	3.81	0	0	0	0	3.81
ESE	3.08	0	0	0	0	3.08
SE	2.64	0	0	0	0	2.64
SSE	3.37	0	0	0	0	3.37
S	4.25	0	0	0	0	4.25
SSW	11	0	0	0	0	11
SW	7.33	0	0	0	0	7.33
WSW	5.87	0	0	0	0	5.87
W	7.04	0	0	0	0	7.04
WNW	7.77	0	0	0	0	7.77
NW	5.72	0.15	0	0	0	5.87
NNW	5.57	0	0	0	0	5.57
Summary	100	0.15	0	0	0	100



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% Icon Classes (ppb)

100  0-30

0  30-50

0  50-76

0  76-159

0  >159.0



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**Tamarack Site - April 2021
Summary of Hourly Averages**

NITRIC OXIDE (NO) in ppb

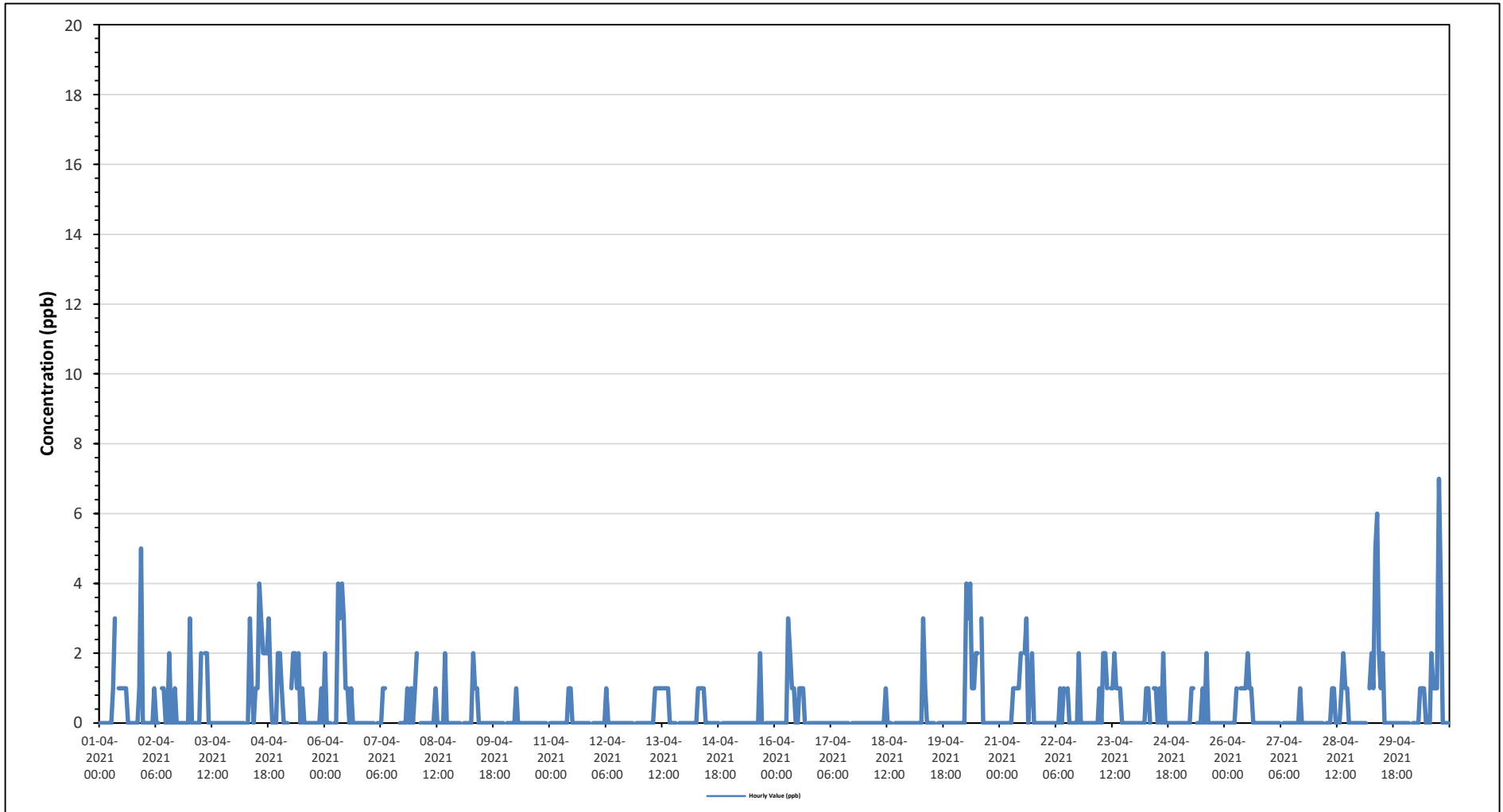
Maximum Hourly Value:	7 ppb on April 30 at hour 18	Hours in Service:	720
Maximum Daily Value:	1.1 ppb on April 4	Hours of Data:	682
Minimum Hourly Value:	0 ppb on April 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.0 ppb on April 17	Hours of Calibration:	38
Monthly Average:	0.4 ppb	Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Apr 1	0	0	0	0	0	0	0	1	3	S	1	1	1	1	1	0	0	0	0	0	0	1	5	0	0	5	0.7
Apr 2	0	0	0	0	0	1	0	0	S	1	1	0	0	2	0	0	1	0	0	0	0	0	0	0	0	2	0.3
Apr 3	3	0	0	0	0	0	2	S	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.4
Apr 4	0	0	0	0	0	0	S	0	3	1	0	1	1	4	3	2	2	2	3	1	0	0	0	2	0	4	1.1
Apr 5	2	1	0	0	0	S	1	2	2	1	2	0	1	0	0	0	0	0	0	0	0	0	1	0	0	2	0.6
Apr 6	2	0	0	0	S	0	0	4	3	4	3	1	1	0	1	0	0	0	0	0	0	0	0	0	0	4	0.8
Apr 7	0	0	0	S	S	0	0	0	1	1	C	C	C	C	C	C	0	0	0	0	1	0	1	0	0	1	-
Apr 8	1	2	S	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	2	0.3
Apr 9	0	S	0	0	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2
Apr 10	S	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1.0
Apr 11	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	S	0	0	1.1
Apr 12	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	1	0.0
Apr 13	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	S	0	0	0	0	1	0.3
Apr 14	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	S	S	0	0	0	0	1	0.2
Apr 15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	S	0	0	0	0	0	0	0	2	0.1
Apr 16	0	0	0	0	0	0	0	3	2	1	1	0	0	1	1	1	0	S	0	0	0	0	0	0	0	3	0.4
Apr 17	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 18	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	0.0
Apr 19	0	0	0	0	0	0	0	3	1	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	3	0.2
Apr 20	0	0	0	0	0	0	4	3	4	1	1	2	2	S	3	0	0	0	0	0	0	0	0	0	0	4	0.9
Apr 21	0	0	0	0	0	0	0	1	1	1	1	2	S	2	3	0	1	2	0	0	0	0	0	0	0	3	0.6
Apr 22	0	0	0	0	0	0	0	0	1	0	1	S	1	0	0	0	0	0	2	0	0	0	0	0	0	2	0.2
Apr 23	0	0	0	0	0	1	0	2	2	1	S	1	1	2	1	1	1	0	0	0	0	0	0	0	0	2	0.6
Apr 24	0	0	0	0	0	0	1	1	0	S	1	1	0	1	0	2	0	0	0	0	0	0	0	0	0	2	0.3
Apr 25	0	0	0	0	0	0	1	1	S	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	2	0.2
Apr 26	0	0	0	0	0	0	1	S	1	1	1	1	2	1	1	0	0	0	0	0	0	0	0	0	0	2	0.4
Apr 27	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0.0
Apr 28	0	0	0	0	0	0	S	0	0	0	1	1	0	0	1	2	1	1	0	0	0	0	0	0	0	2	0.3
Apr 29	0	0	0	0	S	1	2	1	5	6	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	6	0.9
Apr 30	0	0	0	S	0	0	0	0	1	1	1	0	0	0	2	1	1	1	7	4	0	0	0	0	0	7	0.8
Diurnal Maximum	3	2	0	0	0	1	4	4	5	6	3	2	2	4	3	2	2	2	7	4	1	1	5	2			
Diurnal Average	0.3	0.1	0.0	0.0	0.0	0.1	0.5	0.9	1.3	0.9	0.7	0.5	0.5	0.5	0.7	0.4	0.4	0.2	0.4	0.2	0.0	0.0	0.2	0.1			

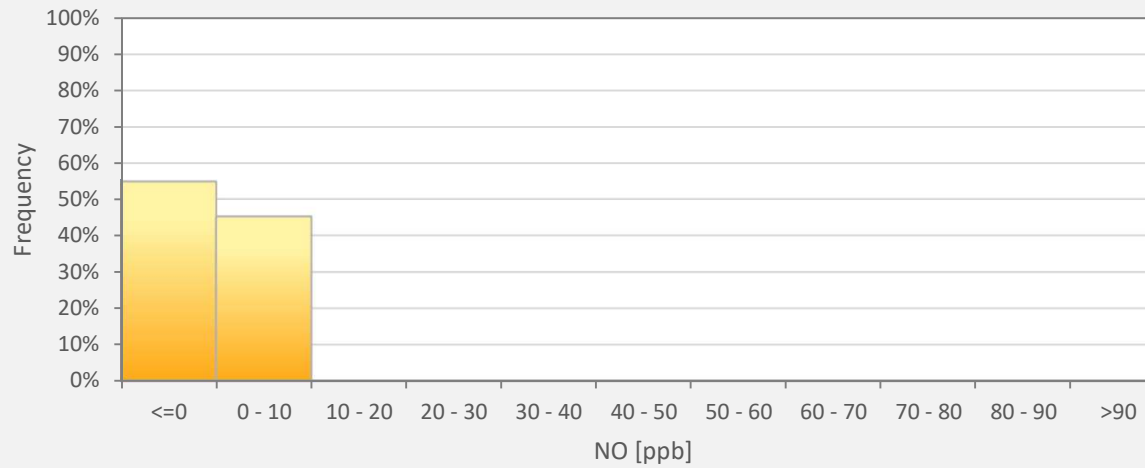
C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N No Data (Machine Not in Service)	Y Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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.

Timeseries Chart of Hourly Average for NO - Tamarack Site



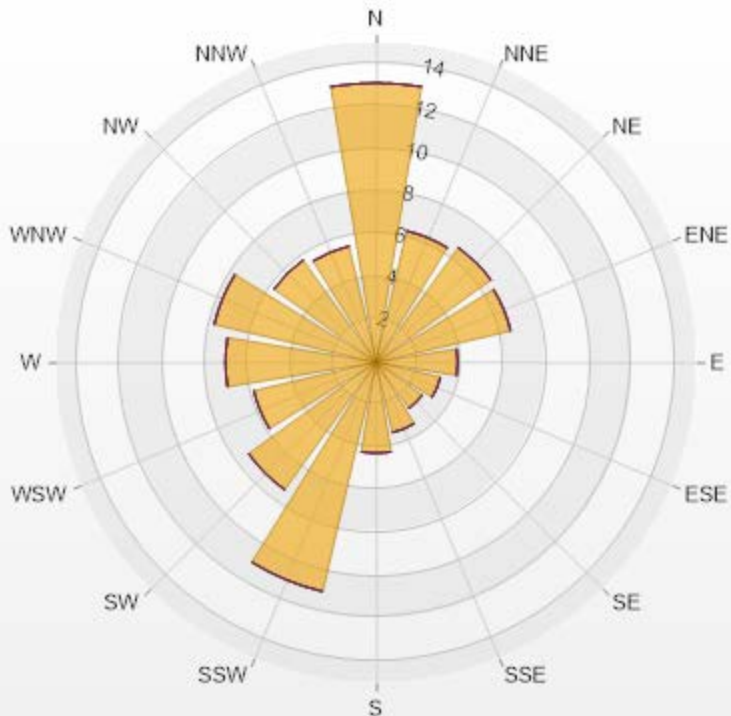
NO[ppb] Histogram: Tamarack Monthly: 04-2021 1 Hr.



Classes	NO
<=0	54.84%
0 - 10	45.16%
10 - 20	0.00%
20 - 30	0.00%
30 - 40	0.00%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Tamarack Poll.: Tamarack-NO[ppb] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.72% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	13.05	0	0	0	0	13.05
NNE	6.3	0	0	0	0	6.3
NE	6.6	0	0	0	0	6.6
ENE	6.45	0	0	0	0	6.45
E	3.81	0	0	0	0	3.81
ESE	3.08	0	0	0	0	3.08
SE	2.64	0	0	0	0	2.64
SSE	3.37	0	0	0	0	3.37
S	4.25	0	0	0	0	4.25
SSW	11	0	0	0	0	11
SW	7.33	0	0	0	0	7.33
WSW	5.87	0	0	0	0	5.87
W	7.04	0	0	0	0	7.04
WNW	7.77	0	0	0	0	7.77
NW	5.87	0	0	0	0	5.87
NNW	5.57	0	0	0	0	5.57
Summary	100	0	0	0	0	100



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% Icon Classes (ppb) 100 0-30 0-30 30-50 50-76 76-159 >159.0



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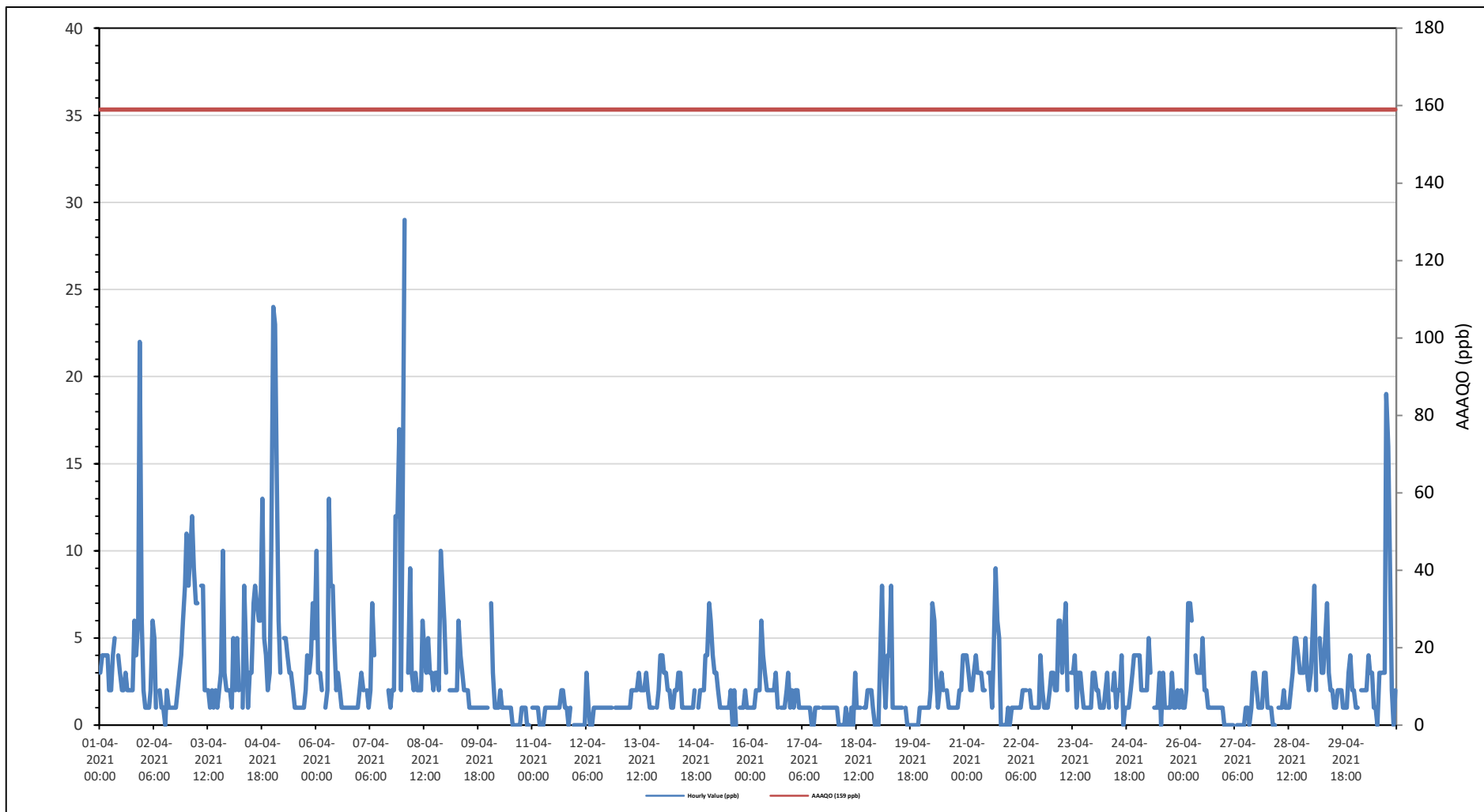
Tamarack Site - April 2021

Summary of Hourly Averages

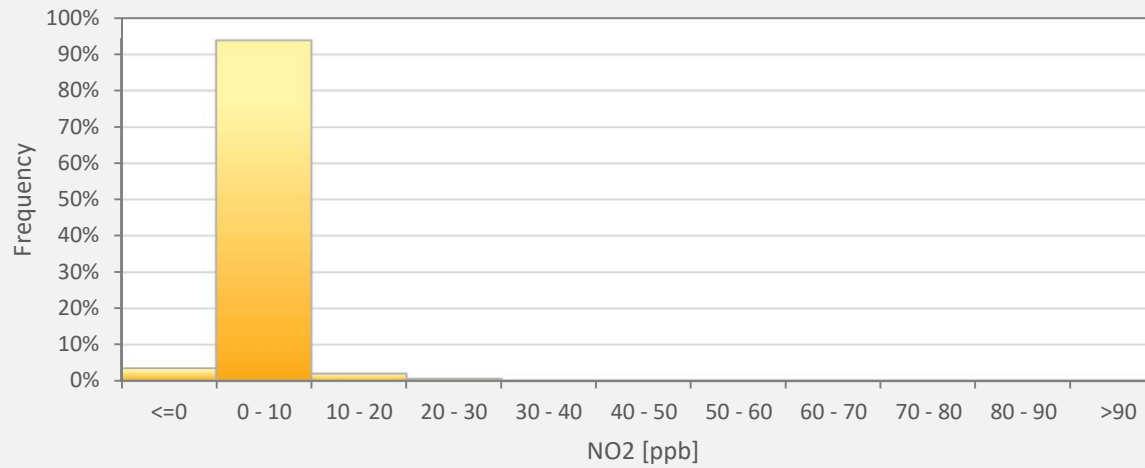
NITROGEN DIOXIDE (NO₂) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 159 ppb																												
Number of 1-Hour Exceedences: 0																												
Maximum Hourly Value: 29 ppb on April 8 at hour 1													Hours in Service: 720															
Maximum Daily Value: 5.5 ppb on April 8													Hours of Data: 682															
Minimum Hourly Value: 0 ppb on April 2 at hour 12													Hours of Missing Data: 0															
Minimum Daily Value: 0.7 ppb on April 12													Hours of Calibration: 38															
Monthly Average: 2.5 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	3	4	4	4	4	2	2	4	5	S	4	3	2	2	3	2	2	2	2	6	4	6	22	6	2	22	4.3	
Apr 2	2	1	1	1	2	6	5	1	S	2	1	1	0	2	1	1	1	1	1	2	3	4	6	8	0	8	2.3	
Apr 3	11	8	10	12	9	7	7	S	8	8	2	2	2	1	2	1	2	1	2	3	10	3	2	2	1	12	5.0	
Apr 4	2	1	5	2	5	2	S	1	8	4	1	3	3	7	8	7	6	6	13	5	4	2	3	10	1	13	4.7	
Apr 5	24	23	14	6	3	S	5	5	4	3	3	2	1	1	1	1	1	1	2	4	3	4	7	5	1	24	5.3	
Apr 6	10	3	3	2	S	1	2	13	8	8	5	2	3	2	1	1	1	1	1	1	1	1	1	1	1	13	3.1	
Apr 7	2	3	2	S	2	1	2	7	4	C	C	C	C	C	C	C	2	1	2	2	12	12	17	2	1	17	-	
Apr 8	14	29	S	3	9	3	2	3	2	2	2	6	4	3	5	3	3	2	3	3	2	10	8	6	2	29	5.5	
Apr 9	3	S	2	2	2	2	2	6	4	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	6	1.9	
Apr 10	S	7	3	1	1	1	2	1	1	1	1	1	1	0	0	0	0	0	1	1	1	0	0	S	0	7	1.1	
Apr 11	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	2	2	1	1	0	1	S	0	0	2	0.9	
Apr 12	0	0	0	0	0	0	3	1	0	0	1	1	1	1	1	1	1	1	1	1	1	S	1	1	0	3	0.7	
Apr 13	1	1	1	1	1	1	1	2	2	2	2	3	2	2	2	3	2	1	1	1	S	1	2	4	1	4	1.7	
Apr 14	4	3	3	2	2	1	1	2	2	3	3	1	1	1	1	1	1	1	2	S	1	2	2	2	1	4	1.8	
Apr 15	4	4	7	6	4	3	3	2	1	1	1	1	1	1	2	0	2	0	S	1	1	1	2	1	0	7	2.1	
Apr 16	1	1	1	1	2	2	2	6	4	3	2	2	2	2	2	3	1	S	1	1	1	2	3	1	1	6	2.0	
Apr 17	2	1	2	2	1	1	1	1	1	1	0	0	1	1	1	1	S	1	1	1	1	1	1	1	1	0	2	1.0
Apr 18	1	1	0	0	0	0	1	0	0	1	0	3	1	1	1	S	1	1	2	2	2	1	0	0	0	3	0.8	
Apr 19	0	4	8	3	1	4	4	8	1	1	1	1	1	1	S	1	0	0	0	0	0	0	0	1	0	8	1.7	
Apr 20	1	1	1	1	1	2	7	6	3	1	2	3	2	S	2	1	1	1	1	1	1	2	2	4	1	7	2.0	
Apr 21	4	4	3	2	2	3	4	3	3	3	2	2	S	3	3	1	4	9	6	5	0	0	0	0	0	9	2.9	
Apr 22	1	0	1	1	1	1	1	1	2	2	2	S	2	1	1	1	1	4	2	1	1	1	1	2	0	4	1.3	
Apr 23	3	3	2	2	6	6	3	5	7	2	S	3	3	4	1	3	3	2	1	1	1	1	1	3	1	7	2.9	
Apr 24	3	2	2	1	1	1	2	3	1	S	2	3	1	2	2	4	0	1	1	1	2	3	4	4	0	4	2.0	
Apr 25	4	4	2	2	2	2	5	3	S	1	1	1	3	0	3	1	1	1	1	3	1	1	2	1	0	5	2.0	
Apr 26	2	1	1	2	7	7	6	S	4	3	3	3	5	2	2	1	1	1	1	1	1	1	1	1	1	7	2.5	
Apr 27	0	0	0	0	0	0	S	0	0	0	0	0	1	1	0	1	3	3	2	1	1	1	3	3	0	3	0.9	
Apr 28	1	1	1	0	0	S	1	1	1	2	1	1	1	2	3	5	5	4	3	3	3	5	3	2	0	5	2.1	
Apr 29	3	5	8	2	S	5	3	3	5	7	3	2	2	1	2	2	2	2	1	1	1	3	4	2	1	8	3.0	
Apr 30	2	1	1	S	2	2	2	2	4	3	3	1	1	0	3	3	3	3	19	16	9	2	0	2	0	19	3.7	
Diurnal Maximum	24	29	14	12	9	7	7	13	8	8	5	6	5	7	8	7	6	9	19	16	12	12	22	10				
Daiurnal Average	3.8	4.0	3.1	2.2	2.5	2.4	2.8	3.3	3.1	2.5	1.9	1.9	1.8	1.6	1.9	1.8	1.8	1.8	2.7	2.4	2.4	2.5	3.4	2.6				
C	Monthly Calibration										S	Daily Zero-Span Check										Q	Quality Assurance					
K	Collection Error										N	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.																												

Timeseries Chart of Hourly Average for NO2 - Tamarack Site



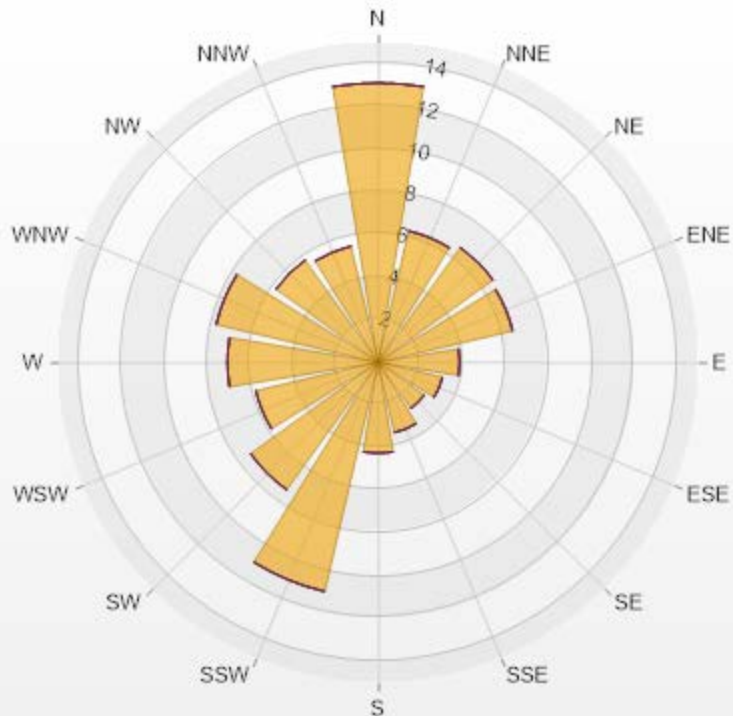
NO2[ppb] Histogram: Tamarack Monthly: 04-2021 1 Hr.



Classes	NO2
<=0	3.52%
0 - 10	93.84%
10 - 20	2.05%
20 - 30	0.59%
30 - 40	0.00%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Tamarack Poll.: Tamarack-NO2[ppb] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.72% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	13.05	0	0	0	0	13.05
NNE	6.3	0	0	0	0	6.3
NE	6.6	0	0	0	0	6.6
ENE	6.45	0	0	0	0	6.45
E	3.81	0	0	0	0	3.81
ESE	3.08	0	0	0	0	3.08
SE	2.64	0	0	0	0	2.64
SSE	3.37	0	0	0	0	3.37
S	4.25	0	0	0	0	4.25
SSW	11	0	0	0	0	11
SW	7.33	0	0	0	0	7.33
WSW	5.87	0	0	0	0	5.87
W	7.04	0	0	0	0	7.04
WNW	7.77	0	0	0	0	7.77
NW	5.87	0	0	0	0	5.87
NNW	5.57	0	0	0	0	5.57
Summary	100	0	0	0	0	100




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% Icon Classes (ppb)

100  0-30

0  30-50

0  50-76

0  76-159

0  >159.0



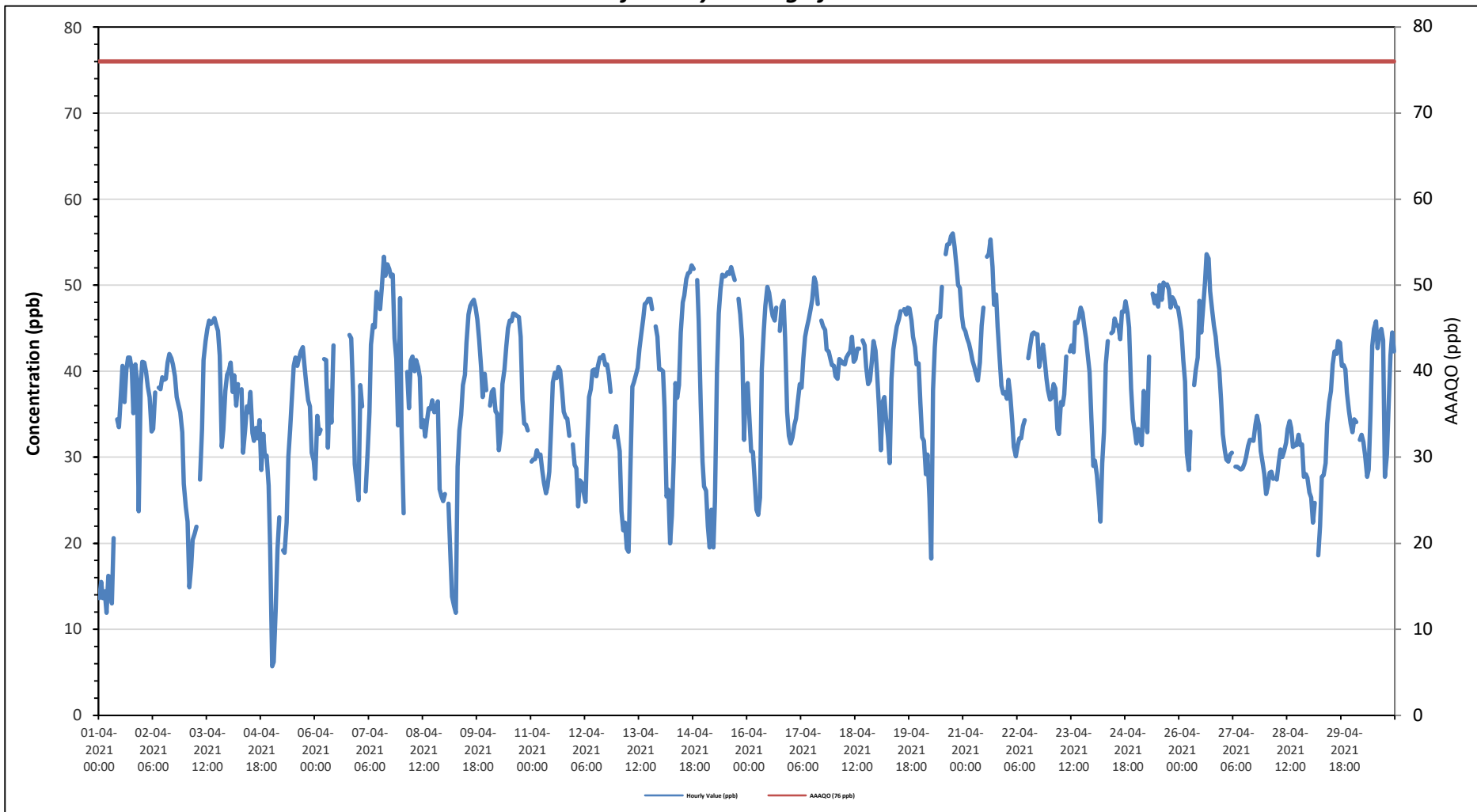
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Tamarack Site - April 2021 Summary of Hourly Averages

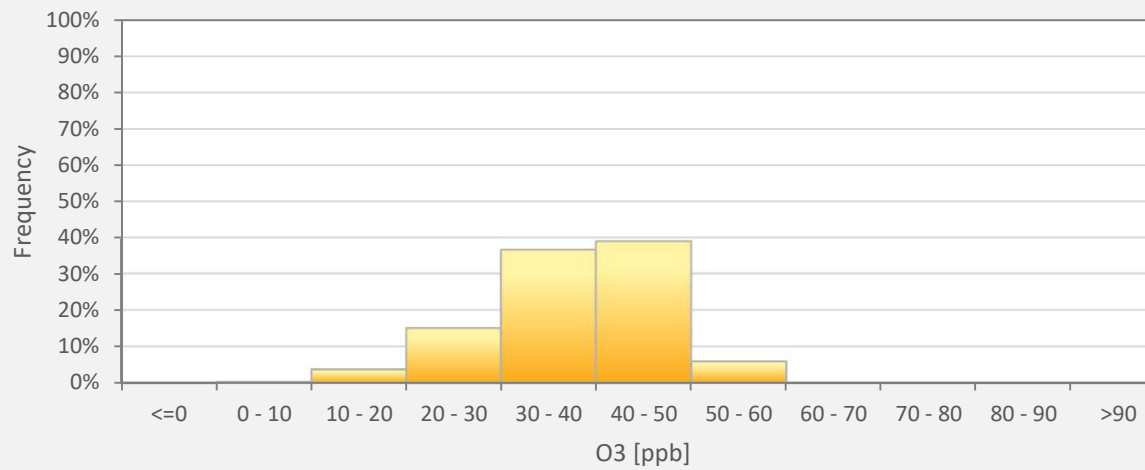
OZONE (O₃) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 76 ppb																														
Number of 1-Hour Exceedences: 0																														
Maximum Hourly Value: 56.0 ppb on April 20 at hour 18					Hours in Service: 720																									
Maximum Daily Value: 44.5 ppb on April 21					Hours of Data: 681																									
Minimum Hourly Value: 5.7 ppb on April 5 at hour 0					Hours of Missing Data: 1																									
Minimum Daily Value: 28.6 ppb on April 1					Hours of Calibration: 38																									
Monthly Average: 37.5 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	13.6	15.5	13.6	14.4	11.9	16.2	16.0	13.0	20.6	S	34.4	33.5	37.4	40.6	36.4	40.1	41.6	41.6	40.1	35.1	40.8	39.0	23.7	38.4	11.9	41.6	28.6			
Apr 2	41.1	41.0	39.9	38.2	37.0	33.0	33.3	37.5	S	38.1	37.9	39.3	39.0	39.1	41.0	42.0	41.5	40.8	39.4	37.0	36.1	35.2	32.9	26.9	26.9	42.0	37.7			
Apr 3	24.2	22.5	14.9	17.2	20.4	21.1	21.9	S	27.4	33.3	41.3	43.5	44.9	45.9	45.5	45.8	46.2	45.4	44.7	41.8	31.2	33.2	37.7	39.6	14.9	46.2	34.3			
Apr 4	40.1	41.0	37.6	39.5	36.0	38.5	S	37.9	30.5	33.1	35.9	35.2	37.6	32.8	31.9	33.4	32.2	34.3	28.5	32.7	30.1	30.2	26.7	19.4	19.4	41.0	33.7			
Apr 5	5.7	6.2	12.4	19.3	23.0	S	19.2	18.9	22.4	30.1	33.3	37.0	40.6	41.6	40.6	41.5	42.3	42.8	40.8	38.4	36.6	35.9	30.5	29.6	5.7	42.8	29.9			
Apr 6	27.5	34.8	32.7	33.2	S	41.4	41.3	31.1	37.7	34.0	43.0	C	C	C	NRM	C	C	C	C	44.2	43.8	37.0	29.2	27.0	27.0	44.2	-			
Apr 7	25.0	38.4	35.9	S	26.0	30.7	35.2	43.1	45.4	45.1	49.2	47.7	47.2	49.8	53.3	51.1	52.4	51.9	51.0	51.2	43.8	41.4	33.7	48.5	25.0	53.3	43.3			
Apr 8	33.0	23.5	S	39.9	35.7	41.2	41.7	40.0	41.3	40.5	39.3	33.5	34.3	32.4	34.2	35.7	35.6	36.6	35.2	35.4	36.5	26.3	25.5	24.9	23.5	41.7	34.9			
Apr 9	25.7	S	24.6	18.3	13.8	12.7	11.9	28.9	33.1	34.9	38.4	39.6	43.3	46.6	47.6	48.0	48.3	47.4	46.0	43.7	40.4	37.0	39.7	37.8	11.9	48.3	35.1			
Apr 10	S	36.0	37.6	37.9	35.3	35.1	30.8	32.9	38.5	40.2	42.8	45.0	45.9	45.8	46.7	46.6	46.4	46.3	44.0	36.7	33.9	33.8	33.1	S	30.8	46.7	39.6			
Apr 11	29.5	29.7	29.8	30.8	30.1	30.3	28.5	27.0	25.8	26.6	28.3	34.0	38.7	39.8	39.2	40.5	40.1	37.5	35.3	34.6	34.5	32.5	S	31.5	25.8	40.5	32.8			
Apr 12	29.1	28.7	24.3	27.3	27.0	26.0	24.8	32.1	37.0	37.9	40.1	40.2	39.4	40.6	41.6	41.6	41.9	40.7	40.8	39.6	37.6	S	32.3	33.6	24.3	41.9	35.0			
Apr 13	32.3	30.7	23.7	21.5	22.4	19.4	19.0	28.3	38.2	38.7	39.6	40.4	42.6	44.3	46.1	47.8	48.0	48.4	48.4	47.2	S	45.2	44.0	40.2	19.0	48.4	37.2			
Apr 14	40.2	40.0	35.8	25.4	26.2	20.0	23.2	29.5	38.6	36.9	38.4	44.5	48.0	48.8	50.7	51.4	51.5	52.3	51.9	S	50.6	45.8	36.0	29.5	20.0	52.3	39.8			
Apr 15	26.6	26.1	22.0	19.5	23.9	19.5	24.9	39.9	46.7	49.5	51.2	51.0	51.1	51.5	51.3	52.1	51.2	50.6	S	48.4	46.6	43.7	32.0	37.7	19.5	52.1	39.9			
Apr 16	38.6	34.6	30.7	30.6	27.3	23.9	23.3	25.3	40.2	44.8	47.6	49.8	49.1	47.6	46.4	45.9	47.4	S	44.7	47.5	48.2	43.9	35.3	32.5	23.3	49.8	39.4			
Apr 17	31.6	32.3	33.8	34.5	36.7	38.5	38.1	41.5	44.0	45.1	46.0	47.1	48.3	50.9	50.3	47.8	S	45.9	45.2	44.8	42.5	42.3	41.4	40.7	31.6	50.9	42.1			
Apr 18	40.6	39.4	39.1	41.4	41.2	40.9	40.8	41.6	42.0	42.3	44.0	41.1	41.4	42.6	42.6	S	43.6	43.0	40.5	38.5	38.9	41.0	43.5	42.4	38.5	44.0	41.4			
Apr 19	39.8	35.6	30.8	36.4	37.0	34.6	32.4	29.3	39.1	42.5	44.1	45.2	46.0	47.0	S	47.2	46.6	47.4	47.3	45.9	44.0	42.8	40.8	40.9	29.3	47.4	41.0			
Apr 20	36.3	32.3	31.9	28.0	30.3	25.2	18.2	37.8	42.8	45.8	46.4	46.3	49.8	S	53.6	54.7	54.8	55.7	56.0	54.5	52.1	50.0	49.7	46.4	18.2	56.0	43.4			
Apr 21	45.1	44.6	43.9	43.2	42.3	41.2	40.5	39.5	38.9	41.0	45.3	47.4	S	53.3	53.6	55.3	52.1	47.7	48.9	45.2	41.5	38.3	37.4	37.5	37.4	55.3	44.5			
Apr 22	36.8	39.0	37.2	34.0	31.2	30.1	31.3	32.2	33.6	34.3	S	41.5	43.0	44.3	44.5	44.3	44.3	40.5	41.8	43.1	41.6	39.1	37.8	30.1	44.5	38.2				
Apr 23	36.7	36.9	38.5	38.0	33.3	32.7	36.4	36.1	37.3	41.7	S	42.3	43.0	42.2	45.7	45.6	46.1	47.4	46.8	45.2	43.8	41.8	39.9	34.6	32.7	47.4	40.5			
Apr 24	29.0	29.6	27.9	25.5	22.5	29.3	33.0	40.8	43.5	S	44.4	44.6	46.1	45.3	45.3	43.7	46.9	46.9	48.1	46.8	45.1	38.0	34.4	33.2	22.5	48.1	38.7			
Apr 25	31.6	33.3	32.6	31.4	37.7	35.1	32.9	41.7	S	49.0	47.9	48.8	47.5	50.0	48.3	50.3	50.0	50.1	49.5	47.4	48.6	48.2	47.5	47.4	31.4	50.3	43.8			
Apr 26	46.1	44.6	41.3	38.8	30.5	28.5	33.0	S	38.4	40.1	41.6	48.2	44.5	47.2	50.4	53.6	53.1	49.3	47.1	45.3	44.0	41.7	40.2	36.8	28.5	53.6	42.8			
Apr 27	32.7	30.8	29.7	29.5	30.3	30.5	S	28.9	28.9	28.7	28.6	28.7	29.3	30.0	31.3	32.0	32.0	31.9	33.8	34.8	33.7	30.7	29.4	28.0	28.0	34.8	30.6			
Apr 28	25.7	26.6	28.2	28.3	27.5	S	27.4	29.4	30.9	30.0	30.7	31.7	33.3	34.2	33.4	31.2	31.4	31.4	32.6	31.4	31.5	27.7	28.0	27.6	25.7	34.2	30.0			
Apr 29	25.9	25.3	22.4	24.7	S	18.6	22.0	27.7	27.9	29.3	33.9	36.4	37.7	40.8	42.3	42.0	43.5	43.3	40.6	40.7	40.2	37.5	35.4	33.9	18.6	43.5	33.6			
Apr 30	32.9	34.4	34.1	S	32.0	32.6	31.8	30.2	27.7	28.6	34.9	42.9	44.9	45.8	42.7	44.3	44.9	43.6	27.7	30.3	35.4	41.8	44.5	42.3	27.7	45.8	37.0			
Diurnal Maximum	46.1	44.6	43.9	43.2	42.3	41.4	41.7	43.1	46.7	49.5	51.2	51.0	51.1	53.3	53.6	55.3	54.8	55.7	56.0	54.5	52.1	50.0	49.7	48.5						
Diurnal Average	31.8	32.2	30.6	30.2	29.6	29.5	29.0	32.9	35.6	37.9	40.1	41.6	42.6	43.6	44.2	44.8	44.9	44.4	42.7	41.6	40.5	38.7	36.0	35.4						
C	Monthly Calibration						S	Daily Zero-Span Check						Q	Quality Assurance															
K	Collection Error						N	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.																														

Timeseries Chart of Hourly Average for O3 - Tamarack Site



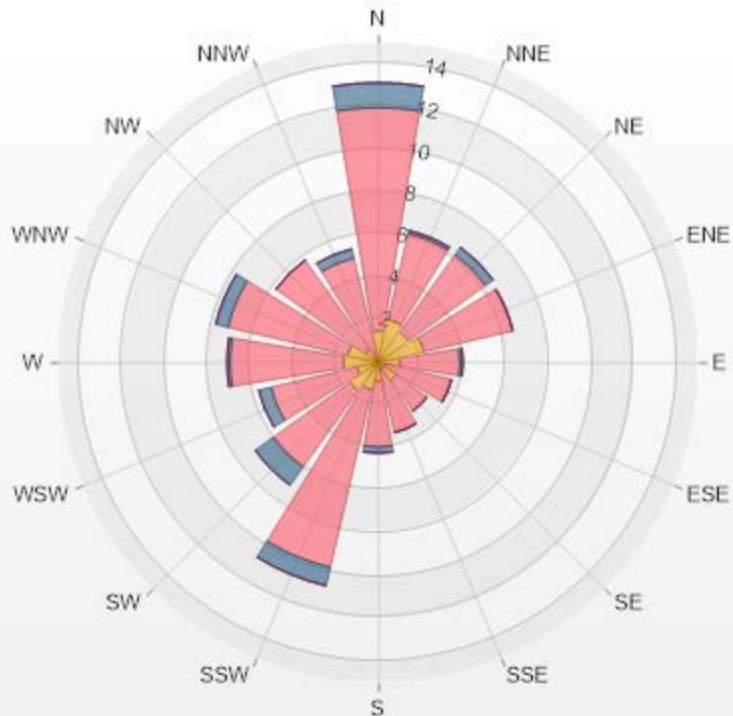
O3[ppb] Histogram: Tamarack Monthly: 04-2021 1 Hr.



Classes	O3
<=0	0.00%
0 - 10	0.29%
10 - 20	3.67%
20 - 30	14.98%
30 - 40	36.42%
40 - 50	38.77%
50 - 60	5.87%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Tamarack Poll.: Tamarack-O3[ppb] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.58% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.47	10.43	1.17	0	0	13.07
NNE	2.06	4.11	0.15	0	0	6.32
NE	1.76	4.41	0.44	0	0	6.61
ENE	2.2	4.26	0	0	0	6.46
E	1.03	2.79	0.15	0	0	3.97
ESE	0.29	3.23	0	0	0	3.52
SE	1.03	1.76	0	0	0	2.79
SSE	0.29	3.08	0	0	0	3.37
S	0.88	3.08	0.29	0	0	4.25
SSW	1.32	8.52	0.88	0	0	10.72
SW	1.62	4.41	1.03	0	0	7.06
WSW	1.03	4.11	0.59	0	0	5.73
W	1.62	5.29	0.15	0	0	7.06
WNW	1.47	5.73	0.59	0	0	7.79
NW	0.73	5.14	0	0	0	5.87
NNW	0.15	4.85	0.44	0	0	5.44
Summary	18.95	75.2	5.88	0	0	100



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% Icon Classes (ppb)

19 0-30

75 30-50

6 50-76

0 76-159

0 >159.0



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Tamarack Site - April 2021

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

Maximum Hourly Value:	2.83 ppm on April 16 at hour 7	Hours in Service:	720
Maximum Daily Value:	2.08 ppm on April 15	Hours of Data:	685
Minimum Hourly Value:	1.84 ppm on April 30 at hour 12	Hours of Missing Data:	0
Minimum Daily Value:	1.90 ppm on April 30	Hours of Calibration:	35
Monthly Average:	1.93 ppm	Operational Uptime:	100.0

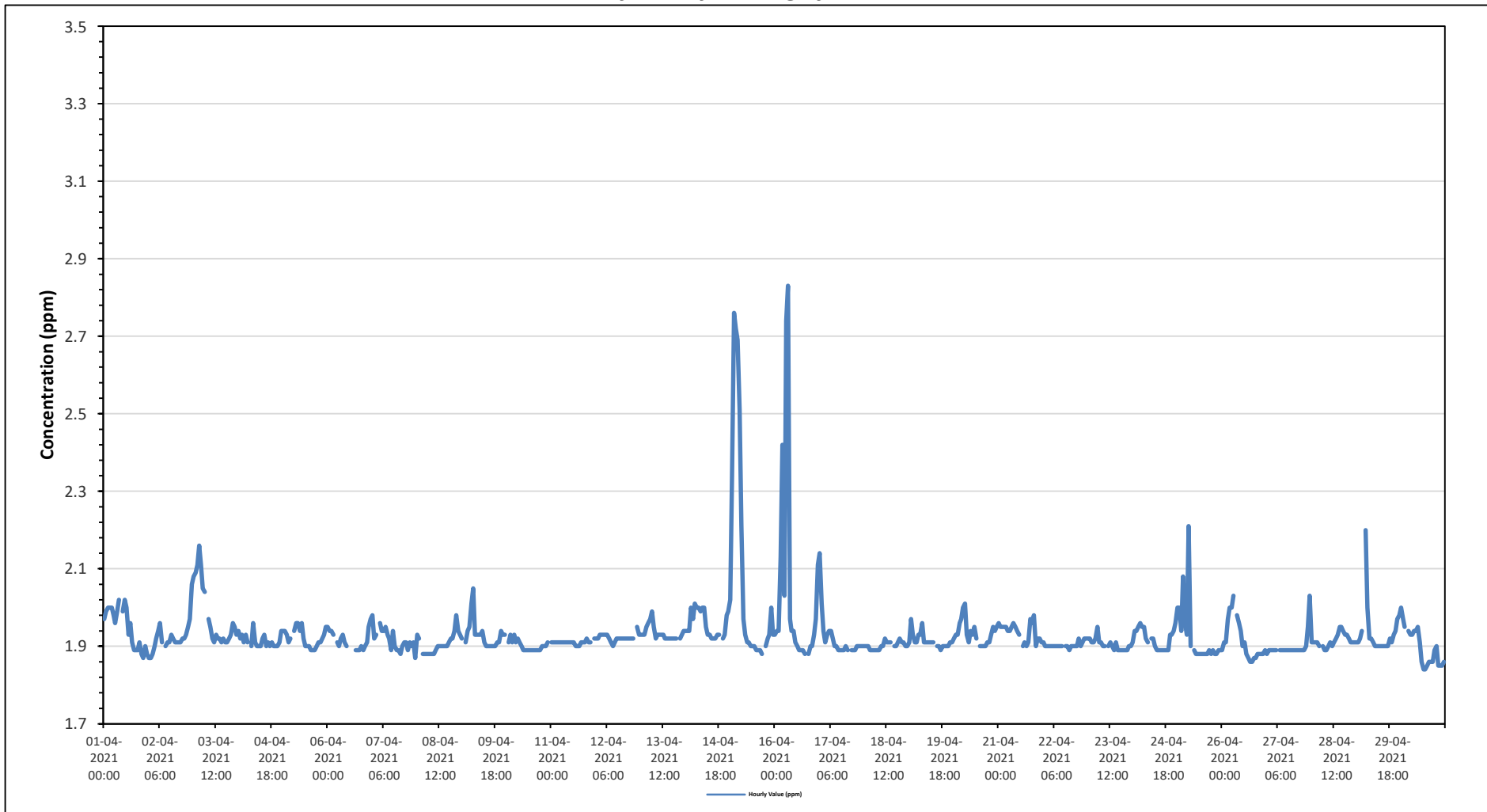
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Apr 1	1.97	1.99	2.00	2.00	2.00	1.98	1.96	1.99	2.02	S	1.99	2.02	2.00	1.93	1.96	1.91	1.89	1.89	1.89	1.91	1.88	1.87	1.90	1.88	1.87	2.02	1.95	
Apr 2	1.87	1.87	1.88	1.90	1.92	1.94	1.96	1.91	S	1.90	1.91	1.91	1.93	1.92	1.91	1.91	1.91	1.91	1.92	1.92	1.93	1.95	1.97	2.06	1.87	2.06	1.92	
Apr 3	2.08	2.09	2.11	2.16	2.11	2.05	2.04	S	1.97	1.95	1.92	1.91	1.93	1.92	1.92	1.91	1.92	1.91	1.91	1.92	1.93	1.96	1.95	1.93	1.91	2.16	1.98	
Apr 4	1.94	1.92	1.93	1.91	1.93	1.91	S	1.90	1.96	1.91	1.90	1.90	1.90	1.92	1.93	1.90	1.91	1.90	1.91	1.90	1.90	1.90	1.91	1.94	1.90	1.96	1.91	
Apr 5	1.94	1.94	1.93	1.91	1.92	S	1.94	1.96	1.96	1.94	1.96	1.92	1.90	1.90	1.90	1.89	1.89	1.89	1.90	1.91	1.91	1.92	1.93	1.95	1.89	1.96	1.92	
Apr 6	1.95	1.94	1.94	1.93	S	1.91	1.90	1.92	1.93	1.91	1.90	C	C	C	C	1.89	1.89	1.89	1.90	1.89	1.90	1.91	1.95	1.97	1.89	1.97	1.92	
Apr 7	1.98	1.92	1.93	S	1.96	1.94	1.94	1.95	1.93	1.92	1.89	1.94	1.90	1.89	1.89	1.88	1.90	1.91	1.91	1.89	1.91	1.90	1.91	1.87	1.87	1.98	1.92	
Apr 8	1.93	1.92	S	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.89	1.90	1.90	1.90	1.90	1.90	1.90	1.91	1.92	1.92	1.94	1.98	1.94	1.93	1.88	1.98	1.91	
Apr 9	1.92	S	1.91	1.94	1.95	2.01	2.05	1.93	1.93	1.93	1.93	1.94	1.91	1.90	1.90	1.90	1.90	1.90	1.90	1.91	1.91	1.94	1.93	1.93	1.90	2.05	1.93	
Apr 10	S	1.91	1.93	1.91	1.93	1.91	1.92	1.91	1.90	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.90	1.90	1.90	1.91	S	1.89	1.93	1.90	
Apr 11	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.90	1.90	1.90	1.90	1.91	1.91	1.91	1.92	1.91	1.91	S	1.90	1.92	1.91	
Apr 12	1.92	1.92	1.93	1.93	1.93	1.93	1.93	1.92	1.91	1.90	1.91	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	S	1.95	1.93	1.90	
Apr 13	1.93	1.93	1.93	1.95	1.96	1.97	1.99	1.95	1.92	1.93	1.93	1.93	1.93	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	S	1.92	1.93	1.94	1.92	1.99	1.93
Apr 14	1.94	1.94	1.94	2.00	1.97	2.01	2.00	2.00	1.99	2.00	2.00	1.95	1.93	1.93	1.92	1.92	1.92	1.92	1.93	1.93	S	1.92	1.93	1.98	1.99	1.92	2.01	1.96
Apr 15	2.02	2.34	2.76	2.72	2.69	2.51	2.21	1.97	1.93	1.91	1.91	1.91	1.90	1.90	1.90	1.89	1.89	1.88	S	1.90	1.92	1.93	2.00	1.93	1.88	2.76	2.08	
Apr 16	1.93	1.94	1.94	2.13	2.42	2.03	2.74	2.83	1.97	1.94	1.94	1.91	1.90	1.89	1.89	1.89	1.88	S	1.88	1.90	1.90	1.93	1.97	2.11	1.88	2.83	2.04	
Apr 17	2.14	2.01	1.94	1.91	1.93	1.94	1.94	1.92	1.90	1.90	1.89	1.89	1.89	1.89	1.90	1.89	S	1.89	1.89	1.89	1.90	1.90	1.90	1.90	1.89	2.14	1.92	
Apr 18	1.90	1.90	1.90	1.89	1.89	1.89	1.89	1.89	1.89	1.90	1.90	1.92	1.91	1.91	1.91	S	1.90	1.90	1.91	1.92	1.91	1.91	1.90	1.90	1.89	1.92	1.90	
Apr 19	1.91	1.97	1.93	1.91	1.91	1.93	1.93	1.96	1.91	1.91	1.91	1.91	1.91	1.91	1.91	S	1.90	1.90	1.89	1.90	1.90	1.90	1.91	1.91	1.89	1.97	1.91	
Apr 20	1.92	1.93	1.93	1.96	1.97	2.00	2.01	1.93	1.91	1.94	1.93	1.95	1.92	S	1.90	1.90	1.90	1.90	1.91	1.91	1.91	1.93	1.95	1.94	1.95	1.90	2.01	1.93
Apr 21	1.96	1.95	1.95	1.95	1.95	1.94	1.94	1.95	1.96	1.95	1.94	1.93	S	1.90	1.91	1.90	1.91	1.97	1.96	1.98	1.90	1.92	1.92	1.91	1.90	1.98	1.94	
Apr 22	1.91	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	S	1.90	1.90	1.89	1.90	1.90	1.90	1.90	1.92	1.90	1.91	1.92	1.92	1.89	1.92	1.90	
Apr 23	1.92	1.92	1.91	1.91	1.92	1.95	1.91	1.91	1.90	1.90	1.90	S	1.90	1.91	1.89	1.91	1.89	1.89	1.89	1.89	1.89	1.89	1.90	1.90	1.89	1.95	1.90	
Apr 24	1.91	1.94	1.94	1.95	1.96	1.95	1.95	1.92	1.91	S	1.92	1.92	1.92	1.90	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.93	1.93	1.94	1.96	1.89	1.96	1.92
Apr 25	2.00	2.00	1.94	2.08	1.96	1.93	2.21	1.90	S	1.89	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.89	1.88	1.89	1.88	1.88	1.89	1.89	1.88	2.21	1.92	
Apr 26	1.89	1.91	1.91	1.97	2.00	2.00	2.03	S	1.98	1.96	1.94	1.90	1.91	1.88	1.87	1.86	1.86	1.87	1.87	1.88	1.88	1.88	1.89	1.89	1.86	2.03	1.91	
Apr 27	1.88	1.89	1.89	1.89	1.89	1.89	S	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.90	1.95	2.03	1.88	2.03	1.90
Apr 28	1.91	1.91	1.91	1.91	1.90	S	1.90	1.89	1.89	1.90	1.91	1.90	1.91	1.92	1.93	1.95	1.95	1.94	1.93	1.93	1.92	1.91	1.91	1.91	1.89	1.95	1.91	
Apr 29	1.91	1.91	1.92	1.94	S	2.20	2.00	1.92	1.92	1.91	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.92	1.91	1.93	1.94	1.97	1.98	1.90	2.20	1.93	1.90	
Apr 30	2.00	1.97	1.95	S	1.94	1.93	1.93	1.94	1.94	1.95	1.91	1.86	1.84	1.84	1.85	1.86	1.86	1.86	1.89	1.90	1.85	1.85	1.85	1.86	1.84	2.00	1.90	
Diurnal Maximum	2.14	2.34	2.76	2.72	2.69	2.51	2.74	2.83	2.02	2.00	2.00	2.02	2.00	1.93	1.96	1.95	1.95	1.97	1.96	1.98	1.94	1.98	2.00	2.11				
Diurnal Average	1.94	1.95	1.96	1.98	1.99	1.98	2.00	1.96	1.93	1.92	1.92	1.91	1.91	1.90	1.90	1.90	1.90	1.90	1.90	1.91	1.91	1.91	1.93	1.94				

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	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

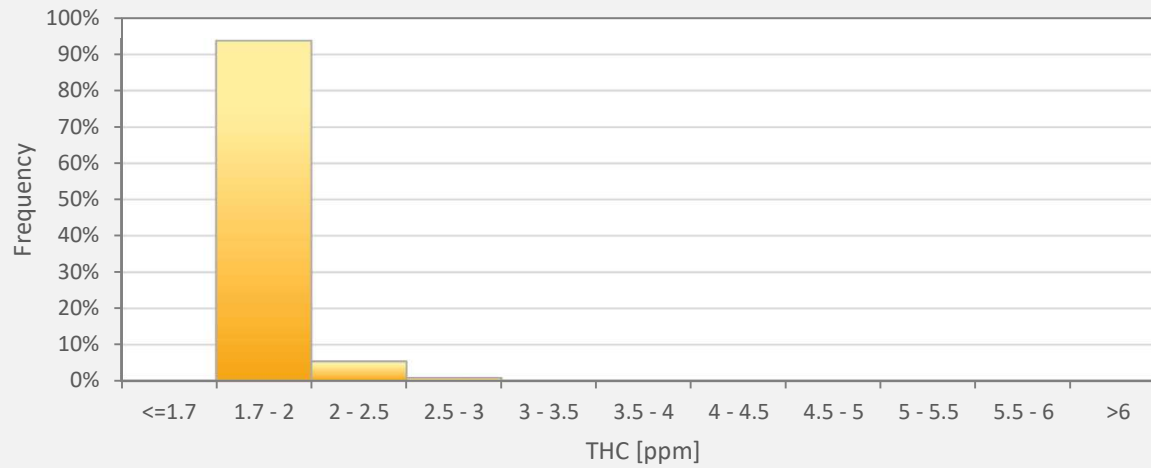
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

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

Timeseries Chart of Hourly Average for THC - Tamarack Site



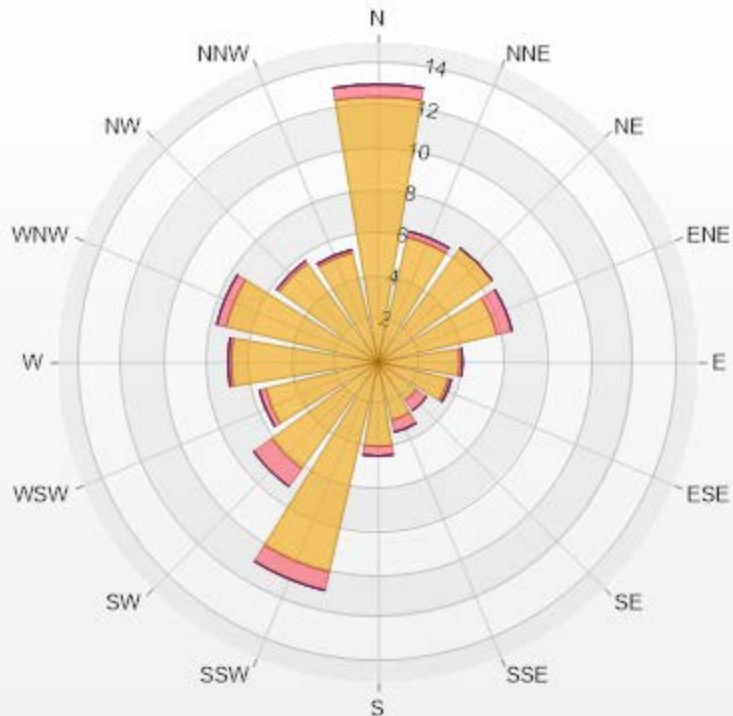
THC55[ppm] Histogram: Tamarack Monthly: 04-2021 1 Hr.



Classes	THC55
<=1.7	0.00%
1.7 - 2	93.72%
2 - 2.5	5.40%
2.5 - 3	0.88%
3 - 3.5	0.00%
3.5 - 4	0.00%
4 - 4.5	0.00%
4.5 - 5	0.00%
5 - 5.5	0.00%
5.5 - 6	0.00%
>6	0.00%

Wind: Tamarack Poll.: Tamarack-THC55[ppm] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 95.14% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	12.41	0.58	0	0	0	12.99
NNE	5.99	0.29	0	0	0	6.28
NE	6.57	0	0	0	0	6.57
ENE	5.69	0.73	0	0	0	6.42
E	3.8	0.15	0	0	0	3.95
ESE	3.36	0.15	0	0	0	3.51
SE	2.19	0.58	0	0	0	2.77
SSE	2.77	0.58	0	0	0	3.35
S	3.94	0.44	0	0	0	4.38
SSW	10.07	0.88	0	0	0	10.95
SW	6.13	1.02	0	0	0	7.15
WSW	5.4	0.29	0	0	0	5.69
W	6.86	0.15	0	0	0	7.01
WNW	7.3	0.44	0	0	0	7.74
NW	5.69	0.15	0	0	0	5.84
NNW	5.26	0.15	0	0	0	5.41
Summary	93.43	6.58	0	0	0	100



LICA-202104

% Icon Classes (ppm)

93 0-2

7 2-5

0 5-10

0 10-40

0 >40.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - April 2021 Summary of Hourly Averages

METHANE (CH4) in ppm

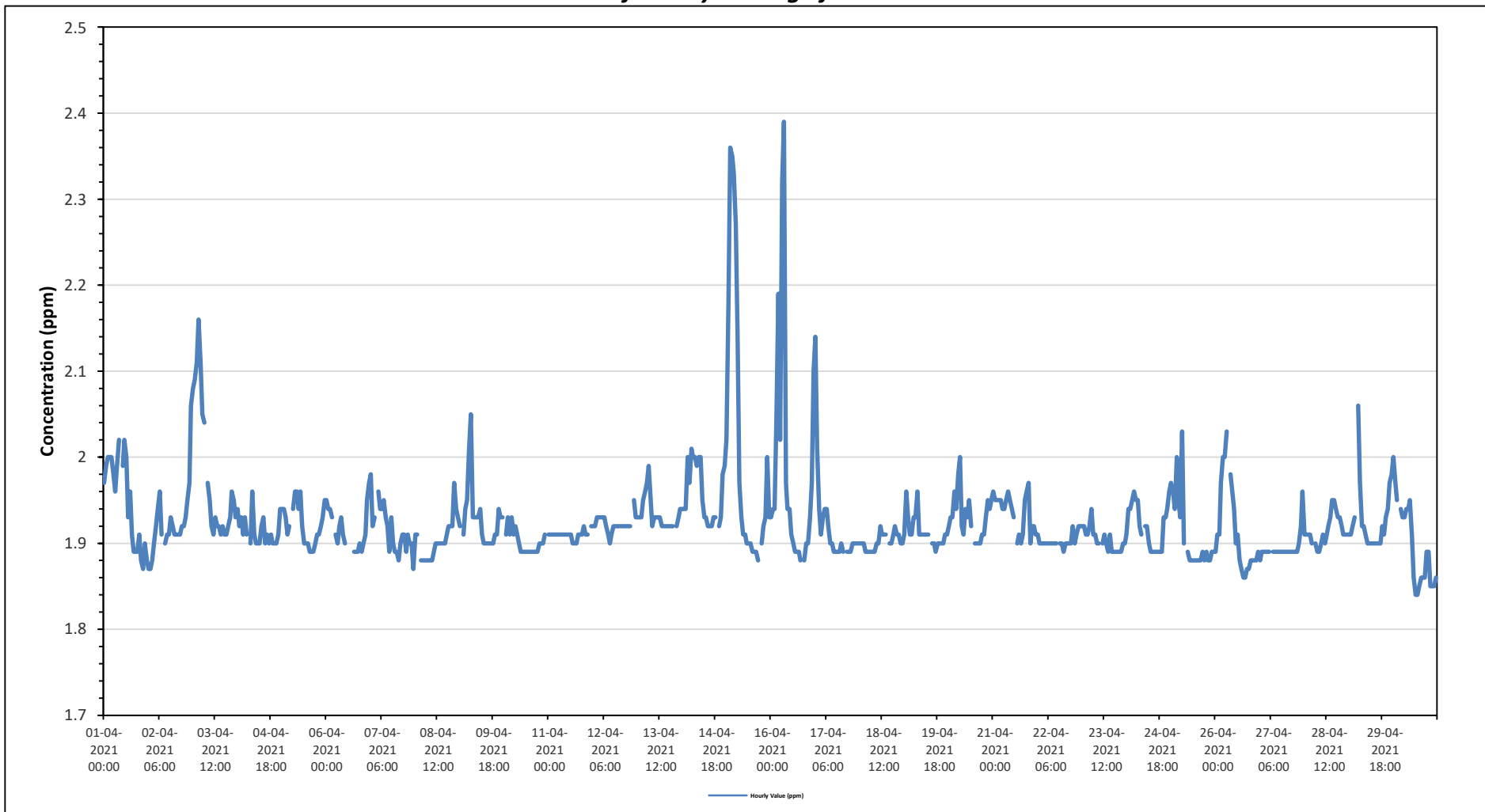
Maximum Hourly Value:	2.39 ppm	on April 16 at hour 7	Hours in Service:	720
Maximum Daily Value:	2.01 ppm	on April 15	Hours of Data:	685
Minimum Hourly Value:	1.84 ppm	on April 30 at hour 12	Hours of Missing Data:	0
Minimum Daily Value:	1.89 ppm	on April 27	Hours of Calibration:	35
Monthly Average:	1.93 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	1.97	1.99	2.00	2.00	2.00	1.98	1.96	1.99	2.02	S	1.99	2.02	2.00	1.93	1.96	1.91	1.89	1.89	1.89	1.91	1.88	1.87	1.90	1.88	1.87	2.02	1.95
Apr 2	1.87	1.87	1.88	1.90	1.92	1.94	1.96	1.91	S	1.90	1.91	1.91	1.93	1.92	1.91	1.91	1.91	1.91	1.92	1.92	1.93	1.95	1.97	2.06	1.87	2.06	1.92
Apr 3	2.08	2.09	2.11	2.16	2.11	2.05	2.04	S	1.97	1.95	1.92	1.91	1.93	1.92	1.92	1.91	1.92	1.91	1.91	1.92	1.93	1.96	1.95	1.93	1.91	2.16	1.98
Apr 4	1.94	1.92	1.93	1.91	1.93	1.91	S	1.90	1.96	1.91	1.90	1.90	1.90	1.92	1.93	1.90	1.91	1.90	1.91	1.90	1.90	1.90	1.91	1.94	1.90	1.96	1.91
Apr 5	1.94	1.94	1.93	1.91	1.92	S	1.94	1.96	1.96	1.94	1.96	1.92	1.90	1.90	1.90	1.89	1.89	1.89	1.90	1.91	1.91	1.92	1.93	1.95	1.89	1.96	1.92
Apr 6	1.95	1.94	1.94	1.93	S	1.91	1.90	1.92	1.93	1.91	1.90	C	C	C	C	1.89	1.89	1.89	1.90	1.89	1.90	1.91	1.95	1.97	1.89	1.97	1.92
Apr 7	1.98	1.92	1.93	S	1.96	1.94	1.94	1.95	1.93	1.92	1.89	1.93	1.90	1.89	1.89	1.88	1.90	1.91	1.91	1.89	1.91	1.90	1.90	1.87	1.87	1.98	1.91
Apr 8	1.91	1.91	S	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.89	1.90	1.90	1.90	1.90	1.90	1.90	1.91	1.92	1.92	1.92	1.97	1.94	1.93	1.88	1.97	1.90
Apr 9	1.92	S	1.91	1.94	1.95	2.01	2.05	1.93	1.93	1.93	1.93	1.94	1.91	1.90	1.90	1.90	1.90	1.90	1.90	1.91	1.91	1.94	1.93	1.93	1.90	2.05	1.93
Apr 10	S	1.91	1.93	1.91	1.93	1.91	1.92	1.91	1.90	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.90	1.90	1.90	1.91	S	1.89	1.93	1.90
Apr 11	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.90	1.90	1.91	1.91	1.91	1.92	1.91	1.91	S	1.92	1.90	1.92	1.91
Apr 12	1.92	1.92	1.93	1.93	1.93	1.93	1.93	1.92	1.91	1.90	1.91	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	S	1.95	1.93	1.90	1.95
Apr 13	1.93	1.93	1.93	1.95	1.96	1.97	1.99	1.95	1.92	1.93	1.93	1.93	1.93	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	S	1.92	1.93	1.94	1.92	1.99
Apr 14	1.94	1.94	1.94	2.00	1.97	2.01	2.00	2.00	1.99	2.00	2.00	1.95	1.93	1.93	1.92	1.92	1.92	1.93	1.93	S	1.92	1.93	1.98	1.99	1.92	2.01	1.96
Apr 15	2.02	2.18	2.36	2.35	2.33	2.27	2.14	1.97	1.93	1.91	1.91	1.91	1.90	1.90	1.89	1.89	1.89	1.88	S	1.90	1.92	1.93	2.00	1.93	1.88	2.36	2.01
Apr 16	1.93	1.94	1.94	2.04	2.19	2.02	2.32	2.39	1.97	1.94	1.94	1.91	1.90	1.89	1.89	1.89	1.88	S	1.88	1.90	1.90	1.93	1.97	2.10	1.88	2.39	1.99
Apr 17	2.14	2.01	1.94	1.91	1.93	1.94	1.94	1.92	1.90	1.90	1.89	1.89	1.89	1.89	1.90	1.89	S	1.89	1.89	1.89	1.90	1.90	1.90	1.90	1.89	2.14	1.92
Apr 18	1.90	1.90	1.90	1.89	1.89	1.89	1.89	1.89	1.89	1.90	1.90	1.92	1.91	1.91	1.91	S	1.90	1.90	1.91	1.92	1.91	1.91	1.90	1.90	1.89	1.92	1.90
Apr 19	1.91	1.96	1.93	1.91	1.91	1.93	1.93	1.96	1.91	1.91	1.91	1.91	1.91	1.91	S	1.90	1.90	1.89	1.90	1.90	1.90	1.91	1.91	1.91	1.89	1.96	1.91
Apr 20	1.92	1.93	1.93	1.96	1.94	1.98	2.00	1.92	1.91	1.94	1.93	1.95	1.92	S	1.90	1.90	1.90	1.90	1.91	1.91	1.93	1.95	1.94	1.95	1.90	2.00	1.93
Apr 21	1.96	1.95	1.95	1.95	1.95	1.94	1.94	1.95	1.96	1.95	1.94	1.93	S	1.90	1.91	1.90	1.91	1.95	1.96	1.97	1.90	1.92	1.92	1.91	1.90	1.97	1.94
Apr 22	1.91	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	S	1.90	1.90	1.89	1.90	1.90	1.90	1.90	1.92	1.90	1.91	1.92	1.92	1.89	1.92	1.90
Apr 23	1.92	1.92	1.91	1.91	1.92	1.94	1.91	1.91	1.90	1.90	1.90	S	1.90	1.91	1.89	1.91	1.89	1.89	1.89	1.89	1.89	1.89	1.90	1.90	1.89	1.94	1.90
Apr 24	1.91	1.94	1.94	1.95	1.96	1.95	1.95	1.92	1.91	S	1.92	1.92	1.92	1.90	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.93	1.93	1.94	1.96	1.89	1.96
Apr 25	1.97	1.96	1.94	2.00	1.95	1.93	2.03	1.90	S	1.89	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.89	1.88	1.89	1.88	1.88	1.89	1.89	1.88	2.03	1.91
Apr 26	1.89	1.91	1.91	1.97	2.00	2.00	2.03	S	1.98	1.96	1.94	1.90	1.91	1.88	1.87	1.86	1.86	1.87	1.87	1.88	1.88	1.88	1.89	1.89	1.86	2.03	1.91
Apr 27	1.88	1.89	1.89	1.89	1.89	1.89	S	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.90	1.92	1.96	1.88	1.96
Apr 28	1.91	1.91	1.91	1.91	1.90	S	1.90	1.89	1.89	1.90	1.91	1.90	1.91	1.92	1.93	1.95	1.94	1.93	1.93	1.92	1.91	1.91	1.91	1.89	1.95	1.91	1.91
Apr 29	1.91	1.91	1.92	1.93	S	2.06	1.97	1.92	1.92	1.91	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.92	1.91	1.93	1.94	1.97	1.98	1.90	2.06	1.93	
Apr 30	2.00	1.97	1.95	S	1.94	1.93	1.93	1.94	1.94	1.95	1.91	1.86	1.84	1.84	1.85	1.86	1.86	1.86	1.89	1.89	1.85	1.85	1.86	1.86	1.84	2.00	1.90
Diurnal Maximum	2.14	2.18	2.36	2.35	2.33	2.27	2.32	2.39	2.02	2.00	2.00	2.02	2.00	1.93	1.96	1.95	1.95	1.95	1.96	1.97	1.93	1.97	2.00	2.10			
Daiurnal Average	1.94	1.94	1.95	1.96	1.96	1.96	1.97	1.94	1.93	1.92	1.92	1.91	1.91	1.90	1.90	1.90	1.90	1.90	1.90	1.91	1.91	1.91	1.93	1.93			

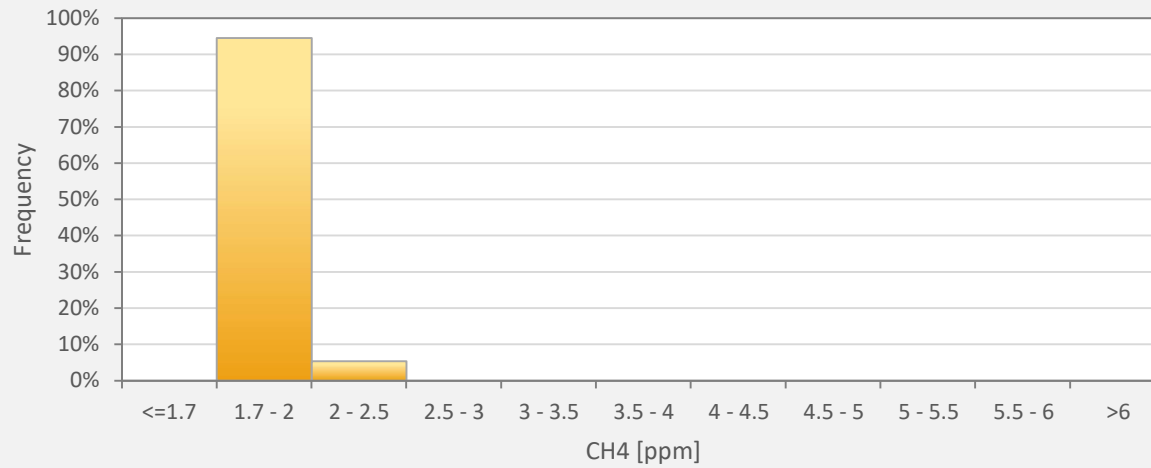
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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.

Timeseries Chart of Hourly Average for CH4 - Tamarack Site



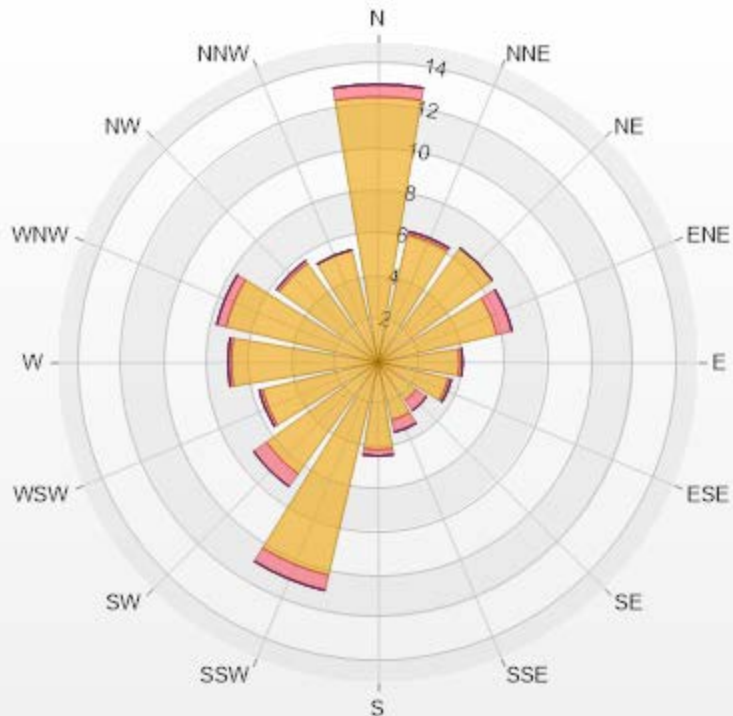
CH4[ppm] Histogram: Tamarack Monthly: 04-2021 1 Hr.



Classes	CH4
<=1.7	0.00%
1.7 - 2	94.60%
2 - 2.5	5.40%
2.5 - 3	0.00%
3 - 3.5	0.00%
3.5 - 4	0.00%
4 - 4.5	0.00%
4.5 - 5	0.00%
5 - 5.5	0.00%
5.5 - 6	0.00%
>6	0.00%

Wind: Tamarack Poll.: Tamarack-CH4[ppm] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 95.14% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	12.41	0.58	0	0	0	12.99
NNE	6.13	0.15	0	0	0	6.28
NE	6.57	0	0	0	0	6.57
ENE	5.69	0.73	0	0	0	6.42
E	3.8	0.15	0	0	0	3.95
ESE	3.36	0.15	0	0	0	3.51
SE	2.19	0.58	0	0	0	2.77
SSE	2.77	0.58	0	0	0	3.35
S	4.09	0.29	0	0	0	4.38
SSW	10.22	0.73	0	0	0	10.95
SW	6.42	0.73	0	0	0	7.15
WSW	5.55	0.15	0	0	0	5.7
W	6.86	0.15	0	0	0	7.01
WNW	7.3	0.44	0	0	0	7.74
NW	5.69	0.15	0	0	0	5.84
NNW	5.4	0	0	0	0	5.4
Summary	94.45	5.56	0	0	0	100



LICA-202104

% Icon Classes (ppm)

94 0-2

6 2-5

0 5-10

0 10-20

0 >20.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - April 2021

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

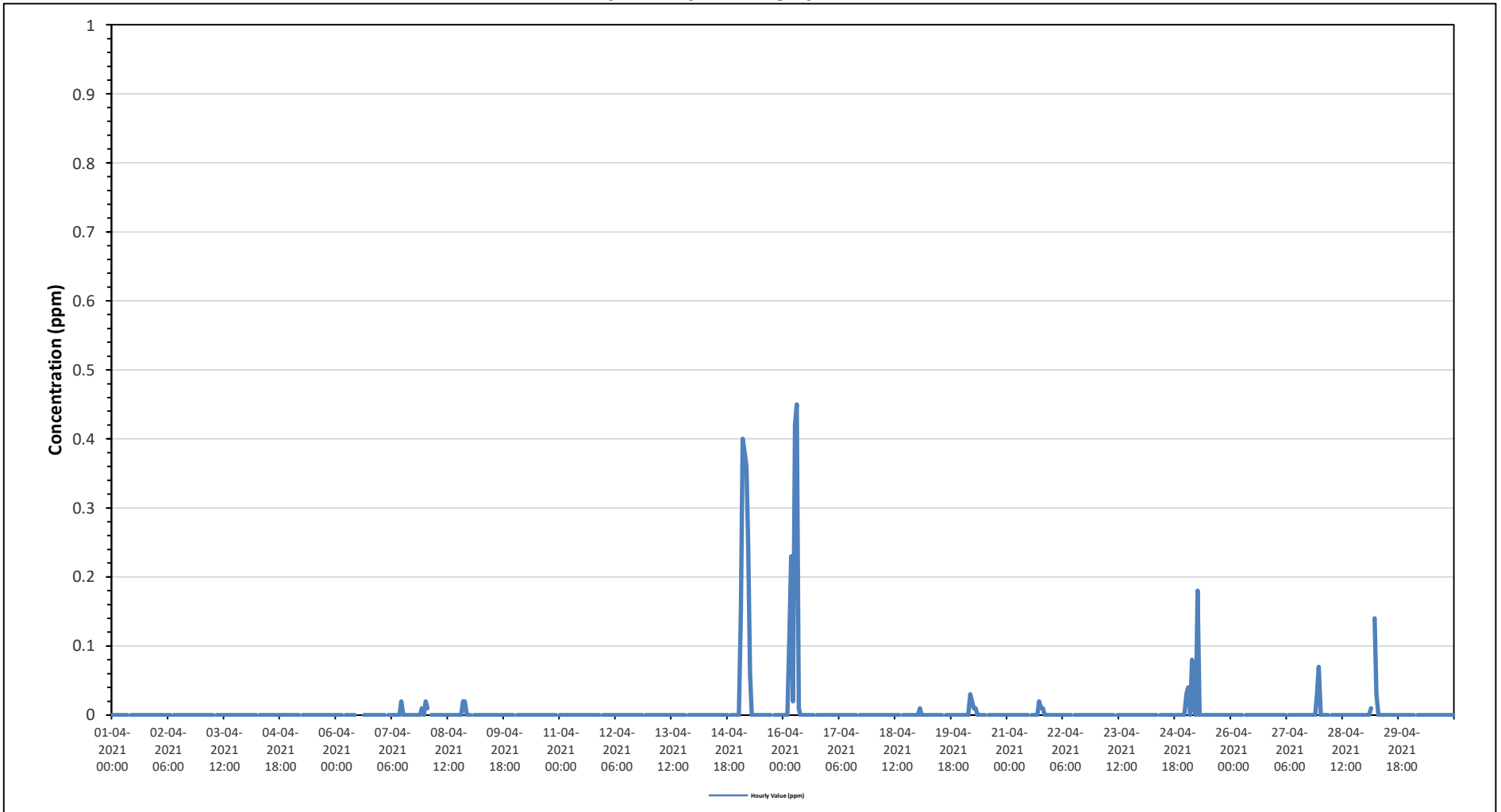
Maximum Hourly Value:	0.45 ppm on April 16 at hour 7	Hours in Service:	720
Maximum Daily Value:	0.07 ppm on April 15	Hours of Data:	685
Minimum Hourly Value:	0.00 ppm on April 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.00 ppm on April 1	Hours of Calibration:	35
Monthly Average:	0.01 ppm	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	0.00	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 2	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 3	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 4	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 5	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 6	0.00	0.00	0.00	0.00	S	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 7	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.00	
Apr 8	0.02	0.01	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.02	0.00	0.00	
Apr 9	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	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	S	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	S	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	S	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	S	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 15	0.00	0.15	0.40	0.38	0.36	0.24	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.07	
Apr 16	0.00	0.00	0.00	0.10	0.23	0.02	0.42	0.45	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.05	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	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 18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 19	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Apr 20	0.00	0.00	0.00	0.00	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	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	S	0.00	0.00	0.00	0.00	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.02	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	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 23	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 24	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 25	0.03	0.04	0.00	0.08	0.01	0.00	0.18	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	0.18	0.01	0.01	
Apr 26	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
Apr 27	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	0.03	0.07	0.00	0.00
Apr 28	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 29	0.00	0.00	0.00	0.01	S	0.14	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	0.00	0.00	0.14	0.01	0.00	0.00
Apr 30	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
Diurnal Maximum	0.03	0.15	0.40	0.38	0.36	0.24	0.42	0.45	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.01	0.02	0.02	0.03	0.07					
Diurnal Average	0.00	0.01	0.01	0.02	0.02	0.02	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					

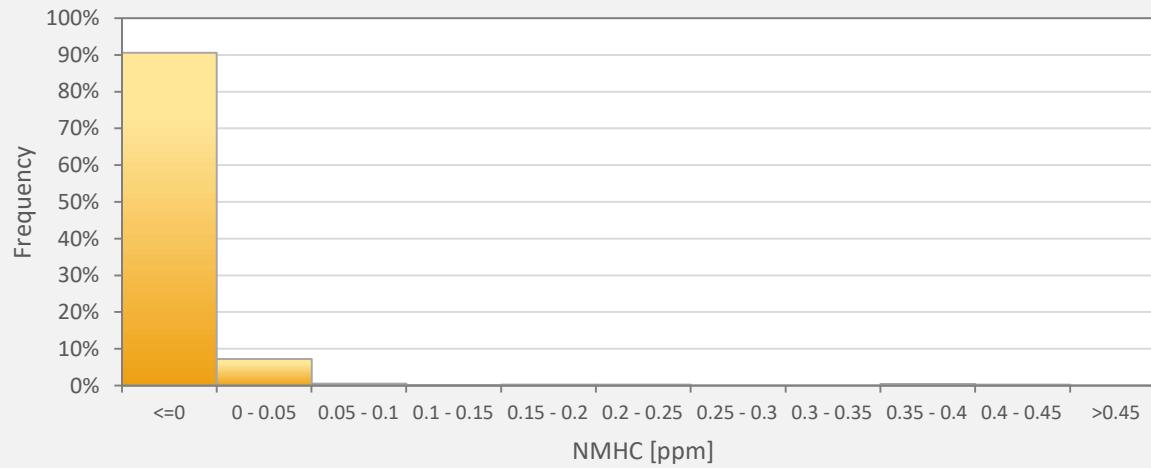
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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.

Timeseries Chart of Hourly Average for NMHC - Tamarack Site



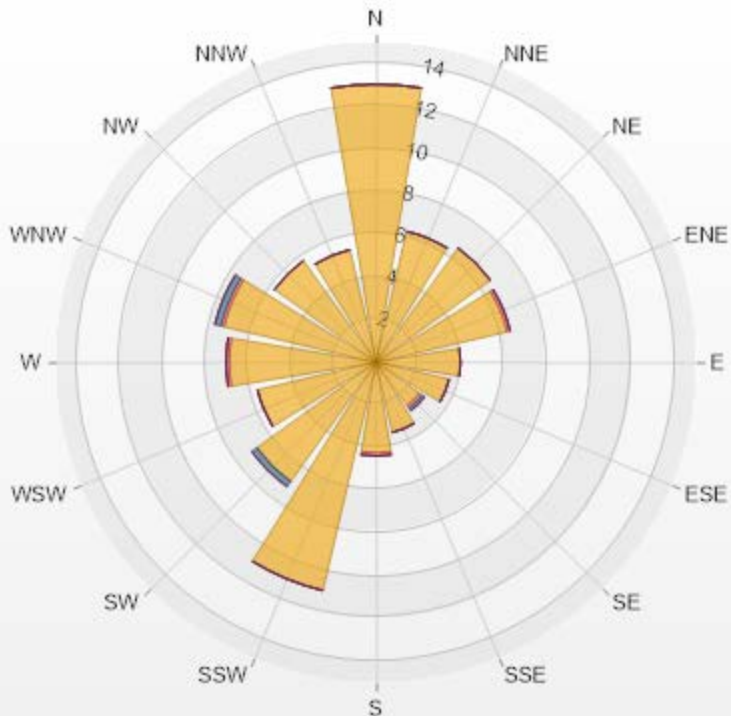
NMHC[ppm] Histogram: Tamarack Monthly: 04-2021 1 Hr.



Classes	NMHC
<=0	90.66%
0 - 0.05	7.30%
0.05 - 0.1	0.58%
0.1 - 0.15	0.15%
0.15 - 0.2	0.29%
0.2 - 0.25	0.29%
0.25 - 0.3	0.00%
0.3 - 0.35	0.00%
0.35 - 0.4	0.44%
0.4 - 0.45	0.29%
>0.45	0.00%

Wind: Tamarack Poll.: Tamarack-NMHC[ppm] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 95.14% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-0.9	0.9-2	>2.0	Total
N	12.99	0	0	0	0	12.99
NNE	6.28	0	0	0	0	6.28
NE	6.57	0	0	0	0	6.57
ENE	6.28	0.15	0	0	0	6.43
E	3.94	0	0	0	0	3.94
ESE	3.5	0	0	0	0	3.5
SE	2.48	0.15	0.15	0	0	2.78
SSE	3.36	0	0	0	0	3.36
S	4.23	0.15	0	0	0	4.38
SSW	10.95	0	0	0	0	10.95
SW	6.86	0	0.29	0	0	7.15
WSW	5.69	0	0	0	0	5.69
W	6.86	0.15	0	0	0	7.01
WNW	7.3	0.15	0.29	0	0	7.74
NW	5.84	0	0	0	0	5.84
NNW	5.4	0	0	0	0	5.4
Summary	98.53	0.75	0.73	0	0	100




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% Icon Classes (ppm)

99  0-0.1

1  0.1-0.3

1  0.3-0.9

0  0.9-2

0  >2.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - April 2021

Summary of Hourly Averages

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

Alberta Ambient Air Quality Guidelines (AAAQG): 1-Hour 80 µg/m³, Alberta Ambient Air Quality Objectives (AAAO): 24-Hour 29 µg/m³

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

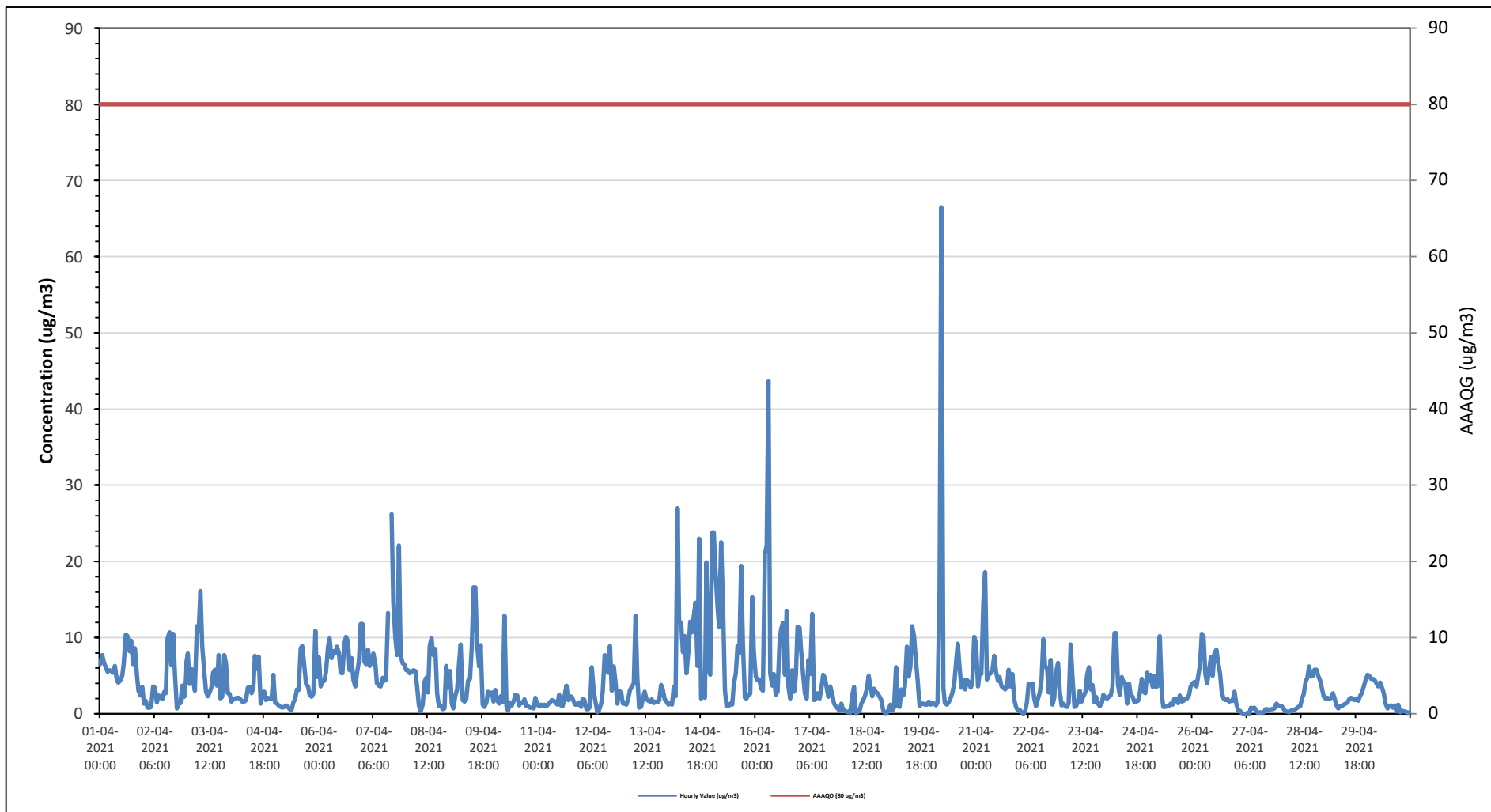
Maximum Hourly Value:	67 µg/m ³ on April 20 at hour 6	Hours in Service:	720
Maximum Daily Value:	9.3 µg/m ³ on April 15	Hours of Data:	719
Minimum Hourly Value:	0 µg/m ³ on April 22 at hour 3	Hours of Missing Data:	0
Minimum Daily Value:	0 µg/m ³ on April 27	Hours of Calibration:	1
Monthly Average:	4.2 µg/m ³	Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily	Daily	Daily	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	7	8	7	6	6	6	6	5	6	4	4	4	5	7	10	10	8	10	7	9	5	3	2	4	2	10	6.1
Apr 2	1	2	1	1	1	4	3	2	2	2	2	3	3	10	11	6	11	5	1	1	1	4	2	6	1	11	3.5
Apr 3	8	4	6	4	3	12	11	16	9	6	3	2	3	3	5	6	4	8	2	2	8	7	3	3	2	16	5.7
Apr 4	2	2	2	2	2	2	2	2	3	4	3	3	8	6	8	1	3	3	2	2	2	2	2	5	1	8	2.9
Apr 5	2	1	1	1	1	1	1	1	1	1	2	2	3	3	9	9	6	4	4	3	2	3	11	5	1	11	3.1
Apr 6	7	4	4	4	6	9	10	7	8	8	9	8	5	5	9	10	10	6	7	5	4	5	7	12	4	12	7.0
Apr 7	12	7	7	8	6	7	8	7	4	4	4	5	4	5	13	C	26	15	10	8	22	8	7	7	4	26	8.7
Apr 8	6	6	5	6	6	6	4	1	0	1	4	5	3	9	10	8	9	3	1	1	1	1	6	3	0	10	4.3
Apr 9	6	1	1	2	3	7	9	2	2	2	4	5	9	17	17	9	6	9	1	1	2	3	3	3	1	17	5.1
Apr 10	2	3	2	1	2	2	13	1	0	2	1	2	3	2	1	2	1	2	1	1	1	1	1	2	0	13	2.0
Apr 11	1	1	1	1	1	1	1	2	2	2	2	1	3	1	1	2	4	2	2	2	2	1	1	2	1	4	1.6
Apr 12	1	2	2	1	1	1	6	3	2	0	1	1	3	8	6	5	9	3	6	4	1	3	3	1	0	9	3.0
Apr 13	1	1	2	3	4	4	13	5	1	1	2	3	2	2	2	1	2	2	2	2	4	3	2	2	1	13	2.6
Apr 14	1	1	1	4	2	27	12	12	8	10	5	8	12	11	13	15	6	23	2	2	2	20	6	5	1	27	8.7
Apr 15	24	24	19	14	11	23	15	3	1	1	1	1	4	5	9	8	19	9	2	2	3	3	15	8	1	24	9.3
Apr 16	5	4	5	3	3	21	22	44	5	4	5	3	3	9	11	12	5	14	4	2	6	3	5	11	2	44	8.7
Apr 17	11	8	5	3	2	7	5	13	2	2	3	2	3	5	5	3	2	4	3	1	1	1	0	1	0	13	3.9
Apr 18	1	0	0	0	0	2	4	0	0	0	1	2	2	3	5	4	2	3	3	3	2	2	1	0	0	5	1.7
Apr 19	0	1	1	0	1	6	1	1	3	2	4	9	5	6	12	10	7	5	1	1	1	1	1	2	0	12	3.4
Apr 20	1	1	1	1	2	16	67	3	1	1	2	2	3	4	7	9	6	3	5	3	4	4	3	4	1	67	6.4
Apr 21	10	9	4	5	5	15	19	5	5	5	6	8	6	4	5	4	3	3	4	6	4	5	2	1	1	19	5.9
Apr 22	0	1	0	0	0	2	4	4	4	2	1	2	3	5	10	6	6	3	7	1	2	5	7	3	0	10	3.2
Apr 23	1	1	1	1	1	9	5	1	1	2	3	2	2	3	5	6	3	4	2	2	1	1	1	3	1	9	2.5
Apr 24	2	2	2	2	4	11	11	4	3	5	4	4	1	4	3	2	2	2	2	3	5	3	3	5	1	11	3.6
Apr 25	4	5	4	5	4	4	10	3	1	1	1	1	1	1	2	2	1	2	2	2	2	2	3	4	1	10	2.7
Apr 26	4	4	4	5	6	11	10	5	4	6	7	5	8	8	7	5	3	2	2	2	2	2	2	3	2	11	4.8
Apr 27	1	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	1	1	1	1	1	1	1	0	1	0.5
Apr 28	1	1	1	0	0	0	0	1	1	1	1	1	2	3	4	5	6	5	5	6	6	5	4	3	0	6	2.6
Apr 29	2	2	2	2	2	3	2	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	4	4	1	4	2.0
Apr 30	5	5	5	5	4	4	4	4	3	3	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	5	2.1
Diurnal Maximum	24	24	19	14	11	27	67	44	9	10	9	9	12	17	17	15	26	23	10	9	22	20	15	12			
Diurnal Average	4.3	3.7	3.1	3.1	3.0	7.3	9.2	5.2	2.8	2.7	2.9	3.1	3.5	5.1	6.6	5.9	5.7	5.2	3.0	2.6	3.2	3.4	3.6	3.7			

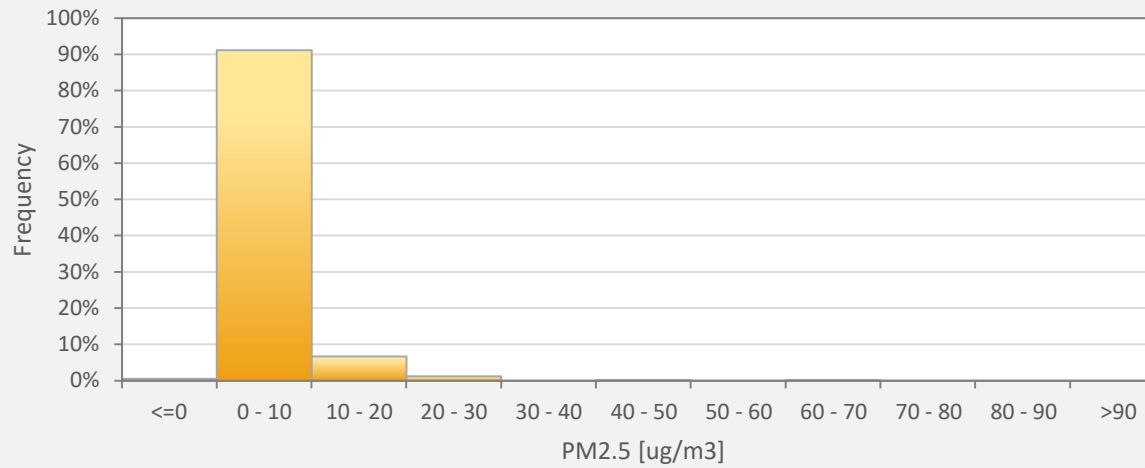
C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N No Data (Machine Not in Service)	Y Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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.

Timeseries Chart of Hourly Average for PM2.5 - Tamarack Site



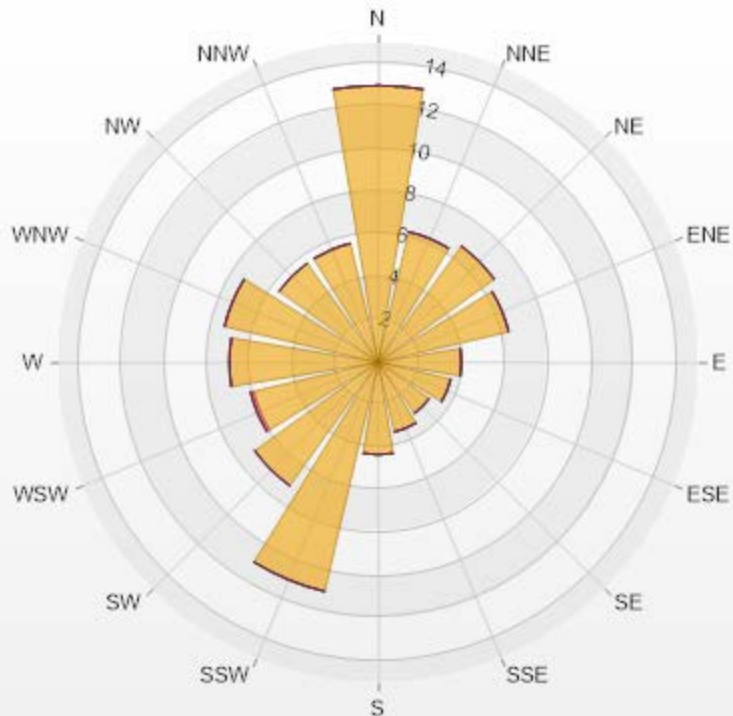
PM2.5[ug/m3(L)] Histogram: Tamarack Monthly: 04-2021 1 Hr.



Classes	PM2.5
<=0	0.56%
0 - 10	91.24%
10 - 20	6.68%
20 - 30	1.25%
30 - 40	0.00%
40 - 50	0.14%
50 - 60	0.00%
60 - 70	0.14%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Tamarack Poll.: Tamarack-PM2.5[ug/m3(L)] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 99.86% Calm Avg: 0.00 [ug/m3(L)]

Direction	0-50	50-80	80-120	120-240	>240.0	Total
N	12.93	0	0	0	0	12.93
NNE	6.26	0	0	0	0	6.26
NE	6.68	0	0	0	0	6.68
ENE	6.26	0	0	0	0	6.26
E	3.89	0	0	0	0	3.89
ESE	3.48	0	0	0	0	3.48
SE	2.92	0	0	0	0	2.92
SSE	3.34	0	0	0	0	3.34
S	4.31	0	0	0	0	4.31
SSW	10.99	0	0	0	0	10.99
SW	7.09	0	0	0	0	7.09
WSW	5.98	0.14	0	0	0	6.12
W	6.95	0	0	0	0	6.95
WNW	7.37	0	0	0	0	7.37
NW	5.7	0	0	0	0	5.7
NNW	5.7	0	0	0	0	5.7
Summary	100	0.14	0	0	0	100




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% Icon Classes (ug/m3(L))

100  0-50

0  50-80

0  80-120

0  120-240

0  >240.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - April 2021

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

Maximum Hourly Value:	100 %	on April 4 at hour 19	Hours in Service:	720
Maximum Daily Value:	79.8 %	on April 28	Hours of Data:	718
Minimum Hourly Value:	15 %	on April 13 at hour 15	Hours of Missing Data:	2
Minimum Daily Value:	31.4 %	on April 14	Hours of Calibration:	0
Monthly Average:	51.6 %		Operational Uptime:	99.7

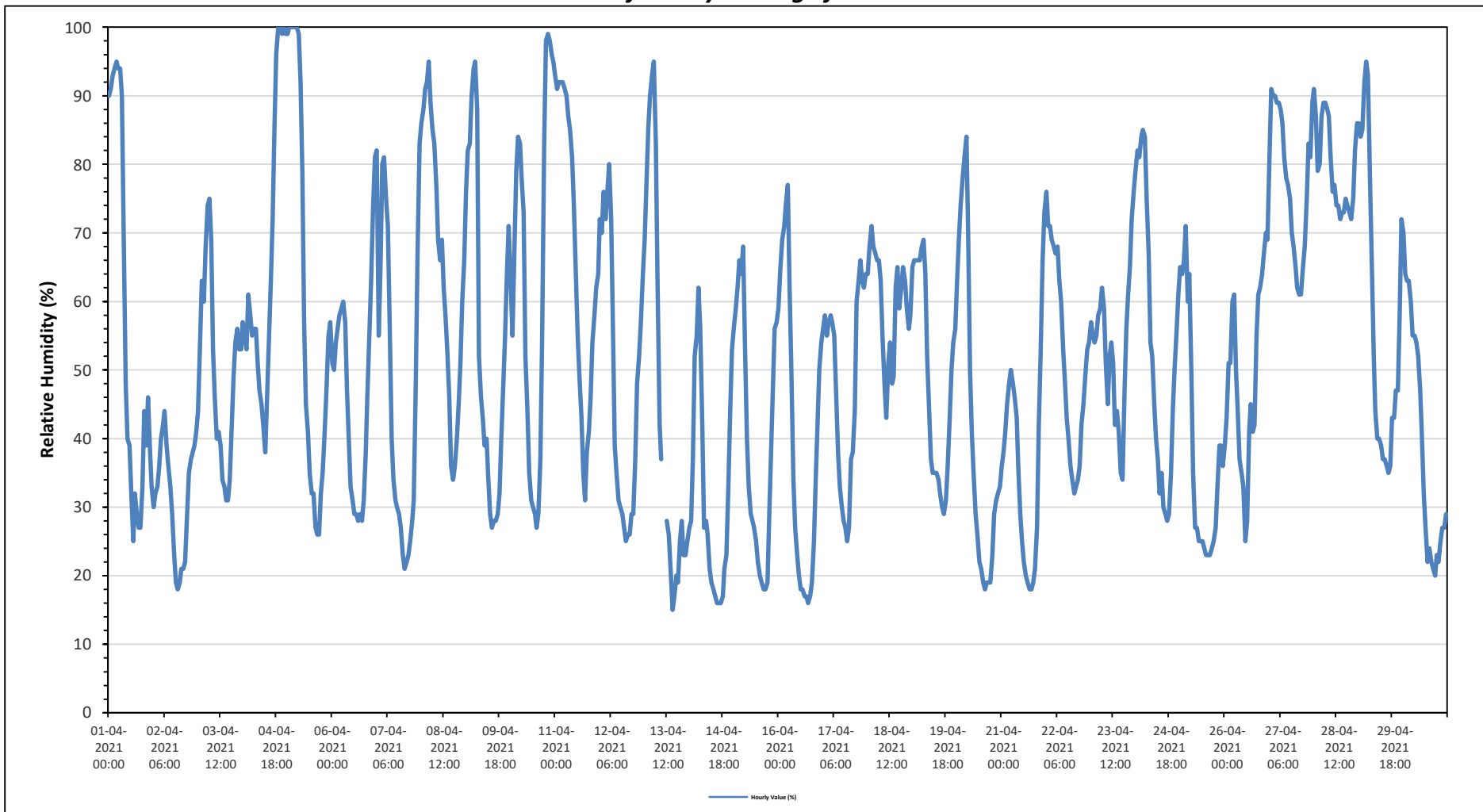
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Apr 1	90	91	93	94	95	94	94	90	70	48	40	39	32	25	32	29	27	27	33	44	39	46	39	33	25	95	56.0
Apr 2	30	32	33	36	40	42	44	39	36	33	29	23	19	18	19	21	21	22	29	35	37	38	39	41	18	44	31.5
Apr 3	44	54	63	60	68	74	75	69	53	46	40	41	39	34	33	31	31	34	41	49	54	56	53	53	31	75	49.8
Apr 4	57	55	53	61	58	55	56	56	51	47	45	42	38	46	54	63	72	85	96	100	100	99	100	99	38	100	66.2
Apr 5	99	100	100	100	100	100	99	92	79	57	45	41	35	32	32	27	26	26	32	35	41	47	55	57	26	100	60.7
Apr 6	51	50	54	56	58	59	60	57	47	39	33	31	29	29	28	29	28	31	38	46	55	63	74	81	28	81	46.9
Apr 7	82	55	65	80	81	75	71	55	40	34	31	30	29	27	23	21	22	23	25	28	31	48	67	83	21	83	46.9
Apr 8	86	88	91	92	95	89	85	83	77	69	66	69	62	58	53	46	36	34	36	40	45	51	60	66	34	95	65.7
Apr 9	76	82	83	90	94	95	88	52	46	43	39	40	34	29	27	28	28	29	32	40	48	55	64	71	27	95	54.7
Apr 10	63	55	68	79	84	83	78	73	52	44	35	31	30	29	27	29	37	55	83	98	99	98	96	95	27	99	63.4
Apr 11	93	91	92	92	92	91	90	87	85	81	74	65	55	49	43	35	31	38	41	46	54	58	62	64	31	93	67.0
Apr 12	72	70	76	72	76	80	72	56	39	35	31	30	29	27	25	26	26	29	29	37	48	52	57	64	25	80	48.3
Apr 13	69	76	85	90	93	95	83	62	42	37	Y	Y	28	26	21	15	17	20	19	25	28	23	23	25	15	95	45.5
Apr 14	27	28	37	52	55	62	56	42	27	28	26	21	19	18	17	16	16	16	17	21	23	32	44	53	16	62	31.4
Apr 15	56	59	62	66	64	68	54	40	33	29	28	27	25	22	20	19	18	18	19	29	38	47	56	57	18	68	39.8
Apr 16	59	65	69	71	74	77	62	50	34	27	23	20	18	18	17	17	16	17	19	25	34	42	50	54	16	77	39.9
Apr 17	56	58	55	57	58	57	55	47	38	33	30	28	27	25	27	37	38	44	60	63	66	63	62	64	25	66	47.8
Apr 18	64	68	71	68	67	66	66	63	55	48	43	51	54	48	49	62	65	59	62	65	63	59	56	58	43	71	59.6
Apr 19	65	66	66	66	66	68	69	64	52	44	37	35	35	35	34	32	30	29	31	36	43	50	54	56	29	69	48.5
Apr 20	62	69	74	78	81	84	69	50	41	35	29	26	22	21	19	18	19	19	19	23	29	31	32	33	18	84	41.0
Apr 21	36	38	41	45	48	50	48	46	43	36	29	25	22	20	19	18	18	19	21	27	42	52	66	73	18	73	36.8
Apr 22	76	71	71	69	68	67	68	63	60	53	49	43	40	36	34	32	33	34	36	42	45	49	53	54	32	76	51.9
Apr 23	57	55	54	55	58	59	62	59	51	45	52	54	51	42	44	41	35	34	47	56	61	65	72	76	34	76	53.5
Apr 24	79	82	81	84	85	84	75	67	54	52	45	40	37	32	35	30	29	28	29	35	44	50	55	61	28	85	53.9
Apr 25	65	64	66	71	60	64	50	35	27	27	25	25	25	24	23	23	23	24	25	27	33	39	39	36	23	71	38.3
Apr 26	39	43	51	51	60	61	50	44	37	35	33	25	28	41	45	41	42	55	61	62	64	67	70	69	25	70	48.9
Apr 27	81	91	90	90	89	89	88	86	81	78	77	75	70	68	65	62	61	61	65	68	75	83	81	89	61	91	77.6
Apr 28	91	87	79	80	87	89	89	88	87	81	76	77	74	74	72	73	73	75	74	73	72	75	82	86	72	91	79.8
Apr 29	86	84	85	92	95	93	78	66	52	44	40	39	37	37	36	35	36	43	43	47	47	58	72	35	95	57.7	
Apr 30	70	64	63	63	60	55	55	54	52	47	41	32	27	22	24	22	21	20	23	22	25	27	27	29	20	70	39.4
Diurnal Maximum	99	100	100	100	100	100	99	92	87	81	77	77	74	74	72	73	73	85	96	100	100	99	100	99			
Daiurnal Average	66.0	66.4	69.0	72.0	73.6	74.2	69.6	61.2	51.4	45.2	41.1	38.8	35.7	33.7	33.3	32.6	32.5	34.7	39.5	44.7	49.4	53.7	58.2	61.7			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	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.

Timeseries Chart of Hourly Average for RH - Tamarack Site





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - April 2021

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

Maximum Hourly Value:	958 mb on April 13 at hour 7	Hours in Service:	720
Maximum Daily Value:	956 mb on April 13	Hours of Data:	720
Minimum Hourly Value:	919 mb on April 1 at hour 18	Hours of Missing Data:	0
Minimum Daily Value:	923 mb on April 26	Hours of Calibration:	0
Monthly Average:	938 mb	Operational Uptime:	100.0

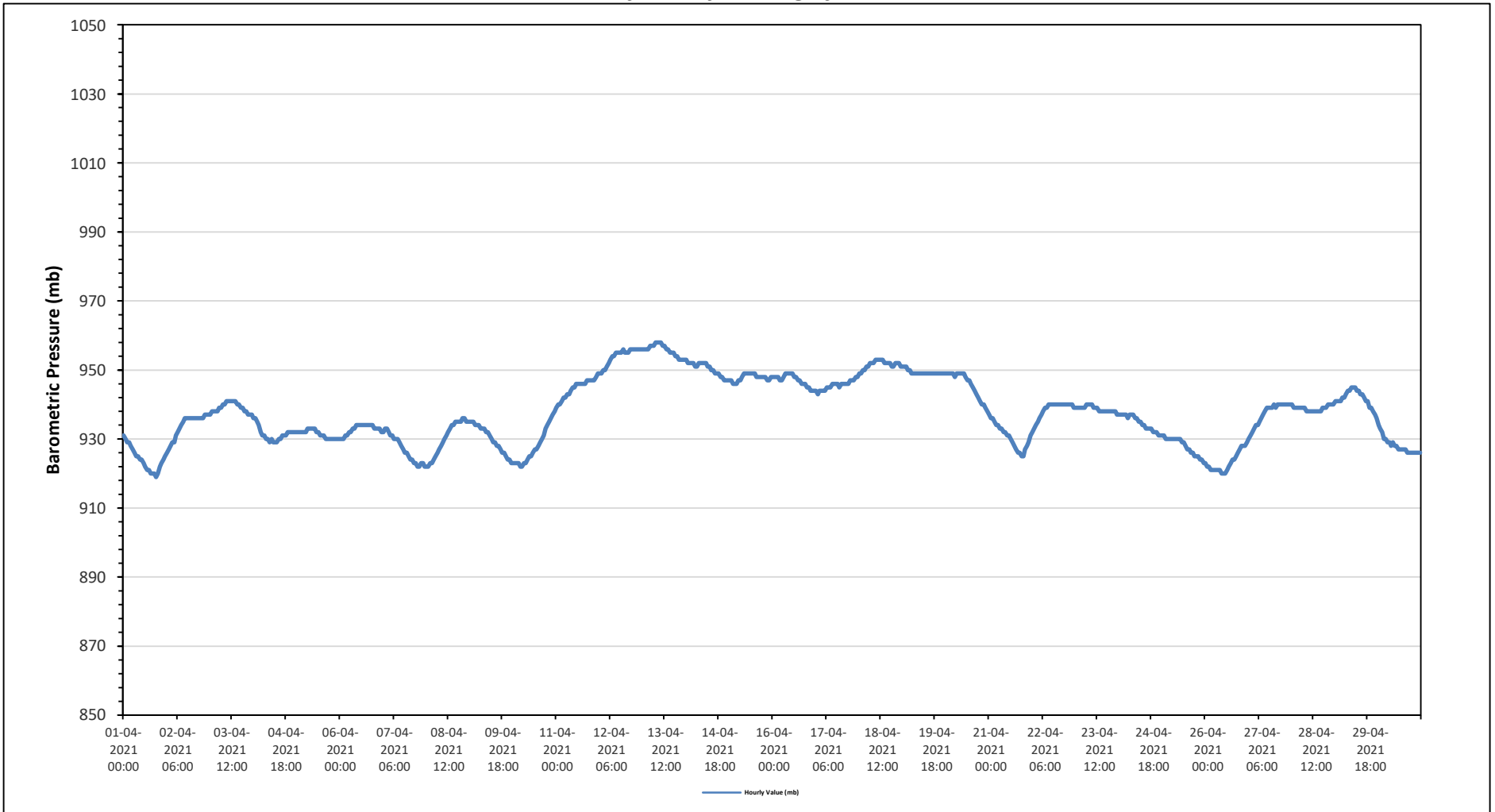
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Apr 1	931	930	929	929	928	927	926	925	925	924	924	923	922	921	921	920	920	920	919	920	922	923	924	925	919	931	924
Apr 2	926	927	928	929	929	931	932	933	934	935	936	936	936	936	936	936	936	936	936	936	936	937	937	937	926	937	934
Apr 3	937	938	938	938	938	939	939	940	940	941	941	941	941	941	941	940	940	939	939	938	938	937	937	937	937	941	939
Apr 4	936	936	935	934	932	931	931	930	930	929	930	929	929	929	930	930	931	931	931	932	932	932	932	932	929	936	931
Apr 5	932	932	932	932	932	932	933	933	933	933	933	932	932	931	931	931	930	930	930	930	930	930	930	930	930	933	931
Apr 6	930	930	930	931	931	932	932	933	933	934	934	934	934	934	934	934	934	934	934	933	933	933	933	932	930	934	933
Apr 7	932	933	933	932	931	931	930	930	930	929	928	927	926	926	925	924	924	923	923	922	922	923	923	922	922	933	927
Apr 8	922	922	923	923	924	925	926	927	928	929	930	931	932	933	934	934	935	935	935	935	936	936	935	935	922	936	930
Apr 9	935	935	935	934	934	934	933	933	933	932	932	931	930	929	929	928	928	927	926	926	925	924	924	923	923	935	930
Apr 10	923	923	923	923	922	922	923	923	924	925	925	926	927	927	928	929	930	931	933	934	935	936	937	938	922	938	928
Apr 11	939	940	940	941	942	942	943	943	944	945	945	946	946	946	946	946	947	947	947	947	947	947	948	949	939	949	945
Apr 12	949	949	950	950	951	952	953	954	954	955	955	955	955	956	955	955	955	956	956	956	956	956	956	956	949	956	954
Apr 13	956	956	956	956	957	957	957	958	958	958	958	957	957	956	956	955	955	955	955	954	954	953	953	953	953	958	956
Apr 14	953	952	952	952	952	951	951	952	952	952	952	951	951	950	950	949	949	949	948	948	948	947	947	947	947	953	950
Apr 15	947	947	946	946	946	947	947	948	949	949	949	949	949	949	948	948	948	948	948	948	948	947	947	947	946	949	948
Apr 16	948	948	948	948	947	947	948	949	949	949	949	949	948	948	947	947	946	946	946	945	945	944	944	944	944	949	947
Apr 17	944	943	944	944	944	944	945	945	945	946	946	946	946	945	946	946	946	946	946	947	947	947	948	948	943	948	946
Apr 18	949	949	950	950	951	951	952	952	952	953	953	953	953	952	952	952	952	951	951	951	952	952	952	951	949	953	952
Apr 19	951	951	951	950	950	949	949	949	949	949	949	949	949	949	949	949	949	949	949	949	949	949	949	949	949	951	949
Apr 20	949	949	949	949	949	948	949	949	949	949	949	948	947	947	946	945	944	943	942	941	940	940	939	938	938	949	946
Apr 21	937	936	936	935	934	934	933	933	932	932	931	931	930	929	928	927	926	926	925	925	927	928	929	931	925	937	931
Apr 22	932	933	934	935	936	937	938	939	939	940	940	940	940	940	940	940	940	940	940	940	940	940	940	939	932	940	938
Apr 23	939	939	939	939	939	939	940	940	940	940	939	939	939	938	938	938	938	938	938	938	938	938	937	937	937	940	939
Apr 24	937	937	937	937	937	936	937	937	937	936	936	935	935	934	934	933	933	933	932	932	932	931	931	931	931	937	935
Apr 25	931	931	930	930	930	930	930	930	930	930	929	929	928	927	927	926	926	925	925	925	924	924	923	923	923	931	928
Apr 26	923	922	922	921	921	921	921	921	921	920	920	920	921	922	923	924	925	926	927	928	928	928	929	929	920	929	923
Apr 27	930	931	932	933	934	934	935	936	937	938	939	939	939	939	940	939	940	940	940	940	940	940	940	940	930	940	937
Apr 28	940	939	939	939	939	939	939	939	938	938	938	938	938	938	938	938	938	939	939	940	940	940	940	940	938	940	939
Apr 29	941	941	941	941	942	942	943	944	945	945	945	944	944	943	943	942	941	941	939	939	938	937	936	936	936	945	942
Apr 30	934	933	932	930	930	929	929	928	928	928	927	927	927	927	926	926	926	926	926	926	926	926	926	926	926	926	928
Diurnal Maximum	956	956	956	956	957	957	957	958	958	958	958	957	957	956	956	955	955	956	956	956	956	956	956	956	956	956	956
Diurnal Average	938	938	938	938	938	938	938	938	939	939	939	939	938	938	938	938	938	938	938	937	938	938	938	938	938	938	938

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	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.

Timeseries Chart of Hourly Average for BP - Tamarack Site





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - April 2021

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

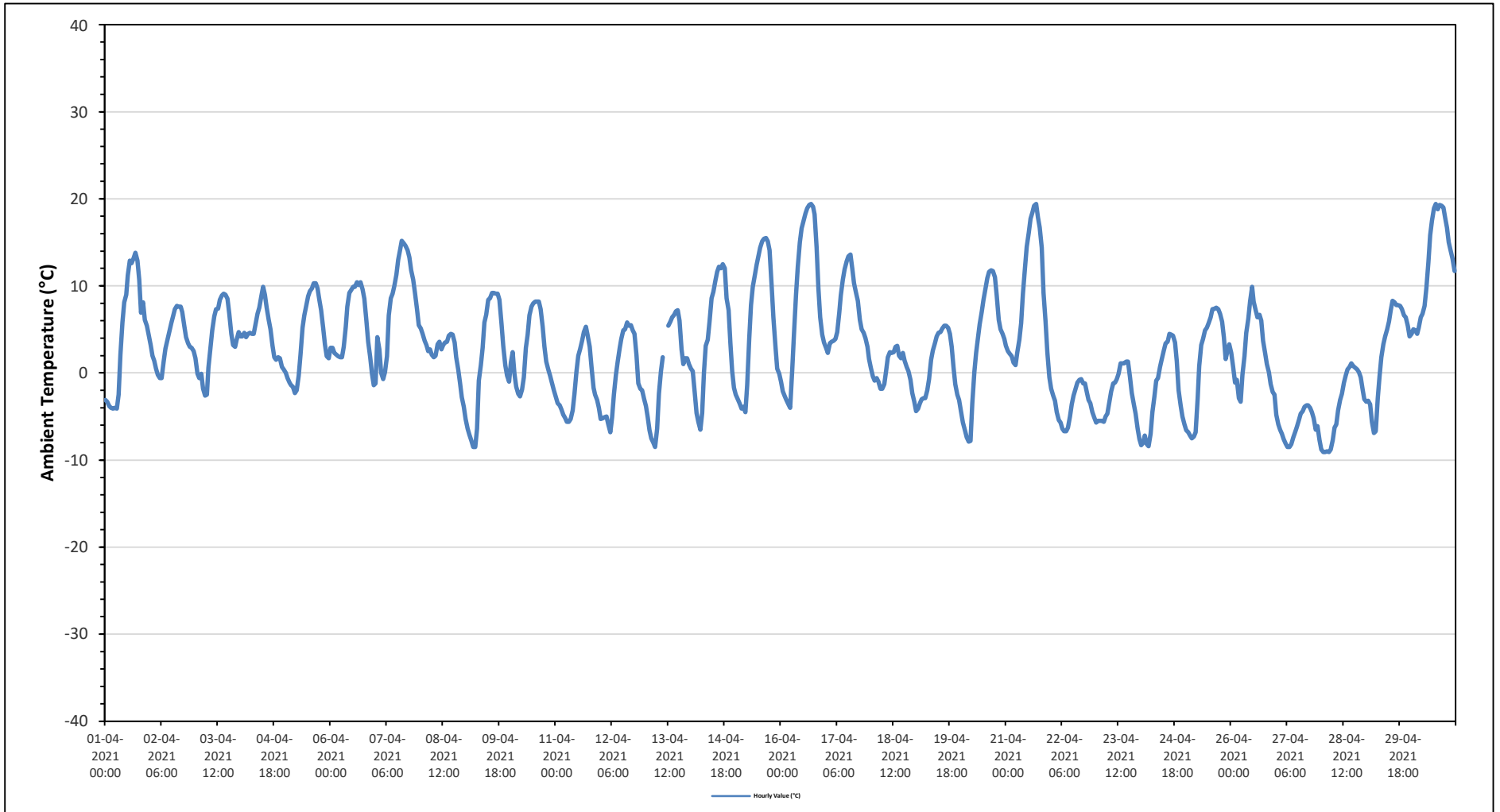
Maximum Hourly Value:	19.4 °C	on April 16 at hour 16	Hours in Service:	720
Maximum Daily Value:	12.7 °C	on April 30	Hours of Data:	718
Minimum Hourly Value:	-9.1 °C	on April 28 at hour 1	Hours of Missing Data:	2
Minimum Daily Value:	-6.1 °C	on April 27	Hours of Calibration:	0
Monthly Average:	2.7 °C		Operational Uptime:	99.7

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	-3.1	-3.3	-3.8	-4	-4.1	-4	-4.1	-2.5	2.1	5.8	8.1	9	11.2	12.9	12.6	13.2	13.8	12.9	10.7	6.9	8.1	6.1	5.4	4.4	-4.1	13.8	4.8
Apr 2	3.2	2	1.4	0.5	-0.2	-0.6	-0.6	1.3	2.8	3.8	4.7	5.7	6.5	7.3	7.7	7.6	7.6	7	5.4	4.1	3.4	3	2.9	2.5	-0.6	7.7	3.7
Apr 3	1.7	-0.1	-0.6	-0.1	-1.8	-2.6	-2.5	0.6	2.9	4.9	6.5	7.3	7.4	8.4	8.9	9.1	9	8.5	6.8	4.5	3.2	3	3.8	4.7	-2.6	9.1	3.9
Apr 4	4.2	4.2	4.6	4.1	4.5	4.6	4.5	4.5	5.7	6.8	7.5	8.8	9.9	9	7.5	6.1	5	3.1	1.8	1.5	1.8	1.7	0.7	0.4	0.4	9.9	4.7
Apr 5	0	-0.6	-1.1	-1.4	-1.6	-2.3	-2	-0.3	2.1	5.2	6.6	7.8	8.8	9.4	9.7	10.3	10.3	9.7	8.4	7.2	5.2	3.3	1.9	1.7	-2.3	10.3	4.1
Apr 6	2.9	2.9	2.3	2.1	1.9	1.8	1.8	3	5.3	7.6	9.2	9.5	9.9	9.9	10.4	10.1	10.4	9.6	8.5	6	3.6	1.8	-0.1	-1.4	-1.4	10.4	5.4
Apr 7	-1.2	4.1	2.7	0	-0.7	0.1	1.9	6.6	8.6	9.1	10	11.3	13	14.2	15.2	14.9	14.6	14.1	13.3	11.8	10.7	9.2	7.3	5.5	-1.2	15.2	8.2
Apr 8	5.1	4.5	3.7	3.2	2.5	2.7	2.1	1.8	2	3.3	3.6	2.7	3.2	3.5	3.6	4.3	4.5	4.4	3.5	1.8	0.4	-1.1	-2.8	-3.9	-3.9	5.1	2.4
Apr 9	-5.3	-6.4	-7.1	-7.8	-8.5	-8.5	-6.4	-0.9	0.9	2.9	5.8	6.7	8.4	8.6	9.2	9.2	9.1	9.1	8.4	5.7	3.1	0.9	-0.3	-1	-8.5	9.2	1.5
Apr 10	1.2	2.4	-0.1	-1.6	-2.4	-2.7	-1.9	-0.5	2.9	4.4	6.6	7.6	8	8.2	8.2	8.2	7.3	5.3	3	1.3	0.4	-0.3	-1.2	-2	-2.7	8.2	2.6
Apr 11	-2.8	-3.5	-3.7	-4.2	-4.8	-5.2	-5.6	-5.3	-4.3	-2.4	0.2	2	2.7	3.7	4.7	5.3	4.3	3	0.7	-1.7	-2.5	-3.1	-4	-5.6	5.3	-1.3	
Apr 12	-5.3	-5.2	-5.1	-5	-5.9	-6.8	-5.1	-2.5	-0.2	1.3	2.9	3.9	4.9	5	5.8	5.4	5.5	4.9	4.5	2	-1.2	-1.8	-2	-3	-6.8	5.8	-0.1
Apr 13	-3.8	-5.1	-6.6	-7.5	-8	-8.5	-6.4	-2.4	0.2	1.8	Y	Y	5.4	5.9	6.4	6.7	7.1	7.2	6	2.7	1	1.7	1.7	1	-8.5	7.2	0.3
Apr 14	0.5	0.2	-2.3	-4.6	-5.6	-6.5	-4.6	0	3.1	3.8	5.9	8.6	9.3	10.6	11.6	12.2	12	12.5	12	8.6	7.2	3.4	0.2	-1.7	-6.5	12.5	4.0
Apr 15	-2.5	-3	-3.5	-4.1	-3.9	-4.5	-1.4	3.9	7.8	9.9	11.2	12.4	13.4	14.4	15.1	15.4	15.5	15.1	14.1	10.1	6.4	3.1	0.5	-0.1	-4.5	15.5	6.1
Apr 16	-1	-2.1	-2.7	-3.1	-3.6	-4	0.3	4.5	9	12.2	15	16.6	17.4	18.3	18.9	19.3	19.4	19.1	18.2	14.4	9.7	6.4	4.4	3.5	-4.0	19.4	8.8
Apr 17	2.9	2.3	3.4	3.6	3.7	3.9	4.7	6.9	8.9	10.7	11.9	12.8	13.4	13.6	12	10.3	9.2	8.3	6.1	5	4.6	4	3	1.6	1.6	13.6	7.0
Apr 18	0.6	-0.4	-0.9	-0.6	-1	-1.8	-1.8	-1.3	0.2	1.8	2.4	2.3	2.4	3	3.1	2	1.7	2.3	1.4	0.7	0.2	-0.8	-2.3	-3.3	-3.3	3.1	0.4
Apr 19	-4.4	-4.1	-3.5	-3	-2.9	-2.9	-2	-0.7	1.5	2.6	3.4	4.2	4.6	4.7	5.1	5.4	5.4	5.2	4.5	3	0.7	-1.3	-2.5	-3.1	-4.4	5.4	0.8
Apr 20	-4.5	-5.7	-6.6	-7.4	-7.9	-7.8	-3.5	0.1	2.3	4.2	5.6	7	8.4	9.7	10.9	11.6	11.8	11.7	11	8.9	6.1	5	4.5	3.9	-7.9	11.8	3.3
Apr 21	3.1	2.5	2.2	1.9	1.2	0.9	2.4	3.8	5.7	9.1	12	14.5	16.1	17.7	18.5	19.2	19.4	17.9	16.7	14.4	9.2	5.9	2.4	-0.5	-0.5	19.4	9.0
Apr 22	-1.8	-2.6	-3.2	-4.5	-5.4	-5.7	-6.4	-6.7	-6.7	-6.3	-5	-3.6	-2.6	-1.8	-1.1	-0.8	-0.7	-1.2	-1.2	-2.3	-3.1	-3.5	-4.5	-5.1	-6.7	-0.7	-3.6
Apr 23	-5.7	-5.5	-5.5	-5.5	-5.6	-5	-4.7	-3.3	-2.1	-1.2	-1.1	-0.7	-0.1	1.1	1.1	1.1	1.3	1.3	-0.5	-2.3	-3.6	-4.7	-6.4	-7.6	-7.6	1.3	-2.7
Apr 24	-8.3	-8	-7.2	-8.2	-8.4	-7	-4.5	-2.7	-0.9	-0.6	0.7	1.6	2.6	3.4	3.6	4.5	4.4	4.3	3.5	1.3	-2	-3.7	-5	-5.9	-8.4	4.5	-1.8
Apr 25	-6.6	-6.8	-7.2	-7.5	-7.3	-6.8	-2.9	0.8	3.2	3.9	4.9	5.2	5.7	6.4	7.3	7.4	7.5	7.3	6.8	5.9	4.1	1.6	2.5	3.3	-7.5	7.5	1.6
Apr 26	2.3	0.8	-1.1	-0.8	-2.9	-3.3	-0.2	1.9	4.6	6.2	8.2	9.9	8.2	7.2	6.4	6.7	6	3.7	2.3	1	0.1	-1.3	-2.2	-2.5	-3.3	9.9	2.6
Apr 27	-4.8	-5.9	-6.5	-7	-7.6	-8.1	-8.5	-8.5	-8.2	-7.4	-6.8	-6.2	-5.4	-4.7	-4.4	-3.9	-3.7	-3.7	-4	-4.5	-5.2	-6.5	-6.1	-7.7	-8.5	-3.7	-6.1
Apr 28	-8.8	-9.1	-9.1	-9	-9.1	-8.8	-7.7	-6.3	-5.9	-4.3	-3.1	-2.4	-1.1	-0.3	0.4	0.7	1.1	0.8	0.6	0.4	0.1	-0.5	-2	-3	-9.1	1.1	-3.6
Apr 29	-3.3	-3.2	-3.6	-5.6	-6.9	-6.7	-2.9	-0.4	1.8	3.3	4.2	5	5.9	7.2	8.3	8.1	7.8	7.7	7.3	6.6	6.4	5.4	4.2	-6.9	8.3	2.7	
Apr 30	4.5	5	4.9	4.5	5.2	6.4	6.8	7.7	9.7	12.7	15.8	17.5	18.9	19.4	18.8	19.3	19.2	19	17.8	16.7	15	14	13.1	11.7	4.5	19.4	12.7
Diurnal Maximum	5.1	5.0	4.9	4.5	5.2	6.4	6.8	7.7	9.7	12.7	15.8	17.5	18.9	19.4	18.9	19.3	19.4	19.1	18.2	16.7	15.0	14.0	13.1	11.7			
Diurnal Average	-1.4	-1.7	-2.2	-2.8	-3.2	-3.3	-2.0	0.1	2.1	3.8	5.3	6.4	7.2	7.8	8.2	8.3	8.2	7.7	6.7	4.8	3.1	1.8	0.6	-0.2			

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

Timeseries Chart of Hourly Average for AT - Tamarack Site





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - April 2021

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

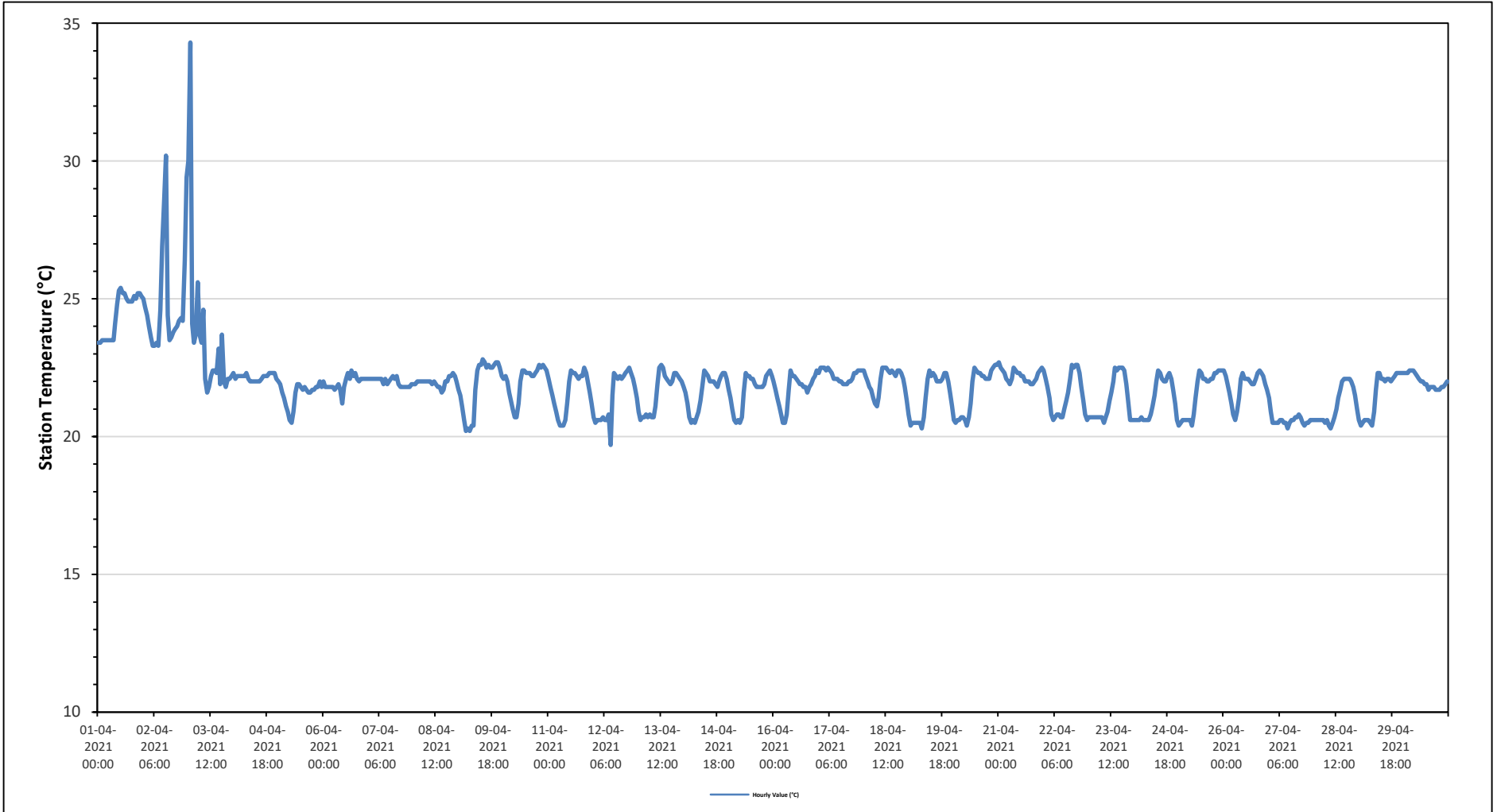
Maximum Hourly Value:	34.3 °C	on April 3 at hour 1	Hours in Service:	720
Maximum Daily Value:	24.9 °C	on April 2	Hours of Data:	720
Minimum Hourly Value:	19.7 °C	on April 12 at hour 9	Hours of Missing Data:	0
Minimum Daily Value:	20.6 °C	on April 27	Hours of Calibration:	0
Monthly Average:	21.9 °C		Operational 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	23.4	23.4	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	24.1	24.8	25.3	25.4	25.2	25.2	25.0	24.9	24.9	24.9	25.1	25.0	25.2	25.2	25.1	23.4	25.4	24.4
Apr 2	25.0	24.7	24.4	24.0	23.6	23.3	23.3	23.4	23.3	24.6	26.9	28.6	30.2	24.4	23.5	23.6	23.8	23.9	24.0	24.2	24.3	24.2	26.4	29.4	23.3	30.2	24.9	
Apr 3	30.0	34.3	24.1	23.4	23.7	25.6	23.7	23.4	24.6	22.1	21.6	21.8	22.2	22.4	22.4	22.3	23.2	21.9	23.7	22.0	21.8	22.1	22.1	22.2	21.6	34.3	23.6	
Apr 4	22.3	22.1	22.2	22.2	22.2	22.2	22.2	22.3	22.3	22.1	22.0	22.0	22.0	22.0	22.0	22.1	22.2	22.2	22.2	22.2	22.3	22.3	22.3	22.1	22.0	22.3	22.2	
Apr 5	22.0	21.9	21.6	21.4	21.1	20.9	20.6	20.5	20.9	21.6	21.9	21.9	21.8	21.7	21.8	21.7	21.6	21.6	21.7	21.7	21.8	21.8	22.0	21.8	20.5	22.0	21.6	
Apr 6	22.0	21.8	21.8	21.8	21.8	21.8	21.7	21.8	21.9	21.7	21.2	21.8	22.1	22.3	22.1	22.4	22.2	22.3	22.1	22.0	22.1	22.1	22.1	22.1	21.2	22.4	22.0	
Apr 7	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	21.9	22.1	21.9	22.0	22.1	22.2	22.1	22.2	21.9	21.8	21.8	21.8	21.8	21.8	21.8	21.9	21.8	22.2	22.0	
Apr 8	21.9	21.9	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	21.9	22.0	21.9	21.8	21.8	21.6	21.7	22.0	22.0	22.2	22.2	22.3	22.2	22.0	21.6	22.3	22.0	
Apr 9	21.7	21.5	21.1	20.6	20.2	20.3	20.2	20.4	20.4	21.7	22.4	22.6	22.6	22.8	22.7	22.5	22.6	22.5	22.5	22.6	22.7	22.7	22.5	22.2	20.2	22.8	21.8	
Apr 10	22.1	22.2	22.0	21.6	21.3	21.0	20.7	20.7	21.2	22.0	22.4	22.3	22.3	22.3	22.2	22.2	22.3	22.4	22.6	22.5	22.6	22.5	22.4	20.7	22.6	22.0		
Apr 11	22.1	21.8	21.5	21.2	20.9	20.6	20.4	20.4	20.4	20.6	21.2	22.0	22.4	22.3	22.3	22.2	22.1	22.2	22.2	22.5	22.3	22.0	21.6	21.2	20.4	22.5	21.6	
Apr 12	20.7	20.5	20.6	20.6	20.6	20.7	20.6	20.6	20.8	19.7	21.5	22.3	22.2	22.1	22.2	22.1	22.2	22.3	22.4	22.5	22.3	22.1	21.8	21.4	19.7	22.5	21.5	
Apr 13	20.9	20.6	20.7	20.7	20.8	20.7	20.8	20.7	20.7	21.1	21.9	22.5	22.6	22.5	22.2	22.1	22.0	21.9	22.0	22.3	22.3	22.2	22.1	22.0	20.6	22.6	21.6	
Apr 14	21.8	21.6	21.2	20.7	20.5	20.6	20.5	20.7	20.9	21.3	21.8	22.4	22.3	22.2	22.0	22.0	22.0	21.9	21.8	22.0	22.2	22.3	22.3	22.1	20.5	22.4	21.6	
Apr 15	21.7	21.4	21.0	20.6	20.5	20.6	20.5	20.7	21.6	22.3	22.2	22.2	22.1	22.1	21.9	21.8	21.8	21.8	21.8	21.9	22.2	22.3	22.4	22.2	20.5	22.4	21.7	
Apr 16	22.0	21.7	21.4	21.1	20.8	20.5	20.5	20.8	21.7	22.4	22.2	22.2	22.1	22.0	21.9	21.9	21.8	21.8	21.6	21.8	21.9	22.1	22.2	22.4	20.5	22.4	21.7	
Apr 17	22.3	22.5	22.5	22.5	22.4	22.5	22.4	22.3	22.1	22.1	22.1	22.0	22.0	21.9	21.9	22.0	22.0	22.1	22.3	22.3	22.4	22.4	22.4	21.9	21.9	22.5	22.2	
Apr 18	22.4	22.2	22.0	21.8	21.7	21.4	21.2	21.1	21.4	22.1	22.5	22.5	22.4	22.3	22.4	22.3	22.2	22.4	22.4	22.3	22.1	21.8	21.3	21.1	21.1	22.5	22.0	
Apr 19	20.8	20.4	20.5	20.5	20.5	20.5	20.5	20.3	20.7	21.4	22.1	22.4	22.2	22.3	22.2	22.0	22.0	22.0	22.1	22.3	22.3	22.0	21.6	21.1	20.3	22.4	21.4	
Apr 20	20.6	20.5	20.6	20.6	20.7	20.7	20.6	20.4	20.7	21.2	22.0	22.5	22.4	22.3	22.3	22.2	22.2	22.1	22.1	22.1	22.4	22.5	22.6	22.6	20.4	22.6	21.6	
Apr 21	22.7	22.5	22.4	22.3	22.1	22.0	21.9	22.1	22.5	22.4	22.3	22.3	22.2	22.2	22.0	22.0	21.9	21.9	22.0	22.1	22.3	22.4	22.5	21.9	21.9	22.7	22.2	
Apr 22	22.4	22.1	21.8	21.4	20.8	20.6	20.7	20.8	20.8	20.7	21.0	21.3	21.6	22.1	22.6	22.5	22.6	22.6	22.3	21.8	21.3	20.8	20.6	20.6	20.6	22.6	21.5	
Apr 23	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.5	20.7	20.9	21.3	21.6	22.0	22.5	22.4	22.5	22.5	22.5	22.4	21.9	21.3	20.6	20.6	20.5	22.5	21.3	
Apr 24	20.6	20.6	20.6	20.6	20.7	20.6	20.6	20.6	20.6	20.8	21.1	21.5	22.0	22.4	22.3	22.1	22.0	22.0	22.2	22.3	22.1	21.7	21.2	20.6	20.6	22.4	21.3	
Apr 25	20.4	20.5	20.6	20.6	20.6	20.6	20.6	20.4	20.8	21.4	22.0	22.4	22.3	22.1	22.1	22.0	22.0	22.1	22.1	22.3	22.3	22.4	22.4	20.4	22.4	21.6		
Apr 26	22.4	22.2	21.9	21.6	21.2	20.8	20.6	20.9	21.4	22.1	22.3	22.1	22.1	22.1	22.0	21.9	22.1	22.3	22.4	22.3	22.2	21.9	21.7	20.6	20.6	22.4	21.9	
Apr 27	21.4	20.9	20.5	20.5	20.5	20.5	20.6	20.6	20.5	20.5	20.3	20.5	20.6	20.6	20.7	20.7	20.8	20.7	20.5	20.4	20.5	20.5	20.6	20.6	20.3	21.4	20.6	
Apr 28	20.6	20.6	20.6	20.6	20.6	20.6	20.5	20.6	20.4	20.3	20.5	20.7	21.0	21.4	21.7	22.0	22.1	22.1	22.1	22.1	22.0	21.8	21.5	21.0	20.3	22.1	21.1	
Apr 29	20.6	20.4	20.5	20.6	20.6	20.6	20.5	20.4	20.9	21.7	22.3	22.3	22.1	22.1	22.0	22.1	22.1	22.0	22.1	22.2	22.3	22.3	22.3	20.4	22.3	21.6		
Apr 30	22.3	22.3	22.3	22.4	22.4	22.4	22.3	22.2	22.1	22.0	22.0	21.9	21.9	21.7	21.8	21.8	21.8	21.7	21.7	21.8	21.8	21.9	22.0	21.7	21.7	22.4	22.0	
Diurnal Maximum	30.0	34.3	24.4	24.0	23.7	25.6	23.7	23.5	24.6	24.6	26.9	28.6	30.2	25.2	25.2	25.0	24.9	24.9	24.9	25.1	25.0	25.2	26.4	29.4				
Daiurnal Average	22.1	22.1	21.6	21.5	21.4	21.4	21.2	21.2	21.4	21.7	22.0	22.3	22.4	22.2	22.2	22.2	22.2	22.2	22.3	22.3	22.3	22.2	22.2	22.1				

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	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.

Timeseries Chart of Hourly Average for ST - Tamarack Site





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - April 2021

Summary of Hourly Averages

PRECIPITATION in mm

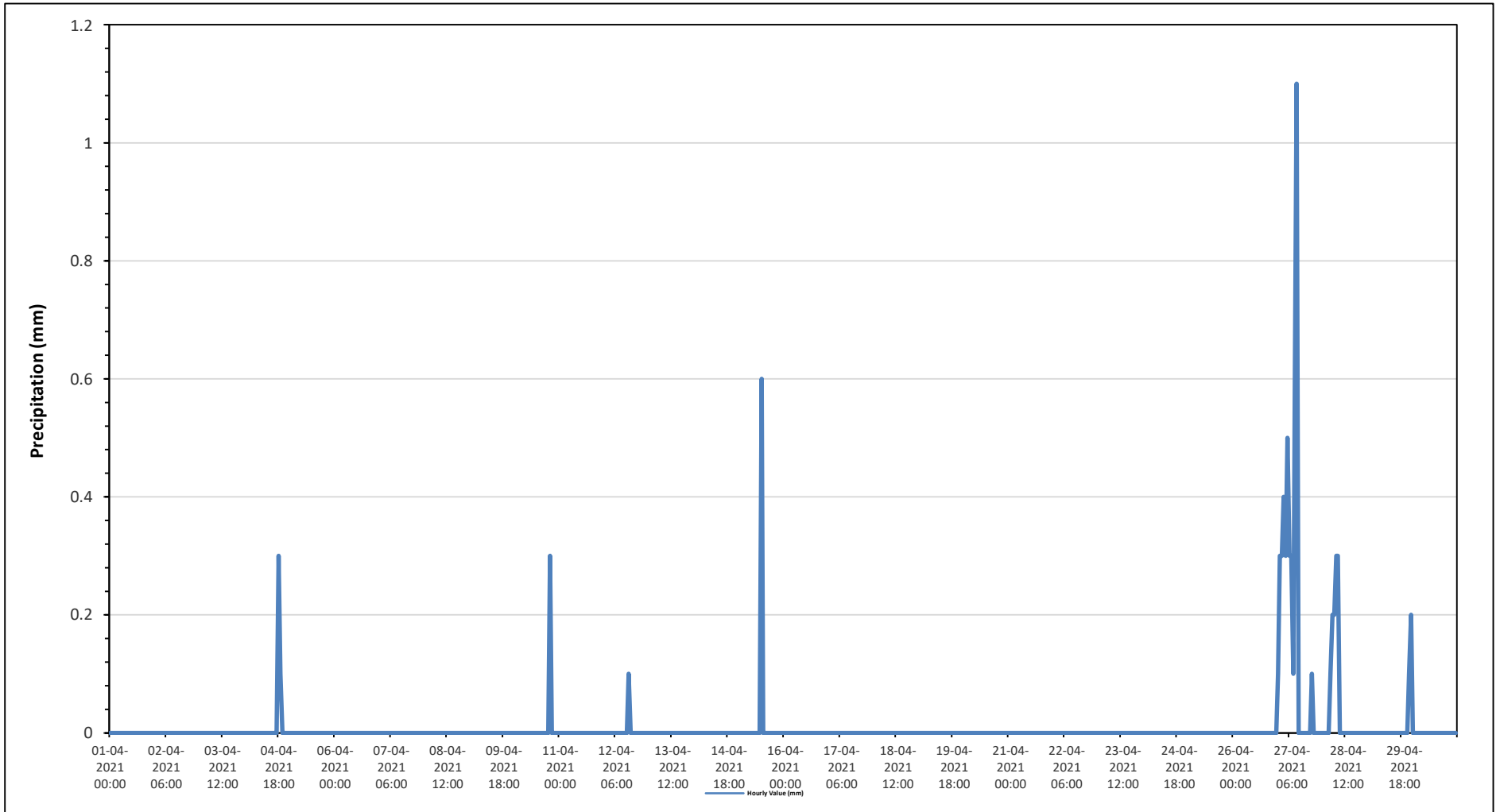
Maximum Hourly Value:	1.1 mm on April 27 at hour 10	Hours in Service:	720
Maximum Daily Value:	0.2 mm on April 27	Hours of Data:	720
Minimum Hourly Value:	0.0 mm on April 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.0 mm on April 1	Hours of Calibration:	0
Monthly Total:	7.2 mm	Operational 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	0.0
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	0.0	0.0
Apr 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.1	0	0	0	0	0.0	0.3	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	0.3	0	0	0	0	0.0	0.3	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	0.0	0.0
Apr 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	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	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.6	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	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	0.0	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	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	0.0	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	0.0	0.0
Apr 27	0.1	0.3	0.3	0.4	0.3	0.5	0.3	0.3	0.1	0.6	1.1	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0.0	1.1	0.2
Apr 28	0	0	0	0	0.1	0.2	0.2	0.3	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.3	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	0.1	0.2	0.0	0.0	0.2	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	0.1	0.3	0.3	0.4	0.3	0.5	0.3	0.3	0.3	0.6	1.1	0.0	0.6	0.1	0.0	0.0	0.0	0.0	0.3	0.3	0.0	0.0	0.1	0.2				
Diurnal Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N 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.

Timeseries Chart of Hourly Average for Precipitation - Tamarack Site





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - April 2021 Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

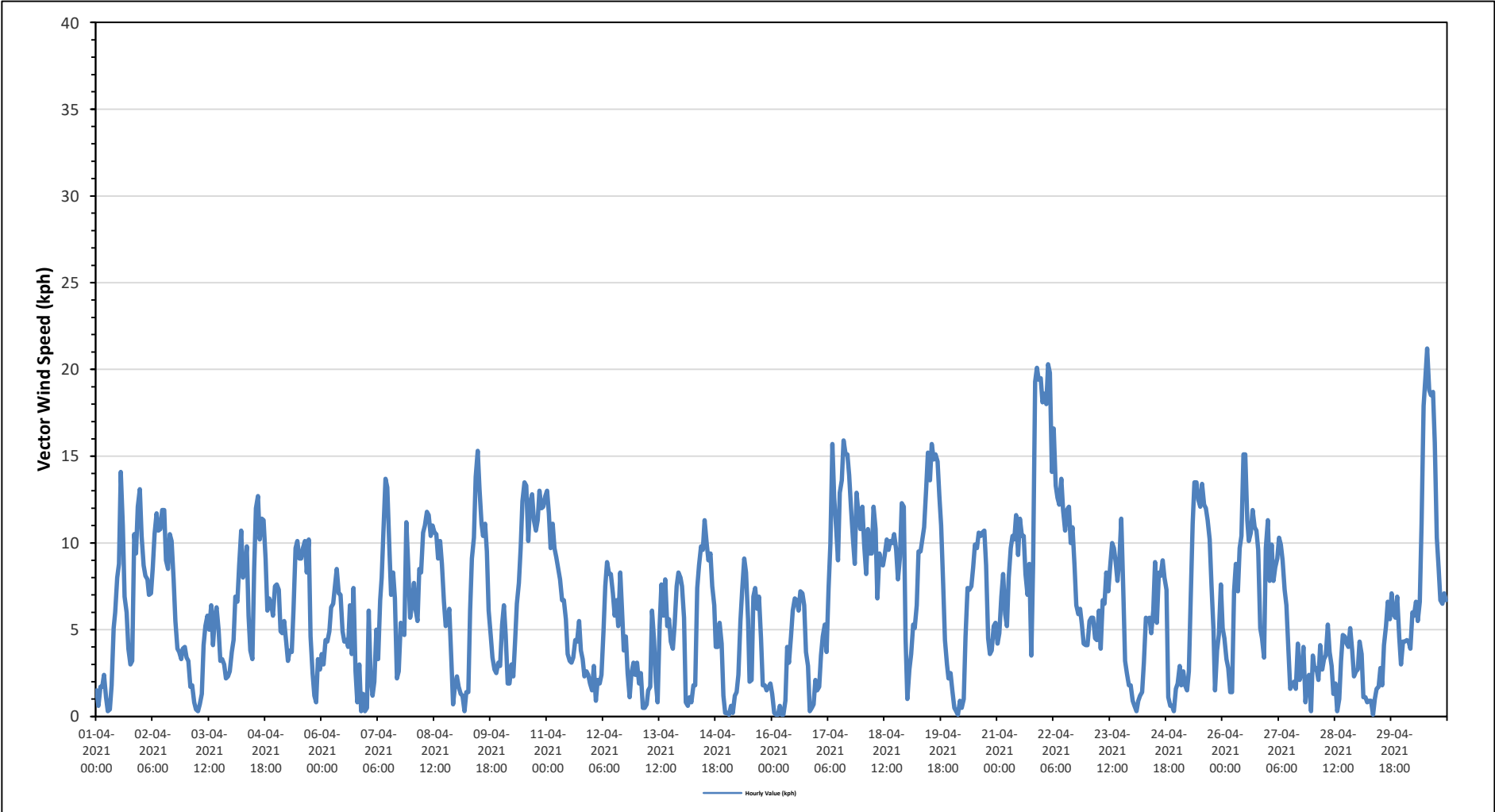
Maximum Hourly Value: 21.2 kph on April 30 at hour 13	Hours in Service: 720
Maximum Daily Value: 10.6 kph on April 22	Hours of Data: 720
Minimum Hourly Value: 0.1 kph on April 15 at hour 1	Hours of Missing Data: 0
Minimum Daily Value: 1.3 kph on April 28	Hours of Calibration: 0
Monthly Average: 1.9 kph	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	1.5	0.6	1.7	1.7	2.4	1.1	0.3	0.4	1.8	5.1	6.0	8.0	8.8	14.1	11.0	6.9	6.0	3.9	3.0	3.2	10.5	9.4	12.1	13.1	0.3	14.1	2.3	
Apr 2	10.4	8.7	8.1	7.9	7.0	7.1	8.6	10.5	11.7	10.7	10.8	11.9	11.9	9.0	8.5	10.5	10.1	7.9	5.5	3.9	3.7	3.3	3.9	4.0	3.3	11.9	7.2	
Apr 3	3.4	3.2	1.7	1.8	0.8	0.4	0.3	0.7	1.3	4.1	5.2	5.8	5.0	6.4	4.1	5.8	6.3	5.0	3.2	3.3	3.0	2.2	2.3	2.6	0.3	6.4	2.1	
Apr 4	3.7	4.4	6.9	6.6	8.7	10.7	8.0	8.4	9.8	5.8	3.8	3.3	8.5	12.0	12.7	10.2	11.4	11.3	9.1	6.1	6.8	6.5	5.8	7.5	3.3	12.7	1.8	
Apr 5	7.6	7.3	4.9	4.8	5.5	4.3	3.2	3.8	3.7	6.2	9.7	10.1	9.1	9.1	9.7	10.1	8.3	10.2	4.6	2.5	1.2	0.8	3.3	2.7	0.8	10.2	5.6	
Apr 6	3.6	3.0	4.4	4.3	4.9	6.3	6.5	7.5	8.5	7.1	7.0	4.9	4.3	4.4	4.0	6.4	3.6	7.4	2.6	0.8	3.0	0.3	1.3	0.3	0.3	8.5	3.4	
Apr 7	0.5	6.1	2.4	1.2	2.0	5.0	3.3	6.7	8.0	11.1	13.7	13.2	9.8	7.0	8.3	6.8	2.2	2.6	5.4	4.9	4.7	11.2	8.8	5.7	0.5	13.7	2.2	
Apr 8	6.4	7.7	6.2	5.5	8.5	8.3	10.6	11.0	11.8	11.6	10.4	11.0	10.6	10.5	9.1	10.1	8.8	6.6	5.2	5.6	6.2	3.3	0.7	1.7	0.7	11.8	7.4	
Apr 9	2.3	1.7	1.3	1.2	0.3	1.4	1.4	6.1	9.1	10.3	13.8	15.3	13.1	11.1	10.4	11.1	9.5	6.1	4.7	3.4	2.7	2.5	3.1	2.9	0.3	15.3	4.9	
Apr 10	5.3	6.4	4.7	1.9	1.9	3.0	2.3	4.3	6.5	7.7	9.7	12.4	13.5	13.3	10.1	12.3	12.8	11.3	10.7	11.3	13.0	12.0	12.1	12.7	1.9	13.5	8.0	
Apr 11	13.0	11.7	9.7	11.1	9.7	9.2	8.5	7.9	6.7	6.7	5.6	3.6	3.2	3.1	3.4	4.4	4.3	5.5	3.8	3.3	2.3	2.6	2.4	1.9	1.9	13.0	5.2	
Apr 12	1.5	2.9	0.9	2.1	1.9	2.4	4.9	7.5	8.9	8.2	8.2	7.1	5.8	6.7	5.2	8.3	6.1	3.8	4.6	2.5	1.1	2.5	3.1	2.4	0.9	8.9	4.1	
Apr 13	3.1	1.9	2.5	0.5	0.5	0.7	1.5	1.7	6.1	4.4	2.0	0.8	5.2	7.6	5.8	7.9	5.2	5.6	4.3	3.9	5.3	7.5	8.3	8.0	0.5	8.3	3.5	
Apr 14	7.5	5.7	0.8	0.6	1.1	0.8	1.8	1.8	7.4	8.7	9.8	9.6	11.3	10.0	9.0	9.4	7.5	6.4	4.0	4.0	5.4	4.2	1.2	0.2	0.2	11.3	4.7	
Apr 15	0.2	0.1	0.6	0.2	1.2	1.4	2.4	5.5	7.3	9.1	8.3	5.6	2.0	2.1	6.9	7.4	6.2	6.9	4.5	1.8	1.8	1.5	1.7	1.9	0.1	9.1	2.8	
Apr 16	1.3	0.2	0.1	0.1	0.6	0.1	0.1	0.9	4.0	3.1	4.6	6.1	6.8	6.7	6.1	7.2	7.1	6.4	3.7	2.9	0.3	0.5	0.7	2.1	0.1	7.2	1.7	
Apr 17	1.5	1.7	3.5	4.6	5.3	3.7	7.4	9.9	15.7	12.6	10.8	9.0	12.9	13.6	15.9	15.1	15.1	13.9	12.1	10.2	8.8	12.9	11.6	10.8	1.5	15.9	9.8	
Apr 18	12.1	9.9	8.2	10.8	9.4	9.4	12.1	10.8	6.8	9.4	8.8	8.7	9.3	10.2	9.6	10.1	10.0	10.5	9.6	7.9	9.2	12.3	12.1	4.5	4.5	12.3	9.5	
Apr 19	1.0	2.7	3.6	5.3	5.1	6.4	9.5	9.5	10.2	10.9	13.1	15.2	13.6	15.7	14.8	15.1	14.7	12.7	11.0	7.6	4.4	3.0	2.2	2.5	1.0	15.7	7.0	
Apr 20	1.5	0.5	0.3	0.1	0.9	0.5	1.0	4.6	7.4	7.3	7.5	8.6	9.9	9.7	10.6	10.4	10.6	10.7	8.7	4.5	3.6	3.8	5.2	5.4	0.1	10.7	5.3	
Apr 21	4.2	4.8	6.9	8.2	5.9	5.2	8.0	9.7	10.4	10.2	11.6	9.3	11.4	10.4	10.4	8.2	7.0	8.8	3.5	8.8	19.3	20.1	19.4	19.5	3.5	20.1	3.5	
Apr 22	18.1	18.6	18.0	20.3	19.8	14.1	16.6	13.3	12.6	12.2	13.7	11.9	10.7	11.9	12.1	10.0	10.9	8.7	6.4	5.9	6.2	5.3	4.2	4.1	4.1	20.3	10.6	
Apr 23	4.1	5.5	5.7	5.7	4.5	4.4	6.1	3.9	6.7	6.5	8.3	7.2	8.6	10.0	9.7	8.9	7.8	9.2	11.4	7.2	3.2	2.5	1.8	1.8	1.8	11.4	4.7	
Apr 24	0.9	0.6	0.3	0.9	1.2	1.4	3.1	5.7	5.5	5.7	4.8	6.1	8.9	5.4	8.3	8.1	9.0	8.0	7.3	1.1	0.6	0.6	0.3	1.6	0.3	9.0	2.7	
Apr 25	1.9	2.9	1.8	2.6	1.8	1.5	2.6	6.6	11.1	13.5	13.5	12.5	12.1	13.4	12.2	12.0	11.3	10.2	7.6	5.0	1.5	3.8	4.7	7.6	1.5	13.5	6.2	
Apr 26	5.1	4.5	3.3	2.8	1.4	1.4	7.2	8.8	7.2	9.7	10.4	15.1	15.1	11.3	10.1	10.6	11.9	10.9	10.7	9.6	5.1	4.5	3.4	9.7	1.4	15.1	2.5	
Apr 27	11.3	7.8	9.9	7.8	8.6	9.1	10.3	9.9	9.0	7.3	6.4	3.8	1.6	1.8	2.0	1.6	4.2	2.1	2.5	4.0	0.8	2.1	2.4	0.3	0.3	11.3	4.5	
Apr 28	3.5	2.7	2.8	2.1	4.1	2.7	3.3	3.5	5.3	3.7	2.9	1.3	1.9	0.3	1.0	3.2	4.7	4.6	4.2	4.0	5.1	3.8	2.3	2.6	0.3	5.3	1.3	
Apr 29	2.7	4.3	3.6	1.1	1.1	0.8	0.9	0.9	0.1	1.0	1.6	1.7	2.8	1.8	4.1	5.2	6.6	5.6	7.1	5.9	5.7	6.9	4.6	3.0	0.1	7.1	2.0	
Apr 30	4.3	4.3	4.4	4.3	3.9	6.0	5.8	6.6	5.5	6.6	11.1	17.9	19.5	21.2	18.8	18.5	18.7	15.8	10.3	8.6	6.7	6.5	7.1	6.7	3.9	21.2	7.4	
Diurnal Maximum	18	19	18	20	20	14	17	13	16	14	14	18	20	21	19	19	19	16	12	11	19	20	19	20				
Diurnal Average	4.8	4.7	4.3	4.3	4.3	4.3	5.3	6.3	6.3	7.5	7.9	8.4	8.6	8.9	9.0	8.8	9.1	8.6	8.0	6.4	5.1	5.0	5.3	5.1	5.0			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	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

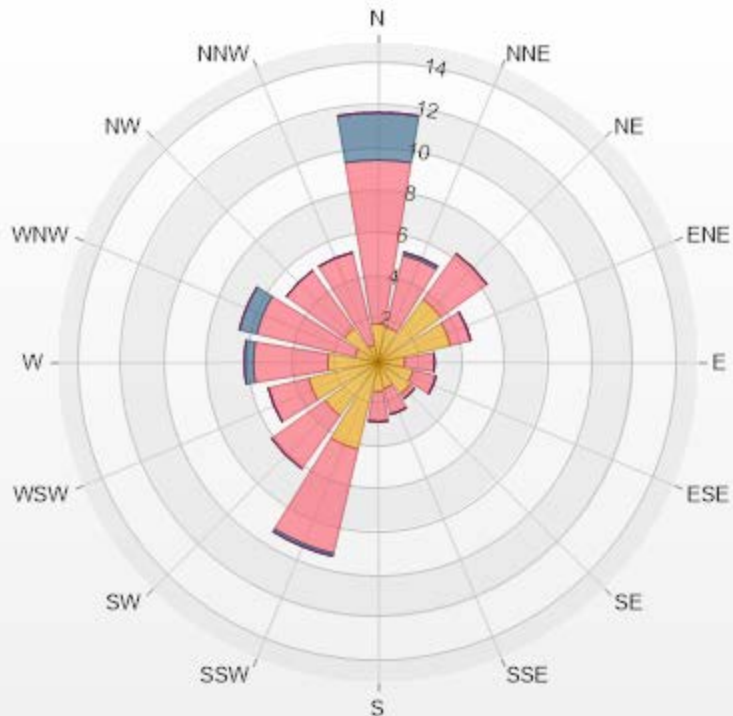
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for VWS - Tamarack Site



Wind: Tamarack Monitor: WDS [kph] Monthly: 04-2021 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 15.42% 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	1.81	7.64	2.22	0	0	11.67
NNE	1.67	3.47	0.14	0	0	5.28
NE	3.61	2.64	0	0	0	6.25
ENE	3.47	0.97	0	0	0	4.44
E	1.25	1.39	0	0	0	2.64
ESE	1.67	1.11	0	0	0	2.78
SE	1.81	0.28	0	0	0	2.09
SSE	1.25	1.25	0	0	0	2.5
S	1.39	1.39	0	0	0	2.78
SSW	4.17	5	0.14	0	0	9.31
SW	3.06	3.06	0	0	0	6.12
WSW	3.33	1.94	0	0	0	5.27
W	2.36	3.47	0.42	0	0	6.25
WNW	1.11	4.72	0.83	0	0	6.66
NW	1.94	3.33	0	0	0	5.27
NNW	0.83	4.44	0	0	0	5.27
Summary	34.73	46.1	3.75	0	0	84.58



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% Icon Classes (kph)

35 1.8-6.0

46 5.0-15.0

4 15.0-29.0

0 29.0-39.0

0 >39.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - April 2021

Summary of Hourly Averages

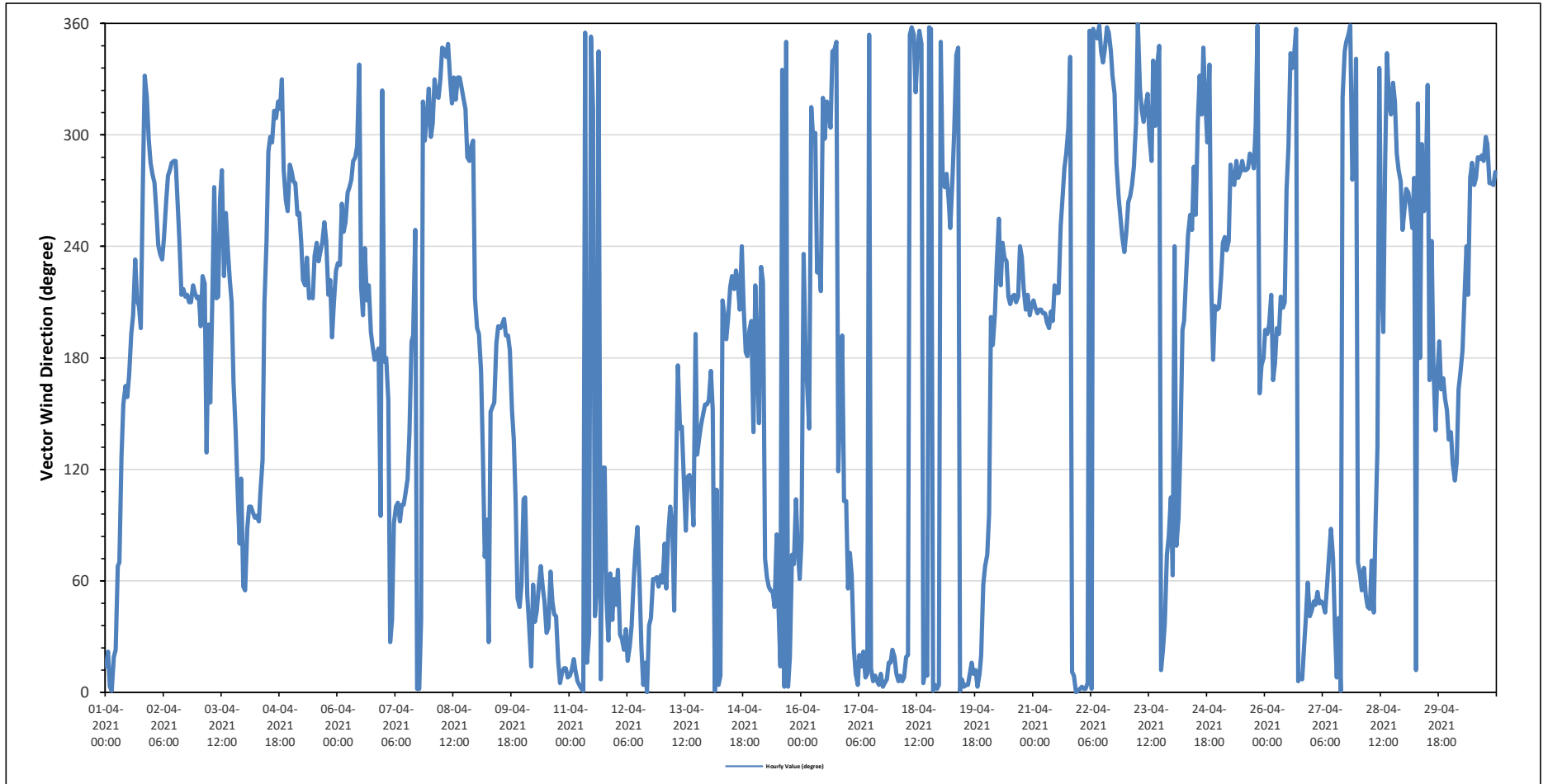
WIND DIRECTION (VWD) in sector

Monthly Average:	322 (NW) 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	NNE	NNE	N	N	NNE	NNE	ENE	ENE	SE	SSE	SSE	SSE	S	S	SSW	SW	SSW	SSW	SSW	SSW	W	NNW	NW	WNW	WNW	234	SW
Apr 2	W	W	WSW	WSW	SW	SW	WSW	W	W	W	WNW	WNW	WNW	W	WSW	SSW	SW	SSW	SSW	SSW	SSW	SW	SSW	SSW	253	WSW	
Apr 3	SSW	SSW	SW	SW	SE	SSW	SSE	SSW	W	SSW	SSW	W	W	SW	WSW	SW	SW	SSW	SSE	SE	ESE	E	ESE	ENE	216	SW	
Apr 4	NE	E	E	E	E	E	E	E	ESE	SE	SSW	WSW	WNW	WNW	WNW	NW	NW	NW	NNW	W	W	WSW	WNW	WNW	327	NW	
Apr 5	W	W	W	WSW	WSW	WSW	SW	SW	SW	SSW	SSW	SSW	SW	WSW	SW	SW	WSW	WSW	WSW	SSW	SW	S	SSW	SW	239	WSW	
Apr 6	SW	SW	W	WSW	WSW	W	W	W	WNW	WNW	WNW	NNW	SW	SSW	SSW	SSW	SSW	S	S	S	S	E	NW	251	WSW		
Apr 7	S	S	SSE	NNE	NE	E	E	E	E	E	ESE	ESE	SE	S	S	WSW	N	N	NE	NW	WNW	NW	NW	102	E		
Apr 8	WNW	NW	NNW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NW	NNW	NW	NNW	NNW	NW	NW	WNW	WNW	WNW	WNW	SSW	325	NW		
Apr 9	SSW	S	S	SE	ENE	E	NNE	SSE	SSE	SSE	S	SSW	SSW	SSW	S	S	S	SSE	SE	E	NE	NE	ENE	177	S		
Apr 10	ESE	ESE	NE	NE	NNE	ENE	NE	NE	ENE	ENE	NE	NE	NNE	NE	ENE	NE	ENE	NNE	N	NNE	NNE	NNE	N	37	NE		
Apr 11	N	NNE	NNE	NNE	N	N	N	N	N	NNE	NNE	N	NW	NE	NE	NNW	N	ESE	ESE	NE	NNE	ENE	NE	ENE	16	NNE	
Apr 12	NE	ENE	NNE	NNE	NNE	NE	NNE	NNE	NE	ENE	ENE	E	ENE	NNE	N	NNE	N	NE	ENE	ENE	ENE	ENE	ENE	ENE	42	NE	
Apr 13	ENE	E	NE	E	E	E	NE	ESE	S	SE	SE	ESE	E	ESE	ESE	E	S	SE	SE	SE	SSE	SSE	SSE	SSE	130	SE	
Apr 14	SSE	S	SSE	N	ESE	N	N	SSW	SSW	S	SSW	SW	SW	SW	SW	SW	SSW	WSW	SSW	S	S	SSW	SSW	SE	205	SSW	
Apr 15	SW	S	SE	SW	SW	ENE	ENE	ENE	NE	NE	NE	E	NE	NNE	NNW	N	N	NNE	ENE	ENE	ESE	ENE	ENE	36	NE		
Apr 16	E	SW	S	SSE	SE	NW	WNW	WNW	SW	SW	SW	NW	WNW	NW	WNW	WNW	NNW	N	ESE	SSE	S	ESE	ESE	311	NW		
Apr 17	NE	ENE	ENE	NNE	N	N	NNE	NNE	NNE	N	N	N	NNE	N	N	N	N	N	N	N	N	NNE	NNE	NNE	12	NNE	
Apr 18	NNE	N	N	N	N	N	NNE	NNE	N	N	N	NW	NNW	N	NNW	N	NNE	N	N	N	N	N	N	N	3	N	
Apr 19	N	W	W	W	W	WSW	W	WNW	NNW	NNW	N	N	N	N	N	N	NNE	N	NNE	N	N	NNE	ENE	ENE	352	N	
Apr 20	ENE	E	SSW	S	SSW	SW	WSW	SW	WSW	SW	SW	SSW	SSW	SSW	SSW	SSW	SSW	WSW	SW	SW	SSW	SSW	SSW	219	SW		
Apr 21	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	WSW	W	W	WNW	WNW	NNW	NNE	N	N	N	260	WSW		
Apr 22	N	N	N	N	N	N	N	N	N	N	N	NNW	NNW	NNW	N	N	NNW	NNW	NW	WNW	W	WSW	WSW	SW	350	N	
Apr 23	WSW	W	W	W	W	NW	N	NW	NW	NW	NW	NW	WNW	WNW	NNW	WNW	NNW	NNW	NNE	NNE	NE	ENE	E	ESE	322	NW	
Apr 24	ENE	WSW	ENE	E	SE	SSW	SSW	SW	WSW	WSW	WSW	W	WSW	NW	NNW	NW	WNW	NNW	SW	S	SSW	SSW	SSW	285	WNW		
Apr 25	SSW	SW	WSW	WSW	SW	WSW	WNW	W	W	WNW	W	W	WNW	W	W	WNW	WNW	W	WNW	N	SSE	S	S	274	W		
Apr 26	SSW	S	SSW	SSW	SSE	S	SSW	S	SSW	SSW	SSW	W	WNW	NNW	NNW	NNW	N	N	N	NNE	NE	ENE	NE	312	NW		
Apr 27	NE	NE	NE	NE	NE	NE	NE	NE	ENE	ENE	E	ENE	NE	N	NE	N	NW	NNW	N	N	W	WNW	NNW	43	NE		
Apr 28	ENE	ENE	NE	ENE	NE	NE	NE	ENE	NE	E	SE	NNW	SW	SSW	WNW	NNW	NW	NW	NNW	WNW	W	W	WSW	3	N		
Apr 29	W	W	W	W	WSW	W	NNE	NW	S	WNW	WSW	W	NW	SSE	WSW	S	SE	SSE	S	SSE	SSE	SSE	SSE	190	S		
Apr 30	SE	ESE	ESE	ESE	SSE	S	S	SSW	WSW	SSW	W	WNW	W	W	WNW	WNW	WNW	WNW	WNW	WNW	W	W	W	271	W		

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	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.					

Timeseries Chart of Hourly Average for VWD - Tamarack Site





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - April 2021

Summary of Hourly Averages

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

WIND SPEED																												
Maximum Hourly Value:	21.2	kph	on April 30	at hour 13	Hours in Service:	720																						
Maximum Daily Value:	10.6	kph	on April 22	Hours of Data:		720																						
Minimum Hourly Value:	0.1	kph	on April 15	at hour 1	Hours of Missing Data:	0																						
Minimum Daily Value:	1.3	kph	on April 28	Hours of Calibration:		0																						
Monthly Average:	1.9	kph	Operational Uptime:		100																							
WIND DIRECTION																												
Monthly Average:	322 (NW) degree																											
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	1.5	0.6	1.7	1.7	2.4	1.1	0.3	0.4	1.8	5.1	6.0	8.0	8.8	14.1	11.0	6.9	6.0	3.9	3.0	3.2	10.5	9.4	12.1	13.1	0.3	14.1	2.3	
	NNE	NNE	N	N	NNE	NNE	ENE	ENE	SE	SSE	SSE	SSE	S	S	SSW	SW	SSW	SSW	SSW	SSW	W	NNW	NW	WNW	WNW			
Apr 2	10.4	8.7	8.1	7.9	7.0	7.1	8.6	10.5	11.7	10.7	10.8	11.9	11.9	9.0	8.5	10.5	10.1	7.9	5.5	3.9	3.7	3.3	3.9	4.0	3.3	11.9	7.2	
	W	W	WSW	WSW	SW	SW	WSW	W	W	W	WNW	WNW	WNW	W	WSW	SSW	SW	SSW	SSW	SSW	SSW	SW	SSW	SSW				
Apr 3	3.4	3.2	1.7	1.8	0.8	0.4	0.3	0.7	1.3	4.1	5.2	5.8	5.0	6.4	4.1	5.8	6.3	5.0	3.2	3.3	3.0	2.2	2.3	2.6	0.3	6.4	2.1	
	SSW	SSW	SW	SW	SE	SSW	SSE	SSW	W	SSW	SSW	W	W	SW	WSW	SW	SW	SSW	SSE	SE	ESE	E	ESE	ESE				
Apr 4	3.7	4.4	6.9	6.6	8.7	10.7	8.0	8.4	9.8	5.8	3.8	3.3	8.5	12.0	12.7	10.2	11.4	11.3	9.1	6.1	6.8	6.5	5.8	7.5	3.3	12.7	1.8	
	NE	E	E	E	E	E	E	ESE	SE	SSW	WSW	WNW	WNW	WNW	NW	NW	NW	NW	NNW	W	W	WSW	WNW	WNW				
Apr 5	7.6	7.3	4.9	4.8	5.5	4.3	3.2	3.8	3.7	6.2	9.7	10.1	9.1	9.1	9.7	10.1	8.3	10.2	4.6	2.5	1.2	0.8	3.3	2.7	0.8	10.2	5.6	
	W	W	WSW	WSW	WSW	SW	SW	SW	SW	SSW	SSW	SSW	SSW	SSW	SW	WSW	WSW	WSW	WSW	SSW	SW	S	SSW	SW				
Apr 6	3.6	3.0	4.4	4.3	4.9	6.3	6.5	7.5	8.5	7.1	7.0	4.9	4.3	4.4	4.0	6.4	3.6	7.4	2.6	0.8	3.0	0.3	1.3	0.3	0.3	8.5	3.4	
	SW	SW	W	WSW	WSW	W	W	W	WNW	WNW	NNW	NNW	SSW	SSW	SSW	SSW	SSW	SSW	S	S	S	S	E	NW				
Apr 7	0.5	6.1	2.4	1.2	2.0	5.0	3.3	6.7	8.0	11.1	13.7	13.2	9.8	7.0	8.3	6.8	2.2	2.6	5.4	4.9	4.7	11.2	8.8	5.7	0.5	13.7	2.2	
	S	S	SSE	NNE	NE	E	E	E	E	E	ESE	ESE	SE	S	S	WSW	N	N	NE	NW	WNW	NW	NW	NW				
Apr 8	6.4	7.7	6.2	5.5	8.5	8.3	10.6	11.0	11.8	11.6	10.4	11.0	10.5	9.1	10.1	8.8	6.6	5.2	5.6	6.2	3.3	0.7	1.7	0.7	11.8	7.4		
	WNW	NW	NNW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NW	NNW	NW	NNW	NW	NW	NW	WNW	WNW	WNW	WNW	SSW	SSW				
Apr 9	2.3	1.7	1.3	1.2	0.3	1.4	1.4	6.1	9.1	10.3	13.8	15.3	13.1	11.1	10.4	11.1	9.5	6.1	4.7	3.4	2.7	2.5	3.1	2.9	0.3	15.3	4.9	
	SSW	S	S	SE	ENE	E	NNE	SSE	SSE	SSE	S	SSW	SSW	SSW	SSW	S	S	S	SSE	SE	E	NE	NE	ENE				
Apr 10	5.3	6.4	4.7	1.9	1.9	3.0	2.3	4.3	6.5	7.7	9.7	12.4	13.5	13.3	10.1	12.3	12.8	11.3	10.7	11.3	13.0	12.0	12.1	12.7	1.9	13.5	8.0	
	ESE	ESE	NE	NE	NNE	ENE	NE	ENE	ENE	NE	NE	NNE	NE	ENE	NE	NE	NE	NNE	N	NNE	NNE	NNE	NNE	N				
Apr 11	13.0	11.7	9.7	11.1	9.7	9.2	8.5	7.9	6.7	6.7	5.6	3.6	3.2	3.1	3.4	4.4	4.3	5.5	3.8	3.3	2.3	2.6	2.4	1.9	1.9	13.0	5.2	
	N	NNE	NNE	NNE	N	N	N	N	N	NNE	NNE	N	NW	NE	NNW	N	ESE	NE	NNE	ENE	ENE	ENE	ENE	ENE				
Apr 12	1.5	2.9	0.9	2.1	1.9	2.4	4.9	7.5	8.9	8.2	8.2	7.1	5.8	6.7	5.2	8.3	6.1	3.8	4.6	2.5	1.1	2.5	3.1	2.4	0.9	8.9	4.1	
	NE	ENE	NNE	NNE	NE	NNE	NNE	NE	ENE	ENE	E	ENE	NNE	N	NNE	N	NE	NE	ENE	ENE	ENE	ENE	ENE	ENE				
Apr 13	3.1	1.9	2.5	0.5	0.5	0.7	1.5	1.7	6.1	4.4	2.0	0.8	5.2	7.6	5.8	7.9	5.2	5.6	4.3	3.9	5.3	7.5	8.3	8.0	0.5	8.3	3.5	
	ENE	E	NE	E	E	NE	ESE	S	SE	SE	ESE	E	ESE	ESE	E	S	SE	SE	SE	SSE	SSE	SSE	SSE	SSE				
Apr 14	7.5	5.7	0.8	0.6	1.1	0.8	1.8	1.8	7.4	8.7	9.8	9.6	11.3	10.0	9.0	9.4	7.5	6.4	4.0	4.0	5.4	4.2	1.2	0.2	0.2	11.3	4.7	
	SSE	S	SSE	N	ESE	N	N	SSW	SSW	S	SSW	SW	SW	SW	SW	SSW	SSW	SSW	SSW	S	S	SSW	SSW	SSW				
Apr 15	0.2	0.1	0.6	0.2	1.2	1.4	2.4	5.5	7.3	9.1	8.3	5.6	2.0	2.1	6.9	7.4	6.2	6.9	4.5	1.8	1.8	1.5	1.7	1.9	0.1	9.1	2.8	
	SW	S	SE	SW	SW	ENE	ENE	ENE	NE	NE	NE	E	NE	NNE	NNW	N	N	N	NNE	ENE	ENE	ENE	ENE	ENE				
Apr 16	1.3	0.2	0.1	0.1	0.6	0.1	0.1	0.9	4.0	3.1	4.6	6.1	6.8	6.7	6.1	7.2	7.1	6.4	3.7	2.9	0.3	0.5	0.7	2.1	0.1	7.2	1.7	
	E	SW	S	SSE	SE	NW	WNW	WNW	SW	SW	SW	NW	WNW	NW	NW	NNW	NNW	NNW	N	ESE	SSE	S	ESE	ESE				
Apr 17	1.5	1.7	3.5	4.6	5.3	3.7	7.4	9.9	15.7	12.6	10.8	9.0	12.9	13.6	15.9	15.1	15.1	13.9	12.1	10.2	8.8	12.9	11.6	10.8	1.5	15.9	9.8	
	NE	ENE	ENE	NNE	N	N	NNE	NNE	NNE	N	N	NNE	N	N	N	N	N	N	N	N	N	NNE	NNE	NNE				
Apr 18	12.1	9.9	8.2	10.8	9.4	9.4	12.1	10.8	6.8	9.4	8.8	8.7	9.3	10.2	9.6	10.1	10.0	10.5	9.6	7.9	9.2	12.3	12.1	4.5	4.5	12.3	9.5	
	NNE	N	N	N	N	N	NNE	NNE	N	N	N	NW	NNW	N	NNW	N	NNE	N	N	N	N	N	N	N				
Apr 19	1.0	2.7	3.6	5.3	5.1	6.4	9.5	9.5	10.2	10.9	13.1	15.2	13.6	15.7	14.8	15.1	14.7	12.7	11.0	7.6	4.4	3.0	2.2	2.5	1.0	15.7	7.0	
	N	W	W	W	W	WSW	W	WNW	NNW	NNW	N	N	N	N	N	N	NNE	N	NNE	N	N	NNE	ENE	ENE				
Apr 20	1.5	0.5	0.3	0.1	0.9	0.5	1.0	4.6	7.4	7.3	7.5	8.6	9.9	9.7	10.6	10.4	10.6	10.7	8.7	4.5	3.6	3.8	5.2	5.4	0.1	10.7	5.3	
	ENE	E	SSW	S	SSW	SW	WSW	SW	WSW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW				



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - April 2021

Summary of Hourly Averages

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

WIND SPEED																															
Maximum Hourly Value:	21.2	kph	on April 30 at hour 13	Hours in Service:	720																										
Maximum Daily Value:	10.6	kph	on April 22	Hours of Data:	720																										
Minimum Hourly Value:	0.1	kph	on April 15 at hour 1	Hours of Missing Data:	0																										
Minimum Daily Value:	1.3	kph	on April 28	Hours of Calibration:	0																										
Monthly Average:	1.9	kph		Operational Uptime:	100																										
WIND DIRECTION																															
Monthly Average:	322 (NW) degree																														
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 21	4.2	4.8	6.9	8.2	5.9	5.2	8.0	9.7	10.4	10.2	11.6	9.3	11.4	10.4	10.4	8.2	7.0	8.8	3.5	8.8	19.3	20.1	19.4	19.5	3.5	20.1	3.5				
	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	W	W	WNW	WNW	NNW	NNE	N	N	N							
Apr 22	18.1	18.6	18.0	20.3	19.8	14.1	16.6	13.3	12.6	13.7	11.9	10.7	11.9	12.1	10.0	10.9	8.7	6.4	5.9	6.2	5.3	4.2	4.1	4.1	20.3	10.6					
	N	N	N	N	N	N	N	N	N	N	NNW	NNW	NNW	N	N	NNW	NNW	NW	WNW	W	WSW	WSW	SW								
Apr 23	4.1	5.5	5.7	5.7	4.5	4.4	6.1	3.9	6.7	6.5	8.3	7.2	8.6	10.0	9.7	8.9	7.8	9.2	11.4	7.2	3.2	2.5	1.8	1.8	1.8	11.4	4.7				
	WSW	W	W	W	W	NW	N	NW	NW	NW	NW	WNW	WNW	NNW	WNW	NNW	NNW	NNE	NNE	NE	ENE	E	ESE								
Apr 24	0.9	0.6	0.3	0.9	1.2	1.4	3.1	5.7	5.5	5.7	4.8	6.1	8.9	5.4	8.3	8.1	9.0	8.0	7.3	1.1	0.6	0.6	0.3	1.6	0.3	9.0	2.7				
	ENE	WSW	ENE	E	SE	SSW	SSW	SW	WSW	WSW	WSW	W	WSW	NW	NNW	NW	NNW	NW	WNW	WNW	SW	S	SSW	SSW							
Apr 25	1.9	2.9	1.8	2.6	1.8	1.5	2.6	6.6	11.1	13.5	13.5	12.5	12.1	13.4	12.2	12.0	11.3	10.2	7.6	5.0	1.5	3.8	4.7	7.6	1.5	13.5	6.2				
	SSW	SW	WSW	WSW	SW	WSW	WNW	W	W	WNW	W	W	WNW	W	W	W	WNW	WNW	W	WNW	N	SSE	S	S							
Apr 26	5.1	4.5	3.3	2.8	1.4	1.4	7.2	8.8	7.2	9.7	10.4	15.1	15.1	11.3	10.1	10.6	11.9	10.9	10.7	9.6	5.1	4.5	3.4	9.7	1.4	15.1	2.5				
	SSW	S	SSW	SSW	SSE	S	SSW	S	SSW	SSW	SSW	W	WNW	NNW	NNW	NNW	N	N	N	NNE	NE	ENE	NE	NE							
Apr 27	11.3	7.8	9.9	7.8	8.6	9.1	10.3	9.9	9.0	7.3	6.4	3.8	1.6	1.8	2.0	1.6	4.2	2.1	2.5	4.0	0.8	2.1	2.4	0.3	0.3	11.3	4.5				
	NE	NE	NE	NE	NE	NE	NE	ENE	ENE	E	ENE	NE	N	NE	N	NW	NNW	N	N	N	W	WNW	NNW	NNW							
Apr 28	3.5	2.7	2.8	2.1	4.1	2.7	3.3	3.5	5.3	3.7	2.9	1.3	1.9	0.3	1.0	3.2	4.7	4.6	4.2	4.0	5.1	3.8	2.3	2.6	0.3	5.3	1.3				
	ENE	ENE	NE	ENE	NE	NE	ENE	NE	E	SE	NNW	SW	SSW	WNW	NNW	NW	NW	NNW	NW	WNW	W	W	WSW	WSW							
Apr 29	2.7	4.3	3.6	1.1	1.1	0.8	0.9	0.9	0.1	1.0	1.6	1.7	2.8	1.8	4.1	5.2	6.6	5.6	7.1	5.9	5.7	6.9	4.6	3.0	0.1	7.1	2.0				
	W	W	W	WSW	W	NNE	NW	S	WNW	WSW	W	NW	SSE	WSW	S	SE	SSE	S	SSE	SSE	SSE	SSE	SE	SE							
Apr 30	4.3	4.3	4.4	4.3	3.9	6.0	5.8	6.6	5.5	6.6	11.1	17.9	19.5	21.2	18.8	18.5	18.7	15.8	10.3	8.6	6.7	6.5	7.1	6.7	3.9	21.2	7.4				
	SE	ESE	ESE	SSE	S	S	SSW	WSW	SSW	W	WNW	W	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	W	W	W	W							
C	Monthly Calibration							S	Daily Zero-Span Check							Q	Quality Assurance														
K	Collection Error							N	No Data (Machine Not in Service)							Y	Routine Maintenance							P	Power Failure						
X	Invalid Data (Equipment Malfunction/Recovery)							NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)																						
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.																															
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.																															



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - April 2021

Summary of Hour Standard Deviations

STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

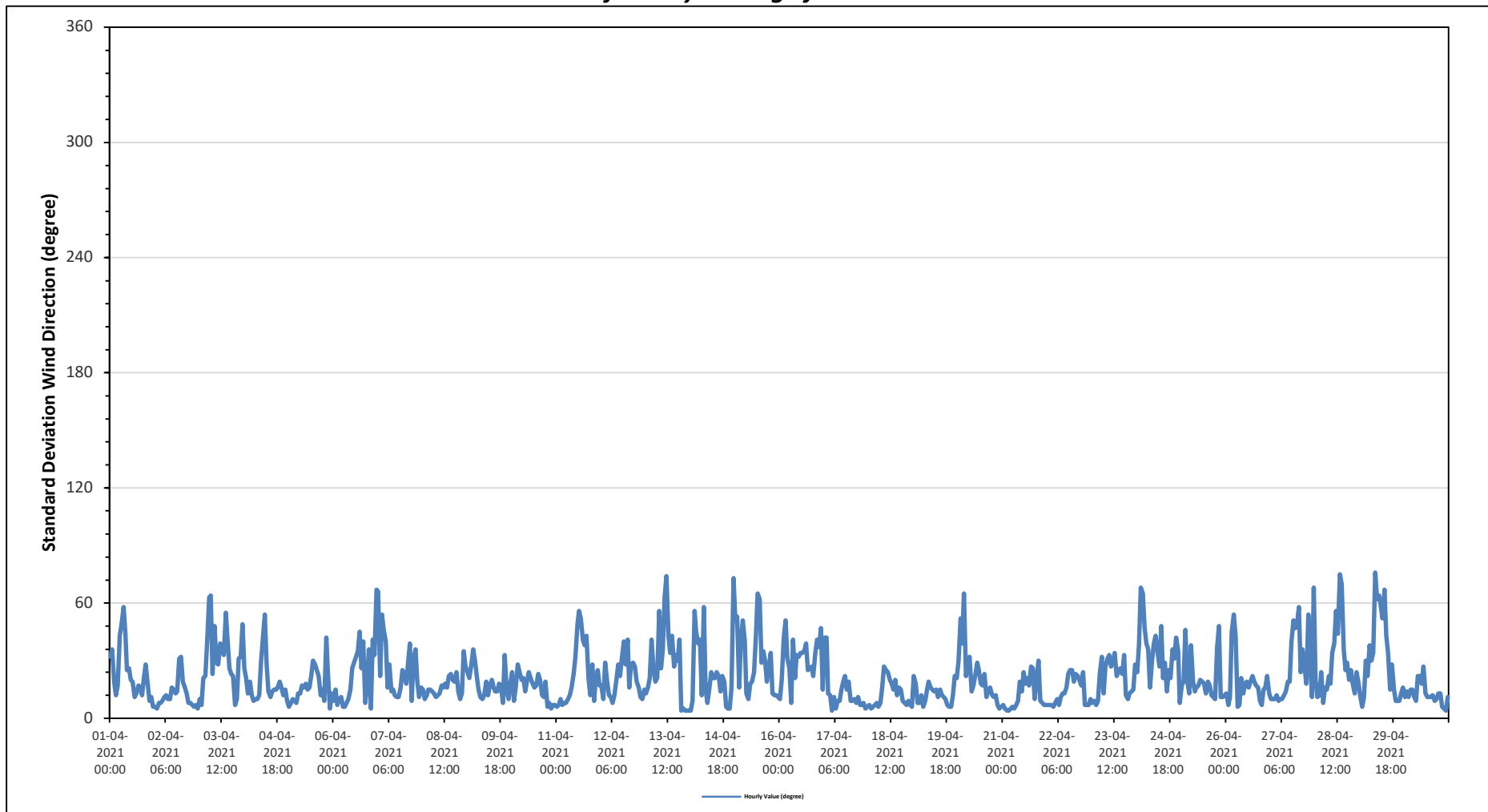
Maximum Hourly Value: 76 degree on April 29 at hour 8	Hours in Service: 720
	Hours of Data: 720
Minimum Hourly Value: 4 degree on April 13 at hour 19	Hours of Missing Data: 0
	Hours of Calibration: 0
	Operational Uptime: 100.0

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	32	36	19	12	17	43	49	58	44	25	26	20	19	11	13	17	16	12	21	28	19	9	11	6	6	58
Apr 2	6	5	8	8	9	11	12	10	10	16	15	13	14	31	32	19	16	13	8	8	7	6	7	5	5	32
Apr 3	10	7	21	22	40	63	64	23	48	29	28	39	37	33	55	42	26	23	22	7	10	31	32	49	7	64
Apr 4	26	21	13	19	12	9	10	10	12	29	41	54	28	14	11	14	15	15	16	19	16	12	15	9	9	54
Apr 5	6	8	10	9	8	13	13	17	16	18	15	16	22	30	28	25	22	12	15	9	42	24	5	13	5	42
Apr 6	9	15	7	10	11	6	6	8	10	15	26	29	32	35	45	26	40	8	17	36	5	41	33	67	5	67
Apr 7	66	22	54	46	40	16	28	14	15	12	11	16	25	23	18	29	39	9	30	36	19	11	16	9	66	
Apr 8	15	10	12	15	15	14	13	11	12	13	17	16	18	16	22	23	20	19	24	14	10	13	35	27	10	35
Apr 9	24	21	28	36	30	21	15	11	10	12	19	12	17	20	16	14	14	18	17	8	33	14	10	18	8	36
Apr 10	24	9	16	28	24	20	21	14	20	24	21	18	16	17	23	20	12	11	19	6	8	5	7	7	5	28
Apr 11	6	7	10	7	8	8	10	12	16	23	32	49	56	52	41	38	43	21	12	28	9	20	25	17	6	56
Apr 12	17	10	29	20	12	11	8	12	19	28	22	31	40	28	41	16	28	29	27	19	16	11	10	15	8	41
Apr 13	13	16	21	41	25	19	21	56	26	36	63	74	43	34	43	27	33	30	41	4	5	4	4	4	4	74
Apr 14	4	9	56	45	39	41	12	58	15	8	16	24	21	21	24	22	14	22	19	6	5	5	16	73	4	73
Apr 15	51	53	16	41	51	40	13	10	18	19	24	42	65	62	29	35	30	19	27	34	13	12	12	11	10	65
Apr 16	10	20	42	51	31	26	8	41	21	33	32	34	34	35	39	25	26	27	22	34	41	37	47	15	8	51
Apr 17	42	42	13	12	4	11	5	9	9	15	19	22	15	19	9	9	10	8	11	7	7	8	5	6	4	42
Apr 18	7	5	6	7	8	6	8	16	27	25	24	20	18	15	20	12	16	15	9	8	7	9	7	6	5	27
Apr 19	22	18	8	8	12	6	9	15	19	16	15	14	15	11	15	12	11	10	7	6	6	12	22	21	6	22
Apr 20	30	52	39	65	22	30	32	14	17	23	29	25	18	17	23	11	15	16	12	11	12	7	5	6	5	65
Apr 21	7	5	4	4	5	6	5	7	9	19	14	24	18	21	17	27	26	10	21	30	9	8	7	7	4	30
Apr 22	7	7	7	6	8	10	7	11	13	13	16	23	25	25	19	23	22	20	17	24	7	7	7	10	6	25
Apr 23	8	9	7	9	23	32	13	27	31	33	27	29	34	22	24	26	23	33	12	10	13	14	15	28	7	34
Apr 24	24	38	68	65	47	39	36	16	30	39	43	34	27	48	21	29	14	25	21	36	31	42	35	8	8	68
Apr 25	17	19	46	19	13	38	19	14	16	17	20	19	18	13	19	17	12	11	10	37	48	11	11	12	10	48
Apr 26	13	7	11	45	54	43	6	7	21	13	18	19	16	19	22	19	17	16	9	7	15	16	22	13	6	54
Apr 27	10	10	10	12	9	10	10	12	14	19	19	40	51	47	48	58	24	36	27	18	54	30	11	68	9	68
Apr 28	20	11	12	24	8	16	15	22	18	34	39	56	44	75	70	36	25	29	20	25	18	13	24	18	8	75
Apr 29	11	6	11	30	22	38	30	34	76	62	64	59	52	67	43	34	15	28	15	9	9	9	13	16	6	76
Apr 30	11	14	11	15	15	11	9	22	22	18	27	13	11	11	11	12	9	10	13	13	6	5	4	11	4	27
Diurnal Minimum	4	5	4	4	4	6	5	7	9	8	11	11	11	11	9	9	9	8	7	4	5	4	4	4		
Diurnal Maximum	66	53	68	65	54	63	64	58	76	62	64	74	65	75	70	58	43	39	41	37	54	42	47	73		

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	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

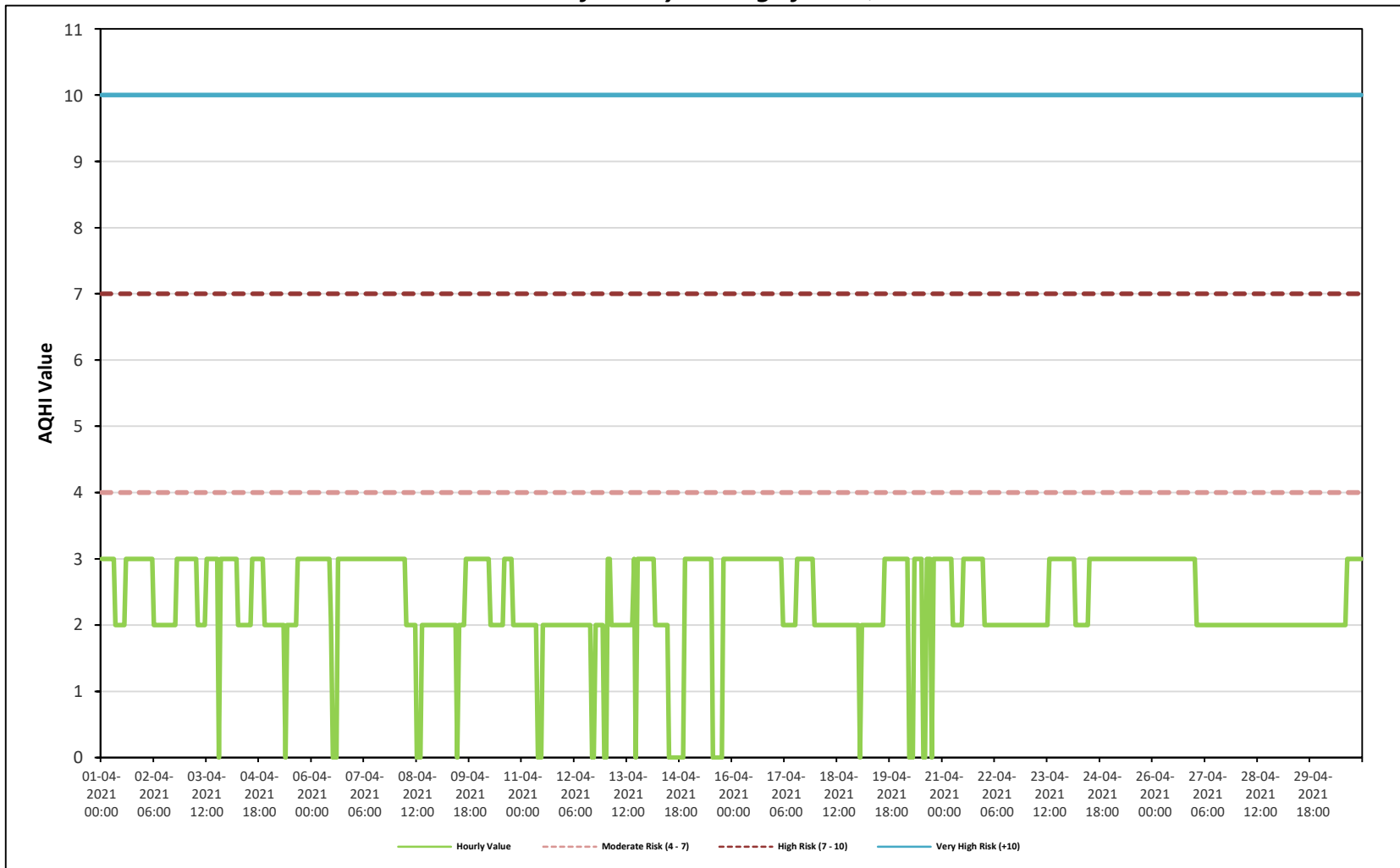
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for STDWD - Tamarack Site



ST. LINA STATION

Timeseries Chart of Hourly Average for AQHI - St. Lina Site





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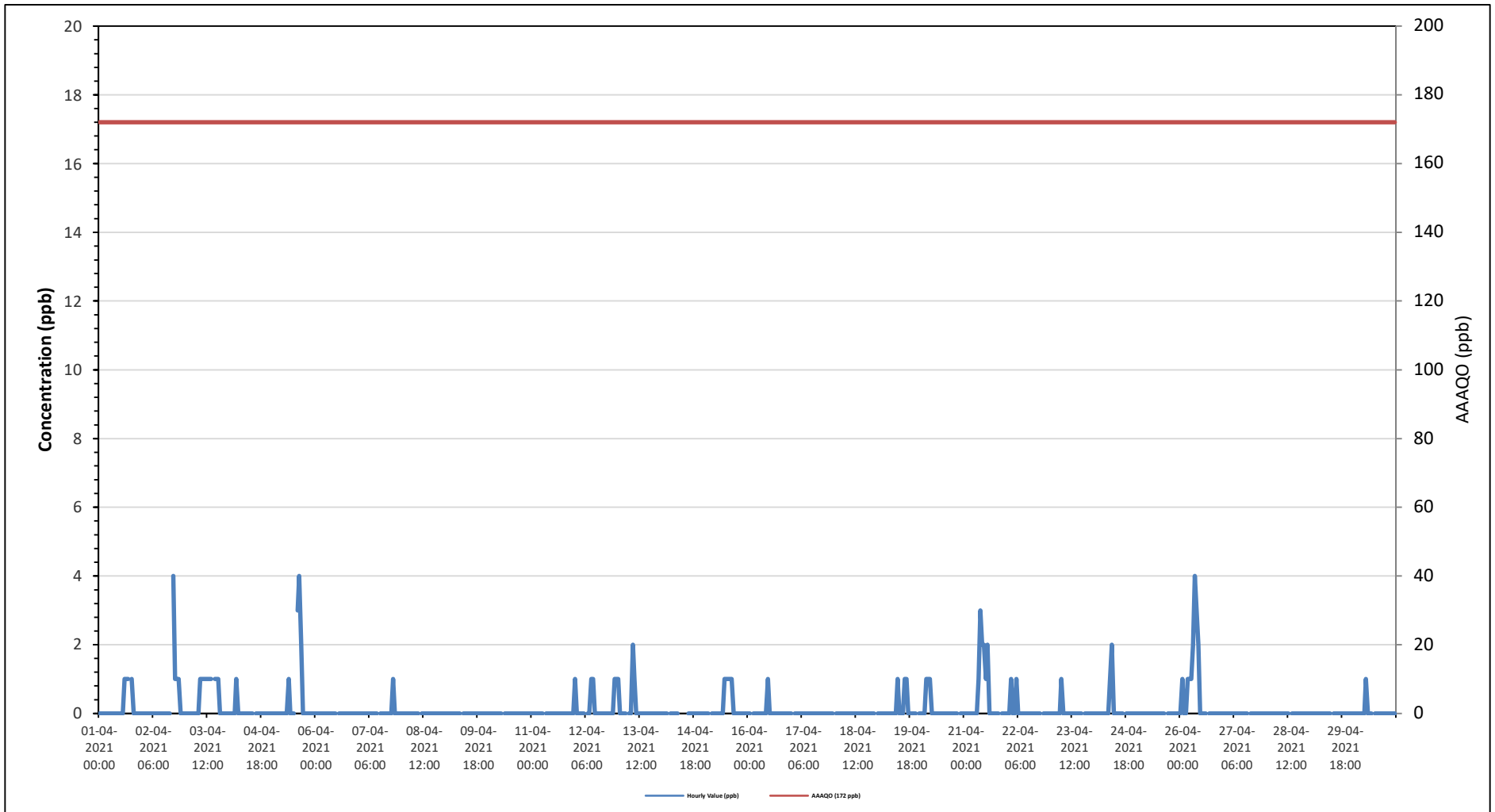
St. Lina Site - April 2021

Summary of Hourly Averages

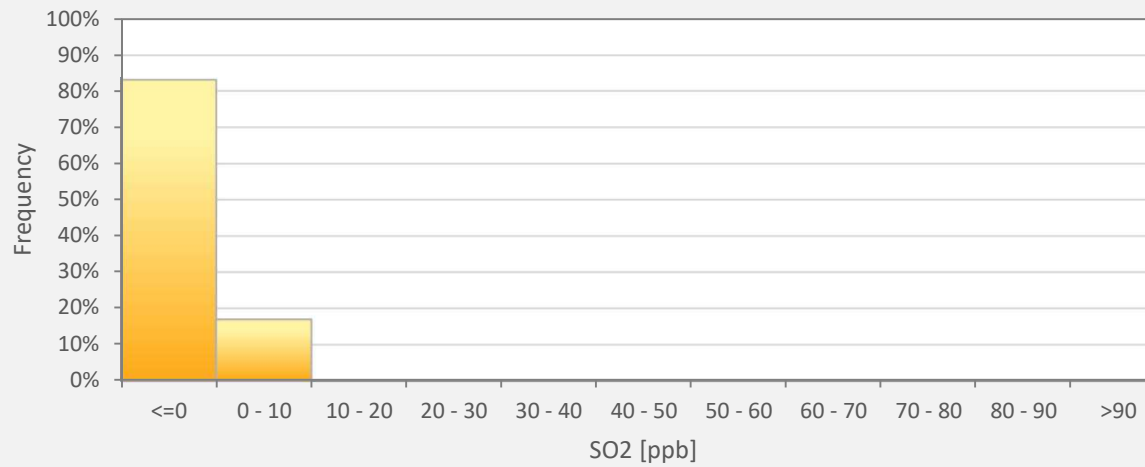
SULPHUR DIOXIDE (SO₂) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 172 ppb, 24-Hour 48 ppb, 30-Day 11 ppb																													
Number of 1-Hour Exceedences: 0					Number of 24-Hour Exceedences: 0					30-Day Exceedence: 0																			
Maximum Hourly Value: 4 ppb on April 2 at hour 17										Hours in Service: 720																			
Maximum Daily Value: 0.7 ppb on April 26										Hours of Data: 684																			
Minimum Hourly Value: 0 ppb on April 1 at hour 0										Hours of Missing Data: 0																			
Minimum Daily Value: 0.0 ppb on April 6										Hours of Calibration: 36																			
Monthly Average: 0.1 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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	S	1	0	0	0	0	0	0	0	0	1	0.2
Apr 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	4	1	1	1	0	0	0	0	0	0	4	0.3
Apr 3	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	S	1	1	1	0	0	0	0	0	0	0	0	1	0.4
Apr 4	0	0	0	0	1	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 5	0	0	0	0	0	0	0	0	0	1	0	0	0	S	3	4	2	0	0	0	0	0	0	0	0	0	0	4	0.4
Apr 6	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	0.0
Apr 7	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.0
Apr 8	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	0.0
Apr 9	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	0.0
Apr 10	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	0.0
Apr 11	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	0.0
Apr 12	1	0	0	0	0	0	S	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0.2	
Apr 13	1	0	0	0	0	S	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2
Apr 14	0	0	0	0	S	0	0	0	0	0	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Apr 15	0	0	0	S	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0.2
Apr 16	0	0	S	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Apr 17	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	0.0
Apr 18	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	S	0.0
Apr 19	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	S	0	0	0	1	0.1
Apr 20	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	1	0.1
Apr 21	0	0	0	0	0	0	0	0	1	3	2	2	1	2	0	0	0	0	0	0	0	S	0	0	0	0	0	3	0.5
Apr 22	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	1	0.1
Apr 23	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	1	0.0
Apr 24	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	2	0.1
Apr 25	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	0.0
Apr 26	0	1	0	0	1	1	1	2	4	3	2	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	4	0.7
Apr 27	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	0.0
Apr 28	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	0.0
Apr 29	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	0.0
Apr 30	0	0	0	0	0	0	0	1	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Diurnal Maximum	1	1	1	1	1	1	1	2	4	3	2	2	1	2	3	4	2	4	1	1	1	0	1	1					
Diurnal Average	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.3	0.4	0.3	0.2	0.1	0.1	0.2	0.3	0.2	0.2	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										N	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.																													

Timeseries Chart of Hourly Average for SO2 - St. Lina Site



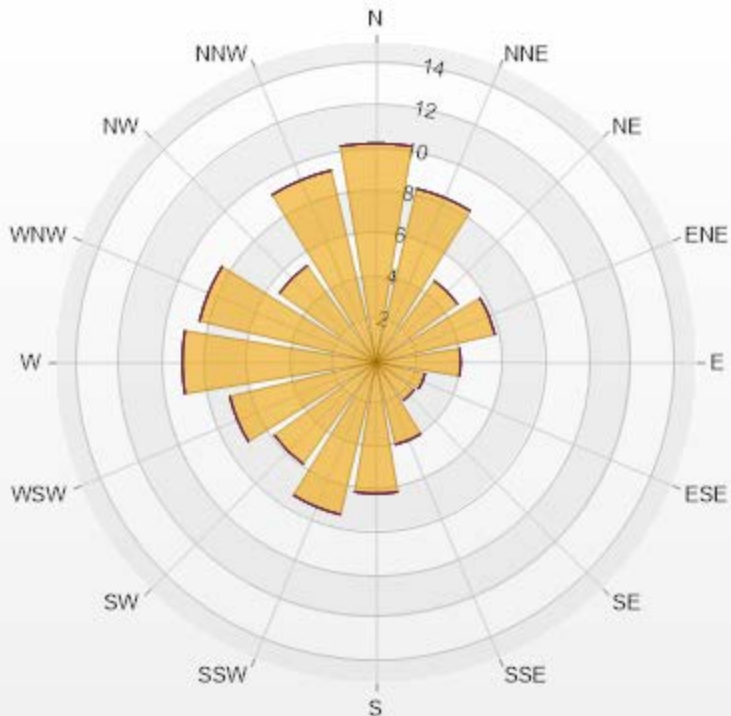
SO2[ppb] Histogram: St. Lina Monthly: 04-2021 1 Hr.



Classes	SO2
<=0	83.04%
0 - 10	16.96%
10 - 20	0.00%
20 - 30	0.00%
30 - 40	0.00%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: St. Lina Poll.: St. Lina-SO2[ppb] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 95.00% Calm Avg: 0.00 [ppb]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	10.23	0	0	0	0	10.23
NNE	8.33	0	0	0	0	8.33
NE	4.68	0	0	0	0	4.68
ENE	5.7	0	0	0	0	5.7
E	3.95	0	0	0	0	3.95
ESE	2.34	0	0	0	0	2.34
SE	2.19	0	0	0	0	2.19
SSE	3.95	0	0	0	0	3.95
S	6.14	0	0	0	0	6.14
SSW	7.31	0	0	0	0	7.31
SW	5.85	0	0	0	0	5.85
WSW	7.02	0	0	0	0	7.02
W	9.06	0	0	0	0	9.06
WNW	8.48	0	0	0	0	8.48
NW	5.56	0	0	0	0	5.56
NNW	9.21	0	0	0	0	9.21
Summary	100	0	0	0	0	100



LICA-202104

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% Icon Classes (ppb)

100 0-10

0 10-50

0 50-100

0 100-172

0 >172.0



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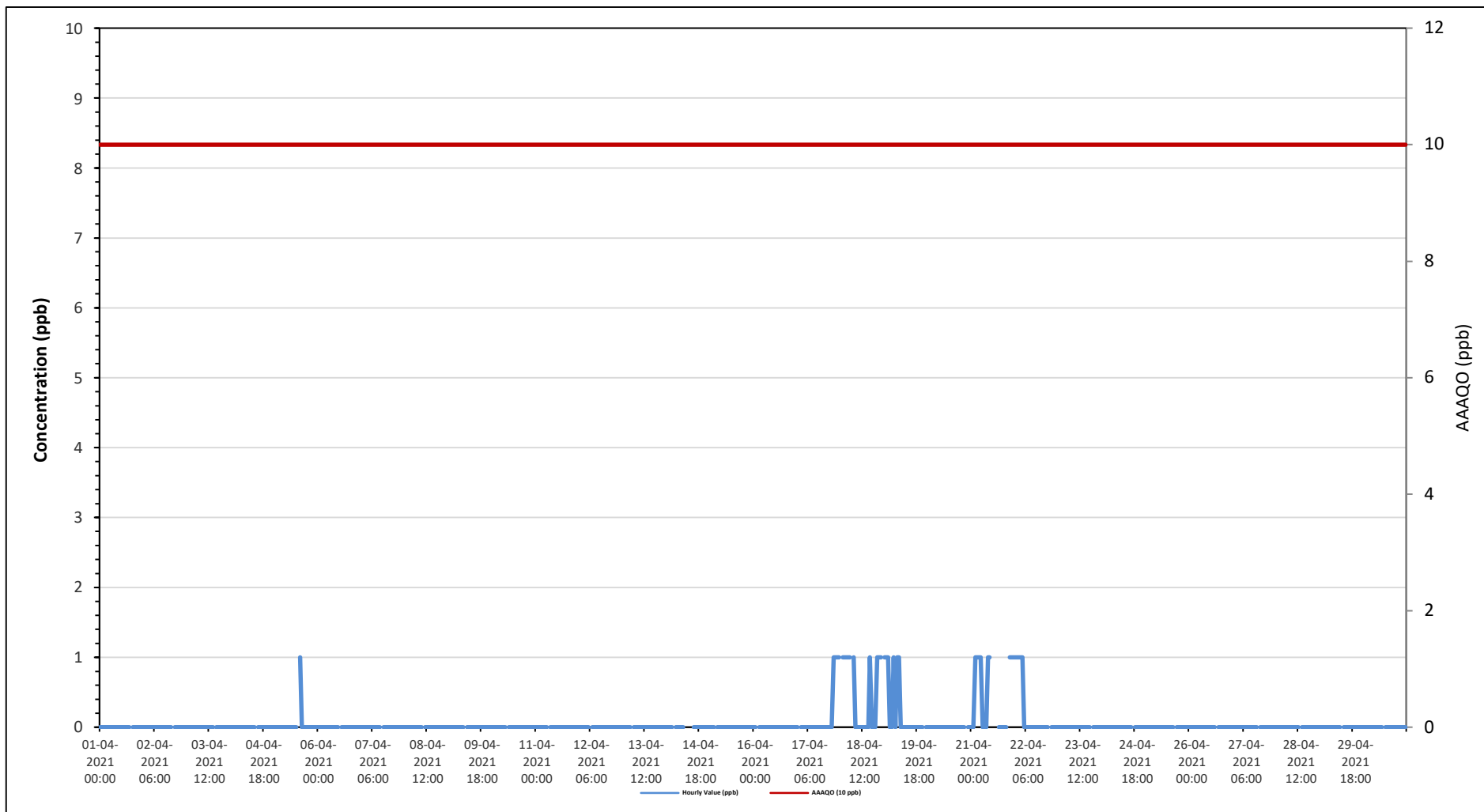
St. Lina Site - April 2021

Summary of Hourly Averages

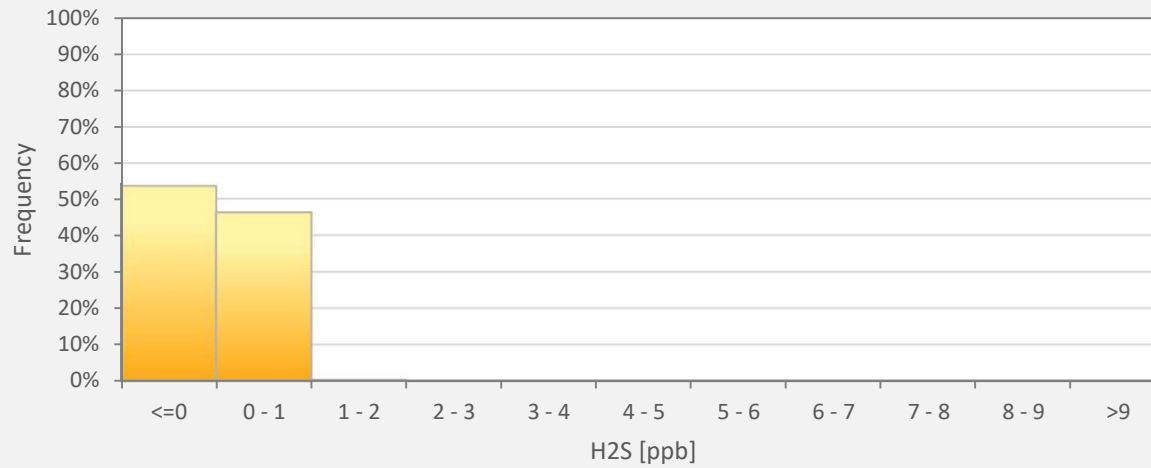
HYDROGEN SULPHIDE (H₂S) in ppb

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 April 5 at hour 14					Hours in Service: 720																							
Maximum Daily Value: 0.5 ppb on April 18					Hours of Data: 679																							
Minimum Hourly Value: 0 ppb on April 1 at hour 0					Hours of Missing Data: 5																							
Minimum Daily Value: 0.0 ppb on April 1					Hours of Calibration: 36																							
Monthly Average: 0.1 ppb					Operational Uptime: 99.3																							
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23				
Apr 1	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 2	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 3	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 4	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 5	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Apr 6	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 7	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 8	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
Apr 9	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 10	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
Apr 11	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 12	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apr 13	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
Apr 14	0	0	0	0	S	0	0	0	0	0	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0
Apr 15	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 16	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 17	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	1
Apr 18	S	1	1	1	1	1	NRM	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	S
Apr 19	1	1	1	0	0	1	0	1	1	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	S	S	0
Apr 21	0	0	1	1	1	1	0	0	0	1	1	NRM	NRM	NRM	NRM	0	0	0	0	0	0	0	0	0	0	S	1	1
Apr 22	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	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	S	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	S	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	S	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	S	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	S	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	S	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	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diurnal Maximum	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0			
Diurnal Average	0.1	0.1	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	0.0	0.0	0.1	0.1	0.1	0.1			
C	Monthly Calibration						S	Daily Zero-Span Check						Q	Quality Assurance													
K	Collection Error						N	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.																												

Timeseries Chart of Hourly Average for H2S - St. Lina Site



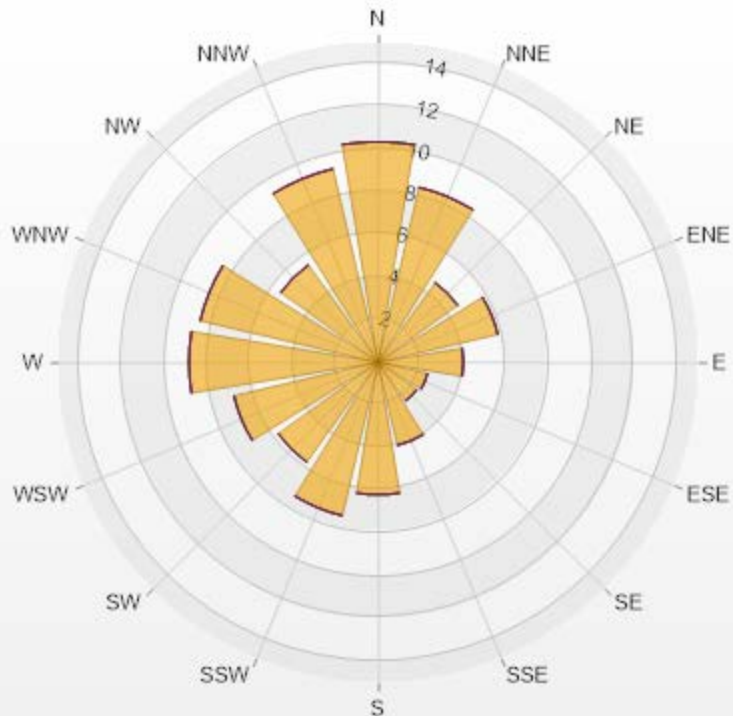
H2S[ppb] Histogram: St. Lina Monthly: 04-2021 1 Hr.



Classes	H2S
<=0	53.46%
0 - 1	46.24%
1 - 2	0.29%
2 - 3	0.00%
3 - 4	0.00%
4 - 5	0.00%
5 - 6	0.00%
6 - 7	0.00%
7 - 8	0.00%
8 - 9	0.00%
>9	0.00%

Wind: St. Lina Poll.: St. Lina-H2S[ppb] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.31% Calm Avg: 0.00 [ppb]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	10.31	0	0	0	0	10.31
NNE	8.39	0	0	0	0	8.39
NE	4.57	0	0	0	0	4.57
ENE	5.74	0	0	0	0	5.74
E	3.98	0	0	0	0	3.98
ESE	2.36	0	0	0	0	2.36
SE	2.21	0	0	0	0	2.21
SSE	3.98	0	0	0	0	3.98
S	6.19	0	0	0	0	6.19
SSW	7.36	0	0	0	0	7.36
SW	5.74	0	0	0	0	5.74
WSW	6.92	0	0	0	0	6.92
W	8.84	0	0	0	0	8.84
WNW	8.54	0	0	0	0	8.54
NW	5.6	0	0	0	0	5.6
NNW	9.28	0	0	0	0	9.28
Summary	100	0	0	0	0	100



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% Icon Classes (ppb)

100 0-2

0 2-5

0 5-10

0 10-50

0 >50.0



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St. Lina Site - April 2021

Summary of Hourly Averages

OXIDES OF NITROGEN (NOx) in ppb

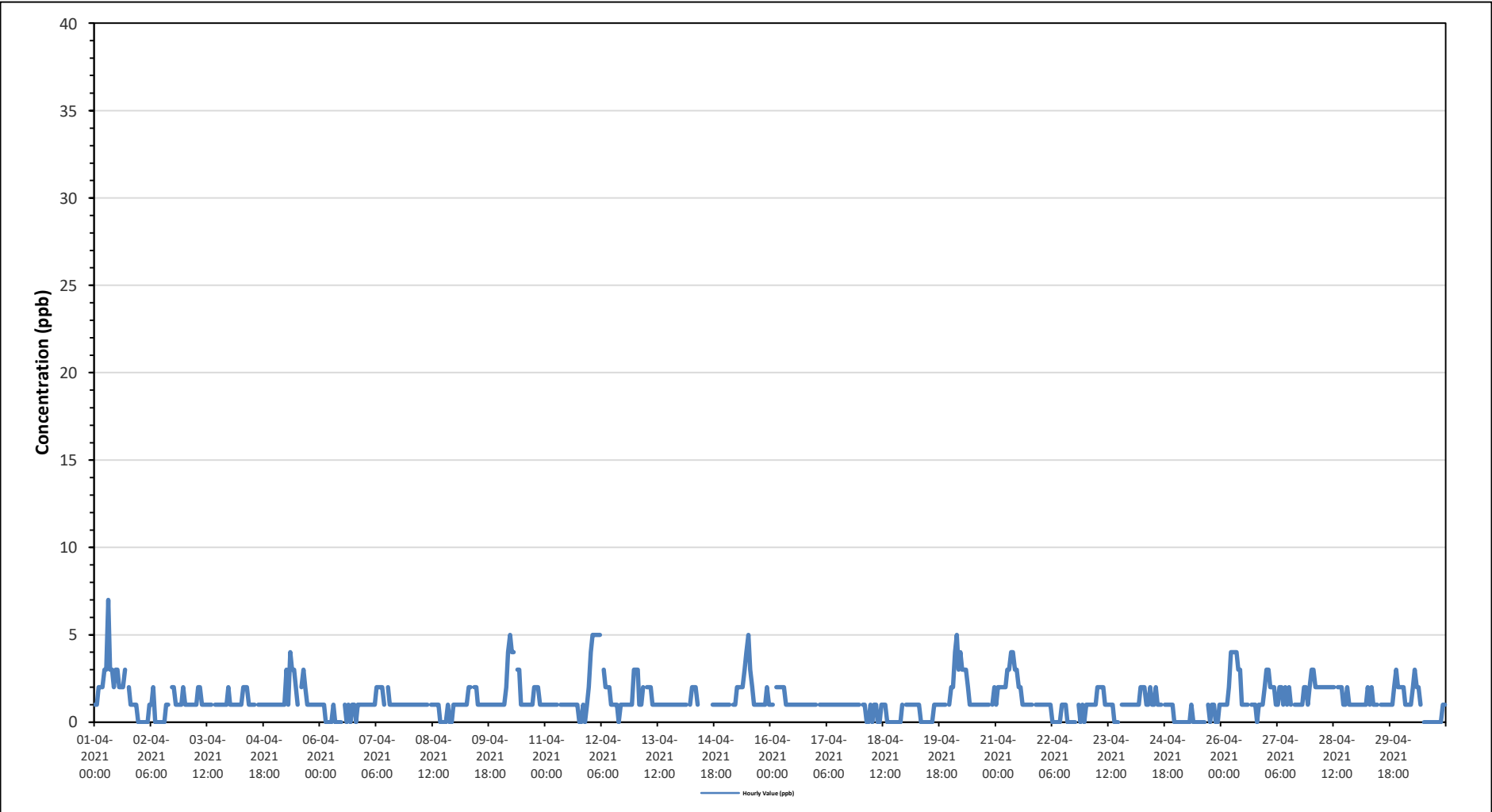
Maximum Hourly Value:	7 ppb on April 1 at hour 7	Hours in Service:	720
Maximum Daily Value:	2.3 ppb on April 12	Hours of Data:	682
Minimum Hourly Value:	0 ppb on April 1 at hour 23	Hours of Missing Data:	0
Minimum Daily Value:	0.2 ppb on April 25	Hours of Calibration:	38
Monthly Average:	1.2 ppb	Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Apr 1	1	1	2	2	2	3	3	7	3	3	2	3	3	2	2	2	3	S	2	1	1	1	1	0	0	7	2.2	
Apr 2	0	0	0	0	0	1	1	2	0	0	0	0	0	0	1	1	S	2	2	1	1	1	1	2	0	2	0.7	
Apr 3	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	S	1	1	1	1	1	1	1	2	1	2	1.1	
Apr 4	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	2	1.1	
Apr 5	1	1	1	1	1	1	3	1	4	3	3	2	1	S	2	3	2	1	1	1	1	1	1	1	1	4	1.6	
Apr 6	1	1	1	0	0	0	0	1	0	0	0	0	S	1	0	1	0	1	1	0	1	1	1	1	0	1	0.5	
Apr 7	1	1	1	1	1	1	2	2	2	2	1	S	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1.2	
Apr 8	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	0	0	0	0	1	0	0	1	0	1	0.7	
Apr 9	1	1	1	1	1	1	1	2	2	S	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.2	
Apr 10	1	1	1	2	4	5	4	S	3	3	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	5	1.9	
Apr 11	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1	2	0	2	0.9	
Apr 12	4	5	5	5	5	5	S	3	2	2	2	1	1	1	1	0	1	1	1	1	1	1	1	3	0	5	2.3	
Apr 13	3	3	1	1	2	S	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1.3	
Apr 14	1	1	1	1	S	1	2	2	2	1	C	C	C	C	C	C	C	1	1	1	1	1	1	1	2	-		
Apr 15	1	1	1	S	1	1	2	2	2	2	3	4	5	3	2	1	1	1	1	1	1	1	2	1	1	5	1.7	
Apr 16	1	1	S	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.2	
Apr 17	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 18	S	1	1	0	0	1	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4	
Apr 19	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	1	1	1	1	1	1	S	1	0	1	0.7	
Apr 20	2	2	4	5	3	4	3	3	3	2	1	1	1	1	1	1	1	1	1	1	1	S	1	2	1	5	2.0	
Apr 21	1	2	2	2	2	2	3	3	4	4	3	3	2	2	1	1	1	1	1	1	S	1	1	1	1	4	1.9	
Apr 22	1	1	1	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	S	S	1	0	1	0	1	0.5	
Apr 23	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1	0	0	0	S	1	1	1	1	1	0	2	1.0	
Apr 24	1	1	1	1	1	2	2	2	1	1	2	1	1	2	1	1	1	S	1	1	1	1	1	1	0	2	1.2	
Apr 25	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	S	1	0	1	1	0	0	1	0	1	0.2	
Apr 26	1	1	1	1	2	4	4	4	4	3	3	1	1	1	1	S	1	1	1	0	1	1	1	2	0	4	1.7	
Apr 27	3	3	2	2	2	1	1	2	2	1	2	1	2	1	S	1	1	1	1	1	1	2	2	1	2	1	3	1.6
Apr 28	3	3	2	2	2	2	2	2	2	2	2	2	2	2	S	2	2	2	1	1	2	1	1	1	1	3	1.8	
Apr 29	1	1	1	1	1	1	2	1	2	1	1	1	S	1	1	1	1	1	1	1	2	3	2	2	1	3	1.3	
Apr 30	2	2	1	1	1	1	2	3	2	2	1	S	0	0	0	0	0	0	0	0	0	0	0	1	1	0	3	0.9
Diurnal Maximum	4	5	5	5	5	5	4	7	4	4	3	4	5	3	2	3	3	2	2	2	2	3	2	3	3	3		
Diurnal Average	1.3	1.4	1.3	1.3	1.4	1.6	1.7	2.1	1.8	1.4	1.4	1.2	1.2	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	0.9	1.0	1.2			

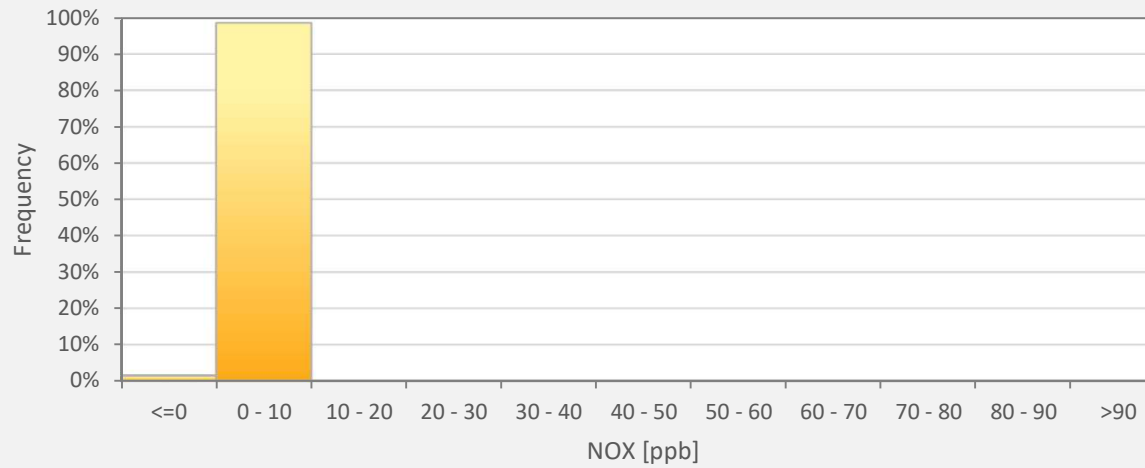
C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N No Data (Machine Not in Service)	Y Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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.

Timeseries Chart of Hourly Average for NOx - St. Lina Site



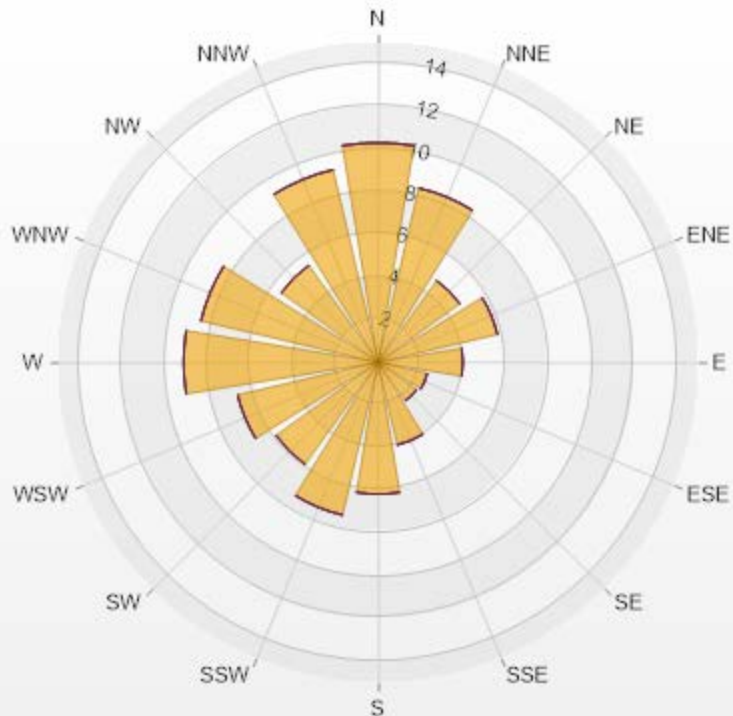
NOX[ppb] Histogram: St. Lina Monthly: 04-2021 1 Hr.



Classes	NOX
<=0	1.47%
0 - 10	98.53%
10 - 20	0.00%
20 - 30	0.00%
30 - 40	0.00%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: St. Lina Poll.: St. Lina-NOX[ppb] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.72% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	10.26	0	0	0	0	10.26
NNE	8.36	0	0	0	0	8.36
NE	4.69	0	0	0	0	4.69
ENE	5.72	0	0	0	0	5.72
E	3.96	0	0	0	0	3.96
ESE	2.35	0	0	0	0	2.35
SE	2.2	0	0	0	0	2.2
SSE	3.96	0	0	0	0	3.96
S	6.16	0	0	0	0	6.16
SSW	7.33	0	0	0	0	7.33
SW	5.87	0	0	0	0	5.87
WSW	6.74	0	0	0	0	6.74
W	9.09	0	0	0	0	9.09
WNW	8.5	0	0	0	0	8.5
NW	5.57	0	0	0	0	5.57
NNW	9.24	0	0	0	0	9.24
Summary	100	0	0	0	0	100



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% Icon Classes (ppb)

100  0-30

0  30-50

0  50-76

0  76-159

0  >159.0



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St. Lina Site - April 2021

Summary of Hourly Averages

NITRIC OXIDE (NO) in ppb

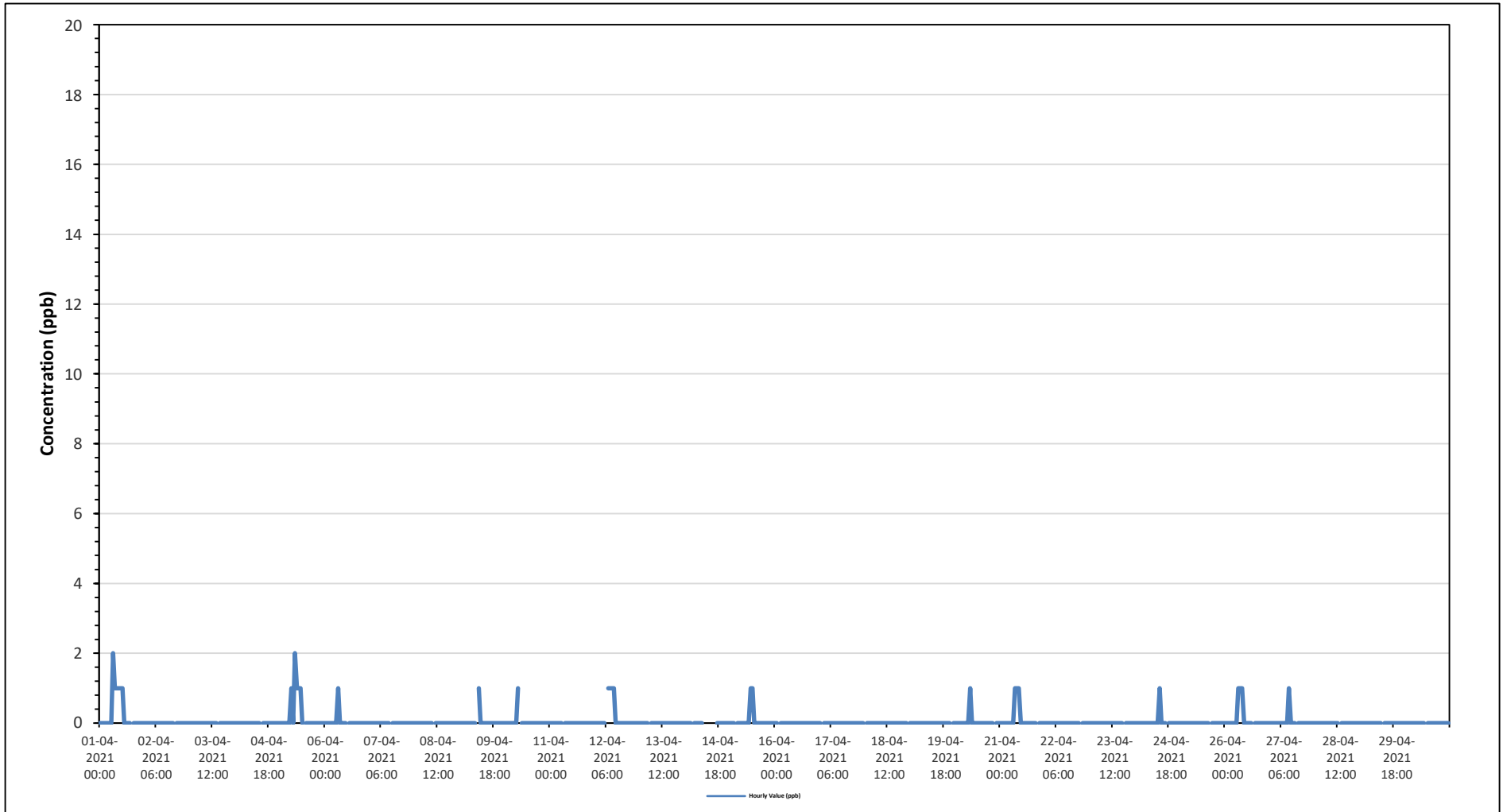
Maximum Hourly Value:	2 ppb on April 1 at hour 7	Hours in Service:	720
Maximum Daily Value:	0.3 ppb on April 1	Hours of Data:	682
Minimum Hourly Value:	0 ppb on April 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.0 ppb on April 2	Hours of Calibration:	38
Monthly Average:	0.0 ppb	Operational 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	2	1	1	1	1	1	0	0	0	S	0	0	0	0	0	0	0	0	0	2	0.3
Apr 2	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	0.0
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	0.0
Apr 4	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
Apr 5	0	0	0	0	0	0	1	0	2	1	1	1	0	S	0	0	0	0	0	0	0	0	0	0	0	2	0.3	
Apr 6	0	0	0	0	0	0	0	1	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0.0	
Apr 7	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 8	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	
Apr 9	0	0	0	0	0	0	0	0	0	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
Apr 10	0	0	0	0	0	0	0	0	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	
Apr 11	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 12	0	0	0	0	0	0	0	S	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	
Apr 13	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
Apr 14	0	0	0	0	0	S	0	0	0	0	C	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	-	
Apr 15	0	0	0	S	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	
Apr 16	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 17	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 18	S	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	
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	S	0	0.0	
Apr 20	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0.0	
Apr 21	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	S	0	0	1	0.1	
Apr 22	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 23	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 24	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	S	0	0	0	0	0	0	0	1	0.0	
Apr 25	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 26	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	0.1	
Apr 27	0	0	0	0	0	0	0	0	0	1	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	1	0.0	
Apr 28	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 29	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 30	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	

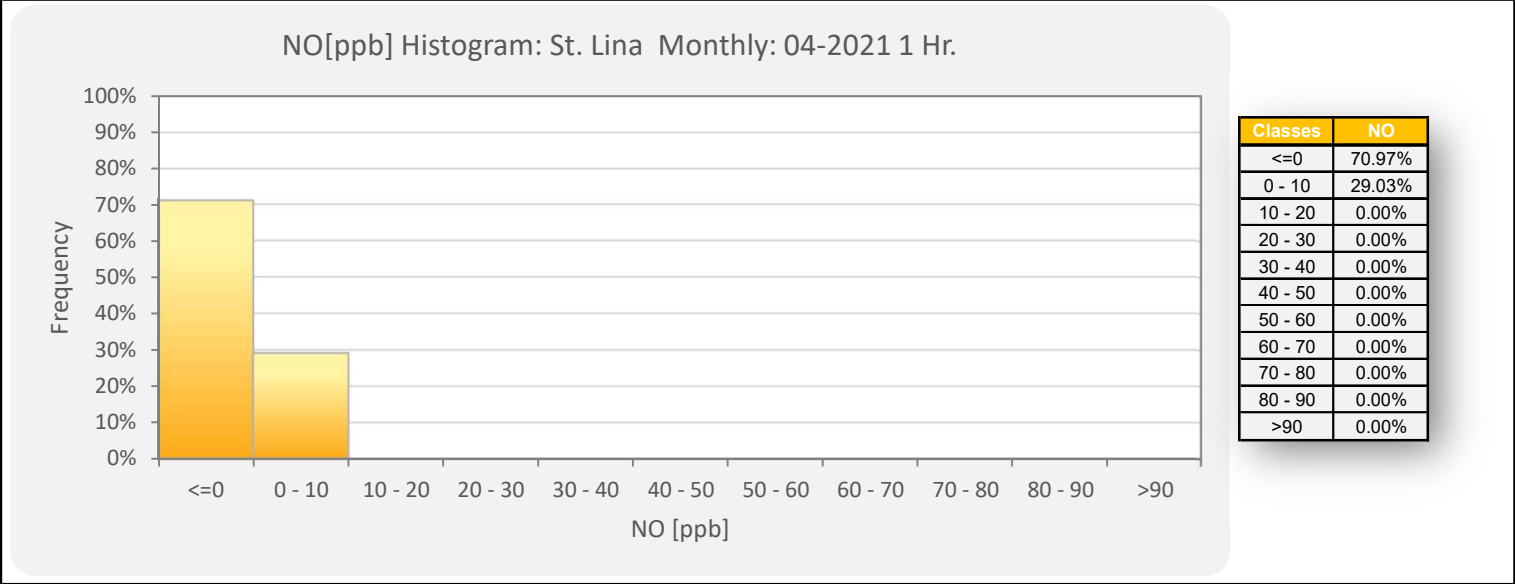
Diurnal Maximum	0	0	0	0	0	0	1	2	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diurnal Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C	Monthly Calibration							S	Daily Zero-Span Check							Q	Quality Assurance											
K	Collection Error							N	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.

Timeseries Chart of Hourly Average for NO - St. Lina Site

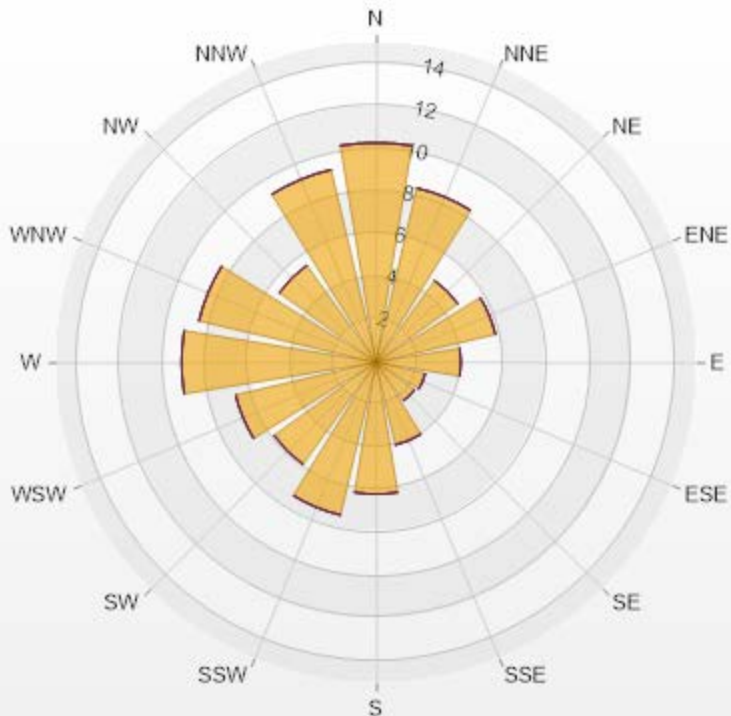


NO[ppb] Histogram: St. Lina Monthly: 04-2021 1 Hr.



Wind: St. Lina Poll.: St. Lina-NO[ppb] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.72% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	10.26	0	0	0	0	10.26
NNE	8.36	0	0	0	0	8.36
NE	4.69	0	0	0	0	4.69
ENE	5.72	0	0	0	0	5.72
E	3.96	0	0	0	0	3.96
ESE	2.35	0	0	0	0	2.35
SE	2.2	0	0	0	0	2.2
SSE	3.96	0	0	0	0	3.96
S	6.16	0	0	0	0	6.16
SSW	7.33	0	0	0	0	7.33
SW	5.87	0	0	0	0	5.87
WSW	6.74	0	0	0	0	6.74
W	9.09	0	0	0	0	9.09
WNW	8.5	0	0	0	0	8.5
NW	5.57	0	0	0	0	5.57
NNW	9.24	0	0	0	0	9.24
Summary	100	0	0	0	0	100




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% Icon Classes (ppb)

100  0-30

0  30-50

0  50-76

0  76-159

0  >159.0



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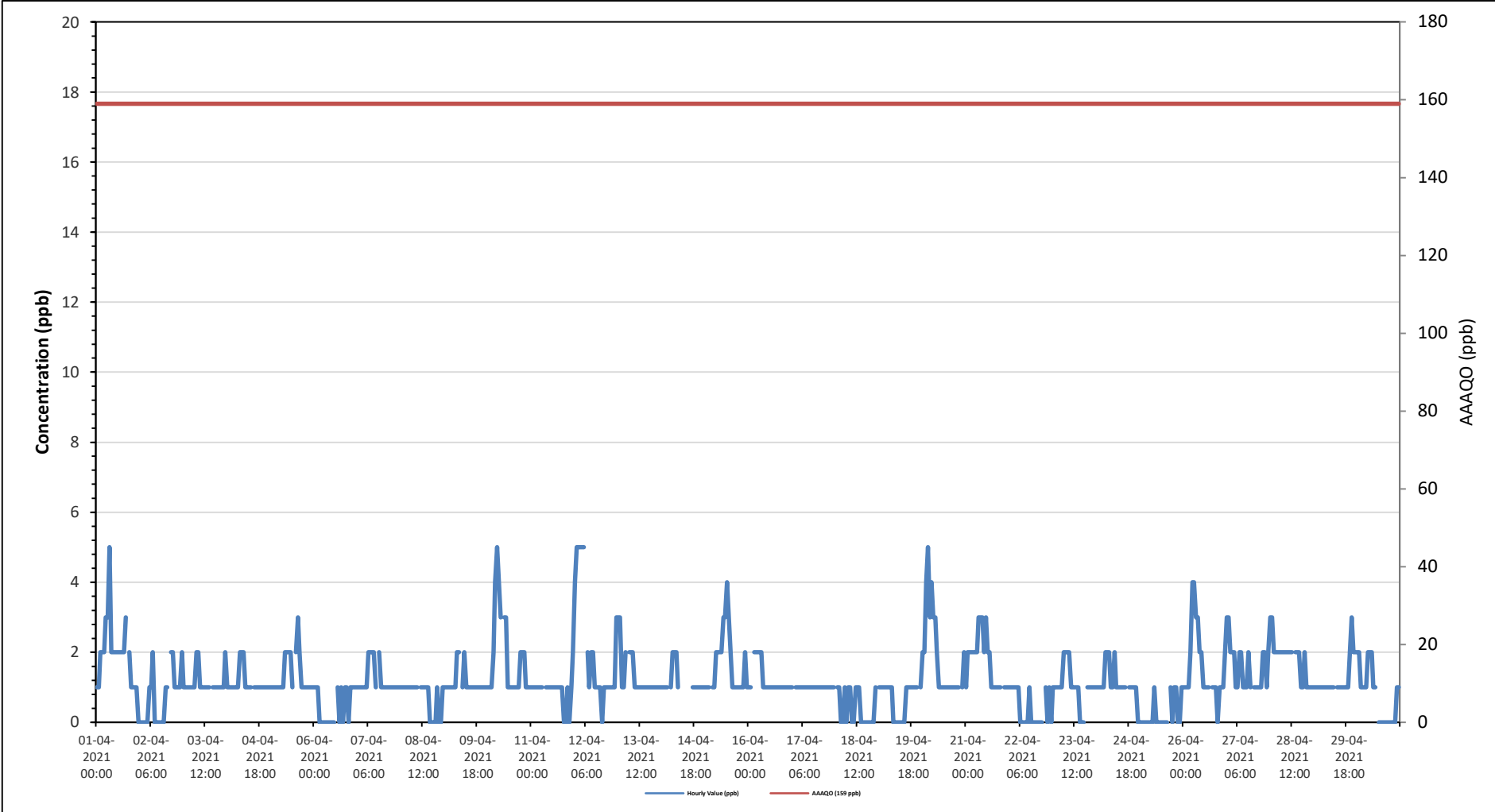
St. Lina Site - April 2021

Summary of Hourly Averages

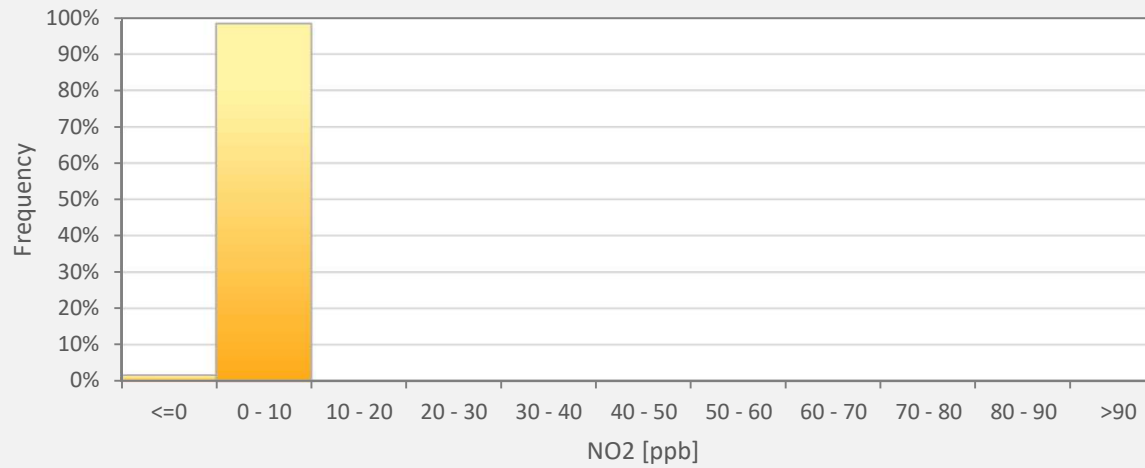
NITROGEN DIOXIDE (NO₂) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 159 ppb																											
Number of 1-Hour Exceedences: 0																											
Maximum Hourly Value: 5 ppb on April 1 at hour 7												Hours in Service: 720															
Maximum Daily Value: 2.2 ppb on April 12												Hours of Data: 682															
Minimum Hourly Value: 0 ppb on April 1 at hour 23												Hours of Missing Data: 0															
Minimum Daily Value: 0.2 ppb on April 25												Hours of Calibration: 38															
Monthly Average: 1.2 ppb												Operational Uptime: 100.0															
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Apr 1	1	1	2	2	2	3	3	5	2	2	2	2	2	2	2	2	3	S	2	1	1	1	1	0	0	5	1.9
Apr 2	0	0	0	0	0	1	1	2	0	0	0	0	0	0	1	1	S	2	2	1	1	1	1	2	0	2	0.7
Apr 3	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	S	1	1	1	1	1	1	1	2	1	2	1.1
Apr 4	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	2	1.1
Apr 5	1	1	1	1	1	1	1	1	2	2	2	2	1	S	2	3	2	1	1	1	1	1	1	1	1	3	1.3
Apr 6	1	1	1	0	0	0	0	0	0	0	0	0	S	1	0	1	0	1	1	0	1	1	1	1	0	1	0.5
Apr 7	1	1	1	1	1	1	2	2	2	2	1	S	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1.2
Apr 8	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	0	0	0	0	1	0	0	1	0	1	0.7
Apr 9	1	1	1	1	1	1	1	2	2	S	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1
Apr 10	1	1	1	2	4	5	4	3	S	3	3	1	1	1	1	1	1	1	2	2	2	1	1	1	1	5	1.9
Apr 11	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	0	0	1	0	1	2	0	2	0.9
Apr 12	4	5	5	5	5	5	S	2	1	2	2	1	1	1	1	0	1	1	1	1	1	1	3	0	5	2.2	
Apr 13	3	3	1	1	2	S	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1.3
Apr 14	1	1	1	1	S	1	2	2	2	1	C	C	C	C	C	C	C	1	1	1	1	1	1	1	2	-	
Apr 15	1	1	1	S	1	1	2	2	2	2	3	3	4	3	2	1	1	1	1	1	1	1	2	1	4	1.7	
Apr 16	1	1	S	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.2	
Apr 17	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 18	S	1	1	0	0	1	0	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0.4	
Apr 19	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	1	1	1	1	1	1	S	1	0	1	0.7
Apr 20	2	2	4	5	3	4	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	S	1	2	1	5	1.9
Apr 21	1	2	2	2	2	2	2	3	3	3	2	3	2	2	1	1	1	1	1	1	S	1	1	1	1	3	1.7
Apr 22	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	0	1	0	0	1	0.4
Apr 23	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1	0	0	0	S	1	1	1	1	1	0	2	1.0
Apr 24	1	1	1	1	1	2	2	2	1	1	2	1	1	1	1	1	1	S	1	1	1	1	1	0	0	2	1.1
Apr 25	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	S	1	0	1	1	0	0	1	0	1	0.2
Apr 26	1	1	1	1	2	4	3	3	2	2	1	1	1	1	1	S	1	1	1	0	1	1	1	2	0	4	1.6
Apr 27	3	3	2	2	2	1	1	2	2	1	1	1	2	1	S	1	1	1	1	1	2	2	1	2	1	3	1.6
Apr 28	3	3	2	2	2	2	2	2	2	2	2	2	2	S	2	2	2	1	1	2	1	1	1	1	1	3	1.8
Apr 29	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	2	3	2	2	1	3	1.2
Apr 30	2	2	1	1	1	2	2	2	1	1	S	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0.8
Diurnal Maximum	4	5	5	5	5	5	4	5	3	3	3	3	4	3	2	3	3	2	2	2	2	3	2	3			
Daiurnal Average	1.3	1.4	1.3	1.3	1.4	1.6	1.6	1.8	1.5	1.2	1.2	1.1	1.1	1.0	0.9	0.9	0.9	0.9	0.9	0.9	1.0	0.9	1.0	1.2			
C	Monthly Calibration							S	Daily Zero-Span Check							Q	Quality Assurance										
K	Collection Error							N	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.																											

Timeseries Chart of Hourly Average for NO2 - St. Lina Site



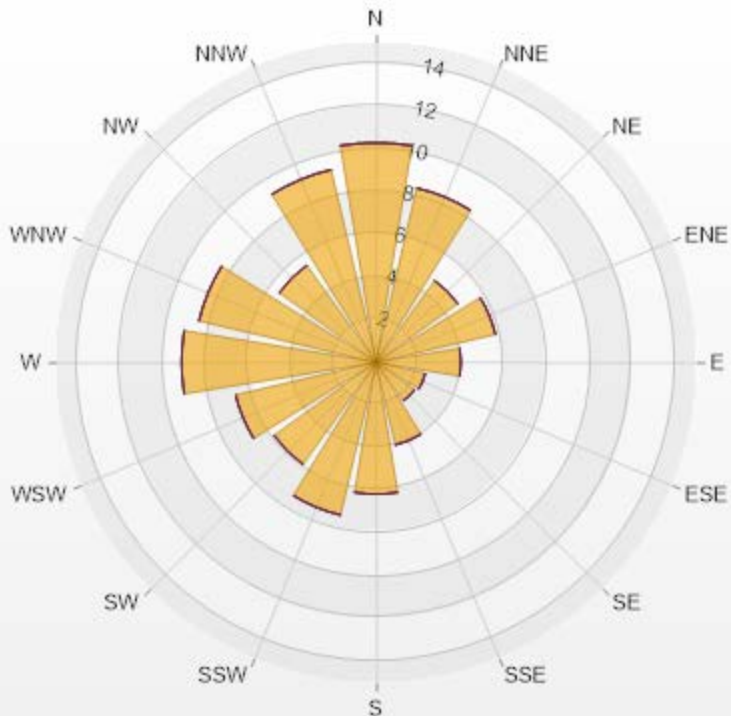
NO2[ppb] Histogram: St. Lina Monthly: 04-2021 1 Hr.



Classes	NO2
<=0	1.61%
0 - 10	98.39%
10 - 20	0.00%
20 - 30	0.00%
30 - 40	0.00%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: St. Lina Poll.: St. Lina-NO2[ppb] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.72% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	10.26	0	0	0	0	10.26
NNE	8.36	0	0	0	0	8.36
NE	4.69	0	0	0	0	4.69
ENE	5.72	0	0	0	0	5.72
E	3.96	0	0	0	0	3.96
ESE	2.35	0	0	0	0	2.35
SE	2.2	0	0	0	0	2.2
SSE	3.96	0	0	0	0	3.96
S	6.16	0	0	0	0	6.16
SSW	7.33	0	0	0	0	7.33
SW	5.87	0	0	0	0	5.87
WSW	6.74	0	0	0	0	6.74
W	9.09	0	0	0	0	9.09
WNW	8.5	0	0	0	0	8.5
NW	5.57	0	0	0	0	5.57
NNW	9.24	0	0	0	0	9.24
Summary	100	0	0	0	0	100



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% Icon Classes (ppb)

100  0-30

0  30-50

0  50-76

0  76-159

0  >159.0



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St. Lina Site - April 2021

Summary of Hourly Averages

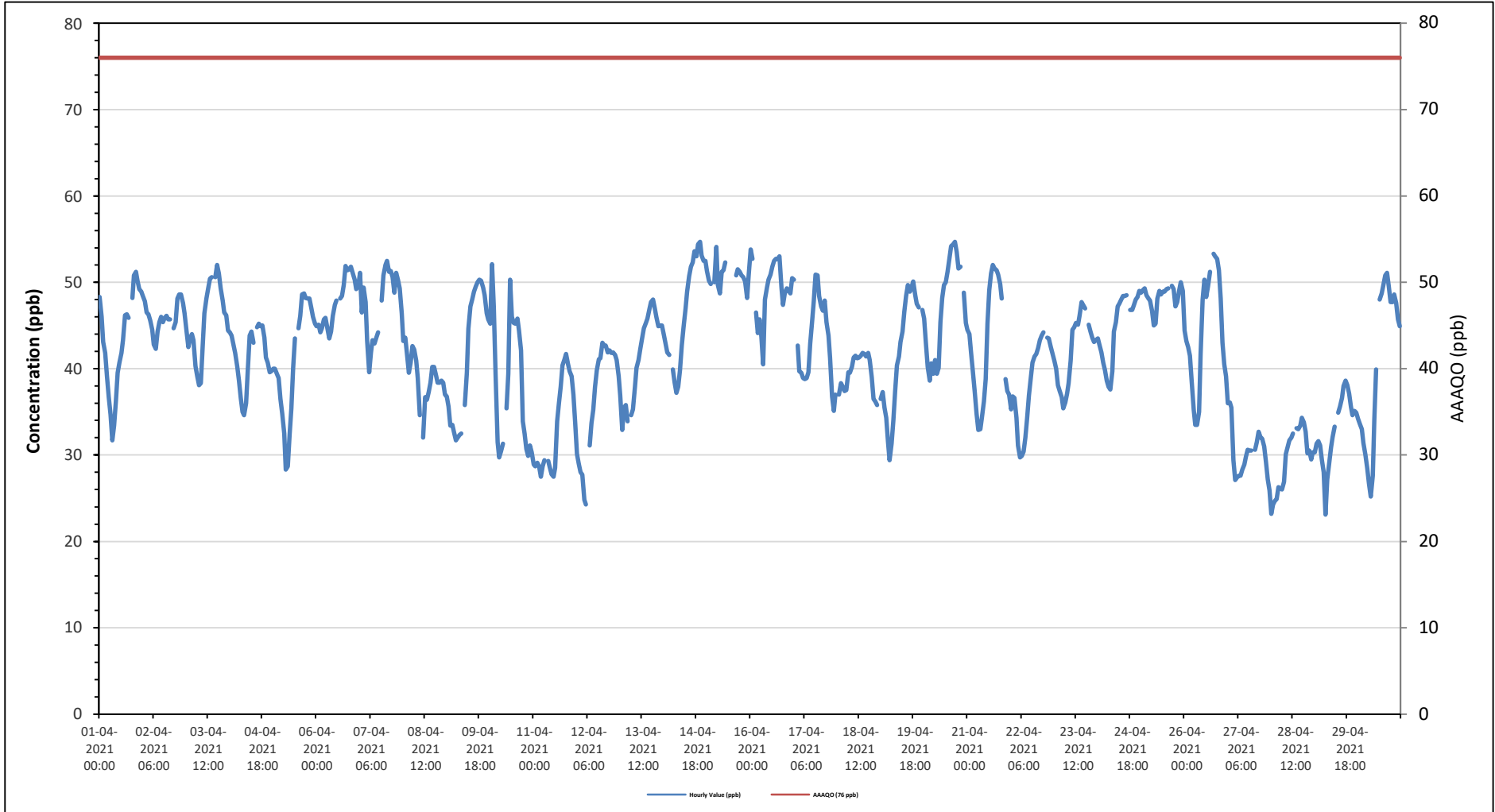
OZONE (O₃) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 76 ppb																																	
Number of 1-Hour Exceedences: 0																																	
Maximum Hourly Value: 54.7 ppb on April 14 at hour 20															Hours in Service: 720																		
Maximum Daily Value: 50.7 ppb on April 15															Hours of Data: 684																		
Minimum Hourly Value: 23.1 ppb on April 29 at hour 6															Hours of Missing Data: 0																		
Minimum Daily Value: 29.6 ppb on April 28															Hours of Calibration: 36																		
Monthly Average: 41.7 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	48.3	46.0	43.1	41.8	39.1	36.7	34.7	31.7	33.4	36.2	39.5	40.7	41.8	43.3	46.2	46.3	45.9	S	48.2	50.8	51.2	50.2	49.2	48.9	31.7	51.2	43.2						
Apr 2	48.4	47.8	46.5	46.3	45.6	44.5	42.8	42.3	44.3	45.4	46.0	45.4	45.9	46.1	45.7	45.7	S	44.7	45.4	48.1	48.6	48.6	47.6	46.4	42.3	48.6	46.0						
Apr 3	44.3	42.5	43.5	44.0	43.3	40.3	39.1	38.1	38.3	43.0	46.4	48.1	49.3	50.4	50.6	S	50.6	52.0	51.0	49.3	47.9	46.5	46.2	44.4	38.1	52.0	45.6						
Apr 4	44.2	43.8	42.7	41.8	40.3	38.6	36.6	35.0	34.6	36.0	40.0	43.8	44.3	43.0	S	44.8	45.2	44.9	45.0	43.6	41.3	40.7	39.6	39.7	34.6	45.2	41.3						
Apr 5	40.0	40.0	39.4	38.9	36.5	34.8	32.5	28.3	28.7	32.3	35.4	40.1	43.5	S	44.7	46.1	48.6	48.7	48.2	48.1	48.1	47.1	46.0	45.2	28.3	48.7	40.9						
Apr 6	44.9	45.1	44.2	44.7	45.7	45.9	44.6	43.5	44.3	46.1	47.4	47.9	S	48.1	48.4	49.7	51.9	51.4	51.5	51.8	51.1	50.3	49.2	49.6	43.5	51.9	47.7						
Apr 7	51.1	46.5	49.4	47.7	43.2	39.6	41.9	43.3	42.9	43.6	44.2	S	47.9	50.8	52.0	52.5	51.2	51.3	50.6	48.8	51.1	50.3	49.3	46.4	39.6	52.5	47.6						
Apr 8	43.2	43.6	41.9	39.5	40.7	42.6	42.2	40.9	38.9	34.6	S	32.0	36.7	36.4	37.3	38.4	40.2	40.2	39.2	38.4	38.6	38.4	37.0	32.0	43.6	39.1	39.1						
Apr 9	36.8	35.6	33.4	33.5	32.7	31.7	32.0	32.3	32.5	S	35.8	39.5	44.6	47.2	48.0	48.9	49.5	50.0	50.3	50.2	49.4	48.5	46.4	45.7	31.7	50.3	41.5						
Apr 10	45.2	52.1	47.1	39.3	31.5	29.7	30.4	31.3	S	35.4	39.4	50.3	46.0	45.3	45.2	45.8	44.4	42.1	33.9	32.5	30.7	29.9	31.1	30.3	29.7	52.1	38.6						
Apr 11	28.9	28.7	29.1	28.7	27.5	28.7	29.4	S	29.3	28.6	27.8	27.5	28.5	33.9	36.0	37.9	40.4	41.1	41.7	40.5	39.7	39.1	37.0	33.7	27.5	41.7	33.2						
Apr 12	30.1	29.0	28.0	27.7	24.8	24.3	S	31.1	33.7	35.2	37.9	39.8	41.1	41.2	43.0	42.7	42.7	41.9	42.1	41.8	41.9	41.6	41.0	39.1	24.3	43.0	36.6						
Apr 13	36.9	32.9	35.5	35.8	33.9	S	34.6	35.3	37.9	40.1	41.0	42.3	43.5	44.7	45.3	45.8	46.9	47.7	48.0	47.0	46.0	44.9	45.0	45.0	32.9	48.0	41.6						
Apr 14	44.0	42.8	41.9	41.6	S	39.9	38.4	37.2	37.9	39.8	42.7	44.8	47.0	48.9	50.7	51.8	52.3	53.6	53.0	54.4	54.7	53.1	52.5	52.5	37.2	54.7	46.8						
Apr 15	51.3	50.2	49.8	S	50.0	54.1	49.7	48.7	51.2	51.4	52.3	C	C	C	C	S	50.8	51.5	51.2	50.8	50.6	50.1	48.2	50.8	48.2	54.1	50.7						
Apr 16	53.8	52.7	S	46.5	44.1	45.7	43.7	40.5	48.0	49.4	50.3	50.9	51.8	52.5	52.7	52.7	53.0	49.4	47.4	48.7	49.3	49.1	48.7	50.5	40.5	53.8	49.2						
Apr 17	50.3	S	42.7	39.7	39.5	38.9	38.8	38.9	39.6	42.9	45.3	47.8	50.9	50.8	48.4	47.2	46.7	47.9	45.4	43.8	41.3	36.8	35.1	37.0	35.1	50.9	43.3						
Apr 18	S	37.0	38.3	37.9	37.4	37.5	39.6	39.5	40.2	41.3	41.5	41.2	41.3	41.5	41.8	41.7	41.4	41.8	41.0	39.0	36.5	36.2	35.8	S	35.8	41.8	39.5						
Apr 19	36.5	37.3	35.5	34.3	31.5	29.4	31.3	34.0	37.4	40.4	41.4	44.1	44.3	46.6	48.4	49.7	48.9	49.4	50.1	48.5	47.5	47.1	S	46.8	29.4	50.1	41.7						
Apr 20	45.8	42.9	40.2	38.6	40.6	39.4	41.0	39.4	40.1	45.4	48.2	49.7	50.0	51.2	52.9	54.2	54.4	54.7	53.5	51.6	51.8	S	48.8	45.3	38.6	54.7	46.9						
Apr 21	44.5	44.0	42.0	39.5	37.3	34.8	32.9	33.0	34.3	36.2	38.8	45.2	49.1	51.0	52.0	51.6	51.4	50.9	49.8	48.1	S	38.8	37.4	37.0	32.9	52.0	42.6						
Apr 22	35.3	36.8	36.6	34.3	31.1	29.7	29.9	30.4	32.0	34.3	36.9	39.1	40.7	41.4	41.7	42.4	43.3	43.8	44.2	S	43.6	43.5	42.5	41.8	29.7	44.2	38.1						
Apr 23	40.9	40.0	38.1	37.4	36.7	35.4	36.1	37.1	38.3	40.9	44.5	44.8	45.3	45.1	46.1	47.7	47.4	47.0	S	45.1	44.3	43.6	43.1	43.3	35.4	47.7	42.1						
Apr 24	43.5	42.8	41.9	40.7	39.8	38.6	37.9	37.6	39.7	44.3	45.4	47.2	47.5	48.0	48.4	48.4	48.5	S	46.8	46.8	47.3	48.0	48.3	49.0	37.6	49.0	44.6						
Apr 25	48.8	49.1	49.3	48.5	48.1	47.9	46.7	45.0	45.2	48.1	49.0	48.6	48.9	48.9	49.2	49.3	S	49.6	49.2	47.2	47.7	49.1	50.0	49.0	45.0	50.0	48.4						
Apr 26	44.4	43.2	42.5	41.5	38.5	35.2	33.5	33.5	35.0	41.7	48.0	50.3	48.3	49.5	51.2	S	53.3	53.0	52.7	51.4	48.1	43.0	40.5	39.1	33.5	53.3	44.2						
Apr 27	36.0	36.1	35.5	29.4	27.1	27.4	27.6	27.6	28.3	28.9	29.8	30.6	30.5	30.5	S	30.6	31.5	32.7	32.0	31.9	31.0	29.2	27.2	25.9	25.9	36.1	30.3						
Apr 28	23.2	24.3	24.7	24.9	26.3	26.1	26.0	26.9	30.1	30.9	31.7	32.0	32.5	S	33.1	33.0	33.4	34.3	33.8	32.7	30.2	30.5	29.5	30.3	23.2	34.3	29.6						
Apr 29	30.3	31.3	31.6	31.1	29.4	28.0	23.1	27.2	28.9	30.9	32.1	33.3	S	34.9	35.6	36.6	38.0	38.6	38.1	37.1	35.6	34.6	35.1	34.9	23.1	38.6	32.9						
Apr 30	34.2	33.6	33.0	31.4	30.0	28.5	26.7	25.2	27.6	34.1	39.9	S	48.0	48.7	49.6	50.8	51.1	49.5	47.7	47.7	48.6	47.6	45.7	44.9	25.2	51.1	40.2						
Diurnal Maximum	53.8	52.7	49.8	48.5	50.0	54.1	49.7	48.7	51.2	51.4	52.3	50.9	51.8	52.5	52.9	54.2	54.4	54.7	53.5	54.4	54.7	53.1	52.5	52.5									
Diurnal Average	41.6	40.6	39.6	38.2	37.0	36.3	36.0	35.7	37.0	39.2	41.3	42.4	44.0	45.2	46.1	45.6	46.5	46.6	45.9	45.4	44.6	43.3	42.6	42.4									
C	Monthly Calibration										S	Daily Zero-Span Check										Q	Quality Assurance										
K	Collection Error										N	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)																					

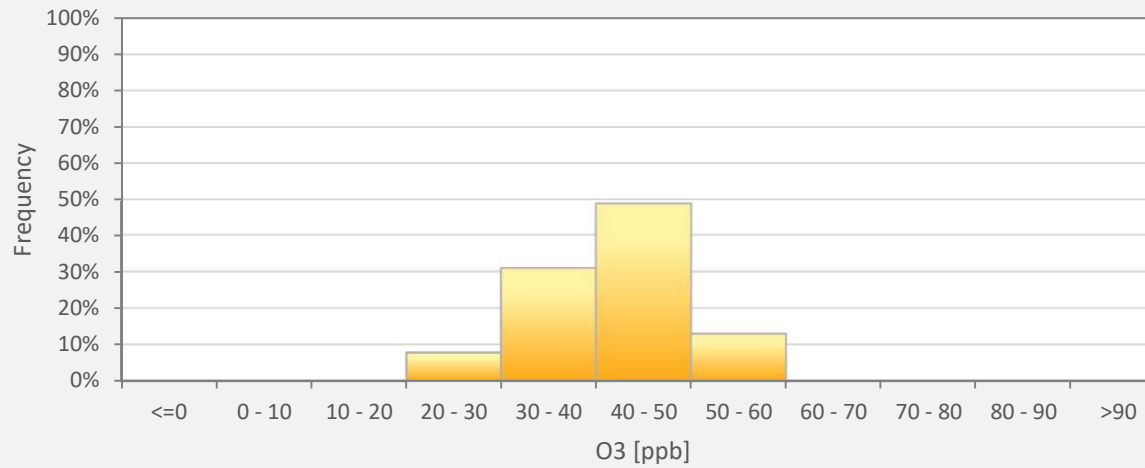
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

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

Timeseries Chart of Hourly Average for O3 - St. Lina Site



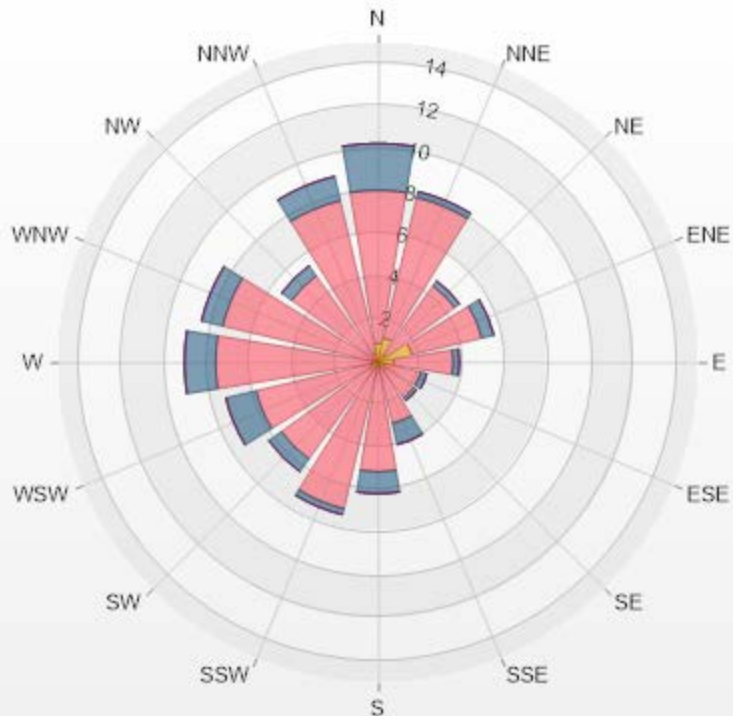
O3[ppb] Histogram: St. Lina Monthly: 04-2021 1 Hr.



Classes	O3
<=0	0.00%
0 - 10	0.00%
10 - 20	0.00%
20 - 30	7.75%
30 - 40	30.85%
40 - 50	48.54%
50 - 60	12.87%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: St. Lina Poll.: St. Lina-O3[ppb] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 95.00% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	0.88	7.16	2.19	0	0	10.23
NNE	1.17	6.73	0.29	0	0	8.19
NE	0.44	3.95	0.29	0	0	4.68
ENE	1.61	3.36	0.58	0	0	5.55
E	0.73	2.78	0.29	0	0	3.8
ESE	0.29	1.75	0.29	0	0	2.33
SE	0.44	1.61	0.15	0	0	2.2
SSE	0.15	2.78	1.02	0	0	3.95
S	0.15	4.97	1.02	0	0	6.14
SSW	0.29	6.73	0.29	0	0	7.31
SW	0.44	5.12	0.73	0	0	6.29
WSW	0.29	5.56	1.46	0	0	7.31
W	0.29	7.31	1.46	0	0	9.06
WNW	0	7.46	1.02	0	0	8.48
NW	0.15	4.82	0.58	0	0	5.55
NNW	0.44	7.31	1.17	0	0	8.92
Summary	7.76	79.4	12.83	0	0	100



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% Icon Classes (ppb)

8 0-30

79 30-50

13 50-76

0 76-159

0 >159.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - April 2021

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

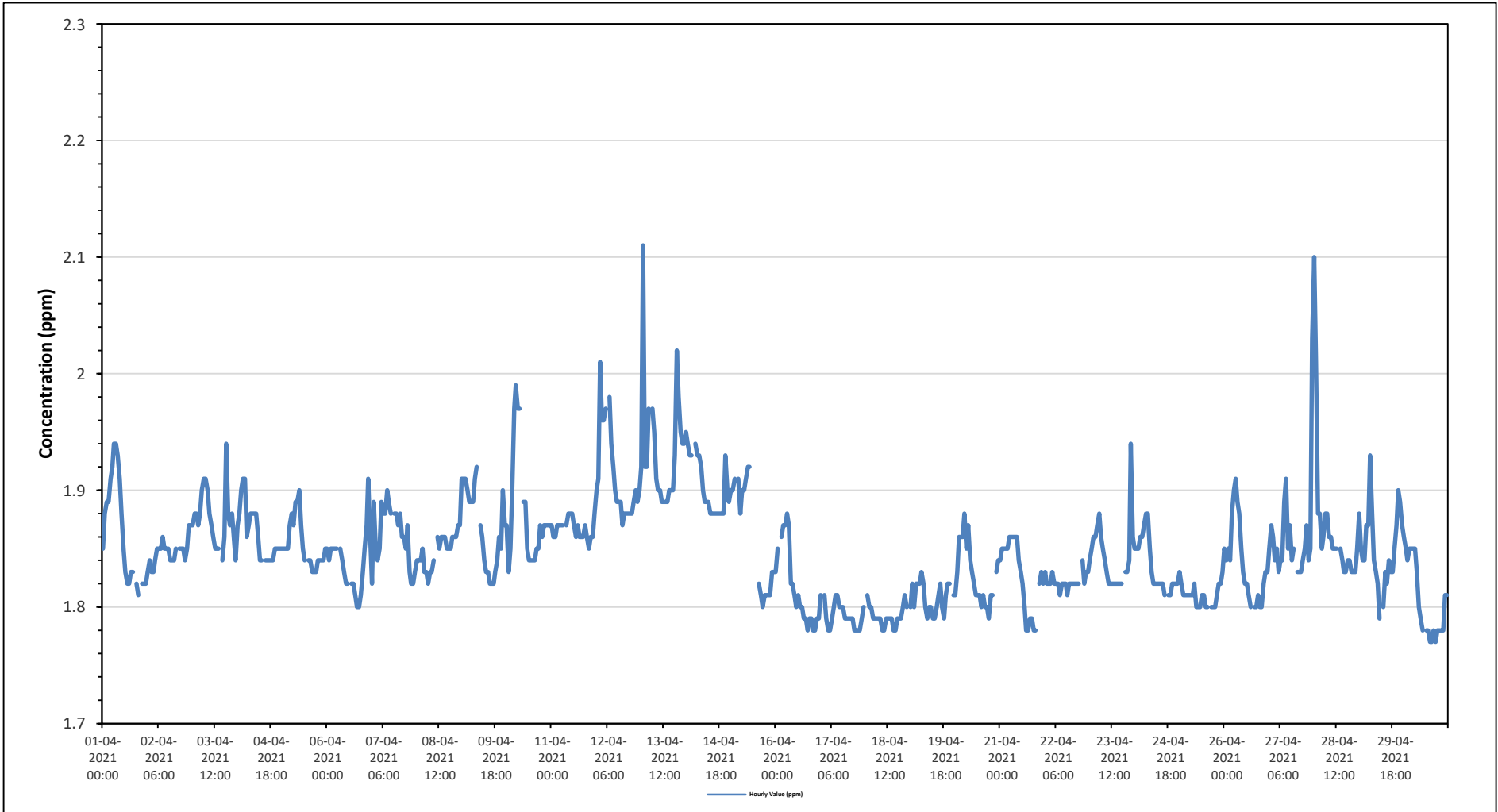
Maximum Hourly Value: 2.11 ppm on April 13 at hour 1	Hours in Service: 720
Maximum Daily Value: 1.93 ppm on April 13	Hours of Data: 683
Minimum Hourly Value: 1.77 ppm on April 30 at hour 14	Hours of Missing Data: 2
Minimum Daily Value: 1.79 ppm on April 18	Hours of Calibration: 35
Monthly Average: 1.85 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	1.85	1.88	1.89	1.89	1.91	1.92	1.94	1.94	1.93	1.91	1.88	1.85	1.83	1.82	1.82	1.83	1.83	S	1.82	1.81	NRM	1.82	1.82	1.82	1.81	1.94	1.86
Apr 2	1.83	1.84	1.83	1.83	1.84	1.85	1.85	1.85	1.86	1.85	1.85	1.85	1.84	1.84	1.84	1.85	S	1.85	1.85	1.85	1.84	1.85	1.87	1.87	1.83	1.87	1.85
Apr 3	1.87	1.88	1.88	1.87	1.88	1.90	1.91	1.91	1.90	1.88	1.87	1.86	1.85	1.85	S	1.84	1.86	1.94	1.88	1.87	1.88	1.86	1.84	1.84	1.84	1.94	1.88
Apr 4	1.87	1.88	1.90	1.91	1.91	1.86	1.87	1.88	1.88	1.88	1.88	1.86	1.84	1.84	S	1.84	1.84	1.84	1.84	1.84	1.85	1.85	1.85	1.85	1.84	1.91	1.86
Apr 5	1.85	1.85	1.85	1.85	1.87	1.88	1.87	1.89	1.89	1.90	1.87	1.85	1.84	S	1.84	1.84	1.83	1.83	1.83	1.84	1.84	1.84	1.84	1.85	1.83	1.90	1.85
Apr 6	1.85	1.84	1.85	1.85	1.85	1.85	NRM	1.85	1.84	1.83	1.82	1.82	S	1.82	1.82	1.81	1.80	1.80	1.81	1.83	1.85	1.87	1.91	1.86	1.80	1.91	1.84
Apr 7	1.82	1.89	1.85	1.84	1.85	1.89	1.88	1.88	1.90	1.89	1.88	S	1.88	1.88	1.87	1.88	1.86	1.86	1.85	1.87	1.83	1.82	1.82	1.83	1.82	1.90	1.86
Apr 8	1.84	1.84	1.84	1.85	1.83	1.83	1.82	1.83	1.83	1.84	S	1.86	1.85	1.86	1.86	1.86	1.85	1.85	1.85	1.86	1.86	1.86	1.87	1.87	1.82	1.87	1.85
Apr 9	1.91	1.91	1.91	1.90	1.89	1.89	1.89	1.91	1.92	S	1.87	1.86	1.84	1.83	1.83	1.82	1.82	1.82	1.83	1.84	1.86	1.85	1.90	1.87	1.82	1.92	1.87
Apr 10	1.87	1.83	1.85	1.90	1.97	1.99	1.97	S	1.89	1.89	1.85	1.84	1.84	1.84	1.84	1.85	1.85	1.87	1.86	1.87	1.87	1.87	1.87	1.83	1.99	1.88	
Apr 11	1.87	1.86	1.86	1.87	1.87	1.87	1.87	S	1.87	1.88	1.88	1.88	1.87	1.86	1.87	1.86	1.86	1.86	1.87	1.86	1.85	1.86	1.86	1.88	1.85	1.88	1.87
Apr 12	1.90	1.91	2.01	1.96	1.96	1.97	S	1.98	1.94	1.92	1.90	1.89	1.89	1.89	1.87	1.88	1.88	1.88	1.88	1.88	1.89	1.90	1.89	1.90	1.87	2.01	1.91
Apr 13	1.92	2.11	1.92	1.92	1.97	S	1.97	1.95	1.91	1.90	1.90	1.89	1.89	1.89	1.89	1.90	1.90	1.90	1.93	2.02	1.98	1.95	1.94	1.94	1.89	2.11	1.93
Apr 14	1.95	1.94	1.93	1.93	S	1.94	1.93	1.93	1.92	1.90	1.89	1.89	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.93	1.90	1.89	1.88	1.95	1.90
Apr 15	1.90	1.90	1.91	S	1.91	1.88	1.90	1.90	1.91	1.92	1.92	C	C	C	C	1.82	1.81	1.80	1.81	1.81	1.81	1.81	1.83	1.83	1.80	1.92	1.86
Apr 16	1.83	1.85	S	1.86	1.87	1.87	1.88	1.87	1.82	1.82	1.81	1.80	1.81	1.80	1.80	1.79	1.79	1.78	1.79	1.79	1.78	1.78	1.79	1.79	1.78	1.88	1.82
Apr 17	1.81	S	1.81	1.79	1.78	1.78	1.79	1.80	1.81	1.81	1.80	1.80	1.80	1.79	1.79	1.79	1.79	1.79	1.78	1.78	1.78	1.78	1.79	1.80	1.78	1.81	1.79
Apr 18	S	1.81	1.80	1.80	1.79	1.79	1.79	1.79	1.79	1.78	1.78	1.79	1.79	1.79	1.79	1.78	1.78	1.79	1.79	1.80	1.81	1.80	S	1.78	1.81	1.79	
Apr 19	1.80	1.82	1.80	1.82	1.82	1.82	1.83	1.82	1.80	1.79	1.80	1.80	1.79	1.79	1.80	1.81	1.82	1.80	1.79	1.78	1.81	1.82	1.82	S	1.79	1.83	1.81
Apr 20	1.81	1.83	1.86	1.86	1.86	1.88	1.85	1.87	1.84	1.83	1.82	1.81	1.81	1.81	1.80	1.81	1.80	1.80	1.79	1.81	1.81	S	1.83	1.84	1.79	1.88	1.83
Apr 21	1.84	1.85	1.85	1.85	1.85	1.86	1.86	1.86	1.86	1.86	1.84	1.83	1.82	1.80	1.78	1.78	1.79	1.79	1.78	1.78	1.78	S	1.82	1.83	1.78	1.86	1.83
Apr 22	1.83	1.82	1.82	1.82	1.83	1.82	1.82	1.82	1.81	1.82	1.82	1.82	1.81	1.82	1.82	1.82	1.82	1.82	1.82	1.82	S	1.84	1.82	1.83	1.83	1.81	1.84
Apr 23	1.84	1.85	1.86	1.86	1.87	1.88	1.86	1.85	1.84	1.83	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	S	1.83	1.83	1.84	1.94	1.82	1.84	
Apr 24	1.85	1.85	1.85	1.86	1.86	1.87	1.88	1.88	1.85	1.83	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.81	S	1.81	1.81	1.82	1.82	1.82	1.81	1.88	1.84
Apr 25	1.83	1.82	1.81	1.81	1.81	1.81	1.81	1.81	1.82	1.80	1.80	1.80	1.81	1.81	1.80	1.80	S	1.80	1.80	1.80	1.81	1.82	1.82	1.83	1.80	1.83	1.81
Apr 26	1.85	1.84	1.85	1.84	1.88	1.90	1.91	1.89	1.88	1.85	1.83	1.82	1.82	1.81	1.80	S	1.80	1.80	1.81	1.80	1.80	1.82	1.83	1.83	1.80	1.91	1.84
Apr 27	1.85	1.87	1.86	1.84	1.85	1.83	1.84	1.84	1.89	1.91	1.85	1.87	1.84	1.85	S	1.83	1.83	1.83	1.84	1.85	1.87	1.84	1.85	2.03	1.83	2.03	1.86
Apr 28	2.10	2.01	1.88	1.88	1.85	1.86	1.88	1.88	1.86	1.86	1.85	1.85	1.85	S	1.85	1.84	1.83	1.83	1.84	1.84	1.83	1.83	1.83	1.85	1.83	2.10	1.87
Apr 29	1.88	1.85	1.84	1.84	1.87	1.87	1.93	1.88	1.84	1.83	1.82	1.79	S	1.80	1.83	1.82	1.84	1.83	1.83	1.85	1.87	1.90	1.89	1.87	1.79	1.93	1.85
Apr 30	1.86	1.85	1.84	1.85	1.85	1.85	1.85	1.83	1.80	1.79	1.78	S	1.78	1.78	1.77	1.77	1.78	1.78	1.78	1.78	1.78	1.81	1.81	1.77	1.86	1.81	
Diurnal Maximum	2.10	2.11	2.01	1.96	1.97	1.99	1.97	1.98	1.94	1.92	1.92	1.89	1.89	1.89	1.89	1.90	1.90	1.90	1.94	2.02	1.98	1.95	1.94	2.03			
Diurnal Average	1.86	1.87	1.86	1.86	1.87	1.87	1.87	1.87	1.86	1.86	1.85	1.84	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.84	1.84	1.84	1.85	1.85			

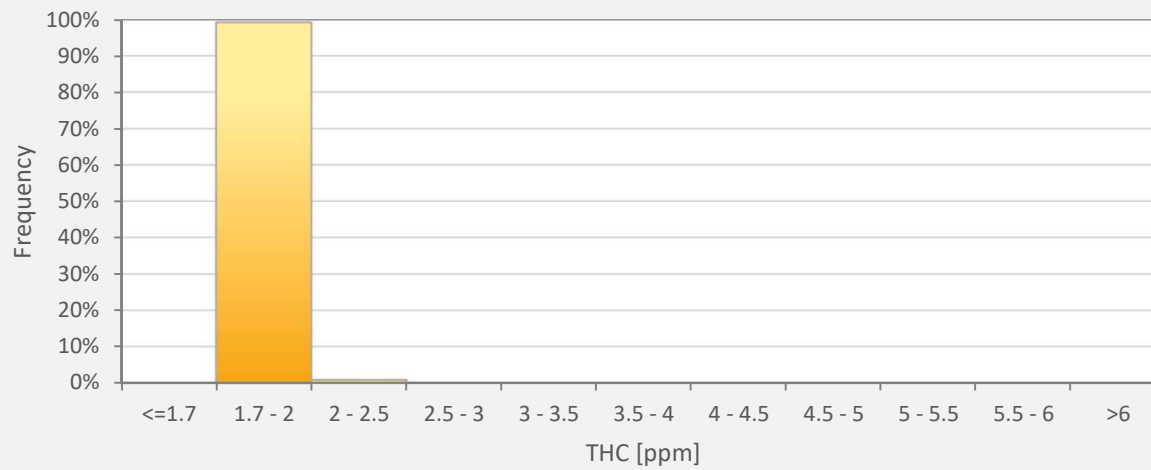
C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N No Data (Machine Not in Service)	Y Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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.

Timeseries Chart of Hourly Average for THC - St. Lina Site



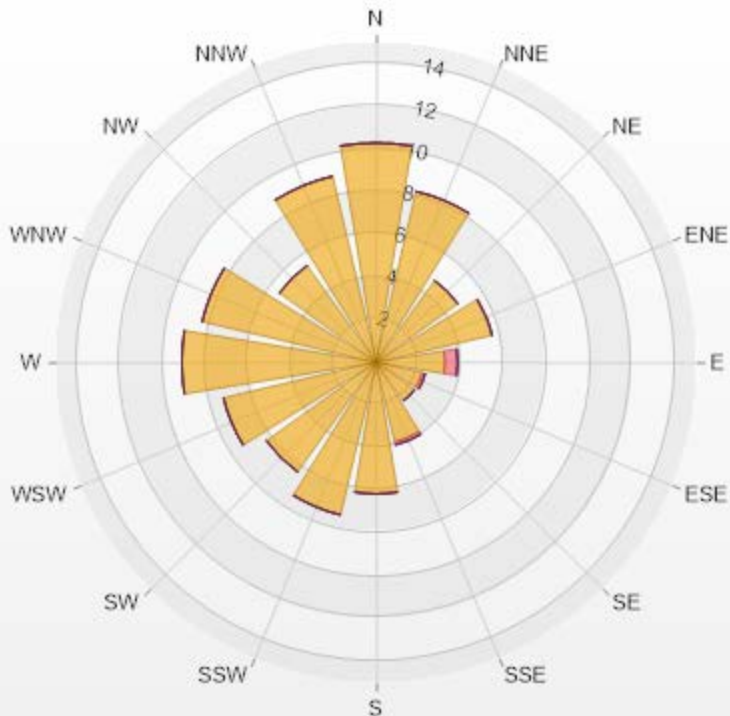
THC55[ppm] Histogram: St. Lina Monthly: 04-2021 1 Hr.



Classes	THC55
<=1.7	0.00%
1.7 - 2	99.12%
2 - 2.5	0.88%
2.5 - 3	0.00%
3 - 3.5	0.00%
3.5 - 4	0.00%
4 - 4.5	0.00%
4.5 - 5	0.00%
5 - 5.5	0.00%
5.5 - 6	0.00%
>6	0.00%

Wind: St. Lina Poll.: St. Lina-THC55[ppm] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 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	10.25	0	0	0	0	10.25
NNE	8.2	0	0	0	0	8.2
NE	4.69	0	0	0	0	4.69
ENE	5.56	0	0	0	0	5.56
E	3.22	0.59	0	0	0	3.81
ESE	2.2	0.15	0	0	0	2.35
SE	2.2	0	0	0	0	2.2
SSE	3.81	0.15	0	0	0	3.96
S	6.15	0	0	0	0	6.15
SSW	7.32	0	0	0	0	7.32
SW	6.3	0	0	0	0	6.3
WSW	7.32	0	0	0	0	7.32
W	9.08	0	0	0	0	9.08
WNW	8.35	0	0	0	0	8.35
NW	5.56	0	0	0	0	5.56
NNW	8.93	0	0	0	0	8.93
Summary	99.14	0.89	0	0	0	100



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% Icon Classes (ppm)

99 0-2

1 2-5

0 5-10

0 10-40

0 >40.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - April 2021

Summary of Hourly Averages

METHANE (CH₄) in ppm

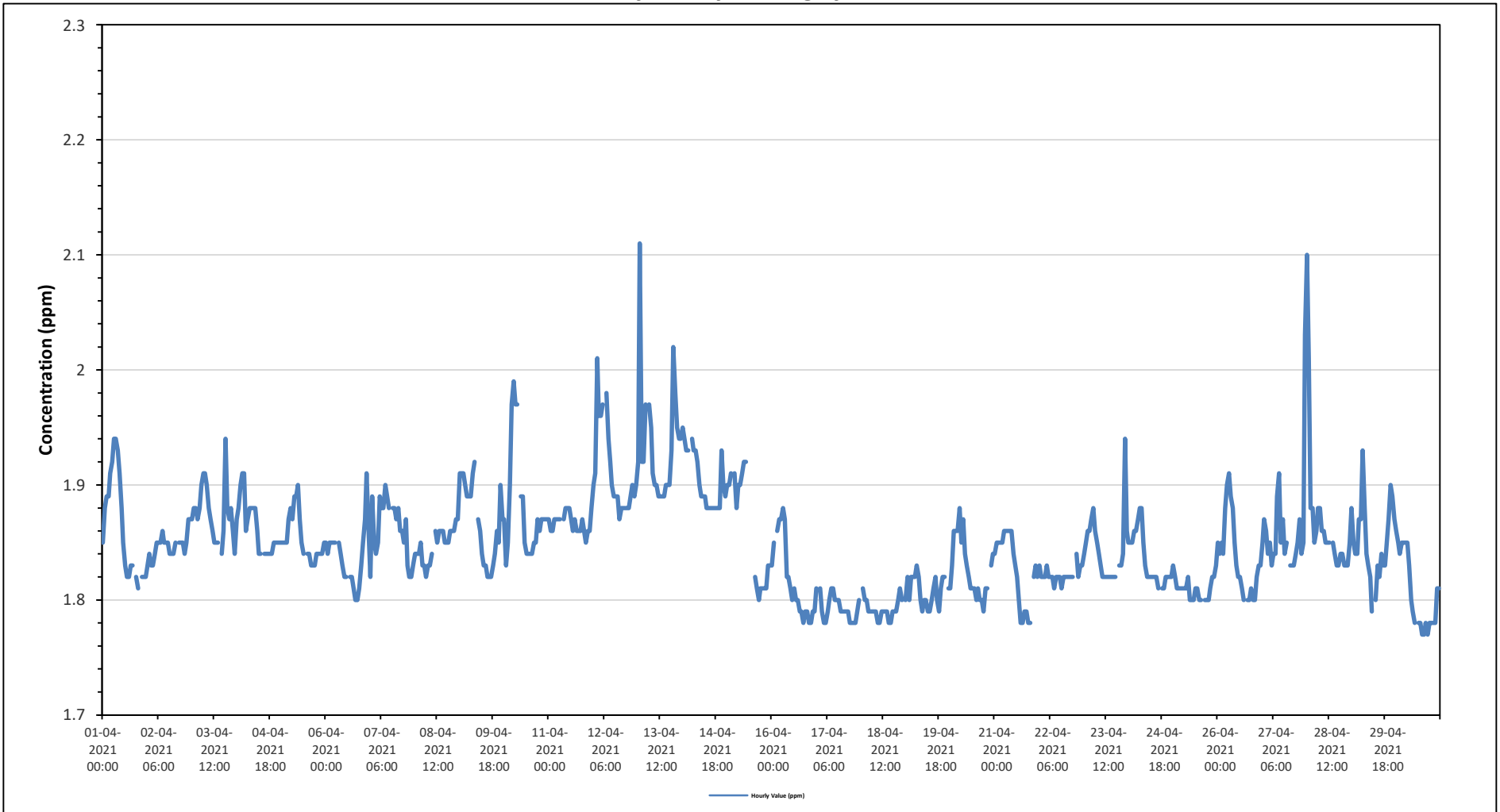
Maximum Hourly Value: 2.11 ppm on April 13 at hour 1	Hours in Service: 720
Maximum Daily Value: 1.93 ppm on April 13	Hours of Data: 683
Minimum Hourly Value: 1.77 ppm on April 30 at hour 14	Hours of Missing Data: 2
Minimum Daily Value: 1.79 ppm on April 18	Hours of Calibration: 35
Monthly Average: 1.85 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	1.85	1.88	1.89	1.89	1.91	1.92	1.94	1.94	1.93	1.91	1.88	1.85	1.83	1.82	1.82	1.83	1.83	S	1.82	1.81	NRM	1.82	1.82	1.82	1.81	1.94	1.86	
Apr 2	1.83	1.84	1.83	1.83	1.84	1.85	1.85	1.85	1.86	1.85	1.85	1.85	1.84	1.84	1.84	1.85	S	1.85	1.85	1.85	1.84	1.85	1.87	1.87	1.83	1.87	1.85	
Apr 3	1.87	1.88	1.88	1.87	1.88	1.90	1.91	1.91	1.90	1.88	1.87	1.86	1.85	1.85	1.85	S	1.84	1.86	1.94	1.88	1.87	1.88	1.86	1.84	1.84	1.94	1.88	
Apr 4	1.87	1.88	1.90	1.91	1.91	1.86	1.87	1.88	1.88	1.88	1.88	1.86	1.84	1.84	S	1.84	1.84	1.84	1.84	1.84	1.85	1.85	1.85	1.85	1.84	1.91	1.86	
Apr 5	1.85	1.85	1.85	1.85	1.87	1.88	1.87	1.89	1.89	1.90	1.87	1.85	1.84	S	1.84	1.84	1.83	1.83	1.83	1.84	1.84	1.84	1.84	1.85	1.83	1.90	1.85	
Apr 6	1.85	1.84	1.85	1.85	1.85	1.85	NRM	1.85	1.84	1.83	1.82	1.82	S	1.82	1.82	1.81	1.80	1.80	1.81	1.83	1.85	1.87	1.91	1.86	1.80	1.91	1.84	
Apr 7	1.82	1.89	1.85	1.84	1.85	1.89	1.88	1.88	1.90	1.89	1.88	S	1.88	1.88	1.87	1.88	1.86	1.86	1.85	1.87	1.83	1.82	1.82	1.83	1.82	1.90	1.86	
Apr 8	1.84	1.84	1.84	1.85	1.83	1.83	1.82	1.83	1.83	1.84	S	1.86	1.85	1.86	1.86	1.86	1.85	1.85	1.85	1.86	1.86	1.86	1.87	1.87	1.82	1.87	1.85	
Apr 9	1.91	1.91	1.91	1.90	1.89	1.89	1.89	1.91	1.92	S	1.87	1.86	1.84	1.83	1.83	1.82	1.82	1.82	1.83	1.84	1.86	1.85	1.90	1.87	1.82	1.92	1.87	
Apr 10	1.87	1.83	1.85	1.90	1.97	1.99	1.97	S	1.89	1.89	1.85	1.84	1.84	1.84	1.84	1.85	1.85	1.87	1.86	1.87	1.87	1.87	1.87	1.83	1.99	1.88		
Apr 11	1.87	1.86	1.86	1.87	1.87	1.87	1.87	S	1.87	1.88	1.88	1.88	1.87	1.86	1.87	1.86	1.86	1.86	1.87	1.86	1.85	1.86	1.86	1.88	1.85	1.88	1.87	
Apr 12	1.90	1.91	2.01	1.96	1.96	1.97	S	1.98	1.94	1.92	1.90	1.89	1.89	1.89	1.87	1.88	1.88	1.88	1.88	1.88	1.89	1.90	1.89	1.90	1.87	2.01	1.91	
Apr 13	1.92	2.11	1.92	1.92	1.97	S	1.97	1.95	1.91	1.90	1.90	1.89	1.89	1.89	1.89	1.90	1.90	1.90	1.93	2.02	1.98	1.95	1.94	1.94	1.89	2.11	1.93	
Apr 14	1.95	1.94	1.93	1.93	S	1.94	1.93	1.93	1.92	1.90	1.89	1.89	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.93	1.90	1.89	1.88	1.95	1.90	
Apr 15	1.90	1.90	1.91	S	1.91	1.88	1.90	1.90	1.91	1.92	1.92	C	C	C	C	1.82	1.81	1.80	1.81	1.81	1.81	1.81	1.83	1.83	1.80	1.92	1.86	
Apr 16	1.83	1.85	S	1.86	1.87	1.87	1.88	1.87	1.82	1.82	1.81	1.80	1.81	1.80	1.80	1.79	1.79	1.78	1.79	1.79	1.78	1.78	1.79	1.79	1.78	1.88	1.82	
Apr 17	1.81	S	1.81	1.79	1.78	1.78	1.79	1.80	1.81	1.81	1.80	1.80	1.80	1.79	1.79	1.79	1.79	1.79	1.78	1.78	1.78	1.78	1.79	1.80	1.78	1.81	1.79	
Apr 18	S	1.81	1.80	1.80	1.79	1.79	1.79	1.79	1.79	1.78	1.78	1.79	1.79	1.79	1.79	1.78	1.78	1.79	1.79	1.80	1.81	1.80	S	1.78	1.81	1.79		
Apr 19	1.80	1.82	1.80	1.82	1.82	1.82	1.83	1.82	1.80	1.79	1.80	1.80	1.79	1.79	1.80	1.81	1.82	1.80	1.79	1.78	1.81	1.82	1.82	S	1.79	1.83	1.81	
Apr 20	1.81	1.83	1.86	1.86	1.86	1.88	1.85	1.87	1.84	1.83	1.82	1.81	1.81	1.81	1.80	1.81	1.80	1.80	1.79	1.81	1.81	S	1.83	1.84	1.79	1.88	1.83	
Apr 21	1.84	1.85	1.85	1.85	1.85	1.86	1.86	1.86	1.86	1.86	1.84	1.83	1.82	1.80	1.78	1.78	1.79	1.79	1.78	1.79	1.81	S	1.82	1.83	1.78	1.86	1.83	
Apr 22	1.83	1.82	1.82	1.82	1.83	1.82	1.82	1.82	1.81	1.82	1.82	1.82	1.81	1.82	1.82	1.82	1.82	1.82	1.82	1.82	S	1.84	1.82	1.83	1.83	1.81	1.84	1.82
Apr 23	1.84	1.85	1.86	1.86	1.87	1.88	1.86	1.85	1.84	1.83	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	S	1.83	1.83	1.84	1.94	1.86	1.82	1.84	
Apr 24	1.85	1.85	1.85	1.86	1.86	1.87	1.88	1.88	1.85	1.83	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.81	S	1.81	1.81	1.82	1.82	1.82	1.81	1.88	1.84	
Apr 25	1.83	1.82	1.81	1.81	1.81	1.81	1.81	1.81	1.82	1.80	1.80	1.80	1.81	1.81	1.80	1.80	S	1.80	1.80	1.80	1.81	1.82	1.82	1.83	1.80	1.83	1.81	
Apr 26	1.85	1.84	1.85	1.84	1.88	1.90	1.91	1.89	1.88	1.85	1.83	1.82	1.82	1.81	1.80	S	1.80	1.80	1.81	1.80	1.80	1.82	1.83	1.83	1.80	1.91	1.84	
Apr 27	1.85	1.87	1.86	1.84	1.85	1.83	1.84	1.84	1.89	1.91	1.85	1.87	1.84	1.85	S	1.83	1.83	1.83	1.84	1.85	1.87	1.84	1.85	2.03	1.83	2.03	1.86	
Apr 28	2.10	2.01	1.88	1.88	1.85	1.86	1.88	1.88	1.86	1.86	1.85	1.85	1.85	S	1.85	1.84	1.83	1.83	1.84	1.84	1.83	1.83	1.83	1.85	1.83	2.10	1.87	
Apr 29	1.88	1.85	1.84	1.84	1.87	1.87	1.93	1.88	1.84	1.83	1.82	1.79	S	1.80	1.83	1.82	1.84	1.83	1.83	1.85	1.87	1.90	1.89	1.87	1.79	1.93	1.85	
Apr 30	1.86	1.85	1.84	1.85	1.85	1.85	1.85	1.83	1.80	1.79	1.78	S	1.78	1.78	1.77	1.77	1.78	1.78	1.78	1.78	1.78	1.81	1.81	1.77	1.86	1.81	1.81	
Diurnal Maximum	2.10	2.11	2.01	1.96	1.97	1.99	1.97	1.98	1.94	1.92	1.92	1.89	1.89	1.89	1.89	1.90	1.90	1.90	1.94	2.02	1.98	1.95	1.94	2.03				
Diurnal Average	1.86	1.87	1.86	1.86	1.87	1.87	1.87	1.87	1.86	1.86	1.85	1.84	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.84	1.84	1.84	1.85	1.85				

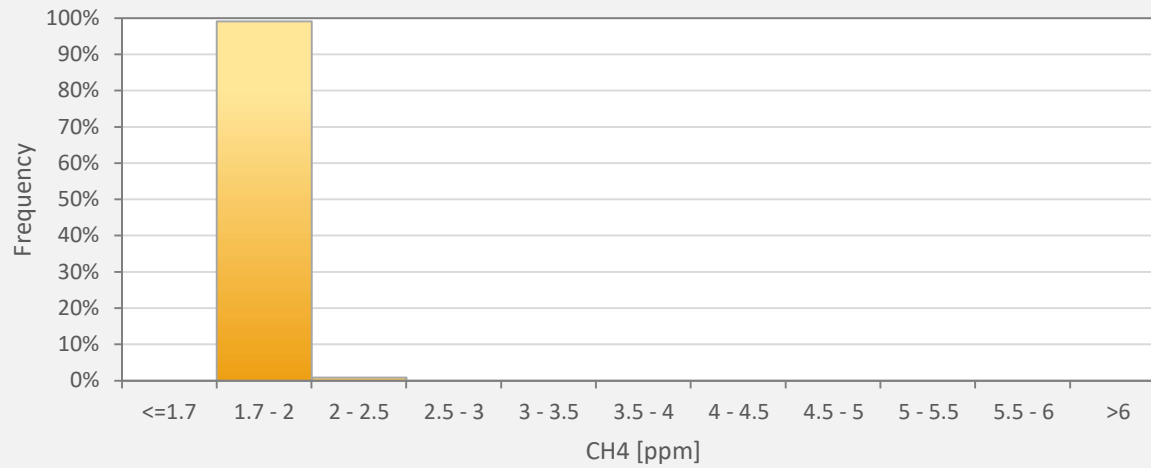
C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N No Data (Machine Not in Service)	Y Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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.

Timeseries Chart of Hourly Average for CH4 - St. Lina Site



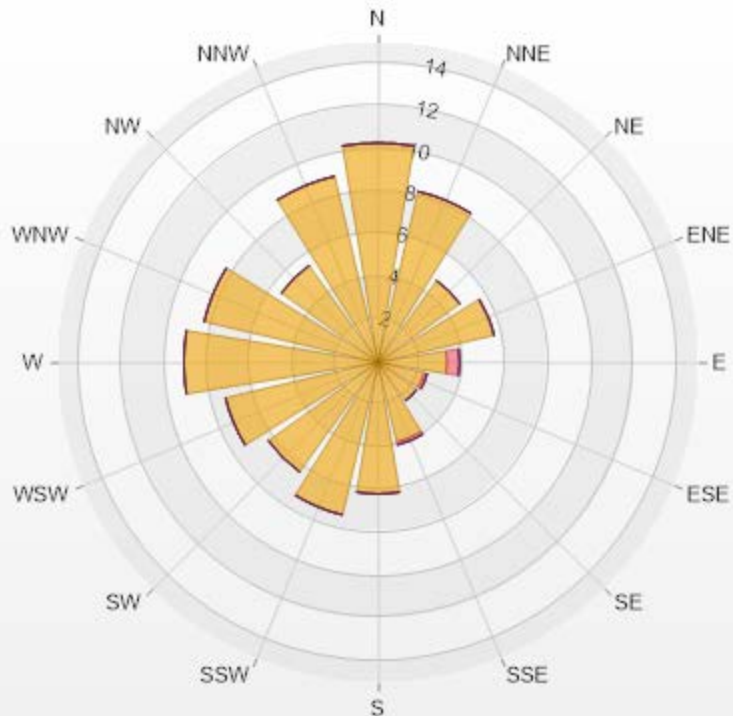
CH4[ppm] Histogram: St. Lina Monthly: 04-2021 1 Hr.



Classes	CH4
<=1.7	0.00%
1.7 - 2	99.12%
2 - 2.5	0.88%
2.5 - 3	0.00%
3 - 3.5	0.00%
3.5 - 4	0.00%
4 - 4.5	0.00%
4.5 - 5	0.00%
5 - 5.5	0.00%
5.5 - 6	0.00%
>6	0.00%

Wind: St. Lina Poll.: St. Lina-CH4[ppm] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 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	10.25	0	0	0	0	10.25
NNE	8.2	0	0	0	0	8.2
NE	4.69	0	0	0	0	4.69
ENE	5.56	0	0	0	0	5.56
E	3.22	0.59	0	0	0	3.81
ESE	2.2	0.15	0	0	0	2.35
SE	2.2	0	0	0	0	2.2
SSE	3.81	0.15	0	0	0	3.96
S	6.15	0	0	0	0	6.15
SSW	7.32	0	0	0	0	7.32
SW	6.3	0	0	0	0	6.3
WSW	7.32	0	0	0	0	7.32
W	9.08	0	0	0	0	9.08
WNW	8.35	0	0	0	0	8.35
NW	5.56	0	0	0	0	5.56
NNW	8.93	0	0	0	0	8.93
Summary	99.14	0.89	0	0	0	100



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% Icon Classes (ppm)

99 0-2

1 2-5

0 5-10

0 10-20

0 >20.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - April 2021

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

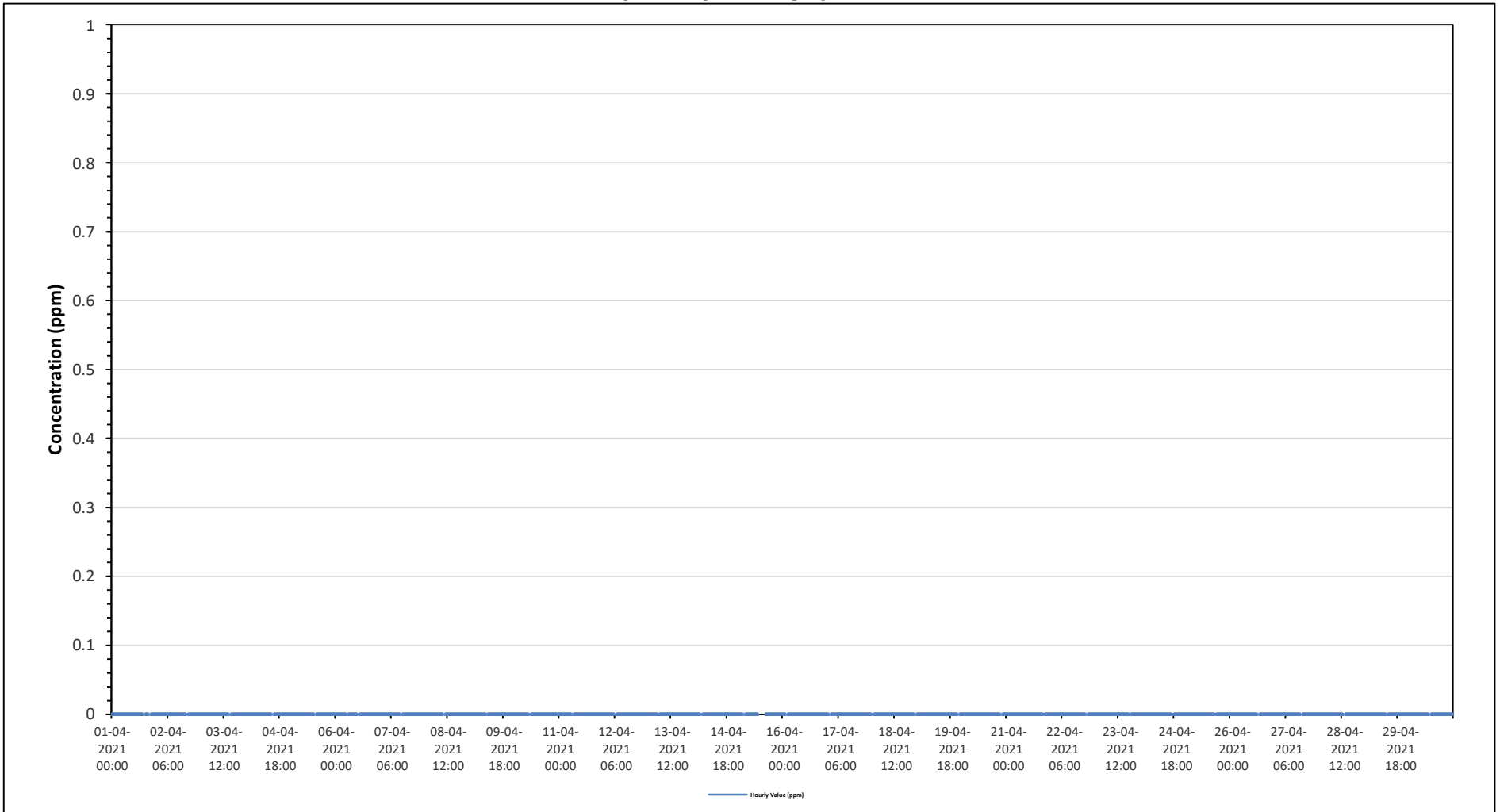
Maximum Hourly Value:	0.00 ppm on April 1 at hour 0	Hours in Service:	720
Maximum Daily Value:	0.00 ppm on April 1	Hours of Data:	683
Minimum Hourly Value:	0.00 ppm on April 1 at hour 0	Hours of Missing Data:	2
Minimum Daily Value:	0.00 ppm on April 1	Hours of Calibration:	35
Monthly Average:	0.00 ppm	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	S	0.00	0.00	NRM	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	S	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
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	S	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	S	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	S	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	S	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	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 9	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 10	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 11	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 12	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 13	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 14	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 15	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	C	C	C	C	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	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 17	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 18	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	S	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	S	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	S	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	S	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	S	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	S	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	S	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	S	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	S	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	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 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
Apr 29	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 30	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
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	0.00	0.00	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

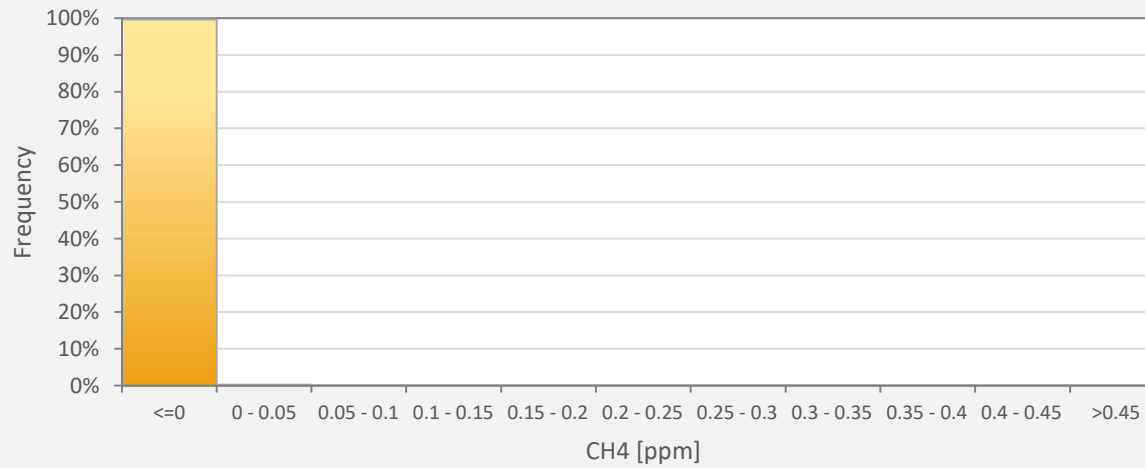
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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.

Timeseries Chart of Hourly Average for NMHC - St. Lina Site



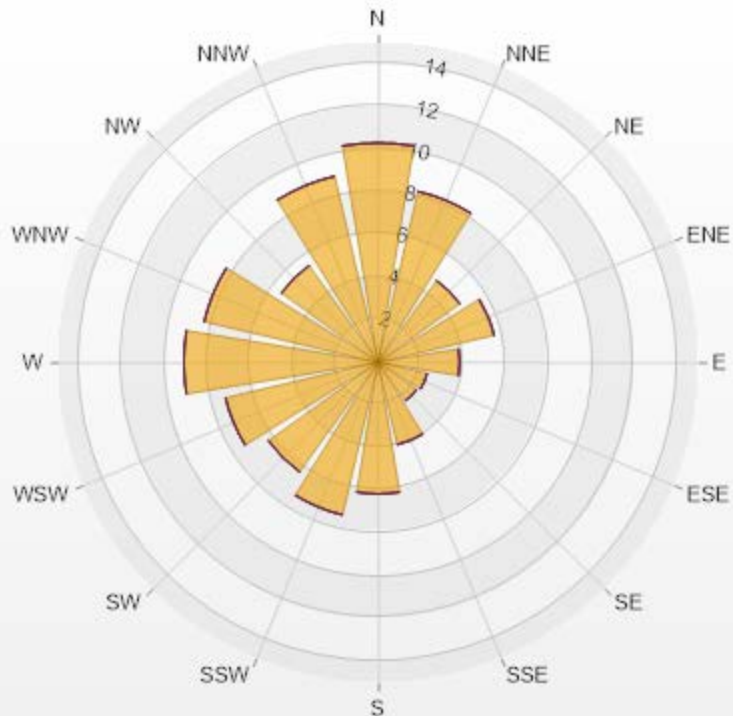
NMHC[ppm] Histogram: St. Lina Monthly: 04-2021 1 Hr.



Classes	NMHC
<=0	99.71%
0 - 0.05	0.29%
0.05 - 0.1	0.00%
0.1 - 0.15	0.00%
0.15 - 0.2	0.00%
0.2 - 0.25	0.00%
0.25 - 0.3	0.00%
0.3 - 0.35	0.00%
0.35 - 0.4	0.00%
0.4 - 0.45	0.00%
>0.45	0.00%

Wind: St. Lina Poll.: St. Lina-NMHC[ppm] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.86% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-0.9	0.9-2	>2.0	Total
N	10.25	0	0	0	0	10.25
NNE	8.2	0	0	0	0	8.2
NE	4.69	0	0	0	0	4.69
ENE	5.56	0	0	0	0	5.56
E	3.81	0	0	0	0	3.81
ESE	2.34	0	0	0	0	2.34
SE	2.2	0	0	0	0	2.2
SSE	3.95	0	0	0	0	3.95
S	6.15	0	0	0	0	6.15
SSW	7.32	0	0	0	0	7.32
SW	6.3	0	0	0	0	6.3
WSW	7.32	0	0	0	0	7.32
W	9.08	0	0	0	0	9.08
WNW	8.35	0	0	0	0	8.35
NW	5.56	0	0	0	0	5.56
NNW	8.93	0	0	0	0	8.93
Summary	100	0	0	0	0	100




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% Icon Classes (ppm)

100  0-0.1

0  0.1-0.3

0  0.3-0.9

0  0.9-2

0  >2.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - April 2021

Summary of Hourly Averages

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

Alberta Ambient Air Quality Guidelines (AAAQG): 1-Hour 80 µg/m³, Alberta Ambient Air Quality Objectives (AAAO): 24-Hour 29 µg/m³
 Number of 1-Hour Exceedences: 0 Number of 24-Hour Exceedences: 0

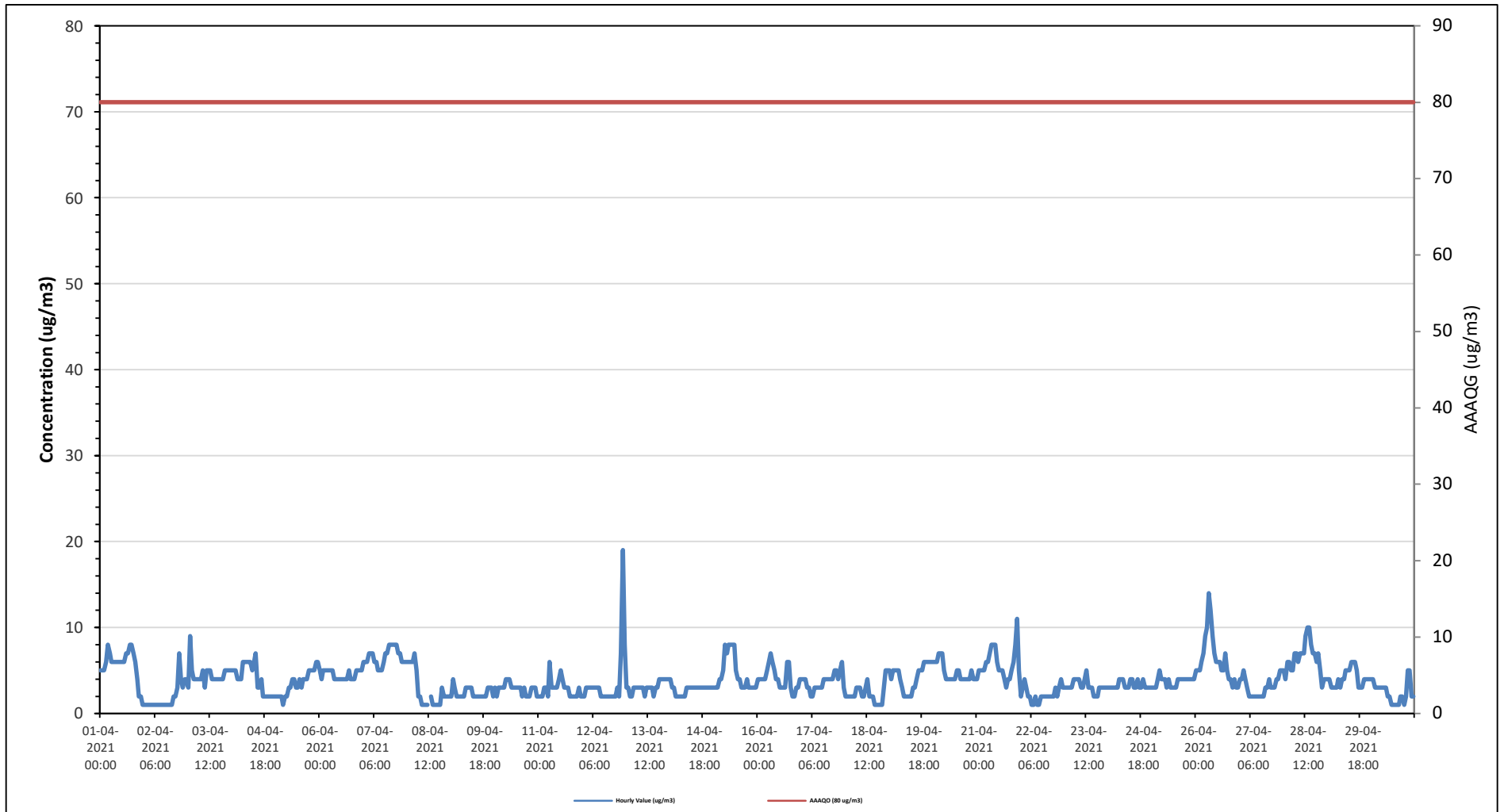
Maximum Hourly Value:	19 µg/m ³ on April 12 at hour 22	Hours in Service:	720
Maximum Daily Value:	6.6 µg/m ³ on April 7	Hours of Data:	719
Minimum Hourly Value:	1 µg/m ³ on April 1 at hour 23	Hours of Missing Data:	0
Minimum Daily Value:	2 µg/m ³ on April 2	Hours of Calibration:	1
Monthly Average:	3.8 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	5	5	5	6	8	7	6	6	6	6	6	6	6	7	7	8	8	7	6	4	2	2	1	1	8	5.7	
Apr 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	3	7	4	3	4	4	4	1	7	1.9
Apr 3	3	9	5	4	4	4	4	4	5	3	5	5	5	4	4	4	4	4	4	5	5	5	5	3	9	4.5	
Apr 4	5	5	5	4	4	4	6	6	6	6	6	5	6	7	3	3	4	2	2	2	2	2	2	2	7	4.1	
Apr 5	2	2	2	2	1	2	2	3	3	4	4	3	3	4	3	4	4	4	5	5	5	6	6	1	6	3.5	
Apr 6	5	4	5	5	5	5	5	5	4	4	4	4	4	4	4	5	4	4	4	5	5	5	5	4	5	4.5	
Apr 7	6	6	6	7	7	7	6	6	5	5	5	6	7	8	8	8	8	8	7	7	6	6	6	5	8	6.6	
Apr 8	6	6	6	6	7	5	2	2	1	1	1	1	C	2	1	1	1	1	1	3	2	2	2	1	7	2.7	
Apr 9	2	4	3	2	2	2	2	2	3	3	3	3	2	2	2	2	2	2	2	2	3	3	2	2	4	2.4	
Apr 10	3	2	3	3	3	3	4	4	4	3	3	3	3	3	2	3	2	2	2	2	3	3	2	2	4	2.9	
Apr 11	2	2	2	3	3	2	6	3	3	3	3	4	5	4	3	3	3	2	2	2	2	2	2	2	6	2.9	
Apr 12	2	2	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	3	2	7	19	8	2	19	3.5	
Apr 13	3	3	2	2	3	3	3	3	3	3	2	3	3	3	2	3	3	4	4	4	4	4	4	2	4	3.1	
Apr 14	4	3	3	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	4	2.8	
Apr 15	3	3	3	4	4	5	8	7	8	8	8	5	4	4	3	3	3	4	3	3	3	3	3	3	8	4.6	
Apr 16	4	4	4	4	4	5	6	7	6	5	4	4	3	3	3	6	6	3	2	2	3	3	4	2	7	4.1	
Apr 17	4	4	4	3	3	2	2	3	3	3	3	3	4	4	4	4	4	5	5	4	5	6	3	2	6	3.7	
Apr 18	2	2	2	2	2	2	3	3	3	2	2	3	4	2	2	1	1	1	1	1	3	5	5	1	5	2.3	
Apr 19	5	4	5	5	5	5	4	3	2	2	2	2	3	3	4	5	5	5	6	6	6	6	6	2	6	4.2	
Apr 20	6	6	6	7	7	7	5	4	4	4	4	4	4	5	5	4	4	4	4	4	5	4	4	4	7	4.8	
Apr 21	4	5	5	5	5	6	6	7	8	8	8	6	5	5	5	4	3	4	4	5	6	8	11	5	11	5.8	
Apr 22	2	3	4	3	2	2	1	1	2	1	1	2	2	2	2	2	2	2	2	3	2	3	4	3	1	4	2.2
Apr 23	3	3	3	3	3	4	4	4	4	3	3	4	5	3	3	2	2	2	2	3	3	3	3	2	5	3.2	
Apr 24	3	3	3	3	3	3	4	4	4	3	3	3	4	4	3	3	4	3	3	4	3	3	3	3	3	4	3.3
Apr 25	3	3	3	4	5	4	4	4	3	4	3	3	3	3	4	4	4	4	4	4	4	4	4	3	5	3.7	
Apr 26	5	5	5	6	7	9	10	14	12	9	7	6	6	6	5	5	7	5	4	4	3	4	3	3	14	6.3	
Apr 27	4	4	5	4	3	2	2	2	2	2	2	2	2	2	3	3	4	3	3	4	4	5	5	2	5	3.1	
Apr 28	5	4	6	6	5	5	7	7	6	7	7	7	9	10	10	8	7	7	6	7	5	3	4	3	10	6.3	
Apr 29	4	4	3	3	3	3	4	3	4	4	5	5	6	6	6	5	3	3	3	4	4	4	4	3	6	4.1	
Apr 30	4	4	3	3	3	3	3	3	2	2	1	1	1	1	1	2	2	1	2	5	5	2	2	1	5	2.5	
Diurnal Maximum	6	9	6	7	8	9	10	14	12	9	8	8	9	10	1	1	8	8	8	8	7	7	8	19	8		
Diurnal Average	3.7	3.8	3.8	3.8	3.9	3.9	4.2	4.2	4.1	3.8	3.7	3.7	3.9	3.8	3.7	3.5	3.8	3.5	3.4	3.8	3.7	3.9	4.6	3.8			

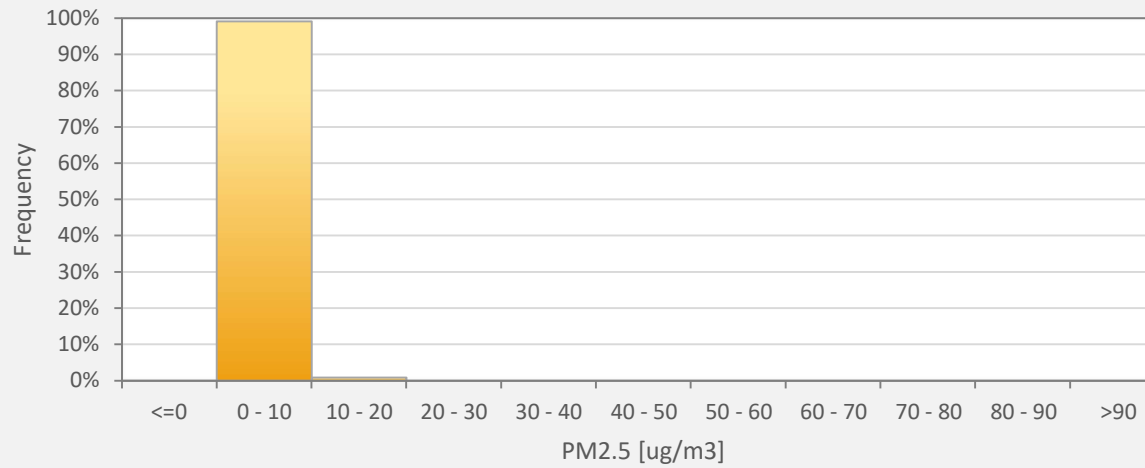
C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N No Data (Machine Not in Service)	Y Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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.

Timeseries Chart of Hourly Average for PM2.5 - St. Lina Site



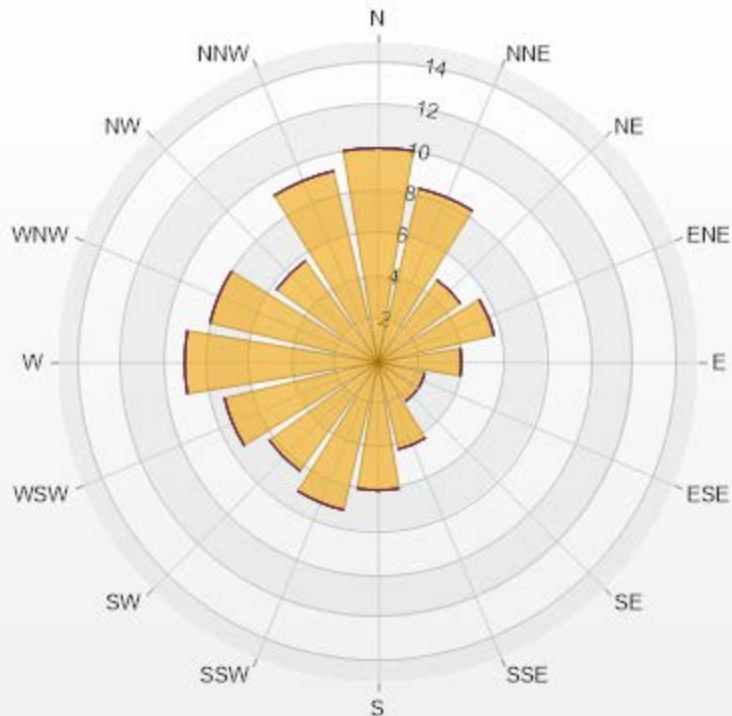
PM2.5[ug/m3(L)] Histogram: St. Lina Monthly: 04-2021 1 Hr.



Classes	PM2.5
<=0	0.00%
0 - 10	99.17%
10 - 20	0.83%
20 - 30	0.00%
30 - 40	0.00%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: St. Lina Poll.: St. Lina-PM2.5[ug/m3(L)] Monthly: 04-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 99.86% Calm Avg: 0.00 [ug/m3(L)]

Direction	0-50	50-80	80-120	120-240	>240.0	Total
N	10.01	0	0	0	0	10.01
NNE	8.34	0	0	0	0	8.34
NE	4.73	0	0	0	0	4.73
ENE	5.56	0	0	0	0	5.56
E	3.89	0	0	0	0	3.89
ESE	2.23	0	0	0	0	2.23
SE	2.23	0	0	0	0	2.23
SSE	4.17	0	0	0	0	4.17
S	5.98	0	0	0	0	5.98
SSW	7.09	0	0	0	0	7.09
SW	6.26	0	0	0	0	6.26
WSW	7.37	0	0	0	0	7.37
W	9.04	0	0	0	0	9.04
WNW	8.07	0	0	0	0	8.07
NW	5.84	0	0	0	0	5.84
NNW	9.18	0	0	0	0	9.18
Summary	100	0	0	0	0	100




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% Icon Classes (ug/m3(L))

100  0-50

0  50-80

0  80-120

0  120-240

0  >240.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - April 2021

Summary of Hourly Averages

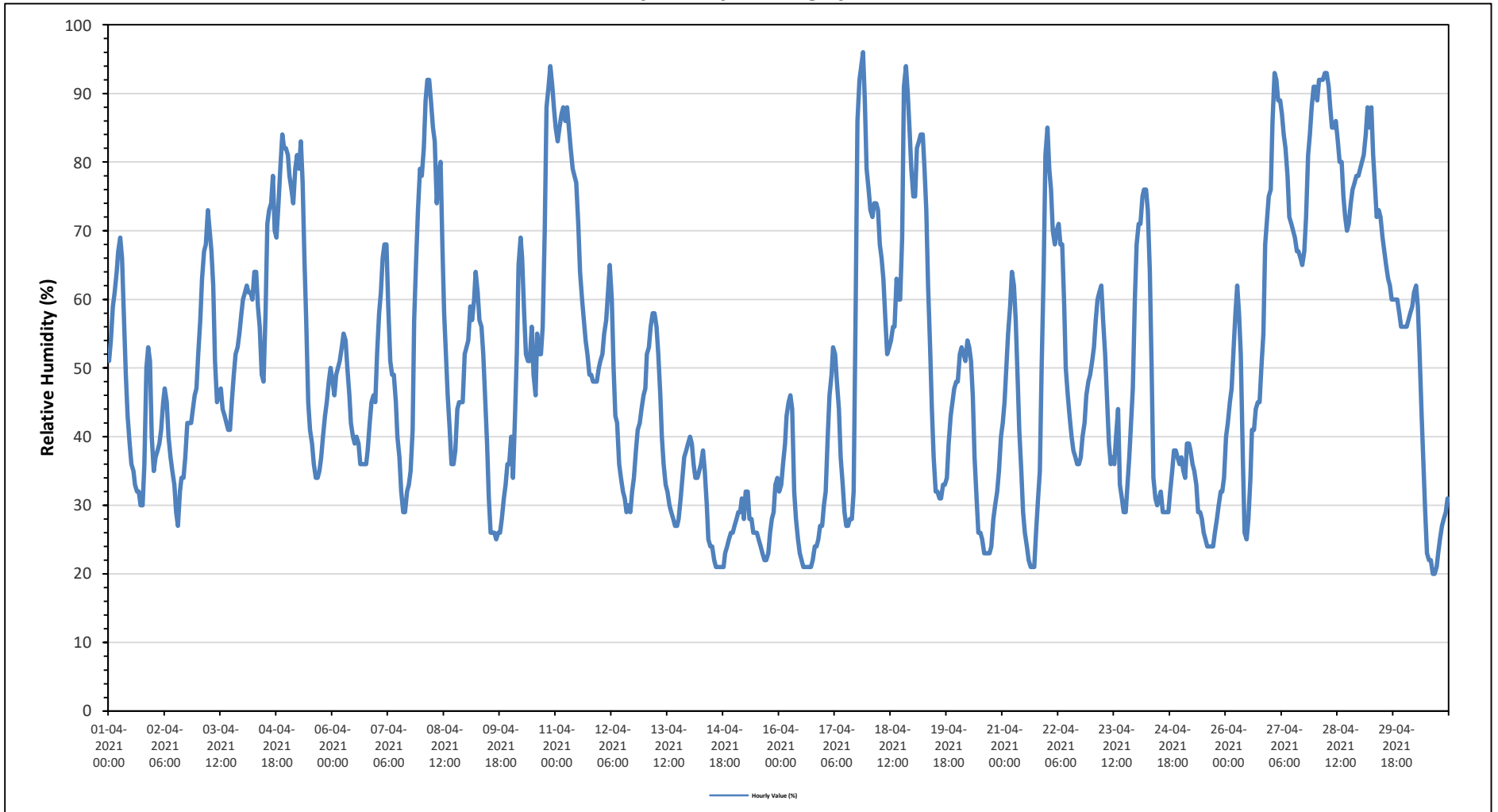
RELATIVE HUMIDITY (RH) in %

Maximum Hourly Value:	96 %	on April 17 at hour 21	Hours in Service:	720
Maximum Daily Value:	83.0 %	on April 28	Hours of Data:	720
Minimum Hourly Value:	20 %	on April 30 at hour 15	Hours of Missing Data:	0
Minimum Daily Value:	27.5 %	on April 15	Hours of Calibration:	0
Monthly Average:	50.3 %		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	51	54	59	61	64	67	69	66	58	49	43	39	36	35	33	32	32	30	30	36	50	53	51	40	30	69	47.4																
Apr 2	35	37	38	39	41	45	47	45	40	37	35	33	29	27	32	34	34	37	42	42	42	44	46	47	27	47	38.7																
Apr 3	52	57	63	67	68	73	70	67	62	51	45	46	47	44	43	42	41	41	45	49	52	53	55	58	41	73	53.8																
Apr 4	60	61	62	61	61	60	64	64	59	56	49	48	58	71	73	74	78	70	69	74	79	84	82	82	48	84	66.6																
Apr 5	81	78	76	74	79	81	79	83	77	66	57	45	41	39	36	34	34	35	37	40	43	45	48	50	34	83	56.6																
Apr 6	48	46	49	50	51	53	55	54	50	46	42	40	39	40	39	36	36	36	36	38	42	45	46	45	36	55	44.3																
Apr 7	52	58	61	66	68	68	59	51	49	49	45	40	37	32	29	29	32	33	35	41	57	66	73	79	29	79	50.4																
Apr 8	78	82	89	92	92	89	85	83	74	78	80	68	58	52	46	41	36	36	38	44	45	45	45	52	36	92	63.7																
Apr 9	53	54	59	57	60	64	61	57	56	52	46	39	31	26	26	26	25	26	26	28	31	33	36	36	25	64	42.0																
Apr 10	40	34	43	52	65	69	66	58	52	51	51	56	49	46	55	52	52	56	70	88	91	94	91	88	34	94	61.2																
Apr 11	85	83	85	87	88	86	88	85	82	79	78	77	71	64	60	57	54	52	49	49	48	48	48	50	48	88	68.9																
Apr 12	51	52	55	57	61	65	60	50	43	42	36	34	32	31	29	30	29	32	34	38	41	42	44	46	29	65	43.1																
Apr 13	47	52	53	56	58	58	56	52	46	40	36	33	32	30	29	28	27	27	28	31	34	37	38	39	27	58	40.3																
Apr 14	40	39	36	34	34	35	36	38	35	30	25	24	24	22	21	21	21	21	21	23	24	25	26	26	21	40	28.4																
Apr 15	27	28	29	29	31	28	32	32	28	28	26	26	26	25	24	23	22	22	23	26	28	29	33	34	22	34	27.5																
Apr 16	32	33	36	39	43	45	46	44	32	28	25	23	22	21	21	21	21	21	22	24	24	25	27	27	21	46	29.3																
Apr 17	30	32	40	46	49	53	52	48	44	37	33	29	27	27	28	28	32	59	86	92	94	96	89	79	27	96	51.3																
Apr 18	76	73	72	74	74	73	68	66	63	57	52	53	54	56	56	63	60	60	69	91	94	90	84	79	52	94	69.0																
Apr 19	75	75	82	83	84	84	79	73	62	53	44	37	32	32	31	31	33	33	34	39	43	45	47	48	31	84	53.3																
Apr 20	48	52	53	52	51	54	53	51	46	37	31	26	26	25	23	23	23	23	24	28	30	32	35	40	23	54	36.9																
Apr 21	42	45	50	55	59	64	62	57	48	41	35	29	26	24	22	21	21	21	26	31	35	50	64	81	21	81	42.0																
Apr 22	85	79	76	70	68	70	71	68	68	59	50	46	43	40	38	37	36	36	37	40	42	46	48	49	36	85	54.3																
Apr 23	51	53	57	60	61	62	57	52	46	39	36	37	36	40	44	33	31	29	29	33	37	42	47	60	29	62	44.7																
Apr 24	68	71	71	75	76	76	73	64	50	34	31	30	31	32	29	29	29	29	32	35	38	38	37	36	29	76	46.4																
Apr 25	37	35	34	39	39	38	36	35	33	29	28	26	25	24	24	24	24	26	28	30	32	32	34	24	39	30.9																	
Apr 26	40	42	45	47	53	58	62	58	52	37	26	25	28	34	41	41	44	45	45	50	55	68	72	75	25	75	47.6																
Apr 27	76	86	93	92	89	89	87	84	82	78	72	71	70	69	67	67	66	65	67	72	81	84	88	91	65	93	78.6																
Apr 28	91	89	92	92	92	93	93	91	88	85	85	86	83	80	80	75	72	70	71	74	76	77	78	78	70	93	83.0																
Apr 29	79	80	81	84	88	85	88	81	76	72	73	72	69	67	65	63	62	60	60	60	60	58	56	56	56	56	88	70.6															
Apr 30	56	56	57	58	59	61	62	59	52	43	37	29	23	22	22	20	20	21	23	25	27	28	29	31	20	62	38.3																
Diurnal Maximum	91	89	93	92	92	93	93	91	88	85	85	86	83	80	80	75	78	70	86	92	94	96	91	91																			
Daiurnal Average	56.2	57.2	59.9	61.6	63.5	64.9	63.9	60.5	55.1	49.4	45.1	42.3	40.2	39.3	38.9	37.8	37.6	38.3	41.1	45.6	49.1	51.8	53.2	54.5																			
C	Monthly Calibration										S	Daily Zero-Span Check										Q	Quality Assurance																				
K	Collection Error										N	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.

Timeseries Chart of Hourly Average for RH - St. Lina Site





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - April 2021

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

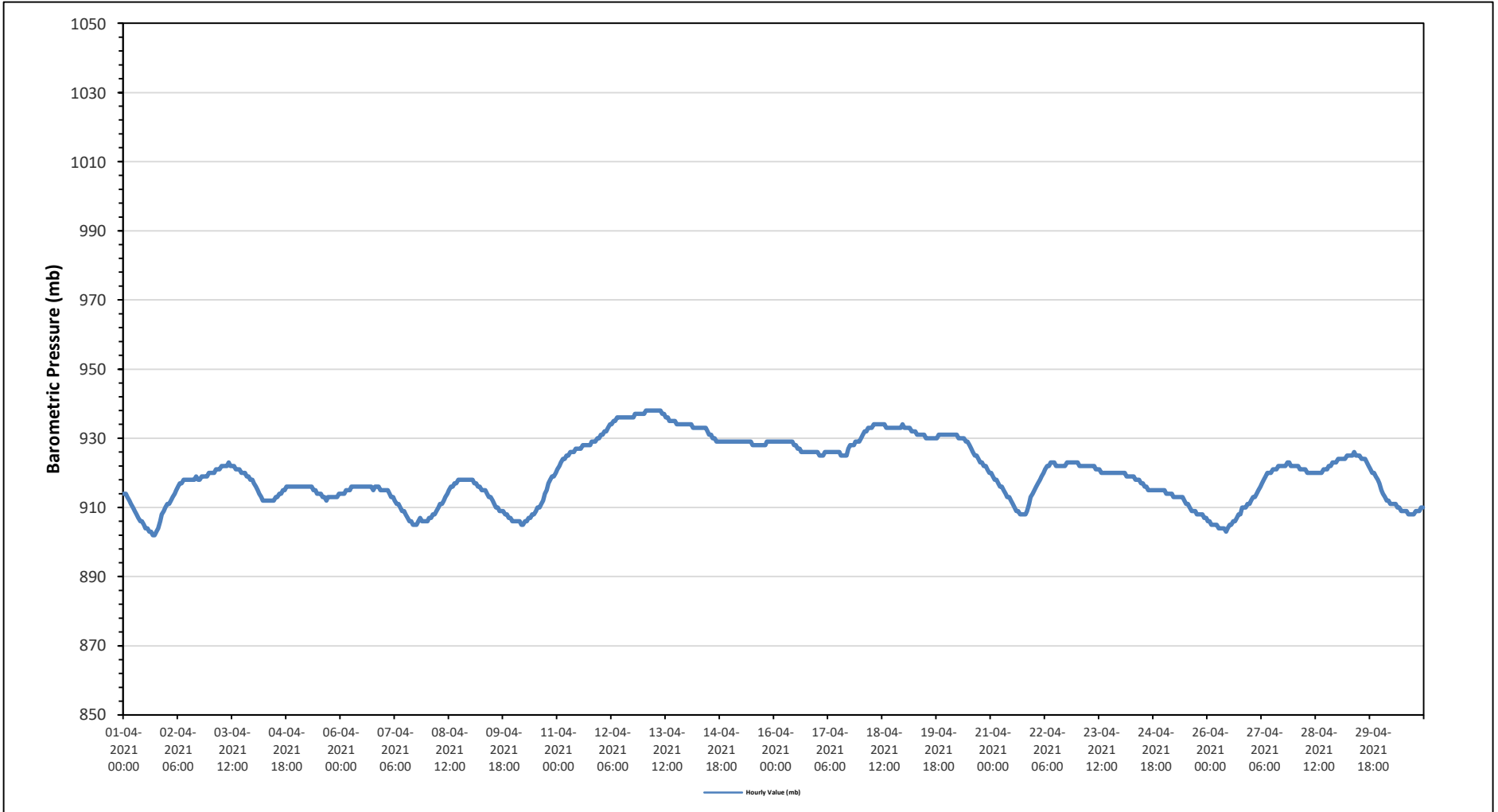
Maximum Hourly Value:	938 mb	on April 13 at hour 1	Hours in Service:	720
Maximum Daily Value:	936 mb	on April 13	Hours of Data:	720
Minimum Hourly Value:	902 mb	on April 1 at hour 16	Hours of Missing Data:	0
Minimum Daily Value:	906 mb	on April 26	Hours of Calibration:	0
Monthly Average:	920 mb		Operational 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	914	914	913	912	911	910	909	908	907	906	906	905	904	904	903	903	902	902	903	904	906	908	909	910	902	914	907.2
Apr 2	911	911	912	913	914	915	916	917	917	918	918	918	918	918	918	918	919	918	918	919	919	919	919	920	911	920	916.8
Apr 3	920	920	920	921	921	921	922	922	922	922	923	922	922	922	921	921	921	920	920	920	919	919	918	918	918	923	920.7
Apr 4	917	916	915	914	913	912	912	912	912	912	912	912	913	913	914	914	915	915	916	916	916	916	916	916	912	917	914.1
Apr 5	916	916	916	916	916	916	916	916	916	916	915	915	914	914	914	913	913	912	913	913	913	913	913	913	912	916	914.4
Apr 6	914	914	914	915	915	915	916	916	916	916	916	916	916	916	916	916	916	916	915	916	916	916	915	915	914	916	915.5
Apr 7	915	915	915	914	913	913	912	911	911	910	909	909	908	907	906	906	905	905	905	906	907	906	906	906	905	915	909.2
Apr 8	906	907	907	908	908	909	910	911	911	912	913	914	915	916	916	917	918	918	918	918	918	918	918	918	906	918	913.5
Apr 9	918	918	917	917	916	916	915	915	915	914	913	913	912	911	910	910	909	909	909	908	908	907	907	906	906	918	912.2
Apr 10	906	906	906	906	905	905	906	906	907	907	908	908	909	910	910	911	912	914	915	917	918	919	919	920	905	920	910.4
Apr 11	921	922	923	924	924	925	925	926	926	926	927	927	927	928	928	928	928	928	928	929	929	929	930	930	921	930	926.5
Apr 12	931	931	932	932	933	934	934	935	935	936	936	936	936	936	936	936	936	936	936	936	937	937	937	937	931	937	935.1
Apr 13	937	938	938	938	938	938	938	938	938	938	937	937	936	936	935	935	935	935	935	934	934	934	934	934	934	938	936.2
Apr 14	934	934	934	933	933	933	933	933	933	933	933	932	931	931	930	930	929	929	929	929	929	929	929	929	929	934	931.3
Apr 15	929	929	929	929	929	929	929	929	929	929	929	929	928	928	928	928	928	928	928	928	928	929	929	929	928	929	928.7
Apr 16	929	929	929	929	929	929	929	929	929	929	929	929	928	928	927	927	926	926	926	926	926	926	926	926	926	929	927.6
Apr 17	926	925	925	925	926	926	926	926	926	926	926	926	926	926	925	925	925	927	928	928	928	929	929	929	925	929	926.4
Apr 18	930	931	932	932	933	933	933	934	934	934	934	934	934	934	933	933	933	933	933	933	933	933	933	934	930	934	933.0
Apr 19	933	933	933	933	932	932	932	931	931	931	931	931	930	930	930	930	930	930	931	931	931	931	931	931	930	933	931.2
Apr 20	931	931	931	931	931	931	930	930	930	930	929	929	928	927	926	925	925	924	923	923	922	922	921	920	920	931	927.1
Apr 21	920	919	918	918	917	916	916	915	914	913	913	912	911	910	909	909	908	908	908	908	909	911	913	914	908	920	912.9
Apr 22	915	916	917	918	919	920	921	922	922	923	923	922	922	922	922	922	922	922	923	923	923	923	923	923	915	923	921.2
Apr 23	923	922	922	922	922	922	922	922	922	922	921	921	921	920	920	920	920	920	920	920	920	920	920	920	920	920	921.0
Apr 24	920	920	920	919	919	919	919	919	918	918	918	917	917	916	916	915	915	915	915	915	915	915	915	915	915	920	917.1
Apr 25	915	914	914	914	914	913	913	913	913	913	913	912	911	911	910	909	909	909	908	908	908	908	908	907	907	915	911.1
Apr 26	906	906	905	905	905	905	904	904	904	904	903	904	905	905	906	906	907	908	908	910	910	910	911	911	903	911	906.3
Apr 27	912	913	913	914	915	916	917	918	919	920	920	920	921	921	921	922	922	922	922	922	923	923	922	922	912	923	919.2
Apr 28	922	922	922	921	921	921	921	920	920	920	920	920	920	920	920	920	921	921	921	922	922	923	923	923	920	923	921.1
Apr 29	924	924	924	924	924	925	925	925	925	925	924	924	924	923	922	921	920	920	919	918	917	917	917	917	917	926	923.0
Apr 30	915	914	913	912	912	911	911	911	911	910	910	909	909	909	909	908	908	908	908	909	909	909	910	910	908	915	910.2
Diurnal Maximum	937	938	938	938	938	938	938	938	938	938	937	937	936	936	936	936	936	936	936	937	937	937	937	937			
Diurnal Average	920	920	920	920	920	920	920	920	920	920	920	920	920	920	919	919	919	919	920	920	920	920	920	920			

C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N 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.

Timeseries Chart of Hourly Average for BP - St. Lina Site





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - April 2021

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

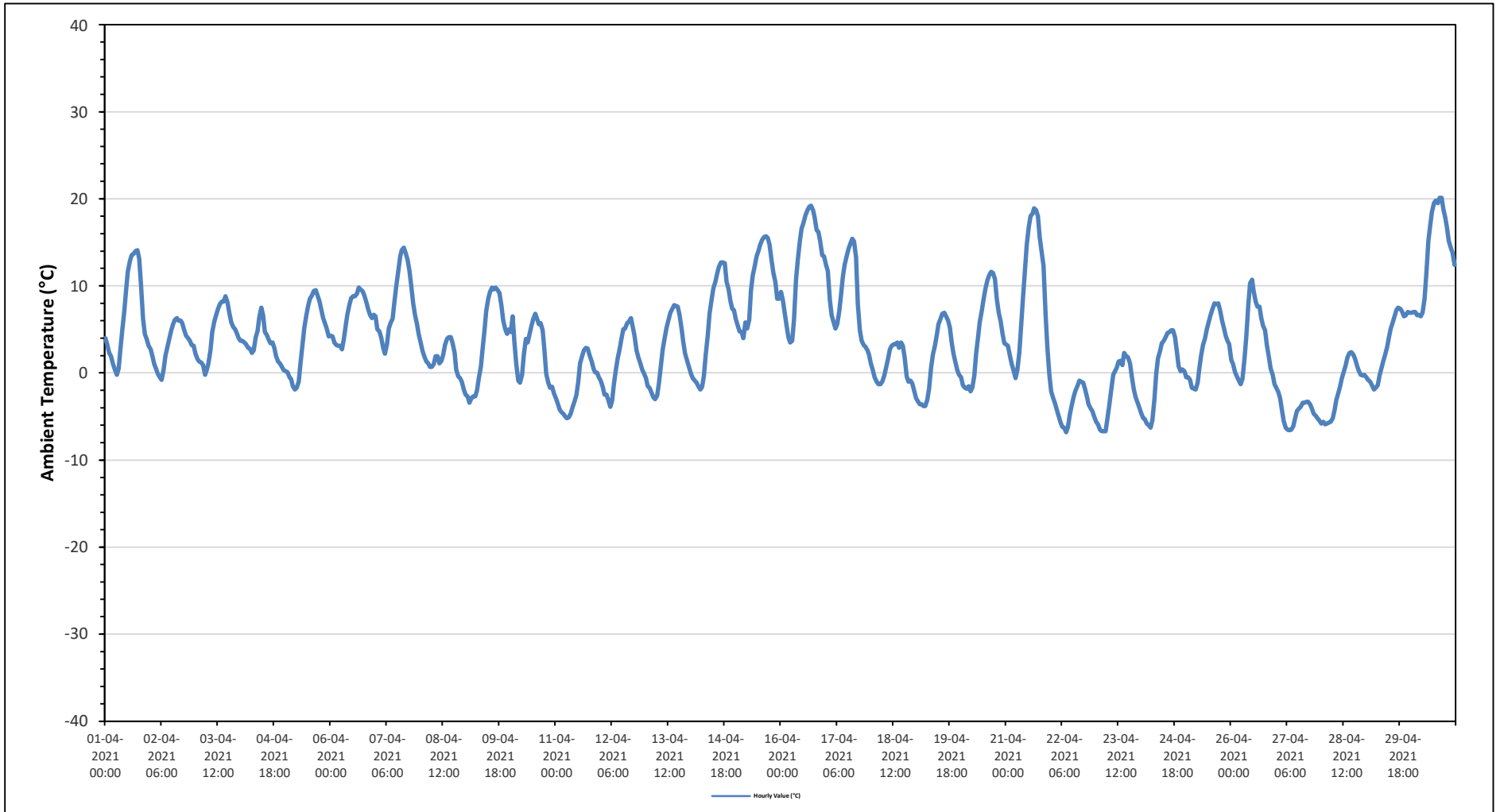
Maximum Hourly Value:	20.1 °C	on April 30 at hour 15	Hours in Service:	720
Maximum Daily Value:	13.6 °C	on April 30	Hours of Data:	720
Minimum Hourly Value:	-6.8 °C	on April 22 at hour 8	Hours of Missing Data:	0
Minimum Daily Value:	-4.5 °C	on April 27	Hours of Calibration:	0
Monthly Average:	3.7 °C		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	3.3	2.3	1.9	1	0.4	-0.2	0.5	2.7	5.1	7	9.7	11.6	12.8	13.5	13.7	14	14.1	13.1	10.1	6.2	4.5	3.8	3.1	-0.2	14.1	6.6
Apr 2	2.7	1.9	1	0.5	-0.1	-0.5	-0.8	0.4	2	3	3.9	4.9	5.6	6.1	6.3	6	6	5.7	4.9	4.3	4	3.7	3.2	3.1	-0.8	6.3	3.2
Apr 3	2.2	1.6	1.3	1.2	0.9	-0.2	0.4	1.1	2.6	4.7	5.9	6.6	7.4	7.9	8.2	8.2	8.8	8.1	6.9	5.8	5.3	5	4.6	4	-0.2	8.8	4.5
Apr 4	3.7	3.7	3.5	3.3	2.9	2.8	2.3	2.6	4.1	4.8	6.4	7.5	6.6	4.7	4.4	3.8	3.4	3.5	2.9	1.9	1.3	1.1	0.7	0.3	0.3	7.5	3.4
Apr 5	0.2	0.1	-0.5	-0.7	-1.5	-1.9	-1.7	-1	1.1	3.3	5.2	6.6	7.7	8.5	8.9	9.4	9.5	8.9	8.3	7.4	6.3	5.7	5.1	4.2	-1.9	9.5	4.1
Apr 6	4.3	4.2	3.5	3.2	3.1	3.1	2.7	3.8	5.5	6.7	7.8	8.6	8.8	8.8	9.1	9.8	9.6	9.4	8.9	8.1	7.3	6.6	6.3	6.7	2.7	9.8	6.5
Apr 7	6.5	5	4.8	4.1	2.9	2.2	3.3	5.1	5.8	6.2	8.1	10.1	11.6	13.4	14.1	14.4	13.8	13	11.8	10.1	8	6.7	5.6	4.4	2.2	14.4	8.0
Apr 8	3.4	2.5	1.8	1.3	1.1	0.7	0.7	1	1.9	1.9	1.1	1.4	2.1	3.2	3.9	4.1	4.1	3.4	2.3	0.4	-0.4	-0.6	-1	-1.9	-1.9	4.1	1.6
Apr 9	-2.5	-2.7	-3.4	-2.9	-2.7	-2.7	-2	-0.6	0.7	2.8	4.8	7.1	8.5	9.3	9.8	9.6	9.8	9.5	9.2	7.7	6	5	4.5	5	-3.4	9.8	3.7
Apr 10	4.7	6.5	3.5	1.1	-0.9	-1.1	-0.2	2.1	3.9	3.5	4.4	5.4	6.2	6.8	6.2	5.6	5.7	4.9	2.6	-0.1	-1.1	-1.7	-1.6	-2.3	-2.3	6.8	2.7
Apr 11	-2.9	-3.5	-4.2	-4.5	-4.7	-5	-5.2	-5.1	-4.7	-3.9	-3.3	-2.5	-1	1.1	1.9	2.6	2.9	2.8	2	1.4	0.5	0.1	0	-0.5	-5.2	2.9	-1.5
Apr 12	-0.9	-1.6	-2.5	-2.5	-3.1	-3.9	-3.2	-1.3	0.4	1.7	2.8	3.8	5	5.1	5.7	5.9	6.3	5.3	4.3	2.6	1.8	1.1	0.4	-0.1	-3.9	6.3	1.4
Apr 13	-0.6	-1.5	-1.7	-2.2	-2.8	-3	-2.6	-1.2	0.9	2.7	3.9	5.2	6	6.9	7.3	7.8	7.7	7.6	6.7	5.1	3.5	2.2	1.4	0.7	-3.0	7.8	2.5
Apr 14	-0.1	-0.6	-0.9	-1.1	-1.5	-1.9	-1.6	-0.3	2.1	4.3	6.8	8.4	9.7	10.5	11.4	12.2	12.7	12.7	12.6	10.5	9.6	8.3	7.4	7.2	-1.9	12.7	5.8
Apr 15	6.2	5.4	4.8	4.7	4	5.8	5.1	6.1	9.5	11.2	12.3	13.4	14	14.7	15.3	15.6	15.7	15.5	14.7	12.9	11.5	10.4	8.5	8.5	4.0	15.7	10.2
Apr 16	9.3	8.4	6.8	5.6	4.1	3.5	3.7	6.1	10.7	13	15.1	16.6	17.2	18.1	18.6	19.1	19.2	18.7	17.9	16.4	16.2	15.1	13.5	13.4	3.5	19.2	12.8
Apr 17	12.4	11.7	8.4	6.6	5.8	5.1	5.6	7.1	8.7	11	12.4	13.4	14.2	14.9	15.4	15.1	13.3	7.9	4.9	3.7	3.2	3	2.6	2.1	2.1	15.4	8.7
Apr 18	1.1	0.3	-0.5	-1	-1.3	-1.3	-1	-0.3	0.6	1.5	2.7	3.1	3.3	3.3	3.5	2.9	3.5	3.1	1.8	-0.4	-1	-0.9	-1.2	-2.1	-2.1	3.5	0.8
Apr 19	-2.9	-3.3	-3.6	-3.6	-3.8	-3.8	-3.1	-1.8	0.6	2.1	3.1	4.3	5.6	6.2	6.8	6.9	6.5	6	5.2	3.5	2.2	1.3	0.3	-0.2	-3.8	6.9	1.4
Apr 20	-0.5	-1.4	-1.7	-1.8	-1.5	-2.1	-1.7	-0.3	2.2	4.2	5.8	7.1	8.4	9.7	10.6	11.2	11.6	11.5	10.8	8.6	6.9	6	4.5	3.4	-2.1	11.6	4.6
Apr 21	3.3	3.1	2.1	1	0.3	-0.6	0.3	2.4	5.4	8.5	11.8	14.7	16.8	18	18.3	18.9	18.7	18	15.6	13.8	12.3	6.8	3	-0.2	-0.6	18.9	8.8
Apr 22	-2.1	-2.9	-3.5	-4.2	-5	-5.7	-6.2	-6.3	-6.8	-6.2	-4.7	-3.7	-2.8	-2	-1.5	-0.9	-1	-1.1	-1.8	-2.8	-3.6	-4	-4.4	-5	-6.8	-0.9	-3.7
Apr 23	-5.6	-5.9	-6.5	-6.7	-6.7	-6.7	-5.3	-3.6	-2	-0.2	0.2	0.6	1.3	1.4	0.9	2.3	1.9	1.8	1.1	-0.4	-1.9	-2.8	-3.4	-4	-6.7	2.3	-2.1
Apr 24	-4.6	-5.2	-5.3	-5.8	-6	-6.3	-5.4	-3	-0.1	1.7	2.5	3.4	3.7	4.1	4.6	4.7	4.9	4.9	4.1	2.5	0.8	0.2	0.4	0.2	-6.3	4.9	0.0
Apr 25	-0.5	-0.5	-0.8	-1.7	-1.8	-1.9	-1.1	0.4	2.1	3.2	4	5	5.8	6.7	7.3	8	7.9	8	7.2	6	5.2	4.3	3.7	3.3	-1.9	8.0	3.3
Apr 26	1.5	1	0.1	-0.4	-0.9	-1.3	-0.7	1.6	4.1	7.8	10.3	10.7	9.4	8.2	7.6	7.6	6.3	5.4	4.9	3.2	1.8	0.5	-0.2	-1.3	-1.3	10.7	3.6
Apr 27	-1.7	-2.2	-2.9	-4.2	-5.5	-6.3	-6.5	-6.6	-6.5	-6.1	-5.2	-4.4	-4.1	-3.9	-3.4	-3.4	-3.3	-3.3	-3.6	-4.1	-4.7	-4.9	-5.2	-5.5	-6.6	-1.7	-4.5
Apr 28	-5.8	-5.6	-5.9	-5.8	-5.7	-5.6	-5.2	-4.3	-3.1	-2.4	-1.5	-0.6	0.2	0.9	1.8	2.3	2.4	2.1	1.6	0.8	0.2	-0.2	-0.3	-0.2	-5.9	2.4	-1.7
Apr 29	-0.5	-0.8	-1	-1.4	-1.9	-1.7	-1.4	-0.3	0.5	1.4	2.1	3	4.1	5.1	5.7	6.5	7.2	7.5	7.4	7.1	6.5	6.6	7	6.9	-1.9	7.5	3.2
Apr 30	6.9	7	7	6.6	6.7	6.5	6.9	8.5	11.4	15.2	16.9	18.5	19.5	19.8	19.5	20.1	20.1	18.8	17.9	16.7	15.2	14.4	13.8	12.4	6.5	20.1	13.6
Diurnal Maximum	12.4	11.7	8.4	6.6	6.7	6.5	6.9	8.5	11.4	15.2	16.9	18.5	19.5	19.8	19.5	20.1	20.1	18.8	17.9	16.7	15.2	14.4	13.8	13.4			
Daiurnal Average	1.4	0.9	0.2	-0.3	-0.8	-1.1	-0.8	0.4	2.2	3.8	5.1	6.3	7.1	7.7	8.1	8.3	8.3	7.8	6.9	5.4	4.3	3.5	2.8	2.2			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	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.

Timeseries Chart of Hourly Average for AT - St. Lina Site





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - April 2021

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

Maximum Hourly Value:	24.9 °C	on April 1 at hour 13	Hours in Service:	720
Maximum Daily Value:	23.9 °C	on April 1	Hours of Data:	720
Minimum Hourly Value:	20.4 °C	on April 23 at hour 5	Hours of Missing Data:	0
Minimum Daily Value:	21.3 °C	on April 23	Hours of Calibration:	0
Monthly Average:	22.8 °C		Operational Uptime:	100.0

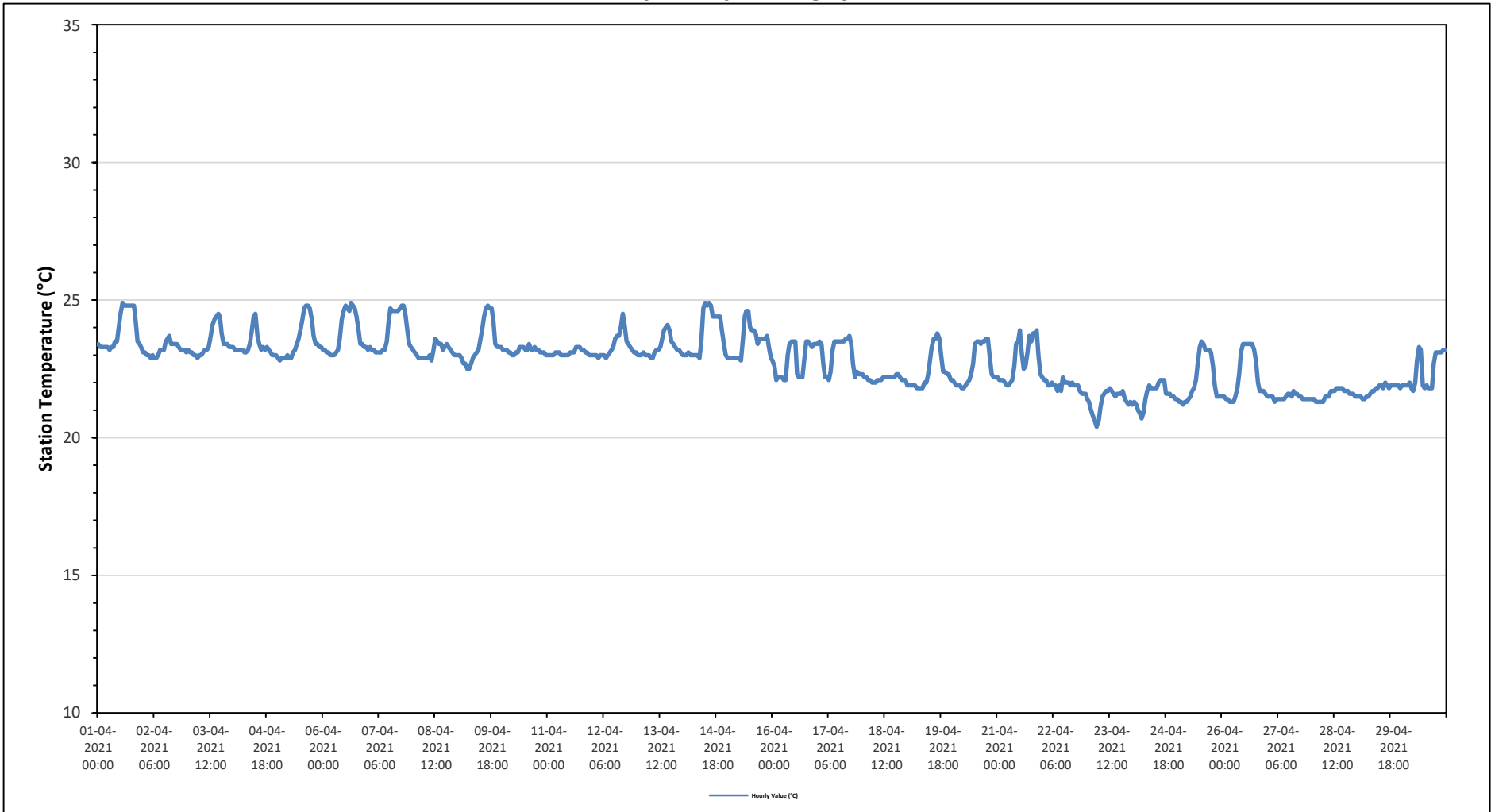
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Apr 1	23.4	23.3	23.3	23.3	23.3	23.3	23.2	23.3	23.3	23.5	23.5	24.0	24.5	24.9	24.8	24.8	24.8	24.8	24.8	24.2	23.5	23.4	23.3	23.2	24.9	23.9	
Apr 2	23.1	23.1	23.0	23.0	22.9	23.0	22.9	22.9	23.0	23.2	23.2	23.2	23.5	23.6	23.7	23.4	23.4	23.4	23.4	23.3	23.2	23.2	23.2	23.1	22.9	23.7	23.2
Apr 3	23.2	23.1	23.1	23.0	23.0	22.9	23.0	23.0	23.1	23.2	23.2	23.3	23.7	24.1	24.3	24.4	24.5	24.4	23.8	23.4	23.4	23.3	23.3	22.9	24.5	23.5	
Apr 4	23.3	23.2	23.2	23.2	23.2	23.2	23.1	23.1	23.2	23.4	23.9	24.4	24.5	23.7	23.4	23.2	23.3	23.2	23.3	23.2	23.1	23.0	23.0	23.0	23.0	24.5	23.3
Apr 5	22.9	22.8	22.9	22.9	22.9	23.0	22.9	22.9	23.1	23.2	23.4	23.6	23.9	24.3	24.7	24.8	24.8	24.7	24.3	23.7	23.4	23.4	23.3	22.8	24.8	23.5	
Apr 6	23.2	23.2	23.1	23.1	23.0	23.0	23.0	23.1	23.2	23.6	24.3	24.6	24.8	24.7	24.6	24.9	24.8	24.7	24.4	23.9	23.4	23.4	23.3	23.0	24.9	23.8	
Apr 7	23.2	23.3	23.2	23.2	23.1	23.1	23.1	23.1	23.2	23.2	23.5	24.2	24.7	24.6	24.6	24.6	24.6	24.7	24.8	24.8	24.5	23.9	23.4	23.3	23.1	24.8	23.8
Apr 8	23.2	23.1	23.0	22.9	22.9	22.9	22.9	22.9	22.9	23.0	22.8	23.2	23.6	23.5	23.4	23.4	23.2	23.3	23.4	23.3	23.2	23.1	23.0	23.0	22.8	23.6	23.1
Apr 9	23.0	23.0	22.9	22.7	22.7	22.5	22.5	22.7	22.9	23.0	23.1	23.2	23.6	23.9	24.4	24.7	24.8	24.7	24.7	24.2	23.4	23.3	23.3	22.5	24.8	23.4	
Apr 10	23.2	23.2	23.2	23.1	23.1	23.0	23.0	23.1	23.1	23.3	23.3	23.2	23.2	23.2	23.4	23.2	23.2	23.3	23.2	23.2	23.1	23.1	23.1	23.0	23.0	23.4	23.2
Apr 11	23.0	23.0	23.0	23.0	23.1	23.1	23.1	23.0	23.0	23.0	23.0	23.0	23.1	23.1	23.1	23.3	23.3	23.3	23.2	23.2	23.1	23.1	23.0	23.0	23.0	23.3	23.1
Apr 12	23.0	23.0	23.0	22.9	23.0	23.0	23.0	22.9	23.0	23.1	23.2	23.3	23.6	23.7	23.7	24.0	24.5	24.1	23.5	23.4	23.3	23.2	23.1	23.1	22.9	24.5	23.3
Apr 13	23.0	23.0	23.0	23.1	23.0	23.0	23.0	22.9	22.9	23.1	23.2	23.2	23.3	23.6	23.9	24.0	24.1	23.9	23.5	23.4	23.3	23.2	23.2	22.9	24.1	23.3	
Apr 14	23.0	23.0	23.0	23.1	23.0	23.0	23.0	23.0	22.9	23.5	24.7	24.9	24.8	24.9	24.8	24.4	24.4	24.4	24.4	24.4	23.9	23.4	23.0	22.9	24.9	23.7	
Apr 15	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.8	23.5	24.4	24.6	24.6	24.0	23.9	23.9	23.8	23.4	23.6	23.6	23.6	23.6	23.7	23.3	22.9	22.8	24.6	23.5
Apr 16	22.8	22.6	22.1	22.2	22.2	22.2	22.1	22.1	23.0	23.4	23.5	23.5	23.5	22.3	22.2	22.2	22.2	22.9	23.5	23.5	23.4	23.3	23.4	22.1	23.5	22.8	
Apr 17	23.4	23.5	23.4	22.7	22.2	22.2	22.1	22.4	23.2	23.5	23.5	23.5	23.5	23.5	23.5	23.6	23.6	23.7	23.4	22.7	22.2	22.3	22.3	22.1	23.7	23.0	
Apr 18	22.3	22.2	22.2	22.1	22.1	22.0	22.0	22.0	22.1	22.1	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.3	22.3	22.3	22.2	22.1	22.1	22.0	22.3	22.2	
Apr 19	21.9	21.9	21.9	21.9	21.9	21.8	21.8	21.8	21.8	22.0	22.0	22.3	22.8	23.3	23.6	23.6	23.8	23.6	23.0	22.4	22.4	22.3	22.3	22.1	21.8	23.8	22.4
Apr 20	22.1	22.0	21.9	21.9	21.9	21.8	21.8	21.9	22.0	22.1	22.3	22.7	23.4	23.5	23.5	23.4	23.5	23.5	23.6	23.6	22.9	22.3	22.2	22.2	21.8	23.6	22.6
Apr 21	22.2	22.1	22.1	22.1	22.0	21.9	21.9	22.0	22.1	22.6	23.4	23.5	23.9	23.1	22.5	22.6	23.1	23.7	23.5	23.8	23.8	23.9	23.0	22.3	21.9	23.9	22.8
Apr 22	22.2	22.1	22.1	21.9	21.9	22.0	21.9	21.9	21.7	21.9	21.7	22.2	22.0	22.0	22.0	21.9	22.0	21.9	21.9	21.9	21.7	21.6	21.6	21.6	21.6	22.2	21.9
Apr 23	21.4	21.3	21.0	20.8	20.6	20.4	20.6	21.1	21.5	21.6	21.7	21.7	21.8	21.7	21.6	21.5	21.6	21.6	21.6	21.7	21.4	21.3	21.2	21.3	20.4	21.8	21.3
Apr 24	21.2	21.3	21.2	21.0	20.9	20.7	20.9	21.4	21.7	21.9	21.8	21.8	21.8	21.8	22.0	22.1	22.1	22.1	21.6	21.6	21.5	21.5	21.4	20.7	22.1	21.5	
Apr 25	21.4	21.3	21.3	21.2	21.3	21.3	21.4	21.5	21.7	21.8	22.1	22.7	23.3	23.5	23.4	23.2	23.2	23.2	23.1	22.6	21.9	21.5	21.5	21.2	23.5	22.1	
Apr 26	21.5	21.5	21.4	21.4	21.3	21.3	21.3	21.5	21.8	22.3	23.1	23.4	23.4	23.4	23.4	23.4	23.2	22.8	22.0	21.7	21.7	21.7	21.6	21.3	23.4	22.2	
Apr 27	21.5	21.5	21.5	21.5	21.3	21.4	21.4	21.4	21.4	21.4	21.5	21.6	21.6	21.5	21.7	21.6	21.6	21.5	21.5	21.4	21.4	21.4	21.4	21.3	21.7	21.5	
Apr 28	21.4	21.4	21.3	21.3	21.3	21.3	21.3	21.5	21.5	21.5	21.7	21.7	21.7	21.8	21.8	21.8	21.8	21.7	21.7	21.7	21.6	21.6	21.5	21.3	21.8	21.6	
Apr 29	21.5	21.5	21.5	21.4	21.4	21.5	21.5	21.6	21.7	21.7	21.8	21.8	21.9	21.9	21.8	22.0	21.9	21.8	21.9	21.9	21.9	21.9	21.8	21.4	22.0	21.7	
Apr 30	21.9	21.9	21.9	21.9	22.0	21.8	21.7	22.0	22.8	23.3	23.2	21.9	21.8	21.9	21.8	21.8	21.8	21.7	23.1	23.1	23.1	23.1	23.2	21.7	23.3	22.4	
Diurnal Maximum	23.4	23.5	23.4	23.3	23.3	23.3	23.2	23.3	23.5	24.4	24.6	24.7	24.9	24.9	24.9	24.9	24.8	24.8	24.8	24.8	24.5	23.9	23.4	23.4			
Diurnal Average	22.5	22.5	22.4	22.4	22.3	22.3	22.3	22.4	22.5	22.7	22.9	23.1	23.3	23.2	23.3	23.3	23.3	23.2	23.1	22.9	22.7	22.6	22.6				

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	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.

Timeseries Chart of Hourly Average for ST - St. Lina Site





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - April 2021

Summary of Hourly Averages

PRECIPITATION in mm

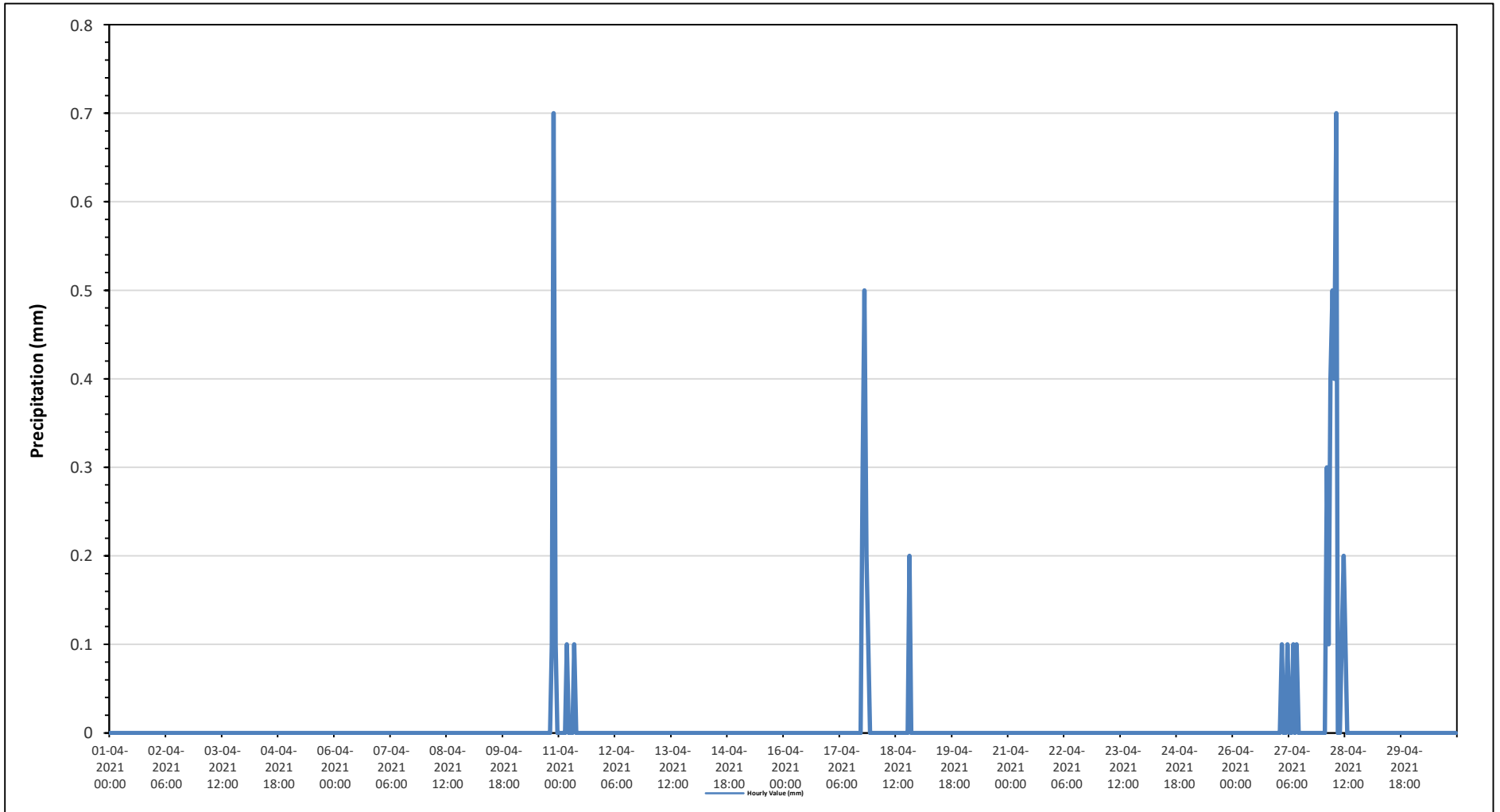
Maximum Hourly Value:	0.7 mm on April 10 at hour 21	Hours in Service:	720
Maximum Daily Value:	0.1 mm on April 28	Hours of Data:	720
Minimum Hourly Value:	0.0 mm on April 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.0 mm on April 1	Hours of Calibration:	0
Monthly Total:	5.6 mm	Operational 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	0.0
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	0.0	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	0.0
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	0.1	0.7	0.1	0	0	0.0	0.7	0.0
Apr 11	0	0	0	0	0.1	0	0	0	0.1	0	0	0	0	0	0	0	0	0	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	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	0	0	0	0	0	0	0	0	0.3	0.5	0.2	0.1	0	0	0.0	0.5	0.0
Apr 18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0	0	0.0	0.2	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	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	0.0	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	0.0	0.0
Apr 27	0	0	0.1	0	0	0.1	0	0	0.1	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	0.0
Apr 28	0	0	0.3	0.1	0.4	0.5	0.4	0.7	0	0	0.1	0.2	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.7	0.1
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	0.3	0.1	0.4	0.5	0.4	0.7	0.1	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.2	0.7	0.1	0.0				
Diurnal Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N 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.

Timeseries Chart of Hourly Average for Precipitation - St. Lina Site





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - April 2021

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

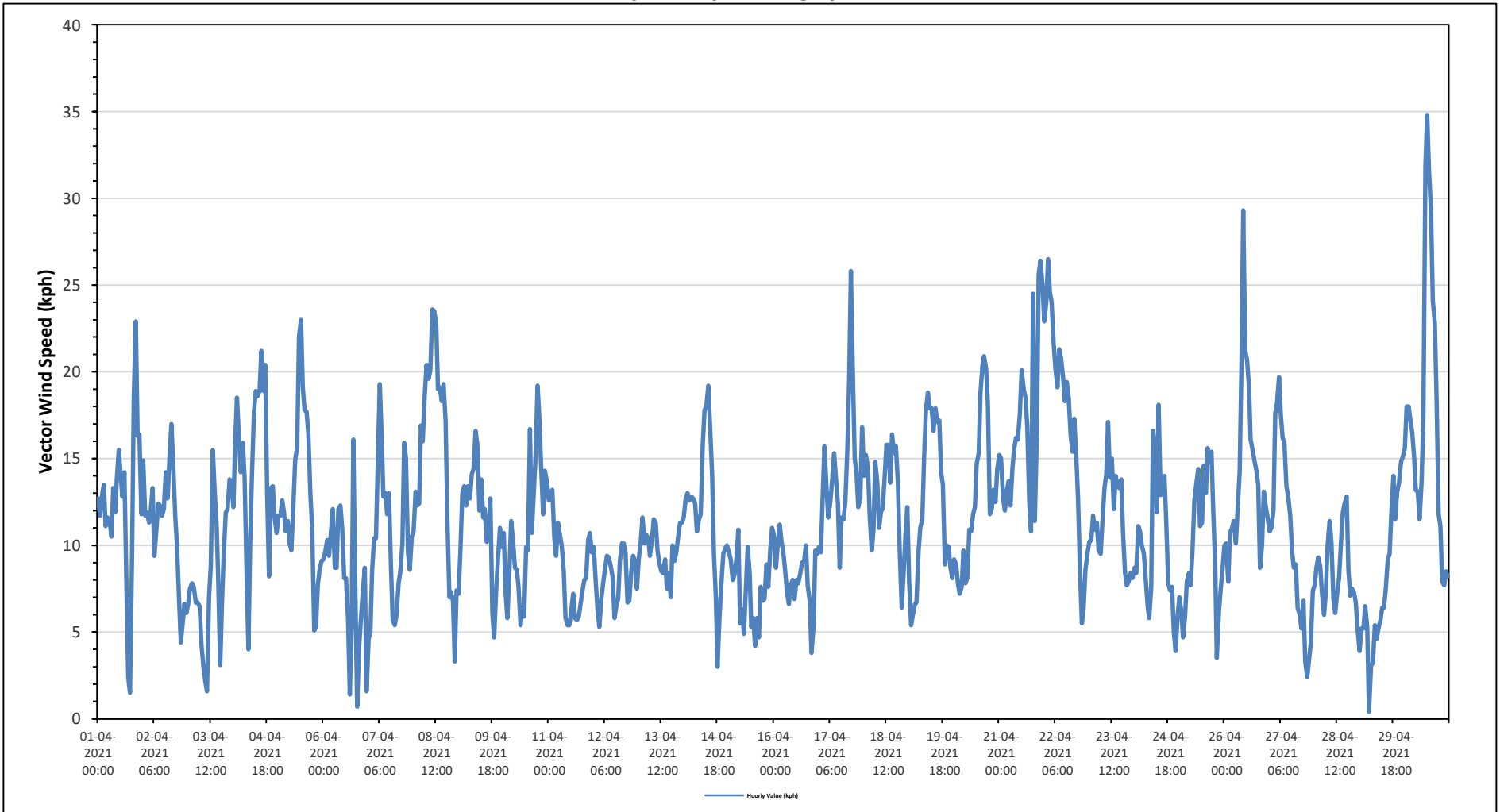
Maximum Hourly Value:	34.8 kph on April 30 at hour 12	Hours in Service:	720
Maximum Daily Value:	16.1 kph on April 22	Hours of Data:	720
Minimum Hourly Value:	0.4 kph on April 29 at hour 5	Hours of Missing Data:	0
Minimum Daily Value:	1.2 kph on April 28	Hours of Calibration:	0
Monthly Average:	3.2 kph	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	12.7	11.7	12.9	13.5	11.1	11.6	11.5	10.5	13.3	11.9	13.8	15.5	14.1	12.8	14.2	8.5	2.4	1.5	9.3	18.6	22.9	16.3	16.4	11.8	1.5	22.9	6.3
Apr 2	14.9	11.7	11.9	11.3	11.9	13.3	9.4	10.7	12.4	12.3	11.7	12.1	14.2	12.7	15.2	17.0	14.7	11.7	10.0	6.9	4.4	5.6	6.6	6.1	4.4	17.0	10.3
Apr 3	6.6	7.5	7.8	7.6	6.7	6.7	6.5	4.3	3.0	2.2	1.6	7.0	8.8	15.5	13.2	11.1	8.1	3.1	6.7	9.5	11.9	12.1	13.8	13.7	1.6	15.5	2.4
Apr 4	12.2	16.0	18.5	16.1	14.2	15.9	13.9	8.3	4.0	10.2	14.1	17.7	18.9	18.6	18.9	21.2	18.9	20.4	12.8	8.2	13.3	13.4	11.6	10.7	4.0	21.2	5.1
Apr 5	11.7	11.7	12.6	11.9	10.8	11.4	10.1	9.7	12.3	14.9	15.7	22.0	23.0	19.1	17.8	17.7	16.4	12.9	11.0	5.1	5.3	7.7	8.6	9.1	5.1	23.0	12.2
Apr 6	9.2	9.6	10.3	9.4	10.8	12.1	8.7	8.7	12.1	12.3	11.0	8.1	8.1	5.8	1.4	5.3	16.1	8.2	0.7	4.0	5.8	7.3	8.7	1.6	0.7	16.1	5.9
Apr 7	4.6	5.0	8.6	10.4	10.4	15.3	19.3	16.0	12.8	13.0	11.8	13.0	8.8	5.7	5.4	6.0	7.8	8.5	10.1	15.9	15.0	9.6	8.6	10.5	4.6	19.3	4.6
Apr 8	10.8	13.1	12.3	12.4	16.9	16.0	18.7	20.4	19.6	20.1	23.6	23.5	22.8	19.0	19.1	18.3	19.3	17.2	11.5	7.0	7.3	6.8	3.3	7.4	3.3	23.6	14.4
Apr 9	7.2	9.6	13.0	13.4	12.3	13.4	12.7	14.1	14.4	16.6	15.8	12.0	13.8	11.6	12.1	10.2	10.6	12.7	6.1	4.7	7.4	9.2	11.0	9.9	4.7	16.6	9.6
Apr 10	10.7	7.3	5.8	8.5	11.4	10.1	8.7	8.6	7.6	5.4	6.4	5.9	9.9	9.7	16.7	10.7	13.0	15.1	19.2	17.3	14.5	11.8	14.3	13.6	5.4	19.2	8.6
Apr 11	12.6	12.7	13.2	10.4	9.4	11.3	10.6	10.0	8.5	5.8	5.4	5.4	6.3	7.2	5.8	5.7	5.9	6.7	7.4	8.0	8.1	10.3	10.7	9.6	5.4	13.2	8.1
Apr 12	9.9	8.1	6.3	5.3	6.9	7.8	8.7	9.4	9.3	8.8	8.2	5.8	6.5	6.9	9.1	10.1	10.1	9.6	6.7	6.8	8.5	9.4	9.1	7.5	5.3	10.1	6.5
Apr 13	9.2	10.2	11.6	10.1	10.6	10.4	9.4	10.3	11.5	11.3	9.7	9.0	8.5	8.4	9.2	7.5	8.4	7.0	10.0	9.1	9.6	10.6	11.3	11.3	7.0	11.6	8.3
Apr 14	11.6	12.7	13.0	12.6	12.8	12.7	12.4	10.8	11.5	11.8	15.8	17.8	18.0	19.2	16.8	14.1	9.5	6.9	3.0	5.9	7.7	9.5	9.8	10.0	3.0	19.2	10.8
Apr 15	9.6	9.2	8.0	8.3	9.3	10.9	5.5	6.3	4.9	7.6	9.9	8.3	5.3	5.8	4.2	5.8	4.7	7.6	6.8	6.9	8.9	7.6	9.8	11.0	4.2	11.0	2.4
Apr 16	10.6	8.7	10.0	11.2	10.2	9.6	8.6	7.2	6.6	7.7	8.0	6.9	8.0	7.8	8.4	9.0	9.1	10.0	7.7	6.8	3.8	5.3	9.7	9.5	3.8	11.2	3.7
Apr 17	9.9	9.6	12.8	15.7	13.3	11.6	12.5	13.7	15.3	13.9	12.4	8.7	11.6	11.5	12.5	15.5	19.4	25.8	20.4	15.0	14.2	12.2	12.7	16.8	8.7	25.8	13.0
Apr 18	14.0	15.2	14.5	11.7	9.7	10.9	14.8	13.6	11.0	12.0	12.1	14.0	15.8	15.8	13.6	16.4	15.3	15.7	13.6	9.7	6.4	8.3	10.6	12.2	6.4	16.4	12.0
Apr 19	8.0	5.4	6.0	6.6	6.7	9.6	11.0	11.5	15.0	17.7	18.8	17.9	17.9	16.6	17.9	17.1	17.2	14.2	13.5	8.9	10.0	9.9	8.8	8.1	5.4	18.8	10.3
Apr 20	9.2	8.9	7.8	7.2	7.6	9.7	7.8	8.1	10.9	10.8	11.8	12.2	14.7	15.3	18.8	20.4	20.9	20.2	18.2	11.8	12.1	13.2	12.5	14.4	7.2	20.9	9.8
Apr 21	15.2	15.0	12.7	12.0	13.2	13.7	12.3	14.5	15.6	16.2	16.1	17.6	20.1	19.0	18.5	16.9	12.5	10.8	24.5	11.4	16.6	25.6	26.4	25.0	10.8	26.4	9.5
Apr 22	22.9	24.0	26.5	24.6	24.0	21.6	20.2	19.1	21.3	20.8	19.7	18.3	19.4	18.5	16.3	15.4	17.3	15.1	12.7	8.4	5.5	6.4	8.6	9.5	5.5	26.5	16.1
Apr 23	10.2	10.3	11.7	10.9	11.3	9.7	9.5	11.4	13.3	14.1	17.1	13.9	15.0	12.1	14.0	13.5	13.3	13.8	10.7	8.4	7.7	7.9	8.4	8.1	7.7	17.1	7.6
Apr 24	8.7	8.4	11.1	10.8	10.0	9.5	8.1	6.5	5.8	7.6	16.6	15.6	11.9	18.1	12.9	13.9	14.0	11.4	7.8	7.4	7.6	5.0	3.9	6.0	3.9	18.1	4.2
Apr 25	7.0	6.1	4.7	5.9	7.9	8.4	7.7	9.6	12.6	13.5	14.4	11.1	11.3	14.6	13.0	15.6	14.8	15.4	12.0	8.7	3.5	6.1	7.4	8.7	3.5	15.6	7.6
Apr 26	10.0	10.1	7.9	10.7	11.0	11.4	10.1	12.1	14.2	20.4	29.3	21.2	20.7	19.1	16.1	15.5	14.9	14.3	13.5	8.7	10.0	13.1	12.2	11.6	7.9	29.3	5.3
Apr 27	10.8	11.0	12.0	17.6	18.2	19.7	17.5	16.2	15.9	13.4	12.8	11.7	9.7	8.7	8.9	6.4	6.0	5.2	6.8	3.3	2.4	3.4	4.4	7.4	2.4	19.7	10.2
Apr 28	7.7	8.7	9.3	8.8	7.2	6.0	7.2	10.0	11.4	10.2	6.9	6.1	7.3	8.1	10.2	11.9	12.4	12.8	8.6	7.1	7.5	7.3	6.7	5.0	5.0	12.8	1.2
Apr 29	3.9	5.2	5.2	6.5	5.3	0.4	3.1	3.2	5.4	4.6	5.2	5.7	6.4	6.4	7.5	9.2	9.5	12.2	14.0	11.5	13.1	13.6	14.8	15.1	0.4	15.1	5.5
Apr 30	15.6	18.0	18.0	17.2	16.5	15.0	13.2	13.1	11.5	13.7	17.4	31.9	34.8	31.6	29.3	24.1	22.8	18.4	11.8	11.1	7.9	7.7	8.5	8.2	7.7	34.8	12.2
Diurnal Maximum	23	24	27	25	24	22	20	20	21	21	29	32	35	32	29	24	23	26	25	19	23	26	26	25			
Diurnal Average	10.6	10.7	11.2	11.3	11.3	11.5	11.0	10.9	11.4	12.0	13.1	13.2	13.7	13.4	13.2	13.0	12.8	12.1	10.9	9.1	9.3	9.7	10.3	10.3			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	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

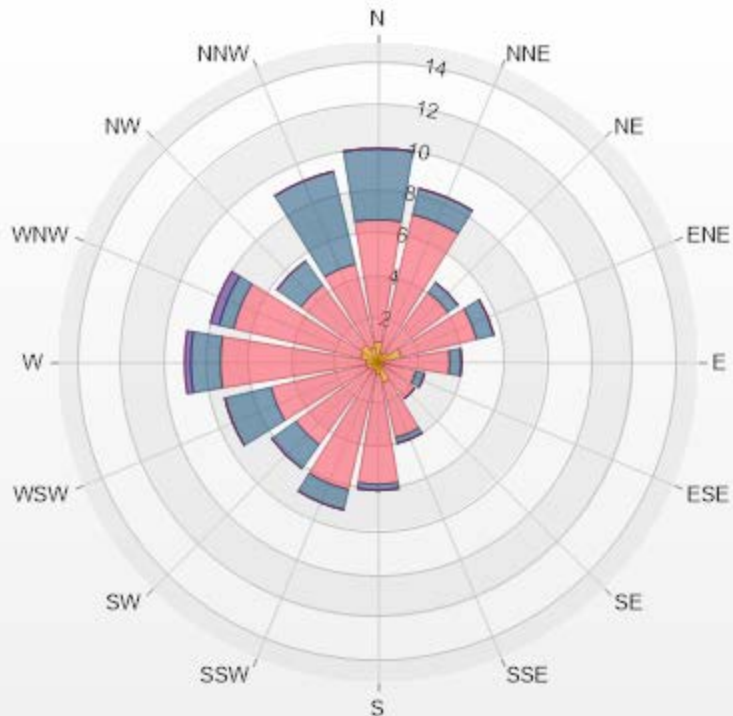
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for VWS - St. Lina Site



Wind: St. Lina Monitor: WDS [kph] Monthly: 04-2021 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.83% 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	0.97	5.69	3.33	0	0	9.99
NNE	0.42	6.67	1.25	0	0	8.34
NE	0.56	3.47	0.56	0	0	4.59
ENE	1.11	3.61	0.83	0	0	5.55
E	0.28	3.06	0.56	0	0	3.9
ESE	0.14	1.67	0.42	0	0	2.23
SE	0.28	1.81	0	0	0	2.09
SSE	0.97	2.64	0.28	0	0	3.89
S	0.56	5.14	0.28	0	0	5.98
SSW	0.42	5.69	0.97	0	0	7.08
SW	0.42	4.31	1.39	0	0	6.12
WSW	0.56	4.58	2.22	0	0	7.36
W	0.56	6.81	1.39	0.28	0	9.04
WNW	0.83	6.11	0.69	0.42	0	8.05
NW	0.97	3.47	1.39	0	0	5.83
NNW	0.69	4.03	4.44	0	0	9.16
Summary	9.74	68.76	20	0.7	0	99.2



LICA-202104



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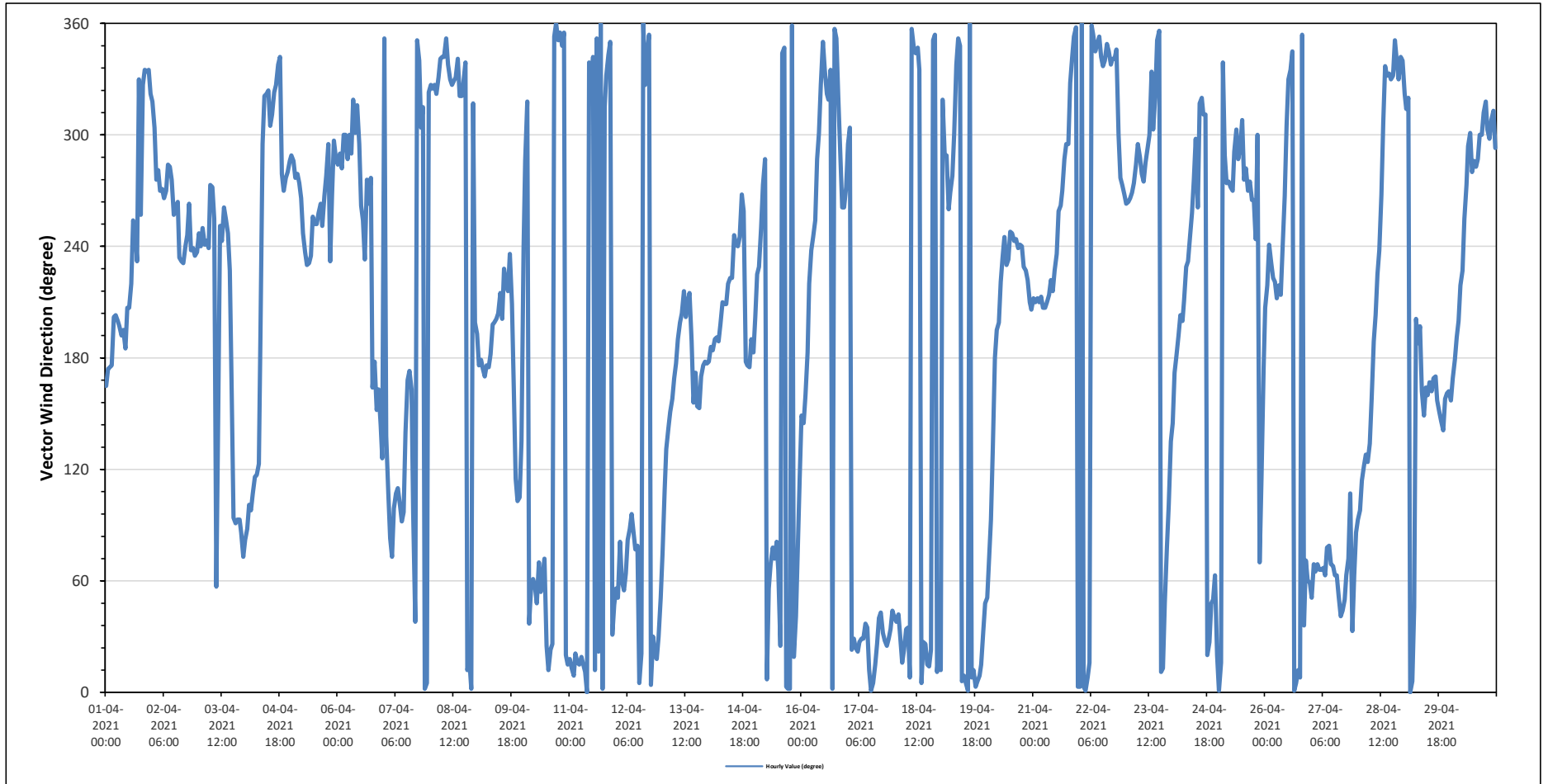
St. Lina Site - April 2021

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

Monthly Average:		308 (NW) 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	SSE	S	S	S	SSW	SSW	SSW	S	SSW	S	SSW	SSW	SW	WSW	WSW	SW	NNW	WSW	NW	NNW	NNW	NNW	NW	228	SW				
Apr 2	NW	WNW	W	W	W	W	W	W	WNW	W	W	WSW	WSW	W	SW	SW	SW	WSW	WSW	W	SW	WSW	SW	SW	263	W			
Apr 3	WSW	WSW	WSW	WSW	WSW	WSW	W	W	WSW	ENE	SSE	WSW	WSW	W	WSW	WSW	SW	SSE	E	E	E	E	ENE	ENE	224	SW			
Apr 4	E	E	E	E	ESE	ESE	ESE	ESE	S	WNW	NW	NW	NW	WNW	NW	NW	NNW	NNW	W	W	W	W	WNW	335	NNW				
Apr 5	WNW	WNW	W	W	W	W	WSW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	W	WSW	W	W	WNW	SW	W	WNW	WNW	260	WSW			
Apr 6	WNW	WNW	W	WNW	WNW	WNW	WNW	WNW	NW	WNW	NW	WNW	W	WSW	SW	W	W	SSE	S	SSE	SSE	SE	SE	SE	281	W			
Apr 7	N	SE	ESE	E	ENE	E	ESE	ESE	E	E	E	SE	SSE	S	SSE	E	NE	N	NNW	WNW	NW	N	NW	77	ENE				
Apr 8	NW	NW	NW	NW	NNW	NNW	NNW	NNW	N	NNW	NNW	NW	NNW	NNW	NNW	NW	NW	NNW	NNW	NNE	NNE	N	NW	SSW	334	NNW			
Apr 9	S	S	S	S	SSE	S	S	S	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	SW	SSW	SSE	ESE	ESE	ESE	SE	187	S				
Apr 10	WSW	WNW	NW	NE	ENE	ENE	ENE	NE	ENE	ENE	ENE	NNE	NNE	NNE	NNE	N	N	N	N	NNW	N	NNE	NNE	NNE	16	NNE			
Apr 11	NNE	NNE	N	NNE	NNE	NNE	NNE	NNE	NNE	N	NNW	NW	NNW	NNE	N	NNE	N	N	NW	NNW	NNW	N	NNE	NE	6	N			
Apr 12	NE	NE	E	ENE	NE	ENE	E	E	E	E	ENE	ENE	N	NNE	N	NW	NNW	N	N	NNE	NNE	NNE	NE	41	NE				
Apr 13	ENE	ESE	SE	SE	SSE	SSE	SSE	S	S	SSW	SSW	SSW	SSW	SSW	S	SSE	S	SSE	SSE	SSE	S	S	S	171	S				
Apr 14	S	S	S	S	S	S	SSW	SSW	SSW	SSW	SW	SW	SW	WSW	WSW	WSW	WSW	W	WSW	S	S	S	S	209	SSW				
Apr 15	SSW	SW	SW	WSW	W	WNW	N	NE	ENE	ENE	ENE	E	ENE	NNE	NNW	NNW	N	N	N	N	NNE	NE	ENE	ESE	25	NNE			
Apr 16	SSE	SE	SSE	S	SW	SW	WSW	WSW	WNW	WNW	NW	N	NNW	NW	NW	NNW	N	N	N	NW	WNW	W	W	285	WNW				
Apr 17	WNW	WNW	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NE	NE	NNE	N	N	NNE	NNE	NE	NE	NNE	NNE	NNE	NE	NE	25	NNE				
Apr 18	NE	NE	NE	NNE	NNE	NNE	NE	NE	N	N	NNW	NNW	NNW	N	NNE	NNE	NNE	NNE	N	N	NNE	NNE	NNE	15	NNE				
Apr 19	NNE	NW	WNW	WNW	WSW	W	W	WNW	NNW	N	NNW	N	N	N	N	N	NNE	N	N	NNE	NNE	NNE	NE	352	N				
Apr 20	NE	ENE	E	SE	S	SSW	SSW	SW	SW	WSW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	SSW	227	SW			
Apr 21	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	260	WSW			
Apr 22	N	N	N	N	N	NNE	N	N	NNW	NNW	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	W	W	349	NNW			
Apr 23	W	W	W	W	W	WNW	WNW	WNW	W	W	WNW	WNW	WNW	NNW	WNW	NW	N	N	NNE	NNE	NE	ENE	E	SE	304	WNW			
Apr 24	SE	S	S	S	SSW	SSW	SSW	SW	SW	WSW	WSW	W	WNW	W	NW	NW	NW	NNE	NNE	NE	NE	ENE	NNE	267	W				
Apr 25	N	NNE	NNW	WNW	W	W	W	WNW	WNW	WNW	WNW	NW	W	W	W	W	W	W	WSW	WNW	ENE	ESE	S	283	W				
Apr 26	SSW	SW	WSW	SW	SW	SW	SSW	SW	SSW	WSW	W	WNW	NNW	NNW	NNW	N	N	NNE	N	N	NE	ENE	ENE	ENE	303	WNW			
Apr 27	NE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ESE	NNE	ENE	E	66	ENE			
Apr 28	E	E	ESE	ESE	SE	ESE	SE	SSE	S	SSW	SW	SW	W	NW	NNW	NNW	NNW	NNW	NNW	N	NNW	NNW	NNW	330	NNW				
Apr 29	NW	NW	NW	N	N	NE	SSW	S	SSW	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	SSE	SSE	160	SSE			
Apr 30	SSE	SSE	S	S	SSW	SW	SW	WSW	W	WNW	WNW	W	WNW	W	WNW	WNW	WNW	NW	NW	WNW	WNW	NW	WNW	271	W				
C	Monthly Calibration							S	Daily Zero-Span Check							Q	Quality Assurance												
K	Collection Error							N	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.																													

Timeseries Chart of Hourly Average for VWD - St. Lina Site





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - April 2021

Summary of Hourly Averages

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

WIND SPEED																												
Maximum Hourly Value:	34.8	kph	on April 30 at hour 12	Hours in Service:	720																							
Maximum Daily Value:	16.1	kph	on April 22	Hours of Data:	720																							
Minimum Hourly Value:	0.4	kph	on April 29 at hour 5	Hours of Missing Data:	0																							
Minimum Daily Value:	1.2	kph	on April 28	Hours of Calibration:	0																							
Monthly Average:	3.2	kph		Operational Uptime:	100																							
WIND DIRECTION																												
Monthly Average:	308 (NW) degree																											
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	12.7	11.7	12.9	13.5	11.1	11.6	11.5	10.5	13.3	11.9	13.8	15.5	14.1	12.8	14.2	8.5	2.4	1.5	9.3	18.6	22.9	16.3	16.4	11.8	1.5	22.9	6.3	
	SSE	S	S	S	SSW	SSW	SSW	SSW	S	SSW	S	SSW	SSW	SW	WSW	WSW	SW	NNW	WSW	NW	NNW	NNW	NNW	NW				
Apr 2	14.9	11.7	11.9	11.3	11.9	13.3	9.4	10.7	12.4	12.3	11.7	12.1	14.2	12.7	15.2	17.0	14.7	11.7	10.0	6.9	4.4	5.6	6.6	6.1	4.4	17.0	10.3	
	NW	WNW	W	W	W	W	W	W	WNW	W	W	WSW	WSW	W	SW	SW	SW	WSW	WSW	W	SW	WSW	SW	SW				
Apr 3	6.6	7.5	7.8	7.6	6.7	6.7	6.5	4.3	3.0	2.2	1.6	7.0	8.8	15.5	13.2	11.1	8.1	3.1	6.7	9.5	11.9	12.1	13.8	13.7	1.6	15.5	2.4	
	WSW	WSW	WSW	WSW	WSW	WSW	W	W	WSW	ENE	SSE	WSW	WSW	W	WSW	WSW	SW	SSE	E	E	E	E	E	ENE				
Apr 4	12.2	16.0	18.5	16.1	14.2	15.9	13.9	8.3	4.0	10.2	14.1	17.7	18.9	18.6	18.9	21.2	18.9	20.4	12.8	8.2	13.3	13.4	11.6	10.7	4.0	21.2	5.1	
	E	E	E	E	ESE	ESE	ESE	ESE	S	WNW	NW	NW	NW	WNW	NW	NW	NW	NNW	NNW	W	W	W	W	WNW				
Apr 5	11.7	11.7	12.6	11.9	10.8	11.4	10.1	9.7	12.3	14.9	15.7	22.0	23.0	19.1	17.8	17.7	16.4	12.9	11.0	5.1	5.3	7.7	8.6	9.1	5.1	23.0	12.2	
	WNW	WNW	W	W	W	W	WSW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	W	WSW	W	W	WNW	SW	W	WNW	WNW				
Apr 6	9.2	9.6	10.3	9.4	10.8	12.1	8.7	8.7	12.1	12.3	11.0	8.1	8.1	5.8	1.4	5.3	16.1	8.2	0.7	4.0	5.8	7.3	8.7	1.6	0.7	16.1	5.9	
	WNW	WNW	W	WNW	WNW	WNW	WNW	WNW	WNW	NW	WNW	NW	WNW	W	WSW	SW	W	W	SSE	S	SSE	SSE	SE	SE				
Apr 7	4.6	5.0	8.6	10.4	10.4	15.3	19.3	16.0	12.8	13.0	11.8	13.0	8.8	5.7	5.4	6.0	7.8	8.5	10.1	15.9	15.0	9.6	8.6	10.5	4.6	19.3	4.6	
	N	SE	ESE	E	ENE	E	ESE	ESE	E	E	E	SE	SSE	S	SSE	E	NE	N	NNW	WNW	NW	N	N	NW				
Apr 8	10.8	13.1	12.3	12.4	16.9	16.0	18.7	20.4	19.6	20.1	23.6	23.5	22.8	19.0	19.1	18.3	19.3	17.2	11.5	7.0	7.3	6.8	3.3	7.4	3.3	23.6	14.4	
	NW	NW	NW	NW	NNW	NNW	NNW	NNW	N	NNW	NNW	NW	NNW	NNW	NNW	NW	NW	NNW	NNW	NNE	NNE	N	NW	SSW				
Apr 9	7.2	9.6	13.0	13.4	12.3	13.4	12.7	14.1	14.4	16.6	15.8	12.0	13.8	11.6	12.1	10.2	10.6	12.7	6.1	4.7	7.4	9.2	11.0	9.9	4.7	16.6	9.6	
	S	S	S	S	SSE	S	S	S	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	SW	SW	SSW	SSE	ESE	ESE	ESE	SE				
Apr 10	10.7	7.3	5.8	8.5	11.4	10.1	8.7	8.6	7.6	5.4	6.4	5.9	9.9	9.7	16.7	10.7	13.0	15.1	19.2	17.3	14.5	11.8	14.3	13.6	5.4	19.2	8.6	
	WSW	WNW	NW	NE	ENE	ENE	ENE	NE	ENE	NE	ENE	ENE	ENE	NNE	NNE	NNE	N	N	N	N	NNW	N	NNE	NNE				
Apr 11	12.6	12.7	13.2	10.4	9.4	11.3	10.6	10.0	8.5	5.8	5.4	5.4	6.3	7.2	5.8	5.7	5.9	6.7	7.4	8.0	8.1	10.3	10.7	9.6	5.4	13.2	8.1	
	NNE	NNE	N	NNE	NNE	NNE	NNE	NNE	NNE	N	NNW	NNW	NNW	NNE	N	NNE	N	N	NNW	NNW	N	NNE	NE	NE				
Apr 12	9.9	8.1	6.3	5.3	6.9	7.8	8.7	9.4	9.3	8.8	8.2	5.8	6.5	6.9	9.1	10.1	10.1	9.6	6.7	6.8	8.5	9.4	9.1	7.5	5.3	10.1	6.5	
	NE	NE	E	ENE	NE	ENE	E	E	E	ENE	ENE	N	NNE	N	NNW	N	N	NNW	N	N	NNE	NNE	NNE	NE				
Apr 13	9.2	10.2	11.6	10.1	10.6	10.4	9.4	10.3	11.5	11.3	9.7	9.0	8.5	8.4	9.2	7.5	8.4	7.0	10.0	9.1	9.6	10.6	11.3	11.3	7.0	11.6	8.3	
	ENE	ESE	SE	SE	SSE	SSE	S	S	SSW	SSW	SW	SSW	SSW	SSW	S	SSE	S	SSE	SSE	SSE	S	S	S	S				
Apr 14	11.6	12.7	13.0	12.6	12.8	12.7	12.4	10.8	11.5	11.8	15.8	17.8	18.0	19.2	16.8	14.1	9.5	6.9	3.0	5.9	7.7	9.5	9.8	10.0	3.0	19.2	10.8	
	S	S	S	S	S	S	SSW	SSW	SSW	SSW	SSW	SW	SW	WSW	WSW	WSW	WSW	W	WSW	S	S	S	S	S				
Apr 15	9.6	9.2	8.0	8.3	9.3	10.9	5.5	6.3	4.9	7.6	9.9	8.3	5.3	5.8	4.2	5.8	4.7	7.6	6.8	6.9	8.9	7.6	9.8	11.0	4.2	11.0	2.4	
	SSW	SW	SW	WSW	W	WNW	N	NE	ENE	ENE	ENE	E	ENE	NNE	NNW	NNW	N	N	N	N	NNE	NE	ENE	ESE				
Apr 16	10.6	8.7	10.0	11.2	10.2	9.6	8.6	7.2	6.6	7.7	8.0	6.9	8.0	7.8	8.4	9.0	9.1	10.0	7.7	6.8	3.8	5.3	9.7	9.5	3.8	11.2	3.7	
	SSE	SE	SSE	S	SW	WSW	WSW	WNW	WNW	NW	N	NNW	NW	NNW	NW	NNW	N	N	NW	WNW	W	W	W	W				
Apr 17	9.9	9.6	12.8	15.7	13.3	11.6	12.5	13.7	15.3	13.9	12.4	8.7	11.6	11.5	12.5	15.5	19.4	25.8	20.4	15.0	14.2	12.2	12.7	16.8	8.7	25.8	13.0	
	WNW	WNW	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NE	NNE	N	N	NNE	NNE	NE	NE	NNE	NNE	NNE	NNE	NNE	NE	NE				
Apr 18	14.0	15.2	14.5	11.7	9.7	10.9	14.8	13.6	11.0	12.0	12.1	14.0	15.8	15.8	13.6	16.4	15.3	15.7	13.6	9.7	6.4	8.3	10.6	12.2	6.4	16.4	12.0	
	NE	NE	NE	NNE	NNE	NE	NE	N	N	NNW	NNW	NNW	NNW	N	NNE	NNE	NNE	NNE	NNE	NNE	N	N	NNE	NNE				
Apr 19	8.0	5.4	6.0	6.6	6.7	9.6	11.0	11.5	15.0	17.7	18.8	17.9	17.9	16.6	17.9	17.1	17.2	14.2	13.5	8.9	10.0	9.9	8.8	8.1	5.4	18.8	10.3	
	NNE	NW	WNW	WNW	WSW	W	W	WNW	NNW	N	NNW	N	N	N	N	N	N	NNE	N	N	N	NNE	NNE	NE				
Apr 20	9.2	8.9	7.8	7.2	7.6	9.7	7.8	8.1	10.9	10.8	11.8	12.2	14.7	15.3	18.8	20.4	20.9	20.2	18.2	11.8	12.1	13.2	12.5	14.4	7.2	20.9	9.8	
	NE	ENE	E	SE	S	SSW	SSW	SW	SW	WSW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	SSW	SSW			



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - April 2021

Summary of Hourly Averages

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

WIND SPEED																											
Maximum Hourly Value:	34.8	kph	on April 30 at hour 12	Hours in Service:	720																						
Maximum Daily Value:	16.1	kph	on April 22	Hours of Data:	720																						
Minimum Hourly Value:	0.4	kph	on April 29 at hour 5	Hours of Missing Data:	0																						
Minimum Daily Value:	1.2	kph	on April 28	Hours of Calibration:	0																						
Monthly Average:	3.2	kph		Operational Uptime:	100																						
WIND DIRECTION																											
Monthly Average:	308 (NW) degree																										
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 21	15.2	15.0	12.7	12.0	13.2	13.7	12.3	14.5	15.6	16.2	16.1	17.6	20.1	19.0	18.5	16.9	12.5	10.8	24.5	11.4	16.6	25.6	26.4	25.0	10.8	26.4	9.5
Apr 22	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	SW	SW	WSW	W	W	WNW	WNW	WNW	NNW	NNW	N	N	N	5.5	26.5	16.1
Apr 23	22.9	24.0	26.5	24.6	24.0	21.6	20.2	19.1	21.3	20.8	19.7	18.3	19.4	18.5	16.3	15.4	17.3	15.1	12.7	8.4	5.5	6.4	8.6	9.5	7.7	17.1	7.6
Apr 24	N	N	N	N	N	NNE	N	N	NNW	NNW	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	WNW	W	W	W	3.9	18.1	4.2
Apr 25	10.2	10.3	11.7	10.9	11.3	9.7	9.5	11.4	13.3	14.1	17.1	13.9	15.0	12.1	14.0	13.5	13.3	13.8	10.7	8.4	7.7	7.9	8.4	8.1	3.5	15.6	7.6
Apr 26	8.7	8.4	11.1	10.8	10.0	9.5	8.1	6.5	5.8	7.6	16.6	15.6	11.9	18.1	12.9	13.9	14.0	11.4	7.8	7.4	7.6	5.0	3.9	6.0	7.9	29.3	5.3
Apr 27	SE	S	S	S	SSW	SSW	SSW	SW	SW	WSW	WSW	W	WNW	W	NW	NW	NW	NW	NNE	NNE	NE	NE	ENE	NNE	2.4	19.7	10.2
Apr 28	7.0	6.1	4.7	5.9	7.9	8.4	7.7	9.6	12.6	13.5	14.4	11.1	11.3	14.6	13.0	15.6	14.8	15.4	12.0	8.7	3.5	6.1	7.4	8.7	5.0	12.8	1.2
Apr 29	N	NNE	NNW	WNW	W	W	W	W	WNW	WNW	WNW	WNW	NW	W	W	W	W	W	WSW	WNW	ENE	ESE	ESE	S	0.4	15.1	5.5
Apr 30	10.0	10.1	7.9	10.7	11.0	11.4	10.1	12.1	14.2	20.4	29.3	21.2	20.7	19.1	16.1	15.5	14.9	14.3	13.5	8.7	10.0	13.1	12.2	11.6	7.7	34.8	12.2
Apr 30	SSW	SW	WSW	SW	SW	SSW	SW	SSW	WSW	W	WNW	NNW	NNW	NNW	N	N	NNE	N	N	NE	ENE	ENE	ENE	ENE	0.4	15.1	5.5
Apr 30	10.8	11.0	12.0	17.6	18.2	19.7	17.5	16.2	15.9	13.4	12.8	11.7	9.7	8.7	8.9	6.4	6.0	5.2	6.8	3.3	2.4	3.4	4.4	7.4	7.7	34.8	12.2
Apr 30	NE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	NE	NE	NE	NE	ENE	ENE	ESE	NNE	ENE	E				
Apr 30	7.7	8.7	9.3	8.8	7.2	6.0	7.2	10.0	11.4	10.2	6.9	6.1	7.3	8.1	10.2	11.9	12.4	12.8	8.6	7.1	7.5	7.3	6.7	5.0			
Apr 30	E	E	ESE	ESE	SE	ESE	SE	SSE	S	SSW	SW	SW	NW	NNW	NNW	NNW	NNW	NNW	N	NNW	NNW	NNW	NNW	NNW			
Apr 30	3.9	5.2	5.2	6.5	5.3	0.4	3.1	3.2	5.4	4.6	5.2	5.7	6.4	6.4	7.5	9.2	9.5	12.2	14.0	11.5	13.1	13.6	14.8	15.1	0.4	15.1	5.5
Apr 30	NW	NW	NW	N	N	NE	SSW	S	SSW	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	SSE	SSE	SSE			
Apr 30	15.6	18.0	18.0	17.2	16.5	15.0	13.2	13.1	11.5	13.7	17.4	31.9	34.8	31.6	29.3	24.1	22.8	18.4	11.8	11.1	7.9	7.7	8.5	8.2			
Apr 30	SSE	SSE	S	S	SSW	SW	SW	WSW	W	WNW	NNW	W	WNW	W	WNW	WNW	NNW	NW	NW	NNW	NNW	NW	NNW	NNW			
C	Monthly Calibration							S	Daily Zero-Span Check							Q	Quality Assurance										
K	Collection Error							N	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 2021

Summary of Hour Standard Deviations

STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

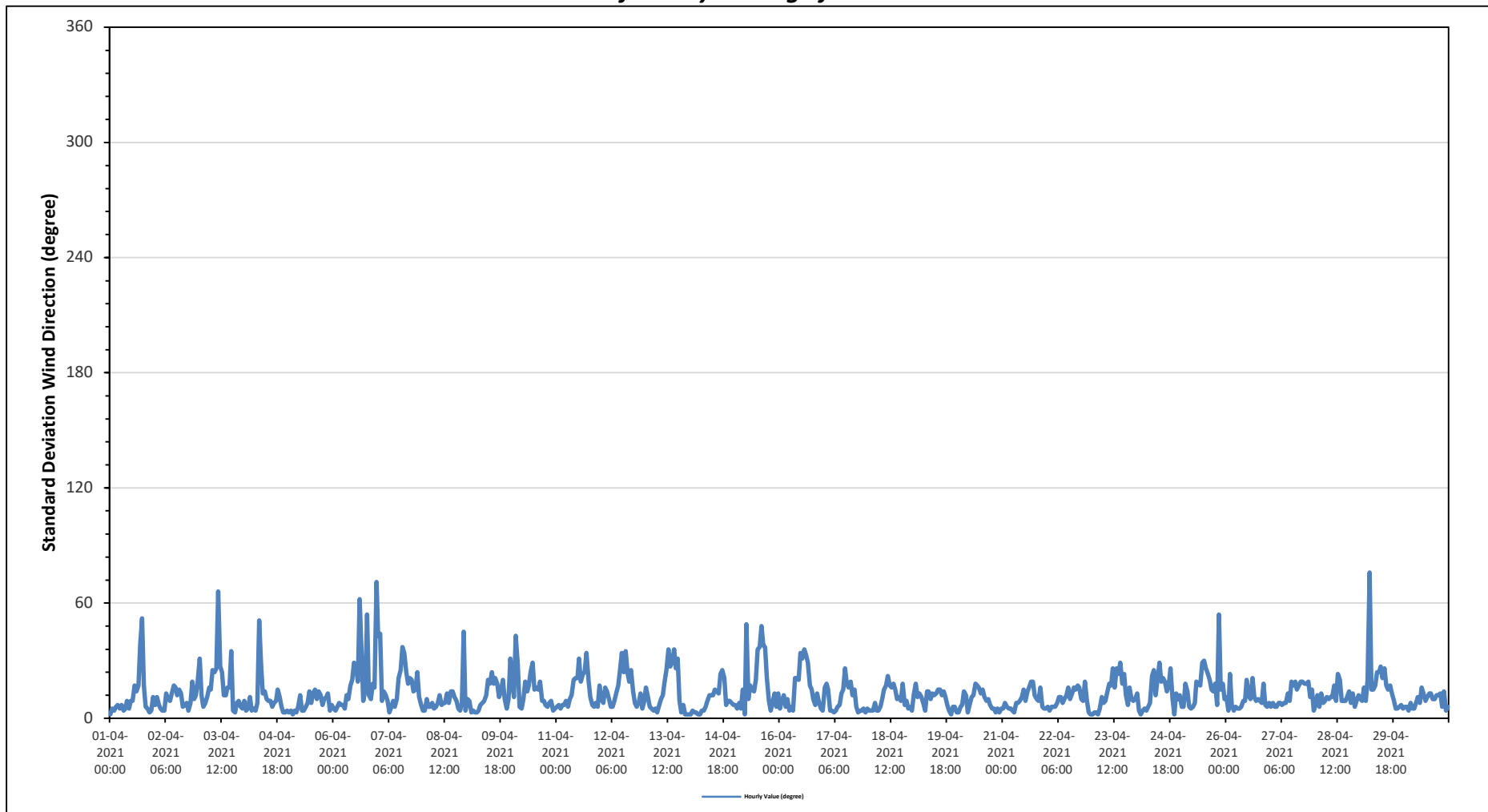
Maximum Hourly Value: 76 degree on April 29 at hour 5	Hours in Service: 720
	Hours of Data: 720
Minimum Hourly Value: 2 degree on April 1 at hour 0	Hours of Missing Data: 0
	Hours of Calibration: 0
	Operational Uptime: 100.0

Day	Hourly Period Starting at (MST)																							Daily	Daily	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum
Apr 1	2	5	4	6	7	5	7	4	5	9	5	9	9	17	14	17	39	52	17	6	5	3	4	11	2	52
Apr 2	7	11	7	5	4	4	13	10	9	13	17	16	12	15	13	6	7	8	4	8	19	10	12	19	4	19
Apr 3	31	12	6	8	11	16	15	25	24	26	66	27	24	12	12	16	16	35	4	3	8	9	6	5	3	66
Apr 4	9	4	5	11	4	5	4	8	51	29	13	14	10	9	9	6	8	9	15	11	6	3	3	4	3	51
Apr 5	3	4	2	4	3	6	12	4	4	6	8	14	8	13	15	10	14	12	7	10	11	13	4	7	2	15
Apr 6	5	4	6	8	7	7	5	12	10	17	20	29	27	19	62	36	9	15	54	12	10	18	16	71	4	71
Apr 7	43	44	9	14	12	9	3	6	9	6	10	21	25	37	34	24	18	21	20	14	15	24	11	7	3	44
Apr 8	4	4	10	6	6	8	5	6	8	12	7	8	8	13	8	14	14	11	9	5	4	8	45	4	4	45
Apr 9	10	9	3	4	3	3	4	7	8	9	12	20	18	24	18	21	18	11	14	20	10	5	10	31	3	31
Apr 10	19	11	43	28	6	5	10	19	14	17	24	29	15	16	15	19	9	7	6	8	9	4	5	4	4	43
Apr 11	6	7	5	7	7	9	6	10	12	20	21	21	31	19	23	24	34	20	11	7	6	8	6	17	5	34
Apr 12	10	8	16	14	10	6	6	9	13	17	25	34	24	35	23	19	25	14	8	6	8	13	5	9	5	35
Apr 13	16	11	6	5	4	5	3	7	10	12	19	25	36	27	29	36	26	31	9	3	7	2	2	2	2	36
Apr 14	2	4	3	3	2	2	4	4	6	9	12	12	12	15	14	13	23	25	21	7	9	9	8	7	2	25
Apr 15	7	5	8	5	15	2	49	10	17	15	14	20	36	37	48	38	37	21	9	4	8	13	6	13	2	49
Apr 16	5	9	12	6	10	4	6	4	21	21	20	34	31	36	33	29	17	15	10	7	13	8	5	4	4	36
Apr 17	16	18	15	4	4	3	4	6	7	13	15	26	18	16	19	12	15	6	3	4	4	5	3	5	3	26
Apr 18	4	4	4	8	4	4	6	10	15	17	22	17	16	18	15	10	11	9	18	7	9	5	6	4	4	22
Apr 19	12	18	11	13	11	8	4	14	14	10	13	12	13	15	15	12	14	11	7	4	2	6	6	3	2	18
Apr 20	3	6	7	14	12	3	7	11	12	18	17	16	13	15	11	9	10	7	5	5	3	5	3	5	3	18
Apr 21	5	8	6	5	5	4	3	8	8	9	11	15	9	14	16	19	19	12	10	9	16	6	5	5	3	19
Apr 22	6	4	6	6	6	8	11	11	8	10	12	16	10	13	16	15	17	16	10	9	19	9	3	2	2	19
Apr 23	2	3	3	2	5	11	8	9	14	18	17	26	16	26	23	29	18	23	12	7	16	10	9	10	2	29
Apr 24	13	4	2	4	5	4	6	8	22	25	12	21	29	19	21	19	14	17	26	10	2	13	10	12	2	29
Apr 25	6	6	18	14	6	5	6	8	19	18	17	29	30	26	23	20	15	14	18	7	54	15	18	10	5	54
Apr 26	11	4	23	7	4	6	5	5	6	9	9	20	12	10	21	11	9	10	9	8	18	7	6	8	4	23
Apr 27	6	8	6	6	8	8	7	8	8	13	9	19	17	19	15	17	19	19	18	18	19	11	15	4	4	19
Apr 28	7	12	6	13	8	9	11	10	11	11	17	9	23	20	9	9	9	11	14	8	13	6	9	12	6	23
Apr 29	10	9	16	9	20	76	15	15	17	24	24	27	21	26	17	15	17	13	9	5	5	6	7	5	5	76
Apr 30	6	6	4	8	5	5	8	11	8	16	13	9	11	13	13	10	10	12	12	13	6	14	4	6	4	16
Diurnal Minimum	2	3	2	2	2	2	3	4	4	6	5	8	8	9	8	6	7	6	3	3	2	2	2	2	2	2
Diurnal Maximum	43	44	43	28	20	76	49	25	51	29	66	34	36	37	62	38	39	52	54	20	54	24	45	71	71	71

C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N 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.

Timeseries Chart of Hourly Average for STDWD - St. Lina Site



END OF REPORT

This page, 237 of 237, ends the April 2021 Monthly Ambient Air Quality Monitoring Report.



Lakeland Industry & Community Association

APRIL 2021

Ambient Air Monitoring Calibration Report

- COLD LAKE SOUTH STATION-

CAL-LICA-202104-01174

Station Operation and Maintenance:

Bureau Veritas Canada

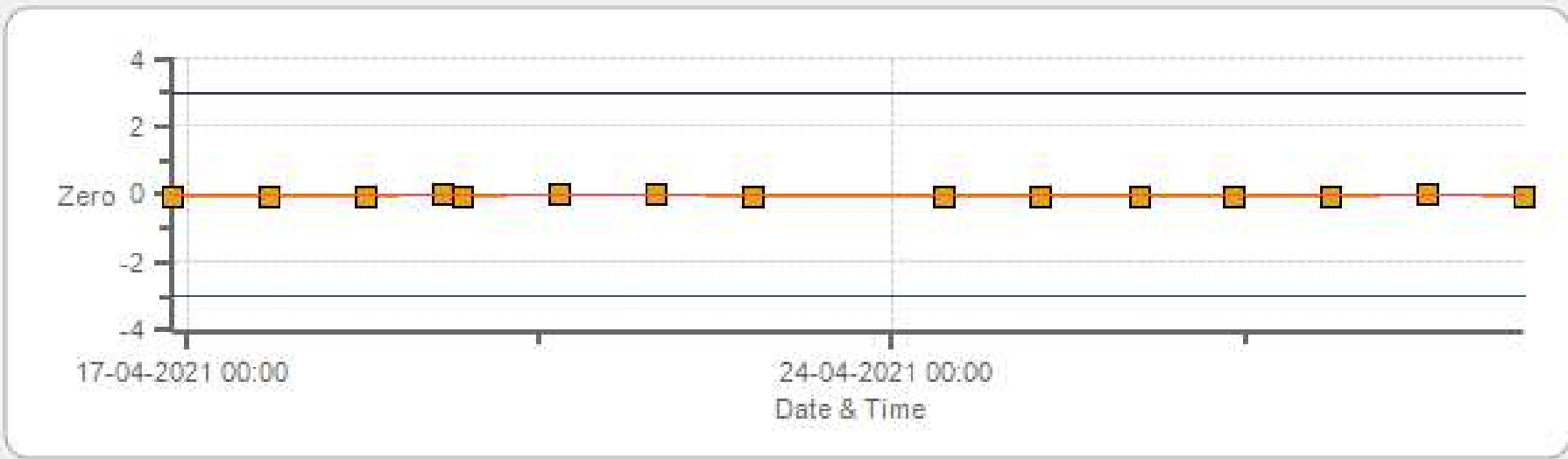
Data Validation and Report:

LICA / Bureau Veritas Canada

May 13, 2021

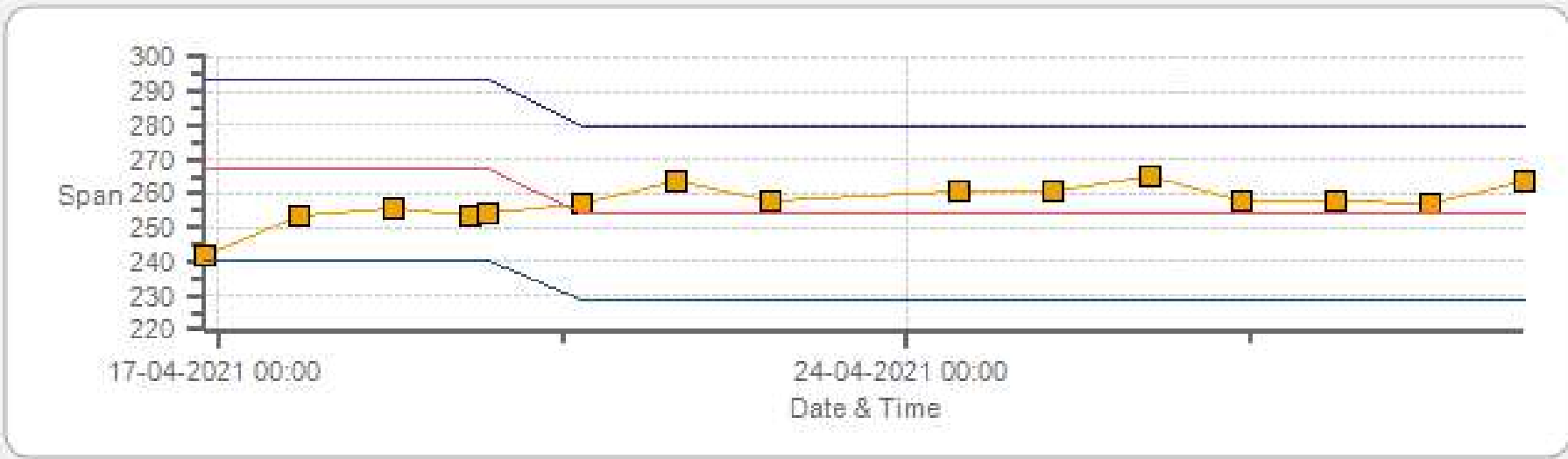
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2[ppb] Calibration: Cold Lake South Monthly: 04-2021 Type: SpanAndZero - Zero



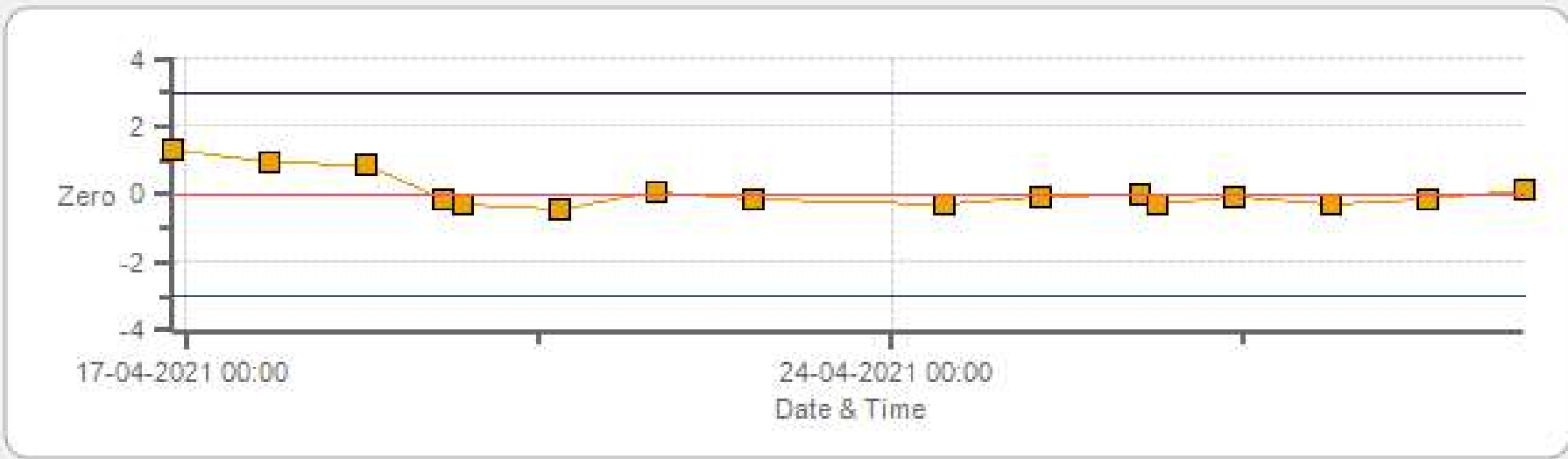
Zero Zero Ref Zero Low Zero High

SO2[ppb] Calibration: Cold Lake South Monthly: 04-2021 Type: SpanAndZero - Span



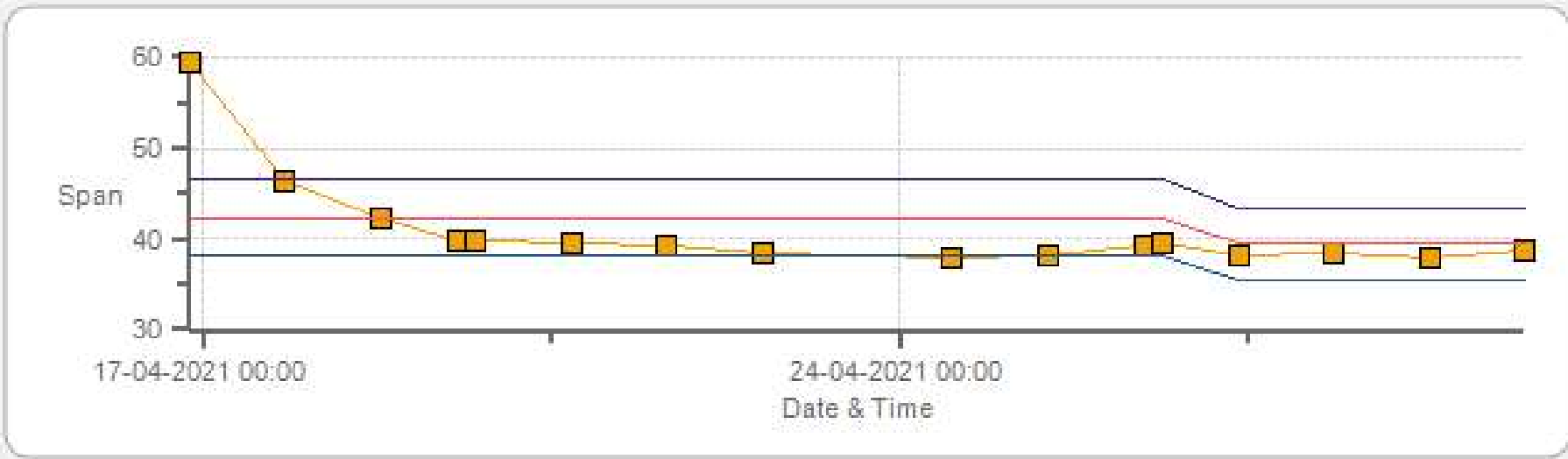
Span Span Ref Span Low Span High

TRS[ppb] Calibration: Cold Lake South Monthly: 04-2021 Type: SpanAndZero - Zero



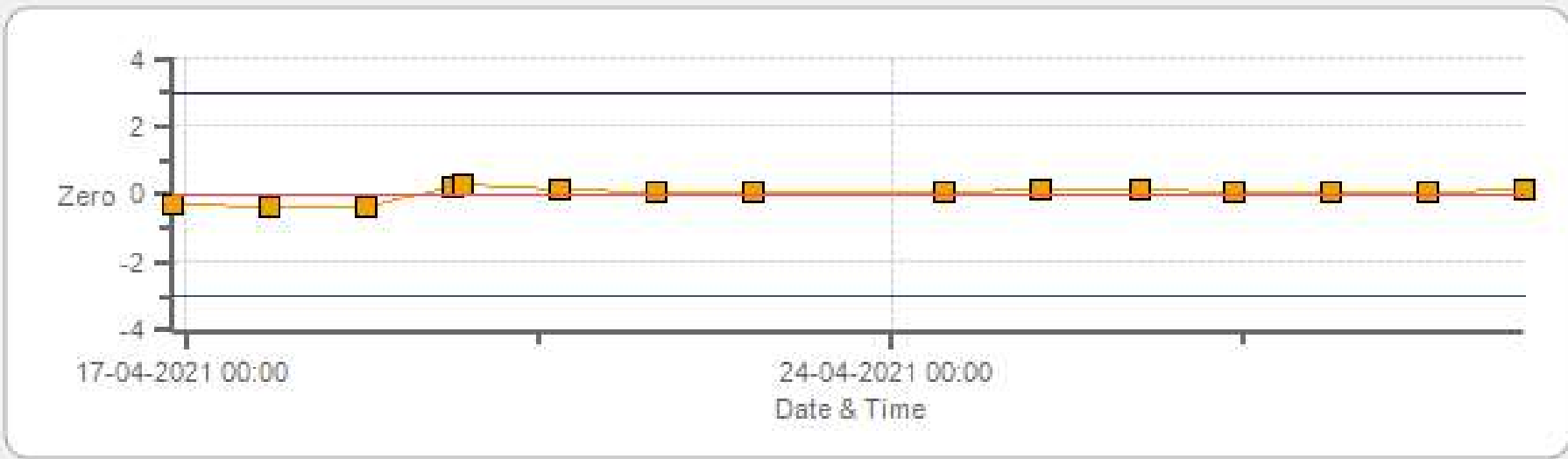
Zero Zero Ref Zero Low Zero High

TRS[ppb] Calibration: Cold Lake South Monthly: 04-2021 Type: SpanAndZero - Span



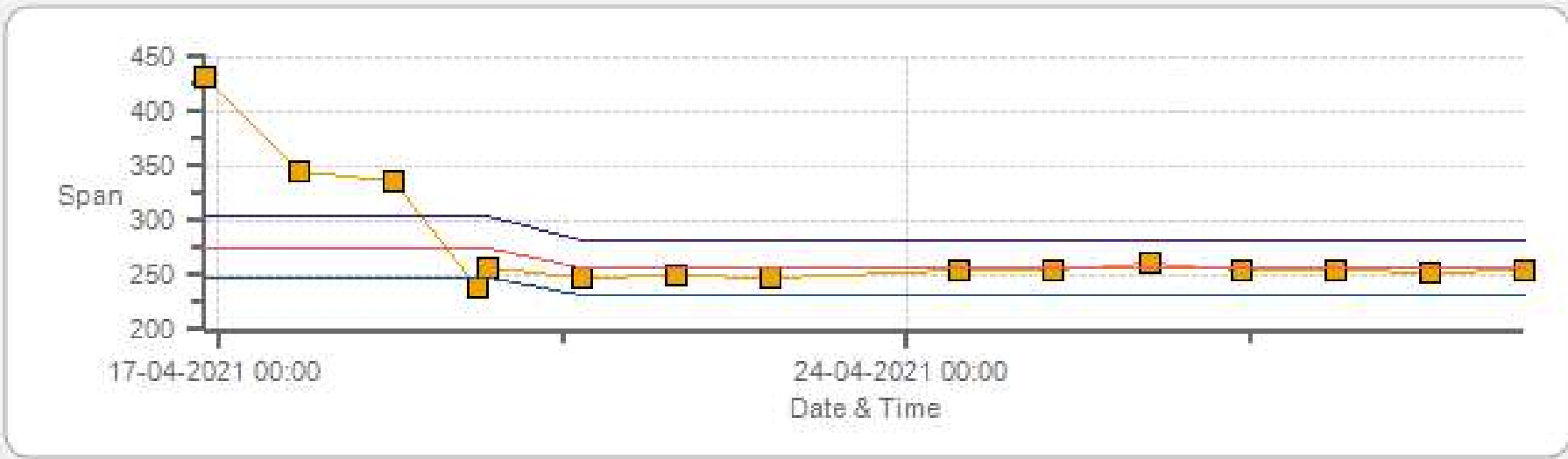
Span Span Ref Span Low Span High

NOX[ppb] Calibration: Cold Lake South Monthly: 04-2021 Type: SpanAndZero - Zero



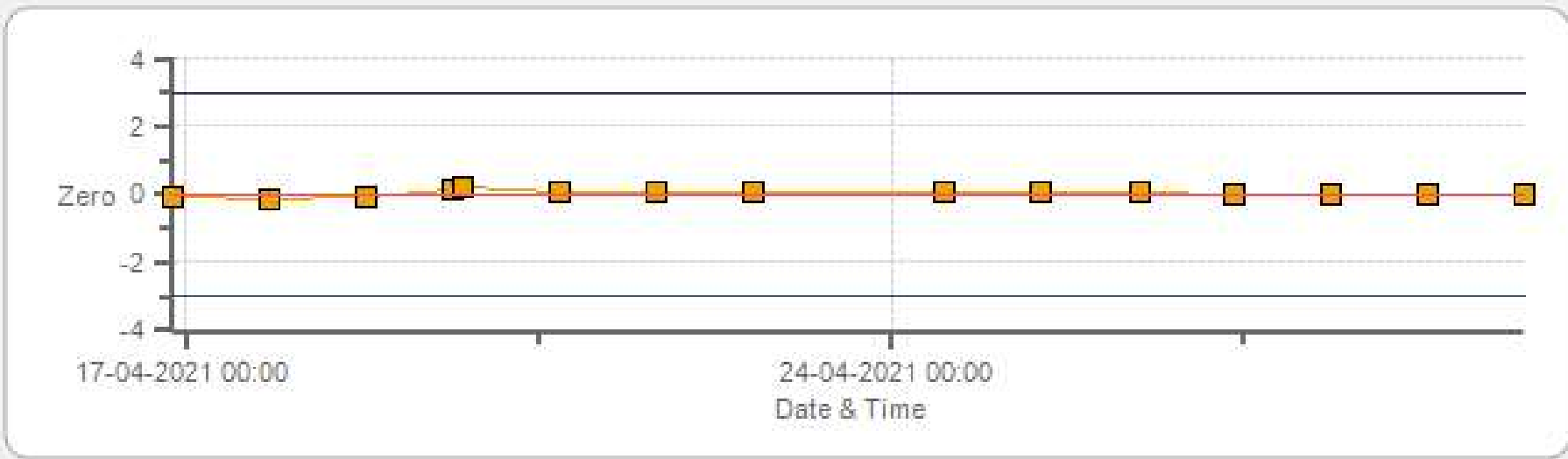
Zero Zero Ref Zero Low Zero High

NOX[ppb] Calibration: Cold Lake South Monthly: 04-2021 Type: SpanAndZero - Span



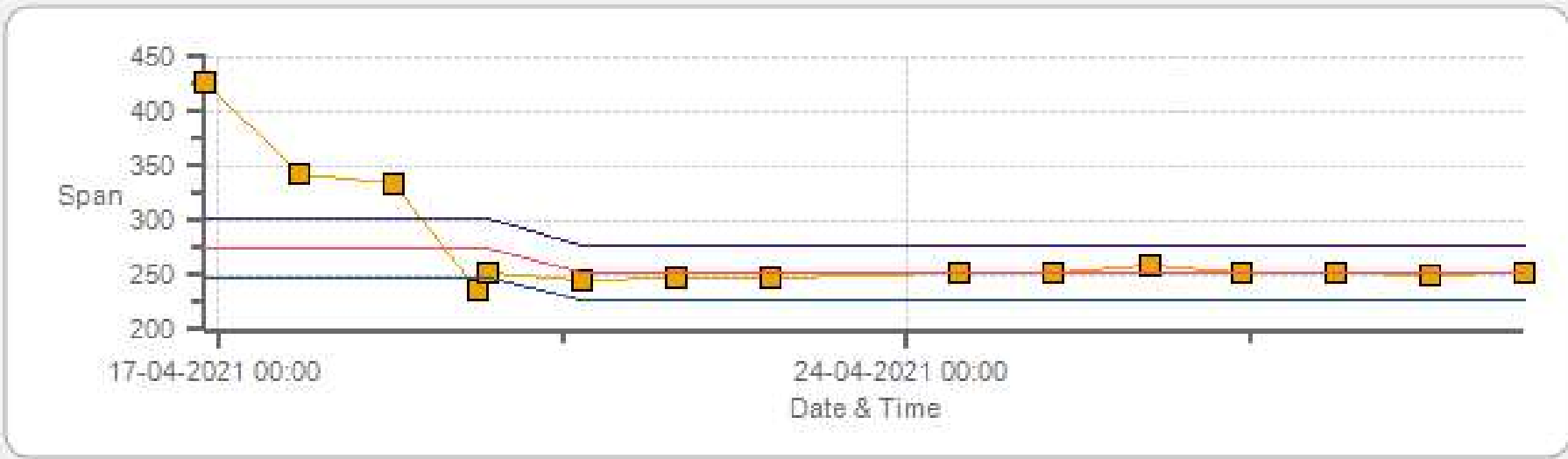
Span Span Ref Span Low Span High

NO2[ppb] Calibration: Cold Lake South Monthly: 04-2021 Type: SpanAndZero - Zero



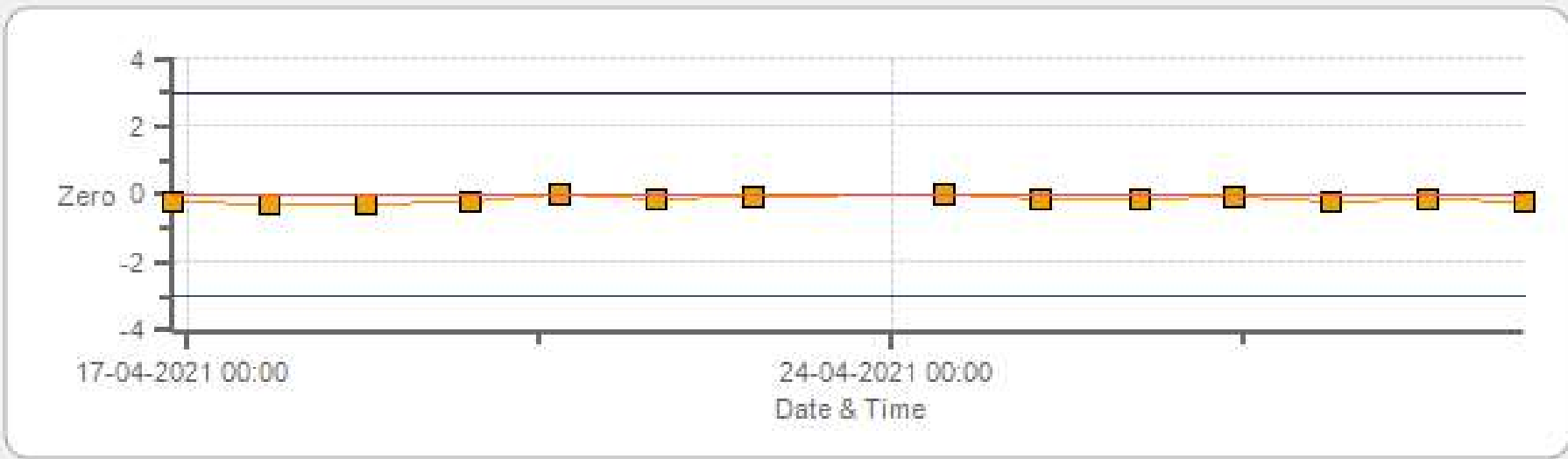
Zero Zero Ref Zero Low Zero High

NO2[ppb] Calibration: Cold Lake South Monthly: 04-2021 Type: SpanAndZero - Span



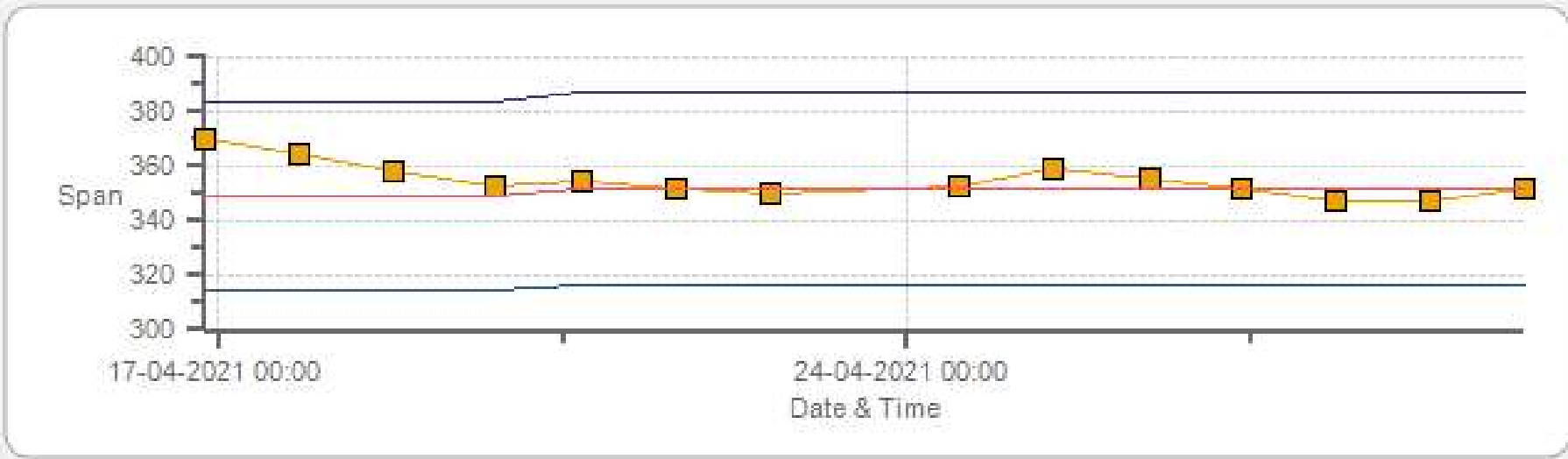
Span SpanRef Span Low Span High

O3[ppb] Calibration: Cold Lake South Monthly: 04-2021 Type: SpanAndZero - Zero



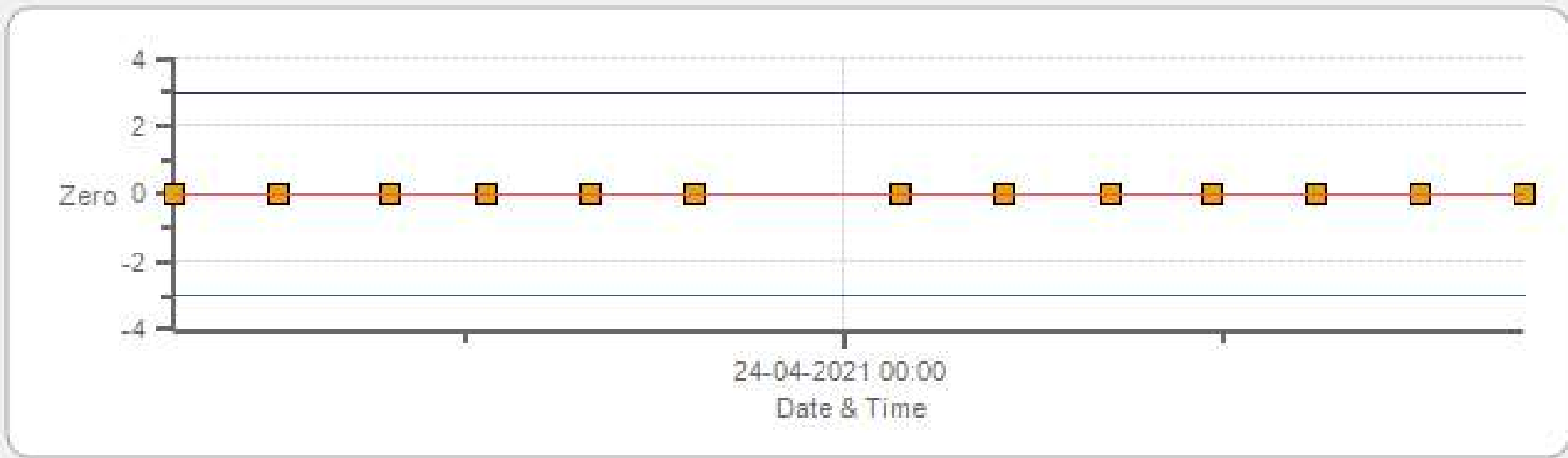
Zero Zero Ref Zero Low Zero High

O3[ppb] Calibration: Cold Lake South Monthly: 04-2021 Type: SpanAndZero - Span



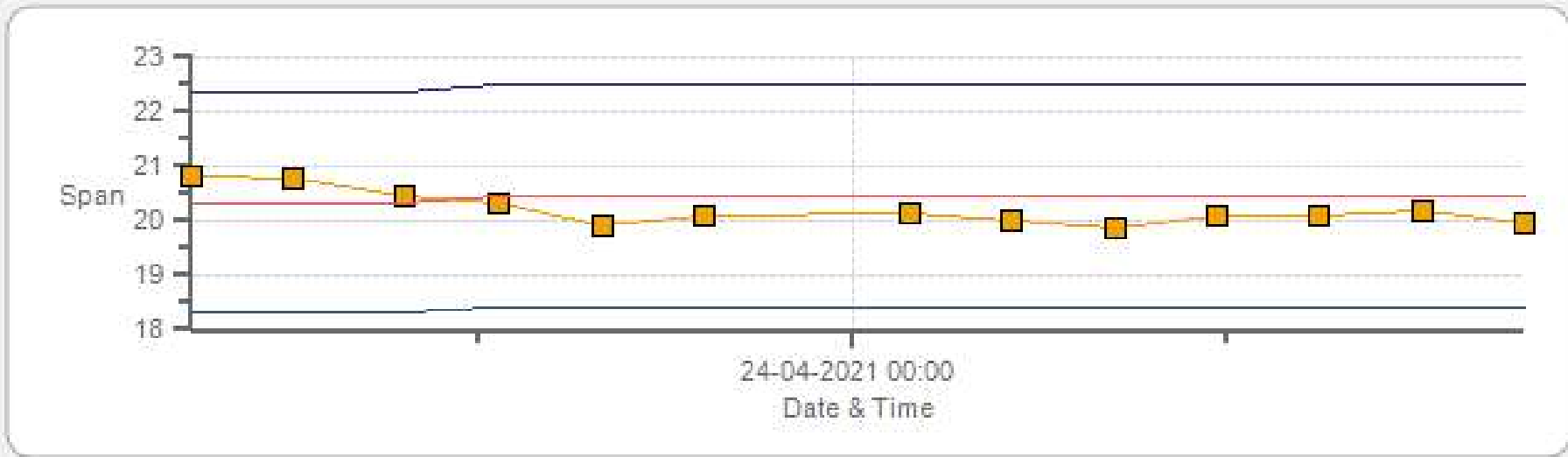
Span Span Ref Span Low Span High

THC55[ppm] Calibration: Cold Lake South Monthly: 04-2021 Type: SpanAndZero - Zero



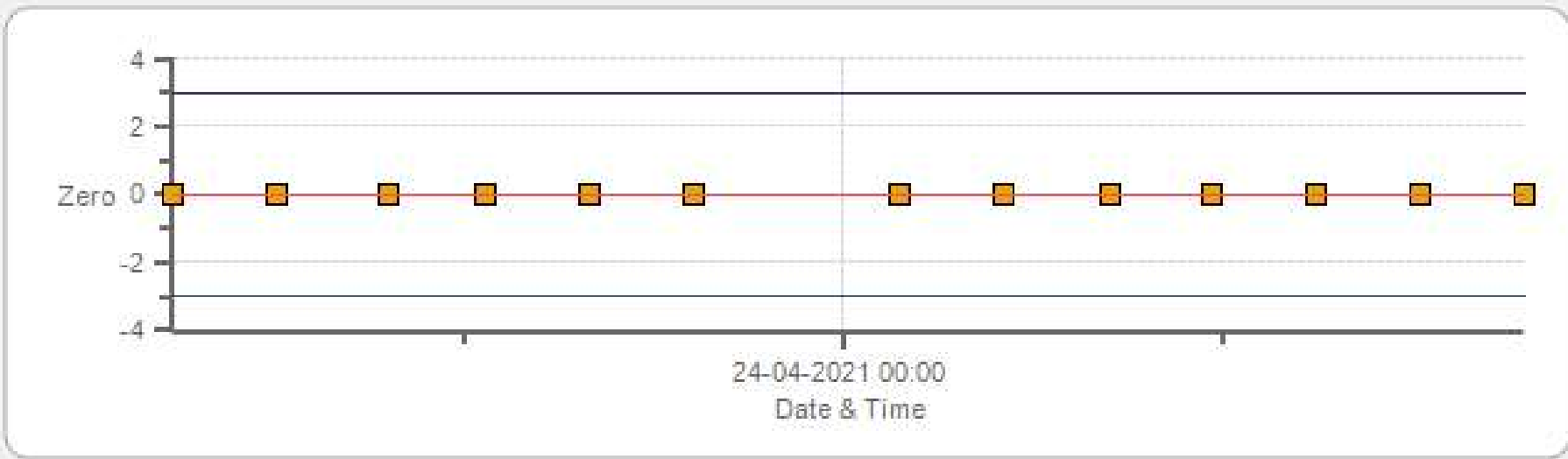
Zero Zero Ref Zero Low Zero High

THC55[ppm] Calibration: Cold Lake South Monthly: 04-2021 Type: SpanAndZero - Span



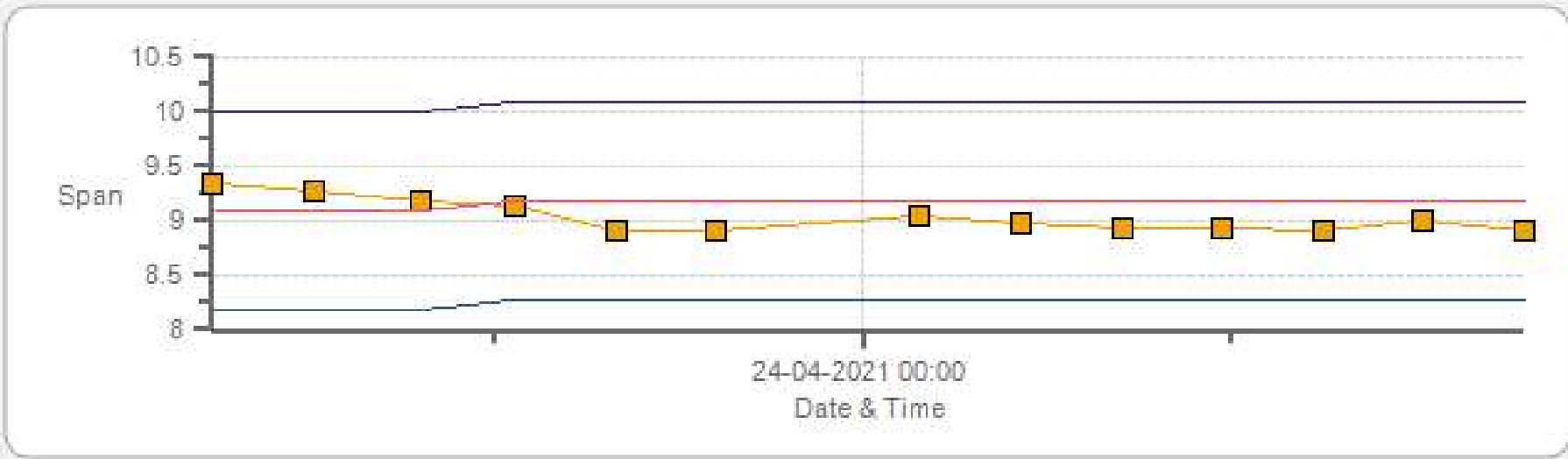
Span Span Ref Span Low Span High

CH4[ppm] Calibration: Cold Lake South Monthly: 04-2021 Type: SpanAndZero - Zero



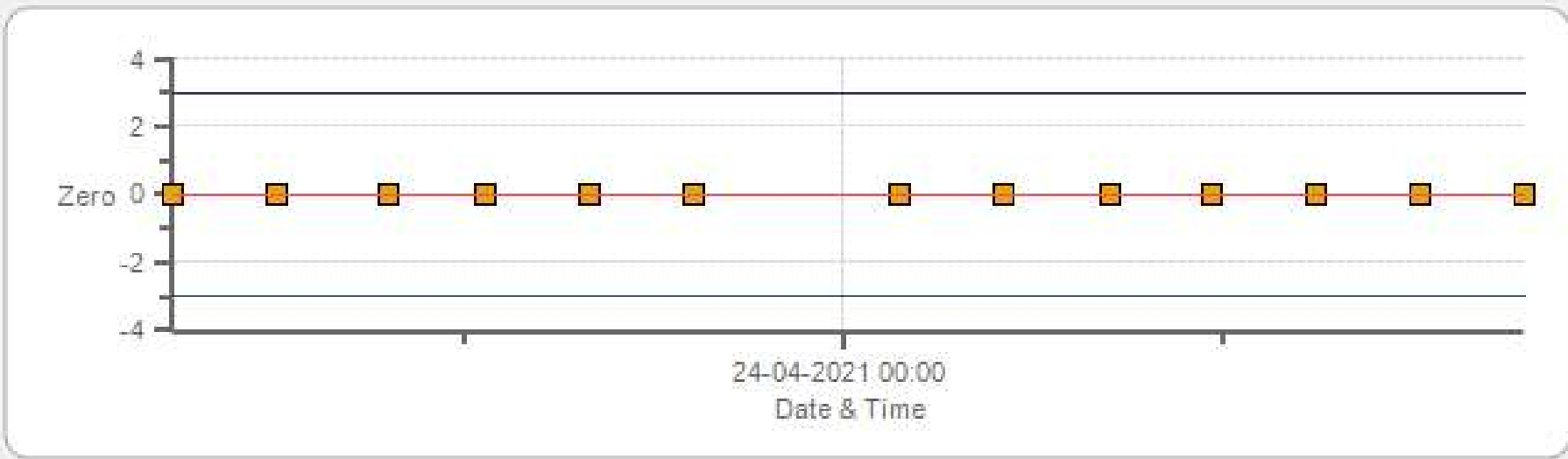
Zero Zero Ref Zero Low Zero High

CH4[ppm] Calibration: Cold Lake South Monthly: 04-2021 Type: SpanAndZero - Span



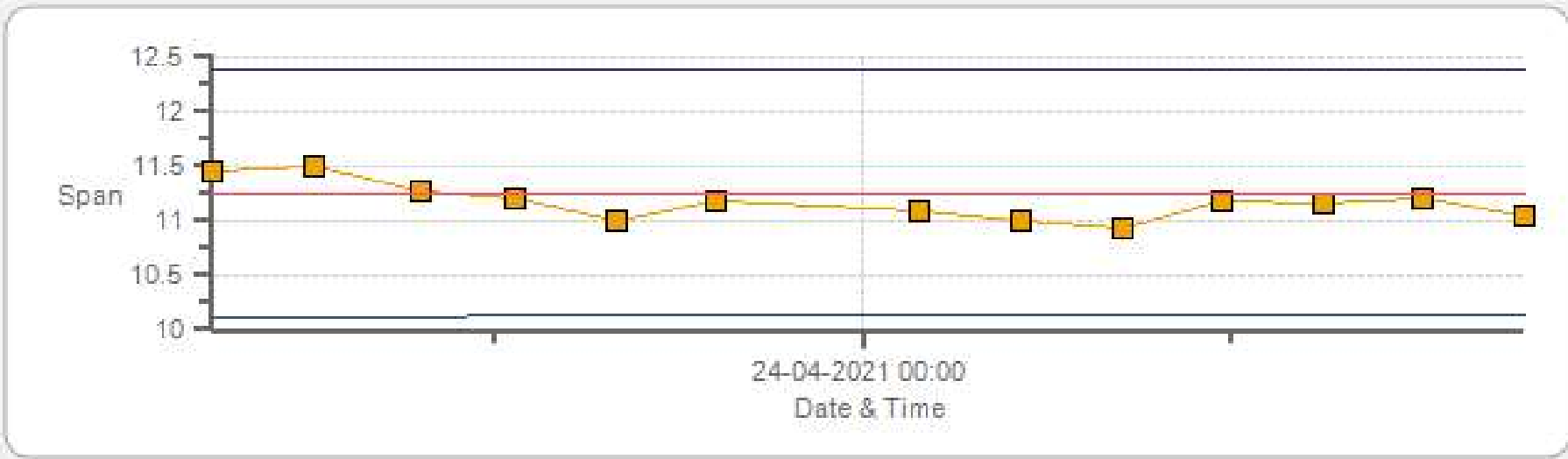
Span Span Ref Span Low Span High

NMHC[ppm] Calibration: Cold Lake South Monthly: 04-2021 Type: SpanAndZero - Zero



Zero Zero Ref Zero Low Zero High

NMHC[ppm] Calibration: Cold Lake South Monthly: 04-2021 Type: SpanAndZero - Span



Span Span Ref Span Low Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution



DATE:	19-Apr-2021	PREVIOUS CALIBRATION DATE:	n/a
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	n/a
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	CLS	BAROMETRIC (mBar):	962
PURPOSE:	Install/Post-Repair	START TIME (MST):	09:58
PERFORMED BY:	Alex Yakupov	END TIME (MST):	13:20

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1180260018	FLOW (mL/min)	455
INITIAL		FINAL	
BKG/OFFSET	n/a	BKG/OFFSET	2.02
COEF/SLOPE	n/a	COEF/SLOPE	0.976
Expected (reference) Value	n/a	Expected (reference) Value	254

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010	MODEL:	T701
ID:	26801218	ID:	132
MFC CALIBRATION DATE:	09-Apr-2021	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0000851	HIGH ID	n/a
CONC (ppm):	51.60	EXPIRY DATE	n/a
CYLINDER (psi):	600	LOW ID	n/a
EXPIRY DATE	24-Feb-2028	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:

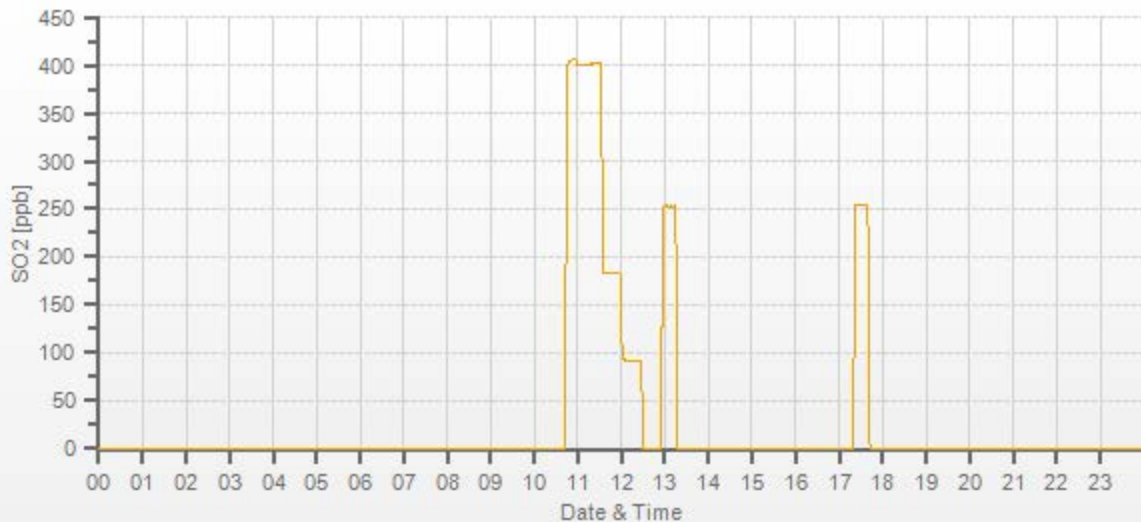
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
5000	38.70	5000	0.00	n/a	0	n/a	0.998
4961	38.70	5000	399.38	n/a	400.3	n/a	0.998
4982	17.60	5000	181.63	n/a	183.7	n/a	0.989
4991	8.80	5000	90.82	n/a	92.1	n/a	0.986

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.002	0.2%

COMMENTS:

Sample inlet filter was changed.



TRS Analyzer Calibration by Dilution



DATE:	19-Apr-2021	PREVIOUS CALIBRATION DATE:	n/a
PARAMETER:	TRS	PREVIOUS CORRECTION FACTOR:	n/a
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	CLS	BAROMETRIC (mBar):	963
PURPOSE:	Install/Post-Repair	START TIME (MST):	09:34
PERFORMED BY:	Alex Yakupov	END TIME (MST):	13:20

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	812728560	FLOW (mL/min)	493
INITIAL		FINAL	
BKG/OFFSET	n/a	BKG/OFFSET	20.9
COEF/SLOPE	n/a	COEF/SLOPE	1.038
Expected (reference) Value	n/a	Expected (reference) Value	39.9

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	09-Apr-2021	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL 19174	HIGH ID	n/a
CONC (ppm):	10.00	EXPIRY DATE	n/a
CYLINDER (psi):	500	LOW ID	n/a
EXPIRY DATE	16-Jul-2022	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:	09:46	SO2 Conc (ppb)	380
END TIME:	10:01	Analyzer Response (ppb)	n/a

CALIBRATION:

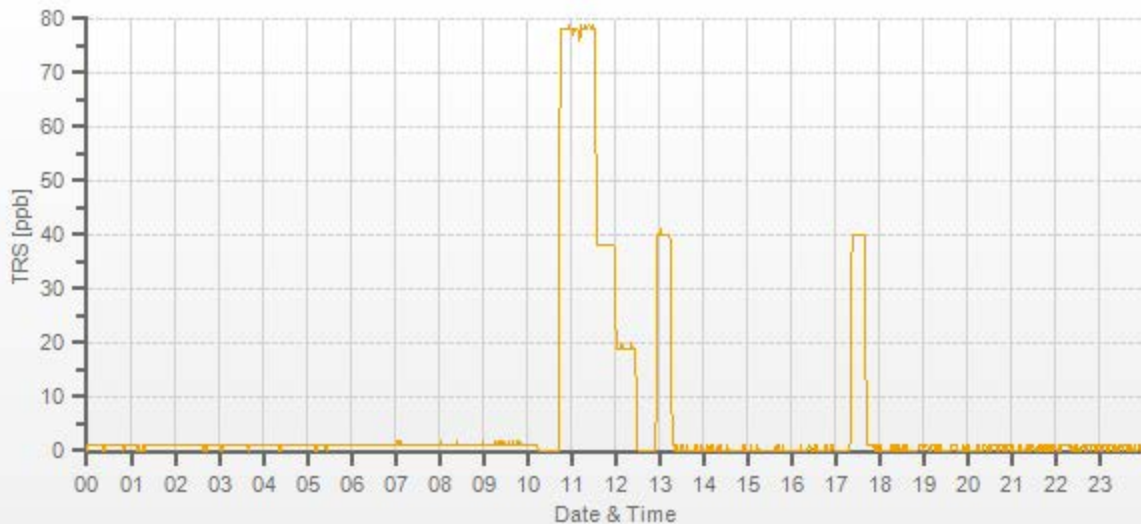
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
7500	58.50	7500	0.00	n/a	0	n/a	1.003
7442	58.50	7500	78.00	n/a	77.8	n/a	1.003
7472	28.50	7500	38.00	n/a	37.9	n/a	1.003
7486	14.20	7500	18.93	n/a	19.3	n/a	0.981

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.996	0.2%

COMMENTS:

Converter: CDNova, CDN-101, #501



TRS Analyzer Calibration by Dilution



DATE:	26-Apr-2021	PREVIOUS CALIBRATION DATE:	19-Apr-2021
PARAMETER:	TRS	PREVIOUS CORRECTION FACTOR:	1.003
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	CLS	BAROMETRIC (mBar):	933
PURPOSE:	Repeat	START TIME (MST):	11:27
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:15

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	812728560	FLOW (mL/min)	485
INITIAL		FINAL	
BKG/OFFSET	20.9	BKG/OFFSET	21.7
COEF/SLOPE	1.038	COEF/SLOPE	1.058
Expected (reference) Value	39.9	Expected (reference) Value	39.5

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	09-Apr-2021	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL 19174	HIGH ID	n/a
CONC (ppm):	10.00	EXPIRY DATE	n/a
CYLINDER (psi):	400	LOW ID	n/a
EXPIRY DATE	16-Jul-2022	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:

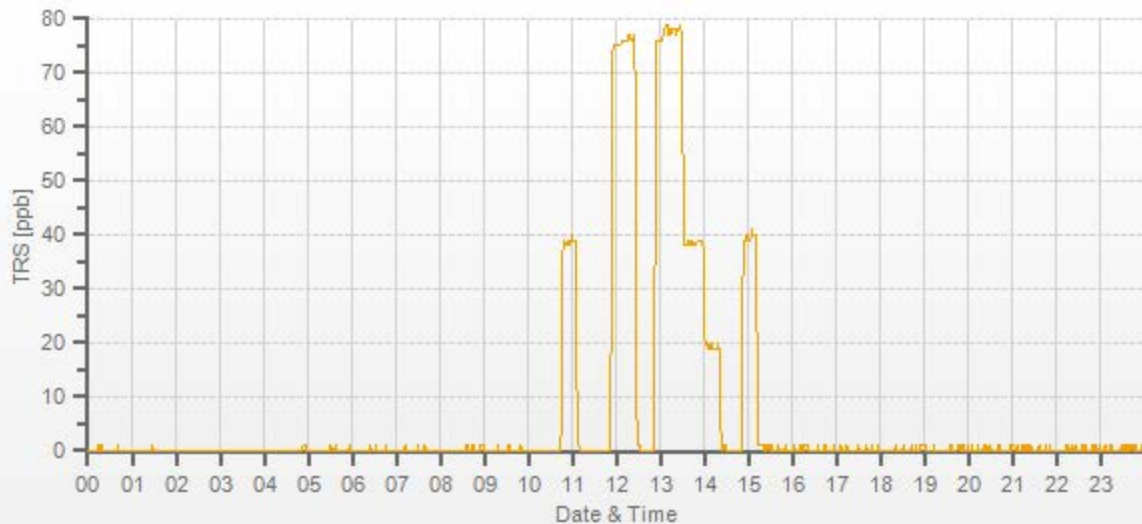
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
7500	58.50	7500	0.00	-0.1	0	1.018	0.999
7442	58.50	7500	78.00	76.5	78.1	1.018	0.999
7472	28.50	7500	38.00	n/a	38.6	n/a	0.984
7486	14.20	7500	18.93	n/a	19	n/a	0.996

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.002	0.1%

COMMENTS:

Repeat calibration was completed to correct the span drift.
Converter: CDNOva, CDN-101, #501



NOx Calibration by Dilution/Gas-Phase Titration



CALIBRATION:				ANALYZER:			
DATE:	19-Apr-2021	PREVIOUS CALIBRATION DATE:	n/a	MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
CLIENT:	LICA	TEMPERATURE (°C):	22.0	SERIAL #:	1505664393	NOx	n/a
LOCATION:	CLS	BAROMETRIC (mBar):	962	FLOW (mL/min)	809	NO	n/a
PURPOSE:	Install/Post-Repair	START TIME (MST):	10:06	RANGE (ppb)	500	NO2	n/a
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:15	GPT FOR O3?		No	

CALIBRATION SYSTEM:							
CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:		FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	EY 0000851	HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	NO/NOx (PPM):	50.9 51.1	HIGH EXPIRY:	n/a
ID:	26801218	ID:	132	CYLINDER (psi):	600	LOW ID:	n/a
MFC CALIBRATION DATE:	09-Apr-2021	OXIDIZER ID:	n/a	EXPIRY DATE	24-Feb-2028	LOW EXPIRY:	n/a

CALIBRATION SETTINGS:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
BKG/OFFSET:	n/a	n/a	n/a	BKG/OFFSET:	3.9	3.8	n/a
SLOPE/COEF/CE:	n/a	n/a	n/a	SLOPE/COEF/CE:	1.003	0.944	0.998

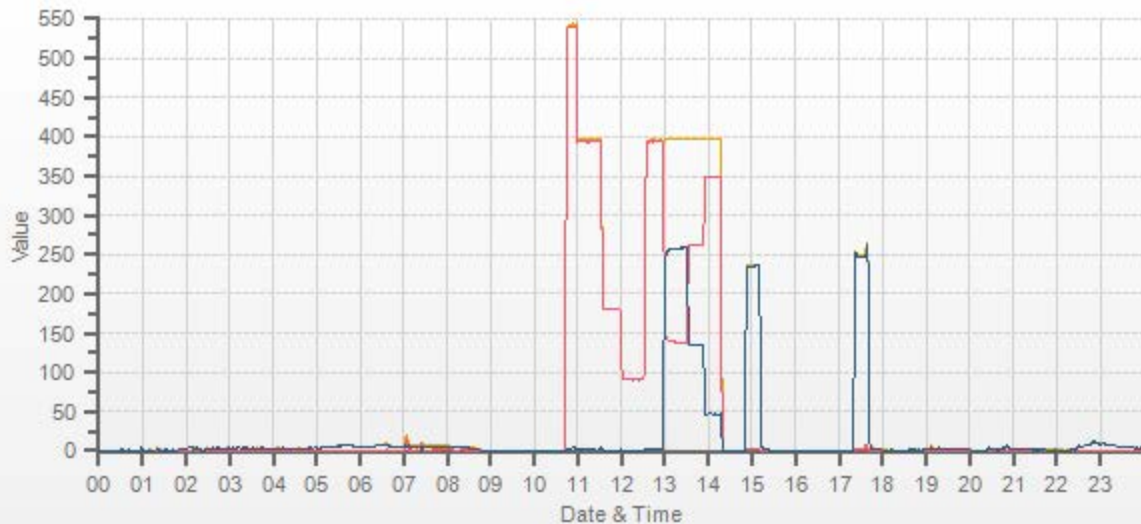
EXPECTED (REFERENCE) VALUE:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	n/a	n/a	n/a		257.0	252.0	4.3

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

NO/NOx CALIBRATION:																		
FLOW RATE			CONCENTRATION (ppb)									CORRECTION FACTOR (CF.)						
(mL/min)			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL			
DILUENT	GAS	TOTAL	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	
5000	38.70	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	
4959	38.70	4998	394.1	395.7	1.5	n/a	n/a	n/a	393.9	396.2	2.2	n/a	n/a	n/a	1.001	0.999	n/a	
4980	17.60	4998	179.2	179.9	0.7	n/a	n/a	n/a	180.2	181.3	1.0	n/a	n/a	n/a	0.995	0.993	n/a	
4989	8.80	4998	89.6	90.0	0.4	n/a	n/a	n/a	90.6	91.2	0.6	n/a	n/a	n/a	0.989	0.987	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	38.70	4997	0	393.7	395.9	2.1	n/a	n/a	n/a	n/a
AS-FOUND HIGH	38.70	4997	250	137.7	396.3	258.6	256	256.5	0.998	100.20%
ADJUSTED HIGH	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MID	38.70	4997	125	260.9	396.3	135.4	132.8	133.3	0.996	100.38%
LOW	38.70	4997	45	349.3	397.0	47.7	44.4	45.6	0.974	102.70%
NO2 adjustment not required.									AVERAGE:	101.09%

LINEAR REGRESSION ANALYSIS:				COMMENTS:
	CORRELATION	SLOPE	INTERCEPT	
NO	1.000	0.999	0.13%	
NOx	1.000	1.001	0.14%	
NO2	1.000	0.997	0.24%	



CAL-LICA-202104-01174

Ozone Calibration by Photometer (Varying UV Lamp)



DATE:	19-Apr-2021	PREVIOUS CALIBRATION DATE:	n/a
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	n/a
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	CLS	BAROMETRIC (mBar):	962
PURPOSE:	Install/Post-Repair	START TIME (MST):	15:57
PERFORMED BY:	Alex Yakupov	END TIME (MST):	19:30

ANALYZER:

MAKE/MODEL	Thermo 49i	RANGE	500 ppb
SERIAL #	700419951	FLOW (mL/min)	1474
INITIAL		FINAL	
BKG/OFFSET	n/a	BKG/OFFSET	0
COEF/SLOPE	n/a	COEF/SLOPE	1.042
Expected (reference) Value	n/a	Expected (reference) Value	352

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Thermo-Electron
MODEL:	2010 D	MODEL:	111
ID:	11900613	ID:	111-22449-204
MFC CALIBRATION DATE:	09-Apr-2021	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:

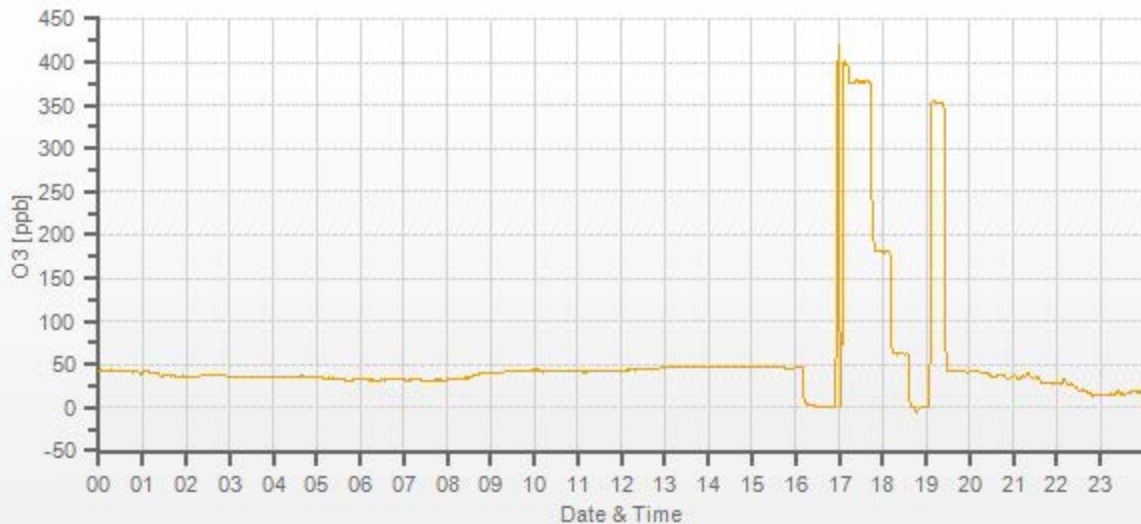
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
5000	XXXX	5000	0.0	n/a	0.0	XXXX	XXXX
5000	XXXX	5000	378.0	n/a	377.4	n/a	1.002
5000	XXXX	5000	180.0	n/a	180.3	n/a	0.998
5000	XXXX	5000	61.0	n/a	62.9	n/a	0.970

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.996	0.2%

COMMENTS:

Sample inlet filter was changed. 17:00 - scheduled ZS check interfered with the calibration.



Methane/Non-Methane Analyzer Calibration by Dilution



CALIBRATION:				ANALYZER:			
DATE:	19-Apr-2021	PREVIOUS CALIBRATION DATE:	n/a	VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
CLIENT:	LICA	TEMPERATURE (°C):	22.0		Thermo 55i	1180030034	1050
LOCATION:	CLS	BAROMETRIC (mBar):	962	PARAMETER:	CH4	NMHC	THC
PURPOSE:	Install/Post-Repair	START TIME (MST):	15:55	RANGE (ppm):	20	20	40
PERFORMED BY:	Alex Yakupov	END TIME (MST):	19:30	PREVIOUS CF:	n/a	n/a	n/a

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:		FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 168375	HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	CH ₄ /C ₃ H ₈ (ppm):	914.0 307.0	HIGH EXPIRY:	n/a
ID:	26801218	ID:	132	CYLINDER (psi):	1500	LOW ID:	n/a
MFC CALIBRATION DATE:	09-Apr-2021	OXIDIZER ID:	115	EXPIRY DATE:	21-Jan-2028	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	844.3
RANGE	12 - 16	6 - 8	2 - 4	THC as CH ₄	1758.3

EXPECTED (REFERENCE) VALUE:

INITIAL	CH ₄	NMHC	THC	FINAL	CH ₄	NMHC	THC
	n/a	n/a	n/a		n/a	9.18	11.26

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	X	3100	0.00	0.00	0.00	n/a	n/a	n/a	0.00	0.00	0.00	X	X	X	X	X	X
3051	49.40	3100	14.57	13.45	28.02	n/a	n/a	n/a	14.61	13.44	28.06	n/a	n/a	n/a	0.997	1.001	0.999
3075	24.70	3100	7.28	6.73	14.01	n/a	n/a	n/a	7.32	6.70	14.02	n/a	n/a	n/a	0.995	1.004	0.999
3088	12.40	3100	3.66	3.38	7.03	n/a	n/a	n/a	3.62	3.29	6.92	n/a	n/a	n/a	1.010	1.026	1.016

LINEAR REGRESSION ANALYSIS:

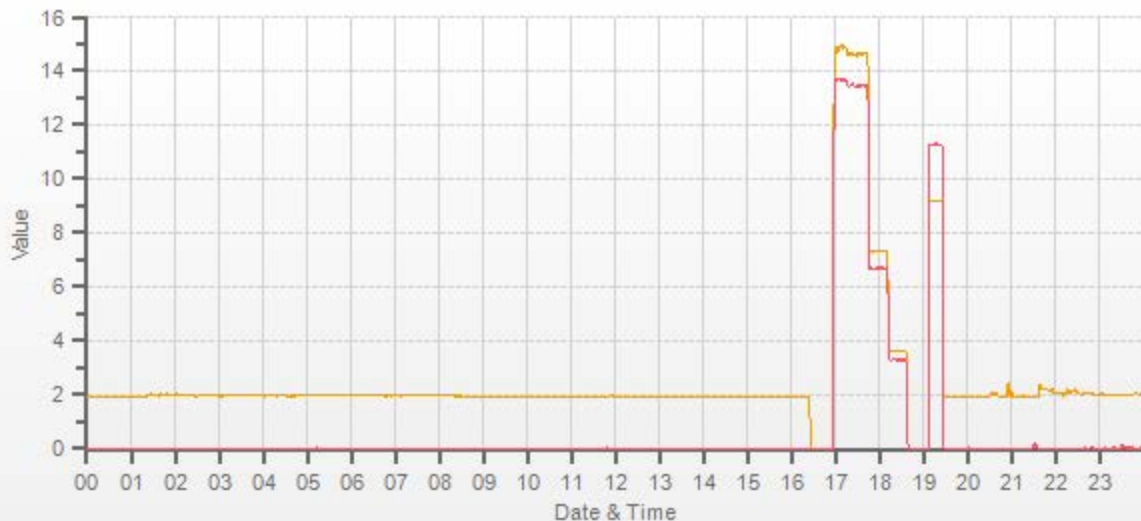
	CORRELATION	SLOPE	INTERCEPT
CH ₄	1.000	1.004	-0.1%
NMHC	1.000	1.001	-0.2%
THC	1.000	1.003	-0.1%

Comments:

Sample inlet filter was changed.

Use Zero Chrom?

Yes



CAL-LICA-202104-01174



Teledyne T640 Audit/Calibration

Date/Previous Audit Date:	April 20, 2021	n/a	Weather Conditions:		Mix of sun and clouds
Company:	LICA		Start Time (mst):	8:46	
Station:	Cold Lake South		End Time (mst):	10:02	
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: FTS cell / SN: FRM-1210 / Mar 9, 2022			Temperature: FS 11-661-7A / SN: 170286131 / Jun 5, 2021		
Digital Manometer: Dwyer FTS 475-FM / #1/ Jan 19, 2022			Pressure: FS FB61291 / SN: 130168457 / Feb 17, 2022		
DIAGNOSTICS:					
Ambient Pressure (mmHg)	720.4	Ambient Temp (°C)	5.3	ASC Heater Duty (%)	0.0
Box Temp (°C)	27.5	Current PMT HV (V)	1438	LED Temp (°C)	36.49
P3 Value	49	PMT Setting (V)	1442	Pump PWM (%)	38
Sample Flow (L/min)	5.00	Sample RH (%RH)	9.5	Sample Temp (°C)	24.6
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)	721.0	721.0	721	721	+/- 10 mm Hg
Ambient Temperature (°C)	5.40	5.3	n/a	n/a	+/- 2°C
Sample Flow (L/min)	5.00	5	5.00	5	+/-5% of T640x (e.g., 4.75 – 5.25 lpm)
Additional Monthly Maintenance :					Completed
				Inlet cleaned?	Yes
				Sample tubing inspected (inner and outer)?	Yes
Quarterly Audit/Calibration:					
SpanDust™ Standard	Peak at Channel		Lot No:		Expiry:
	10.9		100128-050-032		16-Dec-2022
Item:	Verification:		Calibration (if needed):		Tolerance
	Reference	T640x	Reference	T640x	
Peak Channel	10.9	10.9	n/a	n/a	± 0.5
PMT Setting (V)	n/a	n/a	n/a	n/a	n/a
Peak Channel Counts:	n/a	n/a	n/a	n/a	n/a
Additional Checks and Maintenance:					Completed
Every 6 Months	1. Clean Optical Chamber				Yes
	2. Clean RH Sensor				Yes
	3. Clean Temp Sensor				Yes
Comments:					
No issues.					

Meteorological System Checklist



Date:	April 20, 2021		
Technician:	Alex Yakupov		
Station:	Cold Lake South		
Unit:	Make:	Model:	Serial #:
Temperature Sensor:	Rotronic	HC2A-S3	20404750
Barometric Pressure Sensor:	MetOne	92	Y23368
Relative Humidity Sensor:	Rotronic	HC2A-S3	20404750
AMBIENT TEMPERATURE SENSOR CHECK			
Previous check date:	March 24, 2021		
Parameter:	Temperature @ 2 metres		
Reference Thermometer ID:	FS 11-661-7A / SN: 170286131 / Jun 5, 2021		
Reference Temperature (°C):	5.5		
Station - Ambient Temperature (°C):	5.7		
Temperature Difference (°C):	-0.2		
BAROMETRIC PRESSURE SENSOR CHECK			
Previous check date:	March 24, 2021		
Reference Barometer ID:	FS FB61291 / SN: 130168457 / Feb 17, 2022		
Reference Pressure - Units/Reading:	millibar	961	
Station Pressure - Units/Reading:	millibar	962	
Pressure Tolerance +/- 15% of error:	817 - 1105	-0.10%	
RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK			
Previous check date:	March 24, 2021		
Reference Hygrometer ID:	FS 11-661-7A / SN: 170286131 / Jun 5, 2021		
Reference Hygrometer % RH- Reading:	36.00		
Station Hygrometer % RH- Reading:	32.00		
RH Tolerance +/- 15% of difference:	30.60 - 41.40	11.1%	



Meteorological Sensor Audit/Calibration

Location Information

Company: LICA
Audit Location: Cold Lake South
Audit Date: April 20, 2021
Calibration Purpose: installation
Performed By: Alex Yakupov
Reviewed By: Chris Wesson
Start/End Time (mst): 10:19 / 14:44
Weather Conditions: Mix of sun and 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:	0-180
Serial #:	177354	Direction Voltage Output Range:	n/a
Previous Cal/Audit Date:	September 25, 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	92.0	92.0	1.002
6000	110.6	110.4	110.4	1.002
7000	129.0	128.8	128.8	1.002
8000	147.4	147.3	147.3	1.001
9000	165.9	165.7	165.7	1.001
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	28	328	1.6	1.7	1.7
60	300	58	299	1.6	1.5	1.6
90	270	89	267	0.6	3.0	1.8
120	240	120	237	0.5	3.3	1.9
150	210	148	207	1.6	3.2	2.4
180	180	177	179	2.9	1.4	2.2
210	150	206	149	3.8	1.3	2.6
240	120	237	119	3.1	0.7	1.9
270	90	267	89	2.8	0.7	1.8
300	60	297	58	2.8	1.7	2.3
330	30	328	28	1.7	2.0	1.8
355	0	355	0	0.0	0.1	0.1
The audit meets AMD requirements.				Average Absolute Degrees Difference=		1.7

Comments:

Bearing Torque was also tested. Still at minimum threshold (like new) = No problem.

End of Report



Lakeland Industry & Community Association

APRIL 2021

Ambient Air Monitoring Calibration Report

- TAMARACK STATION-

(Formerly Maskwa Station)

CAL-LICA-202104-01248

Station Operation and Maintenance:

Bureau Veritas Canada

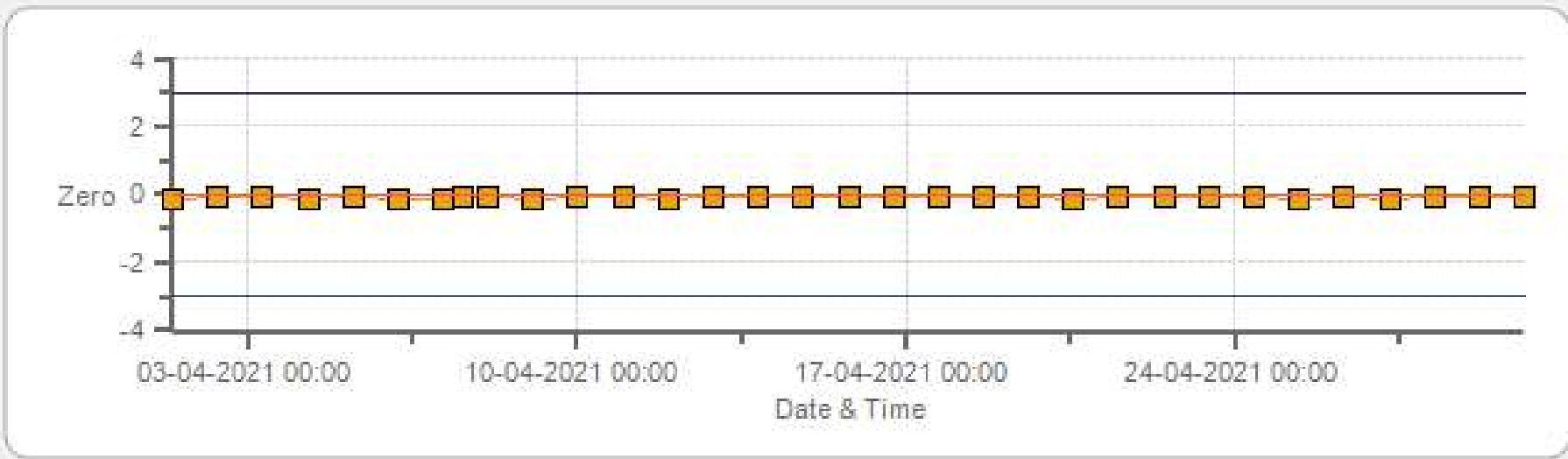
Data Validation and Report:

LICA / Bureau Veritas Canada

May 13, 2021

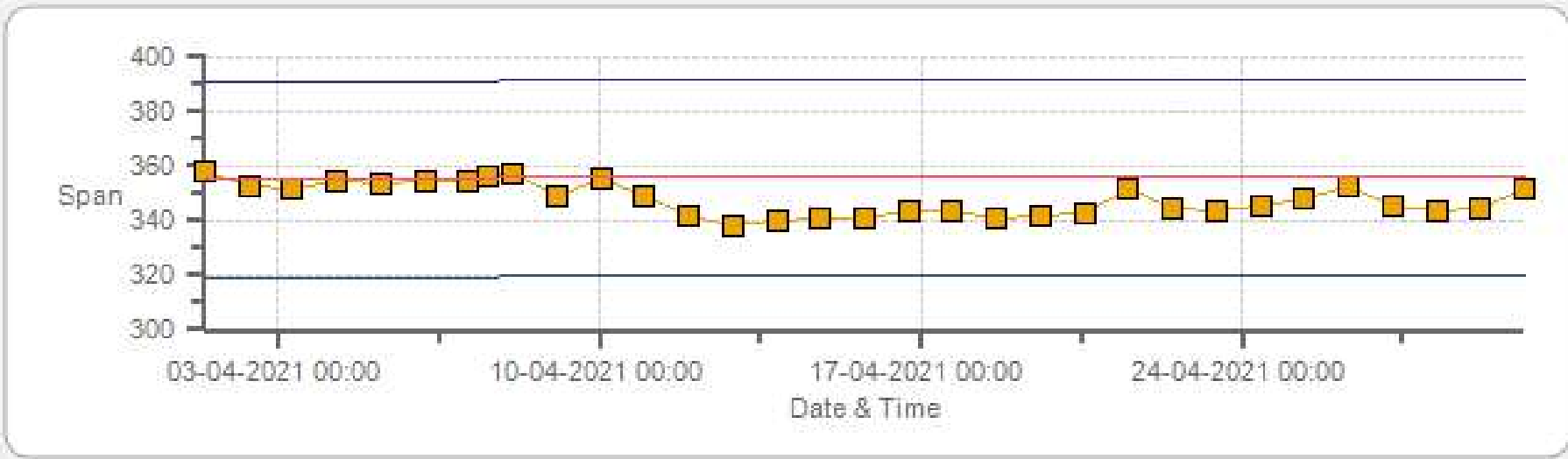
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2[ppb] Calibration: Tamarack Monthly: 04-2021 Type: SpanAndZero - Zero



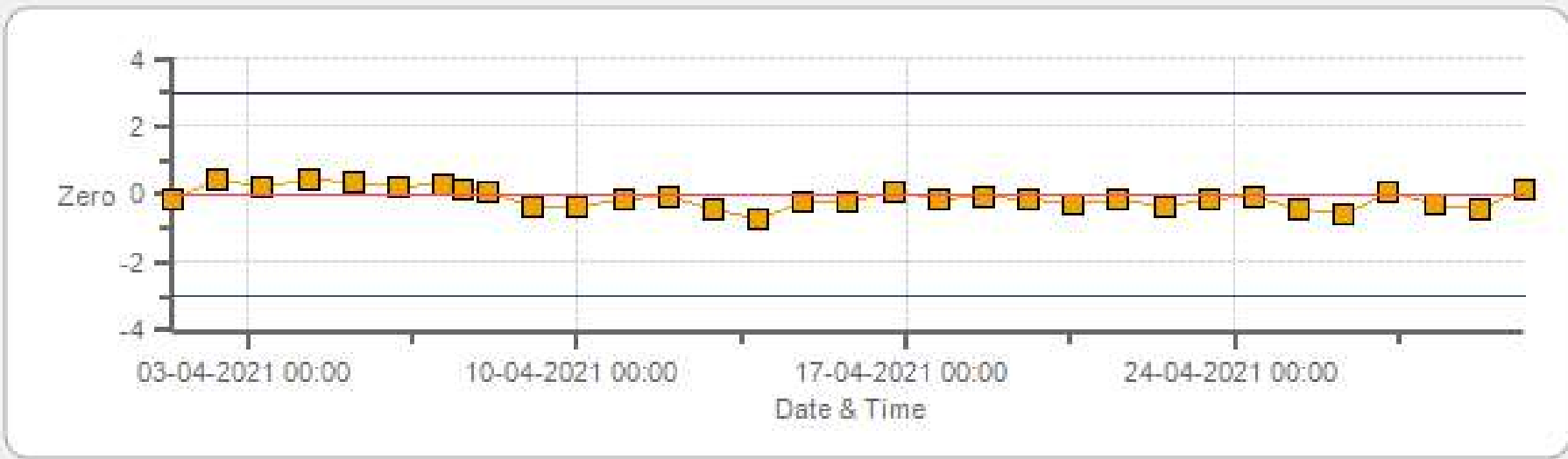
Zero Zero Ref Zero Low Zero High

SO2[ppb] Calibration: Tamarack Monthly: 04-2021 Type: SpanAndZero - Span



Span Span Ref Span Low Span High

H2S[ppb] Calibration: Tamarack Monthly: 04-2021 Type: SpanAndZero - Zero



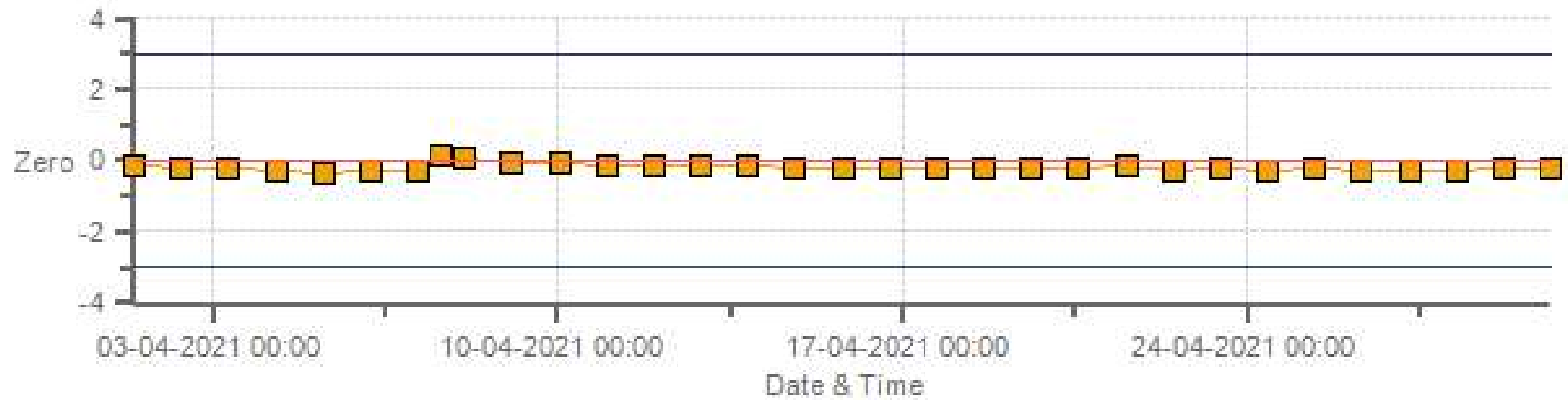
Zero Zero Ref Zero Low Zero High

H2S[ppb] Calibration: Tamarack Monthly: 04-2021 Type: SpanAndZero - Span



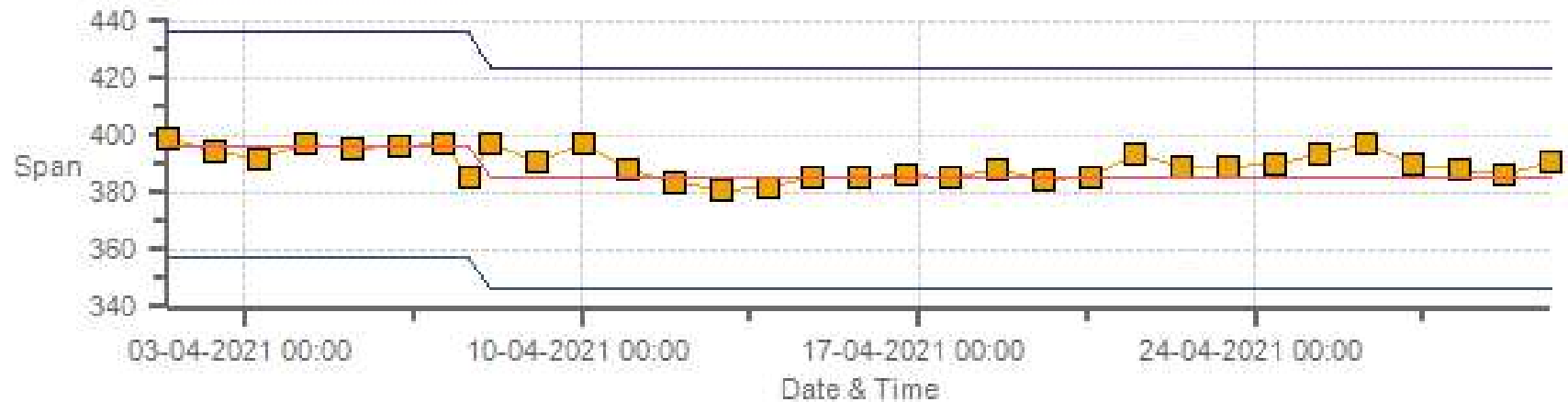
Span SpanRef Span Low Span High

NOX[ppb] Calibration: Tamarack Monthly: 04-2021 Type: SpanAndZero - Zero



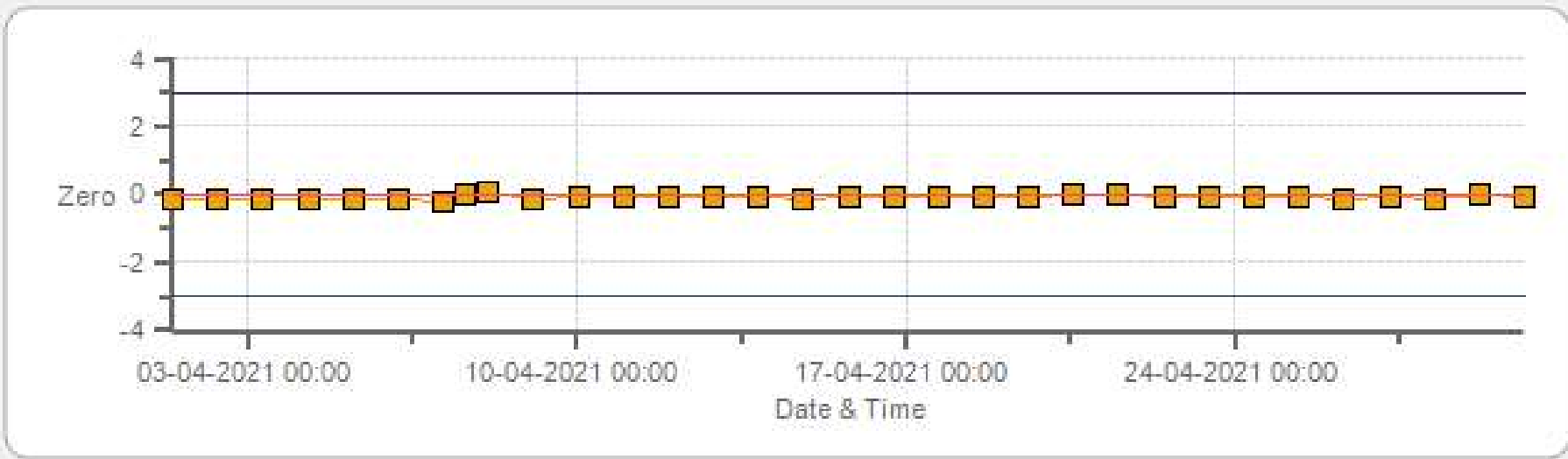
Zero Zero Ref Zero Low Zero High

NOX[ppb] Calibration: Tamarack Monthly: 04-2021 Type: SpanAndZero - Span



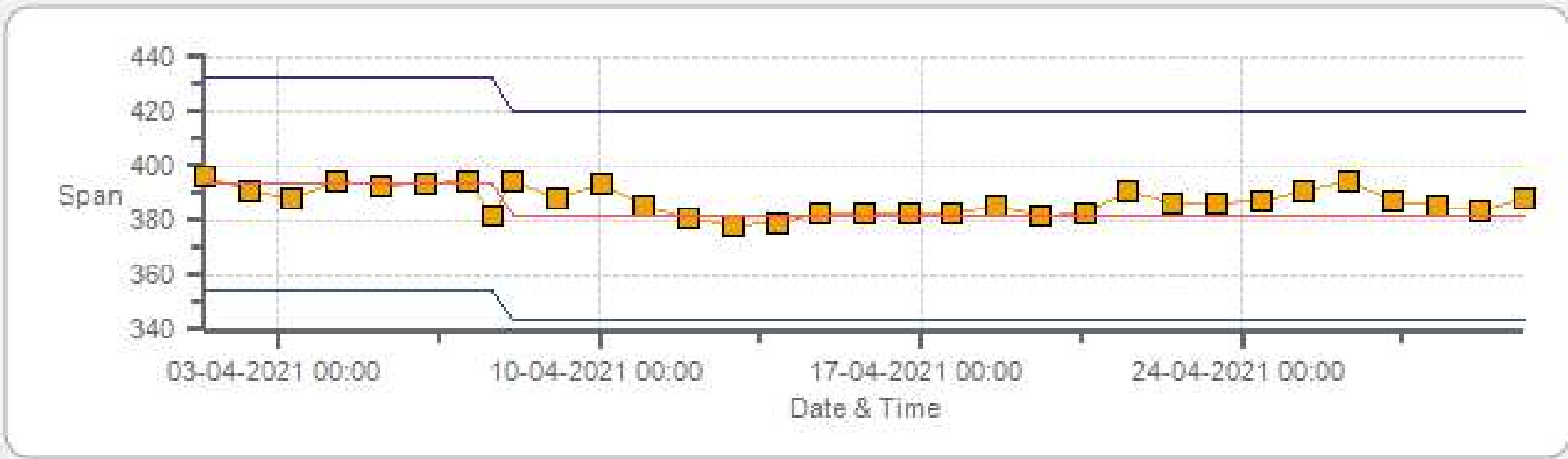
Span SpanRef Span Low Span High

NO2[ppb] Calibration: Tamarack Monthly: 04-2021 Type: SpanAndZero - Zero



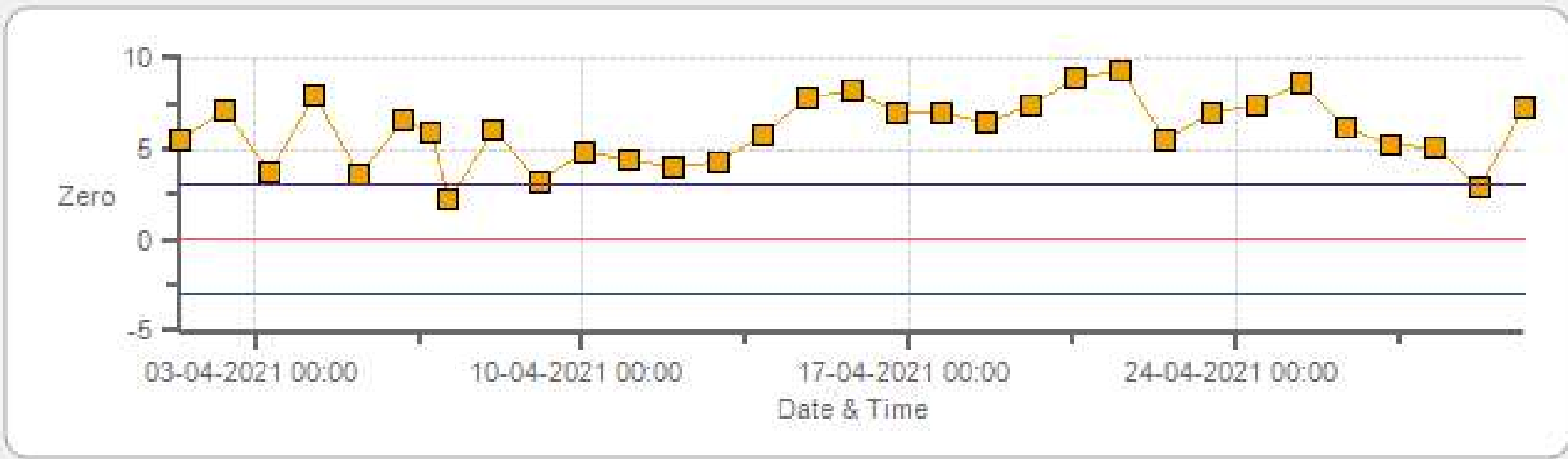
Zero Zero Ref Zero Low Zero High

NO2[ppb] Calibration: Tamarack Monthly: 04-2021 Type: SpanAndZero - Span



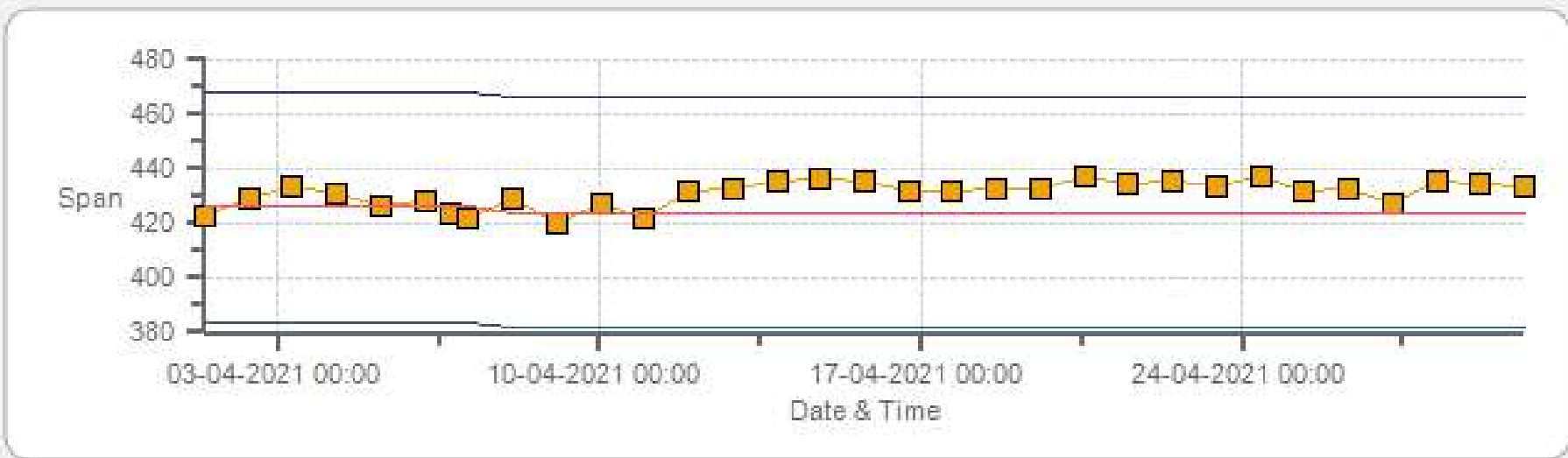
Span SpanRef Span Low Span High

O3[ppb] Calibration: Tamarack Monthly: 04-2021 Type: SpanAndZero - Zero



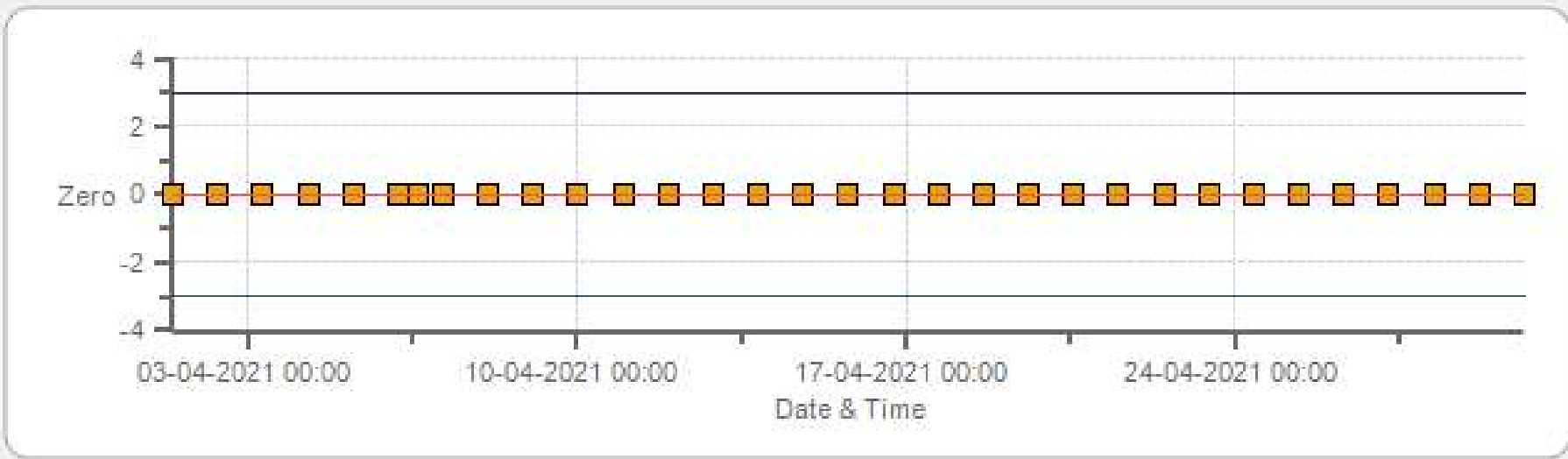
Zero Zero Ref Zero Low Zero High

O3[ppb] Calibration: Tamarack Monthly: 04-2021 Type: SpanAndZero - Span



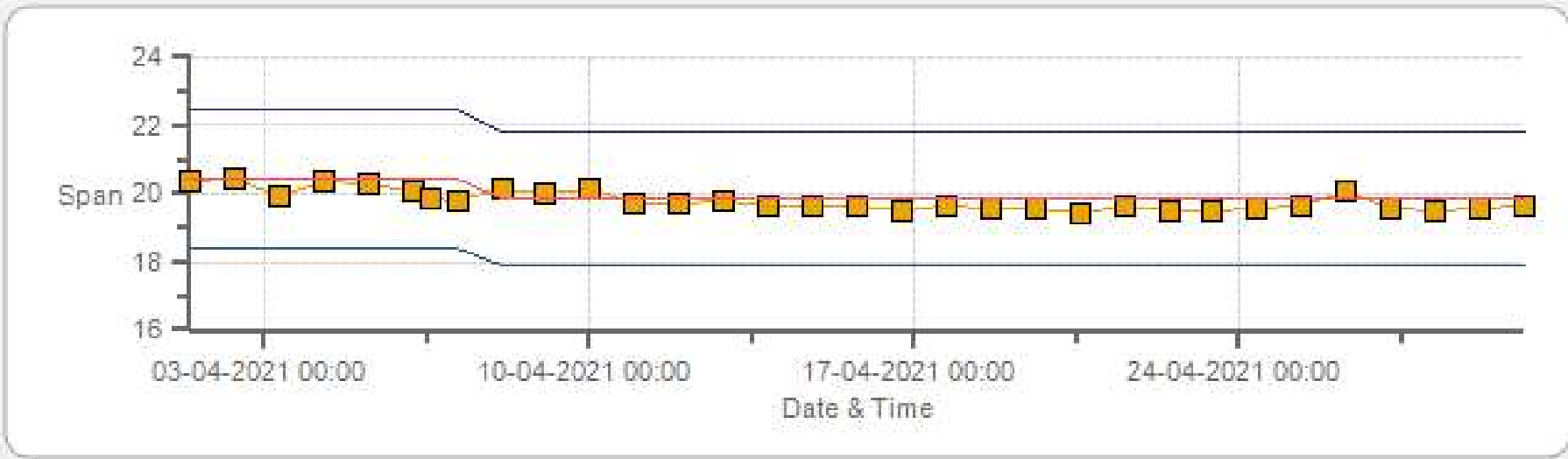
Span SpanRef Span Low Span High

THC55[ppm] Calibration: Tamarack Monthly: 04-2021 Type: SpanAndZero - Zero



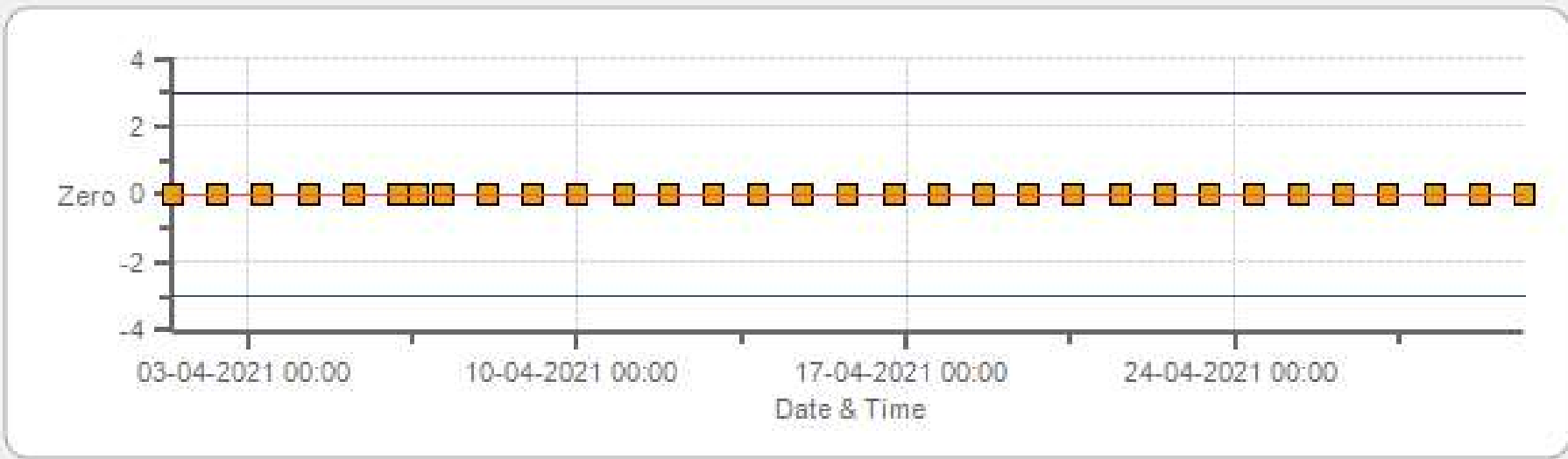
Zero Zero Ref Zero Low Zero High

THC55[ppm] Calibration: Tamarack Monthly: 04-2021 Type: SpanAndZero - Span



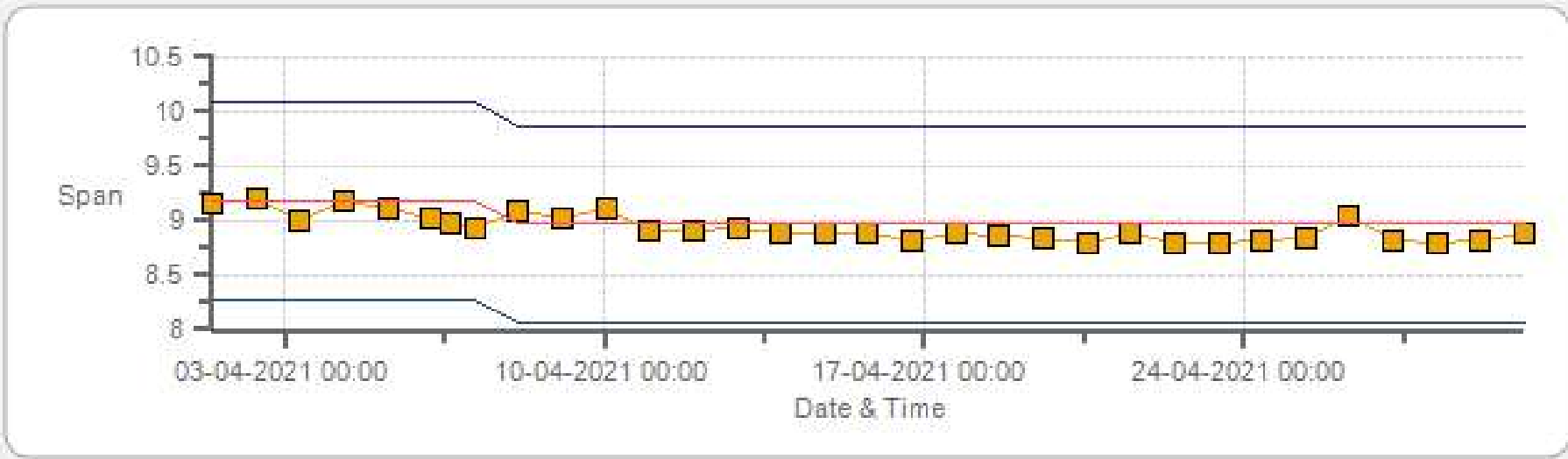
Span SpanRef Span Low Span High

CH4[ppm] Calibration: Tamarack Monthly: 04-2021 Type: SpanAndZero - Zero



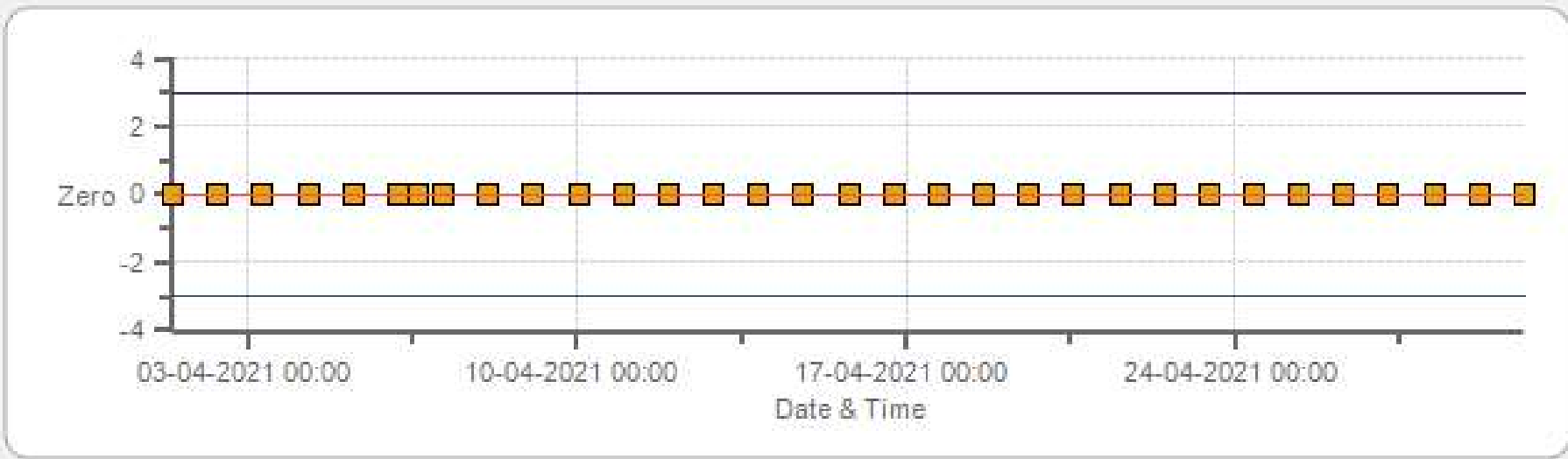
Zero Zero Ref Zero Low Zero High

CH4[ppm] Calibration: Tamarack Monthly: 04-2021 Type: SpanAndZero - Span



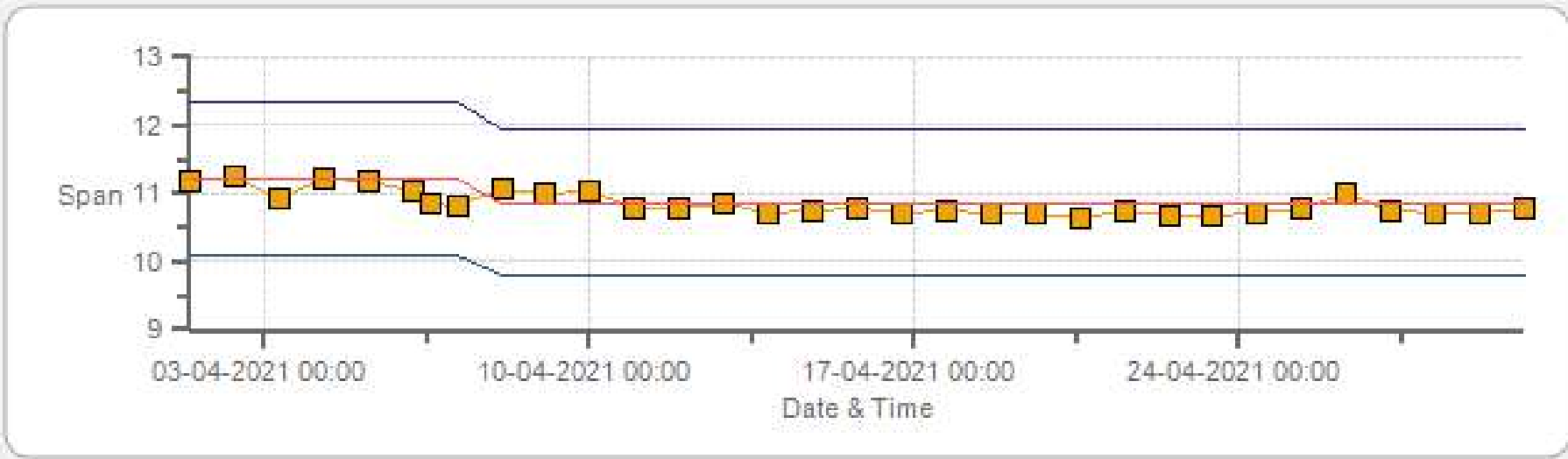
Span Span Ref Span Low Span High

NMHC[ppm] Calibration: Tamarack Monthly: 04-2021 Type: SpanAndZero - Zero



Zero Zero Ref Zero Low Zero High

NMHC[ppm] Calibration: Tamarack Monthly: 04-2021 Type: SpanAndZero - Span



Span Span Ref Span Low Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution



DATE:	07-Apr-2021	PREVIOUS CALIBRATION DATE:	26-Mar-2021
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	1.003
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Maskwa	BAROMETRIC (mBar):	935
PURPOSE:	Routine	START TIME (MST):	09:17
PERFORMED BY:	Alex Yakupov	END TIME (MST):	13:55

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1180930031	FLOW (mL/min)	448
INITIAL		FINAL	
BKG/OFFSET	2.6	BKG/OFFSET	2.62
COEF/SLOPE	0.982	COEF/SLOPE	0.976
Expected (reference) Value	355	Expected (reference) Value	356

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010	MODEL:	T701
ID:	26801218	ID:	132
MFC CALIBRATION DATE:	13-Oct-2020	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0000851	HIGH ID	n/a
CONC (ppm):	51.60	EXPIRY DATE	n/a
CYLINDER (psi):	500	LOW ID	n/a
EXPIRY DATE	24-Feb-2028	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	38.70	5000	0.00	-0.1	0	0.991	0.995
4959	38.70	4998	399.54	403	401.6	0.991	0.995
4980	17.60	4998	181.70	n/a	181.8	n/a	0.999
4989	8.80	4998	90.85	n/a	90.3	n/a	1.006

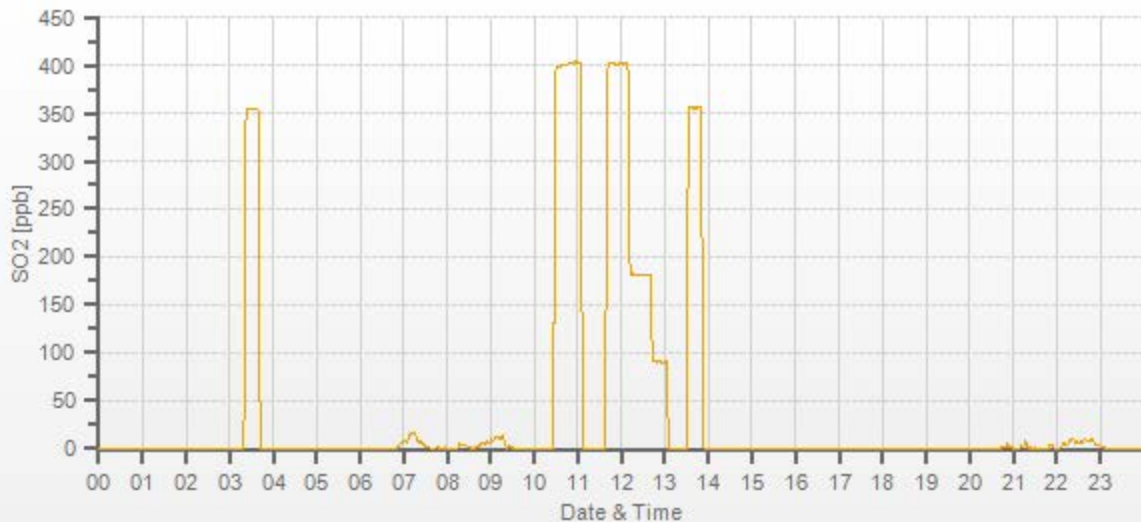
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.006	-0.1%

COMMENTS:

Sample inlet filter was changed.

SO2[ppb] Station: Tamarack Daily: 07-04-2021 Type: AVG 1 Min. [1 Min.]



CAL-LICA-202104-01248

H2S Analyzer Calibration by Dilution



DATE:	07-Apr-2021	PREVIOUS CALIBRATION DATE:	26-Mar-2021
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	0.999
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Maskwa	BAROMETRIC (mBar):	935
PURPOSE:	Routine	START TIME (MST):	09:18
PERFORMED BY:	Alex Yakupov	END TIME (MST):	13:55

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	CM 17360005	FLOW (mL/min)	876
INITIAL		FINAL	
BKG/OFFSET	27.1	BKG/OFFSET	27.7
COEF/SLOPE	0.824	COEF/SLOPE	0.821
Expected (reference) Value	47.8	Expected (reference) Value	48

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	10-Dec-2020	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL 19174	HIGH ID	n/a
CONC (ppm):	10.00	EXPIRY DATE	n/a
CYLINDER (psi):	500	LOW ID	n/a
EXPIRY DATE	16-Jul-2022	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:	09:43	SO2 Conc (ppb)	380
END TIME:	09:58	Analyzer Response (ppb)	0.0

CALIBRATION:

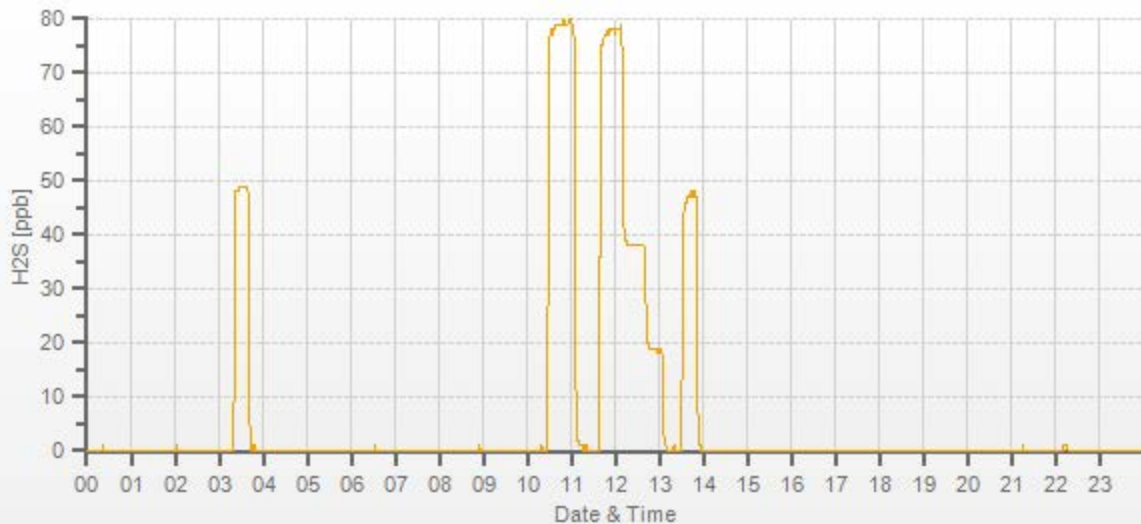
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
7500	58.50	7500	0.00	0.4	0	0.979	0.997
7442	58.50	7500	78.00	80.1	78.2	0.979	0.997
7472	28.50	7500	38.00	n/a	38	n/a	1.000
7486	14.20	7500	18.93	n/a	18.8	n/a	1.007

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:	07-Apr-2021	PREVIOUS CALIBRATION DATE:	26-Mar-2021	MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
CLIENT:	LICA	TEMPERATURE (°C):	22.0	SERIAL #:	1180930028	NOx	1.000
LOCATION:	Maskwa	BAROMETRIC (mBar):	935	FLOW (mL/min)	496	NO	1.000
PURPOSE:	Routine	START TIME (MST):	09:16	RANGE (ppb)	500	NO2	0.999
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:37	GPT FOR O3?		No	

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:		FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	EY 0000851	HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	NO/NOx (PPM):	50.9 51.1	HIGH EXPIRY:	n/a
ID:	26801218	ID:	132	CYLINDER (psi):	500	LOW ID:	n/a
MFC CALIBRATION DATE:	13-Oct-2020	OXIDIZER ID:	n/a	EXPIRY DATE	24-Feb-2028	LOW EXPIRY:	n/a

CALIBRATION SETTINGS:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
BKG/OFFSET:	3.3	3.1	n/a	BKG/OFFSET:	3	2.9	n/a
SLOPE/COEF/CE:	1.003	1.025	1	SLOPE/COEF/CE:	1.004	1.018	1

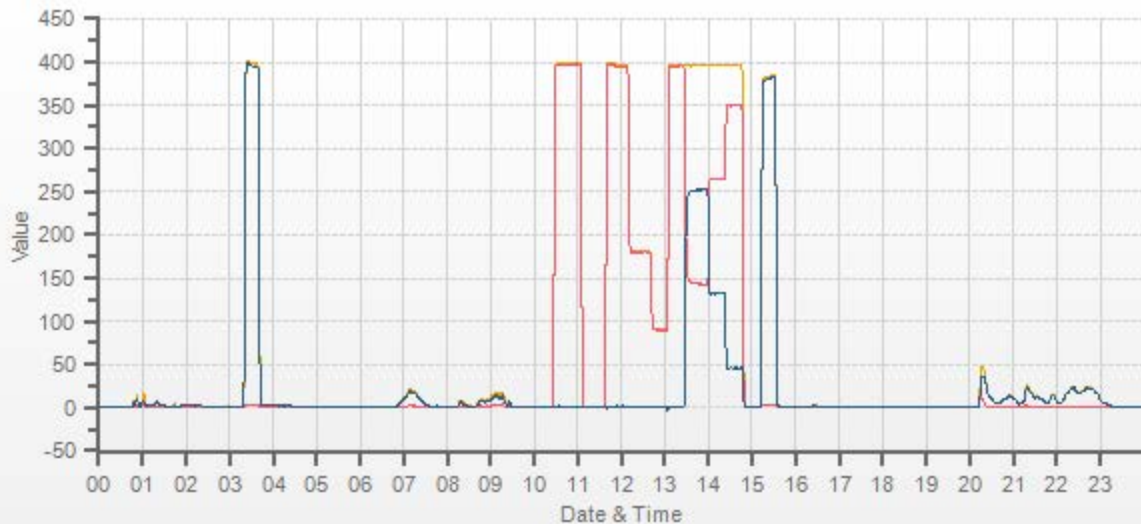
EXPECTED (REFERENCE) VALUE:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	382.0	3.0	379.0		385.3	3.0	382.2

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	38.70	5000	0.0	0.0	0.0	-0.2	-0.2	-0.1	0.0	0.0	0.0	0.991	0.992	0.999	0.999	0.998	0.998
4959	38.70	4998	394.1	395.7	1.5	397.4	398.8	1.4	394.4	396.5	2.1	0.991	0.992	0.999	0.998	0.998	0.998
4980	17.60	4998	179.2	179.9	0.7	n/a	n/a	n/a	180.3	181.1	0.8	n/a	n/a	0.994	0.994	0.994	0.994
4989	8.80	4998	89.6	90.0	0.4	n/a	n/a	n/a	90.2	90.7	0.4	n/a	n/a	0.994	0.992	0.992	0.992

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	38.70	4997	0	395.6	396.8	1.2	252.5	252	1.002	99.80%
AS-FOUND HIGH	38.70	4997	240	143.1	396.3	253.2	252.5	252	1.002	99.80%
ADJUSTED HIGH	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MID	38.70	4997	125	263.9	396.2	132.3	131.7	131.1	1.005	99.54%
LOW	38.70	4997	45	350.3	396.3	46.0	45.3	44.8	1.011	98.90%
NO2 adjustment not required.									AVERAGE:	99.41%

LINEAR REGRESSION ANALYSIS:				COMMENTS:
	CORRELATION	SLOPE	INTERCEPT	
NO	1.000	1.000	0.08%	
NOx	1.000	1.002	0.08%	
NO2	1.000	1.000	-0.11%	



CAL-LICA-202104-01248

Ozone Calibration by Photometer (Varying UV Lamp)



DATE:	06-Apr-2021	PREVIOUS CALIBRATION DATE:	29-Mar-2021
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	1.001
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Maskwa	BAROMETRIC (mBar):	935
PURPOSE:	Removal/Shut-down	START TIME (MST):	11:21
PERFORMED BY:	Alex Yakupov	END TIME (MST):	13:43

ANALYZER:

MAKE/MODEL	Thermo 49iQ	RANGE	500 ppb
SERIAL #	1202068570	FLOW (mL/min)	1370
INITIAL		FINAL	
BKG/OFFSET	2.3	BKG/OFFSET	n/a
COEF/SLOPE	1.033	COEF/SLOPE	n/a
Expected (reference) Value	426	Expected (reference) Value	n/a

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Thermo-Electron
MODEL:	2010 D	MODEL:	111
ID:	11900613	ID:	111-22449-204
MFC CALIBRATION DATE:	10-Dec-2020	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	5000	5000	0.0	-0.1	n/a	1.008	n/a
5000	5000	5000	378.0	374.9	n/a	1.008	n/a
5000	5000	5000	180.0	179.1	n/a	1.004	n/a
5000	5000	5000	61.0	60.5	n/a	1.007	n/a

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.992	0.0%

COMMENTS:

Shutdown calibration was completed to do maintenance/cleaning. Reason: Daily zero is unstable.

Ozone Calibration by Photometer (Varying UV Lamp)



DATE:	06-Apr-2021	PREVIOUS CALIBRATION DATE:	n/a
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	n/a
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Maskwa	BAROMETRIC (mBar):	935
PURPOSE:	Install/Post-Repair	START TIME (MST):	14:40
PERFORMED BY:	Alex Yakupov	END TIME (MST):	18:44

ANALYZER:

MAKE/MODEL	Thermo 49iQ	RANGE	500 ppb
SERIAL #	1202068570	FLOW (mL/min)	1340
INITIAL		FINAL	
BKG/OFFSET	n/a	BKG/OFFSET	2.4
COEF/SLOPE	n/a	COEF/SLOPE	1.047
Expected (reference) Value	n/a	Expected (reference) Value	424

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Thermo-Electron
MODEL:	2010 D	MODEL:	111
ID:	11900613	ID:	111-22449-204
MFC CALIBRATION DATE:	10-Dec-2020	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:

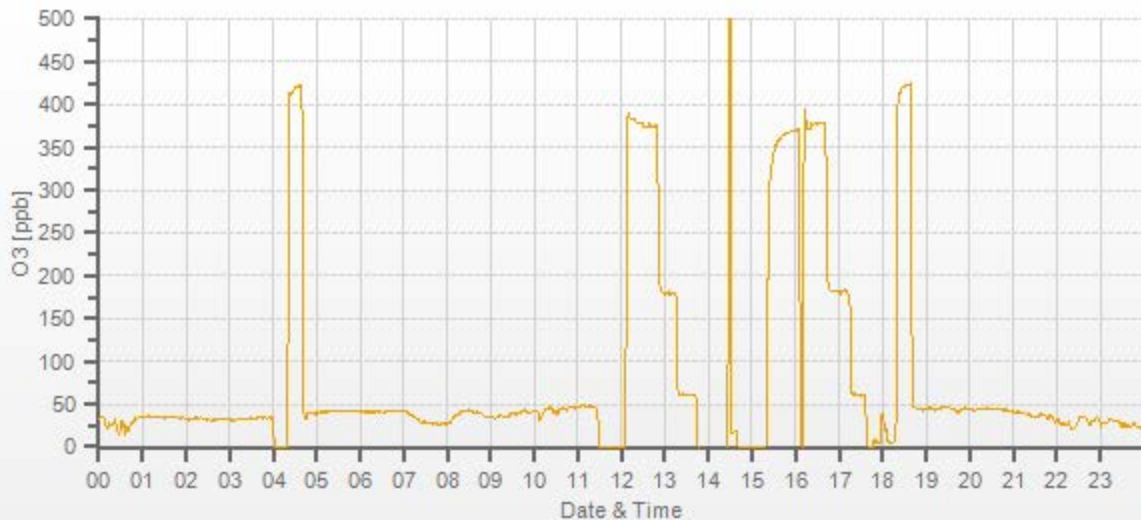
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
5000	 	5000	0.0	n/a	0.0	 	
5000	 	5000	378.0	n/a	378.5	n/a	0.999
5000	 	5000	180.0	n/a	183.1	n/a	0.983
5000	 	5000	60.0	n/a	60.4	n/a	0.993

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.002	0.1%

COMMENTS:

Sample inlet filter was changed. Cells and windows were cleaned. 16:10 - High Point started from beginning to



Methane/Non-Methane Analyzer Calibration by Dilution



CALIBRATION:				ANALYZER:			
DATE:	06-Apr-2021	PREVIOUS CALIBRATION DATE:	29-Mar-2021	VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
CLIENT:	LICA	TEMPERATURE (°C):	22.0		Thermo 55i	1314057759	1015
LOCATION:	Maskwa	BAROMETRIC (mBar):	925	PARAMETER:	CH4	NMHC	THC
PURPOSE:	Routine	START TIME (MST):	11:23	RANGE (ppm):	20	20	40
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:56	PREVIOUS CF:	1.000	0.999	1.000

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:		FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 119576	HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	CH ₄ /C ₃ H ₈ (ppm):	870.0 299.0	HIGH EXPIRY:	n/a
ID:	26801218	ID:	132	CYLINDER (psi):	2000	LOW ID:	n/a
MFC CALIBRATION DATE:	13-Oct-2020	OXIDIZER ID:	115	EXPIRY DATE:	22-Dec-2028	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	822.3
RANGE	12 - 16	6 - 8	2 - 4	THC as CH ₄	1692.3

EXPECTED (REFERENCE) VALUE:

INITIAL	CH ₄	NMHC	THC	FINAL	CH ₄	NMHC	THC
	9.18	11.23	20.41		8.97	10.87	19.84

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
3098	X	3098	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X	X	X	X	X	X
3050	51.30	3101	14.39	13.60	27.99	14.48	13.76	28.25	14.38	13.58	27.97	0.994	0.989	0.991	1.001	1.002	1.001
3073	25.60	3099	7.19	6.79	13.98	n/a	n/a	n/a	7.19	6.76	13.95	n/a	n/a	n/a	1.000	1.005	1.002
3087	12.80	3100	3.59	3.40	6.99	n/a	n/a	n/a	3.60	3.39	6.99	n/a	n/a	n/a	0.998	1.002	1.000

LINEAR REGRESSION ANALYSIS:

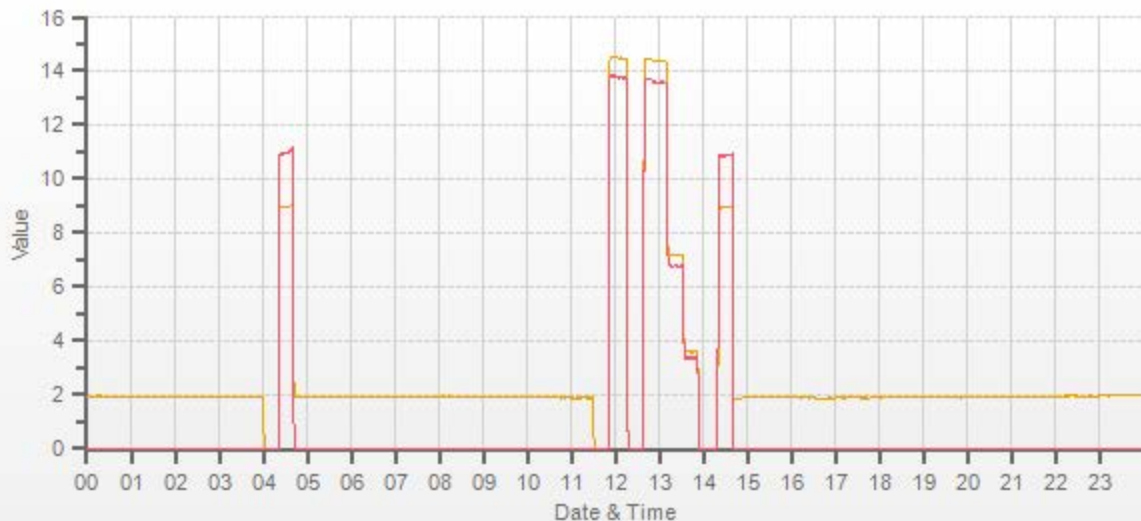
	CORRELATION	SLOPE	INTERCEPT
CH ₄	1.000	0.999	0.0%
NMHC	1.000	0.998	0.0%
THC	1.000	0.999	0.0%

Comments:

Sample inlet filter was changed.

Use Zero Chrom?

Yes



CAL-LICA-202104-01248

Thermo 5030 SHARP Monitor Monthly Check

Date: April 7, 2021
Company: LICA
Station Name/Location: Maskwa
Previous Audit Date: March 26, 2021
Parameter: PM 2.5

Performed By/Reviewer: Alex Yakupov | Chris Wesson
Start Time (mst): 15:11
End Time (mst): 16:06
Calibration Purpose: routine monthly
Weather Conditions: Mix of sun and clouds

SHARP Information and Status:

Serial Number: CM-2209 **Status:** 0.00
Approx Tape remaining: 1/10 **Error Code:** 0.00

Reference Standards:

Air Flow

	Manometer	Orifice	Pressure:	Temperature:
Make:	Dwyer	Chinook Eng.	Fisher Scientific	Fisher Scientific
Model:	475-0-FM	FTS Flow Cell	FB61291	11-661-7A
Serial Number:	BV #1	BV#1/ FRM 1210	130168457	170286131
Calibration Expiration Date:	January 19, 2022	March 3, 2022	February 17, 2022	June 5, 2021

As found temperature and pressure:

<p style="text-align: center;">Tolerance +/- 4°C</p> <p>SHARP T1 °C: <u>15.0</u></p> <p>Reference °C: <u>14.9</u></p> <p>Difference °C: <u>-0.1</u></p>	<p style="text-align: center;">Tolerance +/- 13.33 hPa</p> <p>SHARP P3 (hPa): <u>927.000</u></p> <p>Reference (hPa): <u>925.000</u></p> <p>Difference (hPa) : <u>2.000</u></p>
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As left temperature and pressure (same as above if as found adequate):

<p style="text-align: center;">Tolerance +/- 4°C</p> <p>SHARP T1 °C: <u>15.0</u></p> <p>Reference °C: <u>14.9</u></p> <p>Difference °C: <u>-0.1</u></p>	<p style="text-align: center;">Tolerance +/- 13.33 hPa</p> <p>SHARP P3 (hPa): <u>927.000</u></p> <p>Reference (hPa): <u>925.000</u></p> <p>Difference : <u>2.000</u></p>
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As found flows:

<p>Targets: 1000 l/hr / <90%</p> <p>SHARP AirFlow l/hr <u>1000.00</u></p> <p>Pump Voltage (%) <u>45.40</u></p>	<p>Flow Tolerance 16.67 lpm +/- 0.67 lpm</p> <p>SHARP Airflow (l/min) <u>16.67</u></p> <p>Reference AirFlow (l/min) <u>16.66</u></p> <p>Difference (l/min) <u>-0.01</u></p>
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As left flows (same as above if as found adequate):

<p>Targets: 1000 l/hr / <90%</p> <p>SHARP AirFlow l/hr <u>1000.00</u></p> <p>Pump Voltage (%) <u>45.40</u></p>	<p>Flow Tolerance 16.67 lpm +/- 0.67 lpm</p> <p>SHARP Airflow (l/min) <u>16.67</u></p> <p>Reference AirFlow (l/min) <u>16.66</u></p> <p>Difference (l/min) <u>-0.01</u></p>
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Inlet Assembly:

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

Comments:

Leak check: 16.66 vs 16.57, 0.09 < 0.8 lpm, passed.

Meteorological System Checklist



Date:	April 13, 2021		
Technician:	Alex Yakupov		
Station:	Maskwa		
Unit:	Make:	Model:	Serial #:
Temperature Sensor:	Rotronic	HC2A-S3	20433166
Relative Humidity Sensor:	Rotronic	HC2A-S3	20433166

AMBIENT TEMPERATURE SENSOR CHECK

Previous check date:	n/a		
Parameter:	Temperature @ 2 metres		
Reference Thermometer ID:	FS, 11-661-7A, #170286131, Exp. Date: June 05, 2021		
Reference Temperature (°C):	5.4		
Station - Ambient Temperature (°C):	4.9		
Temperature Difference (°C):	0.5		

RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK

Previous check date:	n/a		
Reference Hygrometer ID:	FS, 11-661-7A, #170286131, Exp. Date: June 05, 2021		
Reference Hygrometer % RH- Reading:	29.70		
Station Hygrometer % RH- Reading:	29.30		
RH Tolerance +/- 15% of difference:	25.25 - 34.16	1.3%	

The previous TPX-RH sensor # 20257103 was removed for factory cleaning and re-certification. Removal audit: Amb. Temp. Reference/TPX = 2.4/2.7 degrees C, RH Ref/RH stn = 33.4/32.3



Meteorological Sensor Audit/Calibration

Location Information

Company: LICA
 Audit Location: Maskwa
 Audit Date: September 10, 2020
 Calibration Purpose: routine annual

Performed By: Alex Yakupov
 Reviewed By: Chris Wesson
 Start/End Time (mst): 14:51 / 17:06
 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 19, 2019	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	0.0	0.0	-
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	92.4	92.5	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	1	355	1.1	-0.1	0.6
30	330	32	330	-2.1	-0.4	1.2
60	300	64	301	-3.8	-1.0	2.4
90	270	93	272	-3.0	-1.9	2.4
120	240	123	243	-2.7	-2.7	2.7
150	210	152	213	-2.0	-3.2	2.6
180	180	183	183	-3.3	-3.1	3.2
210	150	212	153	-1.8	-3.2	2.5
240	120	241	124	-1.3	-3.7	2.5
270	90	271	94	-0.8	-4.0	2.4
300	60	300	65	0.1	-4.6	2.4
330	30	330	34	-0.4	-4.1	2.2
355	0	355	2	-0.1	1.5	0.8
The audit meets AMD requirements.				Average Absolute Degrees Difference=		2.2

Comments:

n/a

End of Report



Lakeland Industry & Community Association

APRIL 2021

Ambient Air Monitoring Calibration Report

- ST. LINA STATION-

CAL-LICA-202104-01250

Station Operation and Maintenance:

Bureau Veritas Canada

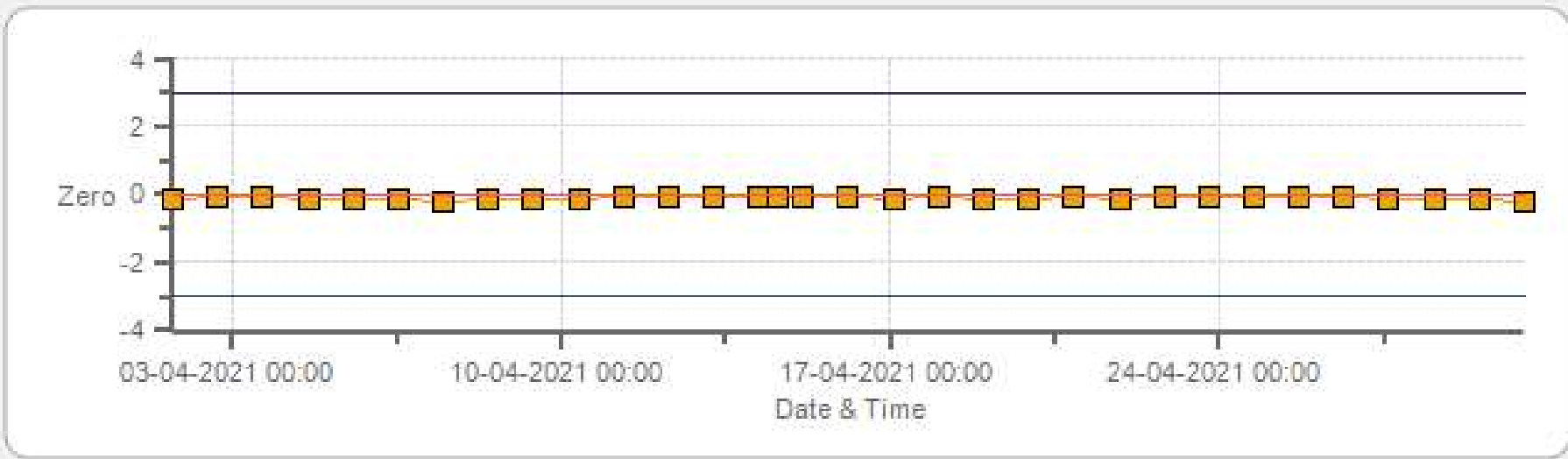
Data Validation and Report:

LICA / Bureau Veritas Canada

May 13, 2021

DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2[ppb] Calibration: St. Lina Monthly: 04-2021 Type: SpanAndZero - Zero



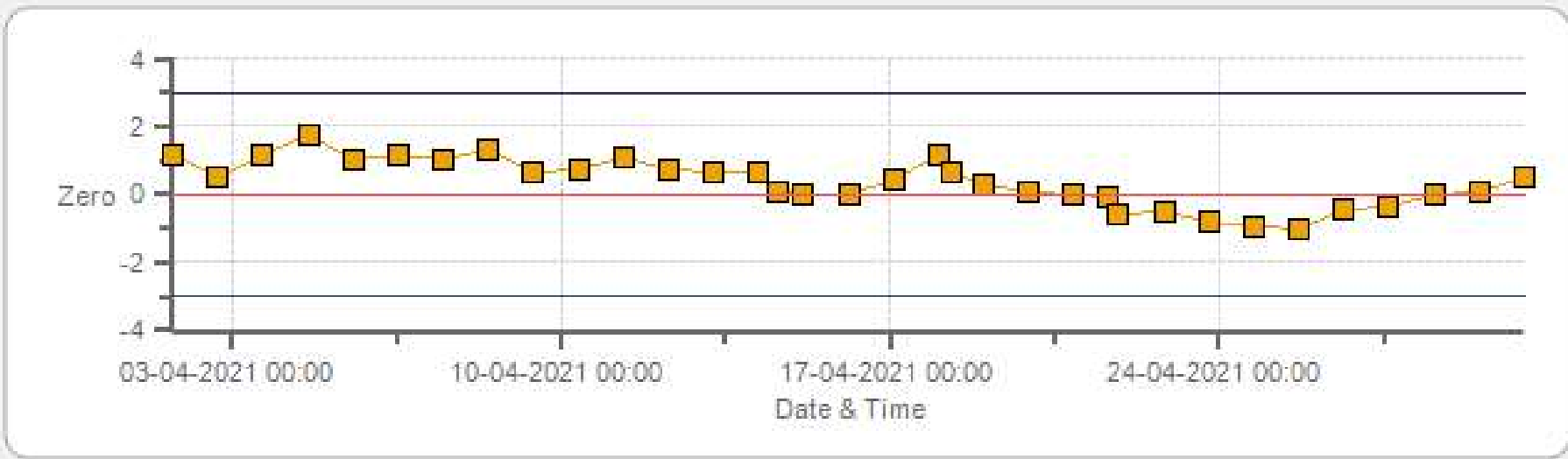
Zero Zero Ref Zero Low Zero High

SO2[ppb] Calibration: St. Lina Monthly: 04-2021 Type: SpanAndZero - Span



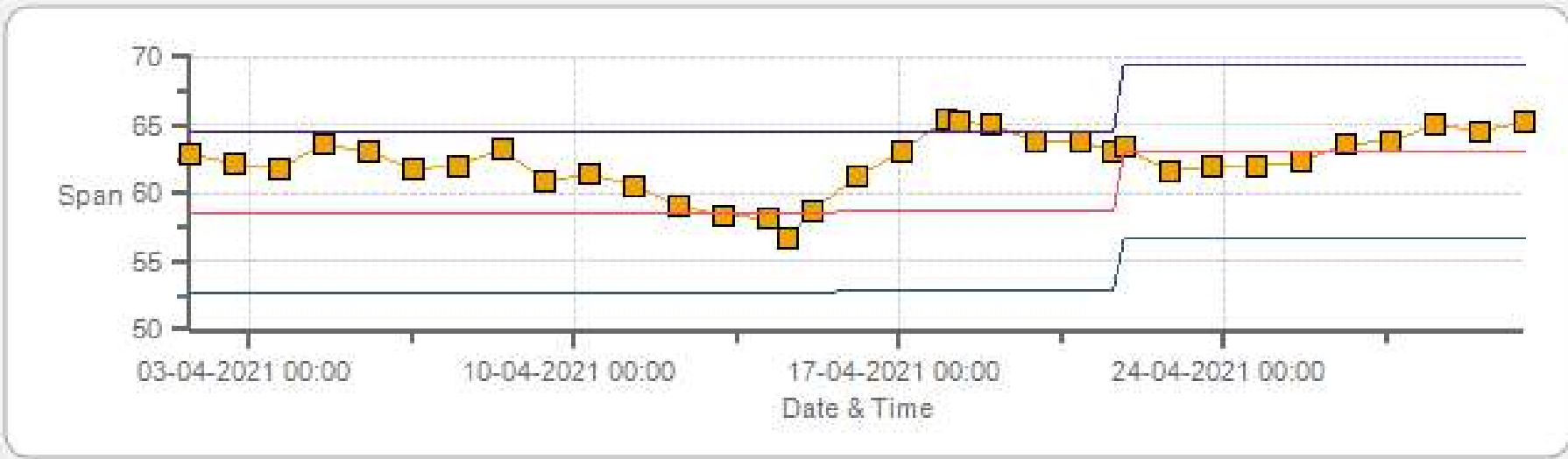
Span SpanRef Span Low Span High

H2S[ppb] Calibration: St. Lina Monthly: 04-2021 Type: SpanAndZero - Zero



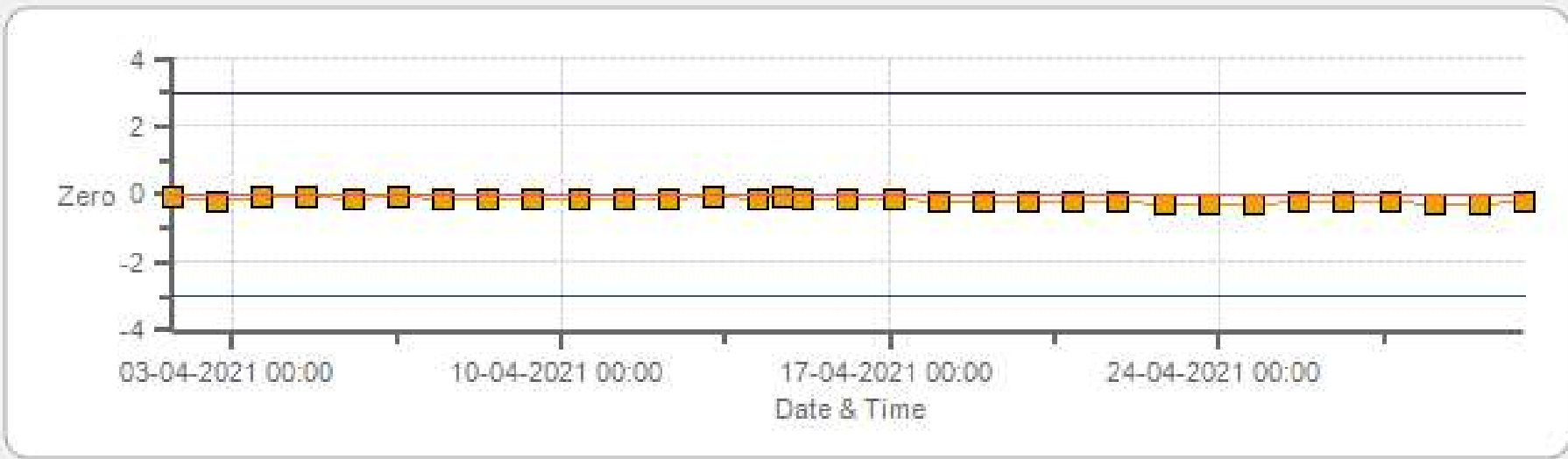
Zero Zero Ref Zero Low Zero High

H2S[ppb] Calibration: St. Lina Monthly: 04-2021 Type: SpanAndZero - Span



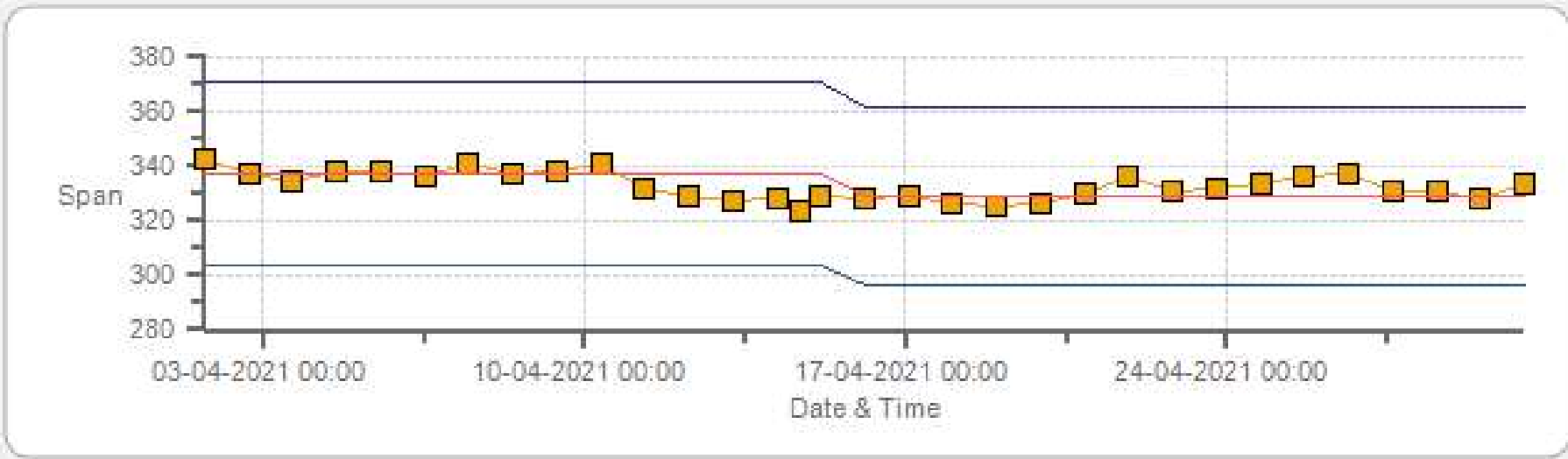
Span SpanRef Span Low Span High

NOX[ppb] Calibration: St. Lina Monthly: 04-2021 Type: SpanAndZero - Zero



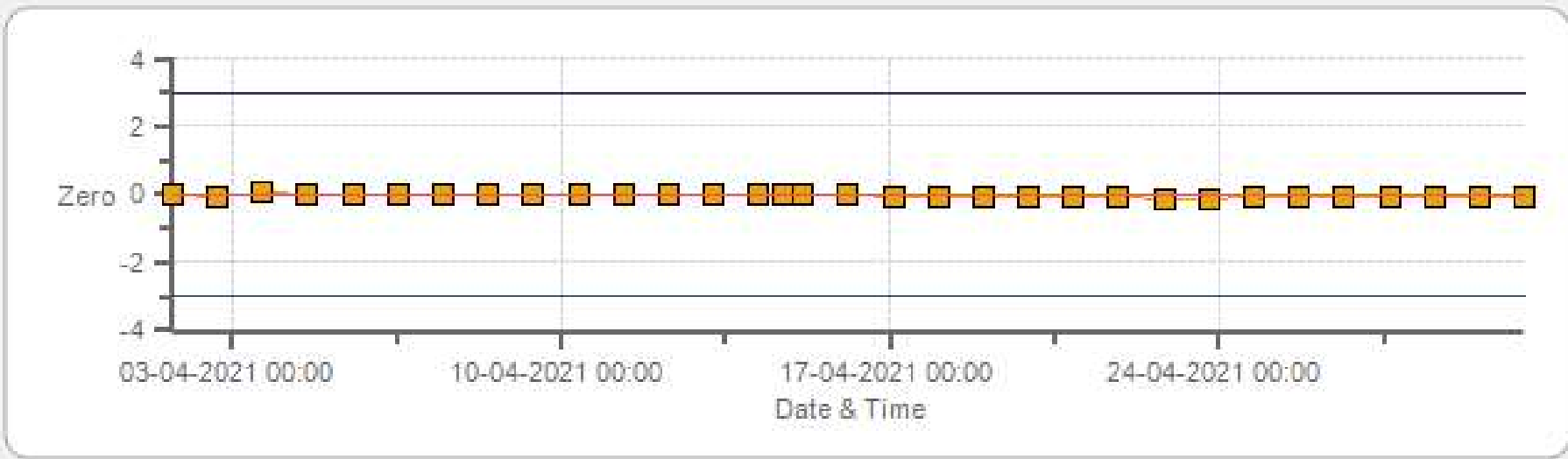
Zero Zero Ref Zero Low Zero High

NOX[ppb] Calibration: St. Lina Monthly: 04-2021 Type: SpanAndZero - Span



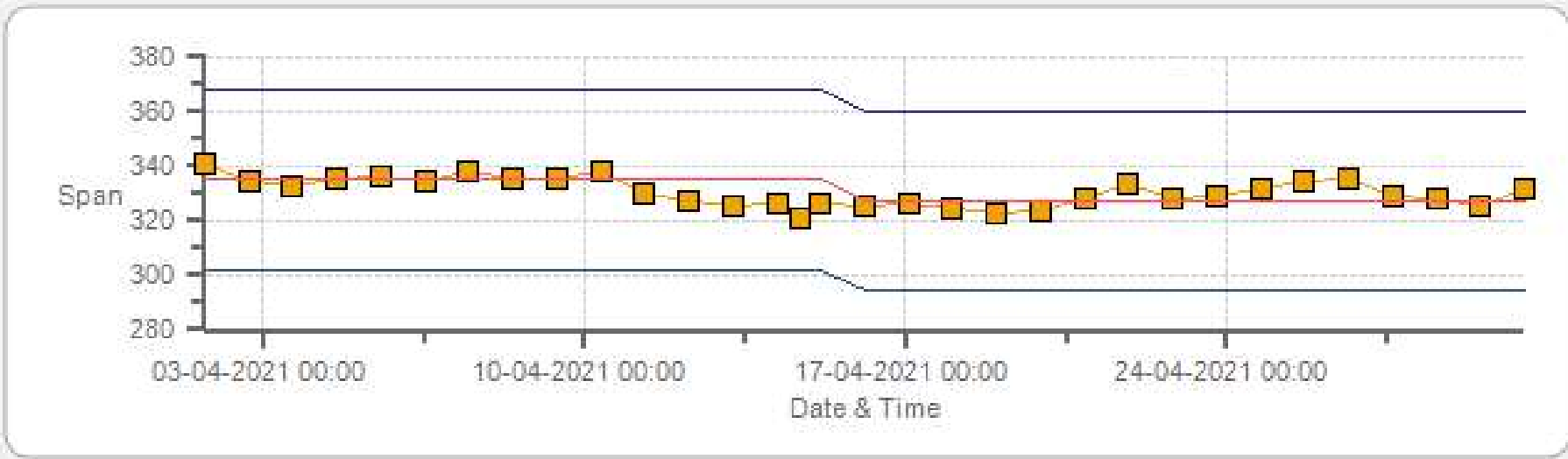
Span Span Ref Span Low Span High

NO2[ppb] Calibration: St. Lina Monthly: 04-2021 Type: SpanAndZero - Zero



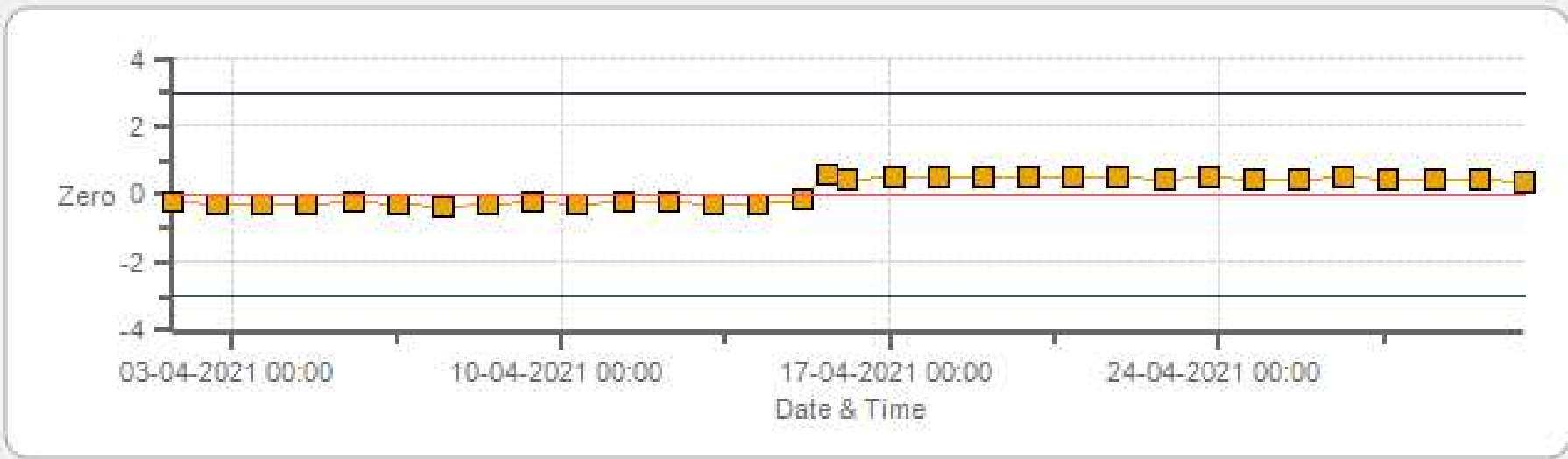
Zero Zero Ref Zero Low Zero High

NO2[ppb] Calibration: St. Lina Monthly: 04-2021 Type: SpanAndZero - Span



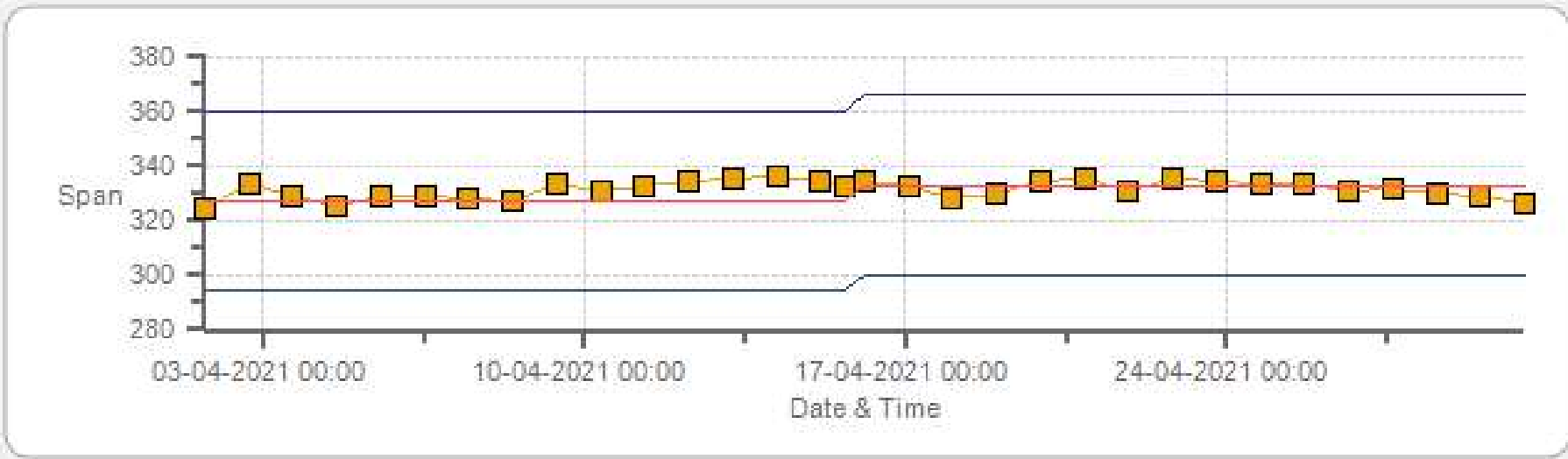
Span Span Ref Span Low Span High

O3[ppb] Calibration: St. Lina Monthly: 04-2021 Type: SpanAndZero - Zero



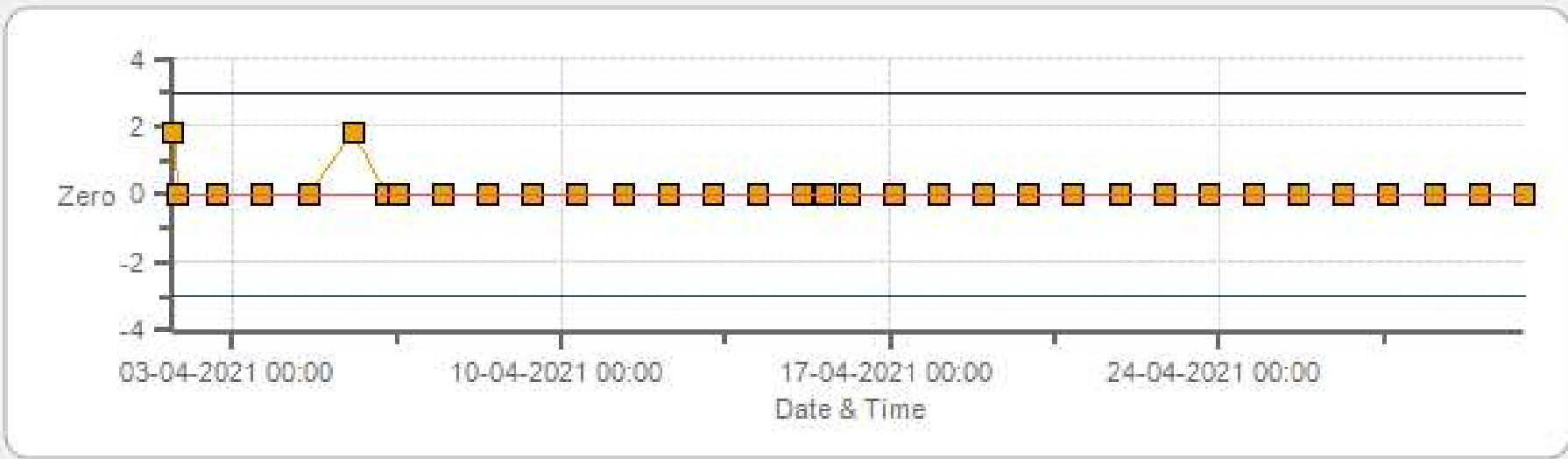
Zero Zero Ref Zero Low Zero High

O3[ppb] Calibration: St. Lina Monthly: 04-2021 Type: SpanAndZero - Span



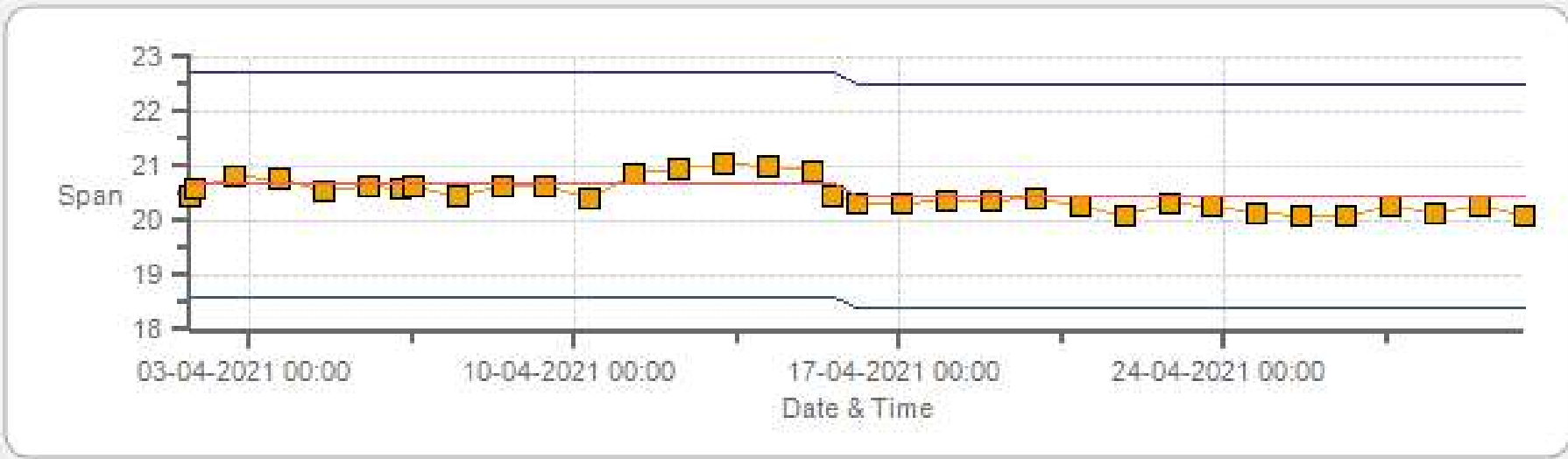
Span SpanRef Span Low Span High

THC55[ppm] Calibration: St. Lina Monthly: 04-2021 Type: SpanAndZero - Zero



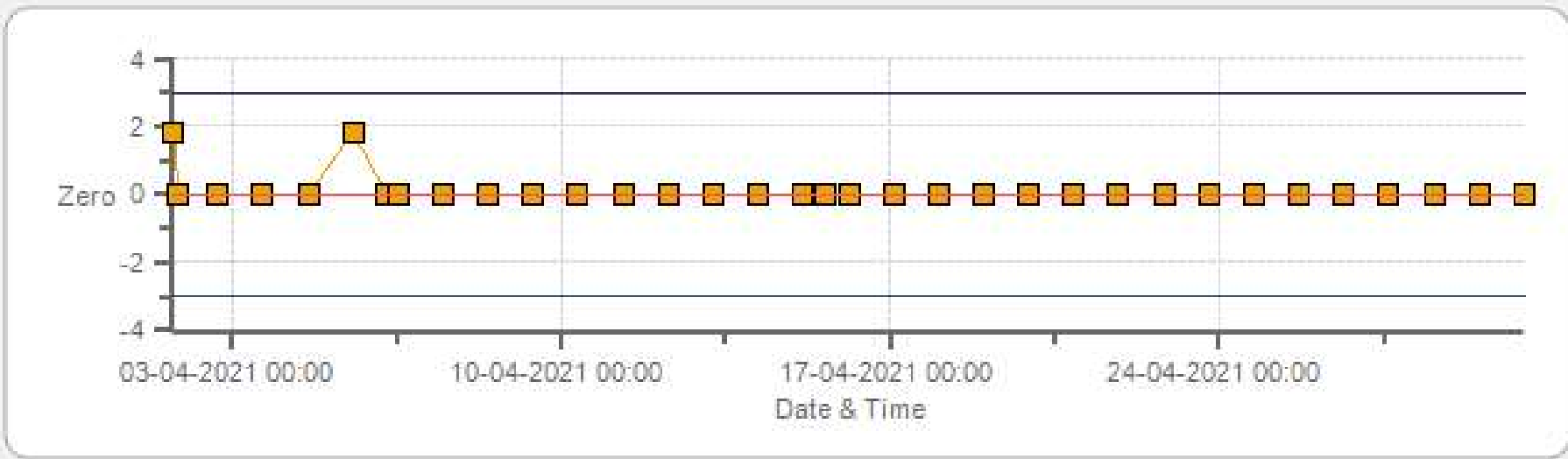
Zero Zero Ref Zero Low Zero High

THC55[ppm] Calibration: St. Lina Monthly: 04-2021 Type: SpanAndZero - Span



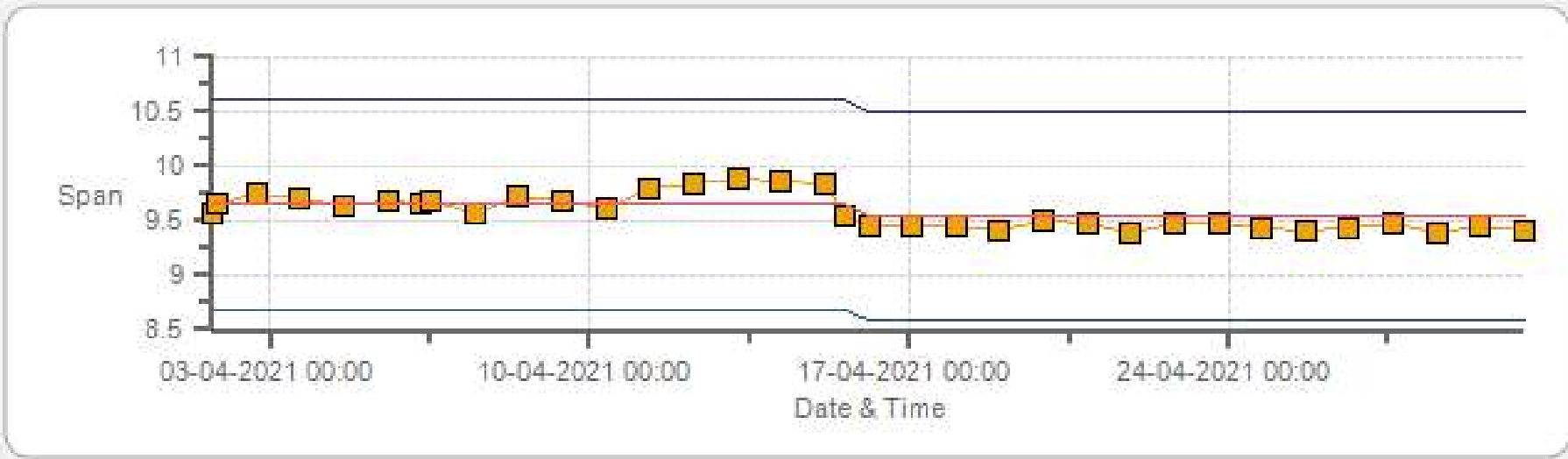
Span Span Ref Span Low Span High

CH4[ppm] Calibration: St. Lina Monthly: 04-2021 Type: SpanAndZero - Zero



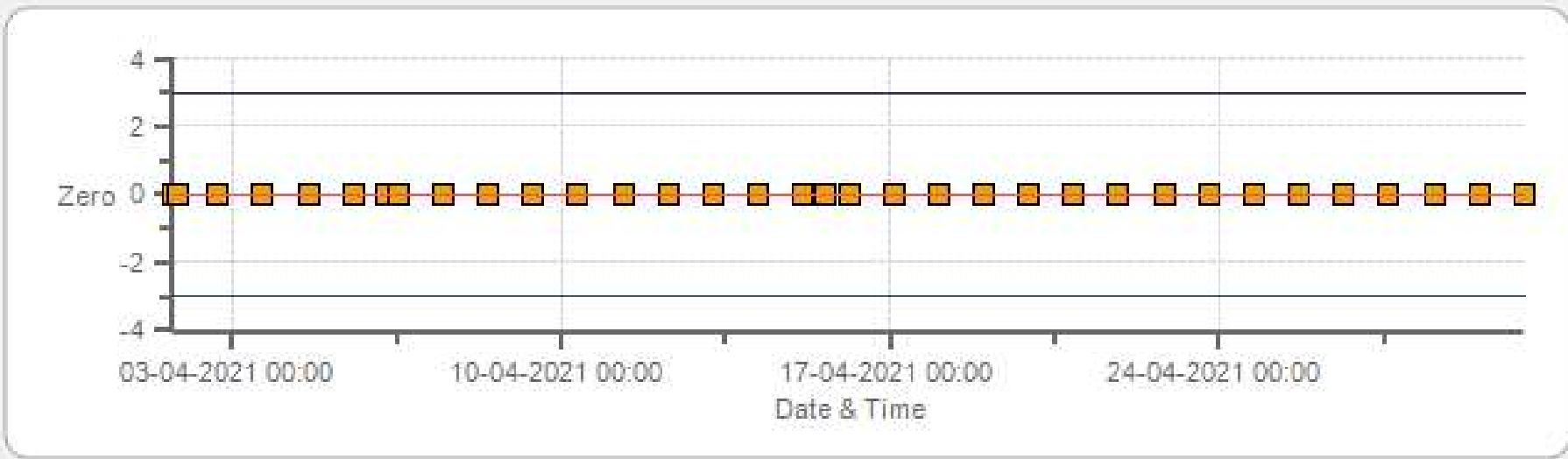
Zero Zero Ref Zero Low Zero High

CH4[ppm] Calibration: St. Lina Monthly: 04-2021 Type: SpanAndZero - Span



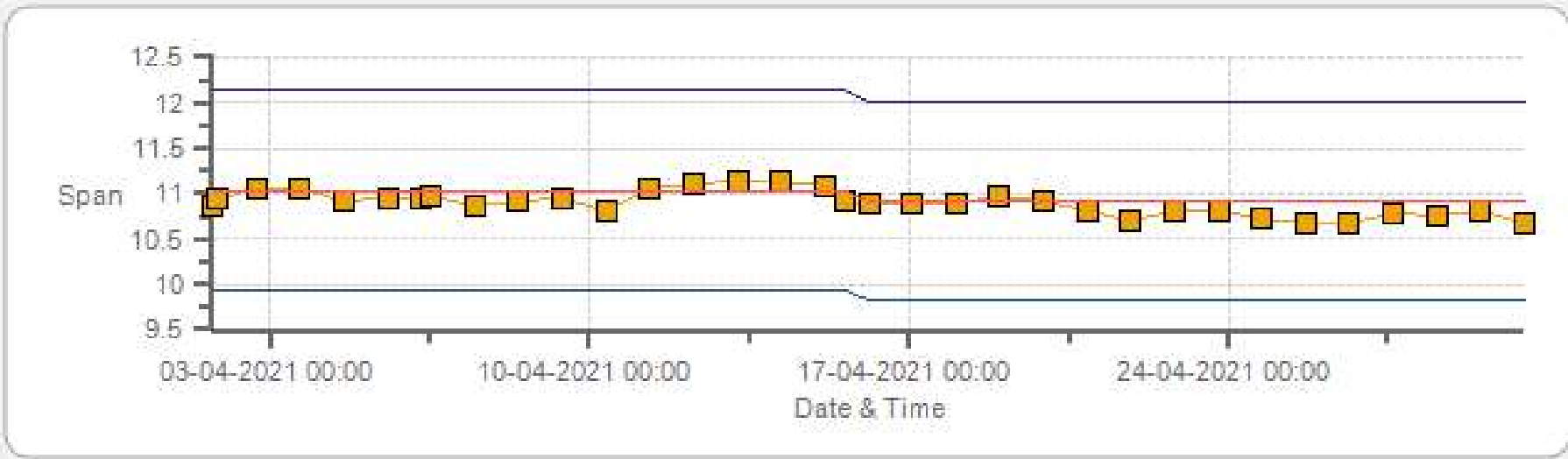
Span Span Ref Span Low Span High

NMHC[ppm] Calibration: St. Lina Monthly: 04-2021 Type: SpanAndZero - Zero



Zero Zero Ref Zero Low Zero High

NMHC[ppm] Calibration: St. Lina Monthly: 04-2021 Type: SpanAndZero - Span



Span Span Ref Span Low Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution



DATE:	14-Apr-2021	PREVIOUS CALIBRATION DATE:	11-Mar-2021
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	0.999
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	932
PURPOSE:	Routine	START TIME (MST):	10:33
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:47

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1180930030	FLOW (mL/min)	432
INITIAL		FINAL	
BKG/OFFSET	4.48	BKG/OFFSET	4.41
COEF/SLOPE	1.168	COEF/SLOPE	1.156
Expected (reference) Value	390	Expected (reference) Value	378

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010	MODEL:	T701
ID:	26801218	ID:	132
MFC CALIBRATION DATE:	09-Apr-2021	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0000851	HIGH ID	n/a
CONC (ppm):	51.60	EXPIRY DATE	n/a
CYLINDER (psi):	600	LOW ID	n/a
EXPIRY DATE	24-Feb-2028	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	38.70	5000	0.00	0	0	0.992	1.000
4959	38.70	4998	399.54	402.6	399.4	0.992	1.000
4981	17.60	4999	181.67	n/a	181.8	n/a	0.999
4989	8.80	4998	90.85	n/a	90.8	n/a	1.001

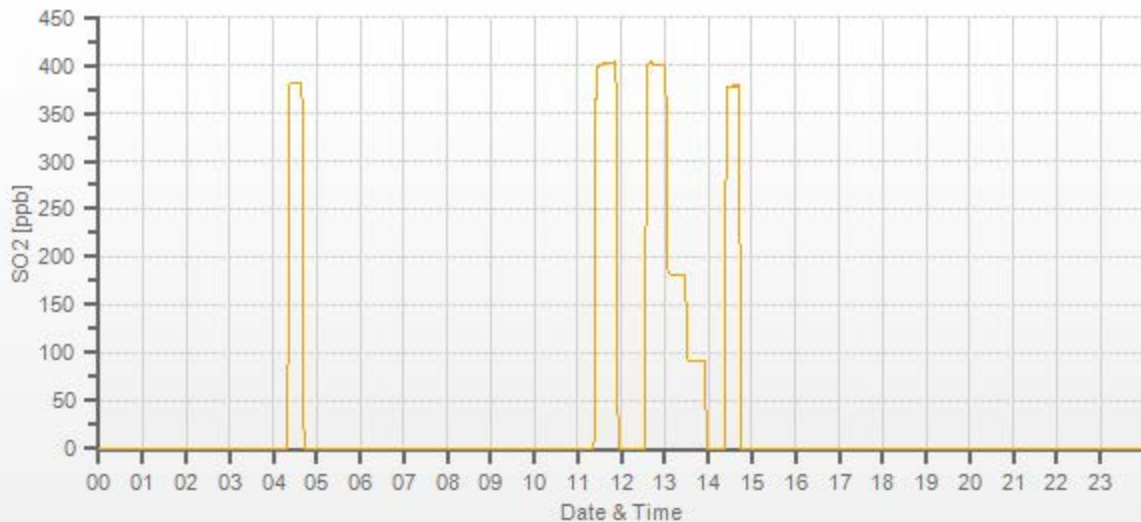
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	0.0%

COMMENTS:

Sample inlet filter was changed.

SO2[ppb] Station: St. Lina Daily: 14-04-2021 Type: AVG 1 Min. [1 Min.]



CAL-LICA-202104-01250

H2S Analyzer Calibration by Dilution



DATE:	14-Apr-2021	PREVIOUS CALIBRATION DATE:	16-Mar-2021
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	0.996
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	932
PURPOSE:	Routine	START TIME (MST):	10:34
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:47

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	CM 18010058	FLOW (mL/min)	825
INITIAL		FINAL	
BKG/OFFSET	53.1	BKG/OFFSET	52.7
COEF/SLOPE	0.885	COEF/SLOPE	0.881
Expected (reference) Value	58.6	Expected (reference) Value	58.7

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	09-Apr-2021	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL 19174	HIGH ID	n/a
CONC (ppm):	10.00	EXPIRY DATE	n/a
CYLINDER (psi):	500	LOW ID	n/a
EXPIRY DATE	16-Jul-2022	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)	n/a

CALIBRATION:

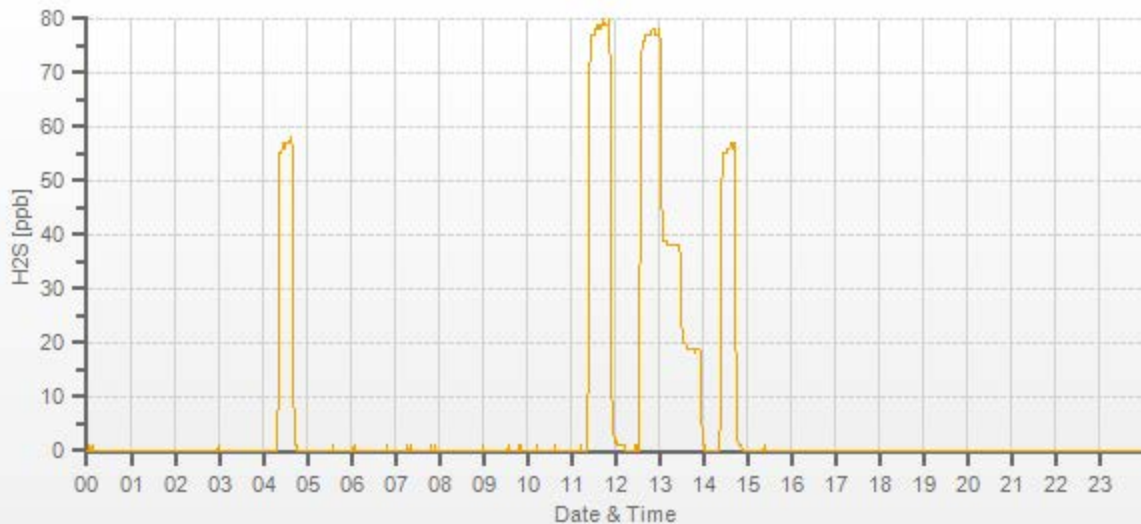
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
4000	31.20	4000	0.00	0.3	0	0.990	1.000
3969	31.20	4000	78.00	79.1	78	0.990	1.000
3985	15.20	4000	38.00	n/a	38.1	n/a	0.997
3992	7.60	4000	19.00	n/a	18.7	n/a	1.016

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.001	-0.1%

COMMENTS:

Sample inlet filter was changed.



H2S Analyzer Calibration by Dilution



DATE:	21-Apr-2021	PREVIOUS CALIBRATION DATE:	14-Apr-2021
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	912
PURPOSE:	Repeat	START TIME (MST):	11:12
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:05

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	CM 18010058	FLOW (mL/min)	811
INITIAL		FINAL	
BKG/OFFSET	52.7	BKG/OFFSET	54
COEF/SLOPE	0.881	COEF/SLOPE	0.837
Expected (reference) Value	58.7	Expected (reference) Value	63.1

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	09-Apr-2021	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL 19174	HIGH ID	n/a
CONC (ppm):	10.00	EXPIRY DATE	n/a
CYLINDER (psi):	500	LOW ID	n/a
EXPIRY DATE	16-Jul-2022	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:

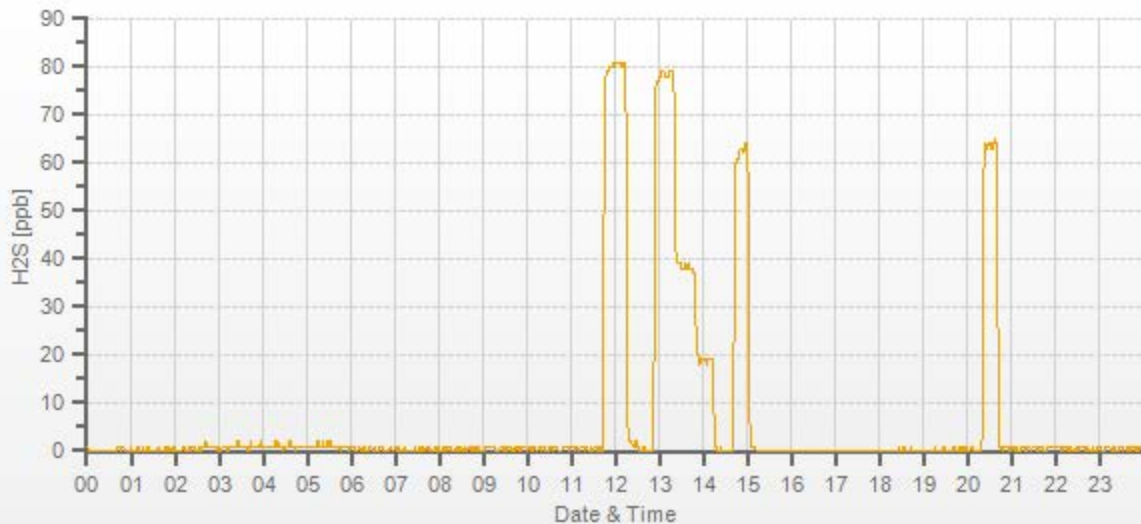
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
4000	31.20	4000	0.00	0.4	0	0.973	0.997
3969	31.20	4000	78.00	80.6	78.2	0.973	0.997
3985	15.20	4000	38.00	n/a	38	n/a	1.000
3992	7.60	4000	19.00	n/a	18.8	n/a	1.011

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.004	-0.1%

COMMENTS:

Repeat calibration was completed to correct the EV drift.



NOx Calibration by Dilution/Gas-Phase Titration



CALIBRATION:				ANALYZER:			
DATE:	14-Apr-2021	PREVIOUS CALIBRATION DATE:	11-Mar-2021	MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
CLIENT:	LICA	TEMPERATURE (°C):	22.0	SERIAL #:	1180930029	NOx	0.998
LOCATION:	St. Lina	BAROMETRIC (mBar):	932	FLOW (mL/min)	477	NO	0.999
PURPOSE:	Routine	START TIME (MST):	10:36	RANGE (ppb)	500	NO2	1.000
PERFORMED BY:	Alex Yakupov	END TIME (MST):	16:38	GPT FOR O3?		No	

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:		FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	EY 0000851	HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	NO/NOx (PPM):	50.9 51.1	HIGH EXPIRY:	n/a
ID:	26801218	ID:	132	CYLINDER (psi):	600	LOW ID:	n/a
MFC CALIBRATION DATE:	09-Apr-2021	OXIDIZER ID:	n/a	EXPIRY DATE	24-Feb-2028	LOW EXPIRY:	n/a

CALIBRATION SETTINGS:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
BKG/OFFSET:	6.3	6.2	n/a	BKG/OFFSET:	6.4	6.2	n/a
SLOPE/COEF/CE:	1.005	1.322	0.999	SLOPE/COEF/CE:	1.008	1.313	0.999

EXPECTED (REFERENCE) VALUE:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	337.0	2.1	335.0		329.0	2.2	327.0

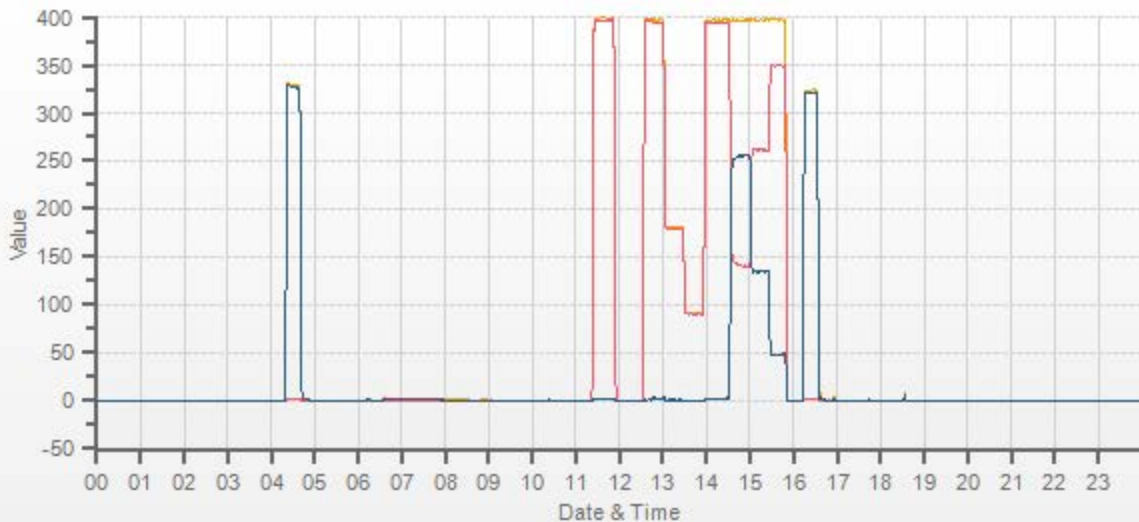
POINT	NO TARGET (PPB)	NO2 TARGET (PPB)	NO2 RANGE	O3 POINT
HIGH	380	250	230-265	n/a
MID	180	125	115-150	n/a
LOW	90	45	40-55	n/a
EXTRA 1	n/a	n/a	n/a	n/a

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	38.70	5000	0.0	0.0	0.0	-0.1	0.0	0.1	0.0	0.0	0.0	0.994	0.993	0.999	1.002	0.999	0.999
4959	38.70	4998	394.1	395.7	1.5	396.5	398.3	1.9	393.5	395.9	2.5	0.994	0.993	0.999	1.002	0.999	0.999
4981	17.60	4999	179.2	179.9	0.7	n/a	n/a	n/a	179.8	181.6	1.8	n/a	n/a	0.997	0.991	0.991	0.991
4989	8.80	4998	89.6	90.0	0.4	n/a	n/a	n/a	90.5	91.0	0.6	n/a	n/a	0.990	0.989	0.989	0.989

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	38.70	4998	0	393.7	396.7	3.0	253.3	252.8	1.002	99.80%
AS-FOUND HIGH	38.70	4998	240	140.4	396.2	255.8	253.3	252.8	1.002	99.80%
ADJUSTED HIGH	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MID	38.70	4998	125	261.5	396.5	135.0	132.2	132	1.002	99.85%
LOW	38.70	4998	45	348.8	396.8	48.0	44.9	45	0.998	100.22%
NO2 adjustment not required.									AVERAGE:	99.96%

LINEAR REGRESSION ANALYSIS:				COMMENTS:
	CORRELATION	SLOPE	INTERCEPT	
NO	1.000	0.998	0.12%	
NOx	1.000	1.000	0.15%	
NO2	1.000	0.997	0.04%	

Station: St. Lina Daily: 14-04-2021 Type: AVG 1 Min. [1 Min.]



CAL-LICA-202104-01250

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

Ozone Calibration by Photometer (Varying UV Lamp)



DATE:	15-Apr-2021	PREVIOUS CALIBRATION DATE:	22-Mar-2021
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	928
PURPOSE:	Routine	START TIME (MST):	10:55
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:57

ANALYZER:

MAKE/MODEL	Thermo 49i	RANGE	500 ppb
SERIAL #	1002240371	FLOW (mL/min)	1502
INITIAL		FINAL	
BKG/OFFSET	0.2	BKG/OFFSET	-0.5
COEF/SLOPE	1.006	COEF/SLOPE	1.006
Expected (reference) Value	327.4	Expected (reference) Value	333

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Thermo-Electron
MODEL:	2010 D	MODEL:	111
ID:	11900613	ID:	111-22449-204
MFC CALIBRATION DATE:	09-Apr-2021	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:

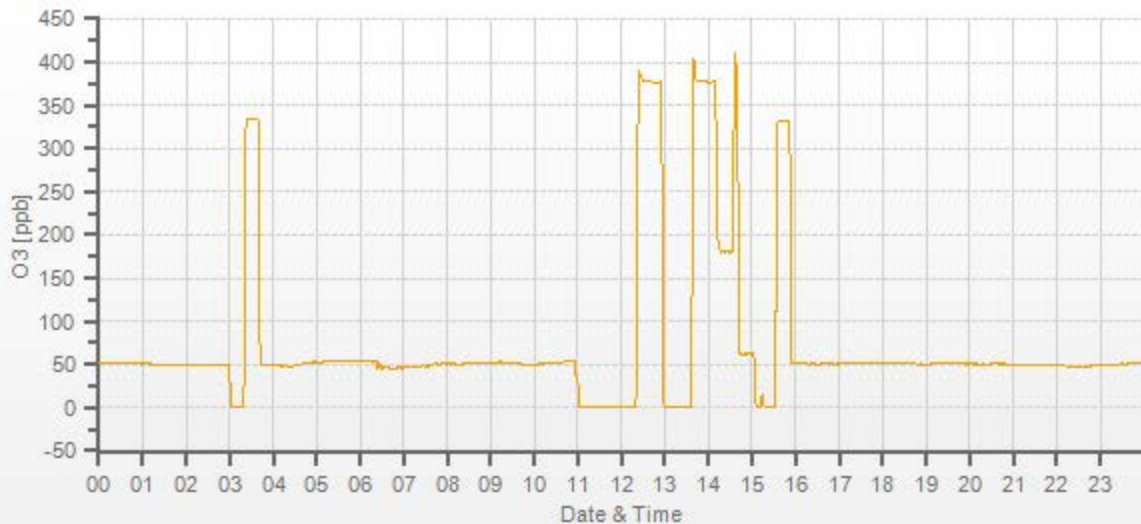
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
5000	5000	5000	0.0	-1.4	0.0	0.999	1.002
5000	5000	5000	378.0	376.9	377.3	0.999	1.002
5000	5000	5000	180.0	n/a	181.2	n/a	0.993
5000	5000	5000	61.0	n/a	62.4	n/a	0.978

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.997	0.2%

COMMENTS:

Sample inlet filter was changed. 14:34 - High Point started in error.



Methane/Non-Methane Analyzer Calibration by Dilution



CALIBRATION:				ANALYZER:			
DATE:	15-Apr-2021	PREVIOUS CALIBRATION DATE:	11-Mar-2021	VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
CLIENT:	LICA	TEMPERATURE (°C):	22.0		Thermo 55i	1180930025	1050
LOCATION:	St. Lina	BAROMETRIC (mBar):	928	PARAMETER:	CH4	NMHC	THC
PURPOSE:	Routine	START TIME (MST):	10:57	RANGE (ppm):	20	20	40
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:21	PREVIOUS CF:	0.999	1.001	1.000

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:		FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 168375	HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	CH ₄ /C ₃ H ₈ (ppm):	914.0 307.0	HIGH EXPIRY:	n/a
ID:	26801218	ID:	132	CYLINDER (psi):	1400	LOW ID:	n/a
MFC CALIBRATION DATE:	09-Apr-2021	OXIDIZER ID:	115	EXPIRY DATE:	21-Jan-2028	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	844.3
RANGE	12 - 16	6 - 8	2 - 4	THC as CH ₄	1758.3

EXPECTED (REFERENCE) VALUE:

INITIAL	CH ₄	NMHC	THC	FINAL	CH ₄	NMHC	THC
	10.03	11.18	21.21		9.55	10.91	20.47

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	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
3051	49.40	3100	14.57	13.45	28.02	14.99	13.64	28.61	14.56	13.42	27.98	0.972	0.986	0.979	1.000	1.002	1.001
3075	24.70	3100	7.28	6.73	14.01	n/a	n/a	n/a	7.23	6.64	13.87	n/a	n/a	n/a	1.007	1.013	1.010
3088	12.30	3100	3.63	3.35	6.98	n/a	n/a	n/a	3.56	3.23	6.79	n/a	n/a	n/a	1.019	1.037	1.027

LINEAR REGRESSION ANALYSIS:

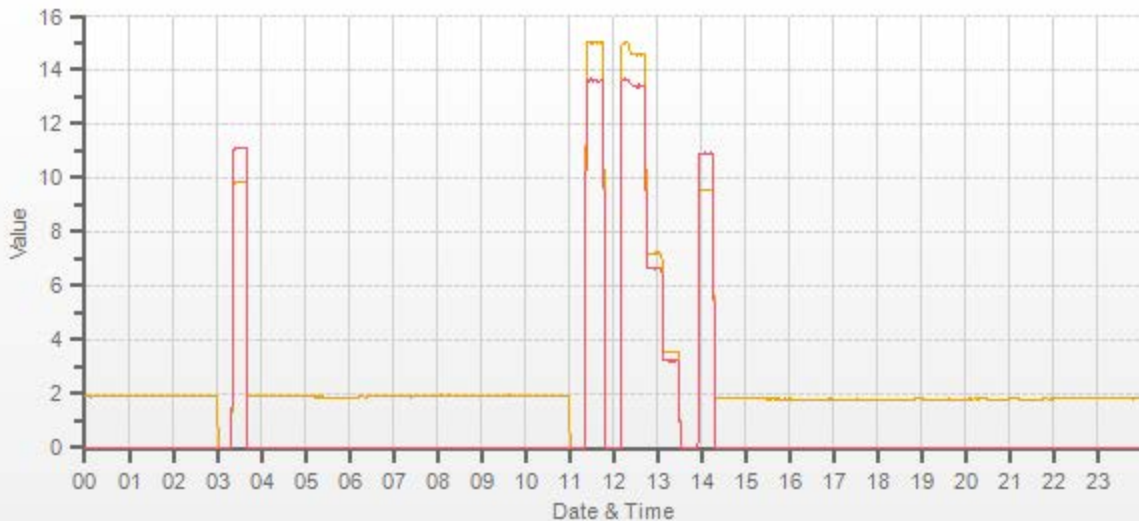
	CORRELATION	SLOPE	INTERCEPT
CH ₄	1.000	1.001	-0.2%
NMHC	1.000	1.000	-0.3%
THC	1.000	1.000	-0.2%

Comments:

Sample inlet filter was changed.

Use Zero Chrom?

Yes



CAL-LICA-202104-01250

Thermo 5030i SHARP Monitor Monthly Check

Date: April 8, 2021	Performed By/Reviewer: Alex Yakupov Chris Wesson
Company: LICA	Start Time (mst): 12:02
Station Name/Location: St. Lina	End Time (mst): 12:56
Previous Audit Date: March 10, 2021	Calibration Purpose: routine monthly
Parameter: PM 2.5	Weather Conditions: A few clouds

SHARP 5030i Information and Status:

Serial Number: CM 17091001 **Filter Tape Counter:** 155

Reference Standards:

Air Flow

	Manometer	Orifice	Pressure:	Temp / RH:
Make:	Dwyer	Chinook Eng.	Fisher Scientific	Fisher Scientific
Model:	475-0-FM	FTS Flow Cell	FB61291	11-661-7A
Serial Number:	BV #1	BV#1/ FRM 1210	130168457	170286131
Calibration Expiration Date:	January 19, 2022	March 3, 2022	February 17, 2022	June 5, 2021

Ambient Temperature (°C)				Range	Action
	Reference	SHARP	Difference	< ± 2°C	OK
#1	2.10	2.3	-0.2	2-3 °C	Recalibrate
				> 3°C	Fail

Ambient Relative Humidity (%RH)				Range	Action
As Found:				< ± 2 %RH	OK
	Reference	SHARP	Difference	2-5 %RH	Recalibrate
#1	64.30	65.0	-0.7	> 5 %RH	Fail

Barometric Pressure (mmHg)				Range	Action
As Found:				< ± 10 mmHg	OK
	Reference	SHARP	Difference	10-12 mmHg	Recalibrate
#1	690.0	692.0	-2.0	> 12 mmHg	Fail

Flow Audit (L/min)						Range	Action
As Found:						< ± 4%	OK
	Reference	SHARP		% Difference		4-5%	Recalibrate
#1	16.65	16.66		0.10%		>5%	Fail
#2	16.64	16.66					
#3	16.65	16.67					
Average	16.65	16.66					

Leak Check (L/min)						
Without Leak Check Adapter			With leak Check Adapter			
	Reference	SHARP	Difference	Reference	SHARP	Difference
#1	16.65	16.66	-0.01	16.54	16.63	-0.09
LEAK RATE:						-0.08

Leak Limit: 0.80 L/min



Meteorological Sensor Audit/Calibration

Location Information

Company: LICA
 Audit Location: St. Lina
 Audit Date: March 16, 2021
 Calibration Purpose: routine annual
 Performed By: Alex Yakupov
 Reviewed By: Chris Wesson
 Start/End Time (mst): 12:17 / 14:32
 Weather Conditions: Mainly sunny

Wind Sensor Information

Sensor ID Data:		Sensor Outputs:	
Sensor Make:	RM Young	Velocity Voltage Output Range:	0-1
Sensor Model:	05305VK	Velocity Unit Output Range:	0-200
Serial #:	161466	Direction Voltage Output Range:	0-1
Previous Cal/Audit Date:	February 26, 2020	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	37.0	37.0	0.996
3000	55.3	55.5	55.5	0.996
4000	73.7	74.0	74.1	0.996
5000	92.2	92.6	92.6	0.995
6000	110.6	111.2	111.2	0.994
7000	129.0	129.7	129.7	0.995
8000	147.4	148.3	148.3	0.994
9000	165.9	167.0	167.0	0.993
10000	184.3	185.6	185.6	0.993
The audit meets AMD requirements.			Average Correction Factor=	0.995

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

Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	1	355	0.8	0.0	0.4
30	330	31	331	-0.6	-0.9	0.7
60	300	61	300	-1.4	-0.4	0.9
90	270	93	270	-2.8	0.0	1.4
120	240	123	242	-3.2	-1.8	2.5
150	210	153	212	-2.7	-2.3	2.5
180	180	183	183	-2.6	-2.9	2.8
210	150	212	154	-1.7	-3.8	2.8
240	120	241	124	-1.2	-4.1	2.6
270	90	270	94	-0.1	-4.0	2.1
300	60	301	64	-0.6	-3.6	2.1
330	30	330	32	0.3	-2.2	1.3
355	0	355	1	0.0	1.3	0.7
The audit meets AMD requirements.				Average Absolute Degrees Difference=		1.7

Comments:

n/a

End of Report