



Lakeland Industry & Community Association

JANUARY 2021

Monthly Ambient Air Quality Monitoring Report

LICA-202101

Operation and Maintenance:

Bureau Veritas Canada

Data Validation and Report:

Lakeland Industry & Community Association

February 19, 2021

Pages may be left blank for double-sided printing



Lakeland Industry & Community Association

5107 50 St

Bonnyville, AB, T9N 2J7

Phone #: 780-226-7068

E-mail: monitoring@lica.ca

www.lica.ca

February 19, 2021

Alberta Environment and Parks (AEP)

11th Floor, Oxbridge Place

9820 106 Street

Edmonton, AB, T5K 2J6

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

Enclosed is the January 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

Michael Bisaga, Monitoring Programs Manager

5107 50 Street

Bonnyville, AB, T9N 2J7

Phone #: 780-226-7068

E-mail: monitoring@lica.ca

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

TABLE OF CONTECTS

COVER LETTER.....	3
TABLE OF CONTECTS.....	4
LIST OF ACRONYMS.....	5
NETWORK STATION SUMMARY.....	6
Listing of Continuous Monitoring Stations and Integrated Sampling Stations.....	6
List of Contractors performing air monitoring activities.....	7
Monitoring Notes during the Month of January 2021.....	7
Cold Lake South	7
Maskwa	7
St. Lina Station	8
Integrated Sampling	9
Revisions to Alberta’s Ambient Air Quality Data Warehouse.....	10
Deviations from Authorized Monitoring Methods.....	10
Disclaimer.....	10
Certification.....	11
Map of LICA Continuous Monitoring Network.....	12
CONTINUOUS NETWORK EQUIPMENT AND MONITORING RESULTS SUMMARY.....	13
Cold Lake South Station.....	13
Maskwa Station.....	16
St. Lina Station.....	19
TABLES AND CHARTS.....	22
COLD LAKE SOUTH STATION.....	23
MASKWA STATION.....	93
ST. LINA STATION.....	165
END OF REPORT.....	237

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	Maskwa	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		√	√
	PRECIPITATION		√	√
	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 January 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 met the 90% operational uptime requirement.
- **NOx/NO/NO2:** A repeat zero-span check was run on January 19 hour 8 to investigate negative span drift. The check results passed the check requirements. No further actions were needed. One hour of downtime was recorded as a result.
- **THC/CH4/NMHC:** The Thermo 55i HC analyzer, s/n: 1236656107, failed on January 25 hour 1 due to persistent poor injections. A replacement Thermo 55i HC analyzer, s/n: 1180030034, was installed, and column conditioning was run overnight. A successful installation calibration was completed on January 26. Thirty-four hours of data were discarded due to this event.

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, except THC/CH4/NMHC (89.8%). AEP reference #: 375580
- **THC/CH4/NMHC:**
 - Frequent poor sample injections were noticed on January 15. The issue was addressed on January 16 when the routine monthly calibration was completed.

- Poor sample injections were recorded again on January 22. The issue was addressed on January 23 when a repeat multi-point calibration was completed. Four hours of downtime were recorded due to the additional quality check.
- The analyzer flamed out intermittently on January 26 and failed completely on January 27. Troubleshooting was performed on January 28. The analyzer was left offline to stabilize overnight. A successful post-repair calibration was completed on January 29. Fifty-seven hours of downtime were recorded due to this event.
- The analyzer failed again on January 31. The issue was resolved during the February 2 sit visit. Fifteen hours of downtime were recorded due to this event this month.
- **H2S:** The analyzer spanned low on January 24 and 25 due to extreme cold temperatures. Extremely dry air causes an adverse effect on equipment performance resulting in a slow and low response from the analyzer. This is a widespread and acknowledged problem when temperatures drop below -30 degree Celsius. Other than waiting for the extreme cold weather event to pass, there are no short-term corrective actions for this problem. Identifying and implementing a long-term solution will involve a collective effort of our airshed partners and contractors.

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, except precipitation (11.0%).
- **THC/CH4/NMHC:**
 - The span gas cylinder was replaced on January 13. A control zero-span check was completed afterwards. One hour of downtime was recorded due to the additional quality check.
 - Based on a review of all valid methane hourly averages available on the AEP Air Data Warehouse for the past 5 years and improvements in monitoring technology, LICA has changed its acceptability criteria for CH4; the acceptable lower concentration limit for CH4 has changed from 1.8 ppm to 1.7 ppm. This change will affect the THC background concentration: the new THC background concentration is 1.7ppm. As a result, THC and CH4 concentration that are recorded equal to or above 1.7 ppm are now considered valid, and data recorded below 1.7ppm will be discarded.
- **O3:** The SPAN level value testing was performed on January 14. A repeat zero-span check was performed afterwards to adjust the reference span value. One hour of downtime was recorded due to the additional quality check.
- **H2S:** The analyzer spanned low between January 23 and January 25 due to extreme cold temperatures. Extremely dry air causes an adverse effect on equipment performance resulting in a slow and low response from the analyzer. This is a widespread and acknowledged problem when temperatures drop below -30 degree Celsius. Other than waiting for the extreme cold weather event to pass, there are no short-term corrective actions for this problem. Identifying and implementing a long-term solution will involve a collective effort of our airshed partners and contractors.
- **Precipitation:** The precipitation channel has been put offline due to the heater failure since October 13, 2020. A new MetOne 387D precipitation gauge, s/n: A23775, was installed on January 28 hour 13. Valid data starts being recorded on January 28 hour 14. Six hundred sixty-two hours of data were discarded due to the heater failure this month.

Integrated Sampling

All the integrated sampling analytical results are included in the January 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 Xontech sampler at the Cold Lake South station was audited on January 16. The sampler passed the audit requirements.
 - Five samples were collected this month: on January 4, 10, 16, 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 Tisch PUF Plus sampler at the Cold Lake South station was audited on January 16. The sampler passed the audit requirements.
 - Five samples were collected this month: on January 4, 10, 16, 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 sampler at the Cold Lake South station was audited on January 16. The sampler passed the audit requirements.
 - Five samples were collected this month: on January 4, 10, 16, 22 and 28.
- **Passive Sampling System:**
 - The passive sample filters were installed at the stations between December 29 and December 31, and were removed between January 29 and January 31.
 - 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 January 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 Maskwa 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).

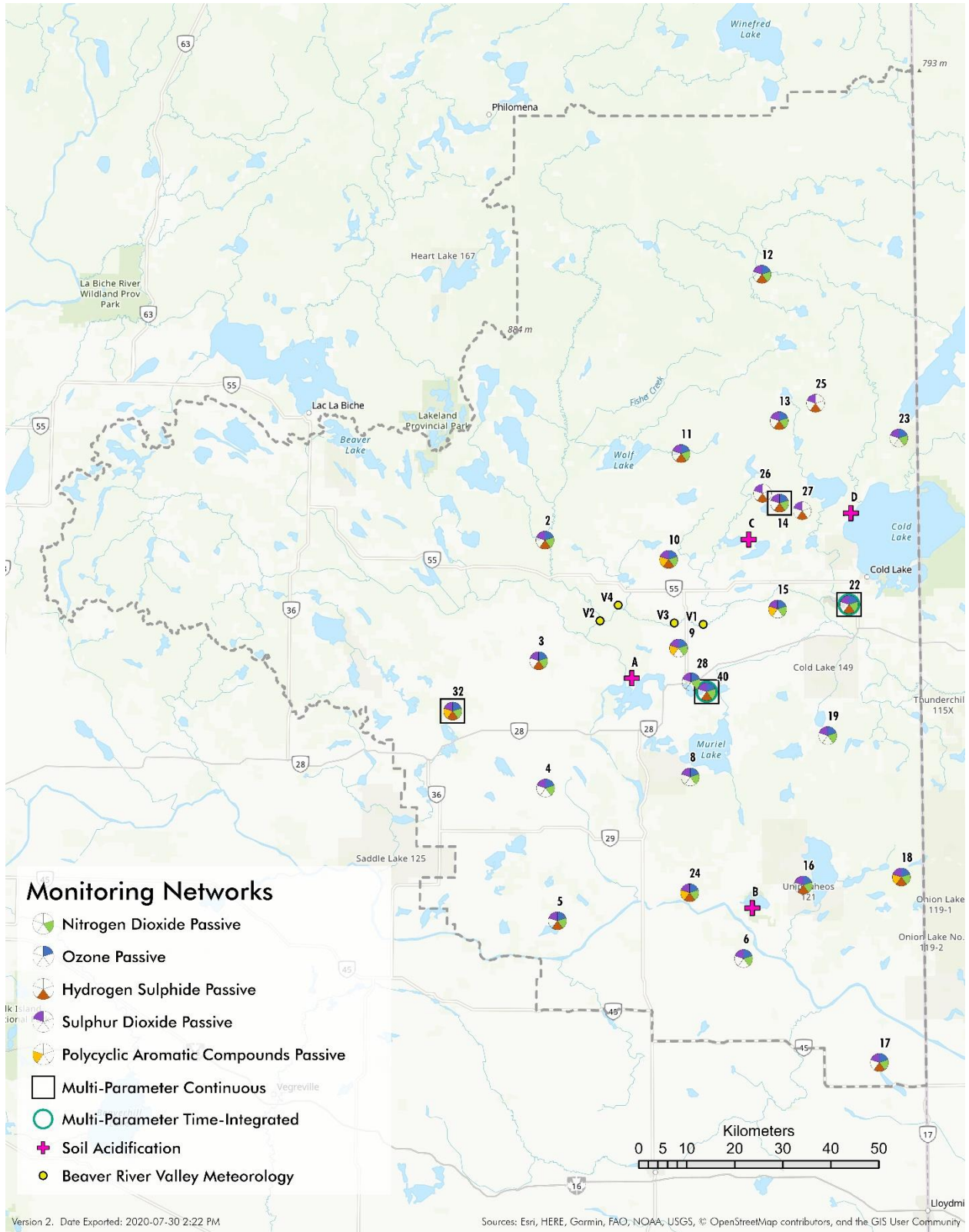
I certify that I have reviewed and verified this report and that the information is complete, accurate and representative of the monitoring results, reporting timeframe and the specified analysis, summarization and reporting requirements. I also certify that at the time of this report's submission, all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

February 19, 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	January 7, 2021
<ul style="list-style-type: none"> No issues were identified this month. 			
Total Reduced Sulphur (TRS)	Thermo / 450i	812728560	January 7, 2021
<ul style="list-style-type: none"> No issues were identified this month. 			
Oxide of Nitrogen / Nitric Oxide/ Nitrogen Dioxide (NO_x/NO/NO₂)	Thermo / 42i	1505664393	January 7, 2021
<ul style="list-style-type: none"> A repeat zero-span check was run on January 19 hour 8 to investigate negative span drift. The check results passed the check requirements. No further actions were needed. One hour of downtime was recorded as a result. 			
Ozone (O₃)	Thermo / 49i	700419951	January 8, 2021
<ul style="list-style-type: none"> No issues were identified this month. The zero-span system pump was rebuilt on January 9. 			
Total Hydrocarbons / Methane/ Non-methane Hydrocarbons (THC/CH₄/NMHC)	Thermo / 55i	1236656107 / 1180030034	January 26, 2021
<ul style="list-style-type: none"> The Thermo 55i HC analyzer, s/n: 1236656107, failed on January 25 hour 1 due to persistent poor injections. A replacement Thermo 55i HC analyzer, s/n: 1180030034, was installed, and column conditioning was run overnight. A successful installation calibration was completed on January 26. Thirty-four hours of data were discarded due to this event. 			
Particulate Matter 2.5 (PM_{2.5})	Teledyne T640	575	January 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)	Rotronic HC2A-S3	20404750	January 8, 2021
<ul style="list-style-type: none"> No issues were identified this month. 			
Barometric Pressure (BP)	Met One / Part 092	Y23368	January 8, 2021
<ul style="list-style-type: none"> No issues were identified this month. 			
Ambient Temperature (AT)	Rotronic HC2A-S3	20404750	January 8, 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. 			
Wind Speed (WS) / Wind Direction (WD)/ Stand Deviation Wind Direction (STDWD)	RM Young 05305AQ	177354	January 8, 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 25, 2020. No issues were identified this month. 			

Monitored Data Summary for Cold Lake South Station

Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.2	0	3	January 5 at hour 13	8.7	WNW	0.5	January 31	100.0	95.0
TRS (ppb)	-	-	-	-	-	-	0.1	0	1	January 2 at hour 7	0.5	WSW	0.7	January 2	100.0	95.0
NOx (ppb)	-	-	-	-	-	-	10.7	1	88	January 11 at hour 9	0.7	ESE	29.0	January 8	99.9	94.6
NO (ppb)	-	-	-	-	-	-	2.6	0	61	January 11 at hour 9	0.7	ESE	12.0	January 11	99.9	94.6
NO2 (ppb)	159	-	-	0	-	-	8.1	1	29	January 4 at hour 19	2.1	ENE	17.3	January 8	99.9	94.6
O3 (ppb)	76	-	-	0	-	-	23.6	0.4	43.6	January 19 at hour 22	23.1	W	36.9	January 20	100.0	95.0
THC (ppm)	-	-	-	-	-	-	2.09	1.83	2.86	January 11 at hour 8	0.5	ENE	2.44	January 11	95.4	91.0
CH4 (ppm)	-	-	-	-	-	-	2.07	1.83	2.74	January 11 at hour 8	0.5	ENE	2.42	January 10	95.4	91.0
NMHC (ppm)	-	-	-	-	-	-	0.02	0.00	0.47	January 6 at hour 0	3	E	0.10	January 30	95.4	91.0
PM2.5 (µg/m3)	80	29	-	0	0	-	7.5	0	53	January 31 at hour 20	1.1	NE	22.5	January 9	100.0	99.9
RH (%)	-	-	-	-	-	-	78.7	45	99	January 13 at hour 13	15.6	NNW	93.4	January 17	100.0	100.0
BP (millibar)	-	-	-	-	-	-	948	923	963	January 8 at hour 3	0.8	SSW	961	January 8	100.0	100.0
Ext. Temp. (°C)	-	-	-	-	-	-	-11.1	-38.4	5.0	January 19 at hour 20	13.2	W	-2.1	January 19	100.0	100.0
Stn. Temp. (°C)	-	-	-	-	-	-	23.4	17.4	24.3	January 1 at hour 6	7.1	WSW	24.2	January 1	100.0	100.0
WSV (km/hr)	-	-	-	-	-	-	1.2	0.0	23.1	January 19 at hour 22	23.1	W	13.2	January 20	100.0	100.0
WDV (sector)	-	-	-	-	-	-	273 (W)	-	-	-	-	-	-	-	100.0	100.0

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

Alberta Ambient Air Quality Objectives (AAAQOs) Exceedances

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

Maskwa Station

Equipment Operation Summary

Parameter	Make / Model	Serial Number	Calibration Date
Sulphur Dioxide (SO2)	Thermo / 43i-TLE	1180930031	January 21, 2021
<ul style="list-style-type: none"> No issues were identified this month. 			
Hydrogen Sulphide (H2S)	Thermo / 450i	CM17360005	January 21, 2021
<ul style="list-style-type: none"> The analyzer spanned low on January 24 and 25 due to extreme cold temperatures. Extremely dry air causes an adverse effect on equipment performance resulting in a slow and low response from the analyzer. This is a widespread and acknowledged problem when temperatures drop below -30 degree Celsius. Other than waiting for the extreme cold weather event to pass, there are no short-term corrective actions for this problem. Identifying and implementing a long-term solution will involve a collective effort of our airshed partners and contractors. 			
Oxide of Nitrogen / Nitric Oxide/ Nitrogen Dioxide (NOx/NO/NO2)	Thermo / 42i	1180930028	January 21, 2021
<ul style="list-style-type: none"> No issues were identified this month. 			
Total Hydrocarbons / Methane/ Non-methane Hydrocarbons (THC/CH4/NMHC)	Thermo / 55i	1180930026	January 29, 2021
<ul style="list-style-type: none"> Frequent poor sample injections were noticed on January 15. The issue was addressed on January 16 when the routine monthly calibration was completed. Poor sample injections were recorded again on January 22. The issue was addressed on January 23 when a repeat multi-point calibration was completed. Four hours of downtime were recorded due to the additional quality check. The analyzer flamed out intermittently on January 26 and failed completely on January 27. Troubleshooting was performed on January 28. The analyzer was left offline to stabilize overnight. A successful post-repair calibration was completed on January 29. Fifty-seven hours of downtime were recorded due to this event. The analyzer failed again on January 31. The issue was resolved during the February 2 sit visit. Fifteen hours of downtime were recorded due to this event this month. 			

Parameter	Make / Model	Serial Number	Calibration Date
Ozone (O3)	Thermo / 49iQ	1202068570	January 22, 2021
<ul style="list-style-type: none"> No issues were identified this month. 			
Particulate Matter 2.5 (PM2.5)	Thermo / Sharp 5030	CM 2209	January 22, 2021
<ul style="list-style-type: none"> No issues were identified this month. 			
Parameter	Make / Model	Serial Number	System Check Date
Relative Humidity (RH)	Campbell Scientific 070 / HC2A-S3	20257103	December 24, 2020
<ul style="list-style-type: none"> No issues were identified this month. 			
Ambient Temperature (AT)	Campbell Scientific 070 / HC2A-S3	20257103	December 24, 2020
<ul style="list-style-type: none"> No issues were identified this month. 			
Barometric Pressure (BP)	Met One / Part 090D	F4997	December 24, 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 387	F4481	December 24, 2020
<ul style="list-style-type: none"> No issues were identified this month. 			
Wind Speed (WS) / Wind Direction (WD)/ Stand Deviation Wind Direction (STDWD)	RM Young / 05305VK	161465	September 10, 2020
<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 Maskwa Site

Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	1.2	0	23	January 14 at hour 9	9.4	NW	3.5	January 14	100.0	95.0
H2S (ppb)	10	3	-	0	0	-	0.0	0	1	January 3 at hour 6	4.4	SSW	0.4	January 30	100.0	94.9
NOx (ppb)	-	-	-	-	-	-	7.0	0	33	January 30 at hour 7	0.1	NW	17.3	January 10	100.0	94.6
NO (ppb)	-	-	-	-	-	-	0.7	0	19	January 30 at hour 7	0.1	NW	2.3	January 10	100.0	94.6
NO2 (ppb)	159	-	-	0	-	-	6.3	0	23	January 10 at hour 20	5.5	SSW	15.0	January 10	100.0	94.6
O3 (ppb)	76	-	-	0	-	-	22.2	0.0	38.1	January 3 at hour 23	6.1	W	31.8	January 16	100.0	94.9
THC (ppm)	-	-	-	-	-	-	1.99	1.81	2.61	January 30 at hour 9	0.3	N	2.31	January 10	89.8	85.3
CH4 (ppm)	-	-	-	-	-	-	1.99	1.81	2.52	January 30 at hour 9	0.3	N	2.30	January 10	89.8	85.3
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.13	January 8 at hour 12	1.3	SW	0.01	January 30	89.8	85.3
PM2.5 (µg/m3)	80	29	-	0	0	-	4.7	0	31	January 9 at hour 18	5.4	SSW	18.8	January 9	100.0	99.7
RH (%)	-	-	-	-	-	-	85.6	54	100	January 1 at hour 4	4.9	SSW	98.7	January 1	100.0	100.0
BP (millibar)	-	-	-	-	-	-	933	908	946	January 8 at hour 3	3.2	SSW	944	January 8	100.0	100.0
Ext. Temp. (°C)	-	-	-	-	-	-	-10.7	-38.2	4.4	January 19 at hour 21	13.2	W	-1.1	January 16	100.0	100.0
Stn. Temp. (°C)	-	-	-	-	-	-	22.2	21.0	24.5	January 21 at hour 15	4.3	NW	22.8	January 16	100.0	100.0
Precipitation (mm)*	-	-	-	-	-	-	1.2	0.0	0.5	January 5 at hour 6	0.8	NNW	0.9	January 5	100.0	100.0
WSV (km/hr)	-	-	-	-	-	-	0.9	0.0	13.8	January 19 at hour 22	13.8	W	8.5	January 20	100.0	100.0
WDV (sector)	-	-	-	-	-	-	244 (WSW)	-	-	-	-	-	-	-	100.0	100.0

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

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

Alberta Ambient Air Quality Objectives (AAQOs) Exceedances

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

St. Lina Station

Equipment Operation Summary

Parameter	Make / Model	Serial Number	Calibration Date
Sulphur Dioxide (SO2)	Thermo / 43i-TLE	1180930030	January 14, 2021
<ul style="list-style-type: none"> No issues were identified this month. 			
Hydrogen Sulphide (H2S)	Thermo / 450i	CM18010058	January 14, 2021
<ul style="list-style-type: none"> The analyzer spanned low between January 23 and January 25 due to extreme cold temperatures. Extremely dry air causes an adverse effect on equipment performance resulting in a slow and low response from the analyzer. This is a widespread and acknowledged problem when temperatures drop below -30 degree Celsius. Other than waiting for the extreme cold weather event to pass, there are no short-term corrective actions for this problem. Identifying and implementing a long-term solution will involve a collective effort of our airshed partners and contractors. 			
Oxide of Nitrogen / Nitric Oxide/ Nitrogen Dioxide (NOx/NO/NO2)	Thermo / 42i	1180930029	January 14, 2021
<ul style="list-style-type: none"> No issues were identified this month. 			
Ozone (O3)	Thermo / 49i	1002240371	January 13, 2021
<ul style="list-style-type: none"> The SPAN level value testing was performed on January 14. A repeat zero-span check was performed afterwards to adjust the reference span value. One hour of downtime was recorded due to the additional quality check. 			
Total Hydrocarbons / Methane/ Non-methane Hydrocarbons (THC/CH4/NMHC)	Thermo / 55i	1180930025	January 20, 2021
<ul style="list-style-type: none"> No issues were identified this month. Based on a review of all valid methane hourly averages available on the AEP Air Data Warehouse for the past 5 years and improvements in monitoring technology, LICA has changed its acceptability criteria for CH4; the acceptable lower concentration limit for CH4 has changed from 1.8 ppm to 1.7 ppm. This change will affect the THC background concentration: the new THC background concentration is 1.7ppm. As a result, THC and CH4 concentration that are recorded equal to or above 1.7 ppm are now considered valid, and data recorded below 1.7ppm will be discarded. 			

Parameter	Make / Model	Serial Number	System Check Date
Particulate Matter 2.5 (PM2.5)	Thermo / Sharp 5030i	CM17091001	January 14, 2021
<ul style="list-style-type: none"> No issues were identified this month. 			
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"> The precipitation channel has been put offline due to the heater failure since October 13, 2020. A new MetOne 387D precipitation gauge, s/n: A23775, was installed on January 28 hour 13. Valid data starts being recorded on January 28 hour 14. Six hundred sixty-two hours of data were discarded due to the heater failure this month. 			
Wind Speed (WS) / Wind Direction (WD)/ Stand Deviation Wind Direction (STDWD)	RM Young / 05305VK	161466	December 23, 2020
<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 February 26, 2020. 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	0.8	0	17	January 2 at hour 2	13.2	ESE	2.9	January 2	100.0	95.0
H2S (ppb)	10	3	-	0	0	-	0.0	0	1	January 3 at hour 14	21.3	W	0.4	January 7	100.0	95.0
NOx (ppb)	-	-	-	-	-	-	4.4	0	23	January 9 at hour 14	8.3	SW	13.7	January 9	100.0	94.9
NO (ppb)	-	-	-	-	-	-	0.3	0	8	January 9 at hour 12	7.6	SW	1.9	January 9	100.0	94.9
NO2 (ppb)	159	-	-	0	-	-	4.2	0	20	January 11 at hour 0	12	SW	11.7	January 9	100.0	94.9
O3 (ppb)	76	-	-	0	-	-	31.1	11.3	43.8	January 19 at hour 21	31.7	W	40.4	January 14	99.9	95.0
THC (ppm)	-	-	-	-	-	-	1.92	1.72	2.49	January 31 at hour 13	10.5	ESE	2.27	January 31	99.9	95.0
CH4 (ppm)	-	-	-	-	-	-	1.92	1.72	2.49	January 31 at hour 13	10.5	ESE	2.27	January 31	99.9	95.0
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.00	January 1 at hour 0	10.4	SSW	0.00	January 1	99.9	95.0
PM2.5 (µg/m3)	80	29	-	0	0	-	6.7	0	44	January 23 at hour 8	8.8	NE	21.5	January 9	100.0	99.7
RH (%)	-	-	-	-	-	-	75.2	48	97	January 13 at hour 11	17.9	NNW	91.5	January 1	100.0	100.0
BP (millibar)	-	-	-	-	-	-	916	892	929	January 14 at hour 16	10.6	NW	926	January 8	100.0	100.0
Ext. Temp. (°C)	-	-	-	-	-	-	-9.1	-31.8	3.9	January 19 at hour 19	22.8	WNW	0.2	January 3	100.0	100.0
Stn. Temp. (°C)	-	-	-	-	-	-	22.3	20.1	24.3	January 17 at hour 17	14.5	NNW	23.5	January 18	100.0	100.0
Precipitation (mm)*	-	-	-	-	-	-	0.0	0.0	0.0	January 28 at hour 14	2.5	NE	0.0	January 28	11.0	11.0
WVS (km/hr)	-	-	-	-	-	-	4.4	0.9	34.0	January 19 at hour 22	34	WNW	21.9	January 20	100.0	100.0
WDV (sector)	-	-	-	-	-	-	235 (SW)	-	-	-	-	-	-	-	100.0	100.0

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

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

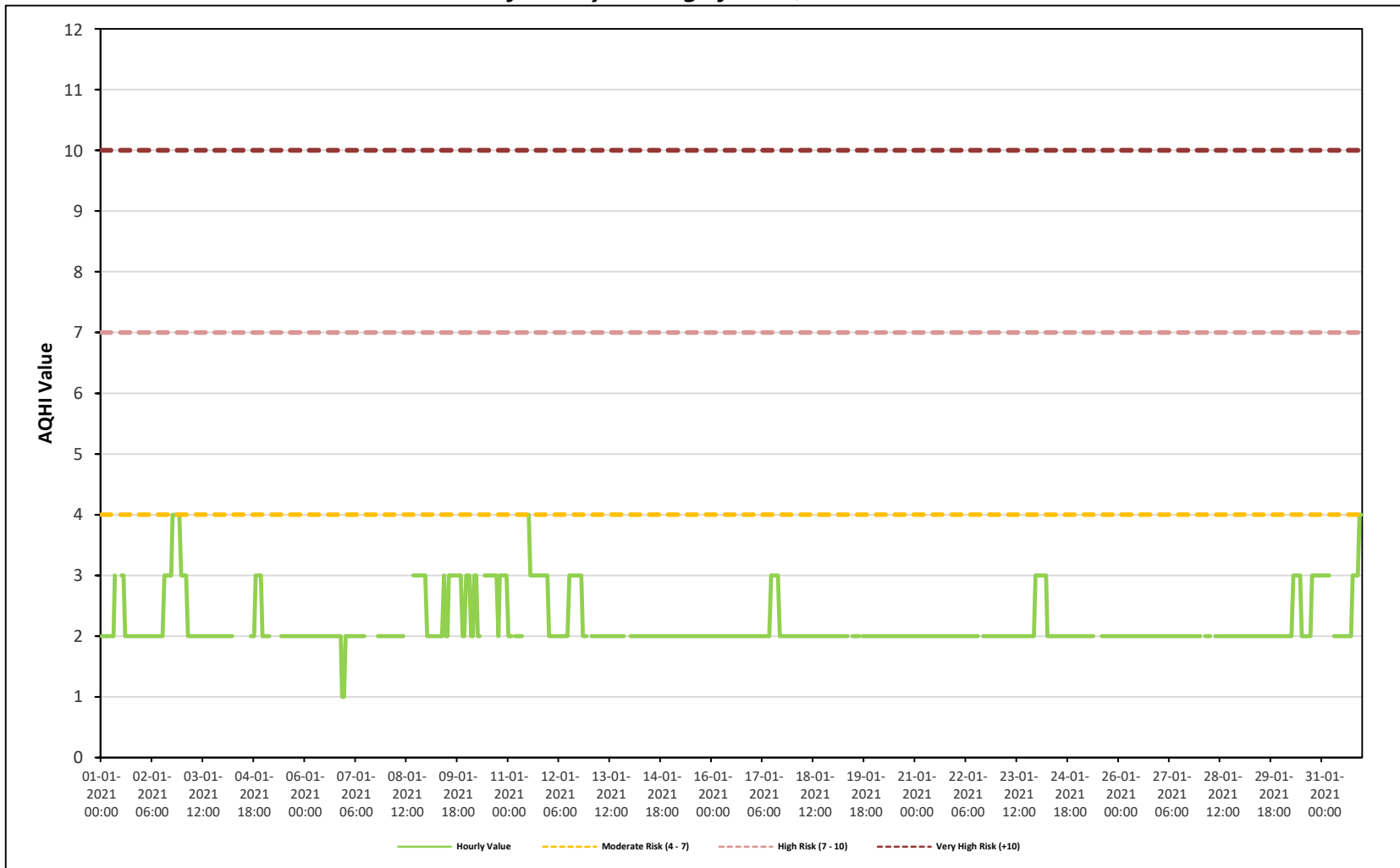
Alberta Ambient Air Quality Objectives (AAQOs) Exceedances

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

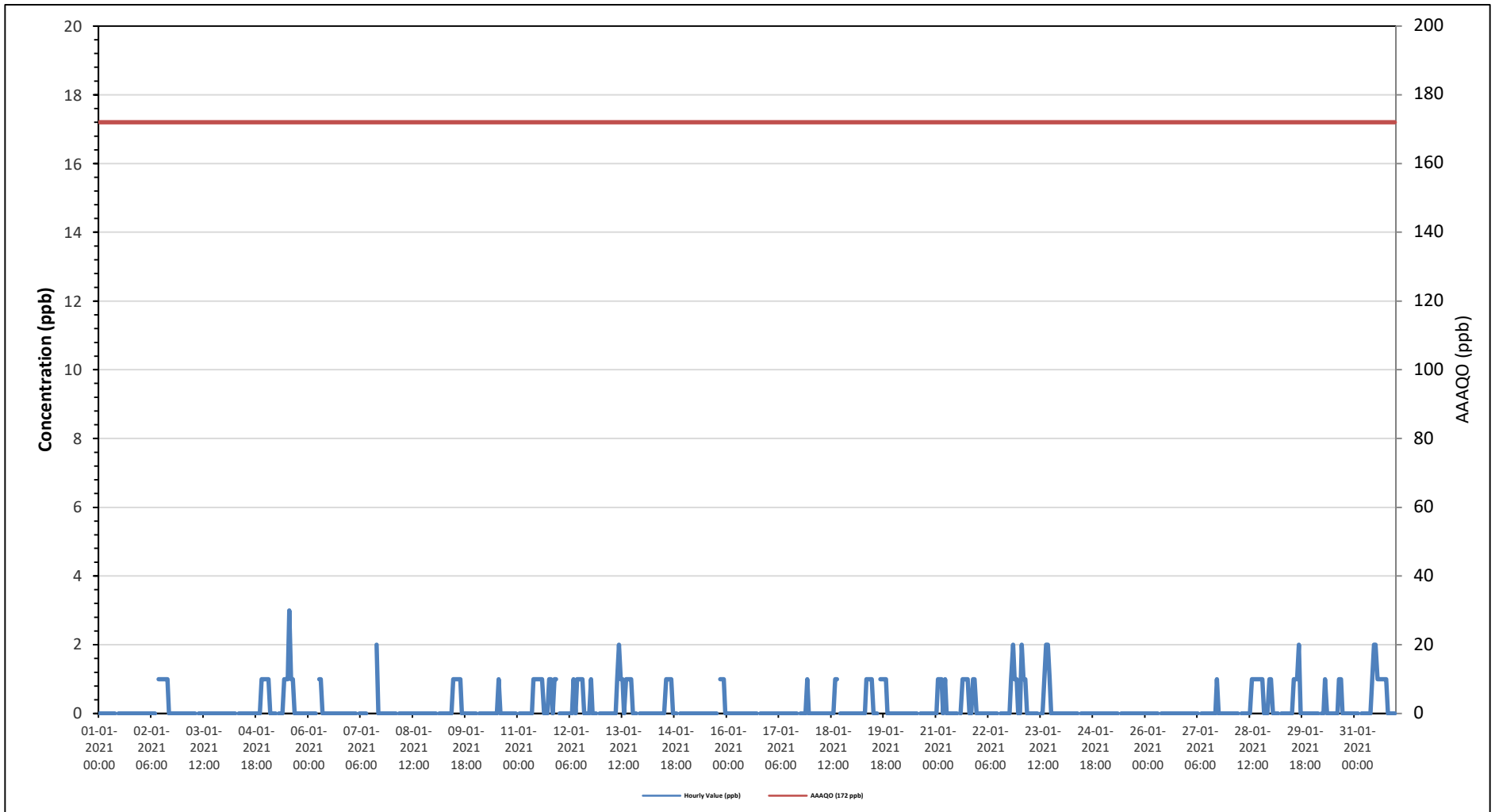
TABLES AND CHARTS

COLD LAKE SOUTH STATION

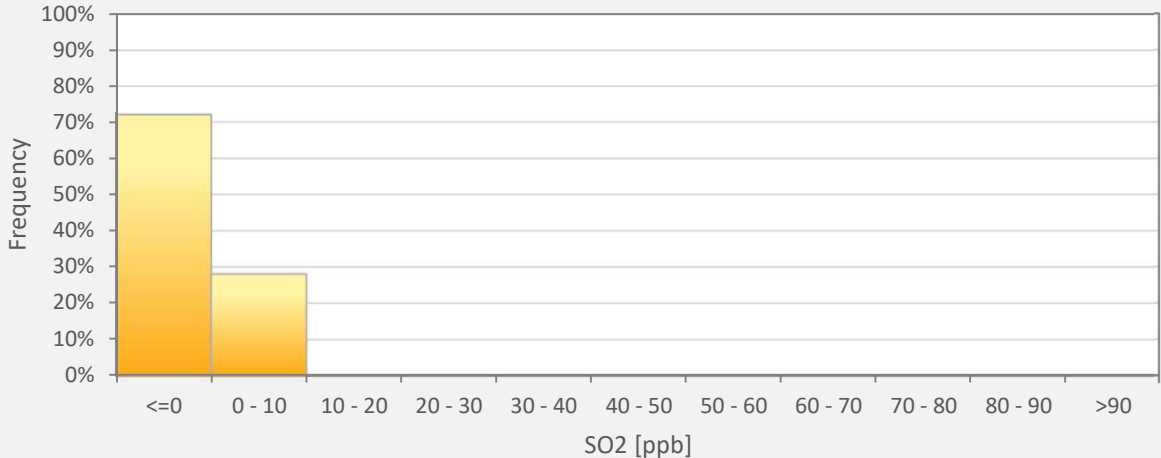
Timeseries Chart of Hourly Average for AQHI - Cold Lake South Station



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



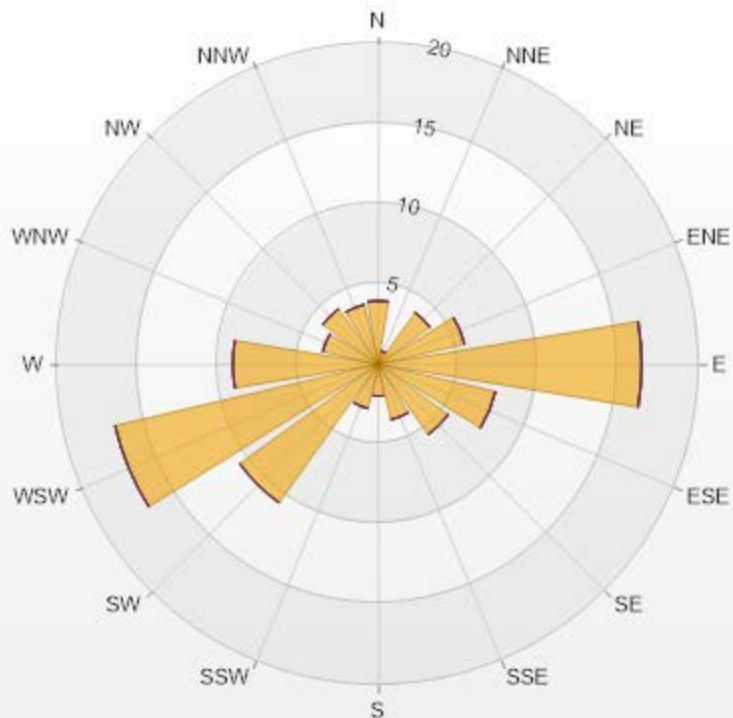
SO2[ppb] Histogram: Cold Lake South Monthly: 01-2021 1 Hr.



Classes	SO2
<=0	71.99%
0 - 10	28.01%
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: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 95.03% Calm Avg: 0.00 [ppb]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	3.96	0	0	0	0	3.96
NNE	0.85	0	0	0	0	0.85
NE	3.96	0	0	0	0	3.96
ENE	5.52	0	0	0	0	5.52
E	16.41	0	0	0	0	16.41
ESE	7.5	0	0	0	0	7.5
SE	5.37	0	0	0	0	5.37
SSE	3.54	0	0	0	0	3.54
S	1.98	0	0	0	0	1.98
SSW	2.83	0	0	0	0	2.83
SW	10.61	0	0	0	0	10.61
WSW	16.83	0	0	0	0	16.83
W	9.05	0	0	0	0	9.05
WNW	3.54	0	0	0	0	3.54
NW	4.24	0	0	0	0	4.24
NNW	3.82	0	0	0	0	3.82
Summary	100	0	0	0	0	100



LICA-202101

% Icon Classes (ppb)

100 0-10

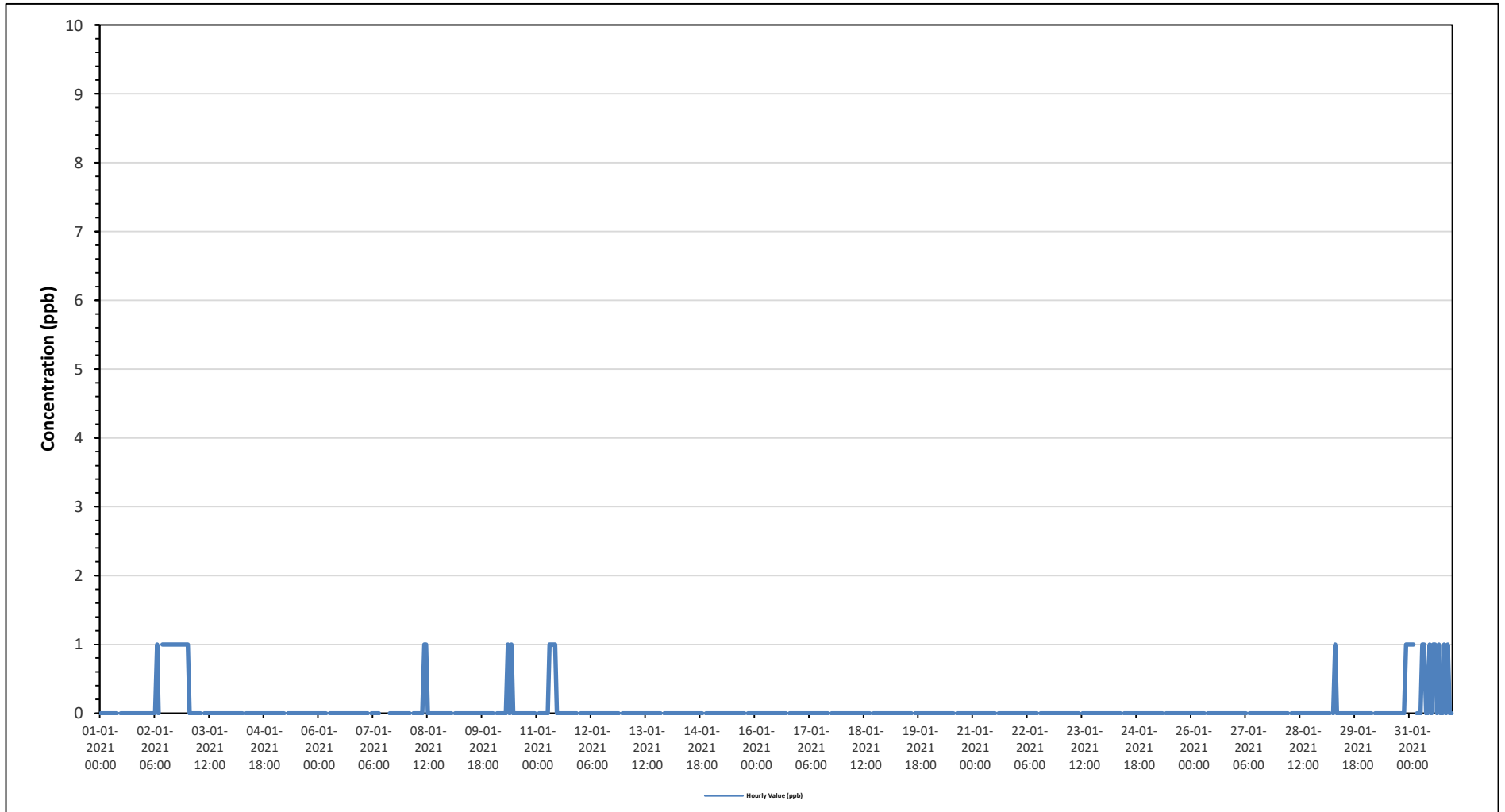
0 10-50

0 50-100

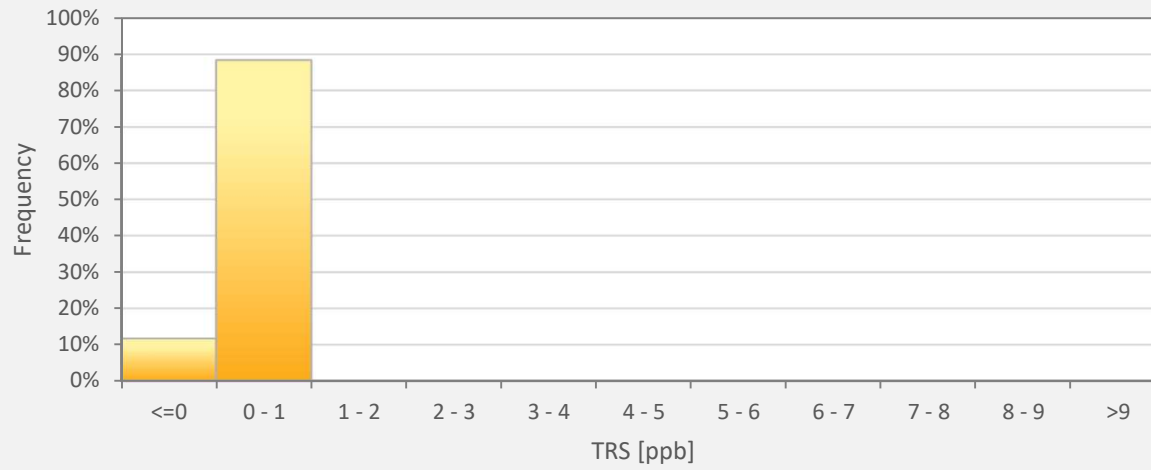
0 100-172

0 >172.0

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



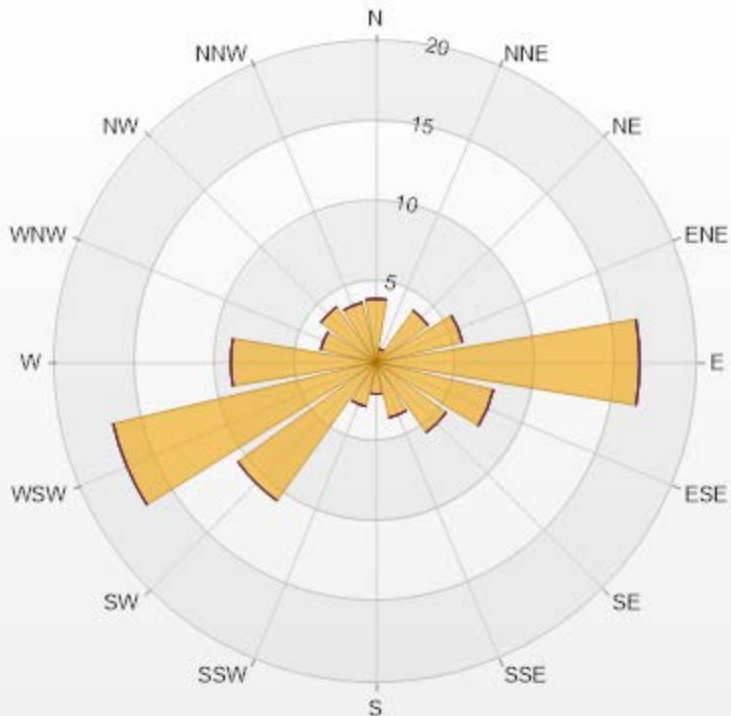
TRS[ppb] Histogram: Cold Lake South Monthly: 01-2021 1 Hr.



Classes	TRS
<=0	11.60%
0 - 1	88.40%
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: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 95.03% Calm Avg: 0.00 [ppb]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	3.96	0	0	0	0	3.96
NNE	0.85	0	0	0	0	0.85
NE	3.96	0	0	0	0	3.96
ENE	5.52	0	0	0	0	5.52
E	16.41	0	0	0	0	16.41
ESE	7.5	0	0	0	0	7.5
SE	5.37	0	0	0	0	5.37
SSE	3.54	0	0	0	0	3.54
S	1.98	0	0	0	0	1.98
SSW	2.83	0	0	0	0	2.83
SW	10.61	0	0	0	0	10.61
WSW	16.83	0	0	0	0	16.83
W	9.05	0	0	0	0	9.05
WNW	3.54	0	0	0	0	3.54
NW	4.24	0	0	0	0	4.24
NNW	3.82	0	0	0	0	3.82
Summary	100	0	0	0	0	100



LICA-202101

% 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 - January 2021

Summary of Hourly Averages

OXIDES OF NITROGEN (NOx) in ppb

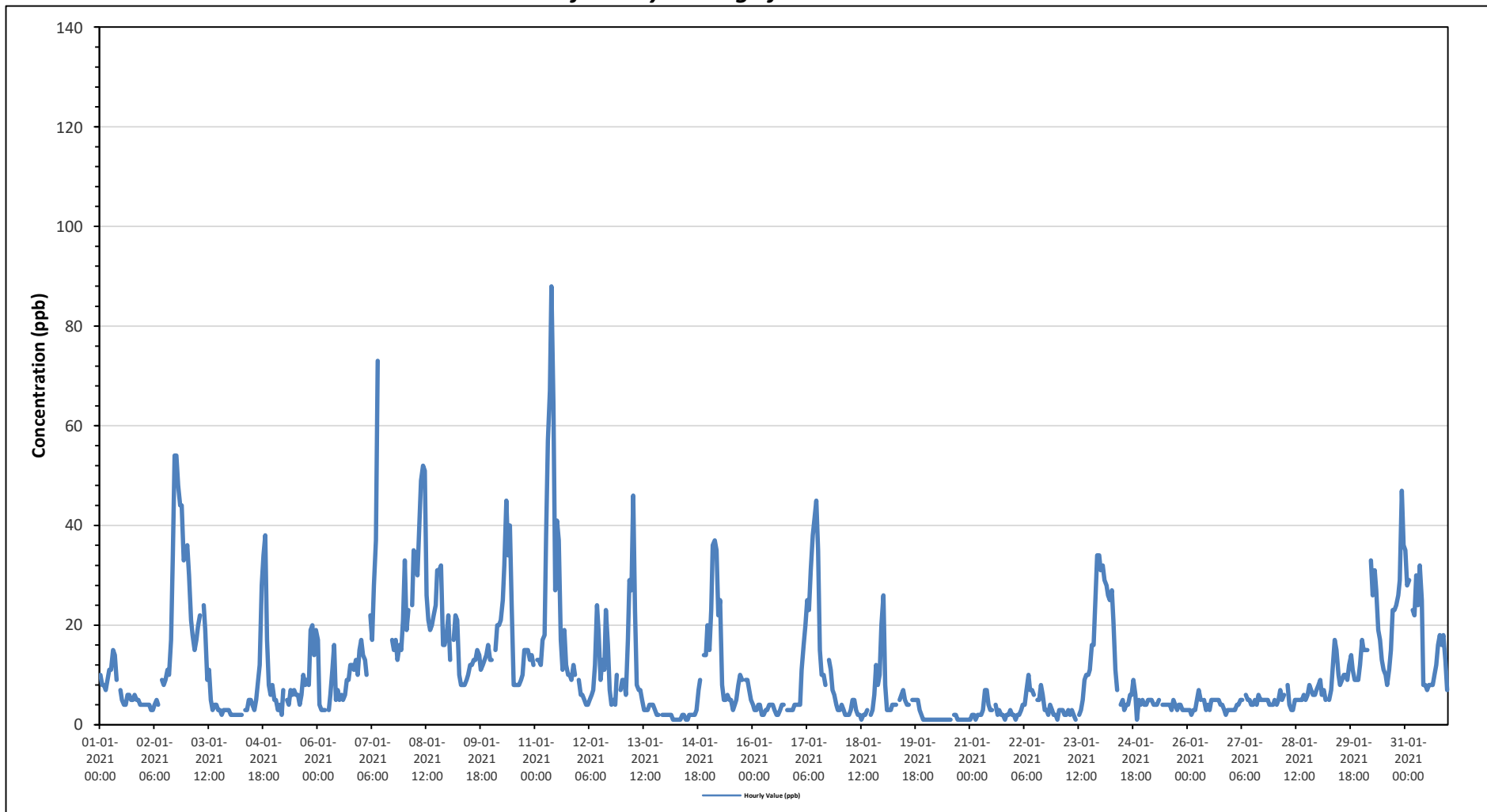
Maximum Hourly Value:	88 ppb on January 11 at hour 9	Hours in Service:	744
Maximum Daily Value:	29.0 ppb on January 8	Hours of Data:	704
Minimum Hourly Value:	1 ppb on January 14 at hour 4	Hours of Missing Data:	1
Minimum Daily Value:	1.1 ppb on January 20	Hours of Calibration:	39
Monthly Average:	10.7 ppb	Operational Uptime:	99.9

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Jan 1	10	8	8	7	9	11	11	15	14	9	S	7	5	4	4	6	6	5	5	6	5	5	4	4	4	4	15	7.3
Jan 2	4	4	4	4	3	3	4	5	4	S	9	8	9	11	10	17	34	54	54	48	44	44	33	34	3	54	19.3	
Jan 3	36	30	21	18	15	17	20	22	S	24	19	9	11	5	3	4	4	3	3	2	3	3	3	3	2	36	12.1	
Jan 4	2	2	2	2	2	2	2	S	3	3	5	5	4	3	5	9	12	28	34	38	17	8	6	8	2	38	8.8	
Jan 5	5	5	3	4	2	7	S	5	4	7	6	7	6	6	4	6	10	8	9	8	19	20	14	19	2	20	8.0	
Jan 6	17	4	3	3	3	S	3	6	11	16	5	7	5	6	5	6	9	9	12	12	11	13	10	15	3	17	8.3	
Jan 7	17	14	13	10	S	22	17	28	37	73	C	C	C	C	C	C	C	C	17	15	17	13	16	15	21	10	73	-
Jan 8	33	19	23	S	24	35	34	30	41	49	52	51	26	21	19	20	22	24	31	31	32	16	16	18	16	52	29.0	
Jan 9	22	13	S	17	22	21	10	8	8	8	9	10	12	12	13	13	15	14	11	12	13	14	16	13	8	22	13.3	
Jan 10	13	S	15	20	20	21	25	32	45	34	40	24	8	8	8	8	9	10	15	15	13	14	12	8	8	45	18.4	
Jan 11	S	13	13	12	17	18	38	57	67	88	64	27	41	37	17	11	19	12	10	10	9	12	10	S	9	88	27.4	
Jan 12	9	6	6	5	4	4	5	6	7	12	24	19	9	13	11	23	16	7	4	5	4	10	S	7	4	24	9.4	
Jan 13	9	9	6	17	29	27	46	23	8	7	7	5	3	3	3	4	4	4	3	2	2	S	14	2	2	46	9.8	
Jan 14	2	2	2	2	1	1	1	1	1	2	2	1	1	2	2	2	2	3	7	9	9	S	14	14	20	1	20	4.1
Jan 15	15	23	36	37	35	22	25	8	5	5	6	5	5	3	4	5	8	10	9	S	9	9	7	5	3	37	12.9	
Jan 16	4	3	3	4	4	2	2	3	3	4	4	4	3	2	2	3	4	4	S	3	3	3	3	4	2	4	3.2	
Jan 17	4	4	4	11	16	20	25	23	31	38	41	45	35	15	10	10	8	S	13	11	7	6	4	3	3	45	16.7	
Jan 18	3	4	3	2	2	2	3	5	5	3	2	2	1	2	2	3	S	2	3	6	12	8	10	20	1	20	4.6	
Jan 19	26	8	3	3	3	4	4	4	NRM	5	6	7	5	4	4	S	5	5	5	5	3	2	1	1	1	26	5.1	
Jan 20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	2	2	1	1	1	1	1	1	1	1	2	1.1	
Jan 21	1	2	2	1	2	2	2	3	7	7	4	3	3	S	4	2	3	2	2	1	2	2	3	2	1	7	2.7	
Jan 22	2	1	2	2	3	4	4	7	10	7	7	6	S	5	5	8	6	3	3	2	4	3	2	2	1	10	4.3	
Jan 23	1	3	3	3	2	2	3	2	3	2	1	S	2	3	5	9	10	10	11	16	16	25	34	34	1	34	8.7	
Jan 24	31	32	29	28	26	25	27	21	11	7	S	4	5	3	4	4	6	6	9	6	1	5	4	5	1	32	13.0	
Jan 25	4	4	5	5	5	4	4	4	5	S	4	4	4	4	4	3	5	4	3	4	4	3	3	3	3	3	5	4.0
Jan 26	3	3	2	3	3	5	7	5	S	5	3	4	3	5	5	5	5	5	5	4	4	3	2	3	3	2	7	3.9
Jan 27	3	3	3	4	4	5	5	S	6	5	5	4	4	5	4	6	5	5	5	5	5	4	4	4	3	6	4.5	
Jan 28	5	4	5	7	5	6	S	8	4	3	5	5	5	5	5	5	6	5	6	8	7	6	6	7	3	8	5.5	
Jan 29	8	9	6	7	5	S	5	7	12	17	15	10	8	9	10	10	9	12	14	11	9	9	12	5	17	9.7		
Jan 30	17	15	15	15	S	33	26	31	27	19	17	13	11	10	8	11	15	23	23	24	26	29	47	36	8	47	21.3	
Jan 31	35	28	29	S	23	22	30	24	32	25	8	8	7	8	8	10	12	16	18	16	18	13	7	7	35	17.6		
Diurnal Maximum	36	32	36	37	35	35	46	57	67	88	64	51	41	37	19	23	34	54	54	48	44	44	47	36				
Diurnal Average	11.4	9.2	9.0	8.8	10.0	12.0	13.4	13.6	14.7	16.7	13.2	10.5	8.3	7.4	6.5	7.7	9.3	10.2	11.3	11.3	10.5	10.8	10.4	10.8				

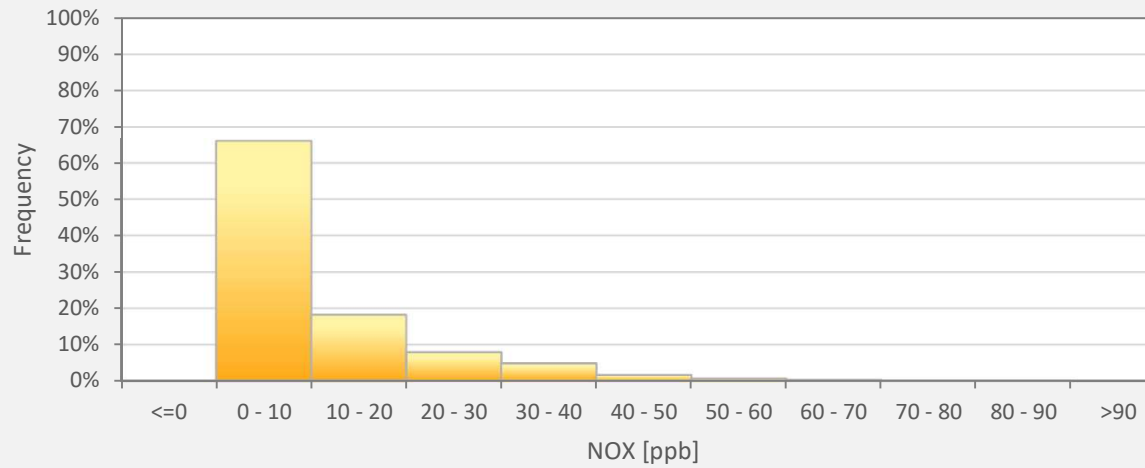
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction/Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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 NOx - Cold Lake South Station



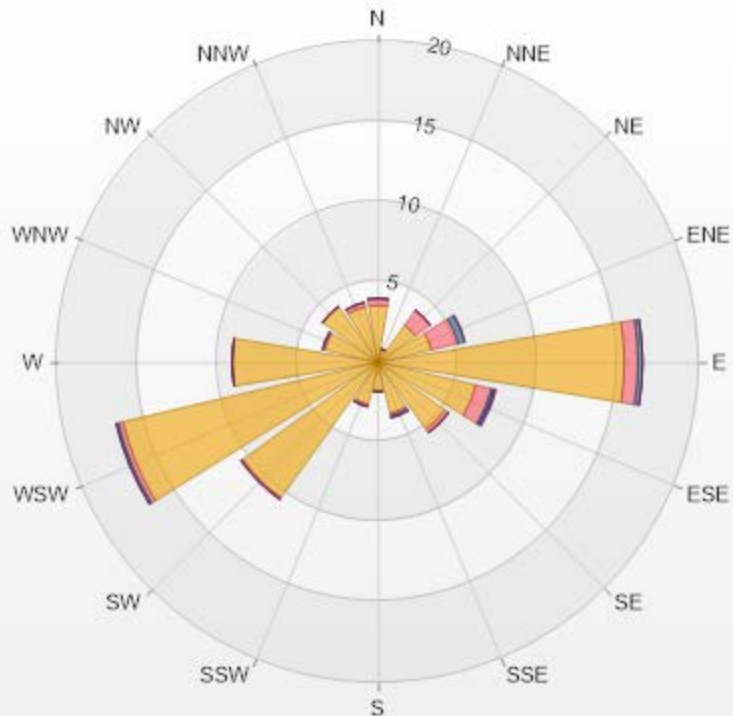
NOX[ppb] Histogram: Cold Lake South Monthly: 01-2021 1 Hr.



Classes	NOX
<=0	0.00%
0 - 10	66.05%
10 - 20	18.18%
20 - 30	7.95%
30 - 40	4.83%
40 - 50	1.70%
50 - 60	0.71%
60 - 70	0.28%
70 - 80	0.14%
80 - 90	0.14%
>90	0.00%

Wind: Cold Lake South Poll.: Cold Lake South-NOX[ppb] Monthly: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.62% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	3.55	0.43	0	0	0	3.98
NNE	0.85	0	0	0	0	0.85
NE	2.84	1.14	0	0	0	3.98
ENE	3.41	1.7	0.43	0	0	5.54
E	15.34	0.85	0.28	0	0	16.47
ESE	6.25	0.99	0.14	0.14	0	7.52
SE	5.11	0.28	0	0	0	5.39
SSE	3.27	0.14	0.14	0	0	3.55
S	1.85	0	0	0	0	1.85
SSW	2.7	0.14	0	0	0	2.84
SW	10.37	0.14	0	0	0	10.51
WSW	16.34	0.28	0.14	0	0	16.76
W	9.09	0	0	0	0	9.09
WNW	3.41	0.14	0	0	0	3.55
NW	4.26	0	0	0	0	4.26
NNW	3.55	0.28	0	0	0	3.83
Summary	92.19	6.51	1.13	0.14	0	100

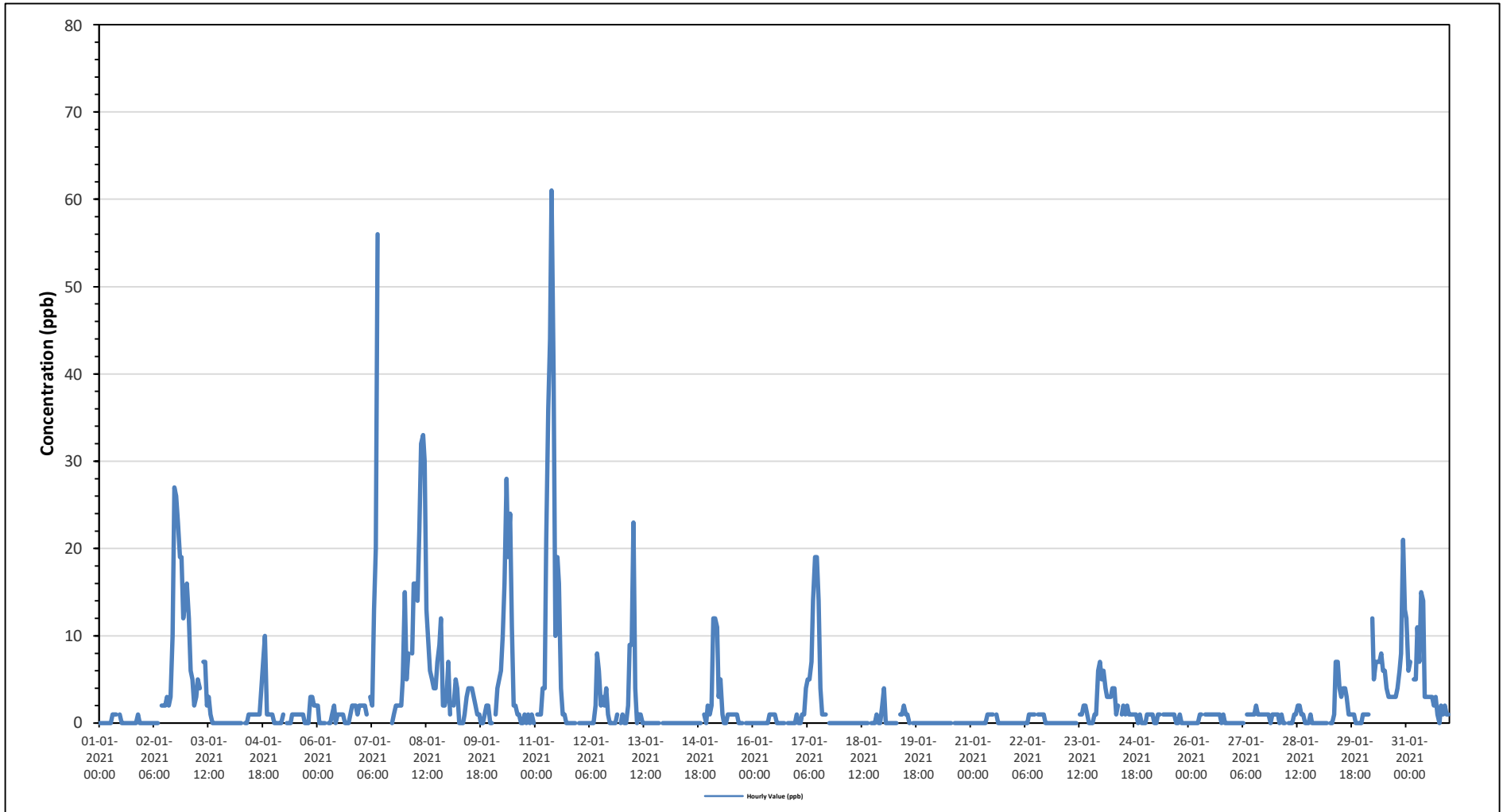


LICA-202101

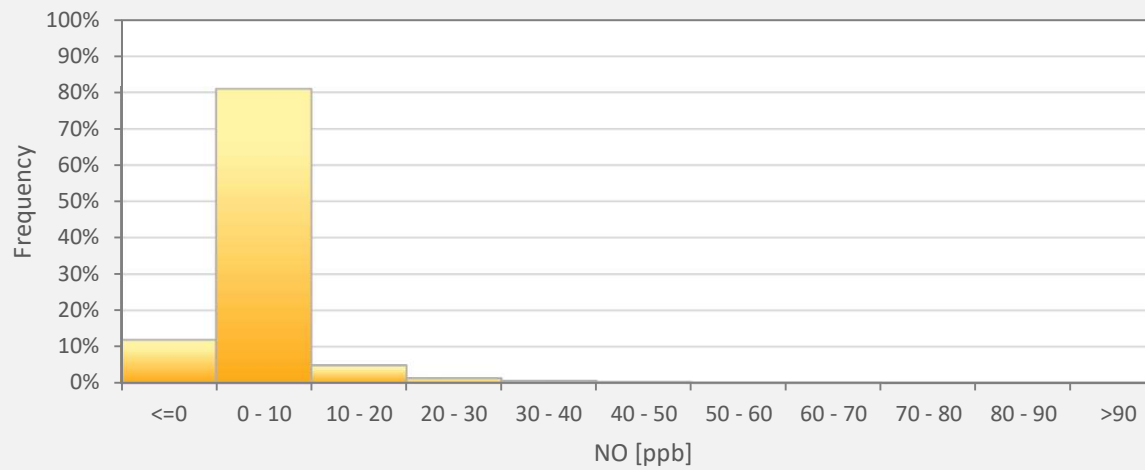
Page 39 of 237

% Icon Classes (ppb)	92	7	1	0	0
0-30	92	7	1	0	0
30-50		7			
50-76			1		
76-159				0	
>159.0					0

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



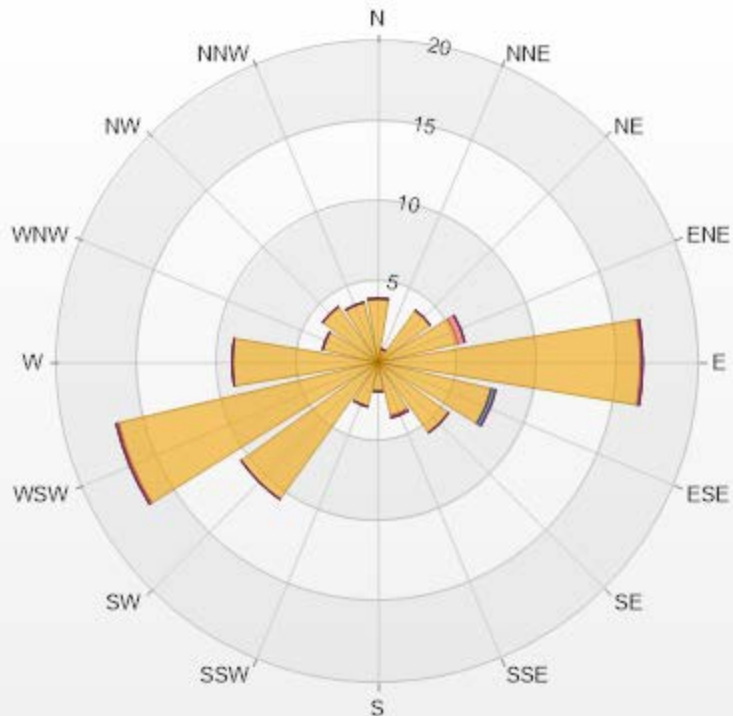
NO[ppb] Histogram: Cold Lake South Monthly: 01-2021 1 Hr.



Classes	NO
<=0	11.79%
0 - 10	80.97%
10 - 20	4.83%
20 - 30	1.28%
30 - 40	0.57%
40 - 50	0.28%
50 - 60	0.14%
60 - 70	0.14%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Cold Lake South Poll.: Cold Lake South-NO[ppb] Monthly: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.62% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	3.98	0	0	0	0	3.98
NNE	0.85	0	0	0	0	0.85
NE	3.98	0	0	0	0	3.98
ENE	5.11	0.43	0	0	0	5.54
E	16.34	0.14	0	0	0	16.48
ESE	7.24	0	0.28	0	0	7.52
SE	5.4	0	0	0	0	5.4
SSE	3.41	0.14	0	0	0	3.55
S	1.85	0	0	0	0	1.85
SSW	2.84	0	0	0	0	2.84
SW	10.51	0	0	0	0	10.51
WSW	16.62	0.14	0	0	0	16.76
W	9.09	0	0	0	0	9.09
WNW	3.55	0	0	0	0	3.55
NW	4.26	0	0	0	0	4.26
NNW	3.84	0	0	0	0	3.84
Summary	98.87	0.85	0.28	0	0	100



LICA-202101

Page 44 of 237

% Icon Classes (ppb)	99	0-30	1	30-50	0	50-76	0	76-159	0	>159.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - January 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 January 4 at hour 19

Hours in Service: 744

Maximum Daily Value: 17.3 ppb on January 8

Hours of Data: 704

Minimum Hourly Value: 1 ppb on January 14 at hour 4

Hours of Missing Data: 1

Minimum Daily Value: 1.1 ppb on January 20

Hours of Calibration: 39

Monthly Average: 8.1 ppb

Operational Uptime: 99.9

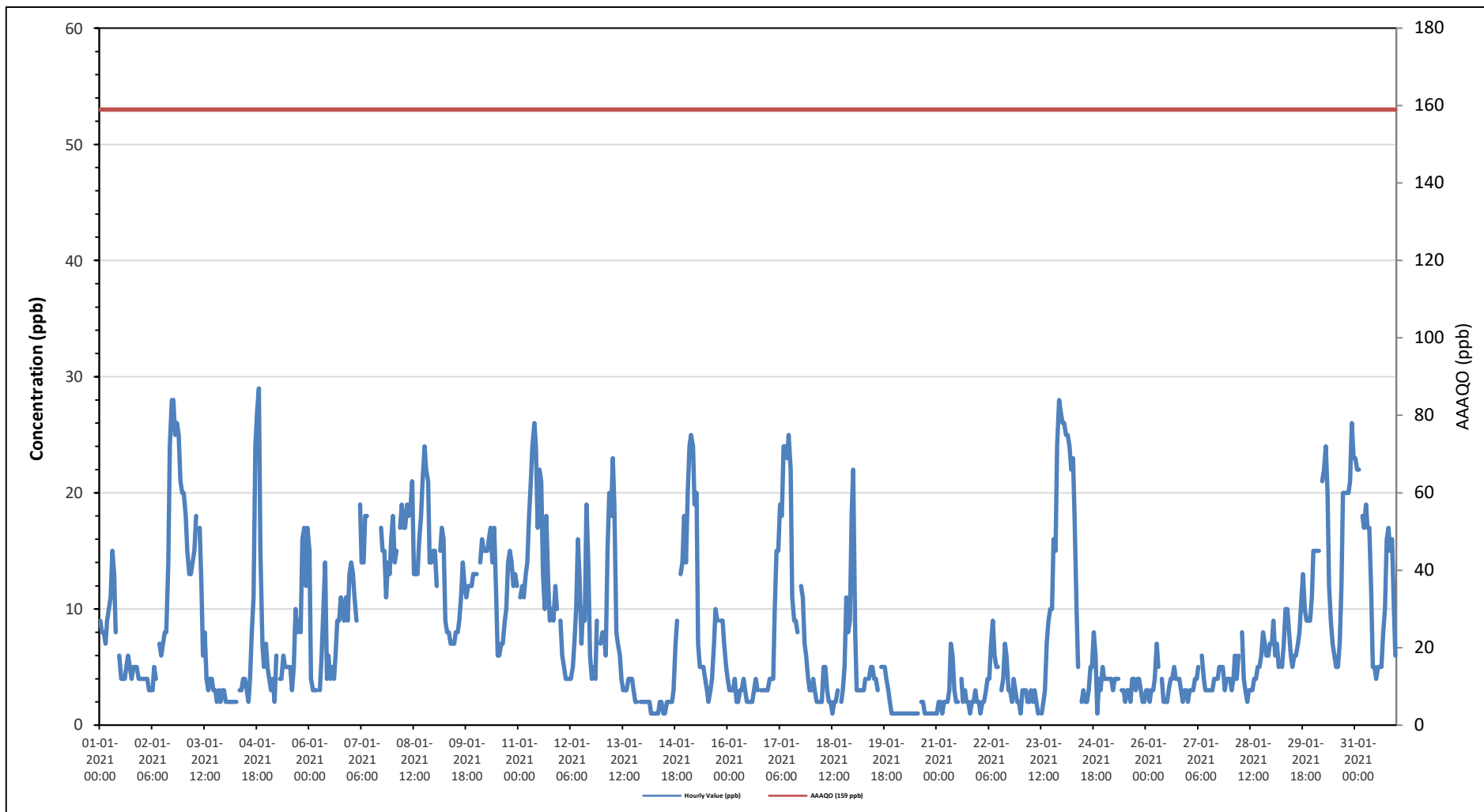
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Jan 1	9	8	8	7	9	10	11	15	13	8	S	6	4	4	4	5	6	5	4	5	5	5	4	4	4	15	6.9
Jan 2	4	4	4	4	3	3	3	5	4	S	7	6	7	8	8	14	24	28	28	25	26	25	21	20	3	28	12.2
Jan 3	20	18	15	13	14	15	18	S	17	12	6	8	4	3	4	4	3	3	2	3	2	3	3	3	2	20	8.8
Jan 4	2	2	2	2	2	2	2	S	3	3	4	4	3	2	4	8	11	24	27	29	15	7	5	7	2	29	7.4
Jan 5	5	4	3	4	2	6	S	4	4	6	5	5	5	5	3	5	10	8	9	8	16	17	12	17	2	17	7.1
Jan 6	15	4	3	3	3	S	3	6	10	14	4	6	4	5	4	6	9	9	11	10	9	11	9	13	3	15	7.4
Jan 7	14	13	11	9	S	19	14	14	18	18	C	C	C	C	C	C	C	17	15	15	11	14	13	16	9	19	-
Jan 8	18	14	15	S	17	19	17	17	19	18	19	21	13	13	13	16	18	21	24	22	21	14	14	15	13	24	17.3
Jan 9	15	12	S	15	17	16	9	8	8	7	7	7	8	8	9	11	14	12	11	12	12	12	13	13	7	17	11.1
Jan 10	13	S	14	16	15	15	15	16	17	14	17	12	6	6	7	7	9	10	14	15	14	12	13	12	6	17	12.6
Jan 11	S	11	12	11	13	14	18	21	24	26	24	17	22	21	13	10	18	12	9	10	9	12	10	S	9	26	15.3
Jan 12	9	6	5	4	4	4	4	5	7	10	16	13	7	10	9	19	14	6	4	5	4	9	S	7	4	19	7.9
Jan 13	8	8	6	15	20	18	23	19	8	7	6	4	3	3	4	4	4	3	2	2	S	S	2	2	2	23	7.6
Jan 14	2	2	2	2	1	1	1	1	1	2	2	1	1	2	2	2	2	3	7	9	S	13	14	18	1	18	4.0
Jan 15	14	20	24	25	24	19	20	7	5	5	5	4	3	2	3	4	7	10	9	S	9	9	7	5	2	25	10.4
Jan 16	4	3	3	3	4	2	2	3	3	4	3	2	2	2	2	3	4	3	S	3	3	3	3	3	2	4	2.9
Jan 17	4	4	4	10	15	15	19	18	24	23	25	22	11	9	9	8	S	S	12	11	7	6	4	3	3	25	12.5
Jan 18	3	4	3	2	2	2	2	5	5	3	2	2	1	2	2	3	S	2	3	5	11	8	9	18	1	18	4.3
Jan 19	22	8	3	3	3	3	3	4	NRM	4	5	5	4	4	3	S	5	5	5	4	3	2	1	1	1	22	4.5
Jan 20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	2	2	1	1	1	1	1	1	1	1	2	1.1
Jan 21	1	2	2	1	2	2	2	3	7	6	3	2	2	S	4	2	3	2	2	1	2	2	3	2	1	7	2.5
Jan 22	2	1	2	2	3	4	4	7	9	6	5	5	S	3	4	7	6	3	3	2	4	3	2	2	1	9	3.9
Jan 23	1	3	3	3	2	2	3	2	3	2	1	S	1	2	3	7	9	10	10	16	15	24	28	27	1	28	7.7
Jan 24	26	26	25	25	24	22	23	18	10	5	S	2	3	2	2	3	5	5	8	6	1	4	3	5	1	26	11.0
Jan 25	4	4	4	4	4	3	4	4	4	S	3	2	3	3	3	2	4	4	3	4	4	3	2	2	2	4	3.3
Jan 26	3	3	2	3	3	4	7	5	S	4	2	2	2	3	4	4	5	4	4	4	4	3	2	3	2	7	3.4
Jan 27	2	3	3	3	4	4	5	S	6	4	3	3	3	3	3	4	4	4	5	5	5	3	4	4	2	6	3.8
Jan 28	4	3	4	6	4	S	8	4	3	2	3	3	3	4	4	5	5	6	8	7	6	6	7	2	8	4.8	
Jan 29	7	9	6	7	5	S	5	7	10	10	8	6	5	6	6	7	8	11	13	10	9	9	9	11	5	13	8.0
Jan 30	15	15	15	15	S	21	22	24	20	12	9	7	6	5	5	7	12	20	20	20	20	21	26	23	5	26	15.7
Jan 31	23	22	22	S	18	17	19	17	17	12	5	5	4	5	5	8	10	16	17	15	16	11	6	4	23	12.8	
Diurnal Maximum	26	26	25	25	24	22	23	24	24	26	24	25	22	21	13	19	24	28	28	29	26	25	28	27			
Daiurnal Average	9.0	7.9	7.5	7.5	8.2	9.2	9.5	9.7	9.4	8.8	7.3	6.4	5.3	5.1	5.0	6.3	8.2	8.7	8.8	9.6	9.5	8.9	9.2	8.5	9.0		

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

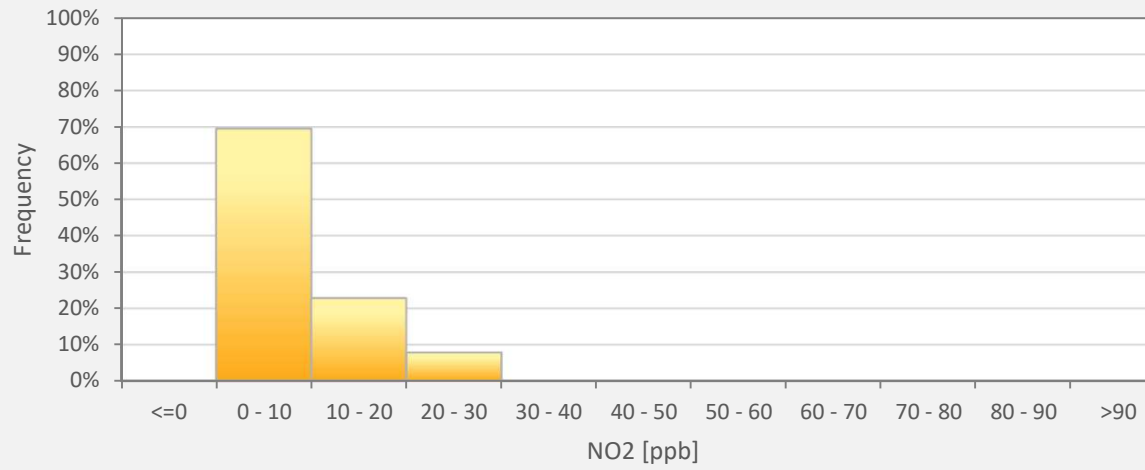
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

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

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



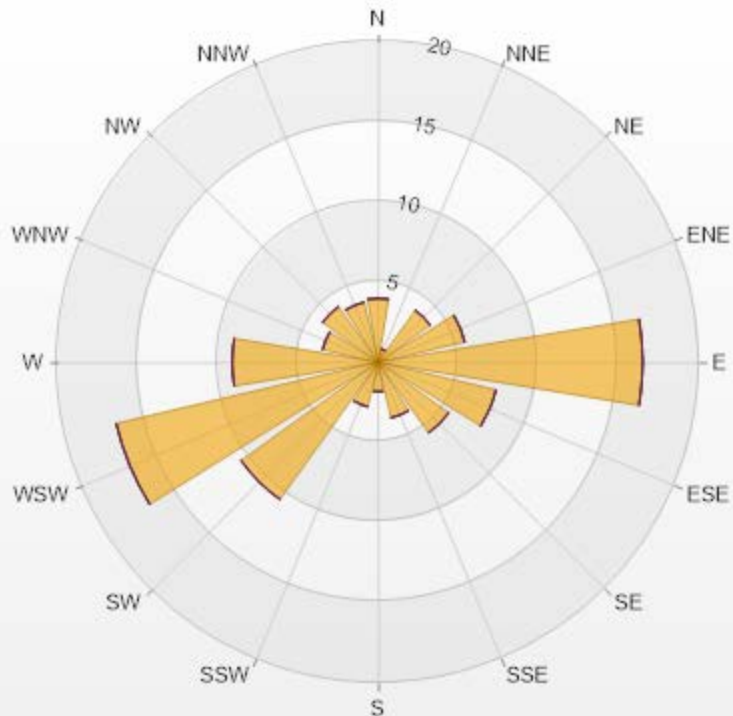
NO2[ppb] Histogram: Cold Lake South Monthly: 01-2021 1 Hr.



Classes	NO2
<=0	0.00%
0 - 10	69.46%
10 - 20	22.73%
20 - 30	7.81%
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: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.62% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	3.98	0	0	0	0	3.98
NNE	0.85	0	0	0	0	0.85
NE	3.98	0	0	0	0	3.98
ENE	5.54	0	0	0	0	5.54
E	16.48	0	0	0	0	16.48
ESE	7.53	0	0	0	0	7.53
SE	5.4	0	0	0	0	5.4
SSE	3.55	0	0	0	0	3.55
S	1.85	0	0	0	0	1.85
SSW	2.84	0	0	0	0	2.84
SW	10.51	0	0	0	0	10.51
WSW	16.76	0	0	0	0	16.76
W	9.09	0	0	0	0	9.09
WNW	3.55	0	0	0	0	3.55
NW	4.26	0	0	0	0	4.26
NNW	3.84	0	0	0	0	3.84
Summary	100	0	0	0	0	100



LICA-202101

Page 49 of 237

% 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 - January 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:	43.6 ppb on January 19 at hour 22	Hours in Service:	744
Maximum Daily Value:	36.9 ppb on January 20	Hours of Data:	707
Minimum Hourly Value:	0.4 ppb on January 8 at hour 6	Hours of Missing Data:	0
Minimum Daily Value:	3.8 ppb on January 8	Hours of Calibration:	37
Monthly Average:	23.6 ppb	Operational Uptime:	100.0

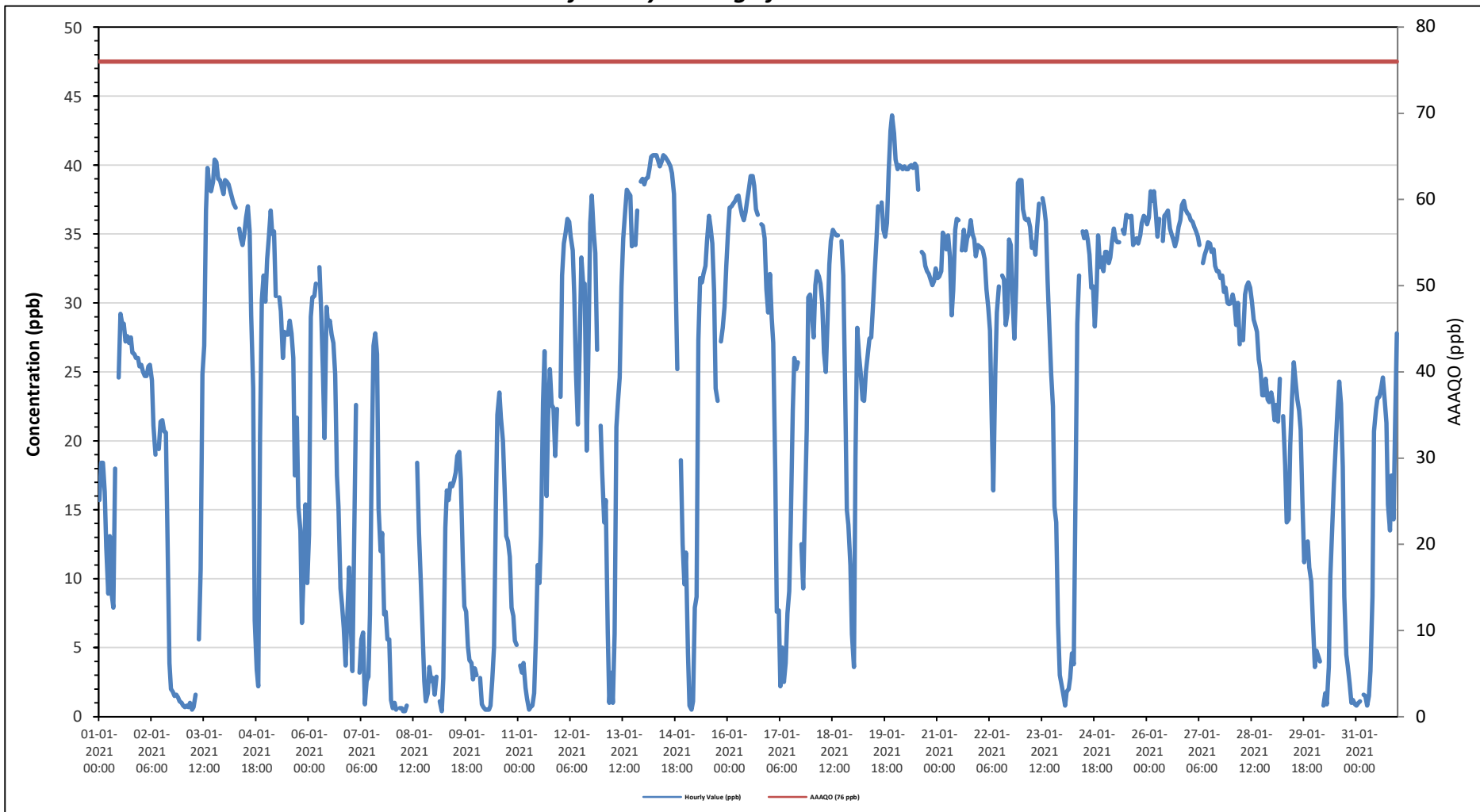
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Jan 1	15.7	18.4	18.4	16.3	12.3	8.9	13.1	8.8	7.9	18	S	24.6	29.2	28.5	28.5	27.2	27.6	27.1	27.5	26.4	26.3	26	26	25.4	7.9	29.2	21.2
Jan 2	25.5	25	24.7	24.7	25.4	25.5	24.4	21.1	19	S	19.4	21.4	21.5	20.7	20.6	13.5	3.9	2	1.8	1.5	1.6	1.4	1.1	1	1.0	25.5	15.1
Jan 3	0.8	0.7	0.8	0.7	1	0.5	0.7	1.6	S	5.6	10.7	24.8	26.9	36.7	39.8	38.4	38.1	38.8	40.4	40.2	39	38.9	38.4	37.9	0.5	40.4	21.8
Jan 4	38.9	38.8	38.6	38.1	37.6	37.2	36.9	S	35.4	34.7	34.2	35	36.2	37	35.2	29.1	23.8	7	3.4	2.2	20.3	30.2	32	30.1	2.2	38.9	30.1
Jan 5	33.2	34.6	36.7	35	35.2	30.5	S	30.4	29.4	26	27.9	27.7	27.7	28.7	27.8	26	17.5	21.7	15.2	13.5	6.8	10.5	15.4	9.7	6.8	36.7	24.7
Jan 6	13.2	29	30.4	30.5	31.4	S	32.6	29.3	24.8	20.2	29.7	28.4	28.7	27.7	27.1	24.8	17.5	15.2	9.3	8.1	6.4	3.7	7.4	10.8	3.7	32.6	21.1
Jan 7	6.4	3.3	14.4	22.6	S	3.2	5.6	6.1	0.9	2.6	2.9	7.4	18.6	26.9	27.8	26.3	15.1	12	13.3	7.4	7.6	5.6	5.6	1.2	0.9	27.8	10.6
Jan 8	0.6	1	0.5	S	0.6	0.6	0.4	0.4	0.8	C	C	C	C	C	18.4	13.4	10	6.9	2.6	1.1	1.7	3.6	2.6	2.8	0.4	18.4	3.8
Jan 9	1.6	2.9	S	1.1	0.4	2.8	13.7	16.4	15.7	16.9	16.7	17.1	17.7	18.9	19.2	17.2	11.3	8	7.6	5.1	4.1	3.9	2.7	3.5	0.4	19.2	9.8
Jan 10	3	S	2.8	0.9	0.7	0.5	0.5	0.5	0.8	2.7	5.1	15	21.9	23.5	21.7	20	16.9	13.1	12.7	11.6	7.9	7.3	5.5	5.2	0.5	23.5	8.7
Jan 11	S	3.7	3.2	3.9	2.1	1.3	0.5	0.7	0.8	1.7	5.8	11	9.7	13.2	22.8	26.5	16	21.8	25.2	22.6	22.4	18.9	22.3	S	0.5	26.5	11.6
Jan 12	23.2	32	34.3	35.1	36.1	35.9	34.8	33.8	30.6	24.8	21.2	26.5	33.3	31.4	31.4	19.3	25.7	35.8	37.8	35.3	33.6	26.6	S	21.1	19.3	37.8	30.4
Jan 13	17.7	14.1	15.7	6.1	1	3.2	1	6	21	22.8	24.6	31.2	34.7	36.5	38.2	38	37.8	34.1	34.5	34.2	36.7	S	38.8	39	1.0	39.0	24.6
Jan 14	38.6	39	39.1	39.7	40.6	40.7	40.7	40.7	40.3	39.9	40.3	40.7	40.6	40.4	40.2	39.9	39.4	37.9	32.2	25.2	S	18.6	12.5	9.6	9.6	40.7	35.5
Jan 15	11.9	4.6	0.8	0.5	1.1	7.9	8.7	27.3	31.8	31.5	32.1	32.7	34.5	36.3	35.5	34.3	30.8	23.8	22.9	S	27.2	28.2	29.7	32.7	0.5	36.3	22.9
Jan 16	35.2	36.9	37	37.2	37.4	37.7	37.8	37	36.4	36	36.6	37.4	38.4	39.2	39.2	38.5	36.8	36.4	S	35.7	35.6	34.7	31	29.3	29.3	39.2	36.4
Jan 17	32.1	28.9	27.1	17.7	7.6	7.7	2.2	5	2.5	3.9	7.5	9.1	14	22.2	26	25.2	25.7	S	12.5	9.3	14.4	20.8	30.4	30.6	2.2	32.1	16.6
Jan 18	29.2	27.5	31.3	32.3	31.9	31.4	30	26.4	25	28.7	32.8	34.5	35.3	35.1	34.9	34.9	S	34.5	32	24.1	15	13.9	11	6	6.0	35.3	27.7
Jan 19	3.6	18.8	28.2	26.2	24.8	23	22.9	25	26.2	27.4	27.5	29.8	32	34.7	37	S	37.3	35.3	34.8	35.8	39.6	42.5	43.6	42.3	3.6	43.6	30.4
Jan 20	40.4	39.7	40	39.9	39.7	39.9	39.7	39.7	39.9	40	39.8	40.1	39.9	38.2	S	33.7	33.5	32.7	32.3	32.1	31.7	31.3	31.6	32.5	31.3	40.4	36.9
Jan 21	31.8	31.9	32.3	35.1	34.8	33.9	34.9	33.4	29.1	30.9	35.3	36.1	36	S	33.8	35.3	33.8	34.7	35	36	35	34.6	33.4	34.2	29.1	36.1	34.0
Jan 22	34.1	34	33.8	33.2	31	29.7	28	21.4	16.4	25.1	29.3	31.2	S	32	31.7	28.4	29.3	34.6	34.2	30.3	27.4	31.2	38.7	38.9	16.4	38.9	30.6
Jan 23	38.9	36.8	36.1	36	36.1	35.5	34	34.4	33.5	35.3	37.2	S	37.6	37	35.9	31.6	28.2	24.9	22.5	15.2	14.1	6.8	3	2.3	2.3	38.9	28.4
Jan 24	1.7	0.8	1.8	2	2.8	4.6	3.8	16.3	28.5	32	S	35.2	34.7	35.2	34.6	33.5	31.1	31.2	28.3	30.9	34.9	32.6	33.3	32.3	0.8	35.2	22.7
Jan 25	33.7	33.7	32.9	33.3	34.5	35.4	34.6	34.4	34.4	S	35.3	35	36.4	36.3	36.2	36.3	34.2	34.5	34.7	34.3	34.9	35.8	36.3	36.2	32.9	36.4	34.9
Jan 26	35.7	36.2	38.1	37.4	38.1	36.6	34.8	36.1	S	34.5	36.3	36.5	36.7	35.4	35	34.6	34.1	34.6	35.5	36	37.1	37.4	36.8	36.5	34.1	38.1	36.1
Jan 27	36.4	36	35.9	35.5	35.2	34.8	34.2	S	32.9	33.5	33.9	34.4	34.3	33.7	33.9	32.7	32.3	32.3	31.8	32	30.8	31.1	30	29.9	29.9	36.4	33.4
Jan 28	30	30.6	30	28.4	30	27	S	27.3	30.6	31.2	31.5	31.1	30.1	28.8	28.4	27.9	25.9	25.1	23.3	23.3	24.5	23	22.8	23.5	22.8	31.5	27.6
Jan 29	22.9	21.5	22.6	21.4	24.5	S	21.8	18.2	14.1	14.3	19.7	23.1	25.7	24.3	23	22.2	20.8	15.6	11.2	12.5	12.7	10.8	9.8	7	7.0	25.7	18.2
Jan 30	3.6	4.8	4.4	4	S	0.8	1.7	0.9	3.6	10.2	14	16.9	19.6	22.2	24.3	22.7	18.1	8.7	4.5	3.6	2.4	1	1.2	0.9	0.8	24.3	8.4
Jan 31	0.8	1	1.1	S	1.6	1.5	0.8	1.5	3.3	8.7	20.7	22.3	23.1	23.2	23.8	24.6	23	21.3	15.4	13.5	17.5	14.3	21	27.8	0.8	27.8	13.6
Diurnal Maximum	40	40	40	40	41	41	41	41	40	40	40	41	41	40	40	40	39	39	40	40	43	44	42				
Daiurnal Average	21.3	22.2	23.1	23.3	21.9	19.9	19.8	20.0	21.2	22.8	25.3	27.5	29.5	30.5	30.4	28.5	25.9	24.7	22.5	21.3	21.6	20.8	21.8	21.3			

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

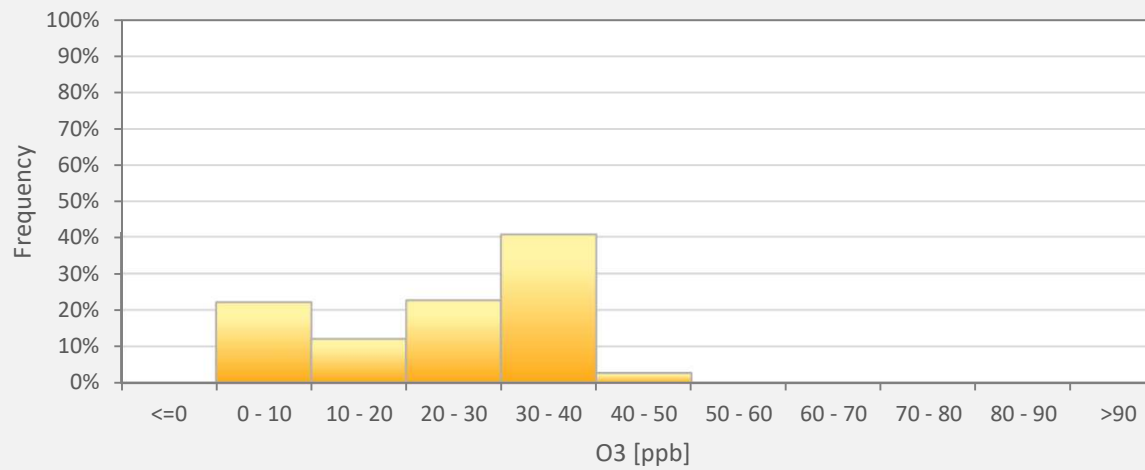
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

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

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



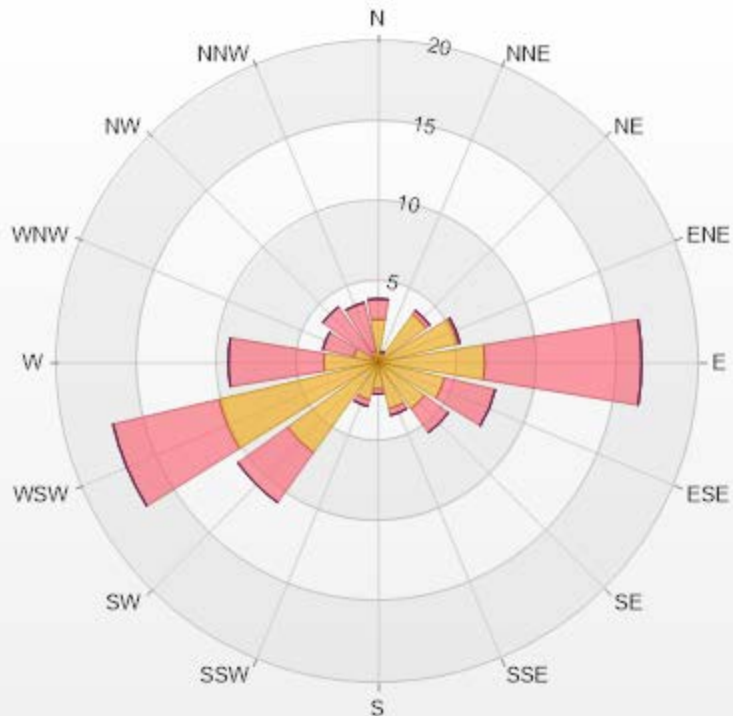
O3[ppb] Histogram: Cold Lake South Monthly: 01-2021 1 Hr.



Classes	O3
<=0	0.00%
0 - 10	22.07%
10 - 20	12.02%
20 - 30	22.63%
30 - 40	40.59%
40 - 50	2.69%
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-O3[ppb] Monthly: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 95.03% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	2.69	1.27	0	0	0	3.96
NNE	0.57	0.14	0	0	0	0.71
NE	3.68	0.28	0	0	0	3.96
ENE	5.09	0.14	0	0	0	5.23
E	6.65	9.76	0	0	0	16.41
ESE	4.24	3.25	0	0	0	7.49
SE	3.54	1.84	0	0	0	5.38
SSE	2.97	0.42	0	0	0	3.39
S	1.7	0.28	0	0	0	1.98
SSW	2.4	0.42	0	0	0	2.82
SW	6.93	3.82	0	0	0	10.75
WSW	10.18	6.79	0	0	0	16.97
W	3.39	5.94	0	0	0	9.33
WNW	1.56	1.98	0	0	0	3.54
NW	0.42	3.82	0	0	0	4.24
NNW	0.71	3.11	0	0	0	3.82
Summary	56.72	43.26	0	0	0	100



LICA-202101

Page 54 of 237

% Icon Classes (ppb)	57	0-30	43	30-50	0	50-76	0	76-159	0	>159.0
----------------------	----	------	----	-------	---	-------	---	--------	---	--------



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - January 2021

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

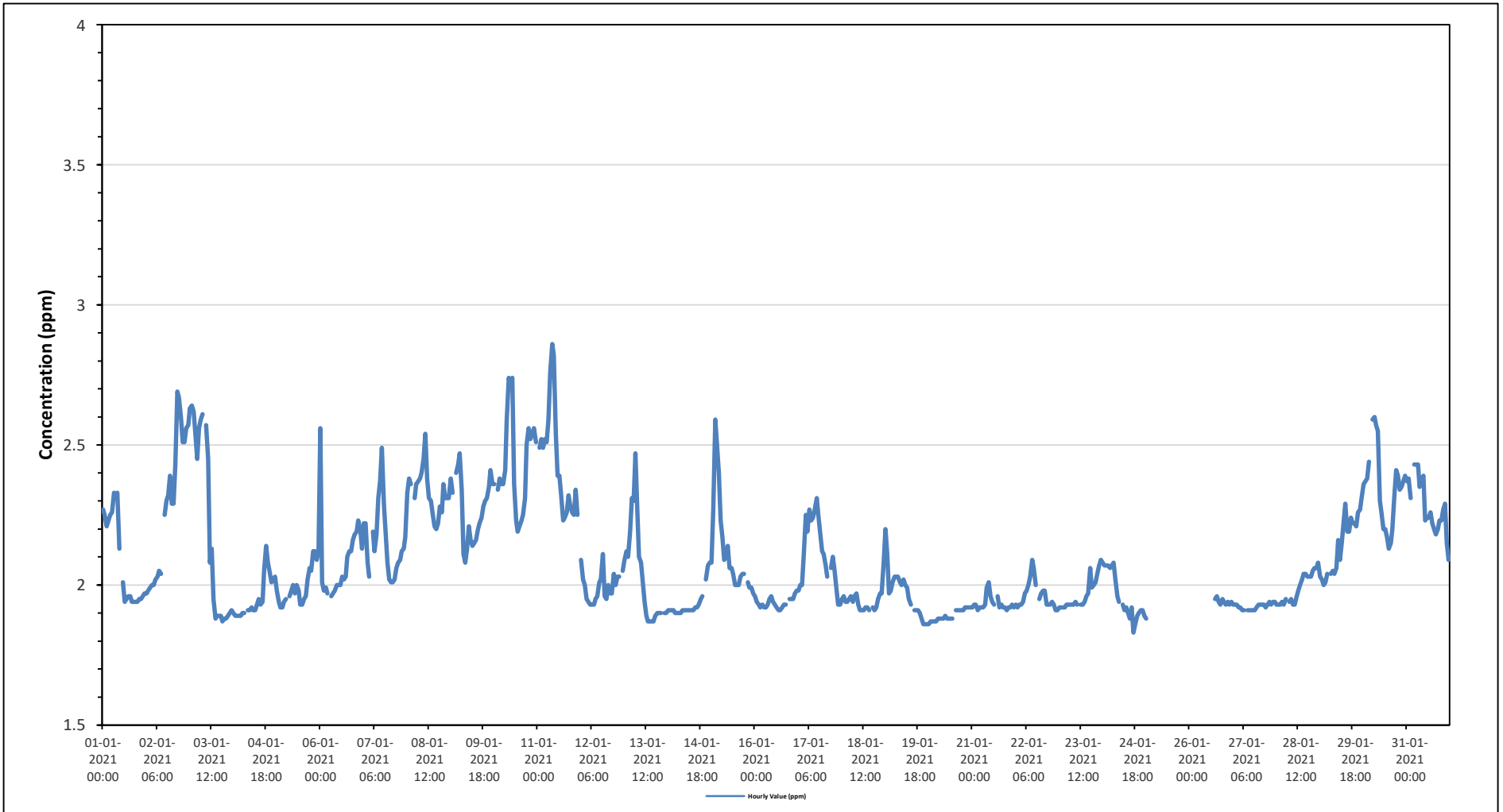
Maximum Hourly Value:	2.86 ppm on January 11 at hour 8	Hours in Service:	744
Maximum Daily Value:	2.44 ppm on January 11	Hours of Data:	677
Minimum Hourly Value:	1.83 ppm on January 24 at hour 17	Hours of Missing Data:	34
Minimum Daily Value:	1.89 ppm on January 20	Hours of Calibration:	33
Monthly Average:	2.09 ppm	Operational Uptime:	95.4

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Jan 1	2.27	2.25	2.21	2.23	2.25	2.26	2.33	2.32	2.33	2.13	S	2.01	1.94	1.95	1.96	1.96	1.94	1.94	1.94	1.94	1.95	1.95	1.96	1.97	1.94	2.33	2.09	
Jan 2	1.97	1.98	1.99	2.00	2.00	2.02	2.03	2.05	2.04	S	2.25	2.30	2.32	2.39	2.29	2.29	2.43	2.69	2.67	2.60	2.51	2.51	2.56	2.57	1.97	2.69	2.28	
Jan 3	2.63	2.64	2.62	2.55	2.45	2.56	2.59	2.61	S	2.57	2.45	2.08	2.13	1.95	1.88	1.89	1.89	1.87	1.88	1.88	1.89	1.90	1.91	1.87	2.64	2.20		
Jan 4	1.90	1.89	1.89	1.89	1.89	1.90	1.90	S	1.91	1.91	1.92	1.91	1.91	1.93	1.95	1.93	1.94	2.05	2.14	2.08	2.05	2.01	2.02	2.03	1.89	2.14	1.95	
Jan 5	1.98	1.94	1.92	1.92	1.94	1.95	S	1.96	1.98	2.00	1.97	2.00	1.98	1.93	1.93	1.95	1.96	2.02	2.06	2.05	2.12	2.12	2.09	2.12	1.92	2.12	2.00	
Jan 6	2.56	2.01	1.98	1.99	1.97	S	1.96	1.97	1.98	2.00	2.00	2.00	2.03	2.02	2.03	2.10	2.12	2.12	2.16	2.18	2.19	2.23	2.20	2.13	1.96	2.56	2.08	
Jan 7	2.22	2.22	2.08	2.03	S	2.19	2.12	2.18	2.31	2.37	2.49	2.29	2.20	2.08	2.02	2.01	2.01	2.02	2.06	2.08	2.09	2.12	2.13	2.17	2.01	2.49	2.15	
Jan 8	2.33	2.38	2.36	S	2.31	2.36	2.37	2.38	2.40	2.45	2.54	2.38	2.31	2.30	2.26	2.21	2.20	2.22	2.28	2.26	2.36	2.31	2.31	2.31	2.20	2.54	2.33	
Jan 9	2.38	2.33	S	2.40	2.43	2.47	2.34	2.11	2.08	2.13	2.21	2.16	2.14	2.15	2.16	2.20	2.22	2.24	2.28	2.30	2.31	2.35	2.41	2.36	2.08	2.47	2.27	
Jan 10	2.36	S	2.34	2.38	2.36	2.36	2.41	2.59	2.74	2.71	2.74	2.36	2.23	2.19	2.21	2.23	2.25	2.31	2.50	2.56	2.52	2.54	2.56	2.51	2.19	2.74	2.43	
Jan 11	S	2.49	2.52	2.49	2.52	2.51	2.59	2.76	2.86	2.82	2.54	2.39	2.39	2.32	2.23	2.24	2.26	2.32	2.28	2.26	2.25	2.34	2.25	S	2.23	2.86	2.44	
Jan 12	2.09	2.02	2.00	1.95	1.94	1.93	1.93	1.93	1.95	1.96	2.01	2.02	2.11	1.96	1.95	2.00	1.97	1.97	2.04	2.00	2.03	2.03	S	2.05	1.93	2.11	1.99	
Jan 13	2.09	2.12	2.10	2.19	2.31	2.30	2.47	2.25	2.10	2.08	2.01	1.94	1.89	1.87	1.87	1.87	1.89	1.90	1.90	1.90	S	S	1.90	1.90	1.87	2.47	2.03	
Jan 14	1.91	1.91	1.91	1.91	1.90	1.90	1.90	1.90	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.92	1.92	1.93	1.95	1.96	S	2.02	2.07	2.08	1.90	2.08	1.93	
Jan 15	2.08	2.27	2.59	2.51	2.40	2.23	2.17	2.09	2.10	2.14	2.06	2.06	2.04	2.00	2.00	2.00	2.03	2.04	2.04	S	2.01	1.99	1.99	1.97	1.97	2.59	2.12	
Jan 16	1.96	1.94	1.93	1.92	1.93	1.92	1.92	1.93	1.95	1.96	1.94	1.93	1.92	1.91	1.92	1.91	1.92	1.93	S	1.95	1.95	1.95	1.97	1.98	1.91	1.98	1.94	
Jan 17	1.98	2.00	2.00	2.11	2.25	2.19	2.27	2.23	2.24	2.27	2.31	2.25	2.18	2.12	2.11	2.07	2.03	S	S	2.06	2.10	2.05	1.98	1.93	1.93	1.93	2.31	2.12
Jan 18	1.95	1.96	1.94	1.94	1.95	1.96	1.94	1.96	1.97	1.93	1.91	1.91	1.91	1.92	1.92	1.91	S	1.92	1.91	1.92	1.95	1.97	1.97	2.08	1.91	2.08	1.94	
Jan 19	2.20	2.11	1.97	1.98	2.01	2.03	2.03	2.03	2.01	2.00	2.02	2.00	1.99	1.95	1.93	S	1.91	1.91	1.91	1.90	1.88	1.86	1.86	1.86	1.86	2.20	1.97	
Jan 20	1.86	1.87	1.87	1.87	1.88	1.88	1.88	1.88	1.89	1.88	1.88	1.88	1.88	S	1.91	1.91	1.91	1.91	1.91	1.91	1.92	1.92	1.92	1.92	1.86	1.92	1.89	
Jan 21	1.92	1.93	1.93	1.91	1.92	1.92	1.92	1.93	1.99	2.01	1.96	1.94	1.93	S	1.96	1.92	1.93	1.92	1.92	1.92	1.91	1.92	1.92	1.92	1.91	2.01	1.93	
Jan 22	1.93	1.92	1.93	1.93	1.94	1.97	1.98	2.00	2.03	2.09	2.06	2.00	S	1.95	1.97	1.98	1.98	1.93	1.93	1.93	1.94	1.93	1.91	1.91	1.91	2.09	1.96	
Jan 23	1.92	1.92	1.92	1.92	1.93	1.93	1.93	1.93	1.93	1.94	1.93	S	1.93	1.93	1.94	1.96	1.97	2.06	1.99	2.00	2.01	2.04	2.07	2.09	1.92	2.09	1.96	
Jan 24	2.08	2.07	2.07	2.07	2.06	2.07	2.08	2.02	1.96	1.94	S	1.93	1.91	1.92	1.90	1.88	1.92	1.83	1.86	1.89	1.90	1.91	1.91	1.89	1.83	2.08	1.96	
Jan 25	1.88	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	1.88	1.88	-	
Jan 26	X	X	X	X	X	X	X	X	X	X	X	X	C	C	C	1.95	1.96	1.94	1.93	1.95	1.94	1.93	1.94	1.93	1.94	1.93	1.96	-
Jan 27	1.93	1.93	1.93	1.92	1.92	1.91	1.91	S	1.91	1.91	1.91	1.91	1.91	1.92	1.93	1.93	1.93	1.93	1.92	1.93	1.94	1.93	1.94	1.94	1.91	1.94	1.92	
Jan 28	1.93	1.93	1.93	1.94	1.93	1.95	S	1.94	1.95	1.93	1.93	1.96	1.98	2.00	2.02	2.04	2.03	2.03	2.03	2.05	2.06	2.06	2.08	1.93	2.08	1.99		
Jan 29	2.03	2.02	2.00	2.01	2.04	S	2.04	2.05	2.04	2.06	2.16	2.09	2.15	2.23	2.29	2.19	2.24	2.24	2.22	2.22	2.21	2.26	2.27	2.31	2.00	2.31	2.14	
Jan 30	2.36	2.37	2.38	2.44	S	2.59	2.60	2.57	2.55	2.30	2.26	2.20	2.20	2.17	2.13	2.15	2.20	2.32	2.41	2.39	2.34	2.35	2.37	2.39	2.13	2.60	2.35	
Jan 31	2.37	2.38	2.31	S	2.43	2.43	2.43	2.35	2.37	2.39	2.23	2.24	2.24	2.26	2.22	2.20	2.18	2.20	2.23	2.23	2.27	2.29	2.15	2.09	2.09	2.43	2.28	
Diurnal Maximum	2.63	2.64	2.62	2.55	2.52	2.59	2.60	2.76	2.86	2.82	2.74	2.39	2.39	2.39	2.29	2.29	2.43	2.69	2.67	2.60	2.52	2.54	2.56	2.57				
Diurnal Average	2.11	2.10	2.09	2.09	2.11	2.14	2.15	2.15	2.12	2.14	2.13	2.07	2.06	2.04	2.03	2.03	2.04	2.06	2.08	2.08	2.08	2.09	2.09	2.08				

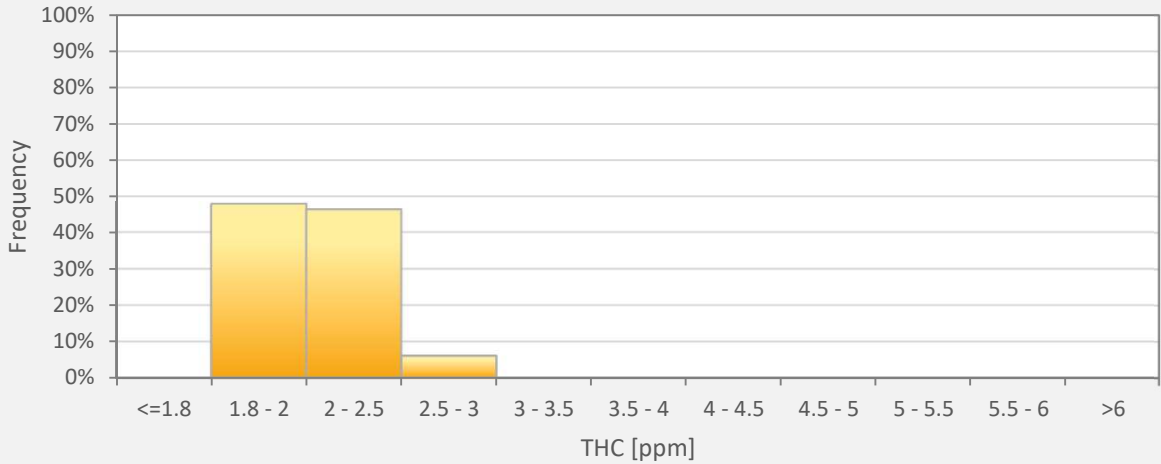
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction/Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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



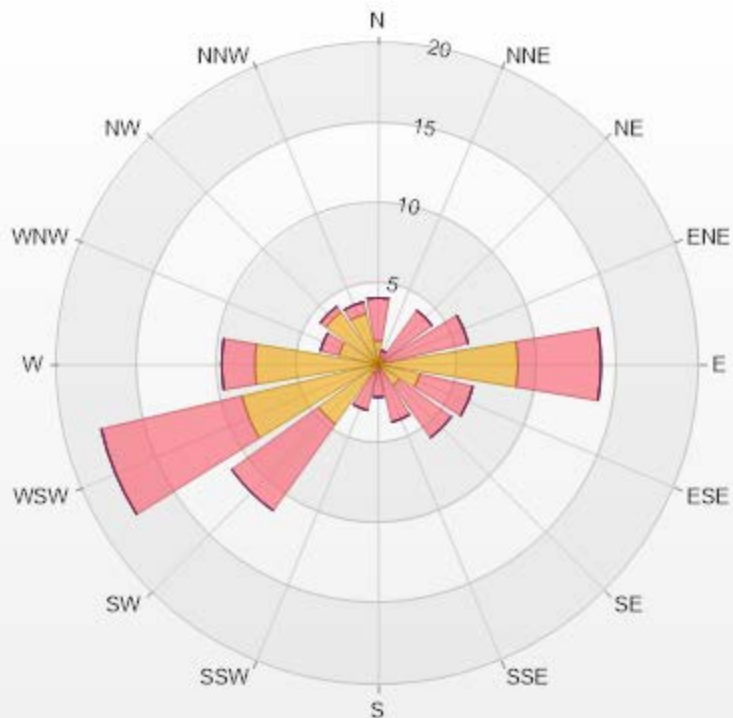
THC55[ppm] Histogram: Cold Lake South Monthly: 01-2021 1 Hr.



Classes	THC55
<=1.8	0.00%
1.8 - 2	47.71%
2 - 2.5	46.23%
2.5 - 3	6.06%
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: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 90.99% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	1.48	2.66	0	0	0	4.14
NNE	0.44	0.44	0	0	0	0.88
NE	0.44	3.69	0	0	0	4.13
ENE	0.44	5.32	0	0	0	5.76
E	8.71	5.17	0	0	0	13.88
ESE	2.66	3.4	0	0	0	6.06
SE	1.62	3.99	0	0	0	5.61
SSE	0.15	3.55	0	0	0	3.7
S	0.44	1.62	0	0	0	2.06
SSW	0.59	2.36	0	0	0	2.95
SW	4.58	6.65	0	0	0	11.23
WSW	8.71	9.01	0	0	0	17.72
W	7.68	2.07	0	0	0	9.75
WNW	2.51	1.18	0	0	0	3.69
NW	3.99	0.44	0	0	0	4.43
NNW	3.25	0.74	0	0	0	3.99
Summary	47.69	52.29	0	0	0	100



LICA-202101

Page 59 of 237

% Icon Classes (ppm)	48	0-2	52	2-5	0	5-10	0	10-40	0	>40.0
----------------------	----	-----	----	-----	---	------	---	-------	---	-------



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - January 2021

Summary of Hourly Averages

METHANE (CH4) in ppm

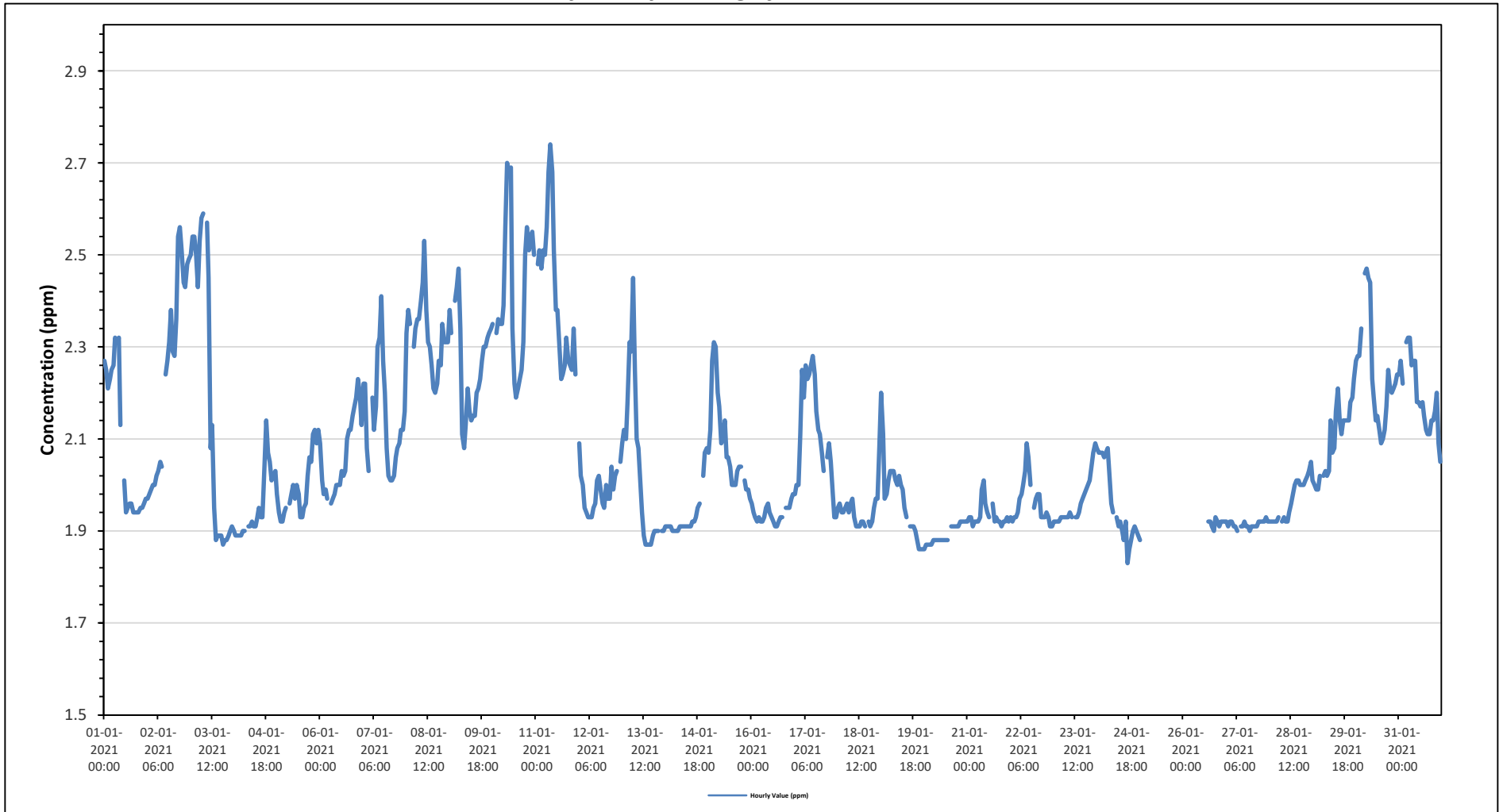
Maximum Hourly Value:	2.74 ppm on January 11 at hour 8	Hours in Service:	744
Maximum Daily Value:	2.42 ppm on January 10	Hours of Data:	677
Minimum Hourly Value:	1.83 ppm on January 24 at hour 17	Hours of Missing Data:	34
Minimum Daily Value:	1.89 ppm on January 20	Hours of Calibration:	33
Monthly Average:	2.07 ppm	Operational Uptime:	95.4

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Jan 1	2.27	2.25	2.21	2.23	2.25	2.26	2.32	2.31	2.32	2.13	S	2.01	1.94	1.95	1.96	1.96	1.94	1.94	1.94	1.94	1.95	1.95	1.96	1.97	1.94	2.32	2.09	
Jan 2	1.97	1.98	1.99	2.00	2.00	2.02	2.03	2.05	2.04	S	2.24	2.27	2.31	2.38	2.29	2.28	2.36	2.54	2.56	2.51	2.44	2.43	2.48	2.49	1.97	2.56	2.25	
Jan 3	2.50	2.54	2.54	2.50	2.43	2.53	2.58	2.59	S	2.57	2.45	2.08	2.13	1.95	1.88	1.89	1.89	1.89	1.87	1.88	1.88	1.89	1.90	1.91	1.87	2.59	2.19	
Jan 4	1.90	1.89	1.89	1.89	1.89	1.90	1.90	S	1.91	1.91	1.92	1.91	1.91	1.93	1.95	1.93	1.93	2.04	2.14	2.07	2.05	2.01	2.02	2.03	1.89	2.14	1.95	
Jan 5	1.98	1.94	1.92	1.92	1.94	1.95	S	1.96	1.98	2.00	1.97	2.00	1.98	1.93	1.93	1.95	1.96	2.02	2.06	2.05	2.11	2.12	2.09	2.12	1.92	2.12	1.99	
Jan 6	2.09	2.01	1.98	1.99	1.97	S	1.96	1.97	1.98	2.00	2.00	2.00	2.03	2.02	2.03	2.10	2.12	2.12	2.15	2.17	2.19	2.23	2.20	2.13	1.96	2.23	2.06	
Jan 7	2.22	2.22	2.08	2.03	S	2.19	2.12	2.17	2.30	2.32	2.41	2.27	2.20	2.08	2.02	2.01	2.01	2.02	2.06	2.08	2.09	2.12	2.12	2.16	2.01	2.41	2.14	
Jan 8	2.33	2.38	2.35	S	2.30	2.34	2.36	2.36	2.40	2.44	2.53	2.38	2.31	2.30	2.26	2.21	2.20	2.22	2.27	2.26	2.35	2.31	2.31	2.31	2.20	2.53	2.33	
Jan 9	2.38	2.33	S	2.40	2.43	2.47	2.34	2.11	2.08	2.13	2.21	2.16	2.14	2.15	2.15	2.20	2.21	2.23	2.27	2.30	2.30	2.32	2.33	2.34	2.08	2.47	2.26	
Jan 10	2.35	S	2.33	2.36	2.35	2.35	2.39	2.56	2.70	2.68	2.69	2.34	2.22	2.19	2.21	2.23	2.25	2.31	2.50	2.56	2.51	2.53	2.55	2.50	2.19	2.70	2.42	
Jan 11	S	2.48	2.51	2.47	2.51	2.50	2.56	2.68	2.74	2.68	2.51	2.38	2.38	2.30	2.23	2.24	2.26	2.32	2.27	2.26	2.25	2.34	2.24	S	2.23	2.74	2.41	
Jan 12	2.09	2.02	2.00	1.95	1.94	1.93	1.93	1.93	1.95	1.96	2.01	2.02	1.99	1.96	1.95	2.00	1.97	1.97	2.04	1.99	2.02	2.03	S	2.05	1.93	2.09	1.99	
Jan 13	2.09	2.12	2.10	2.18	2.31	2.29	2.45	2.25	2.10	2.08	2.01	1.94	1.89	1.87	1.87	1.87	1.89	1.90	1.90	1.90	S	S	1.90	1.90	1.87	2.45	2.03	
Jan 14	1.91	1.91	1.91	1.91	1.90	1.90	1.90	1.90	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.92	1.92	1.93	1.95	1.96	S	2.02	2.07	2.08	1.90	2.08	1.93	
Jan 15	2.07	2.12	2.27	2.31	2.30	2.20	2.17	2.09	2.10	2.14	2.06	2.06	2.04	2.00	2.00	2.00	2.03	2.04	2.04	S	2.01	1.99	1.99	1.97	1.97	2.31	2.09	
Jan 16	1.96	1.94	1.93	1.92	1.93	1.92	1.92	1.93	1.95	1.96	1.94	1.93	1.92	1.91	1.92	1.91	1.92	1.93	1.93	S	1.95	1.95	1.95	1.97	1.98	1.91	1.98	1.94
Jan 17	1.98	2.00	2.00	2.11	2.25	2.19	2.26	2.23	2.24	2.26	2.28	2.24	2.16	2.12	2.11	2.07	2.03	S	S	2.06	2.09	2.05	1.98	1.93	1.93	1.93	2.28	2.11
Jan 18	1.95	1.96	1.94	1.94	1.95	1.96	1.94	1.96	1.97	1.93	1.91	1.91	1.91	1.92	1.92	1.91	S	1.92	1.91	1.92	1.95	1.97	1.97	2.08	1.91	2.08	1.94	
Jan 19	2.20	2.11	1.97	1.98	2.01	2.03	2.03	2.03	2.01	2.00	2.02	2.00	1.99	1.95	1.93	S	1.91	1.91	1.91	1.90	1.88	1.86	1.86	1.86	1.86	2.20	1.97	
Jan 20	1.86	1.87	1.87	1.87	1.87	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	S	1.91	1.91	1.91	1.91	1.91	1.91	1.92	1.92	1.92	1.92	1.86	1.92	1.89	
Jan 21	1.92	1.93	1.93	1.91	1.92	1.92	1.92	1.93	1.99	2.01	1.96	1.94	1.93	S	1.96	1.92	1.93	1.92	1.92	1.91	1.92	1.92	1.93	1.92	1.91	2.01	1.93	
Jan 22	1.93	1.92	1.93	1.93	1.94	1.97	1.98	2.00	2.03	2.09	2.06	2.00	S	1.95	1.97	1.98	1.98	1.93	1.93	1.93	1.94	1.93	1.91	1.91	1.91	2.09	1.96	
Jan 23	1.92	1.92	1.92	1.92	1.93	1.93	1.93	1.93	1.93	1.94	1.93	S	1.93	1.93	1.94	1.96	1.97	1.98	1.99	2.00	2.01	2.04	2.07	2.09	1.92	2.09	1.96	
Jan 24	2.08	2.07	2.07	2.07	2.06	2.07	2.08	2.02	1.96	1.94	S	1.93	1.91	1.92	1.90	1.88	1.92	1.83	1.86	1.88	1.90	1.91	1.90	1.89	1.83	2.08	1.96	
Jan 25	1.88	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	1.88	1.88	-	
Jan 26	X	X	X	X	X	X	X	X	X	X	X	X	C	C	C	1.92	1.92	1.91	1.90	1.93	1.92	1.91	1.92	1.92	1.90	1.93	-	
Jan 27	1.92	1.91	1.92	1.92	1.91	1.91	1.90	S	1.91	1.91	1.92	1.91	1.91	1.90	1.91	1.91	1.91	1.91	1.92	1.92	1.92	1.92	1.93	1.92	1.90	1.93	1.91	
Jan 28	1.92	1.92	1.92	1.92	1.92	1.93	S	1.92	1.93	1.92	1.92	1.94	1.96	1.98	2.00	2.01	2.01	2.00	2.00	2.00	2.01	2.02	2.03	2.05	1.92	2.05	1.97	
Jan 29	2.01	2.00	1.99	1.99	2.02	S	2.02	2.03	2.02	2.03	2.14	2.07	2.08	2.16	2.21	2.14	2.11	2.14	2.14	2.14	2.14	2.18	2.19	2.23	1.99	2.23	2.09	
Jan 30	2.27	2.28	2.28	2.34	S	2.46	2.47	2.45	2.44	2.23	2.19	2.14	2.15	2.12	2.09	2.10	2.12	2.17	2.25	2.21	2.20	2.21	2.22	2.24	2.09	2.47	2.24	
Jan 31	2.24	2.27	2.22	S	2.31	2.32	2.32	2.26	2.27	2.27	2.18	2.18	2.17	2.18	2.15	2.12	2.11	2.14	2.14	2.14	2.16	2.20	2.09	2.05	2.05	2.32	2.19	
Diurnal Maximum	2.50	2.54	2.54	2.50	2.51	2.53	2.58	2.68	2.74	2.68	2.69	2.38	2.38	2.38	2.29	2.28	2.36	2.54	2.56	2.51	2.53	2.55	2.50					
Diurnal Average	2.08	2.08	2.07	2.07	2.09	2.12	2.14	2.13	2.11	2.12	2.12	2.06	2.05	2.03	2.02	2.02	2.02	2.04	2.07	2.06	2.07	2.08	2.07					

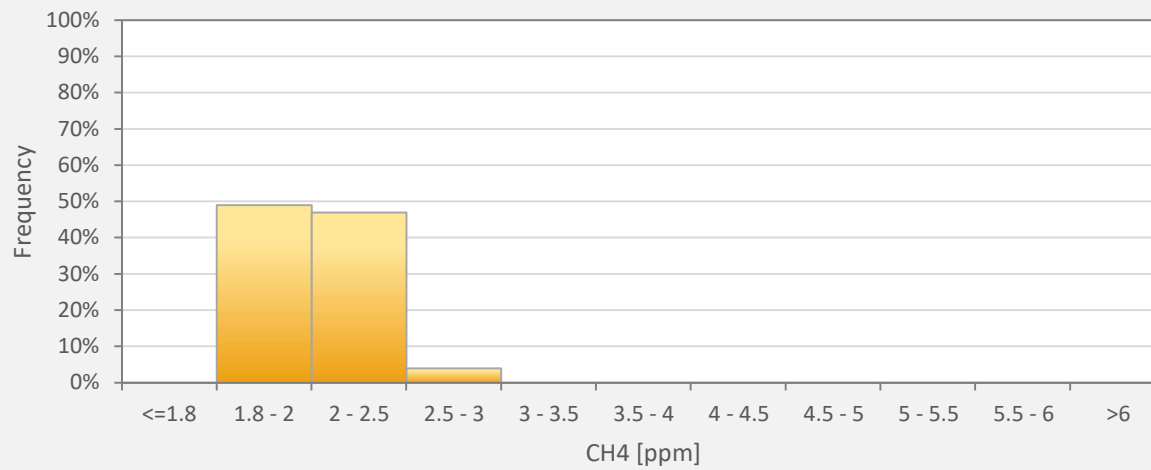
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction/Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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



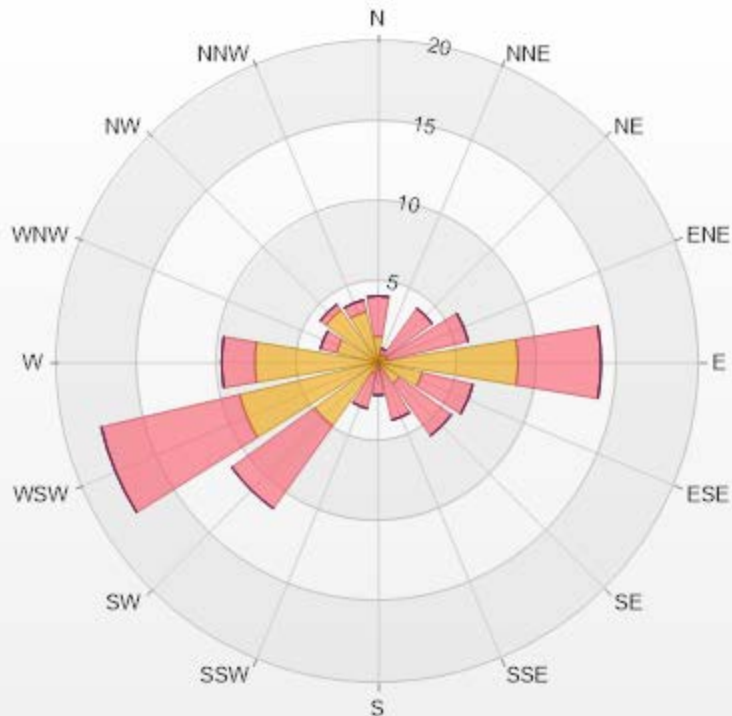
CH4[ppm] Histogram: Cold Lake South Monthly: 01-2021 1 Hr.



Classes	CH4
<=1.8	0.00%
1.8 - 2	49.04%
2 - 2.5	46.97%
2.5 - 3	3.99%
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: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 90.99% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	1.62	2.51	0	0	0	4.13
NNE	0.44	0.44	0	0	0	0.88
NE	0.59	3.55	0	0	0	4.14
ENE	0.59	5.17	0	0	0	5.76
E	8.71	5.17	0	0	0	13.88
ESE	2.81	3.25	0	0	0	6.06
SE	1.62	3.99	0	0	0	5.61
SSE	0.15	3.55	0	0	0	3.7
S	0.44	1.62	0	0	0	2.06
SSW	0.74	2.22	0	0	0	2.96
SW	4.87	6.35	0	0	0	11.22
WSW	8.86	8.86	0	0	0	17.72
W	7.68	2.07	0	0	0	9.75
WNW	2.66	1.03	0	0	0	3.69
NW	3.99	0.44	0	0	0	4.43
NNW	3.25	0.74	0	0	0	3.99
Summary	49.02	50.96	0	0	0	100



LICA-202101

Page 64 of 237

% Icon Classes (ppm)

49 0-2

51 2-5

0 5-10

0 10-20

0 >20.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - January 2021

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

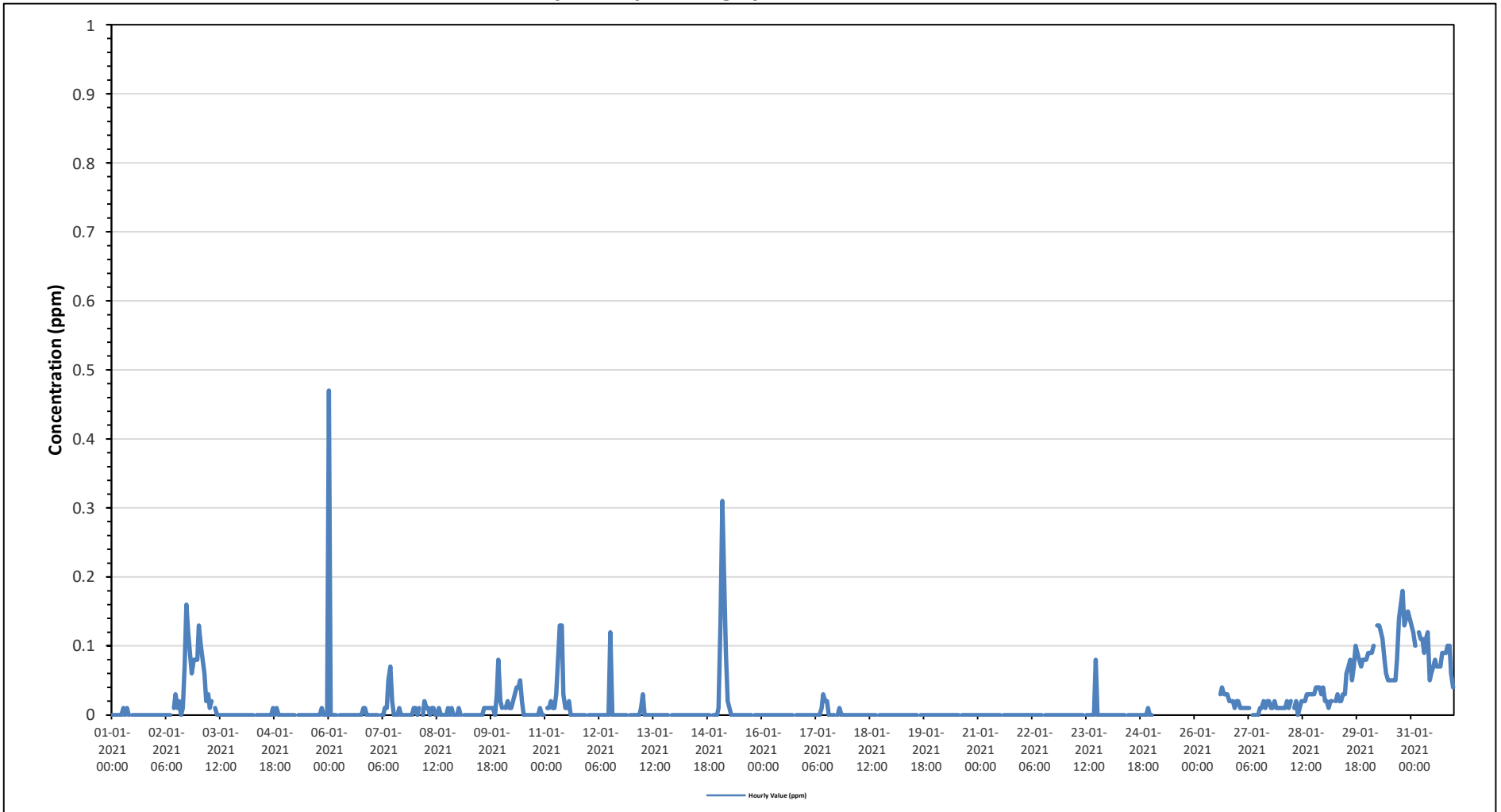
Maximum Hourly Value:	0.47 ppm on January 6 at hour 0	Hours in Service:	744
Maximum Daily Value:	0.10 ppm on January 30	Hours of Data:	677
Minimum Hourly Value:	0.00 ppm on January 1 at hour 0	Hours of Missing Data:	34
Minimum Daily Value:	0.00 ppm on January 14	Hours of Calibration:	33
Monthly Average:	0.02 ppm	Operational Uptime:	95.4

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Jan 1	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	
Jan 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.01	0.03	0.01	0.02	0.00	0.01	0.07	0.16	0.12	0.09	0.06	0.08	0.08	0.08	0.00	0.16	0.04	
Jan 3	0.13	0.10	0.08	0.06	0.02	0.03	0.01	0.02	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	0.13	0.02	
Jan 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	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	
Jan 5	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	0.01	0.00	0.00	0.00	0.00	0.01	0.00	
Jan 6	0.47	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	0.01	0.00	0.00	0.00	0.00	0.47	0.02	
Jan 7	0.00	0.00	0.00	0.00	S	0.00	0.00	0.01	0.01	0.05	0.07	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.07	0.01	
Jan 8	0.01	0.00	0.01	S	0.00	0.02	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.02	0.00	
Jan 9	0.01	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.03	0.08	0.02	0.00	0.08	0.01	
Jan 10	0.01	S	0.01	0.02	0.01	0.01	0.02	0.03	0.04	0.04	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.05	0.01	
Jan 11	S	0.01	0.01	0.02	0.01	0.01	0.03	0.08	0.13	0.13	0.03	0.01	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.13	0.02	
Jan 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	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.12	0.01	
Jan 13	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	S	0.00	0.00	0.03	0.00	
Jan 14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 15	0.01	0.14	0.31	0.20	0.09	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	S	0.00	0.00	0.00	0.00	0.00	0.31	0.03	
Jan 16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.02	0.02	0.00	0.00	0.00	S	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00
Jan 18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 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	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
Jan 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	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
Jan 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	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
Jan 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
Jan 23	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	0.08	0.00
Jan 24	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	0.01	0.01	0.00	0.00
Jan 25	0.00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-
Jan 26	X	X	X	X	X	X	X	X	X	X	X	C	C	C	0.03	0.04	0.03	0.03	0.03	0.02	0.02	0.02	0.01	0.01	0.02	0.01	0.04	-
Jan 27	0.02	0.01	0.01	0.01	0.01	0.01	0.01	S	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.01	0.02	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.02	0.01
Jan 28	0.01	0.01	0.01	0.02	0.01	0.02	S	0.01	0.02	0.00	0.01	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.03	0.04	0.00	0.04	0.02	0.00
Jan 29	0.02	0.02	0.01	0.02	0.02	S	0.02	0.03	0.02	0.02	0.03	0.03	0.06	0.07	0.08	0.05	0.07	0.10	0.09	0.08	0.07	0.08	0.08	0.08	0.01	0.10	0.05	0.00
Jan 30	0.09	0.09	0.09	0.10	S	0.13	0.13	0.12	0.11	0.08	0.06	0.05	0.05	0.05	0.05	0.05	0.08	0.14	0.16	0.18	0.13	0.14	0.15	0.14	0.05	0.18	0.10	0.00
Jan 31	0.13	0.12	0.10	S	0.12	0.11	0.11	0.09	0.11	0.12	0.05	0.06	0.07	0.08	0.07	0.07	0.07	0.09	0.09	0.09	0.10	0.10	0.06	0.04	0.04	0.13	0.09	0.00
Diurnal Maximum	0.47	0.14	0.31	0.20	0.12	0.13	0.13	0.12	0.13	0.13	0.07	0.06	0.12	0.08	0.08	0.07	0.08	0.16	0.16	0.18	0.13	0.14	0.15	0.14	0.04	0.13	0.09	0.00
Diurnal Average	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02

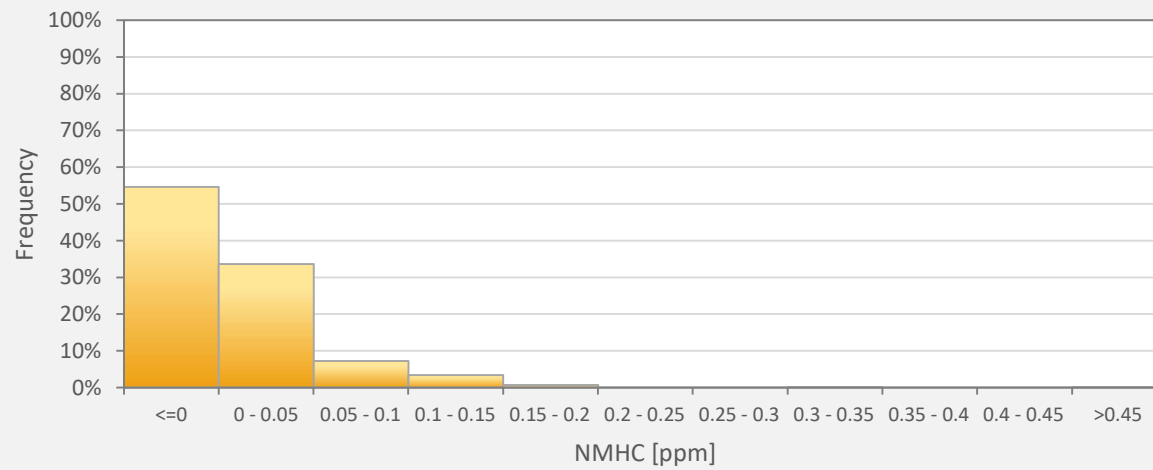
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction/Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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



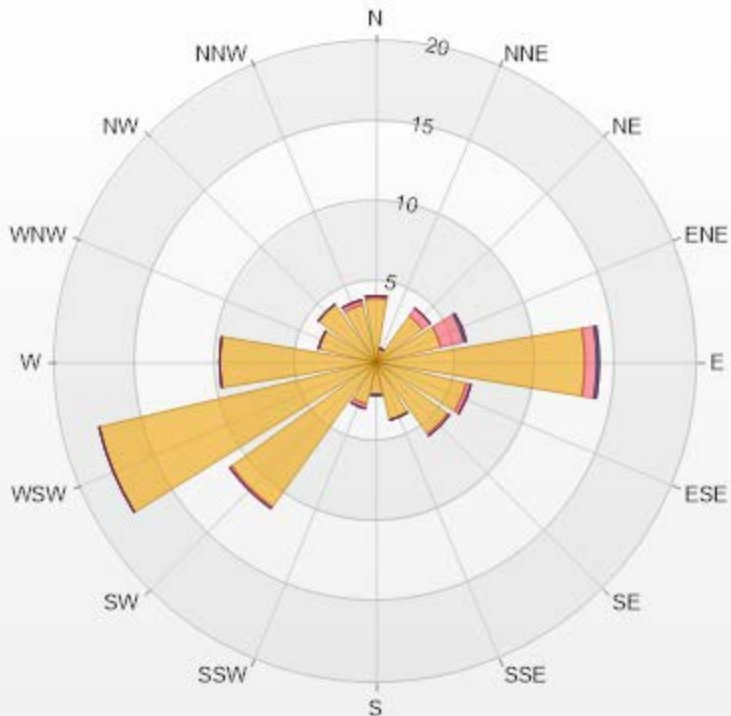
NMHC[ppm] Histogram: Cold Lake South Monthly: 01-2021 1 Hr.



Classes	NMHC
<=0	54.65%
0 - 0.05	33.68%
0.05 - 0.1	7.24%
0.1 - 0.15	3.40%
0.15 - 0.2	0.74%
0.2 - 0.25	0.00%
0.25 - 0.3	0.00%
0.3 - 0.35	0.15%
0.35 - 0.4	0.00%
0.4 - 0.45	0.00%
>0.45	0.15%

Wind: Cold Lake South Poll.: Cold Lake South-NMHC[ppm] Monthly: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 90.99% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-0.9	0.9-2	>2.0	Total
N	3.99	0.15	0	0	0	4.14
NNE	0.89	0	0	0	0	0.89
NE	3.55	0.59	0	0	0	4.14
ENE	4.14	1.48	0.15	0	0	5.77
E	13	0.74	0.15	0	0	13.89
ESE	5.76	0.3	0	0	0	6.06
SE	5.47	0.15	0	0	0	5.62
SSE	3.69	0	0	0	0	3.69
S	2.07	0	0	0	0	2.07
SSW	2.66	0.3	0	0	0	2.96
SW	11.08	0.15	0	0	0	11.23
WSW	17.73	0	0	0	0	17.73
W	9.75	0	0	0	0	9.75
WNW	3.69	0	0	0	0	3.69
NW	4.43	0	0	0	0	4.43
NNW	3.69	0.3	0	0	0	3.99
Summary	95.59	4.16	0.3	0	0	100




LICA-202101

Page 69 of 237

% Icon Classes (ppm)

96  0-0.1

4  0.1-0.3

0  0.3-0.9

0  0.9-2

0  >2.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

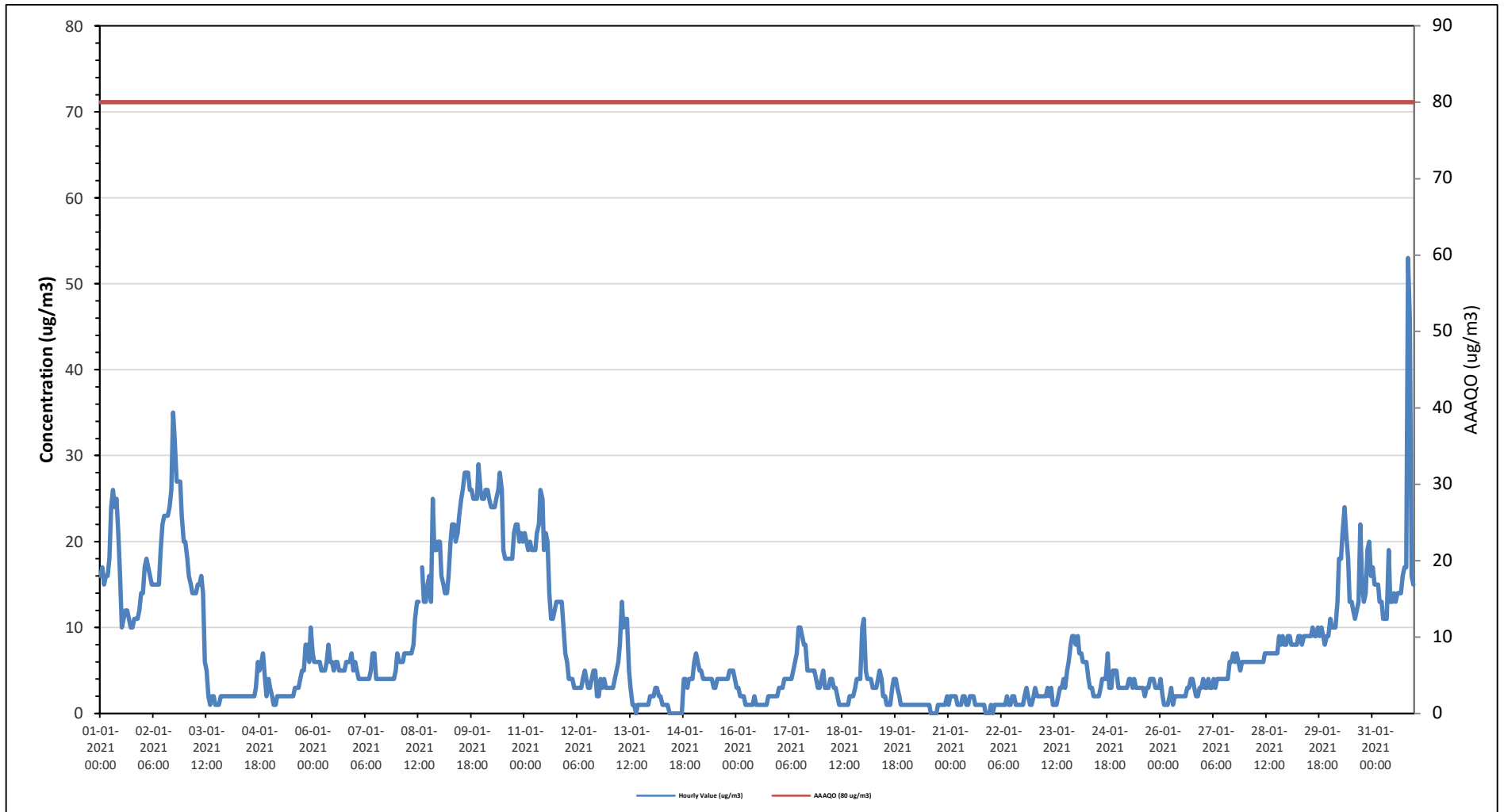
Cold Lake South Station - January 2021

Summary of Hourly Averages

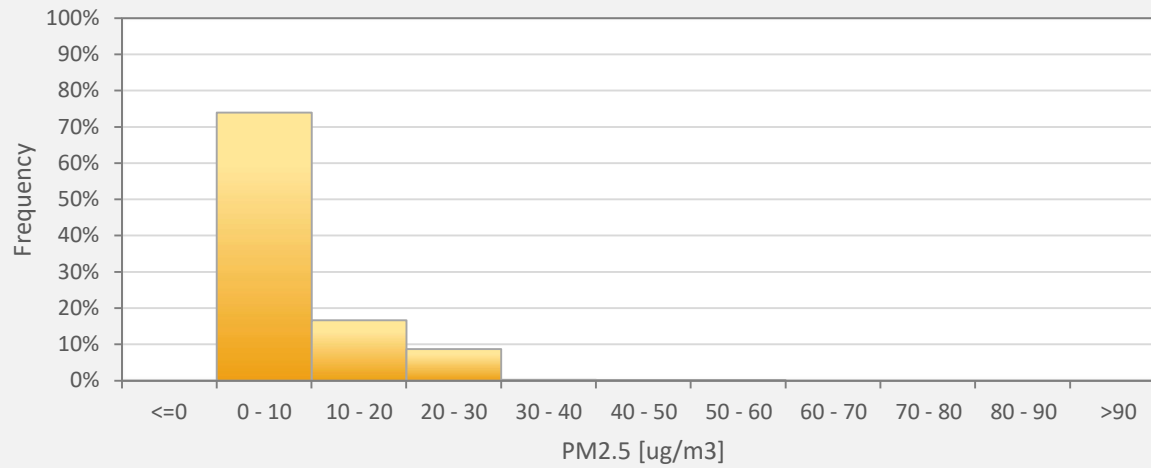
PARTICULATE MATTER 2.5 (PM_{2.5}) in µg/m³

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 80 µg/m ³ , 24-Hour 29 µg/m ³																															
Number of 1-Hour Exceedences: 0					Number of 24-Hour Exceedences: 0																										
Maximum Hourly Value: 53 µg/m ³ on January 31 at hour 20					Hours in Service: 744																										
Maximum Daily Value: 22.5 µg/m ³ on January 9					Hours of Data: 743																										
Minimum Hourly Value: 0 µg/m ³ on January 13 at hour 15					Hours of Missing Data: 0																										
Minimum Daily Value: 1 µg/m ³ on January 20					Hours of Calibration: 1																										
Monthly Average: 7.5 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							
Jan 1	16	17	15	16	16	18	24	26	24	25	21	16	10	11	12	12	11	10	10	11	11	11	12	14	10	26	15.4				
Jan 2	14	17	18	17	16	15	15	15	15	15	19	22	23	23	23	24	26	35	32	27	27	27	23	20	14	35	21.2				
Jan 3	20	18	16	15	14	14	14	15	15	16	14	6	5	2	1	2	2	1	1	2	2	2	2	2	1	20	8.3				
Jan 4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	6	5	6	7	4	2	4	2	7	2.9				
Jan 5	3	2	1	1	2	2	2	2	2	2	2	2	2	2	3	3	3	4	5	5	8	8	6	10	1	10	3.4				
Jan 6	7	6	6	6	6	5	5	5	6	8	6	6	5	6	6	5	5	5	5	6	6	6	7	5	5	8	5.8				
Jan 7	6	5	4	4	4	4	4	4	4	5	7	7	4	4	4	4	4	4	4	4	4	4	4	5	4	7	4.5				
Jan 8	7	6	6	6	7	7	7	7	7	8	11	13	13	C	17	13	13	15	16	13	25	19	19	20	6	25	12.0				
Jan 9	20	16	15	14	14	16	20	22	22	20	21	23	25	26	28	28	28	26	26	25	25	25	29	26	14	29	22.5				
Jan 10	25	25	26	26	25	24	24	24	25	26	28	26	19	18	18	18	18	21	22	22	20	21	20	18	28	28	22.5				
Jan 11	21	20	19	20	19	19	19	21	22	26	25	19	21	20	14	11	11	12	13	13	13	10	7	7	26	17.0					
Jan 12	6	4	4	4	3	3	3	3	3	4	5	4	3	3	4	5	5	2	2	4	3	4	3	3	2	6	3.6				
Jan 13	3	3	3	4	5	6	8	13	10	11	11	5	3	1	1	0	1	1	1	1	1	1	2	0	13	4.0					
Jan 14	2	2	3	3	2	2	1	1	1	1	0	0	0	0	0	0	0	4	4	3	4	4	4	0	4	4	1.7				
Jan 15	6	7	6	5	5	4	4	4	4	4	4	3	3	4	4	4	4	4	4	5	5	5	4	3	7	4.4					
Jan 16	3	3	2	2	2	1	1	1	1	1	2	1	1	1	1	1	1	1	2	2	2	2	2	2	1	3	1.6				
Jan 17	3	3	3	4	4	4	4	4	5	6	7	10	10	9	8	8	5	5	5	5	5	4	3	3	3	10	5.3				
Jan 18	4	5	3	3	3	4	4	3	3	2	1	1	1	1	1	1	2	2	2	3	4	4	10	1	10	3.0					
Jan 19	11	5	4	4	4	3	3	3	4	5	4	2	2	1	1	1	3	4	4	3	2	1	1	1	1	11	3.2				
Jan 20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	1	1	1	2	0	2	0.9					
Jan 21	1	2	2	2	2	1	1	1	2	2	1	1	2	2	2	1	1	1	1	1	1	0	0	0	0	2	1.3				
Jan 22	1	0	1	1	1	1	1	1	1	2	1	1	2	2	1	1	1	1	1	2	3	2	1	1	0	3	1.3				
Jan 23	2	3	2	2	2	2	2	2	3	2	3	1	1	1	2	3	3	4	3	5	6	8	9	9	1	9	3.3				
Jan 24	8	9	7	7	6	6	6	4	3	3	2	2	2	2	3	4	4	4	7	3	3	5	5	5	2	9	4.6				
Jan 25	3	3	3	3	3	3	4	4	3	4	3	3	3	3	2	3	3	4	4	4	4	3	3	3	2	4	3.2				
Jan 26	4	2	1	1	1	2	3	1	2	2	2	2	2	2	2	3	3	4	4	3	2	2	3	3	1	4	2.3				
Jan 27	4	3	3	4	3	3	4	3	4	4	4	4	4	4	4	6	6	7	6	7	6	5	6	6	3	7	4.6				
Jan 28	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7	7	7	7	9	8	9	8	8	6	9	6.8					
Jan 29	9	9	8	8	8	8	9	9	8	9	9	9	9	9	10	9	9	10	9	10	9	8	9	9	8	10	8.9				
Jan 30	11	10	10	10	13	18	18	21	24	21	18	13	13	12	11	12	13	22	15	13	14	19	20	16	10	24	15.3				
Jan 31	17	15	15	15	13	13	11	11	11	19	13	13	14	13	14	14	14	16	17	17	53	46	16	15	11	53	17.3				
Diurnal Maximum	25	25	26	26	25	24	24	26	25	26	28	26	25	26	28	28	28	35	32	27	53	46	29	26							
Daiurnal Average	7.9	7.4	6.9	7.0	6.8	7.0	7.4	7.7	7.8	8.5	8.2	7.3	6.8	6.4	6.7	6.6	6.7	7.5	7.6	7.5	9.2	8.8	7.7	7.7							
C	Monthly Calibration							S	Daily Zero-Span Check							Q	Quality Assurance														
K	Collection Error							N	No Data (Machine Not in Service)							Y	Routine Maintenance							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 PM2.5 - Cold Lake South Station



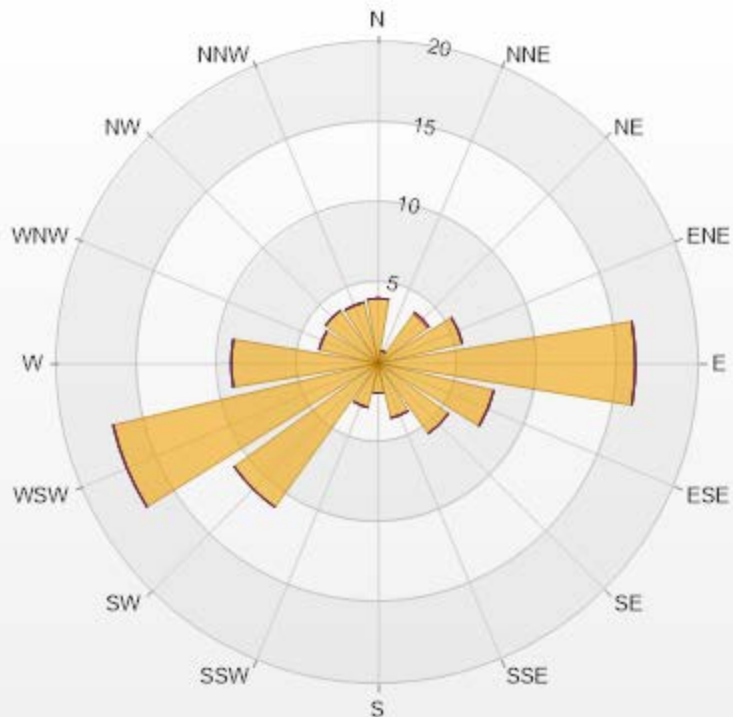
PM2.5[ug/m3(L)] Histogram: Cold Lake South Monthly: 01-2021 1 Hr.



Classes	PM2.5
<=0	0.00%
0 - 10	74.02%
10 - 20	16.69%
20 - 30	8.75%
30 - 40	0.27%
40 - 50	0.13%
50 - 60	0.13%
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: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 99.87% Calm Avg: 0.00 [ug/m3(L)]

Direction	0-50	50-80	80-120	120-240	>240.0	Total
N	4.04	0	0	0	0	4.04
NNE	0.81	0	0	0	0	0.81
NE	3.77	0.13	0	0	0	3.9
ENE	5.38	0	0	0	0	5.38
E	16.02	0	0	0	0	16.02
ESE	7.4	0	0	0	0	7.4
SE	5.38	0	0	0	0	5.38
SSE	3.5	0	0	0	0	3.5
S	1.88	0	0	0	0	1.88
SSW	2.83	0	0	0	0	2.83
SW	11.04	0	0	0	0	11.04
WSW	16.96	0	0	0	0	16.96
W	9.15	0	0	0	0	9.15
WNW	3.77	0	0	0	0	3.77
NW	4.04	0	0	0	0	4.04
NNW	3.9	0	0	0	0	3.9
Summary	100	0.13	0	0	0	100



LICA-202101

Page 74 of 237

% Icon Classes ($\mu\text{g}/\text{m}^3$ (L))

100



0-50



50-80



80-120



120-240



>240.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - January 2021

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

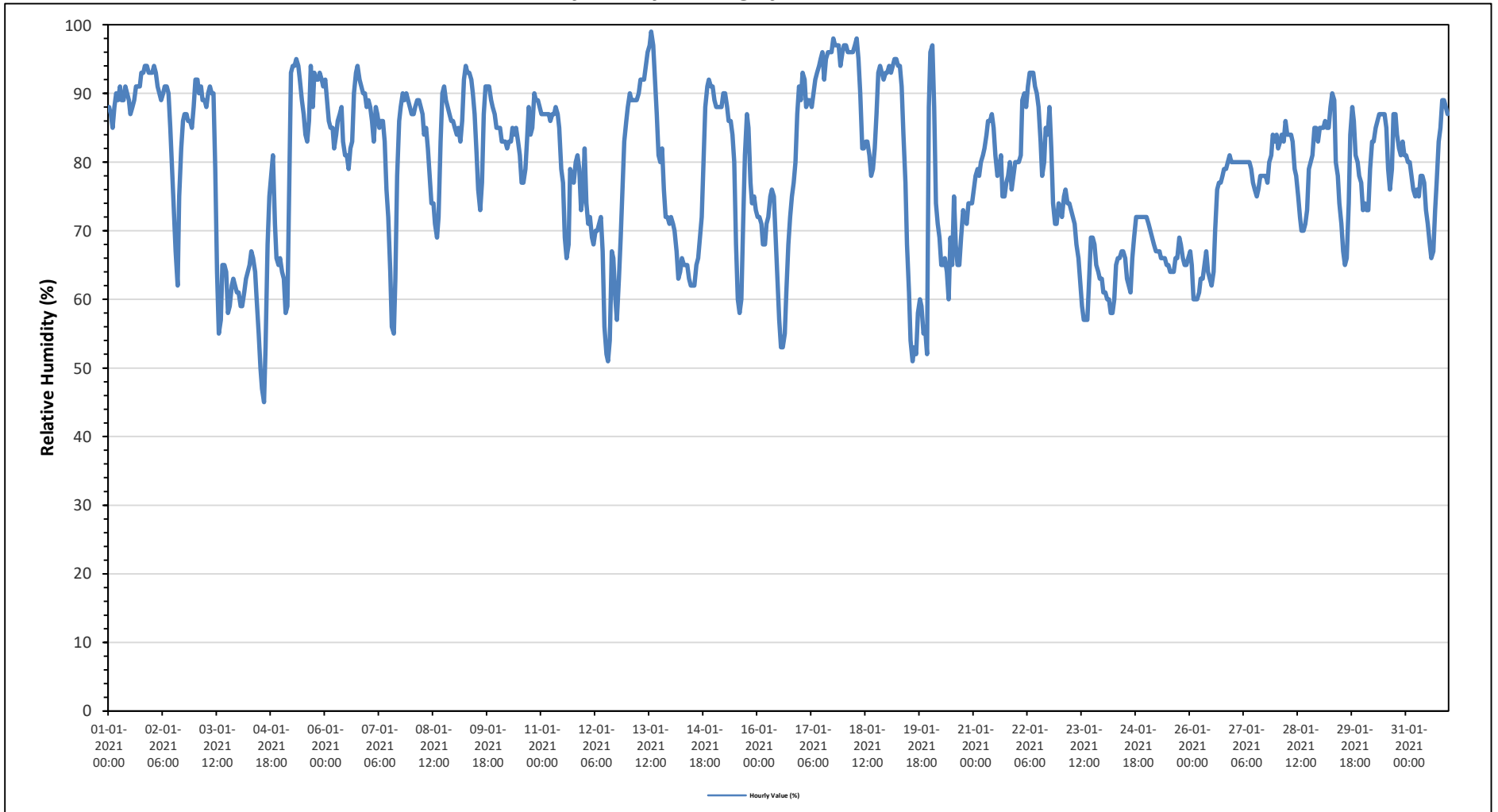
Maximum Hourly Value:	99 %	on January 13 at hour 13	Hours in Service:	744
Maximum Daily Value:	93.4 %	on January 17	Hours of Data:	744
Minimum Hourly Value:	45 %	on January 4 at hour 14	Hours of Missing Data:	0
Minimum Daily Value:	62.9 %	on January 4	Hours of Calibration:	0
Monthly Average:	78.7 %		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	
Jan 1	88	87	85	88	90	89	91	89	89	91	90	89	87	88	89	91	91	91	93	93	94	94	93	93	85	94	90.1	
Jan 2	93	94	93	91	90	89	90	91	91	90	85	79	73	67	62	75	82	86	87	87	86	86	85	88	62	94	85.0	
Jan 3	92	92	90	91	89	89	88	90	91	90	90	79	64	55	57	65	65	64	58	59	62	63	62	61	55	92	75.3	
Jan 4	61	59	59	61	63	64	65	67	66	64	60	55	50	47	45	53	68	75	78	81	71	66	65	66	45	81	62.9	
Jan 5	64	63	58	59	76	93	94	94	95	94	92	89	87	84	83	86	94	88	93	92	92	93	92	91	58	95	85.3	
Jan 6	92	89	86	85	85	82	84	86	87	88	83	81	81	79	82	83	90	93	94	92	91	90	90	88	79	94	86.7	
Jan 7	89	88	86	83	88	87	85	86	86	83	76	72	64	56	55	63	78	86	88	90	89	90	89	88	55	90	81.0	
Jan 8	87	87	88	89	89	88	87	84	85	82	78	74	74	71	69	72	83	90	91	89	88	87	86	86	69	91	83.5	
Jan 9	85	84	85	83	86	92	94	93	93	92	90	87	81	76	73	77	87	91	91	89	88	87	85	73	94	86.7		
Jan 10	85	85	83	83	83	82	83	83	85	84	85	83	81	77	77	79	83	88	84	85	90	89	89	88	77	90	83.9	
Jan 11	87	87	87	87	87	86	87	87	88	87	85	79	77	69	66	68	79	78	77	80	81	79	73	75	66	88	80.7	
Jan 12	82	74	71	72	69	68	70	70	71	72	67	56	52	51	54	67	66	60	57	63	69	76	83	86	51	86	67.8	
Jan 13	88	90	89	89	89	89	90	92	92	92	94	96	97	99	97	92	87	81	80	82	76	72	72	71	71	71	99	87.3
Jan 14	72	71	70	67	63	64	66	65	65	65	63	62	62	62	65	66	69	72	80	88	91	92	91	91	62	92	71.8	
Jan 15	89	88	88	88	88	90	90	88	86	86	84	80	68	60	58	60	71	81	87	85	77	74	75	73	58	90	79.8	
Jan 16	72	72	71	68	68	71	72	75	76	75	69	63	57	53	53	55	61	68	72	75	77	80	87	91	53	91	70.0	
Jan 17	89	93	92	88	89	89	88	90	92	93	94	95	96	92	95	96	96	96	98	97	97	97	94	96	88	98	93.4	
Jan 18	97	97	96	96	96	96	97	98	95	90	82	82	83	83	81	78	79	82	87	93	94	93	92	93	78	98	90.0	
Jan 19	93	94	93	94	95	95	94	94	91	84	77	68	61	54	51	53	52	58	60	59	55	56	52	88	51	95	73.8	
Jan 20	96	97	88	74	71	69	65	65	66	64	60	69	65	75	68	65	65	69	73	72	71	74	74	74	60	97	72.0	
Jan 21	76	78	79	78	80	81	82	84	86	86	87	85	81	78	79	81	75	75	77	78	80	76	78	80	75	87	80.0	
Jan 22	80	80	81	89	90	88	91	93	93	93	91	90	88	83	78	80	85	84	88	82	74	71	71	74	71	93	84.0	
Jan 23	73	72	75	76	74	74	73	72	71	68	66	63	59	57	57	57	62	69	69	68	65	64	63	63	57	76	67.1	
Jan 24	61	61	60	60	58	58	60	65	66	66	67	67	66	63	62	61	66	69	72	72	72	72	72	72	58	72	65.3	
Jan 25	72	71	70	69	68	67	67	67	66	66	66	65	65	64	64	64	66	66	69	68	66	65	65	66	64	72	66.8	
Jan 26	67	65	60	60	60	61	63	63	65	67	64	63	62	64	70	76	77	77	78	79	79	80	81	80	60	81	69.2	
Jan 27	80	80	80	80	80	80	80	80	80	80	79	77	76	75	76	78	78	78	78	77	80	81	84	83	75	84	79.2	
Jan 28	84	82	83	84	83	86	84	84	84	84	83	79	78	75	72	70	70	71	73	79	80	81	85	85	70	86	79.9	
Jan 29	85	85	85	86	85	85	88	90	89	80	78	74	71	67	65	66	74	84	88	86	81	80	78	77	65	90	80.3	
Jan 30	73	74	73	73	79	83	83	85	86	87	87	87	87	87	85	79	76	79	87	87	84	82	81	83	73	87	81.7	
Jan 31	81	80	80	78	76	75	76	75	78	78	77	73	71	68	66	67	73	77	83	85	89	89	88	87	66	89	77.9	
Diurnal Maximum	97	97	96	96	96	96	97	98	95	94	94	96	97	99	97	96	96	96	98	97	97	97	94	96				
Diurnal Average	81.7	81.3	80.1	79.6	80.2	81.0	81.5	82.1	82.4	81.3	78.9	76.1	72.9	70.1	69.2	71.6	75.9	78.6	80.5	81.0	80.3	80.1	80.0	81.2				

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 RH - Cold Lake South Station





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - January 2021

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

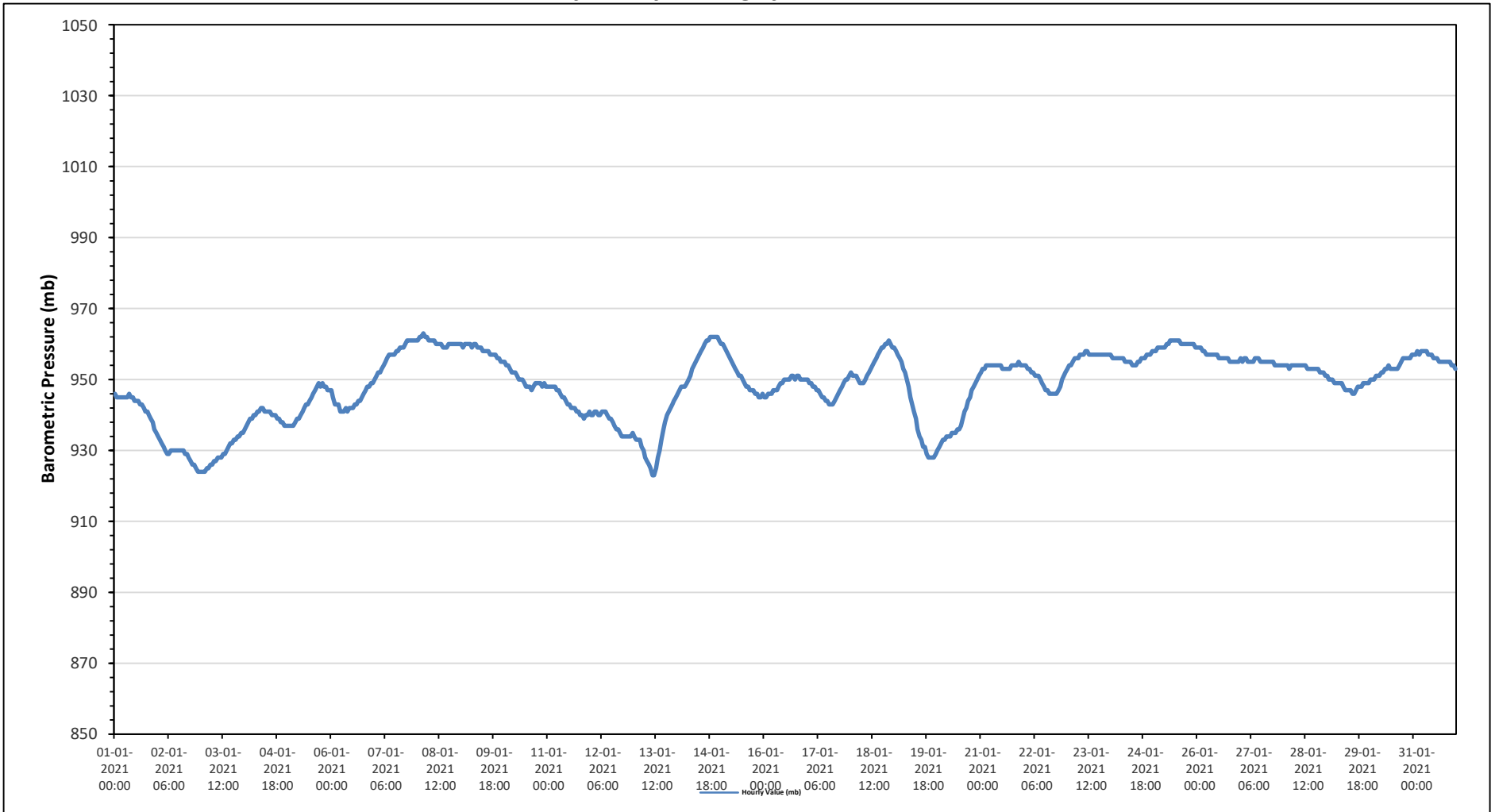
Maximum Hourly Value:	963 mb on January 8 at hour 3	Hours in Service:	744
Maximum Daily Value:	961 mb on January 8	Hours of Data:	744
Minimum Hourly Value:	923 mb on January 13 at hour 10	Hours of Missing Data:	0
Minimum Daily Value:	929 mb on January 2	Hours of Calibration:	0
Monthly Average:	948 mb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

C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	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 - January 2021

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

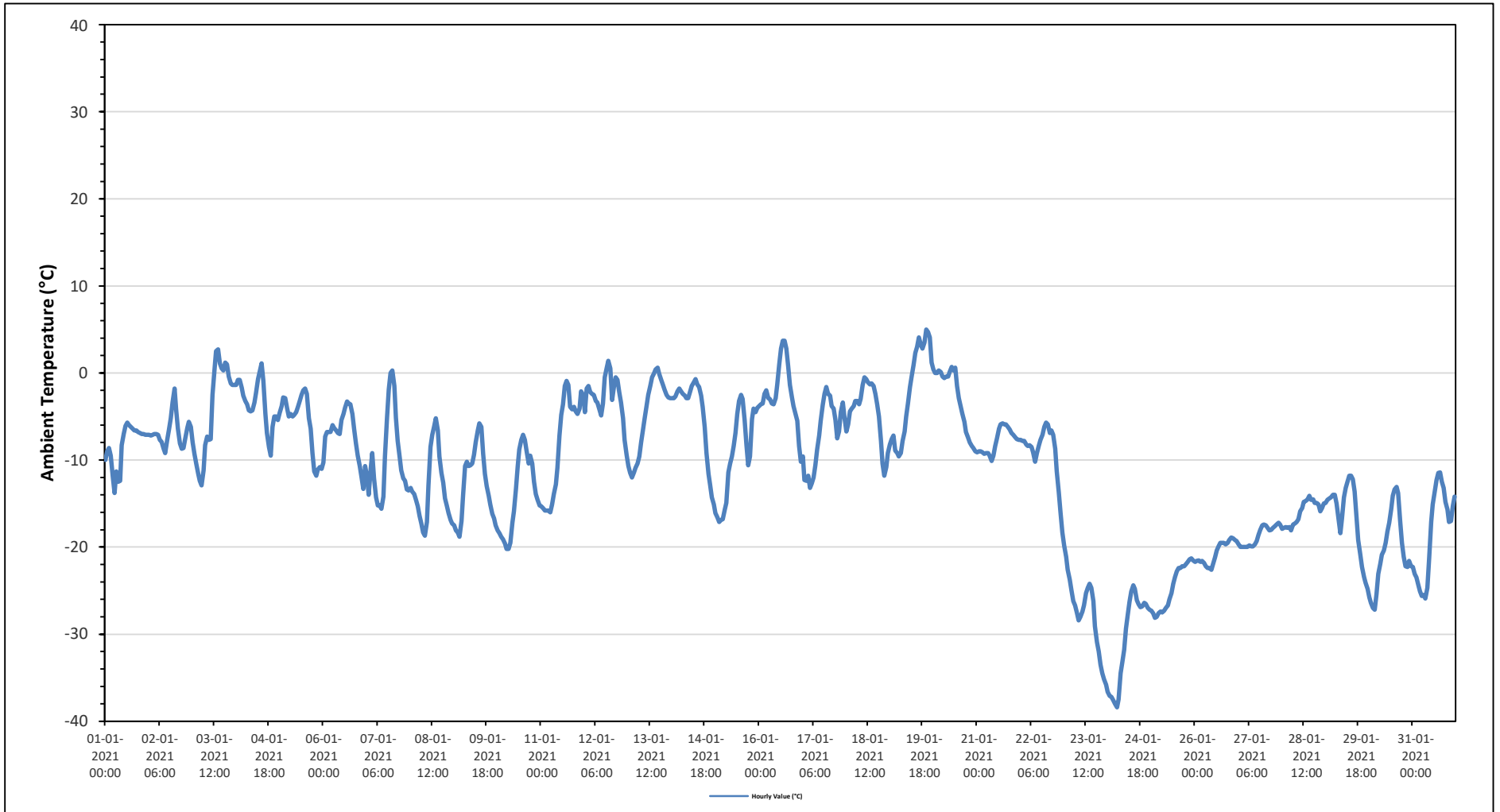
Maximum Hourly Value:	5.0 °C	on January 19 at hour 20	Hours in Service:	744
Maximum Daily Value:	-2.1 °C	on January 19	Hours of Data:	744
Minimum Hourly Value:	-38.4 °C	on January 24 at hour 5	Hours of Missing Data:	0
Minimum Daily Value:	-30.6 °C	on January 24	Hours of Calibration:	0
Monthly Average:	-11.1 °C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Jan 1	-10	-9	-8.6	-9.5	-11.9	-13.8	-11.3	-12.5	-12.4	-8.3	-7	-6.1	-5.7	-6	-6.2	-6.4	-6.6	-6.6	-6.8	-6.9	-7	-7	-7.1	-7.1	-13.8	-5.7	-8.3
Jan 2	-7.1	-7.2	-7.1	-7	-7	-7.1	-7.7	-7.9	-8.7	-9.2	-7.7	-6.5	-5.2	-3.4	-1.8	-4.2	-6.4	-8.1	-8.7	-8.6	-7.5	-6.3	-5.6	-6.2	-9.2	-1.8	-6.8
Jan 3	-8	-9.3	-10.4	-11.6	-12.4	-12.9	-11.2	-8.3	-7.3	-7.7	-7.6	-2.5	0.4	2.5	2.7	1.1	0.5	0.3	1.2	1	-0.4	-1.2	-1.4	-1.4	-12.9	2.7	-4.3
Jan 4	-1.4	-0.8	-0.8	-1.7	-2.6	-3.2	-3.6	-4.3	-4.4	-4.3	-3.4	-2.3	-0.7	0.2	1.1	-0.9	-4.7	-6.9	-8.5	-9.5	-6.2	-5	-5	-5.4	-9.5	1.1	-3.5
Jan 5	-4.6	-3.8	-2.8	-2.9	-4	-5	-4.7	-5	-4.8	-4.5	-3.9	-3.2	-2.5	-2	-1.8	-2.4	-5.2	-6.4	-9.2	-11.3	-11.8	-11.1	-10.8	-11	-11.8	-1.8	-5.6
Jan 6	-10.3	-7.3	-6.8	-6.8	-6.8	-6	-6.3	-6.6	-6.9	-7	-5.4	-4.7	-4	-3.3	-3.5	-3.6	-4.7	-6.5	-8.1	-9.5	-10.7	-11.8	-13.3	-10.7	-13.3	-3.3	-7.1
Jan 7	-11.8	-14	-11	-9.2	-12.1	-14.3	-15.2	-15.2	-15.6	-14.2	-9.6	-5.2	-1.9	0	0.3	-1.5	-5.1	-7.8	-9.7	-11.2	-12.1	-12.4	-13.4	-13.5	-15.6	0.3	-9.8
Jan 8	-13.2	-13.6	-13.9	-14.6	-15.3	-16.4	-17.3	-18.3	-18.7	-17.1	-12.9	-8.5	-7.1	-6.2	-5.2	-6.6	-9.6	-11.5	-12.6	-14.4	-15.2	-16.1	-16.9	-17.3	-18.7	-5.2	-13.3
Jan 9	-17.5	-18.1	-18.3	-18.8	-17	-14.1	-10.7	-10.2	-10.7	-10.6	-10.4	-9.4	-7.9	-6.6	-5.8	-6.2	-9.3	-11.6	-13	-14.1	-15.1	-16.2	-16.7	-17.5	-18.8	-5.8	-12.7
Jan 10	-18.1	-18.4	-18.8	-19.1	-19.6	-20.2	-20.2	-19.5	-17.2	-15.9	-13.3	-10.7	-8.8	-7.7	-7.1	-7.7	-9	-10.4	-9.5	-10.4	-12.5	-13.9	-14.6	-15.2	-20.2	-7.1	-14.1
Jan 11	-15.3	-15.5	-15.8	-15.8	-15.8	-16	-15.1	-13.9	-12.8	-10.9	-7.2	-4.8	-3.6	-1.5	-0.9	-1.4	-3.9	-4.2	-3.9	-4.4	-4.7	-4.1	-2.1	-2.5	-16.0	-0.9	-8.2
Jan 12	-4.5	-1.8	-1.5	-2.2	-2.4	-2.5	-3.2	-3.4	-4.2	-4.9	-3.5	-0.5	0.6	1.4	0.5	-3.1	-1.6	-0.5	-0.8	-2.2	-3.4	-5.2	-7.7	-9.4	-9.4	1.4	-2.8
Jan 13	-10.7	-11.5	-12	-11.4	-10.9	-10.4	-9.6	-8	-6.6	-5.2	-3.7	-2.5	-1.5	-0.5	-0.1	0.4	0.6	-0.1	-0.8	-1.4	-1.9	-2.5	-2.8	-2.9	-12.0	0.6	-4.8
Jan 14	-2.9	-2.9	-2.7	-2.1	-1.8	-2.1	-2.4	-2.6	-2.9	-2.9	-2.1	-1.5	-1.1	-0.7	-1.3	-1.6	-2.6	-3.9	-6.2	-9.2	-11.6	-12.8	-14.3	-15.1	-15.1	-0.7	-4.6
Jan 15	-16.1	-16.6	-17.1	-16.9	-16.8	-15.7	-14.9	-11.4	-10.4	-9.6	-8.4	-6.9	-4.7	-3.2	-2.5	-3	-5.4	-8.2	-10.6	-9.6	-5.3	-4.1	-4.5	-4	-17.1	-2.5	-9.4
Jan 16	-3.8	-3.6	-3.5	-2.4	-2	-2.9	-3	-3.5	-3.6	-2.9	-1.4	1	2.8	3.7	3.7	2.8	0.8	-1.4	-2.8	-3.8	-4.7	-5.5	-8.4	-10.2	-10.2	3.7	-2.3
Jan 17	-9.6	-12.3	-12.4	-11.8	-13.2	-12.7	-12	-10.6	-8.8	-7.2	-5.5	-3.7	-2.4	-1.6	-2.4	-2.6	-3.8	-4.1	-5.4	-7.5	-6.7	-4.5	-3.4	-5	-13.2	-1.6	-7.1
Jan 18	-6.7	-5.9	-4.4	-4.1	-3.8	-3.2	-3.2	-3.6	-3	-1.4	-0.5	-0.7	-1.1	-1.3	-1.2	-1.5	-2.4	-3.6	-5	-7.8	-10.4	-11.8	-10.8	-9.2	-11.8	-0.5	-4.4
Jan 19	-8.2	-7.6	-7.2	-8.9	-9.2	-9.6	-9.2	-7.8	-6.7	-5	-3.5	-1.6	-0.5	0.9	2.3	3	4.1	3.2	2.8	3.5	5	4.7	4.1	1.2	-9.6	5.0	-2.1
Jan 20	0.4	0	0	0.3	0.1	-0.4	-0.6	-0.4	-0.4	0.1	0.7	0.3	0.6	-1.5	-2.9	-3.8	-4.7	-5.6	-6.8	-7.4	-8	-8.4	-8.6	-9	-9.0	0.7	-2.8
Jan 21	-9.1	-9	-9	-9.1	-9.3	-9.2	-9.2	-9.5	-10.1	-9.5	-8.4	-7.5	-6.4	-5.9	-5.8	-5.9	-6.2	-6.5	-6.9	-7.1	-7.4	-7.6	-7.7	-7.7	-10.1	-5.8	-7.8
Jan 22	-7.7	-7.8	-7.8	-8.2	-8.4	-8.3	-8.5	-9.1	-10.2	-9.2	-8.3	-7.7	-7.1	-6.2	-5.7	-5.9	-6.9	-6.6	-7.1	-8.7	-11.3	-13.7	-16.1	-18.3	-18.3	-5.7	-9.0
Jan 23	-19.8	-21.1	-22.6	-23.7	-25	-26.2	-26.7	-27.5	-28.4	-28	-27.4	-26.7	-25.3	-24.7	-24.2	-24.7	-26.2	-29.1	-30.9	-32	-33.5	-34.5	-35.2	-35.8	-35.8	-19.8	-27.5
Jan 24	-36.6	-37.1	-37.2	-37.6	-38	-38.4	-37.5	-34.5	-33.2	-31.8	-29.4	-27.8	-26.3	-25.1	-24.4	-24.8	-26.1	-26.6	-26.9	-26.8	-26.4	-26.5	-27	-27.2	-38.4	-24.4	-30.6
Jan 25	-27.3	-27.6	-28.1	-28	-27.6	-27.4	-27.5	-27.3	-27	-26.7	-26	-25.3	-24.2	-23.4	-22.8	-22.4	-22.2	-22.2	-22.2	-22	-21.7	-21.4	-21.3	-21.5	-28.1	-21.3	-24.7
Jan 26	-21.7	-21.6	-21.5	-21.7	-21.6	-21.8	-22.2	-22.4	-22.4	-22.6	-22	-21.2	-20.4	-19.9	-19.5	-19.5	-19.5	-19.7	-19.5	-19.2	-18.9	-19	-19.2	-19.3	-22.6	-18.9	-20.7
Jan 27	-19.7	-20	-20	-20	-20	-20	-19.8	-19.9	-19.9	-19.7	-19.3	-18.6	-18	-17.5	-17.4	-17.5	-17.8	-18.1	-18	-17.8	-17.6	-17.4	-17.2	-17.4	-20.0	-17.2	-18.7
Jan 28	-17.9	-17.8	-17.7	-17.8	-17.7	-18.1	-17.4	-17.3	-17.1	-16.8	-15.9	-15.5	-14.8	-14.7	-14.5	-14.1	-14.6	-14.5	-14.9	-14.9	-15.1	-15.9	-15.5	-15	-18.1	-14.1	-16.1
Jan 29	-14.9	-14.6	-14.4	-14.3	-14	-14	-15	-16.6	-18.4	-16.8	-14.3	-13.2	-12.6	-11.8	-11.8	-12.2	-13.6	-16.8	-19.2	-20.8	-22.3	-23.4	-24.1	-24.8	-24.8	-11.8	-16.4
Jan 30	-25.8	-26.4	-27	-27.2	-25.4	-23.1	-21.9	-20.9	-20.4	-19.5	-18.2	-17.2	-15.6	-14.1	-13.4	-13.1	-13.8	-17	-19.5	-21.1	-22.2	-22.3	-21.6	-22.2	-27.2	-13.1	-20.4
Jan 31	-22.3	-23.1	-23.5	-24.3	-25.1	-25.6	-25.5	-25.9	-24.7	-21.3	-17.1	-15.1	-13.6	-12.3	-11.5	-11.4	-12.5	-13.2	-14.8	-15.7	-17.1	-17	-15.3	-14.2	-25.9	-11.4	-18.4
Diurnal Maximum	0.4	0.0	0.0	0.3	0.1	-0.4	-0.6	-0.4	-0.4	0.1	0.7	1.0	2.8	3.7	3.7	3.0	4.1	3.2	2.8	3.5	5.0	4.7	4.1	1.2			
Diurnal Average	-13.0	-13.1	-13.0	-13.2	-13.4	-13.6	-13.3	-13.0	-12.8	-12.0	-10.4	-8.9	-7.7	-6.9	-6.6	-7.1	-8.3	-9.5	-10.4	-11.3	-11.7	-12.1	-12.4	-12.7			

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 AT - Cold Lake South Station





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - January 2021

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

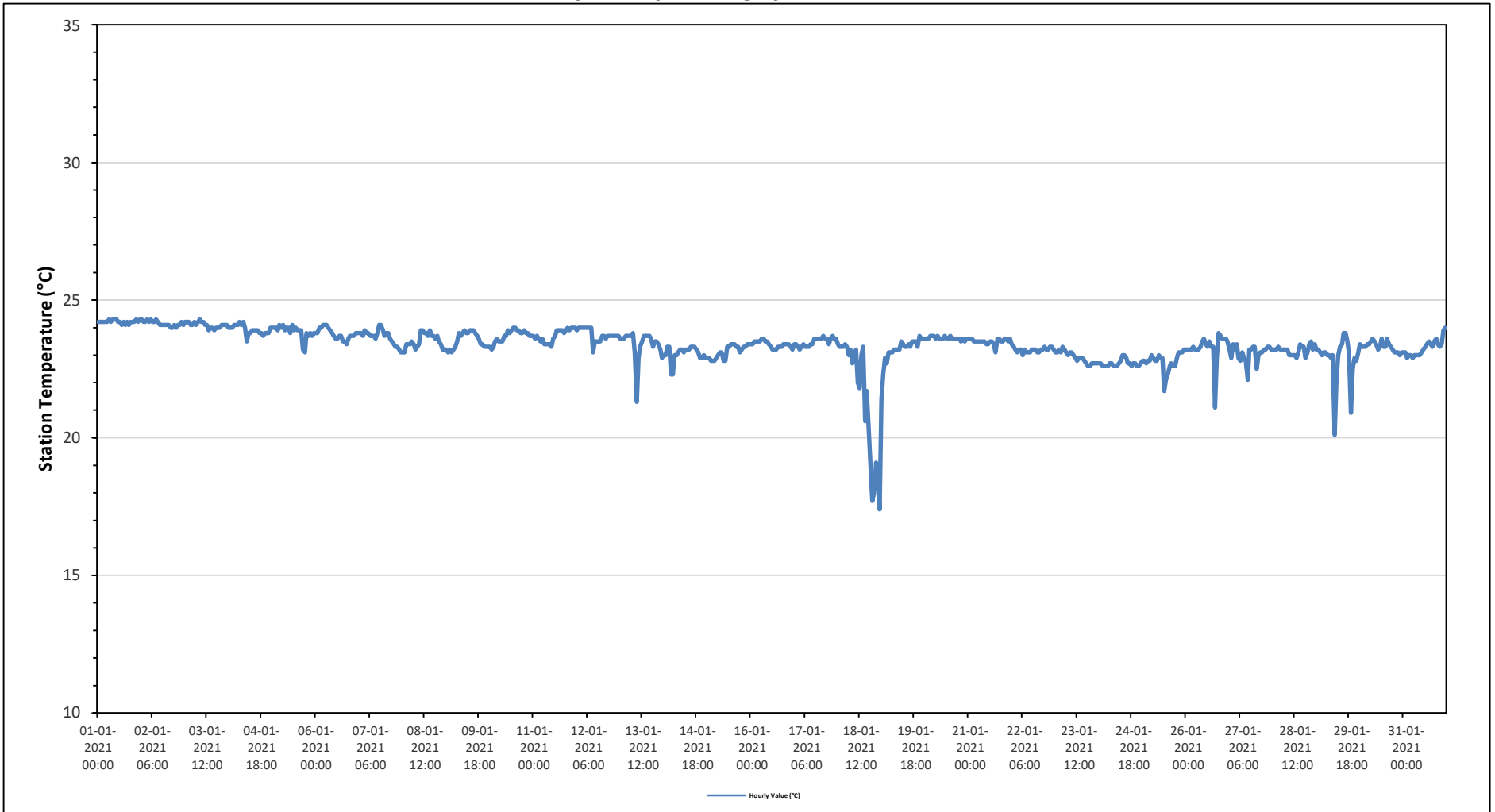
Maximum Hourly Value:	24.3 °C	on January 1 at hour 6	Hours in Service:	744
Maximum Daily Value:	24.2 °C	on January 1	Hours of Data:	744
Minimum Hourly Value:	17.4 °C	on January 18 at hour 23	Hours of Missing Data:	0
Minimum Daily Value:	21.6 °C	on January 18	Hours of Calibration:	0
Monthly Average:	23.4 °C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average				
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23			
Jan 1	24.2	24.2	24.2	24.2	24.2	24.2	24.3	24.2	24.3	24.3	24.3	24.2	24.2	24.1	24.2	24.1	24.2	24.1	24.2	24.2	24.2	24.3	24.2	24.3	24.1	24.3	24.2			
Jan 2	24.3	24.2	24.2	24.3	24.2	24.3	24.2	24.2	24.3	24.2	24.2	24.1	24.1	24.1	24.1	24.1	24.0	24.0	24.0	24.0	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.0	24.3	24.2
Jan 3	24.2	24.2	24.2	24.1	24.1	24.2	24.1	24.2	24.3	24.2	24.2	24.1	24.1	24.1	23.9	24.0	24.0	23.9	24.0	24.0	24.0	24.1	24.1	24.1	24.1	24.1	24.1	23.9	24.3	24.1
Jan 4	24.0	24.0	24.0	24.1	24.1	24.1	24.2	24.1	24.2	24.0	23.5	23.8	23.8	23.9	23.9	23.9	23.9	23.8	23.8	23.7	23.8	23.8	23.8	23.8	24.0	23.5	24.2	23.9	23.9	
Jan 5	24.0	24.0	24.0	23.9	24.1	24.0	24.1	23.9	24.0	24.0	23.8	24.1	23.9	24.0	23.9	23.9	23.9	23.2	23.1	23.8	23.7	23.8	23.7	23.8	23.1	24.1	23.9	23.9	23.8	
Jan 6	23.8	23.8	24.0	24.0	24.1	24.1	24.1	24.0	23.9	23.8	23.7	23.6	23.7	23.7	23.5	23.5	23.4	23.6	23.7	23.7	23.7	23.8	23.8	23.8	23.4	24.1	23.8	23.8	23.8	
Jan 7	23.8	23.8	23.7	23.9	23.8	23.8	23.7	23.7	23.7	23.6	23.8	24.1	24.1	23.9	23.7	23.8	23.8	23.6	23.5	23.4	23.3	23.3	23.2	23.1	23.1	24.1	23.7	23.7	23.5	
Jan 8	23.1	23.1	23.4	23.4	23.4	23.5	23.4	23.2	23.3	23.4	23.9	23.9	23.8	23.8	23.7	23.9	23.7	23.7	23.6	23.7	23.5	23.4	23.2	23.2	23.1	23.9	23.5	23.5	23.5	
Jan 9	23.2	23.1	23.2	23.1	23.2	23.3	23.5	23.5	23.8	23.7	23.8	23.9	23.8	23.8	23.9	23.9	23.8	23.7	23.6	23.4	23.4	23.3	23.3	23.3	23.1	23.9	23.9	23.5	23.5	
Jan 10	23.3	23.2	23.3	23.5	23.6	23.3	23.5	23.5	23.5	23.7	23.7	23.9	23.8	23.9	24.0	23.9	23.9	23.8	23.8	23.9	23.8	23.8	23.7	23.7	23.2	24.0	23.7	23.2	24.0	23.7
Jan 11	23.7	23.6	23.7	23.6	23.5	23.6	23.4	23.4	23.4	23.4	23.3	23.6	23.7	23.9	23.9	23.9	23.9	23.8	23.9	24.0	23.9	24.0	24.0	24.0	23.3	24.0	23.7	23.3	24.0	23.7
Jan 12	23.9	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	23.1	23.5	23.5	23.5	23.5	23.7	23.7	23.6	23.7	23.7	23.7	23.7	23.7	23.7	23.1	24.0	23.7	23.1	24.0	23.7
Jan 13	23.6	23.6	23.6	23.7	23.7	23.7	23.7	23.8	23.1	21.3	22.9	23.3	23.5	23.5	23.7	23.7	23.7	23.6	23.3	23.5	23.5	23.4	23.2	22.9	21.3	23.8	23.4	23.2	23.8	23.4
Jan 14	23.0	23.0	23.3	23.3	22.3	22.3	23.0	23.0	23.1	23.2	22.9	23.1	23.2	23.2	23.2	23.3	23.3	23.3	23.2	23.1	22.9	22.9	23.0	22.9	22.3	23.3	23.3	23.1	23.1	23.1
Jan 15	22.9	22.9	22.8	22.8	22.8	22.9	23.0	23.1	23.1	22.8	22.8	23.3	23.3	23.4	23.4	23.4	23.3	23.3	23.3	23.1	23.2	23.3	23.3	23.4	22.8	23.4	23.4	22.8	23.4	23.1
Jan 16	23.4	23.4	23.5	23.5	23.5	23.5	23.6	23.6	23.5	23.5	23.5	23.4	23.3	23.2	23.2	23.2	23.3	23.3	23.4	23.4	23.4	23.4	23.3	23.2	23.2	23.6	23.6	23.2	23.6	23.4
Jan 17	23.4	23.4	23.3	23.2	23.3	23.4	23.3	23.3	23.3	23.4	23.4	23.6	23.6	23.6	23.6	23.6	23.7	23.6	23.6	23.4	23.6	23.6	23.6	23.6	23.2	23.7	23.6	23.2	23.7	23.5
Jan 18	23.4	23.3	23.3	23.3	23.4	23.3	23.0	23.2	22.7	22.9	23.2	22.0	21.8	23.0	23.3	20.6	21.7	20.3	19.0	17.7	18.0	19.1	18.7	17.4	17.4	23.4	23.4	21.6	21.6	21.6
Jan 19	21.4	22.3	22.9	22.7	23.1	23.1	23.1	23.2	23.2	23.2	23.2	23.5	23.4	23.3	23.3	23.4	23.3	23.5	23.5	23.5	23.3	23.7	23.6	23.6	21.4	23.7	23.2	23.2	23.2	23.2
Jan 20	23.6	23.6	23.6	23.7	23.7	23.7	23.6	23.7	23.6	23.6	23.6	23.6	23.7	23.6	23.6	23.7	23.6	23.6	23.6	23.6	23.6	23.6	23.6	23.5	23.5	23.6	23.6	23.5	23.6	23.6
Jan 21	23.6	23.6	23.6	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.4	23.4	23.5	23.5	23.4	23.1	23.6	23.6	23.5	23.5	23.6	23.6	23.5	23.6	23.1	23.6	23.5	23.6	23.5	23.5
Jan 22	23.4	23.3	23.2	23.1	23.2	23.2	23.0	23.2	23.1	23.1	23.1	23.2	23.2	23.2	23.1	23.1	23.2	23.2	23.3	23.2	23.2	23.3	23.2	23.2	23.0	23.4	23.2	23.2	23.4	23.2
Jan 23	23.1	23.1	23.2	23.1	23.3	23.2	23.1	23.0	23.1	23.1	23.0	22.9	22.8	22.9	22.9	22.9	22.8	22.7	22.6	22.6	22.7	22.6	22.6	22.7	22.6	23.3	23.3	23.2	22.6	22.9
Jan 24	22.7	22.7	22.6	22.6	22.6	22.6	22.7	22.7	22.6	22.6	22.6	22.6	22.7	22.8	23.0	23.0	22.9	22.7	22.7	22.6	22.7	22.6	22.6	22.6	22.6	23.0	23.0	22.6	22.6	22.7
Jan 25	22.8	22.8	22.7	22.8	22.8	23.0	22.9	22.8	22.8	23.0	22.9	22.9	22.9	21.7	22.1	22.3	22.6	22.7	22.6	22.6	22.9	23.1	23.1	23.1	23.2	21.7	23.2	23.2	22.7	22.8
Jan 26	23.2	23.2	23.2	23.2	23.3	23.2	23.2	23.2	23.3	23.5	23.6	23.4	23.3	23.5	23.3	23.3	21.1	22.9	23.8	23.7	23.6	23.6	23.6	23.5	21.1	23.8	23.3	23.3	23.3	23.3
Jan 27	23.2	22.9	23.4	23.2	23.4	22.9	22.8	23.1	22.9	22.8	22.1	23.2	23.2	23.3	23.3	22.5	23.0	23.1	23.1	23.2	23.2	23.3	23.3	23.2	22.1	23.4	23.2	23.2	23.4	23.1
Jan 28	23.2	23.2	23.2	23.3	23.2	23.2	23.2	23.2	23.2	23.0	23.0	23.0	23.0	22.9	23.1	23.4	23.3	23.3	22.9	23.1	23.4	23.5	23.2	23.4	22.9	23.5	23.2	23.4	23.2	23.2
Jan 29	23.2	23.2	23.1	23.0	23.1	23.1	23.0	23.0	22.9	23.0	20.1	22.1	23.0	23.3	23.4	23.8	23.8	23.5	23.1	20.9	22.5	22.9	22.8	23.1	20.1	23.8	23.8	22.9	22.9	22.9
Jan 30	23.4	23.3	23.3	23.3	23.4	23.4	23.5	23.6	23.5	23.4	23.2	23.3	23.6	23.3	23.3	23.6	23.4	23.3	23.2	23.1	23.1	23.1	23.0	23.1	23.0	23.6	23.6	23.3	23.3	23.3
Jan 31	23.1	23.1	22.9	23.0	23.0	22.9	23.0	23.0	23.0	23.0	23.1	23.2	23.3	23.4	23.5	23.4	23.3	23.5	23.6	23.4	23.3	23.4	23.9	24.0	22.9	24.0	23.3	23.3	23.3	23.3
Diurnal Maximum	24.3	24.2	24.2	24.3	24.2	24.3	24.3	24.2	24.3	24.3	24.3	24.2	24.2	24.1	24.2	24.1	24.2	24.1	24.2	24.2	24.2	24.3	24.2	24.3	24.2	24.3	24.3	24.3	24.3	24.3
Diurnal Average	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.5	23.4	23.3	23.3	23.4	23.4	23.5	23.5	23.4	23.4	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3

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 ST - Cold Lake South Station





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - January 2021

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

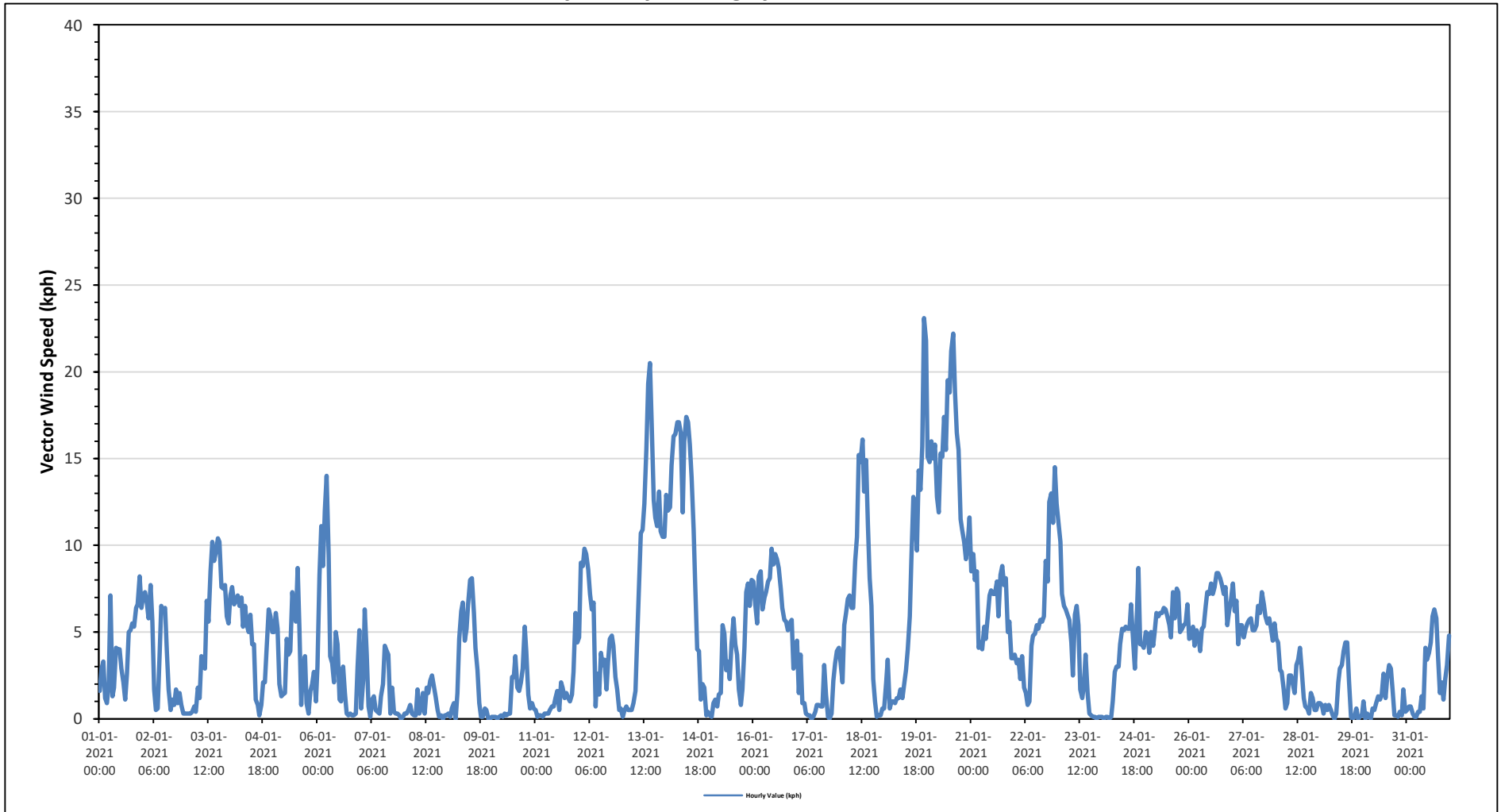
Maximum Hourly Value:	23.1 kph	on January 19 at hour 22	Hours in Service:	744
Maximum Daily Value:	13.2 kph	on January 20	Hours of Data:	744
Minimum Hourly Value:	0.0 kph	on January 7 at hour 22	Hours of Missing Data:	0
Minimum Daily Value:	0.4 kph	on January 8	Hours of Calibration:	0
Monthly Average:	1.2 kph		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Jan 1	1.6	2.9	3.3	1.2	0.9	1.9	7.1	1.3	1.8	4.1	4.0	4.0	2.9	2.1	1.1	2.6	5.0	5.1	5.5	5.3	6.4	6.6	8.2	6.4	0.9	8.2	1.7
Jan 2	7.1	7.3	6.6	5.8	7.7	5.6	1.7	0.5	0.6	3.9	6.5	6.2	6.4	3.9	1.7	0.5	1.1	0.8	1.7	0.9	1.5	0.8	0.3	0.3	0.3	7.7	1.5
Jan 3	0.3	0.3	0.3	0.4	0.7	0.4	1.8	1.2	3.6	3.1	2.9	6.8	5.6	8.5	10.2	9.1	9.6	10.4	10.2	7.6	7.5	7.7	5.9	5.5	0.3	10.4	4.9
Jan 4	7.1	7.6	6.6	6.8	7.1	6.5	7.0	5.3	6.5	5.4	5.0	6.0	4.3	4.3	1.1	0.8	0.2	0.8	2.1	2.1	4.1	6.3	5.9	5.0	0.2	7.6	2.6
Jan 5	5.0	6.1	5.2	2.0	1.3	1.4	1.5	4.6	3.7	3.9	7.3	6.2	5.6	8.7	5.2	0.8	3.0	3.6	0.9	0.3	1.6	2.0	2.7	1.0	0.3	8.7	1.0
Jan 6	3.0	8.3	11.1	8.8	12.0	14.0	9.5	3.6	3.2	2.1	5.0	4.3	1.1	1.0	3.0	1.5	0.3	0.2	0.3	0.2	0.2	0.3	3.0	5.1	0.2	14.0	3.3
Jan 7	0.6	2.2	6.3	3.7	0.7	0.1	1.1	1.3	0.5	0.4	0.3	1.3	2.0	4.2	3.9	3.7	0.3	1.8	0.4	0.3	0.3	0.2	0.0	0.1	0.0	6.3	1.2
Jan 8	0.3	0.3	0.5	0.8	0.3	0.2	0.2	1.7	0.3	0.6	1.5	0.3	1.8	1.5	2.2	2.5	1.9	1.3	0.5	0.1	0.2	0.0	0.2	0.2	0.0	2.5	0.4
Jan 9	0.3	0.1	0.6	0.9	0.0	1.5	4.6	6.2	6.7	4.5	5.2	6.6	8.0	8.1	6.1	4.1	2.8	0.9	0.1	0.1	0.6	0.5	0.0	0.0	0.0	8.1	2.7
Jan 10	0.1	0.1	0.1	0.0	0.1	0.2	0.1	0.3	0.2	0.3	0.3	2.4	2.4	3.6	1.8	1.6	2.1	2.9	5.3	3.9	1.4	0.6	0.9	0.6	0.0	5.3	0.9
Jan 11	0.5	0.1	0.2	0.2	0.1	0.3	0.3	0.3	0.5	0.7	0.7	1.2	1.6	0.5	2.1	1.8	1.2	1.5	1.2	1.0	1.4	2.7	6.1	4.4	0.1	6.1	0.8
Jan 12	4.7	9.0	8.8	9.8	9.5	8.6	7.2	6.3	6.7	0.7	2.6	1.4	3.8	3.1	3.4	1.7	3.3	4.6	4.8	4.2	2.4	1.7	0.5	0.6	0.5	9.8	2.4
Jan 13	0.1	0.5	0.7	0.5	0.5	0.5	0.9	1.6	4.3	7.7	10.7	10.9	12.4	15.6	19.3	20.5	16.9	12.6	11.6	11.1	13.1	10.8	10.5	10.5	0.1	20.5	6.4
Jan 14	12.9	12.0	12.2	14.6	16.3	16.4	17.1	17.1	16.5	11.9	16.0	17.4	17.1	15.8	13.9	10.9	7.8	4.0	3.9	1.1	2.0	1.8	0.2	0.4	0.2	17.4	10.4
Jan 15	0.2	0.1	0.9	1.1	0.7	1.4	1.5	5.4	4.9	2.8	3.3	2.3	4.3	5.8	4.3	3.7	1.7	0.8	1.7	4.1	7.3	7.8	6.5	8.0	0.1	8.0	2.0
Jan 16	7.9	6.7	5.5	8.2	8.5	6.3	7.0	7.3	7.9	8.1	9.8	8.9	9.5	9.2	8.7	7.5	6.4	5.7	5.6	5.1	5.5	5.7	2.9	4.0	2.9	9.8	6.9
Jan 17	4.5	1.5	3.7	0.9	0.9	0.3	0.2	0.2	0.0	0.1	0.4	0.8	0.8	0.7	0.7	3.1	1.4	0.1	0.0	0.3	2.2	3.2	3.9	4.1	0.0	4.5	0.9
Jan 18	3.3	2.1	5.4	6.1	6.9	7.1	6.4	6.4	9.1	10.5	15.2	14.8	16.1	13.1	14.9	11.2	8.1	6.5	2.3	1.0	0.1	0.2	0.2	0.6	0.1	16.1	5.8
Jan 19	0.6	2.1	3.4	0.6	1.0	1.0	0.9	1.2	1.2	1.7	1.2	1.9	2.8	4.0	5.9	9.1	12.8	11.6	9.7	14.3	13.2	15.7	23.1	21.8	0.6	23.1	5.6
Jan 20	15.1	14.8	16.0	15.0	15.8	12.8	11.9	15.3	15.1	17.4	15.5	19.5	18.8	21.2	22.2	18.8	16.5	15.5	11.5	10.9	10.2	9.2	10.1	11.6	9.2	22.2	13.2
Jan 21	8.5	9.5	8.0	8.5	4.1	4.4	4.0	5.3	4.6	5.9	7.1	7.4	7.2	7.2	7.9	5.9	8.3	8.8	7.7	8.1	5.0	5.6	3.5	3.5	3.5	9.5	5.3
Jan 22	3.7	3.2	3.4	2.3	3.6	1.8	1.5	0.8	1.0	4.2	4.8	4.9	5.4	5.2	5.7	5.6	5.9	9.1	7.9	12.5	13.0	11.3	14.5	12.4	0.8	14.5	4.0
Jan 23	11.2	10.2	7.2	6.5	6.3	6.0	5.7	4.4	2.5	6.0	6.5	5.4	1.7	1.2	1.9	3.7	1.5	0.3	0.2	0.1	0.1	0.0	0.1	0.1	0.0	11.2	3.2
Jan 24	0.1	0.0	0.1	0.1	0.0	0.1	1.0	2.7	3.0	3.0	4.3	5.2	5.1	5.3	5.2	5.2	6.6	4.8	2.9	5.1	8.7	4.3	4.3	4.1	0.0	8.7	3.2
Jan 25	5.0	4.9	3.8	5.0	4.2	5.0	6.1	5.9	6.1	6.1	6.4	6.3	5.9	5.4	4.7	7.3	5.8	7.5	7.3	5.0	5.2	5.4	5.5	6.6	3.8	7.5	5.6
Jan 26	4.6	4.7	5.3	4.2	5.1	4.8	3.9	5.2	5.3	6.5	7.3	7.2	7.8	7.2	7.6	8.4	8.4	8.1	7.7	7.2	7.6	5.4	6.2	6.8	3.9	8.4	6.3
Jan 27	7.8	6.2	6.8	4.3	5.4	5.4	4.7	5.2	5.5	5.7	5.8	5.1	5.1	5.4	6.5	6.1	7.3	6.6	5.9	5.5	5.8	5.2	4.5	5.5	4.3	7.8	5.7
Jan 28	4.6	4.4	2.8	2.7	1.7	0.6	0.9	2.5	2.5	2.0	1.5	3.1	3.4	4.1	2.8	1.2	0.7	0.6	0.3	1.5	1.2	0.5	0.5	0.9	0.3	4.6	0.4
Jan 29	0.9	0.8	0.3	0.8	0.5	0.8	0.5	0.2	0.0	0.3	2.1	2.9	3.1	3.9	4.4	4.4	2.2	0.1	0.0	0.1	0.6	0.0	0.1	0.2	0.0	4.4	1.0
Jan 30	1.0	0.0	0.3	0.1	0.0	0.6	0.5	0.9	1.3	1.1	1.4	2.6	1.2	2.3	3.1	2.9	1.6	0.2	0.2	0.1	0.4	0.2	1.7	0.4	0.0	3.1	0.7
Jan 31	0.5	0.7	0.7	0.3	0.1	0.1	0.4	0.4	1.3	0.6	4.1	3.4	3.8	4.4	5.9	6.3	5.8	3.5	1.5	2.1	1.1	2.3	3.1	4.8	0.1	6.3	2.3
Diurnal Maximum	15	15	16	15	16	16	17	17	17	17	16	20	19	21	22	21	17	16	12	14	13	16	23	22			
Diurnal Average	4.0	4.2	4.4	3.9	3.9	3.7	3.8	3.9	4.1	4.2	5.3	5.7	5.7	6.0	6.0	5.6	5.0	4.5	3.9	3.9	4.2	4.0	4.4	4.4			

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

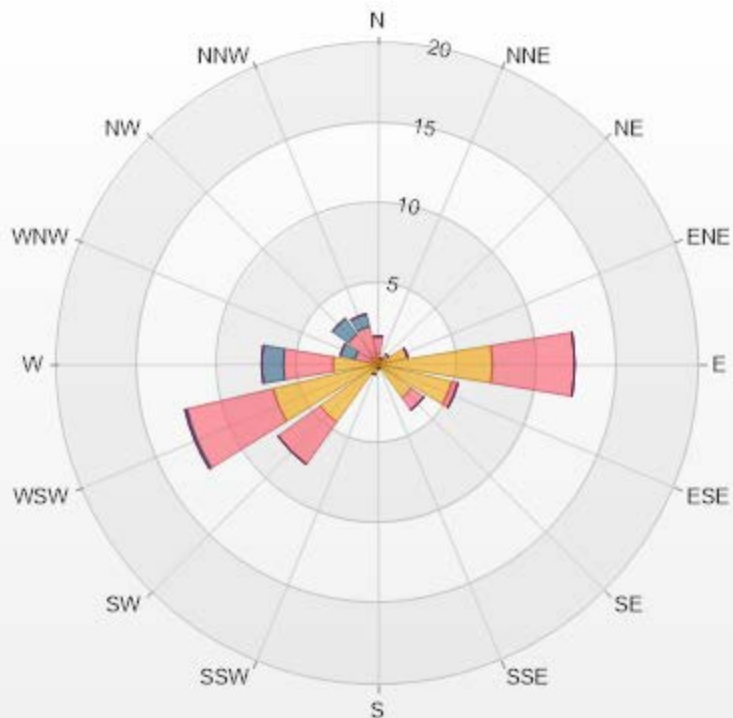
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

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



Wind: Cold Lake South Monitor: WDS [kph] Monthly: 01-2021 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 36.69% 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	0.67	1.08	0	0	0	1.75
NNE	0.27	0.13	0	0	0	0.4
NE	0.4	0.4	0	0	0	0.8
ENE	1.88	0	0	0	0	1.88
E	7.12	5.11	0	0	0	12.23
ESE	4.7	0.4	0	0	0	5.1
SE	2.55	0.94	0	0	0	3.49
SSE	0.27	0	0	0	0	0.27
S	0.27	0	0	0	0	0.27
SSW	0.67	0	0	0	0	0.67
SW	4.44	3.23	0	0	0	7.67
WSW	6.72	5.51	0.13	0	0	12.36
W	2.82	3.09	1.34	0	0	7.25
WNW	0.27	1.21	0.94	0	0	2.42
NW	0.54	1.75	1.21	0	0	3.5
NNW	0.4	2.02	0.81	0	0	3.23
Summary	33.99	24.87	4.43	0	0	63.29



LICA-202101

% Icon Classes (kph)

34 1.8-6.0

25 6.0-15.0

4 15.0-29.0

0 29.0-39.0

0 >39.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

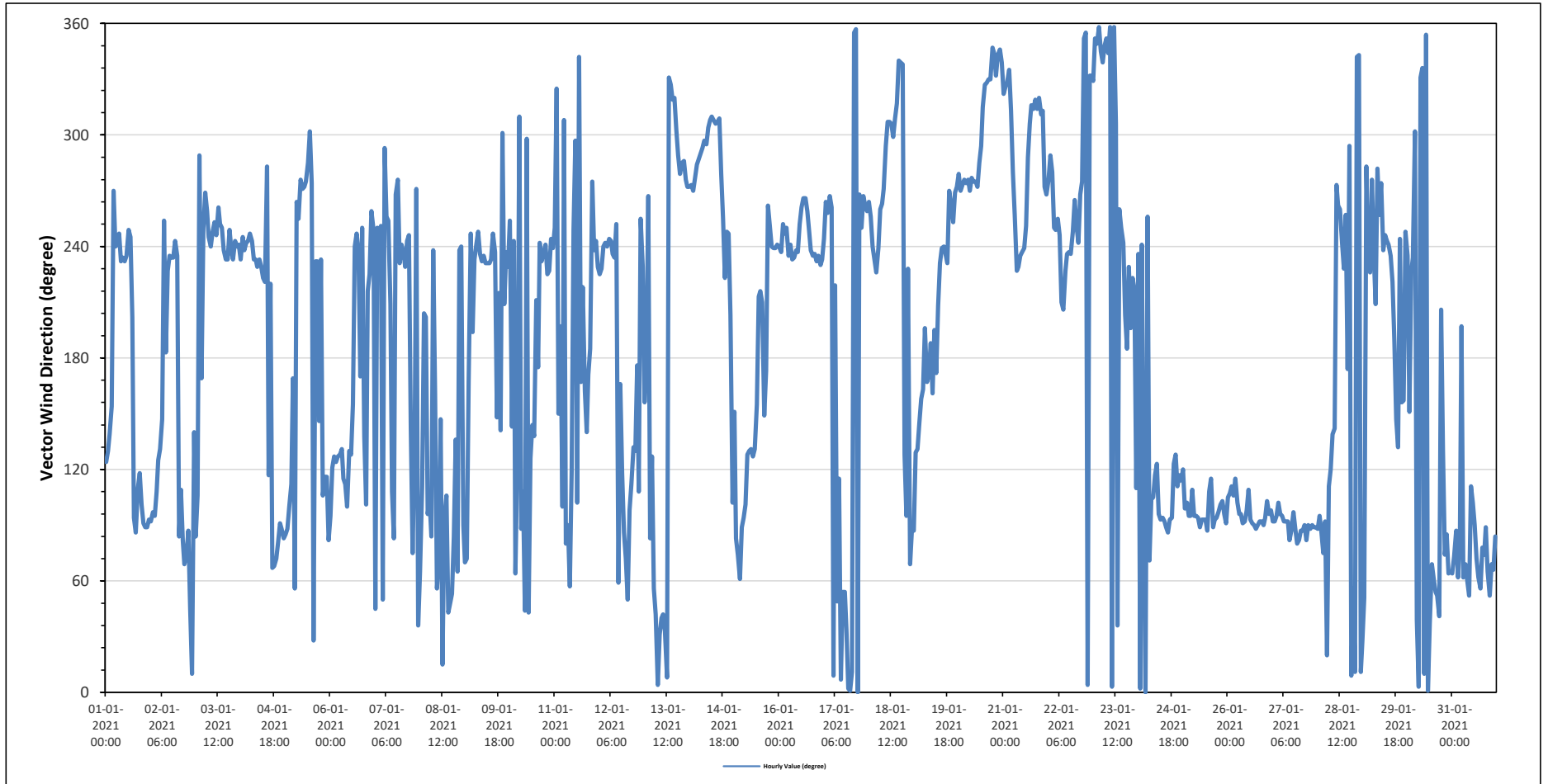
Cold Lake South Station - January 2021

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

Monthly Average:		273 (W) degree										Hours in Service:		744																													
												Hours of Data:		744																													
												Hours of Missing Data:		0																													
												Hours of Calibration:		0																													
												Operational Uptime:		100.0																													
Day	Hourly Period Starting at (MST)																							Daily Average																			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Degree	Quadrant																	
Jan 1	ESE	SE	SE	SSE	W	WSW	WSW	WSW	SW	SW	SW	SW	WSW	WSW	SSW	E	E	ESE	ESE	E	E	E	E	E	133	SE																	
Jan 2	E	E	E	ESE	SE	SE	SE	WSW	S	SW	SW	SW	WSW	SW	E	ESE	E	ENE	ENE	E	NE	N	SE	144	SE																		
Jan 3	E	ESE	WNW	SSE	WSW	W	WSW	WSW	WSW	WSW	WSW	WSW	W	WSW	WSW	SW	SW	WSW	SW	WSW	WSW	WSW	WSW	243	WSW																		
Jan 4	SW	WSW	SW	WSW	WSW	WSW	WSW	SW	SW	SW	SW	SW	SW	SW	W	ESE	SW	ENE	ENE	ENE	E	E	E	226	SW																		
Jan 5	E	E	E	ESE	SSE	NE	W	WSW	W	W	W	WNW	WNW	W	NNE	SW	SE	SW	ESE	ESE	ESE	E	266	W																			
Jan 6	E	ESE	SE	ESE	SE	SE	SE	ESE	ESE	E	SE	SE	SSE	WSW	WSW	SW	SSE	WSW	SE	E	SW	SW	WSW	133	SE																		
Jan 7	NE	WSW	WSW	WSW	NE	WNW	WSW	WSW	SSW	ESE	E	W	W	SW	WSW	SW	SW	WSW	WSW	SE	ENE	SE	W	244	WSW																		
Jan 8	ENE	ESE	SSW	SSW	E	ESE	E	SW	SSE	NE	ENE	SE	NNE	E	ESE	NE	NE	E	SE	ENE	SW	WSW	E	74	ENE																		
Jan 9	ENE	ENE	SSE	WSW	SSW	SW	WSW	WSW	SW	SW	SW	SW	SW	SW	SW	SE	SSW	SE	WNW	SSW	SW	SW	235	SW																			
Jan 10	WSW	SE	WSW	ENE	ESE	NW	E	ESE	NE	WNW	NE	SE	SE	SE	SSW	S	WSW	SW	SW	WSW	SW	WSW	207	SSW																			
Jan 11	WSW	NW	SSE	SSW	E	NW	E	ENE	ESE	WSW	WNW	E	NNW	SSE	SW	SSE	SE	S	S	W	SW	WSW	216	SW																			
Jan 12	SW	SW	WSW	WSW	WSW	WSW	WSW	SW	SW	WSW	ENE	SSE	ESE	E	ENE	NE	E	ESE	SE	SE	S	ESE	WSW	213	SSW																		
Jan 13	SSE	S	W	E	SE	NE	NE	N	NNE	NE	NE	NNE	N	NNW	NW	NW	NW	WNW	WNW	W	WNW	WNW	W	321	NW																		
Jan 14	W	W	W	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NW	W	WSW	SW	WSW	SSW	E	292	WNW																		
Jan 15	SSE	E	ENE	ENE	E	E	E	SE	SE	SE	SE	SSE	SSW	SW	SSW	SSE	S	W	WSW	WSW	WSW	WSW	199	SSW																			
Jan 16	WSW	SW	WSW	WSW	WSW	SW	WSW	SW	SW	SW	SW	WSW	W	W	W	WSW	WSW	SW	SW	SW	SW	SW	SW	245	WSW																		
Jan 17	WSW	W	WSW	W	W	N	SW	NE	ESE	N	NE	NE	N	N	NNE	N	N	W	WSW	W	W	WSW	276	W																			
Jan 18	W	WSW	WSW	SW	SW	WSW	WSW	W	W	WNW	NW	NW	WNW	NW	NW	NNW	NNW	NNW	SE	E	SW	ENE	E	293	WNW																		
Jan 19	E	SE	SE	SE	SSE	SSE	SSW	SSE	S	S	SSE	SSW	S	SSW	SW	WSW	WSW	SW	SW	W	W	WSW	W	247	WSW																		
Jan 20	W	W	W	W	W	W	W	W	W	W	W	WNW	WNW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	301	WNW																		
Jan 21	NW	NW	NNW	NNW	NW	W	WSW	SW	SW	SW	SW	WSW	WSW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	W	295	WNW																		
Jan 22	W	WNW	W	WSW	WSW	WSW	WSW	SSW	SSW	SW	SW	SW	WSW	W	WSW	WSW	W	W	N	N	N	NNW	NNW	294	WNW																		
Jan 23	NNW	N	NNW	N	NNW	NNW	NNW	N	NNW	N	N	N	NW	NE	WSW	WSW	SSW	S	SW	SSW	SW	SW	ESE	343	NNW																		
Jan 24	SW	N	WSW	E	N	WSW	ENE	ESE	ESE	ESE	E	E	E	E	E	E	E	ESE	SE	ESE	ESE	ESE	ESE	104	ESE																		
Jan 25	ESE	E	E	E	E	ESE	E	E	E	E	E	E	E	E	ESE	ESE	E	E	E	E	E	ESE	E	97	E																		
Jan 26	ESE	ESE	ESE	ESE	ESE	E	E	E	E	E	E	ESE	E	E	E	E	E	E	E	E	ESE	E	E	97	E																		
Jan 27	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	90	E																		
Jan 28	E	E	E	ENE	E	NNE	ESE	ESE	SE	SE	W	W	WSW	WSW	SW	WSW	S	WNW	N	NE	NNE	NNW	NNW	122	ESE																		
Jan 29	NNE	NE	W	SW	SW	W	SSW	W	WSW	W	SW	WSW	WSW	WSW	SW	SW	S	SE	SE	WSW	SSE	SSE	WSW	243	WSW																		
Jan 30	SW	SSE	SW	SW	WNW	NE	N	NNW	NNW	N	N	N	NE	ENE	ENE	NE	NE	SSW	SE	ENE	E	ENE	ENE	36	NE																		
Jan 31	ENE	ENE	E	ENE	E	SSW	ENE	ENE	ENE	NE	ESE	E	E	ENE	ENE	NE	ENE	ENE	E	ENE	NE	ENE	ENE	76	ENE																		
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 (Machine Malfunction /Recovery)										NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)																															
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.																																											
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.																																											

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





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - January 2021

Summary of Hourly Averages

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

WIND SPEED																											
Maximum Hourly Value:		23.1 kph on January 19 at hour 22														Hours in Service:		744									
Maximum Daily Value:		13.2 kph on January 20														Hours of Data:		744									
Minimum Hourly Value:		0.0 kph on January 7 at hour 22														Hours of Missing Data:		0									
Minimum Daily Value:		0.4 kph on January 8														Hours of Calibration:		0									
Monthly Average:		1.2 kph														Operational Uptime:		100									
WIND DIRECTION																											
Monthly Average:		273 (W) 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			
Jan 1	1.6	2.9	3.3	1.2	0.9	1.9	7.1	1.3	1.8	4.1	4.0	4.0	2.9	2.1	1.1	2.6	5.0	5.1	5.5	5.3	6.4	6.6	8.2	6.4	0.9	8.2	1.7
	ESE	SE	SE	SSE	W	WSW	WSW	WSW	SW	SW	SW	WSW	WSW	SSW	E	E	ESE	ESE	E	E	E	E	E	E			
Jan 2	7.1	7.3	6.6	5.8	7.7	5.6	1.7	0.5	0.6	3.9	6.5	6.2	6.4	3.9	1.7	0.5	1.1	0.8	1.7	0.9	1.5	0.8	0.3	0.3	0.3	7.7	1.5
	E	E	E	ESE	SE	SE	SE	WSW	S	SW	SW	SW	WSW	SW	E	ESE	E	ENE	ENE	E	NE	N	SE				
Jan 3	0.3	0.3	0.3	0.4	0.7	0.4	1.8	1.2	3.6	3.1	2.9	6.8	5.6	8.5	10.2	9.1	9.6	10.4	10.2	7.6	7.5	7.7	5.9	5.5	0.3	10.4	4.9
	E	ESE	WNW	SSE	WSW	W	WSW	WSW	WSW	WSW	WSW	W	WSW	WSW	SW	SW	SW	WSW	SW	WSW	SW	WSW	WSW	WSW			
Jan 4	7.1	7.6	6.6	6.8	7.1	6.5	7.0	5.3	6.5	5.4	5.0	6.0	4.3	4.3	1.1	0.8	0.2	0.8	2.1	2.1	4.1	6.3	5.9	5.0	0.2	7.6	2.6
	SW	WSW	SW	WSW	WSW	WSW	SW	SW	SW	SW	SW	SW	SW	SW	W	ESE	SW	ENE	ENE	ENE	E	E	E	E			
Jan 5	5.0	6.1	5.2	2.0	1.3	1.4	1.5	4.6	3.7	3.9	7.3	6.2	5.6	8.7	5.2	0.8	3.0	3.6	0.9	0.3	1.6	2.0	2.7	1.0	0.3	8.7	1.0
	E	E	E	ESE	NE	W	WSW	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W			
Jan 6	3.0	8.3	11.1	8.8	12.0	14.0	9.5	3.6	3.2	2.1	5.0	4.3	1.1	1.0	3.0	1.5	0.3	0.2	0.3	0.2	0.2	0.3	3.0	5.1	0.2	14.0	3.3
	E	ESE	SE	ESE	SE	SE	ESE	ESE	E	SE	SE	SSE	WSW	WSW	SW	SSE	WSW	SE	E	SW	SW	WSW	WSW				
Jan 7	0.6	2.2	6.3	3.7	0.7	0.1	1.1	1.3	0.5	0.4	0.3	1.3	2.0	4.2	3.9	3.7	0.3	1.8	0.4	0.3	0.3	0.2	0.0	0.1	0.0	6.3	1.2
	NE	WSW	WSW	WSW	NE	WNW	WSW	WSW	SSW	ESE	E	W	W	SW	WSW	SW	SW	WSW	WSW	SE	ENE	SE	W	NE			
Jan 8	0.3	0.3	0.5	0.8	0.3	0.2	0.2	1.7	0.3	0.6	1.5	0.3	1.8	1.5	2.2	2.5	1.9	1.3	0.5	0.1	0.2	0.0	0.2	0.2	0.0	2.5	0.4
	ENE	ESE	SSW	SSW	E	ESE	E	SW	SSE	NE	ENE	SE	NNE	E	ESE	NE	NE	E	SE	ENE	SW	WSW	E				
Jan 9	0.3	0.1	0.6	0.9	0.0	1.5	4.6	6.2	6.7	4.5	5.2	6.6	8.0	8.1	6.1	4.1	2.8	0.9	0.1	0.1	0.6	0.5	0.0	0.0	0.0	8.1	2.7
	ENE	ENE	SSE	WSW	SSW	SW	WSW	WSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SE	SSW	SE	WNW	SSW	SW	SW			
Jan 10	0.1	0.1	0.1	0.0	0.1	0.2	0.1	0.3	0.2	0.3	0.3	2.4	2.4	3.6	1.8	1.6	2.1	2.9	5.3	3.9	1.4	0.6	0.9	0.6	0.0	5.3	0.9
	WSW	SE	WSW	ENE	ESE	NW	E	ESE	NE	WNW	NE	SE	SE	SE	SSW	S	WSW	SW	SW	WSW	SW	WSW	WSW	WSW			
Jan 11	0.5	0.1	0.2	0.2	0.1	0.3	0.3	0.3	0.5	0.7	0.7	1.2	1.6	0.5	2.1	1.8	1.2	1.5	1.2	1.0	1.4	2.7	6.1	4.4	0.1	6.1	0.8
	WSW	NW	SSE	SSW	E	NW	E	E	ENE	ESE	WSW	WNW	E	NNW	SSE	SW	SSE	SE	S	W	SW	WSW	SW				
Jan 12	4.7	9.0	8.8	9.8	9.5	8.6	7.2	6.3	6.7	0.7	2.6	1.4	3.8	3.1	3.4	1.7	3.3	4.6	4.8	4.2	2.4	1.7	0.5	0.6	0.5	9.8	2.4
	SW	SW	WSW	WSW	WSW	WSW	WSW	SW	WSW	ENE	SSE	ESE	E	ENE	NE	E	ESE	SE	SE	S	ESE	WSW	SW				
Jan 13	0.1	0.5	0.7	0.5	0.5	0.5	0.9	1.6	4.3	7.7	10.7	10.9	12.4	15.6	19.3	20.5	16.9	12.6	11.6	11.1	13.1	10.8	10.5	10.5	0.1	20.5	6.4
	SSE	S	W	E	SE	NE	NE	N	NNE	NE	NE	NNE	N	NNW	NW	NW	NW	NW	WNW	WNW	W	WNW	WNW	W			
Jan 14	12.9	12.0	12.2	14.6	16.3	16.4	17.1	17.1	16.5	11.9	16.0	17.4	17.1	15.8	13.9	10.9	7.8	4.0	3.9	1.1	2.0	1.8	0.2	0.4	0.2	17.4	10.4
	W	W	W	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NW	W	WSW	SW	WSW	WSW	SSW	E			
Jan 15	0.2	0.1	0.9	1.1	0.7	1.4	1.5	5.4	4.9	2.8	3.3	2.3	4.3	5.8	4.3	3.7	1.7	0.8	1.7	4.1	7.3	7.8	6.5	8.0	0.1	8.0	2.0
	SSE	E	ENE	ENE	E	E	E	SE	SE	SE	SE	SE	SSE	SSW	SW	SSW	SSE	S	W	WSW	WSW	WSW	WSW	WSW			
Jan 16	7.9	6.7	5.5	8.2	8.5	6.3	7.0	7.3	7.9	8.1	9.8	8.9	9.5	9.2	8.7	7.5	6.4	5.7	5.6	5.1	5.5	5.7	2.9	4.0	2.9	9.8	6.9
	WSW	SW	WSW	WSW	WSW	SW	WSW	SW	SW	SW	WSW	W	W	WSW	WSW	SW	SW	WSW	SW	SW	SW	SW	SW	SW			
Jan 17	4.5	1.5	3.7	0.9	0.9	0.3	0.2	0.2	0.0	0.1	0.4	0.8	0.8	0.7	0.7	3.1	1.4	0.1	0.0	0.3	2.2	3.2	3.9	4.1	0.0	4.5	0.9
	WSW	W	WSW	W	W	N	SW	NE	ESE	N	NE	NE	N	N	NNE	N	N	N	W	WSW	W	W	WSW	W			
Jan 18	3.3	2.1	5.4	6.1	6.9	7.1	6.4	6.4	9.1	10.5	15.2	14.8	16.1	13.1	14.9	11.2	8.1	6.5	2.3	1.0	0.1	0.2	0.2	0.6	0.1	16.1	5.8
	W	WSW	WSW	SW	SW	WSW	W	W	WNW	NW	NW	NW	WNW	NW	NW	NW	NNW	NNW	NNW	SE	E	SW	ENE	E			
Jan 19	0.6	2.1	3.4	0.6	1.0	1.0	0.9	1.2	1.2	1.7	1.2	1.9	2.8	4.0	5.9	9.1	12.8	11.6	9.7	14.3	13.2	15.7	23.1	21.8	0.6	23.1	5.6
	E	SE	SE	SE	SSE	SSE	SSW	SSE	S	S	SSE	SSW	S	SSW	SW	WSW	WSW	SW	SW	W	W	WSW	W	W			
Jan 20	15.1	14.8	16.0	15.0	15.8	12.8	11.9	15.3	15.1	17.4	15.5	19.5	18.8	21.2	22.2	18.8	16.5	15.5	11.5	10.9	10.2	9.2	10.1	11.6	9.2	22.2	13.2
	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W			



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - January 2021

Summary of Hourly Averages

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

WIND SPEED																																		
Maximum Hourly Value:	23.1	kph	on January 19 at hour 22													Hours in Service:	744																	
Maximum Daily Value:	13.2	kph	on January 20													Hours of Data:	744																	
Minimum Hourly Value:	0.0	kph	on January 7 at hour 22													Hours of Missing Data:	0																	
Minimum Daily Value:	0.4	kph	on January 8													Hours of Calibration:	0																	
Monthly Average:	1.2	kph														Operational Uptime:	100																	
WIND DIRECTION																																		
Monthly Average:	273	(W)	degree																															
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average								
Jan 21	8.5	9.5	8.0	8.5	4.1	4.4	4.0	5.3	4.6	5.9	7.1	7.4	7.2	7.2	7.9	5.9	8.3	8.8	7.7	8.1	5.0	5.6	3.5	3.5	3.5	9.5	5.3							
Jan 22	3.7	3.2	3.4	2.3	3.6	1.8	1.5	0.8	1.0	4.2	4.8	4.9	5.4	5.2	5.7	5.6	5.9	9.1	7.9	12.5	13.0	11.3	14.5	12.4	0.8	14.5	4.0							
Jan 23	11.2	10.2	7.2	6.5	6.3	6.0	5.7	4.4	2.5	6.0	6.5	5.4	1.7	1.2	1.9	3.7	1.5	0.3	0.2	0.1	0.1	0.0	0.1	0.1	0.0	11.2	3.2							
Jan 24	0.1	0.0	0.1	0.1	0.0	0.1	1.0	2.7	3.0	3.0	4.3	5.2	5.1	5.3	5.2	5.2	6.6	4.8	2.9	5.1	8.7	4.3	4.3	4.1	0.0	8.7	3.2							
Jan 25	5.0	4.9	3.8	5.0	4.2	5.0	6.1	5.9	6.1	6.1	6.4	6.3	5.9	5.4	4.7	7.3	5.8	7.5	7.3	5.0	5.2	5.4	5.5	6.6	3.8	7.5	5.6							
Jan 26	4.6	4.7	5.3	4.2	5.1	4.8	3.9	5.2	5.3	6.5	7.3	7.2	7.8	7.2	7.6	8.4	8.4	8.1	7.7	7.2	7.6	5.4	6.2	6.8	3.9	8.4	6.3							
Jan 27	7.8	6.2	6.8	4.3	5.4	5.4	4.7	5.2	5.5	5.7	5.8	5.1	5.1	5.4	6.5	6.1	7.3	6.6	5.9	5.5	5.8	5.2	4.5	5.5	4.3	7.8	5.7							
Jan 28	4.6	4.4	2.8	2.7	1.7	0.6	0.9	2.5	2.5	2.0	1.5	3.1	3.4	4.1	2.8	1.2	0.7	0.6	0.3	1.5	1.2	0.5	0.5	0.9	0.3	4.6	0.4							
Jan 29	0.9	0.8	0.3	0.8	0.5	0.8	0.5	0.2	0.0	0.3	2.1	2.9	3.1	3.9	4.4	4.4	2.2	0.1	0.0	0.1	0.6	0.0	0.1	0.2	0.0	4.4	1.0							
Jan 30	1.0	0.0	0.3	0.1	0.0	0.6	0.5	0.9	1.3	1.1	1.4	2.6	1.2	2.3	3.1	2.9	1.6	0.2	0.2	0.1	0.4	0.2	1.7	0.4	0.0	3.1	0.7							
Jan 31	0.5	0.7	0.7	0.3	0.1	0.1	0.4	0.4	1.3	0.6	4.1	3.4	3.8	4.4	5.9	6.3	5.8	3.5	1.5	2.1	1.1	2.3	3.1	4.8	0.1	6.3	2.3							
C	Monthly Calibration													S	Daily Zero-Span Check						Q	Quality Assurance												
K	Collection Error													N	No Data (Machine Not in Service)						Y	Routine Maintenance						P	Power Failure					
X	Invalid Data (Equipment Malfunction/Recovery)													NRM	Unit/Maint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)																			
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.																																		
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.																																		



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - January 2021

Summary of Hour Standard Deviations

STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

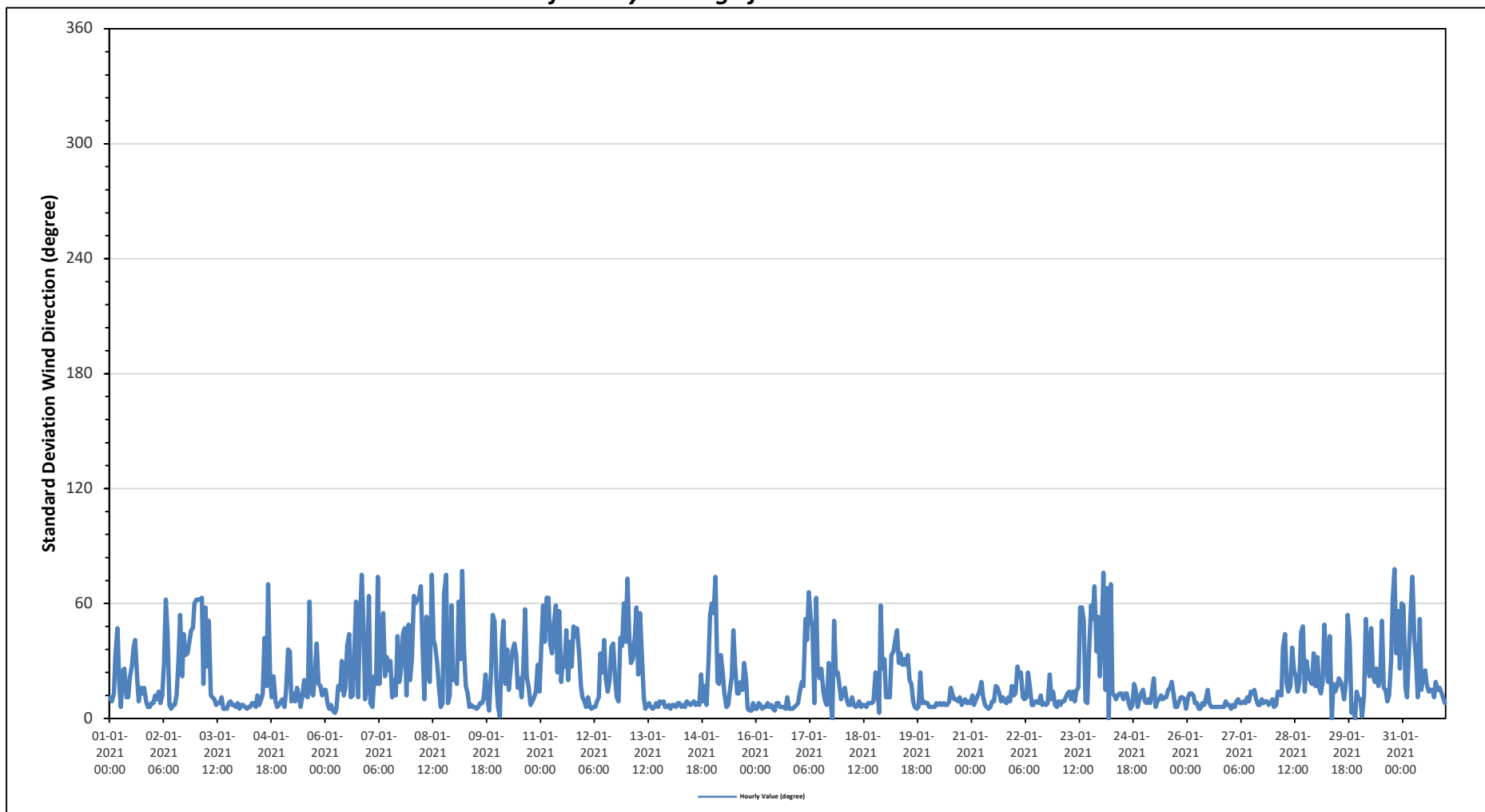
Maximum Hourly Value:	78 degree on January 30 at hour 19	Hours in Service:	744
Minimum Hourly Value:	0 degree on January 17 at hour 18	Hours of Data:	744
		Hours of Missing Data:	0
		Hours of Calibration:	0
		Operational Uptime:	100.0

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
Jan 1	11	9	13	33	47	18	6	25	26	11	11	21	27	37	41	21	9	16	13	16	9	6	6	8	6	47
Jan 2	8	12	10	14	8	12	29	62	44	7	5	7	7	12	29	54	22	44	33	34	39	46	47	60	5	62
Jan 3	62	62	62	63	18	58	27	51	12	11	10	7	8	8	11	5	5	5	8	9	7	7	6	8	5	63
Jan 4	5	7	7	6	5	6	6	8	8	6	12	7	10	13	42	17	70	20	11	22	9	6	7	9	5	70
Jan 5	10	6	14	36	35	9	13	9	16	12	6	12	20	12	11	61	14	12	24	39	18	17	12	15	6	61
Jan 6	15	8	5	7	4	3	5	17	15	30	12	16	38	44	11	12	39	61	11	46	75	49	10	17	3	75
Jan 7	64	8	6	22	18	74	18	40	55	22	32	25	30	11	20	12	43	19	26	44	47	12	49	20	6	74
Jan 8	31	64	60	62	63	69	33	10	53	22	19	75	41	38	29	18	6	8	65	75	8	12	59	20	6	75
Jan 9	22	18	61	31	77	35	17	13	6	7	6	6	5	6	8	8	11	23	10	4	25	54	51	18	4	77
Jan 10	6	1	39	51	18	36	15	27	35	39	33	16	21	11	27	57	22	16	7	9	11	14	28	14	1	57
Jan 11	37	59	40	63	63	39	34	49	59	24	56	19	31	27	46	20	40	27	48	43	47	34	17	11	11	63
Jan 12	9	6	11	6	5	6	6	9	11	34	24	41	21	14	20	37	39	22	11	9	42	38	60	40	5	60
Jan 13	73	43	29	31	43	58	23	55	34	11	5	7	8	6	5	6	8	6	9	8	9	6	6	7	5	73
Jan 14	5	7	7	6	8	8	6	7	6	9	8	7	8	9	7	8	7	23	9	17	7	30	54	60	5	60
Jan 15	55	74	19	18	33	23	13	6	7	14	22	46	27	13	13	19	15	29	20	5	4	4	8	5	4	74
Jan 16	5	8	7	5	6	6	8	6	7	5	4	8	8	6	6	5	11	5	5	5	6	7	8	4	4	11
Jan 17	14	19	17	52	41	66	52	48	8	63	24	21	26	14	9	7	29	9	0	51	23	24	17	10	0	66
Jan 18	14	16	10	7	7	11	7	6	7	9	6	7	7	6	8	8	8	9	24	19	3	59	26	31	3	59
Jan 19	11	11	11	33	35	40	46	29	34	28	31	28	33	20	18	9	6	5	6	24	8	9	8	8	5	46
Jan 20	6	6	6	6	8	7	8	7	8	7	7	9	16	12	10	10	9	11	7	9	10	8	9	8	6	16
Jan 21	12	7	10	12	14	19	11	7	6	5	6	9	9	17	16	13	9	11	9	8	11	9	17	12	5	19
Jan 22	13	27	22	24	11	10	11	24	17	7	7	9	9	8	12	7	8	7	8	23	10	14	7	6	6	27
Jan 23	9	7	9	9	11	13	14	10	14	9	15	16	58	58	51	9	8	36	59	52	69	35	53	22	7	69
Jan 24	43	76	15	68	0	70	13	12	10	12	13	13	10	13	13	8	5	7	18	15	6	10	13	15	0	76
Jan 25	9	8	10	8	14	21	6	9	10	12	10	11	11	15	16	19	13	6	6	9	11	11	10	5	5	21
Jan 26	11	13	13	12	8	8	5	5	8	7	10	15	8	6	6	6	6	6	6	6	6	9	7	7	5	15
Jan 27	5	7	6	9	10	8	8	9	8	11	9	14	13	15	10	7	7	10	8	9	9	7	8	10	5	15
Jan 28	6	7	14	13	12	37	44	18	14	17	37	25	22	14	19	45	48	14	30	23	20	18	34	17	6	48
Jan 29	32	16	13	19	49	27	19	43	0	18	14	17	21	19	16	10	20	54	39	3	7	0	14	10	0	54
Jan 30	10	1	12	52	34	22	47	23	19	26	17	20	51	16	15	9	12	31	62	78	34	56	26	60	1	78
Jan 31	59	16	11	33	58	74	41	31	11	52	15	23	25	18	14	15	15	11	19	15	16	14	11	8	8	74
Diurnal Minimum	5	1	5	5	0	3	5	5	0	5	4	6	5	6	5	5	5	5	0	3	3	0	6	5		
Dalurnal Maximum	73	76	62	68	77	74	52	62	59	63	56	75	58	58	51	61	70	61	65	78	75	59	60	60		

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

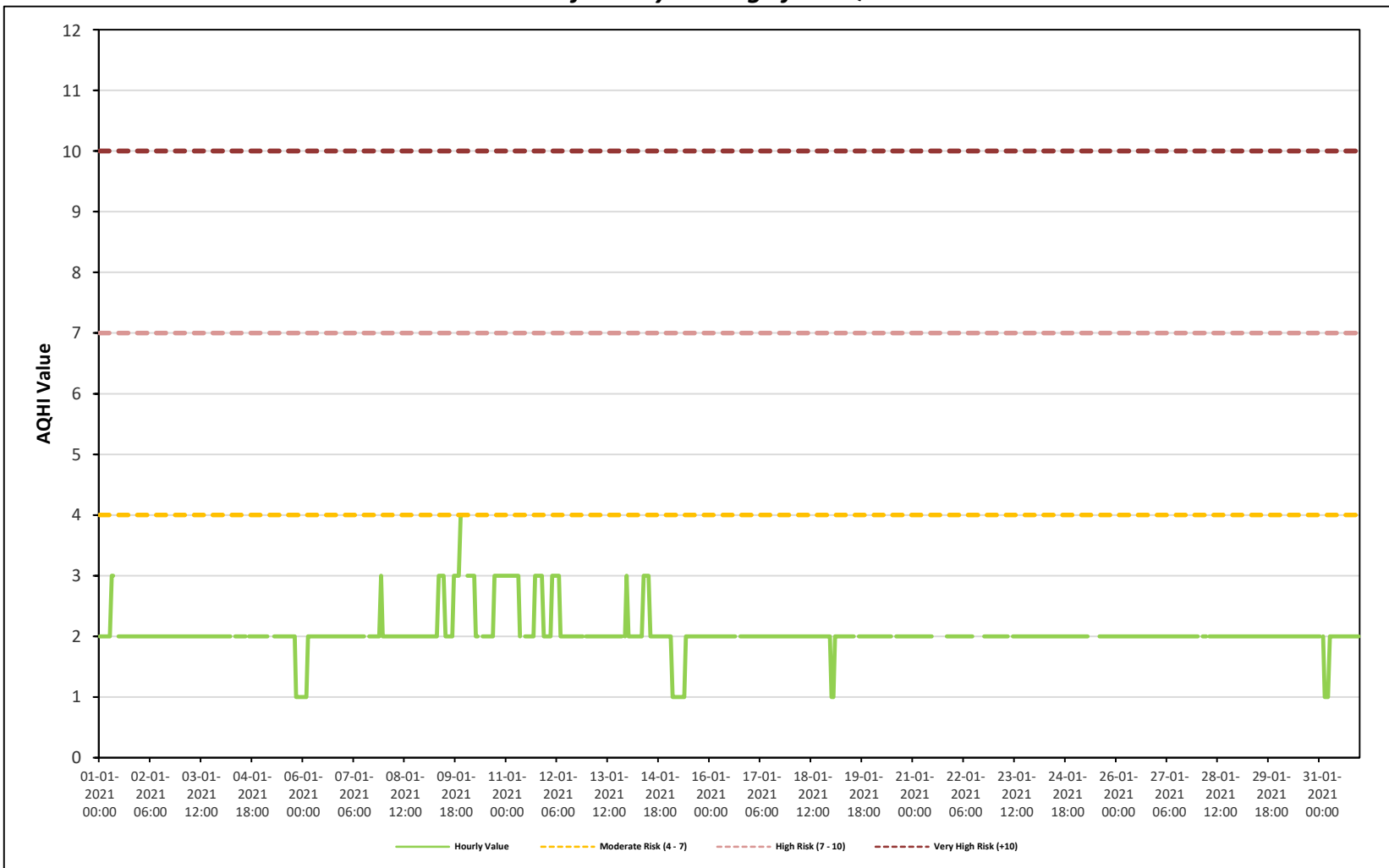
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

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



MASKWA STATION

Timeseries Chart of Hourly Average for AQHI - Maskwa Site





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Maskwa Site - January 2021

Summary of Hourly Averages

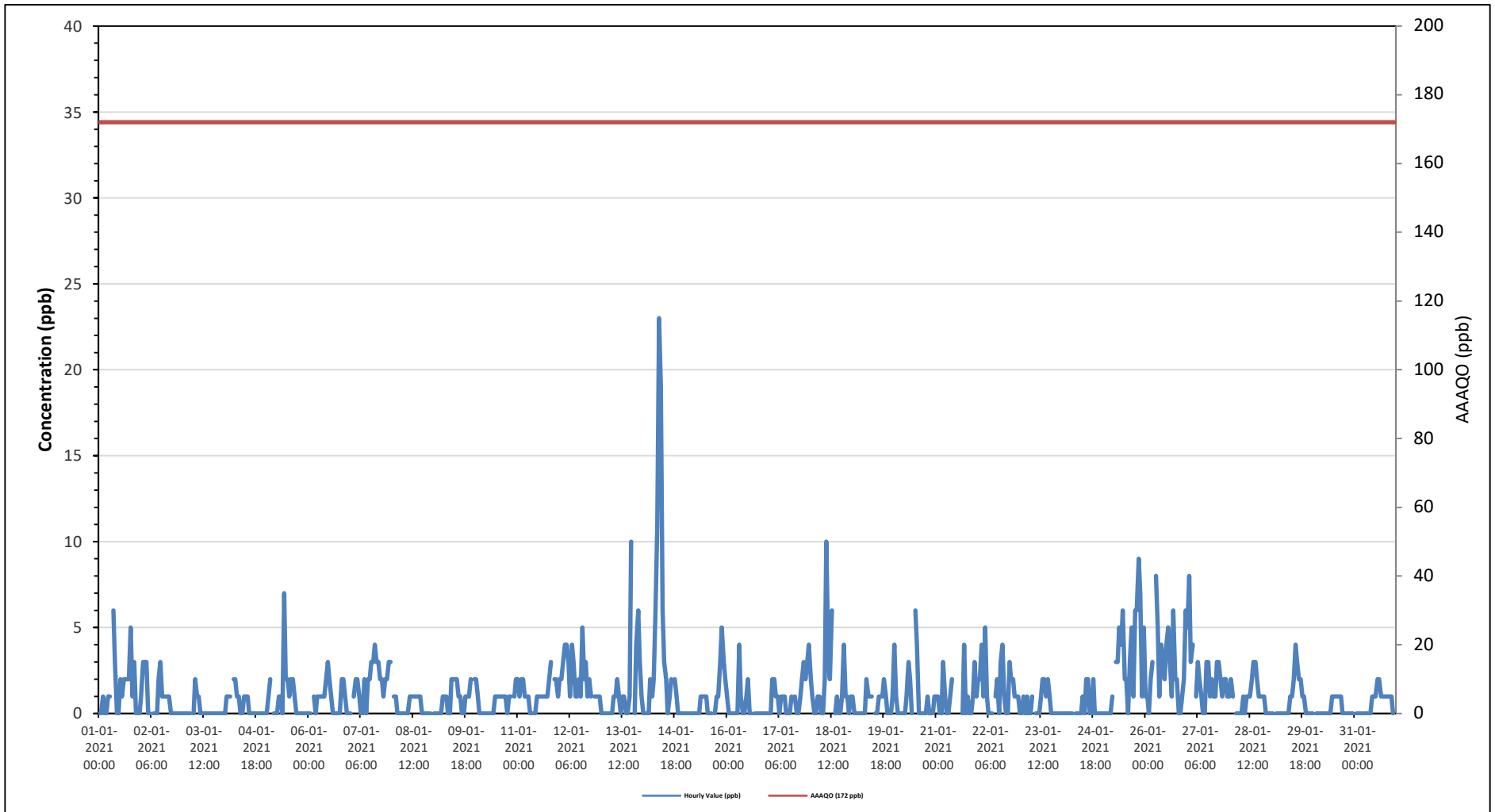
SULPHUR DIOXIDE (SO₂) in ppb

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:					23 ppb on January 14 at hour 9					Hours in Service:					744														
Maximum Daily Value:					3.5 ppb on January 14					Hours of Data:					707														
Minimum Hourly Value:					0 ppb on January 1 at hour 0					Hours of Missing Data:					0														
Minimum Daily Value:					0.2 ppb on January 3					Hours of Calibration:					37														
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		
Jan 1	0	0	1	0	0	1	1	S	6	3	0	0	2	1	2	2	2	2	5	1	3	0	0	0	0	0	0	6	1.4
Jan 2	1	3	3	3	0	0	S	0	0	0	2	3	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	3	0.9
Jan 3	0	0	0	0	0	S	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2
Jan 4	0	1	1	1	S	2	2	1	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.5
Jan 5	0	1	2	S	0	0	0	1	1	0	7	2	2	1	2	2	1	0	0	0	0	0	0	0	0	0	0	7	1.0
Jan 6	0	0	S	1	0	1	1	1	1	1	2	3	2	1	0	0	0	0	0	2	2	1	0	0	0	0	0	3	0.8
Jan 7	0	S	1	2	2	1	0	0	2	0	2	2	3	3	4	3	3	2	2	1	2	2	3	3	0	0	4	1.9	
Jan 8	S	1	1	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	S	0	1	0.4	
Jan 9	0	0	0	0	0	1	1	1	0	0	2	2	2	2	1	1	0	0	1	1	1	S	S	2	0	2	2	0.9	
Jan 10	2	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	1	1	S	2	1	2	0	2	0.7	
Jan 11	2	1	2	2	1	1	1	0	0	0	0	1	1	1	1	1	1	1	2	3	S	2	2	1	0	3	1.2		
Jan 12	2	2	3	4	4	3	1	4	3	1	1	2	1	5	2	3	1	2	1	S	1	1	1	1	1	5	2.1		
Jan 13	0	0	0	0	0	0	0	1	1	2	1	0	1	0	0	1	10	S	0	4	6	3	1	0	10	1.4			
Jan 14	0	0	0	0	2	1	2	6	11	23	19	6	3	2	0	1	2	S	2	1	0	0	0	0	0	23	3.5		
Jan 15	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	S	0	1	1	3	5	3	2	0	5	0.8		
Jan 16	1	0	0	0	0	0	0	4	1	0	0	1	2	0	0	S	0	0	0	0	0	0	0	0	0	4	0.4		
Jan 17	0	0	2	2	1	1	0	1	1	1	0	0	1	S	1	0	0	1	2	3	2	3	4	0	4	1.1			
Jan 18	2	1	0	0	1	1	0	0	2	10	3	2	6	S	0	1	0	0	1	4	1	1	0	1	0	10	1.6		
Jan 19	1	0	0	0	0	0	0	0	2	1	1	1	S	0	0	1	1	1	2	1	0	0	0	1	0	2	0.6		
Jan 20	4	1	0	0	0	0	0	1	3	2	0	S	6	4	0	0	0	0	0	1	0	0	0	1	0	6	1.0		
Jan 21	1	1	0	0	3	1	0	0	1	2	S	C	C	C	C	0	4	0	1	0	0	1	3	1	0	4	1.0		
Jan 22	2	2	4	1	5	1	0	0	0	S	1	2	0	3	4	1	0	0	3	2	2	1	1	1	0	5	1.6		
Jan 23	0	0	1	0	1	0	0	1	S	0	0	0	1	2	2	1	2	1	0	0	0	0	0	0	0	2	0.5		
Jan 24	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	2	0	0	2	0	0	0	0	0	0	2	0.3		
Jan 25	0	0	0	0	0	1	S	3	3	5	4	6	2	2	0	3	5	1	6	6	9	7	1	5	0	9	3.0		
Jan 26	1	1	0	2	3	S	8	5	1	4	3	2	4	5	3	1	6	2	2	0	0	1	2	6	0	8	2.7		
Jan 27	5	8	3	4	S	1	3	2	1	0	0	3	3	1	2	1	1	3	3	2	1	2	2	1	0	8	2.3		
Jan 28	1	2	1	S	0	0	0	0	1	0	1	1	1	2	3	3	2	1	1	1	1	0	0	0	0	3	1.0		
Jan 29	0	0	S	0	0	0	0	0	0	0	0	1	1	2	4	3	2	2	1	1	0	0	0	0	0	4	0.7		
Jan 30	0	S	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0.3		
Jan 31	S	0	0	0	0	0	0	0	0	0	1	1	1	2	2	1	1	1	1	1	1	1	0	S	0	2	0.6		
Diurnal Maximum	5	8	4	4	5	3	8	6	11	23	19	6	6	5	4	3	6	10	6	9	7	3	6						
Daiurnal Average	0.9	0.9	0.9	0.8	0.8	0.6	0.7	1.2	1.4	1.9	1.7	1.6	1.6	1.6	1.3	1.2	1.3	1.0	1.3	1.1	1.2	1.2	0.8	1.1					
C	Monthly Calibration					S	Daily Zero-Span Check					Q	Quality Assurance																
K	Collection Error					N	No Data (Machine Not in Service)					Y	Routine Maintenance					P	Power Failure										
X	InValid Data (Equipment Malfunction /Recovery)					NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)																						

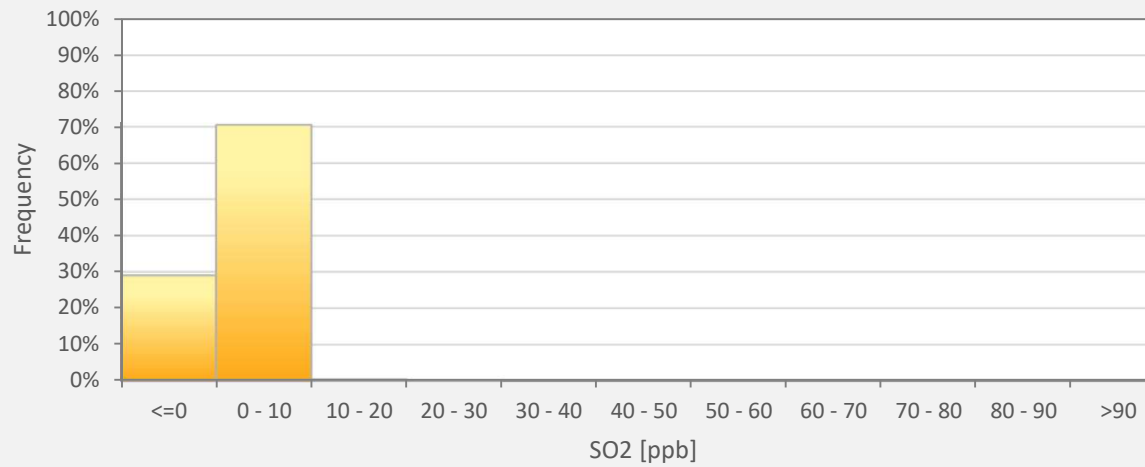
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

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

Timeseries Chart of Hourly Average for SO2 - Maskwa Site



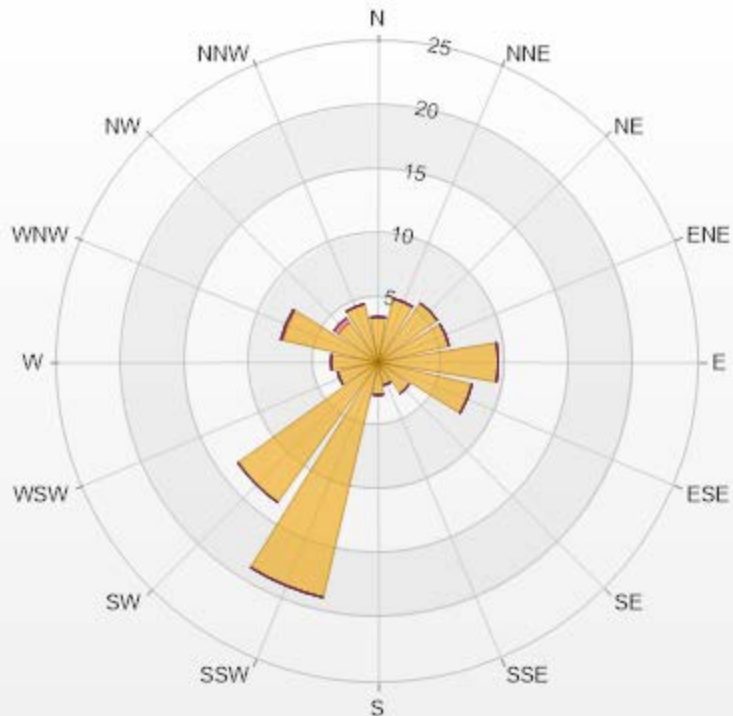
SO2[ppb] Histogram: Maskwa Monthly: 01-2021 1 Hr.



Classes	SO2
<=0	29.00%
0 - 10	70.44%
10 - 20	0.42%
20 - 30	0.14%
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: Maskwa Poll.: Maskwa-SO2[ppb] Monthly: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 95.03% Calm Avg: 0.00 [ppb]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	3.54	0	0	0	0	3.54
NNE	5.09	0	0	0	0	5.09
NE	5.66	0	0	0	0	5.66
ENE	5.66	0	0	0	0	5.66
E	9.34	0	0	0	0	9.34
ESE	7.5	0	0	0	0	7.5
SE	2.97	0	0	0	0	2.97
SSE	1.84	0	0	0	0	1.84
S	2.55	0	0	0	0	2.55
SSW	18.81	0	0	0	0	18.81
SW	13.44	0	0	0	0	13.44
WSW	3.25	0	0	0	0	3.25
W	3.68	0	0	0	0	3.68
WNW	7.64	0.14	0	0	0	7.78
NW	3.82	0.42	0	0	0	4.24
NNW	4.67	0	0	0	0	4.67
Summary	99.46	0.56	0	0	0	100



LICA-202101


Page 99 of 237

% Icon Classes (ppb)

99  0-10

1  10-50

0  50-100

0  100-172

0  >172.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Maskwa Site - January 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

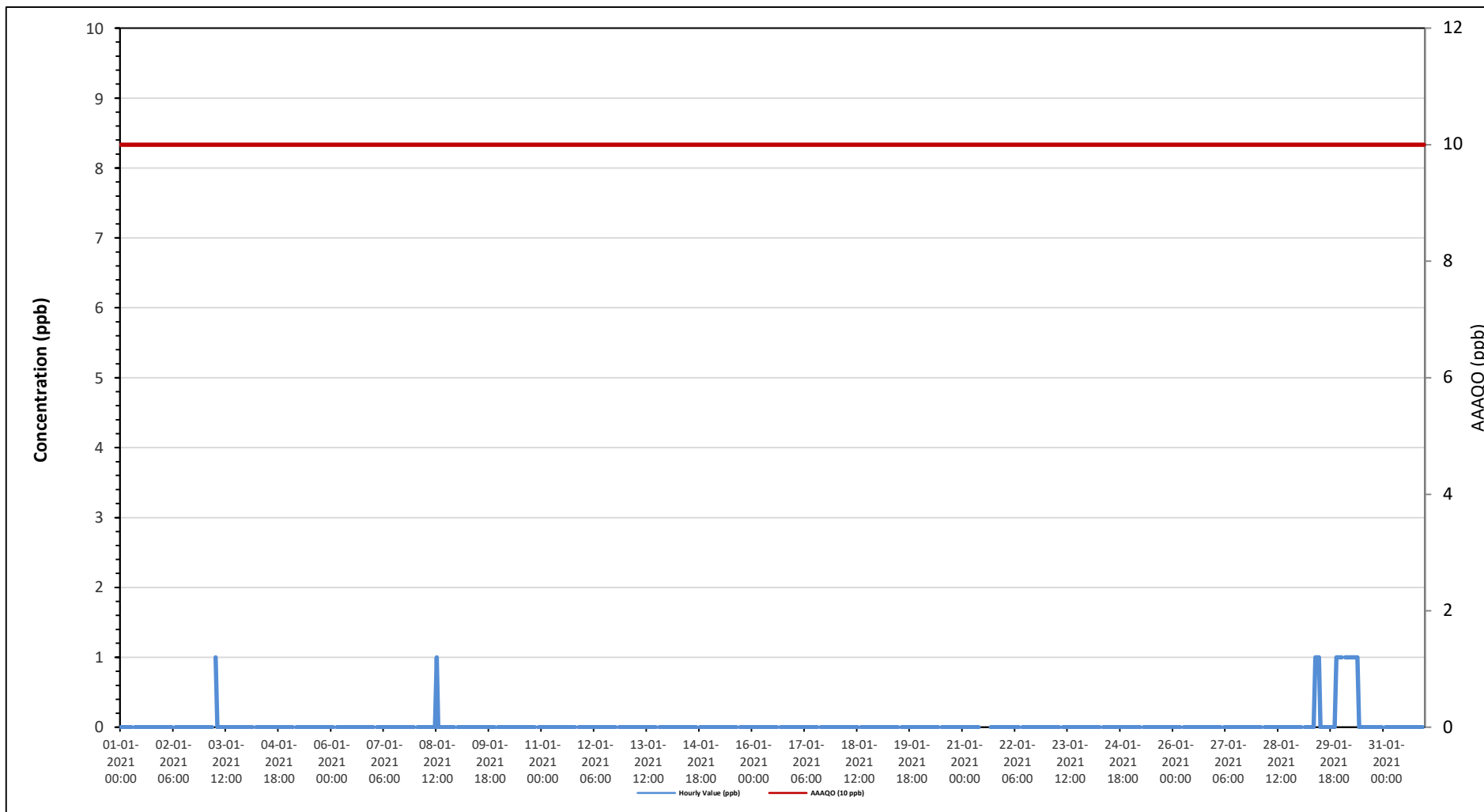
Maximum Hourly Value:	1 ppb on January 3 at hour 6	Hours in Service:	744
Maximum Daily Value:	0.4 ppb on January 30	Hours of Data:	706
Minimum Hourly Value:	0 ppb on January 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.0 ppb on January 1	Hours of Calibration:	38
Monthly Average:	0.0 ppb	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			
Jan 1	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Jan 2	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	0	
Jan 3	0	0	0	0	0	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Jan 4	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	
Jan 5	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	
Jan 6	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	
Jan 7	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	
Jan 8	S	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	S	0	
Jan 9	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	
Jan 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	S	0	0	0	
Jan 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	
Jan 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	
Jan 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	S	0	0	0	0	0	0	
Jan 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	S	0	0	0	0	0	0	0	
Jan 15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	S	0	0	0	0	0	0	0	0	
Jan 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	S	0	0	0	0	0	0	0	0	0	
Jan 17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	S	0	0	0	0	0	0	0	0	0	0	
Jan 18	0	0	0	0	0	0	0	0	0	0	0	0	0	S	S	0	0	0	0	0	0	0	0	0	0	0	
Jan 19	0	0	0	0	0	0	0	0	0	0	0	0	S	S	0	0	0	0	0	0	0	0	0	0	0	0	
Jan 20	0	0	0	0	0	0	0	0	0	0	0	S	S	0	0	0	0	0	0	0	0	0	0	0	0	0	
Jan 21	0	0	0	0	0	0	0	0	0	S	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	
Jan 22	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	
Jan 23	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	
Jan 24	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	
Jan 25	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	
Jan 26	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	
Jan 27	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	
Jan 28	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	
Jan 29	0	0	S	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	
Jan 30	1	S	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Jan 31	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	
Diurnal Maximum	1	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	
Diurnal Average	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

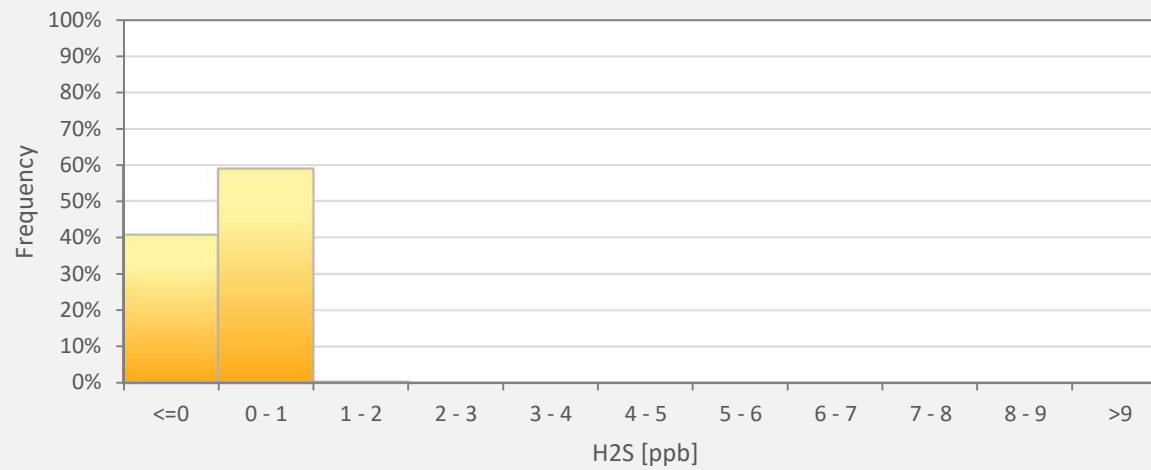
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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 H2S - Maskwa Site



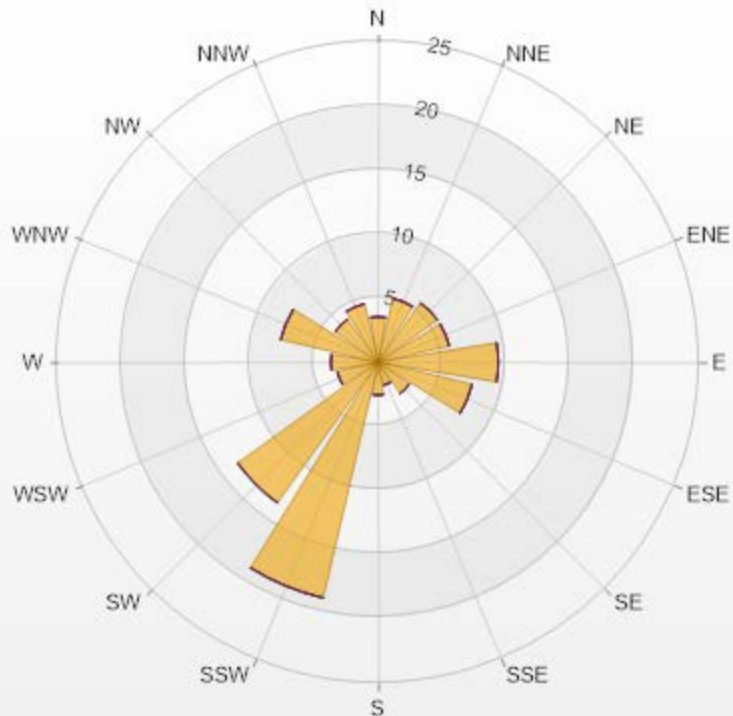
H2S[ppb] Histogram: Maskwa Monthly: 01-2021 1 Hr.



Classes	H2S
<=0	40.65%
0 - 1	58.92%
1 - 2	0.42%
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: Maskwa Poll.: Maskwa-H2S[ppb] Monthly: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppb]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	3.54	0	0	0	0	3.54
NNE	5.1	0	0	0	0	5.1
NE	5.67	0	0	0	0	5.67
ENE	5.67	0	0	0	0	5.67
E	9.35	0	0	0	0	9.35
ESE	7.51	0	0	0	0	7.51
SE	2.97	0	0	0	0	2.97
SSE	1.84	0	0	0	0	1.84
S	2.55	0	0	0	0	2.55
SSW	18.84	0	0	0	0	18.84
SW	13.46	0	0	0	0	13.46
WSW	3.26	0	0	0	0	3.26
W	3.68	0	0	0	0	3.68
WNW	7.79	0	0	0	0	7.79
NW	4.11	0	0	0	0	4.11
NNW	4.67	0	0	0	0	4.67
Summary	100	0	0	0	0	100



LICA-202101

% Icon Classes (ppb)

100 0-2

0 2-5

0 5-10

0 10-50

0 >50.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Maskwa Site - January 2021

Summary of Hourly Averages

OXIDES OF NITROGEN (NOx) in ppb

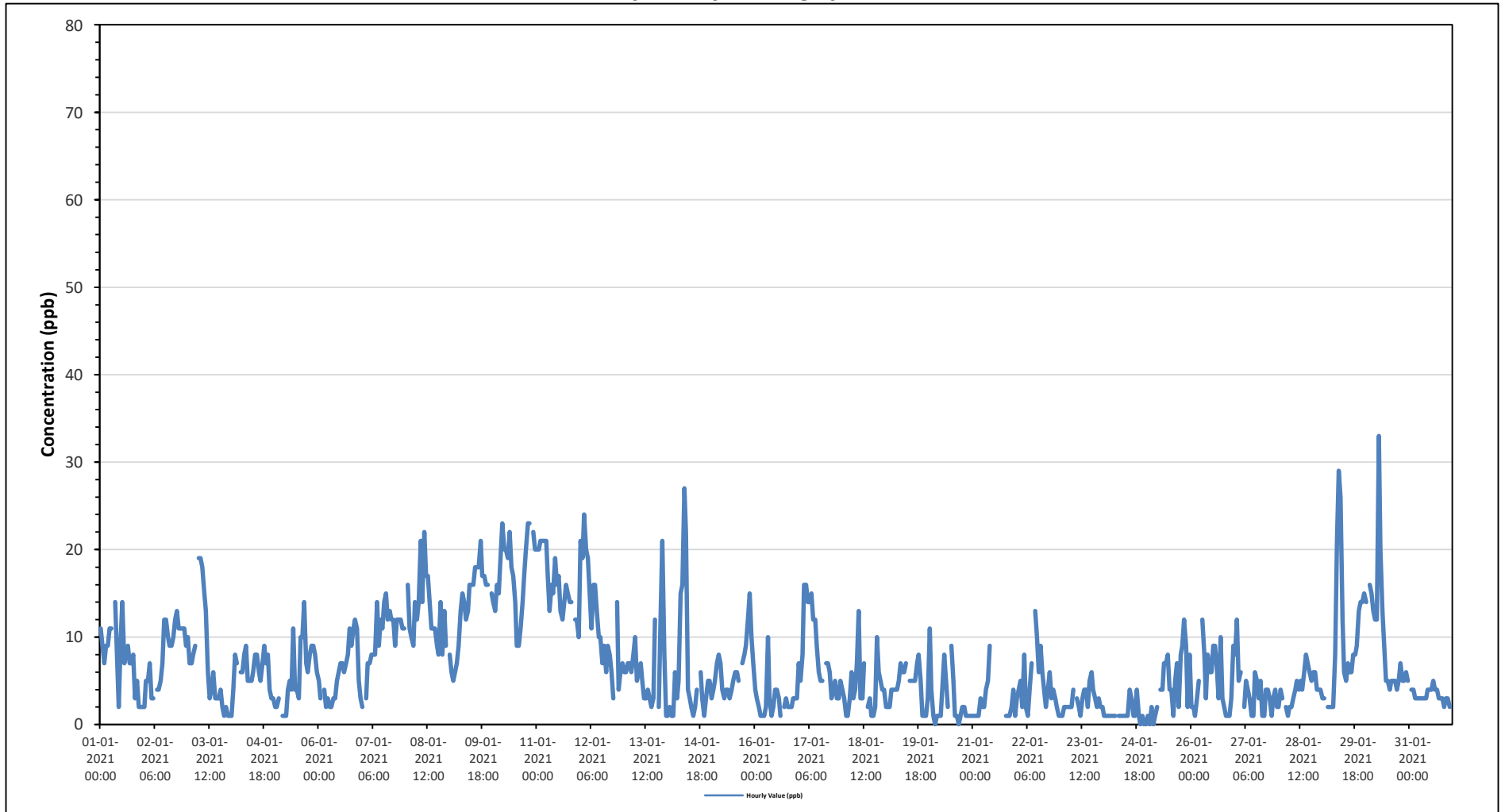
Maximum Hourly Value:	33 ppb	on January 30 at hour 7	Hours in Service:	744
Maximum Daily Value:	17.3 ppb	on January 10	Hours of Data:	704
Minimum Hourly Value:	0 ppb	on January 20 at hour 3	Hours of Missing Data:	0
Minimum Daily Value:	1.2 ppb	on January 24	Hours of Calibration:	40
Monthly Average:	7.0 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	
Jan 1	11	9	7	9	9	11	11	S	14	8	2	10	14	7	8	9	7	7	8	3	5	2	2	2	2	14	7.6	
Jan 2	2	5	5	7	3	3	S	4	4	5	7	12	12	10	9	9	10	12	13	11	11	11	11	9	2	13	8.0	
Jan 3	10	7	7	8	9	S	19	19	18	15	13	6	3	4	6	3	3	3	4	2	1	2	1	1	1	19	7.1	
Jan 4	1	4	8	7	S	6	6	8	9	5	5	5	6	8	8	6	5	7	9	7	8	4	3	3	1	9	6.0	
Jan 5	2	2	3	S	1	1	1	4	5	4	11	4	4	3	10	10	14	7	6	8	9	9	8	6	1	14	5.7	
Jan 6	5	3	S	4	2	3	2	2	3	3	5	6	7	7	6	7	8	11	9	11	12	11	5	3	2	12	5.9	
Jan 7	2	S	3	7	7	8	8	8	14	9	12	11	14	15	12	13	12	12	9	12	12	12	11	11	2	15	10.2	
Jan 8	S	16	11	10	9	14	12	14	21	14	22	17	17	14	11	11	11	9	8	14	8	13	9	S	8	22	13.0	
Jan 9	8	6	5	6	7	9	13	15	14	12	13	16	16	16	18	18	18	21	17	17	16	16	S	15	5	21	13.6	
Jan 10	14	13	16	15	19	23	20	20	19	22	18	17	14	9	9	11	14	17	20	23	23	S	22	20	9	23	17.3	
Jan 11	20	20	21	21	21	21	17	13	16	15	19	16	17	13	12	14	16	15	14	14	S	12	12	10	10	21	16.0	
Jan 12	21	19	24	20	19	15	11	16	16	13	10	10	7	9	6	9	8	6	3	S	14	4	6	7	3	24	11.9	
Jan 13	6	6	7	7	6	8	10	5	6	7	5	3	4	3	2	3	12	S	6	2	12	21	8	1	1	21	6.4	
Jan 14	1	2	1	1	6	3	5	15	16	27	22	4	3	2	1	2	4	S	6	3	1	3	5	5	1	27	6.0	
Jan 15	3	4	5	7	8	7	4	3	4	4	3	4	5	6	6	5	S	7	8	9	12	15	10	7	3	15	6.3	
Jan 16	4	3	2	1	1	1	2	10	3	1	2	4	4	3	1	S	2	3	2	2	2	3	3	3	1	10	2.7	
Jan 17	7	5	8	16	16	14	14	15	12	12	9	6	5	5	S	7	7	6	3	4	5	3	3	5	3	16	8.1	
Jan 18	4	3	1	1	3	6	3	4	7	13	3	3	7	S	2	3	1	1	2	10	6	5	4	4	1	13	4.2	
Jan 19	2	2	2	4	4	4	4	5	7	6	6	7	S	5	5	5	5	7	8	5	1	1	1	3	1	8	4.3	
Jan 20	11	4	1	0	1	1	1	4	8	5	2	S	9	5	1	1	0	1	2	2	1	1	1	1	0	11	2.7	
Jan 21	1	1	1	1	3	2	2	4	5	9	S	C	C	C	C	C	C	C	C	1	1	1	2	4	1	9	-	
Jan 22	3	4	5	2	8	2	1	4	7	S	13	10	6	9	6	4	2	4	6	3	4	3	2	1	1	13	4.7	
Jan 23	1	1	2	2	2	2	2	4	S	3	2	1	3	4	4	2	5	6	4	3	2	3	2	2	1	6	2.7	
Jan 24	1	1	1	1	1	1	1	S	1	1	1	1	1	1	4	3	1	1	4	1	0	1	0	0	0	4	1.2	
Jan 25	1	0	2	0	1	2	S	4	4	7	7	8	4	4	1	5	7	2	8	9	12	9	2	8	0	12	4.7	
Jan 26	2	2	1	3	5	S	12	8	3	8	6	6	9	9	6	3	10	3	2	1	1	1	3	9	1	12	4.9	
Jan 27	8	12	5	6	S	2	5	4	3	1	1	6	5	3	5	1	1	4	4	3	1	3	4	2	1	12	3.9	
Jan 28	2	4	3	S	2	1	2	2	3	4	5	4	5	4	6	8	7	6	5	6	6	4	4	4	1	8	4.2	
Jan 29	3	3	S	2	2	2	2	8	21	29	26	12	6	5	7	6	6	8	8	8	9	13	14	14	15	2	29	9.6
Jan 30	14	S	16	15	13	12	12	33	20	13	9	5	5	4	5	5	5	4	5	7	5	5	6	5	4	33	9.7	
Jan 31	S	4	4	3	3	3	3	3	3	3	4	4	4	5	4	4	3	3	3	2	3	3	2	S	2	5	3.3	
Diurnal Maximum	21	20	24	21	21	23	20	33	21	29	26	17	17	16	18	18	18	21	20	23	23	21	22	20				
Diurnal Average	5.9	5.7	6.1	6.4	6.6	6.4	7.1	8.9	9.5	9.3	8.8	7.5	7.4	6.7	6.3	6.4	6.7	7.1	6.7	6.8	6.9	6.5	5.6	5.6				

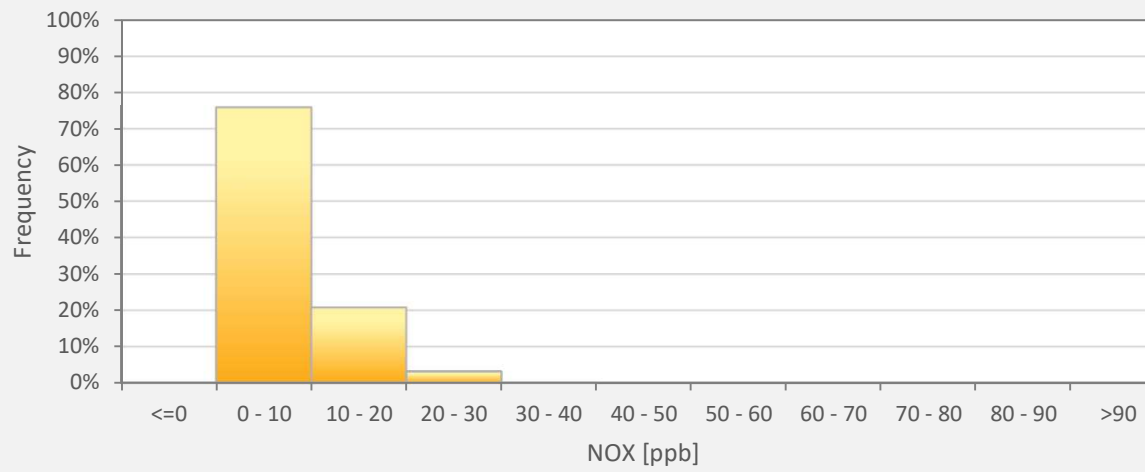
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction/Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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 NOx - Maskwa Site



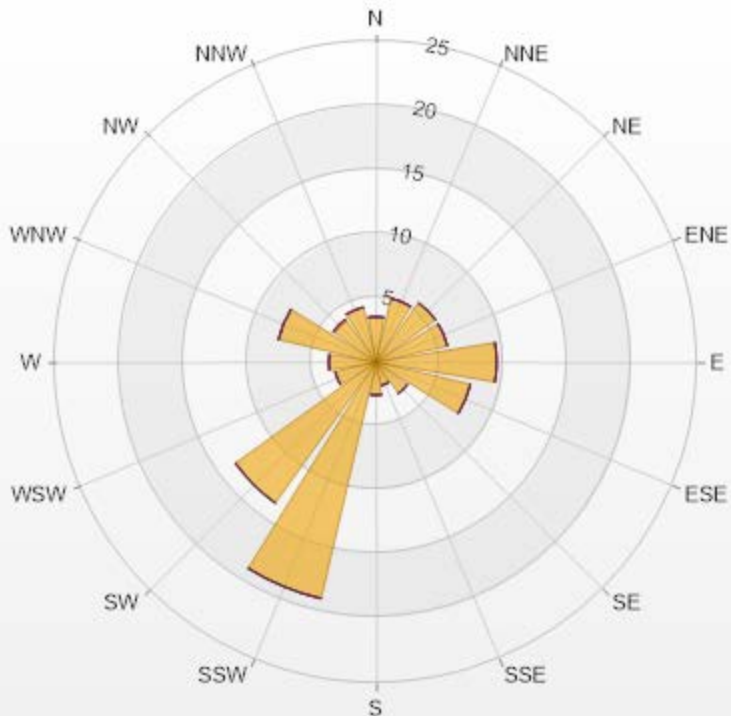
NOX[ppb] Histogram: Maskwa Monthly: 01-2021 1 Hr.



Classes	NOX
<=0	0.14%
0 - 10	75.85%
10 - 20	20.74%
20 - 30	3.13%
30 - 40	0.14%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Maskwa Poll.: Maskwa-NOX[ppb] Monthly: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.62% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	3.55	0	0	0	0	3.55
NNE	5.11	0	0	0	0	5.11
NE	5.68	0	0	0	0	5.68
ENE	5.68	0	0	0	0	5.68
E	9.38	0	0	0	0	9.38
ESE	7.53	0	0	0	0	7.53
SE	2.98	0	0	0	0	2.98
SSE	1.85	0	0	0	0	1.85
S	2.56	0	0	0	0	2.56
SSW	18.89	0	0	0	0	18.89
SW	13.49	0	0	0	0	13.49
WSW	3.27	0	0	0	0	3.27
W	3.69	0	0	0	0	3.69
WNW	7.81	0	0	0	0	7.81
NW	3.98	0.14	0	0	0	4.12
NNW	4.4	0	0	0	0	4.4
Summary	100	0.14	0	0	0	100



LICA-202101

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



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Maskwa Site - January 2021
Summary of Hourly Averages

NITRIC OXIDE (NO) in ppb

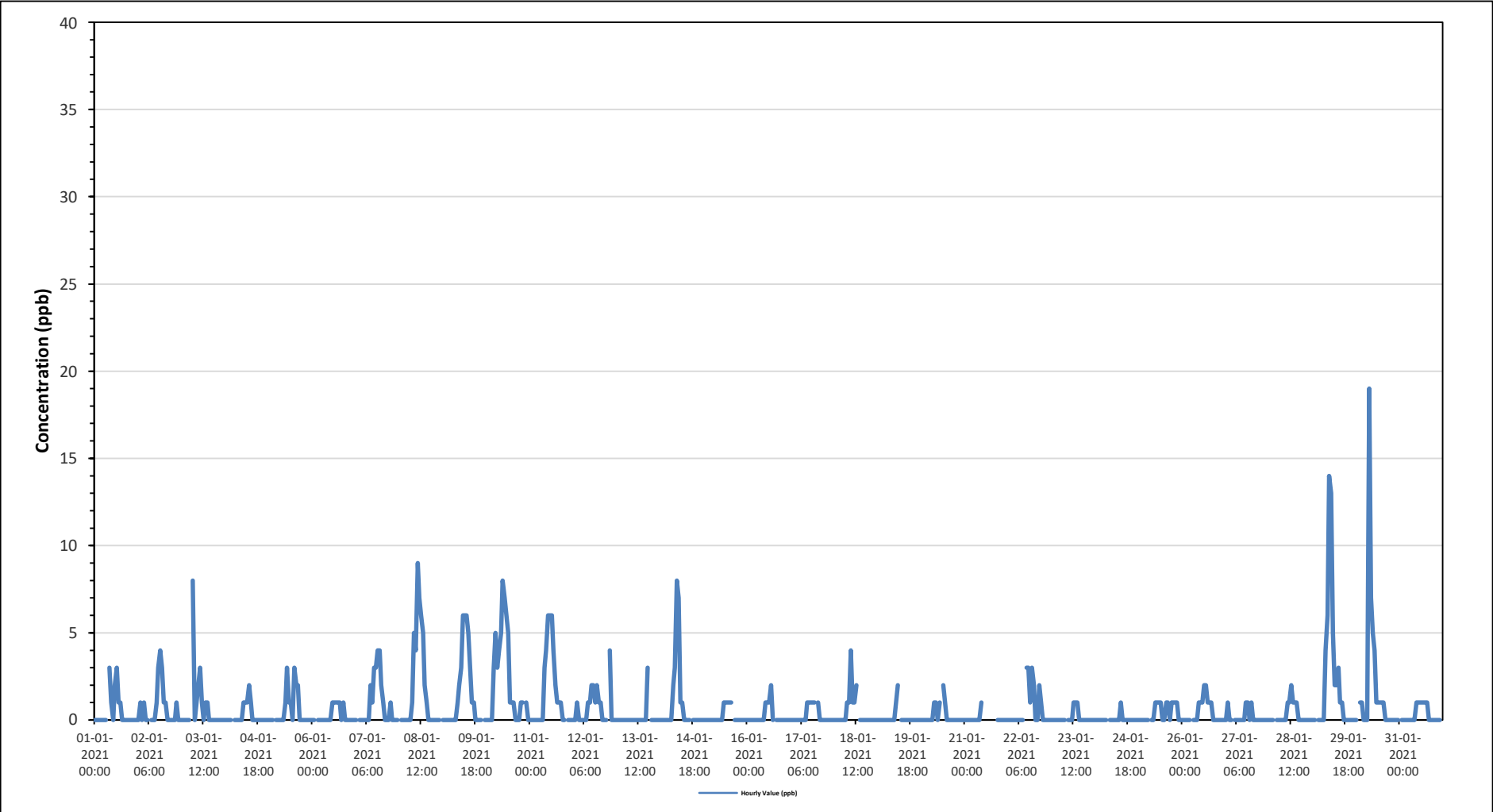
Maximum Hourly Value:	19 ppb on January 30 at hour 7	Hours in Service:	744
Maximum Daily Value:	2.3 ppb on January 10	Hours of Data:	704
Minimum Hourly Value:	0 ppb on January 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.0 ppb on January 24	Hours of Calibration:	40
Monthly Average:	0.7 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												
Jan 1	0	0	0	0	0	0	0	S	3	1	0	2	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.5
Jan 2	0	1	0	1	0	0	S	8	0	0	1	3	4	3	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	4	0.7		
Jan 3	0	0	0	0	0	S	8	0	1	2	3	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0.7			
Jan 4	0	0	0	0	S	0	0	0	0	0	1	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.3			
Jan 5	0	0	0	S	0	0	0	0	0	1	3	1	1	0	3	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.6			
Jan 6	0	0	S	0	0	0	0	0	0	0	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3				
Jan 7	0	S	0	0	0	0	0	0	2	1	3	3	4	4	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4	0.9				
Jan 8	S	0	0	0	0	0	0	1	5	4	9	7	6	5	2	1	0	0	0	0	0	0	0	0	0	0	0	0	S	0	9	1.8				
Jan 9	0	0	0	0	0	0	0	0	1	2	3	6	6	6	5	3	1	1	0	0	0	0	0	0	0	0	S	0	0	6	1.5					
Jan 10	0	0	0	0	3	5	3	4	5	8	7	6	5	1	1	1	0	0	0	1	1	S	1	0	0	0	0	0	8	2.3						
Jan 11	0	0	0	0	0	0	0	0	3	4	6	6	6	4	2	1	1	1	0	0	S	0	0	0	0	0	0	0	6	1.5						
Jan 12	0	0	1	0	0	0	0	0	1	1	2	2	1	2	1	1	0	0	0	S	4	0	0	0	0	0	0	0	4	0.7						
Jan 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	S	0	0	0	0	0	0	0	0	0	0	3	0.1				
Jan 14	0	0	0	0	0	0	0	2	3	8	7	1	1	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	8	1.0				
Jan 15	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2				
Jan 16	0	0	0	0	0	0	0	0	0	0	1	1	1	2	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2				
Jan 17	0	0	0	0	0	0	0	0	0	1	1	1	1	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3				
Jan 18	0	0	0	0	0	0	0	1	1	4	1	1	2	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0.4				
Jan 19	0	0	0	0	0	0	0	0	0	0	1	2	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.1				
Jan 20	0	0	0	0	0	0	0	1	1	0	1	S	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.3				
Jan 21	0	0	0	0	0	0	0	0	0	1	S	C	C	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	1	-				
Jan 22	0	0	0	0	0	0	0	0	0	S	3	3	1	3	2	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3	0.7				
Jan 23	0	0	0	0	0	0	0	0	S	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1				
Jan 24	0	0	0	0	0	0	0	S	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				
Jan 25	0	0	0	0	0	0	0	S	0	0	1	1	1	1	0	0	1	1	0	1	1	1	1	1	1	1	0	0	0	0	1	0.4				
Jan 26	0	0	0	0	0	S	0	0	0	1	1	1	2	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.4				
Jan 27	0	1	0	0	S	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2				
Jan 28	0	0	0	S	0	0	0	0	0	1	1	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.3				
Jan 29	0	0	S	0	0	0	0	4	6	14	13	5	2	2	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	14	2.2				
Jan 30	0	S	1	1	0	0	0	19	7	5	4	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	19	1.8					
Jan 31	S	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3				
Diurnal Maximum	0	1	1	1	3	5	8	19	7	14	13	7	6	6	5	3	2	3	1	1	4	1	1	0	0	0	0	0	0	0	0	0	0			
Diurnal Average	0.0	0.1	0.1	0.1	0.1	0.2	0.4	1.1	1.3	2.0	2.5	2.1	2.0	1.6	1.2	0.7	0.2	0.3	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

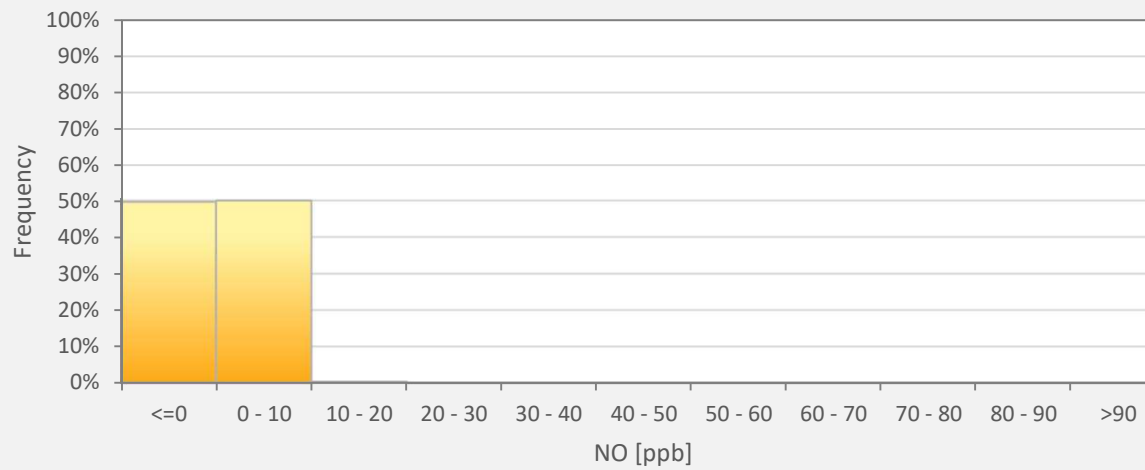
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction/Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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 - Maskwa Site



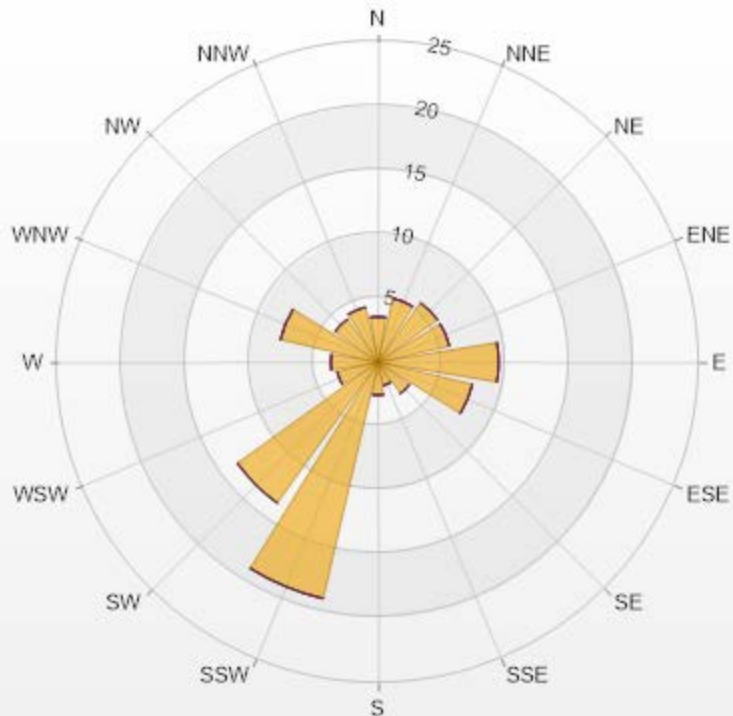
NO[ppb] Histogram: Maskwa Monthly: 01-2021 1 Hr.



Classes	NO
<=0	49.57%
0 - 10	50.00%
10 - 20	0.43%
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: Maskwa Poll.: Maskwa-NO[ppb] Monthly: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.62% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	3.55	0	0	0	0	3.55
NNE	5.11	0	0	0	0	5.11
NE	5.68	0	0	0	0	5.68
ENE	5.68	0	0	0	0	5.68
E	9.38	0	0	0	0	9.38
ESE	7.53	0	0	0	0	7.53
SE	2.98	0	0	0	0	2.98
SSE	1.85	0	0	0	0	1.85
S	2.56	0	0	0	0	2.56
SSW	18.89	0	0	0	0	18.89
SW	13.49	0	0	0	0	13.49
WSW	3.27	0	0	0	0	3.27
W	3.69	0	0	0	0	3.69
WNW	7.81	0	0	0	0	7.81
NW	4.12	0	0	0	0	4.12
NNW	4.4	0	0	0	0	4.4
Summary	100	0	0	0	0	100



LICA-202101

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



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Maskwa Site - January 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: 23 ppb on January 10 at hour 20

Hours in Service: 744

Maximum Daily Value: 15.0 ppb on January 10

Hours of Data: 704

Minimum Hourly Value: 0 ppb on January 20 at hour 3

Hours of Missing Data: 0

Minimum Daily Value: 1.2 ppb on January 24

Hours of Calibration: 40

Monthly Average: 6.3 ppb

Operational Uptime: 100.0

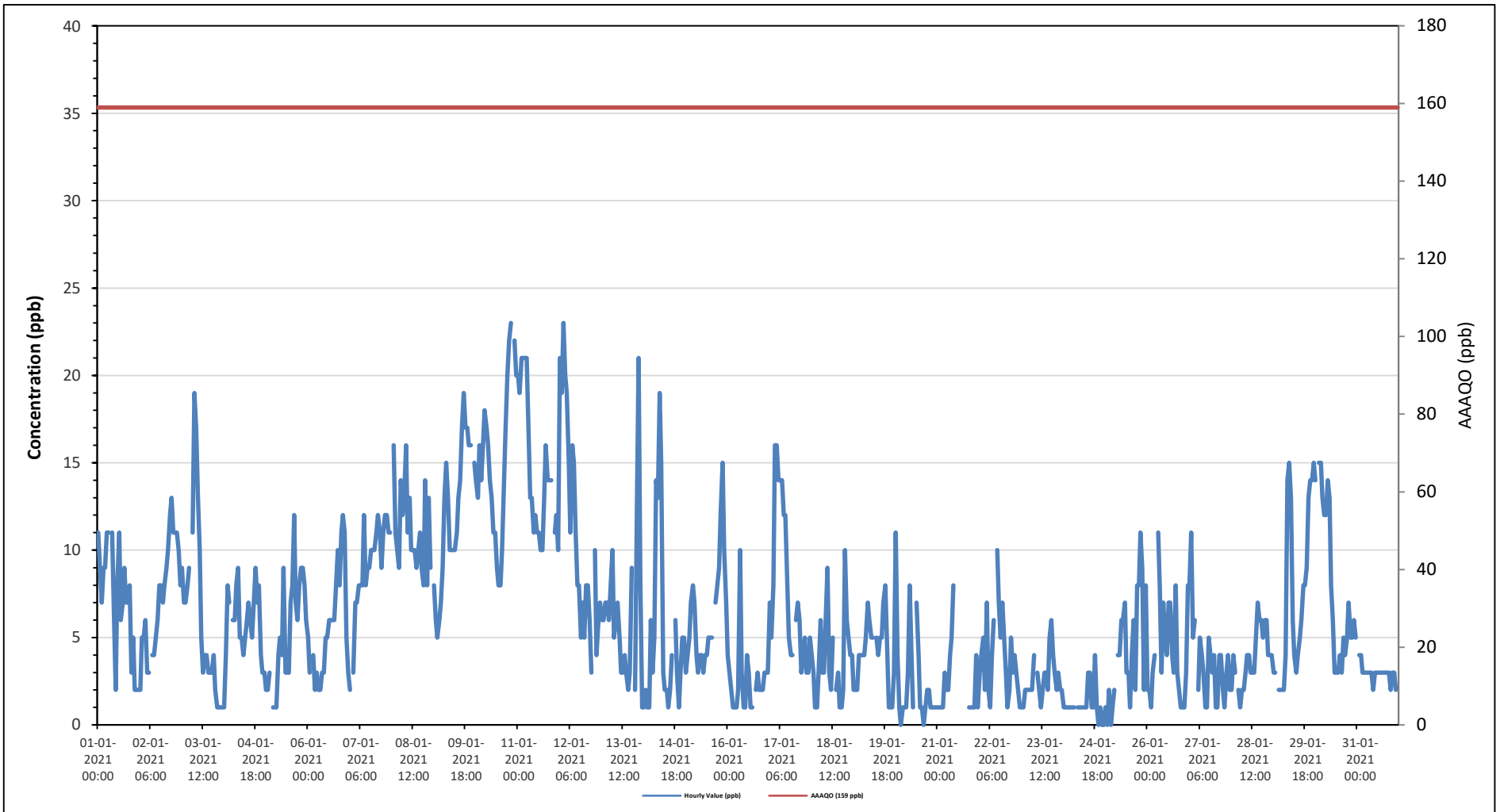
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Jan 1	11	9	7	9	9	11	11	S	11	7	2	8	11	6	7	9	7	7	8	3	5	2	2	2	2	2	11	7.1
Jan 2	2	5	5	6	3	3	S	4	4	5	6	8	8	7	8	9	10	12	13	11	11	11	10	8	2	13	7.3	
Jan 3	9	7	7	8	9	S	11	19	17	13	10	5	3	4	4	3	3	3	4	2	1	1	1	1	1	19	6.3	
Jan 4	1	4	8	7	S	6	6	8	9	5	5	4	5	6	7	6	5	7	9	7	8	4	3	3	1	9	5.8	
Jan 5	2	2	3	S	1	1	1	4	5	4	9	3	3	3	7	8	12	7	6	8	9	9	8	6	1	12	5.3	
Jan 6	5	3	S	4	2	3	2	2	3	3	5	5	6	6	6	8	10	8	11	12	11	5	3	2	12	5.6		
Jan 7	2	S	3	7	7	8	8	12	8	9	9	10	10	10	11	12	11	9	11	12	12	11	11	2	12	9.2		
Jan 8	S	16	11	10	9	14	12	13	16	11	13	10	10	10	9	10	11	9	8	14	8	13	9	S	8	16	11.2	
Jan 9	8	6	5	6	7	9	13	15	13	10	10	10	11	13	14	17	19	17	17	16	16	S	15	5	19	12.0		
Jan 10	14	13	16	14	16	18	17	16	14	13	11	11	9	8	8	10	14	17	20	22	23	S	22	20	8	23	15.0	
Jan 11	20	19	21	21	21	21	17	13	13	11	12	11	11	10	10	13	16	14	14	14	S	11	12	10	10	21	14.6	
Jan 12	21	19	23	20	19	15	11	16	15	11	8	8	5	7	5	8	8	6	3	S	10	4	6	7	3	23	11.1	
Jan 13	6	6	7	7	6	8	10	5	6	7	5	3	3	4	3	2	3	9	S	2	12	21	8	1	1	21	6.3	
Jan 14	1	2	1	1	6	3	5	14	13	19	15	3	2	2	1	2	4	S	6	3	1	3	5	5	1	19	5.1	
Jan 15	3	4	5	7	8	7	4	3	4	4	3	4	4	5	5	5	S	7	8	9	12	15	10	7	3	15	6.2	
Jan 16	4	3	2	1	1	1	2	10	3	1	1	4	3	1	1	S	2	3	2	2	2	3	3	3	1	10	2.5	
Jan 17	7	5	8	16	16	14	14	12	12	8	5	4	4	S	6	7	6	3	4	5	3	3	5	3	16	7.9		
Jan 18	4	3	1	1	3	6	3	3	6	9	3	2	5	S	2	3	1	1	2	10	6	5	4	4	1	10	3.8	
Jan 19	2	2	2	4	4	4	4	5	7	6	5	5	S	5	4	5	5	7	8	5	1	1	1	3	1	8	4.1	
Jan 20	11	4	1	0	1	1	1	3	8	4	1	S	7	4	1	1	0	1	2	2	1	1	1	1	0	11	2.5	
Jan 21	1	1	1	1	3	2	2	4	5	8	S	C	C	C	C	C	C	C	1	1	1	1	4	1	1	8	-	
Jan 22	3	4	5	2	7	2	1	4	6	S	10	7	5	7	5	3	1	2	5	3	4	3	2	1	1	10	4.0	
Jan 23	1	1	2	2	2	2	2	4	S	3	2	1	2	3	3	2	5	6	4	3	2	3	2	2	1	6	2.6	
Jan 24	1	1	1	1	1	1	1	S	1	1	1	1	1	1	3	3	1	1	4	1	0	1	0	0	0	4	1.2	
Jan 25	1	0	2	0	1	2	S	4	4	6	7	3	3	1	4	6	2	8	8	11	9	2	8	0	11	4.3		
Jan 26	2	2	1	3	4	S	11	8	3	7	5	4	7	7	4	3	8	3	2	1	1	1	3	8	1	11	4.3	
Jan 27	8	11	5	6	S	2	5	4	3	1	1	5	4	3	4	1	1	4	4	2	1	3	4	2	1	11	3.7	
Jan 28	2	4	3	S	2	1	2	2	3	4	4	3	3	3	5	7	6	6	5	6	6	4	4	4	1	7	3.9	
Jan 29	3	3	S	2	2	2	2	4	14	15	13	6	4	3	4	5	6	8	8	9	13	14	14	15	2	15	7.3	
Jan 30	14	S	15	15	13	12	12	14	13	8	6	3	3	3	4	3	5	4	5	7	5	5	6	5	3	15	7.8	
Jan 31	S	4	4	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	2	3	3	2	S	2	4	3.0	
Diurnal Maximum	21	19	23	21	21	17	19	17	19	15	11	11	11	13	14	17	19	20	22	23	21	22	20					
Daiurnal Average	5.8	5.6	6.0	6.3	6.4	6.3	6.7	7.8	8.2	7.3	6.4	5.4	5.3	5.1	5.1	5.7	6.4	6.7	6.6	6.7	6.4	6.6	6.7	6.4	5.6	5.6		

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

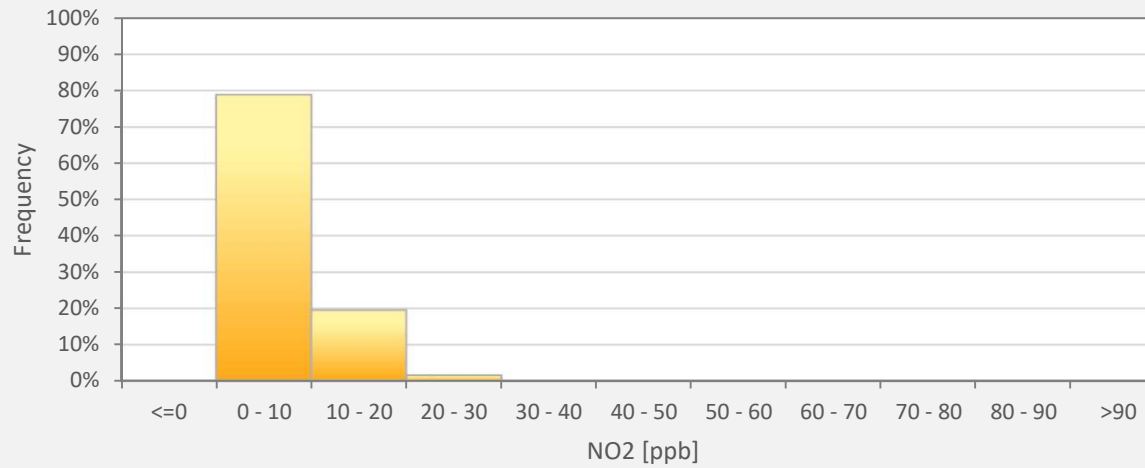
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

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 - Maskwa Site



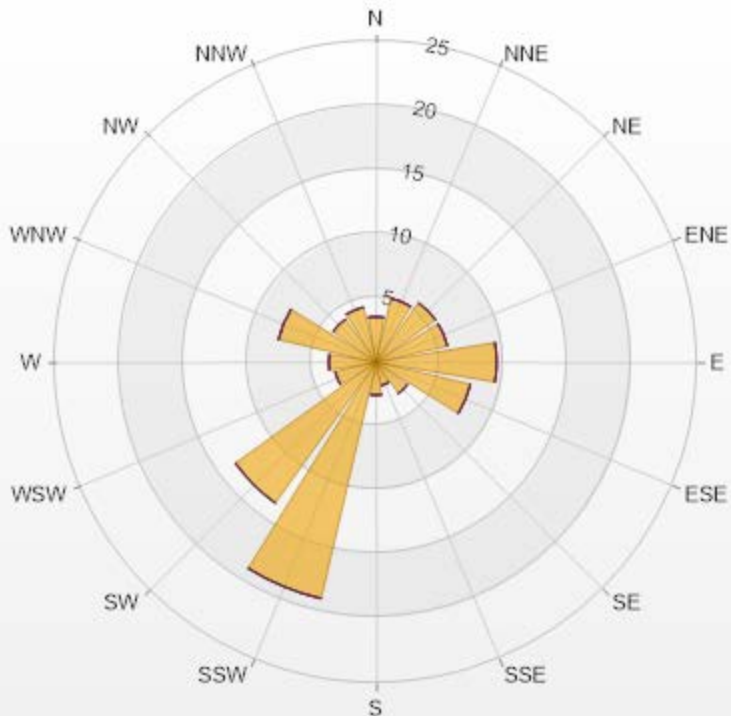
NO2[ppb] Histogram: Maskwa Monthly: 01-2021 1 Hr.



Classes	NO2
<=0	0.14%
0 - 10	78.84%
10 - 20	19.46%
20 - 30	1.56%
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: Maskwa Poll.: Maskwa-NO2[ppb] Monthly: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.62% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	3.55	0	0	0	0	3.55
NNE	5.11	0	0	0	0	5.11
NE	5.68	0	0	0	0	5.68
ENE	5.68	0	0	0	0	5.68
E	9.38	0	0	0	0	9.38
ESE	7.53	0	0	0	0	7.53
SE	2.98	0	0	0	0	2.98
SSE	1.85	0	0	0	0	1.85
S	2.56	0	0	0	0	2.56
SSW	18.89	0	0	0	0	18.89
SW	13.49	0	0	0	0	13.49
WSW	3.27	0	0	0	0	3.27
W	3.69	0	0	0	0	3.69
WNW	7.81	0	0	0	0	7.81
NW	4.12	0	0	0	0	4.12
NNW	4.4	0	0	0	0	4.4
Summary	100	0	0	0	0	100



LICA-202101

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



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Maskwa Site - January 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:	38.1 ppb on January 3 at hour 23	Hours in Service:	744
Maximum Daily Value:	31.8 ppb on January 16	Hours of Data:	706
Minimum Hourly Value:	0.0 ppb on January 10 at hour 4	Hours of Missing Data:	0
Minimum Daily Value:	6.9 ppb on January 10	Hours of Calibration:	38
Monthly Average:	22.2 ppb	Operational Uptime:	100.0

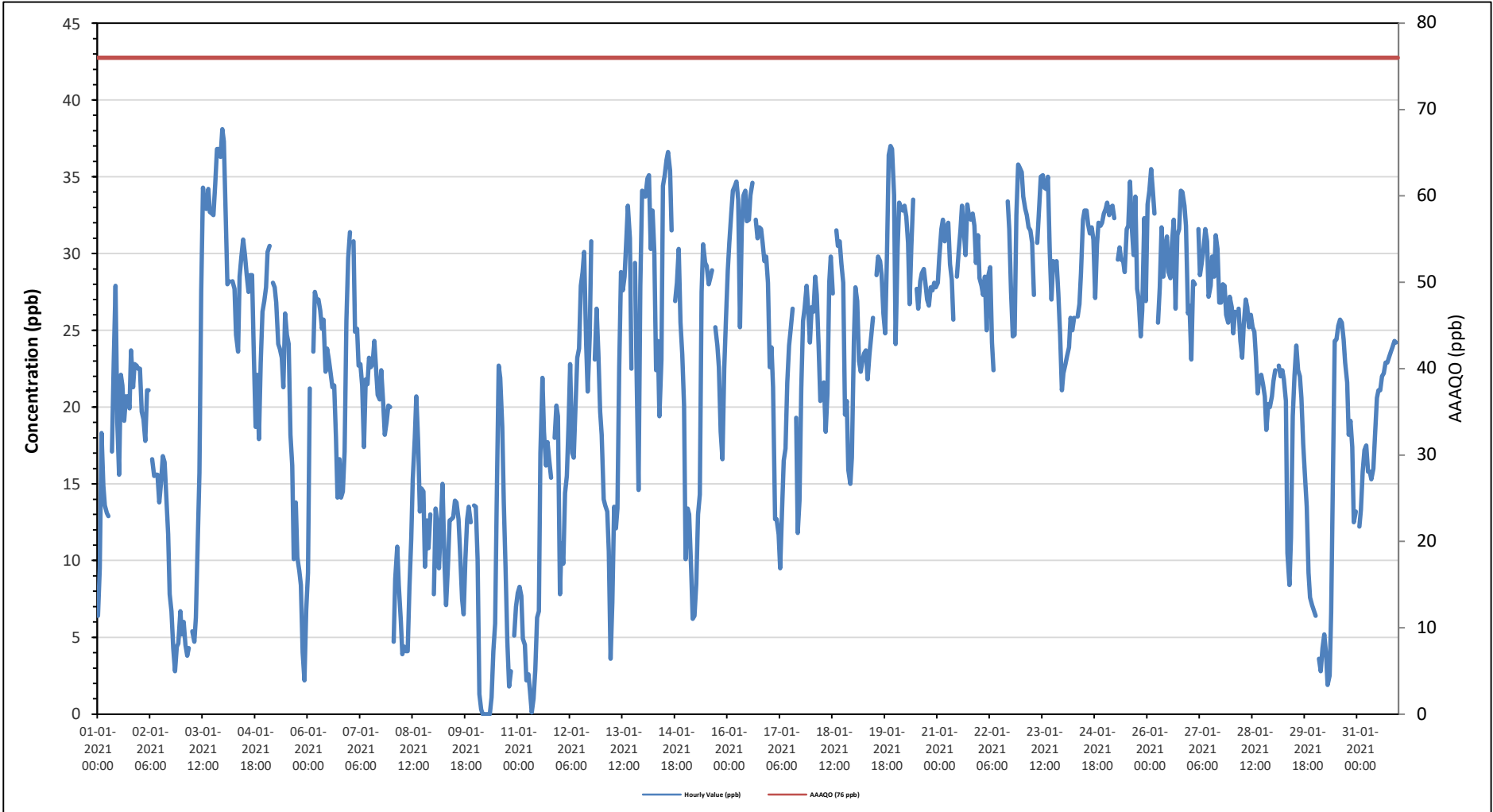
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Jan 1	6.4	9.5	18.3	14.9	13.6	13.1	12.9	S	17.1	23	27.9	19	15.6	22.1	21.4	19.1	20.7	20.7	19.9	23.7	21.3	22.8	22.7	22.5	6.4	27.9	18.6
Jan 2	22.5	19.7	19.2	17.8	21.1	21.1	S	16.6	15.5	15.6	15.6	13.8	15.1	16.8	16.4	14.4	11.7	7.8	6.7	4.3	2.8	4.4	4.6	6.7	2.8	22.5	13.5
Jan 3	5.2	6	4.5	3.8	4.3	S	5.4	4.7	6.3	11	15.7	27.6	34.3	33	32.9	34.2	32.7	32.6	32.5	34.5	36.8	36.8	36.3	38.1	3.8	38.1	22.1
Jan 4	37.3	32.7	28	28.2	S	28.2	27.7	24.7	23.6	28.5	29.8	30.9	29.9	28.6	27.5	28.6	28.6	24.1	18.7	22.1	17.9	22.9	26.2	26.9	17.9	37.3	27.0
Jan 5	27.8	30.1	30.5	S	28.1	27.8	26.8	24.1	23.8	23.2	21.3	26.1	24.7	24.1	18.2	16.2	10.1	13.8	10.2	9.3	8.4	4	2.2	6.8	2.2	30.5	19.0
Jan 6	9.2	21.2	S	23.6	27.5	26.9	27	26.3	25.1	25.7	22.3	23.8	23.1	22.2	21.3	21.4	18	14.1	16.6	14.1	14.5	17.1	25.6	29.7	9.2	29.7	21.6
Jan 7	31.4	S	30.8	24.9	25.1	22.7	22.8	21.4	17.4	21.8	21.5	23.2	22.6	22.8	24.3	22.4	20.8	20.5	22.4	20.2	18.2	19	20.1	20	17.4	31.4	22.4
Jan 8	S	4.7	8.8	10.9	8.4	6.1	3.9	4.4	4.1	4.1	8.3	11.4	15.3	18	20.7	17.8	13.2	14.7	14.5	9.6	12.6	10.8	13	S	3.9	20.7	10.7
Jan 9	7.8	13.4	12.2	9.5	12.7	15	9.8	7.1	9.5	12.6	12.7	12.8	13.9	13.8	12.7	10.6	7.5	6.5	10.1	12.7	13.5	12.5	S	13.6	6.5	15.0	11.4
Jan 10	13.5	10.1	1.3	0.3	0	0	0	0	1.1	4.1	5.9	13.6	22.7	21.9	18.7	13.8	9.5	4.7	1.8	2.8	S	5.1	7	0.0	22.7	6.9	
Jan 11	7.9	8.3	7.7	4.9	4.5	2.2	2.6	1.5	0.1	1	2.9	6.3	6.7	17	21.9	18.4	16.2	17.7	16.5	15.4	S	18	20.1	19.4	0.1	21.9	10.3
Jan 12	7.8	11.1	9.8	14.4	15.5	19	22.8	17	16.7	20	23.2	23.8	27.9	28.8	30.1	24.1	21	24.6	30.8	S	23.1	26.4	23.5	19.7	7.8	30.8	20.9
Jan 13	18.2	14	13.6	13.2	10.6	3.6	7.3	13.5	12.1	13.4	22.6	28.8	27.6	28.5	30.9	33.1	31	22.5	S	29.4	21.6	14.6	27.9	34.1	3.6	34.1	20.5
Jan 14	33.9	33.7	34.9	35.1	30.3	32.8	30.1	22.4	24.3	19.4	23.1	34.4	35.1	36.1	36.6	35.4	31.5	S	26.9	28.1	30.3	25.5	23.4	20.1	19.4	36.6	29.7
Jan 15	10.1	13.4	13	9.4	6.2	6.4	8.5	13	14.3	27.5	30.6	29.4	29.2	28	28.4	28.9	S	25.2	24	22.6	18.4	16.6	22.5	25.8	6.2	30.6	19.6
Jan 16	28.9	30.7	32.7	34.1	34.4	34.7	33.5	25.2	31.7	33.8	34.1	32.1	32.2	33.8	34.6	S	32.2	31	31.7	31.6	30.7	29.5	29.8	28.1	25.2	34.7	31.8
Jan 17	22.6	23.9	21.3	12.7	12.7	11.7	9.5	13.1	16.5	17.3	21.6	24	25	26.4	S	19.3	11.8	13.9	21.2	25.6	26.4	27.9	26.4	24.2	9.5	27.9	19.8
Jan 18	26.5	26.2	28.5	27.3	23.6	20.4	20.8	21.6	18.4	20.9	28.1	29.8	27.4	S	31.5	30.5	30.8	29.3	28.1	19.5	20.4	15.9	15	16.7	15.0	31.5	24.2
Jan 19	24.3	27.8	26.9	23	22.3	23.1	23.5	23.7	21.8	23.4	24.6	25.8	S	28.6	29.8	29.5	28.6	26.1	24.8	29.9	36.4	37	36.8	33.8	21.8	37.0	27.5
Jan 20	24.1	30.4	33.3	33	32.8	33.1	32.4	30.7	26.7	30.5	33.5	S	27.7	26.4	28.2	28.7	29	28.1	27	26.6	27.8	27.6	28.1	27.8	24.1	33.5	29.3
Jan 21	28.1	29.8	31.6	32.2	30.8	31.7	32	29.3	28.3	25.7	S	28.5	30.1	31.5	33.1	31.3	29.9	33.2	32.4	32.2	32.6	31.8	29.4	31.2	25.7	33.2	30.7
Jan 22	28.4	27.9	27.3	28.5	25	28.6	29.1	24.2	22.4	S	18.7	C	C	C	C	C	33.4	31.6	27.5	24.6	24.7	32.5	35.8	35.6	18.7	35.8	28.1
Jan 23	35.3	33.7	32.9	32.5	31.7	31.5	30.7	27.3	S	30.7	33.1	35	35.1	34.3	34.2	35	30.3	27	29.5	29.1	29.5	27.4	24.7	21.1	21.1	35.3	30.9
Jan 24	22.2	22.8	23.3	23.9	25.8	25	25.8	S	25.9	26.7	28.7	32.2	32.8	32.8	31.9	31.3	31.7	30.9	27.1	30.6	32	31.8	32	32.6	22.2	32.8	28.7
Jan 25	32.9	33.3	32.5	33	33.1	32.3	S	29.6	30.4	29.6	29.5	28.8	31.6	31.8	34.7	31.7	29.9	33.7	27.7	27	24.6	26.3	32.3	26.9	24.6	34.7	30.6
Jan 26	33.2	34.1	35.5	34	32.6	S	25.5	27.8	31.7	28.5	30.3	31.1	28.8	28.4	30.7	32.2	26.4	31.2	31.6	34.1	34	33.1	31.8	26.1	25.5	35.5	31.0
Jan 27	26.6	23.1	28.2	28	S	31.6	28.6	29.4	30.3	31.6	30.8	27.2	27.9	29.8	28.5	31.2	30.3	26.8	26.8	28	27.9	26	25.5	27.2	23.1	31.6	28.3
Jan 28	26.5	24.8	26.2	S	26.4	24.3	23.2	25.3	27	26.5	25.2	26	25.2	24	23.3	20.9	21.9	22.1	21.5	20.7	18.5	20.2	20	20.7	18.5	27.0	23.5
Jan 29	21.7	22.4	S	22.7	22	22.4	21.8	20.4	10.5	8.4	11.5	19.4	22.1	24	22.4	22	20.6	17.6	15.5	13.5	9.2	7.6	7.1	6.8	6.8	24.0	17.0
Jan 30	6.4	S	3.6	2.8	4.3	5.2	3.9	1.9	2.5	6.6	16.7	24.3	24.4	25.3	25.7	25.5	24.4	22.9	21.6	18.2	19.1	17.4	12.5	13.2	1.9	25.7	14.3
Jan 31	S	12.2	13.3	15.8	17.2	17.5	15.8	15.8	15.3	16	18	20.6	21.1	21.1	22	22.2	22.9	22.9	23.2	23.6	23.9	24.3	24.2	S	12.2	24.3	19.5
Diurnal Maximum	37	34	36	35	34	35	34	31	32	34	34	35	35	36	37	35	33	34	33	35	37	37	37	38			
Daiurnal Average	21.6	21.8	21.7	20.5	20.1	20.6	19.4	18.7	18.3	20.1	22.2	24.2	25.0	26.3	26.8	25.3	23.7	22.8	22.4	22.1	22.0	22.3	22.8	22.8			

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

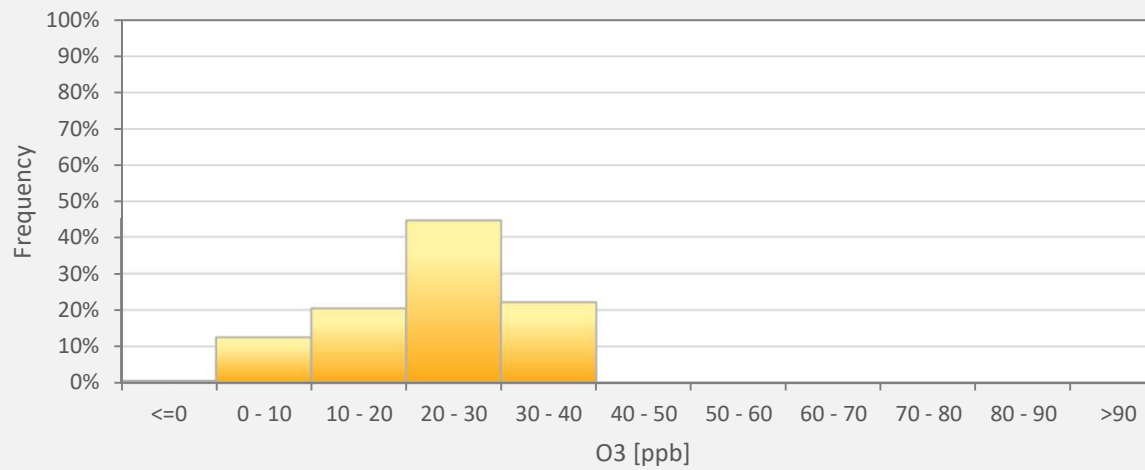
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

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

Timeseries Chart of Hourly Average for O3 - Maskwa Site



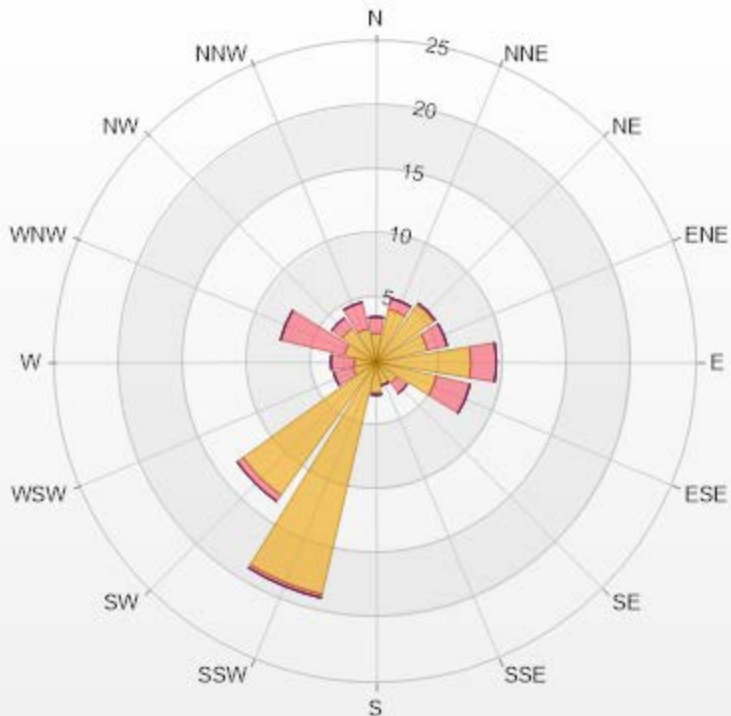
O3[ppb] Histogram: Maskwa Monthly: 01-2021 1 Hr.



Classes	O3
<=0	0.57%
0 - 10	12.46%
10 - 20	20.40%
20 - 30	44.48%
30 - 40	22.10%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Maskwa Poll.: Maskwa-O3[ppb] Monthly: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	2.27	1.27	0	0	0	3.54
NNE	4.25	0.85	0	0	0	5.1
NE	5.52	0.14	0	0	0	5.66
ENE	4.11	1.56	0	0	0	5.67
E	7.37	1.98	0	0	0	9.35
ESE	4.82	2.69	0	0	0	7.51
SE	1.98	0.99	0	0	0	2.97
SSE	1.84	0	0	0	0	1.84
S	2.41	0.14	0	0	0	2.55
SSW	18.56	0.28	0	0	0	18.84
SW	12.75	0.57	0	0	0	13.32
WSW	1.84	1.56	0	0	0	3.4
W	1.7	1.84	0	0	0	3.54
WNW	2.55	5.1	0	0	0	7.65
NW	3.26	0.99	0	0	0	4.25
NNW	2.69	2.12	0	0	0	4.81
Summary	77.92	22.08	0	0	0	100



LICA-202101

% Icon Classes (ppb)	78	22	0	0	0
0-30	78	22	0	0	0
30-50	0	22	0	0	0
50-76	0	0	0	0	0
76-159	0	0	0	0	0
>159.0	0	0	0	0	0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Maskwa Site - January 2021

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

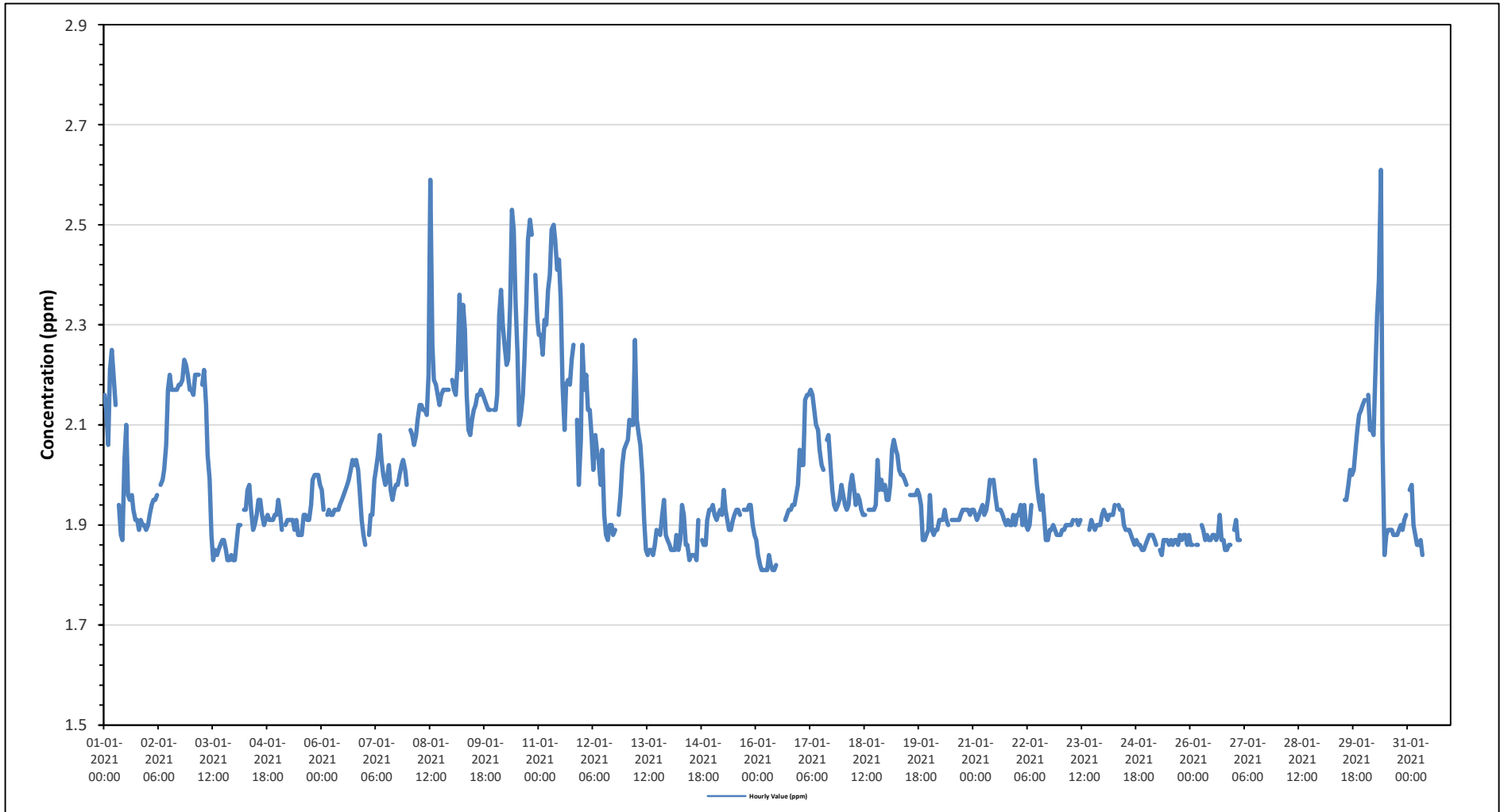
Maximum Hourly Value:	2.61 ppm on January 30 at hour 9	Hours in Service:	744
Maximum Daily Value:	2.31 ppm on January 10	Hours of Data:	635
Minimum Hourly Value:	1.81 ppm on January 16 at hour 3	Hours of Missing Data:	76
Minimum Daily Value:	1.87 ppm on January 25	Hours of Calibration:	33
Monthly Average:	1.99 ppm	Operational Uptime:	89.8

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	
Jan 1	2.16	2.13	2.06	2.21	2.25	2.20	2.14	S	1.94	1.88	1.87	2.03	2.10	1.96	1.95	1.96	1.93	1.91	1.91	1.89	1.91	1.90	1.90	1.89	1.87	2.25	2.00	
Jan 2	1.90	1.92	1.94	1.95	1.95	1.96	S	1.98	1.99	2.01	2.06	2.17	2.20	2.17	2.17	2.17	2.18	2.18	2.19	2.23	2.22	2.20	2.17	1.90	2.23	2.09		
Jan 3	2.17	2.16	2.20	2.20	2.20	S	2.18	2.21	2.14	2.04	1.99	1.88	1.83	1.85	1.84	1.85	1.86	1.87	1.87	1.85	1.83	1.83	1.84	1.83	1.83	2.21	1.98	
Jan 4	1.83	1.87	1.90	1.90	S	1.93	1.93	1.97	1.98	1.93	1.89	1.90	1.92	1.95	1.95	1.92	1.90	1.91	1.92	1.91	1.91	1.91	1.92	1.92	1.83	1.98	1.92	
Jan 5	1.95	1.92	1.89	S	1.90	1.91	1.91	1.91	1.91	1.89	1.91	1.88	1.88	1.88	1.92	1.92	1.91	1.91	1.94	1.99	2.00	2.00	2.00	1.98	1.88	2.00	1.93	
Jan 6	1.97	1.93	S	1.92	1.93	1.92	1.92	1.93	1.93	1.93	1.94	1.95	1.96	1.97	1.98	1.99	2.01	2.03	2.02	2.03	2.01	1.97	1.91	1.88	2.03	1.96		
Jan 7	1.86	S	1.88	1.92	1.92	1.99	2.01	2.04	2.08	2.03	2.00	1.98	1.99	2.02	1.97	1.95	1.97	1.98	1.98	2.00	2.02	2.03	2.01	1.98	2.08	2.08	1.98	
Jan 8	S	2.09	2.08	2.06	2.08	2.11	2.14	2.14	2.13	2.13	2.12	2.20	2.59	2.26	2.19	2.18	2.16	2.14	2.16	2.17	2.17	2.17	2.17	S	2.06	2.59	2.17	
Jan 9	2.19	2.17	2.16	2.22	2.36	2.21	2.34	2.29	2.16	2.09	2.08	2.11	2.13	2.14	2.16	2.16	2.17	2.16	2.15	2.14	2.13	2.13	S	2.13	2.08	2.36	2.17	
Jan 10	2.13	2.16	2.32	2.37	2.30	2.26	2.22	2.23	2.34	2.53	2.49	2.35	2.24	2.10	2.12	2.16	2.23	2.35	2.47	2.51	2.48	S	2.40	2.31	2.10	2.53	2.31	
Jan 11	2.28	2.28	2.24	2.31	2.30	2.37	2.40	2.49	2.50	2.47	2.41	2.43	2.35	2.18	2.09	2.18	2.19	2.18	2.23	2.26	S	2.11	1.98	2.07	1.98	2.50	2.27	
Jan 12	2.26	2.17	2.20	2.13	2.13	2.08	2.01	2.08	2.05	2.03	1.98	2.05	1.92	1.88	1.87	1.90	1.90	1.88	1.89	S	1.92	1.96	2.02	2.05	1.87	2.26	2.02	
Jan 13	2.06	2.07	2.11	2.10	2.10	2.27	2.11	2.08	2.06	2.00	1.91	1.85	1.84	1.85	1.85	1.84	1.86	1.89	S	1.88	1.92	1.95	1.88	1.87	1.84	2.27	1.97	
Jan 14	1.86	1.85	1.85	1.85	1.88	1.85	1.87	1.94	1.92	1.86	1.86	1.83	1.84	1.84	1.84	1.83	1.91	S	1.87	1.86	1.86	1.91	1.93	1.93	1.83	1.94	1.87	
Jan 15	1.94	1.92	1.91	1.92	1.93	1.92	1.97	1.93	1.91	1.89	1.89	1.91	1.92	1.93	1.93	1.92	S	1.93	1.93	1.93	1.94	1.94	1.90	1.88	1.88	1.97	1.92	
Jan 16	1.87	1.84	1.82	1.81	1.81	1.81	1.81	1.84	1.82	1.81	1.81	1.82	C	C	C	C	1.91	1.92	1.93	1.93	1.94	1.94	1.96	1.98	1.81	1.98	1.87	
Jan 17	2.05	2.02	2.02	2.15	2.16	2.16	2.17	2.16	2.13	2.10	2.09	2.05	2.02	2.01	S	2.07	2.08	2.02	1.97	1.94	1.93	1.94	1.95	1.98	1.93	2.17	2.05	
Jan 18	1.96	1.94	1.93	1.94	1.98	2.00	1.97	1.94	1.96	1.95	1.93	1.92	1.92	S	1.93	1.93	1.93	1.93	1.94	2.03	1.97	1.99	1.97	1.98	1.92	2.03	1.95	
Jan 19	1.95	1.95	1.98	2.05	2.07	2.05	2.04	2.01	2.00	2.00	1.99	1.98	S	1.96	1.96	1.96	1.96	1.96	1.97	1.96	1.94	1.87	1.87	1.88	1.89	2.07	1.97	
Jan 20	1.96	1.89	1.88	1.89	1.89	1.91	1.91	1.91	1.93	1.91	1.90	S	1.91	1.91	1.91	1.91	1.91	1.92	1.93	1.93	1.93	1.93	1.92	1.93	1.88	1.96	1.91	
Jan 21	1.93	1.92	1.91	1.92	1.93	1.94	1.92	1.93	1.95	1.99	S	1.99	1.96	1.93	1.93	1.93	1.92	1.91	1.90	1.91	1.90	1.92	1.90	1.90	1.90	1.99	1.93	
Jan 22	1.92	1.92	1.94	1.90	1.94	1.90	1.89	1.90	1.94	S	2.03	1.98	1.95	1.93	1.96	1.91	1.87	1.87	1.89	1.89	1.90	1.89	1.88	1.88	1.87	2.03	1.92	
Jan 23	1.88	1.89	1.89	1.90	1.90	1.90	1.90	1.91	S	1.91	1.90	1.91	NRM	NRM	NRM	NRM	1.89	1.91	1.90	1.89	1.90	1.90	1.92	1.88	1.92	1.90		
Jan 24	1.93	1.92	1.91	1.92	1.92	1.92	1.94	S	1.94	1.93	1.93	1.90	1.89	1.89	1.89	1.88	1.87	1.86	1.87	1.86	1.86	1.85	1.85	1.86	1.85	1.94	1.90	
Jan 25	1.87	1.88	1.88	1.88	1.87	1.86	S	1.85	1.84	1.87	1.87	1.87	1.86	1.87	1.86	1.87	1.87	1.86	1.88	1.87	1.88	1.88	1.86	1.88	1.84	1.88	1.87	
Jan 26	1.86	1.86	X	1.86	1.86	S	1.90	1.89	1.87	1.88	1.87	1.87	1.88	1.88	1.87	1.88	1.92	1.87	1.87	1.85	1.85	1.86	1.86	X	1.85	1.92	1.87	
Jan 27	1.89	1.91	1.87	1.87	S	1.85	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	1.85	1.91	-	
Jan 28	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	1.85	1.91	-
Jan 29	X	X	X	X	X	X	X	X	X	NRM	NRM	NRM	NRM	1.95	1.95	1.98	2.01	2.00	2.01	2.05	2.09	2.12	2.13	2.14	1.95	2.14	-	
Jan 30	2.15	S	2.16	2.09	2.09	2.08	2.22	2.32	2.39	2.61	2.07	1.84	1.88	1.89	1.89	1.89	1.88	1.88	1.88	1.89	1.90	1.89	1.91	1.92	1.84	2.61	2.03	
Jan 31	S	1.97	1.98	1.90	1.88	1.86	1.86	1.87	1.84	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	1.84	1.98	-	
Diurnal Maximum	2.28	2.28	2.32	2.37	2.36	2.37	2.40	2.49	2.50	2.61	2.49	2.43	2.59	2.26	2.19	2.18	2.23	2.35	2.47	2.51	2.48	2.22	2.40	2.31				
Diurnal Average	1.99	1.98	2.00	2.01	2.02	2.01	2.03	2.03	2.02	2.03	1.99	1.99	2.00	1.97	1.96	1.97	1.97	1.97	1.97	1.98	1.98	1.97	1.96	1.97				

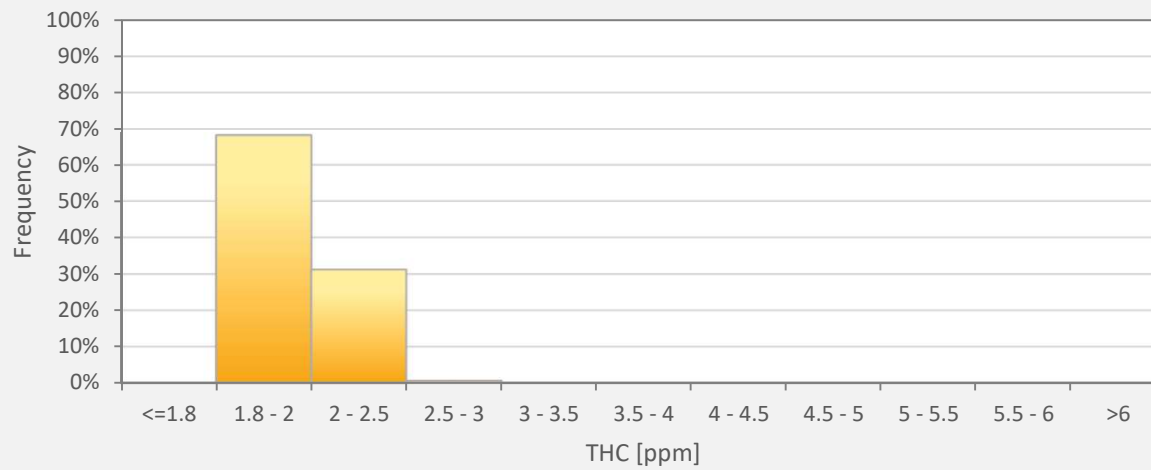
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction/Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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 - Maskwa Site



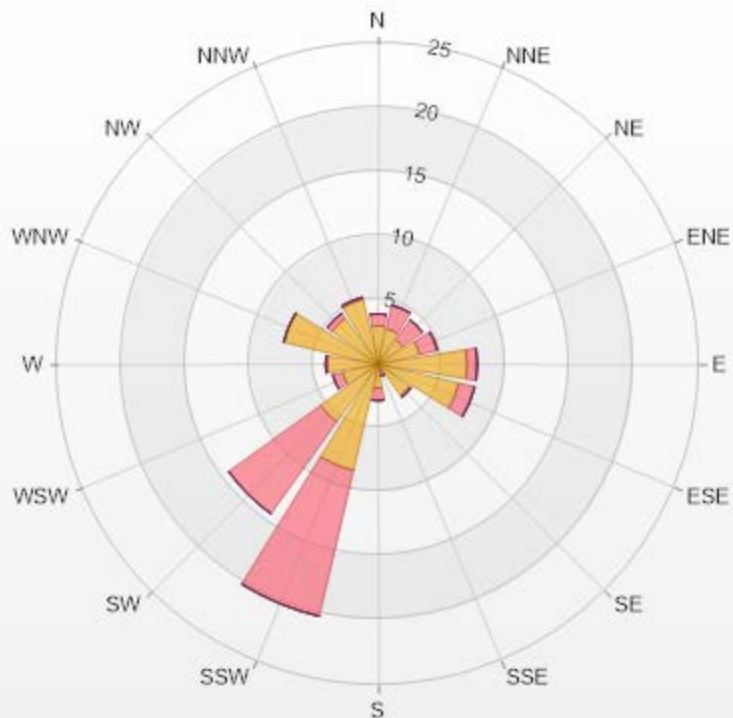
THC55[ppm] Histogram: Maskwa Monthly: 01-2021 1 Hr.



Classes	THC55
<=1.8	0.00%
1.8 - 2	68.19%
2 - 2.5	31.18%
2.5 - 3	0.63%
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: Maskwa Poll.: Maskwa-THC55[ppm] Monthly: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 85.35% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	2.99	0.94	0	0	0	3.93
NNE	2.83	1.89	0	0	0	4.72
NE	2.36	1.89	0	0	0	4.25
ENE	3.31	1.42	0	0	0	4.73
E	6.93	0.79	0	0	0	7.72
ESE	6.46	1.26	0	0	0	7.72
SE	2.99	0.16	0	0	0	3.15
SSE	0.47	0.47	0	0	0	0.94
S	1.89	0.94	0	0	0	2.83
SSW	8.5	11.65	0	0	0	20.15
SW	5.51	8.82	0	0	0	14.33
WSW	2.83	0.79	0	0	0	3.62
W	3.94	0.16	0	0	0	4.1
WNW	7.56	0	0	0	0	7.56
NW	4.41	0.47	0	0	0	4.88
NNW	5.2	0.16	0	0	0	5.36
Summary	68.18	31.81	0	0	0	100



LICA-202101

Page 129 of 237

% Icon Classes (ppm)

68 0-2

32 2-5

0 5-10

0 10-40

0 >40.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Maskwa Site - January 2021
Summary of Hourly Averages

METHANE (CH4) in ppm

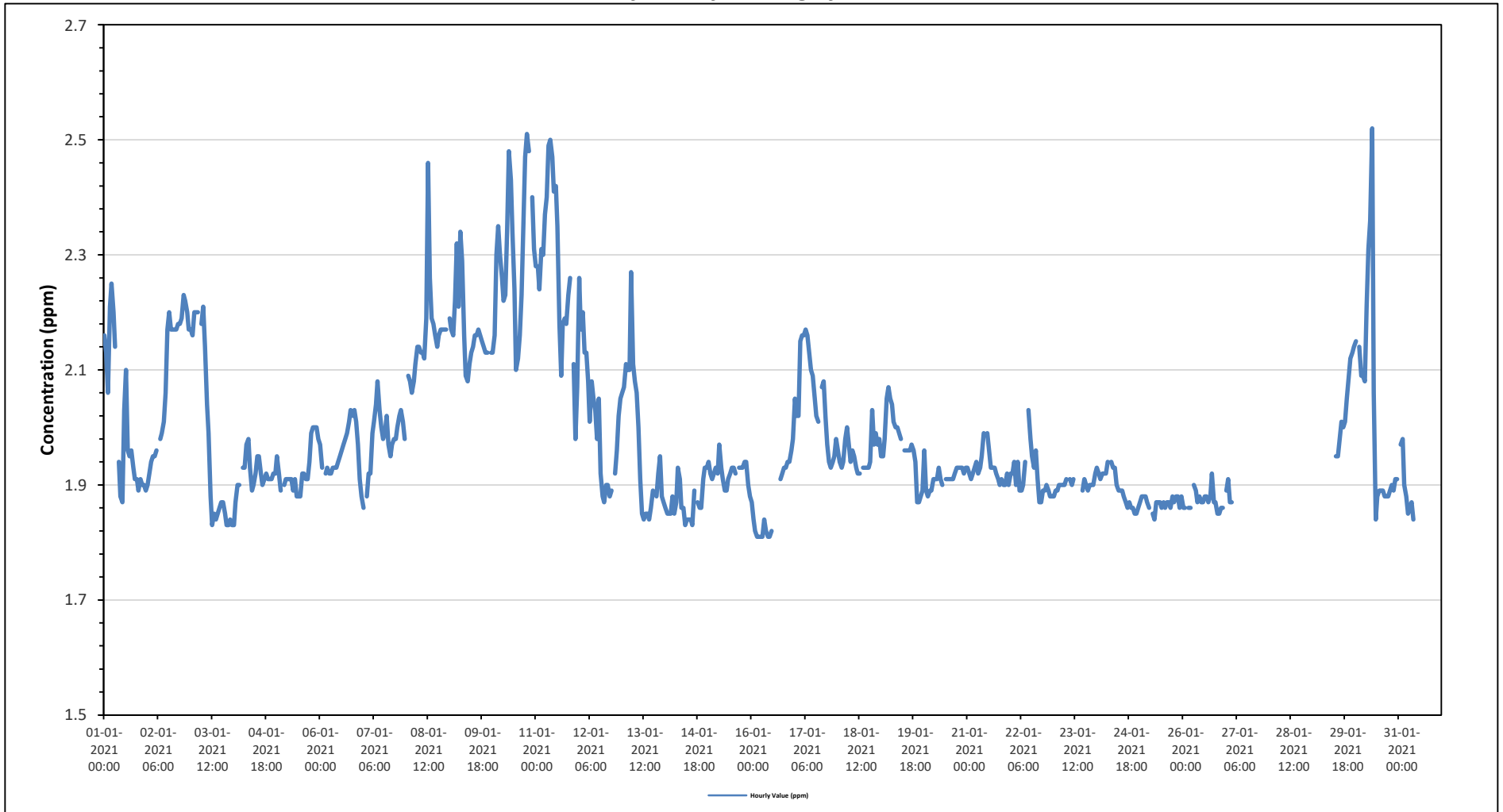
Maximum Hourly Value:	2.52 ppm on January 30 at hour 9	Hours in Service:	744
Maximum Daily Value:	2.30 ppm on January 10	Hours of Data:	635
Minimum Hourly Value:	1.81 ppm on January 16 at hour 3	Hours of Missing Data:	76
Minimum Daily Value:	1.87 ppm on January 25	Hours of Calibration:	33
Monthly Average:	1.99 ppm	Operational Uptime:	89.8

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	
Jan 1	2.16	2.13	2.06	2.21	2.25	2.20	2.14	S	1.94	1.88	1.87	2.03	2.10	1.96	1.95	1.96	1.93	1.91	1.91	1.89	1.91	1.90	1.90	1.89	1.87	2.25	2.00	
Jan 2	1.90	1.92	1.94	1.95	1.95	1.96	S	1.98	1.99	2.01	2.06	2.17	2.20	2.17	2.17	2.17	2.18	2.18	2.19	2.23	2.22	2.20	2.17	1.90	2.23	2.09		
Jan 3	2.17	2.16	2.20	2.20	2.20	S	2.18	2.21	2.14	2.04	1.99	1.88	1.83	1.85	1.84	1.85	1.86	1.87	1.87	1.85	1.83	1.83	1.84	1.83	1.83	2.21	1.98	
Jan 4	1.83	1.87	1.90	1.90	S	1.93	1.93	1.97	1.98	1.93	1.89	1.90	1.92	1.95	1.95	1.92	1.90	1.91	1.92	1.91	1.91	1.91	1.92	1.92	1.83	1.98	1.92	
Jan 5	1.95	1.92	1.89	S	1.90	1.91	1.91	1.91	1.91	1.89	1.91	1.88	1.88	1.88	1.92	1.92	1.91	1.91	1.94	1.99	2.00	2.00	2.00	1.98	1.88	2.00	1.93	
Jan 6	1.97	1.93	S	1.92	1.93	1.92	1.92	1.93	1.93	1.93	1.94	1.95	1.96	1.97	1.98	1.99	2.01	2.03	2.02	2.03	2.01	1.97	1.91	1.88	1.88	2.03	1.96	
Jan 7	1.86	S	1.88	1.92	1.92	1.99	2.01	2.04	2.08	2.03	2.00	1.98	1.99	2.02	1.97	1.95	1.97	1.98	1.98	2.00	2.02	2.03	2.01	1.98	1.86	2.08	1.98	
Jan 8	S	2.09	2.08	2.06	2.08	2.11	2.14	2.14	2.13	2.13	2.12	2.19	2.46	2.26	2.19	2.18	2.16	2.14	2.16	2.17	2.17	2.17	S	2.06	2.46	2.16		
Jan 9	2.19	2.17	2.16	2.22	2.32	2.21	2.34	2.29	2.16	2.09	2.08	2.11	2.13	2.14	2.16	2.16	2.17	2.16	2.15	2.14	2.13	2.13	S	2.13	2.08	2.34	2.17	
Jan 10	2.13	2.16	2.30	2.35	2.30	2.26	2.22	2.23	2.34	2.48	2.43	2.34	2.24	2.10	2.12	2.16	2.23	2.35	2.47	2.51	2.48	S	2.40	2.31	2.10	2.51	2.30	
Jan 11	2.28	2.28	2.24	2.31	2.30	2.37	2.40	2.49	2.50	2.47	2.41	2.42	2.35	2.18	2.09	2.18	2.19	2.18	2.23	2.26	S	2.11	1.98	2.07	1.98	2.50	2.27	
Jan 12	2.26	2.17	2.20	2.13	2.13	2.08	2.01	2.08	2.05	2.03	1.98	2.05	1.92	1.88	1.87	1.90	1.90	1.88	1.89	S	1.92	1.96	2.02	2.05	1.87	2.26	2.02	
Jan 13	2.06	2.07	2.11	2.10	2.10	2.27	2.11	2.08	2.06	2.00	1.91	1.85	1.84	1.85	1.85	1.84	1.86	1.89	S	1.88	1.92	1.95	1.88	1.87	1.84	2.27	1.97	
Jan 14	1.86	1.85	1.85	1.85	1.88	1.85	1.87	1.93	1.91	1.86	1.86	1.83	1.84	1.84	1.84	1.83	1.89	S	1.87	1.86	1.86	1.91	1.93	1.93	1.83	1.93	1.87	
Jan 15	1.94	1.92	1.91	1.92	1.93	1.92	1.97	1.93	1.91	1.89	1.89	1.91	1.92	1.93	1.93	1.92	S	1.93	1.93	1.93	1.94	1.94	1.90	1.88	1.88	1.97	1.92	
Jan 16	1.87	1.84	1.82	1.81	1.81	1.81	1.81	1.84	1.82	1.81	1.81	1.82	C	C	C	C	1.91	1.92	1.93	1.93	1.94	1.94	1.96	1.98	1.81	1.98	1.87	
Jan 17	2.05	2.02	2.02	2.15	2.16	2.16	2.17	2.16	2.13	2.10	2.09	2.05	2.02	2.01	S	2.07	2.08	2.02	1.97	1.94	1.93	1.94	1.95	1.98	1.93	2.17	2.05	
Jan 18	1.96	1.94	1.93	1.94	1.98	2.00	1.97	1.94	1.96	1.95	1.93	1.92	1.92	S	1.93	1.93	1.93	1.93	1.94	2.03	1.97	1.99	1.97	1.98	1.92	2.03	1.95	
Jan 19	1.95	1.95	1.98	2.05	2.07	2.05	2.04	2.01	2.00	2.00	1.99	1.98	S	1.96	1.96	1.96	1.96	1.96	1.97	1.96	1.94	1.87	1.87	1.88	1.89	1.87	1.97	
Jan 20	1.96	1.89	1.88	1.89	1.89	1.91	1.91	1.91	1.93	1.91	1.90	S	1.91	1.91	1.91	1.91	1.91	1.92	1.93	1.93	1.93	1.93	1.92	1.93	1.88	1.96	1.91	
Jan 21	1.93	1.92	1.91	1.92	1.93	1.94	1.92	1.93	1.95	1.99	S	1.99	1.96	1.93	1.93	1.93	1.92	1.91	1.90	1.91	1.90	1.90	1.92	1.90	1.90	1.99	1.93	
Jan 22	1.92	1.92	1.94	1.90	1.94	1.89	1.89	1.90	1.94	S	2.03	1.98	1.95	1.93	1.96	1.91	1.87	1.87	1.89	1.89	1.90	1.89	1.88	1.88	1.87	2.03	1.92	
Jan 23	1.88	1.89	1.89	1.90	1.90	1.90	1.90	1.91	S	1.91	1.90	1.91	NRM	NRM	NRM	NRM	1.89	1.91	1.90	1.89	1.90	1.90	1.92	1.88	1.92	1.90		
Jan 24	1.93	1.92	1.91	1.92	1.92	1.92	1.94	S	1.94	1.93	1.93	1.90	1.89	1.89	1.89	1.88	1.87	1.86	1.87	1.86	1.86	1.85	1.85	1.86	1.85	1.94	1.90	
Jan 25	1.87	1.88	1.88	1.88	1.87	1.86	S	1.85	1.84	1.87	1.87	1.87	1.86	1.87	1.86	1.87	1.87	1.86	1.88	1.87	1.88	1.88	1.86	1.88	1.84	1.88	1.87	
Jan 26	1.86	1.86	X	1.86	1.86	S	1.90	1.89	1.87	1.88	1.87	1.87	1.88	1.88	1.87	1.88	1.92	1.87	1.87	1.85	1.85	1.86	1.86	X	1.85	1.92	1.87	
Jan 27	1.89	1.91	1.87	1.87	S	1.85	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	1.85	1.91	-	
Jan 28	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	1.85	1.91	-
Jan 29	X	X	X	X	X	X	X	X	X	NRM	NRM	NRM	NRM	1.95	1.95	1.98	2.01	2.00	2.01	2.05	2.09	2.12	2.13	2.14	1.95	2.14	-	
Jan 30	2.15	S	2.14	2.09	2.09	2.08	2.21	2.31	2.36	2.52	2.06	1.84	1.88	1.89	1.89	1.89	1.88	1.88	1.88	1.89	1.90	1.89	1.91	1.91	1.84	2.52	2.02	
Jan 31	S	1.97	1.98	1.90	1.88	1.85	1.86	1.87	1.84	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	1.84	1.98	-	
Diurnal Maximum	2.28	2.28	2.30	2.35	2.32	2.37	2.40	2.49	2.50	2.52	2.43	2.42	2.46	2.26	2.19	2.18	2.23	2.35	2.47	2.51	2.48	2.22	2.40	2.31				
Diurnal Average	1.99	1.98	2.00	2.00	2.02	2.01	2.03	2.03	2.02	2.02	1.99	1.99	1.99	1.97	1.96	1.97	1.97	1.97	1.97	1.98	1.98	1.97	1.96	1.97				

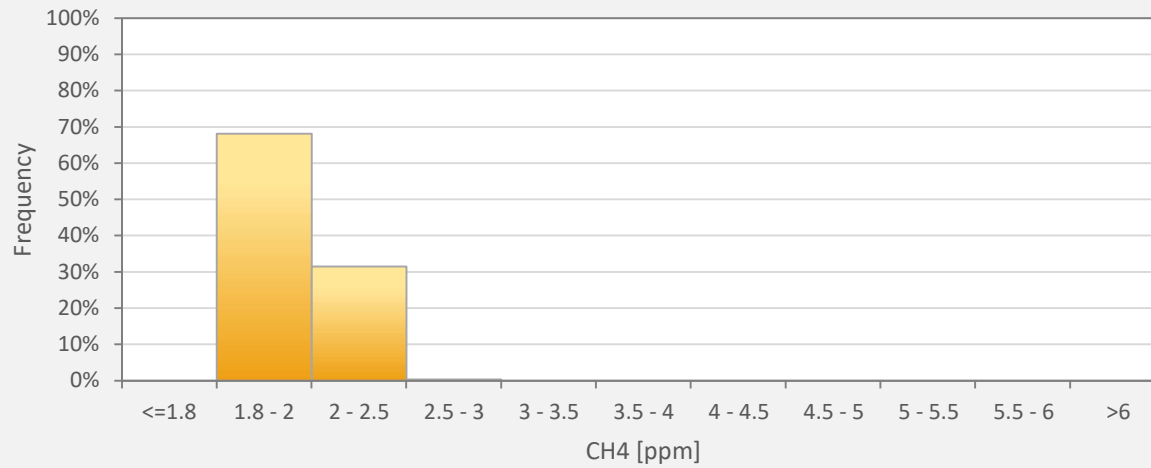
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction/Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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 - Maskwa Site



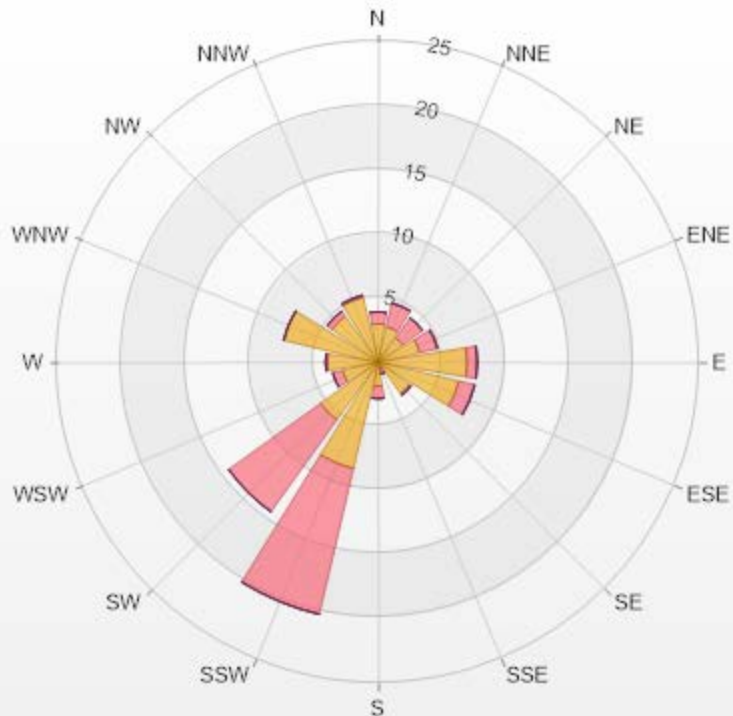
CH4[ppm] Histogram: Maskwa Monthly: 01-2021 1 Hr.



Classes	CH4
<=1.8	0.00%
1.8 - 2	68.19%
2 - 2.5	31.50%
2.5 - 3	0.31%
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: Maskwa Poll.: Maskwa-CH4[ppm] Monthly: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 85.35% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	2.99	0.94	0	0	0	3.93
NNE	2.83	1.89	0	0	0	4.72
NE	2.36	1.89	0	0	0	4.25
ENE	3.31	1.42	0	0	0	4.73
E	6.93	0.79	0	0	0	7.72
ESE	6.46	1.26	0	0	0	7.72
SE	2.99	0.16	0	0	0	3.15
SSE	0.47	0.47	0	0	0	0.94
S	1.89	0.94	0	0	0	2.83
SSW	8.5	11.65	0	0	0	20.15
SW	5.51	8.82	0	0	0	14.33
WSW	2.83	0.79	0	0	0	3.62
W	3.94	0.16	0	0	0	4.1
WNW	7.56	0	0	0	0	7.56
NW	4.41	0.47	0	0	0	4.88
NNW	5.2	0.16	0	0	0	5.36
Summary	68.18	31.81	0	0	0	100



LICA-202101

% Icon Classes (ppm)

68  0-2

32  2-5

0  5-10

0  10-20

0  >20.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Maskwa Site - January 2021

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

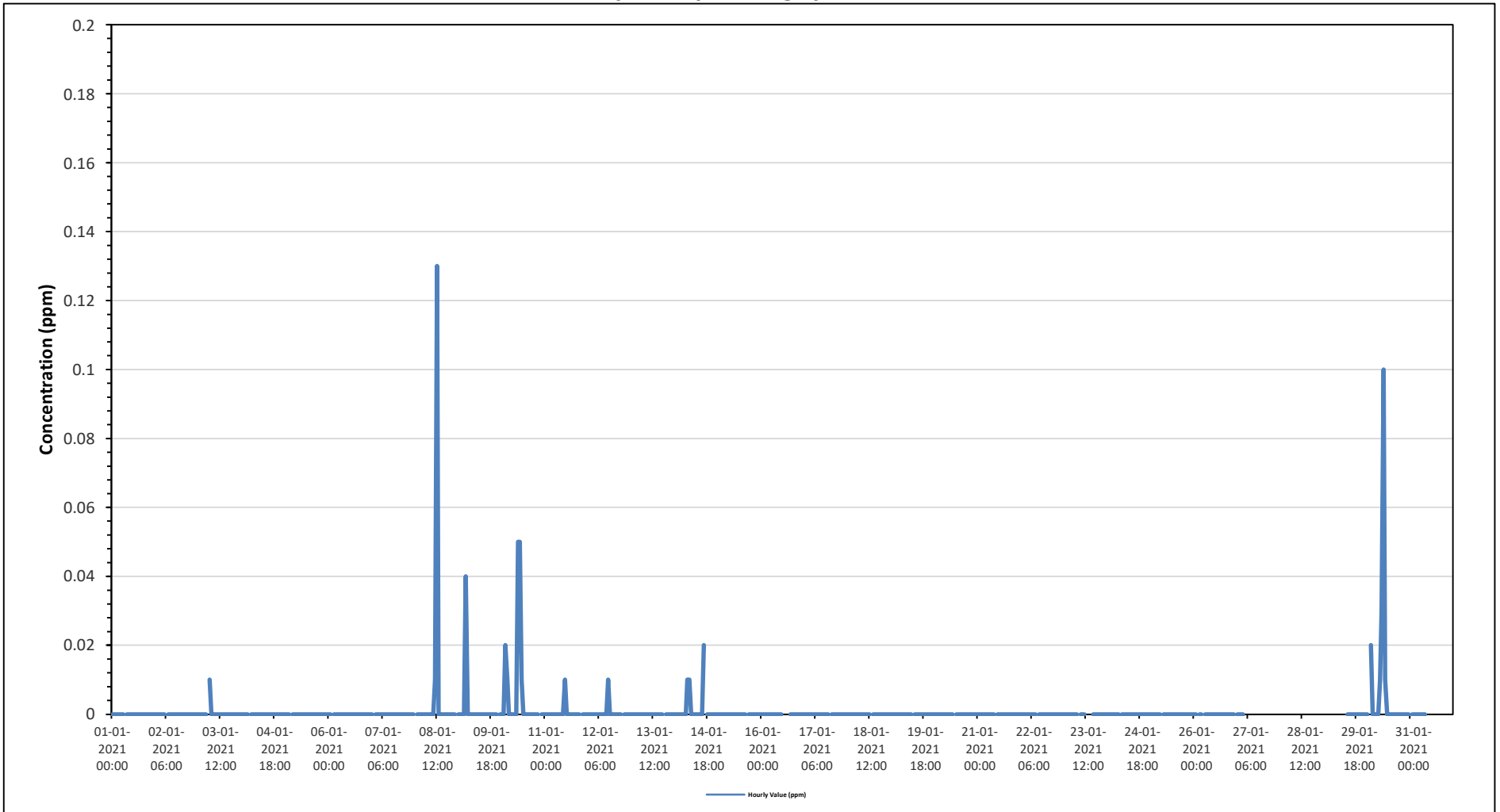
Maximum Hourly Value:	0.13 ppm on January 8 at hour 12	Hours in Service:	744
Maximum Daily Value:	0.01 ppm on January 30	Hours of Data:	635
Minimum Hourly Value:	0.00 ppm on January 1 at hour 0	Hours of Missing Data:	76
Minimum Daily Value:	0.00 ppm on January 1	Hours of Calibration:	33
Monthly Average:	0.00 ppm	Operational Uptime:	89.8

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							
Jan 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 2	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Jan 3	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	
Jan 4	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Jan 5	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Jan 6	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Jan 7	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Jan 8	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.13	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	S	0.00	0.13	0.01	
Jan 9	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.04	0.00		
Jan 10	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	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	S	0.02	0.01	0.05	0.01	
Jan 11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	
Jan 12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	
Jan 13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Jan 14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02	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	0.02	0.01	0.02	
Jan 15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Jan 16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Jan 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	0.00	0.00	0.00	0.00	0.00
Jan 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	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
Jan 20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	NRM	NRM	NRM	NRM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 25	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 26	0.00	0.00	X	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	X	0.00	
Jan 27	0.00	0.00	0.00	0.00	S	0.00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0.00
Jan 28	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0.00
Jan 29	X	X	X	X	X	X	X	X	X	NRM	NRM	NRM	NRM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 30	0.00	S	0.02	0.00	0.00	0.00	0.00	0.01	0.03	0.10	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	0.10	0.01	
Jan 31	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0.00	0.00
Diurnal Maximum	0.00	0.00	0.02	0.01	0.04	0.00	0.01	0.01	0.03	0.10	0.05	0.01	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diurnal Average	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	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

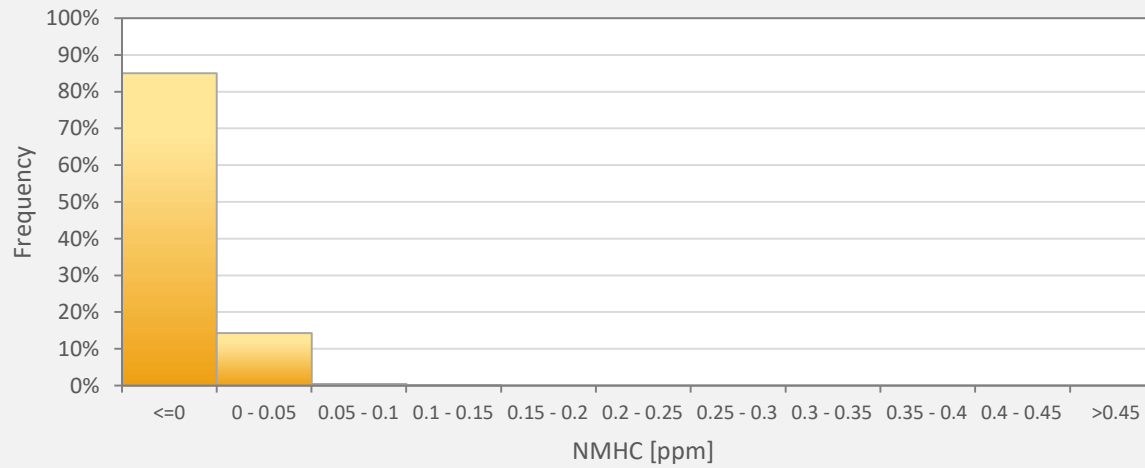
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	Invalid Data (Equipment Malfunction/Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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 - Maskwa Site



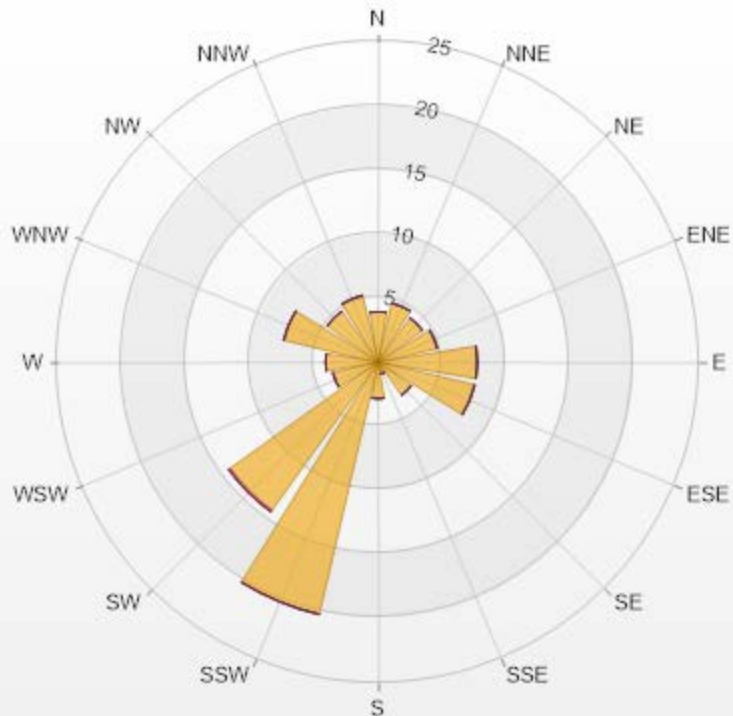
NMHC[ppm] Histogram: Maskwa Monthly: 01-2021 1 Hr.



Classes	NMHC
<=0	85.04%
0 - 0.05	14.33%
0.05 - 0.1	0.47%
0.1 - 0.15	0.16%
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: Maskwa Poll.: Maskwa-NMHC[ppm] Monthly: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 85.35% Calm Avg: 0.00 [ppm]


Direction	0-0.1	0.1-0.3	0.3-0.9	0.9-2	>2.0	Total
N	3.94	0	0	0	0	3.94
NNE	4.72	0	0	0	0	4.72
NE	4.25	0	0	0	0	4.25
ENE	4.72	0	0	0	0	4.72
E	7.72	0	0	0	0	7.72
ESE	7.72	0	0	0	0	7.72
SE	3.15	0	0	0	0	3.15
SSE	0.94	0	0	0	0	0.94
S	2.83	0	0	0	0	2.83
SSW	20.16	0	0	0	0	20.16
SW	14.17	0.16	0	0	0	14.33
WSW	3.62	0	0	0	0	3.62
W	4.09	0	0	0	0	4.09
WNW	7.56	0	0	0	0	7.56
NW	4.88	0	0	0	0	4.88
NNW	5.35	0	0	0	0	5.35
Summary	100	0.16	0	0	0	100



LICA-202101

% 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

Maskwa Site - January 2021

Summary of Hourly Averages

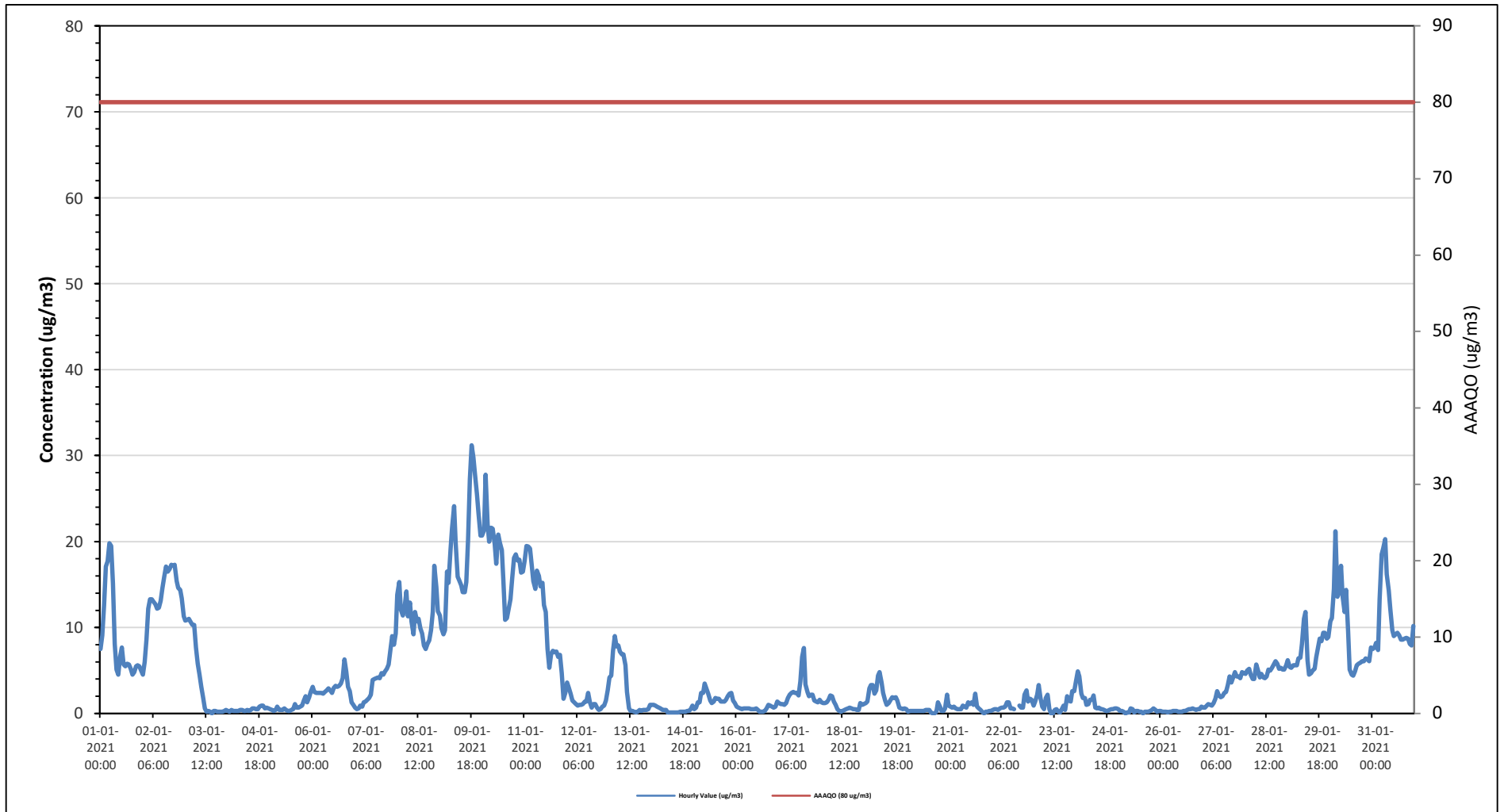
PARTICULATE MATTER 2.5 (PM_{2.5}) in µg/m³

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 80 µg/m ³ , 24-Hour 29 µg/m ³																															
Number of 1-Hour Exceedences: 0										Number of 24-Hour Exceedences: 0																					
Maximum Hourly Value: 31 µg/m ³ on January 9 at hour 18										Hours in Service: 744																					
Maximum Daily Value: 18.8 µg/m ³ on January 9										Hours of Data: 742																					
Minimum Hourly Value: 0 µg/m ³ on January 3 at hour 15										Hours of Missing Data: 0																					
Minimum Daily Value: 0 µg/m ³ on January 25										Hours of Calibration: 2																					
Monthly Average: 4.7 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							
Jan 1	8	9	13	17	18	20	20	15	8	5	5	7	8	6	6	6	6	5	5	5	6	6	6	5	5	5	20	8.7			
Jan 2	5	6	9	12	13	13	13	13	12	12	13	15	16	17	17	17	17	17	17	15	15	14	13	11	11	17	13.5				
Jan 3	11	11	11	11	10	10	8	6	5	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	3.8			
Jan 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0.5			
Jan 5	1	0	0	0	1	0	0	0	1	0	0	0	0	1	1	1	1	1	1	2	2	1	2	3	3	3	0.8				
Jan 6	3	3	2	2	2	2	2	3	3	3	3	2	3	3	3	3	4	4	6	5	3	3	1	1	1	6	2.9				
Jan 7	1	1	1	1	1	1	1	1	2	2	2	4	4	4	4	5	5	5	5	6	7	9	8	9	9	9	3.8				
Jan 8	14	15	12	11	12	14	11	13	11	9	12	11	11	10	9	8	8	8	9	10	12	17	15	12	12	17	11.4				
Jan 9	11	10	9	10	17	15	19	22	24	20	16	16	15	14	14	15	20	27	31	30	28	26	23	21	21	31	18.8				
Jan 10	21	21	28	22	20	22	22	20	17	21	20	19	16	11	11	12	13	16	18	19	18	18	16	17	17	28	18.2				
Jan 11	18	20	19	19	17	15	15	17	16	15	15	13	12	8	5	7	7	7	7	7	5	2	2	2	2	20	11.4				
Jan 12	4	3	2	2	1	1	1	1	1	1	1	1	2	1	1	1	1	1	0	1	1	1	2	3	3	4	1.4				
Jan 13	4	4	7	9	8	8	7	7	7	6	3	1	0	0	0	0	0	0	0	0	0	0	1	1	1	9	3.1				
Jan 14	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0.4				
Jan 15	1	1	1	1	2	2	4	3	2	2	1	1	2	2	2	1	1	1	2	2	2	2	2	1	1	4	1.7				
Jan 16	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0.6				
Jan 17	1	1	1	1	1	2	2	2	3	2	2	2	4	7	8	3	3	2	2	2	2	1	1	2	2	8	2.4				
Jan 18	1	1	1	1	2	2	2	1	1	0	0	0	0	0	1	1	1	1	1	1	0	0	1	1	1	2	0.9				
Jan 19	1	1	1	3	3	3	2	3	4	5	4	2	2	1	1	2	2	2	2	2	1	1	1	1	1	5	2.0				
Jan 20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	2	2	2	0.4				
Jan 21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	0	0	0	0	0	0	0	2	0.7				
Jan 22	0	0	1	1	0	1	1	1	1	1	1	1	1	1	C	C	1	1	1	2	3	1	2	2	2	3	1.0				
Jan 23	1	1	2	3	2	1	1	2	2	1	0	0	0	1	0	0	1	1	0	2	2	1	3	3	3	3	1.2				
Jan 24	4	5	4	2	2	2	1	1	2	2	2	1	1	1	1	0	0	0	0	0	1	1	1	1	1	5	1.4				
Jan 25	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.3				
Jan 26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1	1	1	1	1	0.3				
Jan 27	1	1	1	1	1	1	1	2	3	2	2	2	2	3	3	4	4	4	5	4	4	4	5	5	5	5	2.7				
Jan 28	5	5	5	5	4	4	6	5	4	5	4	4	4	5	5	5	6	6	6	5	5	5	5	6	6	6	5.0				
Jan 29	6	5	5	6	6	6	6	7	8	11	12	6	5	5	5	5	7	8	9	8	9	9	9	9	9	12	7.1				
Jan 30	11	11	15	21	14	14	17	14	12	14	10	5	5	4	5	6	6	6	6	6	6	6	6	8	8	21	9.4				
Jan 31	8	8	8	7	13	19	19	20	16	14	12	10	9	9	9	9	9	9	9	9	8	8	8	10	10	20	10.9				
Diurnal Maximum	21	21	28	22	20	22	22	22	24	21	20	19	16	17	17	17	20	27	31	30	28	26	23	21	21	28					
Diurnal Average	4.6	4.7	5.3	5.5	5.6	5.9	5.9	5.8	5.4	5.1	4.7	4.1	4.0	3.7	3.8	3.9	4.0	4.3	4.7	4.7	4.6	4.3	4.4	4.4	4.4	4.4					
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)																						

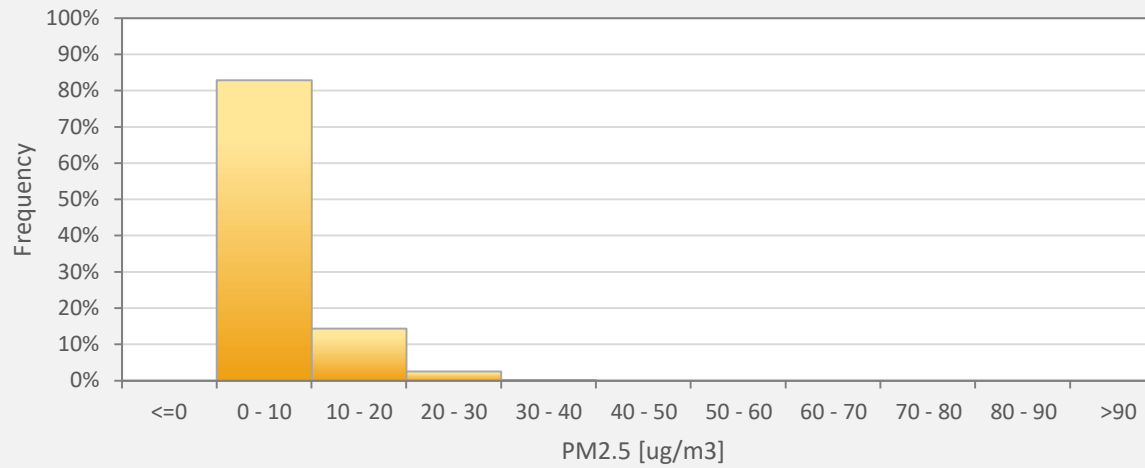
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

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

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



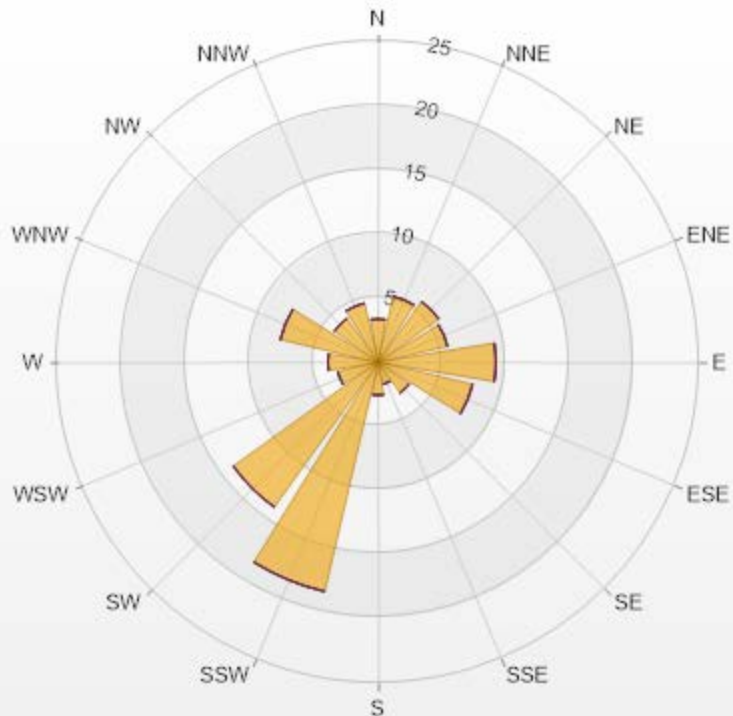
PM2.5[ug/m3(L)] Histogram: Maskwa Monthly: 01-2021 1 Hr.



Classes	PM2.5
<=0	0.00%
0 - 10	82.88%
10 - 20	14.42%
20 - 30	2.56%
30 - 40	0.13%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Maskwa Poll.: Maskwa-PM2.5[ug/m3(L)] Monthly: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 99.73% Calm Avg: 0.00 [ug/m3(L)]

Direction	0-50	50-80	80-120	120-240	>240.0	Total
N	3.37	0	0	0	0	3.37
NNE	5.26	0	0	0	0	5.26
NE	5.8	0	0	0	0	5.8
ENE	5.53	0	0	0	0	5.53
E	9.16	0	0	0	0	9.16
ESE	7.55	0	0	0	0	7.55
SE	2.96	0	0	0	0	2.96
SSE	1.75	0	0	0	0	1.75
S	2.56	0	0	0	0	2.56
SSW	18.33	0	0	0	0	18.33
SW	13.88	0	0	0	0	13.88
WSW	3.23	0	0	0	0	3.23
W	3.91	0	0	0	0	3.91
WNW	7.82	0	0	0	0	7.82
NW	4.18	0	0	0	0	4.18
NNW	4.72	0	0	0	0	4.72
Summary	100	0	0	0	0	100




LICA-202101


% Icon Classes (ug/m3(L))

100  0-50

0  50-80

0  80-120

0  120-240

0  >240.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Maskwa Site - January 2021

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

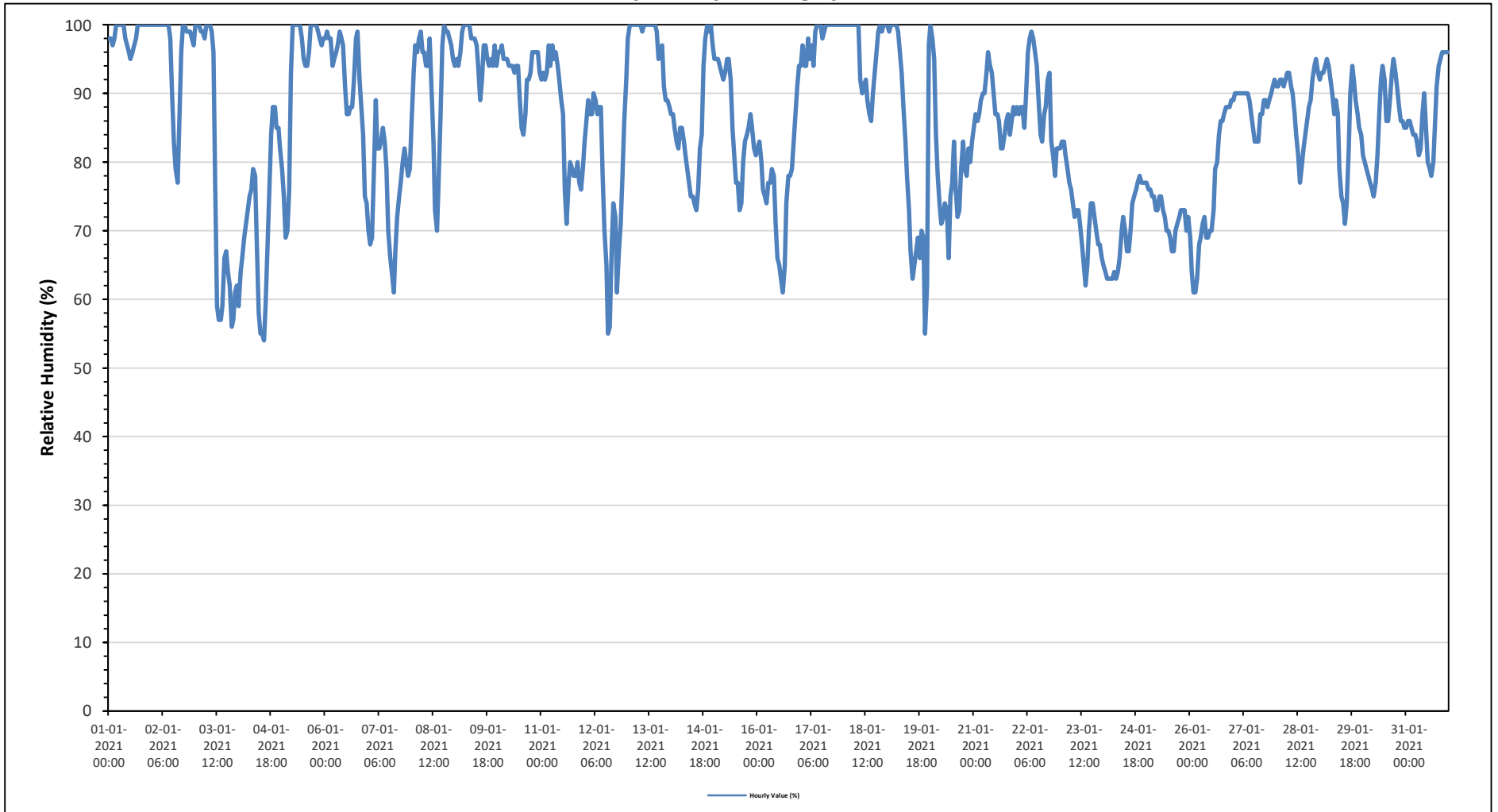
Maximum Hourly Value:	100 %	on January 1 at hour 4	Hours in Service:	744
Maximum Daily Value:	98.7 %	on January 1	Hours of Data:	744
Minimum Hourly Value:	54 %	on January 4 at hour 14	Hours of Missing Data:	0
Minimum Daily Value:	69.4 %	on January 24	Hours of Calibration:	0
Monthly Average:	85.6 %		Operational 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	
Jan 1	98	98	97	98	100	100	100	100	100	98	97	96	95	96	97	98	100	100	100	100	100	100	100	95	100	98.7		
Jan 2	100	100	100	100	100	100	100	100	100	100	98	90	83	79	77	85	96	100	100	99	99	99	98	97	77	100	95.8	
Jan 3	100	100	100	99	99	98	100	100	100	99	96	76	59	57	57	59	66	67	64	62	56	57	61	62	56	100	78.9	
Jan 4	59	64	66	69	71	73	75	76	79	78	69	58	55	55	54	59	68	76	84	88	88	85	85	82	54	88	71.5	
Jan 5	79	75	69	70	76	93	100	100	100	100	100	98	95	94	94	96	100	100	100	100	99	98	97	98	69	100	93.0	
Jan 6	98	99	98	98	94	95	96	97	99	98	97	91	87	87	88	88	92	98	99	92	88	84	75	74	74	99	92.2	
Jan 7	70	68	69	78	89	82	82	83	85	83	79	70	66	64	61	67	72	75	77	80	82	80	78	79	61	89	75.8	
Jan 8	86	93	97	96	98	99	96	96	94	94	98	91	83	73	70	77	87	97	100	99	99	98	97	95	70	100	92.2	
Jan 9	94	95	94	96	99	100	100	100	100	98	98	98	97	94	89	92	97	97	95	94	95	94	97	94	89	100	96.1	
Jan 10	96	96	97	95	95	95	94	94	94	93	94	94	89	85	84	87	92	92	93	96	96	96	96	93	84	97	93.2	
Jan 11	92	93	92	93	97	94	97	95	96	94	92	89	87	76	71	77	80	79	78	78	80	77	76	79	71	97	85.9	
Jan 12	83	86	89	87	87	90	89	87	88	88	78	70	65	55	56	68	74	72	61	67	71	78	86	92	55	92	77.8	
Jan 13	98	100	100	100	100	100	100	100	99	100	100	100	100	100	100	100	99	95	96	97	91	89	89	88	88	100	97.5	
Jan 14	87	87	85	83	82	85	85	83	81	79	77	75	75	74	73	76	82	84	94	98	100	99	100	97	73	100	85.0	
Jan 15	95	95	95	94	93	92	93	95	95	92	85	81	77	77	73	74	80	83	84	85	87	85	82	81	73	95	86.4	
Jan 16	82	83	80	76	75	74	77	77	79	78	71	66	65	63	61	65	74	78	78	79	83	87	91	94	61	94	76.5	
Jan 17	94	97	94	94	98	95	97	94	99	100	100	100	98	99	100	100	100	100	100	100	100	100	100	100	94	100	98.3	
Jan 18	100	100	100	100	100	100	100	100	100	92	90	91	92	89	87	86	90	93	96	99	100	99	100	100	86	100	96.0	
Jan 19	100	99	100	100	100	100	99	96	93	88	83	78	73	67	63	65	67	69	66	70	69	55	62	97	55	100	81.6	
Jan 20	100	98	95	84	78	74	71	72	74	73	66	75	77	83	76	72	73	79	83	79	78	82	80	83	66	100	79.4	
Jan 21	85	87	86	87	89	90	90	93	96	94	93	90	87	87	86	82	82	84	86	87	84	86	88	87	82	96	87.8	
Jan 22	88	87	88	88	85	90	96	98	99	98	96	94	89	84	83	87	88	92	93	83	81	78	82	82	78	99	88.7	
Jan 23	82	83	83	81	79	77	76	74	72	73	73	71	68	65	62	65	70	74	74	72	70	68	68	66	62	83	72.8	
Jan 24	65	64	63	63	63	63	64	63	64	66	70	72	70	67	67	70	74	75	76	77	78	77	77	77	63	78	69.4	
Jan 25	77	76	76	75	75	73	73	75	75	73	72	70	70	69	67	67	70	71	72	73	73	73	70	72	67	77	72.4	
Jan 26	69	64	61	61	63	68	69	71	72	69	69	70	70	73	79	80	84	86	86	87	88	88	88	89	61	89	75.2	
Jan 27	89	90	90	90	90	90	90	90	90	89	87	85	83	83	83	87	87	89	89	88	89	90	91	92	83	92	88.4	
Jan 28	91	91	92	92	91	92	93	93	91	90	87	84	81	77	79	82	84	86	88	89	92	94	95	93	77	95	88.6	
Jan 29	92	93	93	94	95	94	92	90	87	89	87	79	75	74	71	74	82	90	94	92	89	87	85	84	71	95	86.8	
Jan 30	81	80	79	78	77	76	75	77	81	87	92	94	92	86	86	89	93	95	93	91	88	86	86	85	75	95	85.3	
Jan 31	85	86	86	85	84	84	83	81	82	87	90	85	80	79	78	80	86	91	94	95	96	96	96	96	78	96	86.9	
Diurnal Maximum	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Diurnal Average	87.6	88.0	87.5	87.2	87.8	88.3	88.8	88.7	89.2	88.4	86.6	83.3	80.1	77.8	76.5	79.2	83.5	86.0	86.9	87.0	86.7	86.0	86.3	87.4				

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 RH - Maskwa Site





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Maskwa Site - January 2021

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

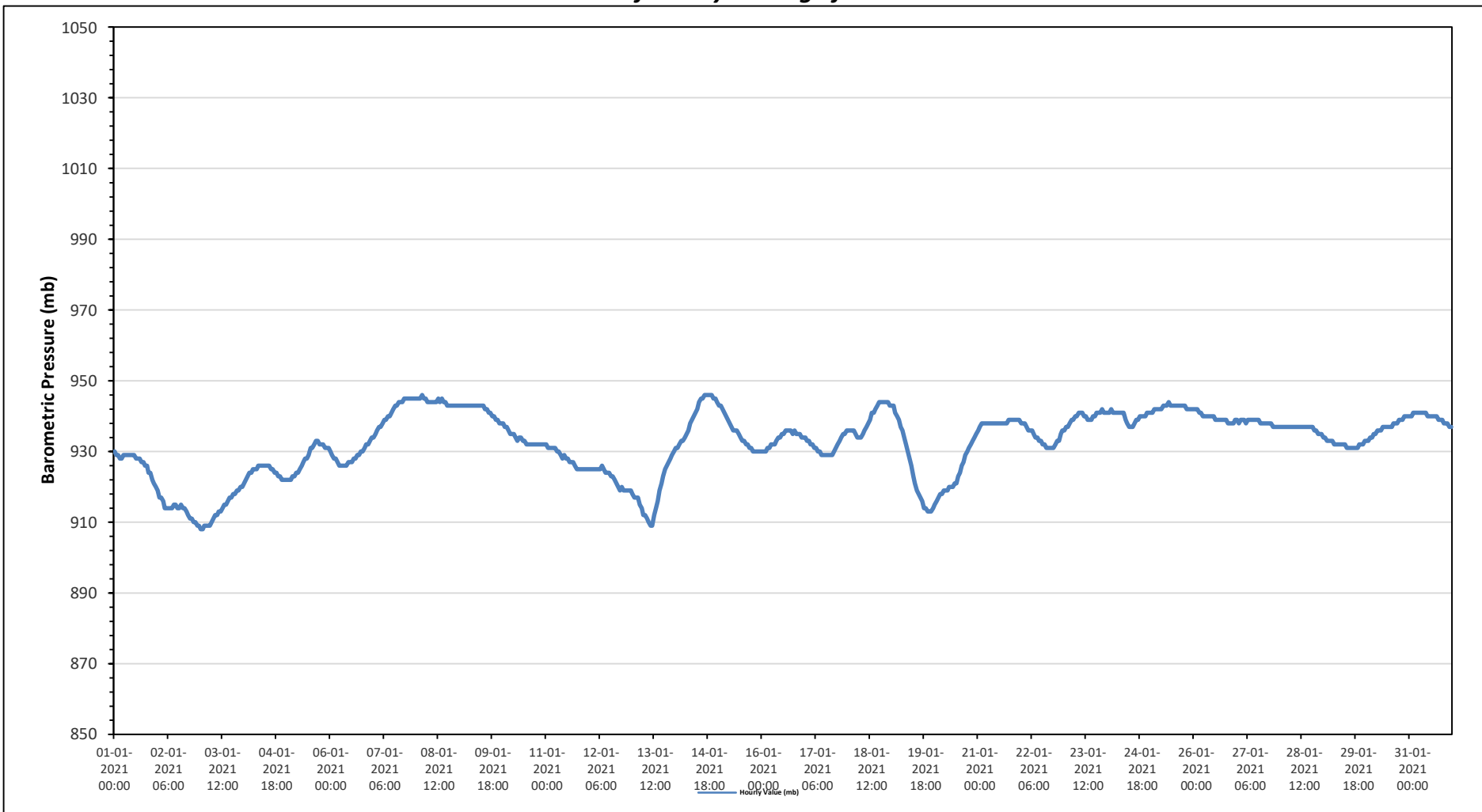
Maximum Hourly Value:	946 mb on January 8 at hour 3	Hours in Service:	744
Maximum Daily Value:	944 mb on January 8	Hours of Data:	744
Minimum Hourly Value:	908 mb on January 3 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	914 mb on January 2	Hours of Calibration:	0
Monthly Average:	933 mb	Operational 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	
Jan 1	930	929	929	928	928	929	929	929	929	929	929	929	928	928	928	927	927	926	926	924	924	922	921	920	920	930	930	927
Jan 2	919	917	917	916	914	914	914	914	914	915	915	914	914	915	914	913	912	911	911	910	910	909	909	909	909	909	919	914
Jan 3	908	908	909	909	909	909	910	911	912	912	913	913	914	915	915	916	917	917	918	918	919	919	920	920	920	908	920	914
Jan 4	921	922	923	924	924	925	925	925	926	926	926	926	926	926	925	925	924	924	923	923	922	922	922	922	921	926	924	
Jan 5	922	922	922	923	923	924	924	925	926	927	928	929	931	931	932	933	933	932	932	932	931	931	931	931	922	933	928	
Jan 6	930	929	928	928	927	926	926	926	926	926	927	927	928	928	929	930	930	931	932	932	933	933	934	926	934	930	929	
Jan 7	934	935	936	937	937	938	939	939	940	940	941	942	943	943	944	944	944	945	945	945	945	945	945	945	934	945	941	
Jan 8	945	945	945	946	945	945	944	944	944	944	944	944	945	944	945	944	944	943	943	943	943	943	943	943	943	946	944	
Jan 9	943	943	943	943	943	943	943	943	943	943	943	943	943	943	942	942	941	941	940	940	939	939	938	938	938	943	942	
Jan 10	938	937	937	936	935	935	935	934	933	934	933	933	932	932	932	932	932	932	932	932	932	932	932	932	932	938	934	
Jan 11	932	931	931	931	931	931	930	930	929	928	929	928	928	927	927	927	926	925	925	925	925	925	925	925	925	932	928	
Jan 12	925	925	925	925	925	925	925	926	925	924	924	923	923	922	921	920	919	920	919	919	919	919	919	919	919	926	923	
Jan 13	918	917	917	917	915	914	912	912	911	910	909	909	912	914	916	919	921	923	925	926	927	928	929	930	909	930	918	
Jan 14	931	931	932	933	933	934	935	936	938	939	940	941	942	944	945	945	946	946	946	946	946	945	945	944	931	946	940	
Jan 15	943	943	942	941	940	939	938	937	936	936	936	935	934	933	933	932	931	931	930	930	930	930	930	930	930	943	935	
Jan 16	930	930	930	931	931	932	932	932	933	934	934	935	935	936	936	936	936	935	935	935	935	934	934	930	936	934		
Jan 17	934	933	933	932	932	931	931	930	930	929	929	929	929	929	929	930	931	932	933	934	935	935	936	929	936	931		
Jan 18	936	936	936	936	935	934	934	934	935	936	937	938	939	941	941	942	943	944	944	944	944	944	943	934	944	939		
Jan 19	943	943	941	940	939	937	936	934	932	930	928	926	923	921	919	918	917	916	914	914	913	913	914	913	943	943	926	
Jan 20	915	916	917	918	918	919	919	919	920	920	920	921	921	923	924	926	927	929	930	931	932	933	934	935	915	935	924	
Jan 21	936	937	938	938	938	938	938	938	938	938	938	938	938	938	938	938	938	939	939	939	939	939	939	939	936	939	938	
Jan 22	938	938	938	937	936	936	936	935	934	934	934	933	933	932	932	931	931	931	931	931	932	933	933	935	936	938	934	
Jan 23	936	937	937	938	939	939	940	940	941	941	941	941	940	939	939	939	940	940	941	941	941	942	941	941	936	942	940	
Jan 24	941	941	942	941	941	941	941	941	941	941	939	938	937	937	937	938	939	939	940	940	940	941	941	941	937	942	940	
Jan 25	941	941	942	942	942	942	942	943	943	943	944	943	943	943	943	943	943	943	943	943	942	942	942	941	941	944	943	
Jan 26	942	942	942	941	941	940	940	940	940	940	940	940	939	939	939	939	939	939	939	938	938	938	938	938	938	942	940	
Jan 27	939	938	939	939	939	938	939	939	939	939	939	939	939	939	938	938	938	938	938	938	937	937	937	937	937	939	938	
Jan 28	937	937	937	937	937	937	937	937	937	937	937	937	937	937	937	937	937	937	936	936	935	935	935	935	935	937	937	
Jan 29	934	934	933	933	933	933	932	932	932	932	932	932	931	931	931	931	931	931	931	931	932	932	932	931	931	934	932	
Jan 30	933	933	934	934	935	935	936	936	936	937	937	937	937	937	937	938	938	938	939	939	939	940	940	940	933	940	937	
Jan 31	940	940	941	941	941	941	941	941	941	941	940	940	940	940	940	939	939	939	938	938	938	937	937	937	937	941	940	
Diurnal Maximum	945	945	945	946	945	945	944	944	944	944	944	944	945	944	945	946	946	946	946	946	946	945	945	945	945	945	945	
Diurnal Average	933	933	933	933	932	932	932	932	932	932	932	932	932	932	932	933	933	933	933	933	933	933	933	933	933	933	933	

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 - Maskwa Site





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Maskwa Site - January 2021

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

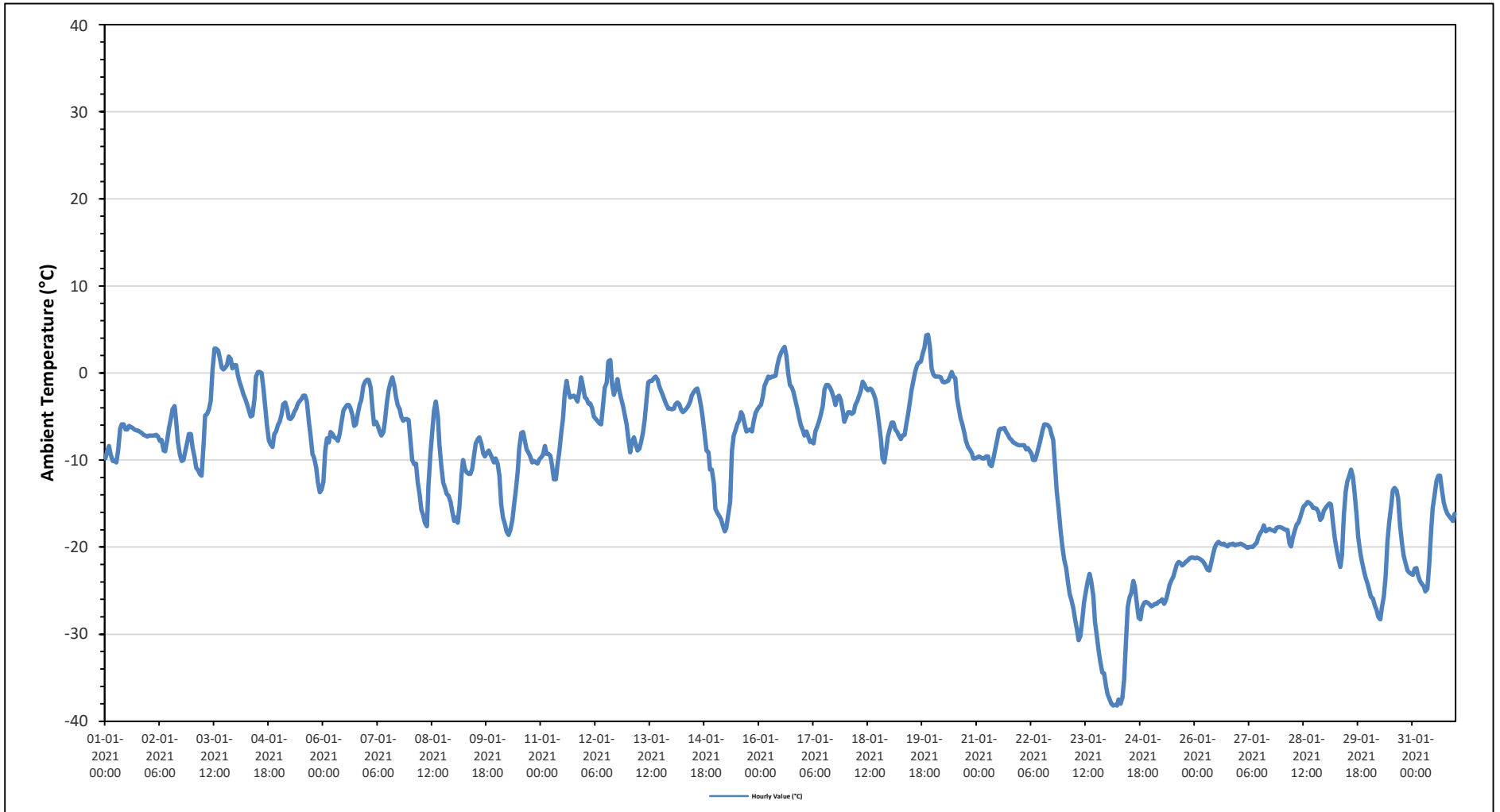
Maximum Hourly Value:	4.4 °C	on January 19 at hour 21	Hours in Service:	744
Maximum Daily Value:	-1.1 °C	on January 16	Hours of Data:	744
Minimum Hourly Value:	-38.2 °C	on January 24 at hour 3	Hours of Missing Data:	0
Minimum Daily Value:	-31.2 °C	on January 24	Hours of Calibration:	0
Monthly Average:	-10.7 °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	
Jan 1	-9.8	-9	-8.4	-9.4	-10.1	-10.1	-10.3	-8.9	-6.4	-5.9	-5.9	-6.5	-6.5	-6.1	-6.2	-6.3	-6.5	-6.6	-6.6	-6.8	-6.9	-7.1	-7.2	-7.3	-10.3	-5.9	-7.5	
Jan 2	-7.2	-7.2	-7.2	-7.2	-7.1	-7.3	-7.8	-7.7	-8.9	-9	-7.7	-6.3	-5.3	-4.2	-3.8	-5.5	-7.9	-9.4	-10.1	-10	-9	-7.9	-7	-7	-10.1	-3.8	-7.4	
Jan 3	-8.6	-9.6	-10.9	-11.2	-11.6	-11.8	-8.2	-4.9	-4.7	-4.2	-3.2	0.3	2.8	2.8	2.6	1.7	0.6	0.4	0.6	0.9	1.9	1.6	0.5	0.9	-11.8	2.8	-3.0	
Jan 4	0.9	-0.3	-1.1	-1.8	-2.4	-3	-3.6	-4.3	-5	-4.9	-3	-0.4	0.1	0.1	0	-1.7	-4.1	-6	-7.8	-8.2	-8.5	-7	-6.7	-6	-8.5	0.9	-3.5	
Jan 5	-5.6	-4.7	-3.6	-3.4	-4.1	-5.2	-5.3	-5	-4.5	-4.1	-3.5	-3.2	-3	-2.6	-2.6	-3.3	-5.6	-7.3	-9.3	-9.8	-10.9	-12.5	-13.7	-13.4	-13.7	-2.6	-6.1	
Jan 6	-12.5	-9	-7.5	-8	-6.8	-7	-7.4	-7.5	-7.8	-7	-5.7	-4.3	-4	-3.7	-3.7	-4	-4.8	-6.1	-5.9	-4.7	-3.6	-3.1	-1.5	-1	-12.5	-1.0	-5.7	
Jan 7	-0.8	-0.8	-1.7	-3.8	-5.9	-5.6	-6.1	-6.7	-7.2	-6.8	-5.5	-3.3	-1.9	-1.1	-0.5	-1.5	-2.7	-3.7	-4.2	-5	-5.5	-5.3	-5.3	-5.4	-7.2	-0.5	-4.0	
Jan 8	-8	-10	-10.5	-10.4	-12.6	-13.9	-15.7	-16.3	-17.2	-17.6	-12.9	-9.2	-6.7	-4.3	-3.3	-5	-8.2	-10.8	-12.6	-13.2	-13.9	-14.1	-14.8	-15.8	-17.6	-3.3	-11.5	
Jan 9	-17	-16.6	-17.2	-15.3	-11.7	-10	-11.1	-11.4	-11.6	-11.6	-11	-9.5	-8.1	-7.6	-7.4	-8.1	-9.2	-9.6	-9.2	-8.9	-9.3	-9.8	-10.3	-9.8	-17.2	-7.4	-10.9	
Jan 10	-10.4	-11.8	-15.1	-16.6	-17.4	-18.2	-18.6	-18	-16.9	-15.3	-13.3	-11.3	-8.6	-6.9	-6.8	-7.8	-8.8	-9.2	-9.6	-10.3	-10.1	-10.3	-10.4	-9.9	-18.6	-6.8	-12.2	
Jan 11	-9.7	-9.4	-8.4	-9.3	-9.3	-9.5	-10.6	-12.2	-12.2	-10.6	-8.9	-6.9	-5.2	-2.3	-0.9	-2.1	-2.8	-2.7	-2.6	-2.9	-3.3	-1.9	-0.5	-1.6	-12.2	-0.5	-6.1	
Jan 12	-2.8	-3	-3.5	-3.5	-4	-5	-5.3	-5.5	-5.8	-5.9	-3.8	-1.7	-1.1	1.3	1.5	-1.3	-2.5	-1.8	-0.7	-2	-2.9	-3.8	-4.7	-5.9	-5.9	1.5	-3.1	
Jan 13	-7.6	-9.1	-7.9	-7.4	-8.1	-8.9	-8.7	-7.9	-6.9	-5.4	-2.9	-1.1	-0.9	-0.9	-0.6	-0.4	-0.8	-1.5	-2.1	-2.6	-3.1	-3.7	-4.1	-4.1	-9.1	-0.4	-4.4	
Jan 14	-4.2	-4.1	-3.6	-3.4	-3.6	-4.2	-4.5	-4.3	-4.1	-3.8	-3.3	-2.6	-2.2	-1.9	-1.8	-2.6	-3.9	-5.1	-7.1	-8.9	-9.1	-11.1	-11.1	-12.7	-12.7	-1.8	-5.1	
Jan 15	-15.6	-16.1	-16.4	-16.8	-17.5	-18.2	-17.8	-16.2	-14.8	-9	-7.2	-6.6	-5.9	-5.5	-4.5	-4.8	-5.9	-6.7	-6.6	-6.5	-6.7	-5.6	-4.6	-4.2	-18.2	-4.2	-10.0	
Jan 16	-3.9	-3.7	-2.8	-1.5	-1	-0.4	-0.6	-0.4	-0.4	-0.3	0.8	1.8	2.3	2.7	3	2	0	-1.4	-1.7	-2.2	-3.2	-4.1	-5.1	-6	-6.0	3.0	-1.1	
Jan 17	-6.6	-7.2	-6.7	-7.3	-7.9	-7.8	-8.1	-6.7	-6.2	-5.5	-4.8	-3.8	-1.9	-1.4	-1.4	-1.7	-2.1	-2.8	-3.7	-2.8	-2.6	-3.1	-4.4	-5.6	-8.1	-1.4	-4.7	
Jan 18	-5	-4.5	-4.5	-4.7	-4.5	-3.7	-3.2	-2.6	-2.1	-1	-1.3	-1.8	-2	-1.8	-1.9	-2.4	-3	-4.2	-5.8	-7.7	-9.8	-10.3	-8.7	-7.3	-10.3	-1.0	-4.3	
Jan 19	-6.4	-5.7	-5.7	-6.5	-6.8	-7.2	-7.6	-7.2	-7.1	-6	-4.8	-3.3	-2	-0.8	0.2	0.9	1.2	1.3	2.1	2.9	4.3	4.4	3.1	0.5	-7.6	4.4	-2.3	
Jan 20	-0.2	-0.4	-0.4	-0.4	-0.5	-1	-1.1	-1	-0.9	-0.5	0.1	-0.4	-0.6	-2.9	-4.1	-5.2	-5.9	-6.9	-7.8	-8.5	-8.8	-9.2	-9.8	-9.8	-9.8	0.1	-3.6	
Jan 21	-9.7	-9.6	-9.7	-9.8	-9.8	-9.6	-10.5	-10.7	-9.8	-8.8	-7.8	-6.6	-6.4	-6.4	-6.3	-6.7	-7.1	-7.5	-7.7	-8	-8.1	-8.2	-8.3	-8.3	-10.7	-6.3	-8.4	
Jan 22	-8.3	-8.3	-8.3	-8.8	-8.6	-8.9	-9.3	-10	-10	-9.3	-8.4	-7.7	-6.6	-5.9	-5.9	-6	-6.3	-7	-7.7	-11	-13.6	-15.8	-18.1	-19.9	-19.9	-5.9	-9.6	
Jan 23	-21.4	-22.4	-23.8	-25.4	-26.1	-27	-28.3	-29.4	-30.7	-30.2	-28.2	-26.4	-25	-23.9	-23.1	-24	-25.7	-28.5	-30.3	-32	-33.3	-34.4	-34.5	-36	-36.0	-21.4	-27.9	
Jan 24	-36.9	-37.5	-38	-38.2	-38.1	-38.2	-37.5	-38	-37.3	-35.2	-30.9	-26.9	-25.8	-25.3	-23.9	-24.5	-26.5	-28.1	-28.3	-26.9	-26.4	-26.3	-26.4	-26.6	-38.2	-23.9	-31.2	
Jan 25	-26.8	-26.7	-26.5	-26.5	-26.3	-26.2	-26	-26.5	-26.1	-25.2	-24.4	-23.8	-23.4	-22.7	-22	-21.7	-21.8	-22.1	-21.9	-21.7	-21.5	-21.3	-21.2	-21.2	-26.8	-21.2	-23.9	
Jan 26	-21.3	-21.2	-21.3	-21.4	-21.5	-21.8	-22.2	-22.6	-22.7	-21.7	-20.9	-20	-19.6	-19.4	-19.6	-19.7	-19.6	-19.8	-19.9	-19.7	-19.7	-19.6	-19.8	-19.7	-22.7	-19.4	-20.6	
Jan 27	-19.7	-19.6	-19.7	-19.8	-20	-20.1	-20	-20	-20	-19.7	-19.5	-18.8	-18.4	-18	-17.5	-18.2	-18	-17.9	-18	-18.1	-18.2	-17.8	-17.7	-17.7	-20.1	-17.5	-18.9	
Jan 28	-17.8	-17.9	-18	-18	-19.6	-19.9	-18.8	-18.1	-17.4	-17.2	-16.6	-15.8	-15.3	-15.1	-14.8	-14.9	-15.1	-15.5	-15.5	-15.6	-16	-16.9	-16.6	-15.8	-19.9	-14.8	-16.8	
Jan 29	-15.5	-15.2	-15	-15.1	-17.2	-19	-20.2	-21.3	-22.3	-21	-16.2	-13.6	-12.5	-11.8	-11.1	-11.9	-13.8	-16.4	-18.8	-20.6	-21.7	-22.8	-23.5	-24.2	-24.2	-11.1	-17.5	
Jan 30	-25	-25.7	-25.9	-26.7	-27.2	-28	-28.3	-27	-25.6	-23.3	-19.4	-17.1	-15.2	-13.5	-13.2	-13.5	-14.4	-17.6	-19.5	-21	-21.8	-22.7	-22.9	-23.1	-28.3	-13.2	-21.6	
Jan 31	-23.2	-22.5	-22.4	-23.3	-23.9	-24.2	-24.5	-25.1	-24.8	-22.1	-18	-15.5	-13.9	-12.4	-11.8	-11.8	-13.4	-14.8	-15.6	-16.2	-16.4	-16.7	-17	-16.2	-25.1	-11.8	-18.6	
Diurnal Maximum	0.9	-0.3	-0.4	-0.4	-0.5	-0.4	-0.6	-0.4	-0.3	0.8	1.8	2.8	2.8	3.0	2.0	1.2	1.3	2.1	2.9	4.3	4.4	3.1	0.9					
Diurnal Average	-11.8	-11.9	-12.0	-12.3	-12.6	-12.9	-13.1	-13.0	-12.8	-11.9	-10.3	-8.8	-7.8	-7.1	-6.8	-7.5	-8.5	-9.5	-10.1	-10.6	-10.9	-11.2	-11.4	-11.6				

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 AT - Maskwa Site





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Maskwa Site - January 2021

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

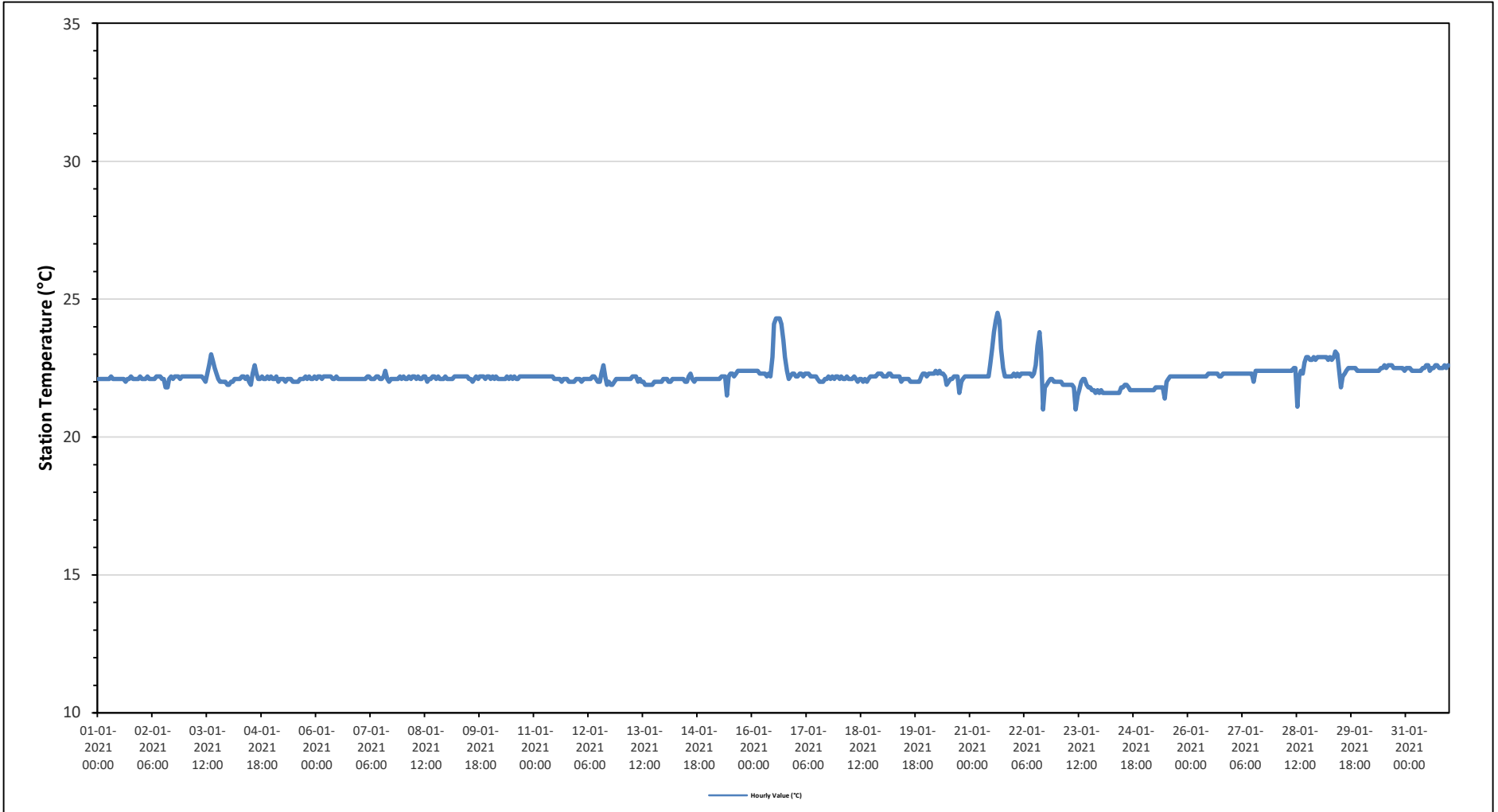
Maximum Hourly Value:	24.5 °C	on January 21 at hour 15	Hours in Service:	744
Maximum Daily Value:	22.8 °C	on January 16	Hours of Data:	744
Minimum Hourly Value:	21.0 °C	on January 22 at hour 16	Hours of Missing Data:	0
Minimum Daily Value:	21.7 °C	on January 24	Hours of Calibration:	0
Monthly Average:	22.2 °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			
Jan 1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.2	22.1	22.1	22.1	22.1	22.1	22.1	22.0	22.1	22.1	22.2	22.1	22.1	22.1	22.2	22.2	22.0	22.2	22.1
Jan 2	22.1	22.1	22.1	22.2	22.1	22.1	22.1	22.1	22.2	22.2	22.2	22.1	22.1	21.8	21.8	22.1	22.2	22.1	22.2	22.2	22.1	22.2	22.2	22.2	22.2	22.1
Jan 3	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.1	22.0	22.3	22.6	23.0	22.8	22.5	22.3	22.1	22.0	22.0	22.0	22.0	21.9	21.9	22.2
Jan 4	21.9	22.0	22.0	22.1	22.1	22.1	22.1	22.2	22.2	22.1	22.2	22.0	21.9	22.3	22.6	22.3	22.1	22.1	22.2	22.1	22.1	22.2	22.1	22.2	22.1	22.1
Jan 5	22.1	22.1	22.2	22.0	22.1	22.1	22.1	22.0	22.1	22.1	22.1	22.0	22.0	22.0	22.1	22.1	22.1	22.1	22.2	22.1	22.2	22.1	22.1	22.2	22.0	22.1
Jan 6	22.1	22.2	22.2	22.1	22.2	22.2	22.2	22.2	22.1	22.1	22.1	22.2	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1
Jan 7	22.1	22.1	22.1	22.1	22.2	22.2	22.1	22.1	22.1	22.2	22.2	22.1	22.1	22.2	22.4	22.1	22.0	22.1	22.1	22.1	22.1	22.1	22.1	22.2	22.0	22.1
Jan 8	22.2	22.1	22.1	22.2	22.1	22.2	22.2	22.2	22.1	22.2	22.1	22.2	22.2	22.0	22.1	22.1	22.2	22.2	22.1	22.2	22.1	22.1	22.1	22.2	22.0	22.1
Jan 9	22.1	22.1	22.1	22.1	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.1	22.1	22.1	22.0	22.1	22.2	22.1	22.2	22.2	22.2	22.1	22.2	22.2	22.0	22.2
Jan 10	22.1	22.2	22.1	22.2	22.1	22.1	22.1	22.1	22.1	22.2	22.1	22.0	22.0	22.2	22.1	22.1	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.1	22.2
Jan 11	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.1	22.1	22.1	22.1	22.0	22.1	22.1	22.1	22.0	22.0	22.0	22.1	22.0	22.2	22.1
Jan 12	22.1	22.1	22.0	22.1	22.1	22.1	22.1	22.1	22.2	22.2	22.1	22.0	22.0	22.3	22.6	22.2	21.9	22.0	21.9	21.9	22.0	22.1	22.1	22.1	21.9	22.2
Jan 13	22.1	22.1	22.1	22.1	22.1	22.1	22.2	22.2	22.0	22.1	22.0	22.0	21.9	21.9	21.9	21.9	21.9	21.9	22.0	22.0	22.0	22.0	22.1	22.1	21.9	22.2
Jan 14	22.1	22.1	22.0	22.0	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.0	22.0	22.2	22.3	22.1	22.0	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.0	22.1
Jan 15	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.2	22.2	22.2	21.5	22.2	22.3	22.3	22.2	22.3	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	21.5	22.4
Jan 16	22.4	22.4	22.4	22.4	22.3	22.3	22.3	22.3	22.2	22.3	22.2	22.9	24.1	24.3	24.3	24.1	23.5	22.9	22.4	22.1	22.2	22.3	22.3	22.1	24.3	22.8
Jan 17	22.2	22.2	22.3	22.3	22.2	22.3	22.3	22.3	22.2	22.2	22.2	22.2	22.1	22.0	22.0	22.1	22.1	22.2	22.1	22.2	22.1	22.2	22.2	22.2	22.0	22.3
Jan 18	22.1	22.2	22.1	22.1	22.2	22.1	22.1	22.1	22.2	22.1	22.0	22.1	22.1	22.0	22.1	22.0	22.1	22.2	22.2	22.2	22.2	22.2	22.3	22.3	22.0	22.3
Jan 19	22.2	22.2	22.2	22.3	22.3	22.2	22.2	22.2	22.2	22.2	22.0	22.1	22.1	22.1	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.2	22.3	22.3	22.0	22.3
Jan 20	22.2	22.3	22.3	22.3	22.3	22.4	22.3	22.4	22.3	22.2	21.9	22.0	22.1	22.1	22.2	22.2	22.2	21.6	22.0	22.1	22.2	22.2	22.2	22.2	21.6	22.4
Jan 21	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.6	23.2	23.8	24.2	24.5	24.2	23.2	22.5	22.2	22.2	22.2	22.2	22.2	22.2	22.6
Jan 22	22.3	22.2	22.3	22.2	22.3	22.3	22.3	22.3	22.3	22.3	22.2	22.3	22.6	23.3	23.8	23.1	21.0	21.8	21.9	22.0	22.1	22.1	22.0	22.0	21.0	23.8
Jan 23	22.0	22.0	22.0	21.9	21.9	21.9	21.9	21.9	21.9	21.8	21.0	21.5	21.7	22.0	22.1	22.1	21.9	21.8	21.8	21.7	21.7	21.7	21.6	21.7	21.0	21.8
Jan 24	21.7	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.8	21.8	21.9	21.8	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.6	21.9
Jan 25	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.8	21.8	21.8	21.8	21.8	21.4	22.0	22.1	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	21.4	22.2
Jan 26	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.2	22.2	22.3	22.3	22.3	22.3	22.2	22.3
Jan 27	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.0	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.0	22.4
Jan 28	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.5	22.5	21.1	22.2	22.4	22.3	22.7	22.9	22.9	22.8	22.8	22.9	22.8	22.9	21.1	22.9
Jan 29	22.9	22.9	22.9	22.9	22.9	22.8	22.9	22.8	22.9	23.1	23.0	22.4	21.8	22.2	22.3	22.4	22.5	22.5	22.5	22.5	22.5	22.5	22.4	22.4	21.8	23.1
Jan 30	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.5	22.5	22.6	22.5	22.6	22.6	22.6	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.4	22.6
Jan 31	22.5	22.5	22.5	22.4	22.4	22.4	22.4	22.4	22.4	22.5	22.5	22.6	22.6	22.4	22.5	22.6	22.6	22.5	22.5	22.5	22.5	22.5	22.6	22.5	22.4	22.6
Diurnal Maximum	22.9	22.9	22.9	22.9	22.9	22.8	22.9	22.8	22.9	23.1	23.0	22.9	24.1	24.3	24.3	24.5	24.2	23.5	22.9	22.8	22.8	22.9	22.8	22.9	22.9	22.9
Diurnal Average	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.1	22.2	22.2	22.3	22.4	22.4	22.3	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2

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 ST - Maskwa Site





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

**Maskwa Site - January 2021
Summary of Hourly Averages**

PRECIPITATION in mm

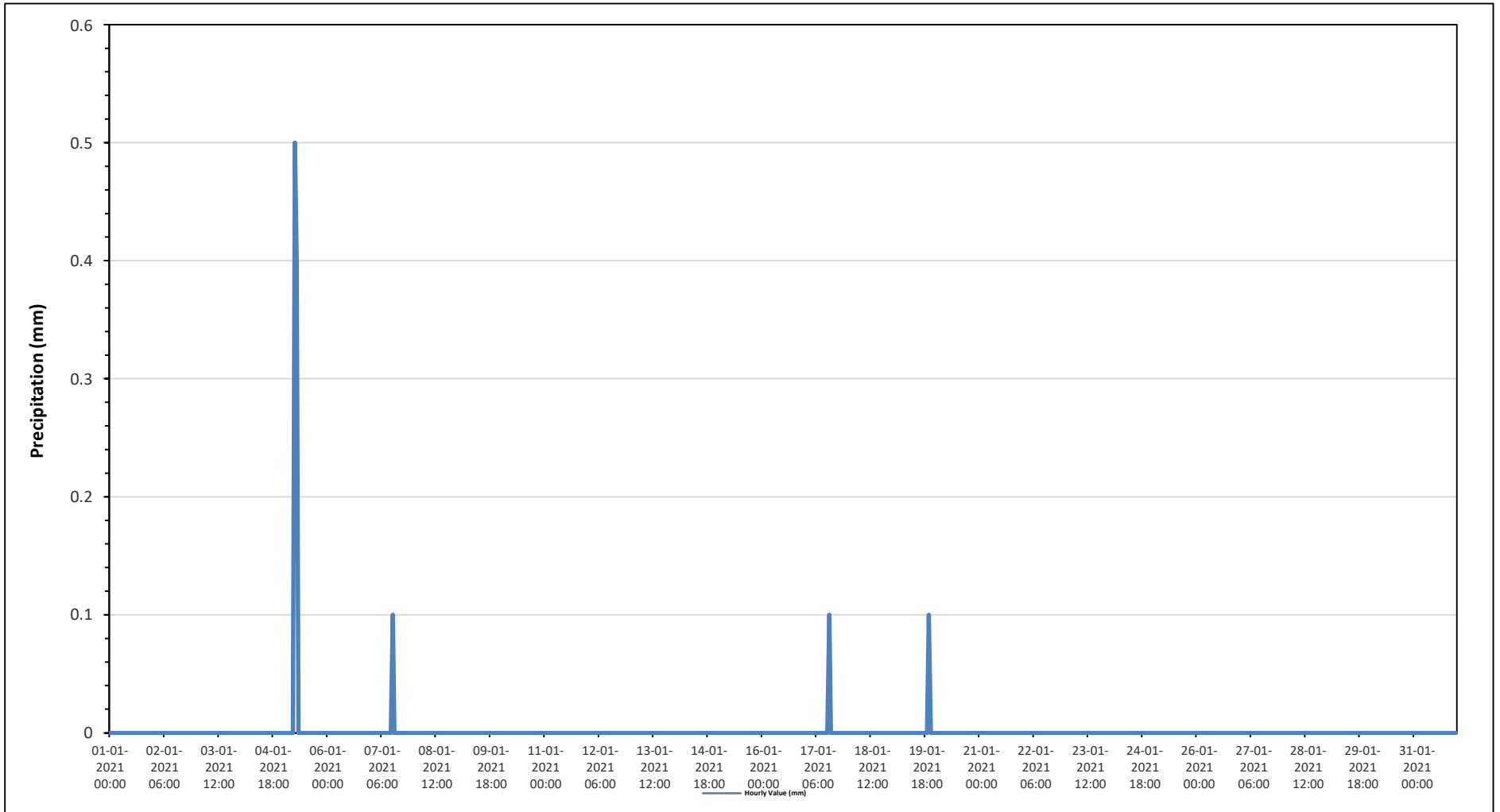
Maximum Hourly Value:	0.5 mm on January 5 at hour 6	Hours in Service:	744
Maximum Daily Value:	0.9 mm on January 5	Hours of Data:	744
Minimum Hourly Value:	0.0 mm on January 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.0 mm on January 1	Hours of Calibration:	0
Monthly Total:	1.2 mm	Operational 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
Jan 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
Jan 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
Jan 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
Jan 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
Jan 5	0	0	0	0	0	0	0.5	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.5	0.9
Jan 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
Jan 7	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	0.1
Jan 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
Jan 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
Jan 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Jan 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
Jan 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
Jan 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
Jan 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
Jan 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
Jan 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
Jan 17	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	0.1	0.1
Jan 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
Jan 19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0.0	0.1	0.1
Jan 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
Jan 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
Jan 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
Jan 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
Jan 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
Jan 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
Jan 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
Jan 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
Jan 28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Jan 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
Jan 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
Jan 31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Diurnal Maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Diurnal Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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 - Maskwa Site





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Maskwa Site - January 2021

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

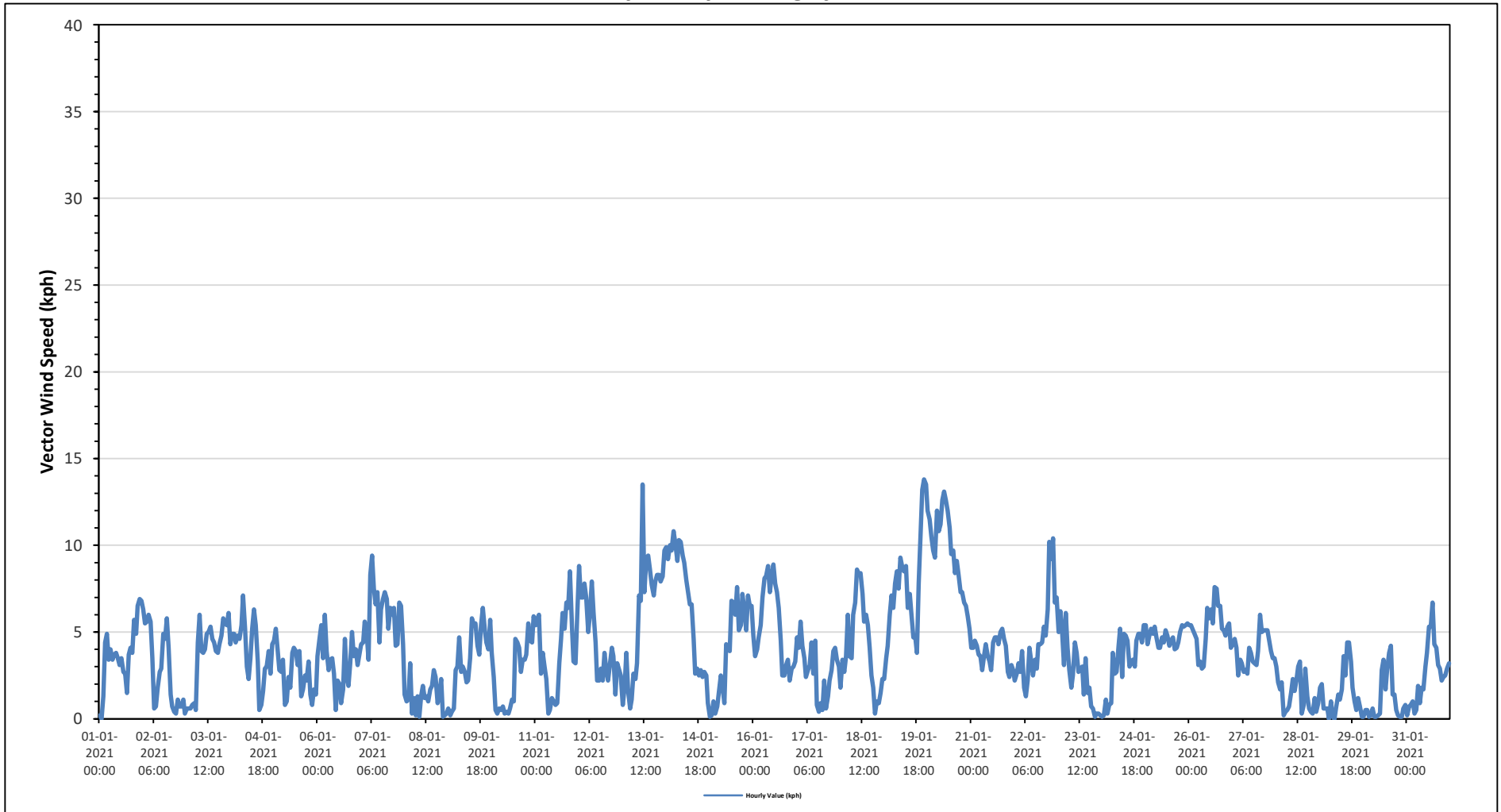
Maximum Hourly Value:	13.8 kph	on January 19 at hour 22	Hours in Service:	744
Maximum Daily Value:	8.5 kph	on January 20	Hours of Data:	744
Minimum Hourly Value:	0.0 kph	on January 1 at hour 1	Hours of Missing Data:	0
Minimum Daily Value:	0.4 kph	on January 8	Hours of Calibration:	0
Monthly Average:	0.9 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
Jan 1	0.2	0.0	1.3	4.4	4.9	3.4	4.0	3.4	3.7	3.8	3.5	3.1	3.5	2.7	2.6	1.5	3.7	4.1	3.8	5.7	4.9	6.5	6.9	6.8	0.0	6.9	1.0
Jan 2	6.3	5.5	5.6	6.0	5.6	3.5	0.6	0.7	1.8	2.7	2.9	4.9	4.6	5.8	4.1	1.4	0.7	0.4	0.3	1.1	0.7	0.7	1.1	0.3	0.3	6.3	1.5
Jan 3	0.6	0.6	0.6	0.8	0.9	0.5	4.4	6.0	3.9	3.8	4.0	4.9	5.0	5.3	4.6	4.4	3.9	3.8	4.3	4.8	5.8	5.5	5.4	6.1	0.5	6.1	3.4
Jan 4	4.3	4.9	4.9	4.4	4.8	4.6	5.4	7.1	5.2	3.0	2.3	3.5	5.2	6.3	5.4	3.3	0.5	0.8	1.6	2.9	3.0	3.9	2.6	4.3	0.5	7.1	2.2
Jan 5	4.5	5.2	4.0	2.8	2.7	3.4	0.8	1.0	2.4	1.8	3.8	4.1	3.9	3.1	3.9	1.3	1.7	2.5	2.2	3.3	1.4	0.8	1.7	1.4	0.8	5.2	1.0
Jan 6	3.6	4.6	5.4	3.5	6.0	3.9	2.8	3.4	3.5	2.6	0.5	2.2	2.0	0.9	1.7	4.6	2.4	1.9	3.2	5.0	3.6	4.0	3.1	3.7	0.5	6.0	1.6
Jan 7	4.3	4.4	5.6	4.9	3.4	8.3	9.4	7.5	6.6	7.3	4.4	6.3	6.9	7.3	6.9	5.2	6.4	6.0	6.4	4.2	4.3	6.7	6.5	4.3	3.4	9.4	5.8
Jan 8	1.4	1.0	1.1	3.2	0.3	1.2	0.2	1.3	0.1	1.3	1.9	1.2	1.3	1.0	1.7	1.9	2.8	2.4	0.9	1.3	2.3	0.1	0.2	0.3	0.1	3.2	0.4
Jan 9	0.6	0.2	0.4	0.6	2.8	3.0	4.7	2.7	3.0	2.7	2.1	2.2	3.5	5.8	5.4	5.5	4.2	3.7	5.4	6.4	5.1	4.4	4.0	5.7	0.2	6.4	3.4
Jan 10	3.8	2.4	0.5	0.3	0.6	0.5	0.7	0.3	0.4	0.3	0.6	1.1	1.0	4.6	4.4	4.1	2.7	3.4	3.4	3.7	5.5	4.5	4.4	5.9	0.3	5.9	2.1
Jan 11	5.4	5.8	6.0	2.6	3.8	3.0	2.3	0.3	0.5	1.2	1.0	0.8	0.9	3.2	4.6	6.1	5.2	6.7	6.4	8.5	5.3	3.3	3.2	6.1	0.3	8.5	3.4
Jan 12	8.8	7.0	7.0	7.8	7.0	5.0	6.1	7.9	6.1	4.4	2.2	2.2	2.9	2.2	3.8	2.7	2.2	3.1	4.1	3.6	1.4	3.2	2.8	2.5	1.4	8.8	3.4
Jan 13	0.8	1.8	3.8	1.6	0.6	1.1	2.6	2.3	3.2	7.1	6.8	13.5	7.3	9.3	9.4	8.6	7.7	7.1	7.9	8.3	8.3	7.9	8.2	9.7	0.6	13.5	3.9
Jan 14	9.9	9.2	10.0	9.7	10.8	10.1	9.1	10.3	10.2	9.4	9.0	8.0	7.3	6.6	6.6	4.6	2.6	2.9	2.5	2.8	2.4	2.7	2.5	0.9	0.9	10.8	5.9
Jan 15	0.1	0.2	1.0	0.3	0.7	1.5	2.5	1.8	0.9	4.3	4.1	3.9	6.8	6.7	6.0	7.6	5.1	5.4	7.2	6.2	5.1	7.1	6.5	6.5	0.1	7.6	3.3
Jan 16	4.8	3.6	4.0	4.7	5.4	7.0	8.1	8.2	8.8	7.3	8.2	8.9	7.8	7.3	6.4	4.5	2.5	2.5	3.1	3.4	2.2	2.9	3.0	3.3	2.2	8.9	4.9
Jan 17	4.7	4.1	5.6	4.2	3.5	2.4	2.8	3.1	4.4	2.6	4.5	0.8	0.4	0.9	0.5	2.2	0.6	1.3	2.2	2.8	3.9	4.1	3.4	3.0	0.4	5.6	1.5
Jan 18	1.8	3.4	2.7	3.6	6.0	3.6	3.5	6.0	6.7	8.6	8.3	8.4	7.2	5.6	6.0	5.4	4.1	2.5	1.8	0.3	1.0	0.9	1.5	2.3	0.3	8.6	3.0
Jan 19	2.3	3.5	4.2	6.0	7.1	6.4	7.8	8.5	7.5	9.3	8.7	8.5	8.8	6.4	7.2	6.1	4.7	4.8	3.8	7.8	10.5	13.2	13.8	13.5	2.3	13.8	6.1
Jan 20	12.0	11.5	10.5	9.7	9.3	12.0	10.8	11.2	12.6	13.1	12.6	12.0	11.0	9.5	9.7	8.4	9.1	8.3	7.3	7.3	6.7	6.5	5.9	5.2	5.2	13.1	8.5
Jan 21	4.1	4.1	4.5	4.2	3.7	3.6	2.8	3.7	4.3	3.6	3.3	2.8	4.4	4.7	4.7	4.3	5.0	5.2	4.6	4.2	2.7	2.4	3.1	2.8	2.4	5.2	2.8
Jan 22	2.2	2.6	3.2	2.7	3.9	1.8	1.3	2.2	4.1	3.2	2.5	3.4	2.9	4.3	4.3	4.4	5.3	4.8	6.3	10.2	9.2	10.4	6.7	7.0	1.3	10.4	2.8
Jan 23	5.0	6.2	5.2	3.1	6.1	4.1	2.8	1.8	2.5	4.4	3.8	2.7	2.9	3.0	1.4	3.5	1.5	1.8	0.7	0.6	0.1	0.3	0.3	0.2	0.1	6.2	2.0
Jan 24	0.1	0.2	1.1	0.3	0.8	0.9	3.8	2.6	2.7	4.2	5.2	2.4	4.9	4.8	4.5	3.0	3.2	3.4	3.0	4.5	4.9	4.9	4.4	5.4	0.1	5.4	2.6
Jan 25	5.4	4.3	4.8	5.2	4.9	5.3	4.7	4.1	4.1	4.7	4.4	5.1	4.8	4.2	4.5	4.7	4.0	4.1	4.4	5.0	5.4	5.3	5.4	5.5	4.0	5.5	4.6
Jan 26	5.4	5.4	5.1	4.9	4.6	3.1	3.3	2.9	3.0	4.6	6.4	5.8	6.3	5.5	7.6	7.5	6.5	6.5	5.2	5.1	4.8	5.3	5.5	4.1	2.9	7.6	5.0
Jan 27	4.3	4.6	4.1	2.5	3.4	3.2	2.7	2.8	2.6	4.1	3.8	3.3	3.2	3.1	3.9	6.0	5.0	5.1	5.1	5.1	4.5	3.9	3.5	3.5	2.5	6.0	3.8
Jan 28	3.0	2.1	1.7	2.1	0.2	0.4	0.5	0.7	1.5	2.3	1.6	2.2	3.0	3.3	0.3	0.8	2.9	1.3	0.6	0.4	0.3	1.2	0.4	0.9	0.2	3.3	0.7
Jan 29	1.8	2.0	0.6	0.6	0.6	0.0	1.0	0.1	0.0	0.7	1.4	1.1	1.7	3.6	2.5	4.4	4.4	3.3	1.8	1.0	0.5	1.2	0.7	0.1	0.0	4.4	0.9
Jan 30	0.1	0.5	0.5	0.1	0.2	0.6	0.1	0.1	0.2	0.3	2.8	3.4	1.7	2.8	3.8	4.2	1.4	1.4	0.5	0.2	0.1	0.1	0.6	0.8	0.1	4.2	0.9
Jan 31	0.2	0.7	0.8	1.0	0.3	0.5	1.9	0.9	1.8	1.7	3.0	3.8	5.3	5.3	6.7	4.3	4.1	3.1	2.9	2.2	2.4	2.5	2.9	3.2	0.2	6.7	2.5
Diurnal Maximum	12	12	11	10	11	12	11	11	13	13	13	14	11	10	10	9	9	8	8	10	11	13	14	14			
Diurnal Average	3.6	3.6	3.7	3.5	3.7	3.5	3.7	3.7	3.8	4.2	4.2	4.4	4.5	4.7	4.7	4.4	3.7	3.7	3.6	4.1	3.8	4.1	3.9	4.0			

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 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.

Timeseries Chart of Hourly Average for VWS - Maskwa Site

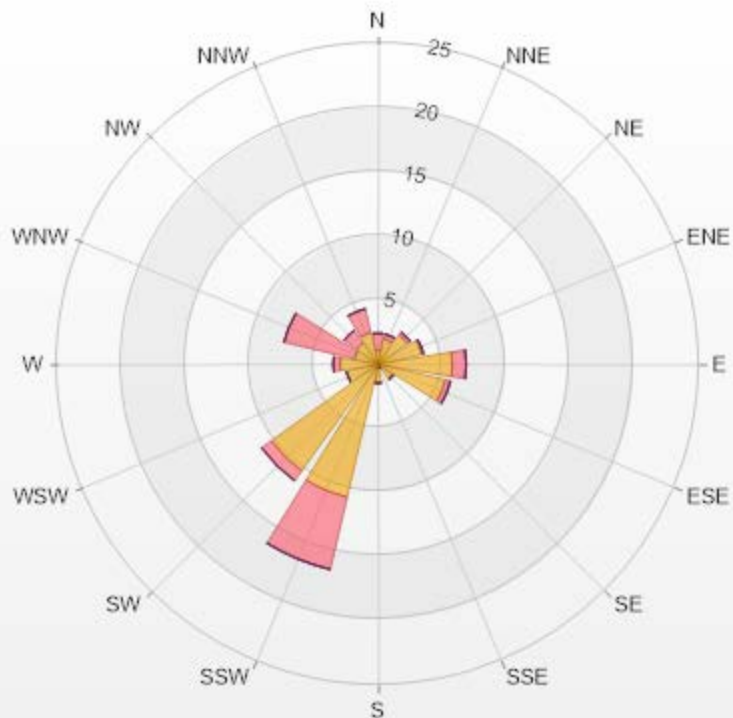


Wind: Maskwa Monitor: WDS [kph] Monthly: 01-2021 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.

Calm: 23.79% 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	1.08	1.34	0	0	0	2.42
NNE	2.02	0.4	0	0	0	2.42
NE	2.82	0.27	0	0	0	3.09
ENE	3.49	0.13	0	0	0	3.62
E	5.78	1.08	0	0	0	6.86
ESE	5.38	0.4	0	0	0	5.78
SE	1.34	0.13	0	0	0	1.47
SSE	0.27	0	0	0	0	0.27
S	1.48	0	0	0	0	1.48
SSW	10.62	5.78	0	0	0	16.4
SW	10.22	0.94	0	0	0	11.16
WSW	2.55	0	0	0	0	2.55
W	2.96	0.54	0	0	0	3.5
WNW	1.88	5.65	0	0	0	7.53
NW	2.02	1.21	0	0	0	3.23
NNW	2.55	1.88	0	0	0	4.43
Summary	56.46	19.75	0	0	0	76.21

Maskwa 01-01-2021 00:00 - 31-01-2021 23:00 Calm: 23.79% Calm Wind Avg Speed: 0.79(kph)



LICA-202101

Page 158 of 237

% Icon Classes (kph)

56 1.8-6.0

20 6.0-15.0

0 15.0-29.0

0 29.0-39.0

0 >39.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

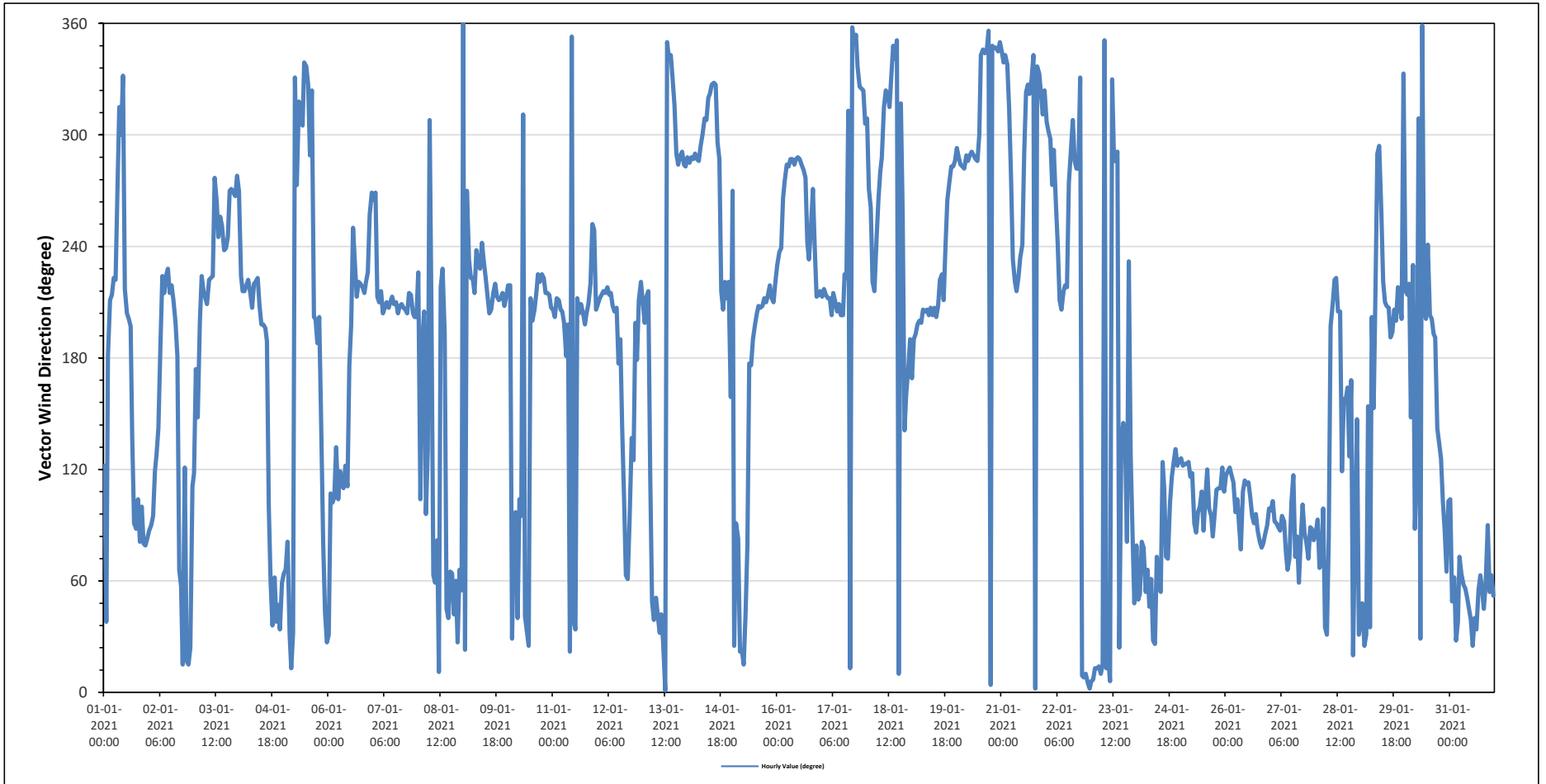
Maskwa Site - January 2021

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

Monthly Average:		244 (WSW) degree														Hours in Service:		744																	
																Hours of Data:		744																	
																Hours of Missing Data:		0																	
																Hours of Calibration:		0																	
																Operational Uptime:		100.0																	
Day	Hourly Period Starting at (MST)																							Daily Average											
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Degree	Quadrant									
Jan 1	ESE	NE	S	SSW	SSW	SW	SW	W	NW	WNW	NNW	SW	SSW	SSW	SSW	SE	E	E	ESE	E	E	E	ENE	E	134	SE									
Jan 2	E	E	E	ESE	SE	SE	S	SW	SSW	SW	SW	SSW	SW	SSW	SSW	S	ENE	ENE	NNE	ESE	NNE	NNE	NNE	ESE	152	SSE									
Jan 3	ESE	S	SE	SSW	SW	SW	SSW	SSW	SW	SW	SW	W	W	WSW	WSW	WSW	SW	WSW	WSW	W	W	W	W	W	248	WSW									
Jan 4	W	SW	SW	SW	SW	SW	SSW	SSW	SW	SW	SW	SSW	SSW	SSW	SSW	S	E	ENE	NE	ENE	NE	NE	NE	ENE	208	SSW									
Jan 5	ENE	ENE	E	NNE	NNE	NNE	NNW	W	NW	NW	WNW	NNW	NNW	NW	WNW	NW	SSW	SSW	S	SSW	SE	E	NE	NNE	1	N									
Jan 6	NNE	ESE	E	ESE	SE	ESE	ESE	ESE	ESE	ESE	ESE	S	SSW	WSW	SW	SSW	SW	SW	SW	SSW	SW	SW	WSW	W	165	SSE									
Jan 7	W	W	SSW	SSW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	211	SSW									
Jan 8	SW	ESE	S	SSW	E	SE	NW	SSW	ENE	ENE	E	NNE	SW	SW	S	NE	NE	ENE	ENE	NE	ENE	NNE	ENE	NE	96	E									
Jan 9	N	NNE	W	SW	SW	SW	SSW	SW	SW	SW	WSW	SW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	217	SW									
Jan 10	SW	SW	NNE	ENE	E	NE	ESE	E	NW	NE	NNE	NNE	SSW	SSW	SSW	SSW	SW	SW	SW	SW	SSW	SSW	SSW	SSW	213	SSW									
Jan 11	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	SSW	NNE	N	NE	NE	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	210	SSW									
Jan 12	SSW	SSW	SSW	SW	SSW	SW	SSW	SSW	SSW	SSW	SSW	S	S	SE	ESE	ENE	ENE	E	SE	SE	SSW	S	SSW	SW	196	SSW									
Jan 13	SSW	SSW	SSW	SW	ESE	NE	NE	NE	NE	NNE	NE	NNE	N	N	NNW	NNW	NNW	NW	WNW	WNW	WNW	WNW	WNW	W	331	NNW									
Jan 14	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NNW	NW	WNW	WNW	SW	SSW	SSW	SSW	SSW	SSW	SSW	295	WNW									
Jan 15	W	NNE	E	E	NNE	NNE	NNE	NE	ENE	S	S	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	205	SSW									
Jan 16	SW	SW	WSW	W	W	WNW	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	W	W	WSW	SW	WSW	W	WSW	SSW	SSW	SW	271	W									
Jan 17	SSW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	NW	NNE	N	NNW	N	NNW	NW	NW	NW	NW	242	WSW									
Jan 18	NW	W	W	SW	SW	WSW	W	W	WNW	NW	NW	NW	NW	NNW	NNW	NNW	N	N	NW	WSW	SE	SSE	S	S	302	WNW									
Jan 19	SSE	S	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	WSW	W	W	W	W	WNW	228	SW										
Jan 20	WNW	WNW	WNW	W	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NNW	NNW	NNW	N	N	NNW	NNW	NNW	NNW	N	309	NW								
Jan 21	NNW	NNW	NNW	NNW	NW	W	SW	SW	SW	SW	SW	WSW	WNW	NW	NW	NW	NNW	NNW	NNW	N	NNW	NNW	NNW	NNW	NW	311	NW								
Jan 22	NW	WNW	WNW	W	WNW	W	WSW	SSW	SSW	SW	SW	W	WNW	NW	WNW	W	W	NNW	N	N	N	N	N	N	316	NW									
Jan 23	N	N	NNE	NNE	NNE	N	NNE	N	NNE	NNE	N	NNW	WNW	WNW	WNW	NNE	SE	SE	SE	E	SW	SE	E	NE	6	N									
Jan 24	ENE	NE	NE	E	ENE	NE	ENE	NE	ENE	NNE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	E	ESE	ESE	ESE	ESE	85	E									
Jan 25	SE	ESE	ESE	ESE	ESE	ESE	ESE	E	E	E	E	ESE	E	ESE	ESE	E	E	E	E	ESE	ESE	ESE	ESE	ESE	108	ESE									
Jan 26	ESE	ESE	ESE	ESE	ESE	E	ESE	E	ENE	ESE	ESE	ESE	ESE	ESE	E	E	E	E	E	ENE	E	E	E	E	100	E									
Jan 27	E	ESE	E	E	E	E	E	E	ENE	ENE	ENE	ESE	ESE	ENE	E	ENE	E	E	E	E	ENE	E	E	E	86	E									
Jan 28	E	E	ENE	ENE	E	NE	NNE	E	SSW	SSW	SW	SW	SSW	SSW	ESE	SSE	SSE	SSE	SE	SSE	NNE	E	SE	NNE	151	SSE									
Jan 29	NE	NE	NNE	NNE	SSE	NE	SSW	SSE	SW	WNW	WNW	WSW	SW	SSW	SSW	SSW	S	SSW	SSW	SSW	SSW	SSW	SSW	NNW	207	SSW									
Jan 30	SW	SSW	SW	SE	SW	E	ESE	NW	NNE	N	SSW	SSW	WSW	SSW	S	S	SE	SE	SE	ESE	E	ENE	ESE	193	S										
Jan 31	ESE	NE	ENE	NNE	NE	ENE	ENE	ENE	NE	NE	NE	SSW	NE	NE	NE	NE	ENE	NE	NE	ENE	E	NE	ENE	NE	49	NE									
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 (Machine Malfunction /Recovery)														NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)																			
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.																																			
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.																																			

Timeseries Chart of Hourly Average for VWD - Maskwa Site





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Maskwa Site - January 2021

Summary of Hourly Averages

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

WIND SPEED																												
Maximum Hourly Value:		13.8 kph on January 19 at hour 22														Hours in Service:		744										
Maximum Daily Value:		8.5 kph on January 20														Hours of Data:		744										
Minimum Hourly Value:		0.0 kph on January 1 at hour 1														Hours of Missing Data:		0										
Minimum Daily Value:		0.4 kph on January 8														Hours of Calibration:		0										
Monthly Average:		0.9 kph														Operational Uptime:		100										
WIND DIRECTION																												
Monthly Average:		244 (WSW 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				
Jan 1	0.2	0.0	1.3	4.4	4.9	3.4	4.0	3.4	3.7	3.8	3.5	3.1	3.5	2.7	2.6	1.5	3.7	4.1	3.8	5.7	4.9	6.5	6.9	6.8	0.0	6.9	1.0	
	ESE	NE	S	SSW	SSW	SW	SW	W	NW	WNW	NNW	SW	SSW	SSW	SSW	SE	E	E	ESE	E	E	E	ENE	E				
Jan 2	6.3	5.5	5.6	6.0	5.6	3.5	0.6	0.7	1.8	2.7	2.9	4.9	4.6	5.8	4.1	1.4	0.7	0.4	0.3	1.1	0.7	0.7	1.1	0.3	0.3	6.3	1.5	
	E	E	E	ESE	SE	SE	S	SW	SSW	SW	SSW	SW	SSW	SSW	S	ENE	ENE	NNE	ESE	NNE	NNE	NNE	ESE	E				
Jan 3	0.6	0.6	0.6	0.8	0.9	0.5	4.4	6.0	3.9	3.8	4.0	4.9	5.0	5.3	4.6	4.4	3.9	3.8	4.3	4.8	5.8	5.5	5.4	6.1	0.5	6.1	3.4	
	ESE	S	SE	SSW	SW	SW	SSW	SSW	SW	SW	W	W	WSW	WSW	WSW	SW	WSW	WSW	W	W	W	W	W	W				
Jan 4	4.3	4.9	4.9	4.4	4.8	4.6	5.4	7.1	5.2	3.0	2.3	3.5	5.2	6.3	5.4	3.3	0.5	0.8	1.6	2.9	3.0	3.9	2.6	4.3	0.5	7.1	2.2	
	W	SW	SW	SW	SW	SW	SSW	SSW	SW	SW	SW	SSW	SSW	SSW	SSW	S	E	ENE	NE	ENE	NE	NE	NE	ENE				
Jan 5	4.5	5.2	4.0	2.8	2.7	3.4	0.8	1.0	2.4	1.8	3.8	4.1	3.9	3.1	3.9	1.3	1.7	2.5	2.2	3.3	1.4	0.8	1.7	1.4	0.8	5.2	1.0	
	ENE	ENE	E	NNE	NNE	NNW	W	NW	NW	WNW	NNW	NNW	NW	NNW	NW	SSW	SSW	S	SSW	SE	E	NE	NNE	NNE				
Jan 6	3.6	4.6	5.4	3.5	6.0	3.9	2.8	3.4	3.5	2.6	0.5	2.2	2.0	0.9	1.7	4.6	2.4	1.9	3.2	5.0	3.6	4.0	3.1	3.7	0.5	6.0	1.6	
	NNE	ESE	E	ESE	SE	ESE	ESE	ESE	ESE	ESE	S	SSW	WSW	SW	SSW	SW	SW	SSW	SW	SSW	SW	SSW	WSW	W				
Jan 7	4.3	4.4	5.6	4.9	3.4	8.3	9.4	7.5	6.6	7.3	4.4	6.3	6.9	7.3	6.9	5.2	6.4	6.0	6.4	4.2	4.3	6.7	6.5	4.3	3.4	9.4	5.8	
	W	W	SSW	SSW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW				
Jan 8	1.4	1.0	1.1	3.2	0.3	1.2	0.2	1.3	0.1	1.3	1.9	1.2	1.3	1.0	1.7	1.9	2.8	2.4	0.9	1.3	2.3	0.1	0.2	0.3	0.1	3.2	0.4	
	SW	ESE	S	SSW	E	SE	NW	SSW	ENE	ENE	E	NNE	SW	SW	S	NE	NE	ENE	ENE	NE	ENE	NNE	ENE	NE				
Jan 9	0.6	0.2	0.4	0.6	2.8	3.0	4.7	2.7	3.0	2.7	2.1	2.2	3.5	5.8	5.4	5.5	4.2	3.7	5.4	6.4	5.1	4.4	4.0	5.7	0.2	6.4	3.4	
	N	NNE	W	SW	SW	SW	SSW	SW	SW	SW	WSW	SW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW				
Jan 10	3.8	2.4	0.5	0.3	0.6	0.5	0.7	0.3	0.4	0.3	0.6	1.1	1.0	4.6	4.4	4.1	2.7	3.4	3.4	3.7	5.5	4.5	4.4	5.9	0.3	5.9	2.1	
	SW	SW	NNE	ENE	E	NE	ESE	E	NW	NE	NNE	NNE	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW				
Jan 11	5.4	5.8	6.0	2.6	3.8	3.0	2.3	0.3	0.5	1.2	1.0	0.8	0.9	3.2	4.6	6.1	5.2	6.7	6.4	8.5	5.3	3.3	3.2	6.1	0.3	8.5	3.4	
	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	SSW	NNE	N	NE	NE	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW				
Jan 12	8.8	7.0	7.0	7.8	7.0	5.0	6.1	7.9	6.1	4.4	2.2	2.2	2.9	2.2	3.8	2.7	2.2	3.1	4.1	3.6	1.4	3.2	2.8	2.5	1.4	8.8	3.4	
	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	S	SE	ESE	ENE	ENE	E	SE	SE	SSW	S	SSW	SSW	SSW				
Jan 13	0.8	1.8	3.8	1.6	0.6	1.1	2.6	2.3	3.2	7.1	6.8	13.5	7.3	9.3	9.4	8.6	7.7	7.1	7.9	8.3	8.3	7.9	8.2	9.7	0.6	13.5	3.9	
	SSW	SSW	SSW	SW	ESE	NE	NE	NE	NNE	NE	NNE	N	N	NNW	NNW	NNW	NNW	NW	WNW	WNW	WNW	WNW	WNW	W				
Jan 14	9.9	9.2	10.0	9.7	10.8	10.1	9.1	10.3	10.2	9.4	9.0	8.0	7.3	6.6	6.6	4.6	2.6	2.9	2.5	2.8	2.4	2.7	2.5	0.9	0.9	10.8	5.9	
	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NNW	NNW	WNW	WNW	WNW	SW	SSW	SW	SSW	SSW	SSE				
Jan 15	0.1	0.2	1.0	0.3	0.7	1.5	2.5	1.8	0.9	4.3	4.1	3.9	6.8	6.7	6.0	7.6	5.1	5.4	7.2	6.2	5.1	7.1	6.5	6.5	0.1	7.6	3.3	
	W	NNE	E	E	NNE	NNE	NNE	NE	ENE	S	S	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW				
Jan 16	4.8	3.6	4.0	4.7	5.4	7.0	8.1	8.2	8.8	7.3	8.2	8.9	7.8	7.3	6.4	4.5	2.5	2.5	3.1	3.4	2.2	2.9	3.0	3.3	2.2	8.9	4.9	
	SW	SW	WSW	W	W	WNW	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	W	W	WSW	SW	WSW	W	WSW	SSW	SSW	SSW				
Jan 17	4.7	4.1	5.6	4.2	3.5	2.4	2.8	3.1	4.4	2.6	4.5	0.8	0.4	0.9	0.5	2.2	0.6	1.3	2.2	2.8	3.9	4.1	3.4	3.0	0.4	5.6	1.5	
	SSW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	NW	NNE	N	NNW	NW	NNW	NW	NW	NW				
Jan 18	1.8	3.4	2.7	3.6	6.0	3.6	3.5	6.0	6.7	8.6	8.3	8.4	7.2	5.6	6.0	5.4	4.1	2.5	1.8	0.3	1.0	0.9	1.5	2.3	0.3	8.6	3.0	
	NW	W	W	SW	SW	WSW	W	W	WNW	NW	NW	NW	NW	NNW	NNW	NNW	N	N	NW	WSW	SE	SSE	S	S				
Jan 19	2.3	3.5	4.2	6.0	7.1	6.4	7.8	8.5	7.5	9.3	8.7	8.5	8.8	6.4	7.2	6.1	4.7	4.8	3.8	7.8	10.5	13.2	13.8	13.5	2.3	13.8	6.1	
	SSE	S	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	W	W	W	WNW	WNW			
Jan 20	12.0	11.5	10.5	9.7	9.3	12.0	10.8	11.2	12.6	13.1	12.6	12.0	11.0	9.5	9.7	8.4	9.1	8.3	7.3	7.3	6.7	6.5	5.9	5.2	5.2	13.1	8.5	
	WNW	WNW	WNW	W	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NNW	NNW	NNW	NNW	N	N	NNW	NNW	NNW	NNW	N				



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Maskwa Site - January 2021

Summary of Hourly Averages

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

WIND SPEED																															
Maximum Hourly Value:	13.8	kph	on January 19 at hour 22													Hours in Service:	744														
Maximum Daily Value:	8.5	kph	on January 20													Hours of Data:	744														
Minimum Hourly Value:	0.0	kph	on January 1 at hour 1													Hours of Missing Data:	0														
Minimum Daily Value:	0.4	kph	on January 8													Hours of Calibration:	0														
Monthly Average:	0.9	kph														Operational Uptime:	100														
WIND DIRECTION																															
Monthly Average:	244 (WSW, 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							
Jan 21	4.1	4.1	4.5	4.2	3.7	3.6	2.8	3.7	4.3	3.6	3.3	2.8	4.4	4.7	4.7	4.3	5.0	5.2	4.6	4.2	2.7	2.4	3.1	2.8	2.4	5.2	2.8				
	NNW	NNW	NNW	NNW	NW	W	SW	SW	SW	SW	WSW	W	WNW	NW	NW	NNW	NNW	N	NNW	NNW	NW	NW	NW								
Jan 22	2.2	2.6	3.2	2.7	3.9	1.8	1.3	2.2	4.1	3.2	2.5	3.4	2.9	4.3	4.3	4.4	5.3	4.8	6.3	10.2	9.2	10.4	6.7	7.0	1.3	10.4	2.8				
	NW	WNW	WNW	W	WNW	W	WSW	SSW	SSW	SW	SW	W	WNW	NW	WNW	W	W	NNW	N	N	N	N	N								
Jan 23	5.0	6.2	5.2	3.1	6.1	4.1	2.8	1.8	2.5	4.4	3.8	2.7	2.9	3.0	1.4	3.5	1.5	1.8	0.7	0.6	0.1	0.3	0.3	0.2	0.1	6.2	2.0				
	N	N	NNE	NNE	NNE	N	NNE	N	NNE	NNE	N	NNW	WNW	WNW	WNW	NNE	SE	SE	SE	E	SW	SE	E	NE							
Jan 24	0.1	0.2	1.1	0.3	0.8	0.9	3.8	2.6	2.7	4.2	5.2	2.4	4.9	4.8	4.5	3.0	3.2	3.4	3.0	4.5	4.9	4.9	4.4	5.4	0.1	5.4	2.6				
	ENE	NE	NE	E	ENE	NE	ENE	NE	ENE	NNE	NNE	ENE	ENE	NE	ESE	ESE	ENE	ENE	E	ESE	ESE	SE	ESE	SE							
Jan 25	5.4	4.3	4.8	5.2	4.9	5.3	4.7	4.1	4.1	4.7	4.4	5.1	4.8	4.2	4.5	4.7	4.0	4.1	4.4	5.0	5.4	5.3	5.4	5.5	4.0	5.5	4.6				
	SE	ESE	ESE	ESE	ESE	ESE	E	E	E	E	ESE	E	ESE	ESE	E	E	E	E	ESE	ESE	ESE	ESE	ESE	ESE							
Jan 26	5.4	5.4	5.1	4.9	4.6	3.1	3.3	2.9	3.0	4.6	6.4	5.8	6.3	5.5	7.6	7.5	6.5	6.5	5.2	5.1	4.8	5.3	5.5	4.1	2.9	7.6	5.0				
	ESE	ESE	ESE	ESE	E	ESE	E	ENE	ESE	ESE	ESE	ESE	ESE	E	E	E	E	E	ENE	E	E	E	E	E							
Jan 27	4.3	4.6	4.1	2.5	3.4	3.2	2.7	2.8	2.6	4.1	3.8	3.3	3.2	3.1	3.9	6.0	5.0	5.1	5.1	5.1	4.5	3.9	3.5	3.5	2.5	6.0	3.8				
	E	ESE	E	E	E	E	E	ENE	ENE	ENE	ESE	ESE	ENE	E	ENE	E	E	E	E	ENE	E	E	E	E							
Jan 28	3.0	2.1	1.7	2.1	0.2	0.4	0.5	0.7	1.5	2.3	1.6	2.2	3.0	3.3	0.3	0.8	2.9	1.3	0.6	0.4	0.3	1.2	0.4	0.9	0.2	3.3	0.7				
	E	E	ENE	ENE	E	NE	NNE	E	SSW	SSW	SW	SW	SSW	SSW	ESE	SSE	SSE	SSE	SE	SSE	NNE	E	SE	NNE							
Jan 29	1.8	2.0	0.6	0.6	0.6	0.0	1.0	0.1	0.0	0.7	1.4	1.1	1.7	3.6	2.5	4.4	4.4	3.3	1.8	1.0	0.5	1.2	0.7	0.1	0.0	4.4	0.9				
	NE	NE	NNE	NNE	SSE	NE	SSW	SSE	SW	WNW	WNW	WSW	SW	SSW	SSW	SSW	S	SSW	SSW	SSW	SW	SSW	SSW	NNW							
Jan 30	0.1	0.5	0.5	0.1	0.2	0.6	0.1	0.1	0.2	0.3	2.8	3.4	1.7	2.8	3.8	4.2	1.4	1.4	0.5	0.2	0.1	0.1	0.6	0.8	0.1	4.2	0.9				
	SW	SSW	SW	SE	SW	E	ESE	NW	NNE	N	SSW	SSW	WSW	SSW	SSW	S	S	SE	SE	SE	ESE	E	ENE	ESE							
Jan 31	0.2	0.7	0.8	1.0	0.3	0.5	1.9	0.9	1.8	1.7	3.0	3.8	5.3	5.3	6.7	4.3	4.1	3.1	2.9	2.2	2.4	2.5	2.9	3.2	0.2	6.7	2.5				
	ESE	NE	ENE	NNE	NE	ENE	ENE	ENE	NE	NE	NE	NE	NNE	NE	NE	NE	ENE	ENE	NE	ENE	E	NE	ENE	NE							
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

Maskwa Site - January 2021

Summary of Hour Standard Deviations

STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

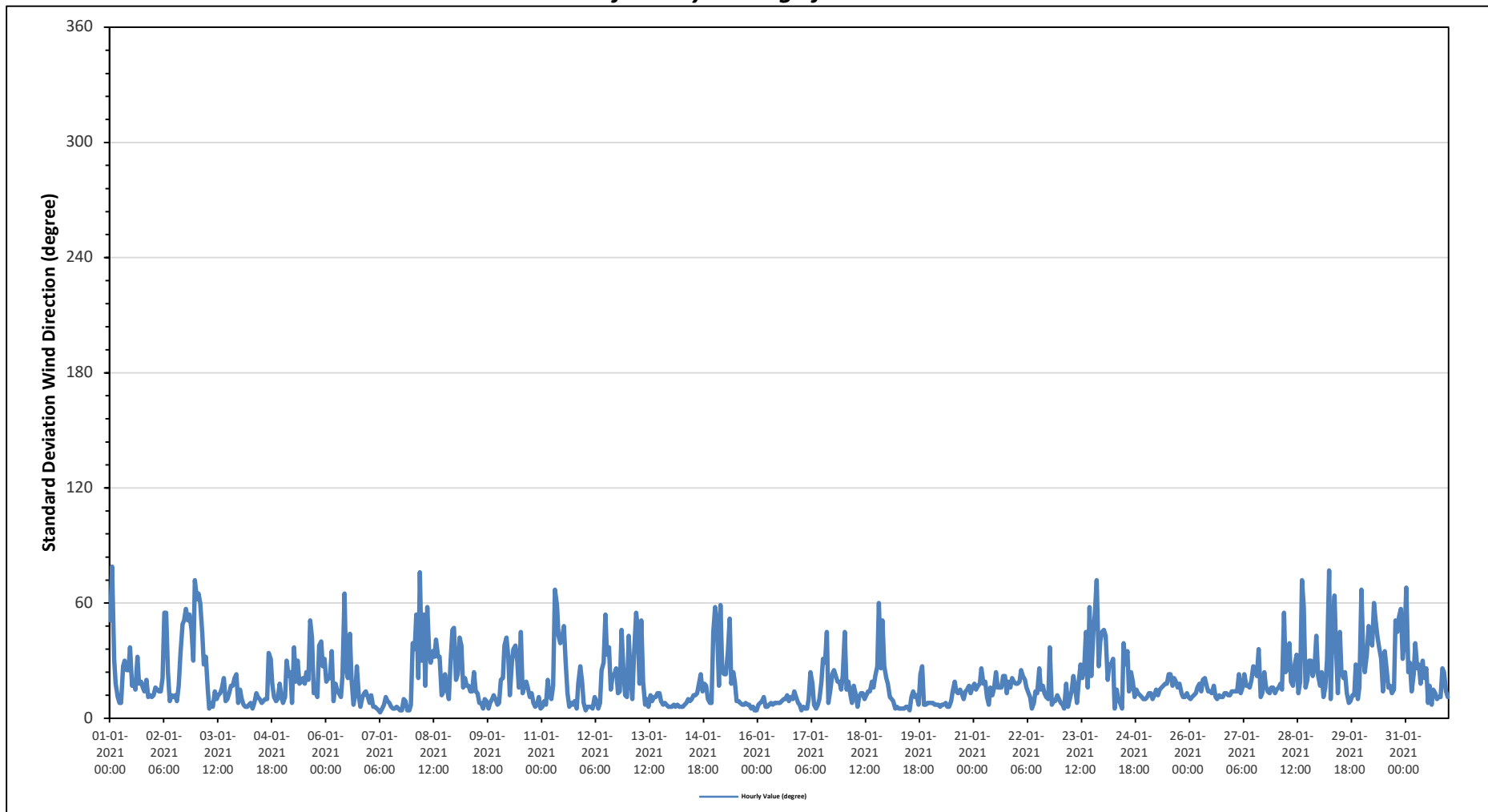
Maximum Hourly Value:	79 degree on January 1 at hour 1	Hours in Service:	744
Minimum Hourly Value:	3 degree on January 7 at hour 6	Hours of Data:	744
		Hours of Missing Data:	0
		Hours of Calibration:	0
		Operational Uptime:	100.0

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
Jan 1	51	79	31	18	11	8	8	27	30	25	25	37	17	19	15	32	18	19	16	14	20	11	12	11	8	79
Jan 2	12	16	15	14	14	21	55	55	24	9	12	11	12	9	17	34	49	51	57	51	54	46	30	72	9	72
Jan 3	62	65	60	44	28	32	16	5	8	6	14	10	12	13	16	21	9	10	13	17	21	23	8	5	65	
Jan 4	15	10	7	6	6	7	8	5	8	13	11	10	8	9	10	10	34	31	18	11	9	10	18	11	5	34
Jan 5	8	11	30	22	24	8	37	19	30	18	19	21	18	24	20	51	42	13	14	11	38	40	27	31	8	51
Jan 6	19	21	21	35	9	18	15	13	11	22	65	26	21	44	21	7	13	27	11	6	11	13	14	11	6	65
Jan 7	8	12	6	6	5	4	3	5	7	11	9	8	6	5	6	5	4	4	10	9	4	4	7	3	12	
Jan 8	39	36	54	21	76	30	54	17	58	35	29	35	32	41	32	32	12	14	23	15	10	30	46	47	10	76
Jan 9	20	23	42	38	16	21	17	17	14	14	24	14	13	8	5	10	9	5	8	10	12	10	7	5	42	
Jan 10	8	20	21	38	42	32	12	29	36	38	30	16	45	13	17	19	16	11	13	8	6	7	11	5	5	45
Jan 11	6	9	7	20	12	10	17	67	59	43	39	43	48	29	13	6	8	7	9	5	18	27	19	8	5	67
Jan 12	4	6	6	6	5	11	9	5	8	25	29	54	33	37	15	22	23	26	13	14	46	26	12	11	4	54
Jan 13	43	22	10	34	55	47	18	51	19	7	10	6	12	9	11	11	13	13	9	7	8	7	6	6	6	55
Jan 14	6	7	6	7	6	6	6	7	8	10	9	10	12	12	13	18	23	14	18	17	10	8	8	45	6	45
Jan 15	58	50	17	59	24	23	23	35	52	18	24	19	9	9	8	7	7	8	7	7	5	6	4	4	4	59
Jan 16	7	8	9	11	6	6	7	8	7	8	8	8	8	9	10	10	12	9	11	10	14	11	8	7	6	14
Jan 17	4	6	5	5	10	24	18	7	5	7	10	19	31	29	45	8	15	23	25	22	19	19	15	22	4	45
Jan 18	45	15	19	13	8	17	13	6	11	13	13	10	12	14	14	19	16	22	27	60	26	51	27	21	6	60
Jan 19	18	11	10	9	5	6	5	5	5	5	6	6	4	11	14	11	12	7	23	27	7	7	8	8	4	27
Jan 20	8	8	7	7	6	7	7	8	6	6	9	14	19	14	13	15	13	10	14	15	17	13	16	6	19	
Jan 21	18	15	17	18	26	18	19	11	7	16	12	16	24	16	16	16	22	22	13	19	16	21	19	18	7	26
Jan 22	18	19	25	22	20	16	13	11	5	8	14	13	26	15	17	13	11	10	37	7	9	9	12	10	5	37
Jan 23	8	7	5	18	6	10	14	22	16	8	19	28	21	25	45	16	58	22	45	55	72	27	40	45	5	72
Jan 24	46	43	20	28	28	31	5	15	10	8	5	39	28	35	14	24	19	11	15	13	12	11	10	10	5	46
Jan 25	11	13	13	10	12	15	12	15	16	17	18	18	23	23	17	21	19	16	18	13	11	11	13	11	10	23
Jan 26	10	11	12	13	16	18	14	20	21	17	14	14	13	17	11	10	12	11	11	13	13	12	12	14	10	21
Jan 27	14	14	14	23	13	16	23	17	17	16	20	27	26	22	36	11	13	24	17	14	13	16	16	13	11	36
Jan 28	15	16	18	15	55	24	26	39	19	17	28	33	13	19	72	58	16	20	30	30	22	26	43	22	13	72
Jan 29	17	24	11	16	31	77	10	47	64	36	13	45	24	21	24	13	8	9	12	12	28	10	16	67	8	77
Jan 30	34	24	33	48	41	38	60	50	42	37	31	14	35	26	16	17	13	15	51	45	53	57	31	41	13	60
Jan 31	68	24	29	14	23	39	26	28	18	30	21	26	8	17	7	15	13	10	11	11	26	24	14	11	7	68
Diurnal Minimum	4	6	5	5	5	4	3	5	5	5	5	6	4	5	5	5	5	4	4	5	5	4	4	4	4	4
Diurnal Maximum	68	79	60	59	76	77	60	67	64	43	65	54	48	44	72	58	58	51	57	60	72	57	46	72	7	72

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

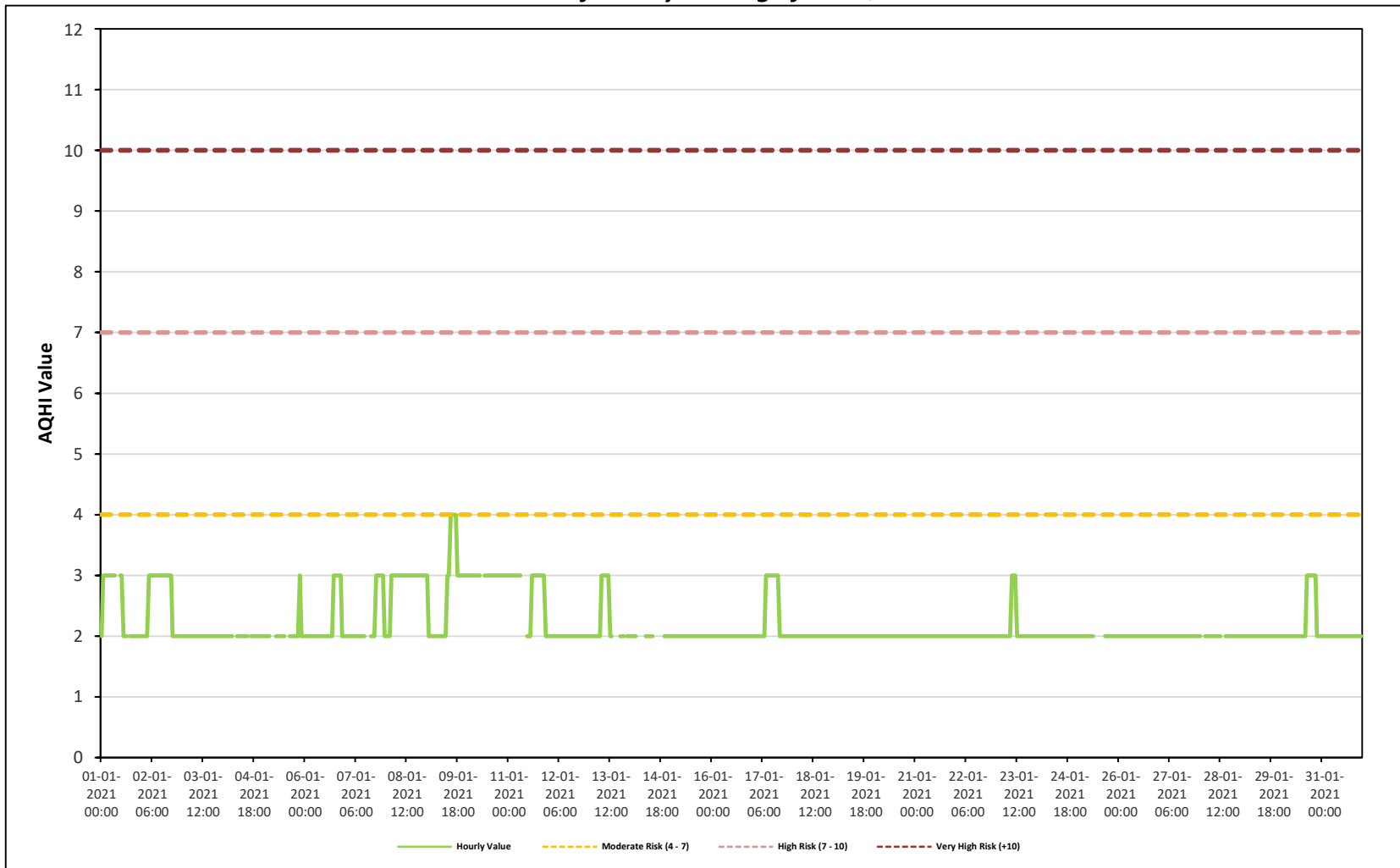
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for STDWD - Maskwa Site



ST. LINA STATION

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





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - January 2021

Summary of Hourly Averages

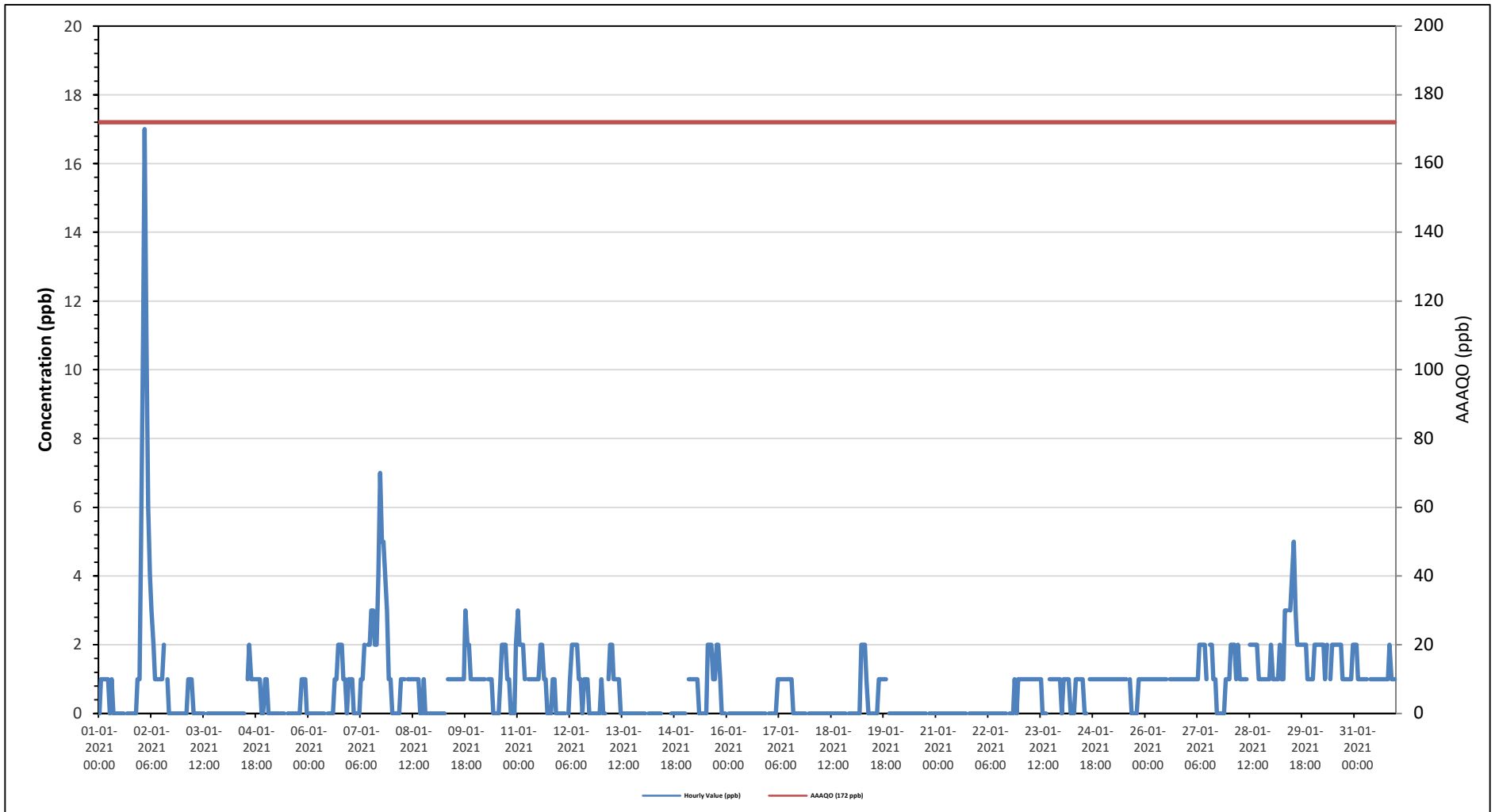
SULPHUR DIOXIDE (SO₂) in ppb

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: 17 ppb on January 2 at hour 2					Hours in Service: 744																										
Maximum Daily Value: 2.9 ppb on January 2					Hours of Data: 707																										
Minimum Hourly Value: 0 ppb on January 1 at hour 0					Hours of Missing Data: 0																										
Minimum Daily Value: 0.0 ppb on January 14					Hours of Calibration: 37																										
Monthly Average: 0.8 ppb					Operational Uptime: 100.0																										
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average					
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23				
Jan 1	0	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0.3				
Jan 2	5	11	17	11	6	4	3	2	1	1	1	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0	2.9				
Jan 3	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1				
Jan 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0.4				
Jan 5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0.2				
Jan 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	1	1	0.5				
Jan 7	1	1	0	0	0	0	1	1	2	S	2	3	3	2	2	4	7	5	5	4	3	1	1	0	0	0	2.2				
Jan 8	0	0	0	0	0	1	1	1	S	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0.5				
Jan 9	0	0	0	0	0	0	0	S	1	1	1	1	1	1	1	1	1	1	3	2	2	1	1	1	0	0	0.9				
Jan 10	1	1	1	1	1	1	S	1	1	1	0	0	0	0	1	2	2	2	1	1	0	0	0	0	2	0	0.9				
Jan 11	3	2	2	2	1	S	1	1	1	1	1	1	1	2	2	1	1	0	0	0	1	1	0	0	0	0	1.1				
Jan 12	0	0	0	0	S	0	1	2	2	2	2	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0.6				
Jan 13	1	0	0	S	1	2	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4				
Jan 14	0	0	S	0	0	0	0	0	0	0	0	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0.0				
Jan 15	0	S	1	1	1	1	1	1	0	0	0	0	0	2	2	2	1	1	2	2	1	0	0	0	0	0	0.8				
Jan 16	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				
Jan 17	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4				
Jan 18	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				
Jan 19	0	0	0	0	0	2	2	2	1	0	0	0	0	0	0	1	1	1	1	1	S	0	0	0	0	0	0.5				
Jan 20	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				
Jan 21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	S	0	0	0	0	0	0.0				
Jan 22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	1	0	1	0	0	0.1				
Jan 23	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	S	1	1	1	1	1	1	1	1	0	0.9				
Jan 24	0	1	1	1	1	0	0	0	1	1	1	1	1	0	0	S	1	1	1	1	1	1	1	1	1	0	0.7				
Jan 25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	0	0	0	0	1	1	1	1	1	0	0.8				
Jan 26	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1.0				
Jan 27	1	1	1	1	1	1	1	2	2	2	2	1	S	2	2	1	1	0	0	0	0	0	1	1	0	0	1.0				
Jan 28	1	2	2	2	1	2	1	1	1	1	S	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1.4				
Jan 29	2	1	1	1	1	2	1	3	3	S	3	4	5	3	2	2	2	2	2	2	2	1	1	1	1	1	2.0				
Jan 30	1	2	2	2	2	2	2	1	2	S	1	2	2	2	2	2	2	1	1	1	1	1	1	2	1	1	1.6				
Jan 31	2	2	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1.1				
Diurnal Maximum	5	11	17	11	6	4	3	2	3	2	3	4	5	3	2	4	7	5	5	4	3	1	2								
Daiurnal Average	0.7	0.9	1.1	0.9	0.7	0.8	0.7	0.8	0.8	0.7	0.7	0.8	0.9	0.8	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.5	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)																						

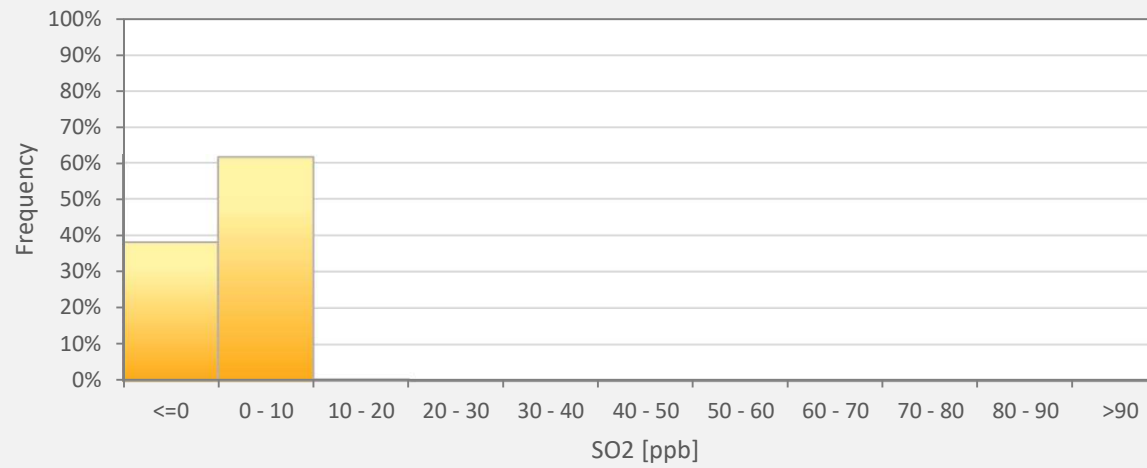
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

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

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



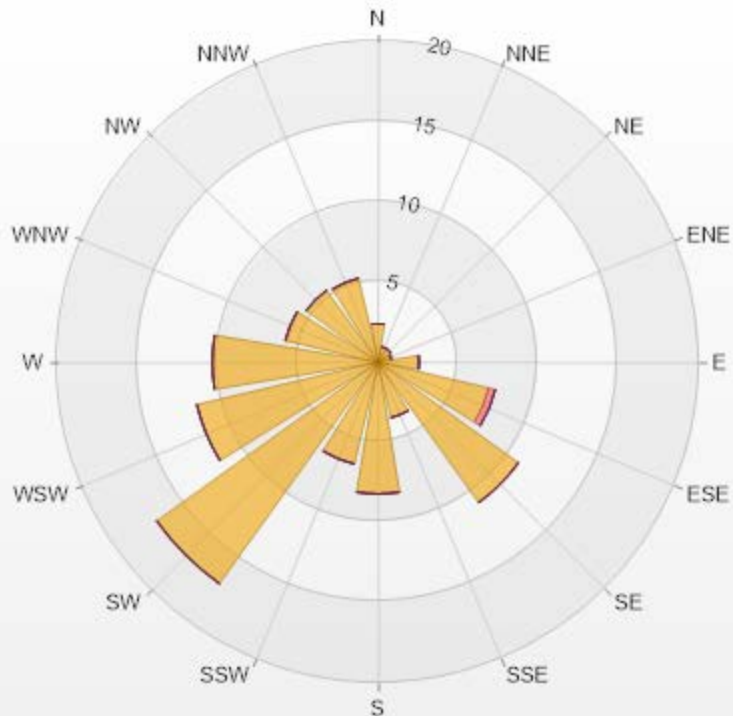
SO2[ppb] Histogram: St. Lina Monthly: 01-2021 1 Hr.



Classes	SO2
<=0	38.05%
0 - 10	61.53%
10 - 20	0.42%
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: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 95.03% Calm Avg: 0.00 [ppb]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	2.4	0	0	0	0	2.4
NNE	0.99	0	0	0	0	0.99
NE	0.99	0	0	0	0	0.99
ENE	0.85	0	0	0	0	0.85
E	2.55	0	0	0	0	2.55
ESE	7.07	0.42	0	0	0	7.49
SE	10.75	0	0	0	0	10.75
SSE	3.54	0	0	0	0	3.54
S	8.2	0	0	0	0	8.2
SSW	6.51	0	0	0	0	6.51
SW	16.97	0	0	0	0	16.97
WSW	11.6	0	0	0	0	11.6
W	10.33	0	0	0	0	10.33
WNW	5.94	0	0	0	0	5.94
NW	5.52	0	0	0	0	5.52
NNW	5.37	0	0	0	0	5.37
Summary	100	0.42	0	0	0	100



LICA-202101

Page 171 of 237

% Icon Classes (ppb)

100 0-10

0 10-50

0 50-100

0 100-172

0 >172.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - January 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

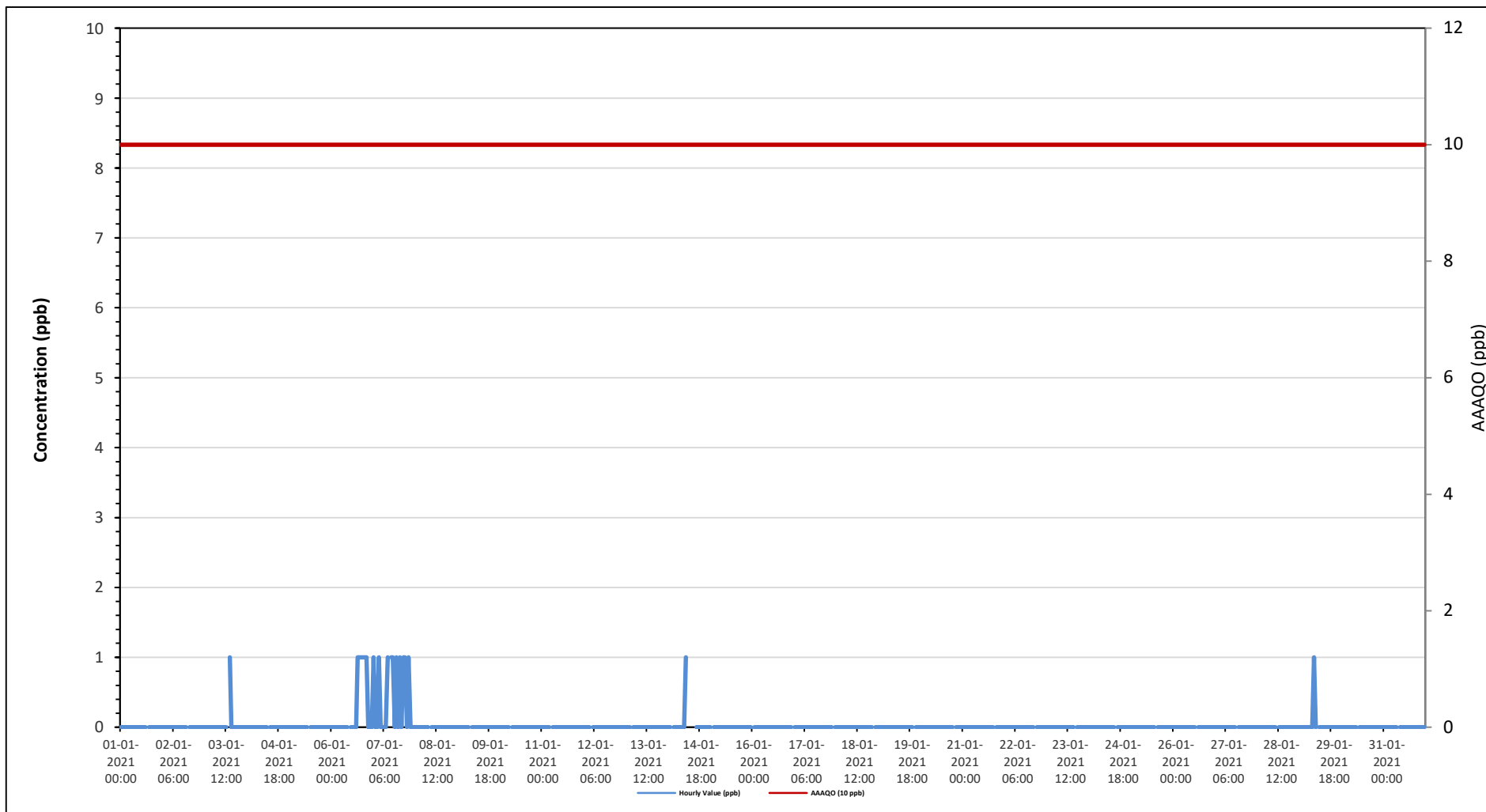
Maximum Hourly Value: 1 ppb on January 3 at hour 14	Hours in Service: 744
Maximum Daily Value: 0.4 ppb on January 7	Hours of Data: 707
Minimum Hourly Value: 0 ppb on January 1 at hour 0	Hours of Missing Data: 0
Minimum Daily Value: 0.0 ppb on January 1	Hours of Calibration: 37
Monthly Average: 0.0 ppb	Operational Uptime: 100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily						
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average						
Jan 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Jan 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
Jan 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
Jan 4	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
Jan 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
Jan 6	0	0	0	0	0	0	0	0	0	0	S	1	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.3	
Jan 7	1	0	0	1	0	0	0	0	1	S	1	1	0	1	0	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.4	
Jan 8	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	0	0.0	
Jan 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	0	0.0	
Jan 10	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	0	0	0.0	
Jan 11	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
Jan 12	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
Jan 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	0.0	
Jan 14	0	0	S	0	0	0	0	0	0	0	1	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	
Jan 15	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	0	0.0	
Jan 16	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	S	0	0.0	
Jan 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	0.0	
Jan 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	S	0	0	0.0	
Jan 19	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	0	0	0	0	0.0
Jan 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	0	0	0	0	0.0
Jan 21	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	0	0	0	0	0.0
Jan 22	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	0	0	0	0	0.0
Jan 23	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	0	0	0	0	0.0
Jan 24	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	0	0	0	0	0.0
Jan 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0.0
Jan 26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0.0
Jan 27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0.0
Jan 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	S	0	0	0	0	0	0	0	0.0
Jan 29	0	0	0	0	0	0	0	0	0	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Jan 30	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	0	0	0.0
Jan 31	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	0	0	0.0
Diurnal Maximum	1	0	0	1	0	0	0	0	0	1	0	1	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.0
Diurnal Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	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

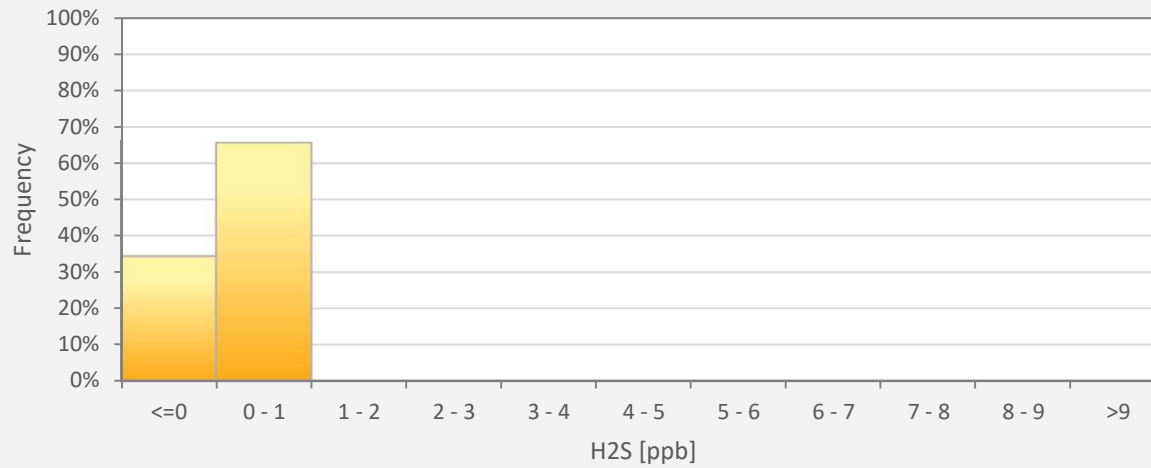
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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



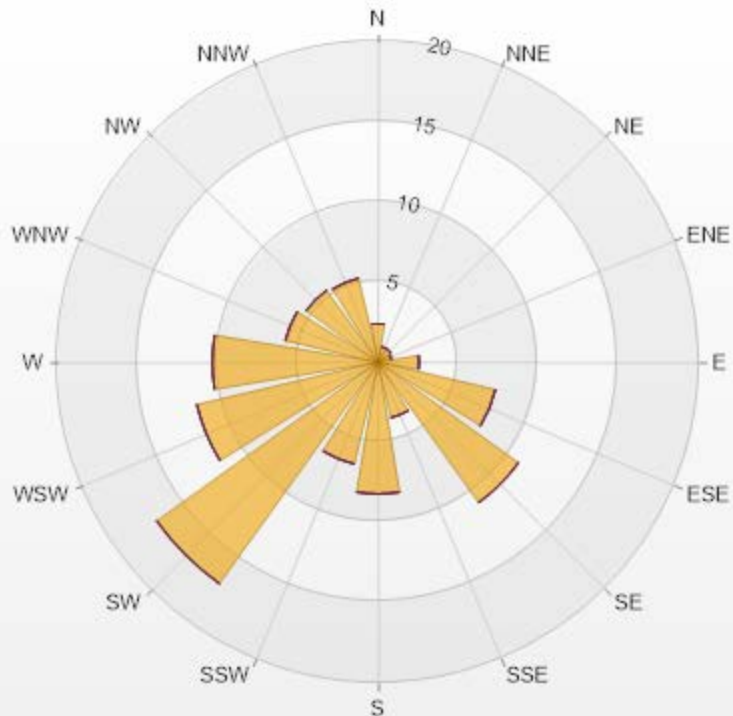
H2S[ppb] Histogram: St. Lina Monthly: 01-2021 1 Hr.



Classes	H2S
<=0	34.37%
0 - 1	65.63%
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: St. Lina Poll.: St. Lina-H2S[ppb] Monthly: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 95.03% Calm Avg: 0.00 [ppb]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	2.4	0	0	0	0	2.4
NNE	0.99	0	0	0	0	0.99
NE	0.99	0	0	0	0	0.99
ENE	0.85	0	0	0	0	0.85
E	2.55	0	0	0	0	2.55
ESE	7.5	0	0	0	0	7.5
SE	10.75	0	0	0	0	10.75
SSE	3.54	0	0	0	0	3.54
S	8.2	0	0	0	0	8.2
SSW	6.51	0	0	0	0	6.51
SW	16.97	0	0	0	0	16.97
WSW	11.6	0	0	0	0	11.6
W	10.33	0	0	0	0	10.33
WNW	5.94	0	0	0	0	5.94
NW	5.52	0	0	0	0	5.52
NNW	5.37	0	0	0	0	5.37
Summary	100	0	0	0	0	100



LICA-202101

% Icon Classes (ppb)

100 0-2

0 2-5

0 5-10

0 10-50

0 >50.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - January 2021
Summary of Hourly Averages

OXIDES OF NITROGEN (NOx) in ppb

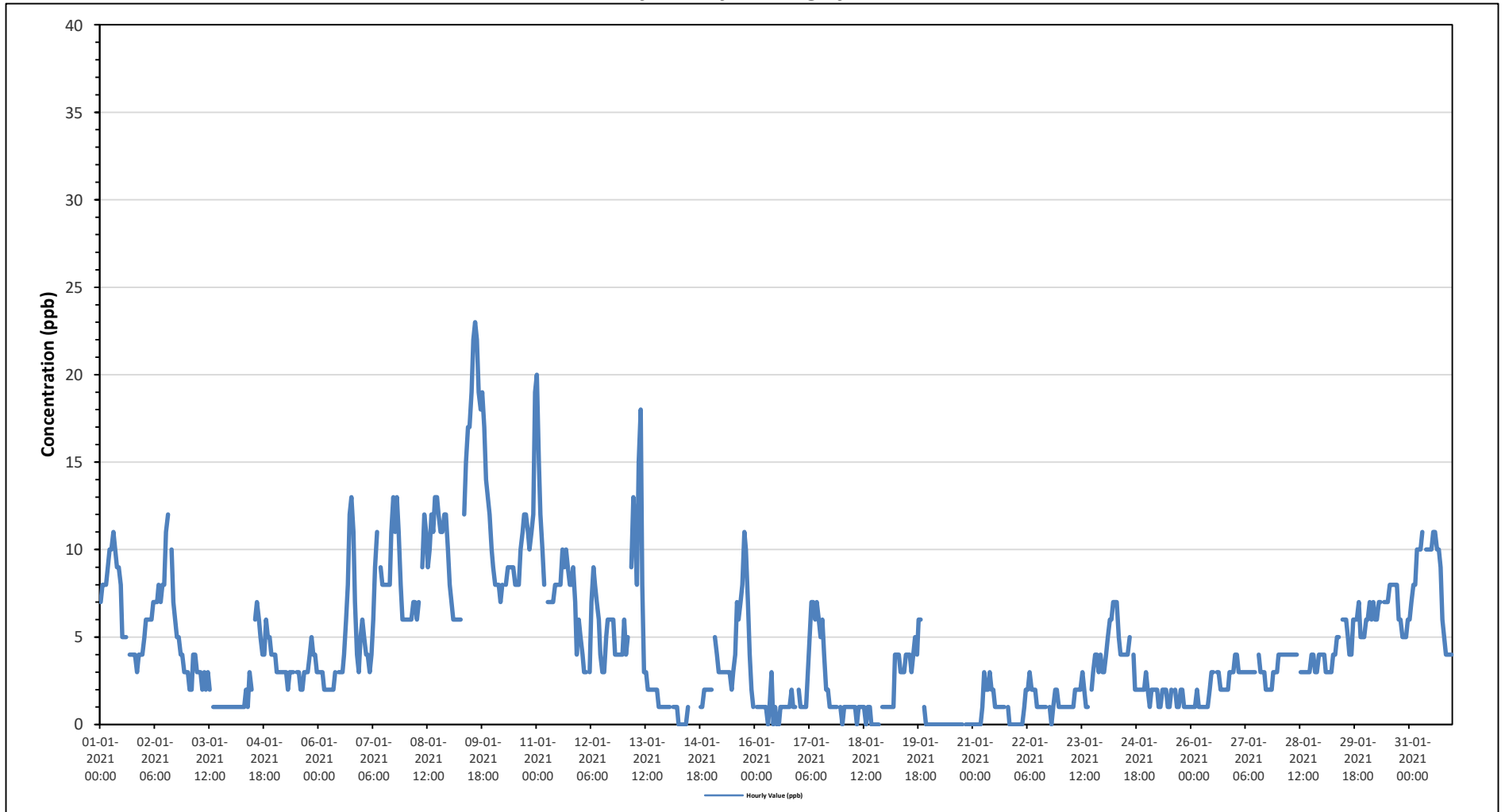
Maximum Hourly Value:	23 ppb	on January 9 at hour 14	Hours in Service:	744
Maximum Daily Value:	13.7 ppb	on January 9	Hours of Data:	706
Minimum Hourly Value:	0 ppb	on January 14 at hour 6	Hours of Missing Data:	0
Minimum Daily Value:	0.0 ppb	on January 20	Hours of Calibration:	38
Monthly Average:	4.4 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	
Jan 1	7	8	8	8	9	10	10	11	10	9	9	8	5	5	S	4	4	4	4	3	4	4	4	3	11	6.7		
Jan 2	5	6	6	6	6	7	7	7	8	7	8	8	11	12	S	10	7	6	5	5	4	4	3	3	12	6.6		
Jan 3	3	2	2	4	4	3	3	3	2	3	2	3	2	S	1	1	1	1	1	1	1	1	1	1	4	2.0		
Jan 4	1	1	1	1	1	1	1	1	2	1	3	2	S	6	7	6	5	4	4	6	5	5	4	4	7	3.1		
Jan 5	4	3	3	3	3	3	3	2	3	3	3	S	3	3	2	2	3	3	4	5	4	4	3	5	3.1			
Jan 6	3	3	3	2	2	2	2	2	2	3	S	3	3	3	4	6	8	12	13	11	7	4	3	5	4.6			
Jan 7	6	5	4	4	3	4	6	9	11	S	9	8	8	8	8	8	11	13	11	13	11	8	6	6	7.8			
Jan 8	6	6	6	6	7	7	6	7	S	9	12	11	9	10	12	11	13	13	12	11	11	12	12	10	9.5			
Jan 9	8	7	6	6	6	6	S	12	15	17	17	19	22	23	22	19	18	19	17	14	13	12	10	13.7	13.7			
Jan 10	9	8	8	8	7	8	S	8	9	9	9	8	8	8	10	11	12	12	11	10	11	12	19	7	9.7			
Jan 11	20	15	12	10	8	S	7	7	7	7	8	8	8	8	10	9	10	9	8	8	9	7	4	6	8.9			
Jan 12	5	4	3	3	S	3	7	9	8	7	6	4	3	3	5	6	6	6	6	4	4	4	4	3	5.0			
Jan 13	6	4	5	S	9	13	11	8	15	18	8	3	3	2	2	2	2	2	1	1	1	1	1	1	18	5.2		
Jan 14	1	1	S	1	1	1	0	0	0	0	0	1	C	C	C	C	C	C	1	1	2	2	2	2	0	-		
Jan 15	2	S	5	4	3	3	3	3	3	3	3	2	3	4	7	6	7	8	11	10	7	4	2	1	11	4.5		
Jan 16	S	1	1	1	1	1	1	0	1	3	0	1	0	0	1	1	1	1	1	1	2	1	1	S	0	3	1.0	
Jan 17	2	1	1	1	1	3	5	7	7	6	7	6	5	6	4	2	2	1	1	1	1	1	S	1	1	7	3.1	
Jan 18	0	1	1	1	1	1	1	1	0	1	1	1	1	0	1	1	0	0	0	0	0	S	1	1	0	1	0.7	
Jan 19	1	1	1	1	1	4	4	4	3	3	3	4	4	4	3	4	5	4	6	6	S	1	0	0	0	6	2.9	
Jan 20	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	
Jan 21	0	0	0	0	0	1	3	2	2	3	2	2	1	1	1	1	1	1	1	S	1	0	0	0	0	3	1.0	
Jan 22	0	0	0	0	1	2	2	3	2	2	2	1	1	1	1	1	1	S	1	0	1	2	2	1	0	3	1.2	
Jan 23	1	1	1	1	1	1	1	1	2	2	2	2	3	2	1	1	S	2	3	4	4	3	4	3	1	4	2.0	
Jan 24	3	4	5	6	6	7	7	7	5	4	4	4	4	4	5	S	4	2	2	2	2	2	2	3	2	7	4.1	
Jan 25	2	1	2	2	2	2	1	1	2	2	2	1	1	2	S	2	1	1	2	2	2	1	1	1	1	2	1.5	
Jan 26	1	1	1	2	1	1	1	1	1	1	2	3	3	S	3	3	2	2	2	2	2	2	3	3	1	3	1.9	
Jan 27	4	4	3	3	3	3	3	3	3	3	3	3	S	3	3	3	3	2	2	2	2	3	3	3	2	4	3.0	
Jan 28	4	4	4	4	4	4	4	4	4	4	4	S	3	3	3	3	3	3	3	4	4	3	3	4	3	4	3.7	
Jan 29	4	4	3	3	3	3	4	4	5	5	S	6	6	6	5	4	4	6	6	6	7	5	5	5	3	7	4.7	
Jan 30	6	6	7	6	7	6	6	7	7	S	7	7	7	8	8	8	8	8	8	6	6	5	5	5	6	5	8	6.6
Jan 31	6	7	8	8	10	10	10	11	S	10	10	10	10	11	10	10	10	9	6	5	4	4	4	4	4	11	8.2	
Diurnal Maximum	20	15	12	10	10	13	11	11	15	18	17	17	19	22	23	22	19	18	19	17	14	13	12	19				
Diurnal Average	4.0	3.6	3.7	3.5	3.7	4.0	4.2	4.4	4.7	4.9	5.0	4.8	4.8	5.2	5.1	5.1	5.2	5.3	5.1	5.0	4.3	3.9	3.6	3.8				

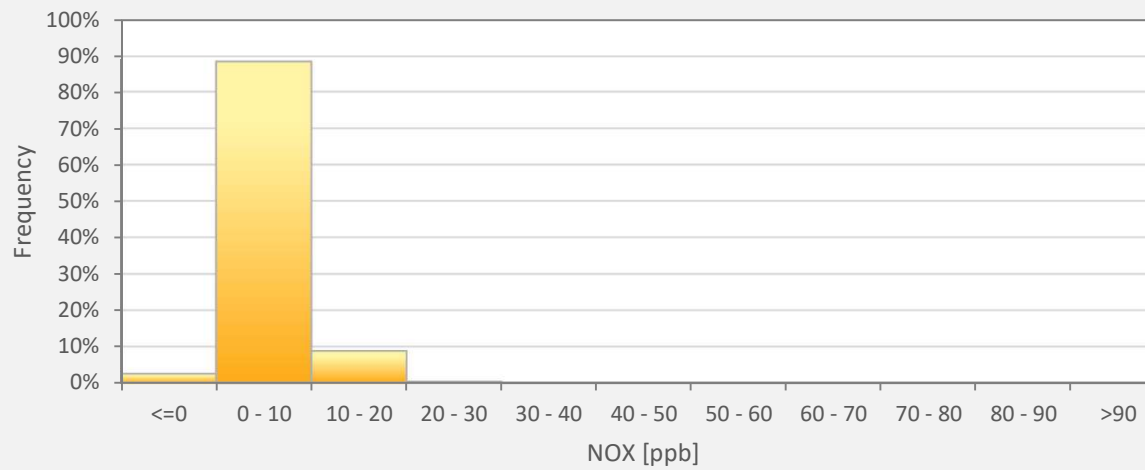
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction/Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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 NOx - St. Lina Site



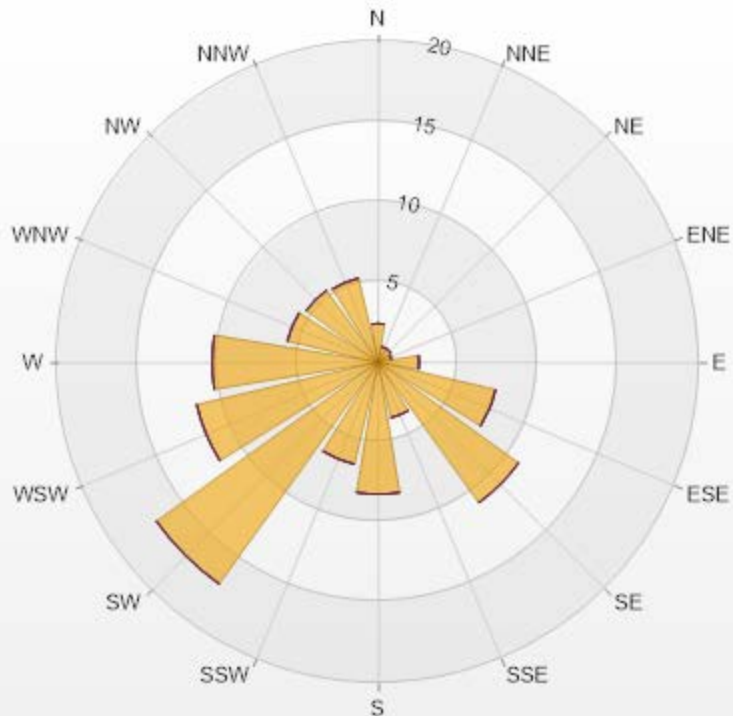
NOX[ppb] Histogram: St. Lina Monthly: 01-2021 1 Hr.



Classes	NOX
<=0	2.55%
0 - 10	88.24%
10 - 20	8.78%
20 - 30	0.42%
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: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	2.41	0	0	0	0	2.41
NNE	0.99	0	0	0	0	0.99
NE	0.99	0	0	0	0	0.99
ENE	0.85	0	0	0	0	0.85
E	2.55	0	0	0	0	2.55
ESE	7.51	0	0	0	0	7.51
SE	10.76	0	0	0	0	10.76
SSE	3.54	0	0	0	0	3.54
S	8.22	0	0	0	0	8.22
SSW	6.52	0	0	0	0	6.52
SW	17	0	0	0	0	17
WSW	11.61	0	0	0	0	11.61
W	10.34	0	0	0	0	10.34
WNW	5.81	0	0	0	0	5.81
NW	5.52	0	0	0	0	5.52
NNW	5.38	0	0	0	0	5.38
Summary	100	0	0	0	0	100



LICA-202101

Page 181 of 237

% Icon Classes (ppb)

100

0-30

0

30-50

0

50-76

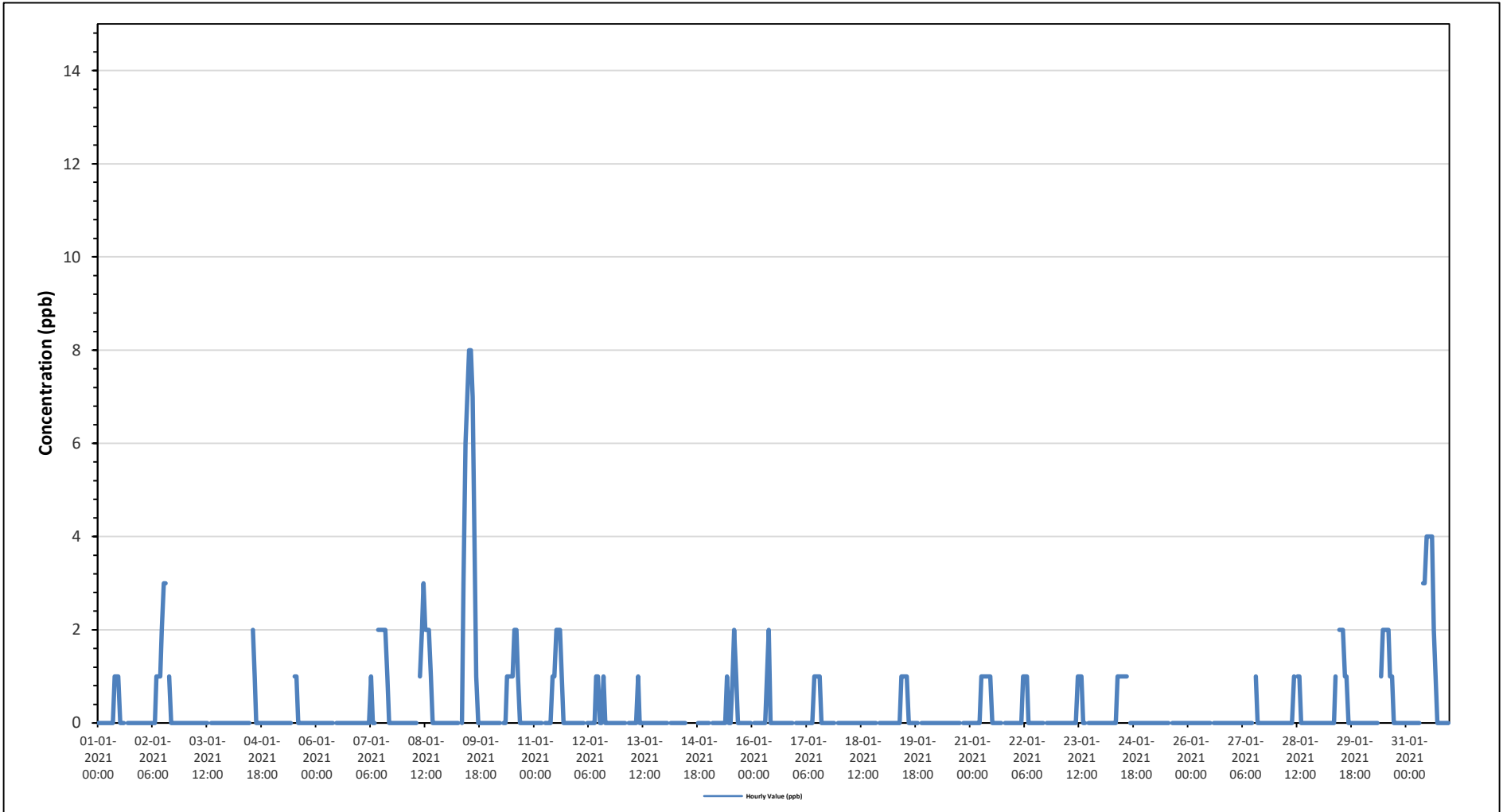
0

76-159

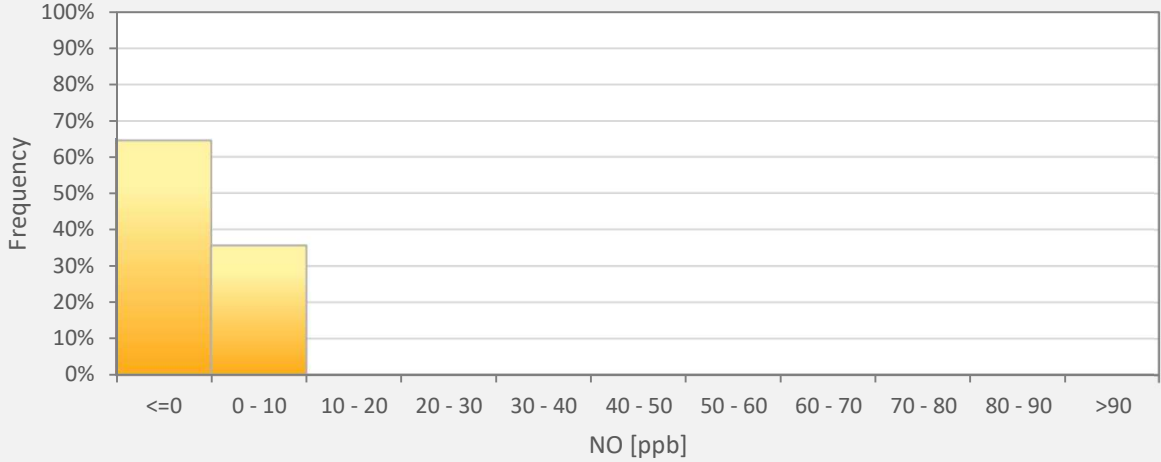
0

>159.0

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



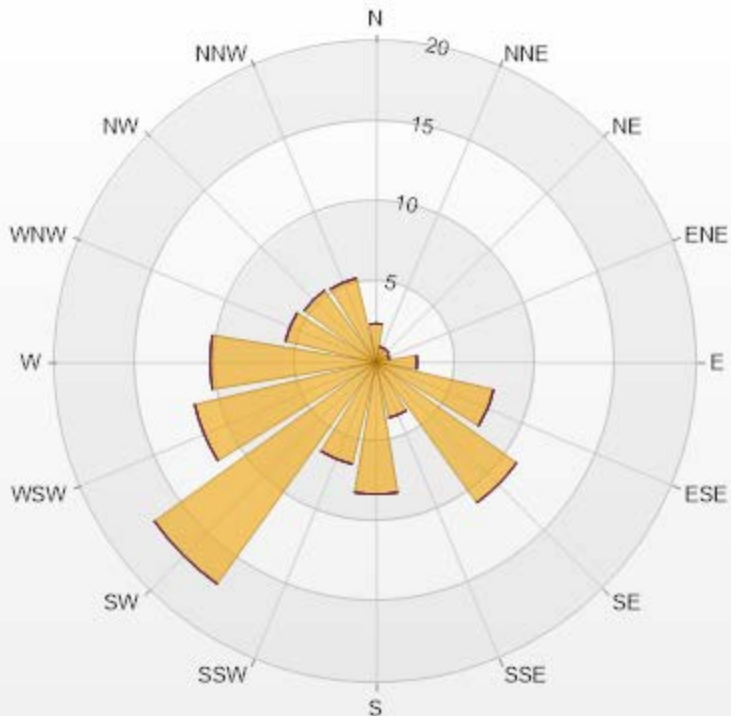
NO[ppb] Histogram: St. Lina Monthly: 01-2021 1 Hr.



Classes	NO
<=0	64.45%
0 - 10	35.55%
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-NO[ppb] Monthly: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	2.41	0	0	0	0	2.41
NNE	0.99	0	0	0	0	0.99
NE	0.99	0	0	0	0	0.99
ENE	0.85	0	0	0	0	0.85
E	2.55	0	0	0	0	2.55
ESE	7.51	0	0	0	0	7.51
SE	10.76	0	0	0	0	10.76
SSE	3.54	0	0	0	0	3.54
S	8.22	0	0	0	0	8.22
SSW	6.52	0	0	0	0	6.52
SW	17	0	0	0	0	17
WSW	11.61	0	0	0	0	11.61
W	10.34	0	0	0	0	10.34
WNW	5.81	0	0	0	0	5.81
NW	5.52	0	0	0	0	5.52
NNW	5.38	0	0	0	0	5.38
Summary	100	0	0	0	0	100



LICA-202101

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



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - January 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 January 11 at hour 0

Hours in Service: 744

Maximum Daily Value: 11.7 ppb on January 9

Hours of Data: 706

Minimum Hourly Value: 0 ppb on January 14 at hour 6

Hours of Missing Data: 0

Minimum Daily Value: 0.0 ppb on January 20

Hours of Calibration: 38

Monthly Average: 4.2 ppb

Operational Uptime: 100.0

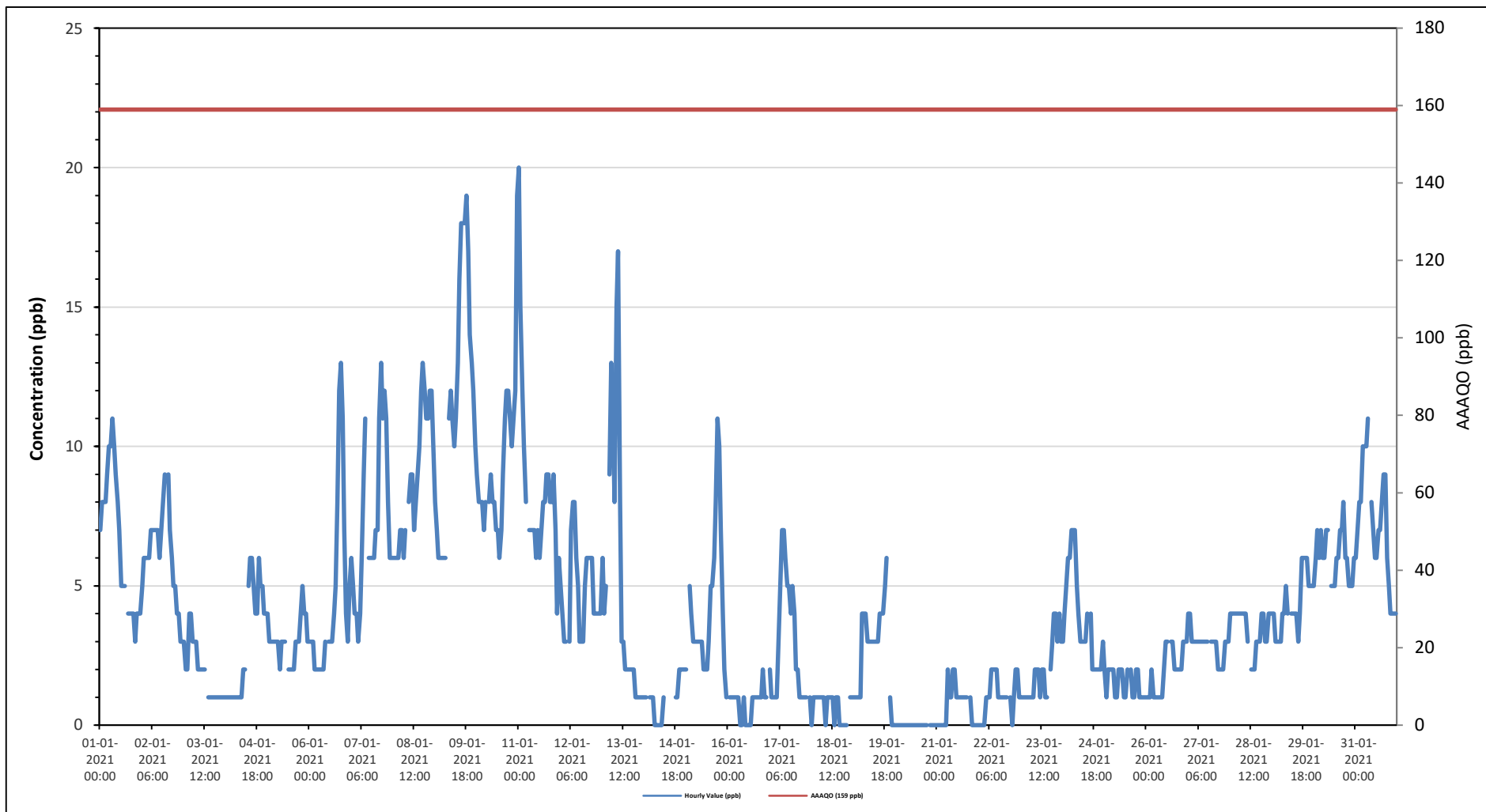
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Jan 1	7	8	8	8	9	10	10	11	10	9	8	7	5	5	5	S	4	4	4	4	3	4	4	4	3	11	6.6
Jan 2	5	6	6	6	6	7	7	7	7	6	7	8	9	S	9	7	6	5	5	4	4	3	3	3	9	6.1	
Jan 3	3	2	2	4	4	3	3	2	2	2	2	2	2	S	1	1	1	1	1	1	1	1	1	1	4	1.9	
Jan 4	1	1	1	1	1	1	1	1	1	1	2	2	S	5	6	6	5	4	4	6	5	5	4	4	6	3.0	
Jan 5	4	3	3	3	3	3	3	2	3	3	3	S	2	2	2	2	3	3	3	4	5	4	4	3	5	3.0	
Jan 6	3	3	3	2	2	2	2	2	2	3	S	3	3	3	4	5	8	12	13	11	7	4	3	5	13	4.6	
Jan 7	6	5	4	4	3	4	6	9	11	S	6	6	6	7	7	11	13	11	12	11	8	6	6	3	13	7.3	
Jan 8	6	6	6	6	7	7	6	7	S	8	9	9	7	8	9	10	12	13	12	11	11	12	12	10	13	8.9	
Jan 9	8	7	6	6	6	6	6	S	11	12	11	10	11	13	16	18	18	18	19	17	14	13	12	10	19	11.7	
Jan 10	9	8	8	8	7	8	S	8	9	8	8	7	7	6	7	9	11	12	12	11	10	11	12	19	19	9.3	
Jan 11	20	15	12	10	8	S	7	7	7	7	6	7	6	7	8	8	9	9	8	8	9	7	4	6	20	8.5	
Jan 12	5	4	3	3	S	3	7	8	8	6	5	3	3	3	5	6	6	6	6	4	4	4	4	4	8	4.8	
Jan 13	6	4	5	S	9	13	11	8	15	17	8	3	3	2	2	2	2	2	1	1	1	1	1	1	17	5.2	
Jan 14	1	1	S	1	1	1	0	0	0	0	0	1	C	C	C	C	C	C	C	1	1	2	2	2	2	0	-
Jan 15	2	S	5	4	3	3	3	3	3	3	2	2	2	3	5	5	6	8	11	10	7	4	2	1	11	4.2	
Jan 16	S	1	1	1	1	1	1	0	0	1	0	0	0	0	1	1	1	1	1	1	2	1	1	S	2	0.8	
Jan 17	2	1	1	1	1	3	5	7	7	6	5	5	4	5	4	2	2	1	1	1	1	1	1	1	7	2.9	
Jan 18	0	1	1	1	1	1	1	1	0	1	1	1	1	0	1	1	0	0	0	0	0	0	S	1	1	0	0.7
Jan 19	1	1	1	1	1	4	4	4	3	3	3	3	3	3	3	4	4	4	5	6	S	1	0	0	6	2.7	
Jan 20	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
Jan 21	0	0	0	0	0	2	1	1	2	2	1	1	1	1	1	1	1	1	S	1	0	0	0	0	0	0	0.7
Jan 22	0	0	0	0	1	1	1	2	2	2	2	1	1	1	1	1	S	1	0	1	2	2	1	0	2	1.0	
Jan 23	1	1	1	1	1	1	1	1	2	2	2	1	2	2	1	1	S	2	3	4	4	3	4	3	4	1.9	
Jan 24	3	4	5	6	6	7	7	7	5	4	3	3	3	3	4	S	4	2	2	2	2	2	2	3	7	3.9	
Jan 25	2	1	2	2	2	2	1	1	2	2	2	1	1	2	S	2	1	1	2	2	1	1	1	1	2	1.5	
Jan 26	1	1	1	2	1	1	1	1	1	1	2	3	3	S	3	3	2	2	2	2	2	3	3	3	3	1.9	
Jan 27	4	4	3	3	3	3	3	3	3	3	3	3	S	3	3	3	3	2	2	2	2	3	3	3	4	2.9	
Jan 28	4	4	4	4	4	4	4	4	4	4	3	S	2	2	2	3	3	3	4	4	3	3	4	4	4	3.5	
Jan 29	4	4	3	3	3	3	4	4	5	4	S	4	4	4	4	3	4	6	6	6	6	5	5	5	6	4.3	
Jan 30	5	6	7	6	7	6	6	7	7	S	5	5	5	6	6	7	7	8	6	6	5	5	5	6	8	6.0	
Jan 31	6	7	8	8	10	10	10	11	S	8	7	6	6	7	8	9	9	6	5	4	4	4	4	4	11	7.1	
Diurnal Maximum	20	15	12	10	10	13	11	11	15	17	11	10	11	13	16	18	18	18	19	17	14	13	12	19			
Daiurnal Average	4.0	3.6	3.7	3.5	3.7	3.9	4.1	4.3	4.5	4.4	4.0	3.7	3.6	4.0	4.2	4.6	5.0	5.3	5.1	4.9	4.2	3.9	3.6	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

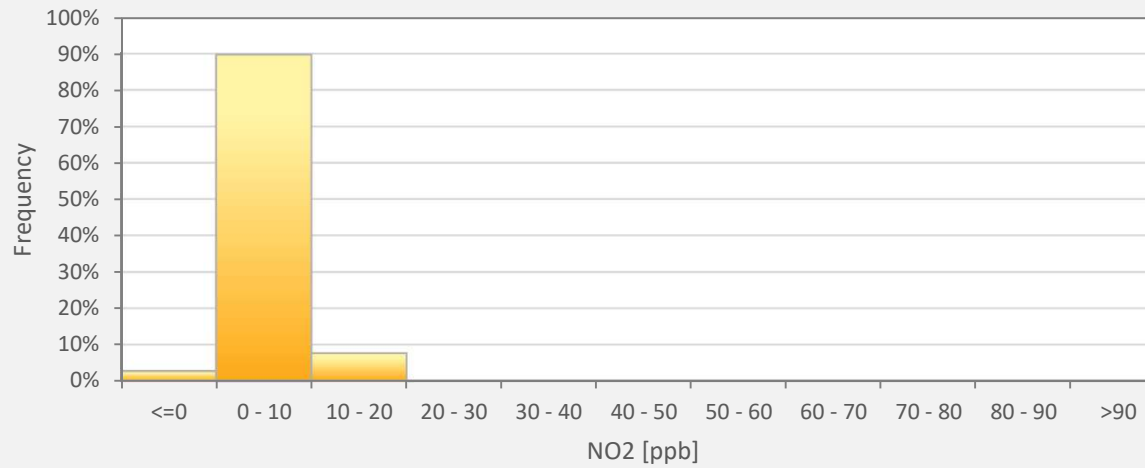
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

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

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



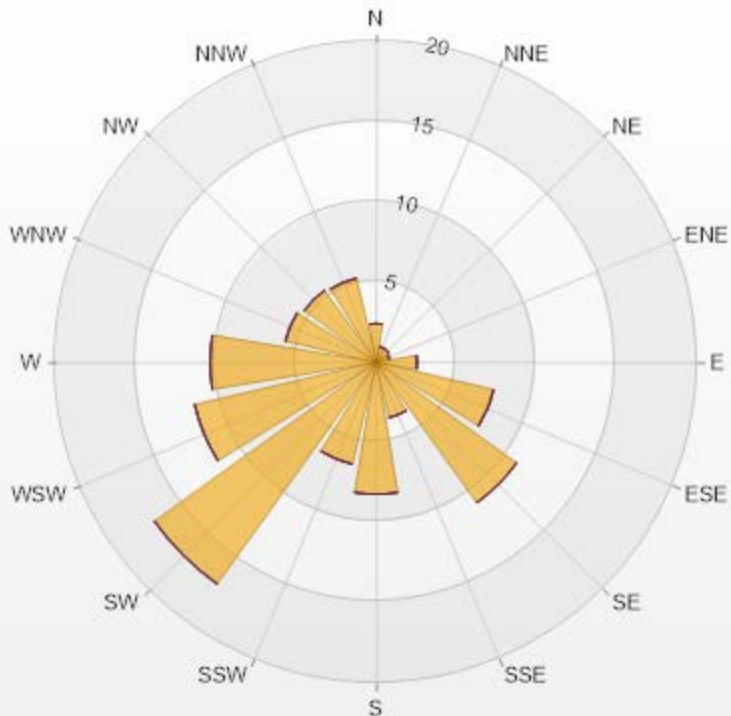
NO2[ppb] Histogram: St. Lina Monthly: 01-2021 1 Hr.



Classes	NO2
<=0	2.69%
0 - 10	89.66%
10 - 20	7.65%
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: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	2.41	0	0	0	0	2.41
NNE	0.99	0	0	0	0	0.99
NE	0.99	0	0	0	0	0.99
ENE	0.85	0	0	0	0	0.85
E	2.55	0	0	0	0	2.55
ESE	7.51	0	0	0	0	7.51
SE	10.76	0	0	0	0	10.76
SSE	3.54	0	0	0	0	3.54
S	8.22	0	0	0	0	8.22
SSW	6.52	0	0	0	0	6.52
SW	17	0	0	0	0	17
WSW	11.61	0	0	0	0	11.61
W	10.34	0	0	0	0	10.34
WNW	5.81	0	0	0	0	5.81
NW	5.52	0	0	0	0	5.52
NNW	5.38	0	0	0	0	5.38
Summary	100	0	0	0	0	100



LICA-202101

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



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - January 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:	43.8 ppb on January 19 at hour 21	Hours in Service:	744
Maximum Daily Value:	40.4 ppb on January 14	Hours of Data:	707
Minimum Hourly Value:	11.3 ppb on January 9 at hour 17	Hours of Missing Data:	1
Minimum Daily Value:	17.2 ppb on January 9	Hours of Calibration:	36
Monthly Average:	31.1 ppb	Operational Uptime:	99.9

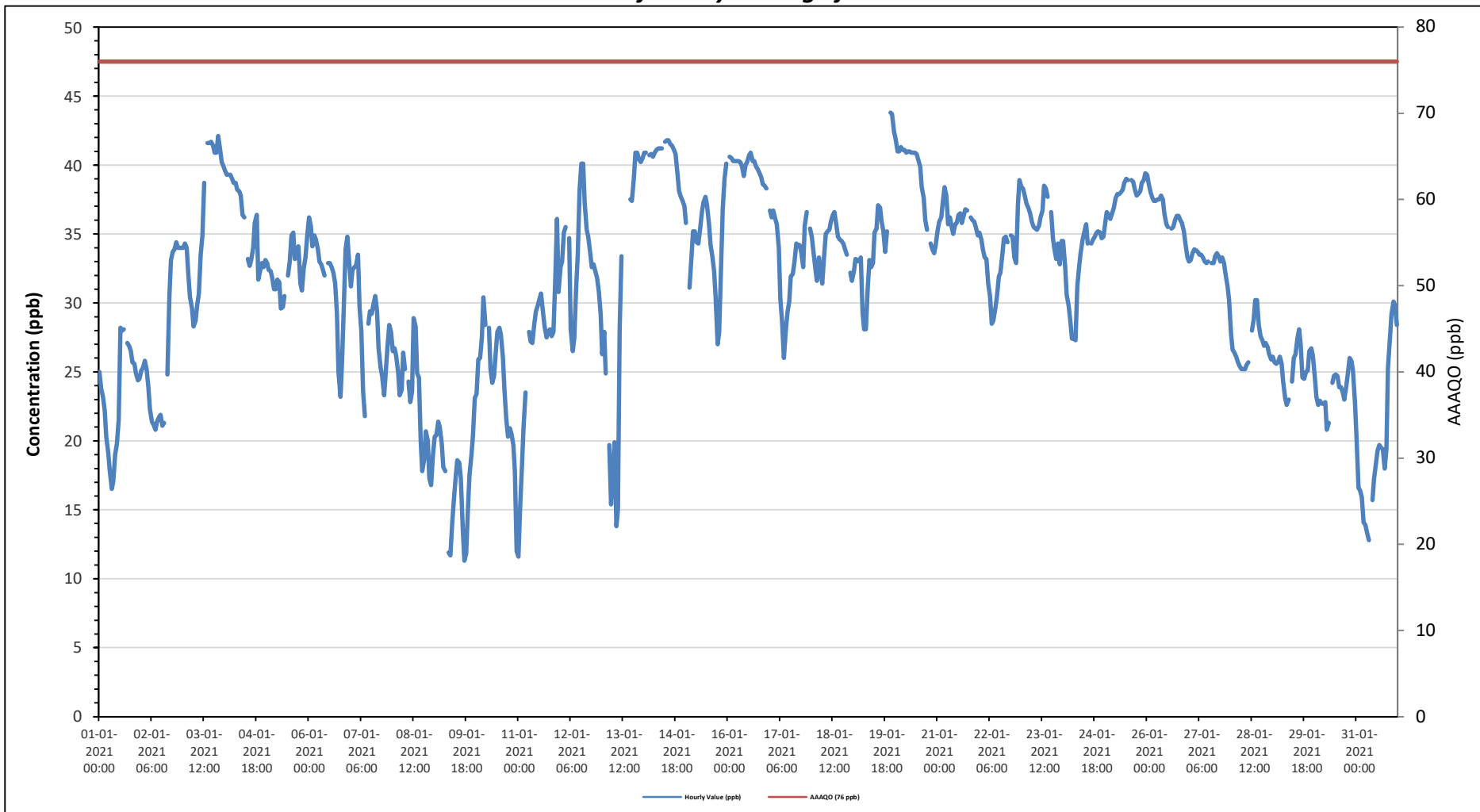
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Jan 1	25	23.8	23.2	22.2	20.3	19.1	17.8	16.5	17.1	19	19.8	21.5	28.2	28	28.1	S	27.1	26.9	26.5	25.7	25.6	24.9	24.4	24.5	16.5	28.2	23.3
Jan 2	25.1	25.3	25.8	25.2	23.9	22.3	21.4	21.2	20.8	21.4	21.7	21.9	21.1	21.3	S	24.8	30.6	33.1	33.7	33.9	34.4	34	34	34	20.8	34.4	26.6
Jan 3	34	34.3	34	31.9	30.4	29.6	28.3	28.7	29.8	30.7	33.5	34.9	38.7	S	41.6	41.6	41.7	41.4	40.9	40.9	42.1	41.2	40.2	39.9	28.3	42.1	36.1
Jan 4	39.6	39.3	39.3	39.3	39	38.7	38.7	38.2	38.1	37.8	36.4	36.2	S	33.2	32.7	33.1	34	35.8	36.4	31.7	32.3	32.9	32.6	33.1	31.7	39.6	36.0
Jan 5	32.9	32.4	32.3	31.8	31	31	31.7	31.5	29.6	29.7	30.5	S	32	33	34.9	35.1	33.2	33.4	34.1	31.4	30.9	32.5	33.3	34.9	29.6	35.1	32.3
Jan 6	36.2	35.6	34.1	34.9	34.6	33.9	33	32.8	32.4	32	S	32.9	32.9	32.6	32.2	31.4	29.2	25	23.2	25.7	29.7	33.9	34.8	33	23.2	36.2	32.0
Jan 7	31.2	32.4	32.6	32.7	33.5	29.7	28	23.6	21.8	S	27.9	27.2	27.1	28.4	29.4	29.8	30.3	30.7	29.3	28.3	27.5	27.9	28.1	27.6	27.9	31.6	30.8
Jan 8	26.5	26.7	26.2	25	23.3	23.7	26.4	25.2	S	24.3	22.8	23.6	28.9	28.3	24.9	24.6	20	17.8	18.7	20.7	20	17.3	16.8	18.9	16.8	28.9	23.1
Jan 9	20.3	20.4	21.4	21	19.8	18.1	17.8	S	11.9	11.7	14	15.8	17.4	18.6	18.4	17.3	13.5	11.3	11.8	15	17.5	19	20.4	23.1	11.3	23.1	17.2
Jan 10	23.4	25.9	26	27.5	30.4	28.4	S	28.2	25.2	24.2	24.7	26.5	27.9	28.2	27.7	26	23.7	21.6	20.3	20.9	20.5	19.7	17.8	12	12.0	30.4	24.2
Jan 11	11.6	15.3	18.2	20.9	23.5	S	27.9	27.2	27.1	28.4	29.4	29.8	30.3	30.7	29.3	28.3	27.5	27.9	28.1	27.6	27.9	31.6	36.1	30.8	11.6	36.1	26.8
Jan 12	32.6	33	35.1	35.5	S	34.7	28.1	26.5	27.4	30.9	33.6	38.2	40.1	40.1	37.3	35.3	34.8	33.6	32.6	32.8	32.3	31.8	30.8	29.2	26.5	40.1	33.3
Jan 13	26.3	27.9	24.9	S	19.7	15.4	17.6	19.9	13.8	15	28.2	33.4	C	C	C	C	37.5	37.4	39.1	40.9	40.9	40.4	40.2	40.5	13.8	40.9	29.4
Jan 14	40.9	40.9	S	40.7	40.8	40.6	40.9	41.1	41.2	41.2	41.2	NRM	41.7	41.8	41.8	41.5	41.4	41.1	40.8	39.5	38.1	37.7	37.4	37	37.0	41.8	40.4
Jan 15	35.8	S	31.1	33.4	35.2	35.2	34.4	34.3	35.4	36.6	37.3	37.7	37.1	35.7	34.2	33.4	32.3	30.4	27	27.9	32.4	36.8	39	40.1	27.0	40.1	34.5
Jan 16	S	40.6	40.5	40.3	40.3	40.3	40.3	40.2	39.9	39.2	40	40.2	40.7	40.9	40.3	40.3	39.9	39.7	39.4	39.1	38.6	38.5	38.3	S	38.3	40.9	39.9
Jan 17	36.7	36.2	36.7	36.1	35.7	34	30.3	28.6	26	27.9	29.3	30.1	31.9	32.1	32.9	34.3	34.2	34.2	33.6	32.6	35.6	S	35.4	26.0	36.7	33.1	
Jan 18	34.8	33.6	32.5	31.6	33.3	32.4	31.4	33.3	35	35.2	35.3	35.9	36.4	36.6	35.6	34.8	34.6	34.5	34.3	33.9	33.5	S	32.2	31.6	31.4	36.6	34.0
Jan 19	32.3	33.2	33.1	33	33.3	29.3	28.1	28.1	31	33.1	32.6	32.9	35.1	35.4	37.1	36.9	35.9	35.2	33.7	35.2	S	43.8	43.7	42.4	28.1	43.8	34.5
Jan 20	41.9	41	41	41.3	41.1	41.1	40.9	41	41	40.9	40.9	40.9	40.8	40.4	39.9	38.4	37.6	36	35.3	S	34.3	33.9	33.6	34.2	33.6	41.9	39.0
Jan 21	35.3	35.9	36.2	37.3	38.4	37.8	35.7	36.2	35.5	35	35.7	35.8	36.4	36.5	35.8	36.4	36.8	36.7	S	36.2	36	35.9	35.5	34.9	34.9	38.4	36.2
Jan 22	35.1	34.6	33.9	33.3	33.2	31.4	30.5	28.5	28.7	29.6	30.4	31.9	32.2	33.4	34.7	34.8	34.4	S	34.9	34.8	33.3	32.9	37.1	38.9	28.5	38.9	33.2
Jan 23	38.4	38.3	37.7	37.2	36.9	36.5	35.9	35.5	35.4	35.3	35.6	36.2	36.7	38.5	38.3	37.7	S	36.6	34.7	33.9	33.2	34.3	32.8	34.5	32.8	38.5	36.1
Jan 24	34.5	32.7	30.6	29.8	28.8	27.4	27.4	27.3	31.2	32.6	33.6	34.6	35.1	35.7	34.3	S	34.3	34.6	34.8	35.1	35.2	35.1	34.7	34.8	27.3	35.7	32.8
Jan 25	35.8	36.6	36.4	36.1	36.5	36.9	37.6	37.9	37.9	38	38.2	38.7	39	38.9	S	38.9	38.8	38.2	37.8	37.9	38.1	38.7	38.9	39.4	35.8	39.4	37.9
Jan 26	39.3	38.6	38	37.6	37.4	37.4	37.5	37.5	37.8	37.5	36.5	35.7	35.5	S	35.4	35.5	36	36.3	36.3	36	35.8	35.2	34.3	33.3	33.3	39.3	36.5
Jan 27	33	33.1	33.6	33.9	33.8	33.7	33.5	33.5	33.3	33	32.9	33	S	32.9	32.9	33.4	33.6	33.4	33	33.3	32.9	32.1	31.2	30.2	30.2	33.9	33.0
Jan 28	27.7	26.6	26.4	26.1	25.7	25.4	25.2	25.2	25.2	25.5	25.7	S	28	28.8	30.2	30.2	28.4	27.6	27.3	26.9	27.1	26.8	26.3	25.9	25.2	30.2	26.9
Jan 29	26.1	25.7	25.6	25.7	26.1	25.6	24.3	23.1	22.6	23	S	24.3	26	26.3	27.4	28.1	27	24.6	24.5	25	25.1	26.5	26.7	26.2	22.6	28.1	25.5
Jan 30	24.6	23.2	22.6	22.9	22.7	22.7	22.8	20.8	21.3	S	24.2	24.7	24.8	24.7	23.9	23.9	23.5	23	24	24.9	26	25.8	25.1	22.8	20.8	26.0	23.7
Jan 31	20.3	16.6	16.4	15.9	14.1	13.9	13.3	12.8	S	15.7	17.2	18.4	19.3	19.7	19.5	19.4	18	19.4	25.3	27.5	29.2	30.1	29.8	28.4	12.8	30.1	20.0
Diurnal Maximum	42	41	41	41	41	41	41	41	41	41	41	41	42	42	42	42	42	42	41	41	41	42	44	44	42		
Daiurnal Average	31.2	31.3	30.8	31.3	30.8	30.2	29.6	29.5	29.4	29.8	30.7	31.3	32.3	32.2	32.6	32.3	31.5	31.1	30.9	31.0	31.4	32.2	32.2	31.7			

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

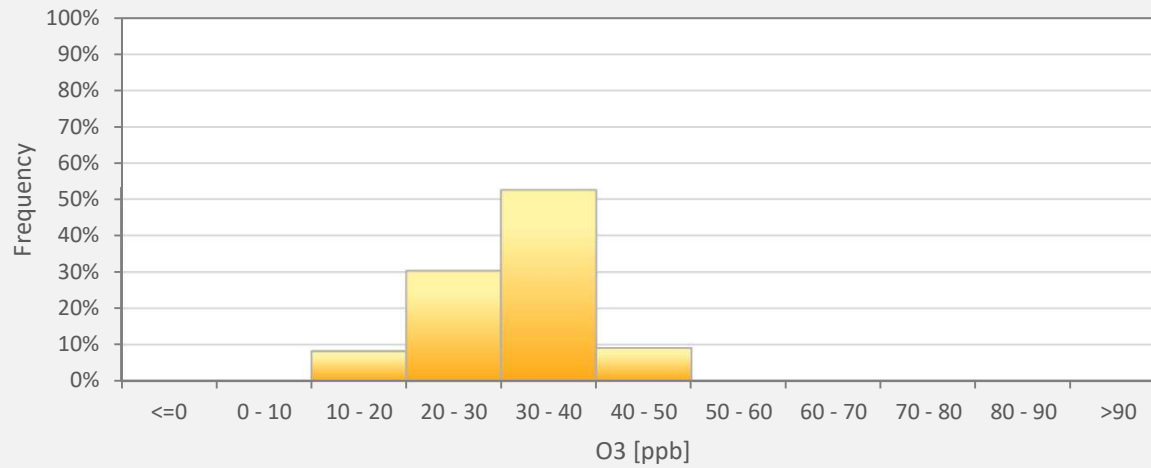
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

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 - St. Lina Site



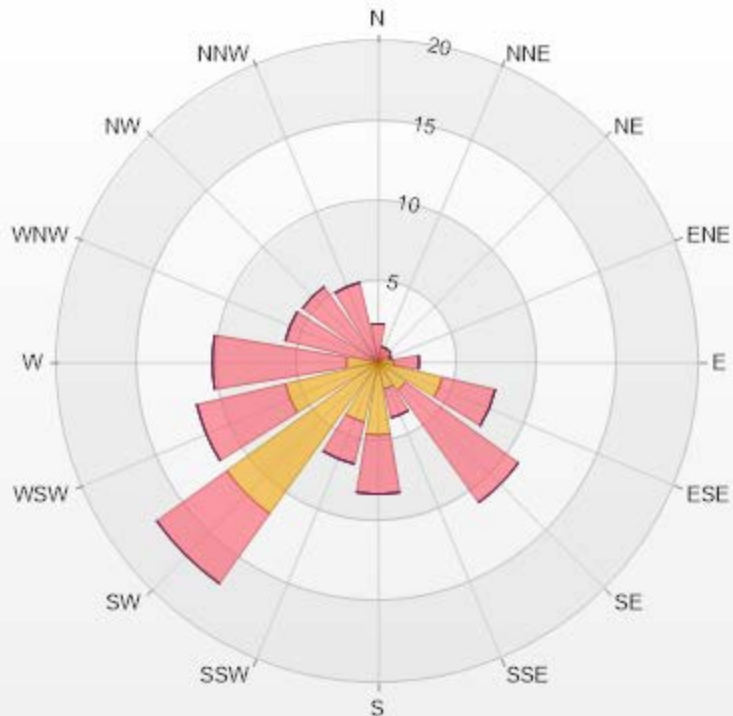
O3[ppb] Histogram: St. Lina Monthly: 01-2021 1 Hr.



Classes	O3
<=0	0.00%
0 - 10	0.00%
10 - 20	8.20%
20 - 30	30.27%
30 - 40	52.48%
40 - 50	9.05%
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-O3[ppb] Monthly: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 95.03% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	0	2.4	0	0	0	2.4
NNE	0	0.99	0	0	0	0.99
NE	0.28	0.71	0	0	0	0.99
ENE	0.71	0.14	0	0	0	0.85
E	0.99	1.56	0	0	0	2.55
ESE	4.1	3.39	0	0	0	7.49
SE	2.12	8.63	0	0	0	10.75
SSE	1.7	1.84	0	0	0	3.54
S	4.53	3.68	0	0	0	8.21
SSW	3.82	2.69	0	0	0	6.51
SW	11.6	5.37	0	0	0	16.97
WSW	5.94	5.66	0	0	0	11.6
W	1.98	8.35	0	0	0	10.33
WNW	0.28	5.66	0	0	0	5.94
NW	0.42	5.37	0	0	0	5.79
NNW	0	5.09	0	0	0	5.09
Summary	38.47	61.53	0	0	0	100



LICA-202101

Page 196 of 237

% Icon Classes (ppb)	38	62	0	0	0
	0-30	30-50	50-76	76-159	>159.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - January 2021 Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

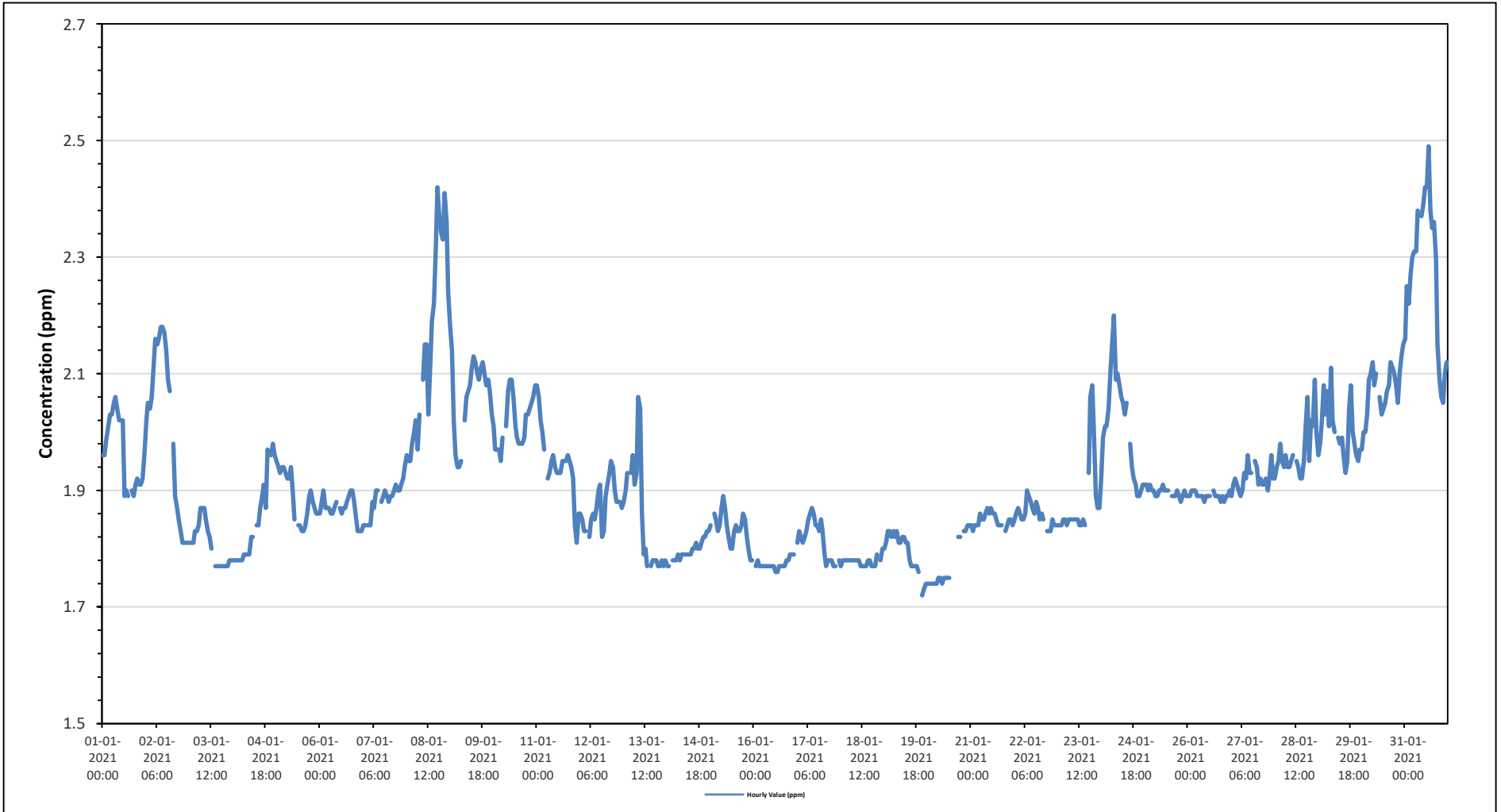
Maximum Hourly Value:	2.49 ppm on January 31 at hour 13	Hours in Service:	744
Maximum Daily Value:	2.27 ppm on January 31	Hours of Data:	707
Minimum Hourly Value:	1.72 ppm on January 19 at hour 21	Hours of Missing Data:	1
Minimum Daily Value:	1.77 ppm on January 20	Hours of Calibration:	36
Monthly Average:	1.92 ppm	Operational Uptime:	99.9

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Jan 1	1.96	1.96	1.99	2.01	2.03	2.03	2.05	2.06	2.04	2.02	2.02	1.89	1.90	1.89	S	1.90	1.89	1.91	1.92	1.91	1.91	1.92	1.96	1.89	2.06	1.96	
Jan 2	2.02	2.05	2.04	2.06	2.11	2.16	2.15	2.16	2.18	2.18	2.17	2.14	2.09	2.07	S	1.98	1.89	1.87	1.85	1.83	1.81	1.81	1.81	1.81	1.81	2.18	2.01
Jan 3	1.81	1.81	1.81	1.83	1.83	1.84	1.87	1.87	1.87	1.85	1.83	1.82	1.80	S	1.77	1.77	1.77	1.77	1.77	1.77	1.77	1.77	1.78	1.78	1.87	1.81	
Jan 4	1.78	1.78	1.78	1.78	1.78	1.78	1.79	1.79	1.79	1.79	1.82	1.82	S	1.84	1.84	1.87	1.89	1.91	1.87	1.97	1.96	1.96	1.98	1.96	1.78	1.85	
Jan 5	1.95	1.94	1.93	1.94	1.94	1.93	1.92	1.92	1.94	1.90	1.85	S	1.84	1.84	1.83	1.83	1.84	1.86	1.89	1.90	1.88	1.87	1.86	1.86	1.83	1.89	
Jan 6	1.86	1.88	1.90	1.87	1.87	1.87	1.86	1.86	1.87	1.88	S	1.87	1.86	1.87	1.87	1.88	1.89	1.90	1.90	1.88	1.85	1.83	1.83	1.83	1.83	1.87	
Jan 7	1.84	1.84	1.84	1.84	1.84	1.88	1.87	1.90	1.90	S	1.88	1.89	1.90	1.89	1.88	1.89	1.89	1.90	1.91	1.90	1.90	1.91	1.92	1.94	1.84	1.88	
Jan 8	1.96	1.95	1.95	1.98	2.00	2.02	1.97	2.03	S	2.09	2.15	2.15	2.03	2.12	2.19	2.22	2.31	2.42	2.37	2.34	2.33	2.41	2.36	2.24	1.95	2.16	
Jan 9	2.18	2.14	2.02	1.96	1.94	1.94	1.95	S	2.02	2.06	2.07	2.08	2.11	2.13	2.12	2.10	2.09	2.11	2.12	2.10	2.08	2.09	2.07	2.03	1.94	2.07	
Jan 10	2.01	1.97	1.97	1.97	1.95	1.99	S	2.01	2.07	2.09	2.09	2.06	2.01	1.99	1.98	1.98	1.98	1.99	2.03	2.03	2.04	2.05	2.06	2.08	1.95	2.02	
Jan 11	2.08	2.06	2.02	2.00	1.97	S	1.92	1.93	1.95	1.96	1.94	1.93	1.93	1.93	1.95	1.95	1.95	1.96	1.95	1.94	1.92	1.84	1.81	1.86	1.81	1.95	
Jan 12	1.86	1.85	1.83	1.83	S	1.82	1.85	1.86	1.85	1.87	1.90	1.91	1.82	1.83	1.89	1.91	1.93	1.95	1.94	1.90	1.88	1.88	1.88	1.87	1.82	1.87	
Jan 13	1.88	1.90	1.93	S	1.93	1.96	1.91	1.93	2.06	2.04	1.86	1.79	1.80	1.77	NRM	1.77	1.78	1.78	1.78	1.77	1.77	1.78	1.77	1.78	1.77	1.85	
Jan 14	1.77	1.77	S	1.78	1.78	1.78	1.79	1.78	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.80	1.80	1.81	1.80	1.80	1.81	1.82	1.82	1.83	1.83	1.80	
Jan 15	1.84	S	1.86	1.85	1.83	1.84	1.87	1.89	1.87	1.84	1.82	1.80	1.80	1.83	1.84	1.83	1.83	1.84	1.86	1.85	1.82	1.80	1.78	1.78	1.78	1.83	
Jan 16	S	1.77	1.78	1.77	1.77	1.77	1.77	1.77	1.77	1.77	1.77	1.76	1.76	1.77	1.77	1.77	1.77	1.78	1.78	1.78	1.79	1.79	1.79	S	1.76	1.77	
Jan 17	1.81	1.83	1.82	1.81	1.82	1.83	1.85	1.86	1.87	1.86	1.84	1.84	1.83	1.85	1.83	1.79	1.77	1.78	1.78	1.78	1.77	1.77	S	1.78	1.78	1.82	
Jan 18	1.77	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.77	1.77	1.77	1.77	1.78	1.78	1.77	1.77	1.77	1.79	S	1.78	1.80	1.77	1.78	
Jan 19	1.80	1.81	1.83	1.83	1.82	1.83	1.82	1.83	1.81	1.81	1.82	1.82	1.81	1.81	1.78	1.77	1.77	1.77	1.77	1.76	S	1.72	1.73	1.74	1.72	1.79	
Jan 20	1.74	1.74	1.74	1.74	1.74	1.74	1.75	1.75	1.74	1.75	1.75	1.75	C	C	C	C	1.82	1.82	S	1.83	1.83	1.84	1.84	1.74	1.84	1.77	
Jan 21	1.84	1.83	1.84	1.84	1.84	1.86	1.85	1.85	1.86	1.87	1.86	1.87	1.86	1.85	1.84	1.84	1.84	1.84	S	1.83	1.84	1.85	1.85	1.84	1.83	1.87	
Jan 22	1.85	1.86	1.87	1.86	1.85	1.85	1.86	1.90	1.89	1.88	1.87	1.86	1.88	1.87	1.85	1.86	1.85	S	1.83	1.83	1.83	1.85	1.84	1.84	1.83	1.86	
Jan 23	1.84	1.84	1.84	1.85	1.85	1.84	1.85	1.85	1.85	1.85	1.85	1.85	1.84	1.84	1.85	1.84	S	1.93	2.06	2.08	1.99	1.89	1.87	1.87	1.84	1.88	
Jan 24	1.92	1.99	2.01	2.01	2.04	2.10	2.15	2.20	2.09	2.10	2.08	2.05	2.03	2.05	S	1.98	1.94	1.92	1.91	1.89	1.89	1.90	1.91	1.89	2.20	2.01	
Jan 25	1.91	1.91	1.90	1.91	1.90	1.90	1.89	1.89	1.90	1.90	1.91	1.90	1.90	1.90	S	1.89	1.89	1.89	1.90	1.89	1.88	1.89	1.90	1.89	1.88	1.91	
Jan 26	1.89	1.89	1.90	1.90	1.90	1.89	1.89	1.89	1.89	1.88	1.89	1.89	1.89	S	1.90	1.89	1.89	1.89	1.88	1.89	1.88	1.89	1.89	1.90	1.88	1.89	
Jan 27	1.89	1.91	1.92	1.91	1.90	1.89	1.90	1.93	1.92	1.96	1.93	1.93	S	1.95	1.94	1.91	1.92	1.91	1.91	1.92	1.90	1.92	1.96	1.92	1.89	1.92	
Jan 28	1.92	1.94	1.95	1.98	1.95	1.94	1.96	1.94	1.94	1.95	1.96	S	1.95	1.94	1.92	1.92	1.95	2.01	2.06	1.95	2.02	2.01	2.09	2.00	1.92	1.97	
Jan 29	1.96	1.98	2.02	2.08	2.03	2.07	2.01	2.11	2.02	2.00	S	1.99	1.98	1.96	1.93	1.95	2.04	2.08	2.00	1.98	1.96	1.95	1.97	1.93	2.11	2.00	
Jan 30	1.97	2.00	2.00	2.03	2.09	2.10	2.12	2.08	2.10	S	2.06	2.03	2.04	2.05	2.07	2.08	2.12	2.11	2.10	2.08	2.05	2.10	2.13	2.15	1.97	2.07	
Jan 31	2.16	2.25	2.22	2.27	2.30	2.31	2.31	2.38	S	2.37	2.39	2.42	2.42	2.49	2.38	2.35	2.36	2.30	2.15	2.09	2.06	2.05	2.10	2.12	2.05	2.27	
Diurnal Maximum	2.18	2.25	2.22	2.27	2.30	2.31	2.31	2.38	2.18	2.37	2.39	2.42	2.42	2.49	2.38	2.35	2.36	2.42	2.37	2.34	2.33	2.41	2.36	2.24			
Diurnal Average	1.90	1.91	1.91	1.91	1.91	1.92	1.92	1.93	1.92	1.93	1.93	1.92	1.91	1.93	1.92	1.91	1.92	1.92	1.93	1.92	1.91	1.90	1.91	1.91			

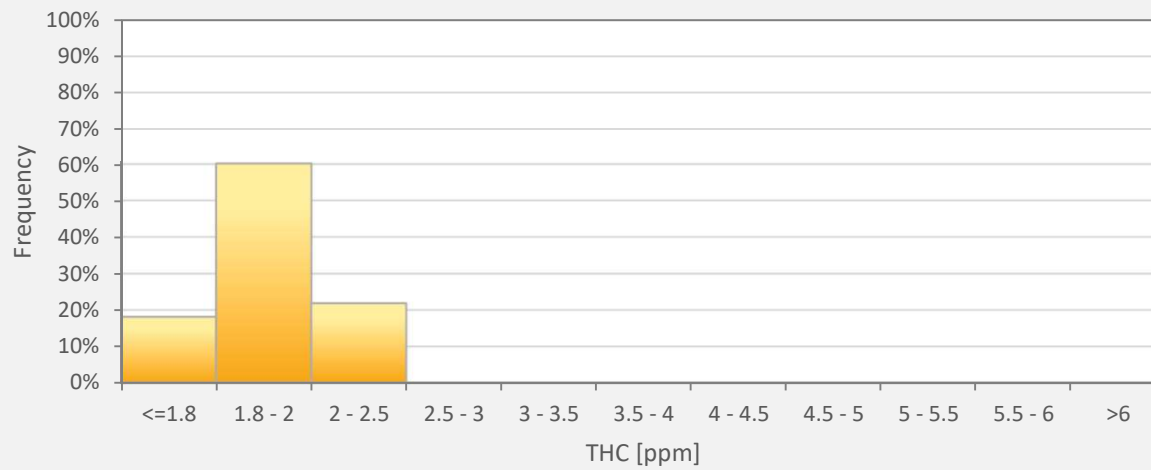
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction/Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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



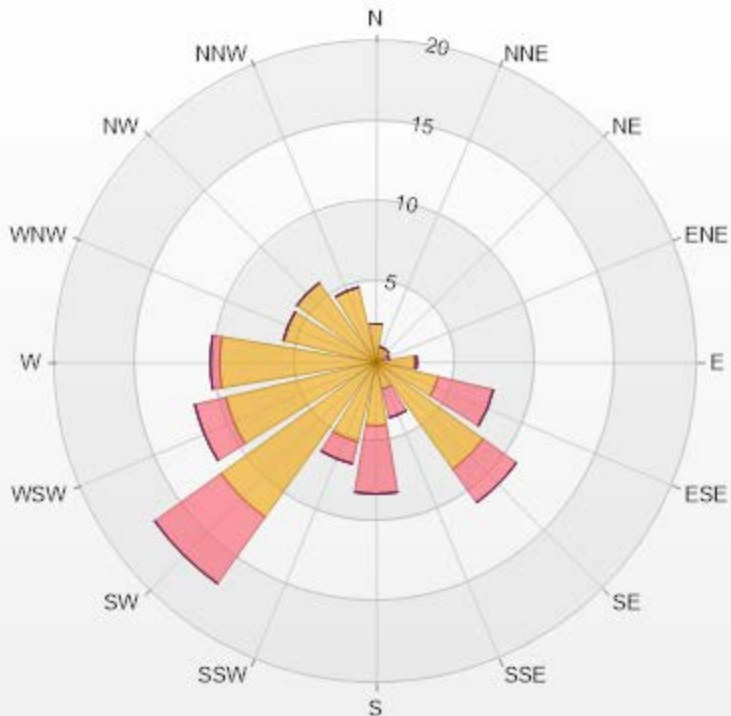
THC55[ppm] Histogram: St. Lina Monthly: 01-2021 1 Hr.



Classes	THC55
<=1.8	18.10%
1.8 - 2	60.11%
2 - 2.5	21.78%
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: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 95.03% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	2.4	0	0	0	0	2.4
NNE	0.99	0	0	0	0	0.99
NE	0.99	0	0	0	0	0.99
ENE	0.42	0.42	0	0	0	0.84
E	2.4	0.14	0	0	0	2.54
ESE	3.96	3.54	0	0	0	7.5
SE	8.2	2.55	0	0	0	10.75
SSE	1.7	1.84	0	0	0	3.54
S	3.96	4.24	0	0	0	8.2
SSW	5.09	1.41	0	0	0	6.5
SW	11.88	5.09	0	0	0	16.97
WSW	9.62	1.98	0	0	0	11.6
W	9.76	0.57	0	0	0	10.33
WNW	5.94	0	0	0	0	5.94
NW	6.08	0	0	0	0	6.08
NNW	4.81	0	0	0	0	4.81
Summary	78.2	21.78	0	0	0	100



LICA-202101

Page 201 of 237

% Icon Classes (ppm)

78 ■ 0-2

22 ■ 2-5

0 ■ 5-10

0 ■ 10-40

0 ■ >40.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - January 2021
Summary of Hourly Averages

METHANE (CH4) in ppm

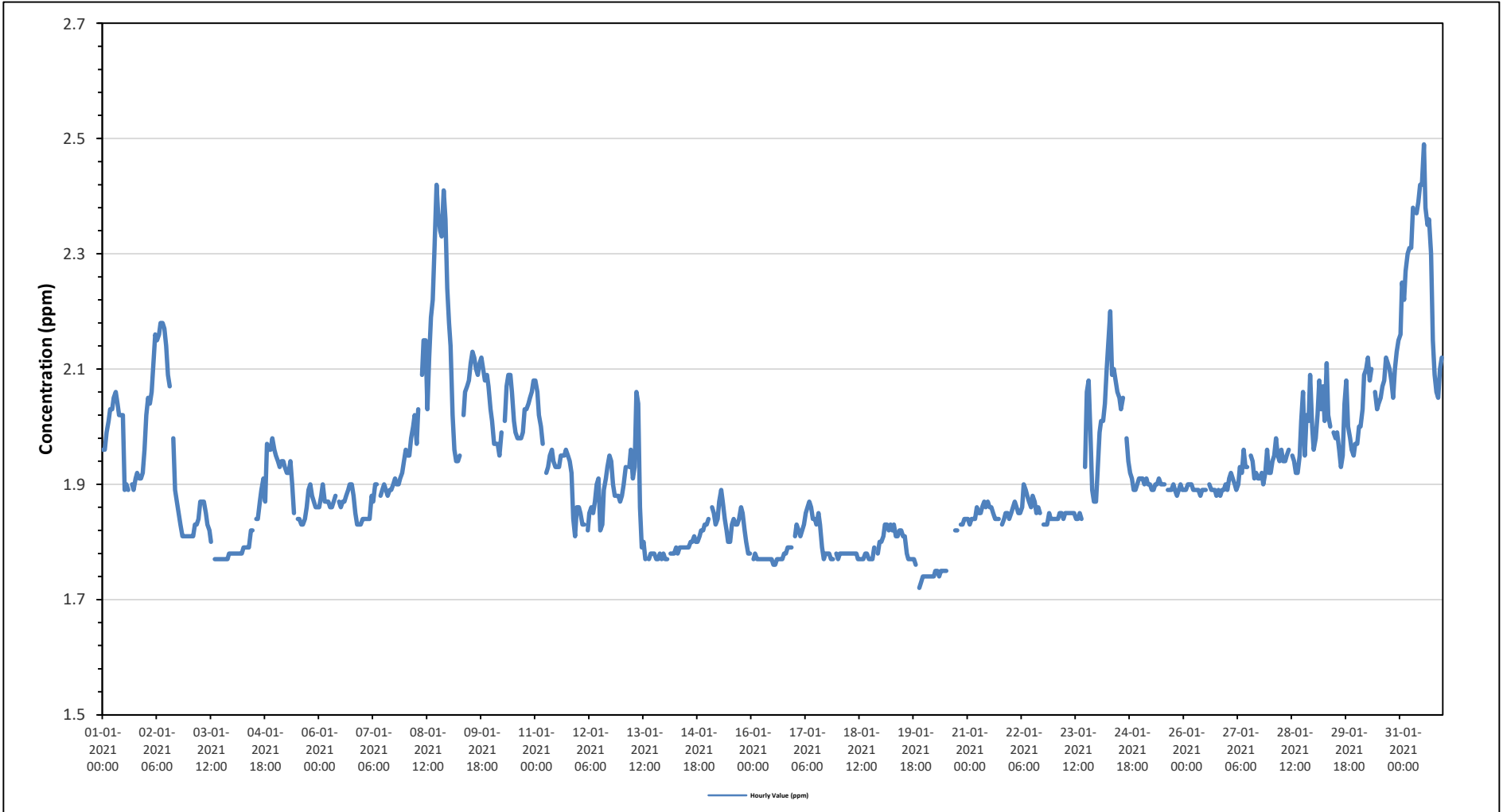
Maximum Hourly Value:	2.49 ppm on January 31 at hour 13	Hours in Service:	744
Maximum Daily Value:	2.27 ppm on January 31	Hours of Data:	707
Minimum Hourly Value:	1.72 ppm on January 19 at hour 21	Hours of Missing Data:	1
Minimum Daily Value:	1.77 ppm on January 20	Hours of Calibration:	36
Monthly Average:	1.92 ppm	Operational Uptime:	99.9

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Jan 1	1.96	1.96	1.99	2.01	2.03	2.03	2.05	2.06	2.04	2.02	2.02	1.89	1.90	1.89	S	1.90	1.89	1.91	1.92	1.91	1.91	1.92	1.96	1.89	2.06	1.96	
Jan 2	2.02	2.05	2.04	2.06	2.11	2.16	2.15	2.16	2.18	2.18	2.17	2.14	2.09	2.07	S	1.98	1.89	1.87	1.85	1.83	1.81	1.81	1.81	1.81	1.81	2.18	2.01
Jan 3	1.81	1.81	1.81	1.83	1.83	1.84	1.87	1.87	1.87	1.85	1.83	1.82	1.80	S	1.77	1.77	1.77	1.77	1.77	1.77	1.77	1.78	1.78	1.77	1.87	1.81	
Jan 4	1.78	1.78	1.78	1.78	1.78	1.78	1.79	1.79	1.79	1.79	1.82	1.82	S	1.84	1.84	1.87	1.89	1.91	1.87	1.97	1.96	1.96	1.98	1.96	1.78	1.85	
Jan 5	1.95	1.94	1.93	1.94	1.94	1.93	1.92	1.92	1.94	1.90	1.85	S	1.84	1.84	1.83	1.83	1.84	1.86	1.89	1.90	1.88	1.87	1.86	1.83	1.95	1.89	
Jan 6	1.86	1.88	1.90	1.87	1.87	1.87	1.86	1.86	1.87	1.88	S	1.87	1.86	1.87	1.87	1.88	1.89	1.90	1.90	1.88	1.85	1.83	1.83	1.83	1.83	1.87	
Jan 7	1.84	1.84	1.84	1.84	1.84	1.88	1.87	1.90	1.90	S	1.88	1.89	1.90	1.89	1.88	1.89	1.89	1.90	1.91	1.90	1.90	1.91	1.92	1.94	1.84	1.88	
Jan 8	1.96	1.95	1.95	1.98	2.00	2.02	1.97	2.03	S	2.09	2.15	2.15	2.03	2.12	2.19	2.22	2.31	2.42	2.37	2.34	2.33	2.41	2.36	2.24	1.95	2.16	
Jan 9	2.18	2.14	2.02	1.96	1.94	1.94	1.95	S	2.02	2.06	2.07	2.08	2.11	2.13	2.12	2.10	2.09	2.11	2.12	2.10	2.08	2.09	2.07	2.03	1.94	2.07	
Jan 10	2.01	1.97	1.97	1.97	1.95	1.99	S	2.01	2.07	2.09	2.09	2.06	2.01	1.99	1.98	1.98	1.98	1.99	2.03	2.03	2.04	2.05	2.06	2.08	1.95	2.02	
Jan 11	2.08	2.06	2.02	2.00	1.97	S	1.92	1.93	1.95	1.96	1.94	1.93	1.93	1.93	1.95	1.95	1.95	1.96	1.95	1.94	1.92	1.84	1.81	1.86	1.81	1.95	
Jan 12	1.86	1.85	1.83	1.83	S	1.82	1.85	1.86	1.85	1.87	1.90	1.91	1.82	1.83	1.89	1.91	1.93	1.95	1.94	1.90	1.88	1.88	1.88	1.87	1.82	1.87	
Jan 13	1.88	1.90	1.93	S	1.93	1.96	1.91	1.93	2.06	2.04	1.86	1.79	1.80	1.77	NRM	1.77	1.78	1.78	1.78	1.77	1.77	1.78	1.77	1.78	1.77	1.85	
Jan 14	1.77	1.77	S	1.78	1.78	1.78	1.79	1.78	1.79	1.79	1.79	1.79	1.79	1.79	1.80	1.80	1.81	1.80	1.80	1.81	1.82	1.82	1.83	1.83	1.77	1.80	
Jan 15	1.84	S	1.86	1.85	1.83	1.84	1.87	1.89	1.87	1.84	1.82	1.80	1.80	1.83	1.84	1.83	1.83	1.84	1.86	1.85	1.82	1.80	1.78	1.78	1.78	1.83	
Jan 16	S	1.77	1.78	1.77	1.77	1.77	1.77	1.77	1.77	1.77	1.77	1.76	1.76	1.77	1.77	1.77	1.77	1.78	1.78	1.78	1.79	1.79	1.79	S	1.76	1.77	
Jan 17	1.81	1.83	1.82	1.81	1.82	1.83	1.85	1.86	1.86	1.84	1.84	1.84	1.83	1.85	1.83	1.79	1.77	1.78	1.78	1.78	1.77	1.77	S	1.78	1.77	1.82	
Jan 18	1.77	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.77	1.77	1.77	1.77	1.78	1.78	1.77	1.77	1.77	1.79	S	1.78	1.80	1.77	1.78	
Jan 19	1.80	1.81	1.83	1.83	1.82	1.83	1.82	1.83	1.81	1.81	1.82	1.82	1.81	1.81	1.78	1.77	1.77	1.77	1.77	1.76	S	1.72	1.73	1.74	1.72	1.79	
Jan 20	1.74	1.74	1.74	1.74	1.74	1.74	1.75	1.75	1.74	1.75	1.75	1.75	C	C	C	C	1.82	1.82	S	1.83	1.83	1.84	1.84	1.74	1.84	1.77	
Jan 21	1.84	1.83	1.84	1.84	1.84	1.86	1.85	1.85	1.86	1.87	1.86	1.87	1.86	1.85	1.84	1.84	1.84	1.84	S	1.83	1.84	1.85	1.85	1.84	1.83	1.87	
Jan 22	1.85	1.86	1.87	1.86	1.85	1.85	1.86	1.90	1.89	1.88	1.87	1.86	1.88	1.87	1.85	1.86	1.85	S	1.83	1.83	1.83	1.85	1.84	1.84	1.83	1.86	
Jan 23	1.84	1.84	1.84	1.85	1.85	1.84	1.85	1.85	1.85	1.85	1.85	1.85	1.84	1.84	1.85	1.84	S	1.93	2.06	2.08	1.99	1.89	1.87	1.87	1.84	1.88	
Jan 24	1.92	1.99	2.01	2.01	2.04	2.10	2.15	2.20	2.09	2.10	2.08	2.06	2.05	2.03	2.05	S	1.98	1.94	1.92	1.91	1.89	1.89	1.90	1.91	1.89	2.01	
Jan 25	1.91	1.91	1.90	1.91	1.90	1.90	1.89	1.89	1.90	1.90	1.91	1.90	1.90	1.90	S	1.89	1.89	1.89	1.90	1.89	1.88	1.89	1.90	1.89	1.88	1.91	
Jan 26	1.89	1.89	1.90	1.90	1.90	1.89	1.89	1.89	1.89	1.88	1.89	1.89	1.89	S	1.90	1.89	1.89	1.89	1.88	1.89	1.88	1.89	1.89	1.90	1.88	1.89	
Jan 27	1.89	1.91	1.92	1.91	1.90	1.89	1.90	1.93	1.92	1.96	1.93	1.93	S	1.95	1.94	1.91	1.92	1.91	1.91	1.92	1.90	1.92	1.96	1.92	1.89	1.92	
Jan 28	1.92	1.94	1.95	1.98	1.95	1.94	1.96	1.94	1.94	1.95	1.96	S	1.95	1.94	1.92	1.92	1.95	2.01	2.06	1.95	2.02	2.01	2.09	2.00	1.92	1.97	
Jan 29	1.96	1.98	2.02	2.08	2.03	2.07	2.01	2.11	2.02	2.00	S	1.99	1.98	1.96	1.93	1.95	2.04	2.08	2.00	1.98	1.96	1.95	1.97	1.93	2.01	2.00	
Jan 30	1.97	2.00	2.00	2.03	2.09	2.10	2.12	2.08	2.10	S	2.06	2.03	2.04	2.05	2.07	2.08	2.12	2.11	2.10	2.08	2.05	2.10	2.13	2.15	1.97	2.07	
Jan 31	2.16	2.25	2.22	2.27	2.30	2.31	2.31	2.38	S	2.37	2.39	2.42	2.42	2.49	2.38	2.35	2.36	2.30	2.15	2.09	2.06	2.05	2.10	2.12	2.05	2.27	
Diurnal Maximum	2.18	2.25	2.22	2.27	2.30	2.31	2.31	2.38	2.18	2.37	2.39	2.42	2.42	2.49	2.38	2.35	2.36	2.42	2.37	2.34	2.33	2.41	2.36	2.24			
Diurnal Average	1.90	1.91	1.91	1.91	1.91	1.92	1.92	1.93	1.92	1.93	1.93	1.92	1.91	1.93	1.92	1.91	1.92	1.92	1.93	1.92	1.91	1.90	1.91	1.91			

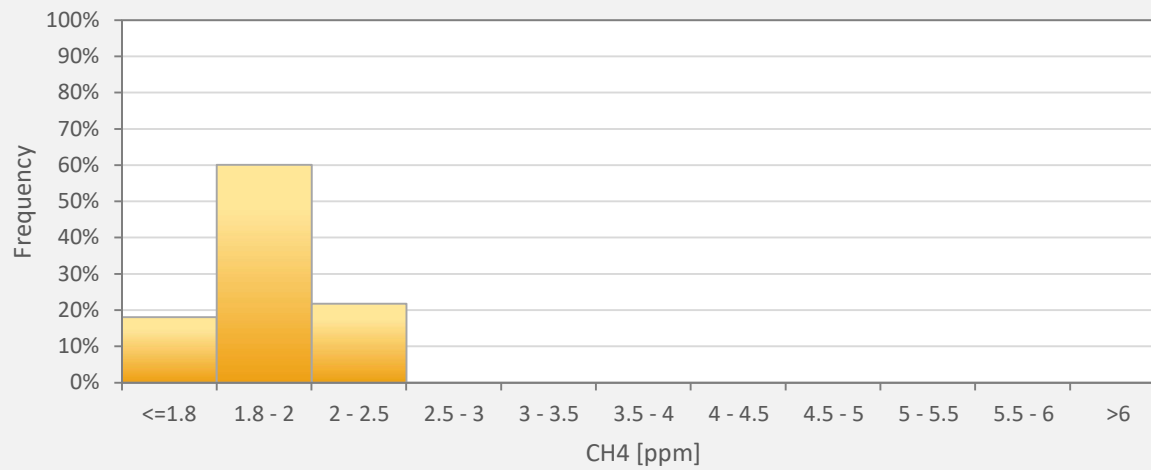
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction/Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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



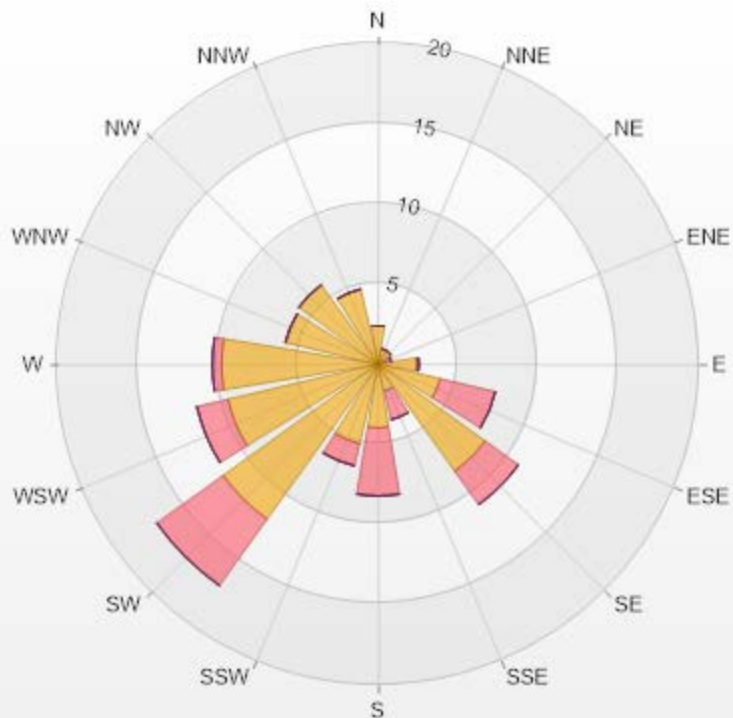
CH4[ppm] Histogram: St. Lina Monthly: 01-2021 1 Hr.



Classes	CH4
<=1.8	18.10%
1.8 - 2	60.11%
2 - 2.5	21.78%
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: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 95.03% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	2.4	0	0	0	0	2.4
NNE	0.99	0	0	0	0	0.99
NE	0.99	0	0	0	0	0.99
ENE	0.42	0.42	0	0	0	0.84
E	2.4	0.14	0	0	0	2.54
ESE	3.96	3.54	0	0	0	7.5
SE	8.2	2.55	0	0	0	10.75
SSE	1.7	1.84	0	0	0	3.54
S	3.96	4.24	0	0	0	8.2
SSW	5.09	1.41	0	0	0	6.5
SW	11.88	5.09	0	0	0	16.97
WSW	9.62	1.98	0	0	0	11.6
W	9.76	0.57	0	0	0	10.33
WNW	5.94	0	0	0	0	5.94
NW	6.08	0	0	0	0	6.08
NNW	4.81	0	0	0	0	4.81
Summary	78.2	21.78	0	0	0	100



LICA-202101

Page 206 of 237

% Icon Classes (ppm)	78	0-2	22	2-5	0	5-10	0	10-20	0	>20.0
----------------------	----	-----	----	-----	---	------	---	-------	---	-------



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - January 2021 Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

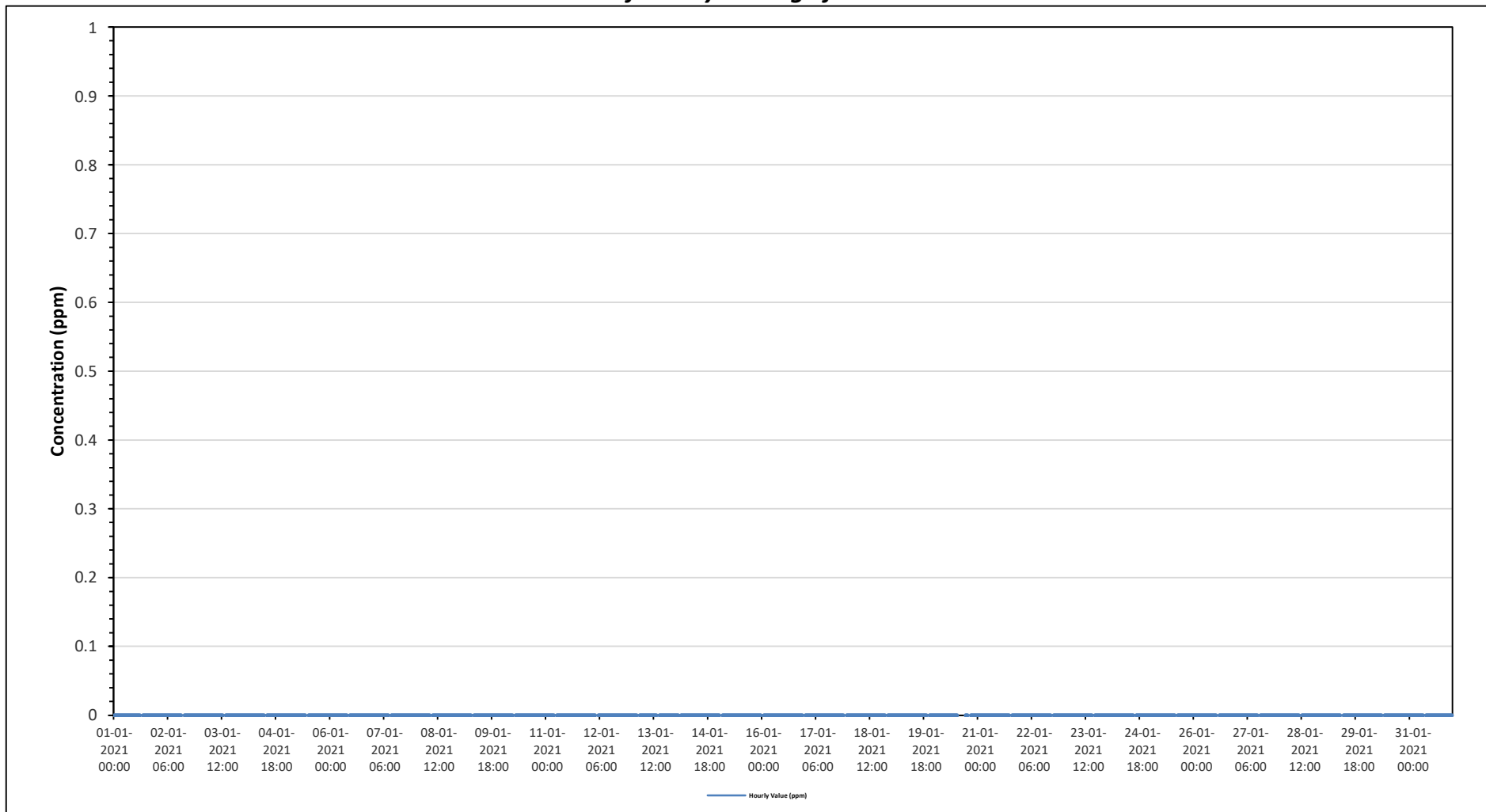
Maximum Hourly Value:	0.00 ppm on January 1 at hour 0	Hours in Service:	744
Maximum Daily Value:	0.00 ppm on January 1	Hours of Data:	707
Minimum Hourly Value:	0.00 ppm on January 1 at hour 0	Hours of Missing Data:	1
Minimum Daily Value:	0.00 ppm on January 1	Hours of Calibration:	36
Monthly Average:	0.00 ppm	Operational Uptime:	99.9

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average					
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23				
Jan 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	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
Jan 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	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	
Jan 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	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	
Jan 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	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	
Jan 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	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	
Jan 6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Jan 7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Jan 8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Jan 9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Jan 10	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Jan 11	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Jan 12	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Jan 13	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NRM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Jan 14	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Jan 15	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Jan 16	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	S	0.00	0.00	
Jan 17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	
Jan 18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	
Jan 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 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	C	C	C	C	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	
Jan 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 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	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
Jan 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	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
Jan 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	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
Jan 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 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	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
Jan 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	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
Jan 28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 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	0.00	0.00	0.00	0.00
Jan 30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Diurnal Average	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

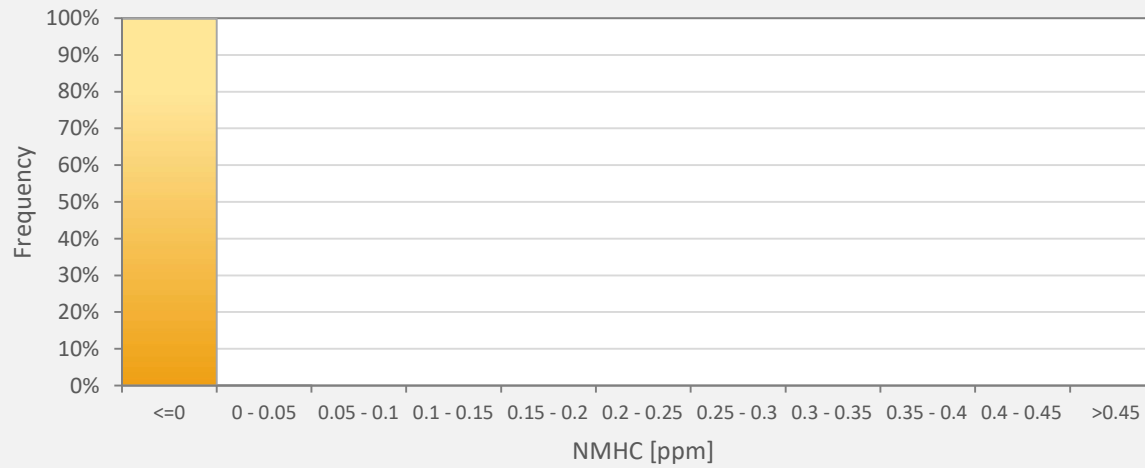
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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



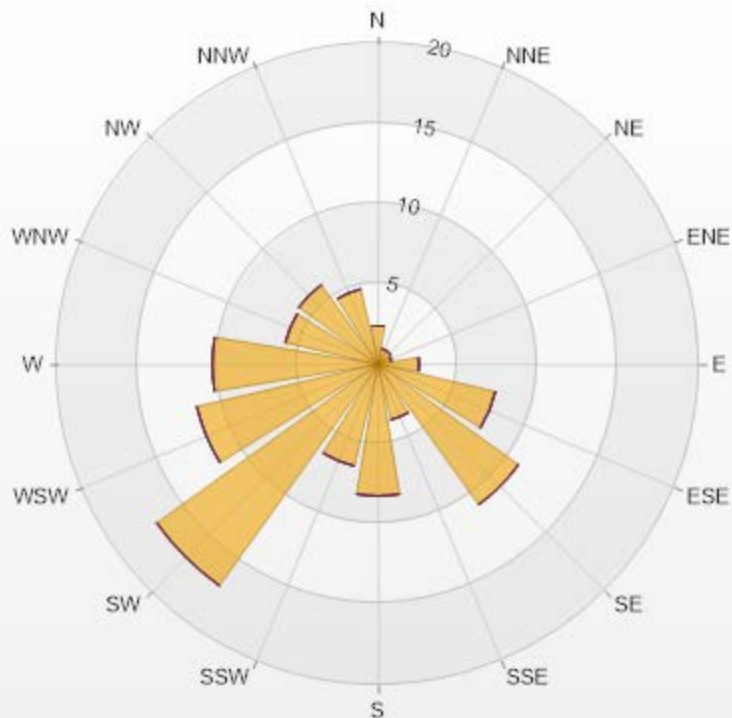
NMHC[ppm] Histogram: St. Lina Monthly: 01-2021 1 Hr.



Classes	NMHC
<=0	99.86%
0 - 0.05	0.14%
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: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 95.03% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-0.9	0.9-2	>2.0	Total
N	2.4	0	0	0	0	2.4
NNE	0.99	0	0	0	0	0.99
NE	0.99	0	0	0	0	0.99
ENE	0.85	0	0	0	0	0.85
E	2.55	0	0	0	0	2.55
ESE	7.5	0	0	0	0	7.5
SE	10.75	0	0	0	0	10.75
SSE	3.54	0	0	0	0	3.54
S	8.2	0	0	0	0	8.2
SSW	6.51	0	0	0	0	6.51
SW	16.97	0	0	0	0	16.97
WSW	11.6	0	0	0	0	11.6
W	10.33	0	0	0	0	10.33
WNW	5.94	0	0	0	0	5.94
NW	6.08	0	0	0	0	6.08
NNW	4.81	0	0	0	0	4.81
Summary	100	0	0	0	0	100



LICA-202101

% 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 - January 2021

Summary of Hourly Averages

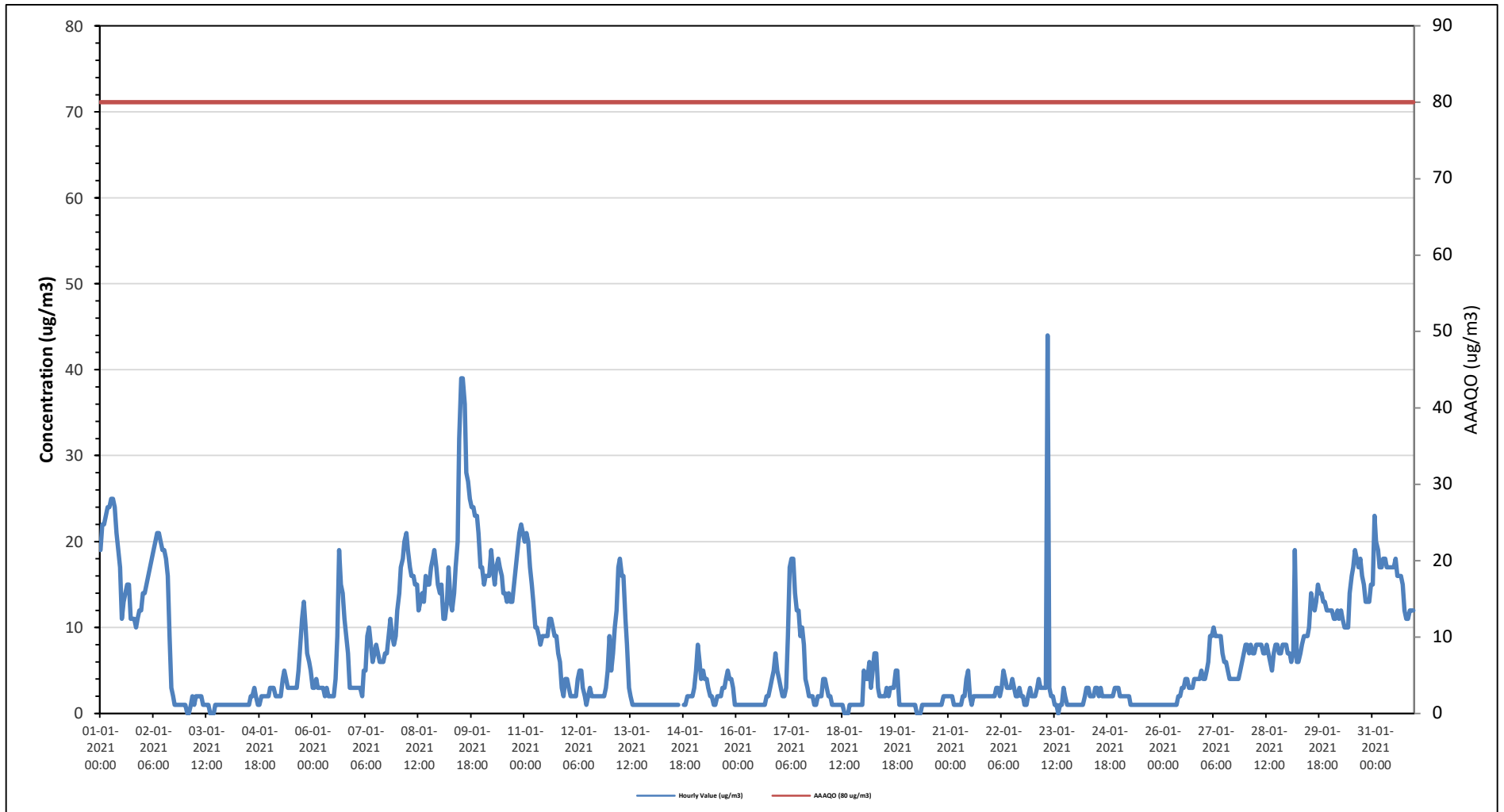
PARTICULATE MATTER 2.5 (PM_{2.5}) in µg/m³

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 80 µg/m ³ , 24-Hour 29 µg/m ³																															
Number of 1-Hour Exceedences: 0										Number of 24-Hour Exceedences: 0																					
Maximum Hourly Value: 44 µg/m ³ on January 23 at hour 8										Hours in Service: 744																					
Maximum Daily Value: 21.5 µg/m ³ on January 9										Hours of Data: 742																					
Minimum Hourly Value: 0 µg/m ³ on January 3 at hour 1										Hours of Missing Data: 0																					
Minimum Daily Value: 1 µg/m ³ on January 3										Hours of Calibration: 2																					
Monthly Average: 6.7 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							
Jan 1	19	22	22	23	24	24	25	25	24	21	19	17	11	13	14	15	15	11	11	11	10	11	12	12	10	25	17.1				
Jan 2	14	14	15	16	17	18	19	20	21	21	20	19	19	18	16	9	3	2	1	1	1	1	1	1	1	1	21	12.0			
Jan 3	1	0	0	1	2	1	2	2	2	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	0	2	1.0				
Jan 4	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	3	2	1	1	2	2	2	2	2	1	3	1.4				
Jan 5	3	3	3	2	2	2	2	4	5	4	3	3	3	3	3	3	5	8	11	13	10	7	6	5	2	13	4.7				
Jan 6	3	3	4	3	3	3	3	2	3	2	2	2	2	4	9	19	15	14	11	9	7	3	3	3	2	19	5.5				
Jan 7	3	3	3	3	2	5	5	9	10	8	6	7	8	7	6	6	6	7	7	9	11	9	8	9	2	11	6.5				
Jan 8	12	14	17	18	20	21	19	17	16	16	15	15	12	13	14	13	16	15	15	17	18	19	17	15	12	21	16.0				
Jan 9	14	15	11	11	13	17	13	12	14	17	20	32	39	39	36	28	27	25	24	24	23	23	21	17	11	39	21.5				
Jan 10	17	15	16	16	16	19	17	15	17	18	17	16	14	14	13	14	13	13	15	17	19	21	22	21	13	22	16.5				
Jan 11	20	21	20	17	15	13	10	10	9	8	9	9	9	9	11	11	10	9	9	7	6	3	2	4	2	21	10.5				
Jan 12	4	3	2	2	2	2	4	5	5	3	2	1	2	3	2	2	2	2	2	2	2	2	3	5	1	5	2.7				
Jan 13	9	5	7	10	12	17	18	16	16	11	8	3	2	1	1	1	1	1	1	1	1	1	1	1	1	18	6.0				
Jan 14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	C	C	1	1	2	2	2	2	1	2	1.2				
Jan 15	3	5	8	6	4	5	4	4	3	2	2	1	1	2	2	2	3	3	4	5	4	4	3	1	1	8	3.4				
Jan 16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	3	4	5	7	5	1	7	1.9				
Jan 17	4	3	2	2	3	9	17	18	18	14	12	12	9	10	8	4	3	2	2	2	1	1	2	2	1	18	6.7				
Jan 18	2	4	4	3	2	2	1	1	1	1	1	1	0	0	0	0	1	1	1	1	1	1	1	1	0	4	1.3				
Jan 19	5	4	4	6	3	5	7	7	3	2	2	2	3	2	3	3	3	5	5	1	1	1	1	1	1	7	3.3				
Jan 20	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	0	2	1.0				
Jan 21	2	2	2	1	1	1	1	2	2	4	5	2	1	2	2	2	2	2	2	2	2	2	2	2	1	5	2.0				
Jan 22	2	2	2	3	3	2	3	5	4	3	3	3	4	3	2	2	3	2	2	1	1	2	3	2	1	5	2.6				
Jan 23	2	2	3	4	3	3	3	3	44	3	2	2	1	1	0	1	1	3	2	1	1	1	1	1	0	44	3.7				
Jan 24	1	1	1	1	1	2	3	3	2	2	2	3	3	2	3	2	2	2	2	2	2	2	3	3	1	3	2.1				
Jan 25	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1.3				
Jan 26	1	1	1	1	1	1	1	1	1	1	2	2	3	3	4	4	3	3	3	4	4	4	4	5	1	5	2.4				
Jan 27	4	4	5	6	9	9	10	9	9	9	9	7	6	6	5	4	4	4	4	4	4	5	6	7	4	10	6.2				
Jan 28	8	8	7	8	7	7	8	8	8	8	7	7	8	7	6	5	7	8	8	7	7	8	8	8	5	8	7.4				
Jan 29	7	7	6	7	19	6	6	7	8	9	9	9	10	14	13	12	13	15	14	14	13	13	12	12	6	19	10.6				
Jan 30	12	12	11	11	12	11	12	11	10	10	10	14	16	17	19	18	17	18	16	15	13	13	13	15	10	19	13.6				
Jan 31	15	23	20	19	17	17	18	18	17	17	17	17	18	16	16	16	15	12	11	11	12	12	12	12	11	23	16.0				
Diurnal Maximum	20	23	22	23	24	24	25	25	44	21	20	32	39	39	36	28	27	25	24	24	23	23	22	21							
Diurnal Average	6.3	6.5	6.5	6.6	7.1	7.4	7.6	7.6	8.9	7.1	6.7	6.9	6.8	7.0	6.9	6.5	6.5	6.5	6.2	6.3	5.9	5.9	5.9	5.7							
C	Monthly Calibration							S	Daily Zero-Span Check							Q	Quality Assurance														
K	Collection Error							N	No Data (Machine Not in Service)							Y	Routine Maintenance							P	Power Failure						
X	InValid Data (Equipment Malfunction /Recovery)							NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)																						

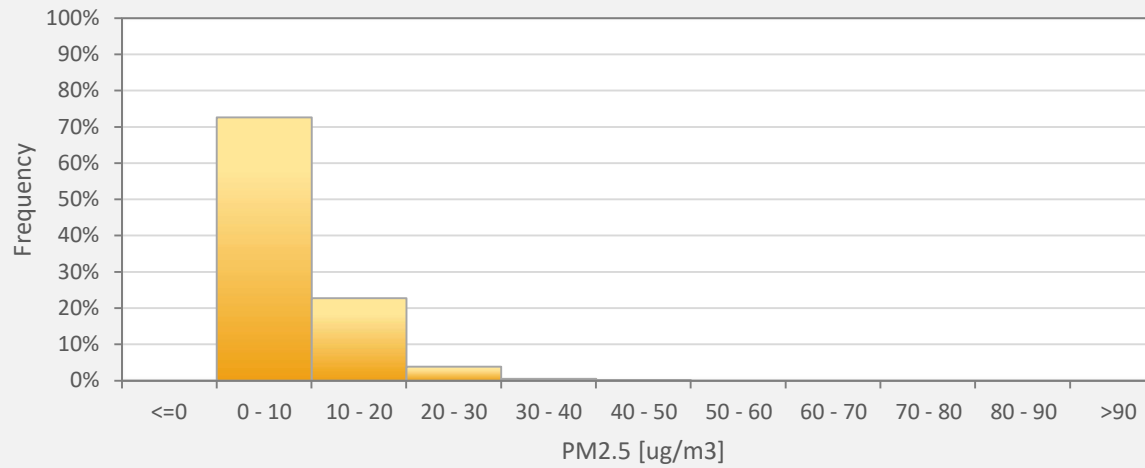
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

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

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



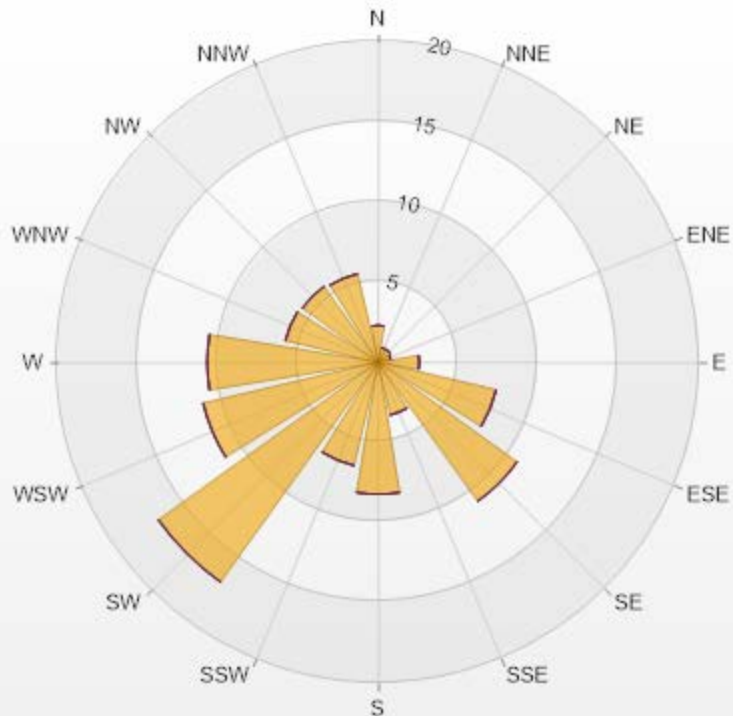
PM2.5[ug/m3(L)] Histogram: St. Lina Monthly: 01-2021 1 Hr.



Classes	PM2.5
<=0	0.00%
0 - 10	72.64%
10 - 20	22.78%
20 - 30	3.91%
30 - 40	0.54%
40 - 50	0.13%
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: 01-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 99.73% Calm Avg: 0.00 [ug/m3(L)]

Direction	0-50	50-80	80-120	120-240	>240.0	Total
N	2.29	0	0	0	0	2.29
NNE	0.94	0	0	0	0	0.94
NE	0.94	0	0	0	0	0.94
ENE	0.81	0	0	0	0	0.81
E	2.56	0	0	0	0	2.56
ESE	7.55	0	0	0	0	7.55
SE	10.65	0	0	0	0	10.65
SSE	3.37	0	0	0	0	3.37
S	8.22	0	0	0	0	8.22
SSW	6.6	0	0	0	0	6.6
SW	16.85	0	0	0	0	16.85
WSW	11.19	0	0	0	0	11.19
W	10.65	0	0	0	0	10.65
WNW	5.93	0	0	0	0	5.93
NW	5.8	0	0	0	0	5.8
NNW	5.66	0	0	0	0	5.66
Summary	100	0	0	0	0	100



LICA-202101

Page 216 of 237

% 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 - January 2021

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

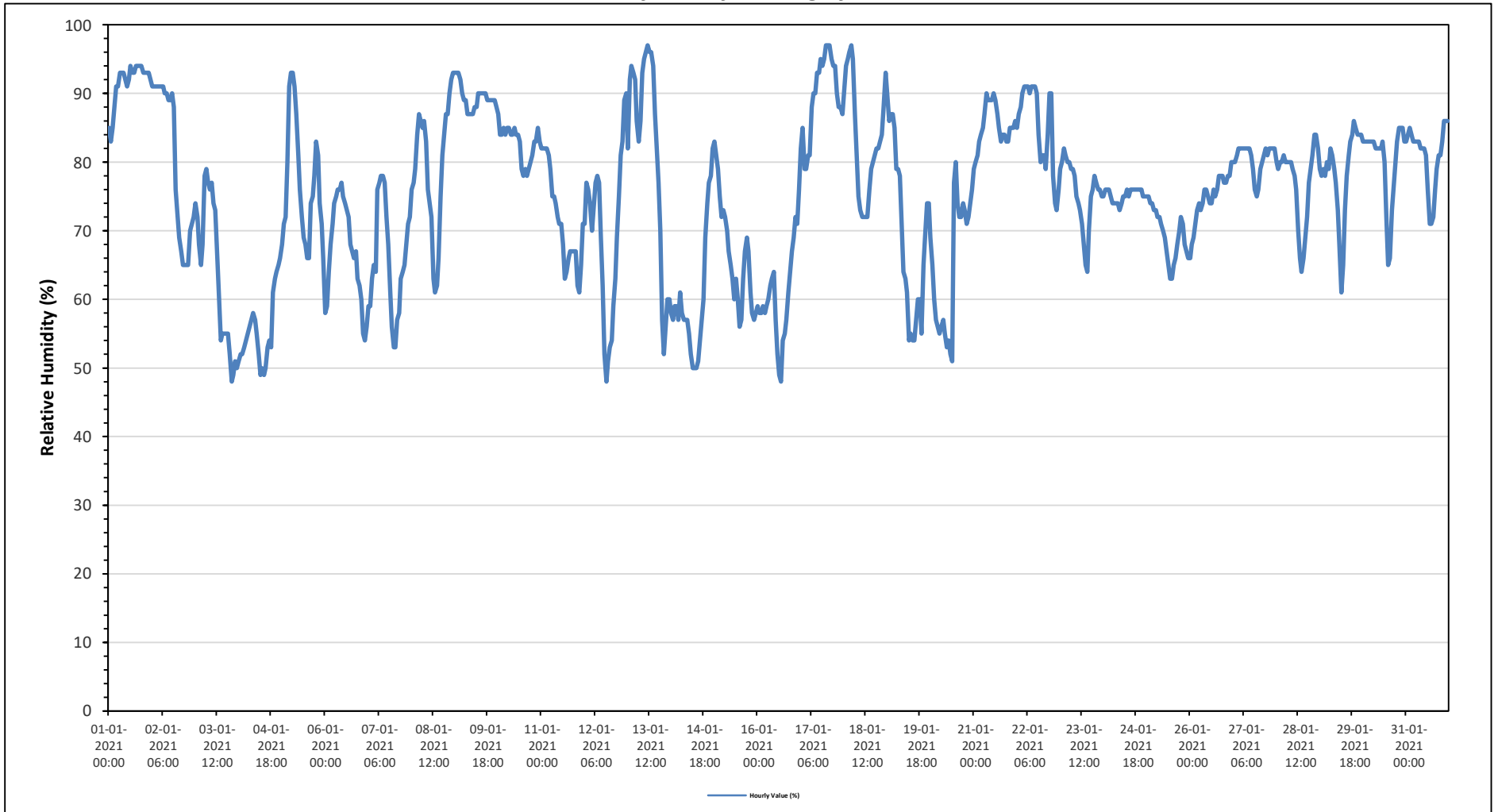
Maximum Hourly Value:	97 %	on January 13 at hour 11	Hours in Service:	744
Maximum Daily Value:	91.5 %	on January 1	Hours of Data:	744
Minimum Hourly Value:	48 %	on January 3 at hour 20	Hours of Missing Data:	0
Minimum Daily Value:	55.4 %	on January 4	Hours of Calibration:	0
Monthly Average:	75.2 %		Operational 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
Jan 1	85	83	85	88	91	91	93	93	93	92	91	92	94	93	93	94	94	94	94	93	93	93	93	92	83	94	91.5
Jan 2	91	91	91	91	91	91	91	90	90	89	89	90	88	76	72	69	67	65	65	65	65	70	71	72	65	91	80.4
Jan 3	74	72	68	65	68	78	79	77	76	77	74	73	67	61	54	55	55	55	55	52	48	49	51	50	48	79	63.9
Jan 4	51	52	52	53	54	55	56	57	58	57	55	52	49	50	49	50	53	54	53	61	63	64	65	66	49	66	55.4
Jan 5	68	71	72	80	91	93	93	91	87	81	76	72	69	68	66	66	74	75	78	83	81	74	71	66	66	93	76.9
Jan 6	58	59	64	68	71	74	75	76	76	77	75	74	73	72	68	67	66	67	63	62	60	55	54	56	54	77	67.1
Jan 7	59	59	63	65	64	76	77	78	78	77	72	68	61	56	53	53	57	58	63	64	65	68	71	72	53	78	65.7
Jan 8	76	77	79	84	87	86	85	86	83	76	74	72	63	61	62	66	75	81	84	87	87	90	92	93	61	93	79.4
Jan 9	93	93	93	92	90	89	89	87	87	87	87	88	88	90	90	90	90	89	89	89	89	89	89	88	87	93	89.4
Jan 10	87	84	84	85	84	85	85	84	84	85	84	84	83	79	78	79	78	79	80	81	83	83	85	83	78	87	82.8
Jan 11	82	82	82	82	81	79	75	75	74	72	71	71	68	63	64	66	67	67	67	67	62	61	65	71	61	82	71.4
Jan 12	71	77	76	74	70	73	77	78	77	69	62	52	48	51	53	54	59	63	69	75	81	83	89	90	48	90	69.6
Jan 13	82	92	94	93	92	86	83	86	93	95	96	97	96	96	94	87	82	77	70	57	52	56	60	60	52	97	82.3
Jan 14	58	57	59	59	57	61	58	57	57	57	55	52	50	50	50	51	54	57	60	69	74	77	78	82	50	82	60.0
Jan 15	83	81	79	75	72	73	72	70	67	65	63	60	63	60	56	57	63	67	69	67	61	58	57	58	56	83	66.5
Jan 16	59	58	58	59	58	59	60	62	63	64	57	52	49	48	54	55	57	61	64	67	69	72	71	76	48	76	60.5
Jan 17	82	85	79	79	81	81	88	90	90	93	93	95	94	95	97	97	97	95	94	94	90	88	88	87	79	97	89.7
Jan 18	90	94	95	96	97	95	87	81	75	73	72	72	72	72	76	79	80	81	82	82	83	84	88	93	72	97	83.3
Jan 19	90	86	87	87	85	79	79	78	71	64	63	61	54	55	54	54	57	60	60	55	65	69	74	74	54	90	69.2
Jan 20	69	65	60	57	56	55	56	57	55	53	54	52	51	77	80	74	72	72	74	73	71	72	74	76	51	80	64.8
Jan 21	79	80	81	83	84	85	87	90	89	89	89	89	89	87	85	83	84	84	83	83	85	85	85	86	79	90	85.2
Jan 22	85	87	88	90	91	91	91	90	91	91	91	90	84	80	81	81	79	84	90	90	78	74	73	76	73	91	85.3
Jan 23	79	80	82	81	80	80	79	79	78	75	74	73	71	68	65	64	70	75	76	78	77	76	76	75	64	82	75.5
Jan 24	75	76	76	76	75	74	74	74	74	73	74	75	75	76	75	76	76	76	76	76	76	76	75	75	73	76	75.2
Jan 25	75	75	74	74	73	73	72	72	71	70	69	67	65	63	63	65	66	68	70	72	71	68	67	66	63	75	69.5
Jan 26	66	68	69	71	73	74	73	74	76	76	75	74	74	76	75	76	78	78	78	77	77	78	78	80	66	80	74.8
Jan 27	80	80	81	82	82	82	82	82	82	82	81	79	76	75	76	79	80	81	82	81	82	82	82	82	75	82	80.5
Jan 28	80	79	80	80	81	80	80	80	80	79	78	76	70	66	64	66	69	72	77	79	81	84	84	82	64	84	77.0
Jan 29	79	78	79	78	80	79	82	81	79	77	73	68	61	65	73	78	81	83	84	86	85	84	84	84	61	86	78.4
Jan 30	83	83	83	83	83	83	83	83	82	82	82	82	83	80	72	65	66	73	76	80	83	85	85	83	65	85	80.2
Jan 31	83	84	85	84	83	83	83	83	82	82	82	81	76	71	71	72	76	79	81	81	83	86	86	86	71	86	81.0
Diurnal Maximum	93	94	95	96	97	95	93	93	93	95	96	97	96	96	97	97	97	97	95	94	94	93	93	93			
Diurnal Average	76.5	77.0	77.4	77.9	78.2	78.8	78.8	78.7	78.0	76.7	75.2	73.7	71.0	70.1	69.5	70.0	71.9	73.4	74.5	75.1	74.9	75.3	76.2	76.8			

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 RH - St. Lina Site





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - January 2021
Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

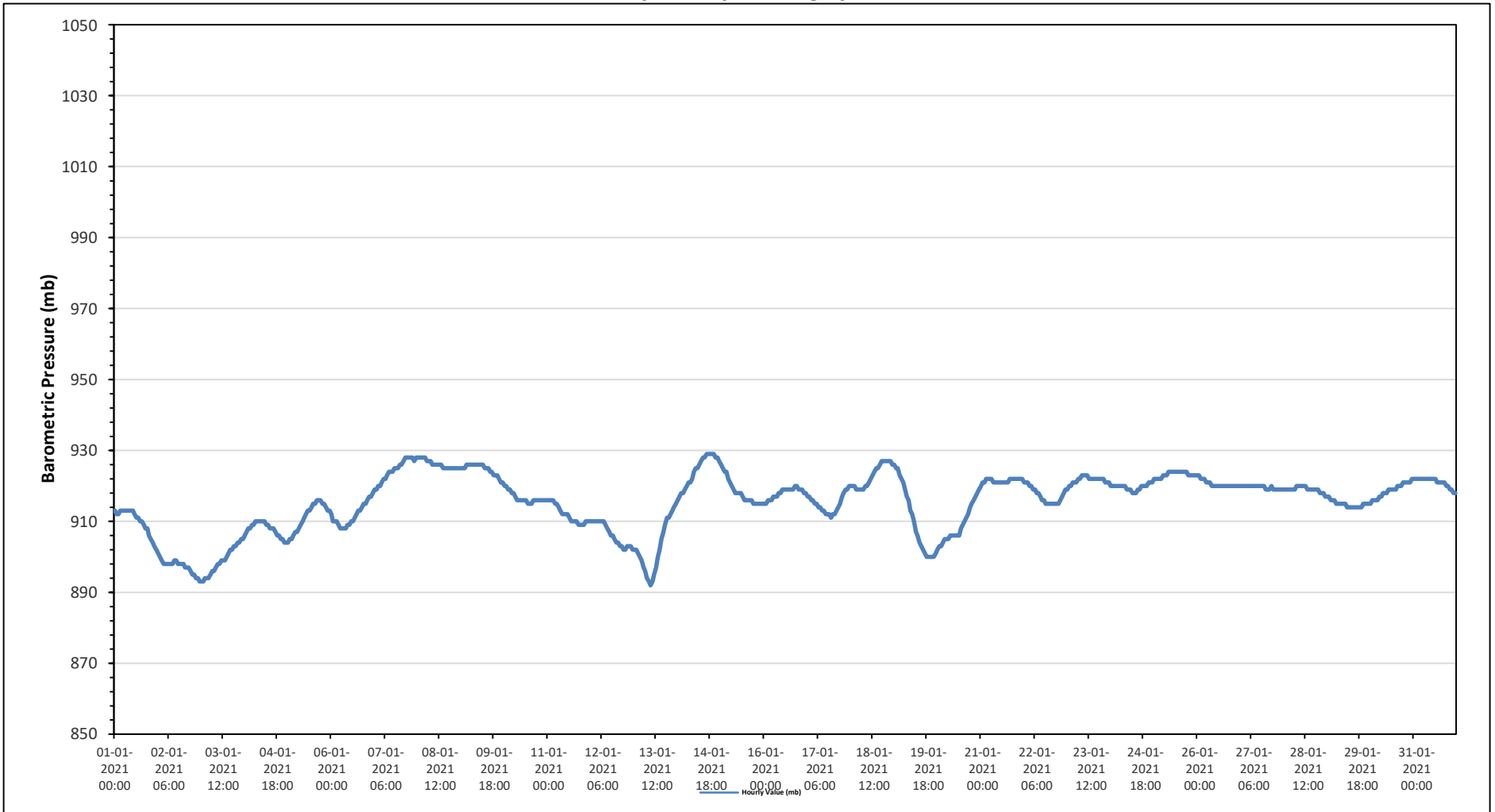
Maximum Hourly Value:	929 mb on January 14 at hour 16	Hours in Service:	744
Maximum Daily Value:	926 mb on January 8	Hours of Data:	744
Minimum Hourly Value:	892 mb on January 13 at hour 9	Hours of Missing Data:	0
Minimum Daily Value:	897 mb on January 2	Hours of Calibration:	0
Monthly Average:	916 mb	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
Jan 1	913	912	912	913	913	913	913	913	913	913	913	912	911	911	910	910	909	908	908	906	905	904	903	902	902	913	910
Jan 2	901	900	899	898	898	898	898	898	898	899	899	898	898	898	898	897	897	897	896	895	895	894	894	893	893	901	897
Jan 3	893	893	894	894	894	895	896	896	897	898	898	899	899	899	900	901	902	902	903	903	904	904	905	905	893	905	899
Jan 4	906	907	908	908	909	909	910	910	910	910	910	909	909	908	908	908	907	906	906	905	905	904	904	904	904	910	908
Jan 5	904	905	905	906	907	907	908	909	910	911	912	913	914	915	915	916	916	916	915	915	914	913	913	913	904	916	911
Jan 6	912	910	910	910	909	908	908	908	908	909	910	910	911	912	913	913	914	915	915	916	917	917	918	918	908	918	912
Jan 7	919	919	920	920	921	922	922	923	924	924	924	925	925	925	926	926	927	928	928	928	928	928	927	928	919	928	924
Jan 8	928	928	928	928	928	927	927	927	926	926	926	926	926	926	925	925	925	925	925	925	925	925	925	925	925	928	926
Jan 9	925	925	925	926	926	926	926	926	926	926	926	925	925	925	925	924	924	923	923	923	922	921	921	921	921	926	925
Jan 10	920	920	919	919	918	918	917	916	916	916	916	915	915	915	916	916	916	916	916	916	916	916	916	916	915	920	917
Jan 11	916	916	916	916	915	915	914	913	912	912	912	912	911	910	910	910	909	909	909	909	910	910	910	910	909	916	912
Jan 12	910	910	910	910	910	910	910	910	909	908	907	906	906	905	904	904	903	903	902	902	903	903	903	902	902	910	906
Jan 13	902	902	901	900	899	897	896	894	893	892	893	895	897	900	902	905	907	909	911	911	912	913	914	915	892	915	903
Jan 14	916	917	918	918	919	920	921	921	922	924	925	925	926	927	928	928	929	929	929	929	929	928	928	927	916	929	924
Jan 15	926	925	924	924	922	921	920	919	918	918	918	918	917	916	916	916	916	915	915	915	915	915	915	915	915	926	918
Jan 16	915	915	916	916	916	917	917	917	918	918	919	919	919	919	919	919	920	920	919	919	919	918	918	918	915	920	918
Jan 17	917	917	916	916	915	915	914	914	913	913	912	912	911	912	912	913	914	915	917	918	919	919	920	911	920	915	
Jan 18	920	920	920	919	919	919	919	919	920	920	921	922	923	924	925	925	926	927	927	927	927	927	927	926	919	927	923
Jan 19	926	925	925	923	922	921	919	917	916	913	912	910	907	906	904	903	902	901	900	900	900	900	901	900	926	911	
Jan 20	902	903	903	904	905	905	905	906	906	906	906	906	906	908	909	910	911	912	914	915	916	917	918	919	902	919	909
Jan 21	920	921	921	922	922	922	922	921	921	921	921	921	921	921	921	921	922	922	922	922	922	922	922	922	920	922	921
Jan 22	921	921	921	920	920	919	919	918	918	917	916	916	915	915	915	915	915	915	915	915	916	917	918	919	915	921	917
Jan 23	919	920	920	921	921	921	922	922	923	923	923	923	922	922	922	922	922	922	922	922	922	921	921	921	919	923	922
Jan 24	920	920	920	920	920	920	920	920	920	919	919	919	918	918	918	919	920	920	920	920	920	921	921	921	918	921	920
Jan 25	922	922	922	922	922	923	923	923	924	924	924	924	924	924	924	924	924	924	924	923	923	923	923	923	922	924	923
Jan 26	923	923	922	922	922	921	921	921	920	920	920	920	920	920	920	920	920	920	920	920	920	920	920	920	920	923	921
Jan 27	920	920	920	920	920	920	920	920	920	920	920	920	920	920	919	919	919	920	919	919	919	919	919	919	919	920	920
Jan 28	919	919	919	919	919	919	919	920	920	920	920	920	920	920	919	919	919	919	919	919	918	918	918	917	917	920	919
Jan 29	917	917	916	916	916	915	915	915	915	915	915	914	914	914	914	914	914	914	914	914	915	915	915	915	914	917	915
Jan 30	915	916	916	916	916	917	917	918	918	918	919	919	919	919	919	920	920	920	921	921	921	921	922	915	922	919	
Jan 31	922	922	922	922	922	922	922	922	922	922	922	922	921	921	921	921	921	920	920	919	919	918	918	918	918	922	921
Diurnal Maximum	928	928	928	928	928	927	927	927	926	926	926	926	927	928	928	929	929	929	929	929	928	928	928	928	928	928	928
Diurnal Average	916	916	916	916	916	916	915	915	915	915	915	915	915	915	916	916	916	916	916	916	916	916	916	916	916	916	916

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 - January 2021
Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

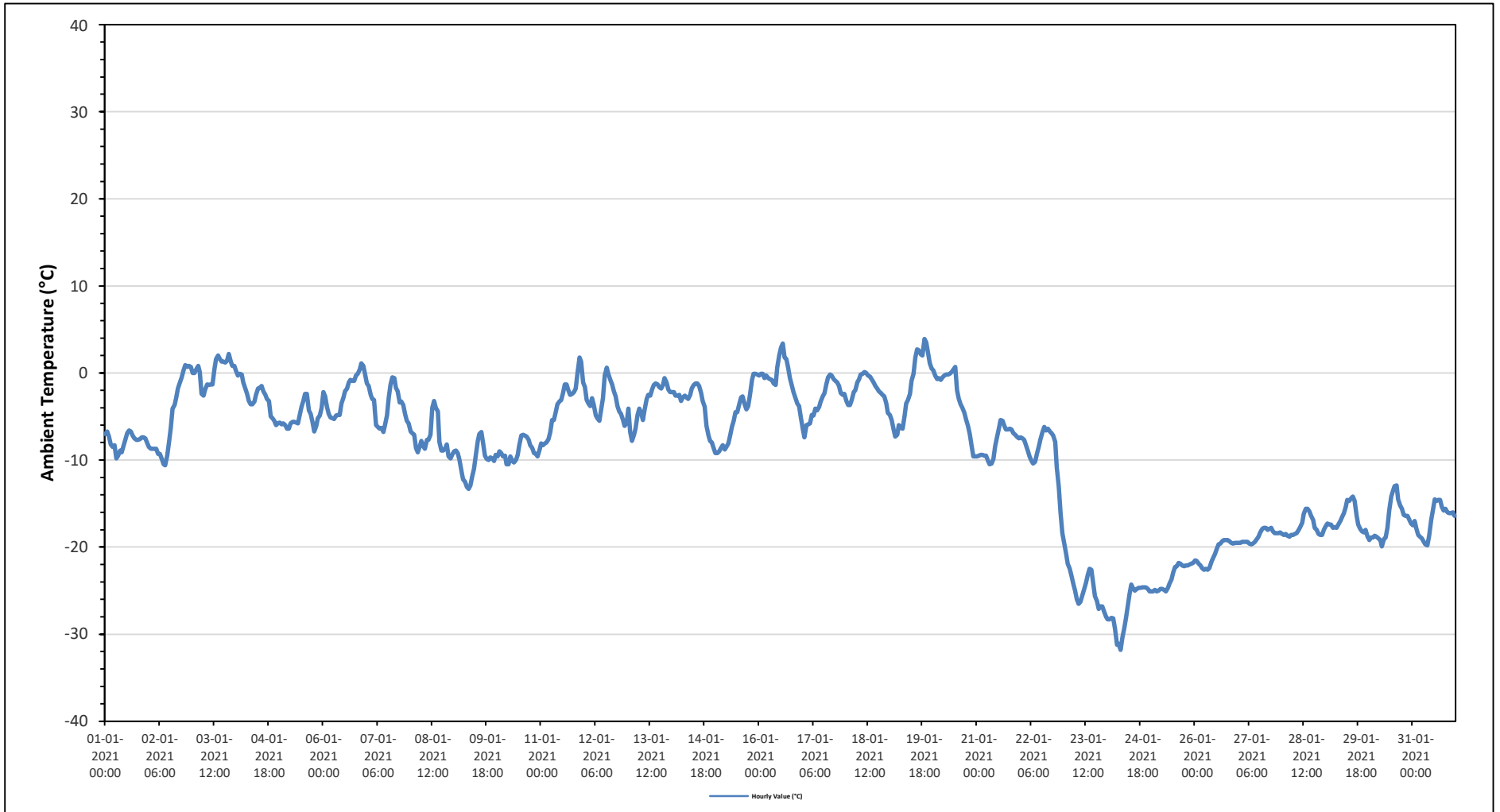
Maximum Hourly Value:	3.9 °C	on January 19 at hour 19	Hours in Service:	744
Maximum Daily Value:	0.2 °C	on January 3	Hours of Data:	744
Minimum Hourly Value:	-31.8 °C	on January 24 at hour 7	Hours of Missing Data:	0
Minimum Daily Value:	-27.0 °C	on January 24	Hours of Calibration:	0
Monthly Average:	-9.1 °C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Jan 1	-7	-6.7	-7.3	-8.2	-8.5	-8.3	-9.8	-9.5	-8.9	-9.1	-8.3	-7.6	-6.9	-6.6	-6.7	-7.2	-7.5	-7.7	-7.7	-7.6	-7.4	-7.4	-7.5	-8.1	-9.8	-6.6	-7.8	
Jan 2	-8.5	-8.7	-8.7	-8.7	-8.7	-9.3	-9.3	-9.8	-10.5	-10.6	-9.5	-8	-6.3	-4.1	-3.7	-2.9	-1.8	-1.1	-0.5	0.3	0.9	0.7	0.8	0.7	-10.6	0.9	-5.3	
Jan 3	0	0	0.4	0.8	0.1	-2.4	-2.6	-1.9	-1.3	-1.4	-1.3	-1.3	0.5	1.6	2	1.6	1.3	1.3	1.2	1.4	2.2	1.3	0.8	0.8	-2.6	2.2	0.2	
Jan 4	0.2	-0.3	-0.1	-0.2	-1.1	-1.8	-2.4	-3.2	-3.6	-3.6	-3.3	-2.5	-1.8	-1.7	-1.5	-2.1	-2.5	-3	-3.2	-5	-5.2	-5.5	-6	-5.8	-6.0	0.2	-2.7	
Jan 5	-5.7	-5.9	-5.8	-6	-6.4	-6.4	-5.8	-5.6	-5.6	-5.7	-5.8	-4.8	-3.9	-3.2	-2.4	-2.4	-4.3	-4.7	-5.6	-6.7	-6.1	-5.2	-4.9	-4	-6.7	-2.4	-5.1	
Jan 6	-2.2	-2.7	-3.9	-4.7	-5.1	-5.2	-5.3	-4.9	-4.8	-4.8	-3.5	-2.8	-2.1	-1.8	-1.1	-0.8	-0.9	-0.9	-0.3	-0.1	0.4	1.1	0.8	-0.2	-5.3	1.1	-2.3	
Jan 7	-1.2	-1.5	-2.5	-3	-3.1	-6	-6.2	-6.4	-6.3	-6.8	-6	-4.9	-2.8	-1.3	-0.5	-0.6	-1.7	-2.1	-3.4	-3.3	-3.7	-4.7	-5.5	-5.8	-6.8	-0.5	-3.7	
Jan 8	-6.7	-6.9	-7.1	-8.6	-9.1	-8.5	-7.8	-8.4	-8.7	-7.7	-7.7	-7.1	-4	-3.2	-4	-4.4	-7.9	-8.9	-8.9	-8.7	-8.2	-9.6	-9.8	-9.4	-9.8	-3.2	-7.6	
Jan 9	-9	-8.9	-9.2	-10	-11.3	-12.2	-12.5	-13.1	-13.3	-12.9	-11.9	-11	-9.5	-7.8	-7	-6.8	-8.1	-9.5	-9.9	-10	-9.7	-9.8	-10.1	-9.4	-13.3	-6.8	-10.1	
Jan 10	-9.6	-9	-9.2	-9.6	-9.5	-10.5	-10.5	-9.6	-10.1	-10.3	-10	-9.4	-8.3	-7.2	-7.1	-7.2	-7.3	-7.7	-8.3	-8.6	-9.2	-9.3	-9.6	-8.8	-10.5	-7.1	-9.0	
Jan 11	-8.1	-8.3	-8.1	-8	-7.6	-6.8	-5.4	-5.4	-4.4	-3.6	-3.3	-3.1	-2.3	-1.3	-1.3	-2	-2.5	-2.4	-2.2	-1.8	0	1.8	1.3	-1.1	-8.3	1.8	-3.6	
Jan 12	-1.6	-3.1	-3.5	-3.8	-2.9	-3.7	-4.9	-5.2	-5.5	-4.2	-2.9	-0.3	0.6	-0.1	-0.8	-1.3	-2.1	-2.7	-3.8	-4.4	-4.7	-5.4	-6.1	-5.8	-6.1	0.6	-3.3	
Jan 13	-4.1	-6.8	-7.8	-7.1	-6.4	-4.8	-4.1	-4.6	-5.4	-4.2	-3	-2.5	-2.6	-1.9	-1.4	-1.2	-1.3	-1.6	-1.8	-1.4	-0.6	-1.1	-1.9	-2.2	-7.8	-0.6	-3.3	
Jan 14	-2.2	-2.2	-2.6	-2.6	-2.5	-3.2	-2.8	-2.6	-2.8	-3	-2.5	-1.8	-1.4	-1.2	-1.2	-1.5	-2.3	-3.2	-3.9	-6.1	-7.2	-7.8	-8	-8.7	-8.7	-1.2	-3.5	
Jan 15	-9.2	-9.2	-9	-8.6	-8.3	-8.8	-8.5	-8.1	-7.2	-6.2	-5.5	-4.5	-4.5	-3.7	-2.8	-2.7	-3.6	-4.2	-3.8	-2.5	-0.8	-0.1	-0.1	-0.2	-9.2	-0.1	-5.1	
Jan 16	-0.3	-0.1	-0.1	-0.6	-0.3	-0.6	-0.7	-0.8	-1.2	-1.4	0.6	2	2.9	3.4	1.8	1.6	0.6	-0.6	-1.5	-2.2	-2.9	-3.5	-3.8	-5.1	-5.1	3.4	-0.5	
Jan 17	-6.5	-7.4	-6	-5.9	-5.8	-4.8	-4.9	-4.1	-4.3	-3.9	-3.3	-2.7	-2.3	-1.3	-0.5	-0.2	-0.3	-0.7	-0.9	-1.1	-1.5	-2.3	-2.5	-2.4	-7.4	-0.2	-3.2	
Jan 18	-3.2	-3.7	-3.7	-3.1	-2.2	-2	-1.1	-0.7	-0.2	0.1	0.1	0	-0.3	-0.4	-0.7	-1.1	-1.5	-1.8	-2.1	-2.3	-2.5	-2.7	-3.5	-4.6	-4.6	0.1	-1.8	
Jan 19	-4.8	-5.4	-6.4	-7.3	-7.1	-6	-6.3	-6.4	-4.9	-3.5	-3.1	-2.4	-0.9	-0.1	1.8	2.7	2.6	2.1	2	3.9	3.5	2.3	1.1	0.5	-7.3	3.9	-1.8	
Jan 20	0.3	-0.3	-0.7	-0.6	-0.8	-0.5	-0.3	-0.2	-0.2	-0.1	0.1	0.4	0.7	-2	-3	-3.6	-4	-4.6	-5.3	-6.1	-7	-8.5	-9.6	-9.6	-9.6	0.7	-2.7	
Jan 21	-9.6	-9.5	-9.4	-9.4	-9.5	-9.5	-10.1	-10.5	-10.4	-9.9	-8.4	-7.4	-6.3	-5.4	-5.5	-6.1	-6.5	-6.5	-6.4	-6.5	-6.9	-7.1	-7.3	-7.5	-10.5	-5.4	-8.0	
Jan 22	-7.4	-7.5	-7.7	-8.4	-8.9	-9.6	-10.1	-10.4	-10.2	-9.3	-8.4	-7.6	-6.8	-6.2	-6.6	-6.4	-6.7	-6.9	-7.2	-7.9	-10.8	-13.1	-16.1	-18.4	-18.4	-6.2	-9.1	
Jan 23	-19.5	-20.8	-21.9	-22.5	-23.3	-24.2	-25	-26	-26.5	-26.3	-25.5	-24.9	-24.1	-23.2	-22.5	-22.6	-24.3	-25.6	-26.2	-27.1	-26.8	-26.8	-27.4	-28	-28.0	-19.5	-24.6	
Jan 24	-28.3	-28.3	-28.1	-28.2	-29.4	-31.2	-31.1	-31.8	-30.4	-29.4	-28.2	-26.8	-25.4	-24.3	-24.8	-25	-24.8	-24.7	-24.7	-24.6	-24.6	-24.6	-24.8	-25.1	-31.8	-24.3	-27.0	
Jan 25	-25.1	-25.1	-24.9	-25.1	-25	-24.8	-24.8	-24.9	-25.1	-24.7	-24.2	-23.7	-22.9	-22.3	-22.2	-21.8	-21.9	-22.1	-22.2	-22.1	-22.2	-22.1	-22	-21.9	-21.8	-25.1	-21.8	-23.4
Jan 26	-21.5	-21.6	-21.9	-22.1	-22.4	-22.6	-22.5	-22.6	-22.4	-21.7	-21.3	-20.8	-20.2	-19.7	-19.6	-19.3	-19.2	-19.2	-19.2	-19.3	-19.5	-19.6	-19.5	-19.5	-22.6	-19.2	-20.7	
Jan 27	-19.5	-19.5	-19.4	-19.4	-19.4	-19.4	-19.6	-19.7	-19.6	-19.4	-19.1	-18.8	-18.3	-17.9	-17.8	-17.8	-18	-17.9	-17.8	-18.2	-18.4	-18.4	-18.4	-18.3	-19.7	-17.8	-18.8	
Jan 28	-18.5	-18.6	-18.5	-18.7	-18.8	-18.6	-18.5	-18.4	-18.1	-17.7	-17.2	-16.2	-15.6	-15.6	-15.9	-16.4	-16.9	-17.8	-18	-18.5	-18.6	-18.6	-18.6	-18	-18.8	-15.6	-17.8	
Jan 29	-17.6	-17.3	-17.4	-17.4	-17.8	-17.7	-17.8	-17.4	-17	-16.6	-16.1	-15.4	-14.6	-14.7	-14.4	-14.2	-14.7	-16.4	-17.4	-17.9	-18.2	-18.3	-18	-18.8	-18.8	-14.2	-16.8	
Jan 30	-19.2	-18.9	-18.9	-18.7	-18.8	-19	-19.2	-19.9	-19.1	-18.9	-17.8	-15.8	-14.2	-13.6	-13	-12.9	-14.5	-15.2	-15.6	-16.3	-16.4	-16.4	-16.8	-17.3	-19.9	-12.9	-16.9	
Jan 31	-17.5	-17	-17.9	-18.6	-18.8	-19	-19.4	-19.7	-19.8	-18.7	-16.9	-15.9	-14.5	-14.7	-14.6	-14.6	-15.4	-15.8	-15.6	-16	-16.1	-16.1	-16	-16.4	-19.8	-14.5	-16.9	
Diurnal Maximum	0.3	0.0	0.4	0.8	0.1	-0.5	-0.3	-0.2	-0.2	-0.1	0.6	2.0	2.9	3.4	2.0	2.7	2.6	2.1	2.0	3.9	3.5	2.3	1.3	0.8				
Diurnal Average	-9.5	-9.7	-9.9	-10.1	-10.3	-10.6	-10.6	-10.7	-10.6	-10.2	-9.5	-8.7	-7.7	-7.1	-7.0	-7.1	-7.7	-8.1	-8.4	-8.6	-8.6	-8.9	-9.3	-9.6				

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 AT - St. Lina Site





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - January 2021
Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

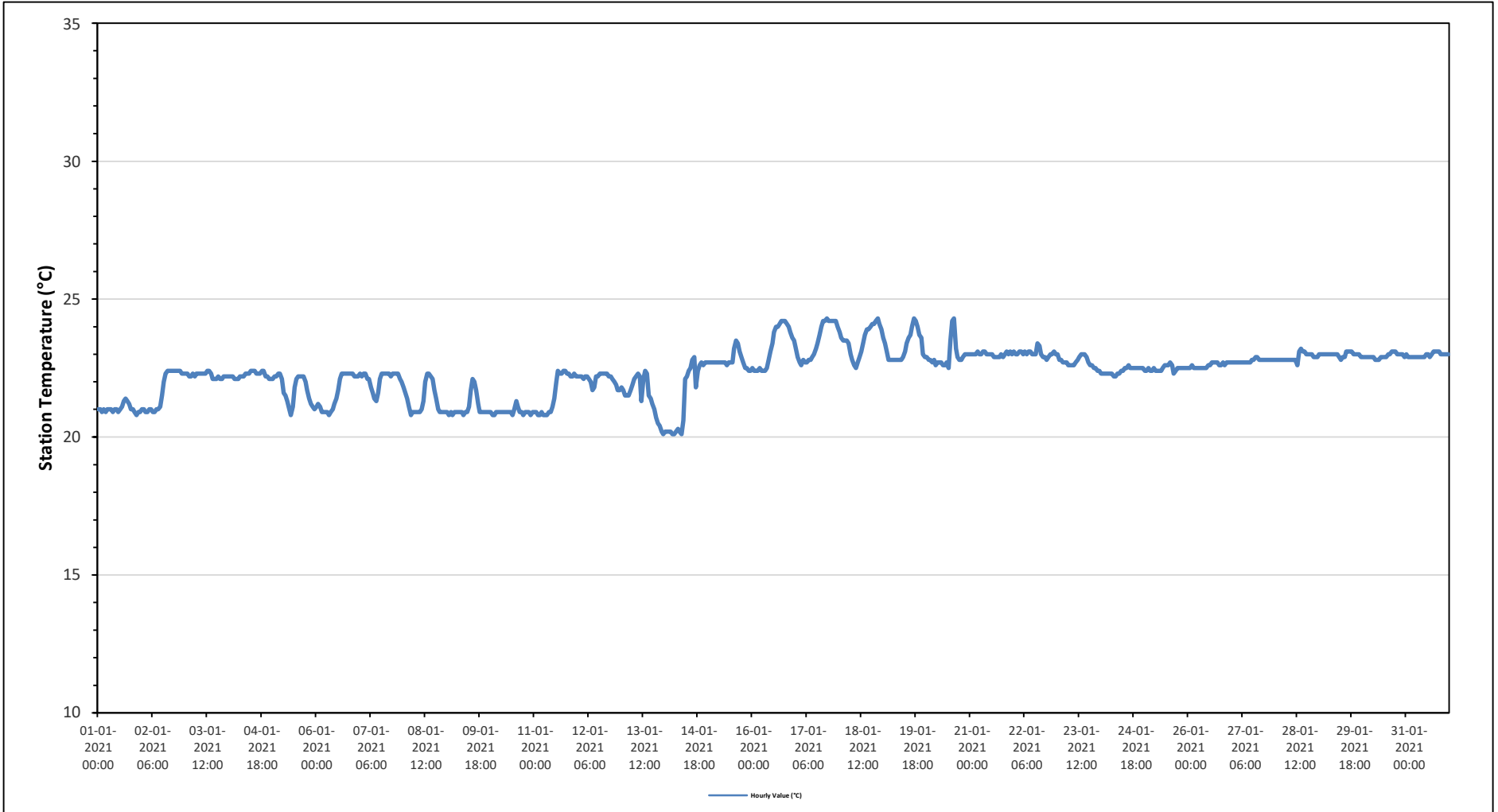
Maximum Hourly Value:	24.3 °C	on January 17 at hour 17	Hours in Service:	744
Maximum Daily Value:	23.5 °C	on January 18	Hours of Data:	744
Minimum Hourly Value:	20.1 °C	on January 13 at hour 23	Hours of Missing Data:	0
Minimum Daily Value:	20.9 °C	on January 10	Hours of Calibration:	0
Monthly Average:	22.3 °C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Jan 1	21.0	21.0	20.9	21.0	20.9	21.0	21.0	21.0	20.9	21.0	21.0	20.9	21.0	21.1	21.3	21.4	21.3	21.2	21.0	21.0	20.9	20.8	20.9	20.9	20.8	21.4	21.0
Jan 2	21.0	21.0	20.9	20.9	21.0	21.0	20.9	20.9	21.0	21.0	21.1	21.5	22.0	22.3	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.3	22.3	22.1	22.4	21.7
Jan 3	22.3	22.3	22.2	22.2	22.3	22.2	22.3	22.3	22.3	22.3	22.3	22.3	22.4	22.4	22.3	22.1	22.1	22.1	22.2	22.1	22.2	22.2	22.2	22.2	22.1	22.4	21.7
Jan 4	22.2	22.2	22.2	22.1	22.1	22.1	22.2	22.2	22.2	22.3	22.3	22.3	22.4	22.4	22.4	22.3	22.3	22.3	22.4	22.4	22.2	22.2	22.1	22.1	22.1	22.4	21.7
Jan 5	22.1	22.2	22.2	22.3	22.3	22.1	21.6	21.5	21.3	21.0	20.8	21.1	21.8	22.1	22.2	22.2	22.2	22.2	22.0	21.7	21.4	21.2	21.1	21.0	20.8	22.3	21.7
Jan 6	21.1	21.2	21.1	20.9	20.9	20.9	20.9	20.8	20.9	21.0	21.2	21.4	21.7	22.1	22.3	22.3	22.3	22.3	22.3	22.3	22.2	22.2	22.2	22.2	20.8	22.3	21.6
Jan 7	22.3	22.2	22.3	22.3	22.1	22.1	21.8	21.6	21.4	21.3	21.6	22.1	22.3	22.3	22.3	22.3	22.3	22.2	22.3	22.3	22.3	22.3	22.1	22.0	21.3	22.3	22.1
Jan 8	21.8	21.6	21.4	21.1	20.8	20.9	20.9	20.9	20.9	20.9	21.0	21.3	22.0	22.3	22.3	22.2	22.1	21.7	21.4	21.0	20.9	20.9	20.9	20.9	20.8	22.3	21.3
Jan 9	20.9	20.8	20.9	20.8	20.9	20.9	20.9	20.9	20.9	20.8	20.9	20.9	21.1	21.7	22.1	22.0	21.7	21.2	20.9	20.9	20.9	20.9	20.9	20.9	20.8	22.1	21.1
Jan 10	20.9	20.8	20.8	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.8	21.0	21.3	21.1	20.9	20.9	20.8	20.9	20.9	20.9	20.8	20.9	20.8	21.3	20.9
Jan 11	20.9	20.9	20.8	20.8	20.9	20.8	20.8	20.8	20.9	20.9	21.1	21.4	22.0	22.4	22.3	22.3	22.4	22.4	22.3	22.3	22.2	22.2	22.3	22.2	20.8	22.4	21.6
Jan 12	22.2	22.2	22.2	22.1	22.2	22.2	22.1	22.0	21.7	21.8	22.2	22.2	22.3	22.3	22.3	22.3	22.3	22.2	22.2	22.1	22.0	21.9	21.7	21.7	21.7	22.3	22.1
Jan 13	21.8	21.7	21.5	21.5	21.5	21.7	21.9	22.1	22.2	22.3	22.2	21.3	22.1	22.4	22.3	21.5	21.4	21.2	21.0	20.7	20.5	20.4	20.2	20.1	20.1	22.4	21.5
Jan 14	20.2	20.2	20.2	20.2	20.1	20.1	20.2	20.3	20.2	20.1	20.6	22.1	22.2	22.4	22.5	22.8	22.9	21.8	22.4	22.6	22.7	22.6	22.7	22.7	20.1	22.9	21.5
Jan 15	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.6	22.7	22.7	22.7	23.2	23.5	23.4	23.1	22.9	22.7	22.5	22.5	22.4	22.4	23.5	22.8
Jan 16	22.5	22.4	22.4	22.4	22.5	22.4	22.4	22.4	22.5	22.8	23.1	23.4	23.8	24.0	24.0	24.1	24.2	24.2	24.2	24.1	24.0	23.8	23.6	23.5	22.4	24.2	23.3
Jan 17	23.2	22.9	22.7	22.6	22.8	22.7	22.7	22.8	22.8	22.9	23.0	23.2	23.4	23.7	24.0	24.2	24.2	24.3	24.2	24.2	24.2	24.2	24.2	24.0	22.6	24.3	23.5
Jan 18	23.8	23.6	23.5	23.5	23.5	23.4	23.0	22.8	22.6	22.5	22.7	22.9	23.1	23.4	23.7	23.9	23.9	24.0	24.1	24.1	24.2	24.3	24.1	23.9	22.5	24.3	23.5
Jan 19	23.6	23.4	23.1	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.9	23.1	23.4	23.6	23.7	24.0	24.3	24.2	24.0	23.7	23.6	23.0	22.9	22.8	24.3	23.3
Jan 20	22.9	22.8	22.8	22.7	22.8	22.6	22.7	22.7	22.7	22.6	22.6	22.7	22.5	23.5	24.2	24.3	23.2	22.9	22.8	22.8	22.9	23.0	23.0	23.0	22.5	24.3	22.9
Jan 21	23.0	23.0	23.0	23.0	23.1	23.0	23.0	23.1	23.1	23.0	23.0	23.0	23.0	22.9	22.9	22.9	22.9	23.0	22.9	23.0	23.1	23.0	23.1	23.0	22.9	23.1	23.0
Jan 22	23.1	23.0	23.0	23.1	23.1	23.0	23.1	23.0	23.1	23.1	23.0	23.0	23.0	23.4	23.3	23.0	22.9	22.9	22.8	22.9	23.0	23.0	23.1	23.0	22.8	23.4	23.0
Jan 23	23.0	22.8	22.8	22.7	22.7	22.6	22.6	22.6	22.6	22.7	22.8	22.9	23.0	23.0	23.0	23.0	22.9	22.7	22.6	22.6	22.5	22.5	22.4	22.4	22.4	23.0	22.7
Jan 24	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.2	22.2	22.3	22.3	22.4	22.4	22.5	22.5	22.6	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.2	22.6	22.4
Jan 25	22.4	22.4	22.5	22.4	22.4	22.5	22.4	22.4	22.4	22.4	22.5	22.6	22.6	22.6	22.7	22.6	22.3	22.4	22.5	22.5	22.5	22.5	22.5	22.5	22.3	22.7	22.5
Jan 26	22.5	22.5	22.6	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.6	22.6	22.7	22.7	22.7	22.7	22.6	22.6	22.7	22.6	22.7	22.7	22.7	22.5	22.7	22.6
Jan 27	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.8	22.8	22.9	22.9	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.7	22.9	22.8
Jan 28	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.6	23.1	23.2	23.1	23.1	23.0	23.0	23.0	22.9	22.9	22.9	22.6	23.2	22.9
Jan 29	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	22.9	22.8	22.9	22.9	23.1	23.1	23.1	23.1	23.0	23.0	23.0	23.0	22.9	22.8	23.1	23.0
Jan 30	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.8	22.8	22.8	22.9	22.9	22.9	22.9	23.0	23.0	23.1	23.1	23.1	23.0	23.0	23.0	23.0	22.9	22.8	23.1	22.9
Jan 31	23.0	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	23.0	23.0	22.9	23.0	23.0	23.1	23.1	23.1	23.1	23.0	23.0	23.0	23.0	22.9	22.9	23.1	23.0
Diurnal Maximum	23.8	23.6	23.5	23.5	23.5	23.4	23.1	23.1	23.1	23.1	23.1	23.4	23.8	24.0	24.2	24.3	24.2	24.3	24.2	24.2	24.2	24.3	24.2	24.0	22.9	24.3	24.0
Diurnal Average	22.3	22.2	22.2	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.3	22.4	22.6	22.7	22.7	22.7	22.6	22.5	22.5	22.5	22.4	22.4	22.3	22.3	22.7	22.5

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 ST - St. Lina Site





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - January 2021
Summary of Hourly Averages

PRECIPITATION in mm

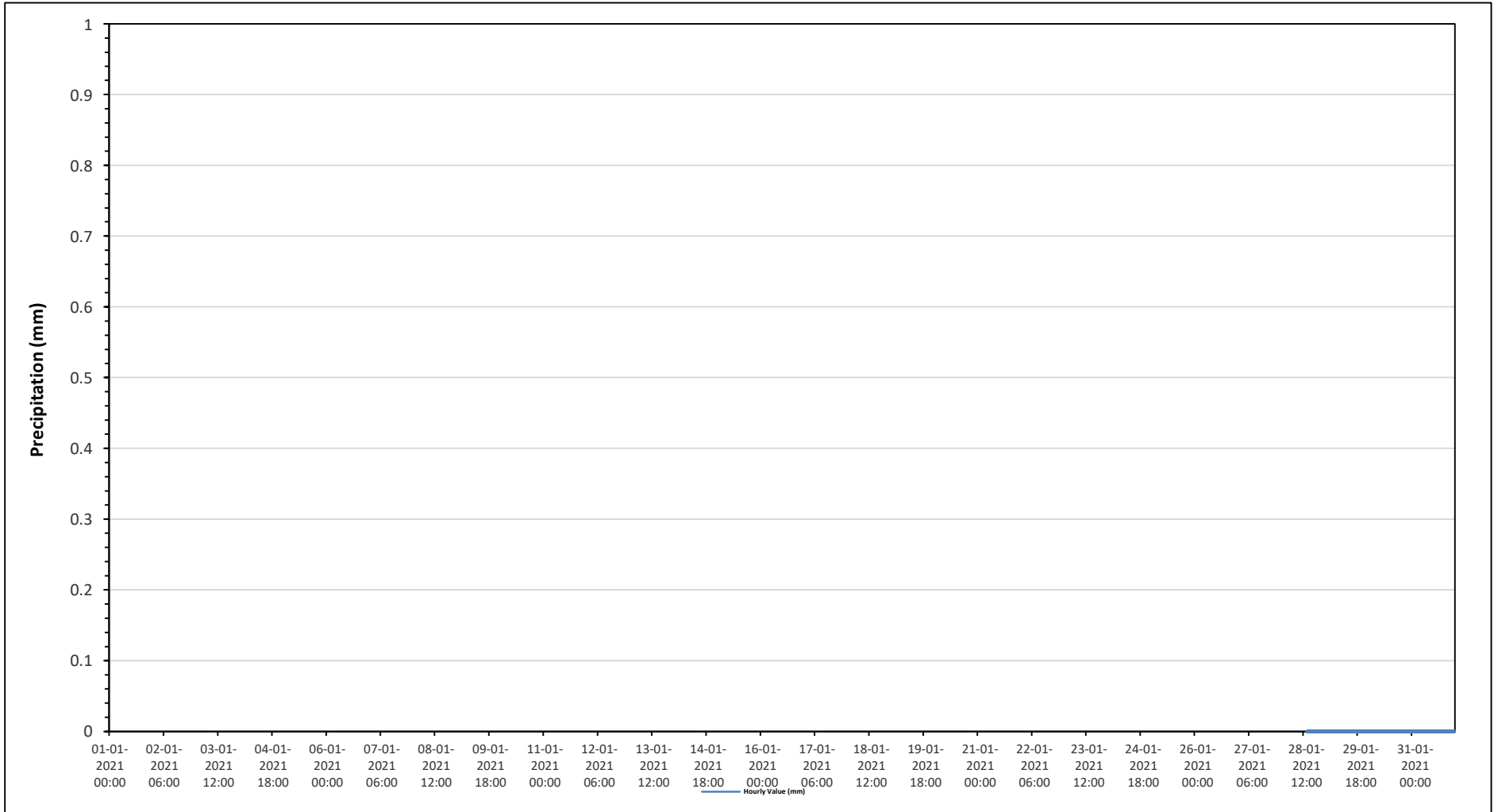
Maximum Hourly Value:	0.0 mm on January 28 at hour 14	Hours in Service:	744
Maximum Daily Value:	0.0 mm on January 28	Hours of Data:	82
Minimum Hourly Value:	0.0 mm on January 28 at hour 14	Hours of Missing Data:	662
Minimum Daily Value:	0.0 mm on January 28	Hours of Calibration:	0
Monthly Total:	0.0 mm	Operational Uptime:	11.0

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
Jan 1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
Jan 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Jan 3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Jan 4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Jan 5	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Jan 6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Jan 7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Jan 8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Jan 9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Jan 10	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Jan 11	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Jan 12	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Jan 13	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Jan 14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Jan 15	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Jan 16	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Jan 17	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Jan 18	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Jan 19	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Jan 20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Jan 21	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Jan 22	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Jan 23	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Jan 24	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Jan 25	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Jan 26	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Jan 27	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Jan 28	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Jan 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
Jan 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
Jan 31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Diurnal Maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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 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	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)	NRIM 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 - January 2021 Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

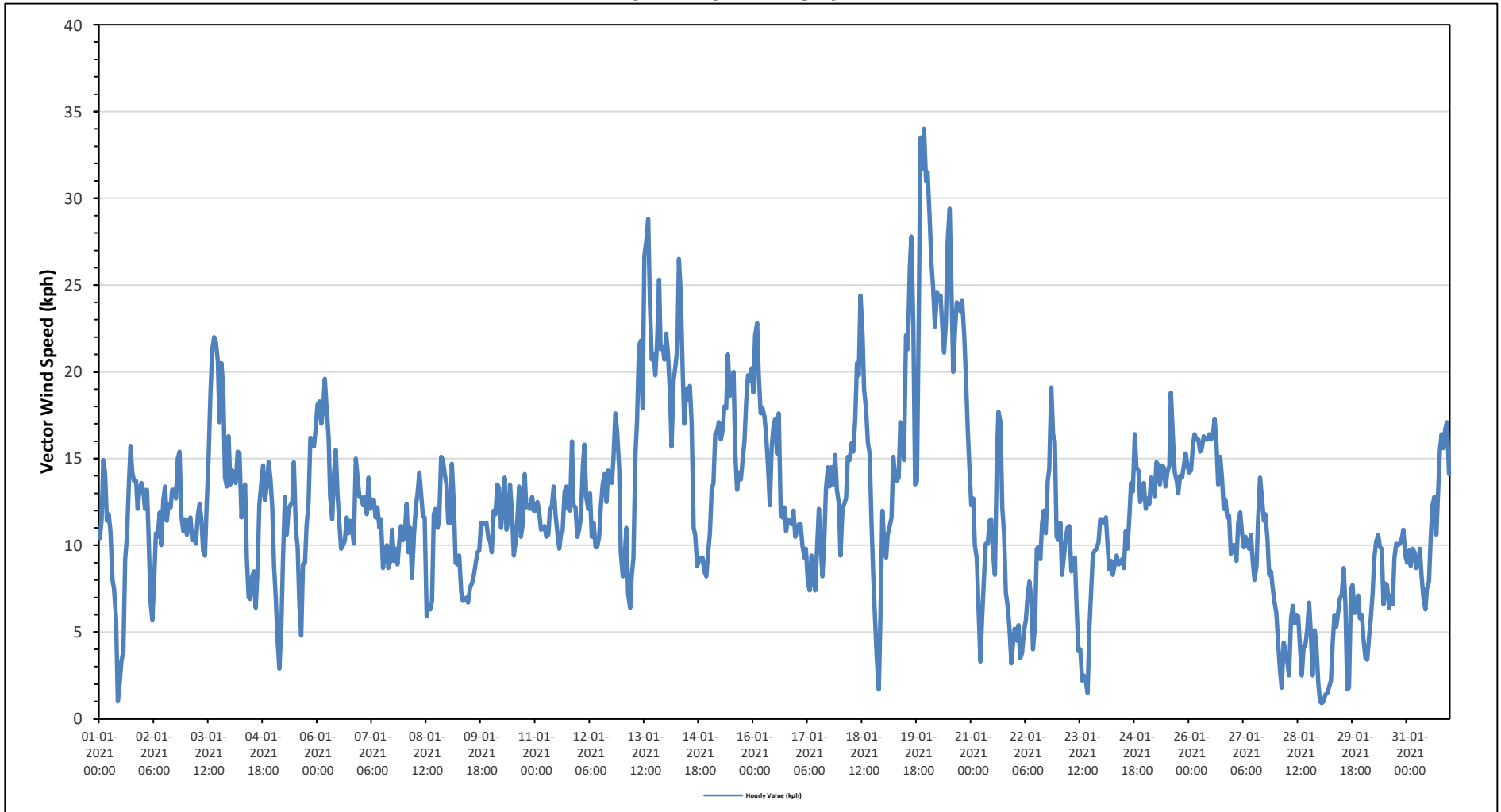
Maximum Hourly Value:	34.0 kph	on January 19 at hour 22	Hours in Service:	744
Maximum Daily Value:	21.9 kph	on January 20	Hours of Data:	744
Minimum Hourly Value:	0.9 kph	on January 29 at hour 1	Hours of Missing Data:	0
Minimum Daily Value:	2.7 kph	on January 28	Hours of Calibration:	0
Monthly Average:	4.4 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
Jan 1	10.4	11.4	14.9	14.1	11.4	11.8	10.8	8.0	7.5	5.8	1.0	2.0	3.3	3.9	9.2	10.5	13.3	15.7	14.2	13.7	13.7	12.1	13.3	13.6	1.0	15.7	3.8
Jan 2	13.2	12.1	13.2	10.6	6.7	5.7	8.0	10.7	10.5	11.9	10.0	12.6	13.4	11.4	12.4	12.2	13.2	12.7	12.7	15.0	15.4	11.7	10.8	11.5	5.7	15.4	9.0
Jan 3	10.6	11.4	11.6	10.3	10.4	10.1	11.7	12.4	11.5	9.7	9.4	12.4	14.9	18.9	21.3	22.0	21.7	20.6	17.1	20.5	19.0	13.9	13.4	16.3	9.4	22.0	14.0
Jan 4	13.5	14.3	13.8	13.6	15.4	15.3	11.6	13.0	13.5	9.2	7.0	6.9	8.2	8.5	6.4	8.9	12.3	13.6	14.6	12.6	13.4	14.8	13.8	12.2	6.4	15.4	5.1
Jan 5	8.8	6.9	4.5	2.9	5.4	9.1	12.8	10.6	12.0	12.3	12.5	14.8	10.9	9.9	6.5	4.8	8.9	9.0	11.1	12.5	16.2	16.1	15.7	16.9	2.9	16.9	3.7
Jan 6	18.1	18.3	17.0	17.8	19.6	17.9	16.2	12.8	11.5	14.1	15.5	12.9	11.1	9.8	10.0	10.3	11.6	10.7	11.4	11.0	10.1	15.0	13.9	12.8	9.8	19.6	11.7
Jan 7	12.8	12.3	12.8	11.8	13.9	12.1	12.6	12.6	11.6	12.2	11.0	11.5	8.7	9.5	10.0	8.7	9.1	10.9	9.1	9.8	8.9	10.2	11.1	10.3	8.7	13.9	10.3
Jan 8	10.5	12.4	9.6	11.0	8.1	10.6	12.2	13.0	14.2	13.0	11.7	11.6	5.9	6.5	6.3	6.8	11.8	12.1	11.0	11.4	15.1	14.9	14.1	13.5	5.9	15.1	8.9
Jan 9	11.3	11.3	14.7	12.3	9.0	8.9	9.4	7.3	6.8	6.9	7.0	6.7	7.6	7.8	8.3	8.9	9.6	9.7	11.3	11.3	11.2	11.3	10.4	10.2	6.7	14.7	9.3
Jan 10	9.6	12.0	11.8	13.5	13.3	11.0	12.3	13.9	10.9	11.5	13.5	11.8	9.4	10.1	11.5	13.4	10.5	11.2	14.1	12.2	12.3	12.1	12.8	12.0	9.4	14.1	11.3
Jan 11	12.0	12.5	12.0	10.9	11.0	11.1	10.5	10.6	12.0	12.3	13.4	11.8	10.8	9.8	10.7	10.8	13.1	13.4	12.1	12.0	16.0	12.3	12.2	10.5	9.8	16.0	11.1
Jan 12	10.9	11.6	14.6	15.8	12.8	12.1	13.0	10.5	11.3	9.9	9.9	10.5	12.3	13.5	14.1	12.5	14.3	14.2	13.6	14.9	17.6	16.5	14.4	9.6	9.6	17.6	9.7
Jan 13	8.2	9.2	11.0	7.2	6.4	8.2	9.3	15.3	17.1	21.5	21.8	17.9	26.7	27.6	28.8	23.9	20.7	21.0	19.8	21.7	25.3	21.3	21.4	20.7	6.4	28.8	11.8
Jan 14	22.2	21.0	18.7	15.7	19.5	20.3	21.4	26.5	24.6	20.0	17.0	19.0	18.4	19.2	17.1	11.0	10.6	8.8	9.1	9.3	9.3	8.5	8.2	9.4	8.2	26.5	14.4
Jan 15	10.7	13.2	13.6	16.4	16.6	17.1	16.1	16.6	18.0	17.9	21.0	18.6	19.4	20.0	15.3	13.2	14.2	13.8	14.8	16.0	18.3	19.8	19.5	20.2	10.7	21.0	13.8
Jan 16	18.8	22.1	22.8	19.9	17.6	17.9	17.4	16.4	14.5	12.3	15.6	16.8	17.3	15.3	17.6	11.8	11.6	12.2	10.8	11.5	11.3	11.2	12.0	10.5	10.5	22.8	14.9
Jan 17	10.8	11.2	11.2	10.0	9.3	9.8	7.8	7.4	9.4	7.9	7.4	9.6	12.1	10.0	8.2	10.2	13.3	14.5	13.4	14.5	13.5	15.2	13.2	12.4	7.4	15.2	7.3
Jan 18	9.4	12.1	12.4	12.7	15.1	14.9	15.9	15.4	17.2	20.5	19.8	24.4	22.1	19.0	17.8	15.9	15.3	11.4	8.3	5.8	3.5	1.7	6.3	12.0	1.7	24.4	11.6
Jan 19	10.2	9.3	10.6	11.1	11.6	15.1	14.0	13.7	13.9	17.1	16.1	14.9	22.1	21.3	26.0	27.8	22.6	13.5	13.7	22.8	33.5	31.7	34.0	31.0	9.3	34.0	17.1
Jan 20	31.5	28.9	26.3	24.8	22.6	24.6	24.1	24.4	22.6	21.1	22.8	27.5	29.4	25.4	20.0	22.4	24.0	23.9	23.5	24.1	22.2	19.7	16.7	14.4	14.4	31.5	21.9
Jan 21	12.3	12.7	10.0	9.2	6.2	3.3	5.9	8.4	10.1	10.1	11.4	11.5	9.5	8.3	15.2	17.7	17.1	12.2	10.7	7.3	6.4	5.3	3.2	4.5	3.2	17.7	7.2
Jan 22	5.2	4.5	5.4	3.5	3.8	5.1	5.7	7.1	7.9	6.8	4.0	5.4	9.8	9.9	9.2	11.3	12.0	10.7	13.7	14.4	19.1	16.4	16.0	10.5	3.5	19.1	6.4
Jan 23	10.3	11.3	8.3	9.4	10.4	11.0	11.1	8.5	8.8	9.3	6.3	3.9	4.0	2.2	2.5	2.3	1.5	5.2	7.4	9.5	9.7	9.8	10.2	11.5	1.5	11.5	3.9
Jan 24	11.5	11.3	11.6	10.2	8.6	9.1	8.3	8.9	9.4	8.9	9.0	9.2	8.7	10.8	9.8	11.8	13.6	13.1	16.4	14.5	14.3	12.5	12.9	13.6	8.3	16.4	10.8
Jan 25	12.1	12.7	12.4	13.9	13.4	12.8	14.8	14.6	13.5	14.6	14.5	13.4	14.2	14.6	18.8	16.2	14.2	13.7	13.0	14.0	13.9	14.5	15.3	14.6	12.1	18.8	14.1
Jan 26	14.2	14.3	15.8	16.4	16.1	16.1	15.4	15.6	16.3	16.1	16.1	16.4	16.1	16.3	17.3	15.7	13.5	15.1	13.9	12.1	12.6	11.6	11.7	9.5	9.5	17.3	14.7
Jan 27	10.0	10.0	9.1	11.3	11.9	10.8	9.9	10.5	10.0	9.8	10.6	9.1	8.0	8.8	11.4	13.9	12.8	11.4	11.8	10.4	8.3	8.5	7.5	6.7	6.7	13.9	9.8
Jan 28	6.1	4.4	2.7	1.8	4.4	3.9	3.3	2.5	5.8	6.5	5.5	6.0	5.9	4.2	2.5	4.2	4.2	5.2	6.7	4.9	2.5	5.1	4.4	2.1	1.8	6.7	2.7
Jan 29	1.0	0.9	1.0	1.4	1.5	1.8	2.2	4.4	6.0	5.3	6.2	6.9	7.2	8.7	6.6	1.7	1.8	7.5	7.7	6.1	6.5	7.1	5.8	6.0	0.9	8.7	4.0
Jan 30	4.6	3.5	3.4	4.7	5.8	7.2	9.3	10.2	10.6	9.9	9.8	6.6	7.8	7.7	6.4	7.1	6.6	9.3	10.1	10.0	10.1	10.4	10.9	9.4	3.4	10.9	7.5
Jan 31	9.0	9.7	8.8	9.8	9.6	8.7	8.8	9.8	8.2	7.0	6.3	7.5	7.9	10.5	12.3	12.8	10.6	13.1	15.5	16.4	15.6	16.7	17.1	14.1	6.3	17.1	10.8
Diurnal Maximum	32	29	26	25	23	25	24	27	25	22	23	28	29	28	29	28	24	24	24	24	34	32	34	31			
Diurnal Average	11.6	11.9	11.8	11.4	11.2	11.4	11.7	12.0	12.2	12.0	11.7	11.9	12.4	12.2	12.6	12.3	12.6	12.6	12.7	13.0	13.7	13.2	13.0	12.3			

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: 01-2021 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 1.21% 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	0.54	1.08	0.67	0	0	2.29
NNE	0	0.81	0.13	0	0	0.94
NE	0.13	0.67	0.13	0	0	0.93
ENE	0.13	0.13	0.4	0	0	0.66
E	0.13	2.28	0.13	0	0	2.54
ESE	0.4	6.45	0.54	0	0	7.39
SE	0.27	7.66	2.69	0	0	10.62
SSE	0.67	2.55	0.13	0	0	3.35
S	0.54	5.51	2.15	0	0	8.2
SSW	0.67	5.11	0.54	0	0	6.32
SW	1.48	13.84	1.34	0	0	16.66
WSW	1.08	9.01	0.94	0	0	11.03
W	0.81	6.05	3.36	0.27	0	10.49
WNW	0.67	1.34	3.49	0.27	0	5.77
NW	0.54	2.28	2.82	0.27	0	5.91
NNW	0.54	2.15	2.96	0	0	5.65
Summary	8.6	66.92	22.42	0.81	0	98.75



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

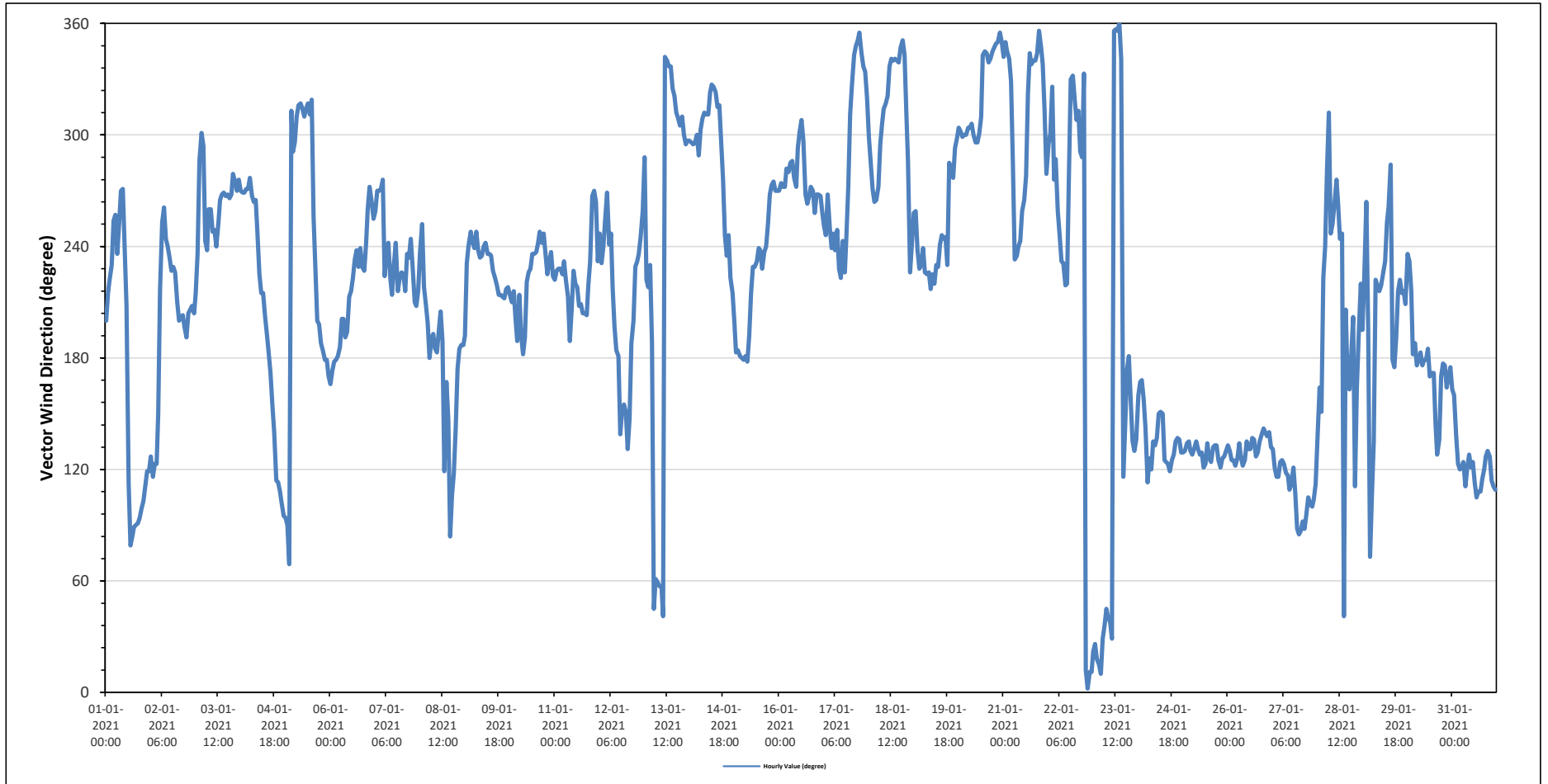
St. Lina Site - January 2021

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

Monthly Average:		235 (SW) degree														Hours in Service:		744									
																Hours of Data:		744									
																Hours of Missing Data:		0									
																Hours of Calibration:		0									
																Operational Uptime:		100.0									
Day	Hourly Period Starting at (MST)																							Daily Average			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Degree	Quadrant	
Jan 1	SSW	SSW	SW	SW	WSW	WSW	SW	WSW	W	W	WSW	SSW	ESE	ENE	E	E	E	E	E	E	ESE	ESE	ESE	ESE	150	SSE	
Jan 2	SE	ESE	ESE	ESE	SSE	SW	WSW	W	WSW	WSW	SW	SW	SW	SSW	SSW	SSW	SSW	SSW	S	SSW	SSW	SSW	SSW	202	SSW		
Jan 3	SSW	SW	WNW	WNW	WNW	WSW	SW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	W	W	W	W	W	W	W	W	264	W		
Jan 4	W	W	W	W	W	W	W	W	W	WSW	SW	SSW	SSW	SSW	S	S	S	SSE	SE	ESE	ESE	ESE	E	E	215	SSW	
Jan 5	E	E	ENE	NW	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	WSW	SW	SSW	SSW	S	S	S	S	SSE	255	WSW		
Jan 6	SSE	S	S	S	S	S	SSW	SSW	S	SSW	SSW	SW	SW	SW	SW	WSW	SW	SW	WSW	WSW	W	W	WSW	211	SSW		
Jan 7	WSW	W	W	W	W	SW	SW	WSW	SW	SSW	SW	WSW	SW	SW	SW	SW	SW	SW	SW	WSW	SW	SSW	SSW	236	SW		
Jan 8	SW	WSW	SW	SSW	SSW	S	S	S	S	S	SSW	SSW	S	ESE	SSE	SE	E	ESE	ESE	SE	S	S	S	181	S		
Jan 9	S	SW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	WSW	WSW	SW	SW	SW	SW	SW	SSW	SSW	SSW	SSW	SW	SW	228	SW		
Jan 10	SSW	SSW	SW	SSW	S	SSW	S	S	S	SW	SW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	SW	SW	SW	SW	222	SW		
Jan 11	SW	SW	SW	SW	SW	SW	SSW	S	SSW	SW	SW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	W	W	W	224	SW		
Jan 12	WSW	SW	WSW	WSW	W	WSW	WSW	SW	SSW	S	SE	SSE	SSE	SSE	SE	SE	S	SSW	SW	SW	SW	WSW	WSW	211	SSW		
Jan 13	WNW	SW	SW	SW	S	NE	ENE	ENE	ENE	ENE	NE	NNW	NNW	NNW	NNW	NW	NW	NW	NW	WNW	NW	WNW	WNW	330	NNW		
Jan 14	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	WNW	W	WSW	SW	WSW	SW	SSW	300	WNW		
Jan 15	SSW	S	S	S	S	S	S	S	S	SSW	SW	SW	WSW	SW	SW	WSW	WSW	W	W	W	W	W	W	225	SW		
Jan 16	W	W	W	W	W	W	WNW	WNW	W	W	WNW	WNW	NW	WNW	W	W	W	W	W	WSW	W	W	W	277	W		
Jan 17	WSW	WSW	W	WSW	WSW	WSW	SW	WSW	SW	WSW	SW	WSW	W	NW	NW	NNW	NNW	N	N	NNW	NNW	NNW	NW	291	WNW		
Jan 18	WNW	WNW	W	W	W	W	WNW	NW	NW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNW	N	NNW	NW	WNW	SW	WSW	313	NW		
Jan 19	WSW	WSW	SW	SW	SW	WSW	SW	SW	SW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	SW	WNW	W	W	WNW	WNW	251	WSW		
Jan 20	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	WNW	WNW	WNW	WNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	N	320	NW		
Jan 21	NNW	N	NNW	NNW	NNW	WNW	SW	WSW	WSW	WSW	W	W	NW	NNW	NNW	NNW	NNW	NNW	N	NNW	NNW	NW	W	316	NW		
Jan 22	WNW	WNW	NW	W	WNW	WSW	WSW	SW	SW	SW	SW	W	NNW	NNW	NW	NW	NW	WNW	WNW	NNW	NNE	N	NNE	316	NW		
Jan 23	NNE	NNE	NNE	NNE	N	NNE	NE	NE	NE	NE	NNE	N	N	N	NNW	ESE	SE	S	S	SSE	SE	SE	SE	56	NE		
Jan 24	SSE	SSE	SSE	SSE	SE	ESE	SE	ESE	SE	SE	SE	SSE	SSE	SSE	SE	ESE	ESE	SE	SE	SE	SE	SE	SE	137	SE		
Jan 25	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	ESE	SE	SE	ESE	SE	SE	SE	SE	SE	SE	129	SE		
Jan 26	SE	SE	SE	SE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	131	SE		
Jan 27	SE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	E	E	E	E	E	E	E	E	ESE	E	E	ESE	108	ESE		
Jan 28	SE	SSE	SSE	SW	WSW	W	NW	WSW	WSW	W	W	WSW	WSW	NE	SSW	SSE	SSE	S	SSW	ESE	SSE	SSW	SW	216	SW		
Jan 29	SSW	SW	W	SSW	ENE	ESE	SE	SW	SW	SW	SW	SW	SW	W	WNW	S	S	S	SW	SW	SSW	SW	SSW	217	SW		
Jan 30	SW	SW	SW	S	S	S	S	S	S	S	S	S	SSE	S	S	SE	SE	SSE	S	S	SSE	SSE	S	174	S		
Jan 31	SSE	SSE	SE	ESE	ESE	ESE	ESE	ESE	ESE	SE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	SE	SE	SE	SE	ESE	ESE	122	ESE		
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 (Machine Malfunction /Recovery)						NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)																			
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.																											
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.																											

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





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - January 2021
Summary of Hourly Averages

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

WIND SPEED																												
Maximum Hourly Value:										34.0 kph on January 19 at hour 22										Hours in Service:							744	
Maximum Daily Value:										21.9 kph on January 20										Hours of Data:							744	
Minimum Hourly Value:										0.9 kph on January 29 at hour 1										Hours of Missing Data:							0	
Minimum Daily Value:										2.7 kph on January 28										Hours of Calibration:							0	
Monthly Average:										4.4 kph										Operational Uptime:							100	
WIND DIRECTION																												
Monthly Average:										235 (SW) 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				
Jan 1	10.4	11.4	14.9	14.1	11.4	11.8	10.8	8.0	7.5	5.8	1.0	2.0	3.3	3.9	9.2	10.5	13.3	15.7	14.2	13.7	13.7	12.1	13.3	13.6	1.0	15.7	3.8	
	SSW	SSW	SW	SW	WSW	WSW	SW	WSW	W	W	WSW	SSW	ESE	ENE	E	E	E	E	E	ESE	ESE	ESE	ESE	ESE				
Jan 2	13.2	12.1	13.2	10.6	6.7	5.7	8.0	10.7	10.5	11.9	10.0	12.6	13.4	11.4	12.4	12.2	13.2	13.2	12.7	15.0	15.4	11.7	10.8	11.5	5.7	15.4	9.0	
	SE	ESE	ESE	ESE	SSE	SW	WSW	W	WSW	WSW	SW	SW	SW	SSW	SSW	SSW	SSW	SSW	S	SSW	SSW	SSW	SSW	SSW				
Jan 3	10.6	11.4	11.6	10.3	10.4	10.1	11.7	12.4	11.5	9.7	9.4	12.4	14.9	18.9	21.3	22.0	21.7	20.6	17.1	20.5	19.0	13.9	13.4	16.3	9.4	22.0	14.0	
	SSW	SW	WNW	WNW	WNW	WSW	SW	WSW	WSW	WSW	WSW	WSW	W	W	W	W	W	W	W	W	W	W	W	W				
Jan 4	13.5	14.3	13.8	13.6	15.4	15.3	11.6	13.0	13.5	9.2	7.0	6.9	8.2	8.5	6.4	8.9	12.3	13.6	14.6	12.6	13.4	14.8	13.8	12.2	6.4	15.4	5.1	
	W	W	W	W	W	W	W	W	W	WSW	SW	SSW	SSW	SSW	S	S	S	SSE	SE	ESE	ESE	ESE	E	E				
Jan 5	8.8	6.9	4.5	2.9	5.4	9.1	12.8	10.6	12.0	12.3	12.5	14.8	10.9	9.9	6.5	4.8	8.9	9.0	11.1	12.5	16.2	16.1	15.7	16.9	2.9	16.9	3.7	
	E	E	ENE	NW	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	WSW	SW	SSW	S	S	S	S	S	S				
Jan 6	18.1	18.3	17.0	17.8	19.6	17.9	16.2	12.8	11.5	14.1	15.5	12.9	11.1	9.8	10.0	10.3	11.6	10.7	11.4	11.0	10.1	15.0	13.9	12.8	9.8	19.6	11.7	
	SSE	S	S	S	S	S	SSW	SSW	S	SSW	SSW	SW	SW	SW	SW	WSW	SW	WSW	SW	WSW	WSW	W	W	WSW				
Jan 7	12.8	12.3	12.8	11.8	13.9	12.1	12.6	12.6	11.6	12.2	11.0	11.5	8.7	9.5	10.0	8.7	9.1	10.9	9.1	9.8	8.9	10.2	11.1	10.3	8.7	13.9	10.3	
	WSW	W	W	W	W	SW	SW	WSW	SW	SSW	SW	WSW	SW	SW	SW	SW	SW	SW	SW	WSW	SW	SSW	SSW	SSW				
Jan 8	10.5	12.4	9.6	11.0	8.1	10.6	12.2	13.0	14.2	13.0	11.7	11.6	5.9	6.5	6.3	6.8	11.8	12.1	11.0	11.4	15.1	14.9	14.1	13.5	5.9	15.1	8.9	
	SW	WSW	SW	SSW	S	S	S	S	S	S	SSW	SSW	S	ESE	SSE	SE	E	ESE	ESE	SE	S	S	S	S				
Jan 9	11.3	11.3	14.7	12.3	9.0	8.9	9.4	7.3	6.8	6.9	7.0	6.7	7.6	7.8	8.3	8.9	9.6	9.7	11.3	11.2	11.3	10.4	10.2	6.7	14.7	9.3		
	S	SW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	WSW	WSW	SW	SW	SW	SW	SW	SW	SW	SSW	SSW	SSW	SSW	SW				
Jan 10	9.6	12.0	11.8	13.5	13.3	11.0	12.3	13.9	10.9	11.5	13.5	11.8	9.4	10.1	11.5	13.4	10.5	11.2	14.1	12.2	12.3	12.1	12.8	12.0	9.4	14.1	11.3	
	SSW	SSW	SW	SSW	S	SSW	S	S	SW	SW	SW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	SW	SW	SW	SW	SW				
Jan 11	12.0	12.5	12.0	10.9	11.0	11.1	10.5	10.6	12.0	12.3	13.4	11.8	10.8	9.8	10.7	10.8	13.1	13.4	12.1	12.0	16.0	12.3	12.2	10.5	9.8	16.0	11.1	
	SW	SW	SW	SW	SW	SW	SSW	S	SSW	SSW	SW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	W	W	W	SW				
Jan 12	10.9	11.6	14.6	15.8	12.8	12.1	13.0	10.5	11.3	9.9	9.9	10.5	12.3	13.5	14.1	12.5	14.3	14.2	13.6	14.9	17.6	16.5	14.4	9.6	9.6	17.6	9.7	
	WSW	SW	WSW	WSW	W	WSW	WSW	SW	SSW	S	S	SSE	SSE	SSE	SE	SE	S	SSW	SW	SW	SW	SW	WSW	WSW				
Jan 13	8.2	9.2	11.0	7.2	6.4	8.2	9.3	15.3	17.1	21.5	21.8	17.9	26.7	27.6	28.8	23.9	20.7	21.0	19.8	21.7	25.3	21.3	21.4	20.7	6.4	28.8	11.8	
	WNW	SW	SW	SW	S	NE	ENE	ENE	ENE	ENE	NE	NNW	NNW	NNW	NNW	NW	NW	NW	NW	WNW	NW	WNW	WNW	WNW				
Jan 14	22.2	21.0	18.7	15.7	19.5	20.3	21.4	26.5	24.6	20.0	17.0	19.0	18.4	19.2	17.1	11.0	10.6	8.8	9.1	9.3	9.3	8.5	8.2	9.4	8.2	26.5	14.4	
	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	WNW	W	WSW	SW	WSW	SW	SSW				
Jan 15	10.7	13.2	13.6	16.4	16.6	17.1	16.1	16.6	18.0	17.9	21.0	18.6	19.4	20.0	15.3	13.2	14.2	13.8	14.8	16.0	18.3	19.8	19.5	20.2	10.7	21.0	13.8	
	SSW	S	S	S	S	S	S	S	S	SSW	SW	SW	SW	WSW	SW	SW	SW	WSW	WSW	W	W	W	W	W				
Jan 16	18.8	22.1	22.8	19.9	17.6	17.9	17.4	16.4	14.5	12.3	15.6	16.8	17.3	15.3	17.6	11.8	11.6	12.2	10.8	11.5	11.3	11.2	12.0	10.5	10.5	22.8	14.9	
	W	W	W	W	W	W	WNW	WNW	W	WNW	WNW	WNW	WNW	W	W	W	W	W	W	WSW	W	W	W	WSW				
Jan 17	10.8	11.2	11.2	10.0	9.3	9.8	7.8	7.4	9.4	7.9	7.4	9.6	12.1	10.0	8.2	10.2	13.3	14.5	13.4	14.5	13.5	15.2	13.2	12.4	7.4	15.2	7.3	
	WSW	WSW	W	WSW	WSW	WSW	WSW	SW	WSW	SW	WSW	SW	WSW	W	NW	NNW	NNW	N	N	NNW	NNW	NNW	NNW	NNW				
Jan 18	9.4	12.1	12.4	12.7	15.1	14.9	15.9	15.4	17.2	20.5	19.8	24.4	22.1	19.0	17.8	15.9	15.3	11.4	8.3	5.8	3.5	1.7	6.3	12.0	1.7	24.4	11.6	
	WNW	WNW	W	W	W	WNW	NW	NW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	NNW	NW	WNW	SW	WSW				
Jan 19	10.2	9.3	10.6	11.1	11.6	15.1	14.0	13.7	13.9	17.1	16.1	14.9	22.1	21.3	26.0	27.8	22.6	13.5	13.7	22.8	33.5	31.7	34.0	31.0	9.3	34.0	17.1	
	WSW	WSW	SW	SW	SW	WSW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	SW	WNW	W	W	WNW	WNW			
Jan 20	31.5	28.9	26.3	24.8	22.6	24.6	24.1	24.4	22.6	21.1	22.8	27.5	29.4	25.4	20.0	22.4	24.0	23.9	23.5	24.1	22.2	19.7	16.7	14.4	14.4	31.5	21.9	
	WNW	WNW	WNW	WNW	WNW	WNW	NW	WNW	WNW	WNW	WNW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	N	N				



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - January 2021

Summary of Hourly Averages

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

WIND SPEED																																											
Maximum Hourly Value:		34.0 kph on January 19 at hour 22														Hours in Service:		744																									
Maximum Daily Value:		21.9 kph on January 20														Hours of Data:		744																									
Minimum Hourly Value:		0.9 kph on January 29 at hour 1														Hours of Missing Data:		0																									
Minimum Daily Value:		2.7 kph on January 28														Hours of Calibration:		0																									
Monthly Average:		4.4 kph														Operational Uptime:		100																									
WIND DIRECTION																																											
Monthly Average:		235 (SW) 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																			
Jan 21	12.3	12.7	10.0	9.2	6.2	3.3	5.9	8.4	10.1	10.1	11.4	11.5	9.5	8.3	15.2	17.7	17.1	12.2	10.7	7.3	6.4	5.3	3.2	4.5	3.2	17.7	7.2																
	NNW	N	NNW	NNW	NNW	WNW	SW	WSW	WSW	WSW	W	W	NW	NNW	NNW	NNW	NNW	NNW	N	NNW	NNW	NW	W																				
Jan 22	5.2	4.5	5.4	3.5	3.8	5.1	5.7	7.1	7.9	6.8	4.0	5.4	9.8	9.9	9.2	11.3	12.0	10.7	13.7	14.4	19.1	16.4	16.0	10.5	3.5	19.1	6.4																
	WNW	WNW	NW	W	WNW	WSW	WSW	SW	SW	SW	W	NNW	NNW	NW	NW	NW	WNW	WNW	NNW	NNE	N	NNE	NNE																				
Jan 23	10.3	11.3	8.3	9.4	10.4	11.0	11.1	8.5	8.8	9.3	6.3	3.9	4.0	2.2	2.5	2.3	1.5	5.2	7.4	9.5	9.7	9.8	10.2	11.5	1.5	11.5	3.9																
	NNE	NNE	NNE	NNE	N	NNE	NE	NE	NE	NE	NNE	N	N	N	N	NNW	ESE	SE	S	S	SSE	SE	SE	SE																			
Jan 24	11.5	11.3	11.6	10.2	8.6	9.1	8.3	8.9	9.4	8.9	9.0	9.2	8.7	10.8	9.8	11.8	13.6	13.1	16.4	14.5	14.3	12.5	12.9	13.6	8.3	16.4	10.8																
	SSE	SSE	SSE	SSE	SE	ESE	SE	ESE	SE	SE	SSE	SSE	SSE	SE	ESE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE																			
Jan 25	12.1	12.7	12.4	13.9	13.4	12.8	14.8	14.6	13.5	14.6	14.5	13.4	14.2	14.6	18.8	16.2	14.2	13.7	13.0	14.0	13.9	14.5	15.3	14.6	12.1	18.8	14.1																
	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	ESE	SE	SE	ESE	SE	SE	SE	SE	SE	ESE	SE	SE																			
Jan 26	14.2	14.3	15.8	16.4	16.1	16.1	15.4	15.6	16.3	16.1	16.1	16.4	16.1	16.3	17.3	15.7	13.5	15.1	13.9	12.1	12.6	11.6	11.7	9.5	9.5	17.3	14.7																
	SE	SE	SE	SE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE																			
Jan 27	10.0	10.0	9.1	11.3	11.9	10.8	9.9	10.5	10.0	9.8	10.6	9.1	8.0	8.8	11.4	13.9	12.8	11.4	11.8	10.4	8.3	8.5	7.5	6.7	6.7	13.9	9.8																
	SE	ESE	ESE	ESE	ESE	SE	ESE	ESE	ESE	ESE	ESE	ESE	E	E	E	E	E	E	E	E	ESE	E	E	ESE																			
Jan 28	6.1	4.4	2.7	1.8	4.4	3.9	3.3	2.5	5.8	6.5	5.5	6.0	5.9	4.2	2.5	4.2	4.2	5.2	6.7	4.9	2.5	5.1	4.4	2.1	1.8	6.7	2.7																
	SE	SSE	SSE	SW	WSW	W	NW	WSW	WSW	W	W	WSW	WSW	NE	SSW	SSE	SSE	S	SSW	ESE	SSE	SSW	SW	SW																			
Jan 29	1.0	0.9	1.0	1.4	1.5	1.8	2.2	4.4	6.0	5.3	6.2	6.9	7.2	8.7	6.6	1.7	1.8	7.7	6.1	6.5	7.1	5.8	6.0	0.9	8.7	4.0																	
	SSW	SW	W	SSW	ENE	ESE	SE	SW	SW	SW	SW	SW	SW	WSW	W	WNW	S	S	S	SW	SW	SSW	SW	SSW																			
Jan 30	4.6	3.5	3.4	4.7	5.8	7.2	9.3	10.2	10.6	9.9	9.8	6.6	7.8	7.7	6.4	7.1	6.6	9.3	10.1	10.0	10.1	10.4	10.9	9.4	3.4	10.9	7.5																
	SW	SW	SW	S	S	S	S	S	S	S	S	S	SSE	S	S	SE	SE	SE	SSE	S	S	SSE	SSE	S																			
Jan 31	9.0	9.7	8.8	9.8	9.6	8.7	8.8	9.8	8.2	7.0	6.3	7.5	7.9	10.5	12.3	12.8	10.6	13.1	15.5	16.4	15.6	16.7	17.1	14.1	6.3	17.1	10.8																
	SSE	SSE	SE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	SE	SE	ESE	ESE	ESE																			
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

St. Lina Site - January 2021

Summary of Hour Standard Deviations

STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

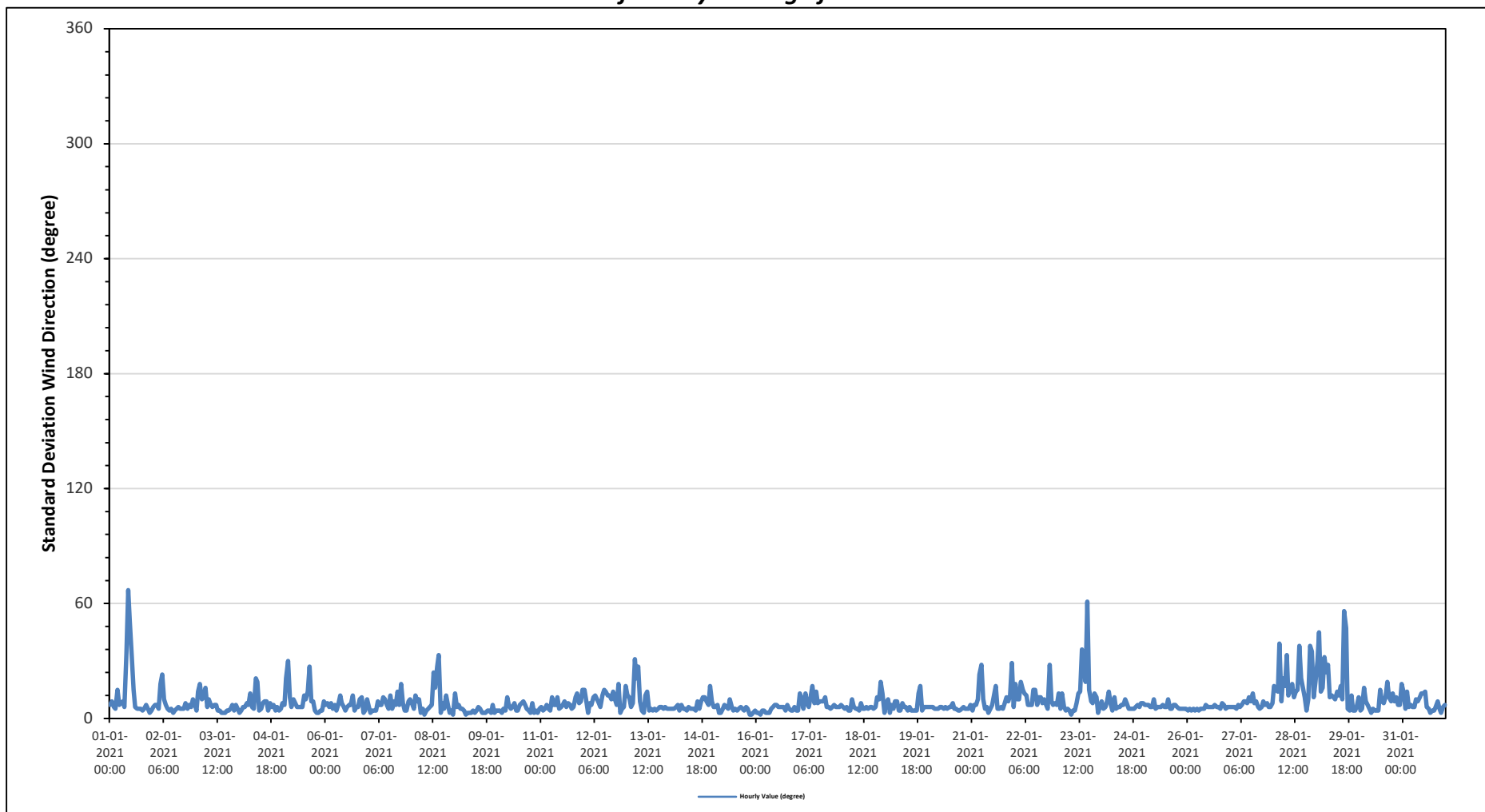
Maximum Hourly Value:	67 degree on January 1 at hour 10	Hours in Service:	744
Minimum Hourly Value:	2 degree on January 8 at hour 7	Hours of Data:	744
		Hours of Missing Data:	0
		Hours of Calibration:	0
		Operational Uptime:	100.0

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
Jan 1	7	9	6	5	15	7	8	9	6	34	67	51	32	15	6	5	5	5	4	5	7	5	3	4	3	67
Jan 2	6	7	7	5	18	23	10	7	5	4	5	3	4	5	6	5	5	5	8	5	7	6	10	8	3	23
Jan 3	4	14	18	10	11	16	6	10	7	6	7	7	4	4	3	3	3	4	4	5	7	4	7	5	3	18
Jan 4	3	4	6	6	8	7	13	6	5	21	19	4	5	8	9	9	4	8	6	7	4	6	4	5	3	21
Jan 5	8	7	21	30	11	6	10	8	6	6	6	6	12	10	14	27	9	9	4	3	3	4	4	9	3	30
Jan 6	7	8	6	8	5	7	4	7	12	8	6	4	6	7	7	12	4	6	6	10	11	3	4	10	3	12
Jan 7	6	3	4	4	4	9	7	7	11	10	7	5	12	5	9	7	14	7	18	8	4	4	9	10	3	18
Jan 8	8	5	12	9	10	3	5	2	4	5	6	7	24	16	27	33	3	8	5	12	7	3	4	2	2	33
Jan 9	13	6	7	5	5	4	2	3	3	3	4	3	4	6	5	3	3	3	4	4	3	7	3	4	2	13
Jan 10	4	4	3	5	4	11	7	5	6	8	4	4	7	8	9	7	5	4	3	8	3	4	3	5	3	11
Jan 11	6	4	5	7	5	4	11	7	7	11	5	6	7	9	6	8	7	5	6	11	13	8	9	15	4	15
Jan 12	15	10	3	8	7	11	12	10	8	6	12	15	14	12	12	10	14	10	7	18	3	5	6	17	3	18
Jan 13	12	11	6	8	31	21	27	9	4	3	12	14	4	5	4	5	4	5	6	6	5	6	5	5	3	31
Jan 14	5	5	5	6	7	4	7	5	5	4	6	5	5	5	4	9	5	9	11	11	9	7	17	9	4	17
Jan 15	6	6	7	3	3	5	7	6	5	10	6	4	5	4	5	6	5	4	6	5	2	2	3	4	2	10
Jan 16	3	3	2	4	4	3	3	3	5	6	7	7	6	6	6	4	7	5	4	4	6	4	4	4	2	7
Jan 17	13	10	5	13	8	6	12	17	8	14	8	9	9	9	11	6	6	5	6	7	6	6	6	7	5	17
Jan 18	6	5	6	4	4	10	6	5	5	4	8	5	5	6	5	6	6	5	6	11	10	19	13	3	3	19
Jan 19	8	10	3	7	5	9	9	4	4	8	6	6	4	6	4	4	4	13	17	4	6	6	6	6	3	17
Jan 20	6	6	6	5	5	5	6	6	5	6	5	6	6	8	5	5	4	4	5	6	5	5	5	7	4	8
Jan 21	4	7	7	10	23	28	10	5	6	3	5	7	12	17	5	5	6	5	8	11	9	12	29	6	3	29
Jan 22	18	10	10	19	15	13	12	7	7	7	15	15	7	11	11	8	10	7	5	28	9	7	8	7	5	28
Jan 23	13	5	13	6	4	5	4	2	4	4	8	13	14	36	27	19	61	15	9	8	13	11	3	6	2	61
Jan 24	9	5	6	9	14	7	4	11	5	6	6	7	7	10	8	5	5	5	6	7	6	8	8	8	4	14
Jan 25	7	7	7	6	6	10	5	6	6	6	7	6	6	10	5	5	7	7	6	5	5	5	5	5	5	10
Jan 26	4	5	4	5	4	5	4	5	5	5	7	6	6	6	6	7	6	6	5	8	7	5	6	6	4	8
Jan 27	6	6	6	5	7	6	7	9	9	8	11	9	13	8	9	6	5	6	9	7	8	6	6	8	5	13
Jan 28	17	15	14	39	9	21	17	33	12	15	18	11	14	15	38	21	16	11	4	10	38	35	11	19	4	39
Jan 29	30	45	14	16	32	24	28	11	12	11	10	14	12	17	10	56	47	5	4	12	4	4	6	11	4	56
Jan 30	4	5	16	9	7	5	3	5	4	4	4	15	9	8	11	19	11	9	13	9	11	7	7	18	3	19
Jan 31	14	5	14	6	7	6	6	10	9	11	13	13	14	6	5	3	4	4	6	9	5	3	6	7	3	14
Diurnal Minimum	3	3	2	3	3	3	2	2	3	3	4	3	4	4	3	3	3	3	3	3	2	2	3	2		
Dalurnal Maximum	30	45	21	39	32	28	28	33	12	34	67	51	32	36	38	56	61	15	18	28	38	35	29	19		

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 January 2021 Monthly Ambient Air Quality Monitoring Report.



Lakeland Industry & Community Association

JANUARY 2021

Ambient Air Monitoring Calibration Report

- COLD LAKE SOUTH STATION-

CAL-LICA-202101-01174

Station Operation and Maintenance:

Bureau Veritas Canada

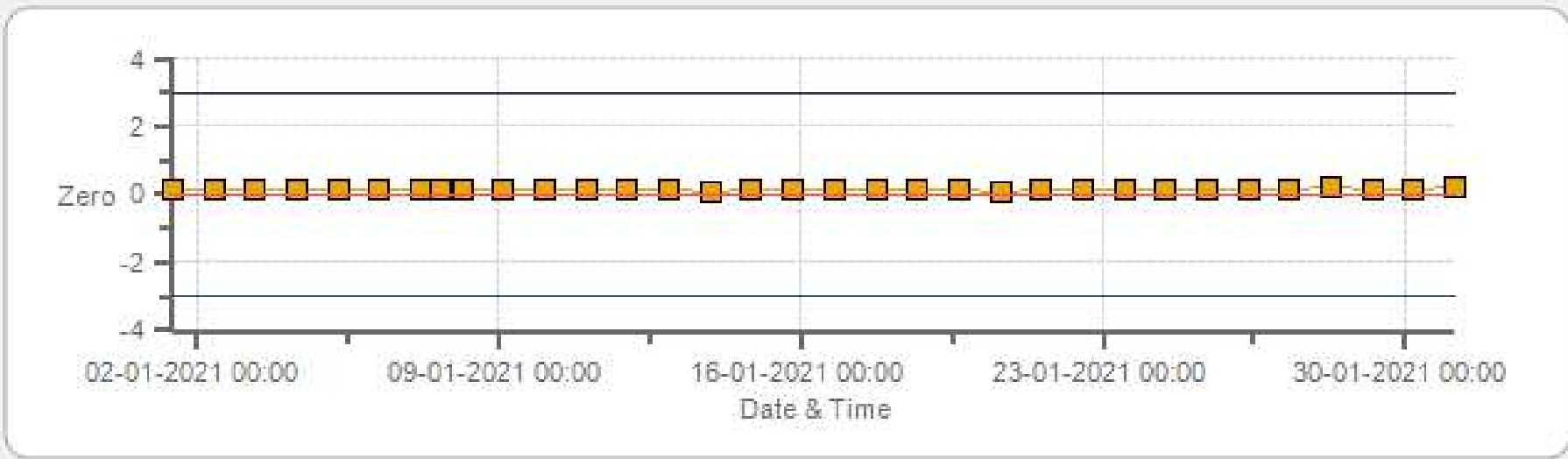
Data Validation and Report:

LICA / Bureau Veritas Canada

February 18, 2021

DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2[ppb] Calibration: Cold Lake South Monthly: 01-2021 Type: SpanAndZero - Zero



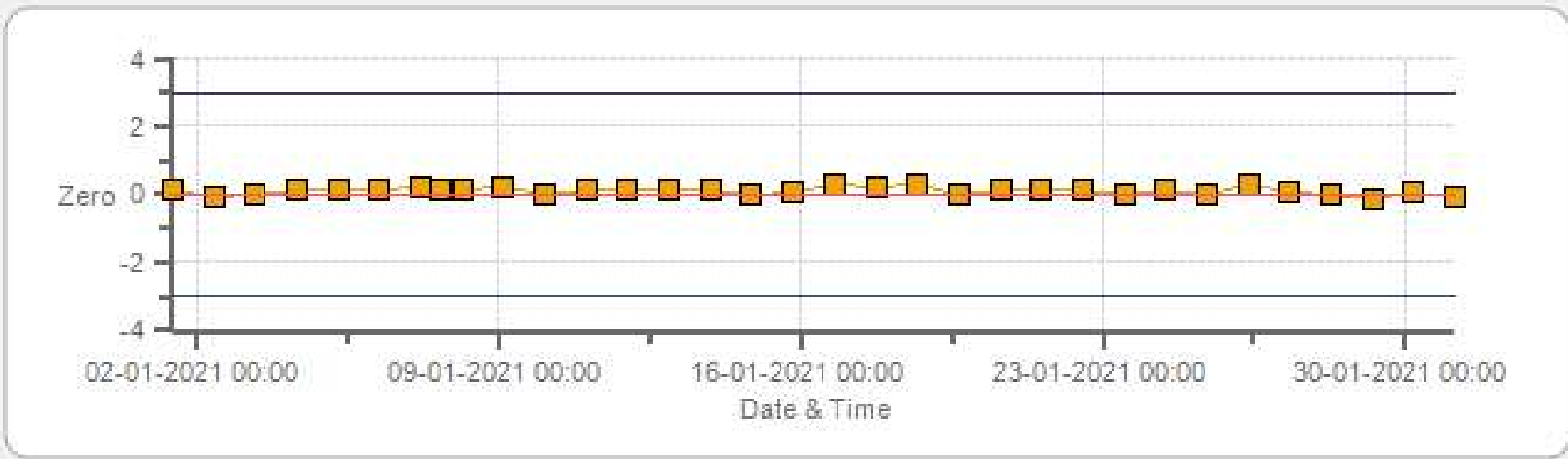
Zero Zero Ref Zero Low Zero High

SO2[ppb] Calibration: Cold Lake South Monthly: 01-2021 Type: SpanAndZero - Span



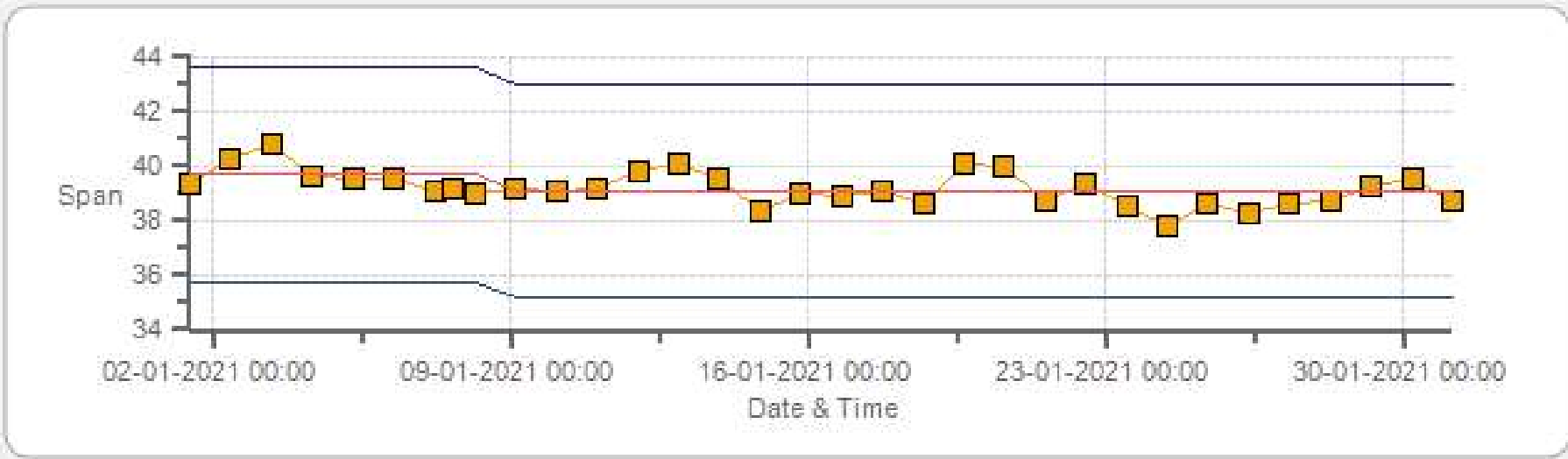
Span SpanRef Span Low Span High

TRS[ppb] Calibration: Cold Lake South Monthly: 01-2021 Type: SpanAndZero - Zero



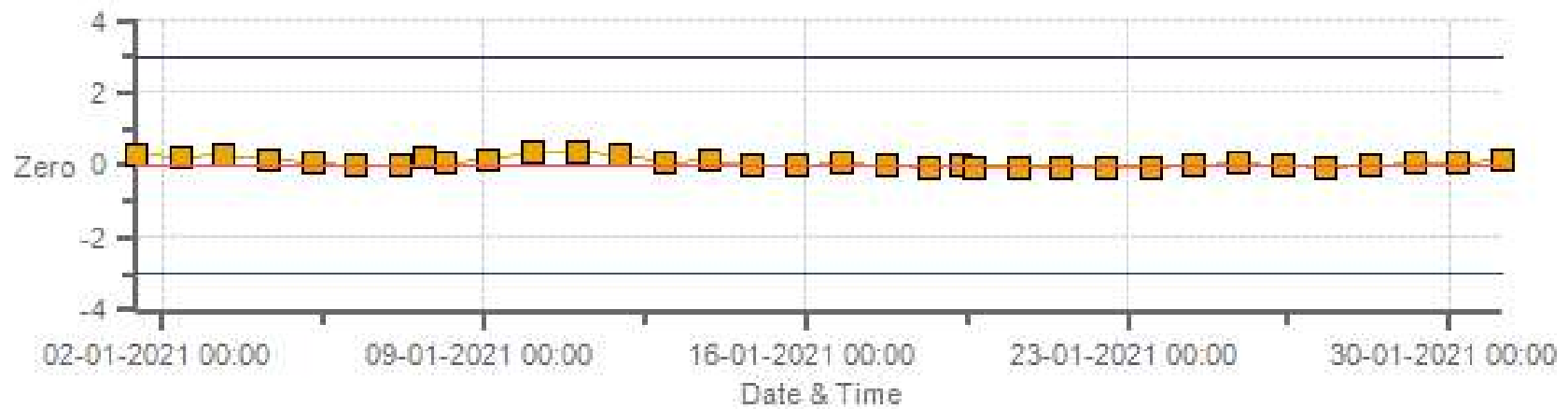
Zero Zero Ref Zero Low Zero High

TRS[ppb] Calibration: Cold Lake South Monthly: 01-2021 Type: SpanAndZero - Span



Span Span Ref Span Low Span High

NOX[ppb] Calibration: Cold Lake South Monthly: 01-2021 Type: SpanAndZero - Zero



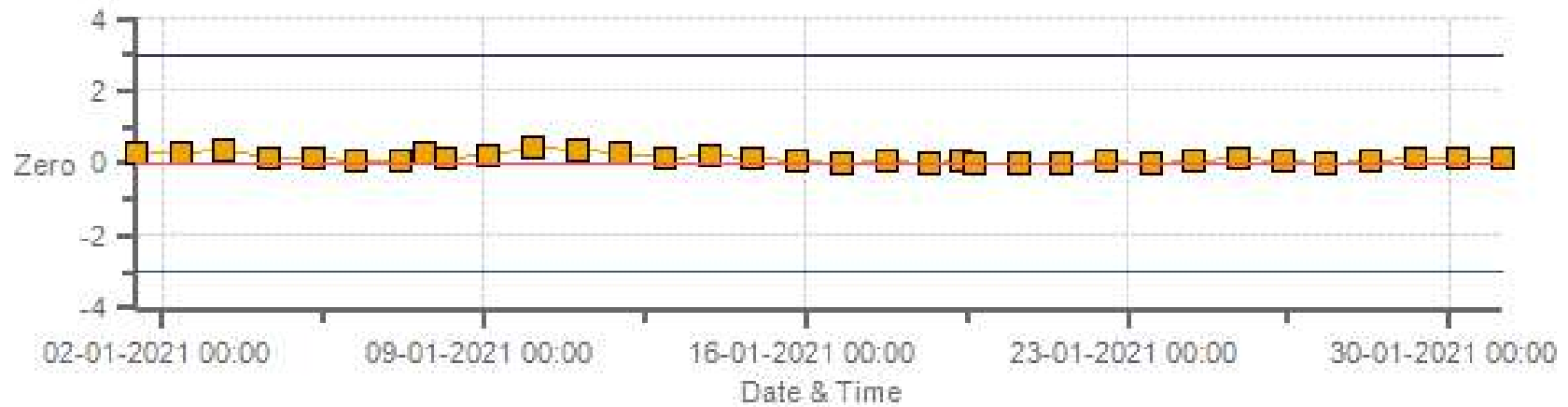
Zero Zero Ref Zero Low Zero High

NOX[ppb] Calibration: Cold Lake South Monthly: 01-2021 Type: SpanAndZero - Span



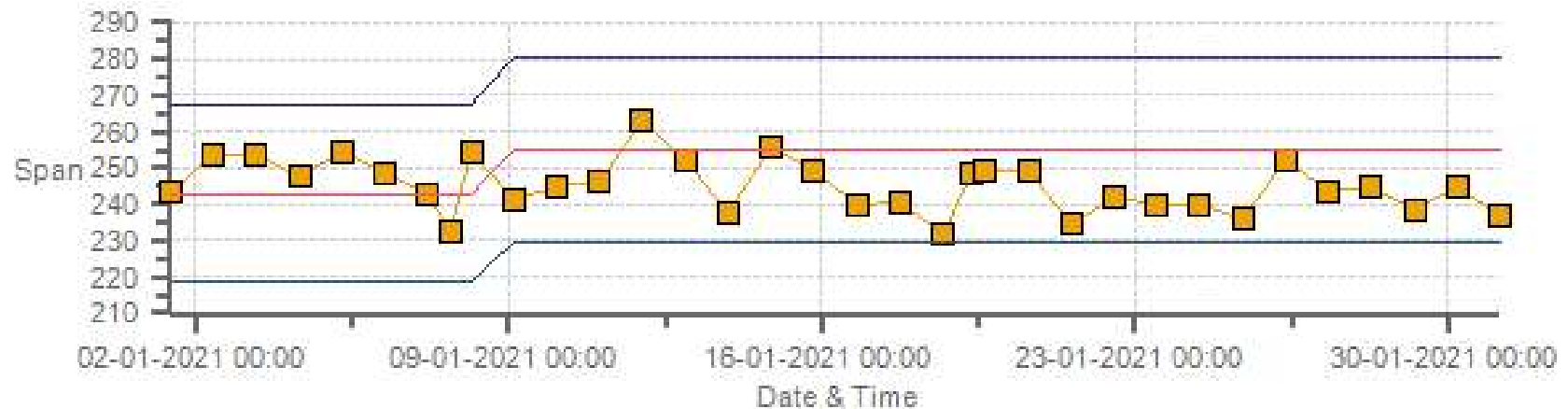
Span Span Ref Span Low Span High

NO2[ppb] Calibration: Cold Lake South Monthly: 01-2021 Type: SpanAndZero - Zero



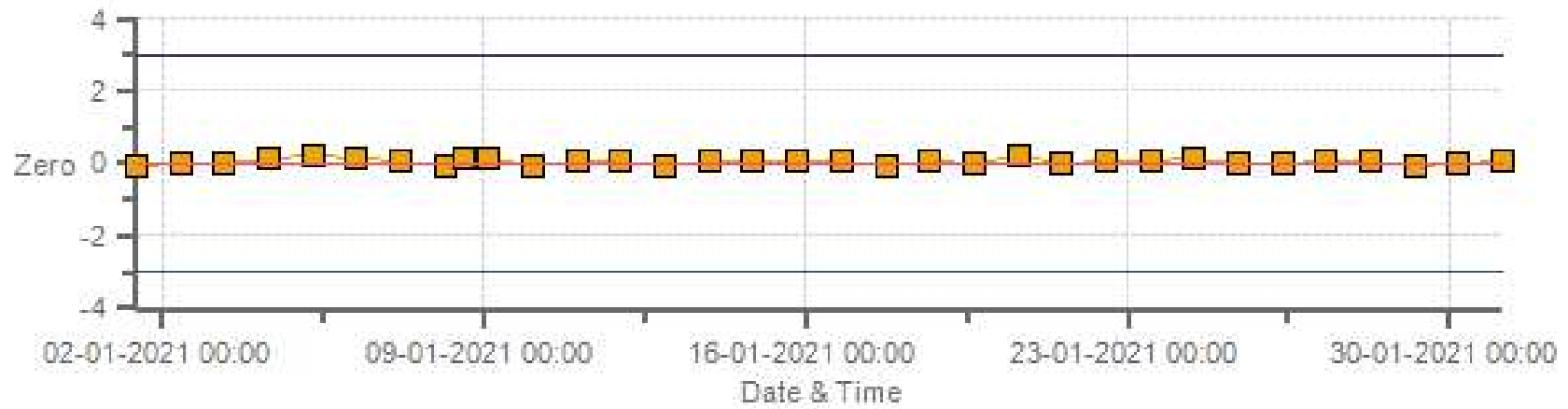
Zero Zero Ref Zero Low Zero High

NO2[ppb] Calibration: Cold Lake South Monthly: 01-2021 Type: SpanAndZero - Span



Span Span Ref Span Low Span High

O3[ppb] Calibration: Cold Lake South Monthly: 01-2021 Type: SpanAndZero - Zero



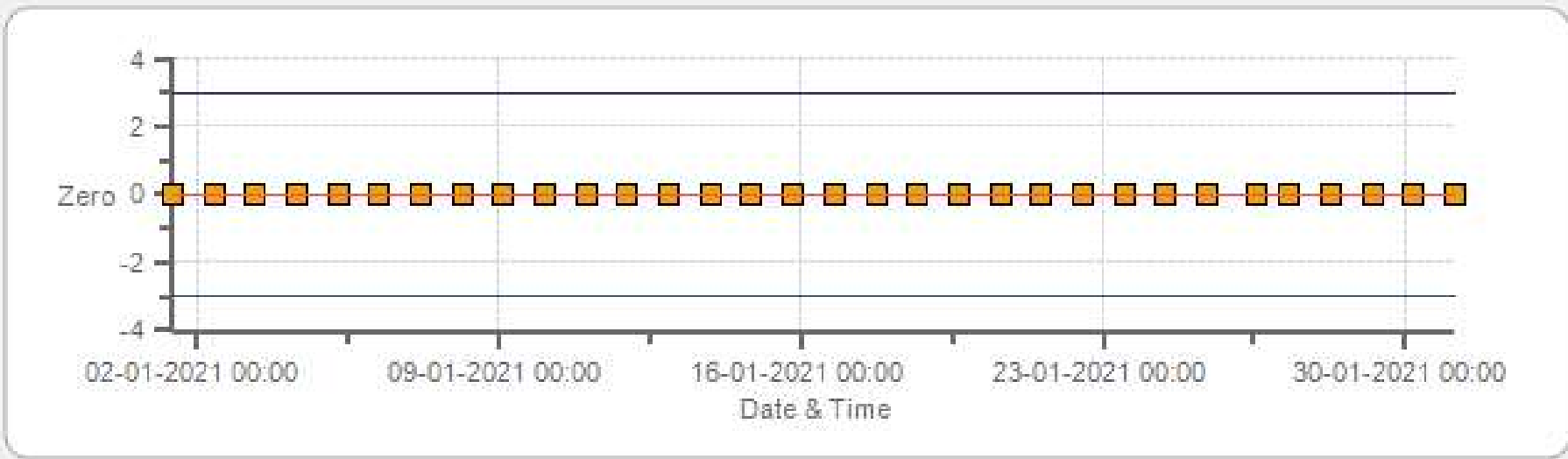
Zero Zero Ref Zero Low Zero High

O3[ppb] Calibration: Cold Lake South Monthly: 01-2021 Type: SpanAndZero - Span



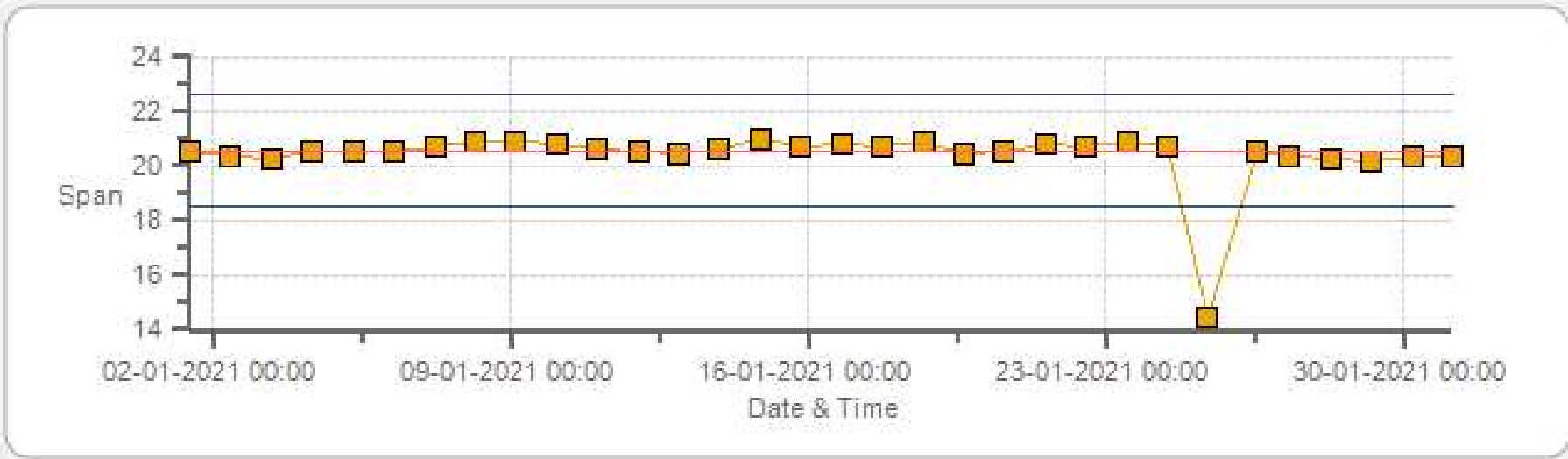
Span Span Ref Span Low Span High

THC55[ppm] Calibration: Cold Lake South Monthly: 01-2021 Type: SpanAndZero - Zero



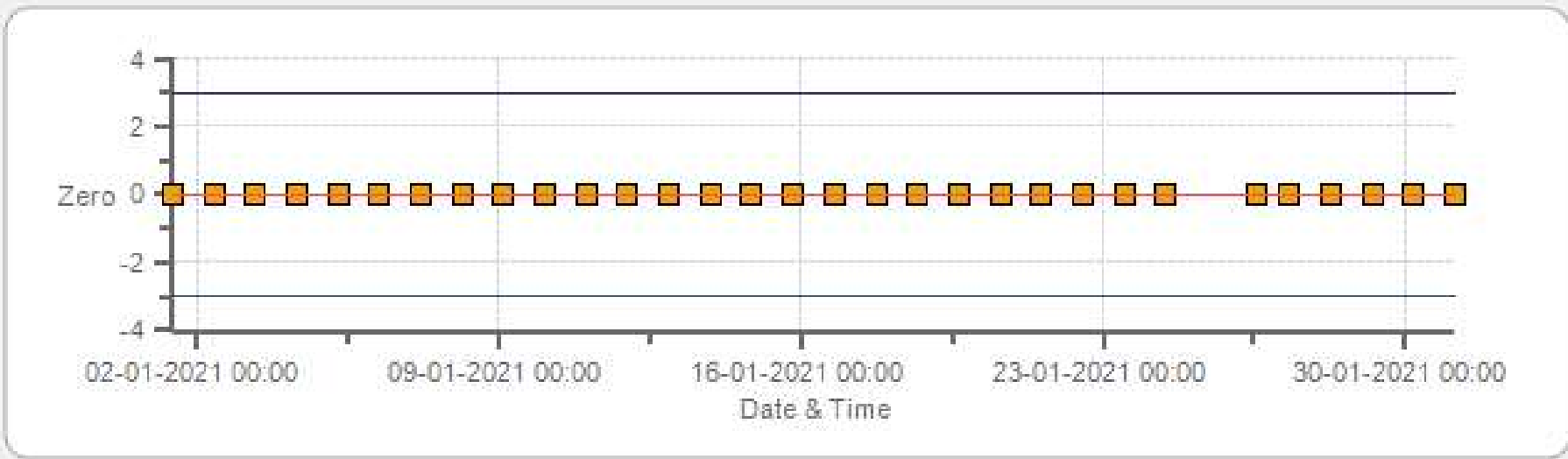
Zero Zero Ref Zero Low Zero High

THC55[ppm] Calibration: Cold Lake South Monthly: 01-2021 Type: SpanAndZero - Span



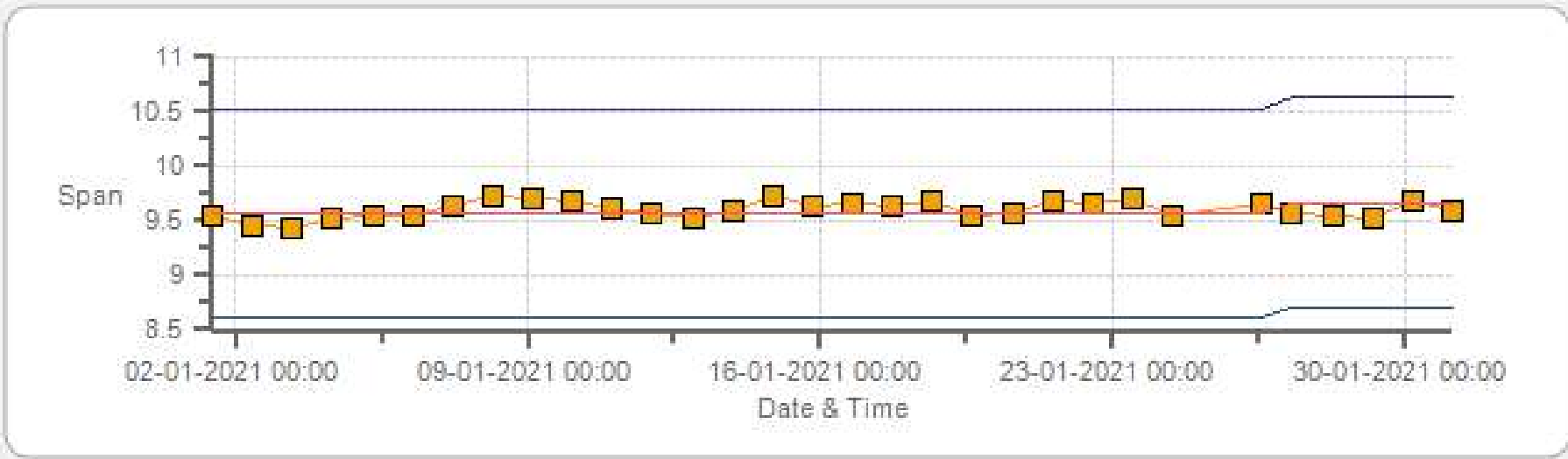
Span SpanRef Span Low Span High

CH4[ppm] Calibration: Cold Lake South Monthly: 01-2021 Type: SpanAndZero - Zero



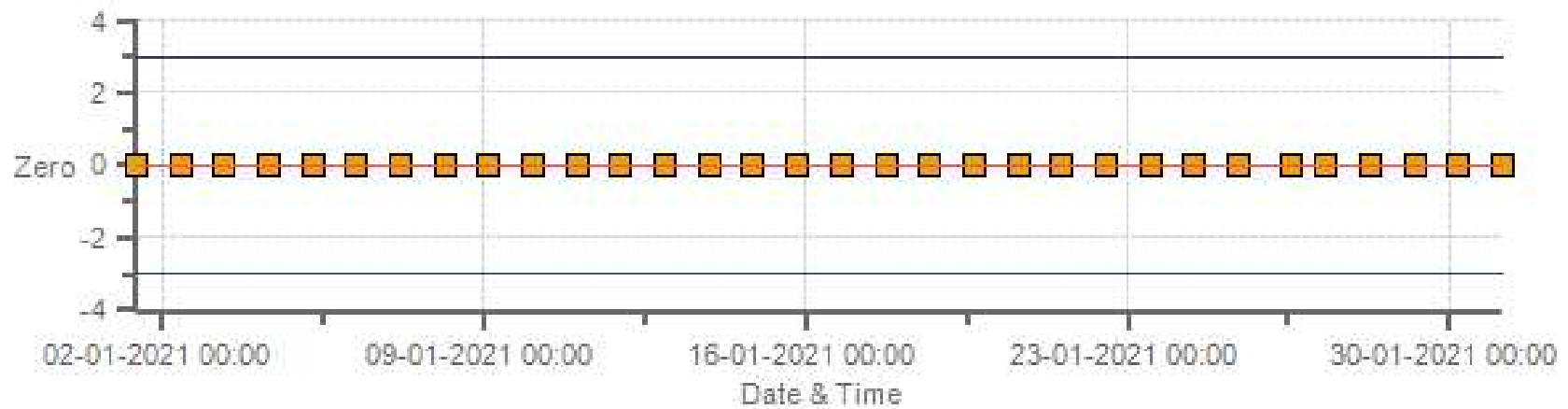
Zero Zero Ref Zero Low Zero High

CH4[ppm] Calibration: Cold Lake South Monthly: 01-2021 Type: SpanAndZero - Span



Span SpanRef Span Low Span High

NMHC[ppm] Calibration: Cold Lake South Monthly: 01-2021 Type: SpanAndZero - Zero



Zero Zero Ref Zero Low Zero High

NMHC[ppm] Calibration: Cold Lake South Monthly: 01-2021 Type: SpanAndZero - Span



Span SpanRef Span Low Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution



DATE:	07-Jan-2021	PREVIOUS CALIBRATION DATE:	15-Dec-2020
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	1.004
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	CLS	BAROMETRIC (mBar):	956
PURPOSE:	Routine	START TIME (MST):	10:32
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:05

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1180260018	FLOW (mL/min)	445
INITIAL		FINAL	
BKG/OFFSET	1.88	BKG/OFFSET	1.85
COEF/SLOPE	0.989	COEF/SLOPE	0.985
Expected (reference) Value	269	Expected (reference) Value	262

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):	700	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:

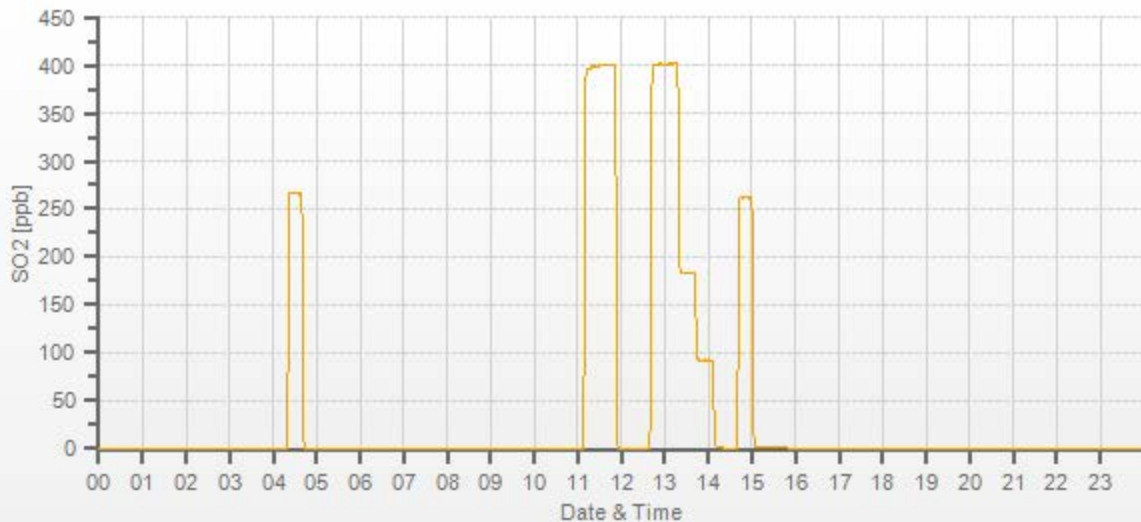
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
5000	38.70	5000	0.00	0.1	0.3	0.998	0.996
4958	38.70	4997	399.62	400.6	401.7	0.998	0.996
4980	17.60	4998	181.70	n/a	183.9	n/a	0.990
4989	8.80	4998	90.85	n/a	92.4	n/a	0.986

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.004	0.2%

COMMENTS:

Sample inlet filter was changed.



TRS Analyzer Calibration by Dilution



DATE:	07-Jan-2021	PREVIOUS CALIBRATION DATE:	15-Dec-2020
PARAMETER:	TRS	PREVIOUS CORRECTION FACTOR:	0.996
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	CLS	BAROMETRIC (mBar):	956
PURPOSE:	Routine	START TIME (MST):	10:33
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:05

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	812728560	FLOW (mL/min)	487
INITIAL		FINAL	
BKG/OFFSET	18.7	BKG/OFFSET	18.5
COEF/SLOPE	0.982	COEF/SLOPE	0.982
Expected (reference) Value	39.7	Expected (reference) Value	39.1

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:	10:44	SO2 Conc (ppb)	380
END TIME:	10:59	Analyzer Response (ppb)	0.0

CALIBRATION:

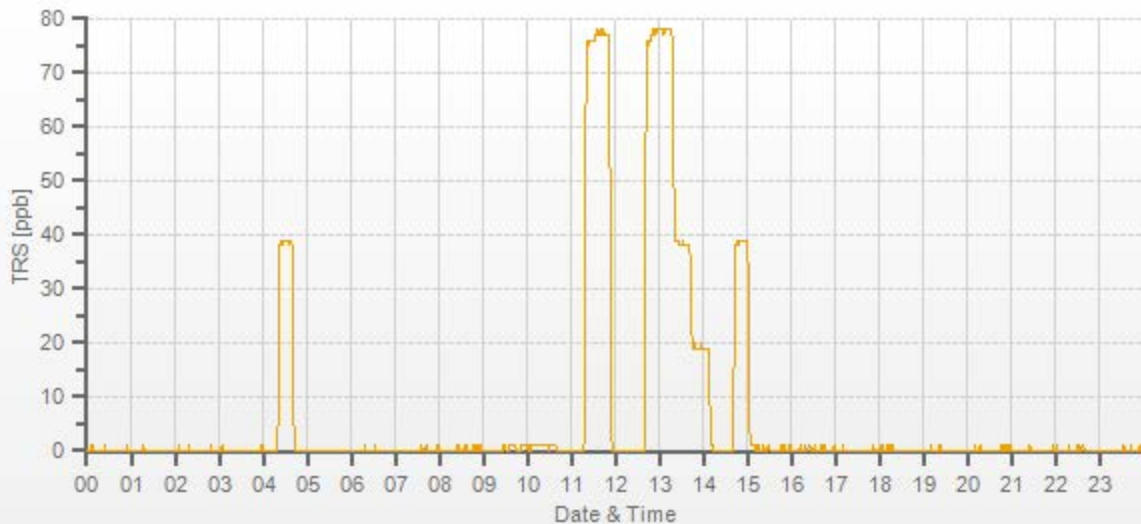
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
7500	7500	7500	0.00	0	0.1	1.010	0.999
7442	58.50	7500	78.00	77.2	78.2	1.010	0.999
7472	28.50	7500	38.00	n/a	37.9	n/a	1.005
7486	14.20	7500	18.93	n/a	19.4	n/a	0.981

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.999	0.2%

COMMENTS:

Sample inlet filter was changed.



NOx Calibration by Dilution/Gas-Phase Titration



CALIBRATION:				ANALYZER:			
DATE:	07-Jan-2021	PREVIOUS CALIBRATION DATE:	15-Dec-2020	MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
CLIENT:	LICA	TEMPERATURE (°C):	22.0	SERIAL #:	1505664393	NOx	1.000
LOCATION:	CLS	BAROMETRIC (mBar):	956	FLOW (mL/min)	682	NO	1.001
PURPOSE:	Routine	START TIME (MST):	10:31	RANGE (ppb)	500	NO2	0.999
PERFORMED BY:	Alex Yakupov	END TIME (MST):	16:37	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):	700	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:	5.4	5.2	n/a	BKG/OFFSET:	5.4	5.2	n/a
SLOPE/COEF/CE:	1.002	1.191	0.998	SLOPE/COEF/CE:	1.003	1.19	0.998

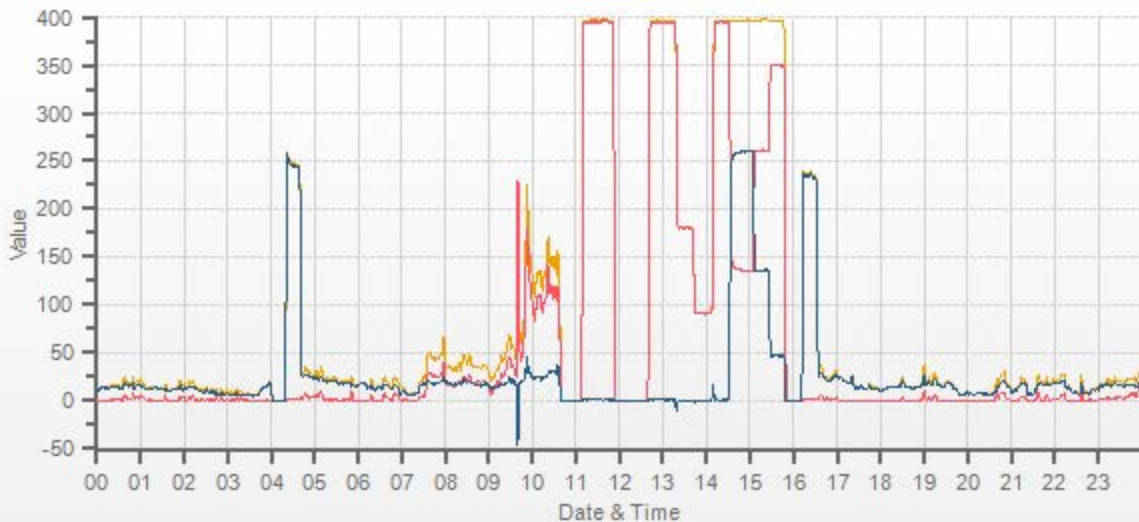
EXPECTED (REFERENCE) VALUE:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	245.0	3.0	242.0		257.0	2.3	255.0

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

FLOW RATE			CONCENTRATION (ppb)									CORRECTION FACTOR (CF.)					
(mL/min)			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2
5000	38.70	5000	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	1.000	0.999	0.999	1.002	1.001	0.999
4958	38.70	4997	394.2	395.8	1.5	394.3	396.0	1.7	393.4	395.2	1.8	1.000	0.999	0.999	1.002	1.001	0.999
4980	17.60	4998	179.2	179.9	0.7	n/a	n/a	n/a	180.3	181.2	0.9	n/a	n/a	0.999	0.994	0.993	0.999
4989	8.80	4998	89.6	90.0	0.4	n/a	n/a	n/a	90.6	91.0	0.3	n/a	n/a	0.999	0.989	0.989	0.999

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	394.1	395.8	1.7	258.4	258.7	0.999	100.12%
AS-FOUND HIGH	38.70	4997	250	135.7	396.1	260.4	258.4	258.7	0.999	100.12%
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	261.3	397.7	136.4	132.8	134.7	0.986	101.43%
LOW	38.70	4997	45	348.7	395.5	46.7	45.4	45	1.009	99.12%
NO2 adjustment not required.									AVERAGE:	100.22%

LINEAR REGRESSION ANALYSIS:				COMMENTS:
	CORRELATION	SLOPE	INTERCEPT	
NO	1.000	0.997	0.16%	
NOx	1.000	0.998	0.16%	
NO2	1.000	1.002	0.06%	



CAL-LICA-202101-01174

Ozone Calibration by Photometer (Varying UV Lamp)



DATE:	08-Jan-2021	PREVIOUS CALIBRATION DATE:	15-Dec-2020
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	1.001
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	CLS	BAROMETRIC (mBar):	960
PURPOSE:	Routine	START TIME (MST):	09:43
PERFORMED BY:	Alex Yakupov	END TIME (MST):	13:43

ANALYZER:

MAKE/MODEL	Thermo 49i	RANGE	500 ppb
SERIAL #	700419951	FLOW (mL/min)	1451
INITIAL		FINAL	
BKG/OFFSET	-0.2	BKG/OFFSET	-0.2
COEF/SLOPE	1.052	COEF/SLOPE	1.057
Expected (reference) Value	459	Expected (reference) Value	466

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:

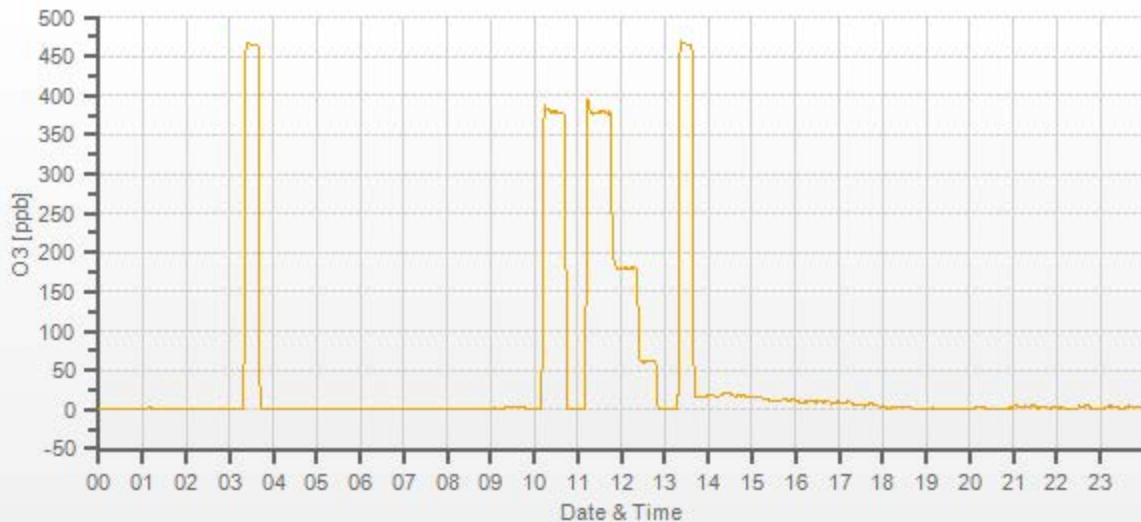
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
5000	XXXX	5000	0.0	0.1	0.0	XXXX	XXXX
5000	XXXX	5000	378.0	377.4	377.5	1.002	1.001
5000	XXXX	5000	180.0	n/a	180.4	n/a	0.998
5000	XXXX	5000	61.0	n/a	61.9	n/a	0.985

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.998	0.1%

COMMENTS:

Sample inlet filter was changed.



Methane/Non-Methane Analyzer Calibration by Dilution



CALIBRATION:				ANALYZER:			
DATE:	26-Jan-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):	957	PARAMETER:	CH4	NMHC	THC
PURPOSE:	Install/Post-Repair	START TIME (MST):	10:50	RANGE (ppm):	20	20	40
PERFORMED BY:	Alex Yakupov	END TIME (MST):	13:42	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 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
	n/a	n/a	n/a		n/a	9.67	10.93

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
3050	51.30	3101	14.39	13.60	27.99	n/a	n/a	n/a	14.35	13.52	27.88	n/a	n/a	n/a	1.003	1.006	1.004
3073	25.60	3099	7.19	6.79	13.98	n/a	n/a	n/a	7.14	6.77	13.91	n/a	n/a	n/a	1.007	1.003	1.005
3087	12.80	3100	3.59	3.40	6.99	n/a	n/a	n/a	3.55	3.43	6.98	n/a	n/a	n/a	1.012	0.990	1.001

LINEAR REGRESSION ANALYSIS:

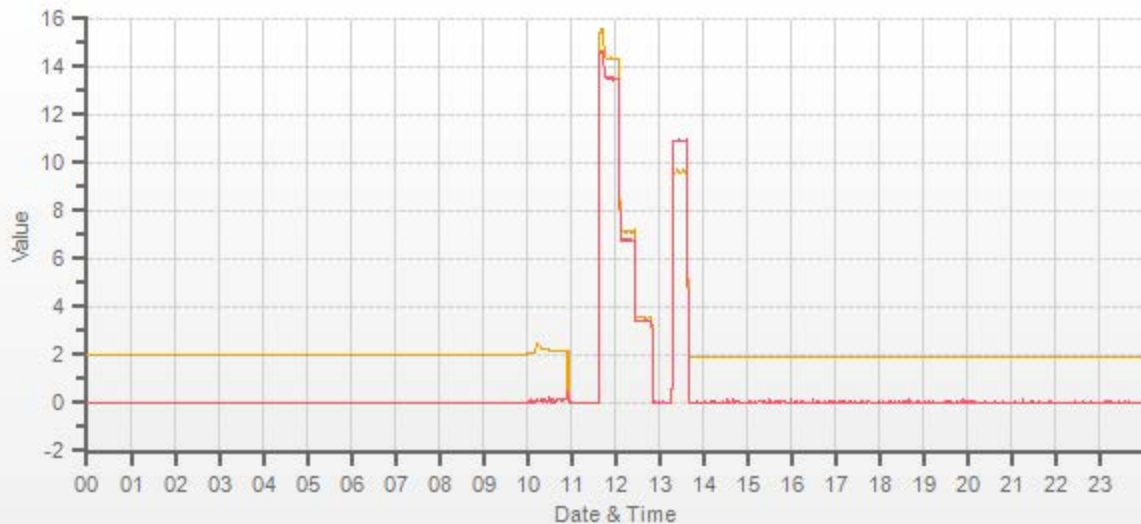
	CORRELATION	SLOPE	INTERCEPT
CH ₄	1.000	0.998	-0.1%
NMHC	1.000	0.993	0.1%
THC	1.000	0.996	0.0%

Comments:

Sample inlet filter was changed. Installation calibration was completed to remove the failed analyzer. Zero Chromatogram was completed.

Use Zero Chrom?

Yes



CAL-LICA-202101-01174



Teledyne T640 Audit/Calibration

Date/Previous Audit Date:	January 8, 2020	December 16, 2020	Weather Conditions:	Mainly sunny	
Company:	LICA		Start Time (mst):	12:59	
Station:	Cold Lake South		End Time (mst):	13:39	
Parameter:	PM 2.5	Performed By/Reviewer:	Alex Yakupov	Chris Wesson	
Instrument Data:					
Make/Model:	Teledyne T640		Serial Number:	575	
Owner:	LICA		Alarms (detail in comments):	No	
Reference Standards/I.D./Expiry Date:					
Flow Standard:	DeltaCal DC1 S/N177246 Mar 17, 2021		Temperature:	DeltaCal DC1 S/N177246 Mar 17, 2021	
Digital Manometer:	DeltaCal DC1 S/N177246 Mar 17, 2021		Pressure:	DeltaCal DC1 S/N177246 Mar 17, 2021	
DIAGNOSTICS:					
Ambient Pressure (mmHg)	717.8	Ambient Temp (°C)	-3.8	ASC Heater Duty (%)	0.0
Box Temp (°C)	28.5	Current PMT HV (V)	1439	LED Temp (°C)	37.78
P3 Value	47	PMT Setting (V)	1442	Pump PWM (%)	40
Sample Flow (L/min)	5.00	Sample RH (%RH)	7.3	Sample Temp (°C)	25.5
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)	717.2	717.8	n/a	n/a	+/- 10 mm Hg
Ambient Temperature (°C)	-3.70	-3.9	n/a		+/- 2°C
Sample Flow (L/min)	5.00	5	n/a	n/a	+/- 5% of T640x (e.g., 4.75 – 5.25 lpm)
Additional Monthly Maintenance :					Completed
Inlet cleaned?					Yes
Sample tubing inspected (inner and outer)?					Yes
Comments:					
No issues.					



Meteorological Sensor Audit/Calibration

Location Information

Company: LICA
 Audit Location: Cold Lake South
 Audit Date: September 25, 2020
 Calibration Purpose: installation

Performed By: Alex Yakupov
 Reviewed By: Chris Wesson
 Start/End Time (mst): 13:38 / 14:40
 Weather Conditions: Mainly sunny

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:	0-1
Previous Cal/Audit Date:	n/a	Direction Unit Output Range:	0-360

Wind Calibrator Information

Calibrator I.D. and Expiry Date: RM Young 18802 id# 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	73.6	73.5	1.002
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	354	0.1	1.5	0.8
30	330	30	328	0.3	1.7	1.0
60	300	61	298	-0.6	2.0	1.3
90	270	91	268	-1.0	2.1	1.6
120	240	122	239	-1.5	1.1	1.3
150	210	152	210	-1.5	0.4	1.0
180	180	180	180	-0.2	-0.2	0.2
210	150	209	151	0.6	-0.8	0.7
240	120	239	121	1.0	-1.4	1.2
270	90	268	91	2.0	-1.2	1.6
300	60	298	60	2.5	-0.1	1.3
330	30	328	30	1.7	0.4	1.0
355	0	354	0	1.5	0.1	0.8
The audit meets AMD requirements.				Average Absolute Degrees Difference=		1.1

Comments:

No issues.

Meteorological System Checklist



Date:	January 8, 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
Anemometer:	RM Young	05305	177354

AMBIENT TEMPERATURE SENSOR CHECK

Previous check date:	December 22, 2020
Parameter:	Temperature @ 2 metres
Reference Thermometer ID:	DeltaCal, DC1, #177246, Exp. Date: March 27, 2021
Reference Temperature (°C):	-6.0
Station - Ambient Temperature (°C):	-5.8
Temperature Difference (°C):	-0.2

BAROMETRIC PRESSURE SENSOR CHECK

Previous check date:	December 22, 2020
Reference Barometer ID:	DeltaCal, DC1, #177246, Exp. Date: March 27, 2021
Reference Pressure - Units/Reading:	millibar 959
Station Pressure - Units/Reading:	millibar 956
Pressure Tolerance +/- 15% of error:	815 - 1103 0.31%

RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK

Previous check date:	December 22, 2020
Reference Hygrometer ID:	FS, 11-661-7B, #181341226, Exp. Date: June 10, 2021
Reference Hygrometer % RH- Reading:	69.88
Station Hygrometer % RH- Reading:	70.60
RH Tolerance +/- 15% of difference:	59.40 - 80.36 -1.0%

ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK

WIND SPEED		WIND DIRECTION	
Previous check date:	December 22, 2020	Previous check date:	December 22, 2020
Wind Speed Observed (kph):	0-10	Wind Direction Observed:	SE
Wind speed on Data Logger (kph):	3.5	Wind Direction on Data Logger:	SE
	Annual audit: Sep 25, 2020	Wind Direction Pass/Fail?:	Pass

Comments

Observations completed: Temp/RH @13:51, WS/WD @ 14:00

End of Report



Lakeland Industry & Community Association

JANUARY 2021

Ambient Air Monitoring Calibration Report

- MASKWA STATION-

CAL-LICA-202101-01248

Station Operation and Maintenance:

Bureau Veritas Canada

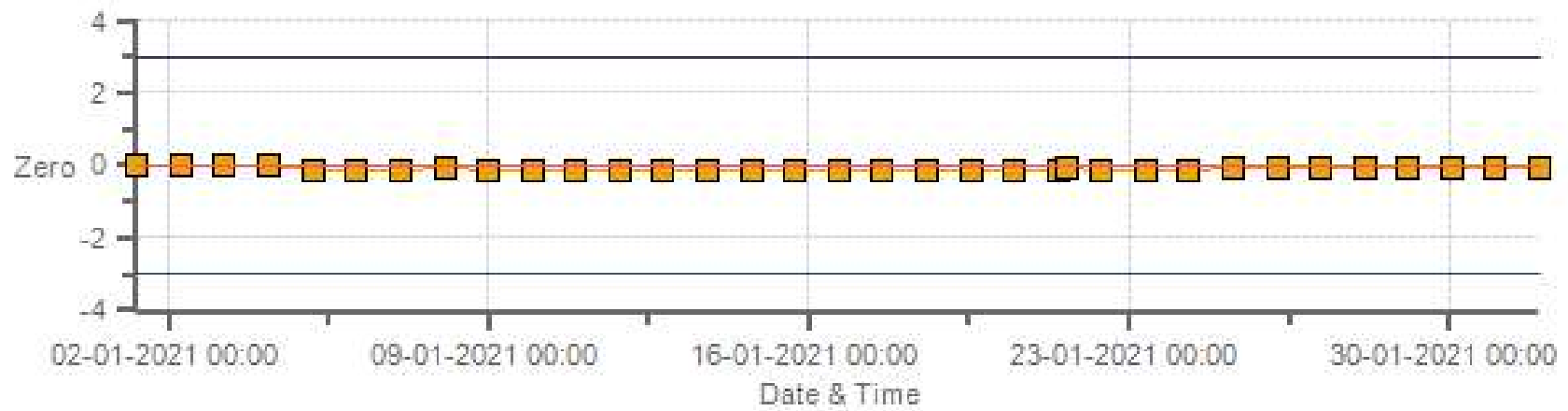
Data Validation and Report:

LICA / Bureau Veritas Canada

February 18, 2021

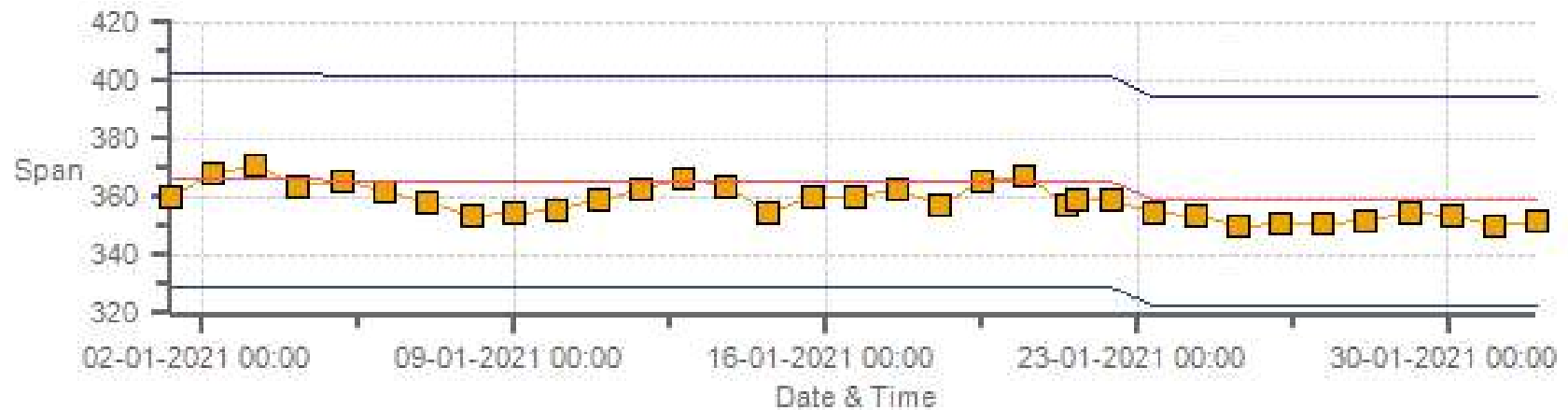
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2[ppb] Calibration: Maskwa Monthly: 01-2021 Type: SpanAndZero - Zero



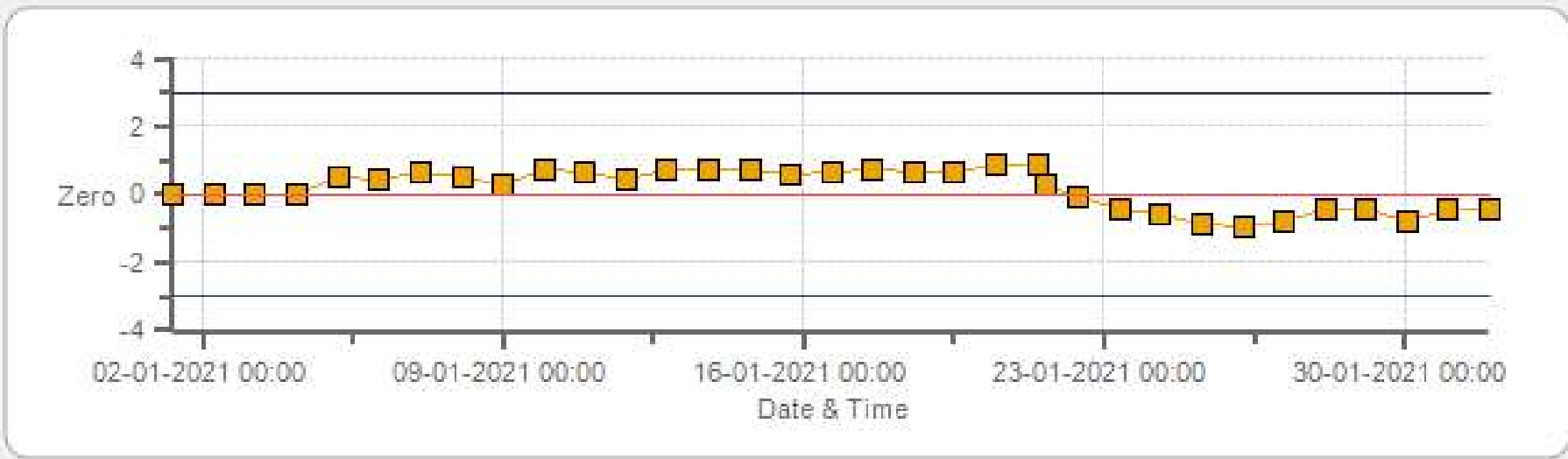
Zero Zero Ref Zero Low Zero High

SO2[ppb] Calibration: Maskwa Monthly: 01-2021 Type: SpanAndZero - Span

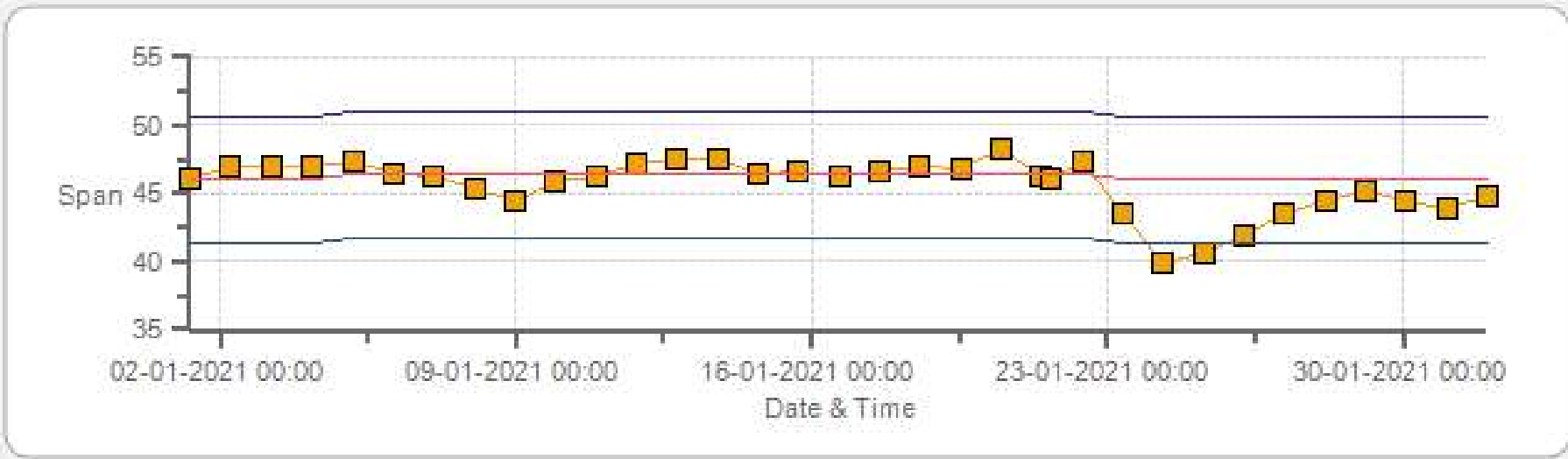


Span SpanRef Span Low Span High

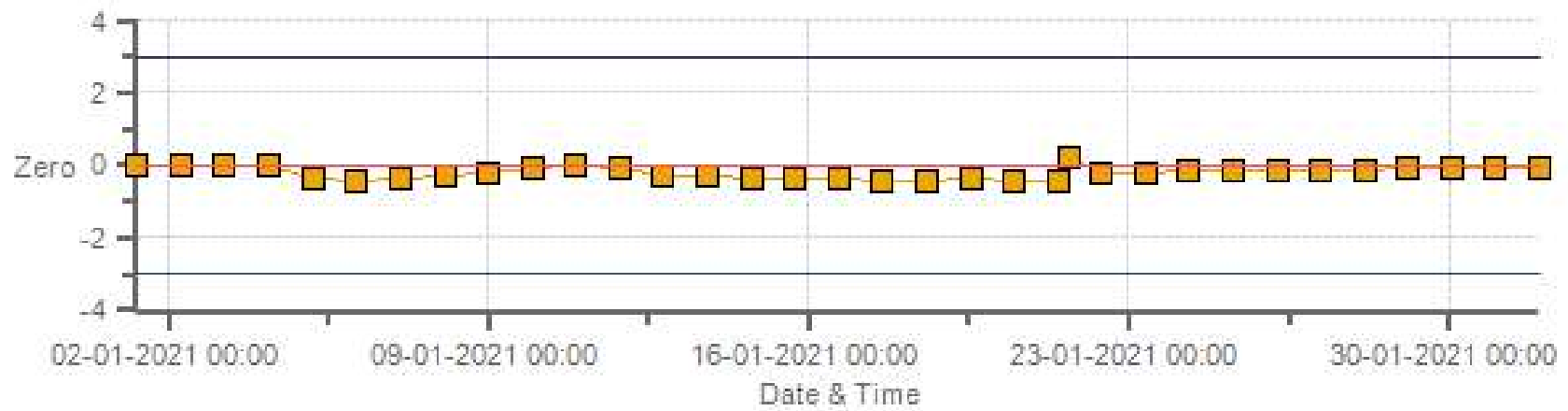
H2S[ppb] Calibration: Maskwa Monthly: 01-2021 Type: SpanAndZero - Zero



H2S[ppb] Calibration: Maskwa Monthly: 01-2021 Type: SpanAndZero - Span



NOX[ppb] Calibration: Maskwa Monthly: 01-2021 Type: SpanAndZero - Zero



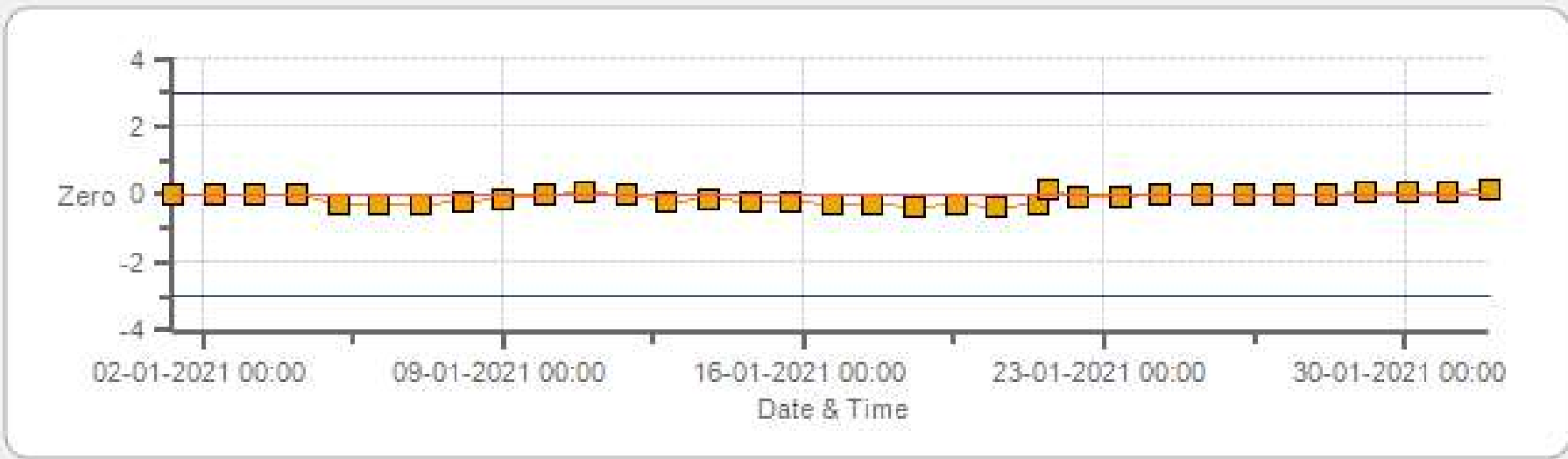
Zero Zero Ref Zero Low Zero High

NOX[ppb] Calibration: Maskwa Monthly: 01-2021 Type: SpanAndZero - Span



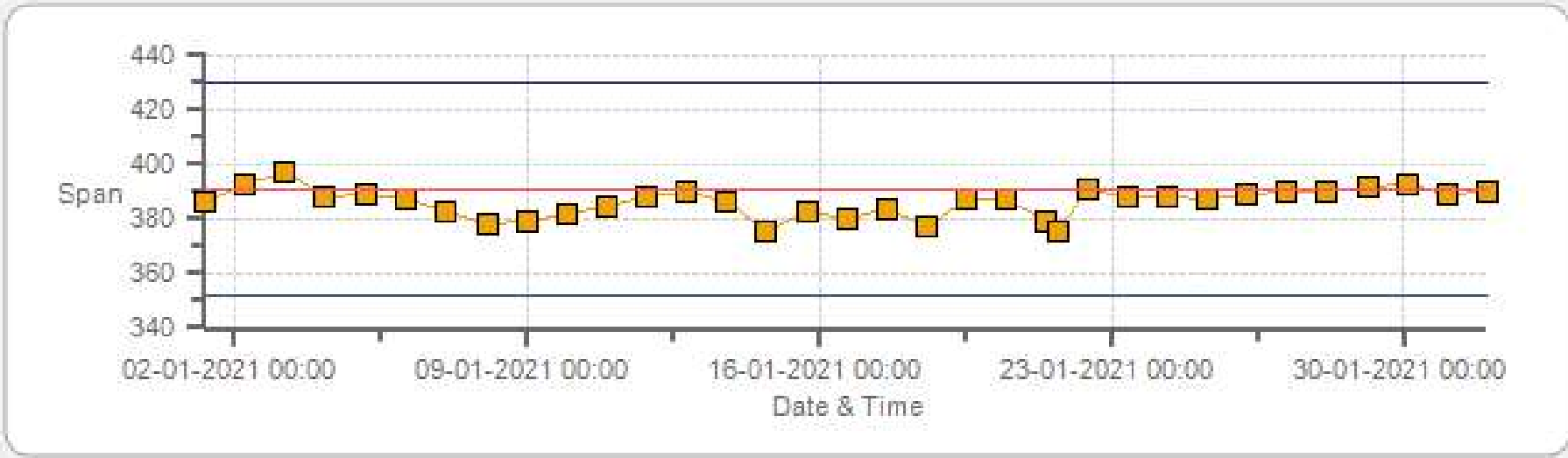
Span SpanRef Span Low Span High

NO2[ppb] Calibration: Maskwa Monthly: 01-2021 Type: SpanAndZero - Zero



Zero Zero Ref Zero Low Zero High

NO2[ppb] Calibration: Maskwa Monthly: 01-2021 Type: SpanAndZero - Span



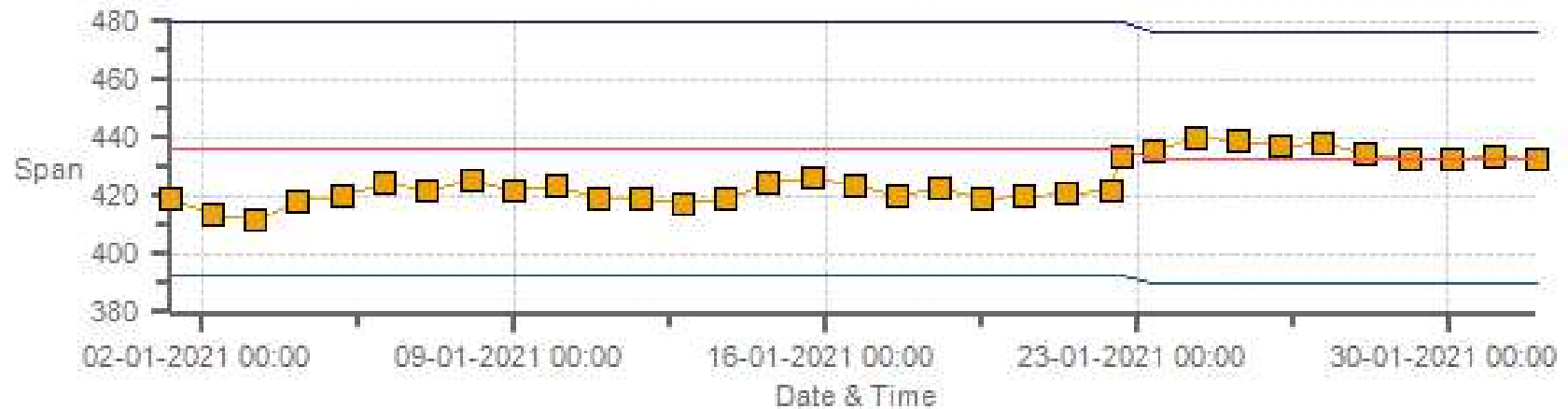
Span SpanRef Span Low Span High

O3[ppb] Calibration: Maskwa Monthly: 01-2021 Type: SpanAndZero - Zero



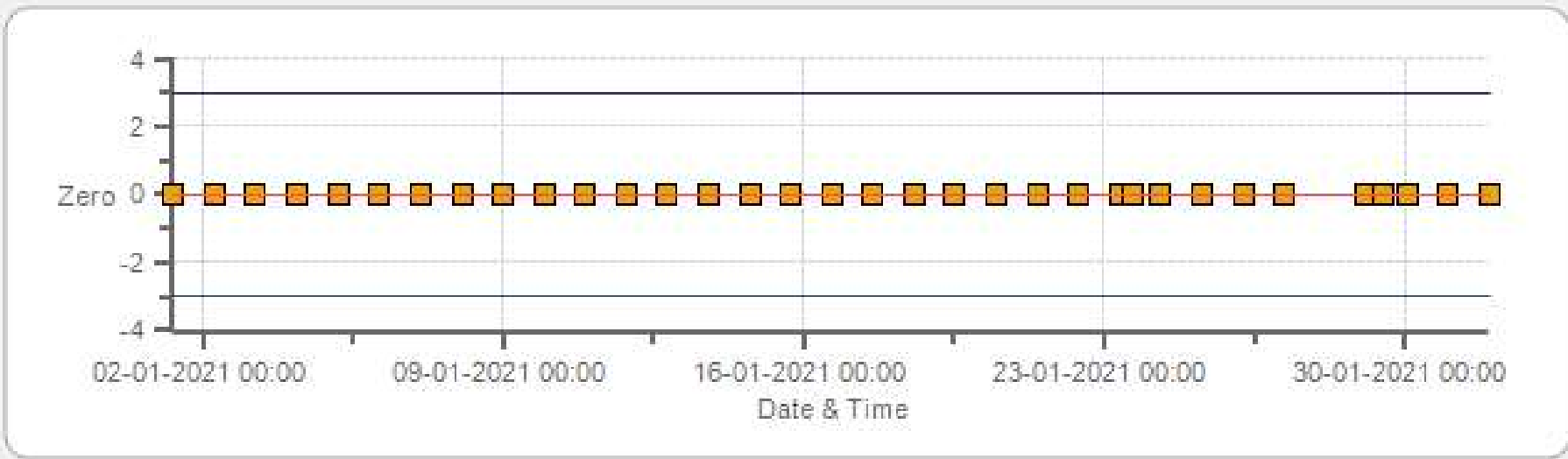
Zero Zero Ref Zero Low Zero High

O3[ppb] Calibration: Maskwa Monthly: 01-2021 Type: SpanAndZero - Span



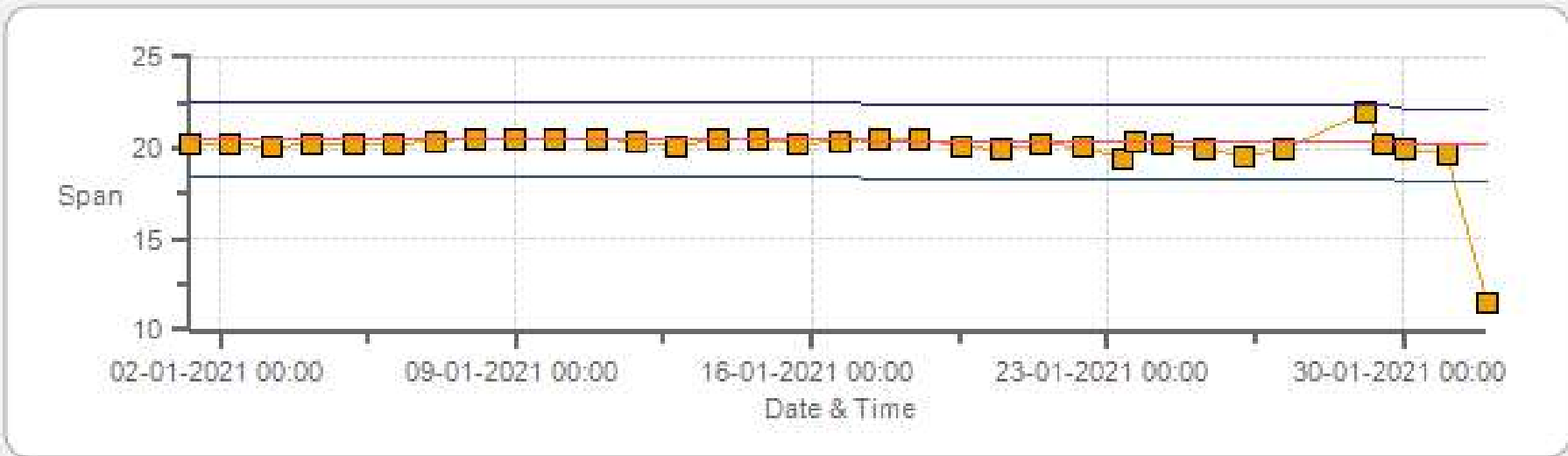
Span SpanRef Span Low Span High

THC55[ppm] Calibration: Maskwa Monthly: 01-2021 Type: SpanAndZero - Zero



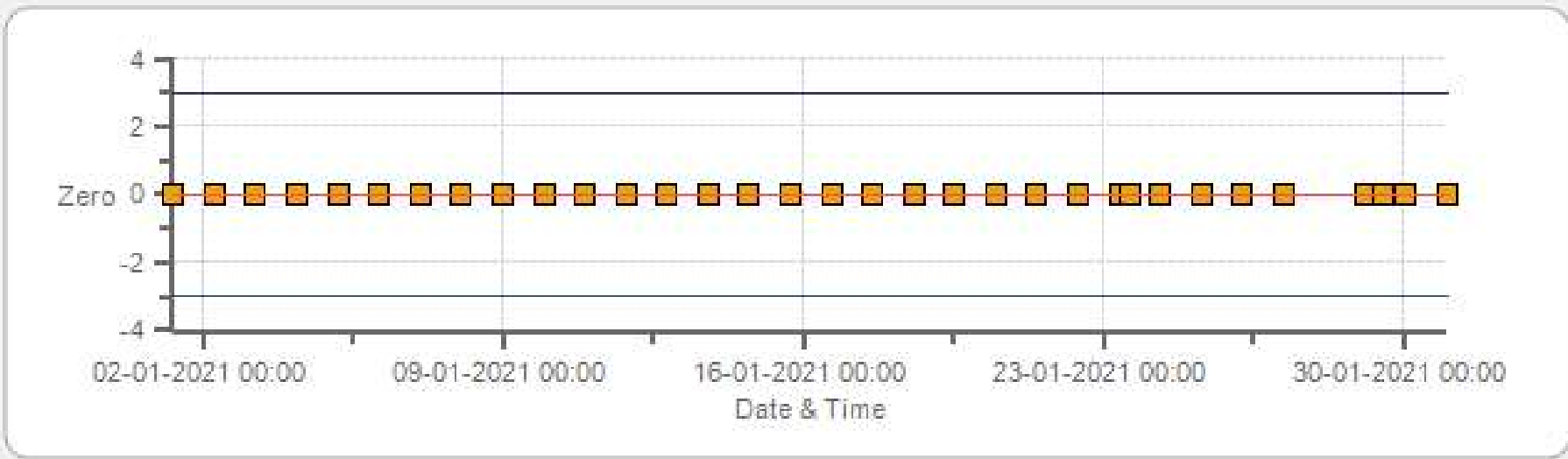
Zero Zero Ref Zero Low Zero High

THC55[ppm] Calibration: Maskwa Monthly: 01-2021 Type: SpanAndZero - Span



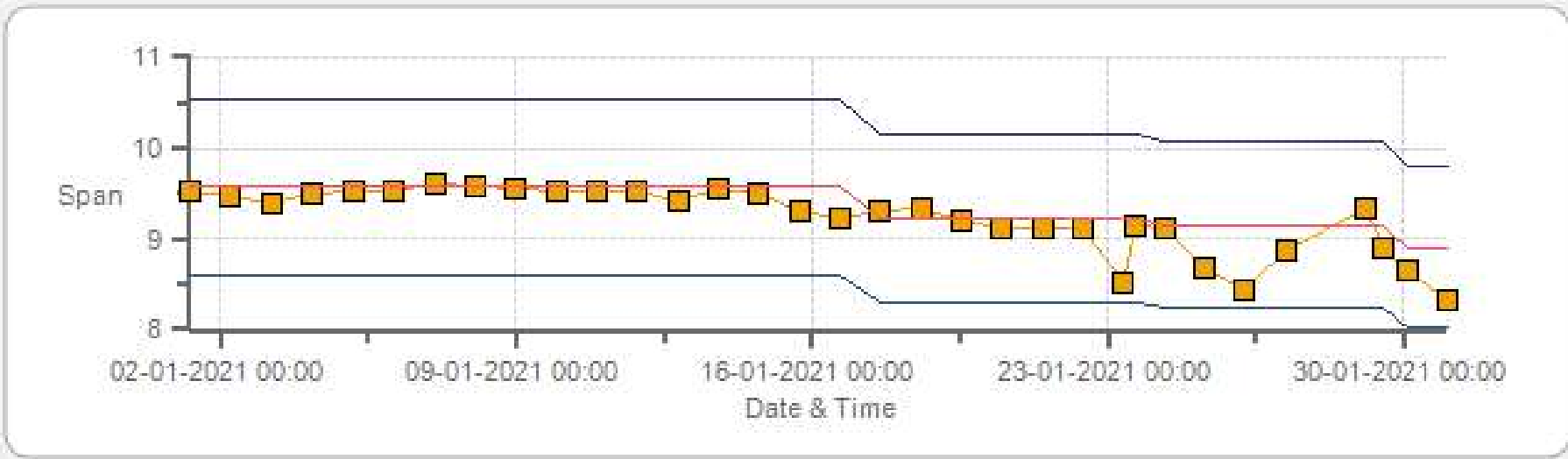
Span SpanRef Span Low Span High

CH4[ppm] Calibration: Maskwa Monthly: 01-2021 Type: SpanAndZero - Zero



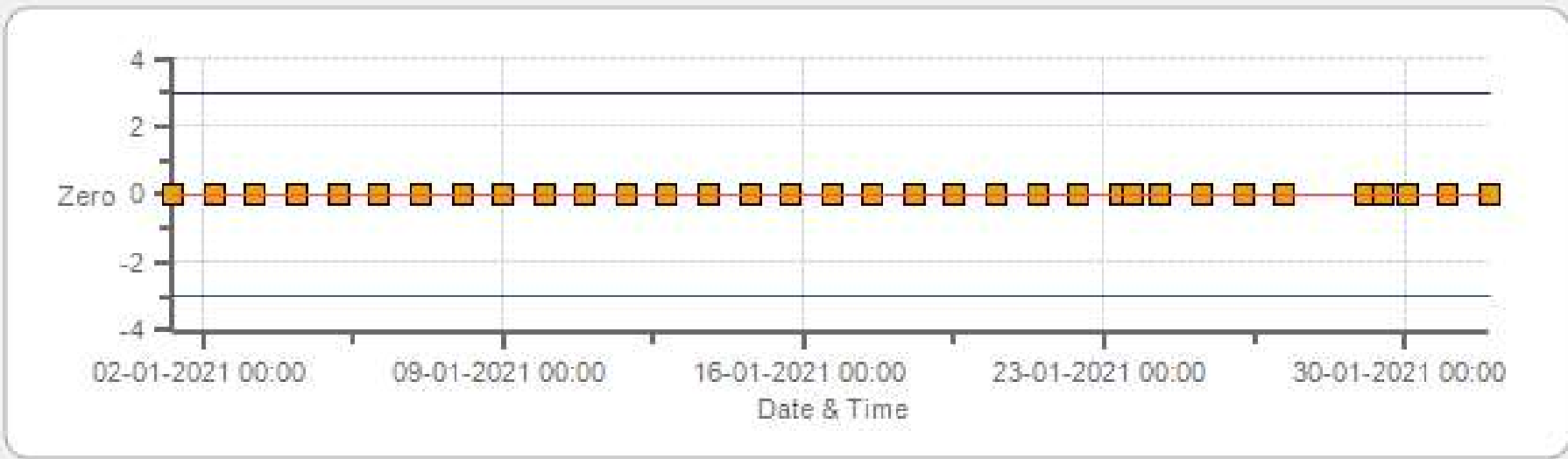
Zero Zero Ref Zero Low Zero High

CH4[ppm] Calibration: Maskwa Monthly: 01-2021 Type: SpanAndZero - Span



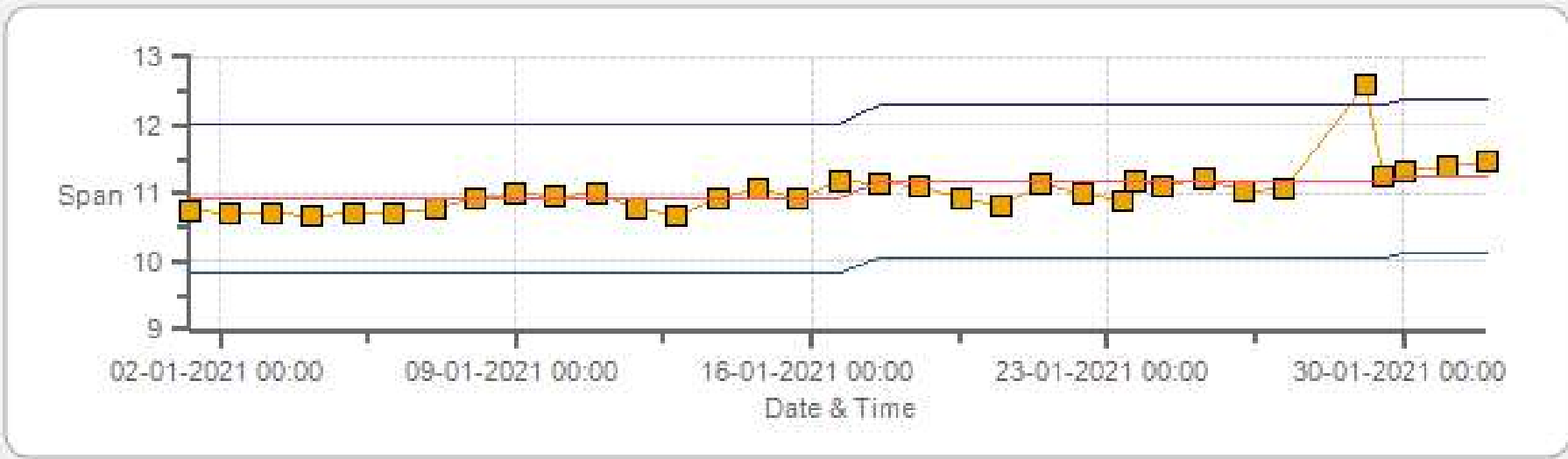
Span Span Ref Span Low Span High

NMHC[ppm] Calibration: Maskwa Monthly: 01-2021 Type: SpanAndZero - Zero



Zero Zero Ref Zero Low Zero High

NMHC[ppm] Calibration: Maskwa Monthly: 01-2021 Type: SpanAndZero - Span



Span SpanRef Span Low Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution



DATE:	21-Jan-2021	PREVIOUS CALIBRATION DATE:	17-Dec-2020
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	0.999
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Maskwa	BAROMETRIC (mBar):	938
PURPOSE:	Routine	START TIME (MST):	11:01
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:08

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1180930031	FLOW (mL/min)	443
INITIAL		FINAL	
BKG/OFFSET	2.64	BKG/OFFSET	2.6
COEF/SLOPE	0.989	COEF/SLOPE	0.988
Expected (reference) Value	365.7	Expected (reference) Value	359

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):	700	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:

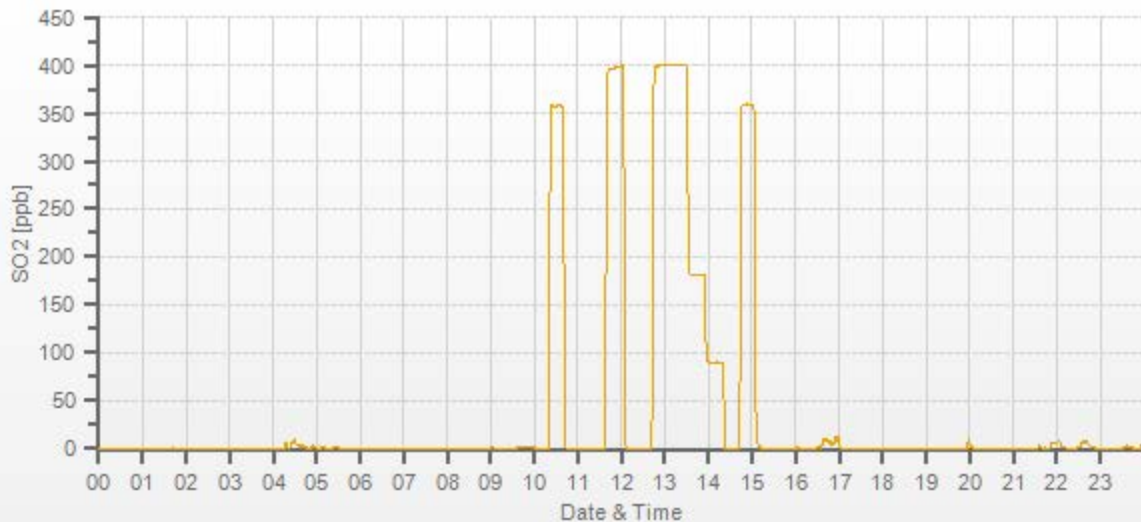
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
5000	38.70	5000	0.00	-0.1	0	1.005	1.000
4959	38.70	4998	399.54	397.6	399.6	1.005	1.000
4980	17.60	4998	181.70	n/a	181.1	n/a	1.003
4989	8.80	4998	90.85	n/a	90.2	n/a	1.007

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-Jan-2021	PREVIOUS CALIBRATION DATE:	17-Dec-2020
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	0.999
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Maskwa	BAROMETRIC (mBar):	938
PURPOSE:	Routine	START TIME (MST):	11:02
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:31

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	CM 17360005	FLOW (mL/min)	895
INITIAL		FINAL	
BKG/OFFSET	25.6	BKG/OFFSET	26.9
COEF/SLOPE	0.791	COEF/SLOPE	0.82
Expected (reference) Value	46.4	Expected (reference) Value	46

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):	600	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:	11:09	SO2 Conc (ppb)	380
END TIME:	11:24	Analyzer Response (ppb)	0.0

CALIBRATION:

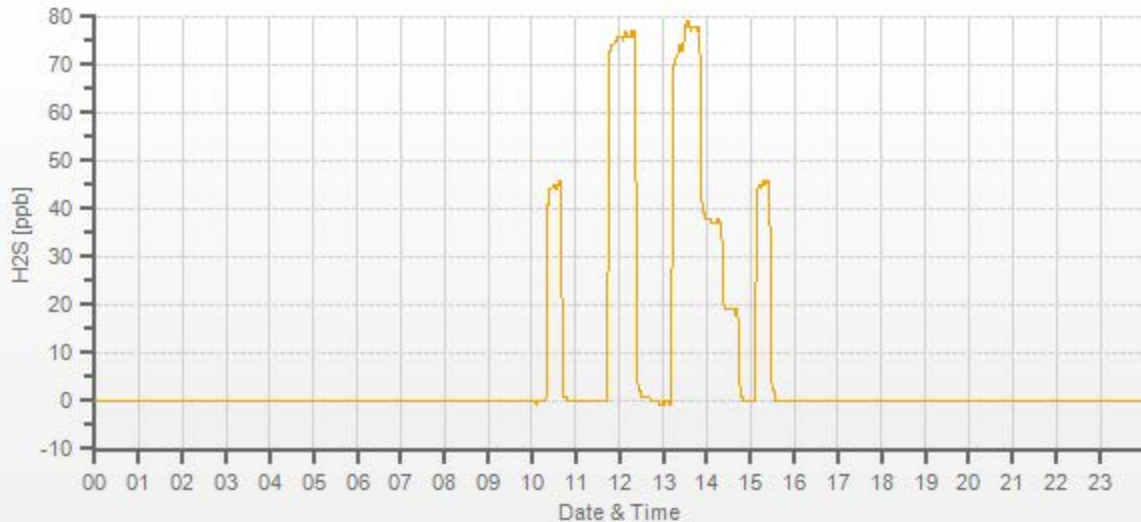
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
7500	58.50	7500	0.00	0.8	0	1.024	0.999
7442	58.50	7500	78.00	77	78.1	1.024	0.999
7472	28.50	7500	38.00	n/a	37.6	n/a	1.011
7486	14.20	7500	18.93	n/a	19.2	n/a	0.986

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	0.0%

COMMENTS:

Sample inlet filter was changed.



NOx Calibration by Dilution/Gas-Phase Titration



CALIBRATION:				ANALYZER:			
DATE:	21-Jan-2021	PREVIOUS CALIBRATION DATE:	17-Dec-2020	MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
CLIENT:	LICA	TEMPERATURE (°C):	22.0	SERIAL #:	1180930028	NOx	1.000
LOCATION:	Maskwa	BAROMETRIC (mBar):	938	FLOW (mL/min)	506	NO	1.001
PURPOSE:	Routine	START TIME (MST):	11:00	RANGE (ppb)	500	NO2	1.000
PERFORMED BY:	Alex Yakupov	END TIME (MST):	17:17	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):	700	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:	3.1	2.8	n/a	BKG/OFFSET:	3	2.9	n/a
SLOPE/COEF/CE:	1.006	0.981	1	SLOPE/COEF/CE:	1.007	1.005	1

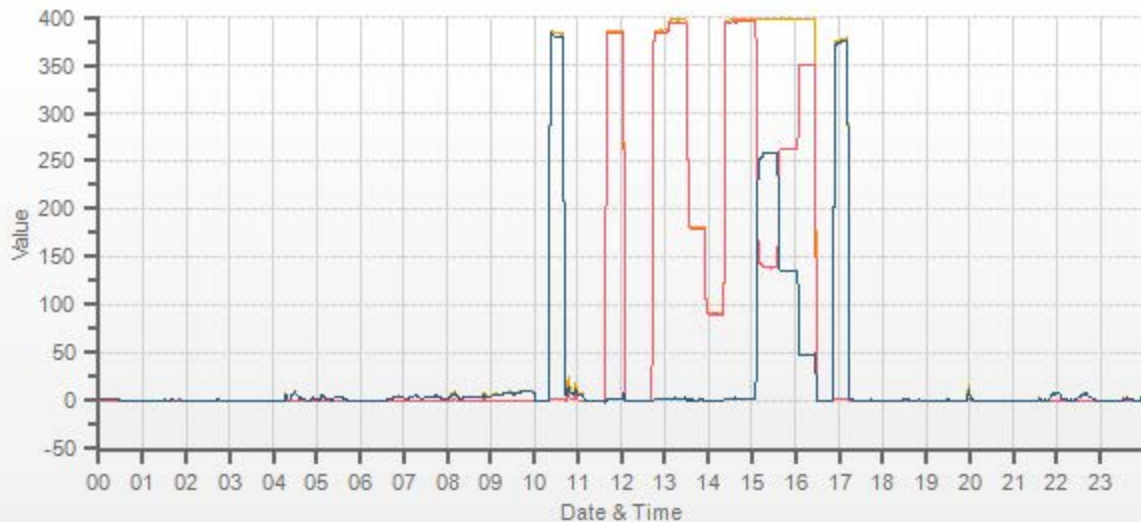
EXPECTED (REFERENCE) VALUE:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	394.1	3.1	391.0		393.0	2.8	391.0

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

NO/NOx CALIBRATION:																		
FLOW RATE			CONCENTRATION (ppb)									CORRECTION FACTOR (CF.)						
(mL/min)			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL			
DILUENT	GAS	TOTAL	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	
5000	38.70	5000	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	1.028	1.026	0.998	1.000	0.998	0.992	
4959	38.70	4998	394.1	395.7	1.5	383.4	385.6	2.1	394.0	396.5	2.5	1.028	1.026	0.998	1.000	0.998	0.992	
4980	17.60	4998	179.2	179.9	0.7	n/a	n/a	n/a	180.1	181.4	1.3	n/a	n/a	0.995	0.992	0.992	0.992	
4989	8.80	4998	89.6	90.0	0.4	n/a	n/a	n/a	90.4	91.1	0.6	n/a	n/a	0.991	0.988	0.988	0.988	

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	395.2	397.6	2.4	256.4	256.6	0.999	100.08%
AS-FOUND HIGH	38.70	4997	240	138.8	397.8	259.0	256.4	256.6	0.999	100.08%
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	262.3	397.7	135.4	132.9	133	0.999	100.08%
LOW	38.70	4997	45	351.0	398.0	47.0	44.2	44.6	0.991	100.90%
NO2 adjustment not required.									AVERAGE:	100.35%

LINEAR REGRESSION ANALYSIS:				COMMENTS:
	CORRELATION	SLOPE	INTERCEPT	
NO	1.000	0.999	0.11%	
NOx	1.000	1.001	0.12%	
NO2	1.000	0.999	0.07%	



CAL-LICA-202101-01248

Ozone Calibration by Photometer (Varying UV Lamp)



DATE:	22-Jan-2021	PREVIOUS CALIBRATION DATE:	24-Dec-2020
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Maskwa	BAROMETRIC (mBar):	933
PURPOSE:	Routine	START TIME (MST):	11:25
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:21

ANALYZER:

MAKE/MODEL	Thermo 49iQ	RANGE	500 ppb
SERIAL #	1202068570	FLOW (mL/min)	1340
INITIAL		FINAL	
BKG/OFFSET	2.6	BKG/OFFSET	3.1
COEF/SLOPE	1.032	COEF/SLOPE	1.051
Expected (reference) Value	436	Expected (reference) Value	433

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:

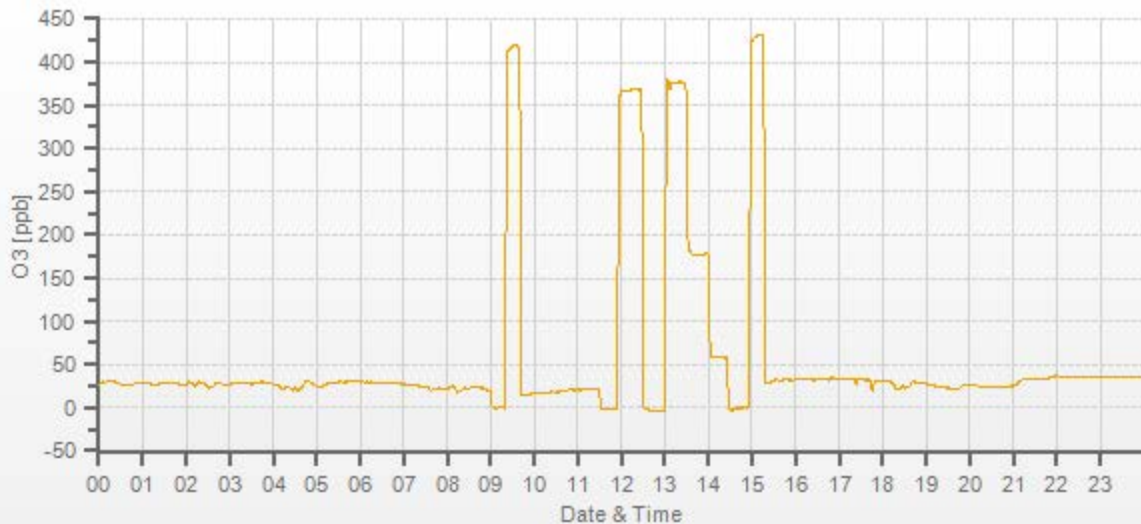
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
5000	 	5000	0.0	1.0	0.0	 	
5000	 	5000	378.0	371.6	379.8	1.020	0.995
5000	 	5000	180.0	n/a	179.8	n/a	1.001
5000	 	5000	60.0	n/a	61.2	n/a	0.980

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.003	0.0%

COMMENTS:

Sample inlet filter was changed.



Methane/Non-Methane Analyzer Calibration by Dilution



CALIBRATION:				ANALYZER:			
DATE:	16-Jan-2021	PREVIOUS CALIBRATION DATE:	17-Dec-2020	VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
CLIENT:	LICA	TEMPERATURE (°C):	22.0		Thermo 55i	1180930026	1014
LOCATION:	Maskwa	BAROMETRIC (mBar):	935	PARAMETER:	CH4	NMHC	THC
PURPOSE:	Routine	START TIME (MST):	11:52	RANGE (ppm):	20	20	40
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:45	PREVIOUS CF:	1.002	1.001	1.001

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
	9.57	10.94	20.51		9.23	11.18	20.41

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
3097	X	3097	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	13.60	13.64	27.25	14.42	13.58	28.00	1.058	0.997	1.027	0.998	1.002	1.000
3073	25.60	3099	7.19	6.79	13.98	n/a	n/a	n/a	7.27	6.80	14.07	n/a	n/a	n/a	0.989	0.999	0.994
3087	12.80	3100	3.59	3.40	6.99	n/a	n/a	n/a	3.65	3.34	6.99	n/a	n/a	n/a	0.984	1.016	1.000

LINEAR REGRESSION ANALYSIS:

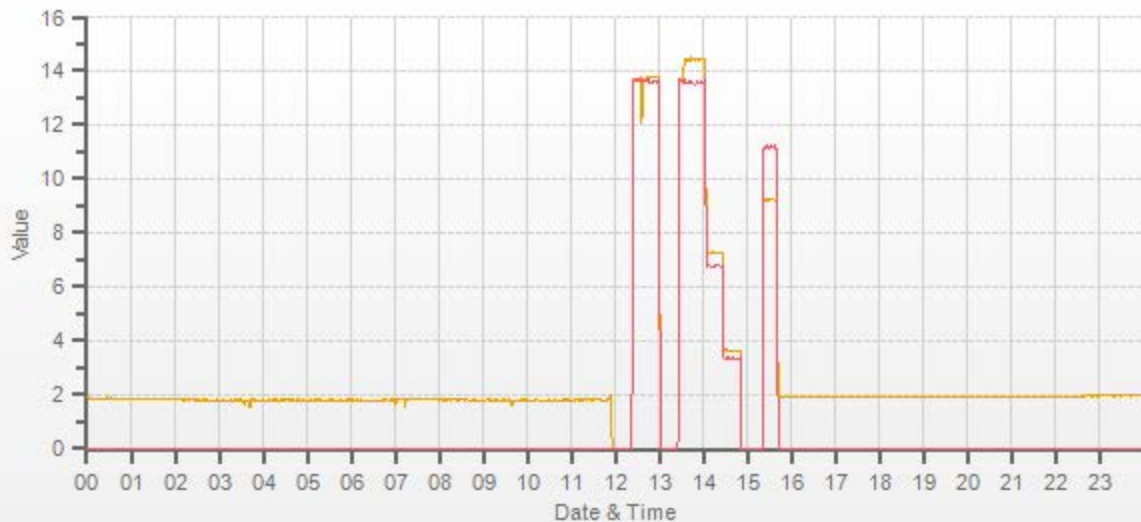
	CORRELATION	SLOPE	INTERCEPT
CH ₄	1.000	1.001	0.2%
NMHC	1.000	1.000	-0.1%
THC	1.000	1.001	0.0%

Comments:

Sample inlet filter was changed.

Use Zero Chrom?

Yes



CAL-LICA-202101-01248

Methane/Non-Methane Analyzer Calibration by Dilution



CALIBRATION:				ANALYZER:			
DATE:	23-Jan-2021	PREVIOUS CALIBRATION DATE:	16-Jan-2021	VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
CLIENT:	LICA	TEMPERATURE (°C):	22.0		Thermo 55i	1180930026	1014
LOCATION:	Maskwa	BAROMETRIC (mBar):	940	PARAMETER:	CH4	NMHC	THC
PURPOSE	Repeat	START TIME (MST):	11:47	RANGE (ppm):	20	20	40
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:27	PREVIOUS CF:	1.002	1.001	1.001

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
	9.23	11.18	20.41		9.15	11.18	20.33

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
3097	X	3097	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	15.00	13.27	28.27	14.38	13.62	28.00	0.959	1.025	0.990	1.001	0.999	1.000
3073	25.60	3099	7.19	6.79	13.98	n/a	n/a	n/a	7.22	6.72	13.95	n/a	n/a	n/a	0.995	1.011	1.002
3087	12.80	3100	3.59	3.40	6.99	n/a	n/a	n/a	3.62	3.38	7.00	n/a	n/a	n/a	0.992	1.004	0.998

LINEAR REGRESSION ANALYSIS:

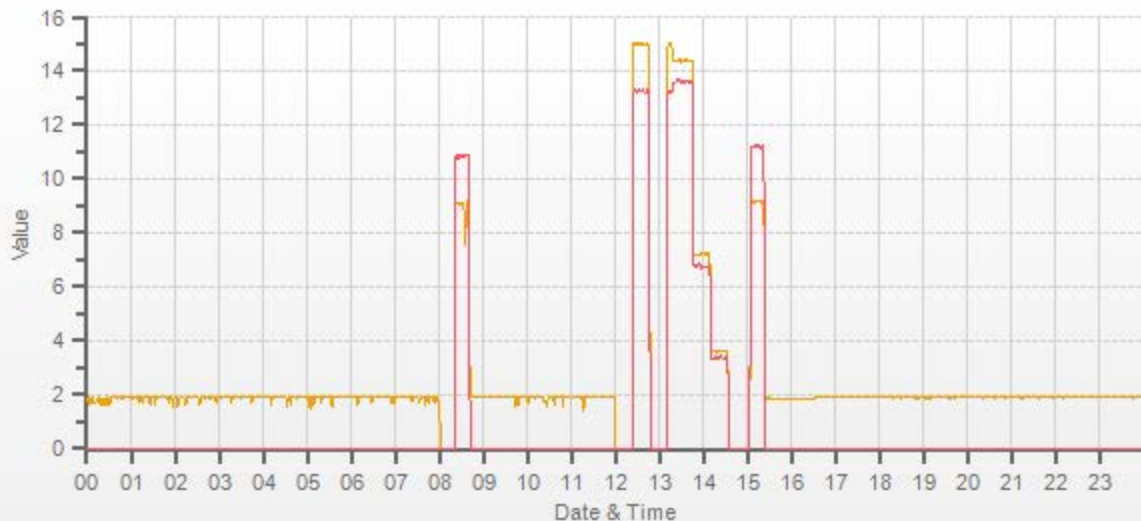
	CORRELATION	SLOPE	INTERCEPT
CH ₄	1.000	0.999	0.1%
NMHC	1.000	1.001	-0.1%
THC	1.000	1.000	0.0%

Comments:

The Repeat calibration was completed due to frequent bad injections.

Use Zero Chrom?

Yes



CAL-LICA-202101-01248

Methane/Non-Methane Analyzer Calibration by Dilution



CALIBRATION:				ANALYZER:			
DATE:	29-Jan-2021	PREVIOUS CALIBRATION DATE:	n/a	VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
CLIENT:	LICA	TEMPERATURE (°C):	23.1		Thermo 55i	1180930026	1020
LOCATION:	Maskwa	BAROMETRIC (mBar):	936	PARAMETER:	CH4	NMHC	THC
PURPOSE:	Install/Post-Repair	START TIME (MST):	09:16	RANGE (ppm):	20	20	40
PERFORMED BY:	Chris Wesson	END TIME (MST):	12:19	PREVIOUS CF:	n/a	n/a	n/a

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:		FLOWMETERS (if applicable):	
MAKE:	Sabio	MAKE:	API	CYLINDER ID:	LL168375	HIGH ID:	n/a
MODEL:	2010	MODEL:	701	CH ₄ /C ₃ H ₈ (ppm):	914.0 307.0	HIGH EXPIRY:	n/a
ID:	26701218	ID:	1104	CYLINDER (psi):	1500	LOW ID:	n/a
MFC CALIBRATION DATE:	06-Jan-2021	OXIDIZER ID:	n/a	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	8.91	11.25

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
3099	X	3099	0.00	0.00	0.00	n/a	n/a	n/a	0.00	0.00	0.00	X	X	X	X	X	X
3049	49.30	3098	14.54	13.43	27.98	n/a	n/a	n/a	14.51	13.41	27.92	n/a	n/a	n/a	1.002	1.002	1.002
3074	24.70	3099	7.28	6.73	14.01	n/a	n/a	n/a	7.19	6.69	13.88	n/a	n/a	n/a	1.013	1.006	1.010
3087	12.30	3099	3.63	3.35	6.98	n/a	n/a	n/a	3.54	3.37	6.91	n/a	n/a	n/a	1.025	0.994	1.010

LINEAR REGRESSION ANALYSIS:

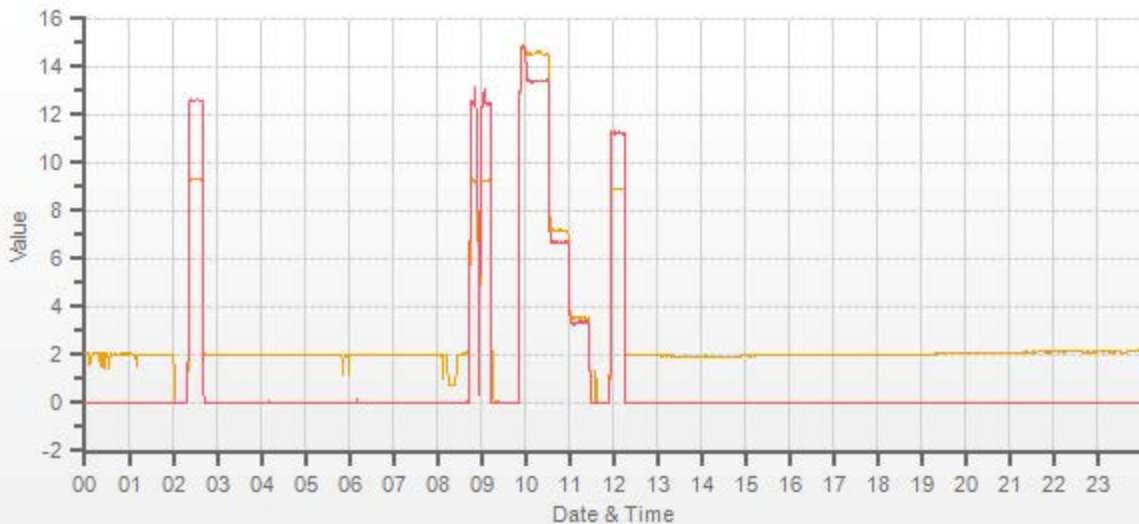
	CORRELATION	SLOPE	INTERCEPT
CH ₄	1.000	0.999	-0.2%
NMHC	1.000	0.997	0.0%
THC	1.000	0.998	-0.1%

Comments:

Rotor/actuator replaced; gas pressure adjusted

Use Zero Chrom?

Yes



CAL-LICA-202101-01248

Thermo 5030 SHARP Monitor Monthly Check

Date: January 22, 2021
Company: LICA
Station Name/Location: Maskwa
Previous Audit Date: December 24, 2020
Parameter: PM 2.5

Performed By/Reviewer: Alex Yakupov | Chris Wesson
Start Time (mst): 14:43
End Time (mst): 16:10
Calibration Purpose: routine monthly
Weather Conditions: Light snow

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:	DeltaCal	DeltaCal	DeltaCal	DeltaCal
Model:	DC1	DC1	DC1	DC1
Serial Number:	177246	177246	177246	177246
Calibration Expiration Date:	March 27, 2021	March 27, 2021	March 27, 2021	March 27, 2021

As found temperature and pressure:

<p style="text-align: center;">Tolerance +/- 4°C</p> <p>SHARP T1 °C: <u>-5.0</u></p> <p>Reference °C: <u>-6.0</u></p> <p>Difference °C: <u>-1.0</u></p>	<p style="text-align: center;">Tolerance +/- 13.33 hPa</p> <p>SHARP P3 (hPa): <u>935.000</u></p> <p>Reference (hPa): <u>935.000</u></p> <p>Difference (hPa): <u>0.000</u></p>
---	---

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>-5.0</u></p> <p>Reference °C: <u>-6.0</u></p> <p>Difference °C: <u>-1.0</u></p>	<p style="text-align: center;">Tolerance +/- 13.33 hPa</p> <p>SHARP P3 (hPa): <u>935.000</u></p> <p>Reference (hPa): <u>935.000</u></p> <p>Difference : <u>0.000</u></p>
---	--

As found flows:

<p>Targets: 1000 l/hr / <90%</p> <p>SHARP AirFlow l/hr <u>1000.00</u></p> <p>Pump Voltage (%) <u>52.20</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>16.83</u></p> <p>Difference (l/min) <u>0.16</u></p>
---	--

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>52.20</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>16.67</u></p> <p>Difference (l/min) <u>0.00</u></p>
---	--

Inlet Assembly:

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

Comments:

Leak check: 16.67 vs 16.55, 0.12 < 0.8 lpm, passed.



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

JANUARY 2021

Ambient Air Monitoring Calibration Report

- ST. LINA STATION-

CAL-LICA-202101-01250

Station Operation and Maintenance:

Bureau Veritas Canada

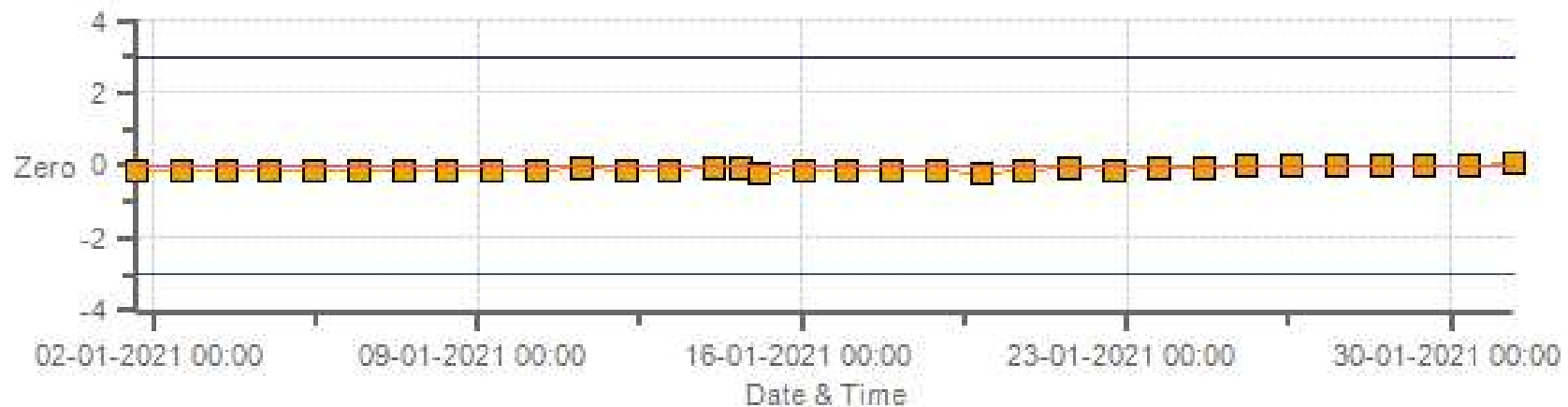
Data Validation and Report:

LICA / Bureau Veritas Canada

February 18, 2021

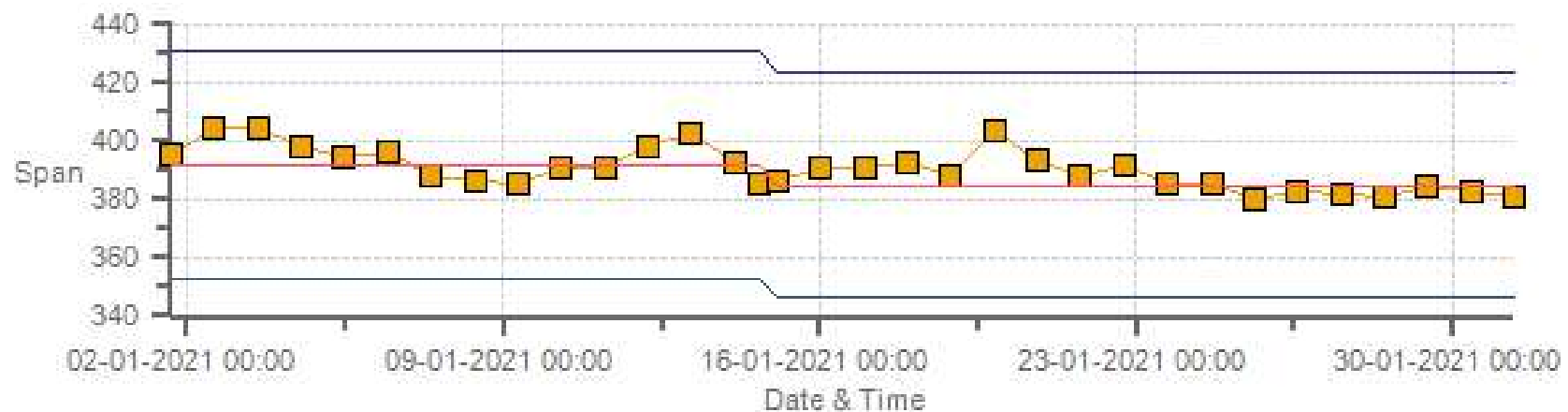
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2[ppb] Calibration: St. Lina Monthly: 01-2021 Type: SpanAndZero - Zero



Zero Zero Ref Zero Low Zero High

SO2[ppb] Calibration: St. Lina Monthly: 01-2021 Type: SpanAndZero - Span



Span Span Ref Span Low Span High

H2S[ppb] Calibration: St. Lina Monthly: 01-2021 Type: SpanAndZero - Zero



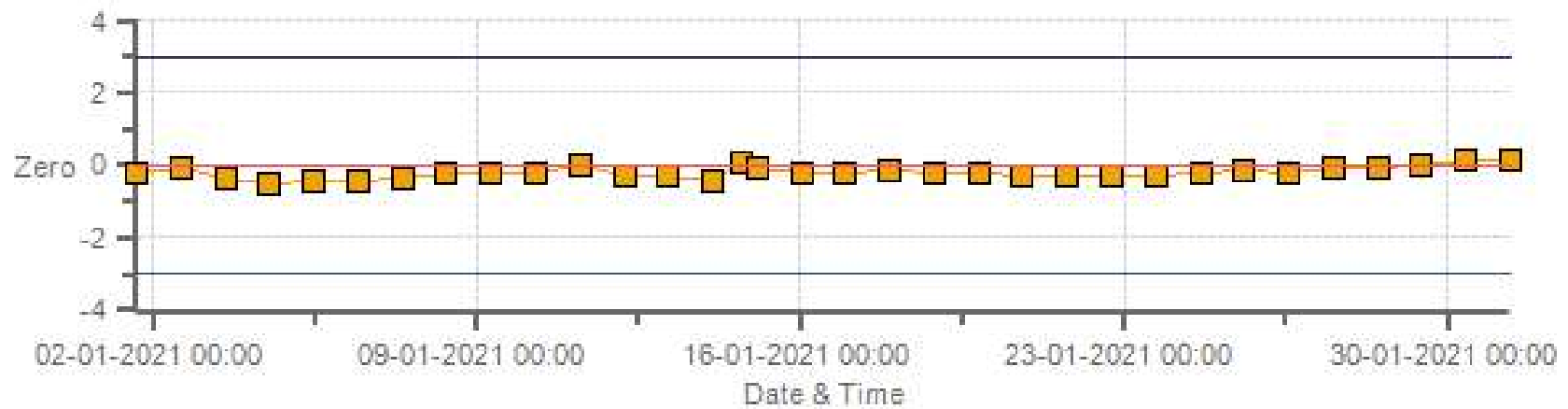
Zero Zero Ref Zero Low Zero High

H2S[ppb] Calibration: St. Lina Monthly: 01-2021 Type: SpanAndZero - Span



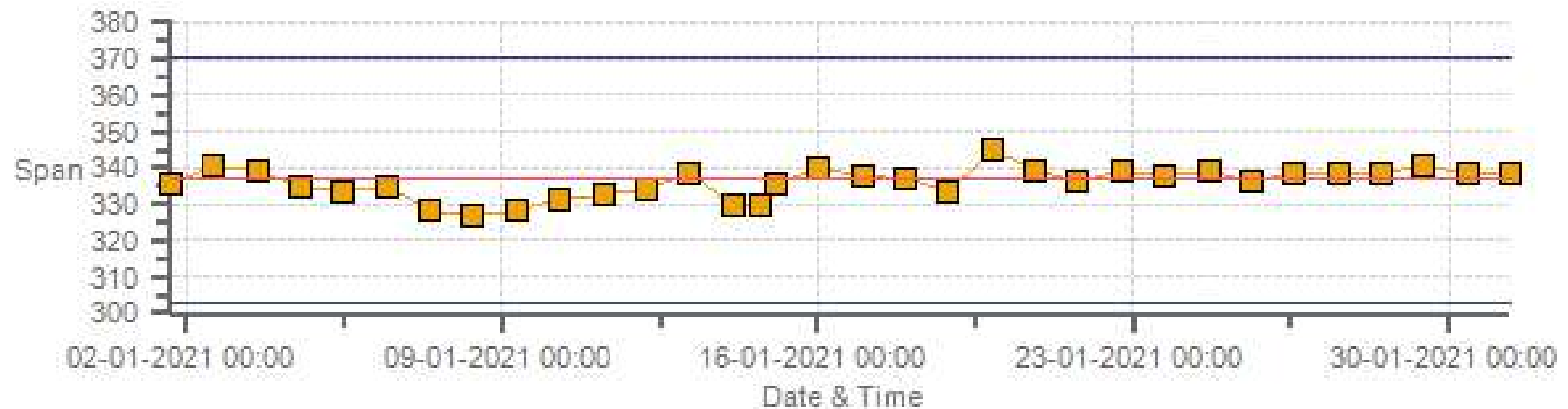
Span SpanRef Span Low Span High

NOX[ppb] Calibration: St. Lina Monthly: 01-2021 Type: SpanAndZero - Zero



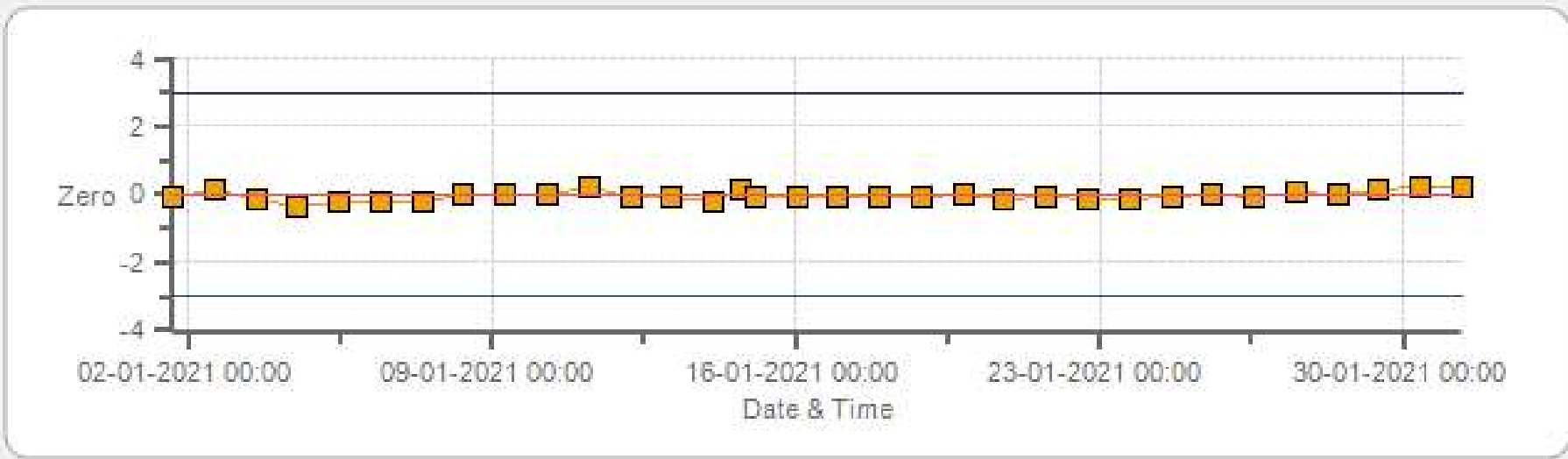
Zero Zero Ref Zero Low Zero High

NOX[ppb] Calibration: St. Lina Monthly: 01-2021 Type: SpanAndZero - Span



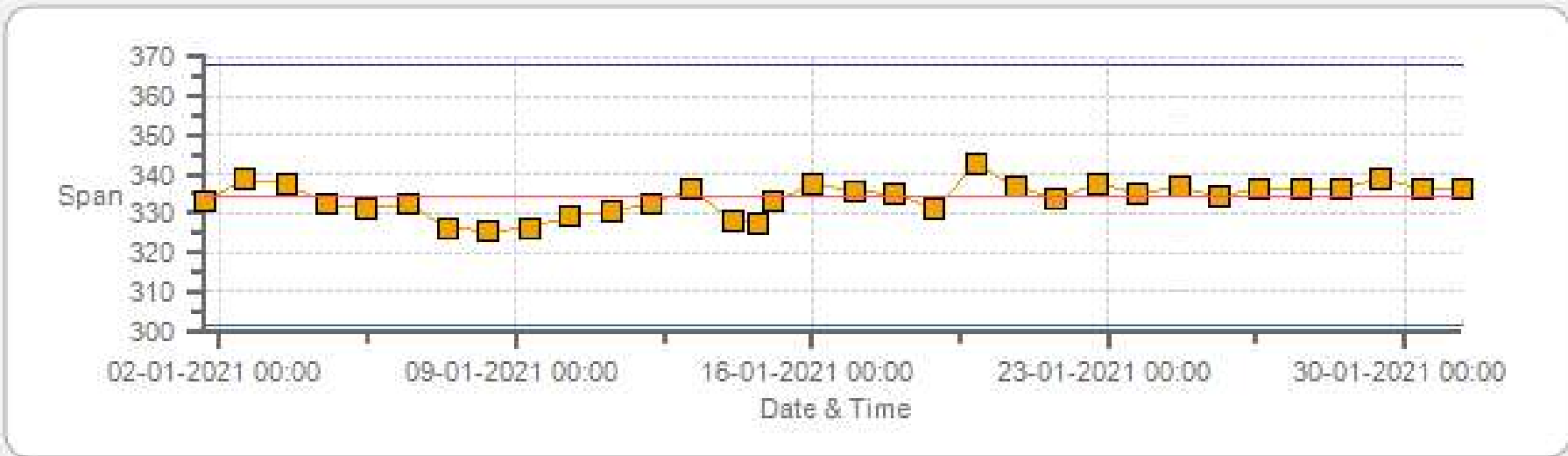
Span Span Ref Span Low Span High

NO2[ppb] Calibration: St. Lina Monthly: 01-2021 Type: SpanAndZero - Zero



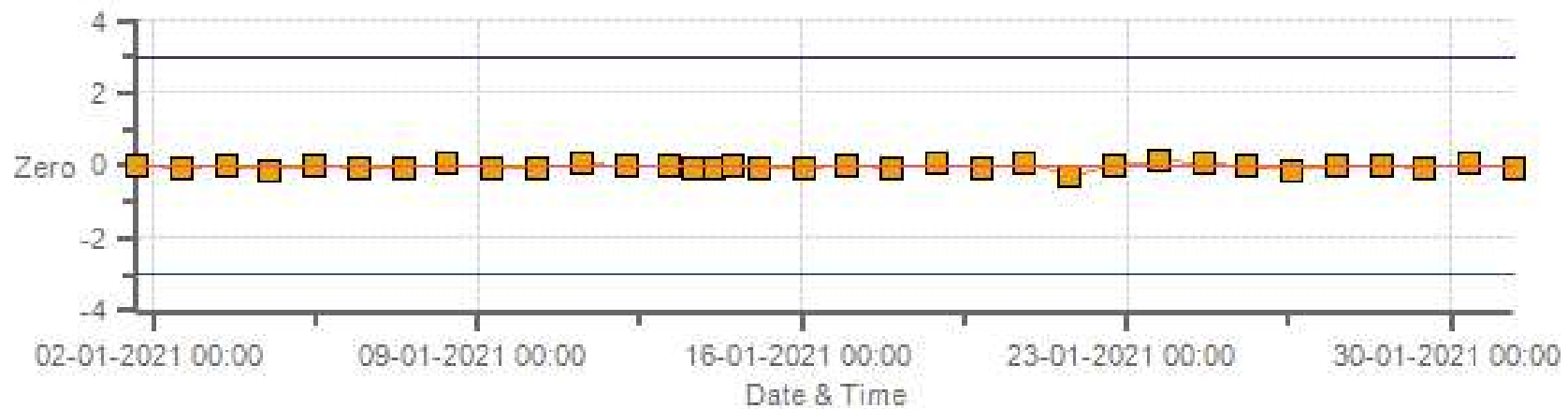
Zero Zero Ref Zero Low Zero High

NO2[ppb] Calibration: St. Lina Monthly: 01-2021 Type: SpanAndZero - Span



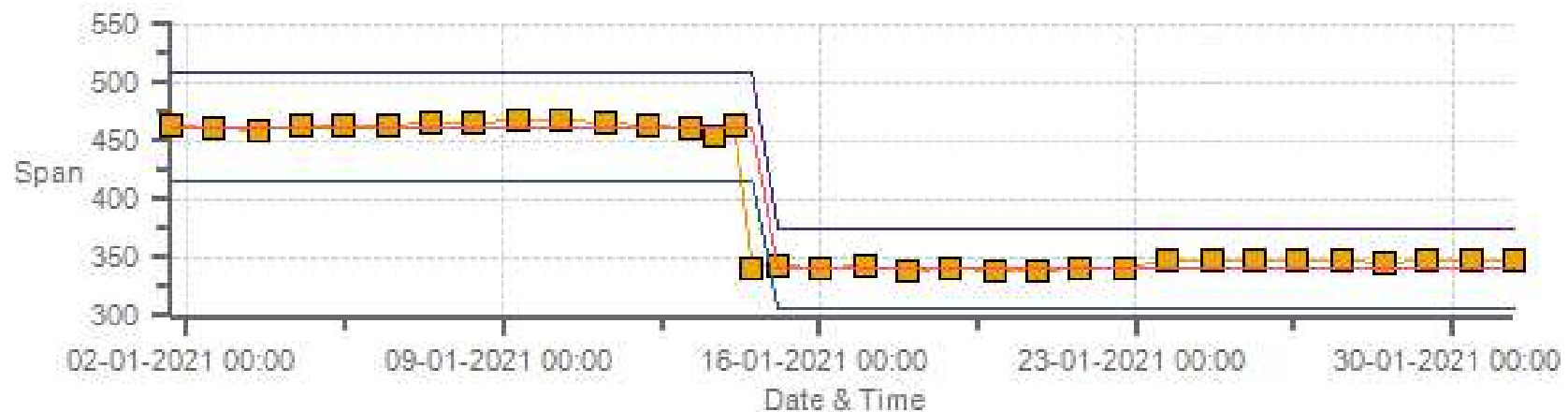
Span SpanRef Span Low Span High

O3[ppb] Calibration: St. Lina Monthly: 01-2021 Type: SpanAndZero - Zero



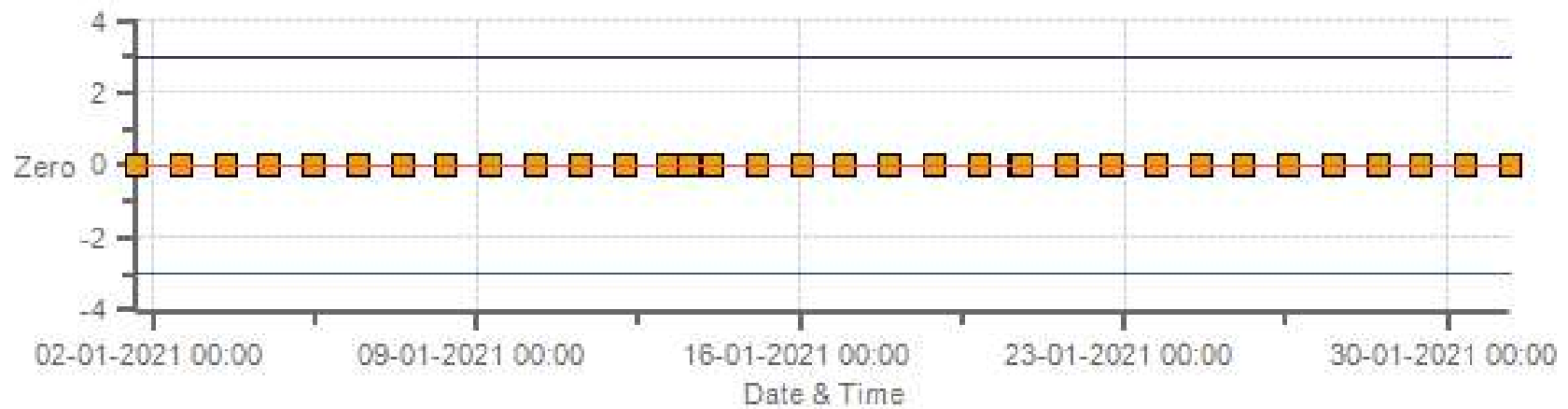
Zero Zero Ref Zero Low Zero High

O3[ppb] Calibration: St. Lina Monthly: 01-2021 Type: SpanAndZero - Span



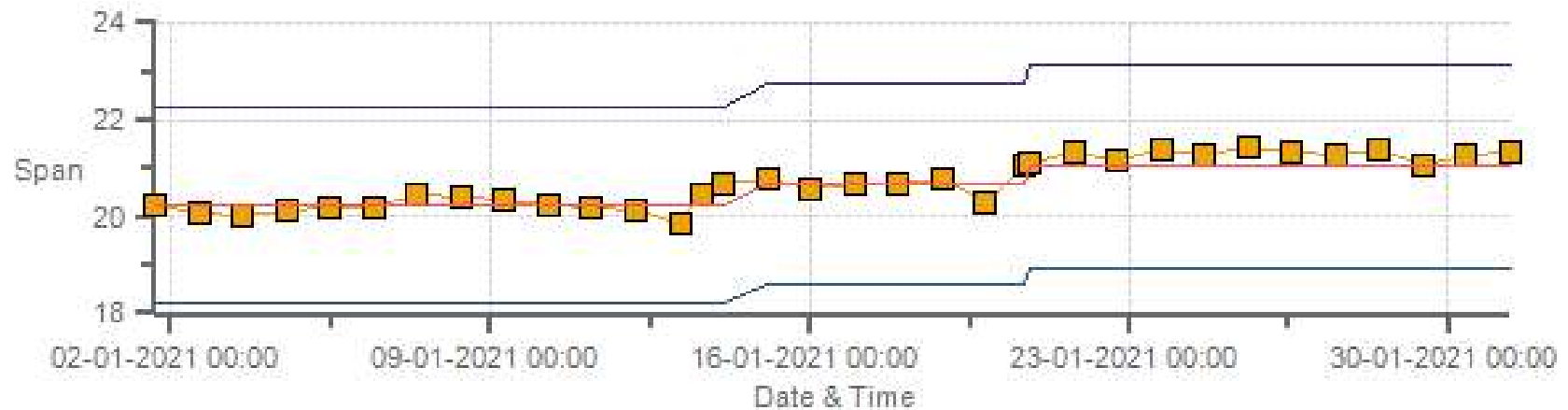
Span SpanRef Span Low Span High

THC55[ppm] Calibration: St. Lina Monthly: 01-2021 Type: SpanAndZero - Zero



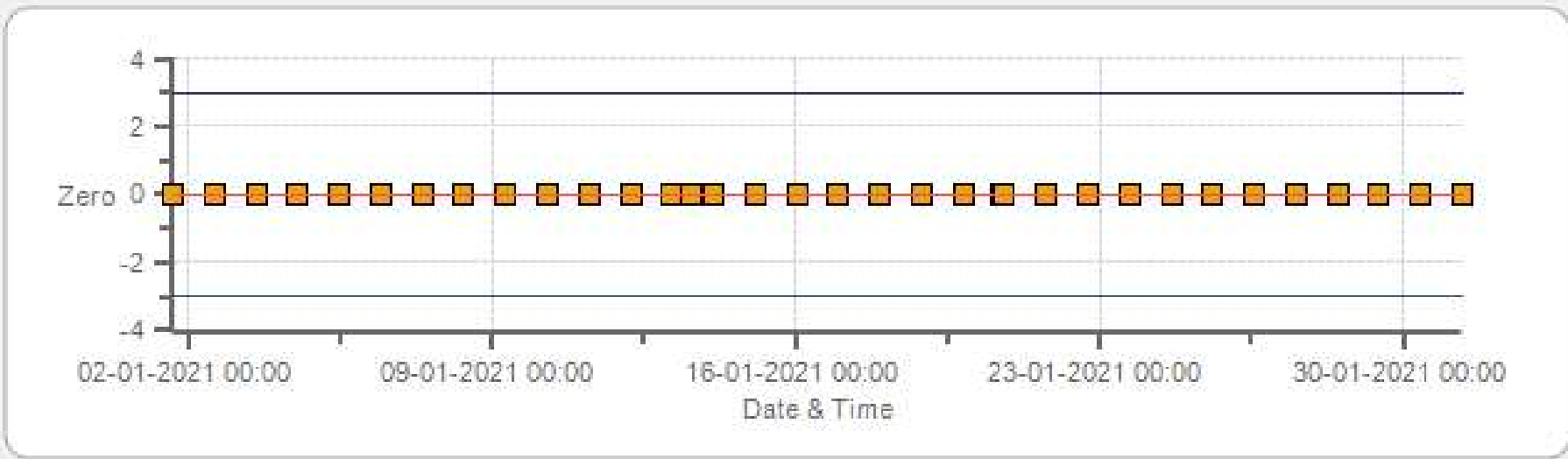
Zero Zero Ref Zero Low Zero High

THC55[ppm] Calibration: St. Lina Monthly: 01-2021 Type: SpanAndZero - Span



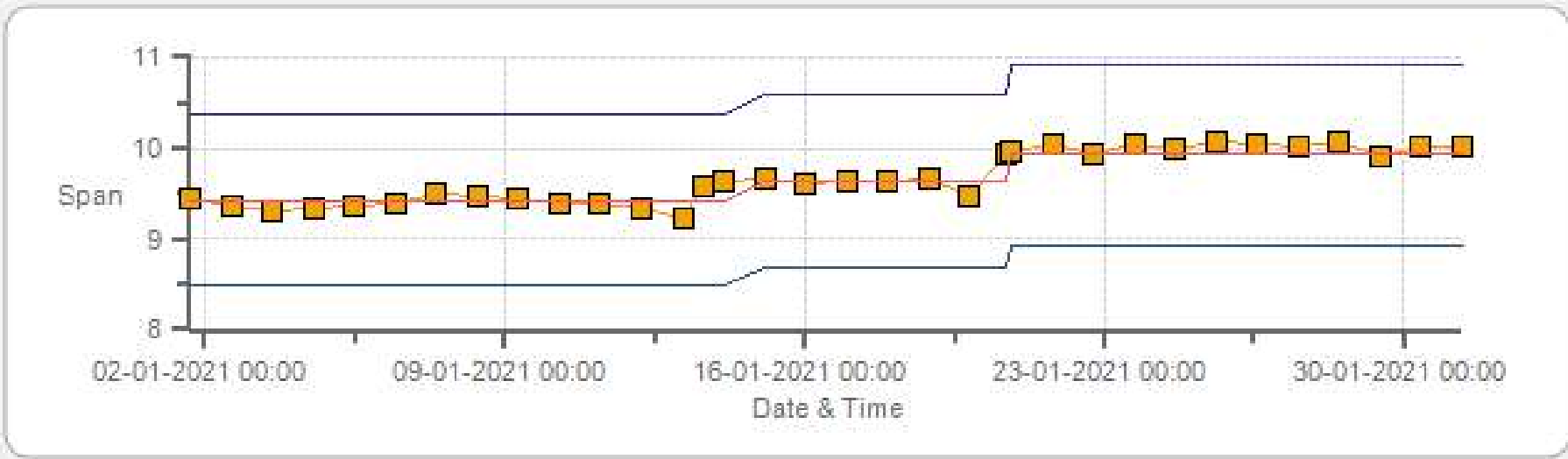
Span SpanRef Span Low Span High

CH4[ppm] Calibration: St. Lina Monthly: 01-2021 Type: SpanAndZero - Zero



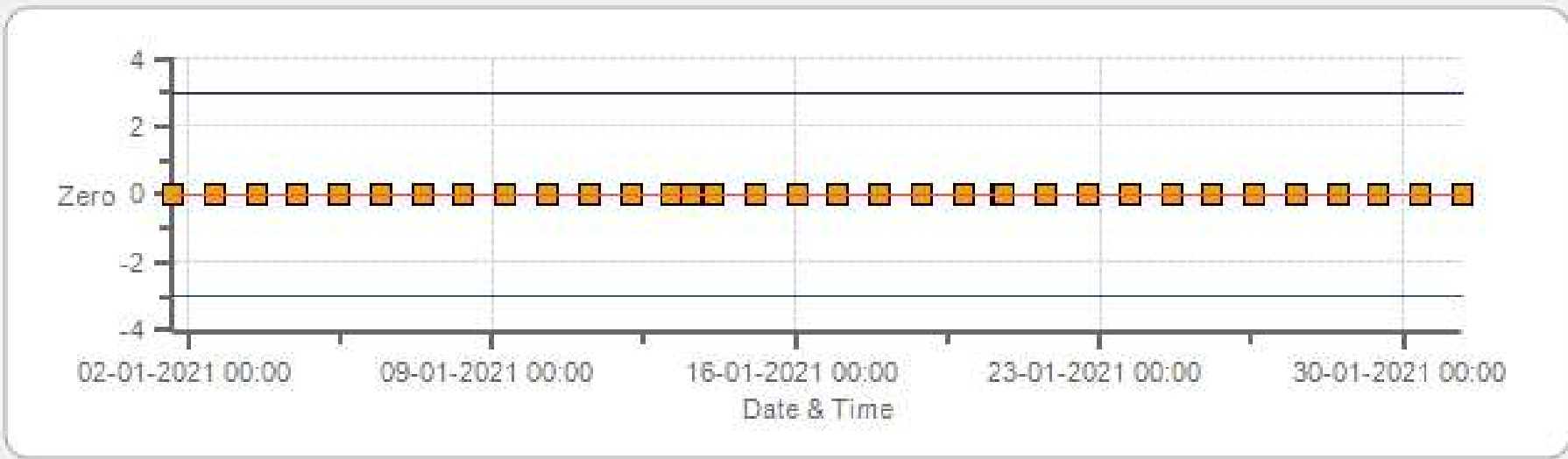
Zero Zero Ref Zero Low Zero High

CH4[ppm] Calibration: St. Lina Monthly: 01-2021 Type: SpanAndZero - Span



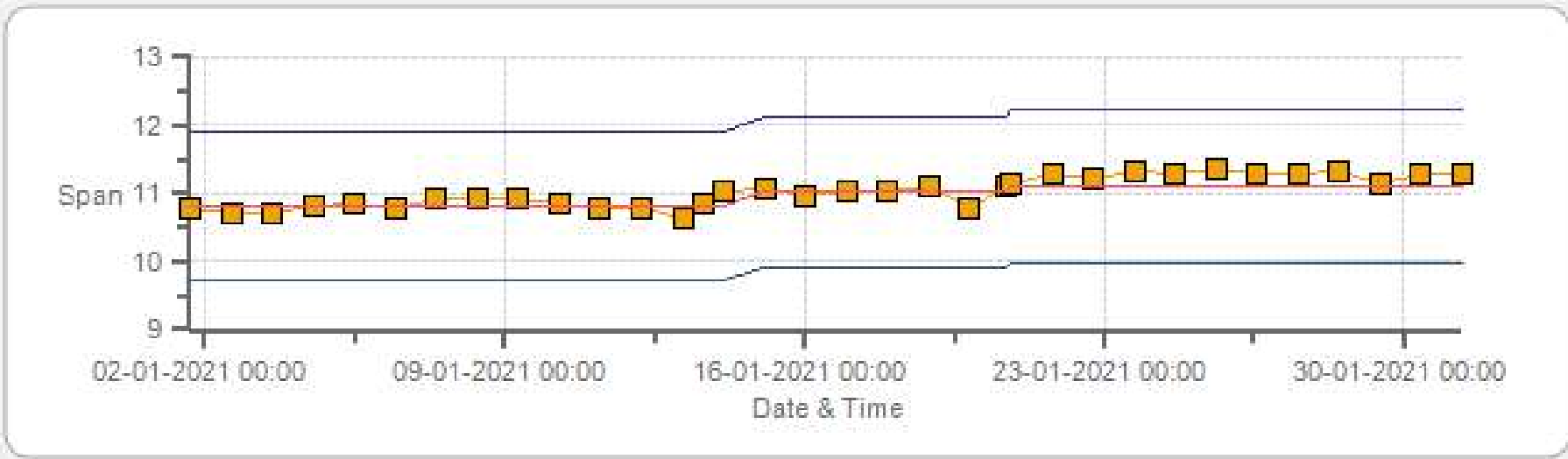
Span Span Ref Span Low Span High

NMHC[ppm] Calibration: St. Lina Monthly: 01-2021 Type: SpanAndZero - Zero



Zero Zero Ref Zero Low Zero High

NMHC[ppm] Calibration: St. Lina Monthly: 01-2021 Type: SpanAndZero - Span



Span Span Ref Span Low Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution



DATE:	14-Jan-2021	PREVIOUS CALIBRATION DATE:	15-Dec-2020
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	0.999
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	925
PURPOSE:	Routine	START TIME (MST):	11:44
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:45

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1180930030	FLOW (mL/min)	433
INITIAL		FINAL	
BKG/OFFSET	4.49	BKG/OFFSET	4.4
COEF/SLOPE	1.161	COEF/SLOPE	1.153
Expected (reference) Value	391.5	Expected (reference) Value	385

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):	700	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	0.998	0.999
4959	38.70	4998	399.54	400.5	400	0.998	0.999
4981	17.60	4999	181.67	n/a	181	n/a	1.004
4989	8.80	4998	90.85	n/a	89.7	n/a	1.013

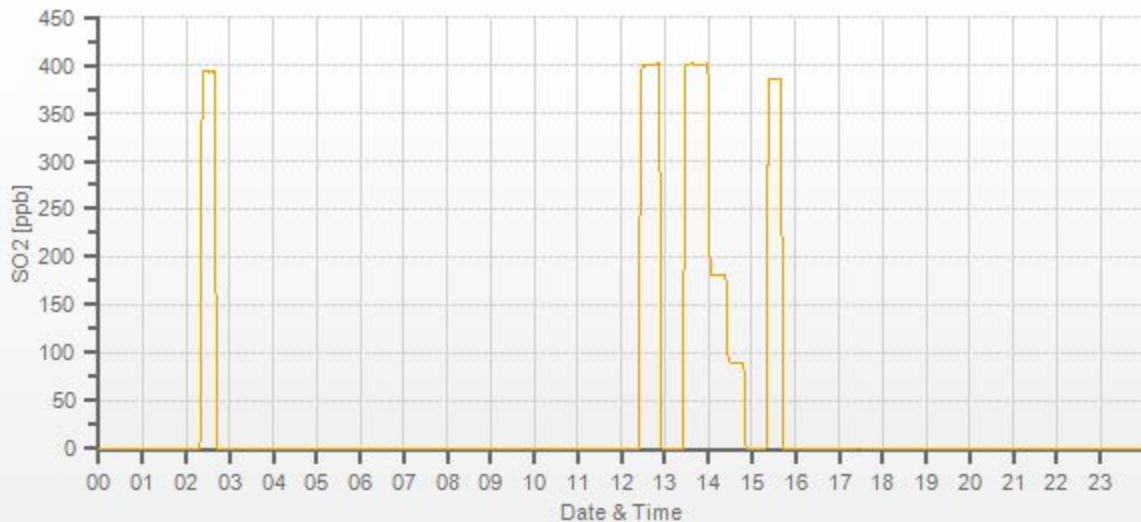
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.002	-0.1%

COMMENTS:

Sample inlet filter was changed.

SO2[ppb] Station: St. Lina Daily: 14-01-2021 Type: AVG 1 Min. [1 Min.]



CAL-LICA-202101-01250

H2S Analyzer Calibration by Dilution



DATE:	14-Jan-2021	PREVIOUS CALIBRATION DATE:	15-Dec-2020
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	925
PURPOSE:	Routine	START TIME (MST):	11:43
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:45

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	CM 18010058	FLOW (mL/min)	821
INITIAL		FINAL	
BKG/OFFSET	51.1	BKG/OFFSET	52.5
COEF/SLOPE	0.847	COEF/SLOPE	0.865
Expected (reference) Value	65.2	Expected (reference) Value	63.3

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):	600	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:	11:46	SO2 Conc (ppb)	380
END TIME:	12:01	Analyzer Response (ppb)	0.0

CALIBRATION:

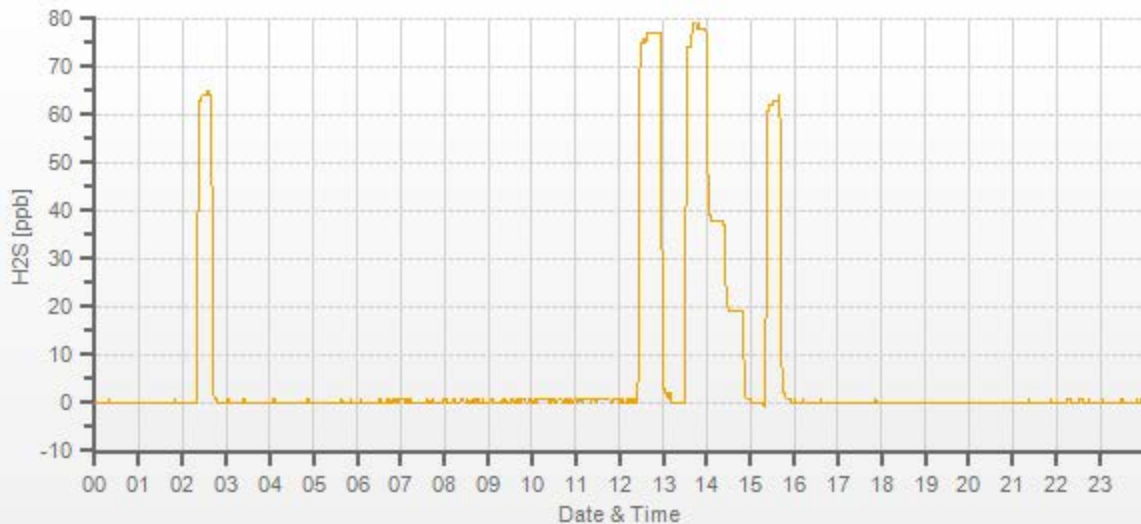
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
7500	58.50	7500	0.00	0.8	0	1.018	0.999
7442	58.50	7500	78.00	77.4	78.1	1.018	0.999
7472	28.50	7500	38.00	n/a	37.9	n/a	1.003
7486	14.20	7500	18.93	n/a	18.9	n/a	1.002

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.001	-0.1%

COMMENTS:

Sample inlet filter was changed.



NOx Calibration by Dilution/Gas-Phase Titration



CALIBRATION:				ANALYZER:			
DATE:	14-Jan-2021	PREVIOUS CALIBRATION DATE:	15-Dec-2020	MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
CLIENT:	LICA	TEMPERATURE (°C):	22.0	SERIAL #:	1180930029	NOx	1.000
LOCATION:	St. Lina	BAROMETRIC (mBar):	925	FLOW (mL/min)	488	NO	1.001
PURPOSE:	Routine	START TIME (MST):	11:46	RANGE (ppb)	500	NO2	1.000
PERFORMED BY:	Alex Yakupov	END TIME (MST):	17:20	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):	700	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:	6.3	5.9	n/a	BKG/OFFSET:	6.3	6	n/a
SLOPE/COEF/CE:	1.005	1.25	0.999	SLOPE/COEF/CE:	1.004	1.283	0.999

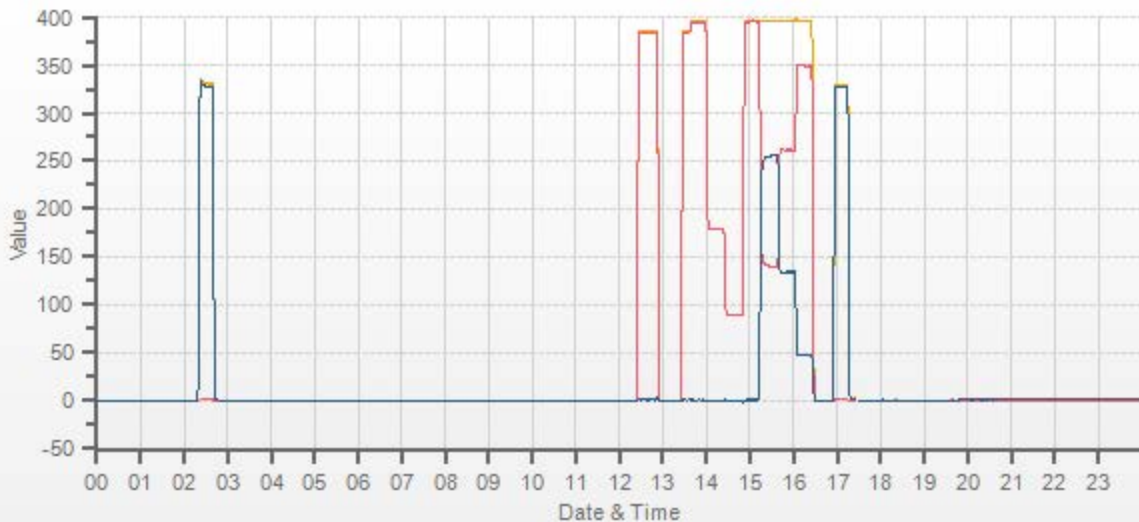
EXPECTED (REFERENCE) VALUE:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	336.8	2.4	334.5		336.8	2.4	334.5

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

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	0.0	0.0	0.0	0.0	0.0	0.0	1.028	1.027	0.999	1.000	1.000	0.999	
4959	38.70	4998	394.1	395.7	1.5	383.5	385.2	1.7	394.0	395.6	1.6	1.028	1.027	0.999	1.000	1.000	0.999	
4981	17.60	4999	179.2	179.9	0.7	n/a	n/a	n/a	179.4	180.0	0.7	n/a	n/a	0.999	0.999	0.999	0.999	
4989	8.80	4998	89.6	90.0	0.4	n/a	n/a	n/a	89.5	89.9	0.4	n/a	n/a	1.001	1.001	1.001	1.001	

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	4998	0	394.6	396.1	1.4	255.1	255.2	1.000	100.04%
AS-FOUND HIGH	38.70	4998	240	139.5	396.0	256.6	255.1	255.2	1.000	100.04%
ADJUSTED HIGH	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MID	38.70	4998	125	261.3	395.9	134.6	133.3	133.2	1.001	99.92%
LOW	38.70	4998	45	348.6	395.8	47.3	46	45.9	1.002	99.78%
NO2 adjustment not required.									AVERAGE:	99.92%

LINEAR REGRESSION ANALYSIS:				COMMENTS:
	CORRELATION	SLOPE	INTERCEPT	
NO	1.000	1.000	0.00%	
NOx	1.000	1.000	0.00%	
NO2	1.000	1.001	-0.04%	



CAL-LICA-202101-01250

Ozone Calibration by Photometer (Varying UV Lamp)



DATE:	13-Jan-2021	PREVIOUS CALIBRATION DATE:	23-Dec-2020
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	1.003
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	896
PURPOSE:	Routine	START TIME (MST):	12:08
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:25

ANALYZER:

MAKE/MODEL	Thermo 49i	RANGE	500 ppb
SERIAL #	1002240371	FLOW (mL/min)	1460
INITIAL		FINAL	
BKG/OFFSET	0	BKG/OFFSET	0
COEF/SLOPE	1.007	COEF/SLOPE	1.007
Expected (reference) Value	462	Expected (reference) Value	340

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Thermo-Electron
MODEL:	2010 D	MODEL:	111
ID:	11900613	ID:	111-22449-204
MFC CALIBRATION DATE:	12-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	0.0	0.0	 	
5000	 	5000	378.0	377.6	379.2	1.001	0.997
5000	 	5000	180.0	n/a	181.8	n/a	0.990
5000	 	5000	62.0	n/a	62.6	n/a	0.990

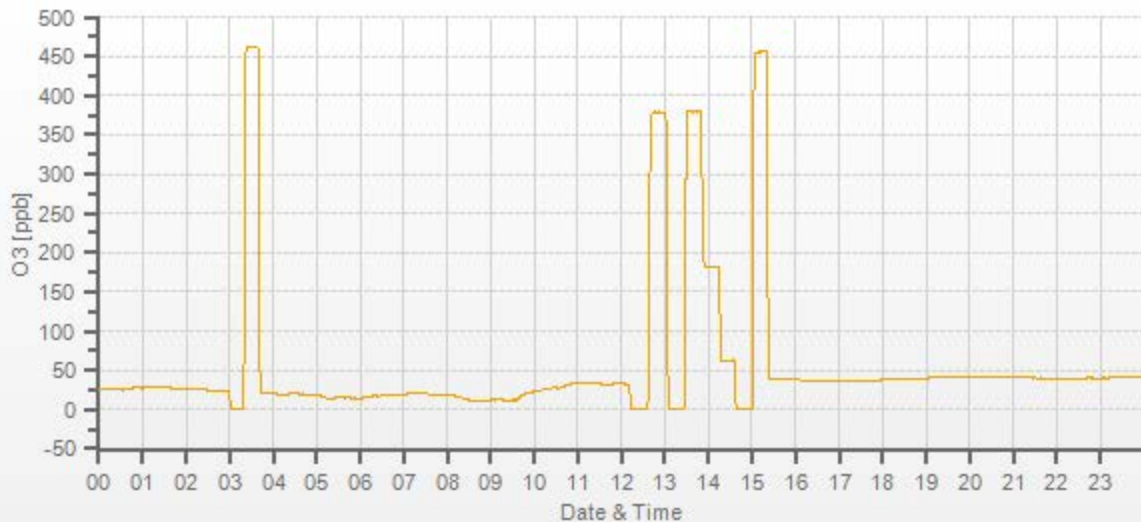
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.003	0.1%

COMMENTS:

Sample inlet filter was changed. SPAN Level 1 was adjusted from 23% to 20%.

O3[ppb] Station: St. Lina Daily: 13-01-2021 Type: AVG 1 Min. [1 Min.]



CAL-LICA-202101-01250

Methane/Non-Methane Analyzer Calibration by Dilution



CALIBRATION:				ANALYZER:			
DATE:	20-Jan-2021	PREVIOUS CALIBRATION DATE:	15-Dec-2020	VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
CLIENT:	LICA	TEMPERATURE (°C):	22.0		Thermo 55i	1180930025	1076
LOCATION:	St. Lina	BAROMETRIC (mBar):	907	PARAMETER:	CH4	NMHC	THC
PURPOSE:	Routine	START TIME (MST):	13:39	RANGE (ppm):	20	20	40
PERFORMED BY:	Alex Yakupov	END TIME (MST):	17:06	PREVIOUS CF:	0.999	0.999	0.999

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:		FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 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:	17-Jul-2027	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
	9.42	10.81	20.23		9.93	11.11	21.04

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	0.03	0.00	0.00	0.00	X	X	X	X	X	X
3049	51.30	3100	14.40	13.61	28.00	13.88	13.32	27.20	14.40	13.67	28.07	1.037	1.022	1.030	1.000	0.995	0.998
3074	25.60	3100	7.18	6.79	13.97	n/a	n/a	n/a	7.10	6.81	13.90	n/a	n/a	n/a	1.012	0.997	1.005
3087	12.80	3100	3.59	3.40	6.99	n/a	n/a	n/a	3.51	3.37	6.88	n/a	n/a	n/a	1.023	1.007	1.016

LINEAR REGRESSION ANALYSIS:

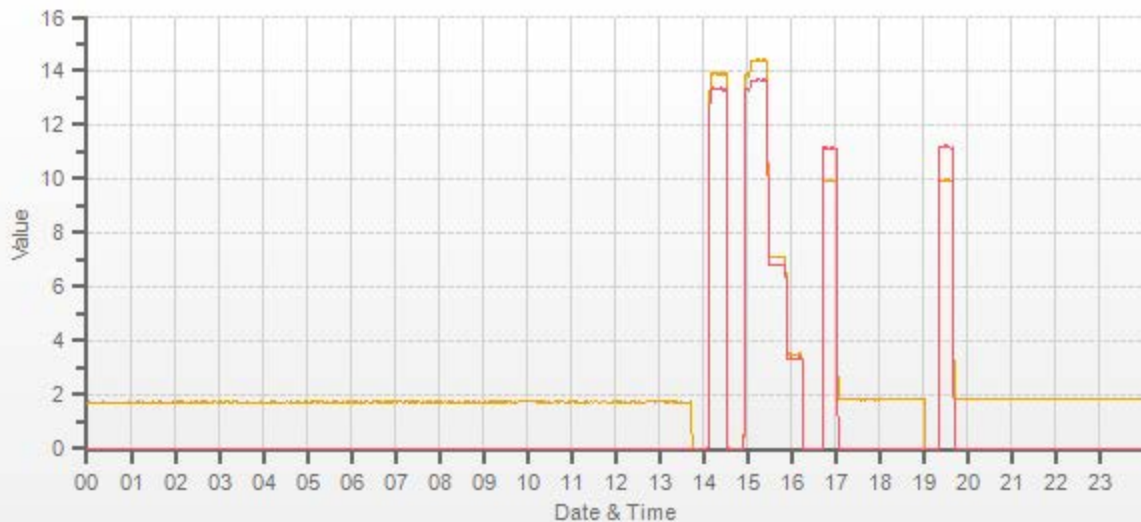
	CORRELATION	SLOPE	INTERCEPT
CH ₄	1.000	1.002	-0.3%
NMHC	1.000	1.006	-0.1%
THC	1.000	1.003	-0.2%

Comments:

Sample filter was changed.

Use Zero Chrom?

Yes



CAL-LICA-202101-01250

Thermo 5030i SHARP Monitor Monthly Check

Date: January 14, 2021	Performed By/Reviewer: Alex Yakupov Chris Wesson
Company: LICA	Start Time (mst): 16:35
Station Name/Location: St. Lina	End Time (mst): 17:23
Previous Audit Date: December 23, 2020	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:** 410

Reference Standards:

Air Flow

	Manometer	Orifice	Pressure:	Temp / RH:
Make:	DeltaCal	DeltaCal	DeltaCal	DeltaCal
Model:	DC1	DC1	DC1	DC1
Serial Number:	177246	177246	177246	177246
Calibration Expiration Date:	March 27, 2021	March 27, 2021	March 27, 2021	March 27, 2021

Ambient Temperature (°C)

	Reference	SHARP	Difference	Range	Action
#1	-2.50	-2.4	-0.1	< ± 2°C	OK
				2-3 °C	Recalibrate
				> 3°C	Fail

Ambient Relative Humidity (%RH)

	Reference	SHARP	Difference	Range	Action
#1	54.50	55.2	-0.7	< ± 2 %RH	OK
				2-5 %RH	Recalibrate
				> 5 %RH	Fail

Barometric Pressure (mmHg)

	Reference	SHARP	Difference	Range	Action
#1	702.0	705.0	-3.0	< ± 10 mmHg	OK
				10-12 mmHg	Recalibrate
				> 12 mmHg	Fail

Flow Audit (L/min)

	Reference	SHARP	% Difference	Range	Action
#1	16.64	16.66	0.12%	< ± 4%	OK
#2	16.64	16.66		4-5%	Recalibrate
#3	16.65	16.67		>5%	Fail
Average	16.64	16.66			

Leak Check (L/min)

	Without Leak Check Adapter			With leak Check Adapter			
	Reference	SHARP	Difference	Reference	SHARP	Difference	
#1	16.64	16.66	-0.02	16.54	16.63	-0.09	<i>Leak Limit: 0.80 L/min</i>
						LEAK RATE:	-0.07

Meteorological System Checklist



Date:	January 28, 2021		
Technician:	Alex Yakupov		
Station:	St. Lina		
Unit:	Make:	Model:	Serial #:
Precipitation Sampler:	Met One - Heated Rain Gauge	387D	A23775

PRECIPITATION SENSOR CHECK

Checklist:	Reply:	Comments:
Previous check date:	September 18, 2020	The bucket heater burnt and required replacement
Is the sensor Level?	yes	
Is the heater operating properly?	yes	
Are the bucket drain holes clean?	yes	
Is the screen on the housing? (screen should be on between July and September)	no	Removed for Winter
Is the housing clean?	yes	
Is the area around the housing clean and free from obstacles?	yes	

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

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

Comments

New rain gauge is installed and tested with snow. The readings are timely and accurate. Both heaters (the Base and Bucket) function prop



Meteorological Sensor Audit/Calibration

Location Information

Company:	LICA	Performed By:	Alex Yakupov
Audit Location:	St. Lina	Reviewed By:	Chris Wesson
Audit Date:	26/02/2020	Start/End Time (mst):	12:38 / 15:06
Calibration Purpose:	installation	Weather Conditions:	Mainly sunny

Wind Sensor Information

Sensor ID Data:		Sensor Outputs:	
Sensor Make:	RM Young	Velocity Voltage Output Range:	0-1 V
Sensor Model:	05305VK	Velocity Unit Output Range:	0-200 km/h
Serial #:	161466	Direction Voltage Output Range:	0-1 V
Previous Cal/Audit Date:	October 9, 2019	Direction Unit Output Range:	0-360 degrees

Wind Calibrator Information

Calibrator I.D. and Expiry Date: : Model 18860-90/18802 SN: CA 4744, expires - June 19, 2020 (ownership - LICA).

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	0.0	-
1000	18.4	18.5	18.5	0.995
2000	36.9	37.0	37.0	0.997
3000	55.3	55.5	55.5	0.996
4000	73.7	74.0	74.0	0.996
5000	92.2	92.6	92.6	0.996
6000	110.6	111.1	111.1	0.995
7000	129.0	129.7	129.7	0.995
8000	147.4	148.3	148.3	0.994
9000	165.9	166.9	166.9	0.994
10000	184.3	185.5	185.5	0.994
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	0	354	0.0	0.7	0.3
30	330	32	331	-2.0	-0.5	1.3
60	300	62	300	-2.2	0.0	1.1
90	270	93	271	-3.3	-0.6	2.0
120	240	124	242	-3.6	-1.8	2.7
150	210	153	212	-2.9	-2.4	2.7
180	180	182	183	-2.3	-2.8	2.6
210	150	212	154	-1.9	-3.6	2.8
240	120	242	124	-1.5	-4.4	3.0
270	90	270	94	0.0	-4.2	2.1
300	60	300	63	0.5	-3.1	1.8
330	30	330	33	0.5	-2.5	1.5
355	0	354	1	0.7	1.4	1.0
The audit meets AMD requirements.			Average Absolute Degrees Difference=		1.9	

Comments:

The audit was completed to install LICA RM Young Wind System.

End of Report