Lakeland Industry & Community Association

JULY 2021

Monthly Ambient Air Quality Monitoring Report

LICA-202107

Operation and Maintenance:

Bureau Veritas Canada

Data Validation and Report:

Lakeland Industry & Community Association

August 18, 2021

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August 18, 2021

Alberta Environment and Parks (AEP)
11th Floor, Oxbridge Place
9820 106 Street
Edmonton, AB, T5K 2J6

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

Enclosed is the July 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

LIST OF ACRONYMS

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

Listing of Continuous Monitoring Stations and Integrated Sampling Stations

Station Name		Cold Lake South	Tamarack	St. Lina
Station ID		1174	1248	1250
Coordinates		54.41402, -110.23316	54.604935, -110.452637	54.215961, -111.503304
Continuous Monitoring Parameter	SO2	√	√	√
	TRS	√		
	H2S		√	√
	THC	√	√	√
	CH4	√	√	√
	NMHC	√	√	√
	NOX	√	√	√
	NO	√	√	√
	NO2	√	√	√
	O3	√		√
	PM2.5	√		√
	TPX	√	√	√
	RH	√	√	√
	BP		√	√
	PRECIPTATION		√	√
	WS	√	√	√
	WD	√	√	√
	STDWD	√	√	√
Integrated Sampling	VOCs	√		
	PAHs	√		
	Partisol	√		
	Passive	√		
	NMHC Canister			
	PAC			√

List of Contractors performing air monitoring activities

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

Monitoring Notes during the Month of July 2021

Cold Lake South

- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters met the 90% operational uptime requirement.
- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) where applicable, except PM2.5. Fifty-six 1-hr and five 24-hr exceedances were recorded this month. The exceedances recorded this month are believed to be the result of wildfire from north Saskatchewan, given long range model predictions and the low local wind speeds.

Date	Time (MST)	Average Period	AAAQOs / AAAQGs (µg/m3)	Concentration (µg/m3)	Reference #
July 15	17	1-Hour	80	88	381317
July 15	18	1-Hour	80	86	381317
July 15	23	1-Hour	80	99	381317
July 15	-	24-Hour	29	38.1	381317
July 16	0	1-Hour	80	133	381317
July 17	0	1-Hour	80	135	381317

July 17	1	1-Hour	80	132	381317
July 17	2	1-Hour	80	102	381317
July 17	3	1-Hour	80	119	381317
July 17	4	1-Hour	80	208	381317
July 17	5	1-Hour	80	338	381317
July 17	6	1-Hour	80	418	381317
July 17	7	1-Hour	80	435	381317
July 17	8	1-Hour	80	559	381317
July 17	9	1-Hour	80	495	381317
July 17	0	1-Hour	80	375	381317
July 17	11	1-Hour	80	265	381317
July 17	12	1-Hour	80	215	381317
July 17	13	1-Hour	80	196	381317
July 17	14	1-Hour	80	194	381317
July 17	15	1-Hour	80	149	381317
July 17	16	1-Hour	80	110	381317
July 17	17	1-Hour	80	86	381317
July 17	18	1-Hour	80	97	381317
July 17	19	1-Hour	80	176	381317
July 17	20	1-Hour	80	186	381317
July 17	21	1-Hour	80	203	381317
July 17	22	1-Hour	80	205	381317
July 17	23	1-Hour	80	200	381317
July 17	-	24-Hour	29	233.3	381317
July 18	0	1-Hour	80	174	381317
July 18	1	1-Hour	80	134	381317
July 18	2	1-Hour	80	149	381317
July 18	3	1-Hour	80	135	381317
July 18	4	1-Hour	80	155	381317
July 18	5	1-Hour	80	160	381317
July 18	6	1-Hour	80	146	381317

July 18	7	1-Hour	80	125	381317
July 18	8	1-Hour	80	115	381317
July 18	9	1-Hour	80	112	381317
July 18	10	1-Hour	80	106	381317
July 18	11	1-Hour	80	103	381317
July 18	12	1-Hour	80	97	381317
July 18	13	1-Hour	80	82	381317
July 18	16	1-Hour	80	86	381317
July 18	17	1-Hour	80	95	381317
July 18	18	1-Hour	80	104	381317
July 18	19	1-Hour	80	104	381317
July 18	20	1-Hour	80	100	381317
July 18	21	1-Hour	80	103	381317
July 18	22	1-Hour	80	110	381317
July 18	23	1-Hour	80	119	381317
July 18	-	24-Hour	29	115.4	381317
July 19	0	1-Hour	80	121	381603
July 19	1	1-Hour	80	114	381603
July 19	2	1-Hour	80	114	381603
July 19	3	1-Hour	80	113	381603
July 19	4	1-Hour	80	108	381603
July 19	5	1-Hour	80	87	381603
July 19	-	24-Hour	29	70.7	381603
July 20	-	24-Hour	29	32.3	381603

- **RH/TPX:** The Rotronic HC2A-S3 RH/TPX sensor, s/n: 20404750, was replaced with the Rotronic HC2A-S3 RH/TPX sensor, s/n: 20257103, on July 6 for factory maintenance and re-calibration. Two hours of downtime were recorded due to this maintenance event.

Tamarack (formerly Maskwa)

- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters met the 90% operational uptime requirement.
- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) where applicable, except PM2.5. Twenty-two

1-hr and four 24-hr exceedances were recorded this month. The exceedances recorded this month are believed to be the result of wildfire from north Saskatchewan, given long range model predictions and the low local wind speeds.

Date	Time (MST)	Average Period	AAAQOs / AAAQGs (µg/m3)	Concentration (µg/m3)	Reference #
July 2	3	1-Hour	80	104	380690
July 15	6	1-Hour	80	132	381318
July 15	-	24-Hour	29	36	381318
July 17	0	1-Hour	80	86	381318
July 17	4	1-Hour	80	111	381318
July 17	5	1-Hour	80	156	381318
July 17	6	1-Hour	80	228	381318
July 17	7	1-Hour	80	318	381318
July 17	8	1-Hour	80	294	381318
July 17	9	1-Hour	80	272	381318
July 17	10	1-Hour	80	200	381318
July 17	11	1-Hour	80	135	381318
July 17	12	1-Hour	80	98	381318
July 17	13	1-Hour	80	92	381318
July 17	14	1-Hour	80	84	381318
July 17	18	1-Hour	80	81	381318
July 17	19	1-Hour	80	94	381318
July 17	20	1-Hour	80	105	381318
July 17	21	1-Hour	80	113	381318
July 17	22	1-Hour	80	94	381318
July 17	23	1-Hour	80	88	381318
July 17	-	24-Hour	29	124	381318
July 18	3	1-Hour	80	85	381318
July 18	4	1-Hour	80	82	381318
July 18	-	24-Hour	29	59	381318
July 19	-	24-Hour	29	37	381604

- **All parameters:** Communication between the datalogger and the server was lost on July 3. The datalogger was rebooted and a repeat zero-span check was completed on all gas parameters on July 3 hour 20. Thirteen hour of downtime was recorded due to this event.
- **O3:** On July 22, the Thermo 49iQ analyzer, s/n: 1202068570, was removed for warranty repair following a successful shut-down calibration. The API 400A analyzer, s/n: 445, was installed and allowed to stabilize overnight. A successful installation calibration was completed on July 23. Eighteen hours of downtime were recorded due to this event.

St. Lina Station

- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters met the 90% operational uptime requirement.
- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) where applicable, except PM2.5. Twenty-seven 1-hr and two 24-hr exceedances were recorded this month The exceedances recorded this month are believed to be the result of wildfire from north Saskatchewan, given long range model predictions and the low local wind speeds.

Date	Time (MST)	Average Period	AAAQOs / AAAQGs (µg/m3)	Concentration (µg/m3)	Reference #
July 17	6	1-Hour	80	90	381385
July 17	7	1-Hour	80	160	381385
July 17	8	1-Hour	80	224	381385
July 17	9	1-Hour	80	259	381385
July 17	10	1-Hour	80	296	381385
July 17	11	1-Hour	80	294	381385
July 17	12	1-Hour	80	259	381385
July 17	13	1-Hour	80	231	381385
July 17	14	1-Hour	80	195	381385
July 17	15	1-Hour	80	158	381385
July 17	16	1-Hour	80	121	381385
July 17	17	1-Hour	80	107	381385
July 17	18	1-Hour	80	92	381385
July 17	22	1-Hour	80	82	381385
July 17	23	1-Hour	80	116	381385
July 17	-	24-Hour	29	134	381385
July 18	0	1-Hour	80	115	381385

July 18	1	1-Hour	80	116	381385
July 18	2	1-Hour	80	111	381385
July 18	3	1-Hour	80	104	381385
July 18	4	1-Hour	80	98	381385
July 18	5	1-Hour	80	94	381385
July 18	6	1-Hour	80	84	381385
July 18	10	1-Hour	80	83	381385
July 18	11	1-Hour	80	85	381385
July 18	12	1-Hour	80	82	381385
July 18	13	1-Hour	80	82	381385
July 18	14	1-Hour	80	81	381385
July 18	-	24-Hour	29	82	381385

- **All parameters:** Three hours of data were discarded due to power failures on July 22. Furthermore, data collected at hour 4 for H2S, THC, CH4 and NMHC were invalidated as the analyzers were recovering from the power failure.
- **PM2.5:** The unit failed on July 19 hour 0 due to tape-feed error. The issue was corrected on July 20 hour 12. Thirty-seven hours of downtime were recorded due to this event.
- **O3:** The daily span response began to exceed the upper limit on July 22. A repeat zero-span check was completed on July 24 hour 8 to investigate the drift. Data review revealed the drift was caused by the zero-span pump failure. The pump was repaired followed by a zero-span check on July 26. A successful repeat multi-point calibration was completed on July 27. Seven hours of downtime were recorded due to the additional quality checks.

Integrated Sampling

All the integrated sampling analytical results are included in the July 2021 Integrated Sampling Report.

- **VOCs Sampling System:**
  - The VOC sampler is programed to collect a 24-hour sample of air every sixth day as per the North American Pollution Surveillance schedule (NAPS).
  - Five samples were collected this month: on July 3, 9, 15, 21 and 27.
- **PAHs Sampling System:**
  - The PAH sampler is programed to collect a 24-hour sample of air every sixth day as per the North American Pollution Surveillance schedule (NAPS).
  - Five samples were collected this month: on July 3, 9, 15, 21 and 27.
- **Partisol Sampling System:**
  - The Partisol sampler is programed to collect a 24-hour sample of air every sixth day as per the North American Pollution Surveillance schedule (NAPS).
  - Five samples were collected this month: on July 3, 9, 15, 21 and 27.

- **Passive Sampling System:**
  - The passive sample filters were installed at the stations between June 29 and June 2, and were removed between July 28 and July 3.
  - A total of 9 duplicate samples were collected: 2 for H2S, 3 for SO2, 2 for NO2 and 2 for O3.
- **PAC Sampling System**:
  - The PAC sampling program began in July 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

No deviations from authorized monitoring methods were recorded this month.

Disclaimer

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

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

Certification

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

Lily Lin, Data & Reporting Specialist, LICA Airshed

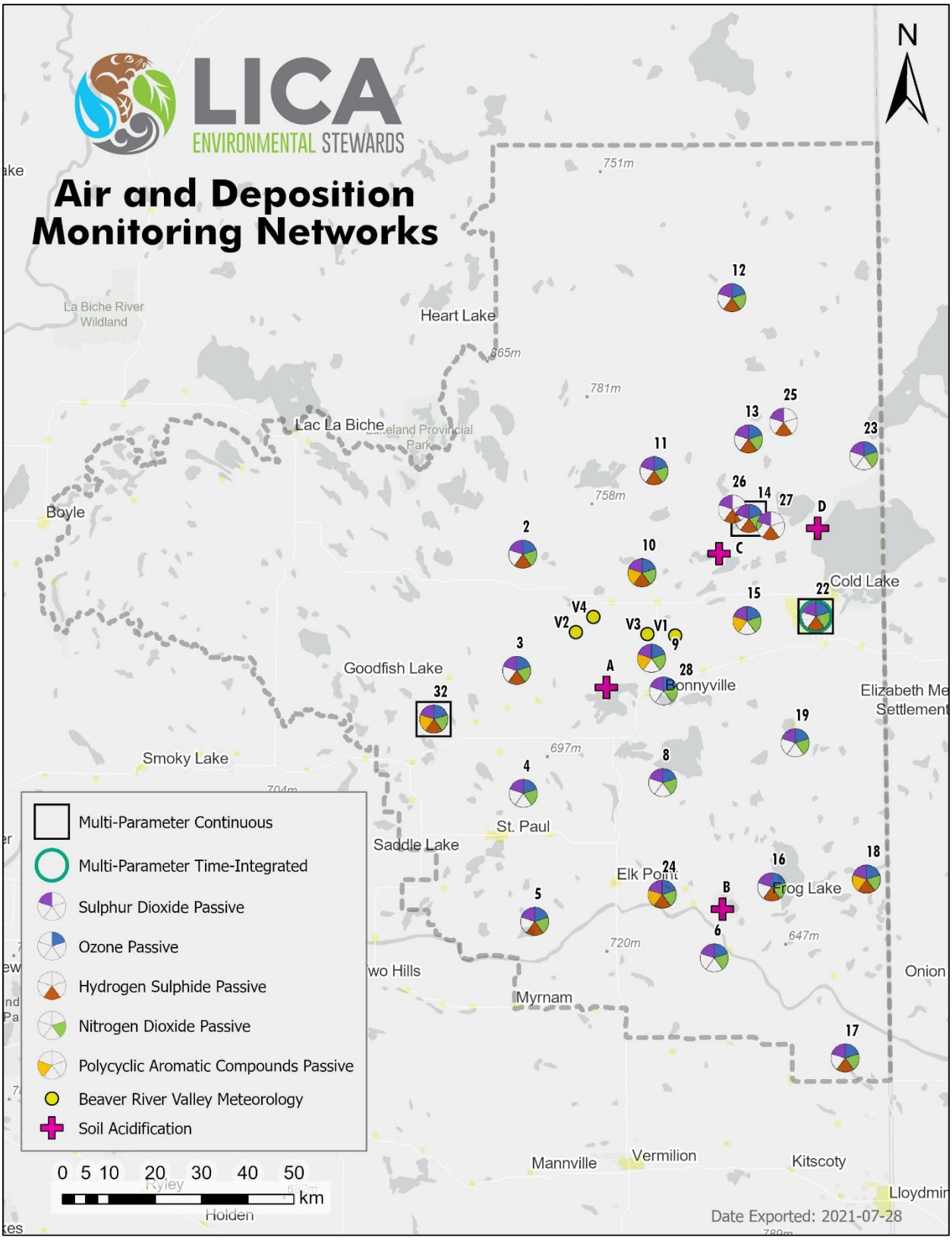
This report was reviewed by Mike Bisaga in accordance with Chapter 9 of the Air Monitoring Directive (AMD 2016).

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 July 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

August 18, 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**	**July 7, 2021**
• No issues were identified this month.			
Total Reduced Sulphur (TRS)	**Thermo / 450i**	**812728560**	**July 7, 2021**
• No issues were identified this month.			
Total Hydrocarbons / Methane/ Non-methane Hydrocarbons (THC/CH4/NMHC)	**Thermo / 55i**	**1180030034**	**July 6, 2021**
• No issues were identified this month.			
Oxide of Nitrogen / Nitric Oxide/ Nitrogen Dioxide (NOx/NO/NO2)	**Thermo / 42i**	**1505664393**	**July 7, 2021**
• No issues were identified this month.			
Ozone (O3)	**Thermo / 49i**	**700419951**	**July 6, 2021**
• No issues were identified this month.			
Particulate Matter 2.5 (PM2.5)	**Teledyne T640**	**575**	**July 30, 2021**
• No issues were identified this month.			

Parameter	Make / Model	Serial Number	System Check Date
Relative Humidity (RH)	**Rotronic HC2A-S3**	**20404750 / 20257103**	**July 6, 2021**
• The Rotronic HC2A-S3 RH/TPX sensor, s/n: 20404750, was replaced with the Rotronic HC2A-S3 RH/TPX sensor, s/n: 20257103, on July 6 for factory maintenance and re-calibration. Two hours of downtime were recorded due to this maintenance event.			
Barometric Pressure (BP)	**Met One / Part 092**	**Y23368**	**July 6, 2021**
• No issues were identified this month.			
Ambient Temperature (AT)	**Rotronic HC2A-S3**	**20404750 / 20257103**	**July 6, 2021**
• The Rotronic HC2A-S3 RH/TPX sensor, s/n: 20404750, was replaced with the Rotronic HC2A-S3 RH/TPX sensor, s/n: 20257103, on July 6 for factory maintenance and re-calibration. Two hours of downtime were recorded due to this maintenance event.			
Station Temperature (ST)	**BV-supplied**	**n/a**	**n/a**
• No issues were identified this month.			
Wind Speed (WS) / Wind Direction (WD)/ Stand Deviation Wind Direction (STDWD)	**RM Young 05305AQ**	**177354**	**April 20, 2021**
• Wind direction data contained in this report represents where the wind is coming from. • The last wind system calibration was completed on April 20, 2021. • 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	0.1	0	2	July 1 at hour 8	10.8	SE	0.4	July 30	100.0	95.0
TRS (ppb)	-	-	-	-	-	-	0.3	0	5	July 9 at hour 7	4.5	SW	1.0	July 2	100.0	94.7
NOx (ppb)	-	-	-	-	-	-	2.0	0	11	July 28 at hour 6	0.6	W	3.2	July 28	100.0	94.7
NO (ppb)	-	-	-	-	-	-	0.1	0	5	July 28 at hour 6	0.6	W	0.6	July 28	100.0	94.7
NO2 (ppb)	159	-	-	0	-	-	1.9	0	8	July 11 at hour 4	4.4	SW	2.9	July 15	100.0	94.7
O3 (ppb)	76	-	-	0	-	-	27.5	1.0	68.7	July 15 at hour 13	8	W	48.5	July 1	100.0	95.0
THC (ppm)	-	-	-	-	-	-	2.00	1.81	3.05	July 10 at hour 5	0.2	W	2.21	July 9	100.0	95.0
CH4 (ppm)	-	-	-	-	-	-	1.97	1.80	2.91	July 10 at hour 5	0.2	W	2.10	July 9	100.0	95.0
NMHC (ppm)	-	-	-	-	-	-	0.03	0.00	0.23	July 17 at hour 8	12	NE	0.10	July 9	100.0	95.0
PM2.5 (µg/m3)	80	29	-	56	5	-	26.2	1	559	July 17 at hour 8	12	NE	233.3	July 17	100.0	99.7
RH (%)	-	-	-	-	-	-	63.5	25	98	July 5 at hour 8	3.4	NNW	82.6	July 6	99.7	99.7
BP (millibar)	-	-	-	-	-	-	952	941	962	July 31 at hour 4	0.1	WNW	961	July 31	100.0	100.0
Ext. Temp. (°C)	-	-	-	-	-	-	19.3	7.5	34.2	July 1 at hour 16	14.2	SE	28.0	July 1	99.7	99.7
Stn. Temp. (°C)	-	-	-	-	-	-	23.3	22.2	25.0	July 4 at hour 4	1.3	WNW	24.1	July 17	100.0	100.0
WSV (km/hr)	-	-	-	-	-	-	0.9	0.0	21.3	July 23 at hour 12	21.3	W	13.6	July 23	100.0	100.0
WDV (sector)	-	-	-	-	-	-	272 (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 following exceedances of AAAQOs were observed at the Cold Lake South Station.

Date	Time (MST)	Parameter	Average Period	AAAQOs / AAAQGs (µg/m3)		Concentration (µg/m3)		Wind speed		Wind Direction		Reference #
July 15	17	PM2.5	1-Hour	80	µg/m3	88	µg/m3	11.6	km/hr	318°	(NW)	381317
July 15	18	PM2.5	1-Hour	80	µg/m3	86	µg/m3	7.9	km/hr	313°	(NW)	381317
July 15	23	PM2.5	1-Hour	80	µg/m3	99	µg/m3	4.4	km/hr	191°	(WSW)	381317
July 15	-	PM2.5	24-Hour	29	µg/m3	38.1	µg/m3	3.4	km/hr	312°	(NW)	381317
July 16	0	PM2.5	1-Hour	80	µg/m3	133	µg/m3	8.5	km/hr	6°	(N)	381317
July 17	0	PM2.5	1-Hour	80	µg/m3	135	µg/m3	11.3	km/hr	53°	(NE)	381317
July 17	1	PM2.5	1-Hour	80	µg/m3	132	µg/m3	7.1	km/hr	65°	(ENE)	381317
July 17	2	PM2.5	1-Hour	80	µg/m3	102	µg/m3	8.6	km/hr	56°	(NE)	381317
July 17	3	PM2.5	1-Hour	80	µg/m3	119	µg/m3	6.9	km/hr	41°	(NE)	381317
July 17	4	PM2.5	1-Hour	80	µg/m3	208	µg/m3	3.3	km/hr	55°	(NE)	381317
July 17	5	PM2.5	1-Hour	80	µg/m3	338	µg/m3	7.1	km/hr	49°	(NE)	381317
July 17	6	PM2.5	1-Hour	80	µg/m3	418	µg/m3	13.9	km/hr	50°	(NE)	381317
July 17	7	PM2.5	1-Hour	80	µg/m3	435	µg/m3	13.5	km/hr	52°	(NE)	381317
July 17	8	PM2.5	1-Hour	80	µg/m3	559	µg/m3	12.0	km/hr	49°	(NE)	381317
July 17	9	PM2.5	1-Hour	80	µg/m3	495	µg/m3	12.4	km/hr	52°	(NE)	381317
July 17	0	PM2.5	1-Hour	80	µg/m3	375	µg/m3	11.3	km/hr	53°	(NE)	381317
July 17	11	PM2.5	1-Hour	80	µg/m3	265	µg/m3	8.0	km/hr	72°	(ENE)	381317
July 17	12	PM2.5	1-Hour	80	µg/m3	215	µg/m3	9.3	km/hr	76°	(ENE)	381317
July 17	13	PM2.5	1-Hour	80	µg/m3	196	µg/m3	9.6	km/hr	77°	(ENE)	381317
July 17	14	PM2.5	1-Hour	80	µg/m3	194	µg/m3	8.4	km/hr	58°	(ENE)	381317
July 17	15	PM2.5	1-Hour	80	µg/m3	149	µg/m3	8.7	km/hr	21°	(NNE)	381317
July 17	16	PM2.5	1-Hour	80	µg/m3	110	µg/m3	10.2	km/hr	27°	(NNE)	381317
July 17	17	PM2.5	1-Hour	80	µg/m3	86	µg/m3	11.7	km/hr	67°	(ENE)	381317
July 17	18	PM2.5	1-Hour	80	µg/m3	97	µg/m3	5.9	km/hr	24°	(NNE)	381317
July 17	19	PM2.5	1-Hour	80	µg/m3	176	µg/m3	7.4	km/hr	26°	(NNE)	381317
July 17	20	PM2.5	1-Hour	80	µg/m3	186	µg/m3	8.4	km/hr	44°	(NE)	381317
July 17	21	PM2.5	1-Hour	80	µg/m3	203	µg/m3	7.1	km/hr	38°	(NE)	381317
July 17	22	PM2.5	1-Hour	80	µg/m3	205	µg/m3	6.4	km/hr	36°	(NE)	381317
July 17	23	PM2.5	1-Hour	80	µg/m3	200	µg/m3	5.9	km/hr	348	(N)	381317
July 17	-	PM2.5	24-Hour	29	µg/m3	233.3	µg/m3	8.4	km/hr	49°	(NE)	381317
July 18	0	PM2.5	1-Hour	80	µg/m3	174	µg/m3	3.0	km/hr	340°	(NNW)	381317
July 18	1	PM2.5	1-Hour	80	µg/m3	134	µg/m3	4.6	km/hr	51°	(NE)	381317
July 18	2	PM2.5	1-Hour	80	µg/m3	149	µg/m3	6.1	km/hr	50°	(NE)	381317
July 18	3	PM2.5	1-Hour	80	µg/m3	135	µg/m3	4.2	km/hr	48°	(NE)	381317
July 18	4	PM2.5	1-Hour	80	µg/m3	155	µg/m3	4.8	km/hr	333°	(NNW)	381317

Date	Time (MST)	Parameter	Average Period	AAAQOs / AAAQGs (µg/m3)		Concentration (µg/m3)		Wind speed		Wind Direction		Reference #
July 18	5	PM2.5	1-Hour	80	µg/m3	160	µg/m3	7.1	km/hr	346°	(NNW)	381317
July 18	6	PM2.5	1-Hour	80	µg/m3	146	µg/m3	6.2	km/hr	348°	(NNW)	381317
July 18	7	PM2.5	1-Hour	80	µg/m3	125	µg/m3	5.5	km/hr	40°	(NE)	381317
July 18	8	PM2.5	1-Hour	80	µg/m3	115	µg/m3	8.1	km/hr	64°	(ENE)	381317
July 18	9	PM2.5	1-Hour	80	µg/m3	112	µg/m3	8.3	km/hr	50°	(NE)	381317
July 18	10	PM2.5	1-Hour	80	µg/m3	106	µg/m3	8.1	km/hr	55°	(NE)	381317
July 18	11	PM2.5	1-Hour	80	µg/m3	103	µg/m3	5.7	km/hr	61°	(ENE)	381317
July 18	12	PM2.5	1-Hour	80	µg/m3	97	µg/m3	3.8	km/hr	78°	(ENE)	381317
July 18	13	PM2.5	1-Hour	80	µg/m3	82	µg/m3	5.1	km/hr	45°	(NE)	381317
July 18	16	PM2.5	1-Hour	80	µg/m3	86	µg/m3	8.8	km/hr	46°	(NE)	381317
July 18	17	PM2.5	1-Hour	80	µg/m3	95	µg/m3	8.8	km/hr	44°	(NE)	381317
July 18	18	PM2.5	1-Hour	80	µg/m3	104	µg/m3	9.5	km/hr	48°	(NE)	381317
July 18	19	PM2.5	1-Hour	80	µg/m3	104	µg/m3	7.7	km/hr	61°	(ENE)	381317
July 18	20	PM2.5	1-Hour	80	µg/m3	100	µg/m3	6.3	km/hr	70°	(ENE)	381317
July 18	21	PM2.5	1-Hour	80	µg/m3	103	µg/m3	4.6	km/hr	83°	(E)	381317
July 18	22	PM2.5	1-Hour	80	µg/m3	110	µg/m3	4.9	km/hr	82°	(E)	381317
July 18	23	PM2.5	1-Hour	80	µg/m3	119	µg/m3	8.3	km/hr	61°	(ENE)	381317
July 18	-	PM2.5	24-Hour	29	µg/m3	115.4	µg/m3	5.6	km/hr	47°	(NE)	381317
July 19	0	PM2.5	1-Hour	80	µg/m3	121	µg/m3	3.6	km/hr	69°	(ENE)	381603
July 19	1	PM2.5	1-Hour	80	µg/m3	114	µg/m3	3.8	km/hr	101°	(E)	381603
July 19	2	PM2.5	1-Hour	80	µg/m3	114	µg/m3	3.7	km/hr	79°	(ENE)	381603
July 19	3	PM2.5	1-Hour	80	µg/m3	113	µg/m3	3.6	km/hr	104°	(ESE)	381603
July 19	4	PM2.5	1-Hour	80	µg/m3	108	µg/m3	4.8	km/hr	102°	(E)	381603
July 19	5	PM2.5	1-Hour	80	µg/m3	87	µg/m3	4.4	km/hr	121°	(ESE)	381603
July 19	-	PM2.5	24-Hour	29	µg/m3	70.7	µg/m3	4.1	km/hr	113°	(ESE)	381603
July 20	-	PM2.5	24-Hour	29	µg/m3	32.3	µg/m3	3.5	km/hr	69°	(ENE)	381603

The exceedances of the PM2.5 objective and guideline recorded this month is believed to be the result of wildfire from north Saskatchewan, given the low wind speeds recorded at the time.

Tamarack Station

Equipment Operation Summary

Parameter	Make / Model	Serial Number	Calibration Date
Sulphur Dioxide (SO2)	**Thermo / 43i-TLE**	**1180930031**	**July 23, 2021**
• No issues were identified this month.			
Hydrogen Sulphide (H2S)	**Thermo / 450i**	**CM17360005**	**July 23, 2021**
• No issues were identified this month.			
Oxide of Nitrogen / Nitric Oxide/ Nitrogen Dioxide (NOx/NO/NO2)	**Thermo / 42i**	**1180930028**	**July 23, 2021**
• No issues were identified this month.			
Ozone (O3)	**Thermo 49iQ / API 400A**	**1202068570 / 445**	**July 23, 2021**
• On July 22, the Thermo 49iQ analyzer, s/n: 1202068570, was removed for warranty repair following a successful shut-down calibration. The API 400A analyzer, s/n: 445, was installed and allowed to stabilize overnight. A successful installation calibration was completed on July 23. Eighteen hours of downtime were recorded due to this event.			
Total Hydrocarbons / Methane/ Non-methane Hydrocarbons (THC/CH4/NMHC)	**Thermo / 55i**	**1314057759**	**July 22, 2021**
• No issues were identified this month.			
Particulate Matter 2.5 (PM2.5)	**Thermo / Sharp 5030**	**CM 2209**	**July 27, 2021**
• No issues were identified this month.			

Parameter	Make / Model	Serial Number	System Check Date
Relative Humidity (RH)	**Rotronic / HC2A-S3**	**20433166**	**April 13, 2021**
• No issues were identified this month.			
Ambient Temperature (AT)	**Rotronic / HC2A-S3**	**20433166**	**April 13, 2021**
• No issues were identified this month.			
Barometric Pressure (BP)	**Met One / Part 090D**	**F4997**	**February 2, 2021**
• No issues were identified this month.			
Station Temperature (ST)	**BV-supplied**	**n/a**	**n/a**
• No issues were identified this month.			
Precipitation (PRECIP)	**Met One / Part 387**	**F4481**	**February 2, 2021**
• No issues were identified this month.			
Wind Speed (WS) / Wind Direction (WD)/ Stand Deviation Wind Direction (STDWD)	**RM Young / 05305VK**	**161465**	**February 2, 2021**
• Wind direction data contained in this report represents where the wind is coming from. • The last wind system calibration was completed on September 10, 2020. • No issues were identified this month.			

Monitored Data Summary for Tamarack Site

Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.5	0	11	July 15 at hour 17	6.8	NW	2.0	July 15	98.3	93.3
H2S (ppb)	10	3	-	0	0	-	0.2	0	6	July 30 at hour 23	2.4	E	1.1	July 2	98.3	93.3
NOx (ppb)	-	-	-	-	-	-	2.6	0	23	July 12 at hour 6	4.6	W	5.7	July 12	98.3	93.0
NO (ppb)	-	-	-	-	-	-	0.3	0	12	July 12 at hour 6	4.6	W	1.6	July 12	98.3	93.0
NO2 (ppb)	159	-	-	0	-	-	2.3	0	17	July 12 at hour 0	5.4	WNW	4.5	July 15	98.3	93.0
O3 (ppb)	76	-	-	0	-	-	28.1	5.1	68.5	July 10 at hour 10	9.4	SSE	50.1	July 1	95.8	90.7
THC (ppm)	-	-	-	-	-	-	1.96	1.82	3.16	July 10 at hour 4	0.7	SSW	2.16	July 10	98.3	93.4
CH4 (ppm)	-	-	-	-	-	-	1.96	1.82	3.12	July 10 at hour 4	0.7	SSW	2.14	July 10	98.3	93.4
NMHC (ppm)	-	-	-	-	-	-	0.01	0.00	0.20	July 3 at hour 5	9.1	WNW	0.04	July 2	98.3	93.4
PM2.5 (µg/m3)	80	29	-	22	4	-	17.9	0	318	July 17 at hour 7	10.6	ENE	123.7	July 17	98.3	98.0
RH (%)	-	-	-	-	-	-	66.1	22	100	July 8 at hour 1	0.3	SE	91.3	July 19	98.3	98.3
BP (millibar)	-	-	-	-	-	-	940	929	951	July 31 at hour 7	1.2	N	949	July 31	98.3	98.3
Ext. Temp. (°C)	-	-	-	-	-	-	18.5	8.1	33.3	July 1 at hour 15	12.2	SSE	28.0	July 1	98.3	98.3
Stn. Temp. (°C)	-	-	-	-	-	-	22.6	22.1	23.4	July 22 at hour 15	9.7	WSW	22.9	July 22	98.3	98.3
Precipitation (mm)*	-	-	-	-	-	-	25.1	0.0	6.9	July 27 at hour 4	12.4	WNW	9.9	July 27	98.3	98.3
WSV (km/hr)	-	-	-	-	-	-	1.1	0.0	20.0	July 23 at hour 11	20	W	13.1	July 23	98.3	98.3
WDV (sector)	-	-	-	-	-	-	264 (W)	-	-	-	-	-	-	-	98.3	98.3

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

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

Alberta Ambient Air Quality Objectives (AAAQOs) Exceedances

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

Date	Time (MST)	Parameter	Average Period	AAAQOs / AAAQGs (µg/m3)		Concentration (µg/m3)		Wind speed		Wind Direction		Reference #
July 2	3	PM2.5	1-Hour	80	µg/m3	104	µg/m3	3.2	km/hr	86°	(E)	380690
July 15	6	PM2.5	1-Hour	80	µg/m3	132	µg/m3	0.8	km/hr	355°	(N)	381318
July 15	-	PM2.5	24-Hour	29	µg/m3	36	µg/m3	2.6	km/hr	304°	(WNW)	381318
July 17	0	PM2.5	1-Hour	80	µg/m3	86	µg/m3	8.4	km/hr	60°	(ENE)	381318
July 17	4	PM2.5	1-Hour	80	µg/m3	111	µg/m3	5.7	km/hr	56°	(NE)	381318
July 17	5	PM2.5	1-Hour	80	µg/m3	156	µg/m3	8.6	km/hr	36°	(NE)	381318
July 17	6	PM2.5	1-Hour	80	µg/m3	228	µg/m3	10.1	km/hr	51°	(NE)	381318
July 17	7	PM2.5	1-Hour	80	µg/m3	318	µg/m3	10.6	km/hr	57°	(ENE)	381318
July 17	8	PM2.5	1-Hour	80	µg/m3	294	µg/m3	11.2	km/hr	57°	(ENE)	381318
July 17	9	PM2.5	1-Hour	80	µg/m3	272	µg/m3	10.1	km/hr	53°	(NE)	381318
July 17	10	PM2.5	1-Hour	80	µg/m3	200	µg/m3	10.2	km/hr	65°	(ENE)	381318
July 17	11	PM2.5	1-Hour	80	µg/m3	135	µg/m3	9.6	km/hr	61°	(ENE)	381318
July 17	12	PM2.5	1-Hour	80	µg/m3	98	µg/m3	9.9	km/hr	68°	(ENE)	381318
July 17	13	PM2.5	1-Hour	80	µg/m3	92	µg/m3	8.9	km/hr	66°	(ENE)	381318
July 17	14	PM2.5	1-Hour	80	µg/m3	84	µg/m3	8.7	km/hr	60°	(ENE)	381318
July 17	18	PM2.5	1-Hour	80	µg/m3	81	µg/m3	8.8	km/hr	27°	(NNE)	381318
July 17	19	PM2.5	1-Hour	80	µg/m3	94	µg/m3	8.5	km/hr	31°	(NNE)	381318
July 17	20	PM2.5	1-Hour	80	µg/m3	105	µg/m3	8.8	km/hr	27°	(NNE)	381318
July 17	21	PM2.5	1-Hour	80	µg/m3	113	µg/m3	9.0	km/hr	26°	(NNE)	381318
July 17	22	PM2.5	1-Hour	80	µg/m3	94	µg/m3	9.0	km/hr	20°	(NNE)	381318
July 17	23	PM2.5	1-Hour	80	µg/m3	88	µg/m3	8.2	km/hr	20°	(ENE)	381318
July 17	-	PM2.5	24-Hour	29	µg/m3	124	µg/m3	8.8	km/hr	47°	(NE)	381318
July 18	3	PM2.5	1-Hour	80	µg/m3	85	µg/m3	4.5	km/hr	22°	(NNE)	381318
July 18	4	PM2.5	1-Hour	80	µg/m3	82	µg/m3	3.9	km/hr	4°	(N)	381318
July 18	-	PM2.5	24-Hour	29	µg/m3	59	µg/m3	5.2	km/hr	36°	(NE)	381318
July 19	-	PM2.5	24-Hour	29	µg/m3	37	µg/m3	2.8	km/hr	76°	(ENE)	381604

The exceedances of the PM2.5 objective and guideline recorded this month is believed to be the result of wildfire from north Saskatchewan, given the low wind speeds.

St. Lina Station

Equipment Operation Summary

Parameter	Make / Model	Serial Number	Calibration Date
Sulphur Dioxide (SO2)	**Thermo / 43i-TLE**	**1180930030**	**July 14, 2021**
• No issues were identified this month.			
Hydrogen Sulphide (H2S)	**Thermo / 450i**	**CM18010058**	**July 14, 2021**
• Hourly data collected on July 22 hour 4 was invalidated as the analyzer was recovering from a power failure.			
Oxide of Nitrogen / Nitric Oxide/ Nitrogen Dioxide (NOx/NO/NO2)	**Thermo / 42i**	**1180930029**	**July 14, 2021**
• No issues were identified this month.			
Total Hydrocarbons / Methane/ Non-methane Hydrocarbons (THC/CH4/NMHC)	**Thermo / 55i**	**1236656107**	**July 13, 2021**
• Hourly data collected on July 22 hour 4 was invalidated as the analyzer was recovering from a power failure.			
Ozone (O3)	**Thermo / 49i**	**1002240371**	**July 27, 2021**
• The daily span response began to exceed the upper limit on July 22. A repeat zero-span check was completed on July 24 hour 8 to investigate the drift. Data review revealed the drift was caused by the zero-span pump failure. The pump was repaired followed by a zero-span check on July 26. A successful repeat multi-point calibration was completed on July 27. Seven hours of downtime were recorded due to the additional quality checks.			
Particulate Matter 2.5 (PM2.5)	**Thermo / Sharp 5030i**	**CM17461021**	**July 27, 2021**
• The unit failed on July 19 hour 0 due to tape-feed error. The issue was corrected on July 20 hour 12. Thirty-seven hours of downtime were recorded due to this event.			

Parameter	Make / Model	Serial Number	System Check Date
Relative Humidity (RH)	**Vaisala Oyj. Finland / HMP155**	**R2640785**	**December 23, 2020**
• No issues were identified this month.			
Ambient Temperature (AT)	**Vaisala Oyj. Finland / HMP155**	**R2640785**	**December 23, 2020**
• No issues were identified this month.			
Barometric Pressure (BP)	**Met One / Part 090D**	**F4998**	**December 23, 2020**
• No issues were identified this month.			
Station Temperature (ST)	**BV-supplied**	**n/a**	**n/a**
• No issues were identified this month.			
Precipitation (PRECIP)	**Met One / Part 387D**	**A23775**	**January 28, 2021**
• No issues were identified this month.			
Wind Speed (WS) / Wind Direction (WD)/ Stand Deviation Wind Direction (STDWD)	**RM Young / 05305VK**	**161466**	**March 16, 2021**
• Wind direction data contained in this report represents where the wind is coming from. • The annual wind system calibration was completed on March 16, 2021. • No issues were identified this month.			

Monitored Data Summary for St. Lina Site

Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.0	0	1	July 9 at hour 11	7.7	WNW	0.1	July 26	99.6	94.7
H2S (ppb)	10	3	-	0	0	-	0.6	0	7	July 5 at hour 4	7.6	NW	2.2	July 2	99.5	94.5
NOx (ppb)	-	-	-	-	-	-	1.7	0	7	July 14 at hour 9	13.1	SSE	3.2	July 17	99.6	94.5
NO (ppb)	-	-	-	-	-	-	0.0	0	3	July 14 at hour 9	13.1	SSE	0.2	July 17	99.6	94.5
NO2 (ppb)	159	-	-	0	-	-	1.6	0	5	July 17 at hour 11	12.5	ENE	3.1	July 17	99.6	94.5
O3 (ppb)	76	-	-	0	-	-	31.1	7.8	65.3	July 10 at hour 15	15.4	SSW	49.2	July 1	98.7	93.9
THC (ppm)	-	-	-	-	-	-	1.96	1.82	2.61	July 29 at hour 15	3.8	S	2.07	July 17	99.5	94.6
CH4 (ppm)	-	-	-	-	-	-	1.96	1.81	2.49	July 10 at hour 3	6.8	SW	2.05	July 21	99.5	94.6
NMHC (ppm)	-	-	-	-	-	-	0.01	0.00	0.72	July 29 at hour 15	3.8	S	0.08	July 17	99.5	94.6
PM2.5 (µg/m3)	80	29	-	27	2	-	17.8	1	296	July 17 at hour 10	11.8	ENE	133.5	July 17	94.6	94.4
RH (%)	-	-	-	-	-	-	65.1	28	100	July 5 at hour 2	7.2	NW	97.5	July 17	99.6	99.6
BP (millibar)	-	-	-	-	-	-	920	911	929	July 31 at hour 3	6.1	E	927	July 18	99.6	99.6
Ext. Temp. (°C)	-	-	-	-	-	-	19.0	9.4	32.2	July 1 at hour 17	9.7	SSE	27.3	July 1	99.6	99.6
Stn. Temp. (°C)	-	-	-	-	-	-	21.7	20.1	24.1	July 21 at hour 0	5	NE	23.2	July 20	99.6	99.6
Precipitation (mm)*	-	-	-	-	-	-	23.6	0.0	4.6	July 27 at hour 3	10.5	NW	9.8	July 17	99.6	99.6
WSV (km/hr)	-	-	-	-	-	-	2.3	0.6	32.2	July 23 at hour 9	32.2	W	19.7	July 23	99.6	99.6
WDV (sector)	-	-	-	-	-	-	269 (W)	-	-	-	-	-	-	-	99.6	99.6

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

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

Alberta Ambient Air Quality Objectives (AAAQOs) Exceedances

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

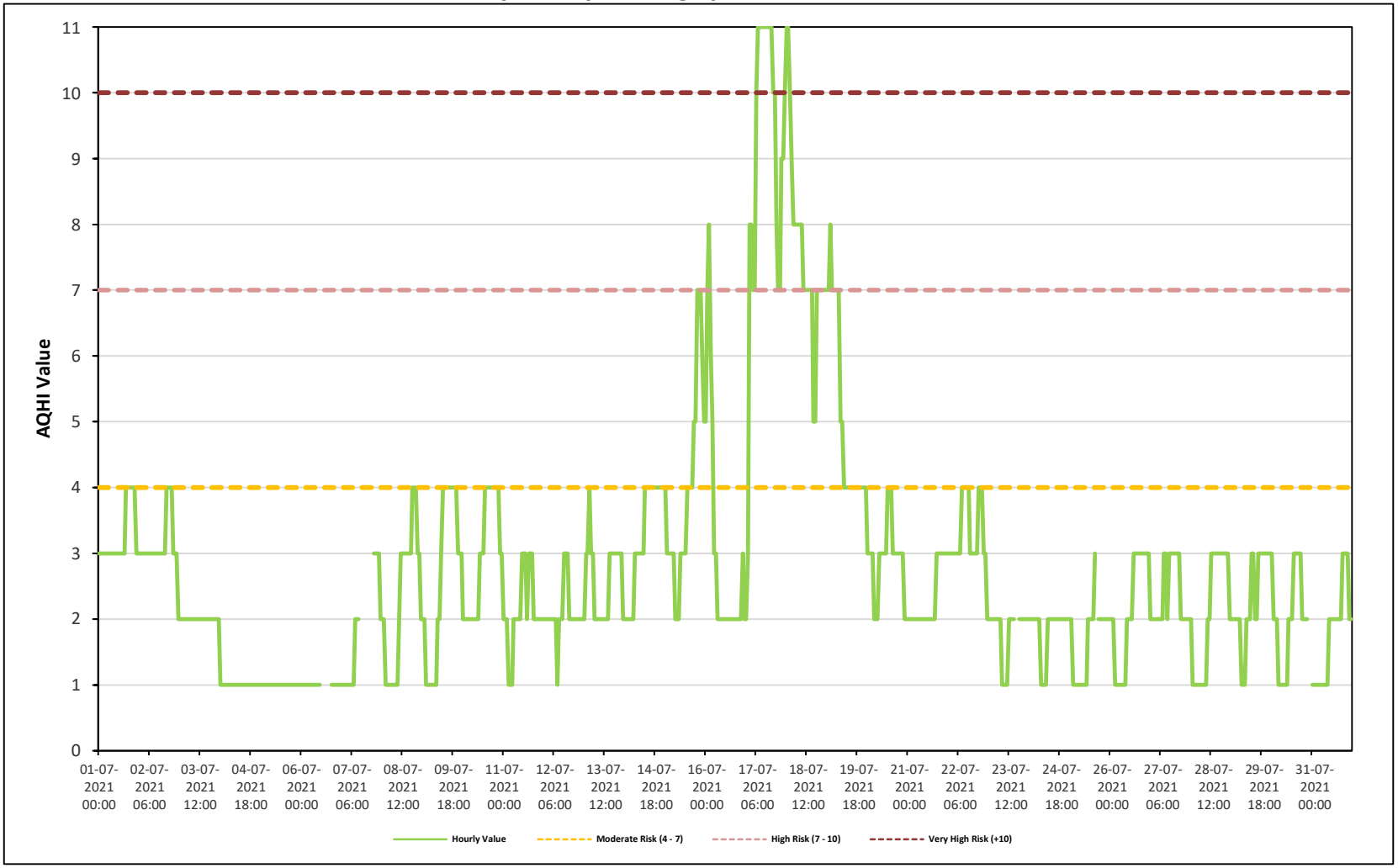
Date	Time (MST)	Parameter	Average Period	AAAQOs	Concentration	Wind speed	Wind Direction	Reference #
July 17	6	PM2.5	1-Hour	80 µg/m3	90 µg/m3	12.9 km/hr	47° (NE)	381385
July 17	7	PM2.5	1-Hour	80 µg/m3	160 µg/m3	13.2 km/hr	55° (NE)	381385
July 17	8	PM2.5	1-Hour	80 µg/m3	224 µg/m3	15.7 km/hr	71° (ENE)	381385
July 17	9	PM2.5	1-Hour	80 µg/m3	259 µg/m3	14.9 km/hr	74° (ENE)	381385
July 17	10	PM2.5	1-Hour	80 µg/m3	296 µg/m3	11.8 km/hr	69° (ENE)	381385
July 17	11	PM2.5	1-Hour	80 µg/m3	294 µg/m3	12.5 km/hr	79° (ENE)	381385
July 17	12	PM2.5	1-Hour	80 µg/m3	259 µg/m3	10.0 km/hr	72° (ENE)	381385
July 17	13	PM2.5	1-Hour	80 µg/m3	231 µg/m3	7.4 km/hr	52° (NE)	381385
July 17	14	PM2.5	1-Hour	80 µg/m3	195 µg/m3	7.4 km/hr	42° (NE)	381385
July 17	15	PM2.5	1-Hour	80 µg/m3	158 µg/m3	11.0 km/hr	62° (ENE)	381385
July 17	16	PM2.5	1-Hour	80 µg/m3	121 µg/m3	9.0 km/hr	70° (ENE)	381385
July 17	17	PM2.5	1-Hour	80 µg/m3	107 µg/m3	7.2 km/hr	52° (NE)	381385
July 17	18	PM2.5	1-Hour	80 µg/m3	92 µg/m3	6.2 km/hr	51° (NE)	381385
July 17	22	PM2.5	1-Hour	80 µg/m3	82 µg/m3	5.5 km/hr	50° (NE)	381385
July 17	23	PM2.5	1-Hour	80 µg/m3	116 µg/m3	5.0 km/hr	43° (NE)	381385
July 17	-	PM2.5	24-Hour	29 µg/m3	134 µg/m3	9.4 km/hr	56° (NE)	381385
July 18	0	PM2.5	1-Hour	80 µg/m3	115 µg/m3	4.3 km/hr	52° (NE)	381385
July 18	1	PM2.5	1-Hour	80 µg/m3	116 µg/m3	5.9 km/hr	49° (NE)	381385
July 18	2	PM2.5	1-Hour	80 µg/m3	111 µg/m3	3.3 km/hr	31° (NNE)	381385
July 18	3	PM2.5	1-Hour	80 µg/m3	104 µg/m3	3.8 km/hr	31° (NNE)	381385
July 18	4	PM2.5	1-Hour	80 µg/m3	98 µg/m3	4.8 km/hr	42° (NE)	381385
July 18	5	PM2.5	1-Hour	80 µg/m3	94 µg/m3	5.1 km/hr	41° (NE)	381385
July 18	6	PM2.5	1-Hour	80 µg/m3	84 µg/m3	5.4 km/hr	45° (NE)	381385
July 18	10	PM2.5	1-Hour	80 µg/m3	83 µg/m3	2.8 km/hr	66° (ENE)	381385
July 18	11	PM2.5	1-Hour	80 µg/m3	85 µg/m3	4.2 km/hr	61° (ENE)	381385
July 18	12	PM2.5	1-Hour	80 µg/m3	82 µg/m3	6.2 km/hr	73° (ENE)	381385
July 18	13	PM2.5	1-Hour	80 µg/m3	82 µg/m3	6.4 km/hr	96° (E)	381385
July 18	14	PM2.5	1-Hour	80 µg/m3	81 µg/m3	6.6 km/hr	72° (ENE)	381385
July 18	-	PM2.5	24-Hour	29 µg/m3	82 µg/m3	4.2 km/hr	69° (ENE)	381385

The exceedances of the PM2.5 objective and guideline recorded this month is believed to be the result of wildfire from north Saskatchewan, given the low wind speeds recorded at the time.

TABLES AND CHARTS

COLD LAKE SOUTH STATION

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



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - July 2021

Summary of Hourly Averages

SULPHUR DIOXIDE (SO_2) in ppb

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

Number of 1-Hour Exceedences: 0 Number of 24-Hour Exceedences: 0 30-Day Exceedence: 0

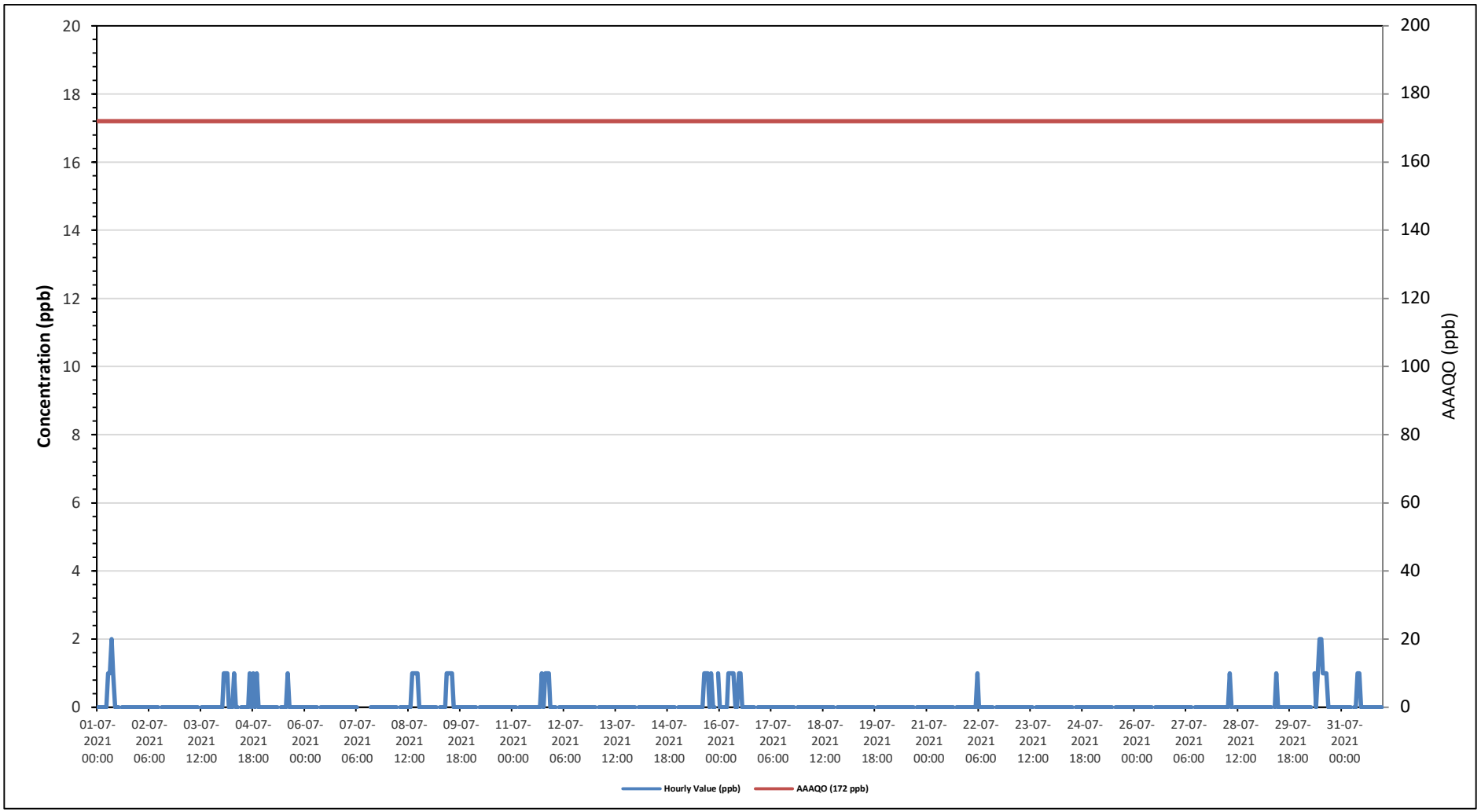
Maximum Hourly Value:	2	ppb	on July 1 at hour 8	Hours in Service:	744
Maximum Daily Value:	0.4	ppb	on July 30	Hours of Data:	707
Minimum Hourly Value:	0	ppb	on July 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.0	ppb	on July 2	Hours of Calibration:	37
Monthly Average:	0.1	ppb		Operational Uptime:	100.0

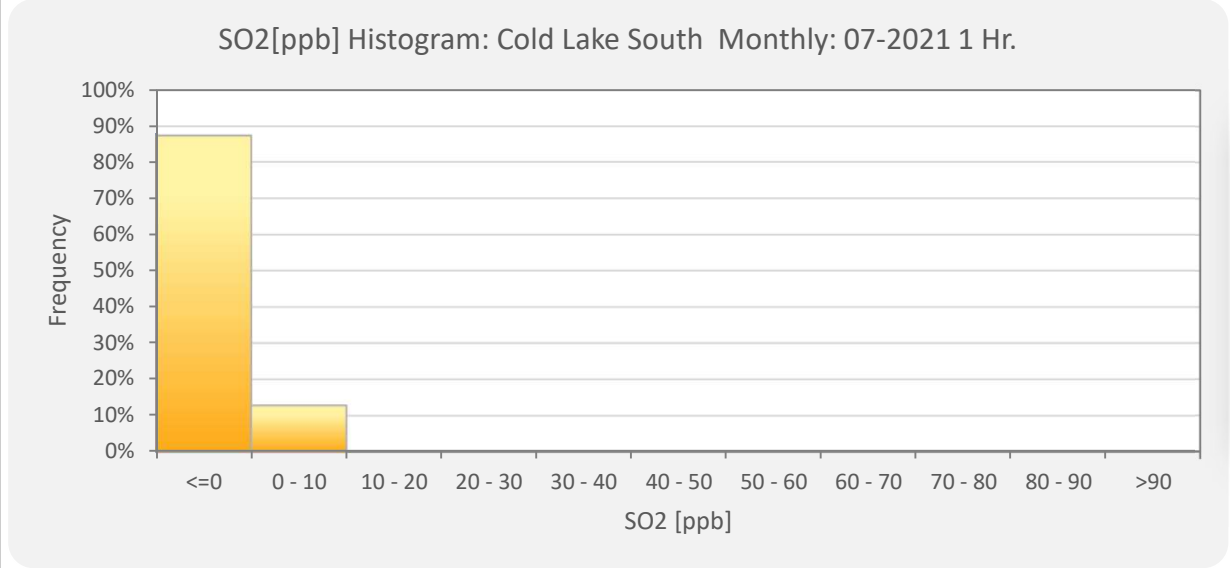
Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Jul 1	0	0	0	0	0	0	1	1	2	1	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	2	0.2
Jul 2	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Jul 3	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Jul 4	0	1	1	1	0	0	0	1	0	0	S	0	0	0	0	0	1	0	1	0	1	0	0	0	0	1	0.3
Jul 5	0	0	0	0	0	0	0	0	0	S	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.0
Jul 6	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
Jul 7	0	0	0	0	0	0	0	S	0	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Jul 8	0	0	0	0	0	0	S	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1	0.2
Jul 9	0	0	0	0	0	S	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0.2
Jul 10	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
Jul 11	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	1	0.2
Jul 12	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
Jul 13	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
Jul 14	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0.0
Jul 15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	0	0	S	1	0	1	0.2
Jul 16	0	0	0	0	0	1	1	1	1	0	0	1	1	0	0	0	0	0	0	0	0	S	0	0	0	1	0.3
Jul 17	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
Jul 18	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
Jul 19	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
Jul 20	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
Jul 21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0.0
Jul 22	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	0.0
Jul 23	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
Jul 24	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
Jul 25	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
Jul 26	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
Jul 27	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
Jul 28	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	1	0.0
Jul 29	0	0	0	0	0	0	0	0	S	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Jul 30	0	0	0	0	0	0	0	S	1	0	1	2	2	1	1	1	0	0	0	0	0	0	0	0	0	2	0.4
Jul 31	0	0	0	0	0	0	S	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Diurnal Maximum	0	1	1	1	0	1	1	1	2	1	1	2	2	1	1	1	1	1	1	1	1	1	0	1			
Daiurnal Average	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0			

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

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

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

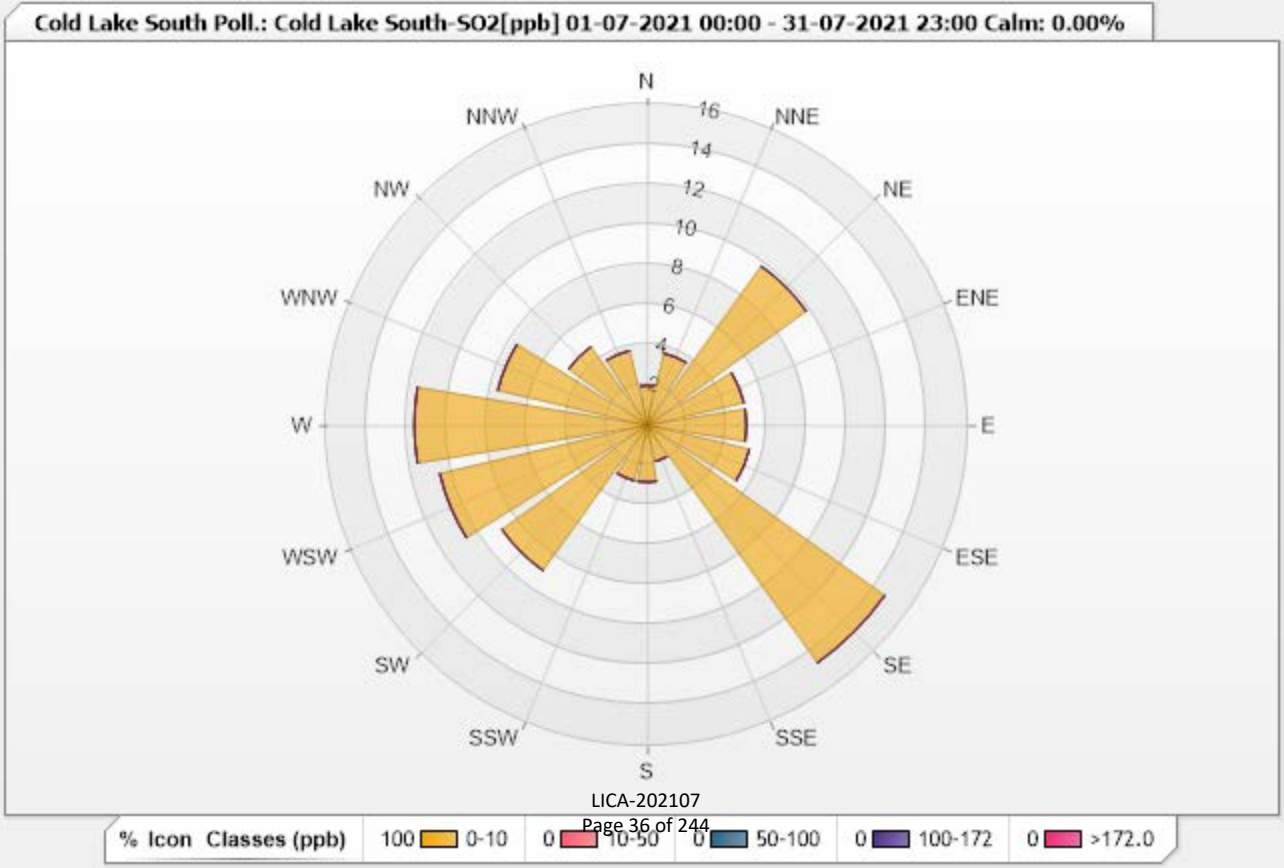




Classes	SO2
<=0	87.27%
0 - 10	12.73%
10 - 20	0.00%
20 - 30	0.00%
30 - 40	0.00%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Cold Lake South Poll.: Cold Lake South-SO2[ppb] Monthly: 07-2021 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	1.98	0	0	0	0	1.98
NNE	3.68	0	0	0	0	3.68
NE	9.76	0	0	0	0	9.76
ENE	4.95	0	0	0	0	4.95
E	4.95	0	0	0	0	4.95
ESE	5.23	0	0	0	0	5.23
SE	14.57	0	0	0	0	14.57
SSE	1.84	0	0	0	0	1.84
S	2.83	0	0	0	0	2.83
SSW	2.83	0	0	0	0	2.83
SW	8.91	0	0	0	0	8.91
WSW	10.61	0	0	0	0	10.61
W	11.6	0	0	0	0	11.6
WNW	7.64	0	0	0	0	7.64
NW	4.81	0	0	0	0	4.81
NNW	3.82	0	0	0	0	3.82
Summary	100	0	0	0	0	100


Cold Lake South Poll.: Cold Lake South-SO2[ppb] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
% Icon Classes (ppb)
100 0-10
0 10-50
0 50-100
0 100-172
0 >172.0

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - July 2021

Summary of Hourly Averages

TOTAL REDUCED SULPHUR (TRS) in ppb

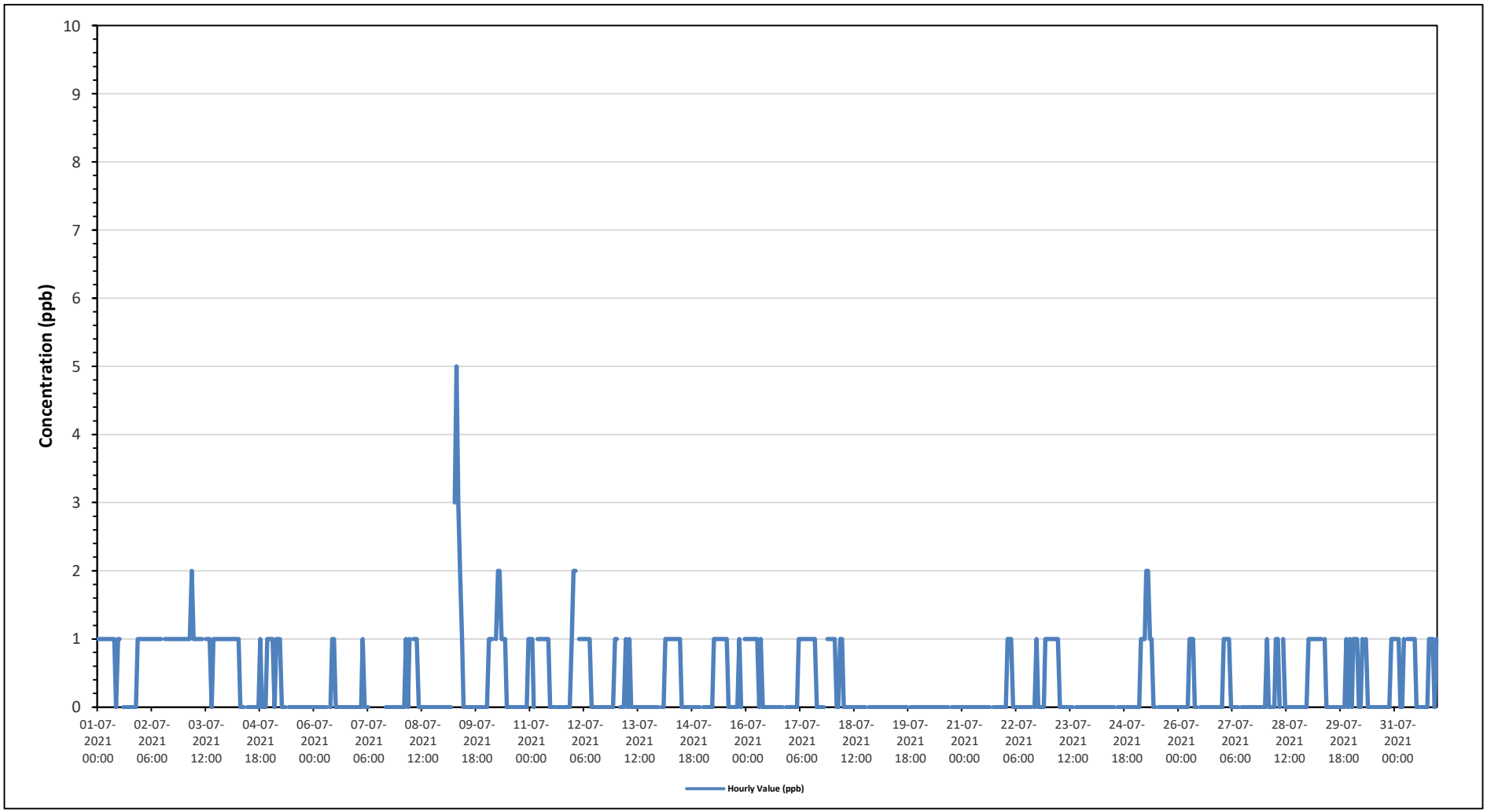
Maximum Hourly Value:	5	ppb	on July 9 at hour 7	Hours in Service:	744
Maximum Daily Value:	1.0	ppb	on July 2	Hours of Data:	705
Minimum Hourly Value:	0	ppb	on July 1 at hour 10	Hours of Missing Data:	0
Minimum Daily Value:	0.0	ppb	on July 19	Hours of Calibration:	39
Monthly Average:	0.3	ppb		Operational Uptime:	100.0

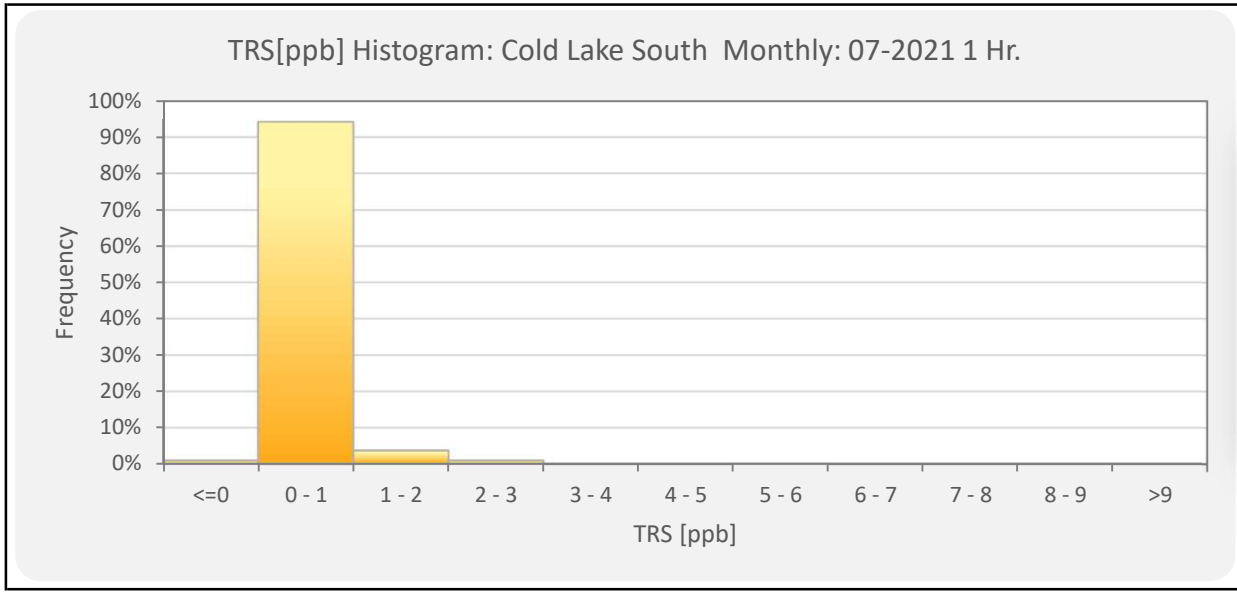
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	1	1	1	1	1	1	1	1	1	1	0	1	1	S	0	0	0	0	0	0	0	0	1	1	0	1	0.6
Jul 2	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0
Jul 3	1	1	1	1	2	1	1	1	1	1	1	S	1	1	1	0	1	1	1	1	1	1	1	1	0	2	1.0
Jul 4	1	1	1	1	1	1	1	0	0	0	S	0	0	0	0	0	0	0	1	0	0	0	1	1	0	1	0.4
Jul 5	1	1	0	1	1	1	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2
Jul 6	0	0	0	0	0	0	0	0	S	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Jul 7	0	0	0	1	0	0	0	S	0	C	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	1	-
Jul 8	0	0	0	1	0	1	S	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2
Jul 9	0	0	0	0	0	S	3	5	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0.6
Jul 10	0	1	1	1	S	1	2	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0.5
Jul 11	1	1	0	S	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.4
Jul 12	2	2	S	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0.5
Jul 13	1	S	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Jul 14	S	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0.4
Jul 15	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	0	S	1	0	1	0.4
Jul 16	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	1	0.3
Jul 17	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	S	1	1	1	0	1	0.6
Jul 18	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	1	0.2
Jul 19	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
Jul 20	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
Jul 21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0.0
Jul 22	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0	0	0	0	1	1	0	1	0.3
Jul 23	1	1	1	1	1	1	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	1	0.3
Jul 24	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
Jul 25	0	0	0	1	1	1	2	2	1	1	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	2	0.4
Jul 26	0	0	0	0	0	0	1	1	1	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Jul 27	0	1	1	1	1	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2
Jul 28	0	1	0	0	0	0	1	1	0	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2
Jul 29	1	1	1	1	1	1	1	1	S	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0.5
Jul 30	0	1	1	1	0	0	1	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0.3
Jul 31	1	1	1	0	0	1	S	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	0	1	0	1	0.6
Diurnal Maximum	2.00	2.00	1.00	1.00	2.00	1.00	3.00	5.00	3.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Daiurnal Average	0.47	0.60	0.40	0.57	0.50	0.60	0.72	0.79	0.62	0.54	0.39	0.25	0.14	0.14	0.10	0.03	0.07	0.10	0.10	0.10	0.13	0.17	0.23	0.43			

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 TRS - Cold Lake South Station

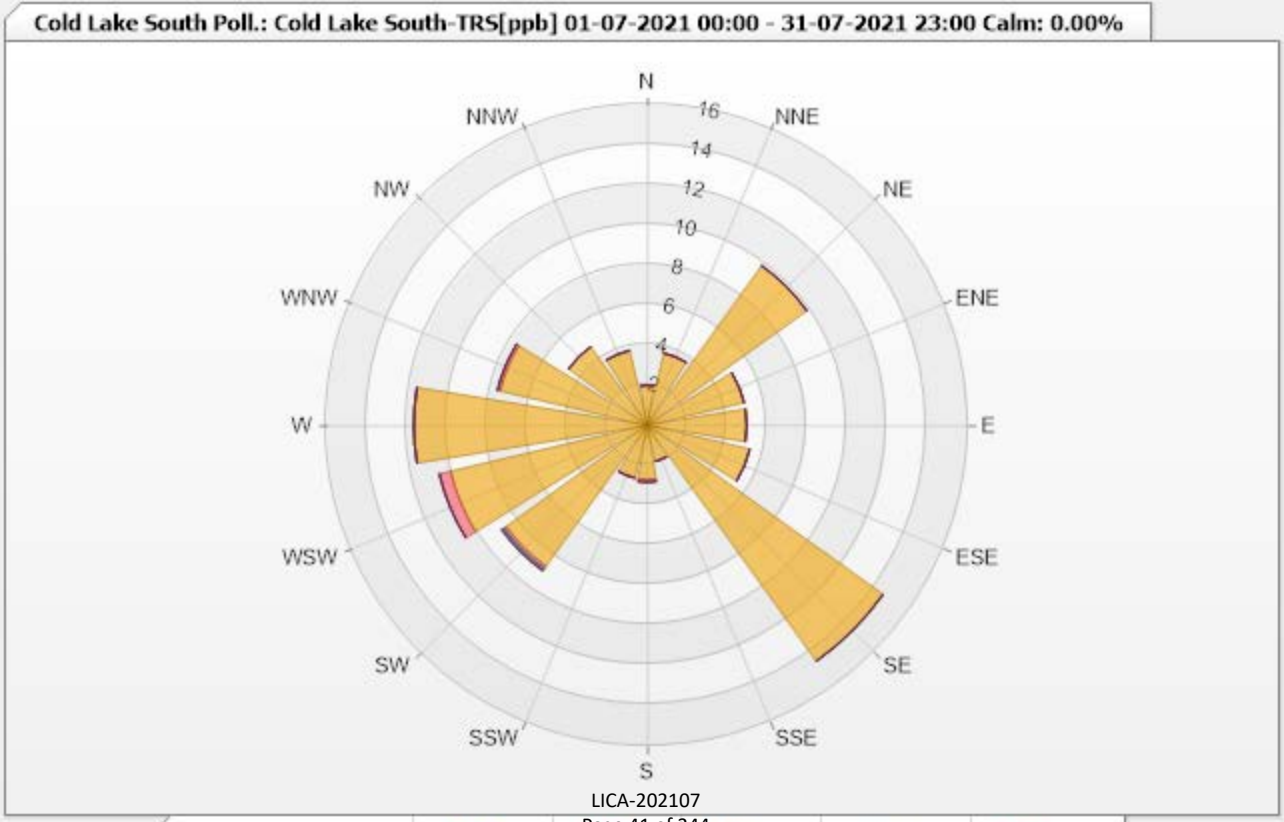




Classes	TRS
<=0	0.99%
0 - 1	94.18%
1 - 2	3.69%
2 - 3	0.99%
3 - 4	0.00%
4 - 5	0.00%
5 - 6	0.14%
6 - 7	0.00%
7 - 8	0.00%
8 - 9	0.00%
>9	0.00%

Wind: Cold Lake South Poll.: Cold Lake South-TRS[ppb] Monthly: 07-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppb]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	1.99	0	0	0	0	1.99
NNE	3.69	0	0	0	0	3.69
NE	9.79	0	0	0	0	9.79
ENE	4.96	0	0	0	0	4.96
E	4.96	0	0	0	0	4.96
ESE	5.25	0	0	0	0	5.25
SE	14.47	0	0	0	0	14.47
SSE	1.84	0	0	0	0	1.84
S	2.7	0.14	0	0	0	2.84
SSW	2.7	0	0	0	0	2.7
SW	8.65	0.14	0.14	0	0	8.93
WSW	10.07	0.57	0	0	0	10.64
W	11.63	0	0	0	0	11.63
WNW	7.52	0.14	0	0	0	7.66
NW	4.82	0	0	0	0	4.82
NNW	3.83	0	0	0	0	3.83
Summary	98.87	0.99	0.14	0	0	100


Cold Lake South Poll.: Cold Lake South-TRS[ppb] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
% Icon Classes (ppb)
99 0-2
1 2-5
0 5-10
0 10-50
0 >50.0

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - July 2021

Summary of Hourly Averages

OXIDES OF NITROGEN (NOx) in ppb

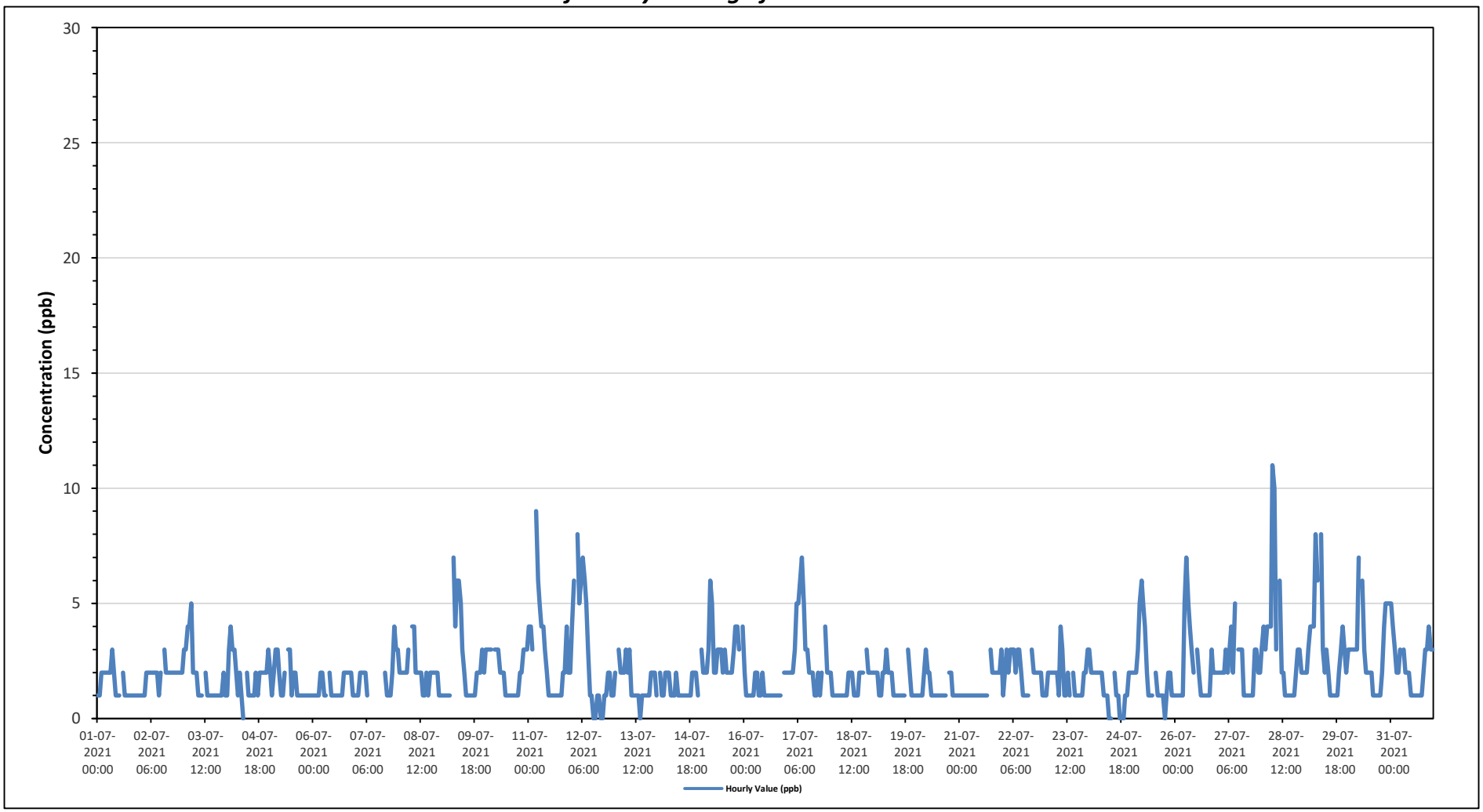
Maximum Hourly Value:	11	ppb	on July 28 at hour 6	Hours in Service:	744
Maximum Daily Value:	3.2	ppb	on July 28	Hours of Data:	705
Minimum Hourly Value:	0	ppb	on July 4 at hour 9	Hours of Missing Data:	0
Minimum Daily Value:	1.3	ppb	on July 16	Hours of Calibration:	39
Monthly Average:	2.0	ppb		Operational Uptime:	100.0

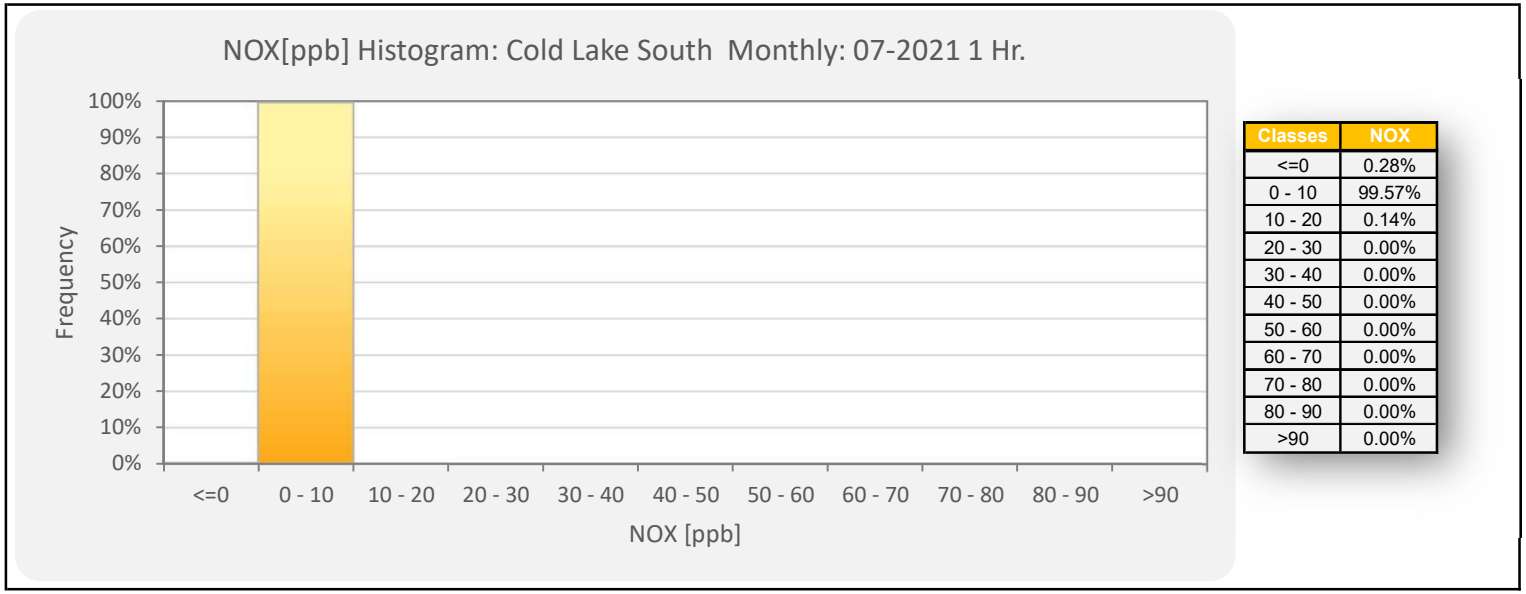
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	1	1	2	2	2	2	2	2	3	2	1	1	1	S	2	1	1	1	1	1	1	1	1	1	1	3	1.4
Jul 2	1	1	1	2	2	2	2	2	2	2	1	2	S	3	2	2	2	2	2	2	2	2	2	2	1	3	1.9
Jul 3	3	3	4	4	5	2	2	2	1	1	1	S	2	1	1	1	1	1	1	1	1	1	2	1	1	5	1.8
Jul 4	1	3	4	3	3	2	1	2	1	0	S	2	1	1	1	1	2	1	2	2	2	2	2	3	0	4	1.8
Jul 5	2	1	2	3	3	2	1	1	2	S	3	3	1	2	2	1	1	1	1	1	1	1	1	1	1	3	1.6
Jul 6	1	1	1	1	2	2	1	1	S	2	1	1	1	1	1	1	1	2	2	2	2	2	1	1	1	2	1.3
Jul 7	1	1	2	2	2	2	1	S	2	C	C	C	C	C	C	C	2	1	1	1	2	4	3	3	1	4	-
Jul 8	2	2	2	2	2	3	S	4	4	2	2	2	2	1	1	2	1	2	2	2	2	2	1	1	1	4	2.0
Jul 9	1	1	1	1	1	S	7	4	6	6	5	3	2	1	1	1	1	1	1	2	2	2	3	2	1	7	2.4
Jul 10	3	3	3	3	S	3	3	3	2	2	2	1	1	1	1	1	1	1	1	2	2	3	3	3	1	3	2.1
Jul 11	4	4	3	S	9	6	5	4	4	3	2	1	1	1	1	1	1	1	1	2	2	4	2	2	1	9	2.8
Jul 12	4	6	S	8	5	6	7	6	5	3	1	1	0	0	1	1	0	0	1	1	2	2	1	1	0	8	2.7
Jul 13	2	S	3	2	2	2	3	2	3	1	1	1	1	1	0	1	1	1	1	1	2	2	2	1	0	3	1.6
Jul 14	S	2	1	1	2	2	2	1	1	1	2	1	1	1	1	1	1	1	1	2	2	2	1	S	1	2	1.4
Jul 15	3	2	2	2	3	6	5	2	2	3	3	3	2	3	2	2	2	2	3	4	4	3	S	4	2	6	2.9
Jul 16	2	1	1	1	1	1	2	2	1	1	2	1	1	1	1	1	1	1	1	1	1	S	2	2	1	2	1.3
Jul 17	2	2	2	2	3	5	5	6	7	5	3	3	2	2	2	1	1	2	1	2	S	4	2	2	1	7	2.9
Jul 18	2	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	2	2	2	S	3	2	2	2	1	3	1.5
Jul 19	2	2	2	1	1	2	2	3	2	2	2	1	1	1	1	1	1	1	S	3	2	1	1	1	1	3	1.6
Jul 20	1	1	1	1	2	3	2	2	1	1	1	1	1	1	1	1	1	S	2	2	1	1	1	1	1	3	1.3
Jul 21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	3	2	2	2	2	2	3	1	3	1.4
Jul 22	1	2	3	2	3	3	3	2	3	3	2	1	1	1	1	S	3	2	2	2	2	2	1	1	1	3	2.0
Jul 23	1	2	2	2	2	2	2	1	4	3	1	1	2	1	S	2	1	1	1	1	1	2	2	3	1	4	1.7
Jul 24	3	2	2	2	2	2	2	2	1	1	1	0	0	S	2	1	1	0	0	0	1	1	2	2	0	3	1.3
Jul 25	2	2	2	3	5	6	5	4	2	1	1	1	S	2	1	1	1	1	0	1	2	2	1	1	0	6	2.0
Jul 26	1	1	1	1	1	5	7	5	4	3	2	S	3	2	1	1	1	1	1	1	3	2	2	2	1	7	2.2
Jul 27	2	2	2	2	3	2	3	4	2	5	S	3	3	3	1	1	1	1	1	1	3	3	2	2	1	5	2.3
Jul 28	3	4	3	4	4	4	11	10	3	S	6	2	2	1	1	1	1	1	1	2	3	3	2	2	1	11	3.2
Jul 29	2	2	3	4	4	4	8	6	S	8	3	2	3	2	1	1	1	1	1	2	3	4	3	2	1	8	3.0
Jul 30	3	3	3	3	3	3	7	S	6	3	2	2	2	2	1	1	1	1	1	2	4	5	5	5	1	7	3.0
Jul 31	5	4	3	2	2	3	S	3	2	2	2	1	1	1	1	1	1	1	2	3	3	4	3	3	1	5	2.3
Diurnal Maximum	5	6	4	8	9	6	11	10	7	8	6	3	3	3	2	2	3	3	3	4	4	5	5	5			
Daiurnal Average	2.1	2.1	2.1	2.3	2.7	3.0	3.6	3.0	2.7	2.4	2.0	1.6	1.5	1.4	1.2	1.1	1.2	1.2	1.3	1.7	2.1	2.4	1.9	2.0			

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

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

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

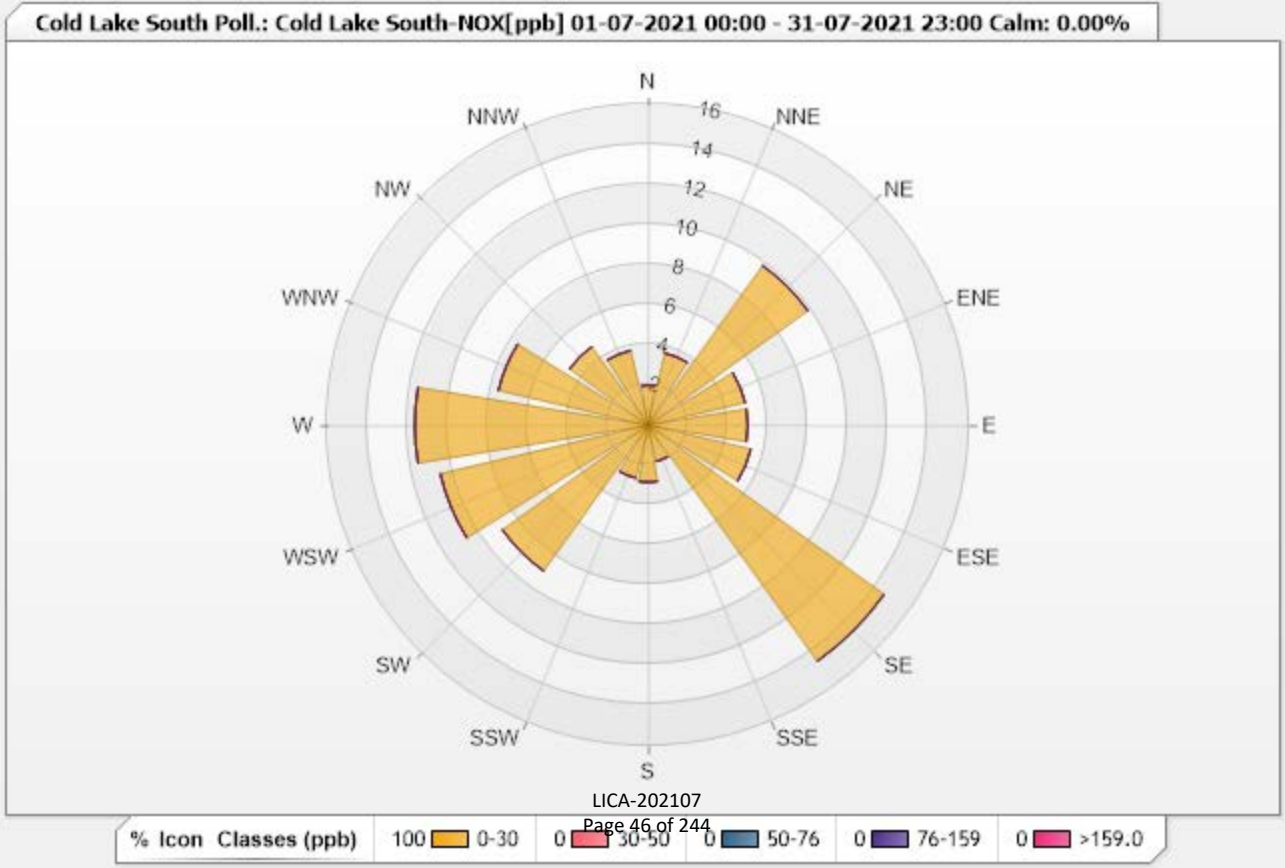




Classes	NOX
<=0	0.28%
0 - 10	99.57%
10 - 20	0.14%
20 - 30	0.00%
30 - 40	0.00%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Cold Lake South Poll.: Cold Lake South-NOX[ppb] Monthly: 07-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.99	0	0	0	0	1.99
NNE	3.69	0	0	0	0	3.69
NE	9.79	0	0	0	0	9.79
ENE	4.96	0	0	0	0	4.96
E	4.96	0	0	0	0	4.96
ESE	5.25	0	0	0	0	5.25
SE	14.47	0	0	0	0	14.47
SSE	1.84	0	0	0	0	1.84
S	2.84	0	0	0	0	2.84
SSW	2.7	0	0	0	0	2.7
SW	8.94	0	0	0	0	8.94
WSW	10.64	0	0	0	0	10.64
W	11.63	0	0	0	0	11.63
WNW	7.66	0	0	0	0	7.66
NW	4.82	0	0	0	0	4.82
NNW	3.83	0	0	0	0	3.83
Summary	100	0	0	0	0	100


Cold Lake South Poll.: Cold Lake South-NOX[ppb] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
2
% 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 - July 2021

Summary of Hourly Averages

NITRIC OXIDE (NO) in ppb

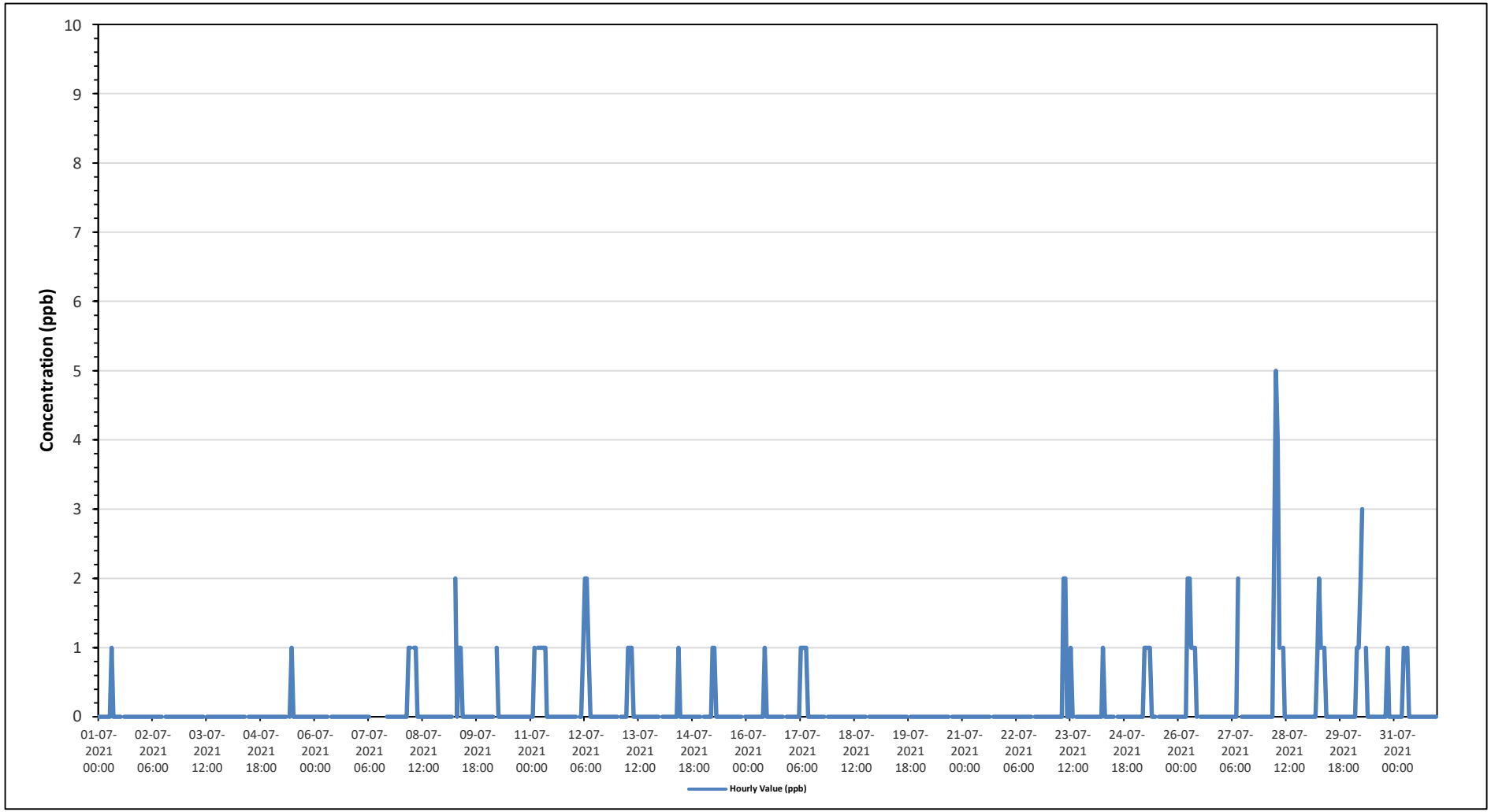
Maximum Hourly Value:	5	ppb	on July 28 at hour 6	Hours in Service:	744
Maximum Daily Value:	0.6	ppb	on July 28	Hours of Data:	705
Minimum Hourly Value:	0	ppb	on July 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.0	ppb	on July 2	Hours of Calibration:	39
Monthly Average:	0.1	ppb		Operational Uptime:	100.0

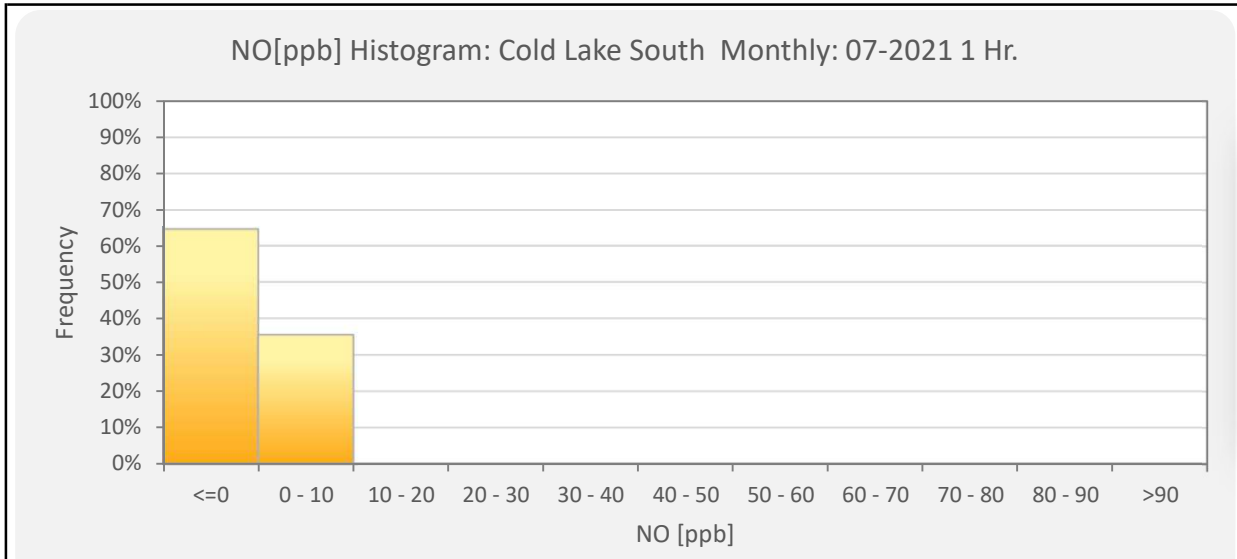
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	0	0	0	0	0	0	0	1	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Jul 2	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Jul 3	0	0	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
Jul 4	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
Jul 5	0	0	0	0	0	0	0	0	0	S	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Jul 6	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
Jul 7	0	0	0	0	0	0	0	S	0	C	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	-
Jul 8	0	0	0	0	1	1	S	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2
Jul 9	0	0	0	0	0	S	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2
Jul 10	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	1	0.0
Jul 11	0	0	1	S	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3
Jul 12	0	0	S	0	0	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.3
Jul 13	0	S	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Jul 14	S	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0.0
Jul 15	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	1	0.1
Jul 16	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	S	0	0	0	1	0.0
Jul 17	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	1	0.2
Jul 18	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
Jul 19	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
Jul 20	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
Jul 21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0.0
Jul 22	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
Jul 23	0	0	0	0	0	0	0	0	2	2	0	0	1	0	S	0	0	0	0	0	0	0	0	0	0	2	0.2
Jul 24	0	0	0	0	0	0	1	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Jul 25	0	0	0	0	0	1	1	1	1	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2
Jul 26	0	0	0	0	0	2	2	1	1	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.3
Jul 27	0	0	0	0	0	0	0	0	0	2	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.1
Jul 28	0	0	0	0	0	2	5	4	1	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0.6
Jul 29	0	0	0	0	0	1	2	1	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2
Jul 30	0	0	0	1	1	2	3	S	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3	0.4
Jul 31	0	0	0	0	0	1	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Diurnal Maximum	0	0	1	1	1	2	5	4	2	2	1	1	1	0	0	0	0	0	0	0	1	0	0	0			
Daiurnal Average	0.0	0.0	0.0	0.0	0.1	0.5	0.8	0.5	0.4	0.3	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			

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 NO - Cold Lake South Station

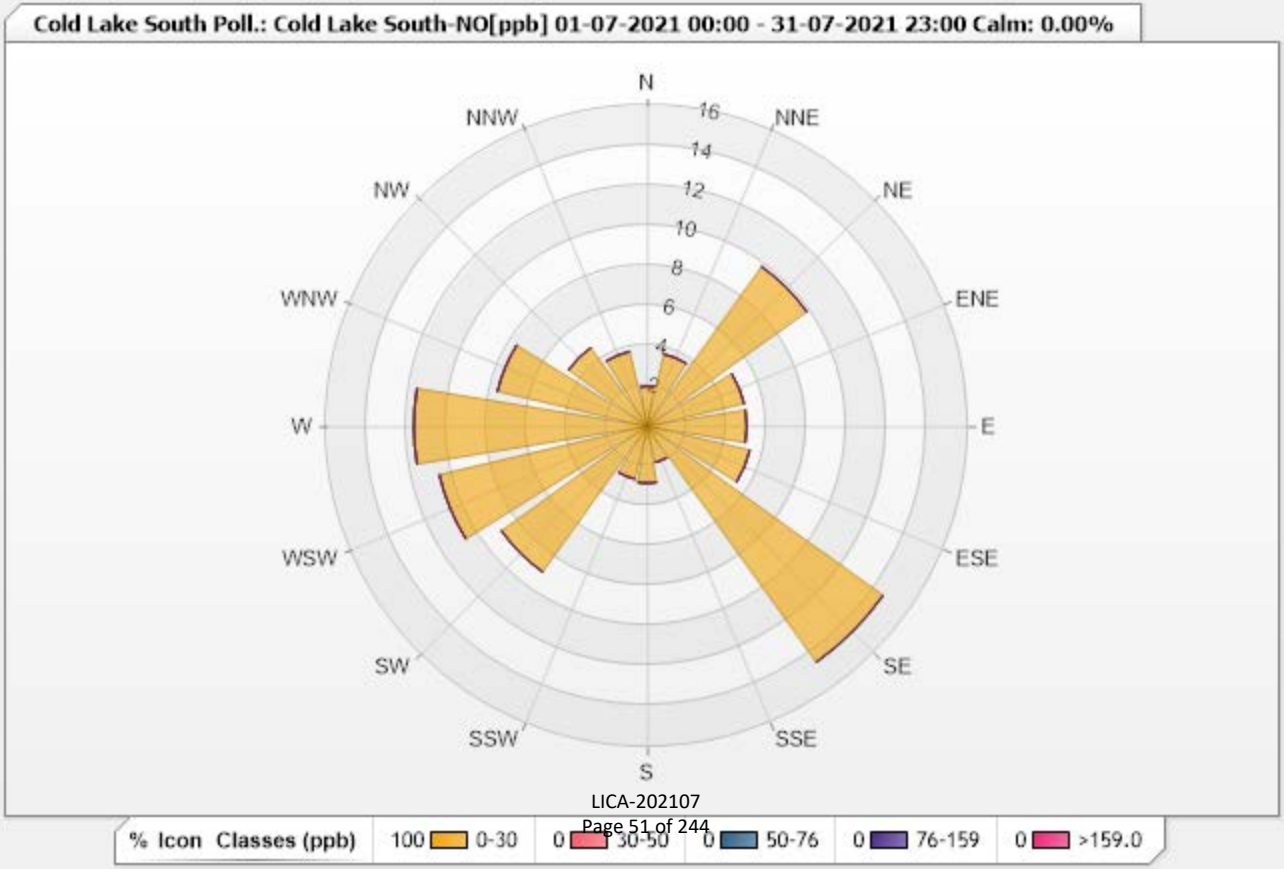




Classes	NO
<=0	64.54%
0 - 10	35.46%
10 - 20	0.00%
20 - 30	0.00%
30 - 40	0.00%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Cold Lake South Poll.: Cold Lake South-NO[ppb] Monthly: 07-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.99	0	0	0	0	1.99
NNE	3.69	0	0	0	0	3.69
NE	9.79	0	0	0	0	9.79
ENE	4.96	0	0	0	0	4.96
E	4.96	0	0	0	0	4.96
ESE	5.25	0	0	0	0	5.25
SE	14.47	0	0	0	0	14.47
SSE	1.84	0	0	0	0	1.84
S	2.84	0	0	0	0	2.84
SSW	2.7	0	0	0	0	2.7
SW	8.94	0	0	0	0	8.94
WSW	10.64	0	0	0	0	10.64
W	11.63	0	0	0	0	11.63
WNW	7.66	0	0	0	0	7.66
NW	4.82	0	0	0	0	4.82
NNW	3.83	0	0	0	0	3.83
Summary	100	0	0	0	0	100


Cold Lake South Poll.: Cold Lake South-NO[ppb] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
% 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 - July 2021

Summary of Hourly Averages

NITROGEN DIOXIDE (NO_2) in ppb

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

Number of 1-Hour Exceedences: 0

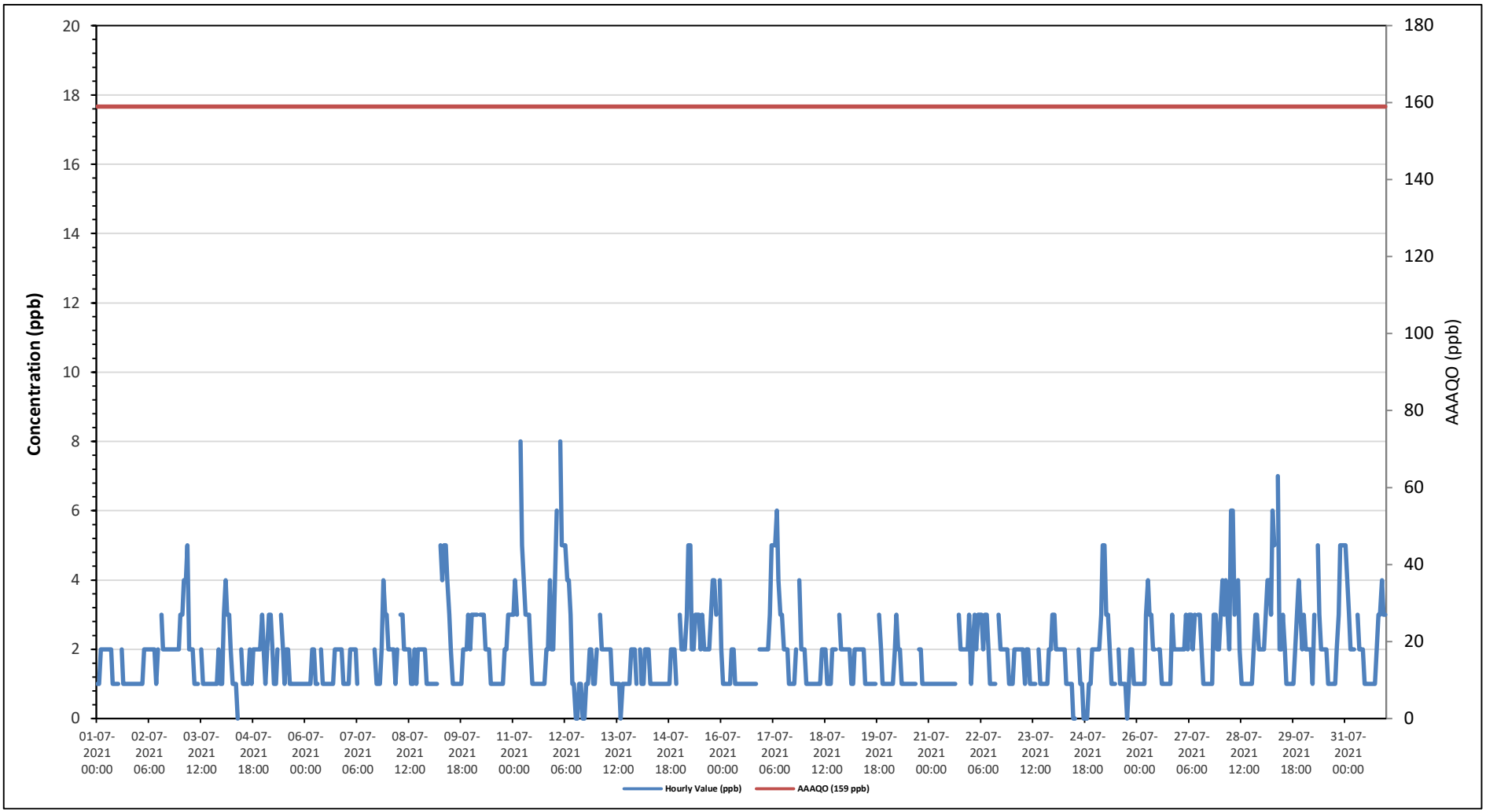
Maximum Hourly Value:	8	ppb	on July 11 at hour 4	Hours in Service:	744
Maximum Daily Value:	2.9	ppb	on July 15	Hours of Data:	705
Minimum Hourly Value:	0	ppb	on July 4 at hour 9	Hours of Missing Data:	0
Minimum Daily Value:	1.2	ppb	on July 16	Hours of Calibration:	39
Monthly Average:	1.9	ppb		Operational Uptime:	100.0

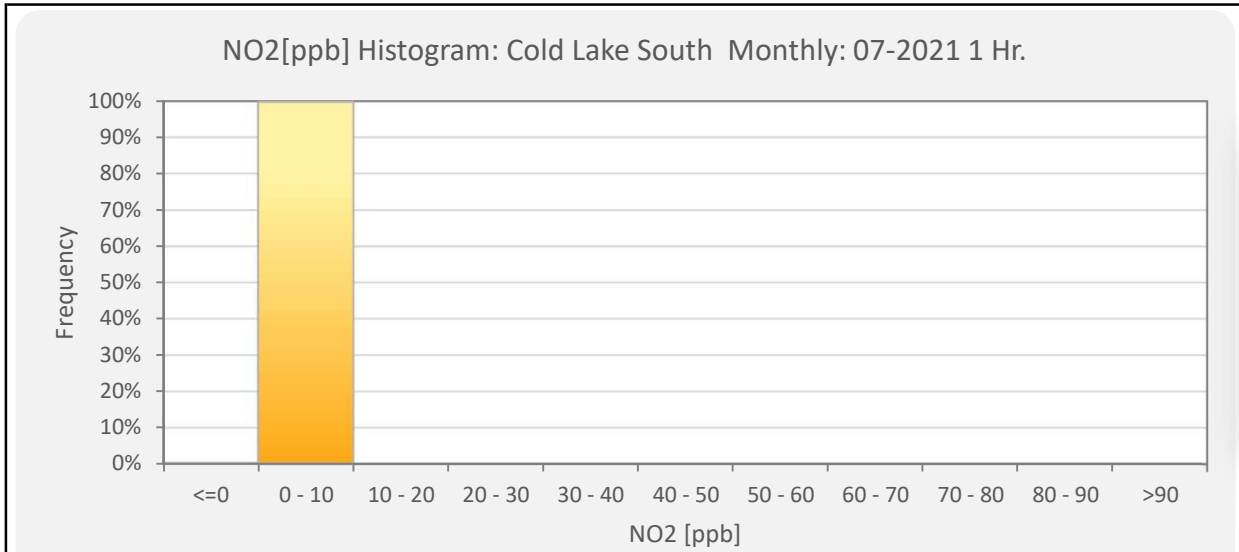
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	1	1	2	2	2	2	2	2	2	1	1	1	1	S	2	1	1	1	1	1	1	1	1	1	1	2	1.3
Jul 2	1	1	1	2	2	2	2	2	2	2	1	2	S	3	2	2	2	2	2	2	2	2	2	2	1	3	1.9
Jul 3	3	3	4	4	5	2	2	2	1	1	1	S	2	1	1	1	1	1	1	1	1	1	2	1	1	5	1.8
Jul 4	1	3	4	3	3	2	1	1	1	0	S	2	1	1	1	1	2	1	2	2	2	2	2	3	0	4	1.8
Jul 5	2	1	2	3	3	2	1	1	2	S	3	2	1	2	2	1	1	1	1	1	1	1	1	1	1	3	1.6
Jul 6	1	1	1	1	2	2	1	1	S	2	1	1	1	1	1	1	1	2	2	2	2	2	1	1	1	2	1.3
Jul 7	1	1	2	2	2	2	1	S	2	C	C	C	C	C	C	C	2	1	1	1	2	4	3	3	1	4	-
Jul 8	2	2	2	2	1	2	S	3	3	2	2	2	2	1	1	2	1	2	2	2	2	2	1	1	1	3	1.8
Jul 9	1	1	1	1	1	S	5	4	5	5	4	3	2	1	1	1	1	1	1	2	2	2	3	2	1	5	2.2
Jul 10	3	3	3	3	S	3	3	3	2	2	2	1	1	1	1	1	1	1	1	2	2	3	3	3	1	3	2.1
Jul 11	3	4	3	S	8	5	4	3	3	3	2	1	1	1	1	1	1	1	1	2	2	4	2	2	1	8	2.5
Jul 12	4	6	S	8	5	5	5	4	4	3	1	1	0	0	1	1	0	0	1	1	2	2	1	1	0	8	2.4
Jul 13	2	S	3	2	2	2	2	2	2	1	1	1	1	1	0	1	1	1	1	1	2	2	2	1	0	3	1.5
Jul 14	S	2	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1	S	1	2	1.3
Jul 15	3	2	2	2	3	5	5	2	2	3	3	3	2	3	2	2	2	2	3	4	4	3	S	4	2	5	2.9
Jul 16	2	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	S	2	2	1	2	1.2
Jul 17	2	2	2	2	3	5	5	5	6	4	3	3	2	2	2	1	1	1	1	2	S	4	2	2	1	6	2.7
Jul 18	2	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	2	2	2	S	3	2	2	2	1	3	1.5
Jul 19	2	2	2	1	1	2	2	2	2	2	2	1	1	1	1	1	1	1	S	3	2	1	1	1	1	3	1.5
Jul 20	1	1	1	1	2	3	2	2	1	1	1	1	1	1	1	1	1	S	2	2	1	1	1	1	1	3	1.3
Jul 21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	3	2	2	2	2	2	3	1	3	1.4
Jul 22	1	2	3	2	3	3	3	2	3	3	2	1	1	1	1	S	3	2	2	2	2	2	1	1	1	3	2.0
Jul 23	1	2	2	2	2	2	2	1	2	2	1	1	1	1	S	2	1	1	1	1	1	2	2	3	1	3	1.6
Jul 24	3	2	2	2	2	2	2	1	1	1	1	0	0	S	2	1	1	0	0	0	1	1	2	2	0	3	1.3
Jul 25	2	2	2	3	5	5	3	3	2	1	1	1	S	2	1	1	1	1	0	1	2	2	1	1	0	5	1.9
Jul 26	1	1	1	1	1	3	4	3	3	2	2	S	2	2	1	1	1	1	1	1	3	2	2	2	1	4	1.8
Jul 27	2	2	2	2	3	2	3	3	2	3	S	3	3	2	1	1	1	1	1	1	3	3	2	2	1	3	2.1
Jul 28	3	4	3	4	3	2	6	6	3	S	4	2	1	1	1	1	1	1	1	2	3	3	2	2	1	6	2.6
Jul 29	2	2	3	4	4	3	6	5	S	7	2	2	3	2	1	1	1	1	1	2	3	4	3	2	1	7	2.8
Jul 30	3	2	2	2	2	1	3	S	5	3	2	2	2	2	1	1	1	1	1	2	3	5	5	5	1	5	2.4
Jul 31	5	4	3	2	2	2	S	3	2	2	2	1	1	1	1	1	1	1	2	3	3	4	3	3	1	5	2.3
Diurnal Maximum	5	6	4	8	8	5	6	6	6	7	4	3	3	3	2	2	3	3	3	4	4	5	5	5			
Daiurnal Average	2.0	2.1	2.1	2.2	2.6	2.5	2.8	2.4	2.3	2.1	1.8	1.5	1.4	1.4	1.2	1.1	1.2	1.2	1.3	1.7	2.1	2.4	1.9	2.0			

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

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

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

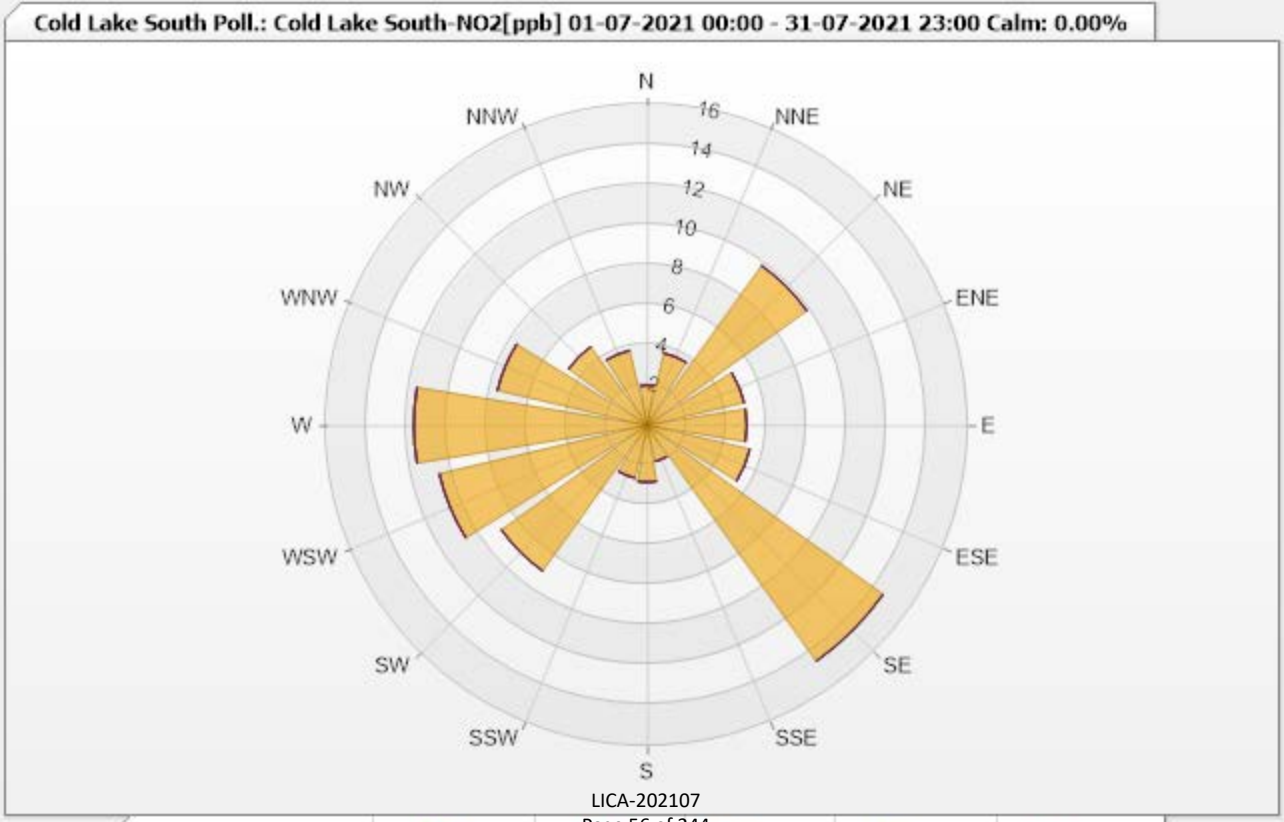




Classes	NO2
<=0	0.28%
0 - 10	99.72%
10 - 20	0.00%
20 - 30	0.00%
30 - 40	0.00%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Cold Lake South Poll.: Cold Lake South-NO2[ppb] Monthly: 07-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.99	0	0	0	0	1.99
NNE	3.69	0	0	0	0	3.69
NE	9.79	0	0	0	0	9.79
ENE	4.96	0	0	0	0	4.96
E	4.96	0	0	0	0	4.96
ESE	5.25	0	0	0	0	5.25
SE	14.47	0	0	0	0	14.47
SSE	1.84	0	0	0	0	1.84
S	2.84	0	0	0	0	2.84
SSW	2.7	0	0	0	0	2.7
SW	8.94	0	0	0	0	8.94
WSW	10.64	0	0	0	0	10.64
W	11.63	0	0	0	0	11.63
WNW	7.66	0	0	0	0	7.66
NW	4.82	0	0	0	0	4.82
NNW	3.83	0	0	0	0	3.83
Summary	100	0	0	0	0	100


Cold Lake South Poll.: Cold Lake South-NO2[ppb] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
% 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 - July 2021

Summary of Hourly Averages

OZONE (O_3) in ppb

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

Number of 1-Hour Exceedences: 0

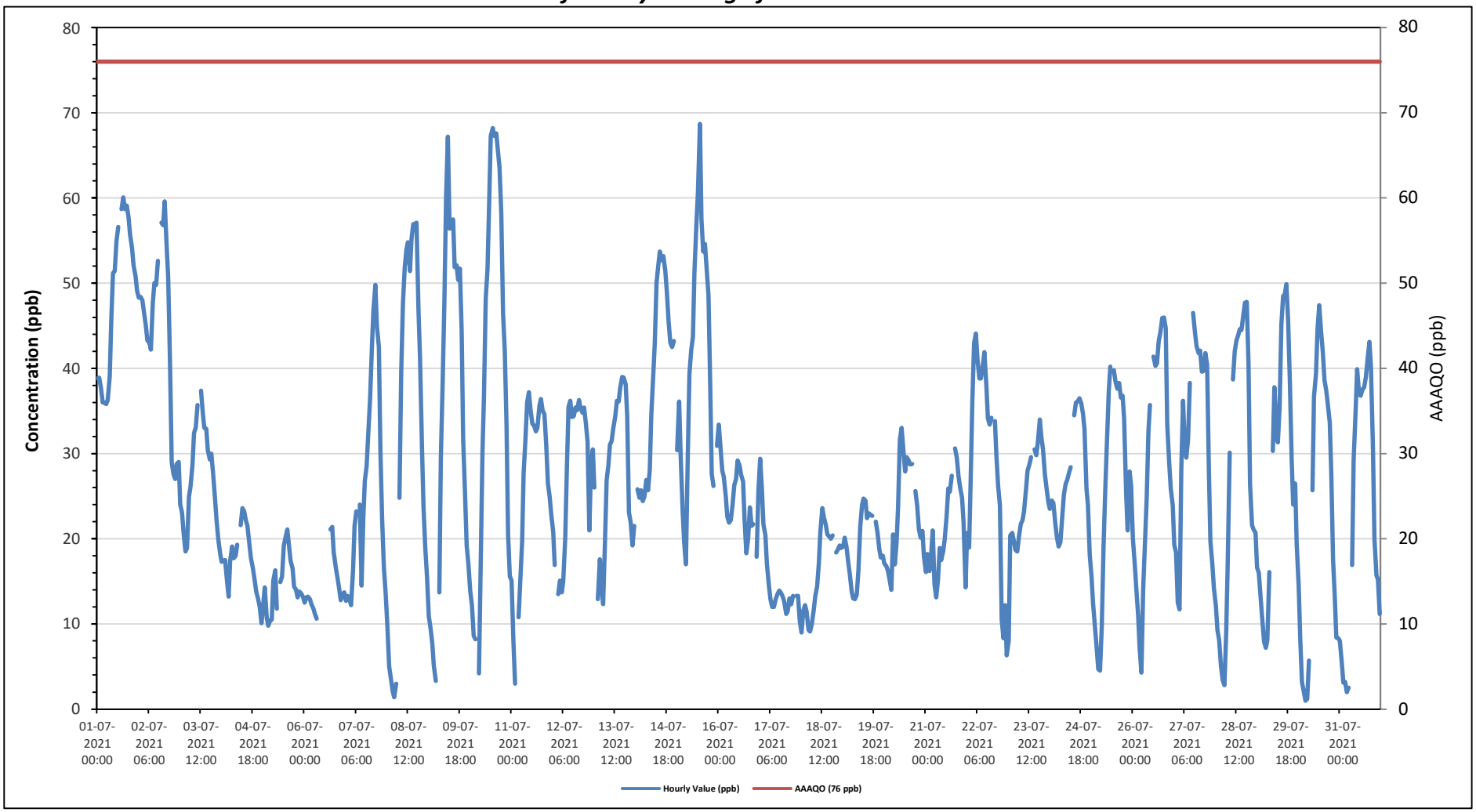
Maximum Hourly Value:	68.7	ppb	on July 15 at hour 13	Hours in Service:	744
Maximum Daily Value:	48.5	ppb	on July 1	Hours of Data:	707
Minimum Hourly Value:	1.0	ppb	on July 30 at hour 4	Hours of Missing Data:	0
Minimum Daily Value:	14.4	ppb	on July 6	Hours of Calibration:	37
Monthly Average:	27.5	ppb		Operational Uptime:	100.0

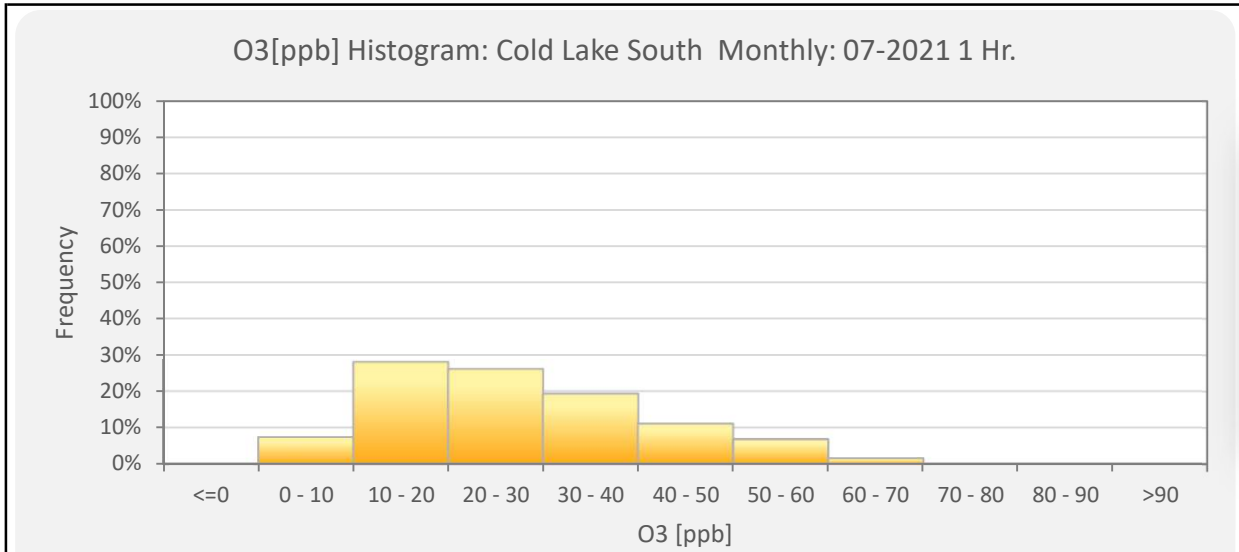
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	38.8	38.9	37.7	36	36	35.8	36.3	39.1	45.5	51.2	51.4	55	56.6	S	58.7	60.1	58.7	59.1	57.7	55.7	54.1	52.1	50.8	49.1	35.8	60.1	**48.5**
Jul 2	48.3	48.4	48	46.5	45	43.3	43	42.2	47.8	50	49.8	52.6	S	57.1	56.8	59.6	54.3	50.7	41.1	29	27.6	27	28.8	29	27.0	59.6	44.6
Jul 3	24	23.1	20.5	18.5	18.9	25	26.1	28.7	32.4	33.1	35.7	S	37.4	34.8	33	32.9	30.4	29.3	30	27.7	25	22.1	19.9	18.3	18.3	37.4	27.3
Jul 4	17.3	17.4	17.5	15.2	13.2	17.4	19.1	17.7	18	19.3	S	21.6	23.6	23.2	22.1	21.5	19.3	17.7	16.5	15.3	13.8	13	12	10.1	10.1	23.6	17.5
Jul 5	12.3	14.3	10.7	9.8	10.4	10.5	15.1	16.3	11.8	S	14.9	15.6	19.2	20.2	21.1	19.1	17.4	16.5	14.4	14	13.1	13.8	13.6	13.2	9.8	21.1	14.7
Jul 6	12.5	13.1	13.2	12.9	12.3	11.8	11.2	10.6	S	13.3	C	C	C	C	C	21.1	21.4	18.4	16.7	15.6	14.3	12.8	13.5	13.7	10.6	21.4	14.4
Jul 7	12.7	13.3	12.9	12.2	16.3	21.5	23.2	S	24	14.5	22.5	26.8	28.5	32.5	36.5	42.3	46.7	49.8	45	42.5	30.5	22.2	16.6	13.6	12.2	49.8	26.4
Jul 8	9.7	5	3.8	2.1	1.4	3	S	24.8	39.5	47.7	51.8	54	54.8	51.4	55.2	56.9	57	57.1	46.7	41.3	30.5	23.7	18.9	15.5	1.4	57.1	32.7
Jul 9	10.9	9.5	7.7	5.1	3.3	S	13.7	29.4	38	47.6	60.2	67.2	56.4	57.4	57.5	51.9	52.1	50.4	51.7	44.4	31.7	24.8	19.2	17	3.3	67.2	35.1
Jul 10	13.9	12.2	8.6	8.2	S	4.2	15.3	30.1	36.8	48.2	51.6	59.8	67.3	68.2	67.3	67.6	65.7	63.6	58.2	46.5	42	33.2	20.6	15.6	4.2	68.2	39.3
Jul 11	15.1	8.2	3	S	10.8	14.6	19.6	27.7	31.5	36	37.2	35	33.5	33.3	32.6	33	35.6	36.4	35	34.6	31.1	26.5	24.9	22.9	3.0	37.2	26.9
Jul 12	20.8	16.9	S	13.5	15.1	13.7	15	20.1	27.7	35.5	36.2	34.3	34.4	35.4	35.1	36.3	35.3	34.8	35.4	33.6	31.4	21	28.9	30.5	13.5	36.3	27.9
Jul 13	26	S	12.9	17.6	15	12.3	19.2	26.9	28.6	31	31.5	33.1	34.3	36.2	36.1	37.7	39	38.9	38.1	34.4	23.1	21.9	19.2	21.5	12.3	39.0	27.6
Jul 14	S	25.8	24.8	25.7	24.4	25	26.9	25.7	28.1	34.5	39.3	43	50.1	52.1	53.7	52.7	53.2	51.4	49	45.5	43	42.5	43.2	S	24.4	53.7	39.1
Jul 15	30.4	36.1	29.9	23.3	19.6	17	28.9	39.3	42.1	43.7	51.3	57	60.7	**68.7**	57.5	53.7	54.6	52	48.6	39.5	27.6	26.2	S	30.9	17.0	**68.7**	40.8
Jul 16	33.4	31.1	28	27.3	25	22.6	21.9	22.2	24	26.3	27	29.2	28.6	27.5	26.7	22.1	18.3	20	23.7	21.5	21.7	S	17.9	25.5	17.9	33.4	24.8
Jul 17	29.4	25.8	21.7	20.4	17	14.5	12.9	12	12	12.9	13.5	13.9	13.7	13.2	12.6	11.2	11.5	13	12.3	13.3	S	13.3	13.3	10.3	10.3	29.4	14.9
Jul 18	9	11.6	12.2	11.5	9.3	9.1	10	11.5	13.3	14.4	17.1	20.8	23.6	22.5	21.6	20.5	20.3	20	20.4	S	18.4	18.7	19.2	18.9	9.0	23.6	16.3
Jul 19	19.1	20.1	19.1	17.3	15.7	13.8	13	12.9	13.4	16.4	21.4	23.9	24.7	24.5	22.4	23	22.8	22.7	S	22	20.7	18.8	17.8	18	12.9	24.7	19.3
Jul 20	17.1	16.8	16.3	15.2	14	20.5	17	19.6	23.8	31.6	33	30.4	27.9	29.6	29.2	28.7	28.8	S	25.6	23.9	21.1	20.1	20.9	17.9	14.0	33.0	23.0
Jul 21	16.1	18.2	16.2	17.8	21	14.7	13.1	15.2	18.9	17.5	18.6	20	22.5	25.9	25.5	27.4	S	30.6	29.5	27.3	25.9	24.8	21.9	14.3	13.1	30.6	21.0
Jul 22	20.7	19	26.5	36.2	43	44.1	40.9	38.8	38.8	40.4	41.9	37.9	34.1	33.4	34.2	S	33.8	29.7	26.1	23.9	10.5	8.3	12.2	6.3	6.3	44.1	29.6
Jul 23	8	20.4	20.7	19.8	18.7	18.5	20.3	21.7	22.2	23.2	25.8	28	28.8	29.6	S	30.5	29.8	31.6	34	32	30.4	27.6	25.9	24.3	8.0	34.0	24.9
Jul 24	23.5	24.5	24.2	21.7	20.2	19.1	19.6	22.4	25.2	26.4	26.9	27.8	28.4	S	34.5	36	36.1	36.5	35.9	34.7	32.9	25.9	23.9	18.1	18.1	36.5	27.1
Jul 25	15.6	12.5	9.6	7.4	4.7	4.5	9.7	19.1	25.8	30.9	37.4	40.2	S	39.8	38.4	37.6	38.3	36.6	36.8	34.1	25.4	21	27.9	26.2	4.5	40.2	25.2
Jul 26	20	17.2	14	11	7.1	4.3	14.1	19.4	24.7	32.6	35.7	S	41.4	40.3	40.6	43.2	44.3	45.9	46	44.7	33.4	28.8	25.9	23.9	4.3	46.0	28.6
Jul 27	19.3	18.4	12.5	11.7	28.1	36.2	31.4	29.5	31.7	38.3	S	46.5	44.1	42.6	41.8	42.1	39.6	39.7	41.8	40.4	28	19.7	16.9	14.2	11.7	46.5	31.1
Jul 28	12.1	9.3	8.1	5.1	3.4	2.8	9	17.1	30.1	S	38.7	42	43.3	43.9	44.6	44.5	46.2	47.7	47.8	40.5	26.5	21.6	21.1	20.7	2.8	47.8	27.2
Jul 29	16.6	16	13.2	10.5	7.9	7.2	8.1	16.1	S	30.3	37.8	34	31.3	35.5	45.2	48.5	48.6	49.9	45.5	38.3	29.3	24	26.5	19.4	7.2	49.9	27.8
Jul 30	14.5	8.4	3.2	2.1	1	1.2	5.7	S	25.7	36.7	39.4	44.6	47.4	44.4	42	38.6	37.4	35.8	33.6	27.6	17.6	13.1	8.4	8.3	**1.0**	47.4	23.3
Jul 31	8	5.4	3.1	3.2	2	2.5	S	16.9	29.2	35	39.9	37	36.8	37.5	37.8	39	41.2	43.1	40.2	30.7	20	15.7	15.2	11.2	2.0	43.1	23.9
Diurnal Maximum	48	48	48	47	45	44	43	42	48	51	60	67	67	69	67	68	66	64	58	56	54	52	51	49			
Daiurnal Average	19.2	18.6	16.7	16.2	16.0	16.4	19.3	23.2	28.0	31.7	35.3	36.8	36.9	37.9	38.6	38.0	37.9	37.6	36.1	32.5	26.7	22.8	21.5	19.3			

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	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

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

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

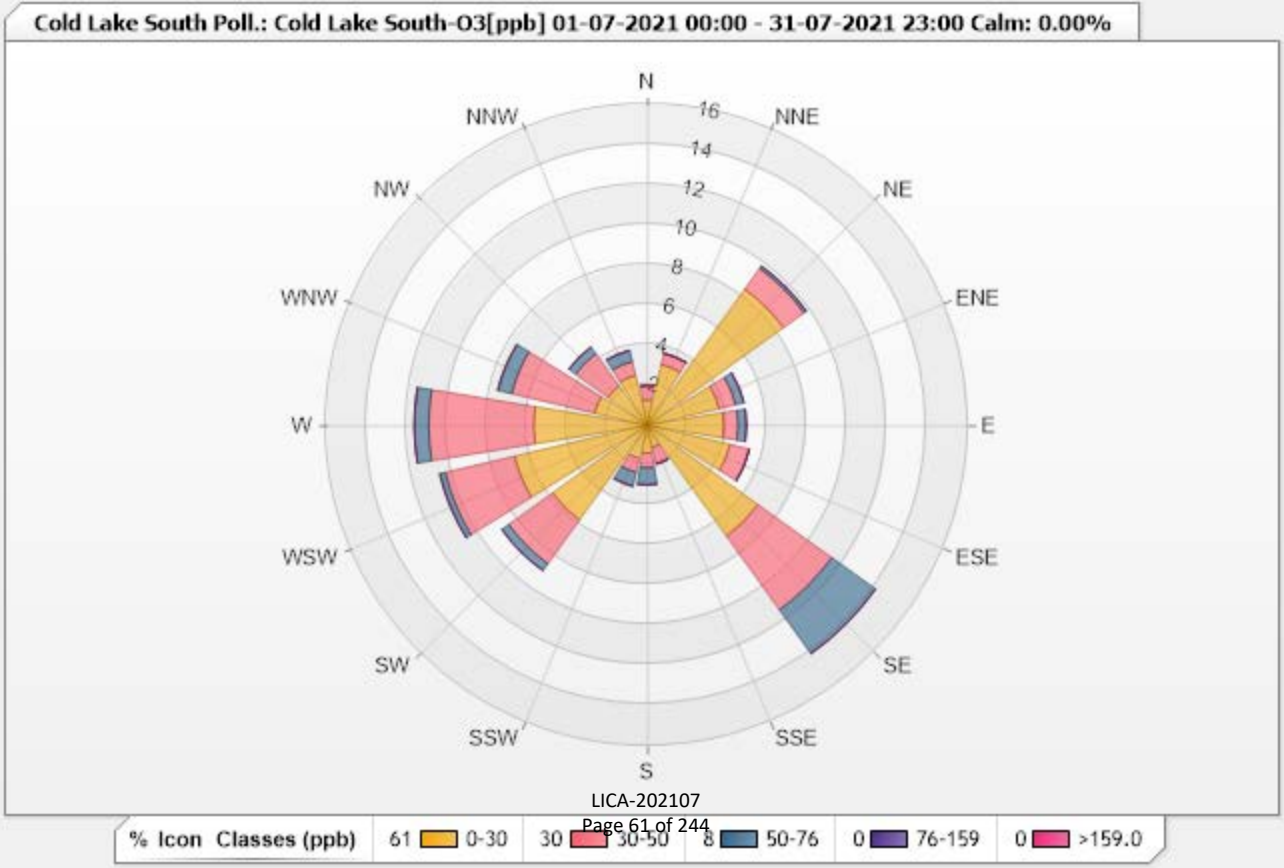




Classes	O3
<=0	0.00%
0 - 10	7.36%
10 - 20	28.01%
20 - 30	26.03%
30 - 40	19.24%
40 - 50	11.03%
50 - 60	6.79%
60 - 70	1.56%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Cold Lake South Poll.: Cold Lake South-O3[ppb] Monthly: 07-2021 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	1.27	0.71	0	0	0	1.98
NNE	3.11	0.57	0	0	0	3.68
NE	8.35	1.27	0.14	0	0	9.76
ENE	3.68	0.85	0.42	0	0	4.95
E	3.82	0.71	0.42	0	0	4.95
ESE	4.24	0.99	0	0	0	5.23
SE	6.79	4.53	2.69	0	0	14.01
SSE	1.13	0.85	0	0	0	1.98
S	1.41	0.71	0.85	0	0	2.97
SSW	1.7	0.71	0.71	0	0	3.12
SW	5.8	2.69	0.42	0	0	8.91
WSW	6.79	3.54	0.28	0	0	10.61
W	5.66	5.23	0.71	0	0	11.6
WNW	2.69	4.24	0.71	0	0	7.64
NW	2.4	1.98	0.42	0	0	4.8
NNW	2.55	0.71	0.57	0	0	3.83
Summary	61.39	30.29	8.34	0	0	100


Cold Lake South Poll.: Cold Lake South-O3[ppb] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
% Icon Classes (ppb)
61 0-30
30 30-50
8 50-76
0 76-159
0 >159.0

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - July 2021

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

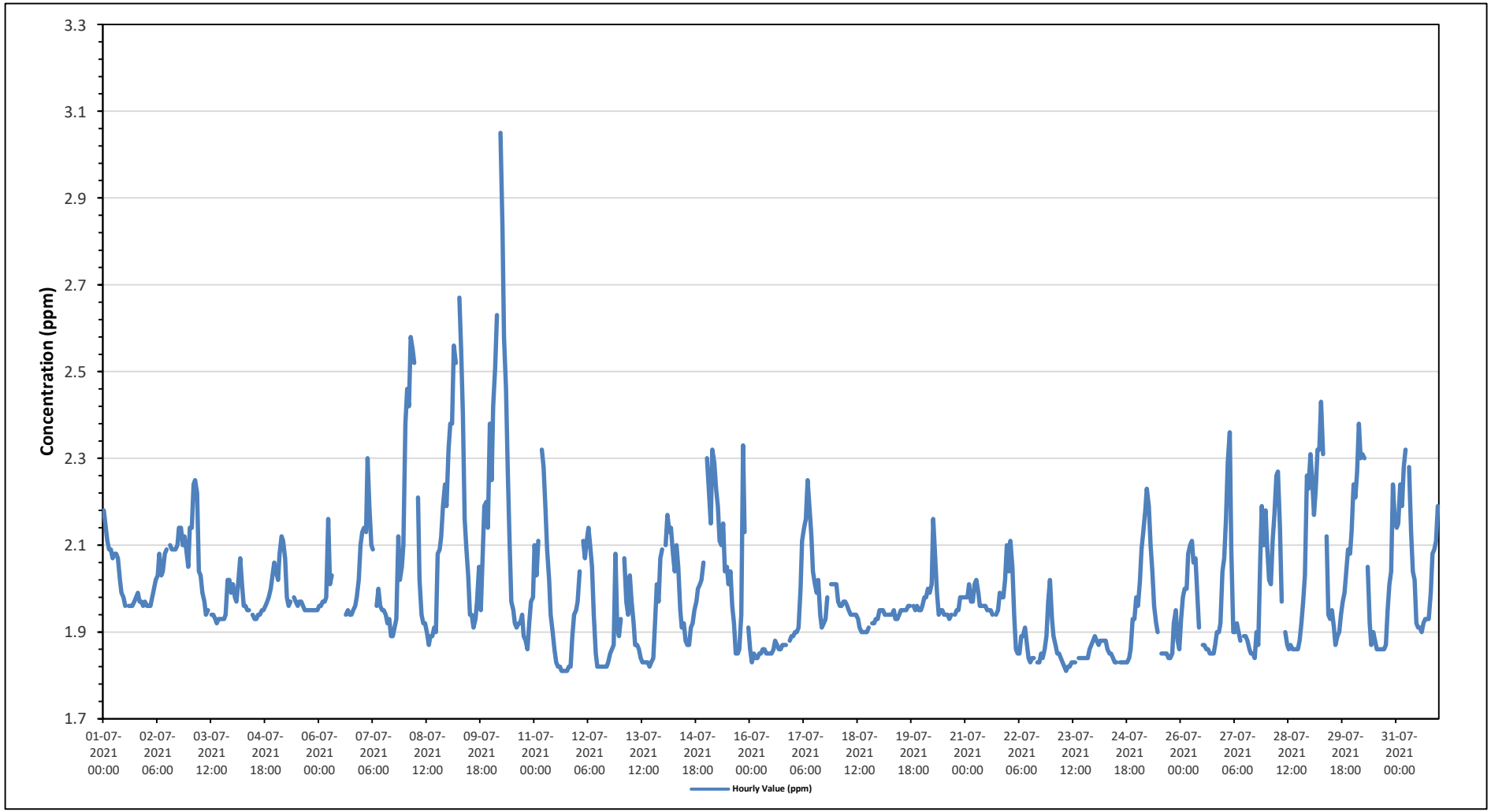
Maximum Hourly Value:	3.05	ppm	on July 10 at hour 5	Hours in Service:	744
Maximum Daily Value:	2.21	ppm	on July 9	Hours of Data:	707
Minimum Hourly Value:	1.81	ppm	on July 11 at hour 15	Hours of Missing Data:	0
Minimum Daily Value:	1.85	ppm	on July 23	Hours of Calibration:	37
Monthly Average:	2.00	ppm		Operational Uptime:	100.0

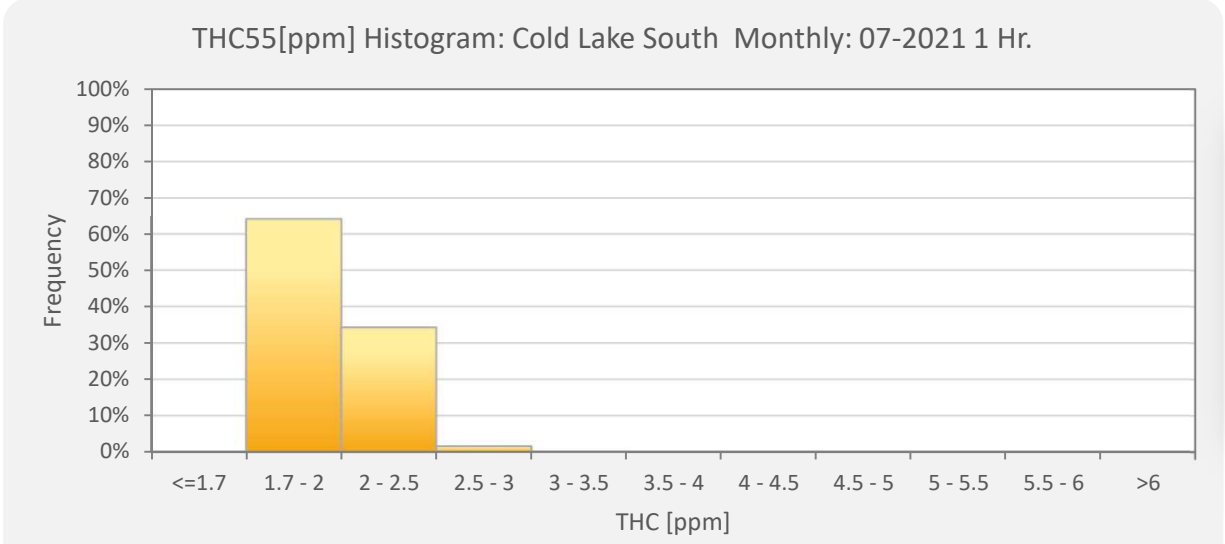
Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Jul 1	2.18	2.15	2.11	2.09	2.09	2.07	2.08	2.08	2.07	2.02	1.99	1.98	1.96	S	1.96	1.96	1.96	1.97	1.98	1.99	1.97	1.97	1.96	1.97	1.96	2.18	2.02
Jul 2	1.96	1.96	1.96	1.98	2.00	2.02	2.03	2.08	2.03	2.04	2.08	2.09	S	2.10	2.09	2.09	2.09	2.10	2.14	2.14	2.10	2.12	2.09	2.05	1.96	2.14	2.06
Jul 3	2.14	2.14	2.24	2.25	2.22	2.04	2.03	1.99	1.97	1.94	1.95	S	1.94	1.94	1.93	1.92	1.93	1.93	1.93	1.93	1.94	2.02	2.02	1.99	1.92	2.25	2.01
Jul 4	2.01	1.98	1.97	2.02	2.07	2.01	1.96	1.96	1.95	1.95	S	1.94	1.93	1.93	1.94	1.94	1.95	1.95	1.96	1.97	1.98	2.00	2.03	2.06	1.93	2.07	1.98
Jul 5	2.04	2.02	2.08	2.12	2.11	2.07	1.98	1.96	1.97	S	1.98	1.97	1.96	1.97	1.97	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	2.12	1.99
Jul 6	1.96	1.96	1.97	1.97	1.98	2.16	2.01	2.03	S	2.04	C	C	C	C	C	1.94	1.95	1.94	1.94	1.95	1.96	1.98	2.02	2.10	1.94	2.16	1.99
Jul 7	2.13	2.14	2.13	2.30	2.19	2.10	2.09	S	1.96	2.00	1.96	1.95	1.95	1.94	1.92	1.93	1.89	1.89	1.91	1.93	2.12	2.02	2.05	2.10	1.89	2.30	2.03
Jul 8	2.38	2.46	2.42	2.58	2.55	2.52	S	2.21	2.02	1.94	1.92	1.92	1.90	1.87	1.89	1.89	1.91	1.90	2.08	2.09	2.12	2.19	2.24	2.19	1.87	2.58	2.14
Jul 9	2.32	2.38	2.38	2.56	2.52	S	2.67	2.55	2.40	2.16	2.09	2.03	1.94	1.94	1.91	1.93	1.97	2.05	1.95	2.07	2.19	2.20	2.14	2.38	1.91	2.67	**2.21**
Jul 10	2.25	2.42	2.51	2.63	S	**3.05**	2.83	2.58	2.46	2.27	2.11	1.97	1.95	1.92	1.91	1.92	1.92	1.94	1.89	1.88	1.86	1.92	1.97	1.98	1.86	**3.05**	2.18
Jul 11	2.10	2.03	2.11	S	2.32	2.28	2.19	2.09	2.02	1.94	1.90	1.86	1.83	1.82	1.82	1.81	1.81	1.81	1.81	1.82	1.82	1.89	1.94	1.95	1.81	2.32	1.96
Jul 12	1.97	2.04	S	2.11	2.07	2.11	2.14	2.09	2.05	1.94	1.85	1.82	1.82	1.82	1.82	1.82	1.82	1.83	1.85	1.86	1.87	2.08	1.91	1.89	1.82	2.14	1.94
Jul 13	1.93	S	2.07	1.97	1.94	2.03	1.97	1.92	1.87	1.87	1.86	1.84	1.83	1.83	1.83	1.83	1.82	1.83	1.84	1.91	2.01	1.97	2.07	2.09	1.82	2.09	1.92
Jul 14	S	2.10	2.17	2.13	2.14	2.08	2.04	2.10	2.05	1.95	1.91	1.92	1.88	1.87	1.87	1.91	1.92	1.95	1.97	2.00	2.01	2.02	2.06	S	1.87	2.17	2.00
Jul 15	2.30	2.23	2.15	2.32	2.29	2.23	2.19	2.11	2.10	2.15	2.04	2.05	2.01	2.04	1.96	1.92	1.85	1.85	1.86	1.94	2.33	2.13	S	1.91	1.85	2.33	2.09
Jul 16	1.86	1.83	1.85	1.84	1.84	1.85	1.85	1.86	1.86	1.85	1.85	1.85	1.85	1.86	1.88	1.87	1.86	1.86	1.87	1.87	1.87	S	1.88	1.89	1.83	1.89	1.86
Jul 17	1.89	1.90	1.90	1.91	2.00	2.11	2.14	2.16	2.25	2.19	2.12	2.04	2.01	1.99	2.02	1.94	1.91	1.92	1.93	1.98	S	2.01	2.01	2.01	1.89	2.25	2.01
Jul 18	2.01	1.97	1.96	1.96	1.97	1.97	1.96	1.95	1.94	1.94	1.94	1.94	1.93	1.91	1.90	1.90	1.90	1.90	1.91	S	1.92	1.92	1.93	1.93	1.90	2.01	1.94
Jul 19	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.95	1.93	1.93	1.94	1.95	1.95	1.95	1.95	1.96	1.96	S	1.96	1.95	1.96	1.95	1.95	1.93	1.96	1.95
Jul 20	1.96	1.98	1.98	2.00	1.99	2.01	2.16	2.07	1.99	1.94	1.95	1.95	1.94	1.94	1.94	1.93	1.94	S	1.94	1.95	1.95	1.98	1.98	1.98	1.93	2.16	1.98
Jul 21	1.98	1.98	2.01	1.97	1.97	2.01	2.02	1.99	1.96	1.96	1.96	1.96	1.95	1.95	1.95	1.94	S	1.94	1.95	1.99	1.98	1.98	2.02	2.10	1.94	2.10	1.98
Jul 22	2.04	2.11	2.05	1.94	1.86	1.85	1.85	1.89	1.89	1.91	1.88	1.84	1.83	1.84	1.84	S	1.83	1.83	1.85	1.84	1.86	1.89	1.97	2.02	1.83	2.11	1.90
Jul 23	1.93	1.89	1.87	1.85	1.85	1.84	1.83	1.82	1.81	1.82	1.82	1.83	1.83	1.83	S	1.84	1.84	1.84	1.84	1.84	1.84	1.86	1.87	1.88	1.81	1.93	1.85
Jul 24	1.89	1.88	1.87	1.88	1.88	1.88	1.88	1.86	1.85	1.85	1.84	1.83	1.83	S	1.83	1.83	1.83	1.83	1.83	1.84	1.86	1.93	1.93	1.98	1.83	1.98	1.87
Jul 25	1.96	2.02	2.09	2.13	2.18	2.23	2.19	2.10	2.04	1.96	1.92	1.90	S	1.85	1.85	1.85	1.85	1.84	1.84	1.85	1.92	1.95	1.88	1.86	1.84	2.23	1.97
Jul 26	1.93	1.98	2.00	2.00	2.08	2.10	2.11	2.06	2.07	1.99	1.91	S	1.87	1.87	1.86	1.86	1.85	1.85	1.85	1.87	1.90	1.90	1.92	2.04	1.85	2.11	1.95
Jul 27	2.07	2.16	2.29	2.36	2.09	1.90	1.90	1.92	1.90	1.88	S	1.89	1.89	1.88	1.86	1.85	1.85	1.84	1.90	1.87	2.07	2.19	2.10	2.18	1.84	2.36	1.99
Jul 28	2.10	2.02	2.01	2.11	2.17	2.26	2.27	2.14	1.97	S	1.90	1.87	1.86	1.87	1.86	1.86	1.86	1.86	1.88	1.92	1.97	2.03	2.26	2.23	1.86	2.27	2.01
Jul 29	2.31	2.25	2.17	2.23	2.32	2.32	2.43	2.31	S	2.12	1.94	1.93	1.95	1.91	1.87	1.89	1.90	1.94	1.97	1.99	2.04	2.09	2.08	2.13	1.87	2.43	2.09
Jul 30	2.24	2.21	2.27	2.38	2.30	2.31	2.30	S	2.05	1.92	1.87	1.90	1.88	1.86	1.86	1.86	1.86	1.86	1.87	1.95	2.01	2.04	2.24	2.16	1.86	2.38	2.05
Jul 31	2.14	2.15	2.24	2.19	2.28	2.32	S	2.28	2.13	2.04	2.02	1.92	1.91	1.91	1.90	1.92	1.93	1.93	1.93	1.99	2.08	2.09	2.11	2.19	1.90	2.32	2.07
Diurnal Maximum	2.38	2.46	2.51	2.63	2.55	3.05	2.83	2.58	2.46	2.27	2.12	2.09	2.01	2.10	2.09	2.09	2.09	2.10	2.14	2.14	2.33	2.20	2.26	2.38			
Daiurnal Average	2.06	2.08	2.09	2.12	2.11	2.12	2.10	2.07	2.02	1.98	1.95	1.93	1.91	1.91	1.90	1.90	1.90	1.90	1.91	1.94	1.98	2.01	2.02	2.04			

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 THC - Cold Lake South Station

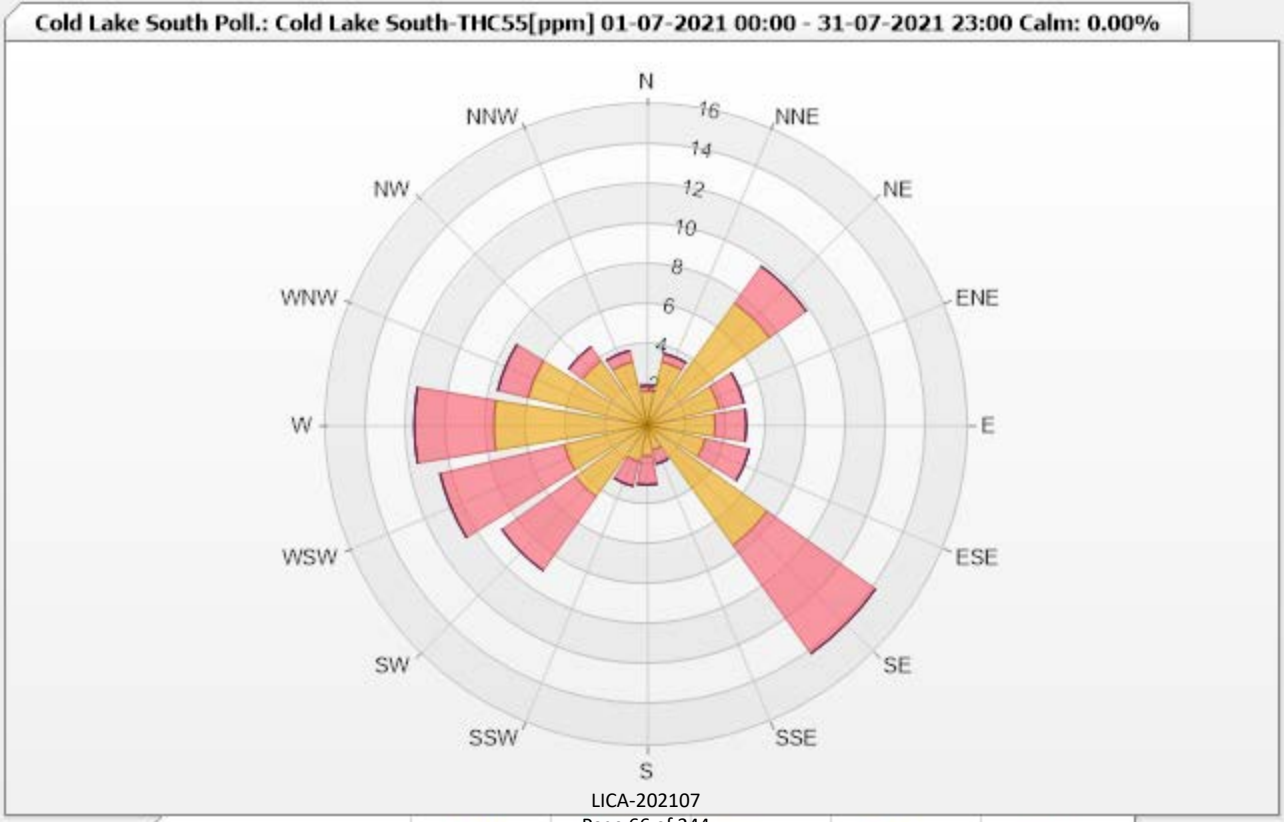




Classes	THC55
<=1.7	0.00%
1.7 - 2	64.07%
2 - 2.5	34.23%
2.5 - 3	1.56%
3 - 3.5	0.14%
3.5 - 4	0.00%
4 - 4.5	0.00%
4.5 - 5	0.00%
5 - 5.5	0.00%
5.5 - 6	0.00%
>6	0.00%

Wind: Cold Lake South Poll.: Cold Lake South-THC55[ppm] Monthly: 07-2021 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	1.7	0.28	0	0	0	1.98
NNE	3.25	0.42	0	0	0	3.67
NE	7.5	2.26	0	0	0	9.76
ENE	3.68	1.27	0	0	0	4.95
E	3.39	1.56	0	0	0	4.95
ESE	2.97	2.26	0	0	0	5.23
SE	7.36	6.65	0	0	0	14.01
SSE	1.27	0.71	0	0	0	1.98
S	1.56	1.41	0	0	0	2.97
SSW	1.84	1.27	0	0	0	3.11
SW	4.38	4.53	0	0	0	8.91
WSW	4.24	6.36	0	0	0	10.6
W	7.64	3.96	0	0	0	11.6
WNW	6.08	1.56	0	0	0	7.64
NW	3.96	0.85	0	0	0	4.81
NNW	3.25	0.57	0	0	0	3.82
Summary	64.07	35.92	0	0	0	100


Cold Lake South Poll.: Cold Lake South-THC55[ppm] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
% Icon Classes (ppm)
64 0-2
36 2-5
0 5-10
0 10-40
0 >40.0

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - July 2021

Summary of Hourly Averages

METHANE (CH4) in ppm

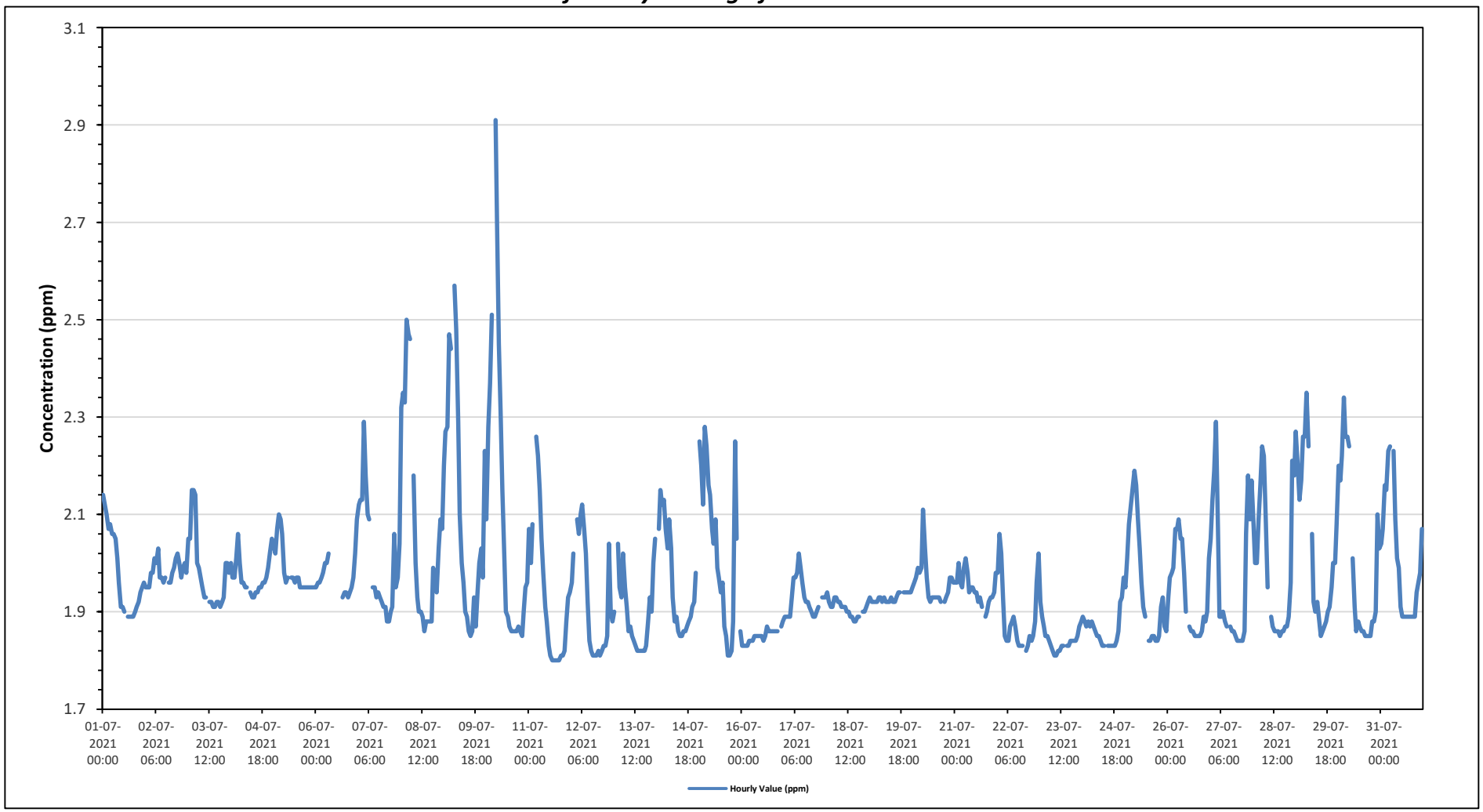
Maximum Hourly Value:	2.91	ppm	on July 10 at hour 5	Hours in Service:	744
Maximum Daily Value:	2.10	ppm	on July 9	Hours of Data:	707
Minimum Hourly Value:	1.80	ppm	on July 11 at hour 13	Hours of Missing Data:	0
Minimum Daily Value:	1.84	ppm	on July 23	Hours of Calibration:	37
Monthly Average:	1.97	ppm		Operational Uptime:	100.0

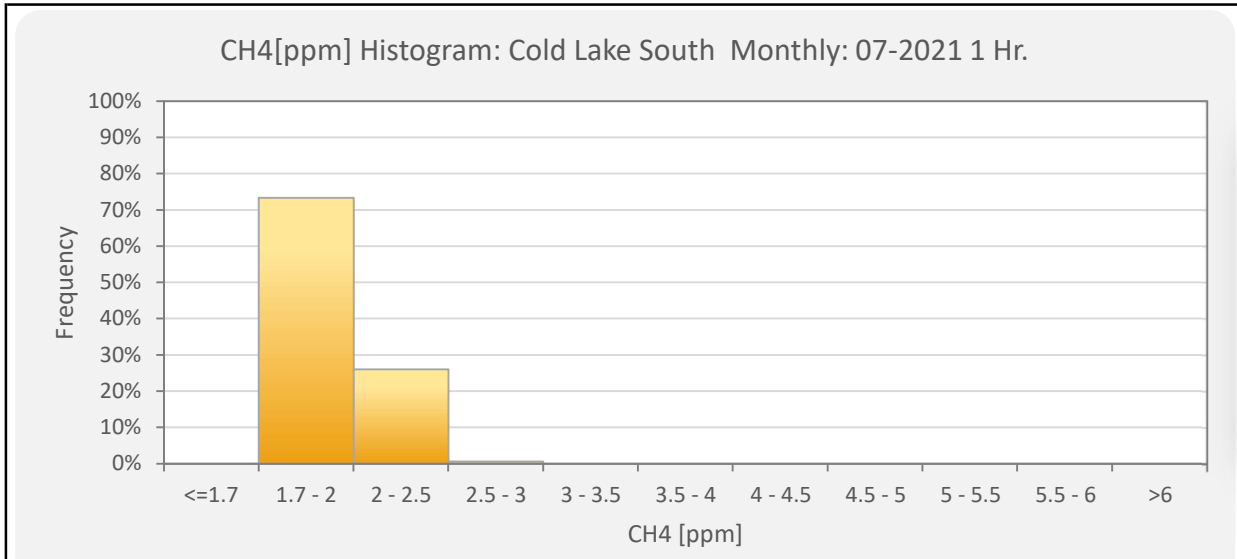
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	2.14	2.12	2.10	2.07	2.08	2.06	2.06	2.05	2.01	1.96	1.91	1.91	1.90	S	1.89	1.89	1.89	1.89	1.90	1.91	1.92	1.94	1.95	1.96	1.89	2.14	1.98
Jul 2	1.95	1.95	1.95	1.98	1.98	2.01	2.00	2.03	1.97	1.97	1.96	1.97	S	1.96	1.96	1.98	1.99	2.01	2.02	2.00	1.97	1.99	2.00	1.98	1.95	2.03	1.98
Jul 3	2.05	2.05	2.15	2.15	2.14	2.00	1.99	1.97	1.95	1.93	1.93	S	1.92	1.92	1.91	1.91	1.92	1.92	1.91	1.92	1.93	2.00	2.00	1.98	1.91	2.15	1.98
Jul 4	2.00	1.97	1.97	2.01	2.06	2.00	1.96	1.96	1.95	1.95	S	1.94	1.93	1.93	1.94	1.94	1.95	1.95	1.96	1.96	1.97	1.99	2.02	2.05	1.93	2.06	1.97
Jul 5	2.04	2.02	2.07	2.10	2.09	2.06	1.98	1.96	1.97	S	1.97	1.97	1.96	1.97	1.97	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	2.10	1.99
Jul 6	1.95	1.96	1.96	1.97	1.98	2.00	2.00	2.02	S	2.04	C	C	C	C	C	1.93	1.94	1.94	1.93	1.94	1.95	1.97	2.02	2.09	1.93	2.09	1.98
Jul 7	2.12	2.13	2.13	2.29	2.18	2.10	2.09	S	1.95	1.95	1.93	1.94	1.93	1.92	1.91	1.91	1.88	1.88	1.90	1.91	2.06	1.95	1.97	2.04	1.88	2.29	2.00
Jul 8	2.32	2.35	2.33	2.50	2.47	2.46	S	2.18	2.00	1.93	1.90	1.90	1.89	1.86	1.88	1.88	1.88	1.88	1.99	1.96	1.94	2.03	2.09	2.07	1.86	2.50	2.07
Jul 9	2.20	2.27	2.28	2.47	2.44	S	2.57	2.48	2.29	2.10	2.00	1.96	1.90	1.89	1.86	1.85	1.86	1.93	1.87	1.94	2.00	2.03	1.97	2.23	1.85	2.57	**2.10**
Jul 10	2.09	2.28	2.37	2.51	S	**2.91**	2.69	2.45	2.31	2.15	2.01	1.90	1.89	1.87	1.86	1.86	1.86	1.86	1.87	1.86	1.85	1.90	1.95	1.96	1.85	**2.91**	2.10
Jul 11	2.07	2.00	2.08	S	2.26	2.22	2.15	2.05	1.98	1.91	1.88	1.83	1.81	1.80	1.80	1.80	1.80	1.80	1.81	1.81	1.82	1.88	1.93	1.94	1.80	2.26	1.93
Jul 12	1.96	2.02	S	2.09	2.06	2.10	2.12	2.07	2.02	1.92	1.84	1.82	1.81	1.81	1.81	1.82	1.81	1.82	1.83	1.83	1.85	2.04	1.90	1.88	1.81	2.12	1.92
Jul 13	1.90	S	2.04	1.95	1.93	2.02	1.95	1.91	1.86	1.87	1.85	1.84	1.83	1.82	1.82	1.82	1.82	1.82	1.83	1.88	1.93	1.90	2.00	2.05	1.82	2.05	1.90
Jul 14	S	2.07	2.15	2.12	2.13	2.07	2.03	2.09	2.03	1.93	1.88	1.89	1.86	1.85	1.85	1.86	1.86	1.87	1.88	1.89	1.91	1.92	1.98	S	1.85	2.15	1.96
Jul 15	2.25	2.20	2.12	2.28	2.24	2.16	2.14	2.07	2.04	2.09	1.99	1.97	1.94	1.96	1.87	1.85	1.81	1.81	1.82	1.88	2.25	2.05	S	1.86	1.81	2.28	2.03
Jul 16	1.83	1.83	1.83	1.83	1.84	1.84	1.84	1.85	1.85	1.85	1.85	1.85	1.84	1.85	1.87	1.86	1.86	1.86	1.86	1.86	1.86	S	1.87	1.88	1.83	1.88	1.85
Jul 17	1.89	1.89	1.89	1.89	1.93	1.97	1.97	1.98	2.02	1.99	1.96	1.93	1.92	1.92	1.91	1.90	1.89	1.89	1.90	1.91	S	1.93	1.93	1.93	1.89	2.02	1.93
Jul 18	1.94	1.92	1.91	1.91	1.93	1.93	1.92	1.92	1.91	1.91	1.91	1.90	1.90	1.89	1.89	1.88	1.88	1.89	1.89	S	1.90	1.90	1.91	1.92	1.88	1.94	1.91
Jul 19	1.93	1.92	1.92	1.92	1.92	1.93	1.93	1.92	1.93	1.92	1.92	1.92	1.93	1.92	1.92	1.93	1.94	1.94	S	1.94	1.94	1.94	1.94	1.94	1.92	1.94	1.93
Jul 20	1.95	1.96	1.97	1.99	1.98	1.99	2.11	2.03	1.97	1.93	1.92	1.93	1.93	1.93	1.93	1.93	1.92	S	1.92	1.93	1.94	1.97	1.97	1.96	1.92	2.11	1.96
Jul 21	1.96	1.96	2.00	1.96	1.95	1.99	2.01	1.98	1.94	1.95	1.95	1.94	1.94	1.92	1.93	1.91	S	1.89	1.90	1.92	1.93	1.93	1.94	1.98	1.89	2.01	1.95
Jul 22	1.98	2.06	2.02	1.93	1.85	1.84	1.84	1.87	1.88	1.89	1.87	1.84	1.83	1.83	1.83	S	1.82	1.83	1.85	1.84	1.85	1.88	1.96	2.02	1.82	2.06	1.89
Jul 23	1.92	1.89	1.87	1.85	1.85	1.84	1.83	1.82	1.81	1.81	1.82	1.82	1.83	1.83	S	1.83	1.83	1.84	1.84	1.84	1.84	1.85	1.87	1.88	1.81	1.92	1.84
Jul 24	1.89	1.88	1.87	1.88	1.87	1.88	1.87	1.86	1.85	1.85	1.84	1.83	1.83	S	1.83	1.83	1.83	1.83	1.83	1.84	1.86	1.92	1.93	1.97	1.83	1.97	1.86
Jul 25	1.95	2.01	2.08	2.12	2.15	2.19	2.16	2.09	2.03	1.96	1.91	1.89	S	1.84	1.84	1.85	1.85	1.84	1.84	1.85	1.91	1.93	1.87	1.86	1.84	2.19	1.96
Jul 26	1.93	1.97	1.98	1.99	2.07	2.07	2.09	2.05	2.05	1.98	1.90	S	1.87	1.86	1.86	1.85	1.85	1.85	1.85	1.86	1.89	1.88	1.90	2.01	1.85	2.09	1.94
Jul 27	2.05	2.13	2.19	2.29	2.07	1.89	1.89	1.90	1.88	1.87	S	1.87	1.86	1.86	1.85	1.84	1.84	1.84	1.84	1.86	2.06	2.18	2.09	2.17	1.84	2.29	1.97
Jul 28	2.09	2.00	2.00	2.09	2.16	2.24	2.22	2.10	1.95	S	1.89	1.87	1.86	1.86	1.86	1.85	1.86	1.86	1.87	1.87	1.89	1.96	2.21	2.18	1.85	2.24	1.99
Jul 29	2.27	2.20	2.13	2.17	2.26	2.26	2.35	2.24	S	2.06	1.92	1.90	1.92	1.89	1.85	1.86	1.87	1.88	1.90	1.91	1.95	2.00	2.00	2.08	1.85	2.35	2.04
Jul 30	2.20	2.17	2.22	2.34	2.26	2.26	2.24	S	2.01	1.91	1.86	1.88	1.87	1.86	1.86	1.85	1.85	1.85	1.85	1.88	1.88	1.90	2.10	2.03	1.85	2.34	2.01
Jul 31	2.04	2.07	2.16	2.15	2.23	2.24	S	2.23	2.09	2.01	1.99	1.91	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.94	1.96	1.98	2.07	1.89	2.24	2.01
Diurnal Maximum	2.32	2.35	2.37	2.51	2.47	2.91	2.69	2.48	2.31	2.15	2.01	1.97	1.96	1.97	1.97	1.98	1.99	2.01	2.02	2.00	2.25	2.18	2.21	2.23			
Daiurnal Average	2.03	2.04	2.06	2.09	2.08	2.08	2.07	2.04	1.98	1.95	1.91	1.90	1.89	1.88	1.88	1.88	1.87	1.88	1.88	1.89	1.93	1.96	1.97	2.00			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	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 CH4 - Cold Lake South Station

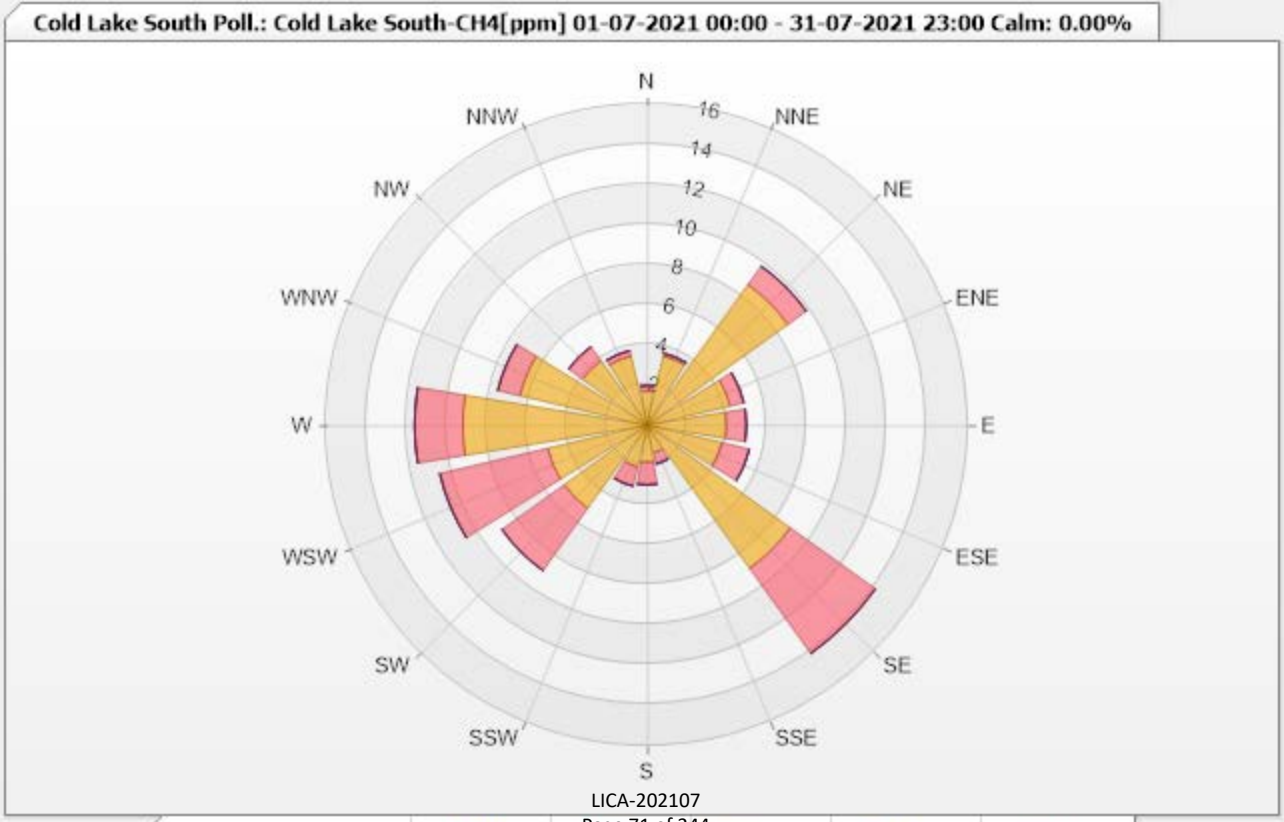




Classes	CH4
<=1.7	0.00%
1.7 - 2	73.41%
2 - 2.5	26.03%
2.5 - 3	0.57%
3 - 3.5	0.00%
3.5 - 4	0.00%
4 - 4.5	0.00%
4.5 - 5	0.00%
5 - 5.5	0.00%
5.5 - 6	0.00%
>6	0.00%

Wind: Cold Lake South Poll.: Cold Lake South-CH4[ppm] Monthly: 07-2021 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	1.7	0.28	0	0	0	1.98
NNE	3.54	0.14	0	0	0	3.68
NE	8.63	1.13	0	0	0	9.76
ENE	4.24	0.71	0	0	0	4.95
E	3.96	0.99	0	0	0	4.95
ESE	3.82	1.41	0	0	0	5.23
SE	8.77	5.23	0	0	0	14
SSE	1.41	0.57	0	0	0	1.98
S	1.84	1.13	0	0	0	2.97
SSW	2.12	0.99	0	0	0	3.11
SW	5.09	3.82	0	0	0	8.91
WSW	5.09	5.52	0	0	0	10.61
W	9.19	2.4	0	0	0	11.59
WNW	6.51	1.13	0	0	0	7.64
NW	3.96	0.85	0	0	0	4.81
NNW	3.54	0.28	0	0	0	3.82
Summary	73.41	26.58	0	0	0	100


Cold Lake South Poll.: Cold Lake South-CH4[ppm] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
% Icon Classes (ppm)
73 0-2
27 2-5
0 5-10
0 10-20
0 >20.0

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - July 2021

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

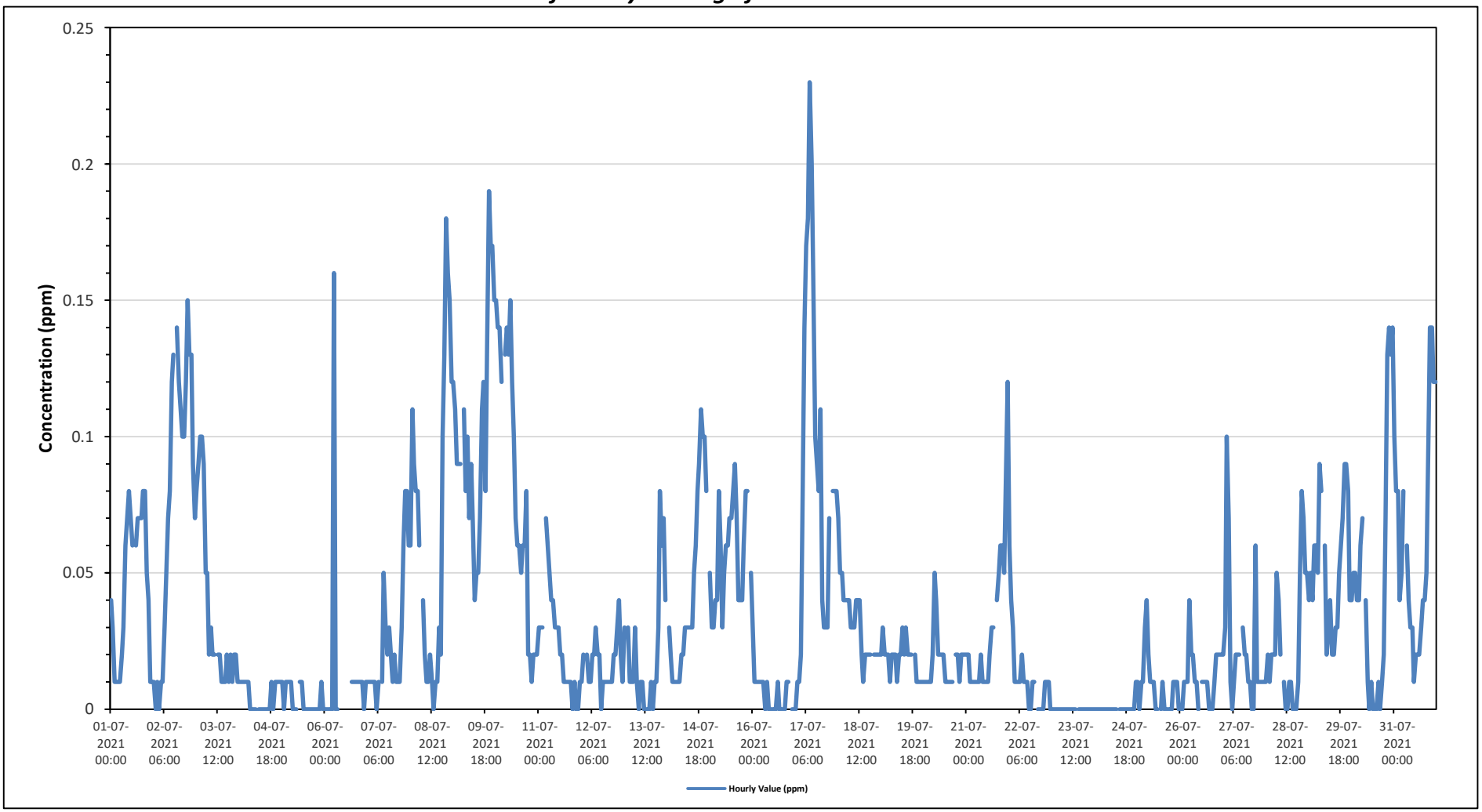
Maximum Hourly Value:	0.23	ppm	on July 17 at hour 8	Hours in Service:	744
Maximum Daily Value:	0.10	ppm	on July 9	Hours of Data:	707
Minimum Hourly Value:	0.00	ppm	on July 2 at hour 1	Hours of Missing Data:	0
Minimum Daily Value:	0.00	ppm	on July 23	Hours of Calibration:	37
Monthly Average:	0.03	ppm		Operational Uptime:	100.0

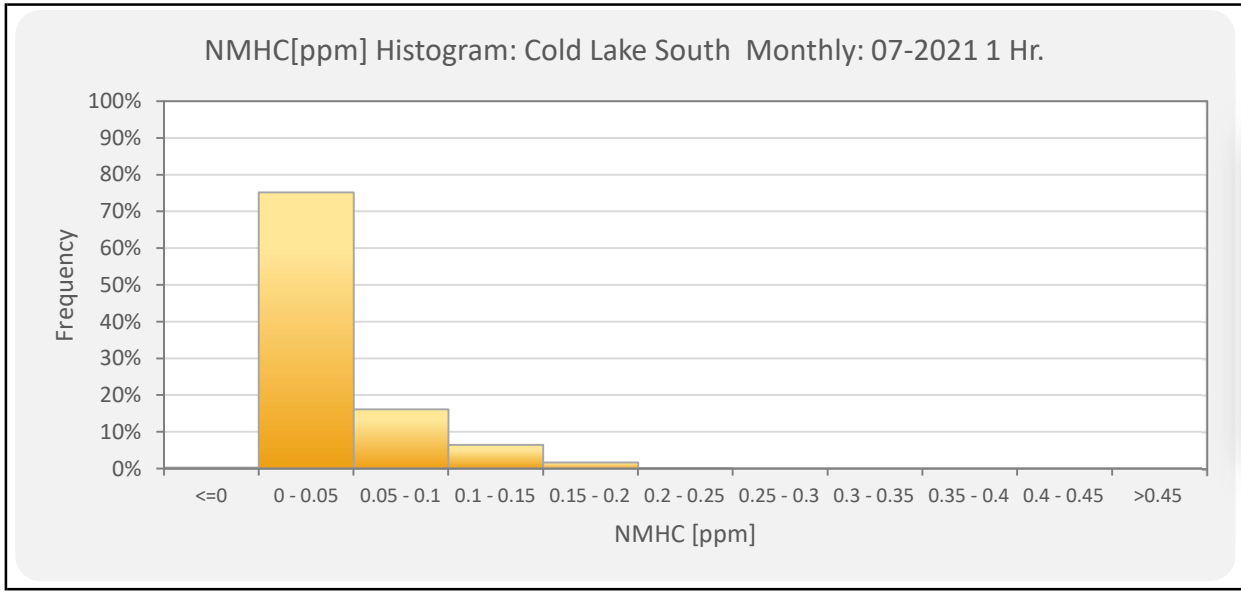
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	0.04	0.03	0.01	0.01	0.01	0.01	0.02	0.03	0.06	0.07	0.08	0.07	0.06	S	0.06	0.07	0.07	0.07	0.08	0.08	0.05	0.04	0.01	0.01	0.01	0.08	0.05
Jul 2	0.01	0.00	0.01	0.00	0.01	0.01	0.03	0.05	0.07	0.08	0.12	0.13	S	0.14	0.12	0.11	0.10	0.10	0.12	0.15	0.13	0.13	0.09	0.07	0.00	0.15	0.08
Jul 3	0.08	0.09	0.10	0.10	0.09	0.05	0.05	0.02	0.03	0.02	0.02	S	0.02	0.02	0.01	0.01	0.01	0.02	0.01	0.02	0.01	0.02	0.02	0.01	0.01	0.10	0.04
Jul 4	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.01	0.00
Jul 5	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	S	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00
Jul 6	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	S	0.00	C	C	C	C	C	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.16	0.01
Jul 7	0.01	0.01	0.01	0.01	0.01	0.00	0.01	S	0.01	0.05	0.03	0.02	0.03	0.02	0.01	0.02	0.01	0.01	0.01	0.03	0.06	0.08	0.08	0.06	0.00	0.08	0.03
Jul 8	0.06	0.11	0.09	0.08	0.08	0.06	S	0.04	0.02	0.01	0.01	0.02	0.01	0.00	0.01	0.01	0.03	0.02	0.10	0.13	0.18	0.16	0.15	0.12	0.00	0.18	0.07
Jul 9	0.12	0.11	0.09	0.09	0.09	S	0.11	0.08	0.10	0.07	0.09	0.07	0.04	0.05	0.05	0.07	0.11	0.12	0.08	0.13	0.19	0.17	0.17	0.15	0.04	0.19	**0.10**
Jul 10	0.15	0.14	0.14	0.12	S	0.13	0.14	0.13	0.15	0.12	0.10	0.07	0.06	0.06	0.05	0.06	0.06	0.08	0.02	0.02	0.01	0.02	0.02	0.02	0.01	0.15	0.08
Jul 11	0.03	0.03	0.03	S	0.07	0.06	0.05	0.04	0.04	0.03	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.07	0.02
Jul 12	0.01	0.02	S	0.02	0.01	0.01	0.02	0.02	0.03	0.02	0.02	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.03	0.04	0.02	0.01	0.00	0.04	0.02
Jul 13	0.03	S	0.03	0.01	0.01	0.01	0.03	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.03	0.08	0.06	0.07	0.04	0.00	0.08	0.02
Jul 14	S	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.05	0.06	0.08	0.09	0.11	0.10	0.10	0.08	S	0.01	0.11	0.04
Jul 15	0.05	0.03	0.03	0.04	0.04	0.08	0.06	0.03	0.05	0.06	0.06	0.07	0.07	0.08	0.09	0.07	0.04	0.04	0.04	0.06	0.08	0.08	S	0.05	0.03	0.09	0.06
Jul 16	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.01	S	0.00	0.00	0.00	0.03	0.01
Jul 17	0.00	0.01	0.01	0.02	0.07	0.14	0.17	0.18	**0.23**	0.20	0.16	0.10	0.09	0.08	0.11	0.04	0.03	0.03	0.03	0.07	S	0.08	0.08	0.08	0.00	**0.23**	0.09
Jul 18	0.07	0.05	0.05	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.04	0.04	0.04	0.02	0.01	0.02	0.02	0.02	0.02	S	0.02	0.02	0.02	0.02	0.01	0.07	0.03
Jul 19	0.02	0.03	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.01	0.02	0.02	0.03	0.02	0.03	0.02	0.02	0.02	S	0.02	0.01	0.01	0.01	0.01	0.01	0.03	0.02
Jul 20	0.01	0.01	0.01	0.01	0.01	0.02	0.05	0.04	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	S	0.02	0.02	0.01	0.02	0.02	0.02	0.01	0.05	0.02
Jul 21	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.02	0.03	0.03	S	0.04	0.05	0.06	0.06	0.05	0.08	0.12	0.01	0.12	0.03
Jul 22	0.06	0.04	0.03	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.00	0.00	0.01	0.01	S	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.06	0.01
Jul 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	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
Jul 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	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
Jul 25	0.01	0.00	0.01	0.01	0.03	0.04	0.02	0.01	0.01	0.01	0.00	0.00	S	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.04	0.01
Jul 26	0.00	0.00	0.01	0.01	0.01	0.04	0.02	0.02	0.01	0.01	0.00	S	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.02	0.00	0.04	0.01
Jul 27	0.02	0.03	0.10	0.07	0.01	0.00	0.01	0.02	0.02	0.02	S	0.03	0.02	0.02	0.01	0.01	0.00	0.00	0.06	0.01	0.01	0.01	0.01	0.01	0.00	0.10	0.02
Jul 28	0.01	0.02	0.01	0.02	0.02	0.02	0.05	0.04	0.02	S	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.05	0.08	0.07	0.05	0.05	0.00	0.08	0.02
Jul 29	0.04	0.05	0.04	0.06	0.06	0.05	0.09	0.08	S	0.06	0.02	0.03	0.04	0.02	0.02	0.03	0.03	0.05	0.06	0.07	0.09	0.09	0.08	0.04	0.02	0.09	0.05
Jul 30	0.04	0.05	0.05	0.04	0.04	0.06	0.07	S	0.04	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.02	0.07	0.13	0.14	0.13	0.14	0.00	0.14	0.05
Jul 31	0.10	0.08	0.08	0.04	0.05	0.08	S	0.06	0.04	0.03	0.03	0.01	0.02	0.02	0.02	0.03	0.04	0.04	0.05	0.10	0.14	0.14	0.12	0.12	0.01	0.14	0.06
Diurnal Maximum	0.15	0.14	0.14	0.12	0.09	0.16	0.17	0.18	0.23	0.20	0.16	0.13	0.09	0.14	0.12	0.11	0.11	0.12	0.12	0.15	0.19	0.17	0.17	0.15			
Daiurnal Average	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.03	0.04	0.03	0.03	0.03	0.02	0.02	0.03	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.05	0.04			

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 NMHC - Cold Lake South Station

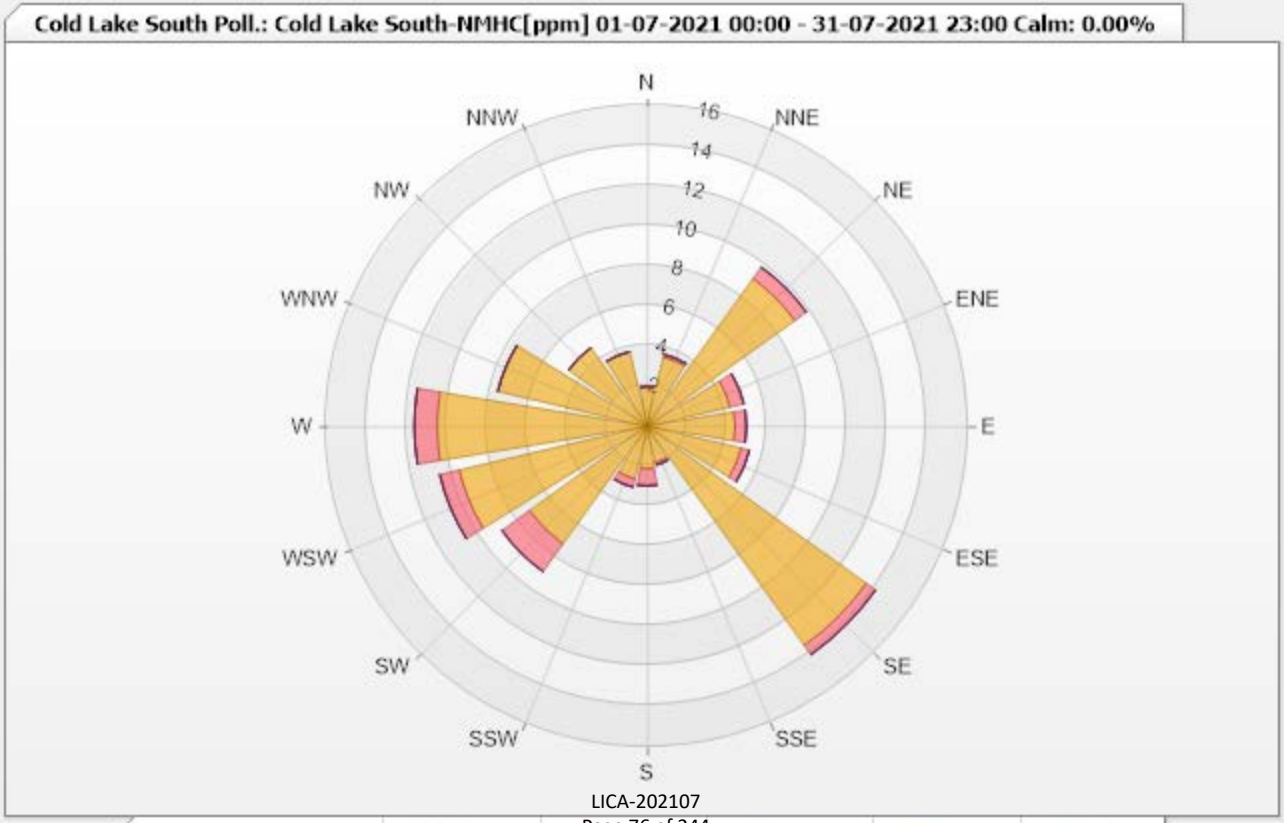




Classes	NMHC
<=0	0.28%
0 - 0.05	75.25%
0.05 - 0.1	16.12%
0.1 - 0.15	6.51%
0.15 - 0.2	1.70%
0.2 - 0.25	0.14%
0.25 - 0.3	0.00%
0.3 - 0.35	0.00%
0.35 - 0.4	0.00%
0.4 - 0.45	0.00%
>0.45	0.00%

Wind: Cold Lake South Poll.: Cold Lake South-NMHC[ppm] Monthly: 07-2021 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	1.98	0	0	0	0	1.98
NNE	3.54	0.14	0	0	0	3.68
NE	9.05	0.71	0	0	0	9.76
ENE	4.24	0.71	0	0	0	4.95
E	4.38	0.57	0	0	0	4.95
ESE	4.81	0.42	0	0	0	5.23
SE	13.44	0.57	0	0	0	14.01
SSE	1.84	0.14	0	0	0	1.98
S	2.12	0.85	0	0	0	2.97
SSW	2.69	0.42	0	0	0	3.11
SW	7.21	1.7	0	0	0	8.91
WSW	9.62	0.99	0	0	0	10.61
W	10.47	1.13	0	0	0	11.6
WNW	7.64	0	0	0	0	7.64
NW	4.81	0	0	0	0	4.81
NNW	3.82	0	0	0	0	3.82
Summary	91.66	8.35	0	0	0	100


Cold Lake South Poll.: Cold Lake South-NMHC[ppm] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
% Icon Classes (ppm)
92 0-0.1
8 0.1-0.3
0 0.3-0.9
0 0.9-2
0 >2.0

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - July 2021

Summary of Hourly Averages

PARTICULATE MATTER 2.5 ($PM_{2.5}$) in $\mu g/m^3$

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

Number of 1-Hour Exceedences: 56 Number of 24-Hour Exceedences: 5

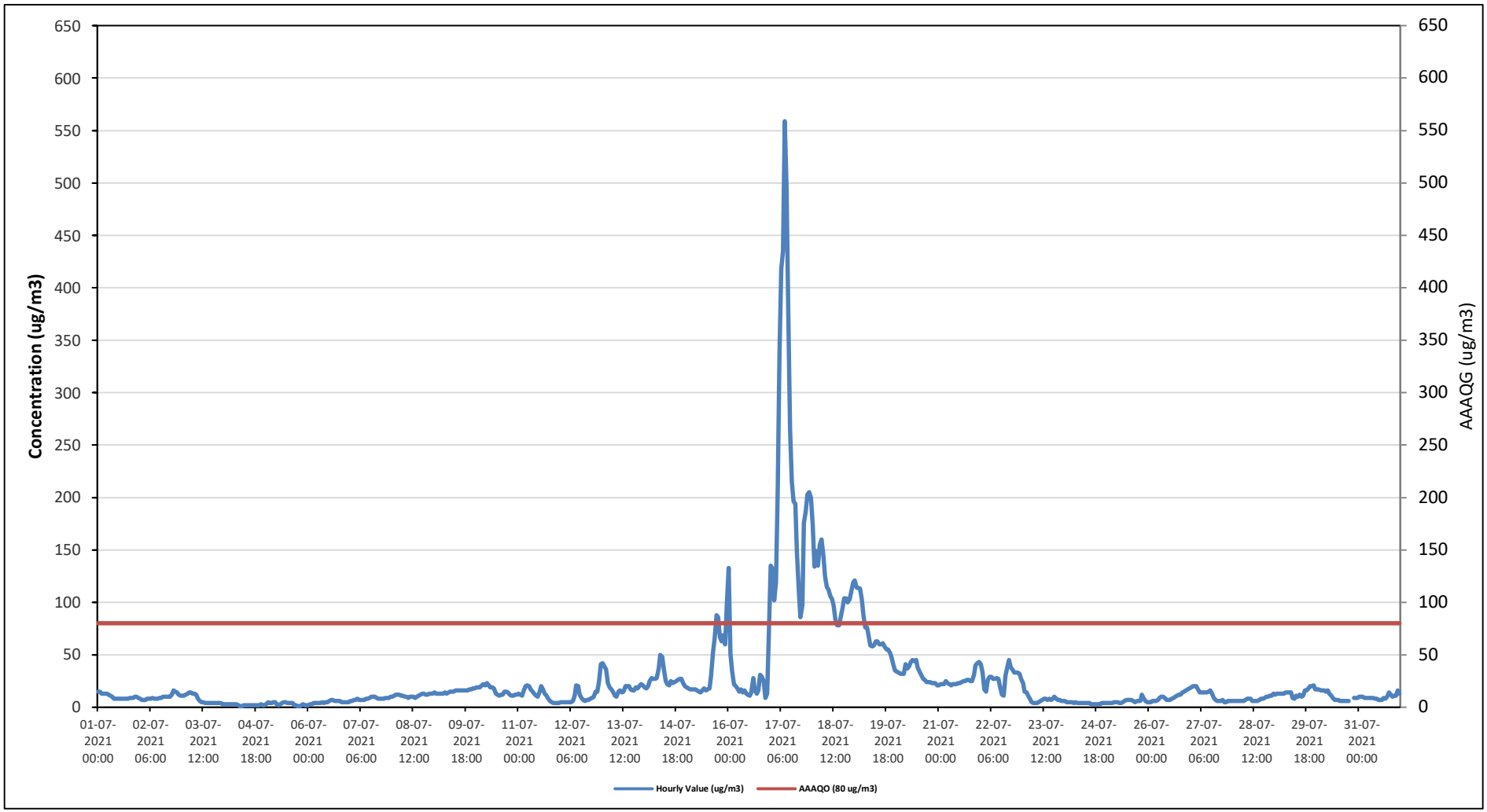
Maximum Hourly Value:	559 $\mu g/m^3$ on July 17 at hour 8	Hours in Service:	744
Maximum Daily Value:	233.3 $\mu g/m^3$ on July 17	Hours of Data:	742
Minimum Hourly Value:	1 $\mu g/m^3$ on July 4 at hour 9	Hours of Missing Data:	0
Minimum Daily Value:	2 $\mu g/m^3$ on July 4	Hours of Calibration:	2
Monthly Average:	26.2 $\mu g/m^3$	Operational Uptime:	100.0

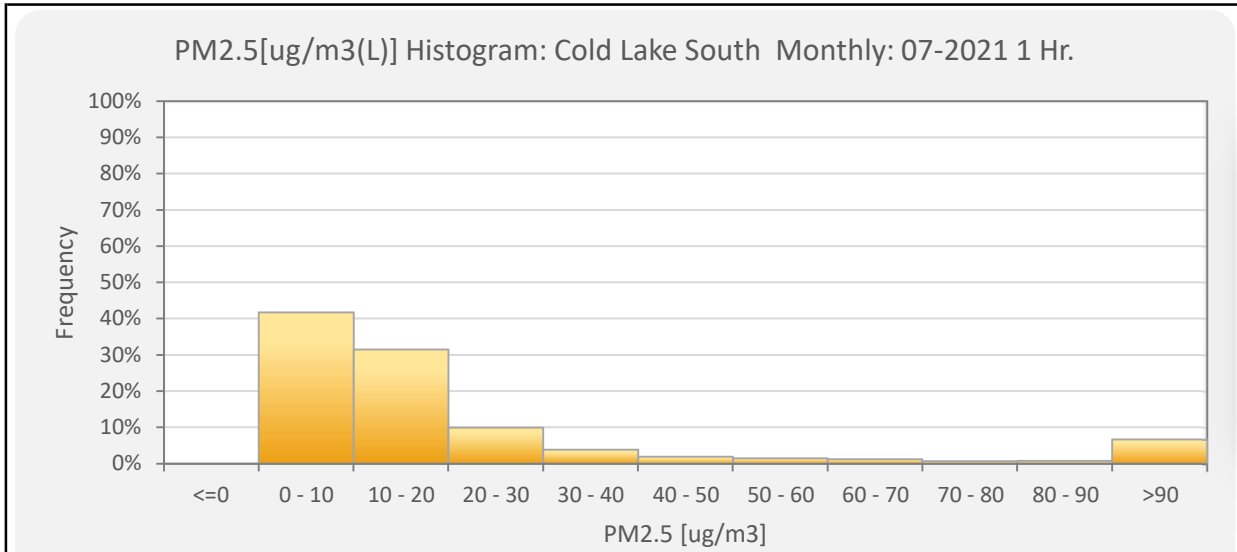
Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Jul 1	15	15	13	13	13	13	12	11	10	8	8	8	8	8	8	8	8	8	9	9	9	10	10	9	8	15	10.1
Jul 2	8	7	7	7	8	8	8	9	8	8	8	9	9	10	10	10	10	10	12	16	15	14	12	11	7	16	9.8
Jul 3	11	11	12	13	14	14	13	13	12	8	6	5	5	4	4	4	4	4	4	4	4	4	4	3	3	14	7.5
Jul 4	3	3	3	3	3	3	3	3	2	1	1	2	2	2	2	2	2	2	2	2	2	3	2	2	**1**	3	2.3
Jul 5	3	5	4	4	5	5	3	2	3	4	5	5	4	4	4	4	2	2	1	1	2	3	2	2	**1**	5	3.3
Jul 6	2	3	3	4	4	4	4	4	5	4	5	5	6	7	7	6	6	6	6	5	5	5	5	5	2	7	4.8
Jul 7	6	6	7	7	8	7	7	7	7	8	8	9	10	10	10	9	8	8	8	8	9	9	9	10	6	10	8.1
Jul 8	10	11	12	12	12	11	11	10	10	9	10	10	10	9	10	11	12	13	13	12	12	13	13	13	9	13	11.2
Jul 9	14	13	13	13	13	13	14	13	14	15	15	15	16	16	16	16	16	16	16	16	17	17	18	18	13	18	15.1
Jul 10	19	19	19	21	22	21	23	21	19	19	18	13	12	11	12	12	15	15	14	12	11	11	12	12	11	23	16.0
Jul 11	13	12	11	16	20	21	20	17	15	13	11	10	14	20	17	13	11	8	6	5	4	4	4	4	4	21	12.0
Jul 12	5	5	5	5	5	5	5	6	11	21	20	12	9	7	6	7	7	8	9	10	15	15	25	41	5	41	11.0
Jul 13	42	39	36	23	19	17	15	11	10	15	16	14	15	20	20	20	17	16	16	19	18	20	22	21	10	42	20.0
Jul 14	19	18	20	25	28	27	27	28	37	50	48	37	25	22	21	25	23	24	25	26	27	27	23	20	18	50	27.2
Jul 15	19	18	17	17	17	17	16	15	14	16	18	16	17	18	30	53	65	88	86	67	63	69	60	99	14	99	38.1
Jul 16	133	51	34	22	20	18	15	17	14	16	13	12	11	14	28	16	13	16	31	29	25	9	13	73	9	133	26.8
Jul 17	135	132	102	119	208	338	418	435	**559**	495	375	265	215	196	194	149	110	86	97	176	186	203	205	200	86	**559**	**233.3**
Jul 18	174	134	149	135	155	160	146	125	115	112	106	103	97	82	78	78	86	95	104	104	100	103	110	119	78	174	115.4
Jul 19	121	114	114	113	103	87	76	76	67	59	58	59	63	63	60	60	61	58	55	55	52	48	40	35	35	121	70.7
Jul 20	34	33	32	32	32	41	37	39	43	45	44	45	38	34	31	27	26	24	24	24	23	23	23	21	21	45	32.3
Jul 21	21	22	22	22	25	23	22	21	22	22	22	23	23	24	25	25	26	26	25	25	31	40	42	43	21	43	25.9
Jul 22	41	33	17	15	26	29	29	27	27	28	27	19	12	11	30	38	45	38	36	33	33	33	32	27	11	45	28.6
Jul 23	23	15	14	11	8	5	4	4	4	5	6	7	8	8	7	8	7	8	10	8	7	7	6	6	4	23	8.2
Jul 24	6	5	5	5	5	4	5	4	4	4	4	4	4	4	4	3	3	3	3	3	3	4	4	4	3	6	4.0
Jul 25	4	4	4	4	5	5	5	4	4	5	6	7	7	7	7	6	5	6	6	6	12	8	6	5	4	12	5.8
Jul 26	5	5	6	6	6	7	9	10	10	9	7	7	7	8	9	10	11	12	12	14	15	16	17	18	5	18	9.8
Jul 27	19	20	20	20	17	14	14	14	14	14	15	16	13	9	7	6	6	6	7	5	5	6	6	6	5	20	11.6
Jul 28	6	6	6	6	6	6	6	7	8	8	8	6	6	6	6	7	8	8	9	10	10	11	11	13	6	13	7.7
Jul 29	12	13	13	13	13	13	14	14	14	14	9	8	11	10	12	10	11	16	16	18	20	20	21	17	8	21	13.8
Jul 30	17	17	16	16	16	15	16	13	11	9	7	7	7	6	6	6	6	6	6	C	C	9	9	9	6	17	10.5
Jul 31	10	10	10	9	9	9	9	9	9	8	8	7	7	7	9	8	10	14	12	10	11	11	16	13	7	16	9.8
Diurnal Maximum	174	134	149	135	208	338	418	435	559	495	375	265	215	196	194	149	110	95	104	176	186	203	205	200			
Daiurnal Average	30.6	25.8	24.1	23.6	27.3	31.0	32.5	31.9	35.5	33.9	29.4	24.7	22.3	21.2	22.3	21.2	20.6	21.0	21.9	24.4	24.9	25.0	25.2	28.4			

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 - Cold Lake South Station

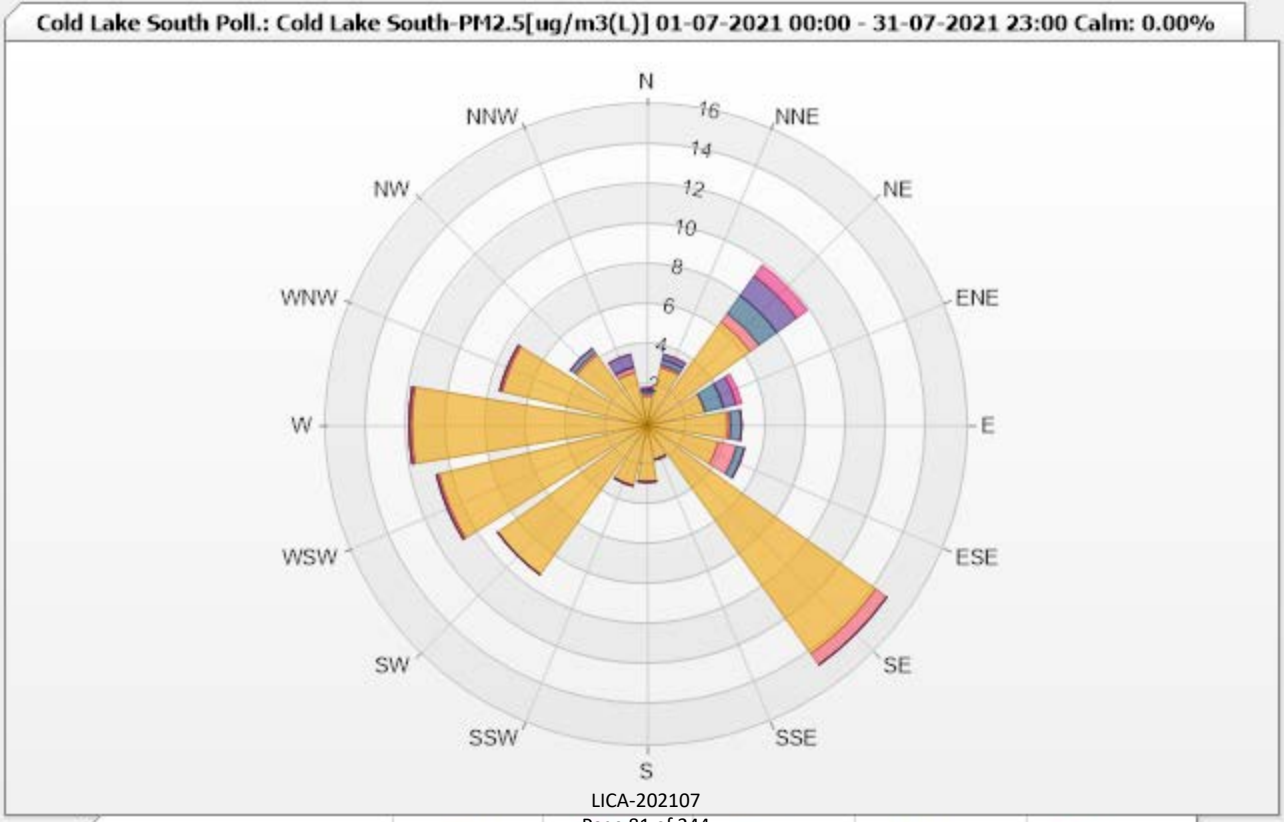




Classes	PM2.5
<=0	0.00%
0 - 10	41.78%
10 - 20	31.54%
20 - 30	9.97%
30 - 40	3.91%
40 - 50	1.89%
50 - 60	1.48%
60 - 70	1.21%
70 - 80	0.67%
80 - 90	0.81%
>90	6.74%

Wind: Cold Lake South Poll.: Cold Lake South-PM2.5[ug/m3(L)] Monthly: 07-2021 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	1.48	0.13	0.13	0.13	0	1.87
NNE	2.96	0.13	0.27	0.27	0	3.63
NE	6.33	0.54	1.08	1.21	0.67	9.83
ENE	2.96	0	0.94	0.67	0.27	4.84
E	4.04	0.13	0.54	0	0	4.71
ESE	3.64	0.94	0.4	0	0	4.98
SE	14.02	0.67	0	0	0	14.69
SSE	1.75	0	0	0	0	1.75
S	2.83	0	0	0	0	2.83
SSW	3.1	0	0	0	0	3.1
SW	9.16	0	0	0	0	9.16
WSW	10.65	0.13	0	0	0	10.78
W	11.73	0.13	0	0	0	11.86
WNW	7.41	0.13	0	0	0	7.54
NW	4.31	0.13	0.27	0	0	4.71
NNW	2.7	0.27	0	0.67	0	3.64
Summary	89.07	3.33	3.63	2.95	0.94	100


Cold Lake South Poll.: Cold Lake South-PM2.5[ug/m3(L)] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
% Icon Classes (ug/m3(L))
89 0-50
3 50-80
4 80-120
3 120-240
1 >240.0

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - July 2021

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

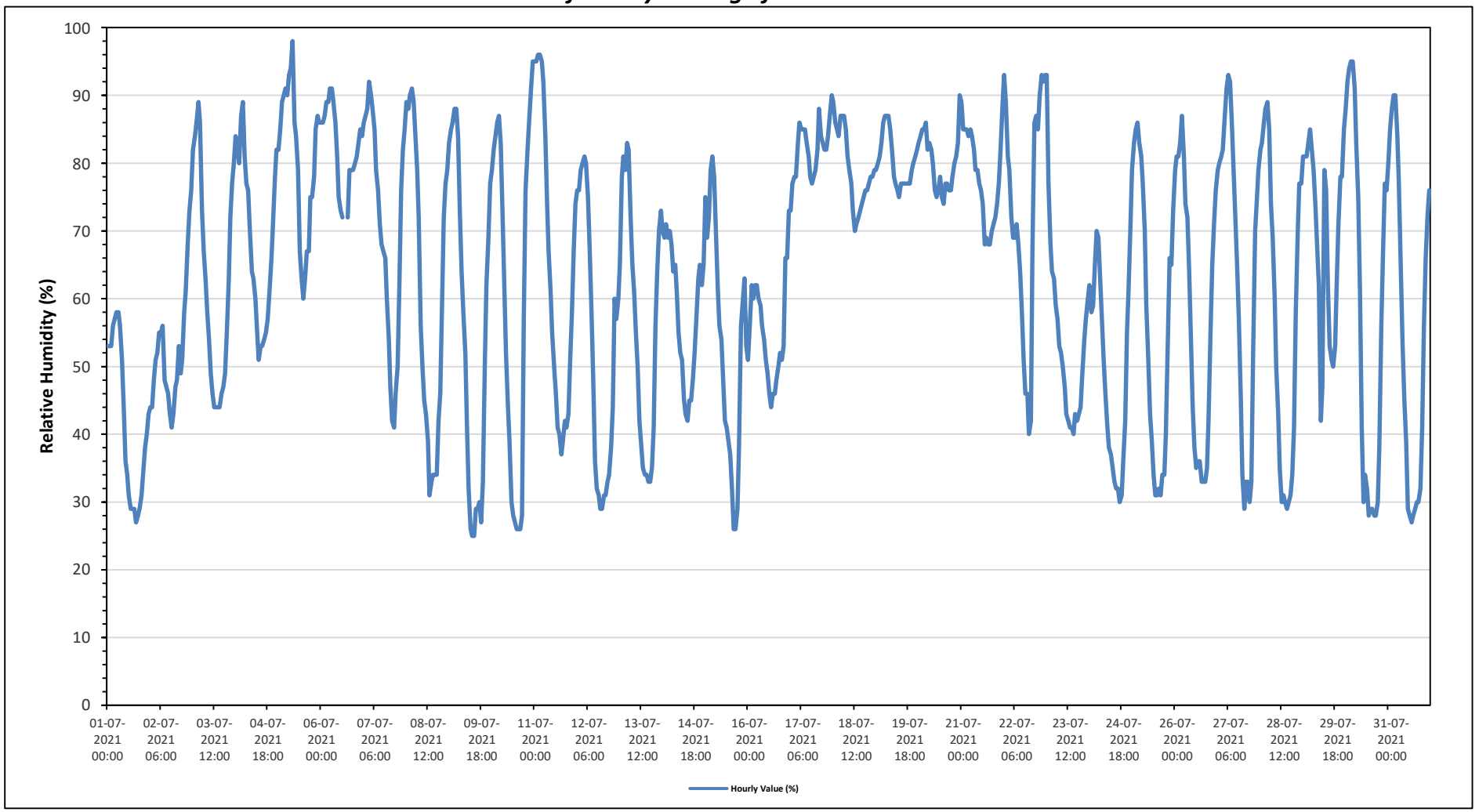
Maximum Hourly Value:	98	%	on July 5 at hour 8	Hours in Service:	744
Maximum Daily Value:	82.6	%	on July 6	Hours of Data:	742
Minimum Hourly Value:	25	%	on July 9 at hour 13	Hours of Missing Data:	2
Minimum Daily Value:	41.5	%	on July 1	Hours of Calibration:	0
Monthly Average:	63.5	%		Operational Uptime:	99.7

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Jul 1	53	53	53	56	57	58	58	56	51	44	36	34	31	29	29	29	27	28	29	31	34	38	40	43	27	58	41.5
Jul 2	44	44	48	51	52	55	55	56	48	47	46	43	41	43	47	48	53	49	51	58	61	68	73	76	41	76	52.4
Jul 3	82	84	86	89	86	73	67	63	58	54	49	46	44	44	44	44	46	47	49	55	63	72	77	80	44	89	62.6
Jul 4	84	82	80	87	89	81	77	76	70	64	63	60	55	51	53	53	54	55	57	61	66	71	78	82	51	89	68.7
Jul 5	82	85	89	90	91	90	93	94	**98**	86	84	79	67	63	60	63	67	67	75	75	78	85	87	86	60	**98**	80.6
Jul 6	86	86	87	89	89	91	91	89	86	81	75	73	72	**Y**	**Y**	72	79	79	79	80	81	83	85	84	72	91	**82.6**
Jul 7	86	87	88	92	90	88	85	79	76	71	68	67	66	60	54	47	42	41	46	50	62	76	82	85	41	92	70.3
Jul 8	89	88	90	91	89	84	79	72	56	50	45	43	39	31	33	34	34	34	42	46	59	72	77	79	31	91	60.7
Jul 9	83	85	86	88	88	84	73	64	58	52	42	32	26	**25**	**25**	29	29	30	27	33	51	62	69	77	**25**	88	54.9
Jul 10	79	82	84	86	87	83	73	61	52	44	39	30	28	27	26	26	26	28	57	76	82	86	91	95	26	95	60.3
Jul 11	95	95	96	96	95	92	84	74	67	61	55	50	46	41	40	37	39	42	41	43	51	58	67	74	37	96	64.1
Jul 12	76	76	79	80	81	80	75	67	58	48	36	32	31	29	29	31	31	33	34	38	44	60	57	60	29	81	52.7
Jul 13	65	78	81	79	83	82	72	65	61	55	50	42	38	35	34	34	33	33	35	41	56	64	70	73	33	83	56.6
Jul 14	70	69	71	69	70	68	64	65	61	55	52	51	45	43	42	45	45	48	52	57	63	65	62	65	42	71	58.2
Jul 15	75	69	72	79	81	78	70	61	56	54	48	42	41	39	37	32	26	26	29	38	56	59	63	53	26	81	53.5
Jul 16	51	56	62	60	62	62	60	59	56	54	51	49	46	44	46	46	48	50	52	51	53	66	66	73	44	73	55.1
Jul 17	73	77	78	78	83	86	85	85	85	83	81	78	77	78	79	82	88	84	83	82	82	84	87	90	73	90	82.0
Jul 18	89	86	85	84	87	87	87	85	81	79	77	73	70	71	72	73	74	75	76	76	77	78	78	79	70	89	79.1
Jul 19	79	80	81	83	86	87	87	87	85	82	78	77	76	75	77	77	77	77	77	77	79	80	81	82	75	87	80.3
Jul 20	83	84	85	85	86	82	83	82	80	76	75	76	78	75	74	77	77	76	76	78	80	81	83	90	74	90	80.1
Jul 21	89	85	85	85	84	85	84	82	79	79	77	76	74	68	69	68	68	70	71	72	74	77	82	88	68	89	78.0
Jul 22	93	89	81	79	72	69	69	71	68	64	58	51	46	46	40	42	67	86	87	85	90	93	92	93	40	93	72.1
Jul 23	93	77	68	64	63	59	57	53	52	50	47	43	42	41	41	40	43	42	43	44	49	54	57	60	40	93	53.4
Jul 24	62	58	59	65	70	69	63	57	51	46	41	38	37	35	33	32	32	30	31	36	42	55	61	71	30	71	48.9
Jul 25	79	83	85	86	83	81	77	70	59	51	43	39	34	31	31	32	31	34	34	40	54	66	65	73	31	86	56.7
Jul 26	79	81	81	83	87	81	74	72	64	54	44	38	35	36	36	33	33	33	35	42	55	65	71	76	33	87	57.8
Jul 27	79	80	81	82	87	91	93	92	86	79	72	65	57	45	34	29	33	33	30	33	52	70	74	79	29	93	64.8
Jul 28	82	83	86	88	89	85	74	69	60	50	43	35	30	31	30	29	30	31	34	41	58	70	77	77	29	89	57.6
Jul 29	81	81	81	83	85	82	79	74	67	62	42	47	79	76	62	53	51	50	53	62	71	78	78	85	42	85	69.3
Jul 30	88	92	94	95	95	91	83	75	61	41	30	34	32	28	29	29	28	28	30	38	56	67	77	76	28	95	58.2
Jul 31	80	85	88	90	90	84	77	64	53	45	39	29	28	27	28	29	30	30	32	41	56	66	72	76	27	90	55.8
Diurnal Maximum	95	95	96	96	95	92	93	94	98	86	84	79	79	78	79	82	88	86	87	85	90	93	92	95			
Daiurnal Average	78.4	78.7	79.7	81.0	81.8	79.6	75.7	71.6	65.9	60.0	54.4	50.7	48.7	45.6	44.5	45.0	46.5	47.4	49.9	54.2	62.4	70.0	73.5	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	**P** Power Failure
X	InValid Data (Equipment Malfunction /Recovery)	**NRM**	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)			

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

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



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - July 2021

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

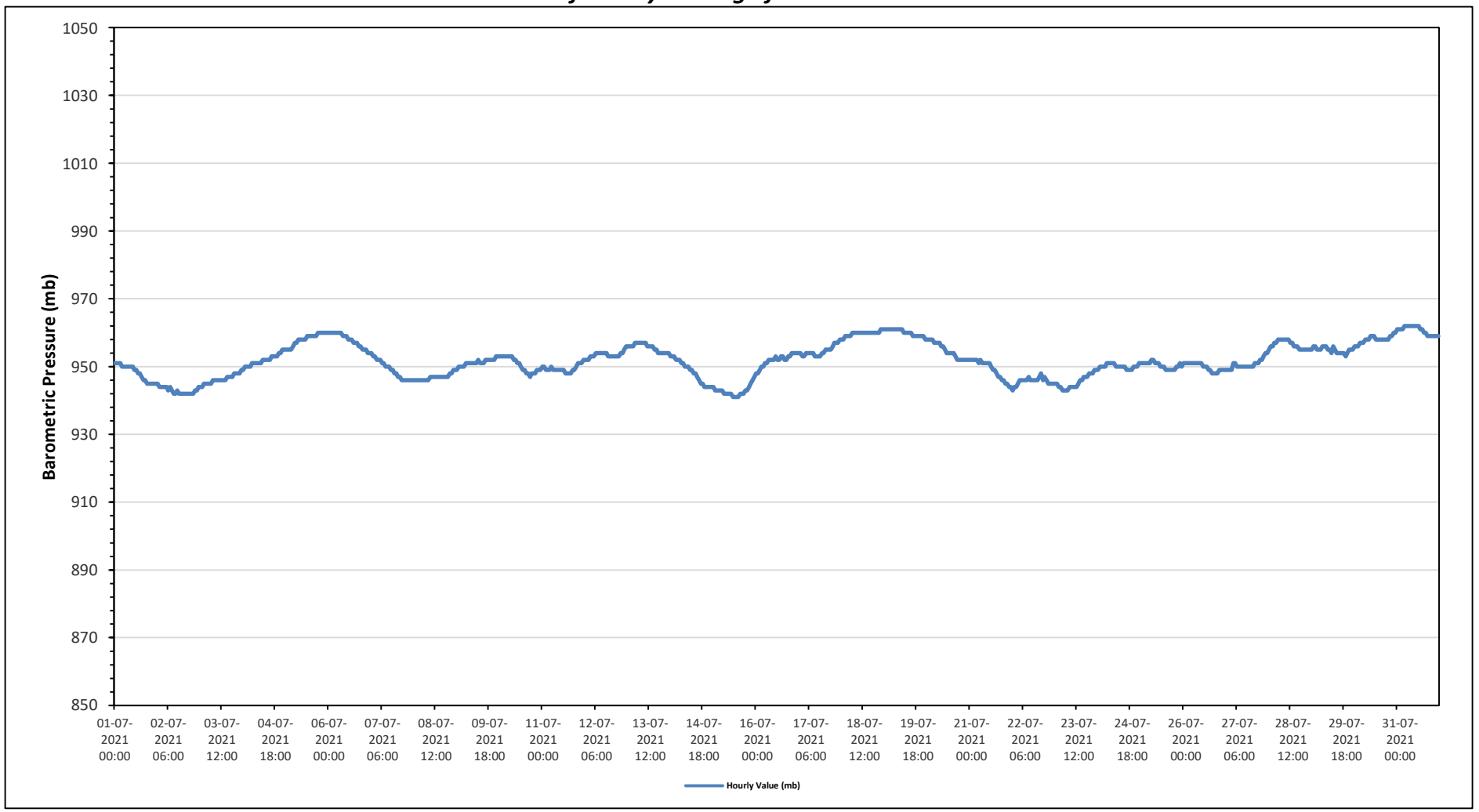
Maximum Hourly Value:	962	mb	on July 31 at hour 4	Hours in Service:	744
Maximum Daily Value:	961	mb	on July 31	Hours of Data:	744
Minimum Hourly Value:	941	mb	on July 15 at hour 11	Hours of Missing Data:	0
Minimum Daily Value:	943	mb	on July 15	Hours of Calibration:	0
Monthly Average:	952	mb		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Jul 1	951	951	951	951	950	950	950	950	950	950	950	949	949	948	948	947	946	946	945	945	945	945	945	945	945	951	948
Jul 2	945	944	944	944	944	944	943	944	943	942	942	943	942	942	942	942	942	942	942	942	942	943	943	944	942	945	943
Jul 3	944	944	945	945	945	945	945	946	946	946	946	946	946	946	946	947	947	947	947	948	948	948	948	949	944	949	946
Jul 4	949	950	950	950	950	951	951	951	951	951	951	952	952	952	952	952	953	953	953	953	954	954	955	955	949	955	952
Jul 5	955	955	955	955	956	957	957	958	958	958	958	958	959	959	959	959	959	959	960	960	960	960	960	960	955	960	958
Jul 6	960	960	960	960	960	960	960	960	959	959	959	958	958	958	957	957	957	956	956	955	955	955	954	954	954	960	958
Jul 7	954	953	953	952	952	952	951	951	950	950	950	949	949	948	948	947	947	946	946	946	946	946	946	946	946	954	949
Jul 8	946	946	946	946	946	946	946	946	946	947	947	947	947	947	947	947	947	947	947	947	948	948	949	949	946	949	947
Jul 9	949	950	950	950	950	951	951	951	951	951	951	951	952	951	951	951	952	952	952	952	952	952	953	953	949	953	951
Jul 10	953	953	953	953	953	953	953	953	952	952	951	951	950	949	949	948	948	947	948	948	948	949	949	949	947	953	951
Jul 11	950	950	949	949	949	950	949	949	949	949	949	949	949	948	948	948	948	949	949	950	951	951	951	952	948	952	949
Jul 12	952	952	952	953	953	953	954	954	954	954	954	954	954	953	953	953	953	953	953	953	954	954	955	956	952	956	953
Jul 13	956	956	956	956	957	957	957	957	957	957	957	956	956	956	956	955	955	954	954	954	954	954	954	954	954	957	956
Jul 14	953	953	953	952	952	952	951	951	950	950	950	949	949	948	948	947	946	945	945	944	944	944	944	944	944	953	949
Jul 15	944	943	943	943	943	943	942	942	942	942	942	**941**	**941**	**941**	**941**	942	942	942	943	943	944	945	946	947	**941**	947	943
Jul 16	948	948	949	950	950	951	951	952	952	952	952	953	952	952	953	953	952	952	953	953	954	954	954	954	948	954	952
Jul 17	954	954	953	953	954	954	954	954	954	953	953	953	953	954	954	955	955	955	955	956	957	957	957	958	953	958	955
Jul 18	958	958	959	959	959	959	960	960	960	960	960	960	960	960	960	960	960	960	960	960	960	960	961	961	958	961	960
Jul 19	961	961	961	961	961	961	961	961	961	961	961	960	960	960	960	960	959	959	959	959	959	959	959	958	958	961	960
Jul 20	958	958	958	958	957	957	957	957	956	956	955	954	954	954	954	954	953	952	952	952	952	952	952	952	952	958	955
Jul 21	952	952	952	952	952	951	952	951	951	951	951	951	950	949	949	948	947	947	946	946	945	945	944	944	944	952	949
Jul 22	943	944	944	945	946	946	946	946	946	947	946	946	946	946	946	947	948	946	947	946	945	945	945	945	943	948	946
Jul 23	945	945	944	944	943	943	943	943	944	944	944	944	944	945	946	946	947	947	947	948	948	948	949	949	943	949	945
Jul 24	949	950	950	950	950	951	951	951	951	951	950	950	950	950	950	950	949	949	949	949	950	950	950	951	949	951	950
Jul 25	951	951	951	951	951	951	952	952	951	951	951	950	950	950	949	949	949	949	949	949	950	950	951	950	949	952	950
Jul 26	951	951	951	951	951	951	951	951	951	951	951	950	950	950	949	949	948	948	948	948	949	949	949	949	948	951	950
Jul 27	949	949	949	949	951	951	950	950	950	950	950	950	950	950	950	950	951	951	951	952	952	953	954	954	949	954	951
Jul 28	955	956	956	957	957	958	958	958	958	958	958	958	957	957	956	956	956	955	955	955	955	955	955	955	955	958	956
Jul 29	955	956	956	955	955	955	956	956	956	955	955	954	956	955	954	954	954	954	954	953	954	955	955	955	953	956	955
Jul 30	956	956	956	957	957	957	958	958	958	959	959	959	958	958	958	958	958	958	958	958	959	959	960	960	956	960	958
Jul 31	961	961	961	961	**962**	**962**	**962**	**962**	**962**	**962**	**962**	**962**	**962**	961	961	960	960	959	959	959	959	959	959	959	959	**962**	**961**
Diurnal Maximum	961	961	961	961	962	962	962	962	962	962	962	962	962	961	961	960	960	960	960	960	960	960	961	961			
Diurnal Average	952	952	952	952	952	952	952	952	952	952	952	952	952	952	951	951	951	951	951	951	951	952	952	952			

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 BP - Cold Lake South Station



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - July 2021

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

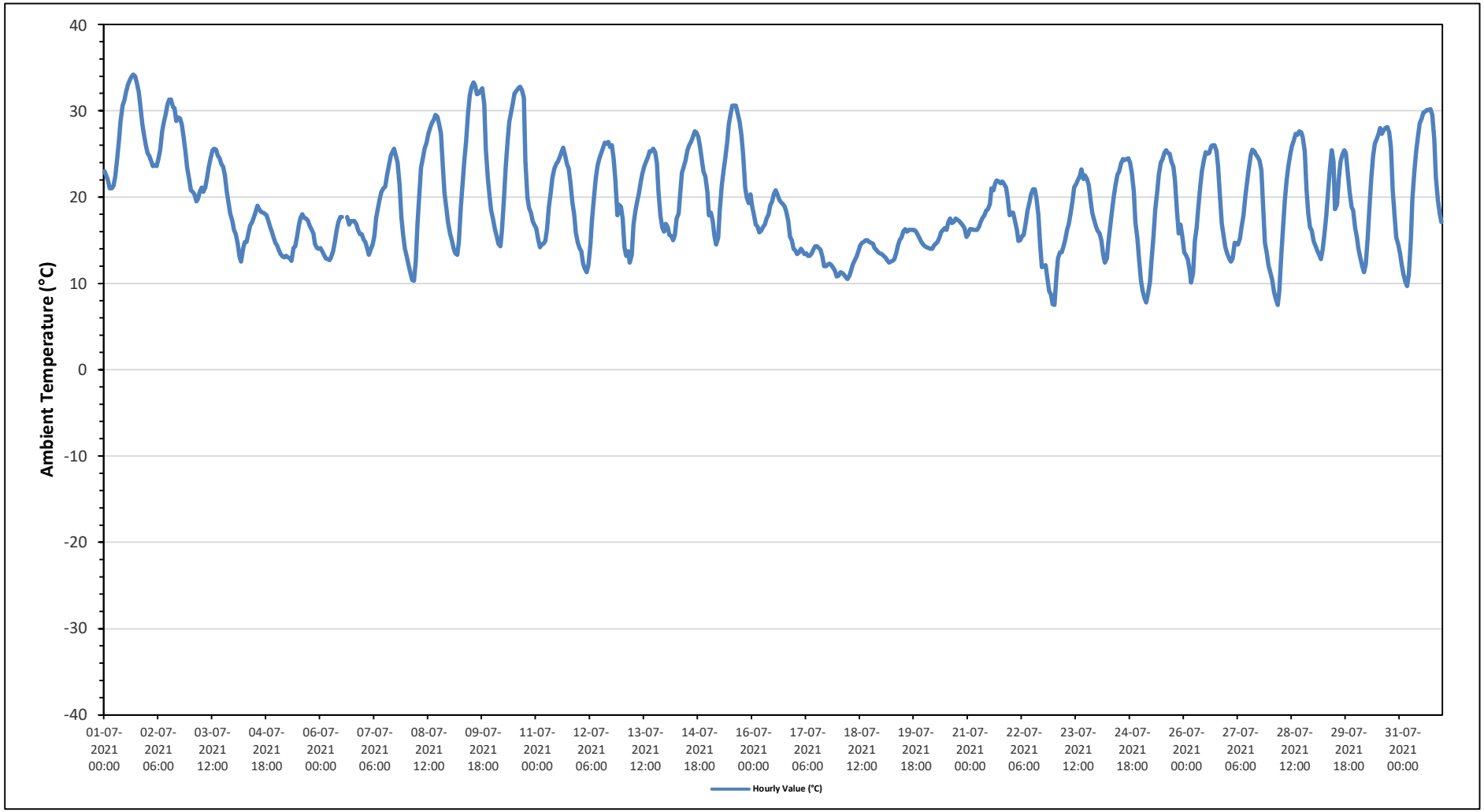
Maximum Hourly Value:	34.2	°C	on July 1 at hour 16	Hours in Service:	744
Maximum Daily Value:	28.0	°C	on July 1	Hours of Data:	742
Minimum Hourly Value:	7.5	°C	on July 23 at hour 0	Hours of Missing Data:	2
Minimum Daily Value:	13.0	°C	on July 18	Hours of Calibration:	0
Monthly Average:	19.3	°C		Operational Uptime:	99.7

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	23	22.5	21.9	21	21	21.3	22.4	24.3	26.7	28.8	30.6	31.2	32.2	33	33.5	33.9	**34.2**	34	33.3	32.2	30.4	28.5	27.2	25.9	21.0	**34.2**	**28.0**
Jul 2	25.1	24.7	24.1	23.6	23.7	23.6	24.4	25.4	27.6	28.6	29.6	30.7	31.3	31.3	30.4	30.3	28.8	29.2	29.1	28.4	27	25.1	23.4	22.1	22.1	31.3	27.0
Jul 3	20.8	20.6	20.3	19.5	19.8	20.6	21.1	20.6	21.1	22.2	23.5	24.5	25.4	25.6	25.5	24.8	24.5	23.8	23.5	22.5	20.7	19.2	18.1	17.3	17.3	25.6	21.9
Jul 4	16.2	15.7	14.7	13.1	12.5	14	14.8	14.8	15.8	16.7	17.1	17.6	18.3	19	18.6	18.3	18.2	18.1	17.9	17.3	16.6	16	15.3	14.7	12.5	19.0	16.3
Jul 5	14.4	13.8	13.4	13.1	13	13.2	13	12.9	12.6	14.1	14.3	15.4	16.7	17.6	18	17.6	17.5	17.3	16.7	16.3	15.8	14.6	14.1	14	12.6	18.0	15.0
Jul 6	14.1	13.7	13.3	12.9	12.8	12.7	13	13.7	14.8	16.1	17.1	17.7	17.7	**Y**	**Y**	17.7	16.8	17.2	17.2	17.2	16.8	16.2	15.7	15.7	12.7	17.7	15.5
Jul 7	15.1	14.8	14	13.3	13.9	14.5	15.5	17.6	18.7	19.9	20.6	21	21.2	22.5	23.6	24.8	25.2	25.6	24.7	24	21.4	17.7	15.6	14	13.3	25.6	19.1
Jul 8	13	12.2	11.2	10.4	10.3	12.5	16.9	20.2	23.4	24.6	25.6	26.3	27.3	28	28.6	29	29.5	29.3	28.4	27.4	23.8	20.5	18.6	17.1	10.3	29.5	21.4
Jul 9	15.8	15	14.1	13.5	13.3	14.8	18.9	21.6	24.3	26.5	29.5	31.7	32.7	33.3	33	31.9	32	32.3	32.6	30.7	25.6	22.2	20.1	18.5	13.3	33.3	24.3
Jul 10	17.4	16.3	15.5	14.6	14.3	16.1	19.8	23.5	26.7	28.7	29.9	31	32	32.3	32.6	32.8	32.4	31.5	24.2	20	18.7	18.2	17.2	16.7	14.3	32.8	23.4
Jul 11	16.4	15.2	14.2	14.5	14.6	14.9	16.3	18.8	20.6	22.2	23.3	23.8	24.1	24.6	25.2	25.7	24.9	23.8	23.3	21.6	19.5	17.9	15.9	14.7	14.2	25.7	19.8
Jul 12	14.1	13.7	12.3	11.7	11.3	12.1	14.5	17.3	19.9	22.1	23.6	24.4	25.1	25.6	26.3	26.2	26.4	25.8	26	24.5	22	17.9	19.1	18.9	11.3	26.4	20.0
Jul 13	17.5	14.2	13.2	13.7	12.4	13.3	16.8	18.3	19.4	20.4	21.8	22.7	23.6	24.1	24.6	25.3	25.3	25.6	25.2	23.9	20.6	17.8	16.5	16	12.4	25.6	19.7
Jul 14	16.9	16.5	15.6	15.5	15	15.6	17.5	18.1	20.3	22.8	23.6	24.2	25.4	26	26.4	26.9	27.6	27.5	27	25.8	24.1	22.9	22.4	20.6	15.0	27.6	21.8
Jul 15	17.9	18.2	17.3	15.5	14.5	15.3	18.4	21.3	23	24.5	26.2	28.4	29.6	30.6	30.6	30.6	29.6	28.7	27.2	24.9	21.1	20	19.3	20.3	14.5	30.6	23.0
Jul 16	18.9	17.9	16.8	16.6	15.9	16.1	16.5	16.8	17.5	18	19	19.5	20.4	20.8	20.3	19.7	19.4	19.2	18.9	18.3	17.2	15.4	15	14	14.0	20.8	17.8
Jul 17	13.8	13.4	13.6	14	13.7	13.4	13.5	13.2	13.2	13.5	13.9	14.3	14.3	14.1	13.9	13	12	12	12.2	12.3	12.1	11.8	11.4	10.8	10.8	14.3	13.1
Jul 18	10.9	11.3	11.2	11	10.7	10.5	10.9	11.6	12.2	12.7	13.1	13.7	14.4	14.7	14.8	15	15	14.8	14.7	14.6	14.1	13.9	13.6	13.5	10.5	15.0	13.0
Jul 19	13.4	13.2	13	12.7	12.4	12.5	12.6	12.8	13.6	14.4	15	15.4	16	16.3	16	16.2	16.2	16.2	16.2	16	15.6	15.2	14.8	14.5	12.4	16.3	14.6
Jul 20	14.3	14.2	14.1	14	14	14.4	14.6	14.8	15.3	15.9	16.2	16.4	16.2	17.1	17.5	17	17.1	17.5	17.4	17.2	17	16.7	16.4	15.4	14.0	17.5	15.9
Jul 21	15.7	16.3	16.3	16.2	16.2	16.2	16.6	17.1	17.6	17.9	18.4	18.6	19.2	21	20.8	21.6	21.9	21.8	21.6	21.8	21.5	21.1	20	17.9	15.7	21.9	18.9
Jul 22	18.2	18.2	17.3	16.2	14.9	15	15.5	15.6	17	18.4	19.4	20.3	20.9	20.9	19.8	18	14.2	11.9	12	12.1	10.8	9.1	8.7	7.6	7.6	20.9	15.5
Jul 23	**7.5**	10.9	12.9	13.6	13.6	14.3	15.1	16.2	16.9	18.1	19.6	21.1	21.5	22	22.4	23.2	22.1	22.5	22.1	21.4	19.7	18.2	17.4	16.6	**7.5**	23.2	17.9
Jul 24	16.1	15.8	15	13.4	12.4	12.9	14.8	16.8	18.6	20.2	21.5	22.6	23	23.9	24.4	24.3	24.4	24.5	24	22.8	20.6	17.1	15.2	12.7	12.4	24.5	19.0
Jul 25	10.4	9.1	8.3	7.8	8.8	10.2	12.6	15.5	18.6	20.7	22.6	24	24.4	25.1	25.4	25.1	25	24.1	23.5	22	18.4	15.8	16.8	15.5	7.8	25.4	17.9
Jul 26	13.6	13.3	12.8	11.6	10.1	11.2	14.9	16.4	18.9	21.4	23	24.3	25.2	25	25.1	25.9	26	26	25.3	23.6	19.9	16.9	15.3	14.2	10.1	26.0	19.2
Jul 27	13.4	12.9	12.5	12.9	14.7	14.6	14.5	15.2	16.5	17.9	20	21.7	23.3	24.9	25.5	25.3	24.9	24.6	24.2	23.1	18.8	14.7	13.4	12.1	12.1	25.5	18.4
Jul 28	11.2	10.4	9	8.2	**7.5**	9.1	13.3	16.5	19.6	21.9	23.6	25	25.9	26.6	27.3	27.2	27.6	27.5	26.9	25.3	20.9	18.1	16.5	16.1	**7.5**	27.6	19.2
Jul 29	14.9	14.4	13.8	13.4	12.8	13.9	15.7	17.7	20.8	23	25.4	24.1	18.6	19.1	22.1	24.1	24.9	25.4	25.1	22.7	20.6	18.8	18.5	16.4	12.8	25.4	19.4
Jul 30	15.3	14	12.9	12	11.3	12.2	15.4	18.5	22.2	24.7	26.2	26.7	27.3	28	27.3	27.8	28	28.1	27.5	25.7	20.8	17.6	15.3	14.5	11.3	28.1	20.8
Jul 31	13.5	12.1	11	10.2	9.7	11.1	15.1	19.8	23	25.3	27.2	28.5	29.1	29.8	29.9	30.1	30.1	30.2	29.5	26.7	22.4	19.7	18.2	17.1	9.7	30.2	21.6
Diurnal Maximum	25.1	24.7	24.1	23.6	23.7	23.6	24.4	25.4	27.6	28.8	30.6	31.7	32.7	33.3	33.5	33.9	34.2	34.0	33.3	32.2	30.4	28.5	27.2	25.9			
Daiurnal Average	15.4	15.0	14.4	13.9	13.6	14.3	16.0	17.5	19.2	20.7	21.9	22.8	23.3	24.1	24.3	24.2	23.9	23.7	23.1	22.0	19.8	17.9	16.9	16.0			

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

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

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



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - July 2021

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

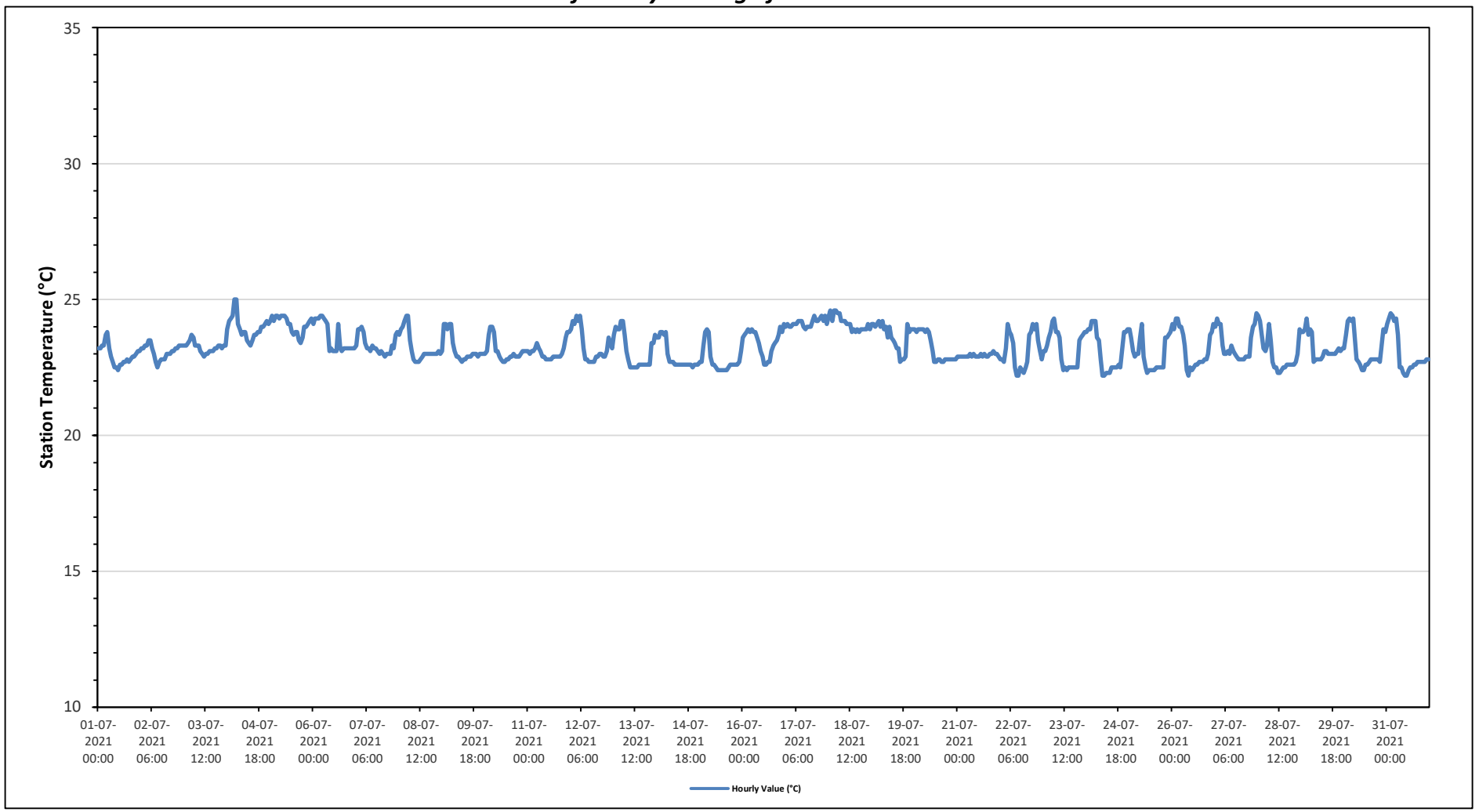
Maximum Hourly Value:	25.0	°C	on July 4 at hour 4	Hours in Service:	744
Maximum Daily Value:	24.1	°C	on July 17	Hours of Data:	744
Minimum Hourly Value:	22.2	°C	on July 22 at hour 9	Hours of Missing Data:	0
Minimum Daily Value:	22.8	°C	on July 15	Hours of Calibration:	0
Monthly Average:	23.3	°C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Jul 1	23.2	23.2	23.3	23.3	23.7	23.8	23.2	22.9	22.7	22.5	22.5	22.4	22.6	22.6	22.7	22.7	22.8	22.7	22.8	22.9	22.9	23.0	23.1	23.1	22.4	23.8	22.9
Jul 2	23.2	23.2	23.3	23.3	23.5	23.5	23.2	23.0	22.7	22.5	22.7	22.8	22.8	22.8	23.0	23.0	23.0	23.1	23.1	23.2	23.2	23.3	23.3	23.3	22.5	23.5	23.1
Jul 3	23.3	23.3	23.4	23.5	23.7	23.6	23.3	23.3	23.3	23.1	23.0	22.9	23.0	23.0	23.1	23.1	23.1	23.2	23.2	23.3	23.3	23.2	23.3	23.3	22.9	23.7	23.2
Jul 4	23.9	24.2	24.3	24.4	**25.0**	**25.0**	24.1	23.9	23.7	23.8	23.8	23.5	23.4	23.3	23.5	23.7	23.7	23.8	23.8	24.0	24.0	24.1	24.2	24.1	23.3	**25.0**	24.0
Jul 5	24.2	24.4	24.2	24.4	24.4	24.3	24.4	24.4	24.4	24.3	24.1	24.1	23.8	23.7	23.8	23.8	23.5	23.4	23.6	24.0	24.0	24.1	24.2	24.3	23.4	24.4	24.1
Jul 6	24.1	24.3	24.3	24.3	24.4	24.4	24.3	24.2	24.1	23.1	23.2	23.1	23.1	23.1	24.1	23.2	23.1	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.1	24.4	23.6
Jul 7	23.3	23.9	23.9	24.0	23.8	23.4	23.2	23.2	23.1	23.3	23.2	23.2	23.1	23.0	23.1	23.0	22.9	23.0	23.0	23.0	23.3	23.2	23.7	23.8	22.9	24.0	23.3
Jul 8	23.7	23.9	24.0	24.2	24.4	24.4	23.5	23.1	22.8	22.7	22.7	22.7	22.8	22.9	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.1	23.0	22.7	24.4	23.2
Jul 9	23.1	24.1	24.1	23.9	24.1	24.1	23.4	23.1	22.9	22.9	22.8	22.7	22.8	22.8	22.9	22.9	22.9	23.0	23.0	23.0	22.9	23.0	23.0	23.0	22.7	24.1	23.2
Jul 10	23.0	23.1	23.7	24.0	24.0	23.8	23.1	23.1	22.9	22.8	22.7	22.7	22.8	22.8	22.9	22.9	23.0	22.9	22.9	22.9	23.0	23.1	23.1	23.1	22.7	24.0	23.1
Jul 11	23.1	23.0	23.1	23.1	23.2	23.4	23.2	23.1	22.9	22.9	22.8	22.8	22.8	22.8	22.9	22.9	22.9	22.9	22.9	23.0	23.2	23.6	23.8	23.8	22.8	23.8	23.1
Jul 12	23.9	24.2	24.1	24.4	24.2	24.4	23.9	23.2	22.8	22.8	22.7	22.7	22.7	22.7	22.9	22.9	23.0	23.0	22.9	22.9	23.1	23.6	23.4	23.2	22.7	24.4	23.3
Jul 13	23.7	24.0	23.9	23.9	24.2	24.2	23.7	23.1	22.8	22.5	22.5	22.5	22.5	22.5	22.6	22.6	22.6	22.6	22.6	22.6	22.6	23.4	23.4	23.7	22.5	24.2	23.1
Jul 14	23.6	23.6	23.8	23.8	23.7	23.8	23.0	22.7	22.7	22.7	22.6	22.6	22.6	22.6	22.6	22.6	22.6	22.6	22.6	22.6	22.5	22.6	22.6	22.6	22.5	23.8	22.9
Jul 15	22.7	22.7	23.3	23.8	23.9	23.8	22.9	22.6	22.6	22.5	22.4	22.4	22.4	22.4	22.4	22.4	22.5	22.6	22.6	22.6	22.6	22.6	22.7	23.1	22.4	23.9	22.8
Jul 16	23.6	23.7	23.8	23.9	23.8	23.9	23.8	23.8	23.6	23.4	23.1	22.9	22.6	22.6	22.7	22.7	23.1	23.3	23.4	23.5	23.7	24.0	23.8	24.1	22.6	24.1	23.5
Jul 17	24.0	24.1	24.0	24.0	24.1	24.1	24.1	24.2	24.2	24.2	24.0	23.9	24.0	24.0	24.0	24.2	24.4	24.2	24.2	24.3	24.4	24.2	24.4	24.1	23.9	24.4	**24.1**
Jul 18	24.4	24.6	24.2	24.6	24.6	24.5	24.5	24.2	24.2	24.2	24.1	24.1	24.1	23.8	23.9	23.8	23.9	23.8	23.9	23.9	23.9	23.9	24.1	23.9	23.8	24.6	24.1
Jul 19	24.1	24.1	24.0	24.1	24.2	24.0	24.2	23.9	24.0	23.6	24.0	23.6	23.5	23.4	23.2	23.2	22.7	22.8	22.8	22.9	24.1	23.8	23.9	23.9	22.7	24.2	23.7
Jul 20	23.9	23.8	23.9	23.9	23.9	23.9	23.8	23.9	23.8	23.5	23.1	22.7	22.7	22.8	22.8	22.7	22.7	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.7	23.9	23.2
Jul 21	22.9	22.9	22.9	22.9	22.9	22.9	22.9	23.0	22.9	23.0	22.9	22.9	22.9	23.0	22.9	23.0	22.9	22.9	23.0	23.0	23.1	23.0	23.0	22.9	22.9	23.1	22.9
Jul 22	22.8	22.8	22.7	23.2	24.1	23.8	23.7	23.4	22.5	**22.2**	**22.2**	22.5	22.4	22.3	22.5	22.7	23.7	23.8	24.1	23.9	24.1	23.5	23.1	22.8	**22.2**	24.1	23.1
Jul 23	23.1	23.1	23.3	23.6	23.8	24.2	24.3	23.8	23.8	23.6	22.8	22.4	22.5	22.4	22.5	22.5	22.5	22.5	22.5	22.5	23.5	23.6	23.7	23.8	22.4	24.3	23.2
Jul 24	23.8	23.9	23.9	24.2	24.2	24.2	23.6	23.5	22.8	**22.2**	**22.2**	22.3	22.3	22.3	22.5	22.5	22.5	22.5	22.6	22.5	23.2	23.8	23.8	23.9	**22.2**	24.2	23.1
Jul 25	23.9	23.6	23.1	22.9	23.0	23.0	23.6	24.1	22.9	22.5	22.3	22.4	22.4	22.4	22.4	22.5	22.5	22.5	22.5	22.5	23.6	23.6	23.7	23.8	22.3	24.1	23.0
Jul 26	24.1	23.9	24.3	24.3	24.0	24.0	23.7	23.3	22.4	**22.2**	22.5	22.4	22.5	22.6	22.6	22.7	22.7	22.7	22.8	22.8	23.0	23.7	23.8	24.1	**22.2**	24.3	23.2
Jul 27	24.0	24.3	24.1	24.1	23.3	23.0	23.0	23.1	23.0	23.3	23.1	23.0	22.9	22.8	22.8	22.8	22.8	22.9	22.9	22.9	23.6	24.0	24.1	24.5	22.8	24.5	23.3
Jul 28	24.4	24.2	23.7	23.2	23.1	23.3	24.1	23.5	22.7	22.5	22.5	22.3	22.3	22.4	22.5	22.5	22.6	22.6	22.6	22.6	22.6	22.7	23.0	23.9	22.3	24.4	23.0
Jul 29	23.8	23.8	23.9	24.3	23.7	23.9	23.8	22.7	22.8	22.8	22.8	22.8	22.9	23.1	23.1	23.0	23.0	23.0	23.0	23.0	23.1	23.2	23.1	23.2	22.7	24.3	23.2
Jul 30	23.2	23.7	24.2	24.3	24.2	24.3	23.6	22.8	22.7	22.6	22.4	22.4	22.6	22.6	22.7	22.8	22.8	22.8	22.8	22.8	22.7	23.3	23.9	23.8	22.4	24.3	23.2
Jul 31	24.1	24.3	24.5	24.4	24.2	24.3	23.7	22.5	22.5	22.3	**22.2**	**22.2**	22.4	22.5	22.5	22.6	22.6	22.7	22.7	22.7	22.7	22.7	22.8	22.8	**22.2**	24.5	23.0
Diurnal Maximum	24.4	24.6	24.5	24.6	25.0	25.0	24.5	24.4	24.4	24.3	24.1	24.1	24.1	24.0	24.1	24.2	24.4	24.2	24.2	24.3	24.4	24.2	24.4	24.5			
Daiurnal Average	23.6	23.7	23.8	23.9	23.9	23.9	23.6	23.4	23.1	23.0	22.9	22.8	22.8	22.8	22.9	22.9	23.0	23.0	23.0	23.1	23.3	23.4	23.5	23.5			

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

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

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



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - July 2021

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

Maximum Hourly Value:	21.3	kph	on July 23 at hour 12	Hours in Service:	744
Maximum Daily Value:	13.6	kph	on July 23	Hours of Data:	744
Minimum Hourly Value:	0.0	kph	on July 7 at hour 22	Hours of Missing Data:	0
Minimum Daily Value:	0.7	kph	on July 30	Hours of Calibration:	0
Monthly Average:	0.9	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
Jul 1	8.2	8.9	9.6	9.0	9.0	8.9	11.4	11.5	10.8	14.5	12.3	15.4	16.5	18.0	18.7	15.2	14.2	17.7	13.2	12.2	12.3	9.8	9.8	8.5	8.2	18.7	12.3
Jul 2	9.1	8.1	8.8	5.9	5.8	7.5	8.9	4.6	10.0	11.0	5.4	9.1	4.7	4.3	8.2	8.7	8.9	6.9	4.9	5.8	6.0	3.8	4.1	3.3	3.3	11.0	3.6
Jul 3	4.3	4.7	4.5	4.9	5.6	6.5	6.3	9.6	10.7	12.6	11.0	12.6	11.8	12.3	13.3	12.9	12.6	11.8	11.2	9.2	3.6	3.1	3.7	4.6	3.1	13.3	8.2
Jul 4	3.1	8.4	5.9	2.3	1.3	4.4	9.7	10.5	8.7	10.1	9.5	10.3	11.4	11.2	11.6	10.3	7.9	7.3	6.1	5.3	3.6	3.8	2.7	2.0	1.3	11.6	6.7
Jul 5	2.9	3.1	2.7	2.9	3.9	4.1	5.9	5.7	3.4	4.3	2.3	0.3	3.5	3.8	4.8	6.8	8.8	9.1	6.7	6.1	5.5	6.0	6.4	4.2	0.3	9.1	2.9
Jul 6	4.8	6.3	6.0	5.1	3.9	4.6	6.0	6.4	6.8	6.6	8.2	7.4	7.0	6.7	9.0	8.3	4.8	4.3	4.8	4.4	3.5	4.6	4.5	4.8	3.5	9.0	5.6
Jul 7	4.0	1.7	1.2	3.2	3.9	4.3	3.4	6.4	6.5	4.3	5.0	4.0	3.6	3.6	4.0	3.3	4.1	1.7	4.0	2.0	0.2	0.1	**0.0**	**0.0**	**0.0**	6.5	2.3
Jul 8	0.3	0.4	**0.0**	0.2	0.2	0.9	0.7	0.2	0.6	1.9	0.8	1.9	4.7	6.5	4.8	4.9	3.7	3.4	1.6	1.7	0.6	0.3	0.2	0.2	**0.0**	6.5	0.9
Jul 9	0.2	0.2	0.4	0.4	0.6	0.3	1.3	4.5	4.5	5.5	4.6	6.4	3.9	3.7	6.9	3.4	1.5	4.5	4.6	2.6	2.6	0.5	0.6	0.6	0.2	6.9	2.1
Jul 10	0.4	0.6	0.5	**0.0**	0.2	0.2	0.1	0.4	1.0	3.2	6.3	8.7	7.9	10.7	8.9	7.4	7.3	4.0	10.7	5.5	2.3	5.5	2.7	0.9	**0.0**	10.7	2.8
Jul 11	2.2	1.7	1.9	4.2	4.4	5.0	5.8	7.8	8.3	9.4	10.0	10.1	12.7	12.4	12.0	12.6	14.6	15.7	14.3	11.7	7.9	3.8	3.5	4.1	1.7	15.7	7.1
Jul 12	4.1	3.0	5.7	5.2	5.6	4.3	5.0	5.7	7.2	9.6	11.7	14.1	12.7	12.3	9.8	11.5	10.6	8.5	7.7	5.7	3.7	1.0	5.2	5.7	1.0	14.1	5.8
Jul 13	2.9	0.2	1.2	2.5	0.3	0.5	0.2	3.2	5.6	5.5	3.8	5.1	5.5	6.4	5.4	4.0	3.3	3.9	1.0	2.6	0.2	2.5	1.7	4.2	0.2	6.4	1.9
Jul 14	5.8	7.9	8.0	7.7	5.9	7.7	8.7	8.9	10.0	9.8	8.4	6.7	12.6	15.7	15.3	14.3	12.9	11.5	11.4	7.9	6.1	6.5	7.3	4.5	4.5	15.7	9.1
Jul 15	0.7	3.8	0.5	0.2	0.6	1.3	2.9	2.4	2.5	4.4	1.5	1.6	6.1	8.0	10.8	16.2	13.4	11.6	7.9	3.2	2.6	2.9	5.4	12.8	0.2	16.2	3.4
Jul 16	8.5	6.0	5.0	7.6	6.3	5.1	7.2	6.9	8.0	7.7	6.3	4.3	7.5	10.8	10.2	13.0	12.8	11.9	10.4	13.1	11.8	13.0	12.6	10.8	4.3	13.1	8.4
Jul 17	11.3	7.1	8.6	6.9	3.3	7.1	13.9	13.5	12.0	12.4	8.7	8.0	9.3	9.6	8.4	8.7	10.2	11.7	5.9	7.4	8.4	7.1	6.4	5.9	3.3	13.9	8.4
Jul 18	3.0	4.6	6.1	4.2	4.8	7.1	6.2	5.5	8.1	8.3	8.1	5.7	3.8	5.1	7.6	8.0	8.8	8.8	9.5	7.7	6.3	4.6	4.9	4.0	3.0	9.5	5.6
Jul 19	3.6	3.8	3.7	3.6	4.8	4.4	4.8	3.6	4.2	6.6	5.1	3.7	3.2	2.5	5.0	3.4	5.4	5.3	4.5	4.9	5.7	5.4	5.1	4.9	2.5	6.6	4.1
Jul 20	4.6	4.5	4.7	4.0	2.5	2.2	3.9	3.9	4.2	5.3	6.1	6.0	5.4	7.0	4.6	5.5	7.0	8.6	4.8	3.1	2.0	2.9	4.5	2.5	2.0	8.6	3.5
Jul 21	1.5	2.2	3.9	4.3	4.5	5.0	5.1	6.5	5.9	5.7	6.1	7.3	8.5	8.2	7.7	8.3	7.5	5.7	4.7	4.7	5.2	3.7	2.6	1.9	1.5	8.5	5.0
Jul 22	8.1	6.8	8.0	11.5	9.2	3.7	4.6	7.2	7.5	9.1	7.5	9.5	12.4	11.5	14.2	11.7	11.7	3.0	5.4	2.8	0.9	1.5	0.8	0.9	0.8	14.2	5.6
Jul 23	2.1	10.5	11.6	12.3	13.4	16.5	18.0	18.3	17.6	20.1	19.4	21.0	**21.3**	19.3	18.4	17.1	15.7	12.7	12.8	11.1	7.4	7.8	7.3	9.4	2.1	**21.3**	**13.6**
Jul 24	9.7	8.3	8.0	7.5	8.3	7.2	8.7	13.4	14.2	14.9	15.7	15.8	15.8	15.0	14.5	15.1	14.8	14.7	11.9	8.2	4.0	3.1	2.5	1.2	1.2	15.8	10.2
Jul 25	1.4	1.0	0.7	0.9	0.3	0.1	0.8	4.3	5.7	5.5	9.1	8.9	11.9	12.4	11.1	12.2	11.8	11.4	9.3	3.6	0.5	1.5	5.4	0.5	0.1	12.4	4.7
Jul 26	1.4	0.4	0.7	0.2	0.1	0.6	1.2	4.6	4.7	3.1	6.2	7.9	6.2	6.3	6.1	6.0	9.9	11.6	9.4	5.9	0.4	**0.0**	0.2	0.1	**0.0**	11.6	3.7
Jul 27	0.1	0.1	0.1	1.6	10.3	3.7	4.6	4.9	2.2	3.9	8.7	9.5	10.5	10.9	14.2	17.5	14.0	12.3	11.4	5.8	2.9	3.4	3.3	2.7	0.1	17.5	5.5
Jul 28	3.8	0.9	0.7	0.1	0.8	**0.0**	0.6	1.9	2.3	3.3	5.5	5.9	7.9	9.3	9.3	10.0	9.4	9.6	7.0	2.8	1.0	0.2	0.9	2.2	**0.0**	10.0	3.8
Jul 29	0.5	0.5	1.5	0.5	0.7	0.2	0.8	0.8	0.3	2.5	4.6	4.3	8.0	9.2	7.9	7.4	5.8	5.2	6.8	1.9	1.5	1.1	1.1	1.5	0.2	9.2	2.0
Jul 30	1.4	1.1	0.6	0.7	0.1	**0.0**	1.9	2.9	2.1	1.5	1.0	3.9	4.1	4.2	5.1	3.1	4.0	4.9	2.5	0.9	0.5	0.1	0.6	1.0	**0.0**	5.1	**0.7**
Jul 31	0.5	0.1	0.7	1.2	0.1	0.5	2.0	0.5	1.7	3.7	4.4	1.9	3.6	2.1	0.7	3.3	2.5	2.8	1.3	1.4	0.1	0.1	0.2	0.3	0.1	4.4	1.0
Diurnal Maximum	11	11	12	12	13	17	18	18	18	20	19	21	21	19	19	18	16	18	14	13	12	13	13	13			
Daiurnal Average	3.7	3.8	3.9	3.9	3.9	4.0	5.2	6.0	6.4	7.3	7.2	7.7	8.5	9.0	9.3	9.4	9.0	8.5	7.3	5.5	3.8	3.5	3.7	3.6			

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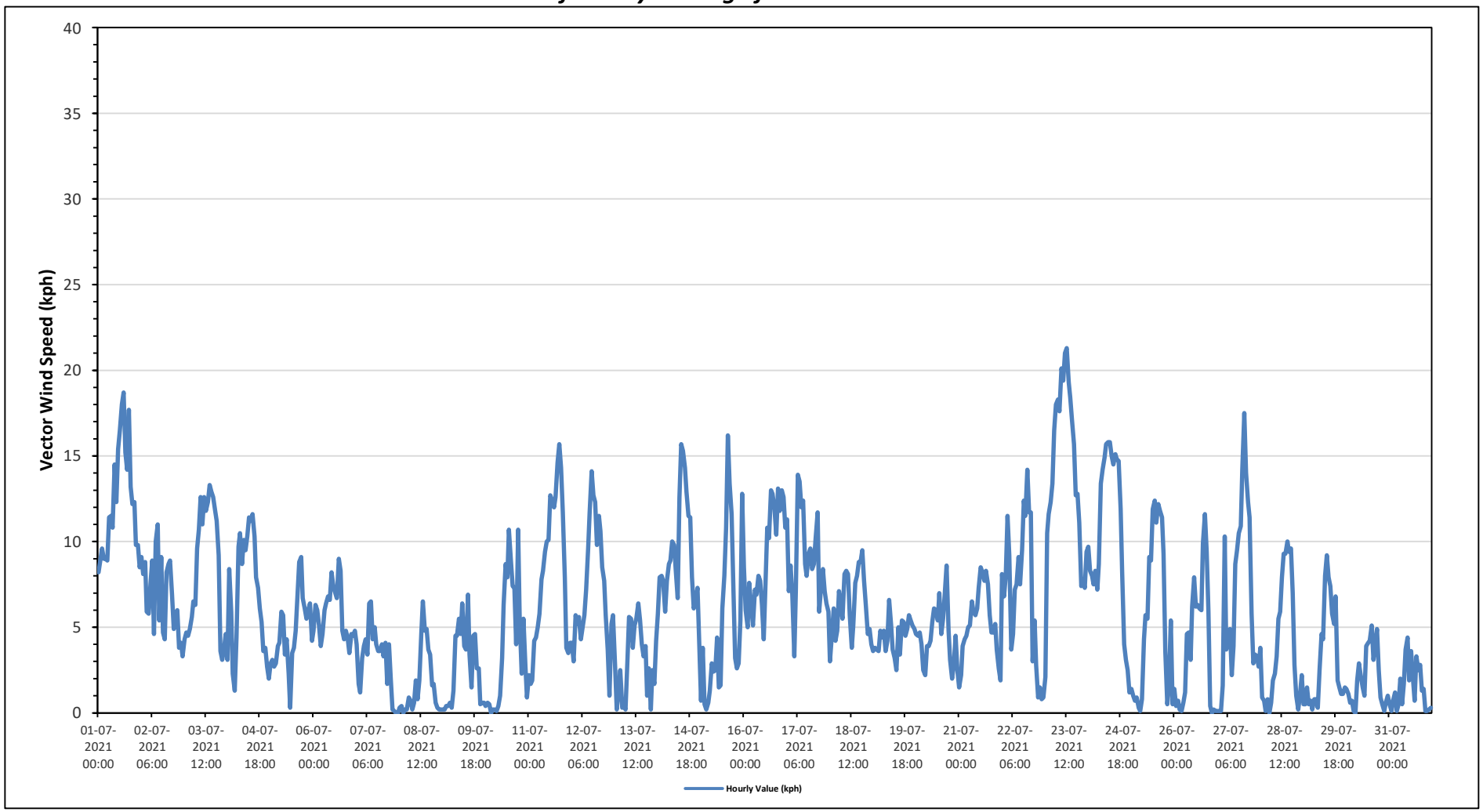
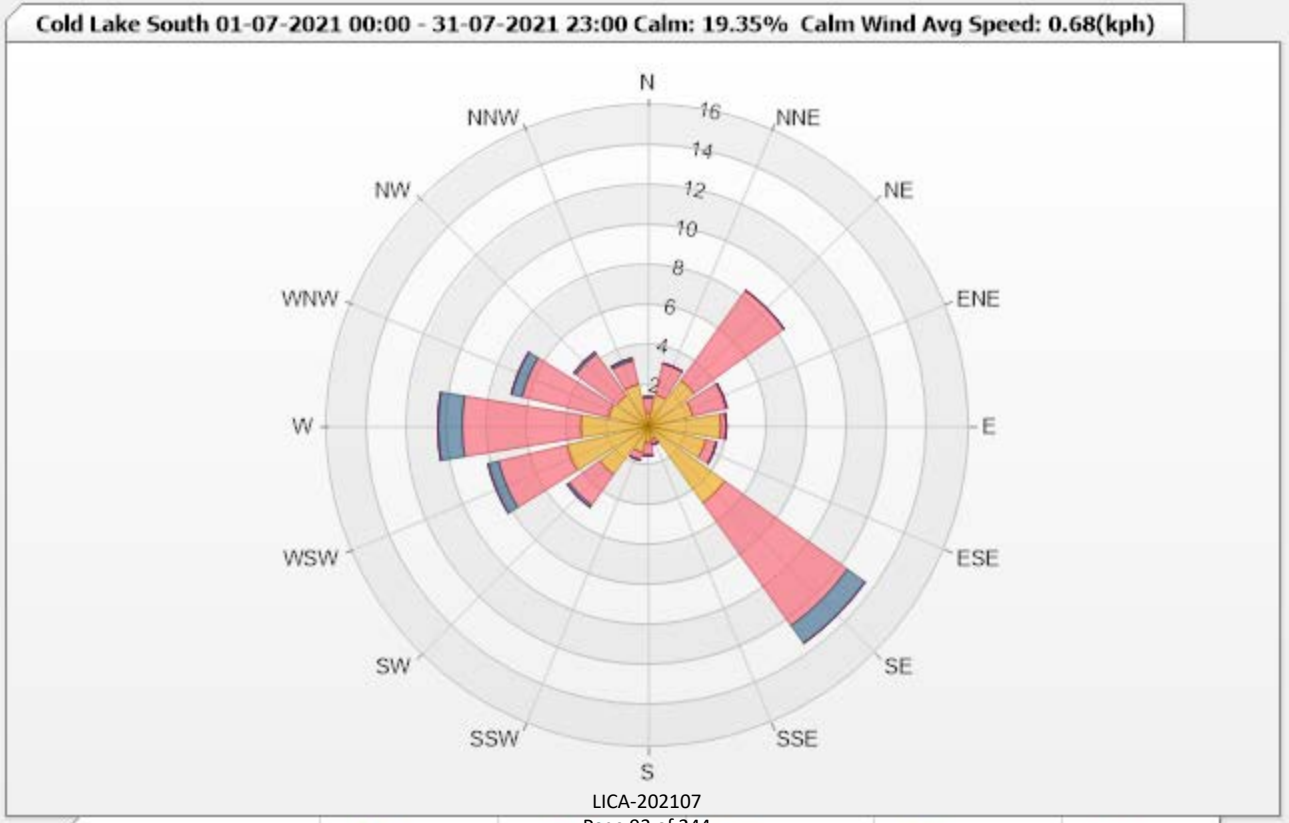
Timeseries Chart of Hourly Average for VWS - Cold Lake South Station



Wind: Cold Lake South Monitor: WDS [kph] Monthly: 07-2021 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 19.35% 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	0.81	0	0	0	1.48
NNE	1.61	1.61	0	0	0	3.22
NE	2.82	5.51	0	0	0	8.33
ENE	2.28	1.75	0	0	0	4.03
E	3.63	0.27	0	0	0	3.9
ESE	2.96	0.54	0	0	0	3.5
SE	4.7	7.53	1.08	0	0	13.31
SSE	0.67	0.27	0	0	0	0.94
S	0.81	0.67	0	0	0	1.48
SSW	1.34	0.4	0	0	0	1.74
SW	2.96	1.88	0.13	0	0	4.97
WSW	4.17	3.49	0.54	0	0	8.2
W	3.36	5.91	1.21	0	0	10.48
WNW	2.02	4.44	0.54	0	0	7
NW	1.88	2.55	0.13	0	0	4.56
NNW	2.15	1.21	0.13	0	0	3.49
Summary	38.03	38.84	3.76	0	0	80.63


Cold Lake South 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 19.35% Calm Wind Avg Speed: 0.68(kph)
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
2
% Icon Classes (kph)
38 1.8-6.0
39 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 - July 2021

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

Monthly Average: 272 (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
Jul 1	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	134	SE
Jul 2	SE	SE	SE	SE	ESE	ESE	SE	SE	SE	SE	SSE	SW	WSW	SSW	SW	WSW	WSW	W	W	WSW	W	W	W	WSW	183	S
Jul 3	WSW	WSW	WSW	W	WNW	WNW	W	W	WNW	W	W	W	W	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	W	W	W	282	W
Jul 4	WNW	NNW	NNW	WNW	WNW	W	NW	NNW	WNW	WNW	WNW	NW	NW	NW	NNW	NNW	NNW	NW	NW	NW	NW	NW	WNW	NW	318	NW
Jul 5	NNW	NW	WNW	NW	NW	NW	NNW	N	NNW	NNE	NW	W	NW	NNW	NNW	NNE	NE	NE	NE	ESE	E	E	E	E	16	NNE
Jul 6	ESE	E	E	E	ESE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	E	E	ESE	ESE	SE	SE	SE	123	ESE
Jul 7	SE	SSE	SE	SE	SE	SE	SE	SE	SE	SSW	SE	S	SSW	SE	SE	SSW	WSW	W	NE	E	ESE	ESE	ESE	SW	153	SSE
Jul 8	SW	E	E	SW	WSW	WSW	SW	SE	SE	W	SSW	E	ENE	NE	ENE	E	E	NE	WSW	WSW	SW	SW	S	SE	75	ENE
Jul 9	SW	S	SSE	W	SE	SW	SW	SW	WSW	SW	W	W	NW	WNW	NNW	NNW	SW	W	WNW	WSW	SW	SW	SW	SW	272	W
Jul 10	S	SW	SSW	SSW	WSW	W	S	WSW	W	S	S	SSW	S	SSW	S	S	SSW	S	WNW	NW	NE	WSW	SW	SSW	208	SSW
Jul 11	WSW	WSW	WSW	SW	SW	SW	WSW	WSW	W	W	WSW	WSW	WSW	W	W	W	NW	NW	NW	NW	NW	WNW	W	W	280	W
Jul 12	W	WSW	SW	SW	SW	WSW	SW	WSW	WSW	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	NNW	N	NE	ENE	291	WNW
Jul 13	ENE	SSW	NE	NE	SW	SW	SW	SE	ESE	ENE	ENE	E	ENE	NNE	NNE	NNW	N	NNW	NE	SE	SE	SE	ESE	SE	66	ENE
Jul 14	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SSE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	136	SE
Jul 15	SE	SE	NE	E	E	ESE	SE	SSE	SSW	W	W	S	WSW	W	NW	NNW	NNW	NW	NW	WNW	WSW	W	NW	N	312	NW
Jul 16	N	N	NNW	N	N	NNE	NNE	N	NNE	NNE	NNE	ENE	NE	NE	NE	NE	NE	NE	NE	NE	ENE	NE	ENE	NE	36	NE
Jul 17	NE	ENE	NE	NE	NE	NE	NE	NE	NE	NE	ENE	ENE	ENE	ENE	ENE	NNE	NNE	ENE	NNE	NNE	NE	NE	NE	NNW	49	NE
Jul 18	NNW	NE	NE	NE	NNW	NNW	NNW	NE	ENE	NE	NE	ENE	ENE	NE	NE	NE	NE	NE	NE	ENE	ENE	E	E	ENE	47	NE
Jul 19	ENE	E	ENE	ESE	E	ESE	SE	ESE	ESE	SE	ESE	SE	ESE	NE	NNE	E	SE	ESE	ESE	ESE	SE	SE	SE	SE	113	ESE
Jul 20	SE	SE	SE	SE	SE	E	E	E	NE	NE	NE	E	ESE	NE	NNE	NNE	NE	NE	NE	NE	N	N	E	N	69	ENE
Jul 21	NE	NNE	NNE	NNE	NE	NE	ENE	ENE	ENE	NNE	NNE	NNE	NE	NE	NNE	NE	NE	NE	NE	ENE	E	E	E	E	46	NE
Jul 22	SE	WSW	WSW	WNW	NW	NW	WSW	SW	WSW	W	W	W	W	WNW	W	W	SW	S	SW	SW	SSE	S	SSW	SW	265	W
Jul 23	SSW	SW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	W	WSW	W	W	W	W	W	W	W	W	W	W	W	WSW	257	WSW
Jul 24	W	W	W	WSW	WSW	WSW	W	W	W	W	W	W	WNW	W	W	WNW	WNW	W	WNW	WNW	W	WSW	WNW	SW	273	W
Jul 25	SW	SW	WSW	WSW	ENE	WNW	SSW	SW	WSW	SW	W	W	W	W	W	WSW	W	WNW	WNW	WNW	SW	SW	NE	SE	273	W
Jul 26	SW	W	ENE	S	S	ENE	NW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	WSW	WSW	WSW	SW	SW	SSE	SSE	SSW	249	WSW
Jul 27	SSE	NE	ENE	WSW	W	WNW	ESE	SE	SSE	SW	WSW	W	W	W	W	W	WNW	WNW	WNW	WNW	WSW	WSW	WSW	WSW	271	W
Jul 28	WSW	SSW	SW	NE	WSW	NNE	W	SW	S	SW	SW	WSW	WSW	SW	WSW	SW	WSW	SW	SW	SSW	S	SSW	SW	SW	236	SW
Jul 29	WSW	NE	SE	NE	SSW	NE	NNW	N	W	ESE	E	ESE	SW	SE	SE	SE	S	SSW	SW	SSE	ESE	NE	ESE	SW	164	SSE
Jul 30	WSW	W	SW	WSW	WSW	ESE	SW	SW	W	NE	ENE	WNW	NNW	NNE	NE	E	NE	NE	ESE	SE	ESE	NNE	SW	ENE	28	NNE
Jul 31	ESE	S	SW	SW	WNW	ESE	W	W	SW	W	W	SSW	SW	W	WSW	S	SSW	SW	N	NE	SE	ESE	E	E	234	SW

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)					

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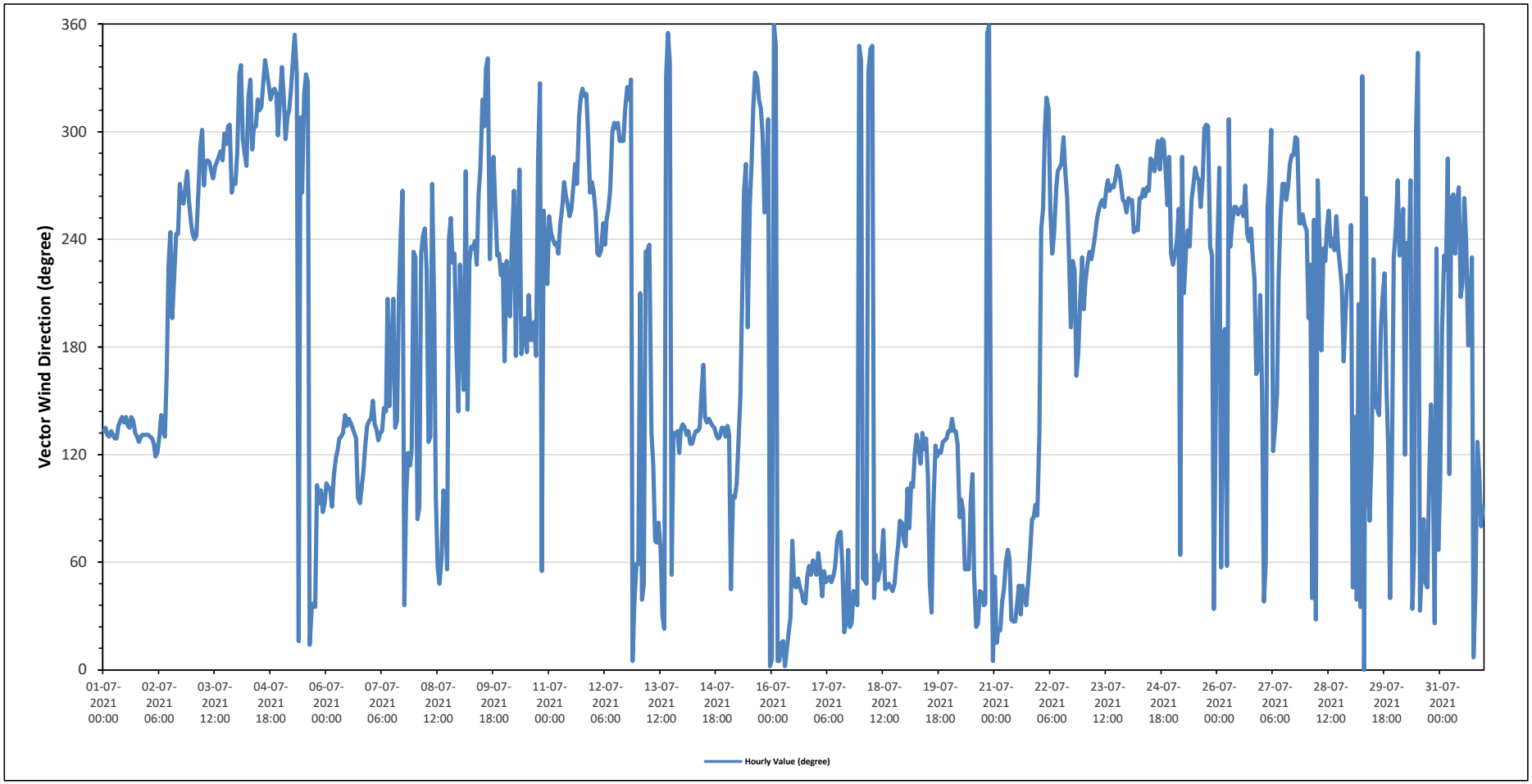
Timeseries Chart of Hourly Average for VWD - Cold Lake South Station



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - July 2021

Summary of Hourly Averages

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

WIND SPEED

Maximum Hourly Value:	21.3	kph	on July 23 at hour 12	Hours in Service:	744
Maximum Daily Value:	13.6	kph	on July 23	Hours of Data:	744
Minimum Hourly Value:	0.0	kph	on July 7 at hour 22	Hours of Missing Data:	0
Minimum Daily Value:	0.7	kph	on July 30	Hours of Calibration:	0
Monthly Average:	0.9	kph		Operational Uptime:	100

WIND DIRECTION

Monthly Average: 272 (W) degree

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
Jul 1	8.2	8.9	9.6	9.0	9.0	8.9	11.4	11.5	10.8	14.5	12.3	15.4	16.5	18.0	18.7	15.2	14.2	17.7	13.2	12.2	12.3	9.8	9.8	8.5	8.2	18.7	12.3
	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE			
Jul 2	9.1	8.1	8.8	5.9	5.8	7.5	8.9	4.6	10.0	11.0	5.4	9.1	4.7	4.3	8.2	8.7	8.9	6.9	4.9	5.8	6.0	3.8	4.1	3.3	3.3	11.0	3.6
	SE	SE	SE	SE	ESE	ESE	SE	SE	SE	SE	SSE	SW	WSW	SSW	SW	WSW	WSW	W	W	WSW	W	W	W	WSW			
Jul 3	4.3	4.7	4.5	4.9	5.6	6.5	6.3	9.6	10.7	12.6	11.0	12.6	11.8	12.3	13.3	12.9	12.6	11.8	11.2	9.2	3.6	3.1	3.7	4.6	3.1	13.3	8.2
	WSW	WSW	WSW	W	WNW	WNW	W	W	WNW	W	W	W	W	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	W	W	W			
Jul 4	3.1	8.4	5.9	2.3	1.3	4.4	9.7	10.5	8.7	10.1	9.5	10.3	11.4	11.2	11.6	10.3	7.9	7.3	6.1	5.3	3.6	3.8	2.7	2.0	1.3	11.6	6.7
	WNW	NNW	NNW	WNW	WNW	W	NW	NNW	WNW	WNW	WNW	NW	NW	NW	NNW	NNW	NNW	NW	NW	NW	NW	NW	WNW	NW			
Jul 5	2.9	3.1	2.7	2.9	3.9	4.1	5.9	5.7	3.4	4.3	2.3	0.3	3.5	3.8	4.8	6.8	8.8	9.1	6.7	6.1	5.5	6.0	6.4	4.2	0.3	9.1	2.9
	NNW	NW	WNW	NW	NW	NW	NNW	N	NNW	NNE	NW	W	NW	NNW	NNW	NNE	NE	NE	NE	ESE	E	E	E	E			
Jul 6	4.8	6.3	6.0	5.1	3.9	4.6	6.0	6.4	6.8	6.6	8.2	7.4	7.0	6.7	9.0	8.3	4.8	4.3	4.8	4.4	3.5	4.6	4.5	4.8	3.5	9.0	5.6
	ESE	E	E	E	ESE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	E	E	ESE	ESE	SE	SE	SE			
Jul 7	4.0	1.7	1.2	3.2	3.9	4.3	3.4	6.4	6.5	4.3	5.0	4.0	3.6	3.6	4.0	3.3	4.1	1.7	4.0	2.0	0.2	0.1	**0.0**	**0.0**	**0.0**	6.5	2.3
	SE	SSE	SE	SE	SE	SE	SE	SE	SE	SSW	SE	S	SSW	SE	SE	SSW	WSW	W	NE	E	ESE	ESE	ESE	SW			
Jul 8	0.3	0.4	**0.0**	0.2	0.2	0.9	0.7	0.2	0.6	1.9	0.8	1.9	4.7	6.5	4.8	4.9	3.7	3.4	1.6	1.7	0.6	0.3	0.2	0.2	**0.0**	6.5	0.9
	SW	E	E	SW	WSW	WSW	SW	SE	SE	W	SSW	E	ENE	NE	ENE	E	E	NE	WSW	WSW	SW	SW	S	SE			
Jul 9	0.2	0.2	0.4	0.4	0.6	0.3	1.3	4.5	4.5	5.5	4.6	6.4	3.9	3.7	6.9	3.4	1.5	4.5	4.6	2.6	2.6	0.5	0.6	0.6	0.2	6.9	2.1
	SW	S	SSE	W	SE	SW	SW	SW	WSW	SW	W	W	NW	WNW	NNW	NNW	SW	W	WNW	WSW	SW	SW	SW	SW			
Jul 10	0.4	0.6	0.5	**0.0**	0.2	0.2	0.1	0.4	1.0	3.2	6.3	8.7	7.9	10.7	8.9	7.4	7.3	4.0	10.7	5.5	2.3	5.5	2.7	0.9	**0.0**	10.7	2.8
	S	SW	SSW	SSW	WSW	W	S	WSW	W	S	S	SSW	S	SSW	S	S	SSW	S	WNW	NW	NE	WSW	SW	SSW			
Jul 11	2.2	1.7	1.9	4.2	4.4	5.0	5.8	7.8	8.3	9.4	10.0	10.1	12.7	12.4	12.0	12.6	14.6	15.7	14.3	11.7	7.9	3.8	3.5	4.1	1.7	15.7	7.1
	WSW	WSW	WSW	SW	SW	SW	WSW	WSW	W	W	WSW	WSW	WSW	W	W	W	NW	NW	NW	NW	NW	WNW	W	W			
Jul 12	4.1	3.0	5.7	5.2	5.6	4.3	5.0	5.7	7.2	9.6	11.7	14.1	12.7	12.3	9.8	11.5	10.6	8.5	7.7	5.7	3.7	1.0	5.2	5.7	1.0	14.1	5.8
	W	WSW	SW	SW	SW	WSW	SW	WSW	WSW	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	NNW	N	NE	ENE			
Jul 13	2.9	0.2	1.2	2.5	0.3	0.5	0.2	3.2	5.6	5.5	3.8	5.1	5.5	6.4	5.4	4.0	3.3	3.9	1.0	2.6	0.2	2.5	1.7	4.2	0.2	6.4	1.9
	ENE	SSW	NE	NE	SW	SW	SW	SE	ESE	ENE	ENE	E	ENE	NNE	NNE	NNW	N	NNW	NE	SE	SE	SE	ESE	SE			
Jul 14	5.8	7.9	8.0	7.7	5.9	7.7	8.7	8.9	10.0	9.8	8.4	6.7	12.6	15.7	15.3	14.3	12.9	11.5	11.4	7.9	6.1	6.5	7.3	4.5	4.5	15.7	9.1
	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SSE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE			
Jul 15	0.7	3.8	0.5	0.2	0.6	1.3	2.9	2.4	2.5	4.4	1.5	1.6	6.1	8.0	10.8	16.2	13.4	11.6	7.9	3.2	2.6	2.9	5.4	12.8	0.2	16.2	3.4
	SE	SE	NE	E	E	ESE	SE	SSE	SSW	W	W	S	WSW	W	NW	NNW	NNW	NW	NW	WNW	WSW	W	NW	N			
Jul 16	8.5	6.0	5.0	7.6	6.3	5.1	7.2	6.9	8.0	7.7	6.3	4.3	7.5	10.8	10.2	13.0	12.8	11.9	10.4	13.1	11.8	13.0	12.6	10.8	4.3	13.1	8.4
	N	N	NNW	N	N	NNE	NNE	N	NNE	NNE	NNE	ENE	NE	NE	NE	NE	NE	NE	NE	NE	ENE	NE	ENE	NE			
Jul 17	11.3	7.1	8.6	6.9	3.3	7.1	13.9	13.5	12.0	12.4	8.7	8.0	9.3	9.6	8.4	8.7	10.2	11.7	5.9	7.4	8.4	7.1	6.4	5.9	3.3	13.9	8.4
	NE	ENE	NE	NE	NE	NE	NE	NE	NE	NE	ENE	ENE	ENE	ENE	ENE	NNE	NNE	ENE	NNE	NNE	NE	NE	NE	NNW			
Jul 18	3.0	4.6	6.1	4.2	4.8	7.1	6.2	5.5	8.1	8.3	8.1	5.7	3.8	5.1	7.6	8.0	8.8	8.8	9.5	7.7	6.3	4.6	4.9	4.0	3.0	9.5	5.6
	NNW	NE	NE	NE	NNW	NNW	NNW	NE	ENE	NE	NE	ENE	ENE	NE	NE	NE	NE	NE	NE	ENE	ENE	E	E	ENE			
Jul 19	3.6	3.8	3.7	3.6	4.8	4.4	4.8	3.6	4.2	6.6	5.1	3.7	3.2	2.5	5.0	3.4	5.4	5.3	4.5	4.9	5.7	5.4	5.1	4.9	2.5	6.6	4.1
	ENE	E	ENE	ESE	E	ESE	SE	ESE	ESE	SE	ESE	SE	ESE	NE	NNE	E	SE	ESE	ESE	ESE	SE	SE	SE	SE			
Jul 20	4.6	4.5	4.7	4.0	2.5	2.2	3.9	3.9	4.2	5.3	6.1	6.0	5.4	7.0	4.6	5.5	7.0	8.6	4.8	3.1	2.0	2.9	4.5	2.5	2.0	8.6	3.5
	SE	SE	SE	SE	SE	E	E	E	NE	NE	NE	E	ESE	NE	NNE	NNE	NE	NE	NE	NE	N	N	E	N			

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - July 2021

Summary of Hourly Averages

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

WIND SPEED

Maximum Hourly Value:	21.3	kph	on July 23 at hour 12	Hours in Service:	744
Maximum Daily Value:	13.6	kph	on July 23	Hours of Data:	744
Minimum Hourly Value:	0.0	kph	on July 7 at hour 22	Hours of Missing Data:	0
Minimum Daily Value:	0.7	kph	on July 30	Hours of Calibration:	0
Monthly Average:	0.9	kph		Operational Uptime:	100

WIND DIRECTION

Monthly Average: 272 (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			
Jul 21	1.5	2.2	3.9	4.3	4.5	5.0	5.1	6.5	5.9	5.7	6.1	7.3	8.5	8.2	7.7	8.3	7.5	5.7	4.7	4.7	5.2	3.7	2.6	1.9	1.5	8.5	5.0
	NE	NNE	NNE	NNE	NE	NE	ENE	ENE	ENE	NNE	NNE	NNE	NE	NE	NNE	NE	NE	NE	NE	ENE	E	E	E	E			
Jul 22	8.1	6.8	8.0	11.5	9.2	3.7	4.6	7.2	7.5	9.1	7.5	9.5	12.4	11.5	14.2	11.7	11.7	3.0	5.4	2.8	0.9	1.5	0.8	0.9	0.8	14.2	5.6
	SE	WSW	WSW	WNW	NW	NW	WSW	SW	WSW	W	W	W	W	WNW	W	W	SW	S	SW	SW	SSE	S	SSW	SW			
Jul 23	2.1	10.5	11.6	12.3	13.4	16.5	18.0	18.3	17.6	20.1	19.4	21.0	**21.3**	19.3	18.4	17.1	15.7	12.7	12.8	11.1	7.4	7.8	7.3	9.4	2.1	**21.3**	**13.6**
	SSW	SW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	W	WSW	W	W	W	W	W	W	W	W	W	W	W	WSW			
Jul 24	9.7	8.3	8.0	7.5	8.3	7.2	8.7	13.4	14.2	14.9	15.7	15.8	15.8	15.0	14.5	15.1	14.8	14.7	11.9	8.2	4.0	3.1	2.5	1.2	1.2	15.8	10.2
	W	W	W	WSW	WSW	WSW	W	W	W	W	W	W	WNW	W	W	WNW	WNW	W	WNW	WNW	W	WSW	WNW	SW			
Jul 25	1.4	1.0	0.7	0.9	0.3	0.1	0.8	4.3	5.7	5.5	9.1	8.9	11.9	12.4	11.1	12.2	11.8	11.4	9.3	3.6	0.5	1.5	5.4	0.5	0.1	12.4	4.7
	SW	SW	WSW	WSW	ENE	WNW	SSW	SW	WSW	SW	W	W	W	W	W	WSW	W	WNW	WNW	WNW	SW	SW	NE	SE			
Jul 26	1.4	0.4	0.7	0.2	0.1	0.6	1.2	4.6	4.7	3.1	6.2	7.9	6.2	6.3	6.1	6.0	9.9	11.6	9.4	5.9	0.4	**0.0**	0.2	0.1	**0.0**	11.6	3.7
	SW	W	ENE	S	S	ENE	NW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	WSW	WSW	WSW	SW	SW	SSE	SSE	SSW			
Jul 27	0.1	0.1	0.1	1.6	10.3	3.7	4.6	4.9	2.2	3.9	8.7	9.5	10.5	10.9	14.2	17.5	14.0	12.3	11.4	5.8	2.9	3.4	3.3	2.7	0.1	17.5	5.5
	SSE	NE	ENE	WSW	W	WNW	ESE	SE	SSE	SW	WSW	W	W	W	W	W	WNW	WNW	WNW	WNW	WSW	WSW	WSW	WSW			
Jul 28	3.8	0.9	0.7	0.1	0.8	**0.0**	0.6	1.9	2.3	3.3	5.5	5.9	7.9	9.3	9.3	10.0	9.4	9.6	7.0	2.8	1.0	0.2	0.9	2.2	**0.0**	10.0	3.8
	WSW	SSW	SW	NE	WSW	NNE	W	SW	S	SW	SW	WSW	WSW	SW	WSW	SW	WSW	SW	SW	SSW	S	SSW	SW	SW			
Jul 29	0.5	0.5	1.5	0.5	0.7	0.2	0.8	0.8	0.3	2.5	4.6	4.3	8.0	9.2	7.9	7.4	5.8	5.2	6.8	1.9	1.5	1.1	1.1	1.5	0.2	9.2	2.0
	WSW	NE	SE	NE	SSW	NE	NNW	N	W	ESE	E	ESE	SW	SE	SE	SE	S	SSW	SW	SSE	ESE	NE	ESE	SW			
Jul 30	1.4	1.1	0.6	0.7	0.1	**0.0**	1.9	2.9	2.1	1.5	1.0	3.9	4.1	4.2	5.1	3.1	4.0	4.9	2.5	0.9	0.5	0.1	0.6	1.0	**0.0**	5.1	**0.7**
	WSW	W	SW	WSW	WSW	ESE	SW	SW	W	NE	ENE	WNW	NNW	NNE	NE	E	NE	NE	ESE	SE	ESE	NNE	SW	ENE			
Jul 31	0.5	0.1	0.7	1.2	0.1	0.5	2.0	0.5	1.7	3.7	4.4	1.9	3.6	2.1	0.7	3.3	2.5	2.8	1.3	1.4	0.1	0.1	0.2	0.3	0.1	4.4	1.0
	ESE	S	SW	SW	WNW	ESE	W	W	SW	W	W	SSW	SW	W	WSW	S	SSW	SW	N	NE	SE	ESE	E	E			

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

Cold Lake South Station - July 2021

Summary of Hour Standard Deviations

STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

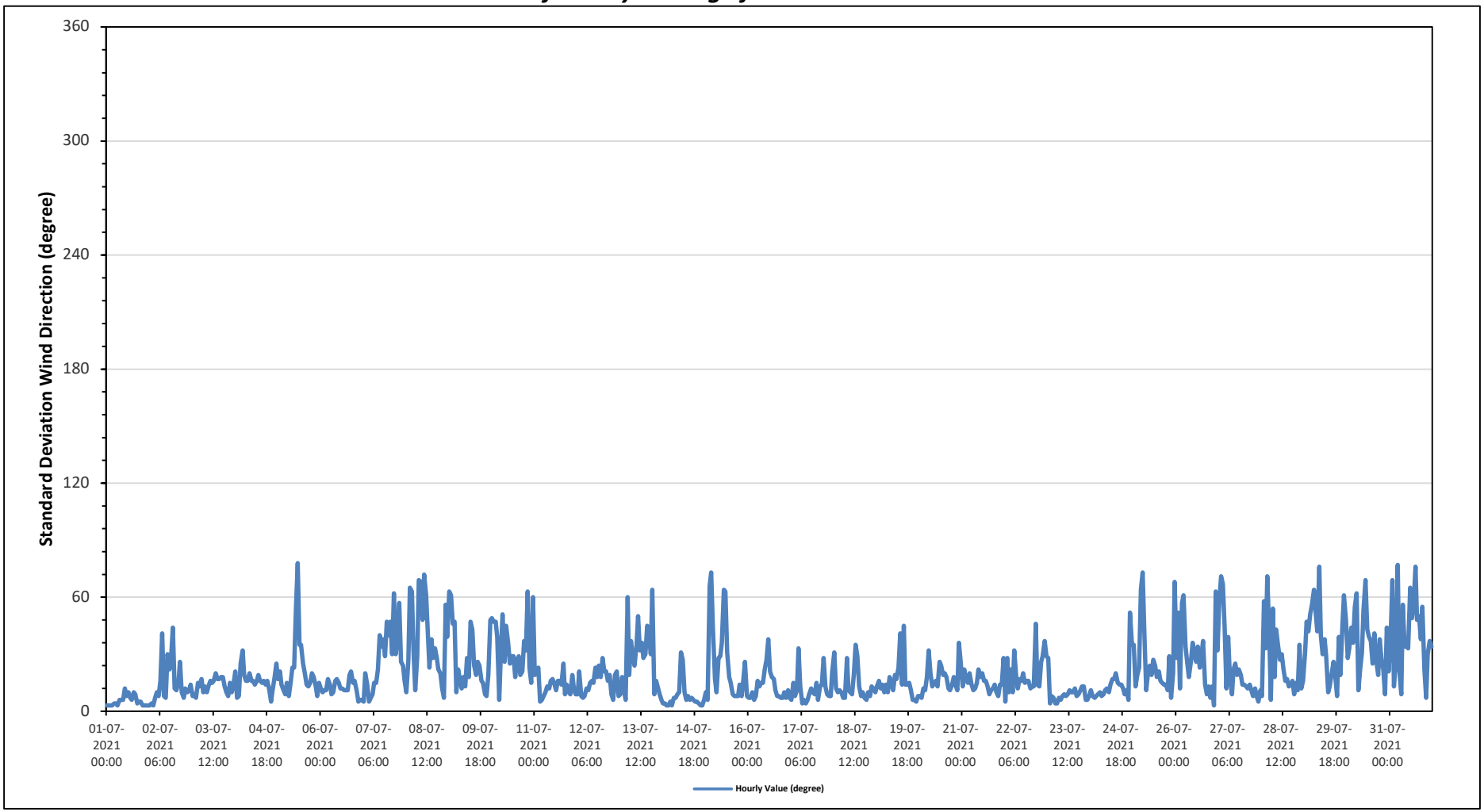
Maximum Hourly Value:	78	degree	on July 5 at hour 11	Hours in Service:	744
				Hours of Data:	744
Minimum Hourly Value:	3	degree	on July 1 at hour 0	Hours of Missing Data:	0
				Hours of Calibration:	0
				Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																						Daily Minimum	Daily Maximum
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
Jul 1	**3**	**3**	**3**	**3**	4	4	**3**	6	6	6	12	8	10	7	6	10	9	4	5	5	**3**	**3**	**3**	**3**	**3**	12
Jul 2	**3**	4	**3**	7	10	8	16	41	8	7	30	22	28	44	12	11	15	26	10	7	12	10	11	14	**3**	44
Jul 3	8	9	7	15	13	17	10	13	10	13	16	15	16	20	17	17	18	18	13	10	8	15	10	14	7	20
Jul 4	21	7	8	25	32	19	16	16	20	16	16	14	16	19	16	15	16	14	16	12	5	11	18	25	5	32
Jul 5	17	21	14	11	9	15	8	15	23	23	54	**78**	35	35	25	20	14	13	15	20	18	13	8	15	8	**78**
Jul 6	12	10	11	11	17	14	9	10	16	17	15	12	12	11	11	11	19	21	15	16	11	5	6	6	5	21
Jul 7	5	20	14	5	7	9	15	15	22	40	34	38	29	47	40	47	30	62	30	38	57	26	24	16	5	62
Jul 8	10	27	65	63	32	11	29	69	68	48	72	61	40	23	38	28	33	28	22	20	12	7	56	39	7	72
Jul 9	63	61	46	47	10	22	17	12	18	13	28	18	47	43	24	19	26	24	16	15	9	8	19	48	8	63
Jul 10	49	47	47	39	6	33	51	26	45	36	25	29	29	18	27	29	19	21	37	32	63	23	15	60	6	63
Jul 11	19	20	23	5	6	8	10	13	12	16	17	14	11	16	16	14	25	9	14	10	9	19	11	9	5	25
Jul 12	9	21	8	7	8	12	11	15	16	15	23	18	24	18	28	21	21	16	19	9	6	19	21	8	6	28
Jul 13	9	18	11	6	60	19	37	29	24	35	50	32	36	28	30	45	43	30	64	9	16	13	9	6	6	64
Jul 14	4	4	**3**	**3**	5	**3**	7	7	9	10	31	27	10	6	8	6	7	6	5	5	4	**3**	**3**	6	**3**	31
Jul 15	10	6	66	73	43	17	10	28	29	36	64	63	31	18	15	9	8	8	8	14	8	17	26	8	6	73
Jul 16	7	7	10	6	8	16	13	15	15	22	27	38	21	18	17	11	8	8	7	7	10	7	11	7	6	38
Jul 17	6	15	8	11	33	13	4	6	4	6	9	12	10	9	15	6	13	14	28	13	9	8	8	21	4	33
Jul 18	31	12	10	11	10	7	7	28	11	10	9	19	35	29	13	8	10	7	6	10	8	13	12	10	6	35
Jul 19	13	16	12	14	10	14	10	18	15	11	19	17	23	41	14	45	14	14	15	11	6	6	5	8	5	45
Jul 20	8	7	12	11	18	32	20	13	15	16	13	26	24	19	20	18	12	11	14	18	14	11	36	26	7	36
Jul 21	13	22	16	15	20	14	11	12	15	22	18	20	16	16	13	9	11	12	14	10	8	14	14	28	8	28
Jul 22	5	28	10	22	10	32	18	12	17	16	20	15	16	16	12	13	13	46	14	13	26	29	37	29	5	46
Jul 23	28	4	8	7	4	4	7	6	8	9	8	9	11	10	10	12	8	9	11	13	13	6	6	8	4	28
Jul 24	11	8	7	8	9	10	8	9	11	12	10	14	17	17	20	15	14	14	12	9	11	6	52	35	6	52
Jul 25	35	13	19	23	64	73	40	11	20	24	19	27	24	18	21	16	15	14	14	11	29	7	20	68	7	73
Jul 26	28	52	12	57	61	34	25	18	26	36	30	26	34	23	30	37	14	9	13	7	13	**3**	63	32	**3**	63
Jul 27	58	71	67	44	12	39	17	9	22	25	19	22	19	14	14	13	12	14	11	8	12	8	5	11	5	71
Jul 28	8	58	33	71	40	6	54	18	43	34	27	30	22	16	17	13	14	16	9	15	11	35	12	16	6	71
Jul 29	31	47	42	51	56	64	53	42	76	40	30	38	29	10	13	19	26	20	8	39	19	45	61	48	8	76
Jul 30	28	33	44	36	55	62	11	22	31	53	69	43	39	37	25	41	27	19	38	27	22	9	44	21	9	69
Jul 31	35	69	13	26	77	22	9	56	34	34	33	65	49	55	76	48	50	38	55	22	7	30	37	34	7	77
Diurnal Minimum	3	3	3	3	4	3	3	6	4	6	8	8	10	6	6	6	7	4	5	5	3	3	3	3		
Daiurnal Maximum	63	71	67	73	77	73	54	69	76	53	72	78	49	55	76	48	50	62	64	39	63	45	63	68		

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)			

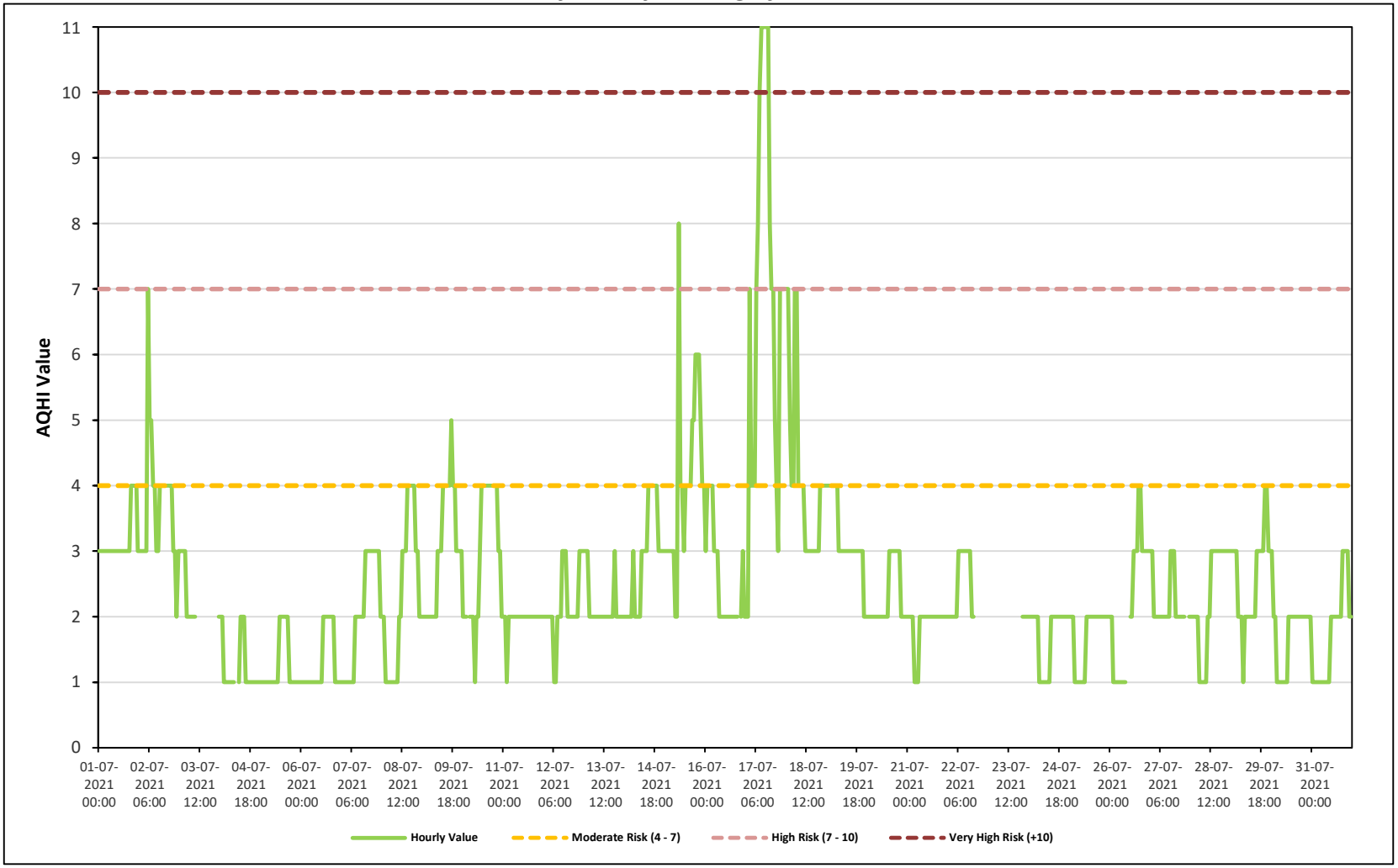
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

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



TAMARACK STATION

Timeseries Chart of Hourly Average for AQHI - Tamarack Site



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - July 2021

Summary of Hourly Averages

SULPHUR DIOXIDE (SO_2) in ppb

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

Number of 1-Hour Exceedences: 0 Number of 24-Hour Exceedences: 0 30-Day Exceedence: 0

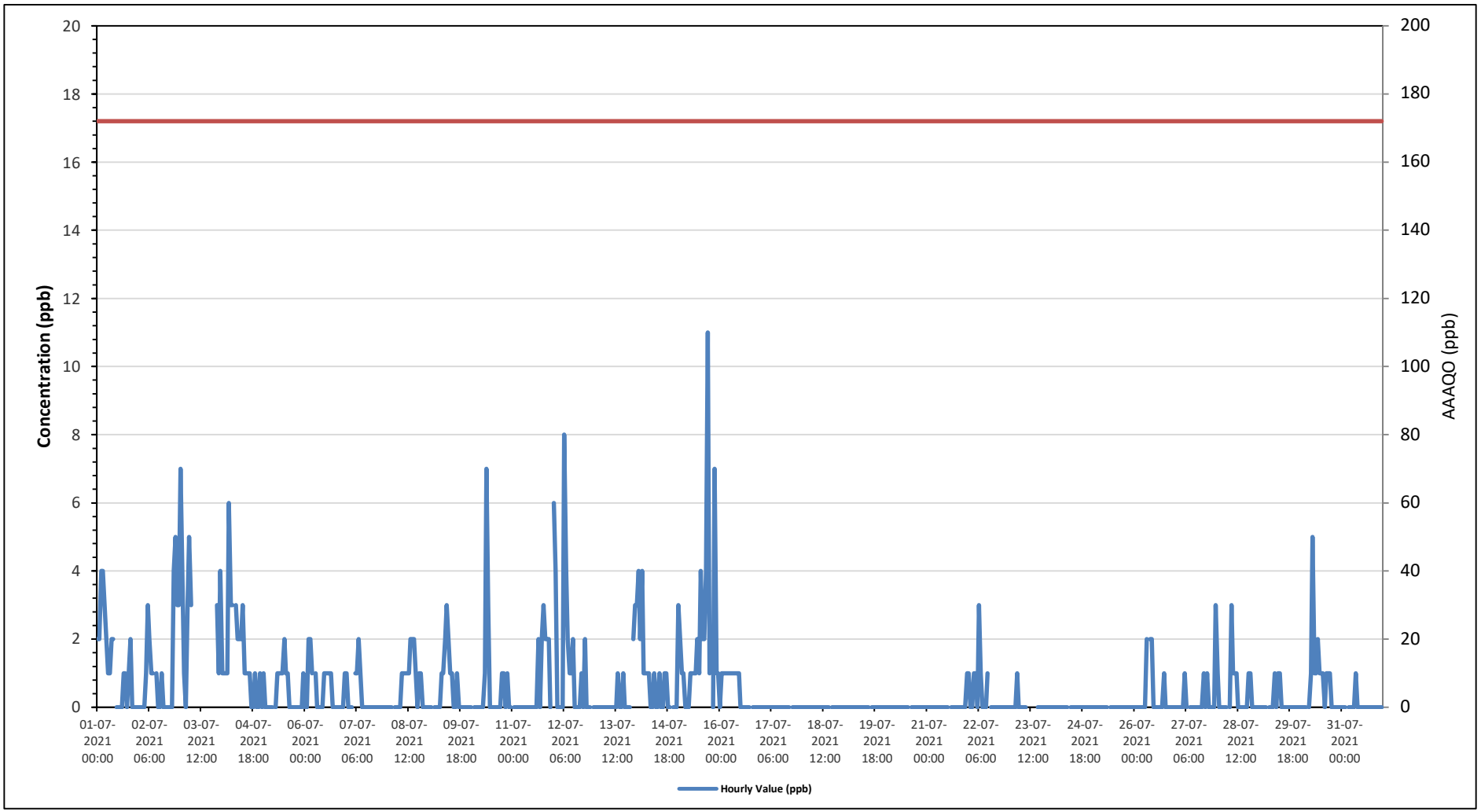
Maximum Hourly Value:	11	ppb	on July 15 at hour 17	Hours in Service:	744
Maximum Daily Value:	2.0	ppb	on July 15	Hours of Data:	694
Minimum Hourly Value:	0	ppb	on July 1 at hour 11	Hours of Missing Data:	13
Minimum Daily Value:	0.0	ppb	on July 17	Hours of Calibration:	37
Monthly Average:	0.5	ppb		Operational Uptime:	98.3

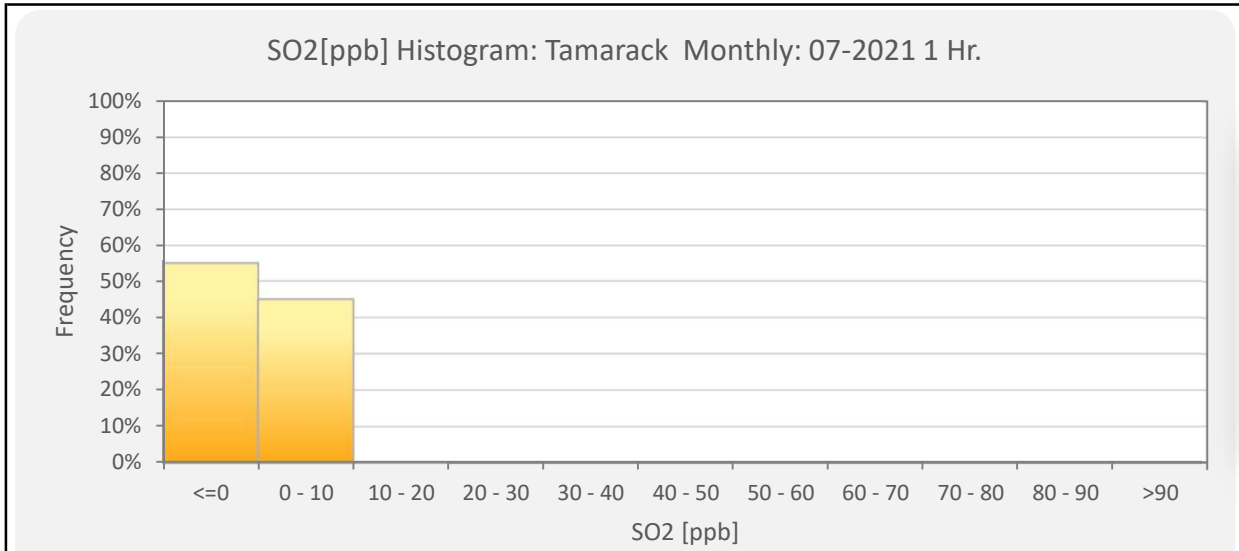
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	2	2	4	4	3	2	1	1	2	2	S	0	0	0	0	1	1	0	1	2	0	0	0	0	0	4	1.2
Jul 2	0	0	0	0	1	3	2	1	1	S	1	0	0	1	0	0	0	0	0	0	4	5	3	3	0	5	1.1
Jul 3	7	4	1	0	3	5	3	X	X	X	X	X	X	X	X	X	X	X	X	X	S	3	1	4	0	7	-
Jul 4	1	1	1	1	6	3	3	S	3	2	2	2	3	1	1	1	1	0	0	1	0	0	1	0	0	6	1.5
Jul 5	1	0	0	0	0	0	S	0	1	1	1	1	2	1	1	0	0	0	0	0	0	0	0	1	0	2	0.4
Jul 6	0	0	2	2	1	S	1	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	1	0	2	0.5
Jul 7	1	0	0	0	S	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.3
Jul 8	0	0	0	S	0	0	0	0	1	1	1	1	1	2	2	2	1	0	1	1	0	0	0	0	0	2	0.6
Jul 9	0	0	S	0	0	0	0	1	1	2	3	2	1	1	0	0	1	0	0	0	0	0	0	0	0	3	0.5
Jul 10	0	S	0	0	0	0	0	0	1	7	3	0	0	0	0	0	0	0	1	1	0	1	0	0	0	7	0.6
Jul 11	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	3	2	2	2	0	S	0	3	0.6
Jul 12	6	4	0	0	0	0	8	4	2	1	1	2	0	0	0	0	1	0	2	0	0	0	S	0	0	8	1.3
Jul 13	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	S	2	3	0	3	0.3
Jul 14	3	4	2	4	1	1	1	1	0	0	1	0	0	1	0	0	1	1	0	0	S	0	0	0	0	4	0.9
Jul 15	3	2	1	1	0	0	0	1	1	1	1	2	1	4	2	2	4	**11**	1	S	0	7	1	1	0	**11**	**2.0**
Jul 16	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	S	0	0	0	0	0	0	1	0.5
Jul 17	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
Jul 18	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
Jul 19	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
Jul 20	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
Jul 21	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	0	1	0.0
Jul 22	1	0	0	1	1	0	3	1	0	0	0	1	S	0	0	0	0	0	0	0	0	0	0	0	0	3	0.3
Jul 23	0	0	0	0	1	0	0	0	0	0	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	1	0.1
Jul 24	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
Jul 25	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
Jul 26	0	0	0	0	0	0	0	2	S	2	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0.3
Jul 27	0	0	0	0	0	1	0	S	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	3	0	3	0.3
Jul 28	1	0	0	0	0	0	S	0	3	1	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	3	0.4
Jul 29	0	0	0	0	0	S	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Jul 30	0	0	0	0	S	0	1	5	1	1	2	1	1	1	0	1	1	1	0	0	0	0	0	0	0	5	0.7
Jul 31	0	0	0	S	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Diurnal Maximum	7	4	4	4	6	5	8	5	3	7	3	2	3	4	2	2	4	11	3	2	4	7	3	4			
Daiurnal Average	0.9	0.6	0.4	0.5	0.6	0.6	0.9	0.7	0.7	0.8	0.7	0.6	0.4	0.5	0.3	0.4	0.4	0.6	0.4	0.3	0.2	0.6	0.3	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 - Tamarack Site

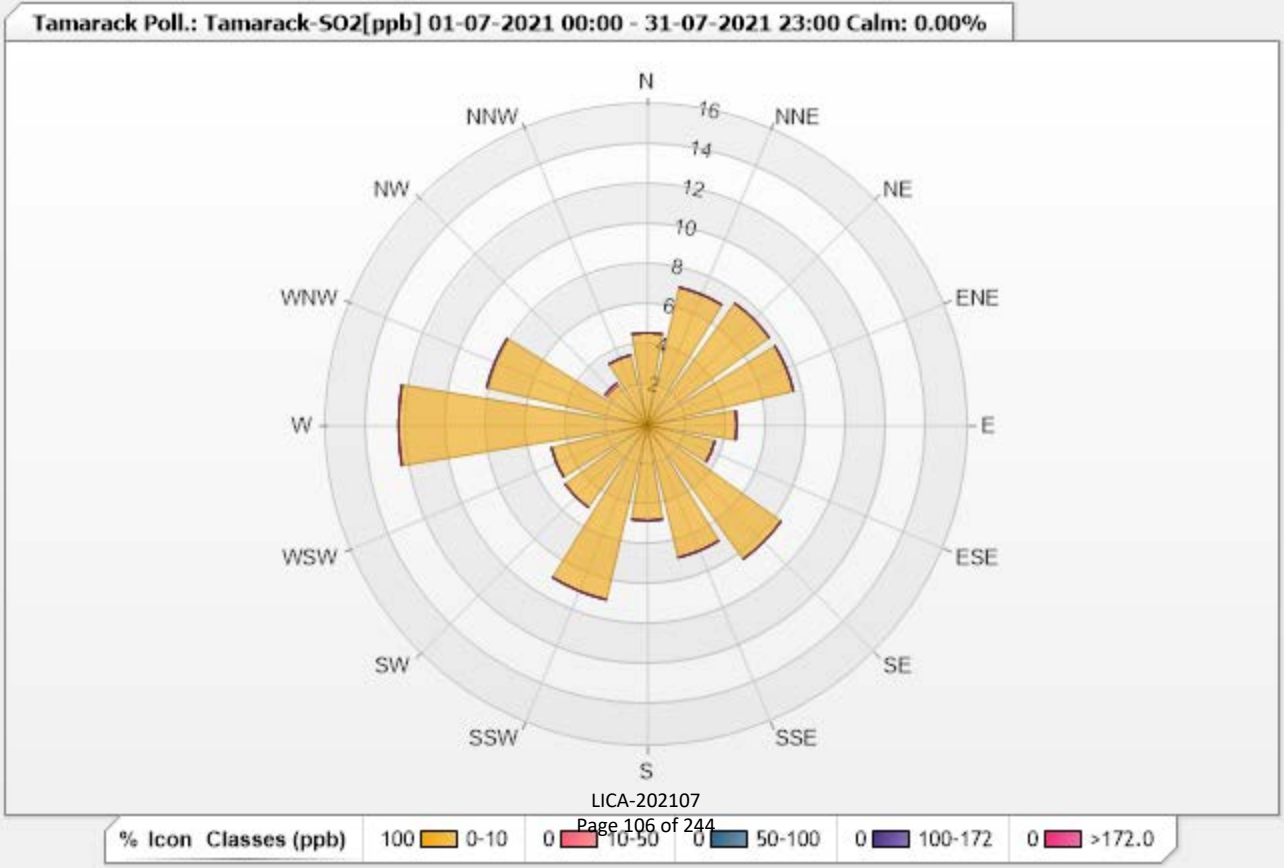




Classes	SO2
<=0	54.90%
0 - 10	44.96%
10 - 20	0.14%
20 - 30	0.00%
30 - 40	0.00%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Tamarack Poll.: Tamarack-SO2[ppb] Monthly: 07-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.28% Calm Avg: 0.00 [ppb]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	4.61	0	0	0	0	4.61
NNE	7.06	0	0	0	0	7.06
NE	7.49	0	0	0	0	7.49
ENE	7.49	0	0	0	0	7.49
E	4.47	0	0	0	0	4.47
ESE	3.46	0	0	0	0	3.46
SE	8.21	0	0	0	0	8.21
SSE	6.77	0	0	0	0	6.77
S	4.76	0	0	0	0	4.76
SSW	8.93	0	0	0	0	8.93
SW	5.04	0	0	0	0	5.04
WSW	4.9	0	0	0	0	4.9
W	12.39	0	0	0	0	12.39
WNW	8.21	0	0	0	0	8.21
NW	2.45	0.14	0	0	0	2.59
NNW	3.6	0	0	0	0	3.6
Summary	100	0.14	0	0	0	100


Tamarack Poll.: Tamarack-SO2[ppb] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
2
% Icon Classes (ppb)
100 0-10
0 10-50
0 50-100
0 100-172
0 >172.0

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - July 2021

Summary of Hourly Averages

HYDROGEN SULPHIDE (H_2S) in ppb

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

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

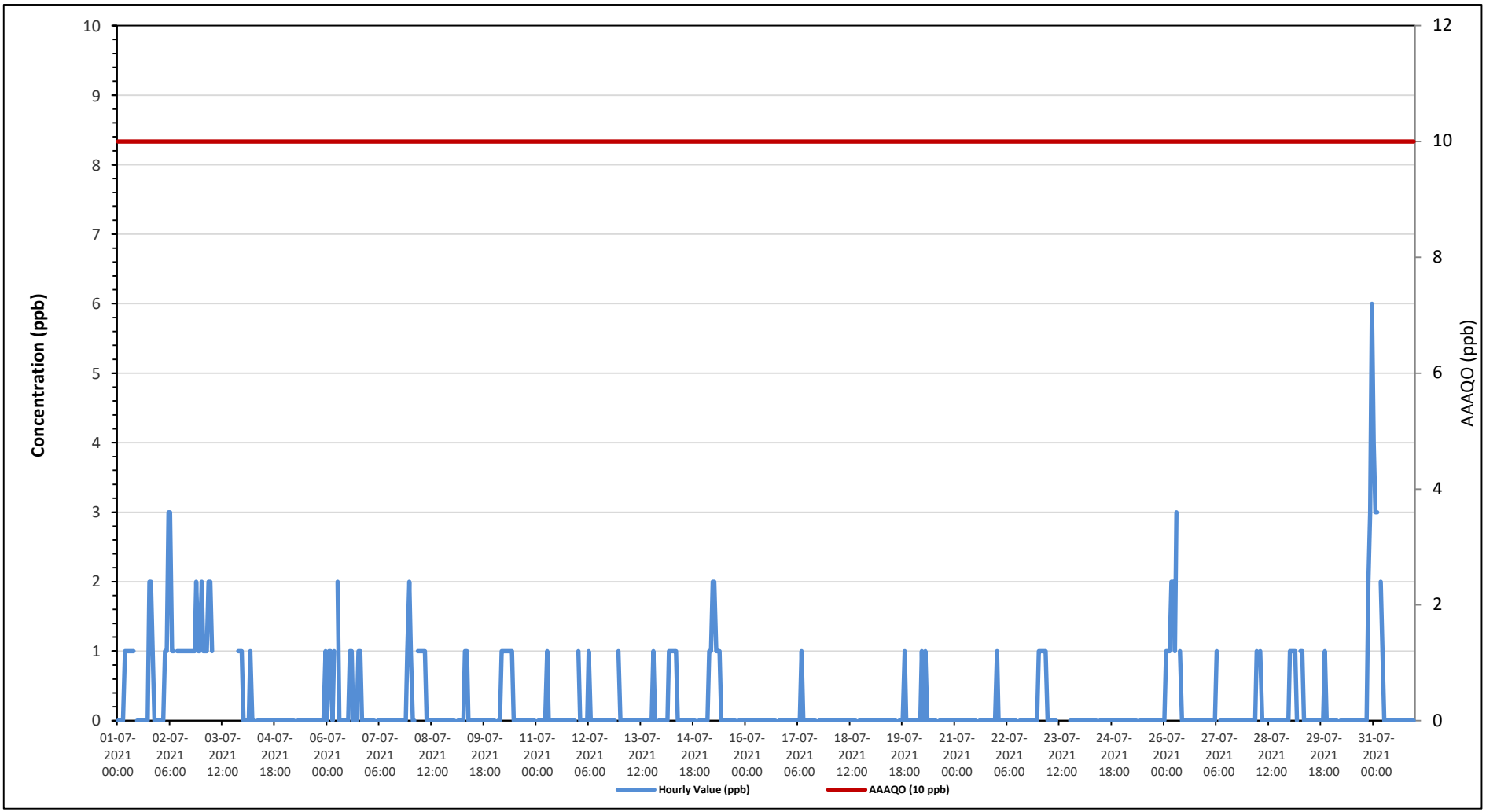
Maximum Hourly Value:	6	ppb	on July 30 at hour 23	Hours in Service:	744
Maximum Daily Value:	1.1	ppb	on July 2	Hours of Data:	694
Minimum Hourly Value:	0	ppb	on July 1 at hour 0	Hours of Missing Data:	13
Minimum Daily Value:	0.0	ppb	on July 16	Hours of Calibration:	37
Monthly Average:	0.2	ppb		Operational Uptime:	98.3

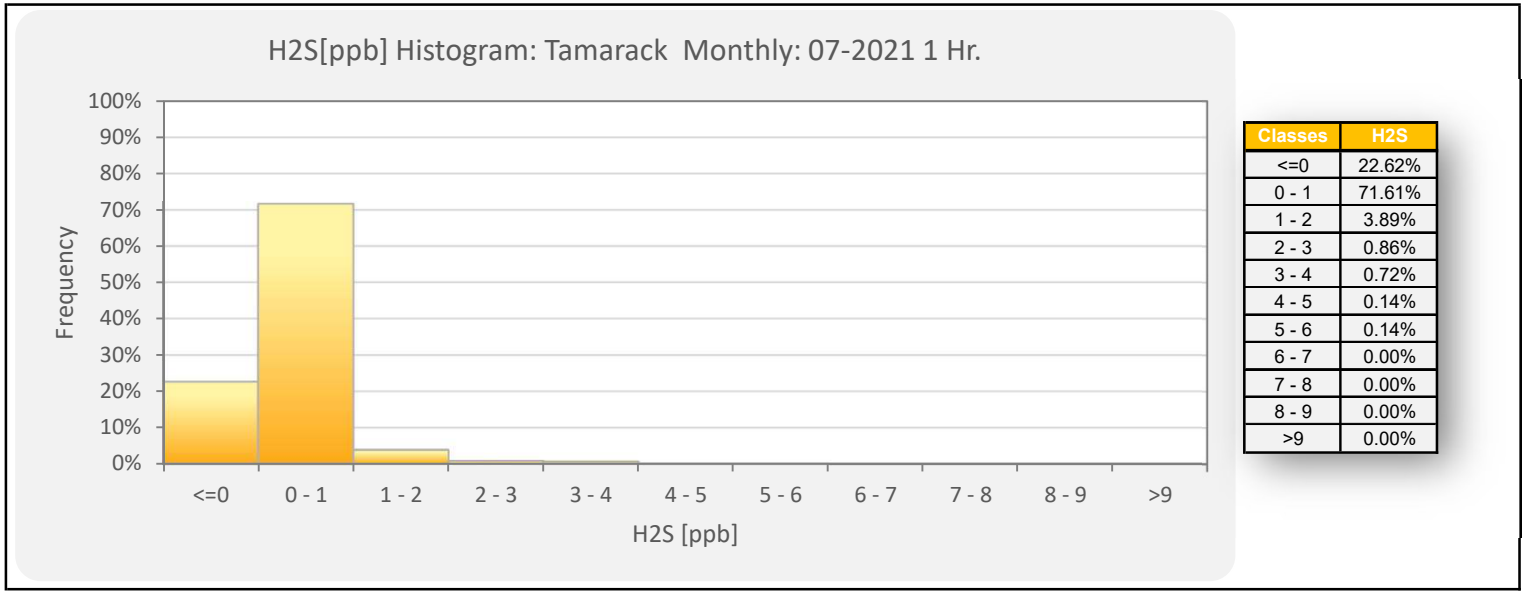
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	0	0	0	0	1	1	1	1	1	1	S	0	0	0	0	0	0	0	2	2	1	0	0	0	0	2	0.5
Jul 2	0	0	0	1	1	3	3	1	1	S	1	1	1	1	1	1	1	1	1	1	1	2	1	1	0	3	**1.1**
Jul 3	2	1	1	1	2	2	1	X	X	X	X	X	X	X	X	X	X	X	X	X	S	1	1	1	1	2	-
Jul 4	0	0	0	0	1	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Jul 5	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.0
Jul 6	0	1	1	0	1	S	2	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	2	0.4
Jul 7	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	2	0.1
Jul 8	1	0	0	S	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3
Jul 9	0	0	S	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Jul 10	0	S	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3
Jul 11	S	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0.0
Jul 12	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	0	1	0.1
Jul 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	S	0	0	0	1	0.0
Jul 14	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	1	0.2
Jul 15	0	0	0	1	1	2	2	1	1	1	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	2	0.4
Jul 16	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
Jul 17	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	1	0.0
Jul 18	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
Jul 19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	1	0	0	0	0	0	1	0.0
Jul 20	0	0	0	0	0	1	0	1	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	1	0.1
Jul 21	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
Jul 22	1	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Jul 23	1	1	1	1	1	0	0	0	0	0	0	S	0	C	C	C	C	C	0	0	0	0	0	0	0	1	0.3
Jul 24	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
Jul 25	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
Jul 26	0	1	1	1	2	2	1	3	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.5
Jul 27	0	0	0	0	0	0	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Jul 28	0	0	0	0	0	1	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Jul 29	1	1	1	1	0	S	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0.3
Jul 30	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	**6**	0	**6**	0.5
Jul 31	4	3	3	S	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0.6
Diurnal Maximum	4	3	3	1	2	3	3	3	1	1	1	1	1	1	1	1	1	1	2	2	1	2	3	6			
Diurnal Average	0.4	0.3	0.3	0.2	0.5	0.6	0.6	0.5	0.3	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.2	0.1	0.2	0.2	0.4			

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

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

Timeseries Chart of Hourly Average for H2S - Tamarack Site

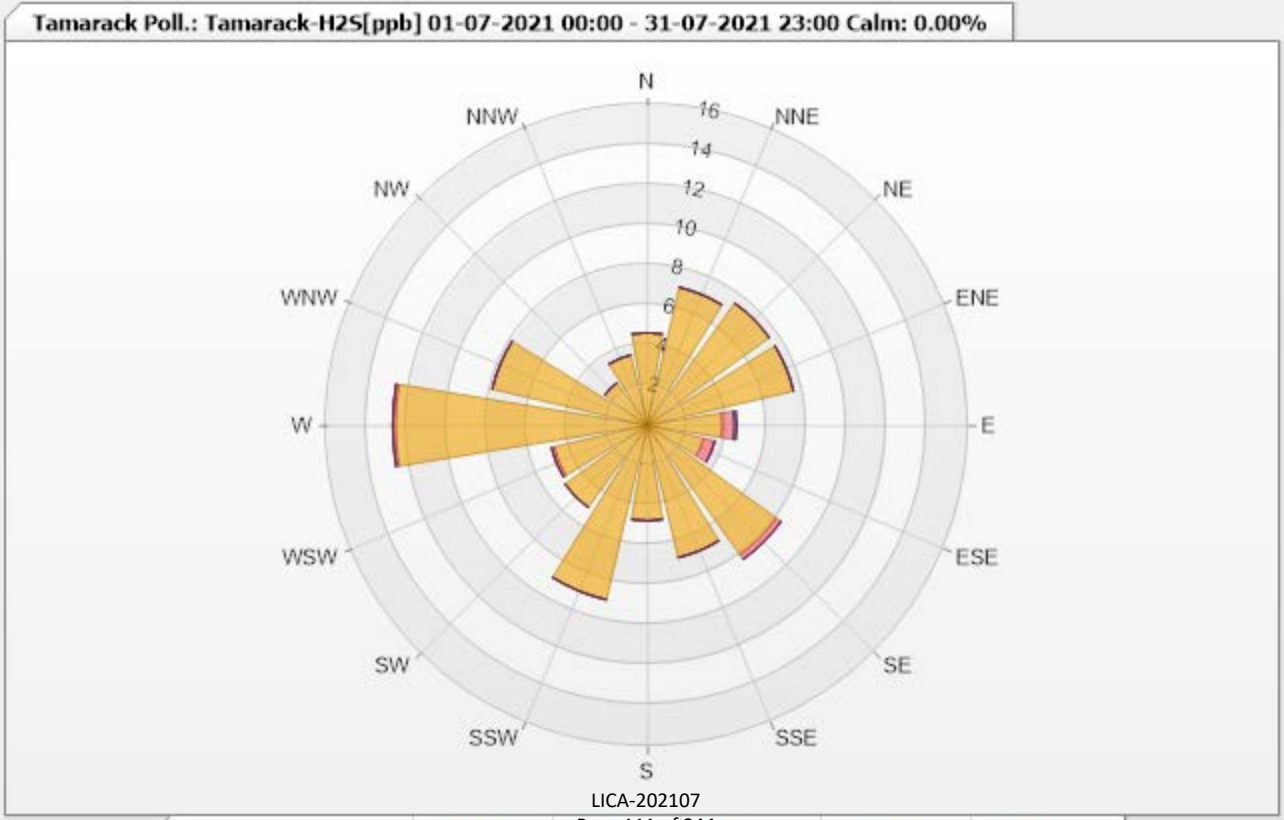




Classes	H2S
<=0	22.62%
0 - 1	71.61%
1 - 2	3.89%
2 - 3	0.86%
3 - 4	0.72%
4 - 5	0.14%
5 - 6	0.14%
6 - 7	0.00%
7 - 8	0.00%
8 - 9	0.00%
>9	0.00%

Wind: Tamarack Poll.: Tamarack-H2S[ppb] Monthly: 07-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.28% Calm Avg: 0.00 [ppb]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	4.61	0	0	0	0	4.61
NNE	7.06	0	0	0	0	7.06
NE	7.49	0	0	0	0	7.49
ENE	7.49	0	0	0	0	7.49
E	3.75	0.58	0.14	0	0	4.47
ESE	2.88	0.58	0	0	0	3.46
SE	7.93	0.29	0	0	0	8.22
SSE	6.77	0	0	0	0	6.77
S	4.76	0	0	0	0	4.76
SSW	8.93	0	0	0	0	8.93
SW	5.04	0	0	0	0	5.04
WSW	4.76	0.14	0	0	0	4.9
W	12.54	0.14	0	0	0	12.68
WNW	7.93	0	0	0	0	7.93
NW	2.59	0	0	0	0	2.59
NNW	3.6	0	0	0	0	3.6
Summary	98.13	1.73	0.14	0	0	100


Tamarack Poll.: Tamarack-H2S[ppb] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
2
% Icon Classes (ppb)
98 0-2
2 2-5
0 5-10
0 10-50
0 >50.0

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - July 2021

Summary of Hourly Averages

OXIDES OF NITROGEN (NOx) in ppb

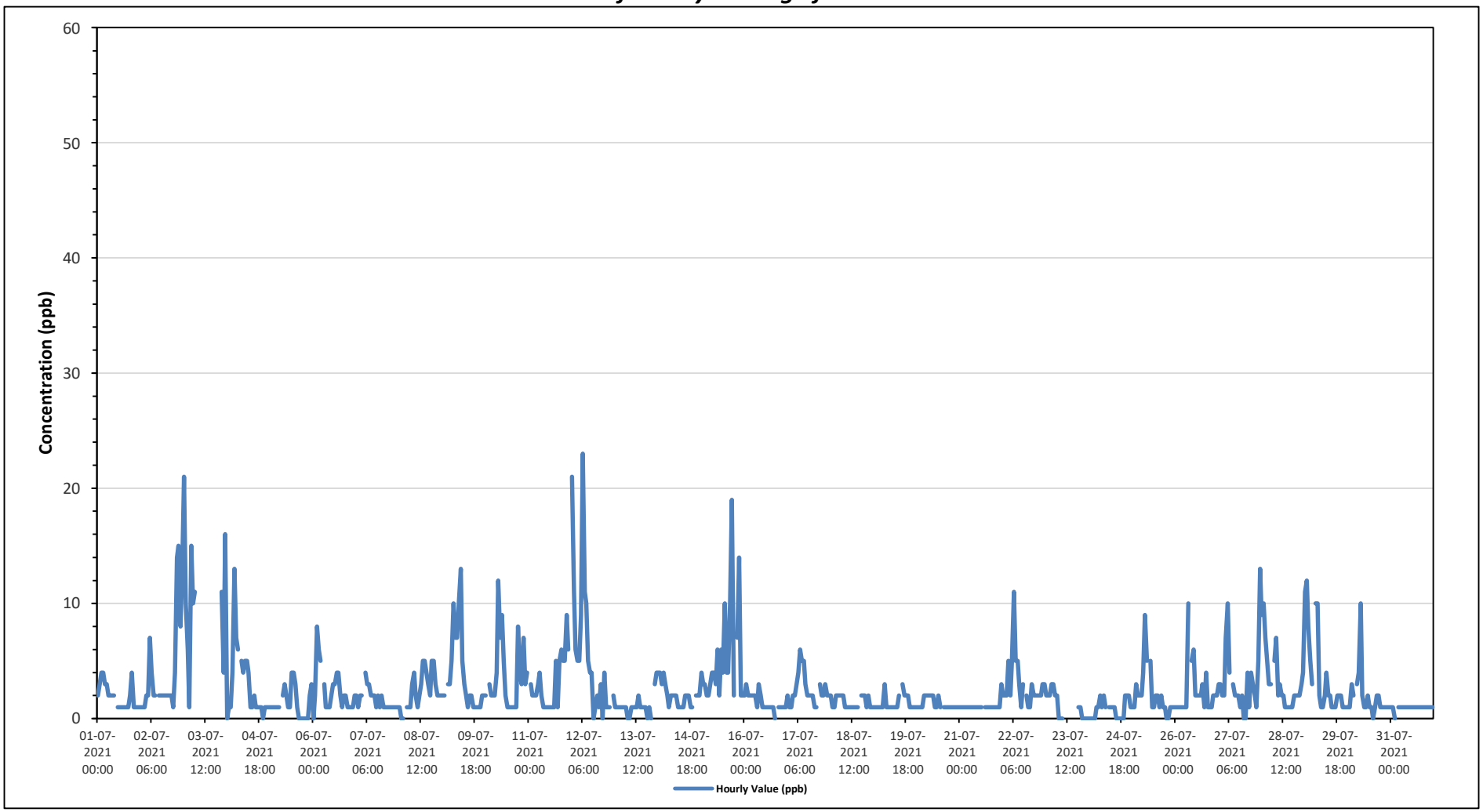
Maximum Hourly Value:	23	ppb	on July 12 at hour 6	Hours in Service:	744
Maximum Daily Value:	5.7	ppb	on July 12	Hours of Data:	692
Minimum Hourly Value:	0	ppb	on July 4 at hour 0	Hours of Missing Data:	13
Minimum Daily Value:	0.8	ppb	on July 24	Hours of Calibration:	39
Monthly Average:	2.6	ppb		Operational Uptime:	98.3

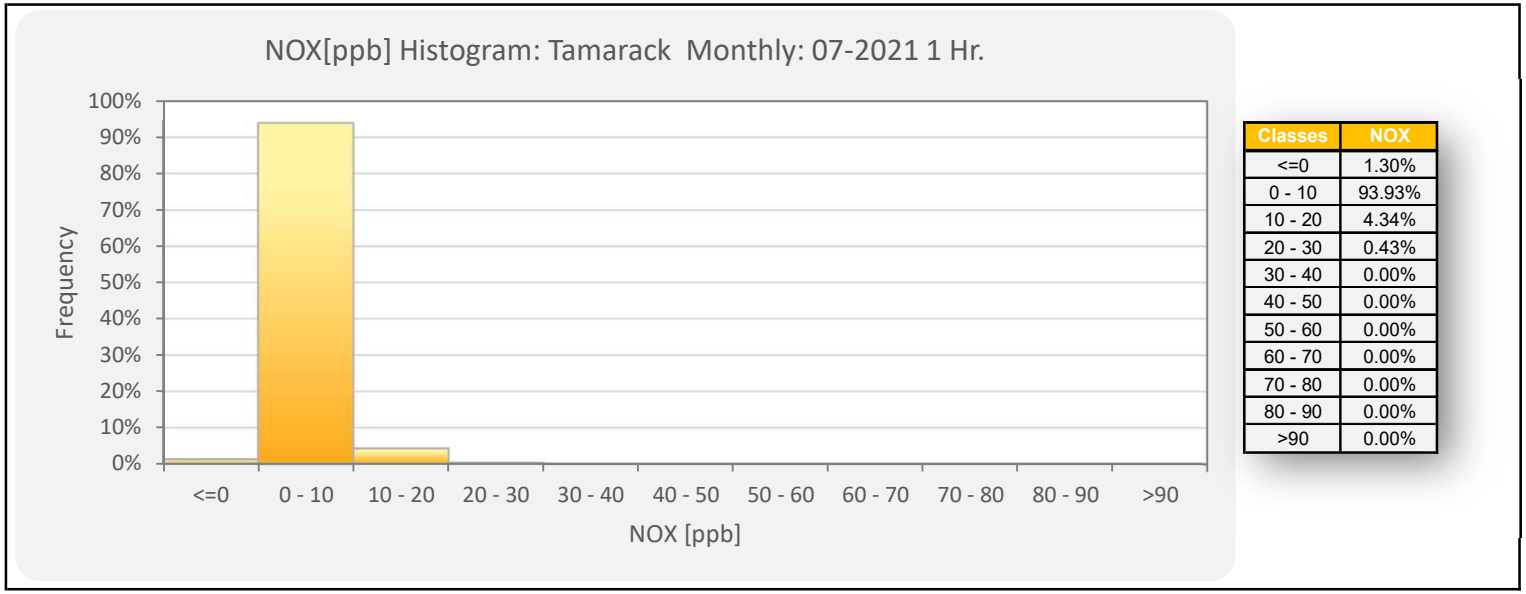
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	2	3	4	4	3	3	2	2	2	2	S	1	1	1	1	1	1	1	2	4	1	1	1	1	1	4	1.9
Jul 2	1	1	1	2	2	7	4	2	2	S	2	2	2	2	2	2	2	2	1	4	14	15	8	13	1	15	4.0
Jul 3	21	10	6	1	15	10	11	X	X	X	X	X	X	X	X	X	X	X	X	X	S	11	4	16	1	21	-
Jul 4	0	1	1	4	13	7	6	S	5	4	5	5	4	1	1	2	1	1	1	1	0	1	1	1	0	13	2.9
Jul 5	1	1	1	1	1	1	S	2	3	2	1	1	4	4	3	1	0	0	0	0	0	0	2	3	0	4	1.4
Jul 6	0	2	8	6	5	S	3	1	1	1	2	3	3	4	4	2	1	2	2	1	1	1	1	2	0	8	2.4
Jul 7	2	1	2	2	S	4	3	3	2	2	2	1	2	1	2	1	1	1	1	1	1	1	1	1	1	4	1.7
Jul 8	1	0	0	S	1	1	1	3	4	2	1	2	3	5	5	4	3	2	5	5	3	2	2	2	0	5	2.5
Jul 9	2	2	S	3	3	5	10	7	7	10	13	5	3	2	1	2	2	1	1	1	1	1	2	2	1	13	3.7
Jul 10	2	S	3	2	2	2	4	12	7	9	5	2	1	1	1	1	1	1	8	4	3	7	3	4	1	12	3.7
Jul 11	S	3	2	2	2	3	4	2	1	1	1	1	1	1	1	5	1	5	6	5	5	9	6	S	1	9	3.0
Jul 12	21	11	6	5	5	9	23	11	10	5	4	4	0	1	2	1	3	0	4	1	1	1	S	2	0	23	5.7
Jul 13	1	1	1	1	1	1	1	0	0	1	1	1	1	2	1	1	1	1	0	1	0	S	3	4	0	4	1.1
Jul 14	4	4	3	4	3	2	1	2	2	2	2	1	1	1	1	2	2	2	1	1	S	2	2	2	1	4	2.0
Jul 15	4	3	3	2	2	3	4	4	3	6	2	6	4	10	4	4	10	19	2	S	7	14	2	2	2	19	5.2
Jul 16	2	3	2	2	2	2	2	1	3	2	1	1	1	1	1	1	1	0	S	1	1	1	1	1	0	3	1.4
Jul 17	2	1	1	2	2	3	4	6	5	5	3	2	2	2	2	1	1	S	3	2	2	3	2	2	1	6	2.5
Jul 18	2	1	1	2	2	2	2	2	1	1	1	1	1	1	1	1	S	2	2	2	1	2	1	1	1	2	1.4
Jul 19	1	1	1	1	1	1	3	1	1	1	1	1	1	1	2	S	3	2	2	2	1	1	1	1	1	3	1.3
Jul 20	1	1	1	1	2	2	2	2	2	2	1	1	2	1	S	1	1	1	1	1	1	1	1	1	1	2	1.3
Jul 21	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	3	1	3	1.1
Jul 22	2	2	2	5	2	5	11	5	5	3	1	3	S	2	1	1	3	2	2	2	2	2	3	3	1	11	3.0
Jul 23	2	2	2	3	3	2	2	0	0	0	C	C	C	C	C	C	C	C	1	1	0	0	0	0	0	3	-
Jul 24	0	0	0	0	1	1	2	1	2	1	S	1	1	1	1	0	0	0	0	0	2	2	2	1	0	2	0.8
Jul 25	1	1	3	2	2	2	4	9	5	S	5	1	1	2	2	1	2	1	1	0	0	1	1	1	0	9	2.1
Jul 26	1	1	1	1	1	1	1	10	S	5	6	2	2	2	2	3	1	4	1	1	1	2	2	2	1	10	2.3
Jul 27	3	3	2	2	7	10	4	S	3	2	2	2	1	2	0	0	4	1	4	3	2	1	5	13	0	13	3.3
Jul 28	9	10	7	5	3	3	S	5	7	2	3	2	2	1	1	1	1	1	2	2	2	2	3	4	1	10	3.4
Jul 29	11	12	8	5	3	S	10	10	2	1	1	2	4	2	2	1	1	1	2	2	2	1	1	1	1	12	3.7
Jul 30	1	1	3	2	S	3	4	10	2	1	1	2	1	1	0	1	2	2	1	1	1	1	1	1	0	10	1.9
Jul 31	1	1	0	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1.0
Diurnal Maximum	21	12	8	6	15	10	23	12	10	10	13	6	4	10	5	5	10	19	8	5	14	15	8	16			
Daiurnal Average	3.4	2.8	2.5	2.5	3.1	3.3	4.5	4.1	3.1	2.7	2.6	2.0	1.8	2.0	1.6	1.5	1.8	2.0	2.0	1.8	2.0	2.9	2.1	3.0			

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

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

Timeseries Chart of Hourly Average for NOx - Tamarack Site

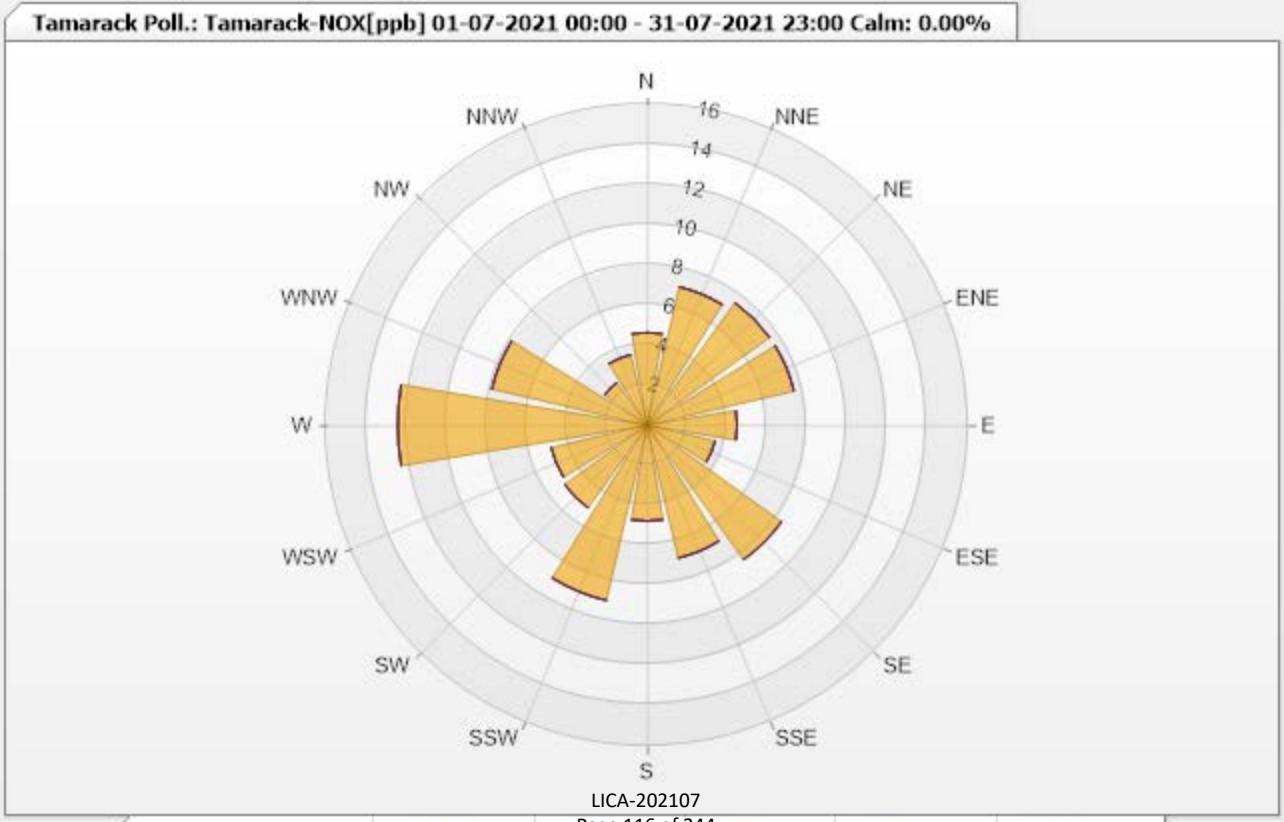




Classes	NOX
<=0	1.30%
0 - 10	93.93%
10 - 20	4.34%
20 - 30	0.43%
30 - 40	0.00%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Tamarack Poll.: Tamarack-NOX[ppb] Monthly: 07-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.01% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	4.62	0	0	0	0	4.62
NNE	7.08	0	0	0	0	7.08
NE	7.51	0	0	0	0	7.51
ENE	7.51	0	0	0	0	7.51
E	4.48	0	0	0	0	4.48
ESE	3.47	0	0	0	0	3.47
SE	8.24	0	0	0	0	8.24
SSE	6.79	0	0	0	0	6.79
S	4.77	0	0	0	0	4.77
SSW	8.96	0	0	0	0	8.96
SW	5.06	0	0	0	0	5.06
WSW	4.91	0	0	0	0	4.91
W	12.43	0	0	0	0	12.43
WNW	7.95	0	0	0	0	7.95
NW	2.6	0	0	0	0	2.6
NNW	3.61	0	0	0	0	3.61
Summary	100	0	0	0	0	100


Tamarack Poll.: Tamarack-NOX[ppb] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
2
% Icon Classes (ppb)
100 0-30
0 30-50
0 50-76
0 76-159
0 >159.0

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - July 2021

Summary of Hourly Averages

NITRIC OXIDE (NO) in ppb

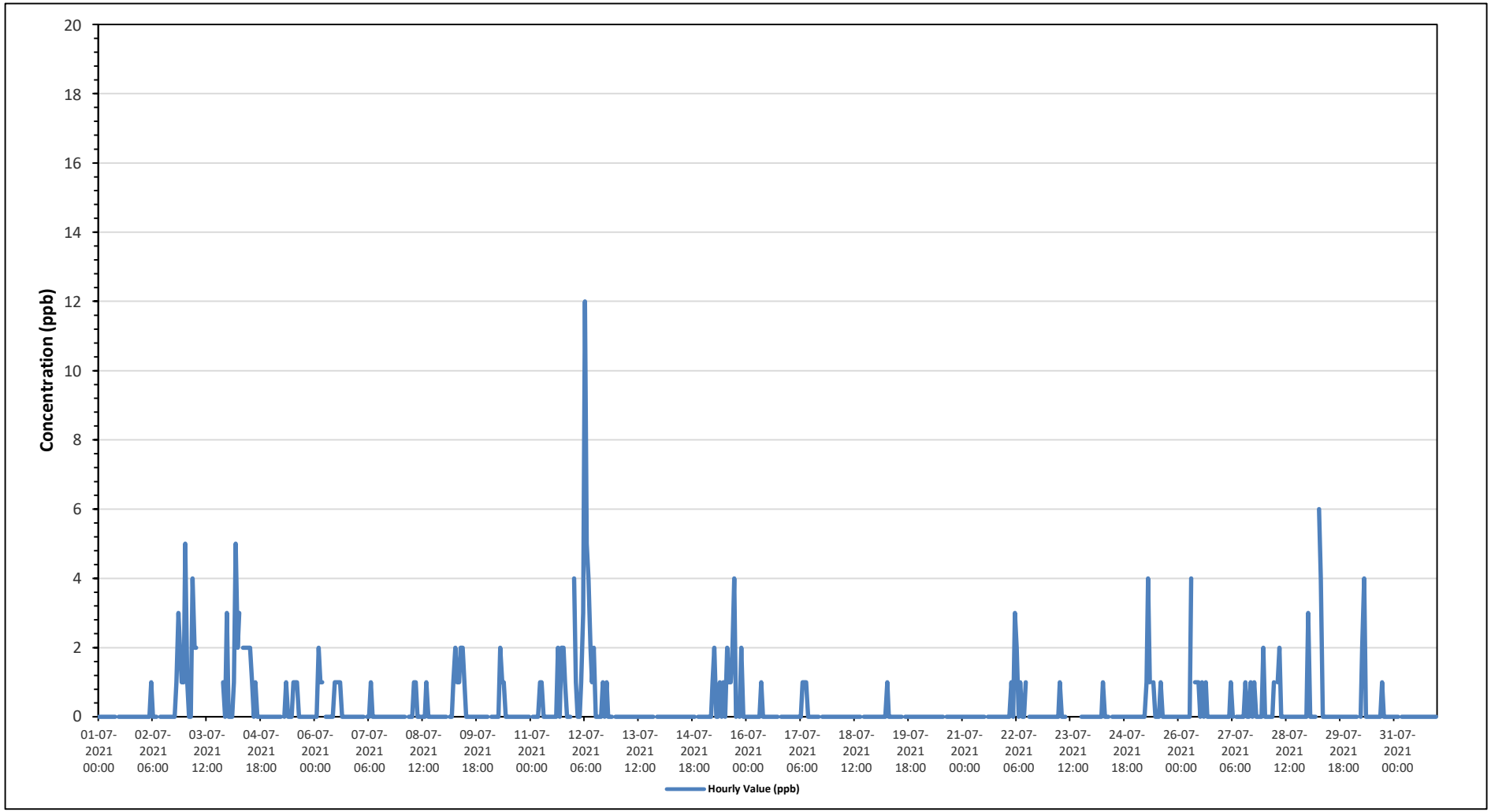
Maximum Hourly Value:	12	ppb	on July 12 at hour 6	Hours in Service:	744
Maximum Daily Value:	1.6	ppb	on July 12	Hours of Data:	692
Minimum Hourly Value:	0	ppb	on July 1 at hour 0	Hours of Missing Data:	13
Minimum Daily Value:	0.0	ppb	on July 1	Hours of Calibration:	39
Monthly Average:	0.3	ppb		Operational Uptime:	98.3

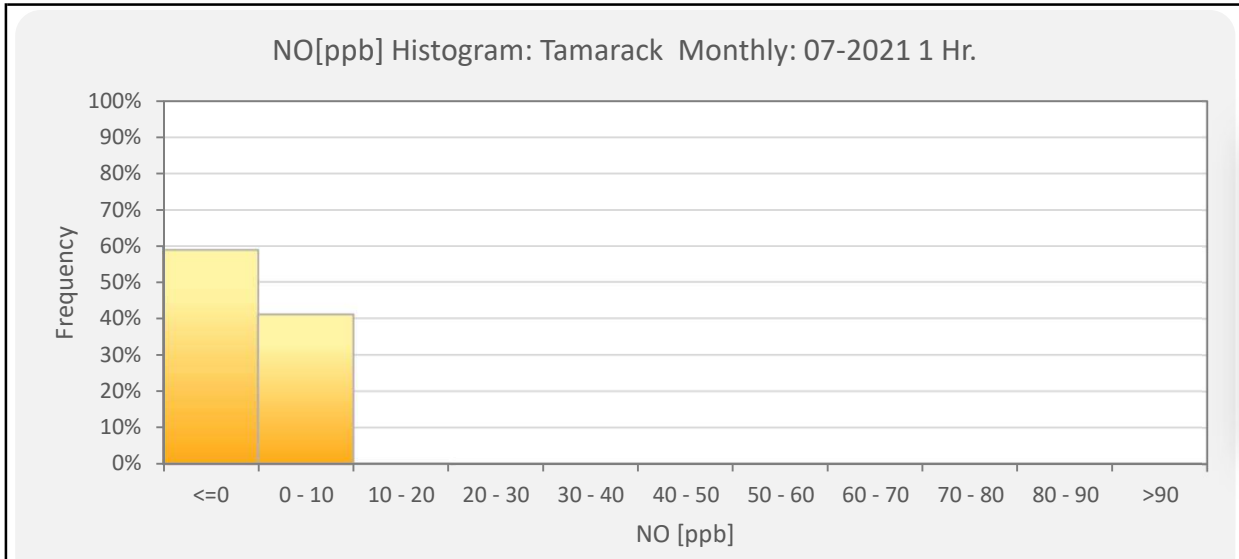
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Jul 2	0	0	0	0	0	1	0	0	0	S	0	0	0	0	0	0	0	0	0	1	3	2	1	1	0	3	0.4
Jul 3	5	1	0	0	4	2	2	X	X	X	X	X	X	X	X	X	X	X	X	X	S	1	0	3	0	5	-
Jul 4	0	0	0	1	5	2	3	S	2	2	2	2	2	1	0	1	0	0	0	0	0	0	0	0	0	5	1.0
Jul 5	0	0	0	0	0	0	S	0	1	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0.2
Jul 6	0	0	2	1	1	S	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	2	0.3
Jul 7	0	0	0	0	S	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Jul 8	0	0	0	S	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.1
Jul 9	0	0	S	0	0	1	2	1	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.4
Jul 10	0	S	0	0	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2
Jul 11	S	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2	0	2	2	1	0	0	0	S	0	2	0.4
Jul 12	4	1	0	0	1	3	12	5	4	2	1	2	0	0	0	0	1	0	1	0	0	0	S	0	0	12	1.6
Jul 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0.0
Jul 14	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
Jul 15	0	0	0	0	0	1	2	0	0	1	0	1	0	2	1	1	2	4	0	S	0	2	0	0	0	4	0.7
Jul 16	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	1	0.0
Jul 17	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	1	0.1
Jul 18	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
Jul 19	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	0.0
Jul 20	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
Jul 21	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
Jul 22	0	0	0	1	0	3	2	0	1	0	0	1	S	0	0	0	0	0	0	0	0	0	0	0	0	3	0.3
Jul 23	0	0	0	0	0	0	1	0	0	0	C	C	C	C	C	C	C	C	0	0	0	0	0	0	0	1	-
Jul 24	0	0	0	0	0	0	1	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Jul 25	0	0	0	0	0	0	1	4	1	S	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4	0.3
Jul 26	0	0	0	0	0	0	0	4	S	1	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0	4	0.4
Jul 27	0	0	0	0	0	1	0	S	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	2	0	2	0.3
Jul 28	0	0	0	0	0	1	S	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2
Jul 29	3	0	0	0	0	S	6	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0.6
Jul 30	0	0	0	0	S	0	2	4	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	4	0.3
Jul 31	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	5	1	2	1	5	3	12	5	4	2	2	2	2	2	1	2	2	4	2	1	3	2	1	3			
Daiurnal Average	0.4	0.1	0.1	0.1	0.4	0.6	1.2	1.0	0.6	0.4	0.3	0.3	0.1	0.3	0.2	0.2	0.1	0.3	0.1	0.1	0.1	0.2	0.0	0.2			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	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 NO - Tamarack Site

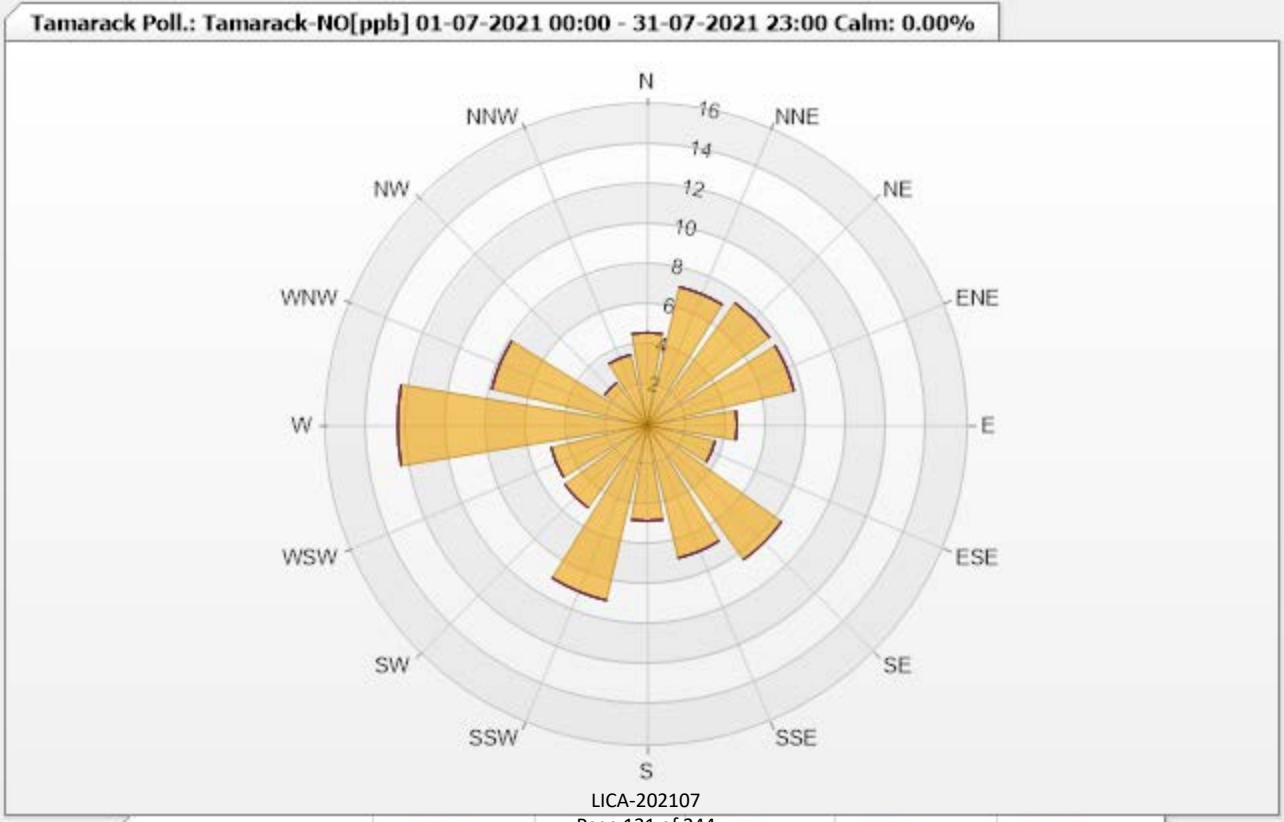




Classes	NO
<=0	58.82%
0 - 10	41.04%
10 - 20	0.14%
20 - 30	0.00%
30 - 40	0.00%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Tamarack Poll.: Tamarack-NO[ppb] Monthly: 07-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.01% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	4.62	0	0	0	0	4.62
NNE	7.08	0	0	0	0	7.08
NE	7.51	0	0	0	0	7.51
ENE	7.51	0	0	0	0	7.51
E	4.48	0	0	0	0	4.48
ESE	3.47	0	0	0	0	3.47
SE	8.24	0	0	0	0	8.24
SSE	6.79	0	0	0	0	6.79
S	4.77	0	0	0	0	4.77
SSW	8.96	0	0	0	0	8.96
SW	5.06	0	0	0	0	5.06
WSW	4.91	0	0	0	0	4.91
W	12.43	0	0	0	0	12.43
WNW	7.95	0	0	0	0	7.95
NW	2.6	0	0	0	0	2.6
NNW	3.61	0	0	0	0	3.61
Summary	100	0	0	0	0	100


Tamarack Poll.: Tamarack-NO[ppb] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
2
% Icon Classes (ppb)
100 0-30
0 30-50
0 50-76
0 76-159
0 >159.0

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - July 2021

Summary of Hourly Averages

NITROGEN DIOXIDE (NO_2) in ppb

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

Number of 1-Hour Exceedences: 0

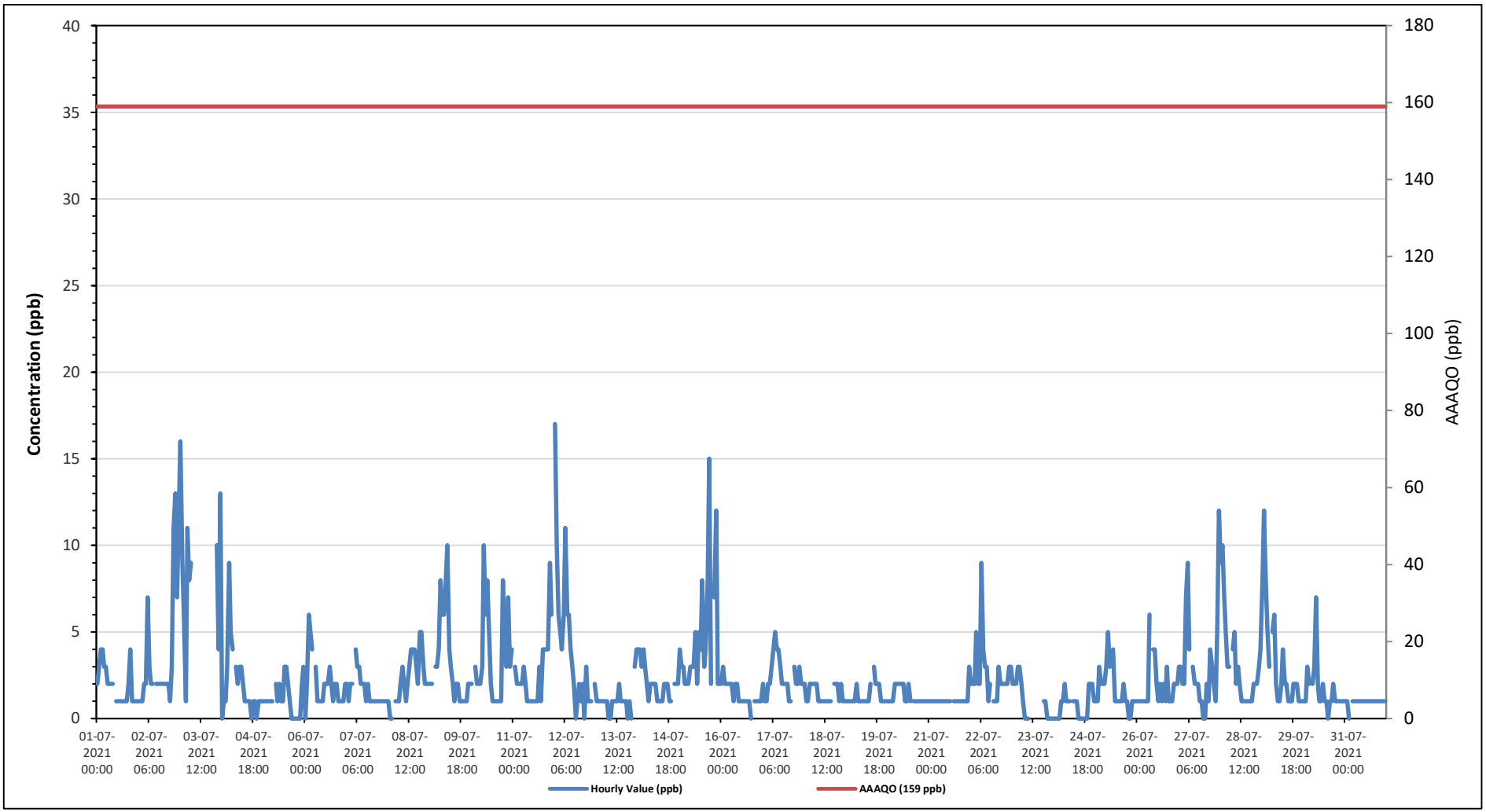
Maximum Hourly Value:	17	ppb	on July 12 at hour 0	Hours in Service:	744
Maximum Daily Value:	4.5	ppb	on July 15	Hours of Data:	692
Minimum Hourly Value:	0	ppb	on July 4 at hour 0	Hours of Missing Data:	13
Minimum Daily Value:	0.7	ppb	on July 24	Hours of Calibration:	39
Monthly Average:	2.3	ppb		Operational Uptime:	98.3

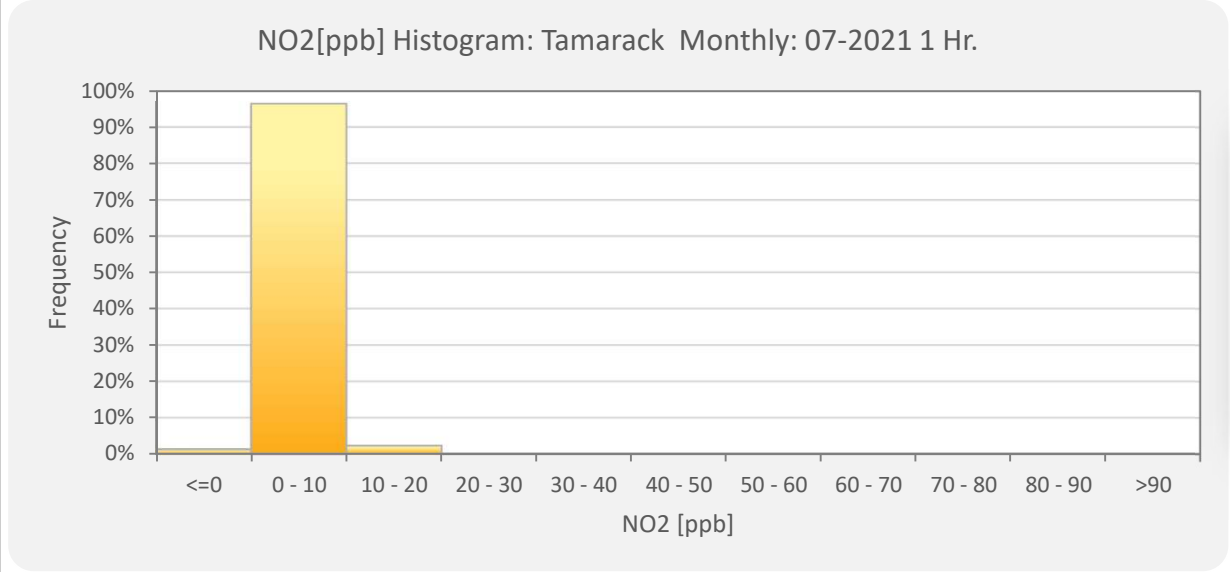
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	2	3	4	4	3	3	2	2	2	2	S	1	1	1	1	1	1	1	2	4	1	1	1	1	1	4	1.9
Jul 2	1	1	1	2	2	7	3	2	2	S	2	2	2	2	2	2	2	2	1	3	11	13	7	12	1	13	3.7
Jul 3	16	9	6	1	11	8	9	X	X	X	X	X	X	X	X	X	X	X	X	X	S	10	4	13	1	16	-
Jul 4	0	1	1	3	9	5	4	S	3	2	3	3	2	1	1	1	1	0	1	1	0	1	1	1	0	9	2.0
Jul 5	1	1	1	1	1	1	S	2	1	2	1	1	3	3	2	1	0	0	0	0	0	0	2	3	0	3	1.2
Jul 6	0	2	6	5	4	S	3	1	1	1	1	2	2	2	3	2	1	2	2	1	1	1	1	2	0	6	2.0
Jul 7	2	1	2	2	S	4	3	3	2	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	4	1.6
Jul 8	1	0	0	S	1	1	1	2	3	2	1	2	3	4	4	4	3	2	5	5	3	2	2	2	0	5	2.3
Jul 9	2	2	S	3	3	4	8	6	6	8	10	4	3	2	1	2	2	1	1	1	1	1	2	2	1	10	3.3
Jul 10	2	S	3	2	2	2	3	10	6	8	5	2	1	1	1	1	1	1	8	4	3	7	3	4	1	10	3.5
Jul 11	S	3	2	2	2	2	3	2	1	1	1	1	1	1	1	3	1	4	4	4	4	9	6	S	1	9	2.6
Jul 12	17	10	6	5	4	6	11	6	6	4	3	2	0	1	2	1	2	0	3	1	1	1	S	2	0	17	4.1
Jul 13	1	1	1	1	1	1	1	0	0	1	1	1	1	2	1	1	1	1	0	1	0	S	3	4	0	4	1.1
Jul 14	4	4	3	4	3	2	1	2	2	2	2	1	1	1	1	2	2	2	1	1	S	2	2	2	1	4	2.0
Jul 15	4	3	3	2	2	2	3	3	3	5	2	5	4	8	3	4	8	15	2	S	7	12	2	2	2	15	4.5
Jul 16	2	3	2	2	2	2	2	1	2	2	1	1	1	1	1	1	1	0	S	1	1	1	1	1	0	3	1.4
Jul 17	2	1	1	2	2	3	4	5	4	4	3	2	2	2	2	1	1	S	3	2	2	3	2	2	1	5	2.4
Jul 18	2	1	1	2	2	2	2	2	1	1	1	1	1	1	1	1	S	2	2	2	1	2	1	1	1	2	1.4
Jul 19	1	1	1	1	1	1	2	1	1	1	1	1	1	1	2	S	3	2	2	2	1	1	1	1	1	3	1.3
Jul 20	1	1	1	1	2	2	2	2	2	2	1	1	2	1	S	1	1	1	1	1	1	1	1	1	1	2	1.3
Jul 21	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	3	1	3	1.1
Jul 22	2	2	2	5	2	2	9	4	3	3	1	2	S	1	1	1	3	2	2	2	2	2	3	3	1	9	2.6
Jul 23	2	2	2	3	3	2	1	0	0	0	C	C	C	C	C	C	C	C	1	1	0	0	0	0	0	3	-
Jul 24	0	0	0	0	1	1	2	1	1	1	S	1	1	1	0	0	0	0	0	0	2	2	2	1	0	2	0.7
Jul 25	1	1	3	2	2	2	3	5	3	S	4	1	1	1	1	1	2	1	1	0	0	1	1	1	0	5	1.7
Jul 26	1	1	1	1	1	1	1	6	S	4	4	2	1	2	1	2	1	3	1	1	1	2	2	2	1	6	1.8
Jul 27	3	3	2	2	7	9	4	S	3	2	2	2	1	1	0	0	2	1	4	3	2	1	5	12	0	12	3.1
Jul 28	9	10	7	5	3	3	S	4	5	2	3	2	1	1	1	1	1	1	1	2	2	2	3	4	1	10	3.2
Jul 29	8	12	8	5	3	S	5	6	2	1	1	2	4	2	2	1	1	1	2	2	2	1	1	1	1	12	3.2
Jul 30	1	1	3	2	S	2	3	7	2	1	1	2	1	1	0	1	1	2	1	1	1	1	1	1	0	7	1.6
Jul 31	1	1	0	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1.0
Diurnal Maximum	17	12	8	5	11	9	11	10	6	8	10	5	4	8	4	4	8	15	8	5	11	13	7	13			
Daiurnal Average	3.0	2.7	2.5	2.4	2.8	2.8	3.3	3.1	2.4	2.4	2.2	1.7	1.6	1.7	1.4	1.4	1.6	1.8	1.9	1.7	1.8	2.8	2.1	2.9			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	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 NO2 - Tamarack Site

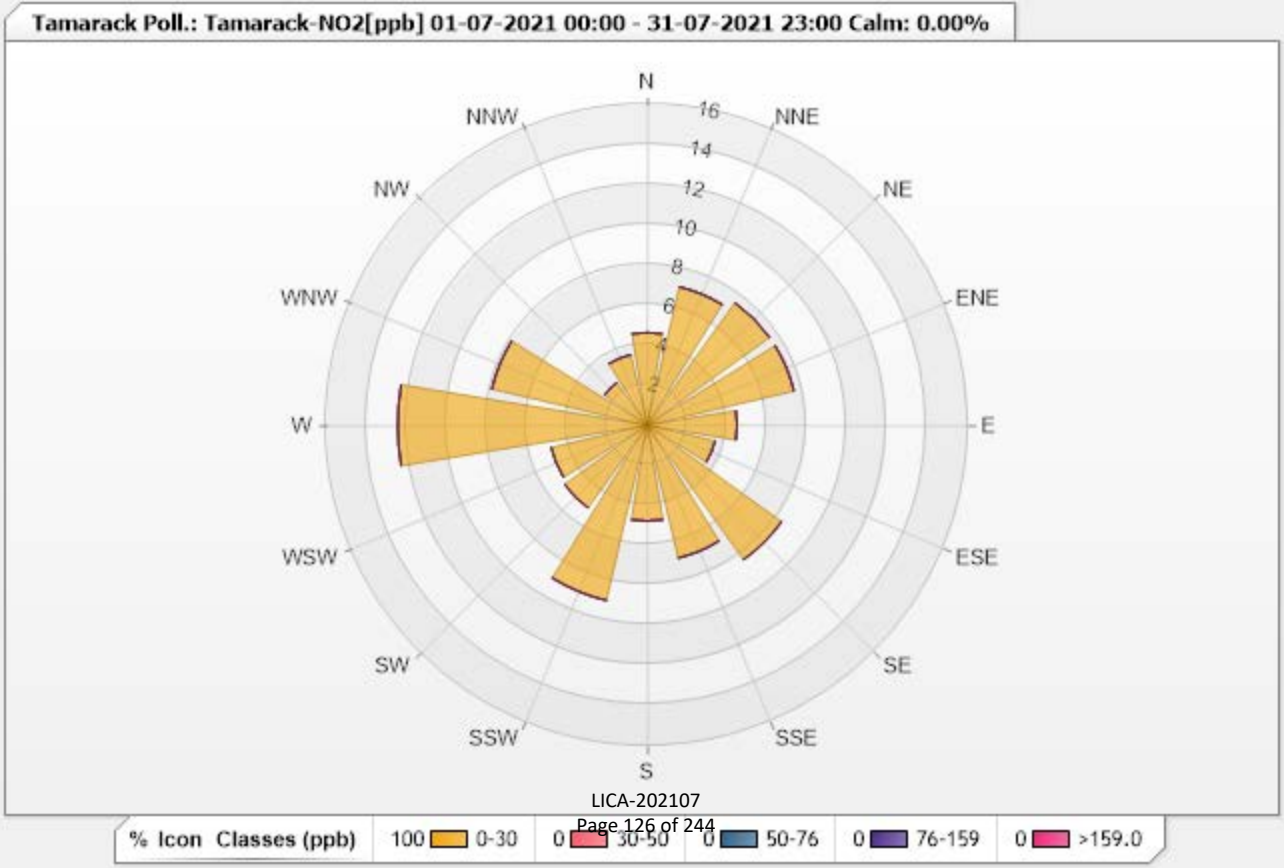




Classes	NO2
<=0	1.30%
0 - 10	96.39%
10 - 20	2.31%
20 - 30	0.00%
30 - 40	0.00%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Tamarack Poll.: Tamarack-NO2[ppb] Monthly: 07-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.01% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	4.62	0	0	0	0	4.62
NNE	7.08	0	0	0	0	7.08
NE	7.51	0	0	0	0	7.51
ENE	7.51	0	0	0	0	7.51
E	4.48	0	0	0	0	4.48
ESE	3.47	0	0	0	0	3.47
SE	8.24	0	0	0	0	8.24
SSE	6.79	0	0	0	0	6.79
S	4.77	0	0	0	0	4.77
SSW	8.96	0	0	0	0	8.96
SW	5.06	0	0	0	0	5.06
WSW	4.91	0	0	0	0	4.91
W	12.43	0	0	0	0	12.43
WNW	7.95	0	0	0	0	7.95
NW	2.6	0	0	0	0	2.6
NNW	3.61	0	0	0	0	3.61
Summary	100	0	0	0	0	100


Tamarack Poll.: Tamarack-NO2[ppb] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
2
% Icon Classes (ppb)
100 0-30
0 30-50
0 50-76
0 76-159
0 >159.0

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - July 2021

Summary of Hourly Averages

OZONE (O_3) in ppb

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

Number of 1-Hour Exceedences: 0

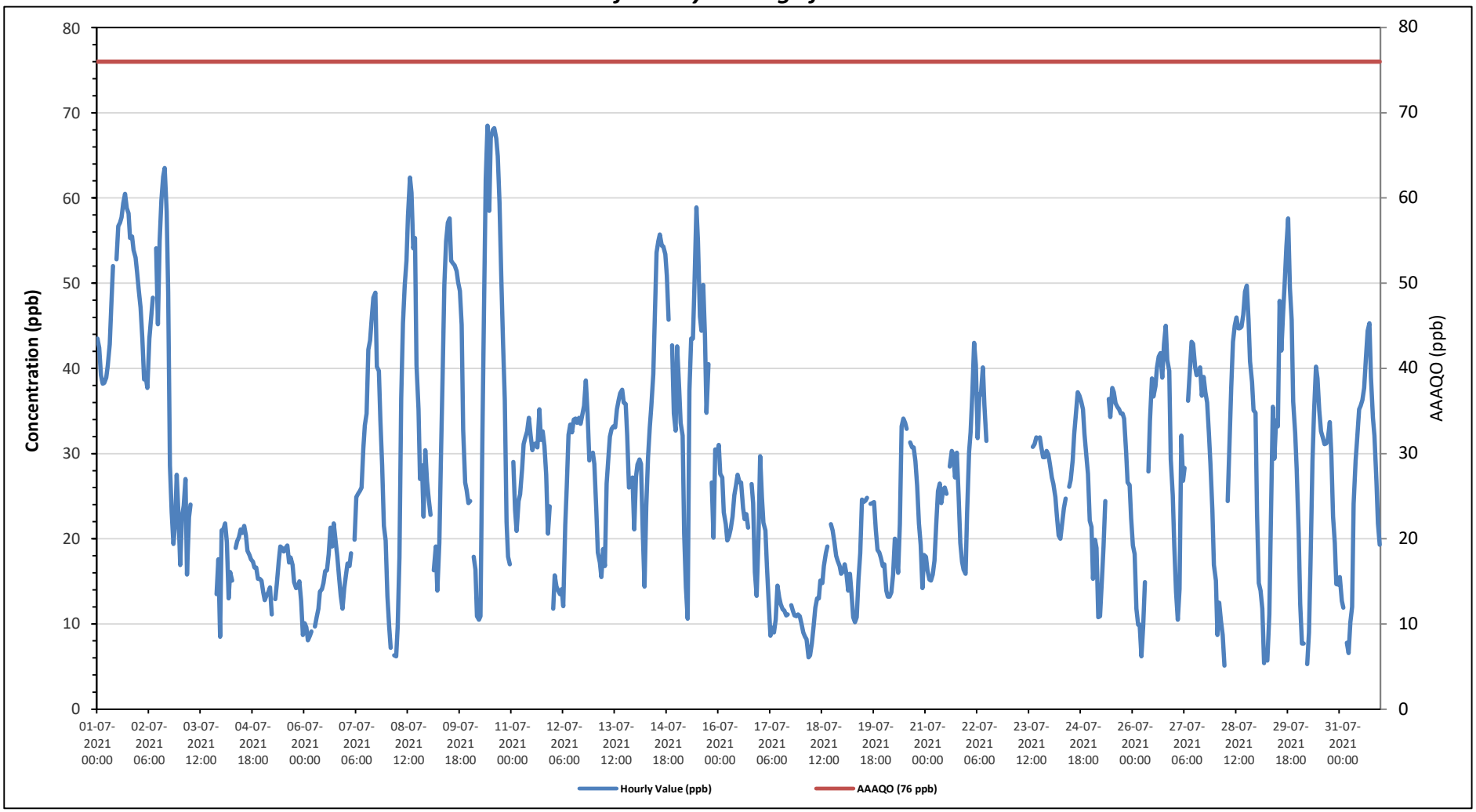
Maximum Hourly Value:	68.5	ppb	on July 10 at hour 10	Hours in Service:	744
Maximum Daily Value:	50.1	ppb	on July 1	Hours of Data:	675
Minimum Hourly Value:	5.1	ppb	on July 28 at hour 5	Hours of Missing Data:	31
Minimum Daily Value:	13.8	ppb	on July 17	Hours of Calibration:	38
Monthly Average:	28.1	ppb		Operational Uptime:	95.8

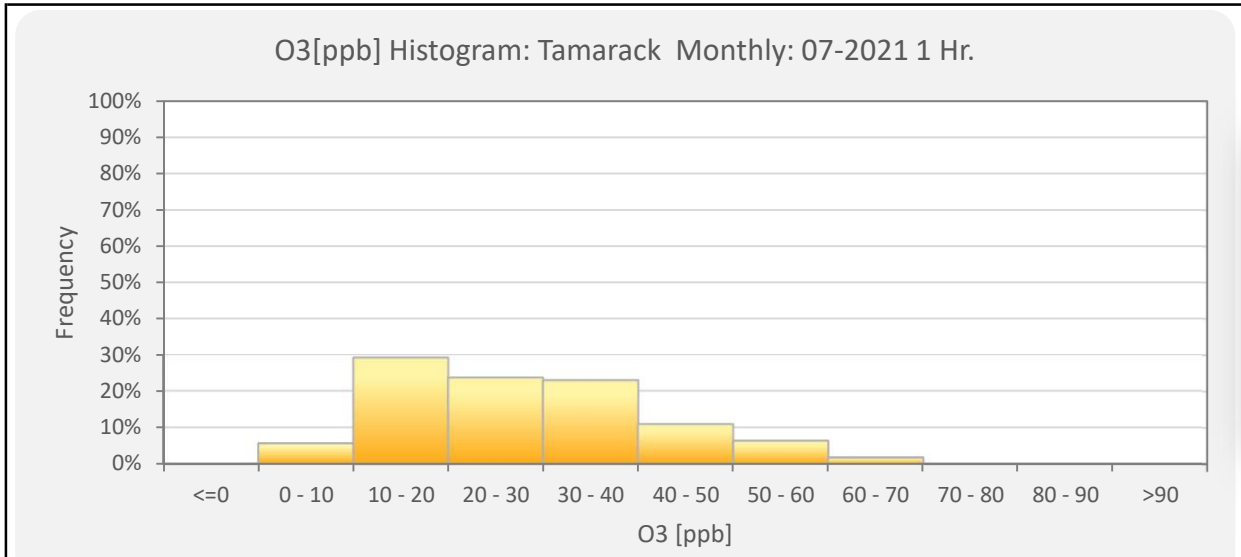
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	43.5	42.4	39.2	38.2	38.3	38.9	40.3	42.8	47.2	52	S	52.8	56.7	57.1	57.7	59.4	60.5	58.8	58.2	55.3	55.5	53.9	53	51.3	38.2	60.5	**50.1**
Jul 2	49.1	47.1	43.5	38.7	38.9	37.7	43.5	45.6	48.3	S	54.1	45.2	55	59.8	62.5	63.5	58.4	48.9	28.6	23.1	19.4	21.9	27.5	22.1	19.4	63.5	42.7
Jul 3	16.9	22.5	23.9	27	15.8	22.5	24	X	X	X	X	X	X	X	X	X	X	X	X	X	S	13.5	17.6	8.5	8.5	27.0	-
Jul 4	21	21.1	21.8	19.6	13	16.1	15.1	S	18.9	19.7	20.2	21.1	20.7	21.5	20.4	18.6	18.1	17.6	17.3	16.6	16.6	15.3	15.3	15.1	13.0	21.8	18.3
Jul 5	13.7	12.8	13.4	13.7	14.3	11.1	S	12.9	14.7	17.4	19.1	18.9	18.5	18.9	19.2	17.2	17.8	16.9	14.9	14.2	14.3	15	12.7	8.7	8.7	19.2	15.2
Jul 6	10.1	9.6	8.1	8.6	9.1	S	9.7	10.8	11.8	13.8	14.1	14.8	16.2	16.3	18.2	21.3	19.1	21.8	19.6	18	15.6	13.3	11.8	14.2	8.1	21.8	14.2
Jul 7	15.8	17.1	16.8	18.3	S	19.9	24.9	25.3	25.6	26	30.6	33.3	34.7	42.2	43.3	46.1	48.3	48.9	40.2	39.7	33.9	28.6	21.5	19.8	15.8	48.9	30.5
Jul 8	13.3	9.7	7.2	S	6.3	6.2	9.7	17.8	36.5	45.3	49.7	52.6	57.9	62.4	60.6	54.1	55.3	40.4	35.2	27	28.6	22.6	30.4	26.7	6.2	62.4	32.8
Jul 9	24.6	22.8	S	16.3	19.1	13.9	19.5	28.9	39	49.8	54.9	57.1	57.6	52.6	52.3	52.1	51.4	50.1	49.1	45.1	32.8	26.6	25.7	24.2	13.9	57.6	37.6
Jul 10	24.4	S	17.9	16.4	10.9	10.5	10.9	32.7	46.8	62.2	**68.5**	58.5	67.1	68	68.2	67	64.9	59.4	50.7	43	36.3	22	17.9	17	10.5	**68.5**	40.9
Jul 11	S	29	23.4	20.9	24.4	25.2	28.2	31.1	31.9	32.6	34.2	32.1	30.4	31.1	31.2	30.7	35.2	31.6	32.6	30.9	27.5	20.6	23.8	S	20.6	35.2	29.0
Jul 12	11.8	15.7	14.4	13.9	13.5	14.1	12.1	21.6	26.1	32.2	33.4	32.5	34	34.1	33.6	34.2	33.5	34.7	35.6	38.6	34.7	29.2	S	30.1	11.8	38.6	26.7
Jul 13	28.8	23.2	18.4	17.2	15.5	18.8	16.8	26.5	29.5	32	32.9	33.2	33.1	35.2	36.3	37.1	37.5	36	35.8	32.1	26	S	27.2	21.1	15.5	37.5	28.3
Jul 14	27.3	28.7	29.3	28.8	20.8	14.4	23.8	29.5	33.1	35.5	39.3	45.9	53.6	54.9	55.7	54.4	54.3	53.4	50.9	45.7	S	42.7	34.7	32.7	14.4	55.7	38.7
Jul 15	42.6	37.7	33.6	32.1	20.7	14.3	10.6	37.4	43.5	43.5	49.6	58.9	55	46.1	44.4	49.8	43.8	34.8	40.5	S	26.6	20.1	30.5	29.9	10.6	58.9	36.8
Jul 16	31	27.6	27.2	23.1	21.7	19.8	20.3	21.2	22.6	25.1	26.3	27.5	26.6	26.6	23.6	22.3	22.9	21.3	S	26.4	24.2	16.1	13.3	19.8	13.3	31.0	23.3
Jul 17	29.7	24.9	21.9	21	16.8	12	8.6	9.6	9	10.5	14.5	13.1	12.3	11.7	11.6	11	11.1	S	12.2	11.5	11	10.9	11.1	10.9	8.6	29.7	13.8
Jul 18	10	9	8.5	8.2	6.1	6.3	7.7	9.7	11.9	13	13	15.1	14.8	16.8	18.3	19.1	S	21.7	21	19.6	18	17.4	16.8	15.9	6.1	21.7	13.8
Jul 19	16.2	17	15.9	13.9	15.9	13.3	10.8	10.2	10.8	15.2	18.3	24.6	24.3	24.5	24.8	S	24.1	24.2	24.3	21.1	18.7	18.4	17.8	16.8	10.2	24.8	18.3
Jul 20	17	13.9	13.2	13.2	13.7	15.8	20	18.3	16	21.7	33.2	34.1	33.6	32.9	S	31.3	30.7	30.7	29.1	26.2	21.8	19.3	14.2	18.1	13.2	34.1	22.5
Jul 21	17.9	16.3	15.2	15.1	15.8	17.4	21.7	25.6	26.5	24.2	25.8	26	25.3	S	28.5	30.3	29.9	27.2	30.1	25.2	19.5	17.3	16.4	15.9	15.1	30.3	22.3
Jul 22	23	30.2	32.5	37.1	43	40.4	31.8	37	36.9	40.1	35.7	31.5	S	33.5	C	C	Y	Y	Y	Y	Y	Y	Y	Y	23.0	43.0	-
Jul 23	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	C	30.8	31.1	31.9	S	31.9	30.7	29.6	29.6	30.3	29.9	29.6	31.9	-
Jul 24	28.8	27.2	26.4	24.9	22.7	20.4	20	21.8	23.6	24.7	S	26.1	26.9	29.2	32.3	34.7	37.2	36.8	36.1	35.2	32.3	29.6	27.6	22.1	20.0	37.2	28.1
Jul 25	21.4	15.3	19.9	18.9	10.8	10.9	14.9	19.1	24.4	S	36.4	34.3	37.7	37.2	35.9	35.5	35.2	34.7	34.7	34.1	30.2	26.6	26.3	22.4	10.8	37.7	26.8
Jul 26	19.2	18.2	11.8	9.9	9.9	6.2	9.7	14.9	S	27.9	33.8	38.8	36.7	37.9	40.1	41.4	41.8	38.9	42.8	45	41	39.7	29.3	25.1	6.2	45.0	28.7
Jul 27	19.2	13.8	10.5	14.1	32.1	26.8	28.3	S	36.2	39.7	43.1	42.9	40.2	39.2	39.7	40.1	36.8	39	37.2	36	32.4	28.9	23.3	16.9	10.5	43.1	31.1
Jul 28	15.1	8.7	12.5	10.4	8.7	5.1	S	24.4	32	37.7	43.1	45	46	44.7	44.7	44.9	46.3	49	49.7	45.7	40.8	38.4	35.1	34.8	**5.1**	49.7	33.2
Jul 29	22.9	14.8	13.9	11.8	5.4	S	5.7	11.1	21.9	35.5	29.4	33.9	33.2	47.9	42.1	46.6	49.9	54.3	57.6	49.4	45.7	36.1	32.4	28.2	5.4	57.6	31.7
Jul 30	20.6	12.4	7.7	7.7	S	5.3	9	16.9	29.1	34.7	40.2	38.8	35.1	32.6	31.9	31.1	31.2	31.6	33.7	30	22.6	19.5	14.7	14.6	5.3	40.2	24.0
Jul 31	15.5	12.7	11.9	S	7.8	6.6	10.2	12	24.1	29.2	31.7	35.2	35.6	36.3	37.7	41.2	44.4	45.3	39	34.2	32.1	26.7	21.8	19.3	6.6	45.3	26.5
Diurnal Maximum	49	47	44	39	43	40	44	46	48	62	69	59	67	68	68	67	65	59	58	55	56	54	53	51			
Daiurnal Average	22.4	20.7	19.3	19.3	17.5	16.8	18.1	22.8	27.8	31.2	34.3	35.3	36.4	37.5	37.3	38.1	38.3	37.3	35.3	32.1	28.1	24.8	23.4	21.8			

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

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

Timeseries Chart of Hourly Average for O3 - Tamarack Site

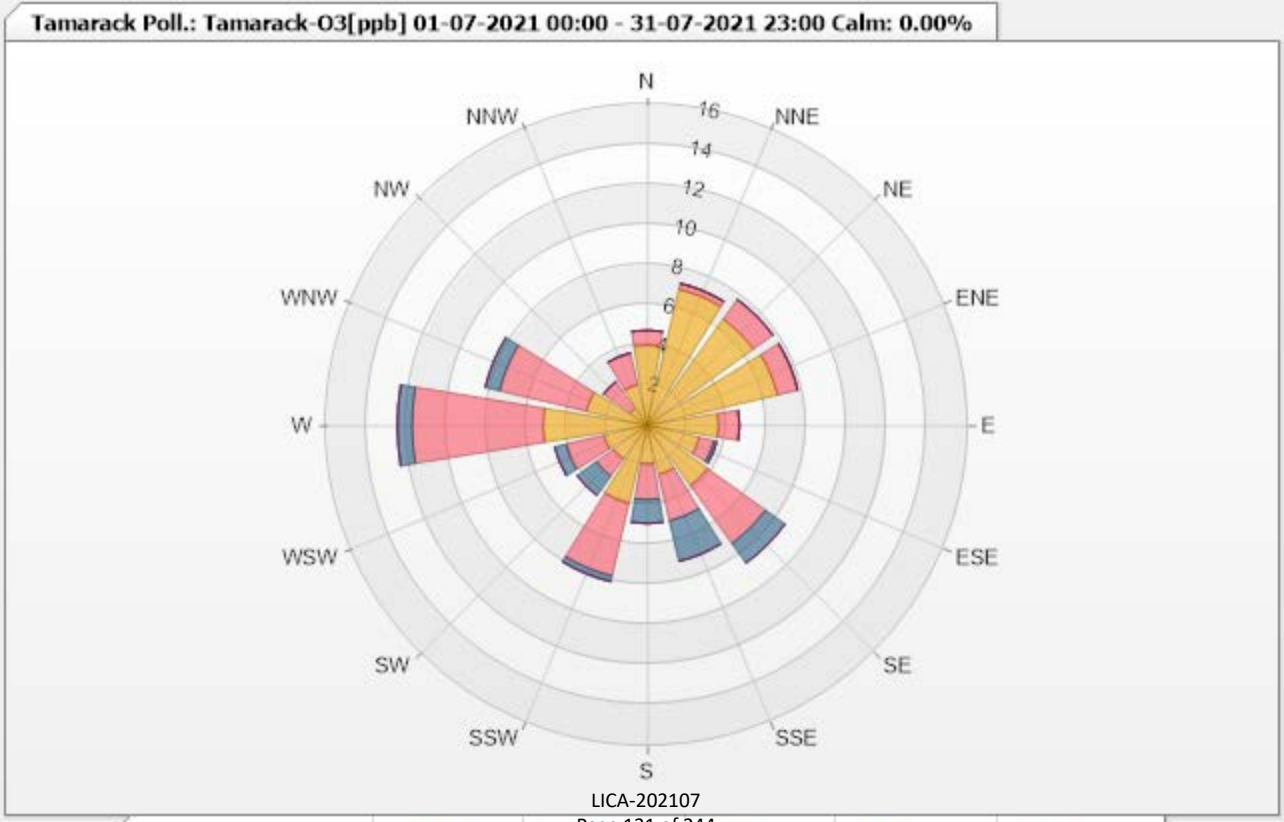




Classes	O3
<=0	0.00%
0 - 10	5.63%
10 - 20	29.04%
20 - 30	23.56%
30 - 40	22.81%
40 - 50	10.81%
50 - 60	6.37%
60 - 70	1.78%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Tamarack Poll.: Tamarack-O3[ppb] Monthly: 07-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 90.73% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	4	0.74	0	0	0	4.74
NNE	6.96	0.3	0	0	0	7.26
NE	6.52	1.19	0	0	0	7.71
ENE	6.67	1.04	0	0	0	7.71
E	3.56	1.04	0	0	0	4.6
ESE	2.67	0.74	0.15	0	0	3.56
SE	3.7	3.56	1.19	0	0	8.45
SSE	2.52	2.37	2.07	0	0	6.96
S	1.93	1.78	1.19	0	0	4.9
SSW	4	3.7	0.3	0	0	8
SW	2.07	1.04	1.19	0	0	4.3
WSW	2.22	1.93	0.59	0	0	4.74
W	5.19	6.52	0.74	0	0	12.45
WNW	3.11	4.44	0.74	0	0	8.29
NW	1.04	1.63	0	0	0	2.67
NNW	2.07	1.63	0	0	0	3.7
Summary	58.23	33.65	8.16	0	0	100


Tamarack Poll.: Tamarack-O3[ppb] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
2
% Icon Classes (ppb)
58 0-30
34 30-50
8 50-76
0 76-159
0 >159.0

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - July 2021

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

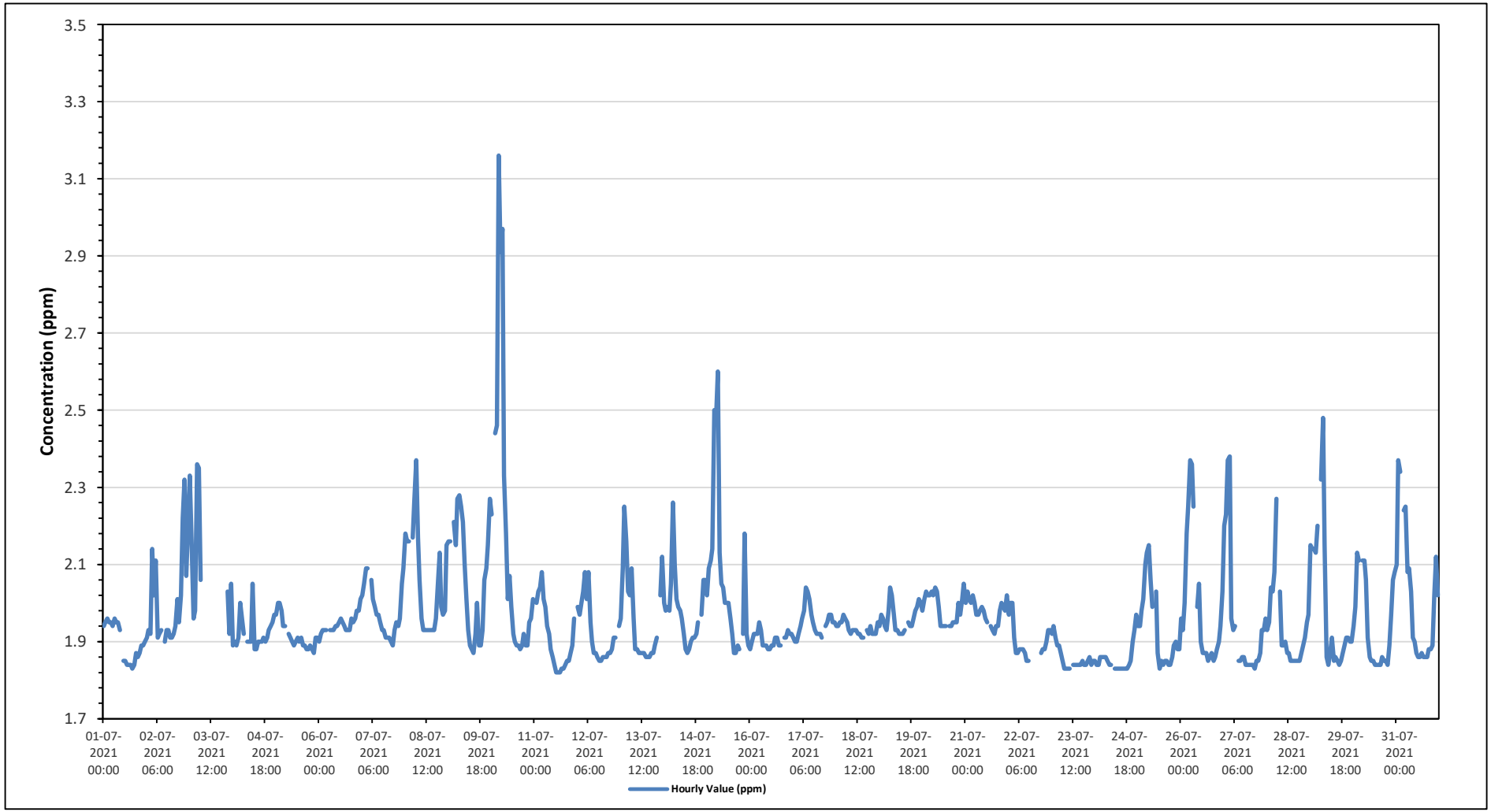
Maximum Hourly Value:	3.16	ppm	on July 10 at hour 4	Hours in Service:	744
Maximum Daily Value:	2.16	ppm	on July 10	Hours of Data:	695
Minimum Hourly Value:	1.82	ppm	on July 11 at hour 12	Hours of Missing Data:	13
Minimum Daily Value:	1.85	ppm	on July 24	Hours of Calibration:	36
Monthly Average:	1.96	ppm		Operational Uptime:	98.3

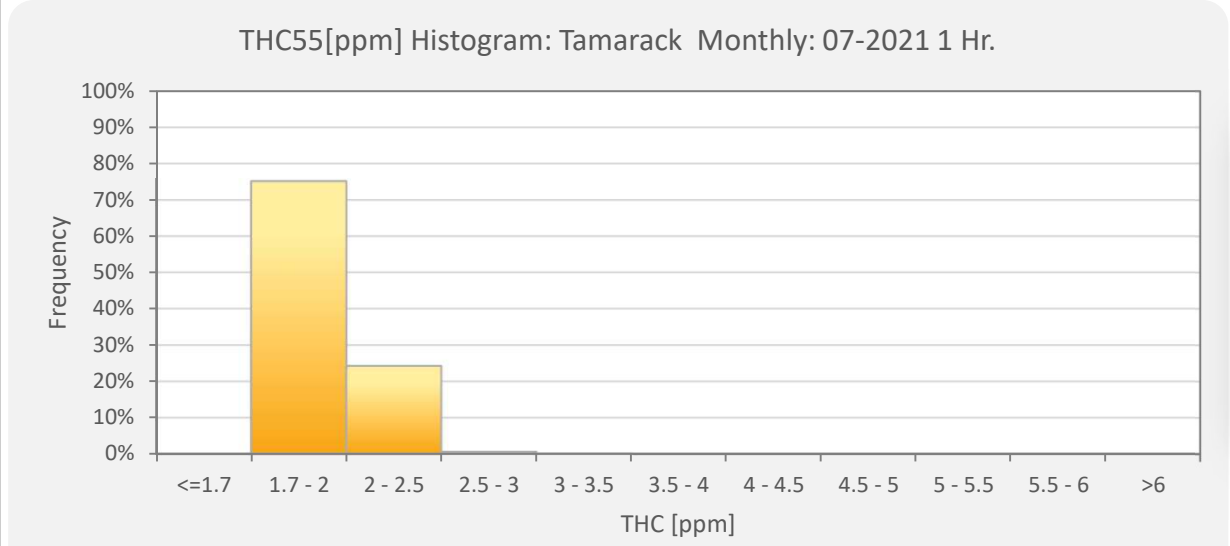
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	1.94	1.95	1.96	1.95	1.95	1.94	1.96	1.95	1.95	1.93	S	1.85	1.85	1.84	1.84	1.84	1.83	1.84	1.87	1.86	1.87	1.89	1.89	1.90	1.83	1.96	1.90
Jul 2	1.91	1.93	1.92	2.14	2.02	2.11	1.91	1.92	1.93	S	1.90	1.93	1.93	1.91	1.91	1.92	1.94	2.01	1.95	2.02	2.22	2.32	2.07	2.22	1.90	2.32	2.00
Jul 3	2.33	2.14	1.96	1.98	2.36	2.35	2.06	X	X	X	X	X	X	X	X	X	X	X	X	X	S	2.03	1.92	2.05	1.92	2.36	-
Jul 4	1.89	1.90	1.89	1.91	2.00	1.96	1.92	S	1.90	1.90	1.90	2.05	1.88	1.88	1.90	1.90	1.90	1.91	1.90	1.91	1.93	1.94	1.95	1.97	1.88	2.05	1.92
Jul 5	1.97	2.00	2.00	1.98	1.94	1.94	S	1.92	1.91	1.90	1.89	1.90	1.91	1.90	1.91	1.89	1.89	1.88	1.88	1.89	1.88	1.87	1.91	1.91	1.87	2.00	1.92
Jul 6	1.90	1.92	1.93	1.93	1.93	S	1.93	1.93	1.93	1.94	1.94	1.95	1.96	1.95	1.94	1.93	1.93	1.93	1.96	1.95	1.96	1.98	1.98	2.01	1.90	2.01	1.94
Jul 7	2.02	2.05	2.09	2.09	S	2.06	2.01	1.99	1.97	1.97	1.95	1.93	1.93	1.91	1.91	1.91	1.90	1.89	1.93	1.95	1.94	1.96	2.05	2.09	1.89	2.09	1.98
Jul 8	2.18	2.16	2.16	S	2.17	2.26	2.37	2.17	2.06	1.96	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.96	2.04	2.13	1.99	1.97	1.98	2.15	1.93	2.37	2.05
Jul 9	2.16	2.16	S	2.21	2.15	2.27	2.28	2.25	2.21	2.10	2.01	1.93	1.89	1.88	1.87	1.92	2.00	1.89	1.89	1.93	2.06	2.09	2.15	2.27	1.87	2.28	2.07
Jul 10	2.23	S	2.44	2.46	**3.16**	2.91	2.97	2.33	2.18	2.01	2.07	1.99	1.92	1.90	1.89	1.89	1.88	1.89	1.92	1.89	1.89	1.95	1.96	2.01	1.88	**3.16**	**2.16**
Jul 11	S	2.00	2.03	2.04	2.08	2.01	1.99	1.94	1.92	1.88	1.86	1.84	1.82	1.82	1.82	1.83	1.83	1.84	1.85	1.85	1.87	1.89	1.96	S	1.82	2.08	1.91
Jul 12	1.99	1.97	2.00	2.03	2.08	2.01	2.08	1.95	1.90	1.87	1.87	1.86	1.85	1.85	1.86	1.86	1.86	1.87	1.87	1.88	1.91	1.91	S	1.94	1.85	2.08	1.92
Jul 13	1.96	2.09	2.25	2.16	2.03	2.02	2.09	1.96	1.88	1.88	1.87	1.87	1.87	1.87	1.86	1.86	1.86	1.87	1.87	1.89	1.91	S	2.02	2.12	1.86	2.25	1.96
Jul 14	2.00	1.98	1.99	1.98	2.05	2.26	2.10	2.01	1.99	1.98	1.96	1.92	1.88	1.87	1.88	1.90	1.91	1.91	1.92	1.95	S	1.97	2.06	2.06	1.87	2.26	1.98
Jul 15	2.02	2.09	2.11	2.14	2.50	2.48	2.60	2.13	2.05	2.04	2.00	2.00	2.00	1.96	1.92	1.87	1.87	1.89	1.88	S	1.92	2.18	1.92	1.89	1.87	2.60	2.06
Jul 16	1.88	1.90	1.92	1.92	1.92	1.95	1.93	1.89	1.89	1.89	1.88	1.88	1.89	1.89	1.91	1.91	1.89	1.89	S	1.91	1.91	1.93	1.92	1.92	1.88	1.95	1.91
Jul 17	1.91	1.90	1.90	1.92	1.94	1.96	1.98	2.04	2.03	2.01	1.97	1.95	1.93	1.92	1.92	1.92	1.91	S	1.94	1.95	1.97	1.97	1.95	1.95	1.90	2.04	1.95
Jul 18	1.94	1.94	1.95	1.95	1.97	1.96	1.95	1.93	1.92	1.93	1.93	1.93	1.92	1.92	1.91	1.91	S	1.93	1.92	1.94	1.92	1.92	1.92	1.95	1.91	1.97	1.93
Jul 19	1.94	1.97	1.96	1.94	1.93	1.98	2.04	2.02	1.97	1.93	1.93	1.92	1.92	1.92	1.93	S	1.95	1.94	1.94	1.96	1.98	1.99	2.01	2.00	1.92	2.04	1.96
Jul 20	1.98	2.01	2.03	2.02	2.02	2.03	2.02	2.04	2.03	1.99	1.94	1.94	1.94	1.94	S	1.94	1.94	1.95	1.95	1.95	2.00	1.97	2.01	2.05	1.94	2.05	1.99
Jul 21	2.00	2.03	2.01	2.00	2.02	2.00	1.97	1.97	1.98	1.99	1.98	1.96	1.95	S	1.94	1.93	1.92	1.94	1.94	1.98	2.00	1.99	1.98	2.02	1.92	2.03	1.98
Jul 22	1.97	2.00	2.00	1.91	1.87	1.87	1.88	1.88	1.88	1.87	1.85	1.85	S	1.84	C	C	C	C	1.87	1.88	1.88	1.90	1.93	1.93	1.84	2.00	1.90
Jul 23	1.92	1.94	1.91	1.89	1.89	1.87	1.85	1.83	1.83	1.83	1.83	S	1.84	1.84	1.84	1.84	1.84	1.85	1.84	1.84	1.85	1.86	1.84	1.85	1.83	1.94	1.86
Jul 24	1.85	1.84	1.84	1.86	1.86	1.86	1.86	1.85	1.84	1.84	S	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.84	1.85	1.90	1.93	1.97	1.83	1.97	1.85
Jul 25	1.94	1.94	1.98	2.01	2.10	2.13	2.15	2.06	1.99	S	2.03	1.87	1.83	1.85	1.84	1.85	1.85	1.84	1.84	1.86	1.89	1.90	1.88	1.88	1.83	2.15	1.94
Jul 26	1.96	1.93	2.00	2.18	2.25	2.37	2.36	2.25	S	1.99	2.05	1.90	1.87	1.87	1.87	1.85	1.86	1.87	1.85	1.86	1.88	1.90	1.94	2.03	1.85	2.37	2.00
Jul 27	2.20	2.23	2.37	2.38	1.96	1.93	1.94	S	1.85	1.85	1.86	1.86	1.84	1.84	1.84	1.84	1.84	1.83	1.85	1.85	1.87	1.93	1.93	1.96	1.83	2.38	1.95
Jul 28	1.93	1.95	2.04	2.03	2.08	2.27	S	2.03	1.89	1.89	1.90	1.87	1.87	1.85	1.85	1.85	1.85	1.85	1.85	1.87	1.89	1.91	1.95	1.97	1.85	2.27	1.93
Jul 29	2.15	2.14	2.14	2.13	2.20	S	2.32	2.48	2.15	1.86	1.84	1.87	1.91	1.85	1.86	1.85	1.84	1.85	1.87	1.89	1.91	1.91	1.90	1.90	1.84	2.48	1.99
Jul 30	1.94	1.99	2.13	2.11	S	2.11	2.11	2.06	1.91	1.86	1.85	1.85	1.84	1.84	1.84	1.84	1.86	1.85	1.85	1.84	1.89	1.97	2.06	2.08	1.84	2.13	1.94
Jul 31	2.10	2.37	2.34	S	2.24	2.25	2.08	2.09	2.03	1.91	1.90	1.87	1.86	1.86	1.87	1.86	1.86	1.86	1.88	1.88	1.89	2.02	2.12	2.02	1.86	2.37	2.01
Diurnal Maximum	2.33	2.37	2.44	2.46	3.16	2.91	2.97	2.48	2.21	2.10	2.07	2.05	2.00	1.96	1.94	1.94	2.00	2.01	2.04	2.13	2.22	2.32	2.15	2.27			
Daiurnal Average	2.00	2.01	2.04	2.04	2.09	2.11	2.09	2.03	1.96	1.93	1.92	1.91	1.89	1.88	1.88	1.88	1.88	1.89	1.89	1.91	1.93	1.96	1.97	2.00			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	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 THC - Tamarack Site

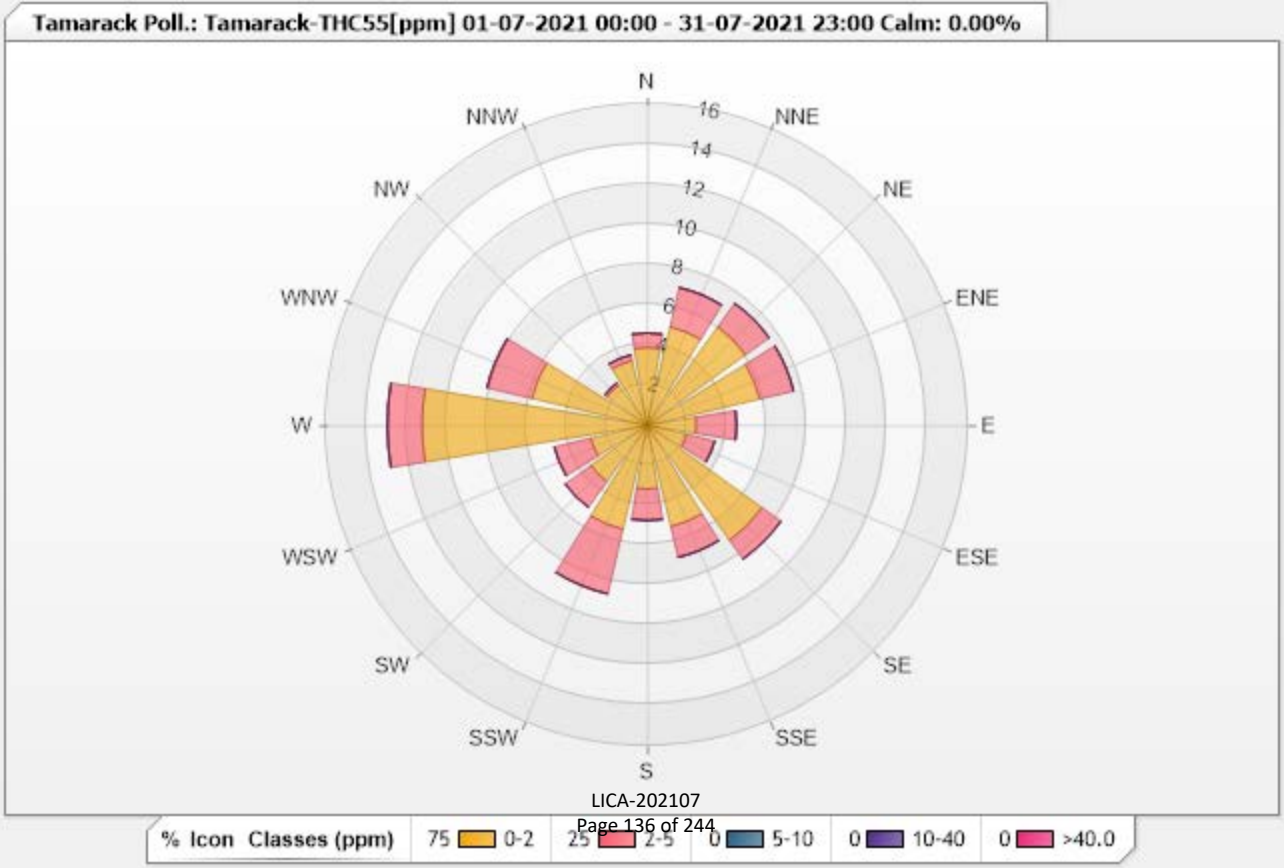




Classes	THC55
<=1.7	0.00%
1.7 - 2	75.11%
2 - 2.5	24.17%
2.5 - 3	0.58%
3 - 3.5	0.14%
3.5 - 4	0.00%
4 - 4.5	0.00%
4.5 - 5	0.00%
5 - 5.5	0.00%
5.5 - 6	0.00%
>6	0.00%

Wind: Tamarack Poll.: Tamarack-THC55[ppm] Monthly: 07-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.41% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	3.88	0.72	0	0	0	4.6
NNE	5.04	2.01	0	0	0	7.05
NE	6.04	1.44	0	0	0	7.48
ENE	5.76	1.73	0	0	0	7.49
E	2.45	2.01	0	0	0	4.46
ESE	2.01	1.44	0	0	0	3.45
SE	7.05	1.15	0	0	0	8.2
SSE	5.18	1.58	0	0	0	6.76
S	3.17	1.58	0	0	0	4.75
SSW	5.32	3.31	0	0	0	8.63
SW	3.45	1.58	0	0	0	5.03
WSW	2.88	1.87	0	0	0	4.75
W	11.22	1.73	0	0	0	12.95
WNW	5.9	2.3	0	0	0	8.2
NW	2.45	0.14	0	0	0	2.59
NNW	3.31	0.29	0	0	0	3.6
Summary	75.11	24.88	0	0	0	100


Tamarack Poll.: Tamarack-THC55[ppm] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
2
% Icon Classes (ppm)
75 0-2
25 2-5
0 5-10
0 10-40
0 >40.0

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - July 2021

Summary of Hourly Averages

METHANE (CH4) in ppm

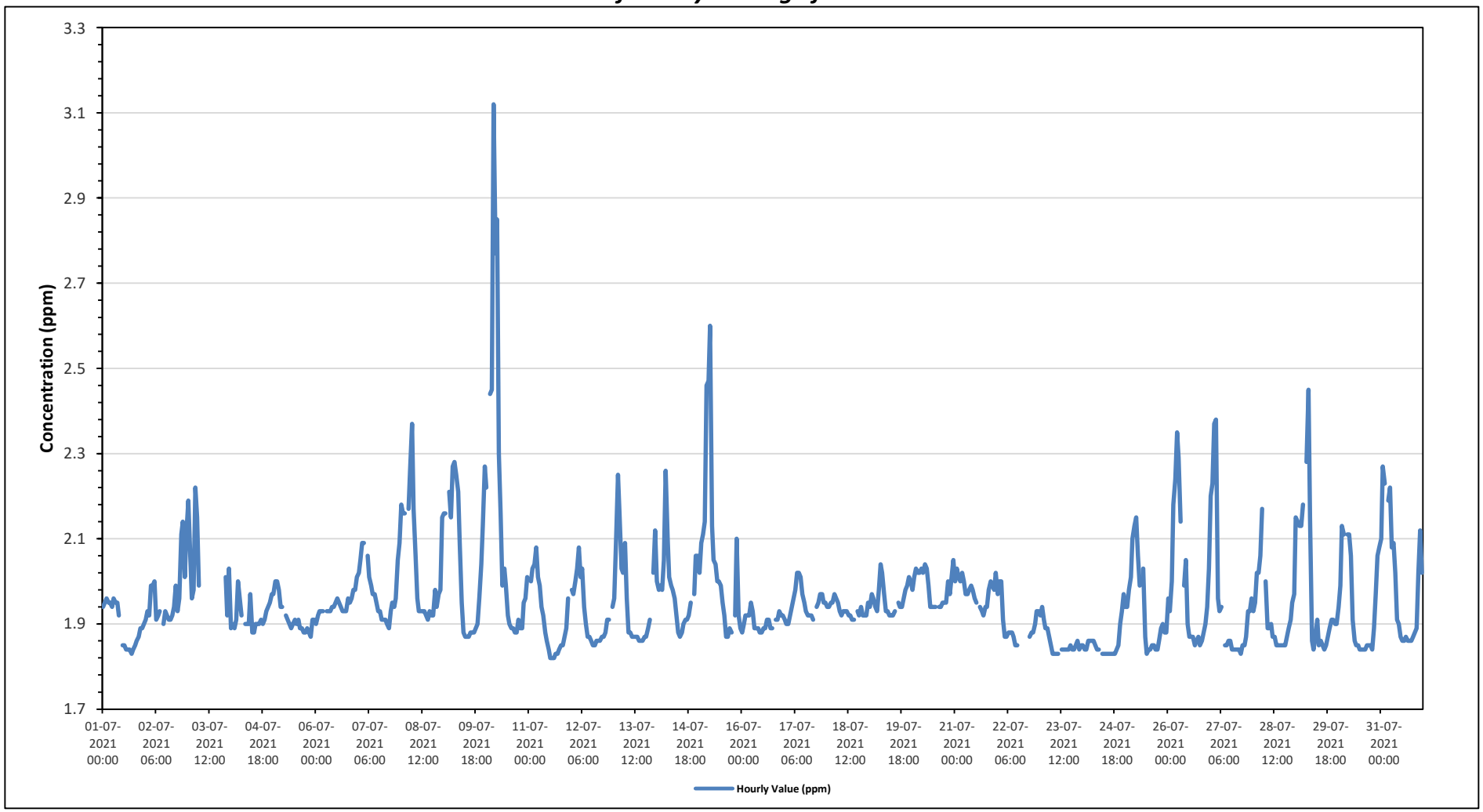
Maximum Hourly Value:	3.12	ppm	on July 10 at hour 4	Hours in Service:	744
Maximum Daily Value:	2.14	ppm	on July 10	Hours of Data:	695
Minimum Hourly Value:	1.82	ppm	on July 11 at hour 12	Hours of Missing Data:	13
Minimum Daily Value:	1.85	ppm	on July 24	Hours of Calibration:	36
Monthly Average:	1.96	ppm		Operational Uptime:	98.3

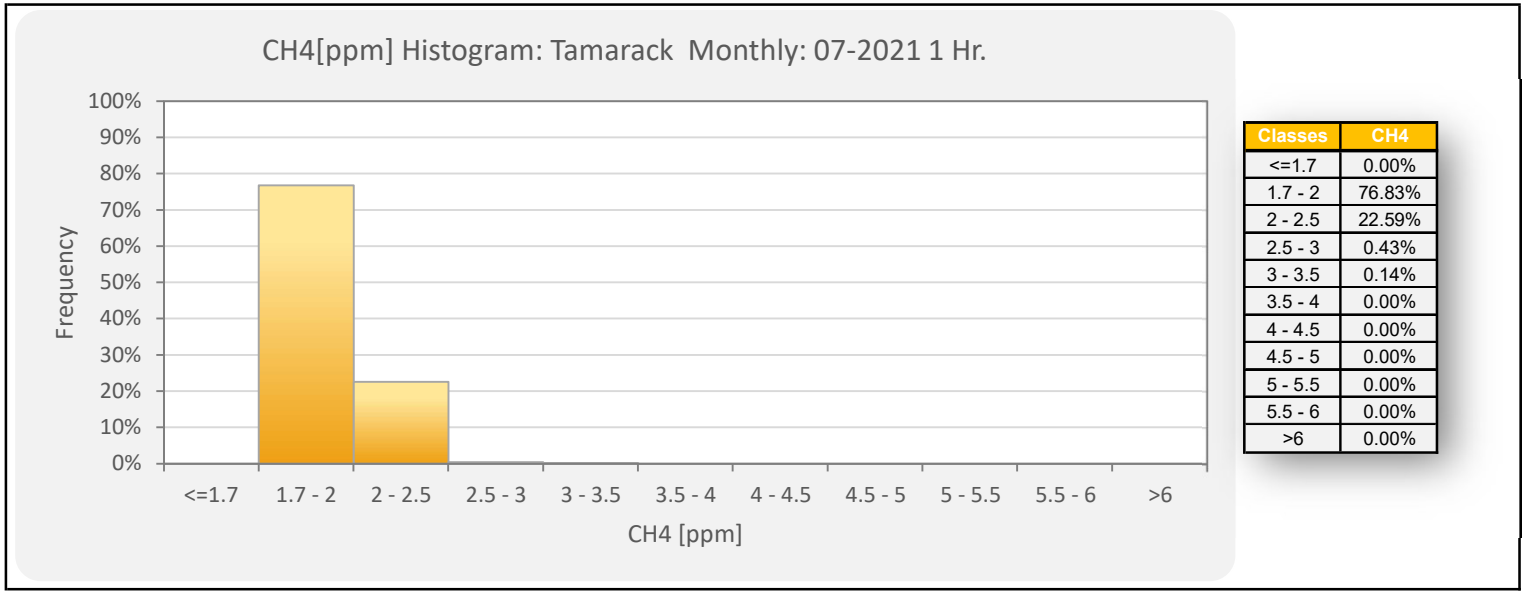
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	1.94	1.95	1.96	1.95	1.95	1.94	1.96	1.95	1.95	1.92	S	1.85	1.85	1.84	1.84	1.84	1.83	1.84	1.85	1.86	1.87	1.89	1.89	1.90	1.83	1.96	1.90
Jul 2	1.91	1.93	1.92	1.99	1.99	2.00	1.91	1.92	1.93	S	1.90	1.93	1.92	1.91	1.91	1.92	1.94	1.99	1.93	1.96	2.11	2.14	2.01	2.11	1.90	2.14	1.96
Jul 3	2.19	2.07	1.96	1.98	2.22	2.15	1.99	X	X	X	X	X	X	X	X	X	X	X	X	X	S	2.01	1.92	2.03	1.92	2.22	-
Jul 4	1.89	1.90	1.89	1.91	2.00	1.96	1.92	S	1.90	1.90	1.90	1.97	1.88	1.88	1.90	1.90	1.90	1.91	1.90	1.91	1.93	1.94	1.95	1.97	1.88	2.00	1.92
Jul 5	1.97	2.00	2.00	1.98	1.94	1.94	S	1.92	1.91	1.90	1.89	1.90	1.91	1.90	1.91	1.89	1.89	1.88	1.88	1.89	1.88	1.87	1.91	1.91	1.87	2.00	1.92
Jul 6	1.90	1.92	1.93	1.93	1.93	S	1.93	1.93	1.93	1.94	1.94	1.95	1.96	1.95	1.94	1.93	1.93	1.93	1.96	1.95	1.96	1.98	1.98	2.01	1.90	2.01	1.94
Jul 7	2.02	2.05	2.09	2.09	S	2.06	2.01	1.99	1.97	1.97	1.95	1.93	1.93	1.91	1.91	1.91	1.90	1.89	1.93	1.95	1.94	1.96	2.05	2.09	1.89	2.09	1.98
Jul 8	2.18	2.16	2.16	S	2.17	2.26	2.37	2.17	2.06	1.96	1.93	1.93	1.93	1.93	1.92	1.91	1.93	1.92	1.92	1.98	1.94	1.97	1.98	2.15	1.91	2.37	2.04
Jul 9	2.16	2.16	S	2.21	2.15	2.27	2.28	2.25	2.21	2.09	1.95	1.88	1.87	1.87	1.87	1.88	1.88	1.88	1.89	1.90	1.96	2.04	2.13	2.27	1.87	2.28	2.05
Jul 10	2.22	S	2.44	2.45	**3.12**	2.77	2.85	2.30	2.16	1.99	2.03	1.99	1.92	1.90	1.89	1.89	1.88	1.88	1.91	1.89	1.89	1.95	1.96	2.01	1.88	**3.12**	**2.14**
Jul 11	S	2.00	2.03	2.04	2.08	2.01	1.99	1.94	1.92	1.88	1.86	1.84	1.82	1.82	1.82	1.83	1.83	1.84	1.85	1.85	1.87	1.89	1.96	S	1.82	2.08	1.91
Jul 12	1.98	1.97	2.00	2.03	2.08	2.01	2.03	1.94	1.90	1.87	1.87	1.86	1.85	1.85	1.86	1.86	1.86	1.87	1.87	1.88	1.91	1.91	S	1.94	1.85	2.08	1.92
Jul 13	1.96	2.09	2.25	2.16	2.03	2.02	2.09	1.96	1.88	1.88	1.87	1.87	1.87	1.87	1.86	1.86	1.86	1.87	1.87	1.89	1.91	S	2.02	2.12	1.86	2.25	1.96
Jul 14	2.00	1.98	1.99	1.98	2.05	2.26	2.10	2.01	1.99	1.98	1.96	1.92	1.88	1.87	1.88	1.90	1.91	1.91	1.92	1.95	S	1.97	2.06	2.06	1.87	2.26	1.98
Jul 15	2.02	2.09	2.11	2.14	2.46	2.47	2.60	2.13	2.05	2.04	2.00	2.00	1.99	1.95	1.92	1.87	1.87	1.89	1.88	S	1.92	2.10	1.92	1.89	1.87	2.60	2.06
Jul 16	1.88	1.90	1.92	1.92	1.92	1.95	1.93	1.89	1.89	1.89	1.88	1.88	1.89	1.89	1.91	1.91	1.89	1.89	S	1.91	1.91	1.93	1.92	1.92	1.88	1.95	1.91
Jul 17	1.91	1.90	1.90	1.92	1.94	1.96	1.98	2.02	2.02	2.01	1.97	1.95	1.93	1.92	1.92	1.92	1.91	S	1.94	1.95	1.97	1.97	1.95	1.95	1.90	2.02	1.95
Jul 18	1.94	1.94	1.95	1.95	1.97	1.96	1.95	1.93	1.92	1.93	1.93	1.93	1.92	1.92	1.91	1.91	S	1.93	1.92	1.94	1.92	1.92	1.92	1.95	1.91	1.97	1.93
Jul 19	1.94	1.97	1.96	1.94	1.93	1.98	2.04	2.02	1.97	1.93	1.93	1.92	1.92	1.92	1.93	S	1.95	1.94	1.94	1.96	1.98	1.99	2.01	2.00	1.92	2.04	1.96
Jul 20	1.98	2.01	2.03	2.02	2.02	2.03	2.02	2.04	2.03	1.99	1.94	1.94	1.94	1.94	S	1.94	1.94	1.95	1.95	1.95	2.00	1.97	2.01	2.05	1.94	2.05	1.99
Jul 21	2.00	2.03	2.01	2.00	2.02	2.00	1.97	1.97	1.98	1.99	1.98	1.96	1.95	S	1.94	1.93	1.92	1.94	1.94	1.98	2.00	1.99	1.98	2.02	1.92	2.03	1.98
Jul 22	1.97	2.00	2.00	1.91	1.87	1.87	1.88	1.88	1.88	1.87	1.85	1.85	S	1.84	C	C	C	C	1.87	1.88	1.88	1.90	1.93	1.93	1.84	2.00	1.90
Jul 23	1.92	1.94	1.91	1.89	1.89	1.87	1.85	1.83	1.83	1.83	1.83	S	1.84	1.84	1.84	1.84	1.84	1.85	1.84	1.84	1.85	1.86	1.84	1.85	1.83	1.94	1.86
Jul 24	1.85	1.84	1.84	1.86	1.86	1.86	1.86	1.85	1.84	1.84	S	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.84	1.85	1.90	1.93	1.97	1.83	1.97	1.85
Jul 25	1.94	1.94	1.98	2.01	2.10	2.13	2.15	2.06	1.99	S	2.03	1.87	1.83	1.84	1.84	1.85	1.85	1.84	1.84	1.86	1.89	1.90	1.88	1.88	1.83	2.15	1.93
Jul 26	1.96	1.93	2.00	2.18	2.24	2.35	2.29	2.14	S	1.99	2.05	1.90	1.87	1.87	1.87	1.85	1.86	1.87	1.85	1.86	1.88	1.90	1.94	2.03	1.85	2.35	1.99
Jul 27	2.20	2.23	2.37	2.38	1.96	1.93	1.94	S	1.85	1.85	1.86	1.86	1.84	1.84	1.84	1.84	1.84	1.83	1.85	1.85	1.87	1.93	1.93	1.96	1.83	2.38	1.95
Jul 28	1.93	1.95	2.02	2.02	2.06	2.17	S	2.00	1.89	1.89	1.90	1.87	1.87	1.85	1.85	1.85	1.85	1.85	1.85	1.87	1.89	1.91	1.95	1.97	1.85	2.17	1.92
Jul 29	2.15	2.14	2.13	2.13	2.18	S	2.28	2.45	2.15	1.86	1.84	1.87	1.91	1.85	1.86	1.85	1.84	1.85	1.87	1.89	1.91	1.91	1.90	1.90	1.84	2.45	1.99
Jul 30	1.94	1.99	2.13	2.11	S	2.11	2.11	2.06	1.91	1.86	1.85	1.85	1.84	1.84	1.84	1.84	1.85	1.85	1.85	1.84	1.89	1.97	2.06	2.08	1.84	2.13	1.94
Jul 31	2.10	2.27	2.23	S	2.19	2.22	2.08	2.09	2.02	1.91	1.90	1.87	1.86	1.86	1.87	1.86	1.86	1.86	1.87	1.88	1.89	2.02	2.12	2.02	1.86	2.27	1.99
Diurnal Maximum	2.22	2.27	2.44	2.45	3.12	2.77	2.85	2.45	2.21	2.09	2.05	2.00	1.99	1.95	1.94	1.94	1.95	1.99	1.96	1.98	2.11	2.14	2.13	2.27			
Daiurnal Average	2.00	2.01	2.04	2.04	2.08	2.09	2.08	2.02	1.96	1.93	1.92	1.90	1.89	1.88	1.88	1.88	1.88	1.89	1.89	1.90	1.92	1.95	1.97	2.00			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	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 CH4 - Tamarack Site

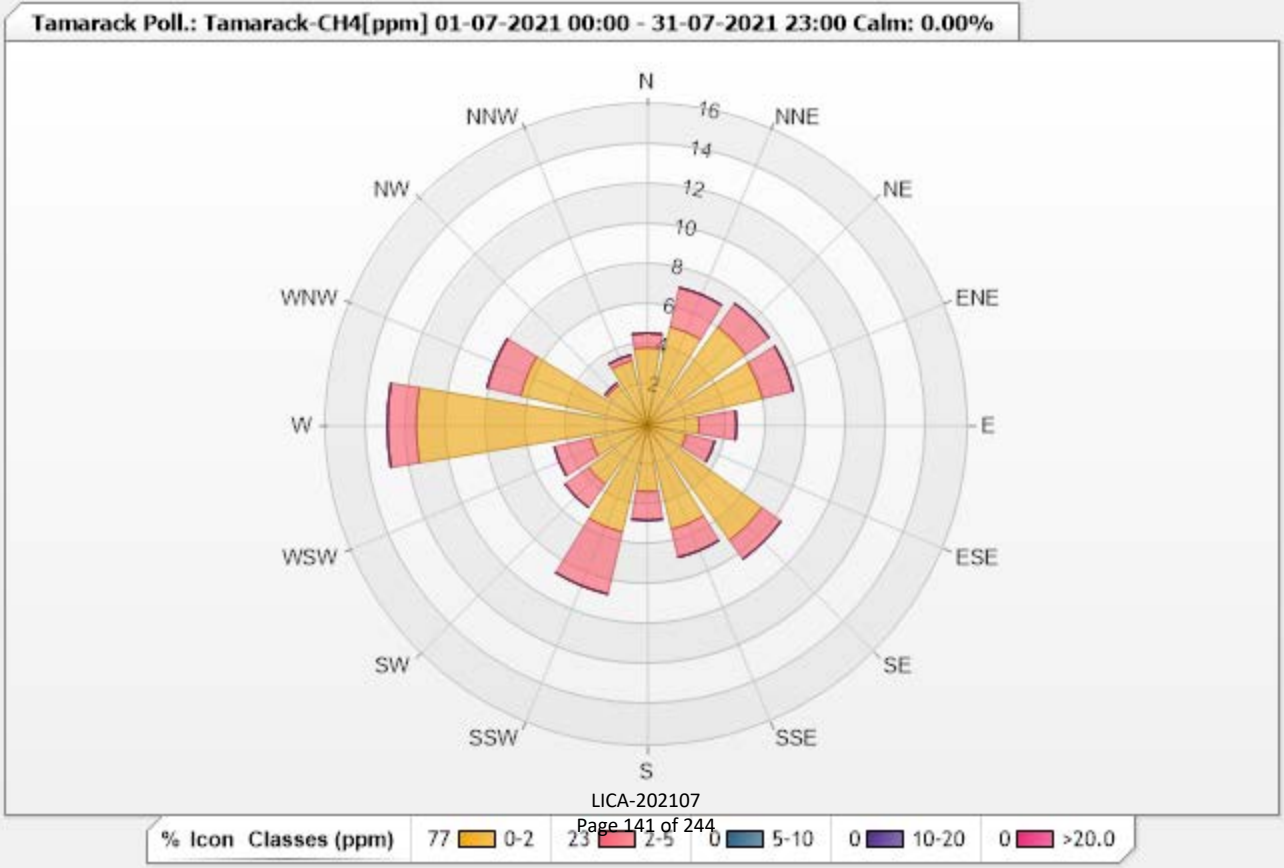




Classes	CH4
<=1.7	0.00%
1.7 - 2	76.83%
2 - 2.5	22.59%
2.5 - 3	0.43%
3 - 3.5	0.14%
3.5 - 4	0.00%
4 - 4.5	0.00%
4.5 - 5	0.00%
5 - 5.5	0.00%
5.5 - 6	0.00%
>6	0.00%

Wind: Tamarack Poll.: Tamarack-CH4[ppm] Monthly: 07-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.41% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	3.88	0.72	0	0	0	4.6
NNE	5.04	2.01	0	0	0	7.05
NE	6.04	1.44	0	0	0	7.48
ENE	5.9	1.58	0	0	0	7.48
E	2.59	1.87	0	0	0	4.46
ESE	2.01	1.44	0	0	0	3.45
SE	7.05	1.15	0	0	0	8.2
SSE	5.32	1.44	0	0	0	6.76
S	3.31	1.44	0	0	0	4.75
SSW	5.47	3.17	0	0	0	8.64
SW	3.6	1.44	0	0	0	5.04
WSW	2.88	1.87	0	0	0	4.75
W	11.51	1.44	0	0	0	12.95
WNW	6.47	1.73	0	0	0	8.2
NW	2.45	0.14	0	0	0	2.59
NNW	3.31	0.29	0	0	0	3.6
Summary	76.83	23.17	0	0	0	100


Tamarack Poll.: Tamarack-CH4[ppm] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
2
% Icon Classes (ppm)
77 0-2
23 2-5
0 5-10
0 10-20
0 >20.0

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - July 2021

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

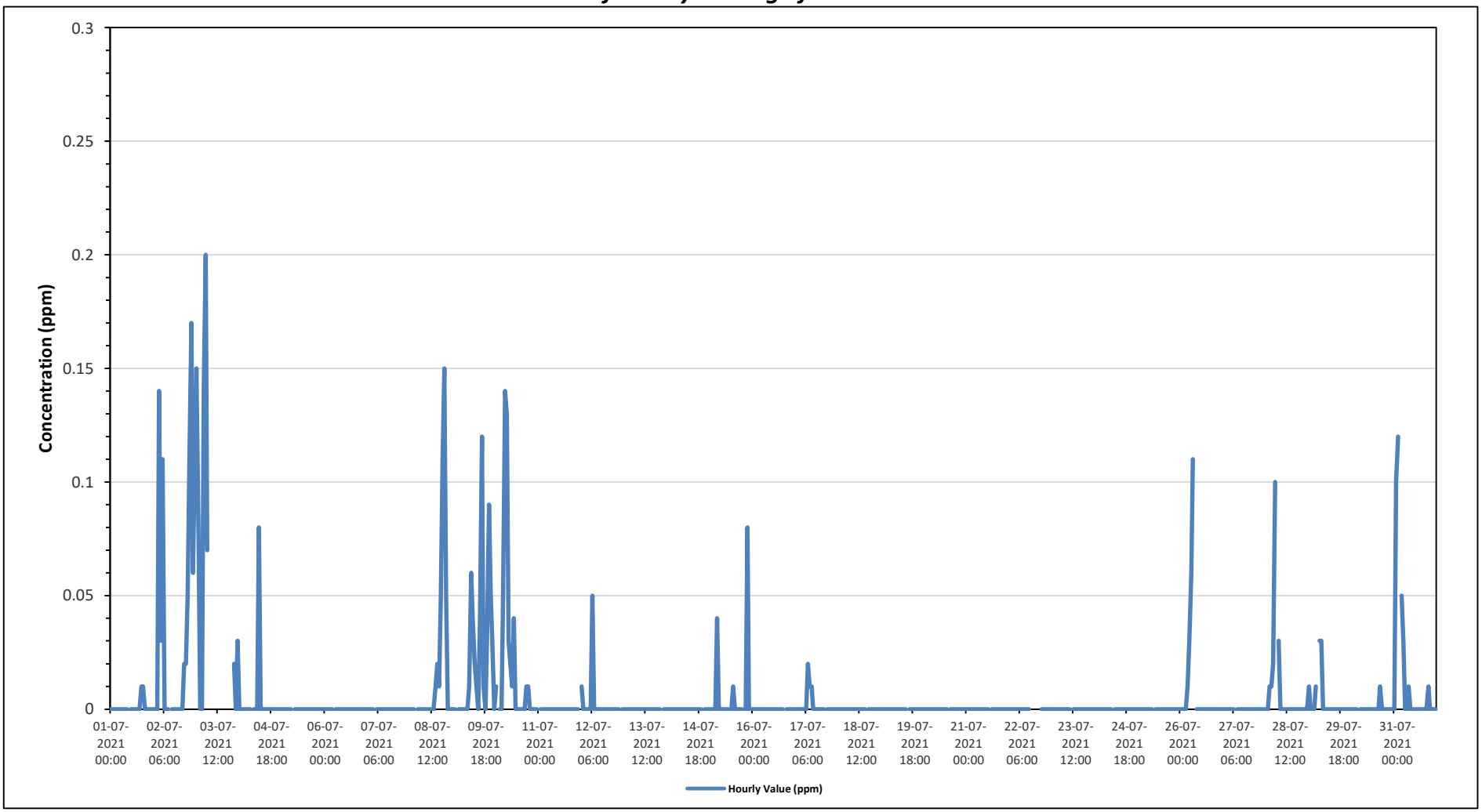
Maximum Hourly Value:	0.20	ppm	on July 3 at hour 5	Hours in Service:	744
Maximum Daily Value:	0.04	ppm	on July 2	Hours of Data:	695
Minimum Hourly Value:	0.00	ppm	on July 1 at hour 0	Hours of Missing Data:	13
Minimum Daily Value:	0.00	ppm	on July 5	Hours of Calibration:	36
Monthly Average:	0.01	ppm		Operational Uptime:	98.3

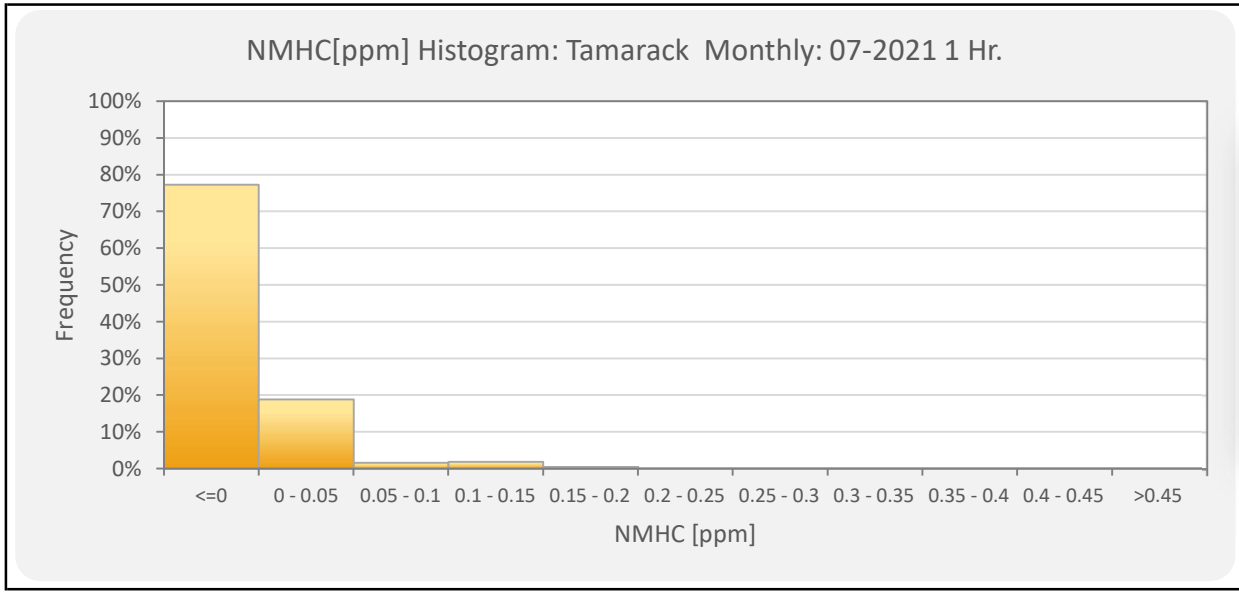
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Jul 2	0.00	0.00	0.00	0.14	0.03	0.11	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.05	0.11	0.17	0.06	0.11	0.00	0.17	**0.04**
Jul 3	0.15	0.08	0.00	0.00	0.14	**0.20**	0.07	X	X	X	X	X	X	X	X	X	X	X	X	X	S	0.02	0.00	0.03	0.00	**0.20**	-
Jul 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.08	0.00	0.00	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
Jul 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jul 6	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
Jul 7	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
Jul 8	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	0.01	0.02	0.01	0.05	0.11	0.15	0.05	0.00	0.00	0.00	0.00	0.15	0.02
Jul 9	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.06	0.04	0.02	0.01	0.00	0.04	0.12	0.01	0.00	0.03	0.09	0.05	0.03	0.00	0.00	0.12	0.02
Jul 10	0.01	S	0.00	0.00	0.05	0.14	0.13	0.03	0.02	0.01	0.04	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	0.14	0.02
Jul 11	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00
Jul 12	0.01	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.05	0.00
Jul 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
Jul 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
Jul 15	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	0.01	0.00	0.00	0.00	0.00	0.00	S	0.00	0.08	0.00	0.00	0.00	0.08	0.01
Jul 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
Jul 17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
Jul 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
Jul 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jul 20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Jul 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
Jul 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	S	0.00	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jul 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	0.00
Jul 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	0.00	0.00	0.00
Jul 25	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
Jul 26	0.00	0.00	0.00	0.00	0.01	0.03	0.06	0.11	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	0.11	0.01
Jul 27	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
Jul 28	0.00	0.00	0.01	0.01	0.02	0.10	S	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.01
Jul 29	0.01	0.00	0.00	0.00	0.01	S	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00
Jul 30	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Jul 31	0.00	0.10	0.12	S	0.05	0.03	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	0.01	0.00	0.00	0.00	0.00	0.00	0.12	0.01
Diurnal Maximum	0.15	0.10	0.12	0.14	0.14	0.20	0.13	0.11	0.02	0.01	0.06	0.08	0.02	0.01	0.01	0.04	0.12	0.05	0.11	0.15	0.11	0.17	0.06	0.11			
Daiurnal Average	0.01	0.01	0.00	0.01	0.01	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.01	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	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 NMHC - Tamarack Site

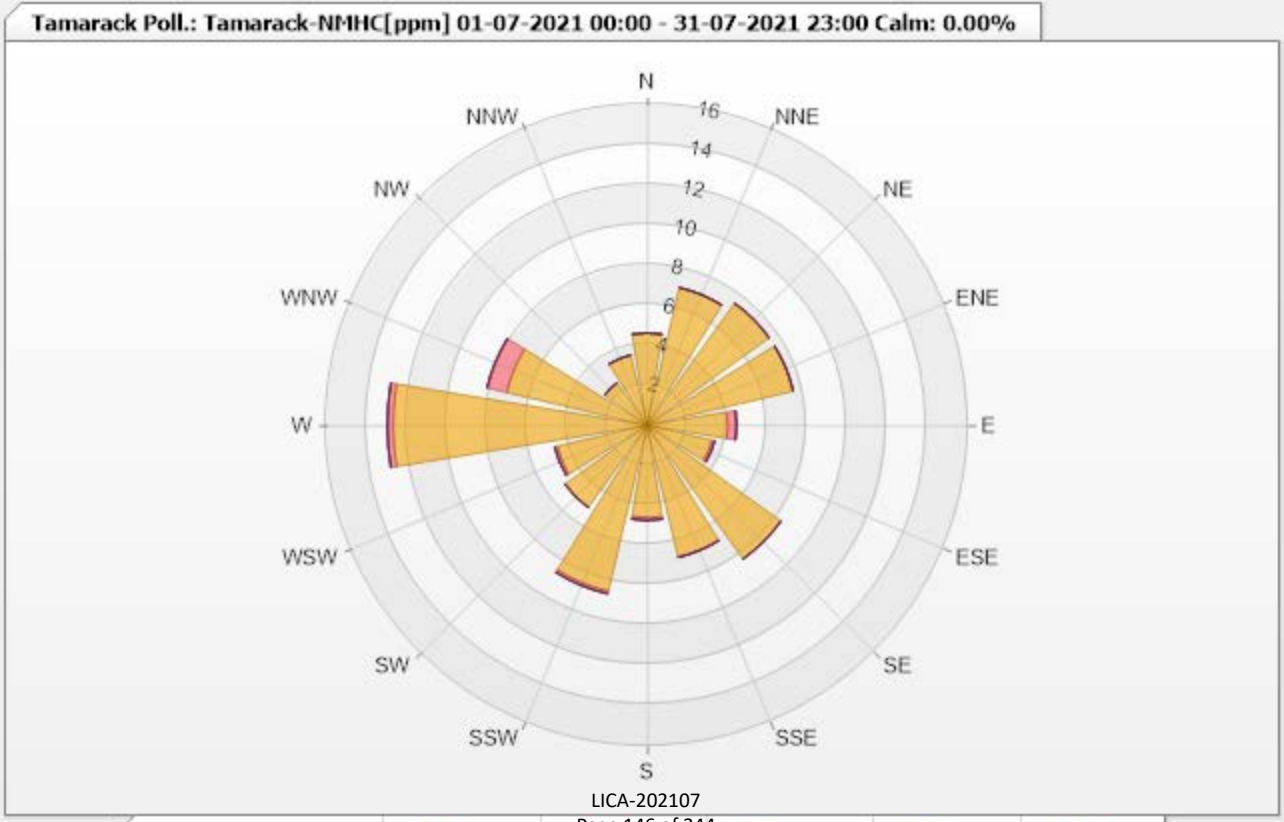




Classes	NMHC
<=0	77.27%
0 - 0.05	18.85%
0.05 - 0.1	1.58%
0.1 - 0.15	1.87%
0.15 - 0.2	0.43%
0.2 - 0.25	0.00%
0.25 - 0.3	0.00%
0.3 - 0.35	0.00%
0.35 - 0.4	0.00%
0.4 - 0.45	0.00%
>0.45	0.00%

Wind: Tamarack Poll.: Tamarack-NMHC[ppm] Monthly: 07-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.41% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-0.9	0.9-2	>2.0	Total
N	4.6	0	0	0	0	4.6
NNE	7.05	0	0	0	0	7.05
NE	7.48	0	0	0	0	7.48
ENE	7.48	0	0	0	0	7.48
E	4.03	0.43	0	0	0	4.46
ESE	3.31	0.14	0	0	0	3.45
SE	8.2	0	0	0	0	8.2
SSE	6.76	0	0	0	0	6.76
S	4.6	0.14	0	0	0	4.74
SSW	8.49	0.14	0	0	0	8.63
SW	5.04	0	0	0	0	5.04
WSW	4.6	0.14	0	0	0	4.74
W	12.66	0.29	0	0	0	12.95
WNW	7.19	1.01	0	0	0	8.2
NW	2.59	0	0	0	0	2.59
NNW	3.6	0	0	0	0	3.6
Summary	97.68	2.29	0	0	0	100


Tamarack Poll.: Tamarack-NMHC[ppm] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
2
% Icon Classes (ppm)
98 0-0.1
2 0.1-0.3
0 0.3-0.9
0 0.9-2
0 >2.0

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - July 2021

Summary of Hourly Averages

PARTICULATE MATTER 2.5 ($PM_{2.5}$) in $\mu g/m^3$

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

Number of 1-Hour Exceedences: 22 Number of 24-Hour Exceedences: 4

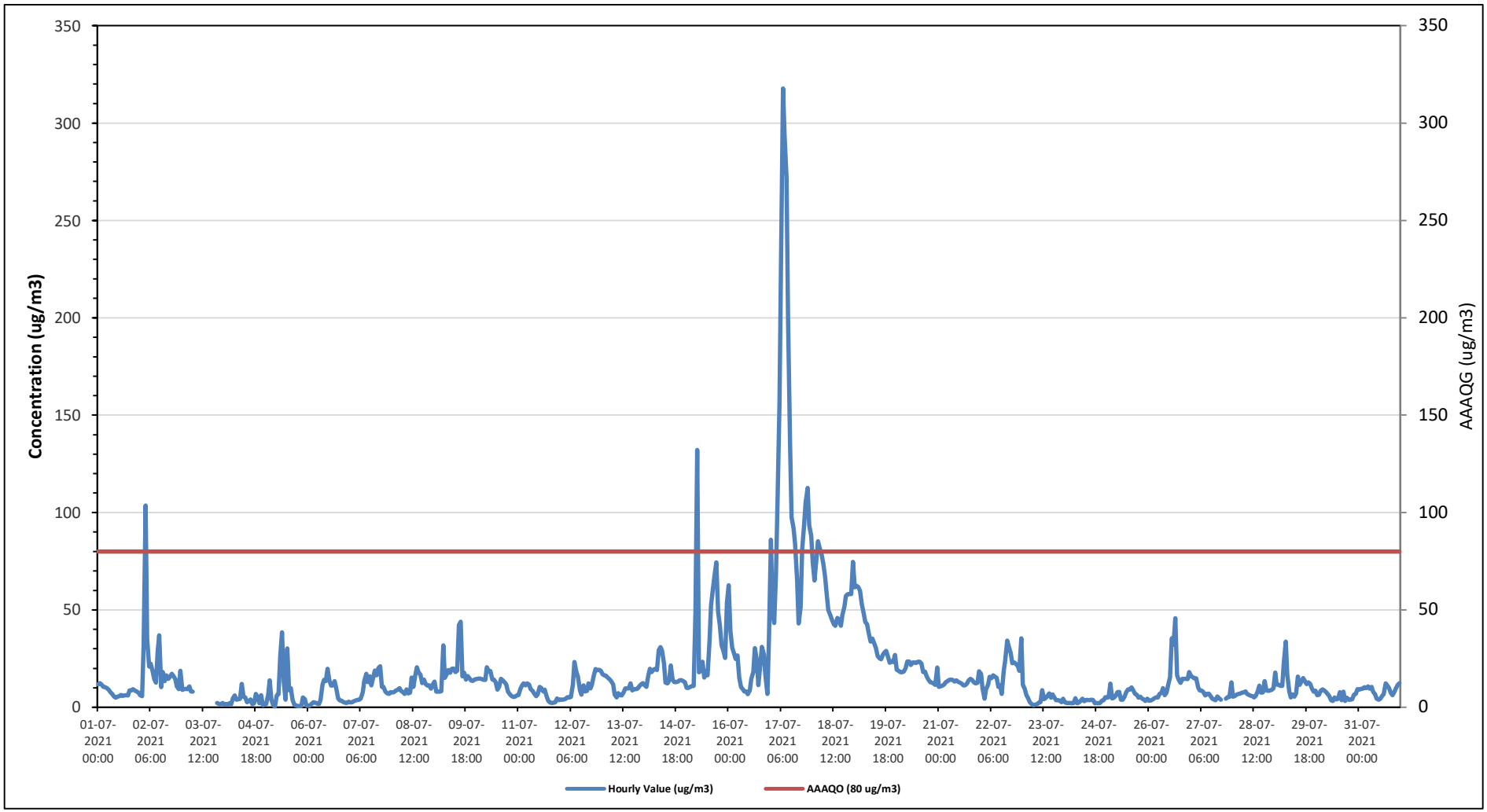
Maximum Hourly Value:	318 $\mu g/m^3$ on July 17 at hour 7	Hours in Service:	744
Maximum Daily Value:	123.7 $\mu g/m^3$ on July 17	Hours of Data:	729
Minimum Hourly Value:	0 $\mu g/m^3$ on July 5 at hour 5	Hours of Missing Data:	13
Minimum Daily Value:	3 $\mu g/m^3$ on July 24	Hours of Calibration:	2
Monthly Average:	17.9 $\mu g/m^3$	Operational Uptime:	98.3

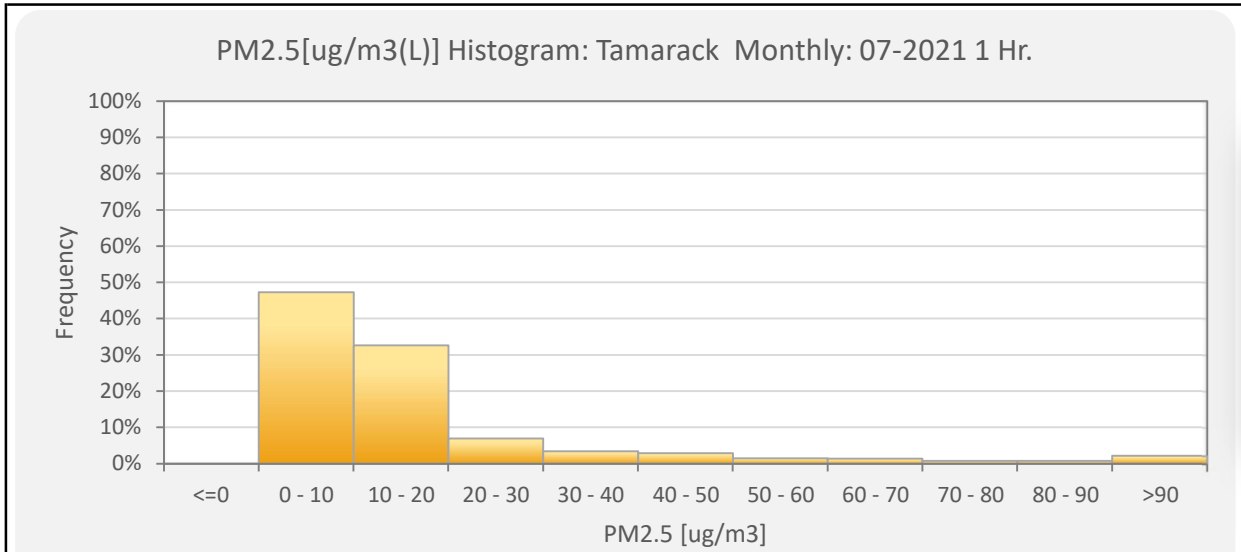
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	12	12	12	11	10	10	9	8	7	6	5	5	6	6	6	6	6	6	9	9	9	9	8	7	5	12	8.0
Jul 2	6	6	31	104	35	21	22	18	15	13	29	37	10	18	14	16	15	16	17	16	14	11	9	19	6	104	21.3
Jul 3	9	9	9	9	11	8	8	X	X	X	X	X	X	X	X	X	X	X	X	X	2	2	2	2	2	11	-
Jul 4	2	2	1	2	2	5	6	4	4	4	12	5	5	3	3	4	2	2	7	5	2	6	1	2	1	12	3.7
Jul 5	2	6	14	4	1	0	6	7	26	38	13	4	30	9	10	4	1	1	1	1	1	5	4	1	**0**	38	7.8
Jul 6	1	1	2	3	2	2	2	4	12	14	14	20	14	11	11	14	9	5	4	3	3	2	2	3	1	20	6.5
Jul 7	2	3	3	4	4	4	5	8	14	17	13	16	11	15	19	17	20	21	11	11	8	7	7	8	2	21	10.2
Jul 8	8	8	9	9	10	8	8	7	9	7	8	15	10	16	21	18	17	12	14	12	11	11	10	12	7	21	11.2
Jul 9	13	8	8	8	8	32	15	17	19	18	20	20	18	19	42	44	16	18	14	16	15	14	14	14	8	44	17.9
Jul 10	14	15	15	14	14	14	21	19	19	14	14	13	9	11	15	14	13	12	8	7	6	5	5	6	5	21	12.3
Jul 11	6	9	11	12	11	12	12	9	8	7	6	7	11	10	8	9	5	3	2	2	2	3	5	4	2	12	7.3
Jul 12	4	4	4	4	5	5	5	12	23	18	16	9	7	11	8	8	12	10	12	16	20	19	19	19	4	23	11.3
Jul 13	17	17	16	15	14	14	12	7	5	7	6	6	8	10	10	10	12	9	9	9	10	11	12	12	5	17	10.7
Jul 14	11	11	16	20	18	19	20	19	29	31	29	23	13	12	14	21	14	13	13	13	14	14	13	13	11	31	17.2
Jul 15	10	10	11	11	11	48	132	18	19	23	15	19	16	34	53	61	68	74	49	42	32	29	25	54	10	132	36.0
Jul 16	63	39	31	28	25	27	15	11	9	8	8	7	9	15	18	30	24	11	22	31	27	16	7	35	7	63	21.5
Jul 17	86	49	43	69	111	156	228	**318**	294	272	200	135	98	92	84	65	43	52	81	94	105	113	94	88	43	**318**	**123.7**
Jul 18	75	65	75	85	82	79	74	67	58	50	47	45	43	42	46	45	42	47	52	57	58	58	58	75	42	85	59.3
Jul 19	62	62	62	60	53	49	44	43	38	34	35	33	31	26	25	25	27	28	29	26	23	24	23	27	23	62	36.9
Jul 20	19	19	18	18	18	20	24	24	22	23	23	23	23	23	23	18	18	16	14	13	13	12	12	20	12	24	19.0
Jul 21	11	11	11	12	13	13	14	14	14	13	14	13	13	12	11	11	12	14	15	14	13	12	13	19	11	19	12.9
Jul 22	17	10	4	9	12	16	15	16	16	15	10	11	7	19	24	34	31	28	23	23	22	21	19	36	4	36	18.2
Jul 23	12	9	6	5	3	2	1	1	2	2	3	9	4	5	6	7	5	7	5	4	4	4	3	4	1	12	4.6
Jul 24	2	2	2	2	2	2	5	2	2	3	5	3	4	4	4	4	4	2	2	2	2	3	4	5	2	5	3.0
Jul 25	5	5	12	5	5	6	8	8	4	4	5	8	9	9	10	9	7	7	5	5	4	4	3	4	3	12	6.3
Jul 26	3	4	4	5	5	5	7	7	10	6	8	12	15	35	32	46	17	14	13	15	15	15	14	18	3	46	13.5
Jul 27	16	16	15	15	10	9	9	8	6	7	7	6	5	4	4	6	5	4	C	C	4	5	5	13	4	16	8.0
Jul 28	5	6	7	7	7	7	8	8	7	6	6	6	5	6	8	11	7	8	13	9	8	9	9	10	5	13	7.6
Jul 29	18	12	12	11	11	23	34	17	8	5	7	5	7	16	12	13	15	13	12	13	12	10	8	9	5	34	12.5
Jul 30	6	7	9	9	9	8	7	6	4	3	5	4	5	8	4	8	3	5	4	4	4	7	7	9	3	9	5.9
Jul 31	9	9	10	10	10	11	10	11	8	7	4	4	4	6	7	12	11	10	7	6	8	10	12	12	4	12	8.6
Diurnal Maximum	86	65	75	104	111	156	228	318	294	272	200	135	98	92	84	65	68	74	81	94	105	113	94	88			
Daiurnal Average	17.0	14.3	15.5	18.6	17.1	20.4	25.2	23.8	23.6	22.6	19.5	17.4	14.9	16.8	18.3	19.7	16.1	15.5	16.0	16.5	15.2	15.1	13.7	18.0			

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

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

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

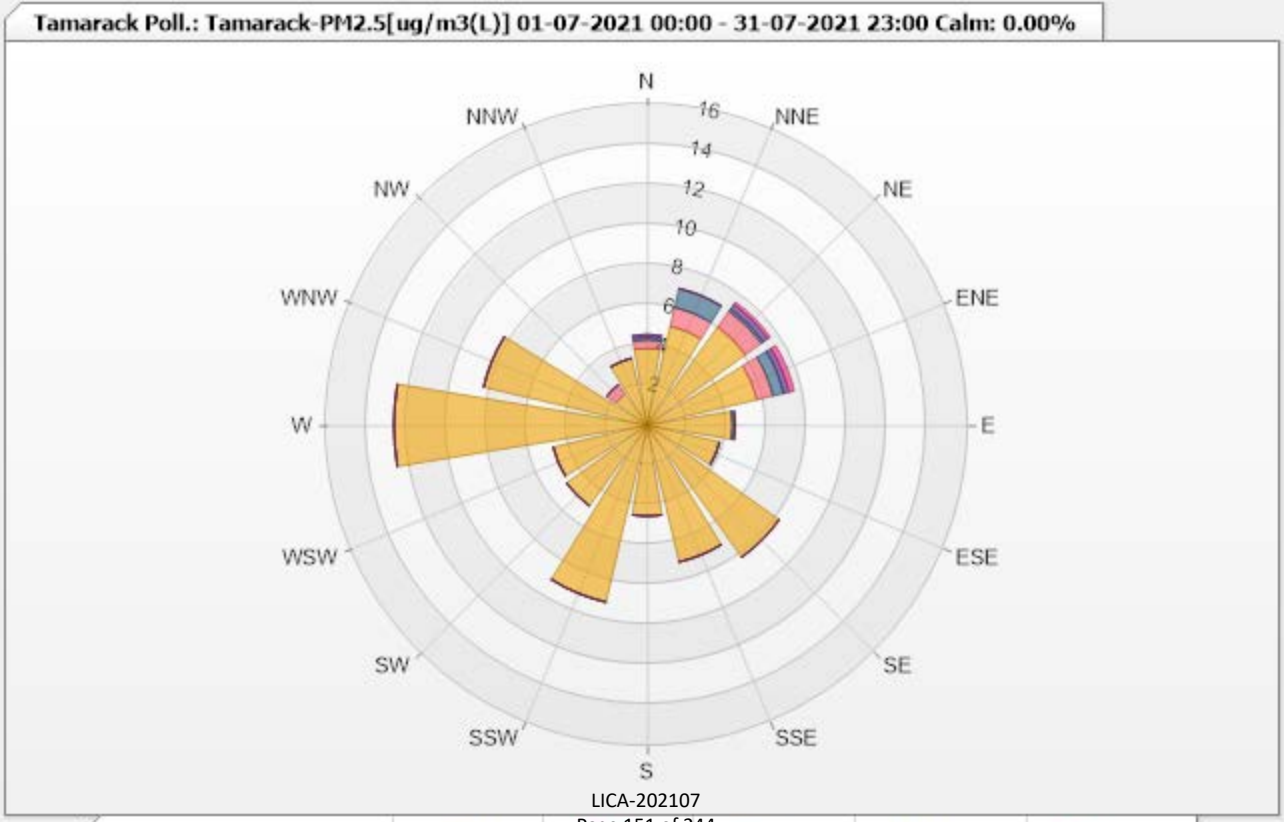




Classes	PM2.5
<=0	0.00%
0 - 10	47.33%
10 - 20	32.65%
20 - 30	7.00%
30 - 40	3.43%
40 - 50	2.88%
50 - 60	1.51%
60 - 70	1.37%
70 - 80	0.82%
80 - 90	0.82%
>90	2.19%

Wind: Tamarack Poll.: Tamarack-PM2.5[ug/m3(L)] Monthly: 07-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 97.98% Calm Avg: 0.00 [ug/m3(L)]

Direction	0-50	50-80	80-120	120-240	>240.0	Total
N	3.84	0.41	0.14	0.14	0	4.53
NNE	5.08	0.96	0.96	0	0	7
NE	6.04	0.96	0.14	0.27	0.14	7.55
ENE	5.62	0.82	0.55	0.27	0.27	7.53
E	4.25	0	0.14	0	0	4.39
ESE	3.7	0	0	0	0	3.7
SE	8.09	0	0	0	0	8.09
SSE	7	0	0	0	0	7
S	4.53	0	0	0	0	4.53
SSW	9.05	0	0	0	0	9.05
SW	4.94	0	0	0	0	4.94
WSW	4.8	0	0	0	0	4.8
W	12.62	0	0	0	0	12.62
WNW	8.37	0	0	0	0	8.37
NW	1.92	0.55	0	0	0	2.47
NNW	3.43	0	0	0	0	3.43
Summary	93.28	3.7	1.93	0.68	0.41	100


Tamarack Poll.: Tamarack-PM2.5[ug/m3(L)] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
2
% Icon Classes (ug/m3(L))
93 0-50
4 50-80
2 80-120
1 120-240
0 >240.0

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - July 2021

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

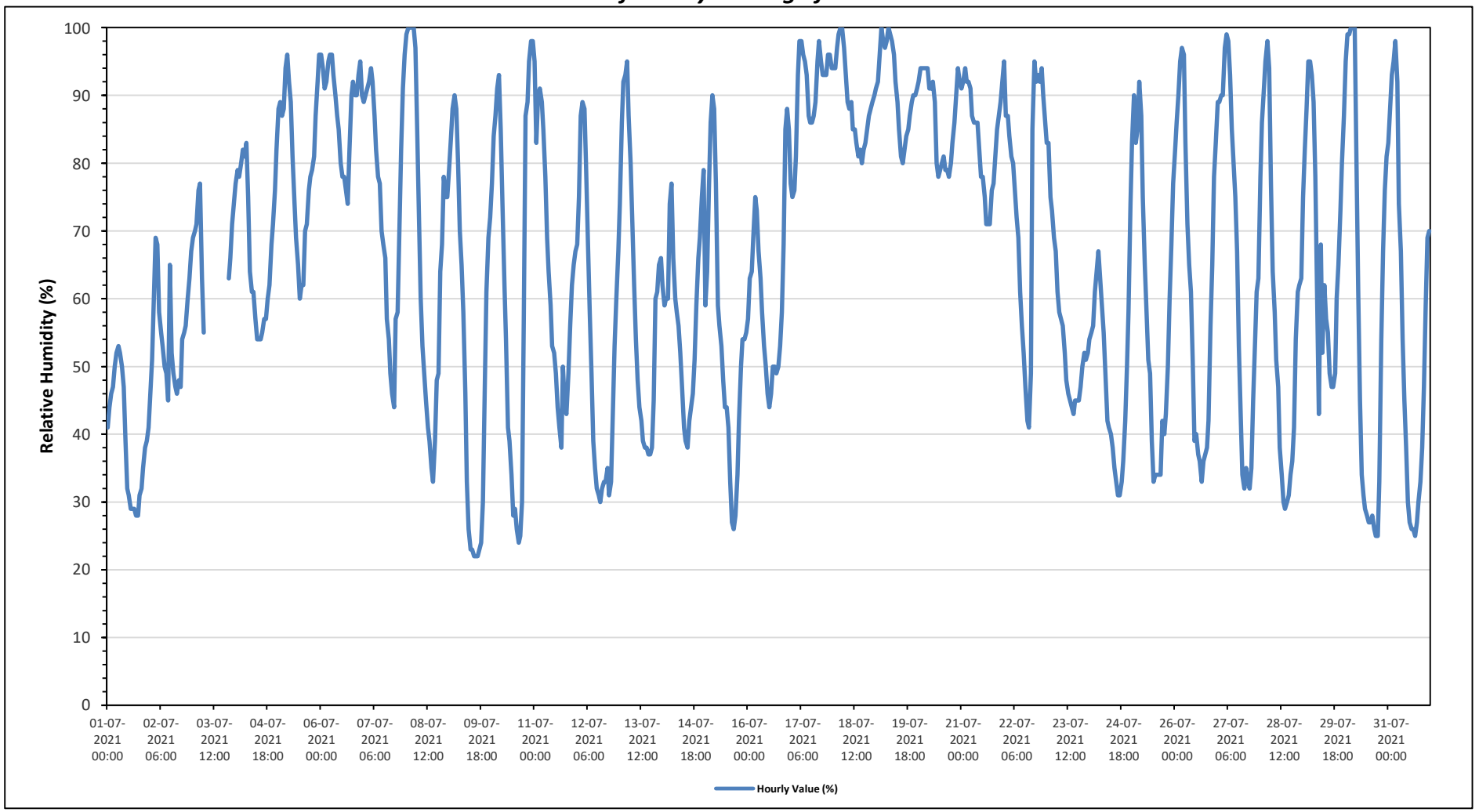
Maximum Hourly Value:	100	%	on July 8 at hour 1	Hours in Service:	744
Maximum Daily Value:	91.3	%	on July 19	Hours of Data:	731
Minimum Hourly Value:	22	%	on July 9 at hour 14	Hours of Missing Data:	13
Minimum Daily Value:	39.3	%	on July 1	Hours of Calibration:	0
Monthly Average:	66.1	%		Operational Uptime:	98.3

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
Jul 1	41	44	46	47	50	52	53	52	50	47	39	32	31	29	29	29	28	28	31	32	35	38	39	41	28	53	39.3
Jul 2	46	51	60	69	68	58	55	53	50	49	45	65	52	49	47	46	48	47	54	55	56	60	63	67	45	69	54.7
Jul 3	69	70	71	76	77	63	55	X	X	X	X	X	X	X	X	X	X	X	X	X	63	66	71	74	55	77	-
Jul 4	77	79	78	80	82	81	83	75	64	61	61	57	54	54	54	55	57	57	60	62	68	71	76	82	54	83	67.8
Jul 5	88	89	87	88	94	96	92	89	81	74	69	65	60	62	62	70	71	76	78	79	81	87	92	96	60	96	80.3
Jul 6	96	94	91	92	95	96	96	93	90	87	85	80	78	78	76	74	82	90	92	90	90	93	95	90	74	96	88.5
Jul 7	89	90	91	92	94	92	87	82	78	77	70	68	66	57	54	49	46	44	57	58	70	82	91	96	44	96	74.2
Jul 8	99	**100**	**100**	**100**	**100**	97	85	74	60	53	49	45	41	39	35	33	39	48	49	64	68	78	75	75	33	**100**	66.9
Jul 9	79	84	88	90	88	80	70	65	58	46	33	26	23	23	**22**	**22**	**22**	23	24	30	48	61	69	72	**22**	90	51.9
Jul 10	77	84	87	91	93	85	74	62	54	41	39	34	28	29	26	24	25	30	57	87	89	95	98	98	24	98	62.8
Jul 11	95	83	90	91	89	85	78	69	64	59	53	52	49	44	41	38	50	44	43	49	56	62	65	67	38	95	63.2
Jul 12	68	75	87	89	88	80	68	58	49	39	35	32	31	30	32	33	33	35	31	33	43	53	60	67	30	89	52.0
Jul 13	74	86	92	93	95	87	80	71	62	54	48	44	42	39	38	38	37	37	38	45	60	61	65	66	37	95	60.5
Jul 14	62	59	60	60	74	77	66	60	58	56	52	47	41	39	38	42	44	46	51	59	66	69	75	79	38	79	57.5
Jul 15	59	64	76	86	90	88	77	59	56	53	48	44	44	41	33	27	26	28	34	42	50	54	54	55	26	90	53.7
Jul 16	57	63	64	69	75	73	67	63	58	53	50	46	44	46	50	50	49	50	53	58	68	85	88	85	44	88	61.0
Jul 17	77	75	76	81	93	98	98	96	95	93	87	86	86	87	89	95	98	95	93	93	93	96	96	94	75	98	90.4
Jul 18	94	94	97	99	**100**	**100**	97	93	89	88	89	85	85	83	81	82	80	82	83	85	87	88	89	90	80	**100**	89.2
Jul 19	91	92	96	**100**	98	97	98	**100**	99	98	96	92	89	85	81	80	82	84	85	87	89	90	90	91	80	**100**	**91.3**
Jul 20	92	94	94	94	94	94	91	91	92	89	80	78	79	80	81	79	79	78	80	83	86	90	94	92	78	94	86.8
Jul 21	91	92	94	92	92	91	87	86	86	86	82	78	78	75	71	71	71	76	77	81	85	87	89	92	71	94	83.8
Jul 22	95	87	87	84	81	80	76	72	69	61	56	52	47	42	41	49	85	95	92	93	92	94	90	86	41	95	75.3
Jul 23	83	83	75	73	69	67	61	58	57	56	52	48	46	45	44	43	45	45	45	47	50	52	51	52	43	83	56.1
Jul 24	54	55	56	61	64	67	63	59	55	49	42	41	40	38	35	33	31	31	33	36	42	50	58	74	31	74	48.6
Jul 25	83	90	83	85	92	87	75	65	59	51	49	39	33	34	34	34	34	42	40	43	50	60	68	77	33	92	58.6
Jul 26	82	86	90	95	97	96	83	71	65	61	51	39	40	37	36	33	36	37	38	42	56	65	78	83	33	97	62.4
Jul 27	89	89	90	90	97	99	98	93	85	80	75	67	53	42	34	32	35	33	32	35	45	54	61	63	32	99	65.5
Jul 28	78	86	91	95	98	94	77	64	58	51	47	38	34	30	29	30	31	34	36	41	54	61	62	63	29	98	57.6
Jul 29	75	82	88	95	95	93	89	78	58	43	68	52	62	57	55	49	47	47	49	60	65	73	80	87	43	95	68.6
Jul 30	95	99	99	**100**	**100**	**100**	83	61	45	34	31	29	28	27	27	28	26	25	25	33	54	67	76	81	25	**100**	57.2
Jul 31	83	88	93	95	98	92	74	67	54	45	38	30	27	26	26	25	27	30	33	38	47	59	69	70	25	98	55.6
Diurnal Maximum	99	100	100	100	100	100	98	100	99	98	96	92	89	87	89	95	98	95	93	93	93	96	98	98			
Daiurnal Average	78.6	80.9	83.1	85.5	87.7	85.3	78.6	72.6	66.6	61.1	57.3	53.0	50.4	48.2	46.7	46.4	48.8	50.6	53.1	58.0	64.7	71.0	75.1	77.6			

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 RH - Tamarack Site



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - July 2021

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

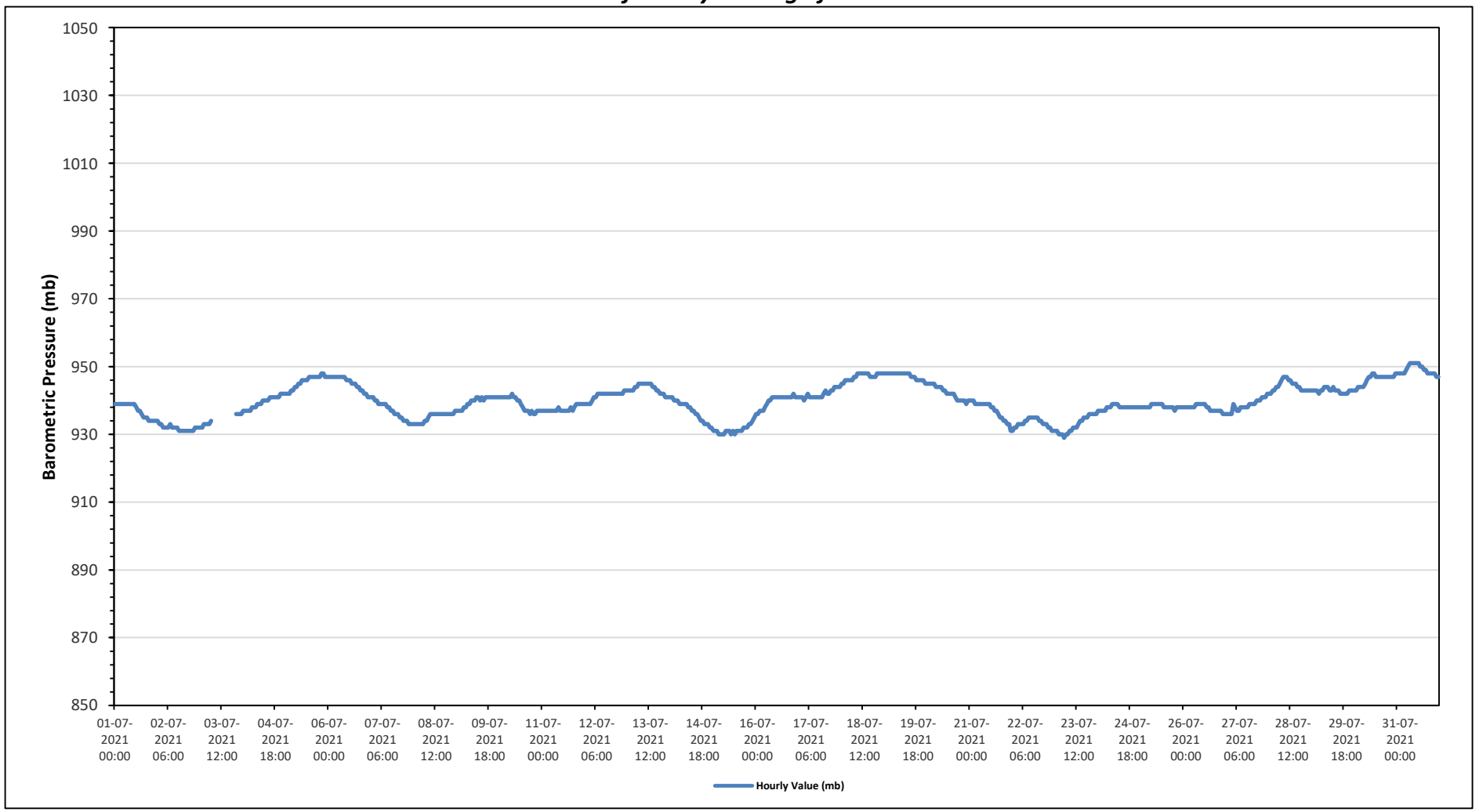
Maximum Hourly Value:	951	mb	on July 31 at hour 7	Hours in Service:	744
Maximum Daily Value:	949	mb	on July 31	Hours of Data:	731
Minimum Hourly Value:	929	mb	on July 23 at hour 5	Hours of Missing Data:	13
Minimum Daily Value:	931	mb	on July 15	Hours of Calibration:	0
Monthly Average:	940	mb		Operational Uptime:	98.3

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
Jul 1	939	939	939	939	939	939	939	939	939	939	939	939	938	937	937	936	935	935	935	934	934	934	934	934	934	939	937
Jul 2	934	933	933	932	932	932	932	933	932	932	932	932	931	931	931	931	931	931	931	931	931	932	932	932	931	934	932
Jul 3	932	932	933	933	933	933	934	X	X	X	X	X	X	X	X	X	X	X	X	X	936	936	936	936	932	936	-
Jul 4	937	937	937	937	937	938	938	938	939	939	939	940	940	940	940	941	941	941	941	941	941	942	942	942	937	942	940
Jul 5	942	942	942	943	943	944	944	945	945	946	946	946	946	947	947	947	947	947	947	947	948	948	947	947	942	948	946
Jul 6	947	947	947	947	947	947	947	947	947	947	946	946	946	945	945	945	944	944	943	943	942	942	941	941	941	947	945
Jul 7	941	941	940	940	939	939	939	939	939	938	938	937	937	936	936	936	935	935	934	934	934	933	933	933	933	941	937
Jul 8	933	933	933	933	933	933	934	934	935	936	936	936	936	936	936	936	936	936	936	936	936	936	936	937	933	937	935
Jul 9	937	937	937	937	938	938	939	939	940	940	940	941	941	940	941	940	941	941	941	941	941	941	941	941	937	941	940
Jul 10	941	941	941	941	941	941	941	942	941	941	940	940	939	938	937	937	937	936	937	936	936	937	937	937	936	942	939
Jul 11	937	937	937	937	937	937	937	937	937	938	937	937	937	937	937	937	938	937	938	939	939	939	939	939	937	939	938
Jul 12	939	939	939	939	940	941	941	942	942	942	942	942	942	942	942	942	942	942	942	942	942	942	943	943	939	943	941
Jul 13	943	943	943	943	944	944	945	945	945	945	945	945	945	945	944	944	943	943	942	942	942	941	941	941	941	945	943
Jul 14	941	941	940	940	940	939	939	939	939	939	938	938	937	937	936	936	935	934	934	933	933	933	932	932	932	941	937
Jul 15	931	931	931	930	930	930	930	931	931	931	930	931	930	931	931	931	931	932	932	932	933	933	934	935	930	935	931
Jul 16	936	936	937	937	937	938	939	940	940	941	941	941	941	941	941	941	941	941	941	941	941	942	941	941	936	942	940
Jul 17	941	941	941	940	941	942	941	941	941	941	941	941	941	941	942	943	942	942	943	943	944	944	944	944	940	944	942
Jul 18	945	945	946	946	946	946	946	947	947	948	948	948	948	948	948	948	947	947	947	947	948	948	948	948	945	948	947
Jul 19	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	947	947	947	946	946	946	946	946	945	945	948	947
Jul 20	945	945	945	945	945	944	944	944	944	943	943	942	942	942	942	942	941	940	940	940	940	940	939	940	939	945	942
Jul 21	940	940	940	939	939	939	939	939	939	939	939	939	938	938	937	937	936	935	935	934	934	933	933	931	931	940	937
Jul 22	931	932	932	933	933	933	933	934	934	935	935	935	935	935	935	934	934	933	933	933	932	932	931	931	931	935	933
Jul 23	931	931	930	930	930	**929**	930	930	931	931	932	932	932	933	934	934	935	935	935	936	936	936	936	936	**929**	936	933
Jul 24	937	937	937	937	937	938	938	938	939	939	939	939	938	938	938	938	938	938	938	938	938	938	938	938	937	939	938
Jul 25	938	938	938	938	938	938	939	939	939	939	939	939	939	938	938	938	938	938	938	937	938	938	938	938	937	939	938
Jul 26	938	938	938	938	938	938	938	939	939	939	939	939	939	938	938	937	937	937	937	937	937	937	936	936	936	939	938
Jul 27	936	936	936	936	939	938	937	937	938	938	938	938	938	939	939	939	939	940	940	940	941	941	941	942	936	942	939
Jul 28	942	942	943	943	944	944	945	946	947	947	947	946	946	945	945	945	944	944	943	943	943	943	943	943	942	947	944
Jul 29	943	943	943	943	942	943	943	944	944	944	943	943	944	943	943	943	942	942	942	942	942	943	943	943	942	944	943
Jul 30	943	943	944	944	944	944	945	946	947	947	948	948	947	947	947	947	947	947	947	947	947	947	947	948	943	948	946
Jul 31	948	948	948	948	948	949	950	**951**	**951**	**951**	**951**	**951**	**951**	950	950	949	949	948	948	948	948	948	947	947	947	**951**	**949**
Diurnal Maximum	948	948	948	948	948	949	950	951	951	951	951	951	951	950	950	949	949	948	948	948	948	948	948	948			
Diurnal Average	939	939	939	939	939	940	940	940	941	941	941	941	940	940	940	940	940	940	940	939	939	940	939	939			

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 BP - Tamarack Site



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - July 2021

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

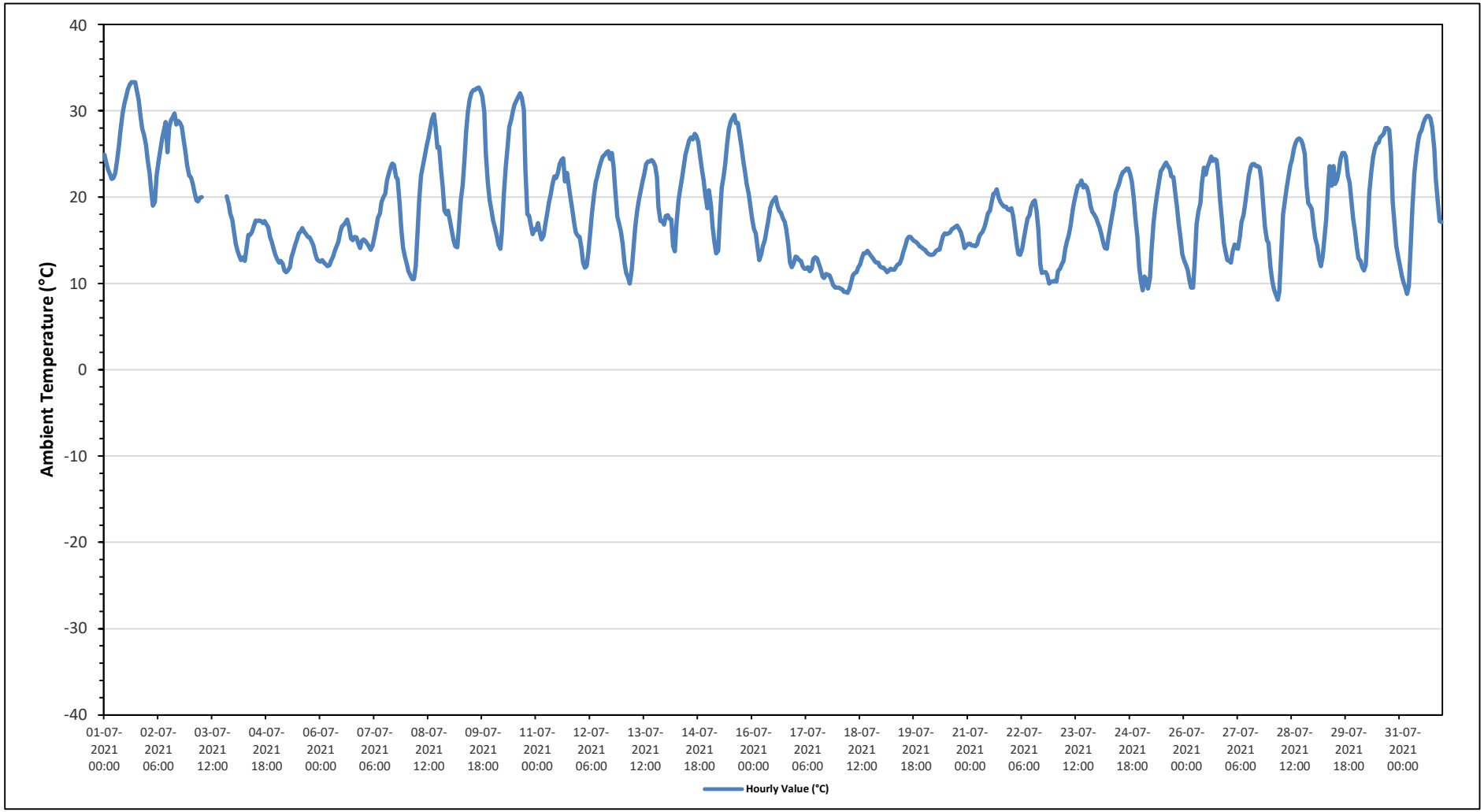
Maximum Hourly Value:	33.3	°C	on July 1 at hour 15	Hours in Service:	744
Maximum Daily Value:	28.0	°C	on July 1	Hours of Data:	731
Minimum Hourly Value:	8.1	°C	on July 28 at hour 4	Hours of Missing Data:	13
Minimum Daily Value:	11.5	°C	on July 18	Hours of Calibration:	0
Monthly Average:	18.5	°C		Operational Uptime:	98.3

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
Jul 1	24.9	24	23.2	22.7	22.1	22.2	22.8	24.2	26.1	27.8	29.7	30.8	31.6	32.5	33	**33.3**	**33.3**	**33.3**	32.4	31.2	29.4	27.9	27.2	26	22.1	**33.3**	**28.0**
Jul 2	24.4	22.8	20.6	19	19.4	22.5	24	25.3	26.8	27.6	28.7	25.2	28.1	28.9	29.3	29.7	28.4	28.8	28.6	28.1	26.7	25.1	23.7	22.5	19.0	29.7	25.6
Jul 3	22.3	21.6	20.6	19.6	19.5	19.9	20	X	X	X	X	X	X	X	X	X	X	X	X	X	20.1	19.2	18.1	17.4	17.4	22.3	-
Jul 4	16	14.6	13.8	13.1	12.7	13	12.6	14.1	15.6	15.6	16	16.6	17.3	17.2	17.3	17.2	17	17.2	16.8	16.5	15.4	14.8	14	13.3	12.6	17.3	15.3
Jul 5	12.8	12.4	12.6	12.3	11.5	11.3	11.5	11.9	13	13.8	14.5	15.1	15.8	16	16.4	16	15.7	15.4	15.3	14.9	14.4	13.6	12.8	12.6	11.3	16.4	13.8
Jul 6	12.5	12.7	12.4	12.2	12	12.1	12.6	13.1	13.8	14.3	14.8	16	16.6	16.8	17.1	17.4	16.5	15.2	15	15.4	15.3	14.7	14.1	14.9	12.0	17.4	14.5
Jul 7	15.1	14.9	14.6	14.3	13.9	14.4	15.4	16.4	17.6	18.1	19.4	20	20.4	21.9	22.7	23.5	23.9	23.7	22.3	22.1	19.3	16.2	14.1	13.1	13.1	23.9	18.2
Jul 8	12.2	11.4	10.9	10.5	10.5	12	15.8	19.8	22.5	23.7	24.6	25.9	26.8	27.9	29	29.6	28.3	25.7	25.8	23.3	21.2	18.4	18	18.4	10.5	29.6	20.5
Jul 9	17.2	16.1	15	14.3	14.2	16.4	19.7	21.3	24.1	27.6	29.9	31.3	32.1	32.4	32.4	32.6	32.7	32.3	31.7	29.9	25.1	21.7	19.7	18.7	14.2	32.7	24.5
Jul 10	17.3	16.5	15.6	14.5	14	16.1	20.5	23.4	26	28.1	29	30	30.7	31.2	31.6	32	31.5	30.1	23.2	18	17.8	16.7	15.7	16.3	14.0	32.0	22.7
Jul 11	16.2	17	15.8	15.1	15.5	16.8	18	19.3	20.4	21.4	22.4	22.2	22.8	23.8	24.3	24.5	21.8	22.8	21.3	19.9	18.6	16.9	15.9	15.5	15.1	24.5	19.5
Jul 12	15.4	14.2	12.4	11.8	12	13.6	16.1	18.1	20.2	21.7	22.5	23.4	24.2	24.7	24.9	25.2	25.3	24.4	25.1	23.5	20.6	17.7	17	16	11.8	25.3	19.6
Jul 13	14.6	12.4	11.2	10.6	10	11.6	14.1	16.6	18.3	19.6	20.8	21.7	22.7	23.8	24.1	24.1	24.3	24.1	23.6	22.3	18.8	17.2	17.2	16.8	10.0	24.3	18.4
Jul 14	17.8	17.9	17.5	17.4	14.3	13.7	17.1	19.7	20.9	22.1	23.7	24.9	25.8	26.6	26.9	26.7	27.3	27.1	26.4	24.8	23.1	22	20.2	18.7	13.7	27.3	21.8
Jul 15	20.8	19.1	16.5	14.8	13.5	13.8	17.3	21.1	22.3	23.9	26.1	27.8	28.7	29.1	29.5	28.6	28.6	27.2	25.9	24.3	22.8	21.5	20.4	18.9	13.5	29.5	22.6
Jul 16	17.4	16.3	15.8	14.2	12.7	13.4	14.3	15	16.2	17.5	18.7	19.4	19.7	20	19	18.4	18.2	17.6	17.1	16.3	14.5	12.4	11.9	12.3	11.9	20.0	16.2
Jul 17	13.1	13	12.7	12.6	12	11.7	11.7	11.9	11.4	11.7	12.8	13	12.9	12.3	11.7	10.8	10.6	11.1	11	10.9	10.4	9.8	9.5	9.5	9.5	13.1	11.6
Jul 18	9.5	9.4	9.3	9	9	8.9	9.4	10.2	10.9	11.2	11.3	11.9	12.2	13	13.5	13.5	13.8	13.5	13.2	12.9	12.6	12.4	12.4	12	8.9	13.8	11.5
Jul 19	11.8	11.8	11.6	11.3	11.5	11.7	11.6	11.6	12	12.2	12.3	12.9	13.6	14.3	15.1	15.4	15.4	15.1	14.9	14.8	14.6	14.3	14.2	14	11.3	15.4	13.3
Jul 20	13.9	13.6	13.4	13.3	13.3	13.4	13.7	13.9	13.9	14.6	15.5	15.8	15.7	15.8	15.9	16.3	16.4	16.6	16.7	16.3	15.9	15	14.1	14.4	13.3	16.7	14.9
Jul 21	14.6	14.6	14.4	14.4	14.3	14.5	15.4	15.7	16	16.5	17.2	18.1	18.4	19.3	20.4	20.5	20.9	19.9	19.4	19.1	18.9	18.9	18.6	18.5	14.3	20.9	17.4
Jul 22	18.7	17.8	16.3	14.4	13.4	13.3	14	15.1	16.4	17.5	17.9	18.8	19.4	19.6	18.4	16.3	12.2	11.2	11.3	11.3	11	10	10.2	10.2	10.0	19.6	14.8
Jul 23	10.3	10.2	11.4	11.7	12.2	12.6	14	14.9	15.6	16.7	18.4	19.4	20.5	21.3	21.4	21.9	21.1	21.4	21.1	20.3	19	18.3	18	17.6	10.2	21.9	17.1
Jul 24	17.1	16.5	15.7	14.8	14.1	14	15.3	16.7	17.9	19	20.5	21	21.6	22.4	22.9	23	23.3	23.3	22.7	21.8	19.8	17.6	15.4	12	12.0	23.3	18.7
Jul 25	10.3	9.2	10.8	10.5	9.4	10.6	13.8	17	18.8	20.5	21.6	23	23.3	23.7	24	23.6	23.3	22.4	22.3	20.8	18.9	16.9	15.3	13.4	9.2	24.0	17.6
Jul 26	12.6	12.2	11.5	10.3	9.5	9.5	12.8	16.9	18.3	19.3	21.6	23.4	22.6	23.5	24	24.7	24.2	24.4	24.3	22.9	19.7	17.5	14.7	13.8	9.5	24.7	18.1
Jul 27	12.7	12.6	12.4	13.7	14.5	14.1	14	15.5	17.1	17.9	19.3	20.9	22.5	23.5	23.8	23.8	23.6	23.6	23.4	22	19.2	16.6	15	14.7	12.4	23.8	18.2
Jul 28	11.9	10.3	9.3	8.7	**8.1**	9	13.8	18	19.5	21	22.3	23.7	24.3	25.6	26.3	26.7	26.8	26.6	26.1	25	21.4	19.3	19	18.6	**8.1**	26.8	19.2
Jul 29	16.7	15.2	14.3	12.9	12	13.1	15.2	17.4	21.4	23.6	21.3	23.6	21.5	22	23	24.4	25.1	25.1	24.7	22.5	21.7	19.3	17.5	15.9	12.0	25.1	19.6
Jul 30	14.1	12.9	12.6	11.9	11.5	12.1	16.4	20.5	22.9	24.6	25.6	26.2	26.3	26.9	27.1	27.4	28	28	27.8	25.2	19.4	16.6	14.4	13	11.5	28.0	20.5
Jul 31	12	10.9	10.1	9.5	8.8	9.7	14.8	18.7	22.8	24.8	26.5	27.3	27.8	28.6	29.1	29.4	29.4	29.1	28	25.6	22.1	19.4	17.2	17.1	8.8	29.4	20.8
Diurnal Maximum	24.9	24.0	23.2	22.7	22.1	22.5	24.0	25.3	26.8	28.1	29.9	31.3	32.1	32.5	33.0	33.3	33.3	33.3	32.4	31.2	29.4	27.9	27.2	26.0			
Daiurnal Average	15.4	14.6	14.0	13.4	12.9	13.6	15.4	17.1	18.6	19.8	20.8	21.6	22.2	22.8	23.1	23.2	22.9	22.5	21.9	20.7	19.0	17.4	16.3	15.7			

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 AT - Tamarack Site



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - July 2021

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

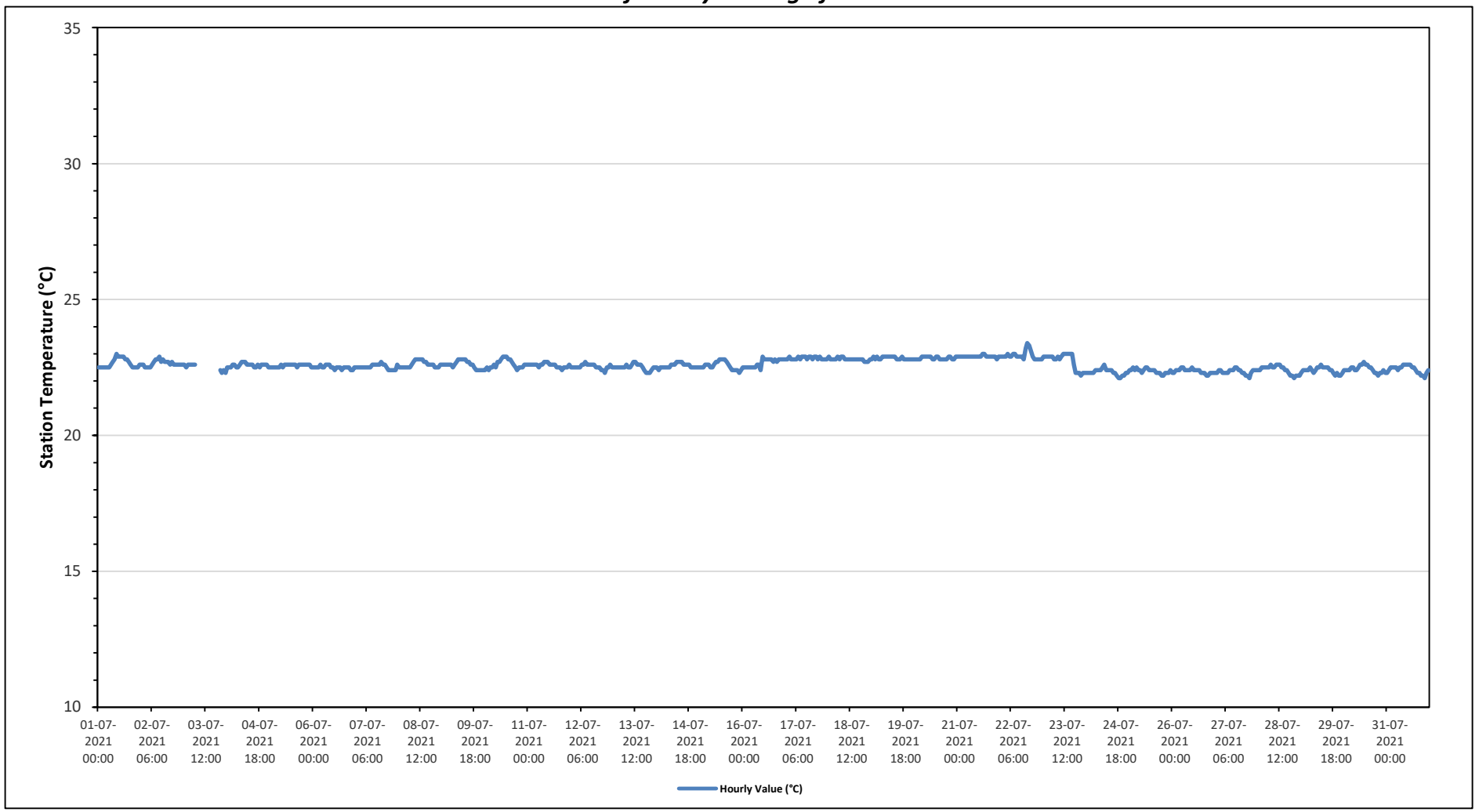
Maximum Hourly Value:	23.4	°C	on July 22 at hour 15	Hours in Service:	744
Maximum Daily Value:	22.9	°C	on July 22	Hours of Data:	731
Minimum Hourly Value:	22.1	°C	on July 24 at hour 18	Hours of Missing Data:	13
Minimum Daily Value:	22.3	°C	on July 24	Hours of Calibration:	0
Monthly Average:	22.6	°C		Operational Uptime:	98.3

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
Jul 1	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.6	22.7	22.8	23.0	22.9	22.9	22.9	22.9	22.8	22.8	22.7	22.6	22.5	22.5	22.5	22.5	22.6	22.5	23.0	22.7
Jul 2	22.6	22.6	22.5	22.5	22.5	22.5	22.6	22.7	22.8	22.8	22.9	22.7	22.8	22.7	22.7	22.7	22.6	22.7	22.6	22.6	22.6	22.6	22.6	22.6	22.5	22.9	22.6
Jul 3	22.6	22.5	22.6	22.6	22.6	22.6	22.6	X	X	X	X	X	X	X	X	X	X	X	X	X	22.4	22.3	22.4	22.3	22.3	22.6	-
Jul 4	22.5	22.5	22.5	22.6	22.6	22.5	22.5	22.6	22.7	22.7	22.7	22.6	22.6	22.6	22.6	22.5	22.5	22.6	22.5	22.6	22.6	22.6	22.6	22.5	22.5	22.7	22.6
Jul 5	22.5	22.5	22.5	22.5	22.5	22.5	22.6	22.5	22.6	22.6	22.6	22.6	22.6	22.6	22.6	22.5	22.6	22.6	22.6	22.6	22.6	22.6	22.6	22.5	22.5	22.6	22.6
Jul 6	22.5	22.5	22.5	22.5	22.6	22.5	22.5	22.6	22.6	22.6	22.5	22.5	22.4	22.5	22.5	22.5	22.4	22.5	22.5	22.5	22.5	22.4	22.4	22.5	22.4	22.6	22.5
Jul 7	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.6	22.6	22.6	22.6	22.6	22.7	22.6	22.6	22.5	22.4	22.4	22.4	22.4	22.4	22.6	22.4	22.7	22.5
Jul 8	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.6	22.7	22.8	22.8	22.8	22.8	22.8	22.7	22.7	22.6	22.6	22.6	22.6	22.5	22.5	22.5	22.6	22.5	22.8	22.6
Jul 9	22.6	22.6	22.6	22.6	22.6	22.6	22.5	22.6	22.7	22.8	22.8	22.8	22.8	22.8	22.7	22.7	22.6	22.6	22.5	22.4	22.4	22.4	22.4	22.4	22.4	22.8	22.6
Jul 10	22.4	22.5	22.4	22.5	22.5	22.6	22.5	22.7	22.7	22.8	22.9	22.9	22.9	22.8	22.8	22.7	22.6	22.5	22.4	22.5	22.5	22.5	22.6	22.6	22.4	22.9	22.6
Jul 11	22.6	22.6	22.6	22.6	22.6	22.6	22.5	22.6	22.6	22.7	22.7	22.7	22.6	22.6	22.6	22.6	22.5	22.5	22.5	22.4	22.5	22.5	22.5	22.6	22.4	22.7	22.6
Jul 12	22.5	22.5	22.5	22.5	22.5	22.5	22.6	22.6	22.7	22.6	22.6	22.6	22.6	22.6	22.5	22.5	22.5	22.4	22.4	22.3	22.5	22.5	22.6	22.5	22.3	22.7	22.5
Jul 13	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.6	22.5	22.5	22.6	22.7	22.7	22.6	22.6	22.6	22.5	22.4	22.3	22.3	22.3	22.4	22.5	22.5	22.3	22.7	22.5
Jul 14	22.5	22.4	22.5	22.5	22.5	22.5	22.5	22.5	22.6	22.6	22.6	22.7	22.7	22.7	22.7	22.6	22.6	22.6	22.6	22.5	22.5	22.5	22.5	22.5	22.4	22.7	22.6
Jul 15	22.5	22.5	22.5	22.6	22.6	22.6	22.5	22.5	22.6	22.7	22.7	22.8	22.8	22.8	22.8	22.7	22.6	22.5	22.4	22.4	22.4	22.4	22.3	22.4	22.3	22.8	22.6
Jul 16	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.6	22.6	22.4	22.9	22.8	22.8	22.8	22.8	22.8	22.7	22.8	22.7	22.8	22.8	22.8	22.8	22.4	22.9	22.7
Jul 17	22.8	22.8	22.9	22.8	22.8	22.8	22.8	22.9	22.8	22.9	22.9	22.9	22.8	22.9	22.9	22.8	22.9	22.9	22.8	22.9	22.8	22.8	22.8	22.8	22.8	22.9	22.8
Jul 18	22.9	22.8	22.8	22.8	22.8	22.9	22.8	22.9	22.9	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.7	22.7	22.7	22.8	22.7	22.9	22.8
Jul 19	22.8	22.9	22.8	22.9	22.8	22.8	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.8	22.8	22.8	22.9	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.9	22.8
Jul 20	22.8	22.8	22.8	22.8	22.9	22.9	22.9	22.9	22.9	22.9	22.8	22.8	22.9	22.9	22.8	22.8	22.8	22.8	22.8	22.9	22.9	22.8	22.8	22.9	22.8	22.9	22.8
Jul 21	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	23.0	23.0	22.9	22.9	22.9	22.9	22.9	22.9	22.8	22.9	22.8	23.0	22.9
Jul 22	22.9	22.9	22.9	22.9	23.0	22.9	22.9	23.0	23.0	22.9	22.9	22.9	22.9	22.8	23.2	**23.4**	23.3	23.1	22.9	22.8	22.8	22.8	22.8	22.8	22.8	**23.4**	**22.9**
Jul 23	22.9	22.9	22.9	22.9	22.9	22.9	22.8	22.8	22.9	22.8	22.9	23.0	23.0	23.0	23.0	23.0	23.0	22.6	22.3	22.3	22.3	22.2	22.3	22.3	22.2	23.0	22.7
Jul 24	22.3	22.3	22.3	22.3	22.3	22.4	22.4	22.4	22.4	22.5	22.6	22.4	22.4	22.4	22.4	22.3	22.3	22.2	**22.1**	**22.1**	22.2	22.2	22.3	22.3	**22.1**	22.6	22.3
Jul 25	22.4	22.4	22.5	22.4	22.5	22.4	22.4	22.3	22.4	22.5	22.5	22.4	22.4	22.4	22.4	22.3	22.3	22.3	22.2	22.2	22.3	22.3	22.3	22.4	22.2	22.5	22.4
Jul 26	22.3	22.3	22.4	22.4	22.4	22.5	22.5	22.4	22.4	22.4	22.4	22.5	22.4	22.4	22.4	22.4	22.3	22.3	22.3	22.2	22.2	22.3	22.3	22.3	22.2	22.5	22.4
Jul 27	22.3	22.3	22.4	22.4	22.3	22.3	22.3	22.3	22.4	22.4	22.4	22.5	22.5	22.4	22.4	22.3	22.3	22.2	22.2	**22.1**	22.3	22.4	22.4	22.4	**22.1**	22.5	22.3
Jul 28	22.4	22.4	22.5	22.5	22.5	22.5	22.5	22.6	22.5	22.5	22.6	22.6	22.6	22.5	22.5	22.4	22.4	22.3	22.2	22.2	**22.1**	22.2	22.2	22.2	**22.1**	22.6	22.4
Jul 29	22.3	22.4	22.4	22.4	22.4	22.5	22.4	22.3	22.4	22.5	22.5	22.6	22.5	22.5	22.5	22.5	22.4	22.4	22.3	22.2	22.3	22.2	22.2	22.3	22.2	22.6	22.4
Jul 30	22.4	22.4	22.4	22.4	22.5	22.5	22.4	22.4	22.5	22.6	22.6	22.7	22.6	22.6	22.5	22.5	22.4	22.3	22.3	22.2	22.3	22.3	22.4	22.3	22.2	22.7	22.4
Jul 31	22.3	22.4	22.5	22.5	22.5	22.5	22.4	22.5	22.5	22.6	22.6	22.6	22.6	22.6	22.5	22.5	22.4	22.3	22.3	22.2	22.2	**22.1**	22.3	22.4	**22.1**	22.6	22.4
Diurnal Maximum	22.9	22.9	22.9	22.9	23.0	22.9	22.9	23.0	23.0	22.9	23.0	23.0	23.0	23.0	23.2	23.4	23.3	23.1	22.9	22.9	22.9	22.9	22.8	22.9			
Daiurnal Average	22.5	22.6	22.6	22.6	22.6	22.6	22.6	22.6	22.6	22.7	22.7	22.7	22.7	22.7	22.7	22.6	22.6	22.6	22.5	22.5	22.5	22.5	22.5	22.5			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	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 ST - Tamarack Site



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - July 2021

Summary of Hourly Averages

PRECIPITATION in mm

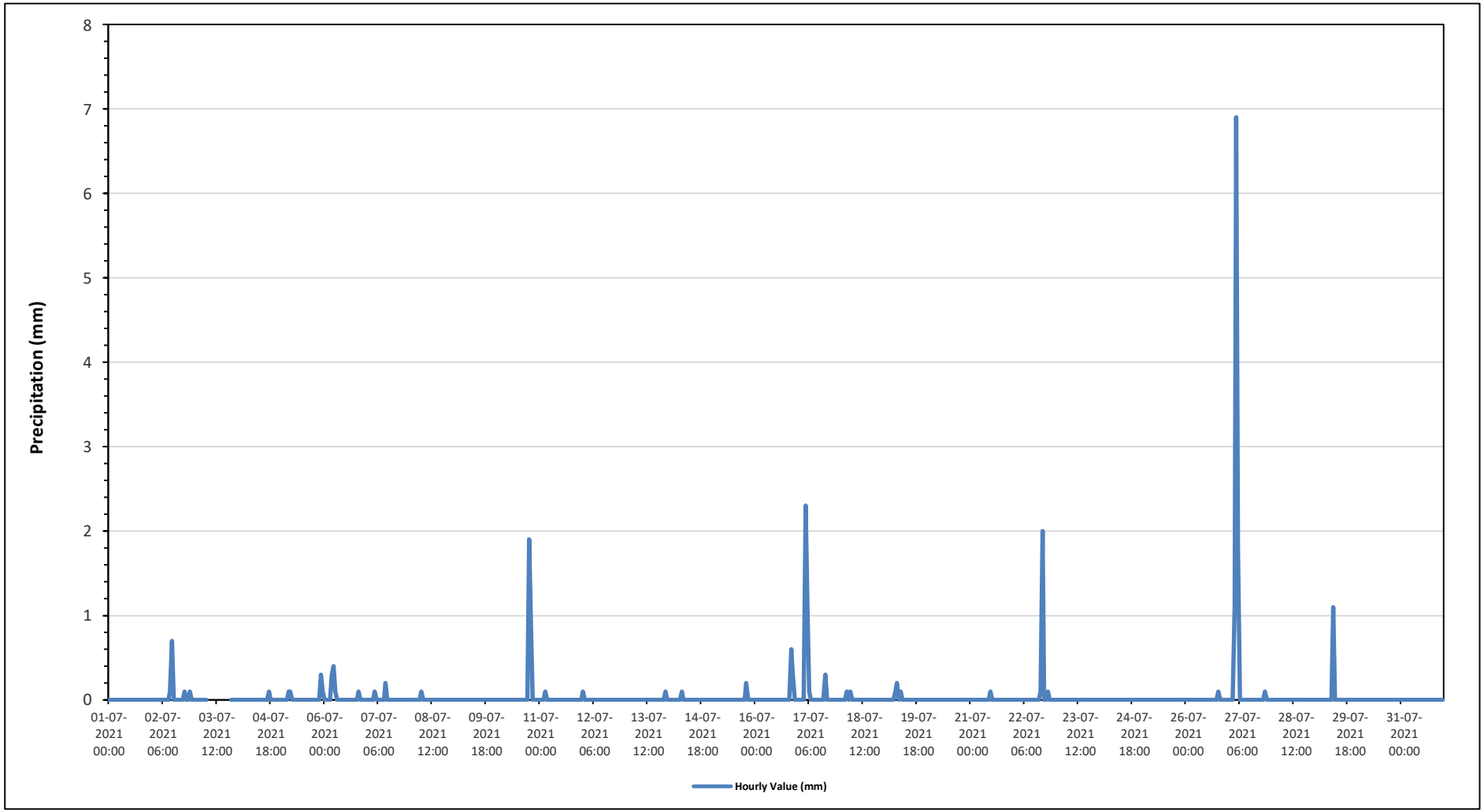
Maximum Hourly Value:	6.9	mm	on July 27 at hour 4	Hours in Service:	744
Maximum Daily Value:	9.9	mm	on July 27	Hours of Data:	731
Minimum Hourly Value:	0.0	mm	on July 1 at hour 0	Hours of Missing Data:	13
Minimum Daily Value:	0.0	mm	on July 1	Hours of Calibration:	0
Monthly Total:	25.1	mm		Operational Uptime:	98.3

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	Total
Jul 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
Jul 2	0	0	0	0	0	0	0	0	0	0	0.1	0.7	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0.0	0.7	1.0
Jul 3	0	0	0	0	0	0	0	X	X	X	X	X	X	X	X	X	X	X	X	X	0	0	0	0	0.0	0.0	0.0
Jul 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0.0	0.1	0.1
Jul 5	0	0	0	0	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.1	0.0	0.3	0.6
Jul 6	0	0	0	0	0.3	0.4	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0.0	0.4	0.9
Jul 7	0	0	0	0	0.1	0	0	0	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2	0.3
Jul 8	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	0.1
Jul 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
Jul 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.9	0.9	0	0	0	0	0.0	1.9	2.8
Jul 11	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	0.1	0.1
Jul 12	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	0.1	0.1
Jul 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0.0	0.1	0.1
Jul 14	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	0.1
Jul 15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0	0	0.0	0.2	0.2
Jul 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	0.3	0	0	0.0	0.6	0.9
Jul 17	0	0	0	0	2.3	1.1	0.1	0	0	0	0	0	0	0	0	0.3	0	0	0	0	0	0	0	0	0.0	2.3	3.8
Jul 18	0	0	0	0.1	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	0.2
Jul 19	0	0	0	0	0	0	0.1	0.2	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2	0.4
Jul 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
Jul 21	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	0.1	0.1
Jul 22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	2	0	0	0.1	0	0	0	0	0.0	2.0	2.2
Jul 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
Jul 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
Jul 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
Jul 26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0.0	0.1	0.1
Jul 27	0	0	0	1.1	**6.9**	1.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0.0	**6.9**	**9.9**
Jul 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
Jul 29	0	0	0	0	0	0	0	0	0	0	1.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	1.1	1.1
Jul 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
Jul 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	0.1	0.0	0.0	1.1	6.9	1.8	0.1	0.2	0.0	0.1	1.1	0.7	0.0	0.0	0.0	0.3	2.0	0.1	1.9	0.9	0.6	0.3	0.3	0.1			
Diurnal Average	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	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 Precipitation - Tamarack Site



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - July 2021

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

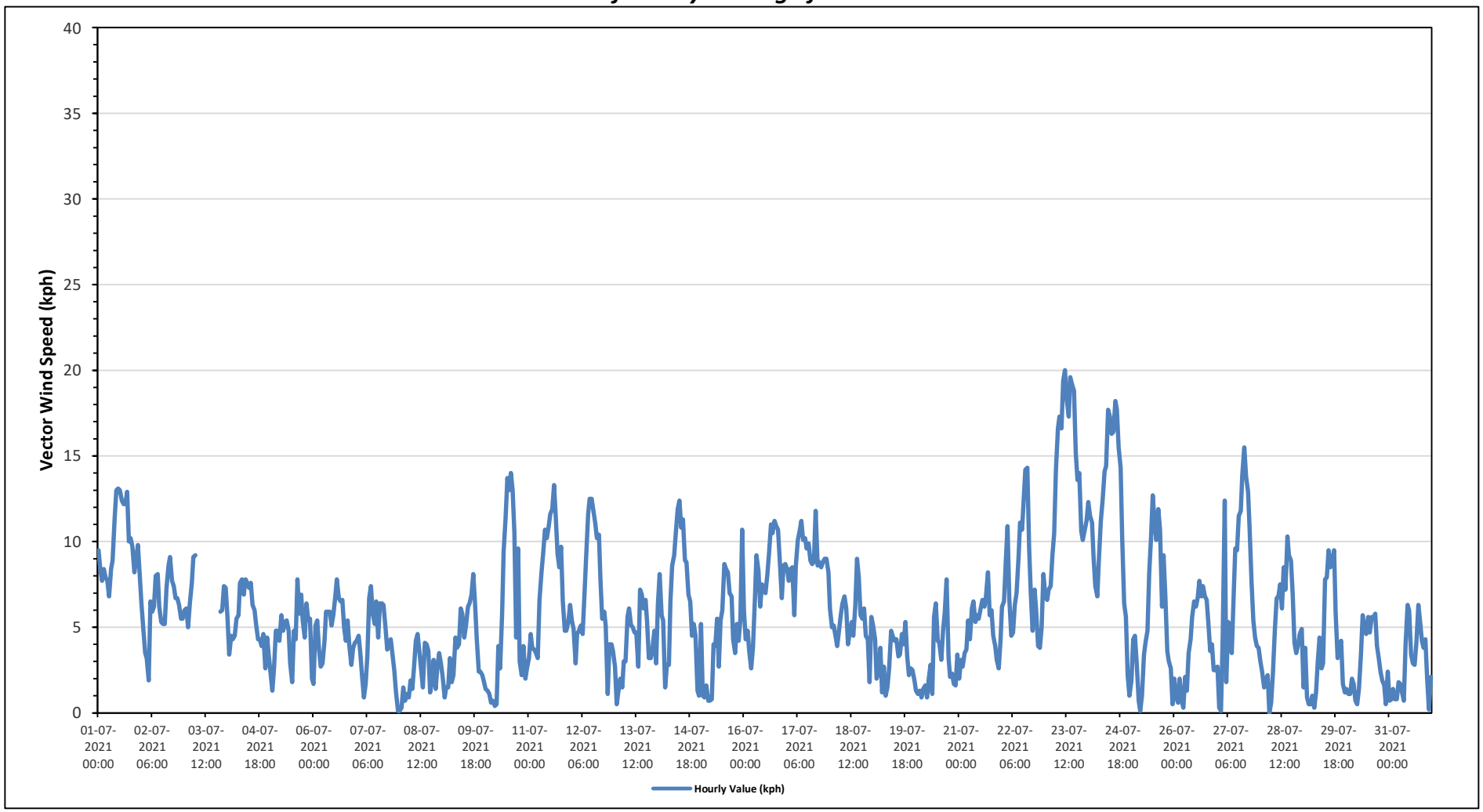
Maximum Hourly Value:	20.0	kph	on July 23 at hour 11	Hours in Service:	744
Maximum Daily Value:	13.1	kph	on July 23	Hours of Data:	731
Minimum Hourly Value:	0.0	kph	on July 28 at hour 5	Hours of Missing Data:	13
Minimum Daily Value:	1.6	kph	on July 8	Hours of Calibration:	0
Monthly Average:	1.1	kph		Operational Uptime:	98.3

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
Jul 1	9.5	8.4	7.7	8.4	7.9	7.7	6.8	8.4	8.9	11.3	13.0	13.1	13.0	12.4	12.2	12.2	12.9	10.0	10.2	9.7	8.2	8.9	9.8	8.1	6.8	13.1	9.8
Jul 2	6.4	5.0	3.5	3.2	1.9	6.5	5.9	6.2	8.0	8.1	6.2	5.3	5.2	5.2	7.3	8.6	9.1	7.7	7.4	6.7	6.7	6.3	5.5	5.5	1.9	9.1	2.6
Jul 3	6.0	6.1	5.0	6.4	7.6	9.1	9.2	X	X	X	X	X	X	X	X	X	X	X	X	X	5.9	6.0	7.4	7.3	5.0	9.2	-
Jul 4	5.6	3.4	4.5	4.3	4.5	5.5	5.7	7.6	7.8	6.9	7.8	7.6	7.3	7.6	6.3	6.0	5.2	4.3	4.3	3.9	4.6	2.6	4.4	3.3	2.6	7.8	5.2
Jul 5	2.3	1.3	2.7	4.8	4.8	4.2	5.7	4.8	5.3	5.4	4.8	2.9	1.8	4.8	4.3	7.8	5.8	6.9	5.4	4.4	6.4	5.4	5.5	2.0	1.3	7.8	3.1
Jul 6	1.7	5.1	5.4	3.7	2.7	2.9	4.2	5.9	5.9	5.9	5.1	5.7	6.8	7.8	6.7	6.5	6.6	5.0	4.2	5.4	3.9	2.8	3.8	4.1	1.7	7.8	4.7
Jul 7	4.2	4.5	3.6	2.1	0.9	1.7	3.4	6.7	7.4	5.8	5.2	6.5	4.4	6.4	6.4	6.3	5.0	3.7	3.9	4.3	3.4	2.5	1.2	0.1	0.1	7.4	3.7
Jul 8	0.1	0.3	1.5	0.7	1.1	0.9	1.9	1.4	2.7	4.2	4.6	3.6	2.4	1.5	4.1	4.0	3.6	1.2	1.9	3.1	1.4	2.7	3.5	2.9	0.1	4.6	**1.6**
Jul 9	2.1	0.9	1.5	1.5	3.2	1.8	2.2	4.4	3.8	4.0	6.1	5.8	4.4	5.1	6.2	6.4	6.9	8.1	6.4	4.3	2.4	2.4	2.2	1.8	0.9	8.1	3.3
Jul 10	1.4	1.3	1.1	0.6	0.7	0.4	0.5	3.9	2.6	5.8	9.4	11.4	13.7	13.0	14.0	13.0	10.5	4.4	9.6	3.0	2.2	3.9	2.0	2.6	0.4	14.0	4.5
Jul 11	3.2	4.6	3.8	3.7	3.5	3.2	6.6	8.2	9.2	10.7	10.2	10.8	11.6	11.9	13.3	11.7	9.3	8.5	9.7	6.5	4.8	4.8	5.3	6.3	3.2	13.3	7.0
Jul 12	5.4	4.9	2.9	4.6	4.8	5.1	4.6	6.8	9.1	11.6	12.5	12.5	11.8	11.1	10.2	10.4	7.8	5.5	5.9	5.1	1.1	4.0	4.0	3.6	1.1	12.5	5.8
Jul 13	2.7	0.5	1.3	2.0	1.5	3.0	3.0	5.6	6.1	5.1	5.0	4.7	4.7	2.7	7.2	6.9	6.1	6.6	5.3	3.2	3.2	3.7	4.8	2.9	0.5	7.2	3.0
Jul 14	6.3	8.1	5.7	5.4	1.5	2.8	2.8	6.5	8.6	9.2	10.4	11.9	12.4	10.8	11.3	8.9	8.8	6.9	6.5	4.5	5.2	4.5	1.3	1.0	1.0	12.4	6.2
Jul 15	5.2	1.0	0.9	1.6	0.7	0.7	0.8	4.0	3.9	5.5	2.7	5.4	6.0	8.7	8.4	8.2	7.0	6.8	4.3	3.5	5.2	4.2	5.5	10.7	0.7	10.7	2.6
Jul 16	6.0	4.3	4.8	3.6	2.6	3.8	6.7	9.2	8.3	6.2	7.5	7.3	7.0	8.0	9.3	11.0	10.5	11.2	10.9	10.7	8.9	6.7	8.6	8.7	2.6	11.2	7.3
Jul 17	8.4	7.7	8.4	8.5	5.7	8.6	10.1	10.6	11.2	10.1	10.2	9.6	9.9	8.9	8.7	8.8	11.8	8.6	8.8	8.5	8.8	9.0	9.0	8.2	5.7	11.8	8.8
Jul 18	6.1	5.0	5.1	4.5	3.9	4.8	5.8	6.4	6.8	6.1	4.0	4.7	5.3	4.5	6.2	9.0	7.9	5.7	5.5	6.1	4.5	4.3	1.8	5.6	1.8	9.0	5.2
Jul 19	5.1	4.3	2.0	2.4	3.8	1.2	2.7	1.0	1.5	2.6	4.8	4.5	4.2	4.3	3.3	3.4	4.6	4.0	5.3	3.3	2.2	2.6	2.5	1.9	1.0	5.3	2.8
Jul 20	1.3	1.1	1.3	0.9	1.4	1.6	0.9	2.0	2.8	1.1	5.6	6.4	4.2	4.1	3.1	4.8	5.9	7.8	3.2	2.1	2.3	1.7	1.6	3.4	0.9	7.8	2.5
Jul 21	2.0	3.1	2.7	3.5	3.7	5.4	4.3	6.1	6.5	5.3	5.7	5.5	6.1	6.6	6.2	6.8	8.2	5.7	6.0	4.5	3.9	3.1	2.6	4.2	2.0	8.2	4.6
Jul 22	6.2	6.5	8.8	10.9	6.7	4.5	4.7	6.3	7.0	9.1	11.1	10.7	12.6	14.2	14.3	9.7	6.9	4.8	7.2	6.0	3.9	3.8	5.0	8.1	3.8	14.3	6.0
Jul 23	6.8	6.6	7.2	7.4	9.2	10.5	14.2	16.6	17.3	16.6	19.4	**20.0**	18.3	17.3	19.6	19.2	18.8	15.2	13.6	14.0	10.6	10.1	10.7	11.2	6.6	**20.0**	**13.1**
Jul 24	12.3	11.5	11.1	9.1	7.4	6.8	8.9	11.2	12.4	14.1	14.4	17.7	17.3	16.3	16.4	18.2	17.7	15.5	14.3	10.3	6.4	5.6	2.2	1.0	1.0	18.2	11.4
Jul 25	1.9	4.3	4.5	2.9	0.7	0.1	1.0	3.4	4.1	4.8	8.2	10.2	12.7	10.9	10.1	11.9	10.7	6.2	9.2	6.9	3.6	3.0	2.6	0.5	0.1	12.7	4.0
Jul 26	2.0	0.9	0.6	2.0	0.7	0.3	2.1	1.3	3.5	4.3	5.6	6.5	6.2	6.7	7.7	6.8	7.4	6.8	6.6	5.2	3.6	4.0	2.5	2.5	0.3	7.7	2.9
Jul 27	2.7	0.3	0.1	4.5	12.4	1.8	5.3	4.7	3.5	6.6	9.6	9.5	11.5	11.8	13.9	15.5	13.8	12.9	10.8	7.6	5.4	4.4	3.9	3.8	0.1	15.5	6.2
Jul 28	3.0	2.4	1.5	1.9	2.2	**0.0**	0.6	2.3	4.9	6.7	6.8	7.5	6.1	8.5	7.2	10.3	9.2	8.9	6.9	4.1	3.5	4.0	4.6	4.9	**0.0**	10.3	4.4
Jul 29	1.5	3.8	0.9	0.5	0.5	1.0	0.3	1.2	3.0	4.4	2.6	2.9	7.8	7.9	9.5	8.5	8.9	9.5	5.9	3.2	3.8	4.2	1.7	1.2	0.3	9.5	2.6
Jul 30	1.4	1.1	1.1	2.0	1.7	0.7	0.5	1.4	3.4	5.7	4.9	4.6	5.6	4.7	5.6	5.5	5.8	3.9	3.2	2.4	1.9	1.6	0.5	2.4	0.5	5.8	1.8
Jul 31	0.7	0.8	1.4	0.8	0.8	1.8	1.7	1.2	0.7	4.0	6.3	6.0	3.4	2.9	2.8	4.1	6.3	5.3	4.2	3.8	4.3	2.0	0.2	2.1	0.2	6.3	1.9
Diurnal Maximum	12	12	11	11	12	11	14	17	17	17	19	20	18	17	20	19	19	16	14	14	11	10	11	11			
Daiurnal Average	4.2	3.8	3.6	3.8	3.6	3.5	4.3	5.5	6.2	6.9	7.7	8.0	8.1	8.2	8.7	9.0	8.6	7.3	6.9	5.5	4.6	4.3	4.1	4.3			

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	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.

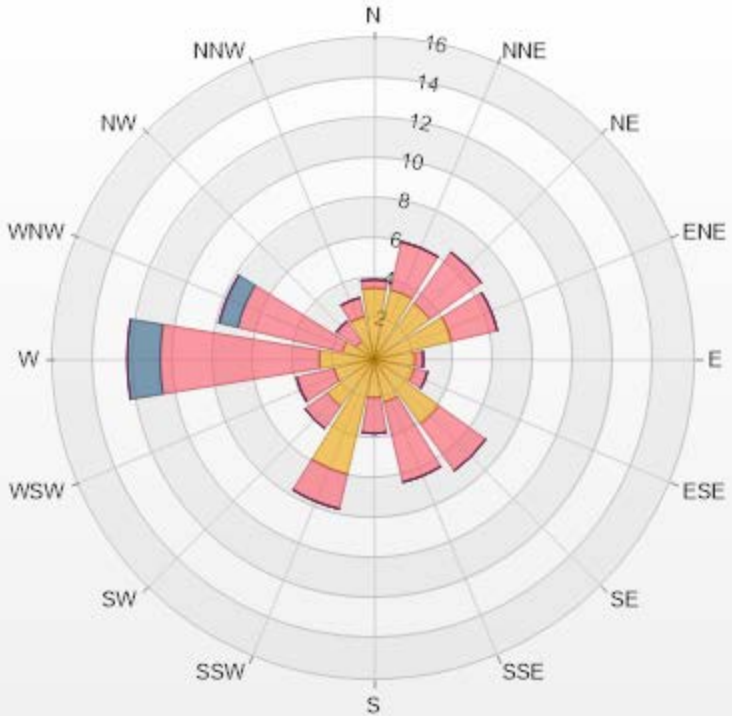
Timeseries Chart of Hourly Average for VWS - Tamarack Site



Wind: Tamarack Monitor: WDS [kph] Monthly: 07-2021 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 13.54% Valid Data: 98.25%

Direction	1.8-6.0	6.0-15.0	15.0-29.0	29.0-39.0	>39.0	Total
N	3.56	0.41	0	0	0	3.97
NNE	3.56	2.46	0	0	0	6.02
NE	3.42	3.15	0	0	0	6.57
ENE	3.97	2.33	0	0	0	6.3
E	2.05	0.41	0	0	0	2.46
ESE	2.05	0.68	0	0	0	2.73
SE	3.97	2.87	0	0	0	6.84
SSE	2.19	4.1	0	0	0	6.29
S	1.92	1.78	0	0	0	3.7
SSW	5.88	1.78	0	0	0	7.66
SW	2.87	1.37	0	0	0	4.24
WSW	2.05	1.92	0	0	0	3.97
W	2.74	7.93	1.64	0	0	12.31
WNW	1.64	5.34	0.96	0	0	7.94
NW	1.09	1.23	0	0	0	2.32
NNW	2.19	0.96	0	0	0	3.15
Summary	45.15	38.72	2.6	0	0	86.47

Tamarack 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 13.54% Calm Wind Avg Speed: 1.05(kph)



% Icon Classes (kph)	45 1.8-6.0	39 6.0-15.0	3 15.0-29.0	0 29.0-39.0	0 >39.0

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - July 2021

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

Monthly Average: 264 (W) degree

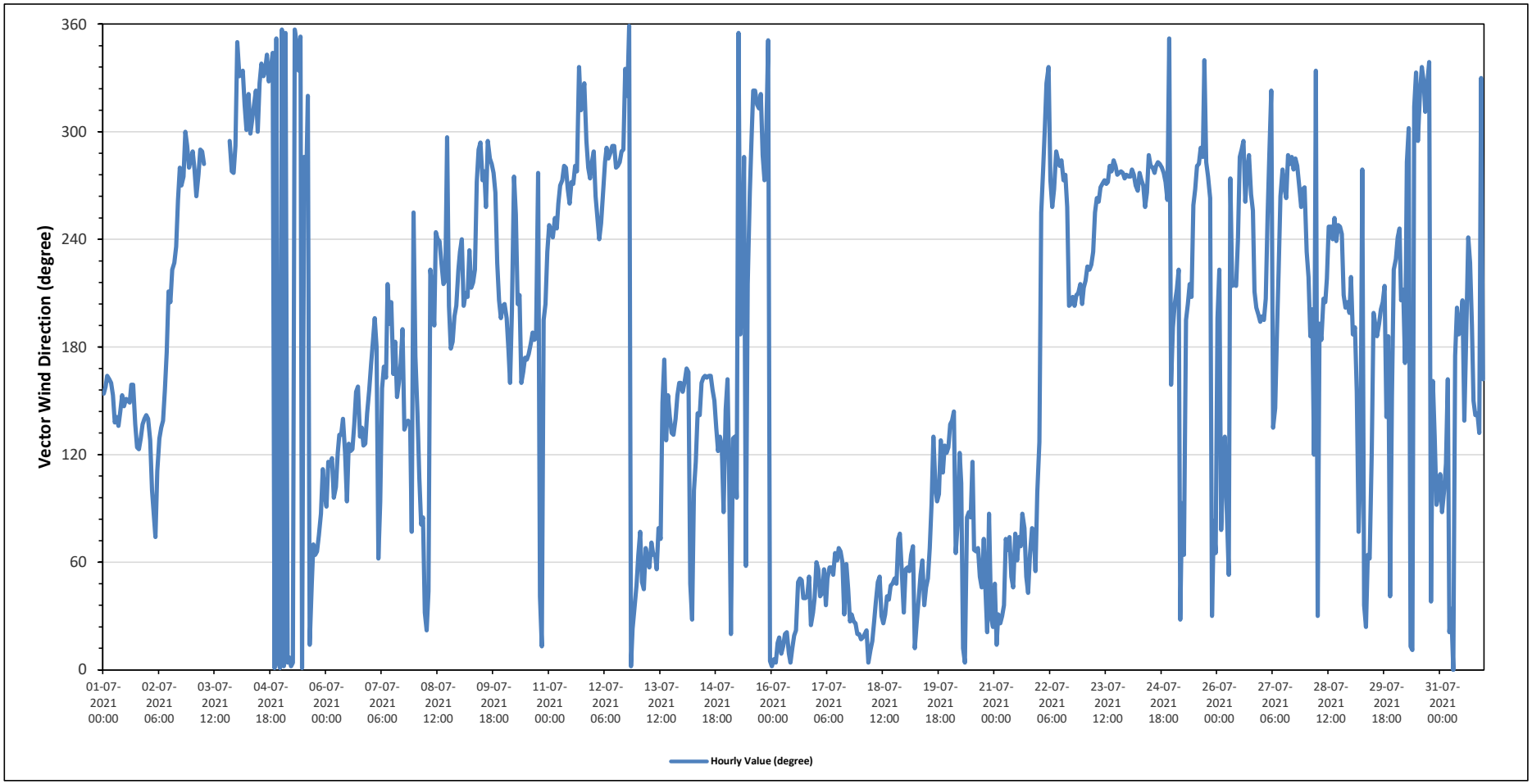
Hours in Service:	744
Hours of Data:	731
Hours of Missing Data:	13
Hours of Calibration:	0
Operational Uptime:	98.3

Day	Hourly Period Starting at (MST)																								Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Degree	Quadrant
Jul 1	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	SE	SE	SSE	SE	SSE	SSE	SSE	SSE	SSE	SE	ESE	ESE	SE	SE	SE	SE	147	SE
Jul 2	SE	SE	E	E	ENE	ESE	SE	SE	SE	SSE	S	SSW	SSW	SW	SW	SW	W	W	W	W	WNW	WNW	W	WNW	213	SSW
Jul 3	WNW	W	W	W	WNW	WNW	W	X	X	X	X	X	X	X	X	X	X	X	X	X	WNW	W	W	WNW	-	W
Jul 4	N	NNW	NNW	NNW	NW	WNW	NW	WNW	NW	NW	NW	WNW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	N	N	N	328	NNW
Jul 5	N	N	N	N	N	N	N	N	NNW	NNW	N	N	WNW	W	NW	NNE	NE	ENE	ENE	ENE	ENE	E	ESE	E	22	NNE
Jul 6	E	ESE	ESE	ESE	E	E	ESE	SE	SE	SE	ESE	E	SE	ESE	ESE	SE	SSE	SSE	SE	SE	SE	SE	SE	SSE	128	SE
Jul 7	SSE	S	SSW	S	ENE	E	SSE	SSE	SSE	SSW	S	SSW	SSE	S	SSE	SSE	S	S	SE	SE	SE	SE	ENE	WSW	169	SSE
Jul 8	S	SE	ESE	E	E	NNE	NNE	NE	SW	SSW	S	WSW	WSW	WSW	SW	SSW	SW	WNW	SSW	S	S	SSW	SSW	SW	210	SSW
Jul 9	SW	WSW	SSW	SSW	SSW	SW	SSW	SW	SW	W	WNW	WNW	W	W	WSW	WNW	WNW	W	W	W	SW	SSW	SSW	SSW	261	W
Jul 10	SSW	SSW	S	SSE	SSW	W	WSW	SSW	SSW	SSE	SSE	S	S	S	S	S	S	S	W	NE	NNE	SSW	SSW	SW	186	S
Jul 11	WSW	WSW	WSW	WSW	WSW	WSW	W	W	W	W	W	WSW	W	W	W	W	NNW	NW	NW	NW	WNW	W	W	W	280	W
Jul 12	WNW	W	WSW	WSW	WSW	W	W	WNW	WNW	WNW	WNW	WNW	W	W	W	WNW	WNW	NNW	NW	N	N	NNE	NE	NE	292	WNW
Jul 13	ENE	ENE	NE	NE	ENE	ENE	ENE	ENE	ENE	ENE	NE	ENE	ENE	SSE	S	SE	SSE	SE	SE	SE	SE	SSE	SSE	SSE	109	ESE
Jul 14	SSE	SSE	SSE	SSE	NE	NNE	E	ESE	SE	SE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SE	ESE	SE	SE	E	SE	150	SSE
Jul 15	SSE	ESE	NNE	SE	SE	E	N	S	SW	WNW	ENE	SSW	W	WNW	NW	NW	NW	NW	NW	WNW	W	WNW	N	N	304	WNW
Jul 16	N	N	N	NNE	NNE	N	NNE	NNE	NNE	N	N	NNE	NNE	NNE	NE	NE	NE	NE	NE	NE	NE	NNE	NNE	NE	29	NNE
Jul 17	ENE	NE	NE	NE	NE	NE	NE	ENE	ENE	NE	ENE	ENE	ENE	ENE	ENE	NNE	ENE	NE	NNE	NNE	NNE	NNE	NNE	NNE	47	NE
Jul 18	NNE	NNE	NNE	NNE	N	NNE	NNE	NNE	NE	NE	NE	NNE	NNE	NNE	NE	NE	NE	NE	NE	NE	ENE	ENE	NE	NNE	36	NE
Jul 19	NE	ENE	NE	ENE	ENE	NNE	NNE	NE	NE	ENE	NE	NE	NE	ENE	E	SE	E	E	E	SE	ESE	SE	ESE	ESE	76	ENE
Jul 20	SE	SE	SE	ENE	E	ESE	ESE	NNE	N	E	E	E	ESE	ENE	ENE	ENE	NE	NE	ENE	NE	NNE	E	NNE	NNE	67	ENE
Jul 21	NE	NNE	NNE	NNE	NNE	NE	ENE	ENE	ENE	NE	NE	ENE	ENE	ENE	ENE	E	ENE	NE	NE	ENE	ENE	ENE	NE	E	62	ENE
Jul 22	SE	WSW	W	WNW	NW	NNW	W	WSW	W	WNW	WNW	W	WNW	W	W	WSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	262	W
Jul 23	SSW	SW	SW	SW	SW	SW	WSW	W	W	W	W	W	W	W	W	W	WNW	W	W	W	W	W	W	W	267	W
Jul 24	W	W	W	W	W	W	W	W	W	WSW	W	WNW	W	W	W	W	W	W	W	W	W	W	N	SSE	277	W
Jul 25	S	SSW	SSW	SW	NNE	E	ENE	SSW	SSW	SSW	SSW	WSW	W	W	W	WNW	WNW	NNW	W	W	W	NNE	E	ENE	265	W
Jul 26	SSW	SW	ENE	ESE	SE	E	NE	W	SSW	SSW	SSW	WSW	WNW	WNW	WNW	W	W	WNW	W	WSW	SSW	SSW	SSW	SSW	253	WSW
Jul 27	SSW	SSW	SSW	WSW	WNW	NW	SE	SE	S	SW	W	W	W	W	WNW	W	WNW	W	WNW	W	W	WSW	W	W	270	W
Jul 28	SW	SW	S	SSW	ESE	NNW	NNE	S	S	SSW	SSW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SSW	SSW	SSW	SSW	226	SW
Jul 29	SW	S	S	SSE	ENE	ESE	W	NE	NNE	ENE	ENE	ESE	SSW	S	S	S	SSW	SSW	SSW	SE	S	NE	SSE	SW	183	S
Jul 30	SW	WSW	WSW	SSW	SSW	S	W	WNW	NNE	NNE	NW	NNW	WNW	NW	NNW	NNW	NW	NW	NNW	NE	SSE	SE	E	E	326	NW
Jul 31	ESE	E	E	ESE	SSE	NNE	NE	N	S	SSW	S	S	SSW	SE	S	WSW	SW	S	SSE	SE	SE	SE	NNW	SSE	178	S

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 - Tamarack Site



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - July 2021

Summary of Hourly Averages

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

WIND SPEED

Maximum Hourly Value:	20.0	kph	on July 23 at hour 11	Hours in Service:	744
Maximum Daily Value:	13.1	kph	on July 23	Hours of Data:	731
Minimum Hourly Value:	0.0	kph	on July 28 at hour 5	Hours of Missing Data:	13
Minimum Daily Value:	1.6	kph	on July 8	Hours of Calibration:	0
Monthly Average:	1.1	kph		Operational Uptime:	98.3

WIND DIRECTION

Monthly Average: 264 (W) degree

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
Jul 1	9.5	8.4	7.7	8.4	7.9	7.7	6.8	8.4	8.9	11.3	13.0	13.1	13.0	12.4	12.2	12.2	12.9	10.0	10.2	9.7	8.2	8.9	9.8	8.1	6.8	13.1	9.8
	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	SE	SE	SSE	SE	SSE	SSE	SSE	SSE	SSE	SE	ESE	ESE	SE	SE	SE	SE			
Jul 2	6.4	5.0	3.5	3.2	1.9	6.5	5.9	6.2	8.0	8.1	6.2	5.3	5.2	5.2	7.3	8.6	9.1	7.7	7.4	6.7	6.7	6.3	5.5	5.5	1.9	9.1	2.6
	SE	SE	E	E	ENE	ESE	SE	SE	SE	SSE	S	SSW	SSW	SW	SW	SW	W	W	W	W	WNW	WNW	W	WNW			
Jul 3	6.0	6.1	5.0	6.4	7.6	9.1	9.2	X	X	X	X	X	X	X	X	X	X	X	X	X	5.9	6.0	7.4	7.3	5.0	9.2	-
	WNW	W	W	W	WNW	WNW	W	X	X	X	X	X	X	X	X	X	X	X	X	X	WNW	W	W	WNW			
Jul 4	5.6	3.4	4.5	4.3	4.5	5.5	5.7	7.6	7.8	6.9	7.8	7.6	7.3	7.6	6.3	6.0	5.2	4.3	4.3	3.9	4.6	2.6	4.4	3.3	2.6	7.8	5.2
	N	NNW	NNW	NNW	NW	WNW	NW	WNW	NW	NW	NW	WNW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	N	N	N			
Jul 5	2.3	1.3	2.7	4.8	4.8	4.2	5.7	4.8	5.3	5.4	4.8	2.9	1.8	4.8	4.3	7.8	5.8	6.9	5.4	4.4	6.4	5.4	5.5	2.0	1.3	7.8	3.1
	N	N	N	N	N	N	N	N	NNW	NNW	N	N	WNW	W	NW	NNE	NE	ENE	ENE	ENE	ENE	E	ESE	E			
Jul 6	1.7	5.1	5.4	3.7	2.7	2.9	4.2	5.9	5.9	5.9	5.1	5.7	6.8	7.8	6.7	6.5	6.6	5.0	4.2	5.4	3.9	2.8	3.8	4.1	1.7	7.8	4.7
	E	ESE	ESE	ESE	E	E	ESE	SE	SE	SE	ESE	E	SE	ESE	ESE	SE	SSE	SSE	SE	SE	SE	SE	SE	SSE			
Jul 7	4.2	4.5	3.6	2.1	0.9	1.7	3.4	6.7	7.4	5.8	5.2	6.5	4.4	6.4	6.4	6.3	5.0	3.7	3.9	4.3	3.4	2.5	1.2	0.1	0.1	7.4	3.7
	SSE	S	SSW	S	ENE	E	SSE	SSE	SSE	SSW	S	SSW	SSE	S	SSE	SSE	S	S	SE	SE	SE	SE	ENE	WSW			
Jul 8	0.1	0.3	1.5	0.7	1.1	0.9	1.9	1.4	2.7	4.2	4.6	3.6	2.4	1.5	4.1	4.0	3.6	1.2	1.9	3.1	1.4	2.7	3.5	2.9	0.1	4.6	**1.6**
	S	SE	ESE	E	E	NNE	NNE	NE	SW	SSW	S	WSW	WSW	WSW	SW	SSW	SW	WNW	SSW	S	S	SSW	SSW	SW			
Jul 9	2.1	0.9	1.5	1.5	3.2	1.8	2.2	4.4	3.8	4.0	6.1	5.8	4.4	5.1	6.2	6.4	6.9	8.1	6.4	4.3	2.4	2.4	2.2	1.8	0.9	8.1	3.3
	SW	WSW	SSW	SSW	SSW	SW	SSW	SW	SW	W	WNW	WNW	W	W	WSW	WNW	WNW	W	W	W	SW	SSW	SSW	SSW			
Jul 10	1.4	1.3	1.1	0.6	0.7	0.4	0.5	3.9	2.6	5.8	9.4	11.4	13.7	13.0	14.0	13.0	10.5	4.4	9.6	3.0	2.2	3.9	2.0	2.6	0.4	14.0	4.5
	SSW	SSW	S	SSE	SSW	W	WSW	SSW	SSW	SSE	SSE	S	S	S	S	S	S	S	W	NE	NNE	SSW	SSW	SW			
Jul 11	3.2	4.6	3.8	3.7	3.5	3.2	6.6	8.2	9.2	10.7	10.2	10.8	11.6	11.9	13.3	11.7	9.3	8.5	9.7	6.5	4.8	4.8	5.3	6.3	3.2	13.3	7.0
	WSW	WSW	WSW	WSW	WSW	WSW	W	W	W	W	W	WSW	W	W	W	W	NNW	NW	NW	NW	WNW	W	W	W			
Jul 12	5.4	4.9	2.9	4.6	4.8	5.1	4.6	6.8	9.1	11.6	12.5	12.5	11.8	11.1	10.2	10.4	7.8	5.5	5.9	5.1	1.1	4.0	4.0	3.6	1.1	12.5	5.8
	WNW	W	WSW	WSW	WSW	W	W	WNW	WNW	WNW	WNW	WNW	W	W	W	WNW	WNW	NNW	NW	N	N	NNE	NE	NE			
Jul 13	2.7	0.5	1.3	2.0	1.5	3.0	3.0	5.6	6.1	5.1	5.0	4.7	4.7	2.7	7.2	6.9	6.1	6.6	5.3	3.2	3.2	3.7	4.8	2.9	0.5	7.2	3.0
	ENE	ENE	NE	NE	ENE	ENE	ENE	ENE	ENE	ENE	NE	ENE	ENE	SSE	S	SE	SSE	SE	SE	SE	SE	SSE	SSE	SSE			
Jul 14	6.3	8.1	5.7	5.4	1.5	2.8	2.8	6.5	8.6	9.2	10.4	11.9	12.4	10.8	11.3	8.9	8.8	6.9	6.5	4.5	5.2	4.5	1.3	1.0	1.0	12.4	6.2
	SSE	SSE	SSE	SSE	NE	NNE	E	ESE	SE	SE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SE	ESE	SE	SE	E	SE			
Jul 15	5.2	1.0	0.9	1.6	0.7	0.7	0.8	4.0	3.9	5.5	2.7	5.4	6.0	8.7	8.4	8.2	7.0	6.8	4.3	3.5	5.2	4.2	5.5	10.7	0.7	10.7	2.6
	SSE	ESE	NNE	SE	SE	E	N	S	SW	WNW	ENE	SSW	W	WNW	NW	NW	NW	NW	NW	WNW	W	WNW	N	N			
Jul 16	6.0	4.3	4.8	3.6	2.6	3.8	6.7	9.2	8.3	6.2	7.5	7.3	7.0	8.0	9.3	11.0	10.5	11.2	10.9	10.7	8.9	6.7	8.6	8.7	2.6	11.2	7.3
	N	N	N	NNE	NNE	N	NNE	NNE	NNE	N	N	NNE	NNE	NNE	NE	NE	NE	NE	NE	NE	NE	NNE	NNE	NE			
Jul 17	8.4	7.7	8.4	8.5	5.7	8.6	10.1	10.6	11.2	10.1	10.2	9.6	9.9	8.9	8.7	8.8	11.8	8.6	8.8	8.5	8.8	9.0	9.0	8.2	5.7	11.8	8.8
	ENE	NE	NE	NE	NE	NE	NE	ENE	ENE	NE	ENE	ENE	ENE	ENE	ENE	NNE	ENE	NE	NNE	NNE	NNE	NNE	NNE	NNE			
Jul 18	6.1	5.0	5.1	4.5	3.9	4.8	5.8	6.4	6.8	6.1	4.0	4.7	5.3	4.5	6.2	9.0	7.9	5.7	5.5	6.1	4.5	4.3	1.8	5.6	1.8	9.0	5.2
	NNE	NNE	NNE	NNE	N	NNE	NNE	NNE	NE	NE	NE	NNE	NNE	NNE	NE	NE	NE	NE	NE	NE	ENE	ENE	NE	NNE			
Jul 19	5.1	4.3	2.0	2.4	3.8	1.2	2.7	1.0	1.5	2.6	4.8	4.5	4.2	4.3	3.3	3.4	4.6	4.0	5.3	3.3	2.2	2.6	2.5	1.9	1.0	5.3	2.8
	NE	ENE	NE	ENE	ENE	NNE	NNE	NE	NE	ENE	NE	NE	NE	ENE	E	SE	E	E	E	SE	ESE	SE	ESE	ESE			
Jul 20	1.3	1.1	1.3	0.9	1.4	1.6	0.9	2.0	2.8	1.1	5.6	6.4	4.2	4.1	3.1	4.8	5.9	7.8	3.2	2.1	2.3	1.7	1.6	3.4	0.9	7.8	2.5
	SE	SE	SE	ENE	E	ESE	ESE	NNE	N	E	E	E	ESE	ENE	ENE	ENE	NE	NE	ENE	NE	NNE	E	NNE	NNE			

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Tamarack Site - July 2021

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Minimum Hourly Value:	0.0	kph	on July 28 at hour 5	Hours of Missing Data:	13
Minimum Daily Value:	1.6	kph	on July 8	Hours of Calibration:	0
Monthly Average:	1.1	kph		Operational Uptime:	98.3

WIND DIRECTION

Monthly Average: 264 (W) degree

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
Jul 21	2.0	3.1	2.7	3.5	3.7	5.4	4.3	6.1	6.5	5.3	5.7	5.5	6.1	6.6	6.2	6.8	8.2	5.7	6.0	4.5	3.9	3.1	2.6	4.2	2.0	8.2	4.6
	NE	NNE	NNE	NNE	NNE	NE	ENE	ENE	ENE	NE	NE	ENE	ENE	ENE	ENE	E	ENE	NE	NE	ENE	ENE	ENE	NE	E			
Jul 22	6.2	6.5	8.8	10.9	6.7	4.5	4.7	6.3	7.0	9.1	11.1	10.7	12.6	14.2	14.3	9.7	6.9	4.8	7.2	6.0	3.9	3.8	5.0	8.1	3.8	14.3	6.0
	SE	WSW	W	WNW	NW	NNW	W	WSW	W	WNW	WNW	W	WNW	W	W	WSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW			
Jul 23	6.8	6.6	7.2	7.4	9.2	10.5	14.2	16.6	17.3	16.6	19.4	**20.0**	18.3	17.3	19.6	19.2	18.8	15.2	13.6	14.0	10.6	10.1	10.7	11.2	6.6	**20.0**	**13.1**
	SSW	SW	SW	SW	SW	SW	WSW	W	W	W	W	W	W	W	W	W	WNW	W	W	W	W	W	W	W			
Jul 24	12.3	11.5	11.1	9.1	7.4	6.8	8.9	11.2	12.4	14.1	14.4	17.7	17.3	16.3	16.4	18.2	17.7	15.5	14.3	10.3	6.4	5.6	2.2	1.0	1.0	18.2	11.4
	W	W	W	W	W	W	W	W	W	WSW	W	WNW	W	W	W	W	W	W	W	W	W	W	N	SSE			
Jul 25	1.9	4.3	4.5	2.9	0.7	0.1	1.0	3.4	4.1	4.8	8.2	10.2	12.7	10.9	10.1	11.9	10.7	6.2	9.2	6.9	3.6	3.0	2.6	0.5	0.1	12.7	4.0
	S	SSW	SSW	SW	NNE	E	ENE	SSW	SSW	SSW	SSW	WSW	W	W	W	WNW	WNW	NNW	W	W	W	NNE	E	ENE			
Jul 26	2.0	0.9	0.6	2.0	0.7	0.3	2.1	1.3	3.5	4.3	5.6	6.5	6.2	6.7	7.7	6.8	7.4	6.8	6.6	5.2	3.6	4.0	2.5	2.5	0.3	7.7	2.9
	SSW	SW	ENE	ESE	SE	E	NE	W	SSW	SSW	SSW	WSW	WNW	WNW	WNW	W	W	WNW	W	WSW	SSW	SSW	SSW	SSW			
Jul 27	2.7	0.3	0.1	4.5	12.4	1.8	5.3	4.7	3.5	6.6	9.6	9.5	11.5	11.8	13.9	15.5	13.8	12.9	10.8	7.6	5.4	4.4	3.9	3.8	0.1	15.5	6.2
	SSW	SSW	SSW	WSW	WNW	NW	SE	SE	S	SW	W	W	W	W	WNW	W	WNW	W	WNW	W	W	WSW	W	W			
Jul 28	3.0	2.4	1.5	1.9	2.2	**0.0**	0.6	2.3	4.9	6.7	6.8	7.5	6.1	8.5	7.2	10.3	9.2	8.9	6.9	4.1	3.5	4.0	4.6	4.9	**0.0**	10.3	4.4
	SW	SW	S	SSW	ESE	NNW	NNE	S	S	SSW	SSW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SSW	SSW	SSW	SSW			
Jul 29	1.5	3.8	0.9	0.5	0.5	1.0	0.3	1.2	3.0	4.4	2.6	2.9	7.8	7.9	9.5	8.5	8.9	9.5	5.9	3.2	3.8	4.2	1.7	1.2	0.3	9.5	2.6
	SW	S	S	SSE	ENE	ESE	W	NE	NNE	ENE	ENE	ESE	SSW	S	S	S	SSW	SSW	SSW	SE	S	NE	SSE	SW			
Jul 30	1.4	1.1	1.1	2.0	1.7	0.7	0.5	1.4	3.4	5.7	4.9	4.6	5.6	4.7	5.6	5.5	5.8	3.9	3.2	2.4	1.9	1.6	0.5	2.4	0.5	5.8	1.8
	SW	WSW	WSW	SSW	SSW	S	W	WNW	NNE	NNE	NW	NNW	WNW	NW	NNW	NNW	NW	NW	NNW	NE	SSE	SE	E	E			
Jul 31	0.7	0.8	1.4	0.8	0.8	1.8	1.7	1.2	0.7	4.0	6.3	6.0	3.4	2.9	2.8	4.1	6.3	5.3	4.2	3.8	4.3	2.0	0.2	2.1	0.2	6.3	1.9
	ESE	E	E	ESE	SSE	NNE	NE	N	S	SSW	S	S	SSW	SE	S	WSW	SW	S	SSE	SE	SE	SE	NNW	SSE			

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

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

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - July 2021

Summary of Hour Standard Deviations

STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

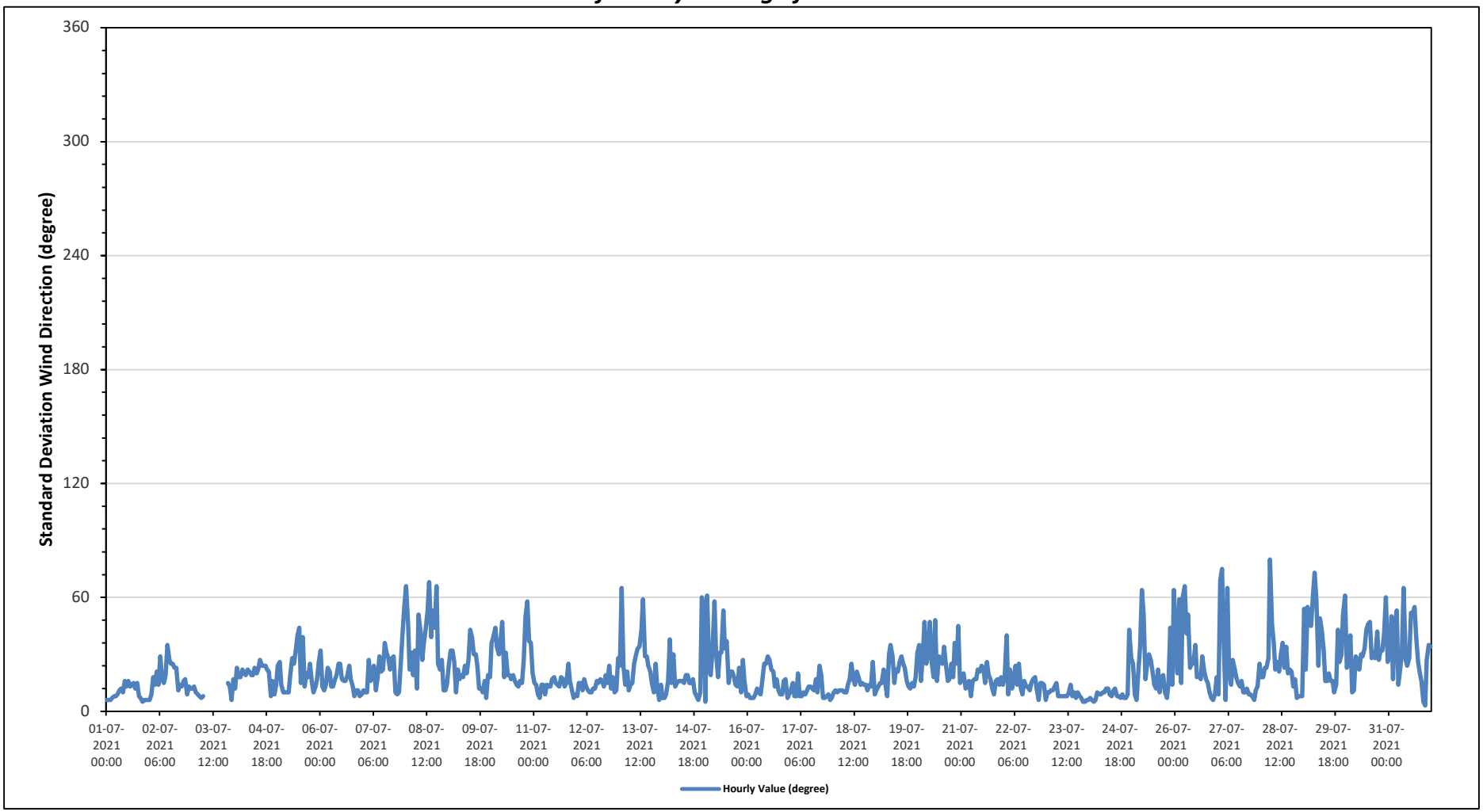
Maximum Hourly Value:	80	degree	on July 28 at hour 5	Hours in Service:	744
				Hours of Data:	731
Minimum Hourly Value:	3	degree	on July 31 at hour 20	Hours of Missing Data:	13
				Hours of Calibration:	0
				Operational Uptime:	98.3

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
Jul 1	6	6	6	7	8	8	9	11	12	10	16	13	16	13	14	15	12	15	8	7	5	6	6	6	**5**	16
Jul 2	6	9	18	14	21	14	29	17	15	19	35	27	25	25	23	23	11	14	13	16	17	9	13	12	6	35
Jul 3	12	13	10	9	8	7	8	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	15	13	6	17	6	17
Jul 4	12	23	18	18	22	20	19	22	21	19	19	23	20	22	27	24	24	24	22	21	8	16	9	14	8	27
Jul 5	24	26	14	10	10	10	10	20	28	25	32	40	44	15	39	13	20	18	25	16	10	13	17	26	10	44
Jul 6	32	13	11	14	23	21	13	13	17	19	25	25	17	16	16	19	24	17	13	8	11	11	8	9	8	32
Jul 7	11	10	10	27	16	19	24	11	18	29	21	22	36	31	28	22	28	29	10	9	10	25	43	55	9	55
Jul 8	66	46	22	31	19	32	12	51	42	27	36	44	53	68	39	53	44	66	25	22	27	11	11	14	11	68
Jul 9	25	32	32	26	10	22	17	19	18	24	20	27	43	39	30	30	24	12	12	10	16	7	19	18	7	43
Jul 10	36	39	44	34	30	38	47	18	31	19	19	17	19	16	14	13	16	15	27	50	58	37	36	20	13	58
Jul 11	15	14	9	7	14	14	9	14	13	13	17	18	15	14	13	18	17	13	15	25	16	11	7	9	7	25
Jul 12	8	15	15	11	17	13	11	10	10	12	12	16	15	17	16	13	19	15	24	12	18	10	11	28	8	28
Jul 13	24	65	24	14	21	11	14	15	25	30	33	34	43	59	29	29	24	21	15	10	25	13	6	14	6	65
Jul 14	7	7	9	16	38	15	30	13	15	16	16	16	15	19	19	15	15	17	10	8	6	10	60	55	6	60
Jul 15	5	61	22	19	32	58	31	18	31	31	53	33	37	15	21	21	18	14	13	23	10	27	16	8	**5**	61
Jul 16	9	7	7	7	9	12	10	9	17	25	25	29	27	22	21	13	17	11	9	9	16	17	7	9	7	29
Jul 17	11	15	8	8	20	8	8	10	9	11	13	13	12	11	17	10	24	19	7	7	8	9	6	7	6	24
Jul 18	10	11	10	11	11	11	10	10	14	17	25	17	14	21	18	14	15	14	14	11	14	13	26	9	9	26
Jul 19	11	13	15	15	22	15	8	30	35	29	15	22	21	26	29	25	23	16	13	12	15	13	18	31	8	35
Jul 20	35	16	29	47	25	30	47	26	18	48	16	29	26	25	34	25	16	17	25	18	36	25	45	15	15	48
Jul 21	17	20	12	13	16	8	16	17	17	22	21	24	23	15	26	19	17	12	9	16	17	14	18	14	8	26
Jul 22	18	40	9	22	12	17	24	14	25	12	9	16	13	13	11	15	17	18	12	6	15	15	14	6	6	40
Jul 23	10	10	11	11	13	15	8	8	8	8	8	8	10	14	8	10	7	10	8	7	5	5	6	6	**5**	15
Jul 24	7	6	5	6	10	9	9	10	10	12	12	9	8	11	12	8	8	7	9	7	7	9	43	28	**5**	43
Jul 25	25	9	6	21	34	64	51	17	25	30	27	21	14	12	22	10	18	19	10	7	15	44	14	64	6	64
Jul 26	36	20	59	15	60	66	41	51	23	26	25	35	18	19	17	29	21	17	15	10	7	6	9	18	6	66
Jul 27	9	69	75	35	6	65	20	14	27	23	18	15	13	16	10	10	12	9	9	8	6	11	13	25	6	75
Jul 28	18	18	23	23	28	**80**	46	36	22	26	21	30	36	23	34	20	22	21	13	17	7	8	8	8	7	**80**
Jul 29	54	22	55	46	45	62	73	59	24	49	43	32	16	16	20	16	16	10	14	43	26	30	51	61	10	73
Jul 30	23	26	40	10	11	29	27	22	30	29	33	43	46	47	28	31	28	42	27	32	32	41	60	26	10	60
Jul 31	32	50	17	46	53	14	23	31	65	27	24	28	52	51	55	40	26	20	16	5	**3**	27	35	34	**3**	65
Diurnal Minimum	5	6	5	6	6	7	8	8	8	8	8	8	8	11	8	8	7	7	7	5	3	5	6	6		
Daiurnal Maximum	66	69	75	47	60	80	73	59	65	49	53	44	53	68	55	53	44	66	27	50	58	44	60	64		

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)			

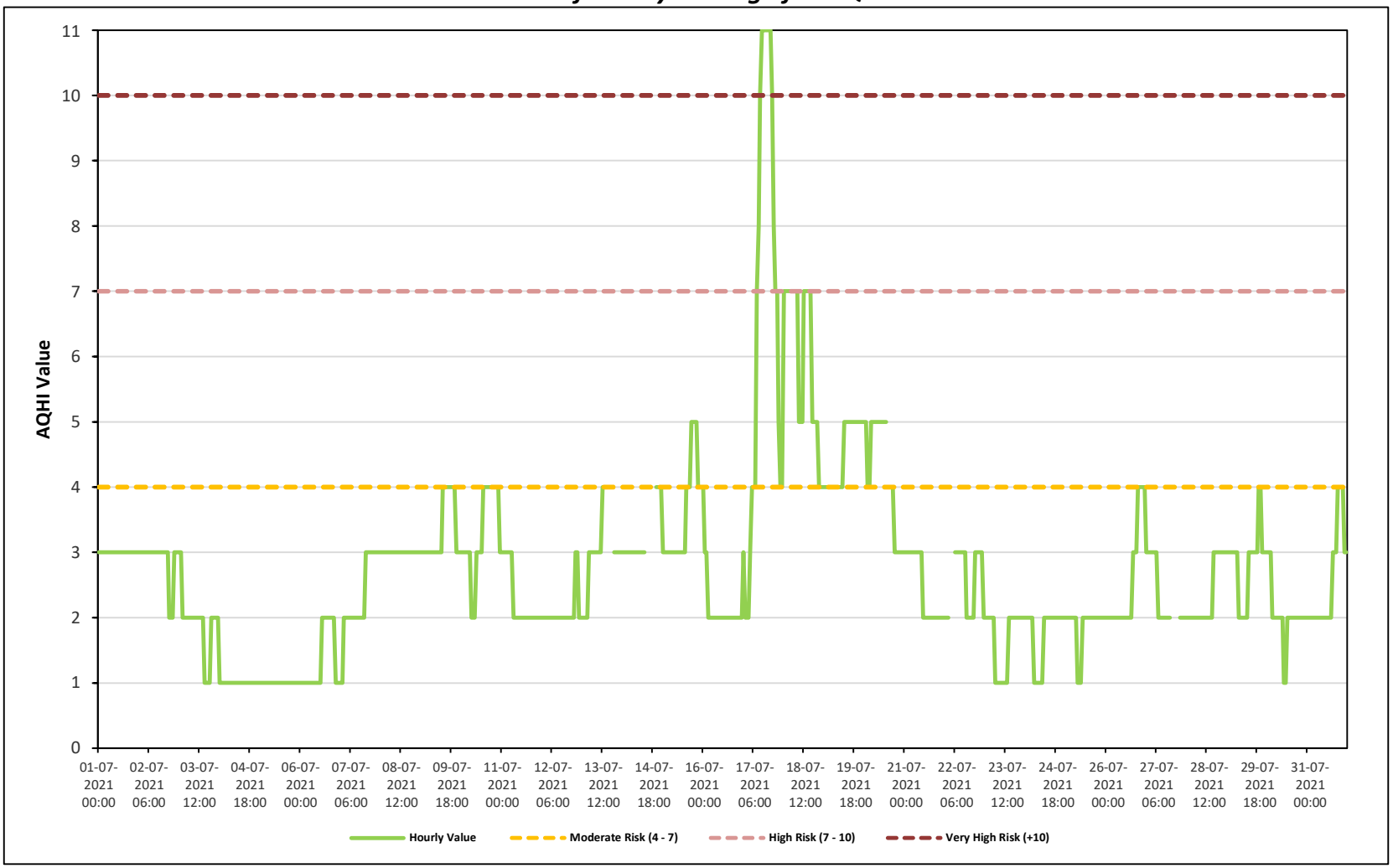
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for STDWD - Tamarack Site



ST. LINA STATION

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



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - July 2021

Summary of Hourly Averages

SULPHUR DIOXIDE (SO_2) in ppb

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

Number of 1-Hour Exceedences: 0 Number of 24-Hour Exceedences: 0 30-Day Exceedence: 0

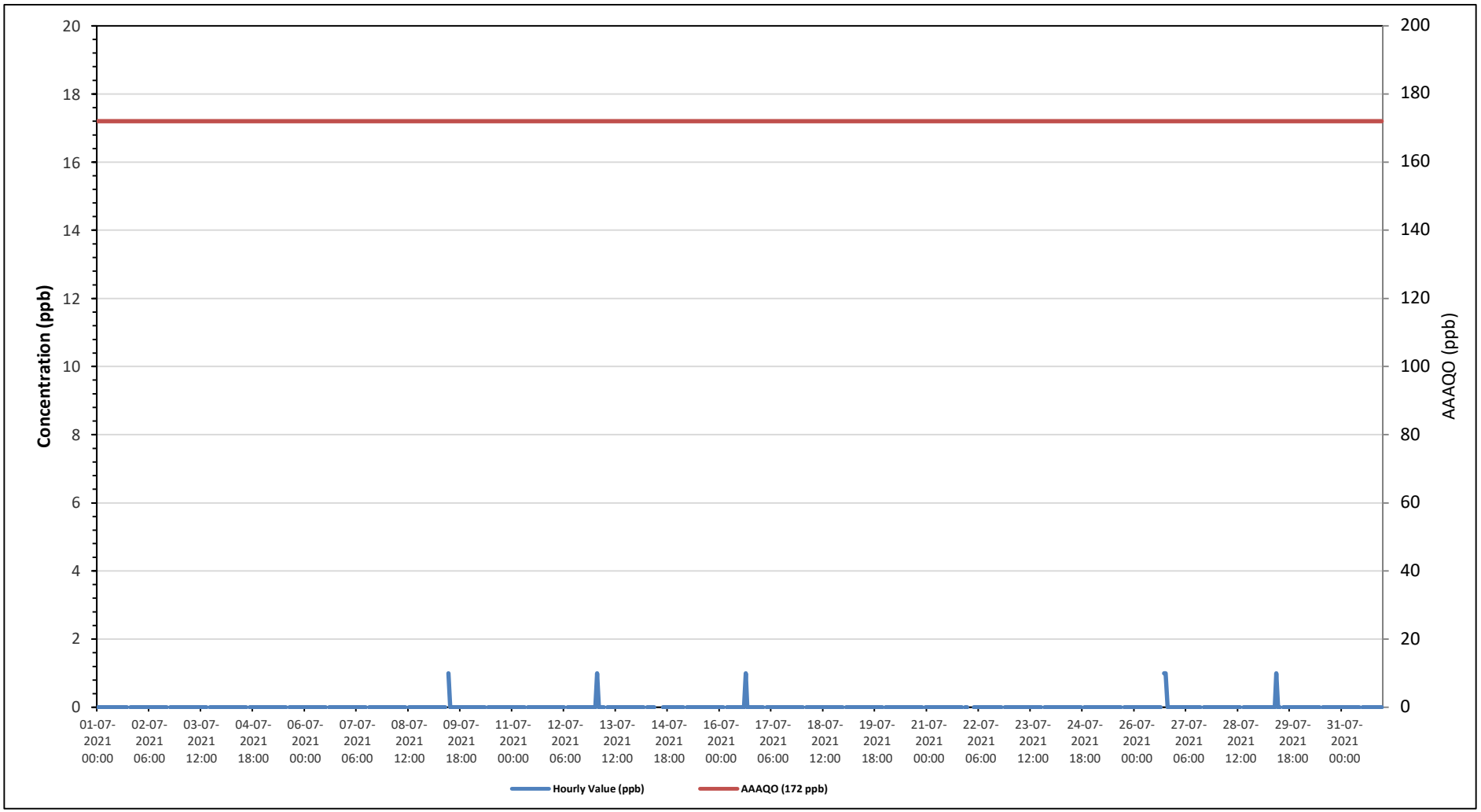
Maximum Hourly Value:	1	ppb	on July 9 at hour 11	Hours in Service:	744
Maximum Daily Value:	0.1	ppb	on July 26	Hours of Data:	705
Minimum Hourly Value:	0	ppb	on July 1 at hour 0	Hours of Missing Data:	3
Minimum Daily Value:	0.0	ppb	on July 1	Hours of Calibration:	36
Monthly Average:	0.0	ppb		Operational Uptime:	99.6

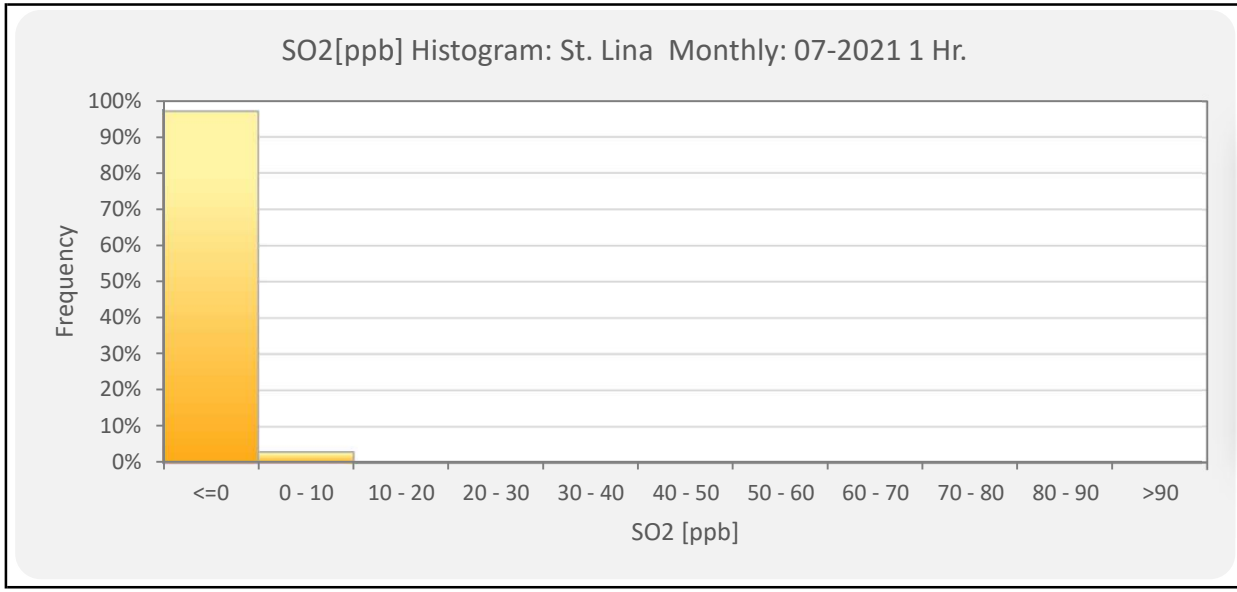
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0.0
Jul 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0.0
Jul 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0.0
Jul 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.0
Jul 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
Jul 6	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
Jul 7	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
Jul 8	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
Jul 9	0	0	0	0	0	0	0	0	0	0	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Jul 10	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
Jul 11	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
Jul 12	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
Jul 13	0	1	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Jul 14	0	0	0	0	0	S	0	0	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0.0
Jul 15	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
Jul 16	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.0
Jul 17	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
Jul 18	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
Jul 19	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0.0
Jul 20	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
Jul 21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0.0
Jul 22	P	P	P	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
Jul 23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0.0
Jul 24	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
Jul 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0.0
Jul 26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	1	0	0	0	0	0	0	1	0.1
Jul 27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.0
Jul 28	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
Jul 29	0	0	0	0	0	0	0	0	0	0	1	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Jul 30	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
Jul 31	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Diurnal Maximum	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	1	1	0	0	0	0	0			
Daiurnal Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	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

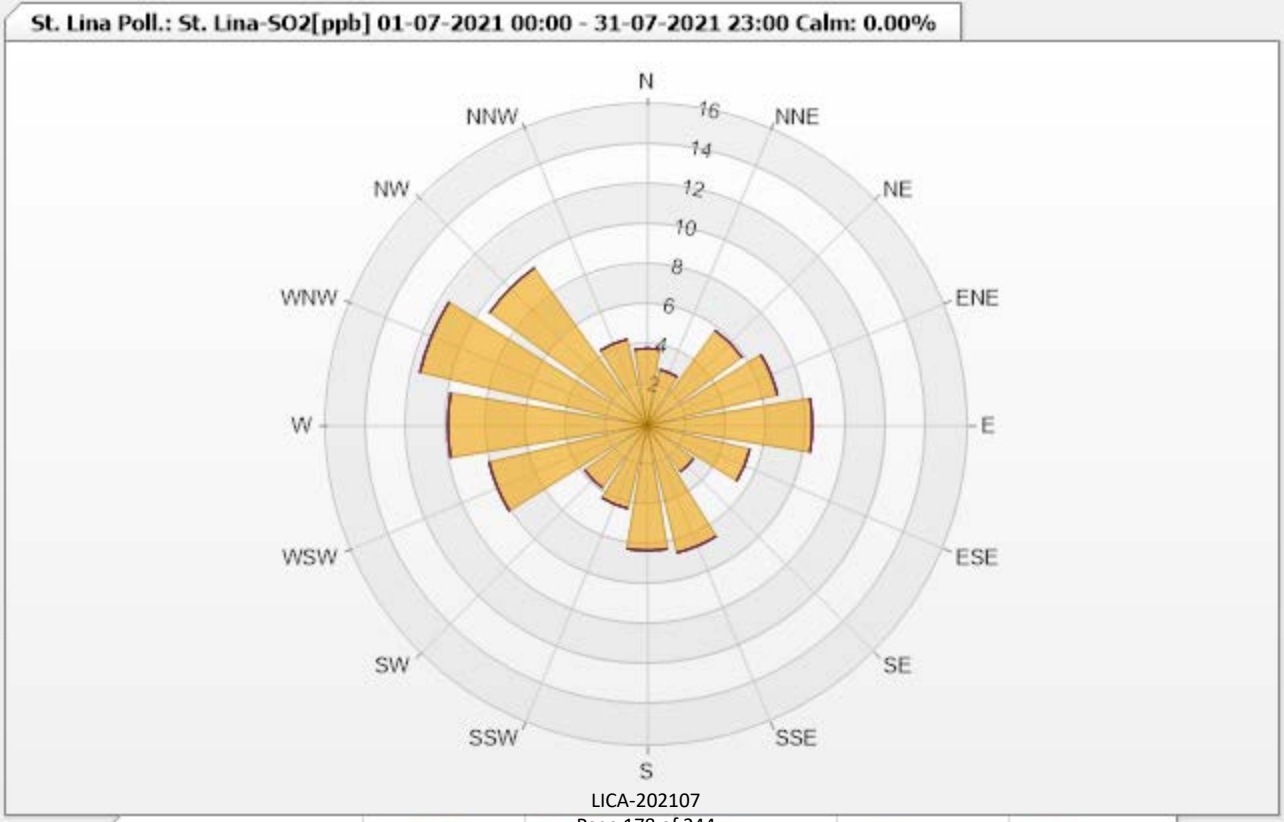




Classes	SO2
<=0	97.02%
0 - 10	2.98%
10 - 20	0.00%
20 - 30	0.00%
30 - 40	0.00%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: St. Lina Poll.: St. Lina-SO2[ppb] Monthly: 07-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppb]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	3.83	0	0	0	0	3.83
NNE	2.84	0	0	0	0	2.84
NE	5.82	0	0	0	0	5.82
ENE	6.67	0	0	0	0	6.67
E	8.23	0	0	0	0	8.23
ESE	5.25	0	0	0	0	5.25
SE	2.84	0	0	0	0	2.84
SSE	6.52	0	0	0	0	6.52
S	6.24	0	0	0	0	6.24
SSW	4.26	0	0	0	0	4.26
SW	3.83	0	0	0	0	3.83
WSW	8.09	0	0	0	0	8.09
W	9.93	0	0	0	0	9.93
WNW	11.63	0	0	0	0	11.63
NW	9.65	0	0	0	0	9.65
NNW	4.4	0	0	0	0	4.4
Summary	100	0	0	0	0	100


St. Lina Poll.: St. Lina-SO2[ppb] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
2
% 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 - July 2021

Summary of Hourly Averages

HYDROGEN SULPHIDE (H_2S) in ppb

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

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

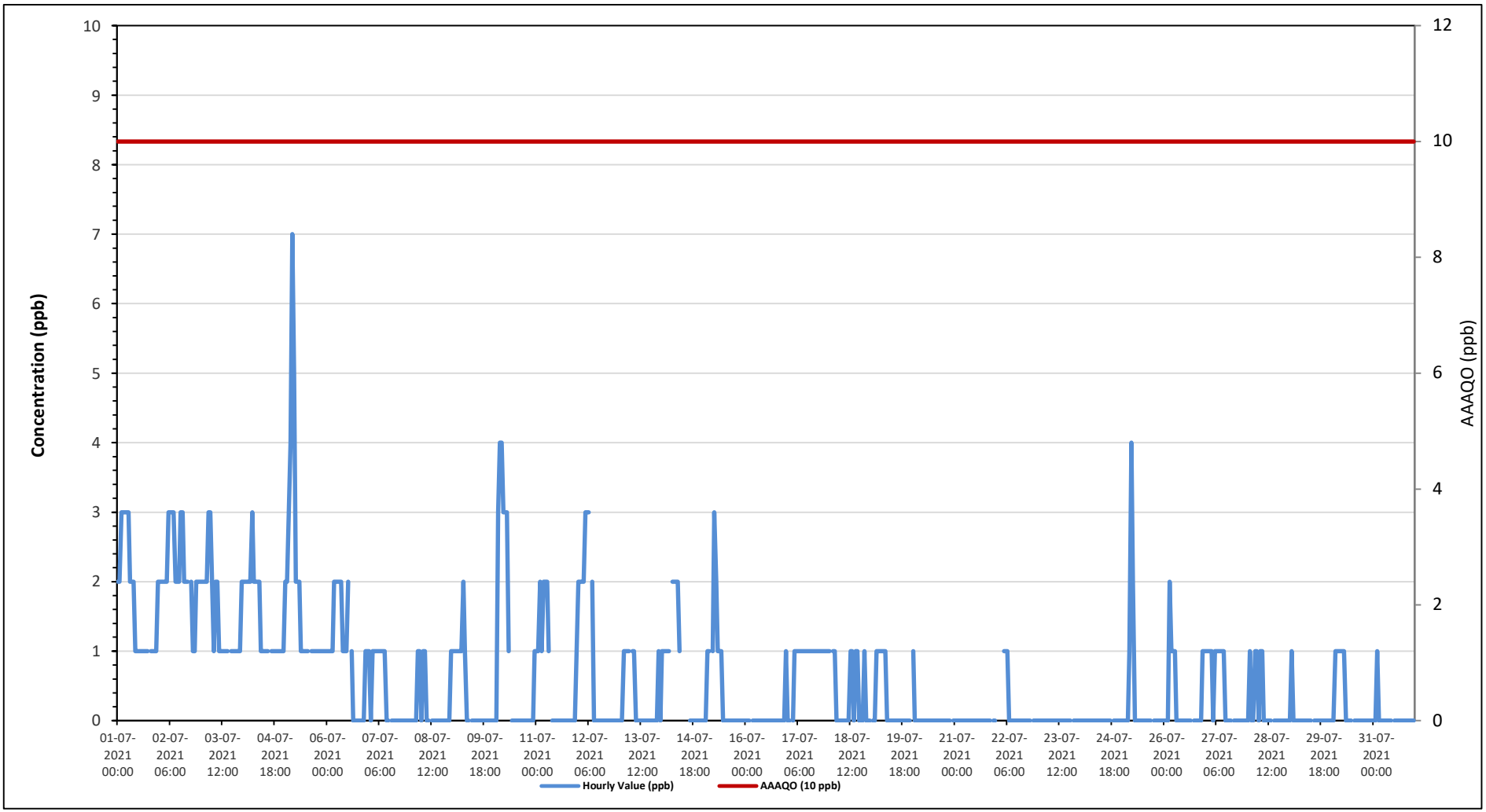
Maximum Hourly Value:	7	ppb	on July 5 at hour 4	Hours in Service:	744
Maximum Daily Value:	2.2	ppb	on July 2	Hours of Data:	703
Minimum Hourly Value:	0	ppb	on July 6 at hour 15	Hours of Missing Data:	4
Minimum Daily Value:	0.0	ppb	on July 21	Hours of Calibration:	37
Monthly Average:	0.6	ppb		Operational Uptime:	99.5

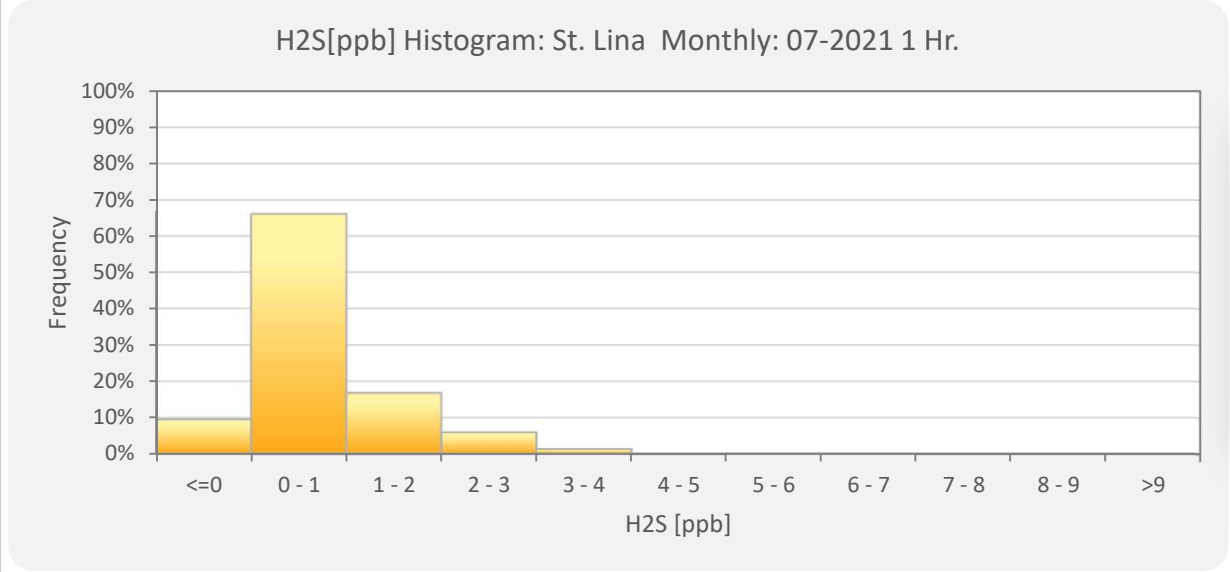
Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Jul 1	2	2	3	3	3	3	3	2	2	2	1	1	1	1	1	1	1	1	S	1	1	1	1	2	1	3	1.7
Jul 2	2	2	2	2	2	3	3	3	3	2	2	2	3	3	2	2	2	S	2	1	1	2	2	2	1	3	**2.2**
Jul 3	2	2	2	2	3	3	2	1	2	2	1	1	1	1	1	1	S	1	1	1	1	1	1	2	1	3	1.5
Jul 4	2	2	2	2	2	3	2	2	2	2	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	3	1.5
Jul 5	2	2	3	4	7	5	2	2	2	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	7	1.9
Jul 6	1	1	1	1	2	2	2	2	2	1	1	1	2	S	1	0	0	0	0	0	0	0	1	1	0	2	1.0
Jul 7	1	0	1	1	1	1	1	1	1	1	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4
Jul 8	0	0	0	0	1	1	0	1	1	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.2
Jul 9	1	1	1	1	1	1	2	1	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.4
Jul 10	0	0	3	4	4	3	3	3	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4	1.0
Jul 11	1	1	2	1	2	2	2	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0.6
Jul 12	2	2	2	2	3	3	3	S	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.8
Jul 13	0	0	1	1	1	1	S	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0.3
Jul 14	1	1	1	1	1	S	2	2	2	2	1	C	C	C	C	C	0	0	0	0	0	0	0	0	0	2	0.8
Jul 15	0	0	1	1	S	1	3	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.5
Jul 16	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.0
Jul 17	0	0	S	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.9
Jul 18	1	S	1	1	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	1	0	0	0	0	1	0.3
Jul 19	S	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0.3
Jul 20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	1	0.0
Jul 21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0.0
Jul 22	P	P	P	X	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	1	0.2
Jul 23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0.0
Jul 24	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
Jul 25	0	0	0	0	1	4	2	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	4	0.3
Jul 26	0	0	0	2	1	1	1	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	1	1	0	2	0.3
Jul 27	1	1	1	1	0	1	1	1	1	1	1	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	0.4
Jul 28	0	1	0	0	1	1	0	1	1	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	1	0.2
Jul 29	0	1	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Jul 30	0	0	1	1	1	1	1	1	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3
Jul 31	0	0	1	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Diurnal Maximum	2	2	3	4	7	5	3	3	3	2	2	2	3	3	2	2	2	1	2	1	1	2	2	2			
Diurnal Average	0.7	0.7	1.0	1.1	1.3	1.4	1.3	1.0	0.9	0.5	0.4	0.3	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.5			

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

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

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

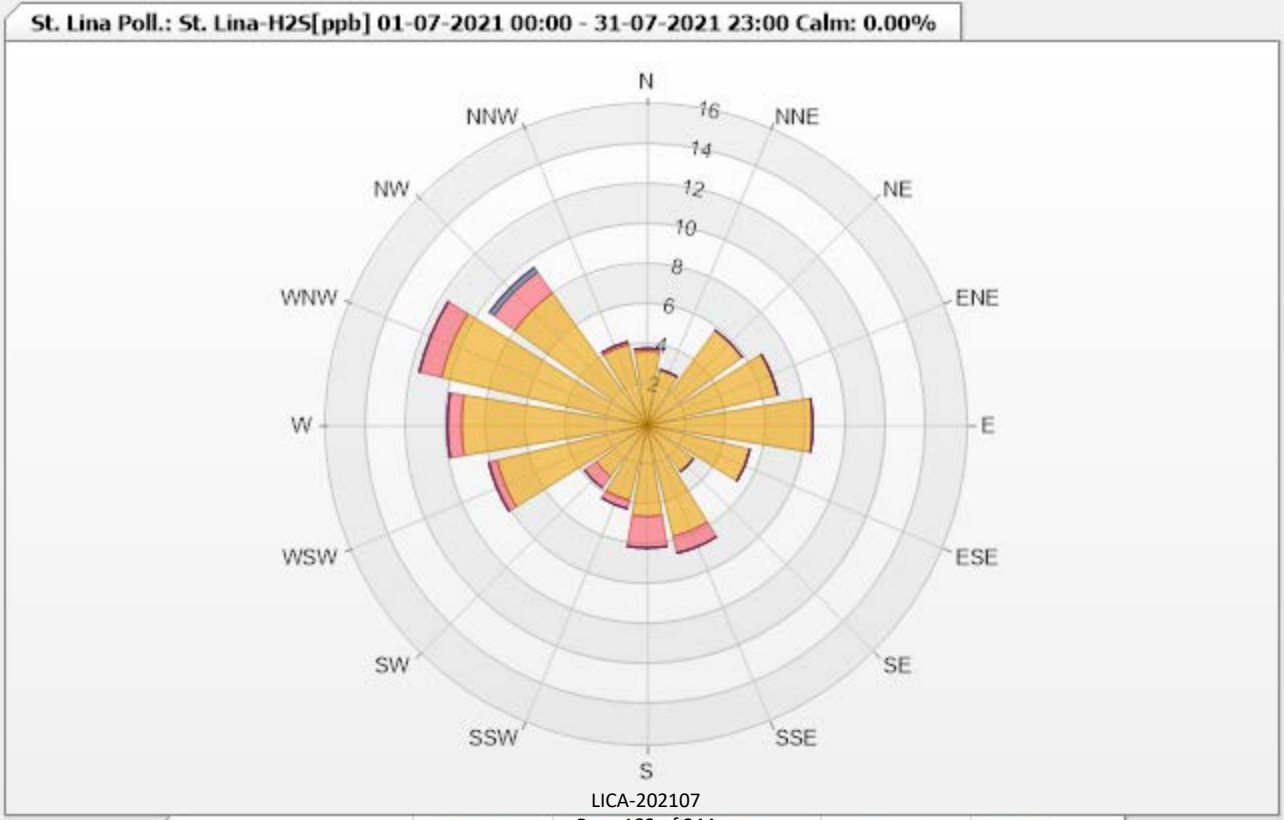




Classes	H2S
<=0	9.53%
0 - 1	66.00%
1 - 2	16.79%
2 - 3	5.97%
3 - 4	1.42%
4 - 5	0.00%
5 - 6	0.14%
6 - 7	0.14%
7 - 8	0.00%
8 - 9	0.00%
>9	0.00%

Wind: St. Lina Poll.: St. Lina-H2S[ppb] Monthly: 07-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.49% Calm Avg: 0.00 [ppb]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	3.7	0.14	0	0	0	3.84
NNE	2.84	0	0	0	0	2.84
NE	5.83	0	0	0	0	5.83
ENE	6.69	0	0	0	0	6.69
E	8.25	0	0	0	0	8.25
ESE	5.26	0	0	0	0	5.26
SE	2.84	0	0	0	0	2.84
SSE	5.69	0.85	0	0	0	6.54
S	4.55	1.56	0	0	0	6.11
SSW	3.84	0.43	0	0	0	4.27
SW	3.13	0.71	0	0	0	3.84
WSW	7.68	0.43	0	0	0	8.11
W	9.25	0.71	0	0	0	9.96
WNW	10.53	1.14	0	0	0	11.67
NW	8.11	1.28	0.28	0	0	9.67
NNW	4.13	0.14	0	0	0	4.27
Summary	92.32	7.39	0.28	0	0	100


St. Lina Poll.: St. Lina-H2S[ppb] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
2
% Icon Classes (ppb)
92 0-2
7 2-5
0 5-10
0 10-50
0 >50.0

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - July 2021

Summary of Hourly Averages

OXIDES OF NITROGEN (NOx) in ppb

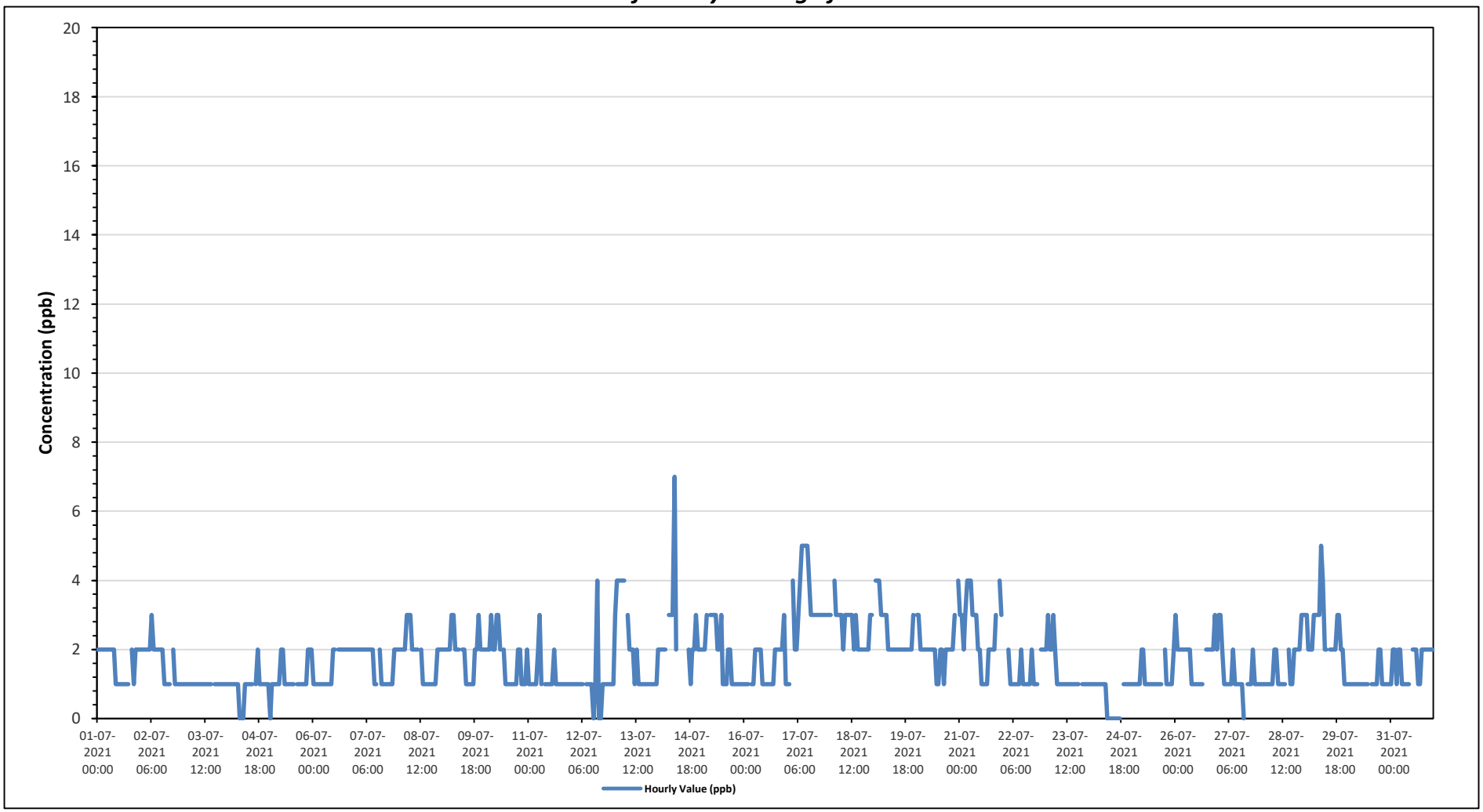
Maximum Hourly Value:	7	ppb	on July 14 at hour 9	Hours in Service:	744
Maximum Daily Value:	3.2	ppb	on July 17	Hours of Data:	703
Minimum Hourly Value:	0	ppb	on July 4 at hour 7	Hours of Missing Data:	3
Minimum Daily Value:	0.7	ppb	on July 24	Hours of Calibration:	38
Monthly Average:	1.7	ppb		Operational Uptime:	99.6

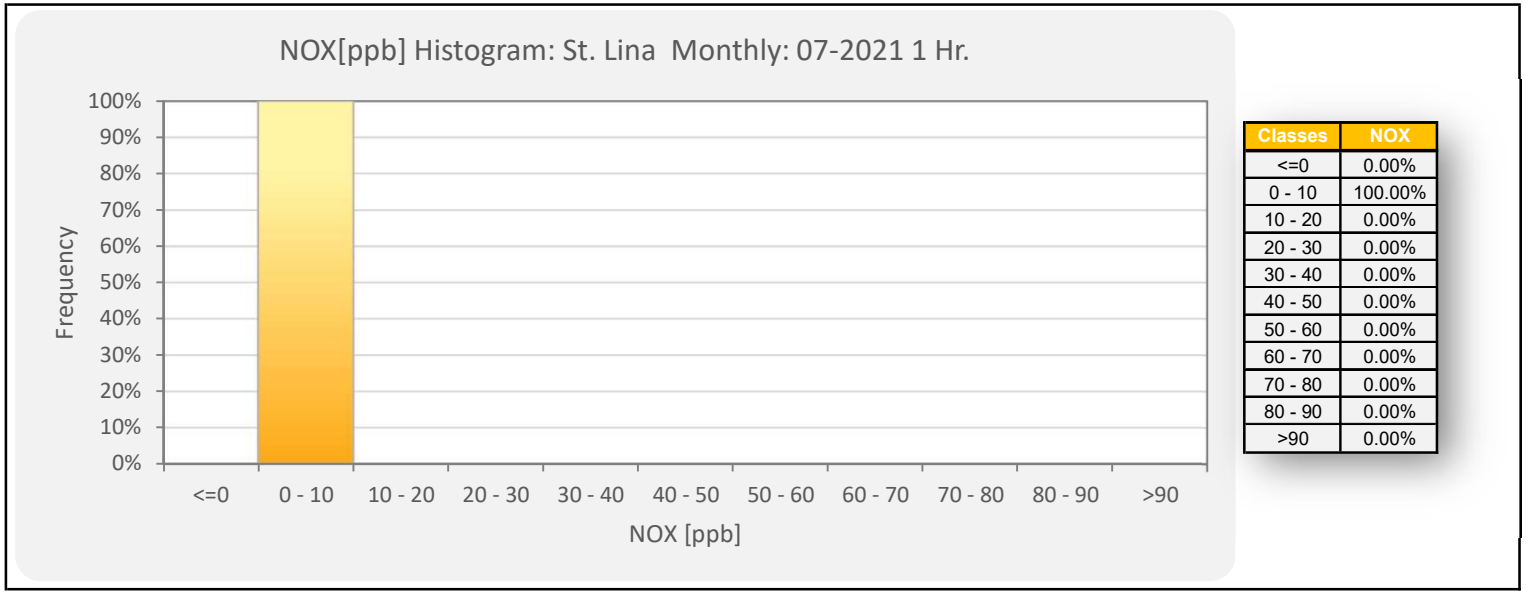
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	S	2	1	2	2	2	1	2	1.6
Jul 2	2	2	2	2	2	2	3	2	2	2	2	2	2	1	1	1	1	S	2	1	1	1	1	1	1	3	1.7
Jul 3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1.0
Jul 4	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	S	1	2	1	1	1	1	1	1	0	2	0.9
Jul 5	0	1	1	1	1	1	2	2	1	1	1	1	1	1	S	1	1	1	1	1	1	2	2	2	0	2	1.2
Jul 6	1	1	1	1	1	1	1	1	1	1	1	2	2	S	2	2	2	2	2	2	2	2	2	2	1	2	1.5
Jul 7	2	2	2	2	2	2	2	2	2	2	1	1	S	2	1	1	1	1	1	1	1	2	2	2	1	2	1.6
Jul 8	2	2	2	2	3	3	3	2	2	2	2	S	2	1	1	1	1	1	1	1	1	2	2	2	1	3	1.8
Jul 9	2	2	2	2	2	3	3	2	2	2	S	2	2	1	1	1	1	1	2	2	3	2	2	2	1	3	1.9
Jul 10	2	2	2	3	2	2	3	3	2	S	2	1	1	1	1	1	1	1	2	2	1	1	1	2	1	3	1.7
Jul 11	1	1	1	1	1	2	3	1	S	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	3	1.2
Jul 12	1	1	1	1	1	1	1	S	1	1	1	1	0	1	4	0	0	1	1	1	1	1	1	1	0	4	1.0
Jul 13	3	4	4	4	4	4	S	3	2	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	4	2.0
Jul 14	2	2	2	2	2	S	3	3	3	7	2	C	C	C	C	C	C	2	1	2	2	3	2	2	1	7	-
Jul 15	2	2	2	3	S	3	3	3	3	2	2	3	1	1	1	2	2	1	1	1	1	1	1	1	1	3	1.8
Jul 16	1	1	1	S	1	1	2	2	2	2	1	1	1	1	1	1	1	2	2	2	2	2	3	1	1	3	1.5
Jul 17	1	1	S	4	2	2	3	4	5	5	5	5	4	3	3	3	3	3	3	3	3	3	3	3	1	5	3.2
Jul 18	3	S	4	3	3	3	3	2	3	3	3	3	3	2	3	2	2	2	2	2	2	2	3	3	2	4	2.7
Jul 19	S	4	4	4	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	S	2	4	2.5
Jul 20	3	3	2	2	2	2	2	2	2	2	2	1	1	2	2	1	2	2	2	2	2	3	S	4	1	4	2.1
Jul 21	3	3	2	3	4	4	4	3	3	3	2	2	1	1	1	1	2	2	2	2	3	S	4	3	1	4	2.5
Jul 22	P	P	P	2	1	1	1	1	1	1	2	1	1	1	1	1	2	1	1	1	S	2	2	2	1	2	1.3
Jul 23	2	3	2	2	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	3	1.3
Jul 24	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	S	1	1	1	1	1	0	1	0.7
Jul 25	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	S	2	1	1	1	1	2	1	2	1.2
Jul 26	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	S	2	2	2	2	2	3	2	1	3	1.8
Jul 27	3	3	2	1	1	1	1	1	2	1	1	1	1	1	0	S	1	1	1	2	1	1	1	1	0	3	1.3
Jul 28	1	1	1	1	1	1	1	2	2	1	1	1	1	1	S	2	1	1	2	2	2	2	3	3	1	3	1.5
Jul 29	3	3	2	2	2	3	3	3	3	5	4	2	2	S	2	2	2	2	3	3	2	2	1	1	1	5	2.5
Jul 30	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	2	2	1	1	1	1	1	1	2	1.1
Jul 31	1	2	2	1	2	2	1	1	1	1	1	S	2	2	2	1	1	2	2	2	2	2	2	2	1	2	1.6
Diurnal Maximum	3	4	4	4	4	4	4	4	5	7	5	5	4	3	4	3	3	3	3	3	3	3	4	4			
Daiurnal Average	1.8	1.9	1.8	1.9	1.8	2.0	2.1	1.9	1.9	1.9	1.6	1.5	1.4	1.2	1.4	1.2	1.3	1.4	1.6	1.6	1.5	1.7	1.8	1.8			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	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 NOx - St. Lina Site

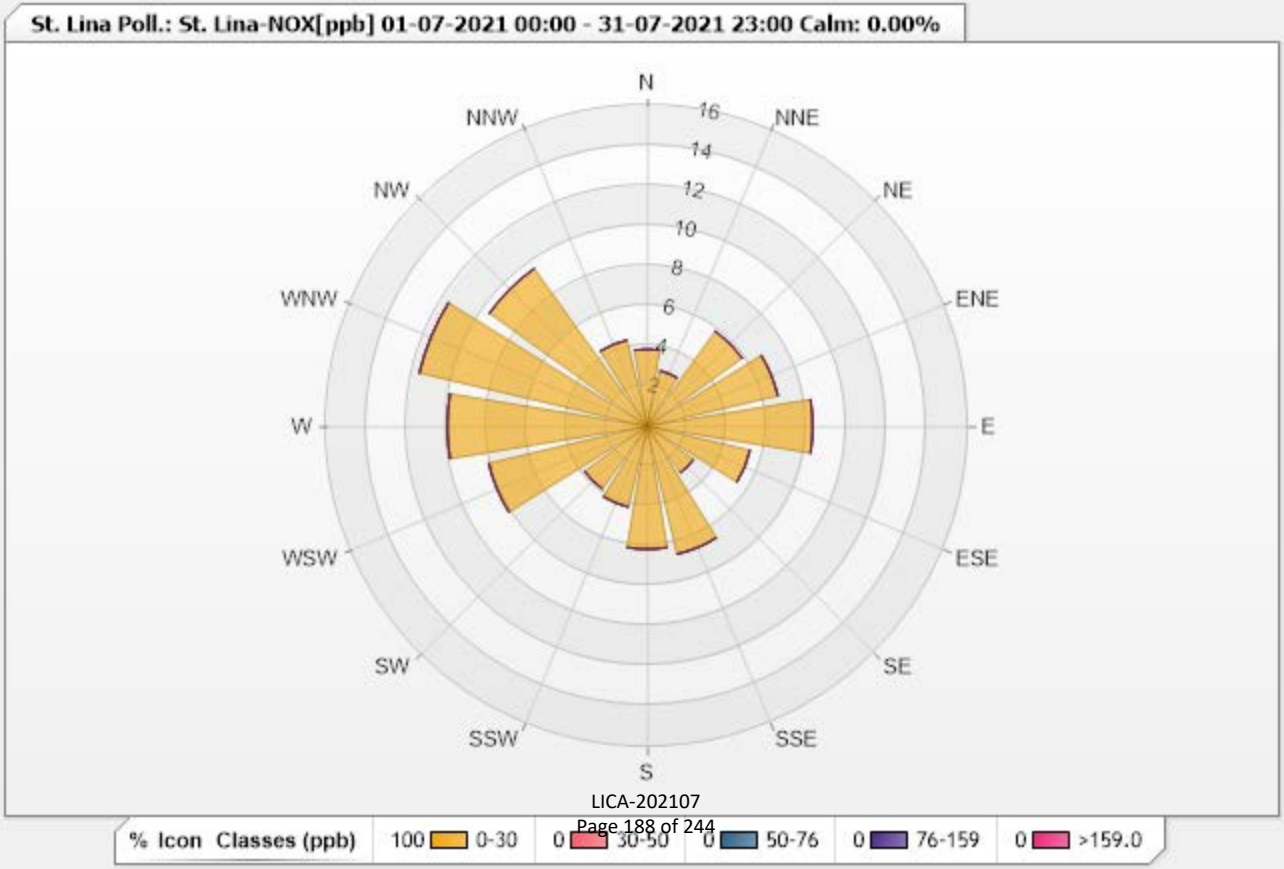




Classes	NOX
<=0	0.00%
0 - 10	100.00%
10 - 20	0.00%
20 - 30	0.00%
30 - 40	0.00%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: St. Lina Poll.: St. Lina-NOX[ppb] Monthly: 07-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.49% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	3.84	0	0	0	0	3.84
NNE	2.84	0	0	0	0	2.84
NE	5.83	0	0	0	0	5.83
ENE	6.69	0	0	0	0	6.69
E	8.25	0	0	0	0	8.25
ESE	5.26	0	0	0	0	5.26
SE	2.84	0	0	0	0	2.84
SSE	6.54	0	0	0	0	6.54
S	6.12	0	0	0	0	6.12
SSW	4.13	0	0	0	0	4.13
SW	3.84	0	0	0	0	3.84
WSW	8.11	0	0	0	0	8.11
W	9.96	0	0	0	0	9.96
WNW	11.66	0	0	0	0	11.66
NW	9.67	0	0	0	0	9.67
NNW	4.41	0	0	0	0	4.41
Summary	100	0	0	0	0	100


St. Lina Poll.: St. Lina-NOX[ppb] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
2
% 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 - July 2021

Summary of Hourly Averages

NITRIC OXIDE (NO) in ppb

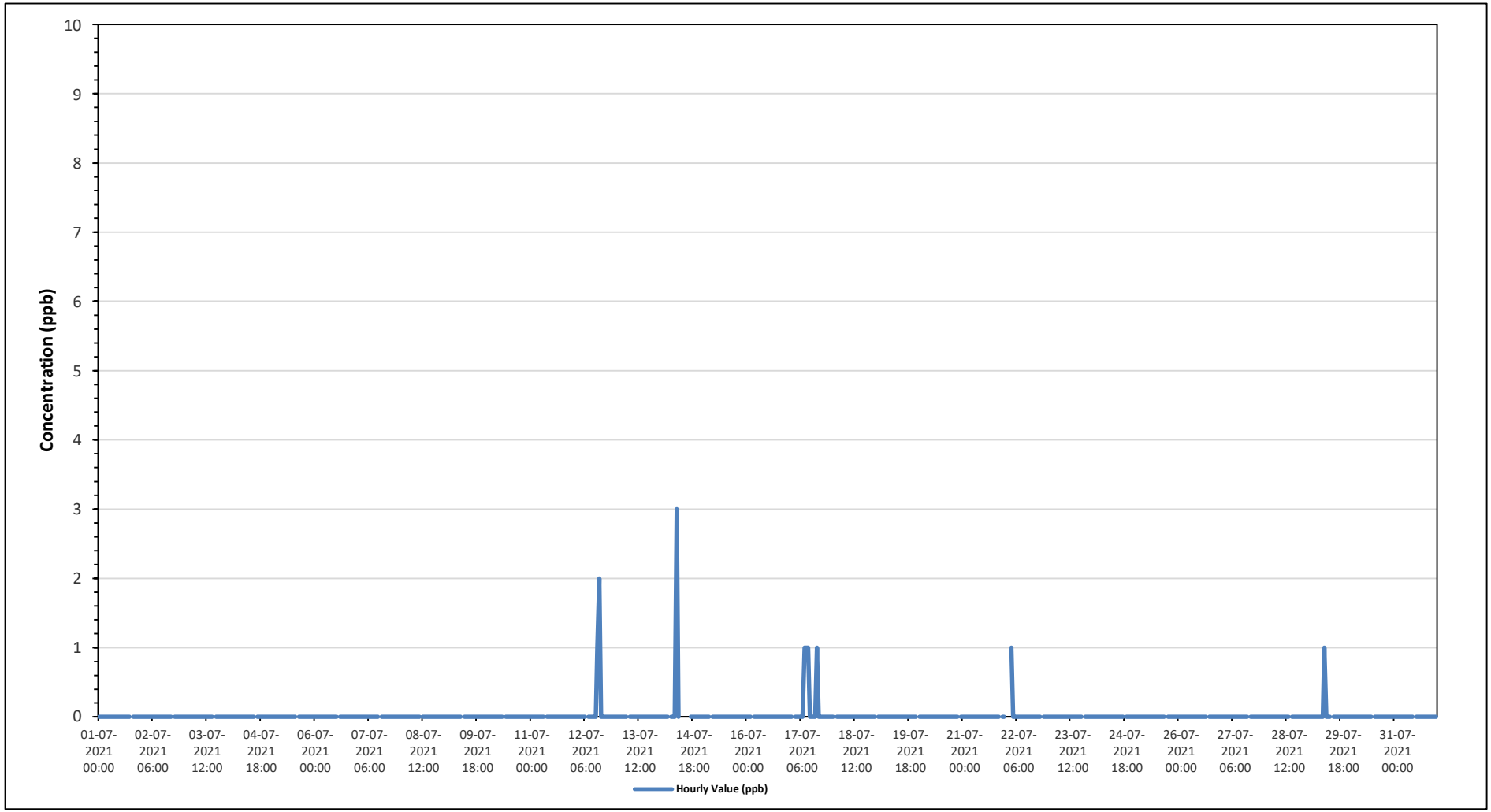
Maximum Hourly Value:	3	ppb	on July 14 at hour 9	Hours in Service:	744
Maximum Daily Value:	0.2	ppb	on July 17	Hours of Data:	703
Minimum Hourly Value:	0	ppb	on July 1 at hour 0	Hours of Missing Data:	3
Minimum Daily Value:	0.0	ppb	on July 1	Hours of Calibration:	38
Monthly Average:	0.0	ppb		Operational Uptime:	99.6

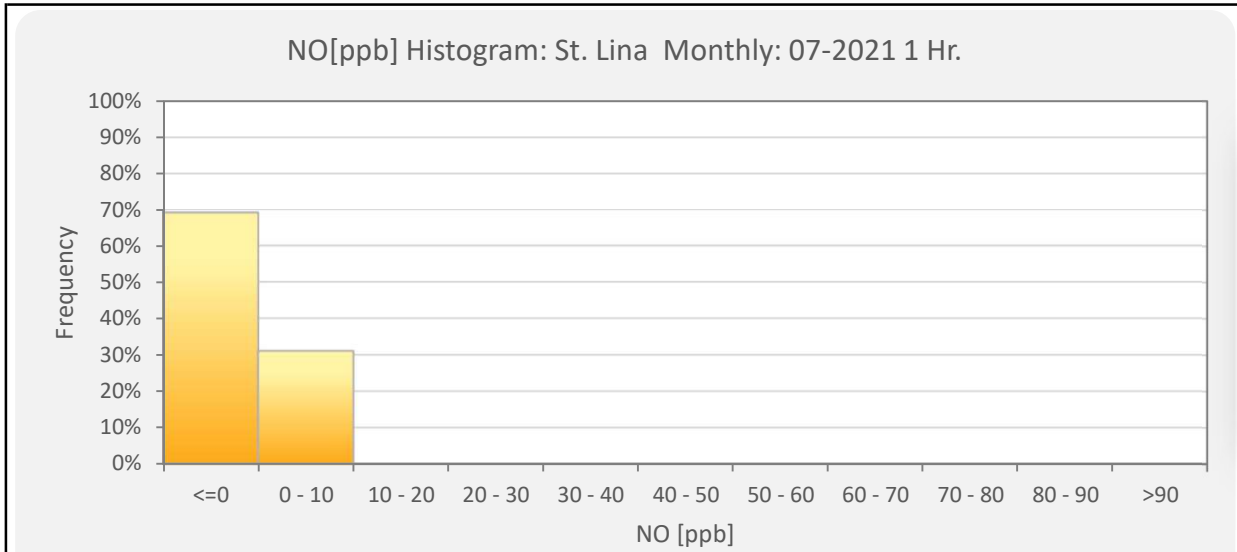
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0.0
Jul 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0.0
Jul 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0.0
Jul 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.0
Jul 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
Jul 6	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
Jul 7	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
Jul 8	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
Jul 9	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
Jul 10	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
Jul 11	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
Jul 12	0	0	0	0	0	0	0	S	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	2	0.1
Jul 13	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Jul 14	0	0	0	0	0	S	0	0	0	3	0	C	C	C	C	C	C	0	0	0	0	0	0	0	0	3	-
Jul 15	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
Jul 16	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
Jul 17	0	0	S	0	0	0	0	0	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.2
Jul 18	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
Jul 19	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0.0
Jul 20	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
Jul 21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0.0
Jul 22	P	P	P	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	1	0.1
Jul 23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0.0
Jul 24	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
Jul 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0.0
Jul 26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0.0
Jul 27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.0
Jul 28	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
Jul 29	0	0	0	0	0	0	0	0	0	1	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Jul 30	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
Jul 31	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Diurnal Maximum	0	0	0	1	0	0	0	0	1	3	1	0	0	1	2	1	0	0	0	0	0	0	0	0			
Daiurnal Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

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

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

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

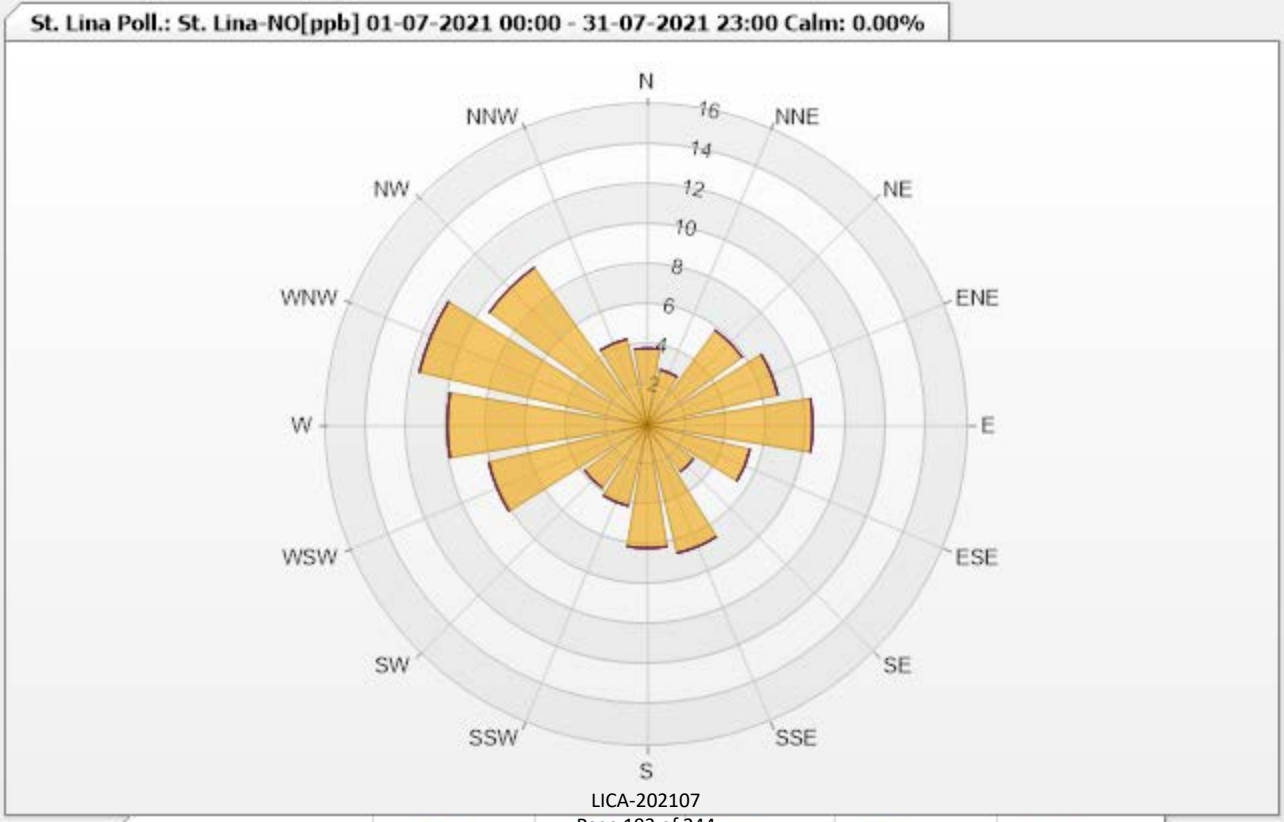




Classes	NO
<=0	68.99%
0 - 10	31.01%
10 - 20	0.00%
20 - 30	0.00%
30 - 40	0.00%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: St. Lina Poll.: St. Lina-NO[ppb] Monthly: 07-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.49% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	3.84	0	0	0	0	3.84
NNE	2.84	0	0	0	0	2.84
NE	5.83	0	0	0	0	5.83
ENE	6.69	0	0	0	0	6.69
E	8.25	0	0	0	0	8.25
ESE	5.26	0	0	0	0	5.26
SE	2.84	0	0	0	0	2.84
SSE	6.54	0	0	0	0	6.54
S	6.12	0	0	0	0	6.12
SSW	4.13	0	0	0	0	4.13
SW	3.84	0	0	0	0	3.84
WSW	8.11	0	0	0	0	8.11
W	9.96	0	0	0	0	9.96
WNW	11.66	0	0	0	0	11.66
NW	9.67	0	0	0	0	9.67
NNW	4.41	0	0	0	0	4.41
Summary	100	0	0	0	0	100


St. Lina Poll.: St. Lina-NO[ppb] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
2
% 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 - July 2021

Summary of Hourly Averages

NITROGEN DIOXIDE (NO_2) in ppb

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

Number of 1-Hour Exceedences: 0

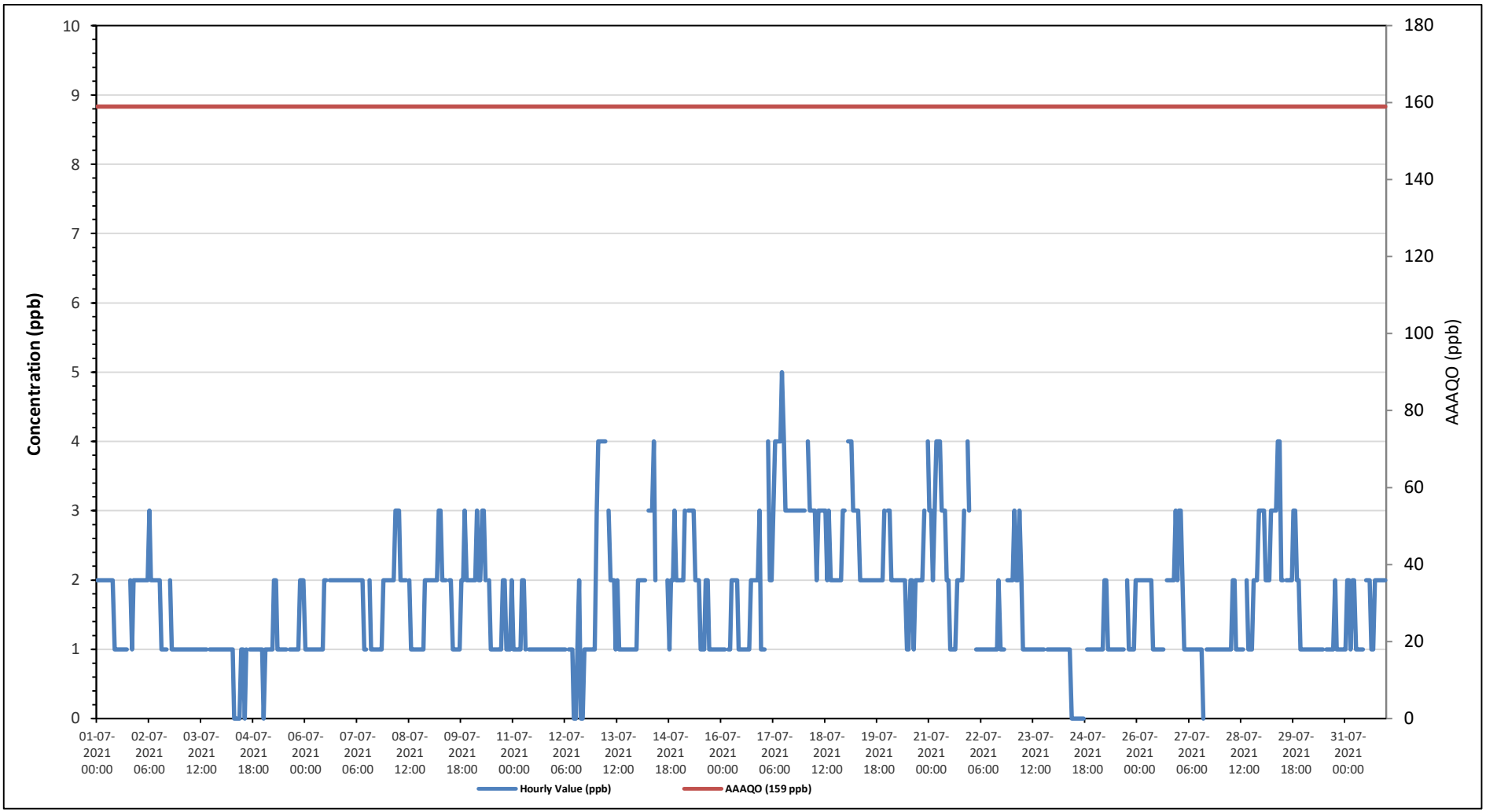
Maximum Hourly Value:	5	ppb	on July 17 at hour 11	Hours in Service:	744
Maximum Daily Value:	3.1	ppb	on July 17	Hours of Data:	703
Minimum Hourly Value:	0	ppb	on July 4 at hour 7	Hours of Missing Data:	3
Minimum Daily Value:	0.7	ppb	on July 24	Hours of Calibration:	38
Monthly Average:	1.6	ppb		Operational Uptime:	99.6

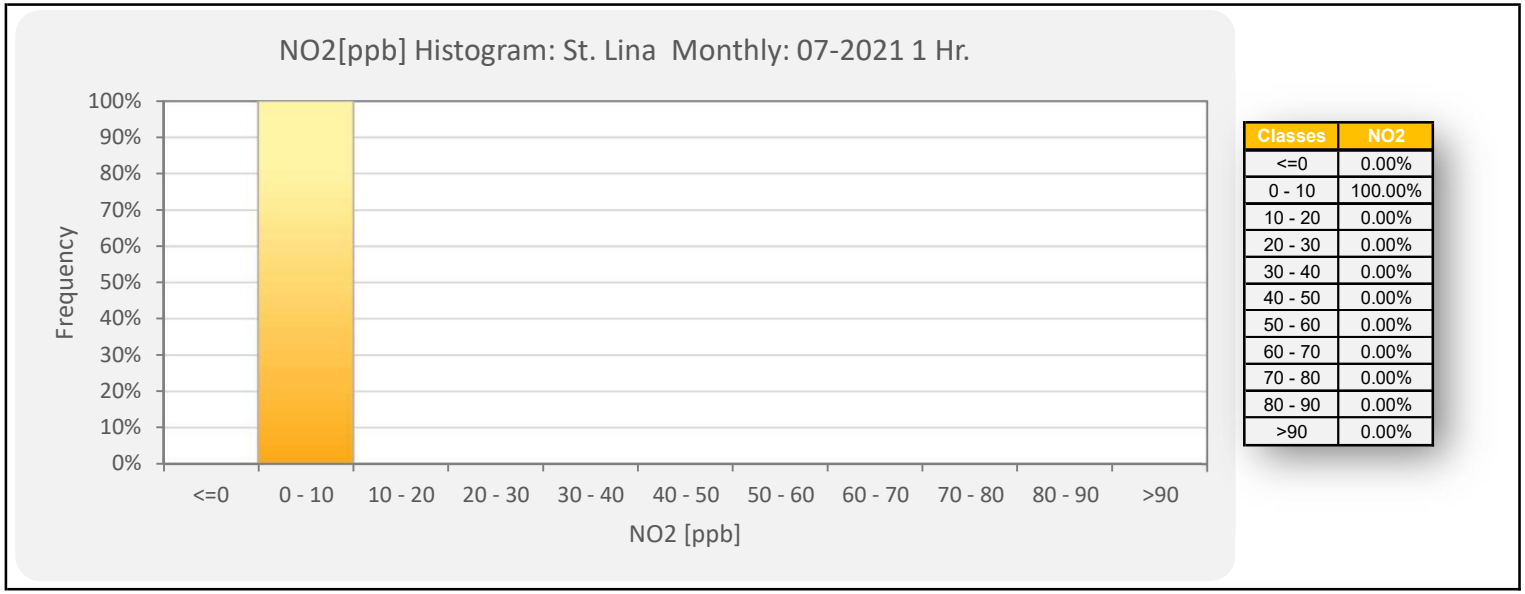
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	S	2	1	2	2	2	1	2	1.6
Jul 2	2	2	2	2	2	2	3	2	2	2	2	2	2	1	1	1	1	S	2	1	1	1	1	1	1	3	1.7
Jul 3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1.0
Jul 4	1	1	1	1	1	1	1	0	0	0	0	1	1	0	1	S	1	1	1	1	1	1	1	1	0	1	0.8
Jul 5	0	1	1	1	1	1	2	2	1	1	1	1	1	1	S	1	1	1	1	1	1	2	2	2	0	2	1.2
Jul 6	1	1	1	1	1	1	1	1	1	1	1	2	2	S	2	2	2	2	2	2	2	2	2	2	1	2	1.5
Jul 7	2	2	2	2	2	2	2	2	2	2	1	1	S	2	1	1	1	1	1	1	1	2	2	2	1	2	1.6
Jul 8	2	2	2	2	3	3	3	2	2	2	2	S	2	1	1	1	1	1	1	1	1	2	2	2	1	3	1.8
Jul 9	2	2	2	2	2	3	3	2	2	2	S	2	2	1	1	1	1	1	2	2	3	2	2	2	1	3	1.9
Jul 10	2	2	2	3	2	2	3	3	2	S	2	1	1	1	1	1	1	1	2	2	1	1	1	2	1	3	1.7
Jul 11	1	1	1	1	1	2	2	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1
Jul 12	1	1	1	1	1	1	1	S	1	1	1	0	0	1	2	0	0	1	1	1	1	1	1	1	0	2	0.9
Jul 13	3	4	4	4	4	4	S	3	2	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	4	2.0
Jul 14	2	2	2	2	2	S	3	3	3	4	2	C	C	C	C	C	C	2	1	2	2	3	2	2	1	4	-
Jul 15	2	2	2	3	S	3	3	3	3	2	2	2	1	1	1	2	2	1	1	1	1	1	1	1	1	3	1.8
Jul 16	1	1	1	S	1	1	2	2	2	2	1	1	1	1	1	1	1	2	2	2	2	2	3	1	1	3	1.5
Jul 17	1	1	S	4	2	2	3	4	4	4	4	5	4	3	3	3	3	3	3	3	3	3	3	3	1	5	3.1
Jul 18	3	S	4	3	3	3	3	2	3	3	3	3	3	2	3	2	2	2	2	2	2	2	3	3	2	4	2.7
Jul 19	S	4	4	4	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	S	2	4	2.5
Jul 20	3	3	2	2	2	2	2	2	2	2	2	1	1	2	2	1	2	2	2	2	2	3	S	4	1	4	2.1
Jul 21	3	3	2	3	4	4	4	3	3	3	2	2	1	1	1	1	2	2	2	2	3	S	4	3	1	4	2.5
Jul 22	P	P	P	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	S	2	2	2	1	2	1.2
Jul 23	2	3	2	2	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	3	1.3
Jul 24	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	S	1	1	1	1	1	0	1	0.7
Jul 25	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	S	2	1	1	1	1	2	1	2	1.2
Jul 26	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	S	2	2	2	2	2	3	2	1	3	1.7
Jul 27	3	3	2	1	1	1	1	1	1	1	1	1	1	1	0	S	1	1	1	1	1	1	1	1	0	3	1.2
Jul 28	1	1	1	1	1	1	1	2	2	1	1	1	1	1	S	2	1	1	1	2	2	2	3	3	1	3	1.4
Jul 29	3	3	2	2	2	3	3	3	3	4	4	2	2	S	2	2	2	2	3	3	2	2	1	1	1	4	2.4
Jul 30	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	2	1	1	1	1	1	1	2	1.0
Jul 31	1	2	2	1	2	2	1	1	1	1	1	S	2	2	2	1	1	2	2	2	2	2	2	2	1	2	1.6
Diurnal Maximum	3	4	4	4	4	4	4	4	4	4	4	5	4	3	3	3	3	3	3	3	3	3	4	4			
Daiurnal Average	1.7	1.9	1.8	1.9	1.8	2.0	2.0	1.9	1.8	1.7	1.5	1.4	1.4	1.2	1.3	1.2	1.3	1.4	1.6	1.6	1.5	1.7	1.8	1.8			

C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance	
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance	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 NO2 - St. Lina Site



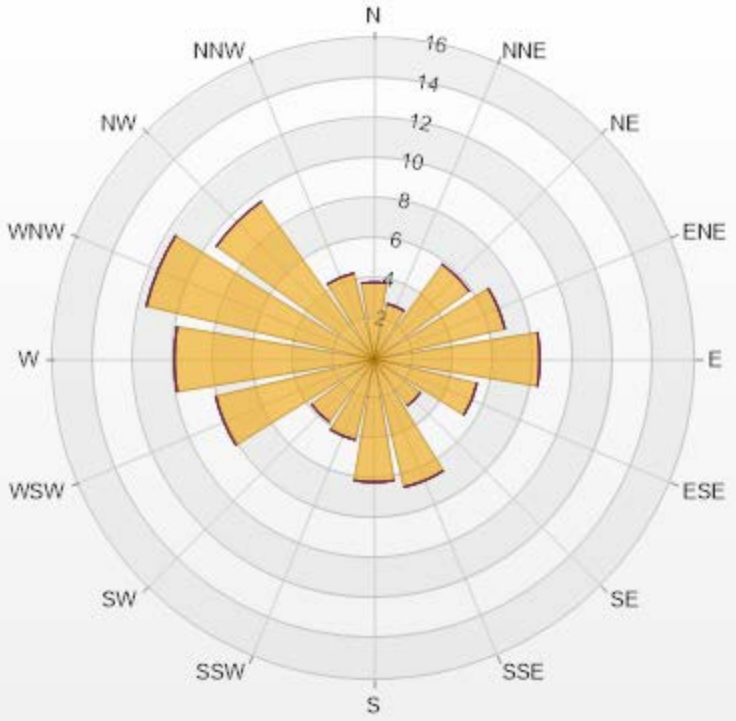


Classes	NO2
<=0	0.00%
0 - 10	100.00%
10 - 20	0.00%
20 - 30	0.00%
30 - 40	0.00%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: St. Lina Poll.: St. Lina-NO2[ppb] Monthly: 07-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.49% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	3.84	0	0	0	0	3.84
NNE	2.84	0	0	0	0	2.84
NE	5.83	0	0	0	0	5.83
ENE	6.69	0	0	0	0	6.69
E	8.25	0	0	0	0	8.25
ESE	5.26	0	0	0	0	5.26
SE	2.84	0	0	0	0	2.84
SSE	6.54	0	0	0	0	6.54
S	6.12	0	0	0	0	6.12
SSW	4.13	0	0	0	0	4.13
SW	3.84	0	0	0	0	3.84
WSW	8.11	0	0	0	0	8.11
W	9.96	0	0	0	0	9.96
WNW	11.66	0	0	0	0	11.66
NW	9.67	0	0	0	0	9.67
NNW	4.41	0	0	0	0	4.41
Summary	100	0	0	0	0	100

St. Lina Poll.: St. Lina-NO2[ppb] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%



% 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 - July 2021

Summary of Hourly Averages

OZONE (O_3) in ppb

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

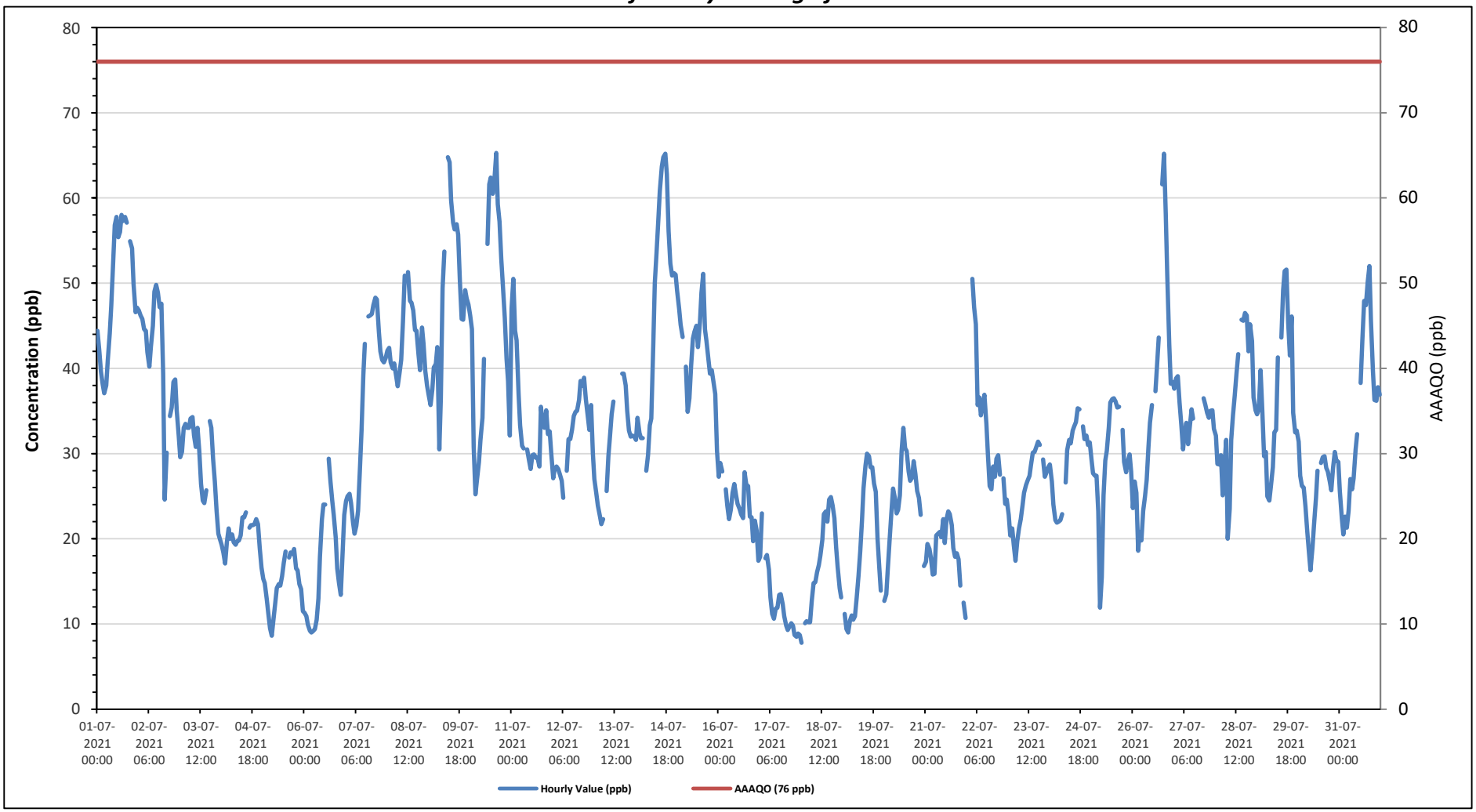
Number of 1-Hour Exceedences: 0

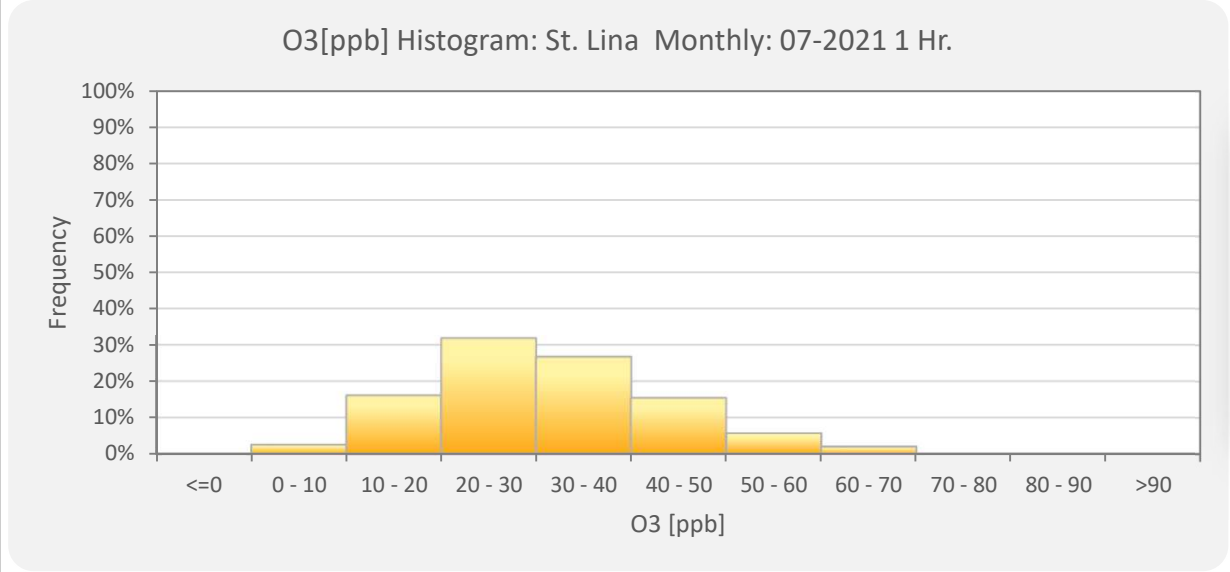
Maximum Hourly Value:	65.3	ppb	on July 10 at hour 15	Hours in Service:	744
Maximum Daily Value:	49.2	ppb	on July 1	Hours of Data:	699
Minimum Hourly Value:	7.8	ppb	on July 18 at hour 0	Hours of Missing Data:	10
Minimum Daily Value:	12.4	ppb	on July 17	Hours of Calibration:	35
Monthly Average:	31.1	ppb		Operational Uptime:	98.7

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	44.4	42.2	39.6	38.1	37.1	38	40.9	44.1	47.3	52	56.8	57.8	55.4	56	58	57.3	57.8	57.1	S	54.9	54.1	49.9	46.6	47.1	37.1	58.0	**49.2**
Jul 2	46.8	46.2	45.8	44.6	44.4	41.9	40.2	42.5	45	49	49.8	48.9	47.2	47.6	39.4	24.6	30.1	S	34.4	35.4	38.4	38.7	35.1	32.1	24.6	49.8	41.2
Jul 3	29.6	30.2	33	33.5	33	33	34.1	34.3	32.1	30.8	33	30.3	26.4	24.5	24.2	25.7	S	33.8	33	29.4	26.7	23.3	20.6	19.9	19.9	34.3	29.3
Jul 4	19.3	18.4	17.1	19.6	21.2	20	20.5	19.6	19.3	19.7	19.8	20.4	22.5	22.5	23.1	S	21.3	21.6	21.6	21.7	22.3	21.7	18.9	16.6	16.6	23.1	20.4
Jul 5	15.3	14.8	12.9	11.3	9.5	8.6	10.3	12.5	14.2	14.7	14.5	15.6	17.2	18.5	S	17.8	18.4	18.2	18.8	16.5	16.3	14.7	14.1	11.5	8.6	18.8	14.6
Jul 6	11.3	10.9	9.9	9.2	9	9.2	9.4	10.5	13	17.9	22.3	24	24	S	29.4	26.7	24.5	22.8	20.1	16.5	14.8	13.4	18.1	22.8	9.0	29.4	16.9
Jul 7	24.4	25	25.3	24.2	21.9	20.6	21.5	23.3	27.9	32.8	39.2	42.9	S	46.1	46.2	46.4	47.4	48.3	48.1	44.3	42	41	40.7	41.2	20.6	48.3	35.7
Jul 8	42.1	42.4	40.7	40	40.6	39.1	37.9	39.4	41	45.5	50.9	S	51.3	47.9	47.7	46.8	44.5	44.4	41.6	39.8	44.8	42.9	39.7	38	37.9	51.3	43.0
Jul 9	36.8	35.7	37.5	40.1	40.5	42.5	30.5	36.5	49.4	53.7	S	64.8	64.2	59.7	57.1	56.3	56.9	55.7	50.2	45.8	45.7	49.2	48.2	47.5	30.5	64.8	48.0
Jul 10	46.2	44.6	30.8	25.2	26.9	29	31.6	34.2	41.1	S	54.6	61.6	62.4	60.5	61.9	**65.3**	59.3	57.2	52.8	49.4	45.9	41.1	38.5	32.1	25.2	**65.3**	45.7
Jul 11	47	50.5	44.4	43.3	37	33.3	30.9	30.6	S	30.5	29.3	28.2	29.8	29.9	29.5	29.6	28.5	35.5	33.4	33	35.1	32.3	32.6	30.1	28.2	50.5	34.1
Jul 12	27.1	28.2	28.5	28.2	27.5	26.8	24.8	S	28	31.7	31.7	32.8	34.4	34.9	35	36.3	38.5	38	38.9	36.4	34.6	32.8	35.7	30.1	24.8	38.9	32.2
Jul 13	27	25.3	23.9	22.7	21.7	22.3	S	25.6	29.7	31.9	34.6	36.1	C	C	C	C	39.4	39.4	38	35	32.7	32	32.1	32	21.7	39.4	30.6
Jul 14	31.6	34.2	32.4	31.8	31.8	S	28	29.8	33.3	34.1	42.8	50	53.6	57.4	60.8	63.7	64.8	65.2	62.8	56.1	52.3	50.9	51.2	51	28.0	65.2	46.5
Jul 15	49.1	47	45.1	43.7	S	40.2	34.9	36.5	40.4	43.5	44.3	45	42.5	45.4	48.9	51.1	44.6	43.2	41	39.4	39.8	38.4	37	30.3	30.3	51.1	42.2
Jul 16	27.3	28.9	27.9	S	25.8	23.9	22.3	23.4	25.4	26.4	25.1	24.1	23.5	22.9	22.4	27.8	26.3	26.2	22.6	22.5	19.7	22.1	21	17.4	17.4	28.9	24.1
Jul 17	17.9	23	S	17.7	18.1	16.4	13.1	11.2	10.6	11.8	11.9	13.4	13.5	12.3	10.9	9.8	9.3	9.7	10.1	9.8	8.7	8.5	8.9	8.7	8.5	23.0	12.4
Jul 18	7.8	S	10.1	10.3	10.2	10.2	12.8	14.8	14.9	16.1	16.9	18	19.9	22.9	23.2	22	24.6	24.9	23.9	22.4	19	16.7	14.2	13.1	**7.8**	24.9	16.9
Jul 19	S	11.2	9.4	9	10.4	11	10.5	10.9	13.1	15.6	18.5	22.1	25.9	28.6	30	29.7	28.4	28.4	26.5	25.5	20	16.6	13.9	S	9.0	30.0	18.9
Jul 20	12.7	13.5	16.5	19.8	23	25.9	24.8	23	23.4	25.1	30.3	33	30.6	30.3	27.9	26.8	27.2	29.1	27.6	25.6	24.8	22.8	S	16.8	12.7	33.0	24.4
Jul 21	17.3	19.4	18.8	17.7	15.8	15.9	20.4	20.6	20.8	20.2	22.3	19.5	22.3	23.2	22.9	21.6	18.9	17.9	18.3	17.6	14.5	S	12.5	10.7	10.7	23.2	18.7
Jul 22	P	P	P	50.5	47.2	45.2	35.7	36.6	34.5	35.8	36.9	33.5	29.9	26.2	25.8	28.5	27.3	29.4	29.8	27.5	S	27.1	24.1	24.6	24.1	50.5	32.8
Jul 23	22.8	20.4	21.2	19.3	17.4	19.7	21.2	22.3	23.9	25.4	26.3	26.8	27.4	28.7	30.1	30.2	30.8	31.4	31	S	29.3	27.3	27.8	28.4	17.4	31.4	25.6
Jul 24	28.7	26.7	24	22.2	21.9	22	22.2	22.9	NRM	26.6	30.4	31.6	31.2	32.7	33.2	33.7	35.3	35.2	S	33.2	31.7	32.1	31	31.3	21.9	35.3	29.1
Jul 25	29.3	27.7	27.4	27.4	23.2	11.9	15.5	25.1	29.2	30.3	33.1	36	36.4	36.5	36.1	35.4	35.5	S	32.8	29	27.8	29	29.9	27.9	11.9	36.5	29.2
Jul 26	23.6	26.7	25.4	18.6	20.8	19.8	23.3	24.9	26.9	30.7	33.6	35.7	NRM	37.3	40.2	43.6	S	61.6	65.2	58.2	51	42.8	38.2	38.4	18.6	65.2	35.8
Jul 27	37.6	38.8	39.1	36	33.4	30.5	32.4	33.6	31.1	33.2	35.2	34.1	NRM	NRM	NRM	NRM	NRM	36.5	35.7	34.8	34.2	35	35.1	32.9	30.5	39.1	34.7
Jul 28	32.1	28.8	28.7	29.8	25.1	28.6	31.6	20	23.5	31.6	34.5	36.8	39.4	41.7	S	45.7	45.6	46.5	46.2	42	45.2	43.2	36.6	35.1	20.0	46.5	35.6
Jul 29	34.6	35.2	39.8	35	29.7	30.2	25	24.5	26.1	28.4	32.5	32.8	41.3	S	43.6	49.2	51.4	51.6	45.4	41.5	46.1	34.8	32.5	32.7	24.5	51.6	36.7
Jul 30	31.4	27.4	26.2	26	23.8	20.9	18.4	16.3	19	21.6	24.8	28	S	28.9	29.6	29.7	28.3	27.9	26.7	25.7	28.3	30.2	29.2	29	16.3	31.4	26.0
Jul 31	25.6	22.4	20.5	22.6	21.3	23.3	27	25.8	27.1	30.5	32.3	S	38.3	43.4	47.9	47.4	50.1	52	45.6	39.7	36.3	36.2	37.8	36.9	20.5	52.0	34.3
Diurnal Maximum	49	51	46	51	47	45	41	44	49	54	57	65	64	61	62	65	65	65	65	58	54	51	51	51			
Daiurnal Average	29.2	29.2	27.7	27.2	25.6	25.3	25.1	25.8	28.0	29.9	32.3	33.9	35.0	35.8	36.5	36.7	36.3	37.5	35.2	33.6	32.7	31.6	30.1	28.9			

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

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

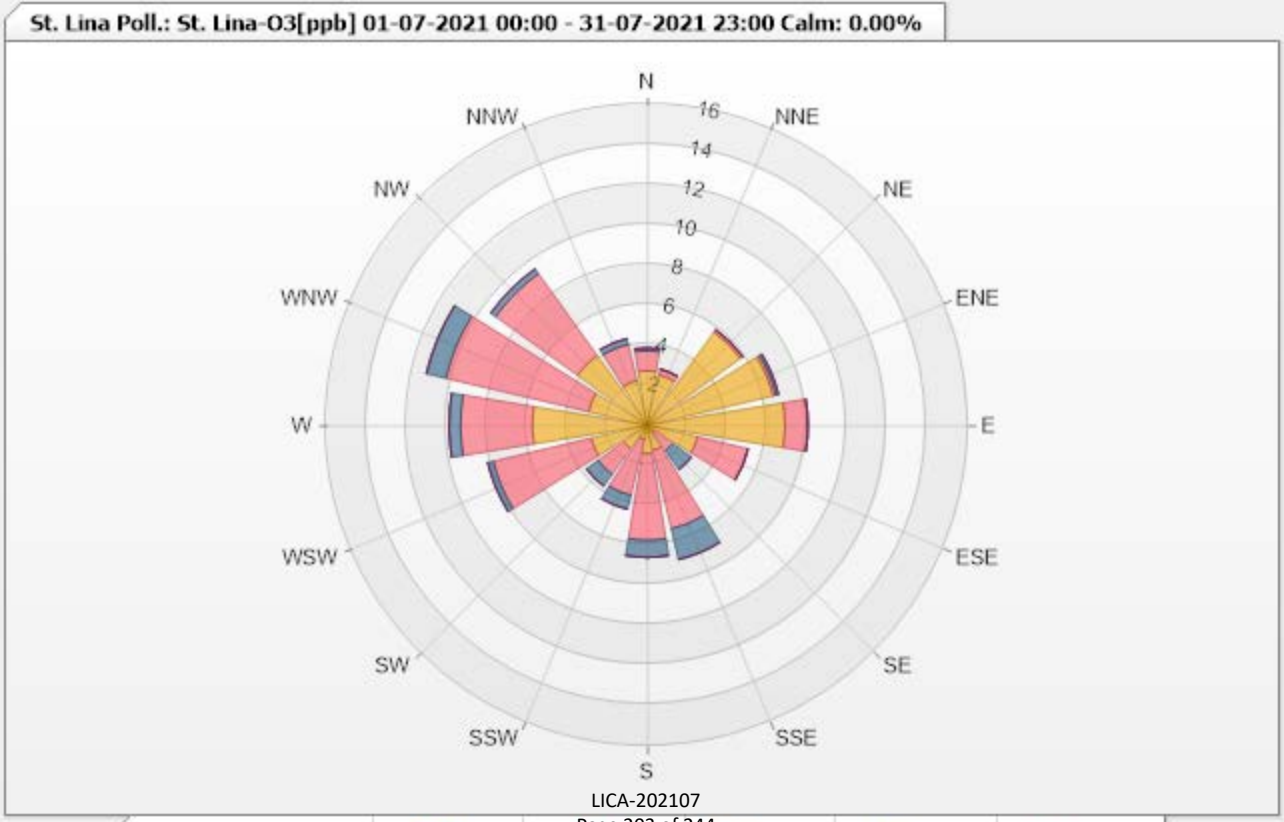

Timeseries Chart of Hourly Average for O3 - St. Lina Site
Concentration (ppb)
AAAQO (ppb)
0
10
20
30
40
50
60
70
80
01-07-2021 00:00
02-07-2021 06:00
03-07-2021 12:00
04-07-2021 18:00
06-07-2021 00:00
07-07-2021 06:00
08-07-2021 12:00
09-07-2021 18:00
11-07-2021 00:00
12-07-2021 06:00
13-07-2021 12:00
14-07-2021 18:00
16-07-2021 00:00
17-07-2021 06:00
18-07-2021 12:00
19-07-2021 18:00
21-07-2021 00:00
22-07-2021 06:00
23-07-2021 12:00
24-07-2021 18:00
26-07-2021 00:00
27-07-2021 06:00
28-07-2021 12:00
29-07-2021 18:00
31-07-2021 00:00
Hourly Value (ppb)
AAAQO (76 ppb)



Classes	O3
<=0	0.00%
0 - 10	2.58%
10 - 20	16.02%
20 - 30	31.76%
30 - 40	26.61%
40 - 50	15.31%
50 - 60	5.72%
60 - 70	2.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: St. Lina Poll.: St. Lina-O3[ppb] Monthly: 07-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.95% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	2.72	1	0.14	0	0	3.86
NNE	2.58	0.29	0	0	0	2.87
NE	5.72	0.14	0	0	0	5.86
ENE	6.44	0.14	0.14	0	0	6.72
E	6.87	1.14	0	0	0	8.01
ESE	2.58	2.58	0	0	0	5.16
SE	0.43	1.14	1.14	0	0	2.71
SSE	1.29	4.01	1.57	0	0	6.87
S	1.43	4.29	0.86	0	0	6.58
SSW	0.72	2.86	0.72	0	0	4.3
SW	1.43	1.57	0.72	0	0	3.72
WSW	2.86	5.01	0.29	0	0	8.16
W	5.72	3.58	0.57	0	0	9.87
WNW	3	7.3	1	0	0	11.3
NW	4.29	5.01	0.29	0	0	9.59
NNW	2.29	1.86	0.29	0	0	4.44
Summary	50.37	41.92	7.73	0	0	100


St. Lina Poll.: St. Lina-O3[ppb] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
2
% Icon Classes (ppb)
50 0-30
42 30-50
8 50-76
0 76-159
0 >159.0

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - July 2021

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

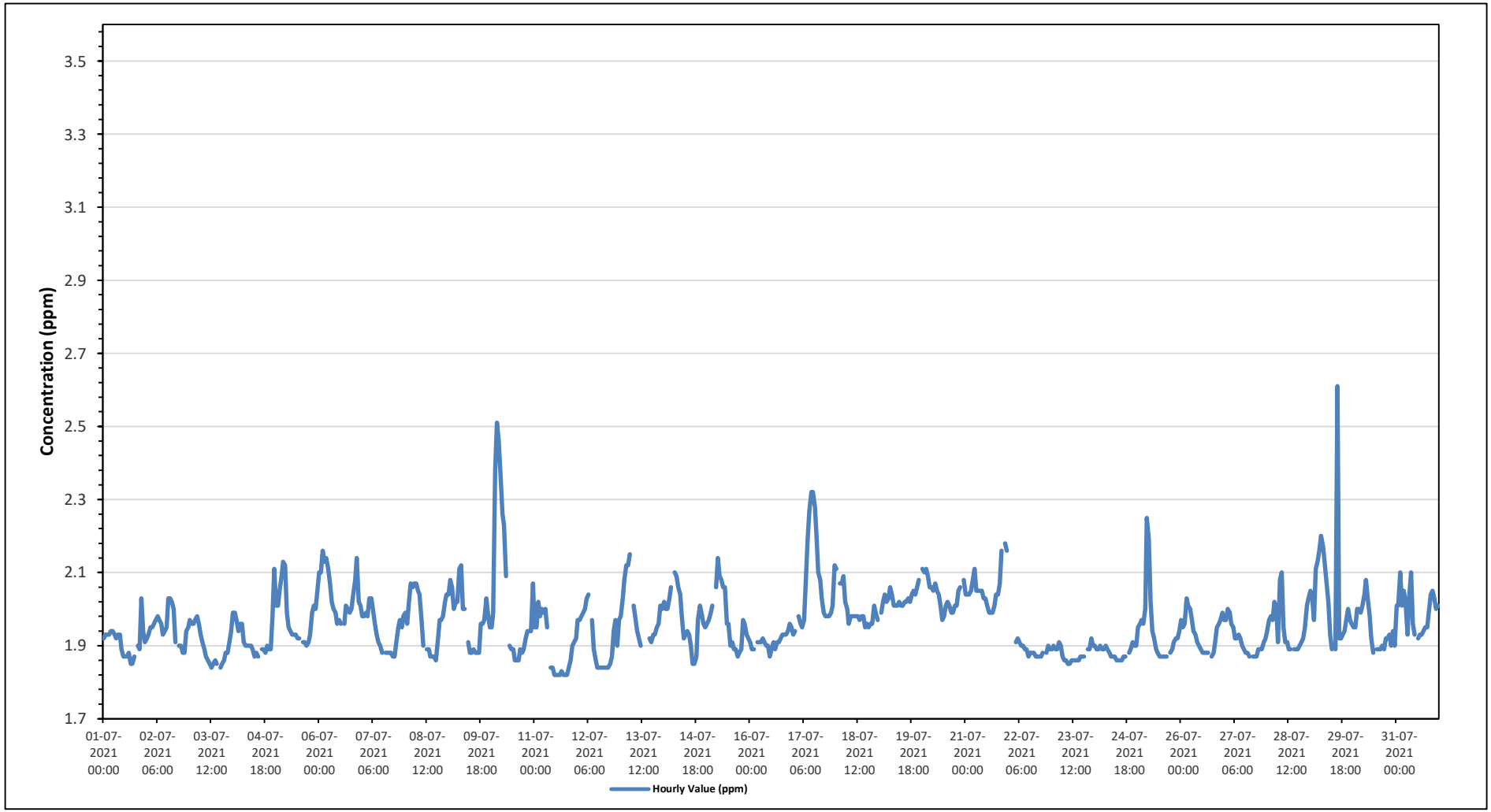
Maximum Hourly Value:	2.61	ppm	on July 29 at hour 15	Hours in Service:	744
Maximum Daily Value:	2.07	ppm	on July 17	Hours of Data:	704
Minimum Hourly Value:	1.82	ppm	on July 11 at hour 11	Hours of Missing Data:	4
Minimum Daily Value:	1.88	ppm	on July 23	Hours of Calibration:	36
Monthly Average:	1.96	ppm		Operational Uptime:	99.5

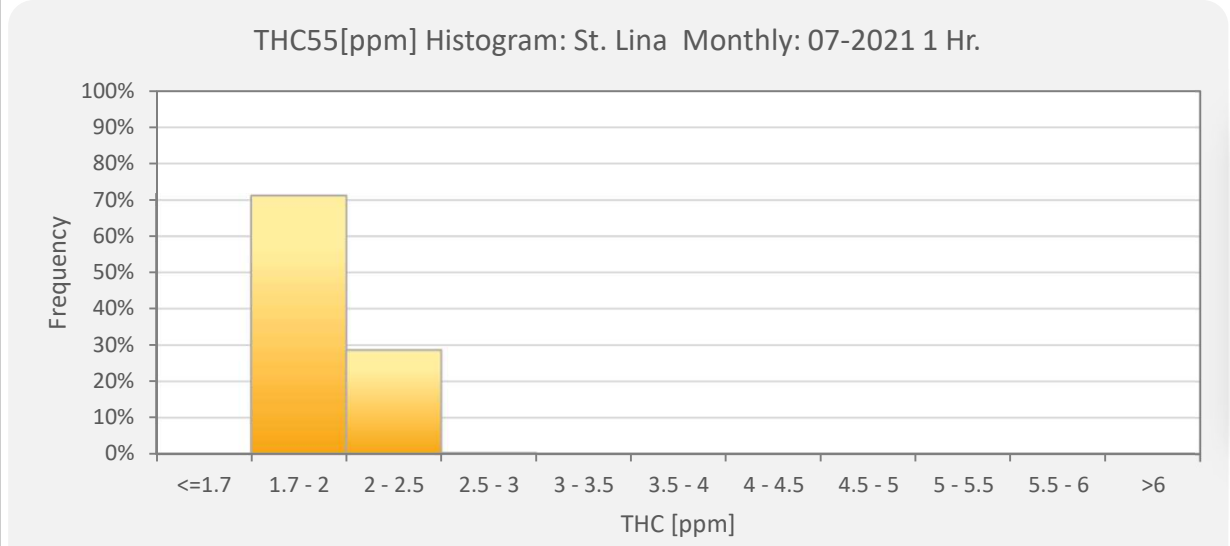
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	1.92	1.93	1.93	1.93	1.94	1.94	1.93	1.92	1.93	1.93	1.89	1.87	1.87	1.87	1.88	1.85	1.85	1.87	S	1.90	1.89	2.03	1.94	1.91	1.85	2.03	1.91
Jul 2	1.92	1.93	1.95	1.95	1.96	1.97	1.98	1.97	1.96	1.93	1.94	1.95	2.03	2.03	2.02	2.00	1.91	S	1.90	1.90	1.88	1.88	1.94	1.95	1.88	2.03	1.95
Jul 3	1.97	1.96	1.96	1.97	1.98	1.96	1.93	1.91	1.89	1.87	1.86	1.85	1.84	1.85	1.86	1.85	S	1.84	1.85	1.86	1.88	1.88	1.91	1.94	1.84	1.98	1.90
Jul 4	1.99	1.99	1.97	1.94	1.96	1.96	1.91	1.90	1.90	1.90	1.90	1.89	1.87	1.88	1.87	S	1.89	1.89	1.88	1.90	1.89	1.89	1.98	2.11	1.87	2.11	1.92
Jul 5	2.01	2.01	2.05	2.09	2.13	2.12	1.99	1.95	1.94	1.93	1.93	1.93	1.92	1.92	S	1.91	1.91	1.90	1.91	1.93	1.99	2.01	2.00	2.05	1.90	2.13	1.98
Jul 6	2.10	2.10	2.16	2.13	2.14	2.11	2.07	2.02	2.00	1.99	1.96	1.97	1.96	S	1.96	2.01	2.00	1.99	2.00	2.04	2.08	2.14	2.02	2.01	1.96	2.16	2.04
Jul 7	1.98	1.98	1.99	1.98	2.03	2.03	2.00	1.96	1.93	1.91	1.90	1.88	S	1.88	1.88	1.88	1.88	1.87	1.87	1.91	1.95	1.97	1.95	1.98	1.87	2.03	1.94
Jul 8	1.99	1.96	2.02	2.07	2.06	2.07	2.07	2.05	2.04	1.97	1.90	S	1.89	1.89	1.87	1.87	1.87	1.86	1.91	1.97	1.97	1.98	2.02	2.04	1.86	2.07	1.97
Jul 9	2.04	2.08	2.06	2.00	2.02	2.02	2.11	2.12	2.00	2.00	S	1.91	1.88	1.88	1.89	1.88	1.88	1.88	1.96	1.96	1.97	2.03	1.99	1.95	1.88	2.12	1.98
Jul 10	1.95	1.99	2.38	2.51	2.46	2.37	2.26	2.23	2.09	S	1.90	1.89	1.89	1.86	1.86	1.86	1.89	1.88	1.89	1.92	1.94	1.94	1.94	2.07	1.86	2.51	2.04
Jul 11	1.95	1.95	2.02	1.98	2.00	1.99	2.00	1.95	S	1.84	1.84	1.82	1.82	1.82	1.82	1.83	1.82	1.82	1.82	1.84	1.86	1.90	1.91	1.92	1.82	2.02	1.89
Jul 12	1.97	1.97	1.98	1.99	2.00	2.03	2.04	S	1.97	1.89	1.86	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.85	1.87	1.94	1.97	1.90	1.97	1.84	2.04	1.92
Jul 13	1.98	2.03	2.08	2.12	2.12	2.15	S	2.01	1.98	1.94	1.92	1.90	C	C	C	C	1.92	1.91	1.93	1.93	1.95	1.96	2.01	2.00	1.90	2.15	1.99
Jul 14	2.02	2.00	2.00	2.03	2.06	S	2.10	2.09	2.06	2.04	1.98	1.92	1.93	1.94	1.93	1.90	1.85	1.85	1.87	1.97	2.01	1.99	1.96	1.95	1.85	2.10	1.98
Jul 15	1.96	1.97	1.99	2.01	S	2.06	2.14	2.09	2.08	2.06	2.06	1.96	1.96	1.90	1.91	1.89	1.89	1.87	1.88	1.89	1.97	1.96	1.93	1.92	1.87	2.14	1.97
Jul 16	1.91	1.89	1.89	S	1.91	1.91	1.91	1.92	1.91	1.90	1.90	1.87	1.89	1.91	1.89	1.91	1.91	1.92	1.93	1.93	1.93	1.94	1.96	1.95	1.87	1.96	1.91
Jul 17	1.93	1.94	S	1.98	1.96	1.95	1.97	2.08	2.19	2.27	2.32	2.32	2.28	2.19	2.10	2.08	2.03	1.99	1.98	1.98	1.98	1.99	2.01	2.12	1.93	2.32	**2.07**
Jul 18	2.11	S	2.07	2.07	2.09	2.02	2.00	1.96	1.98	1.98	1.98	1.98	1.98	1.97	1.98	1.98	1.95	1.96	1.95	1.96	1.96	2.01	1.99	1.97	1.95	2.11	2.00
Jul 19	S	1.99	2.02	2.04	2.02	2.03	2.06	2.04	2.01	2.01	2.01	2.02	2.01	2.01	2.02	2.02	2.03	2.02	2.04	2.05	2.04	2.06	2.08	S	1.99	2.08	2.03
Jul 20	2.11	2.10	2.11	2.09	2.06	2.06	2.05	2.07	2.05	2.04	2.01	1.97	1.98	2.01	2.02	2.01	1.99	1.99	2.01	2.01	2.05	2.06	S	2.08	1.97	2.11	2.04
Jul 21	2.04	2.04	2.04	2.05	2.08	2.11	2.05	2.05	2.05	2.05	2.03	2.03	2.01	1.99	1.99	1.99	2.01	2.04	2.04	2.07	2.16	S	2.18	2.16	1.99	2.18	2.05
Jul 22	P	P	P	X	1.91	1.92	1.91	1.90	1.90	1.89	1.89	1.87	1.88	1.88	1.88	1.87	1.87	1.87	1.87	1.88	S	1.88	1.90	1.89	1.87	1.92	1.89
Jul 23	1.89	1.90	1.89	1.89	1.91	1.90	1.87	1.86	1.86	1.85	1.85	1.86	1.86	1.86	1.86	1.86	1.87	1.87	1.87	S	1.89	1.89	1.92	1.90	1.85	1.92	1.88
Jul 24	1.90	1.89	1.89	1.90	1.89	1.89	1.90	1.89	1.88	1.87	1.87	1.87	1.86	1.86	1.86	1.86	1.87	1.87	S	1.88	1.89	1.91	1.90	1.90	1.86	1.91	1.88
Jul 25	1.95	1.96	1.97	1.96	2.00	2.25	2.19	2.02	1.94	1.92	1.89	1.88	1.87	1.87	1.87	1.87	1.87	S	1.88	1.89	1.91	1.92	1.92	1.94	1.87	2.25	1.95
Jul 26	1.97	1.95	1.96	2.03	2.01	2.00	1.97	1.94	1.93	1.91	1.90	1.89	1.88	1.88	1.88	1.88	S	1.87	1.88	1.91	1.95	1.96	1.97	1.99	1.87	2.03	1.94
Jul 27	1.97	1.97	2.00	1.99	1.96	1.95	1.92	1.92	1.93	1.92	1.90	1.89	1.88	1.88	1.87	S	1.87	1.87	1.87	1.89	1.89	1.89	1.91	1.92	1.87	2.00	1.92
Jul 28	1.94	1.97	1.98	1.97	2.02	2.00	1.91	2.08	2.10	1.95	1.91	1.91	1.89	1.89	S	1.89	1.89	1.89	1.90	1.91	1.92	1.95	2.01	2.03	1.89	2.10	1.95
Jul 29	2.05	2.03	1.97	2.11	2.13	2.16	2.20	2.17	2.13	2.07	2.02	1.93	1.89	S	1.89	**2.61**	1.92	1.92	1.93	1.94	1.97	2.00	1.97	1.96	1.89	**2.61**	2.04
Jul 30	1.95	1.95	2.00	2.00	1.99	2.01	2.04	2.08	2.03	1.98	1.92	1.88	S	1.89	1.89	1.89	1.90	1.89	1.92	1.92	1.93	1.90	1.94	1.90	1.88	2.08	1.95
Jul 31	2.01	2.01	2.10	2.01	2.05	2.02	1.93	2.03	2.10	1.96	1.93	S	1.92	1.93	1.93	1.94	1.95	1.95	1.99	2.04	2.05	2.03	2.00	2.01	1.92	2.10	2.00
Diurnal Maximum	2.11	2.10	2.38	2.51	2.46	2.37	2.26	2.23	2.19	2.27	2.32	2.32	2.28	2.19	2.10	2.61	2.03	2.04	2.04	2.07	2.16	2.14	2.18	2.16			
Daiurnal Average	1.98	1.98	2.01	2.03	2.03	2.03	2.01	2.01	1.99	1.96	1.94	1.92	1.92	1.91	1.91	1.94	1.91	1.90	1.92	1.94	1.96	1.96	1.97	1.98			

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 THC - St. Lina Site

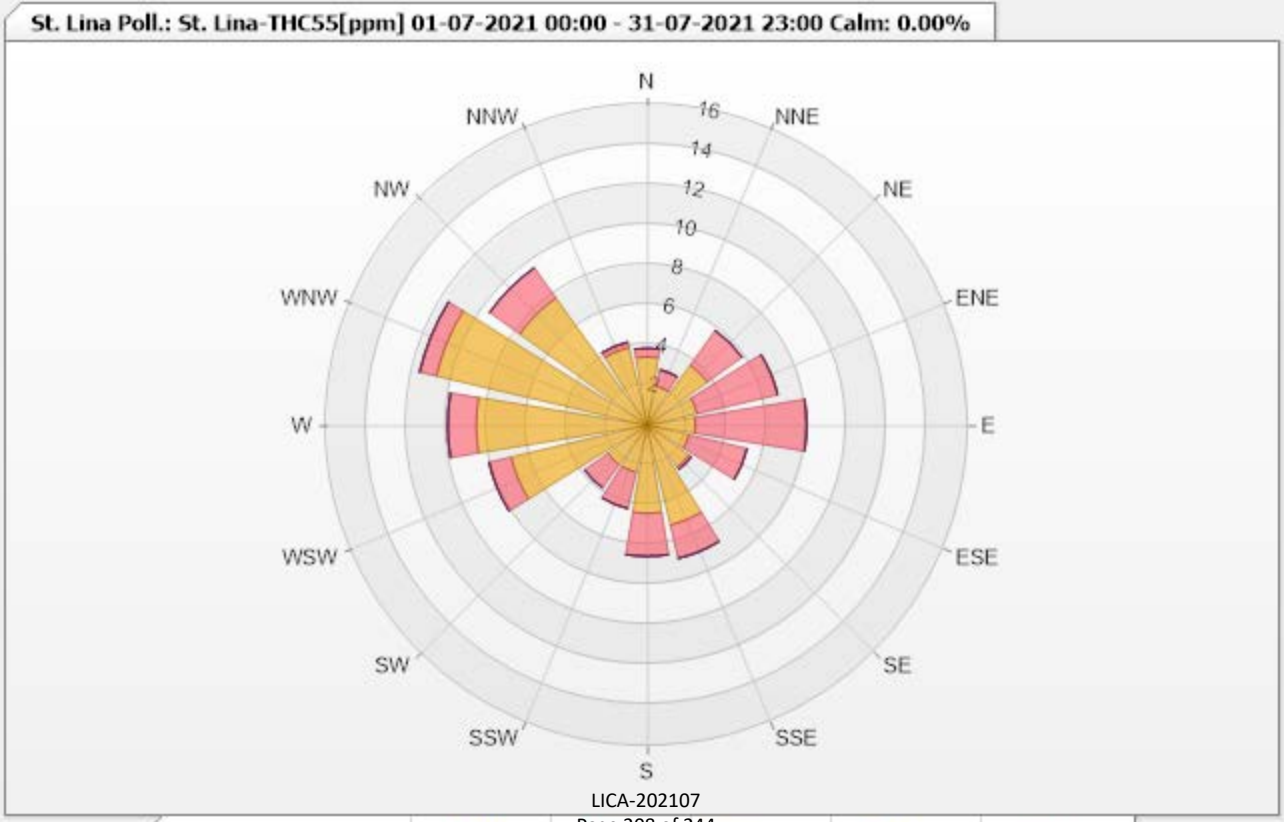




Classes	THC55
<=1.7	0.00%
1.7 - 2	71.16%
2 - 2.5	28.55%
2.5 - 3	0.28%
3 - 3.5	0.00%
3.5 - 4	0.00%
4 - 4.5	0.00%
4.5 - 5	0.00%
5 - 5.5	0.00%
5.5 - 6	0.00%
>6	0.00%

Wind: St. Lina Poll.: St. Lina-THC55[ppm] Monthly: 07-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.62% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	3.41	0.43	0	0	0	3.84
NNE	1.99	0.85	0	0	0	2.84
NE	3.69	2.13	0	0	0	5.82
ENE	2.56	4.12	0	0	0	6.68
E	2.41	5.54	0	0	0	7.95
ESE	2.13	2.98	0	0	0	5.11
SE	2.56	0.14	0	0	0	2.7
SSE	5.11	1.7	0	0	0	6.81
S	4.4	2.13	0	0	0	6.53
SSW	2.41	1.85	0	0	0	4.26
SW	2.41	1.42	0	0	0	3.83
WSW	6.96	1.14	0	0	0	8.1
W	8.52	1.42	0	0	0	9.94
WNW	10.8	0.85	0	0	0	11.65
NW	7.81	1.85	0	0	0	9.66
NNW	3.98	0.28	0	0	0	4.26
Summary	71.15	28.83	0	0	0	100


St. Lina Poll.: St. Lina-THC55[ppm] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
2
% Icon Classes (ppm)
71 0-2
29 2-5
0 5-10
0 10-40
0 >40.0

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - July 2021

Summary of Hourly Averages

METHANE (CH4) in ppm

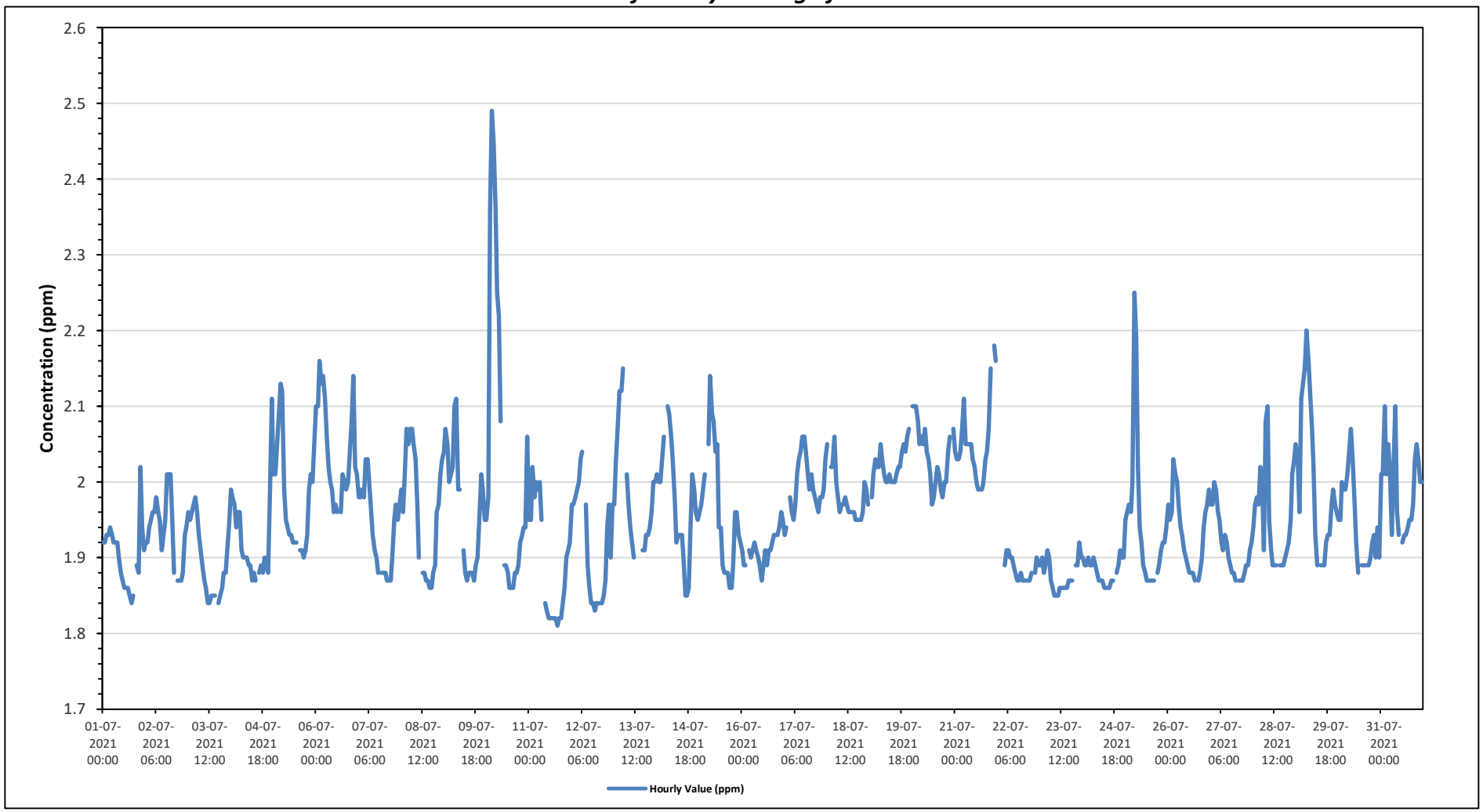
Maximum Hourly Value:	2.49	ppm	on July 10 at hour 3	Hours in Service:	744
Maximum Daily Value:	2.05	ppm	on July 21	Hours of Data:	704
Minimum Hourly Value:	1.81	ppm	on July 11 at hour 16	Hours of Missing Data:	4
Minimum Daily Value:	1.88	ppm	on July 23	Hours of Calibration:	36
Monthly Average:	1.96	ppm		Operational Uptime:	99.5

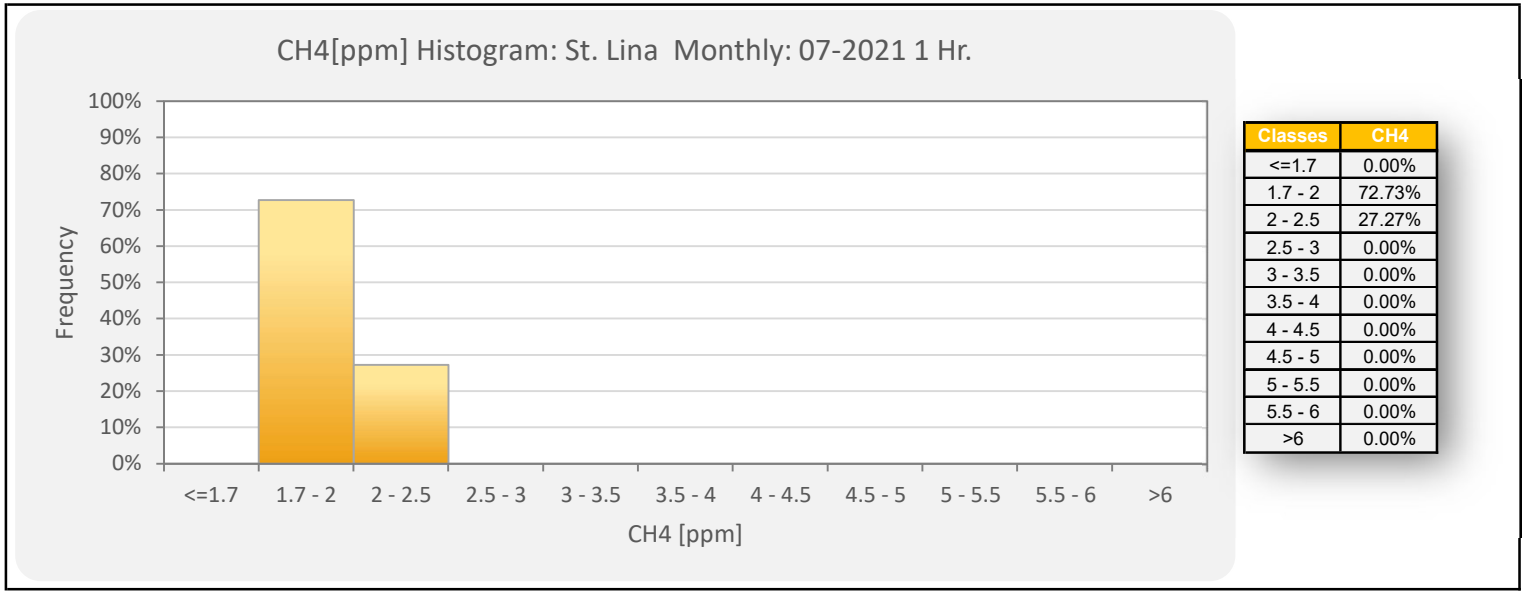
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	1.92	1.92	1.93	1.93	1.94	1.93	1.92	1.92	1.92	1.90	1.88	1.87	1.86	1.86	1.86	1.85	1.84	1.85	S	1.89	1.88	2.02	1.94	1.91	1.84	2.02	1.90
Jul 2	1.92	1.92	1.94	1.95	1.96	1.96	1.98	1.96	1.95	1.91	1.93	1.95	2.01	2.01	2.01	1.95	1.88	S	1.87	1.87	1.87	1.88	1.93	1.94	1.87	2.01	1.94
Jul 3	1.96	1.95	1.96	1.97	1.98	1.96	1.93	1.91	1.89	1.87	1.86	1.84	1.84	1.85	1.85	1.85	S	1.84	1.85	1.86	1.88	1.88	1.91	1.94	1.84	1.98	1.90
Jul 4	1.99	1.98	1.97	1.94	1.96	1.96	1.91	1.90	1.90	1.90	1.89	1.89	1.87	1.88	1.87	S	1.88	1.89	1.88	1.90	1.89	1.88	1.98	2.11	1.87	2.11	1.92
Jul 5	2.01	2.01	2.05	2.09	2.13	2.12	1.99	1.95	1.94	1.93	1.93	1.92	1.92	1.92	S	1.91	1.91	1.90	1.91	1.93	1.99	2.01	2.00	2.05	1.90	2.13	1.98
Jul 6	2.10	2.10	2.16	2.13	2.14	2.11	2.06	2.02	2.00	1.99	1.96	1.97	1.96	S	1.96	2.01	2.00	1.99	2.00	2.04	2.08	2.14	2.02	2.01	1.96	2.16	2.04
Jul 7	1.98	1.98	1.99	1.98	2.03	2.03	2.00	1.96	1.93	1.91	1.90	1.88	S	1.88	1.88	1.88	1.87	1.87	1.87	1.90	1.95	1.97	1.95	1.97	1.87	2.03	1.94
Jul 8	1.99	1.96	2.01	2.07	2.05	2.07	2.07	2.05	2.03	1.97	1.90	S	1.88	1.88	1.87	1.87	1.86	1.86	1.88	1.89	1.96	1.97	2.01	2.03	1.86	2.07	1.96
Jul 9	2.04	2.07	2.05	2.00	2.01	2.02	2.10	2.11	1.99	1.99	S	1.91	1.88	1.87	1.88	1.88	1.88	1.87	1.89	1.90	1.95	2.01	1.99	1.95	1.87	2.11	1.97
Jul 10	1.95	1.98	2.36	**2.49**	2.45	2.36	2.25	2.22	2.08	S	1.89	1.89	1.88	1.86	1.86	1.86	1.88	1.88	1.89	1.92	1.93	1.94	1.94	2.06	1.86	**2.49**	2.04
Jul 11	1.95	1.95	2.02	1.98	2.00	1.99	2.00	1.95	S	1.84	1.83	1.82	1.82	1.82	1.82	1.82	1.81	1.82	1.82	1.84	1.86	1.90	1.91	1.92	1.81	2.02	1.89
Jul 12	1.97	1.97	1.98	1.99	2.00	2.03	2.04	S	1.97	1.89	1.86	1.84	1.84	1.83	1.84	1.84	1.84	1.84	1.85	1.87	1.94	1.97	1.90	1.97	1.83	2.04	1.92
Jul 13	1.97	2.03	2.08	2.12	2.12	2.15	S	2.01	1.97	1.94	1.92	1.90	C	C	C	C	1.91	1.91	1.93	1.93	1.94	1.96	2.00	2.00	1.90	2.15	1.99
Jul 14	2.01	2.00	2.00	2.03	2.06	S	2.10	2.09	2.06	2.03	1.98	1.92	1.93	1.93	1.93	1.90	1.85	1.85	1.86	1.95	2.01	1.99	1.96	1.95	1.85	2.10	1.97
Jul 15	1.96	1.97	1.99	2.01	S	2.05	2.14	2.09	2.08	2.04	2.05	1.94	1.94	1.89	1.88	1.88	1.88	1.86	1.86	1.89	1.96	1.96	1.93	1.92	1.86	2.14	1.96
Jul 16	1.91	1.89	1.89	S	1.91	1.90	1.91	1.92	1.91	1.90	1.89	1.87	1.89	1.91	1.89	1.91	1.91	1.92	1.93	1.93	1.93	1.94	1.96	1.95	1.87	1.96	1.91
Jul 17	1.93	1.94	S	1.98	1.96	1.95	1.97	2.01	2.03	2.04	2.06	2.06	2.04	2.01	1.99	2.01	1.99	1.98	1.97	1.96	1.98	1.98	1.99	2.03	1.93	2.06	1.99
Jul 18	2.05	S	2.02	2.02	2.06	2.00	1.98	1.96	1.97	1.97	1.98	1.97	1.96	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.96	2.00	1.99	1.97	1.95	2.06	1.98
Jul 19	S	1.98	2.01	2.03	2.02	2.02	2.05	2.03	2.01	2.00	2.00	2.01	2.00	2.00	2.00	2.01	2.02	2.02	2.04	2.05	2.04	2.06	2.07	S	1.98	2.07	2.02
Jul 20	2.10	2.10	2.10	2.08	2.05	2.06	2.05	2.07	2.04	2.03	2.01	1.97	1.98	2.00	2.02	2.01	1.99	1.98	2.00	2.00	2.04	2.06	S	2.07	1.97	2.10	2.04
Jul 21	2.04	2.03	2.03	2.04	2.07	2.11	2.05	2.05	2.05	2.05	2.03	2.02	2.00	1.99	1.99	1.99	2.00	2.03	2.04	2.07	2.15	S	2.18	2.16	1.99	2.18	**2.05**
Jul 22	P	P	P	X	1.89	1.91	1.91	1.90	1.90	1.89	1.88	1.87	1.87	1.88	1.87	1.87	1.87	1.87	1.87	1.88	S	1.88	1.90	1.89	1.87	1.91	1.88
Jul 23	1.89	1.90	1.88	1.89	1.91	1.90	1.87	1.86	1.85	1.85	1.85	1.86	1.86	1.86	1.86	1.86	1.87	1.87	1.87	S	1.89	1.89	1.92	1.90	1.85	1.92	1.88
Jul 24	1.90	1.89	1.89	1.90	1.89	1.89	1.90	1.89	1.88	1.87	1.87	1.87	1.86	1.86	1.86	1.86	1.87	1.87	S	1.88	1.89	1.91	1.90	1.90	1.86	1.91	1.88
Jul 25	1.95	1.96	1.97	1.96	2.00	2.25	2.19	2.02	1.94	1.92	1.89	1.88	1.87	1.87	1.87	1.87	1.87	S	1.88	1.89	1.91	1.92	1.92	1.94	1.87	2.25	1.95
Jul 26	1.97	1.95	1.96	2.03	2.01	2.00	1.97	1.94	1.93	1.91	1.90	1.89	1.88	1.88	1.88	1.87	S	1.87	1.88	1.90	1.94	1.96	1.97	1.99	1.87	2.03	1.93
Jul 27	1.97	1.97	2.00	1.99	1.96	1.95	1.92	1.91	1.93	1.92	1.90	1.89	1.88	1.88	1.87	S	1.87	1.87	1.87	1.88	1.89	1.89	1.91	1.92	1.87	2.00	1.91
Jul 28	1.94	1.97	1.98	1.97	2.02	2.00	1.91	2.08	2.10	1.95	1.91	1.89	1.89	1.89	S	1.89	1.89	1.89	1.90	1.91	1.92	1.95	2.01	2.03	1.89	2.10	1.95
Jul 29	2.05	2.03	1.96	2.11	2.13	2.15	2.20	2.16	2.12	2.07	2.02	1.93	1.89	S	1.89	1.89	1.89	1.92	1.93	1.93	1.97	1.99	1.97	1.96	1.89	2.20	2.01
Jul 30	1.95	1.95	2.00	1.99	1.99	2.01	2.04	2.07	2.03	1.97	1.92	1.88	S	1.89	1.89	1.89	1.89	1.89	1.90	1.92	1.93	1.90	1.94	1.90	1.88	2.07	1.95
Jul 31	2.01	2.01	2.10	2.01	2.05	2.01	1.93	2.02	2.10	1.96	1.93	S	1.92	1.93	1.93	1.94	1.95	1.95	1.97	2.03	2.05	2.03	2.00	2.00	1.92	2.10	1.99
Diurnal Maximum	2.10	2.10	2.36	2.49	2.45	2.36	2.25	2.22	2.12	2.07	2.06	2.06	2.04	2.01	2.02	2.01	2.02	2.03	2.04	2.07	2.15	2.14	2.18	2.16			
Daiurnal Average	1.98	1.98	2.01	2.02	2.03	2.03	2.01	2.00	1.98	1.95	1.93	1.91	1.91	1.90	1.90	1.90	1.90	1.90	1.91	1.93	1.95	1.96	1.97	1.98			

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 CH4 - St. Lina Site

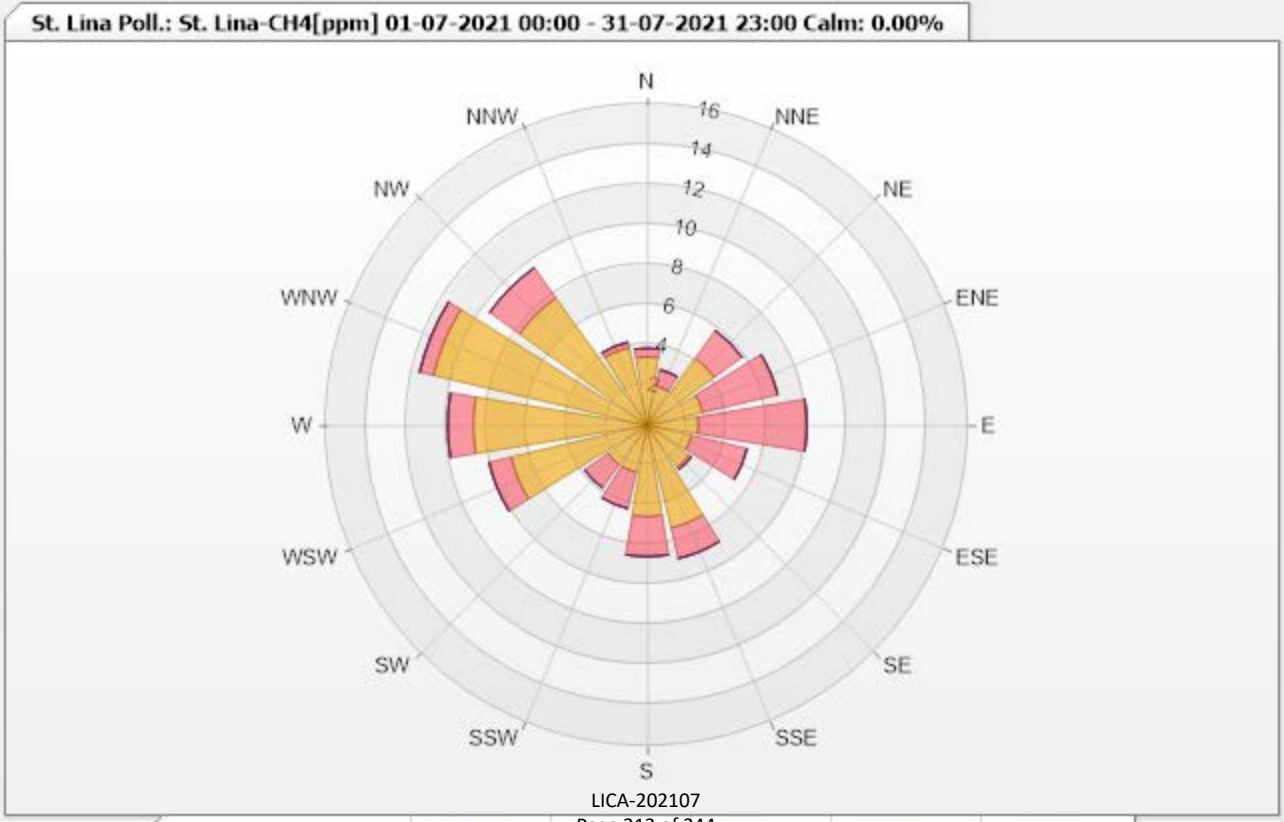




Classes	CH4
<=1.7	0.00%
1.7 - 2	72.73%
2 - 2.5	27.27%
2.5 - 3	0.00%
3 - 3.5	0.00%
3.5 - 4	0.00%
4 - 4.5	0.00%
4.5 - 5	0.00%
5 - 5.5	0.00%
5.5 - 6	0.00%
>6	0.00%

Wind: St. Lina Poll.: St. Lina-CH4[ppm] Monthly: 07-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.62% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	3.41	0.43	0	0	0	3.84
NNE	1.99	0.85	0	0	0	2.84
NE	4.12	1.7	0	0	0	5.82
ENE	2.84	3.84	0	0	0	6.68
E	2.56	5.4	0	0	0	7.96
ESE	2.27	2.84	0	0	0	5.11
SE	2.56	0.14	0	0	0	2.7
SSE	5.26	1.56	0	0	0	6.82
S	4.55	1.99	0	0	0	6.54
SSW	2.41	1.85	0	0	0	4.26
SW	2.41	1.42	0	0	0	3.83
WSW	6.96	1.14	0	0	0	8.1
W	8.66	1.28	0	0	0	9.94
WNW	10.94	0.71	0	0	0	11.65
NW	7.81	1.85	0	0	0	9.66
NNW	3.98	0.28	0	0	0	4.26
Summary	72.73	27.28	0	0	0	100


St. Lina Poll.: St. Lina-CH4[ppm] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
2
% Icon Classes (ppm)
73 0-2
27 2-5
0 5-10
0 10-20
0 >20.0

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - July 2021

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

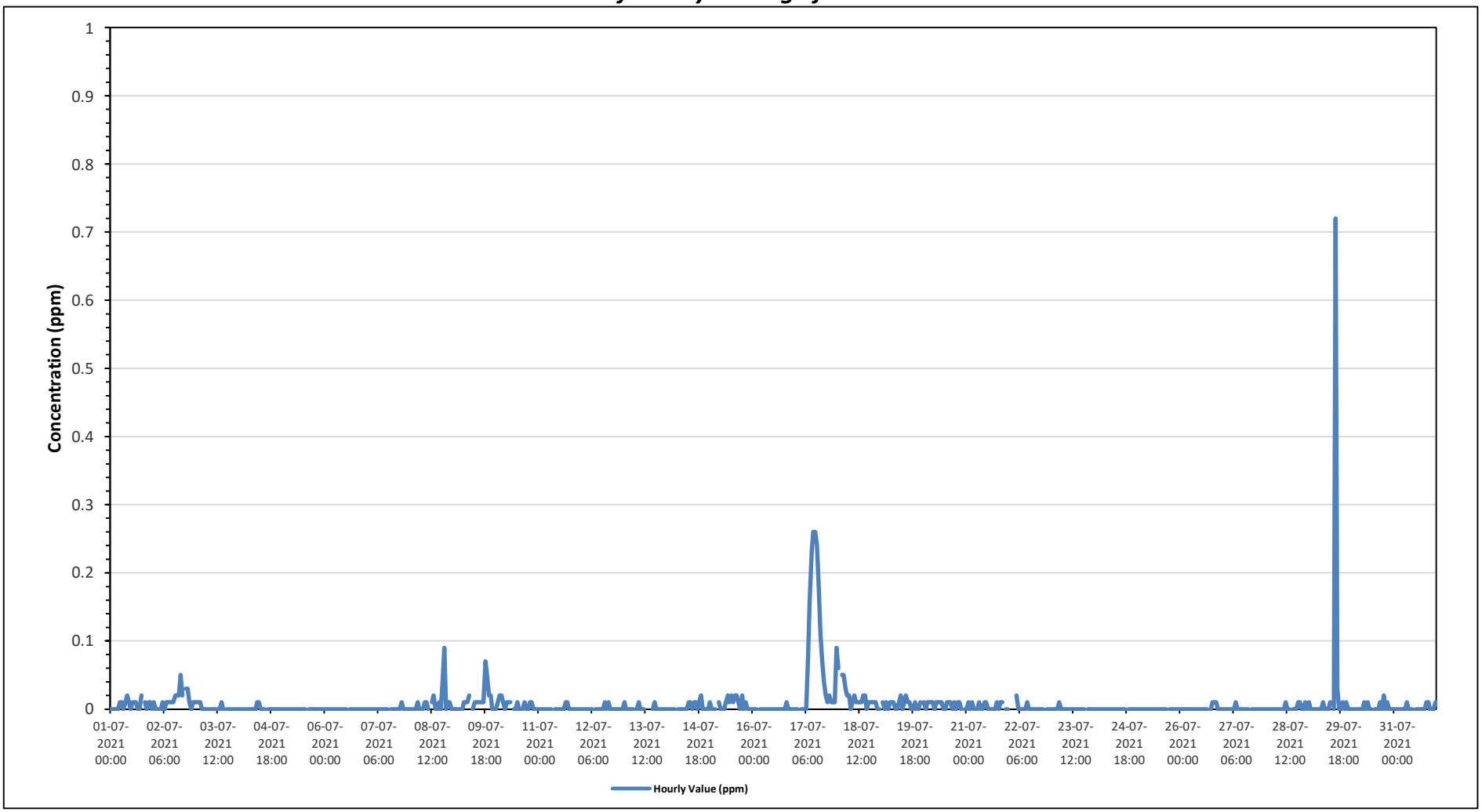
Maximum Hourly Value:	0.72	ppm	on July 29 at hour 15	Hours in Service:	744
Maximum Daily Value:	0.08	ppm	on July 17	Hours of Data:	704
Minimum Hourly Value:	0.00	ppm	on July 1 at hour 0	Hours of Missing Data:	4
Minimum Daily Value:	0.00	ppm	on July 5	Hours of Calibration:	36
Monthly Average:	0.01	ppm		Operational Uptime:	99.5

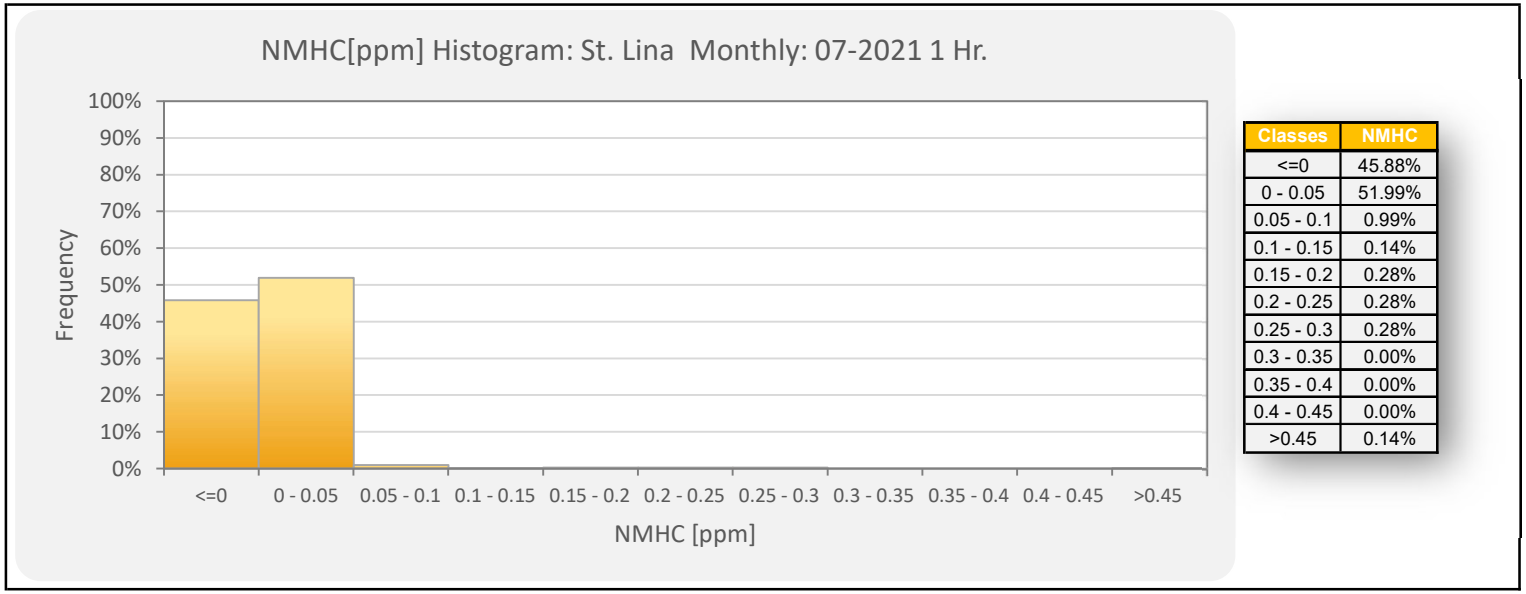
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	V	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.02	S	0.01	0.00	0.01	0.01	0.00	0.00	0.02	0.01
Jul 2	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.05	0.02	S	0.03	0.03	0.01	0.00	0.01	0.01	0.00	0.05	0.01
Jul 3	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Jul 4	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Jul 5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Jul 6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Jul 7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Jul 8	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.00	S	0.01	0.02	0.00	0.00	0.01	0.00	0.04	0.09	0.00	0.01	0.01	0.00	0.00	0.09	0.01
Jul 9	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02	S	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.07	0.05	0.02	0.02	0.00	0.00	0.00	0.07	0.01
Jul 10	0.00	0.01	0.02	0.02	0.01	0.00	0.01	0.01	0.01	S	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.02	0.01
Jul 11	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	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Jul 12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Jul 13	0.01	0.00	0.00	0.00	0.00	0.00	S	0.00	0.01	0.00	0.00	0.00	C	C	C	C	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Jul 14	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	0.01	0.00	0.01	0.01	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.02	0.00
Jul 15	0.01	0.00	0.00	0.00	S	0.01	0.00	0.00	0.00	0.01	0.02	0.01	0.02	0.01	0.02	0.02	0.01	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.02	0.01
Jul 16	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	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Jul 17	0.00	0.00	S	0.00	0.00	0.00	0.00	0.07	0.16	0.23	0.26	0.26	0.24	0.18	0.11	0.07	0.04	0.02	0.01	0.02	0.01	0.01	0.01	0.09	0.00	0.26	**0.08**
Jul 18	0.06	S	0.05	0.05	0.03	0.02	0.02	0.00	0.01	0.02	0.01	0.01	0.01	0.01	0.02	0.02	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.06	0.02
Jul 19	S	0.01	0.00	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.02	0.00	0.01	0.02	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.01	S	0.00	0.02	0.01
Jul 20	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.01	0.00	0.01	0.01	0.00	S	0.00	0.00	0.01	0.01
Jul 21	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	S	0.00	0.00	0.00	0.01	0.00
Jul 22	P	P	P	X	0.02	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	0.02	0.00
Jul 23	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Jul 24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jul 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jul 26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.00
Jul 27	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Jul 28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	S	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00
Jul 29	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	S	0.00	**0.72**	0.03	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	**0.72**	0.03
Jul 30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	S	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.02	0.00
Jul 31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.00
Diurnal Maximum	0.06	0.01	0.05	0.05	0.03	0.02	0.02	0.07	0.16	0.23	0.26	0.26	0.24	0.18	0.11	0.72	0.04	0.02	0.07	0.09	0.02	0.02	0.01	0.09			
Daiurnal Average	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	0.01	0.03	0.01	0.00	0.01	0.01	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	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 NMHC - St. Lina Site

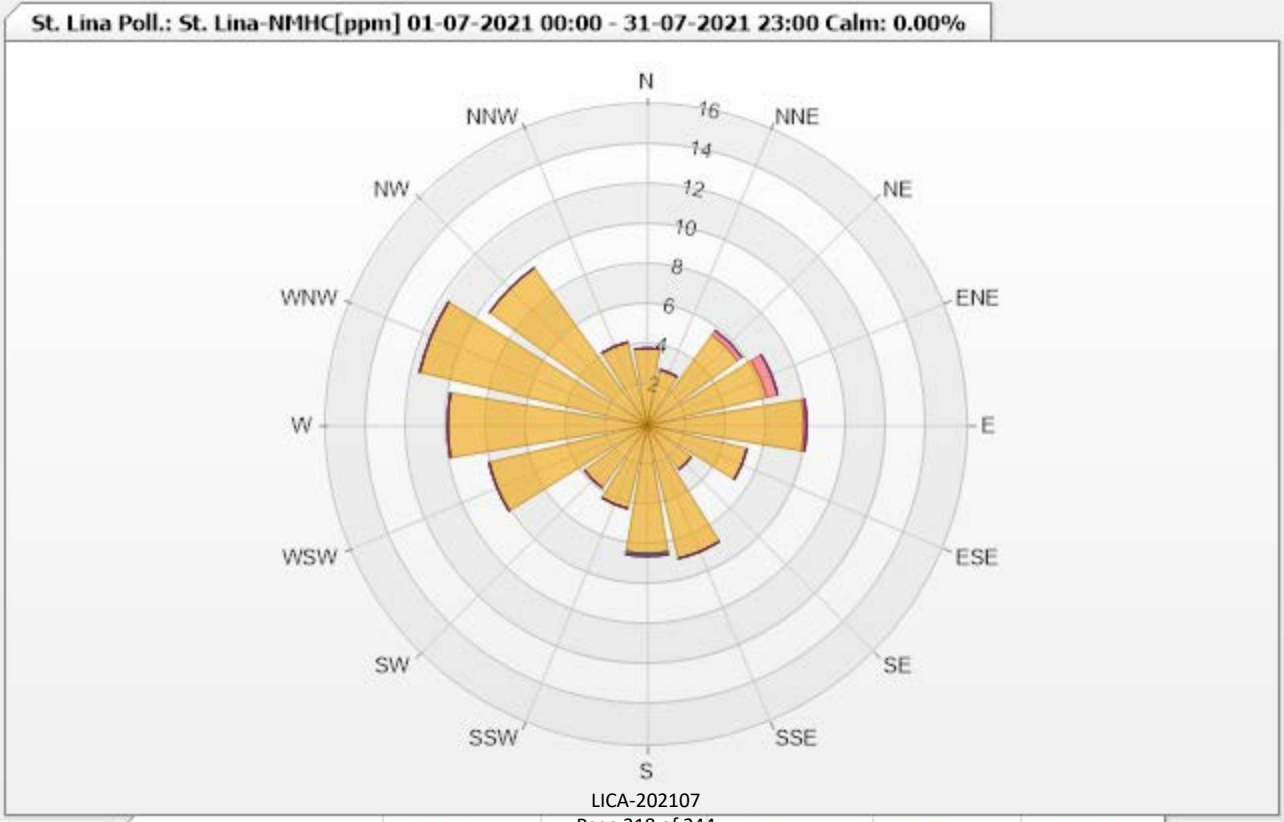




Classes	NMHC
<=0	45.88%
0 - 0.05	51.99%
0.05 - 0.1	0.99%
0.1 - 0.15	0.14%
0.15 - 0.2	0.28%
0.2 - 0.25	0.28%
0.25 - 0.3	0.28%
0.3 - 0.35	0.00%
0.35 - 0.4	0.00%
0.4 - 0.45	0.00%
>0.45	0.14%

Wind: St. Lina Poll.: St. Lina-NMHC[ppm] Monthly: 07-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.62% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-0.9	0.9-2	>2.0	Total
N	3.84	0	0	0	0	3.84
NNE	2.84	0	0	0	0	2.84
NE	5.54	0.28	0	0	0	5.82
ENE	6.11	0.57	0	0	0	6.68
E	7.81	0.14	0	0	0	7.95
ESE	5.11	0	0	0	0	5.11
SE	2.7	0	0	0	0	2.7
SSE	6.82	0	0	0	0	6.82
S	6.39	0	0.14	0	0	6.53
SSW	4.26	0	0	0	0	4.26
SW	3.84	0	0	0	0	3.84
WSW	8.1	0	0	0	0	8.1
W	9.94	0	0	0	0	9.94
WNW	11.65	0	0	0	0	11.65
NW	9.66	0	0	0	0	9.66
NNW	4.26	0	0	0	0	4.26
Summary	98.87	0.99	0.14	0	0	100


St. Lina Poll.: St. Lina-NMHC[ppm] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
2
% Icon Classes (ppm)
99 0-0.1
1 0.1-0.3
0 0.3-0.9
0 0.9-2
0 >2.0

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - July 2021

Summary of Hourly Averages

PARTICULATE MATTER 2.5 ($PM_{2.5}$) in $\mu g/m^3$

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

Number of 1-Hour Exceedences: 27 Number of 24-Hour Exceedences: 2

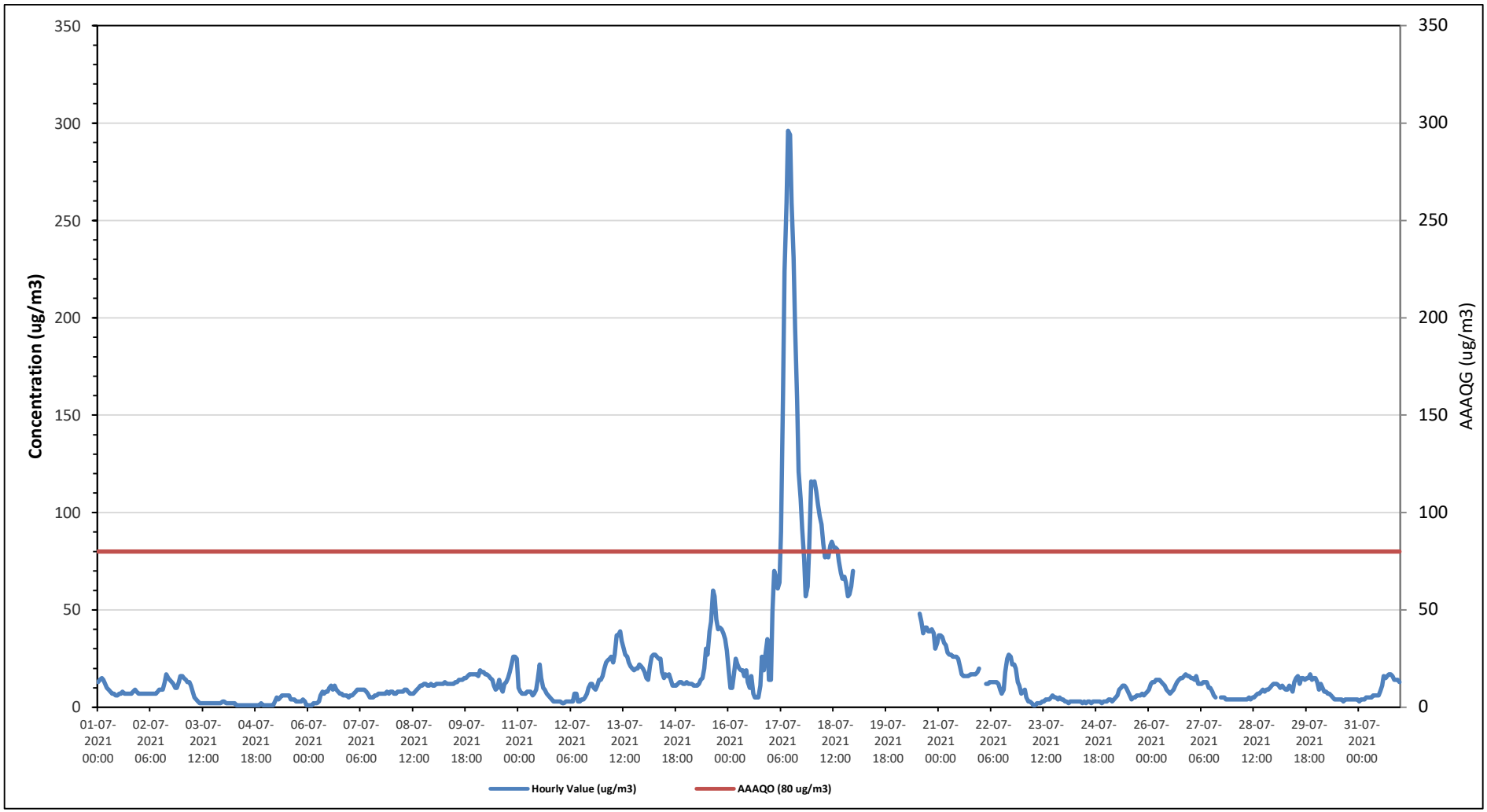
Maximum Hourly Value:	296 $\mu g/m^3$ on July 17 at hour 10	Hours in Service:	744
Maximum Daily Value:	133.5 $\mu g/m^3$ on July 17	Hours of Data:	702
Minimum Hourly Value:	1 $\mu g/m^3$ on July 4 at hour 7	Hours of Missing Data:	40
Minimum Daily Value:	1 $\mu g/m^3$ on July 4	Hours of Calibration:	2
Monthly Average:	17.8 $\mu g/m^3$	Operational Uptime:	94.6

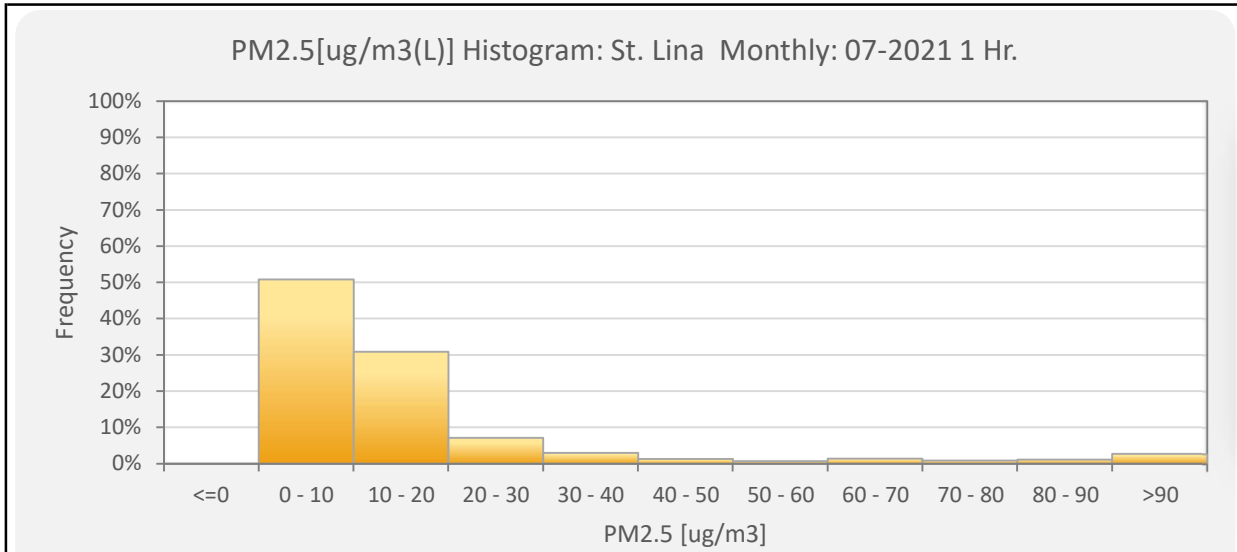
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Jul 1	13	14	15	14	12	10	9	8	7	7	6	6	7	7	8	7	7	7	8	9	8	7			6	15	8.8
Jul 2	7	7	7	7	7	7	7	7	7	7	8	9	9	9	13	17	15	14	13	12	10	10	13	16	7	17	9.9
Jul 3	16	15	14	13	13	11	8	5	4	3	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	16	5.5
Jul 4	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	3	1.4
Jul 5	1	1	1	1	1	3	5	4	5	6	6	6	6	6	4	4	4	3	3	3	3	4	3	1	1	6	3.5
Jul 6	1	1	1	2	2	2	3	6	8	7	8	8	10	11	9	11	9	8	7	7	6	6	6	5	1	11	6.0
Jul 7	6	6	7	8	9	9	9	9	9	8	7	5	5	5	6	6	7	7	7	7	7	8	7	8	5	9	7.2
Jul 8	8	7	7	8	8	8	8	9	9	8	7	7	7	8	9	10	11	11	12	12	11	11	12	11	7	12	9.1
Jul 9	11	12	12	12	12	12	13	12	12	12	12	12	13	13	14	14	14	15	15	16	17	17	17	17	11	17	13.6
Jul 10	17	16	19	18	18	17	17	16	15	14	11	9	10	14	10	8	12	13	15	18	22	26	26	25	8	26	16.1
Jul 11	10	8	7	7	7	8	8	8	6	7	9	14	22	15	10	9	7	6	5	4	3	3	3	3	3	22	7.9
Jul 12	3	2	2	3	3	3	3	3	7	7	3	3	4	4	5	7	10	12	12	10	9	11	14	14	2	14	6.4
Jul 13	16	20	23	24	25	26	23	27	37	37	39	34	30	27	26	23	21	20	19	20	20	22	21	20	16	39	25.0
Jul 14	18	15	14	21	26	27	27	26	25	25	18	15	17	16	17	14	11	11	11	12	13	13	12	12	11	27	17.3
Jul 15	13	12	12	12	11	11	11	12	14	15	20	30	27	39	44	60	57	45	40	41	40	38	35	29	11	60	27.8
Jul 16	19	10	10	17	25	22	20	19	19	16	19	13	10	16	7	5	5	5	11	26	19	27	35	14	5	35	16.2
Jul 17	14	49	70	67	61	64	90	160	224	259	**296**	294	259	231	195	158	121	107	92	76	57	62	82	116	14	**296**	**133.5**
Jul 18	115	116	111	104	98	94	84	77	80	77	83	85	82	82	81	75	69	66	67	64	57	58	62	70	57	116	81.5
Jul 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	-	-	-
Jul 20	X	X	X	X	X	X	X	X	X	X	X	X	X	48	44	38	41	41	39	39	40	38	30	33	30	48	-
Jul 21	37	37	36	33	32	28	27	27	26	26	26	25	21	17	16	16	16	16	17	17	17	17	18	20	16	37	23.7
Jul 22	P	P	P	12	12	13	13	13	13	13	12	9	7	9	18	25	27	26	22	22	20	13	11	7	7	27	15.1
Jul 23	8	9	5	3	3	2	1	1	2	2	2	3	3	4	4	4	5	6	5	5	4	5	4	4	1	9	3.9
Jul 24	3	3	2	3	3	3	3	3	3	3	2	3	2	3	3	2	3	3	3	3	3	2	3	3	2	3	2.8
Jul 25	3	4	4	3	4	5	6	9	10	11	11	10	8	6	4	5	5	6	6	6	7	6	7	8	3	11	6.4
Jul 26	9	12	13	13	14	14	14	13	12	11	9	8	7	8	9	11	13	14	15	15	16	17	16	16	7	17	12.5
Jul 27	15	15	14	16	12	12	12	13	13	13	10	10	8	6	5	C	C	5	5	5	4	4	4	4	4	16	9.3
Jul 28	4	4	4	4	4	4	4	4	4	5	4	5	5	6	7	7	8	9	8	9	9	10	11	12	4	12	6.3
Jul 29	12	12	11	10	11	10	9	9	11	10	8	13	15	16	12	15	15	14	15	15	17	14	15	15	8	17	12.7
Jul 30	13	9	12	10	8	8	7	7	6	5	4	4	4	4	4	3	4	4	4	4	4	4	4	4	3	13	5.8
Jul 31	3	4	4	4	5	5	5	5	6	6	6	6	8	11	16	15	16	17	17	16	14	14	14	13	3	17	9.6
Diurnal Maximum	115	116	111	104	98	94	90	160	224	259	296	294	259	231	195	158	121	107	92	76	57	62	82	116			
Daiurnal Average	14.2	15.1	15.7	15.6	15.4	15.2	15.4	17.7	20.5	21.4	22.4	22.4	21.0	21.5	20.1	19.7	18.5	17.1	16.5	16.5	15.3	15.8	16.5	17.0			

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

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

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

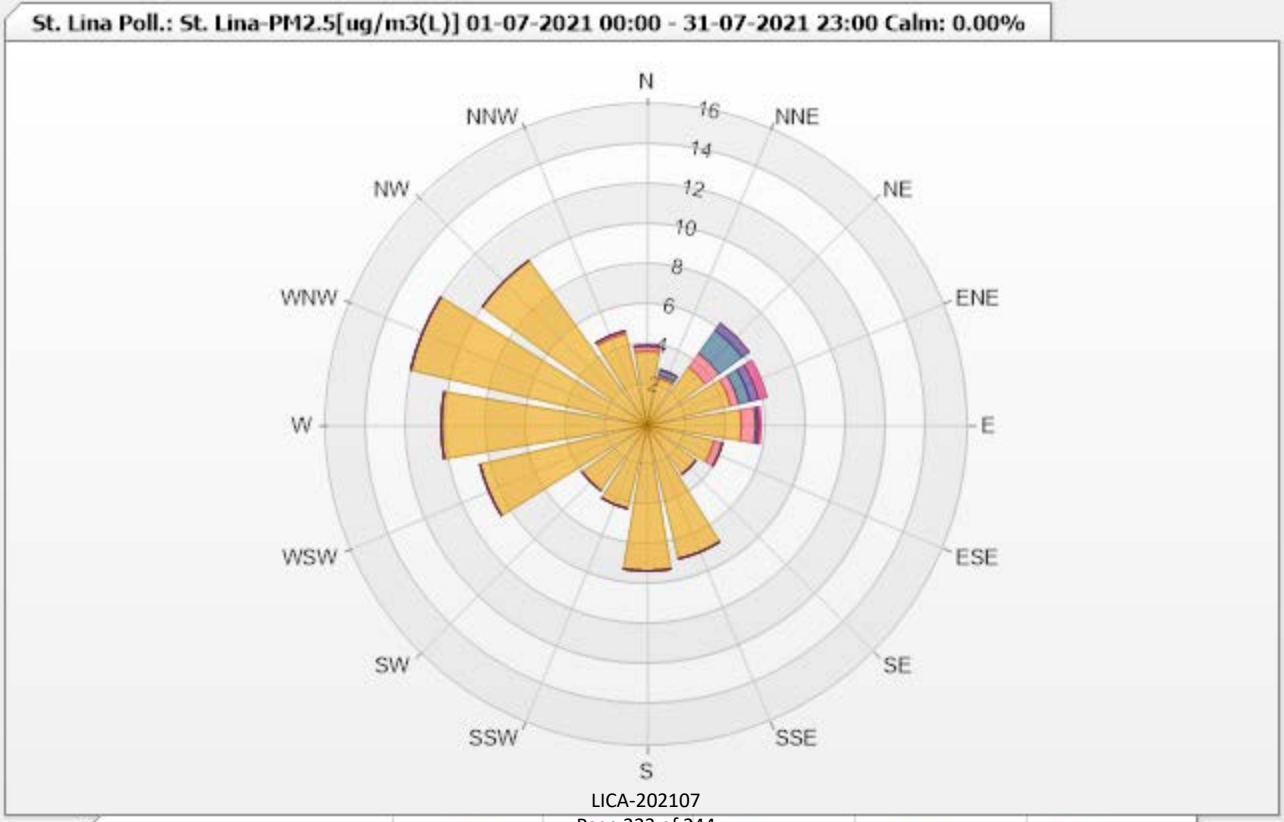




Classes	PM2.5
<=0	0.00%
0 - 10	50.85%
10 - 20	30.91%
20 - 30	7.12%
30 - 40	2.99%
40 - 50	1.28%
50 - 60	0.71%
60 - 70	1.42%
70 - 80	0.85%
80 - 90	1.14%
>90	2.71%

Wind: St. Lina Poll.: St. Lina-PM2.5[ug/m3(L)] Monthly: 07-2021 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.35% Calm Avg: 0.00 [ug/m3(L)]

Direction	0-50	50-80	80-120	120-240	>240.0	Total
N	3.7	0.28	0	0	0	3.98
NNE	2.42	0.14	0.28	0	0	2.84
NE	3.56	0.85	1.42	0.43	0	6.26
ENE	4.27	0.43	0.57	0.43	0.43	6.13
E	4.7	0.71	0.14	0	0.14	5.69
ESE	3.42	0.43	0	0	0	3.85
SE	2.99	0	0	0	0	2.99
SSE	6.84	0	0	0	0	6.84
S	7.26	0	0	0	0	7.26
SSW	4.27	0	0	0	0	4.27
SW	3.99	0	0	0	0	3.99
WSW	8.55	0	0	0	0	8.55
W	10.26	0	0	0	0	10.26
WNW	12.11	0	0	0	0	12.11
NW	10.11	0	0	0	0	10.11
NNW	4.7	0.14	0	0	0	4.84
Summary	93.15	2.98	2.41	0.86	0.57	100


St. Lina Poll.: St. Lina-PM2.5[ug/m3(L)] 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
2
% Icon Classes (ug/m3(L))
93 0-50
3 50-80
2 80-120
1 120-240
1 >240.0

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - July 2021

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

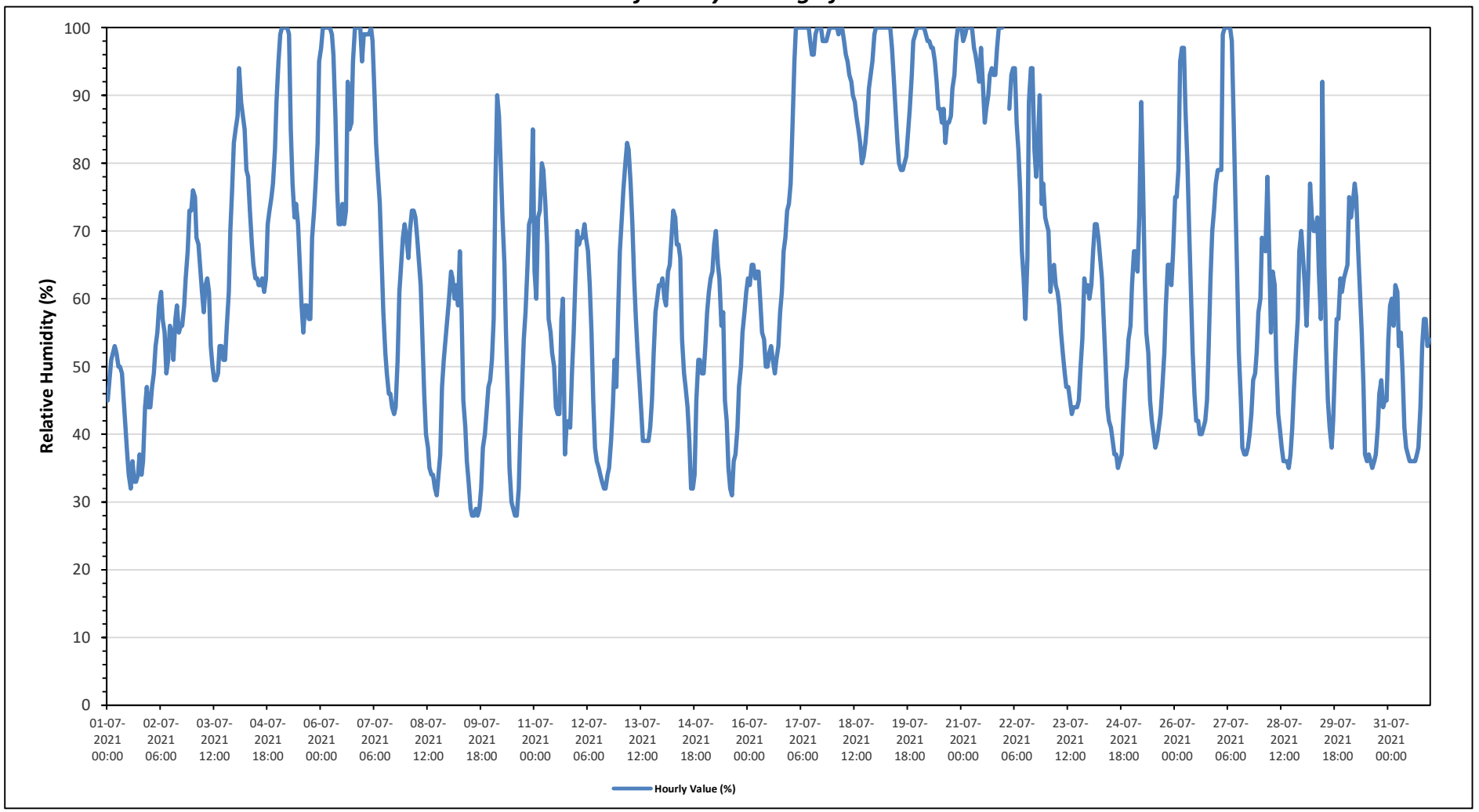
Maximum Hourly Value:	100	%	on July 5 at hour 2	Hours in Service:	744
Maximum Daily Value:	97.5	%	on July 17	Hours of Data:	741
Minimum Hourly Value:	28	%	on July 9 at hour 13	Hours of Missing Data:	3
Minimum Daily Value:	42.4	%	on July 1	Hours of Calibration:	0
Monthly Average:	65.1	%		Operational Uptime:	99.6

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
Jul 1	45	48	51	52	53	52	50	50	49	45	41	37	34	32	36	33	33	34	37	34	36	44	47	44	32	53	42.4
Jul 2	44	47	49	53	55	59	61	57	55	49	51	56	55	51	57	59	55	56	56	59	63	67	73	73	44	73	56.7
Jul 3	76	75	69	68	65	61	58	62	63	61	53	50	48	48	49	53	53	51	51	56	61	70	76	83	48	83	60.8
Jul 4	85	87	94	89	87	85	79	78	73	68	65	63	63	62	62	63	61	63	71	73	75	77	82	89	61	94	74.8
Jul 5	95	99	**100**	**100**	**100**	**100**	99	85	77	72	74	71	65	59	55	59	59	57	57	69	73	77	83	95	55	**100**	78.3
Jul 6	97	**100**	**100**	**100**	**100**	**100**	99	96	87	76	71	71	74	71	73	92	85	86	95	**100**	**100**	**100**	**100**	95	71	**100**	90.3
Jul 7	99	99	99	99	**100**	98	90	83	78	74	66	58	52	49	46	46	44	43	44	51	61	65	69	71	43	**100**	70.2
Jul 8	69	66	70	73	73	72	69	66	62	54	46	40	38	35	34	34	32	31	34	37	47	51	54	57	31	73	51.8
Jul 9	60	64	63	60	62	59	67	58	45	41	36	33	29	**28**	**28**	29	**28**	29	32	38	40	43	47	48	**28**	67	44.5
Jul 10	51	57	77	90	87	80	72	65	55	45	35	30	29	**28**	**28**	32	40	47	54	58	65	71	72	85	**28**	90	56.4
Jul 11	64	60	72	73	80	79	74	68	57	55	52	50	44	43	43	57	60	37	41	42	41	49	55	63	37	80	56.6
Jul 12	70	68	69	69	71	69	67	62	55	45	38	36	35	34	33	32	32	34	35	39	44	51	47	59	32	71	49.8
Jul 13	67	72	76	80	83	82	77	71	63	57	52	48	43	39	39	39	39	41	45	52	58	60	62	62	39	83	58.6
Jul 14	63	60	59	64	65	69	73	72	68	68	66	54	49	47	44	39	32	32	34	45	51	51	49	49	32	73	54.3
Jul 15	53	58	61	63	64	68	70	65	63	56	58	45	42	35	32	31	36	37	41	47	50	55	58	61	31	70	52.0
Jul 16	63	62	65	65	63	64	64	59	55	54	50	50	52	53	51	49	51	53	58	61	67	69	73	74	49	74	59.4
Jul 17	77	85	95	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	98	96	96	99	**100**	**100**	**100**	98	98	98	99	**100**	**100**	77	**100**	**97.5**
Jul 18	**100**	**100**	**100**	99	**100**	**100**	98	96	95	93	92	90	89	87	85	83	80	81	83	86	91	93	95	99	80	**100**	92.3
Jul 19	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	97	92	88	83	80	79	79	80	81	85	88	93	98	99	**100**	79	**100**	92.6
Jul 20	**100**	**100**	**100**	**100**	99	98	98	97	97	95	92	88	88	86	88	83	86	86	87	91	93	98	**100**	**100**	83	**100**	93.8
Jul 21	**100**	98	99	**100**	**100**	**100**	**100**	97	96	94	92	97	92	86	88	90	93	94	93	93	97	**100**	**100**	**100**	86	**100**	95.8
Jul 22	**P**	**P**	**P**	88	93	94	94	86	82	76	67	63	57	66	89	94	94	82	78	83	90	74	77	72	57	94	80.9
Jul 23	71	70	61	64	65	62	61	59	55	52	49	47	47	45	43	44	44	44	45	50	54	63	61	62	43	71	54.9
Jul 24	60	62	67	71	71	69	66	63	57	51	44	42	41	39	37	37	35	36	37	42	48	50	54	56	35	71	51.5
Jul 25	62	67	67	64	72	89	79	63	55	52	45	42	40	38	39	41	43	47	52	59	65	65	62	67	38	89	57.3
Jul 26	75	75	79	95	97	97	88	80	70	61	52	46	42	42	40	40	41	42	45	52	63	70	73	77	40	97	64.3
Jul 27	79	79	79	99	**100**	**100**	**100**	**100**	98	87	75	64	52	45	38	37	37	38	40	43	48	49	52	58	37	**100**	66.5
Jul 28	60	69	68	67	78	67	55	64	62	51	43	41	38	36	36	36	35	37	41	47	52	57	67	70	35	78	53.2
Jul 29	66	62	56	64	77	72	70	70	72	64	57	92	65	53	45	41	38	42	51	57	57	63	61	63	38	92	60.8
Jul 30	64	65	75	72	74	77	75	67	61	55	47	37	36	37	36	35	36	37	41	46	48	44	45	45	35	77	52.3
Jul 31	54	59	60	56	62	61	53	55	49	41	38	37	36	36	36	36	37	38	44	53	57	57	53	54	36	62	48.4
Diurnal Maximum	100	100	100	100	100	100	100	100	100	100	100	98	96	96	99	100	100	100	98	100	100	100	100	100			
Daiurnal Average	72.3	73.8	76.0	78.6	80.5	80.1	77.6	74.0	69.5	64.2	59.3	56.9	53.4	51.2	51.2	52.4	52.2	52.1	55.0	59.6	64.1	67.1	69.2	72.0			

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

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

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



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - July 2021

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

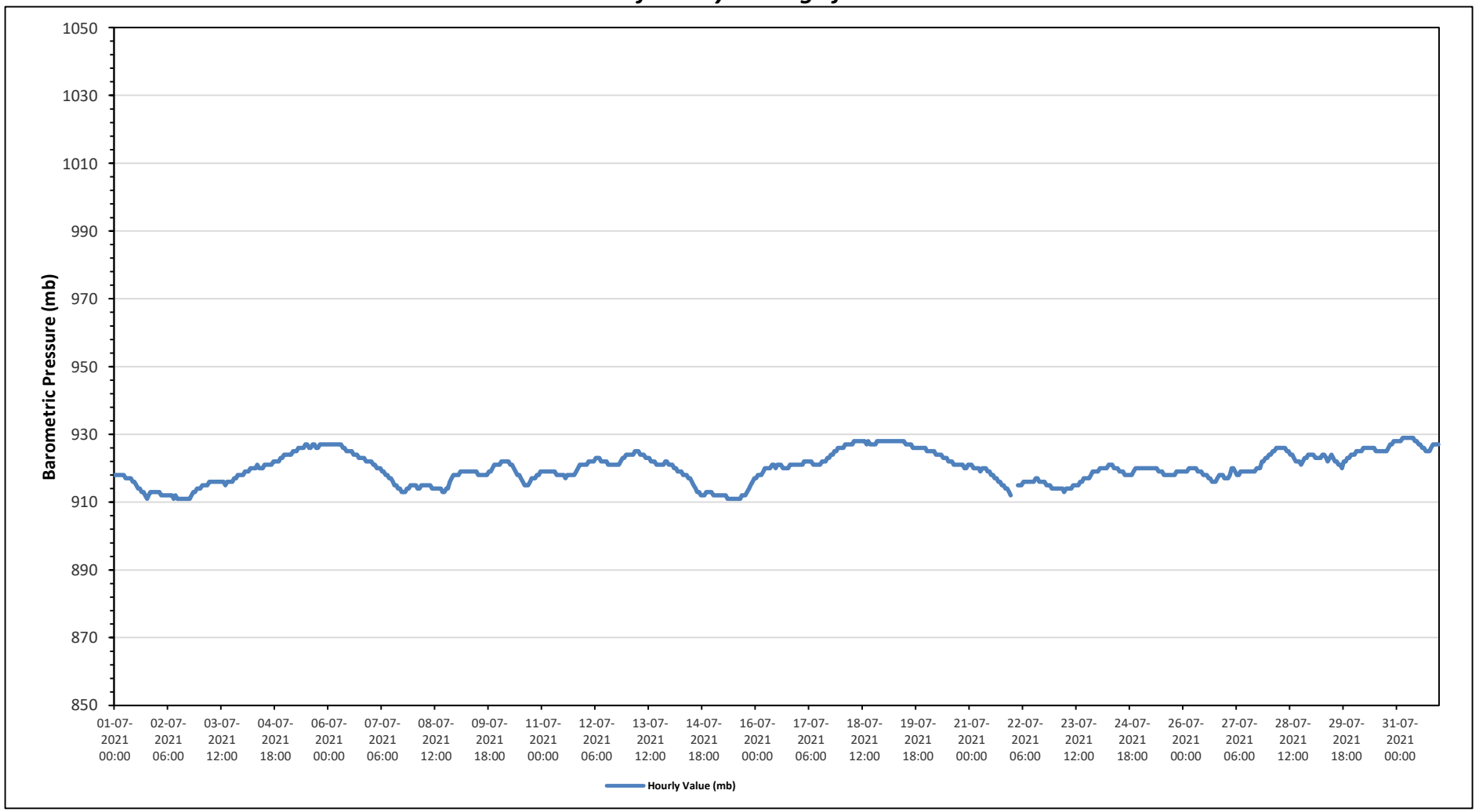
Maximum Hourly Value:	929	mb	on July 31 at hour 3	Hours in Service:	744
Maximum Daily Value:	927	mb	on July 18	Hours of Data:	741
Minimum Hourly Value:	911	mb	on July 1 at hour 18	Hours of Missing Data:	3
Minimum Daily Value:	912	mb	on July 2	Hours of Calibration:	0
Monthly Average:	920	mb		Operational Uptime:	99.6

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
Jul 1	918	918	918	918	918	918	917	917	917	917	916	916	915	914	914	913	913	912	**911**	912	913	913	913	913	**911**	918	915
Jul 2	913	913	912	912	912	912	912	912	912	**911**	912	**911**	**911**	**911**	**911**	**911**	**911**	**911**	**911**	912	913	913	914	914	**911**	914	912
Jul 3	914	915	915	915	915	916	916	916	916	916	916	916	916	916	915	916	916	916	916	917	917	918	918	918	914	918	916
Jul 4	918	919	919	919	920	920	920	920	921	920	920	920	921	921	921	921	921	922	922	922	922	923	923	924	918	924	921
Jul 5	924	924	924	924	925	925	925	926	926	926	926	927	927	926	926	927	927	926	926	927	927	927	927	927	924	927	926
Jul 6	927	927	927	927	927	927	927	927	926	926	925	925	925	925	924	924	924	923	923	923	923	922	922	922	922	927	925
Jul 7	922	921	921	920	920	920	919	919	918	918	917	917	916	915	915	914	914	913	913	913	914	914	915	915	913	922	917
Jul 8	915	915	914	914	915	915	915	915	915	915	914	914	914	914	914	914	913	913	914	914	916	917	918	918	913	918	915
Jul 9	918	918	919	919	919	919	919	919	919	919	919	919	918	918	918	918	918	918	919	919	920	921	921	921	918	921	919
Jul 10	921	922	922	922	922	922	921	921	920	919	918	918	917	916	915	915	915	916	917	917	917	918	918	919	915	922	919
Jul 11	919	919	919	919	919	919	919	919	918	918	918	918	918	917	918	918	918	918	918	919	920	921	921	921	917	921	919
Jul 12	921	921	922	922	922	922	923	923	923	922	922	922	922	921	921	921	921	921	921	921	922	923	923	924	921	924	922
Jul 13	924	924	924	924	925	925	925	924	924	924	923	923	923	922	922	922	921	921	921	921	921	922	922	921	921	925	923
Jul 14	921	921	920	920	919	919	919	918	918	918	917	917	916	915	914	913	913	912	912	912	913	913	913	913	912	921	916
Jul 15	912	912	912	912	912	912	912	912	**911**	**911**	**911**	**911**	**911**	**911**	**911**	**911**	912	912	912	913	914	915	916	917	**911**	917	912
Jul 16	917	918	918	918	919	920	920	920	920	921	921	920	921	921	921	920	920	920	920	921	921	921	921	921	917	921	920
Jul 17	921	921	921	922	922	922	922	922	921	921	921	921	921	922	922	922	923	923	924	924	925	925	926	926	921	926	923
Jul 18	926	926	927	927	927	927	927	928	928	928	928	928	928	928	927	928	927	927	927	927	928	928	928	928	926	928	**927**
Jul 19	928	928	928	928	928	928	928	928	928	928	928	928	927	927	927	927	926	926	926	926	926	926	926	926	926	928	927
Jul 20	925	925	925	925	925	924	924	924	924	923	923	923	922	922	922	921	921	921	921	921	921	920	920	921	920	925	923
Jul 21	921	921	920	920	920	920	919	920	920	920	919	919	918	918	917	917	916	916	915	915	914	914	913	912	912	921	918
Jul 22	**P**	**P**	**P**	915	915	915	916	916	916	916	916	916	916	917	917	916	916	916	916	915	915	915	914	914	914	917	916
Jul 23	914	914	914	914	914	913	914	914	914	914	915	915	915	915	916	916	917	917	917	917	918	919	919	919	913	919	916
Jul 24	919	920	920	920	920	920	921	921	921	920	920	920	919	919	919	918	918	918	918	918	919	920	920	920	918	921	920
Jul 25	920	920	920	920	920	920	920	920	920	920	919	919	919	918	918	918	918	918	918	918	919	919	919	919	918	920	919
Jul 26	919	919	919	920	920	920	920	920	919	919	919	918	918	918	917	917	916	916	916	917	918	918	918	917	916	920	918
Jul 27	917	917	918	920	920	919	918	918	919	919	919	919	919	919	919	919	919	920	920	920	922	922	923	923	917	923	920
Jul 28	924	924	925	925	926	926	926	926	926	926	925	925	924	924	923	922	922	922	921	922	923	923	924	924	921	926	924
Jul 29	924	924	923	923	923	923	924	924	923	922	923	924	923	922	922	921	921	920	922	922	923	923	924	924	920	924	923
Jul 30	924	925	925	925	925	926	926	926	926	926	926	926	925	925	925	925	925	925	925	926	927	927	928	928	924	928	926
Jul 31	928	928	928	**929**	**929**	**929**	**929**	**929**	**929**	**929**	928	928	927	927	926	926	925	925	925	926	927	927	927	927	925	**929**	**927**
Diurnal Maximum	928	928	928	929	929	929	929	929	929	929	928	928	928	928	927	928	927	927	927	927	928	928	928	928			
Diurnal Average	920	921	921	921	921	921	921	921	921	920	920	920	920	919	919	919	919	919	919	919	920	920	920	921			

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 BP - St. Lina Site



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - July 2021

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

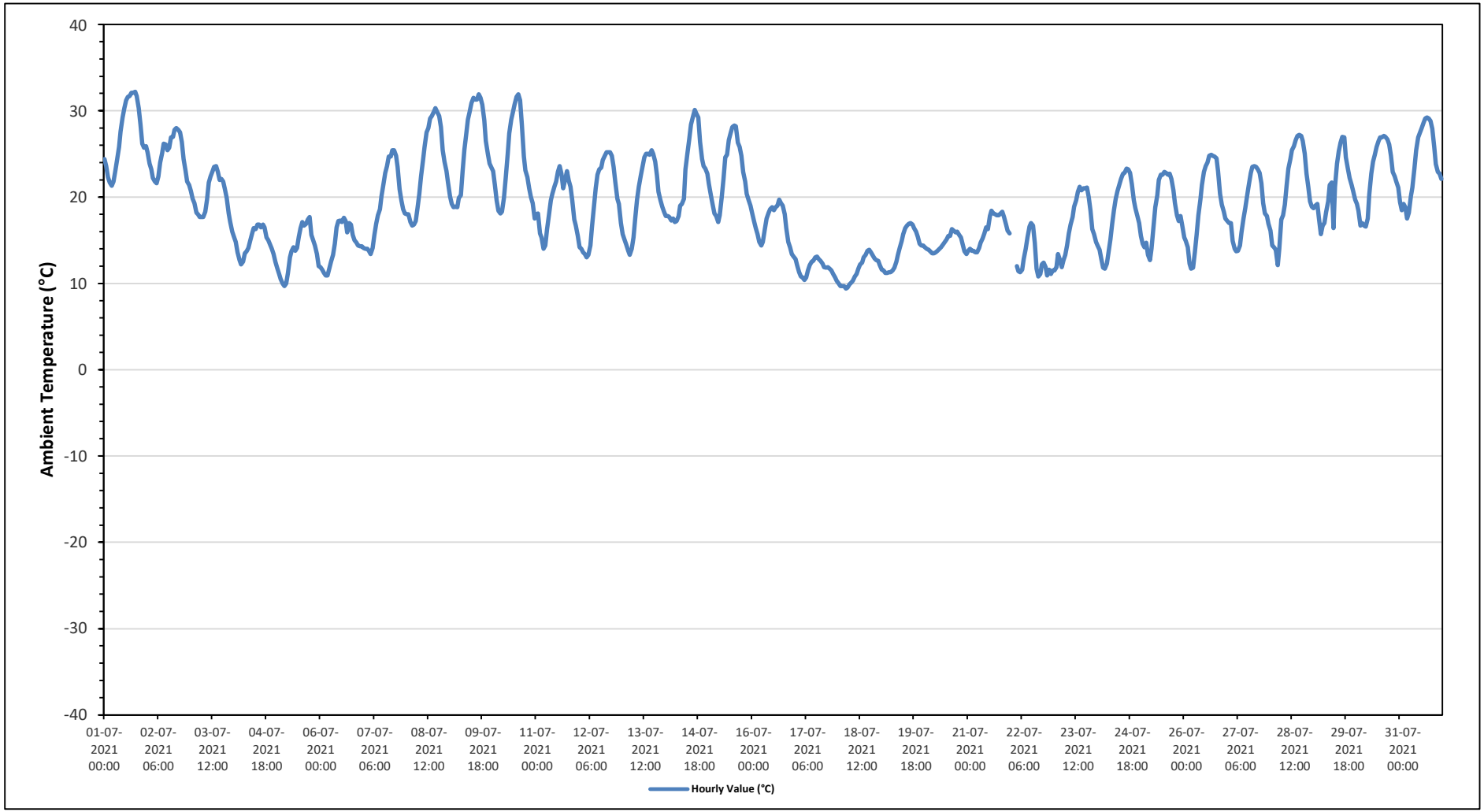
Maximum Hourly Value:	32.2	°C	on July 1 at hour 17	Hours in Service:	744
Maximum Daily Value:	27.3	°C	on July 1	Hours of Data:	741
Minimum Hourly Value:	9.4	°C	on July 18 at hour 4	Hours of Missing Data:	3
Minimum Daily Value:	11.6	°C	on July 18	Hours of Calibration:	0
Monthly Average:	19.0	°C		Operational Uptime:	99.6

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			
Jul 1	24.4	23.6	22.3	21.7	21.3	21.8	23	24.3	25.8	27.6	29.2	30.3	31.2	31.6	31.7	32.1	32.1	**32.2**	31.7	30.3	28.4	26.2	25.7	25.9	21.3	**32.2**	**27.3**
Jul 2	25.2	23.9	23.2	22.2	21.8	21.6	22.4	24	25.1	26.2	26.1	25.4	25.7	26.9	27	27.8	28	27.8	27.5	26.4	24.4	23	21.8	21.4	21.4	28.0	24.8
Jul 3	20.7	19.8	19.3	18.2	18	17.7	17.7	17.7	18.3	19.7	21.7	22.4	23	23.5	23.6	22.9	22	22.1	21.8	20.9	19.9	18.1	17.1	16	16.0	23.6	20.1
Jul 4	15.4	14.8	13.6	12.7	12.2	12.5	13.5	13.7	14.1	14.9	15.8	16.4	16.3	16.8	16.8	16.5	16.8	16.5	15.3	15	14.5	14	13.4	12.5	12.2	16.8	14.8
Jul 5	11.8	11.1	10.5	10	9.7	10	11.2	13	13.7	14.2	13.8	14.1	15.4	16.4	17.1	16.7	16.9	17.4	17.7	15.6	14.9	14.4	13.4	12	9.7	17.7	13.8
Jul 6	11.9	11.6	11.2	10.9	10.9	11.8	12.5	13.3	14.6	16.5	17.2	17.3	17.1	17.6	17.2	15.9	17	16.8	15.6	15	14.7	14.4	14.3	14.3	10.9	17.6	14.6
Jul 7	14.1	14	14	13.8	13.4	14.1	15.6	16.9	17.9	18.6	20.1	21.5	22.8	23.6	24.7	24.7	25.4	25.4	24.8	23.5	20.9	19.6	18.6	18.1	13.4	25.4	19.4
Jul 8	18	18	17.1	16.7	16.8	17.2	18.7	20.3	22.4	24.3	25.8	27.5	28	29.1	29.4	29.9	30.3	29.8	29.4	28.1	25.4	24.1	23	21.7	16.7	30.3	23.8
Jul 9	20.1	19.2	18.8	18.9	18.8	19.9	20.2	23	25.5	27.2	29	29.9	30.9	31.5	31.3	31.3	31.9	31.5	30.7	28.9	26.5	25	23.9	23.5	18.8	31.9	25.7
Jul 10	23	21.4	19.6	18.4	18.1	18.3	19.9	22.2	25	27.4	29	29.9	30.7	31.6	31.9	31.2	28.4	24.7	23.1	22.3	21	20	19.3	17.5	17.5	31.9	23.9
Jul 11	18	18.1	15.8	15.3	14	14.4	16.3	17.8	19.6	20.4	21.2	21.8	22.9	23.6	22.7	21	21.9	23	21.9	21.2	19.6	17.4	16.7	15.5	14.0	23.6	19.2
Jul 12	14.2	14	13.6	13.4	13	13.3	14.4	16.5	18.9	21	22.6	23.2	23.4	24.3	24.8	25.2	25.2	25.2	24.8	23.5	21.7	19.8	19.2	17	13.0	25.2	19.7
Jul 13	15.7	15.1	14.5	13.8	13.3	14	15.3	17.6	19.7	21.2	22.5	23.4	24.6	25	25	24.9	25.4	25	24.1	22.5	20.6	19.6	18.9	18.3	13.3	25.4	20.0
Jul 14	17.8	17.8	17.7	17.3	17.5	17.1	17.2	17.8	19	19.2	19.8	23.2	25.1	26.7	28.4	29.2	30.1	29.7	29.2	26.4	24.4	23.6	23.3	22.7	17.1	30.1	22.5
Jul 15	21.5	20.2	19.1	18.1	17.8	17.1	17.9	20	22.1	24.6	24.9	26.6	27.4	28.1	28.3	28.2	26.3	25.8	24.8	22.9	21.8	20.4	19.6	19	17.1	28.3	22.6
Jul 16	18.1	17.2	16.4	15.7	14.8	14.4	14.8	16.3	17.5	18.2	18.6	18.8	18.5	18.8	19	19.7	19.3	19	18	16.4	14.8	14.2	13.4	13.1	13.1	19.7	16.9
Jul 17	12.8	12.1	11.3	10.8	10.7	10.4	10.7	11.5	12.1	12.5	12.6	13	13.1	12.8	12.6	12.3	11.9	11.8	11.9	11.7	11.5	11.1	10.7	10.3	10.3	13.1	11.8
Jul 18	10	9.7	9.7	9.7	**9.4**	9.5	9.9	10.1	10.3	10.8	11.1	11.7	12.2	12.4	13	13.3	13.8	13.9	13.6	13.2	12.9	12.7	12.6	12.1	**9.4**	13.9	11.6
Jul 19	11.6	11.5	11.2	11.2	11.3	11.3	11.5	11.8	12.5	13.3	14.1	14.9	15.7	16.4	16.7	16.9	17	16.8	16.4	16	15.4	14.6	14.4	14.4	11.2	17.0	14.0
Jul 20	14.2	14	13.9	13.7	13.5	13.5	13.6	13.8	14	14.2	14.5	14.8	15.1	15.5	15.5	16.3	16.1	15.9	16	15.6	15.3	14.4	13.7	13.4	13.4	16.3	14.6
Jul 21	13.8	14	13.8	13.8	13.6	13.6	14.1	14.7	15.2	15.8	16.5	16.3	17.8	18.4	18.1	18	17.9	17.9	18.1	18.3	17.7	16.8	16.1	15.8	13.6	18.4	16.1
Jul 22	**P**	**P**	**P**	12	11.4	11.3	11.6	12.8	14	15.3	16.6	17	16.7	14.7	11.7	10.8	11.1	12.2	12.4	11.9	10.9	11.6	11.1	11.5	10.8	17.0	12.8
Jul 23	11.5	11.9	13.4	12.7	11.9	12.7	13.3	14.4	15.8	16.8	17.7	18.9	19.6	20.6	21.2	20.8	21	21	21.1	20	18.4	16.3	15.7	14.8	11.5	21.2	16.7
Jul 24	14.4	13.9	12.8	11.8	11.7	12.3	13.5	15.1	16.9	18.5	19.8	20.7	21.4	22.1	22.7	22.8	23.3	23.2	22.8	21.5	19.6	18.7	17.8	17	11.7	23.3	18.1
Jul 25	15.5	14.6	14.2	14.7	13.3	12.7	14	16.6	18.8	20.2	22	22.6	22.6	22.9	22.8	22.6	22.7	22.1	20.8	19.3	17.9	17.2	17.8	16.7	12.7	22.9	18.5
Jul 26	15.3	14.9	14.2	12.3	11.7	11.8	13.6	15.6	17.9	19.7	21.4	22.9	23.6	24	24.8	24.9	24.8	24.7	24.5	23	20.4	19.1	18.3	17.5	11.7	24.9	19.2
Jul 27	17.2	17	17	14.9	14	13.7	13.8	14.4	15.9	17.5	18.7	20.1	21.4	22.8	23.5	23.6	23.5	23.2	22.8	21.6	19.3	18.1	17.8	16.9	13.7	23.6	18.7
Jul 28	16.1	14.4	14.2	13.9	12.1	14	17.4	17.9	19.1	21.3	23.3	24.4	25.4	25.9	26.6	27.1	27.2	27.1	26.5	25	22.7	21.2	19.5	18.9	12.1	27.2	20.9
Jul 29	18.7	19	19.2	17.6	15.7	16.7	17	18.3	19.5	21.4	21.7	16.4	21.2	23.9	25.3	26.3	27	26.9	24.6	23.3	22.2	21.4	20.7	19.7	15.7	27.0	21.0
Jul 30	19.2	18.4	16.7	17	16.7	16.6	17.5	20.3	22.7	24.1	24.9	25.8	26.5	26.9	26.9	27.1	27	26.7	26.1	24.8	22.9	22.4	21.8	21.1	16.6	27.1	22.5
Jul 31	19.4	18.5	19.2	18.8	17.5	18.2	20.1	21.1	23.3	25.4	26.9	27.4	28	28.6	29.1	29.2	29.1	28.8	27.9	25.7	23.8	22.9	22.7	22.1	17.5	29.2	23.9
Diurnal Maximum	25.2	23.9	23.2	22.2	21.8	21.8	23.0	24.3	25.8	27.6	29.2	30.3	31.2	31.6	31.9	32.1	32.1	32.2	31.7	30.3	28.4	26.2	25.7	25.9			
Daiurnal Average	16.7	16.1	15.6	14.9	14.4	14.6	15.6	16.9	18.3	19.6	20.6	21.2	22.0	22.7	22.9	22.9	22.9	22.7	22.1	21.0	19.5	18.5	17.8	17.1			

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 AT - St. Lina Site



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - July 2021

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

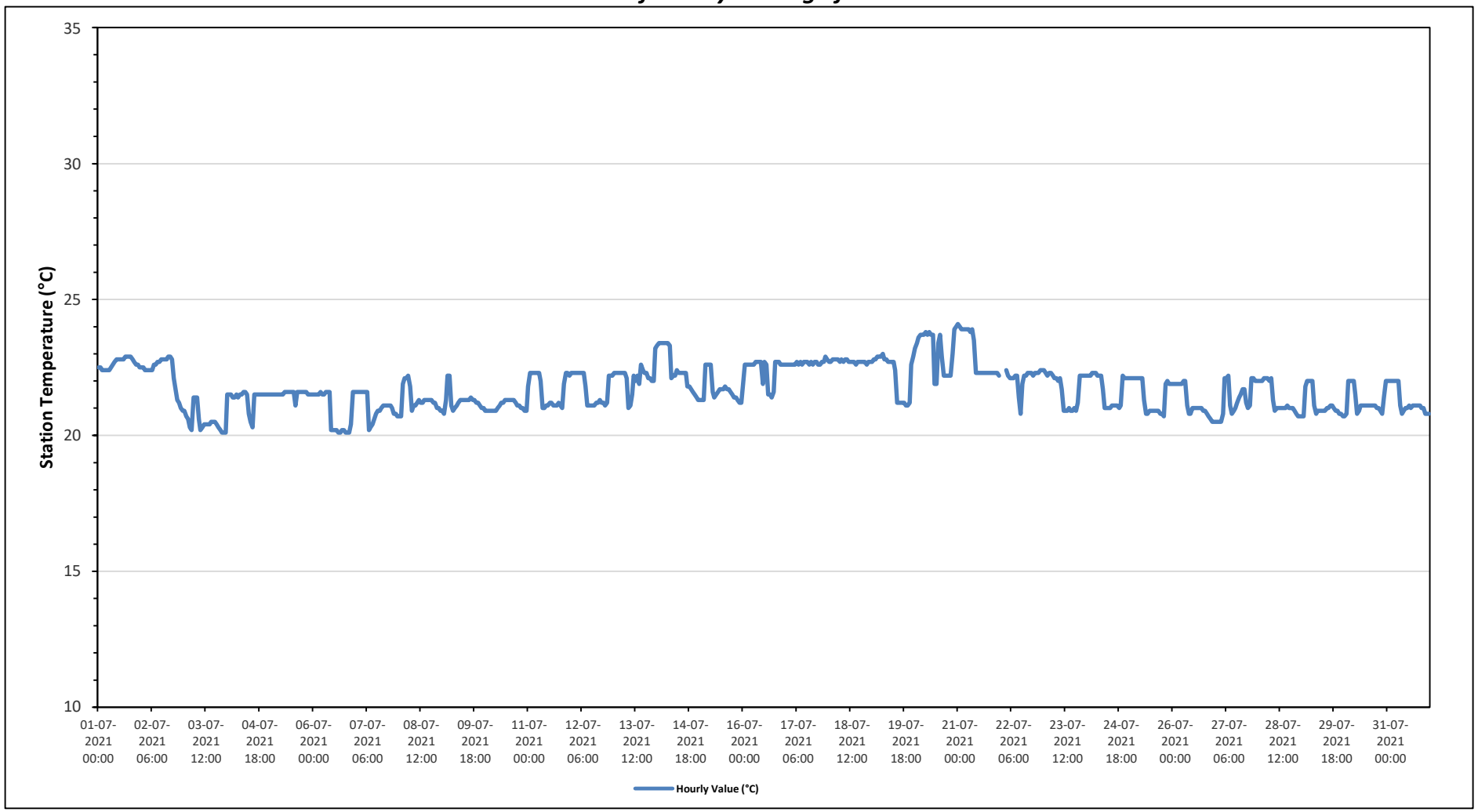
Maximum Hourly Value:	24.1	°C	on July 21 at hour 0	Hours in Service:	744
Maximum Daily Value:	23.2	°C	on July 20	Hours of Data:	741
Minimum Hourly Value:	20.1	°C	on July 3 at hour 21	Hours of Missing Data:	3
Minimum Daily Value:	20.5	°C	on July 3	Hours of Calibration:	0
Monthly Average:	21.7	°C		Operational Uptime:	99.6

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
Jul 1	22.5	22.5	22.4	22.4	22.4	22.4	22.4	22.5	22.6	22.7	22.8	22.8	22.8	22.8	22.8	22.9	22.9	22.9	22.9	22.8	22.7	22.6	22.6	22.5	22.4	22.9	22.7
Jul 2	22.5	22.5	22.4	22.4	22.4	22.4	22.4	22.6	22.6	22.7	22.7	22.8	22.8	22.8	22.8	22.9	22.9	22.8	22.1	21.7	21.3	21.2	21.0	20.9	20.9	22.9	22.3
Jul 3	20.9	20.7	20.6	20.3	20.2	21.4	21.4	21.4	20.6	20.2	20.3	20.4	20.4	20.4	20.4	20.5	20.5	20.5	20.4	20.3	20.2	**20.1**	**20.1**	**20.1**	**20.1**	21.4	20.5
Jul 4	21.5	21.5	21.5	21.4	21.4	21.5	21.4	21.5	21.5	21.6	21.6	21.5	20.8	20.5	20.3	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	20.3	21.6	21.4
Jul 5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.6	21.6	21.6	21.6	21.6	21.6	21.1	21.6	21.6	21.6	21.6	21.5	21.5	21.5	21.5	21.5	21.1	21.6	21.5
Jul 6	21.5	21.5	21.5	21.5	21.6	21.5	21.5	21.6	21.6	21.6	20.2	20.2	20.2	20.2	**20.1**	**20.1**	20.2	20.2	**20.1**	**20.1**	**20.1**	20.4	21.6	21.6	**20.1**	21.6	20.9
Jul 7	21.6	21.6	21.6	21.6	21.6	21.6	21.6	20.2	20.3	20.4	20.6	20.8	20.9	20.9	21.0	21.1	21.1	21.1	21.1	21.1	21.0	20.8	20.8	20.7	20.2	21.6	21.0
Jul 8	20.7	20.7	21.9	22.1	22.1	22.2	21.8	20.9	21.1	21.1	21.2	21.3	21.2	21.2	21.3	21.3	21.3	21.3	21.3	21.2	21.2	21.0	21.0	20.9	20.7	22.2	21.3
Jul 9	20.9	20.8	21.3	22.2	22.2	21.1	20.9	21.0	21.1	21.2	21.3	21.3	21.3	21.3	21.3	21.3	21.4	21.3	21.3	21.2	21.2	21.1	21.0	21.0	20.8	22.2	21.3
Jul 10	20.9	20.9	20.9	20.9	20.9	20.9	20.9	21.0	21.1	21.2	21.2	21.3	21.3	21.3	21.3	21.3	21.3	21.2	21.1	21.1	21.0	21.0	20.9	20.9	20.9	21.3	21.1
Jul 11	21.8	22.3	22.3	22.3	22.3	22.3	22.3	22.0	21.0	21.0	21.1	21.1	21.2	21.2	21.1	21.1	21.1	21.2	21.1	21.0	21.9	22.3	22.3	22.2	21.0	22.3	21.6
Jul 12	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	21.8	21.1	21.1	21.1	21.1	21.1	21.2	21.2	21.3	21.2	21.2	21.1	21.2	22.2	22.2	22.2	21.1	22.3	21.7
Jul 13	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.1	21.0	21.1	21.5	22.2	22.0	22.2	21.9	22.6	22.4	22.3	22.3	22.1	22.1	22.0	22.0	23.2	21.0	23.2	22.1
Jul 14	23.3	23.4	23.4	23.4	23.4	23.4	23.4	23.3	22.1	22.2	22.2	22.4	22.3	22.3	22.3	22.3	22.3	21.8	21.8	21.7	21.6	21.5	21.4	21.3	21.3	23.4	22.4
Jul 15	21.3	21.3	21.3	22.6	22.6	22.6	22.6	21.6	21.4	21.5	21.6	21.7	21.7	21.7	21.8	21.7	21.7	21.6	21.5	21.4	21.4	21.3	21.2	21.2	21.2	22.6	21.7
Jul 16	21.9	22.6	22.6	22.6	22.6	22.6	22.6	22.7	22.7	22.7	22.7	21.9	22.7	22.6	21.5	21.5	21.4	21.6	22.7	22.7	22.7	22.6	22.6	22.6	21.4	22.7	22.4
Jul 17	22.6	22.6	22.6	22.6	22.6	22.6	22.7	22.6	22.7	22.6	22.7	22.7	22.7	22.6	22.7	22.6	22.7	22.7	22.6	22.6	22.7	22.7	22.9	22.8	22.6	22.9	22.7
Jul 18	22.7	22.7	22.8	22.8	22.8	22.8	22.7	22.8	22.7	22.8	22.8	22.7	22.7	22.7	22.7	22.6	22.7	22.7	22.7	22.7	22.7	22.6	22.7	22.7	22.6	22.8	22.7
Jul 19	22.7	22.8	22.8	22.9	22.9	22.9	23.0	22.8	22.8	22.7	22.7	22.7	22.7	22.4	21.2	21.2	21.2	21.2	21.2	21.1	21.1	21.2	22.6	22.9	21.1	23.0	22.2
Jul 20	23.2	23.4	23.6	23.7	23.7	23.7	23.8	23.7	23.8	23.7	23.7	21.9	21.9	23.4	23.7	22.9	22.2	22.2	22.2	22.2	22.2	23.0	23.9	24.0	21.9	24.0	**23.2**
Jul 21	**24.1**	24.0	23.9	23.9	23.9	23.9	23.9	23.8	23.9	23.5	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.2	22.2	**24.1**	23.0
Jul 22	**P**	**P**	**P**	22.4	22.2	22.1	22.1	22.1	22.2	22.2	21.4	20.8	21.9	22.2	22.2	22.3	22.3	22.3	22.2	22.3	22.3	22.3	22.4	22.4	20.8	22.4	22.1
Jul 23	22.4	22.3	22.2	22.3	22.3	22.2	22.1	22.1	22.0	22.1	21.7	20.9	20.9	20.9	21.0	20.9	20.9	21.0	20.9	21.2	22.2	22.2	22.2	22.2	20.9	22.4	21.7
Jul 24	22.2	22.2	22.2	22.3	22.3	22.3	22.2	22.2	22.2	21.7	21.0	21.0	21.0	21.0	21.1	21.1	21.1	21.1	21.0	21.1	22.2	22.1	22.1	22.1	21.0	22.3	21.7
Jul 25	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	21.3	20.8	20.8	20.9	20.9	20.9	20.9	20.9	20.9	20.8	20.8	20.7	21.9	22.0	21.9	21.9	20.7	22.1	21.5
Jul 26	21.9	21.9	21.9	21.9	21.9	21.9	22.0	22.0	21.1	20.8	20.8	21.0	21.0	21.0	21.0	21.0	21.0	20.9	20.9	20.8	20.7	20.6	20.5	20.5	20.5	22.0	21.2
Jul 27	20.5	20.5	20.5	20.5	20.8	22.1	22.1	22.2	21.1	20.8	20.9	21.0	21.2	21.4	21.5	21.7	21.7	21.2	21.0	21.1	22.1	22.1	22.0	22.0	20.5	22.2	21.3
Jul 28	22.0	22.0	22.0	22.1	22.1	22.1	22.0	22.1	21.3	20.9	21.0	21.0	21.0	21.0	21.0	21.0	21.1	21.0	21.0	21.0	20.9	20.8	20.7	20.7	20.7	22.1	21.3
Jul 29	20.7	20.7	21.8	22.0	22.0	22.0	22.0	21.1	20.8	20.9	20.9	20.9	20.9	20.9	21.0	21.0	21.1	21.1	21.0	20.9	20.9	20.8	20.8	20.7	20.7	22.0	21.1
Jul 30	20.7	20.8	22.0	22.0	22.0	22.0	21.5	20.8	20.9	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.0	21.0	20.9	20.8	21.4	22.0	20.7	22.0	21.2
Jul 31	22.0	22.0	22.0	22.0	22.0	22.0	22.0	21.1	20.8	20.9	21.0	21.0	21.1	21.0	21.1	21.1	21.1	21.1	21.1	21.0	21.0	20.8	20.8	20.8	20.8	22.0	21.3
Diurnal Maximum	24.1	24.0	23.9	23.9	23.9	23.9	23.9	23.8	23.9	23.7	23.7	22.8	22.8	23.4	23.7	22.9	22.9	22.9	22.9	22.8	22.7	23.0	23.9	24.0			
Daiurnal Average	21.9	21.9	22.1	22.2	22.2	22.2	22.2	22.0	21.7	21.7	21.6	21.5	21.5	21.6	21.5	21.6	21.6	21.5	21.5	21.4	21.6	21.6	21.7	21.7			

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 ST - St. Lina Site



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - July 2021

Summary of Hourly Averages

PRECIPITATION in mm

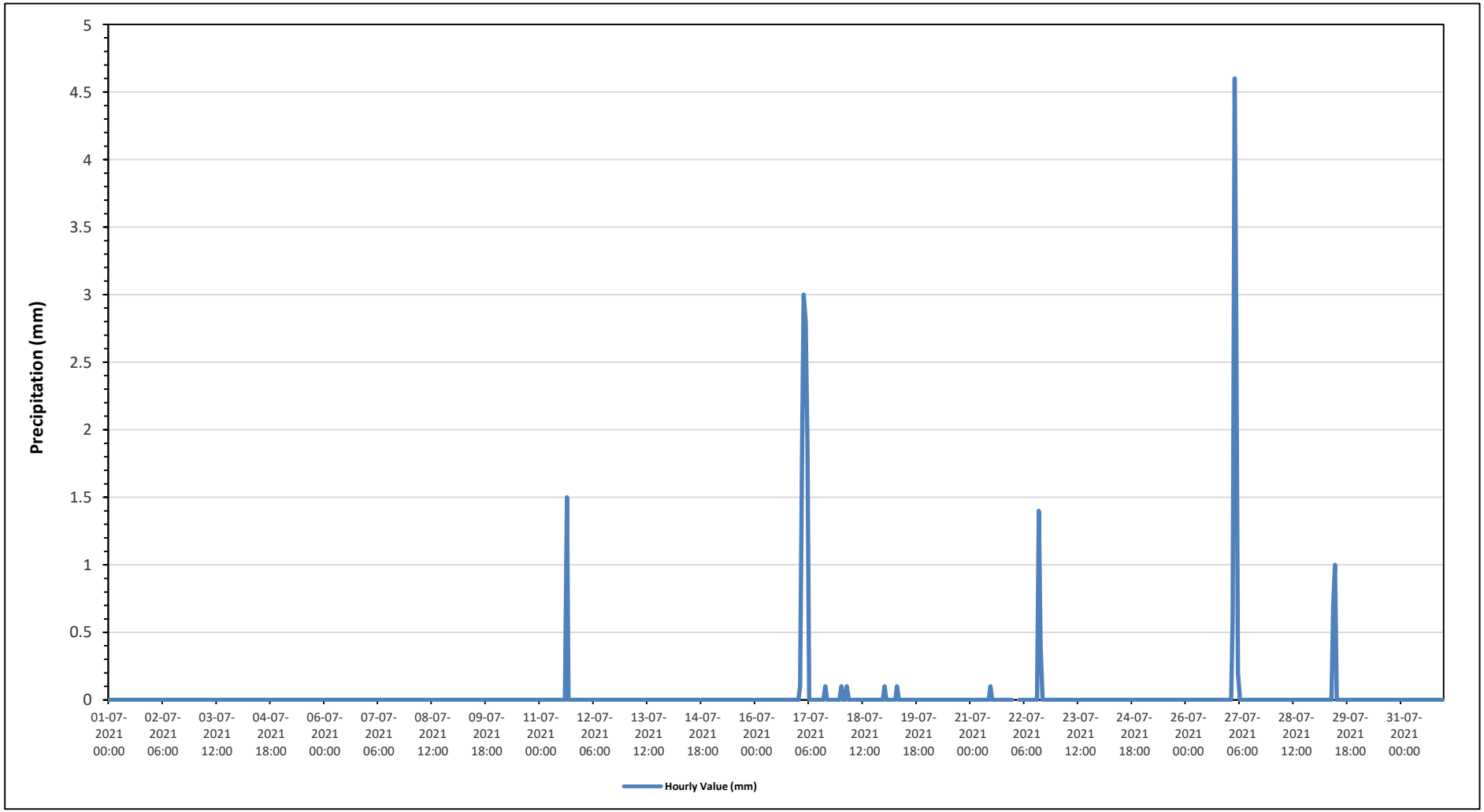
Maximum Hourly Value:	4.6	mm	on July 27 at hour 3	Hours in Service:	744
Maximum Daily Value:	9.8	mm	on July 17	Hours of Data:	741
Minimum Hourly Value:	0.0	mm	on July 1 at hour 0	Hours of Missing Data:	3
Minimum Daily Value:	0.0	mm	on July 1	Hours of Calibration:	0
Monthly Total:	23.6	mm		Operational Uptime:	99.6

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	Total
Jul 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
Jul 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
Jul 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
Jul 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
Jul 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Jul 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
Jul 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Jul 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
Jul 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
Jul 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
Jul 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.5	0	0	0	0	0	0	0	0	0.0	1.5	1.5
Jul 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
Jul 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
Jul 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
Jul 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
Jul 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
Jul 17	0	0.1	1.9	3	2.8	1.9	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0.0	3.0	**9.8**
Jul 18	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	0.1	0.2
Jul 19	0.1	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	0.2
Jul 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
Jul 21	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	0.1	0.1
Jul 22	**P**	**P**	**P**	0	0	0	0	0	0	0	0	0	0	0	1.4	0.4	0	0	0	0	0	0	0	0	0.0	1.4	1.8
Jul 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
Jul 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
Jul 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
Jul 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
Jul 27	0	0	0.6	**4.6**	2.9	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	**4.6**	8.3
Jul 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
Jul 29	0	0	0	0	0	0	0	0	0	0	0.7	1	0	0	0	0	0	0	0	0	0	0	0	0	0.0	1.0	1.7
Jul 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
Jul 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	0.1	0.1	1.9	4.6	2.9	1.9	0.0	0.1	0.0	0.0	0.7	1.0	0.0	0.0	1.4	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Diurnal Average	0.0	0.0	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

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

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

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



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - July 2021

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

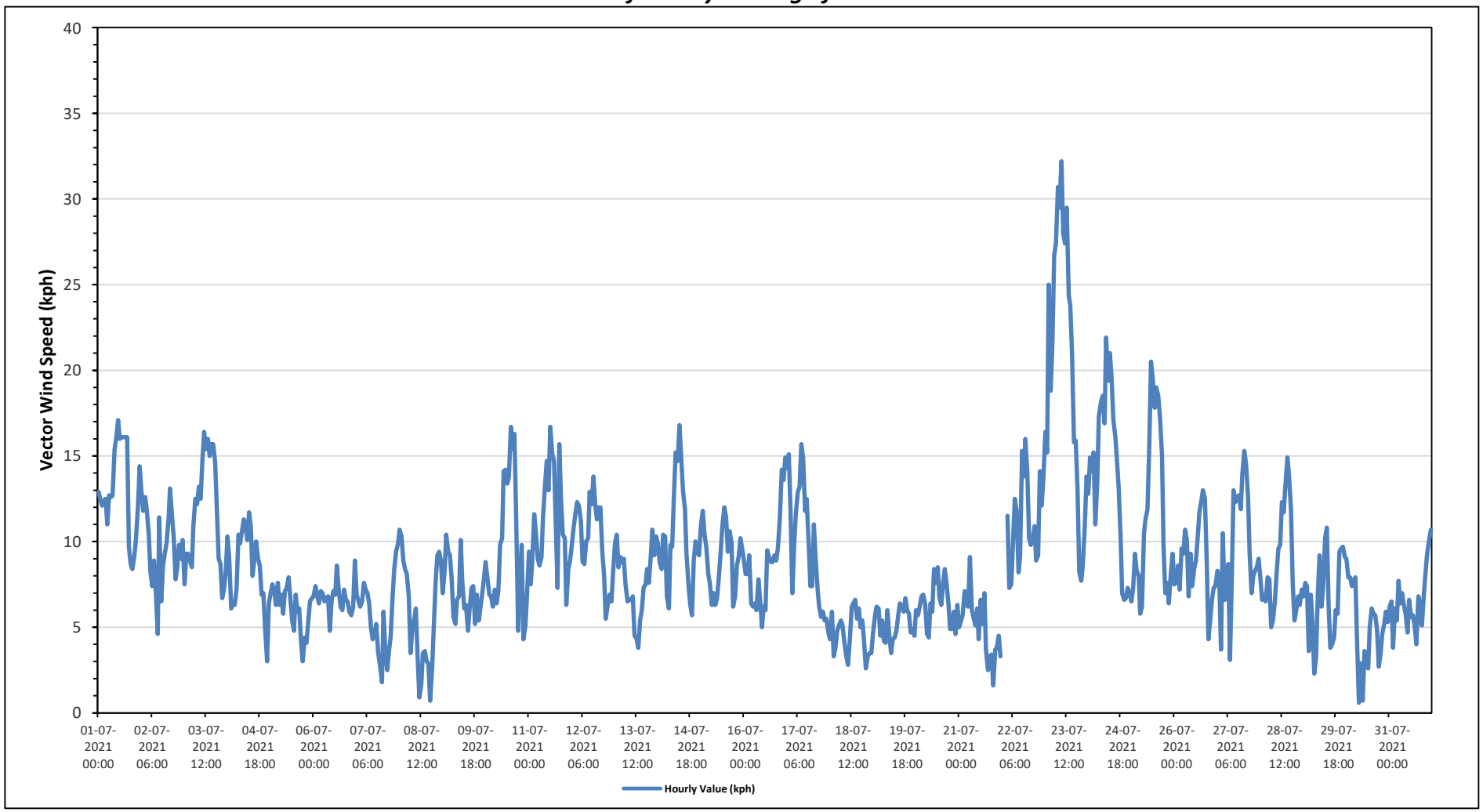
Maximum Hourly Value:	32.2	kph	on July 23 at hour 9	Hours in Service:	744
Maximum Daily Value:	19.7	kph	on July 23	Hours of Data:	741
Minimum Hourly Value:	0.6	kph	on July 30 at hour 7	Hours of Missing Data:	3
Minimum Daily Value:	1.0	kph	on July 29	Hours of Calibration:	0
Monthly Average:	2.3	kph		Operational Uptime:	99.6

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
Jul 1	12.9	12.5	12.1	12.4	12.5	11.0	12.7	12.6	12.7	15.4	16.1	17.1	16.0	16.1	16.1	16.1	16.1	9.7	8.7	8.4	9.2	10.1	12.0	14.4	8.4	17.1	12.6
Jul 2	12.9	11.8	12.6	11.9	10.5	8.2	7.4	8.9	7.2	4.6	11.4	6.5	8.6	9.3	9.9	11.3	13.1	11.5	10.2	7.8	8.5	9.8	9.0	10.1	4.6	13.1	4.1
Jul 3	7.5	9.3	9.3	8.9	8.5	10.9	12.5	12.2	13.2	12.5	14.7	16.4	15.4	16.0	15.0	15.7	15.7	14.6	12.2	9.0	8.7	6.7	7.2	8.2	6.7	16.4	11.5
Jul 4	10.3	9.0	6.1	6.4	6.3	7.2	10.4	9.9	10.6	11.3	10.9	10.1	11.7	10.9	8.0	9.1	10.0	9.0	8.6	6.9	7.0	4.7	3.0	6.4	3.0	11.7	8.3
Jul 5	7.0	7.5	7.2	6.3	7.6	6.3	6.9	5.8	7.1	7.3	7.9	6.8	5.4	4.8	6.9	5.9	6.1	4.0	3.0	4.4	4.1	5.3	6.5	6.7	3.0	7.9	4.6
Jul 6	6.8	7.4	6.8	6.4	7.1	7.0	6.5	6.7	6.8	4.8	6.5	7.1	6.9	8.6	7.1	6.2	6.0	7.2	6.6	6.5	5.9	5.7	6.2	8.9	4.8	8.9	5.8
Jul 7	6.9	6.5	6.2	6.5	7.6	7.2	7.0	6.4	5.0	4.3	4.7	5.2	3.5	2.8	1.8	5.9	3.4	2.5	3.6	4.5	6.7	8.4	9.4	9.9	1.8	9.9	4.4
Jul 8	10.7	10.3	8.9	8.4	8.1	6.8	3.5	4.9	5.4	6.1	3.3	0.9	1.7	3.5	3.6	3.0	2.9	0.7	2.6	4.8	7.7	9.2	9.4	8.9	0.7	10.7	3.7
Jul 9	7.0	8.3	10.4	9.4	9.2	7.8	5.6	5.2	6.6	6.8	10.1	7.7	6.1	6.3	4.8	6.0	7.3	7.4	5.2	6.9	5.4	6.1	7.0	7.9	4.8	10.4	6.7
Jul 10	8.8	7.8	6.9	6.8	6.2	7.2	6.4	7.1	9.8	10.2	14.1	14.2	13.4	13.8	16.7	15.4	16.3	11.4	4.8	7.4	9.8	4.3	5.1	6.8	4.3	16.7	6.9
Jul 11	9.4	7.5	8.8	11.6	10.5	9.0	8.6	9.1	11.4	13.3	14.7	13.0	16.7	15.1	14.7	11.5	7.3	15.7	12.4	10.4	10.2	6.3	8.4	8.9	6.3	16.7	10.4
Jul 12	9.8	10.8	11.7	12.3	12.1	11.2	8.8	8.7	10.0	10.2	12.9	12.2	13.8	12.2	11.3	12.0	12.0	9.5	7.9	5.5	6.3	6.9	6.5	8.1	5.5	13.8	9.1
Jul 13	9.9	10.4	8.5	9.1	8.8	9.0	7.5	6.5	6.6	6.6	6.8	4.5	4.4	3.8	5.4	6.0	7.3	7.5	8.4	7.6	9.2	10.7	9.2	10.3	3.8	10.7	7.0
Jul 14	9.9	8.8	8.4	10.4	10.3	6.8	6.1	9.8	9.7	13.1	15.2	14.7	16.8	14.9	13.0	11.9	9.3	7.5	6.3	5.7	8.9	10.0	9.4	9.2	5.7	16.8	9.9
Jul 15	11.0	11.8	10.4	9.7	8.1	7.6	6.3	7.0	6.3	6.7	7.9	9.3	10.9	12.0	11.4	9.4	10.6	9.9	6.2	6.8	8.6	9.1	10.2	9.6	6.2	12.0	4.2
Jul 16	8.9	8.1	8.1	9.2	6.4	6.2	6.4	6.0	7.8	6.5	5.0	6.2	6.0	9.5	9.1	8.8	8.8	9.2	8.9	9.7	11.3	14.2	13.6	14.9	5.0	14.9	8.3
Jul 17	14.3	15.1	11.7	7.0	10.0	11.6	12.9	13.2	15.7	14.9	11.8	12.5	10.0	7.4	7.4	11.0	9.0	7.2	6.2	5.6	5.9	5.4	5.5	4.7	4.7	15.7	9.4
Jul 18	4.3	5.9	3.3	3.8	4.8	5.1	5.4	5.1	4.1	3.3	2.8	4.2	6.2	6.4	6.6	5.5	6.1	5.0	5.4	4.2	2.6	3.3	3.5	3.5	2.6	6.6	4.2
Jul 19	4.7	5.7	6.2	6.1	4.5	5.4	4.2	4.1	6.0	4.6	3.5	4.3	4.4	4.8	5.8	6.4	6.2	5.9	6.7	6.0	5.8	4.7	4.9	4.5	3.5	6.7	5.0
Jul 20	6.0	5.7	6.2	6.8	6.9	6.3	4.6	4.4	6.4	5.9	8.4	7.6	8.5	6.8	6.3	7.6	8.4	7.5	6.3	4.9	4.9	5.9	4.6	6.3	4.4	8.5	5.8
Jul 21	5.0	5.4	5.7	7.1	6.3	6.2	9.1	6.0	5.6	5.1	6.1	4.3	6.6	5.2	7.0	3.7	2.5	3.3	3.4	1.6	3.7	3.8	4.5	3.3	1.6	9.1	4.4
Jul 22	P	P	P	11.5	7.3	7.5	10.0	12.5	11.8	8.2	9.1	15.3	13.8	16.0	14.0	10.2	9.8	10.1	10.9	8.9	9.2	14.1	12.1	13.7	7.3	16.0	9.8
Jul 23	16.4	15.2	25.0	18.8	21.6	26.7	27.4	30.7	29.5	**32.2**	28.0	27.4	29.5	24.4	23.8	21.1	15.8	15.9	13.1	8.2	7.7	8.6	10.9	13.8	7.7	**32.2**	**19.7**
Jul 24	12.8	14.9	14.1	15.2	11.0	13.5	17.3	18.1	18.5	16.9	21.9	19.4	21.0	19.5	17.1	16.1	14.8	13.2	10.2	7.0	6.6	6.7	7.3	7.0	6.6	21.9	13.7
Jul 25	6.5	7.3	9.3	8.3	8.0	5.8	6.2	10.5	11.3	11.9	15.5	20.5	19.5	17.8	19.0	18.5	17.2	15.0	9.7	7.0	7.6	6.4	8.1	9.3	5.8	20.5	11.2
Jul 26	7.5	7.6	8.6	7.2	9.6	9.3	10.7	10.1	6.8	9.3	7.4	8.4	8.9	10.2	11.7	12.4	13.0	12.5	9.0	4.3	5.4	6.6	7.3	7.4	4.3	13.0	8.4
Jul 27	8.3	7.9	3.7	10.5	6.6	7.3	8.7	3.1	7.7	13.0	12.3	12.6	12.7	11.9	13.9	15.3	14.5	12.6	9.4	7.0	8.0	8.3	8.5	9.0	3.1	15.3	6.7
Jul 28	7.9	6.6	6.9	6.5	7.9	7.8	5.0	5.4	6.5	8.2	9.6	9.8	12.3	11.7	13.3	14.9	13.9	11.9	7.6	5.4	6.0	6.8	6.3	7.2	5.0	14.9	7.7
Jul 29	6.8	7.6	7.4	3.6	6.9	5.5	2.3	3.2	6.9	9.2	6.2	7.3	10.2	10.8	6.3	3.8	4.0	4.4	6.0	5.8	9.4	9.6	9.7	9.1	2.3	10.8	**1.0**
Jul 30	9.0	7.9	7.9	7.4	7.7	7.9	3.9	**0.6**	2.9	0.7	3.6	2.7	2.6	5.0	6.1	5.8	5.7	4.9	2.7	3.4	4.6	5.2	5.9	5.3	**0.6**	9.0	4.3
Jul 31	6.2	6.5	3.8	6.1	5.4	7.7	6.4	7.0	6.3	5.8	4.7	6.6	5.6	5.7	5.1	4.0	6.8	6.3	5.1	6.7	8.1	9.3	10.0	10.7	3.8	10.7	5.3
Diurnal Maximum	16	15	25	19	22	27	27	31	30	32	28	27	30	24	24	21	17	16	13	10	11	14	14	15			
Daiurnal Average	8.8	8.9	8.7	8.8	8.5	8.5	8.3	8.4	9.1	9.3	10.1	10.2	10.6	10.4	10.3	10.0	9.7	8.8	7.3	6.4	7.2	7.5	7.8	8.5			

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

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

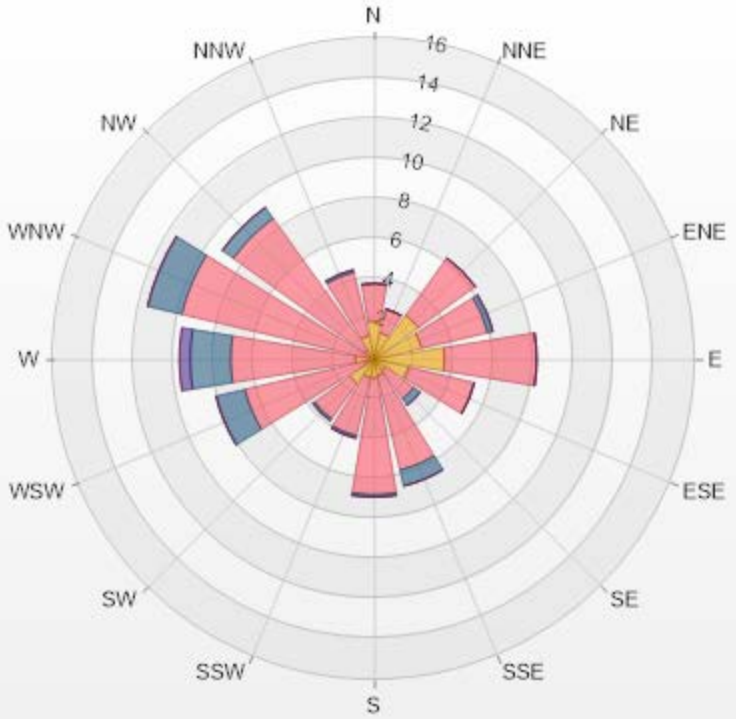
Timeseries Chart of Hourly Average for VWS - St. Lina Site



Wind: St. Lina Monitor: WDS [kph] Monthly: 07-2021 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.81% Valid Data: 99.60%

Direction	1.8-6.0	6.0-15.0	15.0-29.0	29.0-39.0	>39.0	Total
N	1.89	1.89	0	0	0	3.78
NNE	1.35	1.21	0	0	0	2.56
NE	2.7	3.51	0	0	0	6.21
ENE	2.43	3.37	0.27	0	0	6.07
E	3.51	4.59	0	0	0	8.1
ESE	1.75	3.37	0	0	0	5.12
SE	0.67	1.75	0.4	0	0	2.82
SSE	0.81	4.86	0.81	0	0	6.48
S	0.94	5.8	0.13	0	0	6.87
SSW	0.94	2.97	0.13	0	0	4.04
SW	1.48	2.16	0.13	0	0	3.77
WSW	0.4	6.21	1.48	0	0	8.09
W	0.94	6.21	2.02	0.54	0	9.71
WNW	0.27	9.58	1.75	0	0	11.6
NW	0.54	8.1	0.67	0	0	9.31
NNW	1.21	3.24	0.13	0	0	4.58
Summary	21.83	68.82	7.92	0.54	0	99.11

St. Lina 01-07-2021 00:00 - 31-07-2021 23:00 Calm: 0.81% Calm Wind Avg Speed: 1.05(kph)



% Icon	Classes (kph)									
22	1.8-6.0	69	6.0-15.0	8	15.0-29.0	1	29.0-39.0	0	>39.0

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - July 2021

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

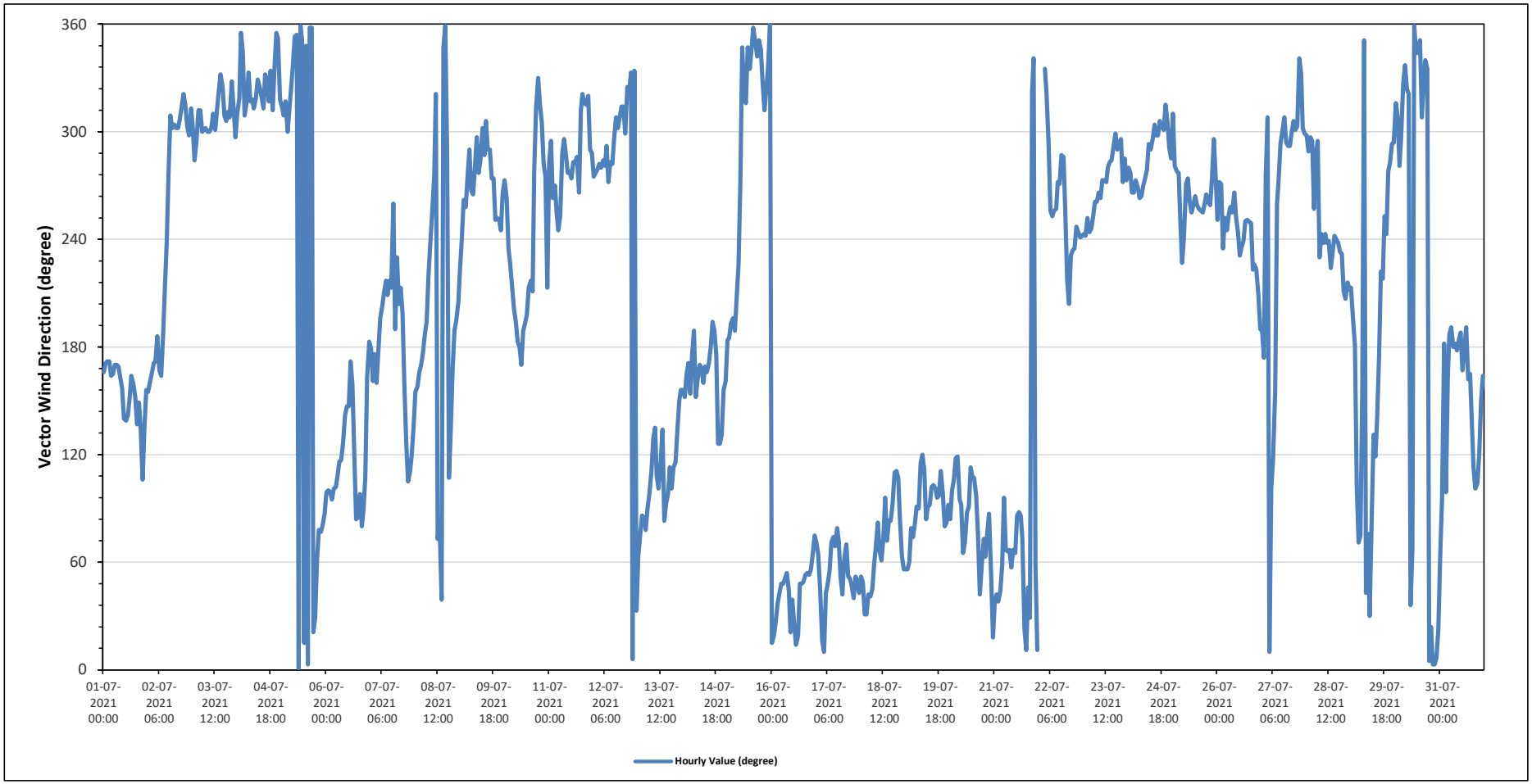
Monthly Average:	269 (W)	degree	
Hours in Service:	744		
Hours of Data:	741		
Hours of Missing Data:	3		
Hours of Calibration:	0		
Operational Uptime:	99.6		

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
Jul 1	SSE	S	S	S	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	SE	SSE	SSE	SSE	SSE	SE	SSE	SE	ESE	SE	SSE	155	SSE
Jul 2	SSE	SSE	SSE	S	S	S	SSE	SSE	S	SSW	SW	W	NW	WNW	WNW	WNW	WNW	NW	NW	NW	NW	WNW	WNW	NW	255	WSW
Jul 3	WNW	WNW	WNW	NW	NW	WNW	WNW	WNW	WNW	WNW	WNW	NW	WNW	NW	NW	NNW	NW	NW	NW	NW	NW	NNW	NW	WNW	308	NW
Jul 4	NW	NW	N	NNW	NW	NW	NNW	NW	NW	NW	NW	NNW	NW	NW	NW	NNW	NNW	NW	NNW	NW	NNW	N	N	NW	324	NW
Jul 5	NW	NW	NW	WNW	NW	NW	NNW	N	N	N	N	N	NNE	NNW	N	N	N	NNE	NNE	ENE	ENE	ENE	E	E	357	N
Jul 6	E	E	E	E	E	E	ESE	ESE	ESE	SE	SE	SE	SE	S	SSE	ESE	E	E	E	E	E	ESE	SSE	S	119	ESE
Jul 7	S	SSE	S	SSE	S	SSW	SSW	SSW	SW	SSW	SW	SSW	WSW	S	SW	SSW	SSW	SSW	SSE	SE	ESE	ESE	ESE	SE	174	S
Jul 8	SSE	SSE	SSE	SSE	S	S	SSW	SW	SW	WSW	W	NW	ENE	E	NE	NNW	N	WNW	ESE	SE	SSE	S	SSW	SSW	181	S
Jul 9	SW	WSW	W	WSW	W	WNW	W	W	W	WNW	W	WNW	WNW	WNW	NW	WNW	WNW	W	W	WSW	WSW	WSW	WSW	W	270	W
Jul 10	W	W	SW	SW	SSW	SSW	SSW	S	S	SSE	S	S	SSW	SSW	SW	SSW	W	NW	NNW	NW	WNW	W	W	SSW	227	SW
Jul 11	W	WNW	W	W	WSW	WSW	WSW	WNW	WNW	WNW	W	W	W	W	W	WNW	W	NW	NW	NW	NW	NW	WNW	WNW	285	WNW
Jul 12	W	W	W	W	W	WNW	W	WNW	W	W	W	WNW	NW	WNW	NW	NW	NW	WNW	NW	NW	NNW	N	NNW	NNE	299	WNW
Jul 13	ENE	ENE	E	E	ENE	E	E	ESE	SE	SE	ESE	E	ESE	SE	E	E	E	ESE	E	ESE	ESE	SE	SSE	SSE	106	ESE
Jul 14	SSE	SSE	SSE	S	SSE	S	S	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	S	SSW	S	S	SE	SE	SE	SSE	SSE	164	SSE
Jul 15	S	S	S	SSW	S	SSW	SW	W	NNW	NW	NW	NNW	NNW	NNW	N	N	NNW	N	NNW	NW	NW	NW	NNW	N	315	NW
Jul 16	NNE	NNE	NNE	NE	NE	NE	NE	NE	NE	NE	NNE	NE	NNE	NNE	NNE	NE	NE	NE	NE	NE	NE	NE	ENE	ENE	44	NE
Jul 17	ENE	ENE	NE	NNE	N	NE	NE	NE	ENE	ENE	ENE	ENE	ENE	NE	NE	ENE	ENE	NE	NE	NE	NE	NE	NE	NE	56	NE
Jul 18	NE	NE	NNE	NNE	NE	NE	NE	ENE	ENE	E	ENE	ENE	ENE	E	ENE	E	E	E	ESE	ESE	ESE	E	ENE	NE	69	ENE
Jul 19	NE	NE	ENE	ENE	ENE	E	E	E	ESE	ESE	ESE	E	E	E	E	ESE	E	E	E	ESE	E	E	E	E	90	E
Jul 20	E	E	ESE	ESE	ESE	E	E	ENE	ENE	E	E	ESE	ESE	ESE	E	ENE	NE	ENE	ENE	ENE	ENE	E	NE	NNE	85	E
Jul 21	NE	NE	NE	NE	ENE	E	ENE	ENE	ENE	ENE	ENE	ENE	E	E	E	ENE	NNE	NNE	NE	NNE	NW	NNW	ENE	NNE	56	NE
Jul 22	P	P	P	NNW	NW	WNW	WSW	WSW	WSW	WSW	W	W	WNW	WNW	WSW	SW	SSW	SW	SW	SW	WSW	WSW	WSW	WSW	258	WSW
Jul 23	WSW	WSW	WSW	WSW	WSW	WSW	W	W	W	W	W	W	W	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	W	WNW	W	268	W
Jul 24	W	W	W	W	W	W	W	W	W	W	W	WNW	WNW	WNW	WNW	WNW	WNW	NW	WNW	WNW	NW	NW	WNW	WNW	284	WNW
Jul 25	NW	W	W	W	WSW	SW	WSW	W	W	W	WSW	WSW	W	WSW	WSW	WSW	WSW	WSW	W	W	WSW	W	WNW	W	263	W
Jul 26	WSW	W	W	SW	WSW	WSW	WSW	WSW	WSW	W	WSW	WSW	SW	SW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	SSW	S	245	WSW
Jul 27	S	S	W	NW	N	E	ESE	SSE	WSW	W	WNW	WNW	NW	WNW	WNW	WNW	WNW	NW	WNW	WNW	NNW	NNW	WNW	WNW	296	WNW
Jul 28	WNW	WNW	WNW	WNW	WSW	WNW	WNW	SW	WSW	SW	WSW	SW	WSW	SW	SW	WSW	WSW	SW	SW	SW	SSW	SSW	SW	SSW	245	WSW
Jul 29	SSW	SSW	S	E	ENE	ENE	SSE	N	NE	ENE	NNE	E	SE	ESE	SE	S	SW	SW	WSW	WSW	W	W	WNW	WNW	172	S
Jul 30	NW	NW	W	WNW	NW	NNW	NW	NW	NE	ENE	N	NNW	NNW	N	NW	NW	NNW	NNW	N	NNE	N	N	N	NNE	335	NNW
Jul 31	ENE	E	S	E	SSE	S	S	S	S	S	S	S	SSE	S	S	SSE	SSE	SE	ESE	E	ESE	ESE	SSE	SSE	152	SSE

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 - July 2021

Summary of Hourly Averages

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

WIND SPEED

Maximum Hourly Value:	32.2	kph	on July 23 at hour 9	Hours in Service:	744
Maximum Daily Value:	19.7	kph	on July 23	Hours of Data:	741
Minimum Hourly Value:	0.6	kph	on July 30 at hour 7	Hours of Missing Data:	3
Minimum Daily Value:	1.0	kph	on July 29	Hours of Calibration:	0
Monthly Average:	2.3	kph		Operational Uptime:	99.6

WIND DIRECTION

Monthly Average: 269 (W) degree

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
Jul 1	12.9	12.5	12.1	12.4	12.5	11.0	12.7	12.6	12.7	15.4	16.1	17.1	16.0	16.1	16.1	16.1	16.1	9.7	8.7	8.4	9.2	10.1	12.0	14.4	8.4	17.1	12.6
	SSE	S	S	S	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	SE	SSE	SSE	SSE	SSE	SE	SSE	SE	ESE	SE	SSE			
Jul 2	12.9	11.8	12.6	11.9	10.5	8.2	7.4	8.9	7.2	4.6	11.4	6.5	8.6	9.3	9.9	11.3	13.1	11.5	10.2	7.8	8.5	9.8	9.0	10.1	4.6	13.1	4.1
	SSE	SSE	SSE	S	S	S	SSE	SSE	S	SSW	SW	W	NW	WNW	WNW	WNW	WNW	NW	NW	NW	NW	WNW	WNW	NW			
Jul 3	7.5	9.3	9.3	8.9	8.5	10.9	12.5	12.2	13.2	12.5	14.7	16.4	15.4	16.0	15.0	15.7	15.7	14.6	12.2	9.0	8.7	6.7	7.2	8.2	6.7	16.4	11.5
	WNW	WNW	WNW	NW	NW	WNW	WNW	WNW	WNW	WNW	WNW	NW	WNW	NW	NW	NNW	NW	NW	NW	NW	NW	NNW	NW	WNW			
Jul 4	10.3	9.0	6.1	6.4	6.3	7.2	10.4	9.9	10.6	11.3	10.9	10.1	11.7	10.9	8.0	9.1	10.0	9.0	8.6	6.9	7.0	4.7	3.0	6.4	3.0	11.7	8.3
	NW	NW	N	NNW	NW	NW	NNW	NW	NW	NW	NW	NNW	NW	NW	NW	NNW	NNW	NW	NNW	NW	NNW	N	N	NW			
Jul 5	7.0	7.5	7.2	6.3	7.6	6.3	6.9	5.8	7.1	7.3	7.9	6.8	5.4	4.8	6.9	5.9	6.1	4.0	3.0	4.4	4.1	5.3	6.5	6.7	3.0	7.9	4.6
	NW	NW	NW	WNW	NW	NW	NNW	N	N	N	N	N	NNE	NNW	N	N	N	NNE	NNE	ENE	ENE	ENE	E	E			
Jul 6	6.8	7.4	6.8	6.4	7.1	7.0	6.5	6.7	6.8	4.8	6.5	7.1	6.9	8.6	7.1	6.2	6.0	7.2	6.6	6.5	5.9	5.7	6.2	8.9	4.8	8.9	5.8
	E	E	E	E	E	E	ESE	ESE	ESE	SE	SE	SE	SE	S	SSE	ESE	E	E	E	E	E	ESE	SSE	S			
Jul 7	6.9	6.5	6.2	6.5	7.6	7.2	7.0	6.4	5.0	4.3	4.7	5.2	3.5	2.8	1.8	5.9	3.4	2.5	3.6	4.5	6.7	8.4	9.4	9.9	1.8	9.9	4.4
	S	SSE	S	SSE	S	SSW	SSW	SSW	SW	SSW	SW	SSW	WSW	S	SW	SSW	SSW	SSW	SSE	SE	ESE	ESE	ESE	SE			
Jul 8	10.7	10.3	8.9	8.4	8.1	6.8	3.5	4.9	5.4	6.1	3.3	0.9	1.7	3.5	3.6	3.0	2.9	0.7	2.6	4.8	7.7	9.2	9.4	8.9	0.7	10.7	3.7
	SSE	SSE	SSE	SSE	S	S	SSW	SW	SW	WSW	W	NW	ENE	E	NE	NNW	N	WNW	ESE	SE	SSE	S	SSW	SSW			
Jul 9	7.0	8.3	10.4	9.4	9.2	7.8	5.6	5.2	6.6	6.8	10.1	7.7	6.1	6.3	4.8	6.0	7.3	7.4	5.2	6.9	5.4	6.1	7.0	7.9	4.8	10.4	6.7
	SW	WSW	W	WSW	W	WNW	W	W	W	WNW	W	WNW	WNW	WNW	NW	WNW	WNW	W	W	WSW	WSW	WSW	WSW	W			
Jul 10	8.8	7.8	6.9	6.8	6.2	7.2	6.4	7.1	9.8	10.2	14.1	14.2	13.4	13.8	16.7	15.4	16.3	11.4	4.8	7.4	9.8	4.3	5.1	6.8	4.3	16.7	6.9
	W	W	SW	SW	SSW	SSW	SSW	S	S	SSE	S	S	SSW	SSW	SW	SSW	W	NW	NNW	NW	WNW	W	W	SSW			
Jul 11	9.4	7.5	8.8	11.6	10.5	9.0	8.6	9.1	11.4	13.3	14.7	13.0	16.7	15.1	14.7	11.5	7.3	15.7	12.4	10.4	10.2	6.3	8.4	8.9	6.3	16.7	10.4
	W	WNW	W	W	WSW	WSW	WSW	WNW	WNW	WNW	W	W	W	W	W	WNW	W	NW	NW	NW	NW	NW	WNW	WNW			
Jul 12	9.8	10.8	11.7	12.3	12.1	11.2	8.8	8.7	10.0	10.2	12.9	12.2	13.8	12.2	11.3	12.0	12.0	9.5	7.9	5.5	6.3	6.9	6.5	8.1	5.5	13.8	9.1
	W	W	W	W	W	WNW	W	WNW	W	W	W	WNW	NW	WNW	NW	NW	NW	WNW	NW	NW	NNW	N	NNW	NNE			
Jul 13	9.9	10.4	8.5	9.1	8.8	9.0	7.5	6.5	6.6	6.6	6.8	4.5	4.4	3.8	5.4	6.0	7.3	7.5	8.4	7.6	9.2	10.7	9.2	10.3	3.8	10.7	7.0
	ENE	ENE	E	E	ENE	E	E	ESE	SE	SE	ESE	E	ESE	SE	E	E	E	ESE	E	ESE	ESE	SE	SSE	SSE			
Jul 14	9.9	8.8	8.4	10.4	10.3	6.8	6.1	9.8	9.7	13.1	15.2	14.7	16.8	14.9	13.0	11.9	9.3	7.5	6.3	5.7	8.9	10.0	9.4	9.2	5.7	16.8	9.9
	SSE	SSE	SSE	S	SSE	S	S	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	S	SSW	S	S	SE	SE	SE	SSE	SSE			
Jul 15	11.0	11.8	10.4	9.7	8.1	7.6	6.3	7.0	6.3	6.7	7.9	9.3	10.9	12.0	11.4	9.4	10.6	9.9	6.2	6.8	8.6	9.1	10.2	9.6	6.2	12.0	4.2
	S	S	S	SSW	S	SSW	SW	W	NNW	NW	NW	NNW	NNW	NNW	N	N	NNW	N	NNW	NW	NW	NW	NNW	N			
Jul 16	8.9	8.1	8.1	9.2	6.4	6.2	6.4	6.0	7.8	6.5	5.0	6.2	6.0	9.5	9.1	8.8	8.8	9.2	8.9	9.7	11.3	14.2	13.6	14.9	5.0	14.9	8.3
	NNE	NNE	NNE	NE	NE	NE	NE	NE	NE	NE	NNE	NE	NNE	NNE	NNE	NE	NE	NE	NE	NE	NE	NE	ENE	ENE			
Jul 17	14.3	15.1	11.7	7.0	10.0	11.6	12.9	13.2	15.7	14.9	11.8	12.5	10.0	7.4	7.4	11.0	9.0	7.2	6.2	5.6	5.9	5.4	5.5	4.7	4.7	15.7	9.4
	ENE	ENE	NE	NNE	N	NE	NE	NE	ENE	ENE	ENE	ENE	ENE	NE	NE	ENE	ENE	NE	NE	NE	NE	NE	NE	NE			
Jul 18	4.3	5.9	3.3	3.8	4.8	5.1	5.4	5.1	4.1	3.3	2.8	4.2	6.2	6.4	6.6	5.5	6.1	5.0	5.4	4.2	2.6	3.3	3.5	3.5	2.6	6.6	4.2
	NE	NE	NNE	NNE	NE	NE	NE	ENE	ENE	E	ENE	ENE	ENE	E	ENE	E	E	E	ESE	ESE	ESE	E	ENE	NE			
Jul 19	4.7	5.7	6.2	6.1	4.5	5.4	4.2	4.1	6.0	4.6	3.5	4.3	4.4	4.8	5.8	6.4	6.2	5.9	6.7	6.0	5.8	4.7	4.9	4.5	3.5	6.7	5.0
	NE	NE	ENE	ENE	ENE	E	E	E	ESE	ESE	ESE	E	E	E	E	ESE	E	E	E	ESE	E	E	E	E			
Jul 20	6.0	5.7	6.2	6.8	6.9	6.3	4.6	4.4	6.4	5.9	8.4	7.6	8.5	6.8	6.3	7.6	8.4	7.5	6.3	4.9	4.9	5.9	4.6	6.3	4.4	8.5	5.8
	E	E	ESE	ESE	ESE	E	E	ENE	ENE	E	E	ESE	ESE	ESE	E	ENE	NE	ENE	ENE	ENE	ENE	E	NE	NNE			

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - July 2021

Summary of Hourly Averages

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

WIND SPEED

Maximum Hourly Value:	32.2	kph	on July 23 at hour 9	Hours in Service:	744
Maximum Daily Value:	19.7	kph	on July 23	Hours of Data:	741
Minimum Hourly Value:	0.6	kph	on July 30 at hour 7	Hours of Missing Data:	3
Minimum Daily Value:	1.0	kph	on July 29	Hours of Calibration:	0
Monthly Average:	2.3	kph		Operational Uptime:	99.6

WIND DIRECTION

Monthly Average: 269 (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			
Jul 21	5.0	5.4	5.7	7.1	6.3	6.2	9.1	6.0	5.6	5.1	6.1	4.3	6.6	5.2	7.0	3.7	2.5	3.3	3.4	1.6	3.7	3.8	4.5	3.3	1.6	9.1	4.4
	NE	NE	NE	NE	ENE	E	ENE	ENE	ENE	ENE	ENE	ENE	E	E	E	ENE	NNE	NNE	NE	NNE	NW	NNW	ENE	NNE			
Jul 22	P	P	P	11.5	7.3	7.5	10.0	12.5	11.8	8.2	9.1	15.3	13.8	16.0	14.0	10.2	9.8	10.1	10.9	8.9	9.2	14.1	12.1	13.7	7.3	16.0	9.8
	P	P	P	NNW	NW	WNW	WSW	WSW	WSW	WSW	W	W	WNW	WNW	WSW	SW	SSW	SW	SW	SW	WSW	WSW	WSW	WSW			
Jul 23	16.4	15.2	25.0	18.8	21.6	26.7	27.4	30.7	29.5	**32.2**	28.0	27.4	29.5	24.4	23.8	21.1	15.8	15.9	13.1	8.2	7.7	8.6	10.9	13.8	7.7	**32.2**	**19.7**
	WSW	WSW	WSW	WSW	WSW	WSW	W	W	W	W	W	W	W	W	W	WNW	WNW	WNW	WNW	WNW	WNW	W	WNW	W			
Jul 24	12.8	14.9	14.1	15.2	11.0	13.5	17.3	18.1	18.5	16.9	21.9	19.4	21.0	19.5	17.1	16.1	14.8	13.2	10.2	7.0	6.6	6.7	7.3	7.0	6.6	21.9	13.7
	W	W	W	W	W	W	W	W	W	W	W	WNW	WNW	WNW	WNW	WNW	WNW	NW	WNW	WNW	NW	NW	WNW	WNW			
Jul 25	6.5	7.3	9.3	8.3	8.0	5.8	6.2	10.5	11.3	11.9	15.5	20.5	19.5	17.8	19.0	18.5	17.2	15.0	9.7	7.0	7.6	6.4	8.1	9.3	5.8	20.5	11.2
	NW	W	W	W	WSW	SW	WSW	W	W	W	WSW	WSW	W	WSW	WSW	WSW	WSW	WSW	W	W	WSW	W	WNW	W			
Jul 26	7.5	7.6	8.6	7.2	9.6	9.3	10.7	10.1	6.8	9.3	7.4	8.4	8.9	10.2	11.7	12.4	13.0	12.5	9.0	4.3	5.4	6.6	7.3	7.4	4.3	13.0	8.4
	WSW	W	W	SW	WSW	WSW	WSW	WSW	WSW	W	WSW	WSW	SW	SW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	SSW	S			
Jul 27	8.3	7.9	3.7	10.5	6.6	7.3	8.7	3.1	7.7	13.0	12.3	12.6	12.7	11.9	13.9	15.3	14.5	12.6	9.4	7.0	8.0	8.3	8.5	9.0	3.1	15.3	6.7
	S	S	W	NW	N	E	ESE	SSE	WSW	W	WNW	WNW	NW	WNW	WNW	WNW	WNW	NW	WNW	WNW	NNW	NNW	WNW	WNW			
Jul 28	7.9	6.6	6.9	6.5	7.9	7.8	5.0	5.4	6.5	8.2	9.6	9.8	12.3	11.7	13.3	14.9	13.9	11.9	7.6	5.4	6.0	6.8	6.3	7.2	5.0	14.9	7.7
	WNW	WNW	WNW	WNW	WSW	WNW	WNW	SW	WSW	SW	WSW	SW	WSW	SW	SW	WSW	WSW	SW	SW	SW	SSW	SSW	SW	SSW			
Jul 29	6.8	7.6	7.4	3.6	6.9	5.5	2.3	3.2	6.9	9.2	6.2	7.3	10.2	10.8	6.3	3.8	4.0	4.4	6.0	5.8	9.4	9.6	9.7	9.1	2.3	10.8	**1.0**
	SSW	SSW	S	E	ENE	ENE	SSE	N	NE	ENE	NNE	E	SE	ESE	SE	S	SW	SW	WSW	WSW	W	W	WNW	WNW			
Jul 30	9.0	7.9	7.9	7.4	7.7	7.9	3.9	**0.6**	2.9	0.7	3.6	2.7	2.6	5.0	6.1	5.8	5.7	4.9	2.7	3.4	4.6	5.2	5.9	5.3	**0.6**	9.0	4.3
	NW	NW	W	WNW	NW	NNW	NW	NW	NE	ENE	N	NNW	NNW	N	NW	NW	NNW	NNW	N	NNE	N	N	N	NNE			
Jul 31	6.2	6.5	3.8	6.1	5.4	7.7	6.4	7.0	6.3	5.8	4.7	6.6	5.6	5.7	5.1	4.0	6.8	6.3	5.1	6.7	8.1	9.3	10.0	10.7	3.8	10.7	5.3
	ENE	E	S	E	SSE	S	S	S	S	S	S	S	SSE	S	S	SSE	SSE	SE	ESE	E	ESE	ESE	SSE	SSE			

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 - July 2021

Summary of Hour Standard Deviations

STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

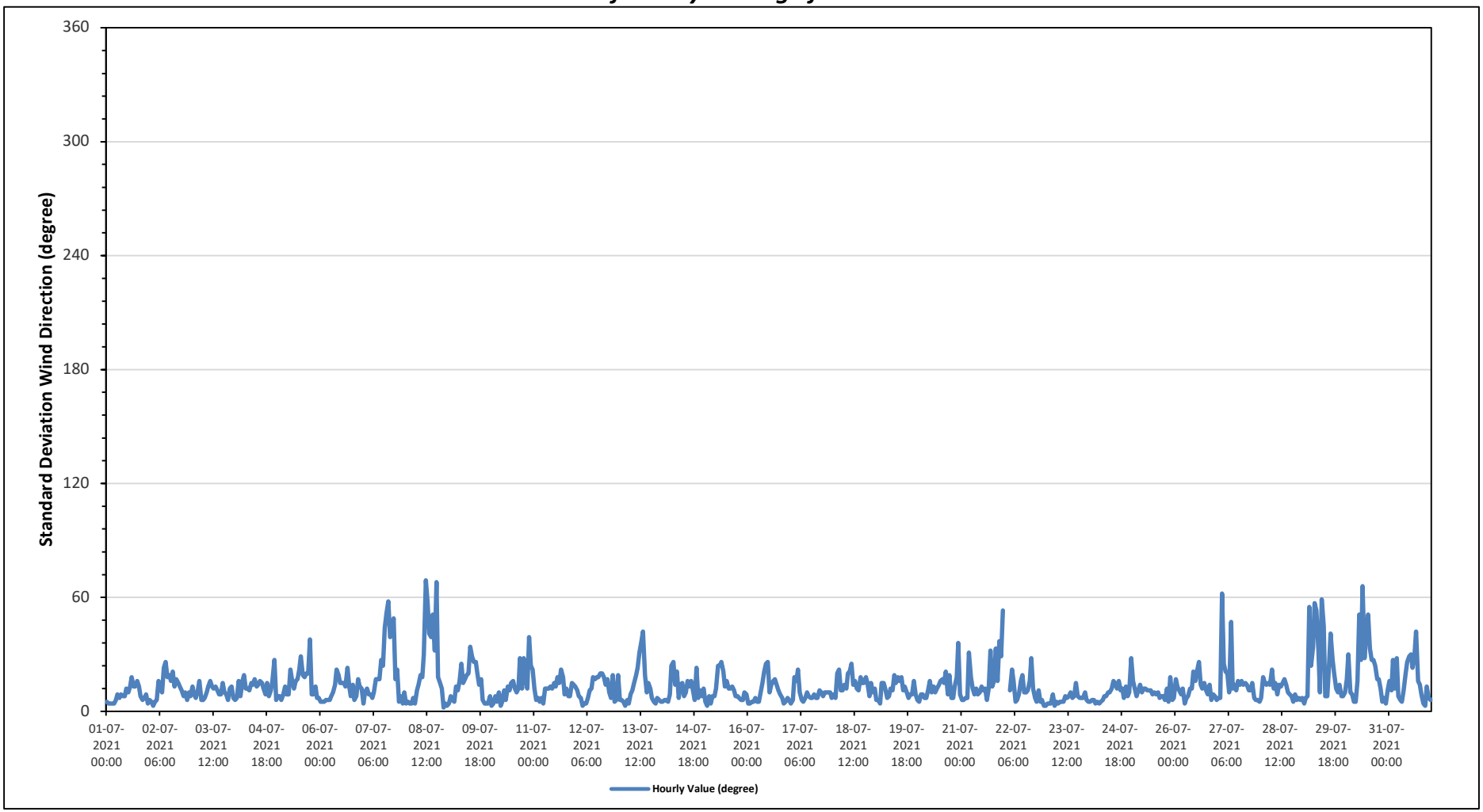
Maximum Hourly Value:	69	degree	on July 8 at hour 11	Hours in Service:	744
				Hours of Data:	741
Minimum Hourly Value:	2	degree	on July 8 at hour 21	Hours of Missing Data:	3
				Hours of Calibration:	0
				Operational Uptime:	99.6

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
Jul 1	5	4	4	4	4	6	9	7	9	8	8	12	10	13	18	13	13	16	13	8	6	7	9	4	4	18
Jul 2	6	5	3	5	6	16	12	10	23	26	18	19	16	21	13	17	15	13	11	8	10	6	10	8	3	26
Jul 3	13	9	7	11	16	6	6	7	10	13	16	13	12	13	11	9	9	15	10	9	6	12	13	7	6	16
Jul 4	6	7	16	8	16	19	12	12	11	15	14	17	13	14	16	15	12	9	15	8	11	16	27	6	6	27
Jul 5	8	8	6	9	13	9	9	22	16	12	16	17	22	29	19	18	20	20	38	9	9	13	7	7	6	38
Jul 6	5	5	5	6	6	6	8	10	14	22	19	15	15	15	13	23	13	8	14	6	8	17	13	12	5	23
Jul 7	4	10	12	9	9	7	10	17	17	17	27	24	44	52	58	39	41	49	17	22	5	8	4	10	4	58
Jul 8	4	5	4	4	7	4	11	14	19	18	30	**69**	57	41	39	51	32	68	18	15	12	**2**	4	3	**2**	**69**
Jul 9	4	8	6	5	13	11	16	25	15	17	19	20	34	29	26	26	20	14	17	6	4	4	4	8	4	34
Jul 10	3	4	8	5	10	3	5	11	6	13	11	15	16	12	10	12	28	12	28	17	12	39	24	22	3	39
Jul 11	12	6	7	5	7	4	12	12	12	13	12	15	13	18	15	22	18	9	12	8	8	15	14	13	4	22
Jul 12	11	8	7	3	4	4	7	11	12	18	17	18	18	20	20	18	14	17	10	7	19	5	6	19	3	20
Jul 13	6	6	5	3	6	4	9	11	15	19	23	31	37	42	19	10	15	12	7	5	4	7	6	5	3	42
Jul 14	5	6	6	5	9	24	26	14	21	7	14	15	8	10	16	13	16	11	6	23	7	11	8	12	5	26
Jul 15	5	3	8	4	8	8	12	24	24	26	21	13	16	12	12	13	11	8	8	7	6	6	10	9	3	26
Jul 16	4	4	5	5	7	5	5	10	15	21	25	26	10	14	16	17	14	11	9	7	4	5	7	6	4	26
Jul 17	4	6	18	16	22	10	6	5	7	10	8	7	7	9	7	7	11	10	8	10	10	10	10	7	4	22
Jul 18	9	7	20	22	11	11	14	12	20	21	25	14	16	12	11	18	15	15	18	15	8	15	10	12	7	25
Jul 19	6	6	4	15	15	12	7	8	12	11	19	15	18	16	18	11	13	10	7	9	9	16	9	6	4	19
Jul 20	5	9	9	7	7	11	16	10	13	10	12	14	16	17	15	21	9	19	7	7	13	18	36	9	5	36
Jul 21	6	6	7	7	31	18	12	9	12	9	10	13	11	12	6	12	32	13	16	33	16	37	29	53	6	53
Jul 22	**P**	**P**	**P**	11	22	16	5	6	9	16	19	10	10	11	16	28	12	7	5	11	5	6	3	3	3	28
Jul 23	4	4	4	9	3	5	4	5	5	5	8	7	8	10	7	8	15	8	7	7	7	10	6	5	3	15
Jul 24	5	6	6	4	5	4	5	6	8	8	10	10	12	16	15	12	16	11	12	7	13	8	10	28	4	28
Jul 25	16	12	8	11	14	10	12	12	11	11	11	9	10	9	10	7	8	8	6	12	5	18	6	7	5	18
Jul 26	17	13	11	9	12	4	7	8	12	12	21	16	21	26	14	12	15	11	9	14	6	9	8	6	4	26
Jul 27	7	7	62	25	21	20	10	47	12	14	11	16	14	16	14	15	14	11	11	15	7	6	6	5	5	62
Jul 28	7	18	15	14	15	14	22	12	15	9	14	13	15	17	14	10	9	8	5	9	6	7	6	7	5	22
Jul 29	4	7	8	55	24	34	57	53	32	10	59	45	8	8	22	41	27	20	12	10	14	8	8	10	4	59
Jul 30	17	30	10	9	5	5	16	51	27	66	28	43	51	33	27	27	24	17	17	12	5	7	4	11	4	66
Jul 31	16	11	27	12	28	8	6	5	11	20	26	29	30	23	30	42	16	14	9	4	3	13	7	6	3	42
Diurnal Minimum	3	3	3	3	3	3	4	5	5	5	8	7	7	8	6	7	8	7	5	4	3	2	3	3		
Daiurnal Maximum	17	30	62	55	31	34	57	53	32	66	59	69	57	52	58	51	41	68	38	33	19	39	36	53		

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 STDWD - St. Lina Site



END OF REPORT

This page, 244 of 244, ends the July 2021 Monthly Ambient Air Quality Monitoring Report.

Lakeland Industry & Community Association

JULY 2021

Ambient Air Monitoring Calibration Report

- COLD LAKE SOUTH STATION-

CAL-LICA-202107-01174

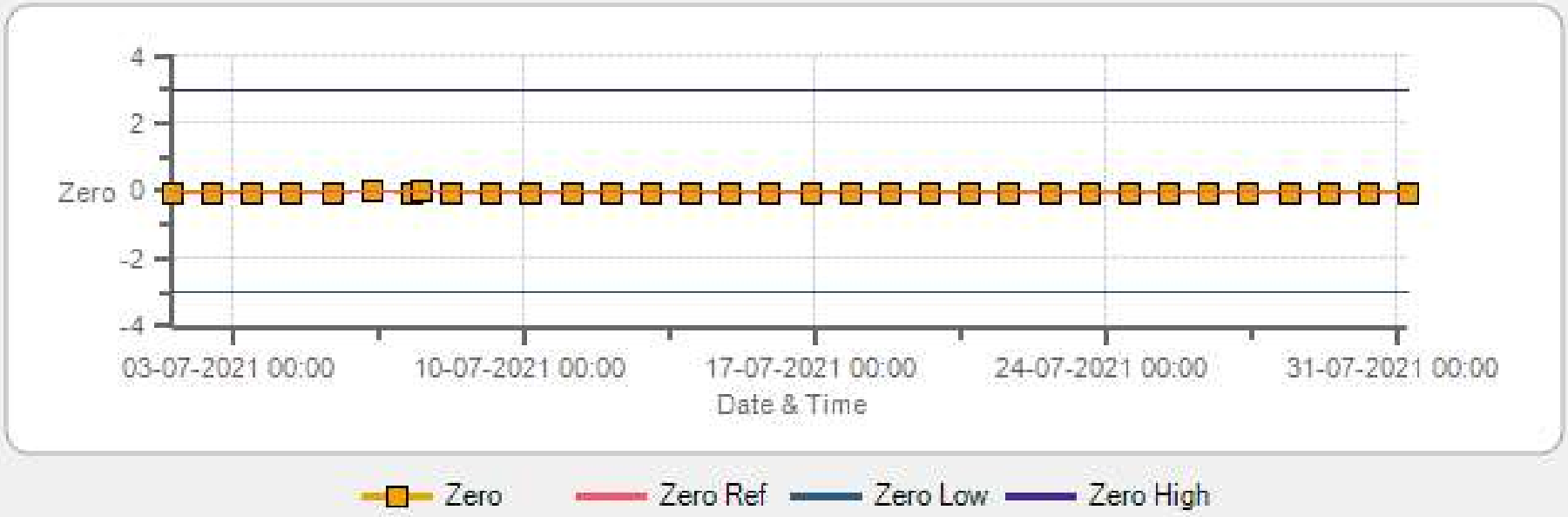
Station Operation and Maintenance:
Bureau Veritas Canada

Data Validation and Report:
LICA / Bureau Veritas Canada

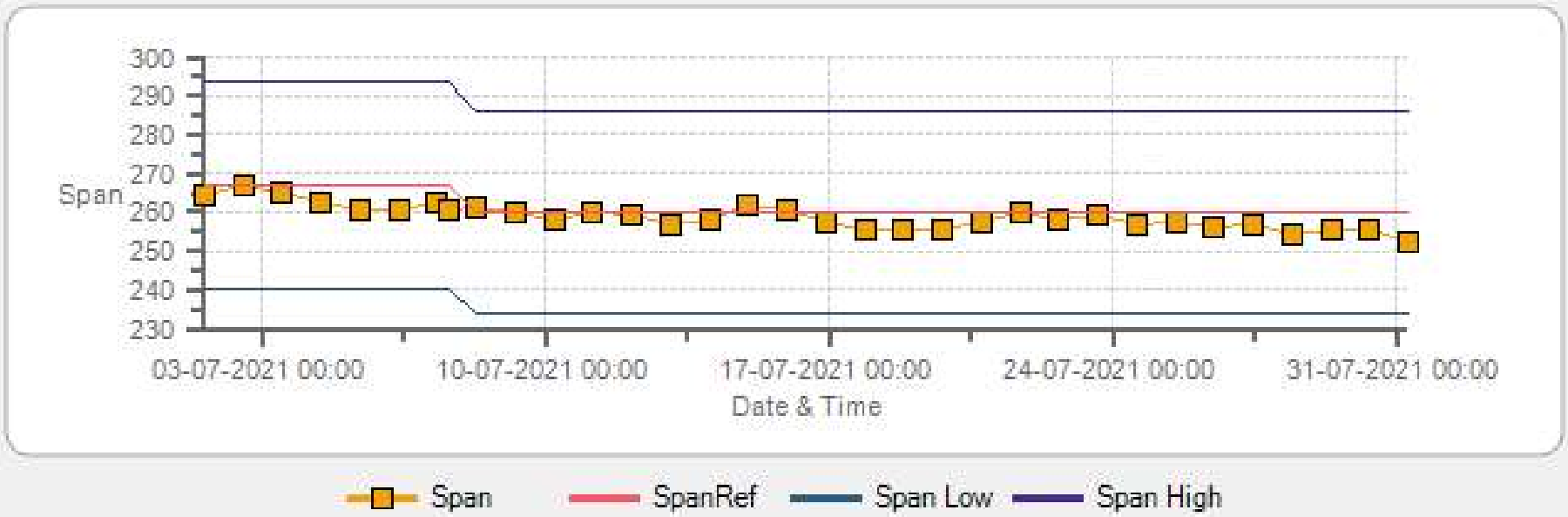
August 18, 2021

DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2[ppb] Calibration: Cold Lake South Monthly: 07-2021 Type: SpanAndZero - Zero



SO2[ppb] Calibration: Cold Lake South Monthly: 07-2021 Type: SpanAndZero - Span



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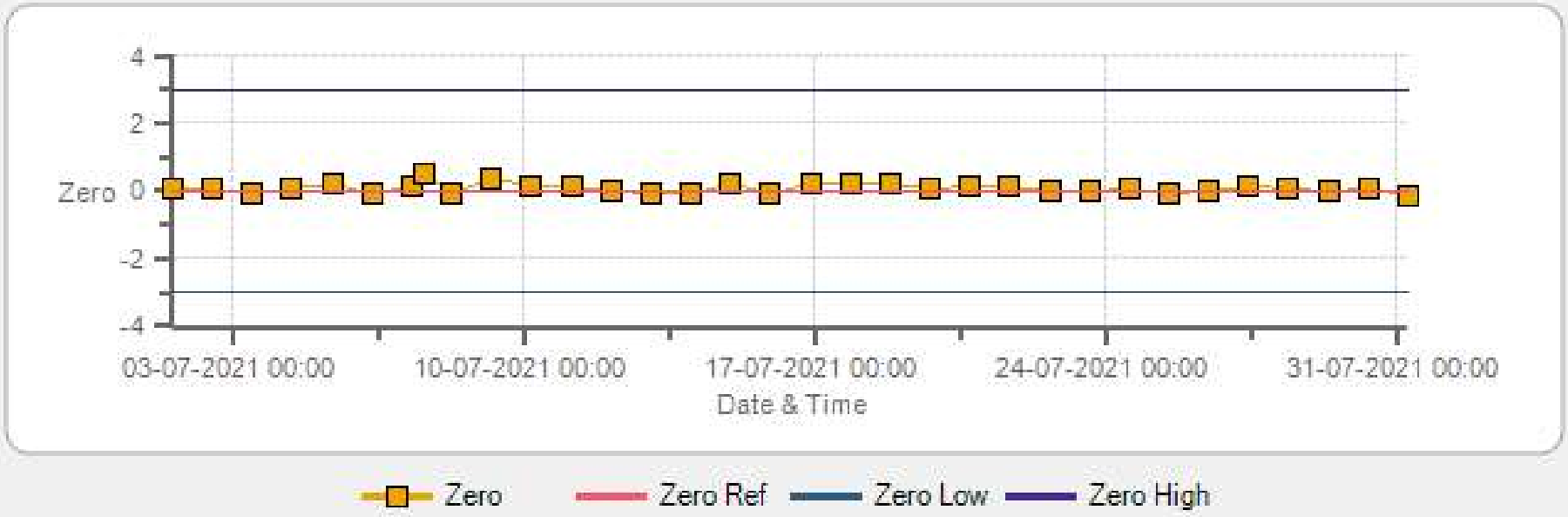
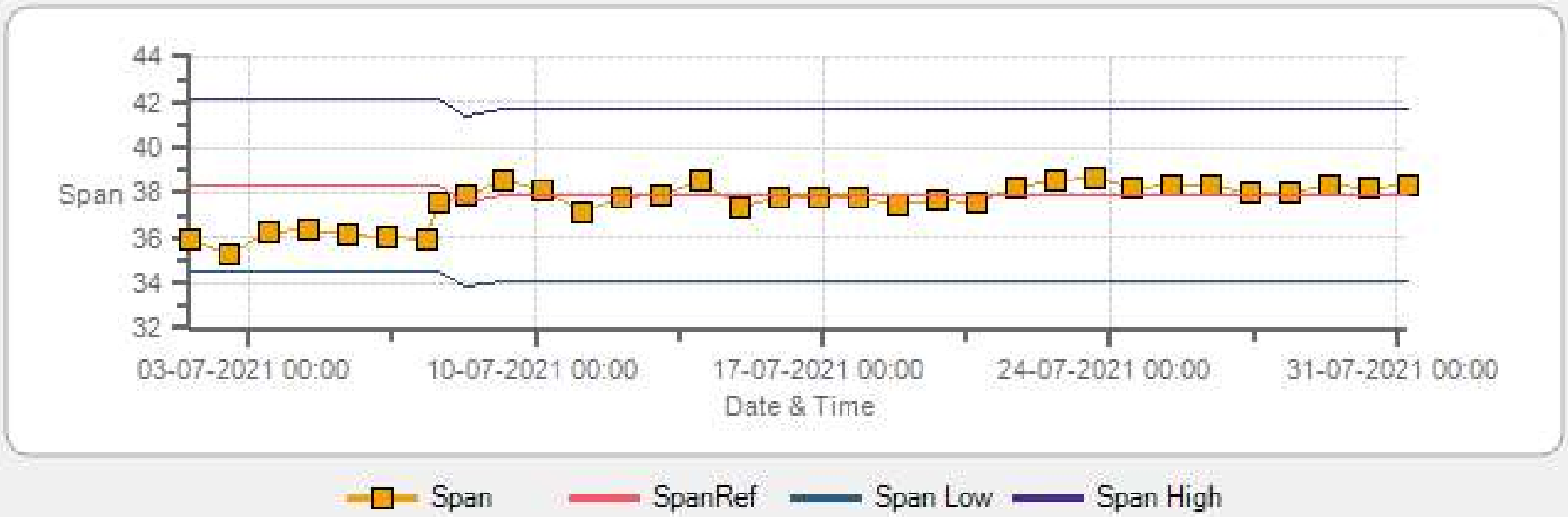
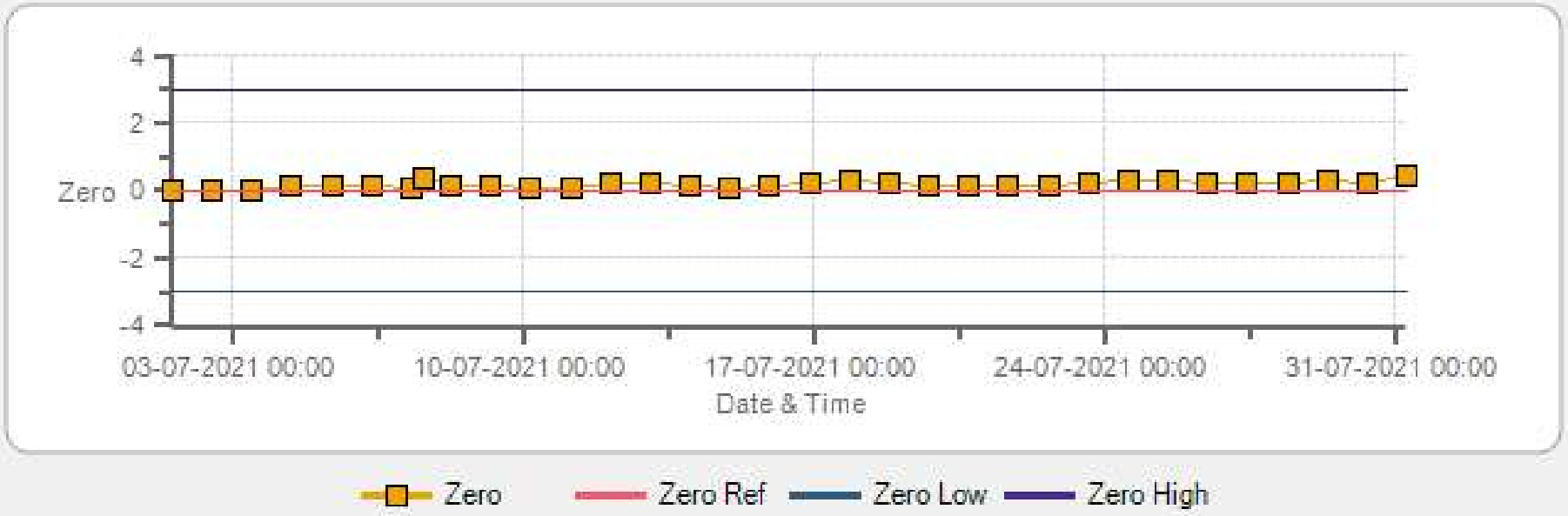


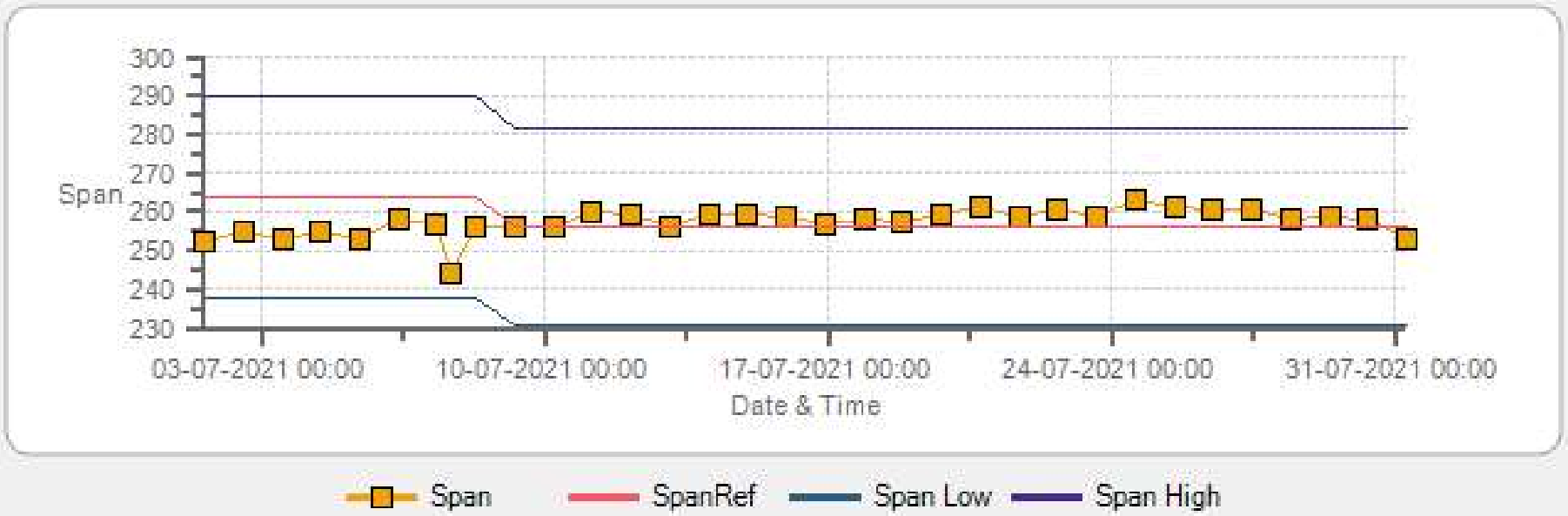
TRS[ppb] Calibration: Cold Lake South Monthly: 07-2021 Type: SpanAndZero - Span



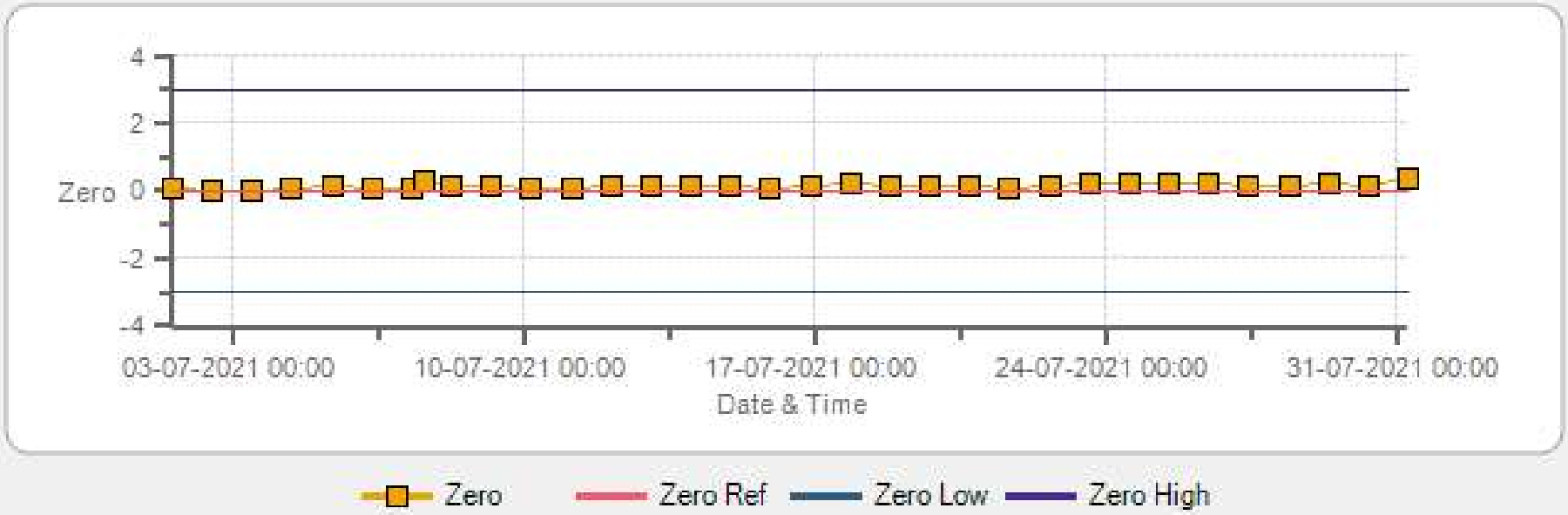
NOX[ppb] Calibration: Cold Lake South Monthly: 07-2021 Type: SpanAndZero - Zero



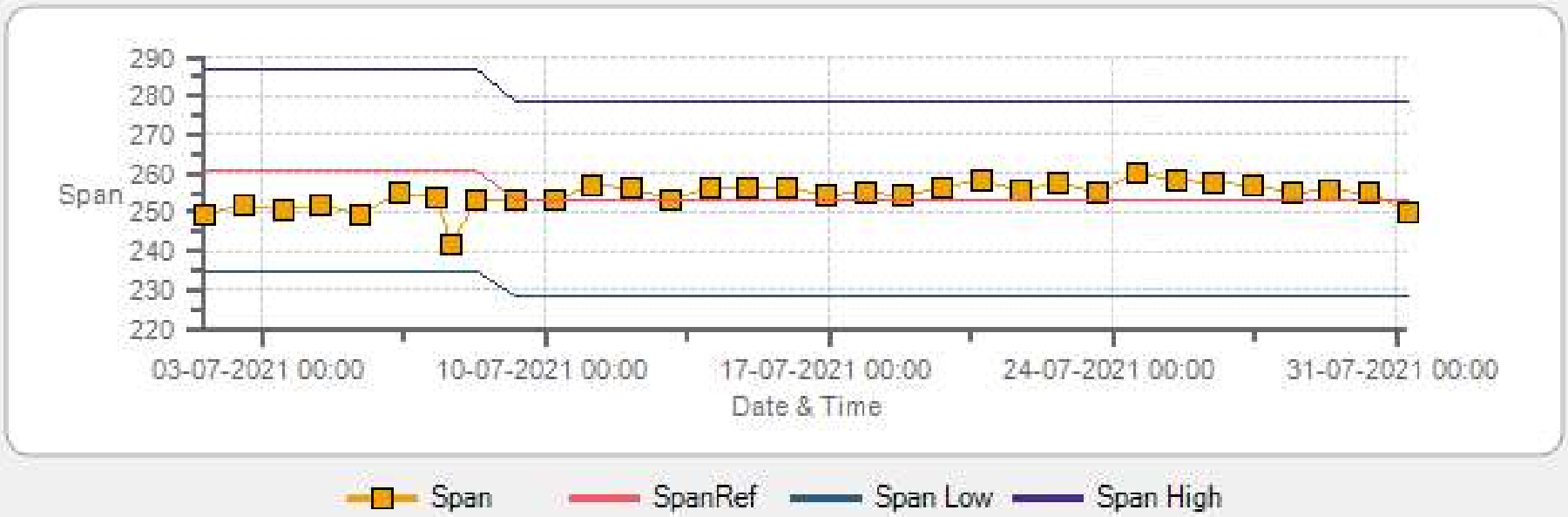
NOX[ppb] Calibration: Cold Lake South Monthly: 07-2021 Type: SpanAndZero - Span



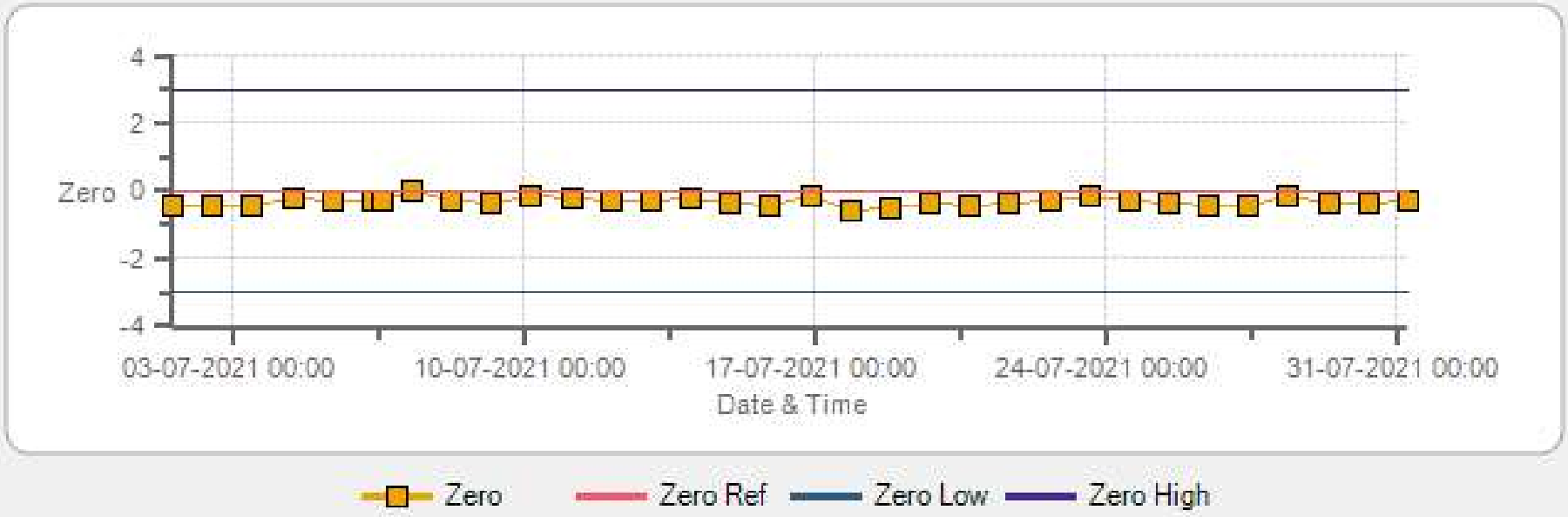
NO2[ppb] Calibration: Cold Lake South Monthly: 07-2021 Type: SpanAndZero - Zero



NO2[ppb] Calibration: Cold Lake South Monthly: 07-2021 Type: SpanAndZero - Span

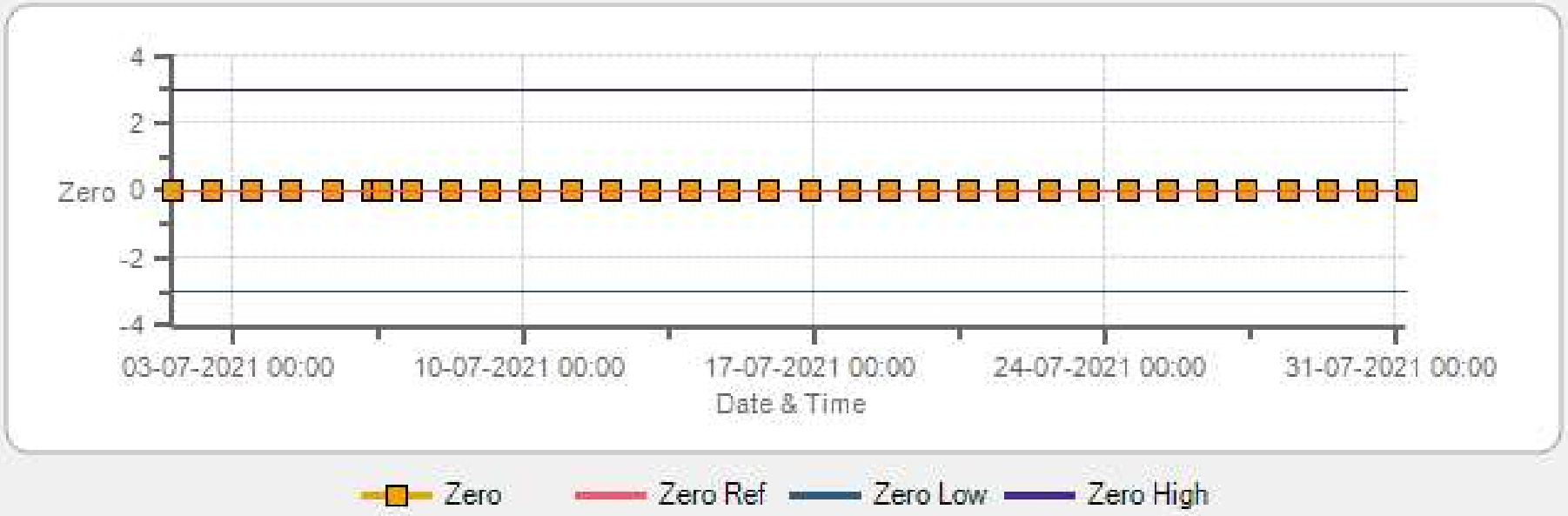


O3[ppb] Calibration: Cold Lake South Monthly: 07-2021 Type: SpanAndZero - Zero

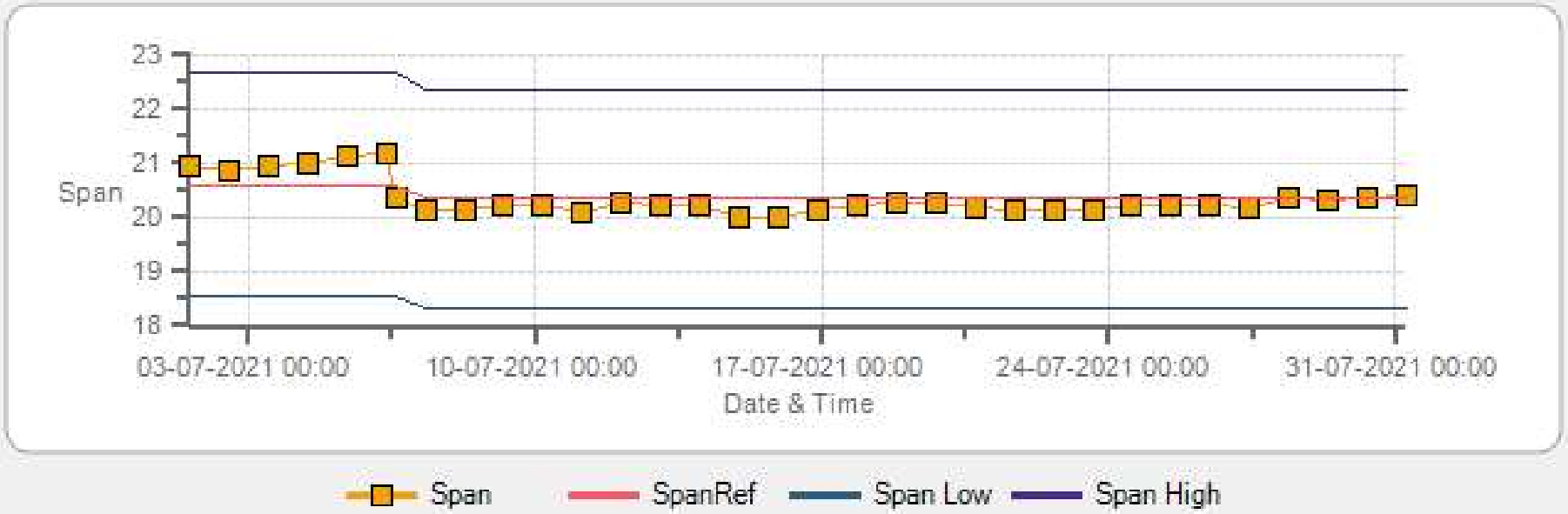


O3[ppb] Calibration: Cold Lake South Monthly: 07-2021 Type: SpanAndZero - Span

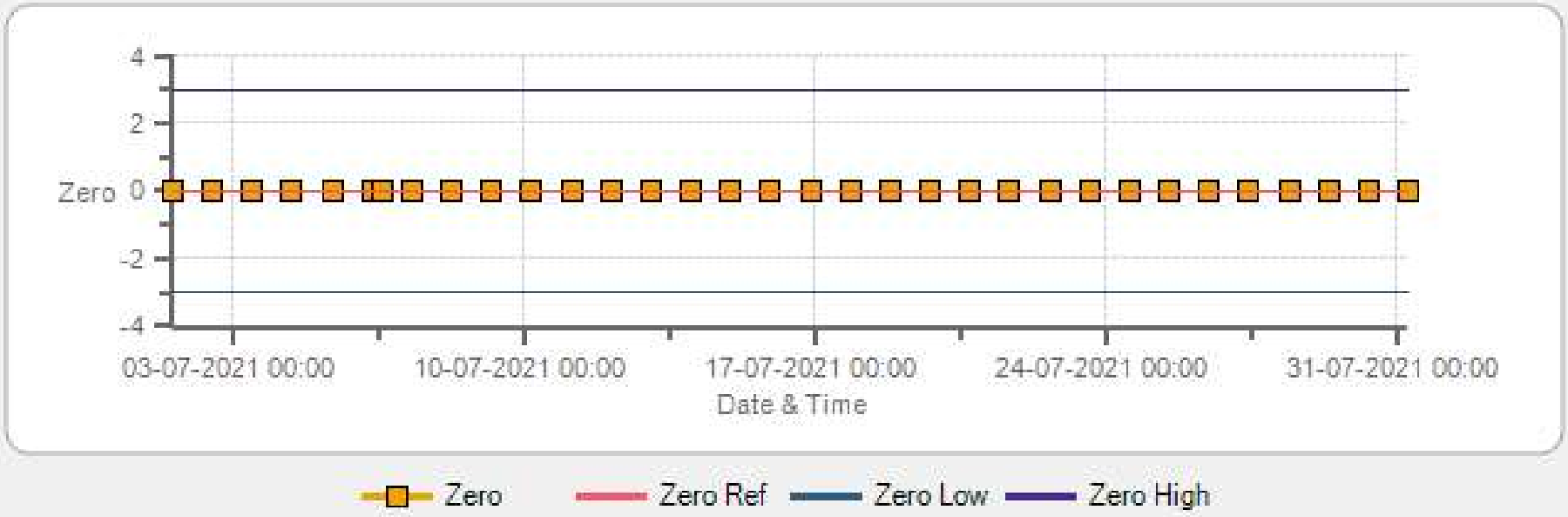
THC55[ppm] Calibration: Cold Lake South Monthly: 07-2021 Type: SpanAndZero - Zero



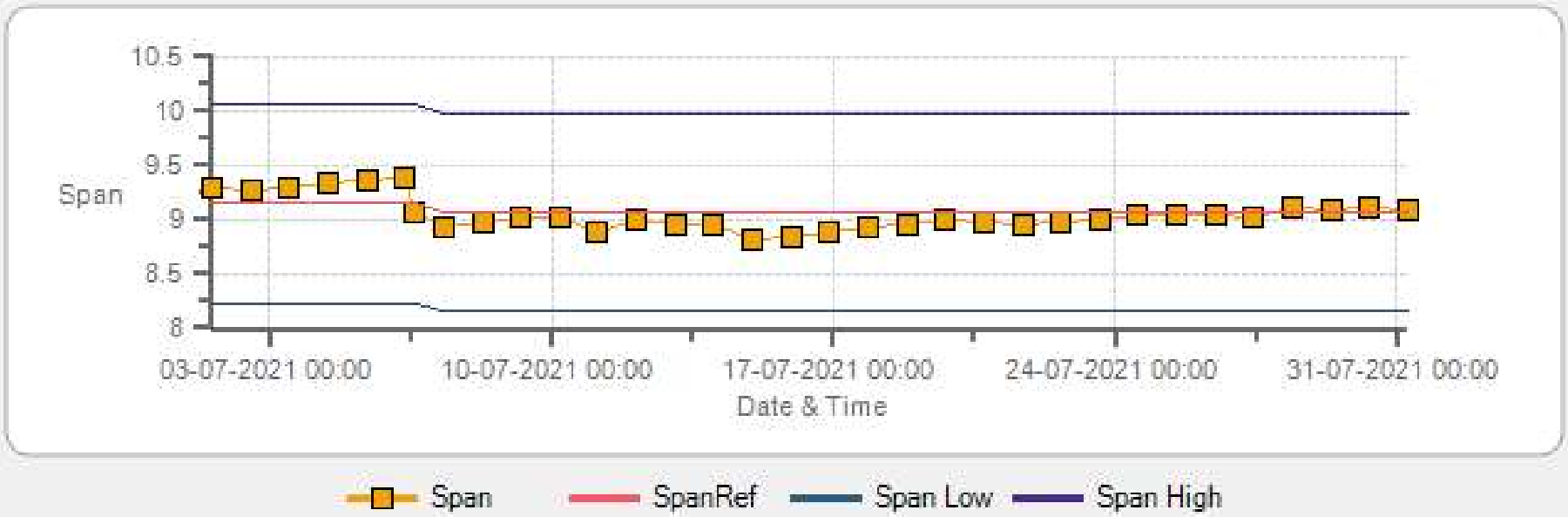
THC55[ppm] Calibration: Cold Lake South Monthly: 07-2021 Type: SpanAndZero - Span



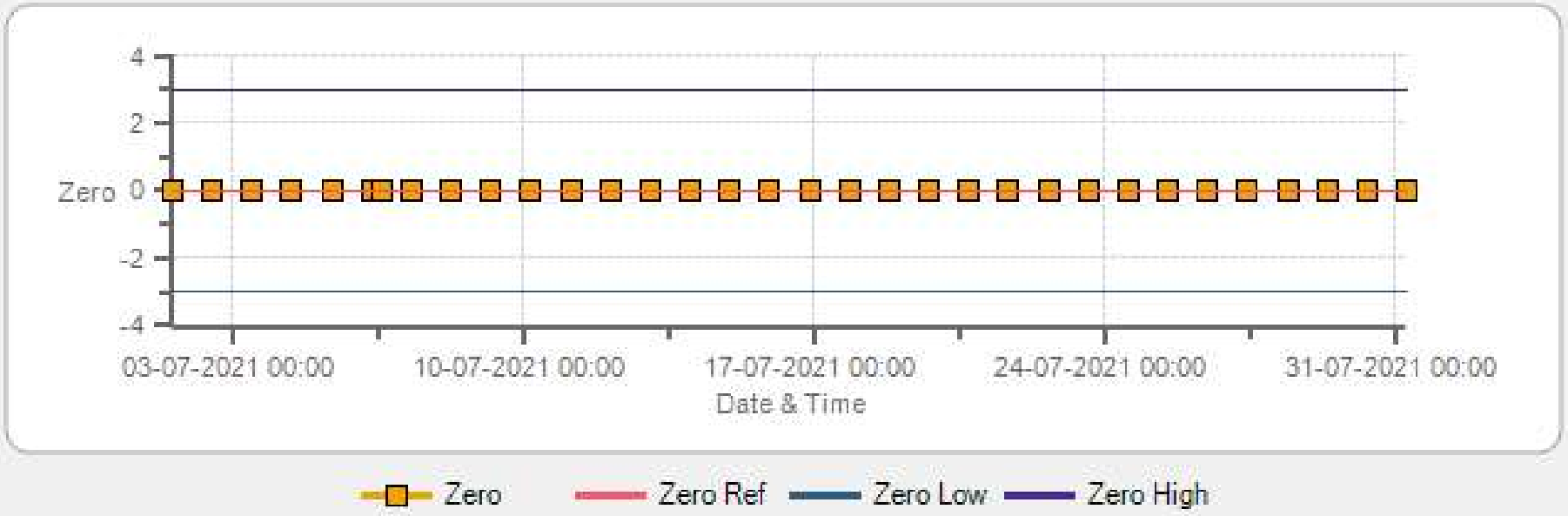
CH4[ppm] Calibration: Cold Lake South Monthly: 07-2021 Type: SpanAndZero - Zero



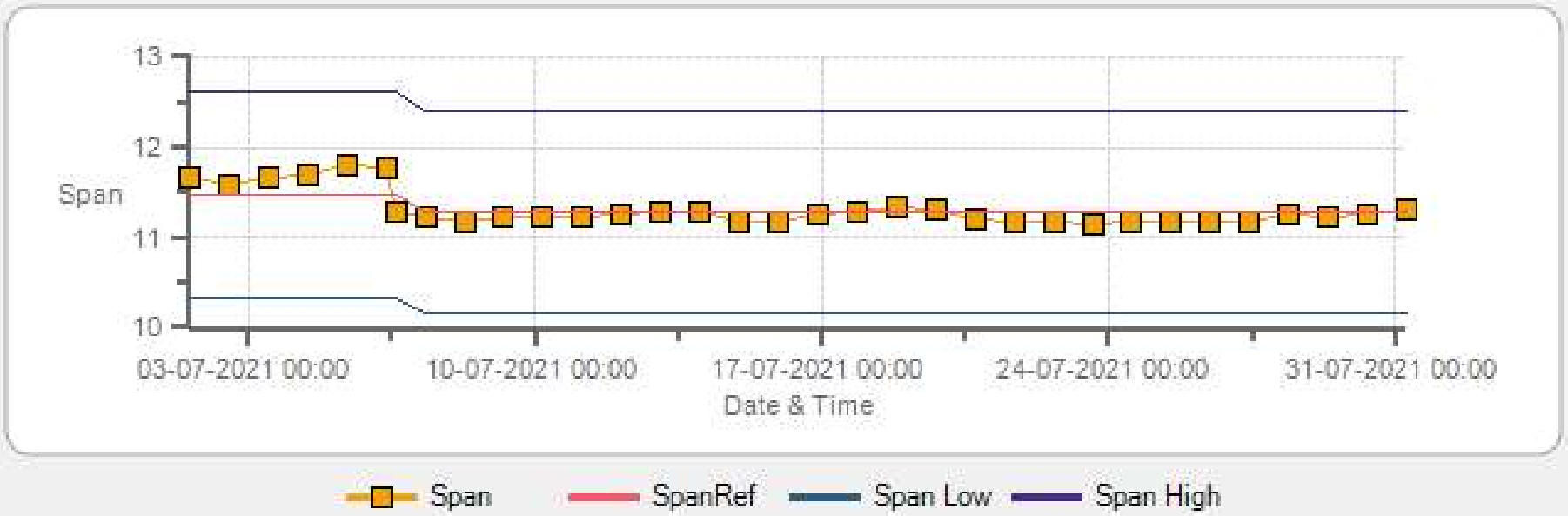
CH4[ppm] Calibration: Cold Lake South Monthly: 07-2021 Type: SpanAndZero - Span



NMHC[ppm] Calibration: Cold Lake South Monthly: 07-2021 Type: SpanAndZero - Zero



NMHC[ppm] Calibration: Cold Lake South Monthly: 07-2021 Type: SpanAndZero - Span



MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution

DATE:	07-Jul-2021	PREVIOUS CALIBRATION DATE:	22-Jun-2021
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	0.999
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	CLS	BAROMETRIC (mBar):	950
PURPOSE	Routine	START TIME (MST):	09:04
PERFORMED BY:	Alex Yakupov	END TIME (MST):	13:47

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1180260018	FLOW (mL/min)	447
INITIAL		FINAL	
BKG/OFFSET	1.92	BKG/OFFSET	1.89
COEF/SLOPE	0.944	COEF/SLOPE	0.935
Expected (reference) Value	267	Expected (reference) Value	260

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010	MODEL:	T701
ID:	26801218	ID:	132
MFC CALIBRATION DATE:	09-Apr-2021	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0000851	HIGH ID	n/a
CONC (ppm):	51.60	EXPIRY DATE	n/a
CYLINDER (psi):	200	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:

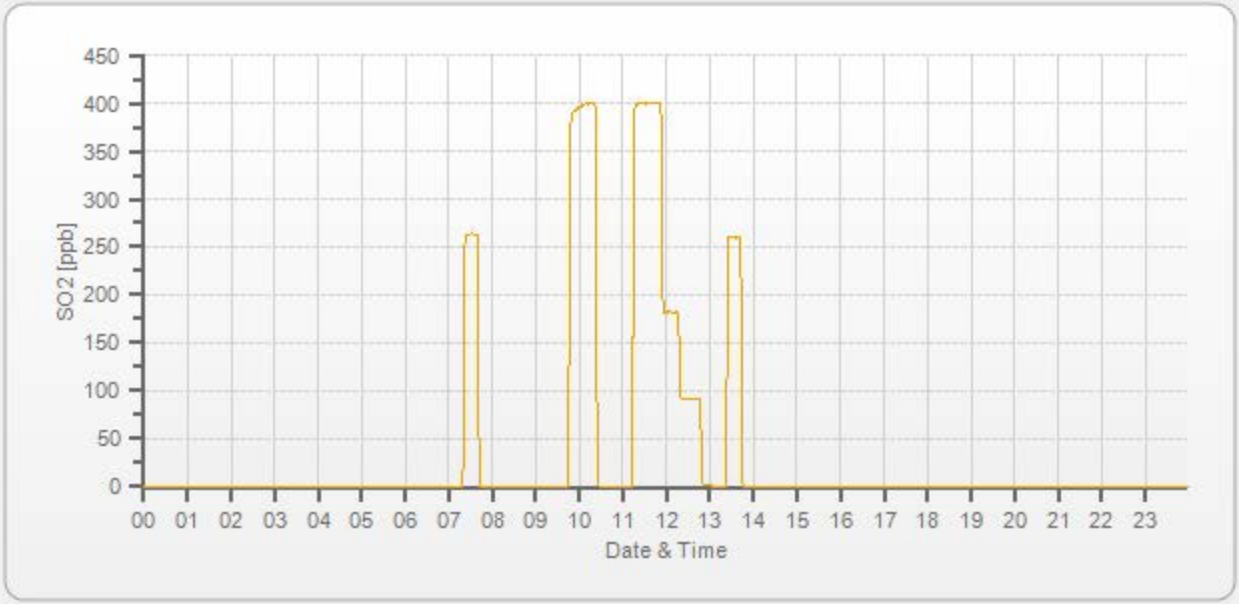
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
5000		5000	0.00	0	0		
4961	38.70	5000	399.38	399.5	399.4	1.000	1.000
4982	17.60	5000	181.63	n/a	182.1	n/a	0.997
4991	8.80	5000	90.82	n/a	91.1	n/a	0.997

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	0.0%

COMMENTS:

Sample inlet filter was changed.


SO2[ppb] Station: Cold Lake South Daily: 07-07-2021 Type: AVG 1 Min. [1 Min.]
SO2 [ppb]
450
400
350
300
250
200
150
100
50
0
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time
SO2 [ppb]

TRS Analyzer Calibration by Dilution

DATE:	07-Jul-2021	PREVIOUS CALIBRATION DATE:	22-Jun-2021
PARAMETER:	TRS	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	CLS	BAROMETRIC (mBar):	950
PURPOSE	Routine	START TIME (MST):	09:00
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:25

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	812728560	FLOW (mL/min)	491
INITIAL		FINAL	
BKG/OFFSET	21	BKG/OFFSET	21.8
COEF/SLOPE	1.02	COEF/SLOPE	1.061
Expected (reference) Value	38.3	Expected (reference) Value	37.9

CALIBRATION SYSTEM:

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

CALIBRATION PARAMETERS:

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

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

START TIME:	09:28	SO2 Conc (ppb)	380
END TIME:	09:43	Analyzer Response (ppb)	n/a

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
7500		7500	0.00	0	0		
7442	58.50	7500	78.00	75.3	78.3	1.036	0.996
7472	28.50	7500	38.00	n/a	38.3	n/a	0.992
7486	14.20	7500	18.93	n/a	19.3	n/a	0.981

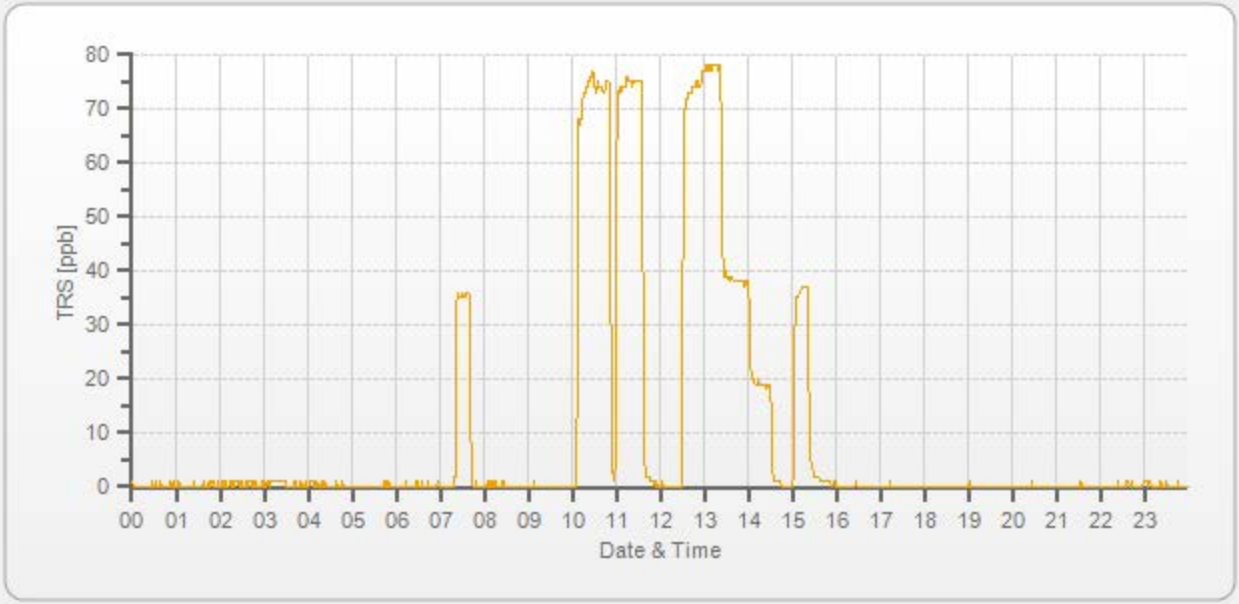
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.003	0.1%

COMMENTS:

10:58 - As Found High repeated to confirm analyzer stability.
Sample filter changed

TRS[ppb] Station: Cold Lake South Daily: 07-07-2021 Type: AVG 1 Min. [1 Min.]



NOx Calibration by Dilution/Gas-Phase Titration

CALIBRATION:				ANALYZER:			
DATE:	07-Jul-2021	PREVIOUS CALIBRATION DATE:	22-Jun-2021	MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
CLIENT:	LICA	TEMPERATURE (°C):	22.0	SERIAL #:	1505664393	NOx	1.001
LOCATION:	CLS	BAROMETRIC (mBar):	950	FLOW (mL/min)	786	NO	0.999
PURPOSE	Routine	START TIME (MST):	09:05	RANGE (ppb)	500	NO2	1.000
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:36	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):	200		LOW ID:	n/a
MFC CALIBRATION DATE:	09-Apr-2021	OXIDIZER ID:	n/a	EXPIRY DATE	24-Feb-2028		LOW EXPIRY:	n/a

CALIBRATION SETTINGS:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
BKG/OFFSET:	4.3	4.2	n/a	BKG/OFFSET:	4.3	4.1	n/a
SLOPE/COEF/CE:	1.004	0.969	0.998	SLOPE/COEF/CE:	1.005	0.958	0.998

EXPECTED (REFERENCE) VALUE:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	263.7	260.7	3.1		256.1	2.9	253.3

CALIBRATION PARAMETERS:

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

NO/NOx CALIBRATION:

FLOW RATE (mL/min)			CONCENTRATION (ppb)									CORRECTION FACTOR (CF.)					
			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2
5000		5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
4959	38.70	4998	394.1	395.7	1.5	397.9	400.4	2.4	394.2	396.2	2.0	0.991	0.988		1.000	0.999	
4980	17.60	4998	179.2	179.9	0.7	n/a	n/a	n/a	180.4	181.3	0.8	n/a	n/a		0.994	0.993	
4989	8.80	4998	89.6	90.0	0.4	n/a	n/a	n/a	90.8	91.3	0.5	n/a	n/a		0.987	0.985	

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	394.2	396.2	2.0				
AS-FOUND HIGH	38.70	4997	240	144.8	396.7	251.8	249.4	249.8	0.998	100.16%
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	264.4	396.7	132.2	129.8	130.2	0.997	100.31%
LOW	38.70	4997	45	350.1	396.7	46.5	44.1	44.5	0.991	100.91%
NO2 adjustment not required.									AVERAGE:	100.46%

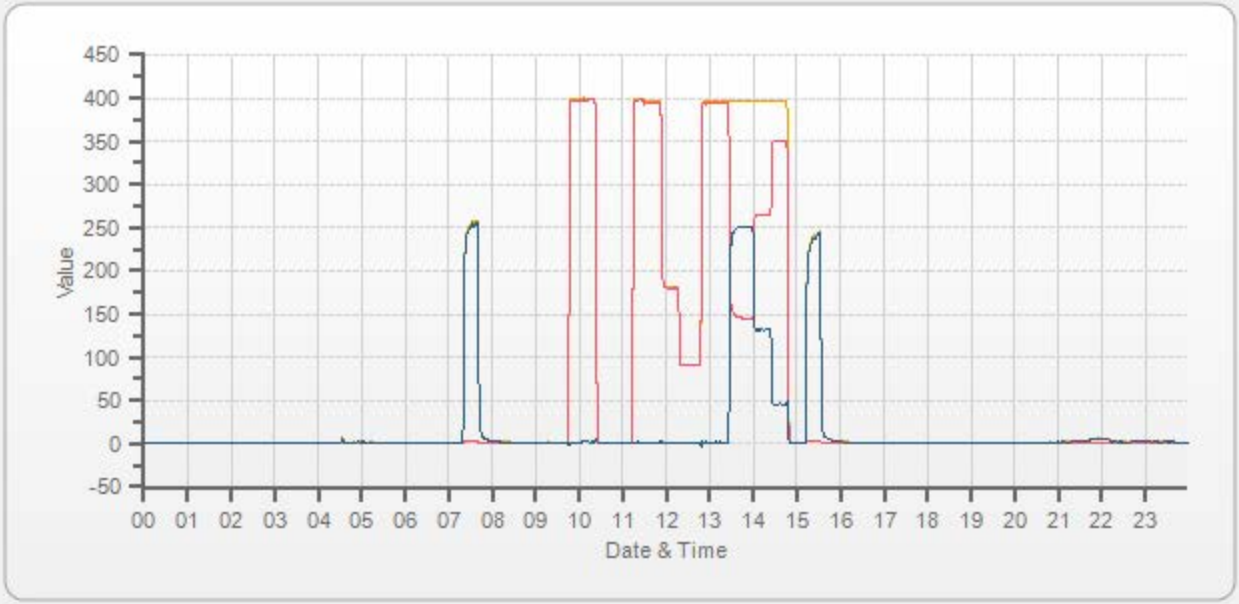
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
NO	1.000	0.999	0.14%
NOx	1.000	1.000	0.15%
NO2	1.000	1.000	0.08%

COMMENTS:

Sample inlet filter was changed.

Station: Cold Lake South Daily: 07-07-2021 Type: AVG 1 Min. [1 Min.]



Ozone Calibration by Photometer (Varying UV Lamp)

DATE:	06-Jul-2021	PREVIOUS CALIBRATION DATE:	22-Jun-2021
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	1.005
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	CLS	BAROMETRIC (mBar):	958
PURPOSE	Routine	START TIME (MST):	10:29
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:32

ANALYZER:

MAKE/MODEL	Thermo 49i	RANGE	500 ppb
SERIAL #	700419951	FLOW (mL/min)	1474
INITIAL		FINAL	
BKG/OFFSET	0	BKG/OFFSET	0
COEF/SLOPE	1.022	COEF/SLOPE	1.043
Expected (reference) Value	369.3	Expected (reference) Value	390.7

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	09-Apr-2021	OXIDIZER ID:	n/a
	CALIBRATION METHOD:	Photometer (Varying UV Lamp)	
GPT DATE:	n/a	GPT END TIME:	n/a

CALIBRATION PARAMETERS:

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

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
5000		5000	0.0	0.0	0.0		
5000		5000	378.0	369.5	376.2	1.023	1.005
5000		5000	180.0	n/a	180.0	n/a	1.000
5000		5000	61.0	n/a	62.5	n/a	0.976

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.993	0.2%

COMMENTS:

Sample inlet filter was changed.


O3[ppb] Station: Cold Lake South Daily: 06-07-2021 Type: AVG 1 Min. [1 Min.]
400
350
300
250
200
150
100
50
0
-50
O3 [ppb]
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time
O3 [ppb]

Methane/Non-Methane Analyzer Calibration by Dilution

CALIBRATION:

DATE:	06-Jul-2021	PREVIOUS CALIBRATION DATE:	22-Jun-2021
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	CLS	BAROMETRIC (mBar):	958
PURPOSE	Routine	START TIME (MST):	10:27
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:32

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	1180030034	965
PARAMETER:	CH4	NMHC	THC
RANGE (ppm):	20	20	40
PREVIOUS CF:	0.998	0.998	0.998

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 168375		HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	CH_4/C_3H_8 (ppm):	914.0	307.0	HIGH EXPIRY:	n/a
ID:	26801218	ID:	132	CYLINDER (psi):	1100		LOW ID:	n/a
MFC CALIBRATION DATE:	09-Apr-2021	OXIDIZER ID:	115	EXPIRY DATE	21-Jan-2028		LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

POINT (CH4/NMHC)	HIGH	MID	LOW	CH4 EQUIVILANCE	
TARGET	14	7	3.5	C_3H_8 as CH_4	844.3
RANGE	12 - 16	6 - 8	2 - 4	THC as CH_4	1758.3

EXPECTED (REFERENCE) VALUE:

INITIAL	CH4	NMHC	THC	FINAL	CH4	NMHC	THC
	9.15	11.46	20.61		9.07	11.28	20.35

CALIBRATION:

FLOW RATE			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
(mL/min)			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC
3100		3100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
3051	49.40	3100	14.57	13.45	28.02	14.80	13.83	28.64	14.54	13.43	27.99	0.984	0.973	0.978	1.002	1.002	1.001
3075	24.70	3100	7.28	6.73	14.01	n/a	n/a	n/a	7.26	6.68	13.94	n/a	n/a	n/a	1.003	1.007	1.005
3088	12.40	3100	3.66	3.38	7.03	n/a	n/a	n/a	3.61	3.27	6.89	n/a	n/a	n/a	1.013	1.033	1.021

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
CH4	1.000	0.999	-0.1%
NMHC	1.000	1.001	-0.2%
THC	1.000	1.000	-0.2%

Comments:

Sample inlet filter was changed.

Use Zero Chrom? **Yes**

Station: Cold Lake South Daily: 06-07-2021 Type: AVG 1 Min. [1 Min.]

Teledyne T640 Audit/Calibration

Date/Previous Audit Date:	July 30, 2021	June 10, 2021	**Weather Conditions:**	Mainly sunny	
Company:	LICA		**Start Time (mst):**	19:40	
Station:	Cold Lake South		**End Time (mst):**	20:21	
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 May 24, 2022
Digital Manometer: DeltaCal DC1 S/N177246 May 24, 2022
Temperature: VAISALA HMP76B/ SN: 170286131 / Apr 22, 2022
Pressure: FS FB61291 / SN: T1640130 / Feb 17, 2022

DIAGNOSTICS:

Ambient Pressure (mmHg)	717.8	Ambient Temp (°C)	22.9	ASC Heater Duty (%)	0.0
Box Temp (°C)	28.9	Current PMT HV (V)	1439	LED Temp (°C)	37.85
P3 Value	48	PMT Setting (V)	1442	Pump PWM (%)	46
Sample Flow (L/min)	4.99	Sample RH (%RH)	33.6	Sample Temp (°C)	28.3

Monthly Audit/Calibration:

Item:	**As-found**		**As-left**		**Tolerance**
	Reference	**T640x**	**Reference**	**T640x**	
Zero Test (Leak Check)	PM10	0.0	PM10	0.0	0.0 to 0.2
	PM2.5	0.0	PM2.5	0.0	
Ambient Pressure (mmHg)	717.0	717.8	717	717.8	+/- 10 mm Hg
Ambient Temperature (°C)	22.57	22.2	n/a		+/- 2°C
Sample Flow (L/min)	5.15	5	5.05	5.02	+/-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	**Performed By:**	Alex Yakupov
Audit Location:	Cold Lake South	**Reviewed By:**	Chris Wesson
Audit Date:	April 20, 2021	**Start/End Time (mst):**	10:19 / 14:44
Calibration Purpose:	installation	**Weather Conditions:**	Mix of sun and clouds

Wind Sensor Information

Sensor ID Data:		**Sensor Outputs:**	
Sensor Make:	RM Young	**Velocity Voltage Output Range:**	n/a
Sensor Model:	05305AQ	**Velocity Unit Output Range:**	0-180
Serial #:	177354	**Direction Voltage Output Range:**	n/a
Previous Cal/Audit Date:	September 25, 2021	**Direction Unit Output Range:**	0-360

Wind Calibrator Information

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

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

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.0	0.0	-
1000	18.4	18.2	18.2	1.013
2000	36.9	36.6	36.6	1.007
3000	55.3	55.1	55.1	1.003
4000	73.7	73.5	73.5	1.003
5000	92.2	92.0	92.0	1.002
6000	110.6	110.4	110.4	1.002
7000	129.0	128.8	128.8	1.002
8000	147.4	147.3	147.3	1.001
9000	165.9	165.7	165.7	1.001
10000	184.3	184.2	184.2	1.001
		The audit meets AMD requirements.	**Average Correction Factor=**	**1.003**

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

Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	0	355	0.1	0.0	0.1
30	330	28	328	1.6	1.7	1.7
60	300	58	299	1.6	1.5	1.6
90	270	89	267	0.6	3.0	1.8
120	240	120	237	0.5	3.3	1.9
150	210	148	207	1.6	3.2	2.4
180	180	177	179	2.9	1.4	2.2
210	150	206	149	3.8	1.3	2.6
240	120	237	119	3.1	0.7	1.9
270	90	267	89	2.8	0.7	1.8
300	60	297	58	2.8	1.7	2.3
330	30	328	28	1.7	2.0	1.8
355	0	355	0	0.0	0.1	0.1
The audit meets AMD requirements.			**Average Absolute Degrees Difference=**			**1.7**

Comments:

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

End of Report

Lakeland Industry & Community Association

JULY 2021

Ambient Air Monitoring Calibration Report

- TAMARACK STATION-

(Formerly Maskwa Station)

CAL-LICA-202107-01248

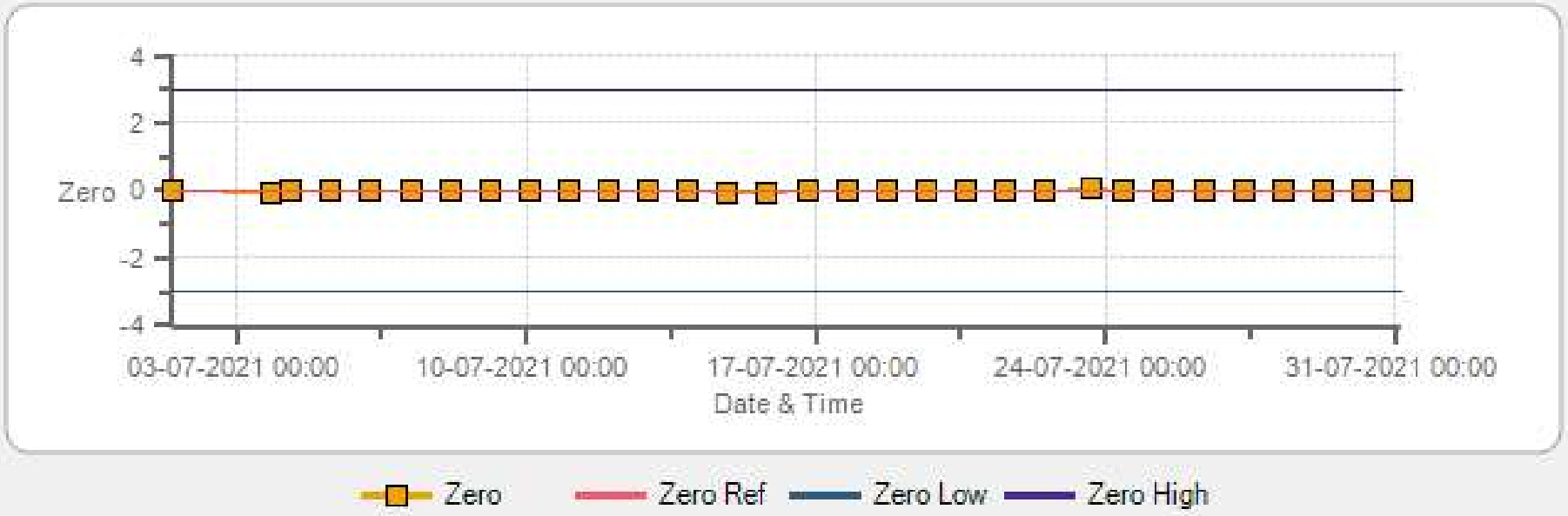
Station Operation and Maintenance:
Bureau Veritas Canada

Data Validation and Report:
LICA / Bureau Veritas Canada

August 18, 2021

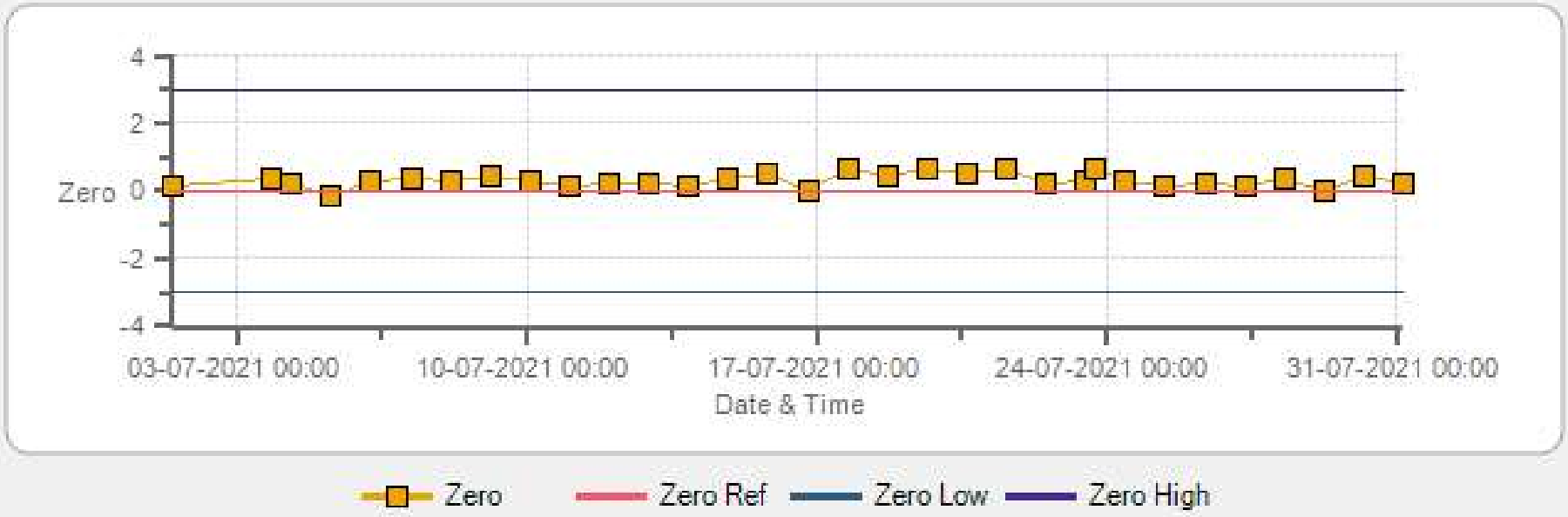
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2[ppb] Calibration: Tamarack Monthly: 07-2021 Type: SpanAndZero - Zero

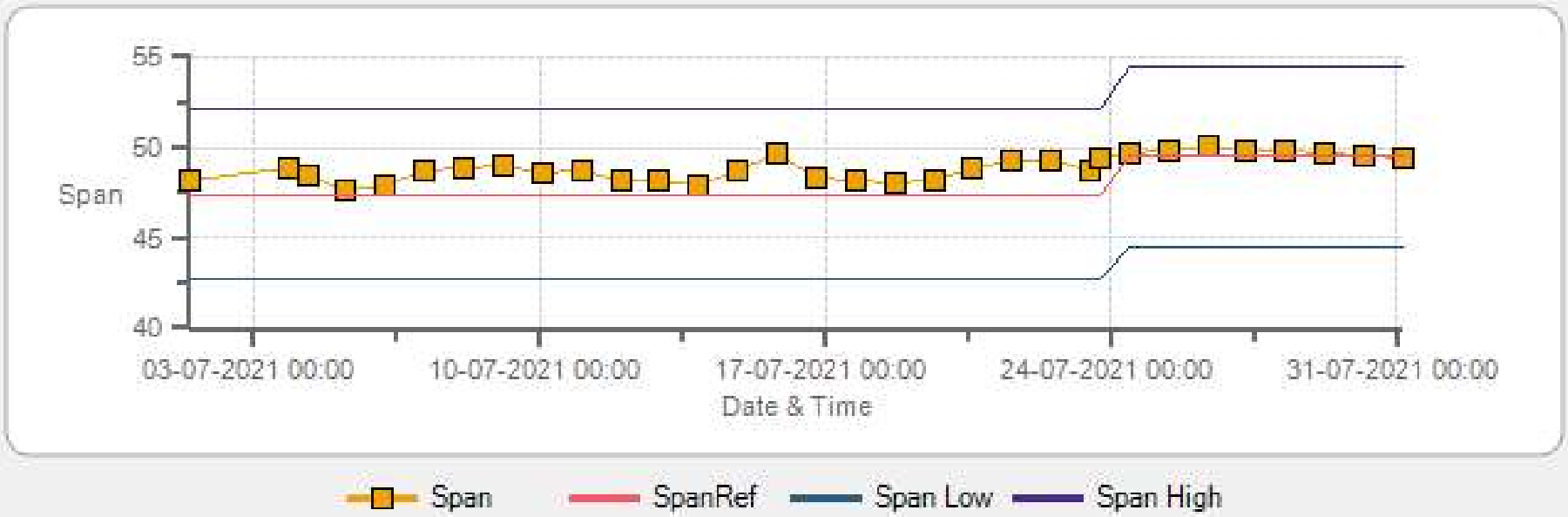


SO2[ppb] Calibration: Tamarack Monthly: 07-2021 Type: SpanAndZero - Span

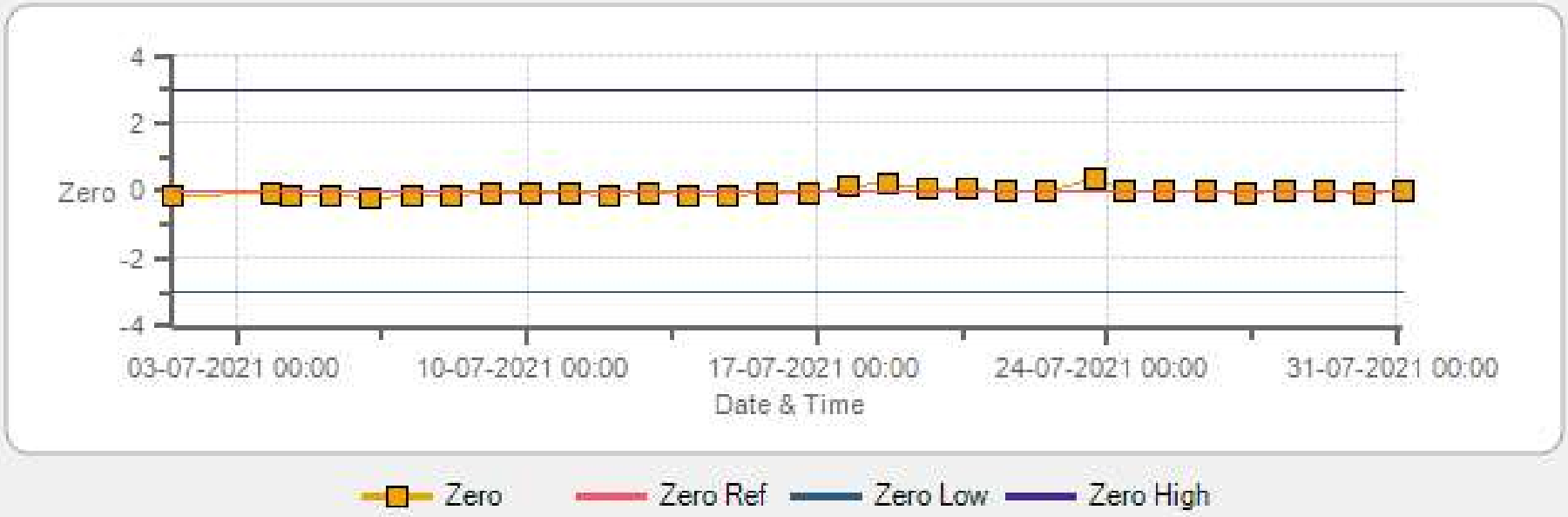
H2S[ppb] Calibration: Tamarack Monthly: 07-2021 Type: SpanAndZero - Zero



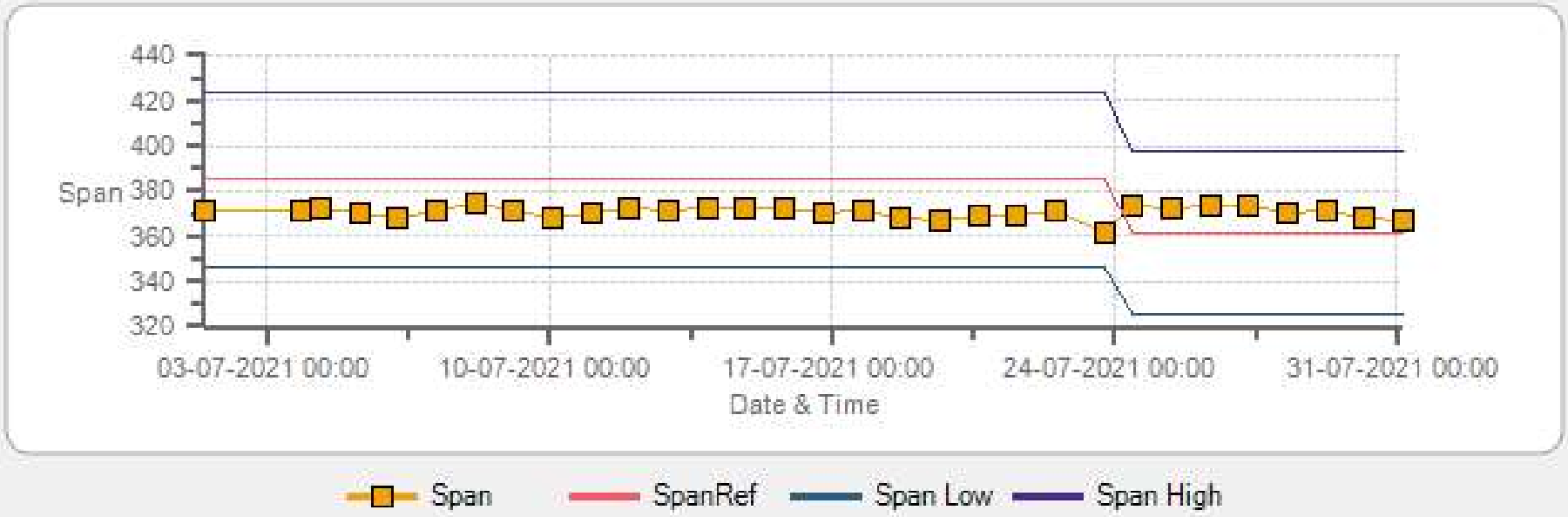
H2S[ppb] Calibration: Tamarack Monthly: 07-2021 Type: SpanAndZero - Span



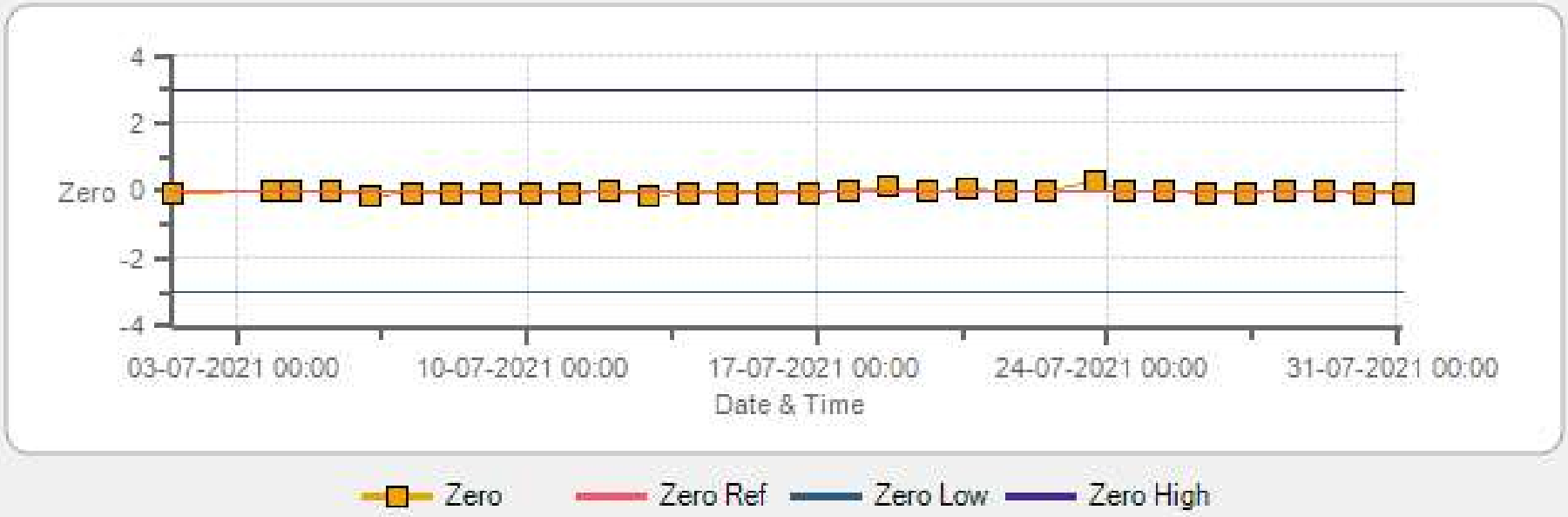
NOX[ppb] Calibration: Tamarack Monthly: 07-2021 Type: SpanAndZero - Zero



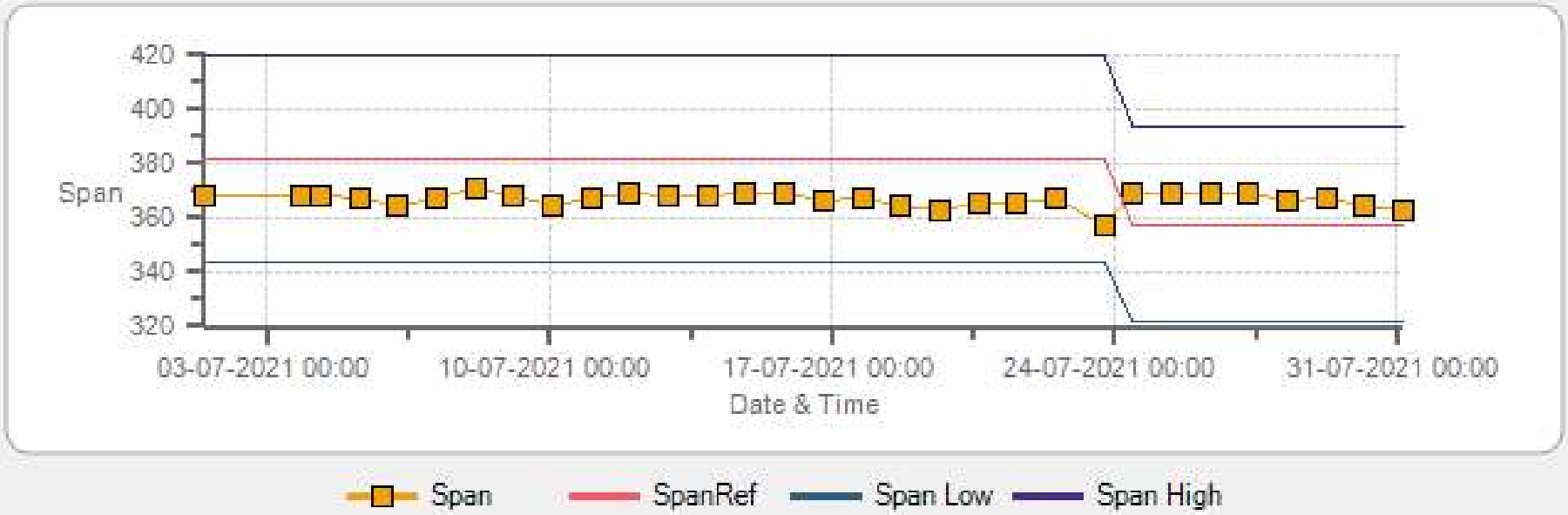
NOX[ppb] Calibration: Tamarack Monthly: 07-2021 Type: SpanAndZero - Span



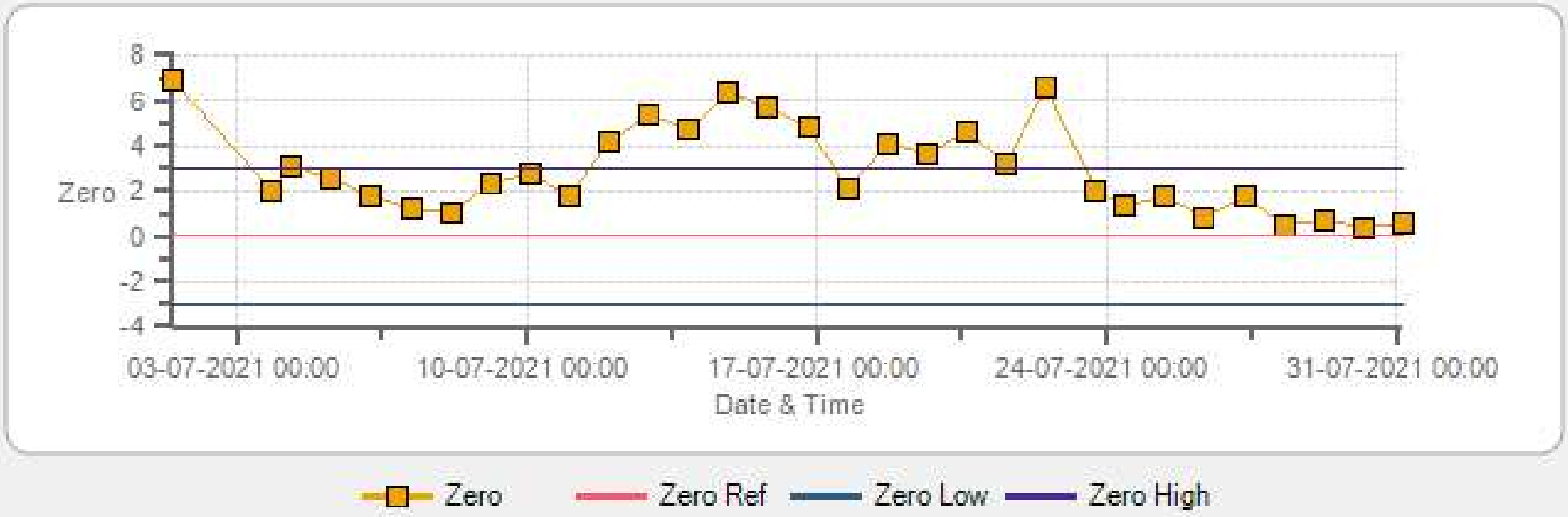
NO2[ppb] Calibration: Tamarack Monthly: 07-2021 Type: SpanAndZero - Zero



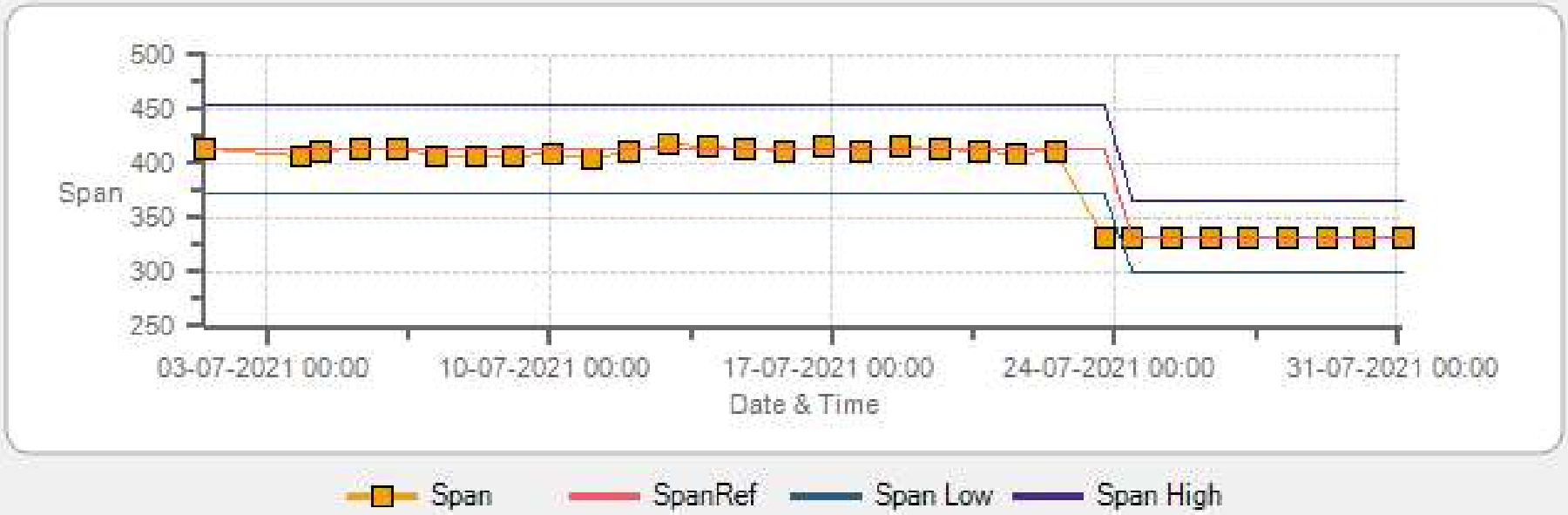
NO2[ppb] Calibration: Tamarack Monthly: 07-2021 Type: SpanAndZero - Span



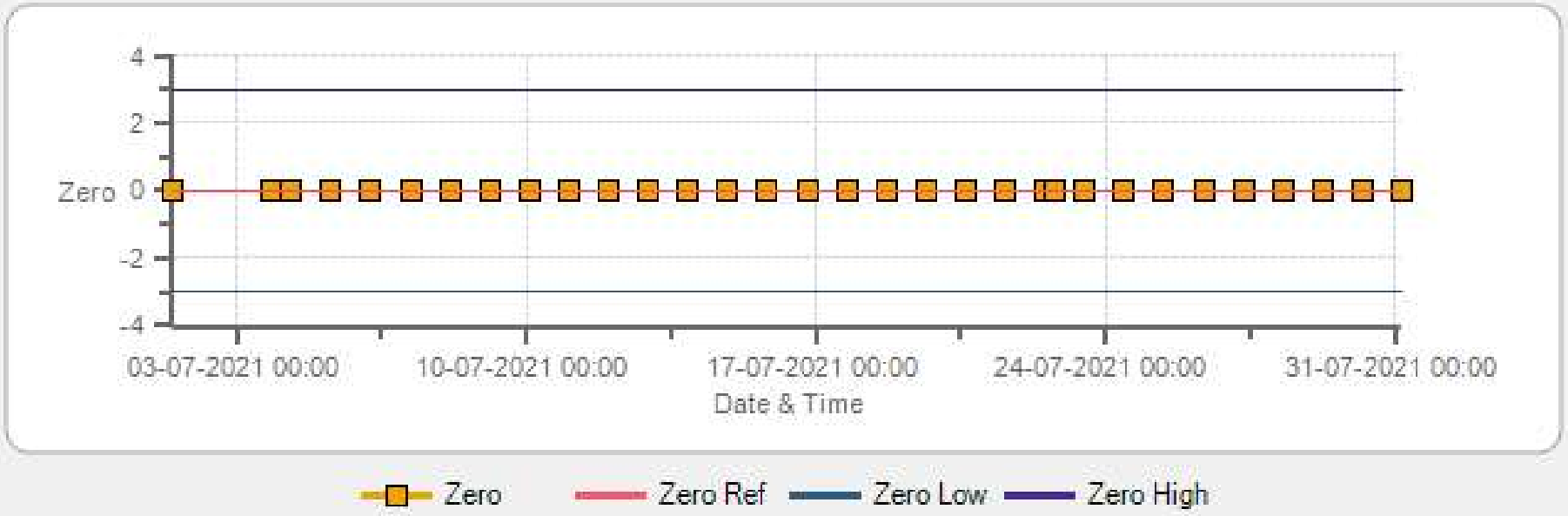
O3[ppb] Calibration: Tamarack Monthly: 07-2021 Type: SpanAndZero - Zero



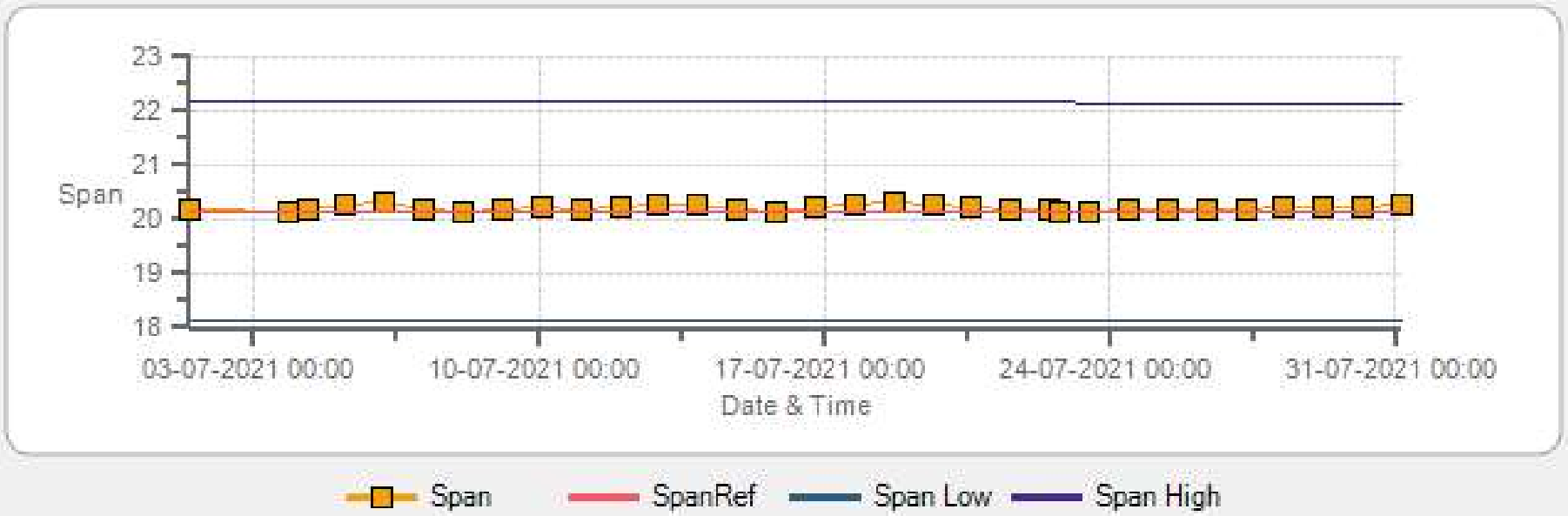
O3[ppb] Calibration: Tamarack Monthly: 07-2021 Type: SpanAndZero - Span



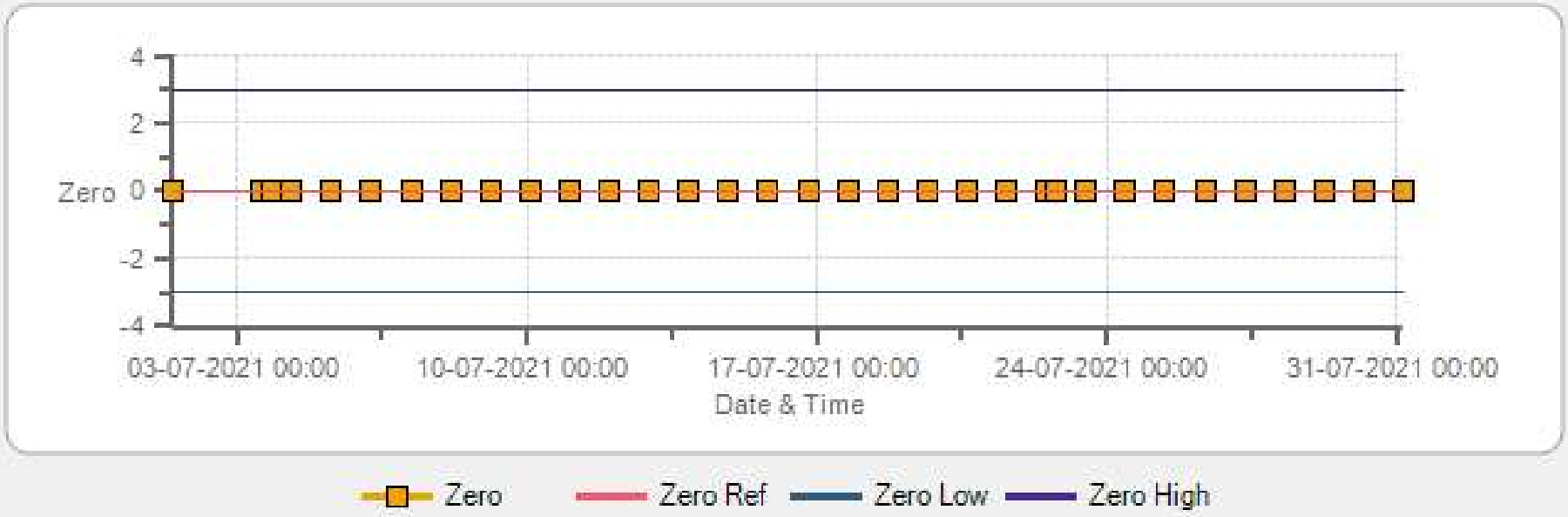
THC55[ppm] Calibration: Tamarack Monthly: 07-2021 Type: SpanAndZero - Zero



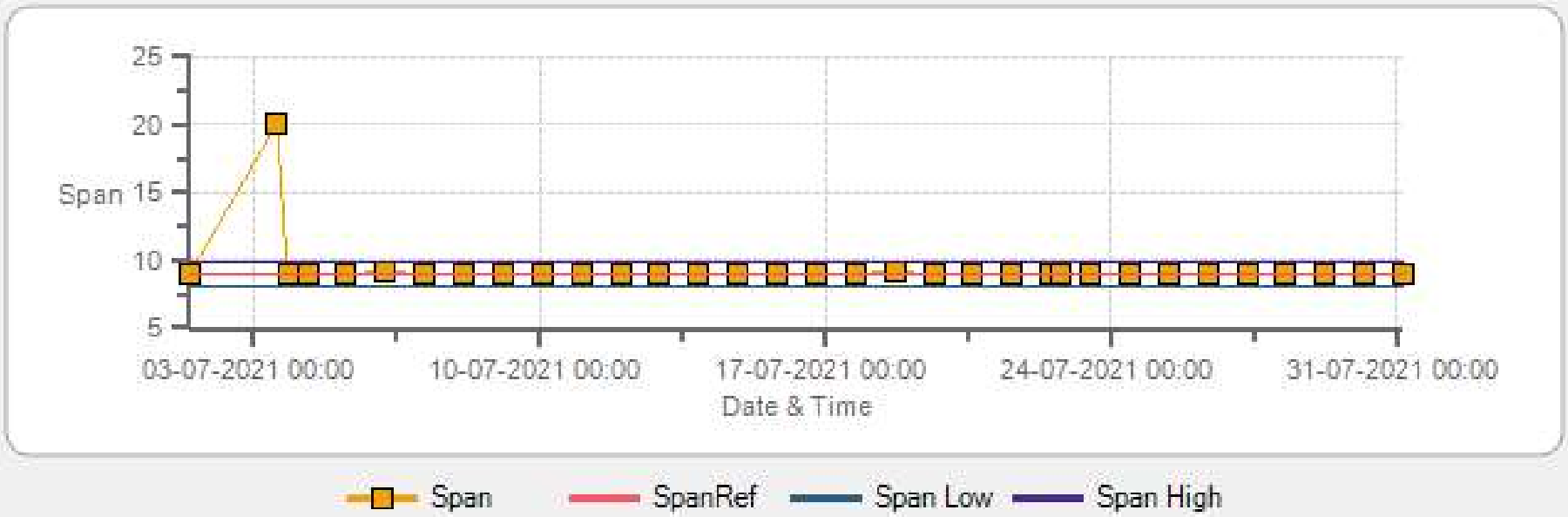
THC55[ppm] Calibration: Tamarack Monthly: 07-2021 Type: SpanAndZero - Span



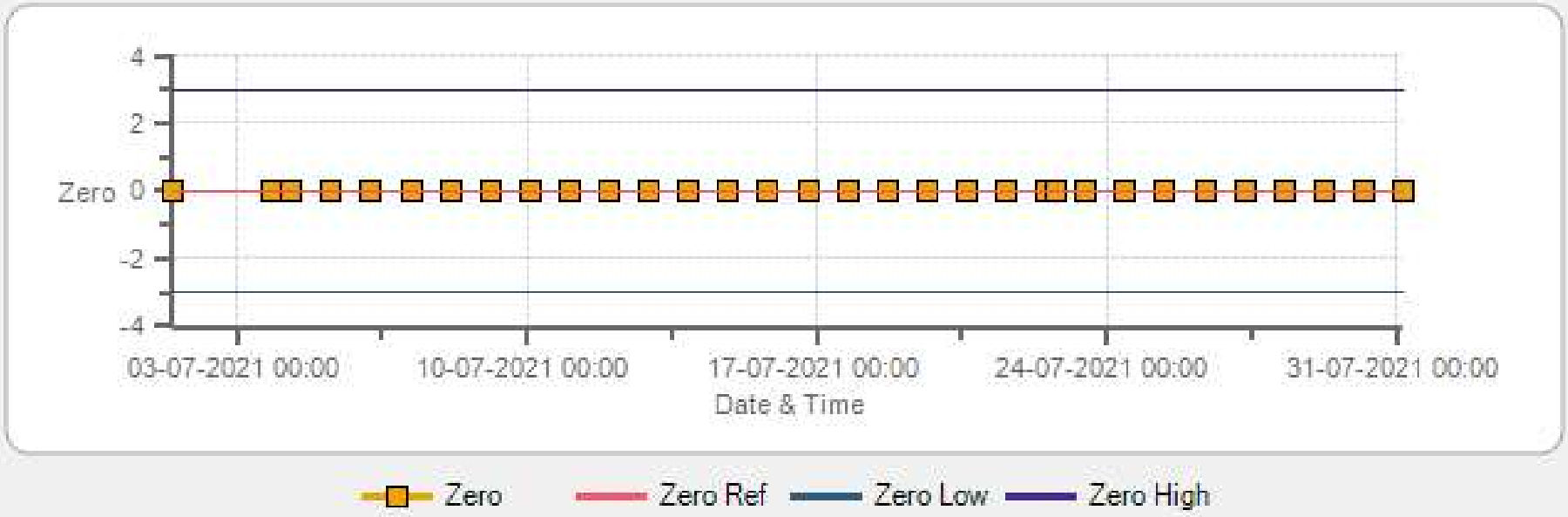
CH4[ppm] Calibration: Tamarack Monthly: 07-2021 Type: SpanAndZero - Zero



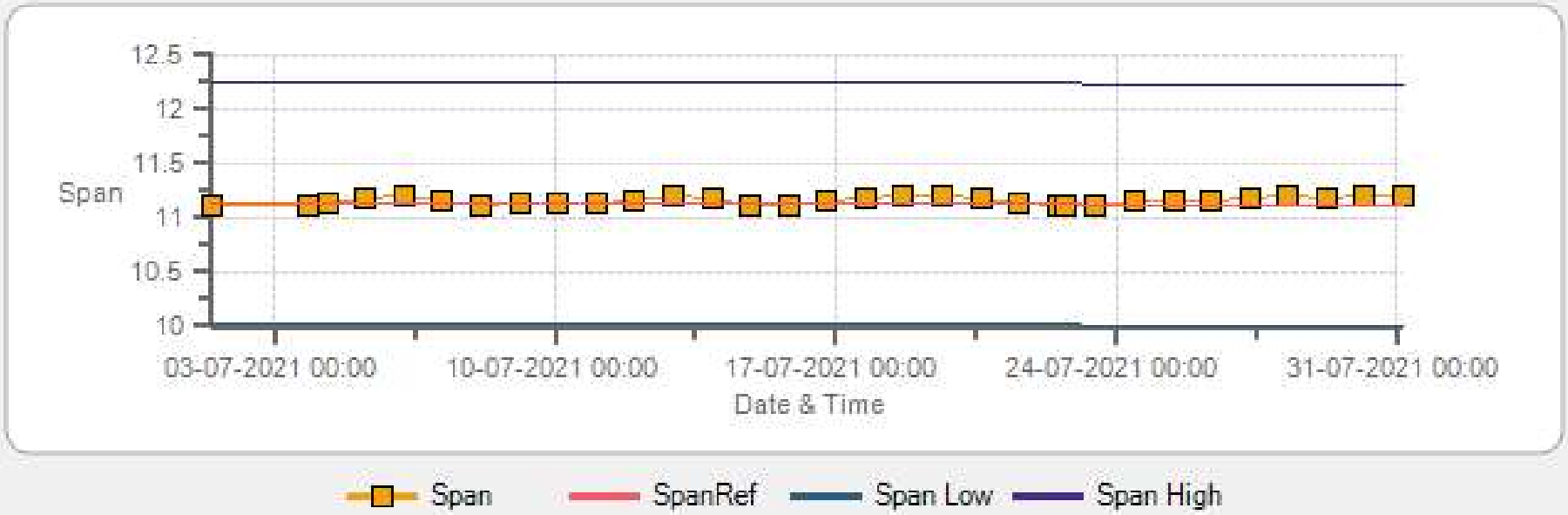
CH4[ppm] Calibration: Tamarack Monthly: 07-2021 Type: SpanAndZero - Span



NMHC[ppm] Calibration: Tamarack Monthly: 07-2021 Type: SpanAndZero - Zero



NMHC[ppm] Calibration: Tamarack Monthly: 07-2021 Type: SpanAndZero - Span



MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution

DATE:	23-Jul-2021	PREVIOUS CALIBRATION DATE:	10-Jun-2021
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	1.001
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Tamarack	BAROMETRIC (mBar):	931
PURPOSE	Routine	START TIME (MST):	10:40
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:15

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1180930031	FLOW (mL/min)	449
INITIAL		FINAL	
BKG/OFFSET	2.34	BKG/OFFSET	2.39
COEF/SLOPE	0.928	COEF/SLOPE	0.946
Expected (reference) Value	336.5	Expected (reference) Value	328.8

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010	MODEL:	T701
ID:	26801218	ID:	132
MFC CALIBRATION DATE:	09-Apr-2021	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0000851	HIGH ID	n/a
CONC (ppm):	51.60	EXPIRY DATE	n/a
CYLINDER (psi):	150	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	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
5000		5000	0.00	0	0.2		
4959	38.70	4998	399.54	388.3	399.8	1.029	1.000
4980	17.60	4998	181.70	n/a	182	n/a	0.999
4989	8.80	4998	90.85	n/a	91	n/a	1.001

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	0.0%

COMMENTS:

11:20 - Daily ZS check. As Found high restarted at 11:34.
13:24 - Operator error (Zero Air disconnected). Mid Point restarted.
Sample inlet filter was changed.


SO2[ppb] Station: Tamarack Daily: 23-07-2021 Type: AVG 1 Min. [1 Min.]
450
400
350
300
250
200
150
100
50
0
SO2 [ppb]
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time
SO2 [ppb]

H2S Analyzer Calibration by Dilution

DATE:	23-Jul-2021	PREVIOUS CALIBRATION DATE:	10-Jun-2021
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Tamarack	BAROMETRIC (mBar):	931
PURPOSE	Routine	START TIME (MST):	13:18
PERFORMED BY:	Alex Yakupov	END TIME (MST):	17:44

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	CM 17360005	FLOW (mL/min)	856
INITIAL		FINAL	
BKG/OFFSET	26.8	BKG/OFFSET	27.9
COEF/SLOPE	0.778	COEF/SLOPE	0.804
Expected (reference) Value	47.4	Expected (reference) Value	49.5

CALIBRATION SYSTEM:

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

CALIBRATION PARAMETERS:

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

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

START TIME:	13:24	SO2 Conc (ppb)	380
END TIME:	13:39	Analyzer Response (ppb)	0.0

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
7500		7500	0.00	0.3	0		
7442	58.50	7500	78.00	77.6	78.2	1.009	0.997
7472	28.50	7500	38.00	n/a	38	n/a	1.000
7486	14.20	7500	18.93	n/a	18.4	n/a	1.029

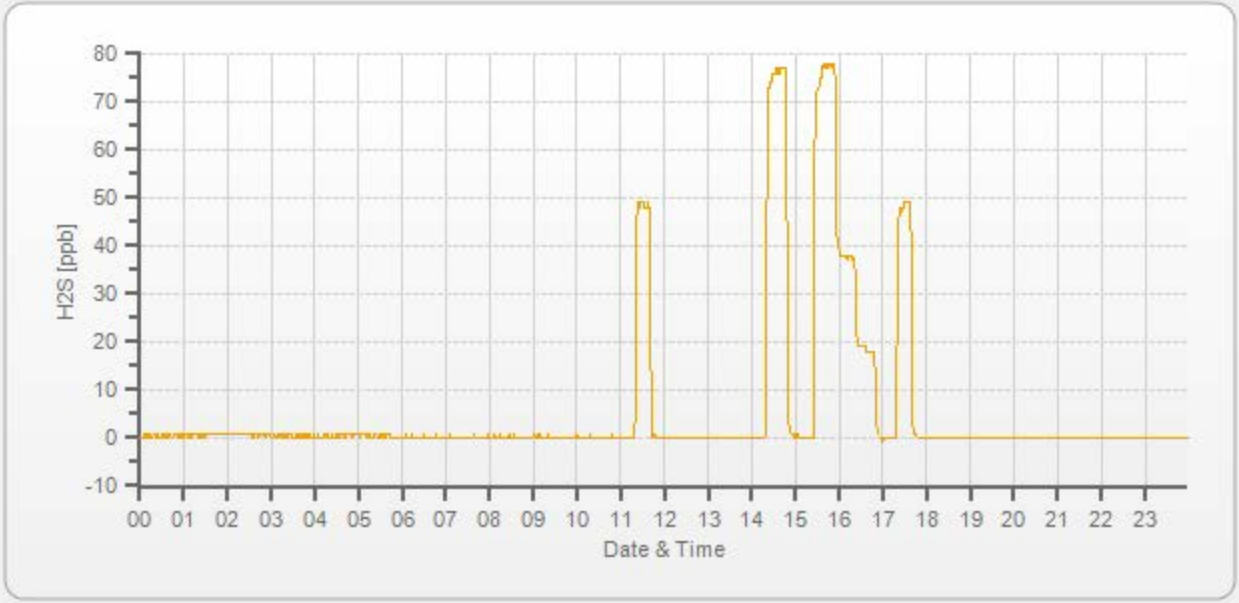
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.005	-0.3%

COMMENTS:

Sample inlet filter was changed.

H2S[ppb] Station: Tamarack Daily: 23-07-2021 Type: AVG 1 Min. [1 Min.]



NOx Calibration by Dilution/Gas-Phase Titration

CALIBRATION:

				ANALYZER:			
DATE:	23-Jul-2021	PREVIOUS CALIBRATION DATE:	10-Jun-2021	MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
CLIENT:	LICA	TEMPERATURE (°C):	22.0	SERIAL #:	1180930028	NOx	0.999
LOCATION:	Tamarack	BAROMETRIC (mBar):	931	FLOW (mL/min)	481	NO	1.000
PURPOSE	Routine	START TIME (MST):	10:42	RANGE (ppb)	500	NO2	1.000
PERFORMED BY:	Alex Yakupov	END TIME (MST):	17:44	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):	150		LOW ID:	n/a
MFC CALIBRATION DATE:	09-Apr-2021	OXIDIZER ID:	n/a	EXPIRY DATE	24-Feb-2028		LOW EXPIRY:	n/a

CALIBRATION SETTINGS:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
BKG/OFFSET:	3.1	2.9	n/a	BKG/OFFSET:	3.1	2.9	n/a
SLOPE/COEF/CE:	1.006	1.032	1	SLOPE/COEF/CE:	1.005	1.04	1

EXPECTED (REFERENCE) VALUE:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	385.0	3.2	381.8		361.4	3.8	357.6

CALIBRATION PARAMETERS:

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

NO/NOx CALIBRATION:

FLOW RATE (mL/min)			CONCENTRATION (ppb)									CORRECTION FACTOR (CF.)					
			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2
5000		5000	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0						
4959	38.70	4998	394.1	395.7	1.5	390.7	394.5	2.8	393.6	396.1	2.5	1.009	1.003		1.002	0.999	
4980	17.60	4998	179.2	179.9	0.7	n/a	n/a	n/a	180.9	182.0	1.0	n/a	n/a		0.991	0.989	
4989	8.80	4998	89.6	90.0	0.4	n/a	n/a	n/a	91.2	91.7	0.4	n/a	n/a		0.984	0.982	

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	394.4	396.5	2.1				
AS-FOUND HIGH	38.70	4997	240	146.9	396.2	249.2	247.5	247.1	1.002	99.84%
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	264.7	396.5	131.8	129.7	129.7	1.000	100.00%
LOW	38.70	4997	45	350.1	396.5	46.4	44.3	44.3	1.000	100.00%
NO2 adjustment not required.									AVERAGE:	99.95%

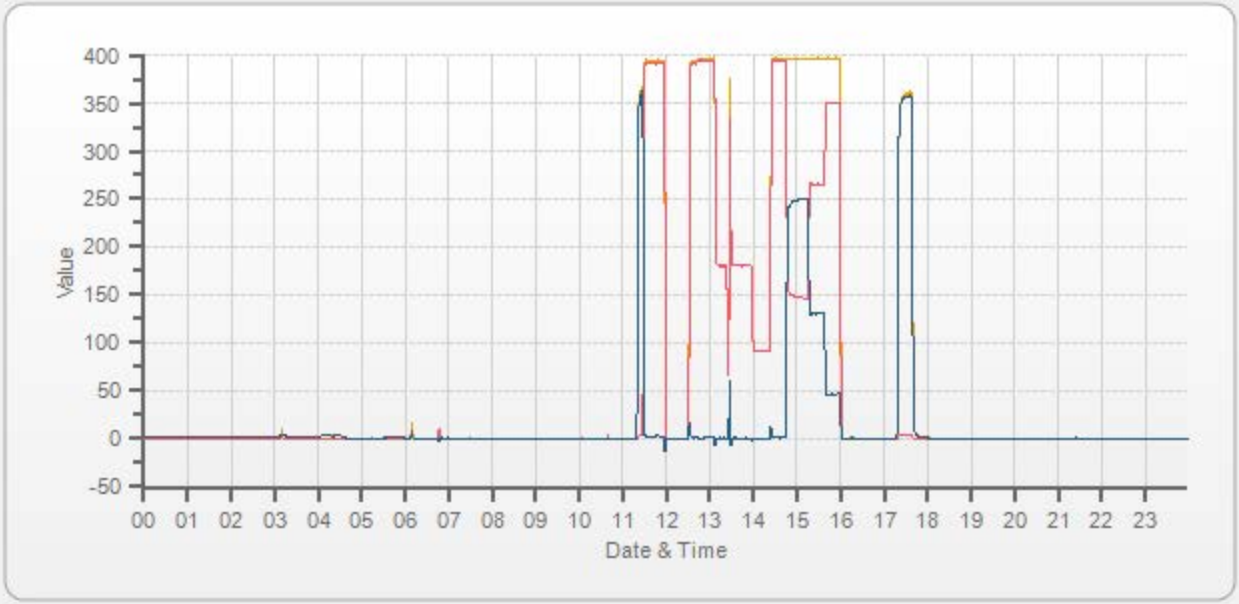
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
NO	1.000	0.997	0.23%
NOx	1.000	1.000	0.22%
NO2	1.000	0.998	0.03%

COMMENTS:

11:20 - Daily ZS check. As Found high restarted at 11:34.
13:24 - Operator error (Zero Air disconnected). Mid Point restarted.
Sample inlet filter was changed.

Station: Tamarack Daily: 23-07-2021 Type: AVG 1 Min. [1 Min.]



Ozone Calibration by Photometer (Varying UV Lamp)

DATE:	22-Jul-2021	PREVIOUS CALIBRATION DATE:	28-Jun-2021
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	0.996
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Tamarack	BAROMETRIC (mBar):	934
PURPOSE	Removal/Shut-down	START TIME (MST):	14:05
PERFORMED BY:	Alex Yakupov	END TIME (MST):	16:06

ANALYZER:

MAKE/MODEL	Thermo 49iQ	RANGE	500 ppb
SERIAL #	1202068570	FLOW (mL/min)	1340
INITIAL		FINAL	
BKG/OFFSET	3.2	BKG/OFFSET	n/a
COEF/SLOPE	1.034	COEF/SLOPE	n/a
Expected (reference) Value	413	Expected (reference) Value	n/a

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	09-Apr-2021	OXIDIZER ID:	n/a
	CALIBRATION METHOD:	Photometer (Varying UV Lamp)	
GPT DATE:	n/a	GPT END TIME:	n/a

CALIBRATION PARAMETERS:

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

CALIBRATION:

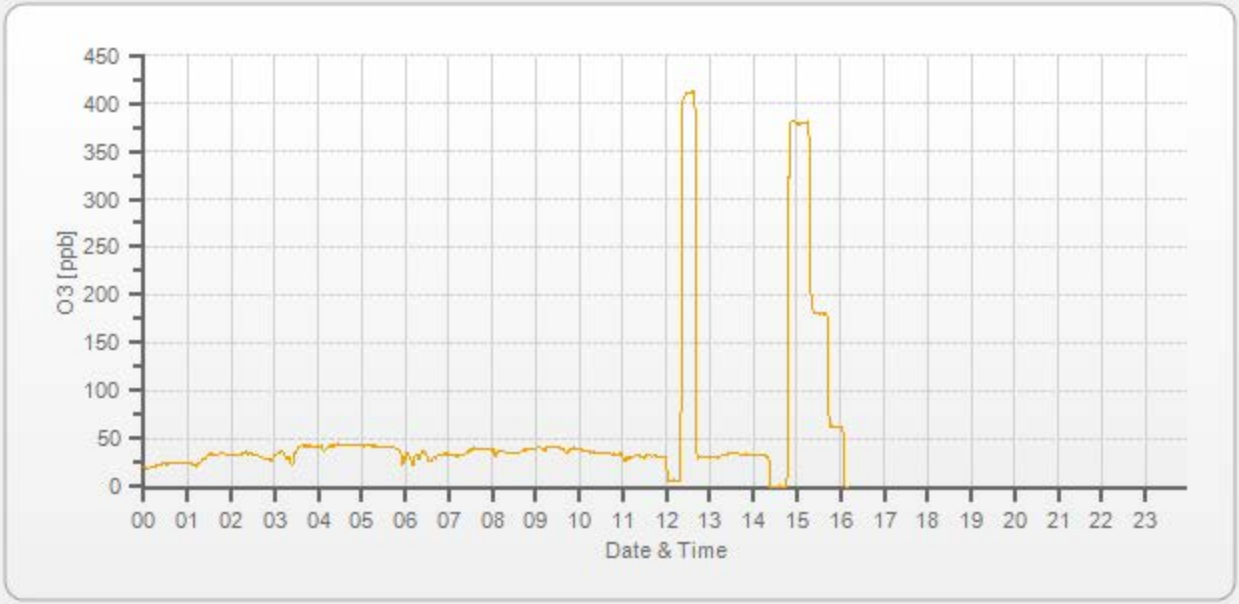
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
5000		5000	0.0	0.6	n/a		
5000		5000	378.0	379.1	n/a	0.999	n/a
5000		5000	180.0	180.7	n/a	0.999	n/a
5000		5000	61.0	62.9	n/a	0.979	n/a

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	0.2%

COMMENTS:

Shutdown calibration was completed to replace the analyzer for repair due to unstable zero (internal ZS check).


O3[ppb] Station: Tamarack Daily: 22-07-2021 Type: AVG 1 Min. [1 Min.]
O3 [ppb]
450
400
350
300
250
200
150
100
50
0
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time
O3 [ppb]

Ozone Calibration by Photometer (Varying UV Lamp)

DATE:	23-Jul-2021	PREVIOUS CALIBRATION DATE:	n/a
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	n/a
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Tamarack	BAROMETRIC (mBar):	931
PURPOSE	Install/Post-Repair	START TIME (MST):	10:19
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:06

ANALYZER:

MAKE/MODEL	API 400A	RANGE	500 ppb
SERIAL #	445	FLOW (mL/min)	813
INITIAL		FINAL	
BKG/OFFSET	n/a	BKG/OFFSET	-2.3
COEF/SLOPE	n/a	COEF/SLOPE	0.983
Expected (reference) Value	n/a	Expected (reference) Value	332.4

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	09-Apr-2021	OXIDIZER ID:	n/a
	CALIBRATION METHOD:	Photometer (Varying UV Lamp)	
GPT DATE:	n/a	GPT END TIME:	n/a

CALIBRATION PARAMETERS:

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

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
5000		5000	0.0	n/a	0.2		
5000		5000	378.0	n/a	377.9	n/a	1.001
5000		5000	180.0	n/a	180.9	n/a	0.996
5000		5000	61.0	n/a	62.4	n/a	0.981

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.998	0.2%

COMMENTS:

11:20 - scheduled ZS check interfered with the calibration. High Point starts at 11:34
Post-calibration ZS check delayed due to datalogger issue


O3[ppb] Station: Tamarack Daily: 23-07-2021 Type: AVG 1 Min. [1 Min.]
O3 [ppb]
500
450
400
350
300
250
200
150
100
50
0
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time
O3 [ppb]

Methane/Non-Methane Analyzer Calibration by Dilution

CALIBRATION:

DATE:	22-Jul-2021	PREVIOUS CALIBRATION DATE:	28-Jun-2021
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Tamarack	BAROMETRIC (mBar):	934
PURPOSE	Routine	START TIME (MST):	14:10
PERFORMED BY:	Alex Yakupov	END TIME (MST):	17:48

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	1314057759	1015
PARAMETER:	CH4	NMHC	THC
RANGE (ppm):	20	20	40
PREVIOUS CF:	0.999	1.004	1.001

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 168375		HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	CH_4/C_3H_8 (ppm):	914.0	307.0	HIGH EXPIRY:	n/a
ID:	26801218	ID:	132	CYLINDER (psi):	1000		LOW ID:	n/a
MFC CALIBRATION DATE:	09-Apr-2021	OXIDIZER ID:	115	EXPIRY DATE	21-Jan-2028		LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

POINT (CH4/NMHC)	HIGH	MID	LOW	CH4 EQUIVILANCE	
TARGET	14	7	3.5	C_3H_8 as CH_4	844.3
RANGE	12 - 16	6 - 8	2 - 4	THC as CH_4	1758.3

EXPECTED (REFERENCE) VALUE:

INITIAL	CH4	NMHC	THC	FINAL	CH4	NMHC	THC
	9.01	11.14	20.15		9.01	11.12	20.13

CALIBRATION:

FLOW RATE (mL/min)			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC
3100		3100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
3051	49.40	3100	14.57	13.45	28.02	14.61	13.42	28.03	14.56	13.42	27.98	0.997	1.002	1.000	1.000	1.002	1.001
3075	24.70	3100	7.28	6.73	14.01	n/a	n/a	n/a	7.26	6.67	13.93	n/a	n/a	n/a	1.003	1.009	1.006
3088	12.40	3100	3.66	3.38	7.03	n/a	n/a	n/a	3.60	3.29	6.89	n/a	n/a	n/a	1.016	1.026	1.021

LINEAR REGRESSION ANALYSIS:

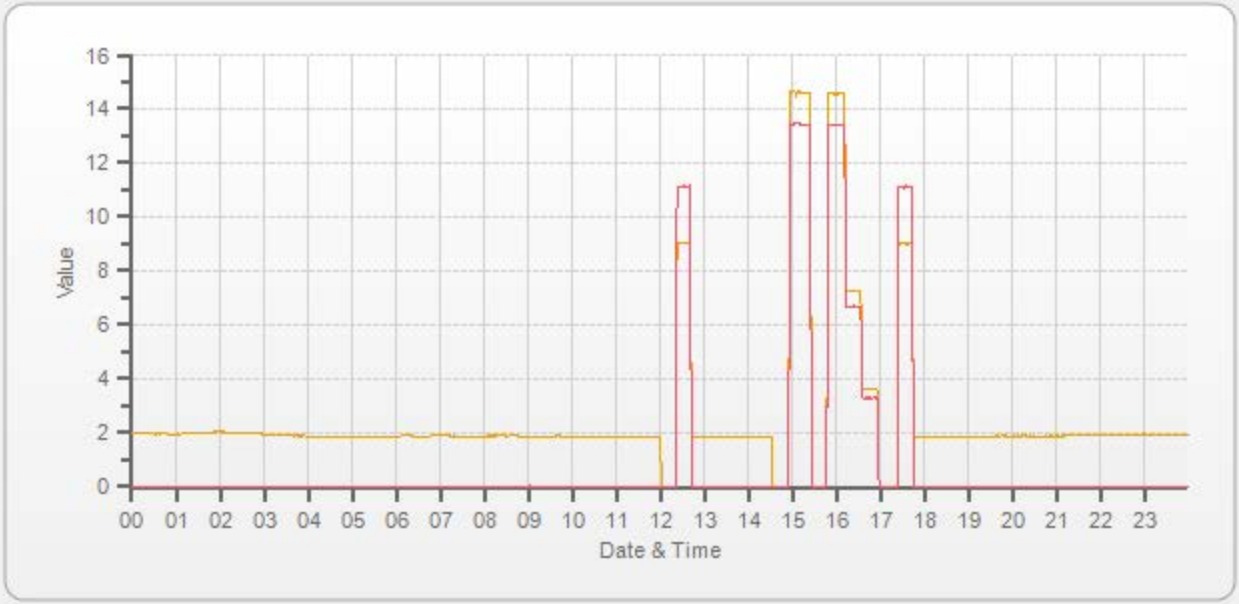
	CORRELATION	SLOPE	INTERCEPT
CH4	1.000	1.001	-0.1%
NMHC	1.000	0.999	-0.2%
THC	1.000	1.000	-0.2%

Comments:

Sample inlet filter was changed.

Use Zero Chrom? **Yes**

Station: Tamarack Daily: 22-07-2021 Type: AVG 1 Min. [1 Min.]



Thermo 5030 SHARP Monitor Monthly Check

Date:	July 27, 2021	**Performed By/Reviewer:**	Alex Yakupov | Chris Wesson
Company:	LICA	**Start Time (mst):**	18:34
Station Name/Location:	Tamarack	**End Time (mst):**	19:21
Previous Audit Date:	June 28, 2021	**Calibration Purpose:**	routine monthly
Parameter:	PM 2.5	**Weather Conditions:**	Mainly sunny

SHARP Information and Status:

Serial Number:	CM-2209	**Status:**	0.00
Approx Tape remaining:	2/10	**Error Code:**	0.00

Reference Standards:

Air Flow

	Manometer	Orifice	Pressure:	Temperature:
Make:	Dwyer	Chinook Eng.	Fisher Scientific	VAISALA
Model:	475-0-FM	FTS Flow Cell	FB61291	HMP76B
Serial Number:	BV #3	BV#4/ 170101	130168457	T1640130
Calibration Expiration Date:	February 17, 2022	May 12, 2022	February 17, 2022	April 22, 2022

As found temperature and pressure:

	Tolerance +/- 4°C		**Tolerance +/- 13.33 hPa**
SHARP T1 °C:	23.0	**SHARP P3 (hPa):**	941.000
Reference °C:	24.1	**Reference (hPa):**	940.000
Difference °C:	1.1	**Difference (hPa) :**	1.000

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

	Tolerance +/- 4°C		**Tolerance +/- 13.33 hPa**
SHARP T1 °C:	23.0	**SHARP P3 (hPa):**	941.000
Reference °C:	24.1	**Reference (hPa):**	940.000
Difference °C:	1.1	**Difference :**	1.000

As found flows:

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

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

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

Inlet Assembly:

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

Comments:

Leak check: 16.66 vs 16.57, 0.08 < 0.80 lpm, passed.

Meteorological Sensor Audit/Calibration

Location Information

Company:	LICA	**Performed By:**	Alex Yakupov
Audit Location:	Maskwa	**Reviewed By:**	Chris Wesson
Audit Date:	September 10, 2020	**Start/End Time (mst):**	14:51 / 17:06
Calibration Purpose:	routine annual	**Weather Conditions:**	Mix of sun and clouds

Wind Sensor Information

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

JULY 2021

Ambient Air Monitoring Calibration Report

- ST. LINA STATION-

CAL-LICA-202107-01250

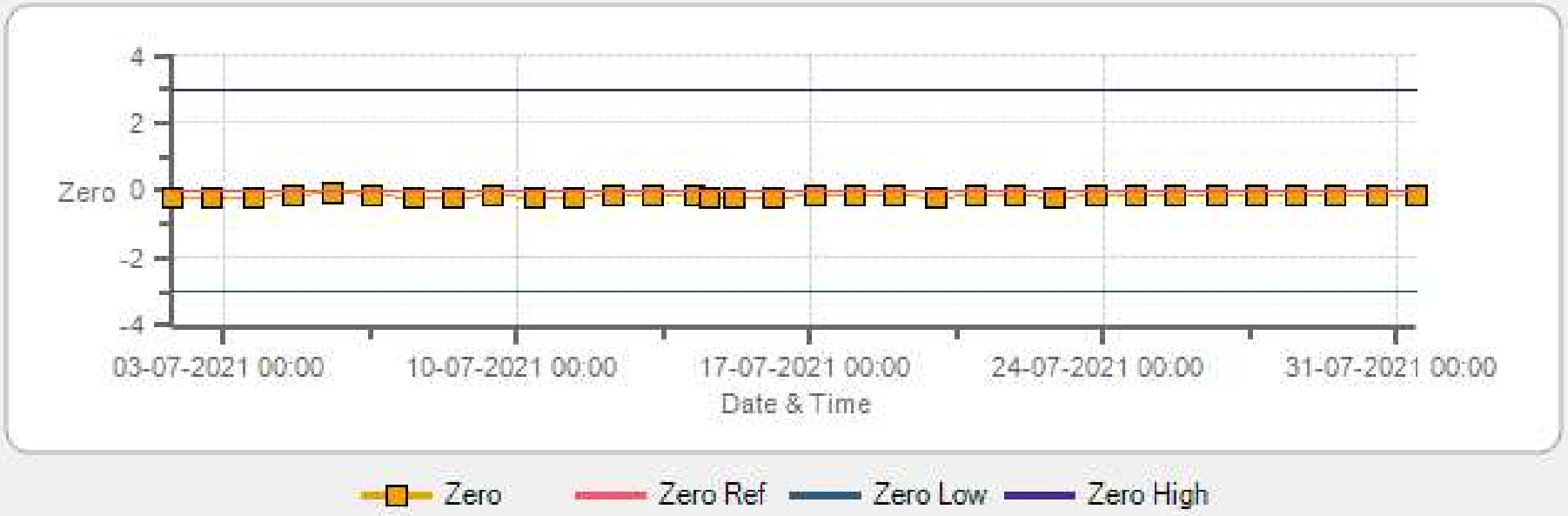
Station Operation and Maintenance:
Bureau Veritas Canada

Data Validation and Report:
LICA / Bureau Veritas Canada

August 18, 2021

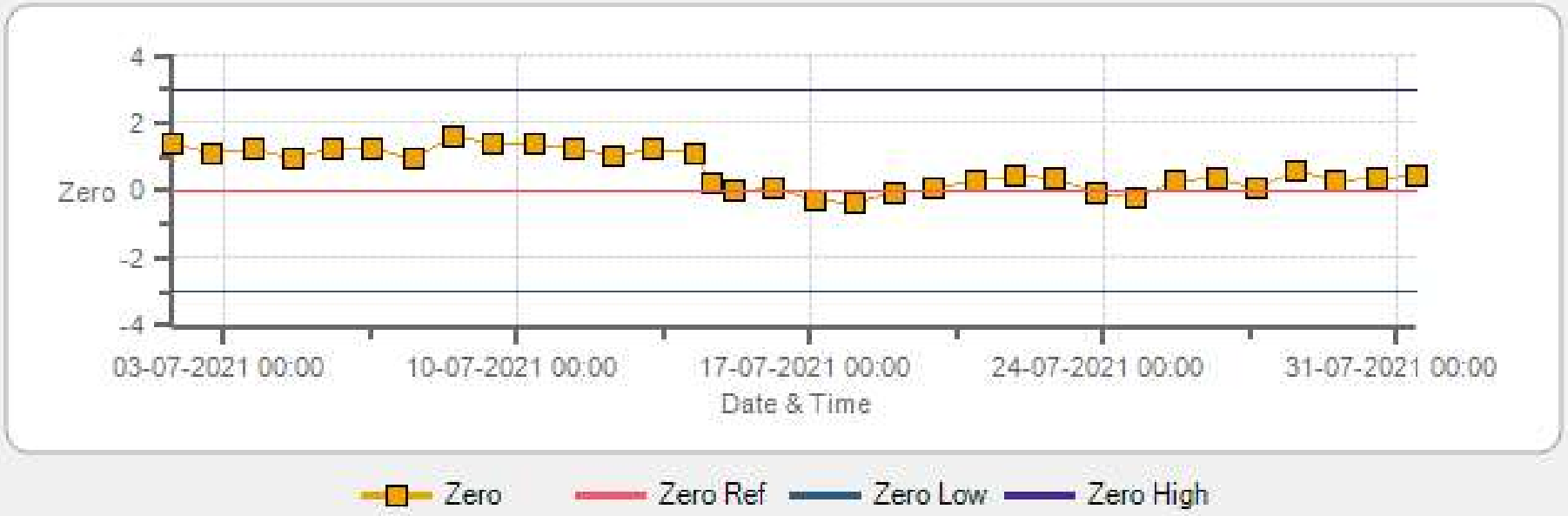
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2[ppb] Calibration: St. Lina Monthly: 07-2021 Type: SpanAndZero - Zero

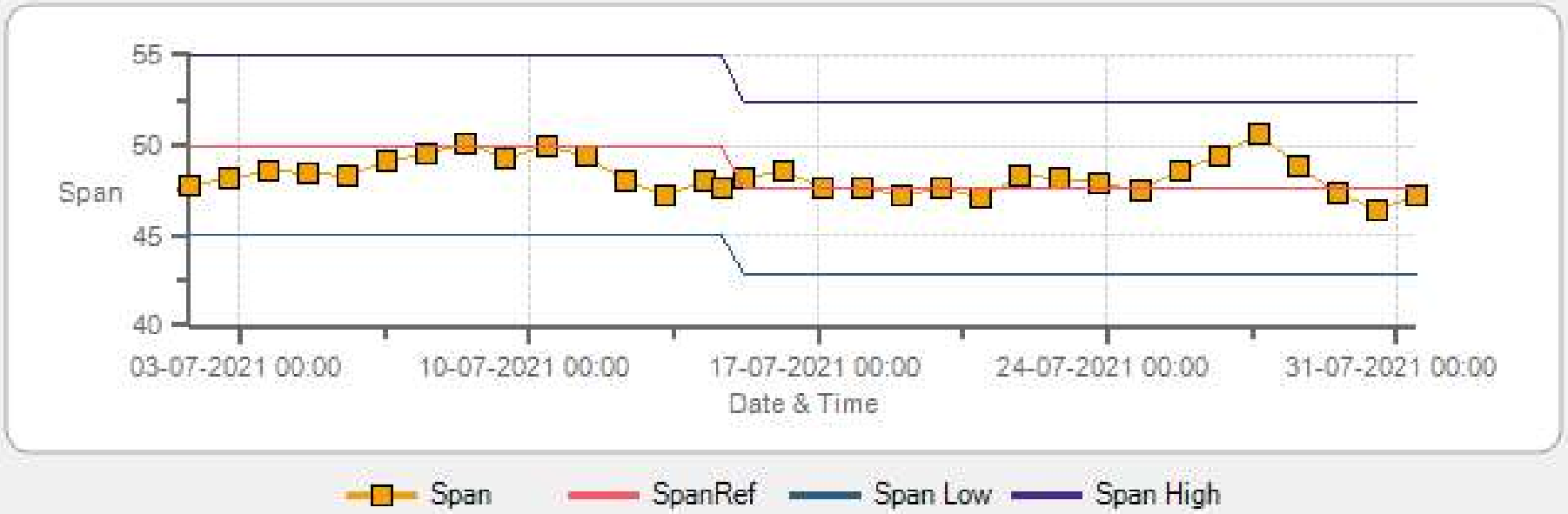


SO2[ppb] Calibration: St. Lina Monthly: 07-2021 Type: SpanAndZero - Span

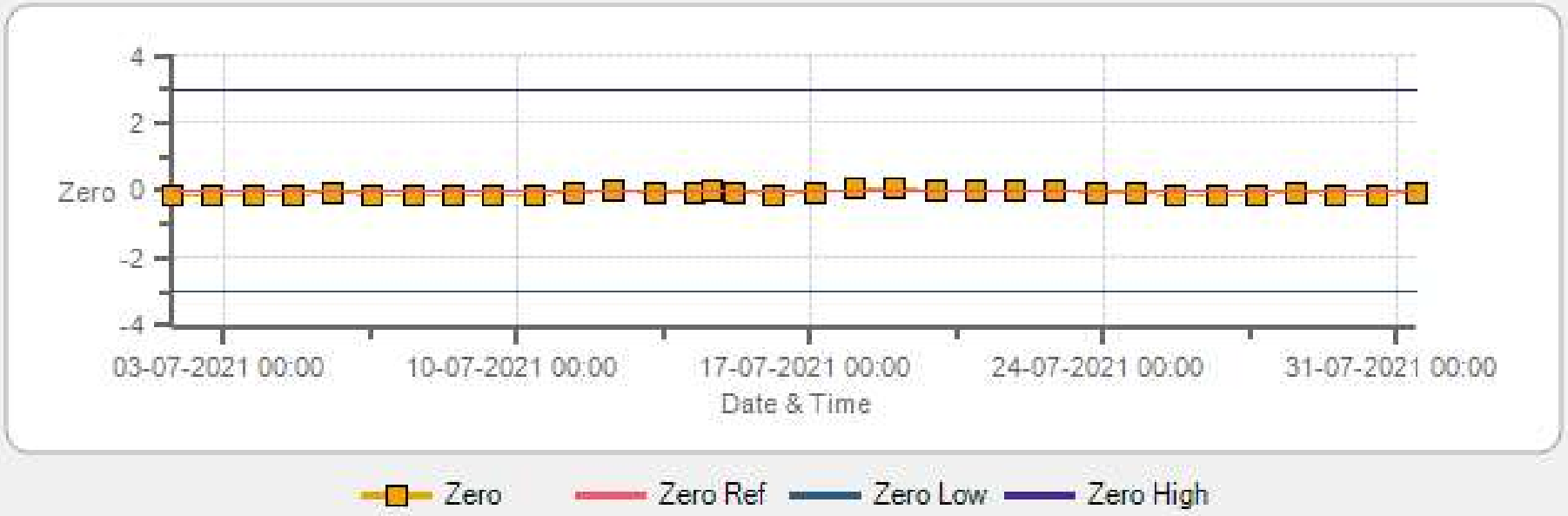
H2S[ppb] Calibration: St. Lina Monthly: 07-2021 Type: SpanAndZero - Zero



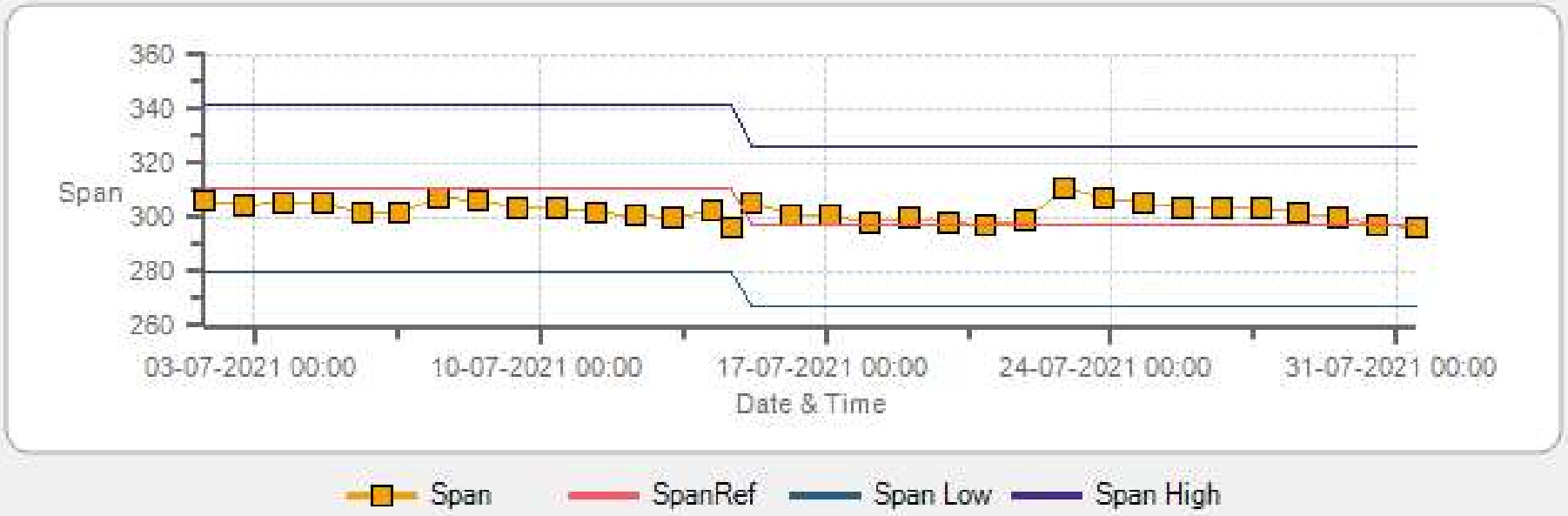
H2S[ppb] Calibration: St. Lina Monthly: 07-2021 Type: SpanAndZero - Span



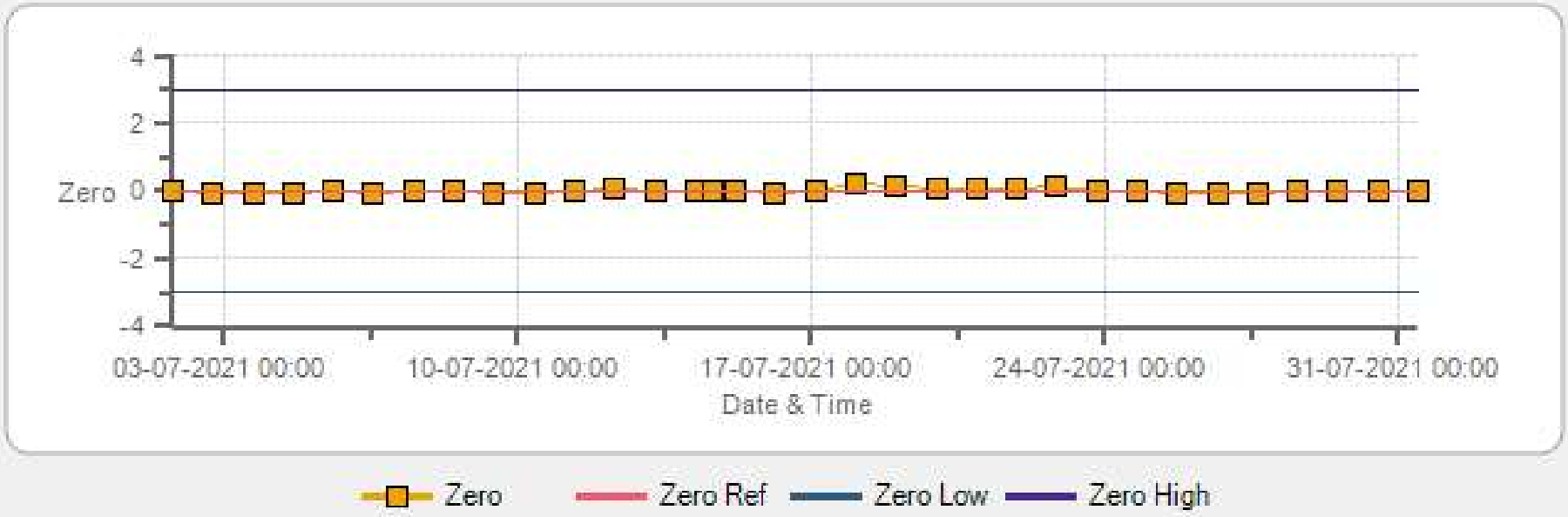
NOX[ppb] Calibration: St. Lina Monthly: 07-2021 Type: SpanAndZero - Zero



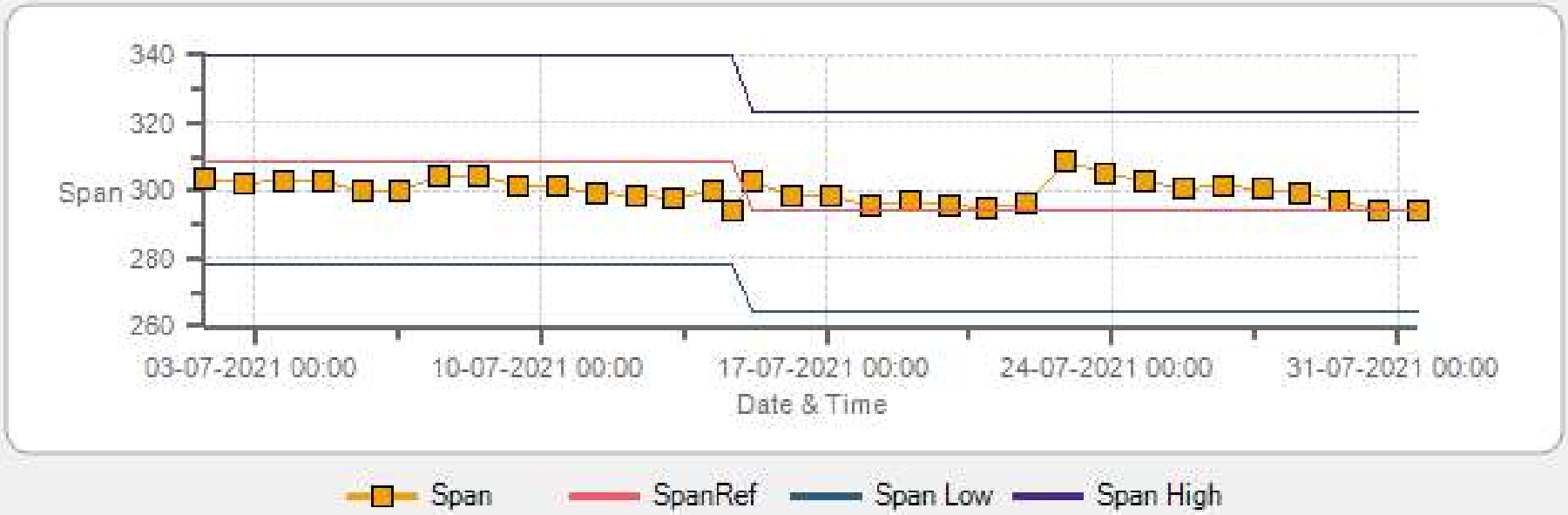
NOX[ppb] Calibration: St. Lina Monthly: 07-2021 Type: SpanAndZero - Span



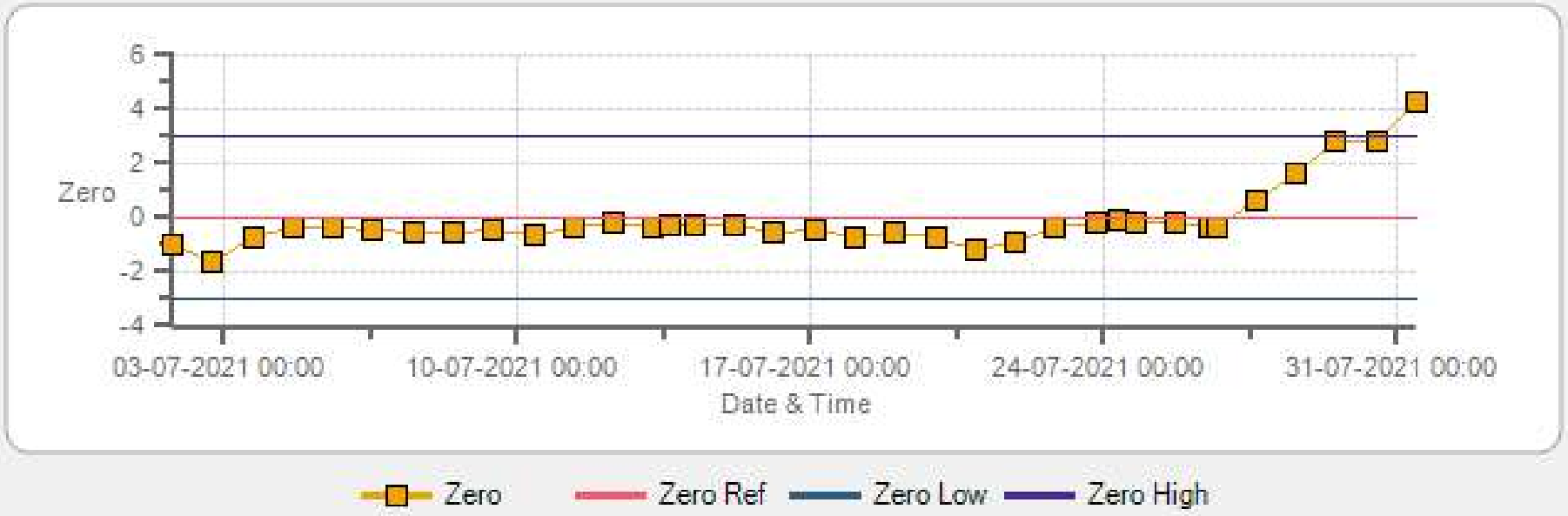
NO2[ppb] Calibration: St. Lina Monthly: 07-2021 Type: SpanAndZero - Zero



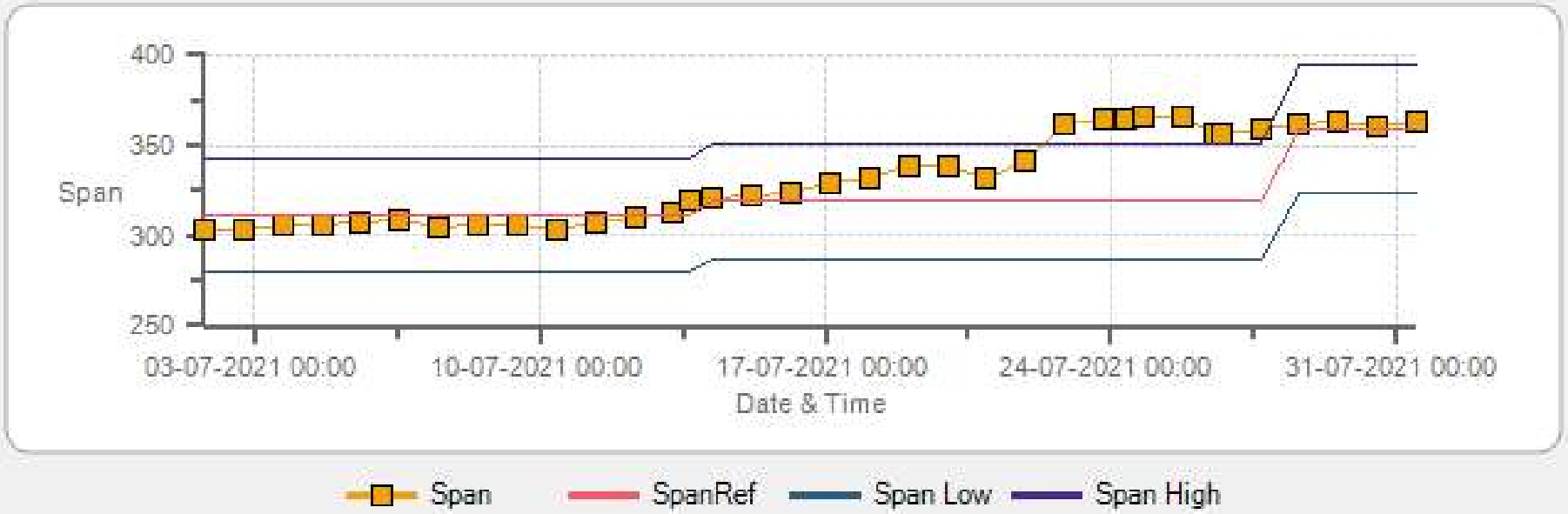
NO2[ppb] Calibration: St. Lina Monthly: 07-2021 Type: SpanAndZero - Span



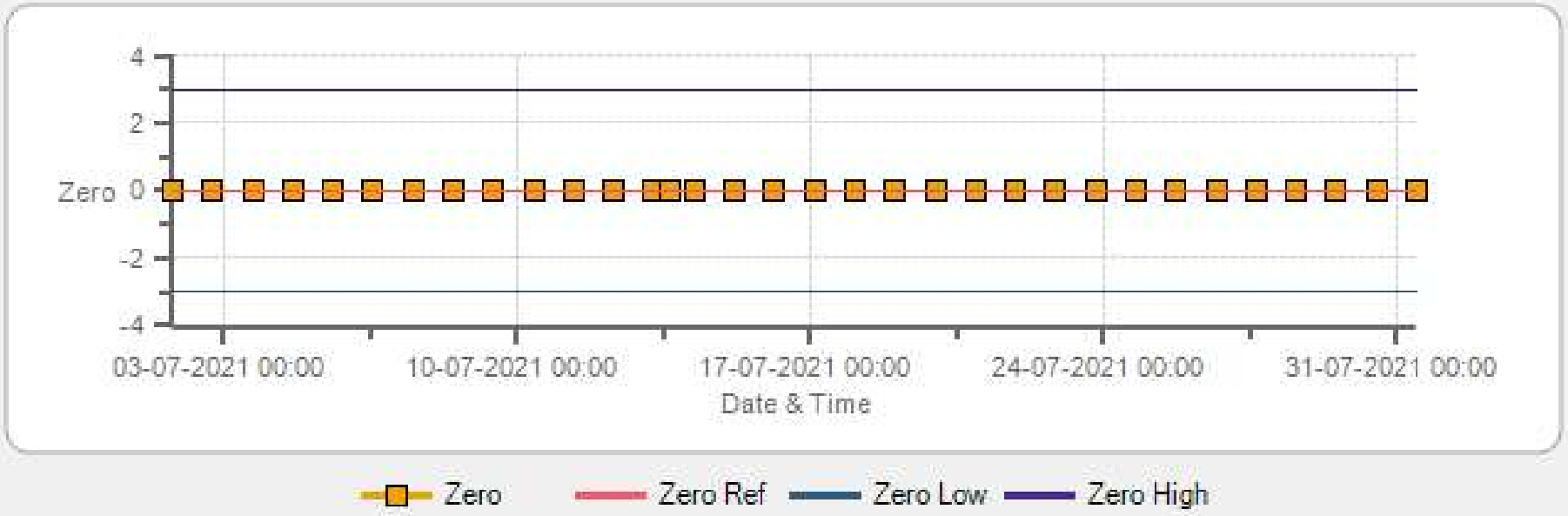
O3[ppb] Calibration: St. Lina Monthly: 07-2021 Type: SpanAndZero - Zero



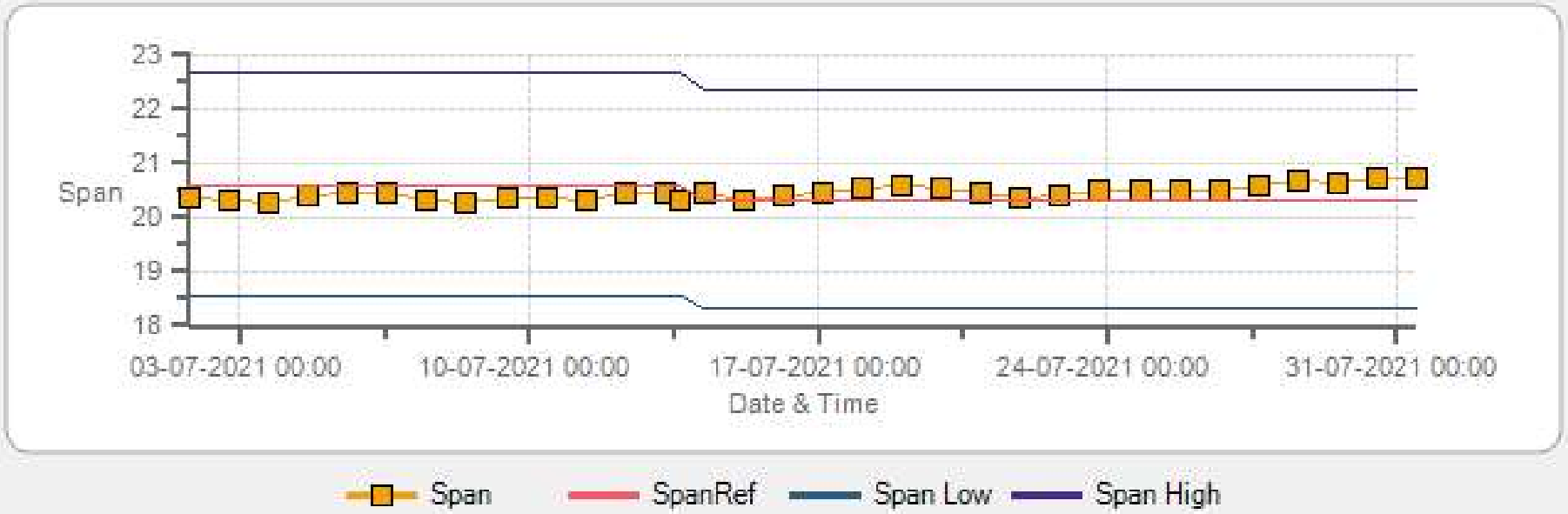
O3[ppb] Calibration: St. Lina Monthly: 07-2021 Type: SpanAndZero - Span



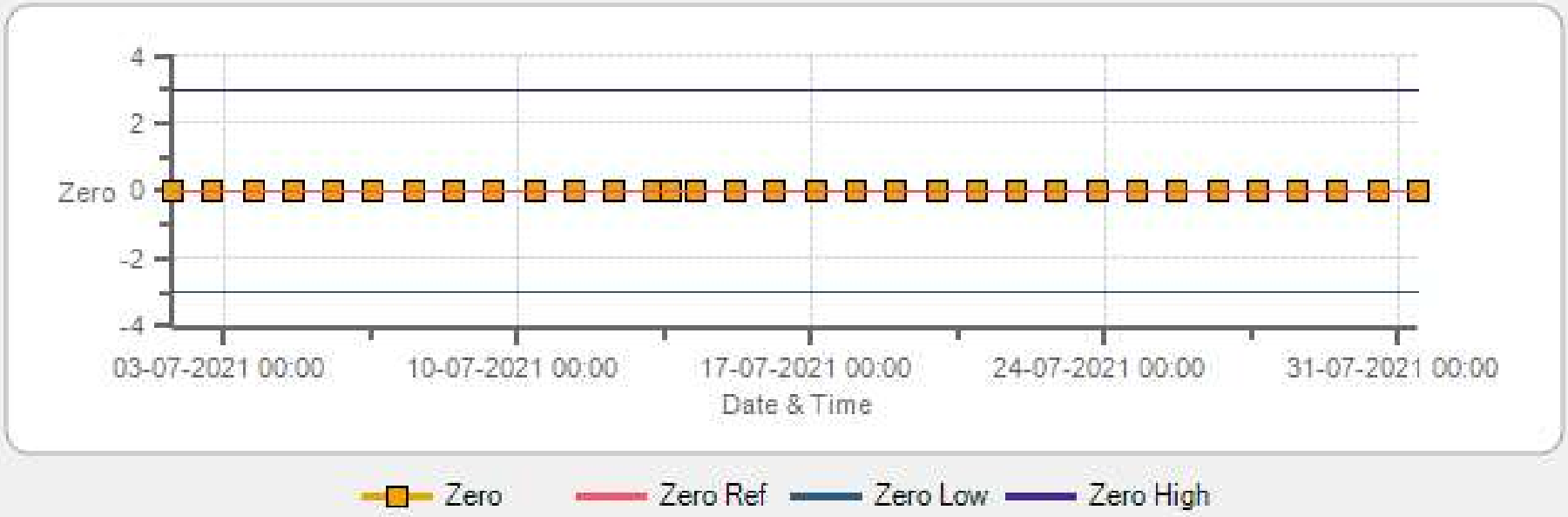
THC55[ppm] Calibration: St. Lina Monthly: 07-2021 Type: SpanAndZero - Zero



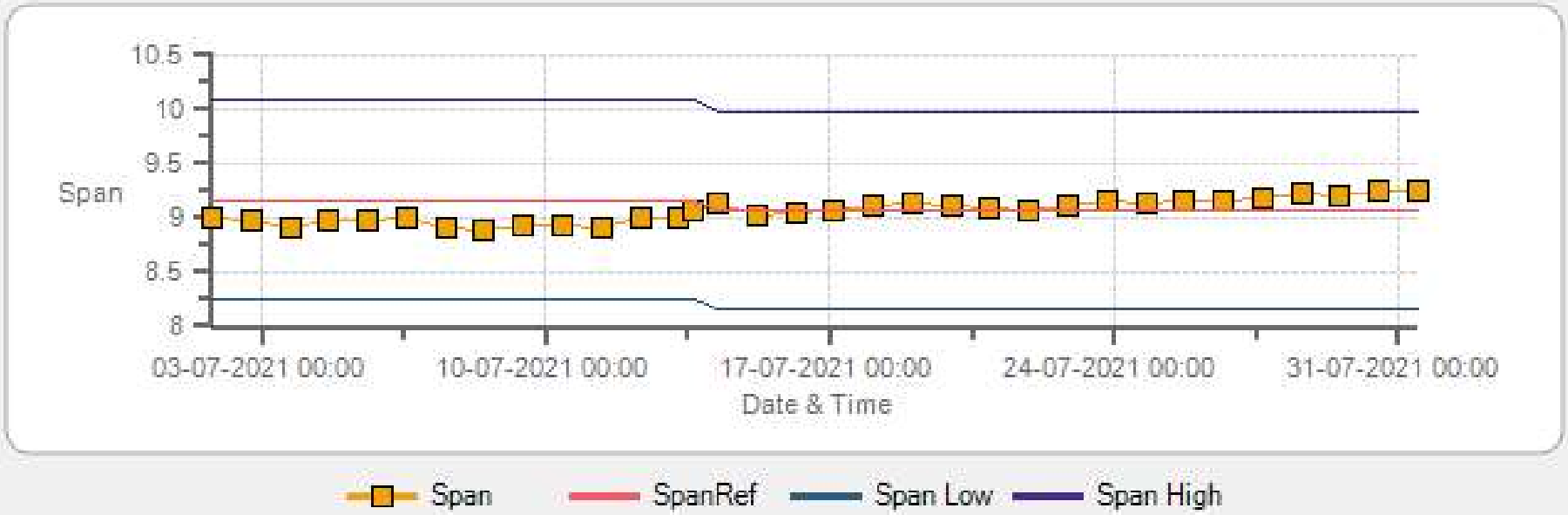
THC55[ppm] Calibration: St. Lina Monthly: 07-2021 Type: SpanAndZero - Span



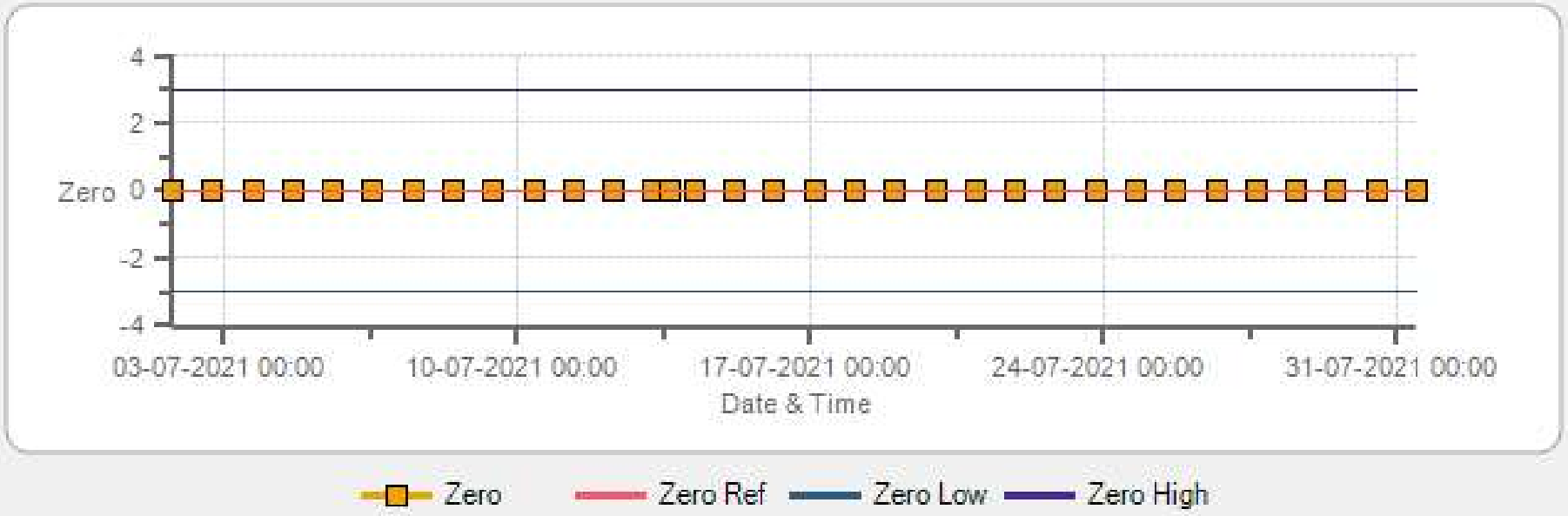
CH4[ppm] Calibration: St. Lina Monthly: 07-2021 Type: SpanAndZero - Zero



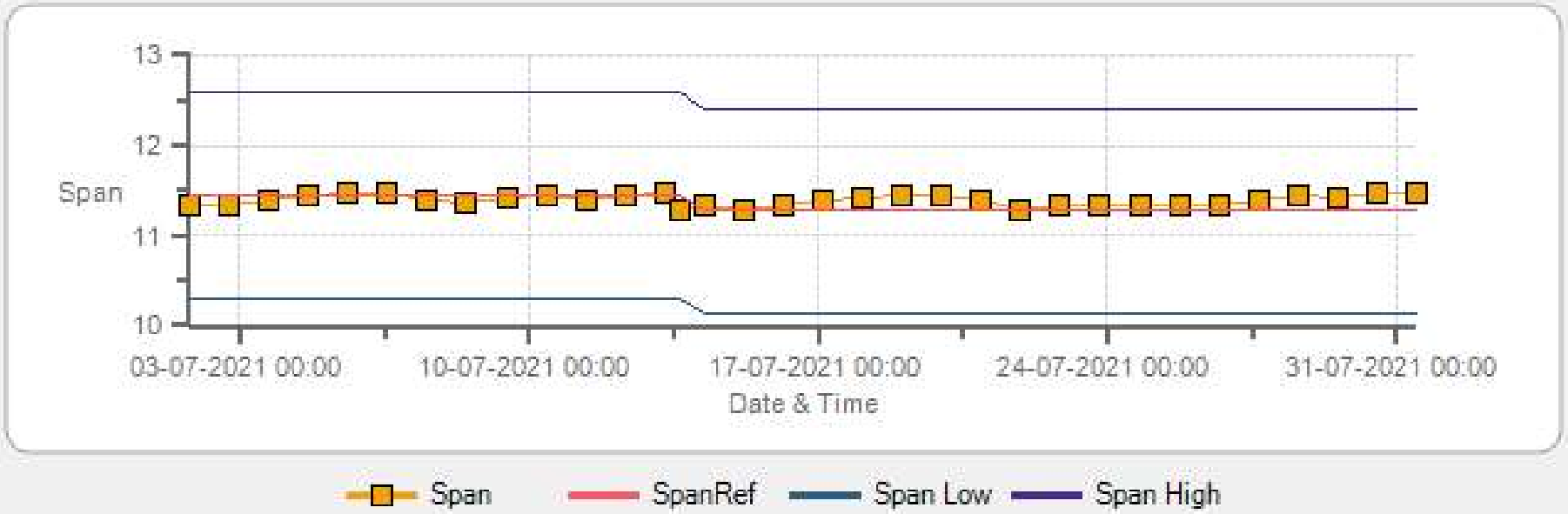
CH4[ppm] Calibration: St. Lina Monthly: 07-2021 Type: SpanAndZero - Span



NMHC[ppm] Calibration: St. Lina Monthly: 07-2021 Type: SpanAndZero - Zero



NMHC[ppm] Calibration: St. Lina Monthly: 07-2021 Type: SpanAndZero - Span



MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution

DATE:	14-Jul-2021	PREVIOUS CALIBRATION DATE:	09-Jun-2021
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	917
PURPOSE	Routine	START TIME (MST):	10:58
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:40

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1180930030	FLOW (mL/min)	426
INITIAL		FINAL	
BKG/OFFSET	4.17	BKG/OFFSET	4.22
COEF/SLOPE	1.109	COEF/SLOPE	1.117
Expected (reference) Value	380.4	Expected (reference) Value	384.4

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010	MODEL:	T701
ID:	26801218	ID:	132
MFC CALIBRATION DATE:	09-Apr-2021	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0000851	HIGH ID	n/a
CONC (ppm):	51.60	EXPIRY DATE	n/a
CYLINDER (psi):	200	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	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
5000		5000	0.00	-0.2	0		
4959	38.70	4998	399.54	392.4	399.3	1.018	1.001
4981	17.60	4999	181.67	n/a	181	n/a	1.004
4989	8.80	4998	90.85	n/a	90	n/a	1.009

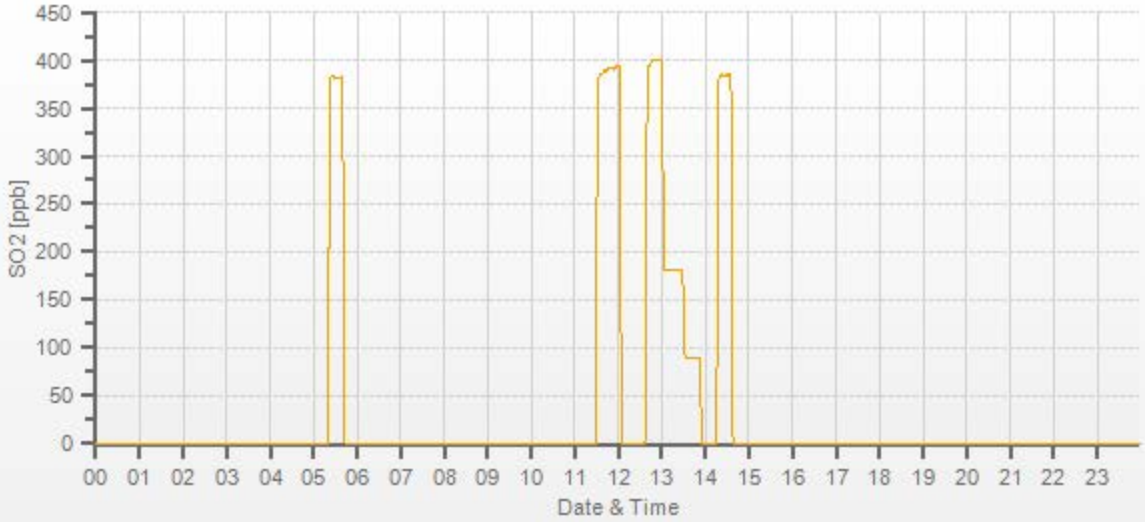
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	-0.1%

COMMENTS:

Sample inlet filter was changed.

SO2[ppb] Station: St. Lina Daily: 14-07-2021 Type: AVG 1 Min. [1 Min.]



H2S Analyzer Calibration by Dilution

DATE:	14-Jul-2021	PREVIOUS CALIBRATION DATE:	09-Jun-2021
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	917
PURPOSE	Routine	START TIME (MST):	10:56
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:25

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	CM 18010058	FLOW (mL/min)	815
INITIAL		FINAL	
BKG/OFFSET	53.4	BKG/OFFSET	56.3
COEF/SLOPE	0.83	COEF/SLOPE	0.842
Expected (reference) Value	50	Expected (reference) Value	47.7

CALIBRATION SYSTEM:

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

CALIBRATION PARAMETERS:

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

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

START TIME:	11:06	SO2 Conc (ppb)	380
END TIME:	11:21	Analyzer Response (ppb)	0.0

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
4000		4000	0.00	1.8	0		
3969	31.20	4000	78.00	79.2	77.8	1.008	1.003
3985	15.20	4000	38.00	n/a	37.7	n/a	1.008
3992	7.60	4000	19.00	n/a	18.2	n/a	1.044

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.001	-0.3%

COMMENTS:

Sample inlet filter was changed.


H2S[ppb] Station: St. Lina Daily: 14-07-2021 Type: AVG 1 Min. [1 Min.]
H2S [ppb]
80
70
60
50
40
30
20
10
0
-10
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time
H2S [ppb]

NOx Calibration by Dilution/Gas-Phase Titration

CALIBRATION:				ANALYZER:			
DATE:	14-Jul-2021	PREVIOUS CALIBRATION DATE:	09-Jun-2021	MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
CLIENT:	LICA	TEMPERATURE (°C):	22.0	SERIAL #:	1180930029	NOx	0.999
LOCATION:	St. Lina	BAROMETRIC (mBar):	917	FLOW (mL/min)	806	NO	1.001
PURPOSE	Routine	START TIME (MST):	10:59	RANGE (ppb)	500	NO2	1.000
PERFORMED BY:	Alex Yakupov	END TIME (MST):	16:30	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):	200		LOW ID:	n/a
MFC CALIBRATION DATE:	09-Apr-2021	OXIDIZER ID:	n/a	EXPIRY DATE	24-Feb-2028		LOW EXPIRY:	n/a

CALIBRATION SETTINGS:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
BKG/OFFSET:	4	3.8	n/a	BKG/OFFSET:	4	3.8	n/a
SLOPE/COEF/CE:	1.005	0.836	1.002	SLOPE/COEF/CE:	1.004	0.834	1.002

EXPECTED (REFERENCE) VALUE:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	311.1	2.0	309.0		297.0	2.3	294.0

CALIBRATION PARAMETERS:

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

NO/NOx CALIBRATION:

FLOW RATE (mL/min)			CONCENTRATION (ppb)									CORRECTION FACTOR (CF.)					
			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2
5000		5000	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0						
4959	38.70	4998	394.1	395.7	1.5	394.6	396.9	2.3	394.1	396.0	1.9	0.999	0.997		1.000	0.999	
4981	17.60	4999	179.2	179.9	0.7	n/a	n/a	n/a	180.2	180.9	0.7	n/a	n/a		0.994	0.995	
4989	8.80	4998	89.6	90.0	0.4	n/a	n/a	n/a	90.3	90.6	0.2	n/a	n/a		0.992	0.993	

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	396.6	1.9				
AS-FOUND HIGH	38.70	4998	240	148.8	395.8	247.0	245.8	245.1	1.003	99.72%
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	266.4	396.1	129.8	128.2	127.9	1.002	99.77%
LOW	38.70	4998	45	351.6	397.1	45.5	43	43.6	0.986	101.40%
NO2 adjustment not required.									AVERAGE:	100.29%

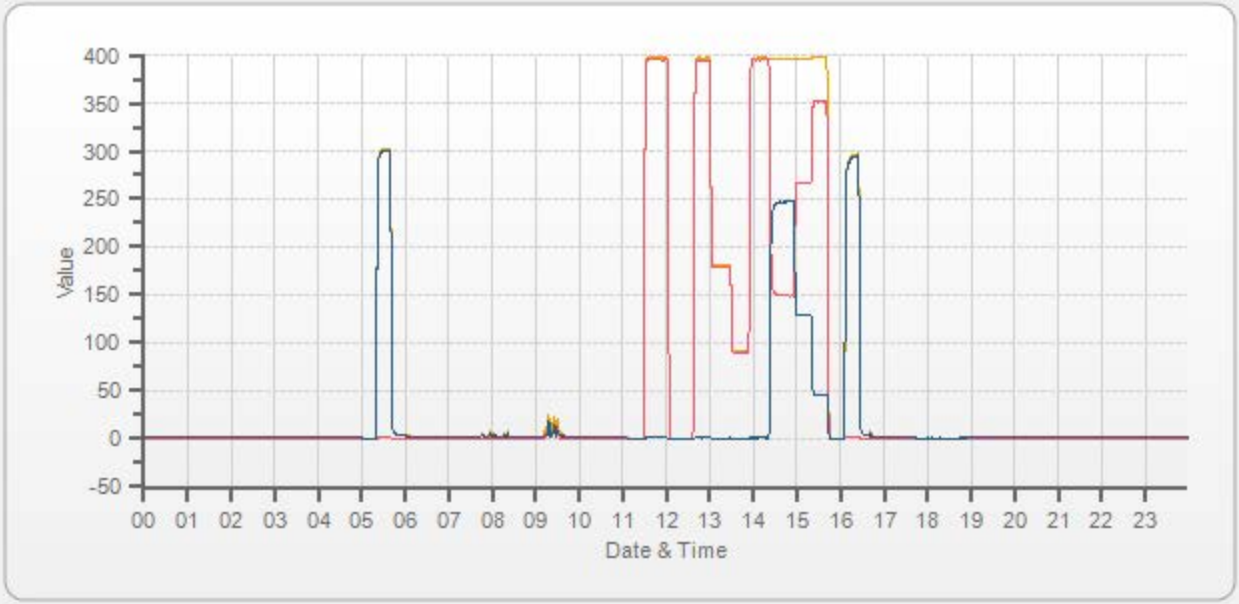
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
NO	1.000	0.999	0.10%
NOx	1.000	1.000	0.08%
NO2	1.000	0.994	0.15%

COMMENTS:

Sample inlet filter was changed.

Station: St. Lina Daily: 14-07-2021 Type: AVG 1 Min. [1 Min.]



Ozone Calibration by Photometer (Varying UV Lamp)

DATE:	13-Jul-2021	PREVIOUS CALIBRATION DATE:	09-Jun-2021
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	923
PURPOSE	Routine	START TIME (MST):	11:51
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:45

ANALYZER:

MAKE/MODEL	Thermo 49i	RANGE	500 ppb
SERIAL #	1002240371	FLOW (mL/min)	1491
INITIAL		FINAL	
BKG/OFFSET	0.1	BKG/OFFSET	0.1
COEF/SLOPE	0.983	COEF/SLOPE	1.014
Expected (reference) Value	311.4	Expected (reference) Value	319

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	09-Apr-2021	OXIDIZER ID:	n/a
	CALIBRATION METHOD:	Photometer (Varying UV Lamp)	
GPT DATE:	n/a	GPT END TIME:	n/a

CALIBRATION PARAMETERS:

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

CALIBRATION:

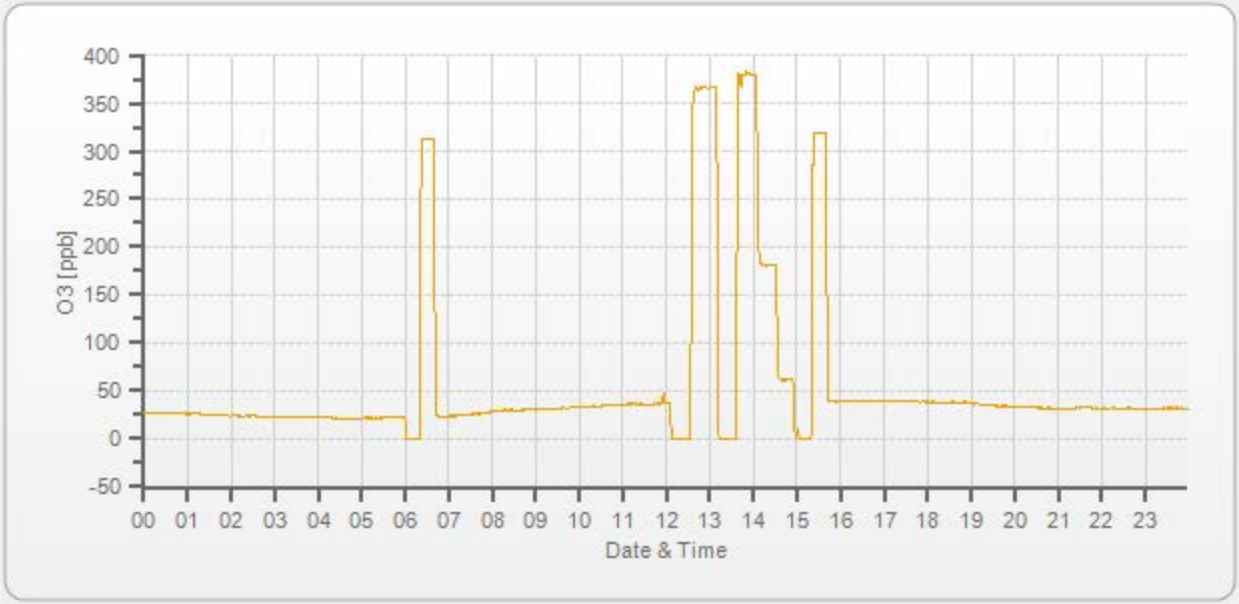
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
5000		5000	0.0	-0.2	0.0		
5000		5000	378.0	366.5	379.1	1.031	0.997
5000		5000	180.0	n/a	181.0	n/a	0.994
5000		5000	60.0	n/a	61.5	n/a	0.976

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.002	0.1%

COMMENTS:

Sample inlet filter was changed.


O3[ppb] Station: St. Lina Daily: 13-07-2021 Type: AVG 1 Min. [1 Min.]
O3 [ppb]
400
350
300
250
200
150
100
50
0
-50
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time
O3 [ppb]

Ozone Calibration by Photometer (Varying UV Lamp)

DATE:	27-Jul-2021	PREVIOUS CALIBRATION DATE:	13-Jul-2021
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	0.997
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	912
PURPOSE	Repeat	START TIME (MST):	12:10
PERFORMED BY:	Alex Yakupov	END TIME (MST):	16:27

ANALYZER:

MAKE/MODEL	Thermo 49i	RANGE	500 ppb
SERIAL #	1002240371	FLOW (mL/min)	1511
INITIAL		FINAL	
BKG/OFFSET	0.1	BKG/OFFSET	-0.2
COEF/SLOPE	1.014	COEF/SLOPE	1.007
Expected (reference) Value	319	Expected (reference) Value	359

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	09-Apr-2021	OXIDIZER ID:	n/a
	CALIBRATION METHOD:	Photometer (Varying UV Lamp)	
GPT DATE:	n/a	GPT END TIME:	n/a

CALIBRATION PARAMETERS:

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

CALIBRATION:

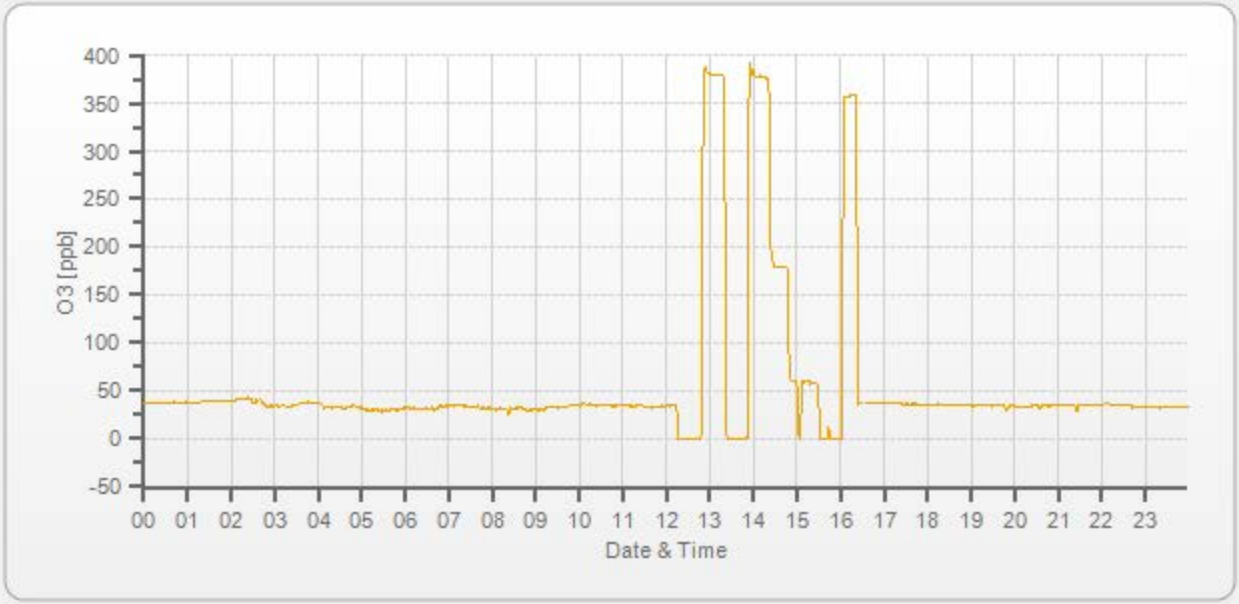
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
5000		5000	0.0	-0.4	0.2		
5000		5000	378.0	380.5	377.5	0.992	1.002
5000		5000	180.0	n/a	180.6	n/a	0.998
5000		5000	60.0	n/a	59.6	n/a	1.010

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.999	0.0%

COMMENTS:

Repeat calibration to correct span drift.
Zero air pump was rebuilt.
15:00 - Daily ZS check, Low point restarted.


O3[ppb] Station: St. Lina Daily: 27-07-2021 Type: AVG 1 Min. [1 Min.]
400
350
300
250
200
150
100
50
0
-50
O3 [ppb]
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Date & Time
O3 [ppb]

Methane/Non-Methane Analyzer Calibration by Dilution

CALIBRATION:

DATE:	13-Jul-2021	PREVIOUS CALIBRATION DATE:	09-Jun-2021
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	923
PURPOSE	Routine	START TIME (MST):	11:50
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:45

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	1236656107	1201
PARAMETER:	CH4	NMHC	THC
RANGE (ppm):	20	20	40
PREVIOUS CF:	0.999	0.998	0.998

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 168375		HIGH ID:	n/a
MODEL:	4010	MODEL:	T701	CH_4/C_3H_8 (ppm):	914.0	307.0	HIGH EXPIRY:	n/a
ID:	08400311	ID:	132	CYLINDER (psi):	1100		LOW ID:	n/a
MFC CALIBRATION DATE:	09-Apr-2021	OXIDIZER ID:	115	EXPIRY DATE	21-Jan-2028		LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

POINT (CH4/NMHC)	HIGH	MID	LOW	CH4 EQUIVILANCE	
TARGET	14	7	3.5	C_3H_8 as CH_4	844.3
RANGE	12 - 16	6 - 8	2 - 4	THC as CH_4	1758.3

EXPECTED (REFERENCE) VALUE:

INITIAL	CH4	NMHC	THC	FINAL	CH4	NMHC	THC
	9.17	11.45	20.61		9.06	11.27	20.33

CALIBRATION:

FLOW RATE			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
(mL/min)			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC
3100		3100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
3051	49.40	3100	14.57	13.45	28.02	14.38	13.57	27.95	14.56	13.48	28.04	1.013	0.991	1.002	1.000	0.998	0.999
3075	24.70	3100	7.28	6.73	14.01	n/a	n/a	n/a	7.29	6.74	14.03	n/a	n/a	n/a	0.999	0.998	0.999
3088	12.40	3100	3.66	3.38	7.03	n/a	n/a	n/a	3.64	3.35	6.99	n/a	n/a	n/a	1.004	1.008	1.006

LINEAR REGRESSION ANALYSIS:

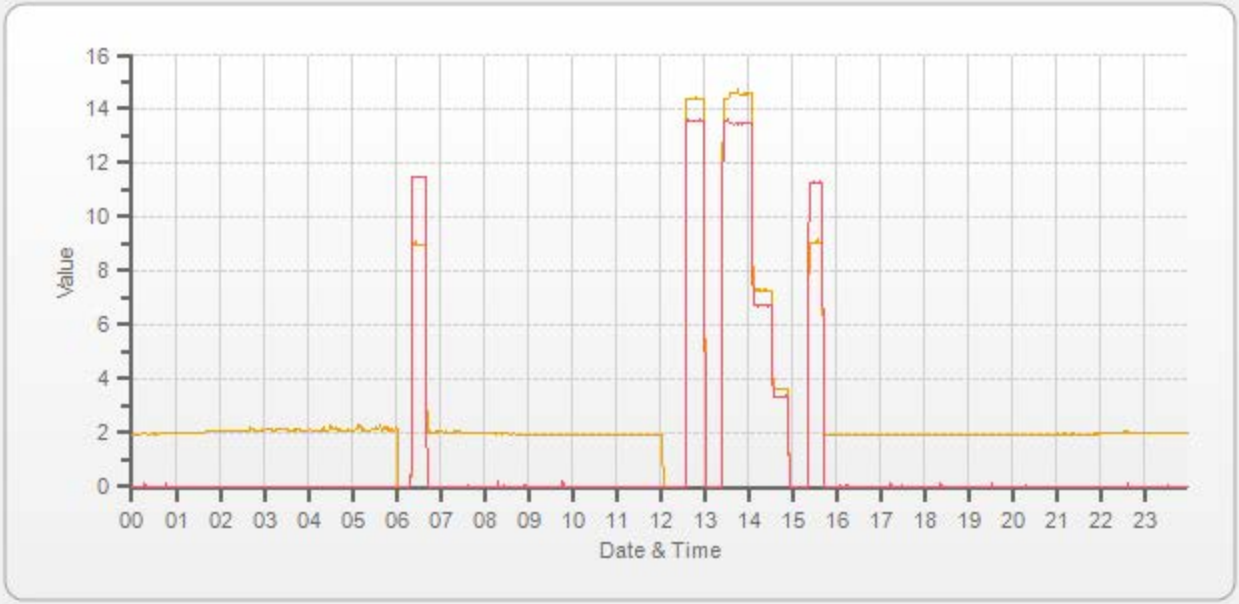
	CORRELATION	SLOPE	INTERCEPT
CH4	1.000	1.000	0.0%
NMHC	1.000	1.003	-0.1%
THC	1.000	1.001	0.0%

Comments:

Sample inlet filter was changed.

Use Zero Chrom? **Yes**

Station: St. Lina Daily: 13-07-2021 Type: AVG 1 Min. [1 Min.]



Thermo 5030i SHARP Monitor Monthly Check

Date:	July 27, 2021	**Performed By/Reviewer:**	Alex Yakupov / Chris Wesson
Company:	LICA	**Start Time (mst):**	15:11
Station Name/Location:	St. Lina	**End Time (mst):**	16:12
Previous Audit Date:	June 29, 2021	**Calibration Purpose:**	routine monthly
Parameter:	PM 2.5	**Weather Conditions:**	Sunny

SHARP 5030i Information and Status:

Serial Number: CM 17461021 **Filter Tape Counter** 191

Reference Standards:

	Air Flow			
	Manometer	**Orifice**	**Pressure:**	**Temp / RH:**
Make:	Dwyer	Chinook Eng.	Fisher Scientific	VAISALA
Model:	475-0-FM	FTS Flow Cell	FB61291	HMP76B
Serial Number:	BV #3	BV#4/ 170101	130168457	T1640130
Calibration Expiration Date:	February 17, 2022	May 12, 2022	February 17, 2022	April 22, 2022

Ambient Temperature (°C)

	Reference	SHARP	Difference
#1	25.30	25.1	0.2

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

Ambient Relative Humidity (%RH)

As Found:

	Reference	SHARP	Difference
#1	32.10	31.7	0.4

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

Barometric Pressure (mmHg)

As Found:

	Reference	SHARP	Difference
#1	699.0	699.0	0.0

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

Flow Audit (L/min)

As Found:

	Reference	SHARP		
#1	16.67	16.67	% Difference	0.02%
#2	16.66	16.67		
#3	16.67	16.67		
Average	16.67	16.67		

Range	Action
< ± 4%	OK
4-5%	Recalibrate
>5%	*Fail*

Leak Check (L/min)

	Without Leak Check Adapter			With leak Check Adapter			
	Reference	**SHARP**	**Difference**	**Reference**	**SHARP**	**Difference**	
#1	16.67	16.67	0.00	16.61	16.64	-0.03	*Leak Limit: 0.80 L/min*
					LEAK RATE:	**-0.03**	

Meteorological Sensor Audit/Calibration

Location Information

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

Wind Sensor Information

Sensor ID Data:		**Sensor Outputs:**	
Sensor Make:	RM Young	**Velocity Voltage Output Range:**	0-1
Sensor Model:	05305VK	**Velocity Unit Output Range:**	0-200
Serial #:	161466	**Direction Voltage Output Range:**	0-1
Previous Cal/Audit Date:	February 26, 2020	**Direction Unit Output Range:**	0-360

Wind Calibrator Information

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

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

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.1	0.1	-
1000	18.4	18.5	18.5	0.996
2000	36.9	37.0	37.0	0.996
3000	55.3	55.5	55.5	0.996
4000	73.7	74.0	74.1	0.996
5000	92.2	92.6	92.6	0.995
6000	110.6	111.2	111.2	0.994
7000	129.0	129.7	129.7	0.995
8000	147.4	148.3	148.3	0.994
9000	165.9	167.0	167.0	0.993
10000	184.3	185.6	185.6	0.993
		The audit meets AMD requirements.	**Average Correction Factor=**	**0.995**

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

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

Comments:

n/a

End of Report