



Lakeland Industry & Community Association

SEPTEMBER 2022

Monthly Ambient Air Quality Monitoring Report

LICA-202209

Operation and Maintenance:

Bureau Veritas Canada

Data Validation and Report:

Lakeland Industry & Community Association

October 21, 2022

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October 21, 2022

Alberta Environment and Parks (AEP)

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Edmonton, AB, T5K 2J6

RE: LICA – September 2022 Monthly Ambient Air Quality Monitoring Report

Enclosed is the September 2022 Monthly Ambient Air Quality Monitoring Report for the continuous ambient air quality monitoring stations of the Lakeland Industry & Community Association (LICA) regional air quality monitoring network.

The representative of the Person Responsible for this monitoring program is

LICA Airshed

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

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LIST OF ACRONYMS

AAAQOs	Alberta Ambient Air Quality Objectives
AEP	Alberta Environment and Parks
AMD	Air Monitoring Directive
AT	Ambient Temperature
BP	Barometric Pressure
CH ₄	Methane
EPEA	Environmental Protection and Enhancement Act
H ₂ S	Hydrogen Sulphide
kph	kilometers per hour
LICA	Lakeland Industry & Community Association
mb	millibar
mm	millimeter
NMHC	Non-Methane Hydrocarbons
NO	Nitric Oxide
NO ₂	Nitrogen Dioxide
NO _x	Oxide of Nitrogen
PAC	Polycyclic Aromatic Compounds
ppb	parts per billion
ppm	parts per million
RH	Relative Humidity
SO ₂	Sulphur Dioxide
ST	Station Temperature
STDWD	Standard Deviation Wind Direction
THC	Total Hydrocarbons
TRS	Total Reduced Sulphur
VWD	Vector Wind Direction
VWS	Vector Wind Speed
WD	Wind Direction
WS	Wind Speed
°C	Degrees Celsius

NETWORK STATION SUMMARY

Listing of Continuous Monitoring Stations and Integrated Sampling Stations

Station Name		Cold Lake South	Tamarack	St. Lina	Lac La Biche
Station ID		1174	1248	1250	1690
Coordinates		54.41402	54.604935	54.215961	54.76516
		-110.23316	-110.452637	-111.503304	-111.9714490
Continuous Monitoring Parameter	SO2	√	√	√	√
	H2S		√	√	√
	TRS	√			
	NOX	√	√	√	√
	NOX	√	√	√	√
	NO2	√	√	√	√
	O3	√	√	√	√
	THC	√	√	√	√
	CH4	√	√	√	√
	NMHC	√	√	√	√
	RH	√	√	√	√
	BP	√	√	√	√
	AT	√	√	√	√
	ST	√	√	√	√
	PRECEIPITATION		√	√	
	WS	√	√	√	√
	WD	√	√	√	√
STDWD	√	√	√	√	
Integrated Sampling	VOCs	√			
	PAHs	√			
	Partisol	√			
	Passive	√			√
	NMHC Canister				√
	PAC			√	

List of Contractors performing air monitoring activities

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

Monitoring Notes during the Month of September 2022

Cold Lake South

- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) where applicable, except PM2.5. One 24-hour PM2.5 exceedance was recorded this month and was caused by smoke being transported into the area from wildfires burning in British Columbia.

Date	Time (MST)	Parameter	Average Period	AAAQOs / AAAQGs	Concentration	Wind speed (km/hr)	Wind Direction	Reference #
Sept 11	-	PM2.5	24-Hour	29 ug/m3	40.1 ug/m3	2.2	37° (NE)	404238

- All parameters met the 90% operational uptime requirement.
- No major events were identified this month.

Tamarack

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

- No major events were identified this month.

St. Lina Station

- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) where applicable, except PM2.5. One 24-Hour exceedance was recorded this month and was caused by smoke being transported into the area from wildfires burning in British Columbia.

Date	Time (MST)	Parameter	Average Period	AAAQOs / AAAQGs	Concentration	Wind speed (km/hr)	Wind Direction	Reference #
Sept 11	-	PM2.5	24-Hour	29 ug/m3	36.1 ug/m3	4.6	66° (ENE)	404239

- All parameters met the 90% operational uptime requirement.
- **O3:** Following a successful shut-down calibration on September 20, the Thermo 49i analyzer, s/n: 1002240371, was removed. The Thermo 49iQ analyzer, s/n: 12208316586, was then installed. The analyzer was allowed time to stabilize overnight. A successful installation calibration was completed on September 21. Twenty-three hours of downtime were recorded due to this event.
- Station reconfiguration was conducted between September 21 and 22. Five to eight hours of downtime were recorded as the datalogger and/or individual instruments were put offline intermittently while refit was being performed.

Lac La Biche Station

- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) where applicable, except PM2.5. One 24-Hour exceedance was recorded this month and was caused by smoke being transported into the area from wildfires burning in British Columbia.

Date	Time (MST)	Parameter	Average Period	AAAQOs / AAAQGs	Concentration	Wind speed (km/hr)	Wind Direction	Reference #
Sept 11	-	PM2.5	24-Hour	29 ug/m3	31.2 ug/m3	2.4	8° (NNE)	404240

- All parameters did not meet the 90% operational uptime requirement due to datalogger communication error. The datalogger communication was lost between September 3 and September 6. The data logger was reset on September 6 and channels were back online at 10:40. The problem was caused by the UPS system triggering the shutdown of the logger. An investigation is ongoing to determine why the UPS sent a shutdown signal to the logger. Seventy-four hours of downtime were recorded due to this event. **AEP reference #: 404001.**
- H2S: Following a successful shut-down calibration on September 7, the BV-supplied Teledyne T100 analyzer was removed due to stability issues. The API 101A analyzer, s/n: 324, was

installed afterward and allowed to stabilize overnight. A successful installation calibration was completed on September 8. Twenty-one hours of downtime were recorded due to this event.

Integrated Sampling

All the integrated sampling analytical results are included in the September 2022 Integrated Sampling Report.

- **VOCs Sampling System:**
 - The VOC sampler is programmed to collect a 24-hour sample of air every sixth day as per the National Air Pollution Surveillance schedule (NAPS).
 - Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) where applicable.
 - The Xonteck sampler audit was completed on September 19. The sampler passed the audit requirements.
 - Five samples were collected this month: on September 2, 8, 14, 20 and 26.
- **PAHs Sampling System:**
 - The PUF sampler is programmed to collect a 24-hour sample of air every sixth day as per the National Air Pollution Surveillance schedule (NAPS).
 - The TISCH PUF sampler audit was completed on September 19. The sampler passed the audit requirements.
 - Five samples were collected this month: on September 2, 8, 14, 20 and 26.
- **Partisol Sampling System:**
 - The Partisol sampler is programmed to collect a 24-hour sample of air every sixth day as per National Air Pollution Surveillance schedule (NAPS).
 - Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) where applicable.
 - The Partisol 2000i-D sampler audit was completed on September 19. The sampler passed the audit requirements.
 - Five samples were collected this month: on September 2, 8, 14, 20 and 26.
- **Passive Sampling System:**
 - There were no exceedances of the AAAQOs for all monitored parameters at any of the passive stations during this month.
 - The passive sample filters were installed at the stations between August 30 and September 1, and were removed between September 28 and September 30.
 - A total of 9 duplicate samples were collected: 2 for H₂S, 3 for SO₂, 2 for NO₂ and 2 for O₃.
 - Station #18: The sampler was destroyed by gunshot. A new sampler was installed on September 29. Both SO₂ and O₃ sample media were also found missing during sample collection on September 29. No analytical result could be reported.
 - Station #28: The H₂S sample starts being collected at this site this month.
 - Chemical species of ammonia (NH₃) and nitric acid (HNO₃) were added to the network to support the decision from the Acid Deposition Monitoring Strategy in October. The sample media were installed along with the existing passive parameters (SO₂, H₂S, NO₂ and O₃) in all LICA passive monitoring stations during the October sample media deployment. The media will be exchanged on a monthly basis.
- **PAC Sampling System:**

- The PAC sampling program began in November 2019, and is designed to collect a 2-month integrated sample.
- The media for September / October were installed between August 30 and September 1, and they are scheduled to be collected by the end of October or early November.
- **NMHC canister Sampling System:**
 - The canister sampling program collects a 1-hour sample of air when the continuously non-methane hydrocarbon (NMHC) concentration reaches a specified trigger point. The current trigger point is 0.3 ppm and is based on real-time monitoring data that are averaged over a 5-minute period.
 - One triggered canister was collected this month: on September 14 at 07:45, at concentration of 0.54ppm. However, this event was missed during daily reviews and only noted during the monthly review. As a result, the sample was retrieved too late to be of use.

Revisions to Alberta's Ambient Air Quality Data Warehouse

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

Deviations from Authorized Monitoring Methods

No deviations from authorized monitoring methods were recorded this month.

Disclaimer

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

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

Certification

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



Lily Lin, Data & Reporting Specialist, LICA Airshed

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

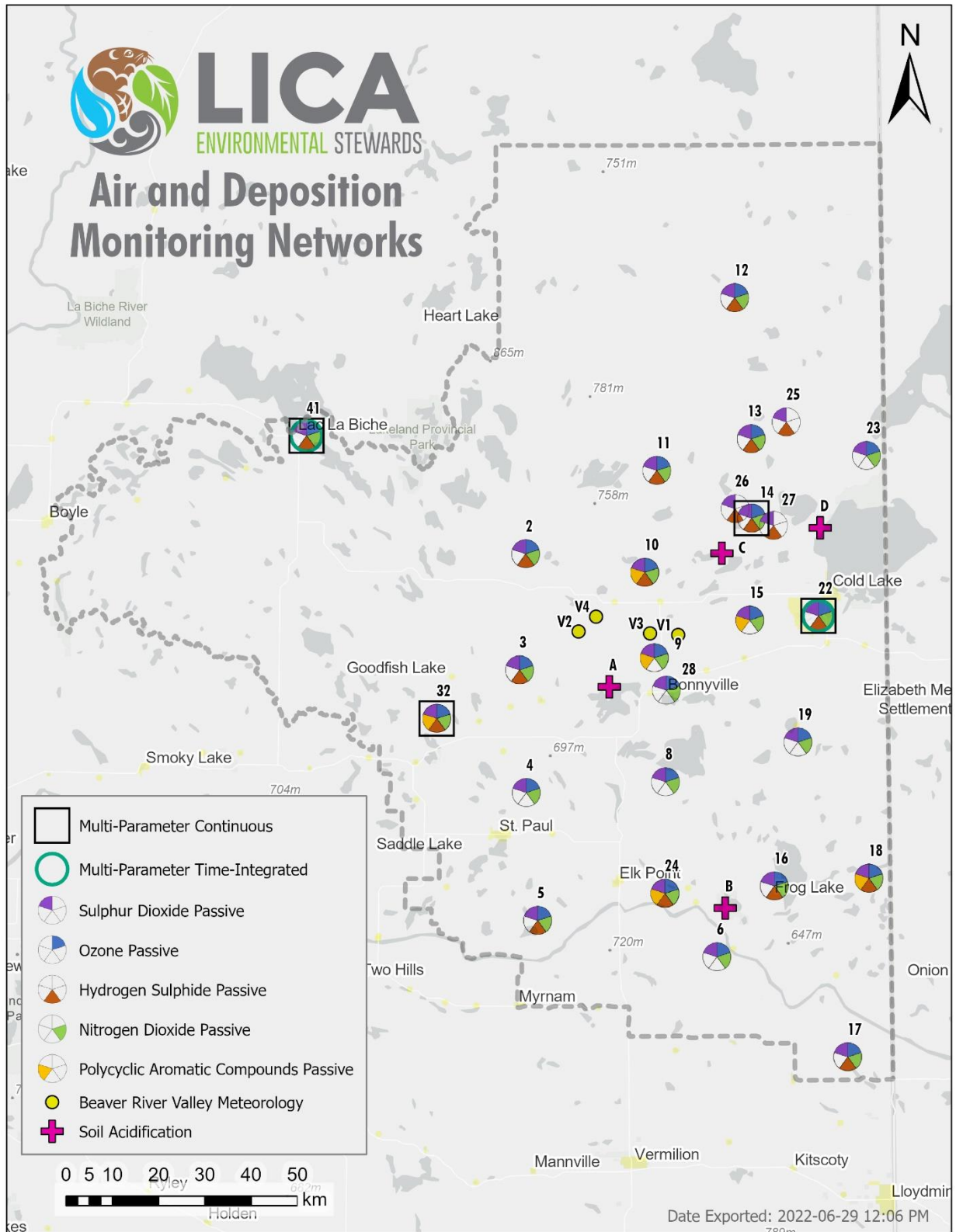
I certify that I have reviewed and verified this report and that the information is complete, accurate and representative of the monitoring results, reporting timeframe and the specified analysis, summarization and reporting requirements. I also certify that at the time of this report's submission, all air data have been electronically uploaded to Alberta's Ambient Air Quality Data Warehouse as required by the AMD, 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 September 2022 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

October 21, 2022

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 (SO ₂)	Thermo / 43i-TLE	1180260018	September 21, 2022
<ul style="list-style-type: none"> No operational issues were recorded this month. 			
Total Reduced Sulphur (TRS)	Thermo / 450i	812728560	September 21, 2022
<ul style="list-style-type: none"> No operational issues were identified this month. 			
Total Hydrocarbons / Methane/ Non-methane Hydrocarbons (THC/CH ₄ /NMHC)	Thermo / 55i	1180930025	September 22, 2022
<ul style="list-style-type: none"> A new span gas cylinder was installed during the monthly calibration on September 22. No operational issues were identified this month. 			
Oxide of Nitrogen / Nitric Oxide/ Nitrogen Dioxide (NO _x /NO/NO ₂)	Thermo / 42i	1505664393	September 21, 2022
<ul style="list-style-type: none"> No operational issues were identified this month. 			
Ozone (O ₃)	Thermo / 49i	700419951	September 22, 2022
<ul style="list-style-type: none"> No operational issues were identified this month. 			
Particulate Matter 2.5 (PM _{2.5})	Teledyne T640	575	September 8, 2022
<ul style="list-style-type: none"> No operational issues were identified this month. 			

Parameter	Make / Model	Serial Number	System Check Date
Relative Humidity (RH)	Rotronic / HC2A-S3	20257103	September 22, 2022
<ul style="list-style-type: none"> No issues were identified this month. 			
Barometric Pressure (BP)	Met One / Part 092	Y23368	September 22, 2022
<ul style="list-style-type: none"> No issues were identified this month. 			
Ambient Temperature (AT)	Rotronic / HC2A-S3	20257103	September 22, 2022
<ul style="list-style-type: none"> No issues were identified this month. 			
Station Temperature (ST)	BV-supplied	n/a	September 22, 2022
<ul style="list-style-type: none"> No issues were identified this month. 			
Wind Speed (WS) / Wind Direction (WD)/ Stand Deviation Wind Direction (STDWD)	RM Young / 05305AQ	177354	September 22, 2022
<ul style="list-style-type: none"> Wind direction data contained in this report represents where the wind is coming from. An annual wind system calibration was completed on July 6, 2022. 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	1	September 3 at hour 8	5.7	SE	0.3	September 4	100.0	94.8
TRS (ppb)	-	-	-	-	-	-	0.3	0	2	September 2 at hour 2	1.7	WSW	0.7	September 12	100.0	94.8
NOx (ppb)	-	-	-	-	-	-	2.3	0	21	September 15 at hour 7	0.7	ESE	4.6	September 28	100.0	94.6
NO (ppb)	-	-	-	-	-	-	0.4	0	17	September 15 at hour 7	0.7	ESE	2.0	September 15	100.0	94.6
NO2 (ppb)	159	-	-	0	-	-	1.9	0	11	September 28 at hour 18	1	ENE	3.9	September 28	100.0	94.6
O3 (ppb)	76	-	-	0	-	-	19.4	0.1	49.5	September 3 at hour 15	3.5	SE	28.5	September 24	100.0	94.8
THC (ppm)	-	-	-	-	-	-	2.03	1.86	2.54	September 4 at hour 2	1.1	W	2.17	September 4	100.0	94.8
CH4 (ppm)	-	-	-	-	-	-	2.03	1.86	2.54	September 4 at hour 2	1.1	W	2.17	September 4	100.0	94.8
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.01	September 3 at hour 0	0.4	SE	0.00	September 3	100.0	94.8
PM2.5 (µg/m3)	80	29	-	0	1	-	9.4	1	68	September 10 at hour 17	8.7	SW	40.1	September 11	100.0	99.9
RH (%)	-	-	-	-	-	-	71.0	28	100	September 9 at hour 3	5.3	WSW	92.3	September 17	100.0	100.0
BP (millibar)	-	-	-	-	-	-	950	940	961	September 30 at hour 21	0.9	E	959	September 30	100.0	100.0
Ext. Temp. (°C)	-	-	-	-	-	-	12.5	-1.9	29.3	September 3 at hour 15	3.5	SE	19.9	September 4	100.0	100.0
Stn. Temp. (°C)	-	-	-	-	-	-	22.5	20.3	23.7	September 8 at hour 3	5.1	W	23.2	September 30	100.0	100.0
WSV (km/hr)	-	-	-	-	-	-	1.0	0.0	19.7	September 1 at hour 13	19.7	NW	9.0	September 20	100.0	100.0
WVD (sector)	-	-	-	-	-	-	261 (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)and/or Alberta Ambient Air Quality Guidelines (AAAQGs) Exceedances

The following exceedances of AAAQOs were observed at the Cold Lake South Station.

Date	Time (MST)	Parameter	Average Period	AAAQOs	Concentration	Wind speed	Wind Direction	Reference #
September 11	-	PM2.5	24-Hour	29 µg/m3	40.1 µg/m3	2.2 km/hr	37° (NE)	404238

The exceedances of the PM2.5 guideline recorded on September 11 was due to BV wildfire smoke.

Tamarack Station

Equipment Operation Summary

Parameter	Make / Model	Serial Number	Calibration Date
Sulphur Dioxide (SO₂)	Thermo / 43i-TLE	1180930031	September 13, 2022
<ul style="list-style-type: none"> No issues were identified this month. 			
Hydrogen Sulphide (H₂S)	Thermo / 450i	CM17360005	September 27, 2022
<ul style="list-style-type: none"> A successful monthly calibration was completed on September 13. The analyzer span failed on September 23. A repeat zero-span check was initiated on September 25. The analyzer failed the check results requirements. A repeat multi-point calibration was completed on September 27 to correct the drift and adjust the expected span value. As the analyzer passed the September 27 calibration check requirements, no data were discarded. However, five hours of downtime were recorded due to the additional quality checks. 			
Oxide of Nitrogen / Nitric Oxide/ Nitrogen Dioxide (NO_x/NO/NO₂)	Thermo / 42i	1180930028	September 13, 2022
<ul style="list-style-type: none"> The analyzer failed the daily zero-span check on September 23. The cause was due to high shelter temperatures. The HVAC was reset on September 23. The analyzer passed the daily zero-span check on September 24. As, the issue was isolated on the zero-span system, not the analyzer, no data were discarded as a result. 			
Ozone (O₃)	Thermo 49iQ	1202068570	September 12, 2022
<ul style="list-style-type: none"> No issues were identified this month. 			
Total Hydrocarbons / Methane/ Non-methane Hydrocarbons (THC/CH₄/NMHC)	Thermo / 55i	1314057759	September 12, 2022
<ul style="list-style-type: none"> The analyzer failed on September 11 hour 7 due to N₂ gas depletion. A new N₂ gas cylinder was installed to correct the issue following the monthly calibration on September 12. Twenty-eight hours of downtime were recorded due to this event. The H₂ gas cylinder was replaced on September 12. Data collected on September 23 between hour 12 and hour 19 were discarded as the data quality was affected by high shelter temperatures. A BV technician was dispatched on September 23 to rest the HVAC to correct improve the shelter temperature. Eight hours of downtime were recorded due to this event. 			

Parameter	Make / Model	Serial Number	Calibration Date
Particulate Matter 2.5 (PM2.5)	Thermo / Sharp 5030	CM 2209	September 13, 2022
<ul style="list-style-type: none"> No issues were identified this month. 			
Parameter	Make / Model	Serial Number	System Check Date
Relative Humidity (RH)	Rotronic / HC2A-S3	20433166	September 13, 2022
<ul style="list-style-type: none"> No issues were identified this month. 			
Ambient Temperature (AT)	Rotronic / HC2A-S3	20433166	September 13, 2022
<ul style="list-style-type: none"> No issues were identified this month. 			
Barometric Pressure (BP)	Met One / Part 090D	F4497	September 13, 2022
<ul style="list-style-type: none"> No issues were identified this month. 			
Station Temperature (ST)	BV-supplied	n/a	September 13, 2022
<ul style="list-style-type: none"> No issues were identified this month. 			
Precipitation (PRECIP)	Met One / Part 387	C13580	September 13, 2022
<ul style="list-style-type: none"> No issues were identified this month. 			
Wind Speed (WS) / Wind Direction (WD)/ Stand Deviation Wind Direction (STDWD)	RM Young / 05305VK	161465	September 13, 2022
<ul style="list-style-type: none"> Wind direction data contained in this report represents where the wind is coming from. An annual wind system calibration was completed on July 26, 2022. No issues were identified this month. 			

Monitored Data Summary for Tamarack 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	0.8	0	16	September 9 at hour 7	6.1	WNW	3.3	September 9	100.0	95.0
H2S (ppb)	10	3	-	0	0	-	0.2	0	8	September 2 at hour 20	2	ESE	1.2	September 2	99.3	94.3
NOx (ppb)	-	-	-	-	-	-	3.6	0	33	September 9 at hour 7	6.1	WNW	9.9	September 9	100.0	94.7
NO (ppb)	-	-	-	-	-	-	0.8	0	24	September 9 at hour 7	6.1	WNW	4.3	September 9	100.0	94.7
NO2 (ppb)	159	-	-	0	-	-	2.8	0	16	September 2 at hour 3	4.7	SSW	6.1	September 8	100.0	94.7
O3 (ppb)	76	-	-	0	-	-	22.5	1.1	62.1	September 4 at hour 16	5.5	SSW	32.7	September 24	100.0	94.8
THC (ppm)	-	-	-	-	-	-	2.05	1.89	3.29	September 28 at hour 8	0.1	NNW	2.23	September 4	95.0	90.3
CH4 (ppm)	-	-	-	-	-	-	2.04	1.89	2.69	September 29 at hour 1	1.2	ESE	2.19	September 4	95.0	90.3
NMHC (ppm)	-	-	-	-	-	-	0.01	0.00	0.62	September 28 at hour 8	0.1	NNW	0.05	September 28	95.0	90.3
PM2.5 (µg/m3)	80	29	-	0	0	-	6.4	0	53	September 10 at hour 17	6.6	WSW	20.8	September 11	100.0	99.9
RH (%)	-	-	-	-	-	-	72.4	28	100	September 11 at hour 2	0.6	S	95.9	September 30	100.0	100.0
BP (millibar)	-	-	-	-	-	-	937	926	947	September 21 at hour 8	6.4	SSW	946	September 30	100.0	100.0
Ext. Temp. (°C)	-	-	-	-	-	-	12.5	-0.8	28.3	September 4 at hour 15	6.1	SSW	20.6	September 4	100.0	100.0
Stn. Temp. (°C)	-	-	-	-	-	-	22.0	20.4	41.6	September 23 at hour 18	3.7	SW	26.8	September 23	100.0	100.0
Precipitation (mm)*	-	-	-	-	-	-	19.9	0.0	3.6	September 16 at hour 20	4.8	E	0.3	September 30	100.0	100.0
WSV (km/hr)	-	-	-	-	-	-	1.5	0.0	17.6	September 1 at hour 9	17.6	WNW	8.9	September 24	100.0	100.0
WDV (sector)	-	-	-	-	-	-	237 (SW)	-	-	-	-	-	-	-	100.0	100.0

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

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

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

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

St. Lina Station

Equipment Operation Summary

Parameter	Make / Model	Serial Number	Calibration Date
Sulphur Dioxide (SO₂)	Thermo / 43i-TLE	1180930030	September 15, 2022
<ul style="list-style-type: none"> No operational issues were recorded this month. Station reconfiguration was conducted between September 21 and 22. Datalogger and/or individual instruments were put offline intermittently while refit was being performed. A repeat zero-span check was completed on September 21 hour 18 as the power for the analyzer was turned back on to ensure the analyzer's functionality. Seven hours of downtime were recorded due to this event. 			
Hydrogen Sulphide (H₂S)	API 101A / Thermo 450i	324 / CM18010058	September 15, 2022
<ul style="list-style-type: none"> No operational issues were recorded this month. Station reconfiguration was conducted between September 21 and 22. Datalogger and/or individual instruments were put offline intermittently while refit was being performed. A repeat zero-span check was completed on September 21 hour 18 as the power for the analyzer was turned back on to ensure the analyzer's functionality. Seven hours of downtime were recorded due to this event. 			
Total Hydrocarbons / Methane/ Non-methane Hydrocarbons (THC/CH₄/NMHC)	Thermo / 55i	1180030034	September 14, 2022
<ul style="list-style-type: none"> No operational issues were recorded this month. Station reconfiguration was conducted between September 21 and 22. Datalogger and/or individual instruments were put offline intermittently while refit was being performed. A repeat zero-span check was completed on September 21 hour 18 as the power for the analyzer was turned back on to ensure the analyzer's functionality. Seven hours of downtime were recorded due to this event. 			
Oxide of Nitrogen / Nitric Oxide/ Nitrogen Dioxide (NO_x/NO/NO₂)	Thermo / 42i	1180930029	September 15, 2022
<ul style="list-style-type: none"> No operational issues were recorded this month. On September 20, the analyzer was put into the maintenance mode for a GPT points check to obtain the reference calibration points for the O₃ analyzer. The exhaust pump was also relocated during the time. Three hours of downtime were recorded due to this event. Station reconfiguration was conducted between September 21 and 22. Datalogger and/or individual instruments were put offline intermittently while refit was being performed. A repeat zero-span check was completed on September 21 hour 18 as the power for the analyzer was turned back on to ensure the analyzer's functionality. Seven hours of downtime were recorded due to this event. 			

Parameter	Make / Model	Serial Number	Calibration Date
Ozone (O3)	Thermo 49i / Thermo 49iQ	1002240371 / 12208316586	September 21, 2022
<ul style="list-style-type: none"> • A successful monthly calibration was completed on September 14. • Following a successful shut- down calibration on September 20, the Thermo 49i analyzer, s/n: 1002240371, was removed. The Thermo 49iQ analyzer, s/n: 12208316586, was then installed. The analyzer was allowed time to stabilize overnight. A successful installation calibration was completed on September 21. Twenty-three hours of downtime were recorded due to this event. • Station reconfiguration was conducted between September 21 and 22. Datalogger and/or individual instruments were put offline intermittently while refit was being performed. A repeat zero-span check was completed on September 21 hour 18 as the power for the analyzer was turned back on to ensure the analyzer’s functionality. Seven hours of downtime were recorded due to this event. 			
Particulate Matter 2.5 (PM2.5)	Thermo / Sharp 5030i	CM17091001	September 15, 2022
<ul style="list-style-type: none"> • No issues were identified this month. • Station reconfiguration was conducted between September 21 and 22. Datalogger and/or individual instruments were put offline intermittently while refit was being performed. Eight hours of downtime were recorded due to this event. 			
Relative Humidity (RH)	Rotonic / HC2-S3	20221366	September 15, 2022
<ul style="list-style-type: none"> • No issues were identified this month. • Station reconfiguration was conducted between September 21 and 22. Datalogger and/or individual instruments were put offline intermittently while refit was being performed. Six hours of downtime were recorded due to this event. 			
Ambient Temperature (AT)	Rotonic / HC2-S3	20221366	September 15, 2022
<ul style="list-style-type: none"> • No issues were identified this month. • Station reconfiguration was conducted between September 21 and 22. Datalogger and/or individual instruments were put offline intermittently while refit was being performed. Six hours of downtime were recorded due to this event. 			
Barometric Pressure (BP)	Met One / Part 090D	F4998	September 15, 2022
<ul style="list-style-type: none"> • No issues were identified this month. • Station reconfiguration was conducted between September 21 and 22. Datalogger and/or individual instruments were put offline intermittently while refit was being performed. Six hours of downtime were recorded due to this event. 			

Parameter	Make / Model	Serial Number	System Check Date
Station Temperature (ST)	BV-supplied	n/a	September 15, 2022
<ul style="list-style-type: none"> No issues were identified this month. Station reconfiguration was conducted between September 21 and 22. Datalogger and/or individual instruments were put offline intermittently while refit was being performed. Five hours of downtime were recorded due to this event. 			
Precipitation (PRECIP)	Met One / Part 387D	A23775	September 15, 2022
<ul style="list-style-type: none"> No issues were identified this month. Station reconfiguration was conducted between September 21 and 22. Datalogger and/or individual instruments were put offline intermittently while refit was being performed. Six hours of downtime were recorded due to this event. 			
Wind Speed (WS) / Wind Direction (WD)/ Stand Deviation Wind Direction (STDWD)	RM Young / 05305VK	161466	September 15, 2022
<ul style="list-style-type: none"> Wind direction data contained in this report represents where the wind is coming from. An annual wind system calibration was completed on July 22, 2022. Station reconfiguration was conducted between September 21 and 22. Datalogger and/or individual instruments were put offline intermittently while refit was being performed. Six hours of downtime were recorded due to this event. The channels were put offline on September 30 hour 11 and 12 while work was being performed on the wind tower. Two hours of downtime were recorded due to this event. 			

Monitored Data Summary for St. Lina 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	6	September 3 at hour 12	5	SSW	0.8	September 3	99.0	94.0
H2S (ppb)	10	3	-	0	0	-	0.1	0	1	September 1 at hour 6	10.6	NW	0.5	September 15	99.0	94.0
NOx (ppb)	-	-	-	-	-	-	1.7	0	11	September 29 at hour 7	9.9	ENE	5.2	September 29	98.6	93.3
NO (ppb)	-	-	-	-	-	-	0.0	0	2	September 25 at hour 8	4.8	SW	0.3	September 25	98.6	93.3
NO2 (ppb)	159	-	-	0	-	-	1.6	0	11	September 29 at hour 7	9.9	ENE	4.9	September 29	98.6	93.3
O3 (ppb)	76	-	-	0	-	-	27.7	10.5	57.8	September 3 at hour 13	5.4	SSW	44.5	September 11	96.0	91.2
THC (ppm)	-	-	-	-	-	-	2.06	1.95	2.38	September 4 at hour 6	7.9	SSW	2.18	September 4	99.0	94.1
CH4 (ppm)	-	-	-	-	-	-	2.06	1.95	2.38	September 4 at hour 6	7.9	SSW	2.18	September 4	99.0	94.1
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.34	September 6 at hour 13	14.2	W	0.02	September 6	99.0	94.1
PM2.5 (µg/m3)	80	29	-	0	1	-	7.4	0	57	September 11 at hour 4	6.5	ENE	36.1	September 11	98.9	98.8
RH (%)	-	-	-	-	-	-	68.4	23	100	September 1 at hour 23	6.6	SW	100.0	September 30	99.2	99.2
BP (millibar)	-	-	-	-	-	-	919	909	928	September 30 at hour 20	5.6	NE	927	September 30	99.2	99.2
Ext. Temp. (°C)	-	-	-	-	-	-	13.7	2.7	30.4	September 3 at hour 15	6.6	SE	21.9	September 4	99.2	99.2
Stn. Temp. (°C)	-	-	-	-	-	-	23.0	20.8	23.9	September 30 at hour 23	7.6	E	23.6	September 30	99.3	99.3
Precipitation (mm)*	-	-	-	-	-	-	11.9	0.0	3.2	September 30 at hour 11	n/a	n/a	0.3	September 30	99.2	99.2
WSV (km/hr)	-	-	-	-	-	-	2.6	1.6	23.6	September 1 at hour 11	23.6	NW	12.5	September 24	98.9	98.9
WDV (sector)	-	-	-	-	-	-	254 (WSW)	-	-	-	-	-	-	-	98.9	98.9

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

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

n/a: Valid data is not available

Alberta Ambient Air Quality Objectives (AAAQOs)and/or Alberta Ambient Air Quality Guidelines (AAAQGs) Exceedances

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

Date	Time (MST)	Parameter	Average Period	AAAQOs	Concentration	Wind speed	Wind Direction	Reference #
September 11	-	PM2.5	24-Hour	29 µg/m3	36.1 µg/m3	4.6 km/hr	66° (ENE)	404239

The exceedances of the PM2.5 objective was due to BC wildfire smoke.

Lac La Biche Station

Equipment Operation Summary

Parameter	Make / Model	Serial Number	Calibration Date
Sulphur Dioxide (SO₂)	Thermo / 43i-TLE	1180320043	September 7, 2022
<ul style="list-style-type: none"> No issues were identified this month. The datalogger communication was lost between September 3 and September 6. The data logger was reset on September 6 and channels were back online at 10:40. A repeat zero-span check was completed at hour 11 to confirm the analyzer's functionality. The analyzer passed the calibration check requirements. The root cause for the event was because the UPS system triggered the shutdown of the logger. Seventy-five hours of downtime were recorded due to this event. 			
Hydrogen Sulphide (H₂S)	Teledyne T100 / API 101A	1014 / 324	September 8, 2022
<ul style="list-style-type: none"> The datalogger communication was lost between September 3 and September 6. The data logger was reset on September 6 and channels were back online at 10:40. A repeat zero-span check was completed at hour 11 to confirm the analyzer's functionality. The analyzer passed the calibration check requirements. The root cause for the event was because the UPS system triggered the shutdown of the logger. Seventy-five hours of downtime were recorded due to this event. Following a successful shut-down calibration on September 7, the BV-supplied Teledyne T100 analyzer was removed due to stability issues. The API 101A analyzer, s/n: 324, was installed and allowed to stabilize overnight. A successful installation calibration was completed on September 8. Twenty-one hours of downtime were recorded due to this event. 			
Oxide of Nitrogen / Nitric Oxide/ Nitrogen Dioxide (NO_x/NO/NO₂)	Thermo / 42i	1180930027	September 7, 2022
<ul style="list-style-type: none"> No issues were identified this month. The datalogger communication was lost between September 3 and September 6. The data logger was reset on September 6 and channels were back online at 10:40. A repeat zero-span check was completed at hour 11 to confirm the analyzer's functionality. The analyzer passed the calibration check requirements. The root cause for the event was because the UPS system triggered the shutdown of the logger. Seventy-five hours of downtime were recorded due to this event. 			

Parameter	Make / Model	Serial Number	Calibration Date
Ozone (O3)	Thermo 49i	1002240372	September 9, 2022
<ul style="list-style-type: none"> The datalogger communication was lost between September 3 and September 6. The data logger was reset on September 6 and channels were back online at 10:40. A repeat zero-span check was completed at hour 11 to confirm the analyzer's functionality. The analyzer passed the calibration check requirements. The root cause for the event was because the UPS system triggered the shutdown of the logger. Seventy-five hours of downtime were recorded due to this event. Following a successful shut-down calibration on September 9, a new flow sensor was installed. A post-repair calibration was completed afterwards. One hour of downtime was recorded due to this event. 			
Total Hydrocarbons / Methane/ Non-methane Hydrocarbons (THC/CH4/NMHC)	Thermo / 55i	1180320044	September 8, 2022
<ul style="list-style-type: none"> No issues were identified this month. The datalogger communication was lost between September 3 and September 6. The data logger was reset on September 6 and channels were back online at 10:40. A repeat zero-span check was completed at hour 11 to confirm the analyzer's functionality. The analyzer passed the calibration check requirements. The root cause for the event was because the UPS system triggered the shutdown of the logger. Seventy-five hours of downtime were recorded due to this event. 			
Particulate Matter 2.5 (PM2.5)	Thermo / Sharp 5030i	CM 17071016	September 8, 2022
<ul style="list-style-type: none"> No issues were identified this month. The datalogger communication was lost between September 3 and September 6. The data logger was reset on September 6 and channels were back online at 10:40. The root cause for the event was because the UPS system triggered the shutdown of the logger. Seventy-four hours of downtime were recorded due to this event. 			
Parameter	Make / Model	Serial Number	System Check Date
Relative Humidity (RH)	Rotronic / HC2A-S3	0020357518	September 9, 2022
<ul style="list-style-type: none"> No issues were identified this month. The datalogger communication was lost between September 3 and September 6. The data logger was reset on September 6 and channels were back online at 10:40. The root cause for the event was because the UPS system triggered the shutdown of the logger. Seventy-four hours of downtime were recorded due to this event. 			

Parameter	Make / Model	Serial Number	System Check Date
Ambient Temperature (AT)	Rotronic / HC2A-S3	0020357518	September 9, 2022
<ul style="list-style-type: none"> No issues were identified this month. The datalogger communication was lost between September 3 and September 6. The data logger was reset on September 6 and channels were back online at 10:40. The root cause for the event was because the UPS system triggered the shutdown of the logger. Seventy-four hours of downtime were recorded due to this event. 			
Barometric Pressure (BP)	Met One / Part 092	Y23360	September 9, 2022
<ul style="list-style-type: none"> No issues were identified this month. The datalogger communication was lost between September 3 and September 6. The data logger was reset on September 6 and channels were back online at 10:40. The root cause for the event was because the UPS system triggered the shutdown of the logger. Seventy-four hours of downtime were recorded due to this event. 			
Station Temperature (ST)	BV-supplied	n/a	September 9, 2022
<ul style="list-style-type: none"> No issues were identified this month. The datalogger communication was lost between September 3 and September 6. The data logger was reset on September 6 and channels were back online at 10:40. The root cause for the event was because the UPS system triggered the shutdown of the logger. Seventy-four hours of downtime were recorded due to this event. 			
Wind Speed (WS) / Wind Direction (WD)/ Stand Deviation Wind Direction (STDWD)	RM Young / 05305VK	56778	September 9, 2022
<ul style="list-style-type: none"> Wind direction data contained in this report represents where the wind is coming from. The last annual wind system calibration was completed on May 9, 2022. No issues were identified this month. The datalogger communication was lost between September 3 and September 6. The data logger was reset on September 6 and channels were back online at 10:40. The root cause for the event was because the UPS system triggered the shutdown of the logger. Seventy-four hours of downtime were recorded due to this event. 			

Monitored Data Summary for Lac La Biche Station

Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.1	0	2	September 28 at hour 13	5.8	N	0.4	September 28	89.6	84.8
H2S (ppb)	10	3	-	0	0	-	0.0	0	2	September 1 at hour 4	4.6	W	0.4	September 1	86.7	81.8
NOx (ppb)	-	-	-	-	-	-	2.7	0	29	September 26 at hour 7	2	S	6.0	September 28	89.6	84.6
NO (ppb)	-	-	-	-	-	-	0.2	0	20	September 26 at hour 7	2	S	1.4	September 26	89.6	84.6
NO2 (ppb)	159	-	-	0	-	-	2.4	0	19	September 28 at hour 21	0.1	E	5.6	September 28	89.6	84.6
O3 (ppb)	76	-	-	0	-	-	23.9	2.6	51.9	September 28 at hour 15	6.1	N	33.4	September 24	89.4	84.7
THC (ppm)	-	-	-	-	-	-	2.01	1.92	2.33	September 28 at hour 22	0.8	ESE	2.10	September 28	89.6	85.0
CH4 (ppm)	-	-	-	-	-	-	2.01	1.92	2.33	September 28 at hour 22	0.8	ESE	2.10	September 28	89.6	85.0
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.04	September 14 at hour 7	2.4	SSW	0.00	September 14	89.6	85.0
PM2.5 (µg/m3)	80	29	-	0	1	-	6.4	1	56	September 11 at hour 0	4.4	SE	31.2	September 11	89.7	89.6
RH (%)	-	-	-	-	-	-	70.3	24	100	September 11 at hour 4	1.3	S	96.4	September 18	89.7	89.7
BP (millibar)	-	-	-	-	-	-	947	936	957	September 30 at hour 20	4.7	SE	955	September 30	89.7	89.7
Ext. Temp. (°C)	-	-	-	-	-	-	13.2	2.6	28.0	September 2 at hour 17	3.7	SSE	18.1	September 2	89.7	89.7
Stn. Temp. (°C)	-	-	-	-	-	-	22.2	19.7	23.2	September 18 at hour 7	4.5	SSE	22.6	September 19	89.7	89.7
WSV (km/hr)	-	-	-	-	-	-	1.3	0.1	26.0	September 1 at hour 12	26	NW	12.0	September 8	89.7	89.7
WDV (sector)	-	-	-	-	-	-	238 (SW)	-	-	-	-	-	-	-	89.7	89.7

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

Alberta Ambient Air Quality Objectives (AAAQOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) Exceedances

The following exceedances of AAAQOs were observed at the Lac La Biche Station.

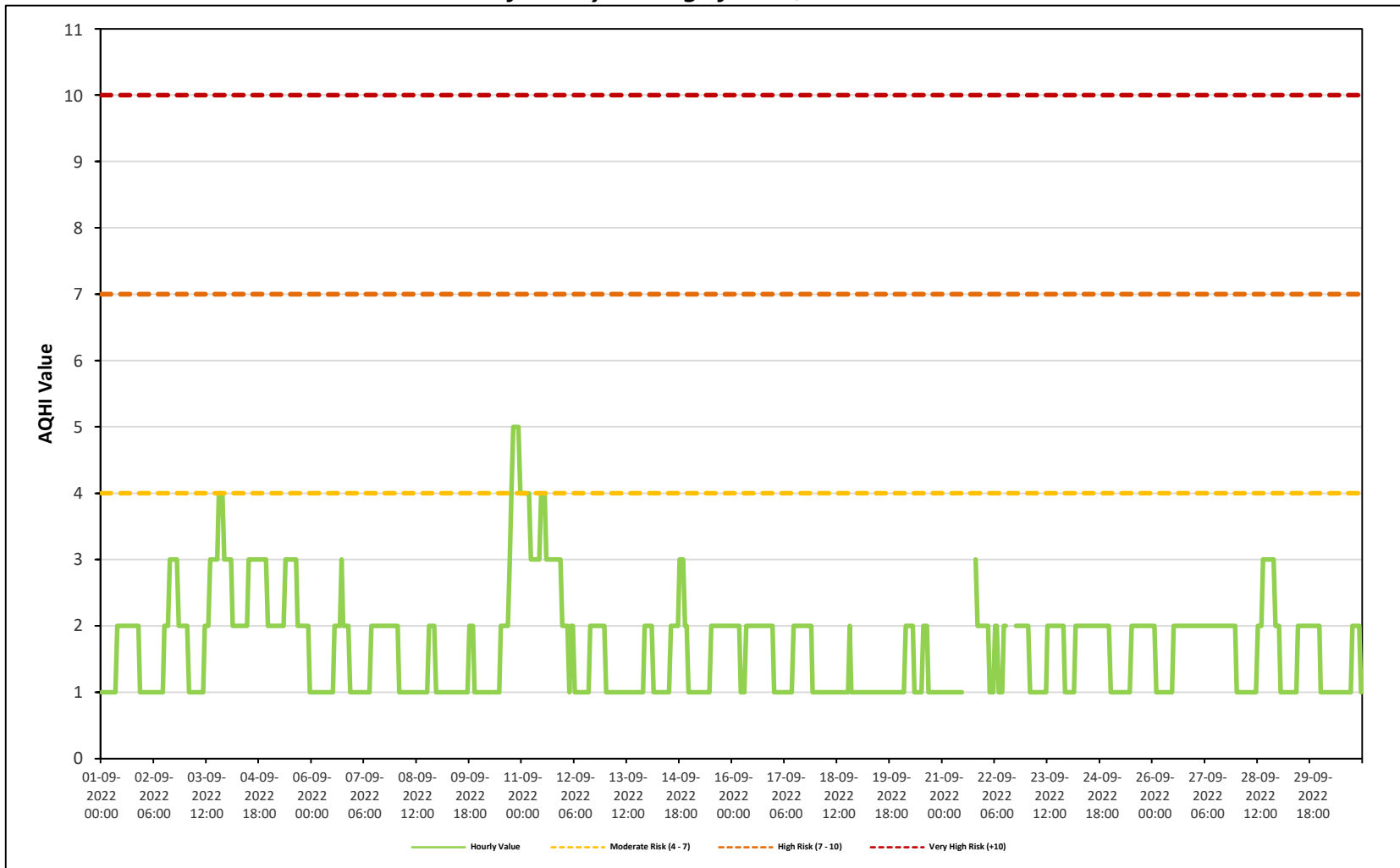
Date	Time (MST)	Parameter	Average Period	AAAQOs	Concentration	Wind speed	Wind Direction	Reference #
September 11	-	PM2.5	24-Hour	29 µg/m3	31.2 µg/m3	2.4 km/hr	8° (N)	404240

The exceedances of the PM2.5 objective was due to BC wildfire smoke.

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 - September 2022

Summary of Hourly Averages

SULPHUR DIOXIDE (SO₂) in ppb

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

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

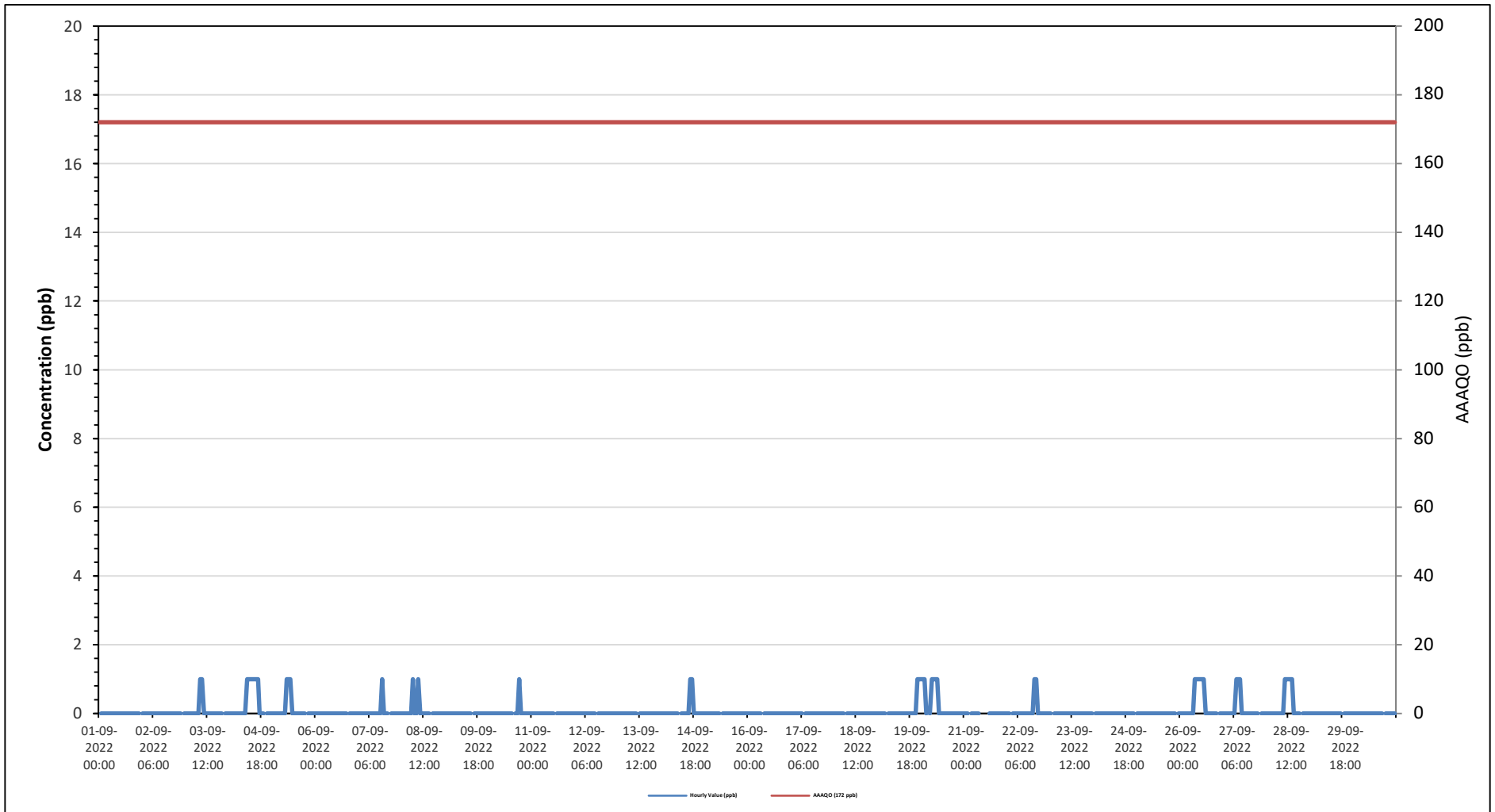
Maximum Hourly Value:	1 ppb on September 3 at hour 8	Hours in Service:	720
Maximum Daily Value:	0.3 ppb on September 4	Hours of Data:	683
Minimum Hourly Value:	0 ppb on September 1 at hour 1	Hours of Missing Data:	0
Minimum Daily Value:	0.0 ppb on September 1	Hours of Calibration:	37
Monthly Average:	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		
Sep 1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0.0	
Sep 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	S	0	0	0	0.0
Sep 3	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0.1
Sep 4	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0.1	
Sep 5	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	
Sep 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
Sep 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
Sep 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
Sep 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
Sep 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
Sep 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 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
Sep 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
Sep 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
Sep 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
Sep 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
Sep 17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 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
Sep 21	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 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
Sep 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
Sep 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
Sep 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
Sep 27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 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
Sep 29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Diurnal Maximum	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1	1				
Diurnal Average	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

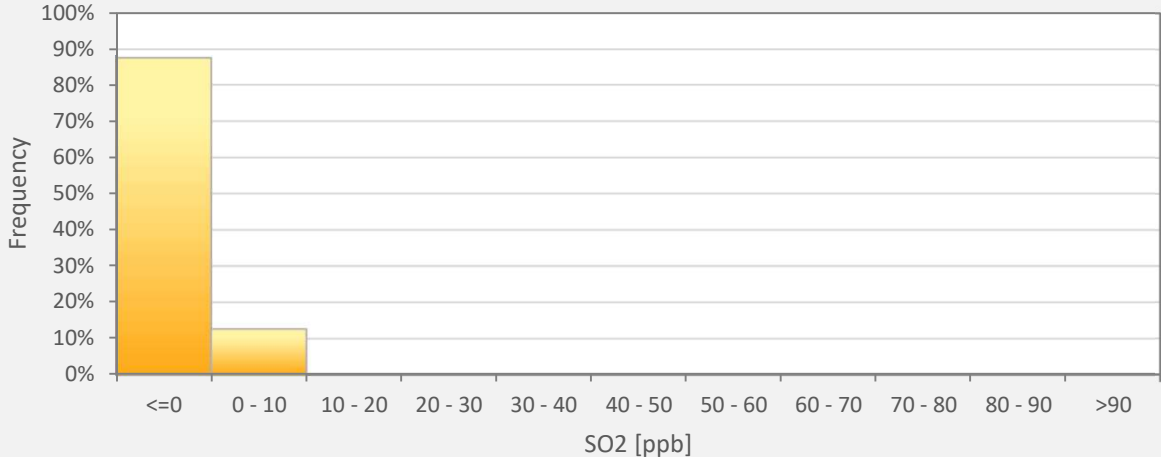
C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N No Data (Machine Not in Service)	Y Routine Maintenance
X InValid Data (Equipment Malfunction/Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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

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



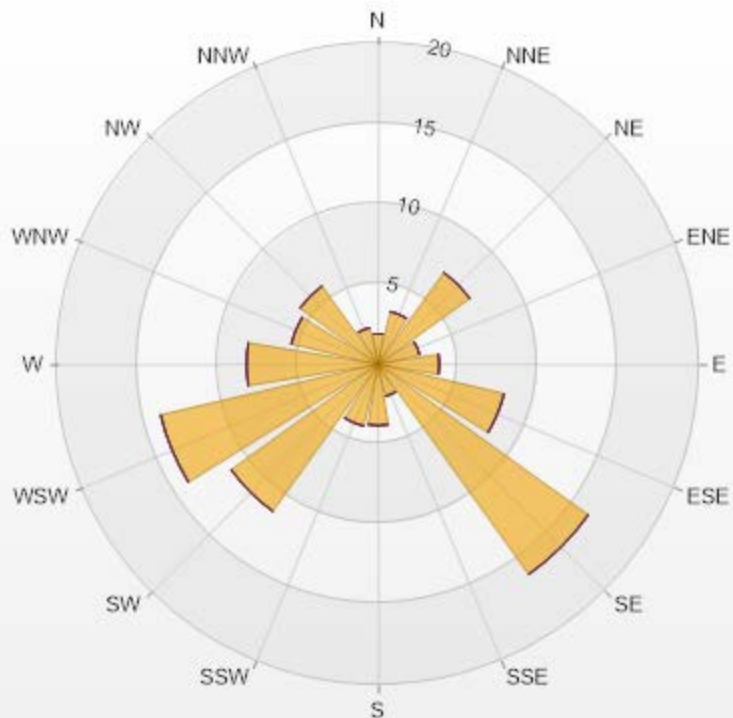
SO2[ppb] Histogram: Cold Lake South Monthly: 09-2022 1 Hr.



Classes	SO2
<=0	87.41%
0 - 10	12.59%
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: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.86% Calm Avg: 0.00 [ppb]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	1.9	0	0	0	0	1.9
NNE	3.37	0	0	0	0	3.37
NE	7.03	0	0	0	0	7.03
ENE	2.64	0	0	0	0	2.64
E	3.81	0	0	0	0	3.81
ESE	8.05	0	0	0	0	8.05
SE	16.11	0	0	0	0	16.11
SSE	2.05	0	0	0	0	2.05
S	3.81	0	0	0	0	3.81
SSW	3.95	0	0	0	0	3.95
SW	11.27	0	0	0	0	11.27
WSW	13.91	0	0	0	0	13.91
W	8.2	0	0	0	0	8.2
WNW	5.56	0	0	0	0	5.56
NW	6	0	0	0	0	6
NNW	2.34	0	0	0	0	2.34
Summary	100	0	0	0	0	100



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% Icon Classes (ppb)

100 0-10

0 10-50

0 50-100

0 100-172

0 >172.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - September 2022

Summary of Hourly Averages

TOTAL REDUCED SULPHUR (TRS) in ppb

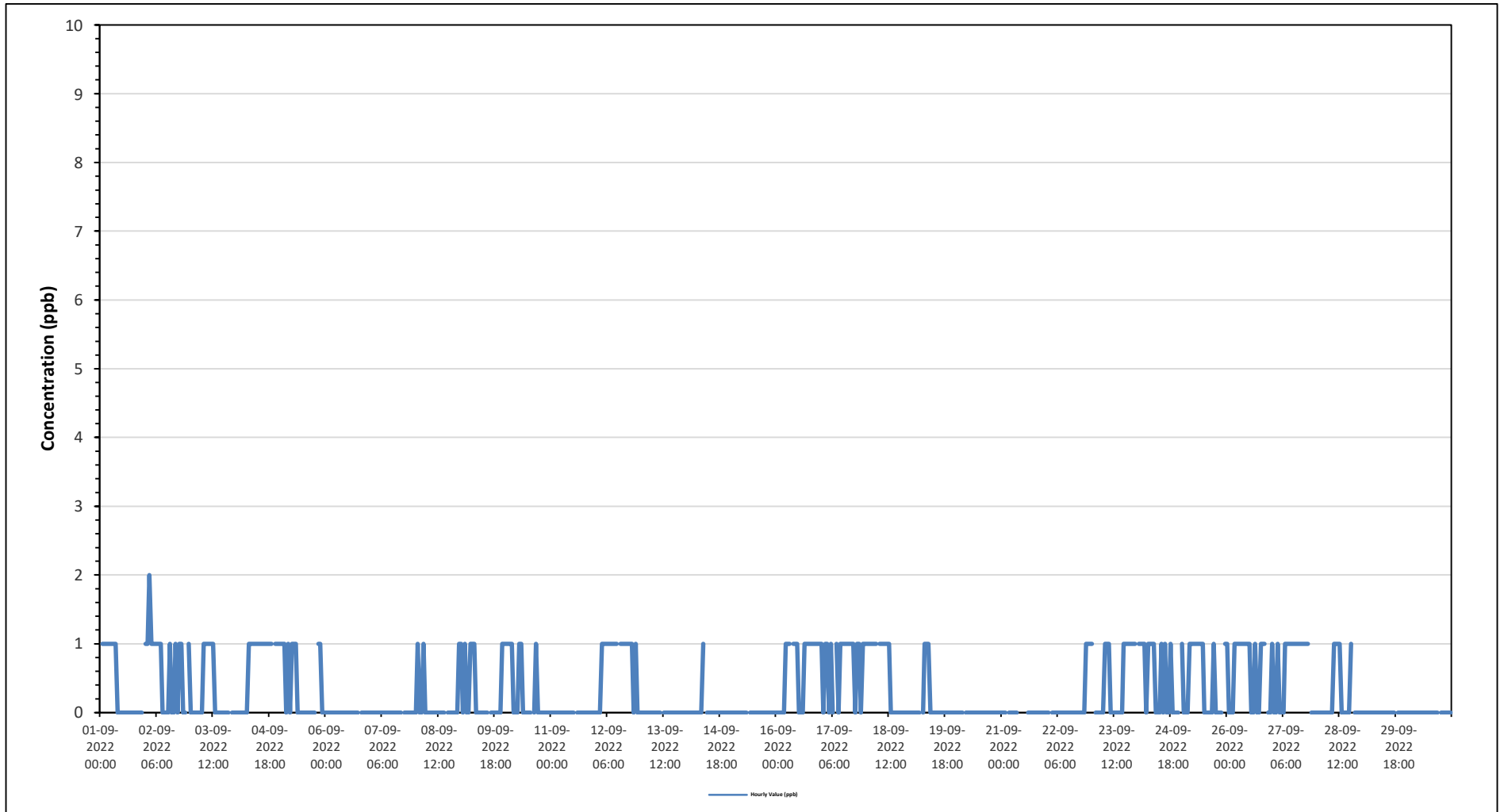
Maximum Hourly Value:	2 ppb on September 2 at hour 2	Hours in Service:	720
Maximum Daily Value:	0.7 ppb on September 12	Hours of Data:	683
Minimum Hourly Value:	0 ppb on September 1 at hour 9	Hours of Missing Data:	0
Minimum Daily Value:	0.0 ppb on September 6	Hours of Calibration:	37
Monthly Average:	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			
Sep 1	S	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0.4
Sep 2	1	1	2	1	1	1	1	1	1	0	0	0	0	1	0	0	1	0	1	1	0	0	S	1	0	2	0.7
Sep 3	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	S	0	0	1	0.3	
Sep 4	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	0	0.7	
Sep 5	1	1	1	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	S	1	1	0	0	1	0.4	
Sep 6	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	
Sep 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0.0	
Sep 8	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	1	0.1	
Sep 9	1	0	1	0	0	1	1	1	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	1	1	0.3	
Sep 10	1	1	1	1	0	0	0	1	1	0	0	0	0	0	S	0	1	0	0	0	0	0	0	0	0	0.3	
Sep 11	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0.0	
Sep 12	0	0	0	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	0	1	0	0	0	0.7	
Sep 13	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
Sep 14	0	0	0	0	0	0	0	0	0	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
Sep 15	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	
Sep 16	0	0	0	0	0	1	1	1	S	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	0.7	
Sep 17	1	0	1	1	0	1	0	S	1	0	1	1	1	1	1	1	1	1	0	1	1	0	1	1	0	0.7	
Sep 18	1	1	1	1	1	1	S	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.5	
Sep 19	0	0	0	0	0	S	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	
Sep 20	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
Sep 21	0	0	0	S	0	0	0	0	0	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0.0	
Sep 22	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.1	
Sep 23	1	S	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0.5	
Sep 24	S	1	1	1	1	0	1	1	1	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	S	0.5	
Sep 25	1	0	0	0	1	1	1	1	1	1	1	1	0	0	0	1	0	0	1	0	0	0	0	1	0	0.5	
Sep 26	1	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1	1	1	1	S	0	0	0.6	
Sep 27	1	0	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	0	0	0	0.7	
Sep 28	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	S	0	0	0	0	0	0.2	
Sep 29	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	
Sep 30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0.0	
Diurnal Maximum	1.0	1.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Diurnal Average	0.4	0.2	0.3	0.3	0.3	0.3	0.3	0.6	0.5	0.5	0.4	0.4	0.3	0.2	0.1	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	

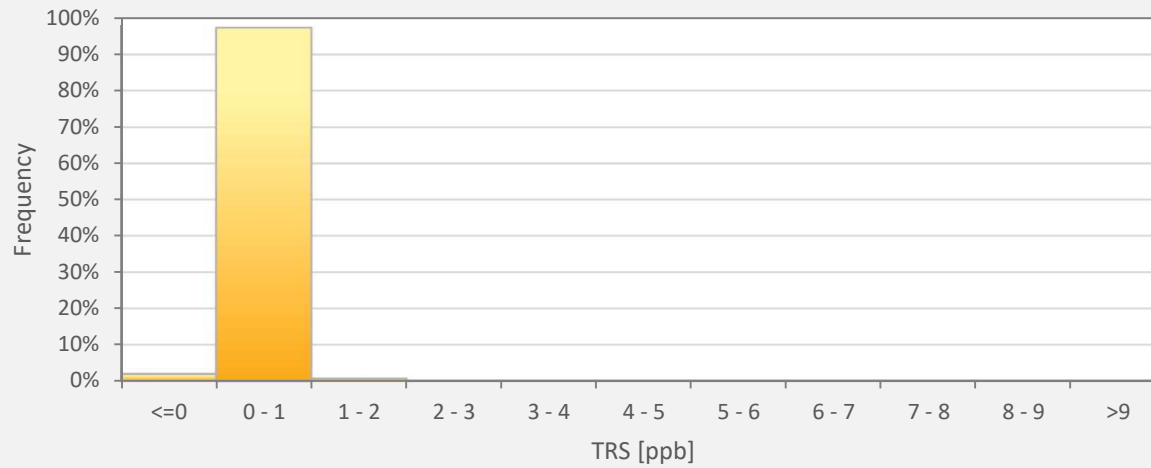
C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N No Data (Machine Not in Service)	Y Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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

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



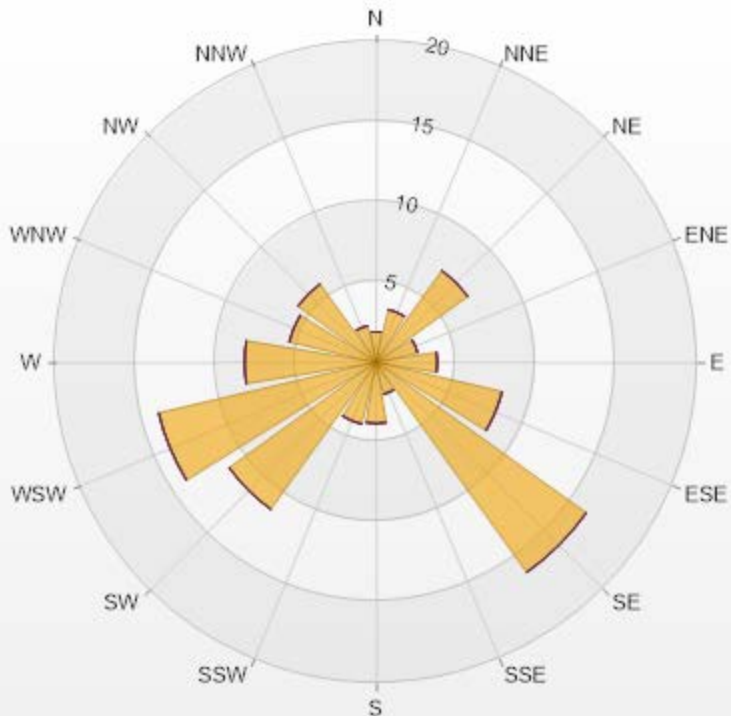
TRS[ppb] Histogram: Cold Lake South Monthly: 09-2022 1 Hr.



Classes	TRS
<=0	1.90%
0 - 1	97.36%
1 - 2	0.73%
2 - 3	0.00%
3 - 4	0.00%
4 - 5	0.00%
5 - 6	0.00%
6 - 7	0.00%
7 - 8	0.00%
8 - 9	0.00%
>9	0.00%

Wind: Cold Lake South Poll.: Cold Lake South-TRS[ppb] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.86% Calm Avg: 0.00 [ppb]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	1.9	0	0	0	0	1.9
NNE	3.37	0	0	0	0	3.37
NE	7.03	0	0	0	0	7.03
ENE	2.64	0	0	0	0	2.64
E	3.81	0	0	0	0	3.81
ESE	8.05	0	0	0	0	8.05
SE	16.11	0	0	0	0	16.11
SSE	2.05	0	0	0	0	2.05
S	3.81	0	0	0	0	3.81
SSW	3.95	0	0	0	0	3.95
SW	11.27	0	0	0	0	11.27
WSW	13.91	0	0	0	0	13.91
W	8.2	0	0	0	0	8.2
WNW	5.56	0	0	0	0	5.56
NW	6	0	0	0	0	6
NNW	2.34	0	0	0	0	2.34
Summary	100	0	0	0	0	100



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% Icon Classes (ppb)

100 0-2

0 2-5

0 5-10

0 10-50

0 >50.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - September 2022

Summary of Hourly Averages

OXIDES OF NITROGEN (NOx) in ppb

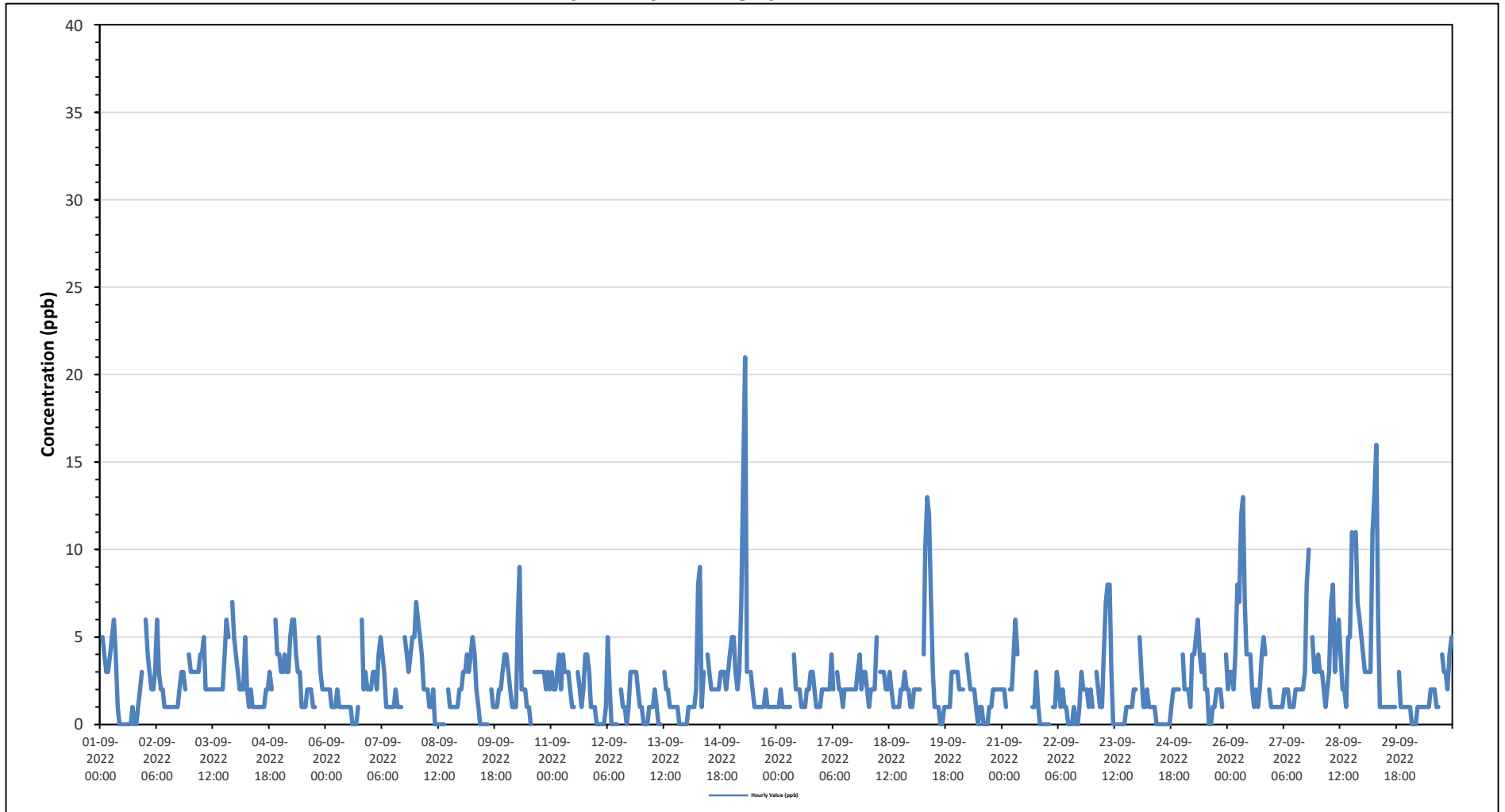
Maximum Hourly Value:	21 ppb on September 15 at hour 7	Hours in Service:	720
Maximum Daily Value:	4.6 ppb on September 28	Hours of Data:	681
Minimum Hourly Value:	0 ppb on September 1 at hour 10	Hours of Missing Data:	0
Minimum Daily Value:	0.8 ppb on September 13	Hours of Calibration:	39
Monthly Average:	2.3 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	
Sep 1	S	5	4	3	3	4	5	6	4	1	0	0	0	0	0	0	0	1	0	0	1	2	3	S	0	6	1.9	
Sep 2	6	4	3	2	2	3	6	3	2	2	1	1	1	1	1	1	1	1	2	3	3	2	S	4	1	6	2.4	
Sep 3	3	3	3	3	3	4	4	5	2	2	2	2	2	2	2	2	2	2	4	6	5	S	7	5	2	7	3.3	
Sep 4	4	3	2	2	2	5	2	1	2	1	1	1	1	1	1	1	2	2	3	2	S	6	4	4	1	6	2.3	
Sep 5	3	3	4	3	3	5	6	6	4	3	3	1	1	1	2	2	2	1	1	S	5	3	2	2	1	6	2.9	
Sep 6	2	2	2	1	1	1	2	1	1	1	1	1	1	1	0	0	0	1	S	6	2	3	2	2	0	6	1.5	
Sep 7	2	3	3	2	4	5	4	3	1	1	1	1	2	1	1	1	S	S	5	4	3	4	5	5	1	5	2.7	
Sep 8	7	6	5	4	2	2	2	1	1	2	0	0	0	0	0	0	S	2	1	1	1	1	1	2	0	7	1.8	
Sep 9	2	3	3	4	3	4	5	4	2	1	0	0	0	0	0	S	2	1	1	1	2	2	3	4	0	5	2.0	
Sep 10	4	3	2	1	1	1	6	9	2	2	2	1	1	1	S	3	3	3	3	3	3	2	3	2	0	9	2.6	
Sep 11	3	2	2	3	4	2	4	3	3	3	2	1	1	S	3	2	1	2	4	4	3	1	1	1	1	4	2.4	
Sep 12	0	0	0	0	0	1	5	2	0	0	0	0	S	2	1	1	0	1	3	3	3	3	2	1	0	5	1.2	
Sep 13	1	0	0	0	1	1	1	2	1	0	0	S	3	2	2	1	1	1	1	1	0	0	0	0	0	3	0.8	
Sep 14	0	1	1	1	1	2	8	9	1	3	S	4	3	2	2	2	2	2	3	3	3	2	3	4	0	9	2.7	
Sep 15	5	5	3	2	3	7	14	21	3	S	3	2	1	1	1	1	1	2	1	1	1	1	1	1	1	21	3.5	
Sep 16	1	1	2	1	1	1	1	1	S	4	2	2	2	1	1	1	2	2	3	3	2	1	1	1	1	4	1.6	
Sep 17	2	2	2	2	2	4	2	S	3	2	2	1	2	2	2	2	2	2	2	3	4	2	3	3	1	4	2.3	
Sep 18	2	1	2	2	2	5	S	3	3	3	2	2	3	2	1	1	1	1	2	2	3	2	2	1	1	5	2.1	
Sep 19	1	2	2	2	2	S	4	10	13	12	7	3	1	1	0	0	1	1	1	1	1	3	3	3	0	13	3.2	
Sep 20	3	2	2	2	S	4	3	2	2	2	1	0	1	1	0	0	0	1	1	2	2	2	2	2	0	4	1.6	
Sep 21	2	2	1	S	2	2	4	6	4	C	C	C	C	C	C	C	C	1	1	3	1	0	0	0	0	6	-	
Sep 22	0	0	S	1	1	3	2	1	2	1	1	0	0	0	0	0	1	0	0	1	3	2	2	1	2	0	3	1.1
Sep 23	1	S	3	2	1	1	4	7	8	8	3	0	0	0	0	0	0	0	1	1	1	1	2	2	0	8	2.0	
Sep 24	S	5	3	1	1	2	1	1	1	1	0	0	0	0	0	0	0	0	1	2	2	2	2	S	0	5	1.1	
Sep 25	4	2	2	2	1	4	4	5	6	4	3	4	2	2	0	0	1	1	2	2	2	2	S	4	0	6	2.5	
Sep 26	2	3	3	2	4	8	7	12	13	7	4	4	4	4	2	1	2	1	2	4	5	4	S	2	1	1	13	4.2
Sep 27	1	1	1	1	1	1	2	2	2	1	1	1	2	2	2	2	3	8	10	S	5	3	3	3	1	10	2.5	
Sep 28	4	3	3	2	1	2	3	7	8	3	5	6	4	2	2	1	5	5	11	S	11	7	6	5	1	11	4.6	
Sep 29	4	3	3	3	3	11	13	16	6	1	1	1	1	1	1	1	1	1	S	3	1	1	1	1	1	16	3.4	
Sep 30	1	1	0	0	0	1	1	1	1	1	1	1	2	2	2	1	1	S	4	3	3	2	4	5	0	5	1.7	
Diurnal Maximum	7	6	5	4	4	11	14	21	13	12	7	6	4	2	3	3	5	5	11	10	11	7	7	5				
Diurnal Average	2.5	2.4	2.3	1.9	1.9	3.3	4.3	5.2	3.5	2.6	1.8	1.4	1.4	1.2	1.1	1.0	1.2	1.5	2.8	2.8	2.6	2.3	2.5	2.5				

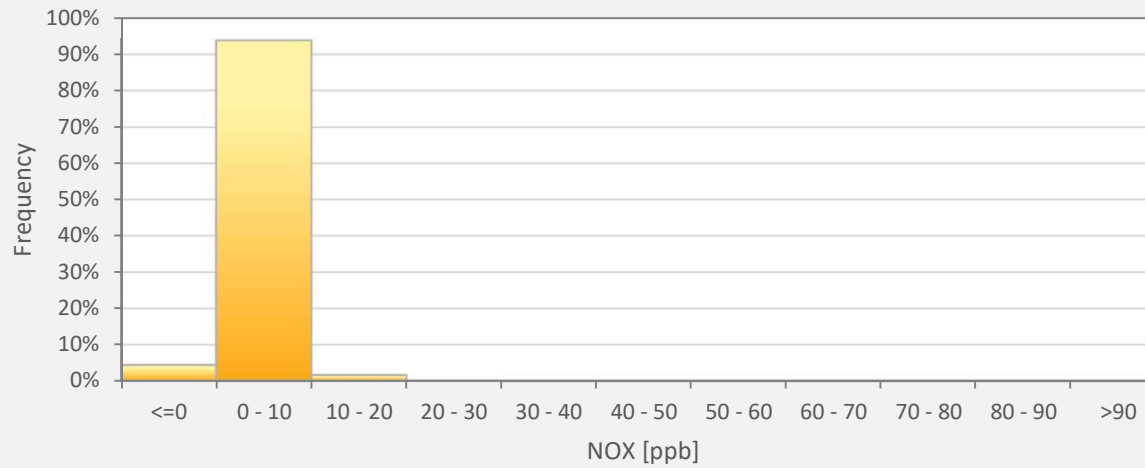
C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N No Data (Machine Not in Service)	Y Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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

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



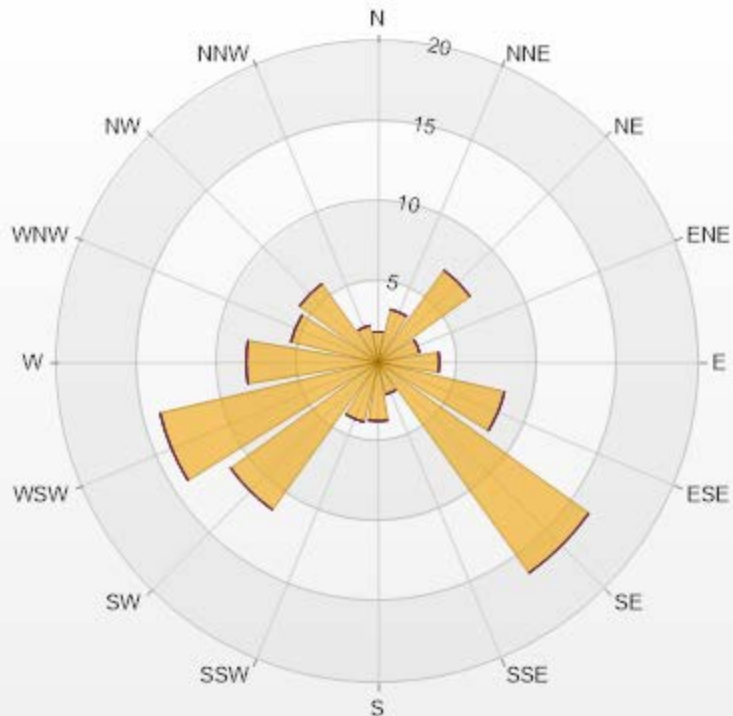
NOX[ppb] Histogram: Cold Lake South Monthly: 09-2022 1 Hr.



Classes	NOX
<=0	4.41%
0 - 10	93.83%
10 - 20	1.62%
20 - 30	0.15%
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: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.58% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.91	0	0	0	0	1.91
NNE	3.38	0	0	0	0	3.38
NE	7.05	0	0	0	0	7.05
ENE	2.64	0	0	0	0	2.64
E	3.82	0	0	0	0	3.82
ESE	8.08	0	0	0	0	8.08
SE	16.15	0	0	0	0	16.15
SSE	2.06	0	0	0	0	2.06
S	3.67	0	0	0	0	3.67
SSW	3.82	0	0	0	0	3.82
SW	11.31	0	0	0	0	11.31
WSW	13.95	0	0	0	0	13.95
W	8.22	0	0	0	0	8.22
WNW	5.58	0	0	0	0	5.58
NW	6.02	0	0	0	0	6.02
NNW	2.35	0	0	0	0	2.35
Summary	100	0	0	0	0	100



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% Icon Classes (ppb)

100

0-30

0

30-50

0

50-76

0

76-159

0

>159.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - September 2022

Summary of Hourly Averages

NITRIC OXIDE (NO) in ppb

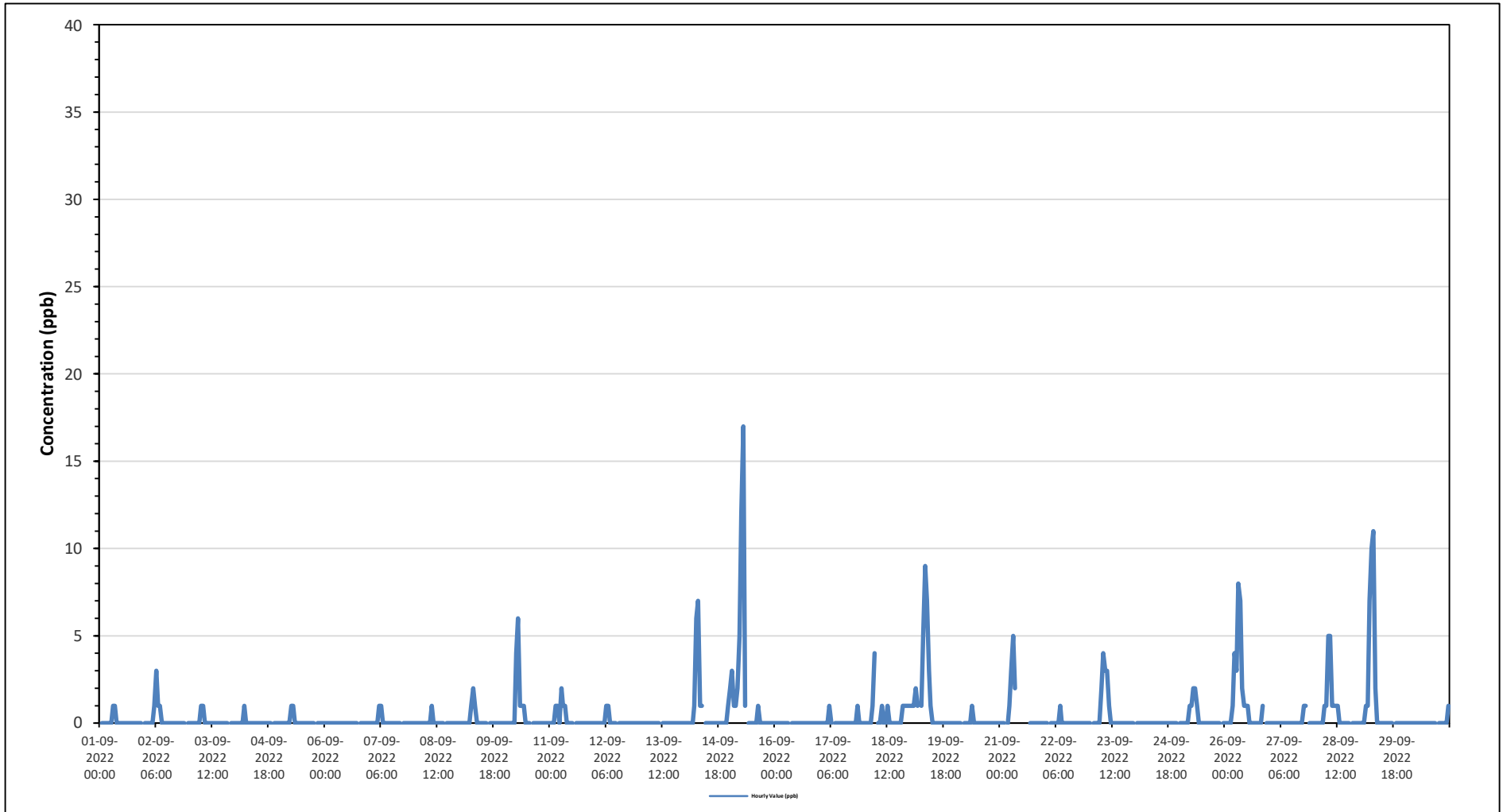
Maximum Hourly Value:	17 ppb on September 15 at hour 7	Hours in Service:	720
Maximum Daily Value:	2.0 ppb on September 15	Hours of Data:	681
Minimum Hourly Value:	0 ppb on September 1 at hour 1	Hours of Missing Data:	0
Minimum Daily Value:	0.0 ppb on September 6	Hours of Calibration:	39
Monthly Average:	0.4 ppb	Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Sep 1	S	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	1	0.1
Sep 2	0	0	0	0	0	1	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	3	0.3
Sep 3	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	1	0.1	
Sep 4	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	1	0.0	
Sep 5	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	1	0.1	
Sep 6	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	
Sep 7	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	1	0.1	
Sep 8	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	1	0.0	
Sep 9	0	0	0	0	0	0	1	2	1	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	2	0.2	
Sep 10	0	0	0	0	0	0	4	6	1	1	1	0	0	S	0	0	0	0	0	0	0	0	0	0	6	0.6	
Sep 11	0	0	0	1	1	0	2	1	1	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	2	0.3	
Sep 12	0	0	0	0	0	0	1	1	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	
Sep 13	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	
Sep 14	0	0	0	0	0	1	6	7	1	1	S	0	0	0	0	0	0	0	0	0	0	0	0	1	7	0.7	
Sep 15	2	3	1	1	2	5	12	17	1	S	0	0	0	0	1	0	0	0	0	0	0	0	0	0	17	2.0	
Sep 16	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
Sep 17	0	0	0	0	0	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	
Sep 18	0	0	0	0	1	4	S	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	1	1	4	0.5	
Sep 19	1	1	1	2	1	S	1	5	9	7	3	1	0	0	0	0	0	0	0	0	0	0	0	0	9	1.4	
Sep 20	0	0	0	0	S	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	
Sep 21	0	0	0	S	0	1	3	5	2	C	C	C	C	C	C	C	0	0	0	0	0	0	0	0	5	-	
Sep 22	0	0	S	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	
Sep 23	0	S	0	0	0	0	2	4	3	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0.6	
Sep 24	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
Sep 25	0	0	0	0	0	1	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.3	
Sep 26	0	0	0	0	1	4	3	8	7	2	1	1	1	1	0	0	0	0	0	0	0	1	S	0	8	1.3	
Sep 27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	S	0	0	1	0.1	
Sep 28	0	0	0	0	0	1	1	5	5	1	1	1	1	0	0	0	0	0	0	0	S	0	0	0	5	0.7	
Sep 29	0	0	0	1	1	7	10	11	2	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	11	1.4	
Sep 30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	1	1	0.0	
Diurnal Maximum	2	3	1	2	2	7	12	17	9	7	3	1	1	0	0	1	0	0	1	1	1	1	1	1	1		
Diurnal Average	0.1	0.1	0.1	0.2	0.2	1.0	1.8	2.7	1.3	0.7	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1		

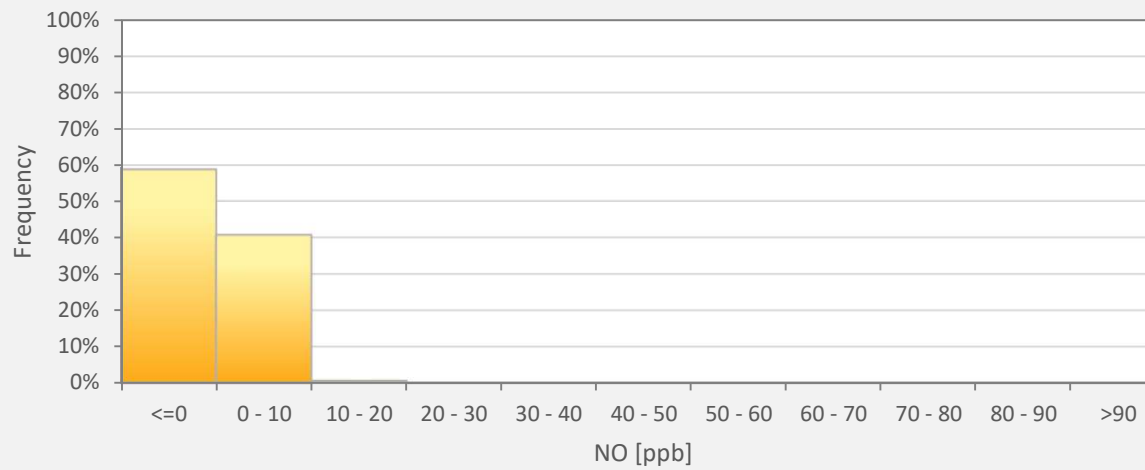
C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N No Data (Machine Not in Service)	Y Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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

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



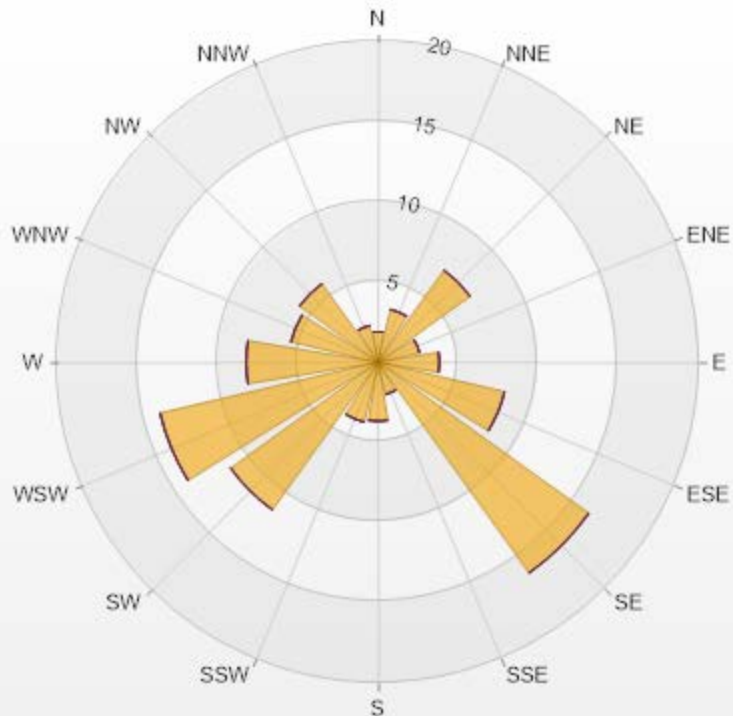
NO[ppb] Histogram: Cold Lake South Monthly: 09-2022 1 Hr.



Classes	NO
<=0	58.74%
0 - 10	40.68%
10 - 20	0.59%
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: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.58% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.91	0	0	0	0	1.91
NNE	3.38	0	0	0	0	3.38
NE	7.05	0	0	0	0	7.05
ENE	2.64	0	0	0	0	2.64
E	3.82	0	0	0	0	3.82
ESE	8.08	0	0	0	0	8.08
SE	16.15	0	0	0	0	16.15
SSE	2.06	0	0	0	0	2.06
S	3.67	0	0	0	0	3.67
SSW	3.82	0	0	0	0	3.82
SW	11.31	0	0	0	0	11.31
WSW	13.95	0	0	0	0	13.95
W	8.22	0	0	0	0	8.22
WNW	5.58	0	0	0	0	5.58
NW	6.02	0	0	0	0	6.02
NNW	2.35	0	0	0	0	2.35
Summary	100	0	0	0	0	100



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% Icon Classes (ppb)

100  0-30

0  30-50

0  50-76

0  76-159

0  >159.0



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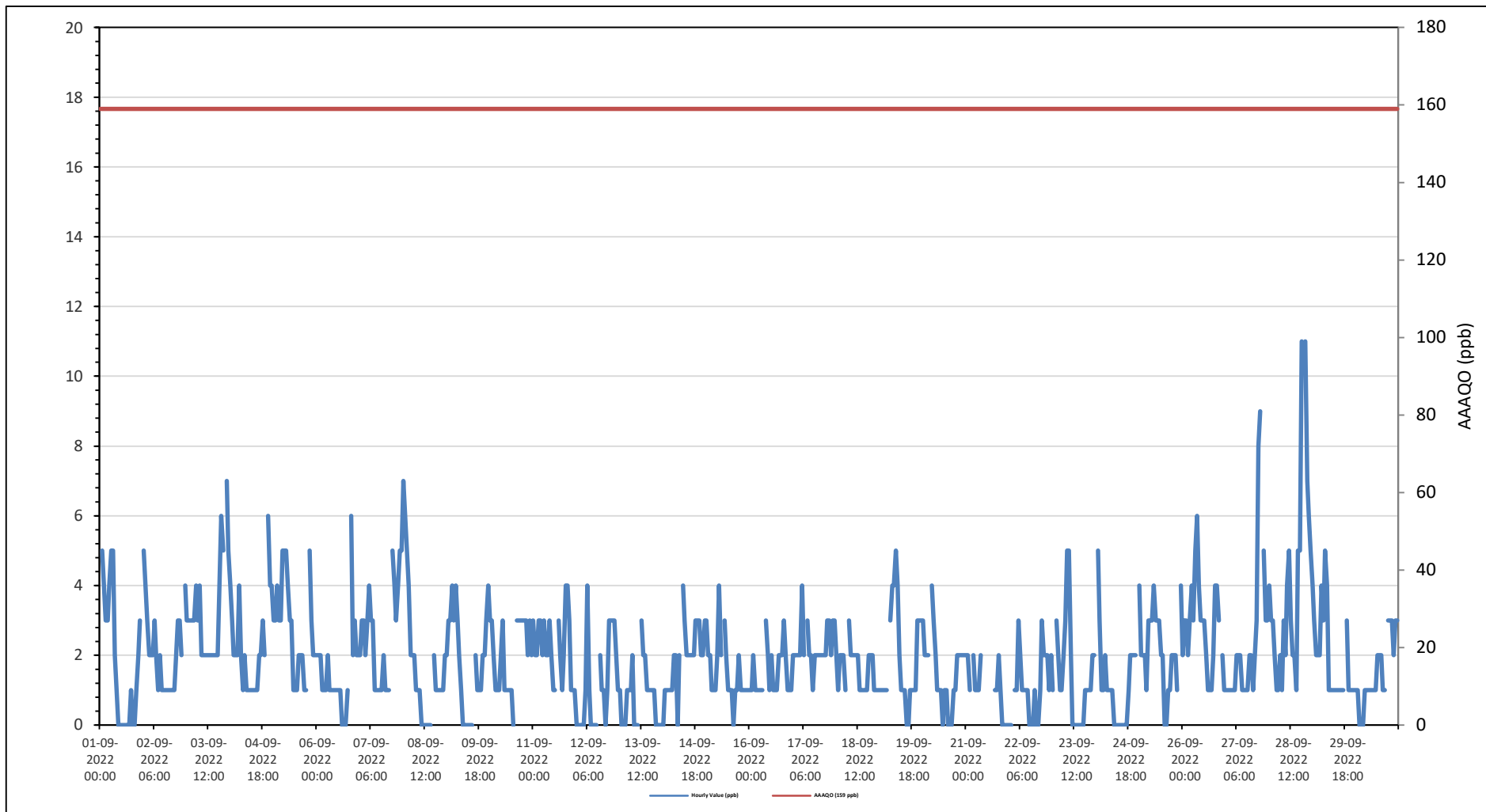
Cold Lake South Station - September 2022

Summary of Hourly Averages

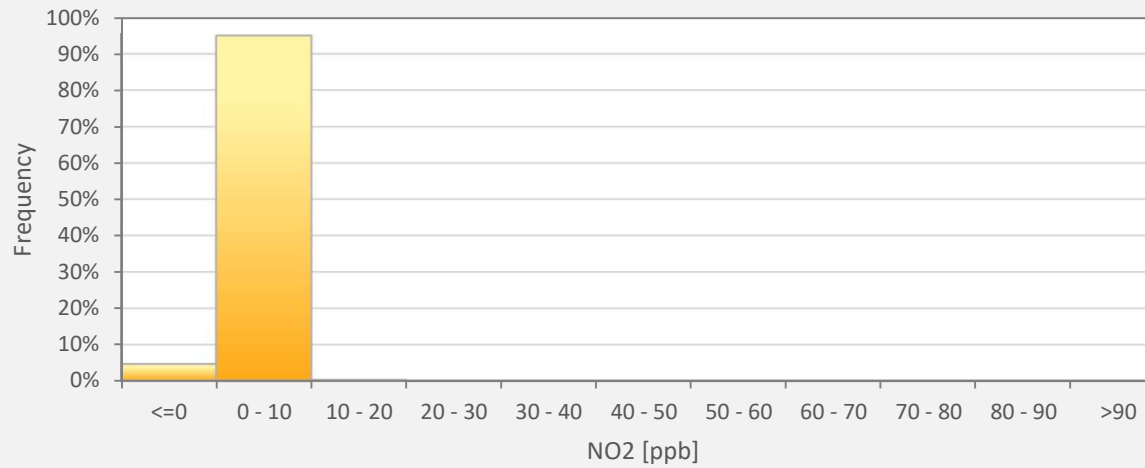
NITROGEN DIOXIDE (NO₂) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 159 ppb																																	
Number of 1-Hour Exceedances: 0																																	
Maximum Hourly Value: 11 ppb on September 28 at hour 18												Hours in Service: 720																					
Maximum Daily Value: 3.9 ppb on September 28												Hours of Data: 681																					
Minimum Hourly Value: 0 ppb on September 1 at hour 10												Hours of Missing Data: 0																					
Minimum Daily Value: 0.8 ppb on September 13												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									
Sep 1	S	5	4	3	3	4	5	5	2	1	0	0	0	0	0	0	0	1	0	0	1	2	3	S	0	5	1.8						
Sep 2	5	4	3	2	2	2	3	2	1	2	1	1	1	1	1	1	1	1	2	3	3	2	S	4	1	5	2.1						
Sep 3	3	3	3	3	3	4	3	4	2	2	2	2	2	2	2	2	2	2	4	6	5	S	7	5	2	7	3.2						
Sep 4	4	3	2	2	2	4	2	1	2	1	1	1	1	1	1	1	2	2	2	3	2	S	6	4	1	6	2.3						
Sep 5	3	3	4	3	3	5	5	5	4	3	3	1	1	1	2	2	2	1	1	S	5	3	2	2	1	5	2.8						
Sep 6	2	2	2	1	1	1	2	1	1	1	1	1	1	1	0	0	0	1	S	6	2	3	2	2	0	6	1.5						
Sep 7	2	3	3	2	3	4	3	3	1	1	1	1	1	2	1	1	1	S	5	4	3	4	5	5	1	5	2.6						
Sep 8	7	6	5	4	2	2	2	1	1	1	0	0	0	0	0	0	S	2	1	1	1	1	1	2	0	7	1.7						
Sep 9	2	3	3	4	3	4	3	2	1	0	0	0	0	0	0	S	2	1	1	1	2	2	3	4	0	4	1.8						
Sep 10	3	3	2	1	1	1	2	3	1	1	1	1	1	0	S	3	3	3	3	3	3	2	3	2	0	3	2.0						
Sep 11	3	2	2	3	3	2	3	2	2	3	2	1	1	S	3	2	1	2	4	4	3	1	1	1	1	4	2.2						
Sep 12	0	0	0	0	0	1	4	1	0	0	0	0	S	2	1	1	0	1	3	3	3	3	2	1	0	4	1.1						
Sep 13	1	0	0	0	1	1	1	2	0	0	0	S	3	2	2	1	1	1	1	1	0	0	0	0	0	3	0.8						
Sep 14	0	1	1	1	1	1	2	2	0	2	S	4	3	2	2	2	2	2	3	3	3	2	2	3	0	4	1.9						
Sep 15	3	2	2	1	1	1	2	4	2	S	3	2	1	1	1	0	1	1	2	1	1	1	1	1	0	4	1.5						
Sep 16	1	1	2	1	1	1	1	1	S	3	2	1	2	1	1	1	2	2	2	3	2	1	1	1	1	3	1.5						
Sep 17	2	2	2	2	2	4	2	S	3	2	2	1	2	2	2	2	2	2	2	3	3	2	3	3	1	4	2.3						
Sep 18	2	1	2	2	2	1	S	3	2	2	2	2	2	1	1	1	1	1	2	2	2	1	1	1	1	3	1.6						
Sep 19	1	1	1	1	1	S	3	4	4	5	4	2	1	1	1	0	0	1	1	1	1	3	3	3	0	5	1.9						
Sep 20	3	2	2	2	S	4	3	2	1	1	1	0	1	1	0	0	0	1	1	2	2	2	2	2	0	4	1.5						
Sep 21	2	2	1	S	2	1	1	1	2	C	C	C	C	C	C	C	1	1	2	1	0	0	0	0	0	2	-						
Sep 22	0	0	S	1	1	3	2	1	1	1	1	0	0	0	1	0	0	1	3	2	2	1	2	0	3	1.1							
Sep 23	1	S	3	2	1	1	2	3	5	5	2	0	0	0	0	0	0	0	1	1	1	1	2	2	0	5	1.4						
Sep 24	S	5	3	1	1	2	1	1	1	1	0	0	0	0	0	0	0	0	1	2	2	2	2	S	0	5	1.1						
Sep 25	4	2	2	2	1	3	3	3	4	3	3	3	2	2	0	0	1	1	2	2	2	2	S	4	0	4	2.2						
Sep 26	2	3	3	2	3	4	3	5	6	4	3	3	3	2	1	1	1	2	4	4	3	S	2	1	1	6	2.8						
Sep 27	1	1	1	1	1	1	2	2	2	1	1	1	1	2	2	1	2	3	8	9	S	5	3	3	1	9	2.3						
Sep 28	4	3	3	2	1	1	2	1	3	2	4	5	3	2	2	1	5	5	11	S	11	7	6	5	1	11	3.9						
Sep 29	4	3	2	2	2	4	3	5	4	1	1	1	1	1	1	1	1	1	S	3	1	1	1	1	1	5	2.0						
Sep 30	1	1	0	0	0	1	1	1	1	1	1	1	2	2	2	1	1	1	S	3	3	2	3	3	0	3	1.5						
Diurnal Maximum	7	6	5	4	3	5	5	5	6	5	4	5	3	2	3	3	5	5	11	9	11	7	7	5									
Diurnal Average	2.4	2.3	2.2	1.8	1.7	2.3	2.4	2.4	2.0	1.8	1.5	1.3	1.3	1.1	1.1	0.9	1.2	1.5	2.7	2.7	2.5	2.2	2.4	2.4									
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 NO2 - Cold Lake South Station



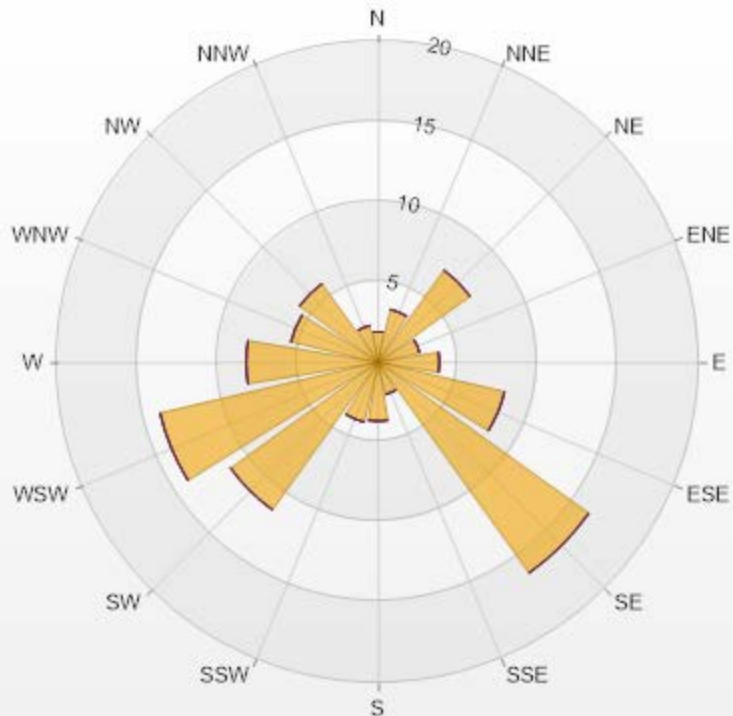
NO2[ppb] Histogram: Cold Lake South Monthly: 09-2022 1 Hr.



Classes	NO2
<=0	4.70%
0 - 10	95.01%
10 - 20	0.29%
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: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.58% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.91	0	0	0	0	1.91
NNE	3.38	0	0	0	0	3.38
NE	7.05	0	0	0	0	7.05
ENE	2.64	0	0	0	0	2.64
E	3.82	0	0	0	0	3.82
ESE	8.08	0	0	0	0	8.08
SE	16.15	0	0	0	0	16.15
SSE	2.06	0	0	0	0	2.06
S	3.67	0	0	0	0	3.67
SSW	3.82	0	0	0	0	3.82
SW	11.31	0	0	0	0	11.31
WSW	13.95	0	0	0	0	13.95
W	8.22	0	0	0	0	8.22
WNW	5.58	0	0	0	0	5.58
NW	6.02	0	0	0	0	6.02
NNW	2.35	0	0	0	0	2.35
Summary	100	0	0	0	0	100



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% Icon Classes (ppb)

100  0-30

0  30-50

0  50-76

0  76-159

0  >159.0



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Cold Lake South Station - September 2022

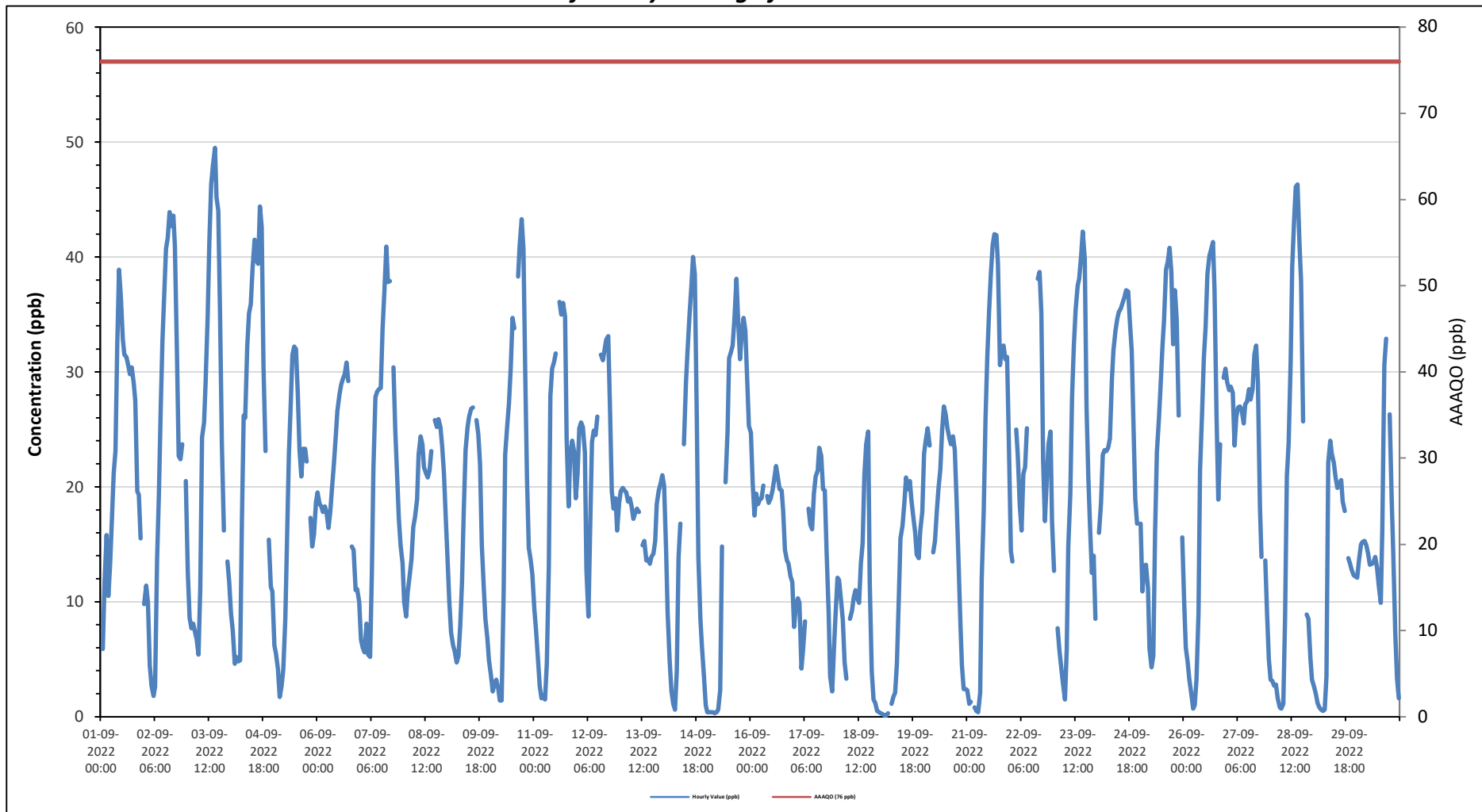
Summary of Hourly Averages

OZONE (O₃) in ppb

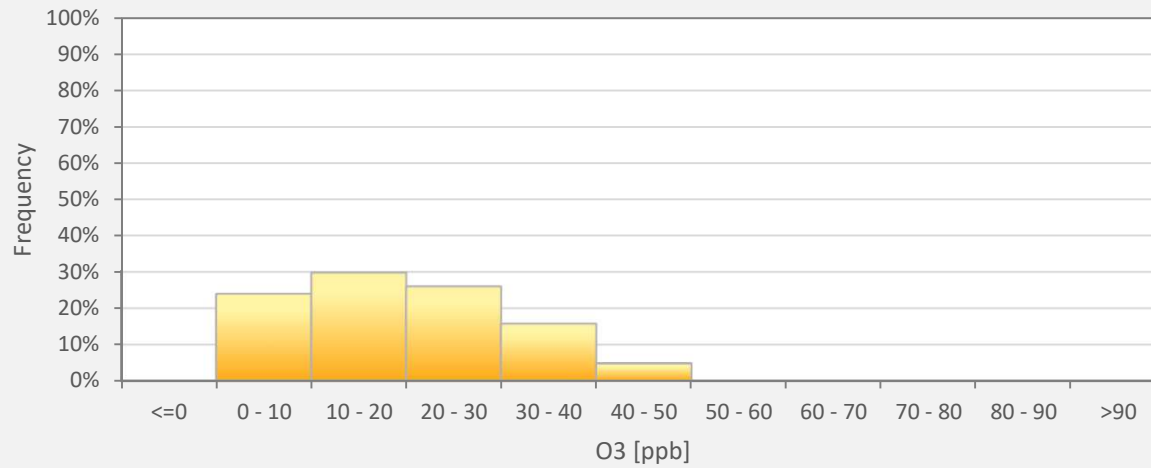
Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 76 ppb																																															
Number of 1-Hour Exceedances: 0																																															
Maximum Hourly Value: 49.5 ppb on September 3 at hour 15												Hours in Service: 720																																			
Maximum Daily Value: 28.5 ppb on September 24												Hours of Data: 683																																			
Minimum Hourly Value: 0.1 ppb on September 19 at hour 2												Hours of Missing Data: 0																																			
Minimum Daily Value: 9.9 ppb on September 18												Hours of Calibration: 37																																			
Monthly Average: 19.4 ppb												Operational Uptime: 100.0																																			
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average																					
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23																							
Sep 1	S	5.9	11.7	15.8	10.5	13.3	17.2	21.2	23.1	32.4	38.9	36.6	32.8	31.5	31.3	30.6	29.8	30.4	29.0	27.5	19.6	19.3	15.5	S	5.9	38.9	23.8																				
Sep 2	9.8	11.4	9.9	4.5	2.7	1.8	2.6	13.8	19.3	26.6	32.7	36.7	40.7	41.7	43.9	42.7	43.6	41.0	31.8	22.7	22.4	23.7	S	20.5	1.8	43.9	23.8																				
Sep 3	12.5	8.6	7.7	8.1	7.5	6.7	5.4	11.2	24.3	25.6	29.1	34.7	41.5	46.3	48.0	49.5	45.2	44.0	34.9	23.8	16.2	S	13.5	11.7	5.4	49.5	24.2																				
Sep 4	9.0	7.5	4.6	5.2	4.8	4.9	17.0	26.2	26.0	32.2	35.1	35.9	39.0	41.5	39.8	39.4	44.4	42.6	30.5	23.1	S	15.4	11.3	10.9	4.6	44.4	23.8																				
Sep 5	6.2	5.5	4.1	1.7	2.6	4.1	8.5	14.6	22.8	27.0	31.5	32.2	32.0	28.2	23.2	20.9	23.3	23.3	22.2	S	17.3	14.8	15.9	18.7	1.7	32.2	17.4																				
Sep 6	19.5	18.5	18.3	17.8	18.3	17.8	16.4	17.8	19.9	21.9	24.5	26.6	28.0	28.9	29.4	29.8	30.8	29.2	S	14.8	14.5	11.0	11.1	10.0	10.0	30.8	20.6																				
Sep 7	6.7	6.0	5.6	8.1	5.4	5.2	12.6	21.6	27.8	28.3	28.5	28.6	33.7	36.9	40.9	37.8	37.9	S	30.4	25.0	21.2	17.3	14.9	13.3	5.2	40.9	21.5																				
Sep 8	10.0	8.7	10.8	12.3	13.7	16.5	17.4	18.9	22.8	24.4	23.7	21.7	21.2	20.8	21.4	23.1	S	25.8	25.2	25.9	25.2	23.5	21.1	17.3	8.7	25.9	19.6																				
Sep 9	13.7	10.0	7.3	6.2	5.7	4.7	5.3	7.9	11.7	18.0	23.2	25.2	26.1	26.8	26.9	S	25.8	24.6	22.0	14.9	11.1	8.5	6.8	4.9	4.7	26.9	14.7																				
Sep 10	3.6	2.2	2.9	3.2	2.4	1.4	1.4	10.8	22.8	25.3	27.3	30.4	34.7	33.8	S	38.3	41.0	43.3	40.7	29.9	20.7	14.7	13.7	12.4	1.4	43.3	19.9																				
Sep 11	9.3	7.7	5.1	2.7	1.6	1.9	1.5	4.6	13.1	27.9	30.3	30.9	31.6	S	36.1	35.0	36.0	34.8	24.3	18.3	22.7	24.0	23.1	19.0	1.5	36.1	19.2																				
Sep 12	21.1	25.1	25.6	25.2	23.0	12.8	8.7	16.7	23.9	24.9	24.5	26.1	S	31.5	31.0	32.0	32.8	33.1	26.7	19.6	18.1	19.0	16.2	18.6	8.7	33.1	23.3																				
Sep 13	19.6	19.9	19.7	19.5	18.7	19.0	18.3	17.2	17.8	18.1	17.8	S	14.9	15.3	13.6	13.7	13.3	13.9	14.2	15.3	18.5	19.7	20.3	21.0	13.3	21.0	17.4																				
Sep 14	20.1	14.4	9.0	4.8	2.2	1.1	0.6	4.0	13.9	16.8	S	23.7	29.0	31.7	34.9	37.3	40.0	38.5	25.6	13.9	8.5	6.1	3.5	1.0	0.6	40.0	16.5																				
Sep 15	0.4	0.4	0.4	0.4	0.3	0.4	0.6	2.3	14.8	S	20.4	24.9	31.2	31.7	32.3	34.6	38.1	34.8	31.1	33.4	34.7	33.6	28.9	25.3	0.3	38.1	19.8																				
Sep 16	24.7	20.3	17.5	19.4	18.5	18.9	19.0	20.1	S	19.2	18.6	19.0	19.7	20.7	21.8	20.7	19.8	19.7	17.9	14.5	13.6	13.3	12.2	11.7	11.7	24.7	18.3																				
Sep 17	7.8	9.6	10.3	9.9	4.2	6.0	8.3	S	18.1	16.7	16.3	19.4	20.9	21.4	23.4	22.7	19.8	19.7	14.4	9.2	3.5	2.2	5.9	8.7	2.2	23.4	13.0																				
Sep 18	12.1	11.9	10.1	8.4	4.7	3.3	S	8.5	9.2	10.4	11.0	10.3	9.9	13.3	15.1	21.1	23.7	24.8	11.7	3.9	1.5	1.2	0.5	0.4	0.4	24.8	9.9																				
Sep 19	0.3	0.2	0.1	0.1	0.3	S	1.1	1.7	2.1	4.6	10.7	15.5	16.6	18.5	20.8	19.8	20.5	18.9	17.5	16.0	14.1	13.8	16.2	17.8	0.1	20.8	10.7																				
Sep 20	22.9	24.1	25.1	23.6	S	14.3	15.3	17.8	19.9	21.5	24.9	27.0	26.3	25.1	24.2	23.7	24.4	23.2	18.9	14.0	8.2	4.5	2.4	2.4	2.4	27.0	18.9																				
Sep 21	2.3	1.1	1.3	S	0.8	0.5	0.4	2.1	12.0	17.9	25.9	31.3	35.2	38.5	41.0	42.0	41.9	39.4	30.6	31.9	32.3	31.1	31.3	23.9	0.4	42.0	22.4																				
Sep 22	14.4	13.5	S	25.0	22.8	18.4	16.2	21.1	21.7	25.1	C	C	C	C	C	38.1	38.7	35.1	22.2	17.0	21.0	23.7	24.8	17.0	13.5	38.7	23.1																				
Sep 23	12.7	S	7.7	5.8	4.1	2.9	1.5	5.9	14.8	19.3	27.9	32.3	35.4	37.5	38.1	40.2	42.2	39.8	26.9	20.8	16.4	12.5	14.0	8.5	1.5	42.2	20.3																				
Sep 24	S	16.0	18.6	22.8	23.2	23.1	23.4	24.2	29.4	31.9	33.6	34.6	35.2	35.5	36.0	36.5	37.1	37.0	34.6	31.8	26.2	18.9	16.8	S	16.0	37.1	28.5																				
Sep 25	16.8	10.9	13.1	13.2	11.2	5.9	4.3	5.3	16.1	23.0	25.9	28.5	32.2	34.4	38.9	39.6	40.8	38.7	32.4	37.1	34.6	26.2	S	15.6	4.3	40.8	23.7																				
Sep 26	10.3	6.0	4.8	3.2	2.1	0.7	1.0	3.2	9.0	21.4	26.4	31.2	33.9	38.5	40.1	40.6	41.3	37.2	26.2	18.9	23.7	S	29.5	30.3	0.7	41.3	20.8																				
Sep 27	29.1	28.4	28.7	28.2	23.6	26.1	26.9	27.0	26.7	25.5	27.2	27.4	28.5	27.6	28.5	31.5	32.3	29.1	18.3	13.9	S	13.6	9.0	5.0	5.0	32.3	24.4																				
Sep 28	3.2	3.1	2.7	2.8	1.6	0.8	0.7	1.1	8.6	20.9	23.8	30.9	39.1	43.4	46.1	46.3	41.0	37.9	25.7	S	8.9	8.5	5.0	3.2	0.7	46.3	17.6																				
Sep 29	2.6	2.0	1.2	0.8	0.6	0.5	0.6	3.5	22.1	24.0	22.9	22.1	20.8	19.9	20.1	20.6	18.7	17.9	S	13.8	13.3	12.8	12.3	12.2	0.5	24.0	12.4																				
Sep 30	12.1	13.6	15.0	15.2	15.3	14.9	14.2	13.2	13.3	13.4	13.9	13.0	11.4	9.9	16.3	30.6	32.9	S	26.3	18.9	14.3	7.3	3.3	1.6	1.6	32.9	14.8																				
Diurnal Maximum	29.1	28.4	28.7	28.2	23.6	26.1	26.9	27.0	29.4	32.4	38.9	36.7	41.5	46.3	48.0	49.5	45.2	44.0	40.7	37.1	34.7	33.6	31.3	30.3																							
Diurnal Average	11.9	10.8	10.3	10.8	8.7	8.5	9.2	12.5	18.2	22.2	24.9	27.0	28.6	29.7	30.8	32.4	33.0	31.3	25.4	20.4	17.9	15.7	14.3	13.0																							
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 O3 - Cold Lake South Station



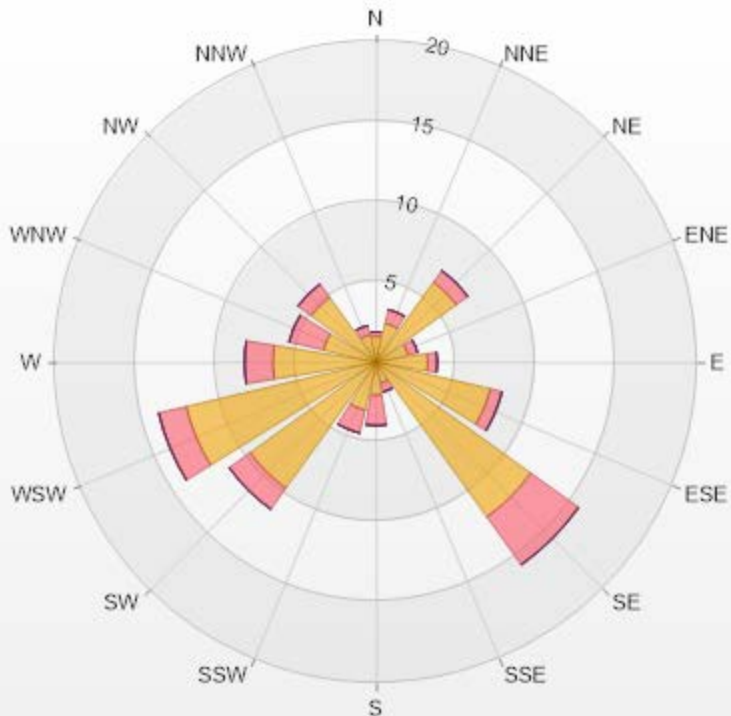
O3[ppb] Histogram: Cold Lake South Monthly: 09-2022 1 Hr.



Classes	O3
<=0	0.00%
0 - 10	23.87%
10 - 20	29.72%
20 - 30	25.92%
30 - 40	15.67%
40 - 50	4.83%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Cold Lake South Poll.: Cold Lake South-O3[ppb] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.86% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.61	0.29	0	0	0	1.9
NNE	2.49	0.88	0	0	0	3.37
NE	6.15	0.88	0	0	0	7.03
ENE	2.05	0.59	0	0	0	2.64
E	3.22	0.59	0	0	0	3.81
ESE	7.32	0.73	0	0	0	8.05
SE	11.86	3.66	0	0	0	15.52
SSE	1.32	0.59	0	0	0	1.91
S	2.05	1.9	0	0	0	3.95
SSW	3.07	1.46	0	0	0	4.53
SW	9.66	1.61	0	0	0	11.27
WSW	12.15	1.76	0	0	0	13.91
W	6.44	1.76	0	0	0	8.2
WNW	3.37	2.2	0	0	0	5.57
NW	4.98	1.02	0	0	0	6
NNW	1.76	0.59	0	0	0	2.35
Summary	79.5	20.51	0	0	0	100



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% Icon Classes (ppb)

80 0-30

21 30-50

0 50-76

0 76-159

0 >159.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - September 2022

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

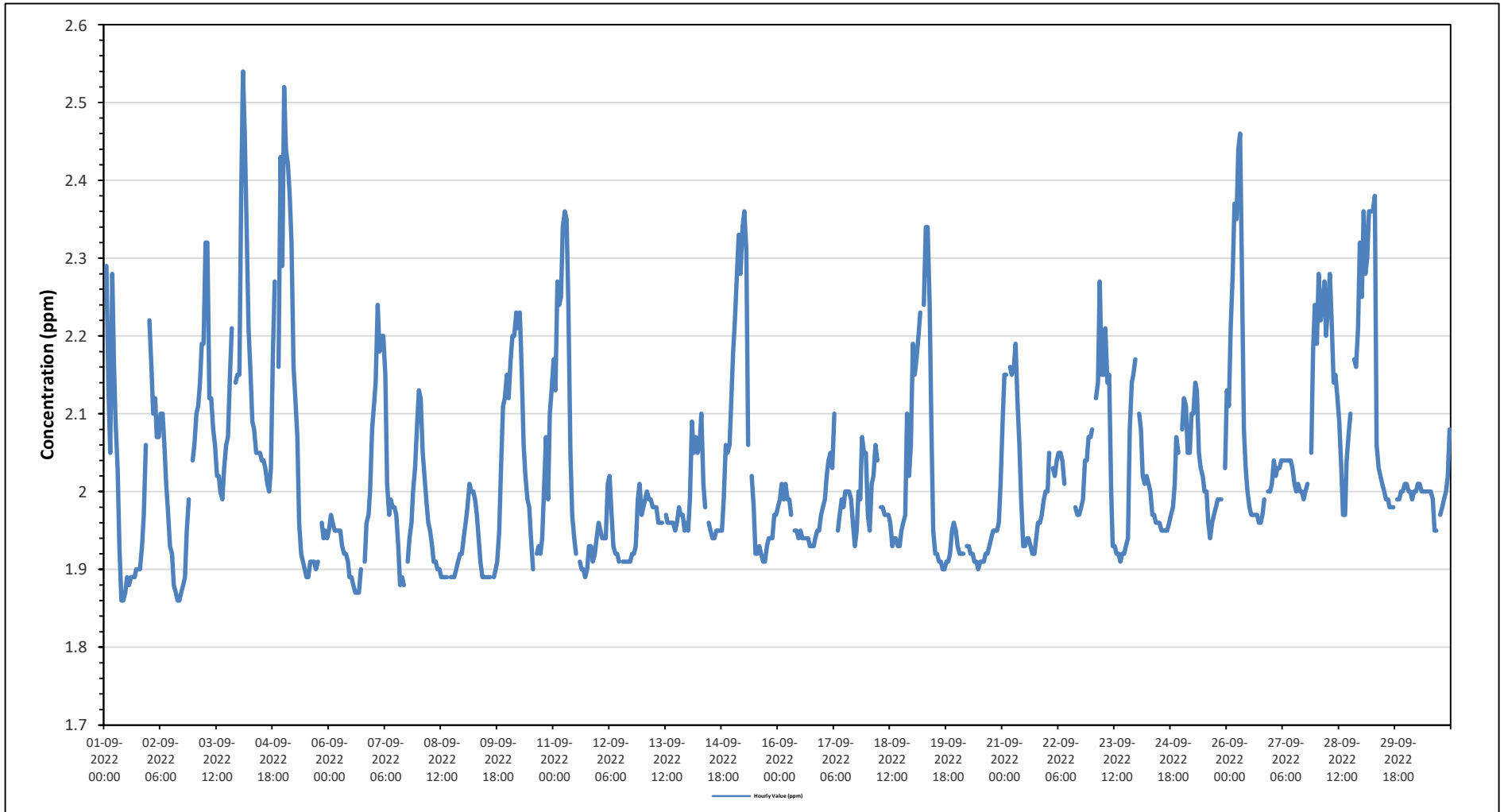
Maximum Hourly Value: 2.54 ppm on September 4 at hour 2	Hours in Service: 720
Maximum Daily Value: 2.17 ppm on September 4	Hours of Data: 683
Minimum Hourly Value: 1.86 ppm on September 1 at hour 9	Hours of Missing Data: 0
Minimum Daily Value: 1.93 ppm on September 20	Hours of Calibration: 37
Monthly Average: 2.03 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	
Sep 1	S	2.29	2.13	2.05	2.28	2.16	2.09	2.03	1.93	1.86	1.86	1.87	1.89	1.88	1.89	1.89	1.89	1.90	1.90	1.90	1.93	1.97	2.06	S	1.86	2.29	1.98	
Sep 2	2.22	2.16	2.10	2.12	2.07	2.07	2.10	2.10	2.06	2.01	1.97	1.93	1.92	1.88	1.87	1.86	1.86	1.87	1.88	1.89	1.95	1.99	S	2.04	1.86	2.22	2.00	
Sep 3	2.06	2.10	2.11	2.14	2.19	2.19	2.32	2.32	2.12	2.12	2.08	2.06	2.02	2.02	2.00	1.99	2.03	2.06	2.07	2.15	2.21	S	2.14	2.15	1.99	2.32	2.12	
Sep 4	2.15	2.38	2.54	2.46	2.33	2.21	2.15	2.09	2.08	2.05	2.05	2.05	2.04	2.04	2.03	2.01	2.00	2.03	2.18	2.27	S	2.16	2.43	2.29	2.00	2.54	2.17	
Sep 5	2.52	2.44	2.42	2.38	2.32	2.16	2.12	2.07	1.96	1.92	1.91	1.90	1.89	1.89	1.91	1.91	1.91	1.90	1.91	S	1.96	1.94	1.95	1.94	1.89	2.52	2.05	
Sep 6	1.95	1.97	1.96	1.95	1.95	1.95	1.95	1.93	1.92	1.92	1.91	1.89	1.89	1.88	1.87	1.87	1.87	1.90	S	1.91	1.96	1.97	2.00	2.08	1.87	2.08	1.93	
Sep 7	2.11	2.14	2.24	2.18	2.20	2.20	2.15	2.01	1.97	1.99	1.98	1.97	1.93	1.88	1.89	1.88	1.88	S	S	1.91	1.94	1.96	2.00	2.03	2.08	1.88	2.24	2.03
Sep 8	2.13	2.12	2.05	2.02	1.99	1.96	1.95	1.93	1.91	1.91	1.90	1.90	1.89	1.89	1.89	1.89	S	1.89	1.89	1.89	1.90	1.91	1.92	1.92	1.89	2.13	1.94	
Sep 9	1.94	1.96	1.98	2.01	2.00	2.00	1.99	1.97	1.94	1.91	1.89	1.89	1.89	1.89	1.89	S	1.89	1.90	1.91	1.95	2.03	2.11	2.12	2.15	1.89	2.15	1.97	
Sep 10	2.12	2.17	2.20	2.20	2.23	2.21	2.23	2.16	2.06	2.02	1.99	1.98	1.94	1.90	S	1.92	1.93	1.92	1.94	2.01	2.07	1.99	2.10	2.13	1.90	2.23	2.06	
Sep 11	2.17	2.13	2.27	2.24	2.25	2.34	2.36	2.35	2.24	2.05	1.97	1.94	1.92	S	1.91	1.90	1.90	1.89	1.90	1.93	1.93	1.91	1.92	1.94	1.89	2.36	2.06	
Sep 12	1.96	1.95	1.94	1.94	1.94	2.01	2.02	1.97	1.93	1.92	1.92	1.91	S	1.91	1.91	1.91	1.91	1.91	1.92	1.92	1.93	1.99	2.01	1.97	1.91	2.02	1.94	
Sep 13	1.98	1.99	2.00	1.99	1.99	1.98	1.98	1.98	1.96	1.96	1.96	S	1.97	1.96	1.96	1.96	1.96	1.96	1.95	1.96	1.98	1.97	1.97	1.95	1.96	1.95	2.00	1.97
Sep 14	1.95	1.99	2.09	2.05	2.07	2.05	2.06	2.10	2.01	1.98	S	1.96	1.95	1.94	1.94	1.95	1.95	1.95	1.95	1.99	2.06	2.05	2.06	2.11	1.94	2.11	2.01	
Sep 15	2.18	2.22	2.28	2.33	2.28	2.34	2.36	2.31	2.06	S	2.02	1.98	1.92	1.92	1.92	1.93	1.92	1.91	1.91	1.93	1.94	1.94	1.97	1.97	1.91	2.36	2.07	
Sep 16	1.98	1.99	2.01	1.99	2.01	1.99	1.99	1.97	S	1.95	1.95	1.94	1.95	1.94	1.94	1.94	1.94	1.93	1.93	1.93	1.94	1.95	1.95	1.97	1.93	2.01	1.96	
Sep 17	1.98	1.99	2.02	2.04	2.05	2.03	2.10	S	1.95	1.97	1.99	1.98	2.00	2.00	1.99	1.96	1.93	1.95	2.00	1.99	2.07	2.05	2.05	1.93	2.10	2.00		
Sep 18	1.97	1.95	2.01	2.02	2.06	2.04	S	1.98	1.98	1.97	1.97	1.97	1.96	1.93	1.94	1.94	1.93	1.93	1.95	1.96	1.97	2.10	2.02	2.06	1.93	2.10	1.98	
Sep 19	2.19	2.15	2.17	2.20	2.23	S	2.24	2.34	2.34	2.24	2.08	1.95	1.92	1.92	1.91	1.91	1.90	1.90	1.91	1.91	1.92	1.95	1.96	1.95	1.90	2.34	2.05	
Sep 20	1.93	1.92	1.92	1.92	S	1.93	1.93	1.92	1.92	1.91	1.91	1.90	1.91	1.91	1.91	1.92	1.92	1.93	1.94	1.95	1.95	1.95	1.96	2.01	1.90	2.01	1.93	
Sep 21	2.09	2.15	2.15	S	2.16	2.15	2.16	2.19	2.12	2.06	1.99	1.93	1.93	1.94	1.94	1.93	1.92	1.92	1.94	1.96	1.96	1.97	1.99	2.00	1.92	2.19	2.02	
Sep 22	2.00	2.05	S	2.03	2.02	2.04	2.05	2.05	2.04	2.01	C	C	C	C	C	1.98	1.97	1.97	1.98	1.99	2.04	2.04	2.07	2.07	1.97	2.07	2.02	
Sep 23	2.08	S	2.12	2.14	2.27	2.15	2.15	2.21	2.14	2.15	2.00	1.93	1.93	1.92	1.92	1.91	1.92	1.92	1.93	1.94	2.08	2.14	2.15	2.17	1.91	2.27	2.06	
Sep 24	S	2.10	2.08	2.02	2.01	2.02	2.01	2.00	1.97	1.97	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.96	1.97	1.98	2.01	2.07	2.05	S	1.95	2.10	2.00	
Sep 25	2.08	2.12	2.11	2.05	2.05	2.10	2.10	2.14	2.13	2.05	2.03	2.02	2.00	2.00	1.96	1.94	1.96	1.97	1.98	1.99	1.99	1.99	S	2.03	1.94	2.14	2.03	
Sep 26	2.13	2.11	2.21	2.28	2.37	2.35	2.44	2.46	2.29	2.08	2.03	2.00	1.98	1.97	1.97	1.97	1.97	1.96	1.96	1.97	1.99	S	2.00	2.00	1.96	2.46	2.11	
Sep 27	2.01	2.04	2.02	2.03	2.03	2.04	2.04	2.04	2.04	2.04	2.04	2.03	2.01	2.00	2.01	2.00	2.00	1.99	2.00	2.01	S	2.05	2.18	2.24	1.99	2.24	2.04	
Sep 28	2.19	2.28	2.22	2.24	2.27	2.20	2.24	2.28	2.22	2.14	2.15	2.12	2.09	2.03	1.97	1.97	2.04	2.07	2.10	S	2.17	2.16	2.21	2.32	1.97	2.32	2.16	
Sep 29	2.25	2.36	2.28	2.30	2.36	2.36	2.36	2.38	2.06	2.03	2.02	2.01	2.00	1.99	1.98	1.98	1.98	S	S	1.99	1.99	2.00	2.00	2.01	1.98	2.38	2.12	
Sep 30	2.01	2.00	2.00	1.99	2.00	2.00	2.01	2.01	2.00	2.00	2.00	2.00	2.00	2.00	1.99	1.95	1.95	S	1.97	1.98	1.99	2.00	2.02	2.08	1.95	2.08	2.00	
Diurnal Maximum	2.52	2.44	2.54	2.46	2.37	2.36	2.44	2.46	2.34	2.24	2.15	2.12	2.09	2.04	2.03	2.01	2.04	2.07	2.18	2.27	2.21	2.16	2.43	2.32				
Diurnal Average	2.08	2.11	2.13	2.11	2.14	2.11	2.13	2.11	2.05	2.01	1.98	1.96	1.96	1.94	1.94	1.94	1.94	1.94	1.96	1.97	1.99	2.01	2.05	2.06				

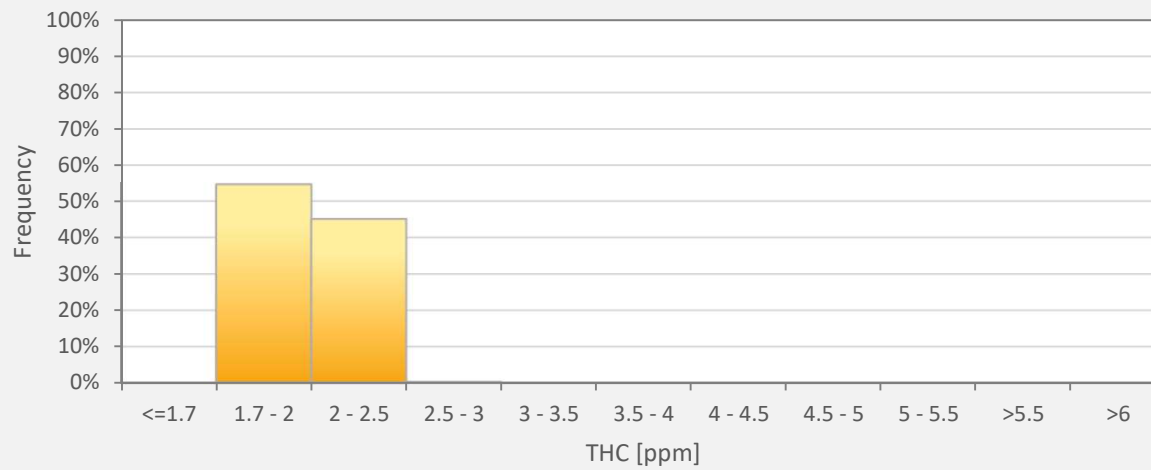
C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N No Data (Machine Not in Service)	Y Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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

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



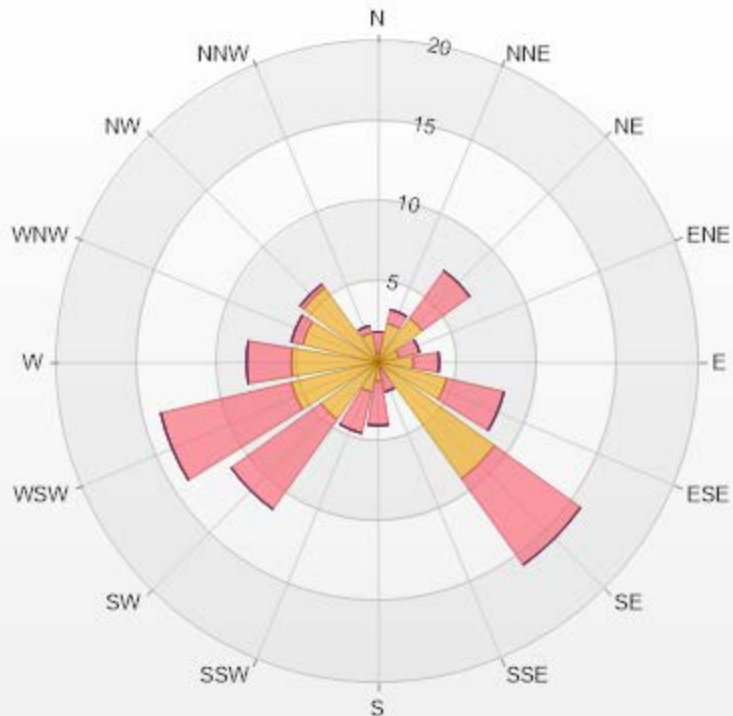
THC55[ppm] Histogram: Cold Lake South Monthly: 09-2022 1 Hr.



Classes	THC55
<=1.7	0.00%
1.7 - 2	54.61%
2 - 2.5	45.10%
2.5 - 3	0.29%
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	0.00%
>6	0.00%

Wind: Cold Lake South Poll.: Cold Lake South-THC55[ppm] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.86% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	0.59	1.32	0	0	0	1.91
NNE	2.49	0.88	0	0	0	3.37
NE	3.37	3.66	0	0	0	7.03
ENE	1.32	1.32	0	0	0	2.64
E	2.2	1.61	0	0	0	3.81
ESE	4.39	3.66	0	0	0	8.05
SE	8.93	6.59	0	0	0	15.52
SSE	0.44	1.46	0	0	0	1.9
S	1.17	2.78	0	0	0	3.95
SSW	1.9	2.64	0	0	0	4.54
SW	4.39	6.88	0	0	0	11.27
WSW	5.56	8.35	0	0	0	13.91
W	5.42	2.78	0	0	0	8.2
WNW	4.83	0.73	0	0	0	5.56
NW	5.71	0.29	0	0	0	6
NNW	1.9	0.44	0	0	0	2.34
Summary	54.61	45.39	0	0	0	100



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% Icon Classes (ppm)

55

0-2

45

2-5

0

5-10

0

10-40

0

>40.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - September 2022

Summary of Hourly Averages

METHANE (CH₄) in ppm

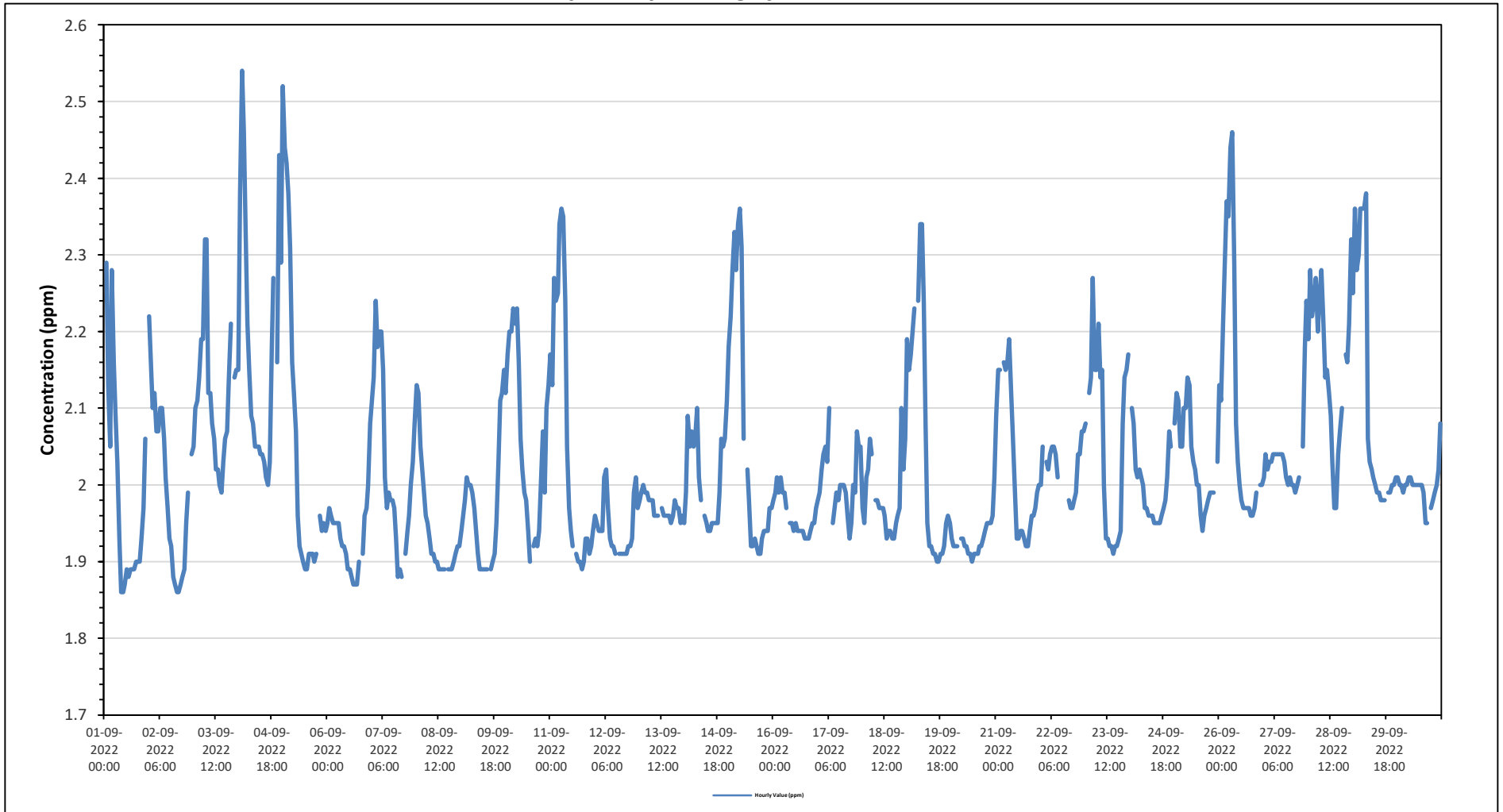
Maximum Hourly Value:	2.54 ppm on September 4 at hour 2	Hours in Service:	720
Maximum Daily Value:	2.17 ppm on September 4	Hours of Data:	683
Minimum Hourly Value:	1.86 ppm on September 1 at hour 9	Hours of Missing Data:	0
Minimum Daily Value:	1.93 ppm on September 20	Hours of Calibration:	37
Monthly Average:	2.03 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	
Sep 1	S	2.29	2.13	2.05	2.28	2.16	2.09	2.03	1.93	1.86	1.86	1.87	1.89	1.88	1.89	1.89	1.89	1.90	1.90	1.90	1.93	1.97	2.06	S	1.86	2.29	1.98	
Sep 2	2.22	2.16	2.10	2.12	2.07	2.07	2.10	2.10	2.06	2.01	1.97	1.93	1.92	1.88	1.87	1.86	1.86	1.87	1.88	1.89	1.95	1.99	S	2.04	1.86	2.22	2.00	
Sep 3	2.05	2.10	2.11	2.14	2.19	2.19	2.32	2.32	2.12	2.12	2.08	2.06	2.02	2.02	2.00	1.99	2.03	2.06	2.07	2.14	2.21	S	2.14	2.15	1.99	2.32	2.11	
Sep 4	2.15	2.38	2.54	2.46	2.33	2.21	2.15	2.09	2.08	2.05	2.05	2.05	2.04	2.04	2.03	2.01	2.00	2.03	2.18	2.27	S	2.16	2.43	2.29	2.00	2.54	2.17	
Sep 5	2.52	2.44	2.42	2.38	2.31	2.16	2.12	2.07	1.96	1.92	1.91	1.90	1.89	1.89	1.91	1.91	1.91	1.90	1.91	S	1.96	1.94	1.95	1.94	1.89	2.52	2.05	
Sep 6	1.95	1.97	1.96	1.95	1.95	1.95	1.95	1.93	1.92	1.92	1.91	1.89	1.89	1.88	1.87	1.87	1.87	1.90	S	1.91	1.96	1.97	2.00	2.08	1.87	2.08	1.93	
Sep 7	2.11	2.14	2.24	2.18	2.20	2.20	2.15	2.01	1.97	1.99	1.98	1.98	1.97	1.93	1.88	1.89	1.88	S	S	1.91	1.94	1.96	2.00	2.03	2.08	1.88	2.24	2.03
Sep 8	2.13	2.12	2.05	2.02	1.99	1.96	1.95	1.93	1.91	1.91	1.90	1.90	1.89	1.89	1.89	1.89	S	1.89	1.89	1.89	1.90	1.91	1.92	1.92	1.89	2.13	1.94	
Sep 9	1.94	1.96	1.98	2.01	2.00	2.00	1.99	1.97	1.94	1.91	1.89	1.89	1.89	1.89	1.89	S	1.89	1.90	1.91	1.95	2.03	2.11	2.12	2.15	1.89	2.15	1.97	
Sep 10	2.12	2.17	2.20	2.20	2.23	2.21	2.23	2.16	2.06	2.02	1.99	1.98	1.94	1.90	S	1.92	1.93	1.92	1.94	2.01	2.07	1.99	2.10	2.13	1.90	2.23	2.06	
Sep 11	2.17	2.13	2.27	2.24	2.25	2.34	2.36	2.35	2.24	2.05	1.97	1.94	1.92	S	1.91	1.90	1.90	1.89	1.90	1.93	1.93	1.91	1.92	1.94	1.89	2.36	2.06	
Sep 12	1.96	1.95	1.94	1.94	1.94	2.01	2.02	1.97	1.93	1.92	1.92	1.91	S	1.91	1.91	1.91	1.91	1.91	1.92	1.92	1.93	1.99	2.01	1.97	1.91	2.02	1.94	
Sep 13	1.98	1.99	2.00	1.99	1.99	1.98	1.98	1.98	1.96	1.96	1.96	S	1.97	1.96	1.96	1.96	1.96	1.96	1.95	1.96	1.98	1.97	1.97	1.95	1.96	1.95	2.00	1.97
Sep 14	1.95	1.99	2.09	2.05	2.07	2.05	2.06	2.10	2.01	1.98	S	1.96	1.95	1.94	1.94	1.95	1.95	1.95	1.95	1.99	2.06	2.05	2.06	2.11	1.94	2.11	2.01	
Sep 15	2.18	2.22	2.28	2.33	2.28	2.34	2.36	2.31	2.06	S	2.02	1.98	1.92	1.92	1.92	1.92	1.91	1.91	1.93	1.94	1.94	1.94	1.97	1.97	1.91	2.36	2.07	
Sep 16	1.98	1.99	2.01	1.99	2.01	1.99	1.99	1.97	S	1.95	1.95	1.94	1.95	1.94	1.94	1.94	1.94	1.93	1.93	1.93	1.94	1.95	1.95	1.97	1.93	2.01	1.96	
Sep 17	1.98	1.99	2.02	2.04	2.05	2.03	2.10	S	1.95	1.97	1.99	1.98	2.00	2.00	1.99	1.96	1.93	1.95	2.00	1.99	2.07	2.05	2.05	1.93	2.10	2.00		
Sep 18	1.97	1.95	2.01	2.02	2.06	2.04	S	1.98	1.98	1.97	1.97	1.97	1.96	1.93	1.94	1.94	1.93	1.93	1.95	1.96	1.97	2.10	2.02	2.06	1.93	2.10	1.98	
Sep 19	2.19	2.15	2.17	2.20	2.23	S	2.24	2.34	2.34	2.24	2.08	1.95	1.92	1.92	1.91	1.91	1.90	1.90	1.91	1.91	1.92	1.95	1.96	1.95	1.90	2.34	2.05	
Sep 20	1.93	1.92	1.92	1.92	S	1.93	1.93	1.92	1.92	1.91	1.91	1.90	1.91	1.91	1.91	1.92	1.92	1.93	1.94	1.95	1.95	1.95	1.96	2.01	1.90	2.01	1.93	
Sep 21	2.09	2.15	2.15	S	2.16	2.15	2.16	2.19	2.12	2.06	1.99	1.93	1.93	1.94	1.94	1.93	1.92	1.92	1.94	1.96	1.96	1.97	1.99	2.00	1.92	2.19	2.02	
Sep 22	2.00	2.05	S	2.03	2.02	2.04	2.05	2.05	2.04	2.01	C	C	C	C	C	1.98	1.97	1.97	1.98	1.99	2.04	2.04	2.07	2.07	1.97	2.07	2.02	
Sep 23	2.08	S	2.12	2.14	2.27	2.15	2.15	2.21	2.14	2.15	2.00	1.93	1.93	1.92	1.92	1.91	1.92	1.92	1.93	1.94	2.08	2.14	2.15	2.17	1.91	2.27	2.06	
Sep 24	S	2.10	2.08	2.02	2.01	2.02	2.01	2.00	1.97	1.97	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.96	1.97	1.98	2.01	2.07	2.05	S	1.95	2.10	2.00	
Sep 25	2.08	2.12	2.11	2.05	2.05	2.10	2.10	2.14	2.13	2.05	2.03	2.02	2.00	2.00	1.96	1.94	1.96	1.97	1.98	1.99	1.99	1.99	S	2.03	1.94	2.14	2.03	
Sep 26	2.13	2.11	2.21	2.28	2.37	2.35	2.44	2.46	2.29	2.08	2.03	2.00	1.98	1.97	1.97	1.97	1.97	1.96	1.96	1.97	1.99	S	2.00	2.00	1.96	2.46	2.11	
Sep 27	2.01	2.04	2.02	2.03	2.03	2.04	2.04	2.04	2.04	2.04	2.04	2.03	2.01	2.00	2.01	2.00	2.00	1.99	2.00	2.01	S	2.05	2.18	2.24	1.99	2.24	2.04	
Sep 28	2.19	2.28	2.22	2.24	2.27	2.20	2.24	2.28	2.22	2.14	2.15	2.12	2.09	2.03	1.97	1.97	2.04	2.07	2.10	S	2.17	2.16	2.21	2.32	1.97	2.32	2.16	
Sep 29	2.25	2.36	2.28	2.30	2.36	2.36	2.36	2.38	2.06	2.03	2.02	2.01	2.00	1.99	1.98	1.98	1.98	S	S	1.99	1.99	2.00	2.00	2.01	1.98	2.38	2.12	
Sep 30	2.01	2.00	2.00	1.99	2.00	2.00	2.01	2.01	2.00	2.00	2.00	2.00	2.00	2.00	1.99	1.95	1.95	S	1.97	1.98	1.99	2.00	2.02	2.08	1.95	2.08	2.00	
Diurnal Maximum	2.52	2.44	2.54	2.46	2.37	2.36	2.44	2.46	2.34	2.24	2.15	2.12	2.09	2.04	2.03	2.01	2.04	2.07	2.18	2.27	2.21	2.16	2.43	2.32				
Diurnal Average	2.08	2.11	2.13	2.11	2.14	2.11	2.13	2.11	2.05	2.01	1.98	1.96	1.96	1.94	1.94	1.94	1.94	1.94	1.96	1.97	1.99	2.01	2.05	2.06				

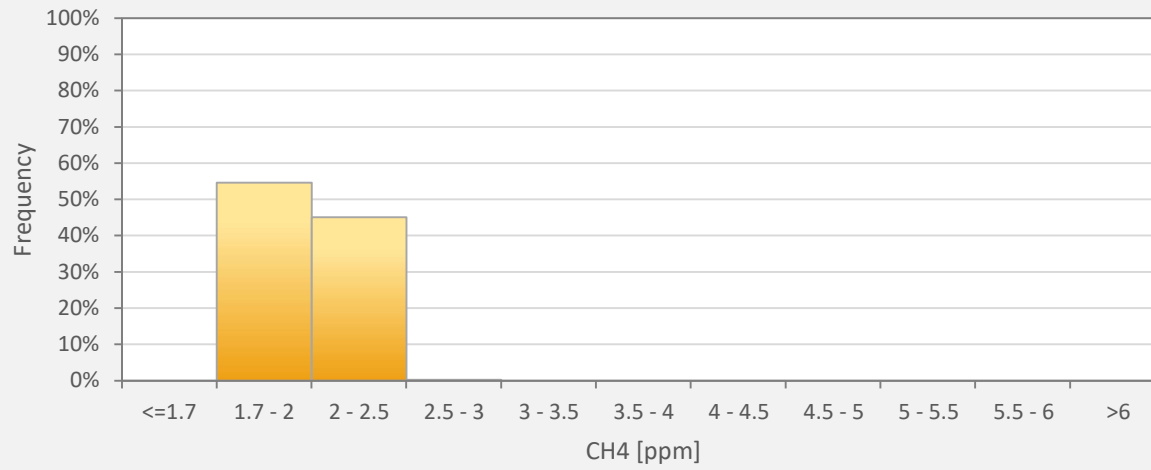
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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

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



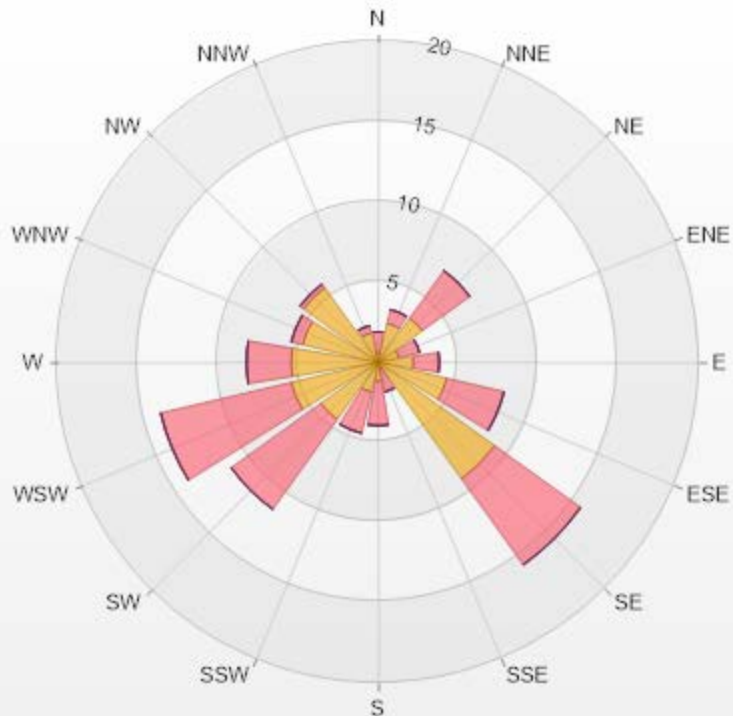
CH4[ppm] Histogram: Cold Lake South Monthly: 09-2022 1 Hr.



Classes	CH4
<=1.7	0.00%
1.7 - 2	54.61%
2 - 2.5	45.10%
2.5 - 3	0.29%
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: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.86% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	0.59	1.32	0	0	0	1.91
NNE	2.49	0.88	0	0	0	3.37
NE	3.37	3.66	0	0	0	7.03
ENE	1.32	1.32	0	0	0	2.64
E	2.2	1.61	0	0	0	3.81
ESE	4.39	3.66	0	0	0	8.05
SE	8.93	6.59	0	0	0	15.52
SSE	0.44	1.46	0	0	0	1.9
S	1.17	2.78	0	0	0	3.95
SSW	1.9	2.64	0	0	0	4.54
SW	4.39	6.88	0	0	0	11.27
WSW	5.56	8.35	0	0	0	13.91
W	5.42	2.78	0	0	0	8.2
WNW	4.83	0.73	0	0	0	5.56
NW	5.71	0.29	0	0	0	6
NNW	1.9	0.44	0	0	0	2.34
Summary	54.61	45.39	0	0	0	100



LICA-202209

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% Icon Classes (ppm)

55

0-2

45

2-5

0

5-10

0

10-20

0

>20.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - September 2022

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

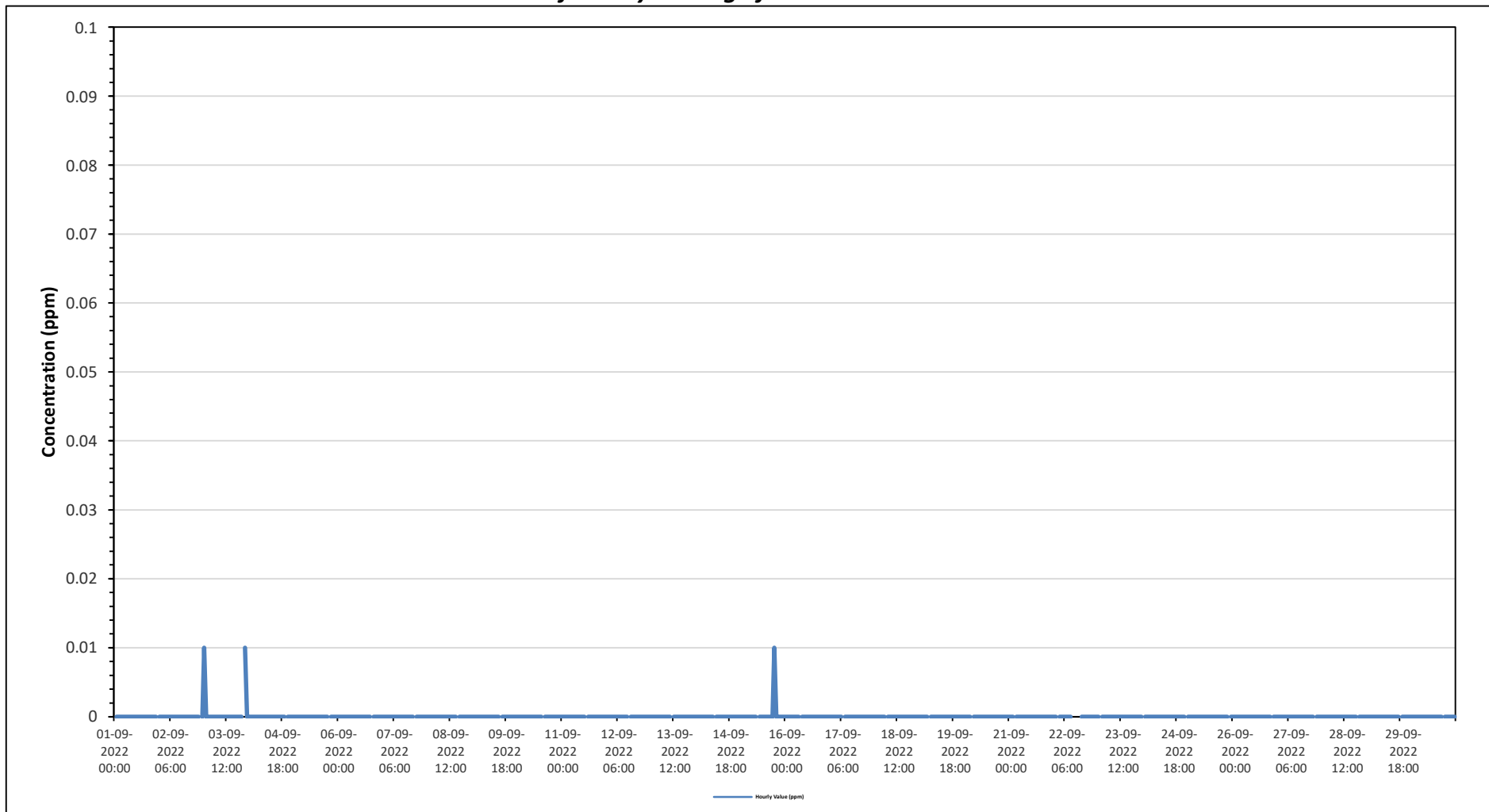
Maximum Hourly Value:	0.01 ppm on September 3 at hour 0	Hours in Service:	720
Maximum Daily Value:	0.00 ppm on September 3	Hours of Data:	683
Minimum Hourly Value:	0.00 ppm on September 1 at hour 1	Hours of Missing Data:	0
Minimum Daily Value:	0.00 ppm on September 1	Hours of Calibration:	37
Monthly Average:	0.00 ppm	Operational Uptime:	100.0

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

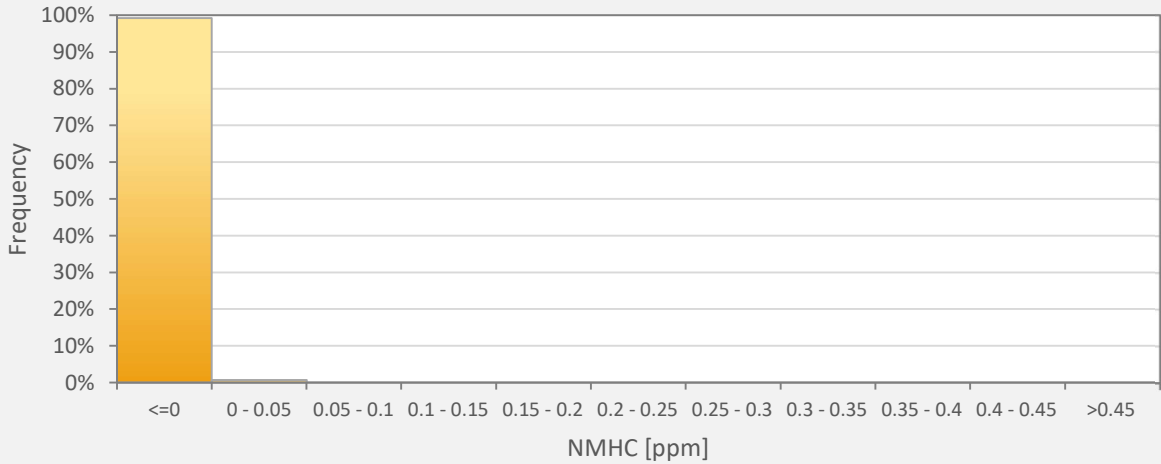
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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

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



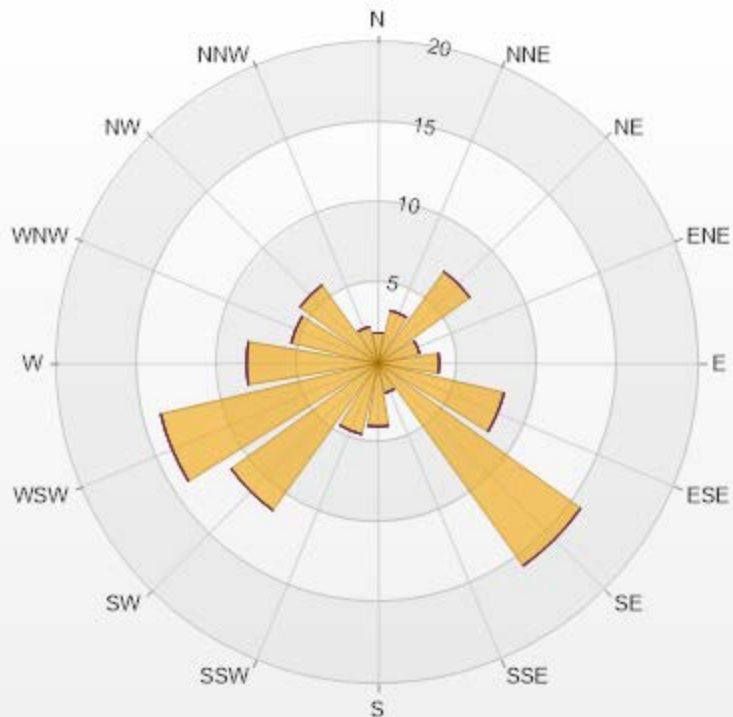
NMHC[ppm] Histogram: Cold Lake South Monthly: 09-2022 1 Hr.



Classes	NMHC
<=0	99.27%
0 - 0.05	0.73%
0.05 - 0.1	0.00%
0.1 - 0.15	0.00%
0.15 - 0.2	0.00%
0.2 - 0.25	0.00%
0.25 - 0.3	0.00%
0.3 - 0.35	0.00%
0.35 - 0.4	0.00%
0.4 - 0.45	0.00%
>0.45	0.00%

Wind: Cold Lake South Poll.: Cold Lake South-NMHC[ppm] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.86% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	1.9	0	0	0	0	1.9
NNE	3.37	0	0	0	0	3.37
NE	7.03	0	0	0	0	7.03
ENE	2.64	0	0	0	0	2.64
E	3.81	0	0	0	0	3.81
ESE	8.05	0	0	0	0	8.05
SE	15.52	0	0	0	0	15.52
SSE	1.9	0	0	0	0	1.9
S	3.95	0	0	0	0	3.95
SSW	4.54	0	0	0	0	4.54
SW	11.27	0	0	0	0	11.27
WSW	13.91	0	0	0	0	13.91
W	8.2	0	0	0	0	8.2
WNW	5.56	0	0	0	0	5.56
NW	6	0	0	0	0	6
NNW	2.34	0	0	0	0	2.34
Summary	100	0	0	0	0	100



LICA-202209

% Icon Classes (ppm)

100  0-0.1

0  0.1-0.3

0  0.3-1

0  1-2

0  >2.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - September 2022

Summary of Hourly Averages

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

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

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

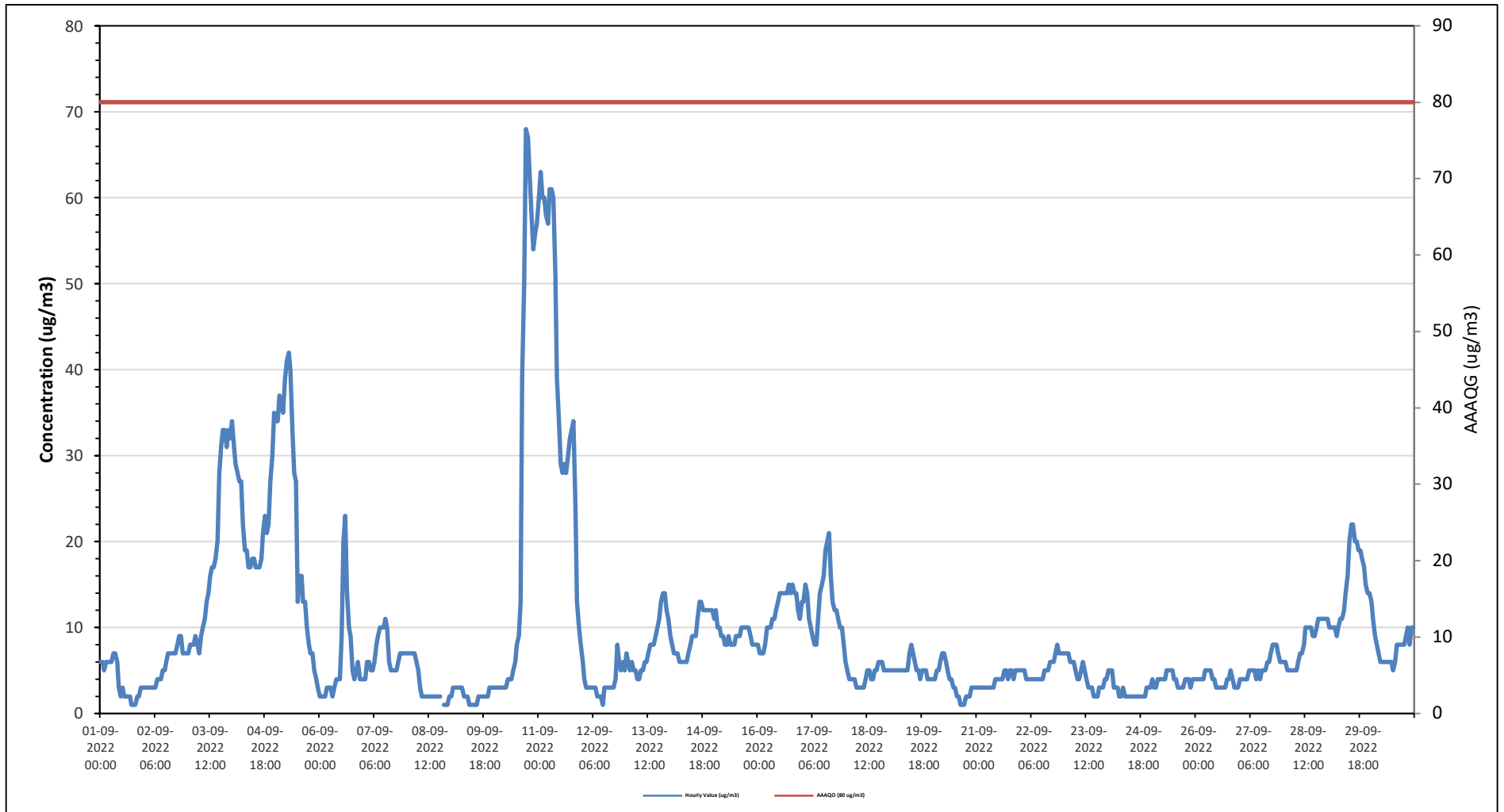
Maximum Hourly Value:	68 µg/m ³ on September 10 at hour 17	Hours in Service:	720
Maximum Daily Value:	40.1 µg/m ³ on September 11	Hours of Data:	719
Minimum Hourly Value:	1 µg/m ³ on September 1 at hour 17	Hours of Missing Data:	0
Minimum Daily Value:	2 µg/m ³ on September 9	Hours of Calibration:	1
Monthly Average:	9.4 µg/m ³	Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily	Daily	Daily		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average	
Sep 1	6	6	5	6	6	6	6	7	7	6	3	2	3	2	2	2	2	1	1	1	2	2	3	3	1	7	3.8	
Sep 2	3	3	3	3	3	3	3	4	4	4	5	5	6	7	7	7	7	8	9	9	7	7	7	7	3	9	5.5	
Sep 3	7	8	8	8	9	8	7	9	10	11	13	14	16	17	17	18	20	28	31	33	33	31	33	32	7	33	17.5	
Sep 4	34	31	29	28	27	27	22	19	19	17	17	18	18	17	17	17	18	21	23	21	22	27	30	35	17	35	23.1	
Sep 5	34	34	37	36	35	39	41	42	40	33	28	27	13	16	16	13	13	10	8	7	7	5	4	3	3	42	22.5	
Sep 6	2	2	2	2	3	3	3	2	3	4	4	4	9	20	23	14	10	9	5	4	5	6	4	4	2	23	6.1	
Sep 7	4	4	6	6	5	5	6	8	9	10	10	10	11	10	6	5	5	5	5	6	7	7	7	7	4	11	6.8	
Sep 8	7	7	7	7	7	6	5	3	2	2	2	2	2	2	2	2	2	2	2	2	C	1	1	1	2	7	3.3	
Sep 9	2	3	3	3	3	3	3	2	2	2	1	1	1	1	1	2	2	2	2	2	2	3	3	3	1	3	2.2	
Sep 10	3	3	3	3	3	3	3	4	4	4	5	6	8	9	13	39	50	68	67	63	58	54	56	57	3	68	24.4	
Sep 11	60	63	60	60	58	57	61	61	60	51	39	34	29	28	29	28	30	32	33	34	24	13	10	8	8	63	40.1	
Sep 12	6	4	3	3	3	3	3	3	2	2	2	1	3	3	3	3	3	3	4	8	6	5	6	5	1	8	3.6	
Sep 13	7	6	5	6	5	5	4	4	5	5	6	6	7	8	8	8	9	10	11	13	14	14	12	11	4	14	7.9	
Sep 14	9	8	7	7	7	6	6	6	6	6	7	8	9	9	9	11	13	13	12	12	12	12	12	12	6	13	9.1	
Sep 15	11	12	10	10	9	9	8	8	9	8	8	8	8	9	9	10	10	10	10	10	9	8	8	8	8	8	12	9.2
Sep 16	8	7	7	7	8	10	10	10	10	11	11	12	13	14	14	14	14	15	14	15	14	14	12	11	7	15	11.6	
Sep 17	13	13	15	14	11	10	9	8	8	11	14	15	16	19	20	21	16	13	12	12	11	10	10	8	8	21	12.9	
Sep 18	6	5	4	4	4	4	3	3	3	3	3	4	5	4	4	5	5	6	6	6	6	5	5	5	3	6	4.5	
Sep 19	5	5	5	5	5	5	5	5	5	5	5	7	8	7	6	5	5	4	5	5	5	4	4	4	4	8	5.2	
Sep 20	4	4	5	5	6	7	7	6	5	4	4	3	3	2	2	1	1	1	2	2	2	3	3	3	1	7	3.5	
Sep 21	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	5	5	4	5	5	4	5	5	5	3	5	3.9	
Sep 22	5	5	5	4	4	4	4	4	4	4	4	4	4	5	5	5	6	6	6	7	8	7	7	7	4	8	5.2	
Sep 23	7	7	7	6	6	6	5	4	4	5	6	5	4	3	3	3	2	2	2	3	3	3	4	4	2	7	4.3	
Sep 24	5	5	5	3	3	3	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	2	5	2.7	
Sep 25	4	3	3	4	4	4	4	4	5	5	5	5	4	4	3	3	3	3	4	4	4	3	4	4	3	5	3.9	
Sep 26	4	4	4	4	4	5	5	5	5	4	4	3	3	3	3	3	3	4	4	5	4	3	3	3	3	5	3.8	
Sep 27	4	4	4	4	4	5	5	5	5	4	5	4	5	4	5	5	6	6	7	8	8	8	7	6	6	8	5.4	
Sep 28	6	6	5	5	5	5	5	5	6	7	7	8	10	10	10	10	9	9	10	11	11	11	11	11	5	11	8.0	
Sep 29	11	10	10	10	10	9	10	11	11	12	14	16	20	22	22	20	20	19	19	18	17	15	14	14	9	22	14.8	
Sep 30	13	11	9	8	7	6	6	6	6	6	6	5	6	8	8	8	8	8	8	9	10	8	10	10	5	13	7.8	
Diurnal Maximum	60	63	60	60	58	57	61	61	60	51	39	34	29	28	29	39	50	68	67	63	58	54	56	57				
Diurnal Average	9.8	9.5	9.3	9.1	8.9	9.0	8.8	8.8	8.9	8.4	8.2	8.2	8.4	9.0	9.1	9.6	10.0	10.8	11.0	11.6	10.7	9.9	9.9	9.8				

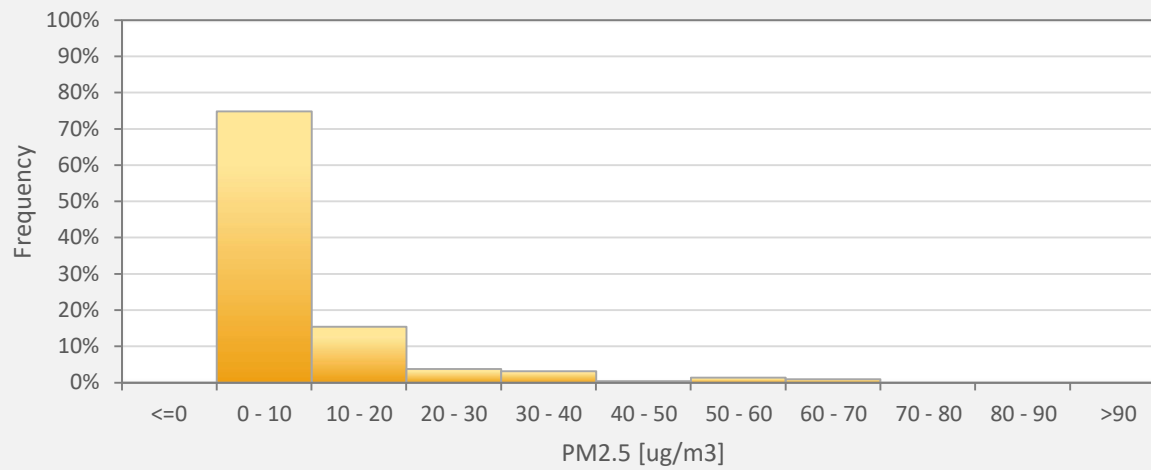
C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N No Data (Machine Not in Service)	Y Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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

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



PM2.5[ug/m3(L)] Histogram: Cold Lake South Monthly: 09-2022 1 Hr.



Classes	PM2.5
<=0	0.00%
0 - 10	74.83%
10 - 20	15.44%
20 - 30	3.76%
30 - 40	3.20%
40 - 50	0.42%
50 - 60	1.39%
60 - 70	0.97%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Cold Lake South Poll.: Cold Lake South-PM2.5[ug/m3(L)] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 99.86% Calm Avg: 0.00 [ug/m3(L)]

Direction	0-50	50-80	80-120	120-240	>240.0	Total
N	1.81	0	0	0	0	1.81
NNE	3.2	0	0	0	0	3.2
NE	7.09	0.14	0	0	0	7.23
ENE	2.5	0.14	0	0	0	2.64
E	3.76	0	0	0	0	3.76
ESE	7.65	0.14	0	0	0	7.79
SE	16.27	0.14	0	0	0	16.41
SSE	2.09	0	0	0	0	2.09
S	3.48	0.28	0	0	0	3.76
SSW	4.17	0.28	0	0	0	4.45
SW	11.4	0.28	0	0	0	11.68
WSW	13.07	0.56	0	0	0	13.63
W	7.65	0.28	0	0	0	7.93
WNW	5.42	0	0	0	0	5.42
NW	5.98	0	0	0	0	5.98
NNW	2.09	0.14	0	0	0	2.23
Summary	97.63	2.38	0	0	0	100



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - September 2022

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

Maximum Hourly Value:	100 %	on September 9 at hour 3	Hours in Service:	720
Maximum Daily Value:	92.3 %	on September 17	Hours of Data:	720
Minimum Hourly Value:	28 %	on September 6 at hour 15	Hours of Missing Data:	0
Minimum Daily Value:	55.9 %	on September 12	Hours of Calibration:	0
Monthly Average:	71.0 %		Operational Uptime:	100.0

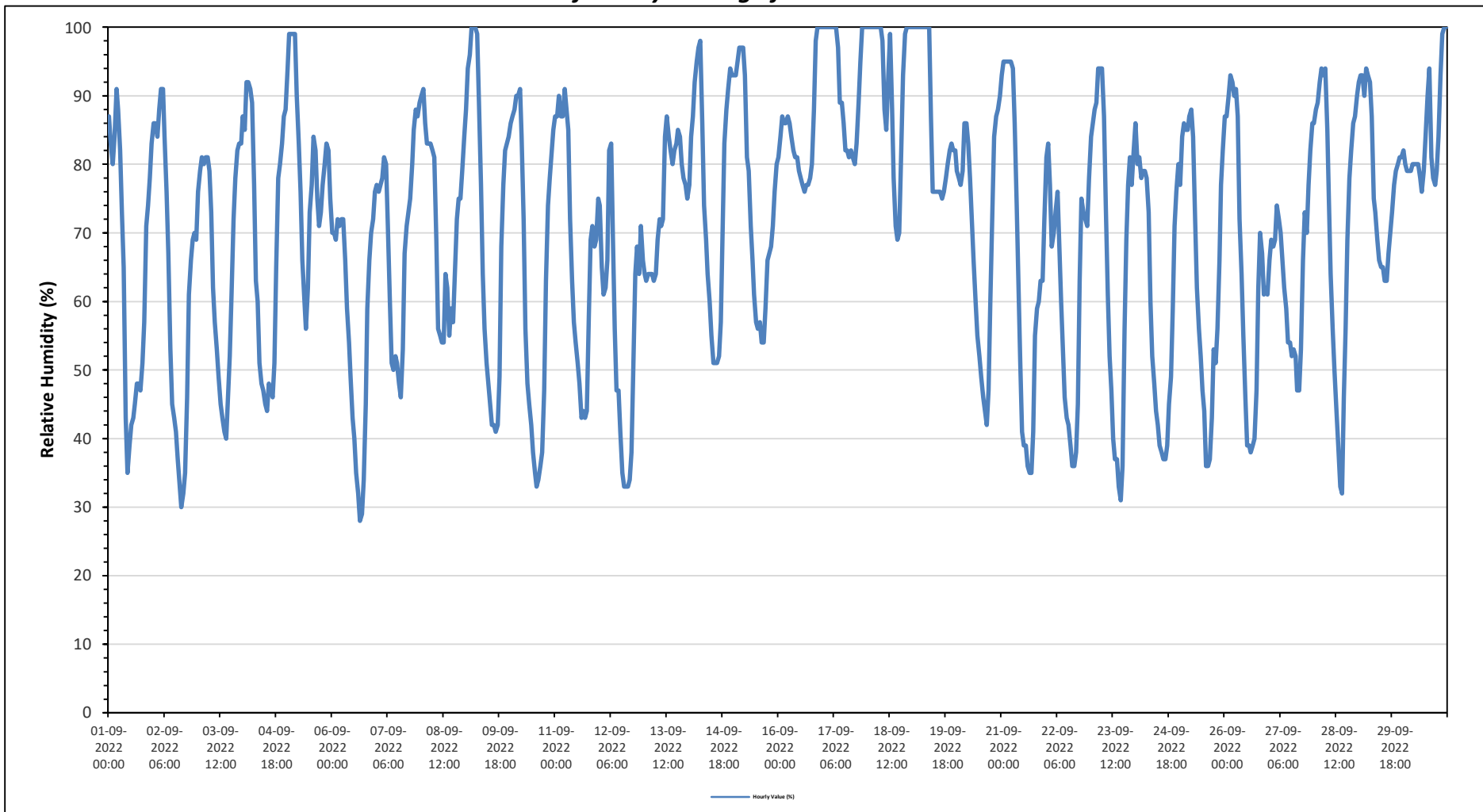
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Sep 1	87	83	80	84	91	88	82	73	65	43	35	39	42	43	45	48	48	47	51	57	71	74	78	83	35	91	64.0	
Sep 2	86	86	84	88	91	91	84	76	67	53	45	43	41	37	33	30	32	35	46	61	66	69	70	69	30	91	61.8	
Sep 3	76	79	81	80	81	81	79	73	62	57	53	49	45	43	41	40	46	52	61	72	78	82	83	83	40	83	65.7	
Sep 4	87	85	92	92	91	89	77	63	60	51	48	47	45	44	48	47	46	51	65	78	80	83	87	88	44	92	68.5	
Sep 5	94	99	99	99	99	90	83	76	66	61	56	62	73	77	84	82	75	71	73	77	80	83	82	75	56	99	79.8	
Sep 6	70	70	69	72	71	72	72	66	59	54	49	43	40	35	32	28	29	34	45	59	66	70	72	76	28	76	56.4	
Sep 7	77	76	77	78	81	80	71	60	51	50	52	51	48	46	53	67	71	73	75	80	85	88	87	89	46	89	69.4	
Sep 8	90	91	86	83	83	83	82	81	69	56	55	54	54	64	62	55	59	57	64	72	75	75	79	84	54	91	71.4	
Sep 9	88	94	96	100	100	100	99	89	77	64	56	51	48	45	42	42	41	42	49	68	77	82	83	84	41	100	71.5	
Sep 10	86	87	88	90	90	91	84	72	56	48	45	42	38	35	33	34	36	38	47	63	74	78	82	85	33	91	63.4	
Sep 11	87	87	90	87	87	91	88	85	72	63	57	54	51	48	43	44	43	44	58	69	71	68	69	75	43	91	68.0	
Sep 12	74	65	61	62	66	82	83	69	56	47	47	41	35	33	33	33	34	38	50	64	68	64	71	66	33	83	55.9	
Sep 13	64	63	64	64	64	63	64	69	72	71	72	84	87	84	82	80	82	83	85	84	80	78	77	75	63	87	74.6	
Sep 14	77	84	87	92	95	97	98	86	74	69	64	60	55	51	51	51	52	57	72	83	88	91	94	93	51	98	75.9	
Sep 15	93	93	95	97	97	97	93	81	79	71	66	61	57	56	57	54	54	59	66	67	68	71	76	80	54	97	74.5	
Sep 16	81	84	87	86	86	87	86	84	82	81	81	79	78	77	76	77	77	78	80	88	98	100	100	100	76	100	84.7	
Sep 17	100	100	100	100	100	100	100	100	97	89	89	86	82	82	81	82	81	80	83	89	95	100	100	100	80	100	92.3	
Sep 18	100	100	100	100	100	100	100	100	98	88	85	93	99	88	78	71	69	70	82	93	99	100	100	100	69	100	92.2	
Sep 19	100	100	100	100	100	100	100	100	100	100	100	87	76	76	76	76	76	75	76	78	80	82	83	82	82	75	100	87.7
Sep 20	79	78	77	79	86	86	83	78	72	66	60	55	52	49	46	44	42	47	60	73	84	87	88	90	42	90	69.2	
Sep 21	93	95	95	95	95	95	94	86	74	64	51	41	39	39	36	35	35	41	55	59	60	63	63	72	35	95	65.6	
Sep 22	81	83	77	68	70	73	76	68	60	52	46	43	42	39	36	36	38	45	63	75	73	72	71	78	36	83	61.0	
Sep 23	84	86	88	89	94	94	94	87	74	61	52	47	40	37	37	33	31	36	56	69	77	81	77	82	31	94	66.9	
Sep 24	86	80	81	78	79	79	78	73	60	52	48	44	42	39	38	37	37	39	45	49	59	71	76	80	37	86	60.4	
Sep 25	77	84	86	85	85	87	88	84	72	62	56	52	47	44	36	36	37	43	53	51	56	66	77	82	36	88	64.4	
Sep 26	87	87	90	93	92	90	91	87	72	64	55	46	39	39	38	39	40	47	62	70	67	61	62	61	38	93	65.8	
Sep 27	66	69	68	69	74	72	70	66	62	59	54	54	52	53	52	47	47	53	66	73	70	77	82	86	47	86	64.2	
Sep 28	86	88	89	92	94	93	94	85	75	64	56	50	44	39	33	32	46	56	69	78	82	86	87	90	32	94	71.2	
Sep 29	92	93	93	90	94	93	92	87	75	73	69	66	65	65	63	63	67	70	73	77	79	80	81	81	63	94	78.4	
Sep 30	82	80	79	79	79	80	80	80	80	78	76	79	84	90	94	81	78	77	79	84	93	99	100	100	76	100	83.8	
Diurnal Maximum	100	100	100	100	100	100	100	100	100	100	89	93	99	90	94	82	82	83	85	93	99	100	100	100				
Diurnal Average	84.3	85.0	85.3	85.7	87.2	87.5	85.5	79.5	71.3	63.7	58.8	56.4	54.7	53.2	52.0	50.8	51.6	54.6	63.7	72.1	76.7	79.4	81.2	83.0				

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

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

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

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





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - September 2022

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

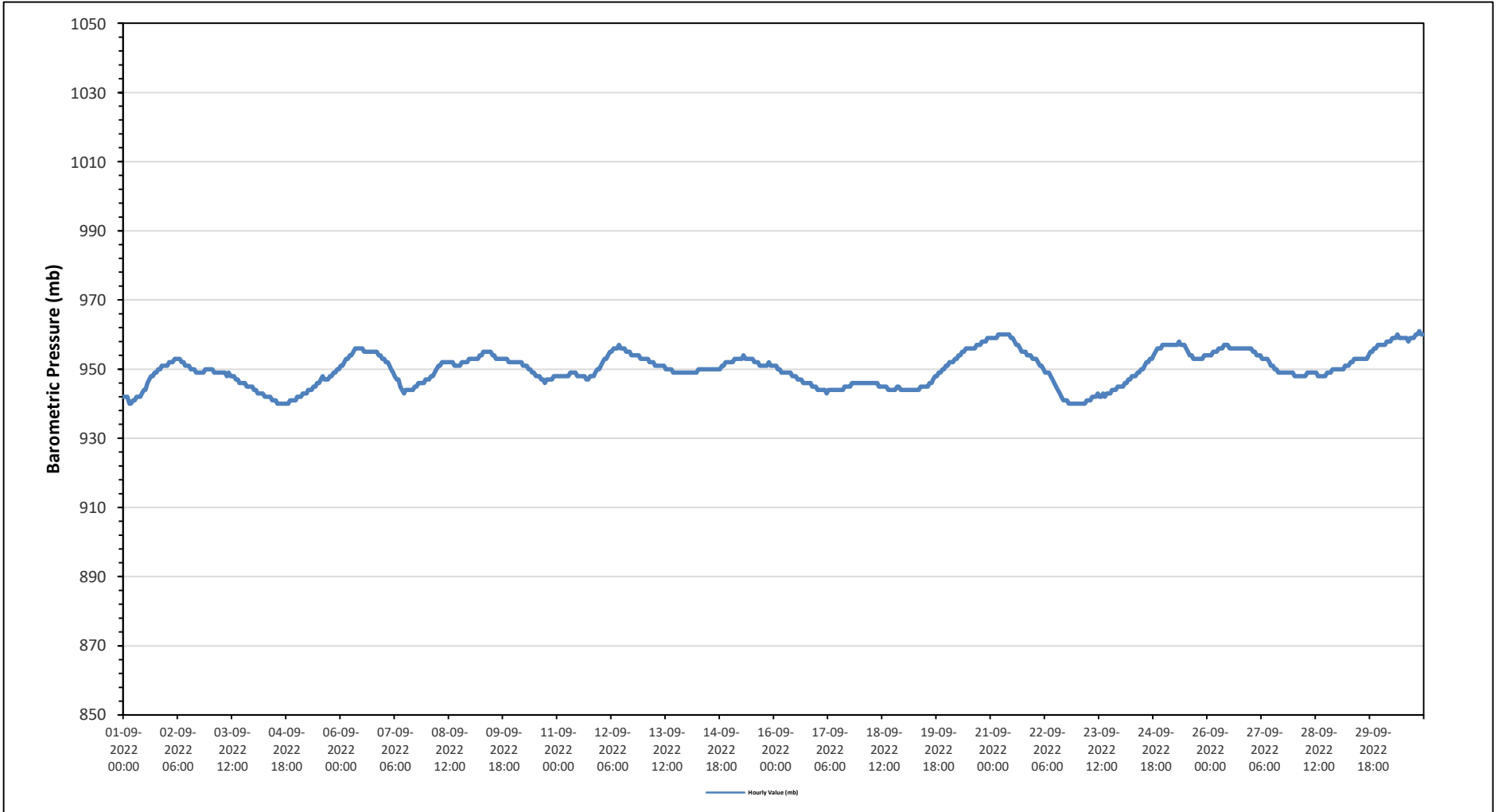
Maximum Hourly Value:	961 mb	on September 30 at hour 21	Hours in Service:	720
Maximum Daily Value:	959 mb	on September 30	Hours of Data:	720
Minimum Hourly Value:	940 mb	on September 1 at hour 3	Hours of Missing Data:	0
Minimum Daily Value:	941 mb	on September 4	Hours of Calibration:	0
Monthly Average:	950 mb		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Sep 1	942	942	942	940	940	941	941	942	942	942	943	944	944	946	947	948	948	949	949	950	950	951	951	951	940	951	945.2	
Sep 2	951	952	952	952	953	953	953	953	952	952	951	951	951	950	950	950	949	949	949	949	949	950	950	950	949	953	950.9	
Sep 3	950	950	949	949	949	949	949	949	949	948	949	948	948	948	947	947	946	946	946	946	945	945	945	945	945	950	947.6	
Sep 4	944	944	943	943	943	943	942	942	942	942	941	941	941	940	940	940	940	940	940	940	941	941	941	941	940	944	941.5	
Sep 5	942	942	942	943	943	943	944	944	944	945	945	946	946	947	948	947	947	947	948	948	949	949	950	950	942	950	945.8	
Sep 6	951	951	952	953	953	954	954	955	956	956	956	956	956	955	955	955	955	955	955	955	955	954	954	953	951	956	954.3	
Sep 7	953	952	952	951	950	949	948	947	947	945	944	944	944	944	944	944	945	945	945	946	946	946	946	947	943	953	946.8	
Sep 8	947	947	948	948	949	950	951	951	952	952	952	952	952	952	951	951	951	951	951	952	952	952	952	947	953	950.8		
Sep 9	953	953	953	953	953	954	954	955	955	955	955	955	954	954	953	953	953	953	953	953	953	953	952	952	952	952	953.5	
Sep 10	952	952	952	952	952	951	951	951	950	949	949	948	948	948	948	947	947	946	947	947	947	947	948	948	946	952	949.1	
Sep 11	948	948	948	948	948	948	948	949	949	949	949	948	948	948	948	947	947	948	948	948	949	950	950	947	950	948.3		
Sep 12	951	952	953	953	954	955	955	956	956	956	957	956	956	956	955	955	955	954	954	954	954	954	953	953	951	957	954.5	
Sep 13	953	953	953	952	952	952	951	951	951	951	951	951	950	950	950	950	949	949	949	949	949	949	949	949	949	949	950.5	
Sep 14	949	949	949	949	949	949	950	950	950	950	950	950	950	950	950	950	950	950	950	951	951	952	952	952	949	952	950.1	
Sep 15	952	952	953	953	953	953	953	954	953	953	953	953	953	952	952	952	951	951	951	951	951	952	952	951	951	954	952.2	
Sep 16	951	951	950	950	949	949	949	949	949	949	948	948	948	947	947	947	946	946	946	946	946	945	945	945	945	951	947.8	
Sep 17	944	944	944	944	944	943	944	944	944	944	944	944	944	944	944	945	945	945	945	945	946	946	946	946	943	946	944.5	
Sep 18	946	946	946	946	946	946	946	946	946	946	945	945	945	945	945	944	944	944	944	944	944	945	944	944	944	946	945.1	
Sep 19	944	944	944	944	944	944	944	944	944	945	945	945	945	945	946	946	947	948	948	949	949	950	950	951	944	951	946.0	
Sep 20	951	952	952	952	953	953	954	954	955	955	956	956	956	956	956	956	957	957	957	958	958	958	959	959	951	959	955.4	
Sep 21	959	959	959	959	960	960	960	960	960	960	960	959	959	958	957	957	956	955	955	955	954	954	954	953	953	960	957.6	
Sep 22	953	953	952	951	951	950	949	949	949	948	947	946	945	944	943	942	941	941	941	940	940	940	940	940	940	953	945.6	
Sep 23	940	940	940	940	940	941	941	941	942	942	942	943	942	942	943	942	943	943	943	943	944	944	944	945	945	940	945	942.2
Sep 24	945	945	946	946	947	947	948	948	948	949	949	950	950	951	952	952	953	953	954	955	956	956	956	957	945	957	950.5	
Sep 25	957	957	957	957	957	957	957	957	958	957	957	957	957	956	955	954	953	953	953	953	953	953	953	954	954	953	955.4	
Sep 26	954	954	954	955	955	955	956	956	956	956	957	957	957	956	956	956	956	956	956	956	956	956	956	956	954	957	955.8	
Sep 27	956	955	955	954	954	954	953	953	953	953	952	951	951	950	950	949	949	949	949	949	949	949	949	949	949	949	951.5	
Sep 28	948	948	948	948	948	948	948	949	949	949	949	949	949	948	948	948	948	948	949	949	949	950	950	948	950	948.6		
Sep 29	950	950	950	950	951	951	951	952	952	953	953	953	953	953	953	953	954	955	955	955	956	956	957	957	950	957	953.0	
Sep 30	957	957	957	958	958	958	959	959	959	960	959	959	959	959	958	958	959	959	959	960	960	961	960	960	957	961	958.9	
Diurnal Maximum	959	959	959	959	960	960	960	960	960	960	960	959	959	959	959	958	959	959	959	960	960	961	960	960				
Diurnal Average	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	949	949	950	950	950	950	950	950				

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

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

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





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - September 2022

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

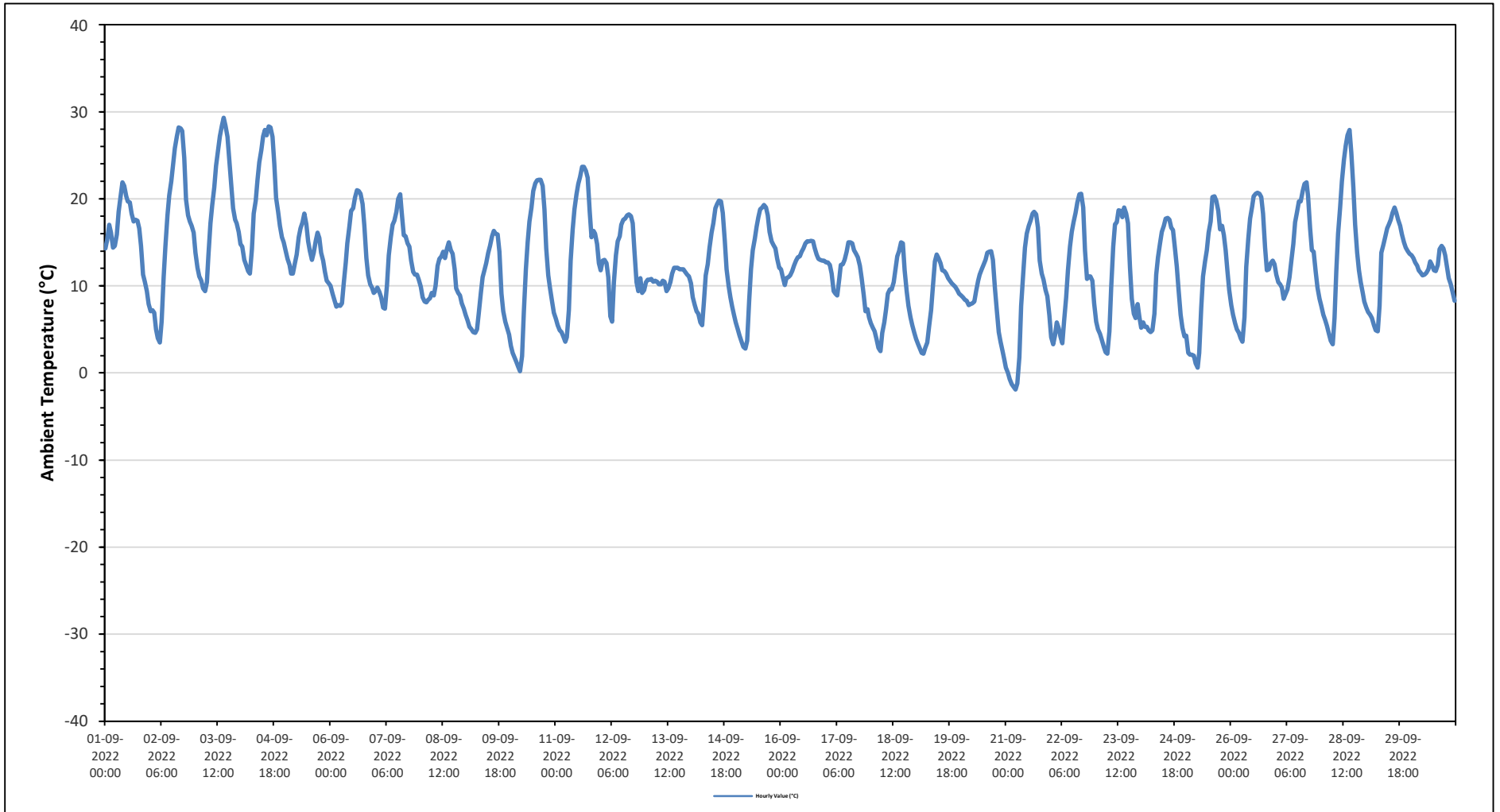
Maximum Hourly Value:	29.3 °C	on September 3 at hour 15	Hours in Service:	720
Maximum Daily Value:	19.9 °C	on September 4	Hours of Data:	720
Minimum Hourly Value:	-1.9 °C	on September 21 at hour 5	Hours of Missing Data:	0
Minimum Daily Value:	8.2 °C	on September 18	Hours of Calibration:	0
Monthly Average:	12.5 °C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Sep 1	14.3	15.3	17	16.1	14.4	14.6	15.9	18.5	20.1	21.9	21.5	20.3	19.7	19.6	18.3	17.4	17.6	17.5	16.6	14.6	11.3	10.5	9.4	7.9	7.9	21.9	16.3
Sep 2	7.1	7.2	6.9	5	4	3.5	5.9	11	14.6	18.1	20.4	22	23.9	25.8	27.2	28.2	28.1	27.8	24.7	19.9	18.1	17.4	16.9	16.1	3.5	28.2	16.7
Sep 3	13.8	12.1	11.1	10.6	9.7	9.4	10.4	13.5	17.2	19.3	21.3	23.8	25.6	27.2	28.4	29.3	28.4	27.1	24.5	21.5	18.9	17.6	17.2	16.2	9.4	29.3	18.9
Sep 4	14.8	14.5	13	12.4	11.7	11.4	14.2	18.3	19.8	22.2	24.2	25.6	27.2	27.9	27.3	28.3	28.2	27.1	24	20.1	18.5	16.9	15.6	15	11.4	28.3	19.9
Sep 5	14	13.1	12.4	11.4	11.4	12.6	13.6	15.6	16.6	17.3	18.3	17.1	15.1	14	13	13.8	15.2	16.1	15.5	13.8	12.9	11.6	10.6	10.3	10.3	18.3	14.0
Sep 6	10	9.1	8.4	7.6	7.8	7.7	8	10.3	12.7	14.9	16.8	18.6	18.9	20.1	21	20.9	20.6	19.4	16.9	13.2	11.2	10.2	9.8	9.2	7.6	21.0	13.5
Sep 7	9.4	9.8	9.3	8.7	7.5	7.4	10.1	13.5	15.6	17	17.5	18.5	20	20.5	18.4	15.8	15.7	14.9	14.5	12.9	11.6	11.3	11.3	10.7	7.4	20.5	13.4
Sep 8	9.9	8.7	8.2	8.1	8.4	8.6	9.2	8.9	10	12.3	13.1	13.4	13.9	13.2	14.3	15	14.1	13.7	11.9	9.7	9.2	8.9	8	7.4	7.4	15.0	10.8
Sep 9	6.7	6	5.3	5	4.7	4.6	5	6.9	9.2	11	11.8	12.6	13.8	14.6	15.7	16.3	16	15.9	13.9	9.1	7.1	5.9	5.2	4.4	4.4	16.3	9.4
Sep 10	3.1	2.3	1.8	1.3	0.7	0.2	1.9	7	11.9	15	17.4	19	20.9	21.8	22.1	22.2	22.2	21.5	18.8	14.3	11.2	9.7	8.2	6.9	0.2	22.2	11.7
Sep 11	6.2	5.5	4.9	4.7	4.2	3.6	4.1	7.2	12.9	16.5	18.8	20.5	21.7	22.5	23.7	23.7	23.2	22.4	18.5	15.6	16.3	16	14.8	12.6	3.6	23.7	14.2
Sep 12	11.8	12.9	13	12.6	11	6.5	5.9	10.4	13.5	15.1	15.7	17	17.6	17.7	18.1	18.2	18	17.2	13.9	10.4	9.4	10.9	9.2	9.5	5.9	18.2	13.1
Sep 13	10.4	10.7	10.7	10.8	10.5	10.6	10.5	10.2	10.2	10.6	10.5	9.4	9.7	10.4	11.4	12.1	12.1	12.1	11.9	11.9	11.9	11.6	11.3	11.1	9.4	12.1	10.9
Sep 14	10.3	8.7	7.8	7.1	6.8	5.8	5.5	8.2	11.2	12.5	14.4	16.1	17.2	18.9	19.4	19.8	19.7	18.4	15.2	11.9	10	8.7	7.6	6.7	5.5	19.8	12.0
Sep 15	5.8	5	4.3	3.6	3	2.8	3.7	8.4	11.9	14.1	15.4	16.8	17.9	18.8	19	19.3	19	18.1	16.2	15.1	14.7	14.3	13.1	12.1	2.8	19.3	12.2
Sep 16	11.9	11	10.1	10.9	11	11.2	11.7	12.3	12.9	13.3	13.4	13.9	14.3	14.9	15.1	15.1	15.2	15.1	14.4	13.6	13.1	13	12.9	12.9	10.1	15.2	13.1
Sep 17	12.7	12.7	12.4	11.4	9.4	9.1	8.9	10.8	12.4	12.5	13	13.9	15	15	14.9	14.1	13.7	13.3	12.3	10.9	9	7.1	7.3	6.4	6.4	15.0	11.6
Sep 18	5.7	5.2	4.8	3.8	2.9	2.5	4.6	5.8	7.3	9.1	9.6	9.6	10.4	11.9	13.4	14	15	14.9	11.8	9.4	7.7	6.4	5.5	4.6	2.5	15.0	8.2
Sep 19	3.9	3.3	2.8	2.3	2.2	2.9	3.5	5.3	7.2	9.9	12.8	13.6	13.2	12.6	11.8	11.7	11.4	10.9	10.6	10.3	10.1	9.9	9.5	9.1	2.2	13.6	8.4
Sep 20	8.9	8.7	8.4	8.3	7.8	7.9	8	8.2	9.4	10.6	11.3	11.9	12.4	13	13.8	13.9	14	13	9.7	7.3	4.7	3.6	2.5	1.5	1.5	14.0	9.1
Sep 21	0.6	0	-0.7	-1.3	-1.6	-1.9	-1.2	1.8	7.7	10.9	14.4	16	16.9	17.5	18.3	18.5	18.2	16.7	12.9	11.4	10.7	9.5	8.8	6.6	-1.9	18.5	8.8
Sep 22	4.1	3.3	4.3	5.8	5.1	4.1	3.4	6	8.7	11.8	14.5	16.2	17.3	18.4	19.6	20.5	20.6	19	14.1	10.8	11.1	11.1	10.6	8	3.3	20.6	11.2
Sep 23	5.9	5	4.5	3.8	3	2.4	2.2	4.8	9.8	14.5	17.1	17.3	18.7	18.6	17.9	19	18.3	17.2	12.1	8.5	6.8	6.3	7.9	6.4	2.2	19.0	10.3
Sep 24	5.2	5.8	5.3	5.3	4.9	4.7	4.9	6.8	11.3	13.3	14.9	16.2	16.9	17.7	17.8	17.6	16.7	16.4	14.2	12.2	9.5	6.7	5.2	4.2	4.2	17.8	10.6
Sep 25	4.3	2.3	2.1	2.1	2	1.1	0.6	2.3	7.5	11.1	12.8	14.1	16.1	17.4	20.2	20.3	19.8	18.6	16.5	16.9	15.8	14.1	11.7	9.5	0.6	20.3	10.8
Sep 26	7.8	6.7	5.7	5	4.6	4	3.6	6.4	12.2	15.4	17.7	19.1	20.3	20.6	20.7	20.6	20.2	18.3	14.4	11.8	11.9	12.6	12.9	12.5	3.6	20.7	12.7
Sep 27	11.3	10.4	10.2	9.8	8.5	9.1	9.6	11	12.8	14.8	17.3	18.4	19.7	19.7	20.9	21.7	21.9	20.3	16.6	14.1	13.9	11.6	9.8	8.5	8.5	21.9	14.2
Sep 28	7.7	6.7	6.1	5.4	4.5	3.7	3.3	6.3	11.7	16	19	22	24.5	26.1	27.3	27.9	25.3	21.3	17	13.8	11.8	10.4	9.2	8.2	3.3	27.9	14.0
Sep 29	7.5	7	6.7	6.3	5.5	4.9	4.8	7.7	13.8	14.7	15.6	16.6	17.1	17.6	18.4	19	18.4	17.6	16.9	15.9	15	14.4	14	13.7	4.8	19.0	12.9
Sep 30	13.5	13.2	12.7	12.3	11.8	11.5	11.2	11.3	11.5	11.9	12.8	12.4	11.8	11.7	12.4	14.2	14.6	14.3	13.5	12.2	10.9	10.2	9.3	8.3	8.3	14.6	12.1
Diurnal Maximum	14.8	15.3	17.0	16.1	14.4	14.6	15.9	18.5	20.1	22.2	24.2	25.6	27.2	27.9	28.4	29.3	28.4	27.8	24.7	21.5	18.9	17.6	17.2	16.2			
Diurnal Average	8.6	8.1	7.7	7.2	6.6	6.2	6.8	9.2	12.1	14.3	15.8	16.7	17.6	18.2	18.7	18.9	18.7	17.9	15.5	13.1	11.8	10.9	10.2	9.2			

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

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

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





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - September 2022

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

Maximum Hourly Value:	23.7 °C	on September 8 at hour 3	Hours in Service:	720
Maximum Daily Value:	23.2 °C	on September 30	Hours of Data:	720
Minimum Hourly Value:	20.3 °C	on September 2 at hour 11	Hours of Missing Data:	0
Minimum Daily Value:	21.0 °C	on September 4	Hours of Calibration:	0
Monthly Average:	22.5 °C		Operational Uptime:	100.0

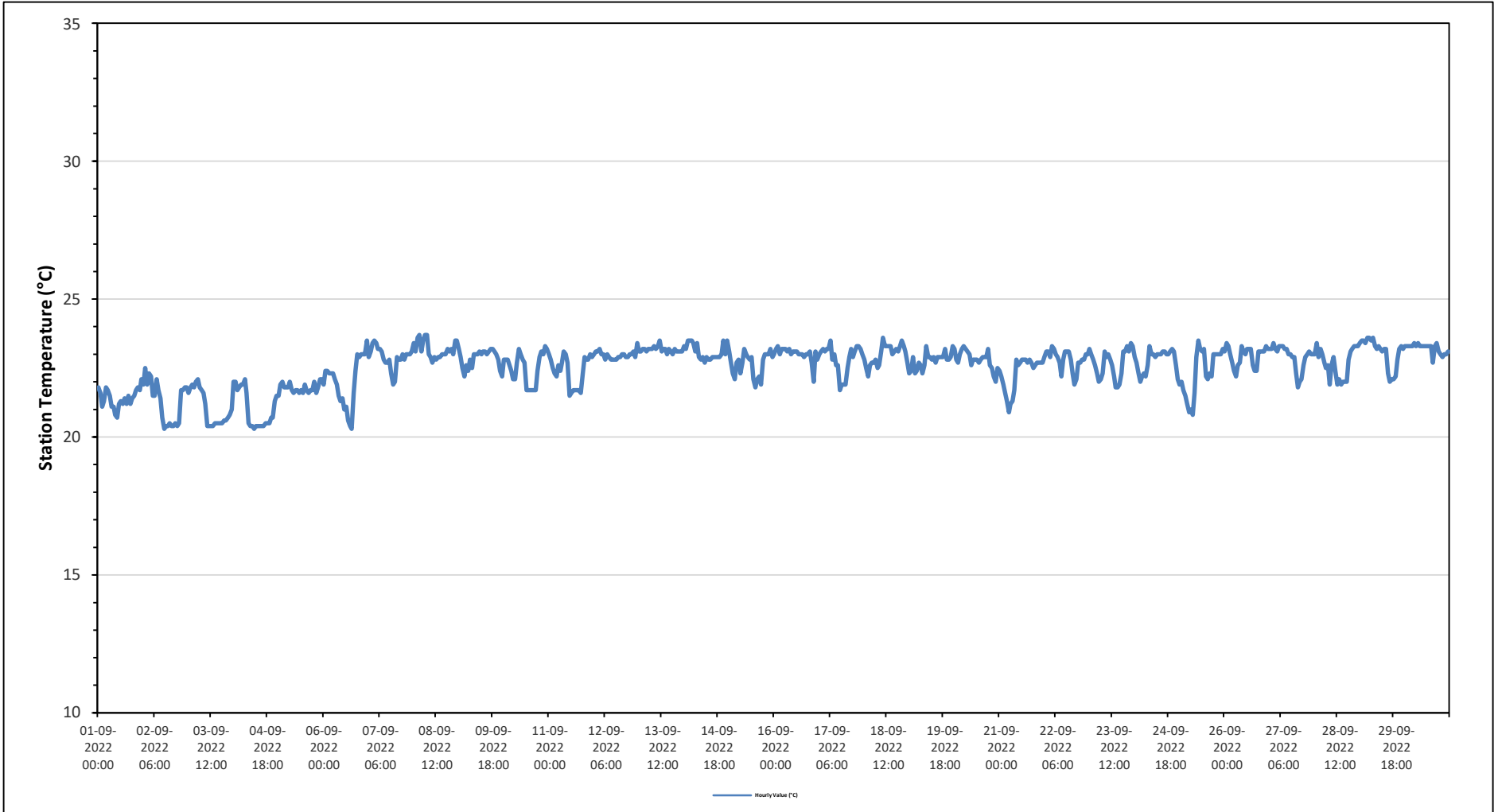
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Sep 1	21.8	21.6	21.1	21.3	21.8	21.7	21.5	21.1	21.1	20.8	20.7	21.2	21.3	21.2	21.4	21.2	21.5	21.2	21.4	21.5	21.7	21.8	21.7	22.1	20.7	22.1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

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

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

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

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





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - September 2022

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

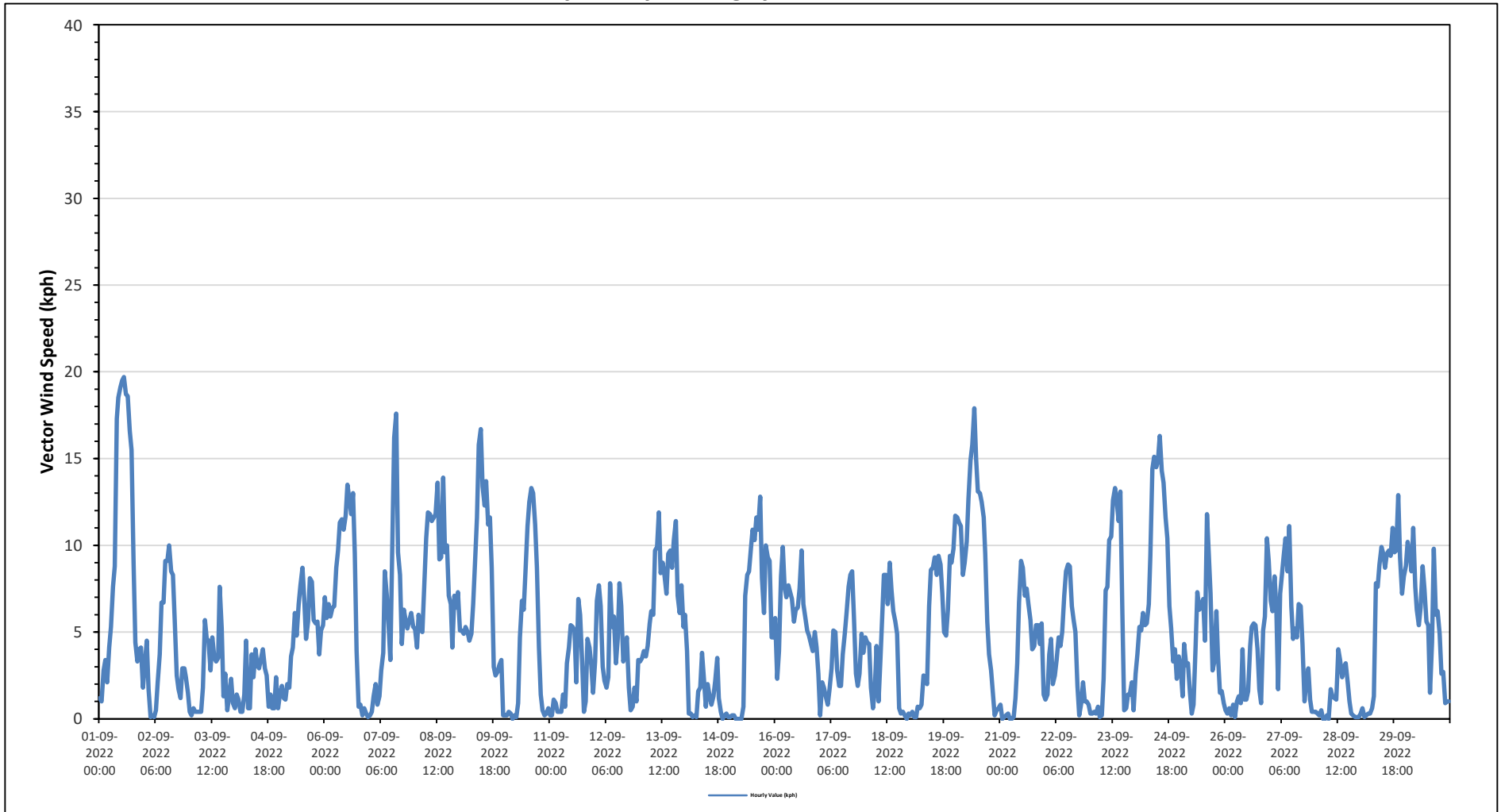
Maximum Hourly Value:	19.7 kph	on September 1 at hour 13	Hours in Service:	720
Maximum Daily Value:	9.0 kph	on September 20	Hours of Data:	720
Minimum Hourly Value:	0.0 kph	on September 10 at hour 4	Hours of Missing Data:	0
Minimum Daily Value:	0.4 kph	on September 28	Hours of Calibration:	0
Monthly Average:	1.0 kph		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Sep 1	1.2	1.0	2.8	3.4	2.1	4.1	5.3	7.6	8.8	17.3	18.5	19.1	19.5	19.7	18.7	18.6	16.6	15.5	9.0	4.4	3.3	4.0	4.1	1.8	1.0	19.7	8.1
Sep 2	3.1	4.5	1.7	0.1	0.2	0.1	0.5	2.1	3.7	6.7	6.7	9.1	9.1	10.0	8.5	8.3	5.7	2.5	1.7	1.2	2.9	2.9	2.4	1.5	0.1	10.0	3.3
Sep 3	0.4	0.2	0.6	0.4	0.4	0.4	0.4	1.8	5.7	4.6	4.5	2.8	4.7	3.5	3.3	3.5	7.6	5.2	1.3	2.6	0.5	1.3	2.3	0.9	0.2	7.6	1.7
Sep 4	0.6	1.4	1.1	0.4	0.4	1.4	4.5	0.6	0.6	3.7	2.4	4.0	3.1	2.9	3.5	4.0	2.9	2.5	0.7	1.4	0.6	0.6	2.4	0.6	0.4	4.5	1.4
Sep 5	1.4	1.9	1.2	1.1	2.0	1.8	3.6	4.1	6.1	4.8	6.6	7.7	8.7	6.9	4.6	5.6	8.1	7.9	5.7	5.5	5.6	3.7	5.1	5.4	1.1	8.7	4.3
Sep 6	7.0	5.8	6.6	5.9	6.4	6.5	8.7	9.7	11.3	11.5	10.9	11.7	13.5	12.6	11.8	13.0	9.5	3.9	0.7	0.8	0.2	0.6	0.3	0.1	0.1	13.5	6.7
Sep 7	0.2	0.4	1.3	2.0	0.8	1.3	2.8	3.8	8.5	7.1	5.4	3.4	10.3	16.2	17.6	9.6	8.3	4.3	6.3	5.7	5.2	5.7	6.1	5.3	0.2	17.6	2.1
Sep 8	5.2	4.1	6.0	5.1	5.0	7.5	10.4	11.9	11.8	11.4	11.6	11.8	13.6	9.2	9.3	13.9	9.6	10.0	7.1	6.6	4.1	7.1	6.4	7.3	4.1	13.9	7.9
Sep 9	5.1	5.1	4.9	5.3	5.0	4.5	4.9	6.6	8.9	11.6	15.8	16.7	13.4	12.3	13.7	11.2	11.6	8.7	3.0	2.5	2.7	3.1	3.4	0.2	0.2	16.7	6.7
Sep 10	0.2	0.2	0.4	0.3	0.0	0.2	0.1	0.9	4.7	6.8	6.3	8.5	11.1	12.5	13.3	13.0	11.2	8.7	4.1	1.4	0.5	0.2	0.3	0.6	0.0	13.3	4.3
Sep 11	0.2	0.2	1.1	0.9	0.4	0.4	1.4	0.7	3.2	4.1	5.4	5.3	5.1	2.1	6.9	6.0	3.3	0.4	1.0	4.6	4.1	3.1	1.5	0.2	6.9	2.2	2.2
Sep 12	3.3	6.8	7.7	6.5	3.0	2.2	1.8	2.4	7.8	5.3	5.9	3.2	4.6	7.8	6.5	3.3	3.8	4.7	1.8	0.5	0.7	1.8	1.0	3.4	0.5	7.8	3.1
Sep 13	3.3	3.5	3.9	3.6	4.2	5.5	6.2	6.0	9.7	9.9	11.9	8.4	9.0	8.3	7.2	9.5	9.7	8.7	10.3	11.4	7.1	6.1	7.7	5.3	3.3	11.9	7.2
Sep 14	6.0	3.9	0.3	0.3	0.1	0.2	0.1	1.6	1.8	3.8	2.2	0.7	2.0	1.3	0.8	1.3	2.2	3.5	1.2	0.4	0.0	0.2	0.3	0.1	0.0	6.0	0.8
Sep 15	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.7	7.1	8.3	8.5	9.9	10.9	10.3	11.6	10.9	12.8	8.1	6.1	10.0	9.3	9.1	4.7	4.7	0.0	12.8	6.0
Sep 16	5.8	2.3	3.9	8.2	9.9	7.6	7.0	7.7	7.3	6.9	5.6	6.3	6.4	7.5	9.7	6.6	5.8	5.1	4.8	4.3	3.9	5.0	4.1	2.6	2.3	9.9	5.6
Sep 17	0.2	2.1	1.8	1.3	0.8	1.7	2.9	5.1	5.0	2.8	1.9	1.9	3.7	4.9	6.1	7.6	8.3	8.5	5.9	2.6	1.9	2.6	4.9	3.8	0.2	8.5	2.1
Sep 18	4.7	4.4	4.3	1.8	0.6	1.6	4.2	1.0	3.3	6.1	8.3	8.3	6.6	9.0	7.4	6.2	5.6	4.9	0.6	0.3	0.4	0.2	0.0	0.3	0.0	9.0	3.4
Sep 19	0.2	0.4	0.1	0.1	0.7	0.6	0.8	2.5	2.3	2.0	6.5	8.6	8.7	9.3	8.3	9.4	8.9	7.2	5.0	4.8	6.3	9.4	9.0	9.8	0.1	9.8	4.7
Sep 20	11.7	11.6	11.3	11.1	8.3	9.0	10.2	12.7	14.9	15.8	17.9	15.0	13.1	13.0	12.5	11.6	9.5	5.6	3.7	2.8	1.5	0.2	0.5	0.6	0.2	17.9	9.0
Sep 21	0.8	0.0	0.1	0.2	0.3	0.0	0.0	0.1	1.2	3.2	6.7	9.1	8.7	7.1	7.5	6.6	5.7	4.0	4.2	5.4	5.4	4.3	5.5	1.4	0.0	9.1	3.1
Sep 22	1.1	1.4	3.7	4.6	2.0	2.5	3.4	4.7	4.2	5.0	7.1	8.5	8.9	8.8	6.5	5.7	5.0	1.9	0.2	0.9	2.1	1.0	1.0	0.8	0.2	8.9	3.5
Sep 23	0.3	0.3	0.4	0.3	0.7	0.1	0.2	2.3	7.4	7.6	10.3	10.5	12.6	13.3	12.5	11.4	13.1	6.0	0.5	0.6	1.4	1.4	2.1	0.5	0.1	13.3	4.6
Sep 24	2.6	3.7	5.3	5.1	6.1	5.4	5.5	6.6	9.4	14.4	15.1	14.5	14.9	16.3	14.3	13.6	11.6	10.4	6.5	5.2	3.3	4.0	2.3	3.6	2.3	16.3	7.6
Sep 25	3.0	1.3	4.3	3.1	3.2	1.5	0.3	0.8	4.1	7.3	6.3	6.5	6.9	4.5	11.8	9.5	7.2	2.8	3.3	6.2	3.7	1.5	1.6	0.9	0.3	11.8	3.6
Sep 26	0.5	0.3	0.6	0.2	0.8	0.1	1.0	1.3	0.9	4.0	1.1	1.1	1.6	4.2	5.3	5.5	5.4	4.0	1.7	0.9	5.1	5.9	10.4	9.1	0.1	10.4	2.0
Sep 27	6.8	6.2	8.2	6.4	1.7	7.2	8.3	9.4	10.4	8.5	11.1	6.5	4.6	5.2	4.7	6.6	6.5	4.3	1.0	2.2	2.9	1.1	0.4	0.4	0.4	11.1	5.4
Sep 28	0.4	0.3	0.2	0.5	0.0	0.0	0.2	0.0	1.7	1.3	1.2	1.1	4.0	3.4	2.4	3.0	3.2	2.1	1.0	0.3	0.2	0.1	0.1	0.1	0.0	4.0	0.4
Sep 29	0.3	0.6	0.1	0.2	0.3	0.3	0.6	1.3	7.8	7.6	8.9	9.9	9.5	8.7	9.5	9.7	9.4	11.0	9.6	9.7	12.9	9.3	7.2	8.2	0.1	12.9	6.1
Sep 30	8.8	10.2	9.5	8.5	11.0	7.6	6.3	5.4	6.4	8.8	7.5	5.6	5.4	1.5	4.4	9.8	6.0	6.2	4.9	2.6	2.7	0.9	1.0	1.0	0.9	11.0	5.5
Diurnal Maximum	12	12	11	11	11	9	10	13	15	17	19	19	20	20	19	19	17	16	10	11	13	9	10	10			
Diurnal Average	2.8	2.8	3.1	2.9	2.5	2.7	3.4	4.1	6.1	7.2	7.9	7.9	8.5	8.5	8.5	8.5	7.9	6.1	3.7	3.5	3.4	3.2	3.3	2.7			

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

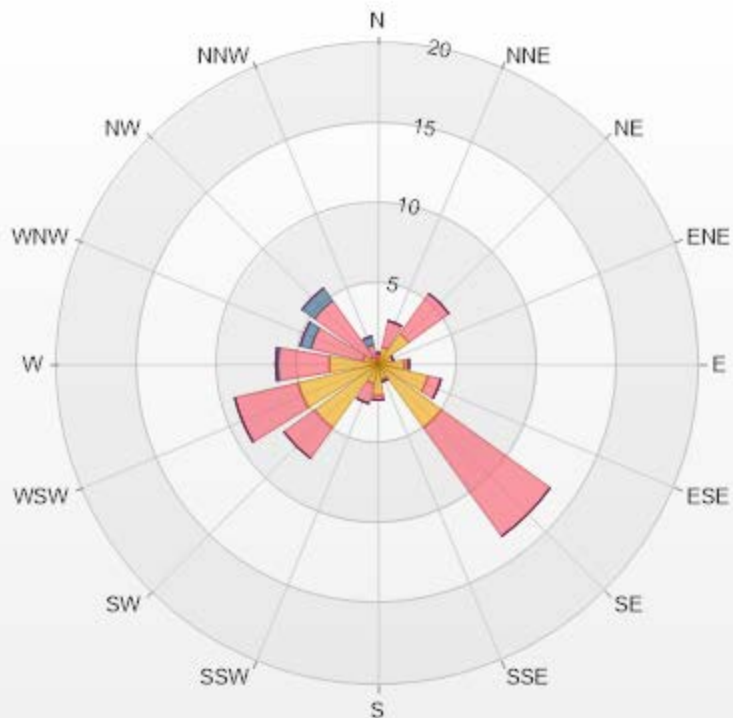
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

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



Wind: Cold Lake South Monitor: WDS [kph] Monthly: 09-2022 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 29.72% 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	0.42	0.28	0	0	0	0.7
NNE	1.11	1.67	0	0	0	2.78
NE	2.36	3.06	0	0	0	5.42
ENE	0.97	0	0	0	0	0.97
E	1.67	0.28	0	0	0	1.95
ESE	3.19	0.83	0	0	0	4.02
SE	4.86	8.33	0	0	0	13.19
SSE	0.97	0.14	0	0	0	1.11
S	1.94	0.28	0	0	0	2.22
SSW	1.25	1.25	0	0	0	2.5
SW	4.86	2.36	0	0	0	7.22
WSW	5.14	4.03	0	0	0	9.17
W	3.06	3.19	0.14	0	0	6.39
WNW	0.97	3.33	0.69	0	0	4.99
NW	0.56	4.31	0.97	0	0	5.84
NNW	0.14	1.11	0.56	0	0	1.81
Summary	33.47	34.45	2.36	0	0	70.28



LICA-202209

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% Icon Classes (kph)

33 1.8-6.0

34 6.0-15.0

2 15.0-29.0

0 29.0-39.0

0 >39.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - September 2022

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

Monthly Average:	261 (W) degree	Hours in Service:	720
		Hours of Data:	720
		Hours of Missing Data:	0
		Hours of Calibration:	0
		Operational Uptime:	100.0

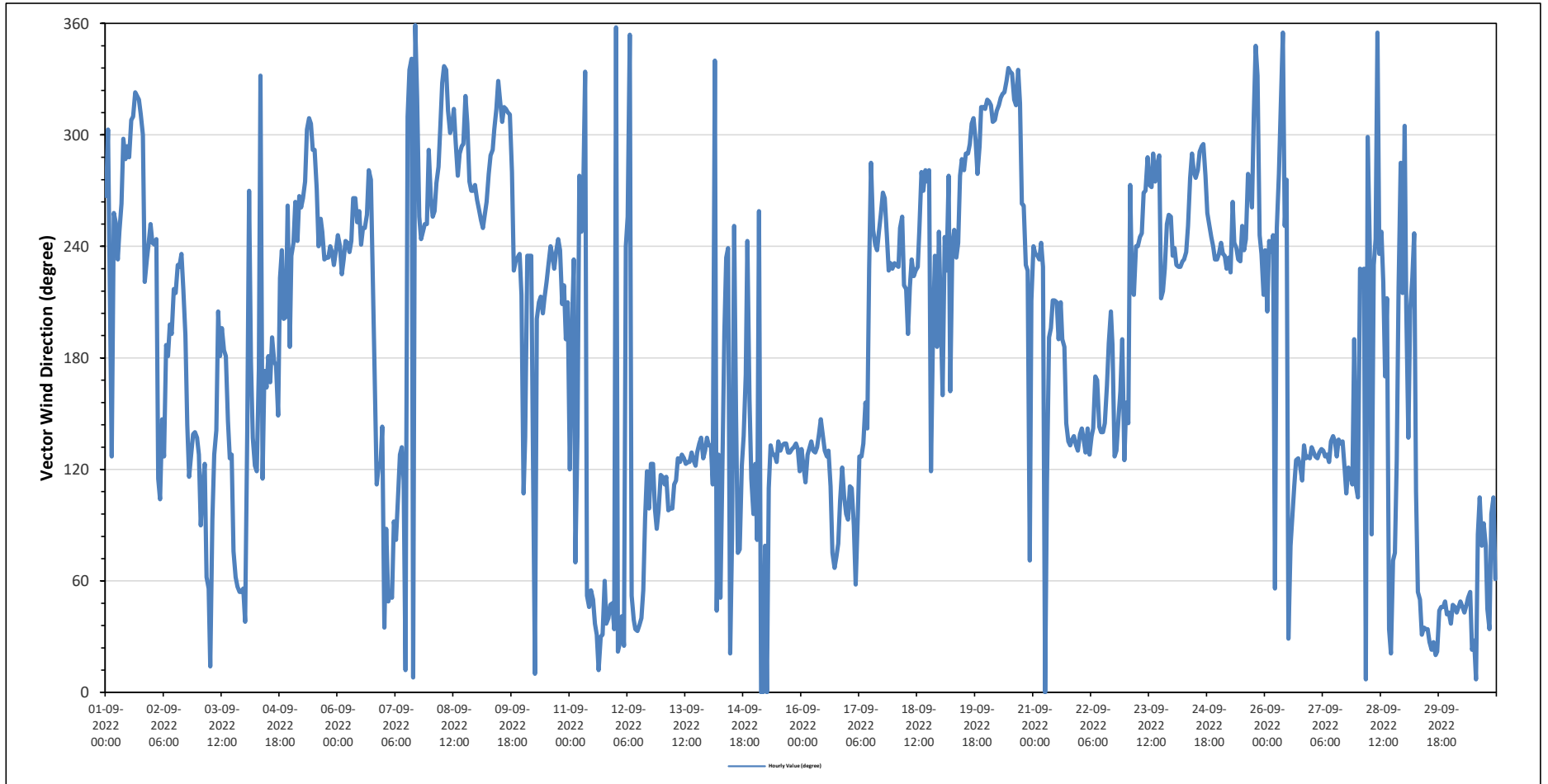
Day	Hourly Period Starting at (MST)																							Daily Average			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Degree	Quadrant	
Sep 1	W	WNW	SW	SE	WSW	WSW	SW	WSW	W	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NW	WNW	SW	SW	WSW	WSW	WSW	294	WNW	
Sep 2	WSW	WSW	WSW	ESE	ESE	SE	SE	S	S	SSW	S	SW	SSW	SW	SW	SW	SW	S	SE	ESE	SE	SE	SE	SE	208	SSW	
Sep 3	SE	E	ESE	ESE	ENE	NE	NNE	E	SE	SE	SSW	S	SSW	S	S	SE	SE	ENE	ENE	ENE	NE	NE	NE	NE	139	SE	
Sep 4	NE	SE	W	S	SE	ESE	ESE	S	NNW	ESE	S	SSE	S	SSE	S	S	S	SSE	SW	SW	SSW	SSW	W	S	168	SSE	
Sep 5	SW	WSW	W	WSW	W	W	W	W	WNW	NW	NW	WNW	WNW	W	WSW	WSW	WSW	SW	SW	SW	WSW	SW	SW	SW	262	W	
Sep 6	WSW	WSW	SW	SW	WSW	WSW	SW	WSW	W	W	WSW	WSW	WSW	WSW	WSW	WSW	W	W	SW	S	ESE	ESE	ESE	SE	251	WSW	
Sep 7	NE	E	NE	NE	NE	E	E	ESE	SE	SE	ESE	NNE	NW	NNW	NNW	N	N	NW	WSW	WSW	WSW	WSW	WNW	WNW	331	NNW	
Sep 8	W	WSW	WSW	W	W	WNW	NNW	NNW	NNW	NW	WNW	WNW	NW	WNW	W	WNW	WNW	WNW	NW	NW	W	W	W	W	299	WNW	
Sep 9	W	WSW	WSW	WSW	WSW	W	W	WNW	WNW	WNW	NW	NNW	NW	NW	NW	NW	NW	W	SW	SW	SW	SW	SSW	SSW	297	WNW	
Sep 10	ESE	SE	SW	SW	SW	ESE	N	SSW	SSW	SSW	SSW	SSW	SW	SW	WSW	SW	SW	WSW	SW	SSW	SSW	SW	S	SSW	226	SW	
Sep 11	ESE	S	SW	ENE	SE	W	WSW	W	NNW	NE	NE	NE	NE	NE	NNE	NNE	NNE	NNE	ENE	NE	NE	NE	NE	NE	37	NE	
Sep 12	N	NNE	NNE	NE	NNE	WSW	WSW	N	NE	NE	NE	NNE	NE	NE	NE	E	ESE	E	ESE	ESE	E	E	E	ESE	48	NE	
Sep 13	ESE	ESE	ESE	E	E	E	ESE	ESE	SE	ESE	SE	ESE	SE	ESE	ESE	SE	SE	ESE	SE	SE	SE	SE	SE	SE	124	ESE	
Sep 14	SE	SE	ESE	NNW	NE	SE	NE	SE	SSW	SW	WSW	NNE	E	WSW	SSE	ENE	ENE	ESE	SE	S	WSW	SSE	ESE	E	140	SE	
Sep 15	ESE	E	WSW	N	N	ENE	N	ESE	SE	SE	SE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	131	SE	
Sep 16	SE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	ENE	ENE	ENE	E	ESE	ESE	ESE	E	121	ESE	
Sep 17	E	ESE	ESE	E	ENE	E	SE	SE	SE	SSE	SE	SW	WNW	WSW	WSW	SW	WSW	WSW	W	W	WSW	SW	SW	SW	225	SW	
Sep 18	SW	SW	SW	WSW	WSW	SW	SW	S	SW	SW	SW	SW	SW	WSW	W	W	W	W	ESE	SSW	SW	S	WSW	242	WSW		
Sep 19	SSW	SSE	WSW	SW	W	SSE	WSW	WSW	SW	WSW	W	WNW	W	WNW	WNW	WNW	NW	NW	WNW	W	WNW	NW	NW	NW	294	WNW	
Sep 20	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	NNW	NNW	NW	NW	NNW	NW	W	W	SW	SW	ENE	SSW	320	NW		
Sep 21	WSW	SW	SW	SW	WSW	SW	N	ESE	S	SSW	SSW	SSW	SSW	S	SSW	S	S	SE	SE	SE	SE	SE	SE	SE	180	S	
Sep 22	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SSE	SE	SE	SE	SE	SE	SSE	S	SSW	S	SE	SE	SE	SSE	S	SE	152	SSE
Sep 23	SSE	SE	W	SW	SSW	WSW	WSW	WSW	WSW	W	W	WNW	W	W	WNW	W	WNW	WNW	SSW	SW	SW	WSW	WSW	WSW	273	W	
Sep 24	SW	WSW	SW	SW	SW	SW	SW	SW	WSW	W	WNW	W	W	W	WNW	WNW	WNW	W	WSW	WSW	WSW	WSW	SW	SW	268	W	
Sep 25	SW	WSW	SW	SW	SW	SW	SW	SW	W	WSW	WSW	SW	SW	WSW	SW	WSW	W	W	NW	NNW	NNW	WSW	SW	SSW	255	WSW	
Sep 26	SW	SSW	WSW	SW	WSW	NE	WSW	W	NW	N	WSW	W	NNE	ENE	E	ESE	SE	SE	ESE	ESE	SE	SE	SE	SE	118	ESE	
Sep 27	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	SE	SE	SE	SE	SE	SE	SE	ESE	ESE	ESE	ESE	ESE	S	ESE	130	SE	
Sep 28	ESE	SW	SW	SW	N	WNW	WSW	E	SW	WSW	N	SW	WSW	SW	SSE	SSW	NE	NNE	ENE	ENE	SE	SW	WNW	SSW	230	SW	
Sep 29	WNW	SSW	SE	SSW	SW	WSW	ESE	NE	NE	NNE	NE	NE	NE	NNE	NNE	NNE	NNE	NNE	NE	NE	NE	NE	NE	NE	36	NE	
Sep 30	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	ENE	ENE	ENE	ENE	ESE	ENE	54	NE	

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

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

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

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





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - September 2022

Summary of Hourly Averages

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

WIND SPEED																											
Maximum Hourly Value:		19.7 kph on September 1 at hour 13										Hours in Service:		720													
Maximum Daily Value:		9.0 kph on September 20										Hours of Data:		720													
Minimum Hourly Value:		0.0 kph on September 10 at hour 4										Hours of Missing Data:		0													
Minimum Daily Value:		0.4 kph on September 28										Hours of Calibration:		0													
Monthly Average:		1.0 kph										Operational Uptime:		100													
WIND DIRECTION																											
Monthly Average:		261 (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			
Sep 1	1.2	1.0	2.8	3.4	2.1	4.1	5.3	7.6	8.8	17.3	18.5	19.1	19.5	19.7	18.7	18.6	16.6	15.5	9.0	4.4	3.3	4.0	4.1	1.8	1.0	19.7	8.1
	W	WNW	SW	SE	WSW	WSW	SW	WSW	W	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NW	WNW	SW	SW	WSW	WSW				
Sep 2	3.1	4.5	1.7	0.1	0.2	0.1	0.5	2.1	3.7	6.7	6.7	9.1	9.1	10.0	8.5	8.3	5.7	2.5	1.7	1.2	2.9	2.9	2.4	1.5	0.1	10.0	3.3
	WSW	WSW	WSW	ESE	ESE	SE	SE	S	S	SSW	S	SW	SSW	SW	SW	SW	S	SE	ESE	SE	SE	SE	SE				
Sep 3	0.4	0.2	0.6	0.4	0.4	0.4	0.4	1.8	5.7	4.6	4.5	2.8	4.7	3.5	3.3	3.5	7.6	5.2	1.3	2.6	0.5	1.3	2.3	0.9	0.2	7.6	1.7
	SE	E	ESE	ESE	ENE	NE	NNE	E	SE	SE	SSW	S	SSW	S	S	SE	SE	SE	ENE	ENE	ENE	NE	NE				
Sep 4	0.6	1.4	1.1	0.4	0.4	1.4	4.5	0.6	0.6	3.7	2.4	4.0	3.1	2.9	3.5	4.0	2.9	2.5	0.7	1.4	0.6	0.6	2.4	0.6	0.4	4.5	1.4
	NE	SE	W	S	SE	ESE	ESE	S	NNW	ESE	S	SSE	S	SSE	S	S	S	SSE	SW	SW	SSW	SSW	W	S			
Sep 5	1.4	1.9	1.2	1.1	2.0	1.8	3.6	4.1	6.1	4.8	6.6	7.7	8.7	6.9	4.6	5.6	8.1	7.9	5.7	5.5	5.6	3.7	5.1	5.4	1.1	8.7	4.3
	SW	WSW	W	WSW	W	W	W	W	WNW	NW	NW	WNW	NW	WSW	WSW	WSW	WSW	WSW	SW	SW	WSW	SW	SW	SW			
Sep 6	7.0	5.8	6.6	5.9	6.4	6.5	8.7	9.7	11.3	11.5	10.9	11.7	13.5	12.6	11.8	13.0	9.5	3.9	0.7	0.8	0.2	0.6	0.3	0.1	0.1	13.5	6.7
	WSW	WSW	SW	WSW	WSW	WSW	SW	WSW	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	SW	S	ESE	ESE	ESE	SE			
Sep 7	0.2	0.4	1.3	2.0	0.8	1.3	2.8	3.8	8.5	7.1	5.4	3.4	10.3	16.2	17.6	9.6	8.3	4.3	6.3	5.7	5.2	5.7	6.1	5.3	0.2	17.6	2.1
	NE	E	NE	NE	NE	E	E	ESE	SE	ESE	NNE	NW	NNW	NNW	N	N	NW	WSW	WSW	WSW	WSW	WSW	WNW				
Sep 8	5.2	4.1	6.0	5.1	5.0	7.5	10.4	11.9	11.8	11.4	11.6	11.8	13.6	9.2	9.3	13.9	9.6	10.0	7.1	6.6	4.1	7.1	6.4	7.3	4.1	13.9	7.9
	W	WSW	WSW	W	W	WNW	NNW	NNW	NNW	NW	WNW	NW	WNW	NW	WNW	W	WNW	WNW	NW	NW	W	W	W	W			
Sep 9	5.1	5.1	4.9	5.3	5.0	4.5	4.9	6.6	8.9	11.6	15.8	16.7	13.4	12.3	13.7	11.2	11.6	8.7	3.0	2.5	2.7	3.1	3.4	0.2	0.2	16.7	6.7
	W	WSW	WSW	WSW	WSW	W	W	WNW	WNW	WNW	NW	NNW	NW	NW	NW	NW	NW	NW	W	SW	SW	SW	SW	SSW			
Sep 10	0.2	0.2	0.4	0.3	0.0	0.2	0.1	0.9	4.7	6.8	6.3	8.5	11.1	12.5	13.3	13.0	11.2	8.7	4.1	1.4	0.5	0.2	0.3	0.6	0.0	13.3	4.3
	ESE	SE	SW	SW	ESE	N	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	SSW			
Sep 11	0.2	0.2	1.1	0.9	0.4	0.4	0.4	1.4	0.7	3.2	4.1	5.4	5.3	5.1	2.1	6.9	6.0	3.3	0.4	1.0	4.6	4.1	3.1	1.5	0.2	6.9	2.2
	ESE	S	SW	ENE	SE	W	WSW	W	NNW	NE	NE	NE	NE	NNE	NNE	NNE	NNE	ENE	NE	NE	NE	NE	NE	NE			
Sep 12	3.3	6.8	7.7	6.5	3.0	2.2	1.8	2.4	7.8	5.3	5.9	3.2	4.6	7.8	6.5	3.3	3.8	4.7	1.8	0.5	0.7	1.8	1.0	3.4	0.5	7.8	3.1
	N	NNE	NNE	NE	NNE	WSW	WSW	N	NE	NE	NE	NNE	NE	NE	NE	E	ESE	E	ESE	ESE	E	E	E	ESE			
Sep 13	3.3	3.5	3.9	3.6	4.2	5.5	6.2	6.0	9.7	9.9	11.9	8.4	9.0	8.3	7.2	9.5	9.7	8.7	10.3	11.4	7.1	6.1	7.7	5.3	3.3	11.9	7.2
	ESE	ESE	ESE	E	E	E	ESE	ESE	SE	ESE	SE	SE	ESE	ESE	ESE	SE	SE	ESE	SE	SE	SE	SE	SE	SE			
Sep 14	6.0	3.9	0.3	0.3	0.1	0.2	0.1	1.6	1.8	3.8	2.2	0.7	2.0	1.3	0.8	1.3	2.2	3.5	1.2	0.4	0.0	0.2	0.3	0.1	0.0	6.0	0.8
	SE	SE	ESE	NNW	NE	SE	NE	SE	SSW	SW	WSW	NNE	E	WSW	SSE	ENE	ENE	ESE	SE	S	WSW	SSE	ESE	E			
Sep 15	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.7	7.1	8.3	8.5	9.9	10.9	10.3	11.6	10.9	12.8	8.1	6.1	10.0	9.3	9.1	4.7	4.7	0.0	12.8	6.0
	ESE	E	WSW	N	N	ENE	N	ESE	SE	SE	SE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE			
Sep 16	5.8	2.3	3.9	8.2	9.9	7.6	7.0	7.7	7.3	6.9	5.6	6.3	6.4	7.5	9.7	6.6	5.8	5.1	4.8	4.3	3.9	5.0	4.1	2.6	2.3	9.9	5.6
	SE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	ENE	ENE	ENE	E	ESE	ESE	ESE	E			
Sep 17	0.2	2.1	1.8	1.3	0.8	1.7	2.9	5.1	5.0	2.8	1.9	1.9	3.7	4.9	6.1	7.6	8.3	8.5	5.9	2.6	1.9	2.6	4.9	3.8	0.2	8.5	2.1
	E	ESE	ESE	E	ENE	E	SE	SE	SSE	SE	SW	WNW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	WSW	SW	SW	SW			
Sep 18	4.7	4.4	4.3	1.8	0.6	1.6	4.2	1.0	3.3	6.1	8.3	8.3	6.6	9.0	7.4	6.2	5.6	4.9	0.6	0.3	0.4	0.2	0.0	0.3	0.0	9.0	3.4
	SW	SW	SW	WSW	WSW	SW	SW	S	SW	SW	SW	SW	SW	SW	W	W	W	W	W	ESE	SSW	SW	S	WSW			
Sep 19	0.2	0.4	0.1	0.1	0.7	0.6	0.8	2.5	2.3	2.0	6.5	8.6	8.7	9.3	8.3	9.4	8.9	7.2	5.0	4.8	6.3	9.4	9.0	9.8	0.1	9.8	4.7
	SSW	SSE	WSW	SW	W	SSE	WSW	WSW	SW	WSW	W	WNW	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW			
Sep 20	11.7	11.6	11.3	11.1	8.3	9.0	10.2	12.7	14.9	15.8	17.9	15.0	13.1	13.0	12.5	11.6	9.5	5.6	3.7	2.8	1.5	0.2	0.5	0.6	0.2	17.9	9.0
	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	NNW	NNW	NNW	NW	NW	NNW	NW	W	W	SW	SW	ENE	SSW			



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - September 2022

Summary of Hourly Averages

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

WIND SPEED																											
Maximum Hourly Value:	19.7	kph	on September 1 at hour 13	Hours in Service:	720																						
Maximum Daily Value:	9.0	kph	on September 20	Hours of Data:	720																						
Minimum Hourly Value:	0.0	kph	on September 10 at hour 4	Hours of Missing Data:	0																						
Minimum Daily Value:	0.4	kph	on September 28	Hours of Calibration:	0																						
Monthly Average:	1.0	kph		Operational Uptime:	100																						
WIND DIRECTION																											
Monthly Average:	261	(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			
Sep 21	0.8	0.0	0.1	0.2	0.3	0.0	0.0	0.1	1.2	3.2	6.7	9.1	8.7	7.1	7.5	6.6	5.7	4.0	4.2	5.4	4.3	5.5	1.4	0.0	9.1	3.1	
	WSW	SW	SW	SW	WSW	SW	N	ESE	S	SSW	SSW	SSW	SSW	S	SSW	S	S	SE	SE	SE	SE	SE	SE				
Sep 22	1.1	1.4	3.7	4.6	2.0	2.5	3.4	4.7	4.2	5.0	7.1	8.5	8.9	8.8	6.5	5.7	5.0	1.9	0.2	0.9	2.1	1.0	1.0	0.8	0.2	8.9	3.5
	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SSE	SE	SE	SE	SE	SSE	S	SSW	S	SE	SE	SE	SSE	S	SE			
Sep 23	0.3	0.3	0.4	0.3	0.7	0.1	0.2	2.3	7.4	7.6	10.3	10.5	12.6	13.3	12.5	11.4	13.1	6.0	0.5	0.6	1.4	1.4	2.1	0.5	0.1	13.3	4.6
	SSE	SE	W	SW	SSW	WSW	WSW	WSW	WSW	W	W	WNW	W	W	WNW	W	WNW	WNW	SSW	SW	SW	WSW	WSW	WSW			
Sep 24	2.6	3.7	5.3	5.1	6.1	5.4	5.5	6.6	9.4	14.4	15.1	14.5	14.9	16.3	14.3	13.6	11.6	10.4	6.5	5.2	3.3	4.0	2.3	3.6	2.3	16.3	7.6
	SW	WSW	SW	SW	SW	SW	SW	WSW	W	WNW	W	W	W	WNW	WNW	WNW	W	WSW	WSW	WSW	WSW	WSW	SW	SW			
Sep 25	3.0	1.3	4.3	3.1	3.2	1.5	0.3	0.8	4.1	7.3	6.3	6.5	6.9	4.5	11.8	9.5	7.2	2.8	3.3	6.2	3.7	1.5	1.6	0.9	0.3	11.8	3.6
	SW	WSW	SW	SW	SW	SW	SW	W	WSW	WSW	SW	SW	WSW	SW	WSW	W	W	NW	NNW	NNW	WSW	SW	SSW				
Sep 26	0.5	0.3	0.6	0.2	0.8	0.1	1.0	1.3	0.9	4.0	1.1	1.1	1.6	4.2	5.3	5.5	5.4	4.0	1.7	0.9	5.1	5.9	10.4	9.1	0.1	10.4	2.0
	SW	SSW	WSW	SW	WSW	NE	WSW	W	NW	N	WSW	W	NNE	ENE	E	ESE	SE	SE	ESE	ESE	SE	SE	SE	SE			
Sep 27	6.8	6.2	8.2	6.4	1.7	7.2	8.3	9.4	10.4	8.5	11.1	6.5	4.6	5.2	4.7	6.6	6.5	4.3	1.0	2.2	2.9	1.1	0.4	0.4	0.4	11.1	5.4
	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	SE	SE	SE	SE	SE	SE	SE	ESE	ESE	ESE	ESE	ESE	S	ESE			
Sep 28	0.4	0.3	0.2	0.5	0.0	0.0	0.2	0.0	1.7	1.3	1.2	1.1	4.0	3.4	2.4	3.0	3.2	2.1	1.0	0.3	0.2	0.1	0.1	0.1	0.0	4.0	0.4
	ESE	SW	SW	SW	N	WNW	WSW	E	SW	WSW	N	SW	WSW	SW	SSE	SSW	NE	NNE	ENE	ENE	SE	SW	WNW	SSW			
Sep 29	0.3	0.6	0.1	0.2	0.3	0.3	0.6	1.3	7.8	7.6	8.9	9.9	9.5	8.7	9.5	9.7	9.4	11.0	9.6	9.7	12.9	9.3	7.2	8.2	0.1	12.9	6.1
	WNW	SSW	SE	SSW	SW	WSW	ESE	NE	NE	NNE	NE	NE	NE	NNE	NNE	NNE	NNE	NNE	NE	NE	NE	NE	NE	NE			
Sep 30	8.8	10.2	9.5	8.5	11.0	7.6	6.3	5.4	6.4	8.8	7.5	5.6	5.4	1.5	4.4	9.8	6.0	6.2	4.9	2.6	2.7	0.9	1.0	1.0	0.9	11.0	5.5
	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NNE	NNE	N	E	ESE	ENE	E	ENE	NE	NE	E	ESE			
C	Monthly Calibration							S	Daily Zero-Span Check							Q	Quality Assurance										
K	Collection Error							N	No Data (Machine Not in Service)							Y	Routine Maintenance							P	Power Failure		
X	Invalid Data (Equipment Malfunction/Recovery)							NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)																		
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.																											
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.																											



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - September 2022

Summary of Hour Standard Deviations

STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

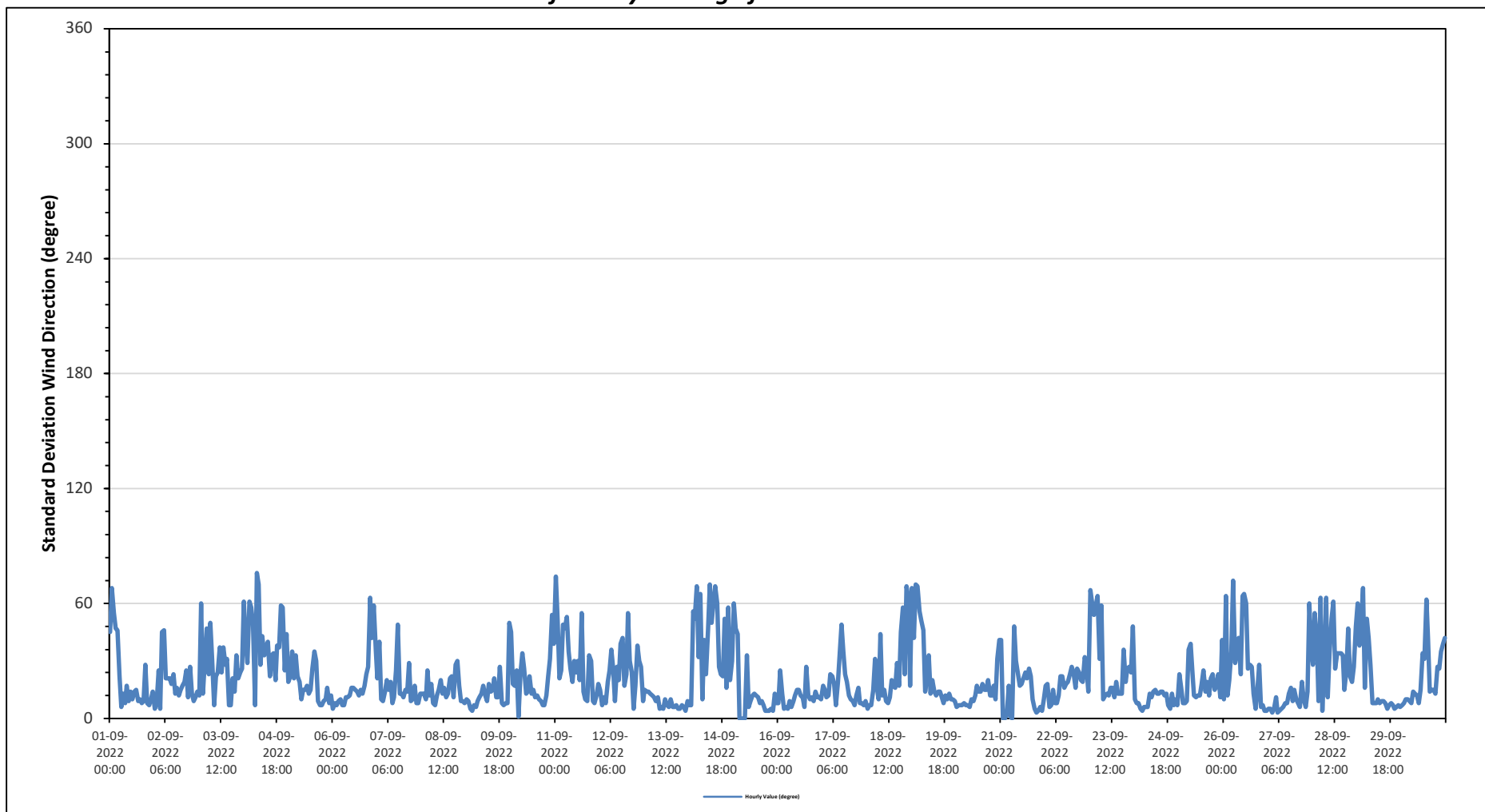
Maximum Hourly Value:	76 degree on September 4 at hour 7	Hours in Service:	720
Minimum Hourly Value:	0 degree on September 15 at hour 3	Hours of Data:	720
		Hours of Missing Data:	0
		Hours of Calibration:	0
		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22			23	
Sep 1	45	68	55	47	46	22	6	13	8	17	9	14	10	14	15	9	10	8	9	28	8	7	10	14	6	68	
Sep 2	5	8	25	5	45	46	21	21	21	18	23	13	16	12	15	17	19	25	11	27	13	9	11	14	5	46	
Sep 3	12	60	13	31	47	23	50	31	7	22	24	37	24	37	28	31	7	7	21	14	33	21	24	26	7	70	
Sep 4	61	40	29	61	58	49	7	76	70	28	43	33	37	40	22	33	34	20	38	37	59	58	25	44	7	60	
Sep 5	19	22	35	21	33	22	19	10	15	15	17	13	15	26	35	30	9	7	7	9	10	16	8	12	7	35	
Sep 6	5	8	7	9	10	7	7	11	11	12	16	16	15	14	12	15	13	17	23	27	63	42	59	36	5	63	
Sep 7	21	40	10	9	14	20	15	19	8	11	25	49	13	13	11	15	14	29	9	10	17	8	8	13	8	49	
Sep 8	13	13	10	25	12	18	8	7	12	15	20	13	16	11	13	21	22	11	28	30	17	9	9	8	7	30	
Sep 9	10	9	5	4	7	6	9	11	13	17	12	9	18	14	15	21	11	11	27	8	7	8	8	50	4	50	
Sep 10	45	18	17	25	1	24	34	26	13	14	22	13	15	11	12	10	9	7	7	12	22	31	54	39	1	54	
Sep 11	74	51	21	25	49	47	53	35	26	19	30	24	30	20	55	14	10	9	33	30	9	8	12	18	8	74	
Sep 12	15	7	11	8	19	25	36	26	9	27	20	39	42	17	23	55	30	24	5	17	38	30	27	9	5	55	
Sep 13	15	14	14	13	12	11	9	11	5	6	5	10	7	6	10	6	6	7	5	5	7	6	4	9	4	15	
Sep 14	7	7	56	52	69	32	65	10	41	23	46	70	50	60	69	60	27	23	22	52	16	58	20	30	7	70	
Sep 15	60	47	44	0	0	0	0	33	6	9	12	13	12	11	8	9	7	4	4	4	5	4	13	8	0	60	
Sep 16	8	25	13	5	6	5	9	6	9	12	15	15	12	11	6	27	12	10	11	9	14	11	11	10	5	27	
Sep 17	17	15	11	12	23	22	18	7	19	34	49	35	23	19	12	10	9	7	12	16	8	8	7	9	7	49	
Sep 18	5	7	7	15	31	17	10	44	12	15	9	8	11	20	17	16	29	17	45	58	23	69	62	17	5	69	
Sep 19	68	42	70	69	56	51	46	14	21	33	13	20	14	12	14	14	11	8	12	10	13	10	10	9	8	70	
Sep 20	6	7	7	7	8	7	7	6	10	9	12	17	14	14	18	15	15	20	12	12	17	10	31	41	6	41	
Sep 21	41	0	0	2	17	1	0	48	30	24	17	18	21	24	21	26	22	10	5	3	4	6	4	10	0	48	
Sep 22	17	18	6	7	15	8	8	12	22	22	16	18	19	23	27	24	16	26	24	20	19	32	26	14	6	32	
Sep 23	67	60	54	59	64	31	59	10	12	13	12	16	16	11	19	13	13	13	36	19	26	27	24	48	10	67	
Sep 24	10	8	8	5	4	6	6	6	13	11	14	15	13	13	14	14	12	13	7	5	13	7	10	7	4	15	
Sep 25	23	16	8	8	9	36	39	24	12	11	12	12	18	25	14	19	12	21	23	15	17	23	11	41	8	41	
Sep 26	10	64	12	20	35	72	29	35	42	23	64	65	60	26	28	27	13	5	15	28	6	7	4	4	4	72	
Sep 27	5	5	3	5	11	3	4	5	6	8	8	13	16	9	15	10	8	6	19	10	6	14	60	37	3	60	
Sep 28	28	55	43	9	63	4	27	63	11	34	52	61	26	34	34	34	33	15	25	47	22	19	27	48	4	63	
Sep 29	60	38	51	68	16	52	42	28	8	8	8	10	8	9	9	8	5	7	8	7	5	6	7	6	5	68	
Sep 30	7	8	10	10	9	8	14	13	12	8	15	34	31	62	42	14	15	15	13	27	26	35	39	42	7	62	
Diurnal Minimum	5	0	0	0	0	0	0	5	5	6	5	8	7	6	6	6	5	4	4	3	4	4	4	4	4		
Diurnal Maximum	74	68	70	69	69	72	65	76	70	34	64	70	60	62	69	60	34	29	45	58	63	69	62	50			

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

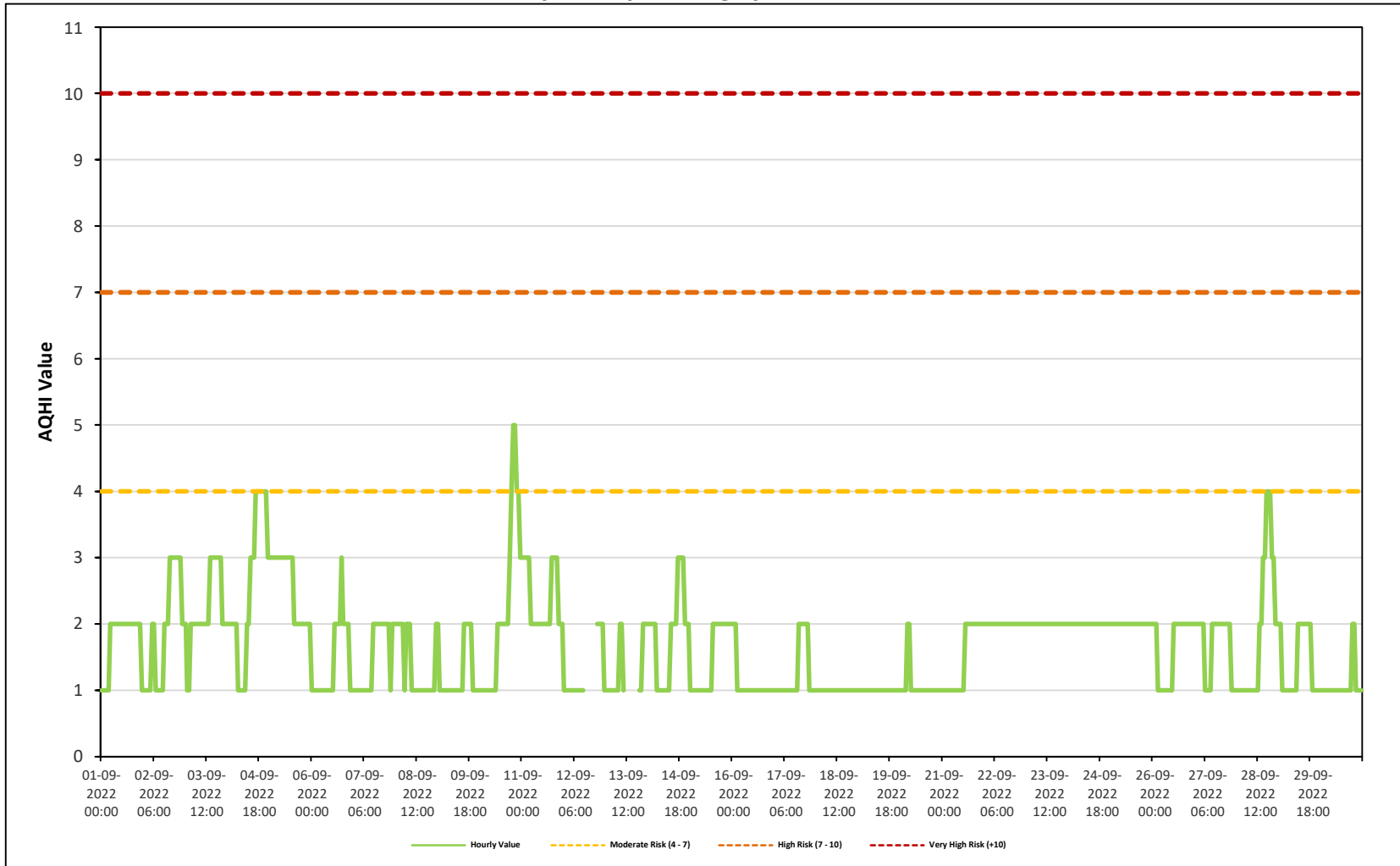
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

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



TAMARACK STATION

Timeseries Chart of Hourly Average for AQHI - Tamarack Station





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Station - September 2022

Summary of Hourly Averages

SULPHUR DIOXIDE (SO₂) in ppb

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

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

Maximum Hourly Value: 16 ppb on September 9 at hour 7 Hours in Service: 720

Maximum Daily Value: 3.3 ppb on September 9 Hours of Data: 684

Minimum Hourly Value: 0 ppb on September 1 at hour 0 Hours of Missing Data: 0

Minimum Daily Value: 0.0 ppb on September 6 Hours of Calibration: 36

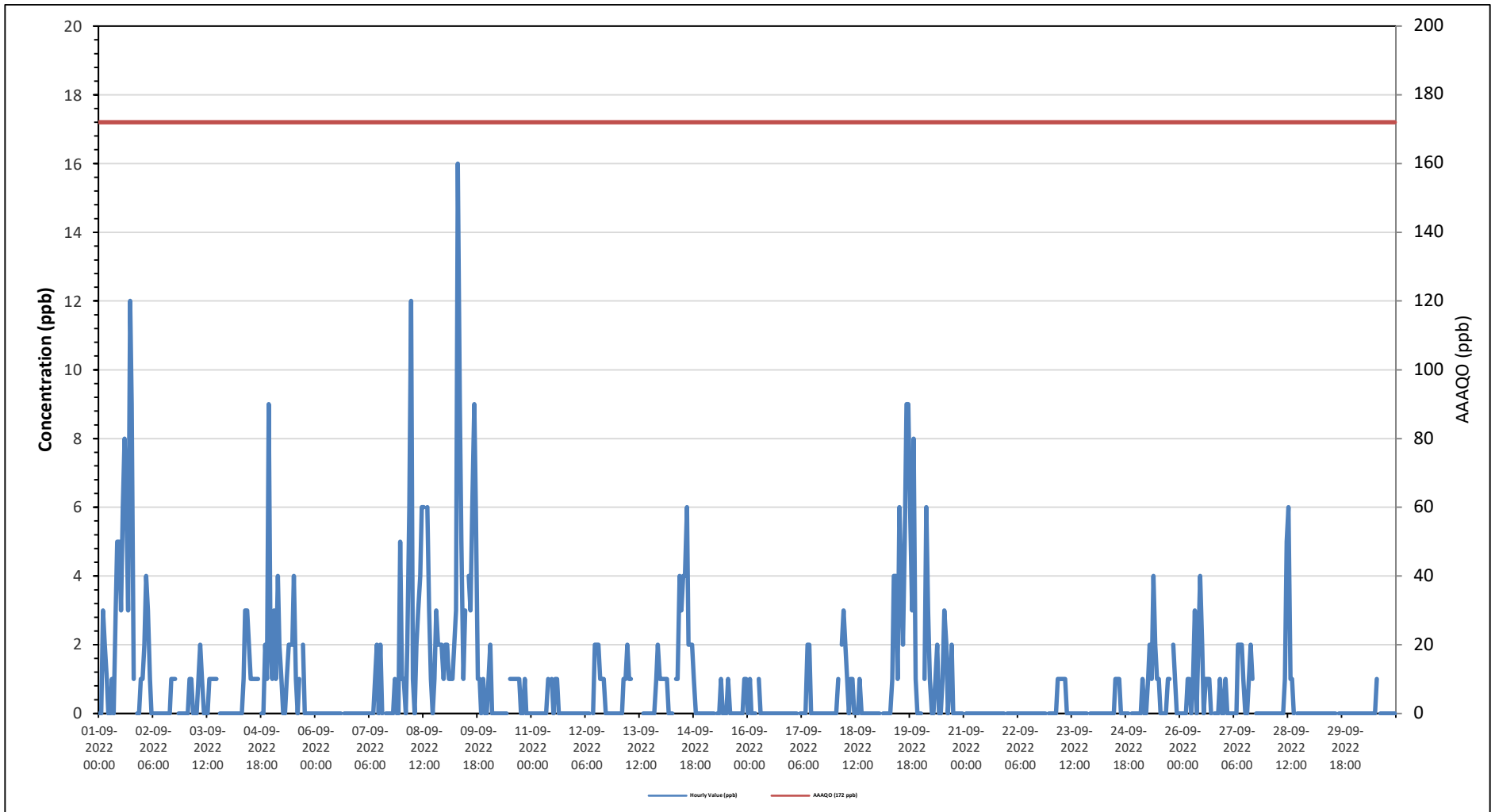
Monthly Average: 0.8 ppb Operational Uptime: 100.0

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	0	0	3	2	1	0	0	1	0	3	5	5	3	6	8	6	3	12	9	1	S	0	0	1	0	12	3.0
Sep 2	1	2	4	3	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	S	0	0	0	0	0	4	0.6
Sep 3	0	0	1	1	0	0	0	1	2	1	0	0	0	1	1	1	1	1	S	0	0	0	0	0	0	2	0.5
Sep 4	0	0	0	0	0	0	0	0	0	1	3	3	2	1	1	1	1	S	2	0	0	2	1	9	2	9	1.2
Sep 5	1	3	1	4	2	1	0	0	1	2	2	2	4	1	0	1	S	2	0	0	0	0	0	0	0	4	1.2
Sep 6	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
Sep 7	0	0	0	0	0	0	0	0	0	1	2	0	2	0	S	0	0	0	0	0	0	1	0	0	5	0	0.5
Sep 8	1	1	0	2	6	12	1	0	2	3	4	6	6	S	6	3	1	0	1	3	2	2	2	1	0	12	2.8
Sep 9	2	2	1	1	1	2	3	16	9	5	1	3	S	4	3	6	9	6	1	1	0	1	0	0	0	16	3.3
Sep 10	1	2	0	0	0	0	0	0	0	0	0	S	1	1	1	1	1	1	0	0	1	0	0	0	0	2	0.4
Sep 11	0	0	0	0	0	0	0	0	0	0	1	S	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0.2
Sep 12	0	0	0	0	0	0	0	0	0	0	S	0	2	2	2	1	1	1	0	0	0	0	0	0	0	2	0.4
Sep 13	0	0	0	1	1	2	1	1	S	C	C	C	C	C	C	0	0	0	0	0	0	0	1	2	1	0	0.6
Sep 14	1	1	1	1	0	0	0	S	1	1	4	3	4	4	6	2	2	2	1	0	0	0	0	0	0	6	1.5
Sep 15	0	0	0	0	0	0	S	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0.2
Sep 16	0	1	0	0	0	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
Sep 17	0	0	0	0	S	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2
Sep 18	0	0	1	S	2	3	2	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.5
Sep 19	0	0	S	0	0	0	0	0	1	4	4	1	6	4	2	5	9	9	6	3	8	1	0	0	0	9	2.7
Sep 20	0	S	1	6	3	1	0	0	1	2	0	0	1	3	2	0	1	2	0	0	0	0	0	0	0	6	1.0
Sep 21	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0.0
Sep 22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 23	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	1	0.2
Sep 24	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	S	0	0	0	0	1	0.1
Sep 25	0	0	0	1	0	0	1	2	1	4	2	1	1	0	0	0	0	1	1	S	2	1	0	0	0	4	0.8
Sep 26	0	0	0	0	1	1	0	1	3	0	2	4	2	0	1	1	1	0	S	0	0	0	0	1	0	4	0.8
Sep 27	0	1	0	0	0	0	0	0	2	2	2	1	0	0	1	2	1	S	0	0	0	0	0	0	0	2	0.5
Sep 28	0	0	0	0	0	0	0	0	0	0	1	5	6	1	1	0	S	0	0	0	0	0	0	0	0	6	0.6
Sep 29	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
Sep 30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	S	0	0	0	0	0	0	0	0	0	0	1	0.0
Diurnal Maximum	2	3	4	6	6	12	3	16	9	5	5	6	6	6	8	6	9	12	9	3	8	2	9	5			
Diurnal Average	0.2	0.4	0.4	0.8	0.7	0.8	0.3	0.8	0.9	1.3	1.3	1.3	1.4	1.1	1.3	1.1	1.1	1.3	0.7	0.3	0.6	0.2	0.5	0.4			

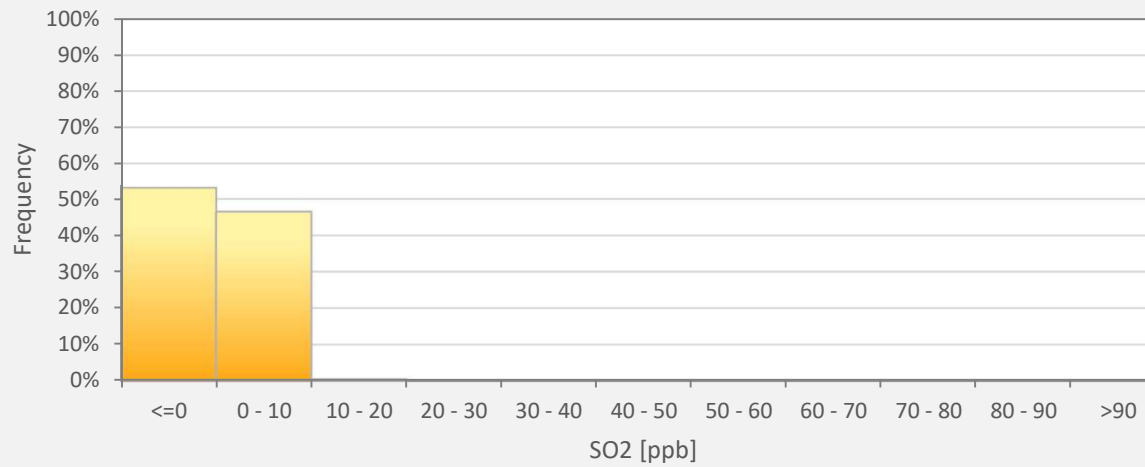
C Monthly Calibration **S** Daily Zero-Span Check **Q** Quality Assurance
K Collection Error **N** No Data (Machine Not in Service) **Y** Routine Maintenance
X InValid Data (Equipment Malfunction/Recovery) **NRM** UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)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

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

Timeseries Chart of Hourly Average for SO2 - Tamarack Station



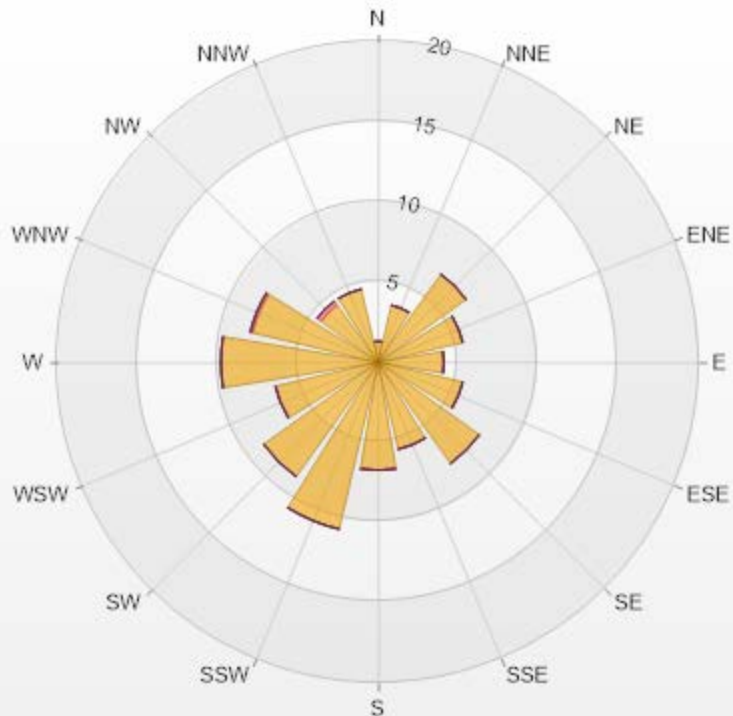
SO2[ppb] Histogram: Tamarack Monthly: 09-2022 1 Hr.



Classes	SO2
<=0	53.07%
0 - 10	46.49%
10 - 20	0.44%
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: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 95.00% Calm Avg: 0.00 [ppb]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	1.32	0	0	0	0	1.32
NNE	3.65	0	0	0	0	3.65
NE	6.73	0	0	0	0	6.73
ENE	5.41	0	0	0	0	5.41
E	4.09	0	0	0	0	4.09
ESE	5.41	0	0	0	0	5.41
SE	7.75	0	0	0	0	7.75
SSE	5.56	0	0	0	0	5.56
S	6.73	0	0	0	0	6.73
SSW	10.67	0	0	0	0	10.67
SW	8.77	0	0	0	0	8.77
WSW	6.58	0	0	0	0	6.58
W	9.8	0	0	0	0	9.8
WNW	8.04	0.15	0	0	0	8.19
NW	4.39	0.29	0	0	0	4.68
NNW	4.68	0	0	0	0	4.68
Summary	100	0.44	0	0	0	100



LICA-202209

% Icon Classes (ppb)

100 0-10

0 10-50

0 50-100

0 100-172

0 >172.0



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Tamarack Station - September 2022

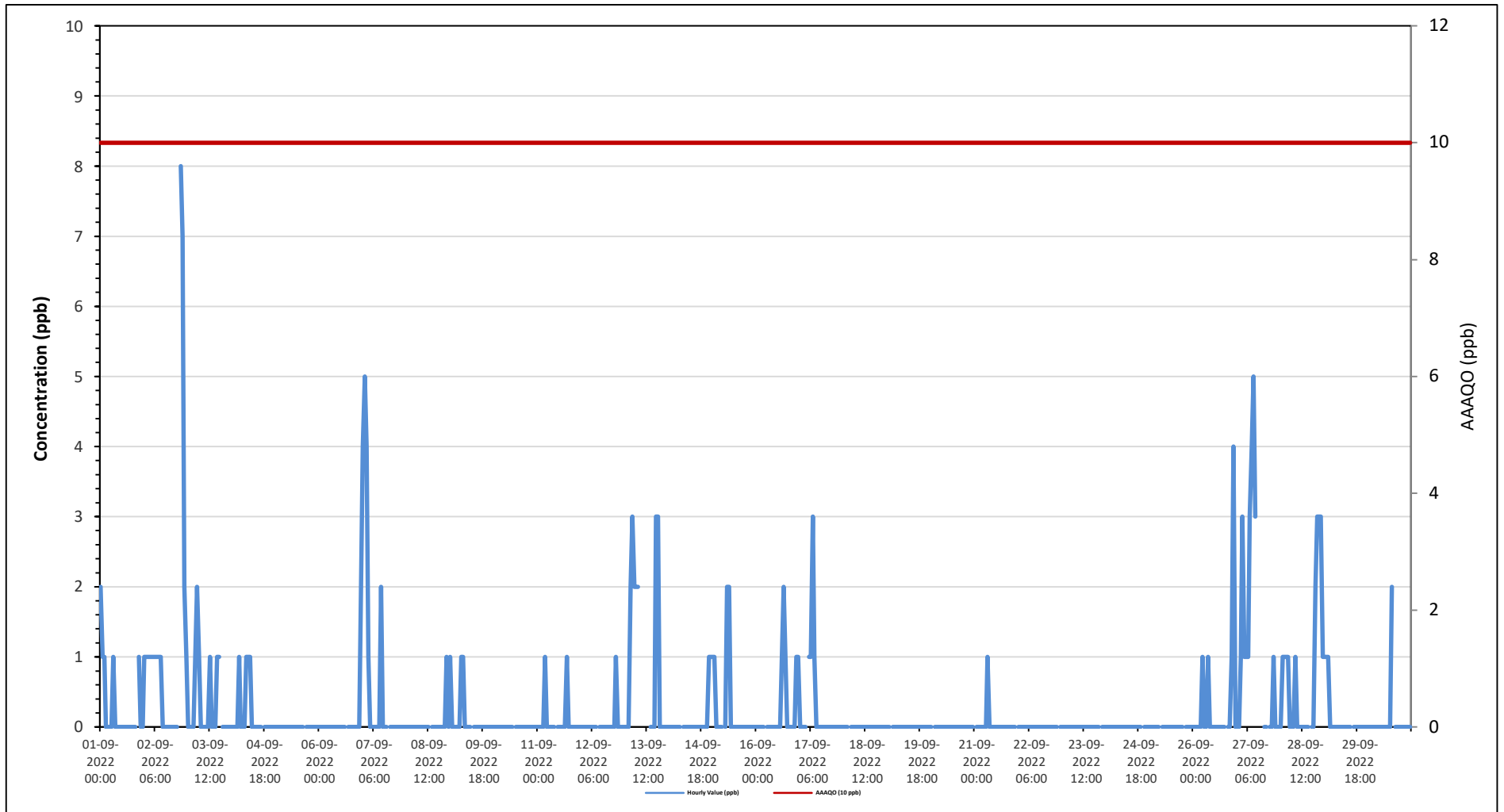
Summary of Hourly Averages

HYDROGEN SULPHIDE (H₂S) in ppb

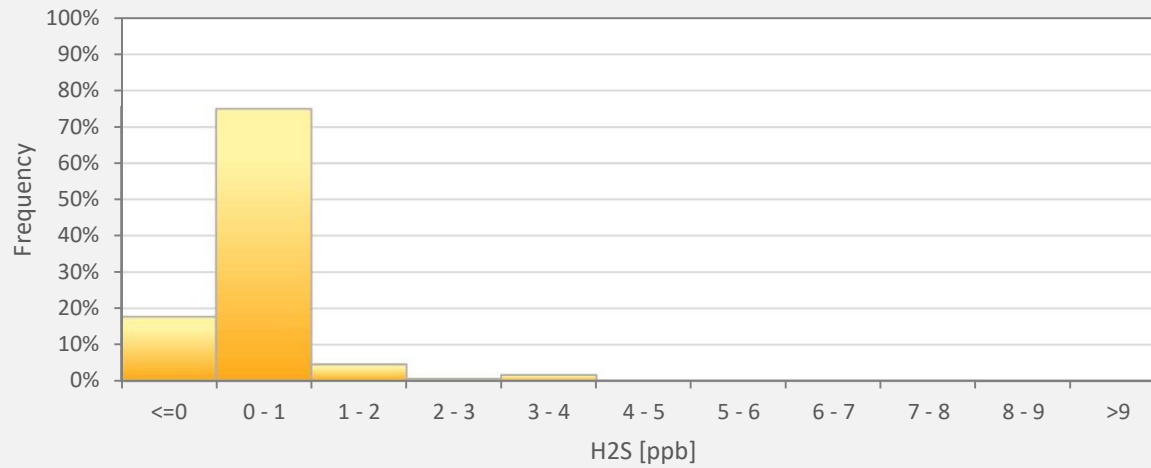
Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 10 ppb, 24-Hour 3 ppb																															
Number of 1-Hour Exceedances: 0										Number of 24-Hour Exceedances: 0																					
Maximum Hourly Value: 8 ppb on September 2 at hour 20										Hours in Service: 720																					
Maximum Daily Value: 1.2 ppb on September 2										Hours of Data: 679																					
Minimum Hourly Value: 0 ppb on September 1 at hour 3										Hours of Missing Data: 5																					
Minimum Daily Value: 0.0 ppb on September 5										Hours of Calibration: 36																					
Monthly Average: 0.2 ppb										Operational Uptime: 99.3																					
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average					
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23							
Sep 1	2	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	S	1	0	0	0	0	2	0.3			
Sep 2	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	S	8	7	2	1	0	8	1.2				
Sep 3	0	0	0	0	1	2	1	0	0	0	0	1	0	0	0	0	1	1	S	0	0	0	0	0	0	0	2	0.3			
Sep 4	0	0	0	0	1	0	0	0	1	1	1	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	1	0.2			
Sep 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.0			
Sep 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	2	0.1				
Sep 7	4	5	4	1	0	0	0	0	0	2	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	5	0.7			
Sep 8	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0.0			
Sep 9	1	0	0	0	0	0	1	1	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1			
Sep 10	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0			
Sep 11	0	0	0	0	1	0	0	0	0	0	0	S	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0.1			
Sep 12	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.0			
Sep 13	0	0	0	2	3	2	2	2	S	C	C	C	C	C	0	0	0	3	3	0	0	0	0	0	0	0	3	0.9			
Sep 14	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0.1			
Sep 15	1	1	0	0	0	0	S	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.3			
Sep 16	0	0	0	0	0	S	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0	0	1	1	0	2	0.3			
Sep 17	0	0	0	0	S	1	1	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.3			
Sep 18	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0			
Sep 19	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0			
Sep 20	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0			
Sep 21	S	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	0.0			
Sep 22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0			
Sep 23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0.0			
Sep 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0.0			
Sep 25	0	0	0	0	0	0	NRM	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0.0			
Sep 26	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	S	0	0	1	4	0	0	0	4	0.3				
Sep 27	0	0	1	3	1	1	1	3	4	5	3	NRM	NRM	NRM	NRM	0	0	S	0	0	1	0	0	0	0	0	5	1.2			
Sep 28	0	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	S	0	0	2	3	3	3	1	0	3	0.7				
Sep 29	1	1	1	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				
Sep 30	0	0	0	0	0	0	0	0	0	0	0	0	2	S	0	0	0	0	0	0	0	0	0	0	0	0	2	0.1			
Diurnal Maximum	4.0	5.0	4.0	3.0	3.0	2.0	2.0	3.0	4.0	5.0	3.0	0.0	1.0	2.0	1.0	2.0	1.0	3.0	3.0	2.0	8.0	7.0	4.0	2.0							
Diurnal Average	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.2	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.4	0.4	0.4	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 H2S - Tamarack Station



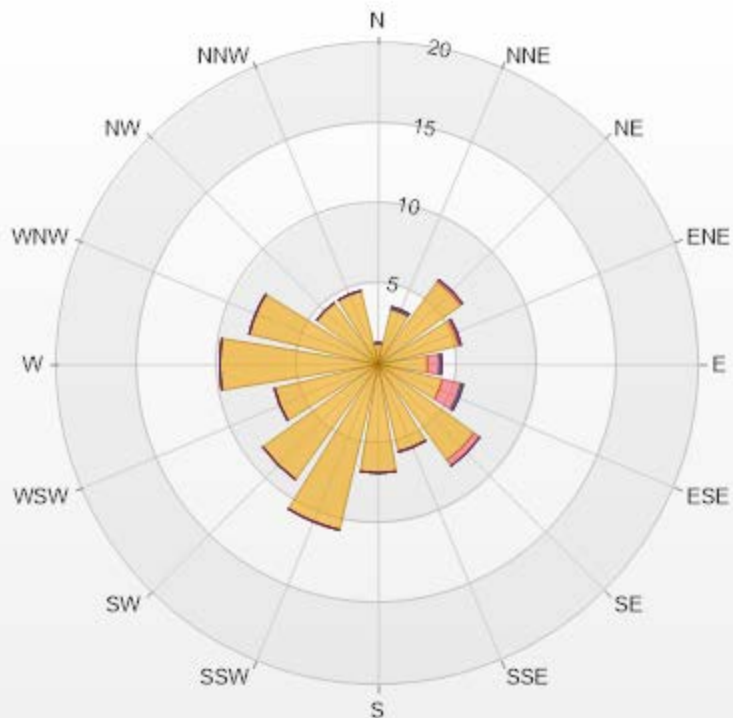
H2S[ppb] Histogram: Tamarack Monthly: 09-2022 1 Hr.



Classes	H2S
<=0	17.67%
0 - 1	74.96%
1 - 2	4.57%
2 - 3	0.59%
3 - 4	1.62%
4 - 5	0.15%
5 - 6	0.15%
6 - 7	0.15%
7 - 8	0.15%
8 - 9	0.00%
>9	0.00%

Wind: Tamarack Poll.: Tamarack-H2S[ppb] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.31% Calm Avg: 0.00 [ppb]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	1.33	0	0	0	0	1.33
NNE	3.53	0	0.15	0	0	3.68
NE	6.33	0.15	0	0	0	6.48
ENE	5.15	0.15	0	0	0	5.3
E	3.09	0.74	0.15	0	0	3.98
ESE	4.12	1.18	0.15	0	0	5.45
SE	7.36	0.44	0	0	0	7.8
SSE	5.6	0	0	0	0	5.6
S	6.77	0	0	0	0	6.77
SSW	10.6	0	0	0	0	10.6
SW	8.84	0	0	0	0	8.84
WSW	6.63	0	0	0	0	6.63
W	9.87	0	0	0	0	9.87
WNW	8.25	0	0	0	0	8.25
NW	4.71	0	0	0	0	4.71
NNW	4.71	0	0	0	0	4.71
Summary	96.89	2.66	0.45	0	0	100



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% Icon Classes (ppb)

97 0-2

3 2-5

0 5-10

0 10-50

0 >50.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Station - September 2022

Summary of Hourly Averages

OXIDES OF NITROGEN (NOx) in ppb

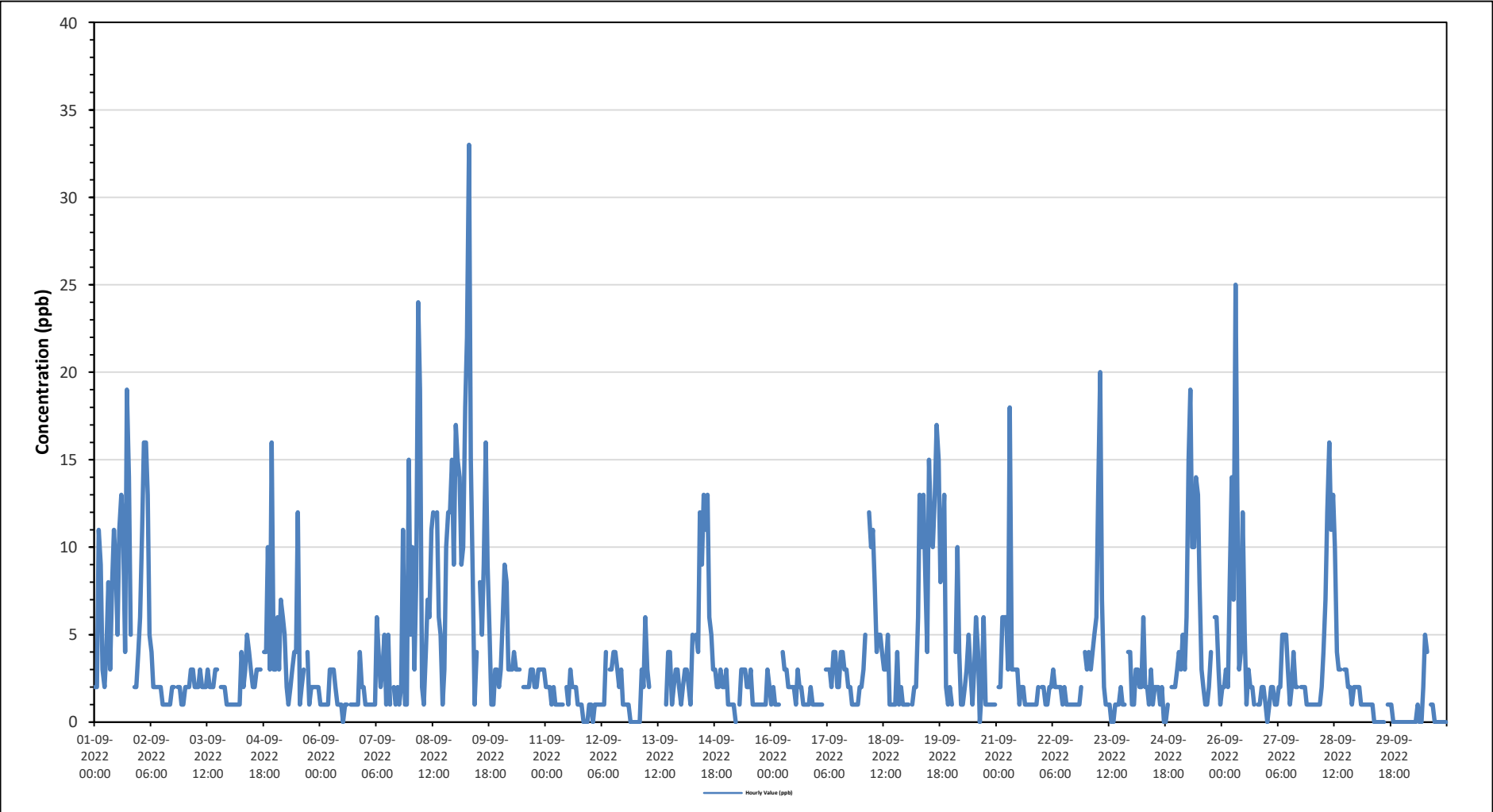
Maximum Hourly Value:	33 ppb on September 9 at hour 7	Hours in Service:	720
Maximum Daily Value:	9.9 ppb on September 9	Hours of Data:	682
Minimum Hourly Value:	0 ppb on September 6 at hour 12	Hours of Missing Data:	0
Minimum Daily Value:	0.6 ppb on September 29	Hours of Calibration:	38
Monthly Average:	3.6 ppb	Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Sep 1	2	2	11	9	3	2	4	8	3	8	11	9	5	11	13	11	4	19	14	5	S	2	2	4	2	19	7.0	
Sep 2	6	11	16	16	13	5	4	2	2	2	2	2	1	1	1	1	1	2	2	S	2	2	1	1	1	16	4.2	
Sep 3	2	2	2	3	3	2	2	2	3	2	2	2	3	2	2	2	3	3	S	2	2	2	1	1	1	3	2.2	
Sep 4	1	1	1	1	1	1	4	2	3	5	4	3	2	2	3	3	3	S	4	4	10	3	16	3	1	16	3.5	
Sep 5	3	6	3	7	6	5	2	1	2	3	4	4	12	1	2	3	S	4	1	2	2	2	2	2	1	12	3.4	
Sep 6	1	1	1	1	1	3	3	3	2	1	1	1	0	1	1	S	1	1	1	1	1	4	2	2	0	4	1.5	
Sep 7	1	1	1	1	1	6	4	2	3	5	1	5	1	5	1	S	2	1	2	1	2	11	1	1	15	1	3.0	
Sep 8	5	10	3	8	24	19	2	1	4	7	6	11	12	S	12	6	5	1	3	10	12	12	15	9	1	24	8.6	
Sep 9	17	15	14	9	10	18	22	33	15	8	1	4	S	8	5	9	16	9	5	1	1	3	3	2	1	33	9.9	
Sep 10	3	6	9	8	3	3	3	4	3	3	3	S	2	2	2	2	3	3	2	2	3	3	3	3	2	9	3.4	
Sep 11	2	2	2	1	2	1	1	1	1	1	S	2	1	3	2	2	2	2	1	1	1	0	0	0	1	0	3	1.3
Sep 12	1	0	1	1	1	1	1	1	4	S	3	3	4	4	3	2	3	1	1	1	1	0	0	0	0	4	1.6	
Sep 13	0	0	0	3	2	6	3	2	S	C	C	C	C	C	C	C	1	4	4	1	2	3	3	2	0	6	-	
Sep 14	1	2	3	3	2	1	5	S	5	4	12	9	13	11	13	6	5	3	3	2	2	3	2	2	1	13	4.9	
Sep 15	3	1	1	1	1	0	S	1	3	3	3	2	2	3	1	1	1	1	1	1	1	1	3	2	0	3	1.6	
Sep 16	1	2	1	1	1	S	4	3	3	2	2	2	2	1	3	2	2	1	1	1	1	2	1	1	1	4	1.7	
Sep 17	1	1	1	1	S	3	3	3	2	4	4	2	2	4	4	3	3	2	2	1	1	1	1	2	1	4	2.2	
Sep 18	2	3	5	S	12	10	11	8	4	5	5	4	3	3	5	1	1	1	4	1	1	2	1	1	1	12	4.0	
Sep 19	1	1	S	1	2	2	6	13	10	13	8	4	15	11	10	13	17	15	8	10	13	2	1	2	1	17	7.7	
Sep 20	1	S	4	10	4	1	1	2	3	5	3	1	3	6	4	0	2	6	1	1	1	1	1	1	0	10	2.7	
Sep 21	S	2	2	6	6	6	3	18	3	3	3	3	1	2	2	1	1	1	1	1	1	1	2	S	1	18	3.1	
Sep 22	2	2	1	1	2	2	3	2	2	2	2	1	2	1	1	1	1	1	1	1	1	2	S	4	1	4	1.7	
Sep 23	3	4	3	4	5	6	13	20	7	2	1	1	1	0	0	1	1	1	2	1	1	S	4	4	0	20	3.7	
Sep 24	1	1	3	3	2	2	6	2	2	1	3	1	2	2	2	1	2	0	0	1	S	2	2	2	0	6	1.9	
Sep 25	3	4	3	5	3	6	15	19	10	10	14	13	8	3	2	1	1	2	4	S	6	6	3	1	1	19	6.2	
Sep 26	2	2	3	2	8	14	7	25	13	3	4	12	5	1	3	2	2	1	S	1	1	2	2	1	1	25	5.0	
Sep 27	0	1	2	2	1	1	2	2	5	5	5	3	1	2	4	2	2	S	2	2	2	2	1	1	1	5	2.1	
Sep 28	1	1	1	1	1	2	4	7	12	16	11	13	10	4	3	3	S	3	3	2	2	1	2	2	1	16	4.6	
Sep 29	2	2	1	1	1	1	1	1	0	0	0	0	0	0	0	0	S	1	1	1	0	0	0	0	0	2	0.6	
Sep 30	0	0	0	0	0	0	0	0	1	0	0	2	5	4	S	1	1	0	0	0	0	0	0	0	0	5	0.6	
Diurnal Maximum	17	15	16	16	24	19	22	33	15	16	14	13	15	11	13	13	17	19	14	10	13	12	16	15				
Diurnal Average	2.3	3.0	3.4	3.8	4.2	4.3	4.9	6.6	4.5	4.3	4.4	4.1	4.4	3.4	3.8	3.0	3.1	3.2	2.5	2.2	2.9	2.2	2.6	2.4				

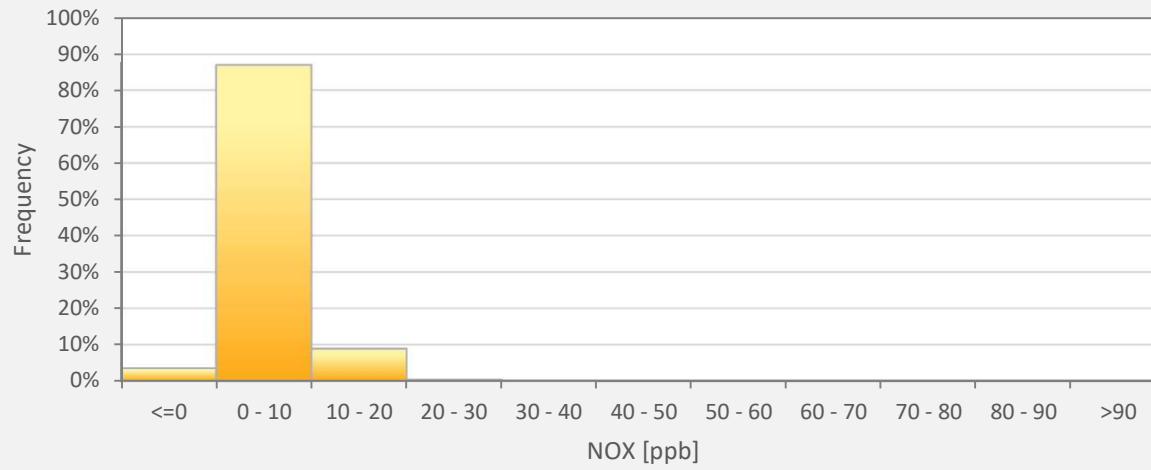
C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N No Data (Machine Not in Service)	Y Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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

Timeseries Chart of Hourly Average for NOx - Tamarack Station



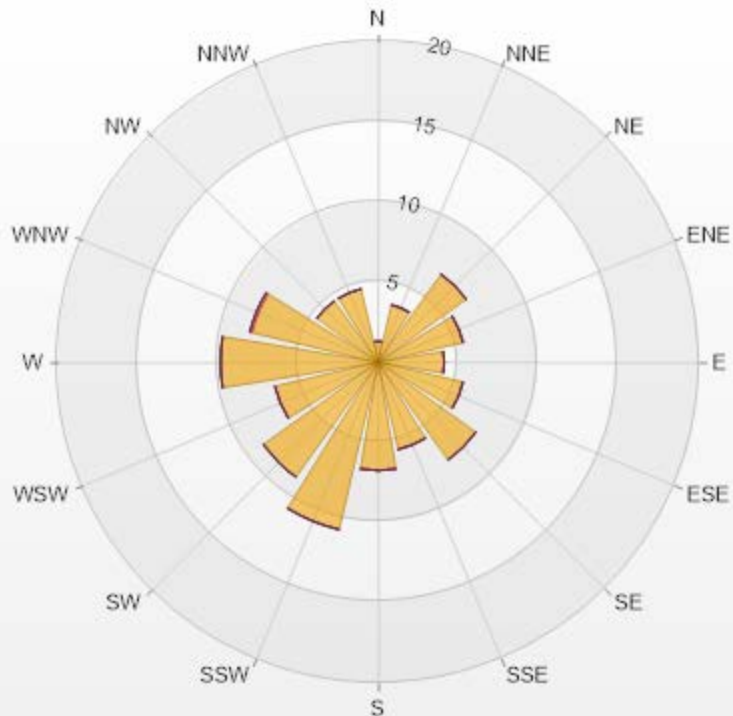
NOX[ppb] Histogram: Tamarack Monthly: 09-2022 1 Hr.



Classes	NOX
<=0	3.52%
0 - 10	86.95%
10 - 20	8.94%
20 - 30	0.44%
30 - 40	0.15%
40 - 50	0.00%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Tamarack Poll.: Tamarack-NOX[ppb] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.72% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.32	0	0	0	0	1.32
NNE	3.67	0	0	0	0	3.67
NE	6.74	0	0	0	0	6.74
ENE	5.43	0	0	0	0	5.43
E	4.11	0	0	0	0	4.11
ESE	5.43	0	0	0	0	5.43
SE	7.48	0	0	0	0	7.48
SSE	5.57	0	0	0	0	5.57
S	6.74	0	0	0	0	6.74
SSW	10.7	0	0	0	0	10.7
SW	8.8	0	0	0	0	8.8
WSW	6.6	0	0	0	0	6.6
W	9.82	0	0	0	0	9.82
WNW	8.06	0.15	0	0	0	8.21
NW	4.69	0	0	0	0	4.69
NNW	4.69	0	0	0	0	4.69
Summary	100	0.15	0	0	0	100



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% Icon Classes (ppb)

100  0-30

0  30-50

0  50-76

0  76-159

0  >159.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Station - September 2022

Summary of Hourly Averages

NITRIC OXIDE (NO) in ppb

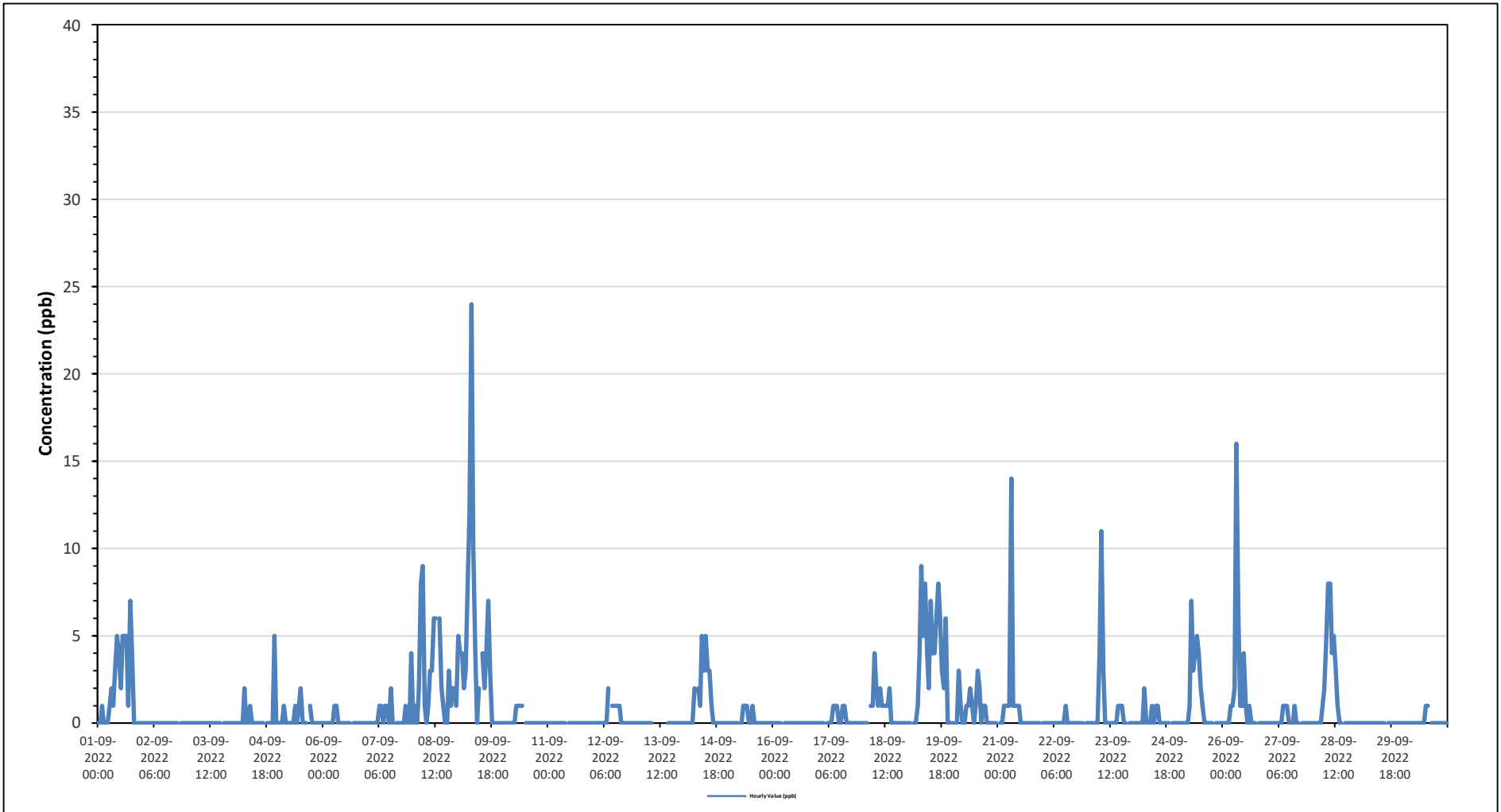
Maximum Hourly Value:	24 ppb on September 9 at hour 7	Hours in Service:	720
Maximum Daily Value:	4.3 ppb on September 9	Hours of Data:	682
Minimum Hourly Value:	0 ppb on September 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.0 ppb on September 2	Hours of Calibration:	38
Monthly Average:	0.8 ppb	Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23		
Sep 1	0	0	1	0	0	0	1	2	1	3	5	4	2	5	5	5	1	7	4	0	S	0	0	0	0	0	0	7	2.0
Sep 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0.0
Sep 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0.0
Sep 4	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	S	0	0	0	0	0	5	0	0	5	0.3	
Sep 5	0	0	0	1	0	0	0	0	0	1	0	1	2	0	0	0	S	1	0	0	0	0	0	0	0	0	2	0.3	
Sep 6	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	1	0.1	
Sep 7	0	0	0	0	0	0	1	1	0	1	1	0	2	0	S	0	0	0	0	0	0	1	0	0	4	0	4	0.5	
Sep 8	0	1	0	2	8	9	1	0	1	3	3	6	6	S	6	2	1	0	0	3	1	2	2	1	0	9	2.5		
Sep 9	5	4	4	2	3	8	12	24	10	4	0	2	S	4	2	4	7	3	0	0	0	0	0	0	0	0	24	4.3	
Sep 10	0	0	0	0	0	0	0	1	1	1	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	
Sep 11	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
Sep 12	0	0	0	0	0	0	0	0	2	S	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0.3	
Sep 13	0	0	0	0	0	0	0	0	S	C	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	-	
Sep 14	0	0	0	0	0	0	2	S	2	1	5	3	5	3	3	1	0	0	0	0	0	0	0	0	0	0	5	1.1	
Sep 15	0	0	0	0	0	0	S	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	
Sep 16	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
Sep 17	0	0	0	0	S	0	0	0	1	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0.2	
Sep 18	0	0	0	S	1	1	4	2	1	2	1	1	1	1	1	2	0	0	0	0	0	0	0	0	0	0	4	0.7	
Sep 19	0	0	S	0	0	1	4	9	5	8	4	2	7	4	4	6	8	6	3	2	6	0	0	0	0	0	9	3.4	
Sep 20	0	S	0	3	1	0	0	1	1	2	1	0	1	3	2	0	1	1	0	0	0	0	0	0	0	0	3	0.7	
Sep 21	S	0	0	1	1	1	1	14	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	1.0	
Sep 22	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	1	0.0	
Sep 23	0	0	0	0	0	0	4	11	3	0	0	0	0	0	0	0	1	1	1	0	0	S	0	0	0	0	11	0.9	
Sep 24	0	0	0	0	0	0	2	0	0	0	1	0	1	1	0	0	0	0	0	0	0	S	0	0	0	0	2	0.2	
Sep 25	0	0	0	0	0	0	1	7	3	4	5	4	2	1	0	0	0	0	0	0	S	0	0	0	0	0	7	1.2	
Sep 26	0	0	0	0	1	1	2	16	6	1	1	4	1	0	1	0	0	0	S	0	0	0	0	0	0	0	16	1.5	
Sep 27	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1	0	0	0	S	0	0	0	0	0	0	0	1	0.2	
Sep 28	0	0	0	0	0	1	2	5	8	8	4	5	3	1	0	0	S	0	0	0	0	0	0	0	0	0	8	1.6	
Sep 29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0.0	
Sep 30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	S	0	0	0	0	0	0	0	0	0	0	1	0.1	
Diurnal Maximum	5	4	4	3	8	9	12	24	10	8	5	6	7	5	6	6	8	7	4	3	6	2	5	4					
Diurnal Average	0.2	0.2	0.2	0.3	0.5	0.8	1.4	3.2	1.7	1.6	1.3	1.2	1.3	1.0	1.0	0.7	0.7	0.7	0.3	0.2	0.3	0.1	0.2	0.2					

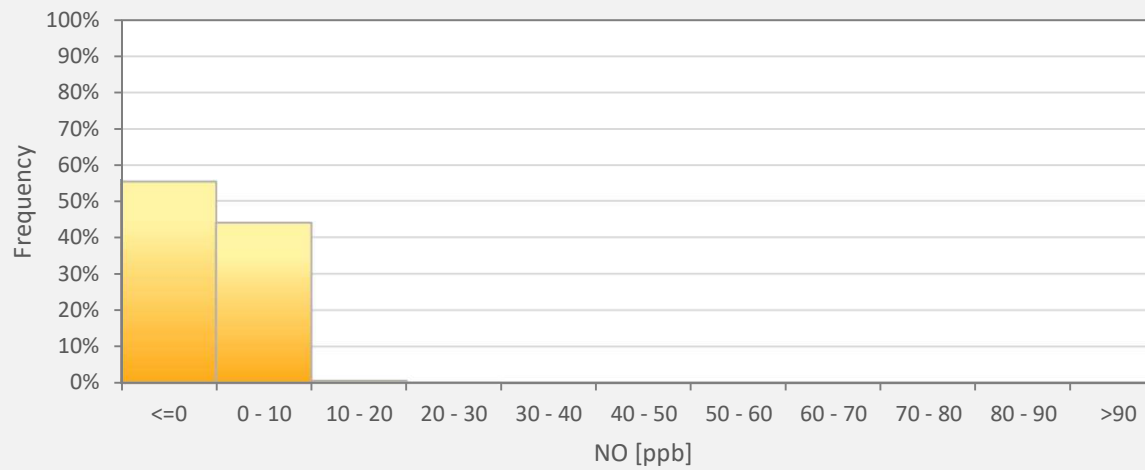
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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

Timeseries Chart of Hourly Average for NO - Tamarack Station



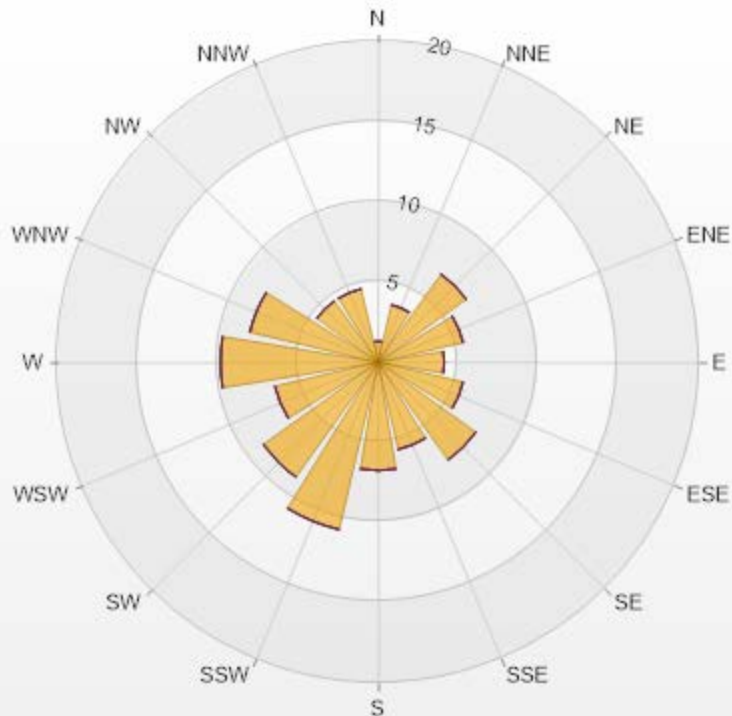
NO[ppb] Histogram: Tamarack Monthly: 09-2022 1 Hr.



Classes	NO
<=0	55.28%
0 - 10	43.99%
10 - 20	0.59%
20 - 30	0.15%
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: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.72% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.32	0	0	0	0	1.32
NNE	3.67	0	0	0	0	3.67
NE	6.74	0	0	0	0	6.74
ENE	5.43	0	0	0	0	5.43
E	4.11	0	0	0	0	4.11
ESE	5.43	0	0	0	0	5.43
SE	7.48	0	0	0	0	7.48
SSE	5.57	0	0	0	0	5.57
S	6.74	0	0	0	0	6.74
SSW	10.7	0	0	0	0	10.7
SW	8.8	0	0	0	0	8.8
WSW	6.6	0	0	0	0	6.6
W	9.82	0	0	0	0	9.82
WNW	8.21	0	0	0	0	8.21
NW	4.69	0	0	0	0	4.69
NNW	4.69	0	0	0	0	4.69
Summary	100	0	0	0	0	100



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% Icon Classes (ppb)	100	0-30	0	30-50	0	50-76	0	76-159	0	>159.0
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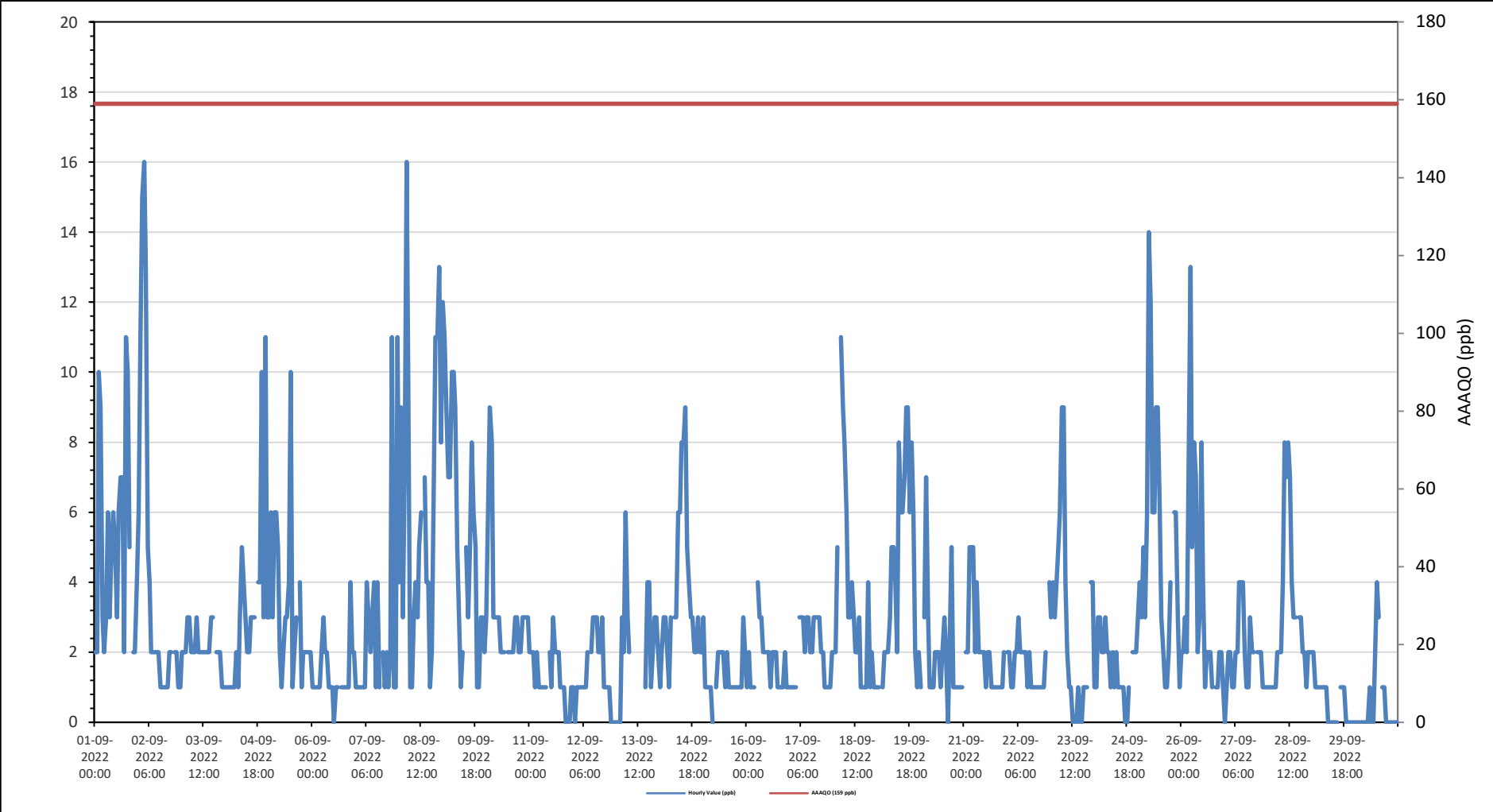
Tamarack Station - September 2022

Summary of Hourly Averages

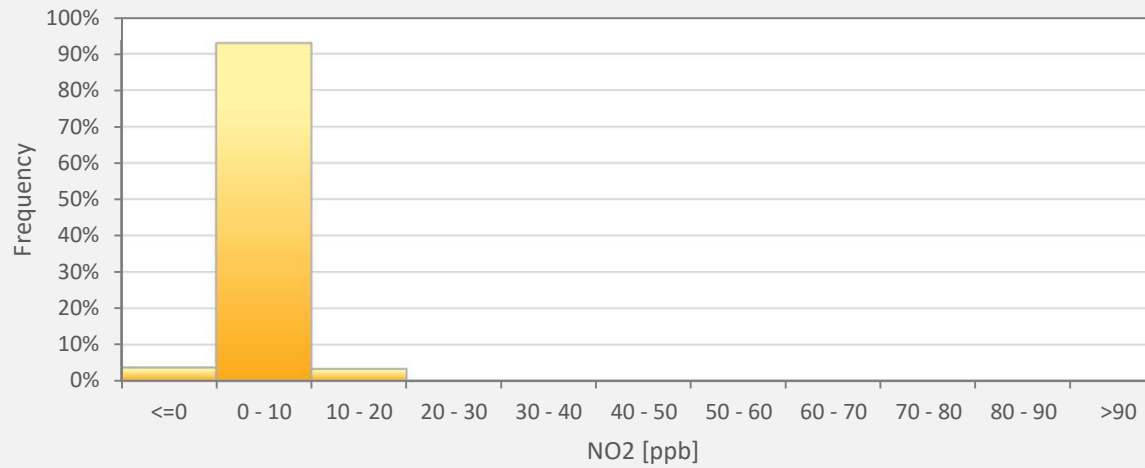
NITROGEN DIOXIDE (NO₂) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 159 ppb																												
Number of 1-Hour Exceedances: 0																												
Maximum Hourly Value: 16 ppb on September 2 at hour 3												Hours in Service: 720																
Maximum Daily Value: 6.1 ppb on September 8												Hours of Data: 682																
Minimum Hourly Value: 0 ppb on September 6 at hour 12												Hours of Missing Data: 0																
Minimum Daily Value: 0.5 ppb on September 30												Hours of Calibration: 38																
Monthly Average: 2.8 ppb												Operational Uptime: 100.0																
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23				
Sep 1	2	2	10	9	3	2	3	6	3	5	6	5	3	6	7	7	2	11	10	5	S	2	2	4	2	11	5.0	
Sep 2	6	11	15	16	13	5	4	2	2	2	2	2	1	1	1	1	1	2	2	S	2	2	1	1	1	16	4.1	
Sep 3	2	2	2	3	3	2	2	2	3	2	2	2	2	2	2	2	3	3	S	2	2	2	1	1	1	3	2.1	
Sep 4	1	1	1	1	1	1	2	1	3	5	4	3	2	2	3	3	S	4	4	10	3	11	3	1	1	11	3.1	
Sep 5	3	6	3	6	6	5	2	1	2	3	3	4	10	1	2	3	S	4	1	2	2	2	2	2	1	10	3.3	
Sep 6	1	1	1	1	1	2	3	2	2	1	1	1	0	1	1	S	1	1	1	1	1	4	2	2	0	4	1.4	
Sep 7	1	1	1	1	1	1	4	3	2	3	4	1	4	1	S	2	1	2	1	2	11	1	1	11	1	11	2.6	
Sep 8	4	9	3	7	16	10	1	1	3	4	3	5	6	S	7	4	4	1	2	7	11	11	13	8	1	16	6.1	
Sep 9	12	11	9	7	7	10	10	9	5	3	1	2	S	5	3	5	8	6	5	1	1	3	3	2	1	12	5.6	
Sep 10	3	6	9	8	3	3	3	3	2	2	2	S	2	2	2	2	3	3	2	2	3	3	3	3	2	9	3.2	
Sep 11	2	2	2	1	2	1	1	1	1	1	S	2	1	3	2	2	2	1	1	1	0	0	0	1	0	3	1.3	
Sep 12	1	0	1	1	1	1	1	1	2	S	2	3	3	3	2	2	3	1	1	1	1	0	0	0	0	3	1.3	
Sep 13	0	0	0	3	2	6	3	2	S	C	C	C	C	C	C	C	1	4	4	1	2	3	3	2	0	6	-	
Sep 14	1	2	3	3	2	1	3	S	3	3	6	6	8	8	9	5	4	3	3	2	2	3	2	2	1	9	3.7	
Sep 15	3	1	1	1	1	0	S	1	2	2	2	2	1	2	1	1	1	1	1	1	1	1	3	2	0	3	1.4	
Sep 16	1	2	1	1	1	S	4	3	3	2	2	2	2	1	2	2	2	1	1	1	1	2	1	1	1	4	1.7	
Sep 17	1	1	1	1	S	3	3	3	2	3	3	2	2	3	3	3	3	2	2	1	1	1	1	2	1	3	2.0	
Sep 18	2	2	5	S	11	9	8	6	3	3	4	3	2	3	1	1	1	1	4	1	2	1	1	1	11	3.3		
Sep 19	1	1	S	1	2	2	2	3	5	5	4	2	8	6	6	7	9	9	6	8	6	2	1	2	1	9	4.3	
Sep 20	1	S	3	7	3	1	1	1	2	2	2	1	2	3	2	0	2	5	1	1	1	1	1	1	0	7	1.9	
Sep 21	S	2	2	5	5	5	2	4	2	2	2	2	1	2	2	1	1	1	1	1	1	1	1	1	1	5	2.1	
Sep 22	2	2	1	1	2	2	3	2	2	2	1	2	1	1	1	1	1	1	1	1	1	2	S	4	1	4	1.7	
Sep 23	3	4	3	4	5	6	9	9	4	2	1	1	0	0	0	1	0	0	1	1	1	S	4	4	0	9	2.7	
Sep 24	1	1	3	3	2	2	3	2	2	1	2	1	2	1	1	1	1	0	0	1	S	2	2	2	0	3	1.6	
Sep 25	3	4	3	5	3	6	14	12	6	6	9	9	6	3	2	1	1	2	4	S	6	6	3	1	1	14	5.0	
Sep 26	2	2	3	2	7	13	5	8	7	2	3	8	4	1	2	2	2	1	S	1	1	2	2	1	1	13	3.5	
Sep 27	0	1	2	2	1	1	2	2	4	4	4	2	1	1	3	2	2	S	2	2	2	1	1	1	0	4	1.9	
Sep 28	1	1	1	1	1	2	2	2	4	8	7	8	7	4	3	3	S	3	3	2	2	1	2	2	1	8	3.0	
Sep 29	2	2	1	1	1	1	1	1	1	0	0	0	0	0	0	S	1	1	1	0	0	0	0	0	0	2	0.6	
Sep 30	0	0	0	0	0	0	0	0	1	0	0	2	4	3	S	1	1	0	0	0	0	0	0	0	0	0	4	0.5
Diurnal Maximum	12	11	15	16	16	13	14	12	7	8	9	9	10	8	9	7	9	11	10	8	11	11	13	11				
Diurnal Average	2.1	2.8	3.1	3.5	3.7	3.6	3.5	3.2	2.9	2.8	3.0	2.9	3.1	2.4	2.7	2.4	2.3	2.5	2.2	2.0	2.6	2.2	2.3	2.3				
C Monthly Calibration											S Daily Zero-Span Check											Q Quality Assurance						
K Collection Error											N No Data (Machine Not in Service)											Y Routine Maintenance						
X InValid Data (Equipment Malfunction /Recovery)											NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)											P Power Failure						
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.																												
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.																												

Timeseries Chart of Hourly Average for NO2 - Tamarack Station



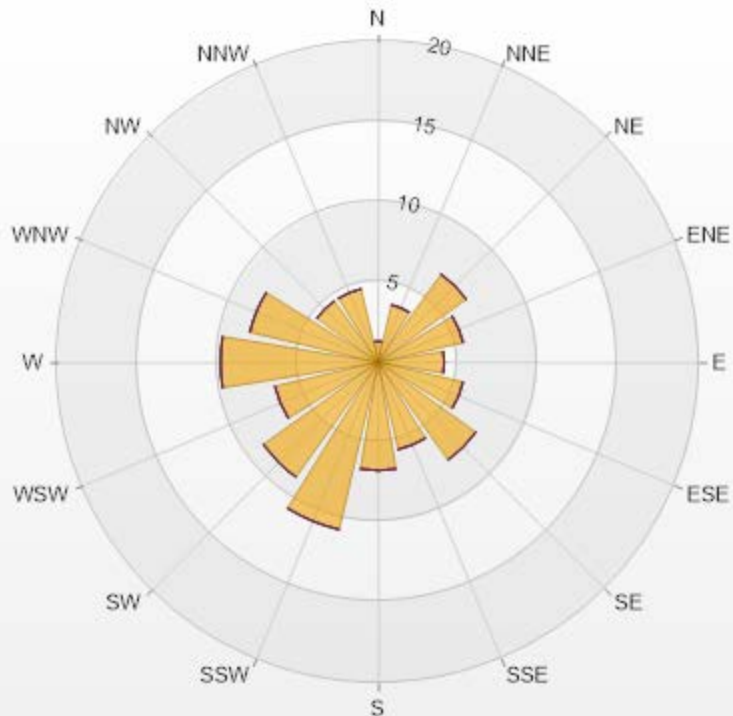
NO2[ppb] Histogram: Tamarack Monthly: 09-2022 1 Hr.



Classes	NO2
<=0	3.67%
0 - 10	92.96%
10 - 20	3.37%
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: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.72% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.32	0	0	0	0	1.32
NNE	3.67	0	0	0	0	3.67
NE	6.74	0	0	0	0	6.74
ENE	5.43	0	0	0	0	5.43
E	4.11	0	0	0	0	4.11
ESE	5.43	0	0	0	0	5.43
SE	7.48	0	0	0	0	7.48
SSE	5.57	0	0	0	0	5.57
S	6.74	0	0	0	0	6.74
SSW	10.7	0	0	0	0	10.7
SW	8.8	0	0	0	0	8.8
WSW	6.6	0	0	0	0	6.6
W	9.82	0	0	0	0	9.82
WNW	8.21	0	0	0	0	8.21
NW	4.69	0	0	0	0	4.69
NNW	4.69	0	0	0	0	4.69
Summary	100	0	0	0	0	100



LICA-202209

% Icon Classes (ppb)	100	0-30	0	30-50	0	50-76	0	76-159	0	>159.0
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Tamarack Station - September 2022

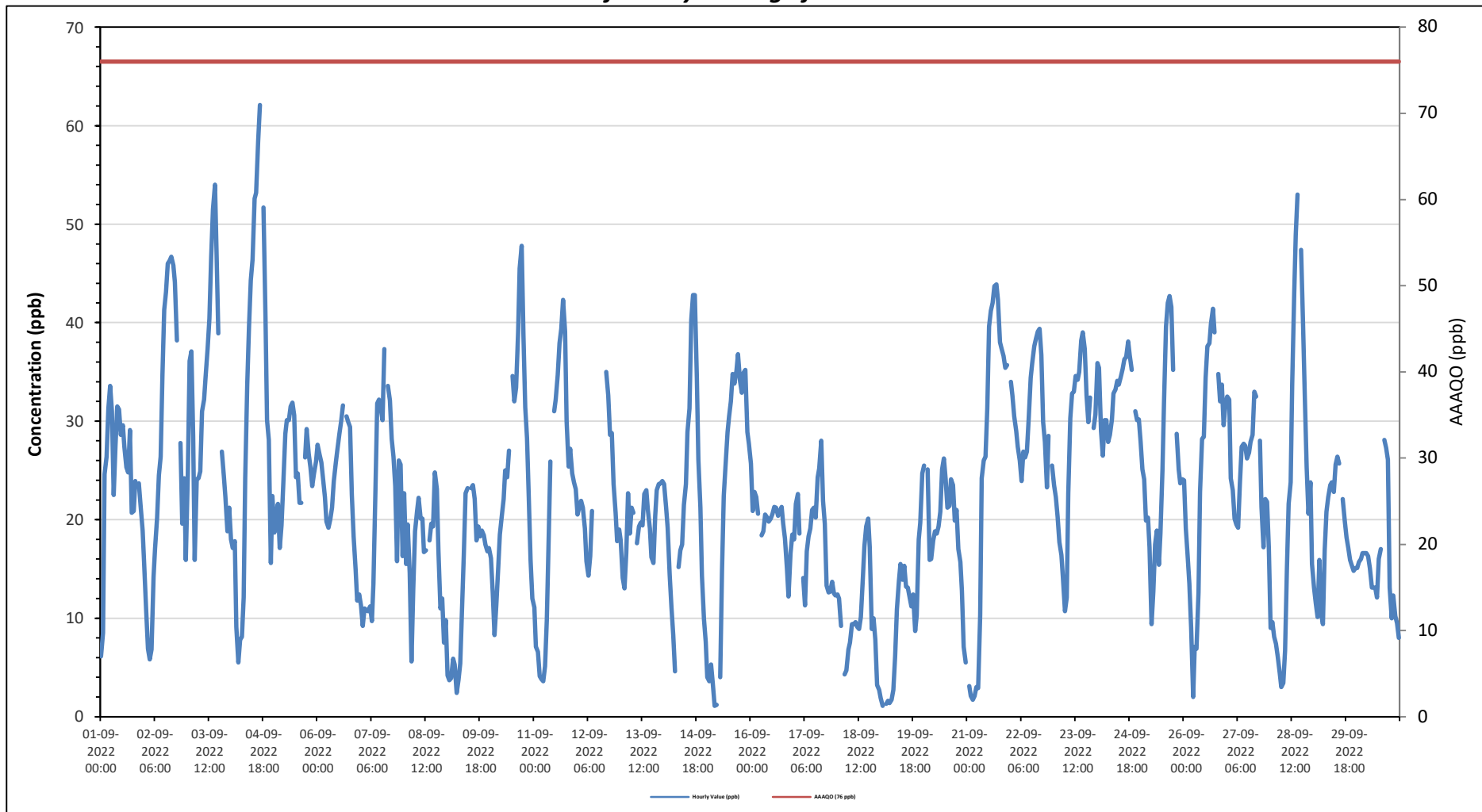
Summary of Hourly Averages

OZONE (O₃) in ppb

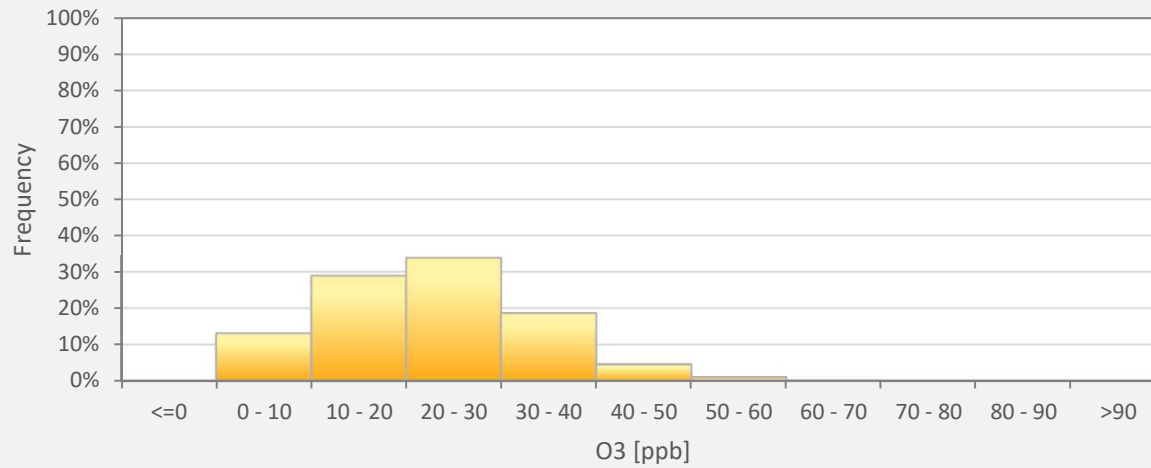
Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 76 ppb																															
Number of 1-Hour Exceedances: 0																															
Maximum Hourly Value: 62.1 ppb on September 4 at hour 16												Hours in Service: 720																			
Maximum Daily Value: 32.7 ppb on September 24												Hours of Data: 683																			
Minimum Hourly Value: 1.1 ppb on September 15 at hour 4												Hours of Missing Data: 0																			
Minimum Daily Value: 10.0 ppb on September 19												Hours of Calibration: 37																			
Monthly Average: 22.5 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							
Sep 1	6.1	8.5	24.6	26.4	31.3	33.6	31.0	22.5	27.5	31.5	31.2	28.6	29.6	27.4	25.3	24.8	29.1	20.7	20.9	23.9	S	23.7	21.4	18.9	6.1	33.6	24.7				
Sep 2	15.5	10.7	6.9	5.8	6.8	14.2	17.1	20.2	24.5	26.4	34.7	41.3	43.1	46.0	46.3	46.7	45.8	44.1	38.2	S	27.8	19.6	24.2	15.9	5.8	46.7	27.0				
Sep 3	24.7	36.1	37.1	28.5	15.9	24.1	24.2	24.9	31.0	32.2	34.5	37.4	40.4	46.7	51.5	54.0	47.3	38.9	S	26.9	24.4	22.3	18.8	21.2	15.9	54.0	32.3				
Sep 4	18.0	17.1	17.8	9.1	5.5	7.8	8.1	12.1	24.2	33.7	39.6	44.3	46.4	52.6	53.2	58.4	62.1	S	51.7	40.4	30.1	28.1	15.6	22.4	5.5	62.1	30.4				
Sep 5	18.7	20.6	21.6	17.1	19.4	23.6	28.7	30.1	30.1	31.5	31.9	30.6	24.3	24.7	21.7	21.7	S	26.3	29.2	26.7	25.3	23.4	24.7	25.9	17.1	31.9	25.1				
Sep 6	27.6	26.6	25.8	24.3	22.3	19.8	19.2	20.0	21.2	23.9	25.8	27.1	28.7	30.0	31.6	S	30.5	29.9	29.4	22.5	18.3	14.9	11.8	12.4	11.8	31.6	23.6				
Sep 7	11.3	9.2	11.0	10.8	10.7	11.2	9.7	13.5	23.0	31.8	32.2	31.3	30.1	37.3	S	33.6	32.1	28.2	26.4	23.4	15.8	26.0	25.6	16.3	9.2	37.3	21.8				
Sep 8	22.7	15.5	19.5	14.6	5.6	13.0	18.8	20.9	22.0	20.1	20.1	16.7	16.9	S	17.9	19.6	19.3	24.8	23.1	16.9	11.0	12.0	7.5	9.8	5.6	24.8	16.9				
Sep 9	4.2	3.7	3.9	5.9	5.3	2.4	3.7	5.4	10.9	16.4	22.7	23.2	S	23.2	23.5	22.1	17.9	19.3	18.3	18.9	18.4	17.5	16.8	17.1	2.4	23.5	13.9				
Sep 10	16.1	12.6	8.3	11.3	15.3	18.5	20.2	22.1	25.0	24.3	27.0	S	34.6	32.0	33.4	39.0	45.5	47.8	38.7	31.4	28.3	22.2	15.9	12.0	8.3	47.8	25.3				
Sep 11	11.1	7.1	6.6	4.1	3.8	3.6	5.1	9.8	18.8	25.9	S	31.0	32.2	34.7	37.9	39.4	42.3	39.1	30.0	25.4	27.2	24.7	23.8	23.1	3.6	42.3	22.0				
Sep 12	20.5	21.3	21.9	21.2	19.1	15.8	14.3	16.3	20.9	S	C	C	C	C	C	C	C	35.0	32.6	28.6	28.8	23.6	20.7	17.8	19.0	14.3	35.0	-			
Sep 13	17.9	14.1	13.0	16.6	22.7	18.6	21.2	20.7	S	17.6	19.3	19.7	19.4	22.6	23.0	21.0	19.1	16.2	15.6	20.4	23.0	23.6	23.7	23.9	13.0	23.9	19.7				
Sep 14	23.6	21.2	19.2	14.4	11.1	8.3	4.6	S	15.2	16.9	17.5	21.5	23.6	28.9	31.3	40.3	42.8	42.8	34.4	26.1	21.2	14.3	9.9	7.6	4.6	42.8	21.6				
Sep 15	4.0	3.6	5.3	3.3	1.1	1.2	S	4.0	14.7	22.4	25.5	28.9	30.5	32.0	34.8	33.8	35.1	36.8	34.1	32.9	34.9	35.2	28.9	27.7	1.1	36.8	22.2				
Sep 16	25.7	20.9	22.8	22.3	20.6	S	18.4	18.8	20.5	20.2	19.8	20.1	20.6	21.3	21.2	20.4	20.8	21.3	19.6	18.1	15.0	12.2	16.6	18.5	12.2	25.7	19.8				
Sep 17	18.0	21.6	22.6	18.6	S	14.1	11.3	16.8	18.3	19.1	21.0	21.2	20.2	24.3	25.2	28.0	21.9	19.6	13.3	12.6	12.7	13.7	12.5	12.3	11.3	28.0	18.2				
Sep 18	12.4	12.0	9.2	S	4.3	4.7	6.8	7.5	9.4	9.4	9.6	9.1	8.9	10.1	13.6	17.3	19.3	20.1	17.2	8.9	10.0	7.8	3.2	2.7	2.7	20.1	10.2				
Sep 19	1.9	1.1	S	1.3	1.6	1.4	1.7	2.7	6.1	10.9	13.8	15.5	13.9	15.3	13.2	13.1	12.0	11.2	12.4	8.7	10.3	18.0	19.7	24.7	1.1	24.7	10.0				
Sep 20	25.5	S	25.1	15.9	16.0	17.9	18.8	18.6	19.3	20.8	25.1	26.2	24.1	21.2	21.4	24.1	23.5	19.9	21.0	17.0	15.7	12.8	7.1	5.5	5.5	26.2	19.2				
Sep 21	S	3.1	2.1	1.7	2.1	3.0	2.9	10.3	24.2	26.0	26.4	31.3	39.6	41.2	42.0	43.7	43.9	42.3	38.0	37.4	36.6	35.4	35.7	S	1.7	43.9	25.9				
Sep 22	34.0	32.6	30.5	29.0	27.4	26.0	23.9	26.9	26.3	26.9	30.2	34.4	35.9	37.6	38.4	39.1	39.4	36.7	29.9	27.9	23.3	28.5	S	25.5	23.3	39.4	30.9				
Sep 23	23.5	22.3	20.3	17.7	16.4	14.1	10.7	12.1	22.7	30.3	32.8	33.0	34.6	34.2	35.0	38.2	39.0	37.3	32.6	29.9	32.4	S	29.3	30.7	10.7	39.0	27.4				
Sep 24	35.9	35.4	29.0	26.5	30.1	30.1	27.9	28.6	30.2	32.8	33.2	34.1	33.7	34.5	35.3	36.3	36.5	38.1	36.7	35.2	S	31.0	30.1	30.2	26.5	38.1	32.7				
Sep 25	27.9	25.1	24.1	19.9	20.2	17.2	9.4	12.7	17.5	18.9	15.4	18.6	25.0	31.8	39.6	42.0	42.7	41.6	35.2	S	28.7	25.1	23.7	24.1	9.4	42.7	25.5				
Sep 26	24.0	19.1	16.4	13.5	9.0	2.0	7.1	6.9	12.6	22.8	28.2	28.4	34.4	37.6	37.9	39.9	41.4	39.0	S	34.8	32.0	33.7	29.6	31.7	2.0	41.4	25.3				
Sep 27	32.5	32.2	24.2	23.0	20.1	19.5	19.2	23.7	27.4	27.7	28.5	26.2	26.8	27.9	28.6	33.0	32.5	S	28.0	21.3	17.2	22.1	21.8	17.1	17.1	33.0	25.2				
Sep 28	9.0	9.6	8.1	7.4	6.1	4.4	3.0	3.4	6.7	14.8	21.6	23.8	33.7	43.0	48.9	53.0	S	47.4	39.6	32.2	25.3	20.6	23.8	15.5	3.0	53.0	21.8				
Sep 29	13.1	11.5	10.1	15.9	10.5	9.4	16.9	20.8	22.3	23.5	23.8	22.8	25.6	26.4	25.7	S	22.1	19.9	18.2	17.1	15.9	15.4	14.8	15.1	9.4	26.4	18.1				
Sep 30	15.1	15.7	16.0	16.6	16.6	16.6	16.3	15.1	13.1	13.1	13.1	12.1	16.0	17.0	S	28.1	27.3	26.1	13.1	10.0	12.3	10.2	9.5	8.0	8.0	28.1	15.5				
Diurnal Maximum	35.9	36.1	37.1	29.0	31.3	33.6	31.0	30.1	31.0	33.7	39.6	44.3	46.4	52.6	53.2	58.4	62.1	47.8	51.7	40.4	36.6	35.4	35.7	31.7							
Diurnal Average	18.6	16.9	17.3	15.3	13.7	13.7	14.5	16.1	20.2	23.2	25.1	26.4	28.3	30.8	31.8	33.7	33.1	31.0	27.6	24.1	22.0	21.2	19.4	18.4							
C	Monthly Calibration										S	Daily Zero-Span Check										Q	Quality Assurance								
K	Collection Error										N	No Data (Machine Not in Service)										Y	Routine Maintenance				P	Power Failure			
X	Invalid Data (Equipment Malfunction/Recovery)										NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)																			

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

Timeseries Chart of Hourly Average for O3 - Tamarack Station



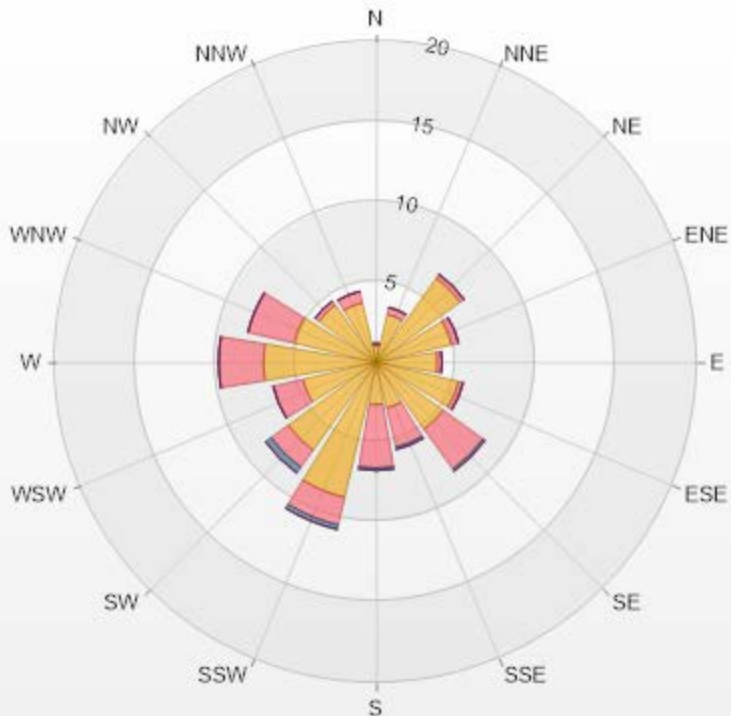
O3[ppb] Histogram: Tamarack Monthly: 09-2022 1 Hr.



Classes	O3
<=0	0.00%
0 - 10	13.03%
10 - 20	28.84%
20 - 30	33.82%
30 - 40	18.59%
40 - 50	4.54%
50 - 60	1.02%
60 - 70	0.15%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Tamarack Poll.: Tamarack-O3[ppb] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.86% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.02	0.15	0	0	0	1.17
NNE	3.07	0.44	0	0	0	3.51
NE	6.44	0.29	0	0	0	6.73
ENE	4.83	0.44	0	0	0	5.27
E	3.81	0.29	0	0	0	4.1
ESE	5.27	0.29	0	0	0	5.56
SE	5.12	3.07	0.15	0	0	8.34
SSE	2.93	2.49	0.15	0	0	5.57
S	2.64	3.95	0.15	0	0	6.74
SSW	8.64	1.76	0.29	0	0	10.69
SW	6.73	1.32	0.44	0	0	8.49
WSW	4.69	1.9	0	0	0	6.59
W	7.03	2.78	0	0	0	9.81
WNW	5.27	2.93	0	0	0	8.2
NW	4.39	0.29	0	0	0	4.68
NNW	3.81	0.73	0	0	0	4.54
Summary	75.69	23.12	1.18	0	0	100



LICA-202209

% Icon Classes (ppb)

76 0-30

23 30-50

1 50-76

0 76-159

0 >159.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Station - September 2022

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

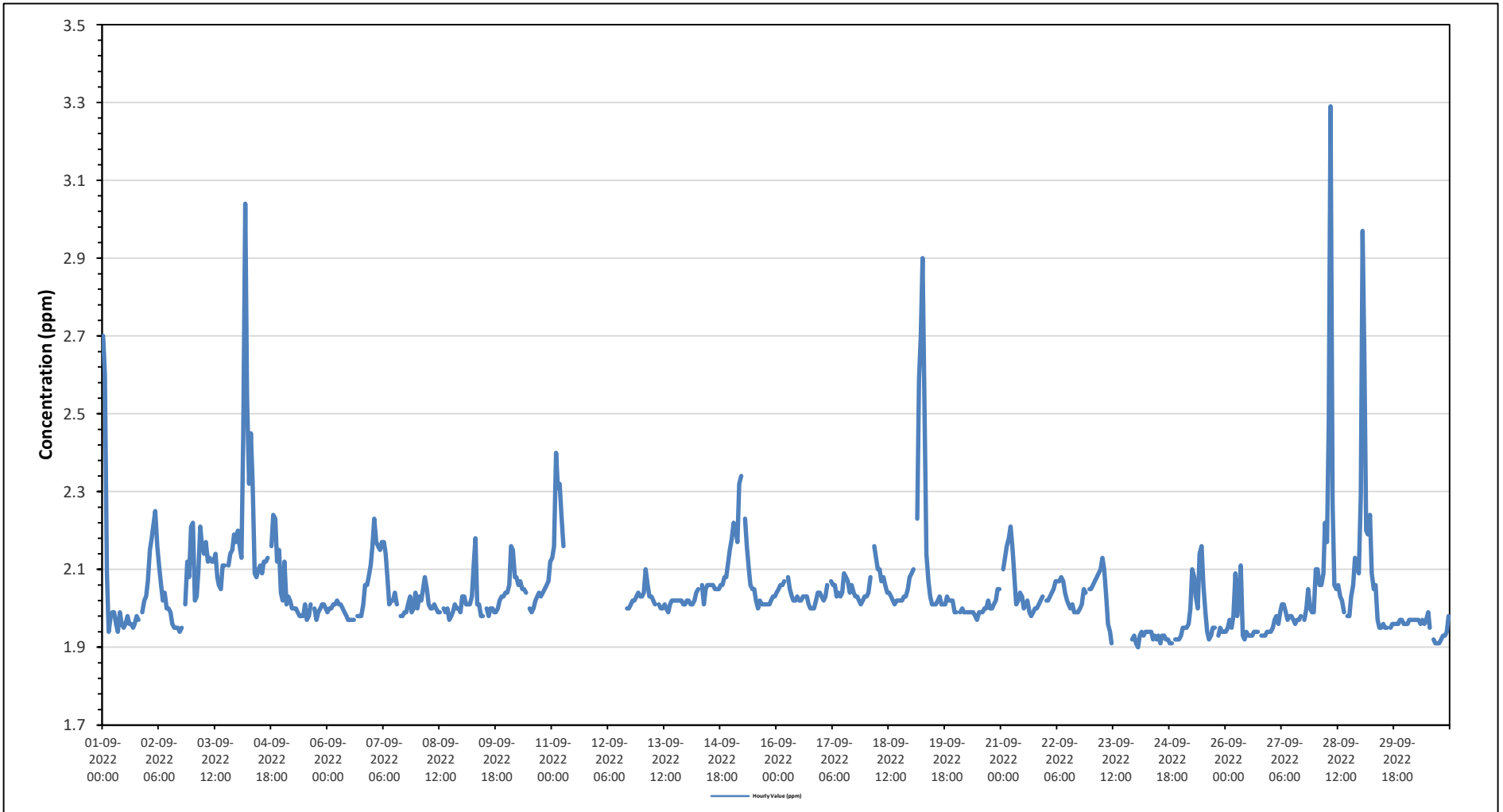
Maximum Hourly Value:	3.29 ppm on September 28 at hour 8	Hours in Service:	720
Maximum Daily Value:	2.23 ppm on September 4	Hours of Data:	650
Minimum Hourly Value:	1.89 ppm on September 23 at hour 20	Hours of Missing Data:	36
Minimum Daily Value:	1.92 ppm on September 24	Hours of Calibration:	34
Monthly Average:	2.05 ppm	Operational Uptime:	95.0

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	
Sep 1	2.70	2.60	2.09	1.94	1.98	1.99	1.99	1.96	1.94	1.99	1.96	1.95	1.96	1.98	1.96	1.96	1.95	1.96	1.98	1.97	S	1.99	2.02	2.03	1.94	2.70	2.04	
Sep 2	2.07	2.15	2.18	2.22	2.25	2.16	2.11	2.06	2.02	2.04	2.00	2.00	1.99	1.96	1.95	1.95	1.95	1.94	1.95	S	2.01	2.12	2.08	2.21	1.94	2.25	2.06	
Sep 3	2.22	2.02	2.03	2.10	2.21	2.16	2.14	2.17	2.12	2.13	2.12	2.12	2.14	2.08	2.06	2.05	2.11	2.11	S	2.11	2.14	2.15	2.19	2.17	2.02	2.22	2.12	
Sep 4	2.20	2.16	2.13	2.44	3.04	2.54	2.32	2.45	2.32	2.09	2.08	2.10	2.11	2.09	2.12	2.12	2.13	S	2.16	2.24	2.23	2.12	2.15	2.04	2.04	3.04	2.23	
Sep 5	2.02	2.12	2.01	2.03	2.02	2.00	2.00	2.00	1.99	1.98	1.98	1.98	2.01	1.97	1.98	2.01	S	2.00	1.97	1.99	2.00	2.01	2.01	2.00	1.97	2.12	2.00	
Sep 6	1.99	2.00	2.00	2.01	2.01	2.02	2.01	2.01	2.00	1.99	1.98	1.97	1.97	1.97	S	1.98	1.98	1.98	2.01	2.06	2.06	2.08	2.11	1.97	2.11	2.01		
Sep 7	2.16	2.23	2.17	2.16	2.15	2.17	2.17	2.14	2.07	2.01	2.02	2.04	2.01	S	1.98	1.98	1.98	1.99	1.99	2.01	2.03	1.99	2.00	2.04	1.98	2.23	2.07	
Sep 8	2.00	2.03	2.02	2.05	2.08	2.05	2.01	2.00	2.00	2.01	2.00	1.99	1.99	S	2.00	1.99	2.00	1.97	1.98	1.99	2.01	2.00	2.00	1.99	1.97	2.08	2.01	
Sep 9	2.03	2.03	2.01	2.01	2.01	2.03	2.11	2.18	2.01	2.01	1.98	1.98	S	2.00	1.98	2.00	2.00	1.99	1.99	2.00	2.02	2.03	2.03	2.04	1.98	2.18	2.02	
Sep 10	2.04	2.06	2.16	2.15	2.08	2.08	2.06	2.07	2.05	2.05	2.04	S	2.00	1.99	2.00	2.02	2.03	2.04	2.05	2.06	2.07	2.12	1.99	2.16	2.16	2.06		
Sep 11	2.13	2.16	2.40	2.31	2.32	2.24	2.16	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	2.13	2.40	-	
Sep 12	X	X	X	X	X	X	X	X	X	X	X	C	C	C	C	C	2.00	2.00	2.01	2.02	2.02	2.02	2.03	2.04	2.03	2.00	2.04	-
Sep 13	2.03	2.04	2.10	2.06	2.03	2.03	2.02	2.01	S	2.01	2.00	2.00	2.01	2.00	1.99	2.01	2.02	2.02	2.02	2.02	2.02	2.02	2.01	2.01	1.99	2.10	2.02	
Sep 14	2.02	2.02	2.01	2.01	2.02	2.04	2.05	S	2.06	2.01	2.05	2.06	2.06	2.06	2.06	2.05	2.05	2.06	2.06	2.08	2.08	2.12	2.15	2.01	2.15	2.05		
Sep 15	2.18	2.22	2.20	2.17	2.32	2.34	S	2.23	2.16	2.10	2.06	2.06	2.05	2.05	2.02	2.00	2.02	2.01	2.01	2.01	2.01	2.02	2.03	2.03	2.00	2.34	2.10	
Sep 16	2.04	2.05	2.06	2.06	2.07	S	2.08	2.05	2.03	2.02	2.02	2.03	2.02	2.02	2.03	2.03	2.03	2.01	2.00	2.00	2.00	2.02	2.04	2.04	2.00	2.08	2.03	
Sep 17	2.03	2.02	2.03	2.06	S	2.07	2.06	2.06	2.03	2.04	2.03	2.04	2.09	2.08	2.07	2.04	2.06	2.04	2.03	2.03	2.02	2.01	2.02	2.03	2.01	2.09	2.04	
Sep 18	2.03	2.04	2.08	S	2.16	2.13	2.10	2.10	2.07	2.08	2.06	2.04	2.04	2.03	2.02	2.01	2.02	2.02	2.02	2.02	2.03	2.03	2.05	2.08	2.01	2.16	2.05	
Sep 19	2.09	2.10	S	2.23	2.59	2.70	2.90	2.49	2.14	2.07	2.03	2.01	2.01	2.01	2.02	2.03	2.01	2.01	2.01	2.03	2.02	2.02	2.02	1.99	1.99	2.90	2.15	
Sep 20	1.99	S	1.99	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.98	1.97	1.99	1.99	1.99	2.00	2.00	2.02	2.00	2.00	2.01	2.02	2.05	2.05	1.97	2.05	2.00	
Sep 21	S	2.10	2.13	2.16	2.18	2.21	2.15	2.08	2.01	2.02	2.04	2.03	2.00	2.01	2.02	1.99	1.98	1.99	2.00	2.00	2.01	2.02	2.03	S	1.98	2.21	2.05	
Sep 22	2.02	2.02	2.03	2.04	2.05	2.07	2.07	2.07	2.08	2.07	2.04	2.02	2.01	2.00	2.01	1.99	1.99	1.99	2.00	2.01	2.05	2.04	S	2.05	1.99	2.08	2.03	
Sep 23	2.05	2.06	2.07	2.08	2.09	2.10	2.13	2.10	2.03	1.96	1.94	1.91	X	X	X	X	X	X	X	X	1.89	S	1.92	1.93	1.89	2.13	-	
Sep 24	1.91	1.90	1.93	1.94	1.93	1.94	1.94	1.94	1.94	1.92	1.93	1.92	1.93	1.91	1.93	1.93	1.92	1.92	1.91	1.91	S	1.92	1.92	1.92	1.90	1.94	1.92	
Sep 25	1.93	1.95	1.95	1.95	1.96	2.00	2.10	2.08	2.03	2.00	2.14	2.16	2.06	1.99	1.94	1.92	1.93	1.95	1.95	S	1.93	1.95	1.94	1.94	1.92	2.16	1.99	
Sep 26	1.94	1.95	1.97	1.95	1.98	2.09	1.98	2.03	2.11	1.93	1.92	1.94	1.93	1.93	1.93	1.94	1.94	1.94	S	1.93	1.93	1.93	1.94	1.94	1.92	2.11	1.96	
Sep 27	1.94	1.95	1.97	1.98	1.96	1.99	2.01	2.01	1.99	1.97	1.98	1.98	1.97	1.96	1.97	1.97	1.98	S	1.97	2.00	2.05	2.00	1.99	1.99	1.94	2.05	1.98	
Sep 28	2.10	2.10	2.06	2.06	2.09	2.22	2.17	2.48	3.29	2.27	2.06	2.05	2.06	2.03	2.02	1.99	S	1.98	1.98	2.03	2.06	2.13	2.12	2.09	1.98	3.29	2.15	
Sep 29	2.29	2.97	2.64	2.20	2.19	2.24	2.09	2.05	2.06	1.97	1.95	1.95	1.96	1.95	1.95	S	1.92	1.95	1.96	1.96	1.96	1.97	1.97	1.96	1.95	2.97	2.09	
Sep 30	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.97	1.96	1.97	1.99	1.95	S	1.92	1.91	1.91	1.91	1.92	1.93	1.93	1.94	1.98	1.91	1.99	1.95	
Diurnal Maximum	2.70	2.97	2.64	2.44	3.04	2.70	2.90	2.49	3.29	2.27	2.14	2.16	2.14	2.09	2.12	2.12	2.13	2.11	2.16	2.24	2.23	2.15	2.19	2.21				
Diurnal Average	2.08	2.11	2.09	2.08	2.13	2.13	2.10	2.10	2.09	2.03	2.01	2.01	2.02	2.00	2.00	2.00	2.00	1.99	2.00	2.01	2.02	2.02	2.03	2.03				

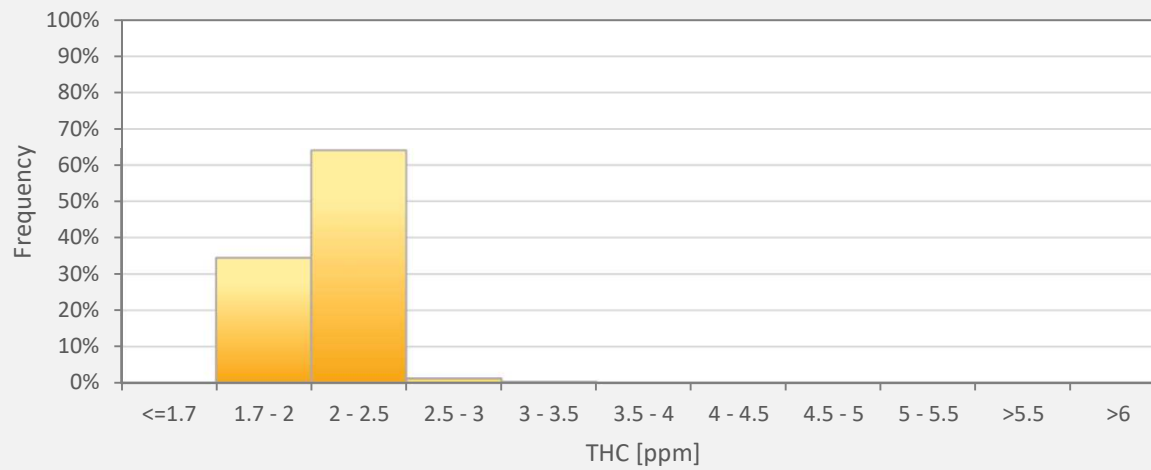
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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

Timeseries Chart of Hourly Average for THC - Tamarack Station



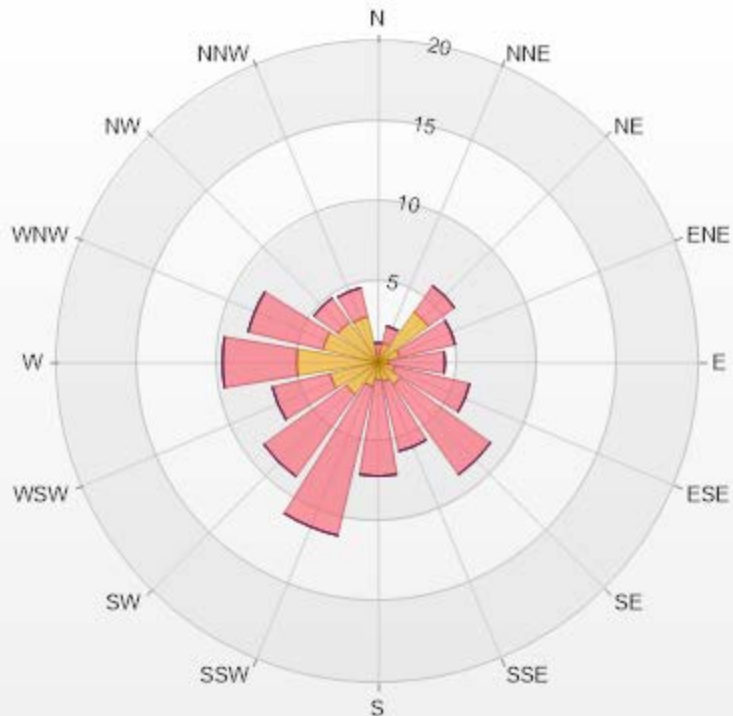
THC55[ppm] Histogram: Tamarack Monthly: 09-2022 1 Hr.



Classes	THC55
<=1.7	0.00%
1.7 - 2	34.46%
2 - 2.5	64.00%
2.5 - 3	1.23%
3 - 3.5	0.31%
3.5 - 4	0.00%
4 - 4.5	0.00%
4.5 - 5	0.00%
5 - 5.5	0.00%
>5.5	0.00%
>6	0.00%

Wind: Tamarack Poll.: Tamarack-THC55[ppm] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 90.28% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	0.46	0.77	0	0	0	1.23
NNE	1.23	1.08	0	0	0	2.31
NE	3.85	2	0	0	0	5.85
ENE	1.38	3.54	0	0	0	4.92
E	0.62	3.54	0	0	0	4.16
ESE	1.08	4.77	0	0	0	5.85
SE	1.69	6.92	0	0	0	8.61
SSE	1.23	4.46	0	0	0	5.69
S	1.08	6	0	0	0	7.08
SSW	1.54	9.54	0	0	0	11.08
SW	2.46	6.31	0	0	0	8.77
WSW	3.08	3.69	0	0	0	6.77
W	5.08	4.62	0	0	0	9.7
WNW	3.54	4.77	0	0	0	8.31
NW	3.08	1.85	0	0	0	4.93
NNW	2.92	1.85	0	0	0	4.77
Summary	34.32	65.71	0	0	0	100



LICA-202209

% Icon Classes (ppm)

34 0-2

66 2-5

0 5-10

0 10-40

0 >40.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Station - September 2022

Summary of Hourly Averages

METHANE (CH₄) in ppm

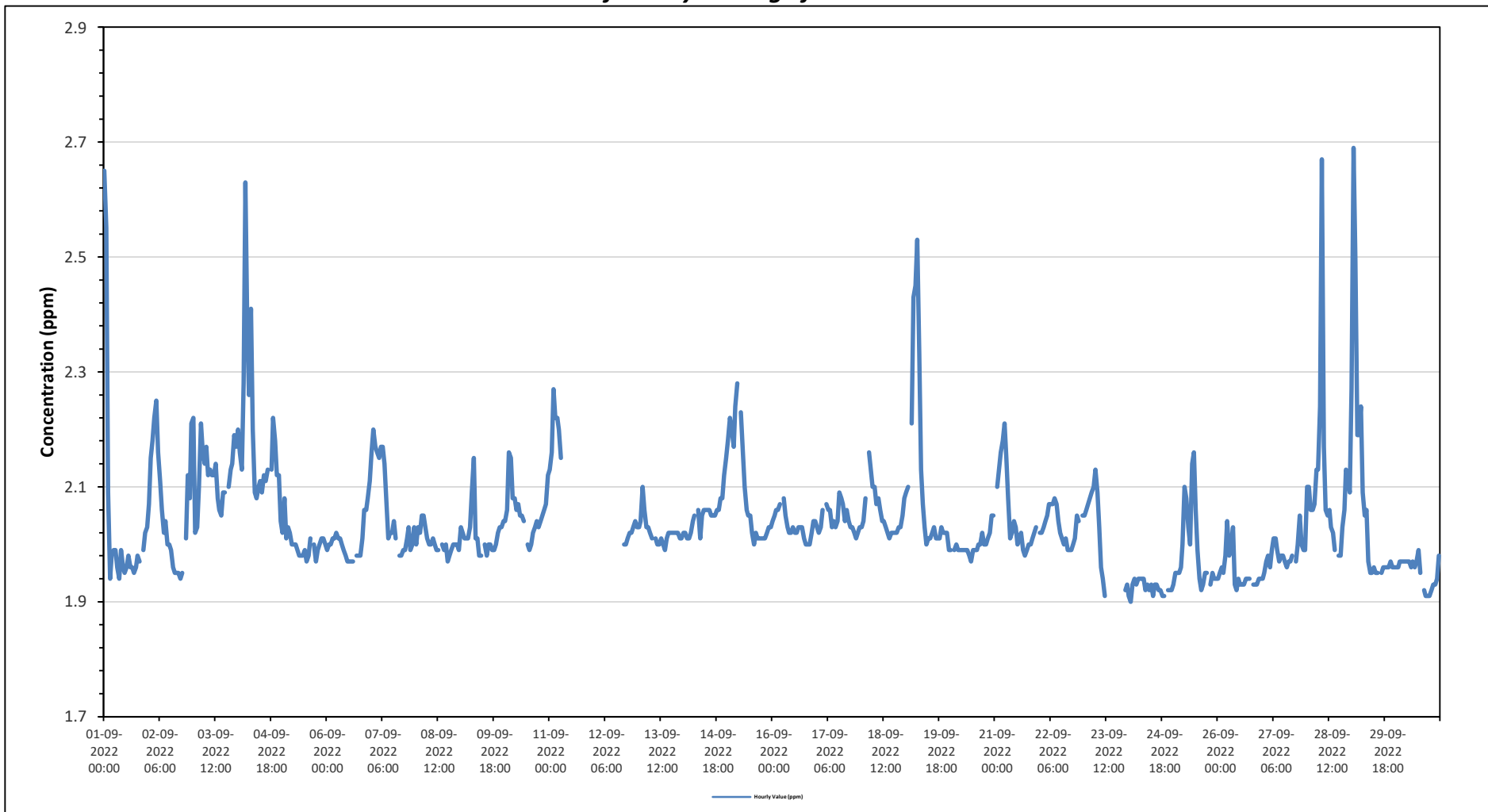
Maximum Hourly Value:	2.69 ppm on September 29 at hour 1	Hours in Service:	720
Maximum Daily Value:	2.19 ppm on September 4	Hours of Data:	650
Minimum Hourly Value:	1.89 ppm on September 23 at hour 20	Hours of Missing Data:	36
Minimum Daily Value:	1.92 ppm on September 24	Hours of Calibration:	34
Monthly Average:	2.04 ppm	Operational Uptime:	95.0

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	
Sep 1	2.65	2.55	2.09	1.94	1.98	1.99	1.99	1.96	1.94	1.99	1.96	1.95	1.96	1.98	1.96	1.96	1.95	1.96	1.98	1.97	S	1.99	2.02	2.03	1.94	2.65	2.03	
Sep 2	2.07	2.15	2.18	2.22	2.25	2.16	2.11	2.06	2.02	2.04	2.00	2.00	1.99	1.96	1.95	1.95	1.95	1.94	1.95	S	2.01	2.12	2.08	2.21	1.94	2.25	2.06	
Sep 3	2.22	2.02	2.03	2.10	2.21	2.16	2.14	2.17	2.12	2.13	2.12	2.12	2.14	2.08	2.06	2.05	2.09	2.09	S	2.10	2.13	2.14	2.19	2.17	2.02	2.22	2.12	
Sep 4	2.20	2.16	2.13	2.28	2.63	2.39	2.26	2.41	2.20	2.09	2.08	2.10	2.11	2.09	2.12	2.11	2.13	S	2.13	2.22	2.18	2.12	2.12	2.04	2.04	2.63	2.19	
Sep 5	2.02	2.08	2.01	2.03	2.02	2.00	2.00	2.00	1.99	1.98	1.98	1.98	1.99	1.97	1.98	2.01	S	2.00	1.97	1.99	2.00	2.01	2.01	2.00	1.97	2.08	2.00	
Sep 6	1.99	2.00	2.00	2.01	2.01	2.02	2.01	2.01	2.00	1.99	1.98	1.97	1.97	1.97	S	1.98	1.98	1.98	2.01	2.06	2.06	2.08	2.11	1.97	2.11	2.01		
Sep 7	2.16	2.20	2.17	2.16	2.15	2.17	2.17	2.14	2.07	2.01	2.02	2.02	2.04	2.01	S	1.98	1.98	1.99	1.99	2.01	2.03	1.99	2.00	2.03	1.98	2.20	2.06	
Sep 8	2.00	2.03	2.02	2.05	2.05	2.03	2.01	2.00	2.00	2.01	2.00	1.99	1.99	S	2.00	1.99	2.00	1.97	1.98	1.99	2.00	2.00	1.99	1.97	2.05	2.00		
Sep 9	2.03	2.02	2.01	2.01	2.01	2.03	2.09	2.15	2.01	2.01	1.98	1.98	S	2.00	1.98	2.00	2.00	1.99	1.99	2.00	2.02	2.03	2.03	2.04	1.98	2.15	2.02	
Sep 10	2.04	2.06	2.16	2.15	2.08	2.08	2.06	2.07	2.05	2.05	2.04	S	2.00	1.99	2.00	2.02	2.03	2.04	2.05	2.06	2.07	2.12	1.99	2.16	2.06	2.06		
Sep 11	2.13	2.16	2.27	2.22	2.22	2.20	2.15	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	2.13	2.27	-	
Sep 12	X	X	X	X	X	X	X	X	X	X	X	C	C	C	C	C	2.00	2.00	2.01	2.02	2.02	2.02	2.03	2.04	2.03	2.00	2.04	-
Sep 13	2.03	2.04	2.10	2.06	2.03	2.03	2.02	2.01	S	2.01	2.00	2.00	2.01	2.00	1.99	2.01	2.02	2.02	2.02	2.02	2.02	2.02	2.01	2.01	1.99	2.10	2.02	
Sep 14	2.02	2.02	2.01	2.01	2.02	2.04	2.05	S	2.06	2.01	2.05	2.06	2.06	2.06	2.06	2.05	2.05	2.06	2.06	2.08	2.08	2.12	2.15	2.01	2.15	2.05		
Sep 15	2.18	2.22	2.20	2.17	2.24	2.28	S	2.23	2.16	2.10	2.06	2.05	2.05	2.02	2.00	2.02	2.01	2.01	2.01	2.01	2.01	2.02	2.03	2.03	2.00	2.28	2.09	
Sep 16	2.04	2.05	2.06	2.06	2.07	S	2.08	2.05	2.03	2.02	2.02	2.03	2.02	2.02	2.03	2.03	2.03	2.01	2.00	2.00	2.00	2.02	2.04	2.04	2.00	2.08	2.03	
Sep 17	2.03	2.02	2.03	2.06	S	2.07	2.06	2.06	2.03	2.04	2.03	2.04	2.09	2.08	2.07	2.04	2.06	2.04	2.03	2.03	2.02	2.01	2.02	2.03	2.01	2.09	2.04	
Sep 18	2.03	2.04	2.08	S	2.16	2.13	2.10	2.10	2.07	2.08	2.06	2.04	2.04	2.03	2.02	2.01	2.02	2.02	2.02	2.03	2.03	2.05	2.08	2.01	2.16	2.05		
Sep 19	2.09	2.10	S	2.21	2.43	2.45	2.53	2.33	2.13	2.07	2.03	2.00	2.01	2.01	2.02	2.03	2.01	2.01	2.01	2.03	2.02	2.02	1.99	1.99	2.53	2.11		
Sep 20	1.99	S	1.99	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.98	1.97	1.99	1.99	1.99	2.00	2.00	2.02	2.00	2.00	2.01	2.02	2.05	2.05	1.97	2.05	2.00	
Sep 21	S	2.10	2.13	2.16	2.18	2.21	2.15	2.08	2.01	2.02	2.04	2.03	2.00	2.01	2.02	1.99	1.98	1.99	2.00	2.00	2.01	2.02	2.03	S	1.98	2.21	2.05	
Sep 22	2.02	2.02	2.03	2.04	2.05	2.07	2.07	2.07	2.08	2.07	2.04	2.02	2.01	2.00	2.01	1.99	1.99	1.99	2.00	2.01	2.05	2.04	S	2.05	1.99	2.08	2.03	
Sep 23	2.05	2.06	2.07	2.08	2.09	2.10	2.13	2.09	2.03	1.96	1.94	1.91	X	X	X	X	X	X	X	X	1.89	S	1.92	1.93	1.89	2.13	-	
Sep 24	1.91	1.90	1.93	1.94	1.93	1.94	1.94	1.94	1.94	1.92	1.93	1.92	1.93	1.91	1.93	1.93	1.92	1.92	1.91	1.91	S	1.92	1.92	1.92	1.90	1.94	1.92	
Sep 25	1.93	1.95	1.95	1.95	1.96	2.00	2.10	2.08	2.03	2.00	2.14	2.16	2.06	1.99	1.94	1.92	1.93	1.95	1.95	S	1.93	1.95	1.94	1.94	1.92	2.16	1.99	
Sep 26	1.94	1.95	1.96	1.95	1.98	2.04	1.98	2.00	2.03	1.93	1.92	1.94	1.93	1.93	1.93	1.94	1.94	1.94	S	1.93	1.93	1.93	1.94	1.94	1.92	2.04	1.95	
Sep 27	1.94	1.95	1.97	1.98	1.96	1.99	2.01	2.01	1.99	1.97	1.98	1.98	1.97	1.96	1.97	1.97	1.98	S	1.97	2.00	2.05	2.00	1.99	1.99	1.94	2.05	1.98	
Sep 28	2.10	2.10	2.06	2.06	2.07	2.13	2.13	2.24	2.67	2.17	2.06	2.05	2.06	2.03	2.02	1.99	S	1.98	1.98	2.03	2.06	2.13	2.12	2.09	1.98	2.67	2.10	
Sep 29	2.27	2.69	2.50	2.19	2.19	2.24	2.09	2.05	2.06	1.97	1.95	1.95	1.96	1.95	1.95	S	1.92	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.95	2.69	2.07	
Sep 30	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.97	1.96	1.97	1.99	1.95	S	1.92	1.91	1.91	1.91	1.92	1.93	1.93	1.94	1.98	1.91	1.99	1.95	
Diurnal Maximum	2.65	2.69	2.50	2.28	2.63	2.45	2.53	2.41	2.67	2.17	2.14	2.16	2.14	2.09	2.12	2.11	2.13	2.09	2.13	2.22	2.18	2.14	2.19	2.21				
Diurnal Average	2.07	2.09	2.08	2.07	2.10	2.10	2.09	2.08	2.06	2.02	2.01	2.01	2.01	2.00	2.00	2.00	2.00	1.99	1.99	2.01	2.02	2.02	2.03	2.03				

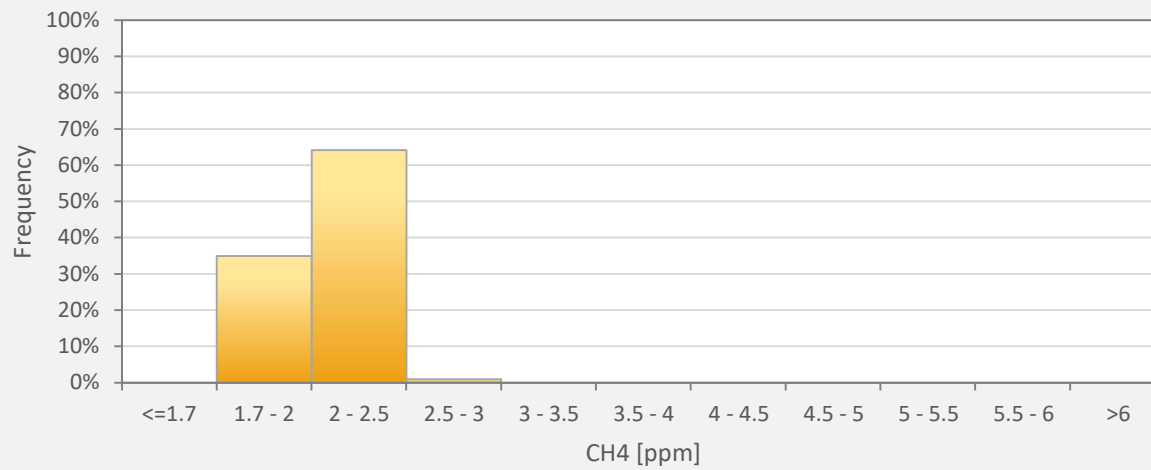
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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

Timeseries Chart of Hourly Average for CH4 - Tamarack Station



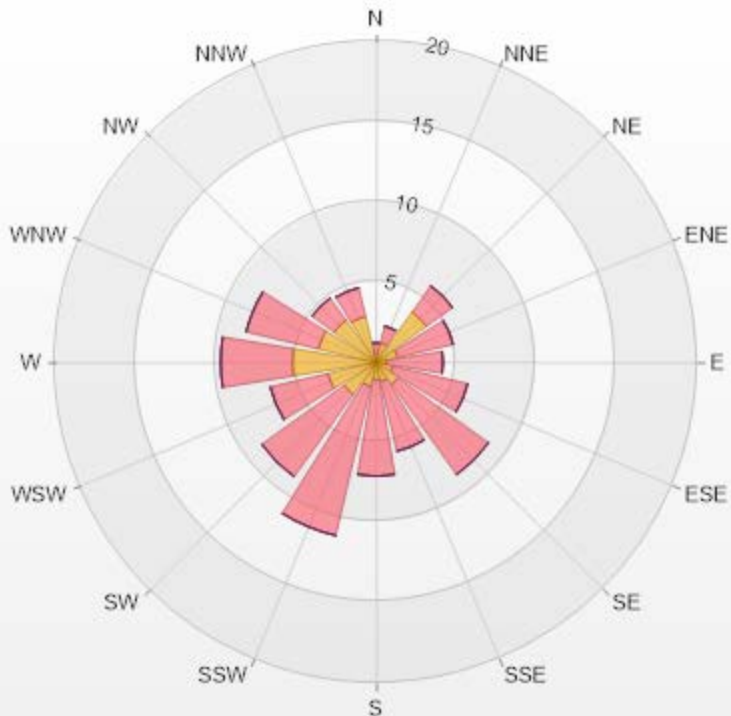
CH4[ppm] Histogram: Tamarack Monthly: 09-2022 1 Hr.



Classes	CH4
<=1.7	0.00%
1.7 - 2	34.92%
2 - 2.5	64.15%
2.5 - 3	0.92%
3 - 3.5	0.00%
3.5 - 4	0.00%
4 - 4.5	0.00%
4.5 - 5	0.00%
5 - 5.5	0.00%
5.5 - 6	0.00%
>6	0.00%

Wind: Tamarack Poll.: Tamarack-CH4[ppm] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 90.28% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	0.46	0.77	0	0	0	1.23
NNE	1.23	1.08	0	0	0	2.31
NE	3.85	2	0	0	0	5.85
ENE	1.38	3.54	0	0	0	4.92
E	0.62	3.54	0	0	0	4.16
ESE	1.08	4.77	0	0	0	5.85
SE	1.69	6.92	0	0	0	8.61
SSE	1.23	4.46	0	0	0	5.69
S	1.08	6	0	0	0	7.08
SSW	1.54	9.54	0	0	0	11.08
SW	2.46	6.31	0	0	0	8.77
WSW	3.08	3.69	0	0	0	6.77
W	5.23	4.46	0	0	0	9.69
WNW	3.69	4.62	0	0	0	8.31
NW	3.23	1.69	0	0	0	4.92
NNW	2.92	1.85	0	0	0	4.77
Summary	34.77	65.24	0	0	0	100



LICA-202209

% Icon Classes (ppm)

35 0-2

65 2-5

0 5-10

0 10-40

0 >40.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Station - September 2022

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

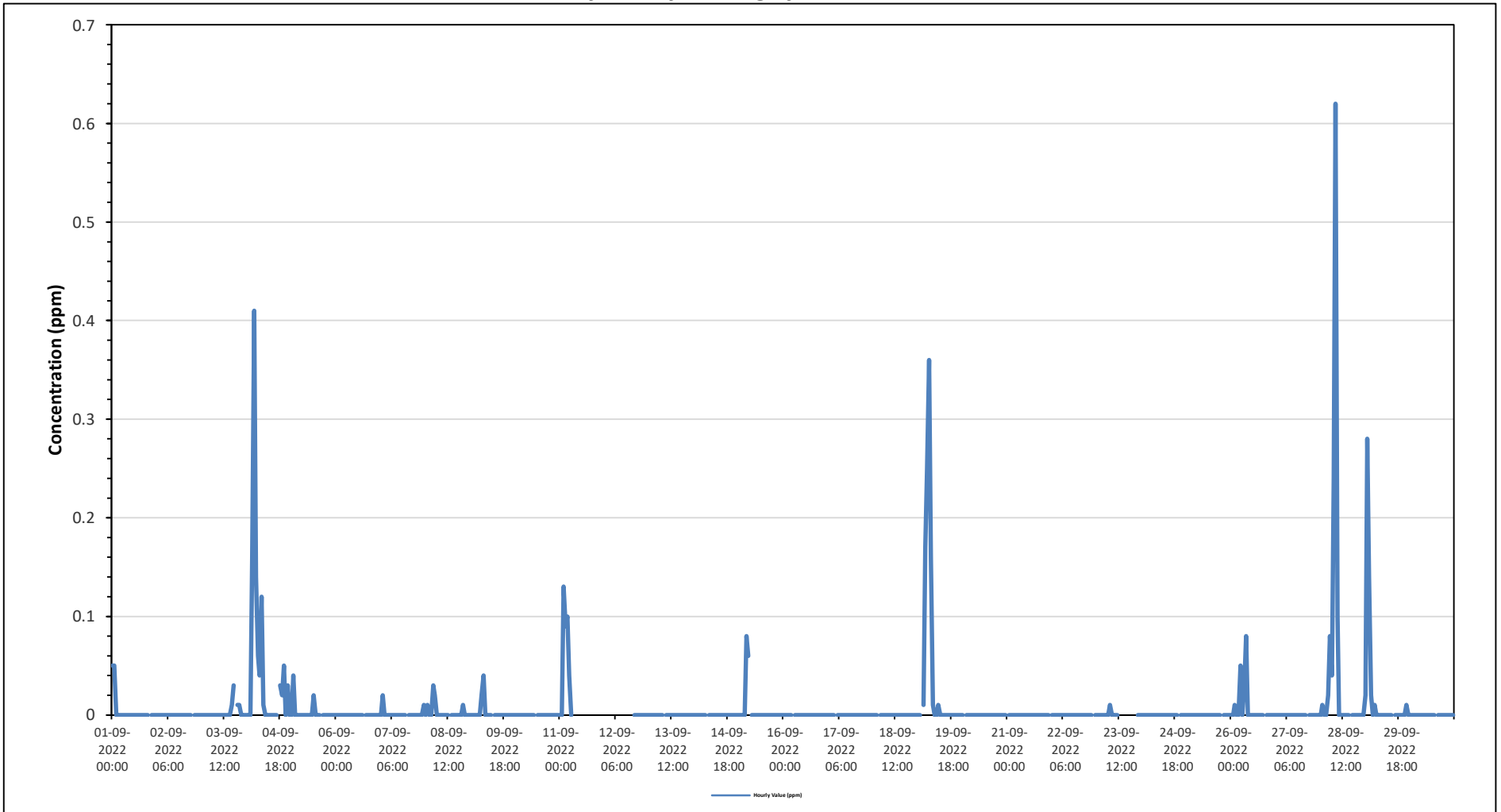
Maximum Hourly Value:	0.62 ppm on September 28 at hour 8	Hours in Service:	720
Maximum Daily Value:	0.05 ppm on September 28	Hours of Data:	650
Minimum Hourly Value:	0.00 ppm on September 1 at hour 2	Hours of Missing Data:	36
Minimum Daily Value:	0.00 ppm on September 2	Hours of Calibration:	34
Monthly Average:	0.01 ppm	Operational Uptime:	95.0

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		
Sep 1	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.05	0.00	
Sep 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Sep 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	S	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.03	0.00	
Sep 4	0.00	0.00	0.00	0.16	0.41	0.14	0.06	0.04	0.12	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.03	0.02	0.05	0.00	0.03	0.00	0.00	0.00	0.41	0.05	
Sep 5	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	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	0.04	0.00	
Sep 6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Sep 7	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	
Sep 8	0.00	0.01	0.00	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.03	0.00	
Sep 9	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.04	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	0.04	0.00	
Sep 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Sep 11	0.00	0.00	0.13	0.09	0.10	0.04	0.00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0.13	-
Sep 12	X	X	X	X	X	X	X	X	X	X	X	C	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Sep 13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 15	0.00	0.00	0.00	0.00	0.08	0.06	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	0.08	0.01	
Sep 16	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 17	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 18	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 19	0.00	0.00	S	0.01	0.17	0.25	0.36	0.16	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.04	
Sep 20	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 21	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	X	X	X	X	X	X	X	X	0.00	S	0.00	0.00	0.00	0.01	-	-	
Sep 24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 26	0.00	0.00	0.01	0.00	0.00	0.05	0.00	0.03	0.08	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	0.08	0.01	
Sep 27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 28	0.00	0.01	0.00	0.00	0.02	0.08	0.04	0.24	0.62	0.10	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.05	0.05	
Sep 29	0.02	0.28	0.14	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.28	0.02	
Sep 30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Diurnal Maximum	0.05	0.28	0.14	0.16	0.41	0.25	0.36	0.24	0.62	0.10	0.00	0.01	0.02	0.00	0.00	0.00	0.01	0.03	0.03	0.02	0.05	0.00	0.03	0.01					
Diurnal Average	0.00	0.01	0.01	0.01	0.03	0.02	0.02	0.02	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					

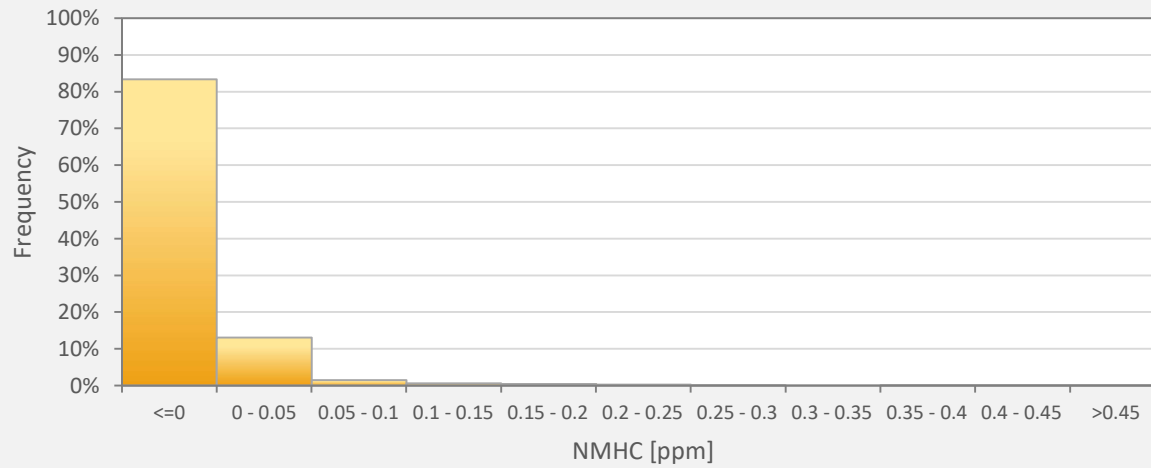
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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

Timeseries Chart of Hourly Average for NMHC - Tamarack Station



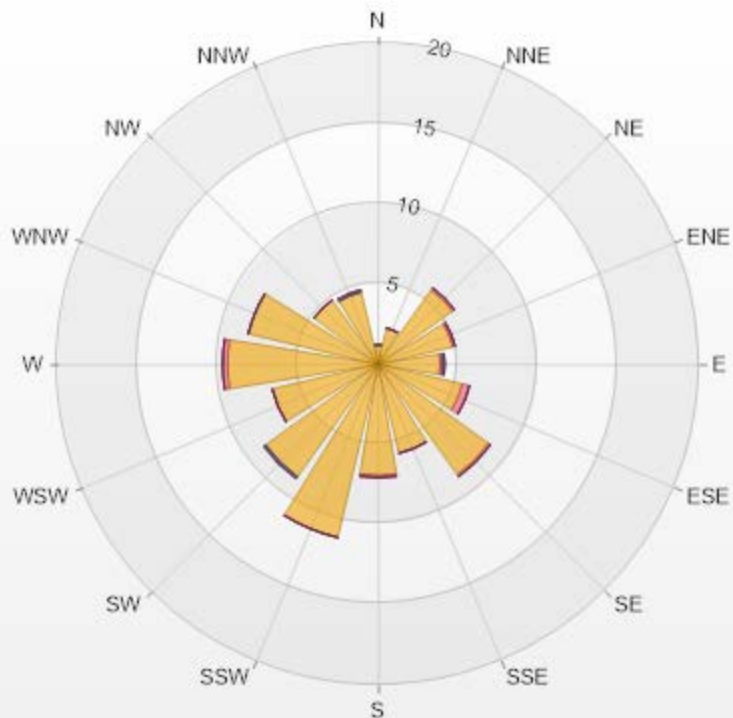
NMHC[ppm] Histogram: Tamarack Monthly: 09-2022 1 Hr.



Classes	NMHC
<=0	83.38%
0 - 0.05	13.08%
0.05 - 0.1	1.54%
0.1 - 0.15	0.62%
0.15 - 0.2	0.46%
0.2 - 0.25	0.31%
0.25 - 0.3	0.15%
0.3 - 0.35	0.00%
0.35 - 0.4	0.15%
0.4 - 0.45	0.15%
>0.45	0.15%

Wind: Tamarack Poll.: Tamarack-NMHC[ppm] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 90.28% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	1.23	0	0	0	0	1.23
NNE	2.31	0	0	0	0	2.31
NE	5.69	0.15	0	0	0	5.84
ENE	4.77	0.15	0	0	0	4.92
E	3.85	0.15	0.15	0	0	4.15
ESE	5.38	0.46	0	0	0	5.84
SE	8.46	0.15	0	0	0	8.61
SSE	5.69	0	0	0	0	5.69
S	6.92	0.15	0	0	0	7.07
SSW	11.08	0	0	0	0	11.08
SW	8.62	0	0.15	0	0	8.77
WSW	6.77	0	0	0	0	6.77
W	9.38	0.31	0	0	0	9.69
WNW	8.31	0	0	0	0	8.31
NW	4.92	0	0	0	0	4.92
NNW	4.62	0	0.15	0	0	4.77
Summary	98	1.52	0.45	0	0	100



LICA-202209

% Icon Classes (ppm)

98 0-0.1

2 0.1-0.3

0 0.3-1

0 1-2

0 >2.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Station - September 2022

Summary of Hourly Averages

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

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

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

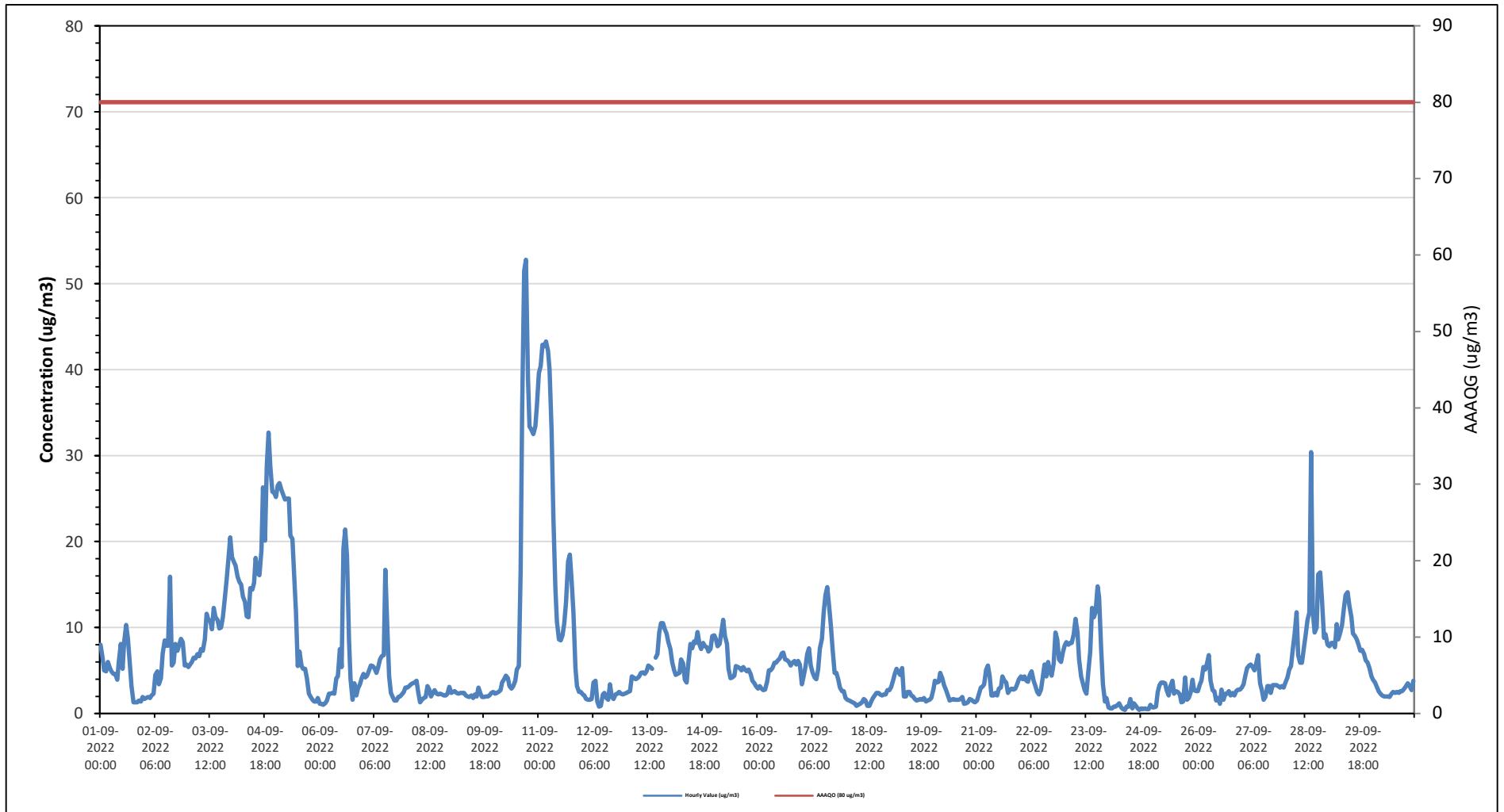
Maximum Hourly Value:	53 µg/m ³ on September 10 at hour 17	Hours in Service:	720
Maximum Daily Value:	20.8 µg/m ³ on September 11	Hours of Data:	719
Minimum Hourly Value:	0 µg/m ³ on September 24 at hour 9	Hours of Missing Data:	0
Minimum Daily Value:	1 µg/m ³ on September 24	Hours of Calibration:	1
Monthly Average:	6.4 µg/m ³	Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily	Daily	Daily		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average	
Sep 1	8	7	5	5	6	5	5	5	5	4	6	8	5	8	10	9	6	3	1	1	2	1	2	1	2	1	10	4.9
Sep 2	2	2	2	2	2	2	5	5	3	4	7	9	8	8	16	6	6	8	7	8	9	8	6	6	2	16	5.8	
Sep 3	5	6	6	7	6	7	7	8	7	9	12	11	11	10	12	11	11	10	10	11	14	16	18	21	5	21	10.1	
Sep 4	18	18	17	16	15	15	14	13	11	11	15	14	15	18	16	16	19	26	20	29	33	29	26	26	11	33	18.8	
Sep 5	25	27	27	26	26	25	25	25	21	20	16	12	6	7	6	5	5	4	2	2	2	1	1	2	1	27	13.2	
Sep 6	1	1	1	1	2	2	2	2	2	4	4	8	5	19	21	18	9	4	2	4	2	3	3	4	1	21	5.2	
Sep 7	5	4	4	5	6	6	5	5	5	6	7	7	17	11	4	2	2	2	2	2	2	2	3	3	2	17	4.8	
Sep 8	3	3	3	4	4	4	2	1	2	2	2	3	3	2	2	3	2	2	2	2	2	2	2	3	1	4	2.6	
Sep 9	2	3	3	2	2	2	2	2	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	3	2	3	2.2	
Sep 10	2	2	3	3	4	4	4	4	3	3	3	4	5	6	17	35	52	53	39	33	33	33	33	36	2	53	17.2	
Sep 11	40	40	43	43	43	42	40	33	23	15	11	9	9	9	11	13	18	19	15	12	5	3	3	3	3	43	20.8	
Sep 12	2	2	2	2	2	2	4	4	1	1	1	2	2	2	2	3	2	2	2	2	3	2	2	2	1	4	2.1	
Sep 13	2	3	3	4	4	4	4	4	5	5	5	5	6	5	5	C	7	7	9	11	11	10	9	8	2	11	5.9	
Sep 14	8	6	5	5	5	5	6	6	4	4	6	8	8	8	8	10	8	8	8	8	8	7	8	9	4	10	6.8	
Sep 15	9	9	8	8	9	11	9	8	5	4	4	6	5	5	5	5	5	5	5	5	5	4	4	3	3	11	6.1	
Sep 16	3	3	3	3	3	4	5	5	5	6	6	6	7	7	6	6	6	6	6	6	6	6	6	6	3	7	5.2	
Sep 17	3	4	5	7	8	6	5	4	4	5	8	9	12	14	15	13	10	8	5	5	4	3	3	3	3	15	6.7	
Sep 18	2	2	2	1	1	1	1	1	1	1	2	2	1	1	1	2	2	2	2	2	2	2	2	3	1	3	1.7	
Sep 19	3	3	4	5	5	5	5	5	2	2	3	3	2	2	2	2	2	2	2	2	1	2	2	2	1	5	2.6	
Sep 20	3	4	4	5	4	3	3	2	2	2	2	2	2	2	2	2	2	1	1	1	2	2	1	1	1	5	2.2	
Sep 21	2	2	3	3	3	5	6	4	2	2	2	3	3	4	4	4	4	2	3	3	3	3	3	4	2	6	3.2	
Sep 22	4	4	4	4	4	5	5	4	3	3	2	3	4	6	4	6	5	4	6	9	9	6	6	7	2	9	4.9	
Sep 23	8	8	8	8	8	9	11	9	6	4	4	3	2	5	7	12	11	12	15	14	8	3	1	2	1	15	7.5	
Sep 24	1	1	1	1	1	1	1	1	1	0	1	1	2	1	1	1	1	0	1	1	1	1	1	1	0	2	0.8	
Sep 25	1	1	1	3	3	4	4	4	3	2	3	4	2	3	3	2	1	1	4	2	2	2	4	3	1	4	2.5	
Sep 26	3	3	3	4	5	5	6	7	4	3	3	2	1	3	2	2	2	3	2	2	2	3	3	3	1	7	3.0	
Sep 27	3	3	3	4	5	6	6	5	5	6	7	4	3	2	2	3	3	2	3	3	3	3	3	3	2	7	3.8	
Sep 28	3	4	4	5	6	8	9	12	7	6	6	8	9	11	12	30	12	9	10	16	16	13	9	9	3	30	9.7	
Sep 29	8	8	8	8	8	10	9	9	10	12	14	14	13	11	9	9	9	8	7	7	6	6	5	5	5	14	9.0	
Sep 30	4	4	4	3	3	2	2	2	2	2	2	3	2	3	2	3	3	3	3	4	3	3	4	2	4	2.8		
Diurnal Maximum	40	40	43	43	43	42	40	33	23	20	16	14	17	19	21	35	52	53	39	33	33	33	33	36				
Diurnal Average	6.1	6.1	6.3	6.4	6.7	7.0	7.0	6.7	5.2	5.0	5.4	5.6	5.7	6.3	7.1	8.1	7.5	7.3	6.6	6.9	6.6	6.0	5.8	6.1				

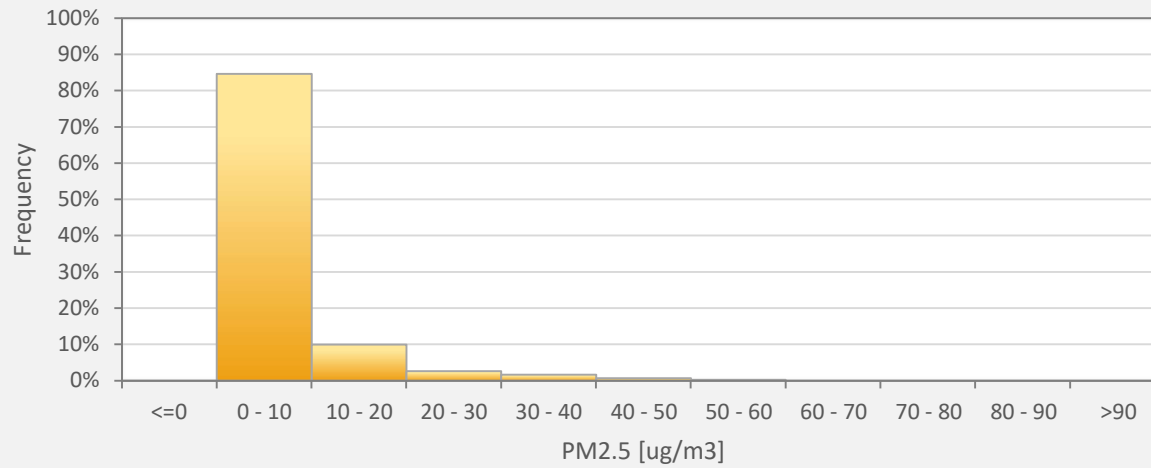
C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N No Data (Machine Not in Service)	Y Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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

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



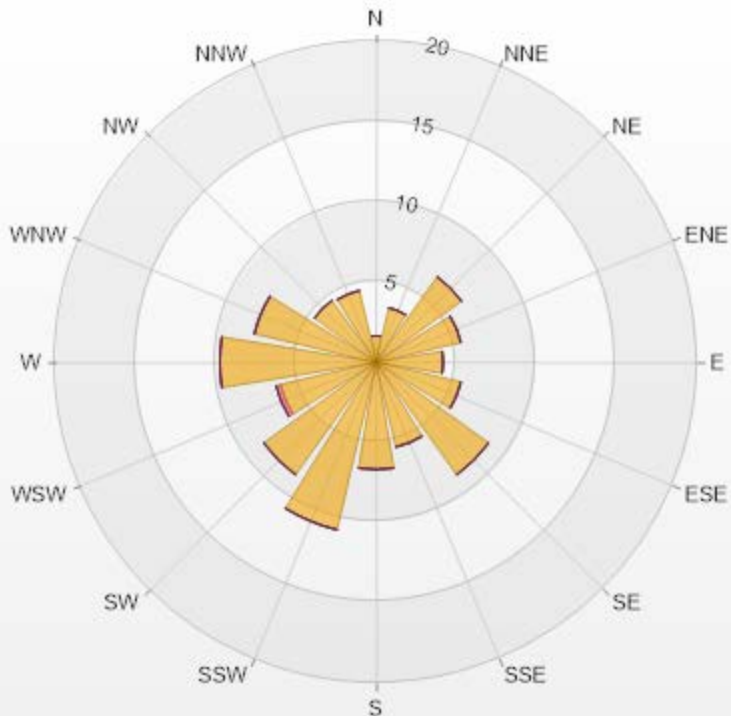
PM2.5[ug/m3(L)] Histogram: Tamarack Monthly: 09-2022 1 Hr.



Classes	PM2.5
<=0	0.00%
0 - 10	84.70%
10 - 20	10.01%
20 - 30	2.64%
30 - 40	1.67%
40 - 50	0.70%
50 - 60	0.28%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Tamarack Poll.: Tamarack-PM2.5[ug/m3(L)] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 99.86% Calm Avg: 0.00 [ug/m3(L)]

Direction	0-50	50-80	80-120	120-240	>240.0	Total
N	1.67	0	0	0	0	1.67
NNE	3.48	0	0	0	0	3.48
NE	6.54	0	0	0	0	6.54
ENE	5.42	0	0	0	0	5.42
E	4.17	0	0	0	0	4.17
ESE	5.42	0	0	0	0	5.42
SE	8.62	0	0	0	0	8.62
SSE	5.42	0	0	0	0	5.42
S	6.68	0	0	0	0	6.68
SSW	10.71	0	0	0	0	10.71
SW	8.62	0	0	0	0	8.62
WSW	6.12	0.28	0	0	0	6.4
W	9.74	0	0	0	0	9.74
WNW	7.79	0	0	0	0	7.79
NW	4.73	0	0	0	0	4.73
NNW	4.59	0	0	0	0	4.59
Summary	100	0.28	0	0	0	100



LICA-202209

% Icon Classes (ug/m3(L))

100 0-50

0 50-80

0 80-120

0 120-240

0 >240.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Station - September 2022

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

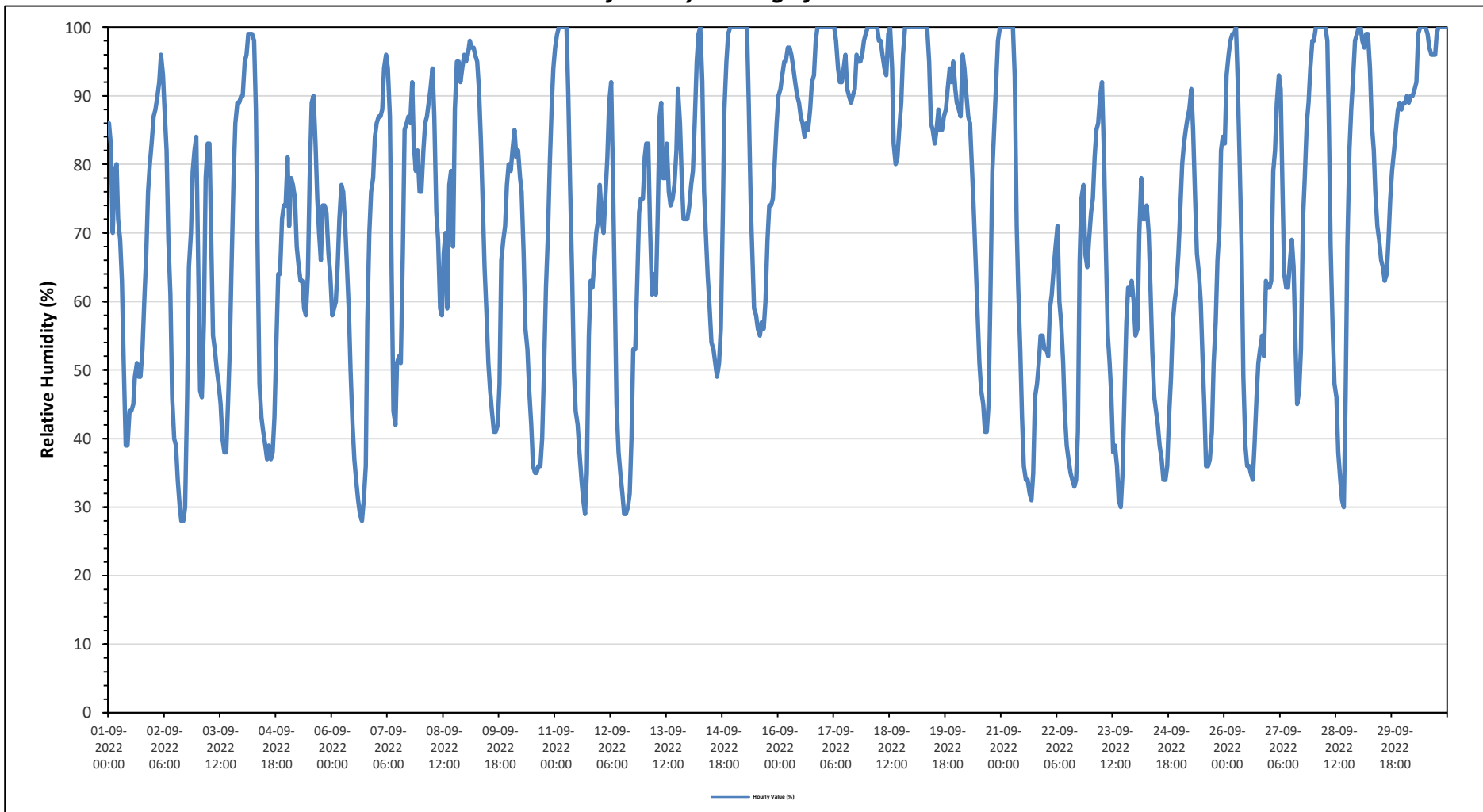
Maximum Hourly Value:	100 %	on September 11 at hour 2	Hours in Service:	720
Maximum Daily Value:	95.9 %	on September 30	Hours of Data:	720
Minimum Hourly Value:	28 %	on September 2 at hour 15	Hours of Missing Data:	0
Minimum Daily Value:	54.7 %	on September 24	Hours of Calibration:	0
Monthly Average:	72.4 %		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	
Sep 1	86	83	70	79	80	72	69	63	51	39	39	44	44	45	49	51	49	49	53	60	67	76	80	83	39	86	61.7	
Sep 2	87	88	90	92	96	93	88	82	69	61	46	40	39	34	30	28	28	30	46	65	70	79	82	84	28	96	64.5	
Sep 3	67	47	46	57	78	83	83	69	55	53	50	48	45	40	38	38	45	53	65	78	86	89	89	90	38	90	62.2	
Sep 4	90	95	96	99	99	99	98	88	67	48	43	41	39	37	39	37	38	43	53	64	64	72	74	74	37	99	66.5	
Sep 5	81	71	78	77	75	68	65	63	63	59	58	64	78	89	90	83	75	70	66	74	74	73	67	64	58	90	71.9	
Sep 6	58	59	60	65	72	77	76	71	65	58	50	42	37	34	31	29	28	31	36	57	70	76	78	84	28	84	56.0	
Sep 7	86	87	87	88	94	96	94	87	64	44	42	51	52	51	67	85	86	87	86	92	83	79	82	76	42	96	76.9	
Sep 8	76	82	86	87	89	91	94	87	73	69	59	58	67	70	59	77	79	68	88	95	95	92	94	96	58	96	80.5	
Sep 9	95	96	98	97	97	96	95	91	83	74	65	58	51	47	44	41	41	42	48	66	69	71	77	80	41	98	71.8	
Sep 10	79	82	85	81	82	78	76	67	56	53	47	42	36	35	35	36	36	40	51	62	70	80	89	94	35	94	62.2	
Sep 11	97	99	100	100	100	100	100	90	77	64	50	44	42	38	34	31	29	35	55	63	62	66	70	72	29	100	67.4	
Sep 12	77	72	70	76	81	89	92	78	62	45	38	35	32	29	29	30	32	40	53	53	62	73	75	75	29	92	58.3	
Sep 13	81	83	83	71	61	64	61	72	87	89	78	78	83	76	74	75	77	82	91	86	78	72	72	72	61	91	76.9	
Sep 14	74	77	79	86	95	99	100	92	76	69	64	59	54	53	51	49	51	56	73	88	95	99	100	100	49	100	76.6	
Sep 15	100	100	100	100	100	100	100	100	100	89	74	66	59	58	56	55	57	56	60	69	74	74	75	80	86	55	100	78.7
Sep 16	90	91	93	95	95	97	97	96	94	92	90	89	87	86	84	86	85	88	92	93	98	100	100	100	84	100	92.4	
Sep 17	100	100	100	100	100	100	100	98	94	92	92	94	96	91	90	89	90	91	96	95	95	96	98	99	89	100	95.7	
Sep 18	100	100	100	100	100	100	100	98	98	96	94	93	99	100	94	83	80	81	85	89	96	100	100	100	100	80	100	95.3
Sep 19	100	100	100	100	100	100	100	100	100	95	86	85	83	85	88	85	85	87	88	91	94	92	95	91	83	100	92.9	
Sep 20	89	88	87	96	94	90	87	86	80	74	66	59	51	47	45	41	41	45	60	79	85	92	98	100	41	100	74.2	
Sep 21	100	100	100	100	100	100	100	93	71	62	53	43	36	34	34	32	31	35	46	48	51	55	55	53	31	100	63.8	
Sep 22	53	52	59	61	65	68	71	60	57	51	44	39	37	35	34	33	34	41	66	75	77	67	65	69	33	77	54.7	
Sep 23	73	75	81	85	86	90	92	81	68	55	51	46	38	39	36	31	30	35	47	57	62	61	63	60	30	92	60.1	
Sep 24	55	56	70	78	72	74	70	62	53	46	44	42	39	37	34	34	36	43	49	57	60	62	67	34	78	54.7		
Sep 25	73	80	83	85	87	88	91	85	75	67	64	60	52	45	36	36	37	41	51	57	66	71	82	84	36	91	66.5	
Sep 26	83	93	96	98	99	99	100	92	81	68	49	39	36	36	35	34	39	46	51	53	55	52	63	62	34	100	65.0	
Sep 27	62	63	79	82	89	93	91	77	64	62	62	66	69	65	53	45	47	53	72	78	86	89	94	98	45	98	72.5	
Sep 28	98	100	100	100	100	100	100	98	86	68	56	48	46	38	34	31	30	46	68	82	88	93	98	99	30	100	75.3	
Sep 29	100	100	98	97	99	99	94	86	82	76	71	69	66	65	63	64	69	75	79	82	85	88	89	88	63	100	82.7	
Sep 30	89	89	90	89	90	90	91	92	99	100	100	100	100	99	97	96	96	96	99	100	100	100	100	100	89	100	95.9	
Diurnal Maximum	100	100	100	100	100	100	100	100	100	100	100	100	100	99	97	96	96	96	99	100	100	100	100	100				
Diurnal Average	83.3	83.6	85.5	87.4	89.2	89.7	89.2	83.7	74.9	66.9	60.6	58.1	56.5	54.4	52.5	52.1	52.6	56.2	66.0	73.7	77.3	79.6	82.4	83.3				

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

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

Timeseries Chart of Hourly Average for RH - Tamarack Station





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Station - September 2022

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

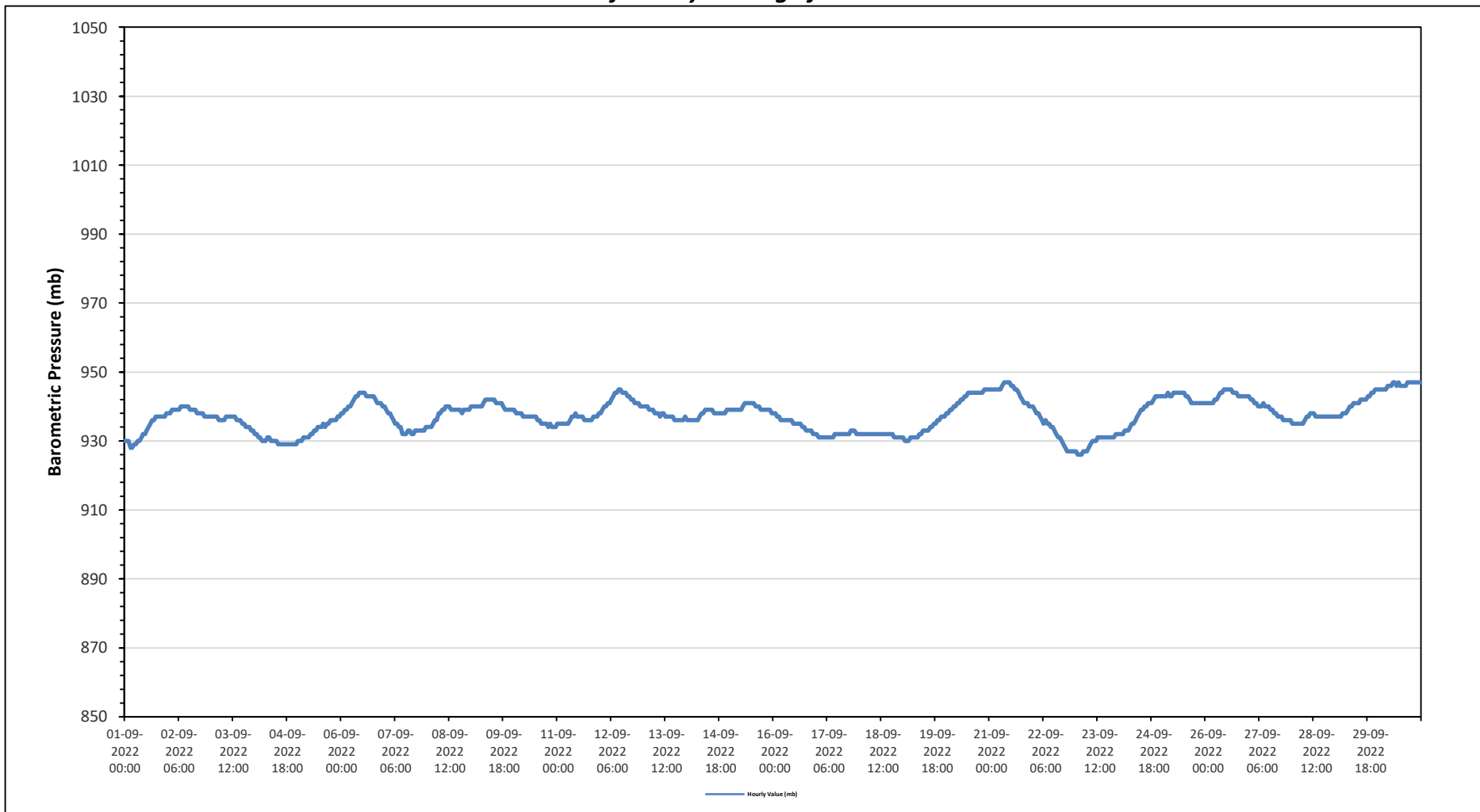
Maximum Hourly Value:	947 mb on September 21 at hour 8	Hours in Service:	720
Maximum Daily Value:	946 mb on September 30	Hours of Data:	720
Minimum Hourly Value:	926 mb on September 23 at hour 1	Hours of Missing Data:	0
Minimum Daily Value:	929 mb on September 23	Hours of Calibration:	0
Monthly Average:	937 mb	Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Sep 1	930	930	930	928	928	929	929	930	930	931	932	932	933	934	935	936	936	937	937	937	937	937	938	928	938	933.0		
Sep 2	938	938	939	939	939	939	939	940	940	940	940	940	939	939	939	939	938	938	938	938	937	937	937	937	937	940	938.6	
Sep 3	937	937	937	937	936	936	936	936	937	937	937	937	937	937	936	936	936	935	935	934	934	934	933	933	933	937	935.8	
Sep 4	932	932	931	931	930	930	930	931	931	930	930	930	929	929	929	929	929	929	929	929	929	929	929	929	929	929	929.9	
Sep 5	930	930	930	931	931	931	931	932	932	933	933	934	934	934	935	934	935	935	936	936	936	936	936	937	937	937	933.5	
Sep 6	938	938	939	939	940	940	941	942	943	943	944	944	944	944	943	943	943	943	943	942	941	941	941	940	938	944	941.6	
Sep 7	940	939	938	938	937	936	935	935	934	934	932	932	933	933	932	932	933	933	933	933	933	933	933	934	932	940	934.3	
Sep 8	934	934	934	935	936	936	938	938	939	939	940	940	939	939	939	939	939	939	939	938	939	939	939	939	934	940	938.0	
Sep 9	940	940	940	940	940	940	940	941	942	942	942	942	942	941	941	941	941	941	940	939	939	939	939	939	939	942	940.5	
Sep 10	939	938	938	938	938	937	937	937	937	937	937	936	936	935	935	935	935	935	934	935	934	934	934	934	939	939	936.3	
Sep 11	935	935	935	935	935	935	935	936	937	937	938	937	937	937	936	936	936	936	936	937	937	937	938	935	938	936.3		
Sep 12	938	939	940	940	941	941	942	943	944	944	945	945	944	944	944	943	943	942	942	941	941	941	940	940	938	945	942.0	
Sep 13	940	940	940	939	939	939	938	938	938	937	938	938	937	937	937	937	937	936	936	936	936	936	936	937	936	940	937.6	
Sep 14	936	936	936	936	936	936	936	936	937	938	938	939	939	939	939	938	938	938	938	938	938	938	938	939	939	939	937.7	
Sep 15	939	939	939	939	939	939	939	940	941	941	941	941	941	941	940	940	940	939	939	939	939	939	939	938	938	941	939.6	
Sep 16	938	938	937	937	936	936	936	936	936	936	936	936	935	935	935	935	934	934	933	933	933	933	933	932	932	938	935.0	
Sep 17	932	931	931	931	931	931	931	931	931	931	932	932	932	932	932	932	932	932	932	933	933	933	932	932	931	933	931.8	
Sep 18	932	932	932	932	932	932	932	932	932	932	932	932	932	932	932	932	932	932	931	931	931	931	931	931	931	932	931.8	
Sep 19	931	930	930	930	931	931	931	931	931	931	932	932	933	933	933	933	934	934	935	935	936	936	937	937	930	937	933.0	
Sep 20	938	938	939	939	940	940	941	941	942	942	943	943	944	944	944	944	944	944	944	944	944	944	945	945	945	938	945	942.4
Sep 21	945	945	945	945	945	945	945	946	947	947	947	947	946	946	945	945	944	943	942	941	941	941	940	940	940	947	944.3	
Sep 22	940	939	938	938	937	936	935	936	935	935	934	934	933	932	931	930	929	928	927	927	927	927	927	927	927	940	932.8	
Sep 23	927	926	926	926	927	927	927	928	929	930	930	930	931	931	931	931	931	931	931	931	931	931	932	932	926	932	929.5	
Sep 24	932	932	932	933	933	933	934	935	935	936	937	938	939	939	940	940	941	941	941	942	943	943	943	943	932	943	937.7	
Sep 25	943	943	943	944	943	943	944	944	944	944	944	944	943	943	942	941	941	941	941	941	941	941	941	941	941	944	942.6	
Sep 26	941	941	941	941	941	942	942	944	944	944	945	945	945	945	944	944	944	943	943	943	943	943	943	943	941	945	943.1	
Sep 27	943	942	942	941	941	940	940	940	941	940	940	940	939	939	938	938	937	937	937	936	936	936	936	936	936	943	939.0	
Sep 28	935	935	935	935	935	935	935	936	937	937	938	938	938	937	937	937	937	937	937	937	937	937	937	937	935	938	936.5	
Sep 29	937	937	937	937	938	938	938	939	940	940	941	941	941	941	942	942	942	943	943	944	944	945	945	937	945	940.7		
Sep 30	945	945	945	945	945	946	946	946	947	947	946	946	946	946	946	947	947	947	947	947	947	947	947	947	945	947	946.3	
Diurnal Maximum	945	945	945	945	945	946	946	946	947	947	947	947	946	946	946	947	947	947	947	947	947	947	947	947	947	947	947	
Diurnal Average	937	937	937	937	937	937	937	937	937	938	938	938	938	938	938	938	938	938	937	937	937	937	937	937	937	937	937	

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

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

Timeseries Chart of Hourly Average for BP - Tamarack Station





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Station - September 2022

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

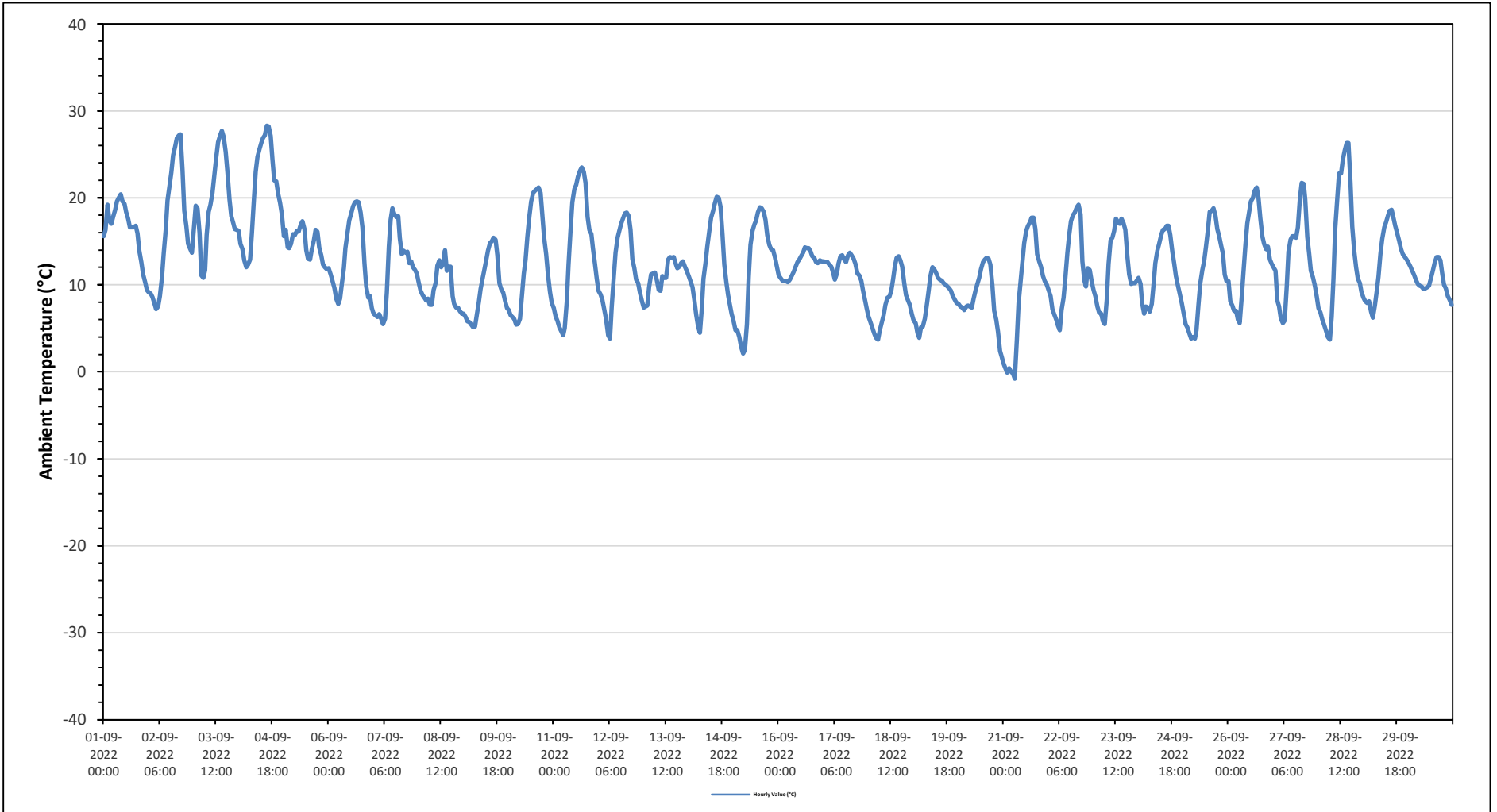
Maximum Hourly Value:	28.3 °C	on September 4 at hour 15	Hours in Service:	720
Maximum Daily Value:	20.6 °C	on September 4	Hours of Data:	720
Minimum Hourly Value:	-0.8 °C	on September 21 at hour 6	Hours of Missing Data:	0
Minimum Daily Value:	8.2 °C	on September 18	Hours of Calibration:	0
Monthly Average:	12.5 °C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Sep 1	15.6	16.3	19.2	17.4	17	17.8	18.6	19.6	20	20.4	19.6	19.3	18.4	17.6	16.6	16.6	16.6	16.8	15.9	13.9	12.6	11.2	10.3	9.4	9.4	20.4	16.5
Sep 2	9.1	9	8.6	7.9	7.2	7.5	8.7	10.8	13.6	16.3	19.7	21.4	22.9	24.9	25.9	26.9	27.2	27.3	23.2	18.5	16.8	14.7	14.2	13.7	7.2	27.3	16.5
Sep 3	16.2	19.1	18.8	16	11.1	10.8	11.7	15.7	18.4	19.2	20.6	22.5	24.7	26.4	27.2	27.7	27	25.3	22.9	19.8	17.9	17.1	16.4	16.3	10.8	27.7	19.5
Sep 4	16.2	14.7	14.1	12.8	12	12.3	12.9	15.9	19.8	23	24.7	25.6	26.3	26.9	27.2	28.3	28.2	27.1	24.4	22	21.9	20.5	19.4	18.1	12.0	28.3	20.6
Sep 5	15.6	16.3	14.3	14.2	14.7	15.8	15.7	16.2	16.1	16.9	17.3	16.4	14	13	12.9	14.1	15.1	16.3	16.1	14.3	13.4	12.3	12	11.8	11.8	17.3	14.8
Sep 6	11.9	11.2	10.5	9.6	8.4	7.8	8.4	10.1	11.9	14.2	15.9	17.4	18.2	19	19.5	19.6	19.5	18.3	16.6	12.5	9.8	8.5	8.7	7.3	7.3	19.6	13.1
Sep 7	6.7	6.5	6.3	6.6	6.1	5.5	6.1	9.1	14.4	17.5	18.8	18.1	17.8	17.9	15.4	13.5	13.9	13.7	13.8	12.5	12.7	12	11.7	11.3	5.5	18.8	12.0
Sep 8	10.2	9.3	8.8	8.5	8.2	8.4	7.7	7.7	9.4	10.2	12.2	12.8	12	12.4	14	11.6	12.1	12.1	8.7	7.8	7.4	7.4	7	6.7	6.7	14.0	9.7
Sep 9	6.7	6.3	5.8	5.7	5.4	5.1	5.2	6.5	8	9.5	10.6	11.6	12.8	13.9	14.8	15	15.4	15.2	13.4	10.2	9.5	9.1	8.2	7.3	5.1	15.4	9.6
Sep 10	7.1	6.5	6.3	6.1	5.4	5.5	6.1	8.5	11.3	12.9	15.5	17.9	19.6	20.6	20.8	21	21.2	20.6	18	15.4	13.5	11.2	9.2	7.9	5.4	21.2	12.8
Sep 11	7.3	6.4	5.8	5.1	4.7	4.2	5	8	12.3	16.3	19.5	21	21.5	22.4	23.1	23.5	23	21.7	17.8	16.3	15.8	14.2	12.4	10.7	4.2	23.5	14.1
Sep 12	9.3	8.9	8.3	7.1	6	4.2	3.8	7.5	10.9	13.7	15.4	16.1	17	17.6	18.2	18.3	17.9	16.3	13	11.9	10.6	10.2	9.1	8.1	3.8	18.3	11.6
Sep 13	7.4	7.5	7.6	9.7	11.2	11.3	11.4	10.6	9.4	9.3	11	10.8	10.8	12.9	13.2	13.1	13.2	12.5	11.9	12.1	12.5	12.7	12.1	11.6	7.4	13.2	11.1
Sep 14	11	10.4	9.7	8.3	6.6	5.2	4.5	7.1	10.7	12.5	14.4	16.2	17.7	18.5	19.4	20.1	20	19	15.7	12.3	10.3	8.8	7.7	6.6	4.5	20.1	12.2
Sep 15	5.9	4.8	4.8	4	2.9	2.1	2.5	5.5	10.9	14.6	16.2	16.9	17.4	18.3	18.9	18.8	18.4	17.5	15.7	14.6	14.1	14	13.2	12.1	2.1	18.9	11.8
Sep 16	11.1	10.8	10.5	10.4	10.4	10.3	10.6	11	11.5	12	12.6	12.9	13.3	13.7	14.3	14.2	14.2	13.8	13.3	13.1	12.6	12.5	12.8	12.7	10.3	14.3	12.3
Sep 17	12.7	12.6	12.6	12.3	12.1	11.4	10.6	11.3	12.4	13.3	13.4	12.9	12.6	13.4	13.7	13.4	13	12.4	11.3	11.1	10.5	9.3	8.2	7.3	7.3	13.7	11.8
Sep 18	6.4	5.7	5.1	4.4	3.9	3.7	4.8	5.7	6.5	7.7	8.5	8.6	9.3	10.6	12.1	13.1	13.3	12.8	12.1	10.2	8.8	8.2	7.7	6.6	3.7	13.3	8.2
Sep 19	5.9	5.6	4.5	3.9	5.1	5.2	6.1	7.5	9.3	11	12	11.8	11.4	10.8	10.6	10.5	10.2	10	9.8	9.6	9.3	8.7	8.3	7.9	3.9	12.0	8.5
Sep 20	7.8	7.5	7.4	7.1	7.5	7.6	7.5	7.4	8.4	9.4	10	10.8	11.8	12.6	12.9	13.1	13	12.3	9.9	7	6	4.6	2.4	1.7	1.7	13.1	8.6
Sep 21	1	0.4	-0.1	0.4	0	-0.2	-0.8	3.6	7.9	10.1	12.6	14.8	16.2	16.8	17.2	17.7	17.7	16.4	13.5	12.7	12.1	11	10.4	10	-0.8	17.7	9.2
Sep 22	9.4	8.7	7.2	6.6	6	5.3	4.8	7.1	8.5	10.8	13.7	15.7	17.3	18	18.3	18.9	19.2	18.1	12.7	10.5	9.8	11.9	11.7	10.5	4.8	19.2	11.7
Sep 23	9.4	8.7	7.5	6.8	6.7	5.8	5.5	8.3	12.4	15.1	15.4	16.2	17.6	17.2	17	17.6	17.1	16.3	13.3	11.2	10.1	10.2	10.2	10.5	5.5	17.6	11.9
Sep 24	10.8	10.1	7.9	6.7	7.5	7.4	6.9	7.8	10	12.5	13.9	14.7	15.7	16.3	16.4	16.8	16.8	15.7	13.8	12.5	11	9.9	9	7.9	6.7	16.8	11.6
Sep 25	6.8	5.5	5.1	4.5	3.8	4	3.8	4.8	7.8	10.2	11.7	12.7	14.3	16.3	18.4	18.5	18.8	17.9	16.4	15.5	14.5	13.6	11.2	10.4	3.8	18.8	11.1
Sep 26	10.4	8.1	7.6	7	7	6	5.6	8.6	11.5	14.7	17.1	18.5	19.6	20	20.8	21.2	20	17.7	15.6	14.7	14.1	14.4	12.9	12.4	5.6	21.2	13.6
Sep 27	12	11.6	8.2	7.5	6.1	5.6	5.9	9.7	13.8	15.2	15.6	15.6	15.4	16.6	19.9	21.7	21.6	19.8	15.5	13.7	11.6	10.9	10	8.7	5.6	21.7	13.0
Sep 28	7.3	6.8	6	5.4	4.7	4	3.7	6.3	10.7	16.5	19.9	22.8	22.8	24.4	25.4	26.3	26.3	21.8	16.7	13.8	12	10.7	10.2	9.2	3.7	26.3	13.9
Sep 29	8.5	8.1	7.9	8.1	6.9	6.2	7.6	9.2	10.9	13.6	15.3	16.6	17.2	17.9	18.5	18.6	17.7	16.8	15.9	15.1	14.1	13.5	13.2	12.9	6.2	18.6	12.9
Sep 30	12.5	12.1	11.6	11.1	10.6	10.1	9.9	9.8	9.5	9.6	9.7	9.9	10.8	11.6	12.6	13.2	13.2	12.8	11.3	10	9.6	8.7	8.3	7.7	7.7	13.2	10.7
Diurnal Maximum	16.2	19.1	19.2	17.4	17.0	17.8	18.6	19.6	20.0	23.0	24.7	25.6	26.3	26.9	27.2	28.3	28.2	27.3	24.4	22.0	21.9	20.5	19.4	18.1			
Diurnal Average	9.6	9.2	8.6	8.0	7.5	7.2	7.4	9.2	11.6	13.6	15.1	16.0	16.5	17.3	17.8	18.1	18.0	17.1	14.9	13.2	12.2	11.4	10.6	9.8			

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

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

Timeseries Chart of Hourly Average for AT - Tamarack Station





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Station - September 2022

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

Maximum Hourly Value:	41.6 °C	on September 23 at hour 18	Hours in Service:	720
Maximum Daily Value:	26.8 °C	on September 23	Hours of Data:	720
Minimum Hourly Value:	20.4 °C	on September 20 at hour 18	Hours of Missing Data:	0
Minimum Daily Value:	20.7 °C	on September 20	Hours of Calibration:	0
Monthly Average:	22.0 °C		Operational Uptime:	100.0

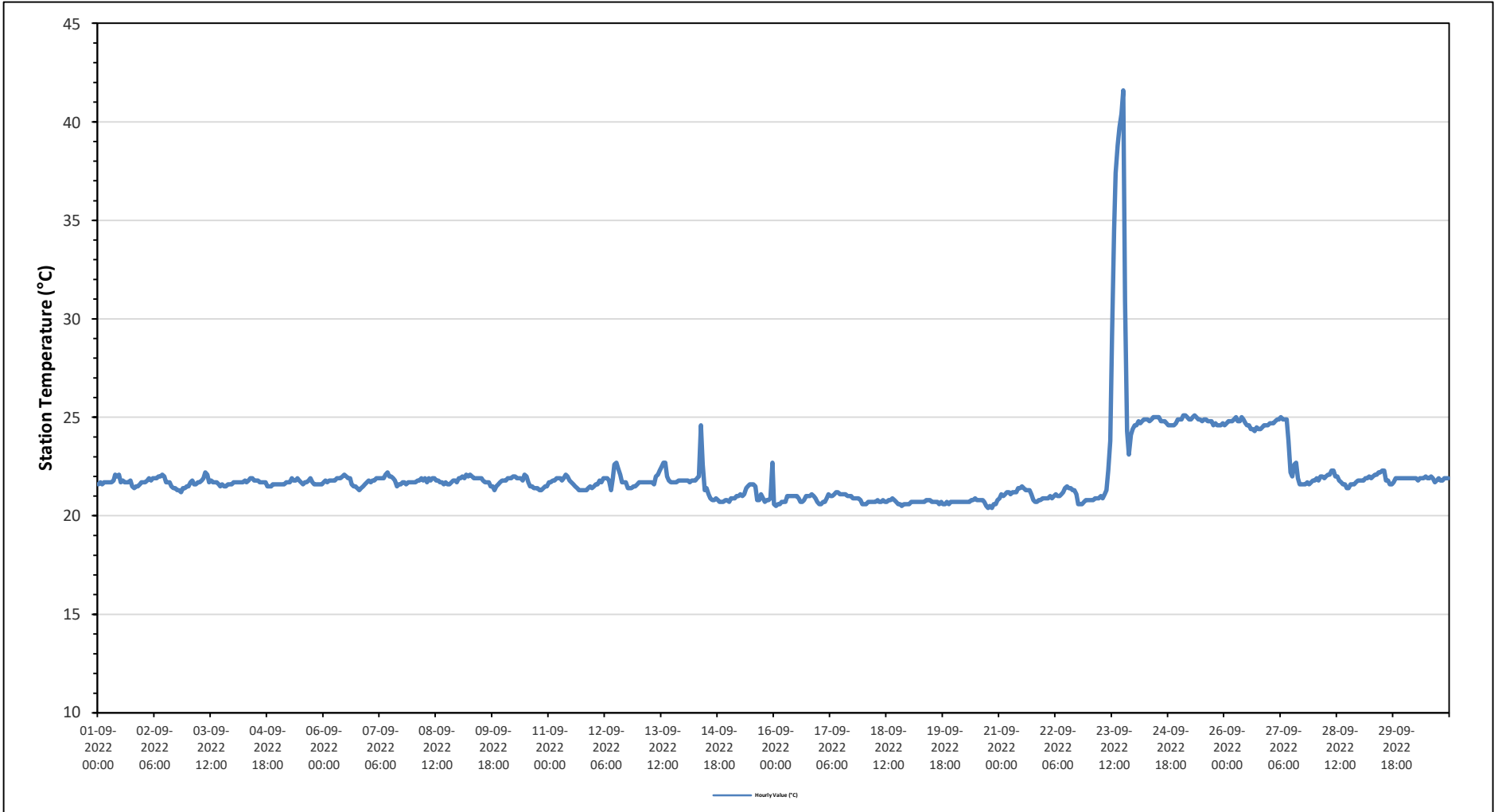
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Sep 1	21.6	21.7	21.6	21.7	21.7	21.7	21.7	21.7	21.8	22.1	22.0	22.1	21.7	21.8	21.7	21.7	21.7	21.8	21.5	21.4	21.5	21.5	21.6	21.7	21.4	22.1	21.7
Sep 2	21.7	21.7	21.8	21.9	21.8	21.9	21.9	21.9	22.0	22.0	22.1	22.0	21.7	21.7	21.7	21.5	21.4	21.4	21.3	21.3	21.2	21.4	21.4	21.5	21.2	22.1	21.7
Sep 3	21.5	21.7	21.8	21.6	21.6	21.7	21.7	21.8	21.8	21.9	22.2	22.1	21.7	21.8	21.7	21.7	21.6	21.5	21.6	21.5	21.5	21.6	21.6	21.6	21.5	22.2	21.7
Sep 4	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.8	21.7	21.8	21.9	21.9	21.8	21.8	21.8	21.7	21.7	21.7	21.5	21.5	21.5	21.6	21.6	21.6	21.5	21.9	21.7
Sep 5	21.6	21.6	21.6	21.6	21.7	21.7	21.7	21.9	21.8	21.8	21.9	21.8	21.7	21.6	21.7	21.7	21.8	21.9	21.7	21.6	21.6	21.6	21.6	21.6	21.6	21.9	21.7
Sep 6	21.7	21.8	21.7	21.8	21.8	21.8	21.8	21.9	21.9	21.9	22.0	22.1	22.0	21.9	21.9	21.6	21.5	21.5	21.4	21.3	21.4	21.5	21.6	21.7	21.3	22.1	21.7
Sep 7	21.8	21.7	21.8	21.8	21.9	21.9	21.9	21.9	21.9	22.1	22.2	22.0	22.0	21.9	21.8	21.5	21.6	21.6	21.7	21.7	21.6	21.7	21.7	21.7	21.5	22.2	21.8
Sep 8	21.7	21.7	21.8	21.8	21.9	21.8	21.9	21.7	21.9	21.8	21.9	21.9	21.8	21.8	21.7	21.7	21.6	21.7	21.6	21.6	21.7	21.8	21.8	21.7	21.6	21.9	21.8
Sep 9	21.9	21.9	22.0	21.9	22.1	22.0	22.1	22.0	21.9	21.9	21.9	21.9	21.9	21.8	21.7	21.7	21.7	21.5	21.5	21.3	21.5	21.6	21.7	21.8	21.3	22.1	21.8
Sep 10	21.8	21.8	21.9	21.9	21.9	22.0	22.0	21.9	21.9	21.9	21.8	22.1	22.0	21.7	21.5	21.5	21.4	21.4	21.4	21.3	21.3	21.4	21.5	21.5	21.3	22.1	21.7
Sep 11	21.7	21.7	21.8	21.8	21.9	21.9	21.9	21.8	21.9	22.1	22.0	21.8	21.7	21.6	21.5	21.4	21.3	21.3	21.3	21.3	21.4	21.5	21.4	21.4	21.3	22.1	21.6
Sep 12	21.5	21.6	21.6	21.8	21.7	21.9	21.9	21.9	21.8	21.3	21.9	22.6	22.7	22.4	22.1	21.7	21.7	21.7	21.4	21.4	21.4	21.5	21.5	21.6	21.3	22.7	21.8
Sep 13	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.6	22.0	22.1	22.3	22.5	22.7	22.7	22.0	21.8	21.7	21.7	21.7	21.7	21.8	21.8	21.8	21.6	22.7	21.9
Sep 14	21.8	21.8	21.8	21.7	21.8	21.8	21.8	21.9	22.0	24.6	22.6	21.3	21.4	21.1	20.9	20.8	20.8	20.9	20.8	20.7	20.7	20.7	20.8	20.8	20.7	24.6	21.5
Sep 15	20.7	20.9	20.9	20.9	21.0	21.0	21.1	21.0	21.1	21.4	21.5	21.6	21.6	21.6	21.5	20.8	20.8	21.1	20.9	20.7	20.8	20.8	20.9	22.7	20.7	22.7	21.1
Sep 16	20.6	20.5	20.6	20.6	20.7	20.7	20.7	21.0	21.0	21.0	21.0	21.0	21.0	20.9	20.7	20.7	20.8	21.0	21.0	21.0	21.1	21.0	20.9	20.7	20.5	21.1	20.8
Sep 17	20.6	20.6	20.7	20.7	20.9	21.1	21.0	21.0	21.1	21.2	21.2	21.1	21.1	21.1	21.1	21.0	21.0	20.9	20.9	20.9	20.9	20.9	20.8	20.6	20.6	21.2	20.9
Sep 18	20.6	20.6	20.7	20.7	20.7	20.7	20.7	20.8	20.7	20.7	20.8	20.7	20.7	20.8	20.7	20.8	20.8	20.9	20.8	20.7	20.6	20.6	20.5	20.6	20.5	20.9	20.7
Sep 19	20.6	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.8	20.8	20.8	20.7	20.7	20.7	20.7	20.6	20.7	20.6	20.6	20.6	20.7	20.6	20.7	20.6	20.8	20.7
Sep 20	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.8	20.8	20.9	20.8	20.8	20.8	20.8	20.7	20.5	20.4	20.5	20.4	20.6	20.6	20.8	20.4	20.9	20.7
Sep 21	20.9	21.1	21.0	21.1	21.2	21.2	21.1	21.2	21.2	21.2	21.4	21.4	21.5	21.4	21.3	21.3	21.3	21.1	20.8	20.7	20.7	20.8	20.8	20.9	20.7	21.5	21.1
Sep 22	20.9	20.9	20.9	21.0	20.9	21.0	21.1	21.0	21.0	21.1	21.2	21.4	21.5	21.4	21.4	21.3	21.3	21.1	20.6	20.6	20.6	20.7	20.8	20.8	20.6	21.5	21.0
Sep 23	20.8	20.8	20.8	20.9	20.9	20.9	21.0	20.9	21.1	21.3	22.3	23.8	29.2	34.5	37.4	38.8	39.7	40.4	41.6	30.9	24.3	23.1	24.1	24.4	20.8	41.6	26.8
Sep 24	24.6	24.6	24.8	24.7	24.8	24.9	24.9	24.9	24.8	24.9	25.0	25.0	25.0	25.0	24.8	24.8	24.8	24.7	24.6	24.6	24.6	24.6	24.7	24.9	24.6	25.0	24.8
Sep 25	24.9	24.9	25.1	25.1	25.0	24.9	24.9	25.0	25.1	25.0	24.9	24.9	24.8	24.9	24.8	24.8	24.8	24.6	24.7	24.6	24.6	24.6	24.7	24.6	24.6	25.1	24.9
Sep 26	24.6	24.7	24.8	24.8	24.8	24.9	25.0	24.8	24.8	25.0	24.9	24.7	24.6	24.4	24.4	24.3	24.5	24.4	24.4	24.5	24.6	24.6	24.6	24.6	24.3	25.0	24.7
Sep 27	24.7	24.7	24.7	24.8	24.9	24.9	25.0	24.9	24.9	24.9	23.8	22.2	22.0	22.6	22.7	21.9	21.6	21.6	21.6	21.6	21.7	21.6	21.7	21.8	21.6	25.0	23.2
Sep 28	21.8	21.9	21.8	22.0	22.0	21.9	22.0	22.1	22.1	22.3	22.3	22.0	22.0	21.8	21.7	21.6	21.6	21.4	21.4	21.6	21.6	21.6	21.7	21.8	21.4	22.3	21.8
Sep 29	21.8	21.8	21.8	21.9	21.9	22.0	21.9	22.0	22.1	22.1	22.2	22.2	22.3	22.3	21.8	21.8	21.6	21.6	21.7	21.9	21.9	21.9	21.9	21.9	21.6	22.3	21.9
Sep 30	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.8	21.9	21.9	22.0	21.9	21.9	22.0	21.9	21.7	21.8	21.9	21.8	21.9	21.9	21.9	21.9	21.7	22.0	21.9
Diurnal Maximum	24.9	24.9	25.1	25.1	25.0	24.9	25.0	25.0	25.1	25.0	25.0	25.0	29.2	34.5	37.4	38.8	39.7	40.4	41.6	30.9	24.6	24.6	24.7	24.9			
Diurnal Average	21.8	21.8	21.9	21.9	21.9	22.0	22.0	22.0	22.0	22.2	22.1	22.1	22.2	22.4	22.3	22.3	22.3	22.3	22.3	21.9	21.7	21.7	21.8	21.9			

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

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

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

Timeseries Chart of Hourly Average for ST - Tamarack Station





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Station - September 2022

Summary of Hourly Averages

PRECIPITATION in mm

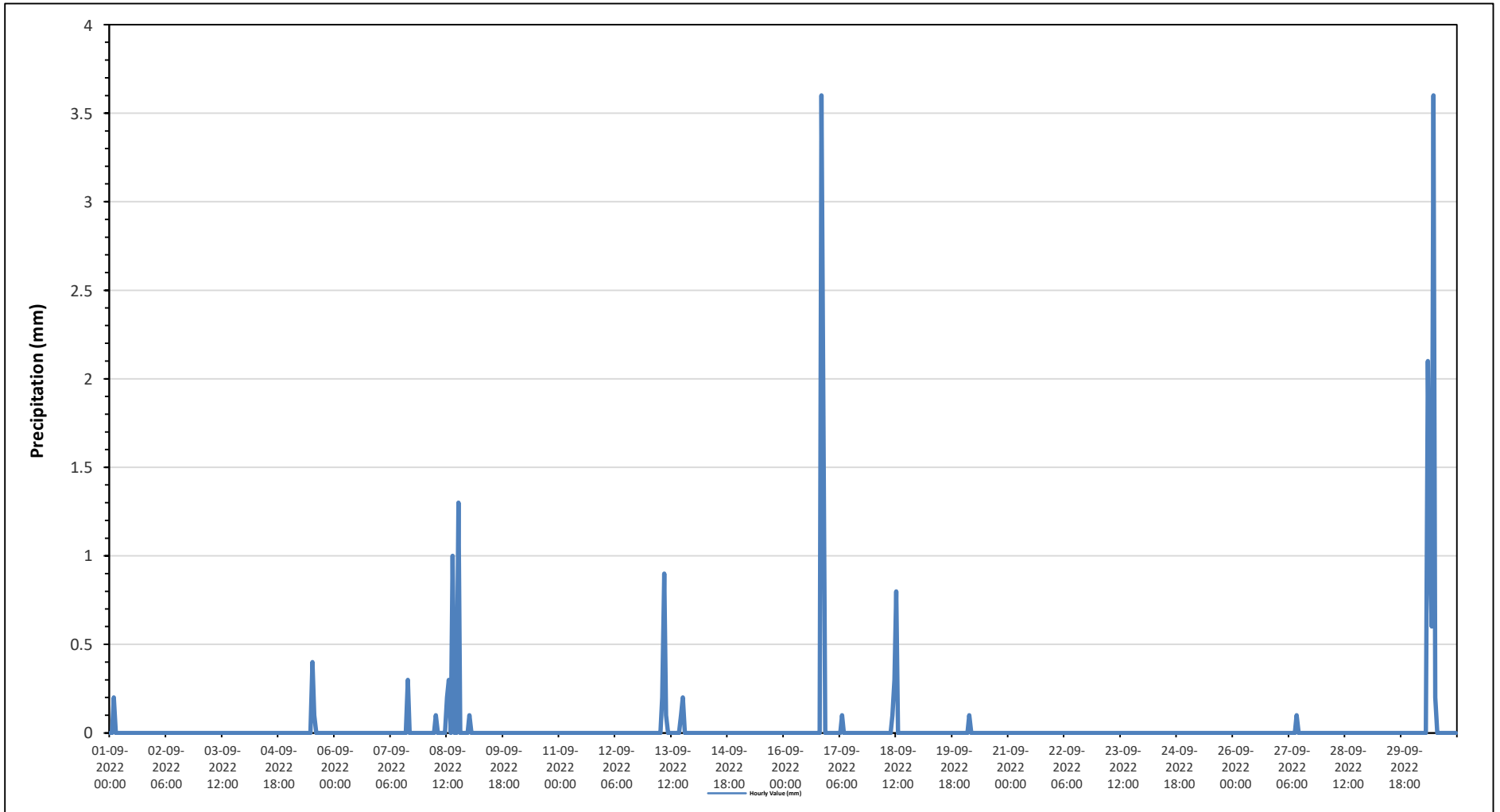
Maximum Hourly Value:	3.6 mm on September 16 at hour 20	Hours in Service:	720
Maximum Daily Value:	0.3 mm on September 30	Hours of Data:	720
Minimum Hourly Value:	0.0 mm on September 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.0 mm on September 2	Hours of Calibration:	0
Monthly Total:	19.9 mm	Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Total	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23				
Sep 1	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2	0.0
Sep 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 5	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.1	0	0	0	0	0	0	0	0	0	0	0	0.0	0.4	0.0
Sep 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0	0	0	0	0	0	0	0	0.0	0.3	0.0
Sep 8	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0.2	0.3	0	1	0	0	1.3	0	0	0	0	0	0.0	1.3	0.1
Sep 9	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	0.0
Sep 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 13	0	0	0	0	0	0	0	0.2	0.9	0.1	0	0	0	0	0	0	0	0	0.1	0.2	0	0	0	0	0	0.0	0.9	0.1
Sep 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.6	1.7	0	0	0.0	3.6	0.2
Sep 17	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	0.1	0.0
Sep 18	0	0	0	0	0	0	0	0	0	0	0.1	0.3	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.8	0.1
Sep 19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 20	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	0.0
Sep 21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 27	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	0.1	0.0
Sep 28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Sep 30	0	0	0	0	0	0	0	0	2.1	1.1	0.6	3.6	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0.0	3.6	0.3
Diurnal Maximum	0.1	0.0	0.2	0.1	0.0	0.0	0.1	0.2	2.1	1.1	0.6	3.6	0.8	0.3	0.0	1.0	0.0	0.1	1.3	0.0	3.6	1.7	0.0	0.0				
Diurnal Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0				

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

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

Timeseries Chart of Hourly Average for Precipitation - Tamarack Station





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Station - September 2022

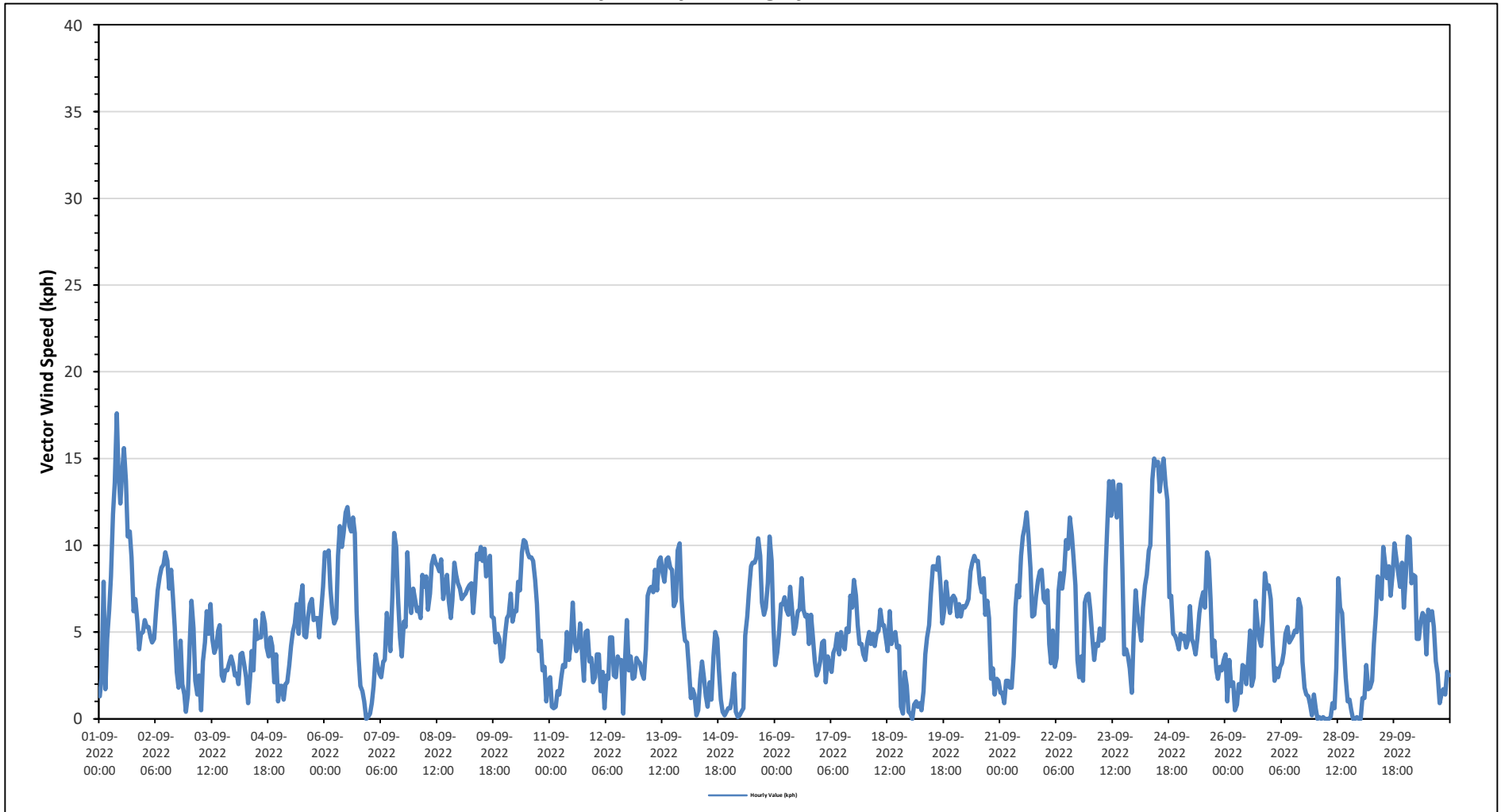
Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

Maximum Hourly Value:	17.6 kph	on September 1 at hour 9	Hours in Service:	720
Maximum Daily Value:	8.9 kph	on September 24	Hours of Data:	720
Minimum Hourly Value:	0.0 kph	on September 6 at hour 22	Hours of Missing Data:	0
Minimum Daily Value:	1.1 kph	on September 14	Hours of Calibration:	0
Monthly Average:	1.5 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								
Sep 1	1.3	2.4	7.9	1.7	4.6	6.3	8.2	11.8	13.6	17.6	14.4	12.4	14.2	15.6	13.7	10.5	10.8	9.3	6.2	6.9	5.6	4.0	4.9	5.0	1.3	17.6	7.8								
Sep 2	5.7	5.3	5.3	4.7	4.4	4.6	6.1	7.4	8.2	8.7	8.9	9.6	9.1	7.5	8.6	7.0	5.3	2.7	1.8	4.5	2.0	1.4	0.4	1.4	0.4	9.6	4.7								
Sep 3	4.3	6.8	5.2	2.2	1.4	2.5	0.5	3.3	4.4	6.2	4.9	6.6	4.6	3.8	4.1	5.1	5.4	2.5	2.2	2.8	2.8	3.2	3.6	3.2	0.5	6.8	2.5								
Sep 4	2.5	2.6	2.0	3.7	3.8	3.1	2.4	0.9	2.2	3.9	2.8	5.7	4.6	4.7	4.7	6.1	5.5	4.1	3.6	4.7	4.2	2.1	3.7	1.0	0.9	6.1	1.3								
Sep 5	1.9	1.9	1.1	2.0	2.1	3.1	4.2	5.0	5.5	6.6	4.9	6.8	7.7	4.8	4.7	5.9	6.6	6.9	5.7	5.8	5.8	4.7	6.1	7.6	1.1	7.7	3.8								
Sep 6	9.6	9.4	9.7	7.5	6.1	5.5	5.8	9.4	11.1	9.9	10.7	11.9	12.2	11.1	10.8	11.6	10.7	6.2	3.5	1.9	1.6	1.0	0.0	0.1	0.0	12.2	7.2								
Sep 7	0.3	0.9	1.9	3.7	3.1	2.6	2.4	3.3	3.4	6.1	5.0	3.9	7.1	10.7	9.9	7.0	4.7	3.6	5.6	5.3	9.6	7.1	6.1	7.5	0.3	10.7	1.8								
Sep 8	6.9	6.2	6.4	5.8	8.3	7.6	8.2	6.3	7.2	8.9	9.4	9.0	8.8	8.5	9.2	6.9	7.6	8.3	6.8	5.8	6.8	9.0	8.3	7.8	5.8	9.4	7.1								
Sep 9	7.5	6.9	7.1	7.2	7.5	7.7	7.8	6.1	7.4	9.5	9.2	9.9	9.1	9.8	8.2	8.5	9.4	5.9	5.8	4.4	4.9	4.6	3.3	3.5	3.3	9.9	6.2								
Sep 10	4.9	5.8	6.0	7.2	5.6	6.2	6.2	7.9	7.4	9.6	10.3	10.2	9.6	9.3	9.3	9.1	8.0	6.6	3.9	4.5	2.8	3.0	1.0	2.2	1.0	10.3	6.2								
Sep 11	2.4	0.7	0.6	0.7	1.6	1.4	2.4	3.1	3.0	5.0	3.4	4.3	6.7	4.6	3.9	4.2	5.5	3.7	2.2	5.0	5.1	3.3	3.5	2.1	0.6	6.7	2.5								
Sep 12	2.4	3.7	3.7	1.6	2.7	0.6	2.5	2.3	4.7	4.7	2.5	2.4	3.6	3.3	3.4	0.3	3.4	5.7	2.8	3.6	2.3	2.4	3.5	3.3	0.3	5.7	1.6								
Sep 13	3.2	2.6	2.3	4.0	7.1	7.5	7.6	7.3	8.6	7.4	9.1	9.3	8.4	7.9	9.2	9.3	8.7	8.6	6.5	6.8	9.7	10.1	7.0	5.3	2.3	10.1	6.7								
Sep 14	4.5	4.4	3.0	1.2	1.7	1.4	0.2	0.5	2.3	3.3	2.3	1.3	0.7	2.1	1.1	3.6	5.0	4.6	2.9	1.1	0.4	0.2	0.4	0.6	0.2	5.0	1.1								
Sep 15	0.6	1.2	2.6	0.4	0.1	0.2	0.4	0.6	4.8	5.9	7.4	8.8	9.0	9.0	9.3	10.4	9.4	6.7	6.0	6.4	7.8	10.5	9.1	5.4	0.1	10.5	5.3								
Sep 16	3.1	3.8	4.9	6.6	6.6	7.0	6.3	6.0	7.6	6.4	4.9	5.3	6.2	6.3	8.1	6.3	5.9	6.0	4.3	6.0	4.8	3.3	2.5	2.8	2.5	8.1	5.0								
Sep 17	3.3	4.4	4.5	2.1	3.6	3.1	2.7	3.8	4.1	4.9	3.7	5.0	4.4	4.0	5.2	5.0	7.1	6.4	8.0	7.1	5.4	4.3	4.3	3.7	2.1	8.0	2.6								
Sep 18	3.4	4.4	5.0	4.3	4.9	4.2	4.9	5.1	6.3	5.4	5.4	4.6	3.9	6.2	4.3	4.8	5.0	4.1	4.2	0.7	0.3	2.7	1.9	0.4	0.3	6.3	3.7								
Sep 19	0.3	0.0	0.8	1.0	0.7	0.9	0.5	1.6	3.7	4.7	5.4	7.2	8.8	8.8	8.6	9.3	7.7	5.5	6.2	7.9	6.9	6.1	6.9	7.1	0.0	9.3	4.4								
Sep 20	6.9	5.9	6.6	5.9	6.5	6.4	6.6	6.9	8.5	9.0	9.4	9.1	9.1	7.8	7.3	8.1	6.0	6.8	5.8	2.3	2.9	1.4	2.3	2.2	1.4	9.4	5.4								
Sep 21	1.5	1.5	0.9	2.2	2.2	1.8	1.8	3.6	6.4	7.7	7.0	9.4	10.5	11.1	11.9	10.6	8.7	5.9	6.0	7.1	8.0	8.5	8.6	6.9	0.9	11.9	6.0								
Sep 22	6.7	7.4	4.3	3.2	5.1	3.0	3.5	7.4	8.4	7.5	8.5	10.3	9.8	11.6	10.6	9.2	7.7	3.4	2.4	3.6	2.2	6.7	7.1	7.2	2.2	11.6	6.4								
Sep 23	6.2	4.6	3.4	4.3	4.2	5.2	4.5	4.6	8.7	11.3	13.7	11.7	13.7	12.3	11.6	13.5	13.5	8.6	3.7	4.0	3.6	2.9	1.5	4.7	1.5	13.7	6.4								
Sep 24	7.4	6.1	5.3	4.5	6.4	7.7	8.3	9.7	10.0	13.8	15.0	14.6	14.8	13.1	14.3	15.0	13.5	12.6	7.0	7.1	4.9	4.8	4.5	4.0	4.0	15.0	8.9								
Sep 25	4.9	4.6	4.8	4.1	4.5	6.5	4.6	4.3	3.7	4.6	6.1	6.8	7.3	6.4	9.6	9.2	6.9	3.6	4.5	2.8	2.3	3.0	2.8	3.4	2.3	9.6	4.3								
Sep 26	3.7	1.0	3.4	1.9	2.1	0.5	0.8	2.0	1.5	3.1	3.0	2.0	3.3	5.1	1.9	2.4	6.8	5.5	4.6	4.2	5.7	8.4	7.5	7.7	0.5	8.4	1.4								
Sep 27	6.9	4.5	2.2	2.9	2.4	3.0	3.2	3.8	4.9	5.3	4.4	4.6	4.8	5.1	5.0	6.9	6.4	3.3	1.8	1.4	1.3	0.8	0.2	1.4	0.2	6.9	2.8								
Sep 28	0.6	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.9	0.6	2.9	8.1	6.4	6.1	4.2	2.4	1.0	1.1	0.5	0.0	0.0	0.1	0.0	0.0	8.1	1.3								
Sep 29	0.0	1.2	1.2	3.1	1.7	1.8	2.2	4.3	6.0	8.2	7.5	6.9	9.9	9.0	8.1	8.8	7.1	8.4	10.1	9.3	8.4	7.6	9.0	6.4	0.0	10.1	6.0								
Sep 30	8.3	10.5	10.4	7.8	8.3	8.2	4.6	4.6	5.6	6.1	5.9	3.7	6.3	5.7	6.2	5.3	3.3	2.6	0.9	1.4	1.7	1.4	2.7	2.5	0.9	10.5	4.6								
Diurnal Maximum	10	11	10	8	8	8	8	12	14	18	15	15	15	16	14	15	14	13	10	9	10	11	9	8											
Diurnal Average	4.0	4.0	4.1	3.6	4.0	4.0	4.0	4.8	6.0	7.1	6.9	7.2	7.9	7.7	7.6	7.5	7.1	5.6	4.5	4.5	4.3	4.3	4.1	3.9											
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.																																			

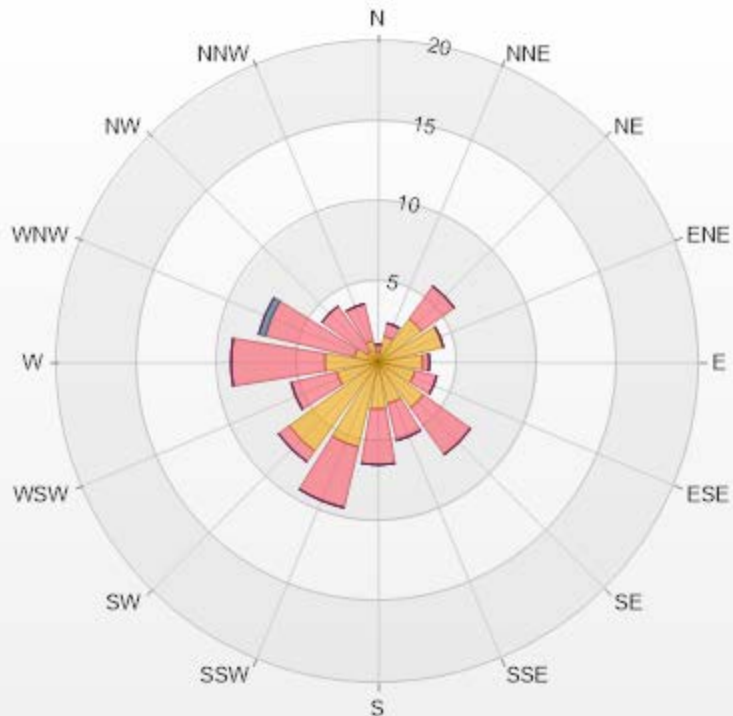
Timeseries Chart of Hourly Average for VWS - Tamarack Station



Wind: Tamarack Monitor: WDS [kph] Monthly: 09-2022 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.

Calm: 13.61% Valid Data: 100.00%

Direction	1.8-6.0	6.0-15.0	15.0-29.0	29.0-39.0	>39.0	Total
N	0.69	0.42	0	0	0	1.11
NNE	1.67	0.83	0	0	0	2.5
NE	3.33	2.5	0	0	0	5.83
ENE	4.17	0	0	0	0	4.17
E	2.78	0.42	0	0	0	3.2
ESE	2.36	1.39	0	0	0	3.75
SE	3.47	3.61	0	0	0	7.08
SSE	2.64	2.36	0	0	0	5
S	2.92	3.47	0	0	0	6.39
SSW	5.42	3.89	0	0	0	9.31
SW	6.81	0.83	0	0	0	7.64
WSW	2.64	2.92	0	0	0	5.56
W	3.33	5.83	0	0	0	9.16
WNW	1.53	5.69	0.42	0	0	7.64
NW	0.83	3.47	0	0	0	4.3
NNW	1.39	2.36	0	0	0	3.75
Summary	45.98	39.99	0.42	0	0	86.39



LICA-202209

% Icon Classes (kph)	46	1.8-6.0	40	6.0-15.0	0	15.0-29.0	0	29.0-39.0	0	>39.0
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LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Station - September 2022

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

Monthly Average:	237 (SW) degree	Hours in Service:	720
		Hours of Data:	720
		Hours of Missing Data:	0
		Hours of Calibration:	0
		Operational Uptime:	100.0

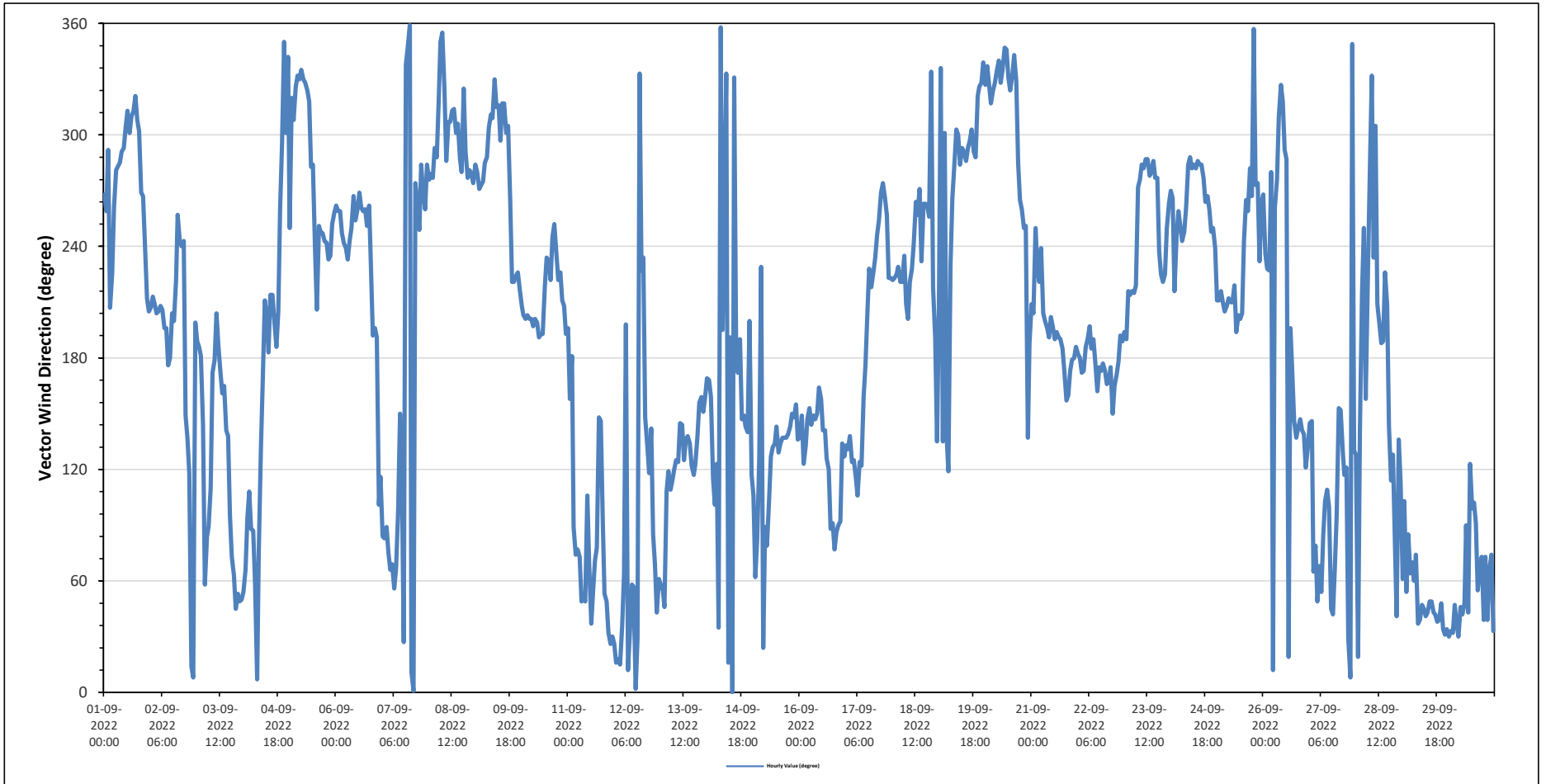
Day	Hourly Period Starting at (MST)																							Daily Average			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Degree	Quadrant	
Sep 1	W	WSW	WNW	SSW	SW	W	W	W	WNW	WNW	WNW	WNW	NW	WNW	NW	NW	NW	NW	WNW	W	W	SW	SSW	SSW	290	WNW	
Sep 2	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	S	SSW	SSW	SW	WSW	WSW	WSW	WSW	SSE	SE	ESE	NNE	N	SSW	205	SSW	
Sep 3	S	S	S	SE	ENE	E	E	ESE	S	S	SSE	S	SSE	SSE	SE	SE	E	ENE	ENE	NE	NE	NE	NE	NE	148	SE	
Sep 4	NE	ENE	E	ESE	E	E	ENE	N	ENE	SE	SSE	SSW	SSW	S	SSW	SSW	SSW	S	SSW	W	WNW	N	WNW	NNW	185	S	
Sep 5	WSW	NW	NW	NW	NNW	NNW	NNW	NNW	NNW	NW	NW	W	WNW	WSW	SSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	WSW	WSW	273	W
Sep 6	W	WSW	WSW	WSW	WSW	WSW	SW	WSW	WSW	W	WSW	WSW	W	W	WSW	WSW	WSW	W	SW	S	SSW	S	E	ESE	254	WSW	
Sep 7	E	E	E	ENE	ENE	ENE	NE	ENE	E	SSE	ESE	NNE	NNW	NNW	N	NNE	N	W	W	WSW	WNW	W	WSW	WNW	336	NNW	
Sep 8	W	W	W	WNW	WNW	NW	N	N	NW	WNW	NW	NW	NW	NW	WNW	NW	WNW	W	NW	WNW	W	W	W	W	299	WNW	
Sep 9	WNW	W	W	W	W	WNW	WNW	WNW	NW	NW	NNW	NW	WNW	NW	NW	WNW	WNW	W	SW	SW	SW	SW	SW	SW	291	WNW	
Sep 10	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	S	S	SW	SW	SW	SW	WSW	WSW	SW	SW	SW	SSW	SSW	S	212	SSW	
Sep 11	SSW	SSE	S	E	ENE	ENE	ENE	NE	NE	NE	ESE	ENE	NE	NE	ENE	ENE	SE	SE	E	NE	NE	NNE	NNE	NNE	69	ENE	
Sep 12	NNE	NNE	NNE	NNE	NE	ENE	SSW	NNE	NNE	ENE	ENE	N	NNE	NNW	SW	SW	SE	SE	ESE	SE	E	ENE	ENE	ENE	57	ENE	
Sep 13	ENE	NE	NE	ESE	ESE	ESE	ESE	ESE	SE	ESE	SE	SE	SE	SE	SE	ESE	ESE	ESE	ESE	SE	SSE	SSE	SSE	SSE	130	SE	
Sep 14	SSE	SSE	SSE	ESE	E	ESE	NE	N	SSW	WSW	NNW	NNE	S	N	NNW	S	S	S	SE	SSE	SE	SE	SSW	ESE	172	S	
Sep 15	ESE	ENE	E	SE	SW	NNE	E	ENE	E	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SE	SSE	SE	136	SE	
Sep 16	SE	SSE	ESE	SE	SE	SSE	SE	SSE	SE	SSE	SSE	SSE	SE	SE	SE	ESE	E	E	ENE	E	E	SE	SE	SE	130	SE	
Sep 17	SE	SE	SE	ESE	SE	ESE	ESE	ESE	ESE	SSE	S	SSW	SW	SW	SW	SW	WSW	WSW	W	W	W	WSW	SW	SW	209	SSW	
Sep 18	SW	SW	SW	SW	SW	SW	SW	SSW	SSW	SW	SW	WSW	W	WSW	W	SW	W	W	W	WSW	NNW	SW	S	SE	234	SW	
Sep 19	SSW	NNW	SE	WNW	SE	ESE	SW	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NNW	NNW	300	WNW	
Sep 20	NW	NNW	NW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	W	WSW	WSW	WSW	SE	S	325	NW
Sep 21	SSW	SSW	WSW	SW	SW	WSW	SSW	SSW	SSW	S	SSW	SSW	S	SSW	S	S	S	S	SSE	SSE	S	S	S	S	188	S	
Sep 22	S	S	S	S	S	S	SSW	S	S	S	SSE	S	S	S	S	SSE	SSE	S	SSE	SSE	S	S	S	S	177	S	
Sep 23	SSW	S	SW	SSW	SW	SSW	SW	W	W	WNW	W	WNW	WNW	W	W	WNW	W	W	SW	SW	SW	SW	WSW	W	265	W	
Sep 24	W	W	SW	WSW	WSW	WSW	WSW	WSW	W	WNW	WNW	W	WNW	W	WNW	WNW	W	W	W	WSW	WSW	WSW	WSW	WSW	271	W	
Sep 25	SSW	SSW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	WSW	W	WSW	W	W	N	W	W	SW	W	228	SW	
Sep 26	W	SW	SW	SW	W	NNE	W	W	NW	NW	NW	WNW	WNW	NNE	SSW	S	SE	SE	SE	SE	SE	SE	ESE	SE	159	SSE	
Sep 27	SE	SE	ENE	ENE	NE	ENE	NE	E	ESE	ESE	E	NE	NE	ENE	E	SSE	SSE	SE	ESE	ESE	NNE	N	NNW	SE	101	E	
Sep 28	SE	NNE	SE	SSW	WSW	SSE	SW	W	NNW	SW	WNW	SSW	SSW	S	S	SW	SSW	SE	ESE	SE	E	NE	SE	ESE	197	SSW	
Sep 29	ENE	ESE	NE	E	ENE	ENE	ENE	ENE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	44	NE	
Sep 30	NNE	NNE	NNE	NE	NE	NNE	NE	NE	NE	E	NE	ESE	E	E	E	NE	ENE	ENE	NE	ENE	NE	ENE	ENE	NNE	54	NE	

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

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

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

Timeseries Chart of Hourly Average for VWD - Tamarack Station





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Station - September 2022

Summary of Hourly Averages

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

WIND SPEED																											
Maximum Hourly Value:		17.6 kph on September 1 at hour 9										Hours in Service:		720													
Maximum Daily Value:		8.9 kph on September 24										Hours of Data:		720													
Minimum Hourly Value:		0.0 kph on September 6 at hour 22										Hours of Missing Data:		0													
Minimum Daily Value:		1.1 kph on September 14										Hours of Calibration:		0													
Monthly Average:		1.5 kph										Operational Uptime:		100													
WIND DIRECTION																											
Monthly Average:		237 (SW) degree																									
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 1	1.3	2.4	7.9	1.7	4.6	6.3	8.2	11.8	13.6	17.6	14.4	12.4	14.2	15.6	13.7	10.5	10.8	9.3	6.2	6.9	5.6	4.0	4.9	5.0	1.3	17.6	7.8
	W	WSW	WNW	SSW	SW	W	W	WNW	WNW	WNW	WNW	NW	WNW	NW	NW	NW	NW	WNW	W	W	SW	SSW	SSW				
Sep 2	5.7	5.3	5.3	4.7	4.4	4.6	6.1	7.4	8.2	8.7	8.9	9.6	9.1	7.5	8.6	7.0	5.3	2.7	1.8	4.5	2.0	1.4	0.4	1.4	0.4	9.6	4.7
	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	SSW	SSW	SW	WSW	WSW	WSW	WSW	SSE	SE	ESE	NNE	N	SSW				
Sep 3	4.3	6.8	5.2	2.2	1.4	2.5	0.5	3.3	4.4	6.2	4.9	6.6	4.6	3.8	4.1	5.1	5.4	2.5	2.2	2.8	2.8	3.2	3.6	3.2	0.5	6.8	2.5
	S	S	S	SE	ENE	E	E	ESE	S	S	SSW	S	S	SSE	SSE	SE	SE	E	ENE	ENE	NE	NE	NE	NE			
Sep 4	2.5	2.6	2.0	3.7	3.8	3.1	2.4	0.9	2.2	3.9	2.8	5.7	4.6	4.7	4.7	6.1	5.5	4.1	3.6	4.7	4.2	2.1	3.7	1.0	0.9	6.1	1.3
	NE	ENE	E	ESE	E	E	ENE	N	ENE	SE	SSE	SSW	SSW	S	SSW	SSW	SSW	S	SSW	W	WNW	N	WNW	NNW			
Sep 5	1.9	1.9	1.1	2.0	2.1	3.1	4.2	5.0	5.5	6.6	4.9	6.8	7.7	4.8	4.7	5.9	6.6	6.9	5.7	5.8	5.8	4.7	6.1	7.6	1.1	7.7	3.8
	WSW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NW	NW	W	WNW	WSW	SSW	WSW	WSW	WSW	WSW	WSW	SW	SW	WSW	WSW			
Sep 6	9.6	9.4	9.7	7.5	6.1	5.5	5.8	9.4	11.1	9.9	10.7	11.9	12.2	11.1	10.8	11.6	10.7	6.2	3.5	1.9	1.6	1.0	0.0	0.1	0.0	12.2	7.2
	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	WSW	WSW	W	W	WSW	WSW	WSW	W	SW	S	SSW	S	E	ESE			
Sep 7	0.3	0.9	1.9	3.7	3.1	2.6	2.4	3.3	3.4	6.1	5.0	3.9	7.1	10.7	9.9	7.0	4.7	3.6	5.6	5.3	9.6	7.1	6.1	7.5	0.3	10.7	1.8
	E	E	E	ENE	ENE	ENE	NE	ENE	E	SSE	ESE	NNE	NNW	NNW	N	NNE	N	W	W	WSW	WNW	W	WSW	WNW			
Sep 8	6.9	6.2	6.4	5.8	8.3	7.6	8.2	6.3	7.2	8.9	9.4	9.0	8.8	8.5	9.2	6.9	7.6	8.3	6.8	5.8	6.8	9.0	8.3	7.8	5.8	9.4	7.1
	W	W	W	WNW	WNW	NW	N	NW	WNW	NW	NW	NW	NW	WNW	NW	WNW	W	NW	WNW	W	W	W	W	W			
Sep 9	7.5	6.9	7.1	7.2	7.5	7.7	7.8	6.1	7.4	9.5	9.2	9.9	9.1	9.8	8.2	8.5	9.4	5.9	5.8	4.4	4.9	4.6	3.3	3.5	3.3	9.9	6.2
	WNW	W	W	W	W	WNW	WNW	WNW	NW	NW	NNW	NW	NW	WNW	NW	NW	WNW	WNW	W	SW	SW	SW	SW	SW			
Sep 10	4.9	5.8	6.0	7.2	5.6	6.2	6.2	7.9	7.4	9.6	10.3	10.2	9.6	9.3	9.3	9.1	8.0	6.6	3.9	4.5	2.8	3.0	1.0	2.2	1.0	10.3	6.2
	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	S	S	SW	SW	SW	SW	WSW	WSW	SW	SW	SW	SSW	SSW	S			
Sep 11	2.4	0.7	0.6	0.7	1.6	1.4	2.4	3.1	3.0	5.0	3.4	4.3	6.7	4.6	3.9	4.2	5.5	3.7	2.2	5.0	5.1	3.3	3.5	2.1	0.6	6.7	2.5
	SSW	SSE	S	E	ENE	ENE	ENE	NE	NE	NE	ESE	ENE	NE	NE	ENE	ENE	SE	SE	E	NE	NE	NNE	NNE	NNE			
Sep 12	2.4	3.7	3.7	1.6	2.7	0.6	2.5	2.3	4.7	4.7	2.5	2.4	3.6	3.3	3.4	0.3	3.4	5.7	2.8	3.6	2.3	2.4	3.5	3.3	0.3	5.7	1.6
	NNE	NNE	NNE	NNE	NE	ENE	SSW	NNE	NNE	ENE	ENE	N	NNE	NNW	SW	SE	SE	SE	ESE	SE	E	ENE	NE	ENE			
Sep 13	3.2	2.6	2.3	4.0	7.1	7.5	7.6	7.3	8.6	7.4	9.1	9.3	8.4	7.9	9.2	9.3	8.7	8.6	6.5	6.8	9.7	10.1	7.0	5.3	2.3	10.1	6.7
	ENE	NE	NE	ESE	ESE	ESE	ESE	SE	ESE	SE	SE	SE	SE	SE	SE	SE	ESE	ESE	ESE	SE	SSE	SSE	SSE	SSE			
Sep 14	4.5	4.4	3.0	1.2	1.7	1.4	0.2	0.5	2.3	3.3	2.3	1.3	0.7	2.1	1.1	3.6	5.0	4.6	2.9	1.1	0.4	0.2	0.4	0.6	0.2	5.0	1.1
	SSE	SSE	SSE	ESE	E	ESE	NE	N	SSW	WSW	NNW	NNE	S	N	NNW	S	S	S	SE	SSE	SE	SE	SSW	ESE			
Sep 15	0.6	1.2	2.6	0.4	0.1	0.2	0.4	0.6	4.8	5.9	7.4	8.8	9.0	9.0	9.3	10.4	9.4	6.7	6.0	6.4	7.8	10.5	9.1	5.4	0.1	10.5	5.3
	ESE	ENE	E	SE	SW	NNE	E	ENE	E	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SE	SSE	SE			
Sep 16	3.1	3.8	4.9	6.6	6.6	7.0	6.3	6.0	7.6	6.4	4.9	5.3	6.2	6.3	8.1	6.3	5.9	6.0	4.3	6.0	4.8	3.3	2.5	2.8	2.5	8.1	5.0
	SE	SSE	ESE	SE	SE	SSE	SE	SSE	SE	SSE	SSE	SE	SE	SE	SE	ESE	E	E	ENE	E	E	E	SE	SE			
Sep 17	3.3	4.4	4.5	2.1	3.6	3.1	2.7	3.8	4.1	4.9	3.7	5.0	4.4	4.0	5.2	5.0	7.1	6.4	8.0	7.1	5.4	4.3	4.3	3.7	2.1	8.0	2.6
	SE	SE	ESE	SE	ESE	ESE	ESE	ESE	ESE	SSE	S	SSW	SW	SW	SW	WSW	WSW	W	W	W	WSW	SW	SW	SW			
Sep 18	3.4	4.4	5.0	4.3	4.9	4.2	4.9	5.1	6.3	5.4	5.4	4.6	3.9	6.2	4.3	4.8	5.0	4.1	4.2	0.7	0.3	2.7	1.9	0.4	0.3	6.3	3.7
	SW	SW	SW	SW	SW	SW	SW	SSW	SSW	SW	SW	WSW	W	WSW	W	SW	W	W	W	WSW	NNW	SW	S	SE			
Sep 19	0.3	0.0	0.8	1.0	0.7	0.9	0.5	1.6	3.7	4.7	5.4	7.2	8.8	8.8	8.6	9.3	7.7	5.5	6.2	7.9	6.9	6.1	6.9	7.1	0.0	9.3	4.4
	SSW	NNW	SE	WNW	SE	ESE	SW	W	WNW	WNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW			
Sep 20	6.9	5.9	6.6	5.9	6.5	6.4	6.6	6.9	8.5	9.0	9.4	9.1	9.1	7.8	7.3	8.1	6.0	6.8	5.8	2.3	2.9	1.4	2.3	2.2	1.4	9.4	5.4
	NW	NNW	NW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NW	NNW	NNW	NNW	NNW	W	WSW	WSW	WSW	SE	S			



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Station - September 2022

Summary of Hourly Averages

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

WIND SPEED																											
Maximum Hourly Value:	17.6	kph	on September 1 at hour 9																	Hours in Service:	720						
Maximum Daily Value:	8.9	kph	on September 24																	Hours of Data:	720						
Minimum Hourly Value:	0.0	kph	on September 6 at hour 22																	Hours of Missing Data:	0						
Minimum Daily Value:	1.1	kph	on September 14																	Hours of Calibration:	0						
Monthly Average:	1.5	kph																		Operational Uptime:	100						
WIND DIRECTION																											
Monthly Average:	237	(SW)	degree																								
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Sep 21	1.5	1.5	0.9	2.2	2.2	1.8	1.8	3.6	6.4	7.7	7.0	9.4	10.5	11.1	11.9	10.6	8.7	5.9	6.0	7.1	8.0	8.5	8.6	6.9	0.9	11.9	6.0
	SSW	SSW	WSW	SW	SW	WSW	SSW	SSW	SSW	S	SSW	SSW	S	SSW	S	S	S	S	SSE	SSE	S	S	S	S			
Sep 22	6.7	7.4	4.3	3.2	5.1	3.0	3.5	7.4	8.4	7.5	8.5	10.3	9.8	11.6	10.6	9.2	7.7	3.4	2.4	3.6	2.2	6.7	7.1	7.2	2.2	11.6	6.4
	S	S	S	S	S	S	SSW	S	S	S	SSE	S	S	S	S	SSE	SSE	S	SSE	SSE	S	S	S	S			
Sep 23	6.2	4.6	3.4	4.3	4.2	5.2	4.5	4.6	8.7	11.3	13.7	11.7	13.7	12.3	11.6	13.5	13.5	8.6	3.7	4.0	3.6	2.9	1.5	4.7	1.5	13.7	6.4
	SSW	S	SW	SSW	SW	SSW	SW	W	WNW	W	WNW	W	WNW	WNW	W	WNW	W	W	SW	SW	SW	SW	WSW	WSW			
Sep 24	7.4	6.1	5.3	4.5	6.4	7.7	8.3	9.7	10.0	13.8	15.0	14.6	14.8	13.1	14.3	15.0	13.5	12.6	7.0	7.1	4.9	4.8	4.5	4.0	4.0	15.0	8.9
	W	W	SW	WSW	WSW	WSW	WSW	W	WNW	WNW	W	WNW	W	WNW	W	WNW	WNW	WNW	W	W	W	WSW	WSW	WSW			
Sep 25	4.9	4.6	4.8	4.1	4.5	6.5	4.6	4.3	3.7	4.6	6.1	6.8	7.3	6.4	9.6	9.2	6.9	3.6	4.5	2.8	2.3	3.0	2.8	3.4	2.3	9.6	4.3
	SSW	SSW	SW	SSW	SSW	SSW	SSW	SSW	SW	SSW	SSW	SSW	SSW	SSW	WSW	W	WSW	W	W	N	W	W	SW	W			
Sep 26	3.7	1.0	3.4	1.9	2.1	0.5	0.8	2.0	1.5	3.1	3.0	2.0	3.3	5.1	1.9	2.4	6.8	5.5	4.6	4.2	5.7	8.4	7.5	7.7	0.5	8.4	1.4
	W	SW	SW	SW	W	NNE	W	W	NW	NW	NW	WNW	WNW	NNE	SSW	S	SE	SE	SE	SE	SE	ESE	ESE	SE			
Sep 27	6.9	4.5	2.2	2.9	2.4	3.0	3.2	3.8	4.9	5.3	4.4	4.6	4.8	5.1	5.0	6.9	6.4	3.3	1.8	1.4	1.3	0.8	0.2	1.4	0.2	6.9	2.8
	SE	SE	ENE	ENE	NE	ENE	NE	E	ESE	ESE	E	NE	NE	ENE	E	SSE	SSE	SE	ESE	ESE	NNE	N	NNW	SE			
Sep 28	0.6	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.9	0.6	2.9	8.1	6.4	6.1	4.2	2.4	1.0	1.1	0.5	0.0	0.0	0.1	0.0	0.0	8.1	1.3
	SE	NNE	SE	SSW	WSW	SSE	SW	W	NNW	SW	WNW	SSW	SSW	S	S	SW	SSW	SE	ESE	SE	E	NE	SE	ESE			
Sep 29	0.0	1.2	1.2	3.1	1.7	1.8	2.2	4.3	6.0	8.2	7.5	6.9	9.9	9.0	8.1	8.8	7.1	8.4	10.1	9.3	8.4	7.6	9.0	6.4	0.0	10.1	6.0
	ENE	ESE	NE	E	ENE	ENE	ENE	ENE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE			
Sep 30	8.3	10.5	10.4	7.8	8.3	8.2	4.6	4.6	5.6	6.1	5.9	3.7	6.3	5.7	6.2	5.3	3.3	2.6	0.9	1.4	1.7	1.4	2.7	2.5	0.9	10.5	4.6
	NNE	NNE	NNE	NE	NE	NNE	NE	NE	NE	E	NE	ESE	E	E	E	NE	ENE	ENE	NE	ENE	NE	ENE	ENE	NNE			
C	Monthly Calibration							S	Daily Zero-Span Check							Q	Quality Assurance										
K	Collection Error							N	No Data (Machine Not in Service)							Y	Routine Maintenance										
X	Invalid Data (Equipment Malfunction/Recovery)							NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)							P	Power Failure										
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.																											
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.																											



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Station - September 2022

Summary of Hour Standard Deviations

STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

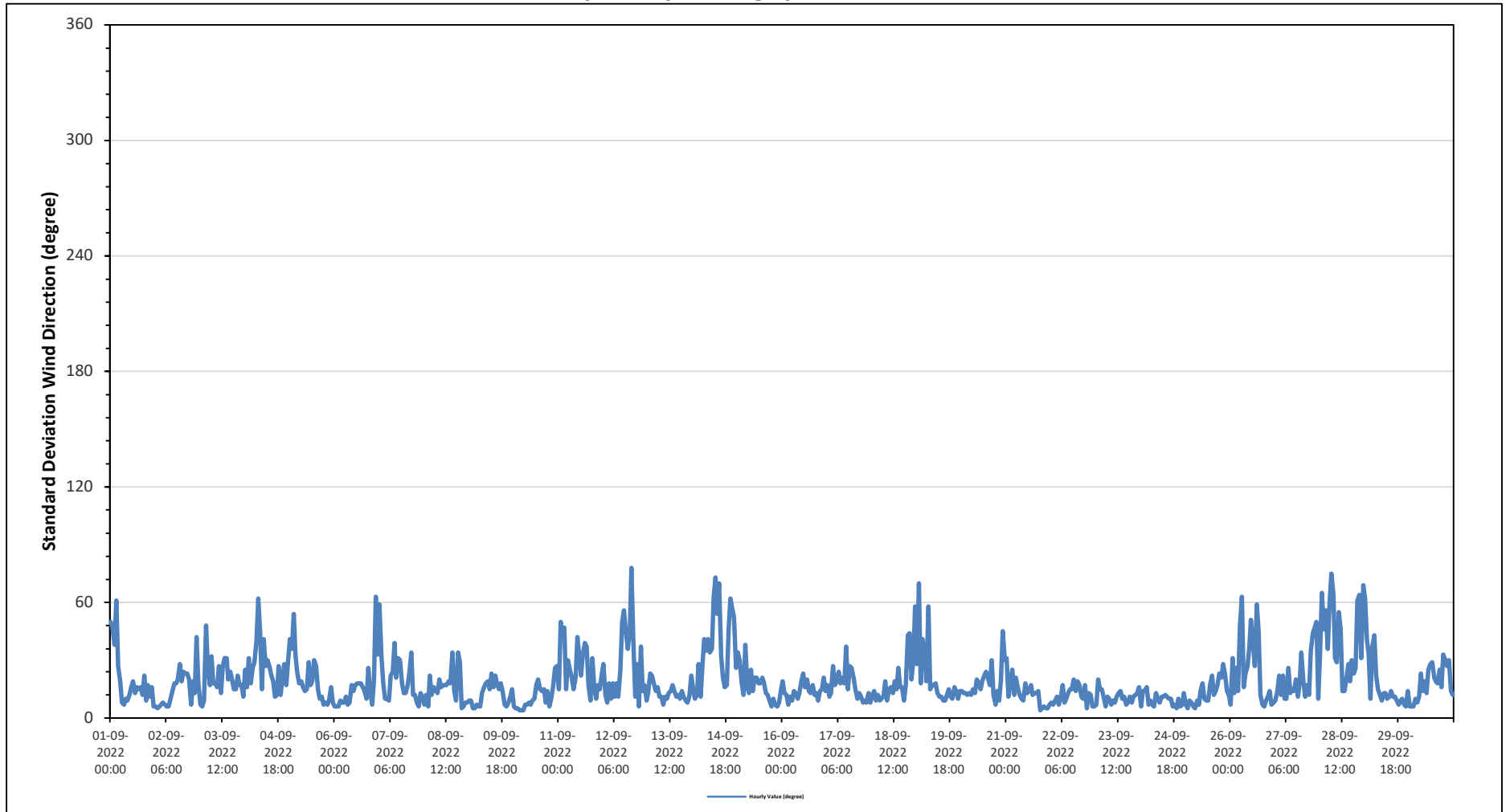
Maximum Hourly Value:	78 degree on September 12 at hour 15	Hours in Service:	720
Minimum Hourly Value:	4 degree on September 10 at hour 3	Hours of Data:	720
		Hours of Missing Data:	0
		Hours of Calibration:	0
		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22			23
Sep 1	50	47	38	61	27	19	8	7	10	9	12	16	19	13	16	15	16	12	22	9	17	11	16	6	6	61
Sep 2	6	5	6	7	8	7	6	6	10	14	18	18	20	28	19	24	23	23	20	7	19	13	42	18	5	42
Sep 3	7	6	9	48	26	17	32	18	18	16	27	13	27	31	31	20	24	20	15	15	22	17	17	11	6	48
Sep 4	25	16	31	18	26	29	40	62	45	15	41	27	30	27	22	19	11	12	27	12	21	28	17	30	11	62
Sep 5	41	36	54	32	23	18	19	16	14	15	29	17	19	30	27	15	10	11	7	8	7	9	16	8	7	54
Sep 6	6	6	6	9	8	8	11	7	8	17	14	17	18	18	18	16	14	10	26	14	7	20	63	33	6	63
Sep 7	59	32	18	10	10	9	22	24	39	21	31	30	18	13	13	17	24	34	12	12	8	6	13	11	6	59
Sep 8	7	12	6	22	12	16	15	13	20	16	17	17	19	18	34	14	9	34	29	5	6	8	8	8	5	34
Sep 9	9	9	5	5	7	6	6	13	16	18	19	15	23	16	22	18	15	18	14	7	6	8	11	15	5	23
Sep 10	6	5	5	4	4	4	7	7	8	7	9	10	17	20	15	14	15	8	14	6	10	16	26	27	4	27
Sep 11	15	50	42	47	15	30	25	21	15	21	42	31	22	33	39	37	17	9	31	15	10	17	15	22	9	50
Sep 12	28	12	8	18	10	18	11	18	11	25	50	56	44	36	46	78	42	11	28	6	37	14	17	9	6	78
Sep 13	13	23	22	18	14	16	11	11	7	11	10	13	14	17	14	11	12	10	14	11	9	8	11	22	7	23
Sep 14	15	10	12	28	11	27	41	35	41	34	36	63	73	54	70	32	21	16	17	46	62	57	52	26	10	73
Sep 15	34	30	18	12	38	16	13	25	14	21	21	18	18	21	18	13	12	9	6	10	7	6	8	14	6	38
Sep 16	19	13	12	7	11	9	14	13	10	13	19	23	16	20	14	13	17	12	13	9	14	15	21	14	7	23
Sep 17	17	11	13	27	17	19	24	18	21	18	37	15	27	26	21	15	10	13	11	8	9	8	13	8	8	37
Sep 18	12	14	9	12	9	10	11	19	9	15	16	13	19	15	26	16	16	9	17	43	44	20	31	58	9	58
Sep 19	28	70	18	41	34	19	58	15	17	17	18	13	11	11	9	9	12	15	11	10	16	14	10	14	9	70
Sep 20	14	13	13	12	13	12	15	13	20	18	15	19	22	24	21	17	30	12	7	14	9	20	45	30	7	45
Sep 21	31	11	18	25	12	21	16	12	10	9	18	13	14	17	12	13	13	14	4	5	6	5	5	7	4	31
Sep 22	8	7	9	11	7	11	17	8	10	13	15	15	20	14	19	17	11	10	17	5	13	12	6	6	5	20
Sep 23	7	20	15	15	11	6	11	10	7	9	8	11	13	14	10	11	7	8	11	8	11	12	13	16	6	20
Sep 24	6	14	14	16	7	9	7	6	13	10	8	11	11	12	11	10	10	6	7	5	10	6	7	13	5	16
Sep 25	7	5	9	8	6	5	9	7	14	18	10	9	9	17	22	12	14	17	23	21	28	23	14	12	5	28
Sep 26	7	31	13	26	14	47	63	16	23	27	37	51	39	27	59	45	12	7	6	9	11	14	7	8	6	63
Sep 27	9	14	22	12	22	10	10	26	13	15	14	20	11	19	34	19	11	17	12	35	44	47	50	10	9	50
Sep 28	34	65	46	56	36	60	75	64	31	29	55	46	14	14	20	28	19	30	23	26	61	64	31	69	14	75
Sep 29	62	41	33	10	37	43	22	15	12	9	13	13	10	11	14	11	11	9	7	9	10	7	6	14	6	62
Sep 30	6	6	6	10	8	11	23	14	19	13	25	28	29	21	19	18	25	16	33	30	27	30	14	12	6	33
Diurnal Minimum	6	5	5	4	4	4	6	6	7	7	8	9	9	11	9	9	7	6	4	5	5	5	5	6		
Diurnal Maximum	62	70	54	61	38	60	75	64	45	34	55	63	73	54	70	78	42	34	34	46	62	64	63	69		

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

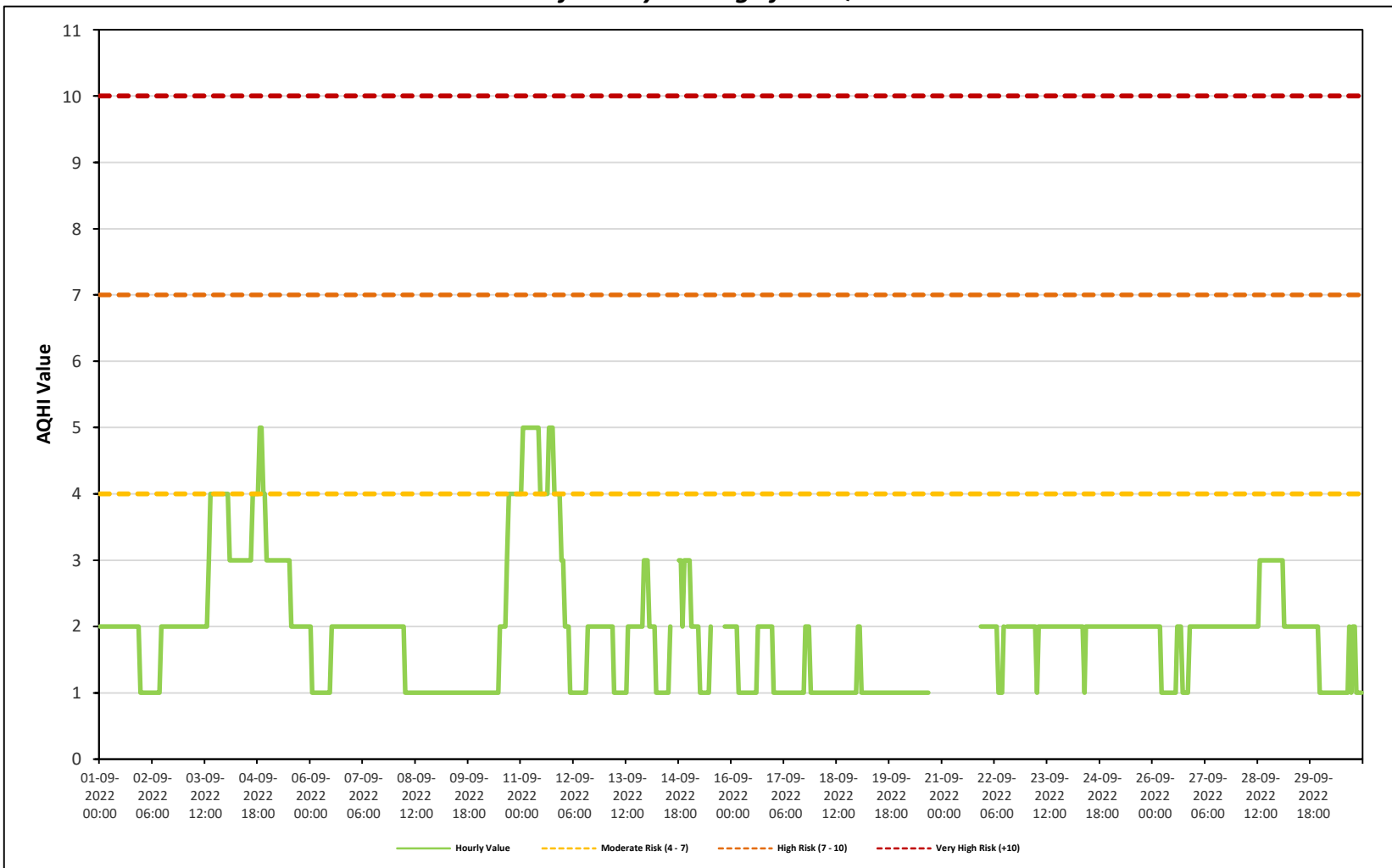
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for STDWD - Tamarack Station

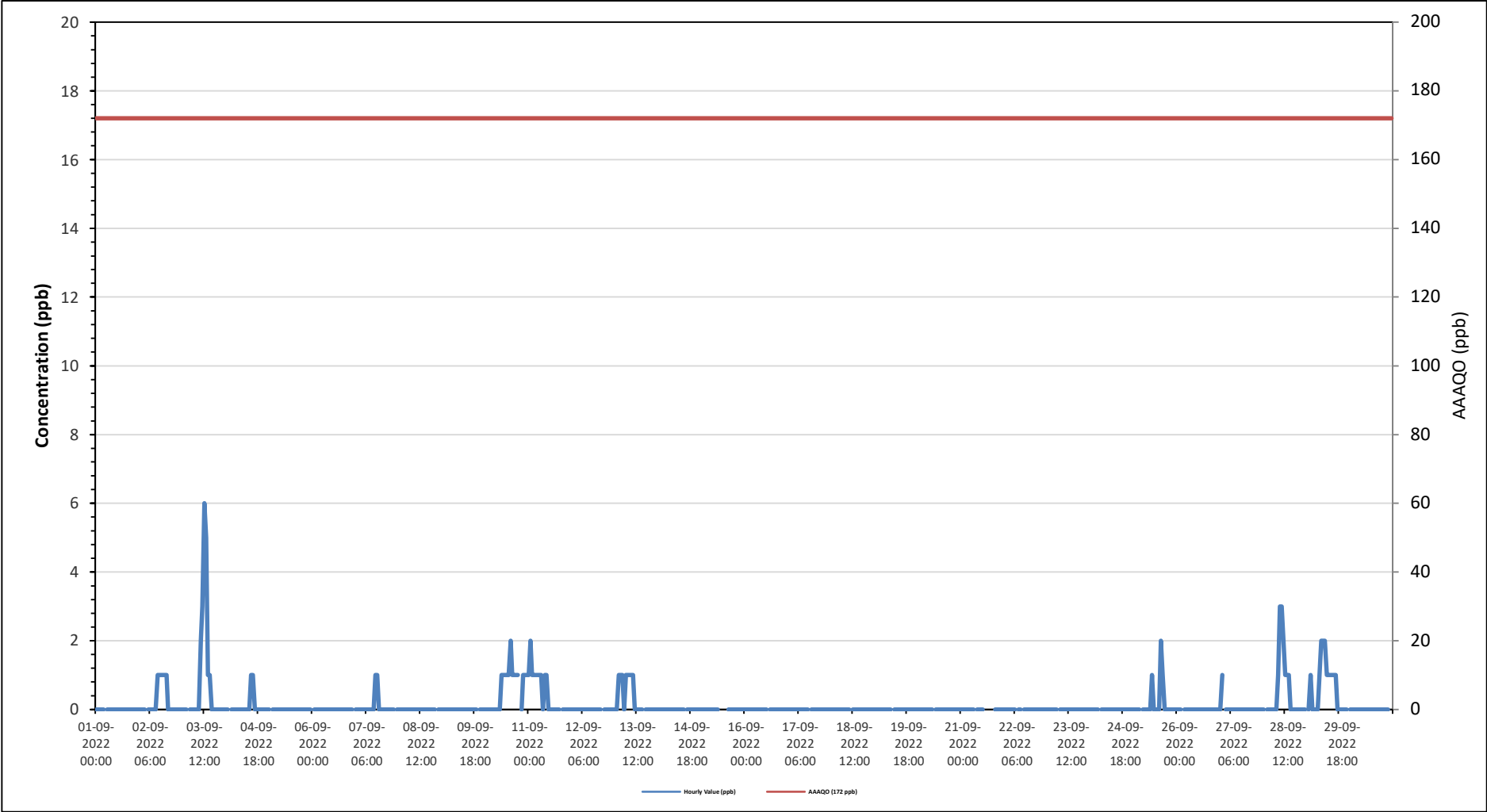


ST. LINA STATION

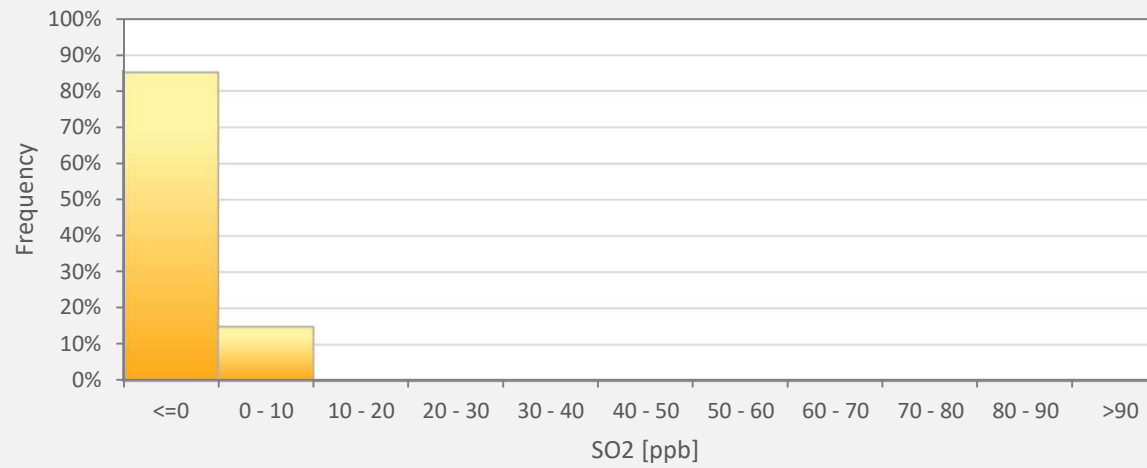
Timeseries Chart of Hourly Average for AQHI - St. Lina Station



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



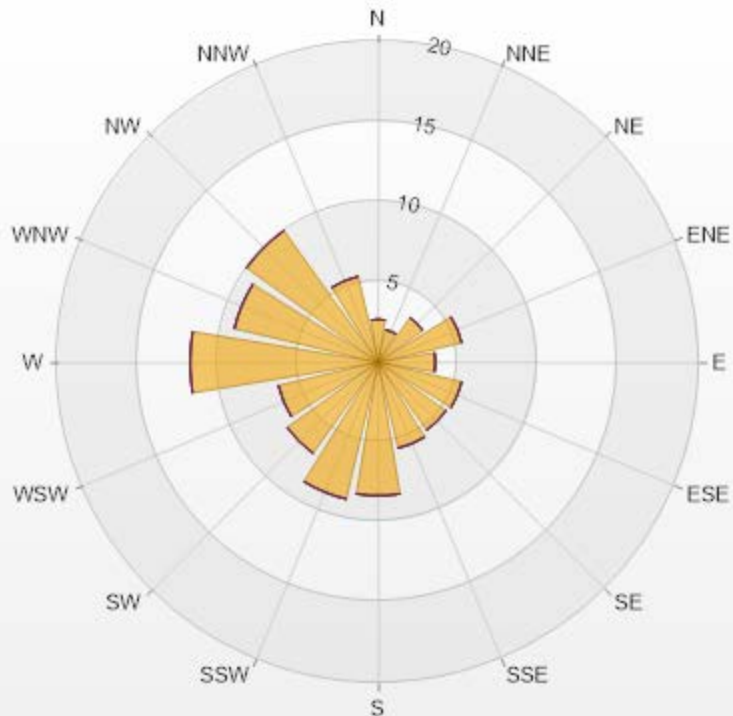
SO2[ppb] Histogram: St. Lina Monthly: 09-2022 1 Hr.



Classes	SO2
<=0	85.08%
0 - 10	14.92%
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: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 93.61% Calm Avg: 0.00 [ppb]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	2.67	0	0	0	0	2.67
NNE	2.08	0	0	0	0	2.08
NE	3.41	0	0	0	0	3.41
ENE	5.34	0	0	0	0	5.34
E	3.56	0	0	0	0	3.56
ESE	5.34	0	0	0	0	5.34
SE	5.19	0	0	0	0	5.19
SSE	5.49	0	0	0	0	5.49
S	8.31	0	0	0	0	8.31
SSW	8.75	0	0	0	0	8.75
SW	6.97	0	0	0	0	6.97
WSW	6.38	0	0	0	0	6.38
W	11.72	0	0	0	0	11.72
WNW	9.2	0	0	0	0	9.2
NW	10.09	0	0	0	0	10.09
NNW	5.49	0	0	0	0	5.49
Summary	100	0	0	0	0	100



LICA-202209

% Icon Classes (ppb)

100 0-10

0 10-50

0 50-100

0 100-172

0 >172.0



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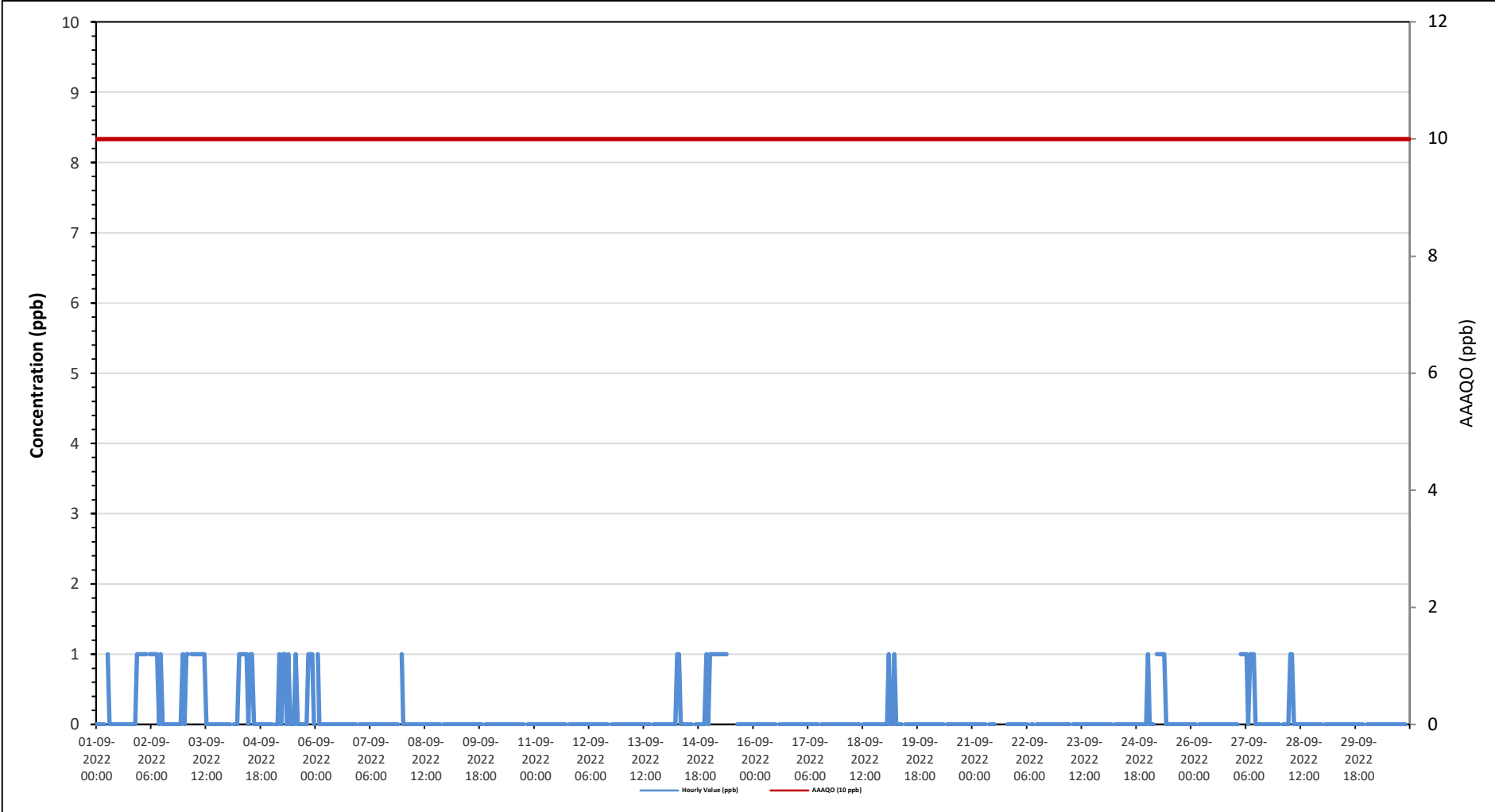
St. Lina Station - September 2022

Summary of Hourly Averages

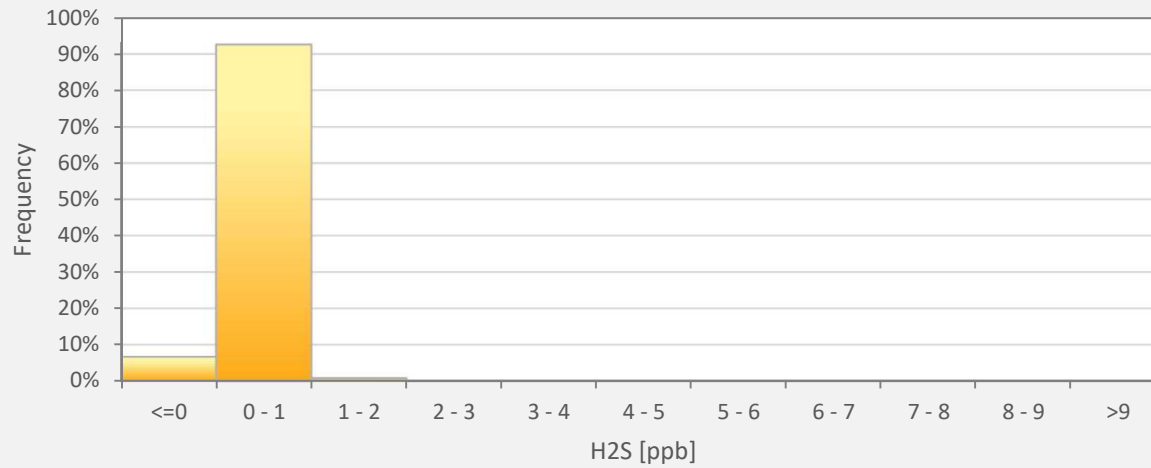
HYDROGEN SULPHIDE (H₂S) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 10 ppb, 24-Hour 3 ppb																															
Number of 1-Hour Exceedances: 0					Number of 24-Hour Exceedances: 0																										
Maximum Hourly Value: 1 ppb on September 1 at hour 6					Hours in Service: 720																										
Maximum Daily Value: 0.5 ppb on September 15					Hours of Data: 677																										
Minimum Hourly Value: 0 ppb on September 1 at hour 0					Hours of Missing Data: 7																										
Minimum Daily Value: 0.0 ppb on September 8					Hours of Calibration: 36																										
Monthly Average: 0.1 ppb					Operational Uptime: 99.0																										
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							
Sep 1	0	0	0	0	0	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0.1				
Sep 2	1	1	1	1	S	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.5			
Sep 3	0	1	1	S	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4			
Sep 4	0	0	S	0	0	0	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3			
Sep 5	0	S	0	0	1	0	1	1	0	1	0	0	0	1	0	0	0	0	0	0	1	1	1	0	0	0	1	0.3			
Sep 6	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0.0			
Sep 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	0	1	0.0			
Sep 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0.0		
Sep 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0.0		
Sep 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0.0		
Sep 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0.0		
Sep 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0.0		
Sep 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0.0		
Sep 14	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	1	0	0	1	0.1			
Sep 15	1	1	1	1	1	1	1	1	1	1	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	1	0.5			
Sep 16	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0		
Sep 17	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0		
Sep 18	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0		
Sep 19	0	0	1	0	0	1	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1		
Sep 20	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0		
Sep 21	0	0	0	0	0	0	0	0	S	0	0	0	0	0	N	N	N	N	N	NRM	0	0	0	0	0	0	0	0	-		
Sep 22	0	0	0	0	0	0	0	S	0	0	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0		
Sep 23	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0		
Sep 24	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0		
Sep 25	1	0	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			
Sep 26	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0		
Sep 27	0	0	S	1	1	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3		
Sep 28	0	S	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1			
Sep 29	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0.0			
Sep 30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0.0		
Diurnal Maximum	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0						
Diurnal Average	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.2	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1						
C	Monthly Calibration											S	Daily Zero-Span Check											Q	Quality Assurance						
K	Collection Error											N	No Data (Machine Not in Service)											Y	Routine Maintenance			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 Station



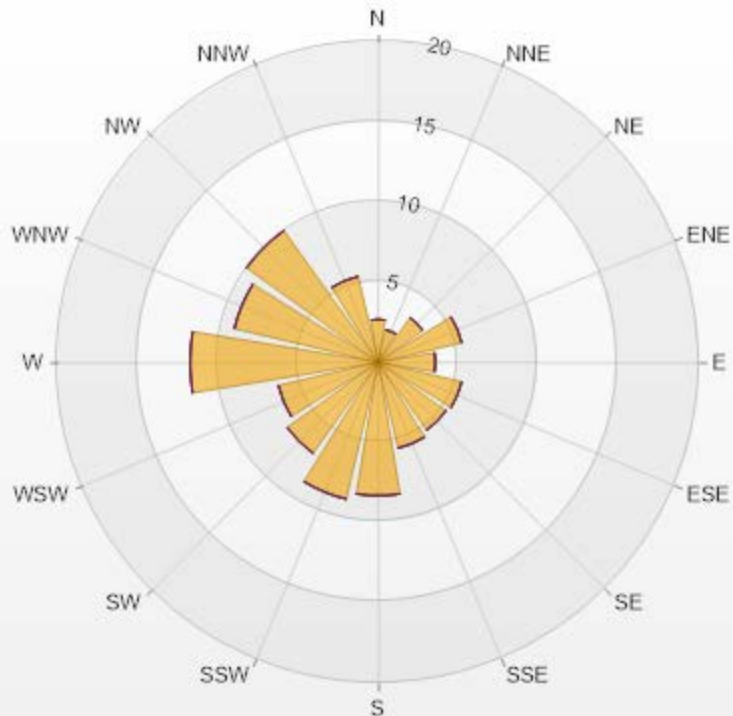
H2S[ppb] Histogram: St. Lina Monthly: 09-2022 1 Hr.



Classes	H2S
<=0	6.65%
0 - 1	92.61%
1 - 2	0.74%
2 - 3	0.00%
3 - 4	0.00%
4 - 5	0.00%
5 - 6	0.00%
6 - 7	0.00%
7 - 8	0.00%
8 - 9	0.00%
>9	0.00%

Wind: St. Lina Poll.: St. Lina-H2S[ppb] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 93.61% Calm Avg: 0.00 [ppb]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	2.67	0	0	0	0	2.67
NNE	2.08	0	0	0	0	2.08
NE	3.41	0	0	0	0	3.41
ENE	5.34	0	0	0	0	5.34
E	3.56	0	0	0	0	3.56
ESE	5.34	0	0	0	0	5.34
SE	5.19	0	0	0	0	5.19
SSE	5.49	0	0	0	0	5.49
S	8.31	0	0	0	0	8.31
SSW	8.75	0	0	0	0	8.75
SW	6.97	0	0	0	0	6.97
WSW	6.38	0	0	0	0	6.38
W	11.72	0	0	0	0	11.72
WNW	9.2	0	0	0	0	9.2
NW	10.09	0	0	0	0	10.09
NNW	5.49	0	0	0	0	5.49
Summary	100	0	0	0	0	100



LICA-202209

% Icon Classes (ppb)

100 0-2

0 2-5

0 5-10

0 10-50

0 >50.0



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St. Lina Station - September 2022

Summary of Hourly Averages

OXIDES OF NITROGEN (NOx) in ppb

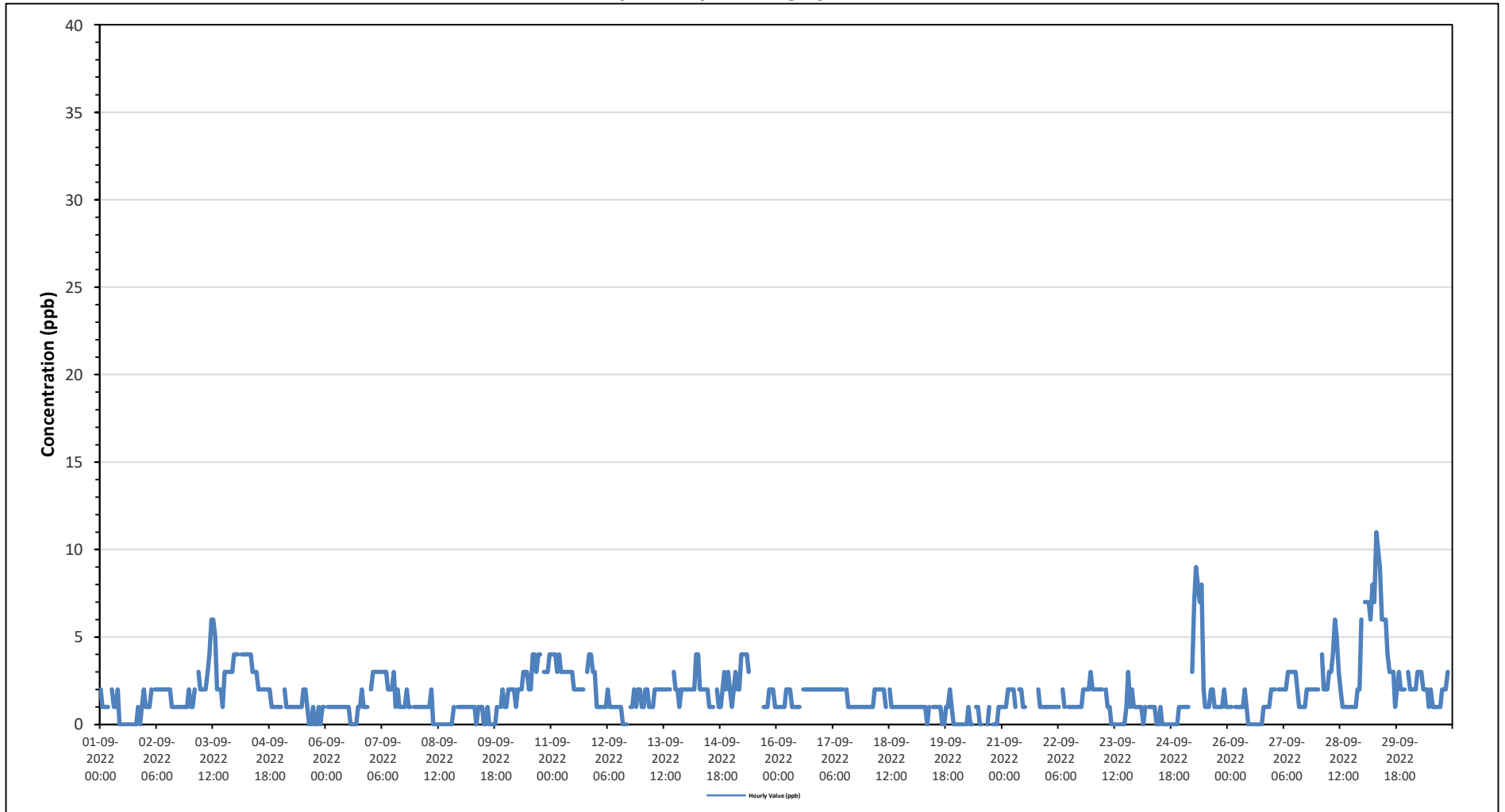
Maximum Hourly Value:	11 ppb on September 29 at hour 7	Hours in Service:	720
Maximum Daily Value:	5.2 ppb on September 29	Hours of Data:	672
Minimum Hourly Value:	0 ppb on September 1 at hour 10	Hours of Missing Data:	10
Minimum Daily Value:	0.3 ppb on September 20	Hours of Calibration:	38
Monthly Average:	1.7 ppb	Operational Uptime:	98.6

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	
Sep 1	2	1	1	1	1	S	2	1	1	2	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	2	0.7	
Sep 2	1	1	1	2	S	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	2	1	2	1.5
Sep 3	1	1	2	S	3	2	2	2	2	3	4	6	6	5	2	2	2	1	3	3	3	3	3	4	1	6	2.8	
Sep 4	4	4	S	4	4	4	4	4	4	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	4	2.6
Sep 5	1	S	2	1	1	1	1	1	1	1	1	1	2	2	1	0	0	1	0	0	1	0	1	1	0	2	0.9	
Sep 6	S	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	1	2	1	1	1	S	0	2	0.9	
Sep 7	2	3	3	3	3	3	3	3	2	2	2	3	1	2	1	1	1	1	1	2	1	1	S	S	1	1	3	2.0
Sep 8	1	1	1	1	1	1	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	S	1	0	2	0.6
Sep 9	1	1	1	1	1	1	1	1	0	1	1	1	0	0	1	0	0	0	0	0	1	S	1	2	1	0	2	0.7
Sep 10	1	2	2	2	2	1	2	2	2	3	3	3	2	2	4	4	3	4	4	S	S	3	3	3	4	1	4	2.7
Sep 11	4	4	4	3	4	3	3	3	3	3	3	3	2	2	2	2	2	2	S	3	4	4	3	3	2	2	4	3.0
Sep 12	1	1	1	1	1	1	2	1	1	1	1	1	1	0	0	0	S	1	1	2	1	2	1	2	2	0	2	1.0
Sep 13	1	1	2	2	1	1	1	2	2	2	2	2	2	2	2	S	3	2	2	1	2	2	2	2	2	1	3	1.8
Sep 14	2	2	2	2	2	4	4	2	2	2	2	1	1	1	S	2	1	1	2	3	2	3	2	2	1	4	2.0	
Sep 15	1	2	3	2	2	4	4	4	4	3	C	C	C	C	C	C	C	1	1	1	2	2	2	1	1	4	-	
Sep 16	1	1	1	1	1	2	2	2	1	1	1	1	1	S	2	2	2	2	2	2	2	2	2	2	2	1	2	1.6
Sep 17	2	2	2	2	2	2	2	2	2	2	2	2	S	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1.6
Sep 18	1	1	1	1	2	2	2	2	2	2	1	S	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.3
Sep 19	1	1	1	1	1	1	1	1	0	1	S	1	1	1	1	1	0	0	1	1	2	1	0	0	0	2	0.8	
Sep 20	0	0	0	0	0	0	1	0	0	S	1	1	0	0	Y	Y	0	1	Y	0	0	0	1	1	0	1	0.3	
Sep 21	1	1	1	2	2	2	2	1	S	2	2	1	1	N	N	N	N	N	N	NRM	2	1	1	1	1	2	-	
Sep 22	1	1	1	1	1	1	1	S	2	1	N	1	1	1	1	1	1	1	1	2	2	2	2	3	1	3	1.3	
Sep 23	2	2	2	2	2	2	S	2	1	1	0	0	0	0	0	0	0	0	1	3	1	2	1	1	0	3	1.1	
Sep 24	1	1	1	0	1	S	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0.5	
Sep 25	1	1	1	1	S	3	7	9	8	7	8	2	1	1	2	2	1	1	1	1	1	1	2	1	1	9	2.7	
Sep 26	1	1	1	S	1	1	1	1	1	2	1	0	0	0	0	0	0	0	1	1	1	1	2	0	2	0.7		
Sep 27	2	2	S	2	2	2	2	2	3	3	3	3	3	2	1	1	1	1	2	2	2	2	2	2	2	1	3	2.0
Sep 28	2	S	4	2	2	2	3	3	4	6	5	3	2	1	1	1	1	1	1	1	1	1	2	2	6	1	2.4	
Sep 29	S	7	7	7	6	8	7	11	10	9	6	6	6	4	3	3	3	1	2	3	2	2	2	S	S	1	5.2	
Sep 30	3	2	2	2	2	3	3	3	2	2	2	1	2	1	1	1	1	1	2	2	2	2	3	S	4	1	2.0	
Diurnal Maximum	4	7	7	7	6	8	7	11	10	9	8	6	6	5	4	4	3	4	4	3	4	4	3	6	6	6	6	
Diurnal Average	1.5	1.7	1.8	1.8	1.9	2.1	2.3	2.4	2.3	2.4	2.1	1.8	1.6	1.3	1.1	1.1	1.0	1.0	1.0	1.2	1.4	1.5	1.5	1.6	1.9	1.9	1.9	

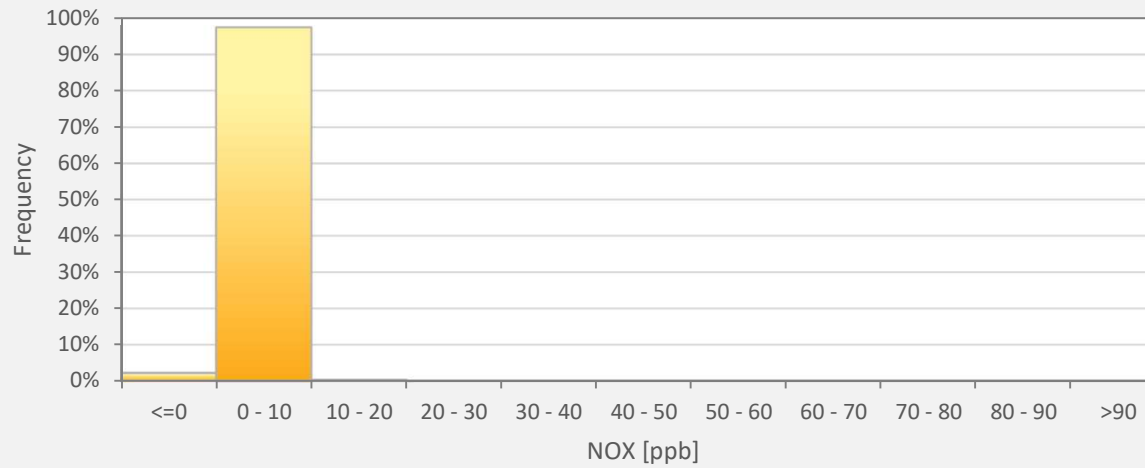
C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N No Data (Machine Not in Service)	Y Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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

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



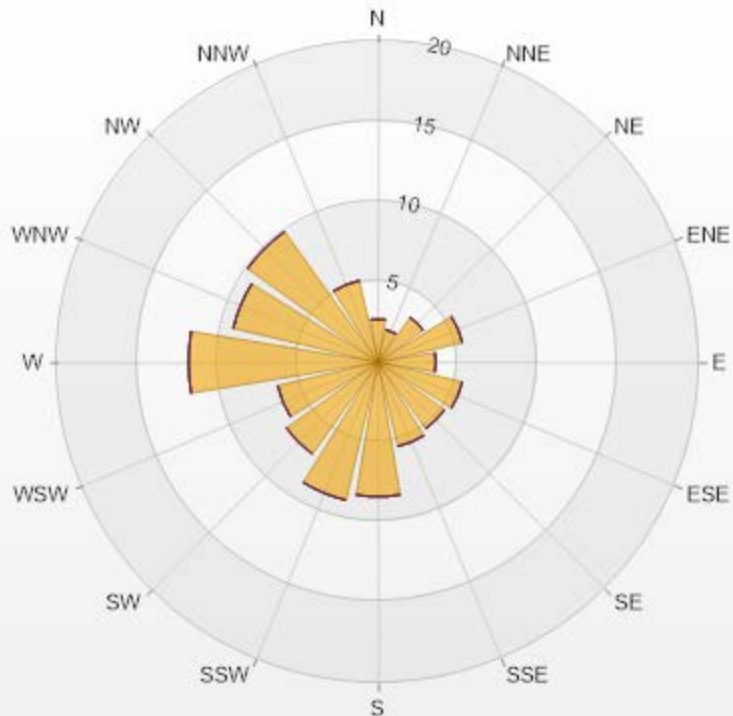
NOX[ppb] Histogram: St. Lina Monthly: 09-2022 1 Hr.



Classes	NOX
<=0	2.23%
0 - 10	97.47%
10 - 20	0.30%
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: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 92.92% Calm Avg: 0.00 [ppb]


Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	2.69	0	0	0	0	2.69
NNE	2.09	0	0	0	0	2.09
NE	3.44	0	0	0	0	3.44
ENE	5.38	0	0	0	0	5.38
E	3.59	0	0	0	0	3.59
ESE	5.38	0	0	0	0	5.38
SE	5.08	0	0	0	0	5.08
SSE	5.38	0	0	0	0	5.38
S	8.37	0	0	0	0	8.37
SSW	8.82	0	0	0	0	8.82
SW	7.03	0	0	0	0	7.03
WSW	6.43	0	0	0	0	6.43
W	11.81	0	0	0	0	11.81
WNW	9.27	0	0	0	0	9.27
NW	10.01	0	0	0	0	10.01
NNW	5.23	0	0	0	0	5.23
Summary	100	0	0	0	0	100



LICA-202209

% Icon Classes (ppb)

100  0-30

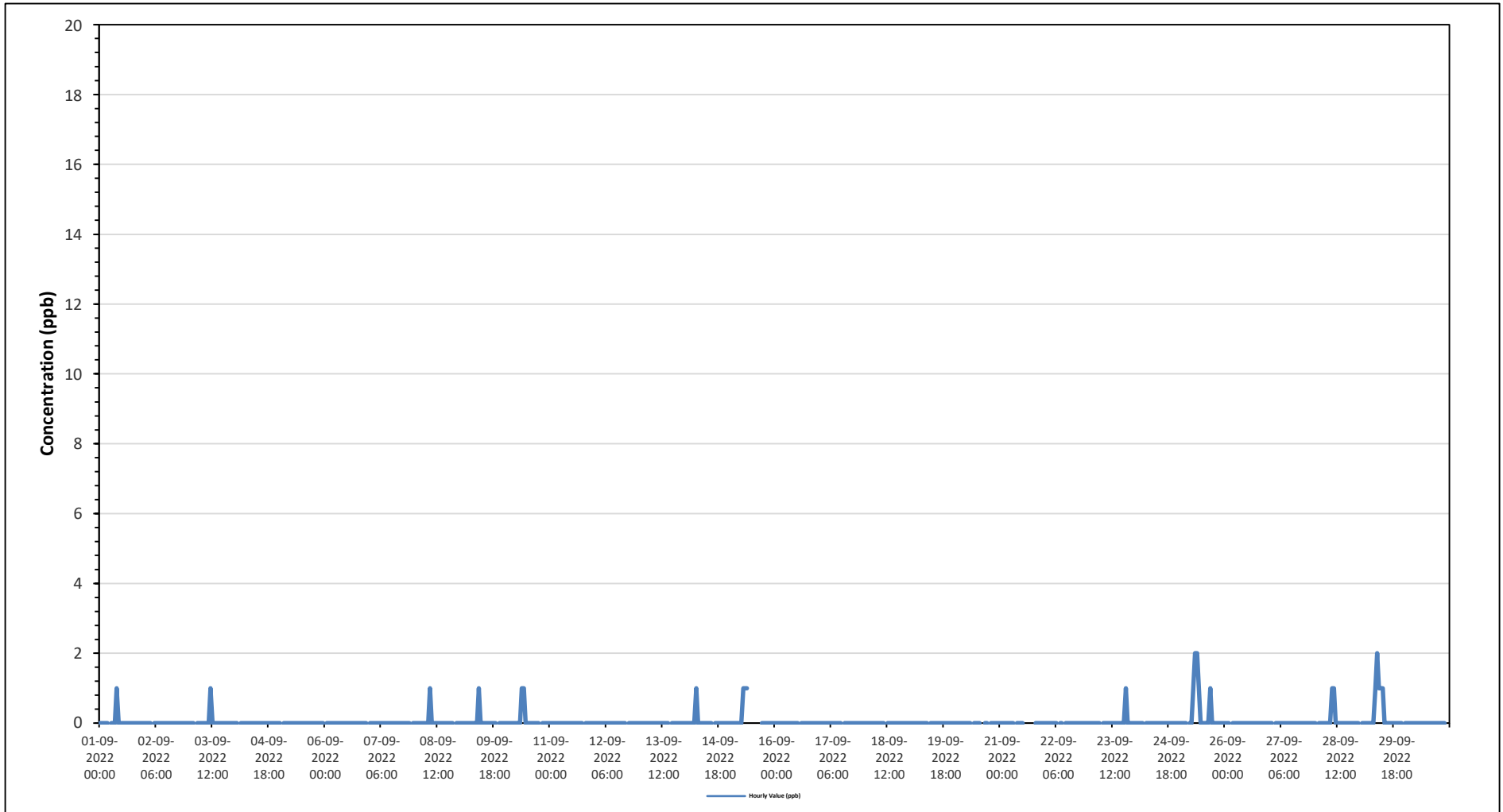
0  30-50

0  50-76

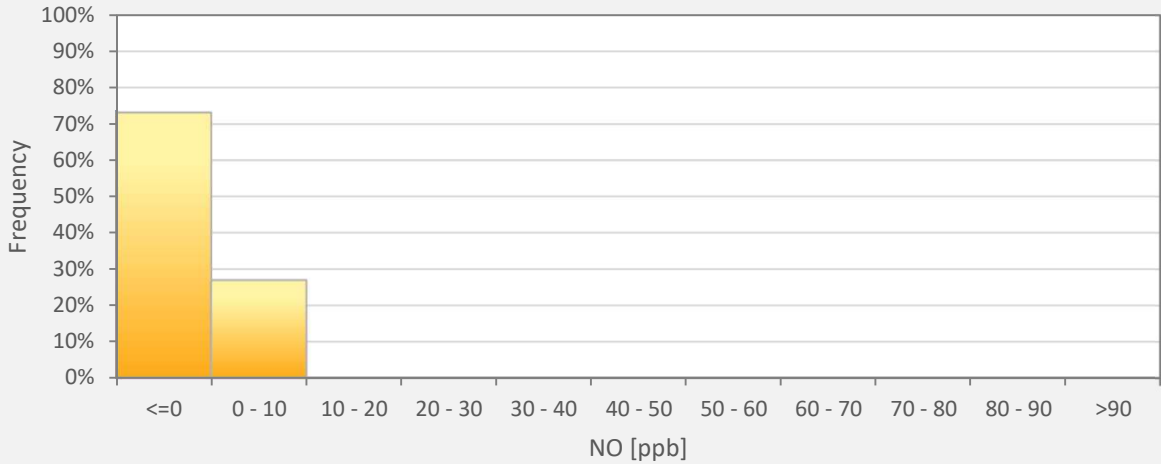
0  76-159

0  >159.0

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



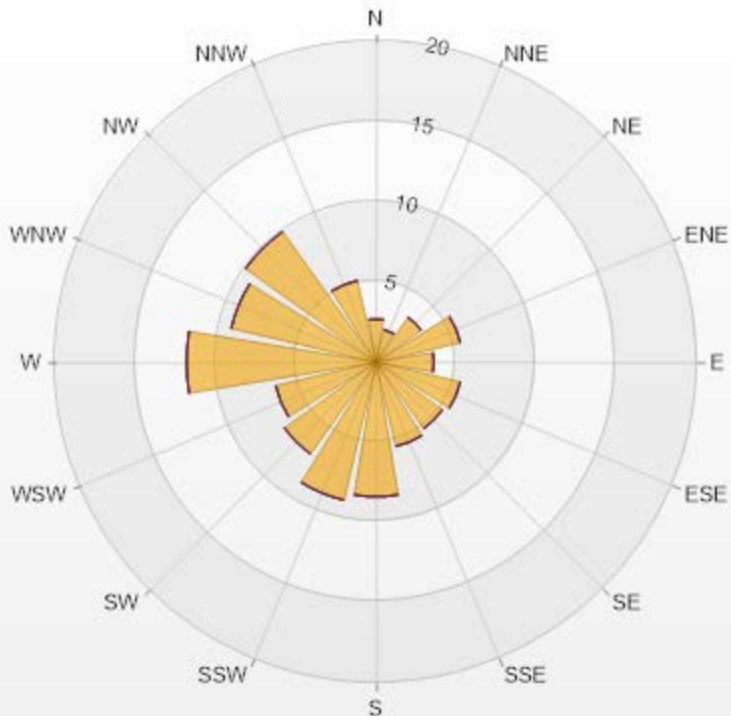
NO[ppb] Histogram: St. Lina Monthly: 09-2022 1 Hr.



Classes	NO
<=0	73.07%
0 - 10	26.93%
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: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 92.92% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	2.69	0	0	0	0	2.69
NNE	2.09	0	0	0	0	2.09
NE	3.44	0	0	0	0	3.44
ENE	5.38	0	0	0	0	5.38
E	3.59	0	0	0	0	3.59
ESE	5.38	0	0	0	0	5.38
SE	5.08	0	0	0	0	5.08
SSE	5.38	0	0	0	0	5.38
S	8.37	0	0	0	0	8.37
SSW	8.82	0	0	0	0	8.82
SW	7.03	0	0	0	0	7.03
WSW	6.43	0	0	0	0	6.43
W	11.81	0	0	0	0	11.81
WNW	9.27	0	0	0	0	9.27
NW	10.01	0	0	0	0	10.01
NNW	5.23	0	0	0	0	5.23
Summary	100	0	0	0	0	100



LICA-202209

% Icon Classes (ppb)

100

0-30

0

30-50

0

50-76

0

76-159

0

>159.0



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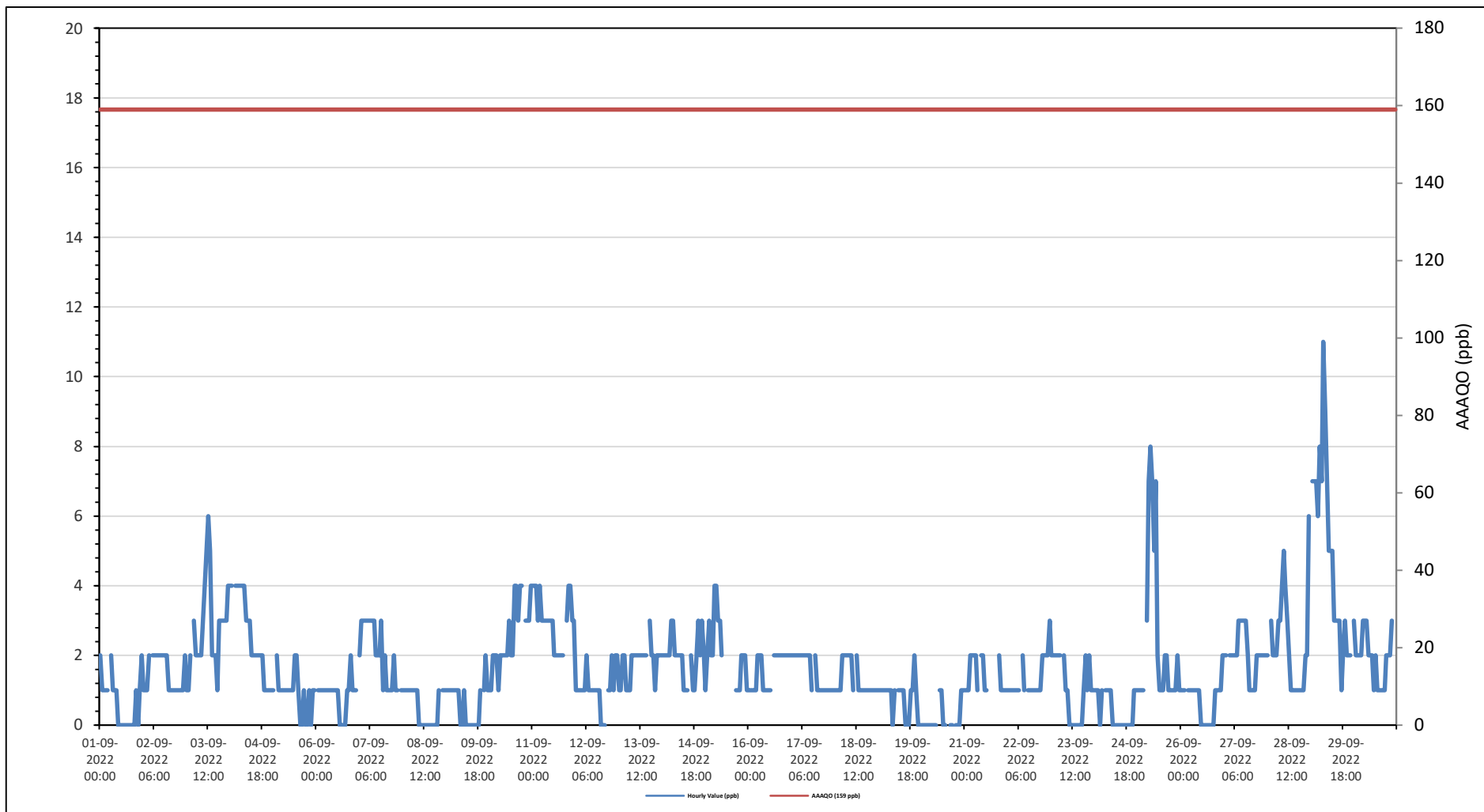
St. Lina Station - September 2022

Summary of Hourly Averages

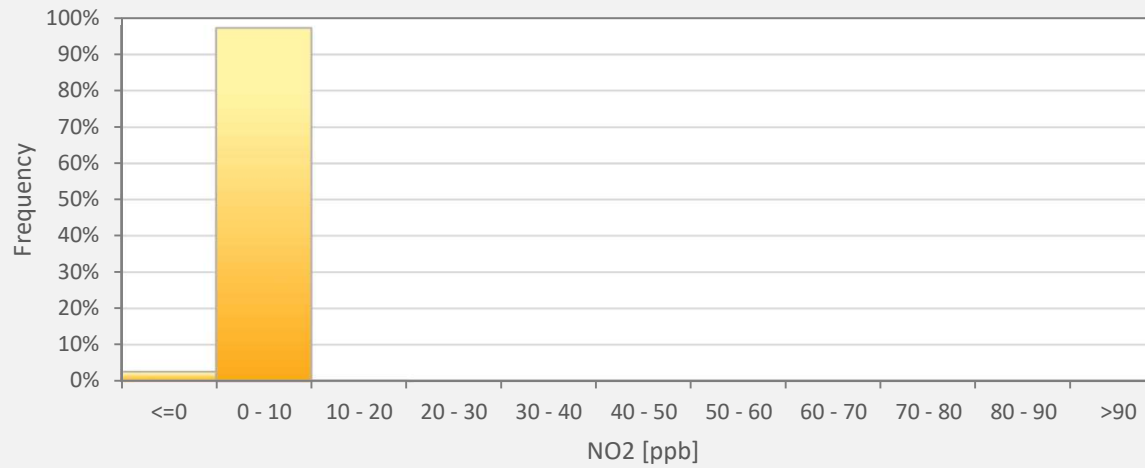
NITROGEN DIOXIDE (NO₂) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 159 ppb																																															
Number of 1-Hour Exceedances: 0																																															
Maximum Hourly Value: 11 ppb on September 29 at hour 7												Hours in Service: 720																																			
Maximum Daily Value: 4.9 ppb on September 29												Hours of Data: 672																																			
Minimum Hourly Value: 0 ppb on September 1 at hour 10												Hours of Missing Data: 10																																			
Minimum Daily Value: 0.2 ppb on September 20												Hours of Calibration: 38																																			
Monthly Average: 1.6 ppb												Operational Uptime: 98.6																																			
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																							
Sep 1	2	1	1	1	1	S	2	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	2	0.7																				
Sep 2	1	1	1	2	S	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	2	1	2	1.5																				
Sep 3	1	1	2	S	3	2	2	2	2	3	4	5	6	5	2	2	2	1	3	3	3	3	4	1	6	2.8																					
Sep 4	4	4	S	4	4	4	4	4	4	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	4	2.6																				
Sep 5	1	S	2	1	1	1	1	1	1	1	1	2	2	1	0	0	1	0	0	1	0	1	1	1	0	2	0.9																				
Sep 6	S	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	1	2	1	1	1	S	1	0	2	0.9																				
Sep 7	2	3	3	3	3	3	3	3	3	2	2	2	3	1	2	1	1	1	1	2	1	1	S	1	1	3	2.0																				
Sep 8	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	S	1	1	0	1	0.5																				
Sep 9	1	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	1	S	1	2	1	0	2	0.6																				
Sep 10	1	1	2	2	2	1	2	2	2	2	2	3	2	2	4	4	3	4	4	S	3	3	3	4	1	4	2.5																				
Sep 11	4	4	4	3	4	3	3	3	3	3	3	3	2	2	2	2	2	2	S	3	4	4	3	3	2	4	3.0																				
Sep 12	1	1	1	1	1	1	2	1	1	1	1	1	1	1	0	0	0	S	1	1	2	1	2	2	0	2	1.0																				
Sep 13	1	1	2	2	1	1	1	2	2	2	2	2	2	2	2	2	S	3	2	2	1	2	2	2	1	3	1.8																				
Sep 14	2	2	2	2	2	3	3	2	2	2	2	2	1	1	1	S	2	1	1	2	3	2	3	2	1	3	2.0																				
Sep 15	1	2	3	2	2	4	4	3	3	2	C	C	C	C	C	C	C	1	1	1	2	2	2	1	1	4	-																				
Sep 16	1	1	1	1	1	2	2	2	1	1	1	1	S	2	2	2	2	2	2	2	2	2	2	2	1	2	1.6																				
Sep 17	2	2	2	2	2	2	2	2	2	2	2	1	S	2	1	1	1	1	1	1	1	1	1	1	1	2	1.5																				
Sep 18	1	1	1	1	2	2	2	2	2	2	1	S	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1.3																				
Sep 19	1	1	1	1	1	1	1	1	0	1	S	1	1	1	1	0	0	0	0	1	1	2	1	0	0	2	0.8																				
Sep 20	0	0	0	0	0	0	0	0	0	S	1	1	0	0	Y	Y	0	0	Y	0	0	0	1	1	0	1	0.2																				
Sep 21	1	1	1	2	2	2	2	1	S	2	2	1	1	N	N	N	N	N	N	NRM	2	1	1	1	1	2	-																				
Sep 22	1	1	1	1	1	1	1	S	2	1	N	1	1	1	1	1	1	1	1	2	2	2	3	1	3	1.3																					
Sep 23	2	2	2	2	2	2	S	2	1	1	0	0	0	0	0	0	0	0	1	2	1	2	1	1	0	2	1.0																				
Sep 24	1	1	1	0	1	S	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0.4																				
Sep 25	1	1	1	1	S	3	7	8	7	5	7	2	1	1	1	2	2	1	1	1	1	1	2	1	1	8	2.5																				
Sep 26	1	1	1	S	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	1	2	0	2	0.7																				
Sep 27	2	2	S	2	2	2	2	2	3	3	3	3	3	2	1	1	1	1	2	2	2	2	2	2	1	3	2.0																				
Sep 28	2	S	3	2	2	2	3	3	4	5	4	3	2	1	1	1	1	1	1	1	1	1	2	2	6	6	2.3																				
Sep 29	S	7	7	7	6	8	7	11	9	7	5	5	5	3	3	3	3	1	2	3	2	2	S	1	11	4.9																					
Sep 30	3	2	2	2	3	3	3	2	2	2	1	2	1	2	1	1	1	1	2	2	2	3	S	4	1	4	2.0																				
Diurnal Maximum	4	7	7	7	6	8	7	11	9	7	7	5	6	5	4	4	3	4	4	3	4	4	3	6																							
Diurnal Average	1.5	1.7	1.8	1.8	1.9	2.1	2.3	2.3	2.2	2.0	2.0	1.6	1.5	1.2	1.1	1.0	1.0	1.0	1.0	1.2	1.4	1.5	1.5	1.6	1.9																						
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 - St. Lina Station



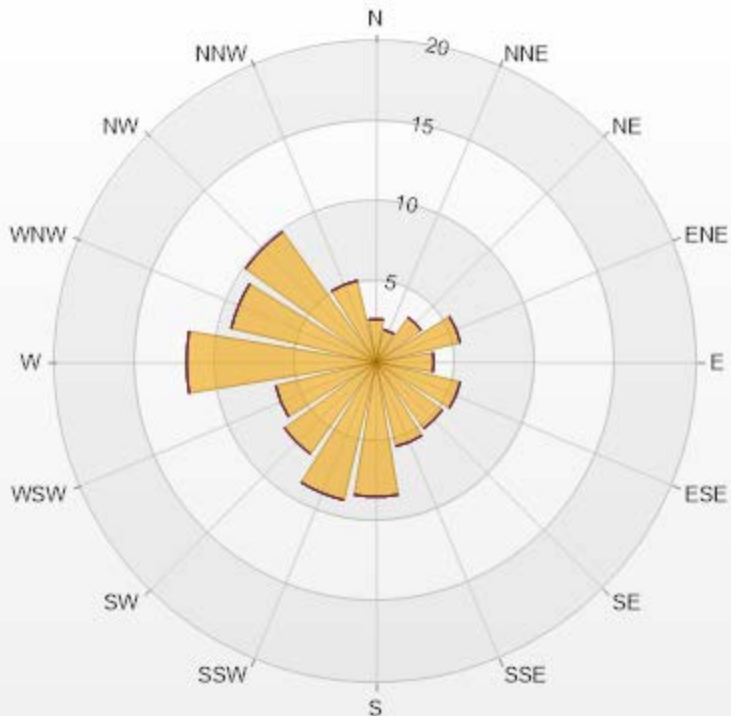
NO2[ppb] Histogram: St. Lina Monthly: 09-2022 1 Hr.



Classes	NO2
<=0	2.53%
0 - 10	97.32%
10 - 20	0.15%
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: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 92.92% Calm Avg: 0.00 [ppb]


Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	2.69	0	0	0	0	2.69
NNE	2.09	0	0	0	0	2.09
NE	3.44	0	0	0	0	3.44
ENE	5.38	0	0	0	0	5.38
E	3.59	0	0	0	0	3.59
ESE	5.38	0	0	0	0	5.38
SE	5.08	0	0	0	0	5.08
SSE	5.38	0	0	0	0	5.38
S	8.37	0	0	0	0	8.37
SSW	8.82	0	0	0	0	8.82
SW	7.03	0	0	0	0	7.03
WSW	6.43	0	0	0	0	6.43
W	11.81	0	0	0	0	11.81
WNW	9.27	0	0	0	0	9.27
NW	10.01	0	0	0	0	10.01
NNW	5.23	0	0	0	0	5.23
Summary	100	0	0	0	0	100



LICA-202209

% Icon Classes (ppb)

100  0-30

0  30-50

0  50-76

0  76-159

0  >159.0



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St. Lina Station - September 2022

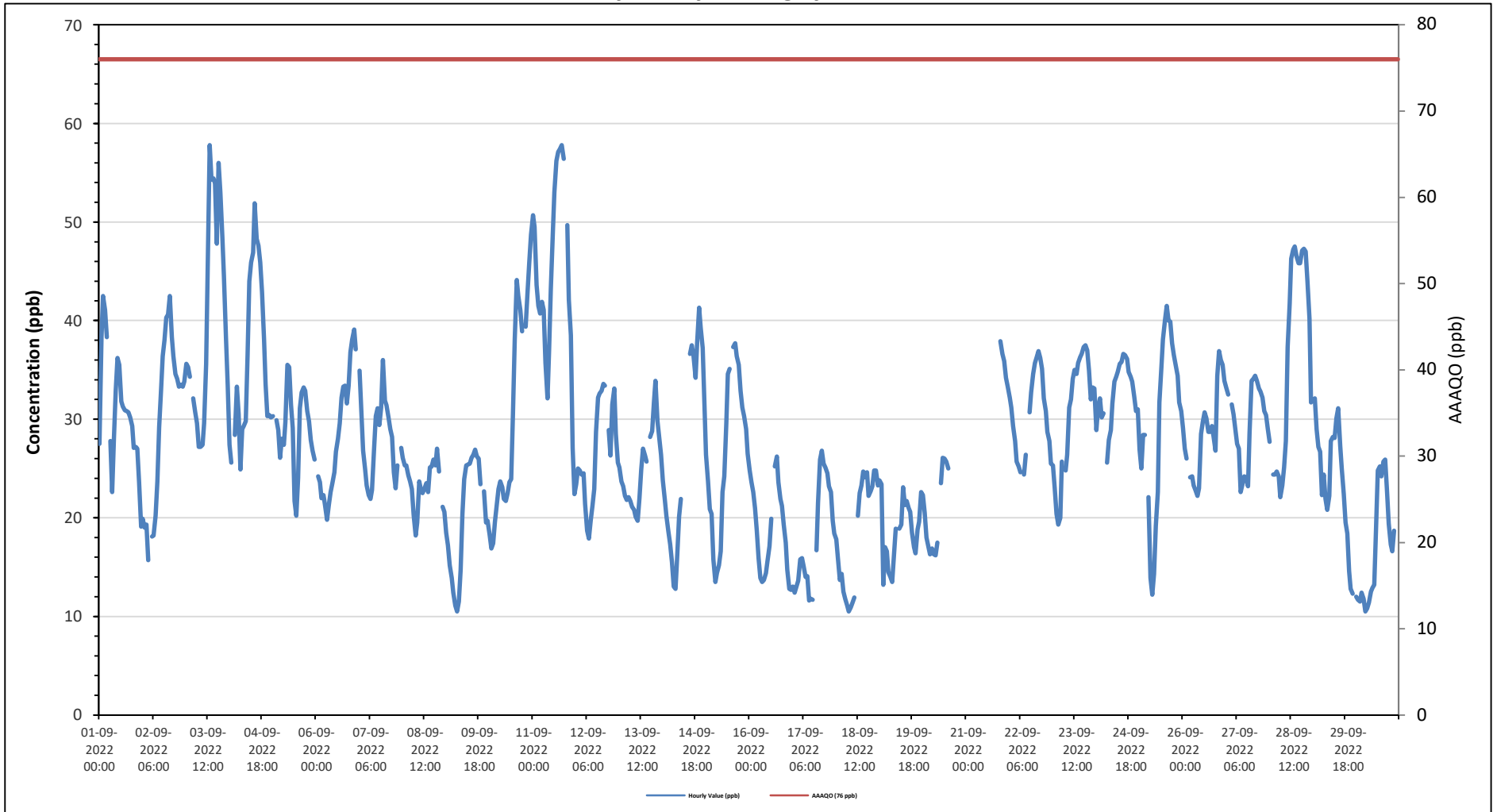
Summary of Hourly Averages

OZONE (O₃) in ppb

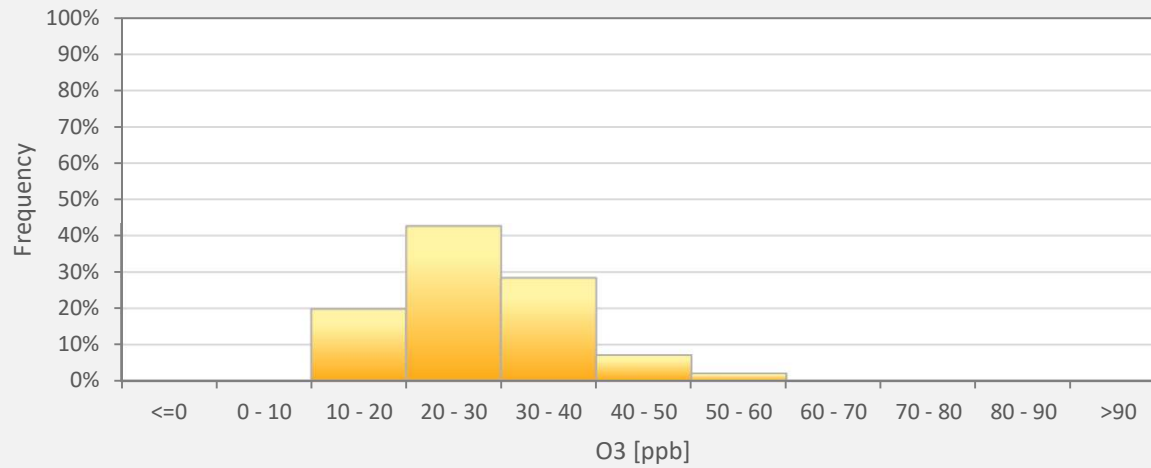
Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 76 ppb																																	
Number of 1-Hour Exceedances: 0																																	
Maximum Hourly Value: 57.8 ppb on September 3 at hour 13												Hours in Service: 720																					
Maximum Daily Value: 44.5 ppb on September 11												Hours of Data: 657																					
Minimum Hourly Value: 10.5 ppb on September 9 at hour 6												Hours of Missing Data: 29																					
Minimum Daily Value: 16.8 ppb on September 30												Hours of Calibration: 34																					
Monthly Average: 27.7 ppb												Operational Uptime: 96.0																					
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									
Sep 1	27.5	38.3	42.5	41.1	38.3	S	27.8	22.6	28.1	32.9	36.2	35.5	31.8	31.3	30.9	30.8	30.7	30.2	29.3	27.1	27.2	27.0	23.6	19.1	19.1	42.5	30.9						
Sep 2	19.9	19.0	19.3	15.7	S	18.1	18.2	20.2	23.7	29.2	32.7	36.4	38.0	40.3	40.6	42.5	38.3	36.4	34.6	34.1	33.3	33.5	33.3	33.8	15.7	42.5	30.0						
Sep 3	35.6	35.3	34.3	S	32.1	30.7	29.6	27.2	27.2	27.4	29.6	35.6	46.7	57.8	54.3	54.4	53.9	47.8	56.0	53.0	48.4	44.5	38.3	33.4	27.2	57.8	40.6						
Sep 4	27.4	25.6	S	28.4	33.3	30.5	24.9	29.0	29.3	29.8	36.4	44.0	45.9	46.9	51.9	48.3	47.6	45.9	42.9	38.1	33.6	30.3	30.4	30.2	24.9	51.9	36.1						
Sep 5	30.3	S	29.9	28.9	26.1	28.0	27.4	29.7	35.5	35.3	31.5	29.1	21.7	20.2	24.0	31.1	32.7	33.2	32.9	30.8	29.8	27.9	26.8	25.9	20.2	35.5	29.1						
Sep 6	S	24.2	23.6	22.0	22.3	21.3	19.8	21.3	22.6	23.5	24.6	26.7	28.0	29.6	32.2	33.3	33.4	31.6	33.4	36.8	38.1	39.1	37.1	S	19.8	39.1	28.4						
Sep 7	34.9	30.8	26.8	24.9	23.3	22.3	21.9	22.8	26.9	30.3	31.1	29.4	31.2	36.0	31.9	31.4	30.2	29.0	28.2	24.6	23.0	25.3	S	27.1	21.9	36.0	28.0						
Sep 8	26.1	25.3	25.3	24.3	23.7	22.9	20.3	18.2	19.5	23.7	22.8	22.5	23.0	23.5	22.6	25.1	25.2	25.9	25.3	27.0	24.7	S	21.1	20.6	18.2	27.0	23.4						
Sep 9	18.5	17.2	15.2	13.9	12.4	11.1	10.5	11.5	14.7	20.4	23.9	25.3	25.4	25.5	26.1	26.4	26.9	26.2	26.0	23.4	S	22.7	19.5	19.7	10.5	26.9	20.1						
Sep 10	18.3	16.9	17.4	19.6	21.5	22.9	23.7	23.1	21.9	21.7	22.5	23.6	23.9	30.6	38.1	44.1	42.5	41.1	38.9	S	39.4	42.7	45.8	48.7	16.9	48.7	30.0						
Sep 11	50.7	49.5	43.6	41.5	40.7	41.9	41.1	35.7	32.1	36.8	43.2	48.9	53.0	56.2	57.1	57.4	57.8	56.4	S	49.7	42.1	38.5	27.1	22.4	22.4	57.8	44.5						
Sep 12	23.4	25.0	24.8	24.4	24.5	21.4	18.7	17.9	19.7	21.2	22.9	28.7	32.2	32.6	32.9	33.6	33.4	S	28.9	26.3	31.5	33.1	28.5	25.6	17.9	33.6	26.6						
Sep 13	25.1	23.7	23.2	22.2	21.8	22.1	21.7	21.1	20.8	20.1	19.7	22.0	24.9	27.0	26.3	25.7	S	28.2	28.8	31.7	33.9	29.8	28.1	26.4	19.7	33.9	25.0						
Sep 14	23.8	21.8	20.2	18.6	17.3	15.5	13.0	12.8	16.3	20.1	21.9	C	C	C	C	36.6	37.5	36.4	34.2	37.7	41.3	39.3	37.2	31.4	12.8	41.3	26.6						
Sep 15	26.4	23.7	20.9	20.4	15.8	13.5	14.4	15.2	16.6	22.6	24.2	29.6	34.6	35.1	S	37.3	37.7	36.4	35.5	32.9	31.2	30.3	29.0	26.5	13.5	37.7	26.5						
Sep 16	24.8	23.6	22.6	21.0	18.7	15.9	13.9	13.5	13.7	14.4	15.6	17.1	19.9	S	25.2	26.2	23.6	21.9	21.2	19.3	17.5	14.7	12.8	12.7	12.7	26.2	18.7						
Sep 17	13.0	12.4	13.1	13.6	15.8	15.9	15.0	14.0	14.1	11.6	11.8	11.7	S	16.7	21.5	25.9	26.8	25.5	25.1	24.5	23.2	22.6	19.7	18.4	11.6	26.8	17.9						
Sep 18	17.8	16.0	13.7	14.3	12.5	11.8	11.1	10.5	10.9	11.4	11.9	S	20.2	22.5	23.3	24.7	24.1	24.6	22.2	22.7	23.2	24.8	24.8	23.3	10.5	24.8	18.4						
Sep 19	23.8	23.4	13.2	17.0	16.6	14.5	14.0	13.5	16.2	18.9	S	18.9	19.3	23.1	21.3	21.7	21.0	20.6	18.5	17.0	16.4	18.8	19.6	22.6	13.2	23.8	18.7						
Sep 20	22.3	20.5	18.0	17.0	16.3	16.9	16.3	16.2	17.5	S	23.5	26.1	26.0	25.7	25.0	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	16.2	26.1	-						
Sep 21	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	N	N	N	N	N	N	NRM	37.9	36.6	35.9	34.2	33.3	33.3	37.9	-					
Sep 22	32.2	31.2	29.3	27.8	25.7	25.2	24.6	S	24.4	26.4	N	30.7	32.7	34.6	35.7	36.3	36.9	36.2	35.1	32.1	30.8	28.7	27.8	25.5	24.4	36.9	30.5						
Sep 23	25.3	23.0	20.4	19.3	20.0	25.7	S	24.8	26.4	31.2	32.0	34.1	35.0	34.6	35.7	36.3	36.6	37.3	37.5	37.0	34.9	32.0	33.2	33.1	19.3	37.5	30.7						
Sep 24	28.9	31.0	32.1	30.2	30.6	S	25.6	27.9	28.9	31.6	33.8	34.3	34.8	35.6	35.8	36.6	36.5	36.1	34.8	34.3	33.8	32.3	30.8	31.0	25.6	36.6	32.5						
Sep 25	26.9	25.0	28.4	28.4	S	22.1	13.9	12.2	14.3	19.2	22.6	31.7	35.3	38.1	40.0	41.5	40.0	39.9	37.7	36.5	35.5	34.4	31.7	30.8	12.2	41.5	29.8						
Sep 26	29.1	27.0	26.0	S	24.1	24.2	23.3	22.8	22.2	23.0	28.5	29.7	30.7	30.1	28.7	28.9	29.3	28.3	26.8	34.4	36.9	36.0	35.5	33.9	22.2	36.9	28.7						
Sep 27	33.2	32.5	S	31.5	30.5	29.0	27.5	27.0	22.6	23.5	24.2	24.1	23.2	28.6	33.9	34.1	34.4	33.9	33.1	32.8	32.2	30.8	30.4	29.0	22.6	34.4	29.7						
Sep 28	27.7	S	24.4	24.4	24.7	24.2	22.1	23.3	25.1	27.8	37.3	41.7	46.3	47.2	47.5	46.5	45.8	45.8	47.1	47.3	47.0	44.0	40.2	31.7	22.1	47.5	36.5						
Sep 29	S	32.1	29.0	27.2	26.7	22.3	24.4	21.9	20.8	22.2	27.8	28.2	28.1	30.1	31.1	27.3	25.0	22.4	19.5	18.4	14.6	12.8	12.3	S	12.3	32.1	23.8						
Sep 30	12.0	11.7	11.5	12.4	11.8	10.5	10.8	11.4	12.5	12.9	13.2	18.9	24.8	25.2	24.2	25.7	25.9	22.8	19.4	17.3	16.6	18.7	S	15.5	10.5	25.9	16.8						
Diurnal Maximum	50.7	49.5	43.6	41.5	40.7	41.9	41.1	35.7	35.5	36.8	43.2	48.9	53.0	57.8	57.1	57.4	57.8	56.4	56.0	53.0	48.4	44.5	45.8	48.7									
Diurnal Average	26.1	25.4	24.0	23.3	23.2	21.5	20.6	20.3	21.5	23.9	26.1	29.1	31.0	32.8	33.3	34.6	34.6	33.3	31.6	31.6	31.3	30.4	28.8	27.1									
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 O3 - St. Lina Station



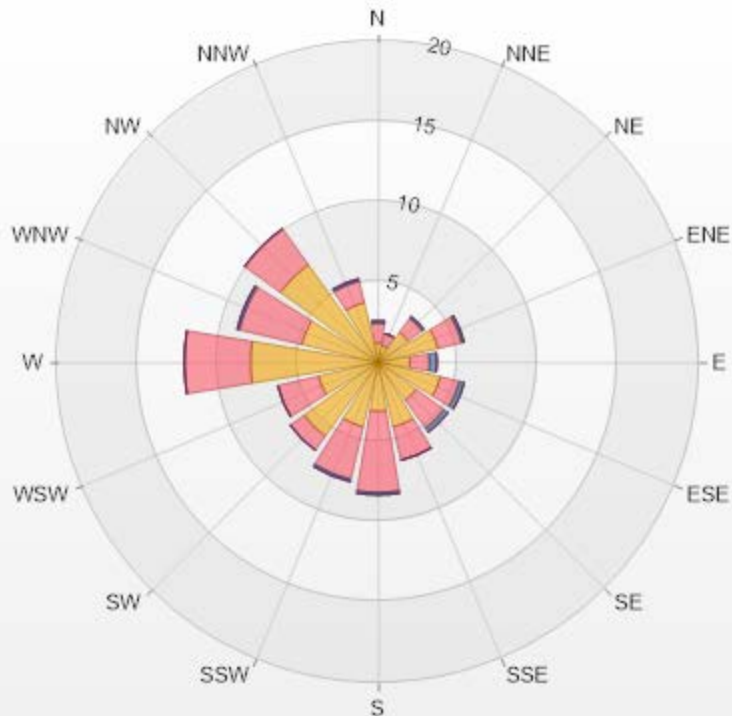
O3[ppb] Histogram: St. Lina Monthly: 09-2022 1 Hr.



Classes	O3
<=0	0.00%
0 - 10	0.00%
10 - 20	19.79%
20 - 30	42.62%
30 - 40	28.31%
40 - 50	7.15%
50 - 60	2.13%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: St. Lina Poll.: St. Lina-O3[ppb] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 90.83% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	1.22	1.22	0.15	0	0	2.59
NNE	1.07	0.76	0	0	0	1.83
NE	2.29	1.07	0.15	0	0	3.51
ENE	3.82	1.53	0.15	0	0	5.5
E	1.99	1.22	0.46	0	0	3.67
ESE	3.98	1.22	0.31	0	0	5.51
SE	2.91	2.14	0.31	0	0	5.36
SSE	4.13	2.14	0	0	0	6.27
S	3.06	5.05	0.15	0	0	8.26
SSW	4.13	3.36	0.15	0	0	7.64
SW	5.66	1.07	0	0	0	6.73
WSW	3.82	2.6	0	0	0	6.42
W	7.95	4.13	0	0	0	12.08
WNW	4.89	3.98	0.15	0	0	9.02
NW	7.49	2.75	0	0	0	10.24
NNW	3.82	1.38	0.15	0	0	5.35
Summary	62.23	35.62	2.13	0	0	100



LICA-202209

% Icon Classes (ppb)	62	0-30	36	30-50	2	50-76	0	76-159	0	>159.0
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LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Station - September 2022

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

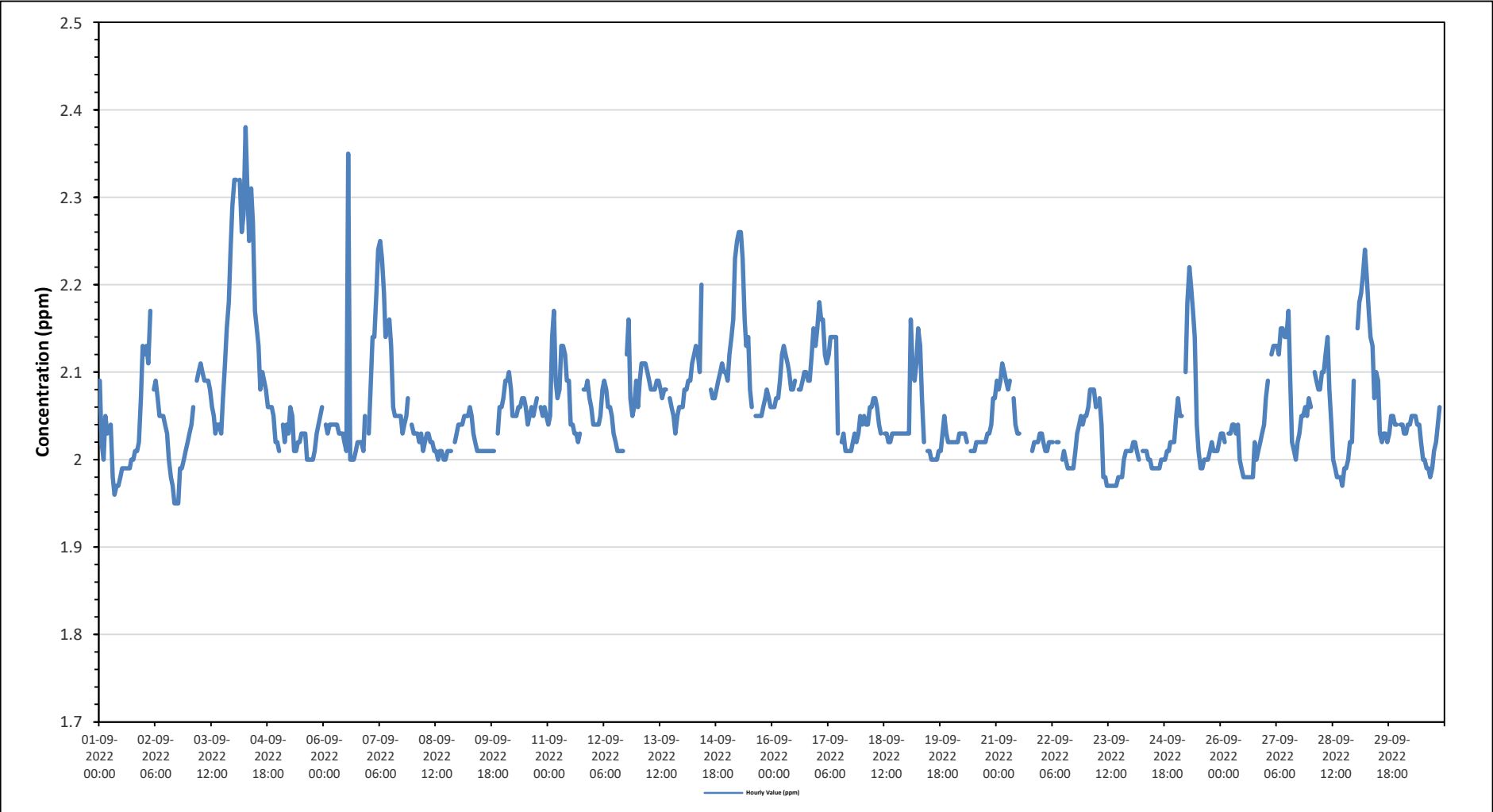
Maximum Hourly Value: 2.38 ppm on September 4 at hour 6	Hours in Service: 720
Maximum Daily Value: 2.18 ppm on September 4	Hours of Data: 678
Minimum Hourly Value: 1.95 ppm on September 2 at hour 16	Hours of Missing Data: 7
Minimum Daily Value: 2.01 ppm on September 24	Hours of Calibration: 35
Monthly Average: 2.06 ppm	Operational Uptime: 99.0

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	
Sep 1	2.09	2.02	2.00	2.05	2.03	S	2.04	1.98	1.96	1.97	1.97	1.98	1.99	1.99	1.99	1.99	1.99	2.00	2.00	2.01	2.01	2.02	2.07	2.13	1.96	2.13	2.01	
Sep 2	2.12	2.13	2.11	2.17	S	2.08	2.09	2.07	2.05	2.05	2.05	2.04	2.03	2.00	1.98	1.97	1.95	1.95	1.95	1.99	1.99	2.00	2.01	2.02	1.95	2.17	2.03	
Sep 3	2.03	2.04	2.06	S	2.09	2.10	2.11	2.10	2.09	2.09	2.09	2.08	2.06	2.05	2.03	2.04	2.04	2.03	2.07	2.11	2.15	2.18	2.24	2.29	2.03	2.29	2.09	
Sep 4	2.32	2.32	S	2.32	2.26	2.28	2.38	2.31	2.25	2.31	2.27	2.17	2.15	2.13	2.08	2.10	2.09	2.08	2.06	2.06	2.05	2.02	2.02	2.02	2.02	2.38	2.18	
Sep 5	2.01	S	2.04	2.02	2.04	2.03	2.06	2.05	2.01	2.01	2.02	2.02	2.03	2.03	2.03	2.00	2.00	2.00	2.00	2.01	2.03	2.04	2.05	2.06	2.00	2.06	2.03	
Sep 6	S	2.04	2.03	2.04	2.04	2.04	2.04	2.04	2.03	2.03	2.03	2.02	2.01	2.35	2.00	2.00	2.00	2.01	2.02	2.02	2.02	2.01	2.05	S	2.00	2.35	2.04	
Sep 7	2.03	2.08	2.14	2.14	2.19	2.24	2.25	2.23	2.19	2.14	2.15	2.16	2.13	2.06	2.05	2.05	2.05	2.05	2.05	2.03	2.04	2.05	2.07	S	2.04	2.03	2.25	2.11
Sep 8	2.03	2.03	2.03	2.02	2.03	2.01	2.02	2.03	2.03	2.02	2.02	2.01	2.01	2.00	2.01	2.01	2.00	2.01	2.00	2.01	2.01	2.01	S	2.02	2.03	2.00	2.03	2.02
Sep 9	2.04	2.04	2.04	2.05	2.05	2.05	2.06	2.05	2.03	2.02	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	S	2.03	2.06	2.06	2.01	2.06	2.03
Sep 10	2.07	2.09	2.09	2.10	2.08	2.05	2.05	2.06	2.06	2.07	2.07	2.06	2.04	2.05	2.06	2.05	2.06	2.05	2.06	S	2.06	2.05	2.06	2.05	2.04	2.10	2.06	
Sep 11	2.04	2.05	2.14	2.17	2.09	2.07	2.08	2.13	2.13	2.12	2.09	2.09	2.04	2.04	2.03	2.02	2.03	S	2.08	2.08	2.09	2.07	2.06	2.02	2.17	2.08		
Sep 12	2.04	2.04	2.04	2.04	2.05	2.08	2.09	2.08	2.06	2.06	2.05	2.03	2.02	2.01	2.01	2.01	2.01	S	2.12	2.16	2.07	2.05	2.06	2.09	2.01	2.16	2.06	
Sep 13	2.06	2.09	2.11	2.11	2.11	2.10	2.09	2.08	2.08	2.08	2.09	2.09	2.08	2.07	2.08	2.08	S	2.07	2.06	2.05	2.03	2.05	2.06	2.06	2.03	2.11	2.08	
Sep 14	2.06	2.08	2.08	2.09	2.09	2.11	2.12	2.13	2.12	2.10	2.20	C	C	C	C	C	2.08	2.07	2.07	2.08	2.09	2.10	2.11	2.10	2.10	2.06	2.20	2.10
Sep 15	2.09	2.12	2.14	2.16	2.23	2.25	2.26	2.26	2.23	2.16	2.13	2.14	2.08	2.06	S	2.05	2.05	2.05	2.05	2.06	2.07	2.08	2.07	2.06	2.05	2.26	2.12	
Sep 16	2.06	2.06	2.07	2.07	2.09	2.12	2.13	2.12	2.11	2.10	2.08	2.08	2.09	S	2.08	2.08	2.09	2.10	2.10	2.09	2.09	2.12	2.15	2.13	2.06	2.15	2.10	
Sep 17	2.15	2.18	2.16	2.16	2.12	2.11	2.12	2.14	2.14	2.14	2.14	2.03	S	2.02	2.03	2.01	2.01	2.01	2.01	2.02	2.03	2.02	2.03	2.05	2.01	2.18	2.08	
Sep 18	2.04	2.05	2.04	2.04	2.06	2.06	2.07	2.07	2.06	2.04	2.03	S	2.03	2.03	2.02	2.02	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.02	2.07	2.04	
Sep 19	2.03	2.03	2.16	2.10	2.09	2.11	2.15	2.13	2.07	2.02	S	2.01	2.01	2.00	2.00	2.00	2.00	2.01	2.01	2.03	2.05	2.03	2.02	2.02	2.00	2.16	2.05	
Sep 20	2.02	2.02	2.02	2.02	2.03	2.03	2.03	2.03	2.02	S	2.01	2.01	2.01	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.03	2.03	2.04	2.07	2.07	2.01	2.07	2.03
Sep 21	2.09	2.08	2.09	2.11	2.10	2.09	2.08	2.09	S	2.07	2.04	2.03	2.03	N	N	N	N	N	N	NRM	2.01	2.02	2.02	2.02	2.03	2.01	2.11	-
Sep 22	2.03	2.02	2.01	2.01	2.02	2.02	2.02	S	2.02	2.02	N	2.00	2.01	2.00	1.99	1.99	1.99	1.99	1.99	2.01	2.03	2.04	2.05	2.04	2.05	1.99	2.05	2.02
Sep 23	2.05	2.06	2.08	2.08	2.08	2.06	S	2.07	2.04	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.98	2.00	2.01	2.01	2.01	1.97	2.08	2.01	
Sep 24	2.01	2.02	2.02	2.01	2.00	S	2.01	2.01	2.01	2.00	2.00	1.99	1.99	1.99	1.99	1.99	2.00	2.00	2.00	2.01	2.01	2.02	2.02	2.02	1.99	2.02	2.01	
Sep 25	2.05	2.07	2.05	2.05	S	2.10	2.18	2.22	2.20	2.17	2.14	2.04	2.01	1.99	1.99	2.00	2.00	2.01	2.02	2.01	2.01	2.01	2.02	2.02	1.99	2.22	2.06	
Sep 26	2.03	2.03	2.02	S	2.03	2.03	2.04	2.04	2.03	2.04	2.00	1.99	1.98	1.98	1.98	1.98	1.98	1.98	2.02	2.00	2.01	2.02	2.03	2.04	1.98	2.04	2.01	
Sep 27	2.07	2.09	S	2.12	2.13	2.13	2.13	2.12	2.15	2.15	2.14	2.14	2.17	2.09	2.02	2.01	2.00	2.02	2.03	2.05	2.05	2.06	2.05	2.07	2.00	2.17	2.09	
Sep 28	2.06	S	2.10	2.09	2.08	2.08	2.10	2.10	2.12	2.14	2.08	2.04	2.00	1.99	1.98	1.98	1.98	1.97	1.99	1.99	2.00	2.02	2.02	2.09	1.97	2.14	2.04	
Sep 29	S	2.15	2.18	2.19	2.21	2.24	2.21	2.17	2.14	2.13	2.07	2.10	2.09	2.03	2.02	2.03	2.03	2.02	2.03	2.05	2.05	2.04	2.04	S	2.02	2.24	2.10	
Sep 30	2.04	2.04	2.03	2.03	2.04	2.04	2.05	2.05	2.05	2.04	2.04	2.02	2.00	2.00	1.99	1.98	1.99	2.01	2.02	2.04	2.06	2.06	S	2.08	1.98	2.08	2.03	
Diurnal Maximum	2.32	2.32	2.18	2.32	2.26	2.28	2.38	2.31	2.25	2.31	2.27	2.17	2.17	2.35	2.08	2.10	2.09	2.10	2.12	2.16	2.15	2.18	2.24	2.29				
Diurnal Average	2.06	2.07	2.07	2.09	2.09	2.10	2.11	2.10	2.09	2.08	2.07	2.05	2.04	2.04	2.02	2.02	2.01	2.02	2.03	2.04	2.04	2.05	2.05	2.06				

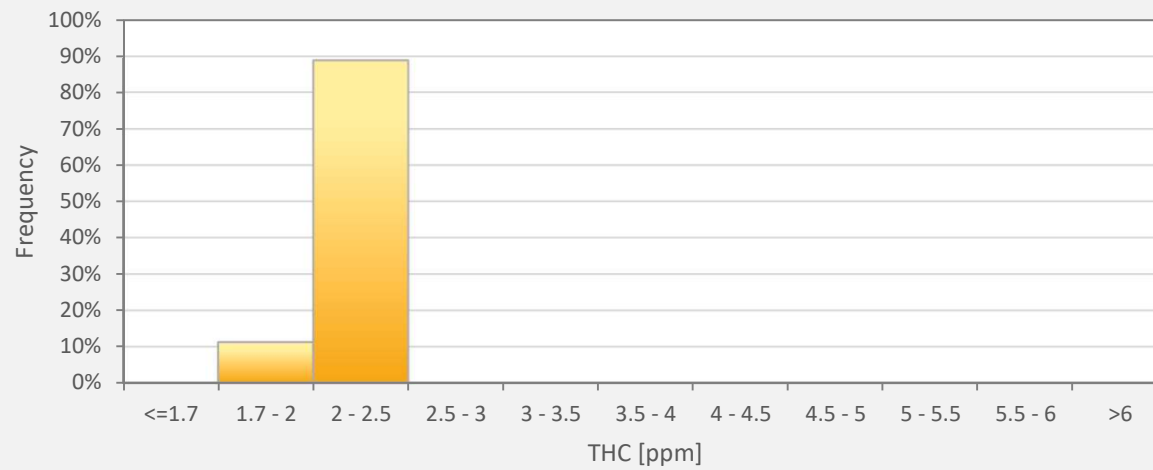
C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N No Data (Machine Not in Service)	Y Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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

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



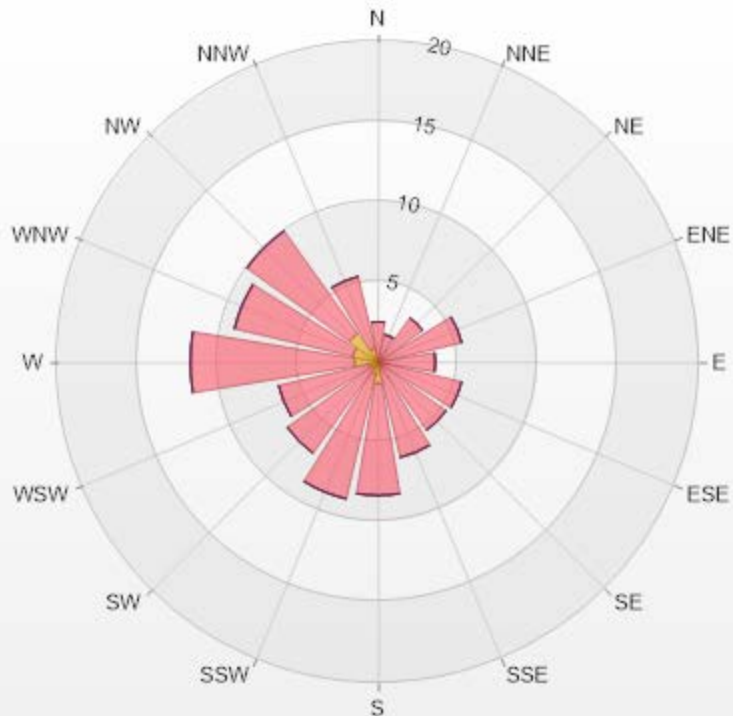
THC55[ppm] Histogram: St. Lina Monthly: 09-2022 1 Hr.



Classes	THC55
<=1.7	0.00%
1.7 - 2	11.21%
2 - 2.5	88.79%
2.5 - 3	0.00%
3 - 3.5	0.00%
3.5 - 4	0.00%
4 - 4.5	0.00%
4.5 - 5	0.00%
5 - 5.5	0.00%
5.5 - 6	0.00%
>6	0.00%

Wind: St. Lina Poll.: St. Lina-THC55[ppm] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 93.75% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	0	2.52	0	0	0	2.52
NNE	0	1.78	0	0	0	1.78
NE	0.44	2.96	0	0	0	3.4
ENE	0.3	5.04	0	0	0	5.34
E	0.15	3.41	0	0	0	3.56
ESE	0.15	5.19	0	0	0	5.34
SE	0.3	4.89	0	0	0	5.19
SSE	0.3	5.78	0	0	0	6.08
S	1.33	6.96	0	0	0	8.29
SSW	0.74	8	0	0	0	8.74
SW	0.44	6.52	0	0	0	6.96
WSW	0.59	5.78	0	0	0	6.37
W	1.48	10.22	0	0	0	11.7
WNW	1.63	7.56	0	0	0	9.19
NW	2.22	7.85	0	0	0	10.07
NNW	0.89	4.59	0	0	0	5.48
Summary	10.96	89.05	0	0	0	100



LICA-202209

% Icon Classes (ppm)

11

0-2

89

2-5

0

5-10

0

10-40

0

>40.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Station - September 2022

Summary of Hourly Averages

METHANE (CH₄) in ppm

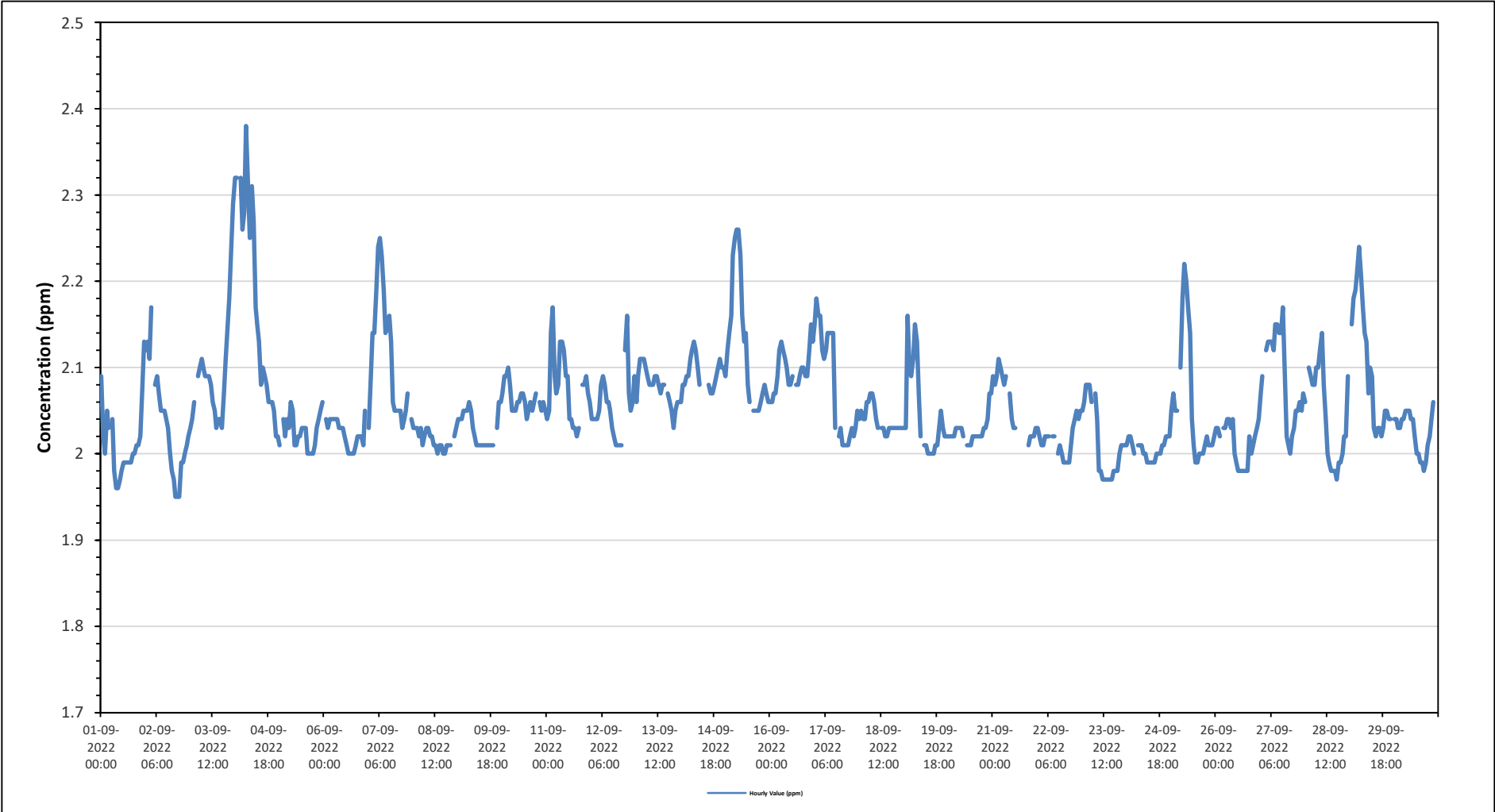
Maximum Hourly Value: 2.38 ppm on September 4 at hour 6	Hours in Service: 720
Maximum Daily Value: 2.18 ppm on September 4	Hours of Data: 678
Minimum Hourly Value: 1.95 ppm on September 2 at hour 16	Hours of Missing Data: 7
Minimum Daily Value: 2.01 ppm on September 24	Hours of Calibration: 35
Monthly Average: 2.06 ppm	Operational Uptime: 99.0

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	
Sep 1	2.09	2.02	2.00	2.05	2.03	S	2.04	1.98	1.96	1.96	1.97	1.98	1.99	1.99	1.99	1.99	1.99	2.00	2.00	2.01	2.01	2.02	2.07	2.13	1.96	2.13	2.01	
Sep 2	2.12	2.13	2.11	2.17	S	2.08	2.09	2.07	2.05	2.05	2.05	2.04	2.03	2.00	1.98	1.97	1.95	1.95	1.95	1.99	1.99	2.00	2.01	2.02	1.95	2.17	2.03	
Sep 3	2.03	2.04	2.06	S	2.09	2.10	2.11	2.10	2.09	2.09	2.09	2.08	2.06	2.05	2.03	2.04	2.04	2.03	2.07	2.11	2.15	2.18	2.24	2.29	2.03	2.29	2.09	
Sep 4	2.32	2.32	S	2.32	2.26	2.28	2.38	2.31	2.25	2.31	2.27	2.17	2.15	2.13	2.08	2.10	2.09	2.08	2.06	2.06	2.05	2.02	2.02	2.02	2.02	2.38	2.18	
Sep 5	2.01	S	2.04	2.02	2.04	2.03	2.06	2.05	2.01	2.01	2.02	2.02	2.03	2.03	2.03	2.00	2.00	2.00	2.00	2.01	2.03	2.04	2.05	2.06	2.00	2.06	2.03	
Sep 6	S	2.04	2.03	2.04	2.04	2.04	2.04	2.04	2.03	2.03	2.03	2.02	2.01	2.00	2.00	2.00	2.00	2.01	2.02	2.02	2.01	2.05	S	2.00	2.05	2.02		
Sep 7	2.03	2.08	2.14	2.14	2.19	2.24	2.25	2.23	2.19	2.14	2.15	2.16	2.13	2.06	2.05	2.05	2.05	2.05	2.05	2.03	2.04	2.05	2.07	S	2.03	2.25	2.11	
Sep 8	2.03	2.03	2.03	2.02	2.03	2.01	2.02	2.03	2.03	2.02	2.02	2.01	2.01	2.00	2.01	2.01	2.00	2.01	2.00	2.01	2.01	2.01	S	2.02	2.00	2.03	2.02	
Sep 9	2.04	2.04	2.04	2.05	2.05	2.05	2.06	2.05	2.03	2.02	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	S	2.03	2.06	2.01	2.06	2.03	
Sep 10	2.07	2.09	2.09	2.10	2.08	2.05	2.05	2.06	2.06	2.07	2.07	2.06	2.04	2.05	2.06	2.05	2.06	2.07	S	S	2.06	2.05	2.06	2.05	2.04	2.10	2.06	
Sep 11	2.04	2.05	2.14	2.17	2.09	2.07	2.08	2.13	2.13	2.12	2.09	2.09	2.04	2.04	2.03	2.02	2.03	S	S	2.08	2.09	2.07	2.06	2.02	2.17	2.08		
Sep 12	2.04	2.04	2.04	2.04	2.05	2.08	2.09	2.08	2.06	2.06	2.05	2.03	2.02	2.01	2.01	2.01	2.01	S	S	2.12	2.16	2.07	2.05	2.06	2.01	2.16	2.06	
Sep 13	2.06	2.09	2.11	2.11	2.11	2.10	2.09	2.08	2.08	2.08	2.09	2.09	2.08	2.07	2.08	2.08	S	S	2.07	2.06	2.05	2.03	2.05	2.06	2.03	2.11	2.08	
Sep 14	2.06	2.08	2.08	2.09	2.09	2.11	2.12	2.13	2.12	2.10	2.08	C	C	C	C	C	2.08	2.07	2.07	2.08	2.09	2.10	2.11	2.10	2.10	2.06	2.13	2.09
Sep 15	2.09	2.12	2.14	2.16	2.23	2.25	2.26	2.26	2.23	2.16	2.13	2.14	2.08	2.06	S	2.05	2.05	2.05	2.05	2.06	2.07	2.08	2.07	2.06	2.05	2.26	2.12	
Sep 16	2.06	2.06	2.07	2.07	2.09	2.12	2.13	2.12	2.11	2.10	2.08	2.08	2.09	S	2.08	2.08	2.09	2.10	2.10	2.09	2.09	2.12	2.15	2.13	2.06	2.15	2.10	
Sep 17	2.15	2.18	2.16	2.16	2.12	2.11	2.12	2.14	2.14	2.14	2.14	2.03	S	2.02	2.03	2.01	2.01	2.01	2.01	2.02	2.03	2.02	2.03	2.05	2.01	2.18	2.08	
Sep 18	2.04	2.05	2.04	2.04	2.06	2.06	2.07	2.07	2.06	2.04	2.03	S	S	2.03	2.03	2.02	2.02	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.02	2.07	2.04	
Sep 19	2.03	2.03	2.16	2.10	2.09	2.11	2.15	2.13	2.07	2.02	S	2.01	2.01	2.00	2.00	2.00	2.00	2.01	2.01	2.03	2.05	2.03	2.02	2.02	2.00	2.16	2.05	
Sep 20	2.02	2.02	2.02	2.02	2.03	2.03	2.03	2.03	2.02	S	2.01	2.01	2.01	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.03	2.03	2.04	2.07	2.07	2.01	2.07	2.03
Sep 21	2.09	2.08	2.09	2.11	2.10	2.09	2.08	2.09	S	2.07	2.04	2.03	2.03	N	N	N	N	N	N	N	N	N	N	N	2.01	2.11	-	
Sep 22	2.03	2.02	2.01	2.01	2.02	2.02	2.02	S	2.02	2.02	N	2.00	2.01	2.00	1.99	1.99	1.99	1.99	1.99	2.01	2.03	2.04	2.05	2.04	2.05	1.99	2.05	2.02
Sep 23	2.05	2.06	2.08	2.08	2.08	2.06	S	2.07	2.04	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.98	2.00	2.01	2.01	2.01	1.97	2.08	2.01	
Sep 24	2.01	2.02	2.02	2.01	2.00	S	2.01	2.01	2.01	2.00	2.00	1.99	1.99	1.99	1.99	1.99	2.00	2.00	2.00	2.01	2.01	2.02	2.02	2.02	1.99	2.02	2.01	
Sep 25	2.05	2.07	2.05	2.05	S	2.10	2.18	2.22	2.20	2.17	2.14	2.04	2.01	1.99	1.99	2.00	2.00	2.00	2.01	2.02	2.01	2.01	2.01	2.02	1.99	2.22	2.06	
Sep 26	2.03	2.03	2.02	S	2.03	2.03	2.04	2.04	2.03	2.04	2.00	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.98	2.02	2.00	2.01	2.02	2.03	1.98	2.04	2.01	
Sep 27	2.07	2.09	S	2.12	2.13	2.13	2.13	2.12	2.15	2.15	2.14	2.14	2.17	2.09	2.02	2.01	2.00	2.02	2.03	2.05	2.05	2.06	2.05	2.07	2.00	2.17	2.09	
Sep 28	2.06	S	2.10	2.09	2.08	2.08	2.10	2.10	2.12	2.14	2.08	2.04	2.00	1.99	1.98	1.98	1.98	1.97	1.99	1.99	2.00	2.02	2.02	2.09	1.97	2.14	2.04	
Sep 29	S	2.15	2.18	2.19	2.21	2.24	2.21	2.17	2.14	2.13	2.07	2.10	2.09	2.03	2.02	2.03	2.03	2.02	2.03	2.05	2.05	2.04	2.04	S	2.02	2.24	2.10	
Sep 30	2.04	2.04	2.03	2.03	2.04	2.04	2.05	2.05	2.05	2.04	2.04	2.02	2.00	2.00	1.99	1.99	1.98	1.99	2.01	2.02	2.04	2.06	S	2.08	1.98	2.08	2.03	
Diurnal Maximum	2.32	2.32	2.18	2.32	2.26	2.28	2.38	2.31	2.25	2.31	2.27	2.17	2.17	2.13	2.08	2.10	2.09	2.10	2.12	2.16	2.15	2.18	2.24	2.29				
Diurnal Average	2.06	2.07	2.07	2.09	2.09	2.10	2.11	2.10	2.09	2.08	2.07	2.05	2.04	2.02	2.02	2.02	2.01	2.02	2.03	2.04	2.04	2.05	2.05	2.06				

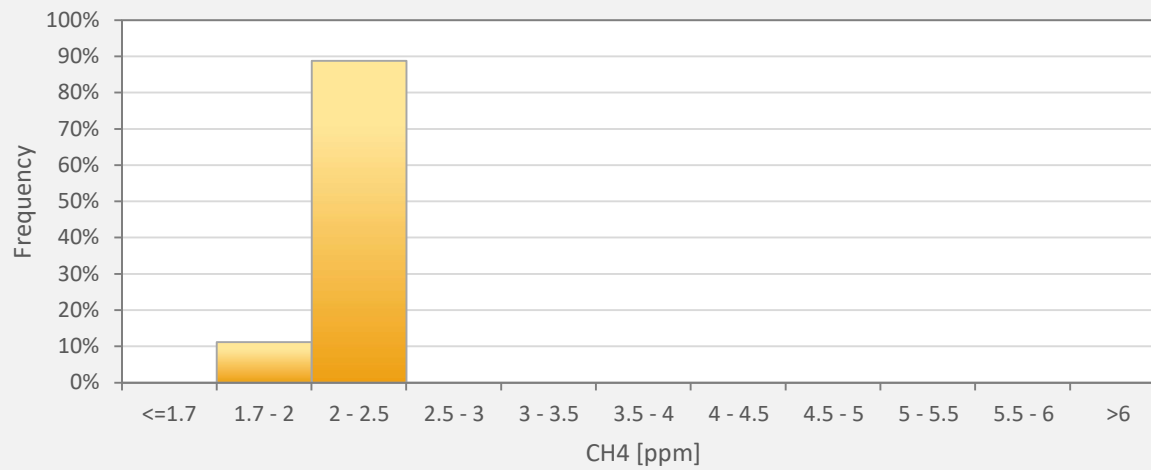
C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N No Data (Machine Not in Service)	Y Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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

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



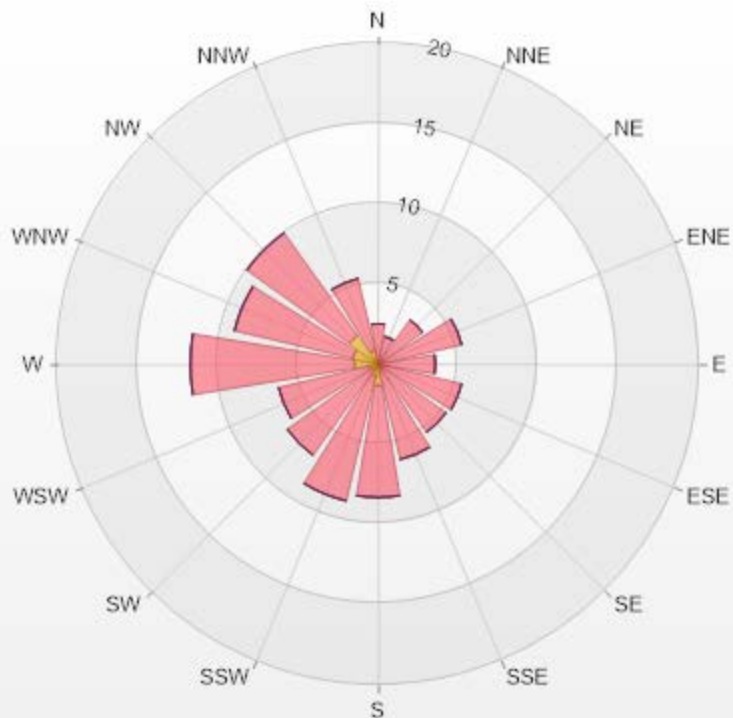
CH4[ppm] Histogram: St. Lina Monthly: 09-2022 1 Hr.



Classes	CH4
<=1.7	0.00%
1.7 - 2	11.21%
2 - 2.5	88.79%
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: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 93.75% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	0	2.52	0	0	0	2.52
NNE	0	1.78	0	0	0	1.78
NE	0.44	2.96	0	0	0	3.4
ENE	0.3	5.04	0	0	0	5.34
E	0.15	3.41	0	0	0	3.56
ESE	0.15	5.19	0	0	0	5.34
SE	0.3	4.89	0	0	0	5.19
SSE	0.3	5.78	0	0	0	6.08
S	1.33	6.96	0	0	0	8.29
SSW	0.74	8	0	0	0	8.74
SW	0.44	6.52	0	0	0	6.96
WSW	0.59	5.78	0	0	0	6.37
W	1.48	10.22	0	0	0	11.7
WNW	1.63	7.56	0	0	0	9.19
NW	2.22	7.85	0	0	0	10.07
NNW	0.89	4.59	0	0	0	5.48
Summary	10.96	89.05	0	0	0	100




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% Icon Classes (ppm)

11  0-2

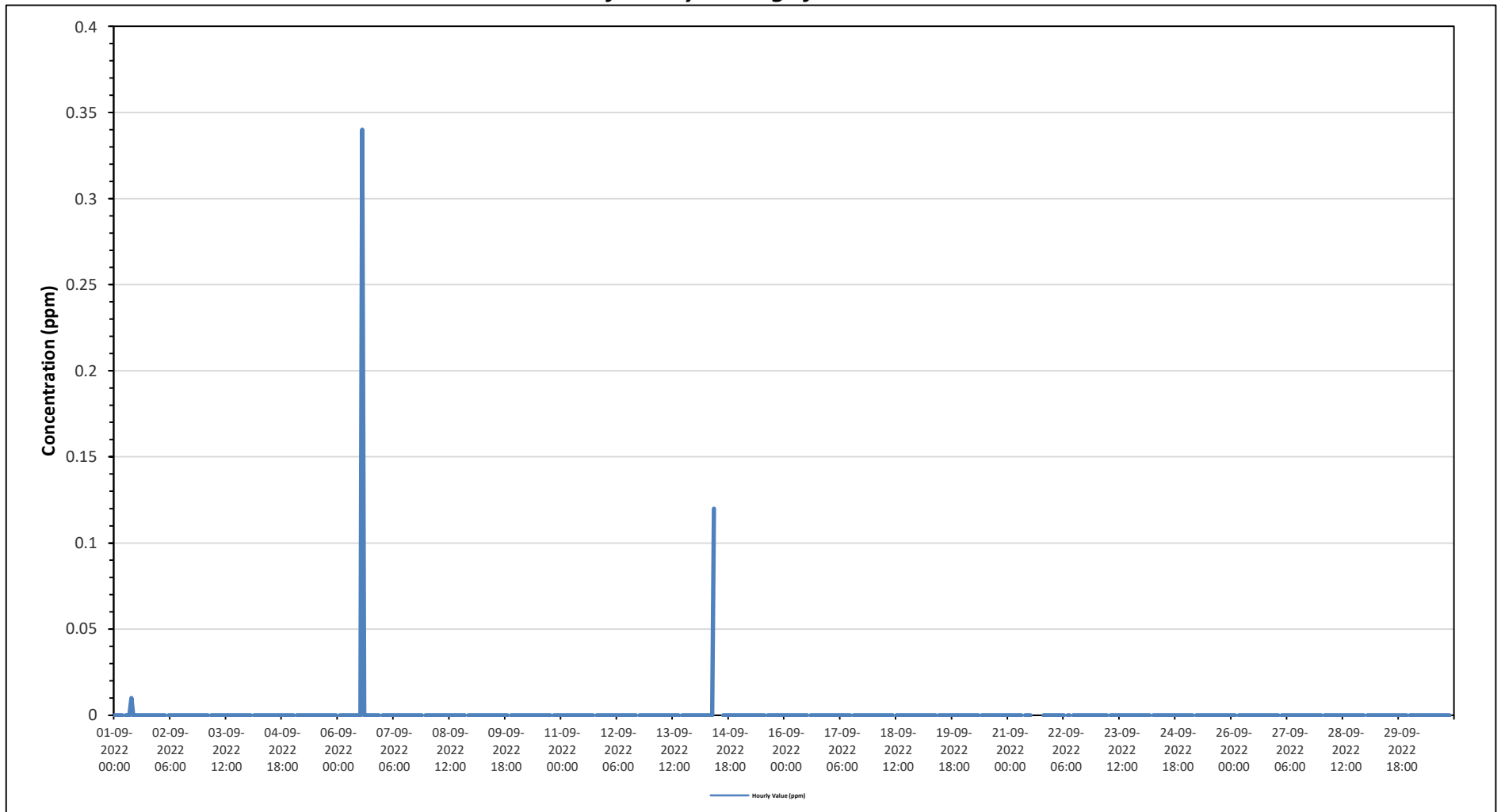
89  2-5

0  5-10

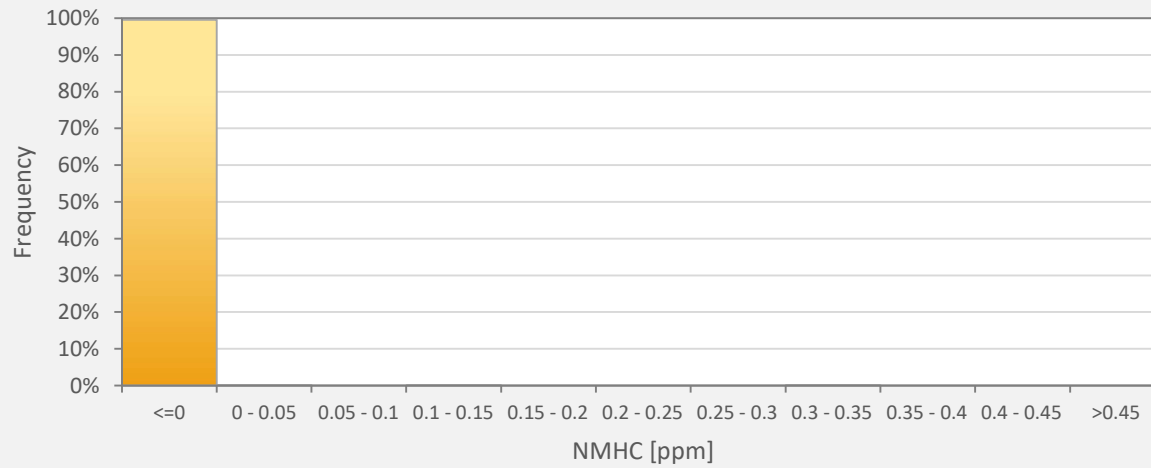
0  10-20

0  >20.0

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



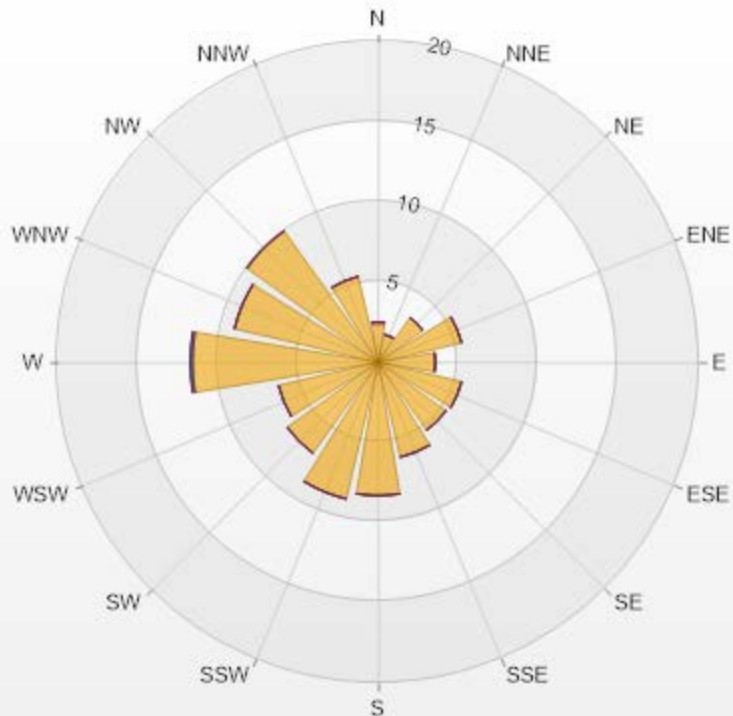
NMHC[ppm] Histogram: St. Lina Monthly: 09-2022 1 Hr.



Classes	NMHC
<=0	99.56%
0 - 0.05	0.15%
0.05 - 0.1	0.00%
0.1 - 0.15	0.15%
0.15 - 0.2	0.00%
0.2 - 0.25	0.00%
0.25 - 0.3	0.00%
0.3 - 0.35	0.15%
0.35 - 0.4	0.00%
0.4 - 0.45	0.00%
>0.45	0.00%

Wind: St. Lina Poll.: St. Lina-NMHC[ppm] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 93.75% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	2.37	0.15	0	0	0	2.52
NNE	1.78	0	0	0	0	1.78
NE	3.41	0	0	0	0	3.41
ENE	5.33	0	0	0	0	5.33
E	3.56	0	0	0	0	3.56
ESE	5.33	0	0	0	0	5.33
SE	5.19	0	0	0	0	5.19
SSE	6.07	0	0	0	0	6.07
S	8.3	0	0	0	0	8.3
SSW	8.74	0	0	0	0	8.74
SW	6.96	0	0	0	0	6.96
WSW	6.37	0	0	0	0	6.37
W	11.56	0	0.15	0	0	11.71
WNW	9.19	0	0	0	0	9.19
NW	10.07	0	0	0	0	10.07
NNW	5.48	0	0	0	0	5.48
Summary	100	0.15	0.15	0	0	100



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% Icon Classes (ppm)

100 0-0.1

0 0.1-0.3

0 0.3-1

0 1-2

0 >2.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Station - September 2022

Summary of Hourly Averages

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

Alberta Ambient Air Quality Guideline (AAAQG): 1-Hour 80 µg/m³, Alberta Ambient Air Quality Objective (AAAQO): 24-Hour 29 µg/m³
 Number of 1-Hour Exceedances: 0 Number of 24-Hour Exceedances: 1

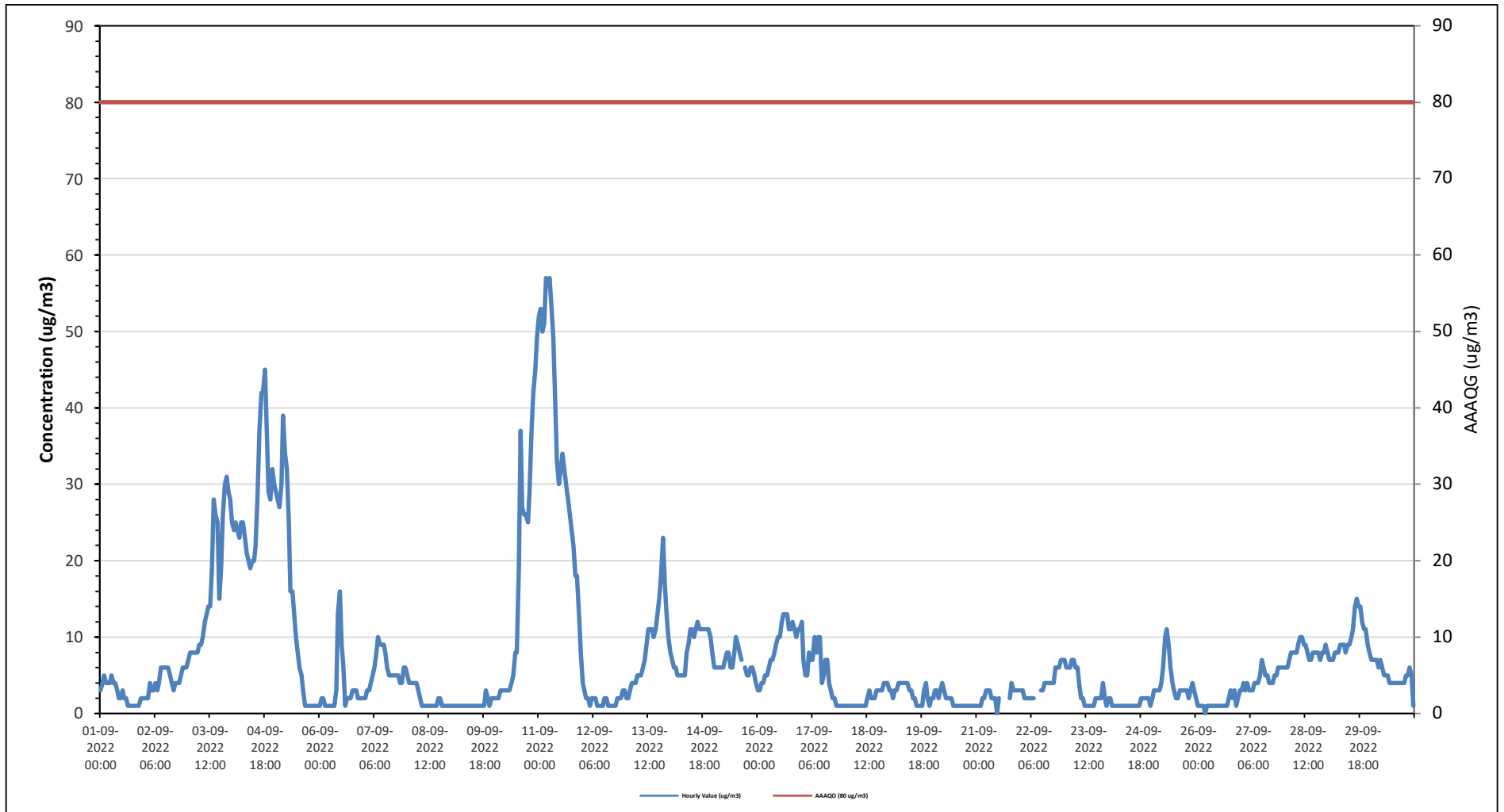
Maximum Hourly Value:	57 µg/m ³ on September 11 at hour 4	Hours in Service:	720
Maximum Daily Value:	36.1 µg/m ³ on September 11	Hours of Data:	711
Minimum Hourly Value:	0 µg/m ³ on September 26 at hour 5	Hours of Missing Data:	8
Minimum Daily Value:	1 µg/m ³ on September 9	Hours of Calibration:	1
Monthly Average:	7.4 µg/m ³	Operational Uptime:	98.9

Day	Hourly Period Starting at (MST)																							Daily	Daily	Daily	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Sep 1	3	4	5	4	4	4	5	4	4	3	2	2	3	2	2	1	1	1	1	1	1	1	2	2	1	5	2.6
Sep 2	2	2	2	4	3	3	4	3	4	6	6	6	6	6	5	4	3	4	4	4	5	6	6	6	2	6	4.3
Sep 3	7	8	8	8	8	8	9	9	10	12	13	14	14	19	28	26	25	15	19	26	30	31	29	28	7	31	16.8
Sep 4	25	24	25	24	23	25	25	23	21	20	19	20	20	22	29	37	42	42	45	37	29	28	32	30	19	45	27.8
Sep 5	29	28	27	30	39	34	32	25	16	16	13	10	8	6	5	3	1	1	1	1	1	1	1	1	1	39	13.7
Sep 6	1	2	2	1	1	1	1	1	1	3	13	16	9	6	1	2	2	2	3	3	3	2	2	2	1	16	3.3
Sep 7	2	2	3	3	4	5	6	8	10	9	9	8	6	5	5	5	5	5	5	5	4	4	6	6	2	10	5.6
Sep 8	5	4	4	4	4	4	3	2	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	5	2.0
Sep 9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	2	1	2	2	1	3	1.2
Sep 10	2	2	2	3	3	3	3	3	3	4	5	8	8	19	37	27	26	26	25	29	37	42	45	49	2	49	17.1
Sep 11	52	53	50	51	57	56	57	53	49	40	33	30	32	34	32	30	28	26	24	22	18	18	13	8	8	57	36.1
Sep 12	4	3	2	2	1	2	2	2	1	1	1	2	2	2	1	1	1	1	1	2	2	2	3	3	1	4	1.8
Sep 13	2	2	3	4	4	4	5	5	5	6	7	9	11	11	11	10	11	13	15	18	23	17	13	10	2	23	9.1
Sep 14	8	7	6	6	5	5	5	5	5	8	9	11	11	10	11	12	11	11	11	11	11	11	10	8	5	12	8.7
Sep 15	6	6	6	6	6	6	7	8	8	6	6	8	10	9	8	7	C	6	5	5	6	6	5	4	4	10	6.5
Sep 16	3	3	4	4	4	5	6	7	7	8	9	10	10	12	13	13	13	11	11	12	11	10	11	11	3	13	8.7
Sep 17	12	7	5	5	8	7	7	10	8	10	10	4	5	7	7	4	3	2	2	1	1	1	1	1	1	12	5.3
Sep 18	1	1	1	1	1	1	1	1	1	1	1	1	2	3	2	2	2	3	3	3	3	4	4	4	1	4	2.0
Sep 19	3	3	2	3	3	4	4	4	4	4	3	3	2	2	1	1	1	1	1	3	4	2	1	2	1	4	2.7
Sep 20	2	3	3	2	3	4	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	1.7
Sep 21	1	1	1	2	2	3	3	3	2	2	2	N	2	N	N	N	N	N	2	4	3	3	3	3	1	4	2.3
Sep 22	3	3	2	2	2	2	2	2	N	2	N	3	3	4	4	4	4	4	4	6	6	6	7	7	2	7	3.7
Sep 23	7	6	6	6	7	7	6	6	4	2	2	1	1	1	1	1	1	2	2	2	2	4	2	1	1	7	3.3
Sep 24	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	1	1	2	1.3
Sep 25	2	3	3	3	3	4	6	10	11	9	6	4	3	2	2	3	3	3	3	3	2	3	4	3	2	11	4.1
Sep 26	2	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	2	3	2	3	1	2	0	3	1.3	
Sep 27	3	3	4	3	4	3	3	3	4	4	4	5	7	6	5	5	4	4	4	5	5	6	6	6	3	7	4.4
Sep 28	6	6	6	7	8	8	8	8	9	10	10	9	9	8	7	7	8	8	8	8	7	8	8	9	6	10	7.9
Sep 29	8	7	7	7	8	8	8	9	9	9	8	9	9	10	11	14	15	14	14	12	11	11	9	8	7	15	9.8
Sep 30	7	7	7	7	6	7	6	5	5	4	4	4	4	4	4	4	4	4	4	5	5	6	5	1	1	7	5.0
Diurnal Maximum	52	53	50	51	57	56	57	53	49	40	33	30	32	34	37	42	42	42	45	37	37	42	45	49			
Diurnal Average	7.0	6.8	6.6	6.8	7.5	7.5	7.7	7.5	7.1	6.9	7.0	7.0	6.8	7.4	8.2	7.9	7.8	7.4	7.5	7.9	7.9	8.0	7.8	7.3			

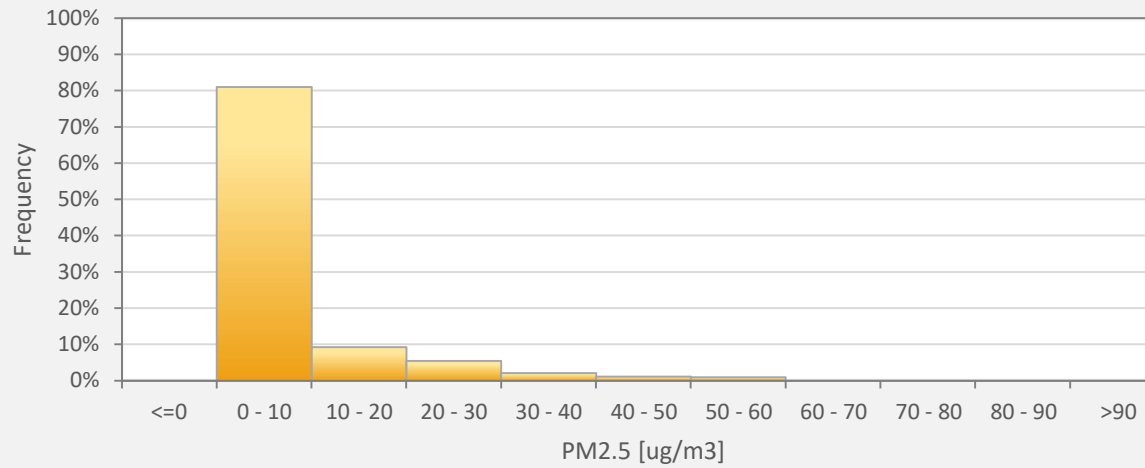
C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N No Data (Machine Not in Service)	Y Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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

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



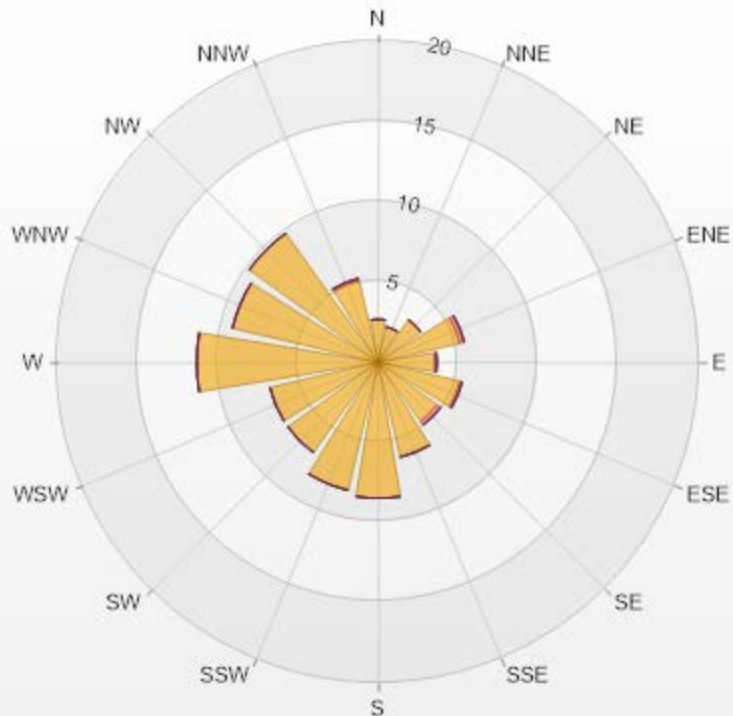
PM2.5[ug/m3(L)] Histogram: St. Lina Monthly: 09-2022 1 Hr.



Classes	PM2.5
<=0	0.00%
0 - 10	81.01%
10 - 20	9.28%
20 - 30	5.49%
30 - 40	2.11%
40 - 50	1.13%
50 - 60	0.98%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: St. Lina Poll.: St. Lina-PM2.5[ug/m3(L)] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 98.33% Calm Avg: 0.00 [ug/m3(L)]

Direction	0-50	50-80	80-120	120-240	>240.0	Total
N	2.68	0	0	0	0	2.68
NNE	2.26	0	0	0	0	2.26
NE	3.25	0	0	0	0	3.25
ENE	5.23	0.28	0	0	0	5.51
E	3.53	0.14	0	0	0	3.67
ESE	5.23	0.14	0	0	0	5.37
SE	4.52	0.28	0	0	0	4.8
SSE	6.07	0	0	0	0	6.07
S	8.47	0	0	0	0	8.47
SSW	8.19	0	0	0	0	8.19
SW	6.92	0	0	0	0	6.92
WSW	6.92	0	0	0	0	6.92
W	11.3	0	0	0	0	11.3
WNW	9.32	0	0	0	0	9.32
NW	9.89	0	0	0	0	9.89
NNW	5.23	0.14	0	0	0	5.37
Summary	99.01	0.98	0	0	0	100



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% Icon Classes (ug/m3(L))

99 0-50

1 50-80

0 80-120

0 120-240

0 >240.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Station - September 2022

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

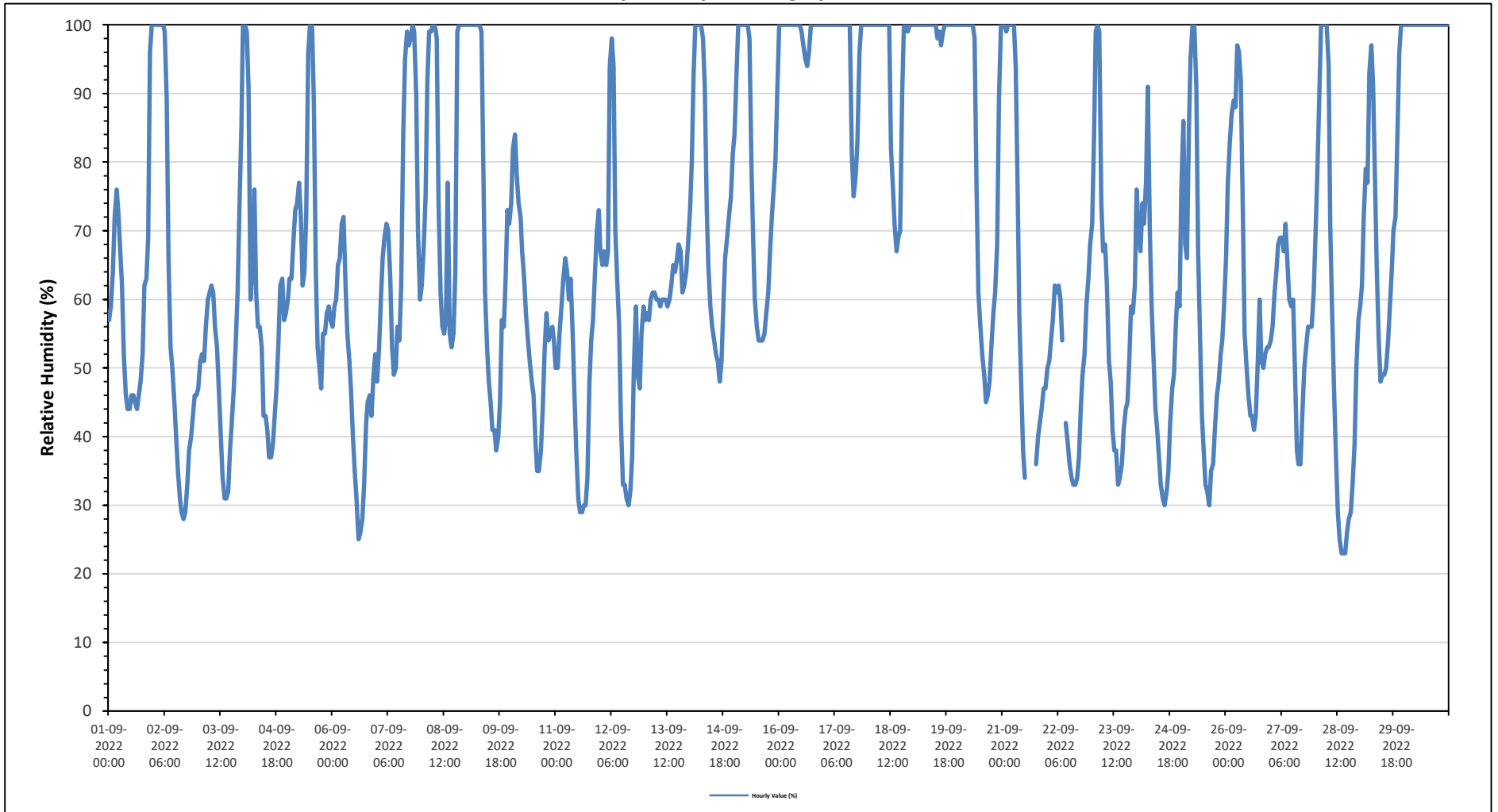
Maximum Hourly Value:	100	%	on September 1 at hour 23	Hours in Service:	720
Maximum Daily Value:	####	%	on September 30	Hours of Data:	714
Minimum Hourly Value:	23	%	on September 28 at hour 14	Hours of Missing Data:	6
Minimum Daily Value:	48.3	%	on September 6	Hours of Calibration:	0
Monthly Average:	68.4	%		Operational Uptime:	99.2

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Sep 1	57	59	64	72	76	73	67	62	52	46	44	44	46	46	45	44	46	48	52	62	63	69	96	100	44	100	59.7	
Sep 2	100	100	100	100	100	100	99	89	66	53	50	45	40	35	31	29	28	29	33	38	40	43	46	46	28	100	60.0	
Sep 3	47	51	52	51	56	60	61	62	61	56	53	47	40	34	31	31	32	38	42	47	53	61	73	85	31	85	51.0	
Sep 4	100	100	99	91	60	64	76	61	56	56	53	43	43	41	37	37	39	43	47	54	62	63	57	58	37	100	60.0	
Sep 5	60	63	63	68	73	74	77	72	62	64	72	96	100	100	89	64	53	50	47	55	55	58	59	57	47	100	68.0	
Sep 6	56	59	60	65	66	71	72	62	55	51	47	40	35	31	25	26	28	33	42	45	46	43	49	52	25	72	48.3	
Sep 7	48	53	60	66	69	71	70	63	53	49	50	56	54	62	84	95	99	97	98	100	99	90	70	60	48	100	71.5	
Sep 8	62	68	75	92	99	99	100	100	98	74	61	56	55	57	77	55	53	55	64	99	100	100	100	100	53	100	79.1	
Sep 9	100	100	100	100	100	100	100	100	99	80	61	53	48	45	41	41	38	40	45	57	56	63	73	71	38	100	71.3	
Sep 10	74	82	84	78	74	72	67	63	58	54	51	48	46	39	35	35	38	44	53	58	54	55	56	54	35	84	57.2	
Sep 11	50	50	55	59	63	66	64	60	63	55	46	38	31	29	29	30	30	34	48	54	57	64	70	73	29	73	50.8	
Sep 12	67	65	67	65	67	94	98	94	70	63	56	42	33	33	31	30	32	37	50	59	49	47	55	59	30	98	56.8	
Sep 13	57	58	57	60	61	61	60	60	59	60	60	60	59	60	62	65	64	66	68	67	61	62	64	68	57	68	61.6	
Sep 14	73	80	93	100	100	100	100	98	91	73	65	59	56	54	52	51	48	51	60	66	69	72	75	81	48	100	73.6	
Sep 15	84	93	100	100	100	100	100	100	98	79	68	60	56	54	54	54	55	58	61	67	72	76	80	91	54	100	77.5	
Sep 16	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99	97	95	94	96	100	100	100	100	100	94	100	99.2
Sep 17	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	81	75	78	83	96	100	100	100	100	96.4
Sep 18	100	100	100	100	100	100	100	100	100	100	100	100	100	100	82	76	71	67	69	70	90	100	100	100	100	67	100	92.7
Sep 19	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	98	99	97	99	100	100	100	100	100	100	97	100	99.7
Sep 20	100	100	100	100	100	100	100	100	100	100	98	76	61	56	52	49	45	46	48	53	58	61	68	89	100	45	100	77.5
Sep 21	100	100	99	100	100	100	100	94	75	58	47	38	34	N	N	N	N	N	36	40	42	44	47	47	34	100	68.5	
Sep 22	50	51	54	57	62	61	62	60	54	N	42	39	36	34	33	33	34	37	44	49	52	59	63	68	33	68	49.3	
Sep 23	71	83	99	100	99	74	67	68	62	51	48	41	38	38	33	34	36	41	44	45	51	59	58	62	33	100	58.4	
Sep 24	76	70	67	74	71	77	91	70	59	52	44	41	37	33	31	30	32	35	42	47	49	56	61	59	30	91	54.3	
Sep 25	76	86	68	66	85	95	100	100	91	67	54	43	38	33	32	30	35	36	41	46	48	52	54	59	30	100	59.8	
Sep 26	66	77	83	87	89	88	97	96	92	73	55	50	46	43	43	41	43	51	60	51	50	52	53	53	41	97	64.1	
Sep 27	54	56	61	64	68	69	69	67	71	65	60	59	60	50	38	36	36	43	50	53	56	56	56	61	36	71	56.6	
Sep 28	68	78	88	100	100	100	100	94	71	59	47	38	29	25	23	23	23	26	28	29	33	39	50	57	23	100	55.3	
Sep 29	59	62	72	79	77	93	97	91	76	65	54	48	49	49	50	54	59	64	70	72	83	96	100	100	48	100	71.6	
Sep 30	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100.0
Diurnal Maximum	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Diurnal Average	75.2	78.1	80.7	83.1	83.8	85.4	86.5	82.9	76.4	69.0	62.1	58.2	54.9	53.4	52.4	50.1	50.6	53.5	58.4	63.8	65.4	68.2	71.8	74.0				

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

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

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





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Station - September 2022

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

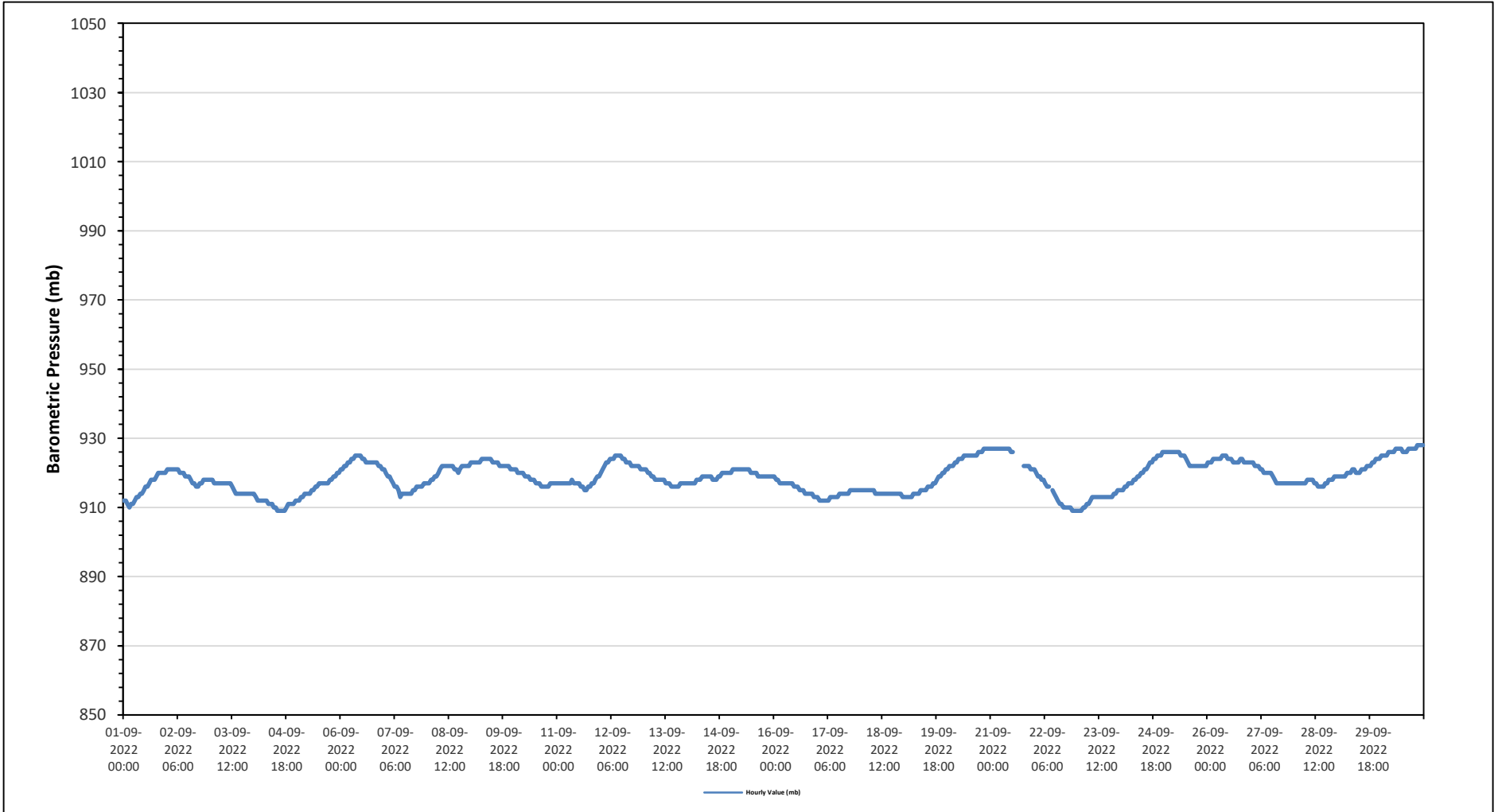
Maximum Hourly Value:	928 mb on September 30 at hour 20	Hours in Service:	720
Maximum Daily Value:	927 mb on September 30	Hours of Data:	714
Minimum Hourly Value:	909 mb on September 4 at hour 13	Hours of Missing Data:	6
Minimum Daily Value:	911 mb on September 4	Hours of Calibration:	0
Monthly Average:	919 mb	Operational Uptime:	99.2

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Sep 1	912	912	911	910	911	911	912	913	913	914	914	915	916	916	917	918	918	918	919	920	920	920	920	920	910	920	915.4
Sep 2	921	921	921	921	921	921	921	920	920	920	919	919	919	918	917	917	916	916	917	917	918	918	918	918	916	921	918.9
Sep 3	918	918	917	917	917	917	917	917	917	917	917	917	916	915	914	914	914	914	914	914	914	914	914	914	914	918	915.7
Sep 4	914	913	912	912	912	912	912	912	911	911	911	910	910	909	909	909	909	909	910	911	911	911	911	912	909	914	911.0
Sep 5	912	912	913	913	914	914	914	914	915	915	916	916	917	917	917	917	917	917	918	918	919	919	920	920	912	920	916.0
Sep 6	921	921	922	922	923	923	924	924	925	925	925	925	924	924	923	923	923	923	923	923	923	922	922	921	921	925	923.1
Sep 7	921	920	919	919	918	917	916	916	915	913	914	914	914	914	914	915	915	915	916	916	916	916	917	917	913	921	916.1
Sep 8	917	917	918	918	919	919	920	921	922	922	922	922	922	922	921	921	920	921	922	922	922	922	922	922	917	922	920.7
Sep 9	923	923	923	923	923	923	924	924	924	924	924	924	923	923	923	923	923	922	922	922	922	922	921	921	921	924	922.8
Sep 10	921	921	920	920	920	920	919	919	919	918	918	918	917	917	916	916	916	916	916	916	917	917	917	917	916	921	918.0
Sep 11	927	917	917	917	917	917	917	917	918	917	917	917	916	916	915	915	916	916	917	917	918	919	919	919	915	919	916.9
Sep 12	920	921	922	923	923	924	924	924	925	925	925	925	924	924	923	923	923	922	922	922	922	922	921	921	920	925	922.9
Sep 13	921	921	920	920	919	919	918	918	918	918	918	918	917	917	916	916	916	916	916	916	916	917	917	917	916	921	917.8
Sep 14	917	917	917	917	917	918	918	918	919	919	919	919	919	919	918	918	918	919	919	920	920	920	920	920	917	920	918.5
Sep 15	920	921	921	921	921	921	921	921	921	921	921	920	920	920	920	919	919	919	919	919	919	919	919	919	919	921	920.0
Sep 16	919	918	918	917	917	917	917	917	917	917	917	916	916	916	915	915	915	914	914	914	914	913	913	913	919	915.8	
Sep 17	913	912	912	912	912	912	912	913	913	913	913	914	914	914	914	914	914	915	915	915	915	915	915	915	912	915	913.5
Sep 18	915	915	915	915	915	915	915	915	915	914	914	914	914	914	914	914	914	914	914	914	914	914	913	913	915	915	914.3
Sep 19	913	913	913	913	913	914	914	914	914	914	915	915	915	916	916	916	917	917	918	919	919	920	921	913	921	915.8	
Sep 20	921	922	922	922	923	923	924	924	924	925	925	925	925	925	925	925	925	926	926	926	927	927	927	927	921	927	924.6
Sep 21	927	927	927	927	927	927	927	927	927	927	926	926	N	N	N	N	N	922	922	922	922	921	921	921	921	927	925.2
Sep 22	921	920	919	919	918	918	917	916	916	N	915	914	913	912	911	911	910	910	910	910	910	909	909	909	909	921	913.8
Sep 23	909	909	909	910	910	911	911	912	913	913	913	913	913	913	913	913	913	913	913	913	914	914	915	915	909	915	912.3
Sep 24	915	915	916	916	917	917	917	918	918	919	919	920	920	921	921	922	923	923	924	924	925	925	926	915	926	920.3	
Sep 25	926	926	926	926	926	926	926	926	926	926	925	925	925	924	923	922	922	922	922	922	922	922	922	922	922	926	924.0
Sep 26	923	923	923	924	924	924	924	924	925	925	925	924	924	924	923	923	923	923	924	924	923	923	923	923	923	925	923.7
Sep 27	923	923	922	922	922	921	921	920	920	920	920	920	919	918	917	917	917	917	917	917	917	917	917	917	917	923	919.2
Sep 28	917	917	917	917	917	917	917	918	918	918	918	917	917	916	916	916	917	917	918	918	918	919	919	916	919	917.3	
Sep 29	919	919	919	919	919	920	920	920	921	921	920	920	921	921	921	922	922	922	923	923	924	924	924	919	924	921.0	
Sep 30	925	925	925	925	926	926	926	926	927	927	927	927	926	926	926	927	927	927	927	927	928	928	928	928	925	928	926.5
Diurnal Maximum	927	927	927	927	927	927	927	927	927	927	927	927	926	926	926	927	927	927	927	927	927	928	928	928	928		
Diurnal Average	919	919	919	919	919	919	919	919	919	919	919	919	918	918	918	918	918	918	918	919	919	919	919	919	919		

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

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

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





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Station - September 2022

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

Maximum Hourly Value:	30.4 °C	on September 3 at hour 15	Hours in Service:	720
Maximum Daily Value:	21.9 °C	on September 4	Hours of Data:	714
Minimum Hourly Value:	2.7 °C	on September 21 at hour 6	Hours of Missing Data:	6
Minimum Daily Value:	8.5 °C	on September 19	Hours of Calibration:	0
Monthly Average:	13.7 °C		Operational Uptime:	99.2

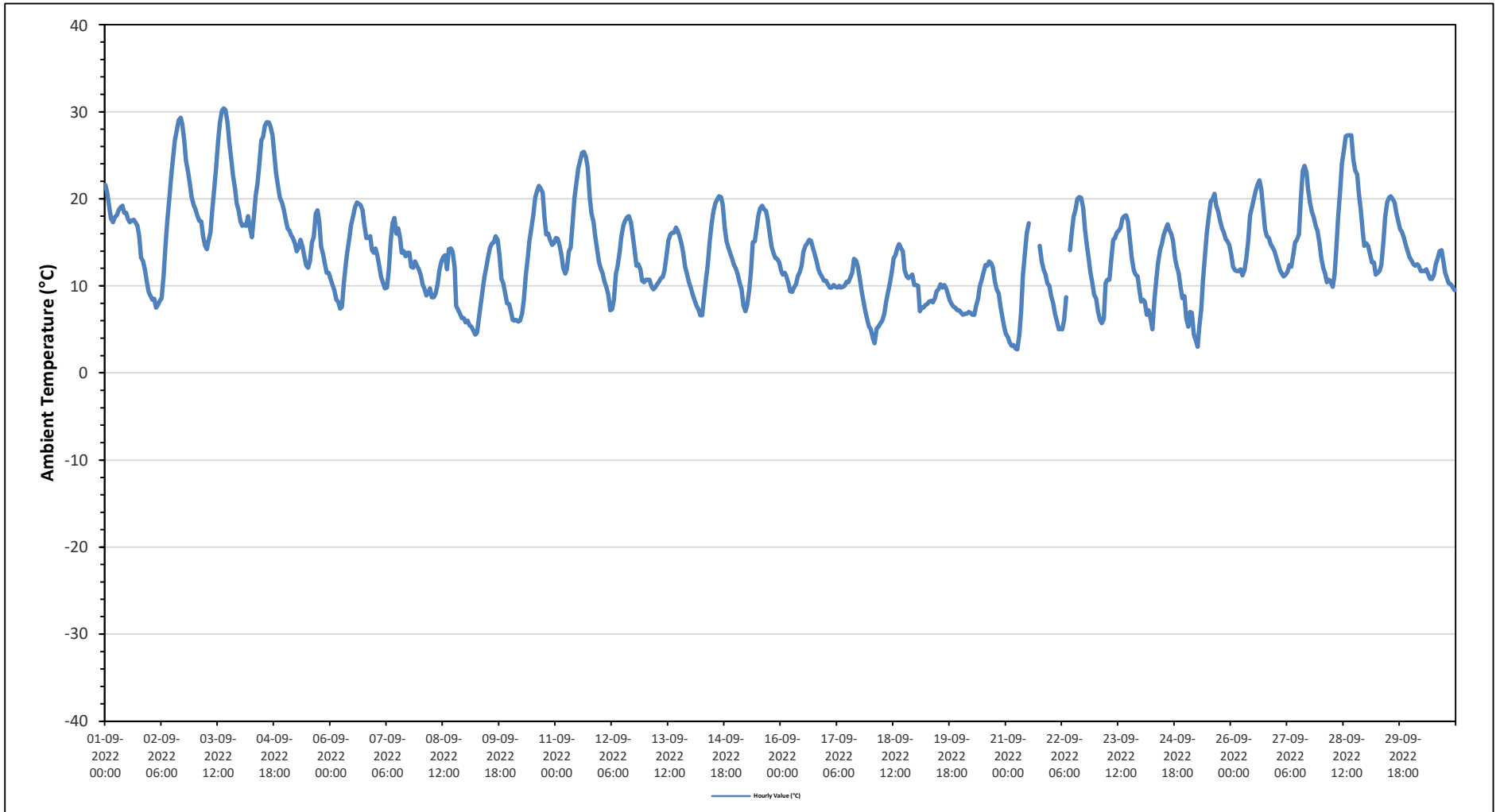
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Sep 1	21.6	20.7	19.1	17.7	17.3	17.9	18.1	18.7	19	19.2	18.4	18.4	17.7	17.3	17.5	17.6	17.3	16.9	15.7	13.3	12.8	11.9	10.5	9.3	9.3	21.6	16.8
Sep 2	8.8	8.4	8.5	7.5	7.8	8.3	8.6	11.2	14.5	17.7	19.9	22.7	24.7	26.7	27.9	29	29.3	28.6	26.7	24.3	23.1	21.7	20.2	19.3	7.5	29.3	18.6
Sep 3	18.8	18	17.5	17.4	15.7	14.6	14.2	15.1	16.1	18.7	21.2	23.5	26.6	28.7	30.1	30.4	30.2	28.8	26.5	24.5	22.6	21.1	19.5	18.6	14.2	30.4	21.6
Sep 4	17.4	16.9	17	16.9	18	16.7	15.6	17.7	20.4	21.8	23.9	26.7	27.1	28.4	28.8	28.8	28.3	27.3	25.1	22.9	21.4	20.1	19.6	18.8	15.6	28.8	21.9
Sep 5	17.6	16.6	16.3	15.8	15.5	14.9	14	14.4	15.3	14.5	13.4	12.3	12.1	12.8	15	15.6	18.3	18.7	17.3	14.5	13.6	12.5	11.5	11.5	11.5	18.7	14.8
Sep 6	10.8	10.1	9.5	8.4	8.2	7.4	7.6	10.2	12.5	13.9	15.5	17	18	19	19.6	19.4	19.3	18.7	17	15.5	15.5	15.7	14.1	13.8	7.4	19.6	14.0
Sep 7	14.3	13.5	12.2	11	10.3	9.7	9.8	11.8	15.3	17.2	17.8	16	16.6	15.4	13.8	14	13.4	13.8	13.8	12.2	12.1	12.8	12.3	11.9	9.7	17.8	13.4
Sep 8	11.2	10.2	9.6	8.9	9.2	9.7	8.7	8.7	9.1	10.2	11.8	12.8	13.3	13.5	11.9	14.2	14.3	13.9	12.1	7.7	7.2	6.8	6.3	6.3	6.3	14.3	10.3
Sep 9	5.8	6	5.5	5.3	4.9	4.4	4.6	6.2	8	9.5	11	12.1	13.4	14.4	14.9	15	15.7	15.3	13.6	10.8	10.3	9.1	8	7.9	4.4	15.7	9.7
Sep 10	7.1	6.1	6	6.1	5.9	6	6.8	8.4	11.3	13.1	15.2	16.7	18.1	20.2	20.9	21.5	21.2	20.7	17.9	15.9	16	15.3	14.7	14.9	5.9	21.5	13.6
Sep 11	15.5	15.4	14.6	13.5	12	11.4	11.9	14	14.4	17.3	20.1	21.9	23.5	24.3	25.3	24.8	23.6	20.2	18.3	17.3	15.8	14.2	12.8	11.4	11.4	25.4	17.8
Sep 12	12	11.4	10.5	9.8	9	7.2	7.3	8.4	11.4	12.3	14	15.6	16.9	17.5	17.9	18	17.3	15.8	14.2	12.3	12.5	11.9	10.6	10.4	7.2	18.0	12.7
Sep 13	10.7	10.7	10.7	10	9.6	9.8	10.2	10.5	10.9	11	11.8	13.5	15.2	15.9	16.1	16.1	16.7	16.3	15.7	14.8	13.7	12.2	11.3	10.4	9.6	16.7	12.7
Sep 14	9.7	9	8.3	7.7	7.3	6.6	6.6	8.6	10.5	12.4	14.9	17.1	18.5	19.5	19.9	20.3	20.2	19.3	16.6	15.1	14.3	13.7	13.1	12.4	6.6	20.3	13.4
Sep 15	12	11.3	10.4	9.6	7.8	7.1	7.8	9.5	11.7	15	15.1	16.6	18.1	18.9	19.2	18.8	18.6	17.6	16.1	14.5	13.8	13.2	13.1	12.7	7.1	19.2	13.7
Sep 16	11.8	11.3	11.5	11.1	10.3	9.4	9.3	9.8	10.2	11.1	11.6	12.3	13.9	14.6	14.9	15.3	15.2	14.3	13.7	12.8	11.9	11.4	11	10.6	9.3	15.3	12.1
Sep 17	10.6	10.2	9.8	9.8	10.1	9.9	9.8	10	9.8	9.9	10	10.5	10.4	11	11.5	13.1	12.9	12.2	10.8	9.4	8.1	7	6	5.3	5.3	13.1	9.9
Sep 18	5	4	3.4	5.1	5.3	5.7	6	6.8	8.1	9.2	10.3	11.5	13.2	13.5	14.3	14.8	14.3	14	11.8	11.1	10.9	11.1	11.3	10.1	3.4	14.8	9.6
Sep 19	10.1	10	7.1	7.5	7.5	7.8	7.9	8.2	8.3	8.1	8.6	9.4	9.6	10.2	9.8	10.1	9.7	9	8.3	7.9	7.6	7.5	7.2	7.2	7.1	10.2	8.5
Sep 20	6.9	6.7	6.8	6.8	7	6.9	6.7	6.7	7.7	8.6	9.9	10.7	11.5	12.4	12.3	12.8	12.6	12.1	10.5	9.6	9.1	7.6	6.3	5.2	5.2	12.8	8.9
Sep 21	4.5	4.1	3.5	3.1	3.2	2.8	2.7	4.4	7.1	11.2	13.8	16	17.2	N	N	N	N	N	14.6	12.8	11.9	11.3	10.3	10	2.7	17.2	8.7
Sep 22	8.8	8	6.8	6	5	5.1	5	6.1	8.7	N	14.1	16.1	17.9	18.8	20	20.2	20.1	18.9	16.5	14.5	13.3	11.6	10.3	9	5.0	20.2	12.2
Sep 23	8.5	7.1	6.1	5.7	6.2	10.3	10.7	10.7	12.9	15.3	15.5	16.1	16.3	16.7	17.7	18	18.1	17.4	15.2	13.2	11.8	11.3	11.1	9.5	5.7	18.1	12.6
Sep 24	8.2	8.4	8.2	6.7	7.2	6.2	5	8.4	10.6	12.6	14.1	14.8	15.9	16.5	17.1	16.4	16	15.2	13.2	12.2	11.5	9.8	8.6	8.8	5.0	17.1	11.3
Sep 25	6.3	5.3	7	6.9	4.4	3.8	3	5.2	7.3	10.7	13.6	16.1	17.8	19.7	19.9	20.6	19.2	18.5	17.5	16.6	16.1	15.4	15.1	14.7	3.0	20.6	12.5
Sep 26	13.6	12.2	11.8	11.7	11.7	11.9	11.2	11.8	13.1	15.3	18.1	19.1	19.9	20.9	21.6	22.1	21.1	19	16.5	15.7	15.5	14.8	14.4	14	11.2	22.1	15.7
Sep 27	13.3	12.5	11.8	11.4	11.1	11.3	11.6	12.4	12.2	13.6	15	15.3	15.9	19.7	23.2	23.8	23	21.1	19.5	18.5	17.9	16.9	16.3	14.9	11.1	23.8	15.9
Sep 28	13.2	12	11.4	10.4	10.7	10.5	9.9	11.3	14.2	17.8	20.9	24	25.6	27.2	27.3	27.3	27.3	24.5	23.3	22.8	20.5	18.8	16.2	14.6	9.9	27.3	18.4
Sep 29	14.9	14.6	13.6	12.7	12.7	11.3	11.5	11.7	12.4	15	17.9	19.6	20.1	20.3	20	19.6	18.4	17.5	16.5	16.2	15.5	14.7	13.9	13.3	11.3	20.3	15.6
Sep 30	12.9	12.5	12.3	12.5	12.3	11.7	11.7	11.7	11.9	11.3	10.8	11.3	12.5	13.2	14	14.1	12.8	11.5	10.9	10.3	10.2	9.9	9.5	9.5	9.5	14.1	11.8
Diurnal Maximum	21.6	20.7	19.1	17.7	18.0	17.9	18.1	18.7	20.4	21.8	23.9	26.7	27.1	28.7	30.1	30.4	30.2	28.8	26.7	24.5	23.1	21.7	20.2	19.3			
Diurnal Average	11.4	10.8	10.2	9.8	9.4	9.2	9.1	10.3	11.8	13.6	14.9	16.2	17.2	18.2	18.7	19.0	18.9	18.0	16.3	14.7	13.9	13.1	12.2	11.6			

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

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

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

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





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Station - September 2022

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

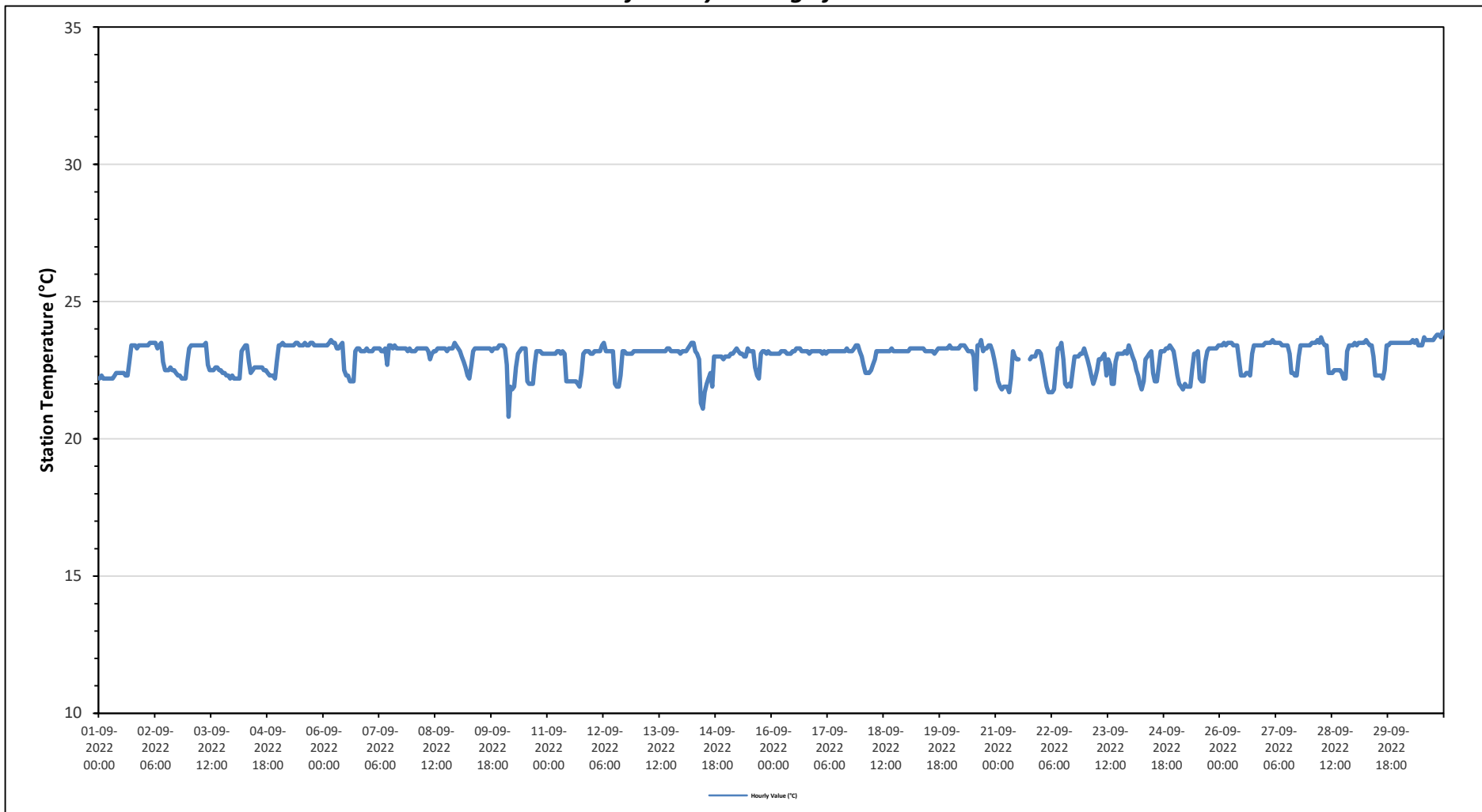
Maximum Hourly Value:	23.9 °C	on September 30 at hour 23	Hours in Service:	720
Maximum Daily Value:	23.6 °C	on September 30	Hours of Data:	715
Minimum Hourly Value:	20.8 °C	on September 10 at hour 3	Hours of Missing Data:	5
Minimum Daily Value:	22.5 °C	on September 21	Hours of Calibration:	0
Monthly Average:	23.0 °C		Operational Uptime:	99.3

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Sep 1	22.2	22.3	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.3	22.4	22.4	22.4	22.4	22.3	22.3	22.8	23.4	23.4	23.4	23.3	23.4	23.4	23.4	22.2	23.4	22.6
Sep 2	23.4	23.4	23.4	23.5	23.5	23.5	23.5	23.3	23.4	23.5	22.8	22.5	22.5	22.5	22.6	22.5	22.5	22.4	22.3	22.3	22.2	22.2	22.2	22.8	22.2	23.5	22.9
Sep 3	23.3	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.5	22.7	22.5	22.5	22.6	22.6	22.5	22.5	22.4	22.4	22.3	22.2	22.2	22.3	22.2	23.5	22.8
Sep 4	22.2	22.2	22.2	22.2	23.2	23.3	23.4	23.4	23.4	22.8	22.4	22.5	22.6	22.6	22.6	22.6	22.5	22.5	22.4	22.4	22.3	22.3	22.2	22.8	22.2	23.4	22.6
Sep 5	23.4	23.4	23.5	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.5	23.5	23.4	23.4	23.4	23.5	23.4	23.4	23.5	23.5	23.4	23.4	23.4	23.4	23.4	23.5	23.4
Sep 6	23.4	23.4	23.4	23.5	23.6	23.5	23.5	23.3	23.3	23.4	23.5	22.5	22.3	22.3	22.1	22.1	22.1	23.2	23.3	23.3	23.2	23.2	23.2	23.3	22.1	23.6	23.1
Sep 7	23.2	23.2	23.2	23.3	23.3	23.3	23.3	23.2	23.2	23.3	22.7	23.4	23.4	23.3	23.4	23.3	23.3	23.3	23.3	23.3	23.3	23.2	23.2	23.3	22.7	23.4	23.3
Sep 8	23.2	23.2	23.3	23.3	23.3	23.3	23.3	23.3	23.2	22.9	23.1	23.2	23.2	23.3	23.3	23.3	23.3	23.3	23.2	23.3	23.3	23.3	23.5	23.4	22.9	23.5	23.3
Sep 9	23.3	23.2	23.0	22.8	22.6	22.3	22.2	22.7	23.2	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.2	23.3	23.3	23.3	23.4	23.4	22.2	23.4	23.1
Sep 10	23.4	23.3	22.7	20.8	21.9	21.8	21.9	22.6	23.1	23.2	23.3	23.3	23.3	22.1	22.0	22.0	22.7	23.2	23.2	23.2	23.1	23.1	23.1	20.8	23.4	22.7	
Sep 11	23.1	23.1	23.1	23.1	23.1	23.2	23.2	23.1	23.2	23.1	22.1	22.1	22.1	22.1	22.1	22.1	21.9	22.4	23.1	23.2	23.2	23.2	23.1	21.9	23.2	22.8	
Sep 12	23.1	23.2	23.2	23.2	23.2	23.4	23.5	23.2	23.2	23.2	23.2	23.2	22.0	21.9	21.9	22.3	23.2	23.2	23.1	23.1	23.1	23.1	23.2	21.9	23.5	23.0	
Sep 13	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.3	23.3	23.2	23.2	23.2	23.2	23.1	23.1	23.3	23.2	
Sep 14	23.2	23.2	23.2	23.3	23.4	23.5	23.5	23.2	23.1	22.9	21.3	21.1	21.7	22.0	22.2	22.4	21.9	23.0	23.0	23.0	23.0	22.9	23.0	21.1	23.5	22.8	
Sep 15	23.0	23.0	23.1	23.1	23.2	23.3	23.2	23.1	23.1	23.0	23.0	23.3	23.2	23.2	23.2	22.6	22.3	22.2	23.1	23.2	23.2	23.1	23.2	22.2	23.3	23.0	
Sep 16	23.1	23.1	23.1	23.1	23.1	23.2	23.2	23.2	23.1	23.1	23.1	23.2	23.2	23.3	23.3	23.3	23.2	23.2	23.2	23.2	23.2	23.1	23.2	23.2	23.1	23.3	23.2
Sep 17	23.2	23.2	23.2	23.1	23.2	23.1	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.3	23.2	23.2	23.2	23.2	23.2	23.3	23.4	23.2	23.1	23.4	23.2
Sep 18	23.0	22.7	22.4	22.4	22.4	22.5	22.7	22.9	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.3	23.2	23.2	23.2	23.2	23.2	23.2	22.4	23.3	23.0	
Sep 19	23.2	23.2	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.2	23.2	23.2	23.2	23.2	23.2	23.1	23.2	23.3	23.3	23.3	23.3	23.3	23.1	23.4	23.3	
Sep 20	23.3	23.3	23.3	23.3	23.3	23.4	23.4	23.4	23.3	23.2	23.2	23.2	23.0	21.8	23.4	23.4	23.6	23.2	23.3	23.3	23.4	23.4	23.2	21.8	23.6	23.2	
Sep 21	22.5	22.1	21.9	21.8	21.9	21.9	21.9	21.7	22.2	23.2	23.0	22.9	22.9	N	N	N	N	N	22.9	23.0	23.0	23.0	23.2	21.7	23.2	22.5	
Sep 22	23.1	22.7	22.3	21.9	21.7	21.7	21.7	21.8	22.6	23.3	23.3	23.5	22.9	22.0	21.9	22.0	21.9	22.5	23.0	23.0	23.1	23.1	23.3	21.7	23.5	22.6	
Sep 23	23.1	22.9	22.6	22.3	22.0	22.2	22.5	22.9	22.9	23.0	23.1	22.3	22.9	22.7	22.0	22.0	22.8	23.1	23.1	23.1	23.1	23.1	23.2	22.0	23.4	22.8	
Sep 24	23.2	23.0	22.8	22.5	22.3	22.0	21.8	22.1	22.9	23.0	23.1	23.2	22.4	22.1	22.1	22.6	23.2	23.2	23.2	23.3	23.3	23.4	23.3	21.8	23.4	22.8	
Sep 25	22.8	22.3	22.0	21.9	21.8	22.0	21.9	21.9	21.9	22.5	23.1	23.1	23.2	22.2	22.1	22.1	22.8	23.2	23.3	23.3	23.3	23.3	23.4	21.8	23.4	22.6	
Sep 26	23.4	23.4	23.5	23.4	23.5	23.5	23.5	23.4	23.4	23.4	22.9	22.3	22.3	22.3	22.4	22.4	22.3	23.1	23.4	23.4	23.4	23.4	23.4	22.3	23.5	23.1	
Sep 27	23.5	23.5	23.5	23.5	23.6	23.5	23.5	23.5	23.5	23.5	23.4	23.4	23.4	23.1	22.4	22.4	22.3	22.3	23.0	23.4	23.4	23.4	23.4	22.3	23.6	23.2	
Sep 28	23.4	23.5	23.5	23.5	23.6	23.5	23.7	23.5	23.4	23.4	22.4	22.4	22.5	22.5	22.5	22.5	22.4	22.2	23.2	23.4	23.4	23.4	22.2	23.7	23.0		
Sep 29	23.5	23.4	23.5	23.5	23.5	23.5	23.6	23.5	23.4	23.4	23.0	22.3	22.3	22.3	22.2	22.5	23.4	23.4	23.5	23.5	23.5	23.5	22.2	23.6	23.2		
Sep 30	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.6	23.5	23.6	23.4	23.4	23.4	23.7	23.6	23.6	23.6	23.6	23.6	23.6	23.7	23.8	23.7	23.4	23.9	23.6	
Diurnal Maximum	23.5	23.5	23.5	23.5	23.6	23.5	23.7	23.6	23.5	23.6	23.5	23.5	23.4	23.7	23.6	23.6	23.6	23.6	23.6	23.6	23.7	23.8	23.8	23.7	23.9		
Diurnal Average	23.1	23.1	23.0	22.9	23.0	23.0	23.0	23.0	23.0	23.1	23.2	23.0	22.9	22.8	22.7	22.7	22.8	23.0	23.1	23.2	23.2	23.2	23.2	23.2	23.2		

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

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

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





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Station - September 2022

Summary of Hourly Averages

PRECIPITATION in mm

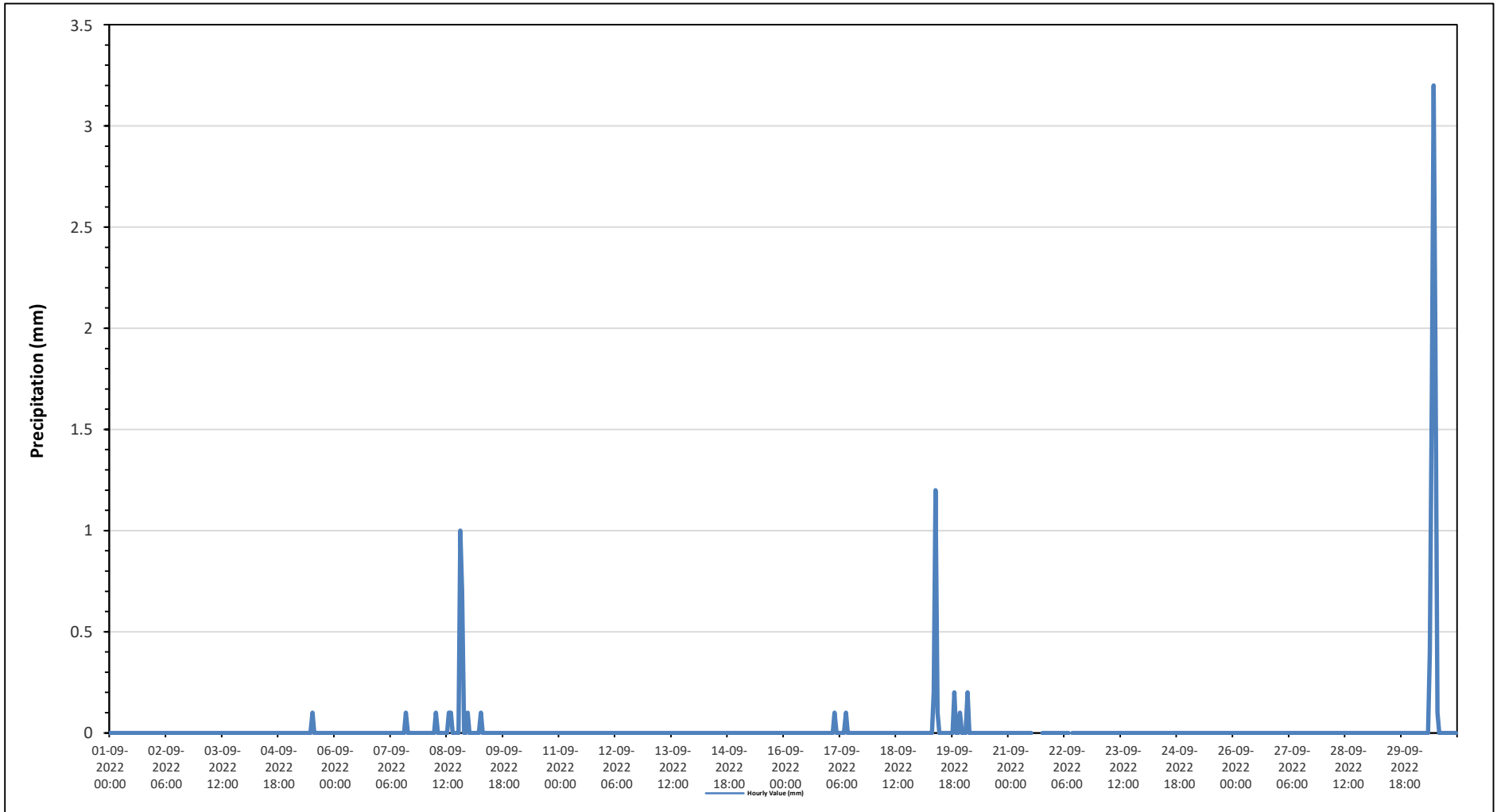
Maximum Hourly Value:	3.2 mm on September 30 at hour 11	Hours in Service:	720
Maximum Daily Value:	0.3 mm on September 30	Hours of Data:	714
Minimum Hourly Value:	0.0 mm on September 1 at hour 0	Hours of Missing Data:	6
Minimum Daily Value:	0.0 mm on September 1	Hours of Calibration:	0
Monthly Total:	11.9 mm	Operational Uptime:	99.2

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Total			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23		
Sep 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		
Sep 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		
Sep 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		
Sep 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		
Sep 5	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	0.0		
Sep 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		
Sep 7	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	0.1	0.0		
Sep 8	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0.1	0.1	0	0	0	0	0	1	0.7	0	0	0.1	0.0	1.0	0.1
Sep 9	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	0.0		
Sep 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		
Sep 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0		
Sep 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		
Sep 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		
Sep 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		
Sep 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		
Sep 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		
Sep 17	0	0	0	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	0.1	0.0		
Sep 18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0		
Sep 19	0	0	0	0	0	0	0	0	0.2	1.2	0.1	0	0	0	0	0	0	0	0	0	0.2	0	0	0.1	0	0.0	1.2	0.1	
Sep 20	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2	0.0		
Sep 21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N	N	N	N	N	0	0	0	0	0	0.0	0.0	0.0		
Sep 22	0	0	0	0	0	0	0	0	0	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0		
Sep 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		
Sep 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		
Sep 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		
Sep 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		
Sep 27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0		
Sep 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		
Sep 29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0		
Sep 30	0	0	0	0	0	0	0	0	0	0.4	1.7	3.2	1.9	0.1	0	0	0	0	0	0	0	0	0	0	0.0	3.2	0.3		
Diurnal Maximum	0.0	0.0	0.2	0.1	0.0	0.0	0.1	0.0	0.2	1.2	1.7	3.2	1.9	0.1	0.1	0.0	0.0	0.0	0.0	0.0	1.0	0.7	0.0	0.1	0.1				
Diurnal Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					

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

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

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





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Station - September 2022

Summary of Hourly Averages

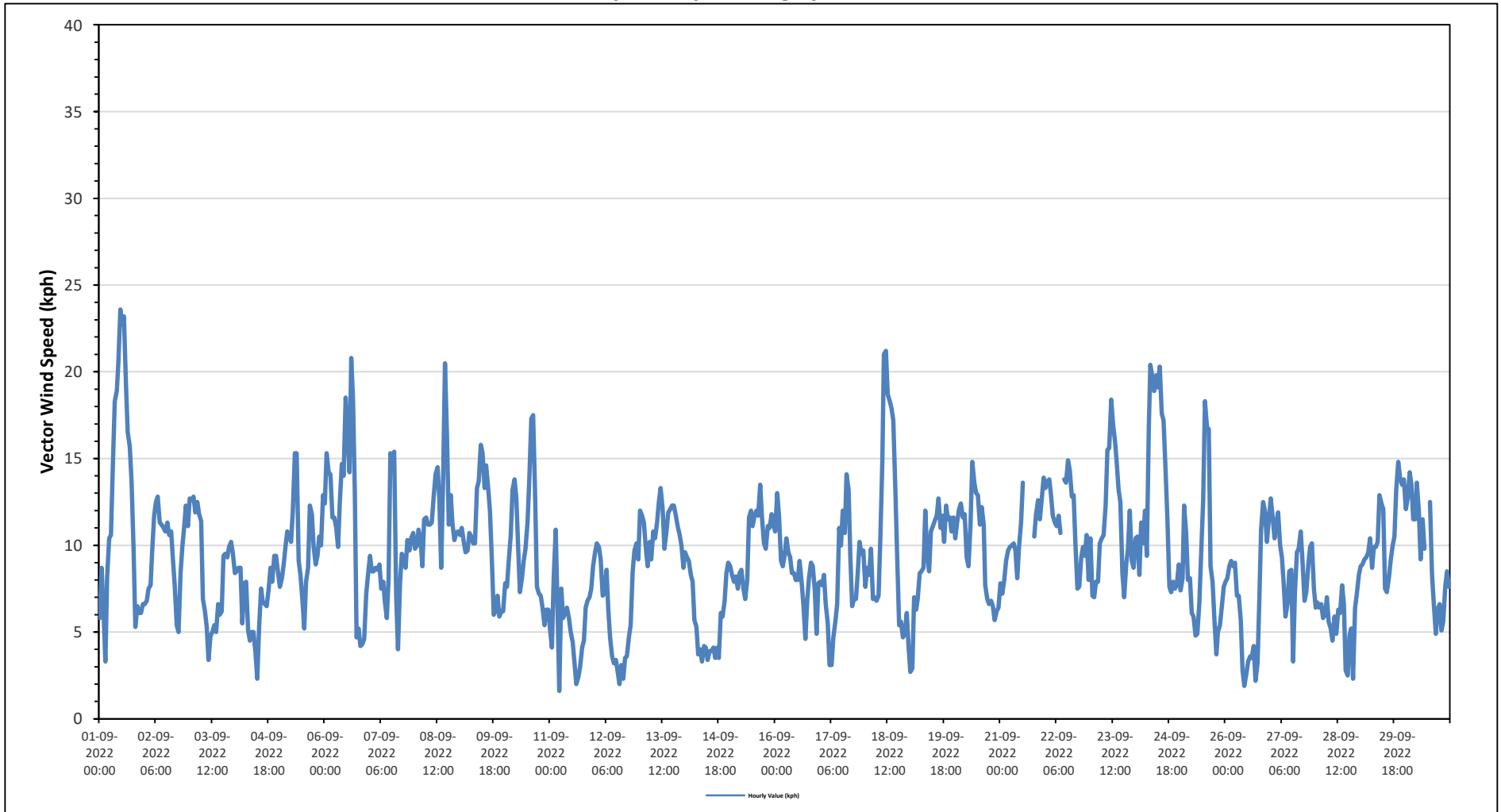
VECTOR WIND SPEED (VWS) in km/hr

Maximum Hourly Value:	23.6 kph	on September 1 at hour 11	Hours in Service:	720
Maximum Daily Value:	12.5 kph	on September 24	Hours of Data:	712
Minimum Hourly Value:	1.6 kph	on September 11 at hour 5	Hours of Missing Data:	8
Minimum Daily Value:	1.4 kph	on September 4	Hours of Calibration:	0
Monthly Average:	2.6 kph		Operational Uptime:	98.9

Day	Hourly Period Starting at (MST)																							Daily	Daily	Daily																	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average																
Sep 1	5.8	8.7	6.1	3.3	8.2	10.4	10.6	14.9	18.3	18.9	20.5	23.6	22.7	23.2	19.3	16.5	15.7	13.7	9.8	5.3	6.5	6.1	6.1	6.6	3.3	23.6	10.8																
Sep 2	6.6	6.8	7.5	7.7	9.6	11.7	12.5	12.8	11.3	11.2	11.0	10.8	11.3	10.6	10.8	9.2	7.7	5.4	5.0	8.4	9.9	11.2	12.3	11.1	5.0	12.8	8.7																
Sep 3	12.7	12.6	12.8	11.9	12.5	11.8	11.4	6.9	6.2	5.3	3.4	4.8	5.0	5.4	5.0	6.6	6.0	6.2	9.4	9.5	9.3	9.9	10.2	9.5	3.4	12.8	5.5																
Sep 4	8.4	8.5	8.7	8.7	5.5	7.8	7.9	5.1	4.5	5.0	5.0	3.8	2.3	5.2	7.5	6.7	6.6	6.5	7.5	8.7	7.9	9.4	9.4	8.4	2.3	9.4	1.4																
Sep 5	7.6	8.1	8.9	9.9	10.8	10.5	10.2	12.0	15.3	15.3	9.1	8.3	6.8	5.2	7.9	8.7	12.3	11.8	9.9	8.9	9.4	10.5	10.0	12.9	5.2	15.3	8.3																
Sep 6	12.4	15.3	14.2	14.1	11.6	11.6	11.0	9.9	12.5	14.7	14.0	18.5	16.6	14.2	20.8	18.4	13.1	4.7	5.2	4.2	4.3	4.6	7.2	8.3	4.2	20.8	10.0																
Sep 7	9.4	8.5	8.5	8.7	8.6	8.9	7.5	7.9	6.8	5.8	8.1	15.3	15.1	15.4	7.0	4.0	7.8	9.5	9.2	8.7	10.3	9.7	10.4	10.7	4.0	15.4	1.7																
Sep 8	9.8	10.0	10.9	10.3	8.8	11.5	11.6	11.2	11.2	11.3	12.9	14.1	14.5	12.6	8.7	14.1	20.5	16.2	11.2	12.9	11.3	10.3	10.7	10.8	8.7	20.5	11.3																
Sep 9	10.6	11.0	10.2	9.6	9.7	10.7	10.5	10.1	10.1	13.3	13.7	15.8	15.3	13.3	14.6	13.3	12.0	9.4	6.0	6.2	7.1	5.9	6.2	6.2	5.9	15.8	9.2																
Sep 10	7.8	7.6	9.1	10.6	13.2	13.8	12.7	9.9	7.3	8.1	9.1	9.8	11.3	13.8	17.3	17.5	12.8	7.6	7.2	7.1	6.4	5.4	6.3	6.3	5.4	17.5	9.3																
Sep 11	5.1	4.1	8.1	10.9	6.5	1.6	7.5	5.8	6.1	6.4	5.8	5.0	4.4	3.2	2.0	2.4	3.0	4.1	4.5	6.4	6.8	7.0	7.5	8.8	1.6	10.9	4.6																
Sep 12	9.6	10.1	9.9	9.2	7.1	7.2	8.6	6.3	4.7	3.6	3.2	3.4	2.7	2.0	3.1	2.3	3.5	3.6	4.7	5.4	8.5	9.7	10.1	9.2	2.0	10.1	4.3																
Sep 13	12.0	11.7	11.3	9.8	8.8	10.2	9.2	10.8	10.4	11.3	12.5	13.3	12.1	9.8	10.8	11.9	12.1	12.3	12.3	11.7	11.1	10.6	10.0	8.7	8.7	13.3	10.4																
Sep 14	9.6	9.3	9.1	8.3	7.9	5.7	5.3	3.7	4.0	3.3	4.2	4.1	3.4	3.9	3.9	4.1	3.5	4.1	3.5	6.1	5.9	6.8	8.4	9.0	3.3	9.6	2.3																
Sep 15	8.8	8.3	7.9	8.2	7.5	8.4	8.6	7.5	6.9	8.0	11.6	12.0	11.1	11.7	12.0	11.7	13.5	11.6	10.1	9.8	11.1	11.0	11.8	11.2	6.9	13.5	9.7																
Sep 16	10.8	13.0	11.7	9.1	8.8	9.4	10.4	9.6	9.3	8.4	8.4	8.0	8.0	9.1	7.9	6.6	4.6	6.8	8.1	9.0	8.8	7.4	4.9	7.8	4.6	13.0	7.4																
Sep 17	7.9	7.7	8.3	6.6	5.5	3.1	3.1	4.7	5.6	6.6	11.0	10.0	12.0	10.7	14.1	13.2	9.3	6.5	6.9	6.9	8.4	10.2	9.5	9.7	3.1	14.1	4.3																
Sep 18	7.6	8.7	8.3	9.8	6.9	7.0	6.8	7.1	10.4	14.9	21.0	21.2	18.7	18.3	17.9	17.2	13.3	9.5	5.4	5.6	4.7	4.9	6.1	4.2	4.2	21.2	10.3																
Sep 19	2.7	2.9	7.0	6.3	6.9	8.4	8.5	8.7	12.0	9.5	8.5	10.8	11.1	11.4	11.7	12.7	11.0	11.7	10.2	12.3	11.5	11.6	10.8	11.6	2.7	12.7	8.5																
Sep 20	10.4	11.4	12.1	12.4	11.6	11.8	9.3	8.8	11.2	14.8	13.6	13.0	12.9	11.2	12.2	11.2	7.7	6.9	6.6	6.8	6.5	5.7	6.2	6.4	5.7	14.8	9.1																
Sep 21	7.8	7.2	8.0	9.1	9.7	9.9	10.0	10.1	9.7	8.1	9.9	11.3	13.6	N	N	N	N	N	10.5	11.8	12.6	11.5	12.6	13.9	7.2	13.9	10.3																
Sep 22	13.3	13.7	13.8	12.9	11.7	11.3	11.1	11.7	10.7	N	13.8	13.6	14.9	14.3	12.8	12.9	10.1	7.5	7.6	9.3	9.9	9.4	10.6	8.0	7.5	14.9	11.4																
Sep 23	10.4	7.1	7.0	7.9	7.9	10.1	10.4	10.6	12.3	15.5	15.6	18.4	17.0	16.0	14.7	13.2	12.5	8.4	7.0	8.9	9.8	12.0	9.1	8.7	7.0	18.4	9.8																
Sep 24	10.4	10.5	8.3	11.3	10.1	12.0	9.4	16.8	20.4	19.7	18.9	19.8	19.1	20.3	17.6	17.2	14.3	11.6	7.6	7.3	7.9	7.5	7.7	8.9	7.3	20.4	12.5																
Sep 25	7.4	8.1	12.3	10.7	8.0	8.1	6.1	5.9	4.8	4.9	6.7	9.5	12.6	18.3	16.8	16.7	8.8	7.9	5.8	3.7	5.0	5.4	6.4	7.6	3.7	18.3	8.0																
Sep 26	7.9	8.1	8.8	9.1	8.8	9.0	7.1	7.1	5.7	2.8	1.9	2.6	3.3	3.6	3.5	4.2	2.2	3.2	6.8	10.9	12.5	10.0	10.2	11.4	1.9	12.5	1.5																
Sep 27	12.7	11.7	10.4	11.3	11.9	10.0	9.3	7.8	5.9	6.6	8.5	8.6	3.3	7.2	9.6	9.8	10.8	9.1	6.8	7.3	8.9	9.9	10.1	7.5	3.3	12.7	8.5																
Sep 28	6.4	6.7	6.4	6.6	5.8	6.0	7.0	5.6	5.2	4.5	5.9	4.9	6.3	6.1	7.7	6.6	2.8	2.5	4.8	5.2	2.3	6.4	7.2	8.3	2.3	8.3	3.6																
Sep 29	8.8	8.9	9.2	9.3	9.6	10.4	8.7	9.9	9.9	10.2	12.9	12.4	12.1	7.5	7.3	8.1	9.1	10.0	10.5	13.2	14.8	13.9	13.5	13.8	7.3	14.8	10.3																
Sep 30	12.1	12.7	14.2	13.5	11.5	11.5	13.6	12.0	9.2	11.5	9.8	Y	Y	12.5	8.3	6.6	4.9	6.3	6.6	5.1	5.6	7.6	8.5	7.6	4.9	14.2	9.3																
Diurnal Maximum	13	15	14	14	13	14	14	17	20	20	21	24	23	23	21	18	21	16	12	13	15	14	14	14																			
Diurnal Average	9.1	9.3	9.6	9.6	9.0	9.3	9.2	9.0	9.3	9.6	10.4	11.3	11.0	10.9	10.8	10.5	9.4	8.1	7.6	8.1	8.5	8.8	9.0	9.1																			
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)																															

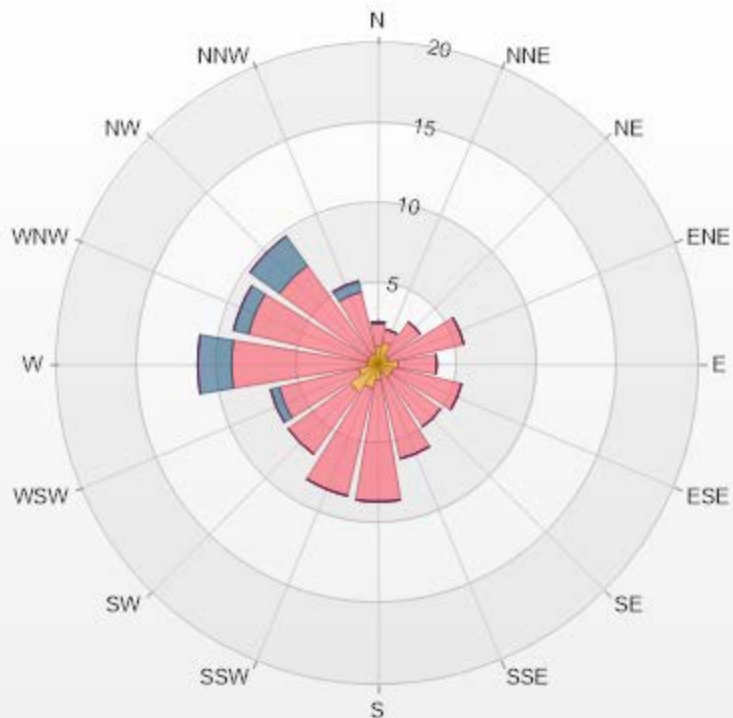
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

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



Wind: St. Lina Monitor: WDS [kph] Monthly: 09-2022 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.14% Valid Data: 98.89%

Direction	1.8-6.0	6.0-15.0	15.0-29.0	29.0-39.0	>39.0	Total
N	1.12	1.4	0.14	0	0	2.66
NNE	1.4	0.84	0	0	0	2.24
NE	0.7	2.53	0	0	0	3.23
ENE	0.7	4.78	0	0	0	5.48
E	1.26	2.39	0	0	0	3.65
ESE	0.98	4.35	0	0	0	5.33
SE	0.98	3.79	0	0	0	4.77
SSE	0.56	5.48	0	0	0	6.04
S	0.98	7.58	0	0	0	8.56
SSW	1.54	6.88	0	0	0	8.42
SW	2.11	4.78	0	0	0	6.89
WSW	1.26	5.06	0.56	0	0	6.88
W	0.7	8.43	2.11	0	0	11.24
WNW	0.7	7.58	0.98	0	0	9.26
NW	0.7	6.88	2.25	0	0	9.83
NNW	0.7	3.93	0.7	0	0	5.33
Summary	16.39	76.68	6.74	0	0	100



LICA-202209

% Icon Classes (kph)

16  1.8-6.0

77  6.0-15.0

7  15.0-29.0

0  29.0-39.0

0  >39.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Station - September 2022

Summary of Hourly Averages

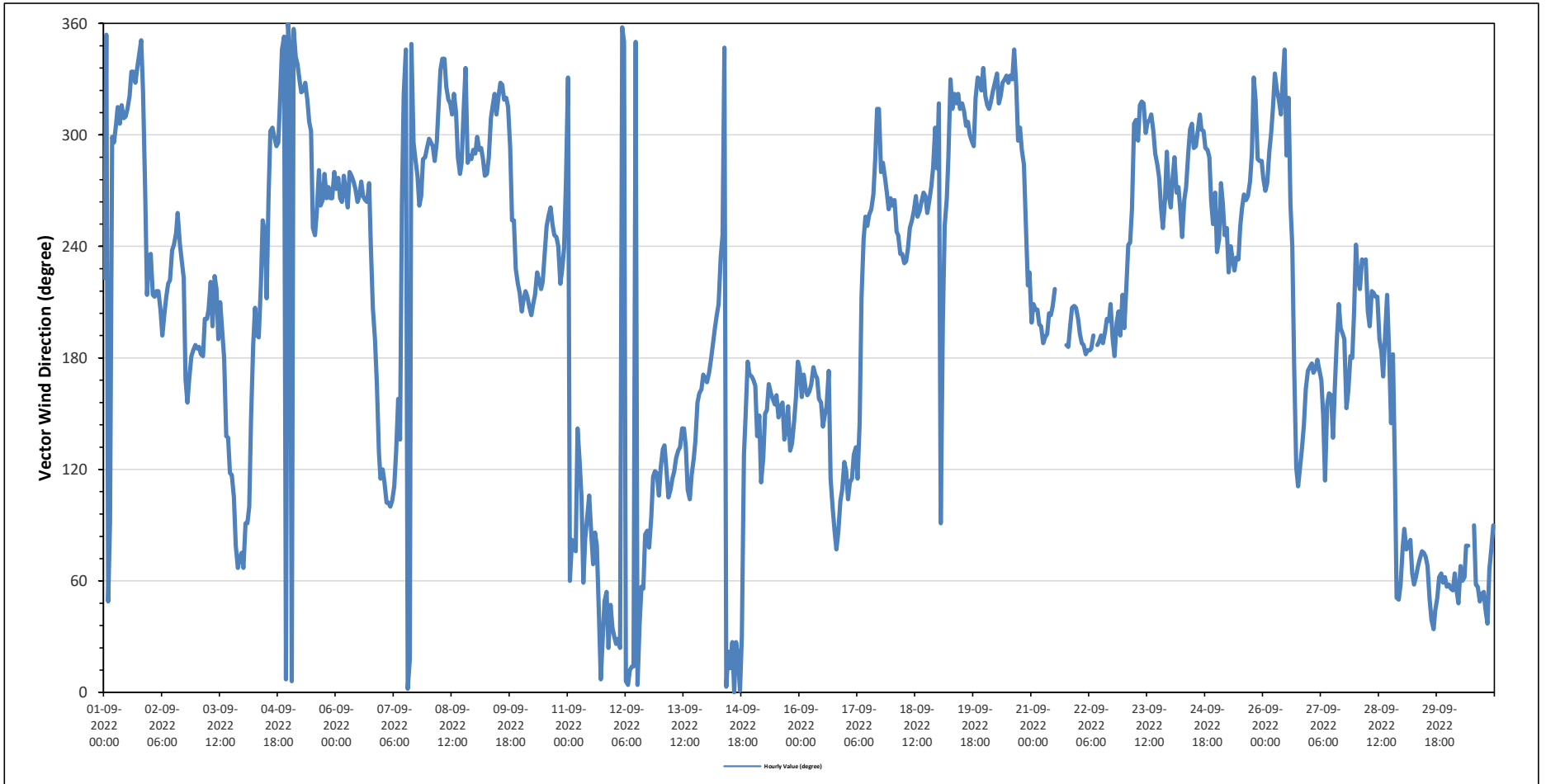
WIND DIRECTION (VWD) in sector

Monthly Average:		254 (WSW) degree										Hours in Service:		720												
												Hours of Data:		712												
												Hours of Missing Data:		8												
												Hours of Calibration:		0												
												Operational Uptime:		98.9												
Day	Hourly Period Starting at (MST)																							Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Degree	Quadrant
Sep 1	SW	N	NE	E	WNW	WNW	NW	NW	NW	NW	NW	NW	WSW	WSW	WSW	WSW	SW	SW	SSE	SSE	SSE	S	S	S	317	NW
Sep 2	SW	SSW	SSW	SW	SW	SSW	S	SSW	SSW	SW	SW	SW	WSW	WSW	WSW	WSW	SW	SW	SSE	SSE	SSE	S	S	S	212	SSW
Sep 3	S	S	S	S	SSW	SSW	SSW	SSW	SSW	SW	SW	S	SSW	SSW	S	SE	SE	ESE	ESE	ESE	ENE	ENE	ENE	ENE	165	SSE
Sep 4	ENE	E	E	E	SE	S	SSW	S	S	SW	WSW	WSW	SSW	W	WNW	WNW	WNW	WNW	WNW	NW	NNW	N	N	N	310	NW
Sep 5	NNW	N	N	NNW	NNW	NNW	NW	NW	NNW	NW	NW	WNW	WSW	WSW	WSW	W	W	W	W	W	W	W	W	W	300	WNW
Sep 6	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	WSW	SSW	S	SSE	SE	ESE	264	W	
Sep 7	ESE	ESE	E	E	E	ESE	ESE	SE	SE	SE	W	NW	NNW	N	NNE	NNW	WNW	WNW	W	W	WNW	WNW	WNW	327	NW	
Sep 8	WNW	WNW	WNW	WNW	WNW	NW	NNW	NNW	NNW	NW	NW	NW	NW	NW	NW	WNW	W	WNW	NW	NNW	WNW	WNW	WNW	306	NW	
Sep 9	WNW	WNW	WNW	WNW	WNW	W	W	WNW	NW	NW	NW	NW	NNW	NW	NW	NW	WNW	WSW	WSW	SW	SW	SSW	SSW	299	WNW	
Sep 10	SSW	SSW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	SW	WSW	WSW	W	WSW	WSW	WSW	WSW	SW	SW	WSW	W	231	SW	
Sep 11	NNW	ENE	E	ENE	ENE	SE	ESE	ESE	ENE	E	E	ESE	E	ENE	E	ENE	NE	N	NNE	NE	NE	NNE	NE	66	ENE	
Sep 12	NNE	NNE	NNE	NNE	N	N	N	N	NNE	NNE	NNE	N	NE	ENE	NE	E	E	ENE	E	ESE	ESE	ESE	ESE	47	NE	
Sep 13	ESE	SE	SE	ESE	ESE	ESE	ESE	ESE	SE	SE	SE	SE	SE	ESE	ESE	ESE	SE	SE	SSE	SSE	SSE	S	SSE	132	SE	
Sep 14	SSE	S	S	S	SSW	SSW	SSW	SW	WSW	NNW	N	NNE	NNE	NNE	N	NNE	NNE	N	NNE	SE	SE	S	S	SSE	171	S
Sep 15	SSE	SSE	SE	SSE	ESE	SE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SSE	SSE	SE	SE	SSE	SE	SE	SSE	S	150	SSE	
Sep 16	S	SSE	S	SSE	SSE	SSE	SSE	S	S	SSE	SSE	SSE	SE	SSE	SSE	S	ESE	E	E	ENE	E	ESE	ESE	147	SE	
Sep 17	ESE	ESE	ESE	ESE	SE	SE	ESE	SE	SSW	WSW	WSW	WSW	WSW	WSW	W	WNW	NW	NW	W	WNW	W	W	WSW	256	WSW	
Sep 18	W	W	WSW	WSW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	W	WSW	WSW	W	W	WSW	W	W	W	WNW	W	258	WSW	
Sep 19	NW	E	SSW	WSW	W	WNW	NNW	NW	NW	NW	NW	NW	NW	WNW	NW	WNW	WNW	WNW	WNW	NW	NNW	NNW	NW	311	NW	
Sep 20	NW	NW	NW	NW	NW	NNW	NNW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NW	WNW	WNW	WNW	WNW	WSW	SW	318	NW	
Sep 21	SSW	SSW	SSW	SSW	SSW	SSW	S	S	S	SSW	SSW	SSW	SSW	N	N	N	N	N	S	S	SSW	SSW	SSW	201	SSW	
Sep 22	SSW	S	S	S	S	S	S	S	S	N	S	S	S	S	S	SSW	SSW	SSW	SSW	S	S	SSW	SSW	192	S	
Sep 23	SSW	SW	WSW	WSW	WSW	NW	NW	WNW	NW	NW	NW	WNW	NW	NW	WNW	WNW	WNW	WNW	W	W	WSW	W	WNW	289	WNW	
Sep 24	W	W	WNW	W	W	WSW	WSW	W	W	WNW	WNW	NW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	W	WSW	W	285	WNW	
Sep 25	SW	WSW	W	W	WSW	WSW	SW	WSW	SW	SW	SW	WSW	W	W	W	W	WNW	NNW	NW	WNW	WNW	WNW	WNW	261	W	
Sep 26	W	W	W	WNW	WNW	NW	NNW	NW	NW	NW	NNW	NNW	WNW	NW	W	WSW	S	ESE	ESE	ESE	SE	SE	SSE	252	WSW	
Sep 27	S	S	S	S	S	S	SSE	SSE	ESE	SSE	SSE	SSE	SE	SSE	S	SSW	SSW	S	S	SSE	SSE	S	SSW	174	S	
Sep 28	WSW	SW	SW	SW	SW	SW	SSW	SSW	SSW	SSW	SSW	SSW	S	S	SSE	S	SSW	S	SE	S	SE	NE	NE	198	SSW	
Sep 29	ENE	E	ENE	ENE	E	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	NE	NE	NE	NE	NE	ENE	ENE	ENE	ENE	64	ENE	
Sep 30	ENE	NE	NE	ENE	NE	NE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	NE	NE	NE	NE	ENE	ENE	ENE	63	ENE	

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 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 Station





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Station - September 2022

Summary of Hourly Averages

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

WIND SPEED																												
Maximum Hourly Value:		23.6 kph on September 1 at hour 11										Hours in Service:		720														
Maximum Daily Value:		12.5 kph on September 24										Hours of Data:		712														
Minimum Hourly Value:		1.6 kph on September 11 at hour 5										Hours of Missing Data:		8														
Minimum Daily Value:		1.4 kph on September 4										Hours of Calibration:		0														
Monthly Average:		2.6 kph										Operational Uptime:		98.9														
WIND DIRECTION																												
Monthly Average:		254 (WSW) degree																										
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23				
Sep 1	5.8	8.7	6.1	3.3	8.2	10.4	10.6	14.9	18.3	18.9	20.5	23.6	22.7	23.2	19.3	16.5	15.7	13.7	9.8	5.3	6.5	6.1	6.1	6.6	3.3	23.6	10.8	
	SW	N	NE	E	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNW	N	NW	W	SSW	SW				
Sep 2	6.6	6.8	7.5	7.7	9.6	11.7	12.5	12.8	11.3	11.2	11.0	10.8	11.3	10.6	10.8	9.2	7.7	5.4	5.0	8.4	9.9	11.2	12.3	11.1	5.0	12.8	8.7	
	SW	SSW	SSW	SW	SW	SSW	S	SSW	SSW	SW	SW	SW	WSW	WSW	WSW	WSW	SW	SW	SSE	SSE	SSE	S	S	S				
Sep 3	12.7	12.6	12.8	11.9	12.5	11.8	11.4	6.9	6.2	5.3	3.4	4.8	5.0	5.4	5.0	6.6	6.0	6.2	9.4	9.5	9.3	9.9	10.2	9.5	3.4	12.8	5.5	
	S	S	S	S	SSW	SSW	SSW	SW	SSW	SW	SW	S	SSW	SSW	S	SE	SE	ESE	ESE	ESE	ENE	ENE	ENE	ENE				
Sep 4	8.4	8.5	8.7	8.7	5.5	7.8	7.9	5.1	4.5	5.0	5.0	3.8	2.3	5.2	7.5	6.7	6.6	6.5	7.5	8.7	7.9	9.4	9.4	8.4	2.3	9.4	1.4	
	ENE	E	E	E	SE	S	SSW	S	S	SW	WSW	WSW	SSW	W	WNW	WNW	WNW	WNW	WNW	NW	NNW	N	N	N				
Sep 5	7.6	8.1	8.9	9.9	10.8	10.5	10.2	12.0	15.3	15.3	9.1	8.3	6.8	5.2	7.9	8.7	12.3	11.8	9.9	8.9	9.4	10.5	10.0	12.9	5.2	15.3	8.3	
	NNW	N	N	NNW	NNW	NNW	NW	NNW	NW	NNW	NW	NNW	WSW	WSW	WSW	W	W	W	W	W	W	W	W	W				
Sep 6	12.4	15.3	14.2	14.1	11.6	11.6	11.0	9.9	12.5	14.7	14.0	18.5	16.6	14.2	20.8	18.4	13.1	4.7	5.2	4.2	4.3	4.6	7.2	8.3	4.2	20.8	10.0	
	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	WSW	SSW	S	SSE	SE	ESE				
Sep 7	9.4	8.5	8.5	8.7	8.6	8.9	7.5	7.9	6.8	5.8	8.1	15.3	15.1	15.4	7.0	4.0	7.8	9.5	9.2	8.7	10.3	9.7	10.4	10.7	4.0	15.4	1.7	
	ESE	ESE	E	E	E	ESE	ESE	SE	SSE	SE	W	NNW	N	NNE	NNW	WNW	WNW	W	W	W	WNW	WNW	WNW					
Sep 8	9.8	10.0	10.9	10.3	8.8	11.5	11.6	11.2	11.2	11.3	12.9	9.1	14.1	14.5	12.6	8.7	14.1	20.5	16.2	11.2	12.9	11.3	10.3	10.7	10.8	8.7	20.5	11.3
	WNW	WNW	WNW	WNW	WNW	NW	NNW	NNW	NNW	NW	NW	NW	NW	NW	NW	WNW	W	WNW	NW	NNW	WNW	WNW	WNW	WNW				
Sep 9	10.6	11.0	10.2	9.6	9.7	10.7	10.5	10.1	10.1	13.3	13.7	15.8	15.3	13.3	14.6	13.3	12.0	9.4	6.0	6.2	7.1	5.9	6.2	6.2	5.9	15.8	9.2	
	WNW	WNW	WNW	WNW	WNW	W	W	WNW	NW	NW	NW	NW	NW	NNW	NW	NW	NW	WSW	WSW	SW	SW	SSW	SSW					
Sep 10	7.8	7.6	9.1	10.6	13.2	13.8	12.7	9.9	7.3	8.1	9.1	9.8	11.3	13.8	17.3	17.5	12.8	7.6	7.2	7.1	6.4	5.4	6.3	6.3	5.4	17.5	9.3	
	SSW	SSW	SW	SSW	SSW	SSW	SSW	SSW	SW	SW	SW	SW	SW	WSW	WSW	W	WSW	WSW	WSW	WSW	SW	SW	WSW	W				
Sep 11	5.1	4.1	8.1	10.9	6.5	1.6	7.5	5.8	6.1	6.4	5.8	5.0	4.4	3.2	2.0	2.4	3.0	4.1	4.5	6.4	6.8	7.0	7.5	8.8	1.6	10.9	4.6	
	NNW	ENE	E	ENE	ENE	SE	ESE	ESE	ENE	E	ESE	E	ENE	E	ENE	NE	N	NNE	NE	NE	NNE	NE	NE	NE				
Sep 12	9.6	10.1	9.9	9.2	7.1	7.2	8.6	6.3	4.7	3.6	3.2	3.4	2.7	2.0	3.1	2.3	3.5	3.6	4.7	5.4	8.5	9.7	10.1	9.2	2.0	10.1	4.3	
	NNE	NNE	NNE	N	N	N	N	NNE	NNE	NNE	N	N	NE	ENE	NE	E	E	ENE	E	ESE	ESE	ESE	ESE	ESE				
Sep 13	12.0	11.7	11.3	9.8	8.8	10.2	9.2	10.8	10.4	11.3	12.5	13.3	12.1	9.8	10.8	11.9	12.1	12.3	12.3	11.7	11.1	10.6	10.0	8.7	8.7	13.3	10.4	
	ESE	SE	SE	ESE	ESE	ESE	ESE	SE	SE	SE	SE	SE	SE	ESE	ESE	ESE	ESE	SE	SE	SSE	SSE	SSE	S	SSE				
Sep 14	9.6	9.3	9.1	8.3	7.9	5.7	5.3	3.7	4.0	3.3	4.2	4.1	3.4	3.9	3.9	4.1	3.5	4.1	3.5	6.1	5.9	6.8	8.4	9.0	3.3	9.6	2.3	
	SSE	S	S	S	SSW	SSW	SSW	SW	WSW	NNW	N	NNW	NNE	NNE	N	NNE	NNE	N	NNE	SE	SE	S	S	SSE				
Sep 15	8.8	8.3	7.9	8.2	7.5	8.4	8.6	7.5	6.9	8.0	11.6	12.0	11.1	11.7	12.0	11.7	13.5	11.6	10.1	9.8	11.1	11.0	11.8	11.2	6.9	13.5	9.7	
	SSE	SSE	SE	SSE	ESE	SE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SSE	SSE	SE	SE	SSE	SE	SE	SE	SE	SSE				
Sep 16	10.8	13.0	11.7	9.1	8.8	9.4	10.4	9.6	9.3	8.4	8.4	8.0	8.0	9.1	7.9	6.6	4.6	6.8	8.1	9.0	8.8	7.4	4.9	7.8	4.6	13.0	7.4	
	S	SSE	S	SSE	SSE	SSE	SSE	S	S	SSE	SSE	SSE	SSE	SSE	SSE	S	ESE	E	E	ENE	E	ESE	ESE	ESE				
Sep 17	7.9	7.7	8.3	6.6	5.5	3.1	3.1	4.7	5.6	6.6	11.0	10.0	12.0	10.7	14.1	13.2	9.3	6.5	6.9	6.9	8.4	10.2	9.5	9.7	3.1	14.1	4.3	
	ESE	ESE	ESE	ESE	SE	SE	ESE	SE	SSW	WSW	WSW	WSW	WSW	WSW	W	WNW	NW	NW	W	WNW	W	W	WSW	W				
Sep 18	7.6	8.7	8.3	9.8	6.9	7.0	6.8	7.1	10.4	14.9	21.0	21.2	18.7	18.3	17.9	17.2	13.3	9.5	5.4	5.6	4.7	4.9	6.1	4.2	4.2	21.2	10.3	
	W	W	WSW	WSW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	W	WSW	WSW	W	W	W	WSW	W	W	W	WNW	W				
Sep 19	2.7	2.9	7.0	6.3	6.9	8.4	8.5	8.7	12.0	9.5	8.5	10.8	11.1	11.4	11.7	12.7	11.0	11.7	10.2	12.3	11.5	11.6	10.8	11.6	2.7	12.7	8.5	
	NW	E	SSW	WSW	W	WNW	NNW	NW	NW	NW	NW	NW	NW	NW	NNW	NW	WNW	WNW	WNW	NW	NNW	NNW	NW	NNW				
Sep 20	10.4	11.4	12.1	12.4	11.6	11.8	9.3	8.8	11.2	14.8	13.6	13.0	12.9	11.2	12.2	11.2	7.7	6.9	6.6	6.8	6.5	5.7	6.2	6.4	5.7	14.8	9.1	
	NW	NW	NW	NW	NW	NNW	NNW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NW	WNW	WNW	WNW	WNW	WSW	SW	SW				



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Station - September 2022

Summary of Hourly Averages

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

WIND SPEED																															
Maximum Hourly Value:	23.6	kph	on September 1 at hour 11	Hours in Service:	720																										
Maximum Daily Value:	12.5	kph	on September 24	Hours of Data:	712																										
Minimum Hourly Value:	1.6	kph	on September 11 at hour 5	Hours of Missing Data:	8																										
Minimum Daily Value:	1.4	kph	on September 4	Hours of Calibration:	0																										
Monthly Average:	2.6	kph		Operational Uptime:	98.9																										
WIND DIRECTION																															
Monthly Average:	254 (WSW degree)																														
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average					
Sep 21	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	7.2	13.9	10.3				
Sep 22	7.8	7.2	8.0	9.1	9.7	9.9	10.0	10.1	9.7	8.1	9.9	11.3	13.6	N	N	N	N	N	10.5	11.8	12.6	11.5	12.6	13.9	7.5	14.9	11.4				
Sep 23	13.3	13.7	13.8	12.9	11.7	11.3	11.1	11.7	10.7	N	13.8	13.6	14.9	14.3	12.8	12.9	10.1	7.5	7.6	9.3	9.9	9.4	10.6	8.0	7.0	18.4	9.8				
Sep 24	10.4	7.1	7.0	7.9	7.9	10.1	10.4	10.6	12.3	15.5	15.6	18.4	17.0	16.0	14.7	13.2	12.5	8.4	7.0	8.9	9.8	12.0	9.1	8.7	7.3	20.4	12.5				
Sep 25	10.4	10.5	8.3	11.3	10.1	12.0	9.4	16.8	20.4	19.7	18.9	19.8	19.1	20.3	17.6	17.2	14.3	11.6	7.6	7.3	7.9	7.5	7.7	8.9	3.7	18.3	8.0				
Sep 26	7.4	8.1	12.3	10.7	8.0	8.1	6.1	5.9	4.8	4.9	6.7	9.5	12.6	18.3	16.8	16.7	8.8	7.9	5.8	3.7	5.0	5.4	6.4	7.6	1.9	12.5	1.5				
Sep 27	7.9	8.1	8.8	9.1	8.8	9.0	7.1	7.1	5.7	2.8	1.9	2.6	3.3	3.6	3.5	4.2	2.2	3.2	6.8	10.9	12.5	12.0	10.2	11.4	3.3	12.7	8.5				
Sep 28	12.7	11.7	10.4	11.3	11.9	10.0	9.3	7.8	5.9	6.6	8.5	8.6	3.3	7.2	9.6	9.8	10.8	9.1	6.8	7.3	8.9	9.9	10.1	7.5	2.3	8.3	3.6				
Sep 29	6.4	6.7	6.4	6.6	5.8	6.0	7.0	5.6	5.2	4.5	5.9	4.9	6.3	6.1	7.7	6.6	2.8	2.5	4.8	5.2	2.3	6.4	7.2	8.3	7.3	14.8	10.3				
Sep 30	8.8	8.9	9.2	9.3	9.6	10.4	8.7	9.9	9.9	10.2	12.9	12.4	12.1	7.5	7.3	8.1	9.1	10.0	10.5	13.2	14.8	13.9	13.5	13.8	4.9	14.2	9.3				
	ENE	E	ENE	ENE	E	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	NE	NE	NE	ENE	ENE	ENE	ENE	ENE							
	12.1	12.7	14.2	13.5	11.5	11.5	13.6	12.0	9.2	11.5	9.8	Y	Y	12.5	8.3	6.6	4.9	6.3	6.6	5.1	5.6	7.6	8.5	7.6							
	ENE	NE	NE	ENE	NE	NE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	E	ENE	ENE	NE	NE	NE	ENE	ENE	ENE	ENE	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	Unit/Maint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)																						
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.																															
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.																															



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Station - September 2022

Summary of Hour Standard Deviations

STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

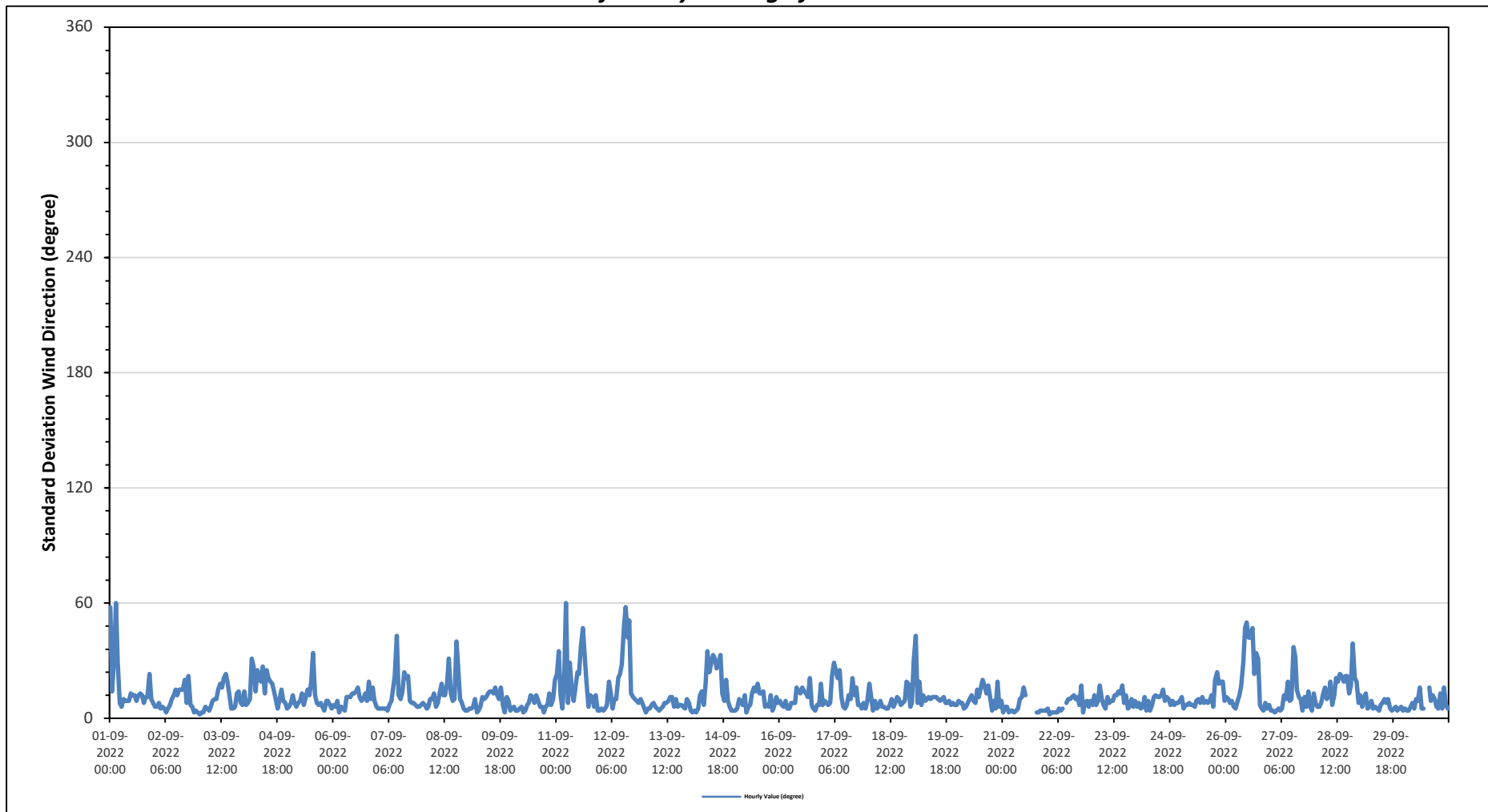
Maximum Hourly Value: 60 degree on September 1 at hour 3	Hours in Service: 720
	Hours of Data: 712
Minimum Hourly Value: 2 degree on September 3 at hour 0	Hours of Missing Data: 8
	Hours of Calibration: 0
	Operational Uptime: 98.9

Day	Hourly Period Starting at (MST)																								Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum
Sep 1	58	14	32	60	29	8	6	10	9	9	9	13	12	12	9	12	13	12	8	11	11	23	10	8	6	60
Sep 2	6	6	8	5	6	5	3	5	7	10	12	15	12	15	15	15	20	8	22	7	6	3	4	3	3	22
Sep 3	2	3	3	6	5	4	6	9	10	10	15	18	16	21	23	19	12	5	5	6	13	14	8	7	2	23
Sep 4	14	7	8	10	31	27	14	25	21	19	27	13	25	21	19	18	14	9	5	10	15	9	8	5	5	31
Sep 5	6	8	12	8	6	8	9	13	7	11	15	12	19	34	12	8	7	8	6	4	9	9	7	5	4	34
Sep 6	7	6	9	3	6	5	4	11	11	11	13	13	14	16	11	9	10	13	9	19	10	16	9	6	3	19
Sep 7	5	5	5	3	5	4	7	9	16	22	43	12	10	14	24	21	22	9	8	8	7	6	6	7	4	43
Sep 8	8	7	5	6	10	10	13	6	8	13	18	12	12	18	31	13	9	10	40	25	10	8	5	4	4	40
Sep 9	4	5	5	6	10	3	4	6	11	10	11	13	14	14	13	16	12	10	16	7	3	11	9	4	3	16
Sep 10	5	6	4	4	5	6	3	4	7	8	12	11	8	12	9	6	6	3	6	7	13	7	10	20	3	20
Sep 11	23	35	12	5	20	60	8	29	16	9	16	24	23	37	47	33	19	6	12	11	6	12	4	4	4	60
Sep 12	5	4	5	7	19	13	5	10	10	21	23	28	47	58	42	51	13	11	10	9	8	10	8	5	4	58
Sep 13	3	5	5	7	8	6	5	4	5	6	8	8	9	11	11	6	10	6	7	7	6	5	10	8	3	11
Sep 14	4	3	4	3	5	12	14	7	18	35	24	29	33	31	26	29	33	13	9	20	9	6	4	4	3	35
Sep 15	4	5	10	8	7	12	3	6	7	13	16	14	18	13	13	14	6	7	6	12	4	7	11	8	3	18
Sep 16	9	7	6	9	5	5	8	8	8	16	14	13	16	14	13	11	21	7	5	4	7	7	18	7	4	21
Sep 17	9	8	7	8	22	29	25	21	25	11	6	5	7	12	10	21	12	16	7	7	5	8	5	9	5	29
Sep 18	18	11	4	9	5	6	9	6	6	5	5	7	10	6	8	11	10	7	8	9	19	18	6	8	4	19
Sep 19	30	43	8	19	7	12	9	10	11	10	11	11	11	10	9	10	11	8	8	9	7	8	7	7	7	43
Sep 20	9	8	8	5	6	8	10	12	9	8	15	11	16	20	17	13	17	11	4	9	5	19	6	9	4	20
Sep 21	3	6	6	3	4	4	3	4	5	10	11	16	12	N	N	N	N	N	3	3	4	4	4	4	3	16
Sep 22	5	2	3	3	3	3	5	4	5	N	8	10	10	11	12	10	11	7	17	3	8	9	6	9	2	17
Sep 23	7	12	7	9	17	10	7	5	11	8	9	9	12	12	14	13	17	8	12	5	6	10	6	9	5	17
Sep 24	6	8	5	6	11	4	9	4	7	11	12	11	11	12	15	9	11	10	7	9	7	8	8	9	4	15
Sep 25	11	5	7	7	8	7	7	6	9	10	8	11	8	9	8	9	12	6	20	24	18	19	19	9	5	24
Sep 26	11	10	8	9	6	5	9	12	17	29	47	50	42	42	47	23	34	31	7	5	4	8	5	7	4	50
Sep 27	4	4	3	4	5	4	5	12	10	19	9	10	37	32	15	11	10	4	11	6	14	6	4	13	3	37
Sep 28	8	6	6	8	13	16	10	12	19	7	12	21	19	23	22	19	22	22	13	17	39	21	19	8	6	39
Sep 29	12	6	10	13	5	6	9	5	6	5	4	7	8	10	8	10	5	4	5	6	4	5	6	4	4	13
Sep 30	5	4	4	6	8	5	10	9	16	5	5	Y	Y	16	9	12	10	6	5	13	5	16	7	5	4	16
Diurnal Minimum	2	2	3	3	3	3	3	4	5	5	4	5	7	6	8	6	5	3	3	3	3	3	4	3		
Diurnal Maximum	58	43	32	60	31	60	25	29	25	35	47	50	47	58	47	51	34	31	40	25	39	23	19	20		

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

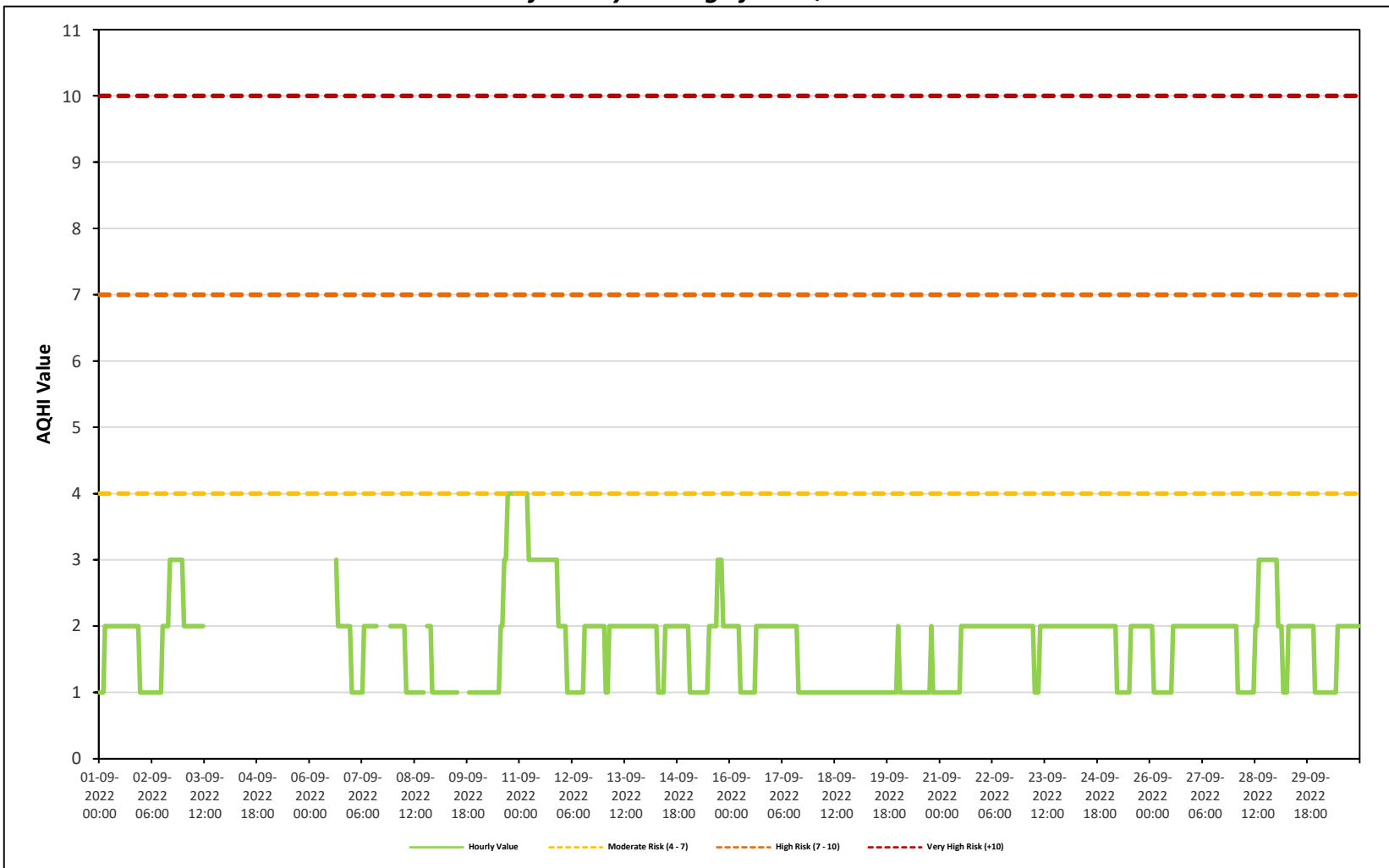
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

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

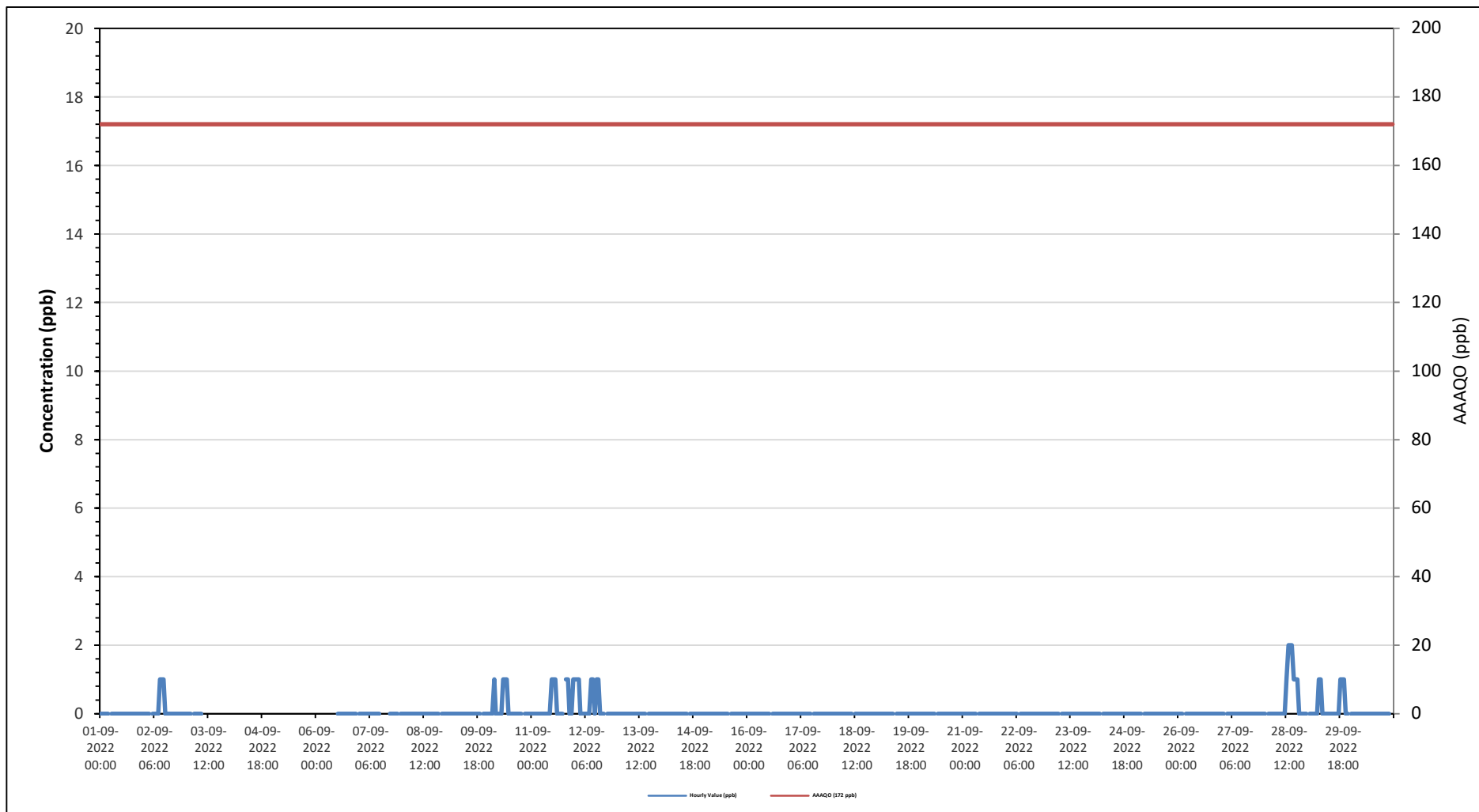


LAC LA BICHE STATION

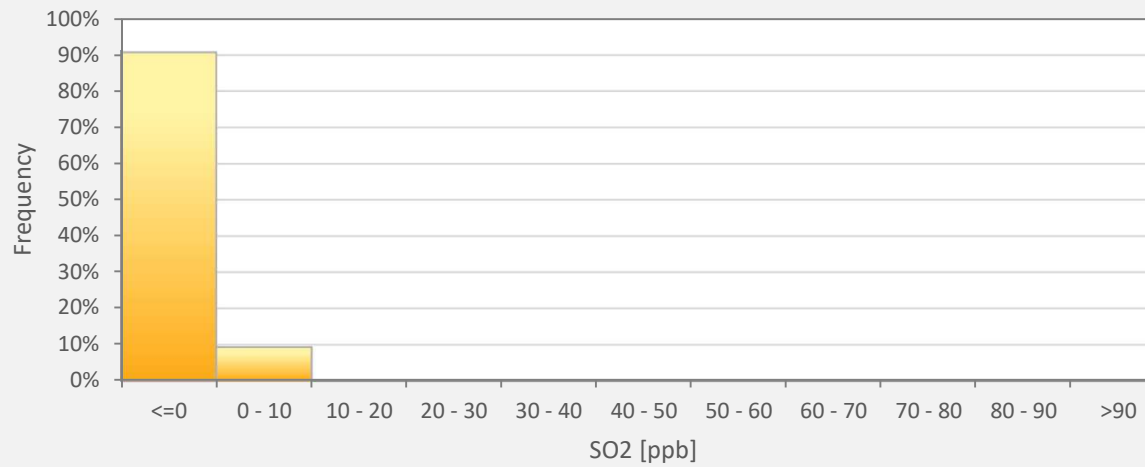
Timeseries Chart of Hourly Average for AQHI - Lac La Biche Station



Timeseries Chart of Hourly Average for SO2 - Lac La Biche Station



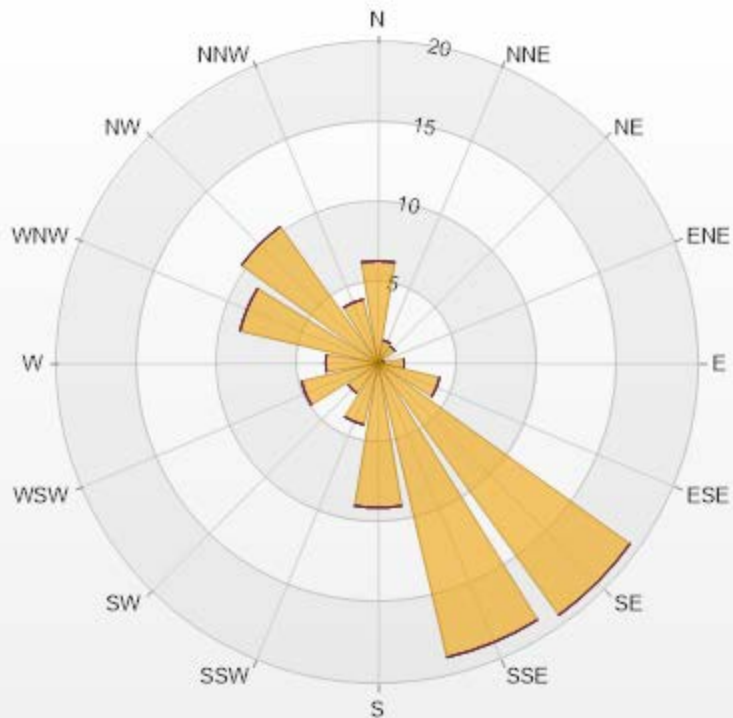
SO2[ppb] Histogram: Lac La Biche Monthly: 09-2022 1 Hr.



Classes	SO2
<=0	90.67%
0 - 10	9.33%
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: Lac La Biche Poll.: Lac La Biche-SO2[ppb] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 84.86% Calm Avg: 0.00 [ppb]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	6.38	0	0	0	0	6.38
NNE	1.47	0	0	0	0	1.47
NE	1.31	0	0	0	0	1.31
ENE	0.33	0	0	0	0	0.33
E	1.64	0	0	0	0	1.64
ESE	3.93	0	0	0	0	3.93
SE	19.31	0	0	0	0	19.31
SSE	18.82	0	0	0	0	18.82
S	9	0	0	0	0	9
SSW	3.93	0	0	0	0	3.93
SW	2.29	0	0	0	0	2.29
WSW	4.91	0	0	0	0	4.91
W	3.27	0	0	0	0	3.27
WNW	8.84	0	0	0	0	8.84
NW	10.47	0	0	0	0	10.47
NNW	4.09	0	0	0	0	4.09
Summary	100	0	0	0	0	100



LICA-202209

% Icon Classes (ppb)

100 0-10

0 10-50

0 50-100

0 100-172

0 >172.0



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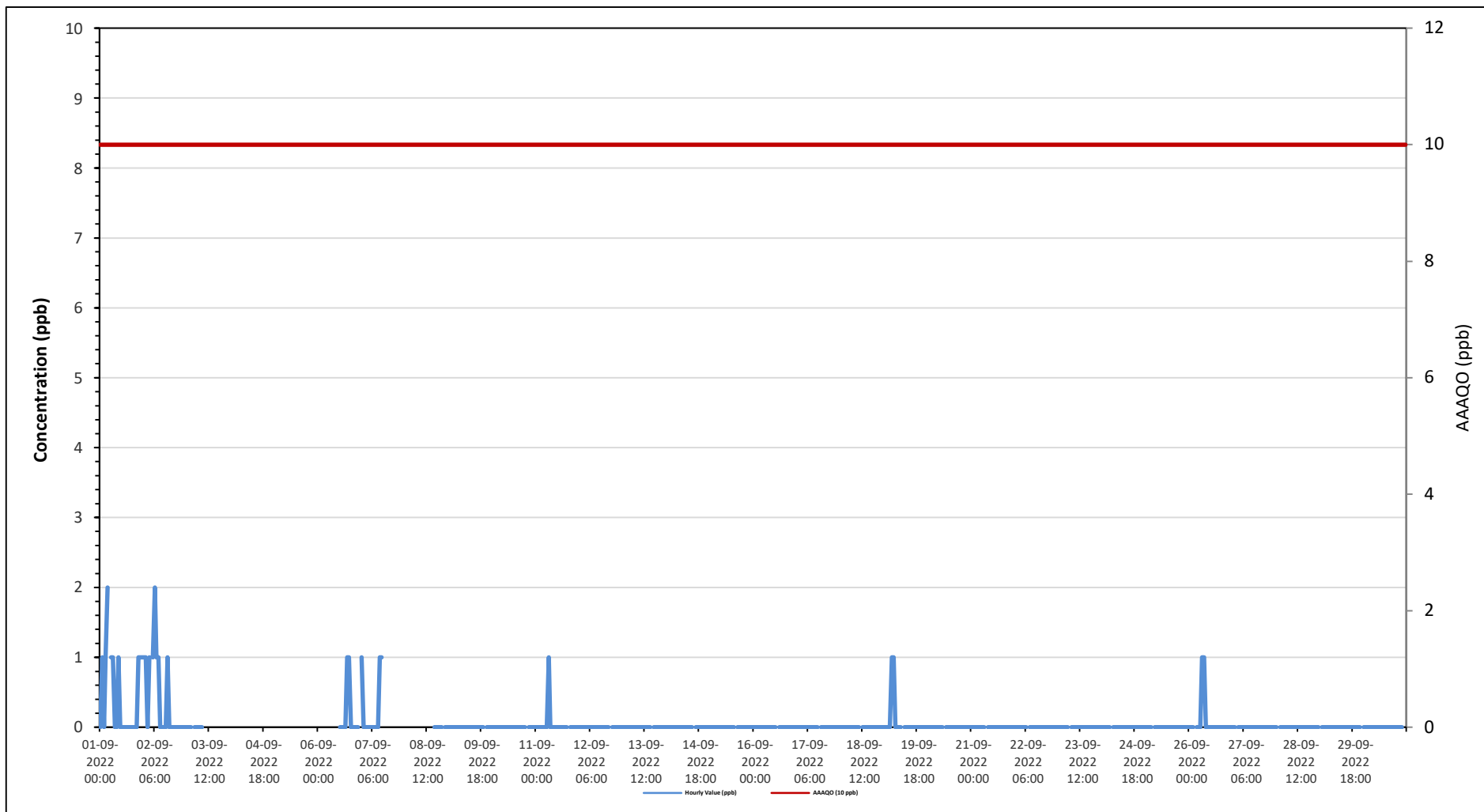
Lac La Biche Station - September 2022

Summary of Hourly Averages

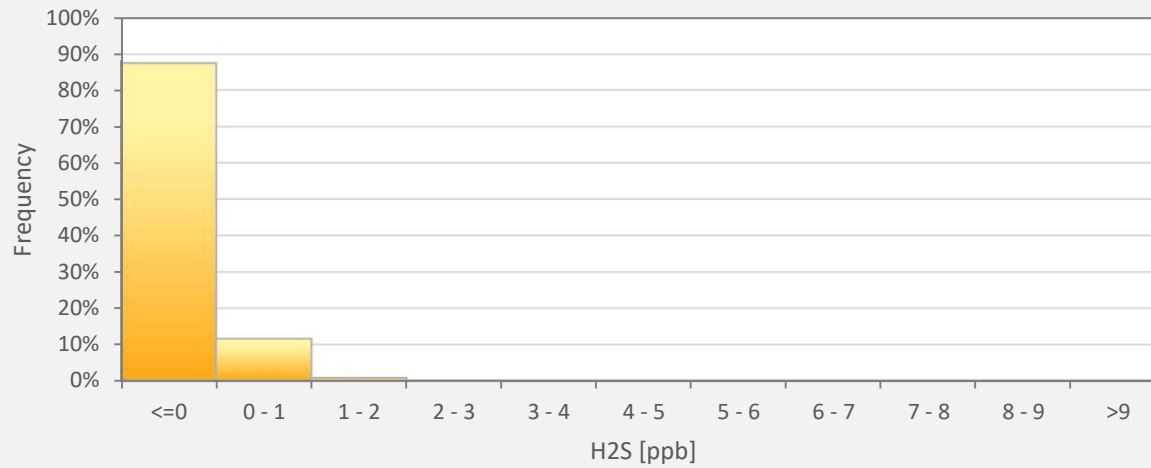
HYDROGEN SULPHIDE (H₂S) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 10 ppb, 24-Hour 3 ppb																											
Number of 1-Hour Exceedances: 0										Number of 24-Hour Exceedances: 0																	
Maximum Hourly Value: 2 ppb on September 1 at hour 4										Hours in Service: 720																	
Maximum Daily Value: 0.4 ppb on September 1										Hours of Data: 589																	
Minimum Hourly Value: 0 ppb on September 1 at hour 0										Hours of Missing Data: 96																	
Minimum Daily Value: 0.0 ppb on September 9										Hours of Calibration: 35																	
Monthly Average: 0.0 ppb										Operational Uptime: 86.7																	
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			
Sep 1	0	1	0	1	2	S	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	2	0.4
Sep 2	1	1	0	1	S	1	2	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0.4
Sep 3	0	0	0	S	0	0	0	0	0	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	0	0	-
Sep 4	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-
Sep 5	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-
Sep 6	K	K	K	K	K	K	K	K	K	K	K	NRM	0	0	0	0	1	1	0	0	0	0	0	S	0	1	-
Sep 7	1	0	0	0	0	0	0	0	0	0	1	1	C	C	C	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	0	1	-
Sep 8	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	C	C	C	C	0	0	0	0	0	S	0	0	0	0	-
Sep 9	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
Sep 10	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
Sep 11	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	1	0.0
Sep 12	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
Sep 13	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
Sep 14	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
Sep 15	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
Sep 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.0
Sep 17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.0
Sep 18	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
Sep 19	0	0	0	0	1	1	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Sep 20	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
Sep 21	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
Sep 22	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
Sep 23	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
Sep 24	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sep 25	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
Sep 26	0	0	0	S	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Sep 27	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
Sep 28	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
Sep 29	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
Sep 30	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
Diurnal Maximum	1.0	1.0	0.0	1.0	2.0	1.0	2.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0			
Diurnal Average	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
C	Monthly Calibration										S	Daily Zero-Span Check										Q	Quality Assurance				
K	Collection Error										N	No Data (Machine Not in Service)										Y	Routine Maintenance				
X	Invalid Data (Equipment Malfunction /Recovery)										NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)										P	Power Failure				
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.																											
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.																											

Timeseries Chart of Hourly Average for H2S - Lac La Biche Station



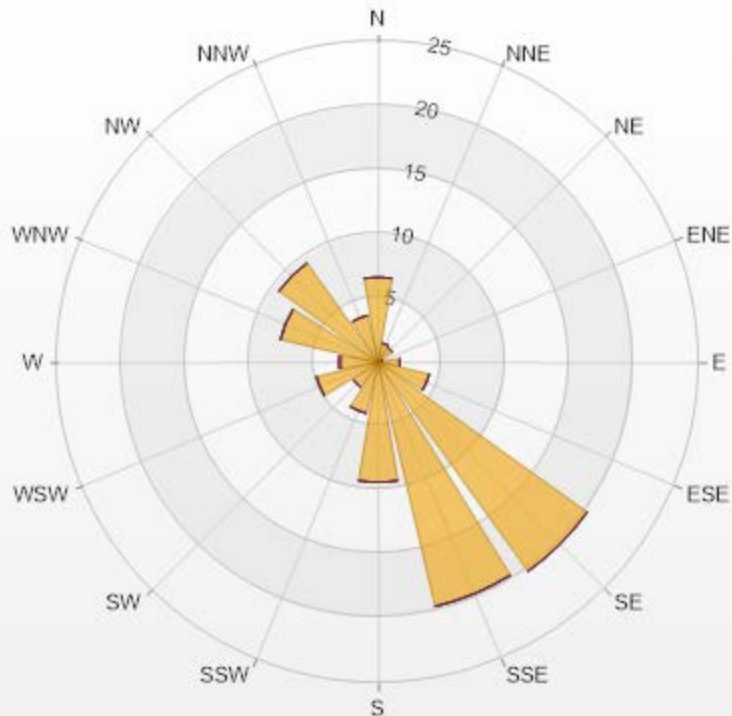
H2S[ppb] Histogram: Lac La Biche Monthly: 09-2022 1 Hr.



Classes	H2S
<=0	58.56%
0 - 1	38.61%
1 - 2	1.84%
2 - 3	0.42%
3 - 4	0.14%
4 - 5	0.14%
5 - 6	0.14%
6 - 7	0.00%
7 - 8	0.00%
8 - 9	0.00%
>9	0.14%

Wind: Lac La Biche Poll.: Lac La Biche-H2S[ppb] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 81.81% Calm Avg: 0.00 [ppb]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	6.62	0	0	0	0	6.62
NNE	1.53	0	0	0	0	1.53
NE	1.36	0	0	0	0	1.36
ENE	0.34	0	0	0	0	0.34
E	1.7	0	0	0	0	1.7
ESE	4.07	0	0	0	0	4.07
SE	20.03	0	0	0	0	20.03
SSE	19.52	0	0	0	0	19.52
S	9.34	0	0	0	0	9.34
SSW	4.07	0	0	0	0	4.07
SW	2.38	0	0	0	0	2.38
WSW	4.92	0	0	0	0	4.92
W	2.89	0.17	0	0	0	3.06
WNW	7.81	0	0	0	0	7.81
NW	9.51	0	0	0	0	9.51
NNW	3.74	0	0	0	0	3.74
Summary	100	0.17	0	0	0	100



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% Icon Classes (ppb)

100 0-2

0 2-5

0 5-10

0 10-50

0 >50.0



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Lac La Biche Station - September 2022

Summary of Hourly Averages

OXIDES OF NITROGEN (NOx) in ppb

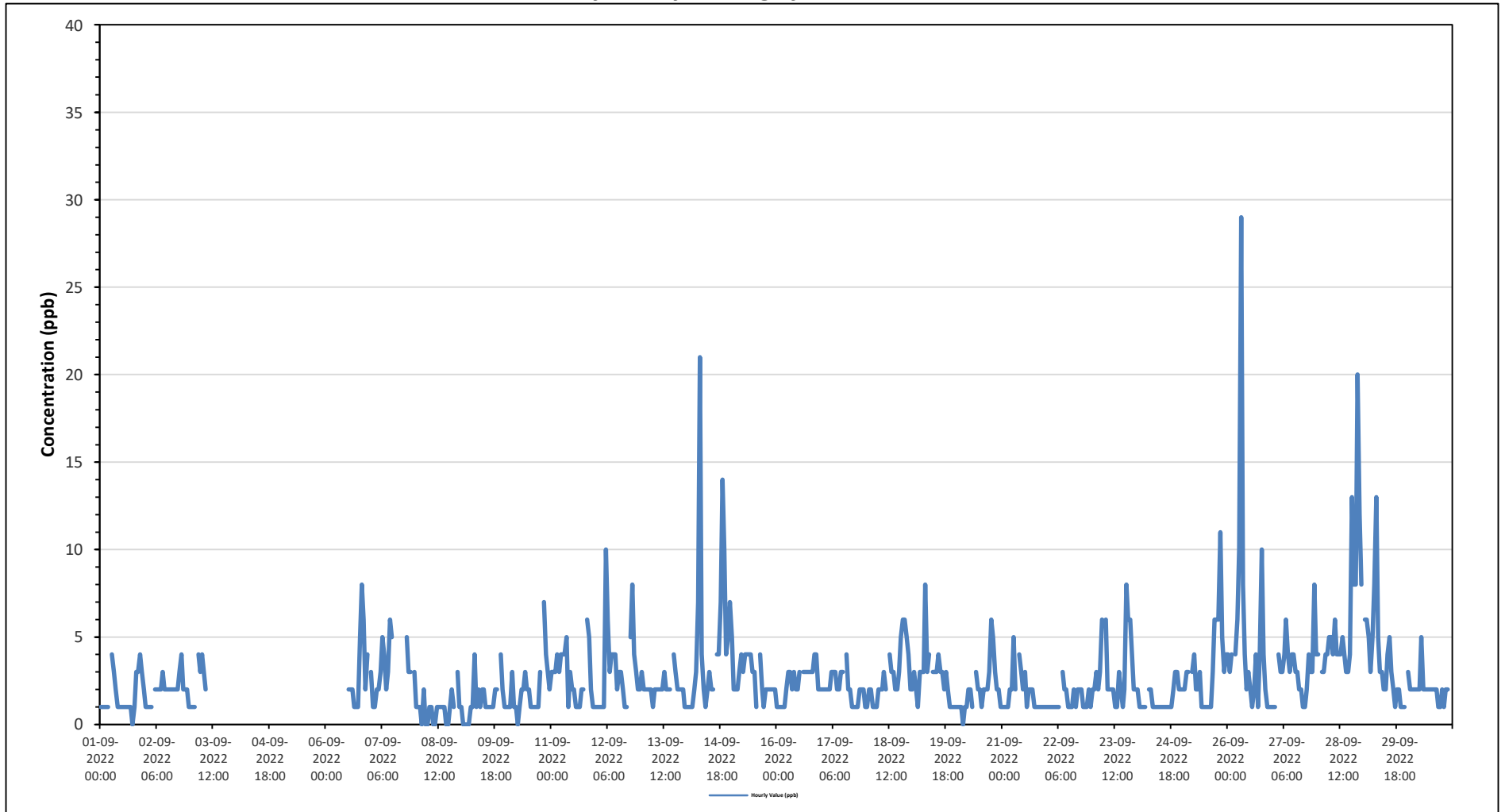
Maximum Hourly Value:	29 ppb on September 26 at hour 7	Hours in Service:	720
Maximum Daily Value:	6.0 ppb on September 28	Hours of Data:	609
Minimum Hourly Value:	0 ppb on September 1 at hour 17	Hours of Missing Data:	75
Minimum Daily Value:	0.9 ppb on September 8	Hours of Calibration:	36
Monthly Average:	2.7 ppb	Operational Uptime:	89.6

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	
Sep 1	1	1	1	1	1	S	4	3	2	1	1	1	1	1	1	1	0	1	3	3	4	3	2	0	4	1.7		
Sep 2	1	1	1	1	S	2	2	2	2	3	2	2	2	2	2	2	2	3	4	2	2	2	1	1	4	2.0		
Sep 3	1	1	1	S	4	3	4	3	2	K	K	K	K	K	K	K	K	K	K	K	K	K	K	1	4	-		
Sep 4	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-		
Sep 5	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-		
Sep 6	K	K	K	K	K	K	K	K	K	K	K	NRM	2	2	2	1	1	1	5	8	6	2	4	S	1	8	-	
Sep 7	3	1	1	2	2	3	5	4	2	3	6	5	C	C	C	C	C	C	5	3	3	S	S	1	6	-		
Sep 8	1	1	1	0	2	0	0	1	1	0	0	1	1	1	1	1	0	0	1	2	1	S	3	1	0	3	0.9	
Sep 9	1	0	0	0	0	1	1	4	1	2	1	2	2	1	1	1	1	1	2	2	S	4	2	1	0	4	1.3	
Sep 10	1	1	1	3	1	1	0	1	2	2	3	2	2	1	1	1	1	1	3	S	7	4	3	2	0	7	1.9	
Sep 11	3	3	3	4	3	4	4	4	5	1	3	2	2	1	1	1	2	2	S	6	5	2	1	1	1	6	2.7	
Sep 12	1	1	1	1	1	10	6	3	4	4	4	2	3	3	2	1	1	S	5	8	4	3	2	2	1	10	3.1	
Sep 13	3	2	2	2	2	2	1	2	2	2	2	2	3	2	2	2	S	4	3	2	2	2	2	1	1	4	2.1	
Sep 14	1	1	1	1	2	3	7	21	4	2	1	2	3	2	2	S	4	4	7	14	10	4	5	7	1	21	4.7	
Sep 15	5	2	2	2	3	4	3	4	4	4	4	3	3	1	S	4	2	1	2	2	2	2	2	2	1	5	2.7	
Sep 16	1	1	1	1	1	2	3	3	2	3	2	2	3	S	3	3	3	3	3	3	4	4	2	2	1	4	2.4	
Sep 17	2	2	2	2	2	3	3	3	2	2	3	3	S	4	2	2	1	1	1	1	2	2	2	1	1	4	2.1	
Sep 18	1	2	2	1	1	1	2	2	2	3	2	S	4	3	3	3	2	2	3	5	6	6	5	4	2	6	2.8	
Sep 19	2	3	2	1	3	3	3	8	3	4	S	3	3	3	4	3	3	2	3	2	1	1	1	1	1	8	2.7	
Sep 20	1	1	1	0	1	1	2	2	1	S	3	2	2	1	2	2	2	3	6	5	3	2	2	1	0	6	2.0	
Sep 21	1	1	1	1	2	2	5	2	S	4	3	2	3	1	2	2	2	1	1	1	1	1	1	1	1	5	1.8	
Sep 22	1	1	1	1	1	1	1	S	3	2	2	1	1	1	2	1	2	2	2	1	1	1	1	1	1	3	1.4	
Sep 23	2	2	3	2	3	6	S	6	2	2	2	2	1	1	3	2	1	2	8	6	6	4	2	2	1	8	3.0	
Sep 24	2	1	1	1	1	S	2	2	1	1	1	1	1	1	1	1	1	1	1	2	3	3	2	2	1	3	1.4	
Sep 25	2	2	3	3	S	3	4	2	2	3	1	1	1	1	1	3	6	6	6	11	5	3	4	1	11	3.2		
Sep 26	4	3	4	S	4	6	10	29	8	4	2	3	2	1	2	4	1	4	10	4	2	1	1	1	1	29	4.8	
Sep 27	1	1	S	4	3	3	4	6	4	3	4	4	3	3	2	2	1	1	2	4	3	3	8	4	1	8	3.2	
Sep 28	4	S	3	3	4	4	5	5	4	6	4	4	4	5	4	3	3	4	13	8	8	20	12	8	3	20	6.0	
Sep 29	S	6	6	5	3	5	8	13	5	3	2	2	4	5	3	2	1	2	2	1	1	1	1	S	1	13	3.8	
Sep 30	3	2	2	2	2	2	2	5	2	2	2	2	2	2	2	2	1	1	2	1	2	2	2	S	3	1	5	2.1
Diurnal Maximum	5	6	6	5	4	10	10	29	8	6	6	5	4	5	5	4	4	6	13	14	11	20	12	8				
Diurnal Average	1.9	1.7	1.8	1.8	2.1	3.0	3.5	5.4	2.8	2.6	2.4	2.2	2.2	1.9	2.1	1.9	1.7	2.0	3.9	4.2	3.8	3.3	2.9	2.2				

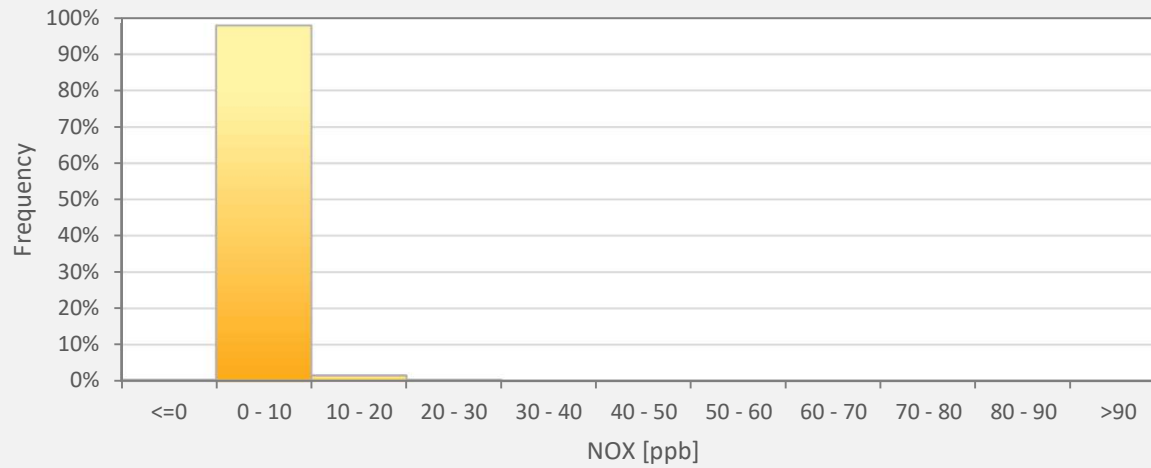
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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

Timeseries Chart of Hourly Average for NOx - Lac La Biche Station



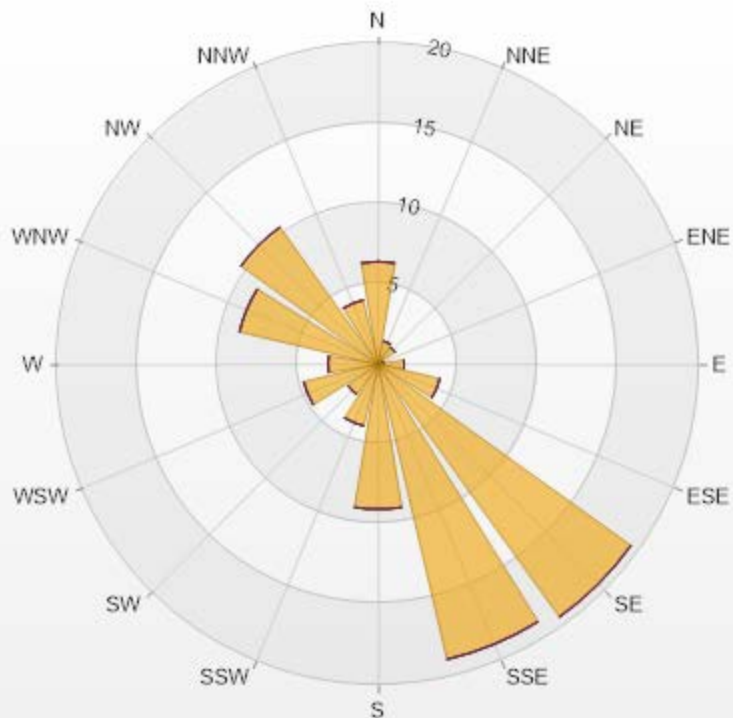
NOX[ppb] Histogram: Lac La Biche Monthly: 09-2022 1 Hr.



Classes	NOX
<=0	0.33%
0 - 10	97.87%
10 - 20	1.48%
20 - 30	0.33%
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: Lac La Biche Poll.: Lac La Biche-NOX[ppb] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 84.58% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	6.4	0	0	0	0	6.4
NNE	1.48	0	0	0	0	1.48
NE	1.31	0	0	0	0	1.31
ENE	0.33	0	0	0	0	0.33
E	1.64	0	0	0	0	1.64
ESE	3.94	0	0	0	0	3.94
SE	19.38	0	0	0	0	19.38
SSE	18.88	0	0	0	0	18.88
S	9.03	0	0	0	0	9.03
SSW	3.94	0	0	0	0	3.94
SW	2.3	0	0	0	0	2.3
WSW	4.76	0	0	0	0	4.76
W	3.12	0	0	0	0	3.12
WNW	8.87	0	0	0	0	8.87
NW	10.51	0	0	0	0	10.51
NNW	4.11	0	0	0	0	4.11
Summary	100	0	0	0	0	100



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% Icon Classes (ppb)

100

0-30

0

30-50

0

50-76

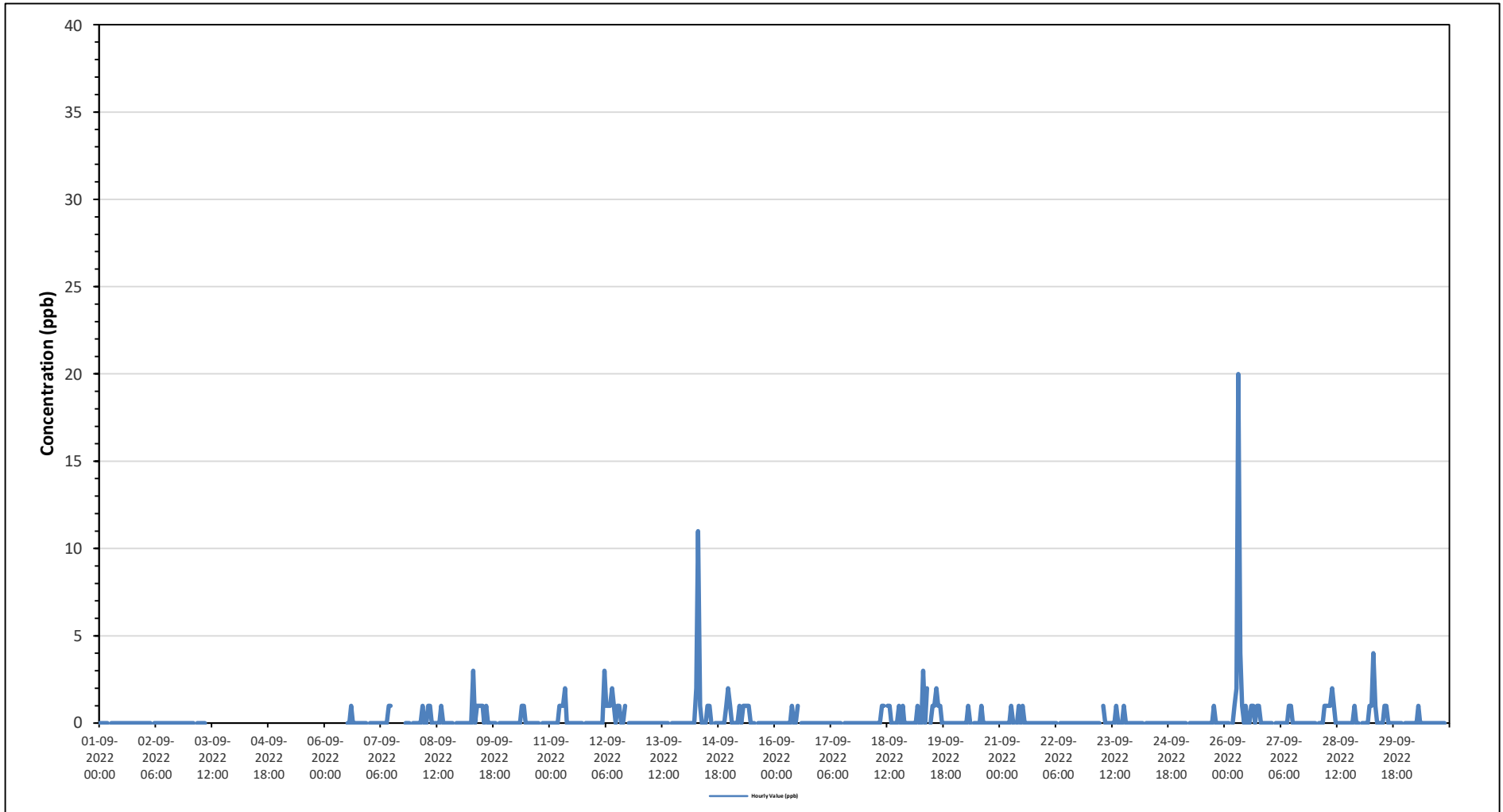
0

76-159

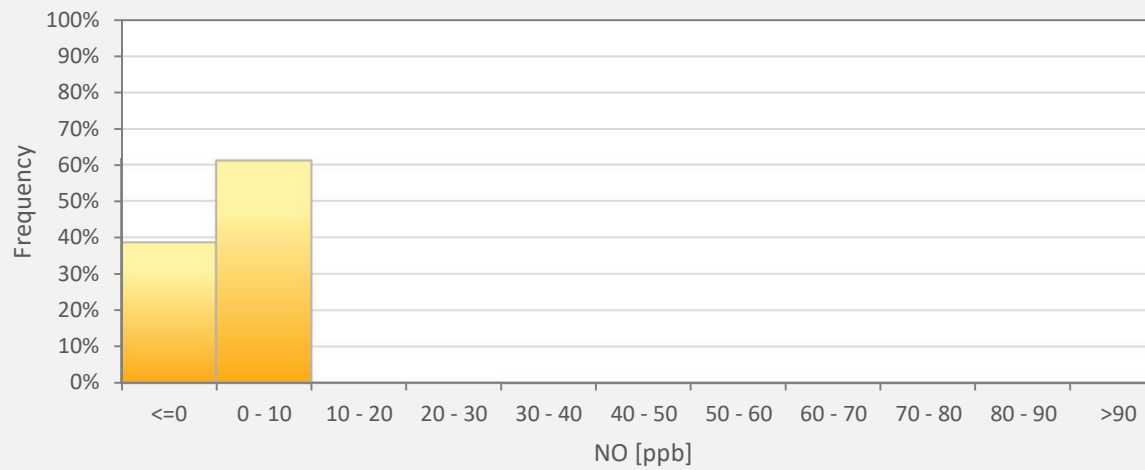
0

>159.0

Timeseries Chart of Hourly Average for NO - Lac La Biche Station



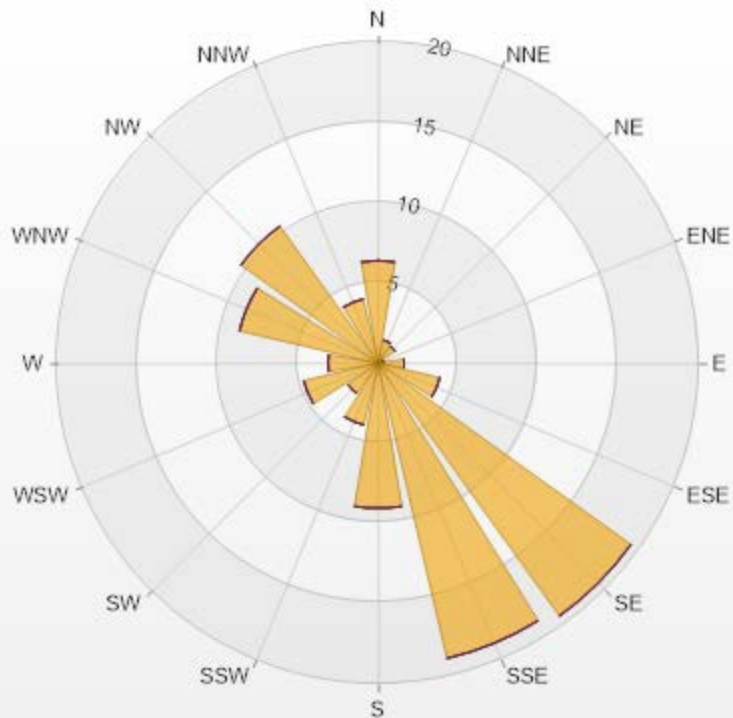
NO[ppb] Histogram: Lac La Biche Monthly: 09-2022 1 Hr.



Classes	NO
<=0	58.74%
0 - 10	40.68%
10 - 20	0.59%
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: Lac La Biche Poll.: Lac La Biche-NO[ppb] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 84.58% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	6.4	0	0	0	0	6.4
NNE	1.48	0	0	0	0	1.48
NE	1.31	0	0	0	0	1.31
ENE	0.33	0	0	0	0	0.33
E	1.64	0	0	0	0	1.64
ESE	3.94	0	0	0	0	3.94
SE	19.38	0	0	0	0	19.38
SSE	18.88	0	0	0	0	18.88
S	9.03	0	0	0	0	9.03
SSW	3.94	0	0	0	0	3.94
SW	2.3	0	0	0	0	2.3
WSW	4.76	0	0	0	0	4.76
W	3.12	0	0	0	0	3.12
WNW	8.87	0	0	0	0	8.87
NW	10.51	0	0	0	0	10.51
NNW	4.11	0	0	0	0	4.11
Summary	100	0	0	0	0	100



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% Icon Classes (ppb)

100

0-30

0

30-50

0

50-76

0

76-159

0

>159.0



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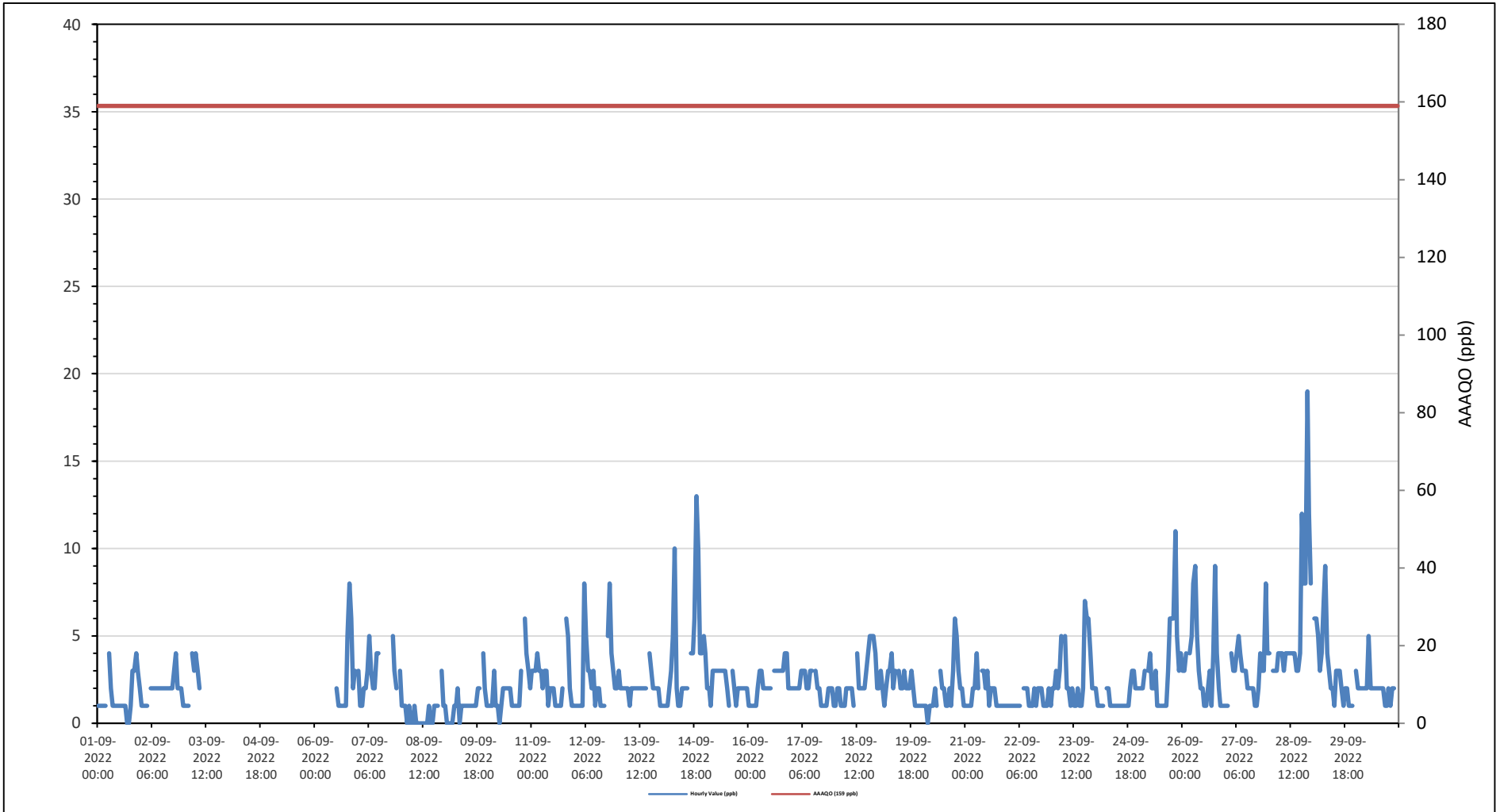
Lac La Biche Station - September 2022

Summary of Hourly Averages

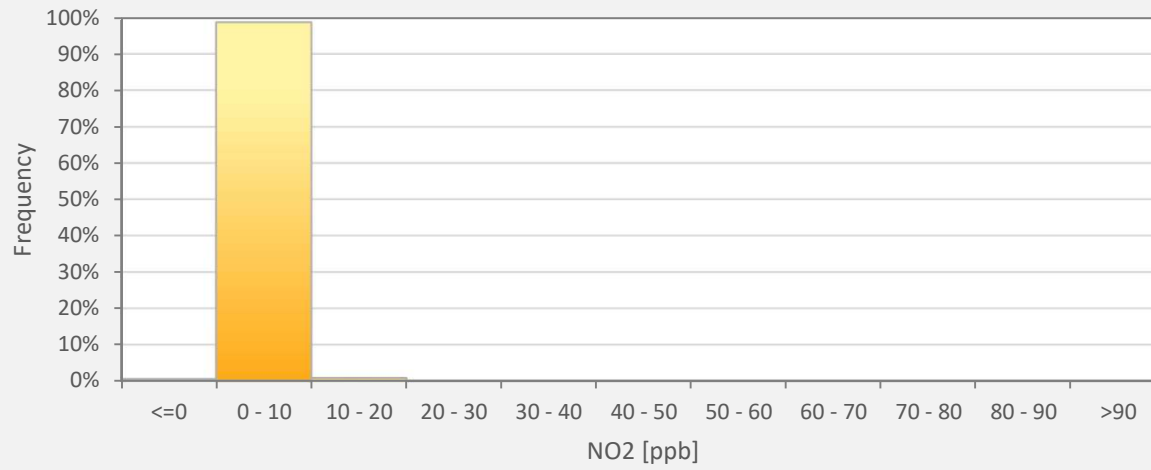
NITROGEN DIOXIDE (NO₂) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 159 ppb																																			
Number of 1-Hour Exceedances: 0																																			
Maximum Hourly Value: 19 ppb on September 28 at hour 21												Hours in Service: 720																							
Maximum Daily Value: 5.6 ppb on September 28												Hours of Data: 609																							
Minimum Hourly Value: 0 ppb on September 1 at hour 16												Hours of Missing Data: 75																							
Minimum Daily Value: 0.6 ppb on September 8												Hours of Calibration: 36																							
Monthly Average: 2.4 ppb												Operational Uptime: 89.6																							
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											
Sep 1	1	1	1	1	1	S	4	2	1	1	1	1	1	1	1	0	0	1	3	3	4	3	2	0	4	1.5									
Sep 2	1	1	1	1	S	2	2	2	2	2	2	2	2	2	2	2	2	2	3	4	2	2	2	1	1	4	1.9								
Sep 3	1	1	1	S	4	3	4	3	2	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	1	4	-								
Sep 4	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-								
Sep 5	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-								
Sep 6	K	K	K	K	K	K	K	K	K	K	K	NRM	2	1	1	1	1	1	5	8	6	2	3	S	1	8	-								
Sep 7	3	1	1	2	2	3	5	3	2	2	4	4	C	C	C	C	C	C	C	5	3	2	S	3	1	5	-								
Sep 8	1	1	1	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	1	1	1	S	3	1	0	3	0.6								
Sep 9	1	0	0	0	0	1	1	2	0	1	1	1	1	1	1	1	1	2	2	S	4	2	1	0	4	1.1									
Sep 10	1	1	1	3	1	1	0	1	2	2	2	2	2	1	1	1	1	1	3	S	6	4	3	2	0	6	1.8								
Sep 11	3	3	3	4	3	3	2	3	3	1	2	2	2	1	1	1	1	2	S	6	5	2	1	1	1	6	2.4								
Sep 12	1	1	1	1	1	8	5	3	3	2	3	1	2	2	1	1	1	S	5	8	4	3	2	2	1	8	2.7								
Sep 13	3	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	S	4	3	2	2	2	2	1	1	4	2.1								
Sep 14	1	1	1	1	2	3	5	10	2	1	1	2	2	2	2	S	4	4	6	13	10	4	4	5	1	13	3.7								
Sep 15	4	2	2	1	3	3	3	3	3	3	3	2	1	S	3	2	1	2	2	2	2	2	2	2	1	4	2.3								
Sep 16	1	1	1	1	1	2	3	3	2	2	2	2	2	S	3	3	3	3	3	3	4	4	2	2	1	4	2.3								
Sep 17	2	2	2	2	2	3	3	3	2	2	3	3	S	3	2	2	1	1	1	1	2	2	2	1	1	3	2.0								
Sep 18	1	2	2	1	1	1	2	2	2	2	1	S	4	2	2	2	2	3	4	5	5	4	2	1	5	2.5									
Sep 19	2	3	2	1	2	3	3	4	2	2	3	S	3	2	2	3	2	2	3	2	1	1	1	1	1	4	2.2								
Sep 20	1	1	1	0	1	1	1	2	1	S	3	2	2	1	1	2	1	3	6	5	3	2	2	1	0	6	1.9								
Sep 21	1	1	1	1	2	2	4	2	S	3	3	2	3	1	2	2	2	2	1	1	1	1	1	1	1	4	1.7								
Sep 22	1	1	1	1	1	1	1	S	2	2	2	1	1	1	2	1	2	2	2	1	1	1	2	1	1	2	1.3								
Sep 23	2	2	3	2	3	5	S	5	2	2	1	2	1	1	2	1	1	2	7	6	6	4	2	2	1	7	2.8								
Sep 24	2	1	1	1	1	S	2	2	1	1	1	1	1	1	1	1	1	1	1	2	3	3	2	2	1	3	1.4								
Sep 25	2	2	2	3	S	3	4	2	2	3	1	1	1	1	1	3	6	6	6	11	5	3	4	1	11	3.2									
Sep 26	3	3	4	S	4	5	8	9	5	3	2	2	1	1	2	3	1	4	9	4	2	1	1	1	1	9	3.4								
Sep 27	1	1	S	4	3	3	4	5	4	3	3	3	2	2	2	2	1	1	2	4	3	3	8	4	1	8	3.0								
Sep 28	4	S	3	3	3	4	4	4	3	4	4	4	4	4	3	3	4	12	8	8	19	12	8	3	19	5.6									
Sep 29	S	6	6	5	3	4	7	9	4	3	2	2	1	3	3	2	1	2	2	1	1	1	S	1	9	3.2									
Sep 30	3	2	2	2	2	2	2	5	2	2	2	2	2	2	2	2	1	1	2	1	2	2	S	3	1	5	2.1								
Diurnal Maximum	4	6	6	5	4	8	8	10	5	4	4	4	4	4	4	3	4	6	12	13	11	19	12	8											
Diurnal Average	1.8	1.7	1.8	1.7	2.0	2.7	3.1	3.5	2.2	2.1	2.0	2.0	1.8	1.6	1.8	1.8	1.6	2.0	3.7	4.0	3.7	3.3	2.8	2.2											
C	Monthly Calibration											S	Daily Zero-Span Check											Q	Quality Assurance										
K	Collection Error											N	No Data (Machine Not in Service)											Y	Routine Maintenance										
X	Invalid Data (Equipment Malfunction /Recovery)											NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)											P	Power Failure										
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.																																			
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.																																			

Timeseries Chart of Hourly Average for NO2 - Lac La Biche Station



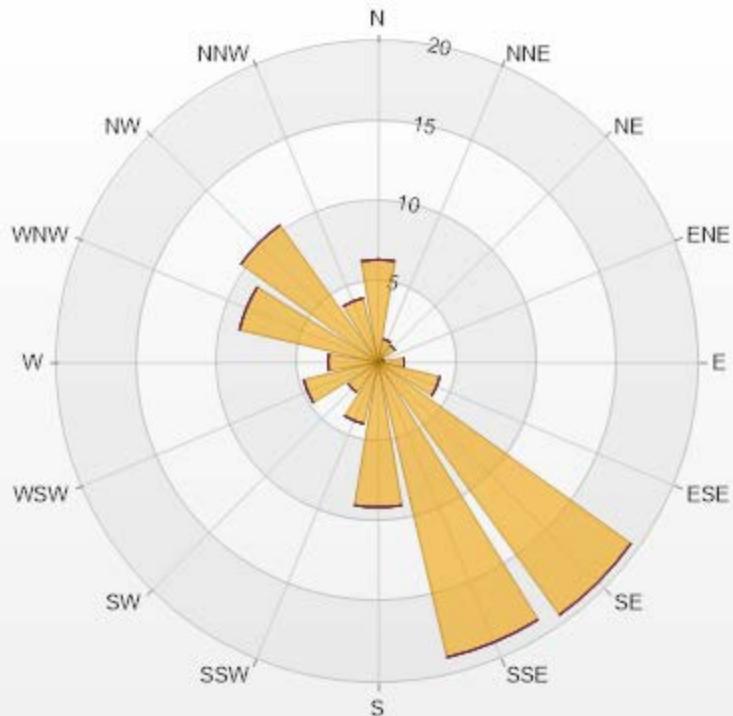
NO2[ppb] Histogram: Lac La Biche Monthly: 09-2022 1 Hr.



Classes	NO2
<=0	4.70%
0 - 10	95.01%
10 - 20	0.29%
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: Lac La Biche Poll.: Lac La Biche-NO2[ppb] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 84.58% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	6.4	0	0	0	0	6.4
NNE	1.48	0	0	0	0	1.48
NE	1.31	0	0	0	0	1.31
ENE	0.33	0	0	0	0	0.33
E	1.64	0	0	0	0	1.64
ESE	3.94	0	0	0	0	3.94
SE	19.38	0	0	0	0	19.38
SSE	18.88	0	0	0	0	18.88
S	9.03	0	0	0	0	9.03
SSW	3.94	0	0	0	0	3.94
SW	2.3	0	0	0	0	2.3
WSW	4.76	0	0	0	0	4.76
W	3.12	0	0	0	0	3.12
WNW	8.87	0	0	0	0	8.87
NW	10.51	0	0	0	0	10.51
NNW	4.11	0	0	0	0	4.11
Summary	100	0	0	0	0	100



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% Icon Classes (ppb)

100 ■ 0-30

0 ■ 30-50

0 ■ 50-76

0 ■ 76-159

0 ■ >159.0



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Lac La Biche Station - September 2022

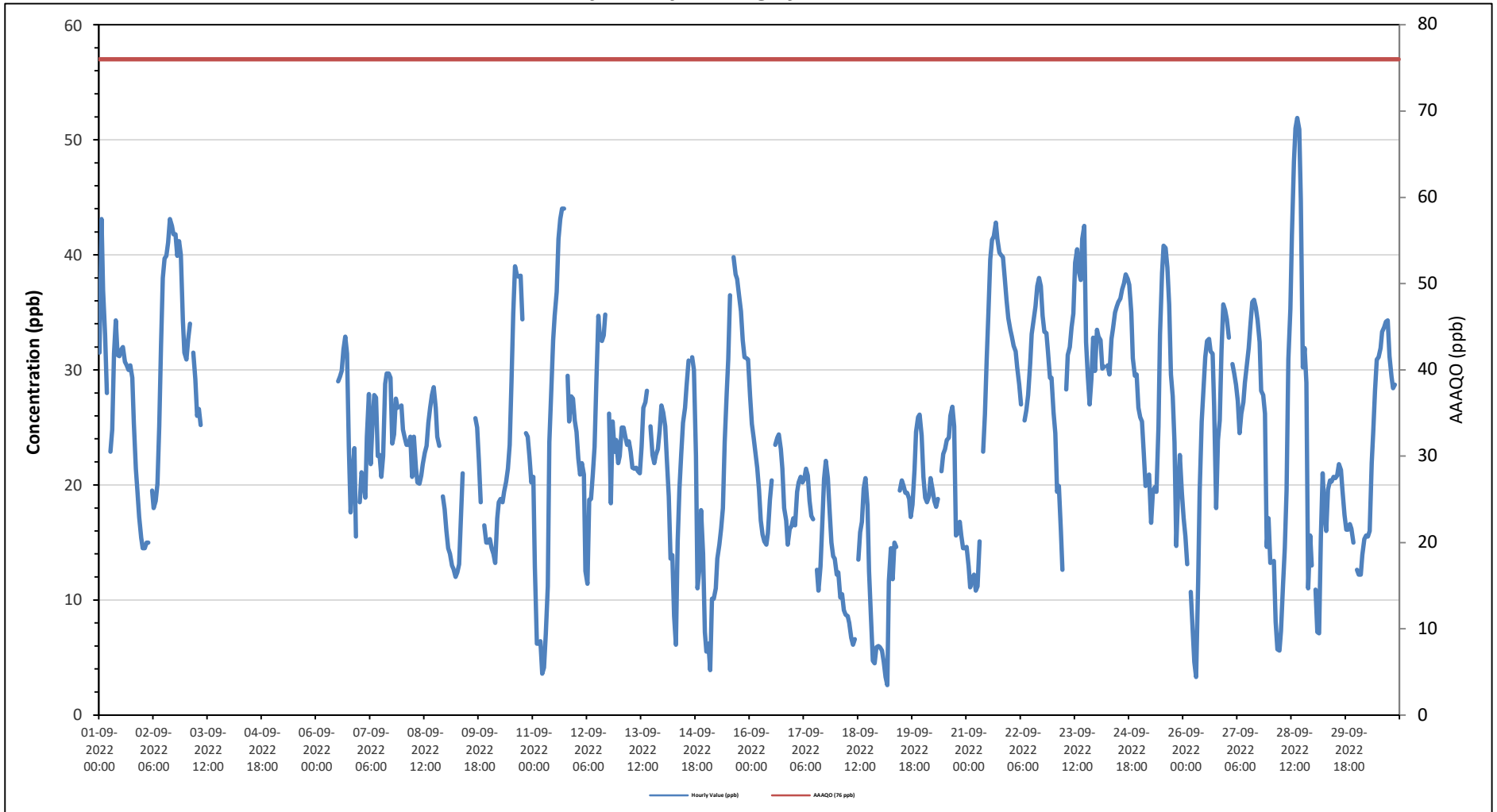
Summary of Hourly Averages

OZONE (O₃) in ppb

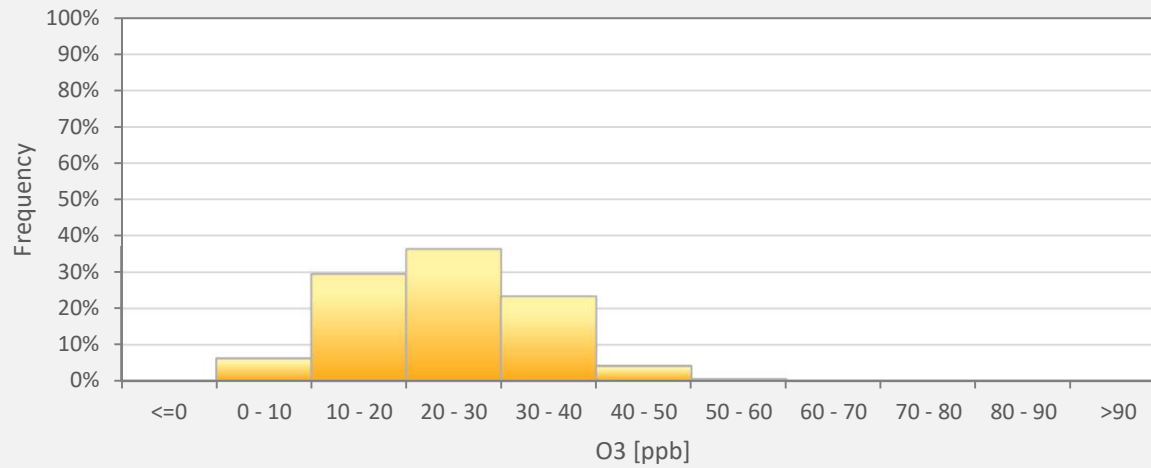
Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 76 ppb																																															
Number of 1-Hour Exceedances: 0																																															
Maximum Hourly Value: 51.9 ppb on September 28 at hour 15												Hours in Service: 720																																			
Maximum Daily Value: 33.4 ppb on September 24												Hours of Data: 610																																			
Minimum Hourly Value: 2.6 ppb on September 19 at hour 4												Hours of Missing Data: 76																																			
Minimum Daily Value: 10.7 ppb on September 18												Hours of Calibration: 34																																			
Monthly Average: 23.9 ppb												Operational Uptime: 89.4																																			
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average																					
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23																							
Sep 1	31.5	43.1	36.9	33.0	28.0	S	22.9	24.8	31.4	34.3	31.3	31.2	31.8	32.0	30.7	30.4	30.0	30.4	29.3	25.4	21.4	19.5	17.2	15.4	15.4	43.1	28.8																				
Sep 2	14.5	14.5	15.0	15.0	S	19.5	18.0	18.6	20.1	25.1	32.1	38.0	39.7	39.9	41.1	43.1	42.5	41.8	41.8	39.9	41.2	40.0	34.3	31.5	14.5	43.1	30.7																				
Sep 3	30.9	32.7	34.0	S	31.5	29.2	26.0	26.6	25.2	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	25.2	34.0	-																				
Sep 4	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-																				
Sep 5	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-																				
Sep 6	K	K	K	K	K	K	K	K	K	K	K	NRM	29.0	29.4	29.9	31.8	32.9	31.4	23.4	17.6	20.9	23.2	15.5	S	15.5	32.9	-																				
Sep 7	18.5	21.1	20.4	18.9	24.2	27.9	21.8	24.8	27.8	27.6	22.5	22.6	20.7	22.5	28.8	29.7	29.7	29.3	23.6	24.4	27.5	26.7	S	26.9	18.5	29.7	24.7																				
Sep 8	24.8	24.0	23.5	23.5	24.2	20.7	24.2	21.5	20.2	20.1	20.8	21.8	22.8	23.4	25.4	26.7	27.8	28.5	26.7	24.2	23.4	S	19.0	17.9	17.9	28.5	23.3																				
Sep 9	16.0	14.5	14.0	13.0	12.7	12.0	12.4	13.1	17.1	21.0	C	C	NRM	C	C	C	25.8	25.0	22.0	18.5	S	16.5	15.0	15.0	12.0	25.8	-																				
Sep 10	15.3	14.5	14.0	13.2	17.1	18.5	18.8	18.5	19.4	20.3	21.4	23.5	28.9	34.9	39.0	38.2	38.1	38.2	34.4	S	24.5	24.2	22.4	20.2	13.2	39.0	24.2																				
Sep 11	20.7	12.9	6.2	6.2	6.4	3.6	4.1	7.0	11.2	23.7	27.8	32.6	34.7	36.8	41.4	43.1	44.0	44.0	S	29.5	25.5	27.7	27.5	25.6	3.6	44.0	23.6																				
Sep 12	24.6	22.3	20.9	21.9	20.9	12.5	11.4	18.7	18.8	20.9	23.3	28.9	34.7	32.8	32.5	33.0	34.8	S	26.2	18.4	25.5	22.9	23.9	21.9	11.4	34.8	24.0																				
Sep 13	22.5	25.0	25.0	24.2	23.5	23.8	22.9	21.5	21.4	21.5	21.2	21.0	23.3	26.7	27.2	28.2	S	25.1	22.6	21.9	22.6	23.1	24.7	26.9	21.0	28.2	23.7																				
Sep 14	26.3	25.1	22.4	19.0	13.6	13.9	8.6	6.1	15.1	19.7	22.7	25.4	26.7	28.6	30.8	S	31.1	30.0	22.5	11.0	12.8	17.8	14.0	7.2	6.1	31.1	19.6																				
Sep 15	5.5	6.2	3.9	10.1	10.1	11.0	13.6	14.8	16.2	18.0	23.7	28.0	30.9	36.5	S	39.8	38.3	37.9	36.4	35.1	32.6	31.1	31.0	30.9	3.9	39.8	23.5																				
Sep 16	27.7	25.3	24.1	22.8	21.5	19.6	16.9	15.7	15.1	14.8	15.8	18.7	20.4	S	23.5	24.1	24.4	23.1	21.4	18.0	16.9	14.8	16.2	16.4	14.8	27.7	19.9																				
Sep 17	17.1	16.5	19.4	20.2	20.7	20.2	20.5	21.4	20.8	18.6	17.3	17.0	S	12.6	10.8	12.9	16.6	20.5	22.1	20.6	18.1	15.0	13.8	13.6	10.8	22.1	17.7																				
Sep 18	12.2	12.4	10.2	10.5	9.1	8.7	8.6	8.0	6.7	6.1	6.6	S	13.5	15.9	16.8	19.7	20.6	18.2	12.5	8.3	4.7	4.5	5.9	6.0	4.5	20.6	10.7																				
Sep 19	5.9	5.6	4.6	3.3	2.6	11.6	14.5	11.8	15.0	14.6	S	19.5	20.4	19.9	19.3	18.8	17.2	18.3	21.3	24.6	25.9	26.1	24.3	2.6	26.1	15.8																					
Sep 20	20.7	18.9	18.5	19.0	20.6	19.6	18.6	18.1	18.8	S	21.2	22.7	23.1	23.9	24.1	26.0	26.8	25.1	15.6	15.8	16.8	15.6	14.5	14.5	14.5	26.8	19.9																				
Sep 21	14.6	12.9	11.1	11.8	12.2	10.8	11.2	15.1	S	22.9	26.1	30.9	35.1	39.6	41.3	41.6	42.8	41.4	40.2	40.0	39.8	38.0	36.1	34.5	10.8	42.8	28.3																				
Sep 22	33.5	32.9	32.1	31.6	30.2	28.7	27.0	S	25.6	26.5	27.8	30.5	33.1	34.4	35.5	37.3	38.0	37.3	34.7	33.3	33.2	31.6	29.3	29.3	25.6	38.0	31.9																				
Sep 23	26.3	24.5	19.4	19.9	16.0	12.6	S	28.3	31.3	32.0	33.7	34.9	39.3	40.5	38.6	37.8	41.4	42.5	32.4	29.4	27.0	29.2	32.8	29.9	12.6	42.5	30.4																				
Sep 24	33.5	32.9	32.6	30.1	30.3	S	30.4	29.6	32.7	33.6	35.0	35.5	35.9	36.2	37.0	37.5	38.3	37.9	37.4	35.0	31.0	29.5	29.6	26.7	26.7	38.3	33.4																				
Sep 25	25.9	25.5	22.8	19.9	S	20.9	16.7	19.4	19.8	19.4	25.1	33.1	38.4	40.8	40.6	38.9	35.7	29.6	27.7	23.7	14.7	19.9	22.6	19.3	14.7	40.8	26.1																				
Sep 26	17.1	15.5	13.1	S	10.7	7.2	4.6	3.3	11.5	19.4	25.5	28.3	31.1	32.5	32.7	31.6	31.4	26.8	18.0	23.9	25.6	31.7	35.7	35.2	3.3	35.7	22.3																				
Sep 27	34.4	32.8	S	30.5	29.7	28.7	27.3	24.5	26.2	27.2	28.9	30.3	31.9	33.7	35.9	36.1	35.4	34.3	32.4	28.2	27.8	26.2	14.6	17.1	14.6	36.1	29.3																				
Sep 28	13.2	S	13.4	8.1	5.7	5.6	7.3	11.3	14.5	19.5	30.9	35.3	41.7	48.1	51.0	51.9	50.9	44.8	30.2	31.9	28.9	11.0	15.6	13.0	5.6	51.9	25.4																				
Sep 29	S	10.9	7.2	7.1	15.5	21.0	17.6	16.0	19.6	20.4	20.3	20.7	20.6	20.8	21.8	21.3	19.5	17.4	16.1	16.6	16.2	15.0	S	7.1	21.8	17.2																					
Sep 30	12.6	12.2	12.2	13.9	15.3	15.6	15.5	16.0	21.9	24.6	28.2	30.9	31.1	31.9	33.3	33.7	34.2	34.3	31.2	29.4	28.4	28.7	S	19.8	12.2	34.3	24.1																				
Diurnal Maximum	34.4	43.1	36.9	33.0	31.5	29.2	30.4	29.6	32.7	34.3	35.0	38.0	41.7	48.1	51.0	51.9	50.9	44.8	41.8	40.0	41.2	40.0	36.1	35.2																							
Diurnal Average	21.0	20.6	18.3	17.9	18.1	16.9	17.0	17.5	20.1	22.1	24.6	27.6	29.6	31.0	31.6	32.5	32.7	31.2	26.9	24.6	24.3	23.5	22.1	21.6																							
C	Monthly Calibration											S	Daily Zero-Span Check											Q	Quality Assurance																						
K	Collection Error											N	No Data (Machine Not in Service)											Y	Routine Maintenance											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 - Lac La Biche Station



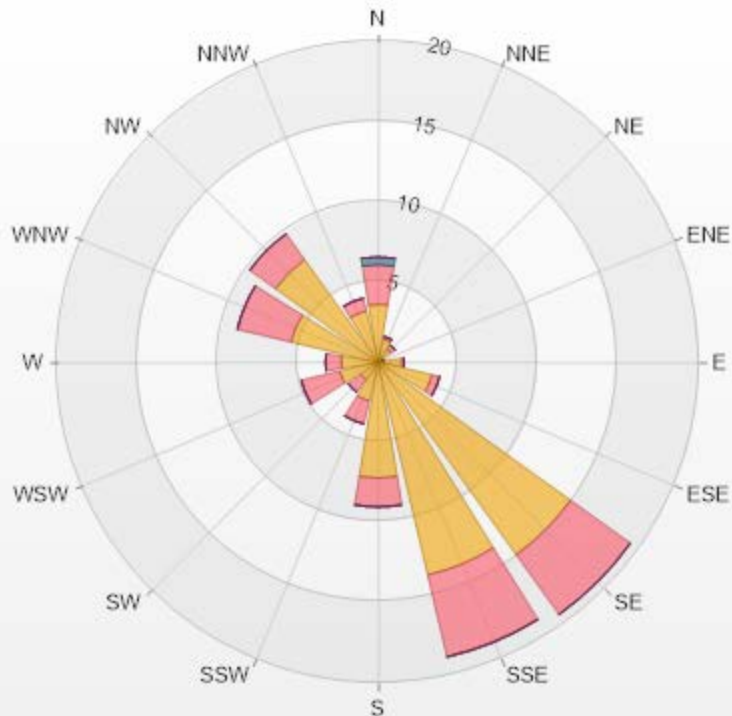
O3[ppb] Histogram: Lac La Biche Monthly: 09-2022 1 Hr.



Classes	O3
<=0	0.00%
0 - 10	6.23%
10 - 20	29.51%
20 - 30	36.39%
30 - 40	23.28%
40 - 50	4.10%
50 - 60	0.49%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Lac La Biche Poll.: Lac La Biche-O3[ppb] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 84.72% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	3.61	2.46	0.49	0	0	6.56
NNE	1.48	0.16	0	0	0	1.64
NE	0.98	0.33	0	0	0	1.31
ENE	0.33	0	0	0	0	0.33
E	1.48	0.16	0	0	0	1.64
ESE	3.44	0.49	0	0	0	3.93
SE	14.75	4.59	0	0	0	19.34
SSE	13.61	5.25	0	0	0	18.86
S	7.21	1.8	0	0	0	9.01
SSW	2.46	1.48	0	0	0	3.94
SW	1.31	0.98	0	0	0	2.29
WSW	2.46	2.46	0	0	0	4.92
W	2.3	0.98	0	0	0	3.28
WNW	5.57	3.44	0	0	0	9.01
NW	7.87	1.97	0	0	0	9.84
NNW	3.28	0.82	0	0	0	4.1
Summary	72.14	27.37	0.49	0	0	100



LICA-202209

% Icon Classes (ppb)

72 0-30

27 30-50

0 50-76

0 76-159

0 >159.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Lac La Biche Station - September 2022

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

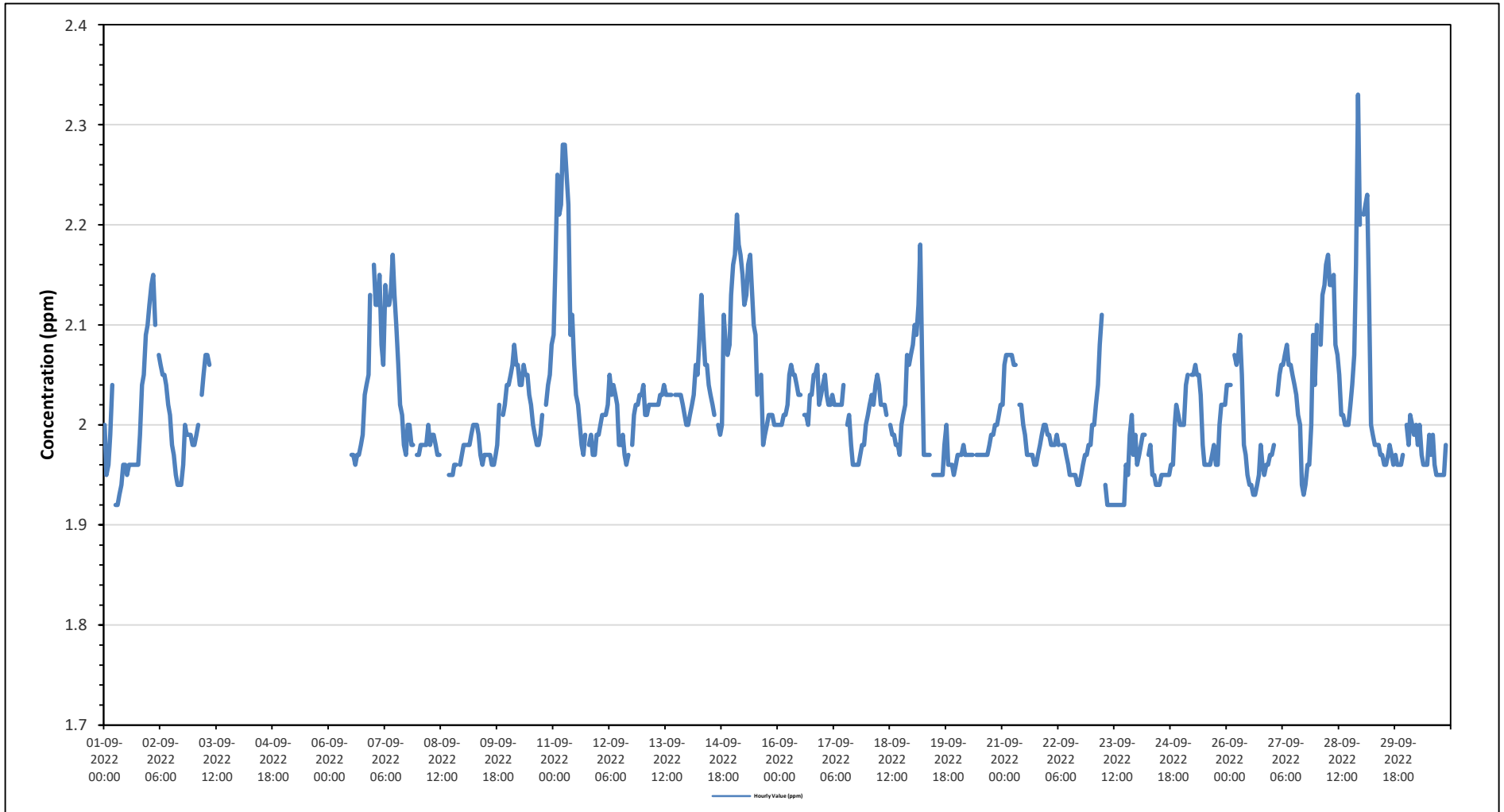
Maximum Hourly Value:	2.33 ppm on September 28 at hour 22	Hours in Service:	720
Maximum Daily Value:	2.10 ppm on September 28	Hours of Data:	612
Minimum Hourly Value:	1.92 ppm on September 1 at hour 6	Hours of Missing Data:	75
Minimum Daily Value:	1.97 ppm on September 24	Hours of Calibration:	33
Monthly Average:	2.01 ppm	Operational Uptime:	89.6

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
Sep 1	2.00	1.95	1.96	1.99	2.04	S	1.92	1.92	1.93	1.94	1.96	1.96	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.99	2.04	2.05	2.09	2.10	1.92	2.10	1.98
Sep 2	2.12	2.14	2.15	2.10	S	2.07	2.06	2.05	2.05	2.04	2.02	2.01	1.98	1.97	1.95	1.94	1.94	1.94	1.96	2.00	1.99	1.99	1.99	1.98	1.94	2.15	2.02
Sep 3	1.98	1.99	2.00	S	2.03	2.05	2.07	2.07	2.06	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	1.98	2.07	-
Sep 4	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-
Sep 5	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-
Sep 6	K	K	K	K	K	K	K	K	K	K	K	NRM	1.97	1.97	1.96	1.97	1.97	1.98	1.99	2.03	2.04	2.05	2.13	S	1.96	2.13	-
Sep 7	2.16	2.12	2.12	2.15	2.08	2.06	2.14	2.12	2.12	2.13	2.17	2.13	2.10	2.06	2.02	2.01	1.98	1.97	2.00	2.00	1.98	1.98	S	S	1.97	1.97	2.07
Sep 8	1.97	1.98	1.98	1.98	1.98	2.00	1.98	1.99	1.99	1.98	1.97	1.97	C	C	C	C	1.95	1.95	1.95	1.96	1.96	S	1.96	1.97	1.95	2.00	1.97
Sep 9	1.98	1.98	1.98	1.98	1.99	2.00	2.00	2.00	1.99	1.97	1.96	1.97	1.97	1.97	1.97	1.96	1.96	1.97	1.98	2.02	S	2.01	2.02	2.04	1.96	2.04	1.99
Sep 10	2.04	2.05	2.06	2.08	2.06	2.06	2.04	2.04	2.06	2.05	2.05	2.03	2.02	2.00	1.99	1.98	1.98	1.99	2.01	S	2.02	2.04	2.05	2.08	1.98	2.08	2.03
Sep 11	2.09	2.16	2.25	2.21	2.22	2.28	2.28	2.25	2.22	2.09	2.11	2.06	2.03	2.02	2.00	1.98	1.97	1.99	S	1.98	1.99	1.97	1.97	1.99	1.97	2.28	2.09
Sep 12	1.99	2.00	2.01	2.01	2.01	2.02	2.05	2.03	2.04	2.03	2.02	1.98	1.98	1.99	1.97	1.96	1.97	S	1.98	2.01	2.02	2.02	2.03	2.03	1.96	2.05	2.01
Sep 13	2.04	2.01	2.01	2.02	2.02	2.02	2.02	2.02	2.02	2.03	2.03	2.04	2.03	2.03	2.03	2.03	S	2.03	2.03	2.03	2.03	2.02	2.01	2.00	2.00	2.04	2.02
Sep 14	2.00	2.01	2.02	2.03	2.06	2.05	2.09	2.13	2.09	2.06	2.06	2.04	2.03	2.02	2.01	S	2.00	1.99	2.00	2.11	2.08	2.07	2.08	2.13	1.99	2.13	2.05
Sep 15	2.16	2.17	2.21	2.18	2.17	2.15	2.12	2.13	2.16	2.17	2.14	2.10	2.09	2.03	S	2.05	1.98	1.99	2.00	2.01	2.01	2.01	2.00	2.00	1.98	2.21	2.09
Sep 16	2.00	2.00	2.00	2.01	2.01	2.02	2.05	2.06	2.05	2.05	2.04	2.03	2.03	S	2.01	2.01	2.00	2.03	2.03	2.05	2.05	2.06	2.02	2.03	2.00	2.06	2.03
Sep 17	2.04	2.05	2.03	2.02	2.02	2.03	2.02	2.02	2.02	2.02	2.02	2.04	S	2.00	2.01	1.98	1.96	1.96	1.96	1.96	1.97	1.98	1.98	2.00	1.96	2.05	2.00
Sep 18	2.01	2.02	2.03	2.02	2.04	2.05	2.04	2.02	2.02	2.02	2.01	S	2.00	1.99	1.99	1.98	1.98	1.97	2.00	2.01	2.02	2.07	2.06	2.07	1.97	2.07	2.02
Sep 19	2.08	2.10	2.09	2.12	2.18	2.07	1.97	1.97	1.97	1.97	S	1.95	1.95	1.95	1.95	1.95	1.95	1.98	2.00	1.96	1.96	1.96	1.95	1.96	1.95	2.18	2.00
Sep 20	1.97	1.97	1.97	1.98	1.97	1.97	1.97	1.97	1.97	S	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.99	1.99	2.00	2.00	2.01	2.02	1.97	2.02	1.98
Sep 21	2.02	2.06	2.07	2.07	2.07	2.07	2.06	S	2.02	2.02	2.00	1.99	1.97	1.97	1.97	1.97	1.97	1.96	1.96	1.97	1.98	1.99	2.00	2.00	1.96	2.07	2.01
Sep 22	1.99	1.99	1.98	1.98	1.98	1.99	1.98	S	1.98	1.98	1.97	1.96	1.95	1.95	1.95	1.95	1.94	1.94	1.95	1.96	1.97	1.97	1.98	1.98	1.94	1.99	1.97
Sep 23	2.00	2.00	2.02	2.04	2.08	2.11	S	1.94	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.96	1.95	1.99	2.01	1.97	1.99	1.92	2.11	1.97
Sep 24	1.96	1.97	1.98	1.99	1.99	S	1.97	1.98	1.95	1.95	1.94	1.94	1.94	1.95	1.95	1.95	1.95	1.95	1.96	1.96	2.00	2.02	2.01	2.00	1.94	2.02	1.97
Sep 25	2.00	2.00	2.04	2.05	S	2.05	2.05	2.06	2.05	2.05	2.03	1.98	1.96	1.96	1.96	1.97	1.98	1.96	1.96	2.00	2.02	2.02	2.02	1.96	2.06	2.01	
Sep 26	2.04	2.04	2.04	S	2.07	2.06	2.07	2.09	2.05	1.98	1.97	1.95	1.94	1.93	1.93	1.94	1.95	1.98	1.96	1.95	1.96	1.96	1.97	1.93	2.09	1.99	
Sep 27	1.97	1.98	S	2.03	2.05	2.06	2.06	2.07	2.08	2.06	2.06	2.05	2.04	2.03	2.01	2.00	1.94	1.93	1.94	1.96	1.96	2.00	2.09	2.04	1.93	2.09	2.02
Sep 28	2.10	S	2.08	2.13	2.14	2.16	2.17	2.14	2.14	2.15	2.08	2.07	2.05	2.01	2.01	2.00	2.00	2.02	2.04	2.07	2.16	2.33	2.20	2.00	2.33	2.10	
Sep 29	S	2.21	2.22	2.23	2.13	2.00	1.99	1.98	1.98	1.98	1.97	1.97	1.96	1.96	1.97	1.98	1.97	1.96	1.97	1.96	1.96	1.96	1.97	S	1.96	2.23	2.01
Sep 30	2.00	1.98	2.01	2.00	1.99	2.00	1.98	2.00	1.97	1.96	1.96	1.96	1.99	1.97	1.99	1.96	1.95	1.95	1.95	1.95	1.95	1.98	S	1.97	1.95	2.01	1.97
Diurnal Maximum	2.16	2.21	2.25	2.23	2.22	2.28	2.28	2.25	2.22	2.17	2.17	2.13	2.10	2.06	2.03	2.05	2.00	2.03	2.03	2.11	2.08	2.16	2.33	2.20			
Diurnal Average	2.03	2.04	2.05	2.06	2.06	2.06	2.04	2.04	2.03	2.02	2.02	2.00	1.99	1.98	1.98	1.97	1.96	1.97	1.98	1.99	2.00	2.01	2.03	2.02			

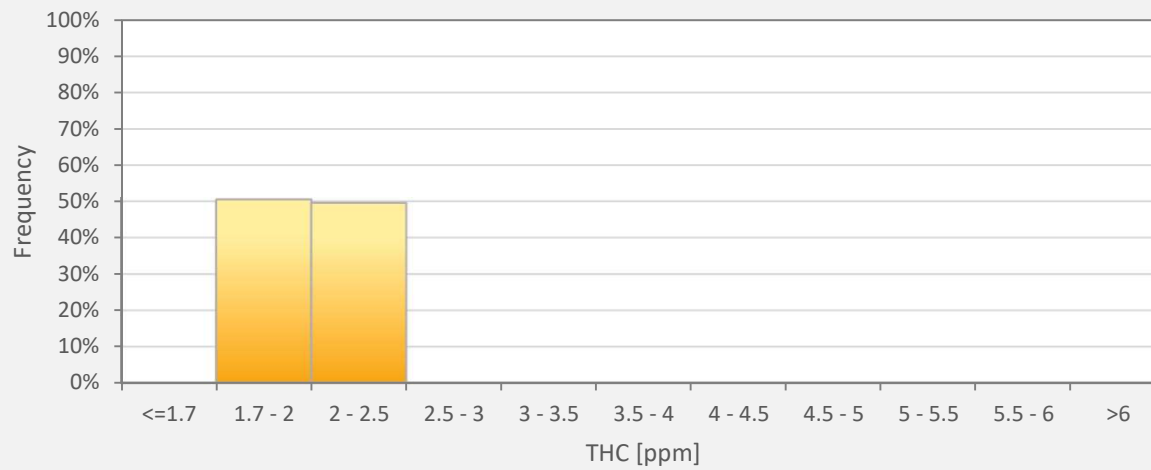
C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N No Data (Machine Not in Service)	Y Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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

Timeseries Chart of Hourly Average for THC - Lac La Biche Station



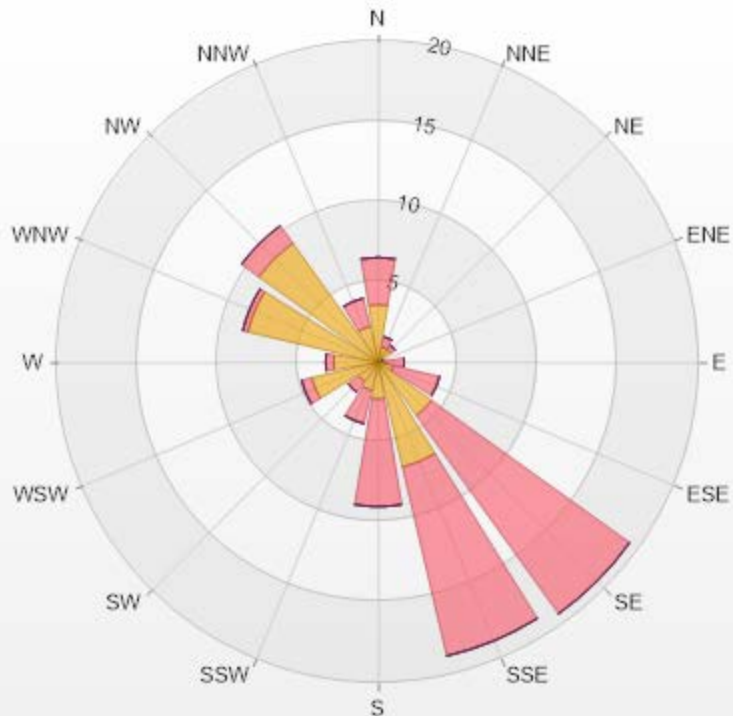
THC55[ppm] Histogram: Lac La Biche Monthly: 09-2022 1 Hr.



Classes	THC55
<=1.7	0.00%
1.7 - 2	50.49%
2 - 2.5	49.51%
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: Lac La Biche Poll.: Lac La Biche-THC55[ppm] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 85.00% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	3.59	2.94	0	0	0	6.53
NNE	0.98	0.65	0	0	0	1.63
NE	0.98	0.33	0	0	0	1.31
ENE	0.16	0.16	0	0	0	0.32
E	0.49	1.14	0	0	0	1.63
ESE	0.98	2.94	0	0	0	3.92
SE	4.08	15.2	0	0	0	19.28
SSE	6.7	12.09	0	0	0	18.79
S	2.29	6.7	0	0	0	8.99
SSW	1.8	2.12	0	0	0	3.92
SW	1.47	0.82	0	0	0	2.29
WSW	4.25	0.65	0	0	0	4.9
W	2.78	0.49	0	0	0	3.27
WNW	8.33	0.33	0	0	0	8.66
NW	9.15	1.31	0	0	0	10.46
NNW	2.29	1.8	0	0	0	4.09
Summary	50.32	49.67	0	0	0	100



LICA-202209

% Icon Classes (ppm)

50 0-2

50 2-5

0 5-10

0 10-40

0 >40.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Lac La Biche Station - September 2022

Summary of Hourly Averages

METHANE (CH₄) in ppm

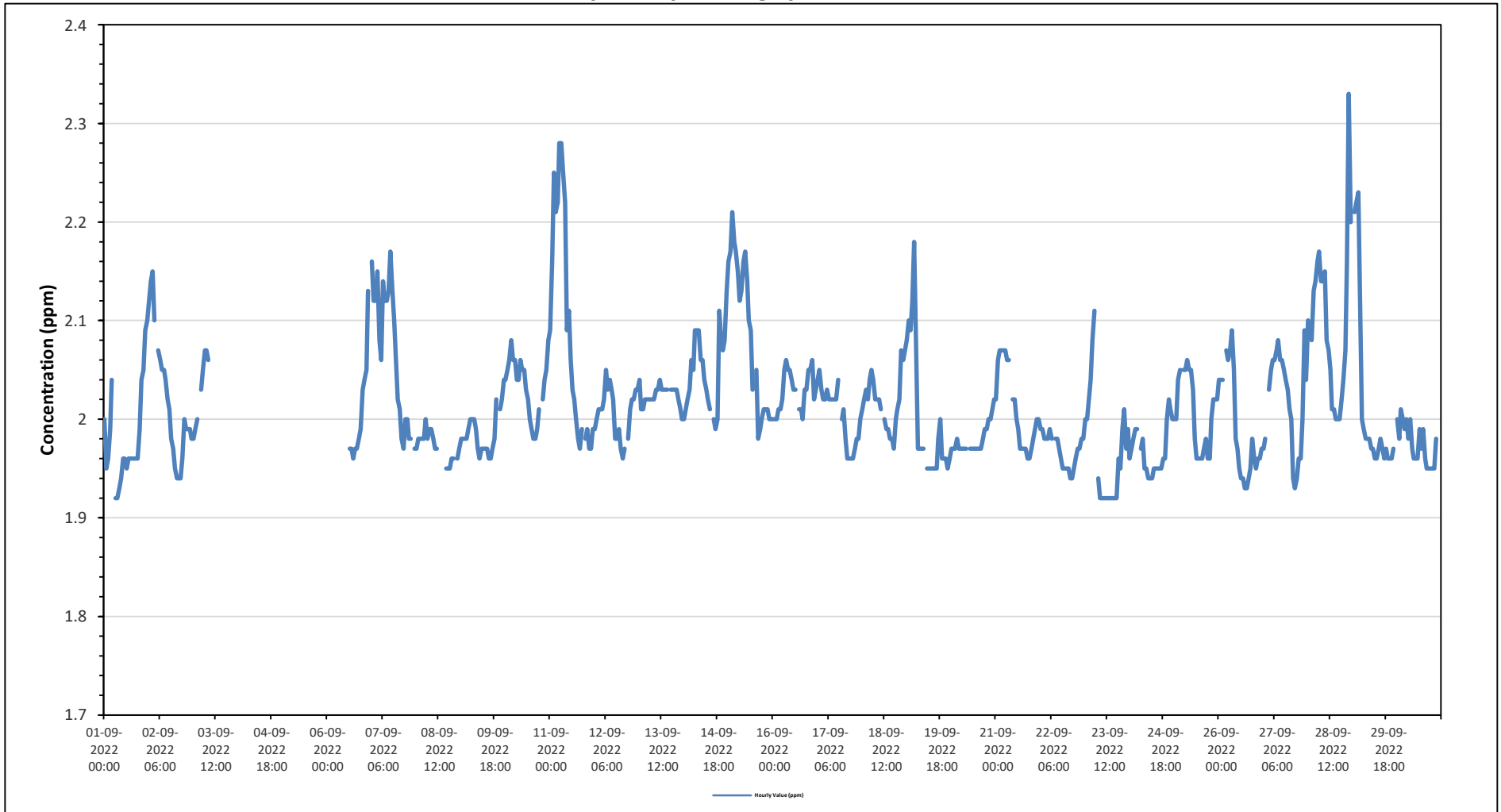
Maximum Hourly Value:	2.33 ppm on September 28 at hour 22	Hours in Service:	720
Maximum Daily Value:	2.10 ppm on September 28	Hours of Data:	612
Minimum Hourly Value:	1.92 ppm on September 1 at hour 6	Hours of Missing Data:	75
Minimum Daily Value:	1.97 ppm on September 24	Hours of Calibration:	33
Monthly Average:	2.01 ppm	Operational Uptime:	89.6

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
Sep 1	2.00	1.95	1.96	1.99	2.04	S	1.92	1.92	1.93	1.94	1.96	1.96	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.99	2.04	2.05	2.09	2.10	1.92	2.10	1.98
Sep 2	2.12	2.14	2.15	2.10	S	2.07	2.06	2.05	2.05	2.04	2.02	2.01	1.98	1.97	1.95	1.94	1.94	1.94	1.96	2.00	1.99	1.99	1.99	1.98	1.94	2.15	2.02
Sep 3	1.98	1.99	2.00	S	2.03	2.05	2.07	2.07	2.06	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	1.98	2.07	-
Sep 4	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-
Sep 5	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-
Sep 6	K	K	K	K	K	K	K	K	K	K	K	NRM	1.97	1.97	1.96	1.97	1.97	1.98	1.99	2.03	2.04	2.05	2.13	S	1.96	2.13	-
Sep 7	2.16	2.12	2.12	2.15	2.08	2.06	2.14	2.12	2.12	2.13	2.17	2.13	2.10	2.06	2.02	2.01	1.98	1.97	2.00	2.00	1.98	1.98	S	S	1.97	1.97	2.07
Sep 8	1.97	1.98	1.98	1.98	1.98	2.00	1.98	1.99	1.99	1.98	1.97	1.97	C	C	C	C	1.95	1.95	1.95	1.96	1.96	S	1.96	1.97	1.95	2.00	1.97
Sep 9	1.98	1.98	1.98	1.98	1.99	2.00	2.00	2.00	1.99	1.97	1.96	1.97	1.97	1.97	1.97	1.96	1.96	1.97	1.98	2.02	S	2.01	2.02	2.04	1.96	2.04	1.99
Sep 10	2.04	2.05	2.06	2.08	2.06	2.06	2.04	2.04	2.06	2.05	2.05	2.03	2.02	2.00	1.99	1.98	1.98	1.99	2.01	S	2.02	2.04	2.05	2.08	1.98	2.08	2.03
Sep 11	2.09	2.16	2.25	2.21	2.22	2.28	2.28	2.25	2.22	2.09	2.11	2.06	2.03	2.02	2.00	1.98	1.97	1.99	S	1.98	1.99	1.97	1.97	1.99	1.97	2.28	2.08
Sep 12	1.99	2.00	2.01	2.01	2.01	2.02	2.05	2.03	2.04	2.03	2.02	1.98	1.98	1.99	1.97	1.96	1.97	S	1.98	2.01	2.02	2.02	2.03	2.03	1.96	2.05	2.01
Sep 13	2.04	2.01	2.01	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.03	2.03	2.04	2.03	2.03	2.03	2.03	S	2.03	2.03	2.03	2.02	2.01	2.00	2.00	2.04	2.02
Sep 14	2.00	2.01	2.02	2.03	2.06	2.05	2.09	2.09	2.09	2.06	2.04	2.03	2.02	2.01	S	S	2.00	1.99	2.00	2.11	2.08	2.07	2.08	2.13	1.99	2.13	2.05
Sep 15	2.16	2.17	2.21	2.18	2.17	2.15	2.12	2.13	2.16	2.17	2.14	2.10	2.09	2.03	S	2.05	1.98	1.99	2.00	2.01	2.01	2.01	2.00	2.00	1.98	2.21	2.09
Sep 16	2.00	2.00	2.00	2.01	2.01	2.02	2.05	2.06	2.05	2.05	2.04	2.03	2.03	S	2.01	2.01	2.00	2.03	2.03	2.05	2.05	2.06	2.02	2.03	2.00	2.06	2.03
Sep 17	2.04	2.05	2.03	2.02	2.02	2.03	2.02	2.02	2.02	2.02	2.02	2.02	2.04	S	2.00	2.01	1.98	1.96	1.96	1.96	1.96	1.97	1.98	2.00	1.96	2.05	2.00
Sep 18	2.01	2.02	2.03	2.02	2.04	2.05	2.04	2.02	2.02	2.02	2.01	S	2.00	1.99	1.99	1.98	1.98	1.97	2.00	2.01	2.02	2.07	2.06	2.07	1.97	2.07	2.02
Sep 19	2.08	2.10	2.09	2.12	2.18	2.07	1.97	1.97	1.97	1.97	S	1.95	1.95	1.95	1.95	1.95	1.95	1.98	2.00	1.96	1.96	1.96	1.95	1.96	1.95	2.18	2.00
Sep 20	1.97	1.97	1.97	1.98	1.97	1.97	1.97	1.97	1.97	S	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.99	1.99	2.00	2.00	2.01	2.02	1.97	2.02
Sep 21	2.02	2.06	2.07	2.07	2.07	2.07	2.06	2.06	S	2.02	2.02	2.00	1.99	1.97	1.97	1.97	1.97	1.96	1.96	1.97	1.98	1.99	2.00	2.00	1.96	2.07	2.01
Sep 22	1.99	1.99	1.98	1.98	1.98	1.99	1.98	S	1.98	1.98	1.97	1.96	1.95	1.95	1.95	1.95	1.94	1.94	1.95	1.96	1.97	1.97	1.98	1.98	1.94	1.99	1.97
Sep 23	2.00	2.00	2.02	2.04	2.08	2.11	S	1.94	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.96	1.95	1.99	2.01	1.97	1.99	1.92	1.97
Sep 24	1.96	1.97	1.98	1.99	1.99	S	1.97	1.98	1.95	1.95	1.94	1.94	1.94	1.95	1.95	1.95	1.95	1.95	1.96	1.96	2.00	2.02	2.01	2.00	1.94	2.02	1.97
Sep 25	2.00	2.00	2.04	2.05	S	2.05	2.05	2.06	2.05	2.05	2.03	1.98	1.96	1.96	1.96	1.96	1.97	1.98	1.96	1.96	2.00	2.02	2.02	2.02	1.96	2.06	2.01
Sep 26	2.04	2.04	2.04	S	2.07	2.06	2.07	2.09	2.05	1.98	1.97	1.95	1.94	1.93	1.93	1.94	1.95	1.98	1.96	1.95	1.96	1.96	1.97	1.93	2.09	1.99	1.99
Sep 27	1.97	1.98	S	2.03	2.05	2.06	2.06	2.07	2.08	2.06	2.06	2.05	2.04	2.03	2.01	2.00	1.94	1.93	1.94	1.96	1.96	2.00	2.09	2.04	1.93	2.09	2.02
Sep 28	2.10	S	2.08	2.13	2.14	2.16	2.17	2.14	2.14	2.15	2.08	2.07	2.05	2.01	2.01	2.00	2.00	2.02	2.04	2.07	2.16	2.33	2.20	2.00	2.33	2.10	
Sep 29	S	2.21	2.22	2.23	2.13	2.00	1.99	1.98	1.98	1.98	1.97	1.97	1.96	1.96	1.97	1.98	1.97	1.96	1.97	1.96	1.96	1.96	1.97	S	1.96	2.23	2.01
Sep 30	2.00	1.98	2.01	2.00	1.99	2.00	1.98	2.00	1.97	1.96	1.96	1.96	1.99	1.97	1.99	1.96	1.95	1.95	1.95	1.95	1.95	1.98	S	1.97	1.95	2.01	1.97
Diurnal Maximum	2.16	2.21	2.25	2.23	2.22	2.28	2.28	2.25	2.22	2.17	2.17	2.13	2.10	2.06	2.03	2.05	2.00	2.03	2.03	2.11	2.08	2.16	2.33	2.20			
Diurnal Average	2.03	2.04	2.05	2.06	2.06	2.06	2.04	2.04	2.03	2.02	2.02	2.00	1.99	1.98	1.98	1.97	1.96	1.97	1.98	1.99	2.00	2.01	2.03	2.02			

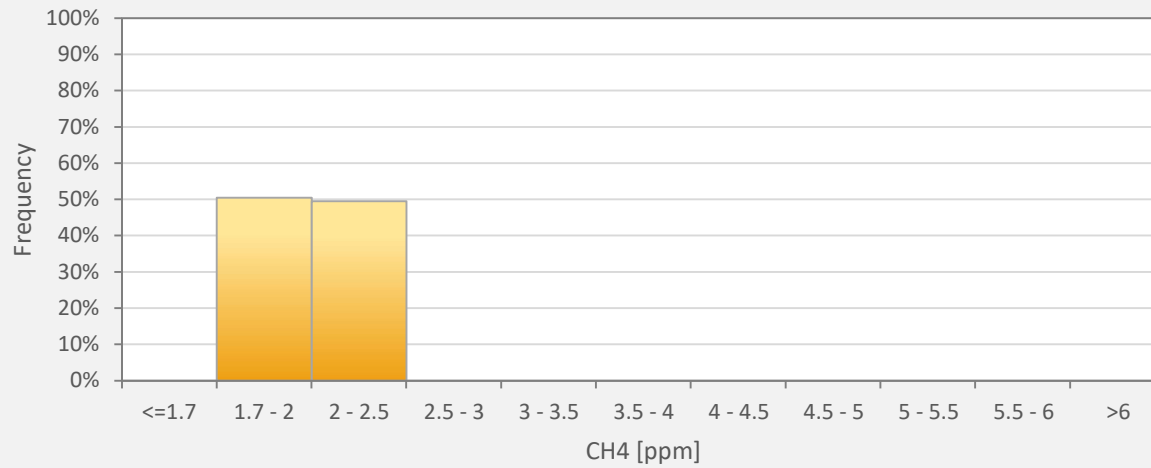
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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

Timeseries Chart of Hourly Average for CH4 - Lac La Biche Station



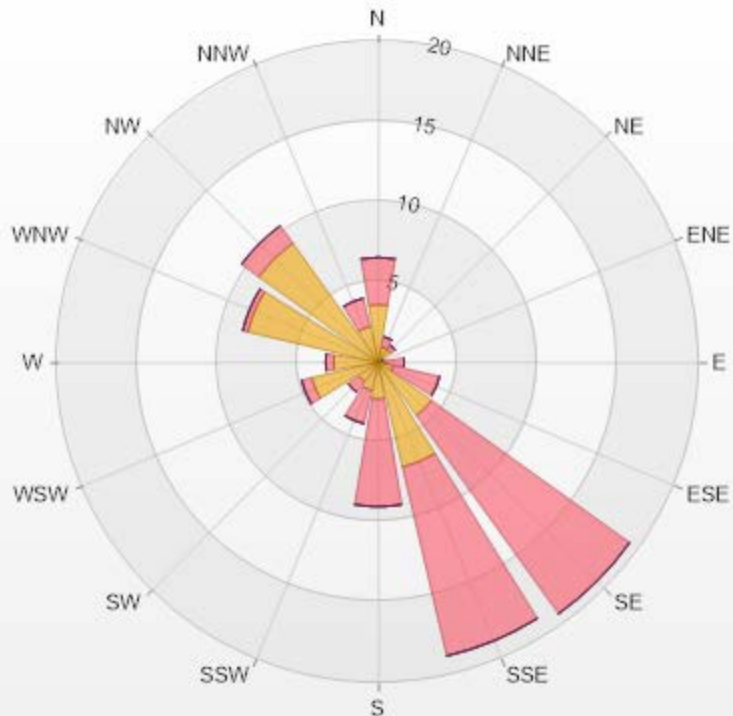
CH4[ppm] Histogram: Lac La Biche Monthly: 09-2022 1 Hr.



Classes	CH4
<=1.7	0.00%
1.7 - 2	50.49%
2 - 2.5	49.51%
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: Lac La Biche Poll.: Lac La Biche-CH4[ppm] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 85.00% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	3.59	2.94	0	0	0	6.53
NNE	0.98	0.65	0	0	0	1.63
NE	0.98	0.33	0	0	0	1.31
ENE	0.16	0.16	0	0	0	0.32
E	0.49	1.14	0	0	0	1.63
ESE	0.98	2.94	0	0	0	3.92
SE	4.08	15.2	0	0	0	19.28
SSE	6.7	12.09	0	0	0	18.79
S	2.29	6.7	0	0	0	8.99
SSW	1.8	2.12	0	0	0	3.92
SW	1.47	0.82	0	0	0	2.29
WSW	4.25	0.65	0	0	0	4.9
W	2.78	0.49	0	0	0	3.27
WNW	8.33	0.33	0	0	0	8.66
NW	9.15	1.31	0	0	0	10.46
NNW	2.29	1.8	0	0	0	4.09
Summary	50.32	49.67	0	0	0	100



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% Icon Classes (ppm)

50

0-2

50

2-5

0

5-10

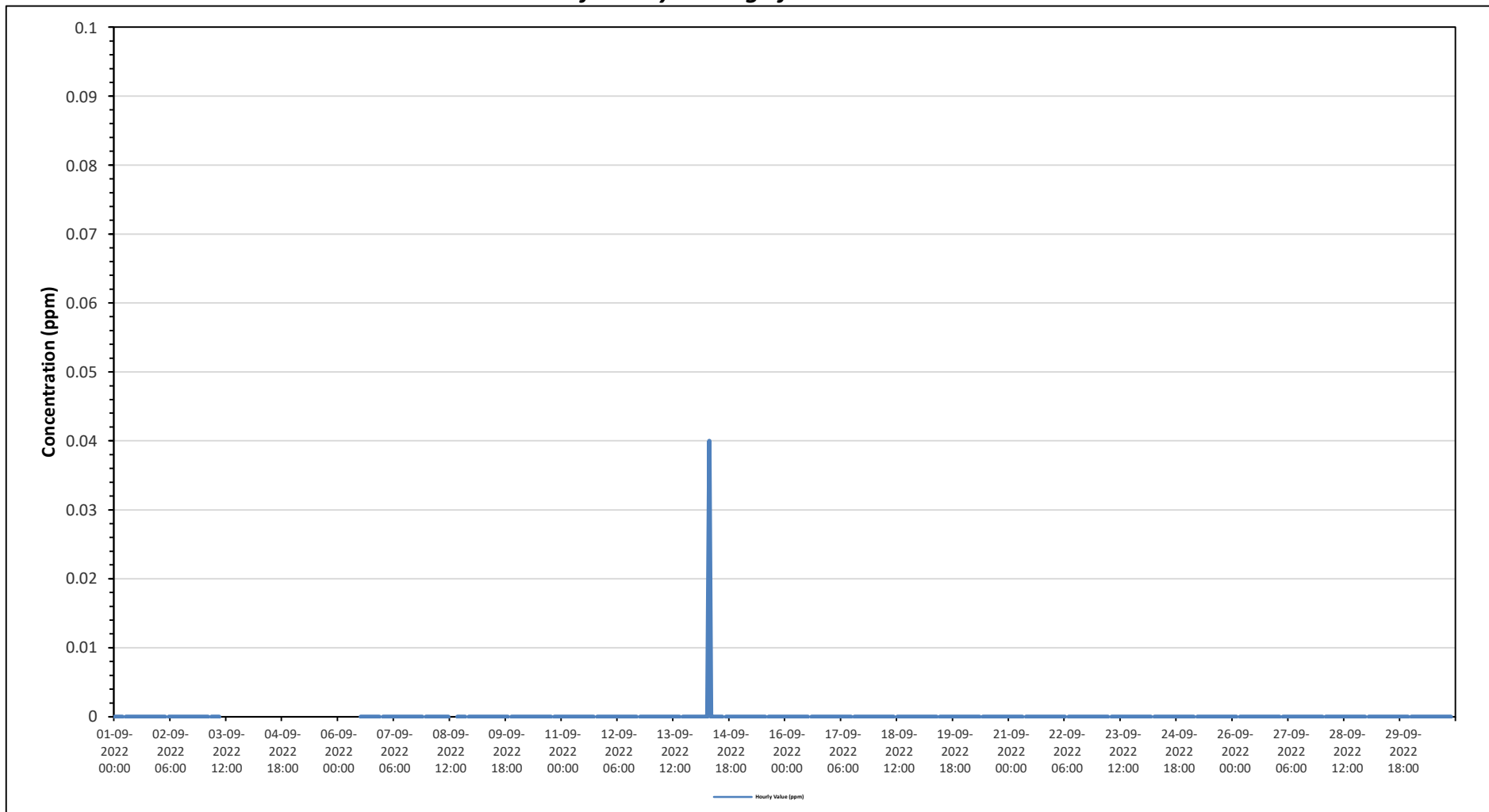
0

10-20

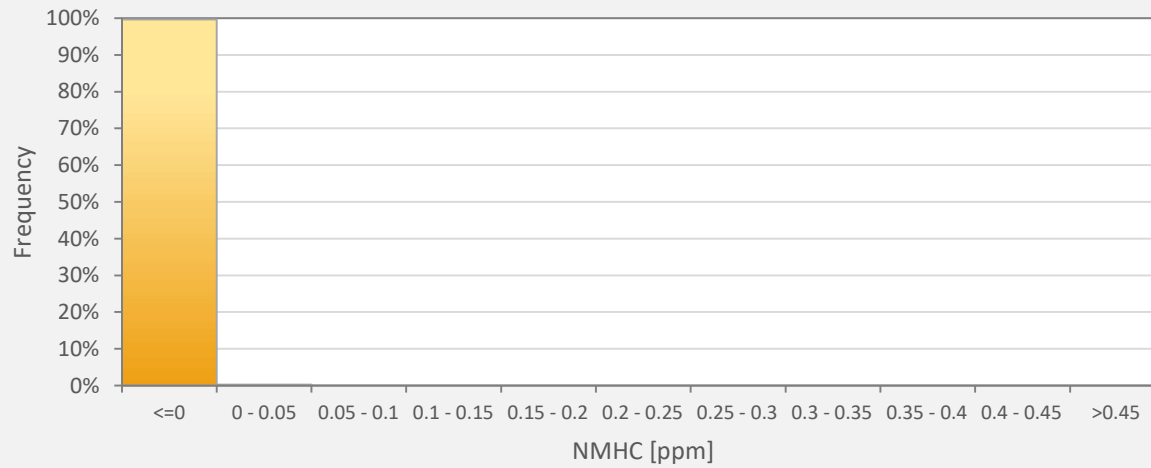
0

>20.0

Timeseries Chart of Hourly Average for NMHC - Lac La Biche Station



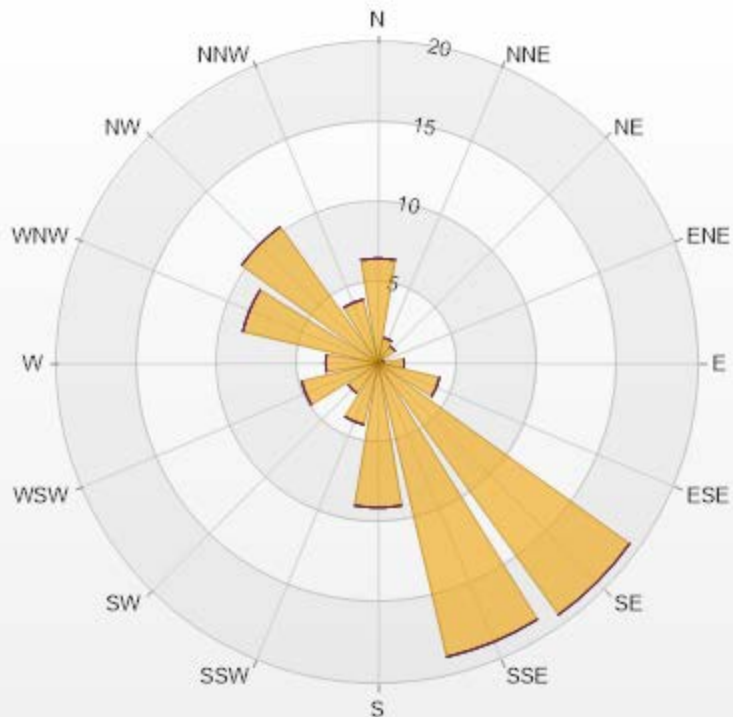
NMHC[ppm] Histogram: Lac La Biche Monthly: 09-2022 1 Hr.



Classes	NMHC
<=0	99.27%
0 - 0.05	0.73%
0.05 - 0.1	0.00%
0.1 - 0.15	0.00%
0.15 - 0.2	0.00%
0.2 - 0.25	0.00%
0.25 - 0.3	0.00%
0.3 - 0.35	0.00%
0.35 - 0.4	0.00%
0.4 - 0.45	0.00%
>0.45	0.00%

Wind: Lac La Biche Poll.: Lac La Biche-NMHC[ppm] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 85.00% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	6.54	0	0	0	0	6.54
NNE	1.63	0	0	0	0	1.63
NE	1.31	0	0	0	0	1.31
ENE	0.33	0	0	0	0	0.33
E	1.63	0	0	0	0	1.63
ESE	3.92	0	0	0	0	3.92
SE	19.28	0	0	0	0	19.28
SSE	18.79	0	0	0	0	18.79
S	8.99	0	0	0	0	8.99
SSW	3.92	0	0	0	0	3.92
SW	2.29	0	0	0	0	2.29
WSW	4.9	0	0	0	0	4.9
W	3.27	0	0	0	0	3.27
WNW	8.66	0	0	0	0	8.66
NW	10.46	0	0	0	0	10.46
NNW	4.08	0	0	0	0	4.08
Summary	100	0	0	0	0	100



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% Icon Classes (ppm)

100 0-0.1

0 0.1-0.3

0 0.3-1

0 1-2

0 >2.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Lac La Biche Station - September 2022

Summary of Hourly Averages

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

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

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

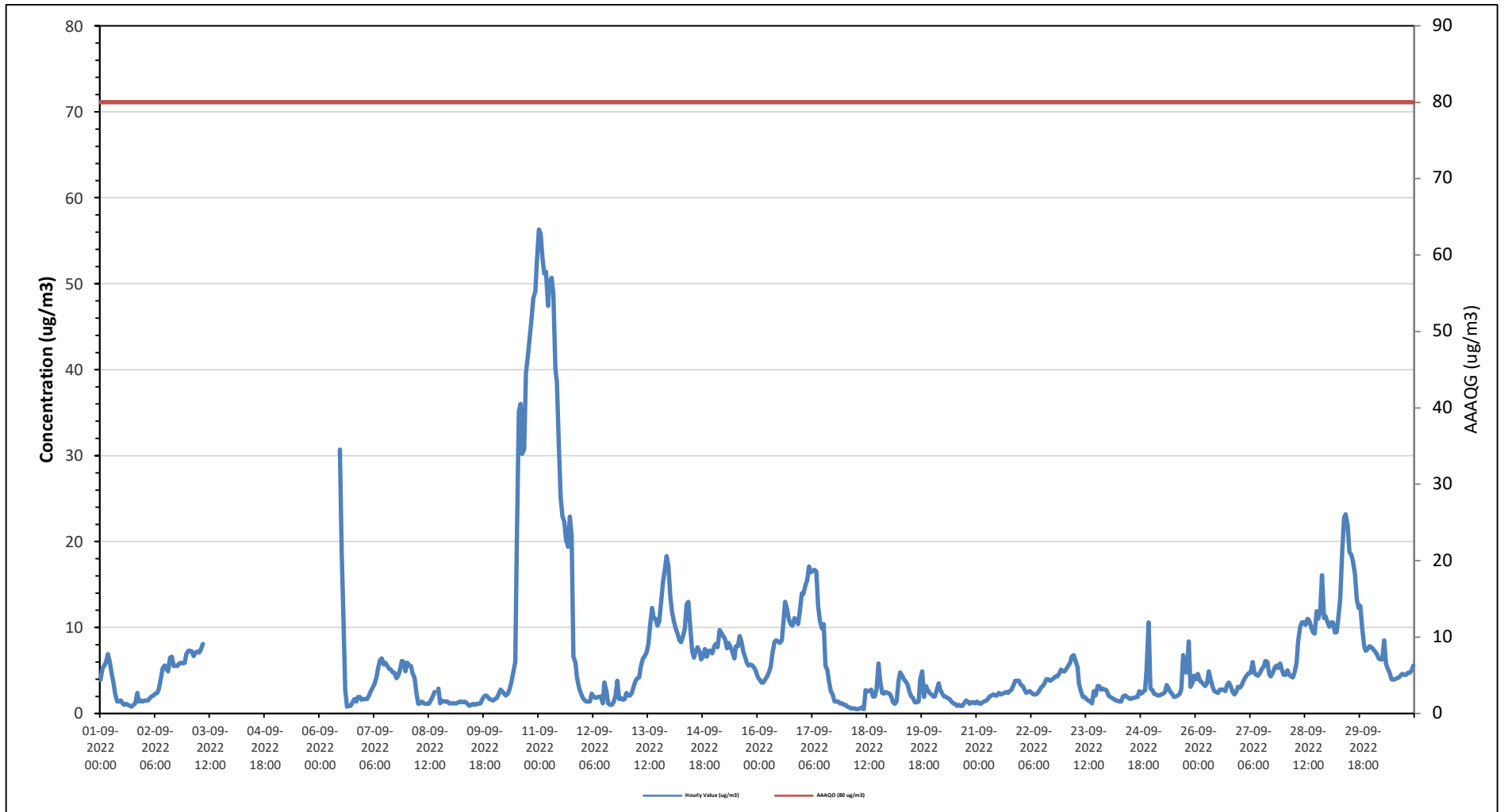
Maximum Hourly Value:	56 µg/m ³ on September 11 at hour 0	Hours in Service:	720
Maximum Daily Value:	31.2 µg/m ³ on September 11	Hours of Data:	645
Minimum Hourly Value:	1 µg/m ³ on September 18 at hour 6	Hours of Missing Data:	74
Minimum Daily Value:	1 µg/m ³ on September 9	Hours of Calibration:	1
Monthly Average:	6.4 µg/m ³	Operational Uptime:	89.7

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	
Sep 1	4	5	6	6	7	6	5	4	2	1	1	2	1	1	1	1	1	1	1	1	2	1	2	1	1	7	2.6	
Sep 2	2	2	2	2	2	2	2	2	3	4	5	6	5	5	7	7	6	6	6	6	6	6	6	6	7	2	7	4.3
Sep 3	7	7	7	7	7	7	7	8	8	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	7	8	-
Sep 4	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-
Sep 5	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-
Sep 6	K	K	K	K	K	K	K	K	K	K	K	31	19	11	3	1	1	1	1	1	2	1	2	2	2	1	31	-
Sep 7	2	2	2	2	3	3	3	4	5	6	6	6	6	6	5	5	5	5	4	4	5	6	6	5	2	6	4.4	
Sep 8	6	6	6	5	4	2	1	1	1	1	1	1	1	2	2	3	C	3	1	2	1	1	1	1	1	6	2.3	
Sep 9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	1	2	1.4	
Sep 10	2	2	2	3	3	2	2	2	3	4	5	6	20	35	36	30	31	40	42	44	46	48	49	53	2	53	21.2	
Sep 11	56	56	53	51	51	47	50	51	49	40	39	31	25	23	22	20	19	23	21	7	6	4	3	2	2	56	31.2	
Sep 12	2	2	1	1	1	2	2	2	2	2	1	4	3	1	1	1	1	2	4	2	2	2	2	2	1	4	1.8	
Sep 13	2	2	2	2	3	4	4	4	6	6	7	7	8	11	12	11	11	10	11	13	15	17	18	17	2	18	8.5	
Sep 14	14	12	11	10	9	9	8	9	10	13	13	10	7	7	7	8	7	6	7	8	7	7	7	7	6	14	8.8	
Sep 15	8	8	8	10	9	9	9	8	8	8	7	6	8	8	9	8	7	7	6	6	6	6	5	5	5	10	7.4	
Sep 16	4	4	4	4	4	4	5	5	7	8	9	8	8	9	11	13	12	11	10	10	11	11	10	12	4	13	8.1	
Sep 17	14	14	15	16	17	16	17	17	17	13	11	10	10	6	5	4	3	2	1	1	1	1	1	1	1	17	8.8	
Sep 18	1	1	1	1	1	1	1	1	1	1	1	3	3	3	3	2	2	3	6	4	2	2	3	2	1	6	1.8	
Sep 19	2	2	1	1	1	4	5	4	4	4	3	3	2	2	1	1	1	4	5	2	3	3	2	2	1	5	2.7	
Sep 20	2	2	3	4	3	2	2	2	2	2	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	4	1.6	
Sep 21	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	3	2	3	3	3	4	4	4	1	4	2.3	
Sep 22	3	3	3	2	3	3	2	2	2	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5	2	5	3.4	
Sep 23	5	5	6	6	7	7	6	5	3	3	2	2	2	2	1	1	3	2	3	3	3	3	3	3	1	7	3.5	
Sep 24	2	2	2	2	2	2	1	1	2	2	2	2	2	2	2	2	3	2	3	3	3	5	11	3	1	11	2.5	
Sep 25	3	2	2	2	2	2	2	3	3	3	3	2	2	2	2	3	7	5	5	8	3	4	4	4	2	8	3.2	
Sep 26	4	5	4	4	3	3	4	5	4	3	3	3	2	3	3	3	3	3	4	3	3	2	3	3	2	5	3.2	
Sep 27	3	3	4	4	4	5	5	5	6	5	5	4	5	5	5	6	6	5	4	5	5	6	5	5	3	6	4.8	
Sep 28	5	5	5	5	4	4	5	6	8	10	11	11	10	11	11	10	10	9	12	11	12	16	11	11	4	16	8.8	
Sep 29	11	10	11	11	9	10	11	13	18	23	23	22	19	18	18	16	13	12	13	10	8	7	8	8	7	23	13.4	
Sep 30	8	8	7	7	6	6	6	9	6	5	5	4	4	4	4	4	5	5	5	5	5	5	5	6	4	9	5.5	
Diurnal Maximum	56	56	53	51	51	47	50	51	49	40	39	31	25	23	22	20	19	23	21	7	6	4	3	2	2	56	31.2	
Diurnal Average	6.4	6.3	6.2	6.2	6.3	6.1	6.2	6.6	6.8	6.6	6.5	6.9	6.7	6.8	6.7	6.2	6.0	6.5	6.7	6.2	6.4	6.5	6.6	6.4	6.4	6.4	6.4	6.4

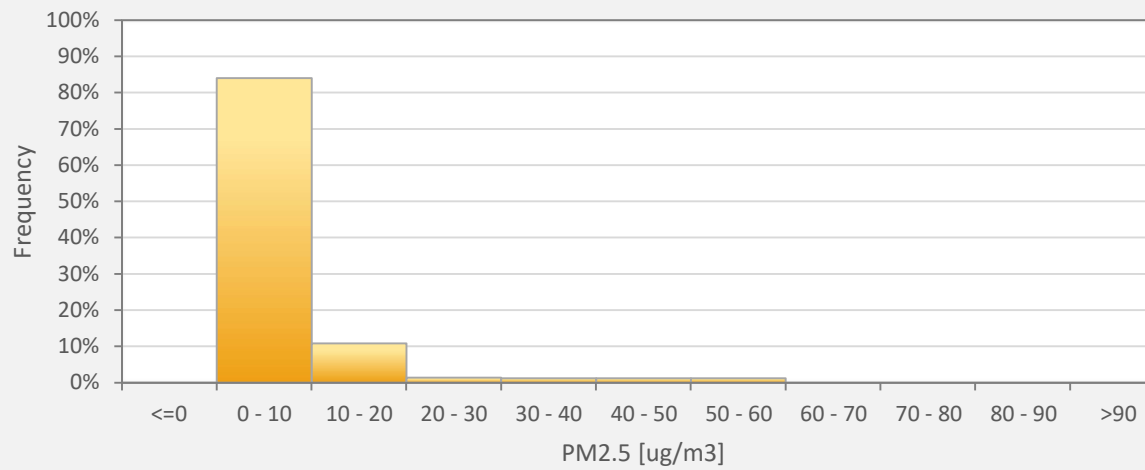
C Monthly Calibration	S Daily Zero-Span Check	Q Quality Assurance
K Collection Error	N No Data (Machine Not in Service)	Y Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery)	NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P Power Failure

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

Timeseries Chart of Hourly Average for PM2.5 - Lac La Biche Station



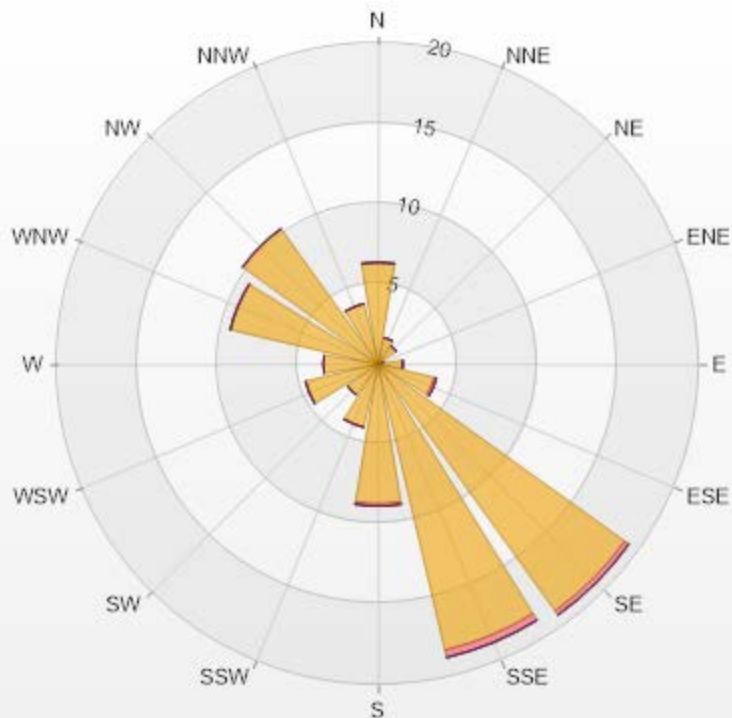
PM2.5[ug/m3(L)] Histogram: Lac La Biche Monthly: 09-2022 1 Hr.



Classes	PM2.5
<=0	0.00%
0 - 10	84.03%
10 - 20	10.85%
20 - 30	1.40%
30 - 40	1.24%
40 - 50	1.24%
50 - 60	1.24%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: Lac La Biche Poll.: Lac La Biche-PM2.5[ug/m3(L)] Monthly: 09-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 89.58% Calm Avg: 0.00 [ug/m3(L)]

Direction	0-50	50-80	80-120	120-240	>240.0	Total
N	6.36	0	0	0	0	6.36
NNE	1.71	0	0	0	0	1.71
NE	1.4	0	0	0	0	1.4
ENE	0.16	0.16	0	0	0	0.32
E	1.55	0	0	0	0	1.55
ESE	3.57	0.16	0	0	0	3.73
SE	18.91	0.31	0	0	0	19.22
SSE	18.29	0.47	0	0	0	18.76
S	8.68	0.16	0	0	0	8.84
SSW	4.03	0	0	0	0	4.03
SW	2.33	0	0	0	0	2.33
WSW	4.65	0	0	0	0	4.65
W	3.41	0	0	0	0	3.41
WNW	9.46	0	0	0	0	9.46
NW	10.39	0	0	0	0	10.39
NNW	3.88	0	0	0	0	3.88
Summary	98.78	1.26	0	0	0	100



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% Icon Classes (ug/m3(L))	99	1	0	0	0
0-50	99	1	0	0	0
50-80	0	1	0	0	0
80-120	0	0	0	0	0
120-240	0	0	0	0	0
>240.0	0	0	0	0	0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Lac La Biche Station - September 2022

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

Maximum Hourly Value:	100 %	on September 11 at hour 4	Hours in Service:	720
Maximum Daily Value:	96.4 %	on September 18	Hours of Data:	646
Minimum Hourly Value:	24 %	on September 6 at hour 15	Hours of Missing Data:	74
Minimum Daily Value:	50.3 %	on September 22	Hours of Calibration:	0
Monthly Average:	70.3 %		Operational Uptime:	89.7

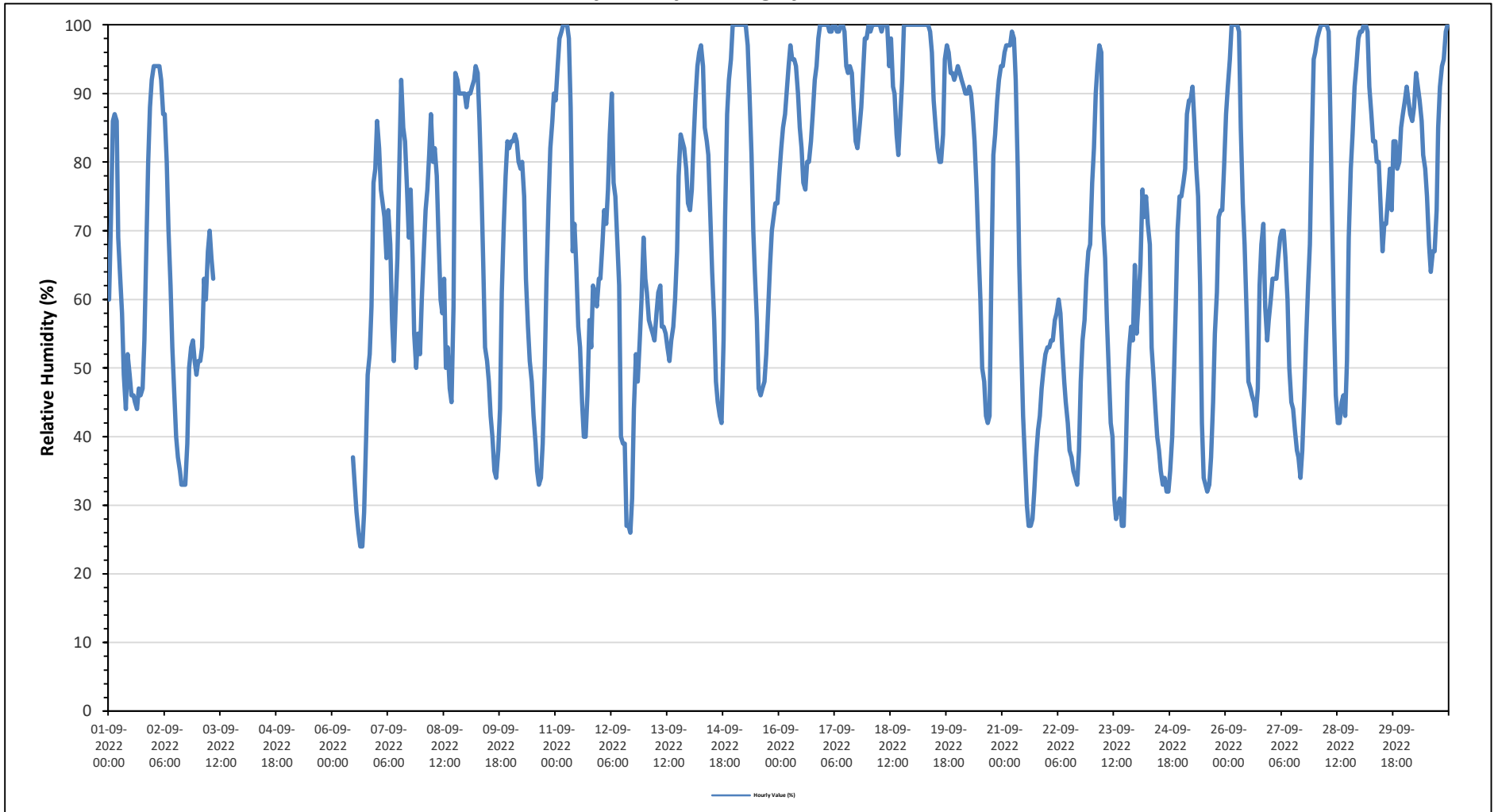
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Sep 1	60	71	86	87	86	69	63	58	49	44	52	49	46	46	45	44	47	46	47	54	68	80	88	92	44	92	61.5	
Sep 2	94	94	94	94	92	87	80	70	62	53	46	40	37	35	33	33	33	39	50	53	54	51	49	33	94	60.8		
Sep 3	51	51	53	63	60	67	70	66	63	K	K	K	K	K	K	K	K	K	K	K	K	K	K	51	70	-		
Sep 4	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-		
Sep 5	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-		
Sep 6	K	K	K	K	K	K	K	K	K	K	K	37	33	29	26	24	24	29	40	49	52	59	77	79	24	79	-	
Sep 7	86	82	76	74	72	66	73	68	57	51	60	66	80	92	85	83	76	69	76	66	55	50	55	52	50	92	69.6	
Sep 8	60	67	73	76	81	87	80	82	78	69	60	58	63	50	53	47	45	59	93	92	90	90	90	90	45	93	72.2	
Sep 9	88	90	90	91	92	94	93	86	76	65	53	51	48	43	40	35	34	38	44	61	71	78	83	82	34	94	67.8	
Sep 10	83	83	84	83	80	79	80	75	63	56	51	48	43	39	35	33	34	39	50	63	74	82	86	90	33	90	63.9	
Sep 11	89	94	98	99	100	100	100	98	88	67	71	65	56	53	45	40	40	46	57	53	62	61	59	63	40	100	71.0	
Sep 12	63	68	73	71	76	84	90	77	75	69	62	40	39	39	27	27	26	31	44	52	48	54	60	69	26	90	56.8	
Sep 13	63	61	57	56	55	54	58	61	62	56	56	55	53	51	54	56	60	67	78	84	83	82	79	74	51	84	63.1	
Sep 14	73	76	83	89	94	96	97	94	85	83	81	72	64	57	48	45	43	42	54	72	87	92	95	100	42	100	75.9	
Sep 15	100	100	100	100	100	100	100	97	90	81	70	64	57	47	46	47	48	52	59	65	70	72	74	74	46	100	75.5	
Sep 16	78	82	85	87	90	94	97	95	95	94	90	85	82	77	76	80	80	83	87	92	94	98	100	100	76	100	88.4	
Sep 17	100	100	100	99	99	100	100	99	99	100	100	99	94	93	94	93	88	83	82	85	88	93	98	98	82	100	95.2	
Sep 18	100	99	100	100	100	100	100	99	100	100	100	94	98	91	90	84	81	86	92	100	100	100	100	100	81	100	96.4	
Sep 19	100	100	100	100	100	100	100	100	100	99	96	89	85	82	80	80	84	95	97	96	93	93	92	93	80	100	93.9	
Sep 20	94	93	92	91	90	90	91	90	87	83	76	68	60	50	48	43	42	43	63	81	84	89	92	94	42	94	76.4	
Sep 21	94	96	97	97	97	99	98	92	79	65	53	43	37	30	27	27	28	32	37	41	43	47	50	52	27	99	60.9	
Sep 22	53	53	54	54	57	58	60	58	53	48	45	42	38	37	35	34	33	38	48	54	57	63	67	68	33	68	50.3	
Sep 23	77	82	90	94	97	96	71	66	57	49	42	40	31	28	30	31	27	27	37	48	53	56	54	65	27	97	56.2	
Sep 24	55	60	65	76	72	75	71	68	53	49	44	40	38	35	33	34	32	32	35	40	49	59	70	75	32	76	52.5	
Sep 25	75	77	79	87	89	89	91	86	79	75	62	42	34	33	32	33	37	45	55	61	72	73	73	79	32	91	64.9	
Sep 26	87	91	95	100	100	100	100	99	85	74	68	58	48	47	46	45	43	47	62	68	71	59	54	57	43	100	71.0	
Sep 27	60	63	63	63	66	69	70	70	66	60	50	45	44	41	38	37	34	38	46	54	62	68	82	95	34	95	57.7	
Sep 28	96	98	99	100	100	100	100	99	88	73	57	46	42	42	45	46	43	51	69	79	84	91	94	98	42	100	76.7	
Sep 29	99	99	100	100	99	91	87	83	83	80	80	74	67	71	71	75	79	73	83	83	79	80	85	87	67	100	83.7	
Sep 30	89	91	89	87	86	88	93	91	89	86	81	79	75	68	64	67	67	73	85	91	94	95	99	100	64	100	84.5	
Diurnal Maximum	100	100	100	100	100	100	100	100	100	100	100	99	98	93	94	93	88	95	97	100	100	100	100	100	100			
Diurnal Average	80.3	82.3	84.3	85.9	86.3	86.4	85.9	82.9	76.6	70.7	65.9	59.1	55.4	52.1	49.9	49.0	48.4	51.7	61.4	67.9	71.7	74.7	78.0	80.6				

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

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

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

Timeseries Chart of Hourly Average for RH - Lac La Biche Station





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Lac La Biche Station - September 2022

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

Maximum Hourly Value:	957 mb	on September 30 at hour 20	Hours in Service:	720
Maximum Daily Value:	955 mb	on September 30	Hours of Data:	646
Minimum Hourly Value:	936 mb	on September 22 at hour 17	Hours of Missing Data:	74
Minimum Daily Value:	939 mb	on September 23	Hours of Calibration:	0
Monthly Average:	947 mb		Operational Uptime:	89.7

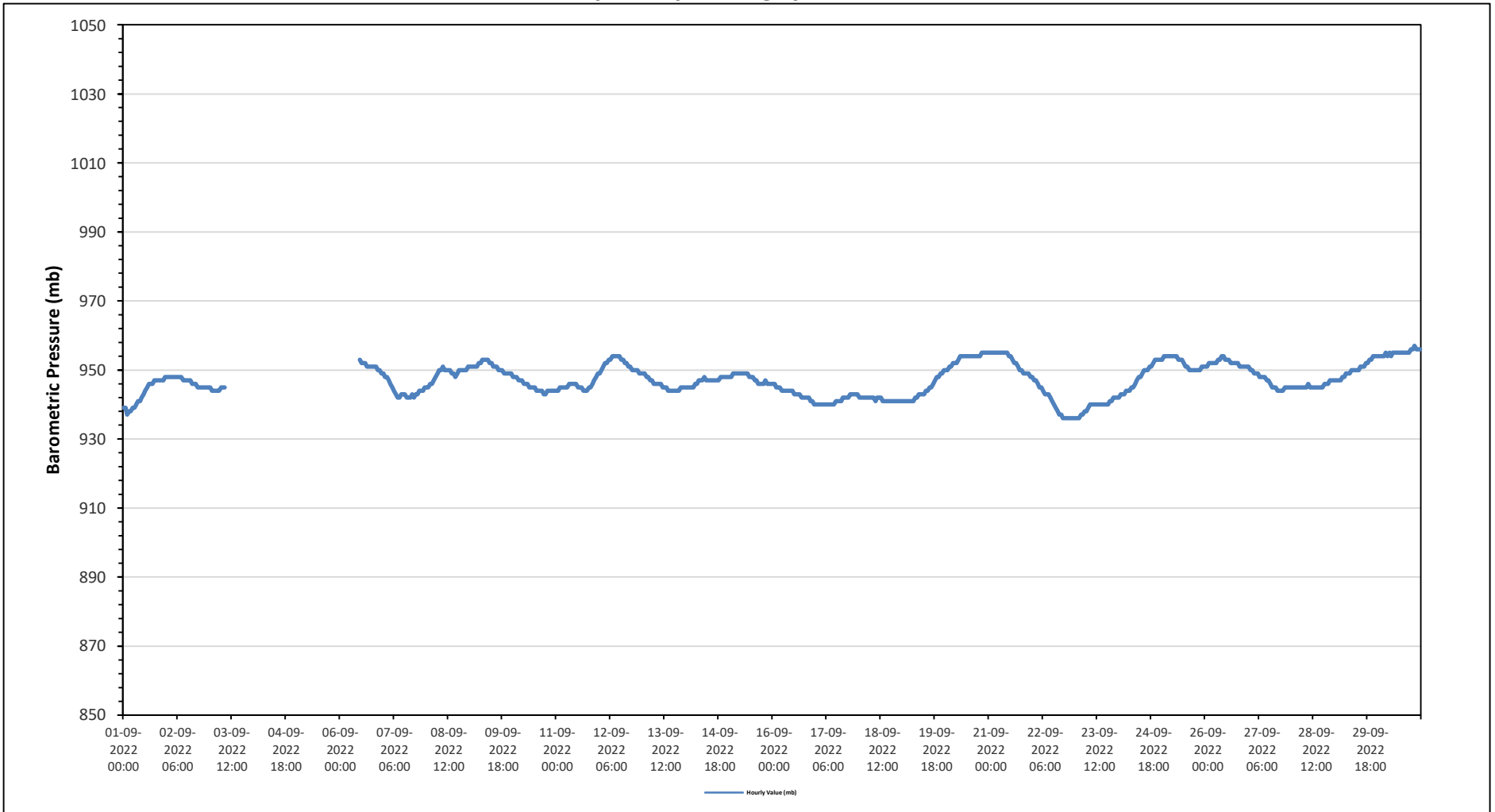
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Sep 1	939	939	937	938	938	939	939	940	941	941	942	943	944	945	946	946	946	947	947	947	947	947	947	948	937	948	943.0	
Sep 2	948	948	948	948	948	948	948	948	948	948	947	947	947	947	946	946	946	945	945	945	945	945	945	945	945	945	948	946.7
Sep 3	945	944	944	944	944	944	945	945	945	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	944	945	-	
Sep 4	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-	
Sep 5	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-	
Sep 6	K	K	K	K	K	K	K	K	K	K	K	953	952	952	952	951	951	951	951	951	951	950	950	949	949	953	-	
Sep 7	949	948	948	947	946	945	944	943	942	942	943	943	942	942	942	943	942	943	942	943	943	944	944	944	945	942	944.0	
Sep 8	945	945	946	946	947	948	949	950	950	951	950	950	950	949	949	948	949	950	950	950	950	950	950	951	945	951	948.9	
Sep 9	951	951	951	951	951	952	952	953	953	953	953	952	952	951	951	951	950	950	950	949	949	949	949	949	949	949	951.0	
Sep 10	948	948	948	947	947	947	946	946	946	945	945	945	944	944	944	944	943	943	944	944	944	944	944	944	943	948	945.2	
Sep 11	944	944	945	945	945	945	945	946	946	946	946	945	945	945	944	944	944	945	945	946	947	948	949	949	944	949	945.4	
Sep 12	949	950	951	952	952	953	953	954	954	954	954	954	953	953	952	952	951	951	950	950	950	949	949	949	949	954	951.7	
Sep 13	949	949	948	948	947	947	946	946	946	946	946	945	945	945	944	944	944	944	944	944	944	945	945	945	944	949	945.7	
Sep 14	945	945	945	945	945	946	946	947	947	948	947	947	947	947	947	947	947	947	947	948	948	948	948	948	945	948	946.8	
Sep 15	948	948	949	949	949	949	949	949	949	949	949	948	948	948	947	947	946	946	946	946	947	946	946	946	946	946	947.7	
Sep 16	946	946	945	945	945	944	944	944	944	944	944	944	943	943	943	943	942	942	942	942	942	941	941	940	940	946	943.3	
Sep 17	940	940	940	940	940	940	940	940	940	940	940	941	941	941	941	942	942	942	942	943	943	943	943	943	940	943	941.1	
Sep 18	942	942	942	942	942	942	942	942	942	941	942	942	942	941	941	941	941	941	941	941	941	941	941	941	941	941	941.5	
Sep 19	941	941	941	941	941	941	941	942	942	943	943	943	943	944	944	945	945	946	947	948	948	949	949	950	941	950	944.1	
Sep 20	950	950	951	951	952	952	952	953	954	954	954	954	954	954	954	954	954	954	954	954	954	955	955	955	950	955	953.3	
Sep 21	955	955	955	955	955	955	955	955	955	955	955	955	954	954	953	952	952	951	950	949	949	949	949	948	948	955	952.7	
Sep 22	948	947	947	946	945	945	944	943	943	943	942	941	940	939	938	937	937	936	936	936	936	936	936	936	936	948	940.7	
Sep 23	936	936	936	937	937	938	938	939	940	940	940	940	940	940	940	940	940	940	940	941	941	942	942	942	936	942	939.4	
Sep 24	942	943	943	943	944	944	944	945	945	946	947	948	948	949	950	950	950	951	951	952	953	953	953	953	942	953	947.8	
Sep 25	953	954	954	954	954	954	954	954	954	953	953	953	952	951	951	950	950	950	950	950	950	951	951	951	950	954	952.1	
Sep 26	951	951	952	952	952	952	952	953	953	953	954	954	953	953	952	952	952	952	951	951	951	951	951	951	951	951	952.1	
Sep 27	951	950	950	949	949	949	948	948	948	948	947	947	946	945	945	945	944	944	944	944	944	945	945	945	944	951	946.7	
Sep 28	945	945	945	945	945	945	945	945	945	946	945	945	945	945	945	945	945	945	946	946	946	947	947	947	945	947	945.4	
Sep 29	947	947	947	947	948	948	949	949	949	950	950	950	950	950	951	951	951	952	952	953	953	954	954	954	947	954	950.3	
Sep 30	954	954	954	954	955	954	955	954	955	955	955	955	955	955	955	955	955	955	956	956	957	956	956	956	954	957	955.0	
Diurnal Maximum	955	955	955	955	955	955	955	955	955	955	955	955	955	955	955	955	955	955	956	956	957	956	956	956				
Diurnal Average	947	947	947	947	947	947	947	947	947	947	947	948	947	947	947	947	947	947	947	947	947	947	947	947				

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

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

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

Timeseries Chart of Hourly Average for BP - Lac La Biche Station





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Lac La Biche Station - September 2022

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

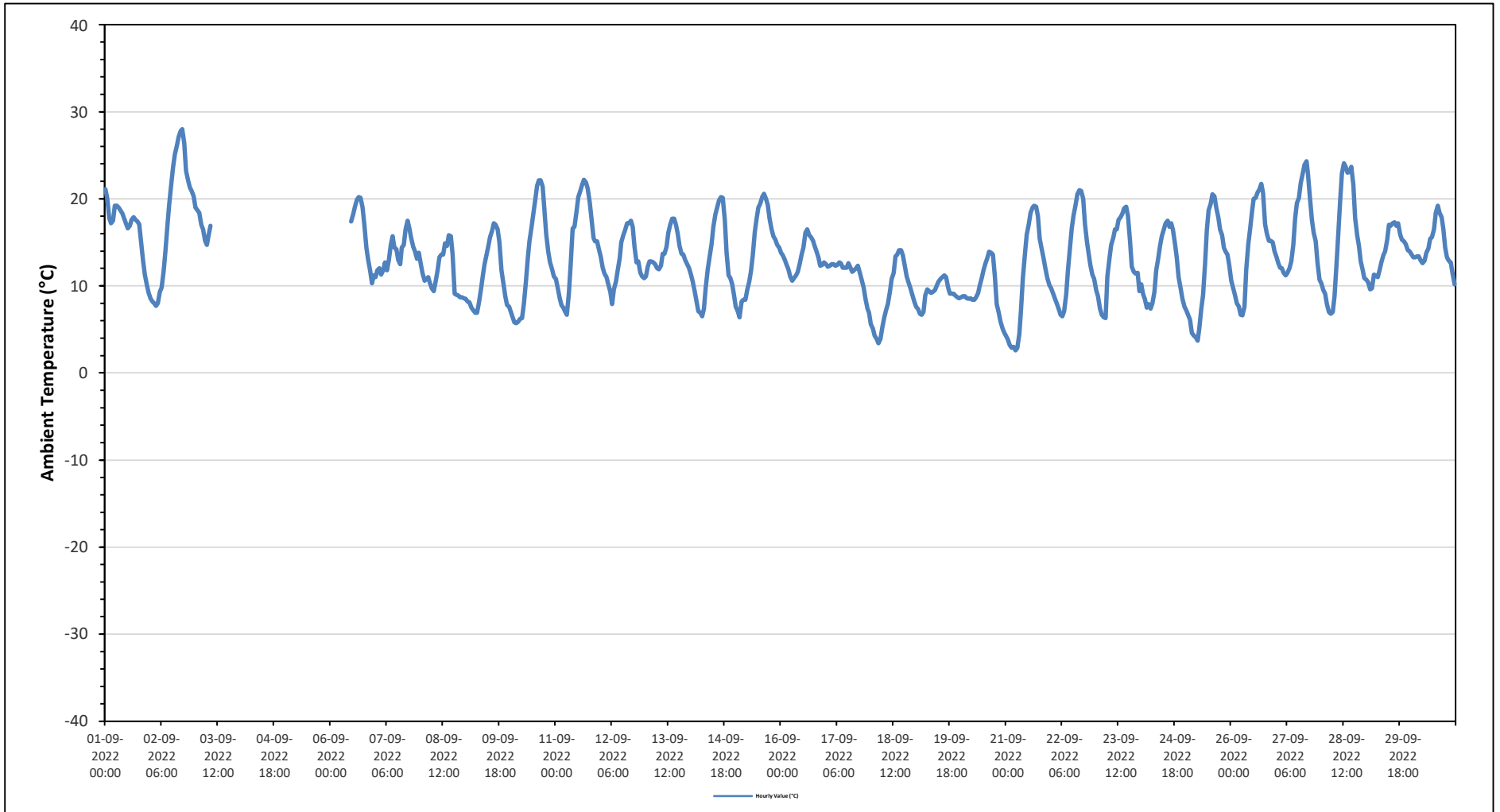
Maximum Hourly Value:	28.0 °C	on September 2 at hour 17	Hours in Service:	720
Maximum Daily Value:	18.1 °C	on September 2	Hours of Data:	646
Minimum Hourly Value:	2.6 °C	on September 21 at hour 5	Hours of Missing Data:	74
Minimum Daily Value:	8.9 °C	on September 18	Hours of Calibration:	0
Monthly Average:	13.2 °C		Operational Uptime:	89.7

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
Sep 1	21.1	20.1	17.8	17.2	17.5	19.2	19.2	19	18.7	18.3	17.7	17.1	16.6	16.9	17.6	17.9	17.6	17.4	17.1	15.1	12.9	11.3	10.1	9.2	9.2	21.1	16.8
Sep 2	8.5	8.2	8	7.7	8	9.3	9.8	11.7	14	17	19.4	21.7	23.6	25.1	26.1	27.1	27.8	28	26.4	23.2	22.1	21.3	20.9	20.3	7.7	28.0	18.1
Sep 3	19	18.7	18.4	17	16.5	15.2	14.7	15.7	16.9	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	14.7	19.0	-
Sep 4	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-
Sep 5	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-
Sep 6	K	K	K	K	K	K	K	K	K	K	K	17.4	18.2	19.1	19.9	20.2	20.1	19	17	14.4	13	11.7	10.3	11.2	10.3	20.2	-
Sep 7	11	11.8	12	11.3	11.8	12.7	11.8	12.9	14.7	15.7	14.4	14.2	13	12.5	14.4	14.7	16.5	17.5	16.6	15.5	14.5	14	13.1	13.8	11.0	17.5	13.8
Sep 8	12.5	11.4	10.6	10.8	11	10.3	9.7	9.4	10.5	11.8	13.3	13.6	13.6	14.9	14.6	15.8	15.7	13.6	9.1	9	8.9	8.7	8.7	8.6	8.6	15.8	11.5
Sep 9	8.5	8.2	8.1	7.5	7.2	6.9	6.9	8	9.5	11	12.4	13.4	14.5	15.6	16.3	17.2	17	16.5	15	11.8	10.4	8.8	7.8	7.6	6.9	17.2	11.1
Sep 10	7	6.4	5.8	5.7	5.9	6.2	6.3	7.9	10.4	13	15.1	16.7	18.2	19.9	21.5	22.1	22.1	21.4	18.7	15.9	13.9	12.7	11.9	11.1	5.7	22.1	13.2
Sep 11	10.8	9.8	8.6	7.8	7.5	7	6.7	9.1	12.4	16.6	16.8	18.5	20.2	20.8	21.6	22.2	21.9	21.2	19.6	17.7	15.5	15.1	15.1	14.2	6.7	22.2	14.9
Sep 12	13.4	12.1	11.4	11	10.2	9.3	7.9	9.6	10.5	11.8	13.2	15	15.8	16.4	17.2	17.2	17.5	16.8	14.5	12.7	12.8	11.5	11.1	10.9	7.9	17.5	12.9
Sep 13	11.1	12.2	12.8	12.8	12.7	12.5	12	11.9	12.3	13.7	13.7	14.5	16.1	17.1	17.7	17.7	17	16	14.6	13.7	13.6	13	12.5	12.1	11.1	17.7	13.9
Sep 14	11.3	10.5	9.3	8.2	7.1	6.9	6.5	7.4	9.8	11.9	13.3	14.8	16.8	18.2	19	19.8	20.2	20.1	17.6	13.8	11.2	10.9	10.2	9	6.5	20.2	12.7
Sep 15	7.6	7.1	6.4	8.2	8.4	8.4	9.5	10.5	11.7	13.5	16.2	17.7	19	19.4	20.2	20.6	20	19.3	17.7	16.5	15.7	15.3	14.7	14.4	6.4	20.6	14.1
Sep 16	13.8	13.5	13	12.5	11.9	11.1	10.6	10.9	11.2	11.6	12.6	13.6	14.4	16.1	16.5	15.8	15.6	15.2	14.6	13.9	13.3	12.3	12.4	12.7	10.6	16.5	13.3
Sep 17	12.5	12.2	12.3	12.5	12.5	12.3	12.4	12.7	12.6	12.1	12.1	12.6	12.1	11.6	11.8	12	12.3	11.5	10.7	9.8	8.5	7.4	6.9	6.9	6.9	12.7	11.5
Sep 18	5.6	5.1	4.3	3.9	3.4	3.9	5.2	6.4	7.2	7.9	9.3	10.8	11.5	13.4	13.6	14.1	14.1	13.5	12.4	11.1	10.4	9.7	9	8.2	3.4	14.1	8.9
Sep 19	7.6	7.3	6.8	6.7	7	8.9	9.6	9.4	9.2	9.3	9.5	10	10.5	10.8	11	11.2	11	9.8	9.1	9.1	9.1	8.9	8.7	8.6	6.7	11.2	9.1
Sep 20	8.7	8.8	8.8	8.6	8.5	8.6	8.4	8.4	8.7	9.2	10	10.9	11.8	12.6	13.2	13.9	13.8	13.6	11	7.9	6.9	5.9	5.1	4.6	4.6	13.9	9.5
Sep 21	4.3	3.8	3.2	2.9	3	2.6	2.9	4.5	7.5	11	13.7	15.9	17.1	18.4	19	19.2	19.1	18	15.4	14.2	13.2	11.9	10.9	10.1	2.6	19.2	10.9
Sep 22	9.7	9.1	8.5	8	7.3	6.7	6.5	7.1	9	11.8	14.4	16.6	18.1	19.3	20.5	21	20.9	20	17.1	15	13.8	12.4	11.3	10.8	6.5	21.0	13.1
Sep 23	9.5	8.8	7.4	6.7	6.4	6.3	11.1	13.1	14.7	15.5	16.5	16.5	17.6	17.9	18.3	18.9	19.1	18	15.2	12.2	11.6	11.4	11.5	9.4	6.3	19.1	13.1
Sep 24	10.2	9	8.5	7.5	7.9	7.4	8	9.3	11.8	13	14.6	15.7	16.5	17.2	17.5	16.8	17.2	16.4	14.8	13.2	11	9.7	8.5	7.6	7.4	17.5	12.1
Sep 25	7.2	6.6	6.1	4.6	4.3	4.1	3.7	5	7.3	8.9	12.5	16.4	18.7	19.4	20.5	20.3	19	17.9	16.5	15.8	14.4	13.9	13.6	12.4	3.7	20.5	12.0
Sep 26	10.6	9.8	8.9	8	7.6	6.7	6.6	7.6	11.9	14.8	16.5	18.6	20	20.1	20.7	21.1	21.7	20.7	17.1	16	15.2	15.2	15	14	6.6	21.7	14.4
Sep 27	13.4	12.6	12.1	12	11.5	11.2	11.5	12	12.8	14.7	17.7	19.5	20.1	21.8	22.9	23.9	24.3	22.7	19.9	17.6	16.1	15.1	12.7	10.7	10.7	24.3	16.2
Sep 28	10.3	9.5	9.1	7.9	7	6.8	7	8.8	12.1	15.6	19.7	22.9	24.1	23.7	23	23.1	23.7	21.6	17.8	15.8	14.6	12.8	11.8	10.9	6.8	24.1	15.0
Sep 29	10.7	10.4	9.6	9.7	11.3	11.2	11	11.8	12.7	13.5	14	15.3	17	16.9	17.2	17.3	16.9	17.2	15.9	15.3	15.1	14.8	14.1	14	9.6	17.3	13.9
Sep 30	13.6	13.3	13.3	13.4	13.4	12.9	12.6	12.9	13.8	14.3	15.4	15.6	16.5	18.4	19.2	18.4	17.9	16.5	14.4	13.3	12.9	12.7	11.4	10.2	10.2	19.2	14.4
Diurnal Maximum	21.1	20.1	18.4	17.2	17.5	19.2	19.2	19.0	18.7	18.3	19.7	22.9	24.1	25.1	26.1	27.1	27.8	28.0	26.4	23.2	22.1	21.3	20.9	20.3			
Diurnal Average	10.7	10.2	9.7	9.3	9.1	9.1	9.2	10.1	11.6	13.0	14.4	15.7	16.7	17.6	18.2	18.5	18.5	17.8	15.8	14.1	13.0	12.2	11.5	10.9			

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

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

Timeseries Chart of Hourly Average for AT - Lac La Biche Station





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Lac La Biche Station - September 2022

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

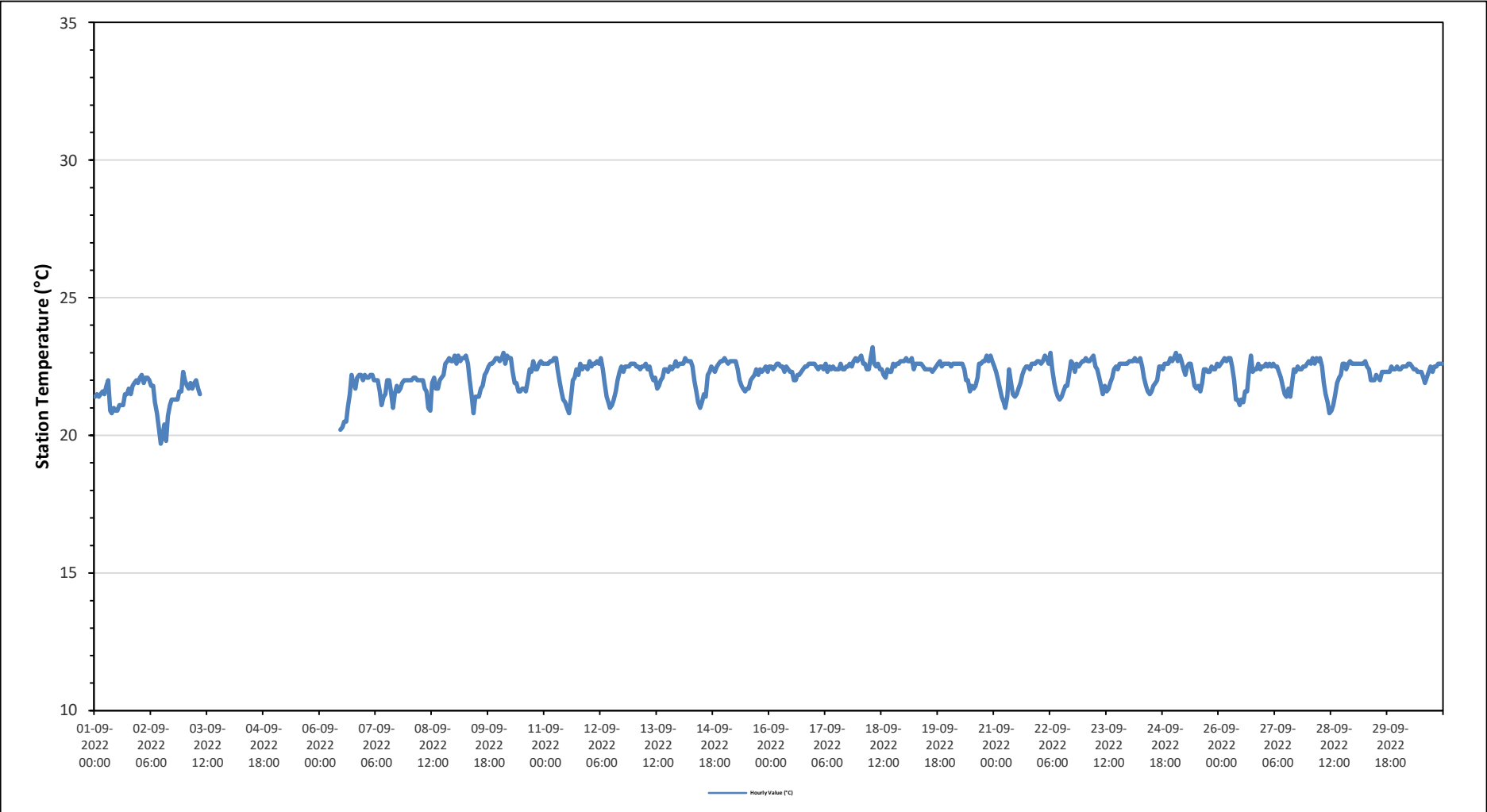
Maximum Hourly Value:	23.2 °C	on September 18 at hour 7	Hours in Service:	720
Maximum Daily Value:	22.6 °C	on September 19	Hours of Data:	646
Minimum Hourly Value:	19.7 °C	on September 2 at hour 11	Hours of Missing Data:	74
Minimum Daily Value:	21.3 °C	on September 2	Hours of Calibration:	0
Monthly Average:	22.2 °C		Operational Uptime:	89.7

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
Sep 1	21.4	21.5	21.4	21.5	21.6	21.5	21.8	22.0	20.9	20.8	21.0	20.9	20.9	21.1	21.1	21.5	21.5	21.7	21.5	21.8	21.9	22.0	21.9	20.8	22.0	21.4	
Sep 2	22.1	22.2	21.9	22.1	22.1	22.0	21.8	21.8	21.2	20.8	20.3	19.7	20.0	20.4	19.8	20.7	21.1	21.3	21.3	21.3	21.3	21.6	21.6	22.3	19.7	22.3	21.3
Sep 3	22.0	21.8	21.7	21.9	21.7	21.9	22.0	21.7	21.5	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	21.5	22.0	-
Sep 4	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-
Sep 5	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-
Sep 6	K	K	K	K	K	K	K	K	K	K	K	20.2	20.3	20.5	20.5	21.0	21.5	22.2	21.9	21.7	22.1	22.2	22.2	22.0	20.2	22.2	-
Sep 7	22.2	22.1	22.1	22.2	22.2	22.0	22.0	22.0	22.0	21.6	21.1	21.4	21.5	22.0	22.0	21.6	21.0	21.5	21.8	21.6	21.7	21.9	22.0	22.0	21.0	22.2	21.8
Sep 8	22.0	22.0	22.1	22.1	22.0	22.0	22.0	22.0	21.7	21.6	21.0	20.9	21.9	22.1	21.7	21.7	22.0	22.1	22.2	22.6	22.7	22.8	22.7	22.7	20.9	22.8	22.0
Sep 9	22.9	22.6	22.9	22.7	22.8	22.8	22.9	22.6	22.0	21.5	20.8	21.4	21.4	21.4	21.7	21.8	22.2	22.3	22.5	22.6	22.6	22.7	22.8	22.8	20.8	22.9	22.3
Sep 10	22.7	22.8	23.0	22.6	22.9	22.8	22.8	22.3	21.9	21.9	21.6	21.6	21.7	21.7	21.6	22.0	22.4	22.3	22.7	22.4	22.4	22.6	22.7	22.6	21.6	23.0	22.3
Sep 11	22.6	22.6	22.6	22.7	22.7	22.8	22.8	22.4	22.0	21.6	21.3	21.2	21.0	20.8	21.3	22.0	22.1	22.4	22.2	22.6	22.4	22.5	22.5	22.4	20.8	22.8	22.1
Sep 12	22.7	22.5	22.6	22.6	22.7	22.6	22.8	22.4	21.9	21.4	21.2	21.0	21.1	21.3	21.6	22.0	22.3	22.5	22.3	22.5	22.5	22.5	22.6	22.6	21.0	22.8	22.2
Sep 13	22.6	22.5	22.5	22.4	22.5	22.5	22.6	22.4	22.5	22.2	22.0	22.1	21.7	21.8	22.0	22.1	22.4	22.4	22.3	22.5	22.4	22.5	22.7	22.5	21.7	22.7	22.3
Sep 14	22.6	22.6	22.6	22.8	22.7	22.7	22.7	22.5	22.0	21.6	21.2	21.0	21.2	21.5	21.4	22.2	22.3	22.5	22.4	22.3	22.5	22.6	22.7	22.7	21.0	22.8	22.2
Sep 15	22.8	22.7	22.6	22.7	22.7	22.7	22.7	22.4	22.0	21.8	21.7	21.6	21.7	21.7	22.0	22.1	22.2	22.4	22.2	22.4	22.3	22.4	22.5	22.3	21.6	22.8	22.3
Sep 16	22.5	22.5	22.4	22.5	22.6	22.6	22.5	22.5	22.3	22.5	22.4	22.3	22.3	22.0	22.0	22.2	22.2	22.3	22.4	22.5	22.5	22.6	22.6	22.6	22.0	22.6	22.4
Sep 17	22.6	22.5	22.4	22.5	22.5	22.4	22.6	22.3	22.5	22.4	22.5	22.4	22.4	22.4	22.6	22.4	22.4	22.5	22.5	22.6	22.5	22.7	22.8	22.7	22.3	22.8	22.5
Sep 18	22.8	22.9	22.6	22.6	22.4	22.4	22.8	23.2	22.6	22.5	22.6	22.4	22.4	22.2	22.1	22.4	22.3	22.3	22.6	22.5	22.6	22.6	22.7	22.7	22.1	23.2	22.6
Sep 19	22.7	22.8	22.7	22.7	22.8	22.4	22.6	22.6	22.6	22.6	22.5	22.4	22.4	22.4	22.4	22.4	22.4	22.5	22.6	22.7	22.5	22.6	22.6	22.6	22.3	22.8	22.6
Sep 20	22.6	22.5	22.6	22.6	22.6	22.6	22.6	22.6	22.4	22.0	22.0	21.6	21.8	21.7	21.8	22.1	22.6	22.6	22.7	22.7	22.9	22.7	22.9	22.7	21.6	22.9	22.4
Sep 21	22.5	22.3	22.0	21.7	21.4	21.2	21.0	21.4	22.4	21.9	21.5	21.4	21.5	21.7	21.9	22.2	22.4	22.5	22.5	22.4	22.6	22.6	22.6	22.7	21.0	22.7	22.0
Sep 22	22.7	22.6	22.7	22.9	22.8	22.6	23.0	22.4	21.9	21.6	21.4	21.3	21.4	21.6	21.8	21.8	22.2	22.7	22.6	22.3	22.6	22.5	22.6	22.7	21.3	23.0	22.3
Sep 23	22.7	22.8	22.7	22.7	22.8	22.9	22.5	22.4	22.1	21.8	21.5	21.8	21.6	21.7	21.9	22.1	22.4	22.5	22.4	22.6	22.6	22.6	22.6	22.6	21.5	22.9	22.3
Sep 24	22.7	22.7	22.7	22.8	22.7	22.7	22.8	22.5	22.1	21.8	21.6	21.5	21.6	21.8	21.9	22.0	22.5	22.5	22.4	22.6	22.6	22.6	22.8	22.7	21.5	22.8	22.4
Sep 25	22.8	23.0	22.7	22.9	22.7	22.4	22.2	22.5	22.6	22.6	22.2	21.8	21.7	21.8	21.6	21.9	22.4	22.4	22.3	22.3	22.5	22.4	22.6	21.6	23.0	22.4	
Sep 26	22.5	22.6	22.7	22.8	22.7	22.8	22.8	22.5	22.0	21.3	21.3	21.1	21.3	21.2	21.6	21.6	22.3	22.9	22.3	22.4	22.4	22.6	22.4	22.5	21.1	22.9	22.2
Sep 27	22.5	22.6	22.5	22.6	22.5	22.6	22.5	22.5	22.3	22.1	21.8	21.5	21.4	21.7	21.4	21.9	22.4	22.3	22.5	22.4	22.4	22.5	22.6	21.4	22.6	22.3	
Sep 28	22.7	22.6	22.8	22.6	22.8	22.7	22.8	22.5	21.9	21.5	21.2	20.8	20.9	21.1	21.5	21.9	22.1	22.2	22.6	22.6	22.4	22.6	22.7	22.6	20.8	22.8	22.2
Sep 29	22.6	22.6	22.6	22.6	22.6	22.6	22.7	22.5	22.4	22.0	22.0	22.0	22.2	22.1	22.0	22.3	22.3	22.3	22.3	22.3	22.5	22.4	22.4	22.5	22.0	22.7	22.4
Sep 30	22.4	22.4	22.5	22.5	22.5	22.6	22.6	22.5	22.4	22.4	22.3	22.3	22.3	22.1	21.9	22.1	22.3	22.5	22.3	22.5	22.5	22.6	22.6	21.9	22.9	22.6	22.4
Diurnal Maximum	22.9	23.0	23.0	22.9	22.9	22.9	23.0	23.2	22.6	22.6	22.6	22.4	22.4	22.4	22.6	22.4	22.6	22.9	22.7	22.7	22.9	22.8	22.9	22.8			
Diurnal Average	22.5	22.5	22.5	22.5	22.5	22.4	22.5	22.3	22.1	21.8	21.6	21.5	21.6	21.6	21.7	21.9	22.2	22.3	22.3	22.4	22.4	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
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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

Timeseries Chart of Hourly Average for ST - Lac La Biche Station





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Lac La Biche Station - September 2022

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

Maximum Hourly Value:	26.0 kph on September 1 at hour 12	Hours in Service:	720
Maximum Daily Value:	12.0 kph on September 8	Hours of Data:	646
Minimum Hourly Value:	0.1 kph on September 28 at hour 21	Hours of Missing Data:	74
Minimum Daily Value:	0.2 kph on September 14	Hours of Calibration:	0
Monthly Average:	1.3 kph	Operational Uptime:	89.7

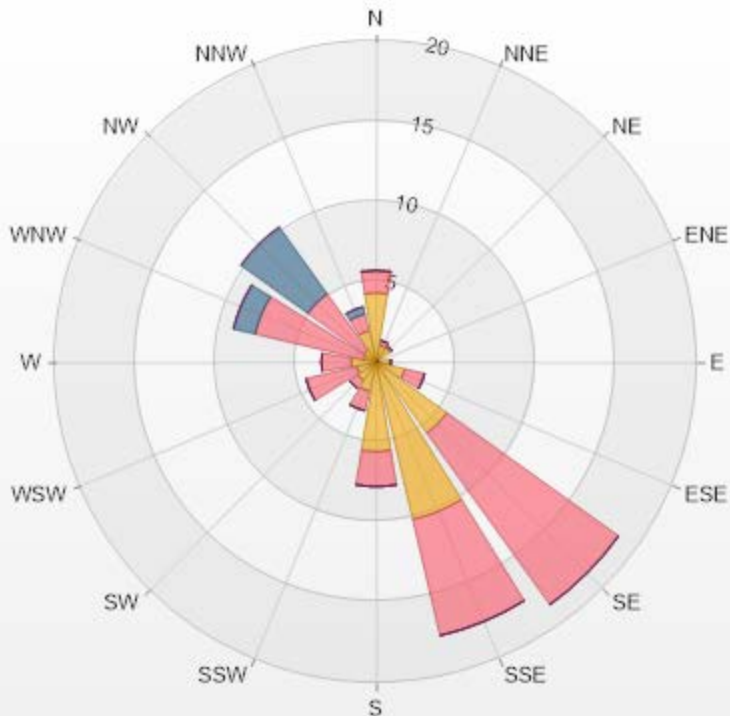
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Sep 1	8.6	4.7	5.9	3.6	4.6	10.3	14.2	13.7	19.0	25.3	25.1	25.1	26.0	24.6	22.9	24.7	19.5	16.6	10.1	3.8	2.2	2.9	3.2	3.5	2.2	26.0	11.1	
Sep 2	3.9	5.1	5.6	5.4	6.1	7.5	7.3	7.4	7.0	6.3	5.6	6.3	6.7	7.9	7.2	6.3	5.0	3.7	4.5	6.8	7.8	8.4	7.9	7.0	3.7	8.4	5.4	
Sep 3	7.0	7.5	9.1	7.2	6.7	5.1	4.9	6.6	5.4	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	4.9	9.1	-	
Sep 4	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-
Sep 5	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-
Sep 6	K	K	K	K	K	K	K	K	K	K	K	10.9	13.4	12.3	12.2	11.3	10.2	4.2	0.8	2.3	4.3	3.4	3.0	4.0	0.8	13.4	-	
Sep 7	5.0	5.7	3.7	3.7	6.5	6.5	3.9	6.3	8.5	3.4	8.4	9.1	8.3	3.5	5.3	5.1	6.5	7.0	4.8	6.7	6.1	8.7	9.5	12.1	3.4	12.1	1.9	
Sep 8	9.6	9.6	9.0	9.6	17.0	14.7	14.5	14.5	16.9	15.1	15.0	14.0	10.2	14.1	17.2	14.6	17.4	16.2	6.8	6.9	7.8	8.6	9.1	10.1	6.8	17.4	12.0	
Sep 9	10.8	10.9	11.1	7.9	9.4	9.3	8.6	9.6	11.6	15.3	15.1	15.3	15.7	14.2	13.2	13.5	10.5	7.7	4.9	2.5	4.0	3.4	3.7	4.6	2.5	15.7	8.4	
Sep 10	5.1	5.9	5.6	6.3	6.1	6.4	6.2	6.1	7.4	6.6	7.5	8.3	9.9	10.7	10.7	13.3	10.7	7.2	3.5	2.7	3.7	3.2	4.1	4.0	2.7	13.3	5.3	
Sep 11	4.4	1.0	1.2	1.1	1.3	1.7	1.8	1.2	1.8	1.0	4.8	4.8	4.7	6.1	6.8	6.1	5.6	4.3	4.2	5.0	2.0	4.2	5.5	6.8	1.0	6.8	2.4	
Sep 12	5.3	4.3	5.3	6.6	4.7	3.7	1.8	4.2	2.7	4.3	4.1	4.8	6.0	6.3	5.4	4.6	2.4	1.0	0.8	2.6	2.6	2.8	4.1	3.7	0.8	6.6	3.1	
Sep 13	6.4	8.3	8.2	7.7	10.2	10.9	10.6	10.5	10.0	9.4	9.3	12.5	9.2	9.3	10.9	11.9	11.7	9.8	8.2	5.3	7.9	8.2	8.2	8.3	5.3	12.5	9.2	
Sep 14	8.6	6.6	3.1	3.7	3.0	4.3	2.5	2.4	2.6	4.9	5.1	6.7	6.6	6.4	6.5	5.2	4.3	3.0	0.7	1.1	2.1	3.9	3.4	2.2	0.7	8.6	0.2	
Sep 15	2.7	1.0	1.5	5.4	5.2	6.1	7.0	9.0	8.5	9.1	9.0	9.0	10.7	11.0	10.8	9.5	10.9	7.7	7.3	8.0	8.8	11.3	10.0	12.4	1.0	12.4	7.9	
Sep 16	12.4	11.3	9.4	7.6	8.1	8.8	8.8	10.2	8.8	8.6	7.3	8.8	9.7	8.2	10.3	9.4	10.6	7.2	5.5	4.0	4.1	4.3	6.5	7.1	4.0	12.4	8.1	
Sep 17	6.7	4.4	6.8	6.0	5.0	4.0	3.9	6.0	4.8	5.1	4.9	5.5	3.9	6.6	8.4	9.6	8.7	8.1	8.8	6.4	2.2	1.5	3.5	3.9	1.5	9.6	3.7	
Sep 18	3.9	4.7	4.5	3.6	3.6	4.4	4.8	4.5	3.7	3.7	4.5	5.8	5.1	3.7	2.0	8.5	5.4	4.2	1.5	1.1	2.7	2.3	1.6	2.8	1.1	8.5	2.5	
Sep 19	2.3	2.9	2.5	2.4	1.3	5.2	7.6	7.4	7.3	5.8	8.0	10.8	9.6	11.1	10.1	10.0	9.9	16.0	18.7	16.7	18.9	15.5	16.0	17.2	1.3	18.9	8.7	
Sep 20	18.3	18.5	17.6	19.4	17.9	16.2	15.4	15.1	15.6	14.6	13.7	12.8	11.4	12.7	9.8	10.5	8.1	4.3	1.4	2.4	3.4	3.6	4.7	4.6	1.4	19.4	9.7	
Sep 21	5.7	5.3	4.5	4.7	5.1	4.9	5.5	6.6	5.3	7.0	6.7	9.3	11.4	11.2	12.2	11.9	9.8	7.5	6.9	8.6	8.2	7.7	7.2	8.3	4.5	12.2	7.3	
Sep 22	9.1	10.6	10.6	10.1	9.7	11.4	10.6	11.5	8.4	8.0	8.7	9.5	10.4	10.9	9.6	9.3	8.9	5.6	4.9	6.0	5.7	4.6	6.4	4.6	4.6	11.5	8.4	
Sep 23	4.1	3.8	1.8	3.4	2.4	1.4	8.1	9.2	12.8	14.9	15.7	15.4	18.2	16.8	14.5	13.1	13.8	10.3	2.6	2.5	2.9	4.5	5.2	4.0	1.4	18.2	7.0	
Sep 24	6.6	6.8	5.7	5.3	5.8	5.3	7.6	9.2	16.7	19.3	18.4	19.0	16.3	14.9	14.9	13.4	13.3	11.1	9.7	7.4	4.0	3.5	4.4	5.0	3.5	19.3	9.1	
Sep 25	5.4	2.9	1.9	3.3	4.3	4.2	4.0	5.1	4.5	4.9	7.7	10.0	10.7	12.2	10.5	10.0	4.7	1.4	2.4	0.9	2.8	2.5	2.6	1.6	0.9	12.2	3.2	
Sep 26	0.6	1.1	0.6	0.7	1.0	1.8	1.1	2.0	1.0	0.4	2.1	1.2	0.4	4.0	4.3	4.1	3.2	2.4	2.4	4.8	6.8	7.4	8.3	8.1	0.4	8.3	1.6	
Sep 27	7.9	7.5	8.2	8.6	9.0	9.4	8.4	7.0	9.1	9.0	6.7	10.7	13.5	10.4	9.2	7.4	7.7	5.9	4.4	4.1	4.0	4.6	1.4	2.9	1.4	13.5	7.3	
Sep 28	2.8	4.1	1.5	1.9	2.6	3.6	5.2	5.5	5.1	4.3	4.6	1.6	3.5	5.8	6.2	6.1	4.6	2.8	0.7	2.8	1.4	0.1	0.8	0.1	0.1	6.2	0.8	
Sep 29	1.5	1.4	0.7	1.7	3.0	2.6	2.9	2.5	3.3	5.7	6.6	6.2	6.2	7.0	6.0	5.1	4.2	5.2	5.7	5.8	6.3	3.8	3.8	2.3	0.7	7.0	3.8	
Sep 30	2.6	3.0	1.6	3.3	3.7	4.0	2.3	2.1	6.5	9.6	6.1	6.2	4.8	2.2	4.3	6.2	5.9	7.0	5.6	4.1	4.7	6.1	3.7	3.2	1.6	9.6	4.0	
Diurnal Maximum	18	19	18	19	18	16	15	15	19	25	25	25	26	25	23	25	20	17	19	17	19	16	16	17				
Diurnal Average	6.2	5.9	5.5	5.6	6.0	6.4	6.6	7.2	7.9	8.5	8.9	9.6	9.7	9.8	9.7	9.7	8.6	6.9	5.1	4.9	5.1	5.3	5.4	5.8				

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

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

Wind: Lac La Biche Monitor: WDS [kph] Monthly: 09-2022 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 7.59% Valid Data: 89.72%

Direction	1.8-6.0	6.0-15.0	15.0-29.0	29.0-39.0	>39.0	Total
N	4.33	1.39	0	0	0	5.72
NNE	1.08	0.31	0	0	0	1.39
NE	1.08	0.15	0	0	0	1.23
ENE	0.15	0	0	0	0	0.15
E	0.93	0	0	0	0	0.93
ESE	1.86	1.24	0	0	0	3.1
SE	5.42	13.16	0	0	0	18.58
SSE	10.06	7.43	0	0	0	17.49
S	5.57	2.17	0	0	0	7.74
SSW	1.86	1.24	0	0	0	3.1
SW	1.39	0.62	0	0	0	2.01
WSW	1.24	3.25	0	0	0	4.49
W	1.55	1.86	0	0	0	3.41
WNW	0.77	6.97	1.39	0	0	9.13
NW	0.93	4.33	5.11	0	0	10.37
NNW	2.01	1.08	0.46	0	0	3.55
Summary	40.23	45.2	6.96	0	0	92.39



LICA-202209

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% Icon Classes (kph)

40 1.8-6.0

45 6.0-15.0

7 15.0-29.0

0 29.0-39.0

0 >39.0



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Lac La Biche Station - September 2022

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

Monthly Average:	238 (SW) degree	Hours in Service:	720
		Hours of Data:	646
		Hours of Missing Data:	74
		Hours of Calibration:	0
		Operational Uptime:	89.7

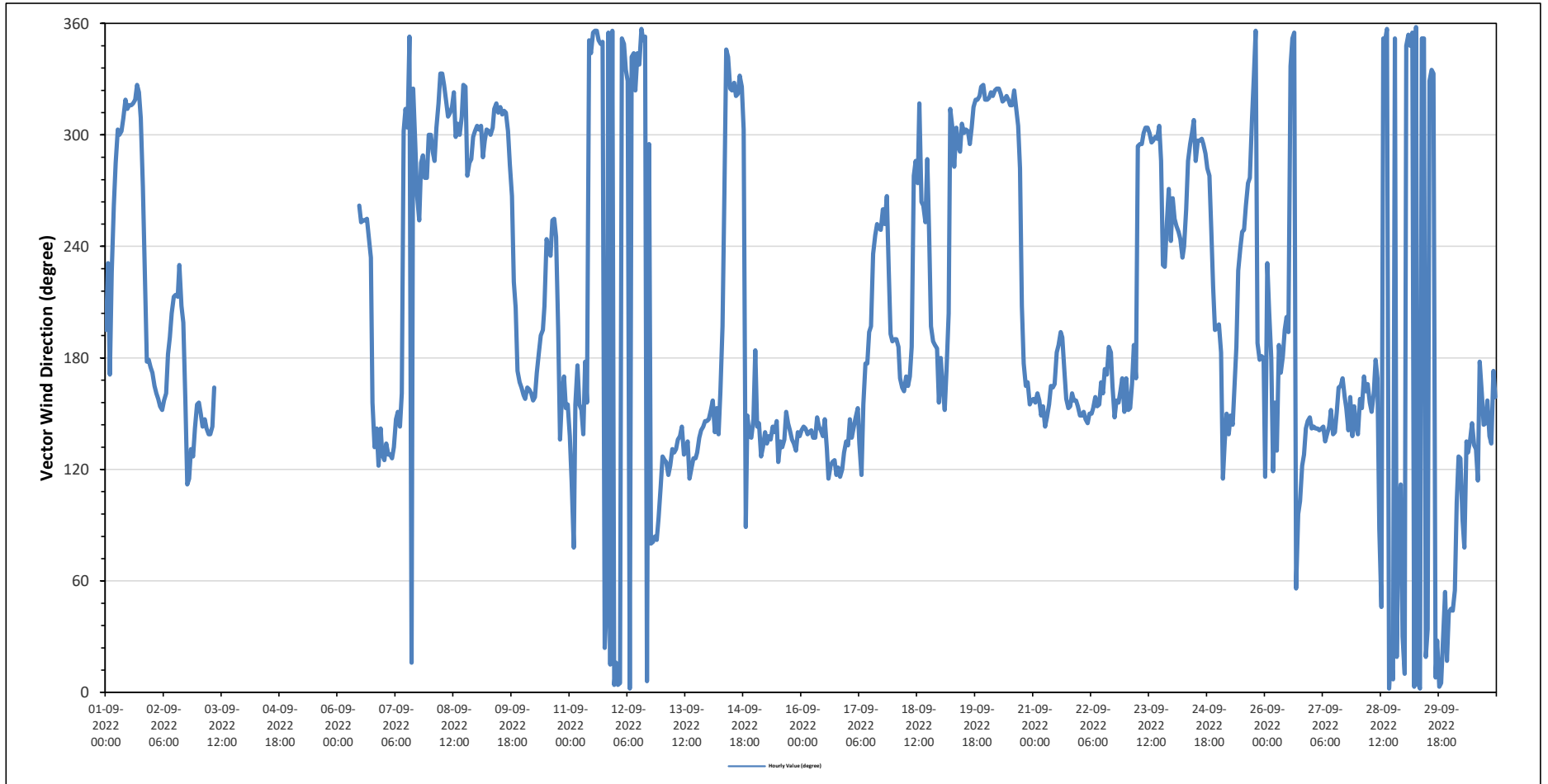
Day	Hourly Period Starting at (MST)																							Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Degree	Quadrant
Sep 1	SSW	SW	S	SW	W	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	W	SW	S	S	S	306	NW
Sep 2	S	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	S	SSW	SSW	SSW	SSW	SW	SSW	SSW	SSE	ESE	ESE	SE	SE	SE	SSE	169	SSE
Sep 3	SSE	SSE	SE	SE	SE	SE	SE	SE	SSE	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	SE
Sep 4	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-
Sep 5	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-
Sep 6	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-
Sep 7	SE	SE	SE	SE	SE	SE	SE	SSE	SE	SSE	WNW	NW	WNW	N	NNE	NW	WNW	W	WSW	WNW	WNW	W	WNW	WNW	274	W
Sep 8	WNW	WNW	WNW	WNW	NW	NNW	NNW	NW	NW	NW	NW	NW	WNW	NW	WNW	NW	NW	NW	W	WNW	WNW	WNW	WNW	310	NW	
Sep 9	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NW	WNW	WNW	W	SW	SSW	S	SSE	SSE	302	WNW	
Sep 10	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	S	S	SSW	SSW	WSW	WSW	SW	WSW	WSW	SSW	SE	SSE	SSE	SSE	SSE	200	SSW	
Sep 11	SE	ESE	ENE	SSE	S	SSE	SSE	SE	S	SSE	N	NNW	N	N	N	N	NNW	N	NNE	NE	N	NNE	N	N	8	N
Sep 12	NNE	N	N	N	NNW	NNW	NNW	N	NNW	NNW	NW	NNW	NNW	N	N	N	WNW	E	E	E	E	E	ESE	3	N	
Sep 13	SE	SE	ESE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	131	SE	
Sep 14	SE	SSE	SSE	SE	SSE	SE	SSE	SSW	W	NNW	NNW	NW	NW	NNW	NW	NW	NNW	NW	WNW	E	SSE	SE	SE	SE	308	NW
Sep 15	S	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	SE	SE	SSE	SE	SE	SE	SE	SE	SE	SE	138	SE	
Sep 16	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	SE	134	SE
Sep 17	SE	SE	SE	SE	SE	SSE	SE	ESE	SSE	S	S	SSW	SSW	SW	WSW	WSW	WSW	WSW	WSW	WSW	W	SW	S	S	200	SSW
Sep 18	S	S	S	SSE	SSE	SSE	SSE	SSE	SSE	S	W	WNW	W	NW	W	W	WSW	WNW	WSW	SSW	S	S	SSE	216	SW	
Sep 19	S	SSE	SSE	S	SSW	NW	WNW	W	WNW	WNW	NW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	309	NW	
Sep 20	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	WNW	W	SSW	S	SSE	SSE	SSE	SSE	317	NW	
Sep 21	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	SSE	SSE	SSE	SSE	S	S	SSW	S	S	SSE	SSE	SSE	SSE	SSE	SSE	166	SSE	
Sep 22	SSE	SSE	SSE	SE	SE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	S	S	SSE	SE	SSE	SSE	SSE	SSE	SSE	158	SSE	
Sep 23	SSE	SSE	SSE	SSE	S	SSE	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	SW	SW	WSW	W	WSW	290	WNW
Sep 24	W	WSW	WSW	WSW	WSW	SW	WSW	WSW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	W	W	WSW	SW	SSW	SSW	281	W
Sep 25	SSW	S	ESE	SE	SSE	SE	SSE	SE	SSE	S	SW	WSW	WSW	W	W	W	NW	NNW	N	S	S	S	S	220	SW	
Sep 26	ESE	SW	SSW	S	ESE	SSE	SE	S	S	S	SSW	SSW	SSW	NNW	N	N	NE	E	ESE	ESE	SE	SE	SE	131	SE	
Sep 27	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SE	SE	SSE	SSE	SSE	SSE	SSE	SE	SE	SE	SE	SE	147	SE	
Sep 28	SE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	SSE	E	NE	N	N	N	NNE	N	NNE	E	ESE	NNE	109	ESE	
Sep 29	N	NNW	N	NNW	N	N	N	N	N	N	N	NNE	NE	NNW	NNW	NNW	N	NNE	N	N	NNE	NE	NNE	5	N	
Sep 30	NE	NE	NE	E	SE	SE	E	ENE	SE	SE	SE	SE	SE	ESE	S	SSE	SE	SE	SSE	SE	SE	S	SSE	134	SE	

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

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

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

Timeseries Chart of Hourly Average for VWD - Lac La Biche Station





LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Lac La Biche Station - September 2022

Summary of Hourly Averages

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

WIND SPEED																												
Maximum Hourly Value: 26.0 kph on September 1 at hour 12														Hours in Service: 720														
Maximum Daily Value: 12.0 kph on September 8														Hours of Data: 646														
Minimum Hourly Value: 0.1 kph on September 28 at hour 21														Hours of Missing Data: 74														
Minimum Daily Value: 0.2 kph on September 14														Hours of Calibration: 0														
Monthly Average: 1.3 kph														Operational Uptime: 89.7														
WIND DIRECTION																												
Monthly Average: 238 (SW) degree																												
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23				
Sep 1	8.6	4.7	5.9	3.6	4.6	10.3	14.2	13.7	19.0	25.3	25.1	25.1	26.0	24.6	22.9	24.7	19.5	16.6	10.1	3.8	2.2	2.9	3.2	3.5	2.2	26.0	11.1	
	SSW	SW	S	SW	W	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	W	SW	S	S	S				
Sep 2	3.9	5.1	5.6	5.4	6.1	7.5	7.3	7.4	7.0	6.3	5.6	6.3	6.7	7.9	7.2	6.3	5.0	3.7	4.5	6.8	7.8	8.4	7.9	7.0	3.7	8.4	5.4	
	S	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	S	SSW	SSW	SSW	SSW	SW	SSW	SSW	SSE	ESE	ESE	SE	SE	SSE					
Sep 3	7.0	7.5	9.1	7.2	6.7	5.1	4.9	6.6	5.4	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	4.9	9.1	-	
	SSE	SSE	SE	SE	SE	SE	SE	SE	SSE	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K				
Sep 4	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-	
	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K				
Sep 5	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	-	
	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K				
Sep 6	K	K	K	K	K	K	K	K	K	K	K	10.9	13.4	12.3	12.2	11.3	10.2	4.2	0.8	2.3	4.3	3.4	3.0	4.0	0.8	13.4	-	
	K	K	K	K	K	K	K	K	K	K	K	W	WSW	WSW	WSW	WSW	WSW	SW	SSE	SE	SE	ESE	SE	SE				
Sep 7	5.0	5.7	3.7	3.7	6.5	6.5	3.9	6.3	8.5	3.4	8.4	9.1	8.3	3.5	5.3	5.1	6.5	7.0	4.8	6.7	6.1	8.7	9.5	12.1	3.4	12.1	1.9	
	SE	SE	SE	SE	SE	SE	SE	SSE	SE	SSE	WNW	NW	WNW	N	NNE	NW	WNW	W	WSW	WNW	WNW	W	W	WNW				
Sep 8	9.6	9.6	9.0	9.6	17.0	14.7	14.5	14.5	16.9	15.1	15.0	14.0	10.2	14.1	17.2	14.6	17.4	16.2	6.8	6.9	7.8	8.6	9.1	10.1	6.8	17.4	12.0	
	WNW	WNW	WNW	WNW	NW	NNW	NNW	NW	NW	NW	NW	NW	NW	WNW	NW	WNW	NW	NW	NW	W	WNW	WNW	WNW	WNW				
Sep 9	10.8	10.9	11.1	7.9	9.4	9.3	8.6	9.6	11.6	15.3	15.1	15.3	15.7	14.2	13.2	13.5	10.5	7.7	4.9	2.5	4.0	3.4	3.7	4.6	2.5	15.7	8.4	
	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NW	WNW	WNW	W	SW	SSW	S	SSE	SSE	SSE				
Sep 10	5.1	5.9	5.6	6.3	6.1	6.4	6.2	6.1	7.4	6.6	7.5	8.3	9.9	10.7	10.7	13.3	10.7	7.2	3.5	2.7	3.7	3.2	4.1	4.0	2.7	13.3	5.3	
	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	S	S	SSW	SSW	WSW	WSW	SW	WSW	WSW	SSW	SE	SSE	SSE	SSE	SSE	SSE				
Sep 11	4.4	1.0	1.2	1.1	1.3	1.7	1.8	1.2	1.8	1.0	4.8	4.8	4.7	6.1	6.8	6.1	5.6	4.3	4.2	5.0	2.0	4.2	5.5	6.8	1.0	6.8	2.4	
	SE	ESE	ENE	SSE	S	SSE	SSE	SE	SSE	N	NNW	N	N	N	N	NNW	N	NNE	NE	N	NNE	N	N	N				
Sep 12	5.3	4.3	5.3	6.6	4.7	3.7	1.8	4.2	2.7	4.3	4.1	4.8	6.0	6.3	5.4	4.6	2.4	1.0	0.8	2.6	2.6	2.8	4.1	3.7	0.8	6.6	3.1	
	NNE	N	N	N	NNW	NNW	N	NNW	NNW	N	NNW	NNW	N	N	N	N	NNW	E	E	E	E	E	E	ESE				
Sep 13	6.4	8.3	8.2	7.7	10.2	10.9	10.6	10.5	10.0	9.4	9.3	12.5	9.2	9.3	10.9	11.9	11.7	9.8	8.2	5.3	7.9	8.2	8.2	8.3	5.3	12.5	9.2	
	SE	SE	ESE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	SE				
Sep 14	8.6	6.6	3.1	3.7	3.0	4.3	2.5	2.4	2.6	4.9	5.1	6.7	6.6	6.4	6.5	5.2	4.3	3.0	0.7	1.1	2.1	3.9	3.4	2.2	0.7	8.6	0.2	
	SE	SSE	SSE	SE	SSE	SE	SSE	SSW	W	NNW	NNW	NW	NW	NNW	NW	NNW	NW	WNW	E	SSE	SE	SE	SE	SE				
Sep 15	2.7	1.0	1.5	5.4	5.2	6.1	7.0	9.0	8.5	9.1	9.0	9.0	10.7	11.0	10.8	9.5	10.9	7.7	7.3	8.0	8.8	11.3	10.0	12.4	1.0	12.4	7.9	
	S	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	SE	SE	SSE	SE	SE	SE	SE	SE	SE	SE	SE				
Sep 16	12.4	11.3	9.4	7.6	8.1	8.8	8.8	10.2	8.8	8.6	7.3	8.8	9.7	8.2	10.3	9.4	10.6	7.2	5.5	4.0	4.1	4.3	6.5	7.1	4.0	12.4	8.1	
	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	ESE	ESE	SE	ESE	ESE	ESE	ESE	ESE	SE	SE			
Sep 17	6.7	4.4	6.8	6.0	5.0	4.0	3.9	6.0	4.8	5.1	4.9	5.5	3.9	6.6	8.4	9.6	8.7	8.1	8.8	6.4	2.2	1.5	3.5	3.9	1.5	9.6	3.7	
	SE	SE	SE	SE	SE	SSE	SE	ESE	SSE	S	S	SSW	SSW	SW	WSW	WSW	WSW	WSW	WSW	WSW	W	SW	S	S				
Sep 18	3.9	4.7	4.5	3.6	3.6	4.4	4.8	4.5	3.7	3.7	4.5	5.8	5.1	3.7	2.0	8.5	5.4	4.2	1.5	1.1	2.7	2.3	1.6	2.8	1.1	8.5	2.5	
	S	S	S	SSE	SSE	SSE	SSE	SSE	SSE	S	W	WNW	W	NW	W	W	WSW	WNW	WSW	SSW	S	S	S	SSE				
Sep 19	2.3	2.9	2.5	2.4	1.3	5.2	7.6	7.4	7.3	5.8	8.0	10.8	9.6	11.1	10.1	10.0	9.9	16.0	18.7	16.7	18.9	15.5	16.0	17.2	1.3	18.9	8.7	
	S	SSE	SSE	S	SSW	NW	WNW	W	WNW	WNW	WNW	NW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NW	NW				
Sep 20	18.3	18.5	17.6	19.4	17.9	16.2	15.4	15.1	15.6	14.6	13.7	12.8	11.4	12.7	9.8	10.5	8.1	4.3	1.4	2.4	3.4	3.6	4.7	4.6	1.4	19.4	9.7	
	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	WNW	W	SSW	S	SSE	SSE	SSE	SSE				



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Lac La Biche Station - September 2022

Summary of Hourly Averages

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

WIND SPEED																											
Maximum Hourly Value:	26.0	kph	on September 1 at hour 12	Hours in Service:	720																						
Maximum Daily Value:	12.0	kph	on September 8	Hours of Data:	646																						
Minimum Hourly Value:	0.1	kph	on September 28 at hour 21	Hours of Missing Data:	74																						
Minimum Daily Value:	0.2	kph	on September 14	Hours of Calibration:	0																						
Monthly Average:	1.3	kph		Operational Uptime:	89.7																						
WIND DIRECTION																											
Monthly Average:	238	(SW)	degree																								
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
Sep 21	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	4.5	12.2	7.3
Sep 22	SSE	SSE	SSE	SSE	SSE	SE	SE	SSE	SSE	SSE	SSE	SSE	S	S	SSW	S	S	SSE	SSE	SSE	SSE	SSE	SSE	SSE	4.6	11.5	8.4
Sep 23	4.1	3.8	1.8	3.4	2.4	1.4	8.1	9.2	12.8	14.9	15.7	15.4	18.2	16.8	14.5	13.1	13.8	10.3	2.6	2.5	2.9	4.5	5.2	4.0	1.4	18.2	7.0
Sep 24	6.6	6.8	5.7	5.3	5.8	5.3	7.6	9.2	16.7	19.3	18.4	19.0	16.3	14.9	14.9	13.4	13.3	11.1	9.7	7.4	4.0	3.5	4.4	5.0	3.5	19.3	9.1
Sep 25	5.4	2.9	1.9	3.3	4.3	4.2	4.0	5.1	4.5	4.9	7.7	10.0	10.7	12.2	10.5	10.0	4.7	1.4	2.4	0.9	2.8	2.5	2.6	1.6	0.9	12.2	3.2
Sep 26	0.6	1.1	0.6	0.7	1.0	1.8	1.1	2.0	1.0	0.4	2.1	1.2	0.4	4.0	4.3	4.1	3.2	2.4	2.4	4.8	6.8	7.4	8.3	8.1	0.4	8.3	1.6
Sep 27	7.9	7.5	8.2	8.6	9.0	9.4	8.4	7.0	9.1	9.0	6.7	10.7	13.5	10.4	9.2	7.4	7.7	5.9	4.4	4.1	4.0	4.6	1.4	2.9	1.4	13.5	7.3
Sep 28	2.8	4.1	1.5	1.9	2.6	3.6	5.2	5.5	5.1	4.3	4.6	1.6	3.5	5.8	6.2	6.1	4.6	2.8	0.7	2.8	1.4	0.1	0.8	0.1	0.1	6.2	0.8
Sep 29	1.5	1.4	0.7	1.7	3.0	2.6	2.9	2.5	3.3	5.7	6.6	6.2	6.2	7.0	6.0	5.1	4.2	5.2	5.7	5.8	6.3	3.8	3.8	2.3	0.7	7.0	3.8
Sep 30	2.6	3.0	1.6	3.3	3.7	4.0	2.3	2.1	6.5	9.6	6.1	6.2	4.8	2.2	4.3	6.2	5.9	7.0	5.6	4.1	4.7	6.1	3.7	3.2	1.6	9.6	4.0
	NE	NE	NE	E	SE	SE	E	ENE	SE	SE	SE	SE	SE	SE	ESE	S	SSE	SE	SSE	SE	SE	SE	S	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

Lac La Biche Station - September 2022

Summary of Hour Standard Deviations

STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

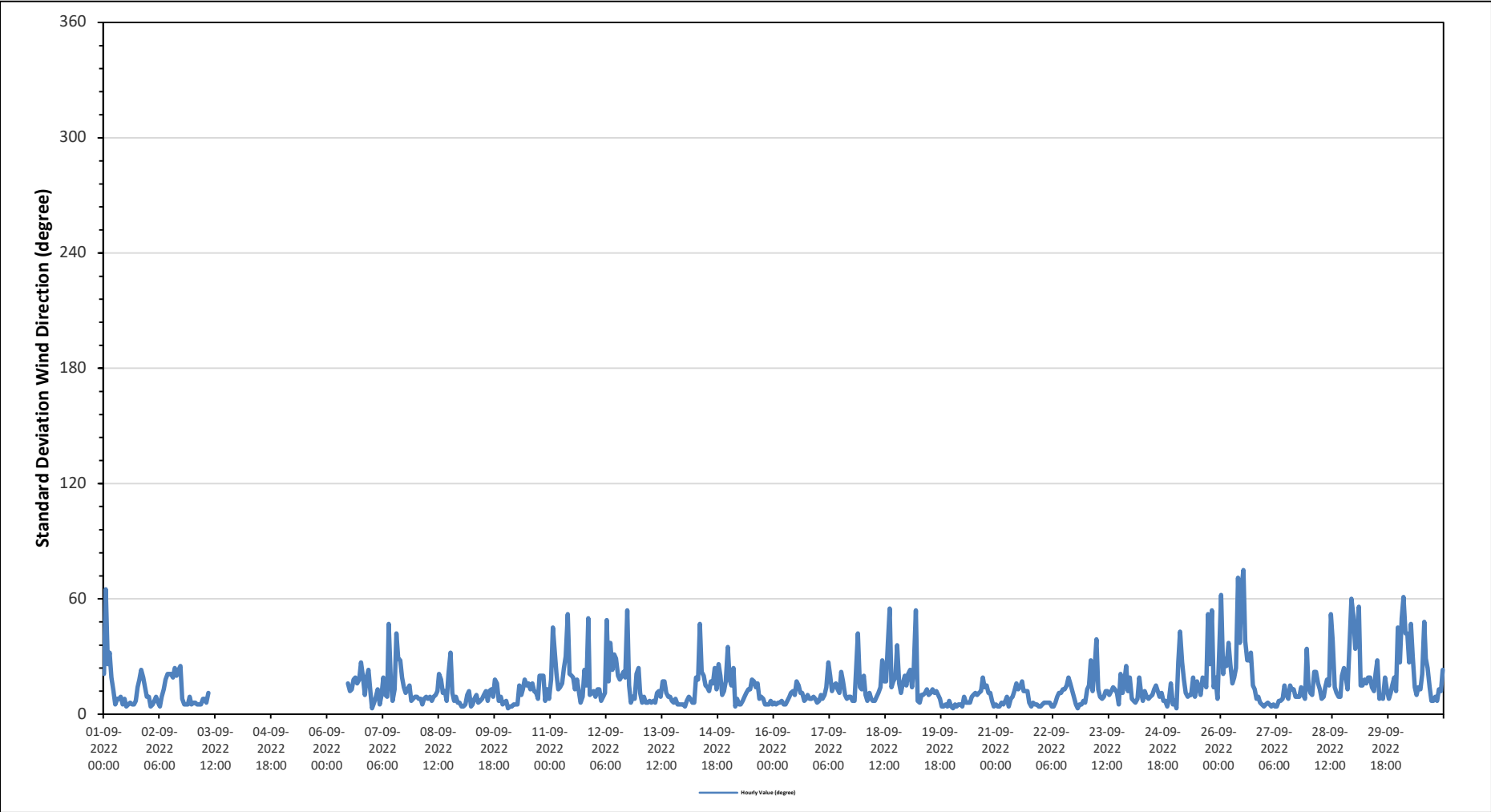
Maximum Hourly Value:	75 degree on September 26 at hour 12	Hours in Service:	720
Minimum Hourly Value:	3 degree on September 7 at hour 0	Hours of Data:	646
		Hours of Missing Data:	74
		Hours of Calibration:	0
		Operational Uptime:	89.7

Day	Hourly Period Starting at (MST)																							Daily	Daily		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	
Sep 1	21	65	26	32	19	12	5	8	8	9	5	8	4	5	6	5	5	7	14	18	23	19	14	9	4	65	
Sep 2	9	4	5	7	9	6	4	9	13	18	21	21	21	19	24	20	23	25	8	5	5	5	9	5	4	25	
Sep 3	6	6	5	5	5	8	8	6	11	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	5	11	
Sep 4	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	
Sep 5	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	-	-	
Sep 6	K	K	K	K	K	K	K	K	K	K	K	K	16	12	13	18	19	16	18	27	20	10	19	23	11	10	27
Sep 7	3	6	9	13	5	10	19	10	9	47	18	7	13	42	29	28	19	14	11	13	15	7	8	9	3	47	
Sep 8	9	8	8	5	8	9	8	9	7	9	10	12	21	18	11	12	7	21	32	11	7	9	6	6	5	32	
Sep 9	4	4	5	10	12	4	5	8	10	6	7	8	10	12	7	12	13	9	18	16	7	9	5	6	4	18	
Sep 10	7	3	4	4	5	5	5	15	10	13	18	15	16	13	16	12	11	8	20	20	20	7	13	8	3	20	
Sep 11	18	45	33	21	13	14	16	24	30	52	21	20	19	13	18	12	6	9	23	15	50	10	11	12	6	52	
Sep 12	9	13	13	7	9	11	49	17	37	23	31	29	20	18	20	22	19	54	15	6	9	8	21	24	6	54	
Sep 13	11	6	9	6	6	7	6	7	6	11	12	9	17	17	11	9	9	7	6	8	5	5	5	5	5	5	17
Sep 14	4	7	9	8	6	6	19	18	47	22	20	15	14	12	17	16	24	13	26	20	10	12	17	35	4	47	
Sep 15	18	15	24	4	8	5	5	7	9	11	13	13	18	17	14	16	8	9	8	5	5	5	7	5	4	24	
Sep 16	6	5	6	6	7	5	5	7	9	11	12	10	17	15	11	11	7	8	10	8	8	9	8	6	5	17	
Sep 17	7	10	8	10	14	27	20	12	15	16	13	11	22	17	10	8	9	9	7	7	23	42	14	13	7	42	
Sep 18	20	10	7	11	8	7	7	9	11	14	28	17	17	37	55	14	17	19	36	16	11	16	20	15	7	55	
Sep 19	21	23	14	24	54	7	6	10	10	11	13	10	11	13	11	12	10	8	4	4	5	4	7	4	4	54	
Sep 20	3	5	4	5	5	4	9	6	6	6	9	10	11	10	11	12	19	14	15	11	11	7	4	5	3	19	
Sep 21	4	4	6	5	7	9	4	8	9	12	16	13	14	17	12	12	6	4	6	5	5	4	4	4	4	17	
Sep 22	5	6	6	6	6	4	4	6	9	11	11	13	13	15	19	16	12	9	5	3	5	5	7	6	3	19	
Sep 23	13	15	28	12	22	39	13	9	8	9	12	12	10	12	14	13	11	5	21	11	16	25	12	19	5	39	
Sep 24	8	7	6	8	19	11	7	12	9	8	9	10	13	15	12	9	11	7	7	4	8	16	5	7	4	19	
Sep 25	3	27	43	27	18	11	9	10	19	9	17	14	10	19	17	14	52	26	54	14	19	8	34	3	54		
Sep 26	62	21	29	25	37	26	16	19	24	71	37	65	75	38	28	28	32	15	13	8	9	6	5	4	4	75	
Sep 27	5	6	5	4	5	4	4	7	7	8	15	10	8	15	13	13	9	9	9	14	10	8	34	14	4	34	
Sep 28	11	10	22	22	16	13	8	9	14	18	15	52	38	14	11	9	9	20	24	19	13	37	60	51	8	60	
Sep 29	34	41	56	15	15	18	16	19	19	14	12	21	28	8	9	8	19	13	8	11	15	19	12	45	8	56	
Sep 30	27	50	61	42	42	27	47	30	14	10	14	13	21	48	29	24	14	7	7	9	7	13	12	23	7	61	
Diurnal Minimum	3	3	4	4	5	4	4	6	6	6	5	7	4	5	6	5	5	5	4	3	5	4	4	4	4	4	
Diurnal Maximum	62	65	61	42	54	39	49	30	47	71	37	65	75	48	55	28	32	54	36	54	50	42	60	51	51	51	

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

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

Timeseries Chart of Hourly Average for STDWD - Lac La Biche Station



END OF REPORT

This page, 314 of 314, ends the September 2022 Monthly Ambient Air Quality Monitoring Report.



Lakeland Industry & Community Association

SEPTEMBER 2022
Ambient Air Monitoring Calibration Report
- COLD LAKE SOUTH STATION-
CAL-LICA-202209-01174

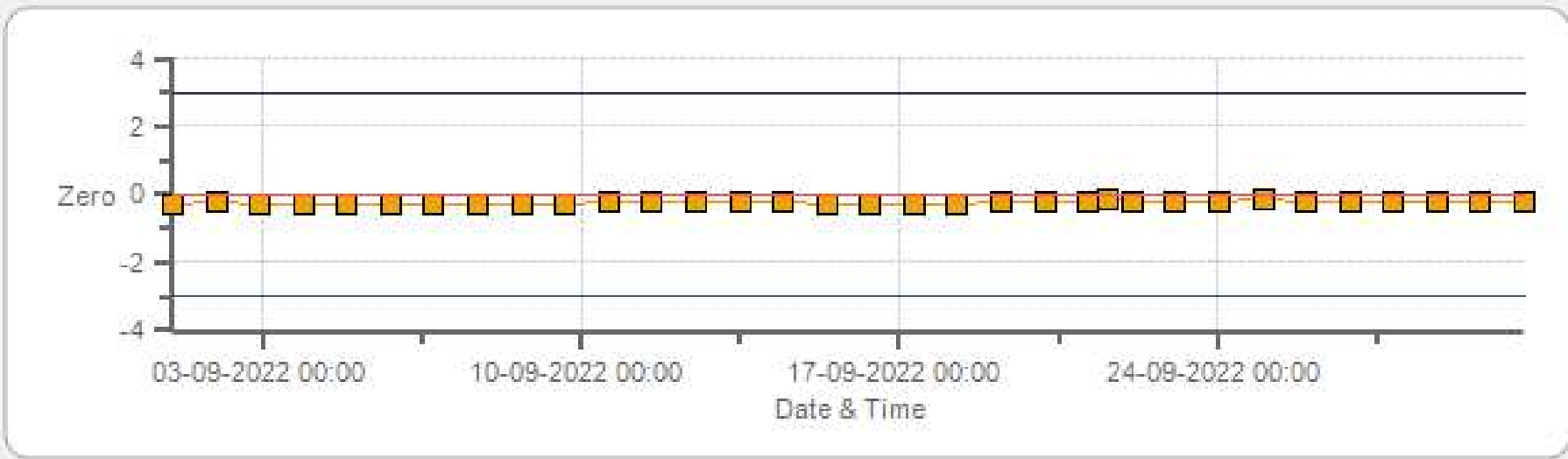
Station Operation and Maintenance:
Bureau Veritas Canada

Data Validation and Report:
LICA / Bureau Veritas Canada

October 20, 2022

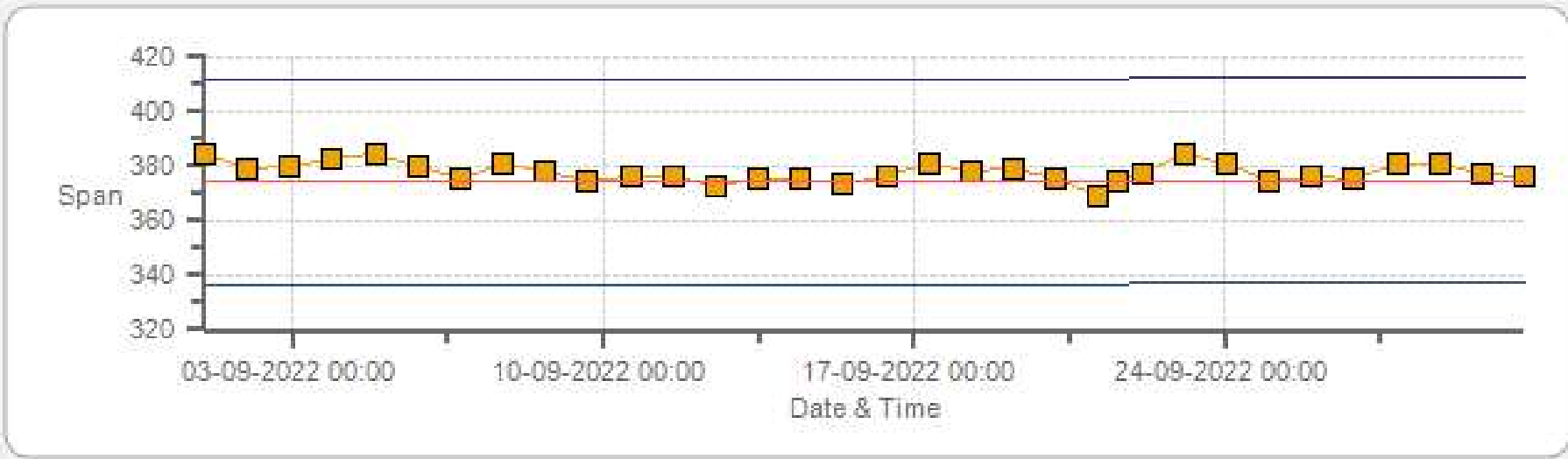
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2[ppb] Calibration: Cold Lake South Monthly: 09-2022 Type: SpanAndZero - Zero



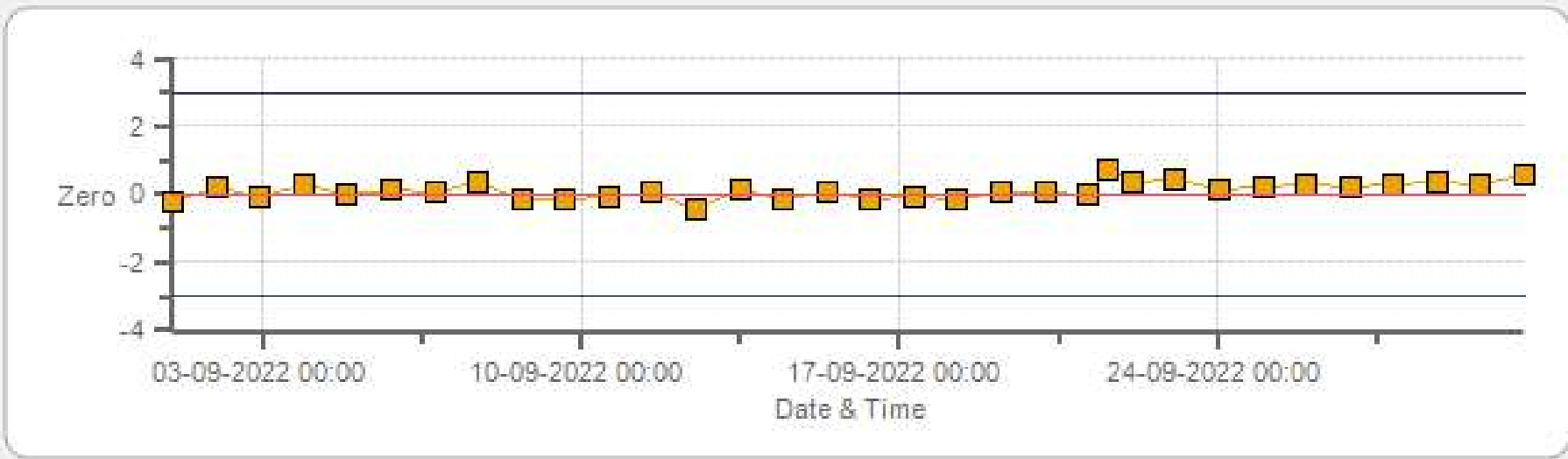
■ Zero
 — Zero Ref
 — Zero Low
 — Zero High

SO2[ppb] Calibration: Cold Lake South Monthly: 09-2022 Type: SpanAndZero - Span



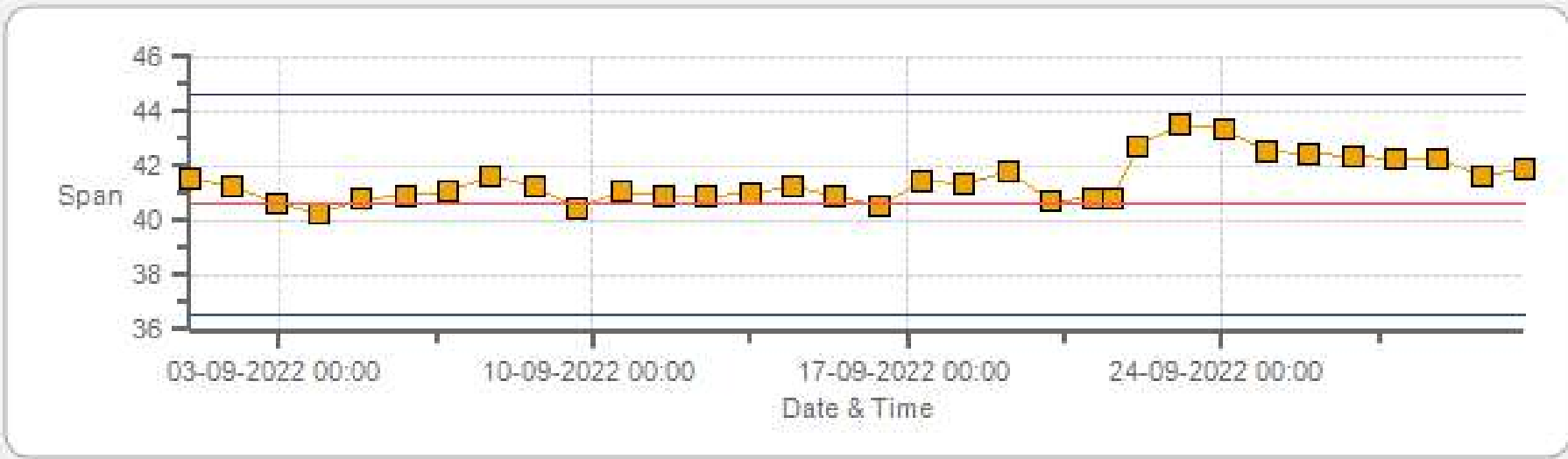
■ Span
 — SpanRef
 — Span Low
 — Span High

TRS[ppb] Calibration: Cold Lake South Monthly: 09-2022 Type: SpanAndZero - Zero



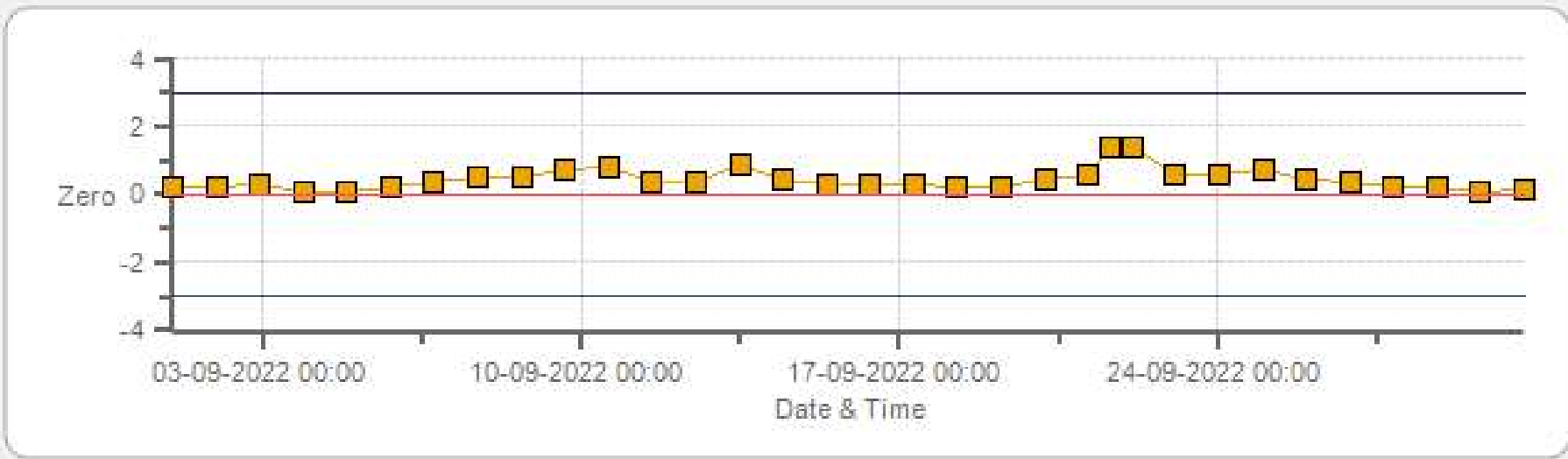
Zero Zero Ref Zero Low Zero High

TRS[ppb] Calibration: Cold Lake South Monthly: 09-2022 Type: SpanAndZero - Span



Span SpanRef Span Low Span High

NOX[ppb] Calibration: Cold Lake South Monthly: 09-2022 Type: SpanAndZero - Zero



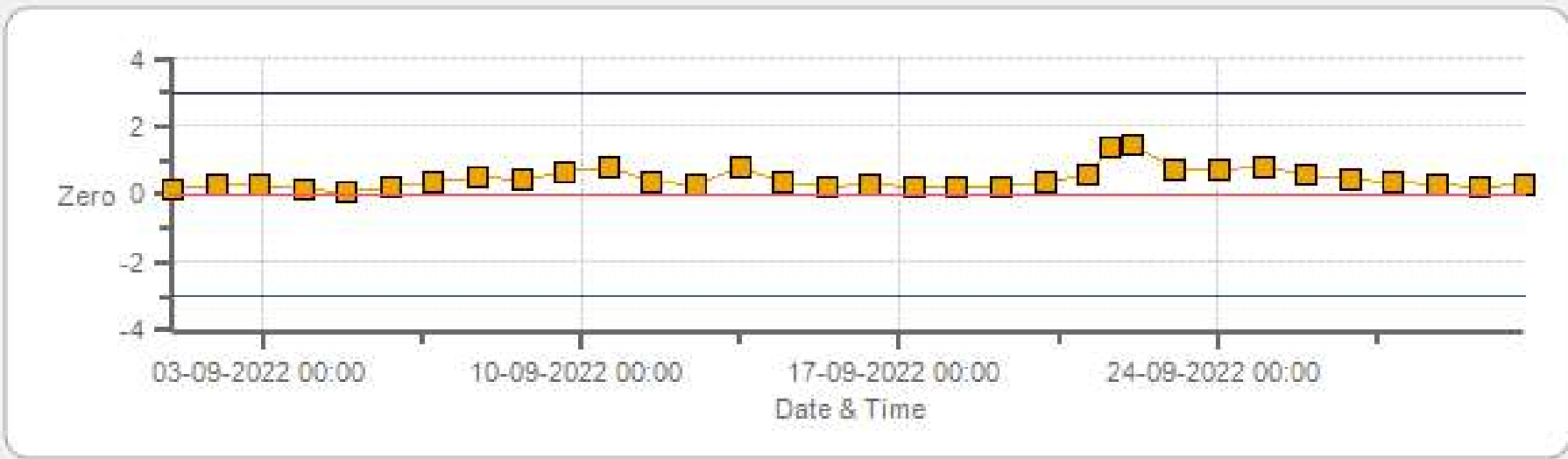
Zero Zero Ref Zero Low Zero High

NOX[ppb] Calibration: Cold Lake South Monthly: 09-2022 Type: SpanAndZero - Span



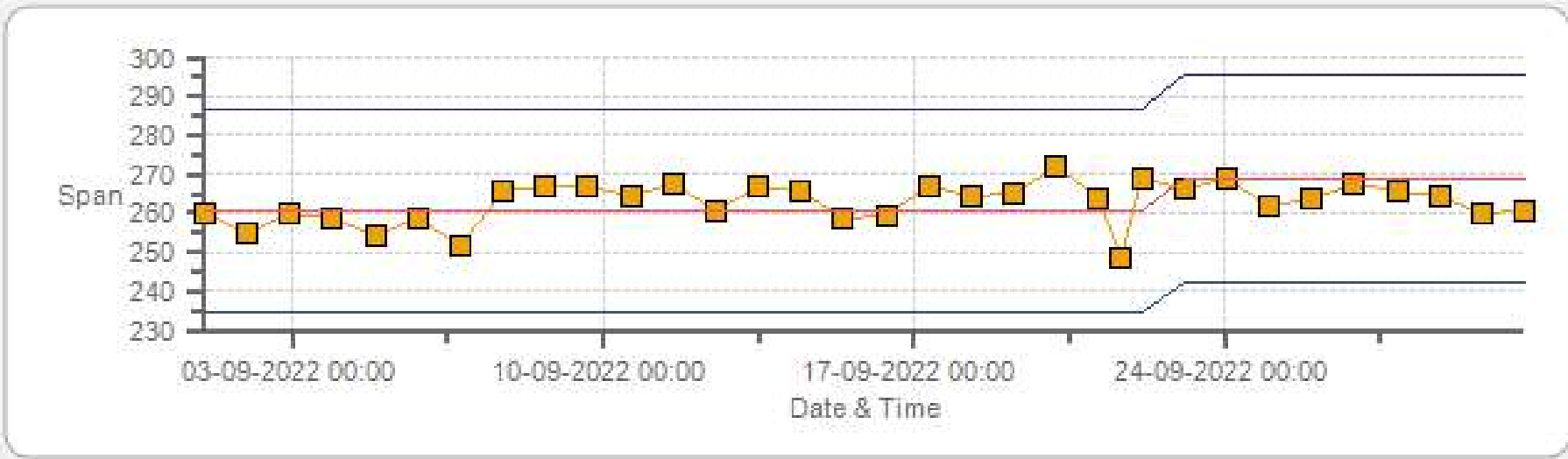
Span SpanRef Span Low Span High

NO2[ppb] Calibration: Cold Lake South Monthly: 09-2022 Type: SpanAndZero - Zero



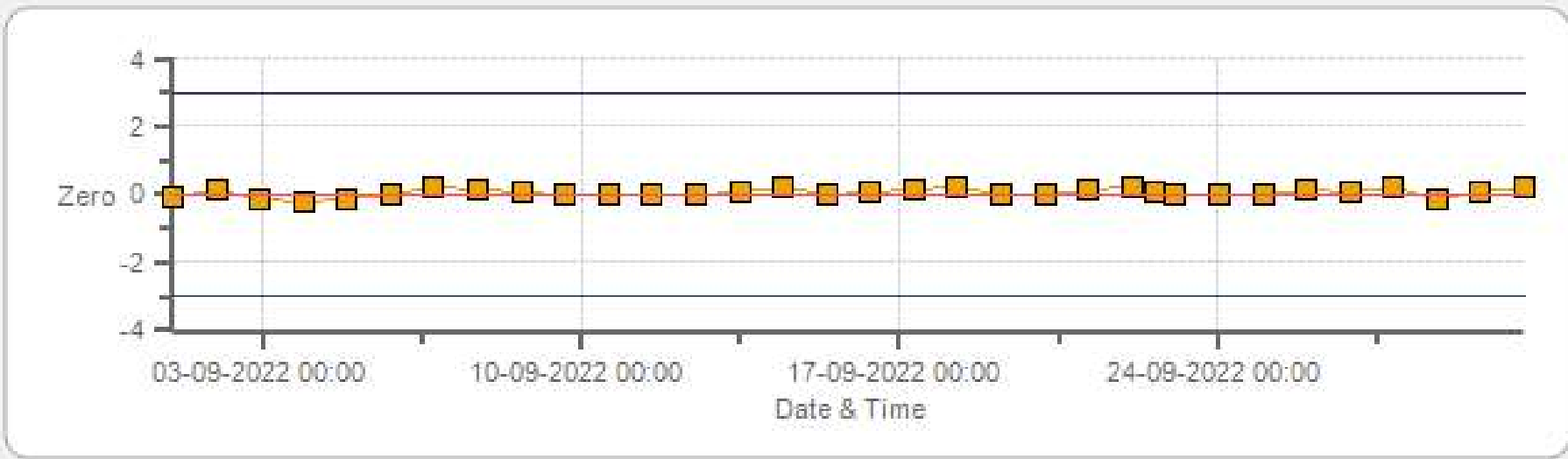
Zero Zero Ref Zero Low Zero High

NO2[ppb] Calibration: Cold Lake South Monthly: 09-2022 Type: SpanAndZero - Span



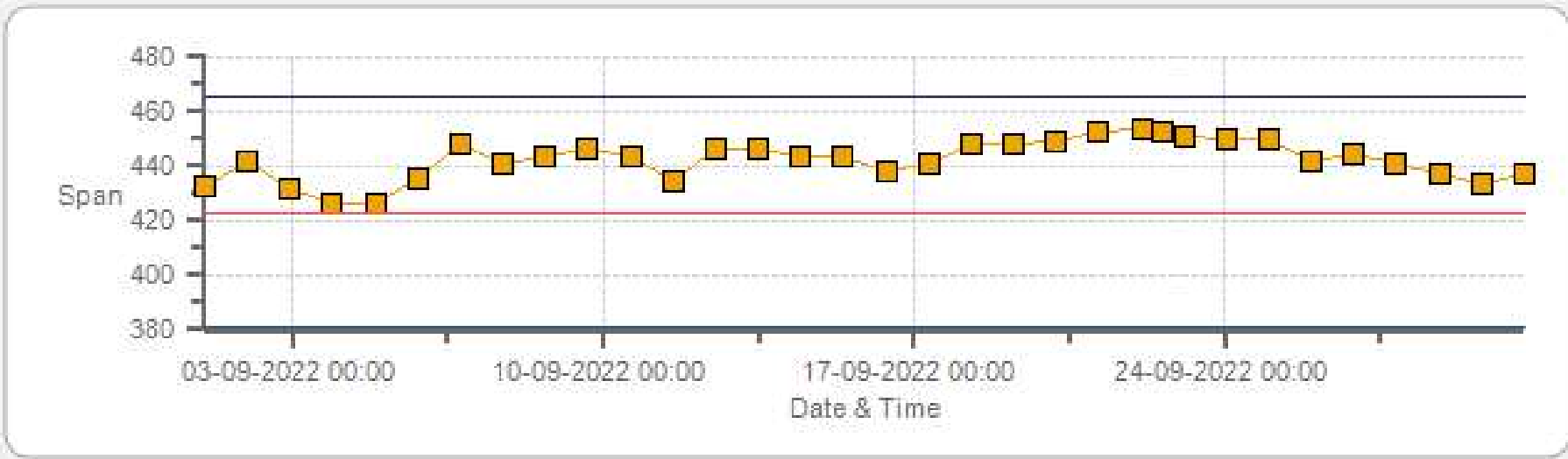
Span SpanRef Span Low Span High

O3[ppb] Calibration: Cold Lake South Monthly: 09-2022 Type: SpanAndZero - Zero



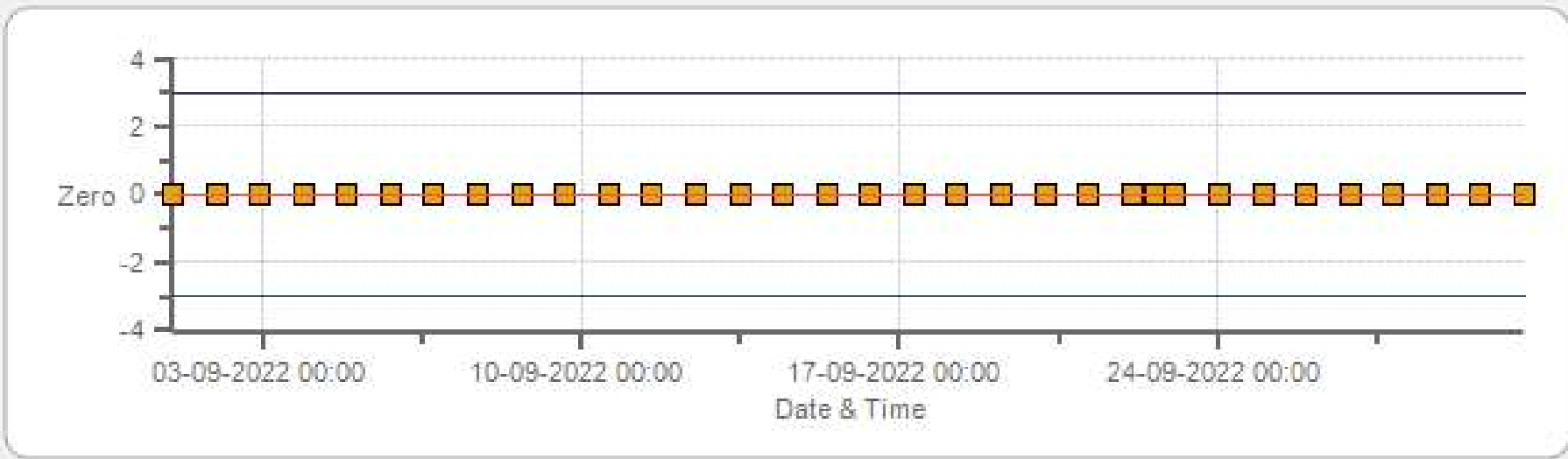
Zero Zero Ref Zero Low Zero High

O3[ppb] Calibration: Cold Lake South Monthly: 09-2022 Type: SpanAndZero - Span



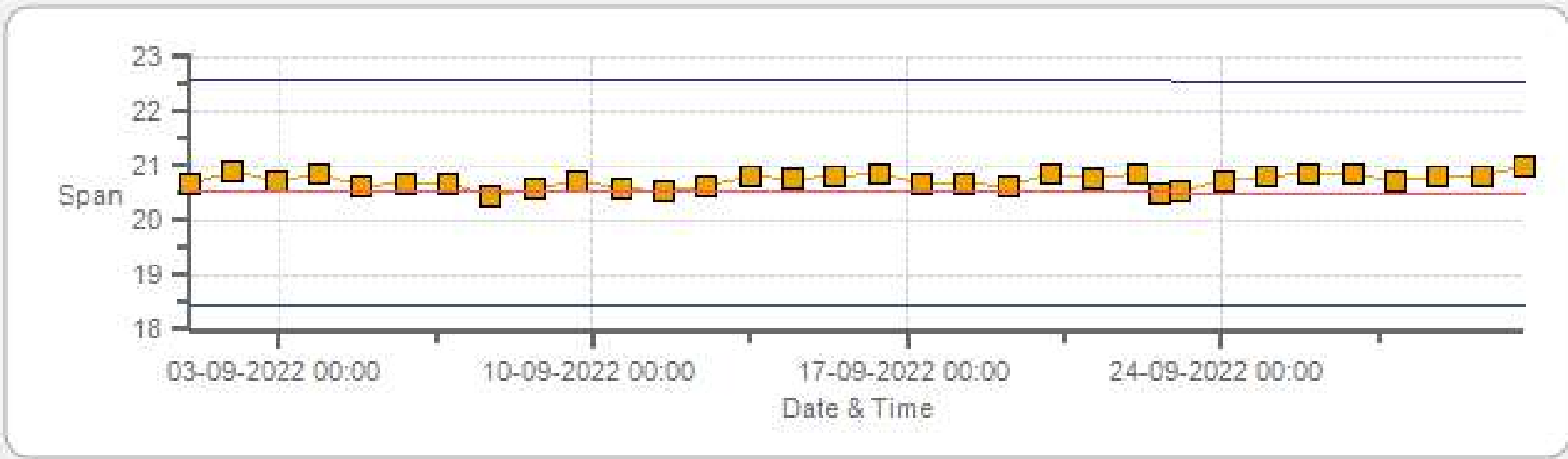
Span Span Ref Span Low Span High

THC55[ppm] Calibration: Cold Lake South Monthly: 09-2022 Type: SpanAndZero - Zero



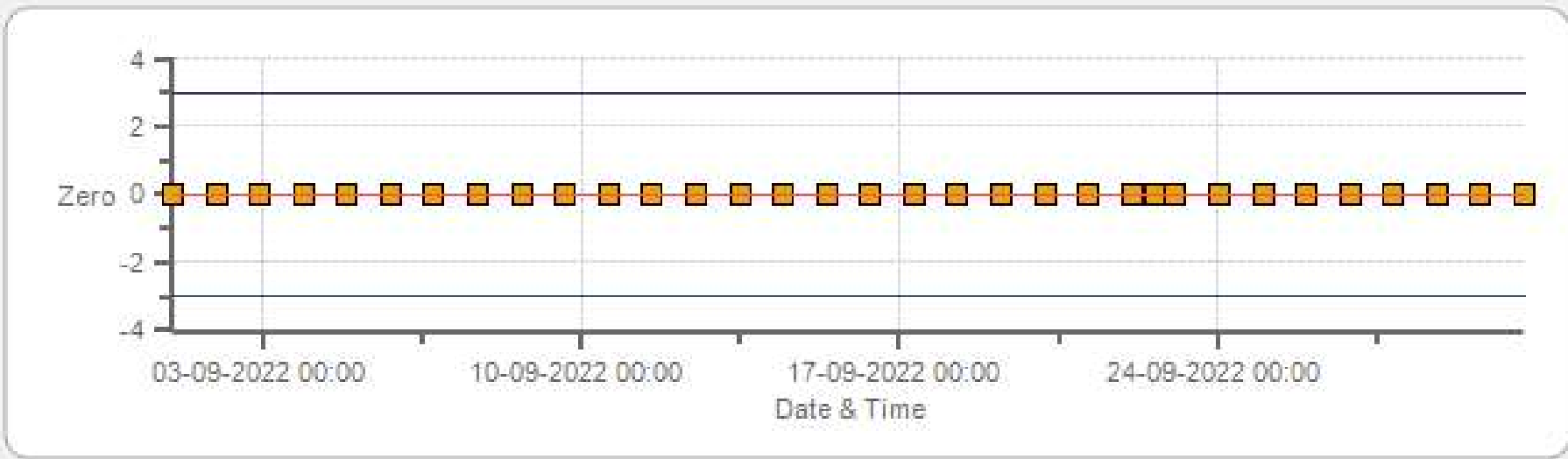
Zero Zero Ref Zero Low Zero High

THC55[ppm] Calibration: Cold Lake South Monthly: 09-2022 Type: SpanAndZero - Span



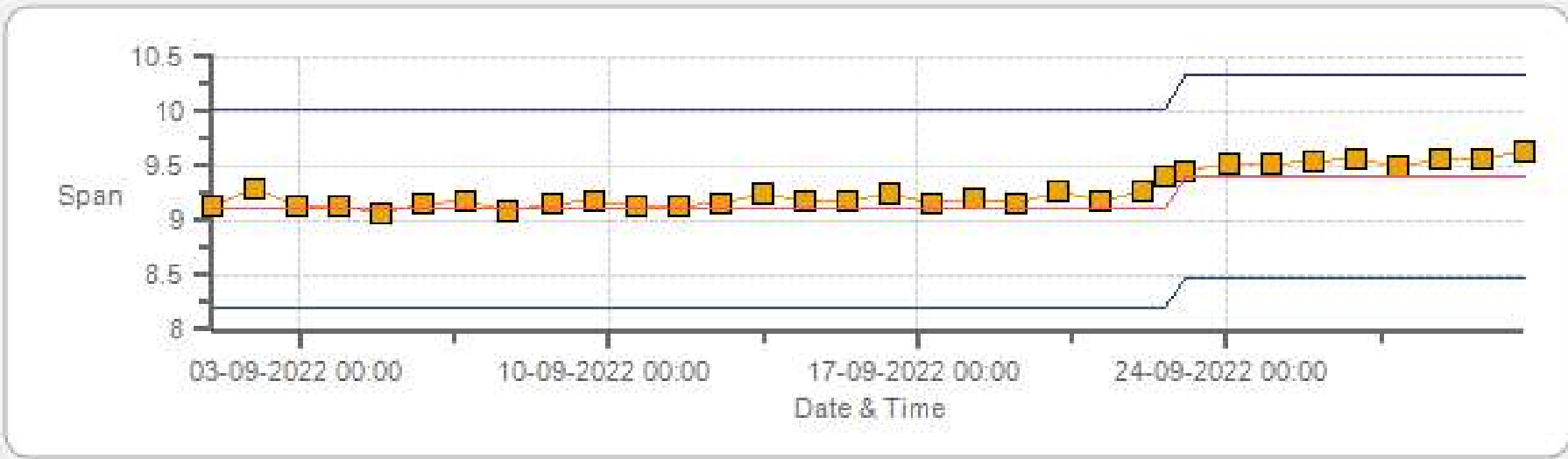
Span SpanRef Span Low Span High

CH4[ppm] Calibration: Cold Lake South Monthly: 09-2022 Type: SpanAndZero - Zero



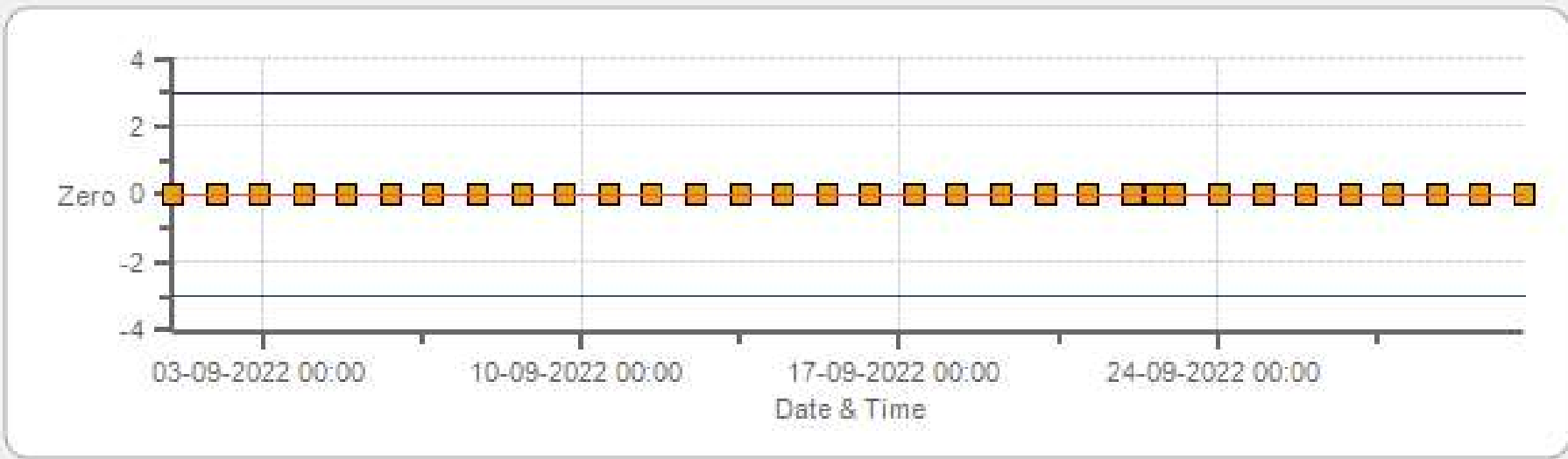
Zero Zero Ref Zero Low Zero High

CH4[ppm] Calibration: Cold Lake South Monthly: 09-2022 Type: SpanAndZero - Span



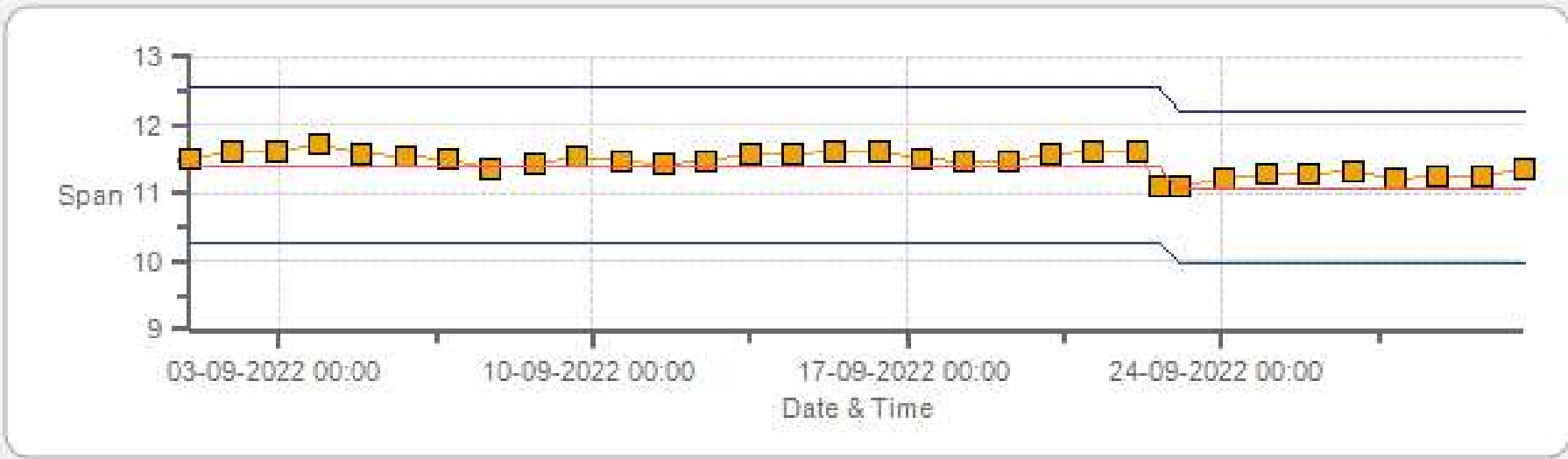
Span SpanRef Span Low Span High

NMHC[ppm] Calibration: Cold Lake South Monthly: 09-2022 Type: SpanAndZero - Zero



Zero Zero Ref Zero Low Zero High

NMHC[ppm] Calibration: Cold Lake South Monthly: 09-2022 Type: SpanAndZero - Span



Span SpanRef Span Low Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution



DATE:	21-Sep-2022	PREVIOUS CALIBRATION DATE:	09-Aug-2022
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	0.999
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	CLS	BAROMETRIC (mBar):	960
PURPOSE:	Routine	START TIME (MST):	09:35
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:00

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1180260018	FLOW (mL/min)	441
INITIAL		FINAL	
BKG/OFFSET	2.21	BKG/OFFSET	2.21
COEF/SLOPE	0.961	COEF/SLOPE	0.971
Expected (reference) Value	374.1	Expected (reference) Value	374.8

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010	MODEL:	T701
ID:	26801218	ID:	132
MFC CALIBRATION DATE:	20-Apr-2022	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL 105146	HIGH ID	n/a
CONC (ppm):	50.80	EXPIRY DATE	n/a
CYLINDER (psi):	400	LOW ID	n/a
EXPIRY DATE	09-Jun-2029	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

POINT	HIGH	MID	LOW
TARGET	390	190	95
RANGE	300 - 400	150 - 200	50 - 100

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

START TIME:	n/a	SO2 Conc (ppb)	n/a
END TIME:	n/a	Analyzer Response (ppb)	n/a

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
5000	38.50	5000	0.00	-0.1	0	1.025	0.996
4962	38.50	5000	391.16	381.6	392.6	1.025	0.996
4982	18.00	5000	182.88	n/a	186.6	n/a	0.980
4991	9.00	5000	91.44	n/a	94.6	n/a	0.967

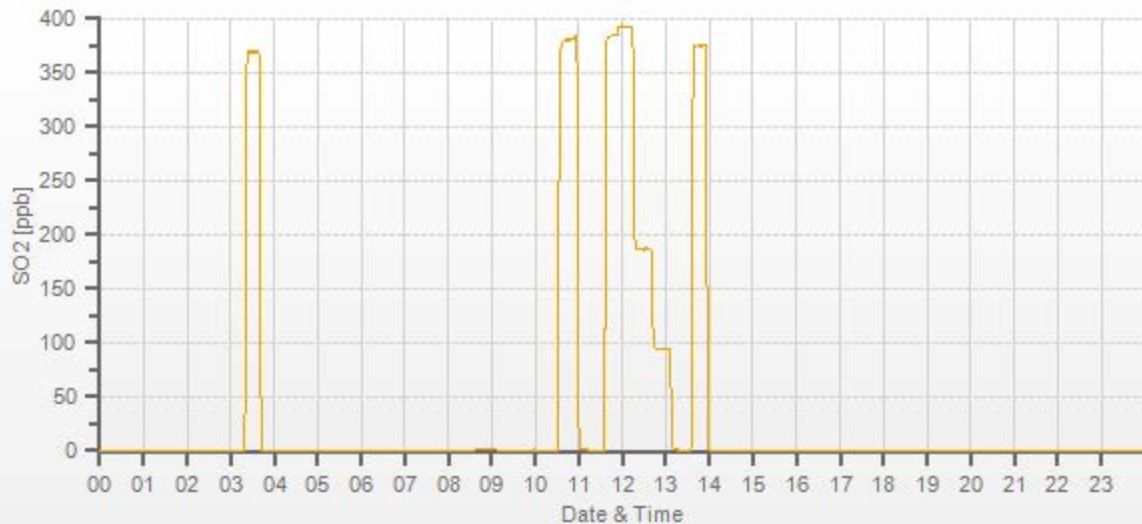
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.002	0.4%

COMMENTS:

Sample inlet filter was changed.

SO2[ppb] Station: Cold Lake South Daily: 21-09-2022 Type: AVG 1 Min. [1 Min.]



CAL-LICA-202209-01174

TRS Analyzer Calibration by Dilution



DATE:	21-Sep-2022	PREVIOUS CALIBRATION DATE:	09-Aug-2022
PARAMETER:	TRS	PREVIOUS CORRECTION FACTOR:	1.004
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	CLS	BAROMETRIC (mBar):	960
PURPOSE:	Routine	START TIME (MST):	09:32
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:00

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	812728560	FLOW (mL/min)	502
INITIAL		FINAL	
BKG/OFFSET	24	BKG/OFFSET	24.4
COEF/SLOPE	1.099	COEF/SLOPE	1.134
Expected (reference) Value	40.6	Expected (reference) Value	40.8

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	20-Apr-2022	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0002287	HIGH ID	n/a
CONC (ppm):	10.10	EXPIRY DATE	n/a
CYLINDER (psi):	1900	LOW ID	n/a
EXPIRY DATE	14-Sep-2024	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

START TIME:	09:38	SO2 Conc (ppb)	380
END TIME:	09:53	Analyzer Response (ppb)	0.0

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
7500	7500	7500	0.00	0.1	0	1.000	1.000
7442	57.90	7500	77.97	76.9	78	1.015	1.000
7472	28.20	7500	37.98	n/a	38.4	n/a	0.989
7486	14.10	7500	18.99	n/a	19.4	n/a	0.979

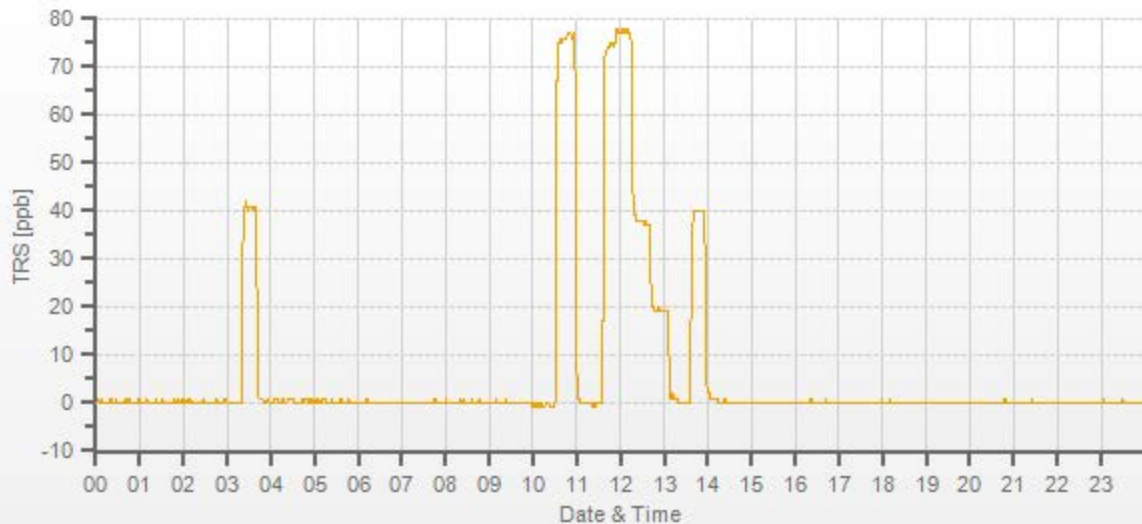
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.999	0.2%

COMMENTS:

Sample inlet filter was changed.

TRS[ppb] Station: Cold Lake South Daily: 21-09-2022 Type: AVG 1 Min. [1 Min.]



CAL-LICA-202209-01174

NOx Calibration by Dilution/Gas-Phase Titration



CALIBRATION:				ANALYZER:			
DATE:	21-Sep-2022	PREVIOUS CALIBRATION DATE:	09-Aug-2022	MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
CLIENT:	LICA	TEMPERATURE (°C):	22.0	SERIAL #:	1505664393	NOx	0.998
LOCATION:	CLS	BAROMETRIC (mBar):	960	FLOW (mL/min)	727	NO	1.000
PURPOSE:	Routine	START TIME (MST):	09:36	RANGE (ppb)	500	NO2	1.004
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:45	GPT FOR O3?		No	

CALIBRATION SYSTEM:							
CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:		FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 105146	HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	NO/NOx (PPM):	50.0 50.1	HIGH EXPIRY:	n/a
ID:	26801218	ID:	132	CYLINDER (psi):	400	LOW ID:	n/a
MFC CALIBRATION DATE:	20-Apr-2022	OXIDIZER ID:	n/a	EXPIRY DATE	09-Jun-2029	LOW EXPIRY:	n/a

CALIBRATION SETTINGS:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
BKG/OFFSET:	4.5	4.4	n/a	BKG/OFFSET:	4.7	4.6	n/a
SLOPE/COEF/CE:	1.002	0.994	0.999	SLOPE/COEF/CE:	0.998	1.009	0.999

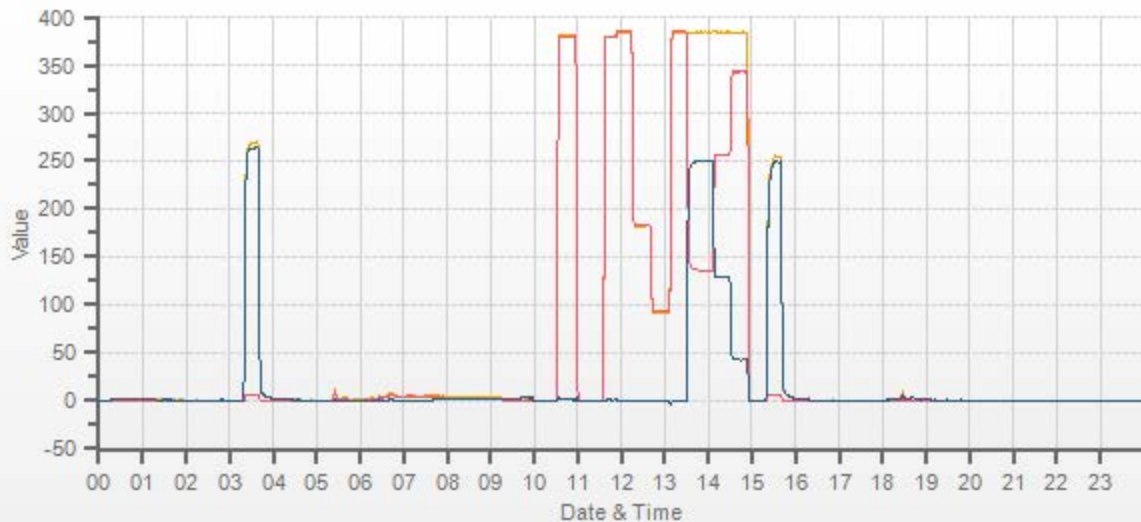
EXPECTED (REFERENCE) VALUE:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	263.9	3.3	260.5		276.3	7.4	268.8

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

FLOW RATE			CONCENTRATION (ppb)									CORRECTION FACTOR (CF.)					
(mL/min)			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2
5000	38.50	5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.013	1.010	0.999	1.001	0.980	0.983
4962	38.50	5000	385.0	385.8	0.8	380.1	381.8	1.7	385.3	385.4	0.1	1.013	1.010	0.999	1.001	0.980	0.983
4982	18.00	5000	180.0	180.4	0.4	n/a	n/a	n/a	183.6	183.5	0.0	n/a	n/a	0.980	0.983		
4991	9.00	5000	90.0	90.2	0.2	n/a	n/a	n/a	93.3	93.4	0.1	n/a	n/a	0.965	0.966		

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	38.50	5000	0	385.2	385.6	0.4	249.5	249.5	1.000	100.00%
AS-FOUND HIGH	38.50	5000	240	135.7	385.6	249.9	249.5	249.5	1.000	100.00%
ADJUSTED HIGH	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MID	38.50	5000	125	256.1	384.9	128.7	129.1	128.3	1.006	99.38%
LOW	38.50	5000	45	343.0	385.5	42.5	42.2	42.1	1.002	99.76%
NO2 adjustment not required.									AVERAGE:	99.71%

LINEAR REGRESSION ANALYSIS:				COMMENTS:
	CORRELATION	SLOPE	INTERCEPT	
NO	1.000	0.999	0.41%	
NOx	1.000	0.997	0.41%	
NO2	1.000	1.001	-0.08%	



CAL-LICA-202209-01174

Ozone Calibration by Photometer (Varying UV Lamp)



DATE:	22-Sep-2022	PREVIOUS CALIBRATION DATE:	10-Aug-2022
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	1.003
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	CLS	BAROMETRIC (mBar):	941
PURPOSE:	Routine	START TIME (MST):	10:26
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:22

ANALYZER:

MAKE/MODEL	Thermo 49i	RANGE	500 ppb
SERIAL #	700419951	FLOW (mL/min)	1464
INITIAL		FINAL	
BKG/OFFSET	-0.2	BKG/OFFSET	-0.2
COEF/SLOPE	1.046	COEF/SLOPE	1.047
Expected (reference) Value	422.9	Expected (reference) Value	452.3

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	20-Apr-2022	OXIDIZER ID:	n/a
CALIBRATION METHOD:		Photometer (Varying UV Lamp)	
GPT DATE:	n/a	GPT END TIME:	n/a

CALIBRATION PARAMETERS:

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

CALIBRATION:

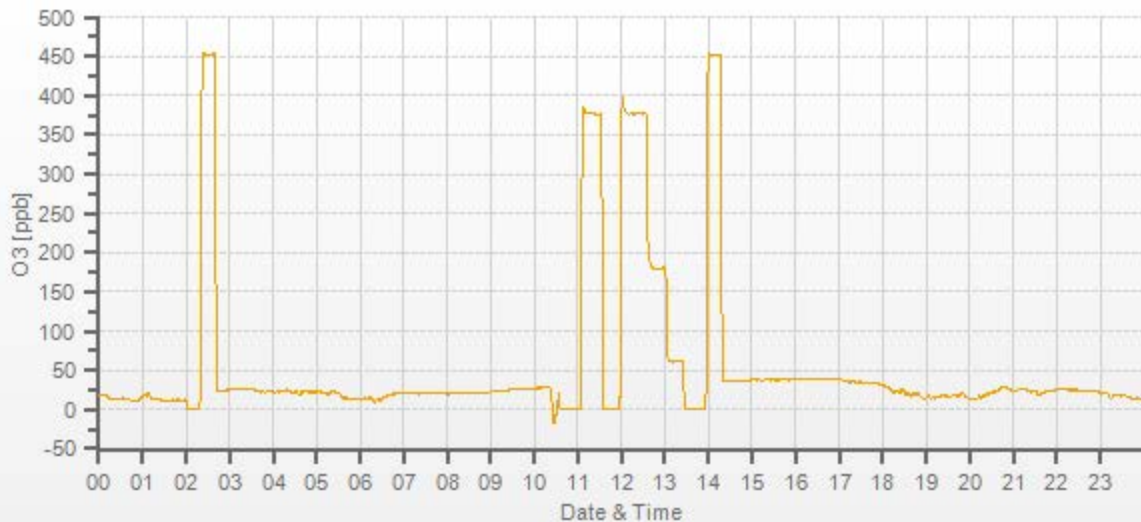
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
5000	XXXX	5000	0.0	0.0	0.0	XXXX	XXXX
5000	XXXX	5000	378.0	377.4	377.4	1.002	1.002
5000	XXXX	5000	180.0	n/a	180.6	n/a	0.997
5000	XXXX	5000	60.0	n/a	61.1	n/a	0.982

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.997	0.1%

COMMENTS:

Sample inlet filter was changed.



Methane/Non-Methane Analyzer Calibration by Dilution



CALIBRATION:				ANALYZER:			
DATE:	22-Sep-2022	PREVIOUS CALIBRATION DATE:	07-Aug-2022	VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
CLIENT:	LICA	TEMPERATURE (°C):	22.0		Thermo 55i	1180930025	1145
LOCATION:	CLS	BAROMETRIC (mBar):	941	PARAMETER:	CH4	NMHC	THC
PURPOSE:	Routine	START TIME (MST):	10:25	RANGE (ppm):	20	20	40
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:22	PREVIOUS CF:	n/a	n/a	n/a

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:		FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 23593	HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	CH ₄ /C ₃ H ₈ (ppm):	603.0 204.0	HIGH EXPIRY:	n/a
ID:	26801218	ID:	132	CYLINDER (psi):	1900	LOW ID:	n/a
MFC CALIBRATION DATE:	20-Apr-2022	OXIDIZER ID:	115	EXPIRY DATE	18-Aug-2029	LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

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

EXPECTED (REFERENCE) VALUE:

INITIAL	CH ₄	NMHC	THC	FINAL	CH ₄	NMHC	THC
	9.12	11.41	20.53		9.41	11.09	20.51

CALIBRATION:

FLOW RATE			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
(mL/min)			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC
3100	X	3100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X	X	X	X	X	X
3025	74.60	3100	14.51	13.50	28.01	14.16	13.92	28.08	14.51	13.47	27.99	1.025	0.970	0.998	1.000	1.002	1.001
3063	37.30	3100	7.26	6.75	14.01	n/a	n/a	n/a	7.19	6.81	14.01	n/a	n/a	n/a	1.009	0.991	1.000
3081	18.60	3100	3.62	3.37	6.98	n/a	n/a	n/a	3.56	3.47	7.03	n/a	n/a	n/a	1.016	0.970	0.993

LINEAR REGRESSION ANALYSIS:

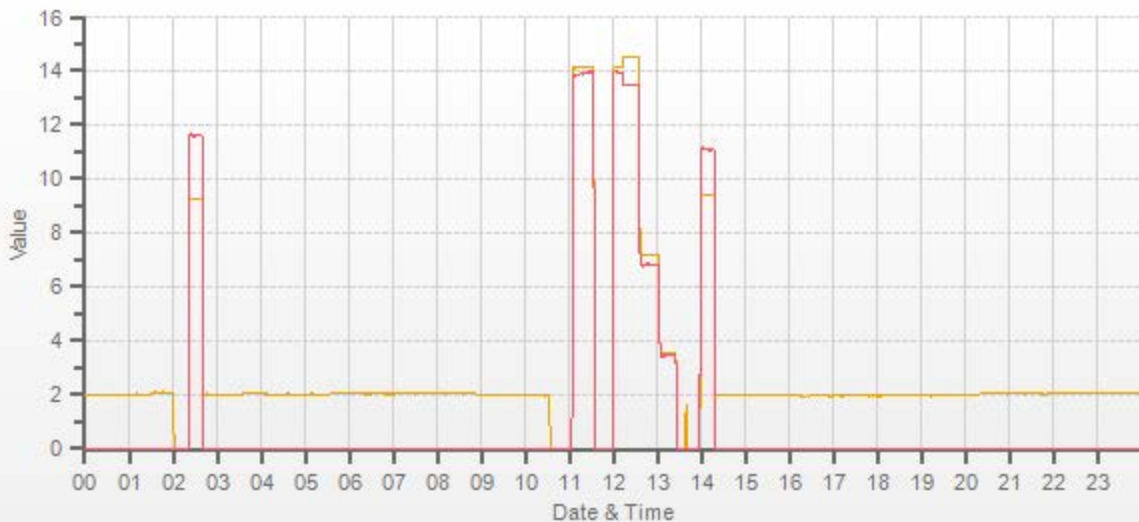
	CORRELATION	SLOPE	INTERCEPT
CH ₄	1.000	1.001	-0.2%
NMHC	1.000	0.996	0.3%
THC	1.000	0.999	0.1%

Comments:

Sample inlet filter was changed. A new span gas cylinder was connected.

Use Zero Chrom?

Yes



CAL-LICA-202209-01174



Teledyne T640 Audit/Calibration

Date/Previous Audit Date:	September 8, 2022	August 30, 2022	Weather Conditions:	Mainly sunny	
Company:	LICA		Start Time (mst):	19:07	
Station:	Cold Lake South		End Time (mst):	20:02	
Parameter:	PM 2.5	Performed By/Reviewer:	Alex Yakupov	Chris Wesson	
Instrument Data:					
Make/Model:	Teledyne T640		Serial Number:	575	
Owner:	LICA		Alarms (detail in comments):	No	
Reference Standards/I.D./Expiry Date:					
Flow Standard: DeltaCal DC1 S/N 201587 / Oct 27, 2022			Temperature: Vaisala / HM70 / #T1640130/ Jun 14, 2023		
Digital Manometer: DeltaCal DC1 S/N 201587 / Oct 27, 2022			Pressure: Fisher Scientific / FB 61291 / #130168457/ Feb 17, 2023		
DIAGNOSTICS:					
Ambient Pressure (mmHg)	712.9	Ambient Temp (°C)	10.1	ASC Heater Duty (%)	0.0
Box Temp (°C)	28.5	Current PMT HV (V)	1441	LED Temp (°C)	37.58
P3 Value	49	PMT Setting (V)	1444	Pump PWM (%)	64
Sample Flow (L/min)	5.02	Sample RH (%RH)	25.4	Sample Temp (°C)	25.8
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)	713.3	712.9	713.3	712.9	+/- 10 mm Hg
Ambient Temperature (°C)	10.00	10.1	n/a		+/- 2°C
Sample Flow (L/min)	4.97	5.01	4.97	5.01	+/- 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:					
n/a					

Meteorological System Checklist



Date:	September 22, 2022		
Technician:	Alex Yakupov		
Station:	Cold Lake South		
Unit:	Make:	Model:	Serial #:
Temperature Sensor:	Rotronic	HC2A-S3	20257103
Barometric Pressure Sensor:	MetOne	92	Y23368
Relative Humidity Sensor:	Rotronic	HC2A-S3	20257103
Anemometer:	RM Young	05305AQ	177354
AMBIENT TEMPERATURE SENSOR CHECK			
Parameter:	Temperature @ 2 metres		
Reference Thermometer ID:	Vaisala / HM70 / #T1640130/ Jun 14, 2023		
Reference Temperature (°C):	20.1		
Station - Ambient Temperature (°C):	20.7		
Temperature Difference (°C):	0.6		
BAROMETRIC PRESSURE SENSOR CHECK			
Reference Barometer ID:	Fisher Scientific / FB 61291 / #130168457/ Feb 17, 2023		
Reference Pressure - Units/Reading:	millibar	943	
Station Pressure - Units/Reading:	millibar	941	
Pressure Tolerance +/- 15% of error:	802 - 1084	0.21%	
RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK			
Previous check date:	February 16, 2022		
Reference Hygrometer ID:	Vaisala HMP76B #T1640130, Exp. Date: Jun 14, 2022		
Reference Hygrometer % RH- Reading:	35.50		
Station Hygrometer % RH- Reading:	37.40		
RH Tolerance +/- 15% of difference:	30.18 - 40.83	-5.4%	
ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK			
WIND SPEED		WIND DIRECTION	
Previous check date:	August 9, 2022	Previous check date:	August 9, 2022
Wind Speed Observed (kph):	0-10	Wind Direction Observed:	SW
Wind speed on Data Logger (kph):	3.1	Wind Direction on Data Logger:	SW
	Annual audit: Jul 6, 2022	Wind Direction Pass/Fail?:	Pass
Comments			
Station (Trailer) temperature vs Reference gauge: 22.1 vs 22.6, passed. Wind system: Model 05305AQ. Signal box # 32400			



Meteorological Sensor Audit/Calibration

Location Information

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

Performed By: Alex Yakupov
 Reviewed By: Chris Wesson
 Start/End Time (mst): 15:54 / 17:48
 Weather Conditions: A few clouds

Wind Sensor Information

Sensor ID Data:		Sensor Outputs:	
Sensor Make:	RM Young	Velocity Voltage Output Range:	n/a
Sensor Model:	05305AQ	Velocity Unit Output Range:	0-200
Serial #:	177354	Direction Voltage Output Range:	n/a
Previous Cal/Audit Date:	April 20, 2021	Direction Unit Output Range:	0-360

Wind Calibrator Information

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

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

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.0	0.0	-
1000	18.4	18.2	18.2	1.013
2000	36.9	36.6	36.6	1.007
3000	55.3	55.1	55.1	1.003
4000	73.7	73.5	73.5	1.003
5000	92.2	92.1	92.0	1.001
6000	110.6	110.4	110.3	1.002
7000	129.0	128.8	128.8	1.002
8000	147.4	147.3	147.3	1.001
9000	165.9	165.6	165.6	1.002
10000	184.3	184.2	184.2	1.001
The audit meets AMD requirements.			Average Correction Factor=	1.003

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

Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	0	355	0.1	0.0	0.1
30	330	27	329	2.7	1.4	2.0
60	300	58	298	2.4	1.9	2.1
90	270	89	268	1.1	2.1	1.6
120	240	119	239	0.9	1.1	1.0
150	210	148	208	1.6	2.1	1.8
180	180	178	180	2.4	-0.2	1.3
210	150	208	149	2.3	1.1	1.7
240	120	239	119	1.3	0.6	1.0
270	90	268	91	2.2	-1.2	1.7
300	60	298	58	2.3	1.9	2.1
330	30	329	28	1.3	2.5	1.9
355	0	355	0	-0.1	0.1	0.1
The audit meets AMD requirements.				Average Absolute Degrees Difference=		1.4

Comments:

Output via RMY32400 Serial Interface

End of Report



Lakeland Industry & Community Association

SEPTEMBER 2022

Ambient Air Monitoring Calibration Report

- TAMARACK STATION-

CAL-LICA-202209-01248

Station Operation and Maintenance:

Bureau Veritas Canada

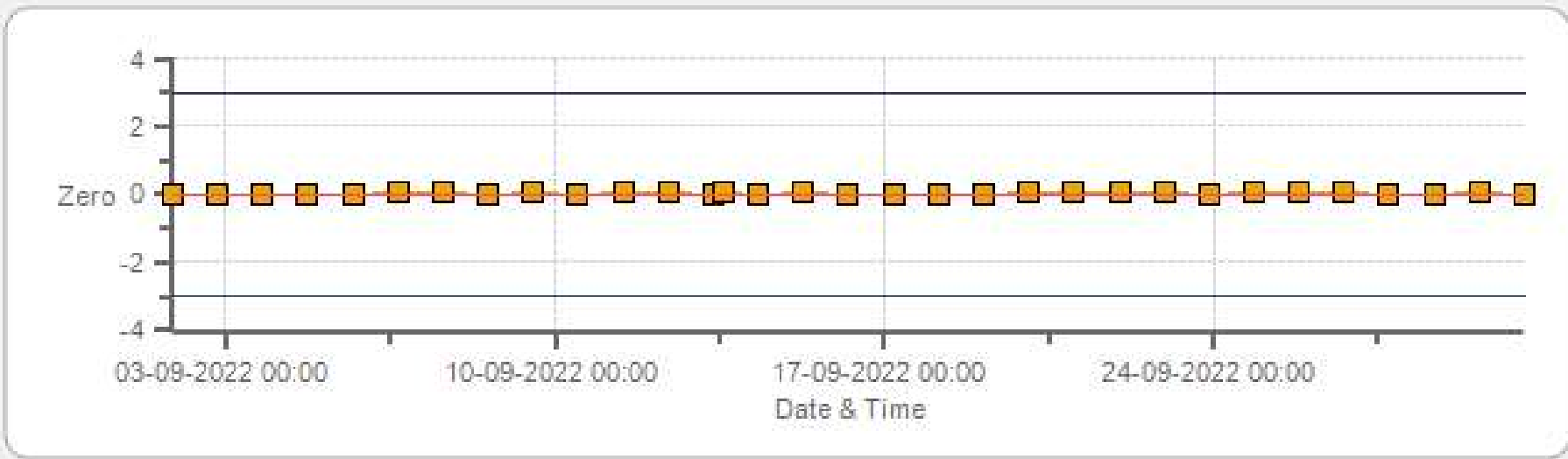
Data Validation and Report:

LICA / Bureau Veritas Canada

October 20, 2022

DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2[ppb] Calibration: Tamarack Monthly: 09-2022 Type: SpanAndZero - Zero



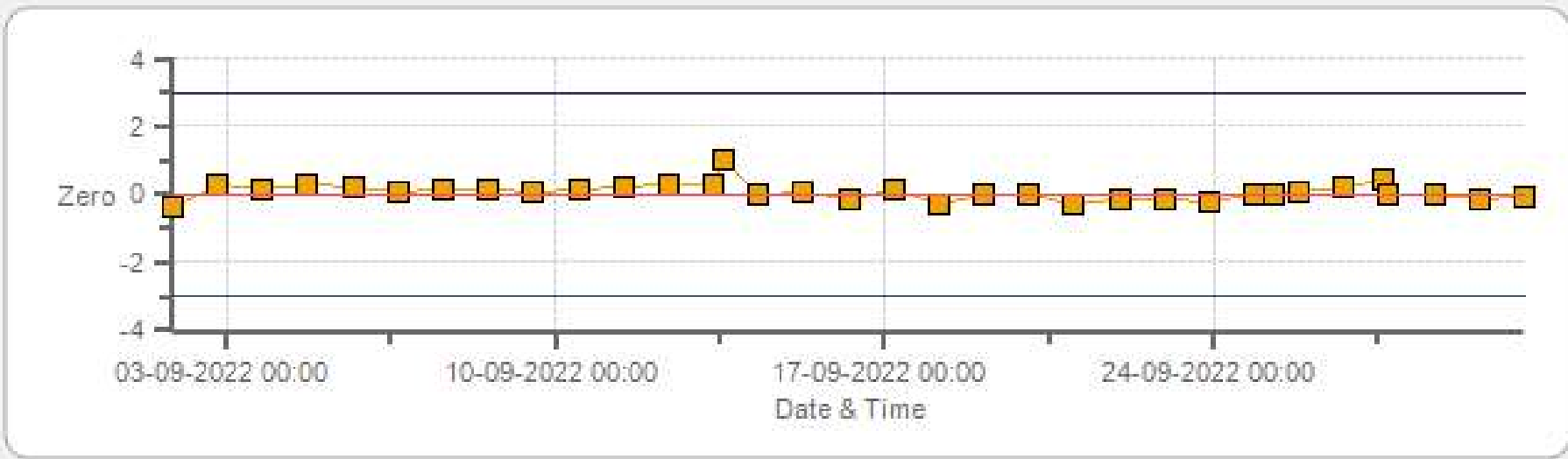
Zero Zero Ref Zero Low Zero High

SO2[ppb] Calibration: Tamarack Monthly: 09-2022 Type: SpanAndZero - Span



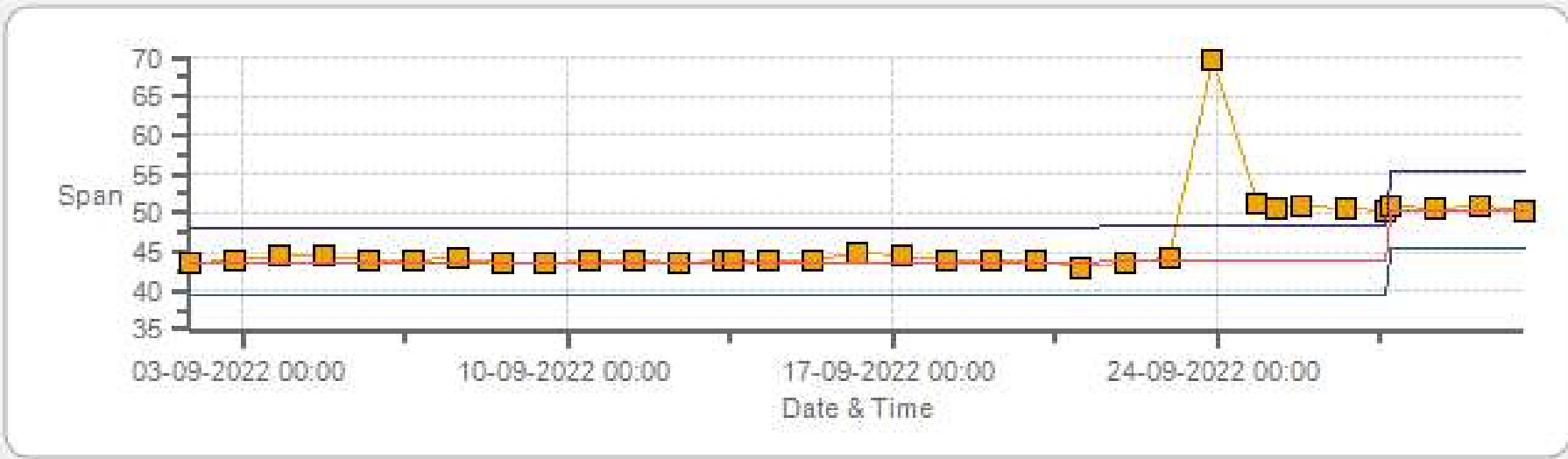
Span Span Ref Span Low Span High

H2S[ppb] Calibration: Tamarack Monthly: 09-2022 Type: SpanAndZero - Zero



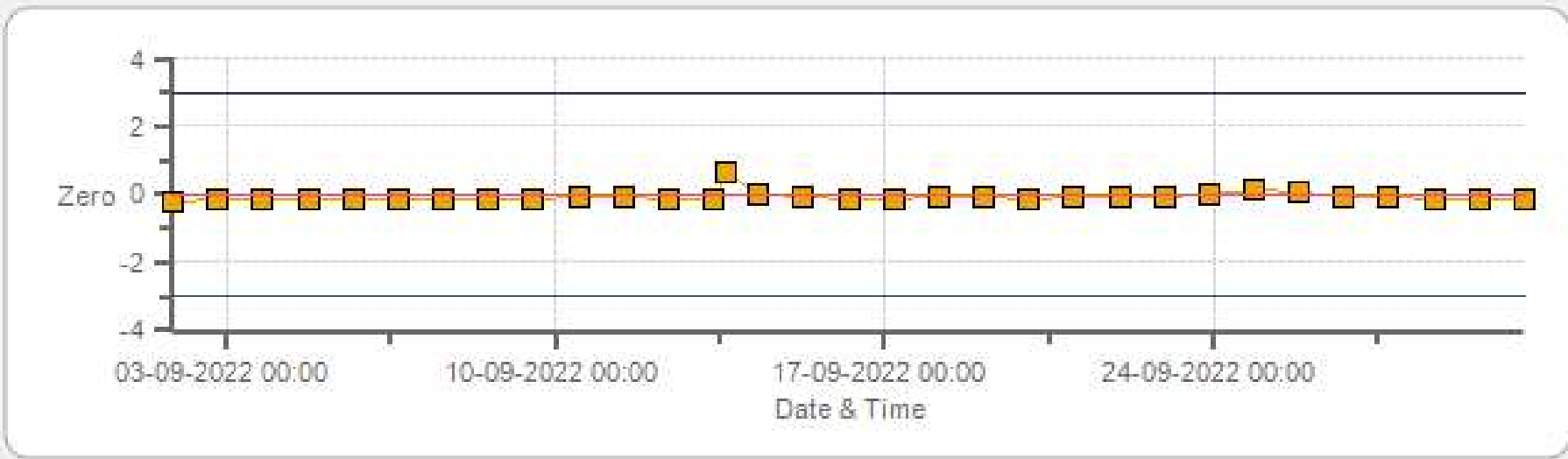
Zero Zero Ref Zero Low Zero High

H2S[ppb] Calibration: Tamarack Monthly: 09-2022 Type: SpanAndZero - Span



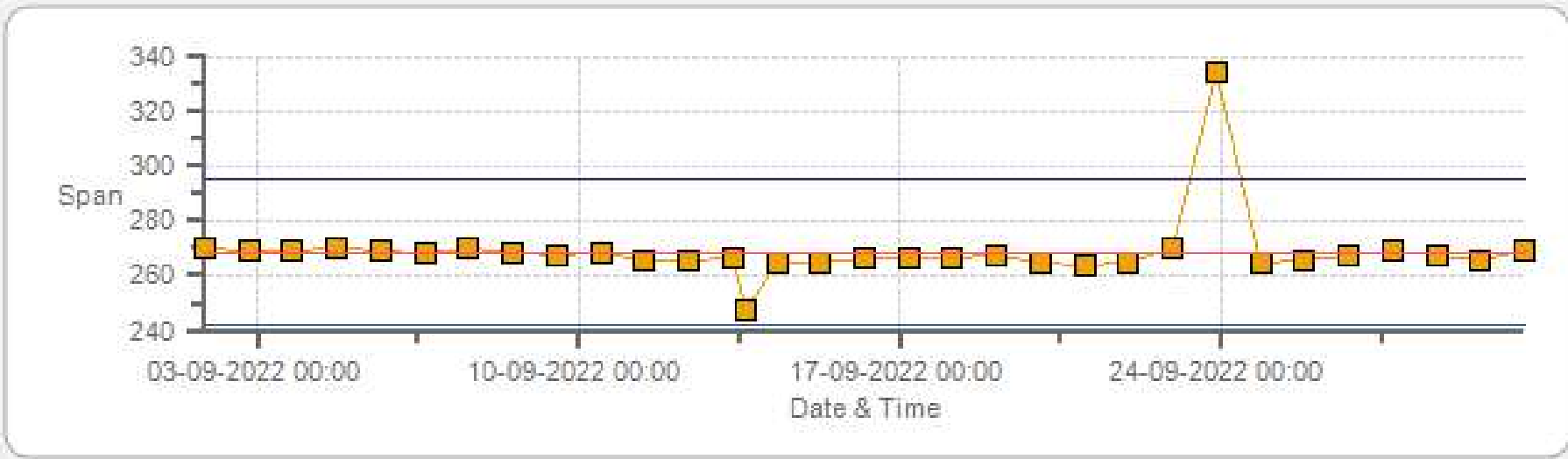
Span SpanRef Span Low Span High

NOX[ppb] Calibration: Tamarack Monthly: 09-2022 Type: SpanAndZero - Zero



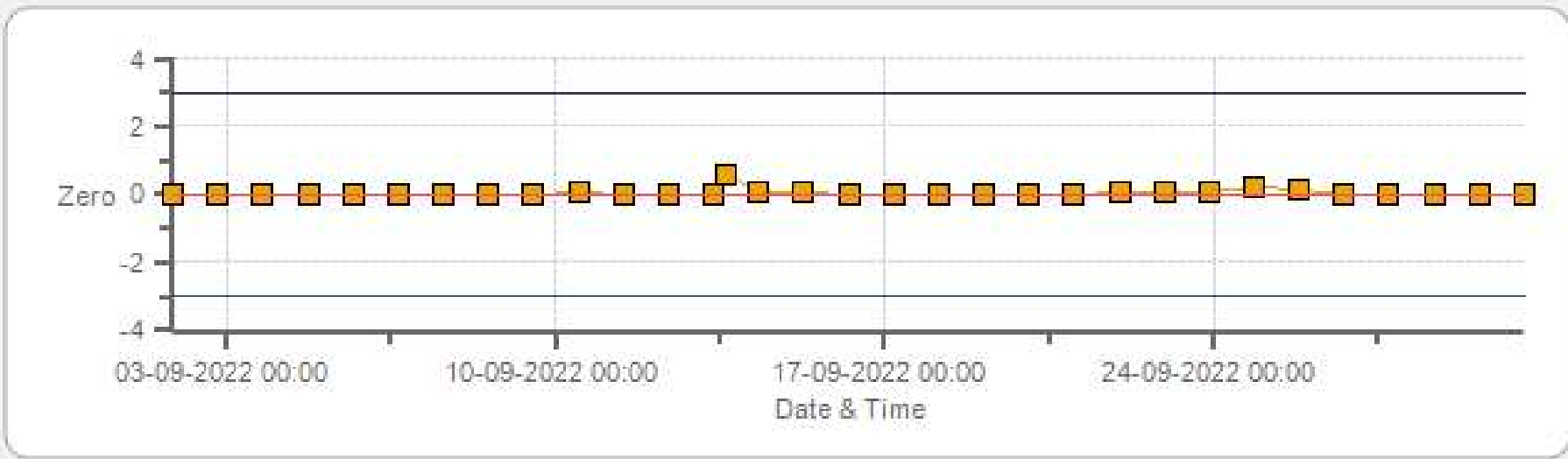
Zero Zero Ref Zero Low Zero High

NOX[ppb] Calibration: Tamarack Monthly: 09-2022 Type: SpanAndZero - Span



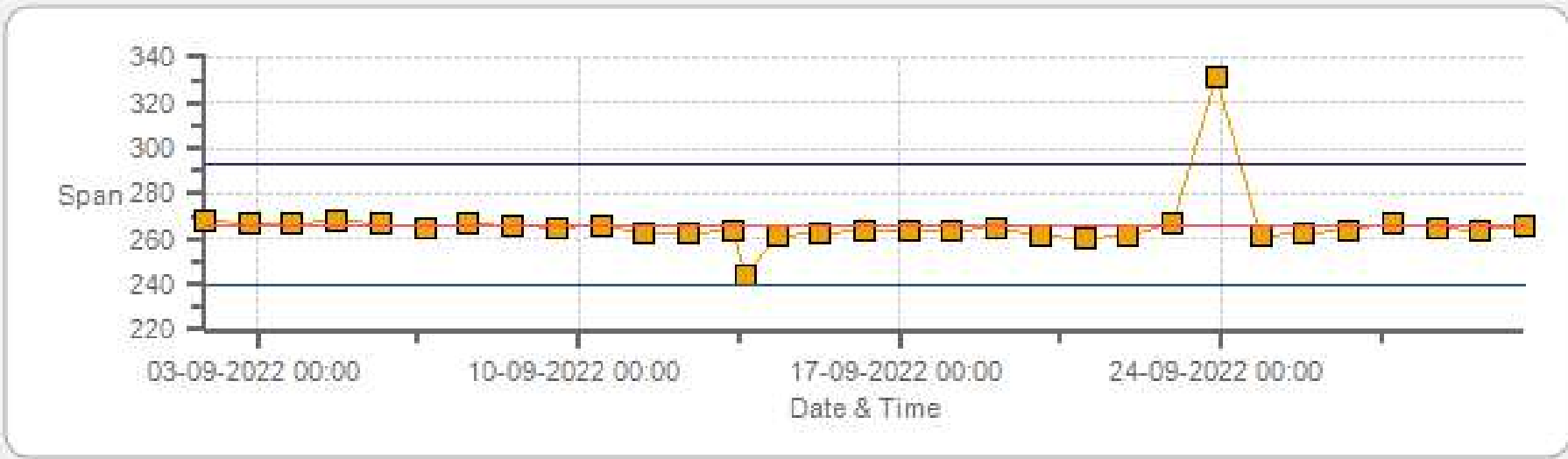
Span SpanRef Span Low Span High

NO2[ppb] Calibration: Tamarack Monthly: 09-2022 Type: SpanAndZero - Zero



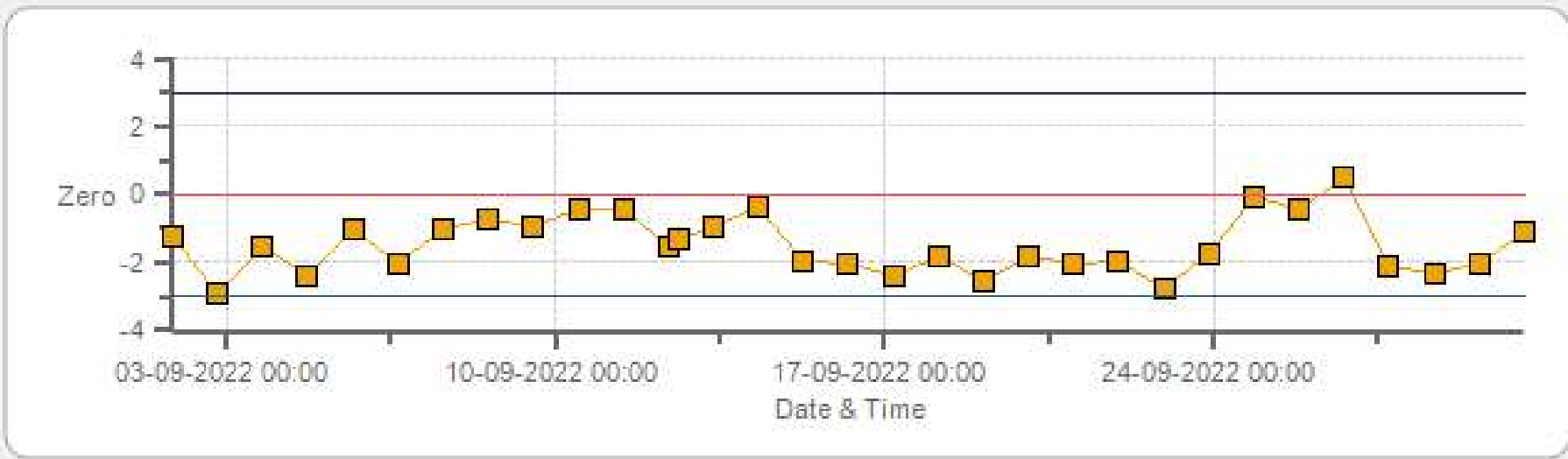
Zero Zero Ref Zero Low Zero High

NO2[ppb] Calibration: Tamarack Monthly: 09-2022 Type: SpanAndZero - Span



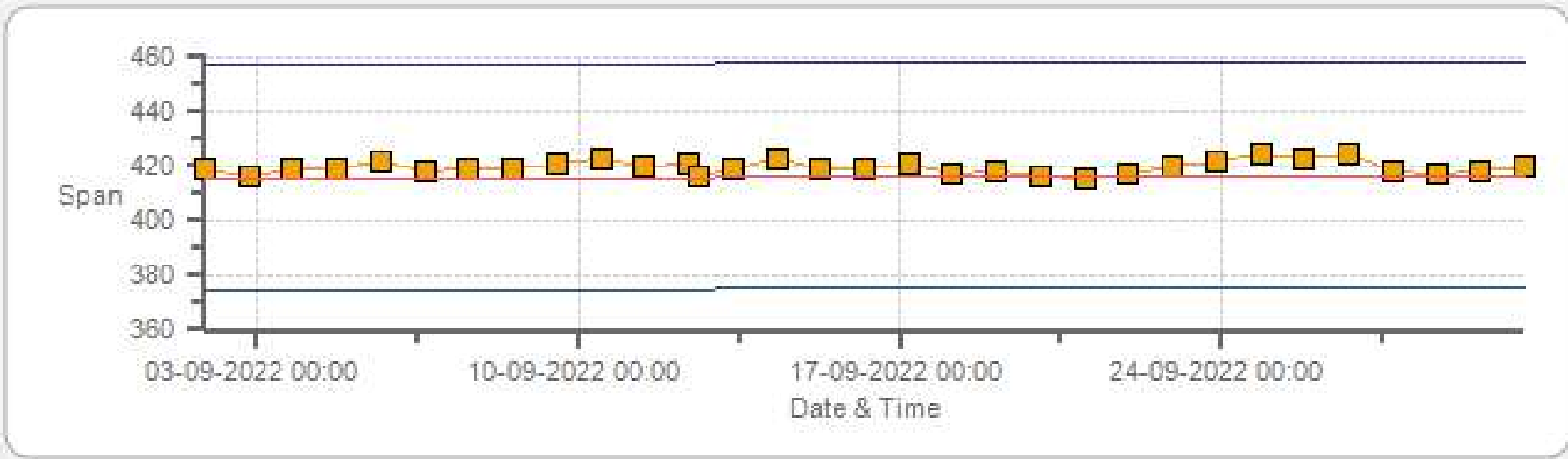
Span SpanRef Span Low Span High

O3[ppb] Calibration: Tamarack Monthly: 09-2022 Type: SpanAndZero - Zero



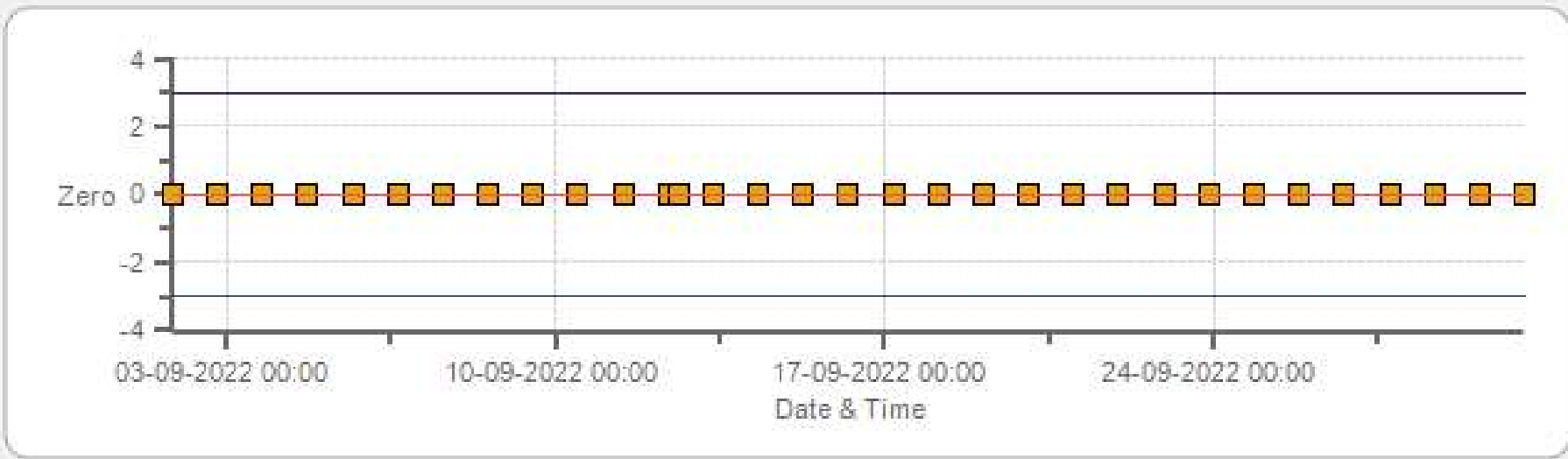
Zero Zero Ref Zero Low Zero High

O3[ppb] Calibration: Tamarack Monthly: 09-2022 Type: SpanAndZero - Span



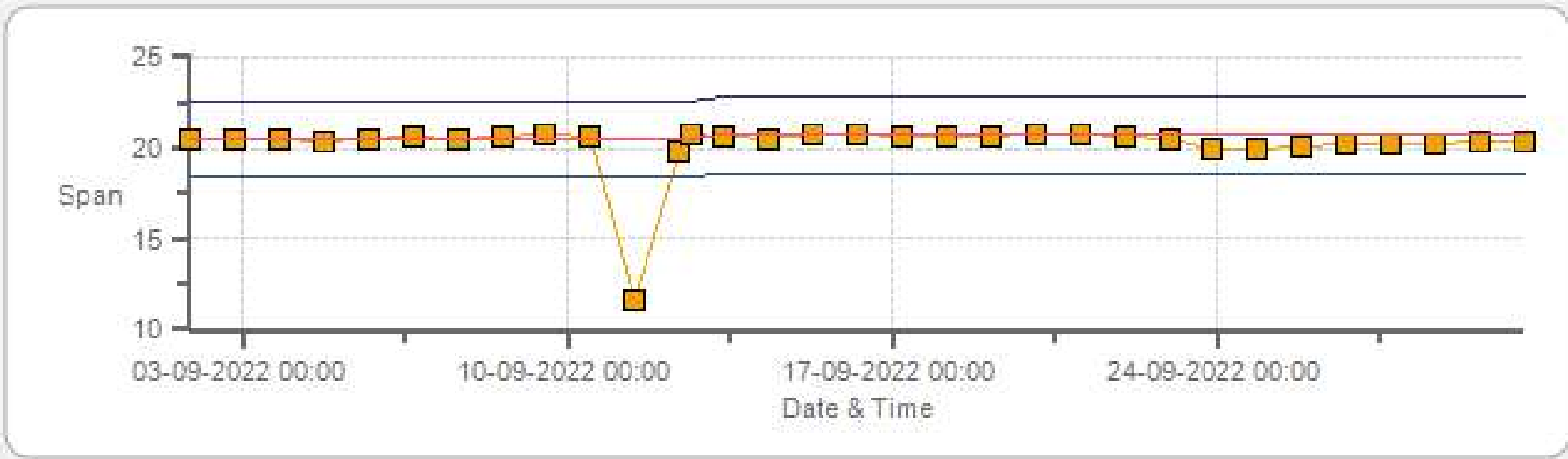
Span SpanRef Span Low Span High

THC55[ppm] Calibration: Tamarack Monthly: 09-2022 Type: SpanAndZero - Zero



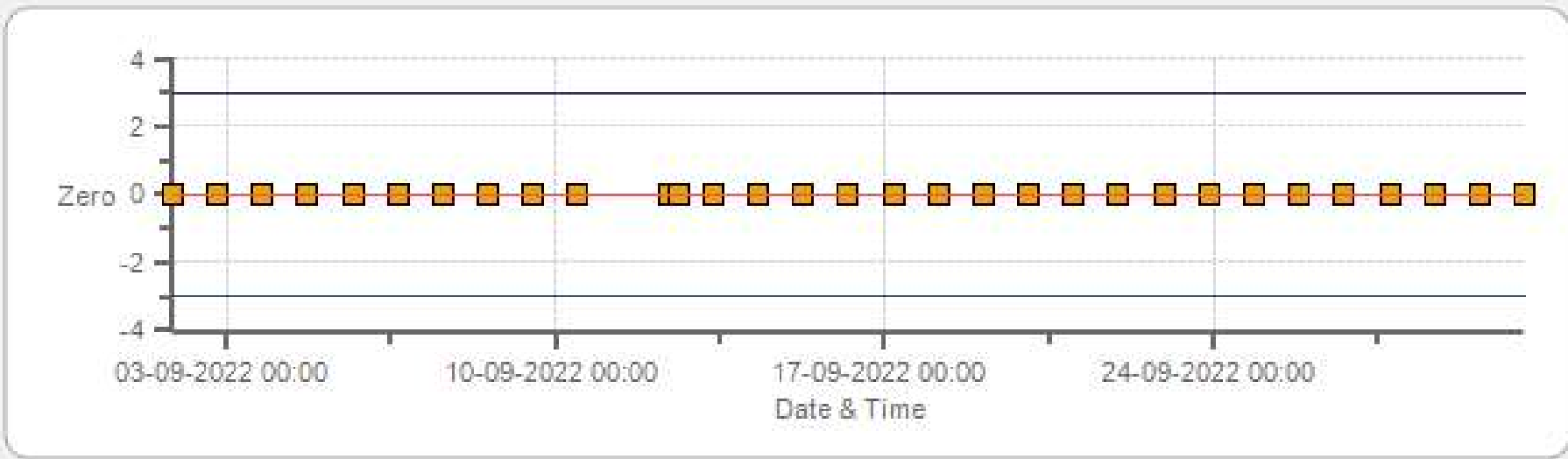
Zero Zero Ref Zero Low Zero High

THC55[ppm] Calibration: Tamarack Monthly: 09-2022 Type: SpanAndZero - Span



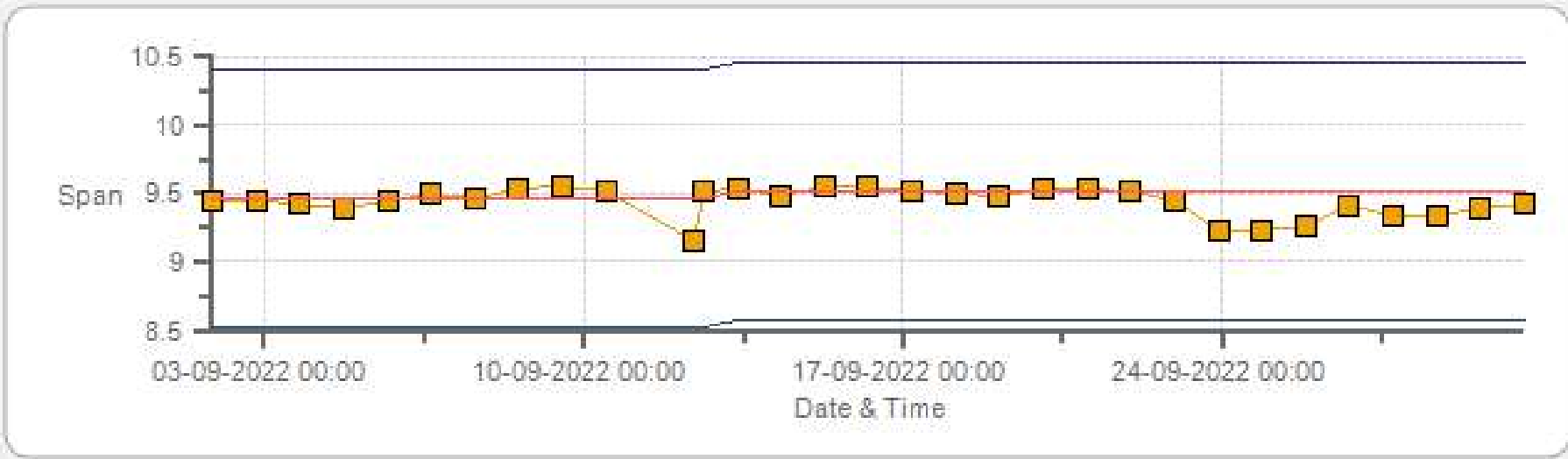
Span Span Ref Span Low Span High

CH4[ppm] Calibration: Tamarack Monthly: 09-2022 Type: SpanAndZero - Zero



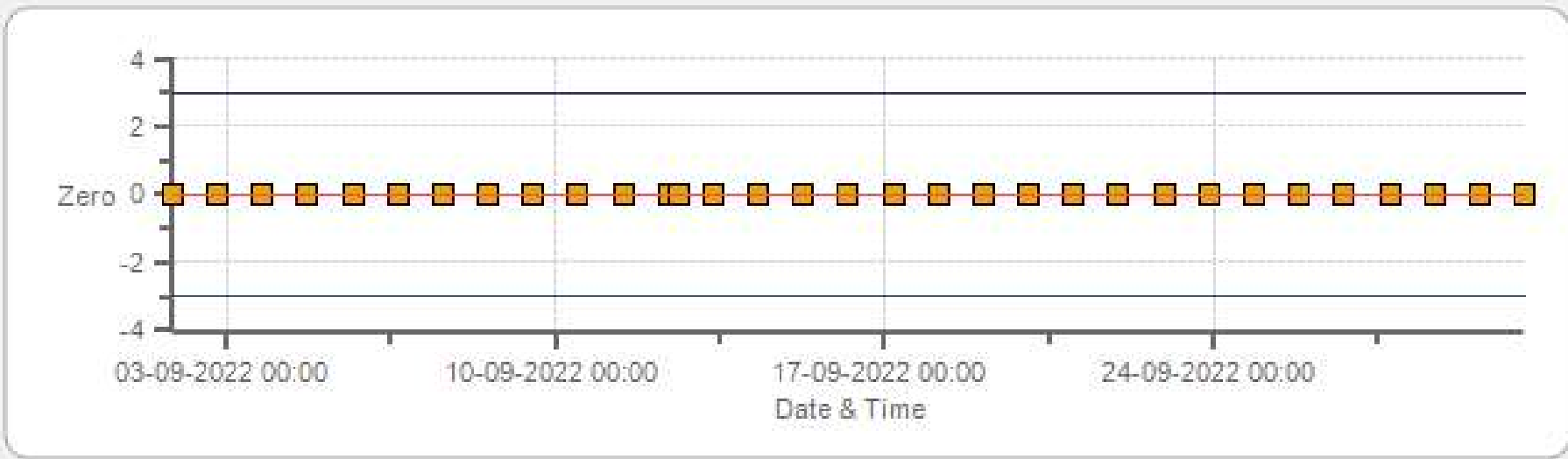
Zero Zero Ref Zero Low Zero High

CH4[ppm] Calibration: Tamarack Monthly: 09-2022 Type: SpanAndZero - Span



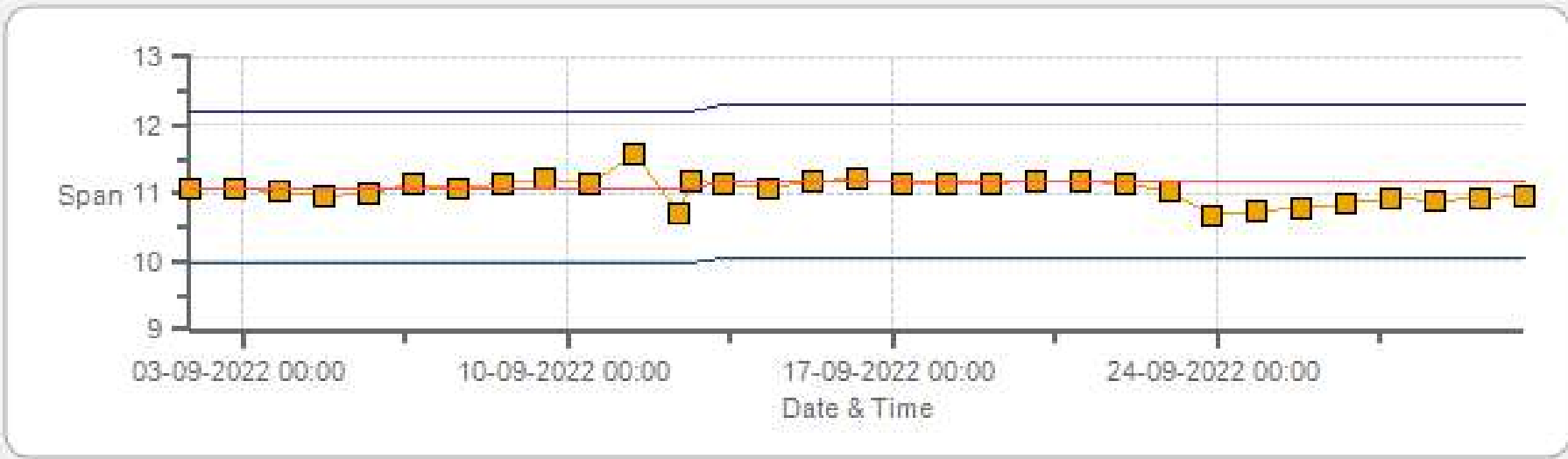
Span SpanRef Span Low Span High

NMHC[ppm] Calibration: Tamarack Monthly: 09-2022 Type: SpanAndZero - Zero



Zero Zero Ref Zero Low Zero High

NMHC[ppm] Calibration: Tamarack Monthly: 09-2022 Type: SpanAndZero - Span



Span Span Ref Span Low Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution



DATE:	13-Sep-2022	PREVIOUS CALIBRATION DATE:	18-Aug-2022
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Tamarack	BAROMETRIC (mBar):	937
PURPOSE:	Routine	START TIME (MST):	09:00
PERFORMED BY:	Alex Yakupov	END TIME (MST):	13:45

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1180930031	FLOW (mL/min)	443
INITIAL		FINAL	
BKG/OFFSET	2.46	BKG/OFFSET	2.43
COEF/SLOPE	0.956	COEF/SLOPE	0.975
Expected (reference) Value	190.7	Expected (reference) Value	192

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010	MODEL:	T701
ID:	26801218	ID:	132
MFC CALIBRATION DATE:	20-Apr-2022	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL 105146	HIGH ID	n/a
CONC (ppm):	50.80	EXPIRY DATE	n/a
CYLINDER (psi):	400	LOW ID	n/a
EXPIRY DATE	09-Jun-2029	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

POINT	HIGH	MID	LOW
TARGET	390	190	95
RANGE	300 - 400	150 - 200	50 - 100

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

START TIME:	n/a	SO2 Conc (ppb)	n/a
END TIME:	n/a	Analyzer Response (ppb)	n/a

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
5000	38.50	5000	0.00	0	0	1.019	0.999
4962	38.50	5000	391.16	383.7	391.5	1.019	0.999
4982	18.00	5000	182.88	n/a	185.6	n/a	0.985
4991	9.00	5000	91.44	n/a	93.7	n/a	0.976

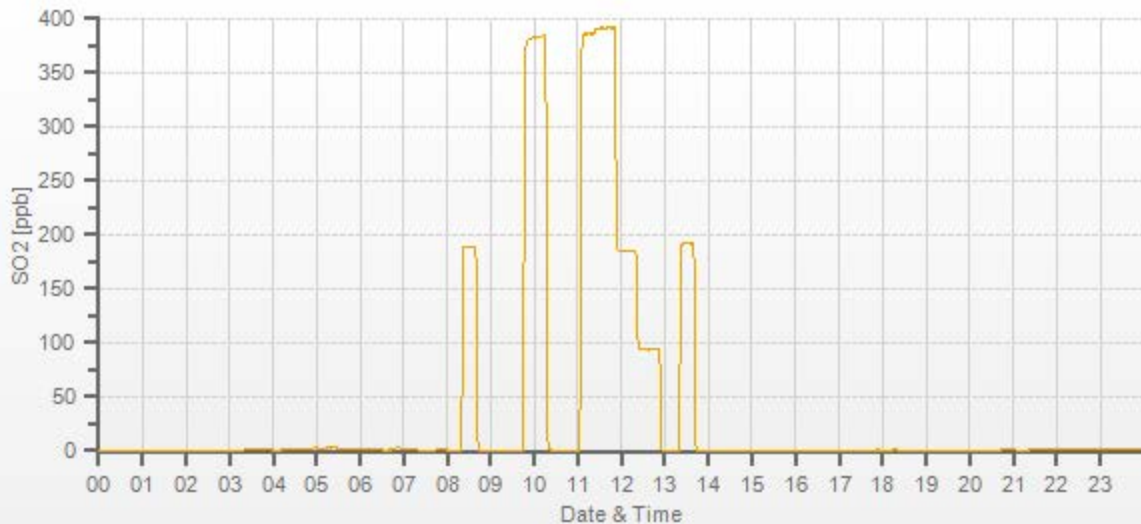
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.999	0.3%

COMMENTS:

Sample inlet filter was changed.

SO2[ppb] Station: Tamarack Daily: 13-09-2022 Type: AVG 1 Min. [1 Min.]



CAL-LICA-202209-01248

H2S Analyzer Calibration by Dilution



DATE:	13-Sep-2022	PREVIOUS CALIBRATION DATE:	18-Aug-2022
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	1.002
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Tamarack	BAROMETRIC (mBar):	937
PURPOSE:	Routine	START TIME (MST):	09:01
PERFORMED BY:	Alex Yakupov	END TIME (MST):	13:45

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	CM 17360005	FLOW (mL/min)	922
INITIAL		FINAL	
BKG/OFFSET	30.8	BKG/OFFSET	31.5
COEF/SLOPE	0.784	COEF/SLOPE	0.791
Expected (reference) Value	43.7	Expected (reference) Value	44

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	20-Apr-2022	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0002287	HIGH ID	n/a
CONC (ppm):	10.10	EXPIRY DATE	n/a
CYLINDER (psi):	1800	LOW ID	n/a
EXPIRY DATE	14-Sep-2024	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

START TIME:	09:03	SO2 Conc (ppb)	380
END TIME:	09:18	Analyzer Response (ppb)	0.0

CALIBRATION:

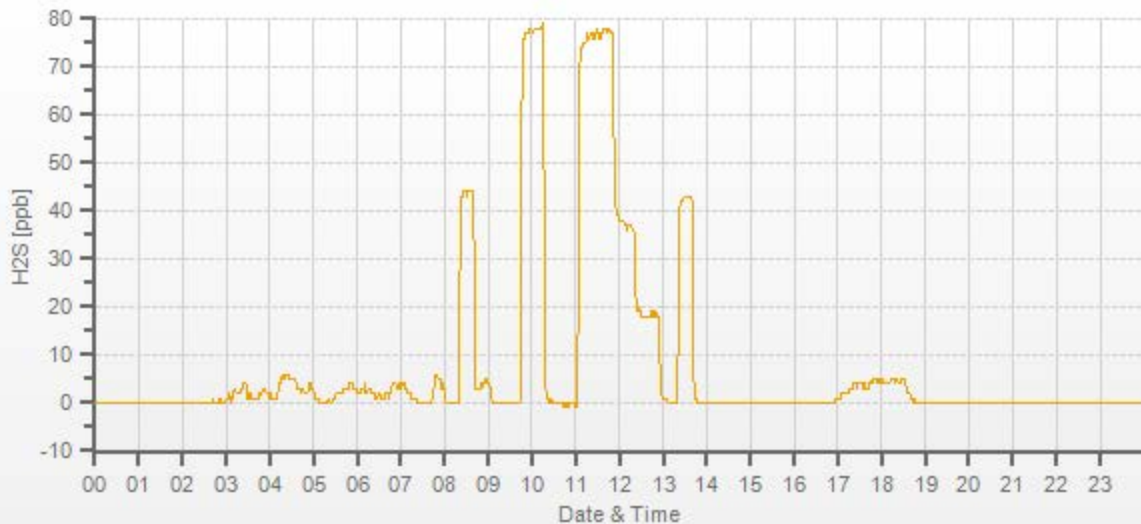
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
7500	7500	7500	0.00	0.3	0	0.996	0.997
7442	57.90	7500	77.97	78.6	78.2	0.996	0.997
7472	28.20	7500	37.98	n/a	37.7	n/a	1.007
7486	14.10	7500	18.99	n/a	19.4	n/a	0.979

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.001	0.1%

COMMENTS:

Sample inlet filter was changed.



H2S Analyzer Calibration by Dilution



DATE:	27-Sep-2022	PREVIOUS CALIBRATION DATE:	13-Sep-2022
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	0.997
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Tamarack	BAROMETRIC (mBar):	939
PURPOSE:	Repeat	START TIME (MST):	10:58
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:57

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	CM 17360005	FLOW (mL/min)	922
INITIAL		FINAL	
BKG/OFFSET	31.5	BKG/OFFSET	31.4
COEF/SLOPE	0.791	COEF/SLOPE	0.793
Expected (reference) Value	44	Expected (reference) Value	50.4

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	20-Apr-2022	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0002287	HIGH ID	n/a
CONC (ppm):	10.10	EXPIRY DATE	n/a
CYLINDER (psi):	1800	LOW ID	n/a
EXPIRY DATE	14-Sep-2024	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

START TIME:	n/a	SO2 Conc (ppb)	n/a
END TIME:	n/a	Analyzer Response (ppb)	n/a

CALIBRATION:

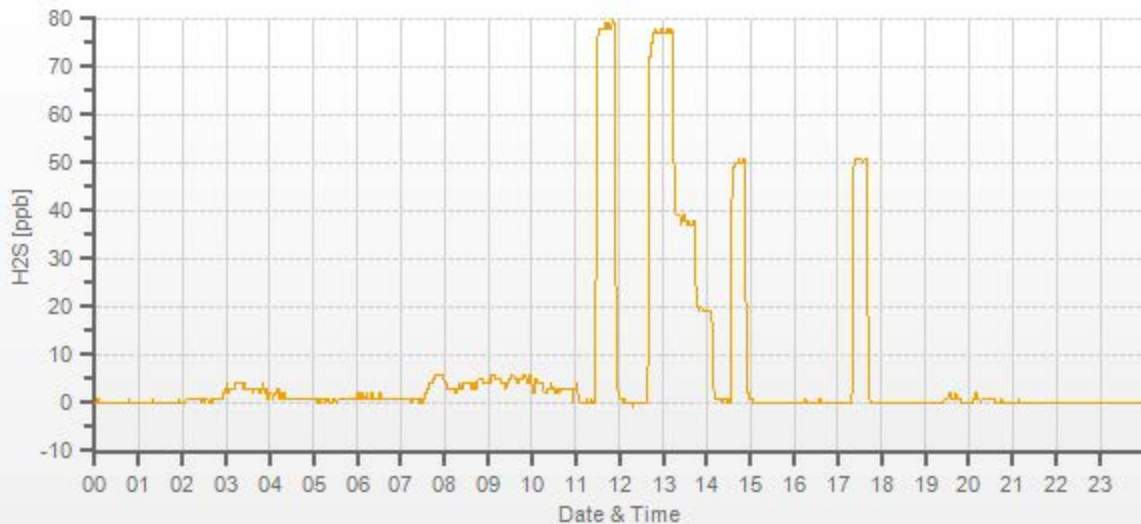
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
7500	7500	7500	0.00	0.1	0	0.997	1.005
7442	57.90	7500	77.97	78.3	77.6	0.997	1.005
7472	28.20	7500	37.98	n/a	38.2	n/a	0.994
7486	14.10	7500	18.99	n/a	19.2	n/a	0.989

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.994	0.2%

COMMENTS:

Repeat calibration due to span drift



NOx Calibration by Dilution/Gas-Phase Titration



CALIBRATION:				ANALYZER:			
DATE:	13-Sep-2022	PREVIOUS CALIBRATION DATE:	18-Aug-2022	MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
CLIENT:	LICA	TEMPERATURE (°C):	22.0	SERIAL #:	1180930028	NOx	0.999
LOCATION:	Tamarack	BAROMETRIC (mBar):	937	FLOW (mL/min)	852	NO	0.999
PURPOSE:	Routine	START TIME (MST):	08:59	RANGE (ppb)	500	NO2	1.001
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:40	GPT FOR O3?		No	

CALIBRATION SYSTEM:							
CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:		FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 105146	HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	NO/NOx (PPM):	50.0 50.1	HIGH EXPIRY:	n/a
ID:	26801218	ID:	132	CYLINDER (psi):	400	LOW ID:	n/a
MFC CALIBRATION DATE:	20-Apr-2022	OXIDIZER ID:	n/a	EXPIRY DATE	09-Jun-2029	LOW EXPIRY:	n/a

CALIBRATION SETTINGS:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
BKG/OFFSET:	1.8	1.7	n/a	BKG/OFFSET:	1.8	1.7	n/a
SLOPE/COEF/CE:	1.001	1.006	1	SLOPE/COEF/CE:	1.002	1	1

EXPECTED (REFERENCE) VALUE:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	268.3	2.3	266.0		268.3	2.3	266.0

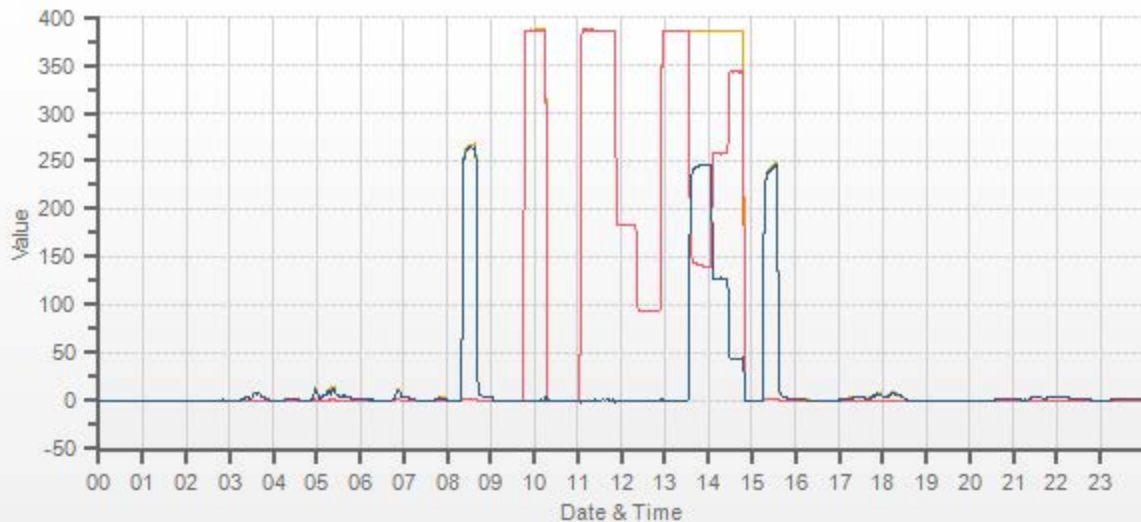
CALIBRATION PARAMETERS:					
POINT	NO TARGET (PPB)	NO2 TARGET (PPB)	NO2 RANGE	O3 POINT	
HIGH	380	250	230-265	n/a	
MID	180	125	115-150	n/a	
LOW	90	45	40-55	n/a	
EXTRA 1	n/a	n/a	n/a	n/a	

FLOW RATE			CONCENTRATION (ppb)									CORRECTION FACTOR (CF.)					
(mL/min)			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2
5000	38.50	5000	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.998	0.998	0.999	1.000	0.999	0.999
4962	38.50	5000	385.0	385.8	0.8	385.7	386.7	1.1	385.0	386.3	1.3	0.998	0.998	0.999	1.000	0.999	0.999
4982	18.00	5000	180.0	180.4	0.4	n/a	n/a	n/a	183.3	184.1	0.7	n/a	n/a	0.999	0.982	0.980	0.999
4991	9.00	5000	90.0	90.2	0.2	n/a	n/a	n/a	93.2	93.6	0.4	n/a	n/a	0.999	0.966	0.963	0.999

GPT CALIBRATION:											
Point	CALIBRATOR			INDICATED (ppb)			NO DROP / O3 Conc (ppb)	NO2 GAIN (ppb)	NO2 Corr. FACTOR	CONV. EFFICIENCY	
	GAS	TOTAL	O3 SETPOINT	NO	NOx	NO2					
REFERENCE	38.50	5000	0	385.0	385.9	0.9	244.8	244.9	1.000	100.04%	
AS-FOUND HIGH	38.50	5000	240	140.2	386.0	245.8	244.8	244.9	1.000	100.04%	
ADJUSTED HIGH	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
MID	38.50	5000	125	258.1	386.2	128.1	126.9	127.2	0.998	100.24%	
LOW	38.50	5000	45	342.7	386.2	43.5	42.3	42.6	0.993	100.71%	
NO2 adjustment not required.									AVERAGE:	100.33%	

LINEAR REGRESSION ANALYSIS:				COMMENTS:
	CORRELATION	SLOPE	INTERCEPT	
NO	1.000	0.998	0.40%	
NOx	1.000	0.999	0.41%	
NO2	1.000	0.999	0.08%	

Sample inlet filter was changed.



CAL-LICA-202209-01248

Ozone Calibration by Photometer (Varying UV Lamp)



DATE:	12-Sep-2022	PREVIOUS CALIBRATION DATE:	19-Aug-2022
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	1.001
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Tamarack	BAROMETRIC (mBar):	945
PURPOSE:	Routine	START TIME (MST):	10:37
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:22

ANALYZER:

MAKE/MODEL	Thermo 49iQ	RANGE	500 ppb
SERIAL #	1202068570	FLOW (mL/min)	1360
INITIAL		FINAL	
BKG/OFFSET	3.4	BKG/OFFSET	3.4
COEF/SLOPE	1.035	COEF/SLOPE	1.035
Expected (reference) Value	415.7	Expected (reference) Value	416.7

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	20-Apr-2022	OXIDIZER ID:	n/a
CALIBRATION METHOD:		Photometer (Varying UV Lamp)	
GPT DATE:	n/a	GPT END TIME:	n/a

CALIBRATION PARAMETERS:

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

CALIBRATION:

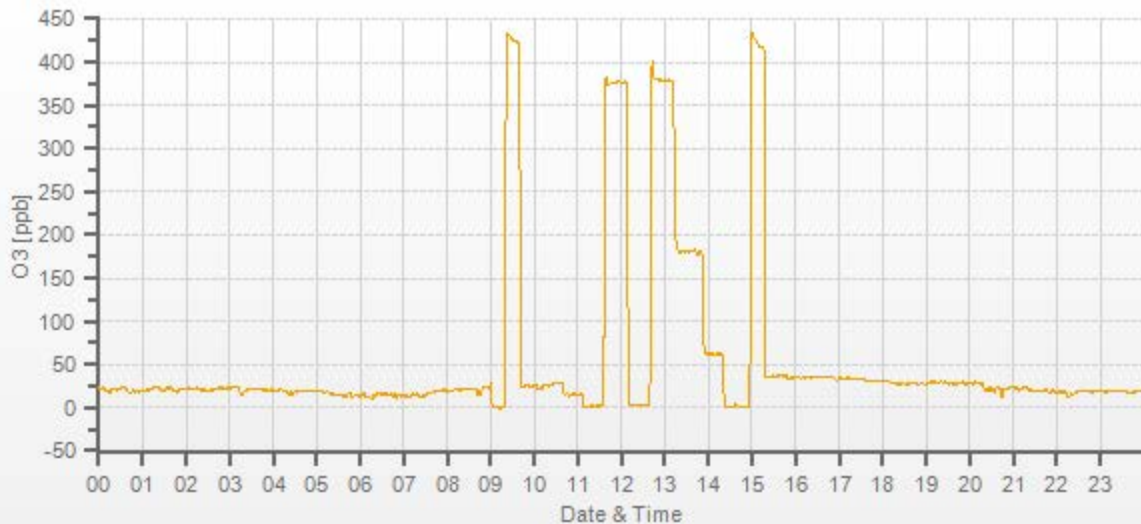
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
5000	XXXX	5000	0.0	0.4	0.0	XXXX	XXXX
5000	XXXX	5000	378.0	375.4	377.7	1.008	1.001
5000	XXXX	5000	180.0	n/a	178.2	n/a	1.010
5000	XXXX	5000	61.0	n/a	60.3	n/a	1.012

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.999	-0.1%

COMMENTS:

Sample inlet filter was changed.



Methane/Non-Methane Analyzer Calibration by Dilution



CALIBRATION:				ANALYZER:			
DATE:	12-Sep-2022	PREVIOUS CALIBRATION DATE:	19-Aug-2022	VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
CLIENT:	LICA	TEMPERATURE (°C):	22.0		Thermo 55i	1314057759	1005
LOCATION:	Tamarack	BAROMETRIC (mBar):	945	PARAMETER:	CH4	NMHC	THC
PURPOSE:	Routine	START TIME (MST):	10:34	RANGE (ppm):	20	20	40
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:22	PREVIOUS CF:	1.002	1.001	1.002

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:		FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 23593	HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	CH ₄ /C ₃ H ₈ (ppm):	603.0 204.0	HIGH EXPIRY:	n/a
ID:	26801218	ID:	132	CYLINDER (psi):	1700	LOW ID:	n/a
MFC CALIBRATION DATE:	20-Apr-2022	OXIDIZER ID:	115	EXPIRY DATE	18-Aug-2029	LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

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

EXPECTED (REFERENCE) VALUE:

INITIAL	CH ₄	NMHC	THC	FINAL	CH ₄	NMHC	THC
	9.47	11.08	20.54		9.52	11.19	20.71

CALIBRATION:

FLOW RATE			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
(mL/min)			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC
3100	X	3100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X	X	X	X	X	X
3025	74.60	3100	14.51	13.50	28.01	14.17	13.05	27.22	14.51	13.53	28.05	1.024	1.034	1.029	1.000	0.998	0.999
3063	37.30	3100	7.26	6.75	14.01	n/a	n/a	n/a	7.24	6.76	14.00	n/a	n/a	n/a	1.002	0.999	1.000
3081	18.60	3100	3.62	3.37	6.98	n/a	n/a	n/a	3.61	3.37	6.98	n/a	n/a	n/a	1.002	0.999	1.001

LINEAR REGRESSION ANALYSIS:

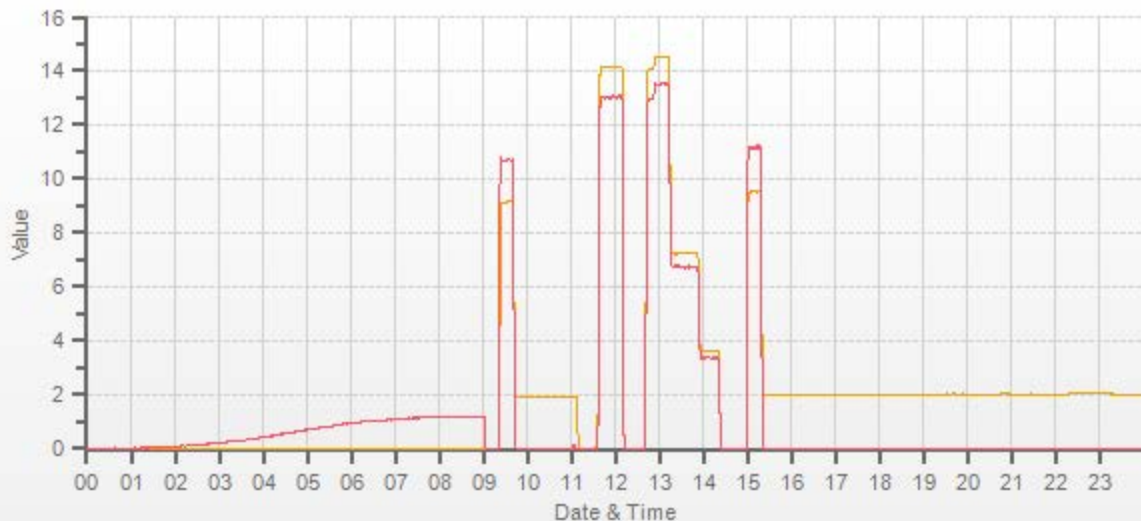
	CORRELATION	SLOPE	INTERCEPT
CH ₄	1.000	1.000	0.0%
NMHC	1.000	1.002	0.0%
THC	1.000	1.001	0.0%

Comments:

Sample inlet filter was changed. H₂ and N₂ gas cylinders were exchanged.

Use Zero Chrom?

Yes



Meteorological System Checklist



Date:	September 13, 2022		
Technician:	Alex Yakupov		
Station:	Tamarack / Audit time: 16:06 - 16:34		
Unit:	Make:	Model:	Serial #:
Precipitation Sampler:	Met One	387 D	C 13580
Temperature Sensor:	Rotronic	HC2A-S3	20433166
Barometric Pressure Sensor:	MetOne	Part 090D	F4497
Relative Humidity Sensor:	Rotronic	HC2A-S3	20433166
Anemometer:	RM Young	05305VK	161465

PRECIPITATION SENSOR CHECK

Checklist:	Reply:	Comments:
Is the sensor Level?	yes	
Is the heater operating properly?	yes	
Are the bucket drain holes clean?	yes	
Is the screen on the housing? (screen should be on between July and September)	yes	Water test was completed. No issues.
Is the housing clean?	yes	
Is the area around the housing clean and free from obstacles?	yes	Water testing: 16:10. Response is timely and accurate. 1 ml/10 tips
TIP TEST - Slowly pour water until 10 tip are heard. (10 tips = 1 ml)		
# of Tips	Data Logger Response (ml):	Manual Specification = +/- 0.2 ml
10	1.00	0.00

AMBIENT TEMPERATURE SENSOR CHECK

Parameter:	Temperature @ 2 metres	
Reference Thermometer ID:	Vaisala HMP76B #T1640130, Exp. Date: Jun 14, 2023	
Reference Temperature (°C):	13.2	
Station - Ambient Temperature (°C):	13.1	
Temperature Difference (°C):	0.1	

BAROMETRIC PRESSURE SENSOR CHECK

Reference Barometer ID:	Fisher Scientific / FB 61291 / #130168457 / Exp. Date: Feb 17, 2023	
Reference Pressure - Units/Reading:	millibar	938
Station Pressure - Units/Reading:	millibar	937
Pressure Tolerance +/- 15% of error:	797 - 1079	0.11%

RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK

Previous check date:	n/a	
Reference Hygrometer ID:	Vaisala HMP76B #T1640130, Exp. Date: April 22, 2022	
Reference Hygrometer % RH- Reading:	78.30	
Station Hygrometer % RH- Reading:	76.10	
RH Tolerance +/- 15% of difference:	66.56 - 90.05	2.8%

ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK

WIND SPEED		WIND DIRECTION	
Previous check date:	August 19, 2022	Previous check date:	August 19, 2022
Wind Speed Observed (kph):	1 to 10	Wind Direction Observed:	SE
Wind speed on Data Logger (kph):	8.5	Wind Direction on Data Logger:	SE
	Annual audit: Jul 26, 2022	Wind Direction Pass/Fail?:	Pass

Comments

Station (Trailer) temperature vs Reference gauge temperature: 22.6 vs 23.2, difference = 0.6 => Passed.



Meteorological Sensor Audit/Calibration

Location Information

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

Performed By: Alex Yakupov
 Reviewed By: Chris Wesson
 Start/End Time (mst): 16:01 / 17:14
 Weather Conditions: Mix of sun and clouds

Wind Sensor Information

Sensor ID Data:		Sensor Outputs:	
Sensor Make:	RM Young	Velocity Voltage Output Range:	0-1
Sensor Model:	05305VK	Velocity Unit Output Range:	0-200
Serial #:	161465	Direction Voltage Output Range:	0-1
Previous Cal/Audit Date:	September 20, 2021	Direction Unit Output Range:	0-360

Wind Calibrator Information

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

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

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.1	0.1	-
1000	18.4	18.5	18.5	0.996
2000	36.9	36.9	36.9	0.999
3000	55.3	55.4	55.4	0.998
4000	73.7	73.9	73.9	0.998
5000	92.2	92.5	92.4	0.997
6000	110.6	111.0	111.0	0.996
7000	129.0	129.5	129.5	0.996
8000	147.4	148.1	148.1	0.996
9000	165.9	166.7	166.7	0.995
10000	184.3	185.2	185.2	0.995
The audit meets AMD requirements.			Average Correction Factor=	0.997

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

Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	3	355	2.7	-0.1	1.4
30	330	34	331	-4.1	-1.3	2.7
60	300	64	301	-4.3	-1.0	2.7
90	270	95	272	-4.7	-1.5	3.1
120	240	125	242	-4.6	-2.2	3.4
150	210	154	213	-4.4	-3.4	3.9
180	180	184	185	-4.4	-4.6	4.5
210	150	213	153	-2.7	-3.2	2.9
240	120	242	125	-1.6	-4.6	3.1
270	90	270	94	-0.1	-4.0	2.1
300	60	300	63	0.2	-3.3	1.7
330	30	330	32	-0.4	-1.6	1.0
355	0	355	3	-0.1	2.7	1.4
The audit meets AMD requirements.				Average Absolute Degrees Difference=		2.6

Comments:

n/a

End of Report



Lakeland Industry & Community Association

SEPTEMBER 2022

Ambient Air Monitoring Calibration Report

- ST. LINA STATION-

CAL-LICA-202209-01250

Station Operation and Maintenance:

Bureau Veritas Canada

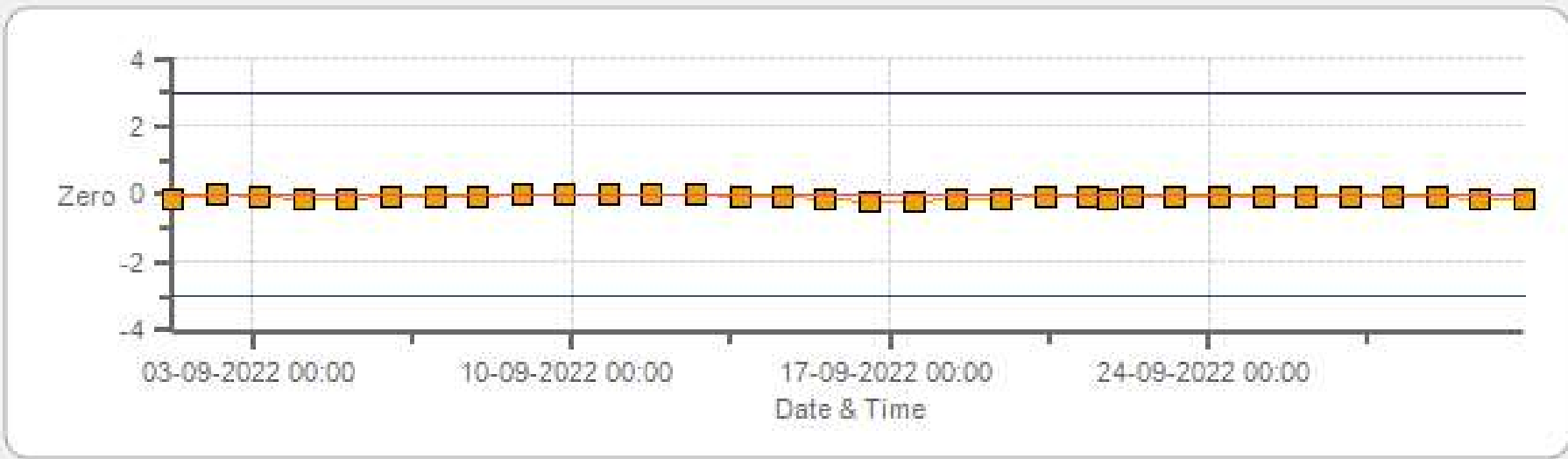
Data Validation and Report:

LICA / Bureau Veritas Canada

October 20, 2022

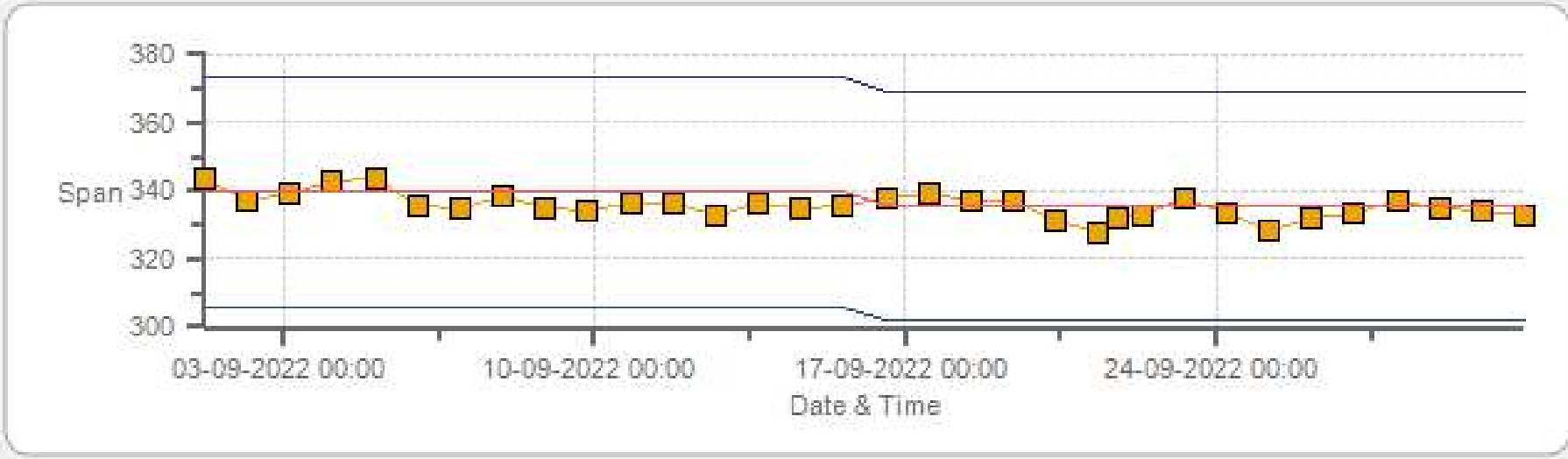
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2[ppb] Calibration: St. Lina Monthly: 09-2022 Type: SpanAndZero - Zero



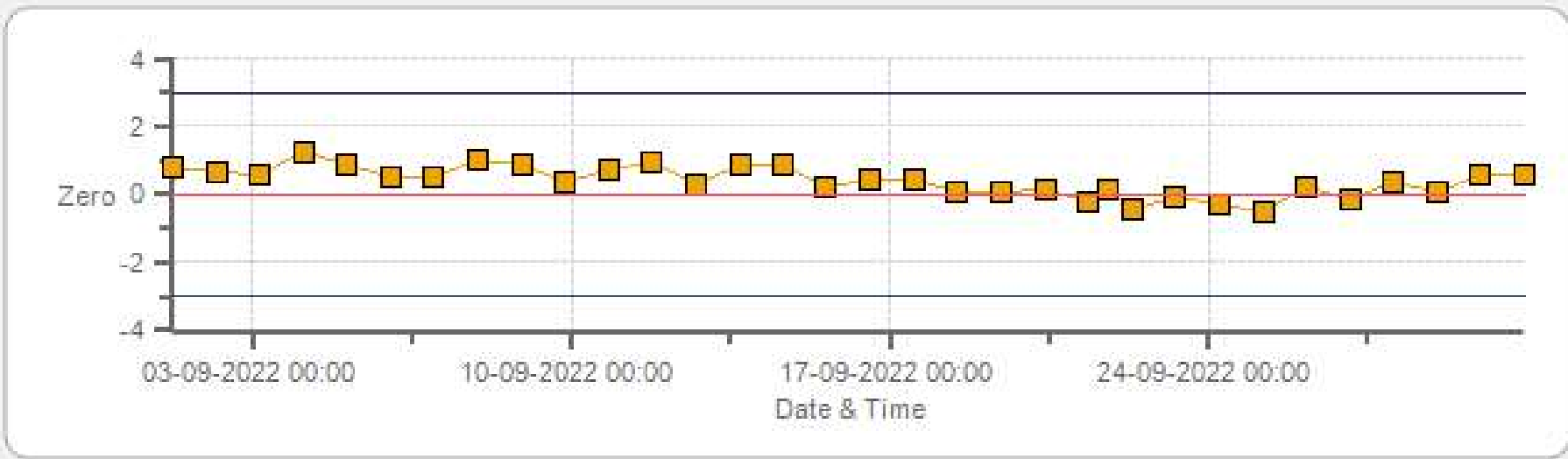
Zero Zero Ref Zero Low Zero High

SO2[ppb] Calibration: St. Lina Monthly: 09-2022 Type: SpanAndZero - Span



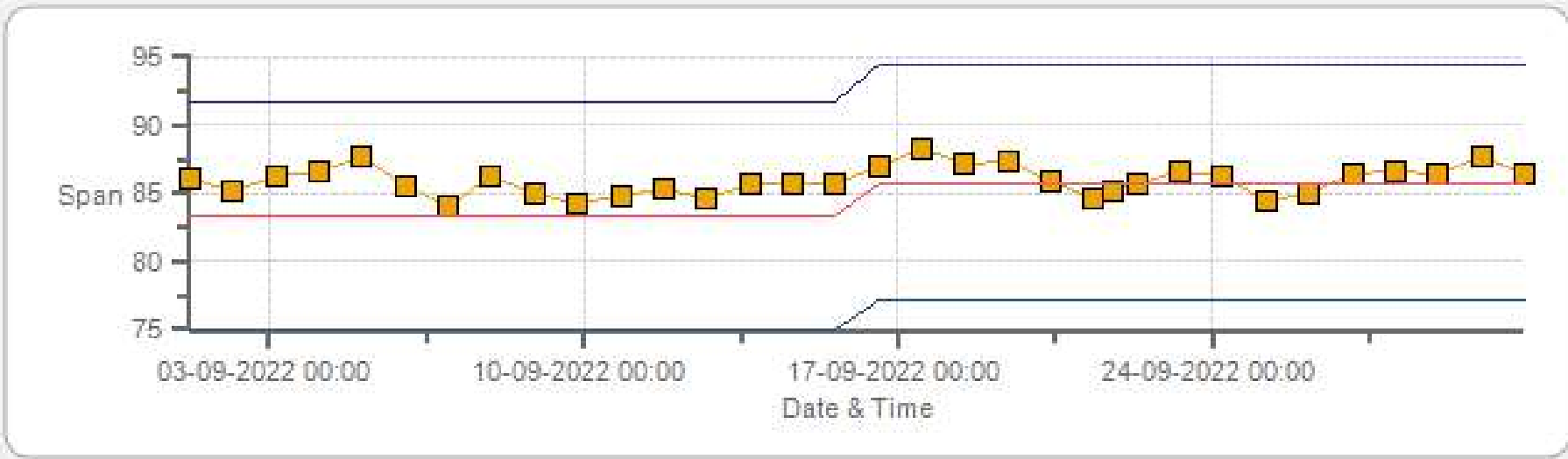
Span SpanRef Span Low Span High

H2S[ppb] Calibration: St. Lina Monthly: 09-2022 Type: SpanAndZero - Zero



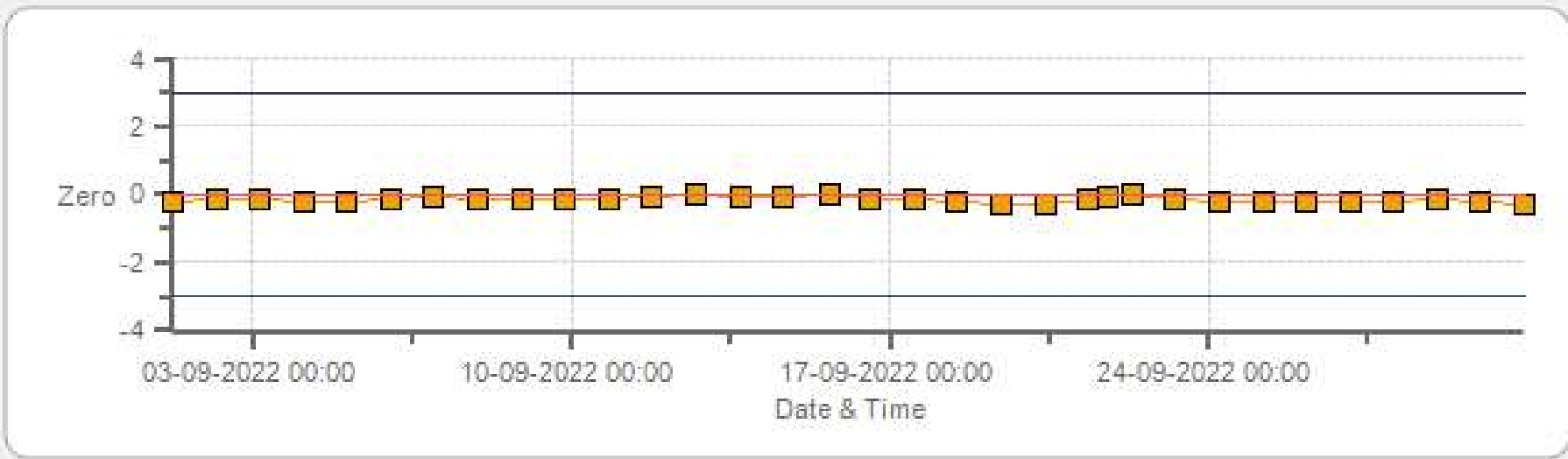
■ Zero
 — Zero Ref
 — Zero Low
 — Zero High

H2S[ppb] Calibration: St. Lina Monthly: 09-2022 Type: SpanAndZero - Span



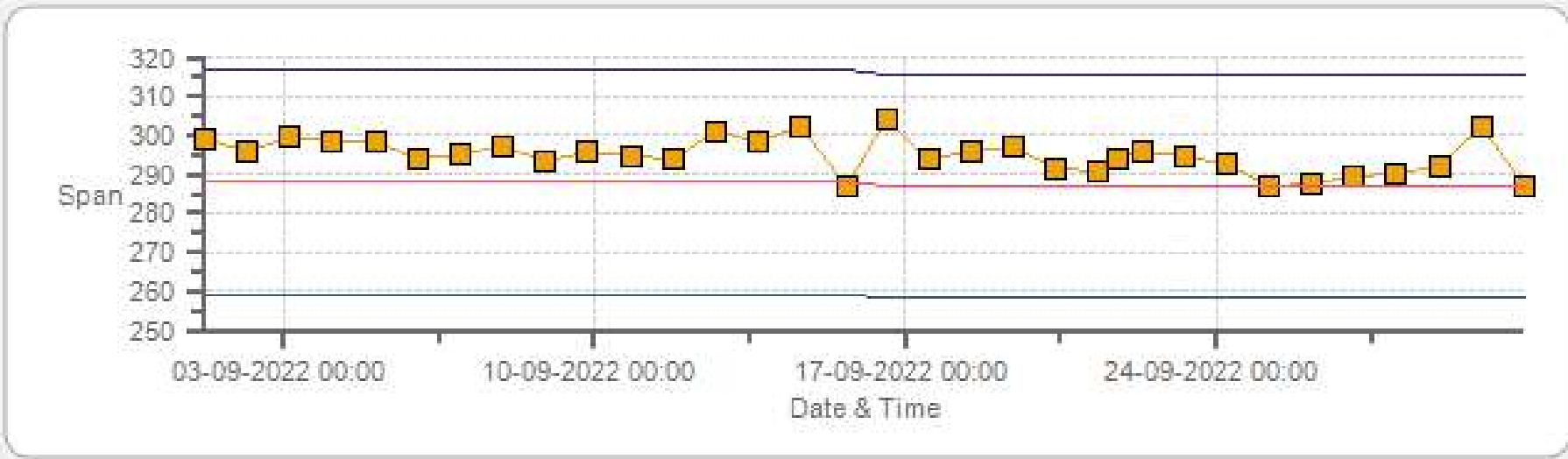
■ Span
 — SpanRef
 — Span Low
 — Span High

NOX[ppb] Calibration: St. Lina Monthly: 09-2022 Type: SpanAndZero - Zero



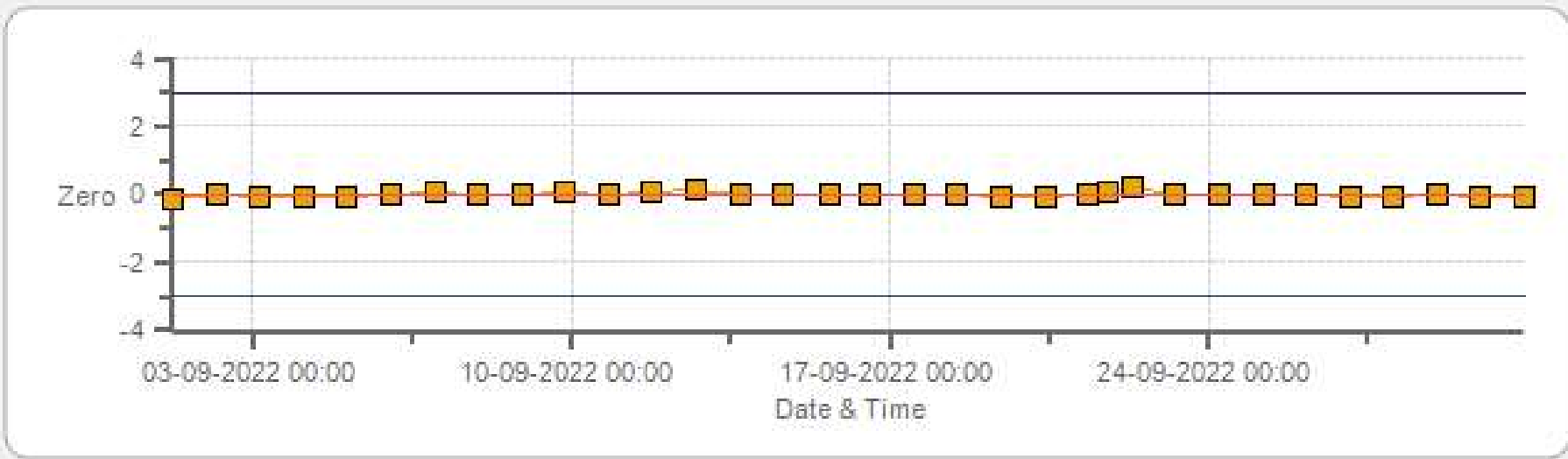
Zero Zero Ref Zero Low Zero High

NOX[ppb] Calibration: St. Lina Monthly: 09-2022 Type: SpanAndZero - Span



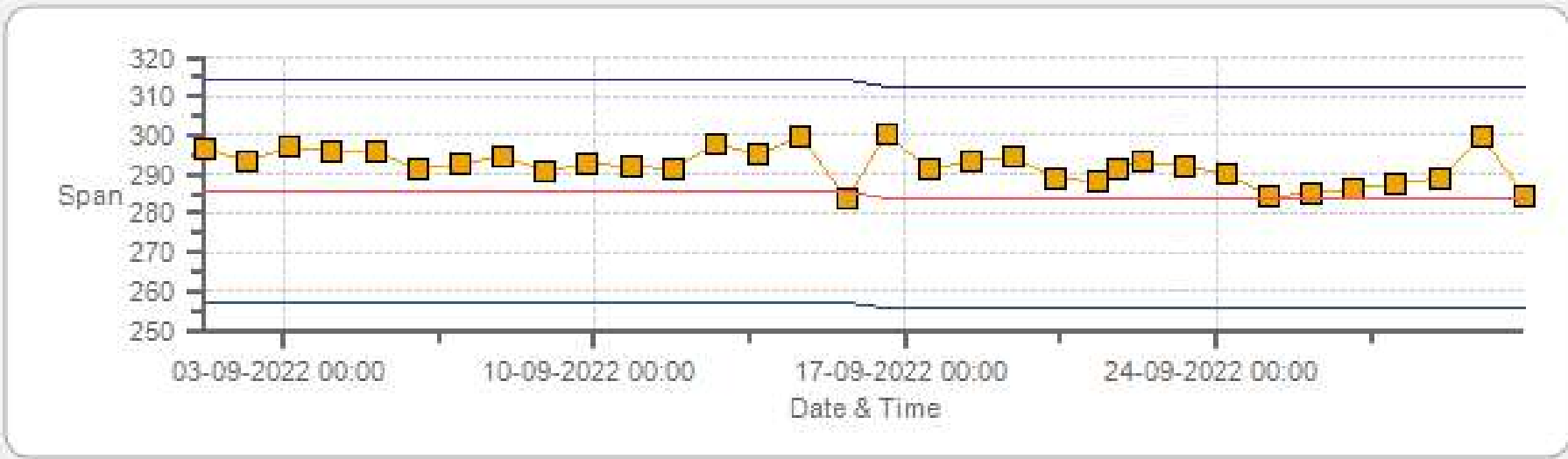
Span SpanRef Span Low Span High

NO2[ppb] Calibration: St. Lina Monthly: 09-2022 Type: SpanAndZero - Zero



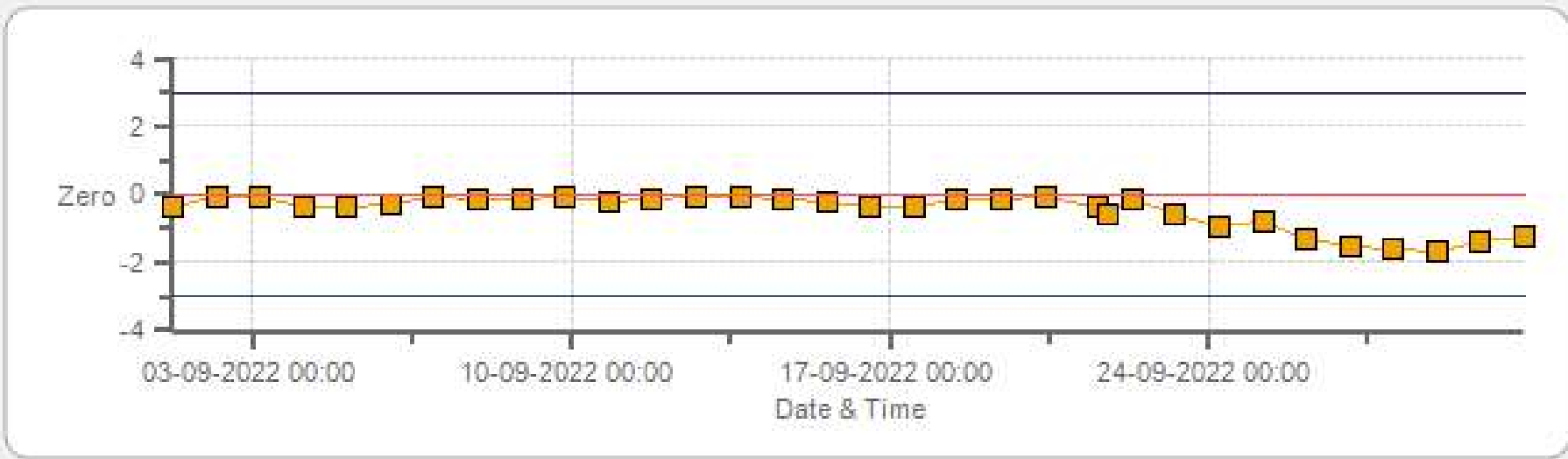
Zero Zero Ref Zero Low Zero High

NO2[ppb] Calibration: St. Lina Monthly: 09-2022 Type: SpanAndZero - Span



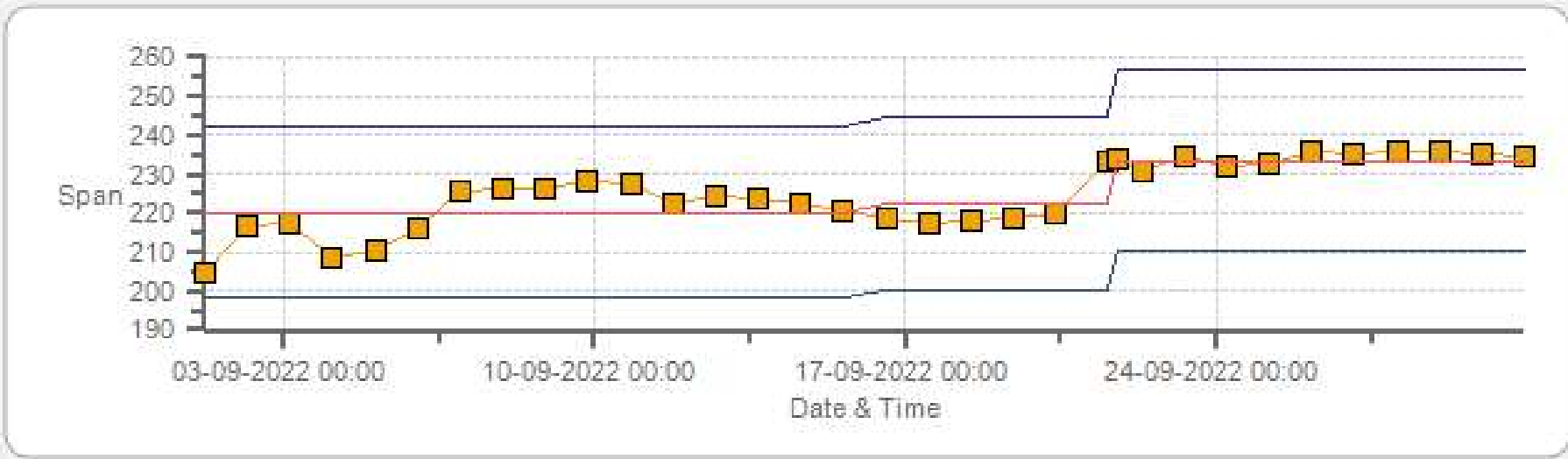
Span Span Ref Span Low Span High

O3[ppb] Calibration: St. Lina Monthly: 09-2022 Type: SpanAndZero - Zero



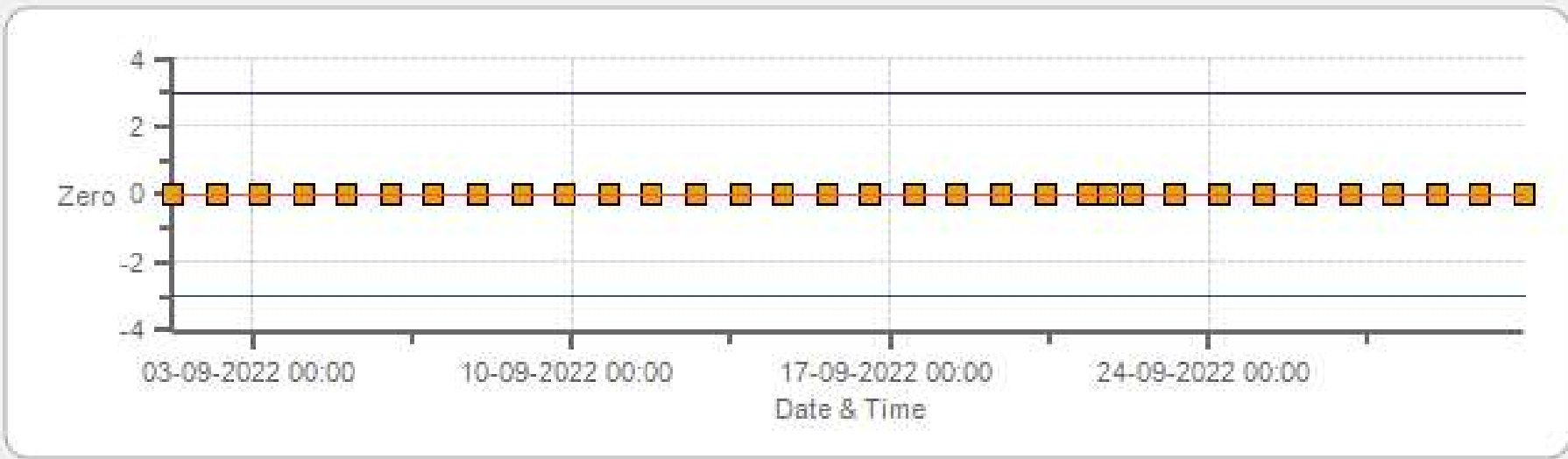
Zero Zero Ref Zero Low Zero High

O3[ppb] Calibration: St. Lina Monthly: 09-2022 Type: SpanAndZero - Span



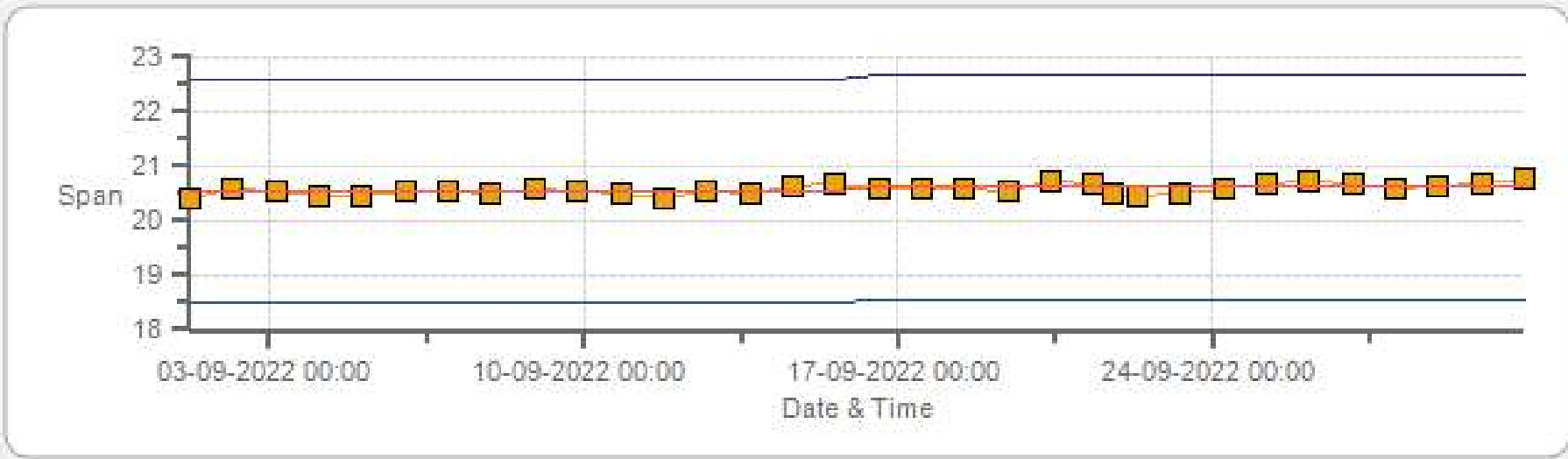
Span SpanRef Span Low Span High

THC55[ppm] Calibration: St. Lina Monthly: 09-2022 Type: SpanAndZero - Zero



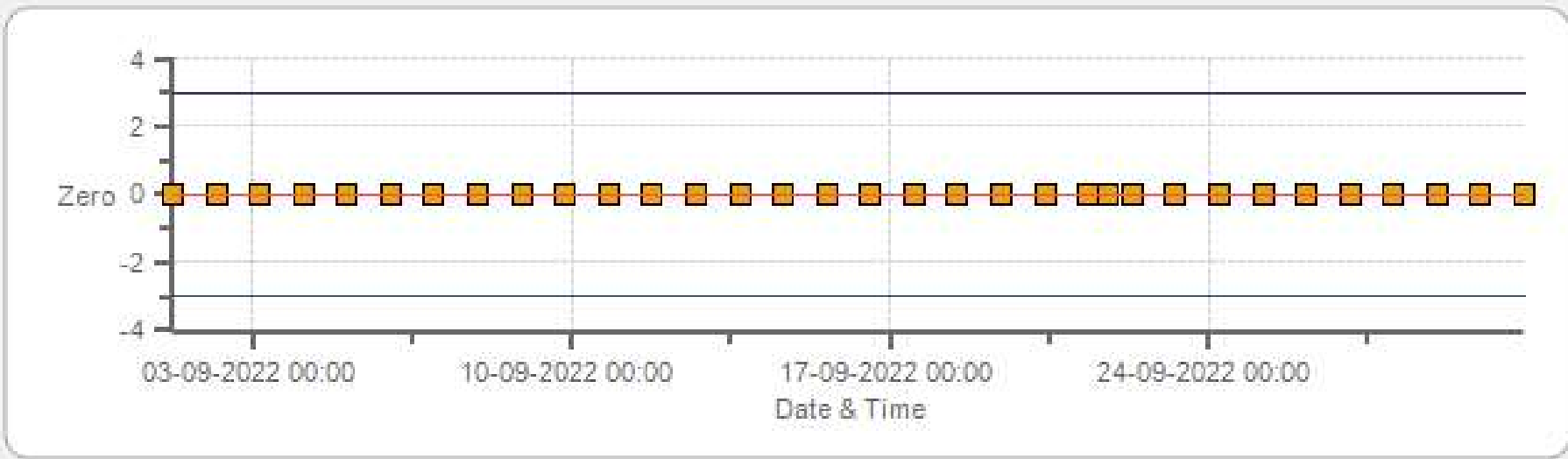
Zero Zero Ref Zero Low Zero High

THC55[ppm] Calibration: St. Lina Monthly: 09-2022 Type: SpanAndZero - Span



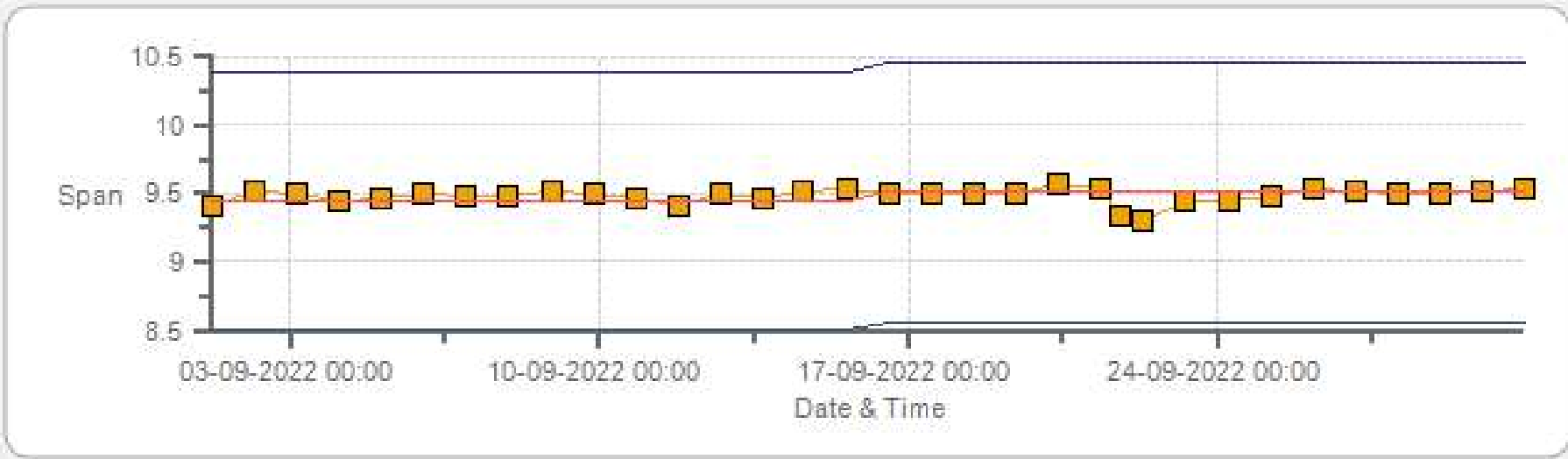
Span Span Ref Span Low Span High

CH4[ppm] Calibration: St. Lina Monthly: 09-2022 Type: SpanAndZero - Zero



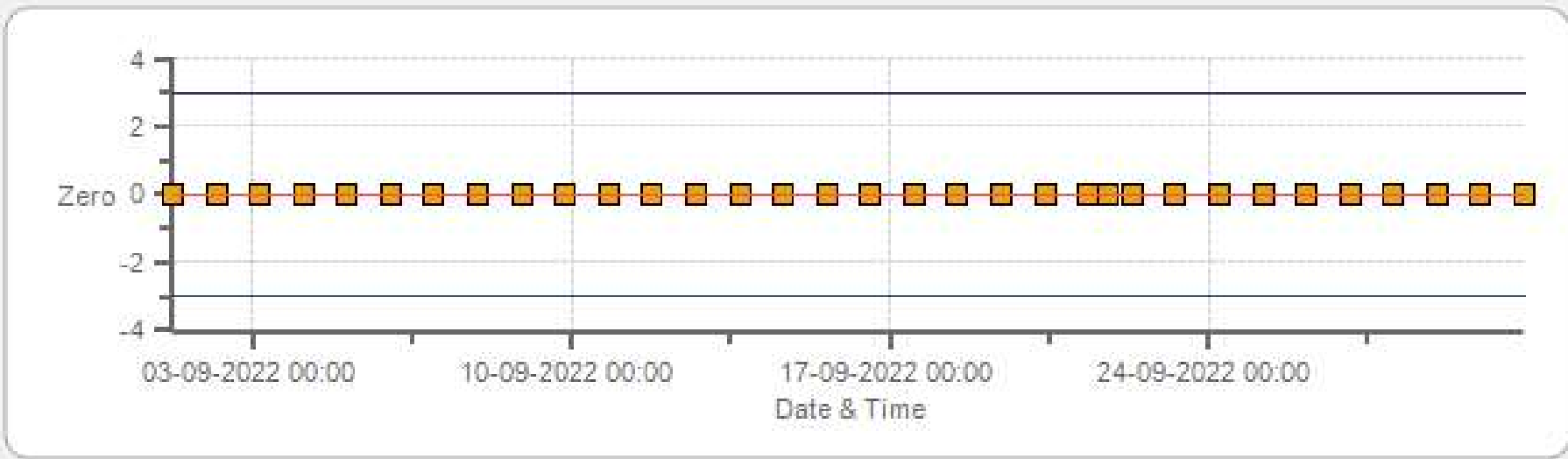
Zero Zero Ref Zero Low Zero High

CH4[ppm] Calibration: St. Lina Monthly: 09-2022 Type: SpanAndZero - Span



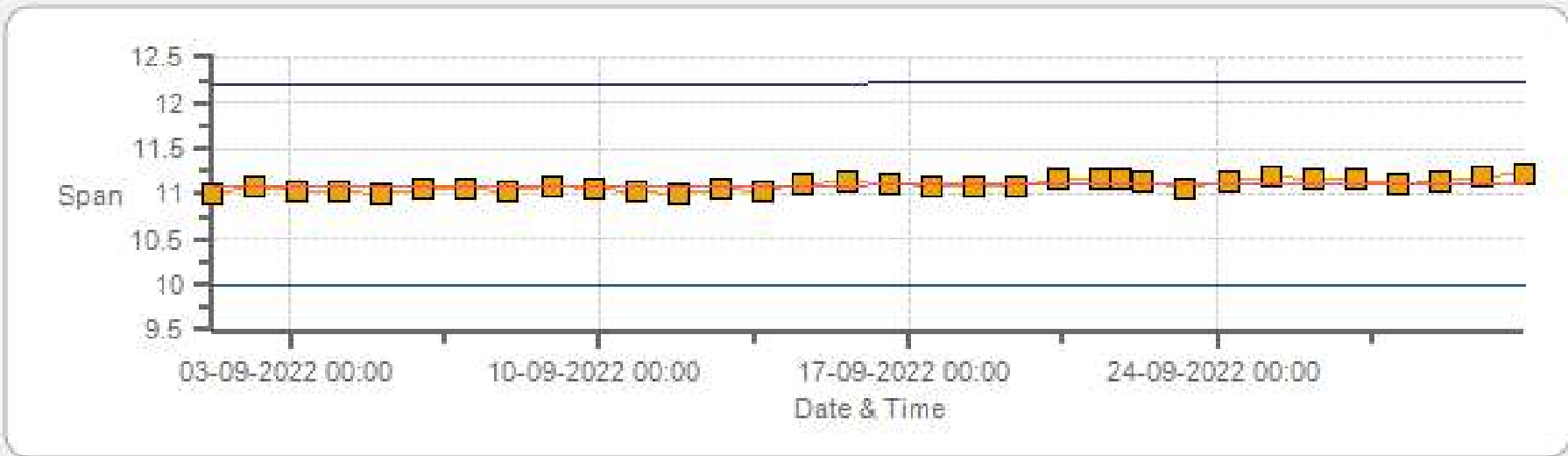
Span Span Ref Span Low Span High

NMHC[ppm] Calibration: St. Lina Monthly: 09-2022 Type: SpanAndZero - Zero



Zero Zero Ref Zero Low Zero High

NMHC[ppm] Calibration: St. Lina Monthly: 09-2022 Type: SpanAndZero - Span



Span Span Ref Span Low Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution



DATE:	15-Sep-2022	PREVIOUS CALIBRATION DATE:	05-Aug-2022
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	1.001
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	920
PURPOSE:	Routine	START TIME (MST):	10:03
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:21

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1180930030	FLOW (mL/min)	436
INITIAL		FINAL	
BKG/OFFSET	4.44	BKG/OFFSET	4.52
COEF/SLOPE	1.144	COEF/SLOPE	1.145
Expected (reference) Value	339.7	Expected (reference) Value	335.4

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010	MODEL:	T701
ID:	26801218	ID:	132
MFC CALIBRATION DATE:	20-Apr-2022	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL 105146	HIGH ID	n/a
CONC (ppm):	50.80	EXPIRY DATE	n/a
CYLINDER (psi):	400	LOW ID	n/a
EXPIRY DATE	09-Jun-2029	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

POINT	HIGH	MID	LOW
TARGET	390	190	95
RANGE	300 - 400	150 - 200	50 - 100

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

START TIME:	n/a	SO2 Conc (ppb)	n/a
END TIME:	n/a	Analyzer Response (ppb)	n/a

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
5000	38.50	5000	0.00	-0.1	0	1.008	1.000
4959	38.50	4997	391.39	388.3	391.3	1.008	1.000
4981	18.00	4999	182.92	n/a	185.3	n/a	0.987
4990	9.00	4999	91.46	n/a	93.8	n/a	0.975

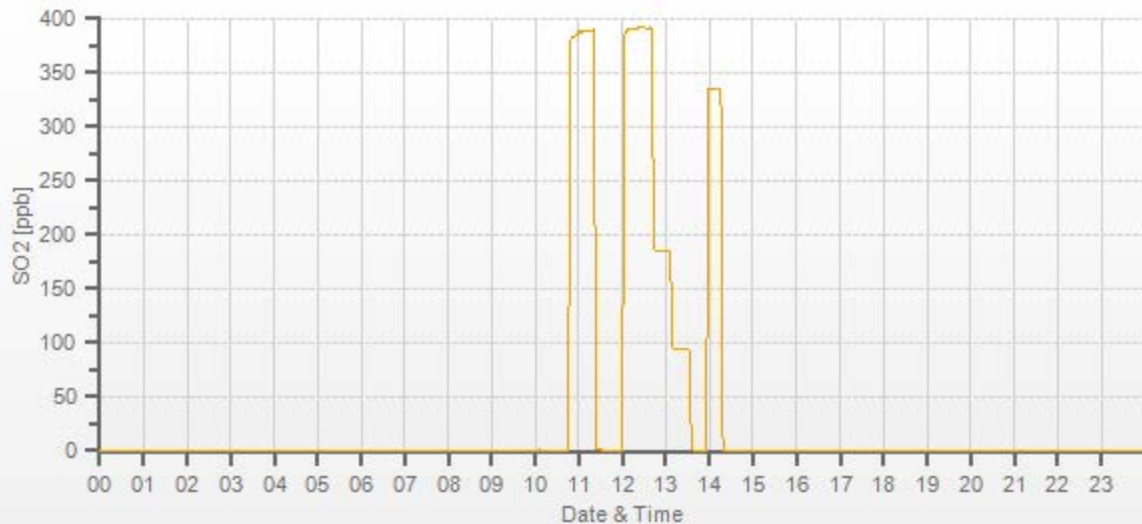
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.998	0.3%

COMMENTS:

Sample inlet filter was changed.

SO2[ppb] Station: St. Lina Daily: 15-09-2022 Type: AVG 1 Min. [1 Min.]



CAL-LICA-202209-01250

H2S Analyzer Calibration by Dilution



DATE:	15-Sep-2022	PREVIOUS CALIBRATION DATE:	17-Aug-2022
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	0.995
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	920
PURPOSE:	Routine	START TIME (MST):	10:04
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:21

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	CM18010058	FLOW (mL/min)	809
INITIAL		FINAL	
BKG/OFFSET	52.2	BKG/OFFSET	54.3
COEF/SLOPE	0.936	COEF/SLOPE	0.955
Expected (reference) Value	83.4	Expected (reference) Value	85.8

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	20-Apr-2022	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0002287	HIGH ID	n/a
CONC (ppm):	10.10	EXPIRY DATE	n/a
CYLINDER (psi):	1900	LOW ID	n/a
EXPIRY DATE	14-Sep-2024	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

START TIME:	10:07	SO2 Conc (ppb)	380
END TIME:	10:22	Analyzer Response (ppb)	0.0

CALIBRATION:

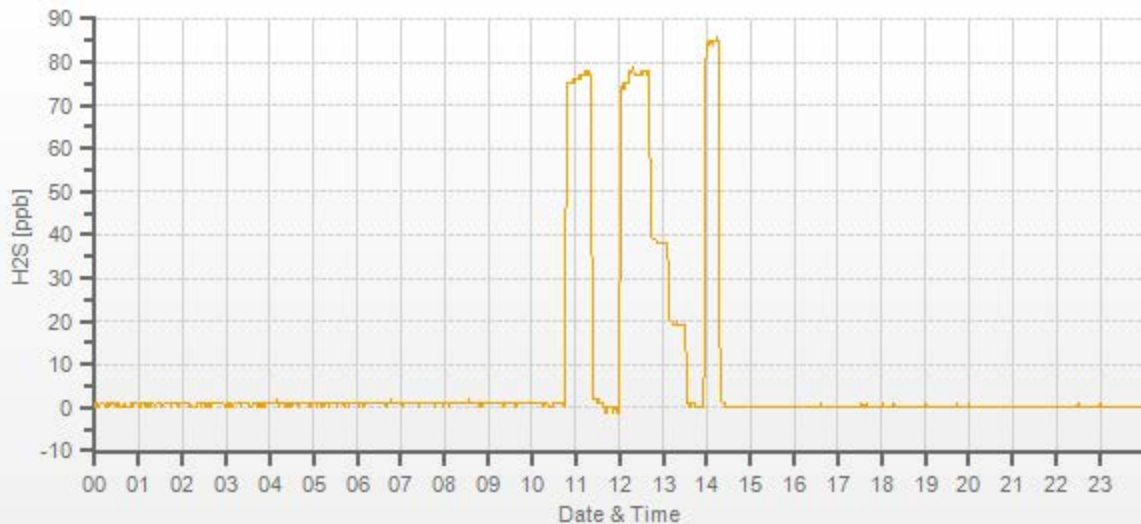
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
7500	7500	7500	0.00	1.1	0	1.018	1.002
7442	57.90	7500	77.97	77.7	77.8	1.018	1.002
7472	28.20	7500	37.98	n/a	38.1	n/a	0.997
7486	14.10	7500	18.99	n/a	19.1	n/a	0.994

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.997	0.1%

COMMENTS:

Sample inlet filter was changed.



NOx Calibration by Dilution/Gas-Phase Titration



CALIBRATION:				ANALYZER:			
DATE:	15-Sep-2022	PREVIOUS CALIBRATION DATE:	05-Aug-2022	MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
CLIENT:	LICA	TEMPERATURE (°C):	22.0	SERIAL #:	1180930029	NOx	1.001
LOCATION:	St. Lina	BAROMETRIC (mBar):	920	FLOW (mL/min)	810	NO	0.999
PURPOSE:	Routine	START TIME (MST):	10:02	RANGE (ppb)	500	NO2	0.998
PERFORMED BY:	Alex Yakupov	END TIME (MST):	16:39	GPT FOR O3?		No	

CALIBRATION SYSTEM:							
CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:		FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 105146	HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	NO/NOx (PPM):	50.0 50.1	HIGH EXPIRY:	n/a
ID:	26801218	ID:	132	CYLINDER (psi):	400	LOW ID:	n/a
MFC CALIBRATION DATE:	20-Apr-2022	OXIDIZER ID:	n/a	EXPIRY DATE	09-Jun-2029	LOW EXPIRY:	n/a

CALIBRATION SETTINGS:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
BKG/OFFSET:	4.2	4	n/a	BKG/OFFSET:	4.3	4.1	n/a
SLOPE/COEF/CE:	1.003	0.872	1	SLOPE/COEF/CE:	1.001	0.862	1

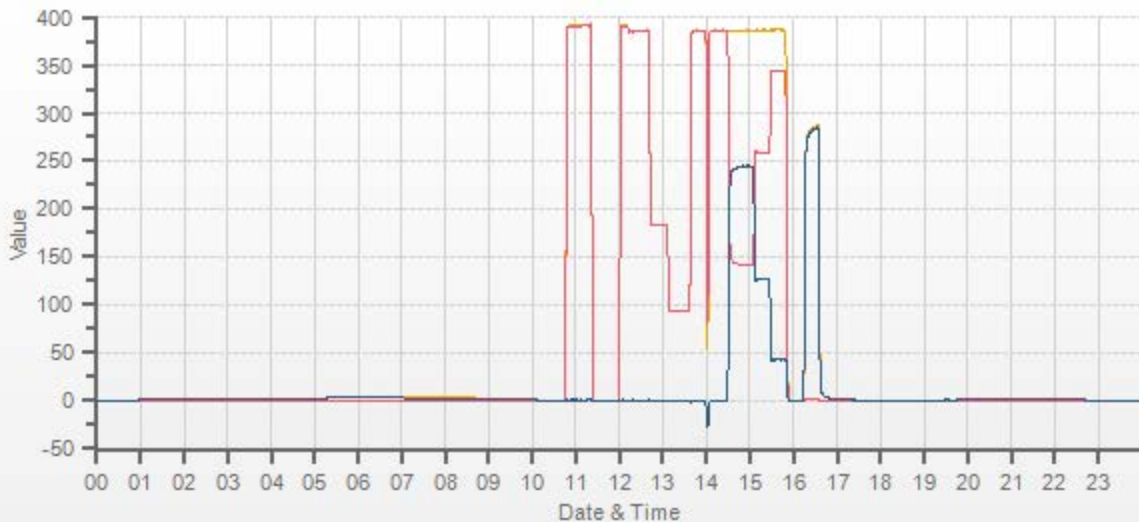
EXPECTED (REFERENCE) VALUE:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	288.0	2.5	285.5		286.7	2.8	283.9

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

NO/NOx CALIBRATION:																	
FLOW RATE			CONCENTRATION (ppb)									CORRECTION FACTOR (CF.)					
(mL/min)			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2
5000	38.50	5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.985	0.984	0.983	1.000	1.001	0.999
4959	38.50	4997	385.2	386.0	0.8	390.9	392.2	1.3	385.3	385.7	0.4	0.985	0.984	0.983	1.000	1.001	0.999
4981	18.00	4999	180.0	180.4	0.4	n/a	n/a	n/a	183.8	184.0	0.1	n/a	n/a	0.983	0.980	0.980	0.999
4990	9.00	4999	90.0	90.2	0.2	n/a	n/a	n/a	93.5	93.6	0.1	n/a	n/a	0.983	0.963	0.964	0.999

GPT CALIBRATION:										
Point	CALIBRATOR			INDICATED (ppb)			NO DROP / O3 Conc (ppb)	NO2 GAIN (ppb)	NO2 Corr. FACTOR	CONV. EFFICIENCY
	GAS	TOTAL	O3 SETPOINT	NO	NOx	NO2				
REFERENCE	38.50	4997	0	385.4	386.1	0.7	243.8	243.9	1.000	100.04%
AS-FOUND HIGH	38.50	4997	240	141.6	386.2	244.6	243.8	243.9	1.000	100.04%
ADJUSTED HIGH	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MID	38.50	4997	125	259.2	386.4	127.3	126.2	126.6	0.997	100.32%
LOW	38.50	4997	45	343.9	386.6	42.7	41.5	42	0.988	101.20%
NO2 adjustment not required.									AVERAGE:	100.52%

LINEAR REGRESSION ANALYSIS:				COMMENTS:
	CORRELATION	SLOPE	INTERCEPT	
NO	1.000	0.998	0.44%	
NOx	1.000	0.997	0.44%	
NO2	1.000	0.998	0.12%	



CAL-LICA-202209-01250

NOx Calibration by Dilution/Gas-Phase Titration



CALIBRATION:				ANALYZER:			
DATE:	20-Sep-2022	PREVIOUS CALIBRATION DATE:	15-Sep-2022	MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
CLIENT:	LICA	TEMPERATURE (°C):	23.2	SERIAL #:	1180930029	NOx	1.000
LOCATION:	St. Lina	BAROMETRIC (mBar):	925	FLOW (mL/min)	816	NO	1.001
PURPOSE:	As-Found	START TIME (MST):	14:00	RANGE (ppb)	500	NO2	1.000
PERFORMED BY:	Chris Wesson	END TIME (MST):	15:41	GPT FOR O3?		Yes	

CALIBRATION SYSTEM:							
CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:		FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Sabio	CYLINDER ID:	EY0001013	HIGH ID:	n/a
MODEL:	2010	MODEL:	2020EXP	NO/NOx (PPM):	49.2 49.4	HIGH EXPIRY:	n/a
ID:	26701218	ID:	18500921	CYLINDER (psi):	1900	LOW ID:	n/a
MFC CALIBRATION DATE:	20-Apr-2022	OXIDIZER ID:	n/a	EXPIRY DATE	11-Nov-2029	LOW EXPIRY:	n/a

CALIBRATION SETTINGS:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
BKG/OFFSET:	4.2	4	n/a	BKG/OFFSET:	4.3	4.1	n/a
SLOPE/COEF/CE:	1.003	0.872	1	SLOPE/COEF/CE:	1.001	0.862	1

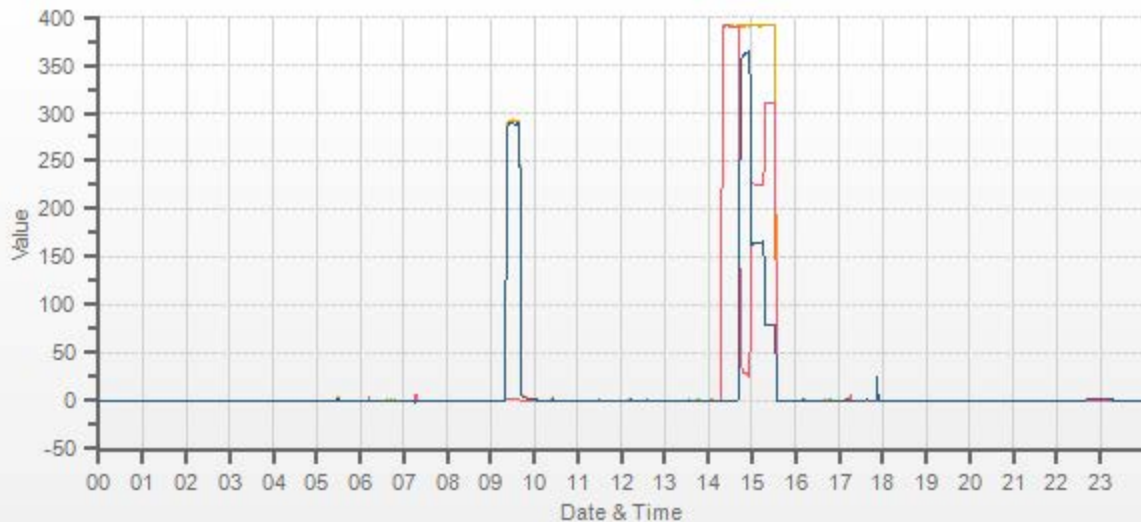
EXPECTED (REFERENCE) VALUE:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	288.0	2.5	285.5		286.7	2.8	283.9

CALIBRATION PARAMETERS:				
POINT	NO TARGET (PPB)	NO2 TARGET (PPB)	NO2 RANGE	O3 POINT
HIGH	395	250	240-275	n/a
MID	180	154	150-157	Mid
LOW	90	54	50-58	Low
EXTRA 1	n/a	340	300-370	High

NO/NOx CALIBRATION:																	
FLOW RATE			CONCENTRATION (ppb)									CORRECTION FACTOR (CF.)					
(mL/min)			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2
4999	40.10	4999	0.0	0.0	0.0	-0.3	-0.2	-0.1	n/a	n/a	n/a	1.012	1.015	n/a	n/a	n/a	n/a
4958	40.10	4998	394.7	396.3	1.6	389.7	390.1	0.4	n/a	n/a	n/a	1.012	1.015	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

GPT CALIBRATION:										
Point	CALIBRATOR			INDICATED (ppb)			NO DROP / O3 Conc (ppb)	NO2 GAIN (ppb)	NO2 Corr. FACTOR	CONV. EFFICIENCY
	GAS	TOTAL	O3 SETPOINT	NO	NOx	NO2				
REFERENCE	40.10	4998	0	389.7	390.1	0.4	n/a	n/a	n/a	n/a
AS-FOUND HIGH	40.10	4998	370	28.7	390.7	361.9	361	361.5	0.999	100.14%
ADJUSTED HIGH	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MID	40.10	4998	170	225.4	390.1	164.7	164.3	164.3	1.000	100.00%
LOW	40.10	4998	80	311.3	390.8	79.5	78.4	79.1	0.991	100.89%
NO2 adjustment not required.									AVERAGE:	n/a

LINEAR REGRESSION ANALYSIS:				COMMENTS: GPT for O3 only DO NOT REPORT
	CORRELATION	SLOPE	INTERCEPT	
NO	n/a	n/a	n/a	
NOx	n/a	n/a	n/a	
NO2	n/a	n/a	n/a	



CAL-LICA-202209-01250

Ozone Calibration by Photometer (Varying UV Lamp)



DATE:	14-Sep-2022	PREVIOUS CALIBRATION DATE:	04-Aug-2022
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	1.001
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	919
PURPOSE:	Routine	START TIME (MST):	11:36
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:12

ANALYZER:

MAKE/MODEL	Thermo 49i	RANGE	500 ppb
SERIAL #	1002240371	FLOW (mL/min)	1482
INITIAL		FINAL	
BKG/OFFSET	0.1	BKG/OFFSET	0.1
COEF/SLOPE	1.01	COEF/SLOPE	1.009
Expected (reference) Value	220	Expected (reference) Value	222.5

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	20-Apr-2022	OXIDIZER ID:	n/a
CALIBRATION METHOD:		Photometer (Varying UV Lamp)	
GPT DATE:	n/a	GPT END TIME:	n/a

CALIBRATION PARAMETERS:

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

CALIBRATION:

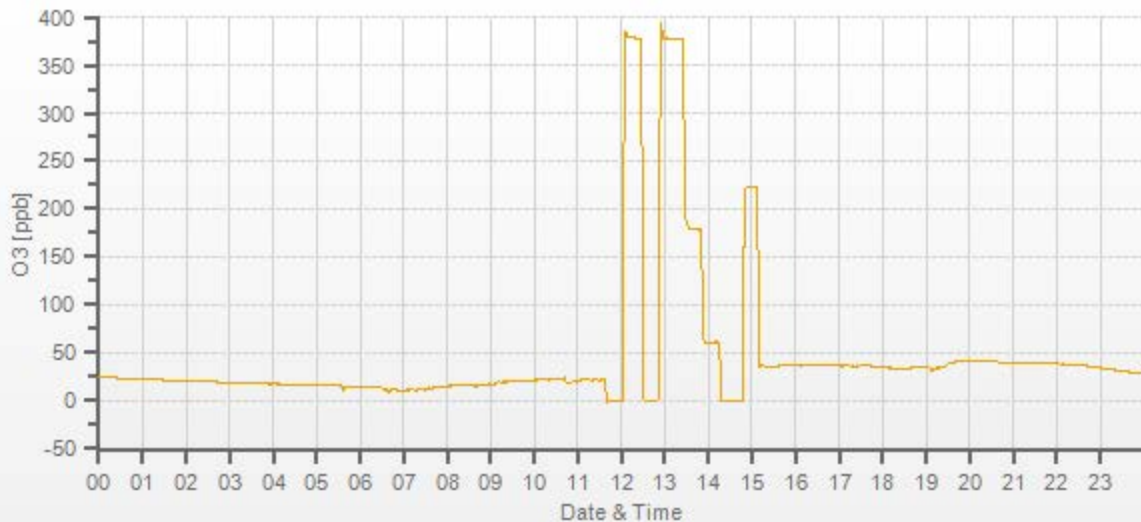
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
5000	XXXX	5000	0.0	0.0	0.0	XXXX	XXXX
5000	XXXX	5000	378.0	377.5	376.9	1.001	1.003
5000	XXXX	5000	180.0	n/a	179.4	n/a	1.003
5000	XXXX	5000	60.0	n/a	60.5	n/a	0.992

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.996	0.1%

COMMENTS:

Sampe inlet filter was changed.



Ozone Calibration by Direct GPT



DATE:	20-Sep-2022	PREVIOUS CALIBRATION DATE:	14-Sep-2022
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	1.003
CLIENT:	LICA	TEMPERATURE (°C):	23.4
LOCATION:	St. Lina	BAROMETRIC (mBar):	925
PURPOSE:	Removal/Shut-down	START TIME (MST):	15:41
PERFORMED BY:	Chris Wesson	END TIME (MST):	17:29

ANALYZER:

MAKE/MODEL	Thermo 49i	RANGE	500 ppb
SERIAL #	1002240371	FLOW (mL/min)	1482
INITIAL		FINAL	
BKG/OFFSET	0.1	BKG/OFFSET	n/a
COEF/SLOPE	1.009	COEF/SLOPE	n/a
Expected (reference) Value	220.5	Expected (reference) Value	n/a

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Sabio
MODEL:	2010	MODEL:	2020 EXP
ID:	26701218	ID:	18500921
MFC CALIBRATION DATE:	13-Sep-2022	OXIDIZER ID:	n/a
CALIBRATION METHOD:		Direct GPT	
GPT DATE:	20-Sep-2022	GPT END TIME:	15:41

CALIBRATION PARAMETERS:

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

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
4998	 	4998	0.0	-0.2	n/a	 	
4998	 	4998	361.0	378.6	n/a	0.953	n/a
4998	 	4998	164.3	171.3	n/a	0.958	n/a
4998	 	4998	78.4	71.7	n/a	1.090	n/a

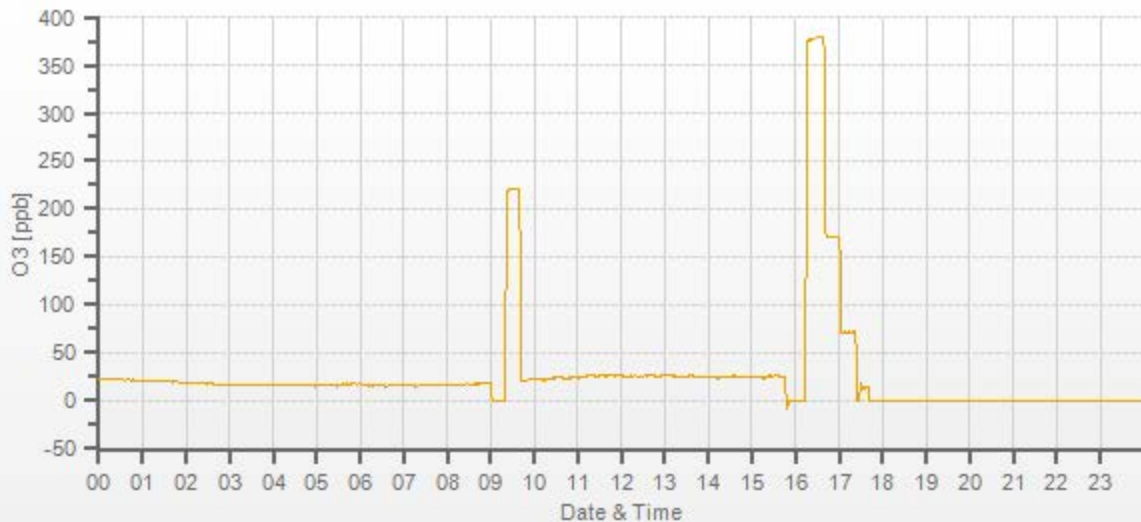
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.060	-0.9%

COMMENTS:

No issues

O3[ppb] Station: St. Lina Daily: 20-09-2022 Type: AVG 1 Min. [1 Min.]



CAL-LICA-202209-01250

Ozone Calibration by Direct GPT



DATE:	21-Sep-2022	PREVIOUS CALIBRATION DATE:	n/a
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	n/a
CLIENT:	LICA	TEMPERATURE (°C):	23.2
LOCATION:	St. Lina	BAROMETRIC (mBar):	927
PURPOSE:	Install/Post-Repair	START TIME (MST):	11:05
PERFORMED BY:	Chris Wesson	END TIME (MST):	13:15

ANALYZER:

MAKE/MODEL	Thermo 49iQ	RANGE	500 ppb
SERIAL #	12208316586	FLOW (mL/min)	1310
INITIAL		FINAL	
BKG/OFFSET	0	BKG/OFFSET	1.2
COEF/SLOPE	1.016	COEF/SLOPE	0.966
Expected (reference) Value	n/a	Expected (reference) Value	233.4

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Sabio
MODEL:	2010	MODEL:	2020 EXP
ID:	26701218	ID:	18500921
MFC CALIBRATION DATE:	13-Sep-2022	OXIDIZER ID:	n/a
CALIBRATION METHOD:		Direct GPT	
GPT DATE:	20-Sep-2022	GPT END TIME:	15:41

CALIBRATION PARAMETERS:

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

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
4998	 	4998	0.0	n/a	0.0	 	
4998	 	4998	361.0	n/a	361.7	n/a	0.998
4998	 	4998	164.3	n/a	161.3	n/a	1.019
4998	 	4998	78.4	n/a	76.3	n/a	1.028

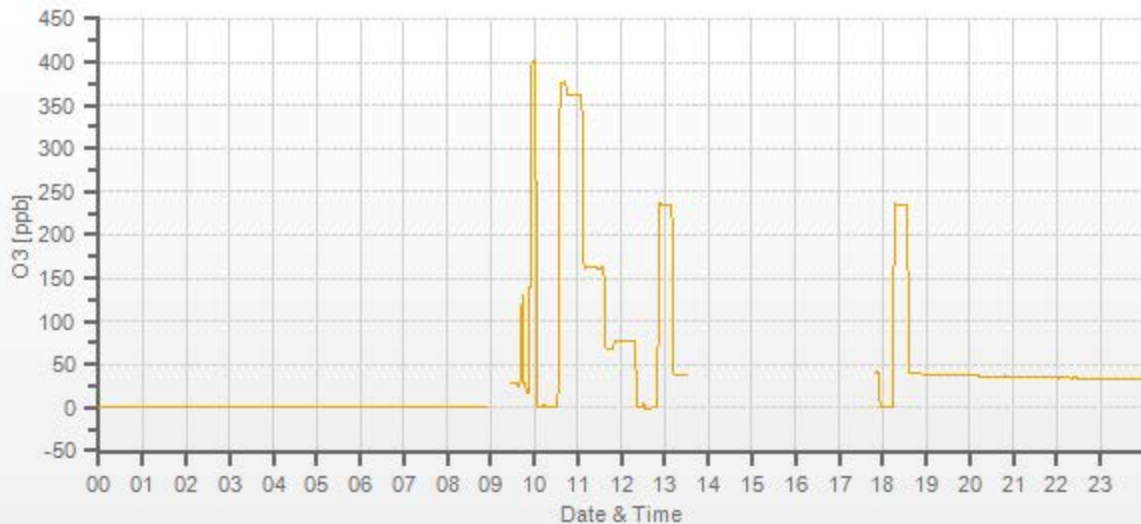
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.004	-0.3%

COMMENTS:

11:38-11:48: tech error. Calibrator setting incorrect. Low point restarted.

O3[ppb] Station: St. Lina Daily: 21-09-2022 Type: AVG 1 Min. [1 Min.]



CAL-LICA-202209-01250

Methane/Non-Methane Analyzer Calibration by Dilution



CALIBRATION:				ANALYZER:			
DATE:	14-Sep-2022	PREVIOUS CALIBRATION DATE:	05-Aug-2022	VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
CLIENT:	LICA	TEMPERATURE (°C):	22.0		Thermo 55i	1180030034	1010
LOCATION:	St. Lina	BAROMETRIC (mBar):	919	PARAMETER:	CH4	NMHC	THC
PURPOSE	Routine	START TIME (MST):	11:34	RANGE (ppm):	20	20	40
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:12	PREVIOUS CF:	1.001	1.000	1.000

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:		FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 23593	HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	CH ₄ /C ₃ H ₈ (ppm):	603.0 204.0	HIGH EXPIRY:	n/a
ID:	26801218	ID:	132	CYLINDER (psi):	1800	LOW ID:	n/a
MFC CALIBRATION DATE:	20-Apr-2022	OXIDIZER ID:	115	EXPIRY DATE	18-Aug-2029	LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

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

EXPECTED (REFERENCE) VALUE:

INITIAL	CH ₄	NMHC	THC	FINAL	CH ₄	NMHC	THC
	9.45	11.09	20.54		9.51	11.11	20.62

CALIBRATION:

FLOW RATE			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
(mL/min)			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC
3100	X	3100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X	X	X	X	X	X
3025	74.60	3100	14.51	13.50	28.01	14.36	13.48	27.84	14.49	13.54	28.04	1.011	1.001	1.006	1.001	0.997	0.999
3063	37.30	3100	7.26	6.75	14.01	n/a	n/a	n/a	7.26	6.79	14.06	n/a	n/a	n/a	0.999	0.994	0.996
3081	18.60	3100	3.62	3.37	6.98	n/a	n/a	n/a	3.64	3.44	7.08	n/a	n/a	n/a	0.994	0.978	0.986

LINEAR REGRESSION ANALYSIS:

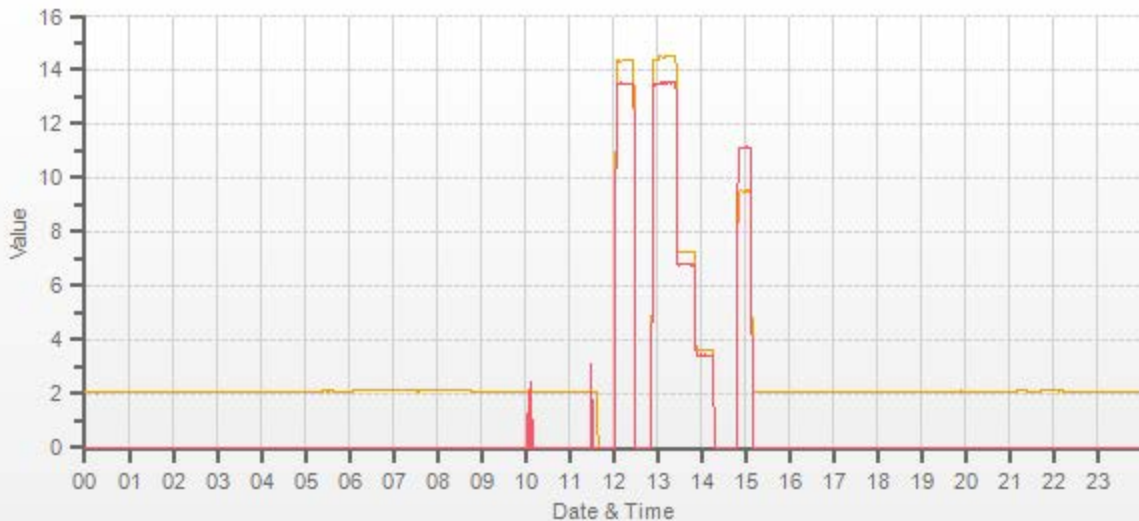
	CORRELATION	SLOPE	INTERCEPT
CH ₄	1.000	0.998	0.1%
NMHC	1.000	1.001	0.1%
THC	1.000	1.000	0.1%

Comments:

Sample inlet filter was changed. A new deionizer was installed for H2 generator

Use Zero Chrom?

Yes



CAL-LICA-202209-01250

Thermo 5030i SHARP Monitor Monthly Check

Date: September 15, 2022	Performed By/Reviewer: Alex Yakupov Chris Wesson
Company: LICA	Start Time (mst): 16:03
Station Name/Location: St. Lina	End Time (mst): 16:54
Previous Audit Date: August 5, 2022	Calibration Purpose: routine monthly
Parameter: PM 2.5	Weather Conditions: A few clouds

SHARP 5030i Information and Status:

Serial Number: CM 17091001 **Filter Tape Counter:** 456

Reference Standards:

Air Flow

	Manometer	Orifice	Pressure:	Temp / RH:
Make:	Dwyer	FTS Chinook	Fisher Scientific	Vaisala HMP76B
Model:	Mark III	#5792966	FB 61291	HMP 76B
Serial Number:	ID # 3	ID # 4	130168457	T1640130
Calibration Expiration Date:	February 27, 2023	December 5, 2022	February 17, 2023	June 14, 2023

Ambient Temperature (°C)				Range	Action
	Reference	SHARP	Difference	< ± 2°C	OK
#1	18.90	18.5	0.4	2-3 °C	Recalibrate
				> 3°C	Fail

Ambient Relative Humidity (%RH)				Range	Action
As Found:				< ± 2 %RH	OK
	Reference	SHARP	Difference	2-5 %RH	Recalibrate
#1	54.80	56.0	-1.2	> 5 %RH	Fail

Barometric Pressure (mmHg)				Range	Action
As Found:				< ± 10 mmHg	OK
	Reference	SHARP	Difference	10-12 mmHg	Recalibrate
#1	691.0	690.0	1.0	> 12 mmHg	Fail

Flow Audit (L/min)						Range	Action
As Found:						< ± 4%	OK
	Reference	SHARP		% Difference		4-5%	Recalibrate
#1	16.64	16.67		0.16%		>5%	Fail
#2	16.64	16.67					
#3	16.65	16.67					
Average	16.64	16.67					

Leak Check (L/min)							
Without Leak Check Adapter			With leak Check Adapter				
	Reference	SHARP	Difference	Reference	SHARP	Difference	
#1	16.64	16.67	-0.03	16.56	16.61	-0.05	<i>Leak Limit: 0.80 L/min</i>
						LEAK RATE:	-0.02

Meteorological System Checklist



Date:	September 15, 2022
Technician:	Alex Yakupov / Audit time: 16:56 - 17:34
Reviewer:	Chris Wesson
Station:	St. Lina

Unit:	Make:	Model:	Serial #:
Temperature Sensor:	Rotronic	HC2-S3	20221366
Barometric Pressure Sensor:	Met One	O90D	F4498
Relative Humidity Sensor:	Rotronic	HC2-S3	20221366
Anemometer:	RM Young	05305VK	161466

PRECIPITATION SENSOR CHECK

Checklist:	Reply:	Comments:
Is the sensor Level?	yes	
Is the heater operating properly?	yes	
Are the bucket drain holes clean?	yes	
Is the screen on the housing? (screen should be on between July and September)	yes	
Is the housing clean?	yes	
Is the area around the housing clean and free from obstacles?	yes	

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

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

AMBIENT TEMPERATURE SENSOR CHECK

Parameter:	Temperature @ 2 metres		
Reference Thermometer ID:	Vaisala / HM70 / #T1640130/ Jun 14, 2023		
Reference Temperature (°C):	18.1		
Station - Ambient Temperature (°C):	18.4		
Temperature Difference (°C):	0.3		

BAROMETRIC PRESSURE SENSOR CHECK

Reference Barometer ID:	Fisher Scientific #130168457, Exp. Date: Feb 17, 2023		
Reference Pressure - Units/Reading:	millibar	920	
Station Pressure - Units/Reading:	millibar	919	
Pressure Tolerance +/- 15% of error:	782 - 1058	0.11%	

RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK

Reference Hygrometer ID:	Vaisala / HM70 / #T1640130/ Jun 14, 2023		
Reference Hygrometer % RH- Reading:	54.40		
Station Hygrometer % RH- Reading:	55.20		
RH Tolerance +/- 15% of difference:	46.24 - 62.56	-1.5%	

ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK

WIND SPEED		WIND DIRECTION	
Previous check date:	August 5, 2022	Previous check date:	August 5, 2022
Wind Speed Observed (kph):	10-20	Wind Direction Observed:	SE
Wind speed on Data Logger (kph):	16.3	Wind Direction on Data Logger:	SE
	Annual audit: Jul 22, 2022	Wind Direction Pass/Fail?:	Pass

Comments

Station (Trailer) temperature vs Reference gauge temperature: 22.6 vs 23.4 , passed.

End of Report



Lakeland Industry & Community Association

SEPTEMBER 2022

Ambient Air Monitoring Calibration Report

- LAC LA BICHE STATION-

CAL-LICA-202209-01690

Station Operation and Maintenance:

Bureau Veritas Canada

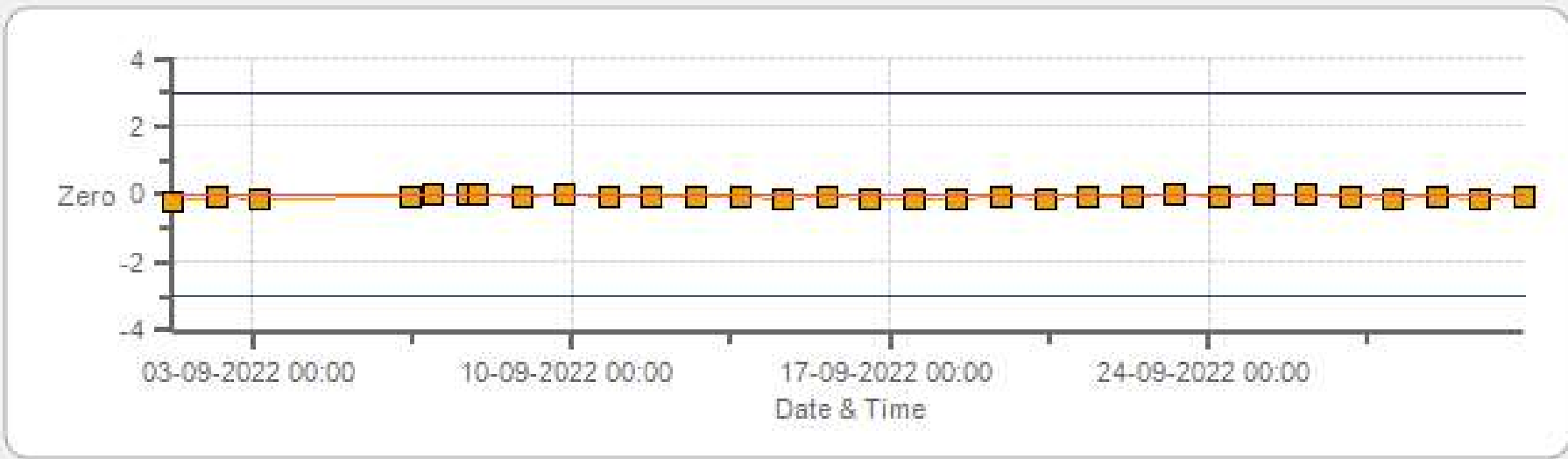
Data Validation and Report:

LICA / Bureau Veritas Canada

October 20, 2022

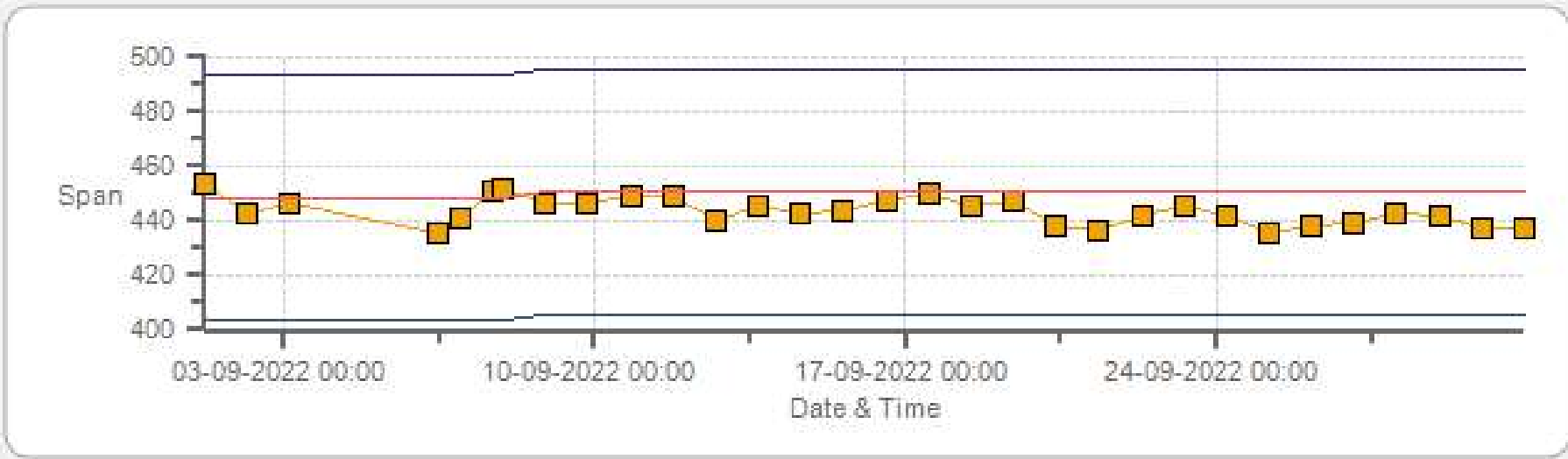
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2[ppb] Calibration: Lac La Biche Monthly: 09-2022 Type: SpanAndZero - Zero



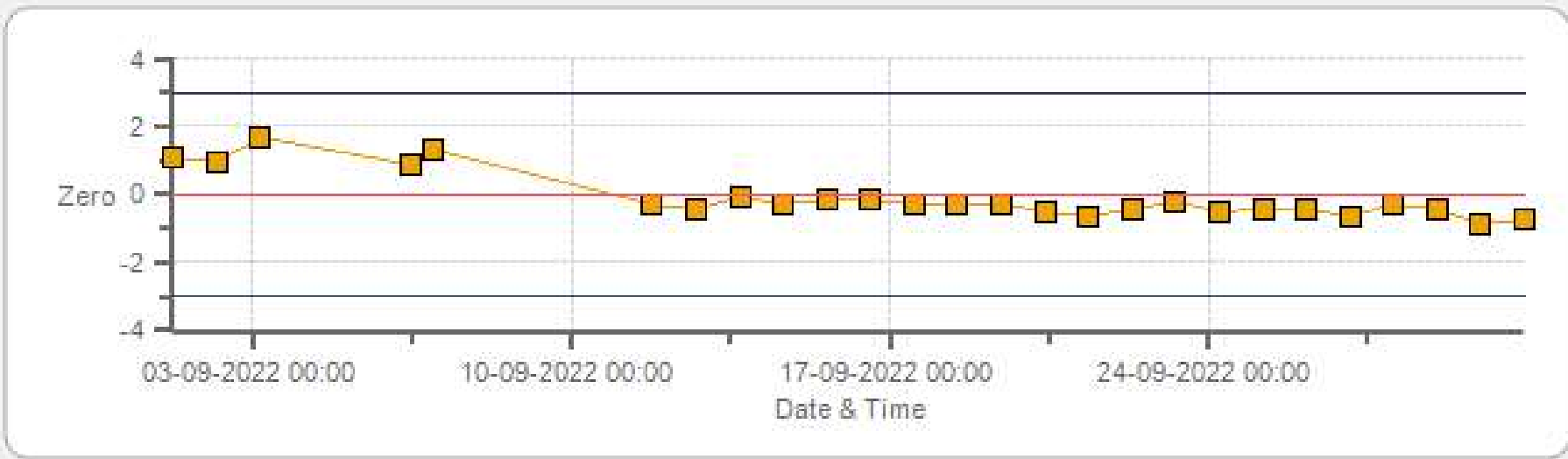
Zero Zero Ref Zero Low Zero High

SO2[ppb] Calibration: Lac La Biche Monthly: 09-2022 Type: SpanAndZero - Span



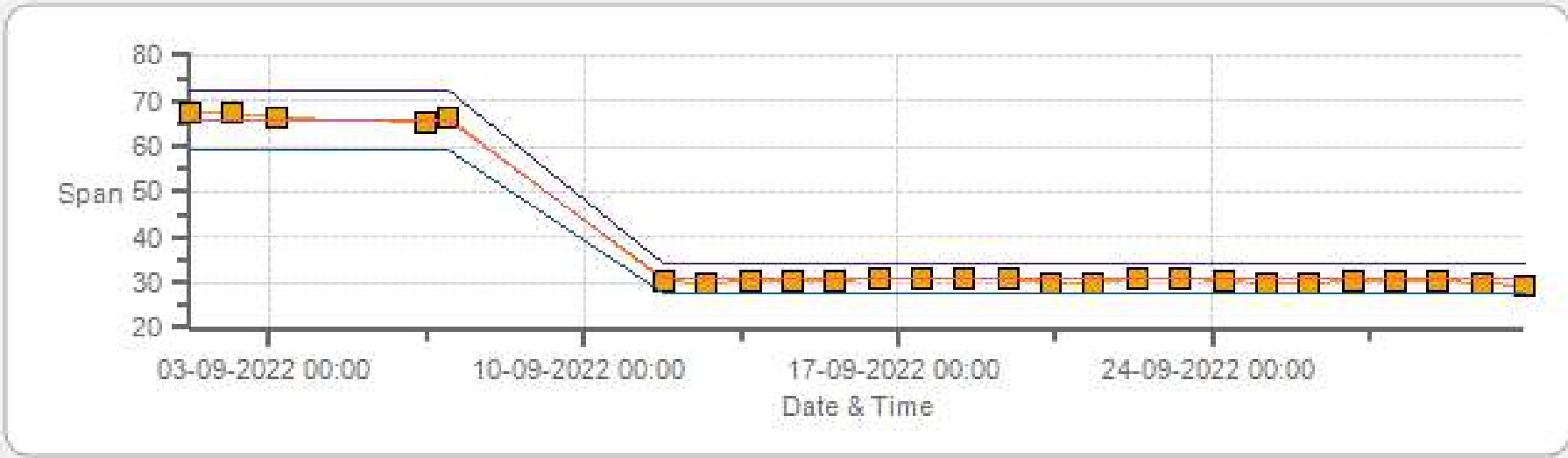
Span SpanRef Span Low Span High

H2S[ppb] Calibration: Lac La Biche Monthly: 09-2022 Type: SpanAndZero - Zero



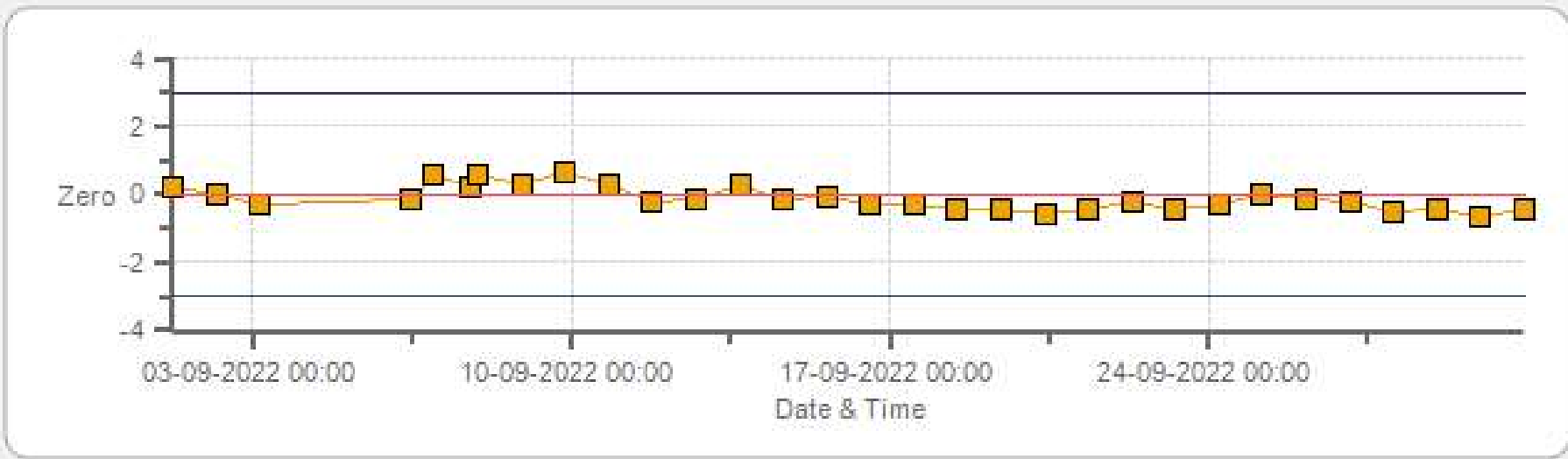
Zero Zero Ref Zero Low Zero High

H2S[ppb] Calibration: Lac La Biche Monthly: 09-2022 Type: SpanAndZero - Span



Span SpanRef Span Low Span High

NOX[ppb] Calibration: Lac La Biche Monthly: 09-2022 Type: SpanAndZero - Zero



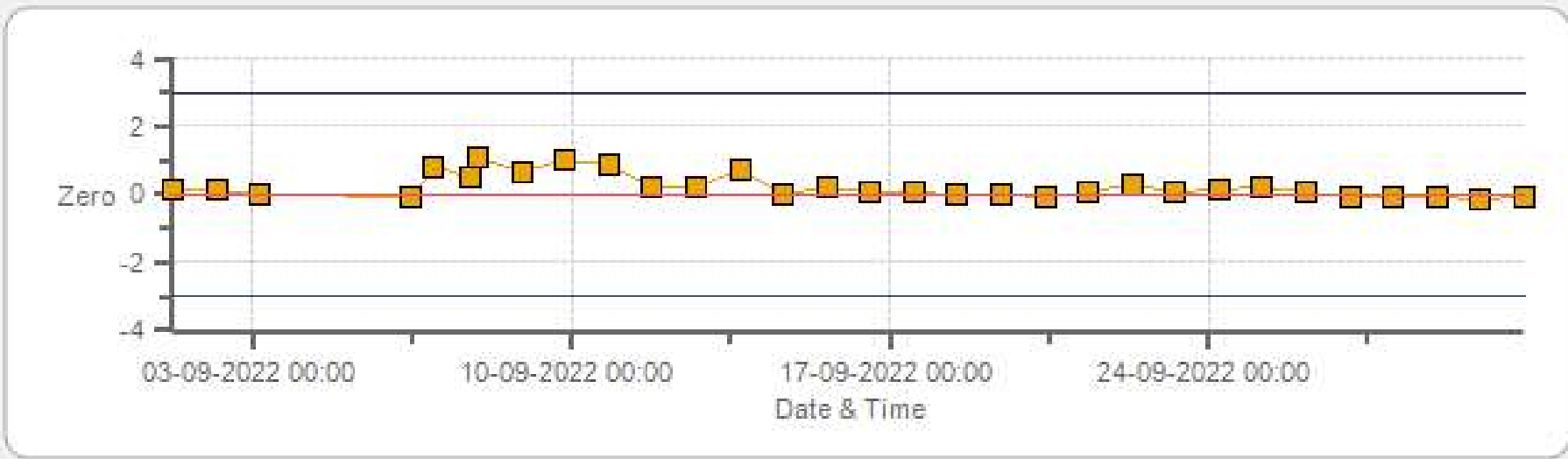
Zero Zero Ref Zero Low Zero High

NOX[ppb] Calibration: Lac La Biche Monthly: 09-2022 Type: SpanAndZero - Span



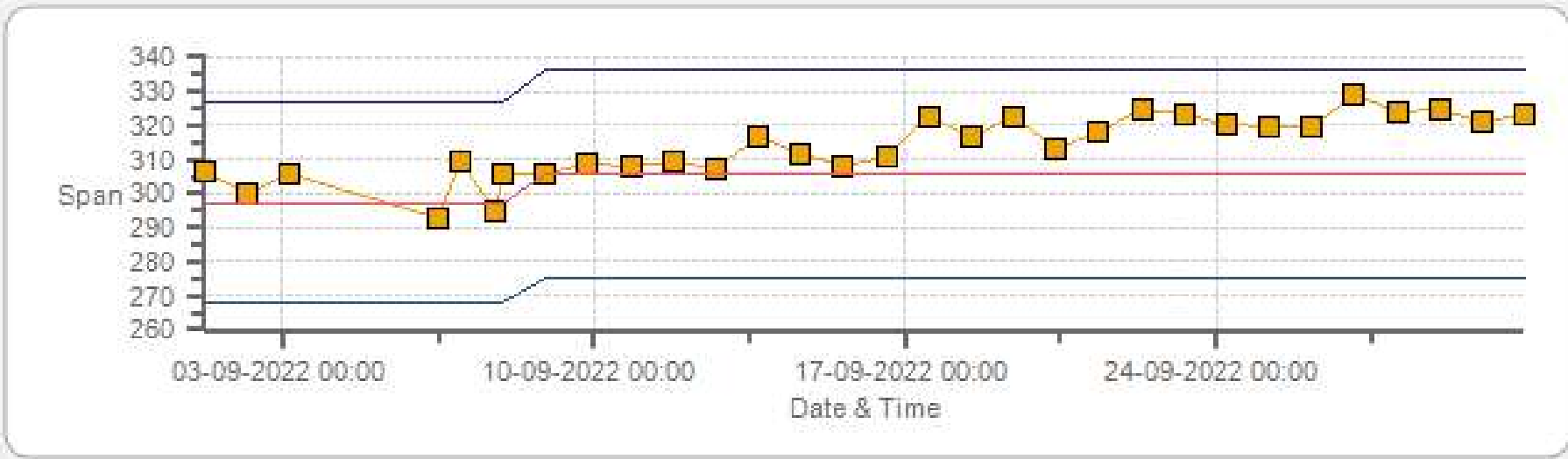
Span SpanRef Span Low Span High

NO2[ppb] Calibration: Lac La Biche Monthly: 09-2022 Type: SpanAndZero - Zero



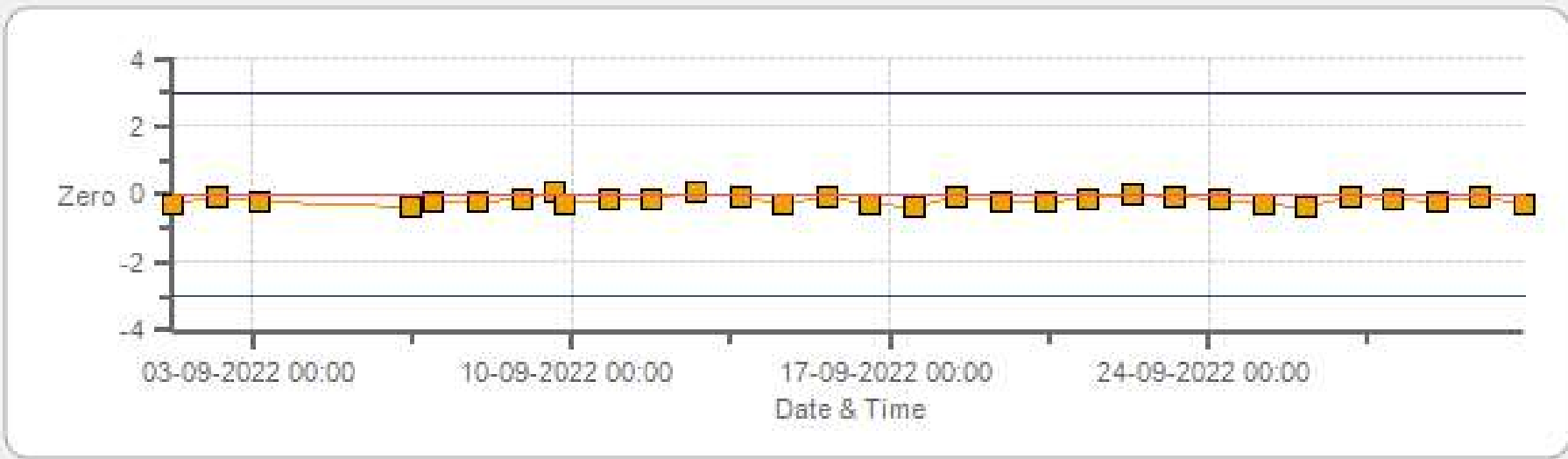
Zero Zero Ref Zero Low Zero High

NO2[ppb] Calibration: Lac La Biche Monthly: 09-2022 Type: SpanAndZero - Span



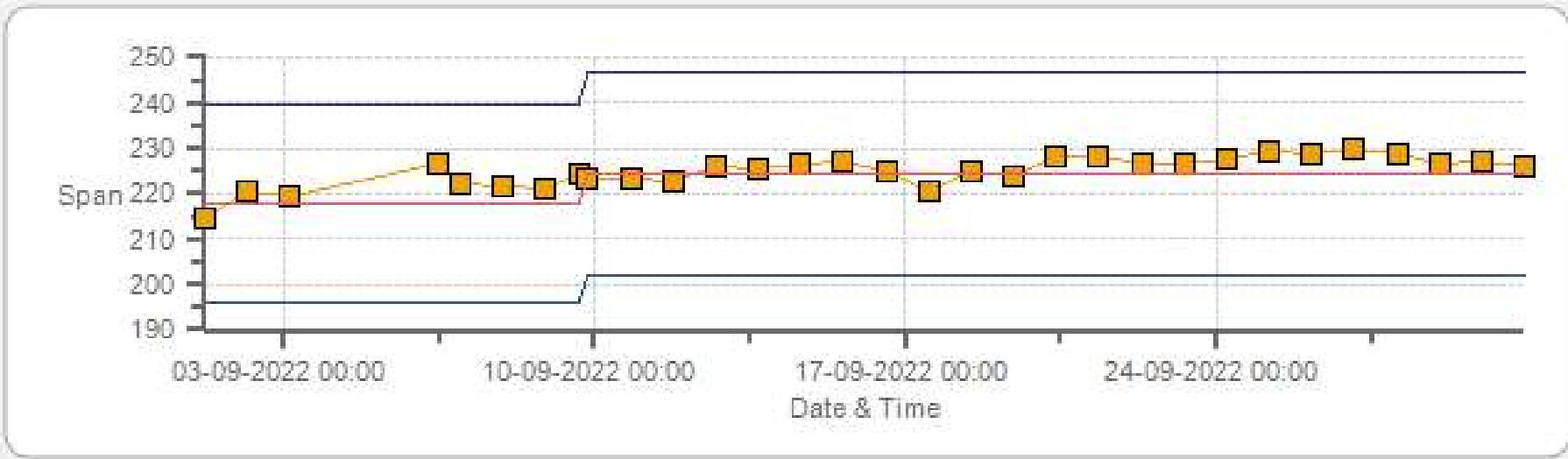
Span SpanRef Span Low Span High

O3[ppb] Calibration: Lac La Biche Monthly: 09-2022 Type: SpanAndZero - Zero



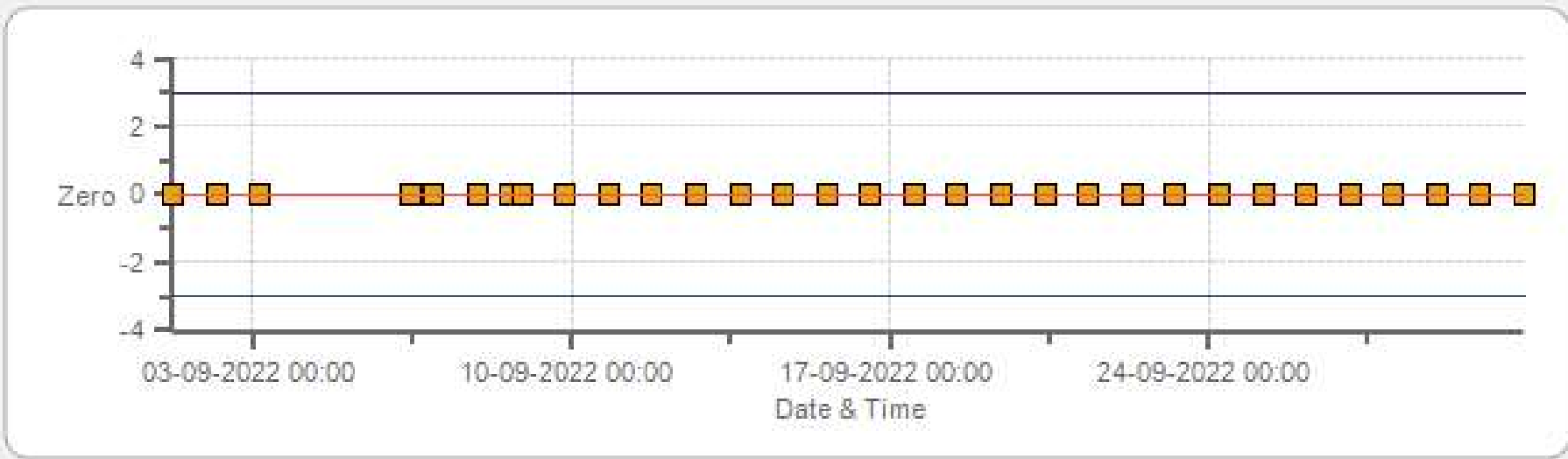
Zero Zero Ref Zero Low Zero High

O3[ppb] Calibration: Lac La Biche Monthly: 09-2022 Type: SpanAndZero - Span



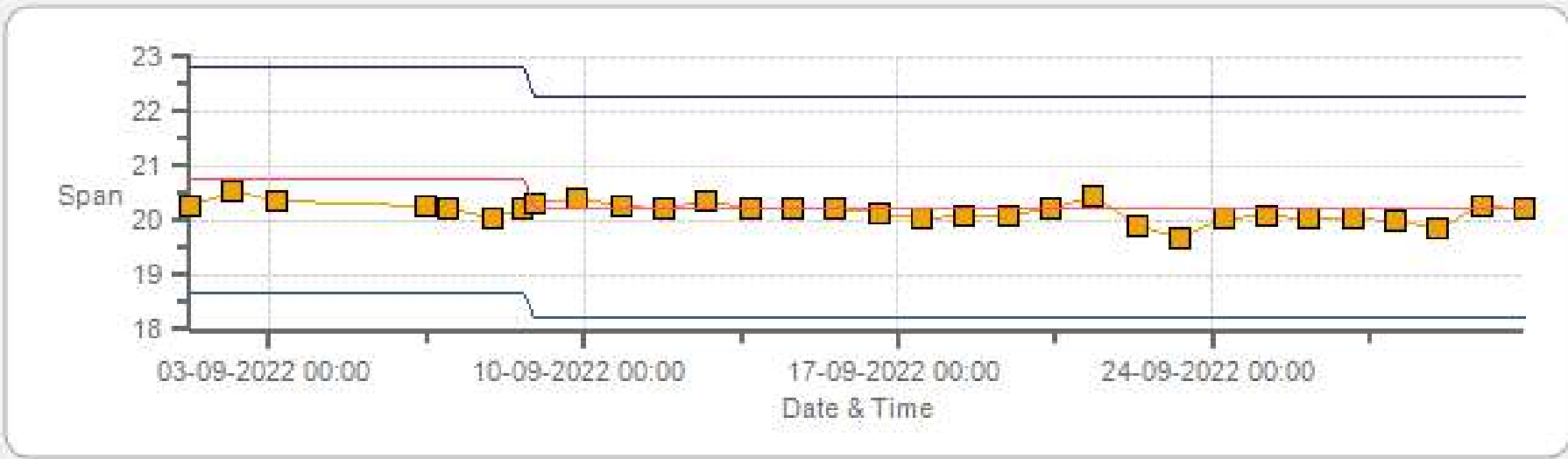
Span SpanRef Span Low Span High

THC55[ppm] Calibration: Lac La Biche Monthly: 09-2022 Type: SpanAndZero - Zero



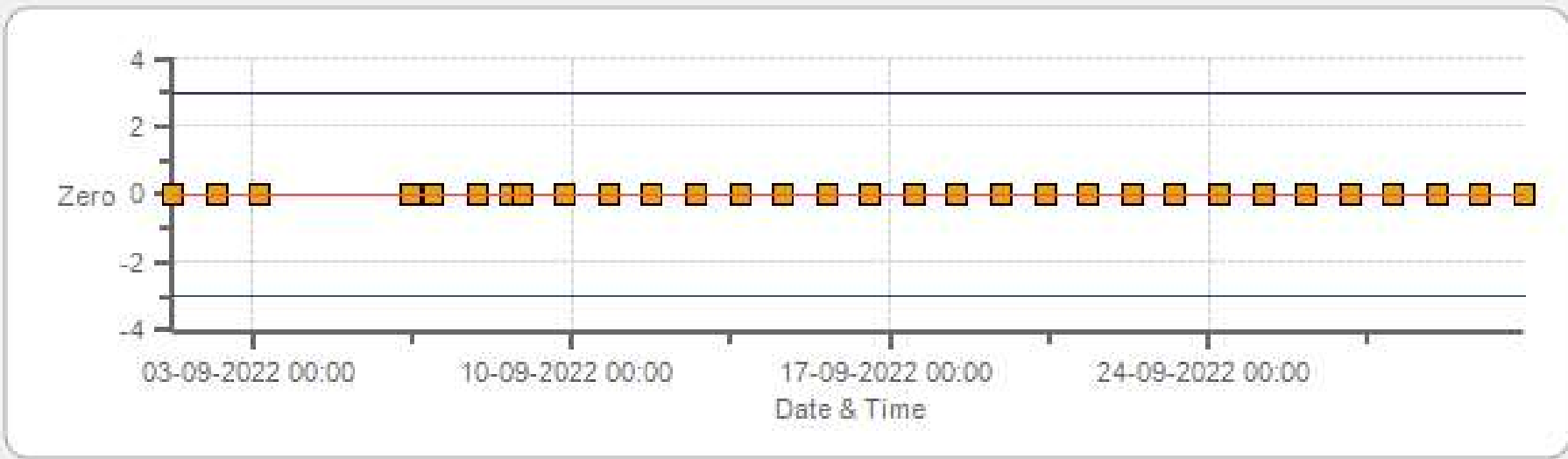
Zero Zero Ref Zero Low Zero High

THC55[ppm] Calibration: Lac La Biche Monthly: 09-2022 Type: SpanAndZero - Span



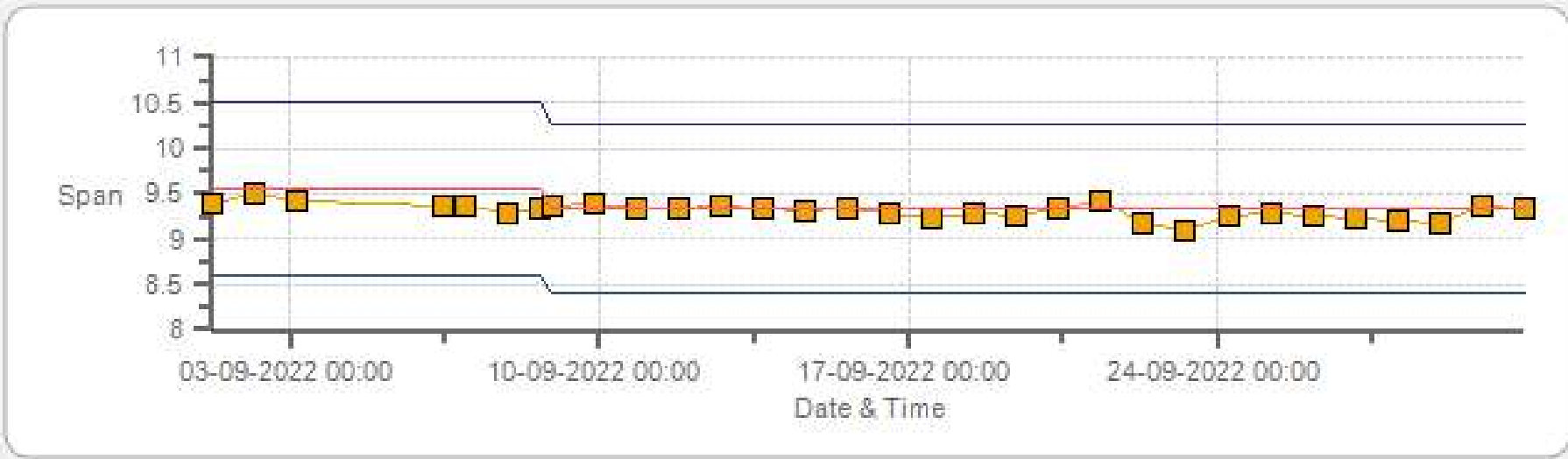
Span SpanRef Span Low Span High

CH4[ppm] Calibration: Lac La Biche Monthly: 09-2022 Type: SpanAndZero - Zero



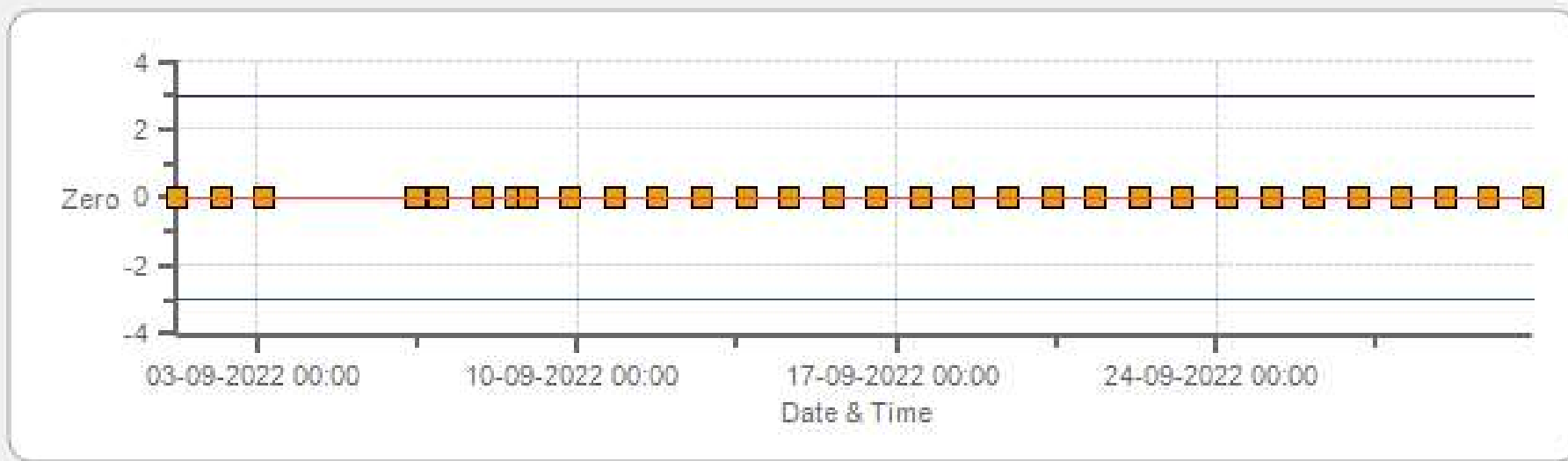
Zero Zero Ref Zero Low Zero High

CH4[ppm] Calibration: Lac La Biche Monthly: 09-2022 Type: SpanAndZero - Span



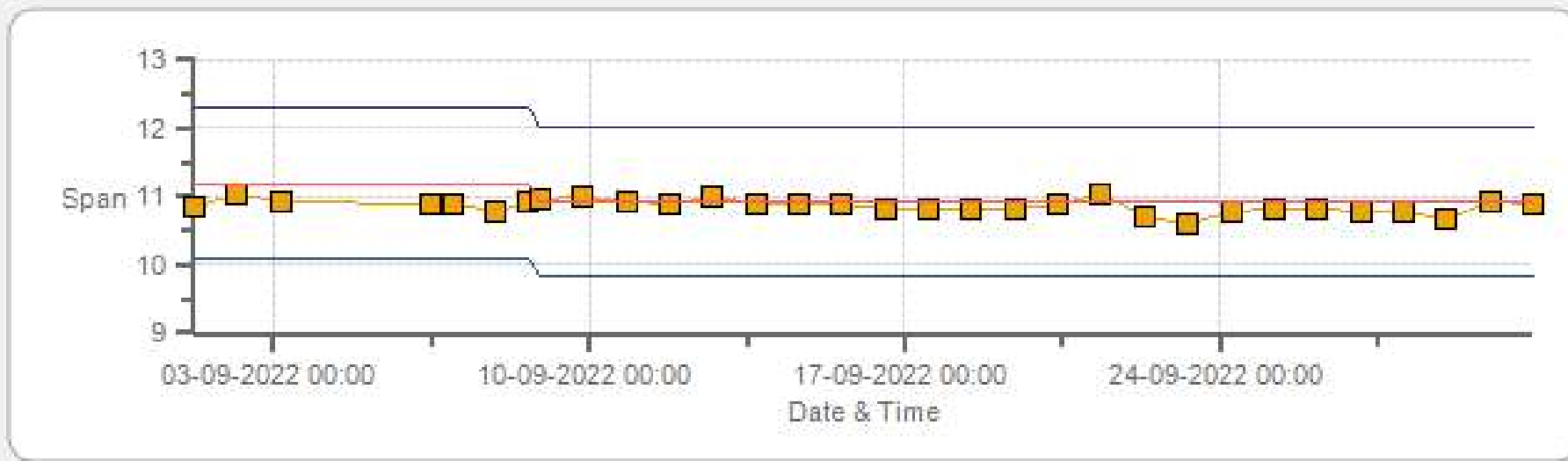
Span SpanRef Span Low Span High

NMHC[ppm] Calibration: Lac La Biche Monthly: 09-2022 Type: SpanAndZero - Zero



Zero Zero Ref Zero Low Zero High

NMHC[ppm] Calibration: Lac La Biche Monthly: 09-2022 Type: SpanAndZero - Span



Span SpanRef Span Low Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution



DATE:	07-Sep-2022	PREVIOUS CALIBRATION DATE:	16-Aug-2022
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Lac La Biche	BAROMETRIC (mBar):	943
PURPOSE:	Routine	START TIME (MST):	12:34
PERFORMED BY:	Alex Yakupov	END TIME (MST):	16:50

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1180320043	FLOW (mL/min)	455
INITIAL		FINAL	
BKG/OFFSET	5.91	BKG/OFFSET	6.04
COEF/SLOPE	1.083	COEF/SLOPE	1.096
Expected (reference) Value	448.5	Expected (reference) Value	450.7

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010	MODEL:	T701
ID:	26801218	ID:	132
MFC CALIBRATION DATE:	20-Apr-2022	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL 105146	HIGH ID	n/a
CONC (ppm):	50.80	EXPIRY DATE	n/a
CYLINDER (psi):	400	LOW ID	n/a
EXPIRY DATE	09-Jun-2029	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

POINT	HIGH	MID	LOW
TARGET	390	190	95
RANGE	300 - 400	150 - 200	50 - 100

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

START TIME:	n/a	SO2 Conc (ppb)	n/a
END TIME:	n/a	Analyzer Response (ppb)	n/a

CALIBRATION:

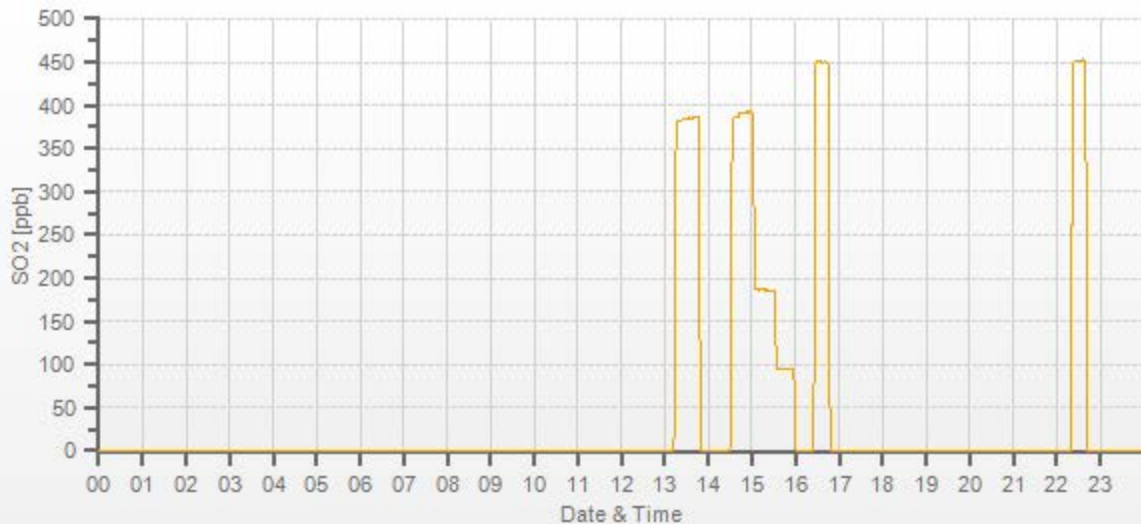
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
5000	38.50	5000	0.00	-0.1	0	1.015	0.997
4962	38.50	5000	391.16	385.13	392.49	1.015	0.997
4982	18.00	5000	182.88	n/a	186.38	n/a	0.981
4991	9.00	5000	91.44	n/a	94.39	n/a	0.969

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.002	0.3%

COMMENTS:

Sample inlet filter was changed.



H2S Analyzer Calibration by Dilution



DATE:	07-Sep-2022	PREVIOUS CALIBRATION DATE:	16-Aug-2022
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	1.018
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Lac La Biche	BAROMETRIC (mBar):	943
PURPOSE:	Removal/Shut-down	START TIME (MST):	12:32
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:04

ANALYZER:

MAKE/MODEL	Teledyne T100	RANGE	100 ppb
SERIAL #	1014	FLOW (mL/min)	554
INITIAL		FINAL	
BKG/OFFSET	15.9	BKG/OFFSET	n/a
COEF/SLOPE	0.998	COEF/SLOPE	n/a
Expected (reference) Value	65.9	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:	22-Apr-2022	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0002287	HIGH ID	n/a
CONC (ppm):	10.10	EXPIRY DATE	n/a
CYLINDER (psi):	1700	LOW ID	n/a
EXPIRY DATE	14-Sep-2024	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

START TIME:	12:48	SO2 Conc (ppb)	380
END TIME:	13:03	Analyzer Response (ppb)	0.0

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
7500	7500	7500	0.00	1.5	n/a	0.978	n/a
7442	57.90	7500	77.97	81.2	n/a	0.978	n/a
7472	28.20	7500	37.98	39.4	n/a	1.002	n/a
7486	14.10	7500	18.99	20.1	n/a	1.021	n/a

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.025	1.0%

COMMENTS:

Removal calibration to allow repair/testing due to low lamp voltage



H2S Analyzer Calibration by Dilution



DATE:	08-Sep-2022	PREVIOUS CALIBRATION DATE:	n/a
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	n/a
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Lac La Biche	BAROMETRIC (mBar):	950
PURPOSE:	Install/Post-Repair	START TIME (MST):	12:20
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:56

ANALYZER:

MAKE/MODEL	API 101A	RANGE	100 ppb
SERIAL #	324	FLOW (mL/min)	523
INITIAL		FINAL	
BKG/OFFSET	n/a	BKG/OFFSET	32.9
COEF/SLOPE	n/a	COEF/SLOPE	0.991
Expected (reference) Value	n/a	Expected (reference) Value	to be adjusted

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	22-Apr-2022	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0002287	HIGH ID	n/a
CONC (ppm):	10.10	EXPIRY DATE	n/a
CYLINDER (psi):	1800	LOW ID	n/a
EXPIRY DATE	14-Sep-2024	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

START TIME:	12:24	SO2 Conc (ppb)	380
END TIME:	12:39	Analyzer Response (ppb)	0.0

CALIBRATION:

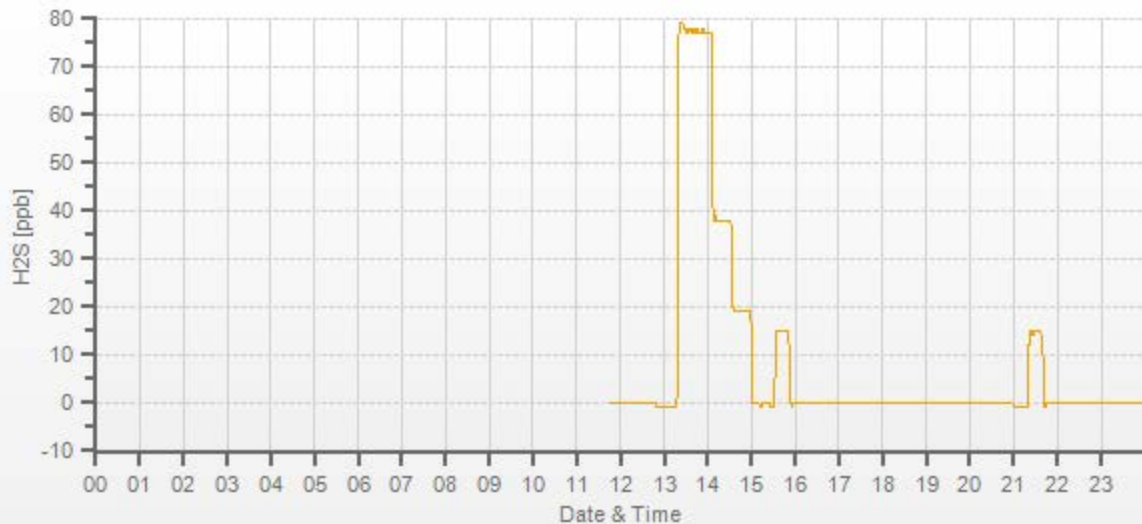
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
7500	57.90	7500	0.00	n/a	0	n/a	0.998
7442	57.90	7500	77.97	n/a	78.1	n/a	0.998
7472	28.20	7500	37.98	n/a	38.6	n/a	0.984
7486	14.10	7500	18.99	n/a	19.5	n/a	0.974

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	0.3%

COMMENTS:

Sample inlet filter was changed.



NOx Calibration by Dilution/Gas-Phase Titration



CALIBRATION:				ANALYZER:			
DATE:	07-Sep-2022	PREVIOUS CALIBRATION DATE:	16-Aug-2022	MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
CLIENT:	LICA	TEMPERATURE (°C):	22.0	SERIAL #:	1180930027	NOx	0.999
LOCATION:	Lac La Biche	BAROMETRIC (mBar):	943	FLOW (mL/min)	711	NO	0.998
PURPOSE:	Routine	START TIME (MST):	12:36	RANGE (ppb)	500	NO2	1.002
PERFORMED BY:	Alex Yakupov	END TIME (MST):	18:40	GPT FOR O3?		No	

CALIBRATION SYSTEM:							
CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:		FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 105146	HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	NO/NOx (PPM):	50.0 50.1	HIGH EXPIRY:	n/a
ID:	26801218	ID:	132	CYLINDER (psi):	400	LOW ID:	n/a
MFC CALIBRATION DATE:	20-Apr-2022	OXIDIZER ID:	n/a	EXPIRY DATE	09-Jun-2029	LOW EXPIRY:	n/a

CALIBRATION SETTINGS:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
BKG/OFFSET:	8.8	8.4	n/a	BKG/OFFSET:	9	8.7	n/a
SLOPE/COEF/CE:	1	0.89	1	SLOPE/COEF/CE:	1.001	0.893	1

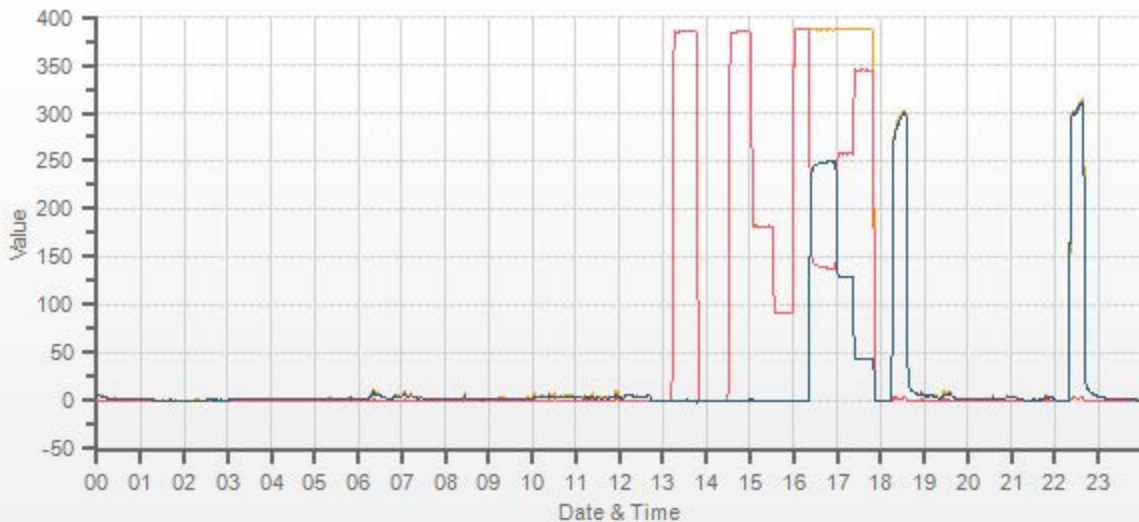
EXPECTED (REFERENCE) VALUE:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	321.2	3.3	317.9		309.0	3.5	305.6

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

FLOW RATE			CONCENTRATION (ppb)									CORRECTION FACTOR (CF.)					
(mL/min)			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2
5000	5000	5000	0.0	0.0	0.0	0.2	0.0	-0.2	0.0	0.0	0.0	0.999	1.000	n/a	0.999	0.999	n/a
4962	38.50	5000	385.0	385.8	0.8	385.7	385.9	0.2	385.4	386.1	0.7	0.999	1.000	n/a	0.999	0.999	n/a
4982	18.00	5000	180.0	180.4	0.4	n/a	n/a	n/a	182.5	182.7	0.2	n/a	n/a	n/a	0.986	0.987	n/a
4991	9.00	5000	90.0	90.2	0.2	n/a	n/a	n/a	91.8	91.8	0.0	n/a	n/a	n/a	0.980	0.982	n/a

GPT CALIBRATION:										
Point	CALIBRATOR			INDICATED (ppb)			NO DROP / O3 Conc (ppb)	NO2 GAIN (ppb)	NO2 Corr. FACTOR	CONV. EFFICIENCY
	GAS	TOTAL	O3 SETPOINT	NO	NOx	NO2				
REFERENCE	38.70	4998	0	387.3	387.5	0.2	n/a	n/a	n/a	n/a
AS-FOUND HIGH	38.70	4998	240	139.2	387.2	248.0	248.1	247.8	1.001	99.88%
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	257.8	387.6	129.8	129.5	129.6	0.999	100.08%
LOW	38.70	4998	45	344.4	387.8	43.4	42.9	43.2	0.993	100.70%
NO2 adjustment not required.									AVERAGE:	100.22%

LINEAR REGRESSION ANALYSIS:				COMMENTS:
	CORRELATION	SLOPE	INTERCEPT	
NO	1.000	1.000	0.24%	
NOx	1.000	1.000	0.22%	
NO2	1.000	0.997	0.09%	



CAL-LICA-202209-01690

Ozone Calibration by Photometer (Varying UV Lamp)



DATE:	09-Sep-2022	PREVIOUS CALIBRATION DATE:	15-Aug-2022
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	0.998
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Lac La Biche	BAROMETRIC (mBar):	952
PURPOSE:	Removal/Shut-down	START TIME (MST):	10:31
PERFORMED BY:	Alex Yakupov	END TIME (MST):	12:22

ANALYZER:

MAKE/MODEL	Thermo 49i	RANGE	500 ppb
SERIAL #	1002240372	FLOW (mL/min)	754
INITIAL		FINAL	
BKG/OFFSET	0	BKG/OFFSET	n/a
COEF/SLOPE	1.035	COEF/SLOPE	n/a
Expected (reference) Value	217.8	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:	20-Apr-2022	OXIDIZER ID:	n/a
CALIBRATION METHOD:		Photometer (Varying UV Lamp)	
GPT DATE:	n/a	GPT END TIME:	n/a

CALIBRATION PARAMETERS:

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

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
5000	XXXX	5000	0.0	0.3	n/a	XXXX	XXXX
5000	XXXX	5000	378.0	379.3	n/a	0.997	n/a
5000	XXXX	5000	180.0	180.6	n/a	0.998	n/a
5000	XXXX	5000	60.0	60.4	n/a	0.998	n/a

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.003	0.0%

COMMENTS:

Shutdown calibration was completed to install a new flow controller for the Cell B

Ozone Calibration by Photometer (Varying UV Lamp)



DATE:	09-Sep-2022	PREVIOUS CALIBRATION DATE:	n/a
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	n/a
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Lac La Biche	BAROMETRIC (mBar):	952
PURPOSE:	Routine	START TIME (MST):	13:01
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:32

ANALYZER:

MAKE/MODEL	Thermo 49i	RANGE	500 ppb
SERIAL #	1002240372	FLOW (mL/min)	1476
INITIAL		FINAL	
BKG/OFFSET	n/a	BKG/OFFSET	0
COEF/SLOPE	n/a	COEF/SLOPE	1.034
Expected (reference) Value	n/a	Expected (reference) Value	224.3

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	20-Apr-2022	OXIDIZER ID:	n/a
CALIBRATION METHOD:		Photometer (Varying UV Lamp)	
GPT DATE:	n/a	GPT END TIME:	n/a

CALIBRATION PARAMETERS:

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

CALIBRATION:

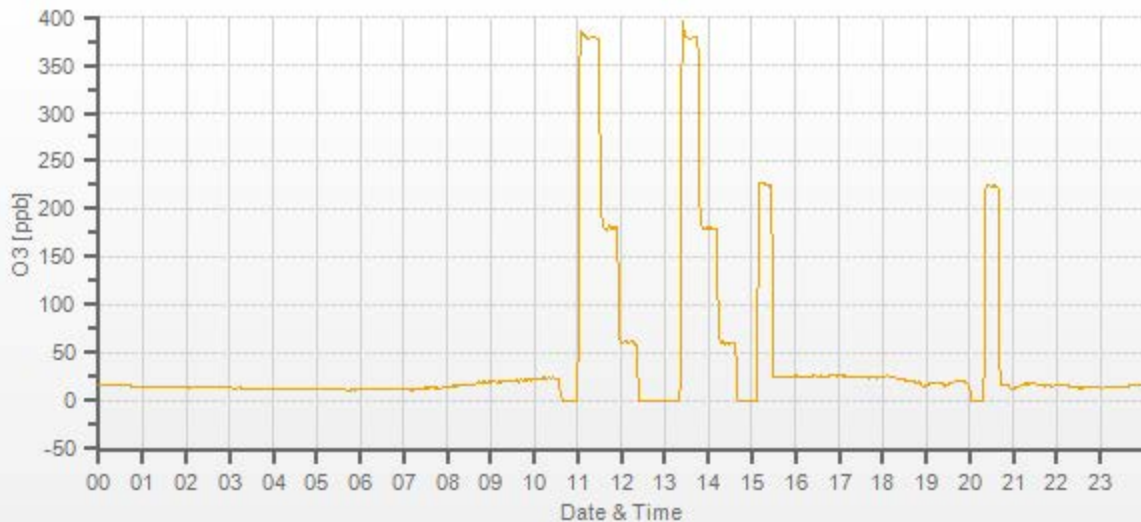
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
5000	5000	5000	0.0	n/a	0.0	n/a	n/a
5000	5000	5000	378.0	n/a	378.1	n/a	1.000
5000	5000	5000	180.0	n/a	179.6	n/a	1.002
5000	5000	5000	60.0	n/a	60.3	n/a	0.995

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	0.0%

COMMENTS:

Sample inlet filter was changed. A new flow controller was installed. No further issues



Methane/Non-Methane Analyzer Calibration by Dilution



CALIBRATION:				ANALYZER:			
DATE:	08-Sep-2022	PREVIOUS CALIBRATION DATE:	15-Aug-2022	VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
CLIENT:	LICA	TEMPERATURE (°C):	22.0		Thermo 55i	1180320044	1020
LOCATION:	Lac La Biche	BAROMETRIC (mBar):	950	PARAMETER:	CH4	NMHC	THC
PURPOSE:	Routine	START TIME (MST):	12:23	RANGE (ppm):	20	20	40
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:57	PREVIOUS CF:	0.999	0.996	0.998

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:		FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 23593	HIGH ID:	n/a
MODEL:	2010	MODEL:	T701	CH ₄ /C ₃ H ₈ (ppm):	603.0 204.0	HIGH EXPIRY:	n/a
ID:	26801218	ID:	132	CYLINDER (psi):	1700	LOW ID:	n/a
MFC CALIBRATION DATE:	20-Apr-2022	OXIDIZER ID:	115	EXPIRY DATE	18-Aug-2029	LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

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

EXPECTED (REFERENCE) VALUE:

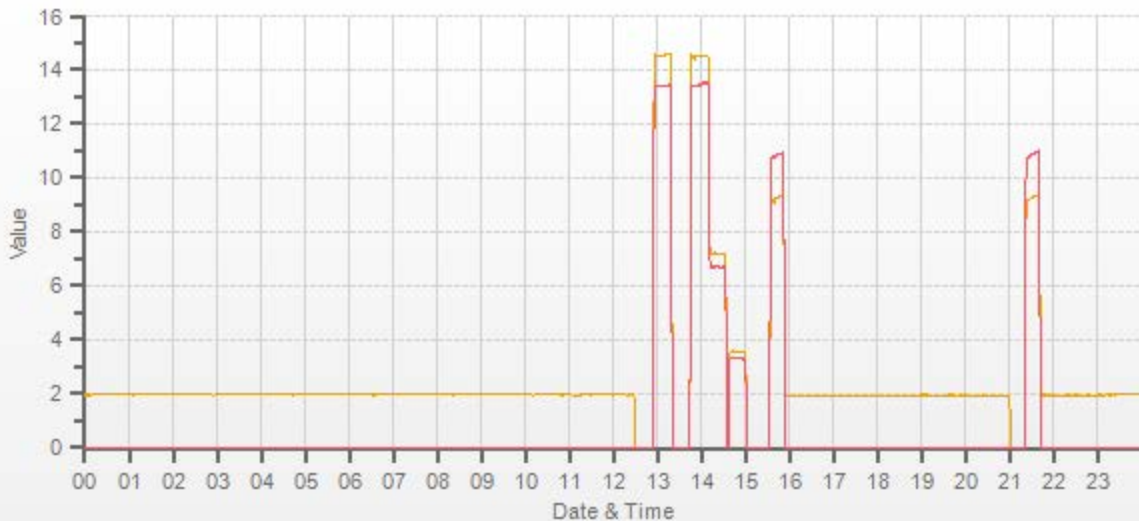
INITIAL	CH ₄	NMHC	THC	FINAL	CH ₄	NMHC	THC
	9.56	11.20	20.76		9.33	10.92	20.25

CALIBRATION:

FLOW RATE			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
(mL/min)			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC
3100	X	3100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X	X	X	X	X	X
3025	74.60	3100	14.51	13.50	28.01	14.56	13.42	27.97	14.51	13.51	28.02	0.997	1.006	1.001	1.000	0.999	1.000
3063	37.30	3100	7.26	6.75	14.01	n/a	n/a	n/a	7.21	6.69	13.90	n/a	n/a	n/a	1.006	1.009	1.008
3081	18.60	3100	3.62	3.37	6.98	n/a	n/a	n/a	3.59	3.32	6.91	n/a	n/a	n/a	1.008	1.014	1.011

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT	Comments:	
CH ₄	1.000	1.000	-0.1%	Sample inlet filter was changed.	
NMHC	1.000	1.001	-0.2%		
THC	1.000	1.001	-0.1%		
				Use Zero Chrom?	Yes



CAL-LICA-202209-01690

Thermo 5030i SHARP Monitor Monthly Check

Date: September 8, 2022	Performed By/Reviewer: Alex Yakupov Chris Wesson
Company: LICA	Start Time (mst): 16:06
Station Name/Location: Lac La Biche	End Time (mst): 16:54
Previous Audit Date: August 16, 2022	Calibration Purpose: routine monthly
Parameter: PM 2.5	Weather Conditions: A few clouds

SHARP 5030i Information and Status:

Serial Number: CM 17071016 **Filter Tape Counter:** 79

Reference Standards:

Air Flow

	Manometer	Orifice	Pressure:	Temp / RH:
Make:	Dwyer	FTS Chinook	Fisher Scientific	Vaisala HMP76B
Model:	Mark III	#5792966	FB 61291	HMP 76B
Serial Number:	ID # 3	ID # 4	130168457	T1640130
Calibration Expiration Date:	February 27, 2023	December 5, 2022	February 17, 2023	June 14, 2023

Ambient Temperature (°C)				Range	Action
	Reference	SHARP	Difference	< ± 2°C	OK
#1	15.30	15.0	0.3	2-3 °C	Recalibrate
				> 3°C	Fail

Ambient Relative Humidity (%RH)				Range	Action
As Found:				< ± 2 %RH	OK
	Reference	SHARP	Difference	2-5 %RH	Recalibrate
#1	55.40	54.9	0.5	> 5 %RH	Fail

Barometric Pressure (mmHg)				Range	Action
As Found:				< ± 10 mmHg	OK
	Reference	SHARP	Difference	10-12 mmHg	Recalibrate
#1	711.0	711.0	0.0	> 12 mmHg	Fail

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

Leak Check (L/min)						
Without Leak Check Adapter			With leak Check Adapter			
	Reference	SHARP	Difference	Reference	SHARP	Difference
#1	16.65	16.67	-0.02	16.57	16.62	-0.05
						LEAK RATE: -0.03

Leak Limit: 0.80 L/min

Meteorological System Checklist



Date:	September 9, 2022		
Technician:	Alex Yakupov		
Station:	Lac La Biche		
Unit:	Make:	Model:	Serial #:
Temperature Sensor:	Rotronic	HC2A-S3	20357518
Barometric Pressure Sensor:	MetOne	92	Y23360
Relative Humidity Sensor:	Rotronic	HC2A-S3	20357518
Anemometer:	RM Young	05305VK	56778
AMBIENT TEMPERATURE SENSOR CHECK			
Parameter:	Temperature @ 2 metres		
Reference Thermometer ID:	Vaisala / HM70 / #T1640130/ Jun 14, 2023		
Reference Temperature (°C):	17.4		
Station - Ambient Temperature (°C):	17.1		
Temperature Difference (°C):	0.3		
BAROMETRIC PRESSURE SENSOR CHECK			
Reference Barometer ID:	Fisher Scientific / FB 61291 / #130168457/ Feb 17, 2023		
Reference Pressure - Units/Reading:	millibar	952	
Station Pressure - Units/Reading:	millibar	951	
Pressure Tolerance +/- 15% of error:	809 - 1095	0.11%	
RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK			
Reference Hygrometer ID:	Vaisala / HM70 / #T1640130/ Jun 14, 2023		
Reference Hygrometer % RH- Reading:	40.10		
Station Hygrometer % RH- Reading:	38.20		
RH Tolerance +/- 15% of difference:	34.09 - 46.12	4.7%	
ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK			
WIND SPEED		WIND DIRECTION	
Previous check date:	August 16, 2022	Previous check date:	August 16, 2022
Wind Speed Observed (kph):	10 - 20	Wind Direction Observed:	NW
Wind speed on Data Logger (kph):	12.4	Wind Direction on Data Logger:	NW
	Annual audit: May 22, 2022	Wind Direction Pass/Fail?:	Pass
Comments			
Station (Trailer) temperature vs Reference gauge: 20.3 vs 21.1, passed.			



Meteorological Sensor Audit/Calibration

Location Information

Company: LICA
 Audit Location: Lac La Biche
 Audit Date: May 9, 2022
 Calibration Purpose: installation
 Performed By: Alex Yakupov
 Reviewed By: Chris Wesson
 Start/End Time (mst): 17:47/18:45
 Weather Conditions: A few clouds

Wind Sensor Information

Sensor ID Data:		Sensor Outputs:	
Sensor Make:	RM Young	Velocity Voltage Output Range:	0-1
Sensor Model:	05305VK	Velocity Unit Output Range:	0-200
Serial #:	56778	Direction Voltage Output Range:	0-1
Previous Cal/Audit Date:	n/a	Direction Unit Output Range:	0-360

Wind Calibrator Information

Calibrator I.D. and Expiry Date: RM Young 18802 id# CA 4744 expires August 6, 2022

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

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.1	0.1	-
1000	18.4	18.4	18.4	1.002
2000	36.9	36.9	36.9	0.999
3000	55.3	55.3	55.3	1.000
4000	73.7	73.8	73.8	0.999
5000	92.2	92.2	92.2	0.999
6000	110.6	110.6	110.6	1.000
7000	129.0	129.1	129.1	0.999
8000	147.4	147.5	147.5	1.000
9000	165.9	165.9	166.0	1.000
10000	184.3	184.3	184.4	1.000
The audit meets AMD requirements.			Average Correction Factor=	1.000

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

Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	1	356	1.0	-1.0	1.0
30	330	30	331	-0.4	-1.4	0.9
60	300	61	301	-1.1	-1.2	1.2
90	270	92	272	-2.1	-1.7	1.9
120	240	121	240	-1.4	-0.2	0.8
150	210	152	211	-2.1	-1.3	1.7
180	180	182	181	-2.0	-1.3	1.7
210	150	212	153	-2.1	-2.5	2.3
240	120	241	122	-1.4	-2.3	1.9
270	90	271	92	-1.4	-2.1	1.7
300	60	300	61	-0.1	-1.2	0.7
330	30	330	31	-0.2	-1.2	0.7
355	0	356	1	-1.0	0.6	0.8
The audit meets AMD requirements.				Average Absolute Degrees Difference=		1.3

Comments:

No issues.

End of Report

Parameter	Method & Procedure
SULPHUR DIOXIDE (SO₂)	Bureau Veritas EMS SOP-00209: Ambient Sulphur Monitoring
HYDROGEN SULPHIDE (H₂S)	Bureau Veritas EMS SOP-00209: Ambient Sulphur Monitoring
TOTAL HYDROCARBONS (THC), METHANE (CH₄), NON-METHANE(NMHC)	Bureau Veritas EMS SOP-00001: Methane, Non-Methane HydrcarbonAnalyzer Monitoring
OXIDES OF NITROGEN (NO_x), NITRIC OXIDE (NO) & NITROGEN DIOXIDE (NO₂)	Bureau Veritas EMS SOP-00213: Ambient NO/NO₂/NO_x Monitoring
OZONE (O₃)	Bureau Veritas EMS SOP-00212: Ambient O₃ Monitoring
PARTICULATE MATTER < 2.5 MICRONS (PM_{2.5})	Bureau Veritas EMS SOP-00010: Thermo Model 5030 SHARP Monitor & EMS SOP-00015: Teledyne API PM Monitor Model T640
WIND SPEED (WS) & WIND DIRECTION (WD)	Bureau Veritas EMS SOP-00013: RM Young Wind Monitor Calibration
RELATIVE HUMIDITY (RH)	Operation Manual
BAROMETRIC PRESSURE (BP)	Operation Manual
AMBIENT TEMPERATURE (AmbTPX)	Operation Manual
STATION TEMPERATURE (StnTPX)	Operation Manual
PRECIPITATION	Bureau Veritas EMS SOP-00242: Precipitation Collector Installation / Maintenance