Lakeland Industry & Community Association

JUNE 2019

Monthly Ambient Air Quality Monitoring Report

LICA-201906

Operation and Maintenance:

Maxxam Analytics

Data Validation and Report:

Maxxam Analytics

August 2, 2019

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August 2, 2019

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RE: LICA – June 2019 Monthly Ambient Air Quality Monitoring Report

Enclosed is the June 2019 Monthly Ambient Air Quality Monitoring Report for the continuous ambient air quality monitoring stations of the Lakeland Industry & Community Association (LICA) regional air quality monitoring network.

The representative of the Person Responsible for this monitoring program is

LICA Airshed
Michael Bisaga, Technical Program Manager
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This report has been prepared by Maxxam Analytics, and has been reviewed and submitted by Michael Bisaga & Lily Lin of the LICA Airshed.

NETWORK STATION SUMMARY

Listing of Continuous Monitoring Stations and Integrated Sampling Stations

Station Name		Cold Lake South	Maskwa	St. Lina	Bonnyville East
Station ID		1174	1248	1250	1608
Coordinates		54.41402, -110.23316	54.604935, -110.452637	54.215961, -111.503304	54.252747, -110.690611
Continuous Monitoring Parameter	SO2	√	√	√	√
	TRS	√			
	H2S		√	√	√
	THC	√	√	√	√
	CH4	√	√	√	√
	NMHC	√	√	√	√
	NOX	√	√	√	√
	NO	√	√	√	√
	NO2	√	√	√	√
	O3	√		√	√
	PM2.5	√		√	√
	TPX	√	√	√	
	RH	√	√	√	
	BP		√	√	
	PRECIPTATION		√	√	
	WS	√	√	√	√
	WD	√	√	√	√
	STDWD	√	√	√	√
Integrated Sampling	VOCs	√			√
	PAHs	√			√
	Partisol	√			
	Passive	√			
	NMHC Canister				√

List of Contractors who performed the air monitoring activities

Sampling Program	Monitoring Activities Conducted By	Sample Analysis Conducted By	Data/Report Prepared By	Electronic Submission Conducted By
Continuous Monitoring Station	Maxxam Analytics	Maxxam Analytics	Maxxam Analytics	Maxxam Analytics
Intermittent (VOCs/PAHs)	Maxxam Analytics	InnoTech Alberta Inc	InnoTech Alberta Inc	Maxxam Analytics
Partisol	Maxxam Analytics	InnoTech Alberta Inc	InnoTech Alberta Inc	Maxxam Analytics
Passive	Maxxam Analytics	Maxxam Analytics	Maxxam Analytics	Maxxam Analytics
NMHC Canister	Maxxam Analytics	InnoTech Alberta Inc	InnoTech Alberta Inc	Not Applicable

Monitoring Notes during the Month of June 2019

Cold Lake South:

- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) where applicable.
- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters met the 90% operational uptime requirement.
- **Gas Parameters:** The automated zero-span check scheduled for hour 10:00 on June 6 was interrupted while the zero phase was being executed. A zero-span check was manually triggered immediately afterwards and successfully completed at hour 11:00. One hour of downtime was recorded due to the unsuccessful daily calibration attempt.
- **THC/CH4/NMHC:**
    - One hour of downtime was recorded on June 10 due to an additional quality check, performed following a span gas replacement.
    - On June 11, the LICA-owned Thermo 55i analyzer, s/n: 1236656107, was removed for maintenance, as it was exhibiting poor sample injections. AEP-supplied Thermo 55i analyzer, s/n: 1180030034, was subsequently installed and calibrated successfully on June 12. Fifteen hours of downtime were recorded due to the analyzer replacement event.
- The VOCs, PAHs and Partisol samples were processed for analysis by InnoTech and the results will be provided in the June 2019 Integrated Sampling Report.
- The passive samples were processed for analysis by Maxxam Analytics and the results will be provided in the June 2019 Integrated Sampling Report.

Maskwa:

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

St. Lina Station:

- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) where applicable.
- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters met the 90% operational uptime requirement.
- **H2S:** Nine hours of downtime were recorded across the month due to additional quality checks and corrective actions performed to address drifts in span response.

Bonnyville East Station:

- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters met the 90% operational uptime requirement.
- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) where applicable, with exceptions of H2S. Nine 1-hr and one 24-hr exceedances were recorded this month.

Date	Time	Avg. Period	Reading (ppb)	AEP Reference #
01-June	23:00	1-hr	13	354168
01-June	-	24-hr	4	354168
02-June	01:00	1-hr	13	354169
02-June	22:00	1-hr	33	354169
03-June	03:00	1-hr	17	354228
21-June	02:00	1-hr	11	355059
21-June	03:00	1-hr	13	355059
21-June	05:00	1-hr	11	355059
26-June	02:00	1-hr	14	355266
26-June	22:00	1-hr	16	355266

- **H2S:** Two hours of downtime were recorded on June 24, due to an additional quality check performed to assess a biased high drift in zero and span response.
- **NMHC Canister System**: One canister event was recorded on June 21 at 09:05, at initial concentration of 0.52 ppm. The sample was processed for analysis by InnoTech and the results will be provided in the June 2019 Integrated Sampling Report.

Revisions to Alberta's Ambient Air Quality Data Warehouse

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

Deviations from Authorized Monitoring Methods

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

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

Certification

As the LICA Environmental Program Manager and Data & Reporting Specialist, we 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. We also verify all air data that are required by the AMD to be electronically submitted to AEP and Alberta's Ambient Air Quality Data Warehouse have been submitted by the time of this report submission, 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 2019 Q2 integrated sampling report.

Should you have any questions, please don't hesitate to contact us.

Respectfully,

Michael Bisaga
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Lakeland Industry & Community Association
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Lily Lin
Data & Reporting Specialist
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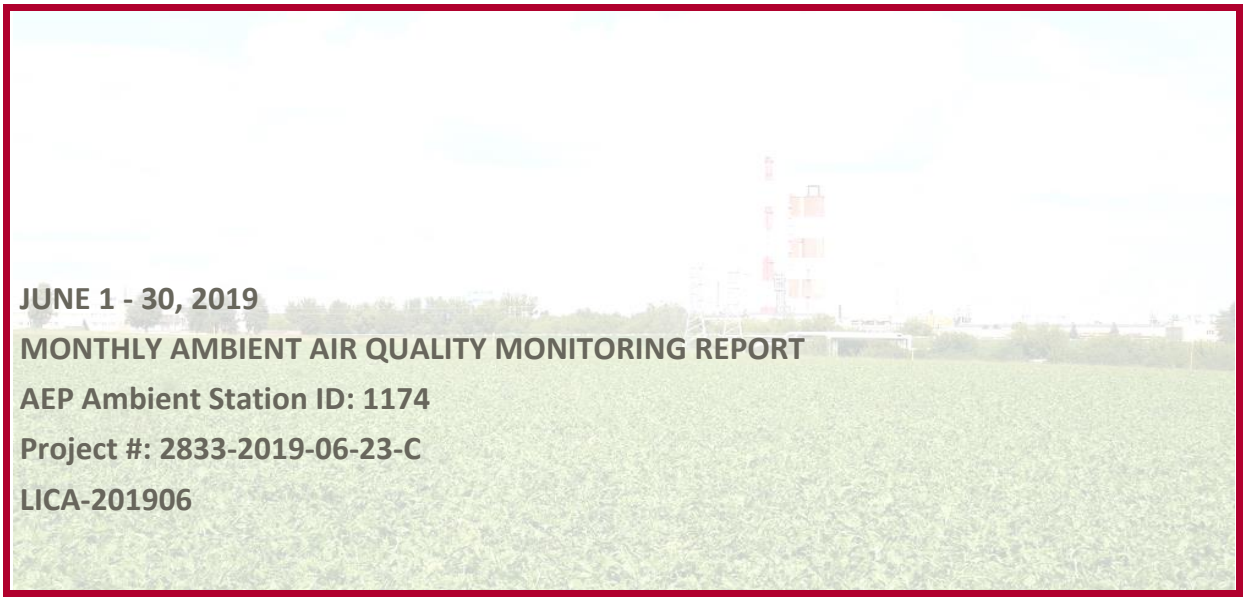

JUNE 1 - 30, 2019

MONTHLY AMBIENT AIR QUALITY MONITORING REPORT

AEP Ambient Station ID: 1174

Project #: 2833-2019-06-23-C

LICA-201906

Prepared for:

Lakeland Industry & Community Association

Mike Bisaga

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Monitoring Station

Cold Lake South Continuous Monitoring Station

Date of Report Issuance: July 31, 2019

Report Preparation By:

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BUREAU VERITAS

#1 - 2080 39 Avenue NE, Calgary AB, T2E 6P7

Lakeland Industry & Community Association

5107 50 St.

Bonnyville, Alberta T9N 2J7

Attention: Mike Bisaga

Date: July 31, 2019

Subject: MONTHLY AMBIENT AIR QUALITY MONITORING REPORT for JUNE 1 - 30, 2019

In June 2019, Bureau Veritas was contracted to manage the ambient air quality monitoring and maintenance activities at the Cold Lake South Continuous Monitoring Station near Cold Lake, Alberta. The monitoring program provides measurements of ambient air pollutants and meteorological data to satisfy the reporting requirements of the Alberta airshed.

Network Parameters for Continuous Monitoring:

This monthly report, where applicable, was prepared in accordance with Chapter 9 of the Air Monitoring Directive (AMD, 2016). The report summarizes the continuous monitoring results for pollutant and meteorological parameters and presents the hourly statistics, graphs and rose charts for the month. Calibration records are provided in a separate PDF document in order to comply with AMD requirements Chapter 9, 13.1.7, RC 13-R. The station is equipped with analyzers to measure SO_2, TRS, THC, CH_4, NMHC, NOx, NO, NO_2, $PM_{2.5}$ and O_3. The meteorological sensors and equipment capture data for WS, WD, RH, AmbTPX and STDWD.

Exceedance & Performance Reporting:

The operational time for all continuous ambient air analyzers, meteorological systems and data acquisition systems were above the 90% requirement, as per the AMD, Chapter 6, DQ 4-C, 2016.

All measured ambient air concentrations were below the Alberta Ambient Air Quality Objectives and Guidelines (AAAQO, January 2019). Comparisons of these concentrations to the corresponding AAAQOs were done in accordance with Chapter 9, 15.3.2, RC 15-P. Accordingly, the averaging specifications and data completeness criteria, as defined in the Alberta Ambient Air Quality Objective Calculation Guidelines, were applied (Chapter 9, Appendix A, AMD 2016).

Specific to the content and purpose of this report, there were no instances where the requirements of the AMD (2016) were contravened.

Monthly Monitoring Overview:

In relation to the previous month, there were no changes made to the scope or management of the ambient air monitoring program.

The evaluation of data collected in the month of June did not reveal any errors or omissions that would require resubmission of air data to AEP's airdata warehouse.

During this monitoring period, there were no scheduled audits, to which Bureau Veritas was privy to.

Gas Parameters: For undetermined reasons, the automated zero-span check scheduled for hour 10:00 on June 6 was interrupted while the zero phase was being executed. A zero-span check was manually triggered immediately afterwards and successfully completed at hour 11:00. One hour of downtime was recorded due to the unsuccessful daily calibration attempt.

THC/CH_4/NMHC:

- One hour of downtime was recorded on June 10 due to an additional quality check, performed following a span gas replacement.
- On June 11, LICA's Thermo 55i analyzer (s/n: 1236656107) was removed for maintenance, as it was exhibiting poor sample injections. AEP-supplied Thermo 55i analyzer (s/n: 1180030034) was subsequently installed and calibrated successfully on June 12. Fifteen hours of downtime were recorded due to the analyzer replacement event.

Should you have any questions concerning the results or if we can be of further assistance, please contact your Bureau Veritas representative indicated below.

Reviewed by:

Wunmi Adekanmbi, M.Sc., EPt, PMP

Project Team Lead, Customer Service, Air Services

403-219-3661

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. Certification of submitted information is specific to the contents of this report and is not intended to represent the onus of the Person Responsible, as outlined in Chapter 9, RC 12-E.

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List of Acronyms

AAAQO	Alberta Ambient Air Quality Objectives and Guidelines Summary
AEP	Alberta Environment and Parks
AMBTPX	Ambient Temperature
AMD	Air Monitoring Directive
CH_4	Methane
DAS	Data acquisition system
hr	Hour
hrs	Hours
IZS	Internal zero-span
kph	Kilometers per hour
NO	Nitric Oxide
NO_2	Nitrogen dioxide
NOx	Total oxides of nitrogen
O_3	Ozone
NMHC	Non-Methane Hydrocarbon
$PM_{2.5}$	Particulate matter less than or equal to 2.5 microns in diameter
ppb	Parts per billion
ppm	Parts per million
QA	Quality Assurance
QC	Quality Control
RH	Relative Humidity
SHARP	Synchronized Hybrid Ambient Real-time Particulate Monitor
SOP	Standard Operating Procedure
SO_2	Sulphur Dioxide
STDWD	Standard Deviation Wind Direction
THC	Total hydrocarbons
TRS	Total Reduced Sulphur
µg/m^3	Microgram per cubic meter
WS	Wind Speed
WD	Wind Direction
°C	Degrees Celsius

AAAQO Exceedance Summary Report

SO_2 1-Hour Exceedances
Measured concentrations of sulphur dioxide were below the 1-hour AAAQO of 172 ppb.

SO_2 24-Hour Exceedances
Measured concentrations of sulphur dioxide were below the 24-hour AAAQO of 48.0 ppb.

NO_2 1-Hour Exceedances
Measured concentrations of nitrogen dioxide were below the 1-hour AAAQO of 159 ppb.

$PM_{2.5}$ 1-Hour Exceedances
Measured concentrations of fine particulate matter were below the 1-hour AAAQG of 80 µg/m³.

$PM_{2.5}$ 24-Hour Exceedances
Measured concentrations of fine particulate matter were below the 24-hour AAAQO of 29 µg/m³.

O_3 1-Hour Exceedances
Measured concentrations of ozone were below the 1-hour AAAQO of 76 ppb.

In accordance with EPEA and the Substance Release Regulation
In accordance with A Guide to Release Reporting and the Alberta Ambient Air Quality Objectives and Guidelines Summary

MONTHLY CONTINUOUS DATA SUMMARY

Lakeland Industry & Community Association Cold Lake South Continuous Monitoring Station						MAXIMUM VALUES							OPERATIONAL TIME (%)
						1-HOUR					24-HOUR		
PARAMETER	OBJECTIVES		EXCEEDANCES		MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (kph)	WIND DIRECTION (sector)	READING	DAY	
	1-hr	24-hr	1-hr	24-hr									
SO_2 (ppb)	172	48	0	0	0	3	16	8	3.2	WNW	0	1	99.9
TRS (ppb)	-	-	-	-	0	2	1	6	2.3	ENE	1	1	99.9
THC (ppm)	-	-	-	-	2.02	3.00	27	4	0.6	NE	2.20	27	97.6
CH_4 (ppm)	-	-	-	-	2.02	2.93	27	4	0.6	NE	2.18	26	97.6
NMHC (ppm)	-	-	-	-	0.00	0.19	27	21	5.4	ENE	0.02	27	97.6
NO_2 (ppb)	159	-	0	-	2	8	9	4	5.3	WNW	3	3	99.9
NO (ppb)	-	-	-	-	0	3	1	5	1.4	E	1	16	99.9
NOx (ppb)	-	-	-	-	2	9	1	5	1.4	E	3	1	99.9
O_3 (ppb)	76	-	0	-	26.6	56.4	2	16	9.2	WNW	42.3	18	99.9
$PM_{2.5}$ ($\mu g/m^3$)	80	29	0	0	5	41	3	17	13.8	WNW	15	3	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	72	100	12	4	0.6	SW	92	19	100.0
AMBIENT TEMPERATURE (°C)	-	-	-	-	14.5	25.6	12	17	6.6	WSW	18.4	12	100.0
VECTOR WS (kph)	-	-	-	-	1.3	16.7	6	16	-	NNE	11.5	7	100.0
VECTOR WD (sec)	-	-	-	-	325 (NW)	-	-	-	-	-	-	-	100.0

OPERATIONAL SUMMARY

Parameter	Equipment	Method & Procedure	Operational Notes
SULPHUR DIOXIDE (SO_2)	**Thermo 43i TLE Pulsed Fluorescence Analyzer**	**Bureau Veritas AIR SOP-00209: Ambient Sulphur Monitoring**	• Operational time for the monitoring period was 99.9%, equivalent to 1 hour of downtime. • For undetermined reasons, the automated zero-span check scheduled for hour 10:00 on June 6 was interrupted while the zero phase was being executed. A zero-span check was manually triggered immediately afterwards and successfully completed at hour 11:00. Diagnostic information revealed that the analyzer was performing optimally, therefore, data quality was not impacted by this event. One hour of downtime was, however, recorded due to the unsuccessful daily calibration attempt. • The routine monthly calibration was performed on June 11, between the hours of 09:00 and 13:00.
TOTAL REDUCED SULPHUR (TRS)	**Thermo 450i UV Fluorescence Analyzer**	**Bureau Veritas AIR SOP-00209: Ambient Sulphur Monitoring**	• Operational time for the monitoring period was 99.9%, equivalent to 1 hour of downtime. • For undetermined reasons, the automated zero-span check scheduled for hour 10:00 on June 6 was interrupted while the zero phase was being executed. A zero-span check was manually triggered immediately afterwards and successfully completed at hour 11:00. Diagnostic information revealed that the analyzer was performing optimally, therefore, data quality was not impacted by this event. One hour of downtime was, however, recorded due to the unsuccessful daily calibration attempt. • The routine monthly calibration was performed on June 11, between the hours of 09:00 and 12:00.
TOTAL HYDROCARBONS (THC), METHANE (CH_4) & NON-METHANE HYDROCARBONS (NMHC)	**Thermo 55i FID Analyzer**	**Bureau Veritas AIR SOP-00001: Methane, Non-Methane Hydrocarbon Analyzer Monitoring**	• Operational time for the monitoring period was 97.6%, equivalent to 17 hours of downtime. • For undetermined reasons, the automated zero-span check scheduled for hour 10:00 on June 6 was interrupted while the zero phase was being executed. A zero-span check was manually triggered immediately afterwards and successfully completed at hour 11:00. Diagnostic information revealed that the analyzer was performing optimally, therefore, data quality was not impacted by this event. One hour of downtime was, however, recorded due to the unsuccessful daily calibration attempt. • The span gas bottle was replaced on June 10 and a successful zero-span check was completed afterwards. One hour of downtime was recorded due to the additional quality check. • The analyzer began to exhibit poor sample injections on June 11, prompting an immediate site visit. Following a successful shut-down calibration, LICA's -Thermo 55i analyzer (s/n: 1236656107) was removed for maintenance; and AEP-supplied Thermo 55i (s/n: 1180030034) was installed. The carrier gas (N2) cylinder and the nitrogen gas purifier were replaced. Column conditioning was run overnight and a successful installation calibration was completed on June 12. Fifteen hours of downtime were recorded due to this event.

OPERATIONAL SUMMARY

Parameter	Equipment	Method & Procedure	Operational Notes
TOTAL HYDROCARBONS (THC), METHANE (CH_4) & NON-METHANE HYDROCARBONS (NMHC)	**Thermo 55i FID Analyzer**	**Bureau Veritas AIR SOP-00001: Methane, Non-Methane Hydrocarbon Analyzer Monitoring**	• As the shut-down calibration met AMD requirements, no data was discarded due to the poor injections. However, CH4 minute concentrations recorded lower than 1.80 ppm, along with the corresponding THC and NMHC values, were excluded and the corresponding hourly averages were re-calculated. The following hourly averages were re-calculated: June 11, between hours 08:00 – 12:00. • The analyzer flamed out for a few minutes on June 15 and was relit by the analyzer's intrinsic automatic relighting feature. This event did not impact the hourly average data completeness criteria. However, two instances of maximum instantaneous data were discarded as a result.
OXIDES OF NITROGEN (NOx), NITRIC OXIDE (NO) & NITROGEN DIOXIDE (NO_2)	**Thermo 42i Chemiluminescent Analyzer**	**Bureau Veritas AIR SOP-00213: Ambient NO/NO_2/NOx Monitoring**	• Operational time for the monitoring period was 99.9%, equivalent to 1 hour of downtime. • For undetermined reasons, the automated zero-span check scheduled for hour 10:00 on June 6 was interrupted while the zero phase was being executed. A zero-span check was manually triggered immediately afterwards and successfully completed at hour 11:00. Diagnostic information revealed that the analyzer was performing optimally, therefore, data quality was not impacted by this event. One hour of downtime was, however, recorded due to the unsuccessful daily calibration attempt. • The routine monthly calibration was performed on June 11, between the hours of 09:00 and 15:00.
OZONE (O_3)	**Thermo 49i Photometric Analyzer**	**Bureau Veritas AIR SOP-00212: Ambient O_3 Monitoring**	• Operational time for the monitoring period was 99.9%, equivalent to 1 hour of downtime. • For undetermined reasons, the automated zero-span check scheduled for hour 10:00 on June 6 was interrupted while the zero phase was being executed. A zero-span check was manually triggered immediately afterwards and successfully completed at hour 11:00. Diagnostic information revealed that the analyzer was performing optimally, therefore, data quality was not impacted by this event. One hour of downtime was, however, recorded due to the unsuccessful daily calibration attempt. • The routine monthly calibration was performed on June 12, between the hours of 08:00 and 12:00.
PARTICULATE MATTER < 2.5 MICRONS ($PM_{2.5}$)	**Thermo SHARP 5030 Unit**	**Bureau Veritas AIR SOP-00014: Measurement of Particulate Concentration Using the THERMO SHARP**	• Operational time was 100% and there were no performance issues identified. • The routine quarterly calibration was performed on 12, between the hours of 12:00 and 14:00.

OPERATIONAL SUMMARY

Parameter	Equipment	Method & Procedure	Operational Notes
WIND SPEED (WS), WIND DIRECTION (WD) & STANDARD DEVIATION WIND DIRECTION (STDWD)	**Met One Unit**	**Bureau Veritas AIR SOP-00013: RM Young Wind Monitor Calibration**	• Operational time was 100% and there were no performance issues identified. • Two instances of maximum instantaneous data were invalidated on June 23, at hour 08:00 and June 29, at hour 14:00, as the spikes in wind speed were deemed anomalous. Minute data review did not support the validity of the elevated measurements • Wind data is reported as vector wind speed and vector wind direction. Wind direction is defined as the direction from which the wind is blowing and is measured in degrees from true north.
RELATIVE HUMIDITY (RH)	**Rotronic Hygroclip Unit**	**Operations Manual**	• Operational time was 100% and there were no performance issues identified.
AMBIENT TEMPERATURE (AmbTPX)	**Rotronic Hygroclip Unit**	**Operations Manual**	•Operational time was 100% and there were no performance issues identified.
Datalogger	**EnvistaUltimate Unit**	**Operations Manual**	• There were no performance issues identified.

SUMMARY TABLES, GRAPHS AND ROSES

SULPHUR DIOXIDE Hourly Averages (SO_2 ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	**0**	0	0	0	0	0	0	0	1	1	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	**0**	1	**0**	24
2	0	0	0	0	0	0	0	0	0	0	1	0	0	1	**S**	0	0	0	0	0	0	0	0	0	0	1	0	24
3	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	1	1	0	0	1	0	0	0	0	0	1	0	24
4	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	24
5	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	24
6	0	0	0	0	0	0	0	0	0	0	**X**	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
7	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	24
8	1	1	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
9	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	24
10	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
11	0	0	0	0	0	**S**	0	0	0	**C**	**C**	**C**	**C**	**C**	1	0	0	0	0	0	0	0	0	0	0	1	0	24
12	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
13	0	0	0	**S**	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
14	0	0	**S**	1	0	0	0	1	1	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	1	0	24
15	0	**S**	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
16	**S**	0	0	0	0	0	0	1	**3**	2	1	1	1	1	0	0	0	0	0	0	0	0	0	**S**	0	**3**	0	24
17	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	24
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	24
19	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	24
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	24
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	2	1	0	0	0	0	2	0	24
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	**S**	1	1	0	0	1	0	0	1	0	24
23	0	1	1	0	0	1	1	1	1	1	1	1	0	0	0	0	**S**	1	0	0	0	0	0	0	0	1	0	24
24	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	1	0	24
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	1	1	1	0	0	0	0	0	1	0	24
26	0	0	0	0	0	0	0	1	2	2	1	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	2	0	24
27	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	24
28	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	24
29	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	24
30	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	24
HOURLY MAX	1	1	1	1	0	1	1	1	3	2	1	1	1	1	1	1	1	1	1	2	1	0	1	0				
HOURLY AVG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

STATUS FLAG CODES

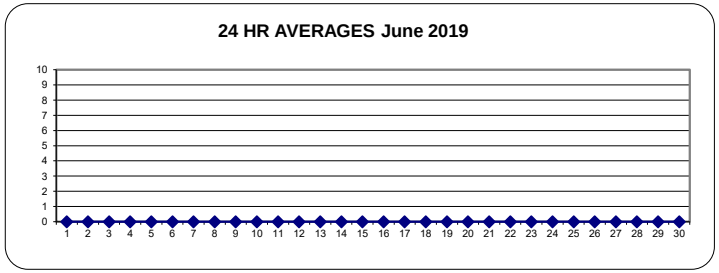
C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 ppb | 24-HR 48 ppb

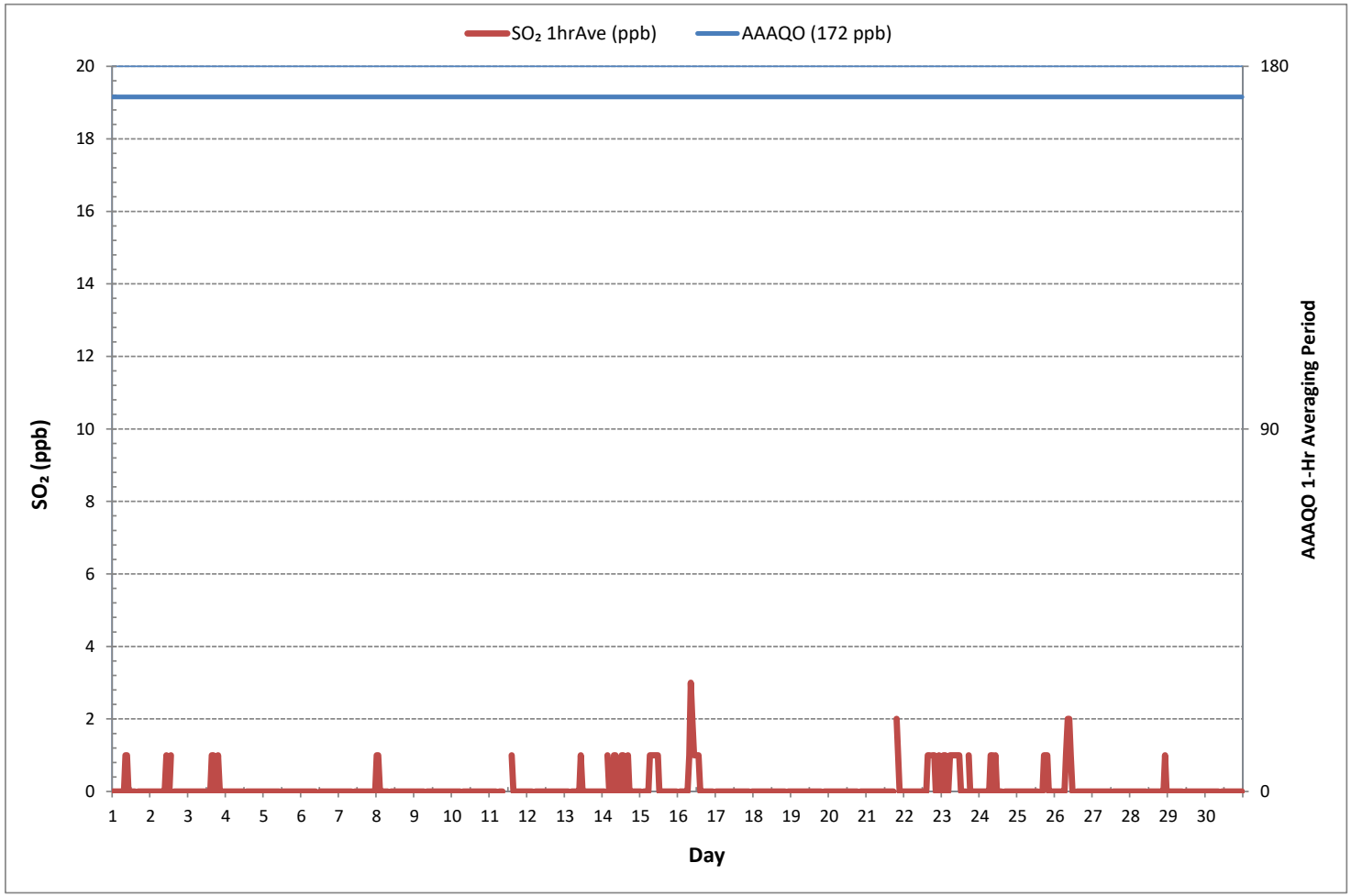
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDANCES:		0				
NUMBER OF 24-HR EXCEEDANCES:		0				
NUMBER OF NON-ZERO READINGS:		58				
MINIMUM 1-HR AVERAGE	0	ppb	@ HOUR	0	ON DAY	1
MAXIMUM 1-HR AVERAGE:	3	ppb	@ HOUR	8	ON DAY	16
MAXIMUM 24-HR AVERAGE:	0	ppb			ON DAY	1

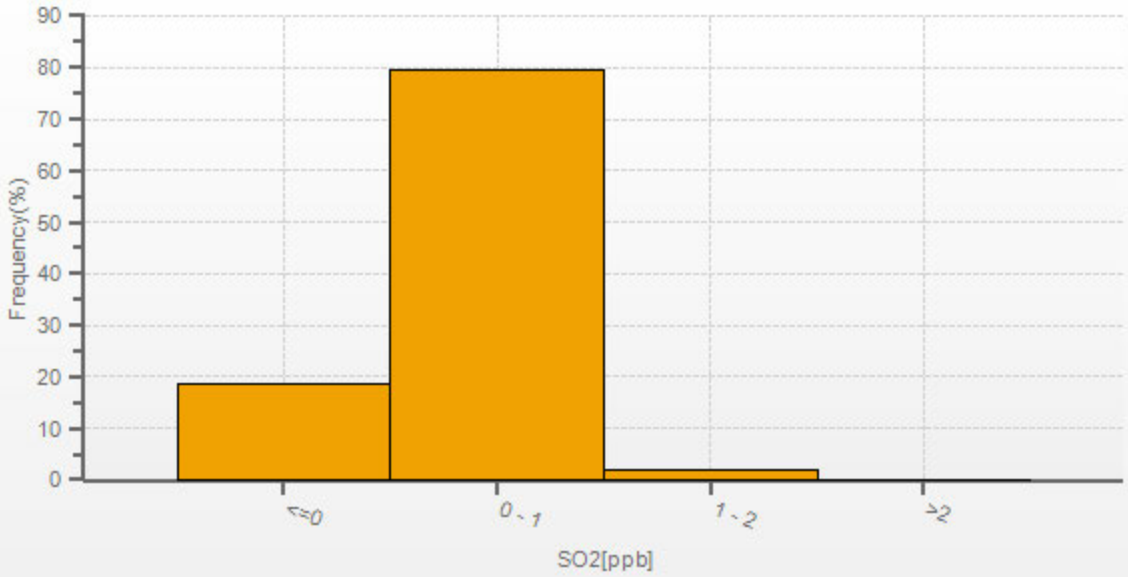
IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	719	hrs
MONTHLY CALIBRATION TIME:	5	hrs	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	0		MONTHLY AVERAGE:	0	ppb



SULPHUR DIOXIDE Hourly Averages (SO_2 ppb)

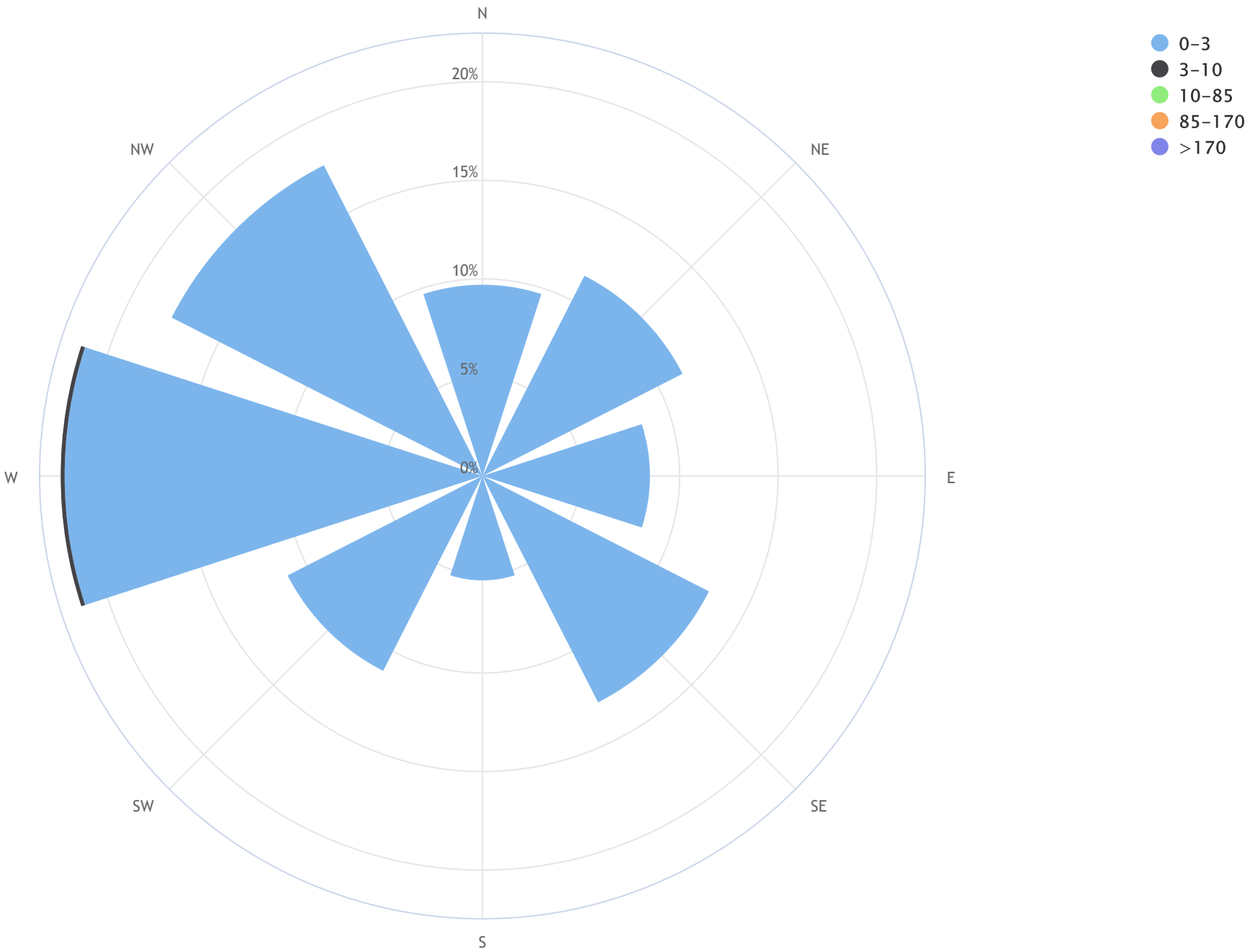


SO2[ppb] Histogram: LICA COLD LAKE SOUTH Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Cold Lake South Continuous Monitoring Station_SO_2 (ppb)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 0.0, CALM % = 2.0%



Direction	0-3	3-10	10-85	85-170	>170	TOTAL
N	9.7	0.0	0.0	0.0	0.0	9.7
NE	11.4	0.0	0.0	0.0	0.0	11.4
E	8.5	0.0	0.0	0.0	0.0	8.5
SE	12.9	0.0	0.0	0.0	0.0	12.9
S	5.3	0.0	0.0	0.0	0.0	5.3
SW	11.1	0.0	0.0	0.0	0.0	11.1
W	21.2	0.2	0.0	0.0	0.0	21.4
NW	17.7	0.0	0.0	0.0	0.0	17.7
Summary	97.8	0.2	0.0	0.0	0.0	98.0
CALM	2.1	0.0	0.0	0.0	0.0	2.1

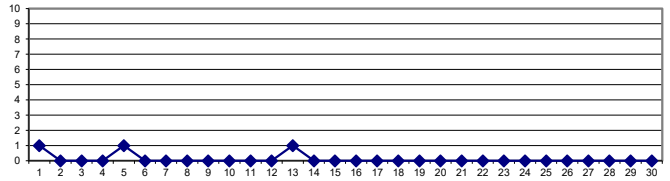
TOTAL REDUCED SULPHUR Hourly Averages (TRS ppb)

HR START (MST) / HR END (MST)	0:00 0:59	1:00 1:59	2:00 2:59	3:00 3:59	4:00 4:59	5:00 5:59	6:00 6:59	7:00 7:59	8:00 8:59	9:00 9:59	10:00 10:59	11:00 11:59	12:00 12:59	13:00 13:59	14:00 14:59	15:00 15:59	16:00 16:59	17:00 17:59	18:00 18:59	19:00 19:59	20:00 20:59	21:00 21:59	22:00 22:59	23:00 23:59	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
DAY																												
1	1	1	1	1	1	1	**2**	1	1	**0**	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	**0**	**2**	**1**	24
2	0	0	0	0	1	1	1	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	1	0	24
3	0	0	0	1	1	1	1	1	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	1	0	24
4	0	0	0	1	1	0	1	0	0	0	0	0	**S**	0	0	0	0	0	0	1	1	1	2	1	0	2	0	24
5	0	0	1	1	1	2	1	1	1	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	24
6	0	0	0	0	0	0	0	0	0	0	**X**	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
7	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	24
8	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	24
9	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	24
10	0	0	0	0	1	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
11	0	0	0	0	0	**S**	0	0	0	**C**	**C**	**C**	**C**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
12	0	1	0	1	**S**	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	24
13	1	1	1	**S**	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	24
14	0	0	**S**	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
15	0	**S**	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	24
16	**S**	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	1	0	24
17	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	1	0	24
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	24
19	0	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	1	0	24
20	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	1	0	24
21	1	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	1	0	24
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	24
23	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	24
24	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	24
25	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	24
26	0	0	0	0	0	1	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	1	0	24
27	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	24
28	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	24
29	0	0	0	0	1	1	1	1	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
30	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	24
HOURLY MAX	1	1	1	1	1	2	2	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1	2	1				
HOURLY AVG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

24 HR AVERAGES June 2019

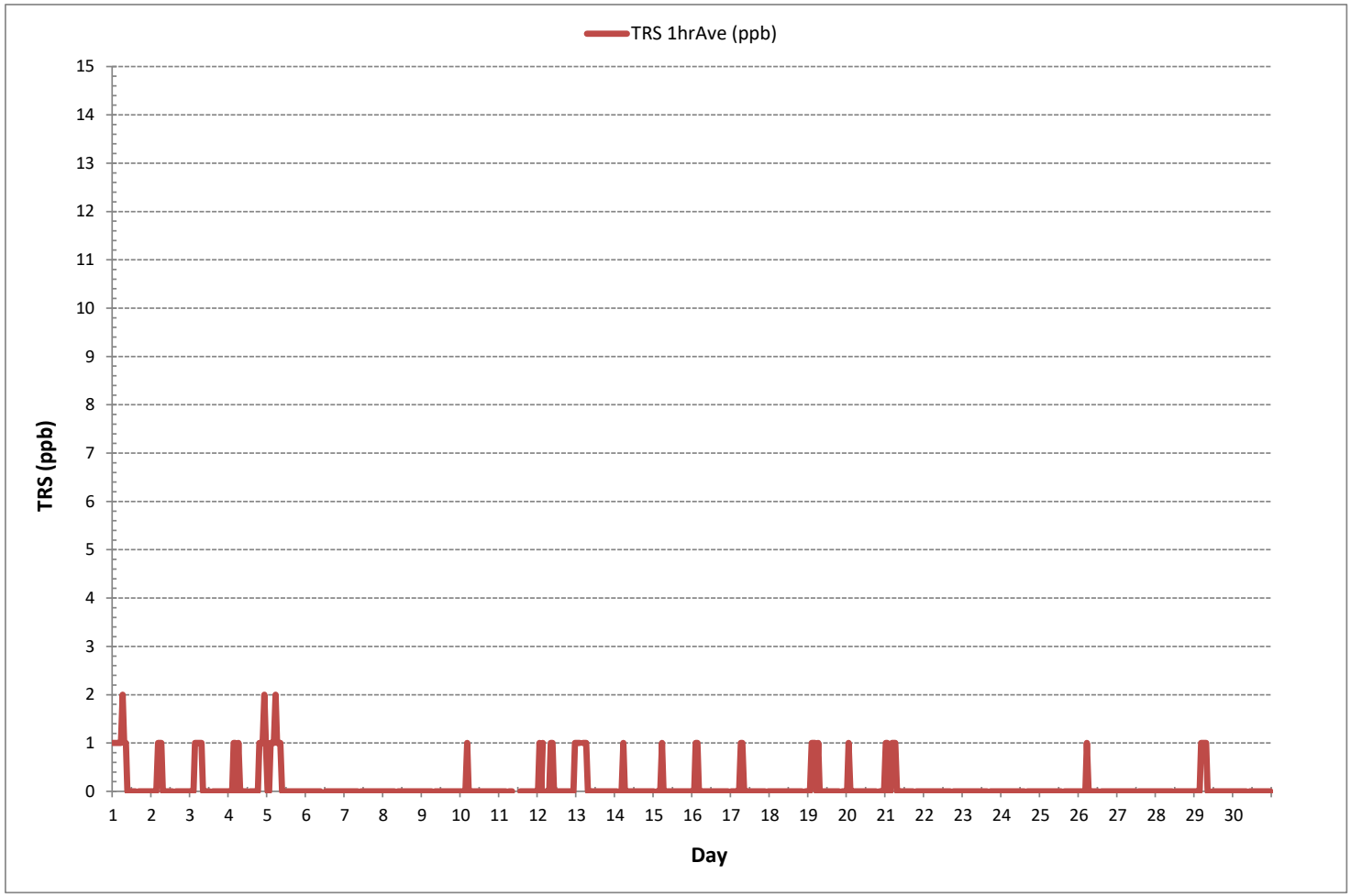


MONTHLY SUMMARY

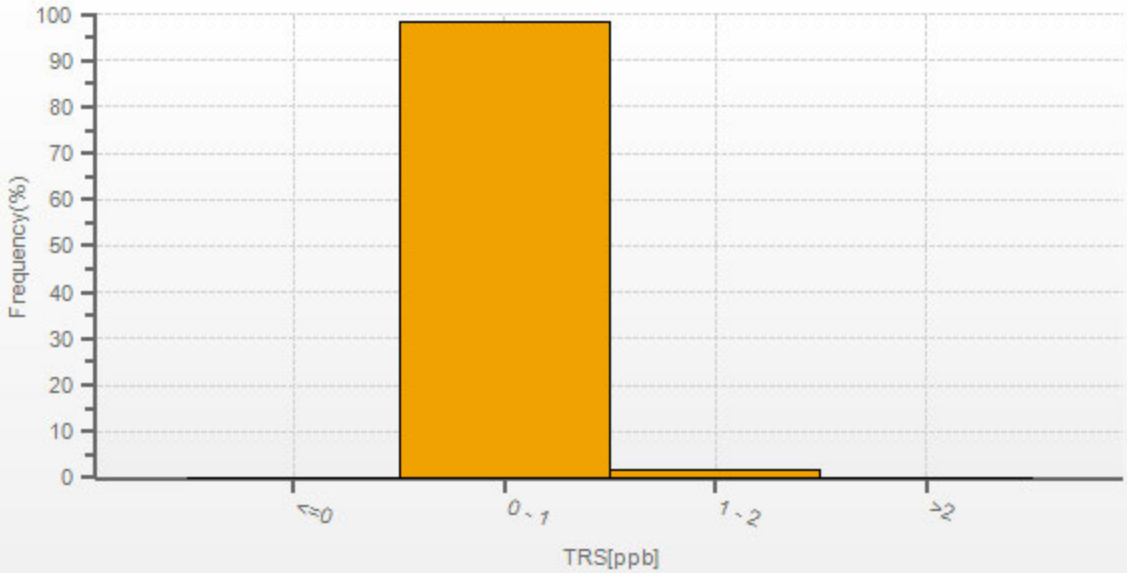
NUMBER OF NON-ZERO READINGS:		65				
MINIMUM 1-HR AVERAGE	0	ppb	@ HOUR	9	ON DAY	1
MAXIMUM 1-HR AVERAGE:	2	ppb	@ HOUR	6	ON DAY	1
MAXIMUM 24-HR AVERAGE:	1	ppb			ON DAY	1

IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	719	hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	0		MONTHLY AVERAGE:	0	ppb

TOTAL REDUCED SULPHUR Hourly Averages (TRS ppb)

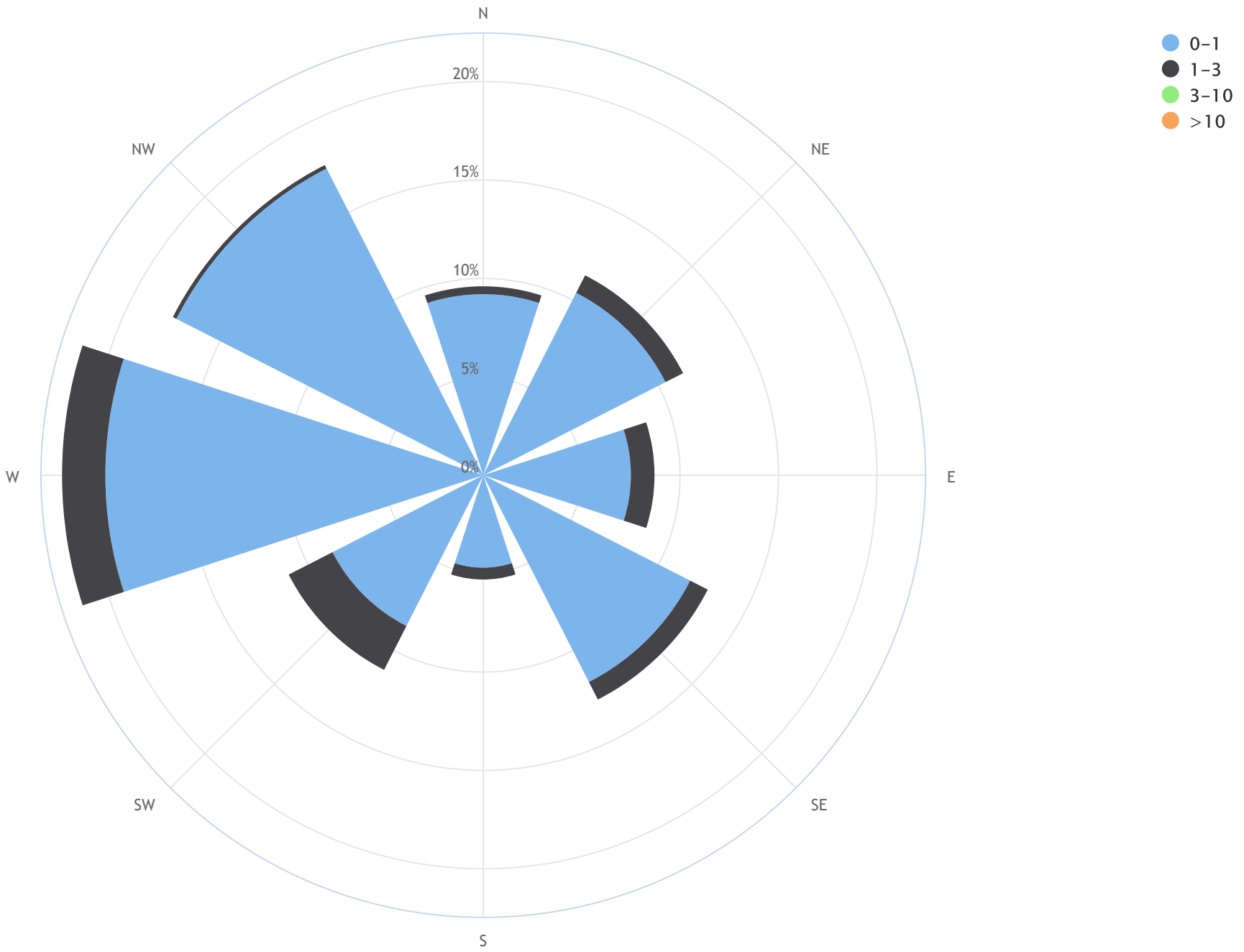


TRS[ppb] Histogram: LICA COLD LAKE SOUTH Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Cold Lake South Continuous Monitoring Station_TRS (ppb)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 0.2, CALM % = 2.0%



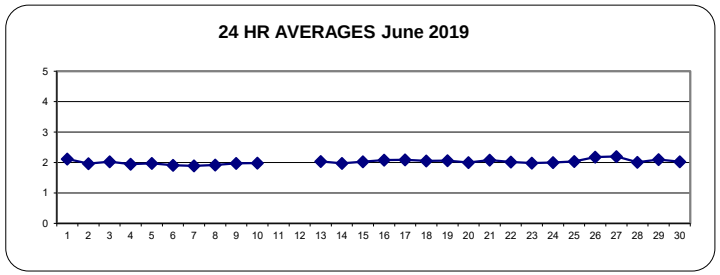
Direction	0-1	1-3	3-10	>10	TOTAL
N	9.2	0.4	0.0	0.0	9.7
NE	10.4	1.0	0.0	0.0	11.4
E	7.5	1.2	0.0	0.0	8.6
SE	11.8	1.0	0.0	0.0	12.9
S	4.7	0.6	0.0	0.0	5.3
SW	8.6	2.5	0.0	0.0	11.1
W	19.2	2.2	0.0	0.0	21.3
NW	17.5	0.2	0.0	0.0	17.7
Summary	88.9	9.1	0.0	0.0	98.0
CALM	1.6	0.4	0.0	0.0	2.1

TOTAL HYDROCARBONS Hourly Averages (THC ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	2.29	2.30	2.28	2.46	2.53	2.50	2.29	2.16	2.18	2.17	2.09	1.99	1.95	1.96	1.96	S	1.93	1.93	1.93	1.94	1.94	1.95	1.96	2.00	1.93	2.53	2.12	24
2	1.98	1.96	1.96	1.98	1.99	2.02	1.95	1.95	1.94	1.93	1.93	1.93	1.93	1.93	S	1.92	1.90	1.91	1.90	1.92	1.96	2.02	2.01	2.09	1.90	2.09	1.96	24
3	2.20	2.16	2.23	2.25	2.28	2.14	2.07	2.09	1.98	1.95	1.93	1.93	1.93	S	1.93	1.93	1.93	1.91	1.91	1.91	1.92	1.97	2.01	2.04	1.91	2.28	2.03	24
4	2.03	2.02	2.01	2.00	2.01	1.97	1.97	1.95	1.94	1.92	1.91	1.91	S	1.91	1.90	1.90	1.90	1.90	1.91	1.91	1.92	1.94	1.96	1.99	1.90	2.03	1.95	24
5	2.00	2.01	2.07	2.13	2.20	2.12	2.06	2.02	2.00	1.94	1.90	S	1.90	1.89	1.91	1.89	1.89	1.89	1.90	1.91	1.90	1.90	1.92	1.97	1.89	2.20	1.97	24
6	2.06	1.94	1.91	1.91	1.92	1.91	1.92	1.91	1.94	1.92	X	S	1.90	1.89	1.89	1.89	1.89	1.89	1.89	1.88	1.88	1.89	1.89	1.89	1.88	2.06	1.91	23
7	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	S	1.90	1.89	1.89	1.89	1.89	1.89	1.90	1.91	1.90	1.90	1.90	1.90	1.90	1.91	1.89	1.91	1.89	24
8	1.92	1.92	1.93	1.91	1.92	2.01	1.95	1.89	S	1.89	1.90	1.90	1.91	1.91	1.90	1.90	1.90	1.90	1.90	1.92	1.95	1.98	1.97	1.97	1.89	2.01	1.92	24
9	1.95	1.99	2.14	2.23	2.26	2.14	1.98	S	1.91	1.90	1.89	1.89	1.89	1.89	1.90	1.90	1.90	1.90	1.90	1.91	1.92	1.96	1.99	2.05	1.89	2.26	1.97	24
10	2.10	2.17	2.18	2.20	2.10	2.02	S	1.95	1.95	S1	1.90	1.90	1.89	1.89	1.88	1.88	1.89	1.89	1.90	1.90	1.93	1.98	1.96	2.04	1.88	2.20	1.98	23
11	2.06	2.07	2.08	2.12	2.18	S	2.19	2.09	1.97	2.00	1.96	1.96	1.98	C	C	C	C	Y	Y	Y	Y	Y	Y	Y	1.96	2.19	-	17
12	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	2.00	1.96	1.98	1.96	1.95	1.94	1.93	1.93	1.94	1.96	1.97	2.02	2.15	1.93	2.15	-	16
13	2.38	2.44	2.50	S	2.51	2.38	2.11	1.92	1.90	1.93	1.93	1.90	1.91	1.90	1.89	1.88	**1.87**	1.89	1.88	1.90	1.99	1.96	2.00	1.95	**1.87**	2.51	2.04	24
14	1.96	2.03	S	2.02	1.98	2.03	2.08	2.02	2.04	2.00	1.91	1.92	1.93	1.93	1.92	1.91	1.90	1.90	1.91	1.91	1.93	1.97	1.99	2.04	1.90	2.08	1.97	24
15	2.07	S	2.28	2.35	2.34	2.34	2.11	2.01	1.92	1.91	1.92	1.91	1.91	1.89	1.92	1.93	1.93	1.93	1.93	1.95	1.98	2.00	2.08	2.13	1.89	2.35	2.03	24
16	S	2.16	2.24	2.22	2.26	2.28	2.20	2.14	2.13	2.13	2.02	1.99	1.99	1.97	1.96	1.96	1.95	1.96	1.99	2.01	2.01	2.05	2.10	S	1.95	2.28	2.08	24
17	2.19	2.15	2.20	2.18	2.25	2.26	2.22	2.14	2.08	2.09	2.10	2.05	2.01	2.00	1.99	1.97	1.97	1.98	1.99	2.00	2.03	2.05	S	2.17	1.97	2.26	2.09	24
18	2.16	2.17	2.17	2.19	2.26	2.19	2.15	2.12	2.08	2.04	1.97	1.96	1.95	1.94	1.95	1.95	1.97	1.98	2.00	2.04	1.95	S	1.96	1.98	1.94	2.26	2.05	24
19	2.03	2.14	2.24	2.31	2.16	2.18	2.18	1.97	1.95	1.96	1.94	1.95	1.95	1.94	1.95	1.97	2.00	2.02	2.00	2.00	S	2.15	2.14	2.17	1.94	2.31	2.06	24
20	2.23	2.27	2.03	1.98	1.96	1.95	1.94	1.94	1.95	1.93	1.94	1.93	1.93	1.93	1.92	1.93	1.92	1.92	1.93	S	2.03	2.06	2.09	2.21	1.92	2.27	2.00	24
21	2.40	2.20	2.26	2.26	2.48	2.44	2.11	2.04	1.99	1.96	1.95	1.95	1.93	1.93	1.94	1.94	1.93	1.95	S	1.97	2.00	2.04	2.12	2.11	1.93	2.48	2.08	24
22	2.18	2.16	2.19	2.20	2.17	2.16	2.01	1.96	1.95	1.96	1.94	1.94	1.94	1.95	1.98	1.96	1.97	S	1.95	1.97	1.94	1.97	1.98	2.05	1.94	2.20	2.02	24
23	2.06	2.04	2.06	2.03	2.04	2.00	2.01	2.00	1.95	1.93	1.94	1.92	1.93	1.93	1.93	1.94	S	1.94	1.94	1.95	1.97	1.97	2.00	2.08	1.92	2.08	1.98	24
24	2.08	2.06	2.02	2.00	2.01	1.98	1.98	1.96	1.97	1.95	1.96	1.95	1.95	1.95	1.95	S	1.96	1.95	1.93	1.95	2.02	2.07	2.16	2.27	1.93	2.27	2.00	24
25	2.13	2.10	2.28	2.15	2.10	2.07	2.01	1.97	1.95	1.94	1.94	1.95	1.94	1.94	S	1.96	1.97	1.95	1.95	1.99	2.11	2.04	2.15	2.27	1.94	2.28	2.04	24
26	2.23	2.26	2.31	2.41	2.56	2.62	2.47	2.23	2.17	2.06	2.01	2.00	2.02	S	2.04	1.97	1.99	2.00	2.00	2.04	2.14	2.19	2.23	2.29	1.97	2.62	2.18	24
27	2.41	2.67	2.63	2.65	**3.00**	2.61	2.22	2.16	2.06	2.02	2.01	1.98	S	1.99	1.99	2.01	2.01	2.00	2.01	2.01	2.01	2.18	1.99	1.98	1.98	**3.00**	**2.20**	24
28	1.97	1.98	2.00	2.00	2.00	2.03	2.05	2.04	2.02	2.04	2.05	S	2.00	1.99	1.99	2.00	2.00	2.02	2.02	2.03	2.00	1.99	2.03	2.00	1.97	2.05	2.01	24
29	2.00	2.08	2.11	2.29	2.41	2.50	2.28	2.26	2.16	2.05	S	2.02	2.05	2.10	2.05	1.93	1.94	1.97	1.95	1.96	2.00	1.99	2.03	2.12	1.93	2.50	2.10	24
30	2.16	2.19	2.25	2.17	2.02	2.01	2.02	2.01	1.99	S	1.99	1.98	1.97	1.98	1.96	1.97	1.99	1.97	1.98	1.99	2.01	2.03	2.00	2.03	1.96	2.25	2.03	24
HOURLY MAX	2.41	2.67	2.63	2.65	3.00	2.62	2.47	2.26	2.18	2.17	2.10	2.05	2.05	2.10	2.05	2.01	2.01	2.02	2.02	2.04	2.14	2.19	2.23	2.29				
HOURLY AVG	2.11	2.13	2.16	2.16	2.20	2.17	2.09	2.03	2.00	1.98	1.96	1.95	1.94	1.94	1.94	1.93	1.94	1.94	1.94	1.95	1.98	2.01	2.02	2.07				

STATUS FLAG CODES

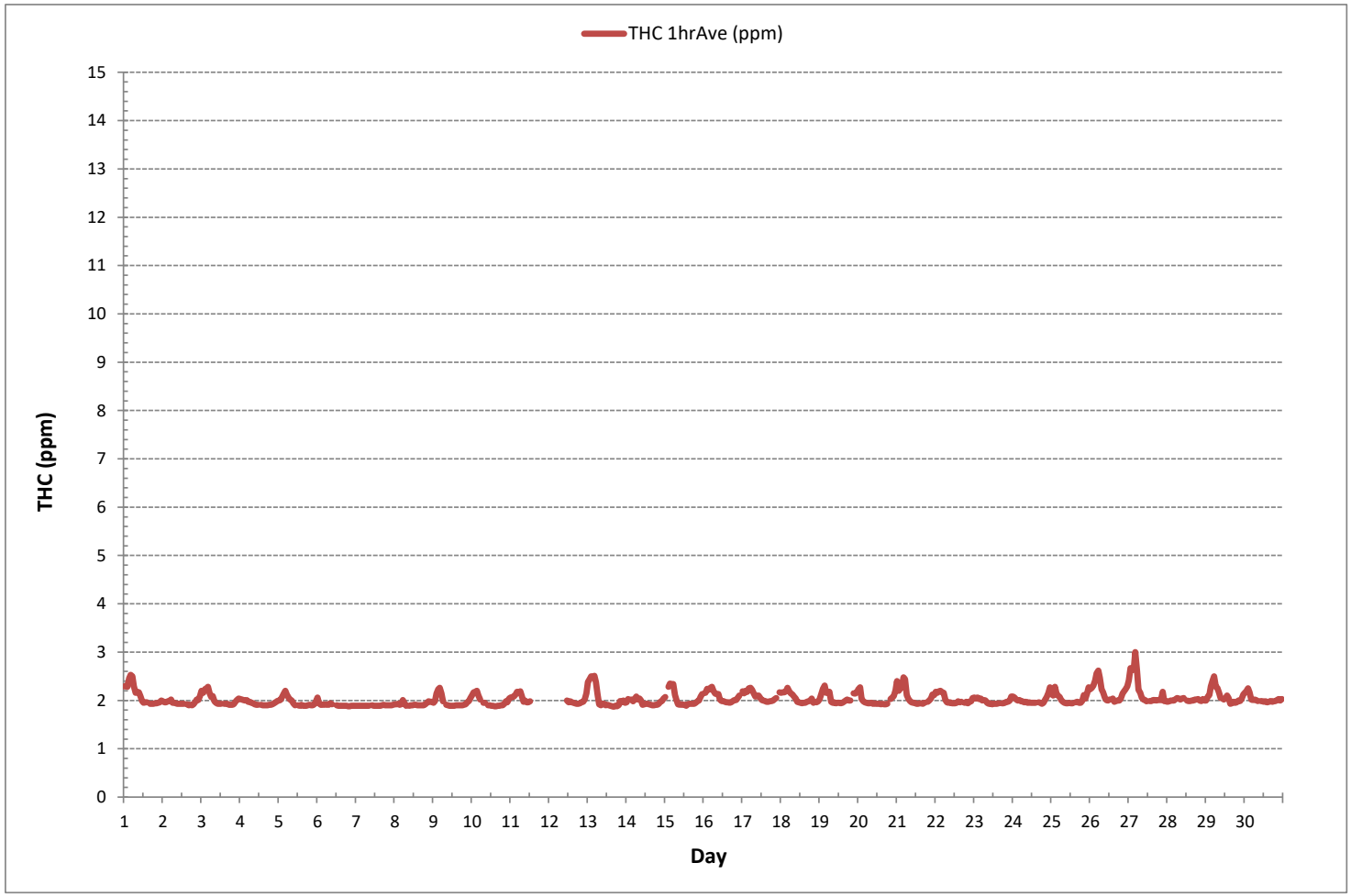
C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE



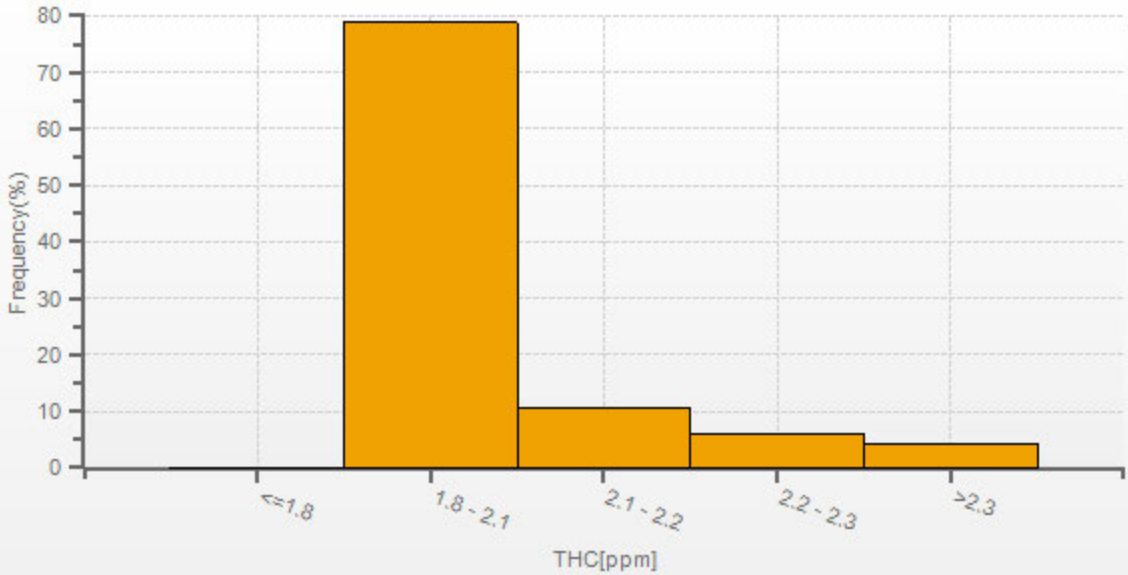
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:		666					
MINIMUM 1-HR AVERAGE	1.87	ppm	@ HOUR	16	ON DAY	13	
MAXIMUM 1-HR AVERAGE:	3.00	ppm	@ HOUR	4	ON DAY	27	
MAXIMUM 24-HR AVERAGE:	2.20	ppm			ON DAY	27	
IZS CALIBRATION TIME:	30	hrs	OPERATIONAL TIME:			703	hrs
MONTHLY CALIBRATION TIME:	7	hrs	AMD OPERATION UPTIME:			97.6	%
STANDARD DEVIATION:	0.14		MONTHLY AVERAGE:			2.02	ppm

TOTAL HYDROCARBONS Hourly Averages (THC ppm)

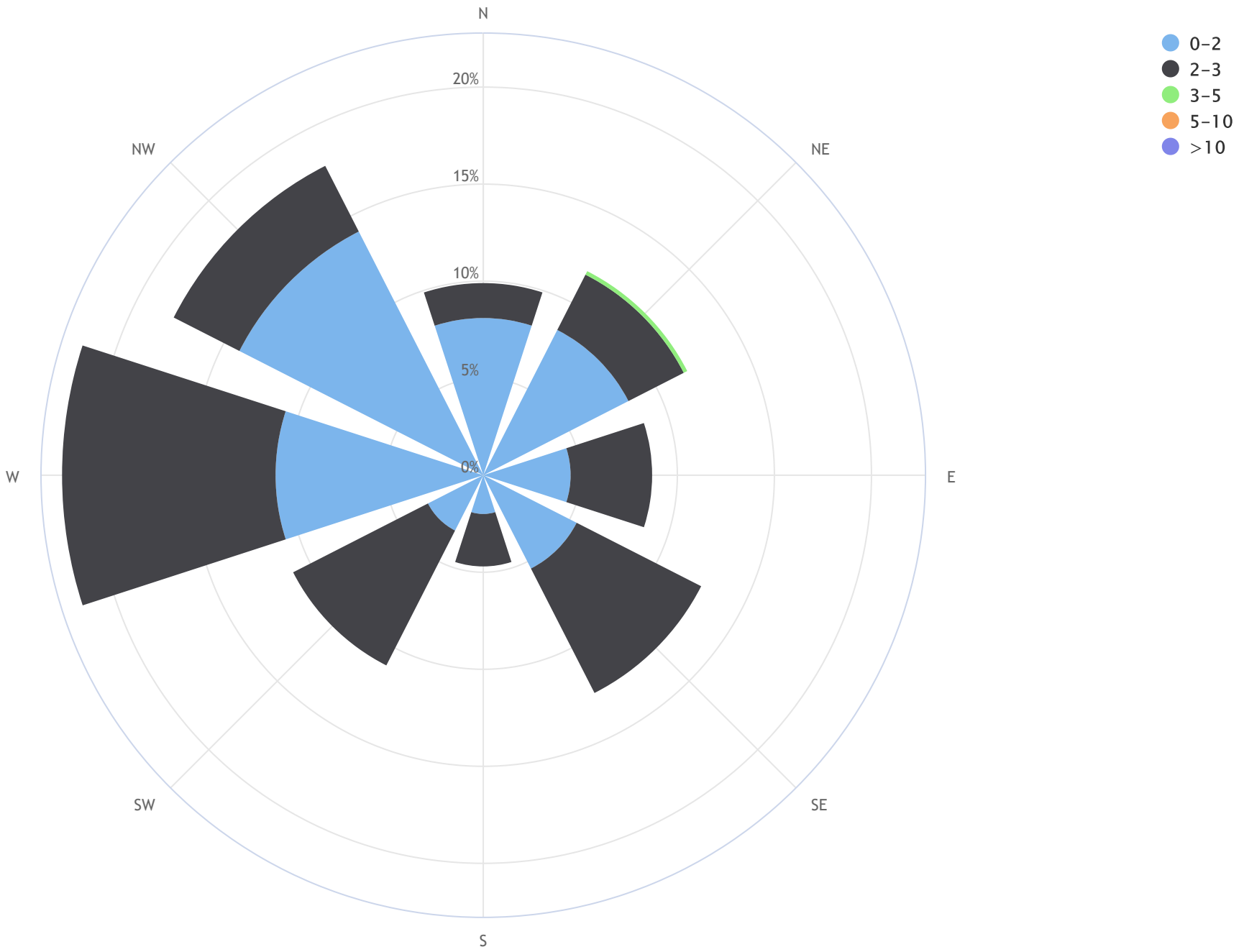


THC[ppm] Histogram: LICA COLD LAKE SOUTH Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Cold Lake South Continuous Monitoring Station_THC (ppm)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 2.2, CALM % = 2.0%



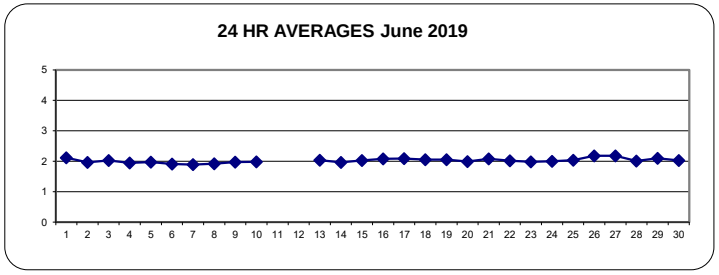
Direction	0-2	2-3	3-5	5-10	>10	TOTAL
N	8.1	1.8	0.0	0.0	0.0	9.9
NE	8.4	3.2	0.2	0.0	0.0	11.7
E	4.5	4.2	0.0	0.0	0.0	8.7
SE	5.4	7.2	0.0	0.0	0.0	12.6
S	2.0	2.7	0.0	0.0	0.0	4.7
SW	3.2	7.8	0.0	0.0	0.0	11.0
W	10.7	11.0	0.0	0.0	0.0	21.6
NW	14.1	3.8	0.0	0.0	0.0	17.9
Summary	56.3	41.6	0.2	0.0	0.0	98.0
CALM	0.0	2.0	0.0	0.0	0.0	2.0

METHANE Hourly Averages (CH_4 ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	2.29	2.30	2.28	2.46	2.53	2.50	2.29	2.16	2.18	2.17	2.09	1.99	1.95	1.96	1.96	S	1.93	1.93	1.93	1.94	1.94	1.95	1.96	2.00	1.93	2.53	2.12	24
2	1.98	1.96	1.96	1.98	1.99	2.02	1.95	1.95	1.94	1.93	1.93	1.93	1.93	1.93	S	1.92	1.90	1.91	1.90	1.92	1.96	2.02	2.01	2.09	1.90	2.09	1.96	24
3	2.20	2.16	2.23	2.25	2.28	2.14	2.07	2.09	1.98	1.95	1.93	1.93	1.93	S	1.93	1.93	1.93	1.91	1.91	1.91	1.92	1.97	2.01	2.04	1.91	2.28	2.03	24
4	2.03	2.02	2.01	2.00	2.01	1.97	1.97	1.95	1.94	1.92	1.91	1.91	S	1.91	1.90	1.90	1.90	1.90	1.91	1.91	1.92	1.94	1.96	1.99	1.90	2.03	1.95	24
5	2.00	2.01	2.07	2.13	2.20	2.12	2.06	2.02	2.00	1.94	1.90	S	1.90	1.89	1.90	1.89	1.89	1.89	1.90	1.91	1.90	1.90	1.92	1.97	1.89	2.20	1.97	24
6	2.06	1.94	1.91	1.91	1.92	1.91	1.92	1.91	1.94	1.92	X	S	1.90	1.89	1.89	1.89	1.89	1.89	1.89	1.88	1.88	1.89	1.89	1.89	1.88	2.06	1.91	23
7	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	S	1.90	1.89	1.89	1.89	1.89	1.89	1.90	1.91	1.90	1.90	1.90	1.90	1.90	1.91	1.89	1.91	1.89	24
8	1.92	1.92	1.93	1.91	1.92	2.01	1.95	1.89	S	1.89	1.90	1.90	1.91	1.91	1.90	1.90	1.90	1.90	1.90	1.92	1.95	1.98	1.97	1.97	1.89	2.01	1.92	24
9	1.95	1.99	2.14	2.23	2.26	2.14	1.98	S	1.91	1.90	1.89	1.89	1.89	1.89	1.90	1.90	1.90	1.90	1.90	1.91	1.92	1.96	1.99	2.05	1.89	2.26	1.97	24
10	2.10	2.17	2.18	2.20	2.10	2.02	S	1.95	1.95	S1	1.90	1.90	1.89	1.89	1.88	1.88	1.89	1.89	1.90	1.90	1.93	1.98	1.96	2.04	1.88	2.20	1.98	23
11	2.06	2.07	2.08	2.12	2.18	S	2.19	2.09	1.97	2.00	1.96	1.96	1.97	C	C	C	C	Y	Y	Y	Y	Y	Y	Y	1.96	2.19	-	17
12	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	1.99	1.96	1.97	1.96	1.95	1.94	1.93	1.93	1.93	1.96	1.97	2.01	2.14	1.93	2.14	-	16
13	2.37	2.43	2.49	S	2.51	2.37	2.11	1.91	1.90	1.93	1.92	1.90	1.90	1.90	1.89	1.88	**1.87**	1.88	1.88	1.90	1.98	1.96	2.00	1.95	**1.87**	2.51	2.04	24
14	1.96	2.03	S	2.02	1.98	2.03	2.08	2.02	2.03	2.00	1.91	1.92	1.93	1.93	1.91	1.90	1.90	1.90	1.91	1.90	1.92	1.97	1.99	2.04	1.90	2.08	1.96	24
15	2.07	S	2.27	2.34	2.33	2.34	2.11	2.01	1.92	1.91	1.92	1.91	1.91	1.89	1.92	1.93	1.93	1.92	1.93	1.94	1.98	2.00	2.07	2.13	1.89	2.34	2.03	24
16	S	2.16	2.23	2.21	2.26	2.28	2.20	2.14	2.12	2.12	2.02	1.99	1.99	1.96	1.96	1.96	1.95	1.96	1.99	2.01	2.01	2.05	2.10	S	1.95	2.28	2.08	24
17	2.19	2.15	2.20	2.18	2.25	2.25	2.22	2.13	2.08	2.08	2.10	2.05	2.00	2.00	1.99	1.97	1.97	1.98	1.98	2.00	2.03	2.05	S	2.16	1.97	2.25	2.09	24
18	2.16	2.17	2.17	2.19	2.26	2.19	2.15	2.12	2.08	2.04	1.97	1.96	1.95	1.94	1.95	1.95	1.96	1.98	1.99	1.98	1.95	S	1.96	1.98	1.94	2.26	2.05	24
19	2.03	2.13	2.24	2.30	2.16	2.17	2.18	1.96	1.95	1.96	1.94	1.95	1.95	1.94	1.95	1.97	2.00	2.02	2.00	2.00	S	2.14	2.14	2.17	1.94	2.30	2.05	24
20	2.22	2.26	2.03	1.98	1.96	1.95	1.94	1.94	1.94	1.93	1.94	1.93	1.93	1.93	1.92	1.93	1.92	1.92	1.93	S	2.03	2.06	2.09	2.20	1.92	2.26	1.99	24
21	2.39	2.20	2.26	2.25	2.48	2.43	2.11	2.01	1.98	1.96	1.95	1.95	1.93	1.93	1.94	1.94	1.93	1.95	S	1.97	2.00	2.04	2.12	2.11	1.93	2.48	2.08	24
22	2.18	2.15	2.19	2.20	2.17	2.16	2.01	1.96	1.95	1.94	1.94	1.94	1.94	1.95	1.97	1.96	1.96	S	1.95	1.97	1.94	1.96	1.98	2.05	1.94	2.20	2.02	24
23	2.06	2.04	2.06	2.03	2.04	2.00	2.00	2.00	1.95	1.93	1.94	1.92	1.93	1.92	1.93	1.94	S	1.93	1.94	1.95	1.97	1.97	2.00	2.08	1.92	2.08	1.98	24
24	2.08	2.06	2.02	2.00	2.01	1.98	1.98	1.96	1.97	1.95	1.96	1.95	1.95	1.95	1.95	S	1.96	1.95	1.93	1.95	2.02	2.06	2.16	2.26	1.93	2.26	2.00	24
25	2.13	2.10	2.28	2.15	2.10	2.07	2.01	1.97	1.95	1.93	1.94	1.95	1.94	1.94	S	1.96	1.97	1.95	1.95	1.98	2.10	2.04	2.15	2.26	1.93	2.28	2.04	24
26	2.22	2.25	2.31	2.41	2.56	2.61	2.46	2.21	2.17	2.06	2.01	2.00	2.02	S	2.04	1.97	1.99	2.00	2.00	2.04	2.13	2.18	2.22	2.29	1.97	2.61	**2.18**	24
27	2.40	2.66	2.61	2.61	**2.93**	2.58	2.22	2.16	2.06	2.01	2.00	1.98	S	1.99	1.99	2.01	2.01	2.00	2.00	2.00	2.01	1.99	1.98	1.98	1.98	**2.93**	2.18	24
28	1.97	1.98	2.00	2.00	2.00	2.03	2.05	2.04	2.02	2.03	2.05	S	1.99	1.99	1.99	1.98	2.00	2.02	2.02	2.02	2.00	1.99	2.03	2.00	1.97	2.05	2.01	24
29	2.00	2.08	2.11	2.29	2.40	2.50	2.27	2.25	2.16	2.05	S	2.01	2.05	2.10	2.05	1.93	1.94	1.97	1.95	1.96	2.00	1.99	2.03	2.12	1.93	2.50	2.10	24
30	2.15	2.19	2.24	2.17	2.02	2.01	2.02	2.01	1.99	S	1.99	1.98	1.97	1.98	1.96	1.97	1.99	1.97	1.98	1.99	2.01	2.03	2.00	2.03	1.96	2.24	2.03	24
HOURLY MAX	2.40	2.66	2.61	2.61	2.93	2.61	2.46	2.25	2.18	2.17	2.10	2.05	2.05	2.10	2.05	2.01	2.01	2.02	2.02	2.04	2.13	2.18	2.22	2.29				
HOURLY AVG	2.11	2.12	2.16	2.16	2.20	2.17	2.09	2.03	2.00	1.98	1.96	1.95	1.94	1.94	1.94	1.93	1.94	1.94	1.94	1.95	1.97	2.00	2.02	2.07				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

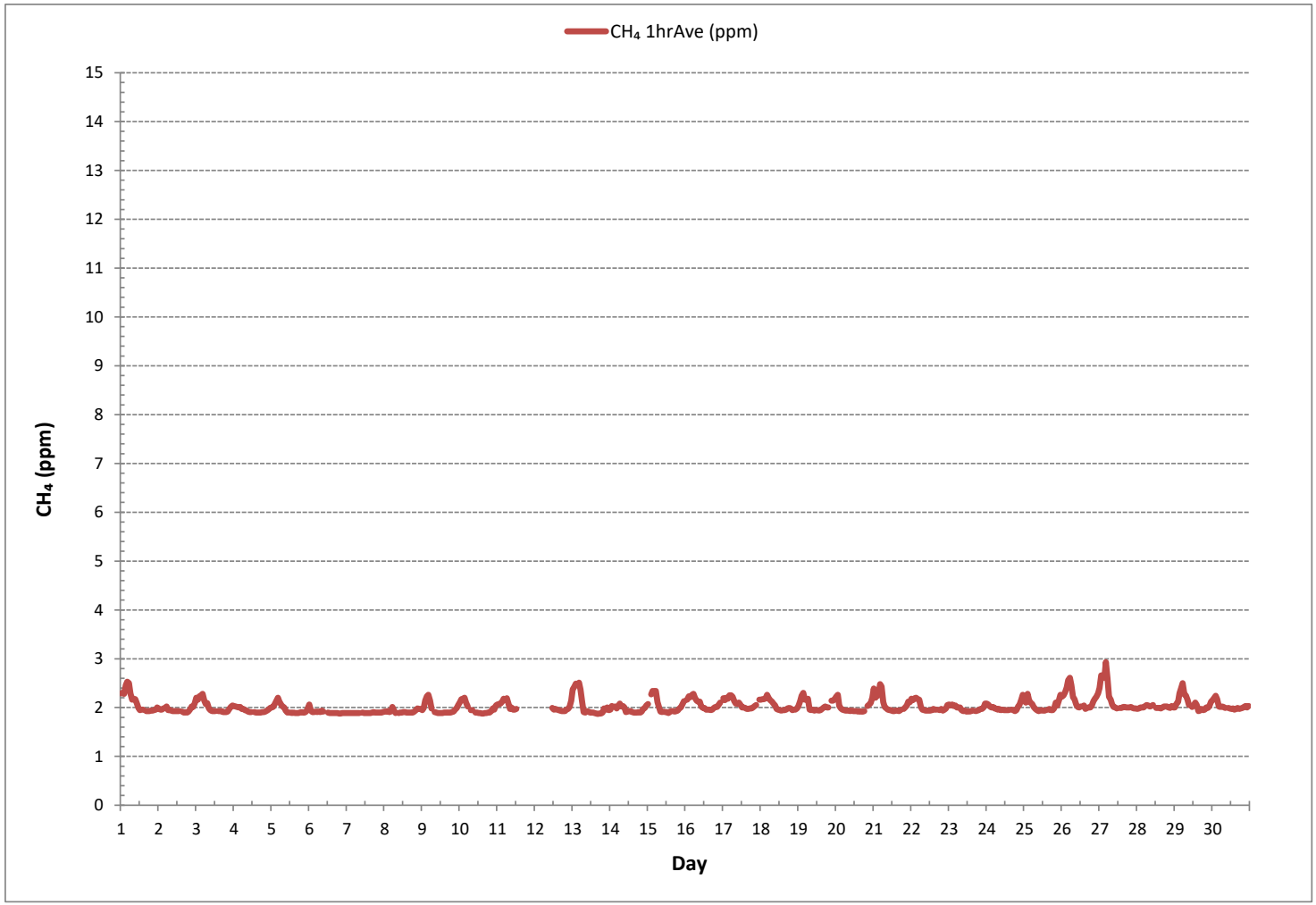


MONTHLY SUMMARY

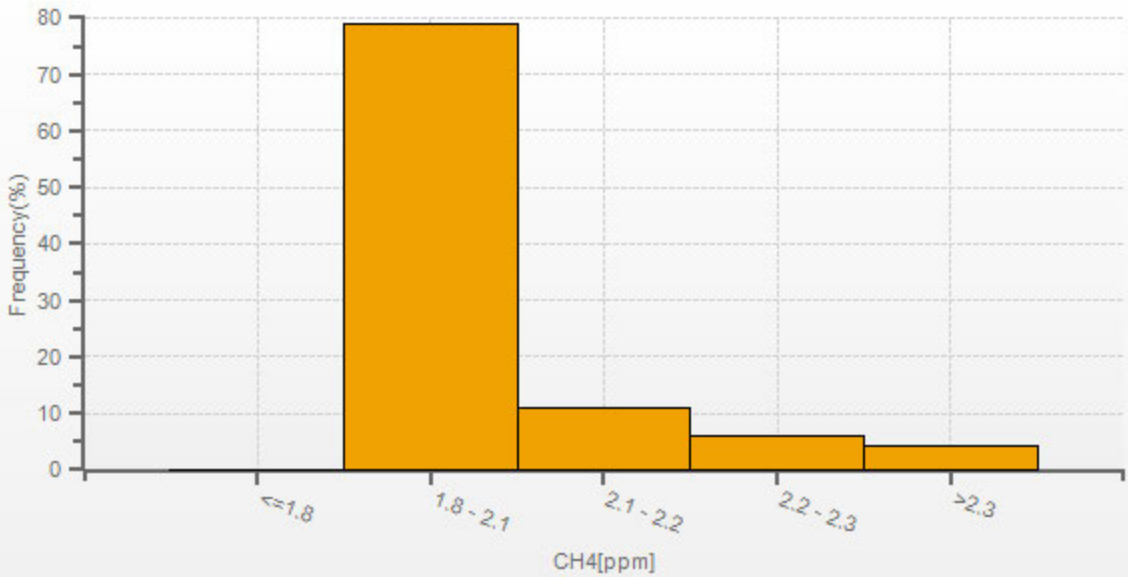
NUMBER OF NON-ZERO READINGS:		666				
MINIMUM 1-HR AVERAGE	1.87	ppm	@ HOUR	16	ON DAY	13
MAXIMUM 1-HR AVERAGE:	2.93	ppm	@ HOUR	4	ON DAY	27
MAXIMUM 24-HR AVERAGE:	2.18	ppm			ON DAY	26

IZS CALIBRATION TIME:	30	hrs	OPERATIONAL TIME:	703	hrs
MONTHLY CALIBRATION TIME:	7	hrs	AMD OPERATION UPTIME:	97.6	%
STANDARD DEVIATION:	0.14		MONTHLY AVERAGE:	2.02	ppm

METHANE Hourly Averages (CH_4 ppm)

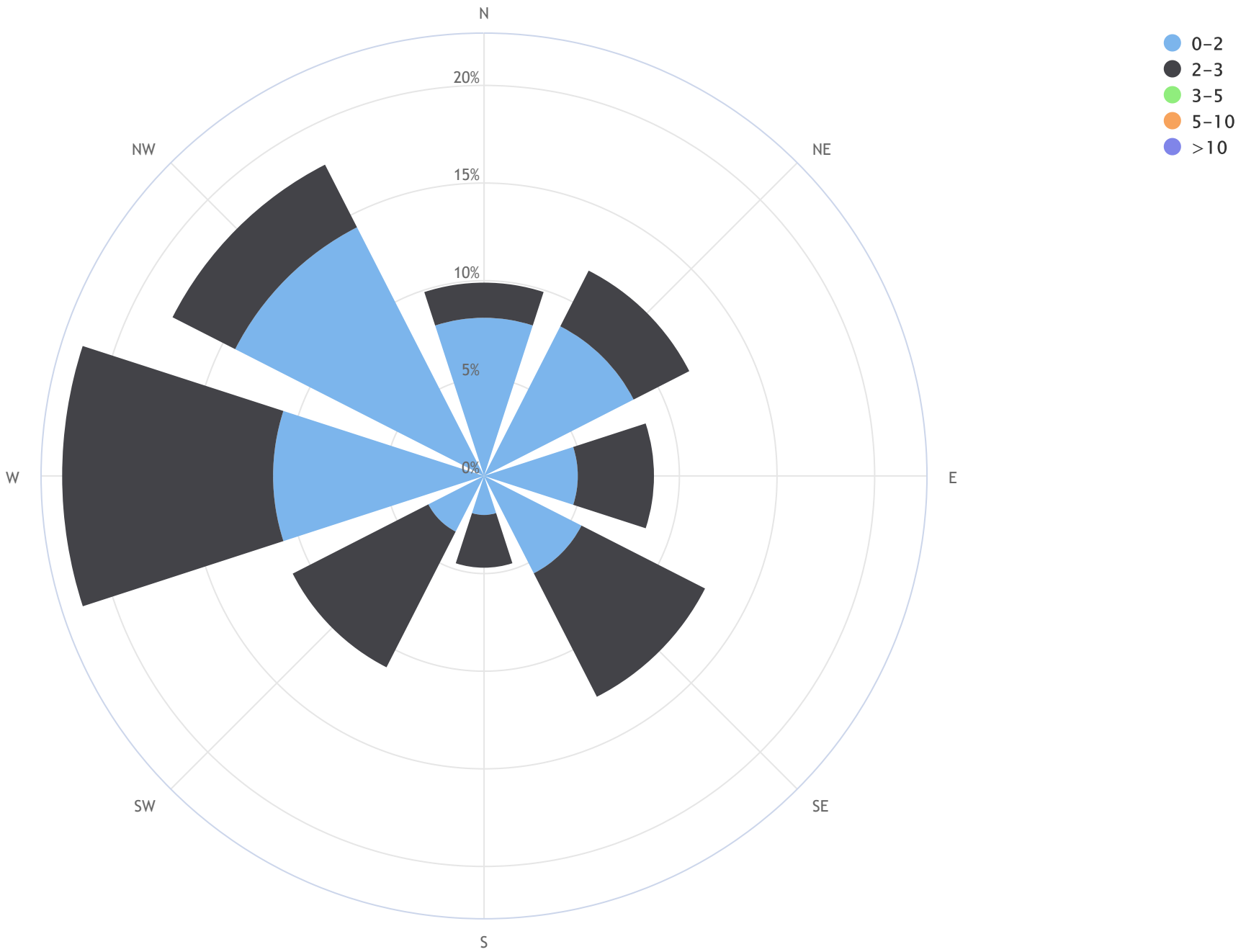


CH4[ppm] Histogram: LICA COLD LAKE SOUTH Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Cold Lake South Continuous Monitoring Station_CH_4 (ppm)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 2.2, CALM % = 2.0%



Direction	0-2	2-3	3-5	5-10	>10	TOTAL
N	8.1	1.8	0.0	0.0	0.0	9.9
NE	8.6	3.2	0.0	0.0	0.0	11.7
E	4.8	3.9	0.0	0.0	0.0	8.7
SE	5.6	7.1	0.0	0.0	0.0	12.6
S	2.0	2.7	0.0	0.0	0.0	4.7
SW	3.2	7.8	0.0	0.0	0.0	11.0
W	10.8	10.8	0.0	0.0	0.0	21.6
NW	14.3	3.6	0.0	0.0	0.0	17.9
Summary	57.2	40.8	0.0	0.0	0.0	98.0
CALM	0.0	2.0	0.0	0.0	0.0	2.0

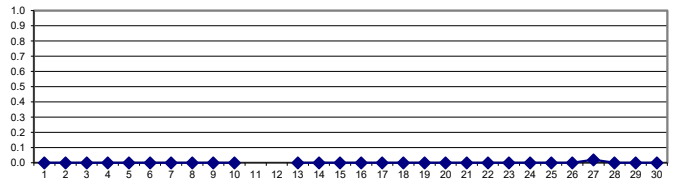
NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	**0.00**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	24
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	**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	24
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	**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	24
5	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	24
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**X**	**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	23
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
10	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	**S1**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23
11	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.01	**C**	**C**	**C**	**C**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	0.00	0.01	-	17
12	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**C**	**C**	**C**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.01	-	16
13	0.01	0.01	0.01	**S**	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.00	24
14	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
15	0.00	**S**	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
16	**S**	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.01	0.00	24
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	**S**	0.00	0.00	0.01	0.00	24
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	**S**	0.00	0.00	0.00	0.05	0.00	24
19	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.01	0.00	0.00	0.00	0.01	0.00	24
20	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
21	0.01	0.01	0.00	0.01	0.00	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	24
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	24
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
26	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.01	0.01	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.02	0.00	24
27	0.01	0.01	0.02	0.03	0.08	0.03	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	**0.19**	0.00	0.00	0.00	**0.19**	**0.02**	24
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	**S**	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	24
29	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	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	0.01	0.00	24
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
HOURLY MAX	0.01	0.01	0.02	0.03	0.08	0.03	0.02	0.03	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.01	0.05	0.01	0.19	0.01	0.01				
HOURLY AVG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

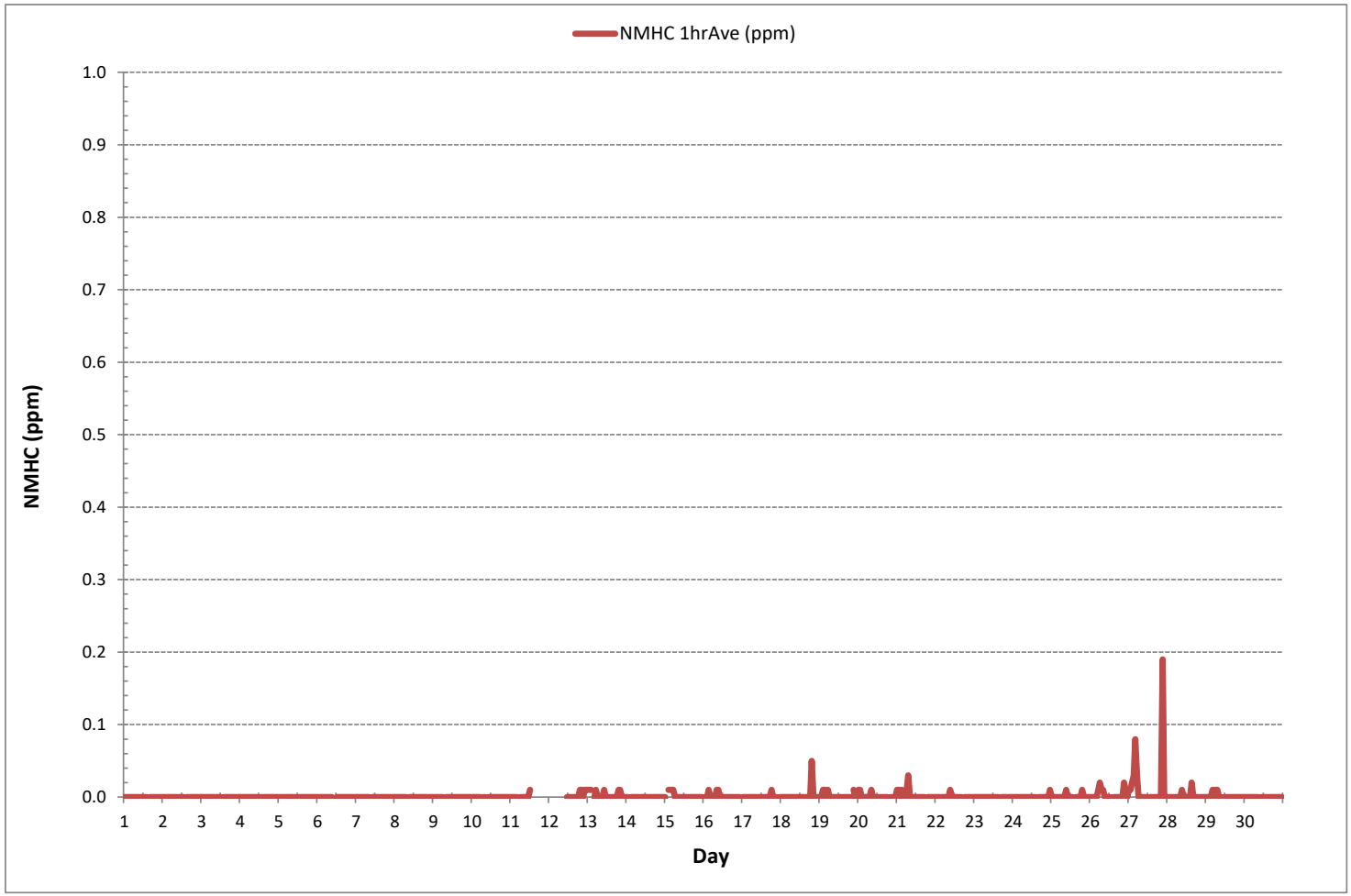
24 HR AVERAGES June 2019



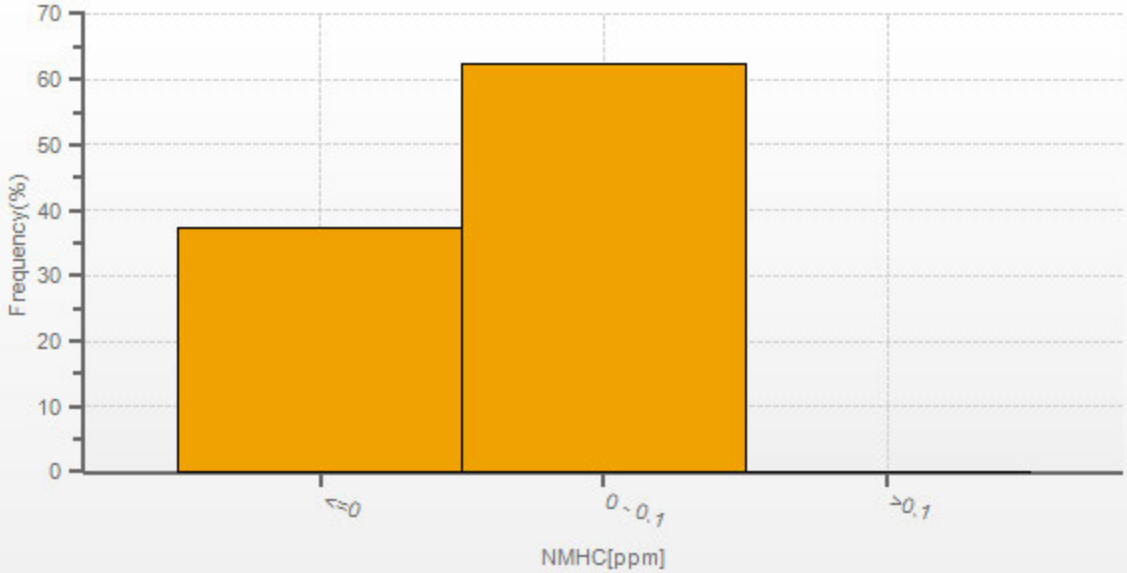
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:			55				
MINIMUM 1-HR AVERAGE	0.00	ppm	@ HOUR	0	ON DAY	1	
MAXIMUM 1-HR AVERAGE:	0.19	ppm	@ HOUR	21	ON DAY	27	
MAXIMUM 24-HR AVERAGE:	0.02	ppm			ON DAY	27	
IZS CALIBRATION TIME:	30	hrs	OPERATIONAL TIME:			703	hrs
MONTHLY CALIBRATION TIME:	7	hrs	AMD OPERATION UPTIME:			97.6	%
STANDARD DEVIATION:	0.01		MONTHLY AVERAGE:			0.00	ppm

NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)

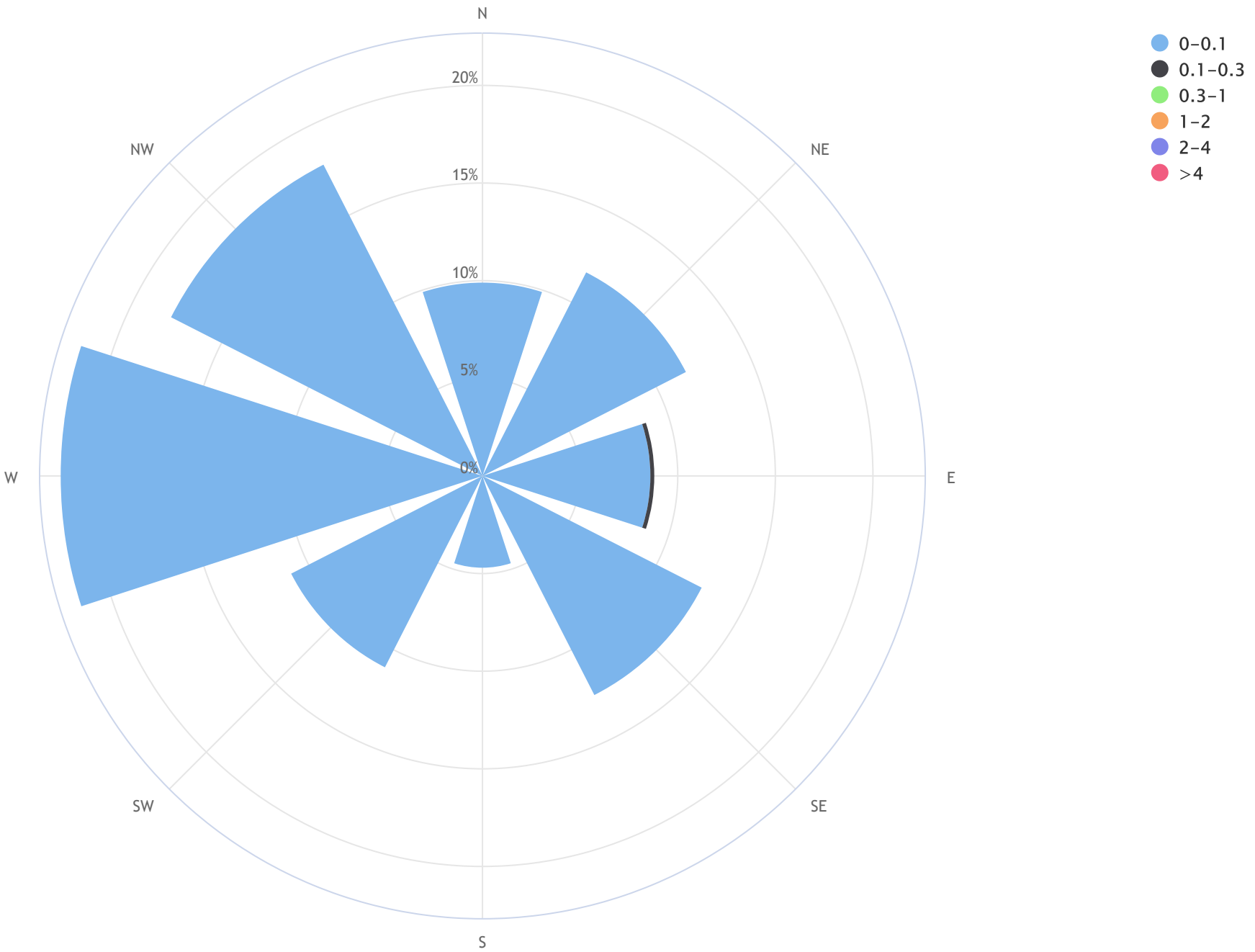


NMHC[ppm] Histogram: LICA COLD LAKE SOUTH Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Cold Lake South Continuous Monitoring Station_NMHC (ppm)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 0.0, CALM % = 2.0%



Direction	0-0.1	0.1-0.3	0.3-1	1-2	2-4	>4	TOTAL
N	9.9	0.0	0.0	0.0	0.0	0.0	9.9
NE	11.7	0.0	0.0	0.0	0.0	0.0	11.7
E	8.6	0.2	0.0	0.0	0.0	0.0	8.7
SE	12.6	0.0	0.0	0.0	0.0	0.0	12.6
S	4.7	0.0	0.0	0.0	0.0	0.0	4.7
SW	11.0	0.0	0.0	0.0	0.0	0.0	11.0
W	21.6	0.0	0.0	0.0	0.0	0.0	21.6
NW	17.9	0.0	0.0	0.0	0.0	0.0	17.9
Summary	97.9	0.2	0.0	0.0	0.0	0.0	98.0
CALM	2.0	0.0	0.0	0.0	0.0	0.0	2.0

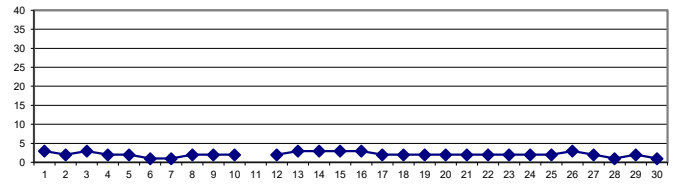
OXIDES OF NITROGEN Hourly Averages (NO_x ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	3	3	4	4	5	**9**	7	2	2	2	1	1	1	1	2	**S**	2	2	2	2	2	2	2	2	1	**9**	**3**	24
2	2	2	2	3	3	3	2	2	2	2	3	2	2	3	**S**	2	1	1	1	2	2	2	2	3	1	3	2	24
3	4	3	3	3	4	3	4	3	2	2	2	2	2	**S**	2	2	4	2	2	3	3	4	4	4	2	4	3	24
4	3	3	5	6	3	2	3	2	2	2	1	1	**S**	2	1	2	1	1	1	1	2	2	2	3	1	6	2	24
5	3	3	3	2	4	5	5	4	3	2	1	**S**	1	1	1	1	1	1	1	1	1	1	1	2	1	5	2	24
6	1	1	1	1	1	2	1	1	1	1	**X**	**S**	2	1	1	1	1	1	1	1	1	1	**0**	0	**0**	2	1	23
7	0	0	0	0	0	1	0	1	1	**S**	1	1	0	1	1	1	1	2	1	3	3	3	3	2	0	3	1	24
8	3	3	2	2	1	3	2	1	**S**	1	1	1	1	1	1	1	1	1	1	2	2	3	2	2	1	3	2	24
9	2	2	5	7	9	6	2	**S**	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	9	2	24
10	2	2	2	2	4	4	**S**	4	3	2	2	1	2	2	1	1	2	2	1	2	2	2	2	2	1	4	2	24
11	3	3	3	2	4	**S**	6	4	3	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2	2	1	3	1	2	2	2	1	6	-	24
12	2	1	2	3	**S**	3	2	2	3	3	3	2	1	2	2	1	1	1	1	2	3	2	2	2	1	3	2	24
13	2	2	2	**S**	4	7	5	3	2	3	4	3	2	4	2	2	2	1	2	3	3	4	3	2	1	7	3	24
14	2	3	**S**	6	3	3	4	4	4	3	2	2	3	3	2	1	2	2	1	2	1	2	2	2	1	6	3	24
15	2	**S**	5	5	4	5	6	4	2	2	3	2	1	1	1	1	1	1	1	1	1	2	3	3	1	6	3	24
16	**S**	3	2	2	3	4	4	4	8	6	3	2	2	2	2	2	1	1	1	1	1	2	2	**S**	1	8	3	24
17	2	2	2	2	2	3	3	3	2	2	3	2	2	2	2	2	2	2	3	2	2	2	**S**	3	2	3	2	24
18	2	3	2	3	3	3	4	3	3	3	1	1	1	1	1	1	2	3	2	4	4	**S**	2	2	1	4	2	24
19	2	1	2	2	2	4	4	3	2	1	1	2	2	2	2	2	3	3	3	3	**S**	3	3	3	1	4	2	24
20	4	3	2	2	1	1	1	2	2	2	2	2	2	1	1	1	1	1	1	**S**	2	3	3	4	1	4	2	24
21	4	3	2	3	1	4	5	3	2	2	2	2	1	1	1	1	2	**S**	6	4	3	2	3	3	1	6	2	24
22	2	2	2	3	3	2	1	1	1	1	1	1	1	1	2	4	4	**S**	4	5	1	1	4	3	1	5	2	24
23	3	4	6	3	2	4	4	2	3	4	3	1	1	1	1	1	**S**	2	2	1	1	1	2	2	1	6	2	24
24	2	2	1	2	2	4	4	4	3	3	4	3	2	1	2	**S**	3	2	1	1	2	2	2	2	1	4	2	24
25	2	2	2	2	2	2	2	3	1	1	2	2	1	1	**S**	2	2	3	3	2	2	2	2	2	1	3	2	24
26	2	2	2	1	2	4	5	6	8	6	3	2	3	**S**	2	2	2	1	1	1	2	2	3	2	1	8	3	24
27	2	2	3	4	5	4	2	2	2	1	1	1	**S**	2	1	1	1	1	2	2	2	2	1	1	1	5	2	24
28	1	0	0	0	1	1	1	2	1	2	1	**S**	2	1	1	1	1	1	1	1	1	1	4	3	0	4	1	24
29	2	1	2	2	5	3	3	2	2	2	**S**	2	1	1	1	1	2	1	1	1	2	1	2	3	1	5	2	24
30	3	3	4	3	1	1	1	1	1	**S**	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	1	24
HOURLY MAX	4	4	6	7	9	9	7	6	8	6	4	3	3	4	2	4	4	3	4	6	4	4	4	4				
HOURLY AVG	2	2	3	3	3	3	3	3	3	2	2	2	2	2	1	1	2	2	2	2	2	2	2	2				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

24 HR AVERAGES June 2019

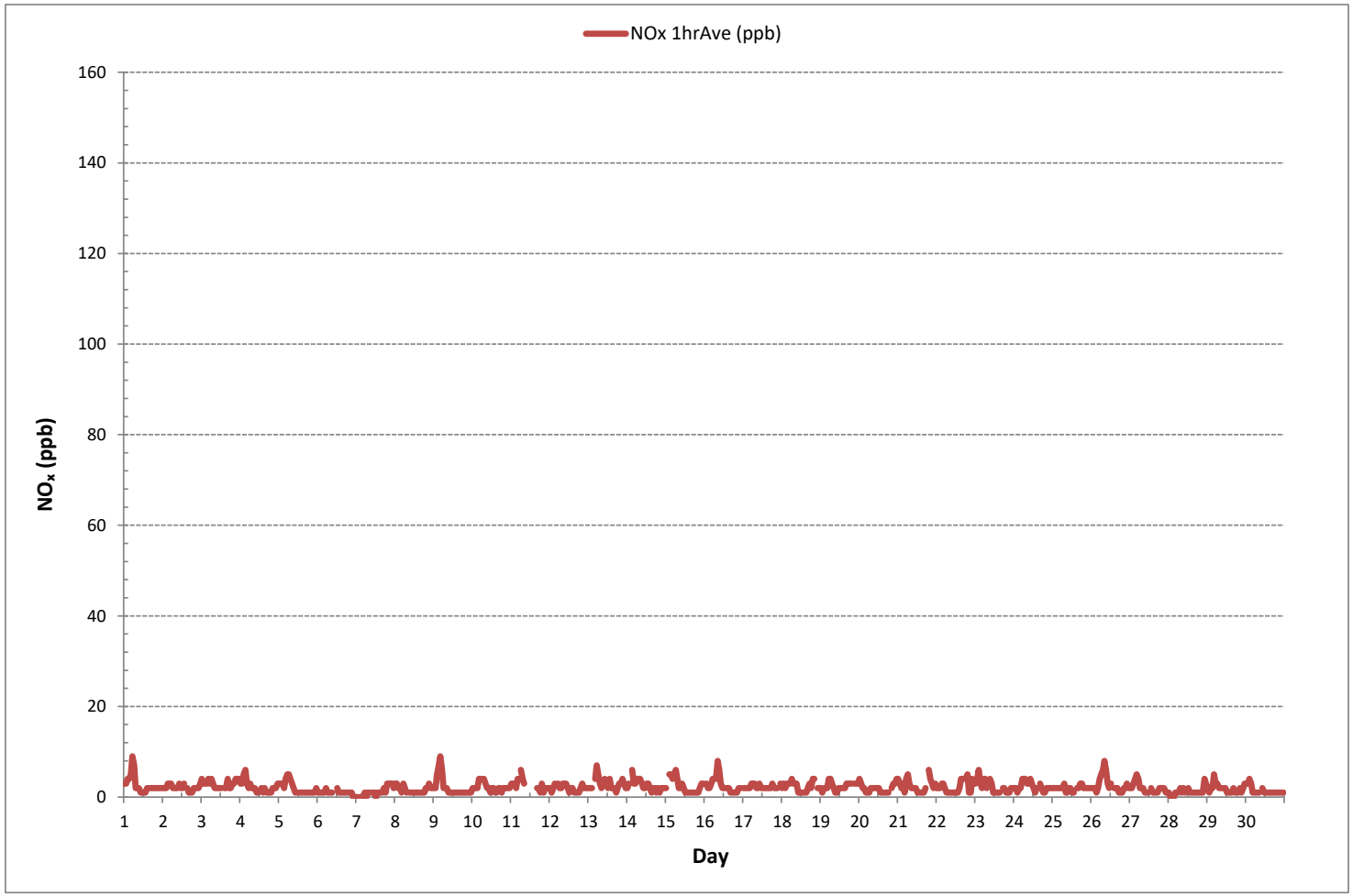


MONTHLY SUMMARY

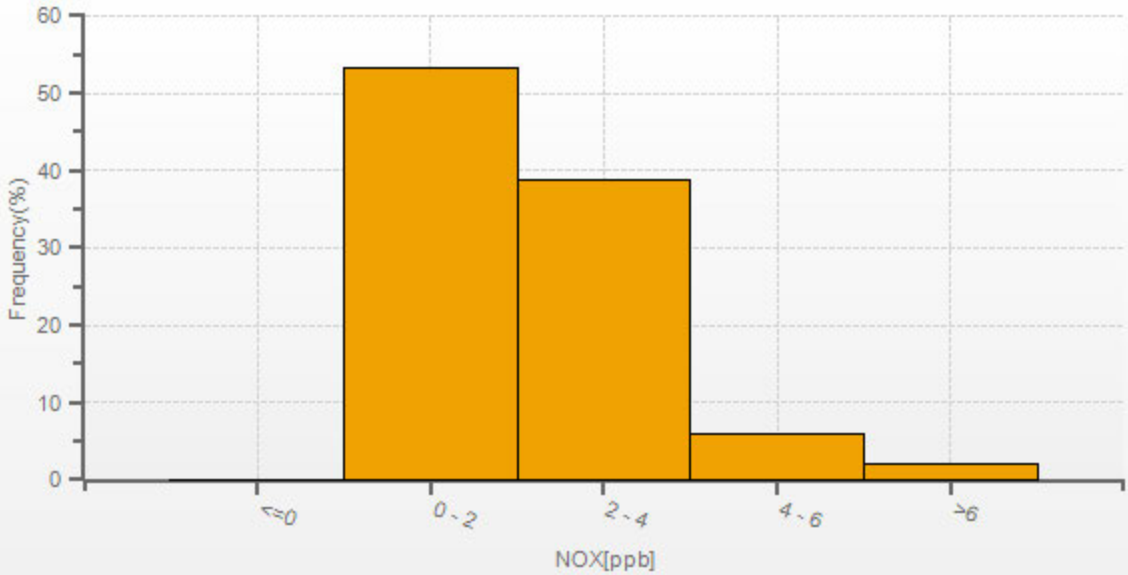
NUMBER OF NON-ZERO READINGS:			669				
MINIMUM 1-HR AVERAGE	0	ppb	@ HOUR	22	ON DAY		6
MAXIMUM 1-HR AVERAGE:	9	ppb	@ HOUR	5	ON DAY		1
MAXIMUM 24-HR AVERAGE:	3	ppb			ON DAY		1

IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	719	hrs
MONTHLY CALIBRATION TIME:	7	hrs	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	1		MONTHLY AVERAGE:	2	ppb

OXIDES OF NITROGEN Hourly Averages (NO_x ppb)

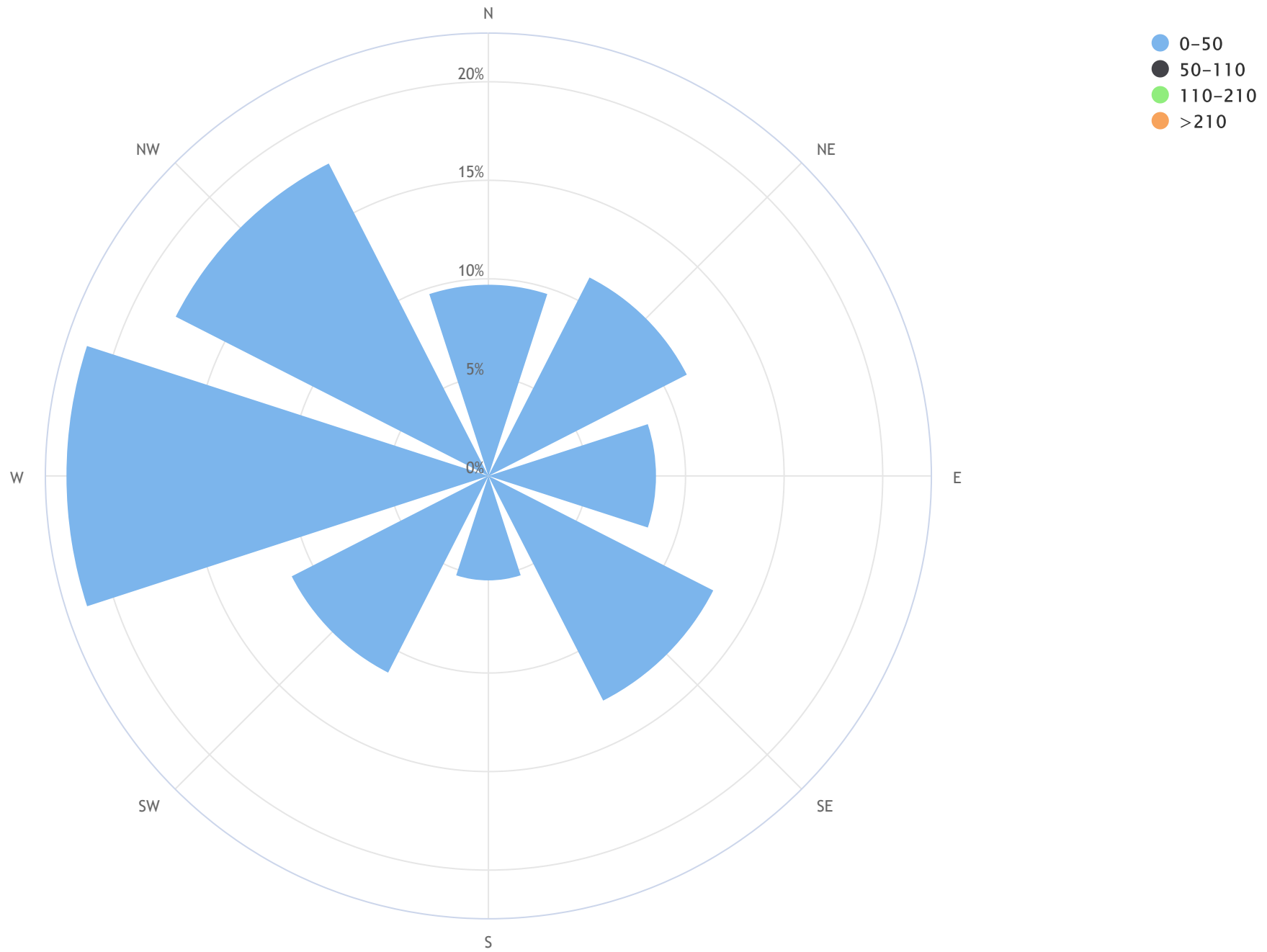


NOX[ppb] Histogram: LICA COLD LAKE SOUTH Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Cold Lake South Continuous Monitoring Station_NO_X (ppb)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 2.8, CALM % = 2.1%



Direction	0-50	50-110	110-210	>210	TOTAL
N	9.7	0.0	0.0	0.0	9.7
NE	11.3	0.0	0.0	0.0	11.3
E	8.5	0.0	0.0	0.0	8.5
SE	12.8	0.0	0.0	0.0	12.8
S	5.3	0.0	0.0	0.0	5.3
SW	11.2	0.0	0.0	0.0	11.2
W	21.4	0.0	0.0	0.0	21.4
NW	17.8	0.0	0.0	0.0	17.8
Summary	98.0	0.0	0.0	0.0	98.0
CALM	2.1	0.0	0.0	0.0	2.1

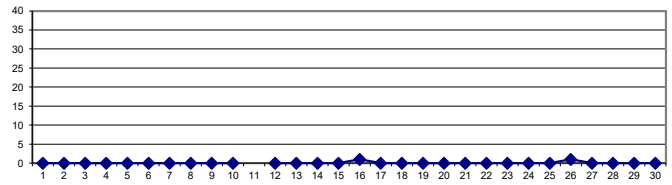
NITRIC OXIDE Hourly Averages (NO ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	0	0	0	0	1	3	2	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	3	0	24
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	24
3	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	24
4	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	24
5	0	0	0	0	1	1	1	1	1	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
6	0	0	0	0	0	0	0	0	0	0	X	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
7	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	24
8	0	0	0	0	0	1	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
9	0	0	0	0	1	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
10	0	0	0	0	0	1	S	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
11	0	0	0	0	0	S	2	1	0	C	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	2	-	24
12	0	0	0	0	S	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
13	0	0	0	S	0	1	1	0	0	1	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	24
14	0	0	S	0	0	1	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	24
15	0	S	0	0	1	2	2	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	24
16	S	0	0	0	1	2	1	1	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	S	0	3	1	24
17	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	1	0	24
18	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	S	0	0	0	1	0	24
19	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	1	0	24
20	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	S	0	0	0	0	0	1	0	24
21	0	0	0	0	1	2	2	1	1	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	2	0	24
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	S	0	0	0	0	0	0	0	1	0	24
23	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	S	0	0	0	0	0	0	0	0	1	0	24
24	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	S	0	0	0	0	0	0	0	0	0	1	0	24
25	0	0	0	0	0	0	1	1	0	0	0	1	0	0	S	0	0	1	0	0	0	0	0	0	0	1	0	24
26	1	1	1	0	1	2	2	2	2	2	0	0	1	S	0	0	0	0	0	0	0	0	0	0	0	2	1	24
27	0	0	1	1	2	1	1	1	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	2	0	24
28	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	24
29	0	0	0	0	2	1	1	0	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	24
30	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	24
HOURLY MAX	1	1	1	1	2	3	2	2	3	2	1	1	1	2	0	1	1	1	0	0	1	0	0	0				
HOURLY AVG	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

24 HR AVERAGES June 2019

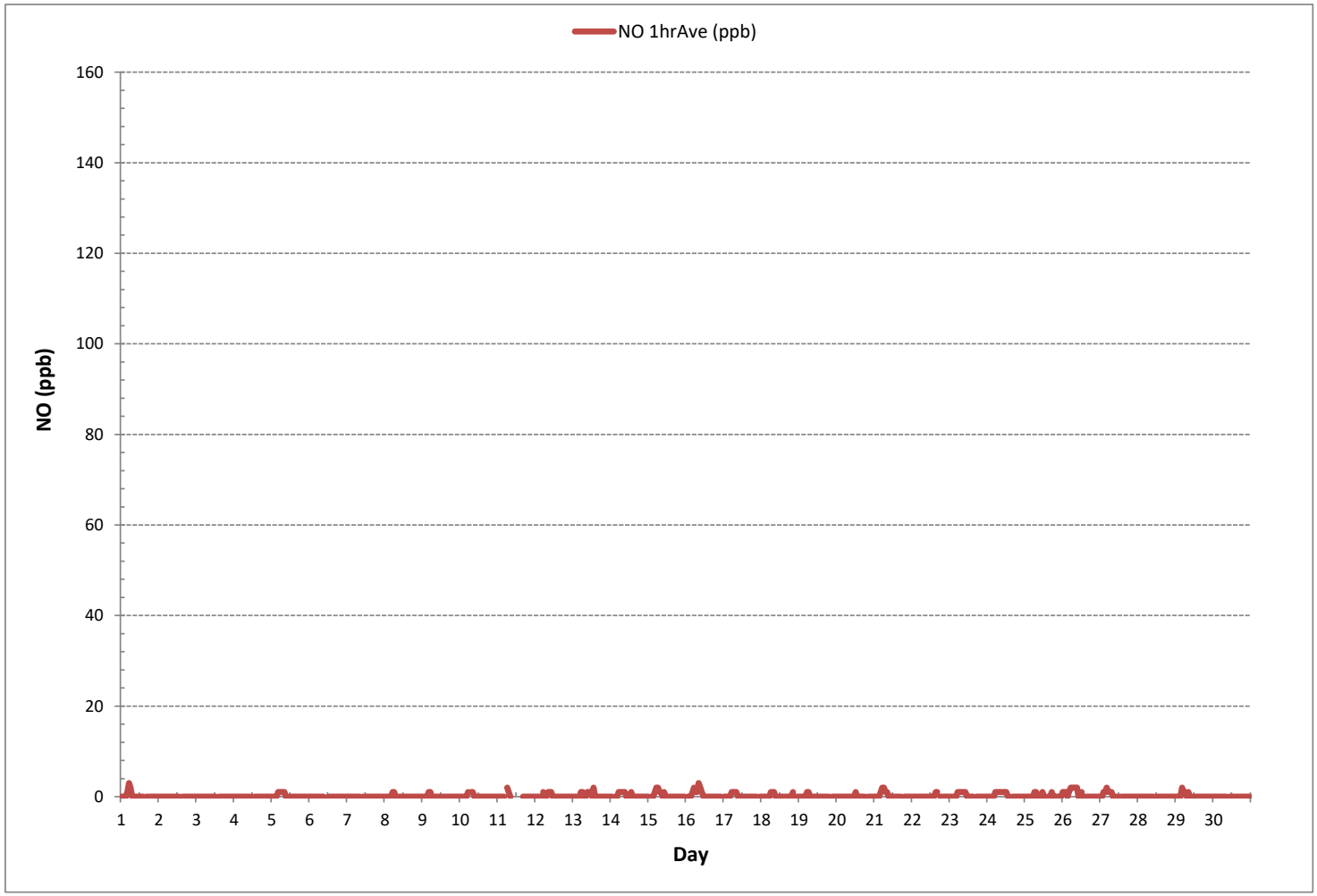


MONTHLY SUMMARY

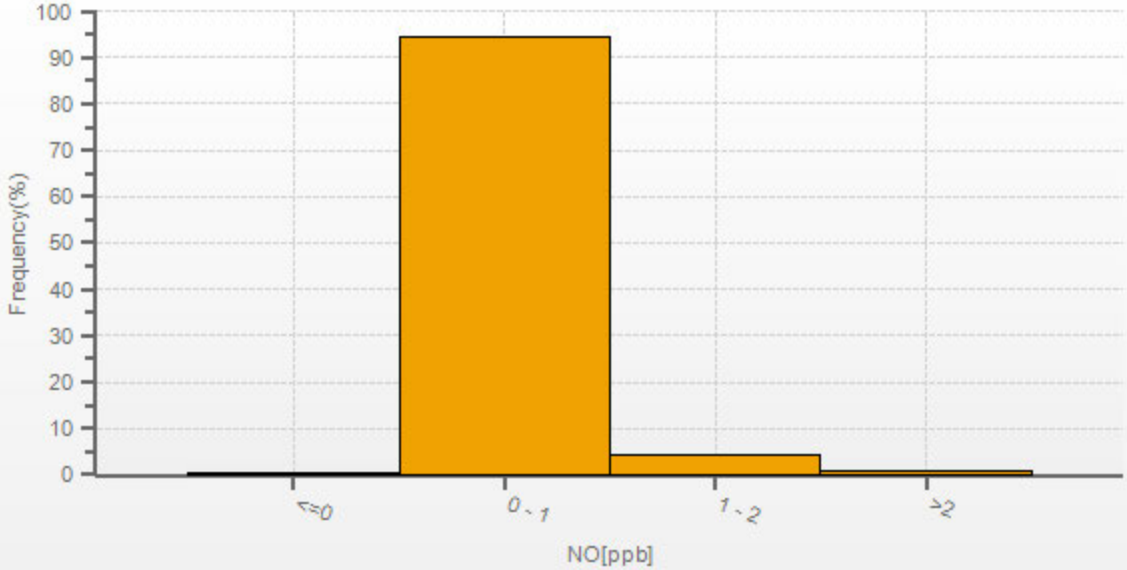
NUMBER OF NON-ZERO READINGS:		102				
MINIMUM 1-HR AVERAGE	0	ppb	@ HOUR	0	ON DAY	1
MAXIMUM 1-HR AVERAGE:	3	ppb	@ HOUR	5	ON DAY	1
MAXIMUM 24-HR AVERAGE:	1	ppb			ON DAY	16

IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	719	hrs
MONTHLY CALIBRATION TIME:	7	hrs	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	0		MONTHLY AVERAGE:	0	ppb

NITRIC OXIDE Hourly Averages (NO ppb)

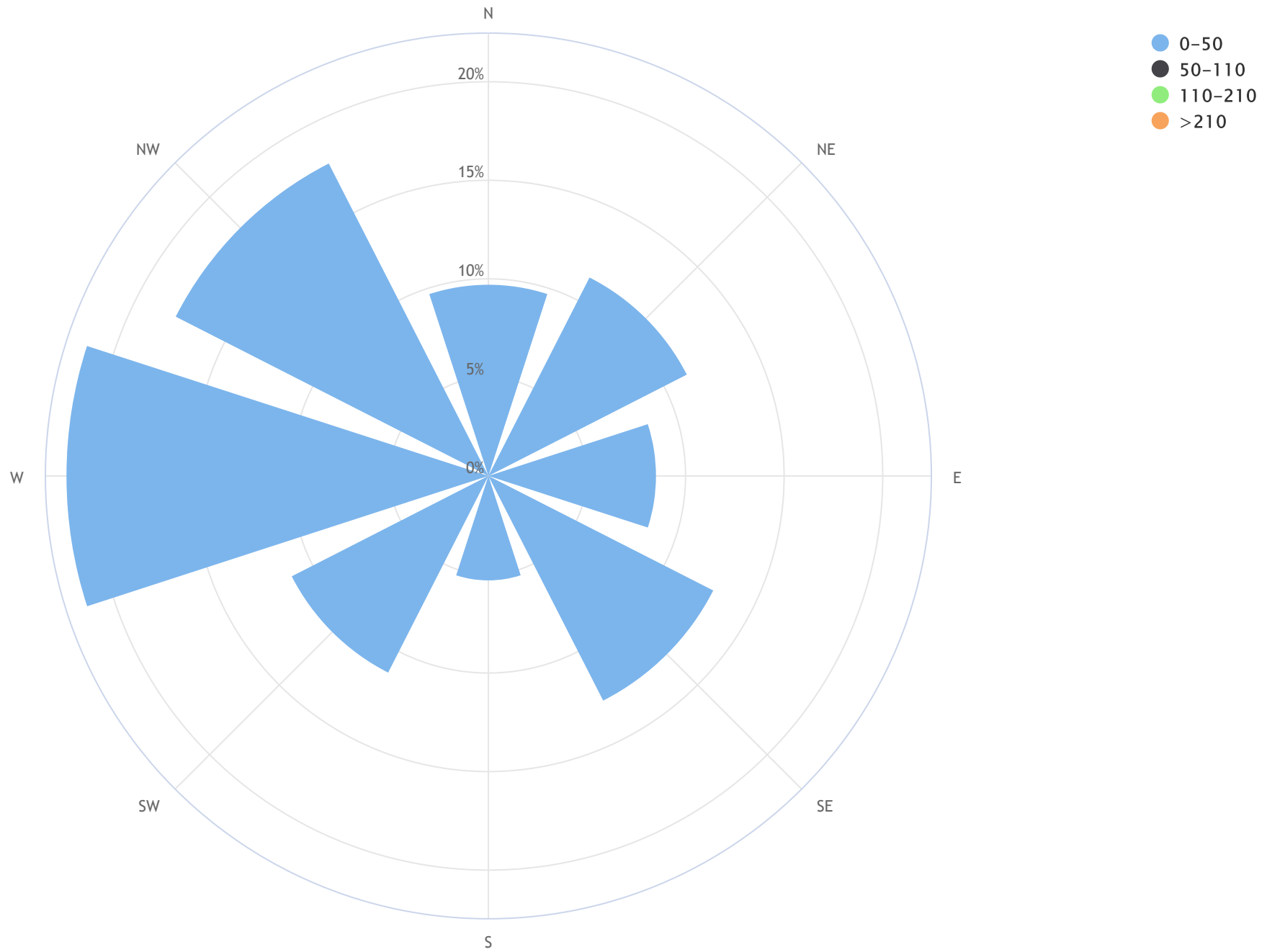


NO[ppb] Histogram: LICA COLD LAKE SOUTH Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Cold Lake South Continuous Monitoring Station_NO (ppb)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 0.1, CALM % = 2.1%



Direction	0-50	50-110	110-210	>210	TOTAL
N	9.7	0.0	0.0	0.0	9.7
NE	11.3	0.0	0.0	0.0	11.3
E	8.5	0.0	0.0	0.0	8.5
SE	12.8	0.0	0.0	0.0	12.8
S	5.3	0.0	0.0	0.0	5.3
SW	11.2	0.0	0.0	0.0	11.2
W	21.4	0.0	0.0	0.0	21.4
NW	17.8	0.0	0.0	0.0	17.8
Summary	98.0	0.0	0.0	0.0	98.0
CALM	2.1	0.0	0.0	0.0	2.1

NITROGEN DIOXIDE Hourly Averages (NO_2 ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	3	3	3	3	4	6	5	2	2	1	1	1	1	1	1	S	2	1	1	2	2	2	2	2	1	6	2	24
2	2	2	2	3	3	3	2	2	2	2	2	2	2	2	S	1	1	1	1	1	2	1	2	3	1	3	2	24
3	4	3	3	2	4	3	3	2	2	2	2	2	2	S	2	2	3	2	2	3	3	4	3	4	2	4	3	24
4	3	3	5	6	2	2	2	2	2	1	1	1	S	2	1	2	1	1	1	1	2	2	2	3	1	6	2	24
5	3	3	3	2	3	4	4	3	2	1	1	S	1	1	1	1	1	1	1	1	1	1	1	2	1	4	2	24
6	1	1	1	1	1	1	1	1	1	1	X	S	1	1	1	1	1	1	1	1	1	0	0	0	0	1	1	23
7	0	0	0	0	0	0	0	0	0	S	1	0	0	0	0	1	1	2	1	2	3	3	3	2	0	3	1	24
8	3	3	2	2	1	2	1	0	S	1	0	0	1	1	0	0	1	1	1	2	2	3	2	2	0	3	1	24
9	1	2	5	7	8	5	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8	2	24
10	2	1	1	2	3	4	S	3	2	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1	4	2	24
11	3	3	3	2	3	S	5	3	3	C	C	C	C	C	C	C	2	1	1	2	1	2	2	2	1	5	-	24
12	1	1	2	2	S	2	2	1	2	2	2	1	1	2	1	1	1	1	1	2	3	1	2	2	1	3	2	24
13	2	2	2	S	3	6	5	2	2	2	3	3	2	2	2	2	1	1	1	2	3	4	3	2	1	6	2	24
14	2	3	S	6	3	2	3	3	3	2	2	2	2	2	2	1	2	1	1	1	1	2	2	2	1	6	2	24
15	2	S	4	5	3	3	4	3	2	2	3	1	1	1	1	1	1	1	1	1	1	2	2	3	1	5	2	24
16	S	3	2	2	2	2	3	3	5	4	2	2	2	1	2	1	1	1	1	1	1	2	2	S	1	5	2	24
17	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	S	3	1	3	2	24
18	2	2	2	2	3	3	3	3	2	2	1	1	1	1	1	1	2	3	2	4	3	S	2	1	1	4	2	24
19	1	1	1	1	2	3	3	2	2	1	1	2	1	1	2	2	3	3	3	3	S	3	2	3	1	3	2	24
20	4	3	2	1	1	1	1	2	1	1	1	2	2	1	1	1	1	1	1	S	2	2	3	3	1	4	2	24
21	3	2	2	2	1	3	4	2	2	1	1	1	1	1	1	1	1	1	S	6	4	2	2	2	1	6	2	24
22	2	1	2	3	3	2	1	1	1	1	1	1	1	1	1	3	3	S	4	4	1	1	4	3	1	4	2	24
23	3	4	6	2	2	3	3	2	2	3	2	1	1	1	1	1	S	2	2	1	1	1	2	2	1	6	2	24
24	2	2	1	2	2	3	3	3	3	2	3	3	2	1	1	S	3	1	1	1	2	2	1	2	1	3	2	24
25	2	2	1	1	2	2	2	1	1	1	1	2	1	1	S	2	2	2	2	2	2	2	2	2	1	2	2	24
26	1	1	1	1	1	2	3	4	5	4	2	1	3	S	2	2	1	1	1	1	2	2	2	2	1	5	2	24
27	2	2	2	3	3	2	2	2	1	1	1	1	S	1	1	1	1	1	1	1	2	1	1	1	1	3	1	24
28	1	0	0	0	1	1	1	1	1	1	1	S	2	1	1	1	1	1	1	1	1	1	4	3	0	4	1	24
29	2	1	2	1	3	2	2	2	2	1	S	2	1	1	1	1	2	1	1	1	2	1	2	3	1	3	2	24
30	3	3	4	3	1	1	1	1	1	S	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	1	24
HOURLY MAX	4	4	6	7	8	6	5	4	5	4	3	3	3	2	2	3	3	3	4	6	4	4	4	4				
HOURLY AVG	2	2	2	2	2	3	2	2	2	2	2	1	1	1	1	1	1	1	1	2	2	2	2	2				

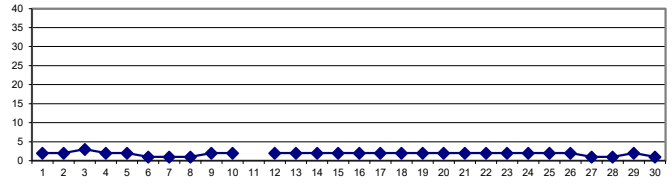
STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT: 1-HR 159 ppb

24 HR AVERAGES June 2019

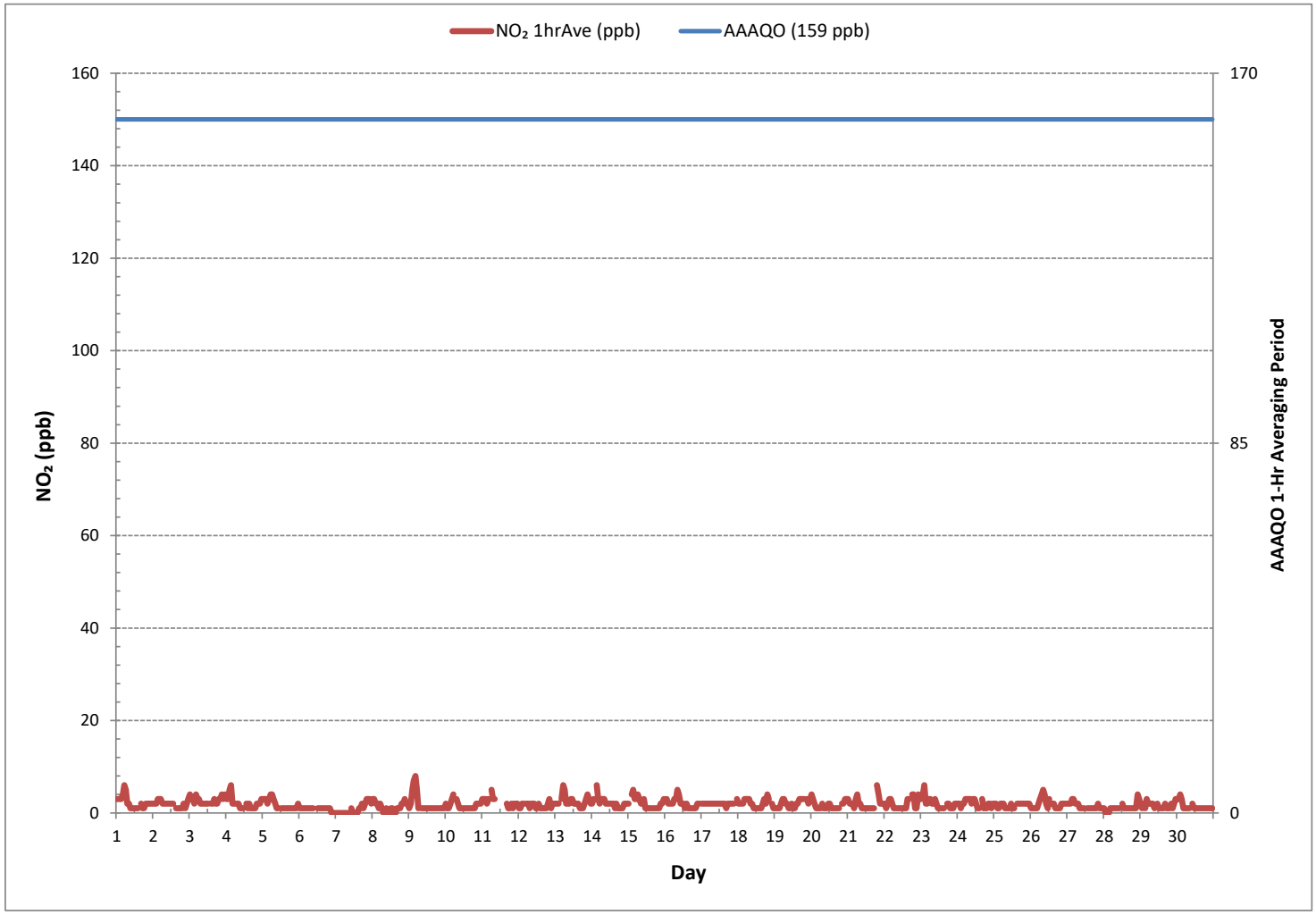


MONTHLY SUMMARY

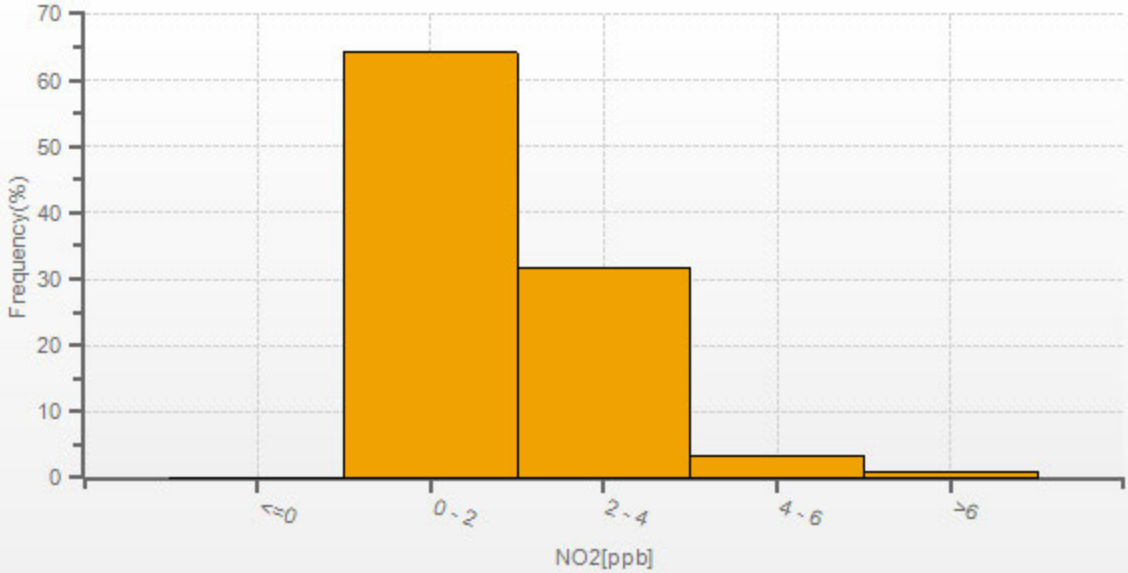
NUMBER OF 1-HR EXCEEDANCES:	0					
NUMBER OF NON-ZERO READINGS:	657					
MINIMUM 1-HR AVERAGE	0	ppb	@ HOUR	21	ON DAY	6
MAXIMUM 1-HR AVERAGE:	8	ppb	@ HOUR	4	ON DAY	9
MAXIMUM 24-HR AVERAGE:	3	ppb			ON DAY	3

IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	719	hrs
MONTHLY CALIBRATION TIME:	7	hrs	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	1		MONTHLY AVERAGE:	2	ppb

NITROGEN DIOXIDE Hourly Averages (NO_2 ppb)

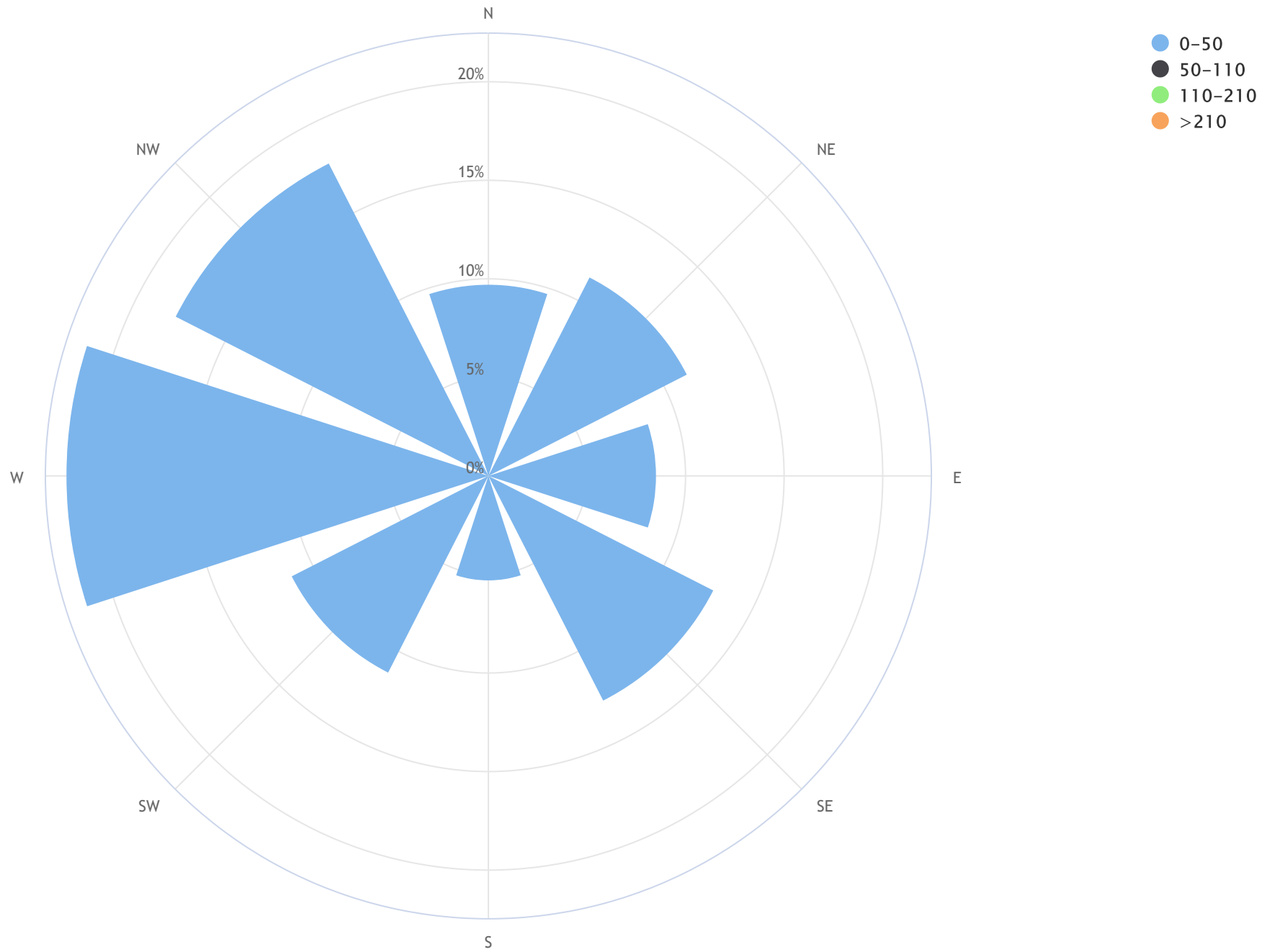


NO2[ppb] Histogram: LICA COLD LAKE SOUTH Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Cold Lake South Continuous Monitoring Station_NO_2 (ppb)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 2.5, CALM % = 2.1%



Direction	0-50	50-110	110-210	>210	TOTAL
N	9.7	0.0	0.0	0.0	9.7
NE	11.3	0.0	0.0	0.0	11.3
E	8.5	0.0	0.0	0.0	8.5
SE	12.8	0.0	0.0	0.0	12.8
S	5.3	0.0	0.0	0.0	5.3
SW	11.2	0.0	0.0	0.0	11.2
W	21.4	0.0	0.0	0.0	21.4
NW	17.8	0.0	0.0	0.0	17.8
Summary	98.0	0.0	0.0	0.0	98.0
CALM	2.1	0.0	0.0	0.0	2.1

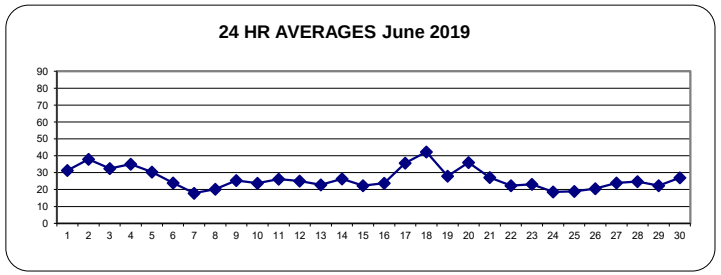
OZONE Hourly Averages (O_3 ppb)

HR START (MST) / HR END (MST)	0:00 0:59	1:00 1:59	2:00 2:59	3:00 3:59	4:00 4:59	5:00 5:59	6:00 6:59	7:00 7:59	8:00 8:59	9:00 9:59	10:00 10:59	11:00 11:59	12:00 12:59	13:00 13:59	14:00 14:59	15:00 15:59	16:00 16:59	17:00 17:59	18:00 18:59	19:00 19:59	20:00 20:59	21:00 21:59	22:00 22:59	23:00 23:59	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
DAY																												
1	10.7	9.5	9.1	6.9	5.3	3.3	12.1	22.0	25.6	28.1	32.7	38.9	42.2	45.6	47.0	S	50.6	50.5	50.1	49.1	47.8	46.2	45.3	42.6	3.3	50.6	31.4	24
2	41.4	38.4	35.4	32.8	28.0	24.3	28.7	30.4	32.7	34.0	35.2	40.6	43.5	52.6	S	54.5	**56.4**	50.1	52.3	49.4	36.2	29.9	25.6	20.2	20.2	**56.4**	37.9	24
3	19.4	19.7	24.6	22.5	19.0	23.9	29.9	30.6	37.1	36.3	42.2	40.6	41.3	S	42.2	41.5	35.3	41.8	41.8	39.2	36.2	27.0	25.5	30.1	19.0	42.2	32.5	24
4	29.5	26.6	27.4	21.3	27.1	28.8	29.7	32.9	34.5	37.3	39.7	39.8	S	38.6	39.7	41.2	41.6	40.6	40.1	42.9	43.4	39.0	34.0	31.5	21.3	43.4	35.1	24
5	28.6	22.7	14.8	10.4	11.1	18.2	21.2	28.1	32.8	35.1	36.5	S	39.2	39.3	39.3	39.9	40.9	41.6	42.4	39.2	32.4	31.5	29.4	25.0	10.4	42.4	30.4	24
6	25.0	29.3	30.0	27.8	25.7	24.3	22.6	21.8	17.4	18.5	X	S	19.1	21.3	22.6	23.1	23.0	24.3	24.9	25.7	24.9	25.6	25.6	24.7	17.4	30.0	24.0	23
7	23.0	21.7	21.4	20.9	21.1	21.0	19.9	18.4	17.8	S	16.9	17.4	17.6	16.8	17.4	17.9	16.6	15.2	17.3	15.6	16.0	15.6	13.7	13.5	13.5	23.0	17.9	24
8	13.4	12.8	13.6	13.5	13.3	11.2	14.6	21.3	S	23.0	24.1	24.6	24.8	25.7	26.7	27.3	26.9	26.9	26.8	25.4	21.2	18.4	18.3	11.6	11.2	27.3	20.2	24
9	11.6	8.3	10.1	8.4	11.2	15.5	22.9	S	30.1	32.7	34.5	36.3	36.8	37.6	36.8	36.7	37.1	37.5	37.4	35.4	22.8	18.1	14.4	11.9	8.3	37.6	25.4	24
10	10.5	8.0	7.3	8.9	12.2	15.1	S	21.3	25.2	28.6	30.9	32.2	31.6	33.9	33.7	34.8	36.9	36.1	33.3	32.5	23.7	17.9	16.0	14.7	7.3	36.9	23.7	24
11	11.6	8.4	6.5	3.8	4.0	S	10.0	19.3	25.2	30.3	34.5	36.6	38.5	40.7	42.0	41.6	40.4	39.1	38.9	32.7	32.1	28.8	22.0	16.2	3.8	42.0	26.2	24
12	18.9	19.5	14.6	6.9	S	6.4	20.0	24.8	C	C	C	C	C	40.3	41.7	41.0	38.7	37.6	36.6	32.9	20.6	17.1	14.7	20.0	6.4	41.7	25.1	24
13	16.5	13.8	11.5	S	10.2	16.5	17.8	24.6	23.5	23.9	23.6	24.1	29.8	31.1	31.0	28.3	31.1	29.6	30.4	23.8	17.3	19.0	22.3	24.8	10.2	31.1	22.8	24
14	21.1	20.6	S	11.6	12.5	11.7	14.8	19.7	19.7	23.9	31.2	36.1	35.5	35.2	37.6	37.3	38.8	35.7	33.8	38.4	34.0	24.3	16.1	14.6	11.6	38.8	26.3	24
15	11.9	S	5.6	6.0	3.6	6.8	12.1	19.4	28.5	32.7	33.2	35.7	34.7	36.9	33.3	33.6	30.9	31.5	32.2	31.4	24.4	13.0	10.0	7.9	3.6	36.9	22.4	24
16	S	4.4	4.5	3.0	1.9	4.5	10.7	17.8	20.3	25.2	34.9	37.7	39.1	39.5	38.3	39.0	38.1	33.2	28.2	27.3	25.9	23.9	26.2	S	1.9	39.5	23.8	24
17	23.6	21.8	17.4	20.3	18.5	17.6	18.6	23.3	29.9	34.7	38.2	42.9	47.8	51.9	51.7	50.9	50.5	47.3	45.0	44.7	42.5	41.6	S	40.7	17.4	51.9	35.7	24
18	41.9	40.7	38.3	35.7	32.1	33.5	32.9	35.5	39.1	43.9	49.9	52.1	52.9	53.4	55.0	56.3	51.5	38.2	36.5	34.4	36.9	S	45.2	37.6	32.1	56.3	**42.3**	24
19	24.7	11.6	9.8	9.3	11.3	13.0	15.2	31.4	36.2	36.4	39.5	31.3	43.4	47.6	43.7	42.0	38.0	37.1	37.3	37.8	S	12.8	15.9	17.8	9.3	47.6	28.0	24
20	11.4	14.1	33.1	43.7	48.0	47.5	45.0	41.9	41.4	41.4	39.4	43.4	41.2	42.0	43.2	42.5	40.7	42.3	43.3	S	32.9	22.9	16.2	10.8	10.8	48.0	36.0	24
21	7.2	15.4	11.8	5.6	3.5	5.3	16.2	28.5	28.1	30.2	37.8	36.6	42.7	42.0	43.1	44.7	51.6	40.0	S	31.3	31.4	27.4	23.1	20.4	3.5	51.6	27.1	24
22	14.7	11.6	10.2	10.0	10.8	12.6	20.5	20.9	23.6	28.8	30.4	30.3	30.3	28.6	26.0	27.9	25.9	S	25.5	24.6	29.2	29.7	23.3	17.3	10.0	30.4	22.3	24
23	15.9	13.9	11.1	16.6	16.3	13.3	15.3	20.4	25.0	26.8	29.7	34.4	34.4	34.7	33.8	29.0	S	26.3	26.0	30.2	24.5	21.6	18.8	16.1	11.1	34.7	23.2	24
24	15.0	13.3	14.6	15.1	12.9	12.1	14.1	17.6	19.7	23.1	21.2	25.5	25.6	27.1	26.8	S	28.3	29.3	28.5	24.4	14.4	8.0	5.9	4.3	4.3	29.3	18.6	24
25	8.0	10.9	2.8	5.0	7.4	9.5	13.3	18.0	23.3	25.1	26.9	25.9	28.1	31.2	S	31.9	32.7	35.8	36.0	29.2	12.7	9.9	7.1	3.7	2.8	36.0	18.9	24
26	1.8	**1.2**	1.3	1.3	1.7	5.7	12.4	21.6	30.1	35.4	40.4	38.3	36.6	S	34.0	38.1	39.0	37.1	34.7	27.9	15.7	9.7	5.8	3.9	**1.2**	40.4	20.6	24
27	3.7	2.5	2.5	1.7	1.5	6.8	20.0	21.0	30.0	34.4	35.4	37.9	S	36.6	38.2	39.6	37.0	32.9	30.8	30.3	28.2	27.0	25.6	26.3	1.5	39.6	23.9	24
28	25.3	24.3	23.9	23.7	22.6	20.6	18.4	16.7	17.5	19.0	20.7	S	24.0	24.6	25.5	28.8	28.1	27.3	28.8	32.7	38.9	37.8	20.5	19.3	16.7	38.9	24.7	24
29	17.4	9.9	11.8	4.3	2.0	4.2	7.6	12.3	13.2	20.1	S	26.2	30.0	33.3	39.5	43.0	39.1	35.5	32.7	28.8	29.5	29.6	24.6	21.6	2.0	43.0	22.4	24
30	19.6	17.7	14.0	17.0	20.0	20.1	17.9	18.7	21.7	S	31.8	33.1	35.6	35.4	40.8	36.8	33.5	33.9	31.7	31.7	28.7	27.1	27.4	26.5	14.0	40.8	27.0	24
HOURLY MAX	41.9	40.7	38.3	43.7	48.0	47.5	45.0	41.9	41.4	43.9	49.9	52.1	52.9	53.4	55.0	56.3	56.4	50.5	52.3	49.4	47.8	46.2	45.3	42.6				
HOURLY AVG	18.0	16.3	15.1	14.3	14.3	15.6	19.1	23.5	26.8	30.0	33.0	34.6	35.0	36.6	36.8	37.5	37.2	35.7	34.6	32.7	28.4	24.2	21.3	19.8				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 76 ppb

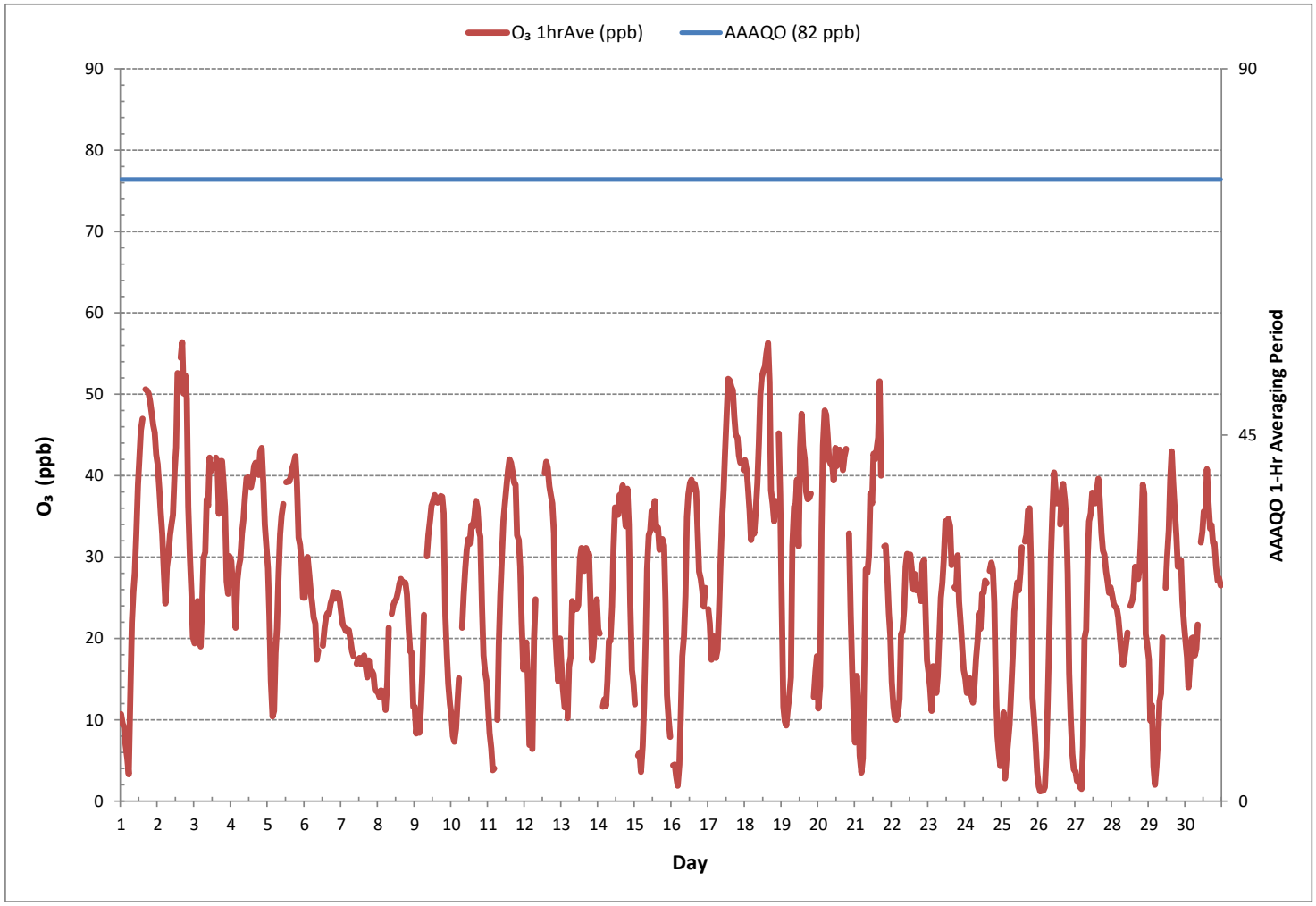


MONTHLY SUMMARY

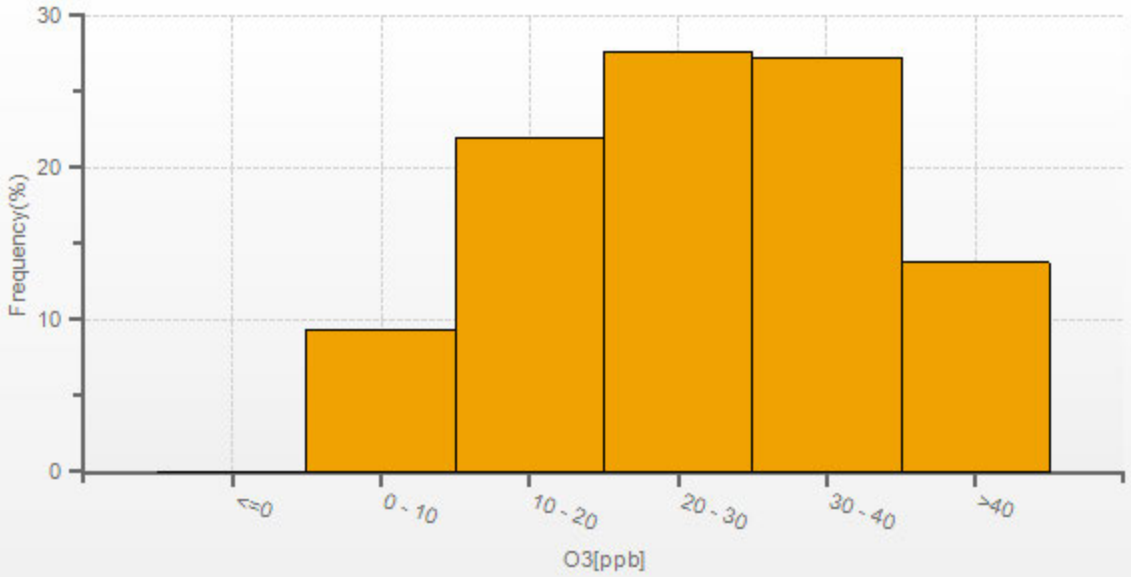
NUMBER OF 1-HR EXCEEDANCES:	0					
NUMBER OF NON-ZERO READINGS:	683					
MINIMUM 1-HR AVERAGE	1.2	ppb	@ HOUR	1	ON DAY	26
MAXIMUM 1-HR AVERAGE:	56.4	ppb	@ HOUR	16	ON DAY	2
MAXIMUM 24-HR AVERAGE:	42.3	ppb			ON DAY	18

IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	719	hrs
MONTHLY CALIBRATION TIME:	5	hrs	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	12.1		MONTHLY AVERAGE:	26.6	ppb

OZONE Hourly Averages (O_3 ppb)

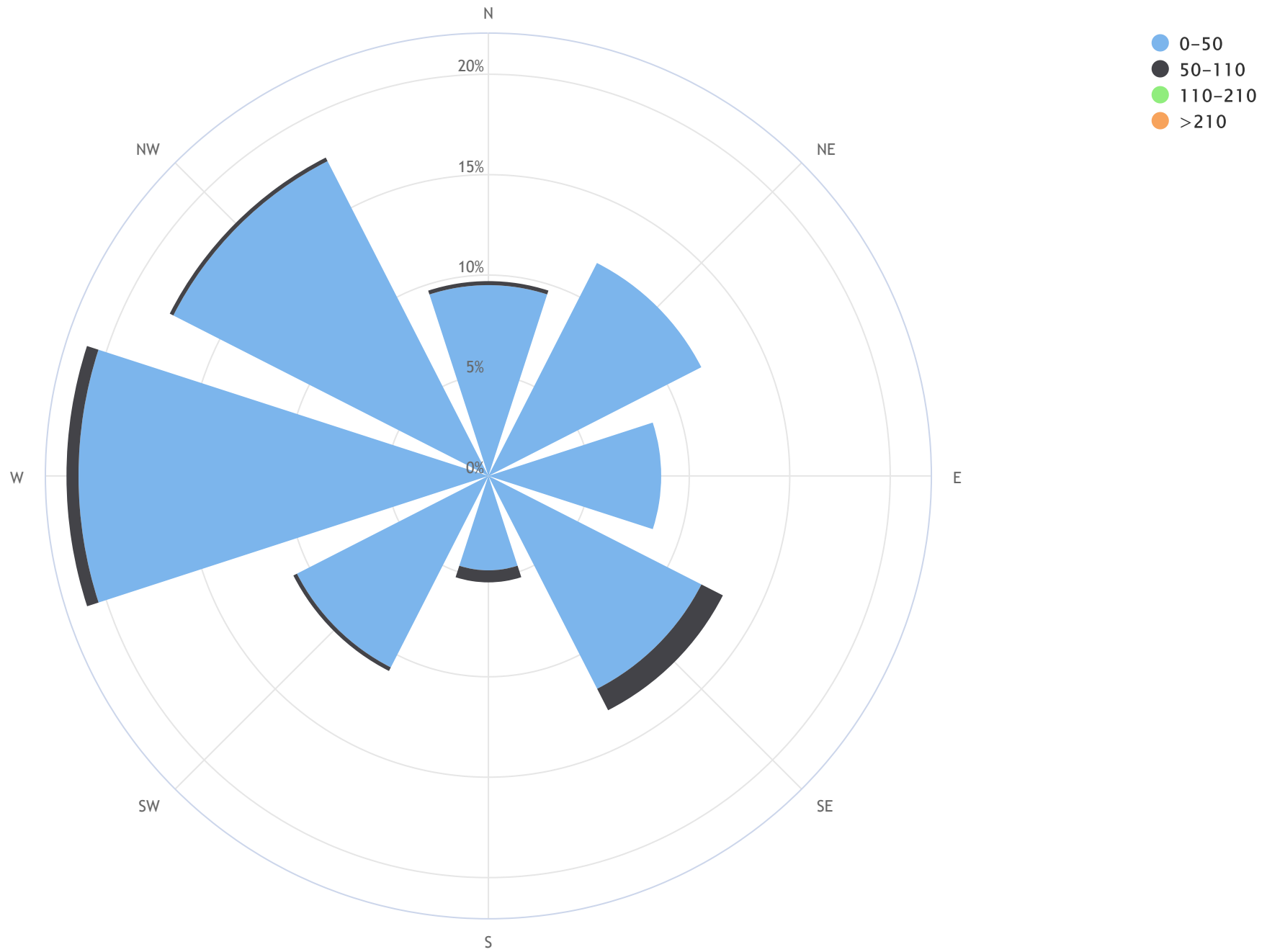


O3[ppb] Histogram: LICA COLD LAKE SOUTH Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Cold Lake South Continuous Monitoring Station_O_3 (ppb)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 11.9, CALM % = 2.0%



Direction	0-50	50-110	110-210	>210	TOTAL
N	9.5	0.2	0.0	0.0	9.7
NE	11.9	0.0	0.0	0.0	11.9
E	8.6	0.0	0.0	0.0	8.6
SE	11.9	1.2	0.0	0.0	13.0
S	4.7	0.6	0.0	0.0	5.3
SW	10.7	0.2	0.0	0.0	10.8
W	20.4	0.6	0.0	0.0	20.9
NW	17.6	0.2	0.0	0.0	17.7
Summary	95.2	2.8	0.0	0.0	98.0
CALM	2.1	0.0	0.0	0.0	2.1

PARTICULATE MATTER < 2.5 MICRONS Hourly Averages ($PM_{2.5}$ µg/m^3)

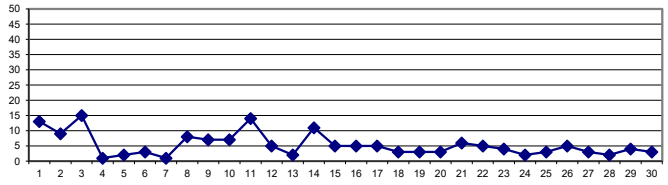
HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	11	13	12	12	13	13	11	8	7	8	8	11	8	10	11	14	18	17	14	15	18	20	19	19	7	20	13	24
2	16	12	9	10	10	10	10	11	10	10	11	17	19	18	15	6	3	4	3	2	3	3	3	5	2	19	9	24
3	7	8	8	8	8	7	8	9	9	11	18	17	13	13	12	14	38	**41**	40	26	16	15	11	6	6	**41**	**15**	24
4	3	2	2	1	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	3	1	24
5	2	2	2	3	4	6	4	4	4	2	2	1	1	1	1	1	1	1	1	1	3	3	3	3	1	6	2	24
6	3	4	5	5	6	5	5	4	4	4	4	3	2	2	2	2	2	2	3	3	2	2	1	1	1	6	3	24
7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**0**	0	0	0	0	1	1	1	2	2	**0**	2	1	24
8	3	4	3	2	1	1	1	1	1	2	4	10	31	25	18	14	16	16	14	8	3	2	1	1	1	31	8	24
9	1	1	2	3	11	14	14	9	9	6	3	3	4	4	6	9	9	8	8	7	7	8	8	9	1	14	7	24
10	9	8	7	6	4	3	3	3	3	3	2	2	5	5	3	3	8	12	6	13	13	13	14	17	2	17	7	24
11	16	15	16	15	13	14	13	11	10	11	21	18	15	13	13	15	18	17	19	21	9	8	8	8	8	21	14	24
12	8	8	9	9	9	11	12	9	7	5	3	2	**C**	**C**	**C**	1	1	1	1	1	1	1	2	2	1	12	5	24
13	2	3	3	3	6	6	4	2	2	2	1	2	2	1	1	1	2	1	1	2	2	3	3	3	1	6	2	24
14	2	4	4	4	5	6	8	8	8	11	18	21	24	24	19	14	10	9	9	8	10	10	11	12	2	24	11	24
15	11	9	9	10	9	9	7	5	5	5	4	3	3	3	3	3	3	2	2	2	2	3	5	5	2	11	5	24
16	5	6	6	6	7	7	7	6	6	6	5	6	5	5	5	5	5	5	6	5	5	4	3	3	3	7	5	24
17	3	4	4	5	6	7	6	4	4	3	3	3	4	4	4	4	5	6	6	5	5	5	6	5	3	7	5	24
18	4	3	3	3	3	3	2	2	2	2	2	2	3	3	3	4	4	5	4	4	4	4	3	3	2	5	3	24
19	3	3	4	5	5	6	6	4	3	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	1	6	3	24
20	3	4	5	5	4	3	2	2	2	2	2	2	2	2	2	2	3	3	3	5	5	5	6	9	2	9	3	24
21	9	9	8	8	8	9	8	5	5	4	3	3	3	3	3	2	2	10	11	11	9	8	7	8	2	11	6	24
22	7	7	7	8	8	9	9	9	7	4	4	4	3	3	3	2	2	2	2	3	3	3	3	3	2	9	5	24
23	3	4	5	5	5	6	6	5	4	3	3	3	3	3	2	2	3	3	4	3	3	4	4	6	2	6	4	24
24	5	5	3	2	2	2	3	3	3	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	5	2	24
25	2	2	2	3	3	4	3	3	2	2	2	2	2	2	2	2	3	2	3	3	3	4	4	4	2	4	3	24
26	4	6	6	6	6	7	6	6	6	6	5	6	8	8	6	5	4	4	4	4	4	4	4	3	3	8	5	24
27	2	3	5	6	6	7	6	6	4	3	2	2	2	2	2	3	3	4	4	3	3	2	2	1	1	7	3	24
28	1	1	1	1	1	1	1	1	1	1	2	3	3	2	2	2	2	2	3	3	3	3	3	3	1	3	2	24
29	3	2	3	4	6	7	7	11	12	7	6	5	3	2	2	2	2	1	1	1	1	1	1	1	1	12	4	24
30	1	1	1	2	2	4	4	3	2	3	3	3	4	5	3	4	3	3	3	4	4	4	4	5	1	5	3	24
HOURLY MAX	16	15	16	15	13	14	14	11	12	11	21	21	31	25	19	15	38	41	40	26	18	20	19	19				
HOURLY AVG	5	5	5	5	6	6	6	5	5	4	5	5	6	6	5	5	6	6	6	6	5	5	5	5				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 80 µg/m^3 | 24-HR 29 µg/m^3

24 HR AVERAGES June 2019



MONTHLY SUMMARY

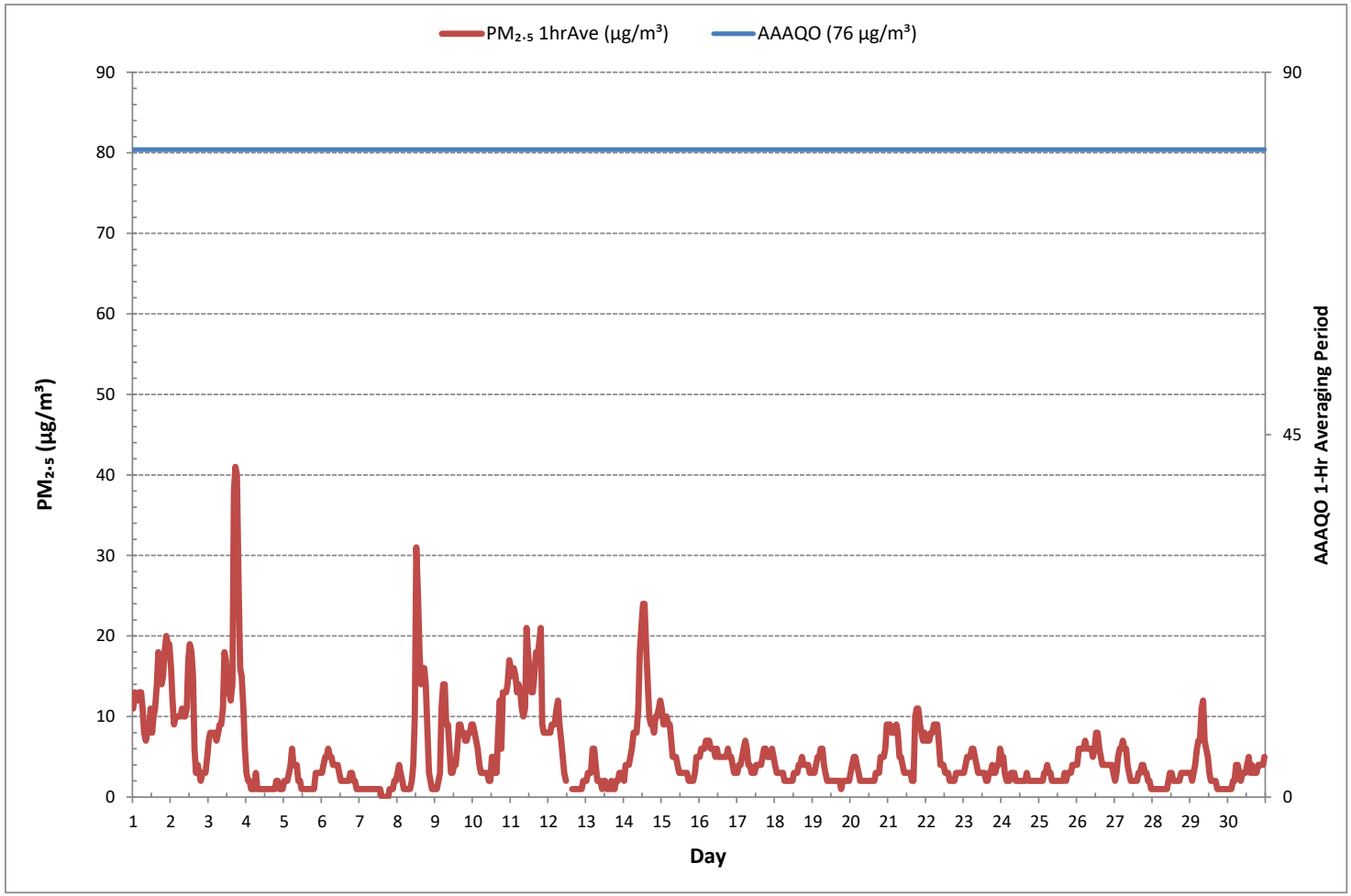
NUMBER OF 1-HR EXCEEDANCES:	0					
NUMBER OF 24-HR EXCEEDANCES:	0					
NUMBER OF NON-ZERO READINGS:	712					
MINIMUM 1-HR AVERAGE	0	µg/m^3	@ HOUR	14	ON DAY	7
MAXIMUM 1-HR AVERAGE:	41	µg/m^3	@ HOUR	17	ON DAY	3
MAXIMUM 24-HR AVERAGE:	15	µg/m^3			ON DAY	3

			OPERATIONAL TIME:	720	hrs
MONTHLY CALIBRATION TIME:	3	hrs	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	5		MONTHLY AVERAGE:	5	µg/m^3

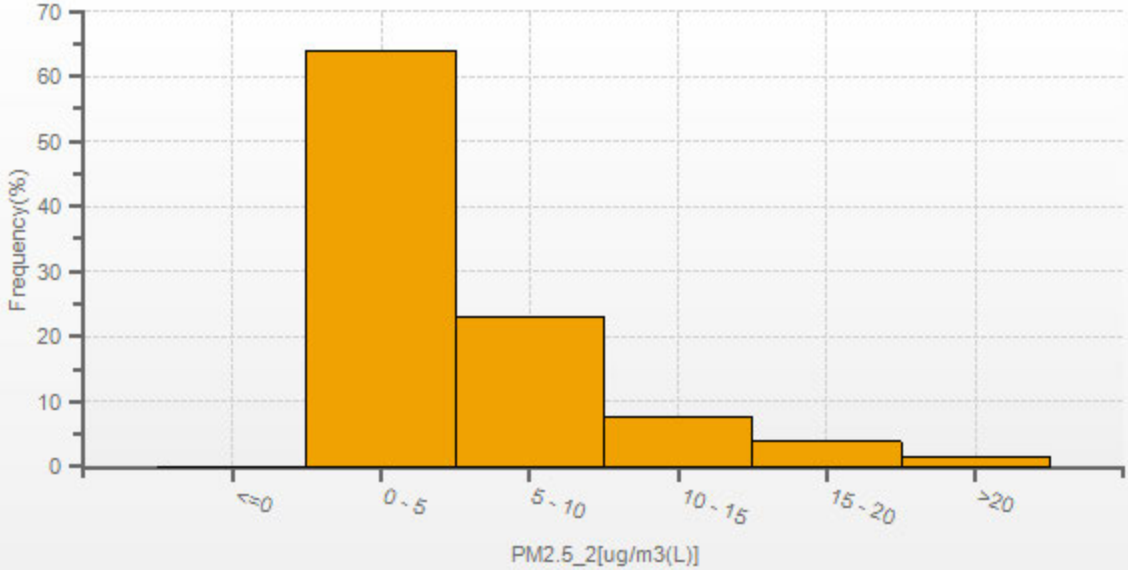
LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Continuous Monitoring Station - June 2019

PARTICULATE MATTER < 2.5 MICRONS Hourly Averages ($PM_{2.5}$ µg/m³)

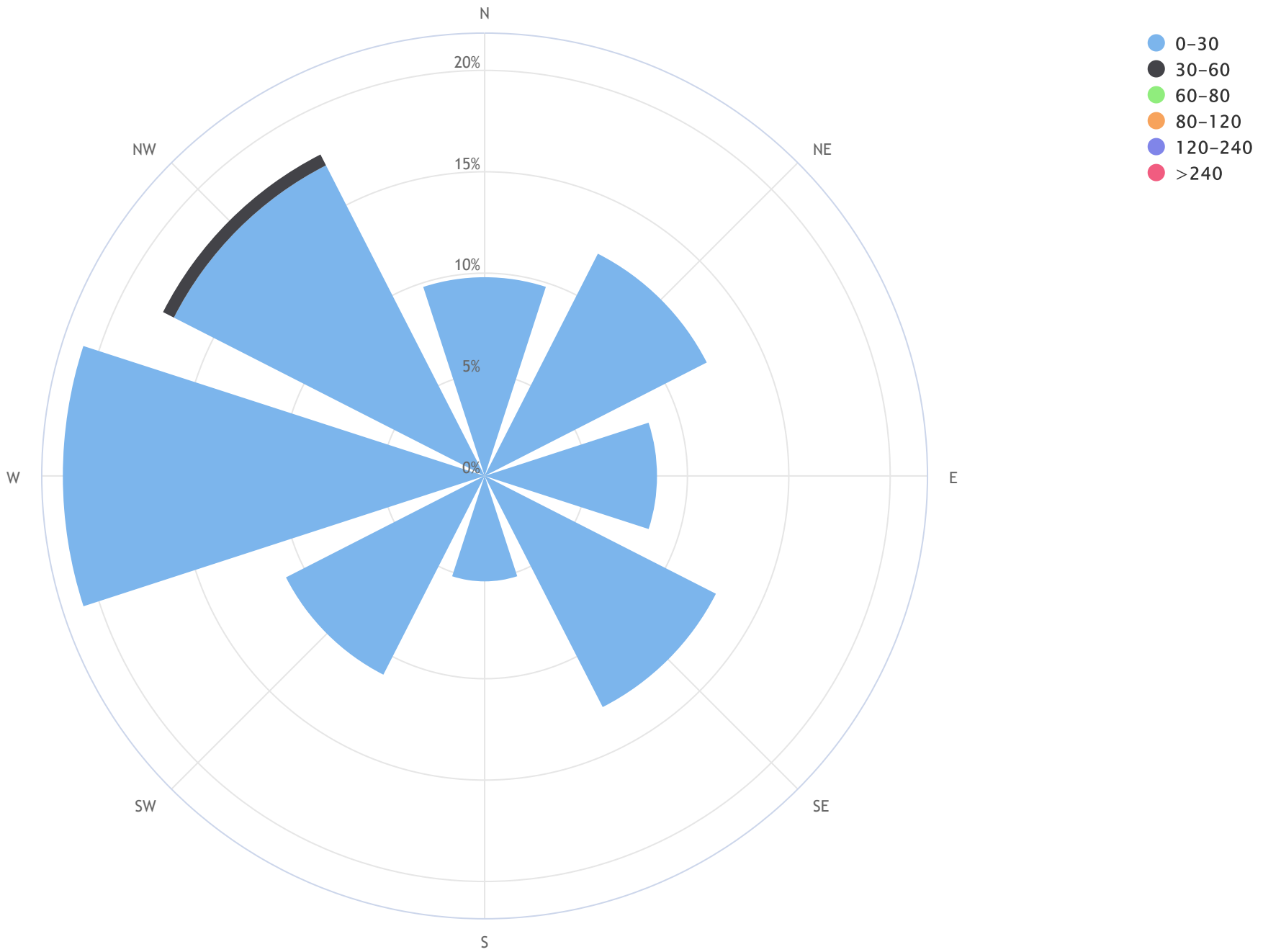


PM2.5_2[ug/m3(L)] Histogram: LICA COLD LAKE SOUTH Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Cold Lake South Continuous Monitoring Station_$PM_{2.5}$ ($\mu g/m^3$)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 7.5, CALM % = 2.0%



Direction	0-30	30-60	60-80	80-120	120-240	>240	TOTAL
N	9.8	0.0	0.0	0.0	0.0	0.0	9.8
NE	12.3	0.0	0.0	0.0	0.0	0.0	12.3
E	8.5	0.0	0.0	0.0	0.0	0.0	8.5
SE	12.8	0.0	0.0	0.0	0.0	0.0	12.8
S	5.2	0.0	0.0	0.0	0.0	0.0	5.2
SW	11.0	0.0	0.0	0.0	0.0	0.0	11.0
W	20.8	0.0	0.0	0.0	0.0	0.0	20.8
NW	17.2	0.6	0.0	0.0	0.0	0.0	17.7
Summary	97.5	0.6	0.0	0.0	0.0	0.0	98.0
CALM	2.0	0.0	0.0	0.0	0.0	0.0	2.0

WIND SPEED Hourly Averages (WS kph)

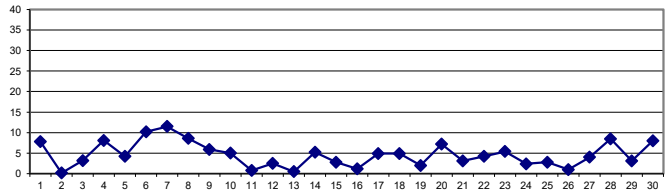
HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	0.3	0.9	0.6	1.1	**0.0**	1.4	2.3	4.1	5.9	7.2	7.7	11.4	13.4	12.4	15.8	14.7	15.8	13.4	12.5	11.1	8.8	12.9	8.3	8.9	**0.0**	15.8	7.8	24
2	9.4	12.2	11.0	3.7	2.6	3.3	4.8	4.5	6.0	6.4	3.2	4.1	2.6	5.3	6.9	8.0	9.2	6.7	8.4	3.8	2.2	0.9	0.3	0.2	0.2	12.2	0.2	24
3	1.6	1.2	0.5	1.0	1.8	2.1	4.0	2.5	8.0	6.8	7.1	5.9	9.3	7.5	5.6	11.3	15.4	13.8	12.1	6.7	2.4	3.1	3.5	4.7	0.5	15.4	3.2	24
4	5.3	4.5	4.1	3.5	4.6	6.4	7.5	9.4	10.3	11.2	13.1	12.9	15.6	14.8	15.0	13.4	9.9	8.8	6.1	9.4	5.8	2.9	2.4	2.8	2.4	15.6	8.1	24
5	1.7	1.6	1.6	1.2	2.8	4.9	4.8	6.0	7.8	9.1	10.1	9.8	9.7	9.7	8.4	7.0	6.8	5.7	5.2	2.5	5.3	4.9	2.7	1.7	1.2	10.1	4.2	24
6	2.6	4.2	6.8	4.1	4.7	6.7	10.3	12.6	11.3	13.1	12.4	12.2	15.0	14.5	14.9	15.1	**16.7**	14.6	14.2	11.7	10.8	10.6	8.6	9.3	2.6	**16.7**	10.2	24
7	11.7	10.9	14.3	14.8	16.3	14.7	15.7	12.2	12.6	13.9	14.3	15.5	13.4	13.4	16.2	11.9	8.0	6.8	13.9	15.7	16.1	13.0	6.1	7.4	6.1	16.3	**11.5**	24
8	9.5	8.2	7.8	6.5	5.5	6.8	7.8	13.7	13.1	12.8	12.6	13.1	14.8	13.3	12.0	11.5	9.7	10.0	8.2	6.9	2.8	3.8	1.8	1.6	1.6	14.8	8.6	24
9	1.9	1.9	3.7	4.6	5.3	3.6	6.5	9.6	13.3	12.9	10.4	9.0	9.4	10.2	10.0	10.0	10.1	6.3	6.4	3.0	1.7	1.2	0.7	1.2	0.7	13.3	5.9	24
10	0.7	0.9	2.2	3.4	5.1	5.7	8.5	9.4	13.7	12.0	11.4	10.3	9.7	13.9	14.5	15.2	11.9	3.6	1.8	3.4	1.1	2.0	1.2	2.8	0.7	15.2	5.0	24
11	0.8	1.3	0.1	0.9	0.2	0.5	1.0	2.5	3.4	1.4	3.1	5.1	4.9	4.3	4.9	4.9	4.9	2.4	3.7	1.7	10.8	0.3	1.8	1.7	0.1	10.8	0.8	24
12	2.5	1.6	1.1	1.1	0.6	1.8	5.4	4.0	3.6	2.0	1.8	5.5	6.5	5.5	5.6	7.4	7.7	6.6	5.9	2.3	2.1	1.4	0.6	1.2	0.6	7.7	2.5	24
13	0.6	0.9	1.9	0.7	2.9	5.6	5.0	8.3	3.3	3.7	2.6	4.4	5.2	3.5	3.4	4.9	5.6	7.0	4.4	1.1	1.4	0.4	3.1	1.6	0.4	8.3	0.5	24
14	3.2	7.1	5.6	3.5	3.5	3.6	5.1	5.0	5.3	7.0	10.6	13.3	12.8	11.3	7.0	6.6	9.8	11.4	7.9	7.2	1.9	0.8	1.0	1.1	0.8	13.3	5.2	24
15	2.3	1.7	2.5	1.6	1.4	2.8	1.9	1.1	4.7	3.7	6.8	7.5	9.7	8.7	9.8	7.5	9.6	6.0	5.2	2.2	1.5	0.8	0.4	0.7	0.4	9.8	2.8	24
16	0.9	0.7	1.1	0.5	1.3	2.0	3.4	5.2	3.2	1.5	1.1	2.9	3.1	3.3	3.1	0.8	4.3	10.1	5.5	6.4	3.3	4.2	5.2	5.0	0.5	10.1	1.2	24
17	4.3	3.4	2.4	5.6	5.8	6.8	6.0	4.3	6.4	6.2	5.6	5.0	6.6	7.4	6.7	6.8	4.6	4.0	5.4	8.9	7.2	6.2	7.0	7.3	2.4	8.9	4.9	24
18	7.5	7.7	6.2	4.1	3.4	7.3	6.1	9.4	10.0	9.5	11.3	8.7	10.8	8.6	7.3	6.9	5.5	8.8	2.5	4.6	5.0	6.4	2.0	1.4	1.4	11.3	4.9	24
19	0.9	0.5	0.8	1.4	0.5	1.6	2.8	5.0	5.7	9.2	11.7	7.7	12.9	11.7	5.6	4.2	1.5	2.7	1.4	4.6	0.9	0.8	3.2	1.8	0.5	12.9	2.0	24
20	1.8	2.5	8.3	12.2	15.8	15.5	14.7	12.6	12.7	10.2	7.3	11.6	7.5	4.4	9.6	12.1	10.7	11.5	11.9	6.7	2.4	1.0	0.1	0.5	0.1	15.8	7.2	24
21	0.3	1.9	0.8	0.1	0.4	0.5	2.5	3.0	3.6	4.5	5.7	4.0	6.5	7.9	6.0	10.0	7.1	12.1	9.3	5.0	3.3	1.3	1.8	3.0	0.1	12.1	3.1	24
22	1.1	2.1	2.4	3.2	3.3	1.6	5.3	5.2	8.1	9.2	6.7	7.7	8.1	4.7	6.1	7.0	8.5	11.0	8.6	7.6	8.3	3.1	4.4	2.6	1.1	11.0	4.2	24
23	3.2	5.9	5.2	5.5	4.2	5.2	6.3	7.7	8.8	9.5	10.5	9.2	7.0	3.3	3.8	3.9	5.0	5.6	6.4	6.2	4.6	5.1	4.9	4.9	3.2	10.5	5.4	24
24	4.5	4.6	4.9	5.0	3.6	4.4	4.5	7.2	6.9	5.3	3.0	4.8	4.5	6.2	1.8	2.3	5.3	5.8	4.7	2.7	0.2	1.8	0.4	1.4	0.2	7.2	2.4	24
25	2.6	2.0	1.1	1.7	2.3	2.1	2.5	2.5	3.5	4.2	7.1	3.0	4.6	3.4	11.5	5.8	5.9	5.8	2.4	1.8	1.4	2.1	1.9	2.2	1.1	11.5	2.8	24
26	0.8	0.7	0.5	0.1	0.7	0.7	2.4	2.5	4.0	3.5	4.2	3.4	4.7	1.4	4.1	1.5	5.3	6.0	5.1	2.1	0.4	0.6	1.4	0.6	0.1	6.0	1.0	24
27	0.3	1.2	0.5	0.8	0.6	1.4	2.7	2.2	4.6	4.3	4.6	4.8	6.5	5.4	4.2	8.0	9.0	10.3	8.1	6.7	5.6	5.4	5.5	8.2	0.3	10.3	4.0	24
28	8.3	10.7	11.0	10.3	9.8	7.9	6.9	7.7	9.1	9.1	11.2	11.0	9.3	11.9	12.9	11.2	12.4	13.5	11.8	12.2	7.3	3.7	5.8	2.3	2.3	13.5	8.5	24
29	0.2	2.1	1.2	0.6	1.3	1.8	3.0	2.7	3.0	5.0	5.6	4.2	4.4	5.3	14.6	12.0	2.7	3.5	6.5	5.6	5.5	4.3	3.4	4.8	0.2	14.6	3.1	24
30	4.2	3.8	3.6	4.5	5.4	6.8	7.7	8.7	9.3	11.4	13.7	11.8	13.0	12.5	11.4	13.1	13.1	12.3	9.1	7.2	5.6	6.5	5.7	4.5	3.6	13.7	8.0	24
HOURLY MAX	11.7	12.2	14.3	14.8	16.3	15.5	15.7	13.7	13.7	13.9	14.3	15.5	15.6	14.8	16.2	15.2	16.7	14.6	14.2	15.7	16.1	13.0	8.6	9.3				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

LAST CALIBRATION:	November 9, 2017
DECLINATION :	MAGNETIC DECLINATION 19 DEGREE EAST

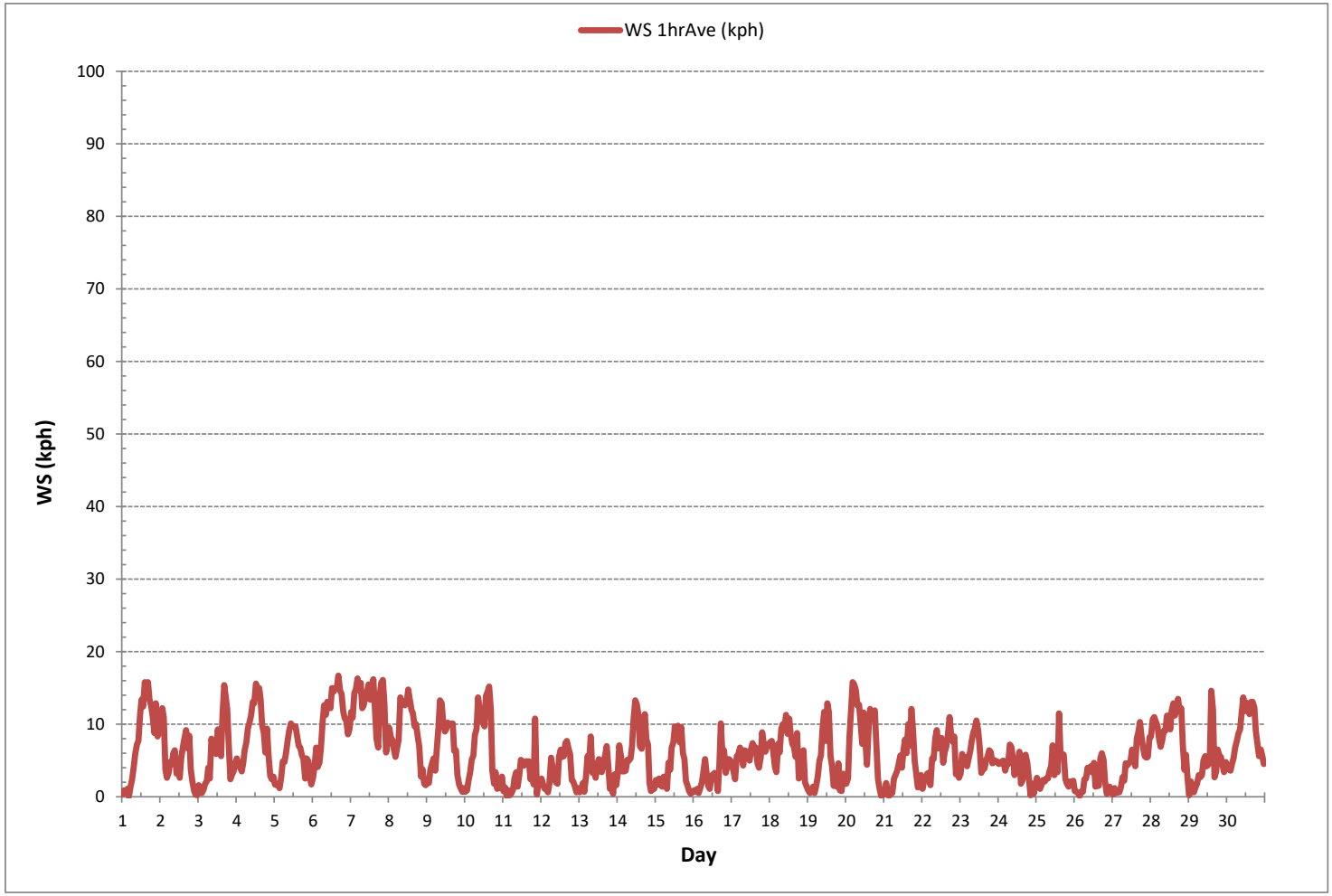
24 HR AVERAGES June 2019



MONTHLY SUMMARY

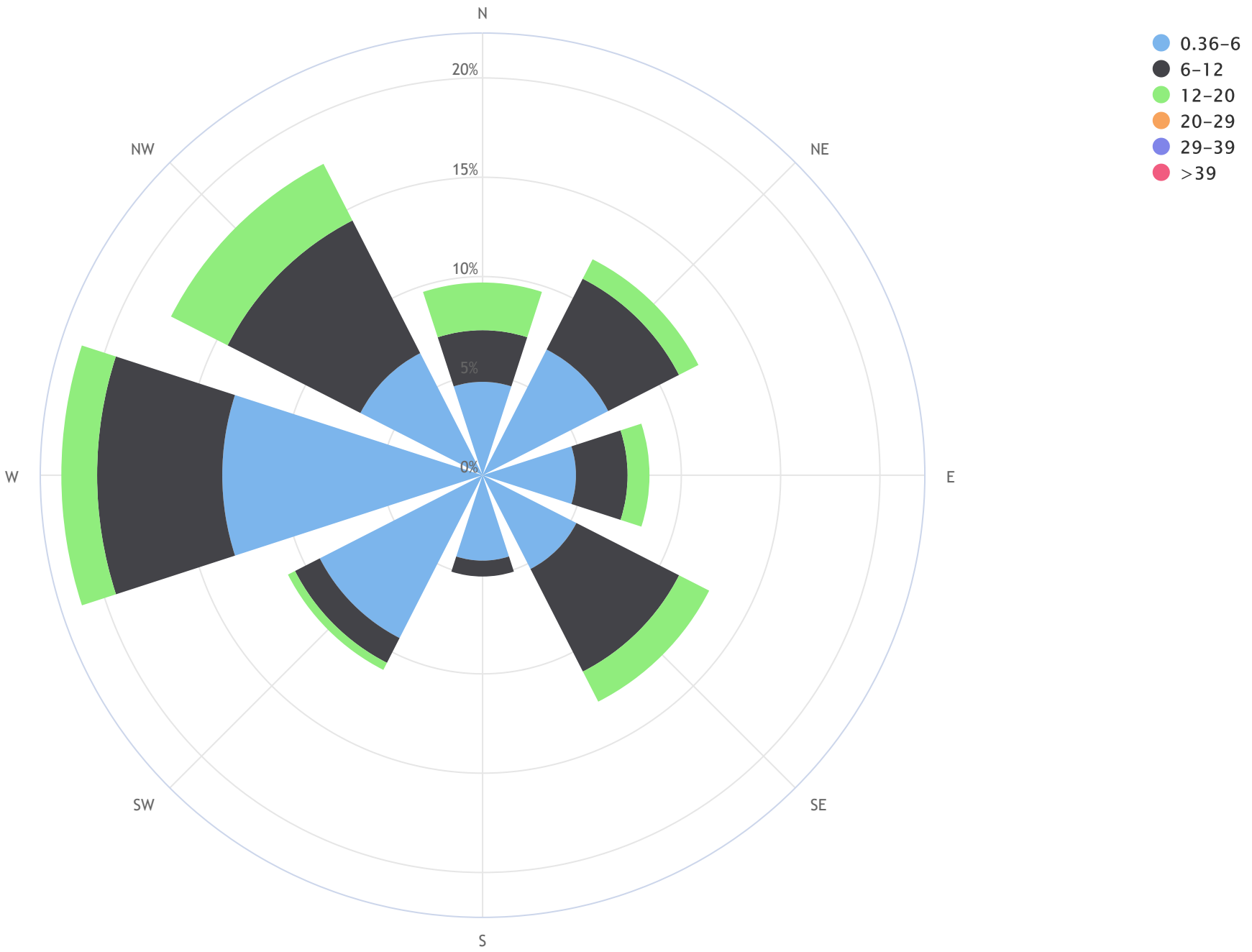
NUMBER OF NON-ZERO READINGS:			719				
MINIMUM 1-HR AVERAGE	0.0	kph	@ HOUR	4	ON DAY	1	
MAXIMUM 1-HR AVERAGE:	16.7	kph	@ HOUR	16	ON DAY	6	
MAXIMUM 24-HR AVERAGE:	11.5	kph			ON DAY	7	
			OPERATIONAL TIME:			720	hrs
MONTHLY CALIBRATION TIME:	0	hrs	AMD OPERATION UPTIME:			100.0	%
STANDARD DEVIATION:	4.1		MONTHLY AVERAGE:			1.3	kph

WIND SPEED Hourly Averages (WS kph)



Lakeland Industry & Community Association_Cold Lake South Continuous Monitoring Station_19/06

Wind Rose_Wind Frequency (Blowing From)_CALM Avg = 0.2_CALM % = 1.9%



Direction	0.36-6	6-12	12-20	20-29	29-39	>39	TOTAL
N	4.7	2.6	2.4	0.0	0.0	0.0	9.7
NE	7.1	4.0	1.1	0.0	0.0	0.0	12.2
E	4.7	2.6	1.1	0.0	0.0	0.0	8.5
SE	5.3	5.8	1.7	0.0	0.0	0.0	12.8
S	4.3	0.8	0.0	0.0	0.0	0.0	5.1
SW	9.2	1.4	0.4	0.0	0.0	0.0	11.0
W	13.1	6.3	1.8	0.0	0.0	0.0	21.1
NW	6.9	7.5	3.2	0.0	0.0	0.0	17.6
Summary	55.3	31.1	11.7	0.0	0.0	0.0	98.1
CALM	1.9	0.0	0.0	0.0	0.0	0.0	1.9

WIND DIRECTION Hourly Averages (WD)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR AVG	24-HR
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	QUADRANT	RDGS.
DAY																										
1	SSW	E	E	ESE	SW	E	ENE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SE	SE	24
2	SE	SE	SE	NNE	E	NE	NE	ESE	N	NE	NNE	E	SE	W	W	W	WNW	WNW	WNW	WNW	SW	SSW	SSW	NE	NNW	24
3	NE	SSW	NE	SE	NE	ENE	ENE	NNE	NE	ENE	E	NNE	NNE	NNE	N	NW	NW	WNW	NNW	NW	W	WSW	WSW	WSW	NNW	24
4	WSW	WSW	WSW	WSW	SW	WSW	W	WSW	WSW	WSW	WSW	W	WSW	WSW	W	W	WNW	WNW	WNW	SW	SW	WSW	SW	WSW	WSW	24
5	WSW	SSE	SW	SW	WSW	WSW	WSW	W	W	W	WNW	W	W	WNW	W	W	W	W	W	NW	NE	NE	NE	ENE	W	24
6	NE	ENE	E	NE	ENE	NE	NE	NE	NE	NE	NE	NNE	NNE	NE	NE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	N	N	NNE	24
7	N	N	NNE	NNE	NNE	NNE	NNE	N	N	N	N	N	N	NNW	NNW	NNW	NW	NW	NW	NW	NW	NW	WNW	WNW	N	24
8	NW	WNW	WNW	W	W	W	W	NW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	NW	WNW	NW	N	SW	WNW	24
9	SW	WSW	WSW	WSW	WNW	NW	WNW	NW	NW	NW	WNW	WNW	WNW	W	W	NW	NW	WNW	WNW	WNW	SSW	SW	SW	SW	WNW	24
10	SW	WSW	WSW	SW	SW	WSW	WSW	W	WNW	W	W	NW	N	NNW	NW	NW	NNW	NE	NW	E	WSW	WSW	SW	WSW	WNW	24
11	SW	SW	ESE	SW	SSW	N	NNW	NW	NE	ESE	NNE	NE	ENE	ENE	ENE	ESE	SE	S	SSE	SSW	NW	WSW	NW	S	ENE	24
12	S	S	NE	ENE	SW	SE	SE	SSW	SW	SW	W	W	W	W	W	WSW	WSW	WSW	SW	SSW	SSE	SSE	SSE	S	SW	24
13	WNW	WSW	WSW	S	WSW	WSW	WSW	WSW	W	NW	NW	ESE	SE	SSE	E	NNE	E	SE	NNE	ENE	N	NNE	WNW	SSW	SSW	24
14	W	NW	WNW	W	WSW	WSW	WSW	W	W	W	WNW	NW	NW	NNW	NNW	NNW	NW	NW	N	ENE	NNW	W	SSW	W	NW	24
15	WSW	WSW	W	WSW	WSW	WSW	NW	NNW	NNW	NNW	WNW	WNW	NNW	NNE	NNW	WNW	NE	ENE	NNE	NNW	WNW	S	NE	E	NNW	24
16	WSW	W	WSW	WSW	WSW	WSW	W	W	WNW	SW	NW	E	W	NW	NE	S	E	SE	SSE	SE	SSE	SE	SE	SE	SSE	24
17	SE	SE	SE	SE	SE	SE	SE	S	SSE	S	S	SSW	SSW	SSW	SSW	S	SSE	NNE	ESE	SE	SE	SE	SE	SE	SSE	24
18	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SE	SSE	SSE	SE	S	WNW	NW	NE	NNE	E	ENE	NW	SE	24
19	WNW	SW	SSW	SW	SE	WSW	NNE	NE	NE	NE	NE	ENE	SE	SE	SE	SSW	SW	NNE	ENE	NE	NE	WNW	WSW	W	E	24
20	NE	ENE	ENE	ENE	E	E	E	E	ESE	ESE	ESE	E	E	NNE	NE	NNE	NNE	NNE	NE	ENE	NNW	ESE	SW	SE	ENE	24
21	NNW	ENE	NE	WNW	S	ESE	ENE	ENE	NE	NE	NNE	N	NNW	N	NE	NNE	N	NW	NW	NW	NNW	NW	W	W	N	24
22	NW	SW	WSW	W	WSW	N	N	N	N	NNE	NNE	NE	E	WNW	NW	NW	NW	NW	NW	NNW	NNW	NNW	NW	WNW	NNW	24
23	W	NW	NW	N	W	W	W	NW	NW	NW	NW	NW	W	NW	N	W	W	WNW	W	WNW	W	W	W	WSW	WNW	24
24	W	W	W	WNW	WNW	WNW	WNW	WNW	NW	WNW	NE	E	NE	N	N	N	NE	NNE	NNE	NNE	NW	WSW	WNW	WSW	NW	24
25	NW	NNW	SW	WSW	WNW	NW	N	NNW	NNW	NNE	WNW	WSW	W	NW	NW	NW	NW	NNW	NW	WSW	SW	WSW	WSW	WSW	NW	24
26	SSE	S	S	WSW	WSW	NNE	NW	WSW	SW	SW	WSW	NW	E	ENE	NNW	E	SSE	SW	SW	SW	S	E	SW	S	SW	24
27	SE	WSW	ENE	E	NE	SSE	SE	SE	SE	ESE	E	E	NE	E	E	SE	ENE	ENE	ENE	ENE	ENE	ENE	E	E	E	24
28	E	E	E	E	ESE	ESE	ESE	E	E	E	E	ESE	ESE	ESE	ESE	ESE	ESE	ESE	SE	SE	SSE	S	WNW	NE	ESE	24
29	WSW	W	W	S	ENE	W	WNW	NNW	NNE	NNE	NNE	N	NW	W	WNW	NW	NNW	WNW	W	W	W	WSW	WSW	WSW	WNW	24
30	WSW	WSW	WSW	W	W	WNW	W	W	W	W	W	W	WNW	WNW	W	SW	SW	SW	SW	WSW	SW	SW	SW	SW	WSW	24

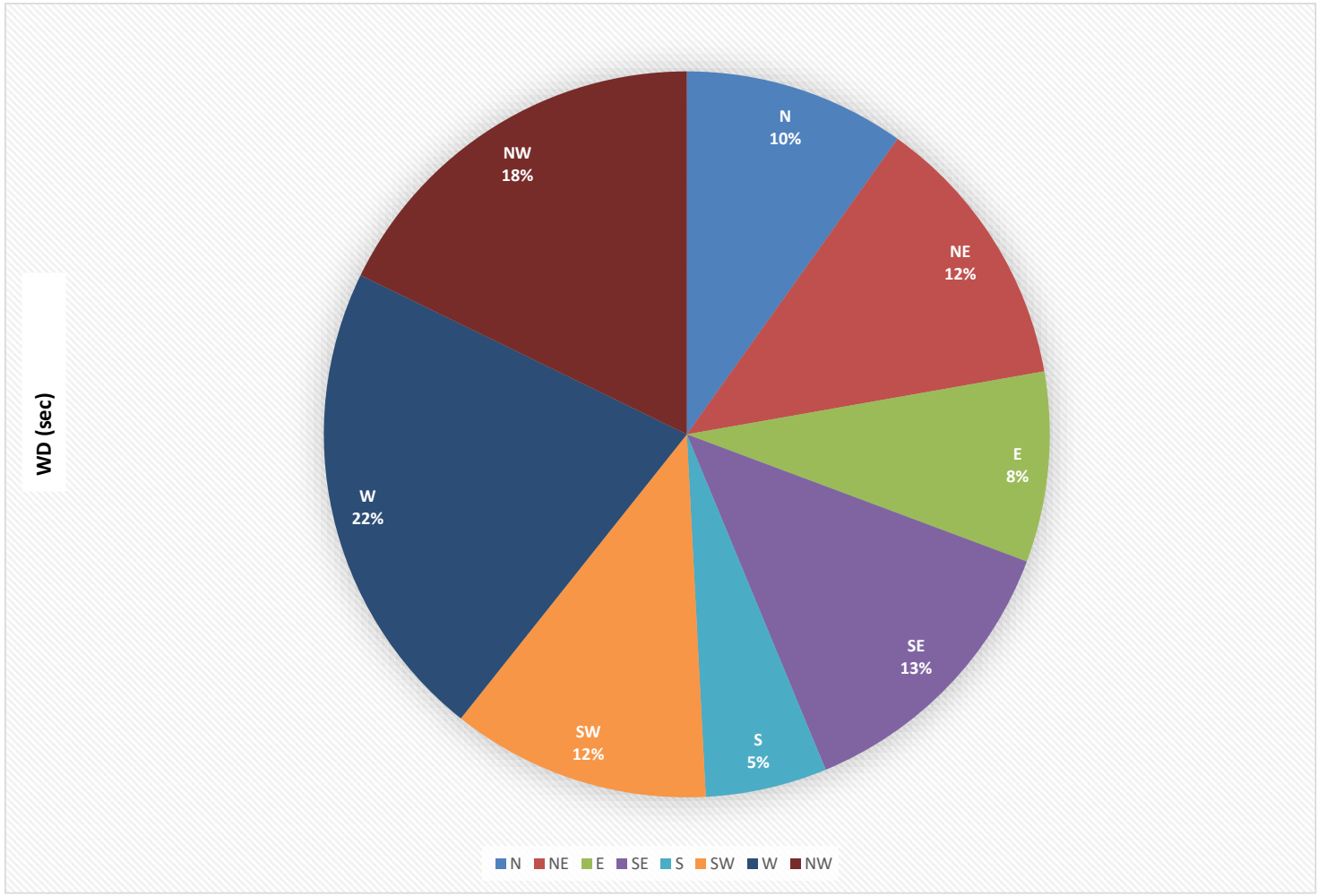
STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

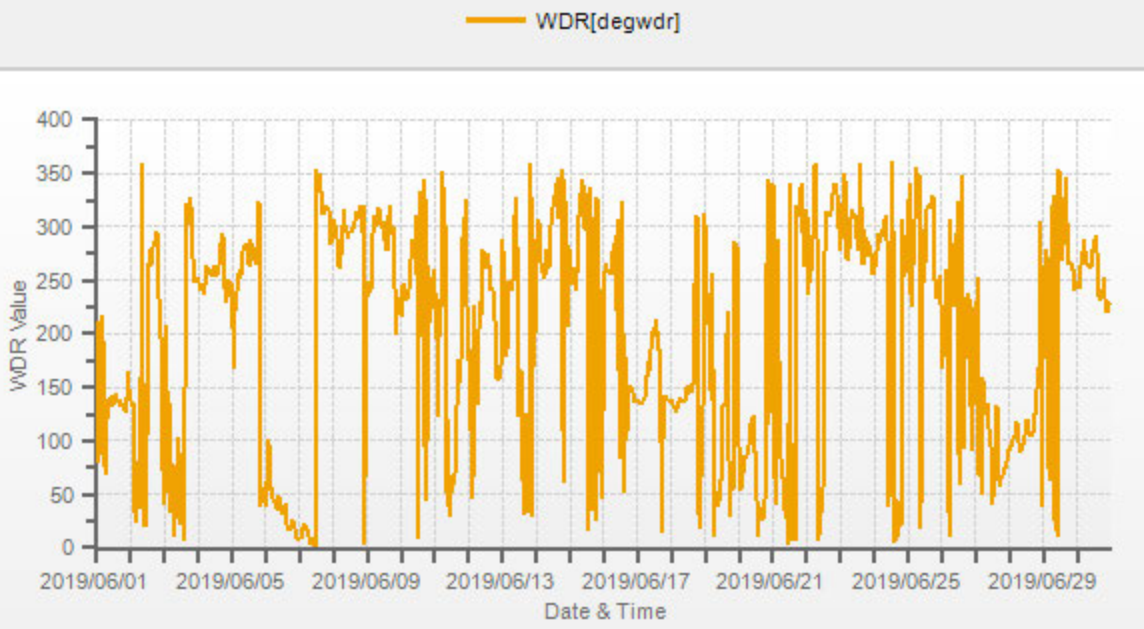
LAST CALIBRATION:	November 9, 2017
DECLINATION :	MAGNETIC DECLINATION 19 DEGREE EAST

MONTHLY CALIBRATION TIME:	0	hrs	OPERATIONAL TIME:	720	hrs
STANDARD DEVIATION:	105		AMD OPERATION UPTIME:	100.0	%
			MONTHLY AVERAGE:	325 (NW)	

WIND DIRECTION Hourly Averages (WD)



WDR[degwdr] Station: LICA COLD LAKE SOUTH Monthly: 19/06 Type: AVG 1 Hr. [1 Hr.]



STANDARD DEVIATION WIND DIRECTION Hourly Averages (STDWD deg)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	
DAY																									
1	62	53	66	34	80	36	19	33	11	14	14	14	11	12	9	6	8	7	5	4	5	4	43	11	24
2	7	4	5	60	50	41	24	27	28	21	38	36	48	22	19	22	19	23	14	22	24	60	72	72	24
3	51	58	76	61	37	37	19	43	12	13	29	30	14	13	29	12	9	12	16	13	40	13	16	11	24
4	7	14	8	9	8	9	13	12	13	15	16	16	15	16	15	17	16	14	10	14	10	17	19	19	24
5	46	48	21	37	41	11	14	25	23	20	26	29	23	29	23	29	27	24	22	44	9	8	15	28	24
6	19	16	14	29	15	8	9	9	8	9	7	9	9	9	10	11	8	7	7	6	7	7	6	6	24
7	8	7	6	8	7	9	7	9	8	8	7	7	8	7	11	11	11	16	6	6	6	5	14	13	24
8	6	8	12	6	7	11	11	12	16	19	17	15	17	17	22	11	20	15	9	6	18	26	30	13	24
9	32	30	12	14	27	14	14	11	13	16	22	27	22	22	20	17	16	34	12	25	14	35	49	27	24
10	48	25	12	11	7	6	9	14	13	14	19	30	17	16	14	14	21	52	64	32	41	27	32	25	24
11	62	39	78	56	74	67	56	34	41	61	53	42	40	33	30	32	22	54	21	46	14	77	60	36	24
12	39	42	49	42	49	28	12	31	32	52	60	35	31	32	30	20	16	18	13	20	17	19	49	30	24
13	59	38	13	55	25	12	11	16	28	29	51	25	18	43	47	44	32	17	35	58	42	73	56	60	24
14	45	9	10	16	12	16	14	17	21	21	19	10	18	17	28	23	17	12	49	16	49	60	52	49	24
15	23	32	37	49	48	12	45	59	30	51	24	21	37	21	22	14	22	18	22	31	38	46	67	56	24
16	49	54	40	58	40	17	14	18	36	62	70	52	44	45	39	71	36	13	14	13	14	7	6	7	24
17	5	9	17	6	5	6	14	27	25	34	35	37	30	24	30	29	42	37	21	7	5	4	3	4	24
18	4	3	4	10	19	5	10	7	9	14	10	26	12	19	29	19	52	32	66	21	27	11	57	51	24
19	59	66	59	52	71	39	31	19	17	13	11	10	17	5	31	51	64	27	51	15	60	58	26	49	24
20	24	22	5	10	7	7	5	12	14	14	16	13	18	32	13	9	8	7	9	36	45	60	78	72	24
21	73	25	42	77	69	68	22	26	41	20	19	39	28	26	38	21	26	11	9	14	19	42	33	14	24
22	50	25	30	17	13	44	16	15	19	21	20	20	24	23	19	16	8	11	8	13	13	41	22	27	24
23	13	13	12	19	13	9	13	23	16	12	11	17	32	57	49	17	12	15	12	17	12	14	12	7	24
24	10	8	11	8	19	10	15	10	15	20	48	30	26	22	46	38	19	19	16	23	76	33	68	36	24
25	26	20	35	32	22	12	22	30	34	28	20	21	20	43	18	24	21	17	28	26	22	18	21	15	24
26	49	55	61	75	61	57	31	26	26	35	29	54	27	49	29	59	25	13	10	20	66	67	41	59	24
27	74	53	70	58	53	47	27	40	22	29	27	31	19	40	40	19	25	7	9	6	10	7	8	8	24
28	6	5	6	6	10	8	12	13	10	9	8	11	13	11	9	15	12	12	15	6	25	51	14	35	24
29	78	46	55	65	35	35	18	15	33	19	11	27	30	33	20	20	63	23	12	10	10	13	16	11	24
30	9	11	13	14	10	15	13	9	14	12	10	12	15	14	16	7	10	7	7	11	8	5	6	8	24

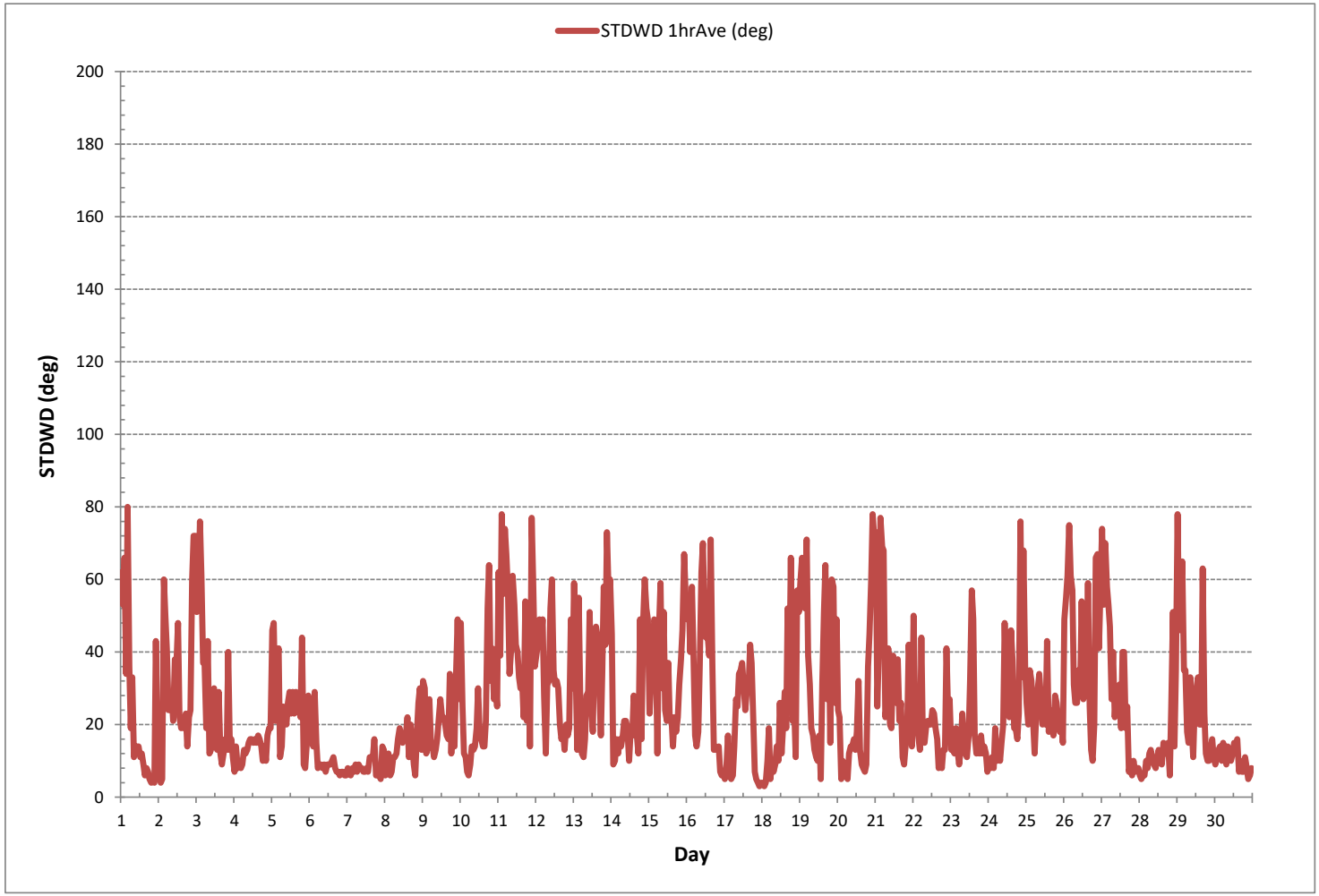
STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

LAST CALIBRATION: November 9, 2017

CALIBRATION TIME: 0 hrs OPERATIONAL TIME: 720 hrs

STANDARD DEVIATION WIND DIRECTION Hourly Averages (STDWD deg)



VECTOR WIND SPEED Hourly Averages (kph) & WIND DIRECTION Hourly Averages in Sector

HR START (MST)		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)		0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																													
1	WS	0.3	0.9	0.6	1.1	**0.0**	1.4	2.3	4.1	5.9	7.2	7.7	11.4	13.4	12.4	15.8	14.7	15.8	13.4	12.5	11.1	8.8	12.9	8.3	8.9	**0.0**	15.8	7.8	24
	WD	SSW	E	E	ESE	SW	E	ENE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SE	-	-	-	24
2	WS	9.4	12.2	11.0	3.7	2.6	3.3	4.8	4.5	6.0	6.4	3.2	4.1	2.6	5.3	6.9	8.0	9.2	6.7	8.4	3.8	2.2	0.9	0.3	0.2	0.2	12.2	0.2	24
	WD	SE	SE	SE	NNE	E	NE	NE	ESE	N	NE	NNE	E	SE	W	W	W	WNW	WNW	WNW	WNW	SW	SSW	SSW	NE	-	-	-	24
3	WS	1.6	1.2	0.5	1.0	1.8	2.1	4.0	2.5	8.0	6.8	7.1	5.9	9.3	7.5	5.6	11.3	15.4	13.8	12.1	6.7	2.4	3.1	3.5	4.7	0.5	15.4	3.2	24
	WD	NE	SSW	NE	SE	NE	ENE	ENE	NNE	NE	ENE	E	NNE	NNE	NNE	N	NW	NW	WNW	NNW	NW	W	WSW	WSW	WSW	-	-	-	24
4	WS	5.3	4.5	4.1	3.5	4.6	6.4	7.5	9.4	10.3	11.2	13.1	12.9	15.6	14.8	15.0	13.4	9.9	8.8	6.1	9.4	5.8	2.9	2.4	2.8	2.4	15.6	8.1	24
	WD	WSW	WSW	WSW	WSW	SW	WSW	W	WSW	WSW	WSW	WSW	W	WSW	WSW	W	W	WNW	WNW	WNW	SW	SW	WSW	SW	WSW	-	-	-	24
5	WS	1.7	1.6	1.6	1.2	2.8	4.9	4.8	6.0	7.8	9.1	10.1	9.8	9.7	9.7	8.4	7.0	6.8	5.7	5.2	2.5	5.3	4.9	2.7	1.7	1.2	10.1	4.2	24
	WD	WSW	SSE	SW	SW	WSW	WSW	WSW	W	W	W	WNW	W	W	WNW	W	W	W	W	W	NW	NE	NE	NE	ENE	-	-	-	24
6	WS	2.6	4.2	6.8	4.1	4.7	6.7	10.3	12.6	11.3	13.1	12.4	12.2	15.0	14.5	14.9	15.1	**16.7**	14.6	14.2	11.7	10.8	10.6	8.6	9.3	2.6	**16.7**	10.2	24
	WD	NE	ENE	E	NE	ENE	NE	NE	NE	NE	NE	NE	NNE	NNE	NE	NE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	N	N	-	-	-	24
7	WS	11.7	10.9	14.3	14.8	16.3	14.7	15.7	12.2	12.6	13.9	14.3	15.5	13.4	13.4	16.2	11.9	8.0	6.8	13.9	15.7	16.1	13.0	6.1	7.4	6.1	16.3	**11.5**	24
	WD	N	N	NNE	NNE	NNE	NNE	NNE	N	N	N	N	N	N	NNW	NNW	NNW	NW	NW	NW	NW	NW	NW	WNW	WNW	-	-	-	24
8	WS	9.5	8.2	7.8	6.5	5.5	6.8	7.8	13.7	13.1	12.8	12.6	13.1	14.8	13.3	12.0	11.5	9.7	10.0	8.2	6.9	2.8	3.8	1.8	1.6	1.6	14.8	8.6	24
	WD	NW	WNW	WNW	W	W	W	W	NW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	NW	WNW	NW	N	SW	-	-	-	24
9	WS	1.9	1.9	3.7	4.6	5.3	3.6	6.5	9.6	13.3	12.9	10.4	9.0	9.4	10.2	10.0	10.0	10.1	6.3	6.4	3.0	1.7	1.2	0.7	1.2	0.7	13.3	5.9	24
	WD	SW	WSW	WSW	WSW	WNW	NW	WNW	NW	NW	NW	WNW	WNW	WNW	W	W	NW	NW	WNW	WNW	WNW	SSW	SW	SW	SW	-	-	-	24
10	WS	0.7	0.9	2.2	3.4	5.1	5.7	8.5	9.4	13.7	12.0	11.4	10.3	9.7	13.9	14.5	15.2	11.9	3.6	1.8	3.4	1.1	2.0	1.2	2.8	0.7	15.2	5.0	24
	WD	SW	WSW	WSW	SW	SW	WSW	WSW	W	WNW	W	W	NW	N	NNW	NW	NW	NNW	NE	NW	E	WSW	WSW	SW	WSW	-	-	-	24
11	WS	0.8	1.3	0.1	0.9	0.2	0.5	1.0	2.5	3.4	1.4	3.1	5.1	4.9	4.3	4.9	4.9	4.9	2.4	3.7	1.7	10.8	0.3	1.8	1.7	0.1	10.8	0.8	24
	WD	SW	SW	ESE	SW	SSW	N	NNW	NW	NE	ESE	NNE	NE	ENE	ENE	ENE	ESE	SE	S	SSE	SSW	NW	WSW	NW	S	-	-	-	24
12	WS	2.5	1.6	1.1	1.1	0.6	1.8	5.4	4.0	3.6	2.0	1.8	5.5	6.5	5.5	5.6	7.4	7.7	6.6	5.9	2.3	2.1	1.4	0.6	1.2	0.6	7.7	2.5	24
	WD	S	S	NE	ENE	SW	SE	SE	SSW	SW	SW	W	W	W	W	W	WSW	WSW	WSW	SW	SSW	SSE	SSE	SSE	S	-	-	-	24
13	WS	0.6	0.9	1.9	0.7	2.9	5.6	5.0	8.3	3.3	3.7	2.6	4.4	5.2	3.5	3.4	4.9	5.6	7.0	4.4	1.1	1.4	0.4	3.1	1.6	0.4	8.3	0.5	24
	WD	WNW	WSW	WSW	S	WSW	WSW	WSW	WSW	W	NW	NW	ESE	SE	SSE	E	NNE	E	SE	NNE	ENE	N	NNE	WNW	SSW	-	-	-	24
14	WS	3.2	7.1	5.6	3.5	3.5	3.6	5.1	5.0	5.3	7.0	10.6	13.3	12.8	11.3	7.0	6.6	9.8	11.4	7.9	7.2	1.9	0.8	1.0	1.1	0.8	13.3	5.2	24
	WD	W	NW	WNW	W	WSW	WSW	WSW	W	W	W	WNW	NW	NW	NNW	NNW	NNW	NW	NW	N	ENE	NNW	W	SSW	W	-	-	-	24
15	WS	2.3	1.7	2.5	1.6	1.4	2.8	1.9	1.1	4.7	3.7	6.8	7.5	9.7	8.7	9.8	7.5	9.6	6.0	5.2	2.2	1.5	0.8	0.4	0.7	0.4	9.8	2.8	24
	WD	WSW	WSW	W	WSW	WSW	WSW	NW	NNW	NNW	NNW	WNW	WNW	NNW	NNE	NNW	WNW	NE	ENE	NNE	NNW	WNW	S	NE	E	-	-	-	24
16	WS	0.9	0.7	1.1	0.5	1.3	2.0	3.4	5.2	3.2	1.5	1.1	2.9	3.1	3.3	3.1	0.8	4.3	10.1	5.5	6.4	3.3	4.2	5.2	5.0	0.5	10.1	1.2	24
	WD	WSW	W	WSW	WSW	WSW	WSW	W	W	WNW	SW	NW	E	W	NW	NE	S	E	SE	SSE	SE	SSE	SE	SE	SE	-	-	-	24
17	WS	4.3	3.4	2.4	5.6	5.8	6.8	6.0	4.3	6.4	6.2	5.6	5.0	6.6	7.4	6.7	6.8	4.6	4.0	5.4	8.9	7.2	6.2	7.0	7.3	2.4	8.9	4.9	24
	WD	SE	SE	SE	SE	SE	SE	SE	S	SSE	S	S	SSW	SSW	SSW	SSW	S	SSE	NNE	ESE	SE	SE	SE	SE	SE	-	-	-	24
18	WS	7.5	7.7	6.2	4.1	3.4	7.3	6.1	9.4	10.0	9.5	11.3	8.7	10.8	8.6	7.3	6.9	5.5	8.8	2.5	4.6	5.0	6.4	2.0	1.4	1.4	11.3	4.9	24
	WD	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SE	SSE	SSE	SE	S	WNW	NW	NE	NNE	E	ENE	NW	-	-	-	24
19	WS	0.9	0.5	0.8	1.4	0.5	1.6	2.8	5.0	5.7	9.2	11.7	7.7	12.9	11.7	5.6	4.2	1.5	2.7	1.4	4.6	0.9	0.8	3.2	1.8	0.5	12.9	2.0	24
	WD	WNW	SW	SSW	SW	SE	WSW	NNE	NE	NE	NE	NE	ENE	SE	SE	SE	SSW	SW	NNE	ENE	NE	NE	WNW	WSW	W	-	-	-	24
20	WS	1.8	2.5	8.3	12.2	15.8	15.5	14.7	12.6	12.7	10.2	7.3	11.6	7.5	4.4	9.6	12.1	10.7	11.5	11.9	6.7	2.4	1.0	0.1	0.5	0.1	15.8	7.2	24
	WD	NE	ENE	ENE	ENE	E	E	E	E	ESE	ESE	ESE	E	E	NNE	NE	NNE	NNE	NNE	NE	ENE	NNW	ESE	SW	SE	-	-	-	24

VECTOR WIND SPEED Hourly Averages (kph) & WIND DIRECTION Hourly Averages in Sector

HR START (MST)		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)		0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																													
21	WS	0.3	1.9	0.8	0.1	0.4	0.5	2.5	3.0	3.6	4.5	5.7	4.0	6.5	7.9	6.0	10.0	7.1	12.1	9.3	5.0	3.3	1.3	1.8	3.0	0.1	12.1	3.1	24
	WD	NNW	ENE	NE	WNW	S	ESE	ENE	ENE	NE	NE	NNE	N	NNW	N	NE	NNE	N	NW	NW	NW	NNW	NW	W	W	-	-	-	24
22	WS	1.1	2.1	2.4	3.2	3.3	1.6	5.3	5.2	8.1	9.2	6.7	7.7	8.1	4.7	6.1	7.0	8.5	11.0	8.6	7.6	8.3	3.1	4.4	2.6	1.1	11.0	4.2	24
	WD	NW	SW	WSW	W	WSW	N	N	N	N	NNE	NNE	NE	E	WNW	NW	NW	NW	NW	NW	NNW	NNW	NNW	NW	WNW	-	-	-	24
23	WS	3.2	5.9	5.2	5.5	4.2	5.2	6.3	7.7	8.8	9.5	10.5	9.2	7.0	3.3	3.8	3.9	5.0	5.6	6.4	6.2	4.6	5.1	4.9	4.9	3.2	10.5	5.4	24
	WD	W	NW	NW	N	W	W	W	NW	NW	NW	NW	NW	W	NW	N	W	W	WNW	W	WNW	W	W	W	WSW	-	-	-	24
24	WS	4.5	4.6	4.9	5.0	3.6	4.4	4.5	7.2	6.9	5.3	3.0	4.8	4.5	6.2	1.8	2.3	5.3	5.8	4.7	2.7	0.2	1.8	0.4	1.4	0.2	7.2	2.4	24
	WD	W	W	W	WNW	WNW	WNW	WNW	WNW	NW	WNW	NE	E	NE	N	N	N	NE	NNE	NNE	NNE	NW	WSW	WNW	WSW	-	-	-	24
25	WS	2.6	2.0	1.1	1.7	2.3	2.1	2.5	2.5	3.5	4.2	7.1	3.0	4.6	3.4	11.5	5.8	5.9	5.8	2.4	1.8	1.4	2.1	1.9	2.2	1.1	11.5	2.8	24
	WD	NW	NNW	SW	WSW	WNW	NW	N	NNW	NNW	NNE	WNW	WSW	W	NW	NW	NW	NW	NNW	NW	WSW	SW	WSW	WSW	WSW	-	-	-	24
26	WS	0.8	0.7	0.5	0.1	0.7	0.7	2.4	2.5	4.0	3.5	4.2	3.4	4.7	1.4	4.1	1.5	5.3	6.0	5.1	2.1	0.4	0.6	1.4	0.6	0.1	6.0	1.0	24
	WD	SSE	S	S	WSW	WSW	NNE	NW	WSW	SW	SW	WSW	NW	E	ENE	NNW	E	SSE	SW	SW	SW	S	E	SW	S	-	-	-	24
27	WS	0.3	1.2	0.5	0.8	0.6	1.4	2.7	2.2	4.6	4.3	4.6	4.8	6.5	5.4	4.2	8.0	9.0	10.3	8.1	6.7	5.6	5.4	5.5	8.2	0.3	10.3	4.0	24
	WD	SE	WSW	ENE	E	NE	SSE	SE	SE	SE	ESE	E	E	NE	E	E	SE	ENE	ENE	ENE	ENE	ENE	ENE	E	E	-	-	-	24
28	WS	8.3	10.7	11.0	10.3	9.8	7.9	6.9	7.7	9.1	9.1	11.2	11.0	9.3	11.9	12.9	11.2	12.4	13.5	11.8	12.2	7.3	3.7	5.8	2.3	2.3	13.5	8.5	24
	WD	E	E	E	E	ESE	ESE	ESE	E	E	E	E	ESE	ESE	ESE	ESE	ESE	ESE	ESE	SE	SE	SSE	S	WNW	NE	-	-	-	24
29	WS	0.2	2.1	1.2	0.6	1.3	1.8	3.0	2.7	3.0	5.0	5.6	4.2	4.4	5.3	14.6	12.0	2.7	3.5	6.5	5.6	5.5	4.3	3.4	4.8	0.2	14.6	3.1	24
	WD	WSW	W	W	S	ENE	W	WNW	NNW	NNE	NNE	NNE	N	NW	W	WNW	NW	NNW	WNW	W	W	W	WSW	WSW	WSW	-	-	-	24
30	WS	4.2	3.8	3.6	4.5	5.4	6.8	7.7	8.7	9.3	11.4	13.7	11.8	13.0	12.5	11.4	13.1	13.1	12.3	9.1	7.2	5.6	6.5	5.7	4.5	3.6	13.7	8.0	24
	WD	WSW	WSW	WSW	W	W	WNW	W	W	W	W	W	W	WNW	WNW	W	SW	SW	SW	SW	WSW	SW	SW	SW	SW	-	-	-	24
WS HOURLY MAX		11.7	12.2	14.3	14.8	16.3	15.5	15.7	13.7	13.7	13.9	14.3	15.5	15.6	14.8	16.2	15.2	16.7	14.6	14.2	15.7	16.1	13.0	8.6	9.3				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

LAST CALIBRATION:	November 9, 2017
DECLINATION :	MAGNETIC DECLINATION 16 DEGREE EAST

MONTHLY SUMMARY

WIND SPEED							
MINIMUM 1-HR AVERAGE	0.0	kph	@ HOUR(S)	4	ON DAY(S)	1	
MAXIMUM 1-HR AVERAGE:	16.7	kph	@ HOUR(S)	16	ON DAY(S)	6	
MAXIMUM 24-HR AVERAGE:	11.5	kph			ON DAY(S)	7	
					VAR-VARIOUS		
				MONTHLY AVERAGE:		**1.3**	**kph**
WIND DIRECTION							
				MONTHLY AVERAGE:		**325 (NW)**	
HOURS IN SERVICE	720	hrs					
HOURS OF DATA	720	hrs					
HOURS OF CALIBRATION	0	hrs		STANDARD DEVIATION:		4.2	
HOURS OF MISSING DATA	0	hrs		AMD OPERATION UPTIME:		100.0	%

@ HOUR(S)

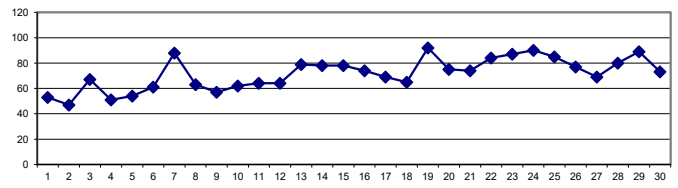
RELATIVE HUMIDITY Hourly Averages (RH %)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	87	85	86	89	90	87	77	66	56	51	43	35	32	32	32	31	29	29	31	33	35	38	47	59	29	90	53	24
2	50	47	46	56	68	71	66	57	51	51	50	47	44	39	35	25	**20**	28	25	29	50	60	59	64	**20**	71	47	24
3	63	72	73	80	81	75	73	72	64	65	60	58	58	59	54	54	60	58	60	62	68	82	84	82	54	84	67	24
4	80	81	80	83	80	70	62	54	47	41	35	31	29	29	26	25	27	29	31	40	47	55	64	69	25	83	51	24
5	75	85	91	91	93	88	77	62	51	44	39	34	31	29	28	27	26	25	26	31	52	58	57	64	25	93	54	24
6	63	55	51	55	60	65	65	64	74	64	59	62	61	57	53	55	55	56	57	61	67	69	69	68	51	74	61	24
7	71	72	73	73	75	76	86	91	93	94	95	96	96	96	94	94	96	97	97	94	92	91	91	90	71	97	88	24
8	88	88	87	90	89	87	79	67	63	57	54	51	48	45	42	42	43	43	45	47	57	63	62	79	42	90	63	24
9	83	89	83	81	78	76	71	60	51	46	42	37	34	32	32	33	32	30	31	34	61	77	84	89	30	89	57	24
10	91	92	95	97	97	87	74	62	55	48	44	41	46	40	37	33	31	37	42	46	63	75	81	83	31	97	62	24
11	86	90	93	94	94	90	81	70	65	55	49	47	43	41	41	42	39	37	40	51	55	63	84	94	37	94	64	24
12	94	95	95	99	**100**	97	83	74	67	61	55	49	43	41	38	37	36	36	36	41	58	68	73	73	36	**100**	64	24
13	80	85	91	93	92	79	76	82	93	87	79	80	71	62	64	73	61	63	62	71	81	80	90	98	61	98	79	24
14	100	99	96	99	100	96	89	82	80	75	68	67	66	64	59	56	52	53	56	67	74	85	90	93	52	100	78	24
15	94	97	99	100	100	100	86	74	65	60	56	51	52	58	57	69	77	72	72	75	80	89	90	92	51	100	78	24
16	94	97	99	100	100	96	89	79	71	65	54	53	52	47	49	45	43	55	74	77	81	85	85	87	43	100	74	24
17	91	93	95	97	97	93	83	75	67	62	58	55	51	45	43	42	44	61	61	64	64	64	71	71	42	97	69	24
18	70	70	72	71	71	66	61	57	52	48	40	36	34	33	33	33	44	87	91	94	94	98	100	99	33	100	65	24
19	100	100	100	100	100	100	100	100	96	91	81	84	77	72	75	88	97	91	85	89	91	99	100	100	72	100	**92**	24
20	100	100	92	76	76	75	78	78	75	70	73	69	89	76	65	63	58	55	52	56	68	78	88	93	52	100	75	24
21	96	95	95	98	100	100	88	74	74	70	62	68	58	49	45	44	40	55	62	68	75	84	92	94	40	100	74	24
22	95	97	99	100	100	99	87	83	74	63	62	59	70	89	87	80	82	82	80	80	82	84	89	95	59	100	84	24
23	98	99	99	98	97	98	94	86	76	76	76	69	62	63	77	92	87	81	80	84	92	97	98	100	62	100	87	24
24	100	100	100	100	100	100	96	90	86	84	85	95	91	85	87	77	75	78	78	81	88	97	99	100	75	100	90	24
25	100	100	100	100	100	100	98	90	78	70	75	92	78	71	69	83	73	62	58	65	87	97	99	100	58	100	85	24
26	100	100	100	100	100	93	83	73	65	57	53	57	66	68	69	58	55	57	63	71	83	91	95	98	53	100	77	24
27	99	100	100	100	100	96	85	80	67	59	56	52	56	50	44	42	48	54	57	58	61	63	65	60	42	100	69	24
28	61	64	66	66	69	77	94	99	96	98	93	88	87	84	80	74	72	72	75	77	80	77	89	95	61	99	80	24
29	99	100	100	100	100	100	100	100	100	98	94	91	76	65	70	82	84	79	74	76	79	85	91	95	65	100	89	24
30	96	98	99	99	96	90	85	80	72	65	59	54	46	49	59	61	62	62	63	58	66	72	74	76	46	99	73	24
HOURLY MAX	100	100	100	100	100	100	100	100	100	98	95	96	96	96	94	94	97	97	97	94	94	99	100	100				
HOURLY AVG	87	88	89	90	90	88	82	76	71	66	62	60	58	56	55	55	55	57	59	63	71	77	82	85				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

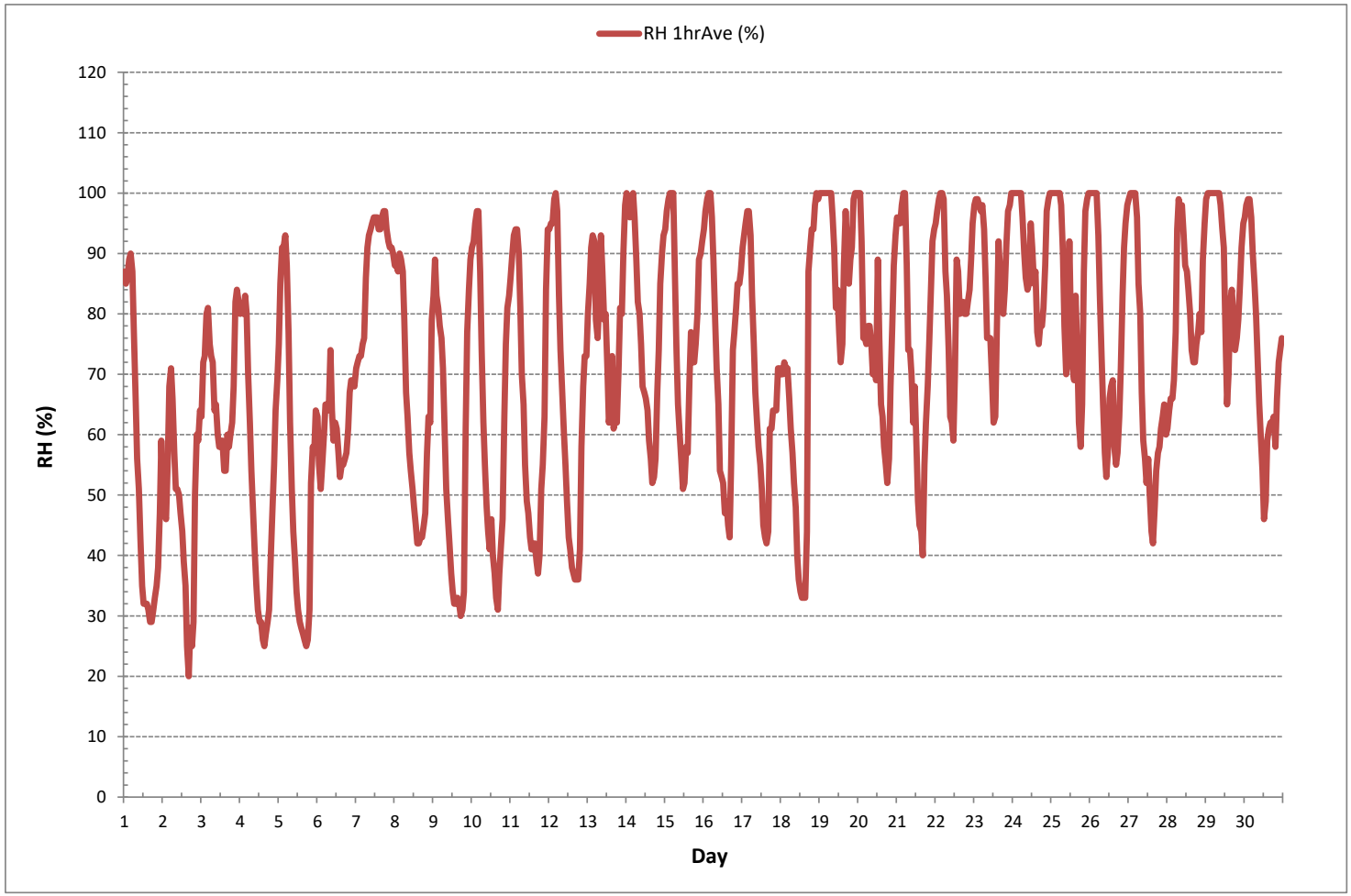
24 HR AVERAGES June 2019



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	20	%	@ HOUR	16	ON DAY	2	
MAXIMUM 1-HR AVERAGE:	100	%	@ HOUR	4	ON DAY	12	
MAXIMUM 24-HR AVERAGE:	92	%			ON DAY	19	
			OPERATIONAL TIME:			720	hrs
			AMD OPERATION UPTIME:			100.0	%
STANDARD DEVIATION:	21		MONTHLY AVERAGE:			72	%

RELATIVE HUMIDITY Hourly Averages (RH %)



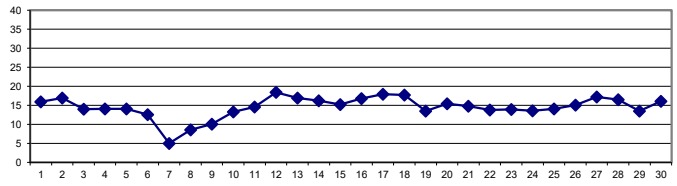
AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	7.4	6.4	5.8	5.2	5.1	5.8	9.2	12.1	14.4	16.8	19.2	20.9	21.8	22.4	22.9	23.4	23.4	23.2	22.2	21.1	19.9	18.9	17.5	15.7	5.1	23.4	15.9	24
2	15.6	15.2	14.8	13.8	12.4	11.9	13.1	14.5	16.3	15.9	17.5	19.3	20.6	21.7	21.8	22.3	22.2	22.1	21.7	19.9	15.0	12.9	13.0	12.5	11.9	22.3	16.9	24
3	12.3	10.9	11.4	11.2	11.3	12.1	12.5	13.1	14.4	15.4	17.2	18.1	17.7	17.7	19.3	19.1	16.5	16.1	15.1	14.7	12.7	9.6	8.6	8.8	8.6	19.3	14.0	24
4	8.7	7.7	7.2	6.1	6.7	8.7	11.1	13.1	15.1	16.5	17.7	18.8	19.2	19.9	20.3	20.2	19.5	19.0	18.3	16.0	14.6	13.0	11.3	10.5	6.1	20.3	14.1	24
5	9.3	6.8	5.3	4.2	4.5	7.6	10.0	12.8	14.7	16.2	17.4	18.4	18.7	19.3	20.0	20.4	20.4	20.4	20.1	19.0	15.0	13.5	13.2	12.2	4.2	20.4	14.1	24
6	11.9	12.6	13.0	12.4	11.8	11.7	11.7	12.1	11.4	12.9	13.0	13.2	13.8	14.5	15.2	14.7	14.5	14.1	13.6	12.7	11.3	10.2	9.8	9.5	9.5	15.2	12.6	24
7	9.1	8.8	8.1	7.7	7.3	6.9	5.7	5.3	5.1	4.9	4.8	5.0	5.0	5.3	4.5	2.9	1.4	**0.8**	1.9	3.5	3.9	3.9	4.2	4.3	**0.8**	9.1	5.0	24
8	4.0	3.6	3.3	2.8	2.7	3.7	5.9	7.6	8.3	9.5	10.0	10.6	11.3	12.4	12.8	12.5	12.7	12.9	12.4	11.8	10.4	8.8	8.7	7.1	2.7	12.9	8.6	24
9	5.7	4.8	5.7	5.8	6.3	6.9	7.9	9.3	10.4	11.0	11.8	12.6	13.5	14.4	14.3	14.4	14.8	15.2	14.8	14.8	10.5	7.3	5.6	4.5	4.5	15.2	10.1	24
10	3.7	2.9	2.2	3.4	5.9	8.6	11.3	13.9	15.5	17.1	18.3	18.3	17.9	19.0	19.1	19.4	19.9	18.6	18.4	17.2	14.6	12.3	10.9	10.0	2.2	19.9	13.3	24
11	9.2	8.4	7.7	7.2	7.6	8.5	10.1	11.7	13.2	15.8	17.4	17.9	18.9	19.2	19.2	19.1	20.5	21.0	20.4	18.3	16.5	15.5	13.3	12.4	7.2	21.0	14.6	24
12	12.0	11.4	11.1	10.0	9.0	10.4	13.7	15.6	17.7	19.6	21.3	22.2	23.4	23.8	24.8	25.2	25.4	**25.6**	25.2	23.8	20.1	17.3	15.9	15.9	9.0	**25.6**	**18.4**	24
13	14.7	13.8	12.7	11.8	12.4	14.7	16.5	16.5	15.7	17.2	18.1	18.2	19.6	21.3	19.8	17.7	21.0	21.3	21.0	18.9	16.8	16.4	15.5	14.2	11.8	21.3	16.9	24
14	13.2	12.8	12.6	11.9	11.7	12.8	14.2	15.8	16.7	17.9	18.4	17.8	18.3	18.7	19.8	19.9	21.1	21.1	20.3	17.1	15.9	13.9	12.8	12.8	11.7	21.1	16.2	24
15	12.3	11.2	10.6	10.6	9.9	10.9	13.9	15.9	17.6	18.9	19.9	20.8	20.3	18.2	20.0	16.4	15.9	16.2	15.9	15.5	15.1	13.3	13.3	13.0	9.9	20.8	15.2	24
16	12.6	12.2	12.2	12.0	11.9	12.9	13.9	15.5	16.9	18.7	20.3	20.4	20.9	21.3	21.1	22.4	22.8	20.3	18.0	17.6	16.4	14.9	14.5	13.6	11.9	22.8	16.8	24
17	12.6	12.0	11.5	11.1	11.3	12.4	14.2	16.5	18.2	19.6	20.9	22.0	23.0	24.0	24.5	24.4	23.4	19.4	19.2	19.2	19.2	18.3	16.5	15.6	11.1	24.5	17.9	24
18	14.7	13.8	12.8	12.2	12.3	13.7	15.7	17.2	19.0	20.5	22.0	22.9	23.5	24.3	24.8	24.9	22.9	17.1	16.2	16.1	15.2	14.4	14.2	13.6	12.2	24.9	17.7	24
19	12.8	11.7	10.8	10.0	9.7	10.8	11.7	13.1	13.5	14.6	15.8	16.4	17.2	17.9	18.1	14.9	13.6	14.5	15.2	14.4	13.5	11.6	11.0	10.8	9.7	18.1	13.5	24
20	9.9	10.1	12.2	14.1	14.1	14.4	14.5	14.8	15.4	16.5	16.8	17.0	14.1	16.5	18.1	18.5	19.8	20.0	20.2	18.1	16.4	14.5	12.4	11.1	9.9	20.2	15.4	24
21	10.6	10.6	10.1	9.0	8.8	10.0	13.4	15.0	15.6	16.3	17.3	16.6	18.6	20.5	21.1	20.9	20.8	19.4	17.3	16.0	14.5	12.4	10.5	9.7	8.8	21.1	14.8	24
22	9.0	8.2	7.8	8.1	8.6	10.5	12.9	14.2	16.4	18.6	18.5	19.8	17.8	14.0	15.0	16.2	15.9	16.2	15.2	15.0	14.4	13.7	12.9	11.9	7.8	19.8	13.8	24
23	11.5	11.3	11.3	11.4	11.4	11.5	12.2	13.3	15.0	14.9	15.2	16.4	18.2	18.4	14.8	13.7	15.1	16.5	16.1	14.3	13.3	12.3	12.4	12.5	11.3	18.4	13.9	24
24	12.5	12.3	12.1	11.9	11.8	12.1	12.7	13.4	13.8	14.5	14.5	12.8	14.1	14.7	14.7	16.1	16.3	15.2	14.8	14.7	14.2	13.0	12.8	12.1	11.8	16.3	13.6	24
25	11.6	11.5	10.8	10.5	10.9	11.6	12.5	13.7	15.6	16.9	15.4	12.9	16.7	17.8	17.0	13.5	16.7	17.9	18.6	18.3	14.9	12.3	11.2	10.2	10.2	18.6	14.1	24
26	9.7	9.1	8.6	9.0	9.2	11.7	13.9	16.3	17.4	19.0	20.2	19.1	17.4	18.3	18.1	18.0	18.6	19.5	18.6	17.8	16.0	13.9	12.4	11.1	8.6	20.2	15.1	24
27	10.7	10.3	9.6	10.1	10.6	12.3	14.2	15.5	17.3	18.7	19.7	20.4	20.7	21.8	22.9	22.8	21.8	20.6	20.4	19.8	18.6	18.0	17.7	17.8	9.6	22.9	17.2	24
28	17.6	17.2	16.7	16.4	16.1	15.0	13.4	13.3	14.0	14.1	14.7	15.7	15.9	16.3	17.3	19.2	19.9	20.0	20.2	19.3	18.8	16.6	14.9	13.1	13.1	20.2	16.5	24
29	12.2	10.9	10.5	9.4	8.9	9.7	11.3	13.4	14.7	15.6	16.0	16.5	18.9	21.2	17.3	12.5	13.2	14.7	14.8	14.1	13.3	12.5	11.6	10.8	8.9	21.2	13.5	24
30	10.1	9.8	10.2	10.7	11.5	12.3	13.4	14.7	16.3	17.8	19.0	20.2	21.0	20.1	18.1	18.8	18.8	18.8	19.1	19.5	17.8	16.3	15.7	15.1	9.8	21.0	16.1	24
HOURLY MAX	17.6	17.2	16.7	16.4	16.1	15.0	16.5	17.2	19.0	20.5	22.0	22.9	23.5	24.3	24.8	25.2	25.4	25.6	25.2	23.8	20.1	18.9	17.7	17.8				
HOURLY AVG	10.9	10.3	10.0	9.7	9.7	10.7	12.2	13.6	14.9	16.1	16.9	17.4	17.9	18.5	18.6	18.1	18.3	17.9	17.5	16.6	15.0	13.4	12.5	11.7				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

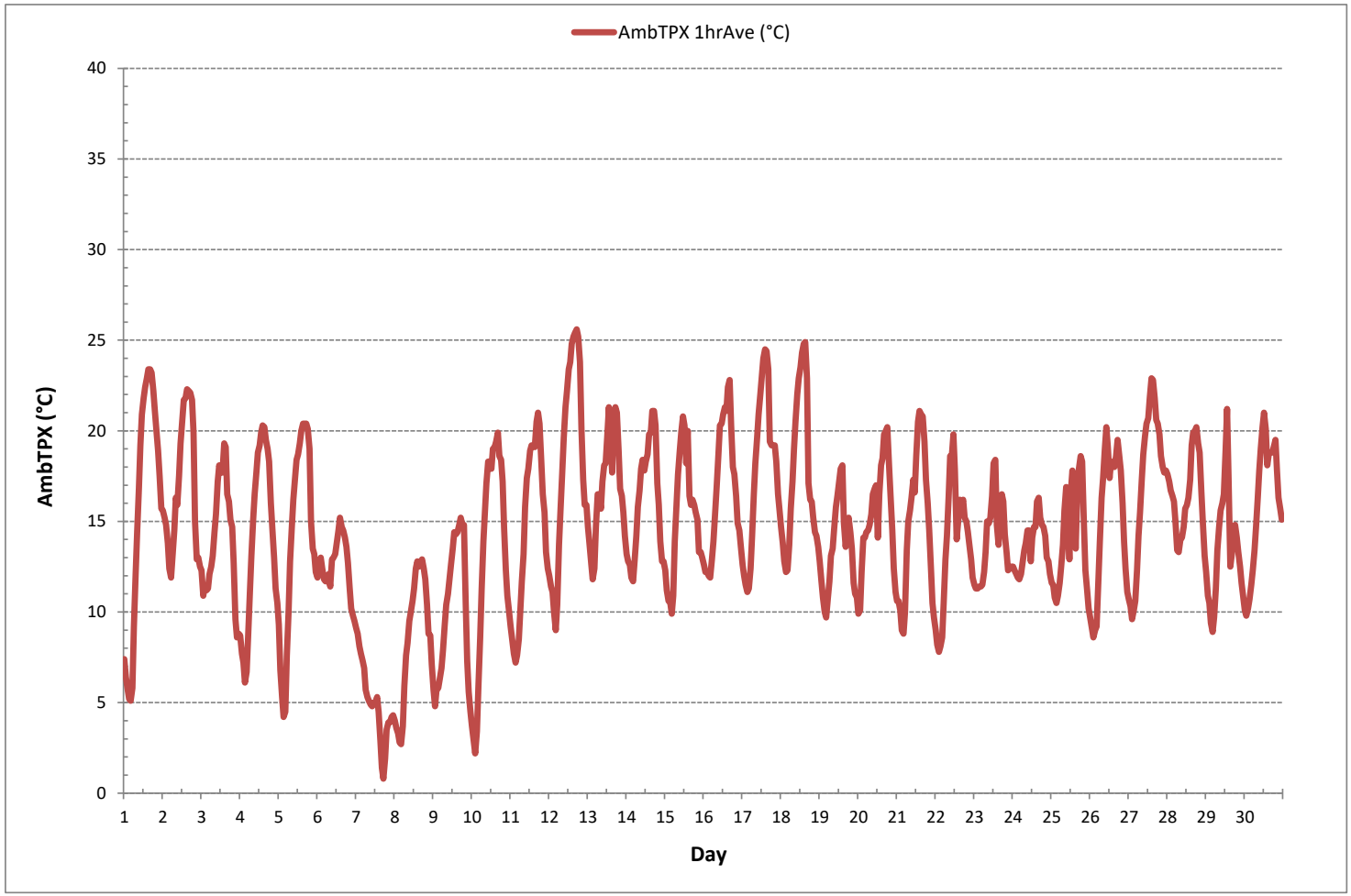
24 HR AVERAGES June 2019



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	0.8	°C	@ HOUR	17	ON DAY	7
MAXIMUM 1-HR AVERAGE:	25.6	°C	@ HOUR	17	ON DAY	12
MAXIMUM 24-HR AVERAGE:	18.4	°C			ON DAY	12
			OPERATIONAL TIME:			720 hrs
			AMD OPERATION UPTIME:			100.0 %
STANDARD DEVIATION:	4.7		MONTHLY AVERAGE:			14.5 °C

AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)



SULPHUR DIOXIDE Instantaneous Maximum (SO_2 ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	0	24
2	0	0	0	0	0	0	0	0	0	1	1	0	0	1	S	0	0	0	0	0	0	0	0	0	0	1	0	24
3	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	2	2	1	1	1	1	0	0	0	0	2	0	24
4	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	24
5	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	24
6	0	0	0	0	0	0	0	0	0	0	X	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
7	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	1	0	24
8	1	1	1	1	0	0	0	0	S	0	0	0	0	0	0	0	1	1	0	1	0	1	1	0	0	1	0	24
9	0	0	0	0	0	0	0	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
10	0	0	0	0	0	1	S	1	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	1	0	24
11	0	0	0	0	0	S	0	0	C	C	C	C	C	C	1	1	0	0	0	0	0	1	0	0	0	1	-	24
12	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
13	0	0	0	S	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	24
14	0	2	S	1	0	0	0	1	1	0	0	1	1	1	1	0	1	0	0	0	0	0	0	0	0	2	0	24
15	0	S	0	0	0	0	1	1	1	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	24
16	S	0	0	0	0	0	1	1	4	2	1	1	1	1	0	0	0	0	0	0	0	0	0	S	0	4	1	24
17	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	24
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	S	0	0	0	1	0	24
19	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	24
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	24
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	2	2	0	0	0	0	2	0	24
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	S	1	2	0	0	1	1	0	2	0	24
23	0	1	1	1	0	1	1	1	1	1	1	1	0	0	0	0	S	1	0	0	0	0	0	0	0	1	1	24
24	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	S	1	0	0	0	0	0	0	0	0	1	0	24
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	2	2	1	1	0	0	0	0	0	2	0	24
26	0	0	0	0	0	0	0	2	2	3	1	0	0	S	0	0	0	0	0	0	0	0	0	0	0	3	0	24
27	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	24
28	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	24
29	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	24
30	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	24
HOURLY MAX	1	2	1	1	0	1	1	2	4	3	2	1	1	1	1	2	2	2	1	2	2	1	1	1				
HOURLY AVG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

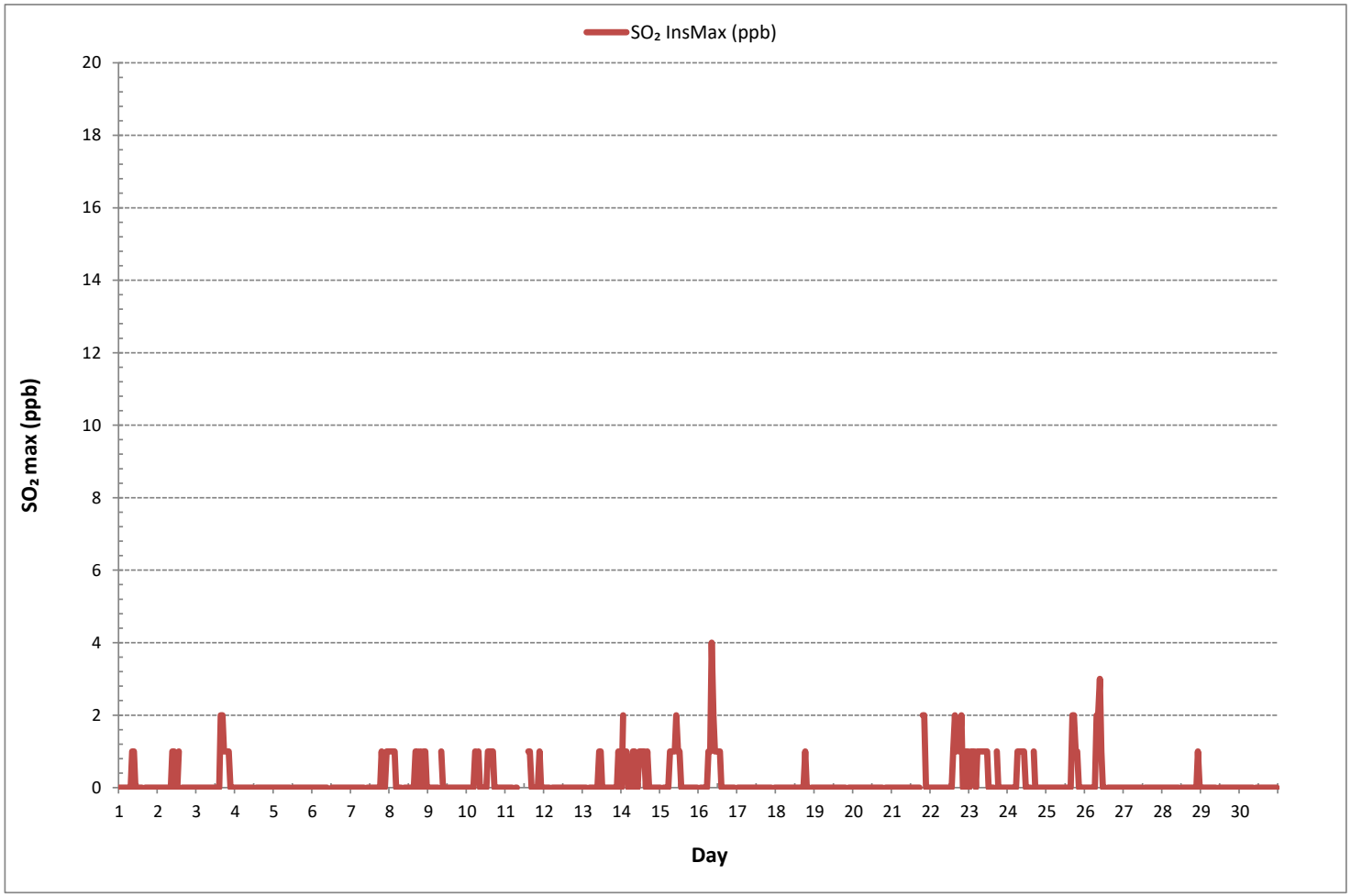
NUMBER OF NON-ZERO READINGS: 96

MAXIMUM INSTANTANEOUS VALUE: 4 ppb @ HOUR 8 ON DAY 16

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 6 hrs
STANDARD DEVIATION: 0

OPERATIONAL TIME: 719 hrs

SULPHUR DIOXIDE Instantaneous Maximum (SO_2 ppb)



TOTAL REDUCED SULPHUR Instantaneous Maximum (TRS ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	1	1	1	1	1	2	**3**	2	1	1	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	**3**	1	24
2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	24
3	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	24
4	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1	1	1	3	3	2	3	2	1	3	1	24
5	1	1	1	2	3	3	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1	24
6	1	1	1	1	1	1	1	1	1	1	**X**	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	23
7	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	24
8	1	1	1	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	24
9	1	1	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	24
10	1	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	24
11	1	1	1	1	1	**S**	1	1	**C**	**C**	**C**	**C**	**C**	**C**	1	1	1	1	1	1	1	1	1	1	1	1	-	24
12	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	1	24
13	2	2	2	**S**	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	24
14	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	24
15	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	24
16	**S**	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	2	1	24
17	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	2	1	24
18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1	1	24
19	1	1	2	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1	2	1	24
20	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1	1	2	1	24
21	1	2	1	1	1	2	3	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1	1	1	3	1	24
22	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	24
23	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	24
24	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	24
25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	24
26	1	1	1	2	1	2	2	1	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	2	1	24
27	1	1	1	2	1	2	1	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	2	1	24
28	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	24
29	1	1	1	1	2	2	2	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	24
30	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	24
HOURLY MAX	2	2	2	2	3	3	3	2	1	1	1	1	1	1	1	1	1	1	1	3	3	2	3	2				
HOURLY AVG	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

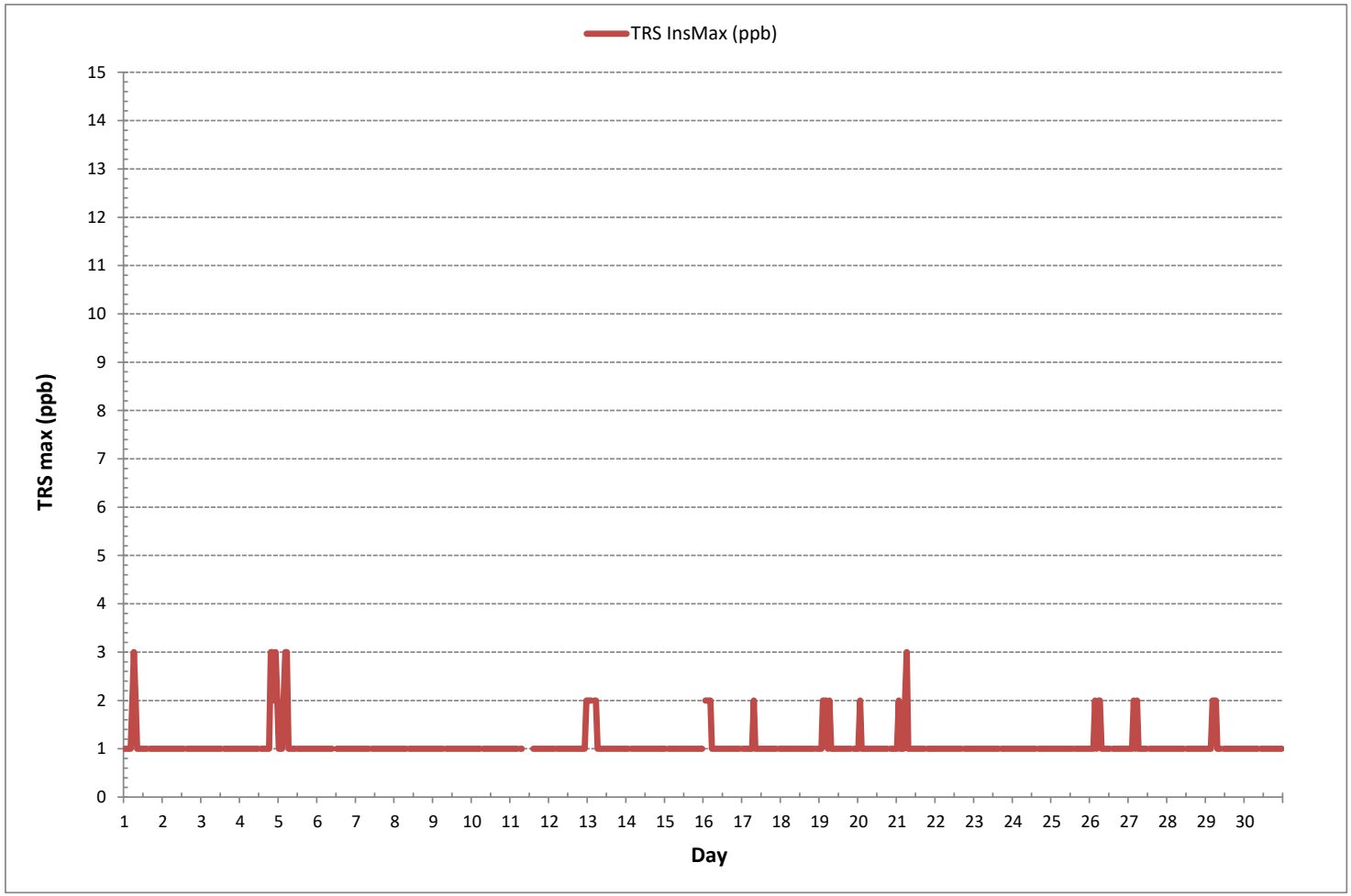
NUMBER OF NON-ZERO READINGS: 682

MAXIMUM INSTANTANEOUS VALUE: 3 ppb @ HOUR 6 ON DAY 1

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 6 hrs
STANDARD DEVIATION: 0

OPERATIONAL TIME: 719 hrs

TOTAL REDUCED SULPHUR Instantaneous Maximum (TRS ppb)



TOTAL HYDROCARBONS Instantaneous Maximum (THC ppm)

HR START (MST) / HR END (MST)	0:00 0:59	1:00 1:59	2:00 2:59	3:00 3:59	4:00 4:59	5:00 5:59	6:00 6:59	7:00 7:59	8:00 8:59	9:00 9:59	10:00 10:59	11:00 11:59	12:00 12:59	13:00 13:59	14:00 14:59	15:00 15:59	16:00 16:59	17:00 17:59	18:00 18:59	19:00 19:59	20:00 20:59	21:00 21:59	22:00 22:59	23:00 23:59	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
DAY																												
1	2.46	2.44	2.37	2.57	2.68	2.69	2.47	2.21	2.20	2.20	2.13	2.05	1.96	1.97	1.98	S	1.95	1.94	1.94	1.95	1.95	1.96	1.99	2.06	1.94	2.69	2.18	24
2	2.04	1.99	1.97	2.02	2.10	2.09	1.98	1.96	1.95	1.94	1.94	1.94	1.93	1.94	S	1.94	1.91	1.92	1.91	2.20	2.09	2.16	2.11	2.29	1.91	2.29	2.01	24
3	2.39	2.34	2.35	2.31	2.40	2.30	2.20	2.12	2.05	1.97	1.96	2.10	1.94	S	1.94	1.95	1.94	1.93	1.92	1.92	1.97	2.01	2.06	2.08	1.92	2.40	2.09	24
4	2.03	2.05	2.04	2.03	2.03	1.99	1.98	1.97	1.95	1.94	1.93	1.92	S	1.91	1.91	1.91	1.91	1.91	1.92	1.94	1.94	1.97	1.98	2.03	1.91	2.05	1.96	24
5	2.04	2.05	2.10	2.22	2.43	2.19	2.07	2.04	2.03	1.98	1.95	S	1.91	1.90	2.57	1.92	1.90	1.93	1.91	1.97	1.90	1.91	1.99	2.05	1.90	2.57	2.04	24
6	2.20	2.00	1.92	1.93	1.93	1.92	1.93	1.92	1.94	1.94	X	S	1.91	1.91	1.90	1.90	1.90	1.90	1.89	1.89	1.89	1.90	1.90	1.90	1.89	2.20	1.93	23
7	1.90	1.90	1.90	1.90	1.89	1.89	1.89	1.90	1.90	S	1.91	1.91	1.90	1.89	1.89	1.90	1.93	1.94	1.91	1.90	1.91	1.91	1.92	1.93	1.89	1.94	1.91	24
8	1.94	1.93	1.95	1.93	1.99	2.03	2.00	1.92	S	1.91	1.91	1.91	1.92	1.92	1.92	1.91	1.91	1.91	1.92	1.95	2.01	2.03	2.02	2.03	1.91	2.03	1.95	24
9	1.98	2.02	2.21	2.29	2.28	2.26	2.06	S	1.93	1.92	1.92	1.90	1.90	1.90	1.92	1.91	1.92	1.91	1.91	1.94	1.95	2.00	2.02	2.08	1.90	2.29	2.01	24
10	2.13	2.22	2.24	2.27	2.16	2.04	S	1.97	S1	S1	1.93	1.92	1.91	1.90	1.91	1.89	1.89	1.91	1.90	1.91	2.01	2.05	2.02	2.12	1.89	2.27	2.01	22
11	2.15	2.11	2.13	2.25	2.25	S	2.25	3.31	2.04	2.12	2.04	2.06	2.78	C	C	C	C	Y	Y	Y	Y	Y	Y	Y	2.04	3.31	-	17
12	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	2.16	2.07	2.04	2.04	2.03	1.95	1.95	1.94	2.17	2.20	2.12	2.13	2.29	1.94	2.29	-	16
13	2.73	2.87	2.72	S	2.60	2.55	2.35	2.00	1.93	1.95	2.08	1.96	1.99	1.98	1.93	1.91	1.90	1.97	1.99	2.01	2.10	2.06	2.12	2.01	1.90	2.87	2.16	24
14	2.03	2.06	S	2.09	2.13	2.10	2.16	2.06	2.15	2.09	1.98	1.94	2.05	1.96	2.01	1.97	1.96	1.93	1.93	1.94	2.01	2.07	2.08	2.15	1.93	2.16	2.04	24
15	2.18	S	2.37	2.42	2.46	2.40	2.22	2.05	1.99	1.95	1.94	1.92	X	X	1.99	1.96	2.01	2.05	1.95	1.98	2.08	2.12	2.45	2.29	1.92	2.46	2.13	22
16	S	2.40	2.38	2.41	2.39	2.39	2.31	2.23	2.23	2.23	2.07	2.02	2.03	2.04	1.98	2.01	1.98	1.98	2.01	2.08	2.04	2.18	2.14	S	1.98	2.41	2.16	24
17	2.23	2.20	2.30	2.29	2.30	2.29	2.32	2.20	2.14	2.14	2.14	2.12	2.06	2.09	2.08	2.02	2.04	2.05	2.32	2.07	2.08	2.19	S	2.29	2.02	2.32	2.17	24
18	2.26	2.30	2.20	2.30	2.39	2.22	2.23	2.15	2.12	2.08	2.02	1.97	1.99	1.97	1.96	1.97	2.01	2.00	2.10	2.49	1.99	S	2.05	2.02	1.96	2.49	2.12	24
19	2.17	2.51	2.57	2.56	2.32	2.24	2.27	2.06	1.97	1.98	1.98	1.98	2.06	1.99	2.02	2.12	2.03	2.08	2.07	2.04	S	2.33	2.44	2.30	1.97	2.57	2.18	24
20	2.41	2.50	2.07	2.05	1.96	1.97	2.05	1.96	2.06	2.01	2.01	1.97	1.94	2.05	1.93	1.96	1.96	1.98	1.98	S	2.12	2.28	2.41	2.66	1.93	2.66	2.10	24
21	2.60	2.58	2.87	3.01	2.93	2.82	2.25	2.32	2.06	2.01	2.02	1.99	1.97	1.95	1.97	1.96	1.96	1.98	S	2.03	2.09	2.28	2.24	2.19	1.95	3.01	2.26	24
22	2.36	2.36	2.29	2.28	2.29	2.33	2.16	1.99	1.99	2.26	2.01	2.02	2.04	1.99	2.05	2.00	2.04	S	1.99	2.08	1.97	2.00	2.01	2.24	1.97	2.36	2.12	24
23	2.14	2.10	2.14	2.11	2.09	2.04	2.07	2.04	1.98	1.97	1.97	1.94	2.06	1.97	1.97	1.97	S	1.98	1.95	1.99	2.00	2.00	2.05	2.16	1.94	2.16	2.03	24
24	2.13	2.10	2.05	2.02	2.05	2.03	1.99	1.97	1.98	1.97	2.03	2.01	2.01	1.97	1.98	S	1.97	1.97	1.94	2.04	2.11	2.27	2.50	2.54	1.94	2.54	2.07	24
25	2.21	2.15	2.56	2.36	2.17	2.18	2.10	1.99	2.00	2.08	1.99	1.98	1.96	1.97	S	2.08	2.01	2.02	1.99	2.16	2.29	2.21	2.36	2.39	1.96	2.56	2.14	24
26	2.44	2.42	2.43	2.61	2.85	2.78	2.78	2.44	2.26	2.16	2.06	2.06	2.10	S	2.12	2.02	2.03	2.04	2.05	2.14	2.29	2.61	2.47	2.47	2.02	2.85	2.33	24
27	2.73	2.97	2.87	2.95	3.33	3.04	2.34	2.22	2.11	2.06	2.05	2.02	S	2.04	2.02	2.09	2.06	2.10	2.04	2.07	2.05	**3.46**	2.06	2.03	2.02	**3.46**	2.38	24
28	1.98	2.03	2.00	2.02	2.05	2.08	2.07	2.10	2.03	2.15	2.17	S	2.04	2.04	2.03	2.26	2.11	2.11	2.07	2.11	2.05	2.10	2.06	2.06	1.98	2.26	2.07	24
29	2.09	2.19	2.20	2.50	2.64	2.91	2.38	2.45	2.28	2.12	S	2.12	2.14	2.18	2.22	1.97	1.95	2.01	2.01	2.01	2.07	2.03	2.11	2.15	1.95	2.91	2.21	24
30	2.20	2.34	2.28	2.28	2.04	2.04	2.05	2.04	2.02	S	2.03	2.05	1.99	2.03	1.98	1.99	2.01	1.99	2.03	2.05	2.07	2.10	2.06	2.08	1.98	2.34	2.08	24
HOURLY MAX	2.73	2.97	2.87	3.01	3.33	3.04	2.78	3.31	2.28	2.26	2.17	2.16	2.78	2.18	2.57	2.26	2.11	2.11	2.32	2.49	2.29	3.46	2.50	2.66				
HOURLY AVG	2.22	2.25	2.27	2.29	2.31	2.28	2.18	2.13	2.05	2.04	2.01	2.00	2.02	1.98	2.01	1.98	1.97	1.98	1.98	2.04	2.04	2.15	2.13	2.17				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

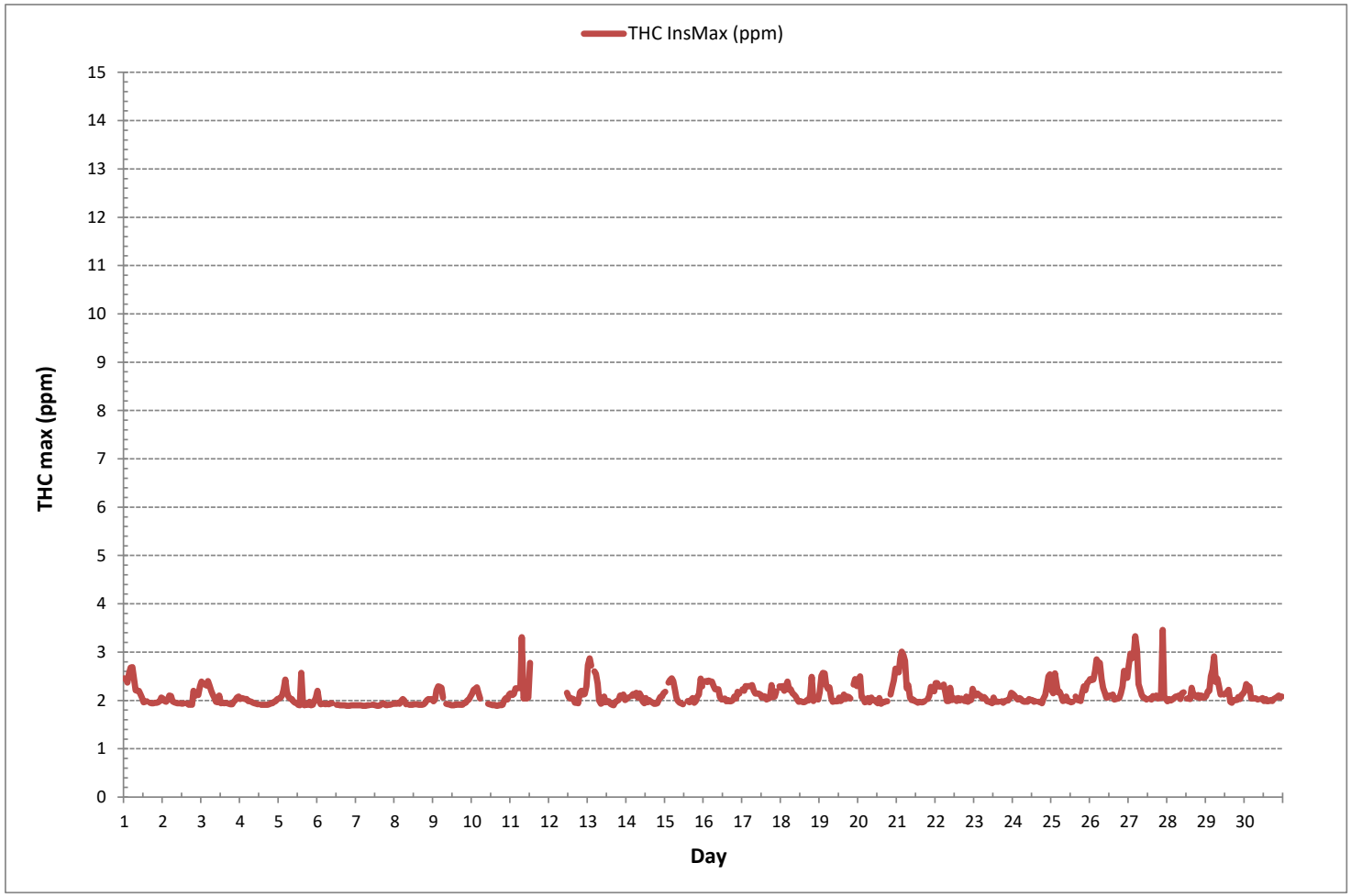
NUMBER OF NON-ZERO READINGS: 663

MAXIMUM INSTANTANEOUS VALUE: 3.46 ppm @ HOUR 21 ON DAY 27

IZS CALIBRATION TIME: 30 hrs
MONTHLY CALIBRATION TIME: 7 hrs
STANDARD DEVIATION: 0.22

OPERATIONAL TIME: 700 hrs

TOTAL HYDROCARBONS Instantaneous Maximum (THC ppm)



METHANE MAX Instantaneous Maximum (CH_4 ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	2.46	2.44	2.37	2.54	2.68	2.69	2.47	2.21	2.20	2.20	2.13	2.05	1.96	1.97	1.98	S	1.95	1.94	1.94	1.95	1.95	1.96	1.99	2.06	1.94	2.69	2.18	24
2	2.04	1.99	1.97	2.02	2.10	2.09	1.98	1.96	1.95	1.94	1.94	1.94	1.93	1.94	S	1.94	1.91	1.92	1.91	2.20	2.09	2.16	2.11	2.29	1.91	2.29	2.01	24
3	2.39	2.34	2.35	2.31	2.40	2.30	2.20	2.12	2.05	1.97	1.96	1.94	1.94	S	1.94	1.95	1.94	1.93	1.92	1.92	1.97	2.01	2.06	2.08	1.92	2.40	2.09	24
4	2.03	2.05	2.04	2.03	2.03	1.99	1.98	1.97	1.95	1.94	1.93	1.92	S	1.91	1.91	1.91	1.91	1.91	1.92	1.94	1.94	1.97	1.98	2.03	1.91	2.05	1.96	24
5	2.04	2.05	2.10	2.22	2.43	2.19	2.07	2.04	2.03	1.98	1.95	S	1.91	1.90	2.52	1.92	1.90	1.93	1.91	1.97	1.90	1.91	1.99	2.05	1.90	2.52	2.04	24
6	2.20	2.00	1.92	1.93	1.93	1.92	1.93	1.92	1.94	1.94	X	S	1.91	1.91	1.90	1.90	1.90	1.90	1.89	1.89	1.89	1.90	1.90	1.90	1.89	2.20	1.93	23
7	1.90	1.90	1.90	1.90	1.89	1.89	1.89	1.90	1.90	S	1.91	1.91	1.90	1.89	1.89	1.90	1.93	1.94	1.91	1.90	1.91	1.91	1.92	1.93	1.89	1.94	1.91	24
8	1.94	1.93	1.95	1.93	1.99	2.03	2.00	1.92	S	1.91	1.91	1.91	1.92	1.92	1.92	1.91	1.91	1.91	1.92	1.95	2.01	2.03	2.02	2.03	1.91	2.03	1.95	24
9	1.98	2.02	2.21	2.29	2.28	2.26	2.06	S	1.93	1.92	1.92	1.90	1.90	1.90	1.92	1.91	1.92	1.91	1.91	1.94	1.95	2.00	2.02	2.08	1.90	2.29	2.01	24
10	2.13	2.22	2.24	2.27	2.16	2.04	S	1.97	S1	S1	1.93	1.92	1.91	1.90	1.91	1.89	1.89	1.91	1.90	1.91	2.01	2.05	2.02	2.12	1.89	2.27	2.01	22
11	2.15	2.11	2.13	2.25	2.25	S	2.25	**3.31**	2.04	2.12	2.04	2.06	2.13	C	C	C	C	Y	Y	Y	Y	Y	Y	Y	2.04	**3.31**	-	17
12	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	2.06	1.99	1.98	2.04	1.99	1.94	1.95	1.94	2.00	2.15	2.12	2.09	2.27	1.94	2.27	-	16
13	2.73	2.81	2.72	S	2.60	2.50	2.26	1.99	1.93	1.95	1.96	1.92	1.92	1.97	1.91	1.91	1.90	1.90	1.90	1.96	2.07	2.02	2.07	2.01	1.90	2.81	2.13	24
14	2.01	2.05	S	2.09	2.02	2.10	2.12	2.04	2.09	2.05	1.98	1.94	1.94	1.94	1.94	1.91	1.93	1.91	1.92	1.93	2.01	2.07	2.06	2.15	1.91	2.15	2.01	24
15	2.18	S	2.37	2.42	2.46	2.39	2.22	2.05	1.98	1.94	1.93	1.92	X	X	1.93	1.96	1.97	1.94	1.95	1.95	2.07	2.12	2.45	2.28	1.92	2.46	2.12	22
16	S	2.40	2.38	2.37	2.39	2.39	2.31	2.19	2.19	2.17	2.07	2.02	2.02	1.99	1.98	1.98	1.96	1.97	2.01	2.04	2.02	2.10	2.14	S	1.96	2.40	2.14	24
17	2.22	2.20	2.30	2.28	2.30	2.29	2.24	2.20	2.11	2.10	2.12	2.08	2.04	2.02	2.04	2.01	2.01	2.03	2.00	2.07	2.06	2.19	S	2.25	2.00	2.30	2.14	24
18	2.25	2.27	2.19	2.24	2.39	2.22	2.19	2.14	2.12	2.07	2.02	1.97	1.99	1.97	1.96	1.97	2.00	2.00	2.05	2.02	1.99	S	1.99	2.02	1.96	2.39	2.09	24
19	2.17	2.51	2.50	2.56	2.32	2.21	2.24	2.03	1.97	1.98	1.95	1.96	1.97	1.95	1.98	2.12	2.02	2.06	2.03	2.02	S	2.24	2.43	2.30	1.95	2.56	2.15	24
20	2.33	2.50	2.06	2.05	1.96	1.97	1.95	1.96	1.95	1.96	1.95	1.96	1.94	1.96	1.93	1.95	1.95	1.93	1.96	S	2.12	2.28	2.40	2.66	1.93	2.66	2.07	24
21	2.60	2.58	2.87	3.01	2.93	2.82	2.18	2.05	2.00	2.00	1.96	1.99	1.95	1.94	1.97	1.95	1.96	1.96	S	1.99	2.03	2.28	2.24	2.18	1.94	3.01	2.24	24
22	2.36	2.36	2.29	2.28	2.29	2.33	2.16	1.99	1.98	1.95	1.98	1.95	1.98	1.98	2.01	1.98	2.00	S	1.99	1.99	1.97	2.00	2.01	2.24	1.95	2.36	2.09	24
23	2.14	2.10	2.14	2.07	2.09	2.04	2.04	2.04	1.98	1.96	1.97	1.94	1.96	1.95	1.97	1.97	S	1.98	1.95	1.98	2.00	2.00	2.05	2.11	1.94	2.14	2.02	24
24	2.10	2.10	2.05	2.02	2.05	2.00	1.99	1.97	1.98	1.96	1.99	2.01	1.96	1.97	1.96	S	1.97	1.97	1.94	1.98	2.11	2.27	2.50	2.54	1.94	2.54	2.06	24
25	2.21	2.15	2.56	2.36	2.17	2.11	2.10	1.99	1.97	1.96	1.96	1.98	1.96	1.96	S	1.98	2.01	1.99	1.98	2.05	2.29	2.21	2.36	2.39	1.96	2.56	2.12	24
26	2.44	2.42	2.42	2.61	2.85	2.77	2.68	2.34	2.21	2.16	2.04	2.03	2.04	S	2.12	1.99	2.03	2.02	2.02	2.10	2.29	2.61	2.39	2.47	1.99	2.85	2.31	24
27	2.67	2.94	2.86	2.89	3.19	2.94	2.34	2.22	2.11	2.06	2.04	2.02	S	2.01	2.00	2.02	2.02	2.01	2.02	2.02	2.02	2.03	2.00	2.00	2.00	3.19	2.28	24
28	1.98	2.01	2.00	2.02	2.01	2.04	2.06	2.05	2.03	2.05	2.06	S	2.04	2.01	2.03	2.00	2.02	2.03	2.03	2.07	2.04	2.10	2.06	2.06	1.98	2.10	2.03	24
29	2.09	2.19	2.20	2.48	2.64	2.91	2.29	2.30	2.21	2.12	S	2.03	2.08	2.13	2.14	1.97	1.95	2.01	2.01	2.00	2.02	2.03	2.11	2.15	1.95	2.91	2.18	24
30	2.20	2.24	2.27	2.24	2.04	2.03	2.05	2.04	2.02	S	2.03	1.99	1.98	1.99	1.98	1.99	2.01	1.99	2.01	2.02	2.05	2.10	2.06	2.08	1.98	2.27	2.06	24
HOURLY MAX	2.73	2.94	2.87	3.01	3.19	2.94	2.68	3.31	2.21	2.20	2.13	2.08	2.13	2.13	2.52	2.12	2.03	2.06	2.05	2.20	2.29	2.61	2.50	2.66				
HOURLY AVG	2.21	2.25	2.26	2.27	2.30	2.27	2.15	2.10	2.03	2.01	1.99	1.97	1.97	1.96	1.99	1.96	1.96	1.96	1.96	1.99	2.03	2.10	2.12	2.17				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

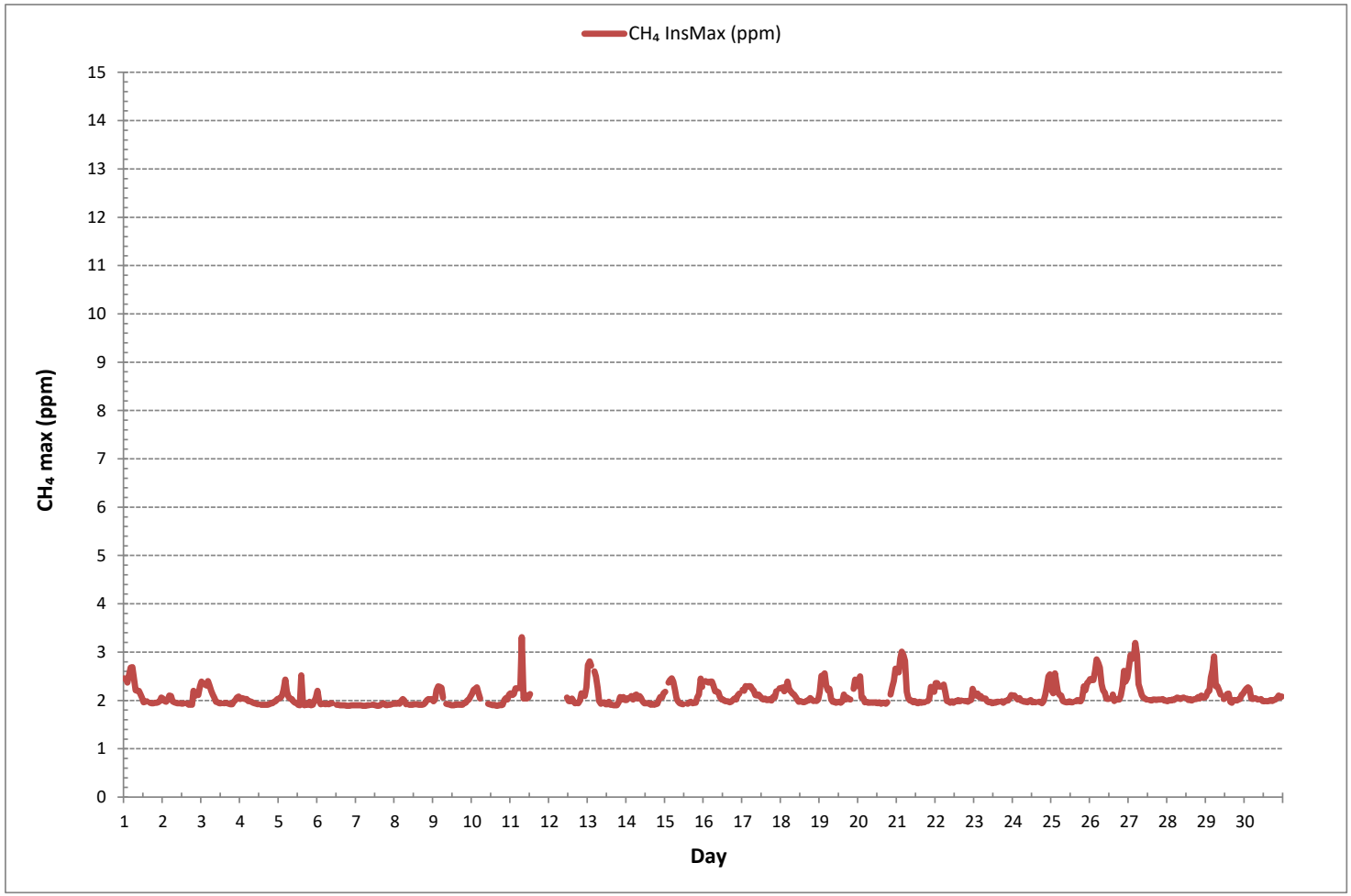
NUMBER OF NON-ZERO READINGS: 663

MAXIMUM INSTANTANEOUS VALUE: 3.31 ppm @ HOUR 7 ON DAY 11

IZS CALIBRATION TIME: 30 hrs
MONTHLY CALIBRATION TIME: 7 hrs
STANDARD DEVIATION: 0.21

OPERATIONAL TIME: 700 hrs

METHANE MAX Instantaneous Maximum (CH_4 ppm)



NON-METHANE HYDROCARBONS Instantaneous Maximum (NMHC ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	0.00	0.00	0.00	0.05	0.06	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	0.06	0.00	24
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.01	24
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	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	24
5	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	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	24
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X	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	23
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
10	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	S1	S1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22
11	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	1.10	C	C	C	C	Y	Y	Y	Y	Y	Y	Y	0.00	1.10	-	17
12	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	0.11	0.11	0.07	0.02	0.07	0.01	0.01	0.01	0.21	0.13	0.08	0.12	0.14	0.01	0.21	-	16
13	0.16	0.10	0.08	S	0.04	0.14	0.10	0.08	0.01	0.03	0.15	0.05	0.09	0.02	0.03	0.03	0.01	0.07	0.11	0.11	0.08	0.10	0.14	0.05	0.01	0.16	0.08	24
14	0.07	0.02	S	0.02	0.13	0.08	0.06	0.05	0.10	0.06	0.03	0.01	0.11	0.03	0.09	0.06	0.07	0.02	0.02	0.03	0.03	0.06	0.03	0.03	0.01	0.13	0.05	24
15	0.00	S	0.11	0.08	0.08	0.06	0.01	0.05	0.03	0.02	0.02	0.00	X	X	0.08	0.01	0.06	0.12	0.00	0.03	0.06	0.02	0.04	0.07	0.00	0.12	0.05	22
16	S	0.05	0.08	0.10	0.02	0.04	0.02	0.07	0.10	0.06	0.00	0.02	0.02	0.08	0.01	0.06	0.03	0.01	0.01	0.09	0.02	0.12	0.00	S	0.00	0.12	0.05	24
17	0.02	0.00	0.01	0.01	0.02	0.03	0.10	0.01	0.06	0.05	0.03	0.06	0.06	0.09	0.10	0.05	0.07	0.05	0.34	0.01	0.01	0.04	S	0.09	0.00	0.34	0.06	24
18	0.03	0.04	0.04	0.10	0.10	0.01	0.06	0.02	0.03	0.04	0.00	0.00	0.00	0.00	0.01	0.00	0.03	0.01	0.10	0.49	0.00	S	0.09	0.04	0.00	0.49	0.05	24
19	0.06	0.09	0.09	0.09	0.07	0.08	0.05	0.04	0.02	0.02	0.03	0.02	0.10	0.06	0.07	0.03	0.01	0.05	0.06	0.03	S	0.16	0.05	0.10	0.01	0.16	0.06	24
20	0.11	0.10	0.01	0.00	0.01	0.00	0.11	0.01	0.13	0.09	0.09	0.04	0.00	0.12	0.01	0.04	0.04	0.06	0.06	S	0.02	0.03	0.09	0.09	0.00	0.13	0.05	24
21	0.12	0.11	0.06	0.09	0.06	0.07	0.09	0.31	0.06	0.04	0.08	0.00	0.03	0.01	0.01	0.02	0.01	0.02	S	0.03	0.08	0.05	0.07	0.08	0.00	0.31	0.07	24
22	0.05	0.07	0.02	0.05	0.02	0.03	0.07	0.01	0.05	0.32	0.06	0.08	0.11	0.05	0.08	0.03	0.09	S	0.01	0.10	0.00	0.03	0.01	0.02	0.00	0.32	0.06	24
23	0.00	0.02	0.05	0.05	0.04	0.02	0.04	0.01	0.02	0.04	0.01	0.02	0.14	0.04	0.03	0.01	S	0.02	0.01	0.02	0.03	0.02	0.00	0.06	0.00	0.14	0.03	24
24	0.04	0.01	0.00	0.01	0.01	0.04	0.01	0.00	0.01	0.01	0.08	0.01	0.05	0.01	0.04	S	0.00	0.00	0.01	0.07	0.01	0.09	0.03	0.07	0.00	0.09	0.03	24
25	0.08	0.02	0.00	0.04	0.07	0.10	0.03	0.01	0.03	0.14	0.05	0.00	0.03	0.03	S	0.11	0.01	0.08	0.02	0.17	0.09	0.06	0.07	0.07	0.00	0.17	0.06	24
26	0.06	0.12	0.06	0.09	0.05	0.10	0.13	0.12	0.10	0.01	0.05	0.05	0.07	S	0.04	0.06	0.01	0.04	0.04	0.12	0.08	0.12	0.13	0.12	0.01	0.13	0.08	24
27	0.11	0.08	0.13	0.15	0.21	0.14	0.07	0.04	0.07	0.05	0.01	0.02	S	0.06	0.02	0.08	0.04	0.10	0.03	0.08	0.05	**1.47**	0.07	0.06	0.01	**1.47**	0.14	24
28	0.00	0.06	0.00	0.01	0.05	0.05	0.03	0.06	0.02	0.12	0.12	S	0.01	0.05	0.02	0.28	0.11	0.10	0.05	0.05	0.04	0.04	0.03	0.02	0.00	0.28	0.06	24
29	0.04	0.02	0.02	0.10	0.12	0.05	0.10	0.15	0.06	0.04	S	0.11	0.06	0.07	0.10	0.00	0.00	0.02	0.05	0.05	0.08	0.00	0.00	0.03	0.00	0.15	0.06	24
30	0.03	0.11	0.04	0.08	0.00	0.03	0.00	0.01	0.01	S	0.03	0.06	0.02	0.06	0.01	0.02	0.01	0.01	0.06	0.04	0.06	0.03	0.02	0.01	0.00	0.11	0.03	24
HOURLY MAX	0.16	0.12	0.13	0.15	0.21	0.14	0.13	0.31	0.13	0.32	0.15	0.17	1.10	0.12	0.10	0.28	0.11	0.12	0.34	0.49	0.13	1.47	0.14	0.14				
HOURLY AVG	0.04	0.04	0.03	0.04	0.04	0.04	0.04	0.04	0.03	0.04	0.03	0.03	0.08	0.03	0.03	0.04	0.02	0.03	0.04	0.06	0.03	0.09	0.04	0.04				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

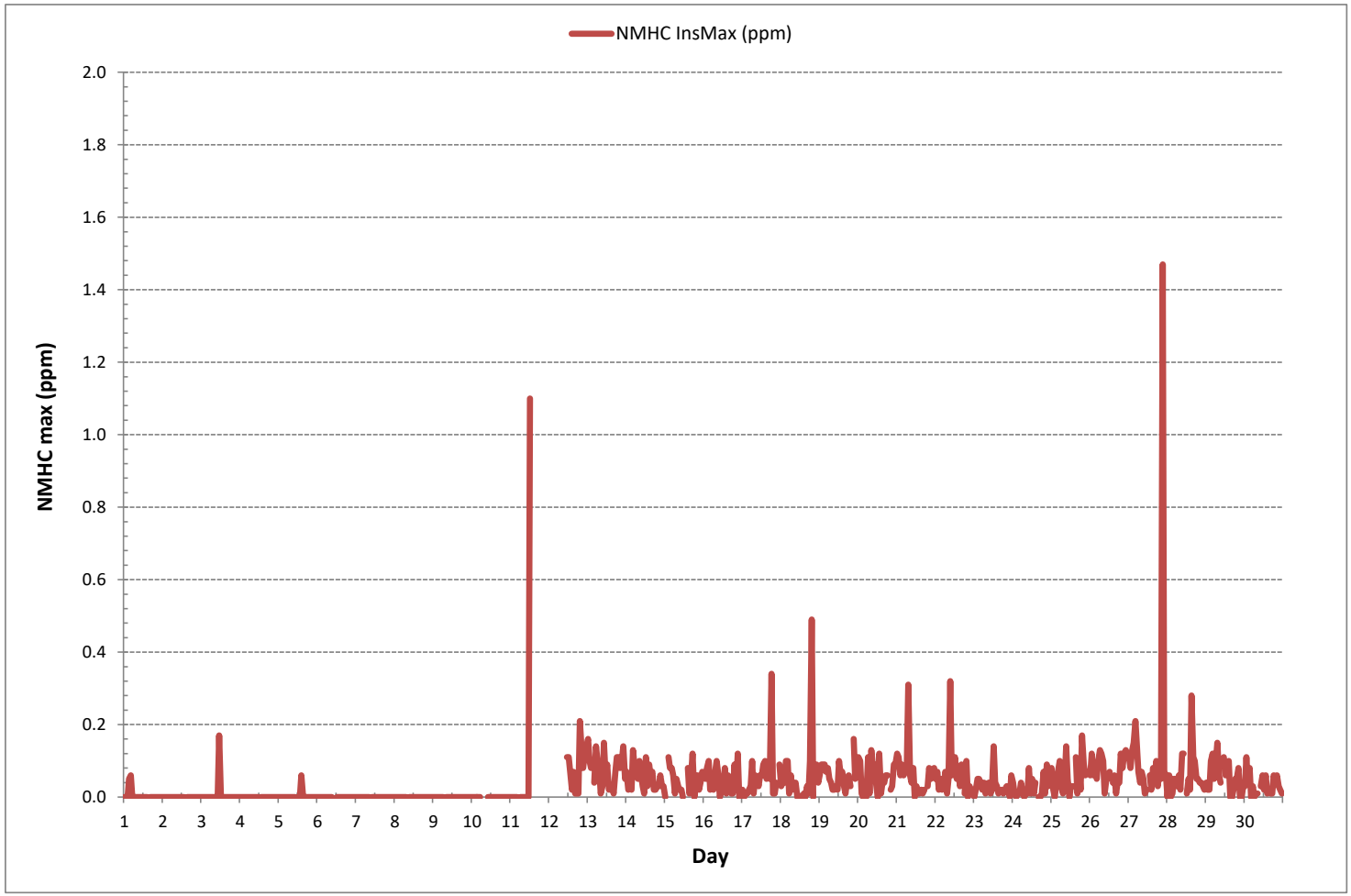
NUMBER OF NON-ZERO READINGS: 396

MAXIMUM INSTANTANEOUS VALUE: 1.47 ppm @ HOUR 21 ON DAY 27

IZS CALIBRATION TIME: 30 hrs
MONTHLY CALIBRATION TIME: 7 hrs
STANDARD DEVIATION: 0.09

OPERATIONAL TIME: 700 hrs

NON-METHANE HYDROCARBONS Instantaneous Maximum (NMHC ppm)



OXIDES OF NITROGEN Instantaneous Maximum (NO_x ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	5	9	9	6	17	13	14	3	3	2	3	2	1	5	3	S	2	2	3	3	3	3	2	3	1	17	5	24
2	2	2	2	3	7	6	5	5	5	4	3	4	5	3	S	2	2	1	1	4	3	2	4	4	1	7	4	24
3	7	6	5	4	9	5	5	4	4	3	2	3	4	S	2	3	5	2	2	3	4	6	6	7	2	9	5	24
4	4	5	8	20	3	2	4	3	4	3	4	2	S	7	3	9	2	1	2	2	2	3	3	3	1	20	4	24
5	4	4	4	5	6	6	6	5	4	4	8	S	4	9	1	3	9	1	1	3	2	2	2	5	1	9	4	24
6	4	1	1	4	4	3	2	2	2	4	X	S	4	1	4	2	1	2	1	1	1	1	1	0	0	4	2	23
7	1	0	1	1	0	1	1	1	1	S	1	2	1	5	1	1	3	3	2	3	3	3	4	3	0	5	2	24
8	3	3	3	2	2	3	3	1	S	1	1	1	1	1	1	1	1	2	1	3	3	4	3	2	1	4	2	24
9	3	3	6	9	9	9	3	S	3	1	1	1	1	1	1	1	1	1	1	2	3	2	2	2	1	9	3	24
10	2	2	2	3	4	5	S	5	4	2	2	2	3	2	2	2	2	2	5	5	4	4	4	4	2	5	3	24
11	4	4	4	3	7	S	13	6	C	C	C	C	C	C	C	C	3	2	2	6	2	3	3	3	2	13	-	24
12	2	2	5	3	S	4	3	2	4	6	6	2	2	5	4	2	3	2	2	10	6	3	3	2	2	10	4	24
13	3	3	3	S	6	8	6	4	3	3	4	4	2	50	3	4	2	2	2	4	6	5	4	3	2	50	6	24
14	3	7	S	9	4	4	4	4	7	5	3	3	3	4	3	2	2	2	2	2	2	2	3	3	2	9	4	24
15	3	S	7	7	6	6	7	5	3	4	4	3	2	2	2	3	3	2	1	5	3	4	4	4	1	7	4	24
16	S	5	3	3	3	7	4	6	10	6	4	5	2	3	4	2	1	2	1	2	2	10	2	S	1	10	4	24
17	3	2	2	2	4	5	3	10	3	3	4	2	3	3	2	8	3	3	4	8	4	2	S	3	2	10	4	24
18	2	13	2	3	6	4	9	4	3	13	2	1	3	3	2	1	5	6	5	15	17	S	6	2	1	17	5	24
19	3	2	4	3	4	11	9	4	3	2	2	4	4	3	4	5	6	4	14	6	S	5	3	5	2	14	5	24
20	5	5	3	2	2	3	2	5	3	7	2	3	14	2	4	2	1	2	2	S	8	6	4	6	1	14	4	24
21	5	8	3	4	2	10	9	5	5	3	2	2	1	1	2	2	1	2	S	7	7	3	3	3	1	10	4	24
22	3	2	3	3	3	3	2	4	1	1	1	1	2	1	3	5	5	S	6	8	2	2	5	4	1	8	3	24
23	3	6	8	5	3	4	4	3	3	7	4	2	1	3	2	1	S	3	2	1	1	1	2	2	1	8	3	24
24	2	2	2	2	3	5	5	5	4	5	7	5	4	3	2	S	5	2	2	2	5	2	2	3	2	7	3	24
25	3	2	2	2	3	3	4	34	2	1	2	16	3	1	S	3	4	4	3	3	3	3	3	3	1	34	5	24
26	3	3	4	3	3	6	6	7	10	9	4	3	7	S	6	7	4	1	1	2	3	3	4	3	1	10	4	24
27	4	4	6	5	7	5	4	4	13	5	5	3	S	4	1	4	4	2	2	3	4	12	1	1	1	13	4	24
28	1	1	1	0	10	2	2	2	2	4	2	S	3	3	2	2	1	1	2	1	1	3	5	5	0	10	2	24
29	3	2	4	3	16	5	3	2	3	2	S	4	1	1	2	7	4	1	1	1	2	1	2	3	1	16	3	24
30	3	4	4	4	1	1	1	1	1	S	3	1	1	1	1	1	1	1	2	2	1	1	1	1	1	4	2	24
HOURLY MAX	7	13	9	20	17	13	14	34	13	13	8	16	14	50	6	9	9	6	14	15	17	12	6	7				
HOURLY AVG	3	4	4	4	5	5	5	5	4	4	3	3	3	5	2	3	3	2	3	4	4	3	3	3				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

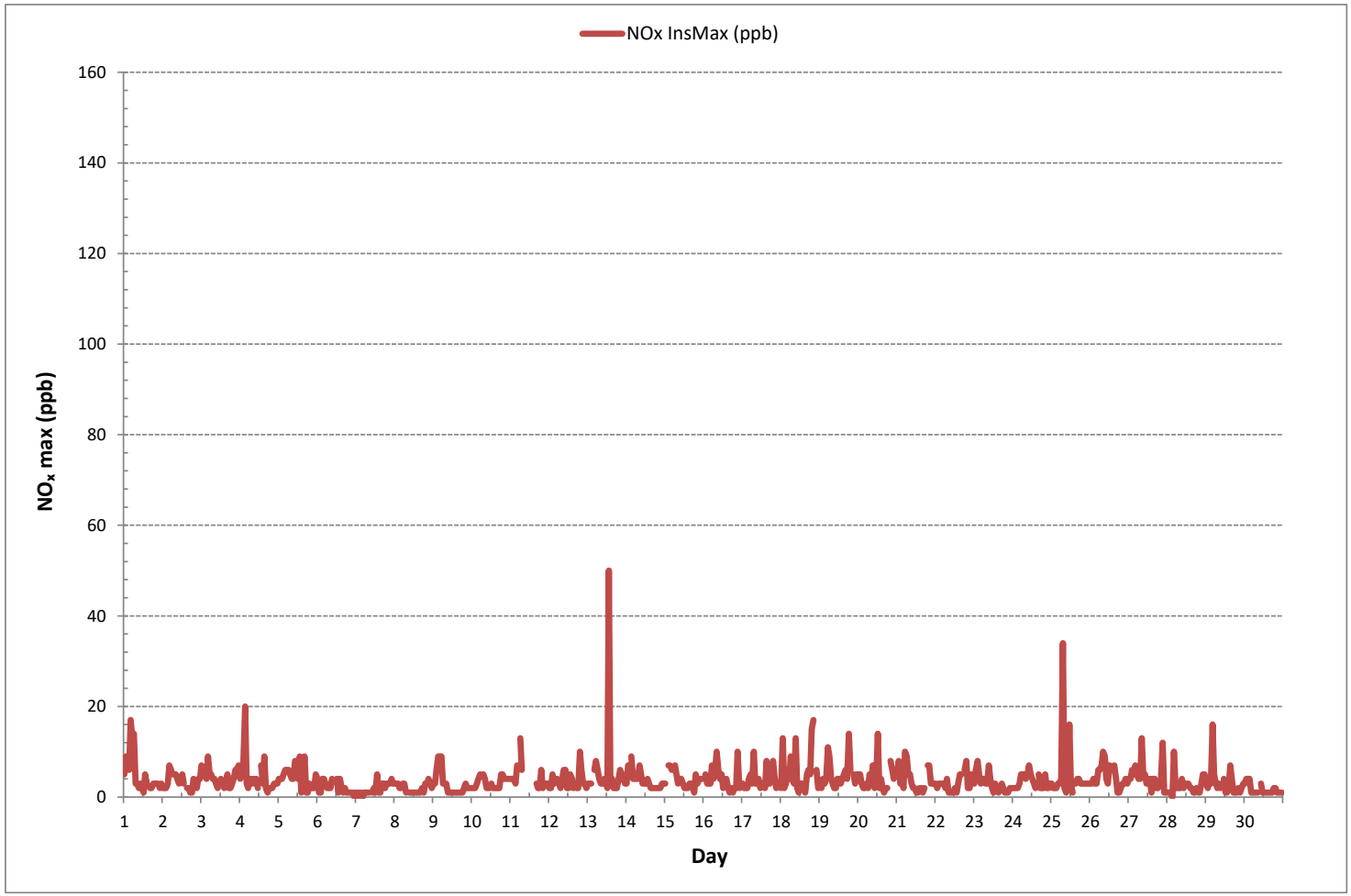
NUMBER OF NON-ZERO READINGS: 676

MAXIMUM INSTANTANEOUS VALUE: 50 ppb @ HOUR 13 ON DAY 13

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 8 hrs
STANDARD DEVIATION: 3

OPERATIONAL TIME: 719 hrs

OXIDES OF NITROGEN Instantaneous Maximum (NO_x ppb)



NITRIC OXIDE Instantaneous Maximum (NO ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	1	4	4	2	10	6	6	1	1	0	3	0	0	1	1	S	0	0	0	1	0	0	0	0	0	10	2	24
2	0	0	0	0	1	1	1	1	1	1	1	1	1	0	S	0	0	0	0	0	0	0	0	0	0	1	1	24
3	1	0	0	0	3	0	0	1	1	2	0	0	2	S	0	0	0	0	0	0	0	0	0	0	0	3	1	24
4	0	0	1	3	0	0	1	1	1	0	1	0	S	2	1	2	0	0	0	0	0	0	0	0	0	3	1	24
5	0	0	1	1	1	1	2	1	1	2	5	S	1	3	1	1	3	0	0	0	1	1	0	1	0	5	1	24
6	0	0	0	1	1	1	1	1	1	2	X	S	1	0	1	1	0	1	0	0	0	0	0	0	0	2	1	23
7	0	0	0	0	0	2	0	0	0	S	0	1	0	4	0	0	0	0	0	0	0	0	0	0	0	4	0	24
8	0	0	0	0	0	1	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	24
9	1	0	1	1	1	2	1	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	24
10	0	0	1	0	1	1	S	2	1	1	1	1	1	1	0	0	0	0	2	2	0	0	0	1	0	2	1	24
11	1	1	1	1	1	S	4	1	C	C	C	C	C	C	C	C	1	0	0	0	0	1	0	0	0	4	-	24
12	0	0	1	1	S	2	1	1	1	2	2	0	1	2	3	1	1	1	1	3	1	0	0	0	0	3	1	24
13	0	0	1	S	1	1	1	1	1	1	1	1	1	33	2	1	1	0	1	1	1	1	1	0	0	33	2	24
14	0	0	S	0	1	1	2	1	2	2	1	1	1	1	1	0	0	0	0	0	0	0	1	0	0	2	1	24
15	0	S	1	1	2	2	3	1	1	1	1	1	1	0	0	1	1	1	0	1	0	1	1	1	0	3	1	24
16	S	1	1	1	2	4	1	3	4	2	1	2	0	1	1	0	0	1	0	0	1	5	0	S	0	5	2	24
17	0	0	0	0	2	3	1	8	1	1	1	1	1	1	0	3	0	0	1	2	2	0	S	0	0	8	1	24
18	0	4	0	0	1	1	3	1	1	3	2	0	2	1	1	0	1	1	1	5	7	S	2	0	0	7	2	24
19	0	0	1	2	2	4	3	1	1	1	1	1	1	1	1	1	1	1	4	1	S	0	1	1	0	4	1	24
20	1	1	1	0	0	2	0	3	3	2	1	0	10	1	2	1	0	1	1	S	1	1	0	3	0	10	2	24
21	1	4	1	2	1	4	3	2	2	1	0	0	0	1	1	3	0	0	S	1	1	0	0	0	0	4	1	24
22	0	0	1	0	1	1	1	1	0	0	0	0	1	0	1	1	1	S	1	1	0	0	0	0	0	1	1	24
23	0	0	0	0	0	1	1	1	1	2	1	1	0	1	1	0	S	1	0	0	0	0	0	0	0	2	1	24
24	0	0	0	0	0	1	1	2	1	1	2	2	1	1	1	S	1	0	1	1	1	1	0	1	0	2	1	24
25	1	0	1	1	1	1	1	24	1	1	1	7	1	0	S	1	1	1	1	0	1	1	1	1	0	24	2	24
26	1	1	3	1	2	3	2	2	3	3	1	1	2	S	2	2	1	0	0	0	0	0	1	1	0	3	2	24
27	1	1	3	2	4	3	1	2	6	2	5	2	S	1	0	2	1	1	1	1	1	9	0	0	0	9	2	24
28	0	0	0	0	7	1	1	1	1	5	2	S	1	2	1	1	1	0	1	0	0	1	0	1	0	7	1	24
29	0	0	1	1	14	2	2	1	1	1	S	1	0	0	0	2	1	0	0	0	0	0	0	0	0	14	1	24
30	0	0	0	0	0	0	1	1	1	S	1	0	1	0	0	1	1	0	0	0	0	0	0	0	0	1	0	24
HOURLY MAX	1	4	4	3	14	6	6	24	6	5	5	7	10	33	3	3	3	1	4	5	7	9	2	3				
HOURLY AVG	0	1	1	1	2	2	2	2	1	1	1	1	1	2	1	1	1	0	1	1	1	1	0	0				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

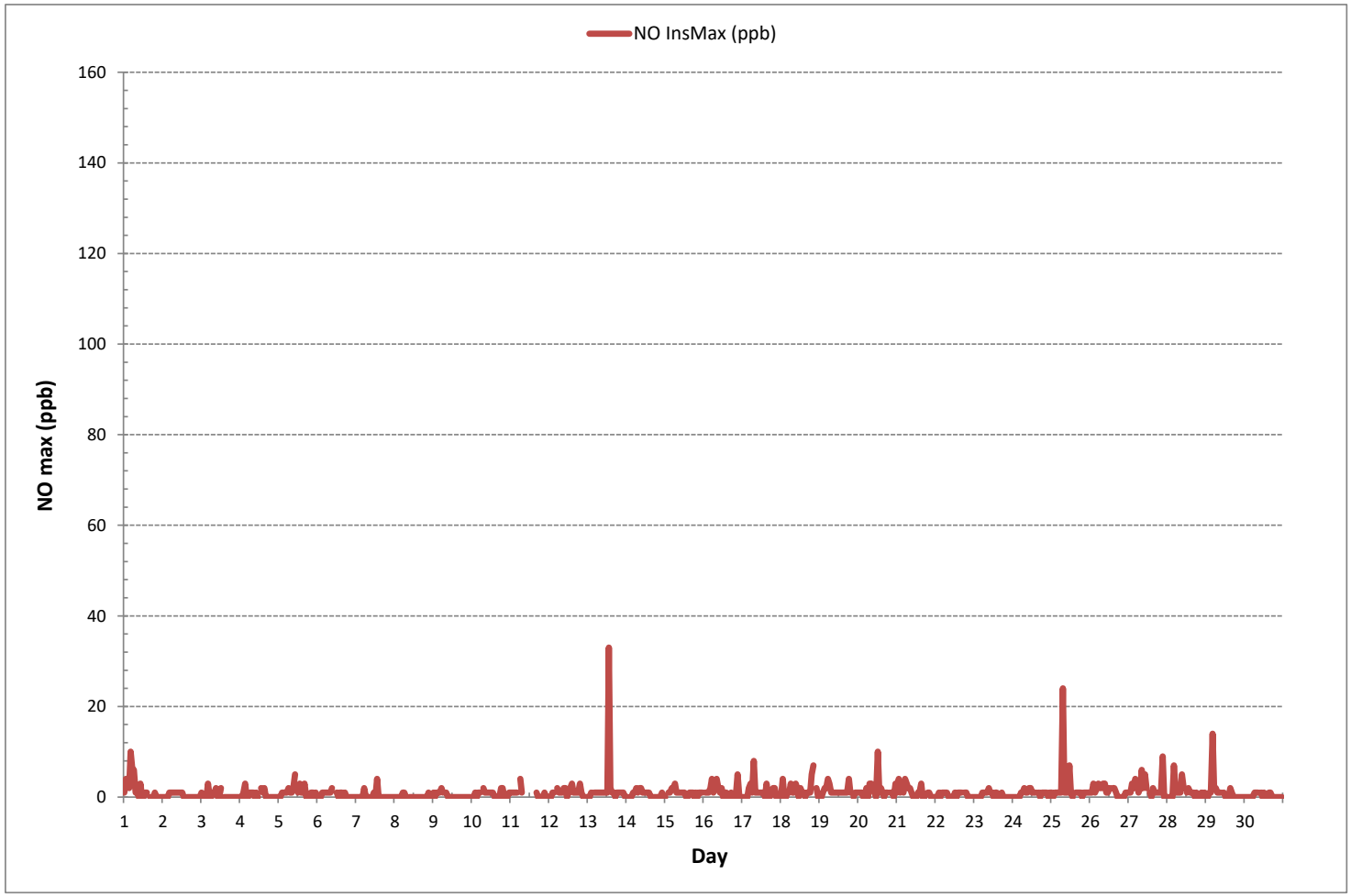
NUMBER OF NON-ZERO READINGS: 393

MAXIMUM INSTANTANEOUS VALUE: 33 ppb @ HOUR 13 ON DAY 13

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 8 hrs
STANDARD DEVIATION: 2

OPERATIONAL TIME: 719 hrs

NITRIC OXIDE Instantaneous Maximum (NO ppb)



NITROGEN DIOXIDE Instantaneous Maximum (NO_2 ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	5	5	6	5	7	7	8	3	2	2	2	2	1	4	3	S	2	2	3	2	3	2	2	3	1	8	3	24
2	2	2	2	3	5	5	4	4	4	3	3	3	4	3	S	2	2	1	1	4	3	2	3	4	1	5	3	24
3	7	5	4	4	6	4	5	4	4	2	2	2	3	S	2	3	5	2	2	3	4	6	6	7	2	7	4	24
4	4	4	7	17	3	2	3	2	3	2	3	1	S	6	2	7	1	1	2	2	2	3	3	3	1	17	4	24
5	4	4	4	4	5	5	4	4	3	2	4	S	3	5	1	2	6	1	1	3	2	2	2	5	1	6	3	24
6	3	1	1	3	3	2	2	1	2	2	X	S	4	1	3	1	1	1	1	1	1	1	1	0	0	4	2	23
7	0	0	0	0	0	1	1	1	1	S	1	1	1	1	1	1	3	3	2	3	3	3	4	3	0	4	1	24
8	3	3	3	2	2	2	2	1	S	1	1	1	1	1	1	1	1	1	1	2	3	4	3	2	1	4	2	24
9	2	3	6	8	9	8	2	S	2	1	1	1	1	1	1	1	1	1	1	2	3	2	2	2	1	9	3	24
10	2	2	2	3	4	4	S	4	2	2	2	2	2	2	2	2	2	2	3	3	3	3	4	3	2	4	3	24
11	3	3	3	3	5	S	8	4	C	C	C	C	C	C	C	C	3	2	1	6	2	2	3	3	1	8	-	24
12	2	1	4	3	S	3	2	1	3	4	4	2	1	3	2	2	2	2	1	7	6	2	3	2	1	7	3	24
13	3	3	2	S	5	7	6	3	3	2	3	3	2	21	3	4	1	1	1	3	5	5	4	3	1	21	4	24
14	3	7	S	9	4	3	3	3	4	3	2	2	3	3	2	1	2	1	1	2	2	2	2	2	1	9	3	24
15	2	S	7	6	4	4	4	3	2	3	3	2	2	1	2	2	3	1	1	4	2	3	3	3	1	7	3	24
16	S	4	2	2	2	3	3	4	6	4	3	3	2	2	3	2	1	2	1	2	1	5	2	S	1	6	3	24
17	3	2	2	2	2	2	2	4	2	2	3	2	3	2	2	5	2	2	4	6	2	2	S	3	2	6	3	24
18	2	9	2	3	5	3	6	3	2	11	1	1	2	2	1	1	4	5	5	10	12	S	4	2	1	12	4	24
19	2	1	3	2	3	6	5	3	2	1	1	3	3	2	3	4	5	3	10	5	S	5	3	4	1	10	3	24
20	4	4	2	2	2	2	2	3	2	4	2	2	5	1	2	1	1	1	2	S	7	5	4	4	1	7	3	24
21	4	5	2	3	1	6	6	3	3	2	2	1	1	1	1	2	1	2	S	6	6	3	2	3	1	6	3	24
22	2	2	2	3	3	3	1	3	1	1	1	1	1	1	2	3	4	S	5	7	2	2	5	4	1	7	3	24
23	3	5	8	4	2	3	3	2	2	5	3	2	1	2	1	1	S	3	2	1	1	1	1	2	1	8	3	24
24	2	2	1	2	2	4	4	3	3	4	4	4	3	1	1	S	4	2	1	1	4	2	2	2	1	4	3	24
25	2	2	2	1	2	2	3	10	1	1	2	9	1	1	S	3	3	3	3	3	3	3	2	2	1	10	3	24
26	2	1	2	1	1	3	3	5	7	6	3	2	5	S	5	5	3	1	1	2	3	3	3	2	1	7	3	24
27	4	3	3	4	3	3	3	2	7	3	2	1	S	3	1	2	3	2	2	2	3	4	1	1	1	7	3	24
28	1	0	1	0	4	1	1	2	1	2	1	S	2	2	1	1	1	1	1	1	1	2	5	4	0	5	2	24
29	2	2	3	2	4	3	2	2	2	1	S	3	1	1	1	5	4	1	1	1	2	1	2	3	1	5	2	24
30	3	3	4	4	1	1	1	1	1	S	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	1	24
HOURLY MAX	7	9	8	17	9	8	8	10	7	11	4	9	5	21	5	7	6	5	10	10	12	6	6	7				
HOURLY AVG	3	3	3	4	3	4	3	3	3	3	2	2	2	3	2	2	2	2	2	3	3	3	3	3				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 672

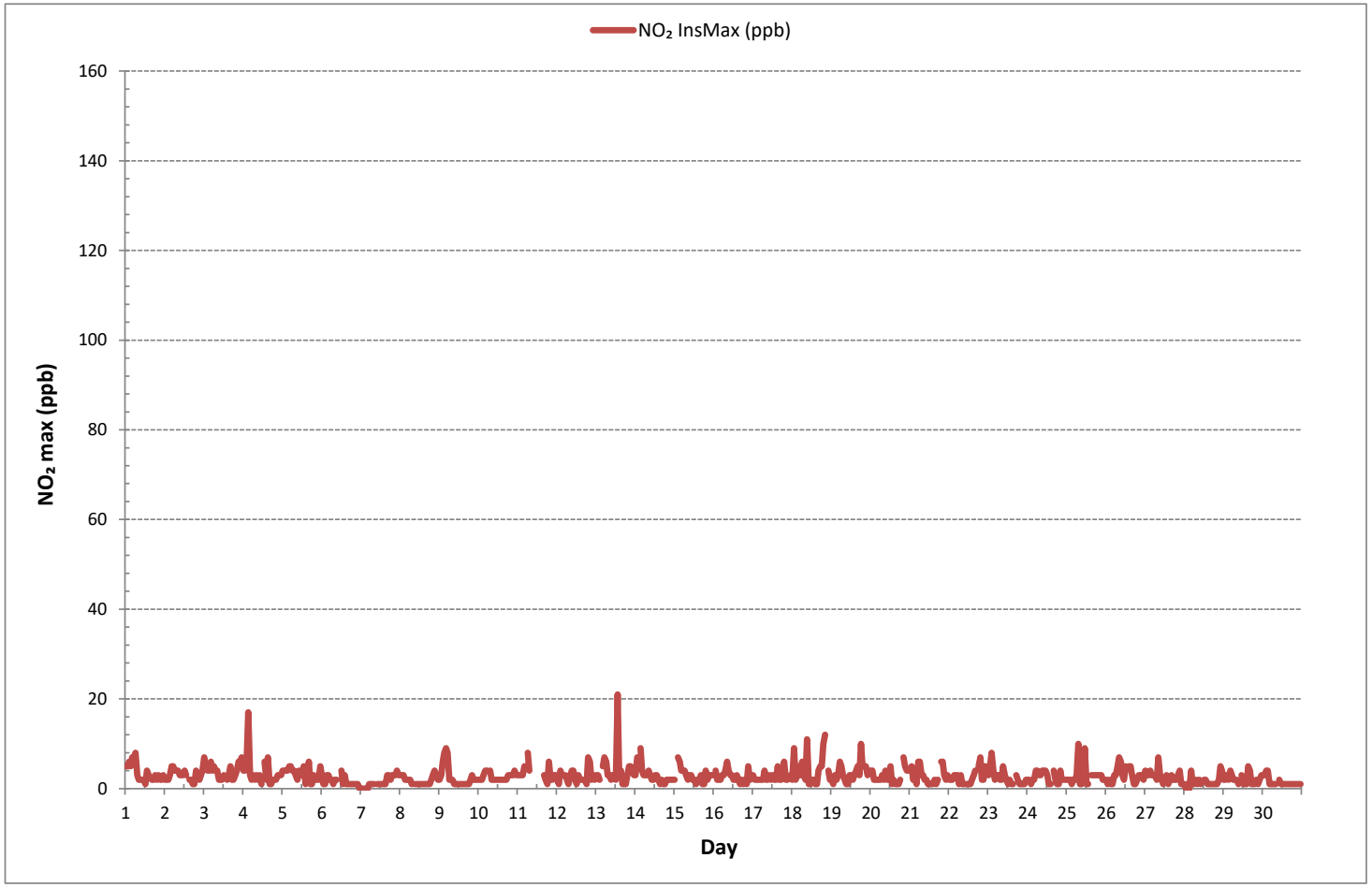
MAXIMUM INSTANTANEOUS VALUE: 21 ppb @ HOUR 13 ON DAY 13

VAR-VARIOUS

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 8 hrs
STANDARD DEVIATION: 2

OPERATIONAL TIME: 719 hrs

NITROGEN DIOXIDE Instantaneous Maximum (NO_2 ppb)



OZONE Instantaneous Maximum (O_3 ppb)

HR START (MST) / HR END (MST)	0:00 0:59	1:00 1:59	2:00 2:59	3:00 3:59	4:00 4:59	5:00 5:59	6:00 6:59	7:00 7:59	8:00 8:59	9:00 9:59	10:00 10:59	11:00 11:59	12:00 12:59	13:00 13:59	14:00 14:59	15:00 15:59	16:00 16:59	17:00 17:59	18:00 18:59	19:00 19:59	20:00 20:59	21:00 21:59	22:00 22:59	23:00 23:59	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
DAY																												
1	13.4	11.0	11.8	9.6	9.9	5.0	20.3	24.4	27.0	30.9	36.2	41.3	45.0	47.2	48.1	S	51.6	51.9	50.7	49.7	49.1	46.5	48.4	44.6	5.0	51.9	33.6	24
2	42.0	40.8	36.5	34.7	31.8	28.3	30.8	32.1	34.6	35.0	36.7	43.5	45.1	55.9	S	57.4	**58.9**	52.8	53.7	54.1	42.8	34.8	30.8	25.5	25.5	**58.9**	40.8	24
3	25.0	24.4	29.9	27.0	23.7	27.1	36.2	32.9	40.0	37.7	43.7	42.7	42.2	S	44.8	45.3	38.3	45.7	43.7	40.5	40.4	33.3	33.6	32.9	23.7	45.7	36.1	24
4	31.5	28.7	28.6	25.6	28.4	30.0	31.8	34.9	35.5	38.7	40.7	40.8	S	39.8	40.7	42.6	42.5	41.7	41.2	44.2	44.5	41.0	36.4	34.0	25.6	44.5	36.7	24
5	31.7	27.8	20.0	13.5	20.6	19.8	23.7	31.5	34.2	36.0	38.4	S	39.8	40.3	39.9	40.9	42.0	42.8	43.3	43.0	33.6	32.5	31.6	28.7	13.5	43.3	32.8	24
6	28.9	30.2	30.3	28.8	26.9	25.2	23.0	22.7	19.1	19.9	X	S	20.0	22.2	22.9	23.3	23.4	24.6	25.1	26.1	25.1	26.0	25.6	25.3	19.1	30.3	24.7	23
7	23.6	22.2	21.4	20.9	21.0	21.3	20.3	19.2	17.9	S	17.0	17.7	17.9	17.2	18.2	18.4	17.7	17.1	17.8	16.4	16.2	16.0	14.7	13.6	13.6	23.6	18.4	24
8	13.8	13.1	14.1	13.6	14.2	12.1	18.1	22.7	S	24.0	24.8	25.9	26.0	26.9	27.6	27.8	28.1	27.7	27.9	26.6	25.2	20.3	21.2	13.7	12.1	28.1	21.5	24
9	13.2	9.7	11.1	9.3	12.9	19.1	24.8	S	31.7	34.2	36.7	37.5	38.1	39.0	37.8	37.5	38.1	38.7	38.7	38.3	28.8	19.8	17.3	15.8	9.3	39.0	27.3	24
10	14.5	11.2	9.7	12.1	14.3	15.7	S	22.7	27.3	29.4	32.7	34.4	32.6	35.4	34.5	36.1	37.8	37.4	35.2	34.1	29.9	20.3	18.7	19.0	9.7	37.8	25.9	24
11	13.8	9.5	8.8	4.8	5.3	S	17.6	24.7	27.7	32.6	36.9	39.1	39.8	42.9	43.2	43.5	42.1	40.3	40.3	38.7	32.5	31.1	24.1	23.6	4.8	43.5	28.8	24
12	20.2	20.7	20.9	10.3	S	15.1	23.8	26.2	C	C	C	C	C	43.5	44.0	42.8	39.9	38.8	37.3	36.9	27.2	22.3	20.5	24.2	10.3	44.0	28.6	24
13	21.8	17.2	16.8	S	16.5	17.0	20.4	27.6	25.4	26.0	25.5	27.8	32.2	33.2	34.1	30.2	32.0	31.3	33.9	28.3	21.1	20.9	28.3	27.4	16.5	34.1	25.9	24
14	25.2	23.7	S	12.2	13.2	12.9	17.6	21.5	21.3	28.8	33.4	40.0	38.2	36.9	38.8	38.4	41.2	37.2	39.2	40.4	38.9	32.1	22.1	20.2	12.2	41.2	29.3	24
15	16.8	S	8.3	7.4	4.8	9.0	16.2	23.8	33.8	34.2	34.8	36.5	36.9	39.4	34.5	38.6	33.1	34.6	34.6	33.5	32.1	16.7	13.5	9.9	4.8	39.4	25.3	24
16	S	6.8	7.0	5.5	3.2	8.3	14.3	20.6	24.9	30.0	37.0	39.3	40.8	40.3	39.3	39.9	39.2	37.4	31.4	27.8	26.7	25.6	26.9	S	3.2	40.8	26.0	24
17	25.7	23.2	21.6	20.5	19.6	18.4	19.0	27.7	31.9	37.4	40.9	45.5	50.0	53.4	52.3	52.0	52.1	50.0	46.9	45.3	44.0	42.6	S	41.2	18.4	53.4	37.4	24
18	42.7	41.7	39.9	37.2	34.3	33.9	34.7	36.7	41.5	47.1	52.5	53.0	53.9	54.3	57.1	57.9	56.5	41.3	39.9	39.1	39.9	S	49.3	44.3	33.9	57.9	44.7	24
19	33.1	20.3	14.3	14.4	14.9	15.3	27.5	33.7	39.6	41.9	40.9	36.3	53.0	50.9	51.1	46.8	40.5	41.0	43.8	40.7	S	18.7	24.2	21.9	14.3	53.0	33.2	24
20	13.2	25.4	38.1	46.5	49.3	48.2	46.4	43.8	43.5	42.9	41.3	45.9	42.0	44.1	44.3	44.6	41.9	43.2	44.5	S	39.7	34.1	20.5	14.5	13.2	49.3	39.0	24
21	10.2	20.4	20.0	8.2	5.1	9.3	27.6	33.4	32.6	32.8	42.8	39.1	44.7	44.2	48.5	50.4	55.7	48.1	S	33.1	36.5	36.4	29.1	24.8	5.1	55.7	31.9	24
22	22.1	15.7	13.1	14.0	12.7	18.8	22.4	21.8	26.0	30.8	33.3	31.2	33.3	31.4	28.0	29.3	27.6	S	27.2	26.5	32.1	32.2	27.5	21.2	12.7	33.3	25.1	24
23	17.7	14.6	13.2	21.0	20.0	14.1	16.7	25.4	27.3	29.2	32.1	37.8	37.5	36.4	38.3	32.9	S	28.1	29.3	33.2	27.1	22.2	20.9	17.0	13.2	38.3	25.7	24
24	15.5	14.0	15.3	16.2	13.6	12.9	16.5	19.0	21.2	25.9	26.1	28.6	28.2	29.2	28.8	S	33.5	33.4	29.9	27.3	22.6	14.2	9.7	9.2	9.2	33.5	21.3	24
25	13.0	13.6	8.9	10.6	8.8	10.5	16.6	19.6	26.7	26.2	30.9	32.9	31.2	33.1	S	34.7	36.3	39.1	40.0	36.6	23.5	13.5	10.3	5.5	5.5	40.0	22.7	24
26	3.0	1.8	3.1	1.9	2.2	8.9	15.4	30.6	32.9	41.1	42.7	41.2	39.3	S	41.0	40.6	42.3	41.5	37.0	33.6	22.8	12.9	10.3	7.0	1.8	42.7	24.0	24
27	8.1	3.3	3.3	2.8	3.3	15.0	23.6	27.1	32.6	36.2	37.8	39.2	S	38.0	40.5	41.1	41.3	34.3	31.9	30.8	29.3	29.0	26.2	26.7	2.8	41.3	26.1	24
28	26.3	24.3	23.9	23.9	23.3	21.7	18.9	17.7	18.4	22.6	21.4	S	24.9	25.8	27.5	30.9	29.6	28.9	30.7	39.9	43.7	45.1	33.9	21.3	17.7	45.1	27.1	24
29	22.4	13.9	13.3	7.7	3.4	7.7	9.8	15.2	14.8	22.5	S	27.6	33.1	35.4	44.7	45.7	46.1	39.8	35.4	30.7	32.2	31.4	27.9	23.6	3.4	46.1	25.4	24
30	21.9	19.0	14.9	19.6	20.4	21.1	19.4	19.6	25.1	S	33.2	34.9	36.4	37.6	45.4	40.6	35.8	35.2	33.0	33.0	30.4	27.7	27.8	27.6	14.9	45.4	28.7	24
HOURLY MAX	42.7	41.7	39.9	46.5	49.3	48.2	46.4	43.8	43.5	47.1	52.5	53.0	53.9	55.9	57.1	57.9	58.9	52.8	53.7	54.1	49.1	46.5	49.3	44.6				
HOURLY AVG	21.0	18.9	17.9	16.5	16.5	18.0	22.5	26.2	29.1	32.4	35.2	36.9	37.1	38.4	39.1	39.7	39.5	38.1	36.7	35.5	32.3	27.6	25.2	22.9				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

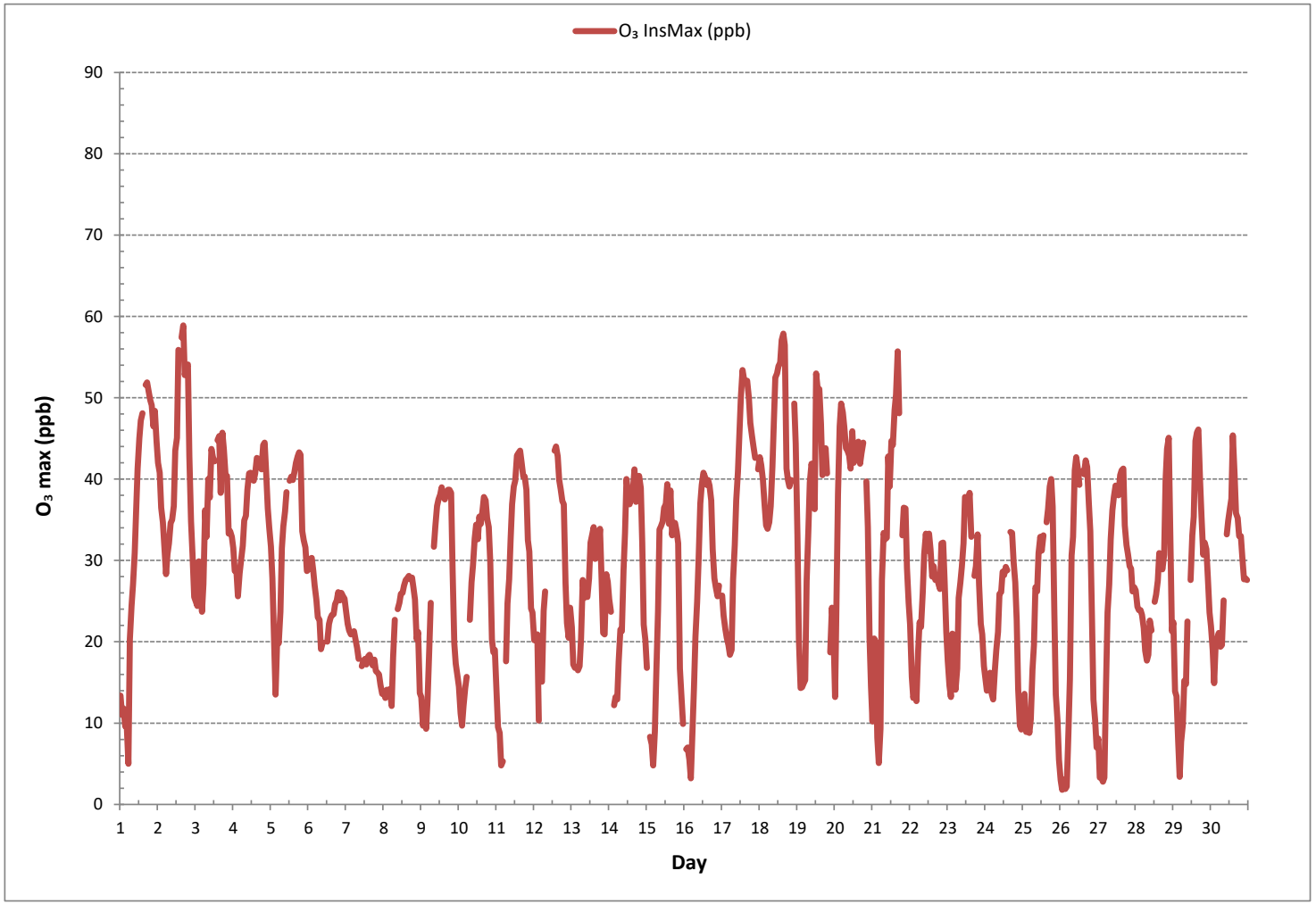
NUMBER OF NON-ZERO READINGS: 683

MAXIMUM INSTANTANEOUS VALUE: 58.9 ppb @ HOUR 16 ON DAY 2

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 5 hrs
STANDARD DEVIATION: 12.0

OPERATIONAL TIME: 719 hrs

OZONE Instantaneous Maximum (O_3 ppb)



WIND SPEED Instantaneous Maximum (WS kph)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	2.5	5.2	6.0	7.4	4.2	6.2	8.4	14.7	17.6	19.3	24.4	34.8	39.3	37.7	53.2	41.7	40.0	32.5	30.3	25.6	29.1	37.1	49.1	36.9	2.5	53.2	25.1	24
2	26.1	27.4	28.3	31.3	14.7	12.7	13.7	16.8	19.1	20.8	13.0	17.6	14.9	20.8	33.0	32.5	39.5	22.0	27.7	21.0	5.2	5.4	3.5	3.1	3.1	39.5	19.6	24
3	10.2	7.1	17.6	12.5	8.4	10.8	14.5	13.0	25.2	20.0	27.1	19.8	25.2	19.8	17.1	32.7	40.8	41.7	40.8	19.7	13.2	8.0	11.3	18.4	7.1	41.7	19.8	24
4	16.2	15.7	12.5	11.0	14.2	18.8	24.0	42.0	52.5	35.4	53.4	48.3	**68.6**	61.5	63.4	57.1	37.4	28.9	19.8	40.8	18.6	11.5	8.6	11.8	8.6	**68.6**	32.2	24
5	9.3	7.2	5.7	6.5	16.9	14.2	14.9	20.6	35.4	36.4	32.7	50.3	45.6	35.4	30.8	32.0	24.0	20.5	18.4	14.2	17.4	19.8	9.5	6.4	5.7	50.3	21.8	24
6	12.3	16.2	22.5	14.4	13.2	23.0	34.5	37.1	37.5	35.2	33.5	53.0	42.0	45.1	46.5	52.7	56.6	58.0	45.4	35.7	41.3	36.1	25.9	28.4	12.3	58.0	35.2	24
7	36.6	36.9	51.3	54.7	57.9	53.3	60.3	41.1	41.5	43.0	45.5	57.1	38.1	37.4	56.3	36.7	24.9	25.7	38.1	45.9	41.8	34.0	18.9	23.7	18.9	60.3	41.7	24
8	24.3	24.2	21.5	20.8	14.7	21.5	24.4	37.6	44.4	48.1	50.0	43.3	50.5	38.3	48.6	34.4	32.3	30.0	26.2	17.1	10.9	11.0	10.5	4.0	4.0	50.5	28.7	24
9	5.9	7.9	11.1	18.1	19.6	10.7	19.3	24.9	33.8	41.8	32.5	31.1	38.5	44.9	33.7	31.8	30.0	22.2	17.9	12.5	4.5	11.5	3.7	3.7	3.7	44.9	21.3	24
10	3.7	2.8	8.1	12.5	18.0	20.1	26.6	34.9	48.3	39.3	40.3	34.4	37.1	50.9	49.3	46.3	30.8	22.5	19.0	16.2	4.0	6.5	4.8	9.3	2.8	50.9	24.4	24
11	6.4	5.9	4.7	4.8	4.5	6.2	5.9	10.1	14.9	12.3	20.3	19.6	21.0	19.8	19.6	14.9	16.6	13.0	11.8	29.8	33.7	13.5	16.2	7.4	4.5	33.7	13.9	24
12	13.6	9.1	5.9	4.3	2.9	7.7	14.2	16.4	14.9	14.2	15.9	29.5	35.1	26.6	29.0	31.0	33.7	28.5	19.7	11.3	6.9	7.9	6.2	9.1	2.9	35.1	16.4	24
13	3.9	4.6	3.8	3.1	16.2	20.5	17.6	28.8	17.9	11.0	14.9	14.9	14.9	17.5	18.7	19.8	18.6	18.8	14.9	8.1	10.8	6.7	20.6	14.2	3.1	28.8	14.2	24
14	22.8	24.4	16.6	11.0	11.3	11.0	21.5	17.7	24.2	34.4	30.0	34.7	49.6	35.9	26.6	18.4	27.9	34.4	41.3	28.1	10.7	5.3	5.4	4.5	4.5	49.6	22.8	24
15	6.9	6.2	12.8	8.2	10.8	12.3	8.8	14.4	16.9	22.2	21.5	28.8	59.5	32.3	32.3	30.5	40.7	18.1	16.2	7.9	6.7	3.2	6.2	4.2	3.2	59.5	17.8	24
16	4.0	4.2	3.7	3.2	3.8	7.1	12.5	16.4	16.6	18.8	13.2	19.3	21.7	15.7	12.3	14.7	19.1	36.6	19.6	18.4	10.3	9.6	14.2	13.1	3.2	36.6	13.7	24
17	11.0	11.4	8.1	14.0	15.9	20.8	18.1	17.3	23.3	27.4	25.2	25.7	30.3	27.9	31.6	34.2	31.3	23.5	22.2	26.2	17.9	13.6	13.7	18.1	8.1	34.2	21.2	24
18	15.1	17.4	15.1	13.0	13.0	17.4	17.9	21.3	25.2	26.9	33.2	32.3	30.5	28.1	23.9	23.1	46.9	29.5	28.3	16.0	18.4	23.7	16.4	7.1	7.1	46.9	22.5	24
19	5.7	5.7	5.2	11.9	6.4	5.9	11.9	17.4	18.4	29.3	37.4	26.9	50.5	34.9	51.9	45.6	18.1	9.1	9.8	13.0	6.7	5.9	13.7	8.8	5.2	51.9	18.8	24
20	6.2	14.0	22.7	49.3	60.3	59.5	58.6	57.1	50.0	37.2	24.7	40.0	38.8	16.2	31.0	39.1	37.3	40.5	34.4	55.6	11.5	10.1	4.2	5.4	4.2	60.3	33.5	24
21	5.7	6.0	4.2	3.8	5.7	9.0	10.3	10.8	12.3	12.0	15.7	17.1	19.6	27.8	24.2	30.8	24.2	30.8	21.0	13.6	10.1	7.1	5.9	9.4	3.8	30.8	14.0	24
22	7.4	6.9	8.1	10.1	9.7	10.3	19.8	15.7	27.9	30.8	21.0	27.7	50.8	20.0	17.7	19.2	23.7	30.3	23.5	20.2	20.1	14.0	16.0	8.1	6.9	50.8	19.1	24
23	8.4	15.8	12.5	18.6	12.7	14.4	20.1	25.9	**X**	29.6	26.9	35.9	29.1	30.9	55.6	14.4	16.6	21.5	21.3	32.3	13.7	15.7	18.1	14.2	8.4	55.6	21.9	23
24	15.4	14.0	14.7	13.2	10.6	12.5	13.0	19.8	18.6	16.2	15.4	21.0	16.4	18.8	8.6	9.1	18.1	14.5	12.3	9.6	6.2	5.4	4.0	5.7	4.0	21.0	13.0	24
25	7.6	7.9	3.5	4.2	6.2	6.0	7.6	10.6	15.4	14.4	31.6	11.5	20.0	14.8	52.7	22.5	16.9	17.1	10.1	8.1	4.6	4.5	7.6	5.3	3.5	52.7	13.0	24
26	3.5	3.5	5.4	3.0	9.8	5.2	8.4	8.4	19.8	15.7	18.1	23.0	14.7	7.9	19.1	9.6	16.4	28.1	16.4	9.8	3.0	10.6	5.4	4.0	3.0	28.1	11.2	24
27	5.9	6.9	9.6	4.2	3.7	6.9	8.6	10.8	14.7	15.2	22.0	18.1	19.7	23.2	19.8	31.5	35.7	24.9	24.7	19.3	17.4	16.7	17.6	34.4	3.7	35.7	17.1	24
28	24.6	34.5	40.9	33.5	36.4	35.9	22.0	42.0	30.8	48.0	50.3	39.3	40.0	39.8	47.1	37.4	46.1	47.6	37.8	29.7	31.0	34.0	21.5	10.8	10.8	50.3	35.9	24
29	9.6	27.8	8.6	5.2	3.6	6.7	8.9	7.9	13.1	15.9	16.2	11.5	24.3	28.1	**X**	50.5	24.7	15.9	22.7	17.9	15.7	15.3	12.3	15.2	3.6	50.5	16.4	23
30	13.7	18.7	12.3	17.2	14.7	21.7	21.0	34.9	34.2	39.3	55.4	42.2	51.2	66.1	46.1	51.5	44.2	41.3	30.9	27.6	21.5	19.3	18.6	19.3	12.3	66.1	31.8	24
HOURLY MAX	36.6	36.9	51.3	54.7	60.3	59.5	60.3	57.1	52.5	48.1	55.4	57.1	68.6	66.1	63.4	57.1	56.6	58.0	45.4	55.6	41.8	37.1	49.1	36.9				

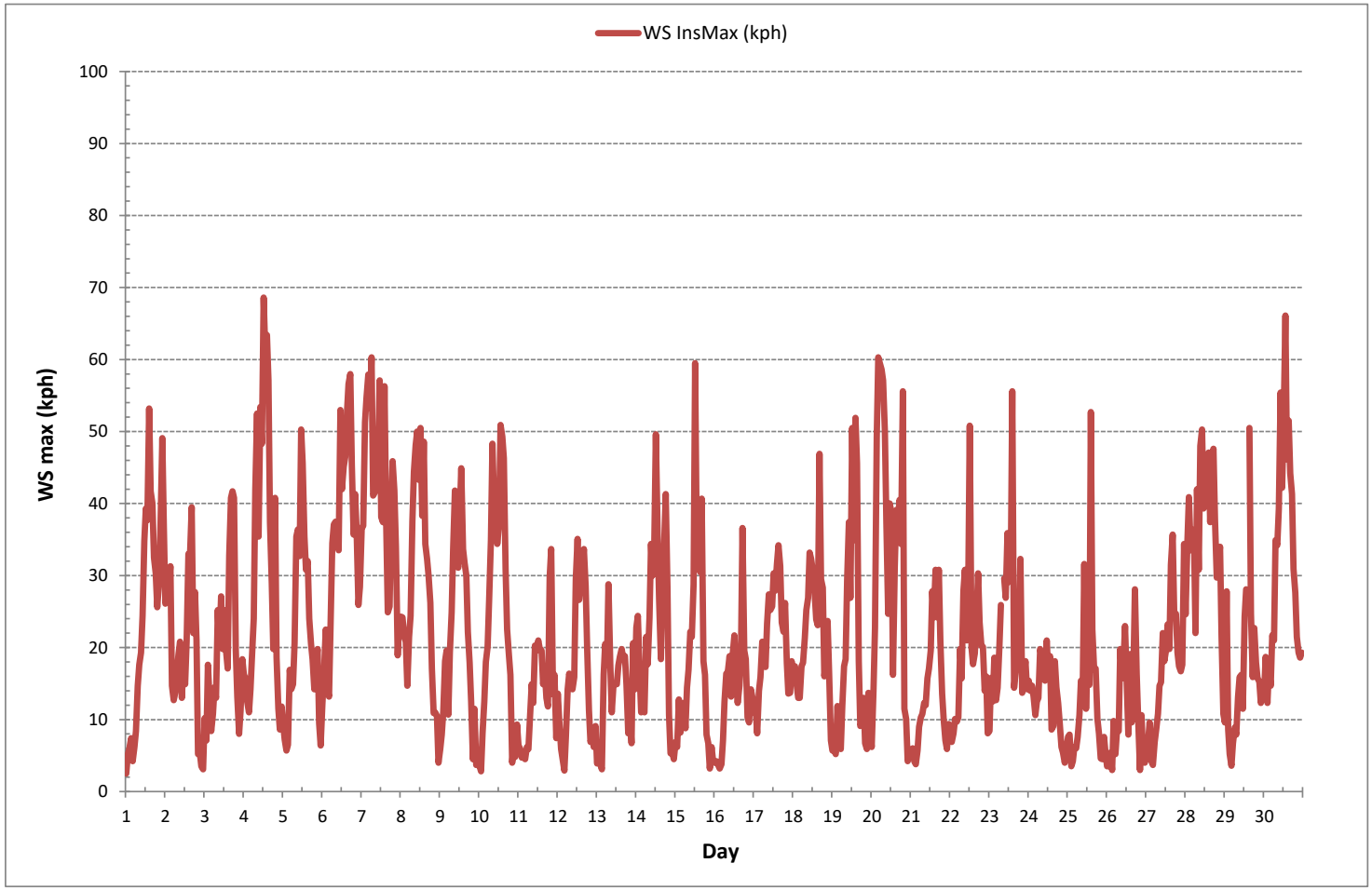
STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS VALUE:	68.6	kph	@ HOUR	12	ON DAY	4
OPERATIONAL TIME:						718 hrs

WIND SPEED Instantaneous Maximum (WS kph)



1.0 Quality Control Activities

Quality control procedures are established to govern the performance of the monitoring equipment and to protect operational uptime. Data collected during QC/QA activities are assigned a data validation code to comply with the requirements outlined in Chapter 6, 4.1.1, DQ 4-A (AMD, 2016). Calibrations are deemed successful only if the AMD calibration acceptance limits are met (Chapter 7, 9.0, AMD 2016).

A daily zero-span test procedure is performed for each gaseous parameter by challenging the analyzer with a zero-air source and span gas. Daily review of the data ensures the zero and span check are within the required acceptance limits and do not deviate more than ±10% from the expected value. The total zero-span cycle is complete within an hour with the zero phase commencing at the beginning of the scheduled hour. This QC activity is conducted in accordance with Chapter 7, 4.0, Cal 4-A (AMD, 2016).

The allowable time for a zero-span check is one hour per calendar day. The time allotted for the zero-span check does not contribute to downtime and is identified with a data validation code of "S". If any additional zero-span response checks are performed, the time accrued during the QC activity is considered downtime and is identified with a data validation code of "S1". The initiation of an additional zero-span check may be warranted during the investigation of operational issues or suspect data.

Each month, a scheduled multipoint calibration is performed on each gas analyzer. Prior to any adjustments, an as-found response test is completed to obtain the zero reading of the analyzer and the response to the highest span concentration. The zero and high point test gases are then re-introduced into the analyzer to establish the zero and high set-points. Once these adjustments are satisfactory, a mid-point and a low-point test concentration is introduced. Additional multi-point calibrations are required if any of the conditions, outlined in Chapter 7, 2.1, Cal 2G (AMD, 2016) exist.

The time allotted for the first multi-point calibration is not considered downtime and is identified with a data validation code of "C". If any additional as-found response checks or multipoint calibrations are performed, the time accrued during the QC activity is considered downtime and is identified with a data validation code of "C1".

A mechanical wind system undergoes annual calibration, as a minimum, while an ultrasonic wind system is factory calibrated every two years (Chapter 6, 6.0, Cal 6-A, AMD 2016). Supplementary to this, a visual inspection of the equipment is performed during each scheduled monthly site visit.

The time allotted for the wind system calibration is not considered downtime and is identified with a data validation code of "C". If function checks or additional calibrations are performed, the time accrued during the QC activity is not considered downtime and is identified with a data validation code of "Q" and "C", respectively. If QC activity goes beyond 10% of the monthly operating time, the time exceeding 10% is considered downtime and is assigned a data validation code of "C1". Data identified with a data validation code of "Q" is in accordance with Chapter 6, 4.1.3 (AMD, 2016) which states QA/QC activities are not included when calculating data completeness.

High volume samplers are calibrated every three months, as a minimum, in accordance with Chapter 7, 7.0, Cal 7-B (AMD, 2016).

Where passive sampling is in practice, quality control samples will be deployed in accordance with Chapter 4, 3.0, 3.1.3. Method blanks, replicate samples and spiked blanks are exposed and handled in the same manner as each passive sample. To comply with the data submission requirements in Chapter 9, 3.1, the replicate and corresponding passive sample concentrations are reportable data values and have not been averaged.

As recommended in Chapter 6, 4.2 (AMD 2016), daily data review is conducted to verify data and avoid significant data losses. Automated flags, originating from the data-logger, and data anomalies are reviewed and may prompt the need to dispatch a technician for investigation and/or corrective action. Additionally, there are several automated alarm scenarios that serve to screen raw data, alert technicians and elicit investigation or corrective action.

Comparisons of the measured ambient concentrations to the corresponding AAAQO are assessed using the significant figures protocol in Chapter 9, 3.1.2. If the measurement is near the set objective, raw data may undergo necessary data adjustments to confirm a true exceedance. Should an exceedance occur, Bureau Veritas will formally notify the client; however, the reporting protocol to AEP is defined by the client and may not involve Bureau Veritas. Exceedance events are acknowledged in the report, based on the information available at the time.

2.0 Data Verification and Validation

The data validation procedures, outlined in Chapter 6, 4.0, AMD 2016, are used to accept, reject and qualify data. The data verification and validation process, and the current Data Collection and Management Process Flow Chart have been compiled from sections 4.2 to 4.6 (AMD, 2016) and are shown below.

Baseline adjustments are applied by interpolation between two valid zero checks, as determined by the Data Acquisition System. In the event that zero check results are not reliable, data may be adjusted by applying a constant offset to data collected between two adjacent zero checks. Both adjustment approaches are deemed acceptable by the AMD.

Table 1 (Chapter 6) outlines the quantitative parameter relationships to be considered and dictates that data adjustments are applied equally for NO/NO_2/NOx and CH_4/NMHC/THC parameters. Below zero adjustments are applied to 1-hour averages, in accordance with Table 2 (Chapter 6), and are done after baseline corrections.

Instantaneous data, where provided, is provided for reference purposes and has not undergone zero correction. The minimum and maximum statistics are highlighted in the data table and are for reference only. The highlighted cells are based on the software's interpretation of the exact position of the minimum or maximum value. The visual presentation of these statistics may not be the obvious choice in a data range due to rounding, truncating or analyzer specifications.

All calculations and reporting of results follow the methods described in the AMD, 2016.

There were no deviations from the prescribed methods.

AMD Data Verification and Validation Process

The following steps were used to complete the data verification and validation process:

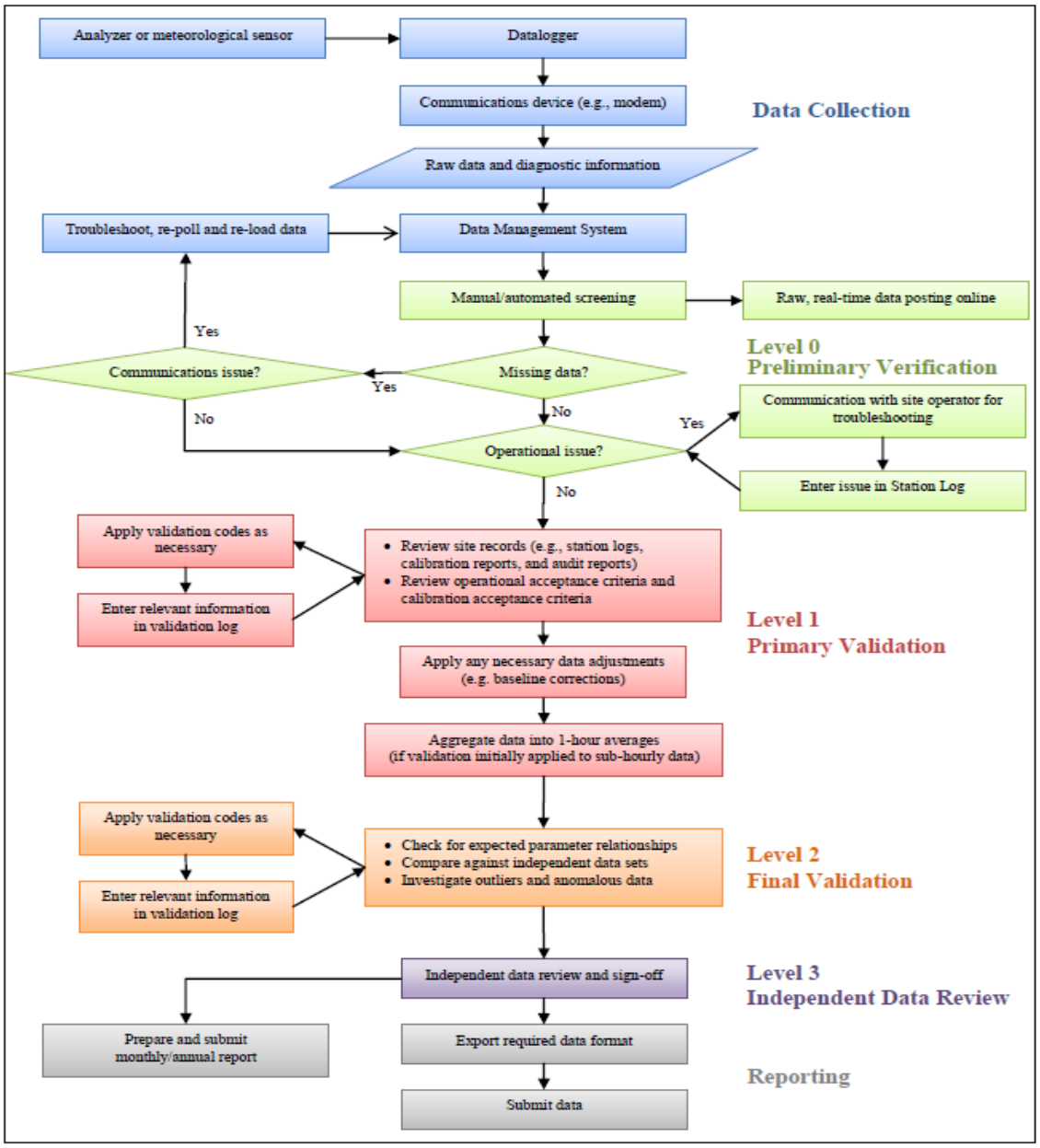
Level 0 Preliminary Verification	Level 0 data are raw data obtained directly from the data acquisition system (DAS). At this level, data undergoes a certain amount of manual or automated screening and flagging. Screening checks include: a) identification of periods of missing data; b) verification of time stamps against reference time; c) verification that instrument diagnostics/data-logger flags indicate normal operation; d) comparison of data to upper and lower limits; e) rate of change flagging indicating that data changed too rapidly or not at all; and f) verification that zero, span and multipoint performance checks are within specifications. This level of verification is performed on a daily basis.

Level 1 Primary Validation	Primary validation involves more thorough evaluation and documentation of issues identified during data screening, along with appropriate application of data validation codes. Level 1 activities include: a) review of all screening flags assigned during preliminary verification; b) review of all supporting site information and documentation; c) review of operational acceptance limits for each parameter/analyzer; d) review of daily zero/span and monthly calibration results for all gaseous parameters; and e) application of any necessary adjustments to data (e.g. baseline adjustments, below zero adjustments). This level of validation is performed on a monthly basis.

Level 2 Final Validation	The purpose of Level 2 validation is to verify that there are no inconsistencies among related data, or among regional data measured at nearby sites. At this level of review, some general knowledge of pollutant and meteorological behavior can be used to determine if data is suspect.

Level 3 Independent Data Review	Level 3 validation involves a final cursory review of validated data, and is completed by an individual independent of both field operations and primary data validation. At this level, a final independent QA review/endorsement is performed before data is submitted to Alberta Environment and Parks.

Post-Final Validation	The Post-Final Validation step serves to re-evaluate validated data for errors or omissions discovered and/or suspected after the initial monthly data submittal. This level of validation is performed on an annual basis, when annual reporting is required or requested.



Source: Air Monitoring Directive (December 2016), Chapter 6, Ambient Data Quality

Figure 1 Data Collection and Management Process Flow Chart

Validation Certificate Form

Client:	Lakeland Industry & Community Association	**Project #:**	2833-2019-06-23-C
Site:	Cold Lake South Continuous Monitoring Station	**Contact:**	Mike Bisaga

Level 0 Preliminary Verification	bimadeniji	**Date**	26-Jul-2019
Level 1 Primary Validation	bimadeniji	**Date**	26-Jul-2019
Level 2 Final Validation	bimadeniji	**Date**	29-Jul-2019
Level 3 Independent Data Review		**Date**	30-Jul-2019
Post-Final Validation	**NA**	**Date**	**NA**

Notes
The Post-Final Validation step serves to re-evaluate the data that errors or omissions are discovered and/or suspected after the initial submittal of data. This validation is performed on an annual basis.

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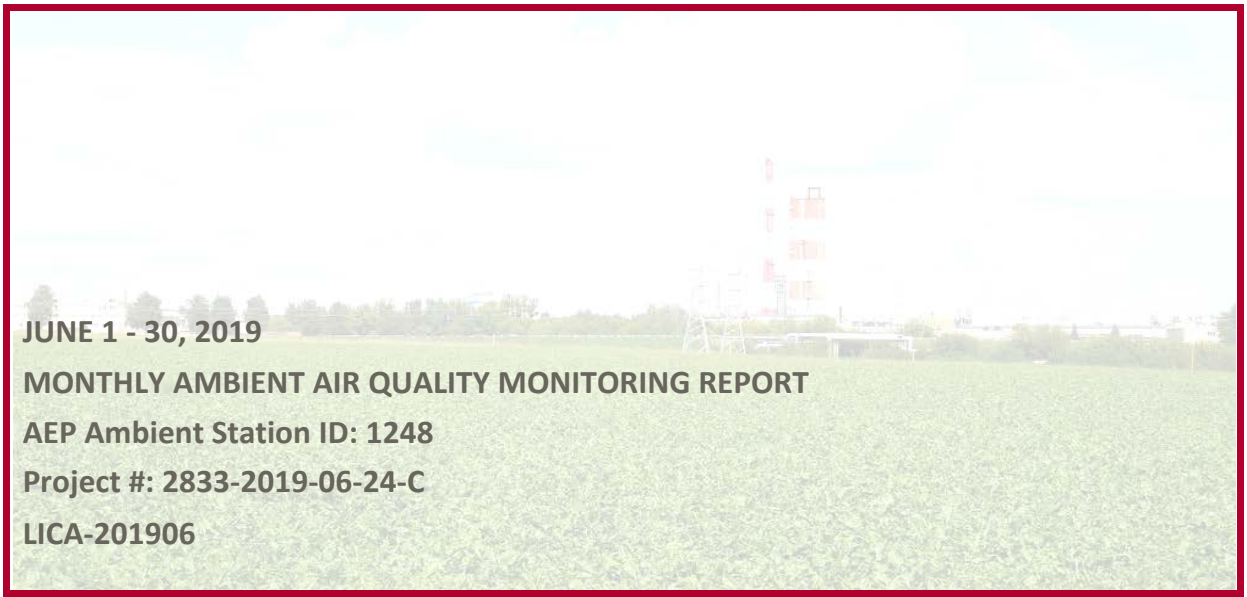

JUNE 1 - 30, 2019
MONTHLY AMBIENT AIR QUALITY MONITORING REPORT
AEP Ambient Station ID: 1248
Project #: 2833-2019-06-24-C
LICA-201906

Prepared for:

Lakeland Industry & Community Association

Mike Bisaga

5107 50 St.

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Monitoring Station

Maskwa Continuous Monitoring Station

Date of Report Issuance: July 24, 2019

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BUREAU VERITAS

#1 - 2080 39 Avenue NE, Calgary AB, T2E 6P7

Lakeland Industry & Community Association

5107 50 St.

Bonnyville, Alberta T9N 2J7

Attention: Mike Bisaga

Date: July 24, 2019

Subject: MONTHLY AMBIENT AIR QUALITY MONITORING REPORT for JUNE 1 - 30, 2019

In June 2019, Bureau Veritas was contracted to manage the ambient air quality monitoring and maintenance activities at the Maskwa Continuous Monitoring Station near Cold Lake, Alberta. The monitoring program provides measurements of ambient air pollutants and meteorological data to satisfy the reporting requirements of the Alberta airshed.

Network Parameters for Continuous Monitoring:

This monthly report, where applicable, was prepared in accordance with Chapter 9 of the Air Monitoring Directive (AMD, 2016). The report summarizes the continuous monitoring results for pollutant and meteorological parameters and presents the hourly statistics, graphs and rose charts for the month. Calibration records are provided in a separate PDF document in order to comply with AMD requirements Chapter 9, 13.1.7, RC 13-R. The station is equipped with analyzers to measure SO_2, H_2S, THC, CH_4, NMHC, NOx, NO and NO_2. The meteorological sensors and equipment capture data for WS, WD, RH, BP, PRECIP, AmbTPX and STDWD.

Exceedance & Performance Reporting:

The operational time for all continuous ambient air analyzers, meteorological systems and data acquisition systems were above the 90% requirement, as per the AMD, Chapter 6, DQ 4-C, 2016.

All measured ambient air concentrations were below the Alberta Ambient Air Quality Objectives and Guidelines (AAAQO, January 2019). Comparisons of these concentrations to the corresponding AAAQOs were done in accordance with Chapter 9, 15.3.2, RC 15-P. Accordingly, the averaging specifications and data completeness criteria, as defined in the Alberta Ambient Air Quality Objective Calculation Guidelines, were applied (Chapter 9, Appendix A, AMD 2016).

Specific to the content and purpose of this report, there were no instances where the requirements of the AMD (2016) were contravened.

Monthly Monitoring Overview:

In relation to the previous month, there were no changes made to the scope or management of the ambient air monitoring program.

The evaluation of data collected in the month of June did not reveal any errors or omissions that would require resubmission of air data to AEP's airdata warehouse.

During this monitoring period, there were no scheduled audits that Bureau Veritas was privy to.

Should you have any questions concerning the results or if we can be of further assistance, please contact your Bureau Veritas representative indicated below.

Reviewed by:

Wunmi Adekanmbi, M.Sc., EPt, PMP

Project Team Lead, Customer Service, Air Services

403-219-3661

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. Certification of submitted information is specific to the contents of this report and is not intended to represent the onus of the Person Responsible, as outlined in Chapter 9, RC 12-E.

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List of Acronyms

AAAQO	Alberta Ambient Air Quality Objectives and Guidelines Summary
AEP	Alberta Environment and Parks
AMBTPX	Ambient Temperature
AMD	Air Monitoring Directive
BP	Barometric Pressure
CH_4	Methane
DAS	Data acquisition system
hr	Hour
hrs	Hours
H_2S	Hydrogen Sulphide
IZS	Internal zero-span
kph	Kilometers per hour
NO	Nitric Oxide
NO_2	Nitrogen dioxide
NOx	Total oxides of nitrogen
NMHC	Non-Methane Hydrocarbon
Precip	Precipitation
ppb	Parts per billion
ppm	Parts per million
QA	Quality Assurance
QC	Quality Control
RH	Relative Humidity
SOP	Standard Operating Procedure
SO_2	Sulphur Dioxide
STDWD	Standard Deviation Wind Direction
THC	Total hydrocarbons
WS	Wind Speed
WD	Wind Direction
°C	Degrees Celsius

AAAQO Exceedance Summary Report

SO_2 1-Hour Exceedances
Measured concentrations of sulphur dioxide were below the 1-hour AAAQO of 172 ppb.

SO_2 24-Hour Exceedances
Measured concentrations of sulphur dioxide were below the 24-hour AAAQO of 48.0 ppb.

H_2S 1-Hour Exceedances
Measured concentrations of hydrogen sulphide were below the 1-hour AAAQO of 10 ppb.

H_2S 24-Hour Exceedances
Measured concentrations of hydrogen sulphide were below the 24-hour AAAQO of 3 ppb.

NO_2 1-Hour Exceedances
Measured concentrations of nitrogen dioxide were below the 1-hour AAAQO of 159 ppb.

In accordance with EPEA and the Substance Release Regulation
In accordance with A Guide to Release Reporting and the Alberta Ambient Air Quality Objectives and Guidelines Summary

MONTHLY CONTINUOUS DATA SUMMARY

Lakeland Industry & Community Association Maskwa Continuous Monitoring Station						MAXIMUM VALUES							OPERATIONAL TIME (%)
						1-HOUR					24-HOUR		
PARAMETER	OBJECTIVES		EXCEEDANCES		MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (kph)	WIND DIRECTION (sector)	READING	DAY	
	1-hr	24-hr	1-hr	24-hr									
SO_2 (ppb)	172	48	0	0	1	22	30	2	5.6	NW	3	8	100.0
H_2S (ppb)	10	3	0	0	0	3	1	20	4.8	ESE	1	1	100.0
THC (ppm)	-	-	-	-	2.04	2.66	3	2	2.2	NE	2.13	17	100.0
CH_4 (ppm)	-	-	-	-	2.04	2.38	3	2	2.2	NE	2.13	17	100.0
NMHC (ppm)	-	-	-	-	0.00	0.28	3	2	2.2	NE	0.02	3	100.0
NO_2 (ppb)	159	-	0	-	3	20	30	2	5.6	NW	6	23	100.0
NO (ppb)	-	-	-	-	1	25	30	2	5.6	NW	4	8	100.0
NOx (ppb)	-	-	-	-	3	45	30	2	5.6	NW	9	8	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	78	100	1	1	0.7	ENE	97	19	100.0
BAROMETRIC PRESSURE (millibar)	-	-	-	-	935	945	11	9	2.8	N	944	11	100.0
AMBIENT TEMPERATURE (°C)	-	-	-	-	13.6	25.1	12	17	4.8	SW	17.6	12	100.0
PRECIPITATION (mm)	-	-	-	-	140.3	8.2	22	12	2.4	ENE	52.4	7	100.0
VECTOR WS (kph)	-	-	-	-	0.8	16.0	6	13	-	NNE	9.8	6	100.0
VECTOR WD (sec)	-	-	-	-	346 (NNW)	-	-	-	-	-	-	-	100.0

** Precipitation: data represents the total (sum) for the indicated time frame*

OPERATIONAL SUMMARY

Parameter	Equipment	Method & Procedure	Operational Notes
SULPHUR DIOXIDE (SO_2)	**Thermo 43i TLE Pulsed Fluorescence Analyzer**	**Bureau Veritas AIR SOP-00209: Ambient Sulphur Monitoring**	• Operational time was 100% and there were no performance issues identified. • The routine monthly calibration was performed on June 14, between the hours of 10:00 and 13:00.
HYDROGEN SULPHIDE (H_2S)	**Thermo 450i UV Fluorescence Analyzer**	**Bureau Veritas SOP-00209: Ambient Sulphur Monitoring**	• Operational time was 100% and there were no performance issues identified. • The routine monthly calibration was performed on June 14, between the hours of 10:00 and 14:00.
TOTAL HYDROCARBONS (THC)	**Thermo 55i FID Analyzer**	**Bureau Veritas AIR SOP-00214: Ambient Hydrocarbon (THC) Monitoring**	• Operational time was 100% and there were no performance issues identified. • The routine monthly calibration was performed on June 14, between the hours of 14:00 and 17:00.
OXIDES OF NITROGEN (NOx), NITRIC OXIDE (NO) & NITROGEN DIOXIDE (NO_2)	**Thermo 42i Chemiluminescent Analyzer**	**Bureau Veritas AIR SOP-00213: Ambient NO/NO_2/NOx Monitoring**	• Operational time was 100% and there were no performance issues identified. • The routine monthly calibration was performed on June 14, between the hours of 10:00 and 15:00.
WIND SPEED (WS), WIND DIRECTION (WD) & STANDARD DEVIATION WIND DIRECTION (STDWD)	**RM Young Unit**	**Bureau Veritas AIR SOP-00013: RM Young Wind Monitor Calibration**	• Operational time was 100% and there were no performance issues identified. • Wind data is reported as vector wind speed and vector wind direction. Wind direction is defined as the direction from which the wind is blowing from and is measured in degrees from true north.
RELATIVE HUMIDITY (RH)	**Rotronic Hygroclip Unit**	**Operations Manual**	• Operational time was 100% and there were no performance issues identified.
BAROMETRIC PRESSURE (BP)	**Met One Unit**	**Operations Manual**	• Operational time was 100% and there were no performance issues identified.
PRECIPITATION (PRECIP)	**Met One Unit**	**Bureau Veritas AIR SOP-00242: Precipitation Collector Installation/Maintenance**	• Operational time was 100% and there were no performance issues identified.
AMBIENT TEMPERATURE (AmbTPX)	**Rotronic Hygroclip Unit**	**Operations Manual**	• Operational time was 100% and there were no performance issues identified.
Datalogger	**Envidas Ultimate Unit**	**Operations Manual**	• There were no performance issues identified.

SUMMARY TABLES, GRAPHS AND ROSES

SULPHUR DIOXIDE Hourly Averages (SO_2 ppb)

HR START (MST) / HR END (MST)	0:00 0:59	1:00 1:59	2:00 2:59	3:00 3:59	4:00 4:59	5:00 5:59	6:00 6:59	7:00 7:59	8:00 8:59	9:00 9:59	10:00 10:59	11:00 11:59	12:00 12:59	13:00 13:59	14:00 14:59	15:00 15:59	16:00 16:59	17:00 17:59	18:00 18:59	19:00 19:59	20:00 20:59	21:00 21:59	22:00 22:59	23:00 23:59	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
DAY																												
1	**0**	0	0	0	0	0	0	0	1	1	1	3	**S**	2	0	1	1	0	0	1	3	0	1	1	**0**	3	1	24
2	2	0	2	3	0	0	0	1	1	1	1	**S**	1	0	0	0	1	1	3	1	1	0	0	0	0	3	1	24
3	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	2	6	2	3	2	0	0	0	0	6	1	24
4	0	0	0	0	0	1	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	2	1	2	1	0	2	0	24
5	0	0	0	0	0	0	1	2	**S**	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	0	24
6	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	24
7	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	9	0	9	1	24
8	12	10	8	6	2	**S**	3	4	5	3	1	1	2	4	2	4	4	3	3	0	0	0	0	0	0	12	**3**	24
9	1	0	0	0	**S**	1	3	3	4	2	1	1	0	1	5	4	3	1	1	1	0	0	0	0	0	5	1	24
10	0	0	1	**S**	1	2	1	0	0	0	2	1	0	4	7	2	0	2	0	2	3	2	1	0	0	7	2	24
11	0	0	**S**	0	0	0	0	0	0	0	3	2	1	1	1	0	0	0	0	0	5	1	0	0	0	5	1	24
12	0	**S**	0	0	0	0	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
13	**S**	0	0	0	0	0	0	0	0	1	0	1	2	1	0	0	2	0	0	0	0	0	0	**S**	0	2	0	24
14	0	0	0	1	0	2	5	3	4	6	**C**	**C**	**C**	**C**	0	1	2	3	0	0	0	0	**S**	1	0	6	2	24
15	3	2	3	2	9	1	2	2	3	3	2	4	1	1	4	2	0	0	0	0	0	**S**	0	0	0	9	2	24
16	0	0	0	0	0	0	0	4	5	4	1	1	1	1	1	1	0	0	0	1	**S**	1	0	1	0	5	1	24
17	1	1	0	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	**S**	0	1	2	3	0	3	1	24
18	3	3	2	2	3	2	2	2	1	1	0	0	0	0	0	0	2	7	**S**	0	0	0	0	0	0	7	1	24
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	**S**	0	0	0	0	0	0	0	1	0	24
20	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	**S**	0	0	0	0	0	0	0	0	1	0	24
21	0	0	0	0	0	0	0	0	0	0	0	0	2	0	4	**S**	14	9	2	5	0	2	1	1	0	14	2	24
22	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	2	3	2	1	0	0	0	0	0	0	3	1	24
23	0	0	1	0	1	1	1	2	2	1	2	3	1	**S**	1	3	2	1	3	2	6	4	2	4	0	6	2	24
24	2	2	3	1	0	1	1	1	2	2	3	2	**S**	1	0	0	0	0	0	0	0	0	0	0	0	3	1	24
25	0	0	0	0	0	0	0	0	0	1	1	**S**	0	0	0	1	2	1	0	0	0	0	0	0	0	2	0	24
26	0	1	0	0	0	0	0	0	1	2	**S**	0	1	1	0	1	1	0	0	0	0	0	0	0	0	2	0	24
27	0	0	0	0	0	0	0	1	1	**S**	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	24
28	0	0	0	0	0	1	1	1	**S**	0	0	0	1	2	2	0	0	0	1	1	1	1	0	0	0	2	1	24
29	0	0	0	0	0	0	0	**S**	2	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	0	24
30	1	9	**22**	13	11	2	**S**	1	0	0	0	1	2	0	2	0	0	0	0	0	1	0	0	4	0	**22**	3	24
HOURLY MAX	12	10	22	13	11	2	5	4	5	6	3	4	2	4	7	4	14	9	3	5	6	4	3	9				
HOURLY AVG	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1				

STATUS FLAG CODES

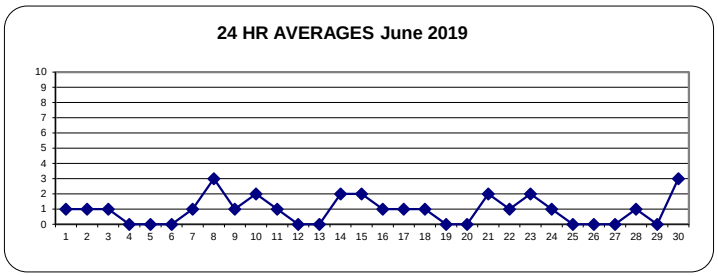
C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 ppb | 24-HR 48 ppb

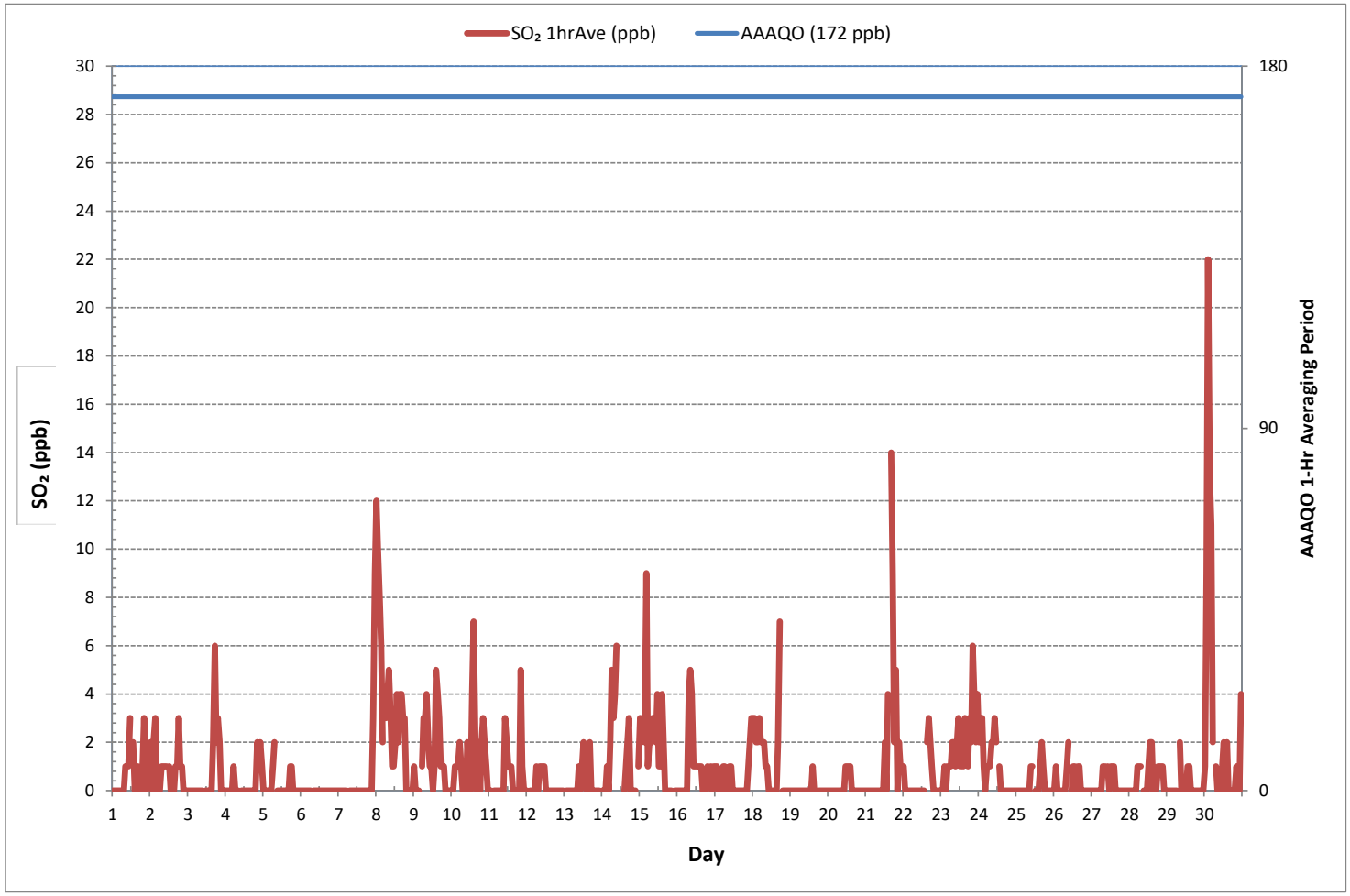
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDANCES:		0				
NUMBER OF 24-HR EXCEEDANCES:		0				
NUMBER OF NON-ZERO READINGS:		257				
MINIMUM 1-HR AVERAGE	0	ppb	@ HOUR	0	ON DAY	1
MAXIMUM 1-HR AVERAGE:	22	ppb	@ HOUR	2	ON DAY	30
MAXIMUM 24-HR AVERAGE:	3	ppb			ON DAY	8

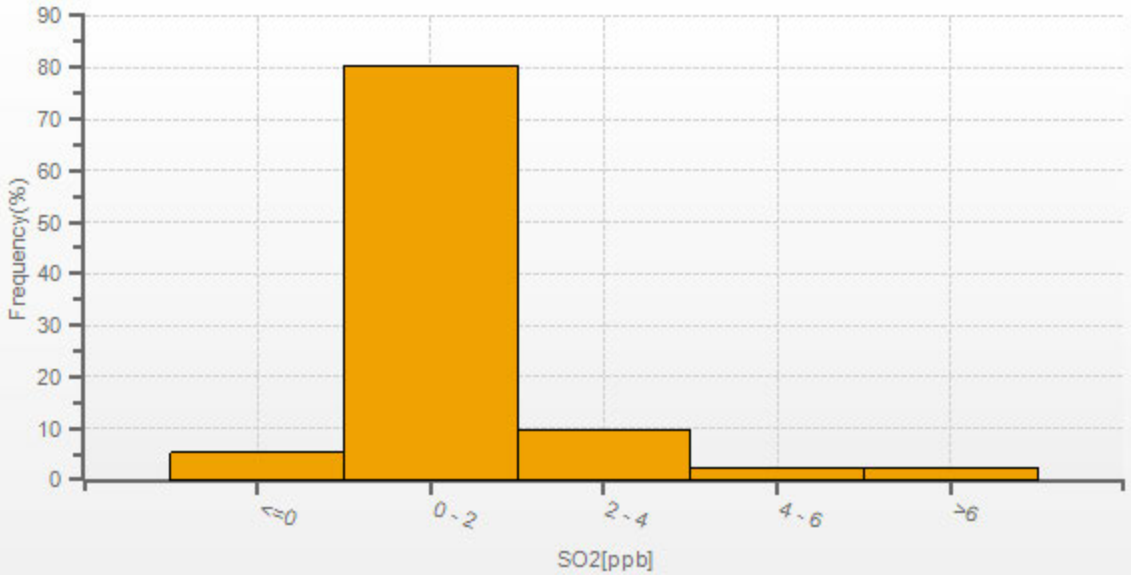
IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	720	hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	2		MONTHLY AVERAGE:	1	ppb



SULPHUR DIOXIDE Hourly Averages (SO_2 ppb)

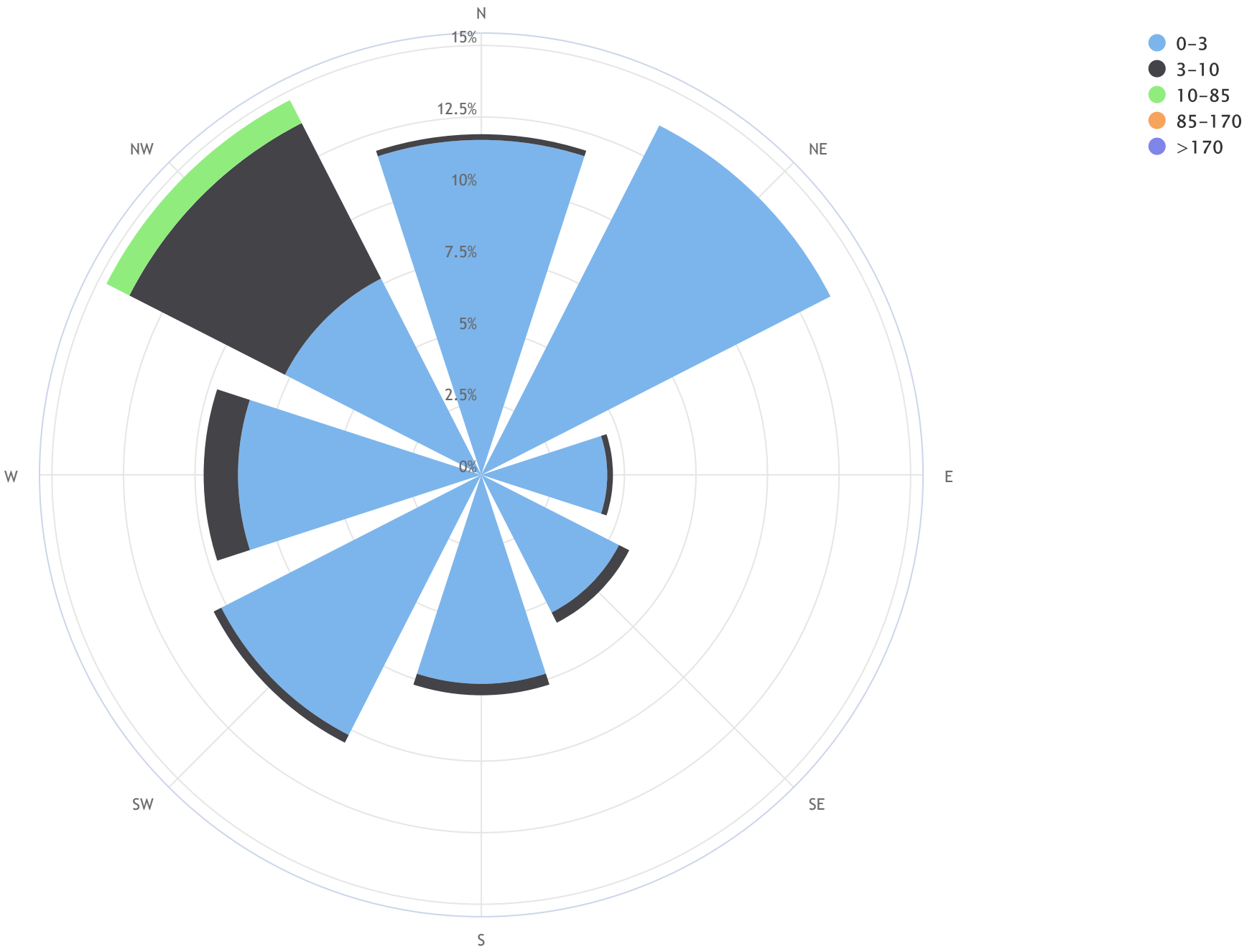


SO2[ppb] Histogram: LICA MASKWA Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Maskwa Continuous Monitoring Station_SO_2 (ppb)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 0.3, CALM % = 21.5%



Direction	0-3	3-10	10-85	85-170	>170	TOTAL
N	11.7	0.2	0.0	0.0	0.0	11.8
NE	13.7	0.0	0.0	0.0	0.0	13.7
E	4.4	0.2	0.0	0.0	0.0	4.5
SE	5.4	0.4	0.0	0.0	0.0	5.8
S	7.3	0.4	0.0	0.0	0.0	7.7
SW	10.2	0.3	0.0	0.0	0.0	10.5
W	8.5	1.2	0.0	0.0	0.0	9.6
NW	7.7	6.1	0.9	0.0	0.0	14.8
Summary	68.9	8.8	0.9	0.0	0.0	78.6
CALM	20.9	0.6	0.0	0.0	0.0	21.5

HYDROGEN SULPHIDE Hourly Averages (H_2S ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	**0**	0	0	1	1	0	0	0	0	0	0	1	**S**	0	0	0	0	0	0	1	**3**	0	1	1	**0**	**3**	**1**	24
2	0	0	0	0	0	0	1	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
3	0	1	3	2	1	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	24
4	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	24
5	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	24
6	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	24
7	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	24
8	1	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
9	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	24
10	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	24
11	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	24
12	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	24
13	**S**	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	1	0	24
14	0	0	0	0	0	0	0	0	0	0	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	0	0	**S**	0	0	0	0	24
15	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	24
16	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	**S**	0	0	0	0	1	0	24
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**S**	0	0	0	0	0	1	0	24
18	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	24
19	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	**S**	0	0	0	0	0	0	0	1	0	24
20	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	**S**	0	0	0	0	0	0	0	0	1	0	24
21	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	24
22	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	24
23	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	1	1	0	0	0	1	0	1	1	0	1	0	24
24	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	24
25	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	24
26	0	1	1	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
27	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	24
28	0	0	0	0	0	0	2	0	**S**	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2	0	24
29	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
30	0	1	1	0	1	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
HOURLY MAX	1	1	3	2	1	0	2	0	1	0	0	1	1	1	0	1	1	1	1	1	3	0	1	1				
HOURLY AVG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

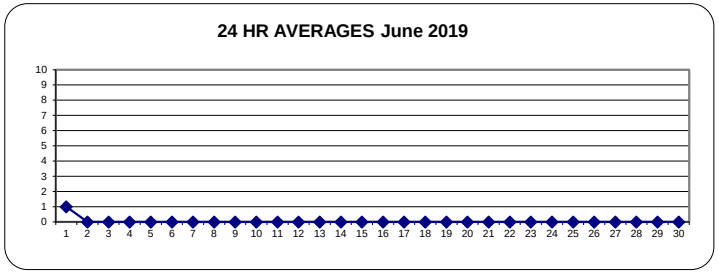
STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

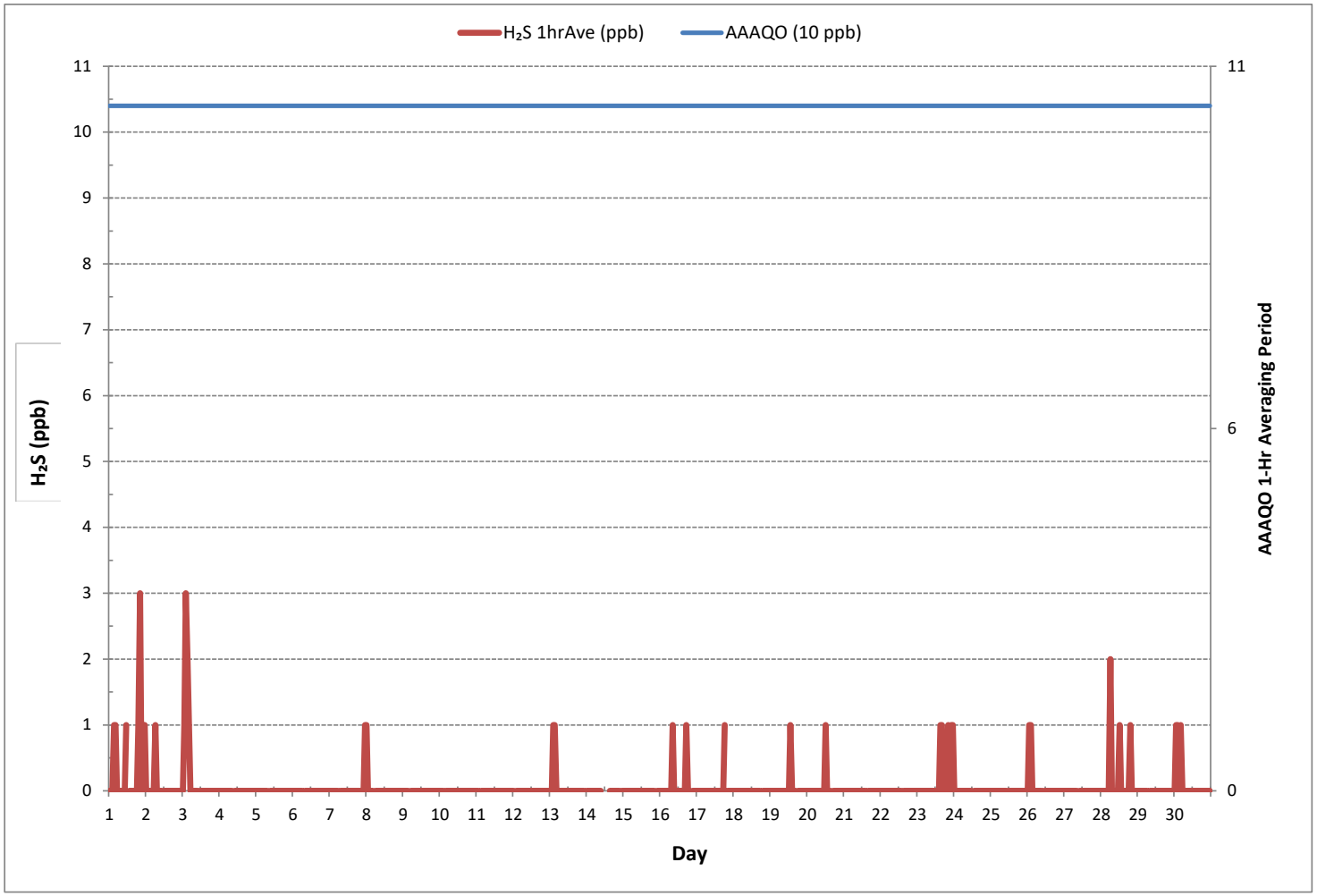
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 10 ppb | 24-HR 3 ppb

MONTHLY SUMMARY

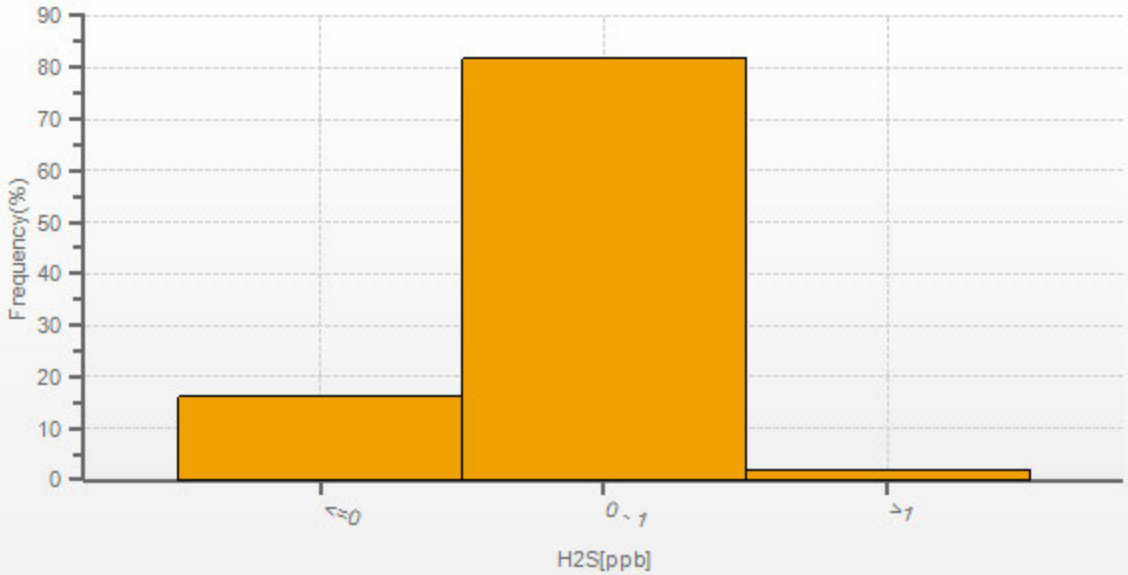
NUMBER OF 1-HR EXCEEDANCES:			0				
NUMBER OF 24-HR EXCEEDANCES:			0				
NUMBER OF NON-ZERO READINGS:			34				
MINIMUM 1-HR AVERAGE	0	ppb	@ HOUR	0	ON DAY		1
MAXIMUM 1-HR AVERAGE:	3	ppb	@ HOUR	20	ON DAY		1
MAXIMUM 24-HR AVERAGE:	1	ppb			ON DAY		1
IZS CALIBRATION TIME:	31	hrs			OPERATIONAL TIME:	720	hrs
MONTHLY CALIBRATION TIME:	5	hrs			AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	0				MONTHLY AVERAGE:	0	ppb



HYDROGEN SULPHIDE Hourly Averages (H_2S ppb)

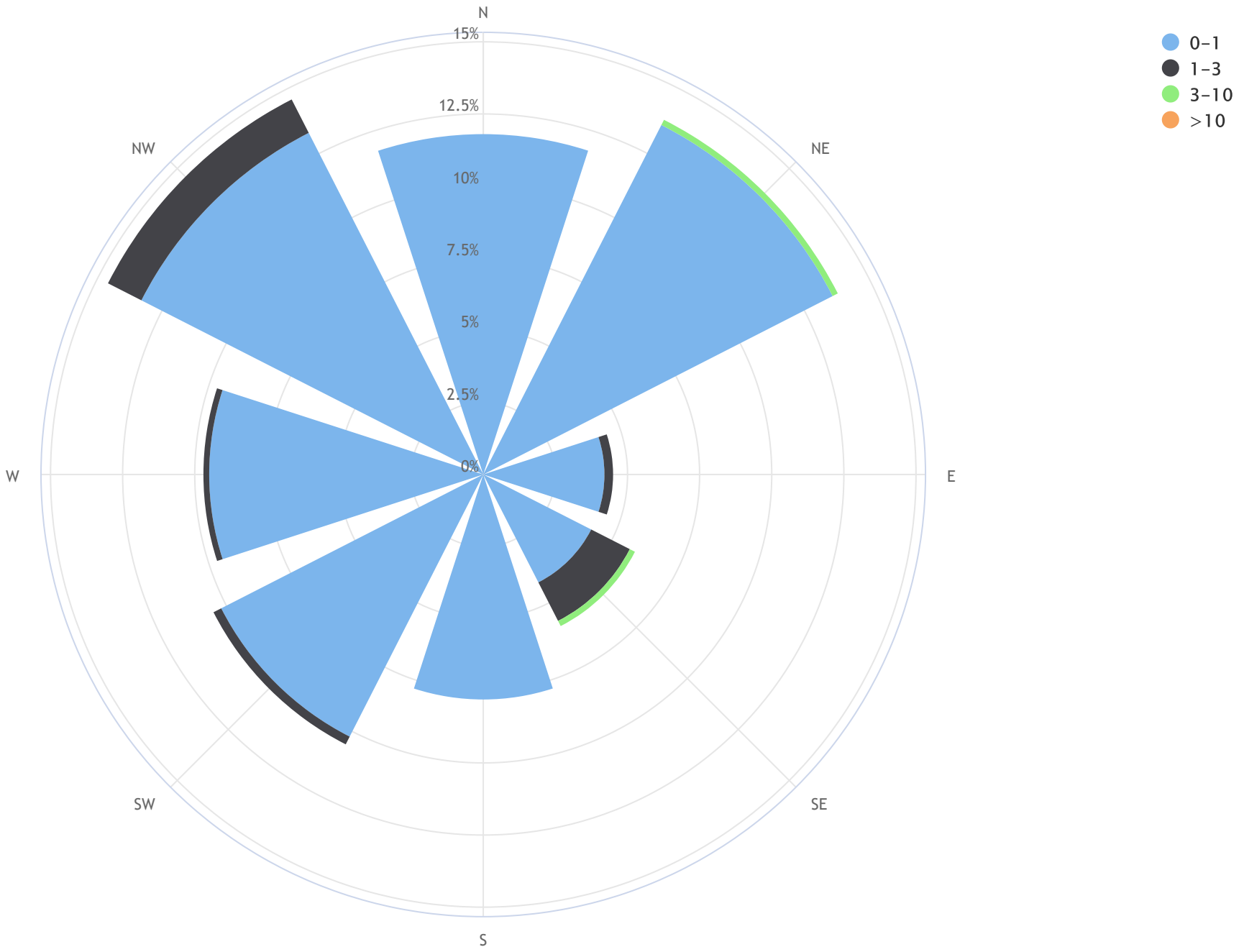


H2S[ppb] Histogram: LICA MASKWA Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Maskwa Continuous Monitoring Station_H_2S (ppb)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 0.1, CALM % = 21.5%



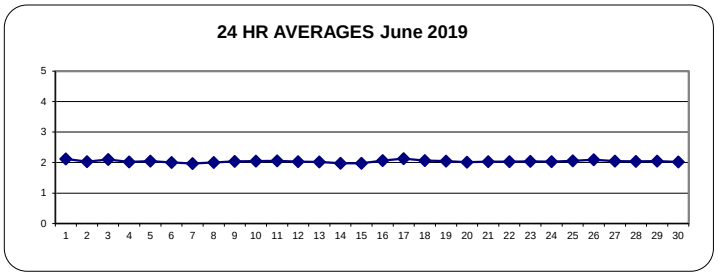
Direction	0-1	1-3	3-10	>10	TOTAL
N	11.8	0.0	0.0	0.0	11.8
NE	13.6	0.0	0.2	0.0	13.8
E	4.2	0.3	0.0	0.0	4.5
SE	4.2	1.5	0.2	0.0	5.9
S	7.8	0.0	0.0	0.0	7.8
SW	10.2	0.3	0.0	0.0	10.5
W	9.5	0.2	0.0	0.0	9.7
NW	13.3	1.3	0.0	0.0	14.6
Summary	74.7	3.5	0.3	0.0	78.5
CALM	20.3	1.2	0.0	0.0	21.5

TOTAL HYDROCARBONS Hourly Averages (THC ppm)

HR START (MST) / HR END (MST)	0:00 0:59	1:00 1:59	2:00 2:59	3:00 3:59	4:00 4:59	5:00 5:59	6:00 6:59	7:00 7:59	8:00 8:59	9:00 9:59	10:00 10:59	11:00 11:59	12:00 12:59	13:00 13:59	14:00 14:59	15:00 15:59	16:00 16:59	17:00 17:59	18:00 18:59	19:00 19:59	20:00 20:59	21:00 21:59	22:00 22:59	23:00 23:59	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
DAY																											
1	2.19	2.28	2.26	2.28	2.29	2.23	2.22	2.20	2.15	2.15	2.14	2.15	S	2.06	2.07	2.02	2.00	1.99	1.98	2.00	2.01	2.01	2.03	2.06	1.98	2.29	2.12	24
2	2.05	2.04	2.07	2.06	2.07	2.06	2.03	2.04	2.03	2.03	2.02	S	1.99	1.98	1.96	1.98	1.97	1.97	1.97	1.98	2.00	2.05	2.16	2.22	1.96	2.22	2.03	24
3	2.25	2.31	**2.66**	2.25	2.20	2.15	2.09	2.08	2.04	2.01	S	2.00	2.01	2.00	2.02	2.02	2.01	2.02	1.99	2.00	2.00	2.00	2.03	2.03	1.99	**2.66**	2.10	24
4	2.03	2.04	2.05	2.07	2.07	2.05	2.06	2.04	2.01	S	1.99	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.99	2.00	2.02	2.05	2.06	2.06	1.98	2.07	2.02	24
5	2.03	2.06	2.17	2.26	2.32	2.32	2.25	2.04	S	1.99	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.97	1.99	2.01	2.02	2.04	1.97	2.32	2.05	24
6	2.05	2.02	2.04	2.02	2.02	2.03	2.02	S	2.00	2.01	2.01	2.01	1.99	1.99	1.99	1.99	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.98	1.97	2.05	2.00	24
7	1.97	1.98	1.98	1.98	1.99	1.98	S	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.95	1.98	2.01	1.95	2.01	1.97	24
8	2.00	2.00	2.00	2.00	1.97	S	1.97	1.96	1.97	1.98	1.99	2.00	2.00	2.01	2.02	2.03	2.01	2.01	2.01	2.00	1.99	2.00	2.01	2.03	1.96	2.03	2.00	24
9	2.05	2.04	2.03	2.05	S	2.05	2.03	2.00	2.01	2.00	2.01	2.01	2.01	2.01	2.02	2.02	2.01	2.00	1.99	2.00	2.04	2.12	2.23	2.28	1.99	2.28	2.04	24
10	2.16	2.15	2.20	S	2.32	2.29	2.13	2.05	2.01	1.99	1.99	1.97	1.97	1.97	1.98	1.96	1.97	1.97	1.98	1.99	2.03	2.03	2.03	2.02	1.96	2.32	2.05	24
11	2.01	2.25	S	2.23	2.31	2.46	2.10	2.02	2.01	2.01	2.01	2.01	1.98	1.98	1.98	1.97	1.96	1.96	1.97	1.98	1.98	1.99	1.98	2.15	1.96	2.46	2.06	24
12	2.05	S	2.04	2.06	2.10	2.11	2.07	2.13	2.11	2.06	2.03	2.03	2.00	1.96	1.93	1.93	1.93	1.93	**1.92**	1.93	2.01	2.05	2.05	2.15	**1.92**	2.15	2.03	24
13	S	2.16	2.17	2.16	2.19	2.17	2.07	2.13	2.03	1.99	1.96	1.96	1.93	1.94	1.94	1.94	1.94	1.93	1.92	1.93	1.97	1.98	1.95	S	1.92	2.19	2.02	24
14	2.01	2.00	1.98	1.98	1.99	1.98	1.97	1.98	1.96	1.95	2.00	1.97	1.95	1.95	C	C	C	C	1.95	1.96	1.98	2.01	S	2.04	1.95	2.04	1.98	24
15	2.04	2.01	2.01	1.99	1.99	1.98	1.99	1.99	1.99	1.98	1.97	1.97	1.95	1.95	1.98	1.97	1.96	1.96	1.96	1.97	1.99	S	2.02	2.02	1.95	2.04	1.98	24
16	2.03	2.05	2.08	2.13	2.20	2.29	2.18	2.11	2.09	2.03	2.01	2.02	2.04	2.01	2.00	2.00	1.99	2.00	2.01	2.05	S	2.10	2.09	2.11	1.99	2.29	2.07	24
17	2.13	2.12	2.14	2.16	2.18	2.21	2.24	2.26	2.26	2.24	2.19	2.13	2.12	2.08	2.03	2.01	2.02	2.06	2.01	S	2.06	2.09	2.12	2.12	2.01	2.26	**2.13**	24
18	2.13	2.12	2.14	2.16	2.16	2.17	2.15	2.16	2.16	2.11	2.07	2.03	2.01	2.00	2.01	2.02	2.02	2.01	S	1.99	2.00	2.01	2.00	2.00	1.99	2.17	2.07	24
19	2.01	2.04	2.07	2.17	2.21	2.17	2.07	2.00	2.02	1.99	1.99	2.01	2.00	1.98	2.02	2.01	2.04	S	2.07	2.05	2.03	2.06	2.08	2.11	1.98	2.21	2.05	24
20	2.14	2.09	2.07	2.03	1.99	1.97	1.97	1.97	1.98	1.98	1.99	2.06	2.00	2.00	1.98	1.99	S	1.98	2.00	2.01	2.02	2.01	2.00	2.02	1.97	2.14	2.01	24
21	2.04	2.03	2.06	2.11	2.15	2.13	2.12	2.05	2.02	2.01	1.99	1.99	1.99	1.98	1.99	S	2.03	2.01	2.00	2.01	2.00	2.00	2.01	2.01	1.98	2.15	2.03	24
22	2.02	2.02	2.05	2.05	2.04	2.03	2.03	2.02	2.01	2.02	2.01	2.01	2.03	2.08	S	2.02	2.03	2.06	2.03	2.01	2.00	2.02	2.02	2.04	2.00	2.08	2.03	24
23	2.03	2.04	2.05	2.06	2.07	2.06	2.04	2.04	2.04	2.02	2.03	2.03	2.02	S	2.05	2.05	2.04	2.02	2.04	2.04	2.08	2.05	2.06	2.08	2.02	2.08	2.04	24
24	2.05	2.06	2.06	2.04	2.03	2.04	2.03	2.02	2.03	2.03	2.06	2.04	S	2.04	2.03	2.04	2.03	2.02	2.02	2.02	2.04	2.01	2.01	2.03	2.01	2.06	2.03	24
25	2.07	2.07	2.08	2.08	2.09	2.08	2.07	2.05	2.04	2.03	2.03	S	2.04	2.04	2.03	2.03	2.04	2.02	2.01	2.01	2.05	2.09	2.10	2.13	2.01	2.13	2.06	24
26	2.12	2.21	2.26	2.21	2.25	2.28	2.18	2.08	2.11	2.10	S	2.07	2.02	2.01	1.99	2.02	1.99	1.99	2.04	2.07	2.07	2.06	2.01	2.04	1.99	2.28	2.09	24
27	2.06	2.16	2.26	2.26	2.13	2.15	2.09	2.06	2.03	S	1.99	1.98	1.98	1.98	1.99	1.98	1.98	1.98	1.99	1.99	2.01	2.04	2.04	2.02	1.98	2.26	2.05	24
28	2.04	2.05	2.03	2.02	2.02	2.04	2.05	2.05	S	2.01	2.01	2.02	2.05	2.06	2.07	2.03	2.02	2.02	2.06	2.06	2.06	2.05	2.03	2.04	2.01	2.07	2.04	24
29	2.04	2.09	2.12	2.08	2.11	2.14	2.10	S	2.09	2.07	2.06	2.04	2.04	2.06	1.98	1.98	1.98	1.97	2.02	2.03	2.01	1.99	2.02	2.06	1.97	2.14	2.05	24
30	2.07	2.06	2.04	2.01	2.02	2.02	S	2.00	1.99	2.00	1.99	1.98	1.99	2.00	2.00	1.99	1.98	2.00	1.98	1.99	2.01	2.08	2.09	2.10	1.98	2.10	2.02	24
HOURLY MAX	2.25	2.31	2.66	2.28	2.32	2.46	2.25	2.26	2.26	2.24	2.19	2.15	2.12	2.08	2.07	2.05	2.04	2.06	2.07	2.07	2.08	2.12	2.23	2.28				
HOURLY AVG	2.06	2.09	2.11	2.10	2.12	2.13	2.08	2.05	2.04	2.03	2.02	2.02	2.00	2.00	2.00	2.00	1.99	1.99	1.99	2.00	2.01	2.03	2.04	2.07				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

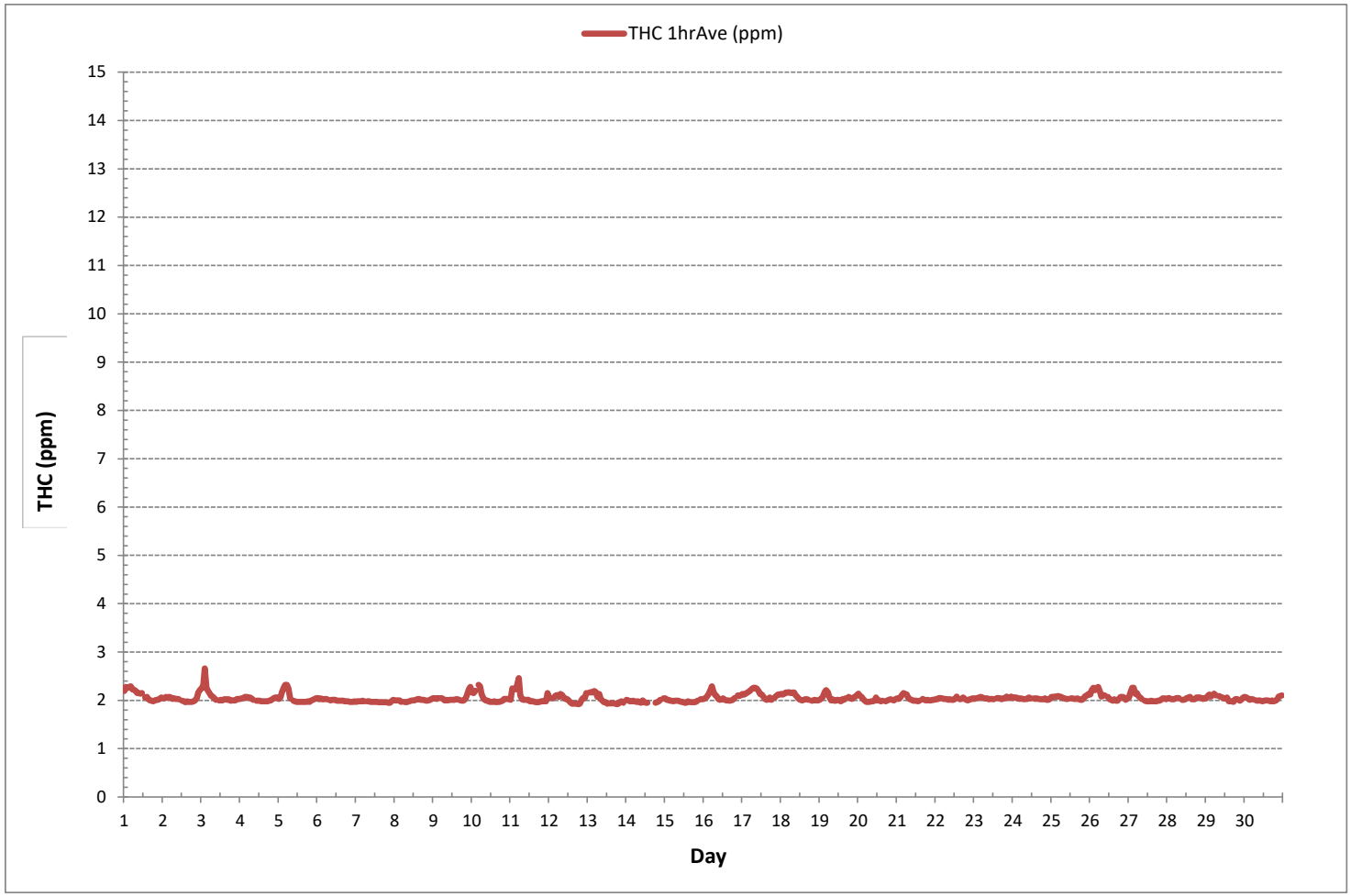


MONTHLY SUMMARY

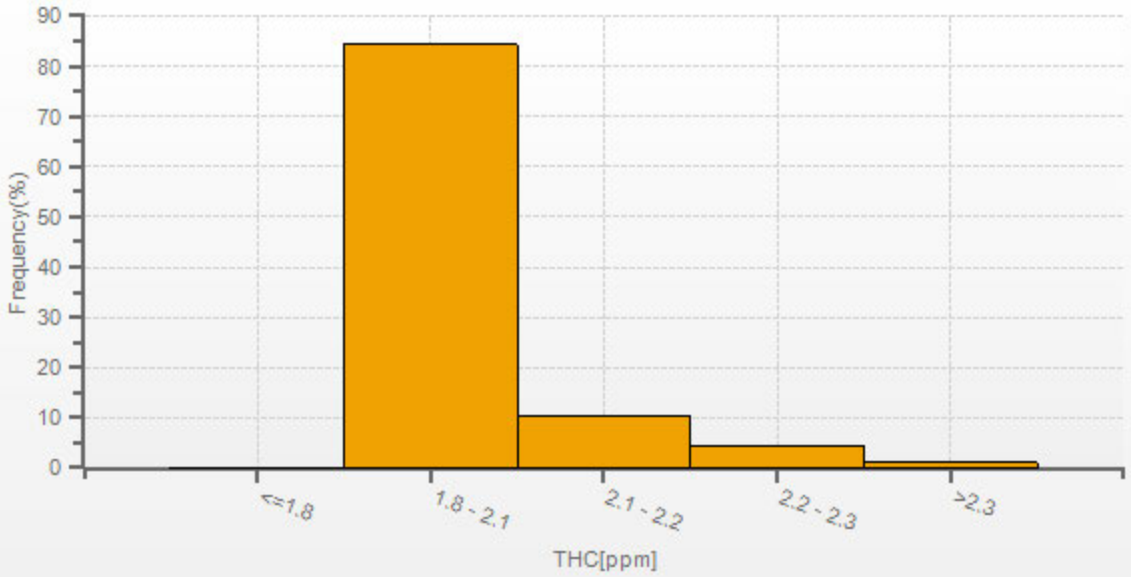
NUMBER OF NON-ZERO READINGS:		685				
MINIMUM 1-HR AVERAGE	1.92	ppm	@ HOUR	18	ON DAY	12
MAXIMUM 1-HR AVERAGE:	2.66	ppm	@ HOUR	2	ON DAY	3
MAXIMUM 24-HR AVERAGE:	2.13	ppm			ON DAY	17

IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	720	hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	0.08		MONTHLY AVERAGE:	2.04	ppm

TOTAL HYDROCARBONS Hourly Averages (THC ppm)

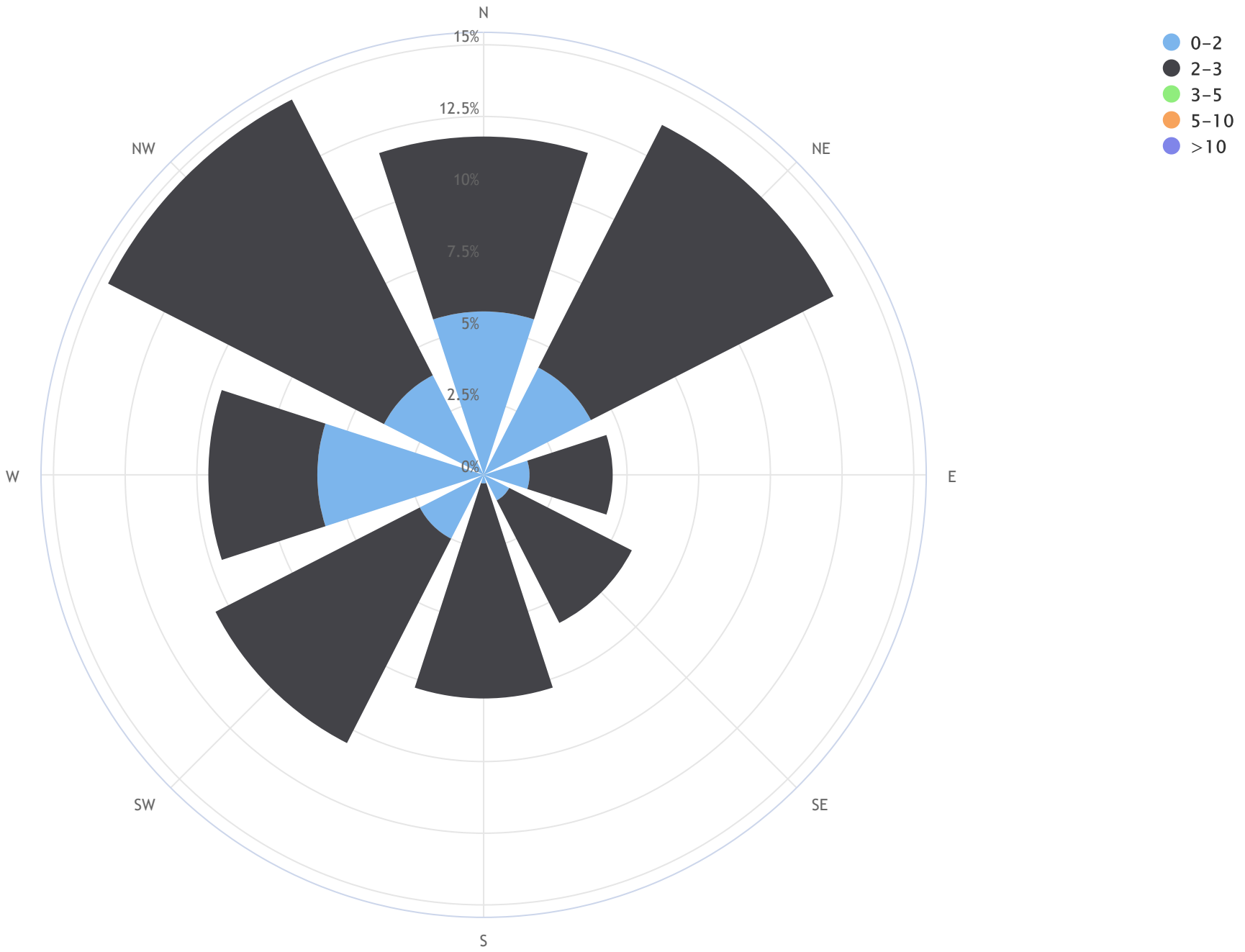


THC[ppm] Histogram: LICA MASKWA Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Maskwa Continuous Monitoring Station_THC (ppm)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 2.1, CALM % = 21.5%



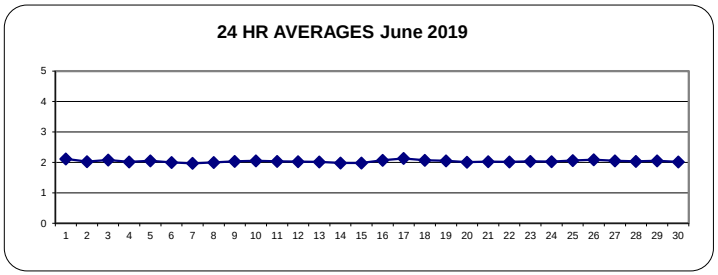
Direction	0-2	2-3	3-5	5-10	>10	TOTAL
N	5.7	6.1	0.0	0.0	0.0	11.8
NE	4.2	9.5	0.0	0.0	0.0	13.7
E	1.6	2.9	0.0	0.0	0.0	4.5
SE	1.0	4.8	0.0	0.0	0.0	5.8
S	0.3	7.5	0.0	0.0	0.0	7.7
SW	2.5	8.0	0.0	0.0	0.0	10.5
W	5.8	3.8	0.0	0.0	0.0	9.6
NW	3.9	10.8	0.0	0.0	0.0	14.7
Summary	25.1	53.4	0.0	0.0	0.0	78.5
CALM	3.4	18.1	0.0	0.0	0.0	21.5

METHANE Hourly Averages (CH_4 ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	2.19	2.28	2.26	2.27	2.26	2.23	2.22	2.19	2.15	2.15	2.14	2.15	S	2.06	2.07	2.02	2.00	1.99	1.98	2.00	2.01	2.01	2.03	2.06	1.98	2.28	2.12	24
2	2.05	2.04	2.06	2.06	2.07	2.06	2.03	2.04	2.03	2.03	2.02	S	1.99	1.98	1.96	1.98	1.97	1.97	1.97	1.98	2.00	2.05	2.16	2.22	1.96	2.22	2.03	24
3	2.25	2.24	**2.38**	2.23	2.19	2.15	2.09	2.08	2.04	2.01	S	2.00	2.01	2.00	2.02	2.02	2.01	2.02	1.99	2.00	2.00	2.00	2.03	2.03	1.99	**2.38**	2.08	24
4	2.03	2.04	2.05	2.07	2.07	2.05	2.06	2.04	2.01	S	1.99	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.99	2.00	2.02	2.05	2.06	2.06	1.98	2.07	2.02	24
5	2.03	2.06	2.17	2.26	2.32	2.32	2.25	2.04	S	1.99	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.97	1.99	2.01	2.02	2.04	1.97	2.32	2.05	24
6	2.05	2.02	2.04	2.02	2.02	2.03	2.02	S	2.00	2.01	2.01	2.01	1.99	1.99	1.99	1.99	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.98	1.97	2.05	2.00	24
7	1.97	1.98	1.98	1.98	1.99	1.98	S	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.95	1.98	2.01	1.95	2.01	1.97	24
8	2.00	2.00	2.00	2.00	1.97	S	1.97	1.96	1.97	1.98	1.99	2.00	2.00	2.01	2.02	2.03	2.01	2.01	2.01	2.00	1.99	2.00	2.01	2.03	1.96	2.03	2.00	24
9	2.05	2.04	2.03	2.05	S	2.05	2.03	2.00	2.01	2.00	2.01	2.01	2.01	2.01	2.02	2.02	2.01	2.00	1.99	2.00	2.04	2.12	2.23	2.28	1.99	2.28	2.04	24
10	2.16	2.15	2.20	S	2.32	2.29	2.13	2.05	2.01	1.99	1.99	1.97	1.97	1.97	1.98	1.96	1.97	1.97	1.98	1.99	2.03	2.03	2.03	2.02	1.96	2.32	2.05	24
11	2.01	2.15	S	2.22	2.25	2.31	2.10	2.02	2.01	2.01	2.01	2.01	1.98	1.98	1.98	1.97	1.96	1.96	1.97	1.98	1.98	1.99	1.98	2.15	1.96	2.31	2.04	24
12	2.05	S	2.04	2.06	2.10	2.11	2.07	2.13	2.11	2.06	2.03	2.03	2.00	1.96	1.93	1.93	1.93	1.93	**1.92**	1.93	2.01	2.05	2.05	2.15	**1.92**	2.15	2.03	24
13	S	2.16	2.17	2.16	2.19	2.17	2.07	2.13	2.03	1.98	1.96	1.96	1.93	1.94	1.94	1.94	1.94	1.93	1.92	1.93	1.97	1.98	1.95	S	1.92	2.19	2.02	24
14	2.01	2.00	1.98	1.98	1.99	1.98	1.97	1.98	1.96	1.95	2.00	1.97	1.95	1.95	C	C	C	C	1.95	1.96	1.98	2.01	S	2.04	1.95	2.04	1.98	24
15	2.04	2.01	2.01	1.99	1.99	1.98	1.99	1.99	1.99	1.98	1.97	1.97	1.95	1.95	1.98	1.97	1.96	1.96	1.96	1.97	1.99	S	2.02	2.02	1.95	2.04	1.98	24
16	2.03	2.05	2.08	2.13	2.20	2.29	2.18	2.11	2.09	2.03	2.01	2.02	2.04	2.01	2.00	2.00	1.99	2.00	2.01	2.05	S	2.10	2.09	2.11	1.99	2.29	2.07	24
17	2.13	2.12	2.14	2.16	2.18	2.21	2.24	2.26	2.26	2.24	2.19	2.13	2.12	2.08	2.03	2.01	2.02	2.06	2.01	S	2.06	2.09	2.12	2.12	2.01	2.26	**2.13**	24
18	2.13	2.12	2.14	2.16	2.16	2.17	2.15	2.16	2.16	2.11	2.07	2.03	2.01	2.00	2.01	2.02	2.02	2.01	S	1.99	2.00	2.01	2.00	2.00	1.99	2.17	2.07	24
19	2.01	2.04	2.07	2.17	2.21	2.17	2.07	2.00	2.02	1.99	1.99	2.01	2.00	1.98	2.02	2.01	2.04	S	2.07	2.05	2.03	2.06	2.08	2.11	1.98	2.21	2.05	24
20	2.14	2.09	2.07	2.03	1.99	1.97	1.97	1.97	1.98	1.98	1.99	2.06	2.00	2.00	1.98	1.99	S	1.98	2.00	2.01	2.02	2.01	2.00	2.02	1.97	2.14	2.01	24
21	2.04	2.03	2.06	2.11	2.15	2.13	2.12	2.05	2.02	2.01	1.99	1.99	1.99	1.98	1.99	S	2.03	2.01	2.00	2.01	2.00	2.00	2.01	2.01	1.98	2.15	2.03	24
22	2.02	2.02	2.05	2.05	2.04	2.03	2.03	2.02	2.01	2.02	2.01	2.01	2.03	2.03	S	2.02	2.03	2.03	2.03	2.01	2.00	2.02	2.02	2.04	2.00	2.05	2.02	24
23	2.03	2.04	2.05	2.06	2.07	2.06	2.04	2.04	2.04	2.02	2.03	2.03	2.02	S	2.05	2.05	2.04	2.02	2.04	2.04	2.08	2.05	2.06	2.08	2.02	2.08	2.04	24
24	2.05	2.06	2.06	2.04	2.03	2.04	2.03	2.02	2.03	2.03	2.06	2.04	S	2.04	2.03	2.04	2.03	2.02	2.02	2.02	2.04	2.01	2.01	2.03	2.01	2.06	2.03	24
25	2.07	2.07	2.08	2.08	2.09	2.08	2.07	2.05	2.04	2.03	2.03	S	2.03	2.04	2.03	2.03	2.04	2.02	2.01	2.01	2.05	2.09	2.10	2.13	2.01	2.13	2.06	24
26	2.12	2.19	2.25	2.21	2.25	2.28	2.18	2.08	2.11	2.10	S	2.07	2.02	2.01	1.99	2.02	1.99	1.99	2.04	2.07	2.07	2.06	2.01	2.04	1.99	2.28	2.09	24
27	2.06	2.16	2.26	2.26	2.13	2.15	2.09	2.06	2.03	S	1.99	1.98	1.98	1.98	1.99	1.98	1.98	1.98	1.99	1.99	2.01	2.04	2.04	2.02	1.98	2.26	2.05	24
28	2.04	2.05	2.03	2.02	2.02	2.04	2.05	2.05	S	2.01	2.01	2.02	2.05	2.06	2.07	2.03	2.02	2.02	2.06	2.06	2.06	2.05	2.03	2.04	2.01	2.07	2.04	24
29	2.04	2.09	2.12	2.08	2.11	2.14	2.10	S	2.09	2.07	2.06	2.04	2.04	2.06	1.98	1.98	1.98	1.97	2.02	2.03	2.01	1.99	2.02	2.06	1.97	2.14	2.05	24
30	2.07	2.05	2.03	2.01	2.02	2.02	S	2.00	1.99	2.00	1.99	1.98	1.99	2.00	2.00	1.99	1.98	2.00	1.98	1.99	2.01	2.08	2.09	2.10	1.98	2.10	2.02	24
HOURLY MAX	2.25	2.28	2.38	2.27	2.32	2.32	2.25	2.26	2.26	2.24	2.19	2.15	2.12	2.08	2.07	2.05	2.04	2.06	2.07	2.07	2.08	2.12	2.23	2.28				
HOURLY AVG	2.06	2.08	2.10	2.10	2.12	2.12	2.08	2.05	2.04	2.03	2.02	2.02	2.00	2.00	2.00	2.00	1.99	1.99	1.99	2.00	2.01	2.03	2.04	2.07				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

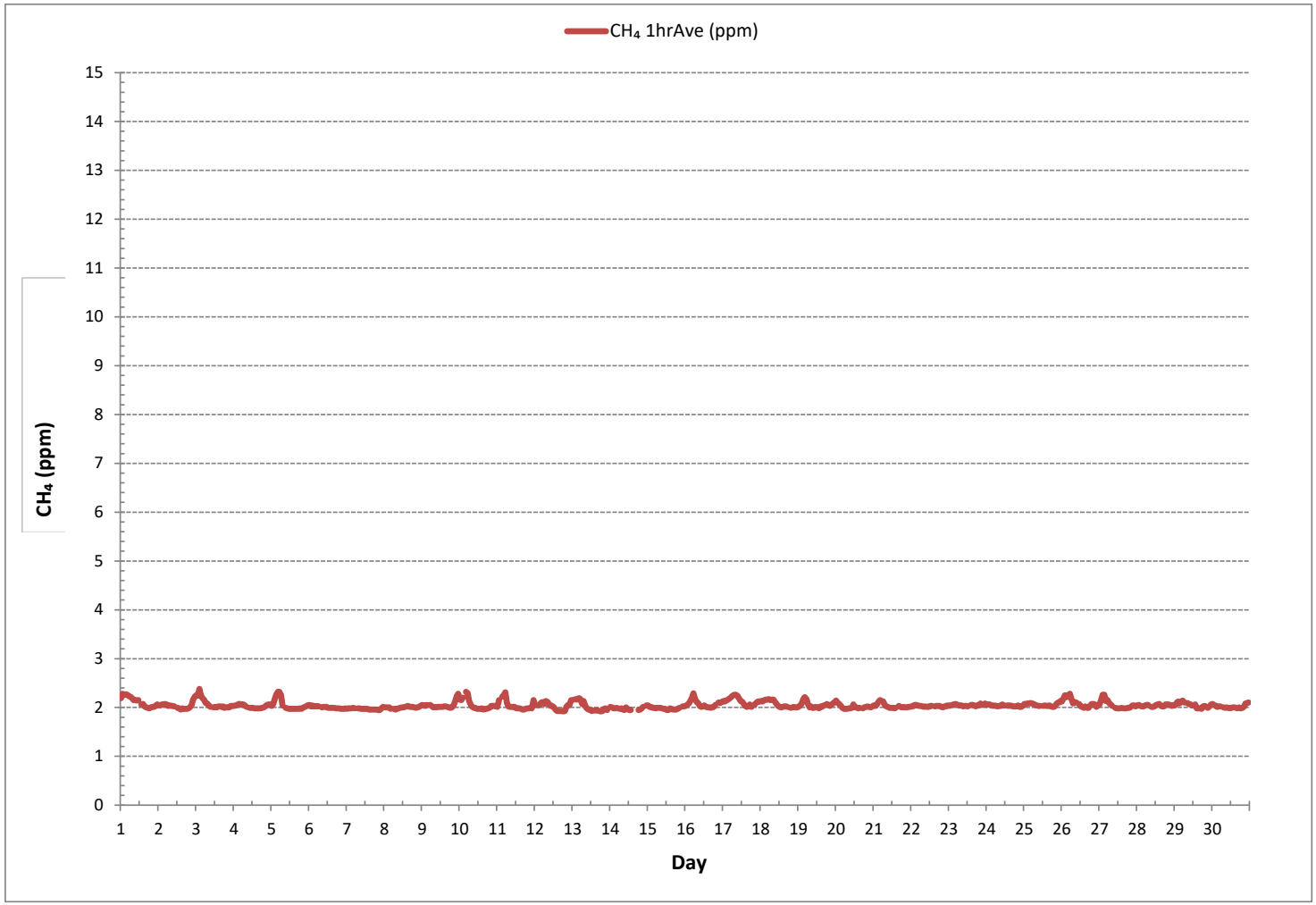


MONTHLY SUMMARY

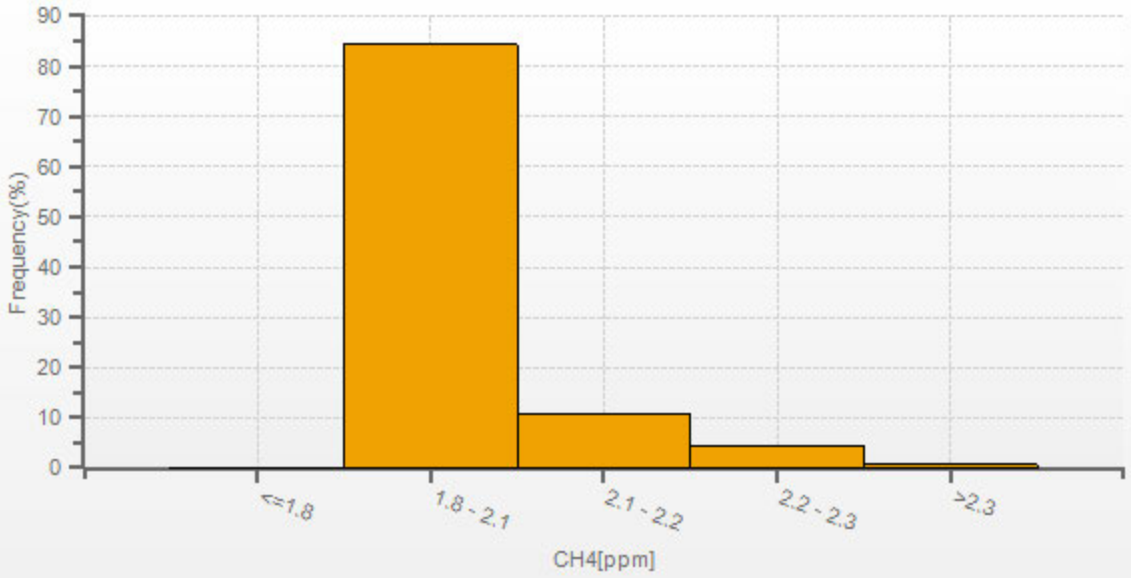
NUMBER OF NON-ZERO READINGS:		685				
MINIMUM 1-HR AVERAGE	1.92	ppm	@ HOUR	18	ON DAY	12
MAXIMUM 1-HR AVERAGE:	2.38	ppm	@ HOUR	2	ON DAY	3
MAXIMUM 24-HR AVERAGE:	2.13	ppm			ON DAY	17

IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	720	hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	0.07		MONTHLY AVERAGE:	2.04	ppm

METHANE Hourly Averages (CH_4 ppm)

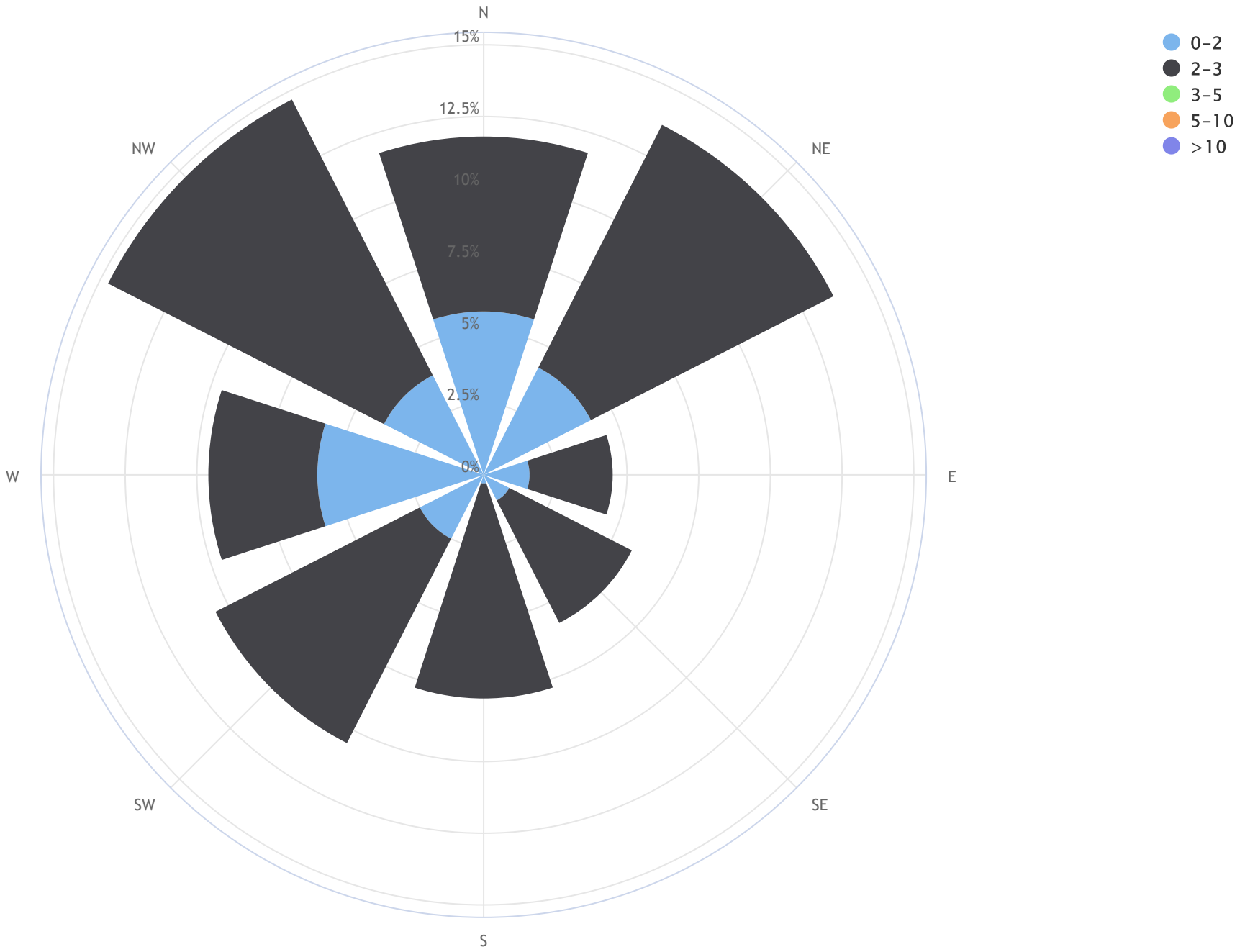


CH4[ppm] Histogram: LICA MASKWA Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Maskwa Continuous Monitoring Station_CH_4 (ppm)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 2.1, CALM % = 21.5%



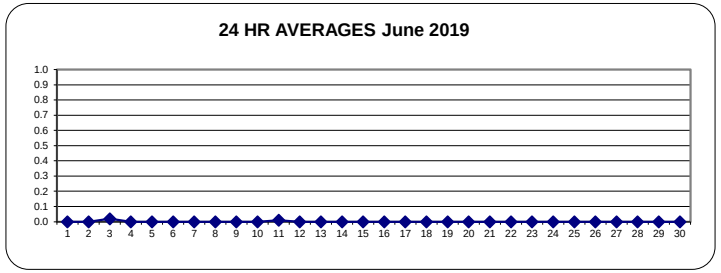
Direction	0-2	2-3	3-5	5-10	>10	TOTAL
N	5.7	6.1	0.0	0.0	0.0	11.8
NE	4.2	9.5	0.0	0.0	0.0	13.7
E	1.6	2.9	0.0	0.0	0.0	4.5
SE	1.0	4.8	0.0	0.0	0.0	5.8
S	0.3	7.5	0.0	0.0	0.0	7.7
SW	2.5	8.0	0.0	0.0	0.0	10.5
W	5.8	3.8	0.0	0.0	0.0	9.6
NW	3.9	10.8	0.0	0.0	0.0	14.7
Summary	25.1	53.4	0.0	0.0	0.0	78.5
CALM	3.4	18.1	0.0	0.0	0.0	21.5

NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)

HR START (MST) / HR END (MST)	0:00 0:59	1:00 1:59	2:00 2:59	3:00 3:59	4:00 4:59	5:00 5:59	6:00 6:59	7:00 7:59	8:00 8:59	9:00 9:59	10:00 10:59	11:00 11:59	12:00 12:59	13:00 13:59	14:00 14:59	15:00 15:59	16:00 16:59	17:00 17:59	18:00 18:59	19:00 19:59	20:00 20:59	21:00 21:59	22:00 22:59	23:00 23:59	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
DAY																												
1	**0.00**	0.00	0.00	0.01	0.03	0.00	0.00	0.01	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	0.03	0.00	24
2	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	24
3	0.00	0.07	**0.28**	0.02	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	**0.28**	**0.02**	24
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
5	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	24
6	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	24
7	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	24
8	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	24
9	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	24
10	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	24
11	0.00	0.10	**S**	0.01	0.06	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.01	24
12	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	24
13	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.02	0.00	24
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**C**	**C**	**C**	**C**	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	24
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	24
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	24
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	0.05	**S**	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	24
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
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	**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	24
25	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	24
26	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
28	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	24
29	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	24
30	0.00	0.01	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
HOURLY MAX	0.00	0.10	0.28	0.02	0.06	0.15	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.05	0.00	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00				
HOURLY AVG	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				

STATUS FLAG CODES

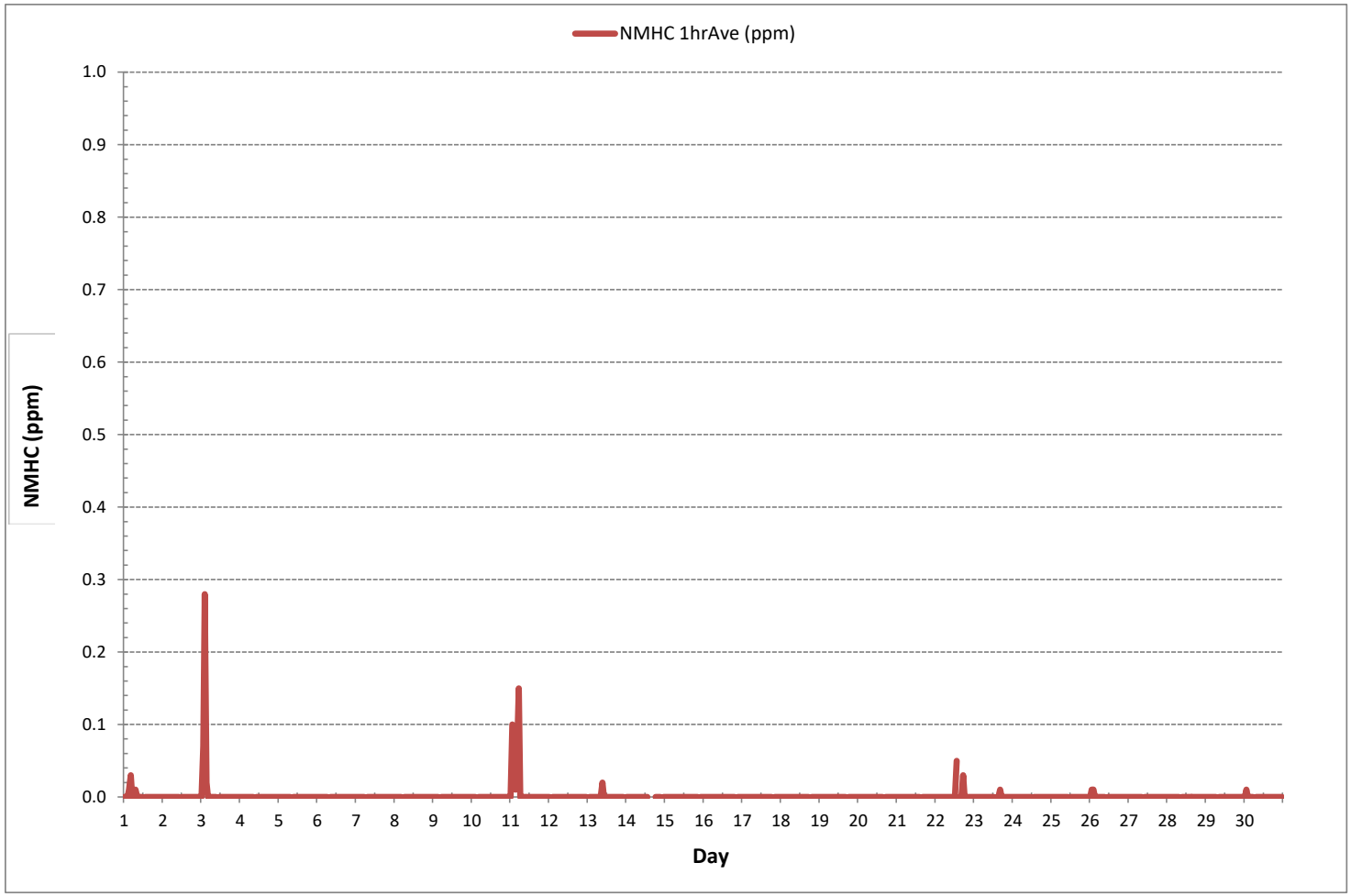
C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE



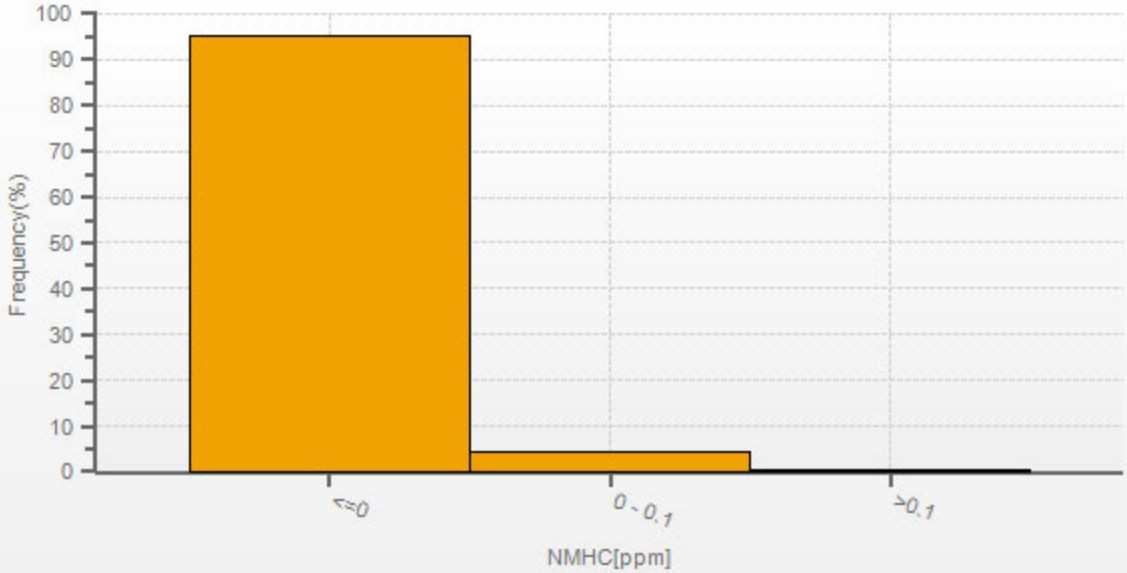
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:			17				
MINIMUM 1-HR AVERAGE	0.00	ppm	@ HOUR	0	ON DAY	1	
MAXIMUM 1-HR AVERAGE:	0.28	ppm	@ HOUR	2	ON DAY	3	
MAXIMUM 24-HR AVERAGE:	0.02	ppm			ON DAY	3	
IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:			720	hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:			100.0	%
STANDARD DEVIATION:	0.01		MONTHLY AVERAGE:			0.00	ppm

NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)

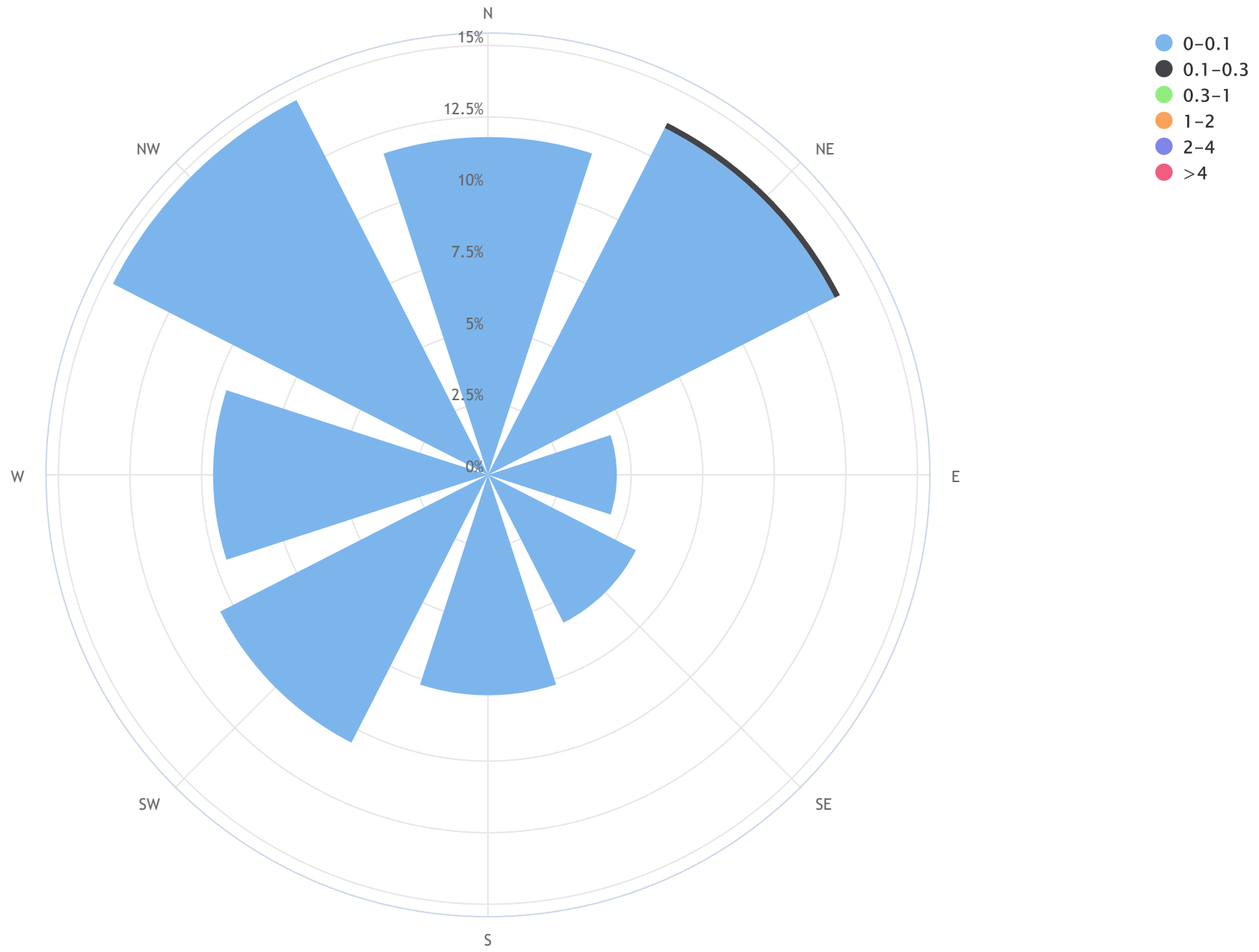


NMHC[ppm] Histogram: LICA MASKWA Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Maskwa Continuous Monitoring Station_NMHC (ppm)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 0.0, CALM % = 21.5%



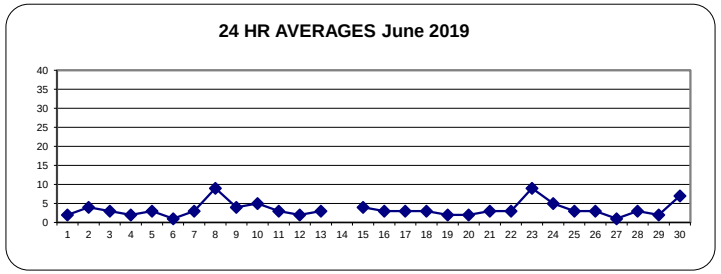
Direction	0-0.1	0.1-0.3	0.3-1	1-2	2-4	>4	TOTAL
N	11.8	0.0	0.0	0.0	0.0	0.0	11.8
NE	13.6	0.2	0.0	0.0	0.0	0.0	13.7
E	4.5	0.0	0.0	0.0	0.0	0.0	4.5
SE	5.8	0.0	0.0	0.0	0.0	0.0	5.8
S	7.7	0.0	0.0	0.0	0.0	0.0	7.7
SW	10.5	0.0	0.0	0.0	0.0	0.0	10.5
W	9.6	0.0	0.0	0.0	0.0	0.0	9.6
NW	14.7	0.0	0.0	0.0	0.0	0.0	14.7
Summary	78.4	0.2	0.0	0.0	0.0	0.0	78.6
CALM	21.2	0.3	0.0	0.0	0.0	0.0	21.5

OXIDES OF NITROGEN Hourly Averages (NO_x ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	3	3	3	2	1	1	1	2	2	2	2	4	S	5	2	2	2	1	1	2	2	1	2	3	1	5	2	24
2	4	2	7	11	6	3	2	4	3	3	2	S	4	1	1	1	3	2	6	4	4	5	4	3	1	11	4	24
3	2	3	4	3	2	1	1	5	1	1	S	2	2	1	2	3	5	16	3	7	6	1	1	1	1	16	3	24
4	2	2	2	1	2	3	2	2	2	S	1	1	1	1	1	1	1	0	1	1	4	4	4	4	0	4	2	24
5	2	2	2	3	7	7	10	9	S	2	1	1	1	1	1	2	2	4	4	1	0	1	1	1	0	10	3	24
6	1	1	1	1	0	0	0	S	1	1	1	0	0	0	0	0	1	1	1	1	1	1	0	1	0	1	1	24
7	1	1	0	1	1	0	S	1	0	0	0	0	0	0	0	1	1	1	2	1	2	2	16	34	0	34	3	24
8	35	28	24	18	8	S	8	11	11	6	3	3	5	8	6	9	7	7	5	1	0	1	1	1	0	35	9	24
9	5	3	2	1	S	4	8	5	7	4	3	3	1	4	10	10	5	2	2	3	1	1	1	2	1	10	4	24
10	3	3	5	S	11	11	6	2	1	1	5	3	1	8	15	3	1	4	1	7	9	5	3	1	1	15	5	24
11	1	1	S	1	1	1	0	0	1	2	6	5	2	2	2	1	1	2	1	1	15	5	3	1	0	15	3	24
12	2	S	1	1	2	2	3	2	3	2	2	3	1	1	1	1	1	1	1	1	1	2	2	2	1	3	2	24
13	S	3	3	4	6	6	4	5	4	4	1	3	3	2	1	1	4	1	1	1	1	6	9	S	1	9	3	24
14	8	8	3	5	4	9	12	10	10	13	C	C	C	C	C	C	5	8	1	1	1	4	S	8	1	13	-	24
15	9	7	7	5	13	3	4	4	5	5	6	7	1	2	13	3	1	0	1	1	1	S	2	1	0	13	4	24
16	1	1	1	1	2	2	14	10	10	9	4	1	1	2	2	2	1	1	1	2	S	3	2	4	1	14	3	24
17	4	3	3	3	3	4	4	4	4	4	4	3	2	2	2	2	2	3	3	S	2	3	4	5	2	5	3	24
18	5	4	4	4	5	4	4	4	3	2	2	1	1	1	1	1	6	11	S	2	1	1	1	2	1	11	3	24
19	1	1	1	1	1	1	2	1	1	1	1	1	1	3	9	2	2	S	3	2	2	2	1	1	1	9	2	24
20	2	2	1	1	1	1	1	1	1	1	2	10	6	3	2	1	S	1	1	1	1	1	1	1	1	10	2	24
21	1	0	0	0	1	1	0	0	1	2	2	1	4	1	10	S	21	12	3	8	1	4	4	2	0	21	3	24
22	1	1	2	1	1	1	1	1	1	1	1	1	2	4	S	11	12	13	8	2	2	3	2	2	1	13	3	24
23	4	3	4	2	12	6	4	11	11	4	7	10	5	S	14	12	6	3	11	11	23	18	9	19	2	23	9	24
24	9	11	16	3	1	6	5	8	9	9	12	10	S	6	1	1	1	1	1	0	0	1	1	4	0	16	5	24
25	2	1	1	1	1	1	1	1	4	5	7	S	3	4	4	6	9	5	2	1	1	1	1	1	1	9	3	24
26	1	11	9	3	1	1	2	2	6	6	S	2	2	3	1	2	2	1	1	2	1	1	0	1	0	11	3	24
27	1	1	1	1	0	0	0	2	4	S	3	2	2	2	2	1	1	0	0	0	0	0	0	0	0	4	1	24
28	0	0	0	0	0	6	6	4	S	1	1	1	6	9	8	2	1	1	4	4	5	3	2	1	0	9	3	24
29	1	3	3	1	1	1	1	S	10	1	1	1	2	3	4	3	3	2	4	3	2	1	1	1	1	10	2	24
30	6	24	45	22	20	5	S	3	1	1	1	2	4	1	6	1	0	1	0	0	1	1	1	5	0	45	7	24
HOURLY MAX	35	28	45	22	20	11	14	11	11	13	12	10	6	9	15	12	21	16	11	11	23	18	16	34				
HOURLY AVG	4	5	5	3	4	3	4	4	4	3	3	3	2	3	4	3	4	4	3	2	3	3	3	4				

STATUS FLAG CODES

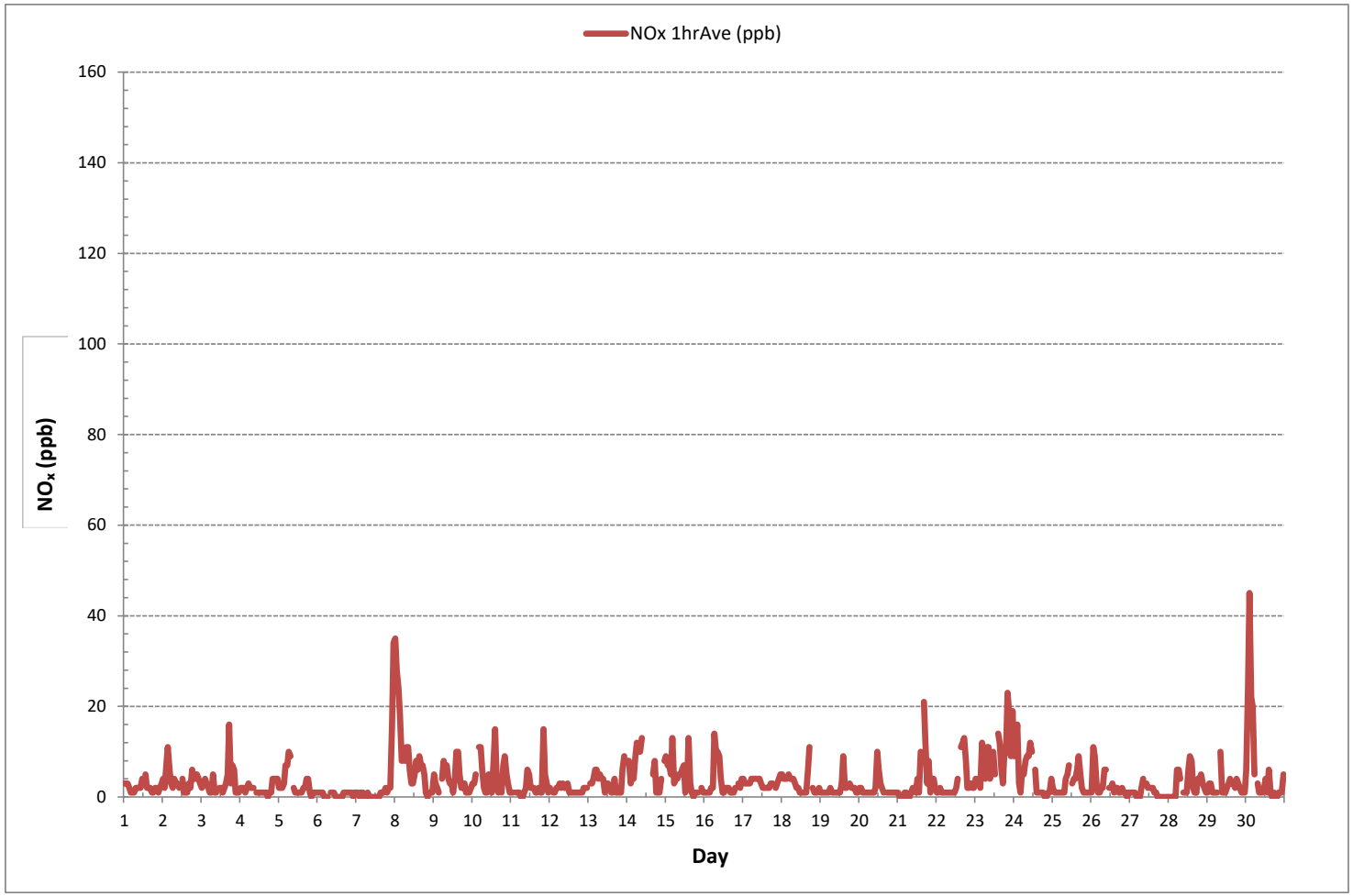
C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE



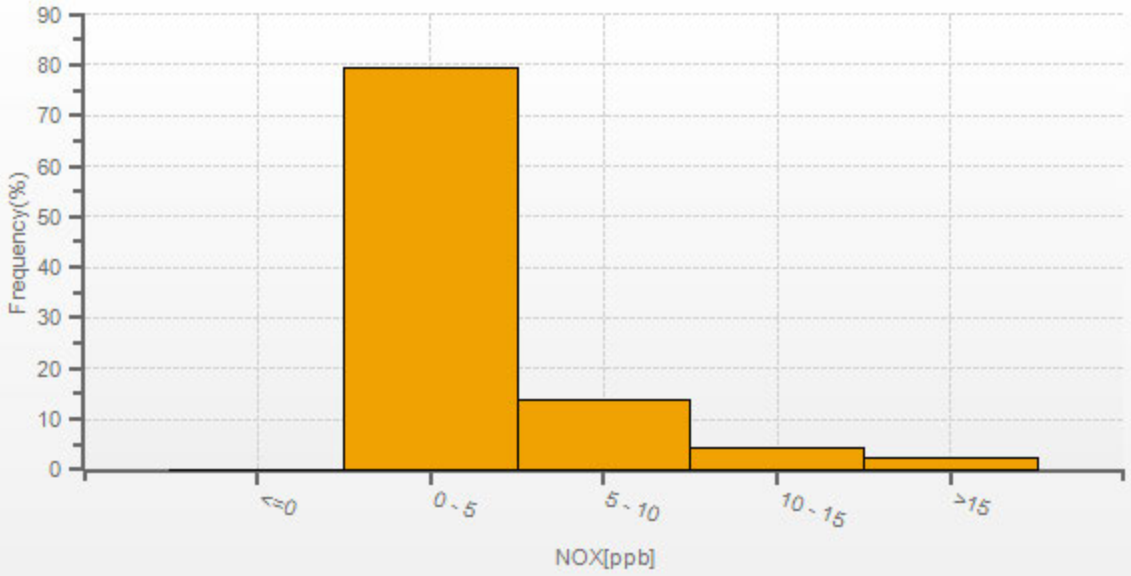
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:			633				
MINIMUM 1-HR AVERAGE	0	ppb	@ HOUR	17	ON DAY	4	
MAXIMUM 1-HR AVERAGE:	45	ppb	@ HOUR	2	ON DAY	30	
MAXIMUM 24-HR AVERAGE:	9	ppb			ON DAY	8	
IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:			720	hrs
MONTHLY CALIBRATION TIME:	6	hrs	AMD OPERATION UPTIME:			100.0	%
STANDARD DEVIATION:	4		MONTHLY AVERAGE:			3	ppb

OXIDES OF NITROGEN Hourly Averages (NO_x ppb)

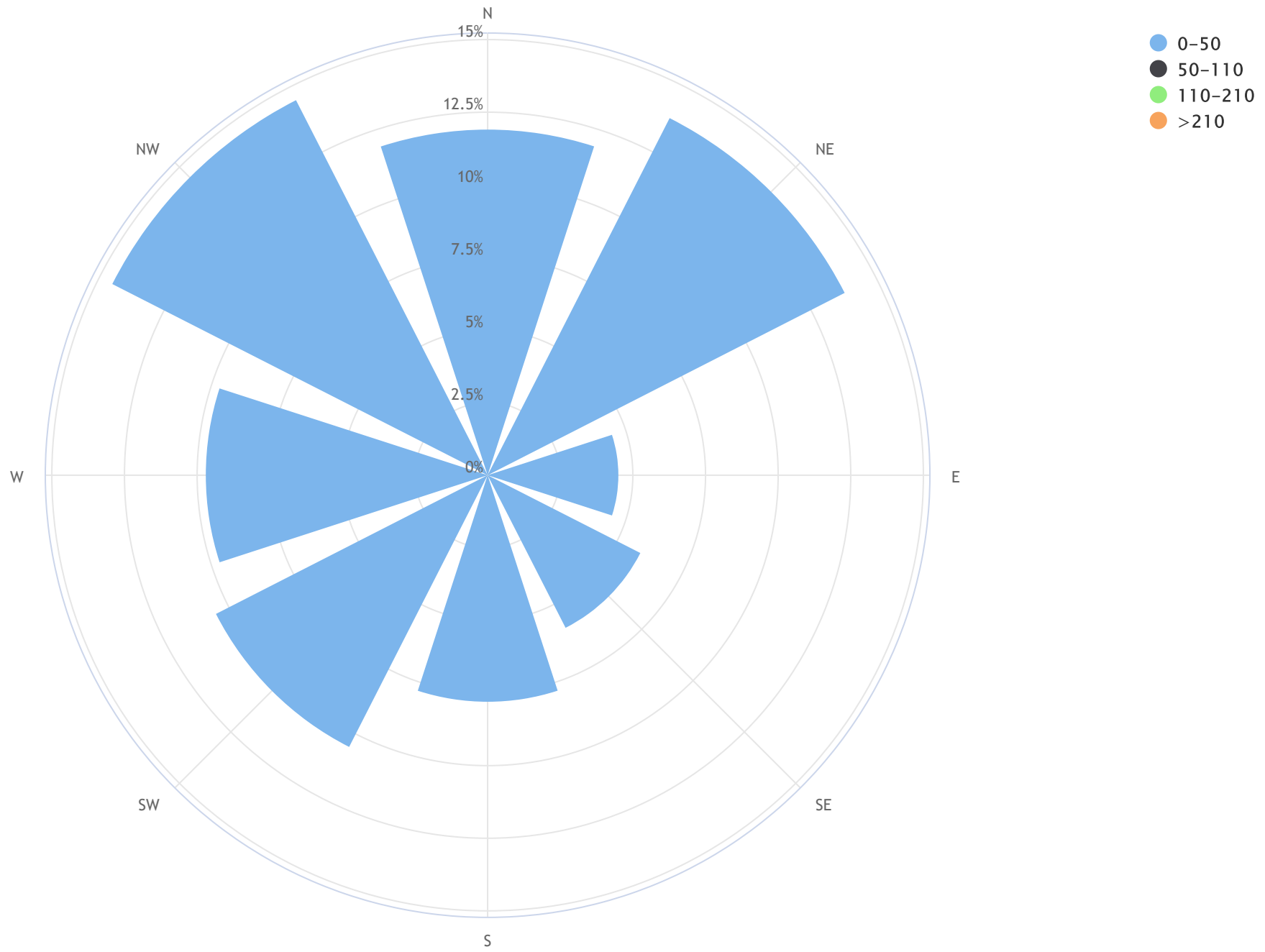


NOX[ppb] Histogram: LICA MASKWA Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Maskwa Continuous Monitoring Station_NO_X (ppb)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 2.6, CALM % = 21.5%



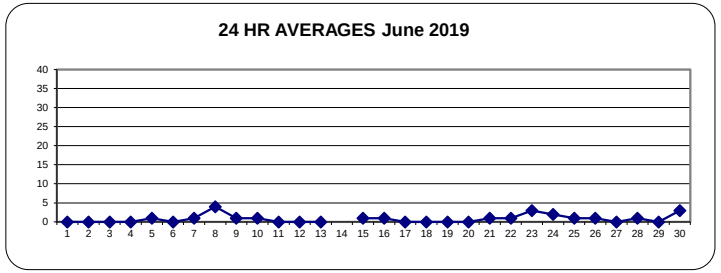
Direction	0-50	50-110	110-210	>210	TOTAL
N	11.9	0.0	0.0	0.0	11.9
NE	13.8	0.0	0.0	0.0	13.8
E	4.5	0.0	0.0	0.0	4.5
SE	5.9	0.0	0.0	0.0	5.9
S	7.8	0.0	0.0	0.0	7.8
SW	10.5	0.0	0.0	0.0	10.5
W	9.7	0.0	0.0	0.0	9.7
NW	14.5	0.0	0.0	0.0	14.5
Summary	78.5	0.0	0.0	0.0	78.5
CALM	21.5	0.0	0.0	0.0	21.5

NITRIC OXIDE Hourly Averages (NO ppb)

HR START (MST) / HR END (MST)	0:00 0:59	1:00 1:59	2:00 2:59	3:00 3:59	4:00 4:59	5:00 5:59	6:00 6:59	7:00 7:59	8:00 8:59	9:00 9:59	10:00 10:59	11:00 11:59	12:00 12:59	13:00 13:59	14:00 14:59	15:00 15:59	16:00 16:59	17:00 17:59	18:00 18:59	19:00 19:59	20:00 20:59	21:00 21:59	22:00 22:59	23:00 23:59	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
DAY																												
1	**0**	0	0	0	0	0	0	0	0	0	0	1	**S**	1	0	0	0	0	0	0	0	0	0	0	**0**	1	0	24
2	0	0	1	1	0	0	0	1	1	1	0	**S**	1	0	0	0	1	0	1	0	0	0	0	0	0	1	0	24
3	0	0	0	0	0	0	0	2	0	0	**S**	0	0	0	0	0	1	4	0	1	0	0	0	0	0	4	0	24
4	0	0	0	0	0	1	1	1	1	**S**	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	24
5	0	0	0	0	1	1	3	3	**S**	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	1	24
6	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	24
7	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	20	0	20	1	24
8	22	16	13	9	2	**S**	4	5	6	3	1	1	2	3	2	4	3	3	1	0	0	0	0	0	22	**4**	24
9	0	0	0	0	**S**	1	3	2	3	1	1	1	0	1	3	3	1	0	0	0	0	0	0	0	3	1	24
10	0	0	0	**S**	1	3	2	1	0	0	2	1	0	3	6	1	0	1	0	1	1	0	0	0	6	1	24
11	0	0	**S**	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	3	0	0	0	3	0	24
12	0	**S**	0	0	0	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
13	**S**	0	0	0	0	1	1	1	1	1	0	1	1	0	0	0	1	0	0	0	0	0	0	**S**	1	0	24
14	1	1	0	1	1	3	6	4	5	6	**C**	**C**	**C**	**C**	**C**	**C**	1	3	0	0	0	0	**S**	0	6	-	24
15	2	1	1	2	6	0	1	1	2	2	2	3	0	0	4	1	0	0	0	0	0	**S**	0	0	6	1	24
16	0	0	0	0	0	1	10	5	4	3	1	0	0	0	0	0	0	0	0	0	**S**	0	0	0	10	1	24
17	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	**S**	0	0	0	0	1	0	24
18	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	**S**	0	0	0	0	0	1	0	24
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	**S**	0	0	0	0	0	0	2	0	24
20	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	**S**	0	0	0	0	0	0	0	1	0	24
21	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	**S**	5	4	0	1	0	0	0	0	5	1	24
22	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**S**	3	4	5	2	0	0	0	0	0	5	1	24
23	0	0	0	0	4	1	1	4	4	1	2	4	1	**S**	4	4	2	1	3	1	7	6	2	9	9	3	24
24	3	3	7	1	0	2	1	2	3	4	5	4	**S**	2	0	0	0	0	0	0	0	0	0	0	7	2	24
25	0	0	0	0	0	0	0	0	2	1	2	**S**	1	1	1	1	3	1	0	0	0	0	0	0	3	1	24
26	0	5	2	0	0	0	1	0	2	2	**S**	0	0	0	0	1	0	0	0	0	0	0	0	0	5	1	24
27	0	0	0	0	0	0	0	0	1	**S**	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	24
28	0	0	0	0	0	1	1	1	**S**	0	0	0	2	3	3	0	0	0	1	1	1	1	0	0	3	1	24
29	0	0	0	0	0	0	0	**S**	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	0	24
30	1	9	**25**	10	8	1	**S**	1	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	**25**	3	24
HOURLY MAX	22	16	25	10	8	3	10	5	6	6	5	4	2	3	6	4	5	5	3	1	7	6	7	20				
HOURLY AVG	1	1	2	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	0	0	0	0	1				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

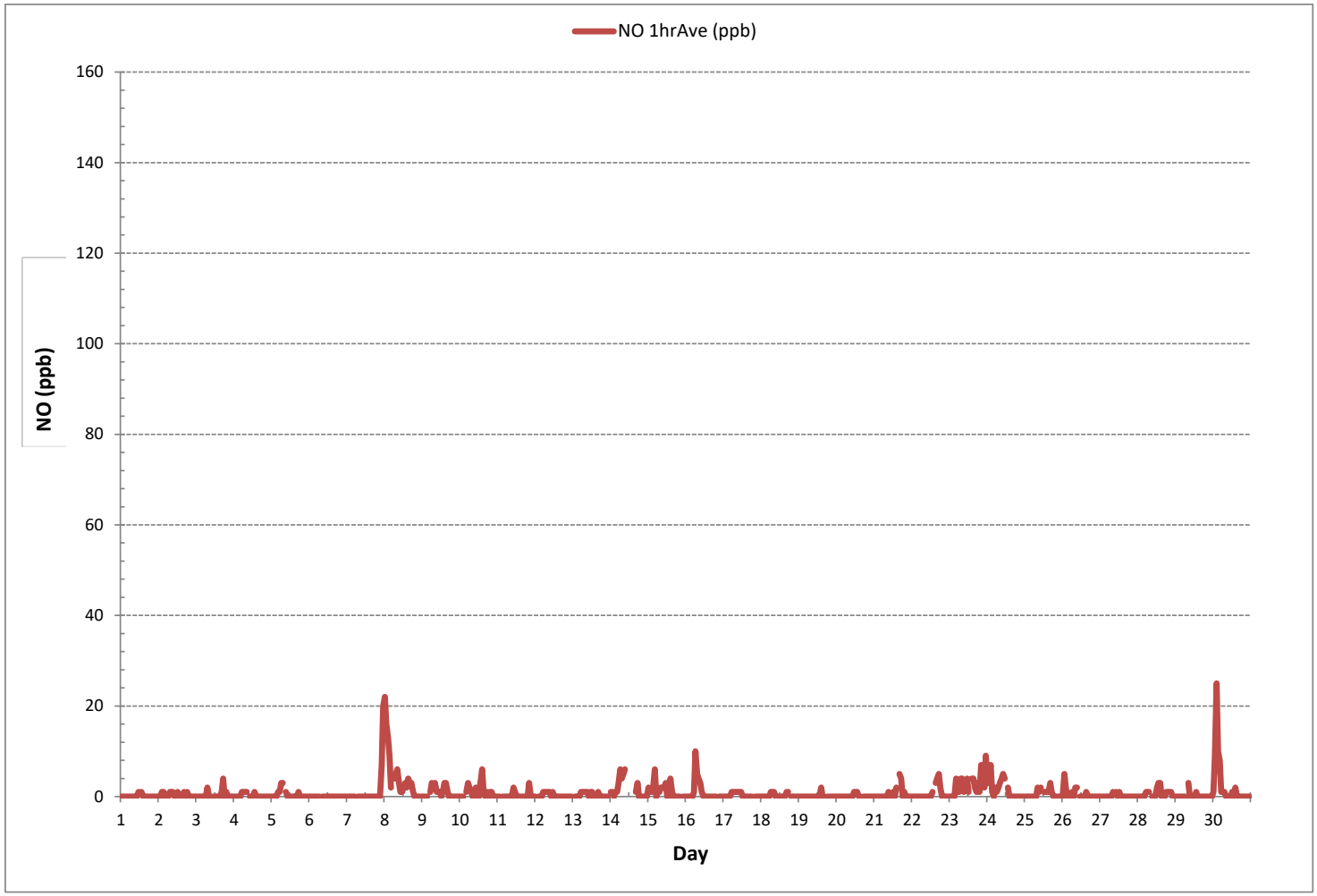


MONTHLY SUMMARY

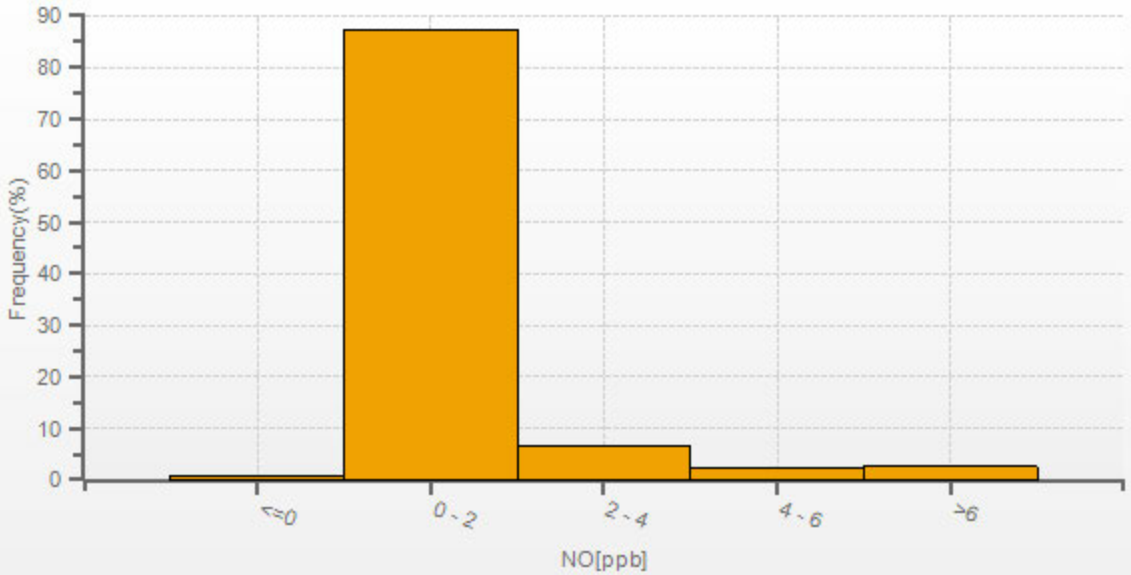
NUMBER OF NON-ZERO READINGS:		212				
MINIMUM 1-HR AVERAGE	0	ppb	@ HOUR	0	ON DAY	1
MAXIMUM 1-HR AVERAGE:	25	ppb	@ HOUR	2	ON DAY	30
MAXIMUM 24-HR AVERAGE:	4	ppb			ON DAY	8

IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	720	hrs
MONTHLY CALIBRATION TIME:	6	hrs	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	2		MONTHLY AVERAGE:	1	ppb

NITRIC OXIDE Hourly Averages (NO ppb)

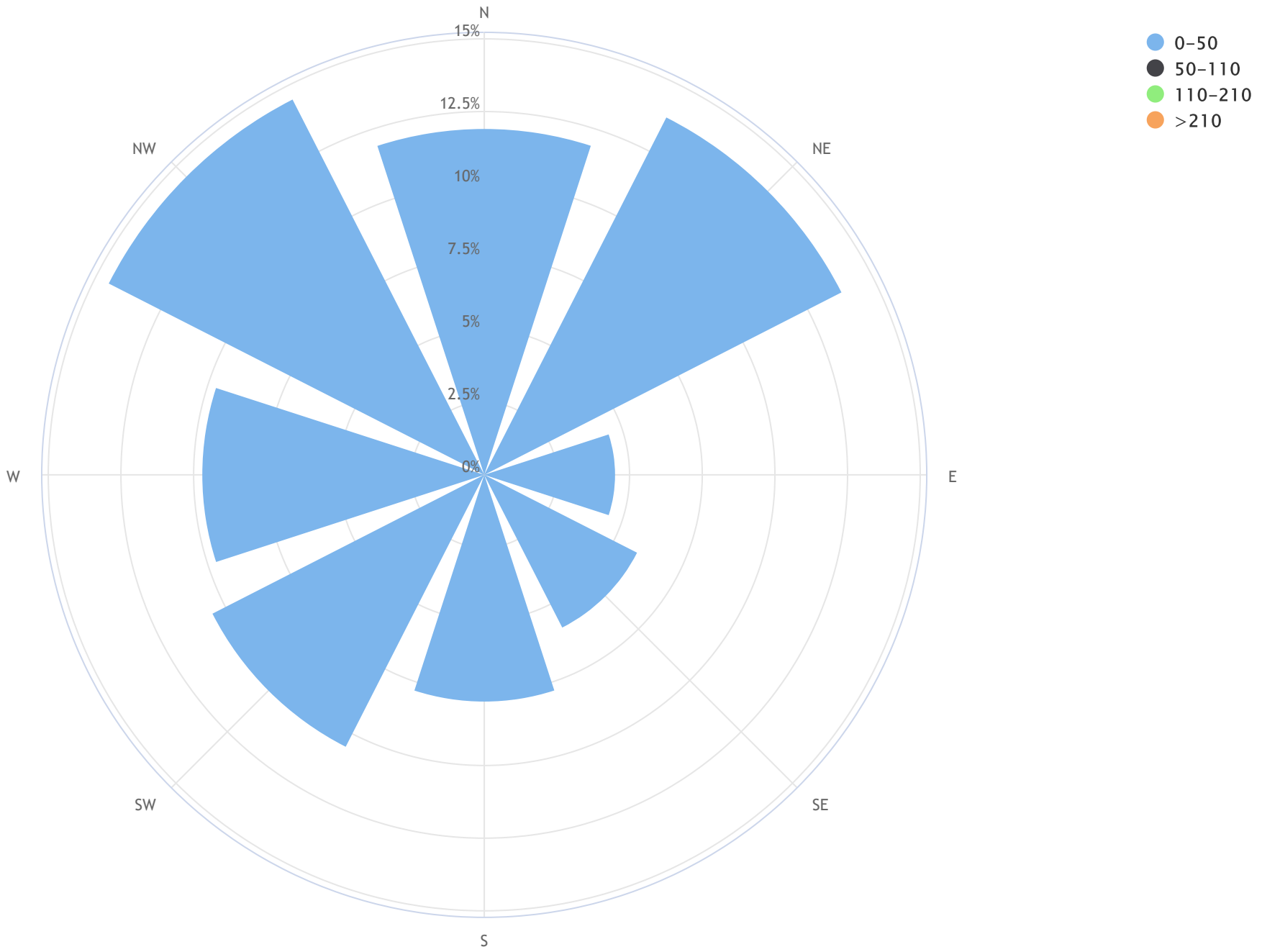


NO[ppb] Histogram: LICA MASKWA Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Maskwa Continuous Monitoring Station_NO (ppb)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 0.4, CALM % = 21.5%



Direction	0-50	50-110	110-210	>210	TOTAL
N	11.9	0.0	0.0	0.0	11.9
NE	13.8	0.0	0.0	0.0	13.8
E	4.5	0.0	0.0	0.0	4.5
SE	5.9	0.0	0.0	0.0	5.9
S	7.8	0.0	0.0	0.0	7.8
SW	10.5	0.0	0.0	0.0	10.5
W	9.7	0.0	0.0	0.0	9.7
NW	14.5	0.0	0.0	0.0	14.5
Summary	78.5	0.0	0.0	0.0	78.5
CALM	21.5	0.0	0.0	0.0	21.5

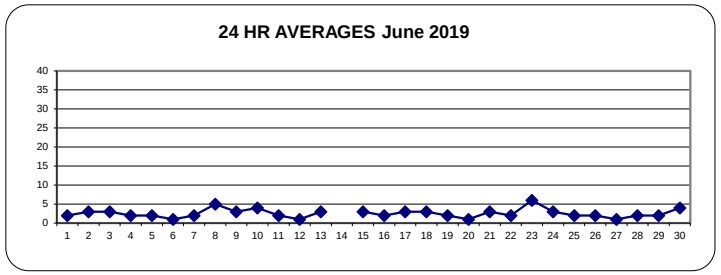
NITROGEN DIOXIDE Hourly Averages (NO_2 ppb)

HR START (MST) / HR END (MST)	0:00 0:59	1:00 1:59	2:00 2:59	3:00 3:59	4:00 4:59	5:00 5:59	6:00 6:59	7:00 7:59	8:00 8:59	9:00 9:59	10:00 10:59	11:00 11:59	12:00 12:59	13:00 13:59	14:00 14:59	15:00 15:59	16:00 16:59	17:00 17:59	18:00 18:59	19:00 19:59	20:00 20:59	21:00 21:59	22:00 22:59	23:00 23:59	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
DAY																												
1	3	3	3	2	1	1	1	2	2	2	2	3	S	4	2	2	1	1	1	2	2	1	2	3	1	4	2	24
2	3	2	6	10	6	2	2	3	3	3	2	S	4	1	1	1	3	2	5	4	4	5	3	3	1	10	3	24
3	2	3	4	3	2	1	1	3	1	1	S	1	2	1	1	2	4	12	3	6	6	1	1	1	1	12	3	24
4	2	2	2	1	2	3	2	1	1	S	1	1	1	1	1	1	0	0	1	1	4	4	4	4	0	4	2	24
5	2	2	2	3	6	6	7	6	S	2	1	1	1	1	1	1	1	3	3	1	0	0	1	1	0	7	2	24
6	1	1	1	1	0	0	0	S	1	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	0	1	1	24
7	1	0	0	1	1	0	S	0	0	0	0	0	0	0	0	1	1	1	1	1	2	2	9	14	0	14	2	24
8	13	13	11	9	6	S	4	5	5	3	2	2	2	4	3	5	4	5	4	1	0	1	1	1	0	13	5	24
9	5	3	2	1	S	3	5	3	5	2	2	2	1	3	7	7	4	2	2	3	1	1	1	2	1	7	3	24
10	3	3	5	S	10	8	4	2	1	1	4	2	1	5	9	2	1	3	1	6	8	5	2	1	1	10	4	24
11	1	1	S	1	1	1	0	0	1	1	4	4	2	2	2	1	1	2	1	1	12	5	3	1	0	12	2	24
12	2	S	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	2	2	2	1	2	1	24
13	S	3	3	4	5	5	3	4	3	3	1	2	2	1	1	1	3	1	1	1	1	6	9	S	1	9	3	24
14	7	8	3	4	3	6	7	5	5	7	C	C	C	C	C	C	4	5	1	1	1	4	S	7	1	8	-	24
15	7	6	6	3	8	2	4	3	4	3	4	5	1	1	9	2	1	0	1	1	1	S	2	1	0	9	3	24
16	1	1	1	1	2	2	4	6	6	6	3	1	1	2	2	1	1	1	1	2	S	3	1	4	1	6	2	24
17	4	3	3	3	3	4	3	2	3	3	3	3	2	2	2	2	2	3	3	S	2	3	4	4	2	4	3	24
18	5	4	4	4	5	4	4	3	3	2	2	1	1	1	1	1	5	9	S	2	1	1	1	2	1	9	3	24
19	1	1	1	1	0	1	2	1	0	0	0	1	1	3	7	2	2	S	3	2	2	1	1	1	0	7	2	24
20	2	2	1	1	1	1	1	1	1	1	1	8	5	2	1	1	S	1	1	1	1	1	1	1	1	8	1	24
21	0	0	0	0	0	0	0	0	1	2	1	1	3	1	7	S	15	9	2	6	1	4	4	2	0	15	3	24
22	1	1	2	1	1	1	1	1	1	1	1	1	2	4	S	8	8	7	6	1	2	3	2	2	1	8	2	24
23	4	3	4	2	8	5	4	7	7	3	4	6	4	S	9	8	4	3	8	10	16	12	7	10	2	16	6	24
24	7	8	9	2	1	4	4	5	6	5	7	5	S	5	1	1	1	0	1	0	0	1	1	4	0	9	3	24
25	2	1	1	1	1	1	1	0	3	4	5	S	2	3	3	4	6	4	2	1	1	1	1	1	0	6	2	24
26	1	6	7	3	1	1	1	1	4	4	S	2	1	2	1	2	1	1	1	1	1	1	0	1	0	7	2	24
27	1	1	1	1	0	0	0	1	3	S	3	1	2	2	1	1	0	0	0	0	0	0	0	0	0	3	1	24
28	0	0	0	0	0	5	5	3	S	1	1	1	4	7	6	1	0	1	3	4	4	3	1	1	0	7	2	24
29	1	2	3	1	1	0	0	S	7	1	1	1	1	2	3	3	3	2	4	3	1	1	1	1	0	7	2	24
30	5	15	20	12	12	4	S	2	1	1	0	1	3	1	4	1	0	1	0	0	1	1	1	5	0	20	4	24
HOURLY MAX	13	15	20	12	12	8	7	7	7	7	7	8	5	7	9	8	15	12	8	10	16	12	9	14				
HOURLY AVG	3	3	4	3	3	3	3	3	3	2	2	2	2	2	3	2	3	3	2	2	3	3	2	3				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 159 ppb

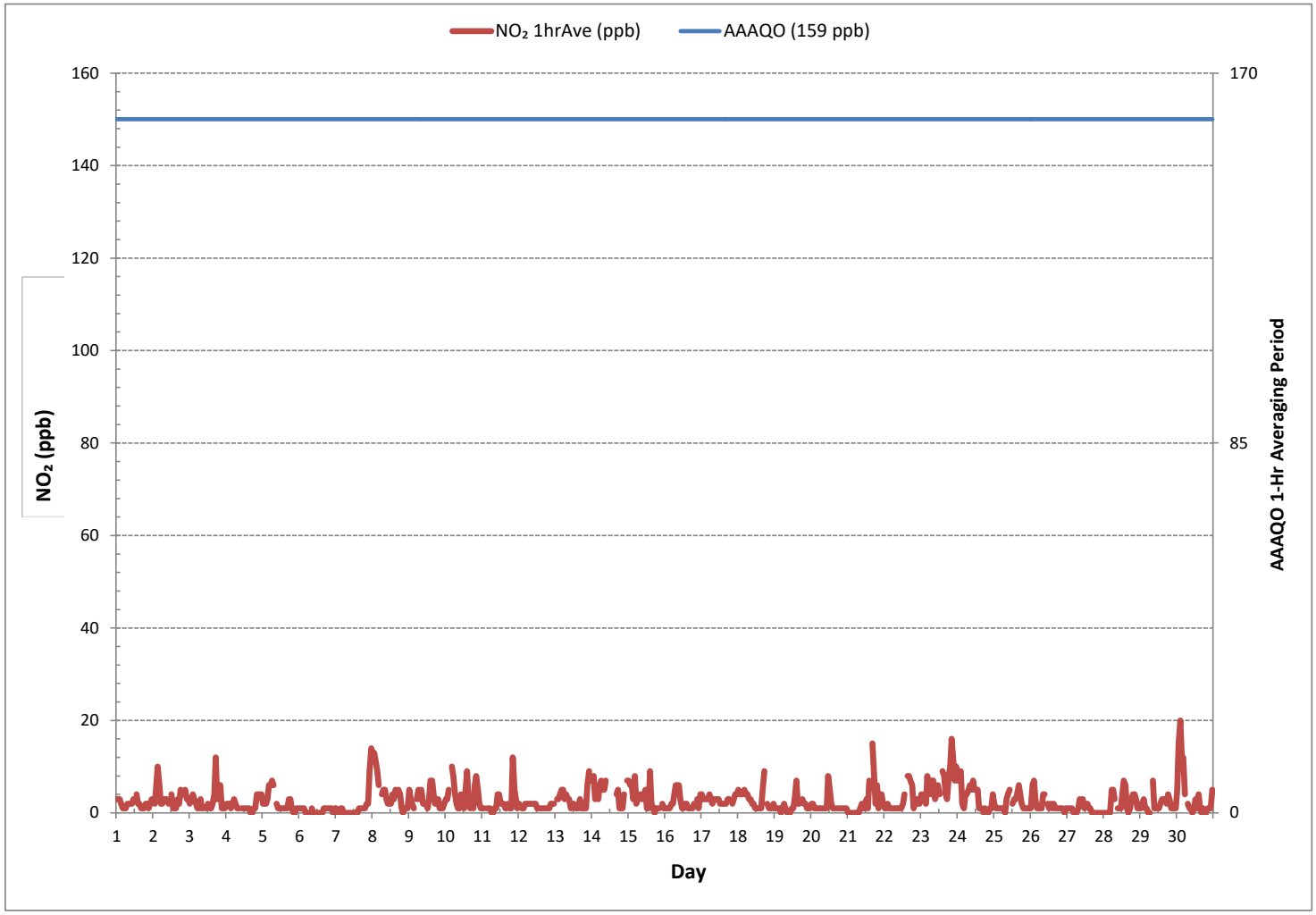


MONTHLY SUMMARY

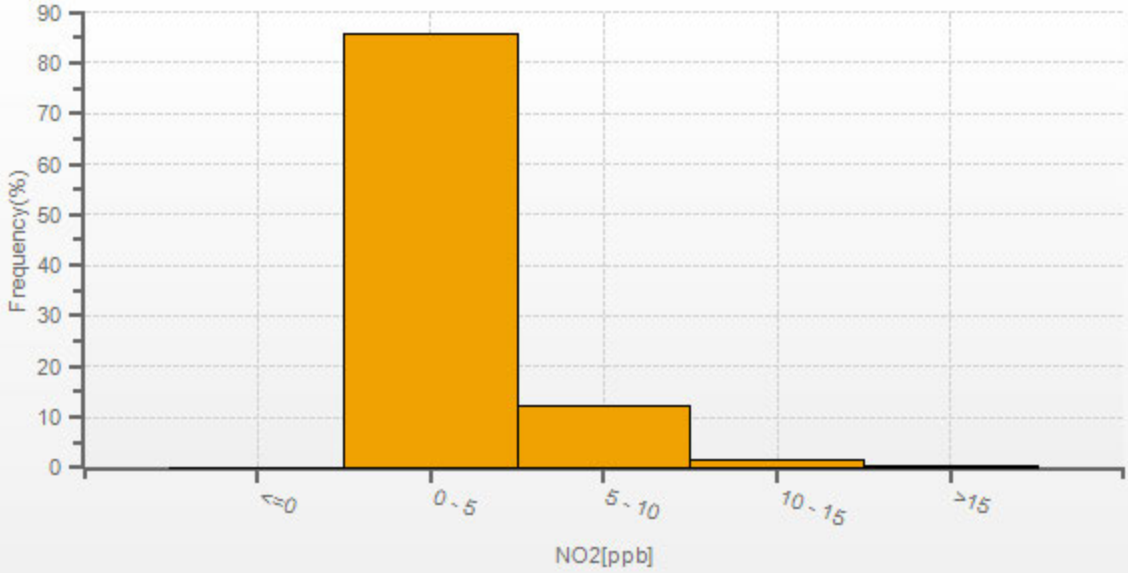
NUMBER OF 1-HR EXCEEDANCES:	0					
NUMBER OF NON-ZERO READINGS:	613					
MINIMUM 1-HR AVERAGE	0	ppb	@ HOUR	16	ON DAY	4
MAXIMUM 1-HR AVERAGE:	20	ppb	@ HOUR	2	ON DAY	30
MAXIMUM 24-HR AVERAGE:	6	ppb			ON DAY	23

IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	720	hrs
MONTHLY CALIBRATION TIME:	6	hrs	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	3		MONTHLY AVERAGE:	3	ppb

NITROGEN DIOXIDE Hourly Averages (NO_2 ppb)

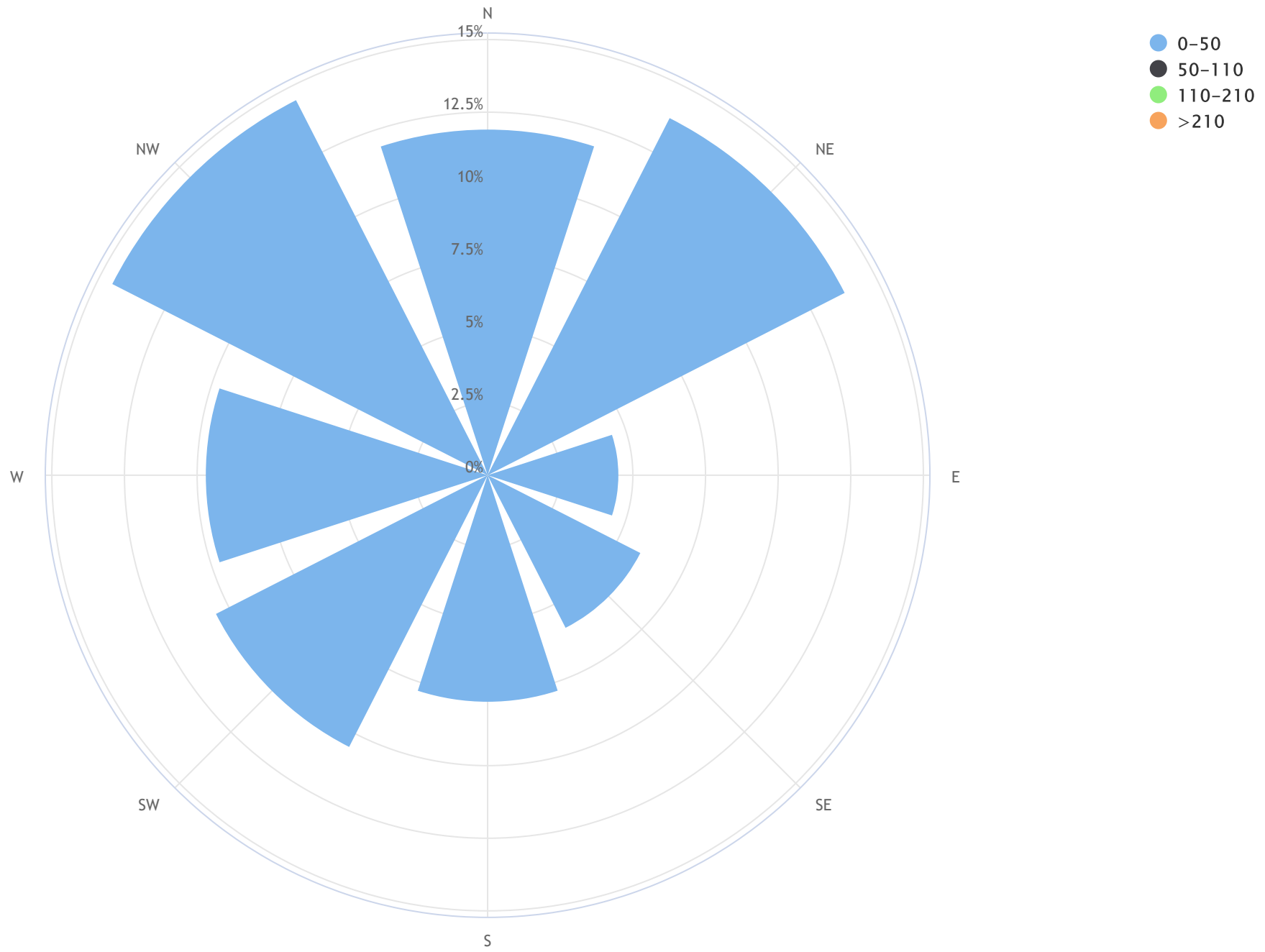


NO2[ppb] Histogram: LICA MASKWA Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Maskwa Continuous Monitoring Station_NO_2 (ppb)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 2.2, CALM % = 21.5%



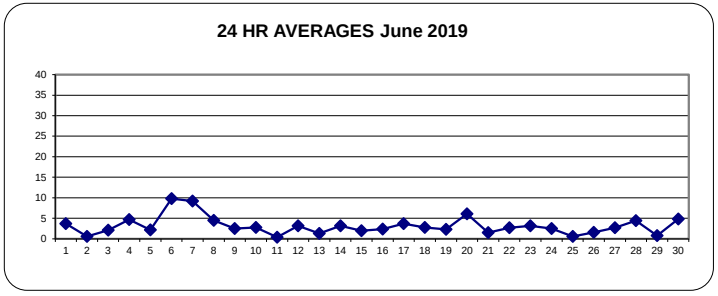
Direction	0-50	50-110	110-210	>210	TOTAL
N	11.9	0.0	0.0	0.0	11.9
NE	13.8	0.0	0.0	0.0	13.8
E	4.5	0.0	0.0	0.0	4.5
SE	5.9	0.0	0.0	0.0	5.9
S	7.8	0.0	0.0	0.0	7.8
SW	10.5	0.0	0.0	0.0	10.5
W	9.7	0.0	0.0	0.0	9.7
NW	14.5	0.0	0.0	0.0	14.5
Summary	78.5	0.0	0.0	0.0	78.5
CALM	21.5	0.0	0.0	0.0	21.5

WIND SPEED Hourly Averages (WS kph)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	0.3	0.7	**0.1**	1.1	1.0	0.9	1.7	1.5	4.1	5.8	5.2	5.7	6.0	5.8	7.9	8.0	8.5	6.8	5.0	4.5	4.8	5.7	3.3	4.8	**0.1**	8.5	3.7	24
2	7.0	5.4	1.0	3.0	2.2	2.2	3.4	3.5	4.5	3.8	2.6	1.9	3.6	4.3	4.1	4.0	4.9	5.6	4.5	1.4	1.9	1.4	0.8	0.8	0.8	7.0	0.6	24
3	0.3	1.7	2.2	0.9	1.7	3.7	2.3	4.0	4.7	5.6	3.6	3.3	4.5	3.6	5.2	5.7	5.8	6.8	4.8	4.6	2.1	2.5	2.0	2.9	0.3	6.8	2.1	24
4	4.1	4.4	3.5	3.1	4.4	4.7	4.6	3.6	5.9	7.4	7.4	6.7	5.9	7.1	5.7	6.3	5.6	4.0	3.3	3.1	5.2	4.6	2.9	2.7	2.7	7.4	4.7	24
5	1.1	2.2	2.9	3.9	2.2	2.0	2.6	5.1	6.2	5.3	6.2	5.4	6.5	6.0	4.9	6.0	4.2	2.4	2.0	4.2	3.7	3.1	1.4	2.4	1.1	6.5	2.2	24
6	2.8	2.3	2.6	3.3	4.4	7.0	9.9	11.5	10.7	10.3	7.1	9.5	15.3	**16.0**	15.4	13.8	15.8	15.5	13.1	13.7	11.1	8.3	9.2	9.9	2.3	**16.0**	**9.8**	24
7	12.2	12.9	13.8	14.4	12.5	15.7	11.7	11.2	10.2	10.1	9.4	10.9	12.2	10.5	7.8	5.2	6.6	8.3	7.8	8.1	6.8	4.6	4.0	4.6	4.0	15.7	9.2	24
8	5.1	4.8	4.9	4.6	3.6	4.4	6.9	6.2	6.5	7.2	5.8	7.6	7.1	6.5	6.2	4.7	5.8	5.1	3.8	3.2	1.6	1.7	0.6	0.4	0.4	7.6	4.5	24
9	2.0	0.9	0.3	0.7	0.2	0.3	2.9	4.4	6.4	5.6	4.5	5.1	5.0	4.0	4.4	4.8	5.3	4.4	4.3	1.6	3.5	4.2	3.8	4.5	0.2	6.4	2.5	24
10	5.0	6.3	5.3	5.9	6.7	6.7	5.0	5.5	7.4	5.7	4.5	6.3	6.7	7.5	6.0	5.3	5.1	4.7	5.4	2.1	2.0	2.4	1.5	0.1	0.1	7.5	2.8	24
11	0.5	1.2	1.0	1.2	0.8	0.9	3.4	3.5	4.9	2.8	1.2	1.6	1.4	1.1	3.5	3.3	1.7	0.6	2.1	4.6	3.3	0.9	3.2	3.9	0.5	4.9	0.4	24
12	3.5	0.7	0.5	0.8	0.7	1.2	3.5	5.3	3.2	2.8	3.8	5.1	4.9	4.3	3.5	5.0	6.5	4.8	4.3	3.8	3.5	3.7	3.9	4.5	0.5	6.5	3.2	24
13	4.3	5.1	4.9	5.9	3.1	2.8	5.6	4.4	2.7	2.9	3.1	1.7	4.3	0.5	3.6	2.0	3.0	3.2	2.4	0.2	0.8	1.3	1.1	4.9	0.2	5.9	1.3	24
14	2.3	1.3	1.1	2.1	1.4	1.6	2.7	3.3	4.5	5.7	5.6	5.3	5.8	5.1	3.3	5.8	4.7	6.2	7.2	5.0	1.4	1.1	0.8	0.8	0.8	7.2	3.2	24
15	1.7	1.0	2.4	1.4	2.9	2.5	2.0	2.2	2.9	3.4	3.5	5.1	3.2	3.5	4.8	4.2	5.9	4.4	2.3	2.3	0.5	1.0	0.7	0.1	0.1	5.9	2.0	24
16	0.8	0.1	0.6	1.0	1.3	1.2	1.0	1.0	1.7	2.7	1.8	3.6	5.1	1.7	3.1	5.7	5.6	2.8	5.4	5.7	4.1	4.6	4.0	3.8	0.1	5.7	2.4	24
17	1.7	1.6	1.1	2.0	1.5	2.2	4.9	5.9	5.5	6.1	7.1	6.1	8.1	8.1	8.1	1.8	5.5	3.3	4.1	4.8	5.0	5.2	6.2	6.4	1.1	8.1	3.7	24
18	6.7	6.6	6.2	4.7	3.4	2.9	4.4	4.6	5.4	4.5	5.6	6.3	6.5	7.2	5.4	3.6	3.6	3.8	5.0	4.5	3.5	2.9	1.4	1.5	1.4	7.2	2.8	24
19	1.5	0.5	0.3	0.3	0.8	1.1	2.4	5.2	6.2	7.7	12.0	9.6	5.4	4.8	3.8	4.7	1.4	1.6	1.9	2.2	1.9	1.0	1.1	2.5	0.3	12.0	2.3	24
20	1.4	1.3	3.1	6.1	8.7	9.7	9.5	9.1	8.6	8.8	8.3	5.6	4.2	2.8	8.6	10.0	11.0	11.8	14.7	6.3	4.2	3.7	3.1	1.2	1.2	14.7	6.1	24
21	1.7	1.8	0.4	0.3	1.0	0.8	2.2	5.3	2.0	1.5	1.5	2.6	1.7	1.8	1.8	2.3	4.7	4.5	4.2	3.2	3.1	1.9	2.1	3.2	0.3	5.3	1.5	24
22	3.4	1.6	1.8	1.4	2.0	3.9	4.8	4.2	4.5	5.3	5.1	1.1	2.4	0.9	1.9	2.7	2.7	2.9	2.0	5.2	2.4	3.4	3.3	2.4	0.9	5.3	2.7	24
23	2.5	3.1	2.6	1.3	2.1	2.2	3.5	3.1	4.8	4.0	4.2	5.0	3.0	3.8	2.6	3.2	4.1	4.6	5.0	3.6	4.0	4.0	2.5	2.7	1.3	5.0	3.2	24
24	2.2	2.8	3.0	2.9	2.7	3.2	3.6	3.8	3.1	3.9	4.2	4.0	4.3	3.0	3.2	6.7	5.9	3.6	3.9	1.0	0.4	1.5	1.8	1.1	0.4	6.7	2.5	24
25	2.0	0.9	1.6	0.6	1.5	2.1	2.3	2.7	2.5	2.4	1.8	4.4	3.7	5.9	2.6	1.0	1.1	1.8	2.1	1.8	1.0	0.2	0.5	1.8	0.2	5.9	0.6	24
26	0.8	0.7	0.7	0.7	1.3	0.2	1.3	0.4	3.6	5.1	2.6	1.9	3.4	3.1	3.0	2.3	6.9	6.7	6.6	2.4	0.1	4.4	1.8	1.5	0.1	6.9	1.6	24
27	0.7	0.5	0.8	1.3	1.5	2.2	2.6	1.9	3.1	3.5	3.0	4.0	4.6	4.2	2.7	5.4	4.8	7.1	5.5	3.5	3.1	3.1	3.9	3.9	0.5	7.1	2.7	24
28	4.0	3.8	3.5	4.1	4.7	4.0	4.0	5.2	7.2	5.5	5.8	6.7	5.7	5.6	6.6	6.9	7.6	7.9	6.3	3.4	1.7	1.8	3.8	3.1	1.7	7.9	4.4	24
29	2.7	1.5	1.0	1.7	1.1	1.8	2.3	2.3	1.7	5.1	4.8	1.7	1.3	4.4	6.5	1.9	3.9	1.4	1.7	0.8	3.7	1.1	1.6	2.4	0.8	6.5	0.8	24
30	3.5	4.1	5.6	5.9	4.6	5.0	5.5	4.7	4.7	6.0	7.4	7.4	5.6	8.2	6.3	6.1	6.9	7.9	4.3	4.4	3.9	6.2	6.6	6.0	3.5	8.2	4.8	24
HOURLY MAX	12.2	12.9	13.8	14.4	12.5	15.7	11.7	11.5	10.7	10.3	12.0	10.9	15.3	16.0	15.4	13.8	15.8	15.5	14.7	13.7	11.1	8.3	9.2	9.9				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

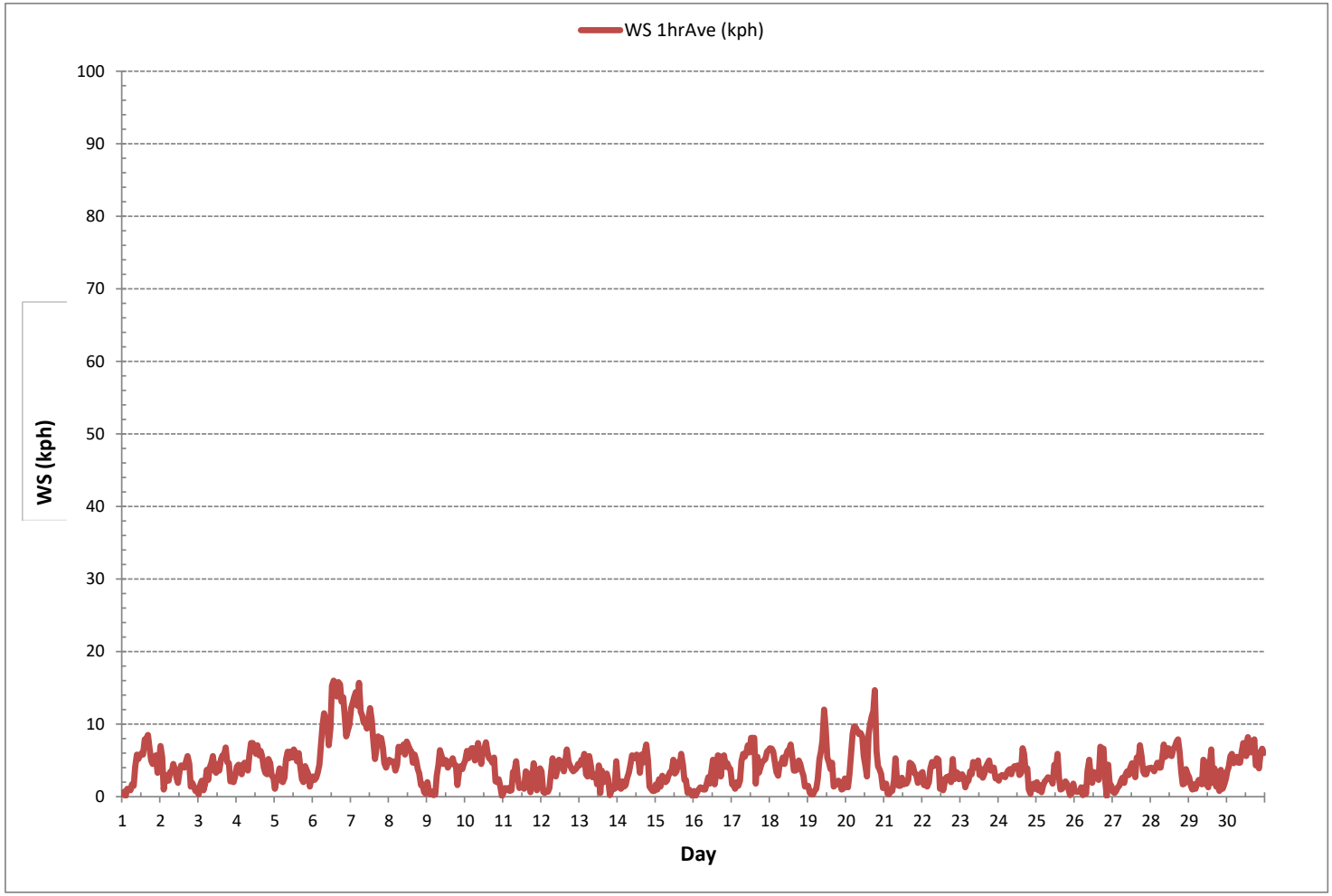


LAST CALIBRATION:	September 17, 2018		
DECLINATION :	MAGNETIC DECLINATION 19 DEGREE EAST		

MONTHLY SUMMARY

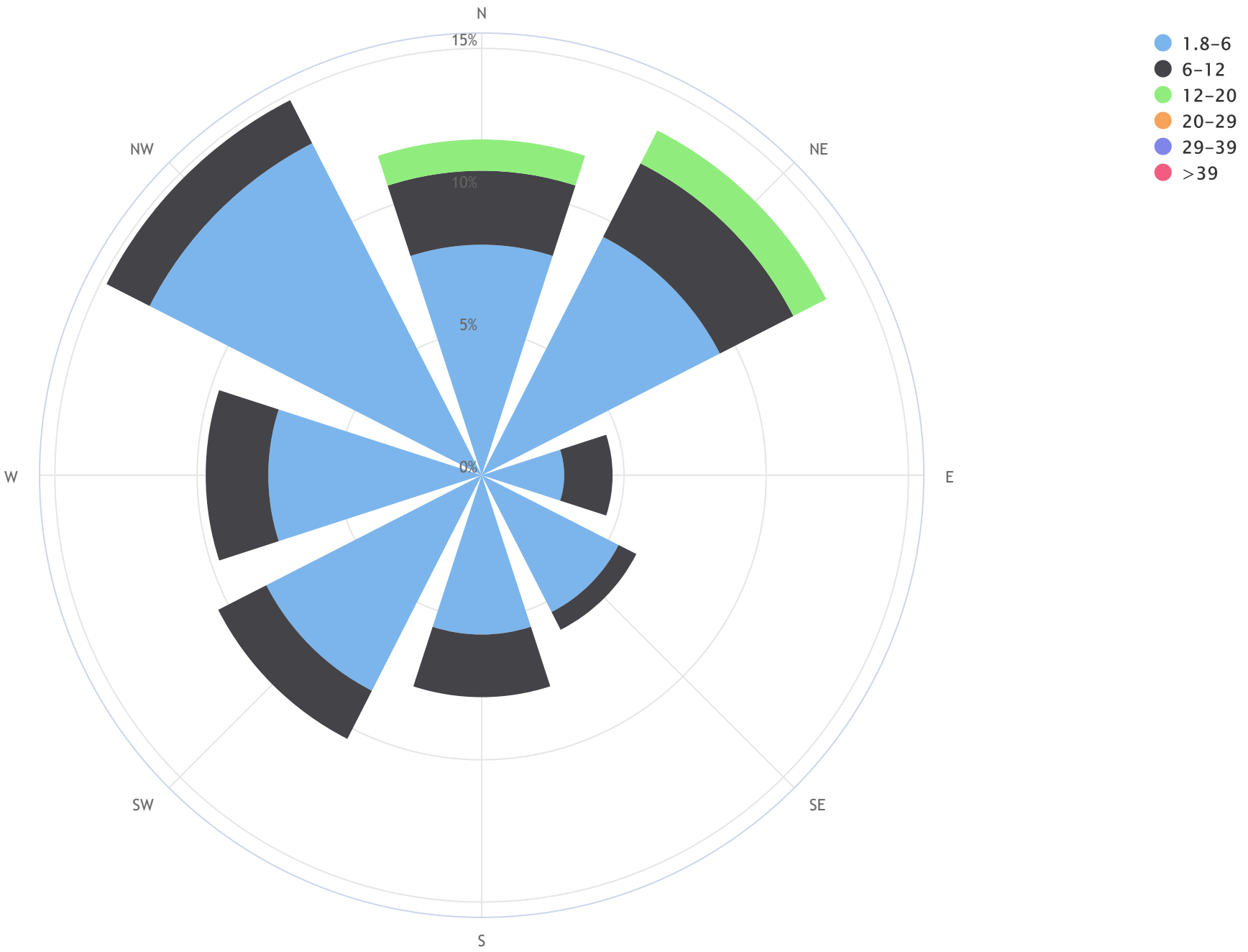
NUMBER OF NON-ZERO READINGS:		720					
MINIMUM 1-HR AVERAGE	0.1	kph	@ HOUR	2	ON DAY	1	
MAXIMUM 1-HR AVERAGE:	16.0	kph	@ HOUR	13	ON DAY	6	
MAXIMUM 24-HR AVERAGE:	9.8	kph			ON DAY	6	
			OPERATIONAL TIME:			720	hrs
MONTHLY CALIBRATION TIME:	0	hrs	AMD OPERATION UPTIME:			100.0	%
STANDARD DEVIATION:	2.8		MONTHLY AVERAGE:			0.8	kph

WIND SPEED Hourly Averages (WS kph)



Lakeland Industry & Community Association_Maskwa Continuous Monitoring Station_19/06

Wind Rose_Wind Frequency (Blowing From)_CALM Avg = 1.0_CALM % = 21.3%



Direction	1.8-6	6-12	12-20	20-29	29-39	>39	TOTAL
N	8.1	2.6	1.1	0.0	0.0	0.0	11.8
NE	9.4	2.9	1.3	0.0	0.0	0.0	13.6
E	2.9	1.7	0.0	0.0	0.0	0.0	4.6
SE	5.4	0.7	0.0	0.0	0.0	0.0	6.1
S	5.6	2.2	0.0	0.0	0.0	0.0	7.8
SW	8.5	1.9	0.0	0.0	0.0	0.0	10.4
W	7.5	2.2	0.0	0.0	0.0	0.0	9.7
NW	13.1	1.7	0.0	0.0	0.0	0.0	14.7
Summary	60.4	16.0	2.4	0.0	0.0	0.0	78.8
CALM	21.3	0.0	0.0	0.0	0.0	0.0	21.3

WIND DIRECTION Hourly Averages (WD)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR AVG	24-HR
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	QUADRANT	RDGS.
DAY																										
1	SW	ENE	ESE	ESE	ENE	ENE	ENE	E	S	S	SSE	ESE	ESE	SE	SSE	SSE	SSE	SE	SE	ESE	ESE	SE	SSE	SE	SE	24
2	SSE	SE	SSE	E	ESE	ENE	SE	N	NNE	N	NNE	WNW	SW	W	WSW	W	W	WNW	WNW	W	SSW	S	SE	SSE	WSW	24
3	ENE	SE	NE	SSE	NE	NE	NE	NNE	NE	ENE	NE	N	NNE	NNE	NNW	N	NNW	NW	NNW	NW	WSW	WSW	WSW	WSW	N	24
4	SW	SW	SW	SW	SW	SW	SW	W	WSW	SW	WSW	WSW	WSW	WSW	W	WSW	WSW	WSW	W	SW	SW	SW	WSW	WNW	WSW	24
5	E	S	SSW	SSW	SW	SSW	WSW	WNW	WNW	W	W	W	W	W	W	WNW	WNW	WNW	NW	NE	NE	NE	NE	NE	W	24
6	NE	NE	NNE	NNE	NNE	NE	NE	NE	NE	NE	ENE	NE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	24
7	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	N	NNE	NNE	N	N	N	N	N	N	N	NNW	NNW	NNW	NNW	WNW	WNW	N	24
8	NW	WNW	NW	WNW	W	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	WNW	NW	WNW	WNW	NW	N	N	N	NW	WNW	WNW	24
9	SW	SW	SSW	NW	N	SW	NW	NW	NW	NNW	NW	WNW	WNW	WNW	WNW	WNW	NW	WNW	WNW	WSW	SSW	S	SSW	SSW	WNW	24
10	SSW	SSW	SSW	SSW	SSW	SSW	SW	W	WNW	WNW	WNW	NNW	NNW	NW	NW	NW	NNW	NNW	NNE	WNW	W	NW	NNE	NNW	WNW	24
11	SE	SSW	SSE	S	NE	NE	NE	NE	NE	N	W	N	NNE	ESE	SW	WSW	N	WNW	SW	W	W	SW	SW	SSW	W	24
12	SSW	S	E	S	ESE	SSE	S	SSW	SSW	SSW	SSW	SSW	SW	SW	WSW	SW	SW	SW	SW	SSW	S	S	S	S	SSW	24
13	SSW	SSW	SSW	SSW	SW	SW	SW	WSW	W	WNW	NNE	E	S	SSW	ENE	ENE	NE	NE	ENE	ESE	SSW	W	SW	SSW	SSW	24
14	W	W	NW	NNW	SW	NW	NW	WNW	NW	NW	NW	NW	NNW	NW	NNW	NW	NW	NW	N	N	NNW	WSW	SW	WSW	NW	24
15	W	WSW	NW	NW	NW	NNW	N	NW	WNW	NW	WNW	NW	N	N	NW	NNW	NE	NE	NNE	NNE	NW	WSW	NNE	ENE	NNW	24
16	WNW	SE	SSE	S	S	SW	SSW	WNW	WNW	SSW	SSW	S	S	SSE	SE	S	SSW	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	24
17	SE	SE	SSE	SSE	ESE	SSE	S	S	SSW	S	SSW	S	S	S	SSW	N	NNE	SE	SE	SSE	SE	SSE	SSE	SSE	S	24
18	SSE	SSE	SSE	SSE	SSE	SE	SSE	SSE	SSE	SSE	SE	SE	SSE	S	S	SE	WNW	WNW	N	NE	NNE	NE	NE	NE	SSE	24
19	NNE	SSE	SSE	WSW	NNE	ENE	NNE	NE	NE	NE	NE	NE	ENE	ESE	E	S	S	ENE	ENE	ENE	ENE	SSW	NNE	SW	ENE	24
20	N	NE	NE	NE	E	ENE	ENE	ENE	ENE	ENE	ENE	E	E	ESE	NNE	NNE	NNE	NNE	NNE	NE	NNE	NE	NE	NNE	NE	24
21	NE	E	NE	NNE	SE	NE	ENE	NE	NE	ENE	NNE	E	WNW	NNE	W	NE	WNW	NW	NW	N	N	NW	NNW	N	N	24
22	N	NW	NW	N	NNW	N	N	N	N	NNW	NNW	N	ENE	SE	NW	NW	NW	NNW	NNW	N	N	N	N	NNW	N	24
23	NNW	N	NNE	NNW	WNW	W	WNW	NW	NW	NW	NW	WNW	NW	NNW	NW	WNW	NW	NW	WNW	W	WNW	NW	WNW	WNW	NW	24
24	NW	WNW	NW	NNW	NNW	NW	NW	NW	NW	NW	NW	NW	N	NW	NNE	NNE	NNE	NE	NE	NE	SW	N	N	NNW	NNW	24
25	N	NW	NNE	N	NNW	N	N	N	NW	WSW	SW	SSW	SSW	SSW	SSE	SW	NW	WNW	E	S	SSW	SW	S	SSW	WSW	24
26	SSW	WSW	ESE	S	SSW	SSW	NE	SSW	SSW	SSW	SW	WSW	SSW	SW	ENE	SSE	S	SSW	SSW	SSW	NNW	NE	ENE	SSW	SSW	24
27	ESE	S	ESE	E	NE	NE	NE	NE	ESE	SE	SE	SE	SE	ESE	ESE	ENE	ENE	ENE	ENE	ENE	NE	NE	NE	NE	E	24
28	NE	NE	ENE	NE	NE	E	ESE	E	ENE	ENE	E	E	E	E	E	E	ENE	E	E	SE	NW	NNW	N	NE	ENE	24
29	ENE	NW	NE	ENE	NE	NNE	NE	ENE	NE	NNE	NNE	NE	SE	WSW	WNW	WNW	NE	S	NNE	SSW	SW	WSW	WSW	WSW	N	24
30	W	WNW	NW	NW	NW	WNW	WNW	W	W	W	WNW	WNW	WNW	W	WNW	WSW	WSW	SW	W	W	SW	SSW	SSW	SW	W	24

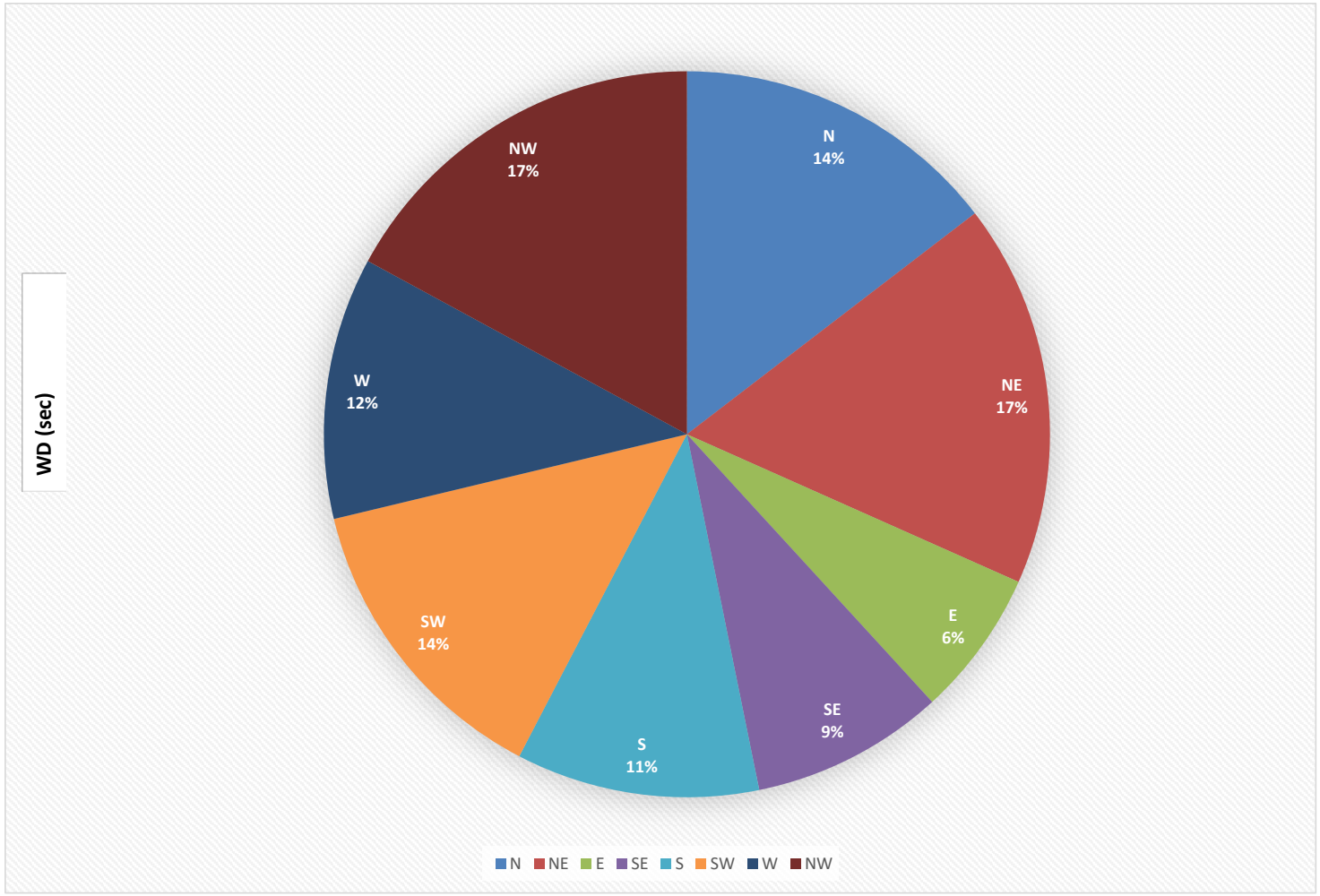
STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

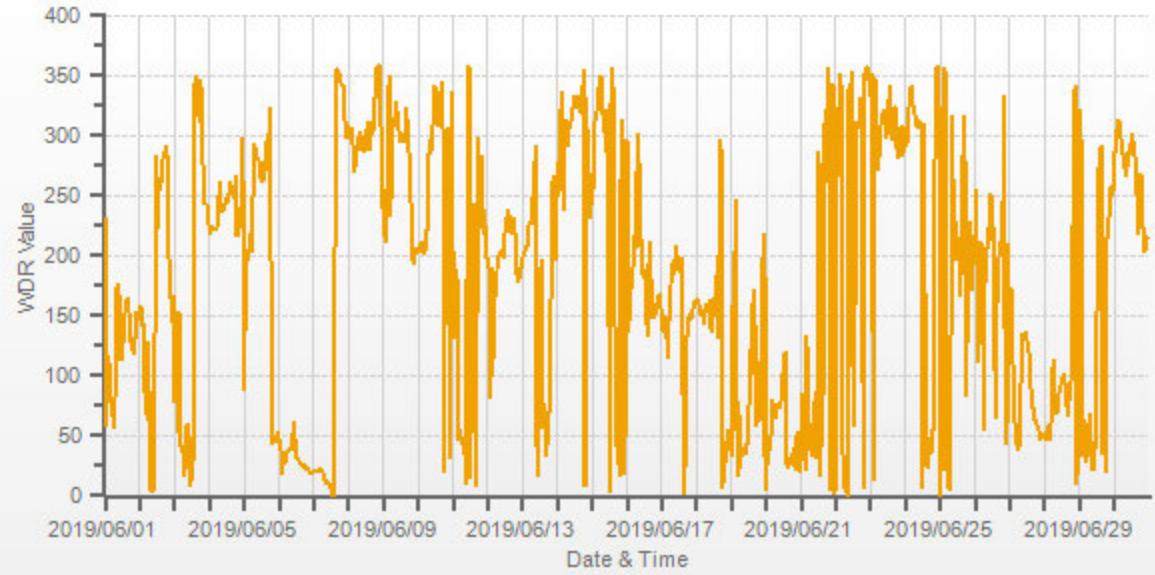
LAST CALIBRATION:	September 17, 2018
DECLINATION :	MAGNETIC DECLINATION 19 DEGREE EAST

MONTHLY CALIBRATION TIME:	0	hrs	OPERATIONAL TIME:	720	hrs
STANDARD DEVIATION:	112		AMD OPERATION UPTIME:	100.0	%
			MONTHLY AVERAGE:	346 (NNW)	

WIND DIRECTION Hourly Averages (WD)



WDR[degwdr] Station: LICA MASKWA Monthly: 19/06 Type: AVG 1 Hr. [1 Hr.]



STANDARD DEVIATION WIND DIRECTION Hourly Averages (STDWD deg)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	
DAY																									
1	36	26	53	41	51	53	21	45	23	23	35	18	17	33	18	20	17	11	12	9	11	14	48	18	24
2	10	13	71	36	32	31	13	28	25	33	39	54	34	30	23	23	26	14	17	33	9	20	52	45	24
3	64	40	41	60	31	13	34	29	17	20	30	39	32	27	18	20	14	15	34	25	32	15	17	15	24
4	11	8	10	9	7	10	18	23	21	20	25	22	24	21	27	25	21	23	21	15	12	12	22	42	24
5	47	34	17	13	18	25	38	14	19	26	25	29	27	28	34	24	38	43	32	21	13	10	22	17	24
6	15	14	9	14	6	6	7	9	9	12	17	11	7	6	6	5	5	5	7	4	6	9	6	7	24
7	5	5	5	6	6	4	6	7	9	7	6	6	8	9	12	13	11	10	12	13	12	15	16	12	24
8	12	15	16	12	16	12	10	15	20	17	16	14	21	19	19	22	21	22	26	19	22	28	31	48	24
9	26	18	34	53	75	61	30	23	20	24	31	21	26	27	28	22	27	22	21	32	8	6	5	4	24
10	5	4	5	7	4	4	16	21	12	14	26	25	24	17	15	27	20	29	21	29	23	26	46	77	24
11	38	11	41	37	62	39	14	26	34	37	61	62	63	69	30	31	58	71	36	20	32	67	31	11	24
12	12	57	52	53	41	46	19	15	30	34	37	25	34	33	40	24	23	22	18	12	11	6	7	6	24
13	6	4	7	7	16	19	10	20	16	34	28	55	26	72	28	27	32	23	24	75	50	59	62	18	24
14	39	46	35	33	23	25	18	22	21	16	17	20	24	28	33	22	23	19	15	13	33	35	39	49	24
15	27	39	28	35	25	23	31	28	27	27	36	24	28	34	19	28	12	15	20	17	50	41	36	27	24
16	25	65	41	28	29	23	49	42	40	33	52	20	16	63	39	26	20	45	12	10	11	16	13	13	24
17	47	17	35	17	24	27	18	13	18	26	18	21	16	22	16	69	29	30	11	6	10	6	6	7	24
18	6	7	6	7	14	19	13	20	20	30	32	23	22	23	32	31	39	42	25	17	19	15	27	13	24
19	21	62	62	60	24	59	28	10	9	9	7	9	30	12	18	49	67	20	18	19	34	34	51	47	24
20	23	18	15	7	10	9	9	11	13	14	17	14	28	56	9	6	9	7	5	40	15	25	20	31	24
21	39	17	53	67	50	38	22	10	19	49	56	47	59	53	57	61	16	16	23	26	23	18	26	13	24
22	13	23	17	17	17	14	8	13	18	18	26	67	61	71	44	17	35	39	39	9	30	18	15	26	24
23	25	19	16	41	36	16	17	22	15	22	22	21	37	50	30	25	25	15	23	16	15	16	19	17	24
24	27	25	15	19	25	19	16	15	17	15	16	15	25	23	16	9	7	27	23	22	40	23	27	37	24
25	18	27	13	26	20	13	20	27	26	37	44	10	46	26	43	61	43	45	35	23	55	63	46	13	24
26	38	60	46	31	14	63	38	63	27	22	24	40	42	47	25	43	19	13	9	19	70	13	16	27	24
27	65	45	53	21	22	17	24	30	38	33	40	28	34	39	47	25	30	12	12	16	16	9	9	8	24
28	10	12	11	11	12	23	13	13	15	13	14	12	13	14	14	18	14	13	12	34	50	39	22	24	24
29	18	48	50	17	32	17	17	36	33	10	14	63	64	50	18	58	14	55	20	58	13	34	28	17	24
30	18	12	9	9	13	11	13	17	22	19	17	16	23	12	19	29	25	22	17	19	13	4	7	8	24

STATUS FLAG CODES

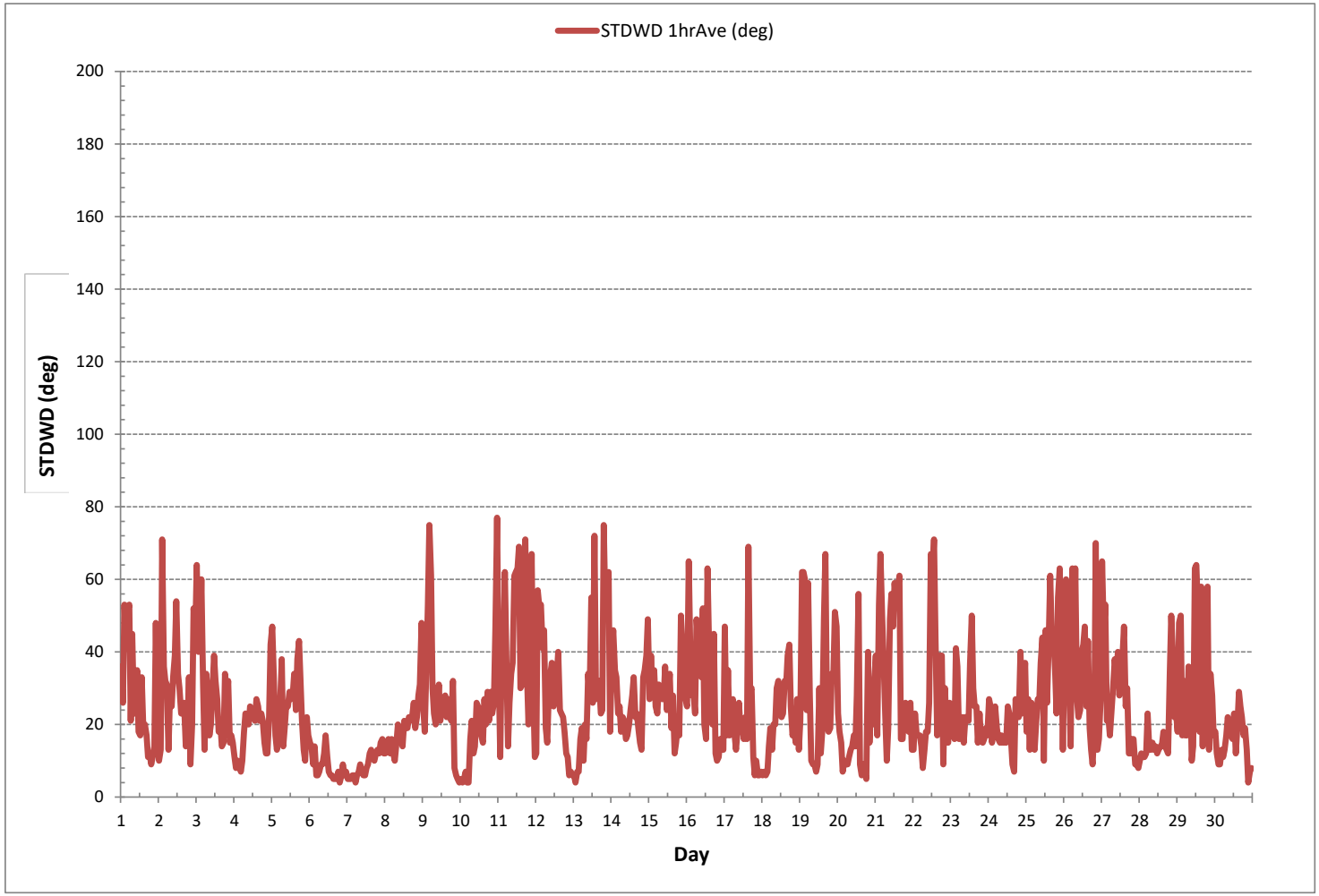
C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

LAST CALIBRATION: September 17, 2018

CALIBRATION TIME: 0 hrs

OPERATIONAL TIME: 720 hrs

STANDARD DEVIATION WIND DIRECTION Hourly Averages (STDWD deg)



VECTOR WIND SPEED Hourly Averages (kph) & WIND DIRECTION Hourly Averages

HR START (MST)		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)		0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																													
1	WS	0.3	0.7	**0.1**	1.1	1.0	0.9	1.7	1.5	4.1	5.8	5.2	5.7	6.0	5.8	7.9	8.0	8.5	6.8	5.0	4.5	4.8	5.7	3.3	4.8	**0.1**	8.5	3.7	24
	WD	SW	ENE	ESE	ESE	ENE	ENE	ENE	E	S	S	SSE	ESE	ESE	SE	SSE	SSE	SSE	SE	SE	ESE	ESE	SE	SSE	SE	-	-	-	24
2	WS	7.0	5.4	1.0	3.0	2.2	2.2	3.4	3.5	4.5	3.8	2.6	1.9	3.6	4.3	4.1	4.0	4.9	5.6	4.5	1.4	1.9	1.4	0.8	0.8	0.8	7.0	0.6	24
	WD	SSE	SE	SSE	E	ESE	ENE	SE	N	NNE	N	NNE	WNW	SW	W	WSW	W	W	WNW	WNW	W	SSW	S	SE	SSE	-	-	-	24
3	WS	0.3	1.7	2.2	0.9	1.7	3.7	2.3	4.0	4.7	5.6	3.6	3.3	4.5	3.6	5.2	5.7	5.8	6.8	4.8	4.6	2.1	2.5	2.0	2.9	0.3	6.8	2.1	24
	WD	ENE	SE	NE	SSE	NE	NE	NE	NNE	NE	ENE	NE	N	NNE	NNE	NNW	N	NNW	NW	NNW	NW	WSW	WSW	WSW	WSW	-	-	-	24
4	WS	4.1	4.4	3.5	3.1	4.4	4.7	4.6	3.6	5.9	7.4	7.4	6.7	5.9	7.1	5.7	6.3	5.6	4.0	3.3	3.1	5.2	4.6	2.9	2.7	2.7	7.4	4.7	24
	WD	SW	SW	SW	SW	SW	SW	SW	W	WSW	SW	WSW	WSW	WSW	WSW	W	WSW	WSW	WSW	W	SW	SW	SW	WSW	WNW	-	-	-	24
5	WS	1.1	2.2	2.9	3.9	2.2	2.0	2.6	5.1	6.2	5.3	6.2	5.4	6.5	6.0	4.9	6.0	4.2	2.4	2.0	4.2	3.7	3.1	1.4	2.4	1.1	6.5	2.2	24
	WD	E	S	SSW	SSW	SW	SSW	WSW	WNW	WNW	W	W	W	W	W	W	WNW	WNW	WNW	NW	NE	NE	NE	NE	NE	-	-	-	24
6	WS	2.8	2.3	2.6	3.3	4.4	7.0	9.9	11.5	10.7	10.3	7.1	9.5	15.3	**16.0**	15.4	13.8	15.8	15.5	13.1	13.7	11.1	8.3	9.2	9.9	2.3	**16.0**	**9.8**	24
	WD	NE	NE	NNE	NNE	NNE	NE	NE	NE	NE	NE	ENE	NE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	-	-	-	24
7	WS	12.2	12.9	13.8	14.4	12.5	15.7	11.7	11.2	10.2	10.1	9.4	10.9	12.2	10.5	7.8	5.2	6.6	8.3	7.8	8.1	6.8	4.6	4.0	4.6	4.0	15.7	9.2	24
	WD	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	N	NNE	NNE	N	N	N	N	N	N	N	NNW	NNW	NNW	NNW	WNW	WNW	-	-	-	24
8	WS	5.1	4.8	4.9	4.6	3.6	4.4	6.9	6.2	6.5	7.2	5.8	7.6	7.1	6.5	6.2	4.7	5.8	5.1	3.8	3.2	1.6	1.7	0.6	0.4	0.4	7.6	4.5	24
	WD	NW	WNW	NW	WNW	W	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	WNW	NW	WNW	WNW	NW	N	N	N	NW	WNW	-	-	-	24
9	WS	2.0	0.9	0.3	0.7	0.2	0.3	2.9	4.4	6.4	5.6	4.5	5.1	5.0	4.0	4.4	4.8	5.3	4.4	4.3	1.6	3.5	4.2	3.8	4.5	0.2	6.4	2.5	24
	WD	SW	SW	SSW	NW	N	SW	NW	NW	NW	NNW	NW	WNW	WNW	WNW	WNW	WNW	NW	WNW	WNW	WSW	SSW	S	SSW	SSW	-	-	-	24
10	WS	5.0	6.3	5.3	5.9	6.7	6.7	5.0	5.5	7.4	5.7	4.5	6.3	6.7	7.5	6.0	5.3	5.1	4.7	5.4	2.1	2.0	2.4	1.5	0.1	0.1	7.5	2.8	24
	WD	SSW	SSW	SSW	SSW	SSW	SSW	SW	W	WNW	WNW	WNW	NNW	NNW	NW	NW	NW	NNW	NNW	NNE	WNW	W	NW	NNE	NNW	-	-	-	24
11	WS	0.5	1.2	1.0	1.2	0.8	0.9	3.4	3.5	4.9	2.8	1.2	1.6	1.4	1.1	3.5	3.3	1.7	0.6	2.1	4.6	3.3	0.9	3.2	3.9	0.5	4.9	0.4	24
	WD	SE	SSW	SSE	S	NE	NE	NE	NE	NE	N	W	N	NNE	ESE	SW	WSW	N	WNW	SW	W	W	SW	SW	SSW	-	-	-	24
12	WS	3.5	0.7	0.5	0.8	0.7	1.2	3.5	5.3	3.2	2.8	3.8	5.1	4.9	4.3	3.5	5.0	6.5	4.8	4.3	3.8	3.5	3.7	3.9	4.5	0.5	6.5	3.2	24
	WD	SSW	S	E	S	ESE	SSE	S	SSW	SSW	SSW	SSW	SSW	SW	SW	WSW	SW	SW	SW	SW	SSW	S	S	S	S	-	-	-	24
13	WS	4.3	5.1	4.9	5.9	3.1	2.8	5.6	4.4	2.7	2.9	3.1	1.7	4.3	0.5	3.6	2.0	3.0	3.2	2.4	0.2	0.8	1.3	1.1	4.9	0.2	5.9	1.3	24
	WD	SSW	SSW	SSW	SSW	SW	SW	SW	WSW	W	WNW	NNE	E	S	SSW	ENE	ENE	NE	NE	ENE	ESE	SSW	W	SW	SSW	-	-	-	24
14	WS	2.3	1.3	1.1	2.1	1.4	1.6	2.7	3.3	4.5	5.7	5.6	5.3	5.8	5.1	3.3	5.8	4.7	6.2	7.2	5.0	1.4	1.1	0.8	0.8	0.8	7.2	3.2	24
	WD	W	W	NW	NNW	SW	NW	NW	WNW	NW	NW	NW	NW	NNW	NW	NNW	NW	NW	NW	N	N	NNW	WSW	SW	WSW	-	-	-	24
15	WS	1.7	1.0	2.4	1.4	2.9	2.5	2.0	2.2	2.9	3.4	3.5	5.1	3.2	3.5	4.8	4.2	5.9	4.4	2.3	2.3	0.5	1.0	0.7	0.1	0.1	5.9	2.0	24
	WD	W	WSW	NW	NW	NW	NNW	N	NW	WNW	NW	WNW	NW	N	N	NW	NNW	NE	NE	NNE	NNE	NW	WSW	NNE	ENE	-	-	-	24
16	WS	0.8	0.1	0.6	1.0	1.3	1.2	1.0	1.0	1.7	2.7	1.8	3.6	5.1	1.7	3.1	5.7	5.6	2.8	5.4	5.7	4.1	4.6	4.0	3.8	0.1	5.7	2.4	24
	WD	WNW	SE	SSE	S	S	SW	SSW	WNW	WNW	SSW	SSW	S	S	SSE	SE	S	SSW	SSE	SSE	SSE	SSE	SSE	SSE	SSE	-	-	-	24
17	WS	1.7	1.6	1.1	2.0	1.5	2.2	4.9	5.9	5.5	6.1	7.1	6.1	8.1	8.1	8.1	1.8	5.5	3.3	4.1	4.8	5.0	5.2	6.2	6.4	1.1	8.1	3.7	24
	WD	SE	SE	SSE	SSE	ESE	SSE	S	S	SSW	S	SSW	S	S	S	SSW	N	NNE	SE	SE	SSE	SE	SSE	SSE	SSE	-	-	-	24
18	WS	6.7	6.6	6.2	4.7	3.4	2.9	4.4	4.6	5.4	4.5	5.6	6.3	6.5	7.2	5.4	3.6	3.6	3.8	5.0	4.5	3.5	2.9	1.4	1.5	1.4	7.2	2.8	24
	WD	SSE	SSE	SSE	SSE	SSE	SE	SSE	SSE	SSE	SSE	SE	SE	SSE	S	S	SE	WNW	WNW	N	NE	NNE	NE	NE	NE	-	-	-	24
19	WS	1.5	0.5	0.3	0.3	0.8	1.1	2.4	5.2	6.2	7.7	12.0	9.6	5.4	4.8	3.8	4.7	1.4	1.6	1.9	2.2	1.9	1.0	1.1	2.5	0.3	12.0	2.3	24
	WD	NNE	SSE	SSE	WSW	NNE	ENE	NNE	NE	NE	NE	NE	NE	ENE	ESE	E	S	S	ENE	ENE	ENE	ENE	SSW	NNE	SW	-	-	-	24
20	WS	1.4	1.3	3.1	6.1	8.7	9.7	9.5	9.1	8.6	8.8	8.3	5.6	4.2	2.8	8.6	10.0	11.0	11.8	14.7	6.3	4.2	3.7	3.1	1.2	1.2	14.7	6.1	24
	WD	N	NE	NE	NE	E	ENE	ENE	ENE	ENE	ENE	ENE	E	E	ESE	NNE	NNE	NNE	NNE	NNE	NE	NNE	NE	NE	NNE	-	-	-	24

VECTOR WIND SPEED Hourly Averages (kph) & WIND DIRECTION Hourly Averages

HR START (MST)		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)		0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																													
21	WS	1.7	1.8	0.4	0.3	1.0	0.8	2.2	5.3	2.0	1.5	1.5	2.6	1.7	1.8	1.8	2.3	4.7	4.5	4.2	3.2	3.1	1.9	2.1	3.2	0.3	5.3	1.5	24
	WD	NE	E	NE	NNE	SE	NE	ENE	NE	NE	ENE	NNE	E	WNW	NNE	W	NE	WNW	NW	NW	N	N	NW	NNW	N	-	-	-	24
22	WS	3.4	1.6	1.8	1.4	2.0	3.9	4.8	4.2	4.5	5.3	5.1	1.1	2.4	0.9	1.9	2.7	2.7	2.9	2.0	5.2	2.4	3.4	3.3	2.4	0.9	5.3	2.7	24
	WD	N	NW	NW	N	NNW	N	N	N	N	NNW	NNW	N	ENE	SE	NW	NW	NW	NNW	NNW	N	N	N	N	NNW	-	-	-	24
23	WS	2.5	3.1	2.6	1.3	2.1	2.2	3.5	3.1	4.8	4.0	4.2	5.0	3.0	3.8	2.6	3.2	4.1	4.6	5.0	3.6	4.0	4.0	2.5	2.7	1.3	5.0	3.2	24
	WD	NNW	N	NNE	NNW	WNW	W	WNW	NW	NW	NW	NW	WNW	NW	NNW	NW	WNW	NW	NW	WNW	W	WNW	NW	WNW	WNW	-	-	-	24
24	WS	2.2	2.8	3.0	2.9	2.7	3.2	3.6	3.8	3.1	3.9	4.2	4.0	4.3	3.0	3.2	6.7	5.9	3.6	3.9	1.0	0.4	1.5	1.8	1.1	0.4	6.7	2.5	24
	WD	NW	WNW	NW	NNW	NNW	NW	NW	NW	NW	NW	NW	NW	N	NW	NNE	NNE	NNE	NE	NE	NE	SW	N	N	NNW	-	-	-	24
25	WS	2.0	0.9	1.6	0.6	1.5	2.1	2.3	2.7	2.5	2.4	1.8	4.4	3.7	5.9	2.6	1.0	1.1	1.8	2.1	1.8	1.0	0.2	0.5	1.8	0.2	5.9	0.6	24
	WD	N	NW	NNE	N	NNW	N	N	N	NW	WSW	SW	SSW	SSW	SSW	SSE	SW	NW	WNW	E	S	SSW	SW	S	SSW	-	-	-	24
26	WS	0.8	0.7	0.7	0.7	1.3	0.2	1.3	0.4	3.6	5.1	2.6	1.9	3.4	3.1	3.0	2.3	6.9	6.7	6.6	2.4	0.1	4.4	1.8	1.5	0.1	6.9	1.6	24
	WD	SSW	WSW	ESE	S	SSW	SSW	NE	SSW	SSW	SSW	SW	WSW	SSW	SW	ENE	SSE	S	SSW	SSW	SSW	NNW	NE	ENE	SSW	-	-	-	24
27	WS	0.7	0.5	0.8	1.3	1.5	2.2	2.6	1.9	3.1	3.5	3.0	4.0	4.6	4.2	2.7	5.4	4.8	7.1	5.5	3.5	3.1	3.1	3.9	3.9	0.5	7.1	2.7	24
	WD	ESE	S	ESE	E	NE	NE	NE	NE	ESE	SE	SE	SE	SE	ESE	ESE	ENE	ENE	ENE	ENE	ENE	NE	NE	NE	NE	-	-	-	24
28	WS	4.0	3.8	3.5	4.1	4.7	4.0	4.0	5.2	7.2	5.5	5.8	6.7	5.7	5.6	6.6	6.9	7.6	7.9	6.3	3.4	1.7	1.8	3.8	3.1	1.7	7.9	4.4	24
	WD	NE	NE	ENE	NE	NE	E	ESE	E	ENE	ENE	E	E	E	E	E	E	ENE	E	E	SE	NW	NNW	N	NE	-	-	-	24
29	WS	2.7	1.5	1.0	1.7	1.1	1.8	2.3	2.3	1.7	5.1	4.8	1.7	1.3	4.4	6.5	1.9	3.9	1.4	1.7	0.8	3.7	1.1	1.6	2.4	0.8	6.5	0.8	24
	WD	ENE	NW	NE	ENE	NE	NNE	NE	ENE	NE	NNE	NNE	NE	SE	WSW	WNW	WNW	NE	S	NNE	SSW	SW	WSW	WSW	WSW	-	-	-	24
30	WS	3.5	4.1	5.6	5.9	4.6	5.0	5.5	4.7	4.7	6.0	7.4	7.4	5.6	8.2	6.3	6.1	6.9	7.9	4.3	4.4	3.9	6.2	6.6	6.0	3.5	8.2	4.8	24
	WD	W	WNW	NW	NW	NW	WNW	WNW	W	W	W	WNW	WNW	WNW	W	WNW	WSW	WSW	SW	W	W	SW	SSW	SSW	SW	-	-	-	24
WS HOURLY MAX		12.2	12.9	13.8	14.4	12.5	15.7	11.7	11.5	10.7	10.3	12.0	10.9	15.3	16.0	15.4	13.8	15.8	15.5	14.7	13.7	11.1	8.3	9.2	9.9				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

LAST CALIBRATION:	September 17, 2018
DECLINATION :	MAGNETIC DECLINATION 19 DEGREE EAST

MONTHLY SUMMARY

WIND SPEED						
MINIMUM 1-HR AVERAGE	0.1	kph	@ HOUR(S)	2	ON DAY(S)	1
MAXIMUM 1-HR AVERAGE:	16.0	kph	@ HOUR(S)	13	ON DAY(S)	6
MAXIMUM 24-HR AVERAGE:	9.8	kph			ON DAY(S)	6
					VAR-VARIOUS	
				MONTHLY AVERAGE:		**0.8 kph**
WIND DIRECTION						
				MONTHLY AVERAGE:		**346 (NNW)**
HOURS IN SERVICE	720	hrs				
HOURS OF DATA	720	hrs				
HOURS OF CALIBRATION	0	hrs		STANDARD DEVIATION:		2.9
HOURS OF MISSING DATA	0	hrs		AMD OPERATION UPTIME:		100.0 %

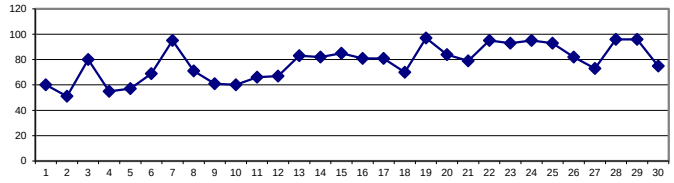
RELATIVE HUMIDITY Hourly Averages (RH %)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	99	**100**	100	100	100	100	96	79	58	52	44	45	44	36	31	30	29	33	35	38	42	41	46	52	29	**100**	60	24
2	49	48	48	80	90	87	81	65	61	56	53	45	38	27	25	25	24	**21**	23	31	47	57	68	74	**21**	90	51	24
3	83	83	83	95	98	90	85	96	88	72	73	70	67	65	66	70	72	74	73	66	79	85	92	92	65	98	80	24
4	88	88	89	94	90	83	75	64	55	45	39	36	34	32	30	27	26	29	31	41	46	53	61	63	26	94	55	24
5	81	95	100	100	100	90	76	64	52	43	38	34	28	30	28	28	26	28	28	40	52	59	69	72	26	100	57	24
6	75	78	81	79	80	79	78	71	63	63	68	68	58	56	55	57	54	57	64	68	71	76	77	78	54	81	69	24
7	79	79	80	83	84	86	92	99	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99	100	79	100	95	24
8	100	99	100	100	100	95	87	83	73	66	65	56	50	48	45	47	44	42	45	46	58	73	83	90	42	100	71	24
9	92	95	97	97	94	92	76	63	54	46	40	37	32	33	32	34	30	29	30	40	65	79	84	82	29	97	61	24
10	77	78	86	91	97	93	79	63	53	50	49	43	39	44	41	33	36	36	42	52	58	59	71	79	33	97	60	24
11	88	94	96	98	95	91	79	67	58	54	45	40	38	39	41	35	32	33	40	47	82	93	98	100	32	100	66	24
12	100	100	100	100	100	100	90	84	76	70	64	58	47	39	34	35	34	33	33	40	61	71	71	67	33	100	67	24
13	67	70	75	79	81	80	72	78	92	91	95	91	81	74	89	86	67	71	72	86	96	94	100	100	67	100	83	24
14	100	100	100	100	100	98	93	90	86	80	79	81	80	72	64	60	58	57	54	67	77	89	92	94	54	100	82	24
15	96	99	96	96	94	91	88	81	76	67	60	54	86	70	84	88	90	84	81	82	90	96	97	100	54	100	85	24
16	100	100	100	100	100	100	100	86	72	64	62	64	61	52	55	49	47	88	80	84	96	94	96	97	47	100	81	24
17	100	100	100	100	100	98	91	85	77	70	65	58	52	45	44	59	88	99	88	84	87	86	83	81	44	100	81	24
18	78	75	75	78	76	73	68	64	61	54	49	42	37	34	35	37	58	86	99	100	100	100	100	100	34	100	70	24
19	100	100	100	100	100	100	100	98	100	99	92	89	92	88	84	96	100	100	100	100	100	100	100	100	84	100	**97**	24
20	100	100	100	100	97	93	89	86	85	79	71	96	99	92	84	85	68	57	57	61	66	74	76	91	57	100	84	24
21	94	100	100	100	100	100	96	83	78	69	60	54	51	45	56	48	71	74	82	88	86	89	89	92	45	100	79	24
22	95	100	100	100	100	98	94	90	86	75	70	89	98	99	100	96	96	100	100	100	100	100	100	100	70	100	95	24
23	100	100	100	100	100	100	100	98	93	90	88	75	68	81	100	96	85	79	86	92	96	100	100	100	68	100	93	24
24	100	100	100	100	100	100	99	98	98	95	98	94	89	81	87	86	94	88	83	90	99	95	100	100	81	100	95	24
25	100	100	100	100	100	100	100	92	86	87	98	96	89	94	94	84	84	65	70	84	99	100	100	100	65	100	93	24
26	100	100	100	100	100	100	91	79	77	71	73	67	56	64	74	75	54	55	69	83	93	88	94	100	54	100	82	24
27	100	100	100	100	100	100	93	82	70	64	55	51	46	43	42	39	40	47	60	69	79	89	89	89	39	100	73	24
28	89	91	92	90	88	87	99	100	100	100	100	100	100	100	98	92	90	89	93	97	98	100	100	100	87	100	96	24
29	100	100	100	100	100	100	100	100	100	100	98	88	84	65	78	100	98	94	98	100	99	100	100	100	65	100	96	24
30	100	100	100	100	100	99	92	83	74	65	57	49	45	68	59	54	51	63	56	58	71	81	84	84	45	100	75	24
HOURLY MAX	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100				
HOURLY AVG	91	92	93	95	95	93	89	82	77	71	68	66	63	61	62	62	62	64	66	71	80	84	87	89				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

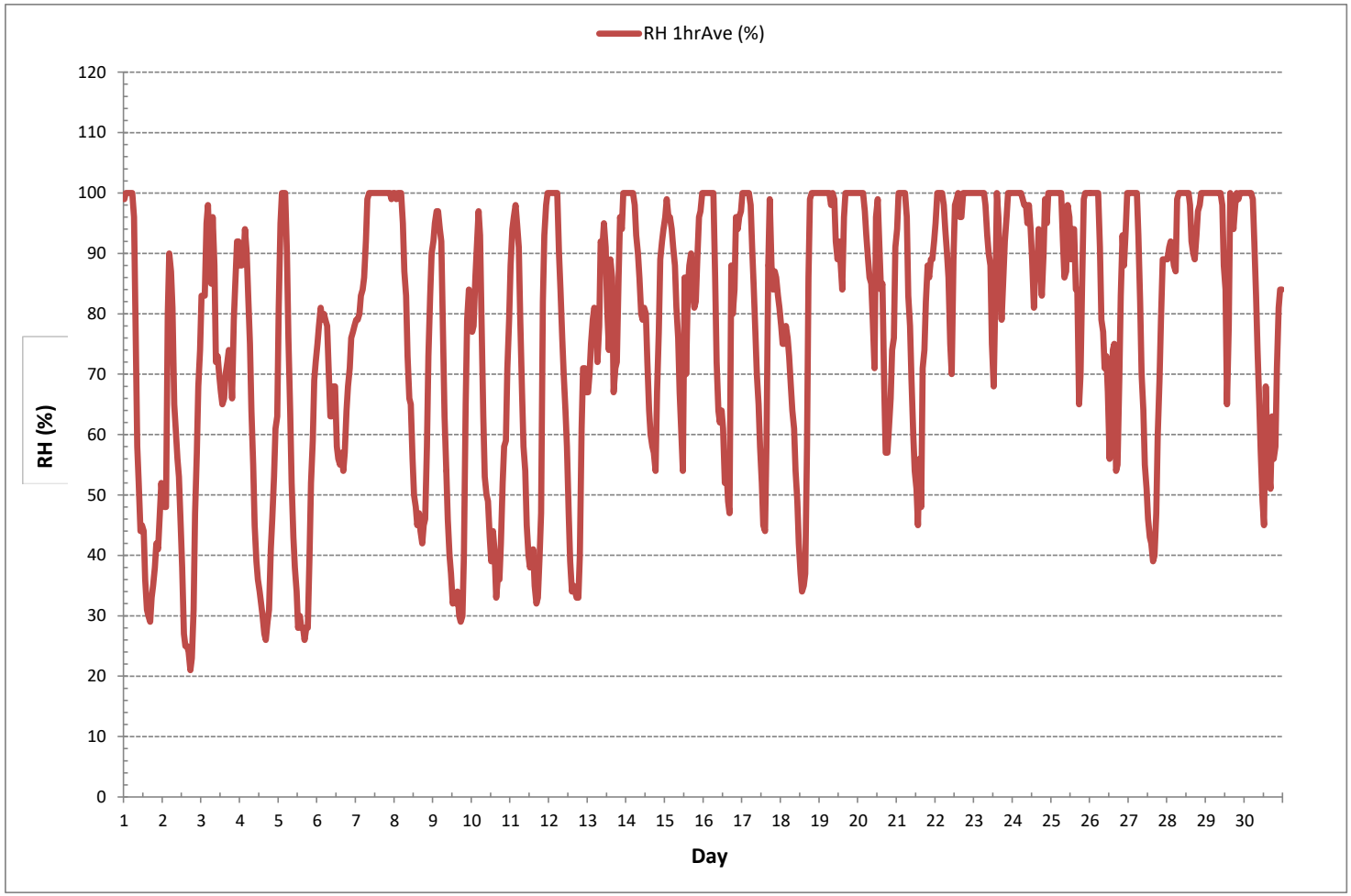
24 HR AVERAGES June 2019



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	21	%	@ HOUR	17	ON DAY	2	
MAXIMUM 1-HR AVERAGE:	100	%	@ HOUR	1	ON DAY	1	
MAXIMUM 24-HR AVERAGE:	97	%			ON DAY	19	
			OPERATIONAL TIME:			720	hrs
			AMD OPERATION UPTIME:			100.0	%
STANDARD DEVIATION:	22		MONTHLY AVERAGE:			78	%

RELATIVE HUMIDITY Hourly Averages (RH %)

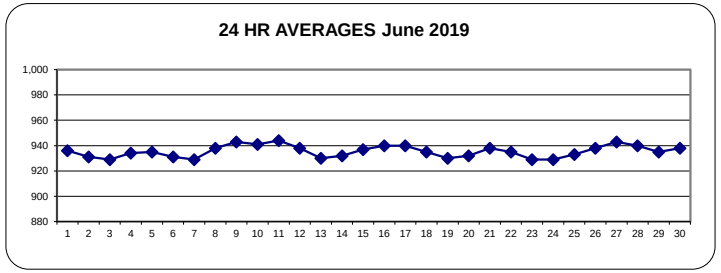


BAROMETRIC PRESSURE Hourly Averages (BP mbar)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	938	938	938	938	938	938	938	939	939	939	938	938	938	937	936	935	935	934	933	933	932	932	933	931	931	939	936	24
2	931	930	930	931	930	930	930	931	932	932	932	932	932	932	932	932	932	931	931	931	931	930	931	930	930	932	931	24
3	930	929	929	929	929	928	928	929	928	928	928	928	928	928	928	929	930	931	931	932	931	932	932	932	928	932	929	24
4	932	932	932	933	933	934	935	935	935	935	935	935	935	935	935	934	934	934	934	934	934	935	935	935	932	935	934	24
5	935	934	934	934	934	935	936	936	936	936	936	936	936	935	935	935	935	934	934	934	934	934	933	933	933	936	935	24
6	933	932	932	931	931	931	932	931	931	931	932	931	931	931	931	932	932	932	931	931	931	931	931	931	931	933	931	24
7	931	930	930	929	929	929	928	928	**927**	927	927	927	927	927	928	928	928	929	930	930	931	932	932	933	**927**	933	929	24
8	933	933	934	935	936	936	937	937	938	938	938	938	939	939	939	939	939	939	940	940	940	940	941	941	933	941	938	24
9	941	941	941	941	942	942	943	943	944	944	944	944	944	944	944	944	944	944	944	943	943	942	942	942	941	944	943	24
10	942	941	941	941	941	941	941	941	941	942	941	941	941	941	941	941	941	941	941	941	941	941	941	941	941	942	941	24
11	941	942	942	942	942	943	943	944	944	**945**	945	945	945	945	944	944	944	944	944	944	944	943	943	942	941	**945**	**944**	24
12	942	942	942	941	941	941	941	941	941	941	940	940	939	938	938	937	936	936	935	934	934	933	933	932	932	942	938	24
13	932	931	931	931	931	931	931	932	931	931	930	930	930	930	930	930	929	929	929	929	929	929	929	928	928	932	930	24
14	929	929	929	929	929	930	930	931	931	932	932	932	933	933	932	932	933	933	933	934	934	934	934	934	929	934	932	24
15	934	934	935	935	936	936	937	937	938	938	938	938	937	937	938	938	938	938	939	939	939	938	938	938	934	939	937	24
16	938	939	939	939	939	939	939	940	940	941	940	940	940	940	940	940	940	939	939	940	940	940	940	940	938	941	940	24
17	940	940	940	940	940	940	941	941	941	942	942	941	941	941	940	940	940	939	939	939	938	938	938	937	937	942	940	24
18	937	937	936	936	936	936	937	936	936	936	936	936	935	935	934	934	934	934	934	934	934	934	934	933	933	937	935	24
19	933	932	932	931	931	932	932	931	930	930	929	929	928	928	928	928	928	929	929	929	929	929	929	929	928	933	930	24
20	928	928	927	928	929	929	929	930	931	932	932	933	933	933	933	933	934	934	934	934	934	934	935	935	927	935	932	24
21	935	935	935	936	936	937	937	938	938	939	939	939	938	938	938	938	938	938	938	938	938	938	938	938	935	939	938	24
22	937	936	936	936	936	936	936	936	936	936	936	935	934	934	934	934	934	934	933	933	932	932	932	931	931	937	935	24
23	931	931	931	931	930	930	930	930	930	930	930	930	930	929	929	929	928	929	929	928	928	928	928	928	928	931	929	24
24	928	928	928	928	928	928	928	928	928	929	929	929	929	929	929	929	929	929	929	929	930	930	930	930	928	930	929	24
25	930	930	930	931	931	931	932	932	933	933	932	932	933	932	933	934	933	933	934	934	934	934	934	934	930	934	933	24
26	935	935	935	935	935	936	937	937	938	938	938	938	938	938	939	939	939	939	939	940	940	941	941	941	935	941	938	24
27	941	941	941	941	942	942	943	944	944	945	945	945	945	945	944	944	944	944	944	944	943	943	943	943	941	945	943	24
28	943	943	942	942	941	942	942	941	941	941	941	941	941	941	940	940	939	938	938	937	937	938	938	938	937	943	940	24
29	937	937	936	936	935	936	936	936	936	935	935	935	934	934	935	935	934	935	935	935	935	935	935	934	934	937	935	24
30	935	935	936	936	937	938	938	939	939	939	940	939	939	939	939	939	939	938	938	938	937	936	936	935	935	940	938	24
HOURLY MAX	943	943	942	942	942	943	943	944	944	945	945	945	945	945	944	944	944	944	944	944	944	943	943	943				
HOURLY AVG	935	935	935	935	935	935	936	936	936	936	936	936	936	936	936	936	935	935	935	935	935	935	935	935				

STATUS FLAG CODES

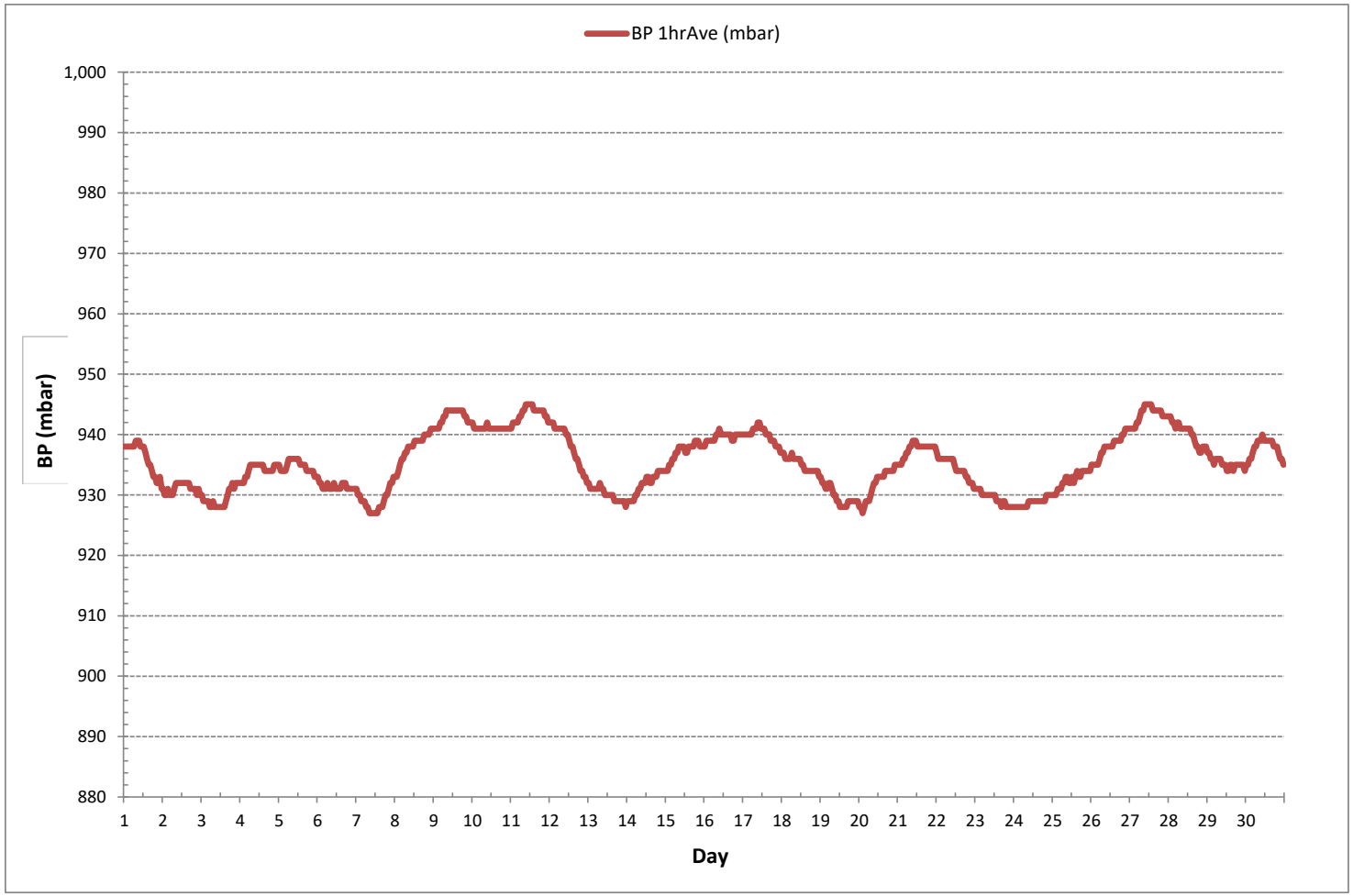
C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	927	mbar	@ HOUR	8	ON DAY	7	
MAXIMUM 1-HR AVERAGE:	945	mbar	@ HOUR	9	ON DAY	11	
MAXIMUM 24-HR AVERAGE:	944	mbar			ON DAY	11	
			OPERATIONAL TIME:			720	hrs
			AMD OPERATION UPTIME:			100.0	%
STANDARD DEVIATION:	5		MONTHLY AVERAGE:			935	mbar

BAROMETRIC PRESSURE Hourly Averages (BP mbar)

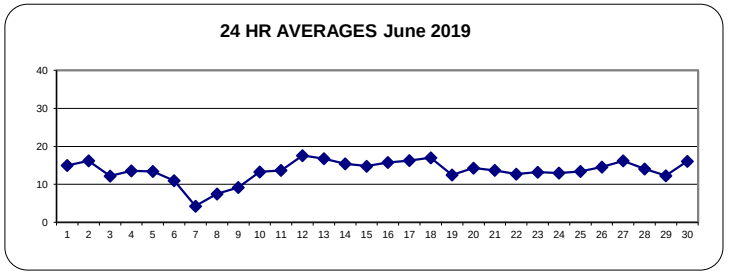


AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	6.0	4.9	3.9	3.6	3.6	3.9	6.9	11.6	14.4	16.4	18.3	19.7	20.5	22.2	23.2	23.6	23.8	22.4	21.3	19.7	18.3	17.9	17.5	16.2	3.6	23.8	15.0	24
2	15.9	14.8	14.4	12.1	10.6	10.8	12.0	14.7	15.6	16.7	18.1	20.0	21.0	21.6	21.3	21.1	21.8	21.6	20.9	17.8	13.4	11.4	10.9	10.4	10.4	21.8	16.2	24
3	9.0	8.5	9.2	8.7	8.7	9.5	10.7	10.8	12.6	14.5	14.5	15.9	17.3	17.8	17.1	15.2	14.6	14.0	13.2	13.6	11.0	9.5	8.4	8.6	8.4	17.8	12.2	24
4	8.5	7.9	6.8	5.6	6.0	7.7	9.4	12.2	14.1	15.6	17.1	17.7	18.5	19.0	19.1	19.4	19.3	18.2	17.1	15.4	14.3	13.1	11.9	11.7	5.6	19.4	13.6	24
5	8.2	5.5	4.4	4.7	5.4	7.8	10.8	12.6	14.4	15.9	16.9	17.7	18.2	18.1	19.2	19.4	19.7	18.9	18.9	16.6	13.9	12.4	10.9	10.1	4.4	19.7	13.4	24
6	10.0	9.3	9.0	8.5	8.4	9.7	10.1	11.0	12.5	12.2	11.8	12.0	13.5	13.3	13.8	13.4	13.7	13.0	12.1	11.0	9.7	8.6	8.3	8.4	8.3	13.8	11.0	24
7	8.1	7.6	7.1	6.6	6.3	5.9	5.2	4.6	4.3	4.1	4.1	4.3	4.2	3.6	2.0	**0.9**	1.3	2.2	3.1	3.4	3.2	3.6	3.7	3.8	**0.9**	8.1	4.3	24
8	3.4	3.1	2.7	2.3	1.9	3.4	5.2	6.0	7.7	8.3	8.9	9.8	10.8	11.2	12.0	11.6	12.0	12.4	11.4	10.6	8.6	6.3	5.5	5.1	1.9	12.4	7.5	24
9	4.5	4.0	3.6	3.7	4.0	4.7	7.5	8.8	9.4	10.4	11.8	12.1	13.4	13.0	13.8	13.4	14.7	14.9	14.5	13.1	8.5	5.6	4.8	5.5	3.6	14.9	9.2	24
10	6.4	6.5	5.7	5.9	5.3	6.9	10.4	13.7	15.9	16.4	17.0	17.6	18.6	16.6	17.3	19.2	18.3	18.3	17.2	16.2	14.4	14.0	12.2	10.4	5.3	19.2	13.3	24
11	8.6	7.1	6.4	5.9	6.5	7.3	8.9	11.1	13.4	15.0	16.8	18.1	18.6	18.8	18.7	20.0	20.7	20.6	19.1	17.6	13.9	12.4	11.6	10.9	5.9	20.7	13.7	24
12	10.3	9.5	9.3	8.4	7.6	9.7	13.2	14.5	16.5	18.5	20.3	21.2	22.7	23.8	24.5	24.8	24.9	**25.1**	24.9	23.0	19.1	16.7	16.4	17.2	7.6	**25.1**	**17.6**	24
13	17.1	16.6	15.7	15.1	15.0	15.3	17.3	17.1	16.1	16.2	15.6	17.2	19.0	19.7	16.7	17.5	20.7	19.9	19.8	17.7	15.8	15.1	13.3	13.1	13.1	20.7	16.8	24
14	12.7	11.5	11.3	11.2	10.4	12.2	14.0	15.3	15.9	16.4	16.0	15.8	16.5	18.0	19.3	20.2	20.6	20.7	18.7	17.2	15.8	13.8	13.4	13.1	10.4	20.7	15.4	24
15	13.1	11.9	12.5	12.1	12.2	12.5	13.3	14.8	15.9	18.2	19.5	19.9	16.5	18.7	16.3	15.1	15.0	15.3	15.4	15.4	14.0	12.8	12.7	11.5	11.5	19.9	14.8	24
16	11.1	10.7	10.7	10.3	9.7	10.7	11.8	14.5	17.5	19.1	19.2	19.2	19.9	21.1	21.3	22.0	22.0	16.9	17.4	17.2	15.4	14.9	14.1	13.6	9.7	22.0	15.8	24
17	12.2	10.9	10.6	10.5	10.0	12.0	13.6	15.1	17.0	18.8	20.2	21.7	22.9	23.9	23.5	19.8	15.4	15.3	17.2	17.3	16.2	15.8	15.8	15.4	10.0	23.9	16.3	24
18	14.7	14.2	13.4	12.4	12.5	13.5	15.1	16.6	18.4	20.2	21.5	22.6	23.5	23.8	24.0	23.9	20.7	17.0	15.2	14.3	13.5	13.1	12.5	11.9	11.9	24.0	17.0	24
19	11.2	10.1	9.0	8.2	8.0	9.9	11.9	13.3	13.7	13.4	15.2	15.6	16.5	15.8	17.3	14.2	12.6	13.0	13.7	13.8	12.7	10.6	9.6	10.5	8.0	17.3	12.5	24
20	9.4	8.6	8.9	10.5	12.0	12.5	13.2	14.2	14.7	16.0	17.3	13.9	12.7	14.2	16.7	16.9	18.5	19.8	19.2	18.1	16.5	14.5	13.2	10.8	8.6	19.8	14.3	24
21	9.9	9.1	8.1	7.4	7.4	8.4	10.5	13.2	14.8	17.0	18.3	18.8	19.6	20.6	19.7	20.1	16.8	15.9	14.5	13.5	12.5	11.2	11.2	11.1	7.4	20.6	13.7	24
22	10.2	9.2	8.9	8.3	9.5	11.3	12.4	13.3	14.7	17.5	18.8	16.3	13.9	12.0	13.1	14.5	14.6	13.2	13.7	13.1	12.4	12.0	11.8	11.4	8.3	18.8	12.7	24
23	11.1	10.7	10.4	10.0	10.6	10.8	11.4	12.3	13.2	13.9	14.5	16.8	17.4	15.6	13.6	14.9	16.0	16.1	15.0	13.6	13.0	12.4	12.2	12.4	10.0	17.4	13.2	24
24	12.2	11.8	11.8	11.6	11.4	11.7	12.0	12.4	13.0	13.7	13.1	13.7	14.5	15.2	14.2	14.4	13.2	14.3	14.9	14.3	13.3	12.8	11.6	11.3	11.3	15.2	13.0	24
25	10.9	10.1	9.8	10.0	10.4	11.1	12.0	13.7	15.2	14.6	13.9	14.9	15.9	14.7	14.3	15.7	16.2	18.2	18.0	16.0	13.9	12.3	10.4	9.2	9.2	18.2	13.4	24
26	9.2	9.5	9.6	8.3	7.8	10.2	13.4	15.5	16.9	18.1	17.4	18.3	19.8	18.2	15.6	17.3	19.7	19.4	18.0	16.6	15.2	14.8	12.5	10.3	7.8	19.8	14.6	24
27	9.2	8.3	8.4	7.6	7.8	9.7	12.8	15.8	18.1	18.8	20.0	20.4	21.2	22.0	22.3	22.8	22.5	21.1	19.6	18.4	16.8	15.1	14.7	14.6	7.6	22.8	16.2	24
28	14.0	13.3	13.1	13.4	13.5	14.0	13.4	12.8	13.0	12.9	13.1	13.7	14.1	14.7	15.4	16.8	17.2	17.3	16.7	17.1	15.6	12.8	11.2	9.5	9.5	17.3	14.1	24
29	8.6	8.6	8.0	7.1	6.7	8.8	11.9	13.3	14.2	14.5	15.7	17.4	18.4	19.8	13.6	11.8	12.8	13.5	13.5	12.8	12.2	11.4	10.9	10.0	6.7	19.8	12.3	24
30	9.8	10.8	11.0	11.3	11.4	11.6	12.9	14.6	16.5	18.1	19.4	20.1	20.7	17.6	19.3	20.0	20.3	19.4	19.5	19.3	17.3	15.8	15.4	14.9	9.8	20.7	16.1	24
HOURLY MAX	17.1	16.6	15.7	15.1	15.0	15.3	17.3	17.1	18.4	20.2	21.5	22.6	23.5	23.9	24.5	24.8	24.9	25.1	24.9	23.0	19.1	17.9	17.5	17.2				
HOURLY AVG	10.2	9.5	9.1	8.7	8.7	9.8	11.4	13.0	14.3	15.4	16.1	16.7	17.3	17.5	17.3	17.3	17.3	16.9	16.5	15.5	13.7	12.4	11.6	11.1				

STATUS FLAG CODES

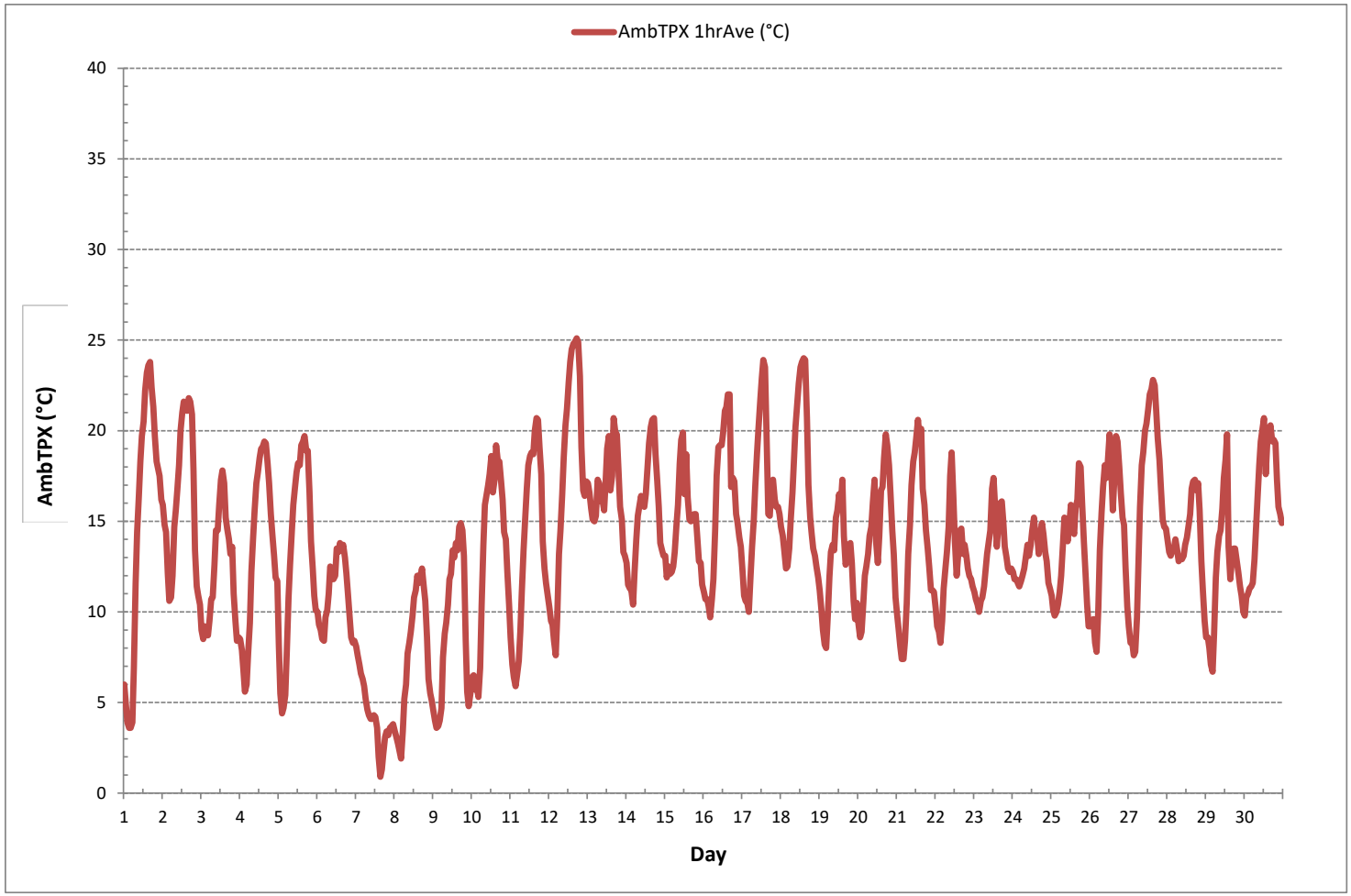
C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	0.9	°C	@ HOUR	15	ON DAY	7	
MAXIMUM 1-HR AVERAGE:	25.1	°C	@ HOUR	17	ON DAY	12	
MAXIMUM 24-HR AVERAGE:	17.6	°C			ON DAY	12	
			OPERATIONAL TIME:			720	hrs
			AMD OPERATION UPTIME:			100.0	%
STANDARD DEVIATION:	4.7		MONTHLY AVERAGE:			13.6	°C

AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)

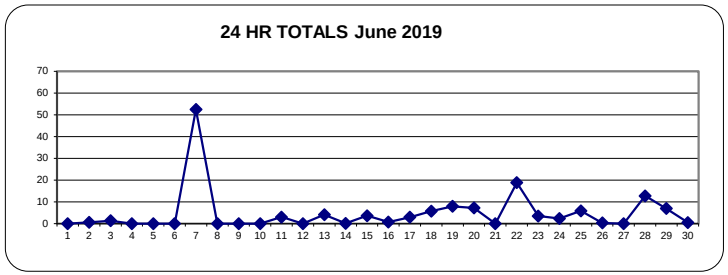


PRECIPITATION Hourly TOTALS (mm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	SUM	
DAY																												
1	**0.0**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	0.0	0.0	24
2	0.0	0.0	0.0	0.6	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	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	24
3	0.0	0.0	0.0	0.3	0.0	0.0	0.2	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.3	24
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
7	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.9	1.3	4.1	4.7	5.8	5.7	4.8	4.9	4.4	4.9	5.1	3.1	1.0	1.3	0.0	0.0	0.0	0.0	5.8	**52.4**	24
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
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	0.0	0.0	0.0	0.0	0.0	0.1	1.3	1.6	0.0	0.0	1.6	3.0	24
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.2	1.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	1.5	0.4	0.1	0.0	1.5	4.1	24
14	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	24
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.4	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	3.6	24
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.7	24
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	2.9	24
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.4	1.0	1.7	0.0	0.0	0.0	0.0	1.7	5.7	24
19	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6	0.0	0.0	0.9	0.2	0.3	3.7	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	3.7	7.9	24
20	0.0	0.0	0.0	0.0	0.8	0.1	0.0	0.0	0.0	0.0	0.1	3.2	2.5	0.1	0.2	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	3.2	7.2	24
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	**8.2**	2.9	0.4	0.0	3.2	0.9	0.0	0.1	0.2	0.0	0.0	0.0	0.0	**8.2**	18.8	24
23	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	2.4	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	2.4	3.5	24
24	0.3	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.3	0.2	1.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	1.0	2.3	24
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	0.1	0.0	0.1	0.8	0.1	0.6	0.1	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	3.7	5.8	24
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	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	24
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
28	0.0	0.0	0.0	0.0	0.0	0.1	3.2	4.5	0.6	3.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.1	0.0	0.0	0.0	0.0	4.5	12.7	24
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	5.2	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	6.9	24
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	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	24
HOURLY MAX	0.3	0.0	0.0	0.6	0.8	0.1	3.2	4.5	1.3	4.1	4.7	5.8	8.2	4.8	5.2	4.4	4.9	5.1	3.1	1.0	1.7	1.5	1.6	0.1				
HOURLY SUM	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.4	0.3	0.4	0.6	0.4	0.5	0.4	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.0				

STATUS FLAG CODES

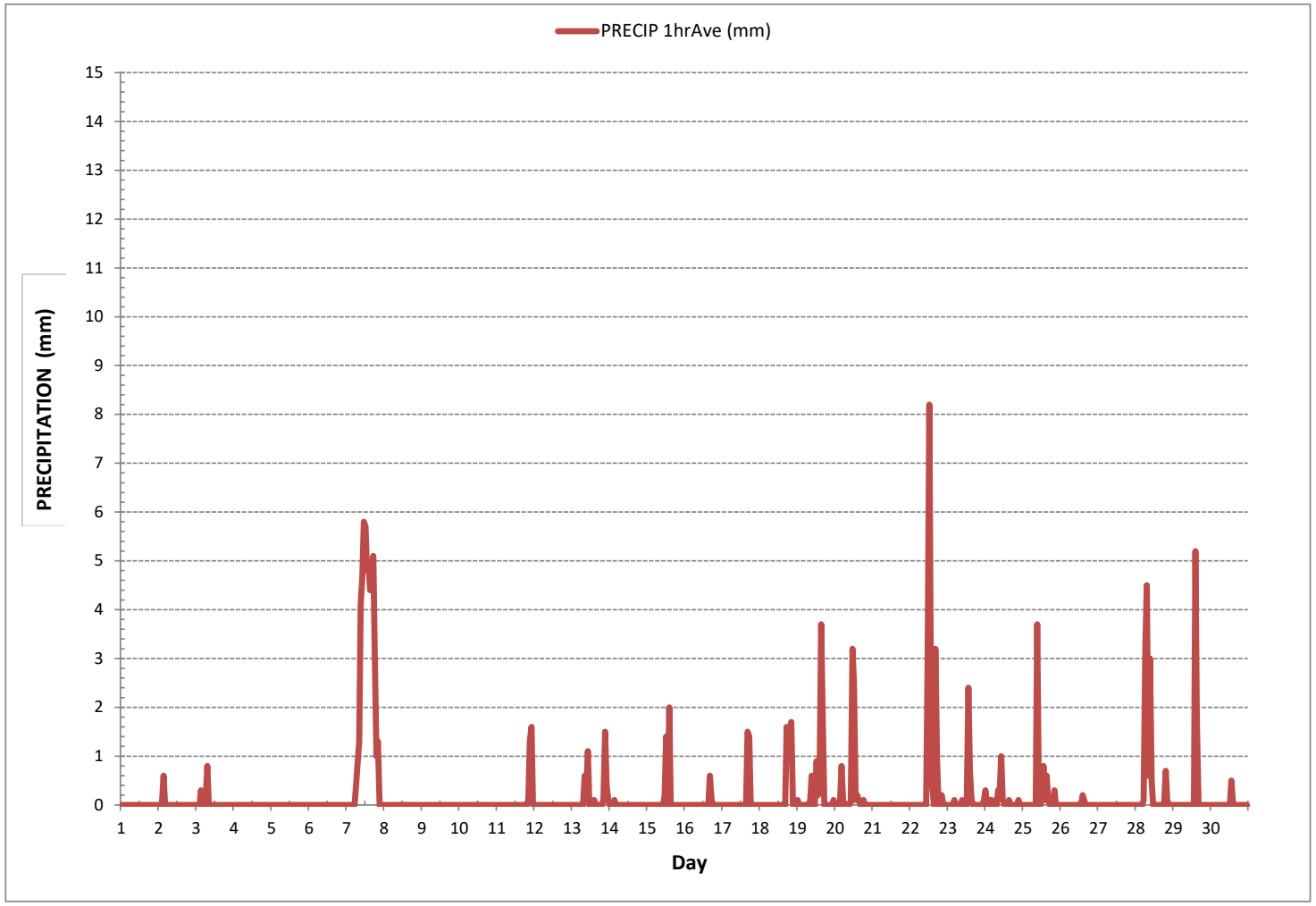
C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE



MONTHLY SUMMARY

MINIMUM 1-HR TOTAL:	0.0	mm	@ HOUR	0	ON DAY	1	
MAXIMUM 1-HR TOTAL:	8.2	mm	@ HOUR	12	ON DAY	22	
MAXIMUM 24-HR TOTAL:	52.4	mm			ON DAY	7	
			OPERATIONAL TIME:			720	hrs
			AMD OPERATION UPTIME:			100.0	%
STANDARD DEVIATION:	0.8		MONTHLY TOTAL:			140.3	mm

PRECIPITATION Hourly TOTALS (mm)



SULPHUR DIOXIDE Instantaneous Maximum (SO_2 ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	0	0	0	0	0	0	0	1	1	1	2	5	S	5	1	1	1	0	0	5	5	1	2	2	0	5	1	24
2	5	0	18	23	1	0	0	1	1	1	0	S	6	0	0	0	10	3	15	1	1	0	0	0	0	23	4	24
3	0	0	0	0	0	0	0	0	0	0	S	1	0	0	0	3	5	15	6	9	5	0	0	0	0	15	2	24
4	1	0	0	0	0	2	1	0	0	S	0	0	0	0	0	0	0	0	0	1	3	3	3	4	0	4	1	24
5	0	0	0	0	0	0	4	4	S	2	0	1	1	5	4	7	4	8	4	1	0	0	0	0	0	8	2	24
6	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	24
7	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6	14	0	14	1	24
8	19	16	15	12	2	S	4	7	12	13	2	4	13	9	7	15	10	13	9	2	0	0	0	0	0	19	8	24
9	1	0	0	0	S	4	7	7	9	12	6	5	3	6	13	16	8	8	5	6	0	0	0	0	0	16	5	24
10	0	0	1	S	2	3	2	1	0	0	9	11	4	18	22	9	5	7	1	5	9	5	5	0	0	22	5	24
11	0	0	S	0	0	0	0	0	1	1	8	5	3	2	1	1	1	1	0	0	14	1	1	0	0	14	2	24
12	0	S	0	0	0	0	1	0	1	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	24
13	S	0	0	0	1	0	0	1	0	4	0	2	2	1	0	0	3	0	0	0	0	1	0	S	0	4	1	24
14	2	1	0	2	0	3	14	5	13	C	C	C	C	C	1	3	4	11	1	0	0	1	S	3	0	14	4	24
15	7	7	6	20	27	1	2	3	4	9	2	16	3	2	15	12	0	0	0	0	0	S	0	0	0	27	6	24
16	0	0	0	0	0	0	1	8	9	7	1	1	1	1	1	1	0	0	0	2	S	2	0	2	0	9	2	24
17	2	1	1	1	0	2	2	0	0	1	1	1	0	0	0	0	0	0	1	S	0	2	2	3	0	3	1	24
18	3	3	3	3	3	3	2	2	1	1	1	1	0	0	0	1	18	19	S	0	0	0	0	0	0	19	3	24
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	S	0	0	0	0	0	0	0	2	0	24
20	0	0	0	0	0	0	0	0	0	0	1	2	1	2	1	0	S	0	0	0	0	0	0	0	0	2	0	24
21	0	0	0	0	0	0	0	0	0	4	1	1	4	2	30	S	24	30	8	20	0	14	6	2	0	30	6	24
22	1	0	0	0	0	0	0	0	0	1	2	0	0	3	S	5	7	7	3	0	1	1	0	0	0	7	1	24
23	0	0	1	0	2	2	2	4	3	3	7	7	6	S	6	6	5	2	9	4	8	9	4	7	0	9	4	24
24	4	6	5	2	1	3	2	2	2	7	6	4	S	6	1	0	0	0	0	0	0	0	0	0	0	7	2	24
25	0	0	0	0	0	0	0	0	1	1	1	S	1	2	1	3	5	3	2	1	0	0	0	0	0	5	1	24
26	0	3	1	0	0	0	1	1	2	3	S	1	2	5	0	9	7	0	0	0	0	0	0	0	0	9	1	24
27	0	0	0	0	0	0	0	3	3	S	2	1	2	1	2	1	1	0	0	0	0	0	0	0	0	3	1	24
28	0	0	0	0	0	3	1	2	S	0	0	1	3	3	4	1	0	1	3	4	6	8	0	0	0	8	2	24
29	0	2	2	0	0	0	0	S	4	1	0	0	1	3	10	1	1	0	1	1	0	0	0	0	0	10	1	24
30	3	20	**34**	24	18	5	S	2	0	3	0	5	7	3	11	1	0	0	0	0	2	0	0	7	0	**34**	6	24
HOURLY MAX	19	20	34	24	27	5	14	8	13	13	9	16	13	18	30	16	24	30	15	20	14	14	6	14				
HOURLY AVG	2	2	3	3	2	1	2	2	2	3	2	3	2	3	5	3	4	4	2	2	2	2	1	2				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

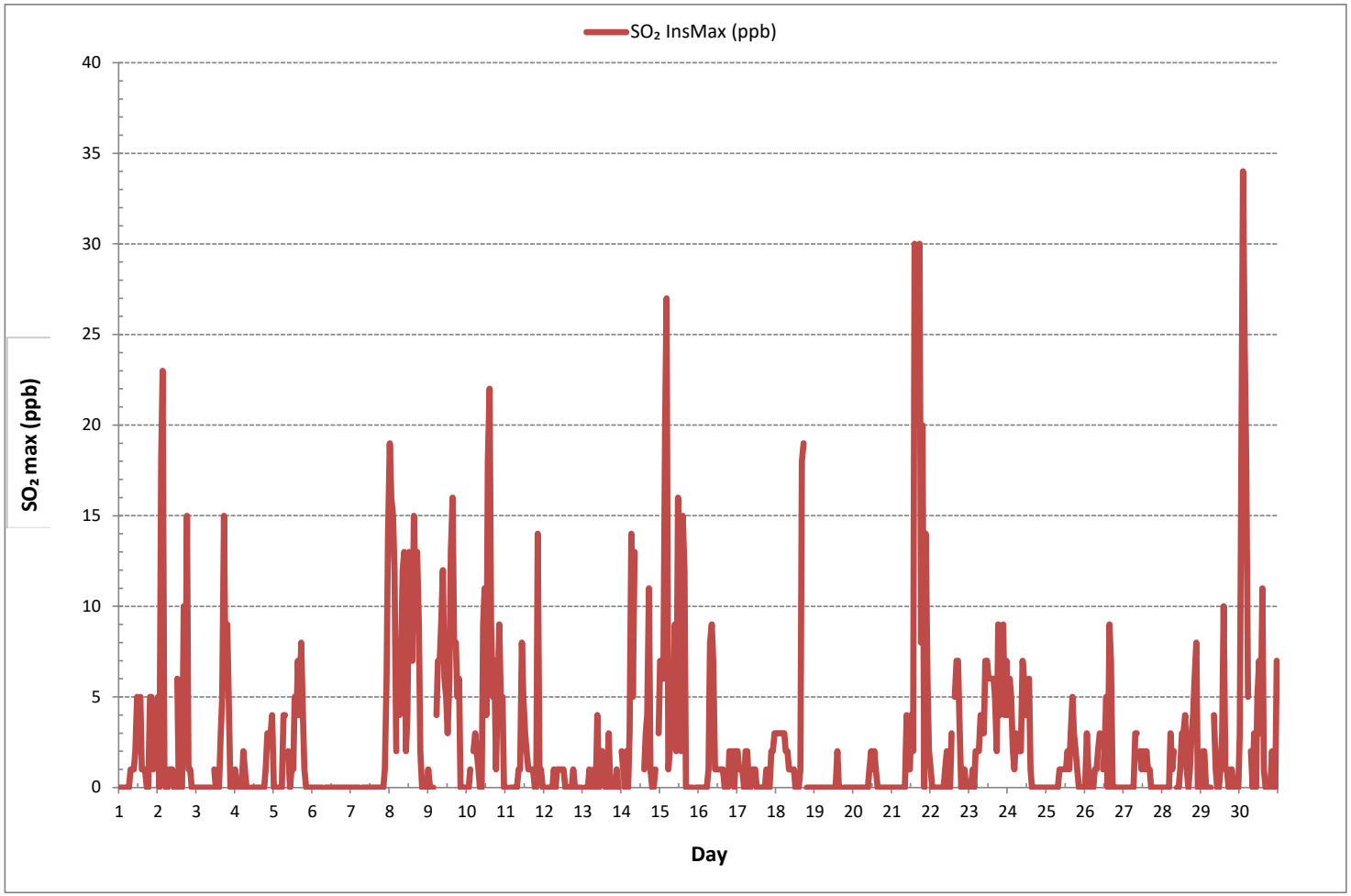
NUMBER OF NON-ZERO READINGS: 342

MAXIMUM INSTANTANEOUS VALUE: 34 ppb @ HOUR 2 ON DAY 30

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 5 hrs
STANDARD DEVIATION: 5

OPERATIONAL TIME: 720 hrs

SULPHUR DIOXIDE Instantaneous Maximum (SO_2 ppb)



HYDROGEN SULPHIDE Instantaneous Maximum (H_2S ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	1	1	1	2	2	2	1	1	1	1	1	2	S	2	1	1	1	1	2	6	5	2	6	5	1	6	2	24
2	1	1	2	2	1	1	3	2	1	1	2	S	2	1	1	1	1	1	1	1	1	1	1	1	1	3	1	24
3	1	3	5	4	3	2	1	2	1	1	S	1	1	1	1	1	1	2	1	1	1	1	1	1	1	5	2	24
4	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	24
5	1	1	2	1	2	2	1	2	S	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	2	1	24
6	2	1	1	1	1	2	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	1	24
7	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	2	1	24
8	2	2	2	2	1	S	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	2	1	24
9	2	1	1	1	S	1	1	1	1	1	1	1	2	1	1	2	1	1	1	1	1	1	1	1	1	2	1	24
10	1	1	1	S	1	2	1	1	2	2	1	2	1	2	2	1	1	1	1	1	2	2	1	1	1	2	1	24
11	1	1	S	1	2	2	2	1	2	2	2	2	2	2	1	1	1	1	1	2	2	2	1	1	1	2	2	24
12	2	S	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	2	2	2	2	1	2	2	24
13	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	S	1	2	2	24
14	2	2	2	2	2	2	1	2	2	C	C	C	C	C	C	1	0	1	0	0	0	0	S	1	0	2	-	24
15	1	1	1	0	1	0	0	0	1	0	1	1	0	0	1	1	1	0	0	0	0	S	1	1	0	1	0	24
16	0	1	1	0	1	1	1	1	1	1	1	0	0	0	1	1	0	8	4	1	S	1	1	1	0	8	1	24
17	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	0	1	2	4	S	1	1	1	1	0	4	1	24
18	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	S	1	1	1	1	1	0	1	1	24
19	1	0	1	1	1	1	1	1	0	1	0	1	1	2	1	1	1	S	1	1	1	1	1	1	0	2	1	24
20	1	0	0	0	0	0	0	0	0	1	1	1	5	1	1	0	S	0	0	1	0	0	1	0	0	5	1	24
21	0	0	0	0	1	1	0	0	0	1	1	0	1	0	1	S	1	1	0	1	0	1	1	0	0	1	1	24
22	0	1	1	1	1	0	0	0	0	1	0	1	1	2	S	1	1	1	1	1	1	0	1	1	0	2	1	24
23	0	0	0	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	3	1	1	2	0	3	1	24
24	1	2	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	0	0	0	0	1	1	1	0	2	1	24
25	1	1	1	0	1	1	1	1	1	1	1	S	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	24
26	1	2	2	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	24
27	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	24
28	1	1	1	1	1	1	4	1	S	1	1	1	1	1	1	1	1	1	1	3	1	1	1	1	1	4	1	24
29	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	24
30	1	2	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	24
HOURLY MAX	2	3	5	4	3	2	4	2	2	2	2	2	5	2	2	2	2	8	4	6	5	2	6	5				
HOURLY AVG	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

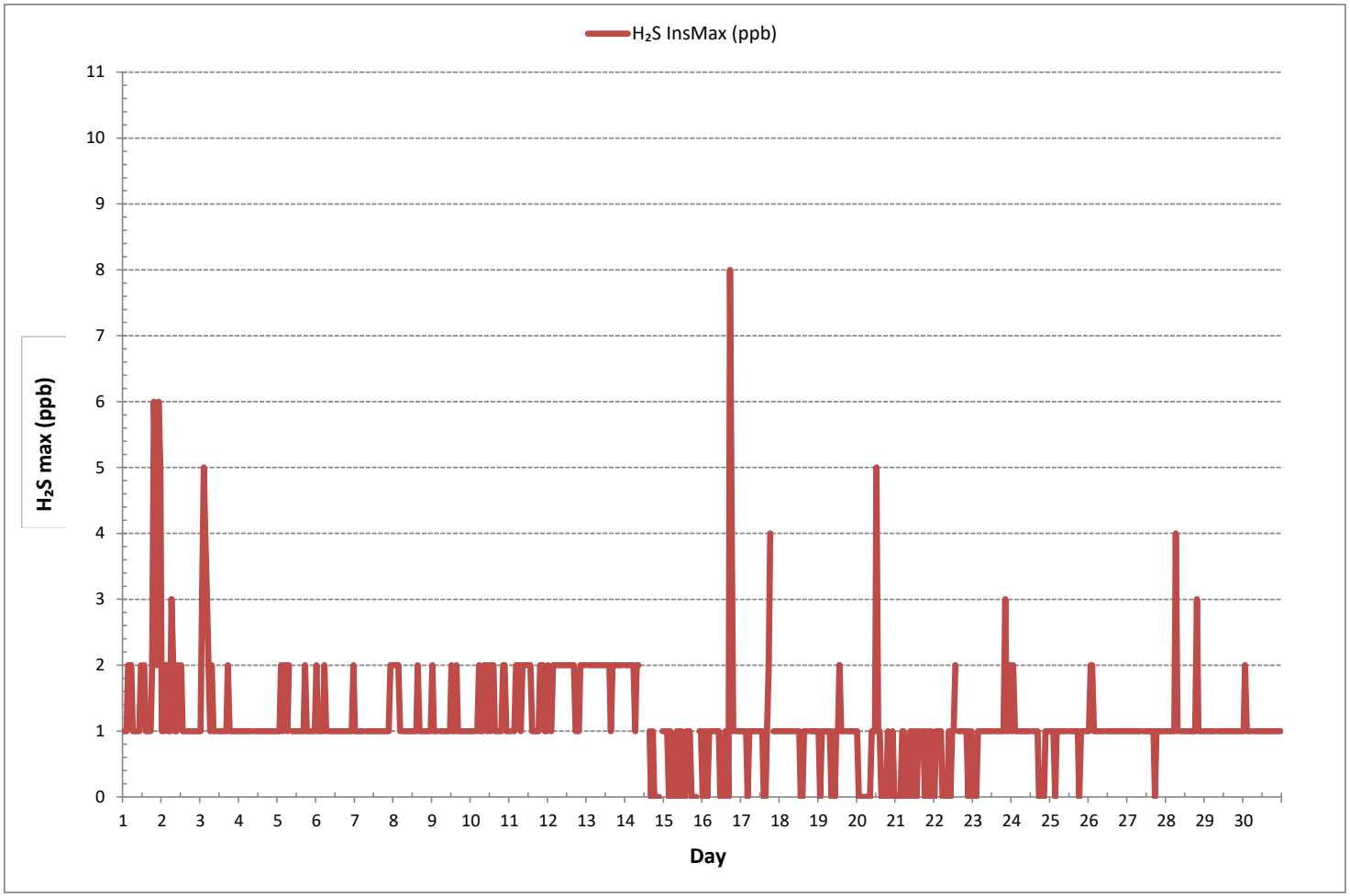
NUMBER OF NON-ZERO READINGS: 610

MAXIMUM INSTANTANEOUS VALUE: 8 ppb @ HOUR 17 ON DAY 16

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 6 hrs
STANDARD DEVIATION: 1

OPERATIONAL TIME: 720 hrs

HYDROGEN SULPHIDE Instantaneous Maximum (H_2S ppb)



TOTAL HYDROCARBONS Instantaneous Maximum (THC ppm)

HR START (MST) / HR END (MST)	0:00 0:59	1:00 1:59	2:00 2:59	3:00 3:59	4:00 4:59	5:00 5:59	6:00 6:59	7:00 7:59	8:00 8:59	9:00 9:59	10:00 10:59	11:00 11:59	12:00 12:59	13:00 13:59	14:00 14:59	15:00 15:59	16:00 16:59	17:00 17:59	18:00 18:59	19:00 19:59	20:00 20:59	21:00 21:59	22:00 22:59	23:00 23:59	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
DAY																												
1	2.22	2.36	2.31	2.42	2.51	2.29	2.29	2.38	2.18	2.18	2.19	2.18	S	2.12	2.10	2.07	2.02	2.03	2.00	2.04	2.04	2.04	2.07	2.09	2.00	2.51	2.18	24
2	2.08	2.06	2.28	2.13	2.13	2.09	2.11	2.06	2.08	2.07	2.04	S	2.04	2.01	1.99	2.00	1.99	2.05	2.00	2.02	2.03	2.13	2.23	2.32	1.99	2.32	2.08	24
3	2.34	2.73	**3.14**	2.46	2.33	2.20	2.11	2.12	2.08	2.03	S	2.03	2.03	2.03	2.05	2.05	2.04	2.07	2.02	2.03	2.03	2.02	2.07	2.06	2.02	**3.14**	2.18	24
4	2.06	2.06	2.09	2.09	2.12	2.09	2.08	2.08	2.04	S	2.01	2.02	2.01	2.00	2.00	2.00	2.00	2.00	2.02	2.04	2.05	2.06	2.10	2.08	2.00	2.12	2.05	24
5	2.05	2.14	2.39	2.37	2.39	2.39	2.37	2.11	S	2.03	2.00	2.00	2.02	1.99	2.01	2.00	2.00	2.01	2.02	2.02	2.02	2.03	2.06	2.09	1.99	2.39	2.11	24
6	2.08	2.05	2.08	2.05	2.04	2.08	2.06	S	2.02	2.04	2.04	2.03	2.01	2.02	2.01	2.01	2.01	2.01	2.00	2.00	2.00	2.00	2.00	2.01	2.00	2.08	2.03	24
7	2.00	2.02	2.00	2.01	2.02	2.02	S	2.01	2.02	2.00	2.01	2.00	1.99	2.01	1.99	2.01	1.99	2.00	1.98	2.01	1.98	2.00	2.03	2.06	1.98	2.06	2.01	24
8	2.04	2.05	2.04	2.04	2.03	S	2.04	2.00	2.01	2.01	2.04	2.04	2.03	2.04	2.05	2.09	2.04	2.04	2.04	2.02	2.02	2.02	2.04	2.05	2.00	2.09	2.04	24
9	2.08	2.08	2.07	2.09	S	2.11	2.07	2.04	2.04	2.02	2.03	2.04	2.02	2.04	2.07	2.06	2.04	2.03	2.02	2.04	2.17	2.18	2.48	2.46	2.02	2.48	2.10	24
10	2.24	2.20	2.26	S	2.39	2.39	2.20	2.10	2.05	2.04	2.02	2.01	1.99	1.99	2.03	1.98	2.00	1.99	2.01	2.02	2.06	2.06	2.20	2.09	1.98	2.39	2.10	24
11	2.04	2.40	S	2.34	2.63	2.76	2.20	2.07	2.05	2.04	2.11	2.07	2.05	2.01	2.04	1.99	2.01	2.02	2.02	2.02	2.03	2.03	2.01	2.57	1.99	2.76	2.15	24
12	2.21	S	2.08	2.12	2.24	2.19	2.13	2.16	2.15	2.10	2.09	2.07	2.07	1.99	1.95	1.99	1.95	1.99	1.94	1.97	2.12	2.12	2.14	2.27	1.94	2.27	2.09	24
13	S	2.18	2.23	2.19	2.23	2.21	2.14	2.19	2.10	2.11	1.99	2.18	1.96	1.99	1.96	1.99	1.97	1.97	1.94	2.00	2.01	2.05	1.99	S	1.94	2.23	2.07	24
14	2.06	2.03	2.02	2.04	2.06	2.00	2.01	2.05	1.98	2.00	2.51	2.01	2.00	1.98	C	C	C	C	1.99	1.98	2.03	2.06	S	2.07	1.98	2.51	2.05	24
15	2.07	2.05	2.08	2.04	2.03	2.03	2.01	2.05	2.02	2.01	2.00	2.03	1.98	1.99	2.07	1.99	1.98	1.98	1.99	2.01	2.02	S	2.07	2.06	1.98	2.08	2.02	24
16	2.07	2.10	2.16	2.19	2.29	2.53	2.34	2.23	2.13	2.07	2.03	2.06	2.08	2.05	2.05	2.02	2.04	2.03	2.04	2.09	S	2.14	2.12	2.14	2.02	2.53	2.13	24
17	2.16	2.15	2.16	2.20	2.21	2.26	2.30	2.30	2.29	2.27	2.25	2.15	2.18	2.11	2.08	2.04	2.05	2.23	2.04	S	2.09	2.13	2.14	2.15	2.04	2.30	2.17	24
18	2.15	2.15	2.17	2.19	2.21	2.22	2.19	2.19	2.20	2.16	2.12	2.07	2.05	2.03	2.04	2.04	2.08	2.04	S	2.03	2.03	2.04	2.03	2.04	2.03	2.22	2.11	24
19	2.08	2.07	2.13	2.29	2.25	2.22	2.17	2.03	2.06	2.03	2.02	2.04	2.03	2.02	2.08	2.04	2.08	S	2.09	2.09	2.07	2.11	2.12	2.23	2.02	2.29	2.10	24
20	2.20	2.14	2.12	2.05	2.04	2.00	2.00	2.00	2.00	2.01	2.05	2.17	2.06	2.05	2.01	2.02	S	2.01	2.03	2.03	2.05	2.03	2.05	2.07	2.00	2.20	2.05	24
21	2.08	2.07	2.09	2.19	2.27	2.23	2.17	2.10	2.05	2.06	2.02	2.03	2.02	2.00	2.04	S	2.07	2.07	2.05	2.04	2.04	2.03	2.05	2.06	2.00	2.27	2.08	24
22	2.05	2.09	2.08	2.10	2.07	2.06	2.05	2.06	2.04	2.05	2.05	2.05	2.08	2.76	S	2.05	2.16	2.29	2.17	2.04	2.05	2.05	2.05	2.09	2.04	2.76	2.11	24
23	2.06	2.07	2.07	2.09	2.12	2.09	2.07	2.08	2.17	2.04	2.06	2.09	2.06	S	2.11	2.07	2.22	2.04	2.09	2.09	2.19	2.08	2.10	2.19	2.04	2.22	2.10	24
24	2.09	2.23	2.10	2.07	2.06	2.07	2.05	2.05	2.07	2.07	2.33	2.33	S	2.07	2.05	2.05	2.05	2.05	2.04	2.04	2.08	2.06	2.03	2.08	2.03	2.33	2.09	24
25	2.10	2.10	2.11	2.12	2.12	2.10	2.09	2.07	2.06	2.06	2.05	S	2.17	2.07	2.07	2.06	2.12	2.04	2.03	2.07	2.09	2.11	2.19	2.18	2.03	2.19	2.09	24
26	2.18	2.41	2.36	2.27	2.41	2.45	2.28	2.13	2.17	2.16	S	2.13	2.05	2.05	2.01	2.08	2.04	2.02	2.11	2.08	2.12	2.13	2.05	2.10	2.01	2.45	2.16	24
27	2.13	2.29	2.30	2.39	2.25	2.20	2.13	2.15	2.15	S	2.02	2.03	2.04	1.99	2.05	2.01	2.01	2.01	2.04	2.01	2.09	2.10	2.15	2.07	1.99	2.39	2.11	24
28	2.07	2.09	2.07	2.06	2.04	2.12	2.16	2.15	S	2.04	2.07	2.04	2.10	2.10	2.15	2.08	2.07	2.04	2.11	2.12	2.12	2.13	2.05	2.11	2.04	2.16	2.09	24
29	2.07	2.29	2.19	2.16	2.18	2.21	2.13	S	2.13	2.09	2.11	2.06	2.09	2.14	2.03	2.06	2.03	2.04	2.12	2.08	2.06	2.05	2.06	2.10	2.03	2.29	2.11	24
30	2.10	2.20	2.20	2.07	2.08	2.06	S	2.02	2.03	2.03	2.04	2.04	2.04	2.12	2.03	2.04	2.00	2.06	2.00	2.04	2.06	2.10	2.15	2.13	2.00	2.20	2.07	24
HOURLY MAX	2.34	2.73	3.14	2.46	2.63	2.76	2.37	2.38	2.29	2.27	2.51	2.33	2.18	2.76	2.15	2.09	2.22	2.29	2.17	2.12	2.19	2.18	2.48	2.57				
HOURLY AVG	2.11	2.17	2.19	2.17	2.20	2.20	2.14	2.11	2.08	2.07	2.08	2.07	2.04	2.06	2.04	2.03	2.04	2.04	2.03	2.04	2.06	2.07	2.10	2.14				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

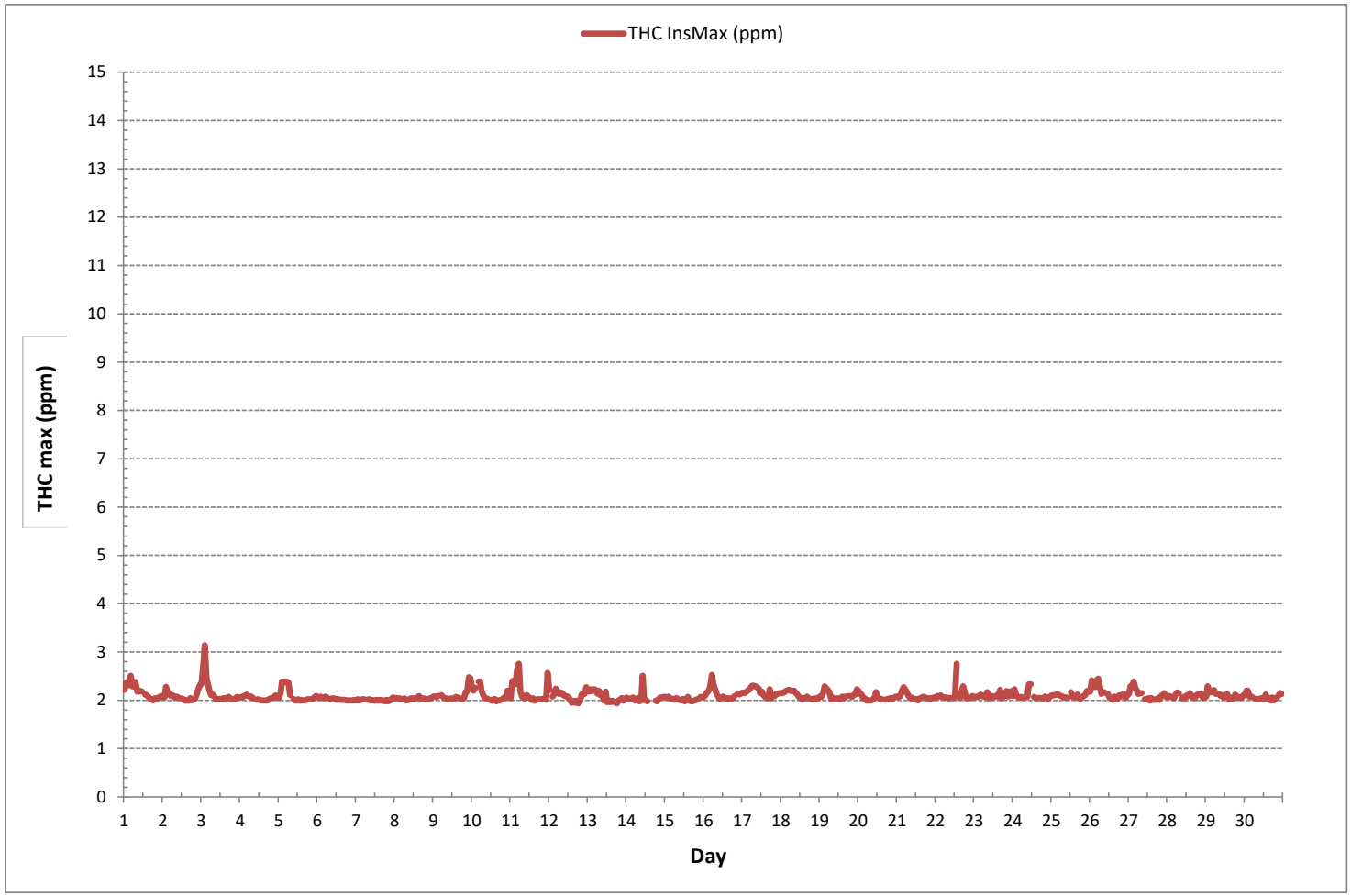
NUMBER OF NON-ZERO READINGS: 685

MAXIMUM INSTANTANEOUS VALUE: 3.14 ppm @ HOUR 2 ON DAY 3

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 4 hrs
STANDARD DEVIATION: 0.12

OPERATIONAL TIME: 720 hrs

TOTAL HYDROCARBONS Instantaneous Maximum (THC ppm)



METHANE MAX Instantaneous Maximum (CH_4 ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	2.22	2.36	2.31	2.32	2.33	2.29	2.29	2.25	2.18	2.18	2.19	2.18	S	2.12	2.10	2.07	2.02	2.03	2.00	2.04	2.04	2.04	2.07	2.09	2.00	2.36	2.16	24
2	2.08	2.06	2.17	2.13	2.13	2.09	2.11	2.06	2.08	2.07	2.04	S	2.04	2.01	1.99	2.00	1.99	2.05	2.00	2.02	2.03	2.13	2.23	2.32	1.99	2.32	2.08	24
3	2.34	2.36	2.54	2.33	2.25	2.20	2.11	2.12	2.08	2.03	S	2.03	2.03	2.03	2.05	2.05	2.04	2.07	2.02	2.03	2.03	2.02	2.07	2.06	2.02	2.54	2.13	24
4	2.06	2.06	2.09	2.09	2.12	2.09	2.08	2.08	2.04	S	2.01	2.02	2.01	2.00	2.00	2.00	2.00	2.00	2.02	2.04	2.05	2.06	2.10	2.08	2.00	2.12	2.05	24
5	2.05	2.14	2.39	2.37	2.39	2.39	2.37	2.11	S	2.03	2.00	2.00	2.02	1.99	2.01	2.00	2.00	2.01	2.02	2.02	2.02	2.03	2.06	2.09	1.99	2.39	2.11	24
6	2.08	2.05	2.08	2.05	2.04	2.08	2.06	S	2.02	2.04	2.04	2.03	2.01	2.02	2.01	2.01	2.01	2.01	2.00	2.00	2.00	2.00	2.00	2.01	2.00	2.08	2.03	24
7	2.00	2.02	2.00	2.01	2.02	2.02	S	2.01	2.02	2.00	2.01	2.00	1.99	2.01	1.99	2.01	1.99	2.00	1.98	2.01	1.98	2.00	2.03	2.05	1.98	2.05	2.00	24
8	2.04	2.05	2.04	2.04	2.03	S	2.04	2.00	2.01	2.01	2.04	2.04	2.03	2.04	2.05	2.09	2.04	2.04	2.04	2.02	2.02	2.02	2.04	2.05	2.00	2.09	2.04	24
9	2.08	2.08	2.07	2.09	S	2.11	2.07	2.04	2.04	2.02	2.03	2.04	2.02	2.04	2.07	2.06	2.04	2.03	2.02	2.04	2.17	2.18	2.48	2.46	2.02	2.48	2.10	24
10	2.24	2.20	2.26	S	2.39	2.39	2.20	2.10	2.05	2.04	2.02	2.01	1.99	1.99	2.03	1.98	2.00	1.99	2.01	2.02	2.06	2.06	2.20	2.09	1.98	2.39	2.10	24
11	2.04	2.22	S	2.29	2.41	2.45	2.20	2.07	2.05	2.04	2.11	2.07	2.05	2.01	2.04	1.99	2.01	1.99	2.02	2.02	2.03	2.03	2.01	**2.57**	1.99	**2.57**	2.12	24
12	2.21	S	2.08	2.12	2.17	2.19	2.13	2.16	2.15	2.10	2.09	2.07	2.07	1.99	1.95	1.99	1.95	1.99	1.94	1.97	2.12	2.12	2.14	2.27	1.94	2.27	2.09	24
13	S	2.18	2.23	2.19	2.23	2.21	2.14	2.19	2.10	2.00	1.99	2.04	1.96	1.99	1.96	1.99	1.97	1.97	1.94	2.00	2.01	2.05	1.99	S	1.94	2.23	2.06	24
14	2.06	2.03	2.02	2.04	2.06	2.00	2.01	2.05	1.98	2.00	2.51	2.01	2.00	1.98	C	C	C	C	1.99	1.98	2.03	2.06	S	2.07	1.98	2.51	2.05	24
15	2.07	2.05	2.08	2.04	2.03	2.03	2.01	2.05	2.02	2.01	2.00	2.03	1.98	1.99	2.07	1.99	1.98	1.98	1.99	2.01	2.02	S	2.07	2.06	1.98	2.08	2.02	24
16	2.07	2.10	2.16	2.19	2.29	2.53	2.34	2.17	2.13	2.07	2.03	2.06	2.08	2.05	2.05	2.02	2.04	2.03	2.04	2.09	S	2.14	2.12	2.14	2.02	2.53	2.13	24
17	2.16	2.15	2.16	2.20	2.21	2.26	2.30	2.30	2.29	2.27	2.25	2.15	2.18	2.11	2.08	2.04	2.05	2.23	2.04	S	2.09	2.13	2.14	2.15	2.04	2.30	2.17	24
18	2.15	2.15	2.17	2.19	2.21	2.22	2.19	2.19	2.20	2.16	2.12	2.07	2.05	2.03	2.04	2.04	2.08	2.04	S	2.03	2.03	2.04	2.03	2.04	2.03	2.22	2.11	24
19	2.08	2.07	2.13	2.29	2.25	2.22	2.17	2.03	2.06	2.03	2.02	2.04	2.03	2.02	2.08	2.04	2.08	S	2.09	2.09	2.07	2.11	2.12	2.23	2.02	2.29	2.10	24
20	2.20	2.14	2.12	2.05	2.04	2.00	2.00	2.00	2.00	2.01	2.05	2.17	2.06	2.05	2.01	2.02	S	2.01	2.03	2.03	2.05	2.03	2.05	2.07	2.00	2.20	2.05	24
21	2.08	2.07	2.09	2.19	2.27	2.23	2.17	2.10	2.05	2.06	2.02	2.03	2.02	2.00	2.04	S	2.07	2.07	2.05	2.04	2.04	2.03	2.05	2.06	2.00	2.27	2.08	24
22	2.05	2.09	2.08	2.10	2.07	2.06	2.05	2.06	2.04	2.05	2.05	2.05	2.08	2.22	S	2.05	2.06	2.11	2.09	2.04	2.05	2.05	2.05	2.09	2.04	2.22	2.07	24
23	2.06	2.07	2.07	2.09	2.12	2.09	2.07	2.08	2.17	2.04	2.06	2.09	2.06	S	2.11	2.07	2.12	2.04	2.09	2.09	2.14	2.08	2.10	2.14	2.04	2.17	2.09	24
24	2.09	2.13	2.10	2.07	2.06	2.07	2.05	2.05	2.07	2.07	2.33	2.33	S	2.07	2.05	2.05	2.05	2.05	2.04	2.04	2.08	2.06	2.03	2.08	2.03	2.33	2.09	24
25	2.10	2.10	2.11	2.12	2.12	2.10	2.09	2.07	2.06	2.06	2.05	S	2.07	2.07	2.07	2.06	2.12	2.04	2.03	2.07	2.09	2.11	2.19	2.18	2.03	2.19	2.09	24
26	2.18	2.29	2.30	2.27	2.41	2.45	2.28	2.13	2.17	2.16	S	2.13	2.05	2.05	2.01	2.08	2.04	2.02	2.11	2.08	2.12	2.13	2.05	2.10	2.01	2.45	2.16	24
27	2.13	2.29	2.30	2.39	2.25	2.20	2.13	2.13	2.10	S	2.02	2.03	2.04	1.99	2.05	2.01	2.01	2.01	2.04	2.01	2.09	2.10	2.15	2.07	1.99	2.39	2.11	24
28	2.07	2.09	2.07	2.06	2.04	2.12	2.16	2.15	S	2.04	2.07	2.04	2.10	2.10	2.15	2.08	2.07	2.04	2.11	2.12	2.12	2.13	2.05	2.11	2.04	2.16	2.09	24
29	2.07	2.19	2.19	2.16	2.18	2.21	2.13	S	2.13	2.09	2.11	2.06	2.09	2.14	2.03	2.06	2.03	2.04	2.12	2.08	2.06	2.05	2.06	2.10	2.03	2.21	2.10	24
30	2.10	2.10	2.09	2.07	2.08	2.06	S	2.02	2.03	2.03	2.04	2.04	2.04	2.12	2.03	2.04	2.00	2.06	2.00	2.04	2.06	2.10	2.15	2.13	2.00	2.15	2.06	24
HOURLY MAX	2.34	2.36	2.54	2.39	2.41	2.53	2.37	2.30	2.29	2.27	2.51	2.33	2.18	2.22	2.15	2.09	2.12	2.23	2.12	2.12	2.17	2.18	2.48	2.57				
HOURLY AVG	2.11	2.13	2.16	2.16	2.18	2.18	2.14	2.10	2.08	2.06	2.08	2.07	2.04	2.04	2.04	2.03	2.03	2.03	2.03	2.04	2.06	2.07	2.10	2.14				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

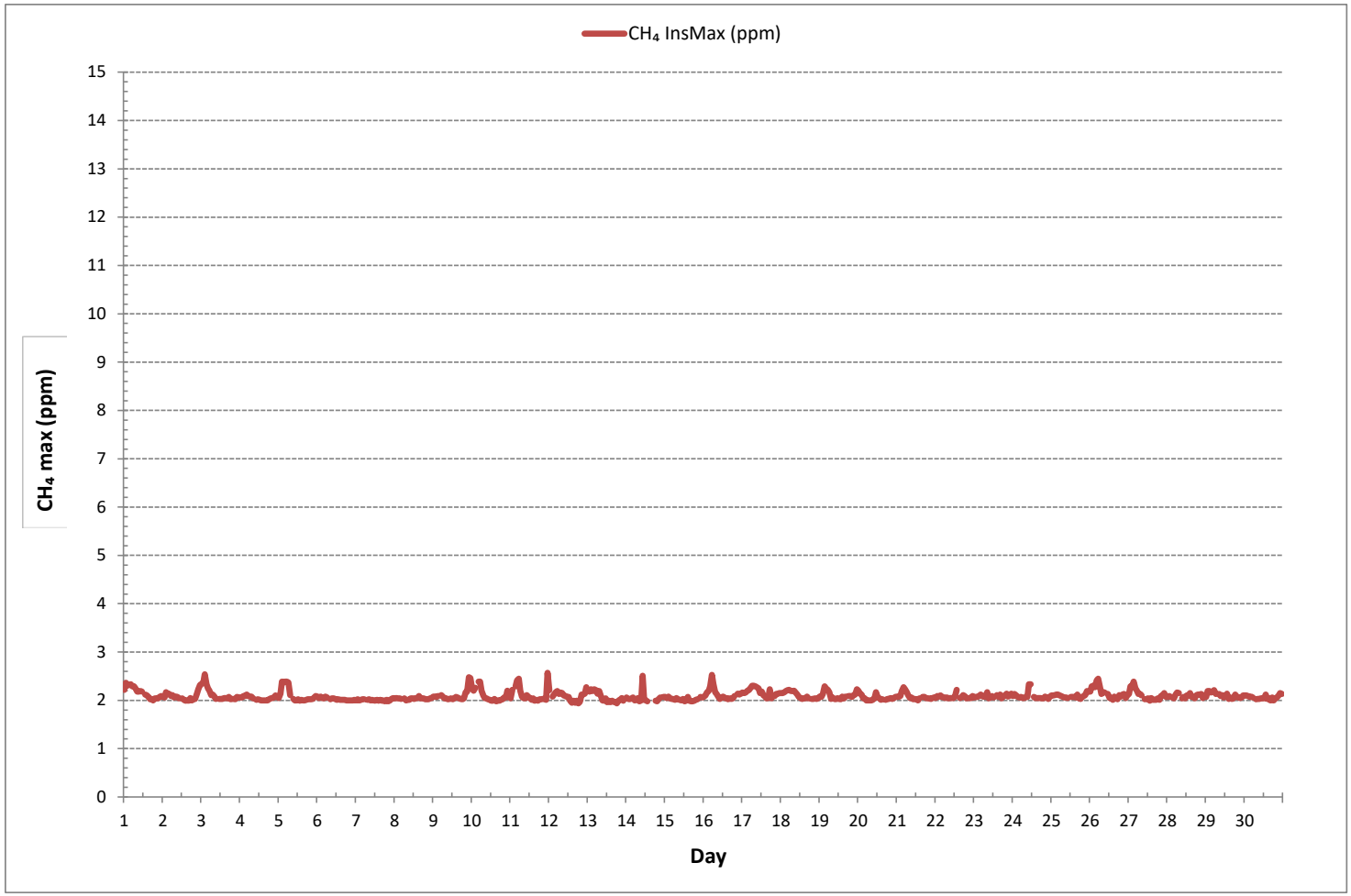
NUMBER OF NON-ZERO READINGS: 685

MAXIMUM INSTANTANEOUS VALUE: 2.57 ppm @ HOUR 23 ON DAY 11

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 4 hrs
STANDARD DEVIATION: 0.10

OPERATIONAL TIME: 720 hrs

METHANE MAX Instantaneous Maximum (CH_4 ppm)



NON-METHANE HYDROCARBONS Instantaneous Maximum (NMHC ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	0.00	0.00	0.00	0.13	0.19	0.00	0.00	0.14	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.02	24
2	0.00	0.00	0.11	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	24
3	0.00	0.38	**0.60**	0.13	0.10	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.60**	0.05	24
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
5	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	24
6	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	24
7	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	0.03	0.00	0.03	0.00	24
8	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	24
9	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	24
10	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	24
11	0.00	0.21	S	0.13	0.22	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.04	24
12	0.00	S	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	24
13	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.15	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	0.15	0.01	24
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C	C	C	C	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	24
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	24
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.12	0.01	24
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	0.54	S	0.00	0.10	0.19	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.54	0.04	24
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.13	0.00	0.00	0.00	0.05	0.00	0.00	0.09	0.00	0.13	0.01	24
24	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	24
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	24
26	0.00	0.16	0.11	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	0.16	0.01	24
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.07	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	0.07	0.01	24
28	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	24
29	0.00	0.10	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	24
30	0.00	0.11	0.11	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	0.11	0.01	24
HOURLY MAX	0.00	0.38	0.60	0.13	0.22	0.33	0.00	0.14	0.07	0.13	0.00	0.15	0.11	0.54	0.00	0.00	0.13	0.19	0.11	0.00	0.05	0.00	0.00	0.09				
HOURLY AVG	0.00	0.04	0.03	0.01	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

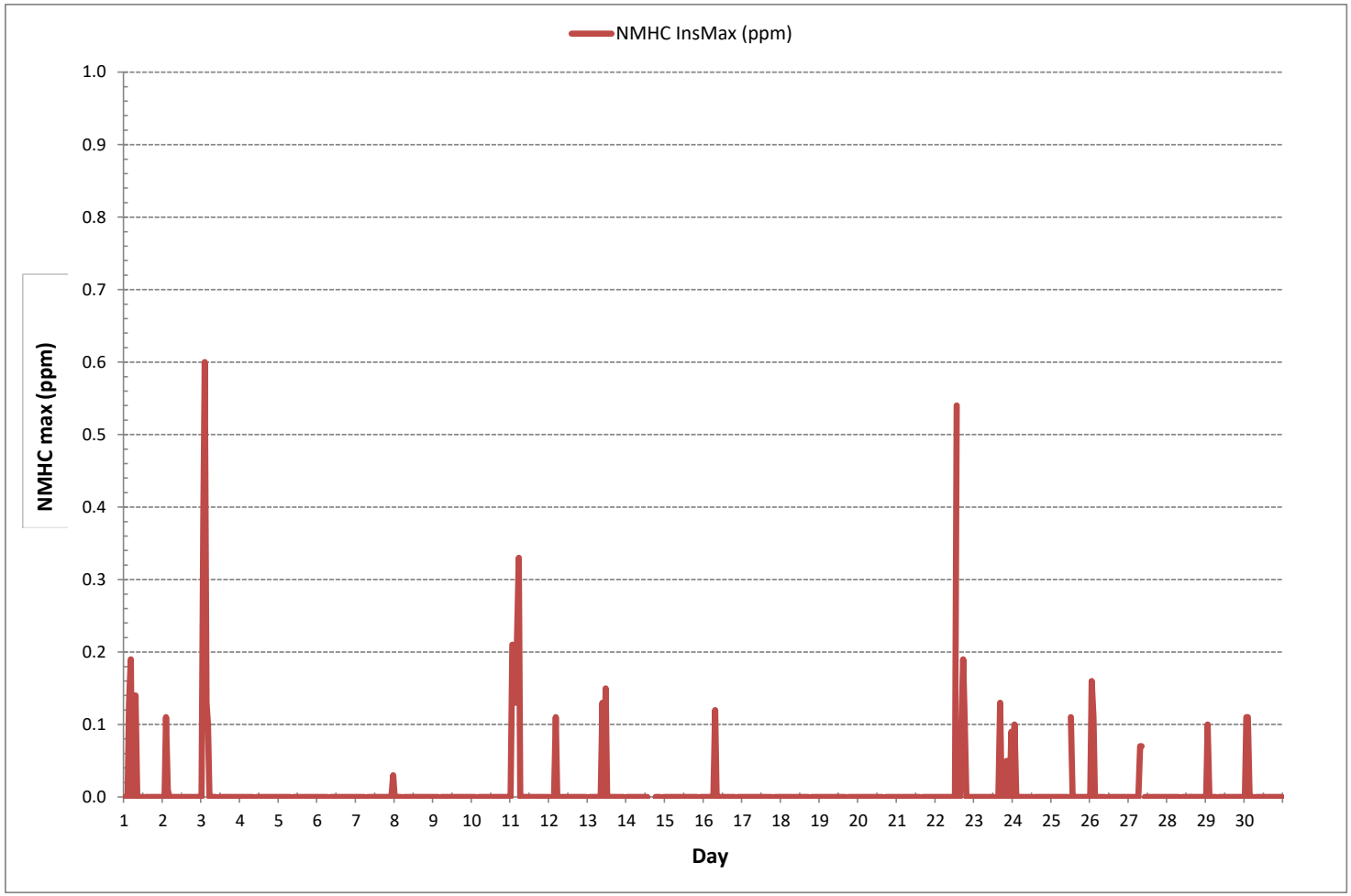
NUMBER OF NON-ZERO READINGS: 34

MAXIMUM INSTANTANEOUS VALUE: 0.60 ppm @ HOUR 2 ON DAY 3

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 4 hrs
STANDARD DEVIATION: 0.04

OPERATIONAL TIME: 720 hrs

NON-METHANE HYDROCARBONS Instantaneous Maximum (NMHC ppm)



OXIDES OF NITROGEN Instantaneous Maximum (NO_x ppb)

HR START (MST) / HR END (MST)	0:00 0:59	1:00 1:59	2:00 2:59	3:00 3:59	4:00 4:59	5:00 5:59	6:00 6:59	7:00 7:59	8:00 8:59	9:00 9:59	10:00 10:59	11:00 11:59	12:00 12:59	13:00 13:59	14:00 14:59	15:00 15:59	16:00 16:59	17:00 17:59	18:00 18:59	19:00 19:59	20:00 20:59	21:00 21:59	22:00 22:59	23:00 23:59	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
DAY																												
1	4	4	4	3	2	1	1	3	3	3	3	13	S	13	4	2	2	1	1	4	4	2	4	4	1	13	4	24
2	7	2	45	53	10	5	6	17	5	4	2	S	16	2	9	5	20	9	30	14	9	6	6	4	2	53	12	24
3	2	5	5	5	3	1	1	79	2	5	S	5	9	3	6	10	18	40	15	20	14	2	1	1	1	79	11	24
4	3	5	2	2	2	7	4	9	17	S	4	8	13	24	3	8	1	1	1	3	6	7	7	15	1	24	7	24
5	3	2	3	6	21	11	22	17	S	14	17	6	9	13	10	18	11	20	9	2	0	1	1	1	0	22	9	24
6	1	1	1	1	0	0	0	S	1	1	0	0	0	1	1	0	1	1	1	1	1	1	1	1	0	1	1	24
7	1	1	1	1	1	0	S	1	0	0	2	0	0	1	1	1	2	1	3	2	2	8	35	49	0	49	5	24
8	54	44	43	41	18	S	16	21	29	30	8	10	30	20	16	33	21	29	19	4	1	1	1	2	1	54	21	24
9	12	5	4	2	S	13	17	15	19	28	11	17	7	15	26	31	17	16	11	11	1	1	2	3	1	31	12	24
10	3	4	7	S	14	12	8	5	2	2	18	23	8	34	46	16	9	14	2	11	22	12	12	1	1	46	12	24
11	2	2	S	2	1	1	1	0	2	6	16	11	6	5	5	3	4	5	3	1	44	10	7	2	0	44	6	24
12	2	S	2	2	3	5	4	3	3	3	3	33	2	4	1	2	3	1	2	1	2	2	2	2	1	33	4	24
13	S	3	4	4	7	18	9	19	8	16	3	12	6	4	1	1	8	1	1	1	3	13	22	S	1	22	8	24
14	25	14	7	18	9	16	34	33	36	C	C	C	C	C	C	C	15	34	2	1	2	12	S	14	1	36	-	24
15	16	17	16	38	43	4	5	8	10	18	13	30	3	9	38	21	1	1	1	2	2	S	4	1	1	43	13	24
16	2	2	1	1	4	5	**138**	16	18	14	11	2	3	3	3	2	1	3	1	4	S	5	2	6	1	**138**	11	24
17	5	4	4	4	3	6	6	7	5	5	5	16	3	2	5	4	4	10	7	S	3	4	4	6	2	16	5	24
18	6	5	5	5	5	5	5	8	4	3	5	2	2	2	2	2	38	26	S	2	1	1	1	5	1	38	6	24
19	3	1	1	1	1	6	5	1	1	1	1	1	8	9	14	7	2	S	4	3	4	2	2	1	1	14	3	24
20	3	3	1	1	1	1	1	1	1	1	7	20	16	9	6	1	S	2	1	2	2	1	2	1	1	20	4	24
21	1	1	1	1	1	1	0	1	2	18	5	7	9	3	41	S	35	44	13	31	3	26	11	3	0	44	11	24
22	2	2	3	2	1	1	4	1	1	2	3	4	4	31	S	24	33	50	27	2	12	14	3	3	1	50	10	24
23	6	4	5	3	32	10	10	26	25	12	23	23	19	S	44	35	23	11	34	17	35	37	22	40	3	44	22	24
24	28	33	36	17	5	28	11	24	15	24	25	28	S	22	3	2	1	1	1	0	1	2	2	9	0	36	14	24
25	2	1	1	1	1	1	1	1	19	10	12	S	4	20	7	9	29	13	13	2	2	1	1	2	1	29	7	24
26	3	28	20	4	1	2	3	3	8	11	S	3	2	8	1	10	6	1	3	3	2	2	0	2	0	28	6	24
27	1	1	2	1	1	1	1	6	8	S	8	5	6	6	4	5	3	0	0	0	0	1	0	0	0	8	3	24
28	0	0	0	0	0	15	14	16	S	1	1	4	14	15	15	6	1	3	12	12	19	25	2	1	0	25	8	24
29	1	15	17	1	1	1	1	S	21	4	1	1	3	8	26	10	9	4	8	5	2	1	1	1	1	26	6	24
30	23	50	61	47	35	11	S	10	1	10	1	11	14	8	27	4	1	1	1	1	3	1	2	9	1	61	14	24
HOURLY MAX	54	50	61	53	43	28	138	79	36	30	25	33	30	34	46	35	38	50	34	31	44	37	35	49				
HOURLY AVG	8	9	10	9	8	6	12	13	10	9	8	11	8	11	13	10	11	12	8	6	7	7	6	7				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

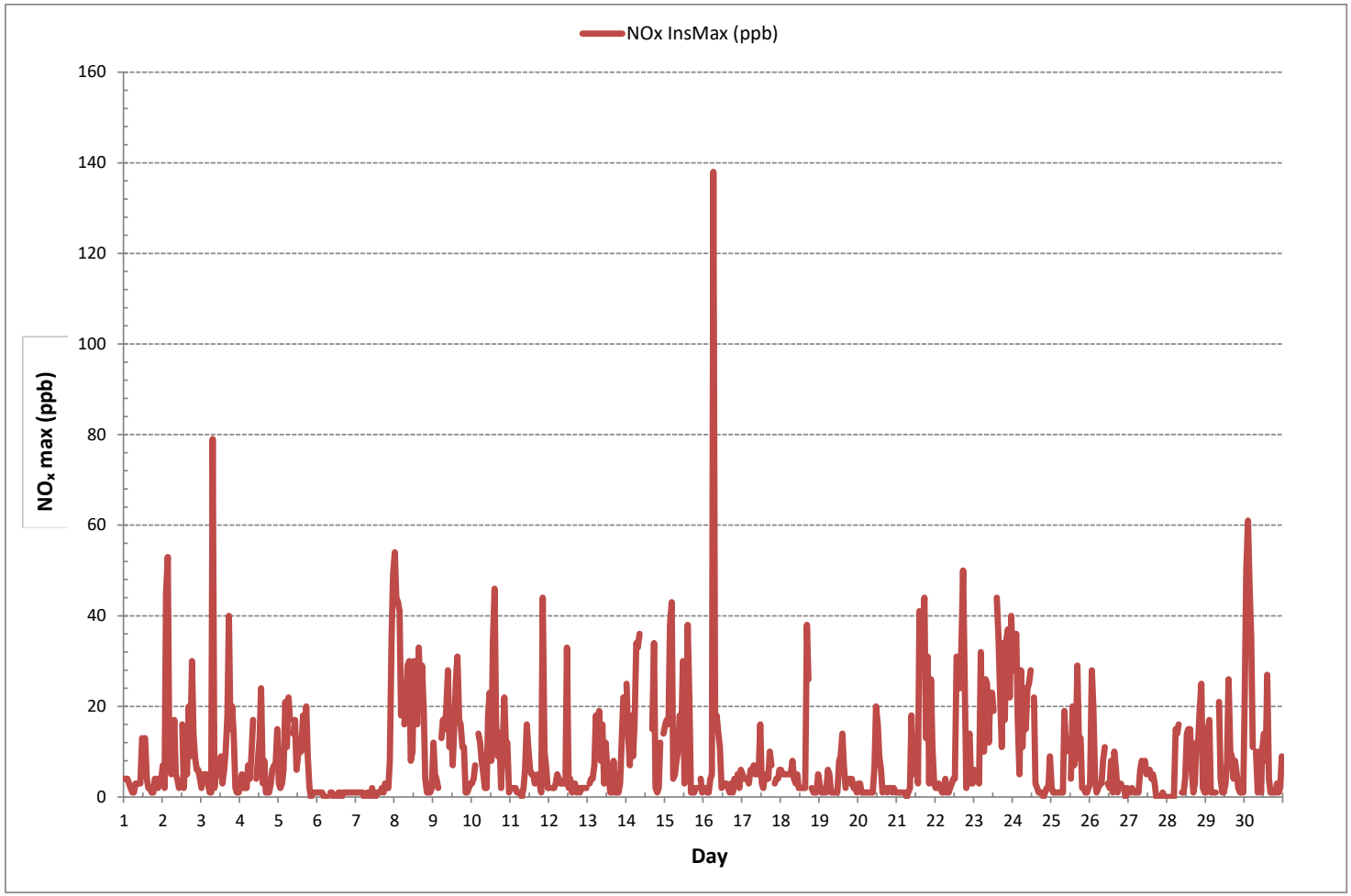
NUMBER OF NON-ZERO READINGS: 654

MAXIMUM INSTANTANEOUS VALUE: 138 ppb @ HOUR 6 ON DAY 16

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 7 hrs
STANDARD DEVIATION: 12

OPERATIONAL TIME: 720 hrs

OXIDES OF NITROGEN Instantaneous Maximum (NO_x ppb)



NITRIC OXIDE Instantaneous Maximum (NO ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	0	0	0	0	0	0	0	1	0	0	1	4	S	4	1	0	0	0	0	0	0	0	0	0	0	4	1	24
2	0	0	16	18	1	0	1	6	1	1	0	S	4	0	2	1	5	2	6	1	0	0	0	0	0	18	3	24
3	0	0	0	0	0	0	0	60	0	1	S	1	2	1	2	2	4	14	3	4	1	0	0	0	0	60	4	24
4	0	2	0	0	0	1	1	5	11	S	1	3	7	14	1	2	0	0	0	0	0	0	0	1	0	14	2	24
5	0	0	0	0	12	3	8	6	S	7	10	2	3	4	4	7	3	5	2	0	0	0	0	0	0	12	3	24
6	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	24
7	0	0	0	0	0	0	S	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	19	33	0	33	3	24
8	37	28	28	25	6	S	8	14	18	16	3	4	17	10	8	16	9	14	7	0	0	0	0	0	0	37	12	24
9	1	0	0	0	S	5	8	6	8	15	5	11	2	4	11	13	6	5	2	2	0	0	0	0	0	15	5	24
10	0	0	0	S	2	3	3	2	1	1	8	11	3	16	22	7	3	4	0	2	5	1	1	0	0	22	4	24
11	0	0	S	0	0	0	0	0	0	1	6	4	1	1	1	0	1	1	0	0	17	0	0	0	0	17	2	24
12	0	S	1	0	0	1	1	1	1	1	1	21	0	1	0	0	1	0	0	0	0	0	0	0	0	21	1	24
13	S	0	0	0	0	7	2	9	3	5	1	4	2	1	1	0	3	0	0	0	0	0	1	S	0	9	2	24
14	11	3	1	6	2	6	20	23	22	C	C	C	C	C	C	C	5	16	0	0	0	0	S	3	0	23	-	24
15	5	4	5	20	25	1	1	3	3	9	5	12	1	4	15	7	0	0	0	0	0	S	0	0	0	25	5	24
16	0	0	0	0	0	2	**112**	8	9	6	4	0	1	1	1	0	0	0	0	1	S	0	0	0	0	**112**	6	24
17	0	0	0	0	0	2	2	3	2	1	1	6	0	0	1	0	0	2	1	S	0	0	0	0	0	6	1	24
18	0	0	0	0	0	1	1	3	1	1	1	0	0	0	0	0	11	6	S	0	0	0	0	0	0	11	1	24
19	0	0	0	0	0	1	1	0	0	0	0	0	2	2	4	1	0	S	0	1	0	0	1	0	0	4	1	24
20	0	0	0	0	0	0	0	0	0	0	1	4	3	3	2	0	S	0	0	0	0	0	0	0	0	4	1	24
21	0	0	0	0	0	0	0	0	0	7	1	1	3	1	16	S	11	17	3	9	0	3	0	0	0	17	3	24
22	0	0	0	0	0	0	1	0	0	1	1	1	0	10	S	9	14	28	9	0	2	2	0	0	0	28	3	24
23	1	0	0	0	15	3	4	12	11	4	11	9	5	S	22	16	10	4	12	3	13	18	11	23	0	23	9	24
24	13	17	20	7	1	13	4	12	7	12	12	16	S	8	0	0	0	0	0	0	0	0	0	1	0	20	6	24
25	0	0	0	0	0	0	0	0	8	3	3	S	1	6	2	2	12	3	3	0	0	0	0	0	0	12	2	24
26	0	17	11	0	0	1	1	1	3	4	S	0	0	2	0	3	1	0	0	0	0	0	0	0	0	17	2	24
27	0	0	0	0	0	0	0	2	2	S	2	1	2	2	1	1	1	0	0	0	0	0	0	0	0	2	1	24
28	0	0	0	0	0	3	4	4	S	0	0	1	5	5	6	2	0	1	3	3	4	8	0	0	0	8	2	24
29	0	3	4	0	0	0	0	S	7	1	0	0	1	2	3	1	1	1	1	0	0	0	0	0	0	7	1	24
30	6	26	38	26	17	4	S	3	0	4	0	4	5	3	11	1	0	0	0	0	0	0	0	0	0	38	7	24
HOURLY MAX	37	28	38	26	25	13	112	60	22	16	12	21	17	16	22	16	14	28	12	9	17	18	19	33				
HOURLY AVG	3	3	4	4	3	2	7	7	4	4	3	4	3	4	5	3	3	4	2	1	1	1	1	2				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

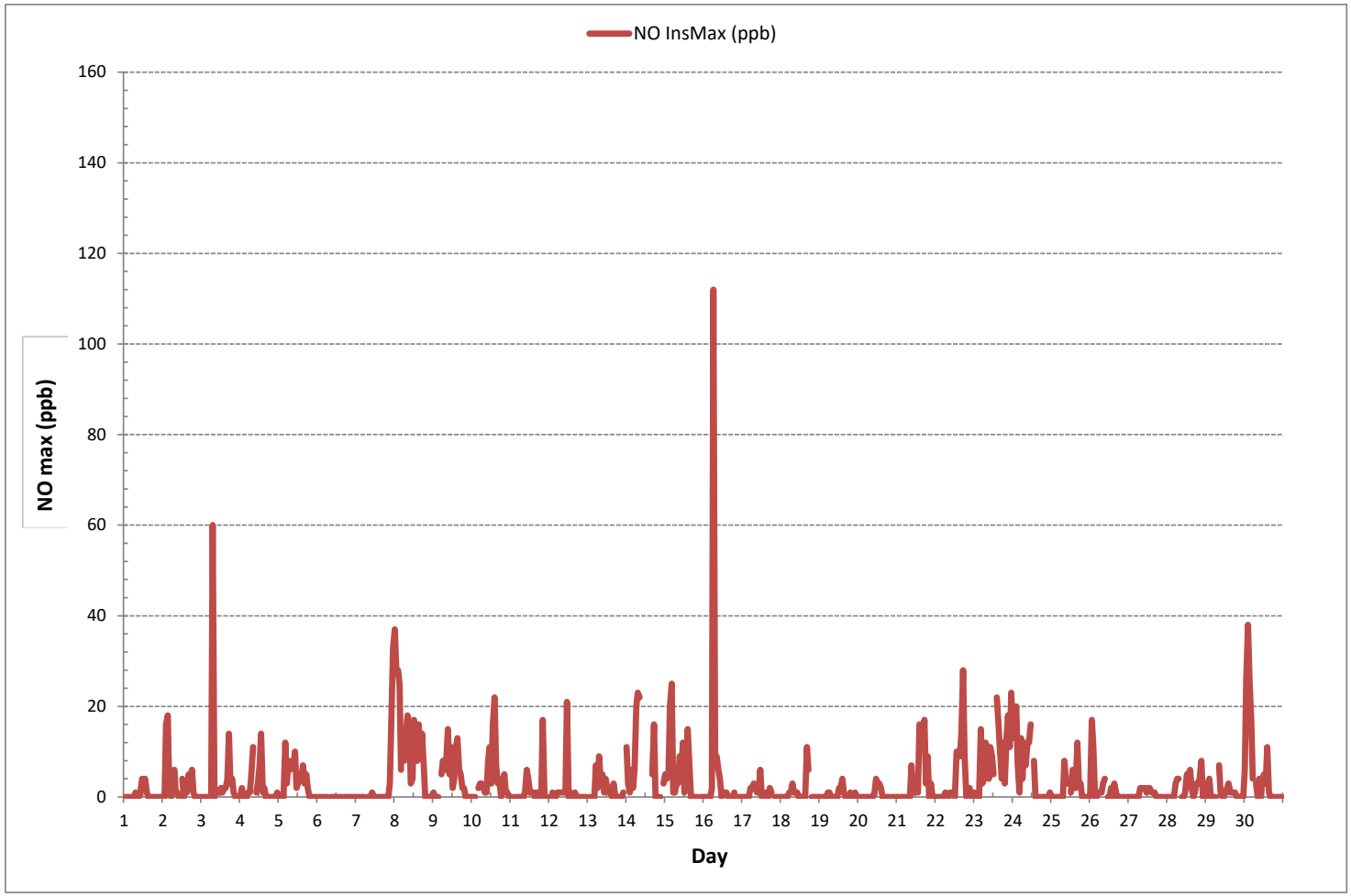
NUMBER OF NON-ZERO READINGS: 335

MAXIMUM INSTANTANEOUS VALUE: 112 ppb @ HOUR 6 ON DAY 16

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 7 hrs
STANDARD DEVIATION: 7

OPERATIONAL TIME: 720 hrs

NITRIC OXIDE Instantaneous Maximum (NO ppb)



NITROGEN DIOXIDE Instantaneous Maximum (NO_2 ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	4	4	4	3	2	1	1	3	3	2	2	8	S	9	3	2	2	1	1	4	3	1	4	4	1	9	3	24
2	6	2	29	**36**	9	4	5	11	4	3	2	S	12	2	7	4	15	7	24	13	9	6	6	4	2	**36**	10	24
3	2	5	5	4	2	1	1	21	1	5	S	4	6	2	4	8	14	27	12	16	13	2	1	1	1	27	7	24
4	3	4	2	2	2	5	3	5	7	S	3	5	6	10	2	6	1	1	1	3	6	7	7	14	1	14	4	24
5	3	2	3	6	10	8	14	11	S	7	7	4	5	9	6	11	8	14	8	2	0	1	1	1	0	14	6	24
6	1	1	1	1	0	0	0	S	1	1	0	0	0	1	1	0	1	1	1	1	1	1	1	1	0	1	1	24
7	1	1	1	1	1	0	S	1	0	0	1	0	0	1	1	1	1	1	3	2	2	5	16	17	0	17	2	24
8	18	16	16	16	12	S	8	9	11	14	6	6	13	10	9	17	12	15	12	3	1	1	1	2	1	18	10	24
9	11	5	4	2	S	8	9	9	11	14	7	8	5	11	15	18	11	11	8	9	1	1	2	3	1	18	8	24
10	3	4	7	S	13	9	5	3	1	2	10	11	5	19	24	10	6	10	2	9	20	12	11	1	1	24	9	24
11	1	1	S	2	1	1	1	0	1	4	10	7	5	4	4	2	3	4	3	1	28	9	7	2	0	28	5	24
12	2	S	2	2	2	3	3	2	2	2	2	12	2	2	1	1	2	1	2	1	1	2	2	2	1	12	2	24
13	S	3	4	4	7	12	6	10	5	11	2	8	4	3	1	1	6	1	1	1	3	12	21	S	1	21	6	24
14	15	11	6	12	8	10	15	11	14	C	C	C	C	C	C	C	10	17	1	1	2	12	S	11	1	17	-	24
15	13	12	13	18	19	3	4	6	6	9	8	18	2	5	24	14	1	0	1	1	1	S	4	1	0	24	8	24
16	2	2	1	1	3	4	26	8	9	8	7	2	2	2	3	2	1	2	1	4	S	5	2	6	1	26	4	24
17	4	3	4	4	3	4	5	4	3	3	3	10	2	2	4	4	4	9	6	S	3	4	4	6	2	10	4	24
18	6	5	5	5	5	5	4	5	3	2	4	2	1	2	2	1	27	22	S	2	1	1	1	4	1	27	5	24
19	3	1	1	1	1	4	4	1	1	1	1	1	6	8	12	7	2	S	4	2	3	2	2	1	1	12	3	24
20	3	3	1	1	1	1	1	1	1	1	7	17	13	6	5	1	S	2	1	2	2	1	2	1	1	17	3	24
21	1	1	1	1	1	1	0	0	1	11	4	5	6	3	25	S	24	27	10	23	3	23	11	3	0	27	8	24
22	2	2	2	2	1	1	3	1	1	1	2	3	4	22	S	15	19	23	18	2	11	13	3	3	1	23	7	24
23	5	4	5	3	19	8	6	14	14	8	12	14	13	S	22	19	13	8	22	15	22	19	13	17	3	22	13	24
24	15	16	17	10	3	15	8	13	10	12	14	13	S	14	2	2	1	1	1	0	1	2	2	8	0	17	8	24
25	2	1	1	1	1	1	1	1	11	6	8	S	4	15	5	7	17	10	10	2	1	1	1	2	1	17	5	24
26	3	14	12	4	1	1	2	2	5	7	S	2	2	6	1	7	5	1	3	2	2	1	0	2	0	14	4	24
27	1	1	2	1	1	0	1	5	6	S	6	4	4	4	3	4	2	0	0	0	0	0	0	0	0	6	2	24
28	0	0	0	0	0	13	10	12	S	1	1	3	9	10	10	4	1	2	9	9	15	17	2	1	0	17	6	24
29	1	11	13	1	1	1	1	S	13	3	1	1	2	7	23	9	7	4	7	4	2	1	1	1	1	23	5	24
30	17	25	24	21	19	8	S	6	1	6	1	7	9	5	16	3	1	1	0	1	3	1	2	9	0	25	8	24
HOURLY MAX	18	25	29	36	19	15	26	21	14	14	14	18	13	22	25	19	27	27	24	23	28	23	21	17				
HOURLY AVG	5	6	6	6	5	5	5	6	5	5	5	6	5	7	8	6	7	8	6	5	6	6	4	4				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 649

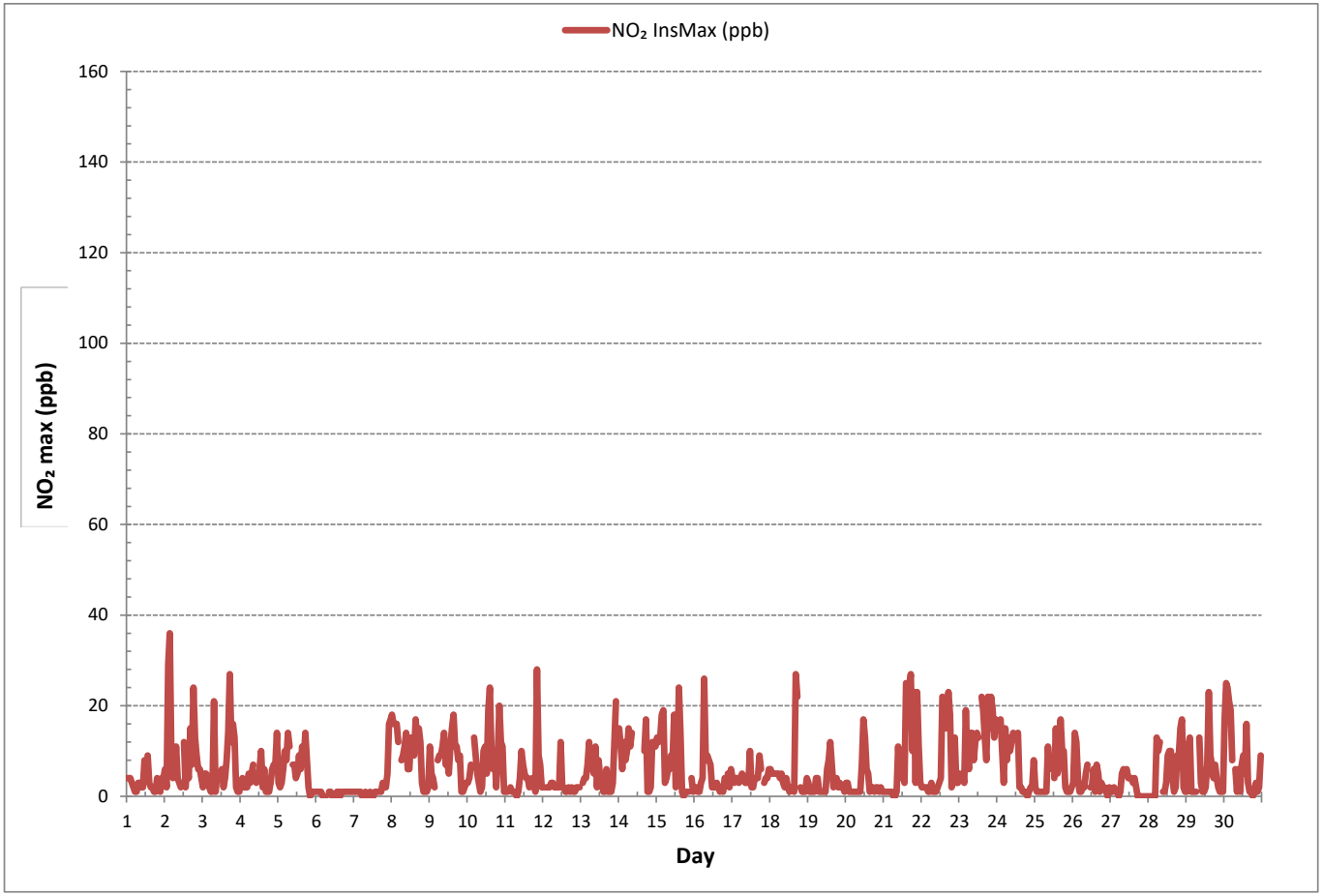
MAXIMUM INSTANTANEOUS VALUE: 36 ppb @ HOUR 3 ON DAY 2

VAR-VARIOUS

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 7 hrs
STANDARD DEVIATION: 6

OPERATIONAL TIME: 720 hrs

NITROGEN DIOXIDE Instantaneous Maximum (NO_2 ppb)



WIND SPEED Instantaneous Maximum (WS kph)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	1.6	2.8	1.0	2.0	3.5	3.7	3.1	5.1	7.1	9.6	8.7	11.7	13.4	13.1	14.6	14.8	13.9	14.0	10.2	8.6	8.8	10.6	11.7	10.6	1.0	14.8	8.5	24
2	11.7	12.7	12.9	9.8	5.8	4.3	5.1	7.5	6.8	7.2	5.7	8.4	9.2	9.0	10.9	11.4	12.6	14.9	10.2	7.8	3.0	2.9	3.0	1.9	1.9	14.9	8.1	24
3	1.6	2.5	6.1	4.1	3.3	3.7	4.9	7.3	8.0	8.9	10.0	5.8	8.5	7.0	9.4	10.8	14.6	13.8	12.1	10.8	4.4	6.2	5.0	8.1	1.6	14.6	7.4	24
4	6.6	8.0	5.9	5.4	6.1	6.9	8.7	8.3	13.4	12.7	15.2	15.5	15.4	14.3	15.4	18.7	17.3	10.8	9.4	9.2	13.5	8.6	5.7	8.4	5.4	18.7	10.8	24
5	3.0	3.9	3.8	4.9	6.1	5.0	8.8	10.0	11.6	11.5	12.3	13.8	14.2	11.2	11.7	11.7	10.1	8.8	7.1	6.5	5.1	5.6	3.3	3.6	3.0	14.2	8.1	24
6	3.4	3.1	4.0	4.5	5.2	8.9	12.2	13.4	12.2	13.4	12.7	13.7	20.4	17.7	17.7	17.0	18.2	17.8	17.6	15.9	13.3	12.3	11.8	14.7	3.1	20.4	12.5	24
7	14.9	15.3	18.5	18.6	16.0	19.2	18.6	16.6	15.9	16.3	15.2	17.4	**21.8**	19.7	14.3	11.3	10.7	16.2	16.9	20.5	15.2	9.6	9.1	11.9	9.1	**21.8**	15.8	24
8	10.1	9.1	13.1	9.1	7.1	12.2	13.5	11.5	15.0	14.4	15.5	17.8	14.7	15.1	13.5	10.3	12.5	11.4	9.0	6.4	4.0	4.6	2.6	1.9	1.9	17.8	10.6	24
9	2.7	1.8	2.9	3.5	5.4	3.3	6.6	10.0	13.6	14.1	10.0	10.5	14.5	10.8	12.6	10.3	11.0	10.8	9.0	4.7	3.2	3.3	3.9	4.9	1.8	14.5	7.6	24
10	5.3	6.7	6.8	7.5	7.1	7.8	10.2	15.5	12.8	11.0	9.8	13.7	12.7	17.6	10.7	11.9	10.4	9.8	9.0	6.0	5.4	4.3	4.6	2.8	2.8	17.6	9.1	24
11	1.6	2.1	1.8	1.9	4.1	2.6	5.7	5.0	8.7	5.9	5.1	9.1	8.0	11.1	8.3	8.6	6.6	5.9	5.7	13.2	13.3	8.1	6.6	4.7	1.6	13.3	6.4	24
12	4.0	3.2	2.0	2.2	2.0	4.8	5.4	7.0	5.5	5.4	9.1	10.7	10.6	10.8	10.2	10.4	10.7	9.0	9.5	7.3	4.5	3.7	4.3	5.0	2.0	10.8	6.6	24
13	5.0	6.8	5.7	7.7	6.6	5.3	11.3	9.1	6.4	9.4	6.3	5.3	6.2	8.4	7.3	3.9	6.0	5.1	5.1	2.7	3.6	6.2	5.9	7.5	2.7	11.3	6.4	24
14	6.6	4.1	3.6	6.6	5.5	5.7	6.0	7.9	11.8	11.8	14.3	11.8	12.3	11.1	8.8	11.7	13.4	12.5	16.1	10.5	3.6	4.0	3.1	4.5	3.1	16.1	8.6	24
15	5.7	3.8	7.0	6.7	7.5	5.1	4.9	4.2	5.1	6.9	7.3	13.4	8.2	8.3	13.7	9.5	10.3	7.1	4.6	5.3	3.1	3.5	2.1	1.1	1.1	13.7	6.4	24
16	2.2	1.5	1.7	1.8	2.1	2.5	2.6	2.5	4.1	6.5	6.4	7.5	6.6	6.6	8.1	9.3	9.7	9.0	11.1	8.6	7.1	7.4	6.3	5.8	1.5	11.1	5.7	24
17	6.3	3.1	3.8	4.2	3.7	6.5	9.3	8.2	7.9	8.6	9.8	10.0	11.3	16.1	12.3	13.9	9.6	6.6	6.0	6.0	7.3	6.9	8.7	9.0	3.1	16.1	8.1	24
18	8.6	8.6	9.8	7.3	6.6	7.5	8.3	9.3	8.7	10.1	11.7	11.7	14.6	14.2	13.6	7.3	15.9	13.5	8.2	8.4	6.4	3.8	3.2	2.4	2.4	15.9	9.2	24
19	2.4	2.1	1.8	1.9	1.7	6.1	5.5	6.5	7.6	9.6	15.7	16.3	14.2	12.6	8.1	18.5	7.3	3.7	4.0	3.6	4.0	2.2	4.2	6.6	1.7	18.5	6.9	24
20	3.2	2.9	6.4	7.5	21.7	16.0	19.8	17.0	14.2	19.9	16.7	13.4	12.2	17.0	14.0	11.4	13.1	16.2	20.0	12.4	12.5	7.2	5.7	3.2	2.9	21.7	12.6	24
21	5.2	2.9	1.6	3.0	2.3	2.1	5.3	5.5	3.1	4.6	5.7	7.1	6.5	6.8	6.6	12.5	12.9	11.6	10.2	7.4	6.2	7.4	6.8	5.4	1.6	12.9	6.2	24
22	5.8	3.4	3.6	3.5	4.5	5.4	6.4	6.3	7.2	9.8	10.2	8.2	14.8	10.9	5.4	6.0	7.5	10.0	6.6	8.1	7.4	7.5	8.3	5.1	3.4	14.8	7.2	24
23	5.5	5.8	4.1	3.5	5.3	6.1	8.1	7.4	8.6	7.8	11.0	10.2	8.7	14.1	7.8	8.1	8.8	10.0	12.1	7.8	9.1	9.0	7.1	6.7	3.5	14.1	8.0	24
24	5.3	8.4	6.8	6.2	6.0	6.9	6.1	6.7	6.5	7.1	8.0	7.7	8.1	6.0	7.2	10.2	7.7	6.0	7.3	3.2	2.2	4.1	3.2	3.7	2.2	10.2	6.3	24
25	4.1	2.3	2.7	2.0	3.5	3.6	5.2	4.6	6.5	6.0	4.3	6.0	8.0	8.8	7.6	4.2	4.0	5.6	4.8	2.2	3.5	2.0	1.7	2.4	1.7	8.8	4.4	24
26	2.3	3.8	3.9	2.0	2.3	1.8	2.9	2.8	6.1	6.8	6.6	6.0	7.9	9.0	9.0	7.0	8.0	8.4	8.0	5.3	1.7	7.8	3.9	3.7	1.7	9.0	5.3	24
27	2.9	2.1	2.3	2.6	2.6	3.3	3.3	3.9	7.4	6.8	7.0	8.3	9.4	9.3	7.5	11.6	10.4	10.2	10.8	6.0	5.7	3.8	5.0	4.9	2.1	11.6	6.1	24
28	5.2	5.3	5.3	6.8	6.5	8.4	10.7	9.4	11.3	11.0	14.8	15.4	13.1	13.5	15.8	12.5	13.9	17.6	11.8	11.1	10.1	7.9	6.8	4.5	4.5	17.6	10.4	24
29	4.6	5.8	3.8	3.3	2.8	2.8	5.4	5.1	3.6	6.1	6.9	7.9	6.6	15.8	13.6	10.9	7.5	6.1	4.7	3.4	6.6	4.8	4.4	5.4	2.8	15.8	6.2	24
30	8.4	10.3	12.0	12.2	10.6	11.6	10.9	10.4	9.1	15.5	15.0	13.4	14.2	20.2	13.3	12.8	15.4	12.8	11.3	11.9	6.1	7.2	10.0	9.3	6.1	20.2	11.8	24
HOURLY MAX	14.9	15.3	18.5	18.6	21.7	19.2	19.8	17.0	15.9	19.9	16.7	17.8	21.8	20.2	17.7	18.7	18.2	17.8	20.0	20.5	15.2	12.3	11.8	14.7				

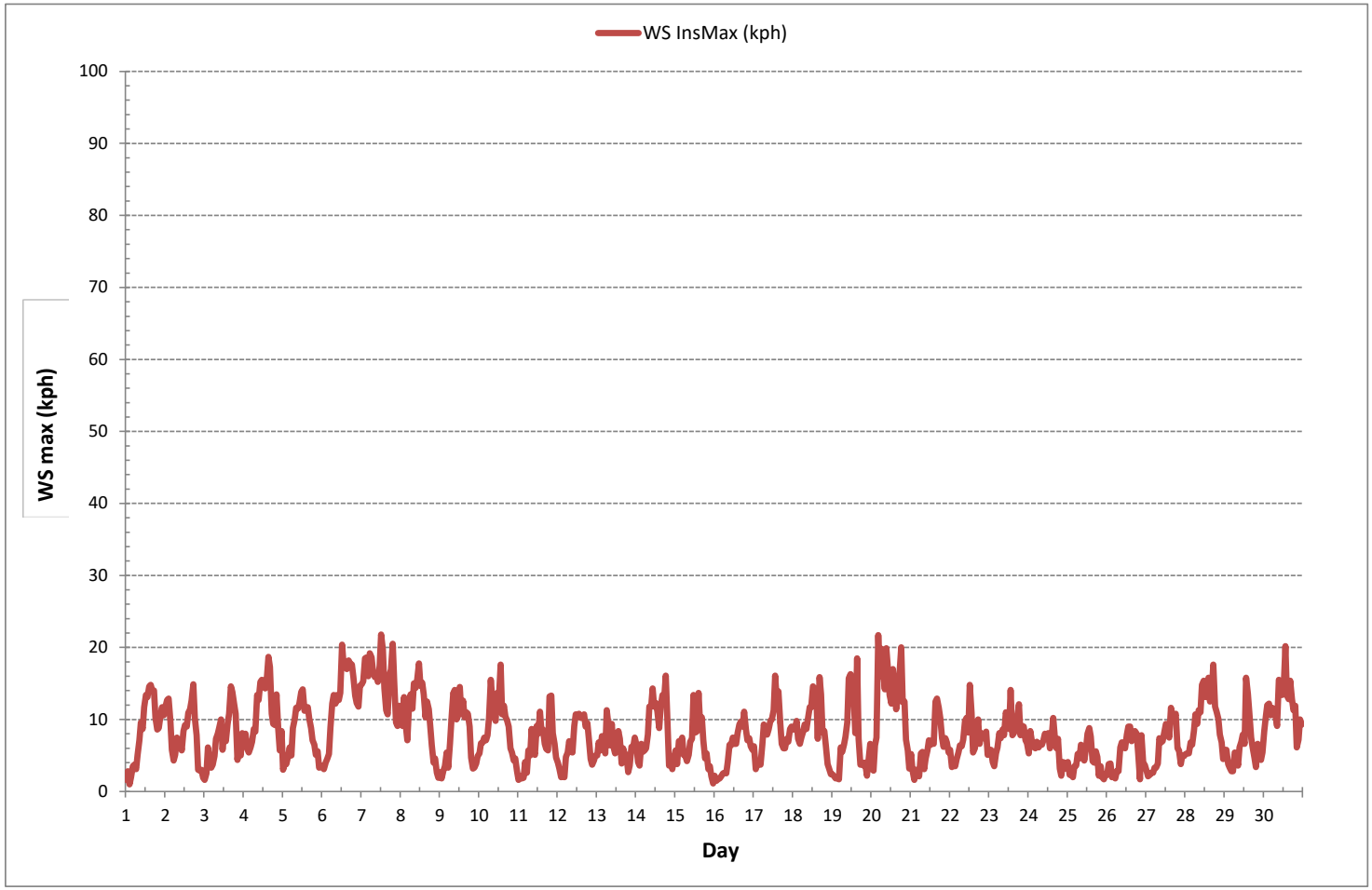
STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS VALUE:	21.8	kph	@ HOUR	12	ON DAY	7
OPERATIONAL TIME:					720	hrs

WIND SPEED Instantaneous Maximum (WS kph)



1.0 Quality Control Activities

Quality control procedures are established to govern the performance of the monitoring equipment and to protect operational uptime. Data collected during QC/QA activities are assigned a data validation code to comply with the requirements outlined in Chapter 6, 4.1.1, DQ 4-A (AMD, 2016). Calibrations are deemed successful only if the AMD calibration acceptance limits are met (Chapter 7, 9.0, AMD 2016).

A daily zero-span test procedure is performed for each gaseous parameter by challenging the analyzer with a zero-air source and span gas. Daily review of the data ensures the zero and span check are within the required acceptance limits and do not deviate more than ±10% from the expected value. The total zero-span cycle is complete within an hour with the zero phase commencing at the beginning of the scheduled hour. This QC activity is conducted in accordance with Chapter 7, 4.0, Cal 4-A (AMD, 2016).

The allowable time for a zero-span check is one hour per calendar day. The time allotted for the zero-span check does not contribute to downtime and is identified with a data validation code of "S". If any additional zero-span response checks are performed, the time accrued during the QC activity is considered downtime and is identified with a data validation code of "S1". The initiation of an additional zero-span check may be warranted during the investigation of operational issues or suspect data.

Each month, a scheduled multipoint calibration is performed on each gas analyzer. Prior to any adjustments, an as-found response test is completed to obtain the zero reading of the analyzer and the response to the highest span concentration. The zero and high point test gases are then re-introduced into the analyzer to establish the zero and high set-points. Once these adjustments are satisfactory, a mid-point and a low-point test concentration is introduced. Additional multi-point calibrations are required if any of the conditions, outlined in Chapter 7, 2.1, Cal 2G (AMD, 2016) exist.

The time allotted for the first multi-point calibration is not considered downtime and is identified with a data validation code of "C". If any additional as-found response checks or multipoint calibrations are performed, the time accrued during the QC activity is considered downtime and is identified with a data validation code of "C1".

A mechanical wind system undergoes annual calibration, as a minimum, while an ultrasonic wind system is factory calibrated every two years (Chapter 6, 6.0, Cal 6-A, AMD 2016). Supplementary to this, a visual inspection of the equipment is performed during each scheduled monthly site visit.

The time allotted for the wind system calibration is not considered downtime and is identified with a data validation code of "C". If function checks or additional calibrations are performed, the time accrued during the QC activity is not considered downtime and is identified with a data validation code of "Q" and "C", respectively. If QC activity goes beyond 10% of the monthly operating time, the time exceeding 10% is considered downtime and is assigned a data validation code of "C1". Data identified with a data validation code of "Q" is in accordance with Chapter 6, 4.1.3 (AMD, 2016) which states QA/QC activities are not included when calculating data completeness.

High volume samplers are calibrated every three months, as a minimum, in accordance with Chapter 7, 7.0, Cal 7-B (AMD, 2016).

Where passive sampling is in practice, quality control samples will be deployed in accordance with Chapter 4, 3.0, 3.1.3. Method blanks, replicate samples and spiked blanks are exposed and handled in the same manner as each passive sample. To comply with the data submission requirements in Chapter 9, 3.1, the replicate and corresponding passive sample concentrations are reportable data values and have not been averaged.

As recommended in Chapter 6, 4.2 (AMD 2016), daily data review is conducted to verify data and avoid significant data losses. Automated flags, originating from the data-logger, and data anomalies are reviewed and may prompt the need to dispatch a technician for investigation and/or corrective action. Additionally, there are several automated alarm scenarios that serve to screen raw data, alert technicians and elicit investigation or corrective action.

Comparisons of the measured ambient concentrations to the corresponding AAAQO are assessed using the significant figures protocol in Chapter 9, 3.1.2. If the measurement is near the set objective, raw data may undergo necessary data adjustments to confirm a true exceedance. Should an exceedance occur, Bureau Veritas will formally notify the client; however, the reporting protocol to AEP is defined by the client and may not involve Bureau Veritas. Exceedance events are acknowledged in the report, based on the information available at the time.

2.0 Data Verification and Validation

The data validation procedures, outlined in Chapter 6, 4.0, AMD 2016, are used to accept, reject and qualify data. The data verification and validation process, and the current Data Collection and Management Process Flow Chart have been compiled from sections 4.2 to 4.6 (AMD, 2016) and are shown below.

Baseline adjustments are applied by interpolation between two valid zero checks, as determined by the Data Acquisition System. In the event that zero check results are not reliable, data may be adjusted by applying a constant offset to data collected between two adjacent zero checks. Both adjustment approaches are deemed acceptable by the AMD.

Table 1 (Chapter 6) outlines the quantitative parameter relationships to be considered and dictates that data adjustments are applied equally for NO/NO_2/NOx and CH_4/NMHC/THC parameters. Below zero adjustments are applied to 1-hour averages, in accordance with Table 2 (Chapter 6), and are done after baseline corrections.

Instantaneous data, where provided, is provided for reference purposes and has not undergone zero correction. The minimum and maximum statistics are highlighted in the data table and are for reference only. The highlighted cells are based on the software's interpretation of the exact position of the minimum or maximum value. The visual presentation of these statistics may not be the obvious choice in a data range due to rounding, truncating or analyzer specifications.

All calculations and reporting of results follow the methods described in the AMD, 2016.

There were no deviations from the prescribed methods.

AMD Data Verification and Validation Process

The following steps were used to complete the data verification and validation process:

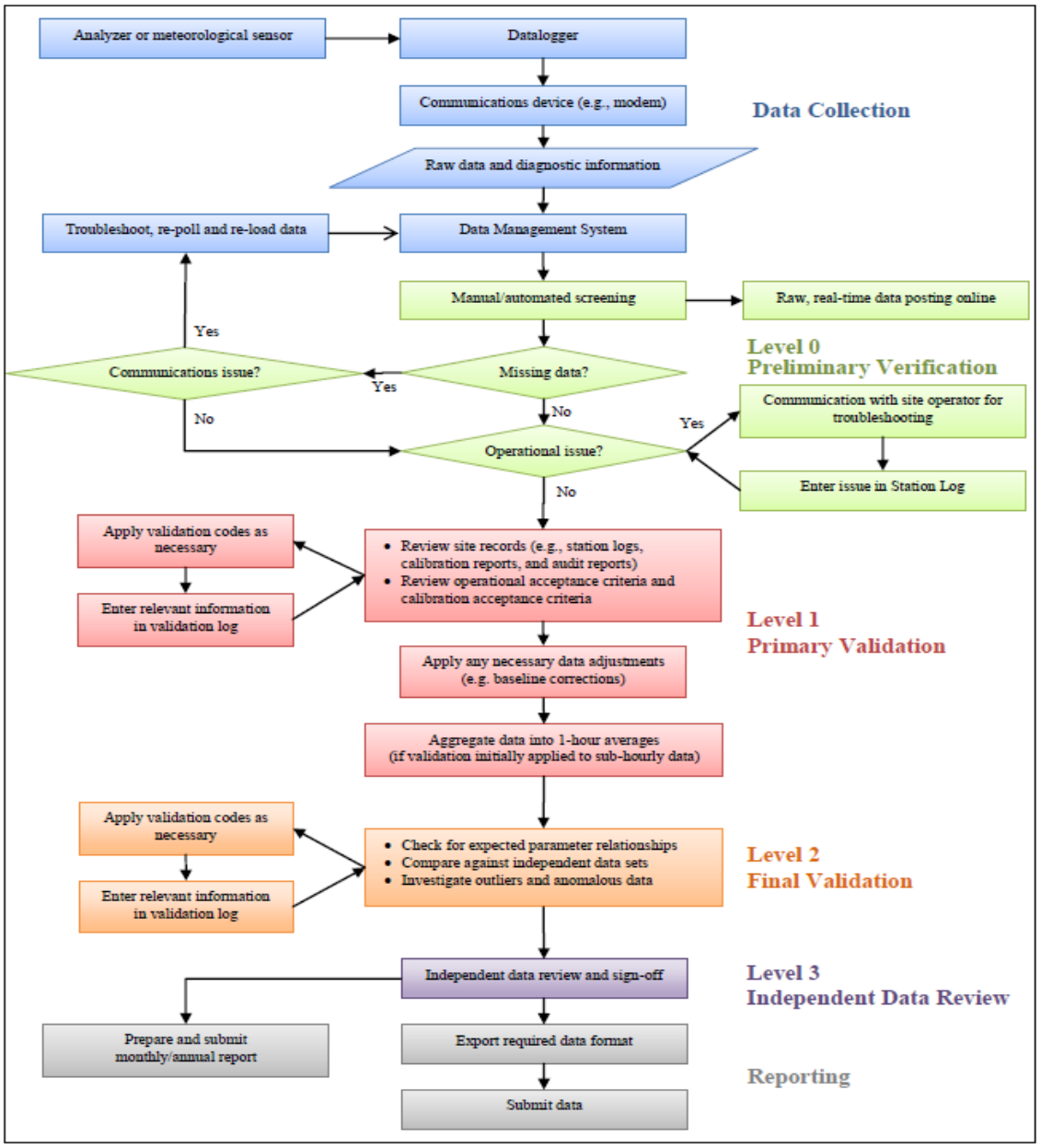
Level 0 Preliminary Verification	Level 0 data are raw data obtained directly from the data acquisition system (DAS). At this level, data undergoes a certain amount of manual or automated screening and flagging. Screening checks include: a) identification of periods of missing data; b) verification of time stamps against reference time; c) verification that instrument diagnostics/data-logger flags indicate normal operation; d) comparison of data to upper and lower limits; e) rate of change flagging indicating that data changed too rapidly or not at all; and f) verification that zero, span and multipoint performance checks are within specifications. This level of verification is performed on a daily basis.

Level 1 Primary Validation	Primary validation involves more thorough evaluation and documentation of issues identified during data screening, along with appropriate application of data validation codes. Level 1 activities include: a) review of all screening flags assigned during preliminary verification; b) review of all supporting site information and documentation; c) review of operational acceptance limits for each parameter/analyzer; d) review of daily zero/span and monthly calibration results for all gaseous parameters; and e) application of any necessary adjustments to data (e.g. baseline adjustments, below zero adjustments). This level of validation is performed on a monthly basis.

Level 2 Final Validation	The purpose of Level 2 validation is to verify that there are no inconsistencies among related data, or among regional data measured at nearby sites. At this level of review, some general knowledge of pollutant and meteorological behavior can be used to determine if data is suspect.

Level 3 Independent Data Review	Level 3 validation involves a final cursory review of validated data, and is completed by an individual independent of both field operations and primary data validation. At this level, a final independent QA review/endorsement is performed before data is submitted to Alberta Environment and Parks.

Post-Final Validation	The Post-Final Validation step serves to re-evaluate validated data for errors or omissions discovered and/or suspected after the initial monthly data submittal. This level of validation is performed on an annual basis, when annual reporting is required or requested.



Source: Air Monitoring Directive (December 2016), Chapter 6, Ambient Data Quality
Figure 1 Data Collection and Management Process Flow Chart

Validation Certificate Form

Client:	Lakeland Industry & Community Association	**Project #:**	2833-2019-06-24-C
Site:	Maskwa Continuous Monitoring Station	**Contact:**	Mike Bisaga

Level 0 Preliminary Verification	bimadeniji	**Date**	03-July-2019
Level 1 Primary Validation	bimadeniji	**Date**	08-July-2019
Level 2 Final Validation	bimadeniji	**Date**	11-July-2019
Level 3 Independent Data Review		**Date**	23-July-2019
Post-Final Validation	**NA**	**Date**	**NA**

Notes

The Post-Final Validation step serves to re-evaluate the data that errors or omissions are discovered and/or suspected after the initial submittal of data. This validation is performed on an annual basis.

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JUNE 1 - 30, 2019
MONTHLY AMBIENT AIR QUALITY MONITORING REPORT
AEP Ambient Station ID: 1250
Project #: 2833-2019-06-25-C
LICA-201906

Prepared for:

Lakeland Industry & Community Association

Mike Bisaga

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Monitoring Station

St. Lina Continuous Monitoring Station

Date of Report Issuance: July 24, 2019

Report Preparation By:

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Project Team Lead, Customer Service, Air Services

BUREAU VERITAS

#1 - 2080 39 Avenue NE, Calgary AB, T2E 6P7

Lakeland Industry & Community Association

5107 50 St.

Bonnyville, Alberta T9N 2J7

Attention: Mike Bisaga

Date: July 24, 2019

Subject: MONTHLY AMBIENT AIR QUALITY MONITORING REPORT for JUNE 1 - 30, 2019

In June 2019, Bureau Veritas was contracted to manage the ambient air quality monitoring and maintenance activities at the St. Lina Continuous Monitoring Station near St. Lina, Alberta. The monitoring program provides measurements of ambient air pollutants and meteorological data to satisfy the reporting requirements of the Alberta airshed.

Network Parameters for Continuous Monitoring:

This monthly report, where applicable, was prepared in accordance with Chapter 9 of the Air Monitoring Directive (AMD, 2016). The report summarizes the continuous monitoring results for pollutant and meteorological parameters and presents the hourly statistics, graphs and rose charts for the month. Calibration records are provided in a separate PDF document in order to comply with AMD requirements Chapter 9, 13.1.7, RC 13-R. The station is equipped with analyzers to measure SO_2, H_2S, THC, CH_4, NMHC, NOx, NO, NO_2, $PM_{2.5}$ and O_3. The meteorological sensors and equipment capture data for WS, WD, RH, BP, PRECIP, AmbTPX and STDWD.

Exceedance & Performance Reporting:

The operational time for all continuous ambient air analyzers, meteorological systems and data acquisition systems were above the 90% requirement, as per the AMD, Chapter 6, DQ 4-C, 2016.

All measured ambient air concentrations were below the Alberta Ambient Air Quality Objectives and Guidelines (AAAQO, January 2019). Comparisons of these concentrations to the corresponding AAAQOs were done in accordance with Chapter 9, 15.3.2, RC 15-P. Accordingly, the averaging specifications and data completeness criteria, as defined in the Alberta Ambient Air Quality Objective Calculation Guidelines, were applied (Chapter 9, Appendix A, AMD 2016).

Specific to the content and purpose of this report, there were no instances where the requirements of the AMD (2016) were contravened.

Monthly Monitoring Overview:

In relation to the previous month, there were no changes made to the scope or management of the ambient air monitoring program.

The evaluation of data collected in the month of June did not reveal any errors or omissions that would require resubmission of air data to AEP's airdata warehouse.

During this monitoring period, there were no scheduled audits, to which Bureau Veritas was privy to.

H_2S: Nine hours of downtime were recorded across the month due to additional quality checks and corrective actions performed to address drifts in span response.

Should you have any questions concerning the results or if we can be of further assistance, please contact your Bureau Veritas representative indicated below.

Reviewed by:

Wunmi Adekanmbi, M.Sc., EPt, PMP

Project Team Lead, Customer Service, Air Services

403-219-3661

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. Certification of submitted information is specific to the contents of this report and is not intended to represent the onus of the Person Responsible, as outlined in Chapter 9, RC 12-E.

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List of Acronyms

AAAQO	Alberta Ambient Air Quality Objectives and Guidelines Summary
AEP	Alberta Environment and Parks
AMBTPX	Ambient Temperature
AMD	Air Monitoring Directive
BP	Barometric Pressure
CH_4	Methane
DAS	Data acquisition system
hr	Hour
hrs	Hours
H_2S	Hydrogen Sulphide
IZS	Internal zero-span
kph	Kilometers per hour
NO	Nitric Oxide
NO_2	Nitrogen dioxide
NOx	Total oxides of nitrogen
O_3	Ozone
NMHC	Non-Methane Hydrocarbon
$PM_{2.5}$	Particulate matter less than or equal to 2.5 microns in diameter
Precip	Precipitation
ppb	Parts per billion
ppm	Parts per million
QA	Quality Assurance
QC	Quality Control
RH	Relative Humidity
SHARP	Synchronized Hybrid Ambient Real-time Particulate Monitor
SOP	Standard Operating Procedure
SO_2	Sulphur Dioxide
STDWD	Standard Deviation Wind Direction
THC	Total hydrocarbons
WS	Wind Speed
WD	Wind Direction
°C	Degrees Celsius

AAAQO Exceedance Summary Report

SO_2 1-Hour Exceedances
Measured concentrations of sulphur dioxide were below the 1-hour AAAQO of 172 ppb.

SO_2 24-Hour Exceedances
Measured concentrations of sulphur dioxide were below the 24-hour AAAQO of 48.0 ppb.

H_2S 1-Hour Exceedances
Measured concentrations of hydrogen sulphide were below the 1-hour AAAQO of 10 ppb.

H_2S 24-Hour Exceedances
Measured concentrations of hydrogen sulphide were below the 24-hour AAAQO of 3 ppb.

NO_2 1-Hour Exceedances
Measured concentrations of nitrogen dioxide were below the 1-hour AAAQO of 159 ppb.

$PM_{2.5}$ 1-Hour Exceedances
Measured concentrations of fine particulate matter were below the 1-hour AAAQG of 80 µg/m³.

$PM_{2.5}$ 24-Hour Exceedances
Measured concentrations of fine particulate matter were below the 24-hour AAAQO of 29 µg/m³.

O_3 1-Hour Exceedances
Measured concentrations of ozone were below the 1-hour AAAQO of 76 ppb.

In accordance with EPEA and the Substance Release Regulation
In accordance with A Guide to Release Reporting and the Alberta Ambient Air Quality Objectives and Guidelines Summary

MONTHLY CONTINUOUS DATA SUMMARY

Lakeland Industry & Community Association St. Lina Continuous Monitoring Station						MAXIMUM VALUES							OPERATIONAL TIME (%)
						1-HOUR					24-HOUR		
PARAMETER	OBJECTIVES		EXCEEDANCES		MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (kph)	WIND DIRECTION (sector)	READING	DAY	
	1-hr	24-hr	1-hr	24-hr									
SO_2 (ppb)	172	48	0	0	0	1	6	7	13.6	ENE	0	1	100.0
H_2S (ppb)	10	3	0	0	0	3	4	4	10.4	WSW	1	4	98.8
THC (ppm)	-	-	-	-	2.00	3.07	11	6	4.2	NW	2.08	27	100.0
CH_4 (ppm)	-	-	-	-	2.00	3.06	11	6	4.2	NW	2.08	27	100.0
NMHC (ppm)	-	-	-	-	0.00	0.01	11	5	4.9	WNW	0.00	1	100.0
NO_2 (ppb)	159	-	0	-	1	7	3	7	10.7	ENE	3	1	100.0
NO (ppb)	-	-	-	-	0	2	3	7	10.7	ENE	0	1	100.0
NOx (ppb)	-	-	-	-	2	9	3	7	10.7	ENE	3	1	100.0
O_3 (ppb)	76	-	0	-	31.3	68.4	1	17	13.7	SSE	47.7	1	100.0
$PM_{2.5}$ ($\mu g/m^3$)	80	29	0	0	7	50	1	17	13.7	SSE	29	1	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	76	100	4	4	10.4	WSW	98	19	100.0
BAROMETRIC PRESSURE (millibar)	-	-	-	-	925	940	11	15	5.7	NNW	937	11	100.0
AMBIENT TEMPERATURE (°C)	-	-	-	-	13.9	25.4	12	18	3.3	WNW	19.3	12	100.0
PRECIPITATION (mm)	-	-	-	-	182.4	10.0	7	15	17.3	N	63.7	7	100.0
VECTOR WS (kph)	-	-	-	-	3.3	27.0	4	10	-	WSW	14.7	7	100.0
VECTOR WD (sec)	-	-	-	-	314 (NW)	-	-	-	-	-	-	-	100.0

** Precipitation: data represents the total (sum) for the indicated time frame*

OPERATIONAL SUMMARY

Parameter	Equipment	Method & Procedure	Operational Notes
SULPHUR DIOXIDE (SO_2)	**Thermo 43i TLE Pulsed Fluorescence Analyzer**	**Bureau Veritas AIR SOP-00209: Ambient Sulphur Monitoring**	• Operational time was 100% and there were no performance issues identified. • The routine monthly calibration was performed on June 4, between the hours of 11:00 and 14:00. The zero-span system's oven temperature was adjusted during the monthly calibration site visit and allowed time to stabilize. The span reference value was subsequently updated following the zero-span check on June 6.
HYDROGEN SULPHIDE (H_2S)	**Thermo 450i UV Fluorescence Analyzer**	**Bureau Veritas SOP-00209: Ambient Sulphur Monitoring**	• Operational time for the monitoring period was 98.8%, equivalent to 9 hours of downtime. • The permeation tube was replaced on May 27 to address observed drifts in zero and span response. However, span response did not stabilize within 72 hours of replacing the perm tube. The routine monthly calibration was successfully completed on June 4 and the span reference value was updated following the scheduled daily zero-span check on the same day. The expected span value was adjusted again after the scheduled zero-span check on June 6 to obtain a more representative reference concentration. • Towards mid-month, the analyzer began to exhibit a biased high drift in span response with the result exceeding the upper acceptance limit on June 12. This prompted a site visit on June 13, where a repeat multi-point calibration was successfully completed and the span reference value was re-adjusted. • Span response began trending towards the upper limit again on June 20 and the result subsequently drifted outside the acceptance limit on June 23. A successful repeat calibration was completed on June 24 to update the expected span value. • As both repeat calibrations met AMD requirements, demonstrating optimum analyzer performance, no data was discarded due to the drifts in span response. Nine hours of downtime were, however, incurred due to the additional quality checks performed. The drift in span response was likely due to the newly installed permeation tube requiring a longer period to achieve stabilization.
TOTAL HYDROCARBONS (THC), METHANE (CH_4) & NON-METHANE HYDROCARBONS (NMHC)	**Thermo 55i FID Analyzer**	**Bureau Veritas AIR SOP-00001: Methane, Non-Methane Hydrocarbon Analyzer Monitoring**	• Operational time was 100% and there were no performance issues identified. • The routine monthly calibration was performed on June 5, between the hours of 10:00 and 13:00.
OXIDES OF NITROGEN (NOx), NITRIC OXIDE (NO) & NITROGEN DIOXIDE (NO_2)	**Thermo 42i Chemiluminescent Analyzer**	**Bureau Veritas AIR SOP-00213: Ambient NO/NO_2/NOx Monitoring**	• Operational time was 100% and there were no performance issues identified. • The routine monthly calibration was performed on June 4, between the hours of 11:00 and 16:00.
OZONE (O_3)	**Thermo 49i Photometric Analyzer**	**Bureau Veritas AIR SOP-00212: Ambient O_3 Monitoring**	• Operational time was 100% and there were no performance issues identified. • The routine monthly calibration was performed on June 5, between the hours of 10:00 and 14:00.

OPERATIONAL SUMMARY

Parameter	Equipment	Method & Procedure	Operational Notes
PARTICULATE MATTER < 2.5 MICRONS ($PM_{2.5}$)	**Thermo SHARP 5030i Unit**	**Bureau Veritas AIR SOP-00014: Measurement of Particulate Concentration Using the THERMO SHARP**	• Operational time was 100% and there were no performance issues identified. • The routine monthly calibration was performed on June 5, at hour 14:00.
WIND SPEED (WS), WIND DIRECTION (WD) & STANDARD DEVIATION WIND DIRECTION (STDWD)	**RM Young Unit**	**Bureau Veritas AIR SOP-00013: RM Young Wind Monitor Calibration**	• Operational time was 100% and there were no performance issues identified. • Wind data is reported as vector wind speed and vector wind direction. Wind direction is defined as the direction from which the wind is blowing and is measured in degrees from true north. • Ten instances of maximum instantaneous data were invalidated on June 30, between hours 13:00 – 21:00 and at hour 23:00, as the spikes in wind speed were deemed anomalous. Minute data review did not support the validity of the elevated measurement.
RELATIVE HUMIDITY (RH)	**Rotronic Hygroclip Unit**	**Operations Manual**	• Operational time was 100% and there were no performance issues identified.
BAROMETRIC PRESSURE (BP)	**Met One Unit**	**Operations Manual**	• Operational time was 100% and there were no performance issues identified.
PRECIPITATION (PRECIP)	**Met One Unit**	**Bureau Veritas AIR SOP-00242: Precipitation Collector Installation/Maintenance**	• Operational time was 100%. • Intermittent spikes in minute data were recorded across the month. Subsequently, minute data readings that were determined to be anomalous were invalidated and the hourly averages recalculated. The AMD's 75% hourly data completeness criteria was not impacted by this event.
AMBIENT TEMPERATURE (AmbTPX)	**Rotronic Hygroclip Unit**	**Operations Manual**	• Operational time was 100% and there were no performance issues identified.
Datalogger	**Envista Ultimate Unit**	**Operations Manual**	• There were no performance issues identified.

SUMMARY TABLES, GRAPHS AND ROSES

SULPHUR DIOXIDE Hourly Averages (SO_2 ppb)

HR START (MST) / HR END (MST)	0:00 0:59	1:00 1:59	2:00 2:59	3:00 3:59	4:00 4:59	5:00 5:59	6:00 6:59	7:00 7:59	8:00 8:59	9:00 9:59	10:00 10:59	11:00 11:59	12:00 12:59	13:00 13:59	14:00 14:59	15:00 15:59	16:00 16:59	17:00 17:59	18:00 18:59	19:00 19:59	20:00 20:59	21:00 21:59	22:00 22:59	23:00 23:59	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
DAY																												
1	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	**0**	0	**0**	24
2	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	24
3	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	24
4	0	0	0	0	0	0	0	0	0	0	0	**C**	**C**	**C**	**C**	0	0	**S**	0	0	0	0	0	0	0	0	24
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	24
6	0	0	0	0	0	0	0	**1**	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	**1**	0	24
7	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	24
8	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	24
9	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	24
10	0	0	0	0	1	1	1	0	1	1	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
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	24
12	0	0	0	0	0	0	0	1	1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
13	0	0	0	0	1	1	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
14	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	24
15	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	24
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	24
17	0	0	0	0	**S**	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	24
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	24
19	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	24
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	24
21	**S**	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	24
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	24
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	24
24	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	24
25	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	24
26	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	24
27	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	24
28	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	24
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	24
30	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	24
HOURLY MAX	0	0	0	0	1	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0			
HOURLY AVG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

STATUS FLAG CODES

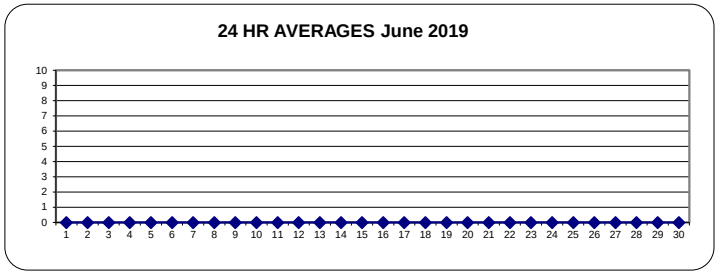
C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 ppb | 24-HR 48 ppb

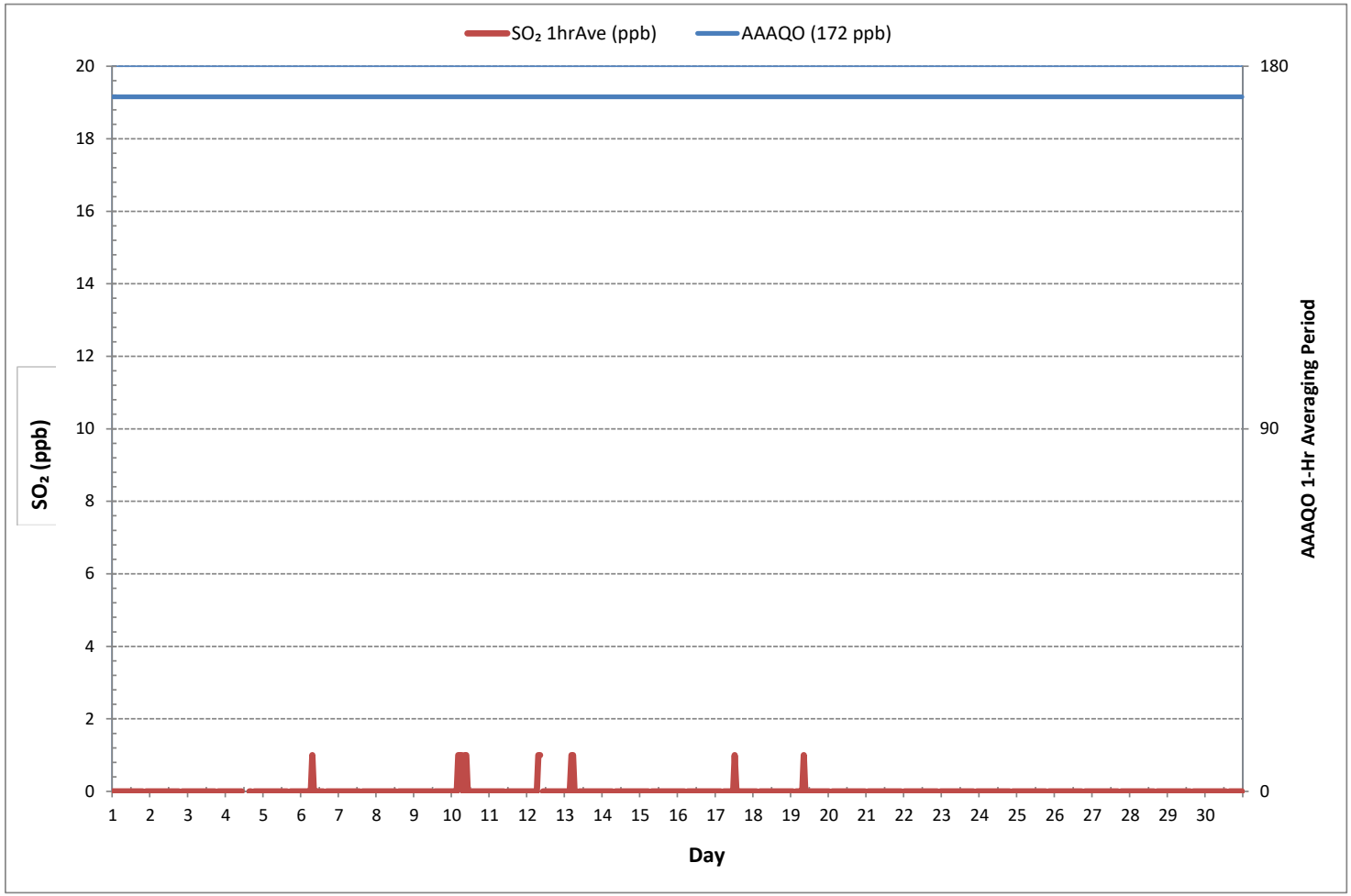
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDANCES:	0					
NUMBER OF 24-HR EXCEEDANCES:	0					
NUMBER OF NON-ZERO READINGS:	12					
MINIMUM 1-HR AVERAGE	0	ppb	@ HOUR	0	ON DAY	1
MAXIMUM 1-HR AVERAGE:	1	ppb	@ HOUR	7	ON DAY	6
MAXIMUM 24-HR AVERAGE:	0	ppb			ON DAY	1

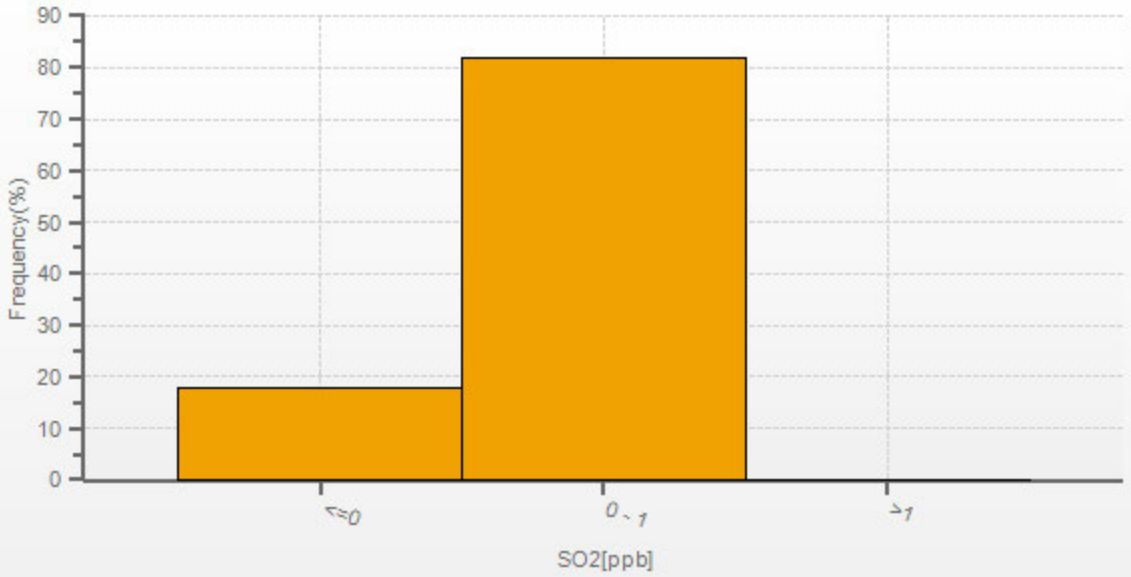
IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	720	hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	0		MONTHLY AVERAGE:	0	ppb



SULPHUR DIOXIDE Hourly Averages (SO_2 ppb)

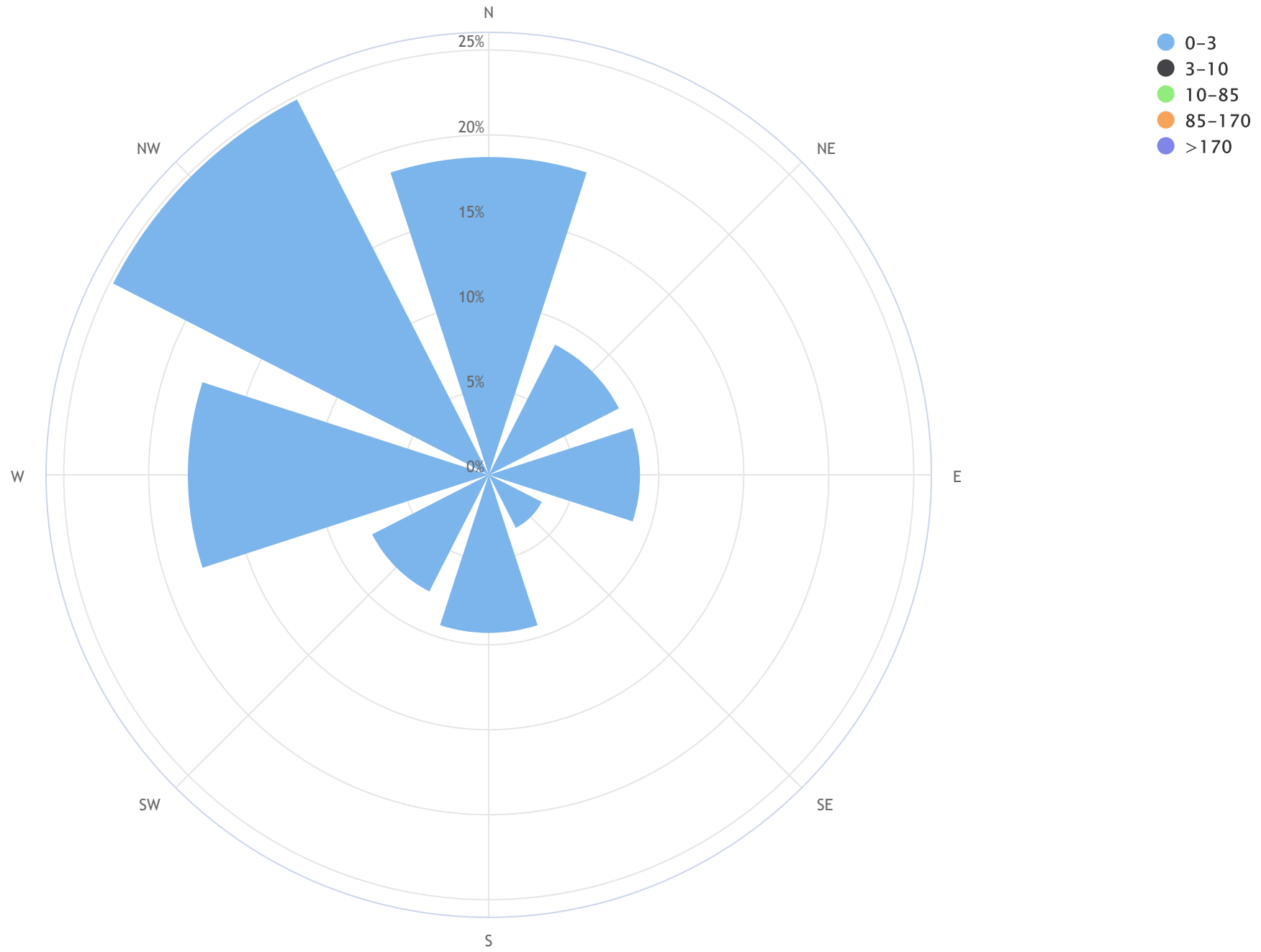


SO2[ppb] Histogram: LICA ST. LINA Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_St. Lina Continuous Monitoring Station_SO_2 (ppb)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 0.0, CALM % = 0.7%



Direction	0-3	3-10	10-85	85-170	>170	TOTAL
N	18.7	0.0	0.0	0.0	0.0	18.7
NE	8.6	0.0	0.0	0.0	0.0	8.6
E	8.9	0.0	0.0	0.0	0.0	8.9
SE	3.5	0.0	0.0	0.0	0.0	3.5
S	9.3	0.0	0.0	0.0	0.0	9.3
SW	7.7	0.0	0.0	0.0	0.0	7.7
W	17.7	0.0	0.0	0.0	0.0	17.7
NW	24.8	0.0	0.0	0.0	0.0	24.8
Summary	99.3	0.0	0.0	0.0	0.0	99.3
CALM	0.7	0.0	0.0	0.0	0.0	0.7

HYDROGEN SULPHIDE Hourly Averages (H_2S ppb)

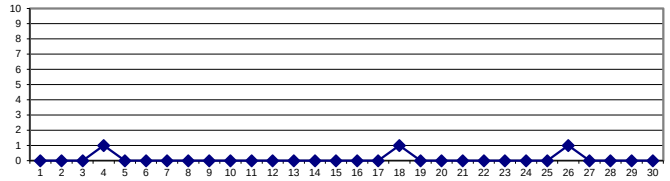
HR START (MST) / HR END (MST)	0:00 0:59	1:00 1:59	2:00 2:59	3:00 3:59	4:00 4:59	5:00 5:59	6:00 6:59	7:00 7:59	8:00 8:59	9:00 9:59	10:00 10:59	11:00 11:59	12:00 12:59	13:00 13:59	14:00 14:59	15:00 15:59	16:00 16:59	17:00 17:59	18:00 18:59	19:00 19:59	20:00 20:59	21:00 21:59	22:00 22:59	23:00 23:59	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
DAY																												
1	**0**	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	**0**	1	0	24
2	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	1	0	24
3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	1	0	24
4	1	1	1	2	**3**	1	2	0	0	0	0	**C**	**C**	**C**	**C**	0	0	**S**	0	0	0	0	0	0	0	**3**	**1**	24
5	1	1	1	2	2	1	1	1	1	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	2	0	24
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	24
7	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	24
8	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	24
9	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	24
10	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	24
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	24
12	0	0	0	0	1	1	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
13	0	0	0	0	0	0	0	0	**S**	0	**C1**	**C1**	**C1**	**C1**	0	0	0	0	0	0	0	0	0	1	0	1	0	20
14	1	1	1	1	1	2	1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	24
15	1	1	1	1	0	0	**S**	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
16	0	1	1	1	1	**S**	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
17	0	0	0	1	**S**	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	24
18	1	1	1	**S**	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	24
19	1	1	**S**	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
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	24
21	**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	24
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	24
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	24
24	0	0	1	1	1	1	1	1	1	1	1	**C1**	**C1**	**C1**	**C1**	**C1**	0	0	0	0	**S**	0	0	0	0	1	0	19
25	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	24
26	0	0	0	0	1	1	2	2	1	1	0	0	0	0	0	0	0	0	**S**	1	1	0	0	1	0	2	1	24
27	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	1	0	24
28	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	1	0	24
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	24
30	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	24
HOURLY MAX	1	1	1	2	3	2	2	2	1	1	1	0	0	0	0	0	0	0	0	1	1	0	1	1				
HOURLY AVG	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 10 ppb | 24-HR 3 ppb

24 HR AVERAGES June 2019

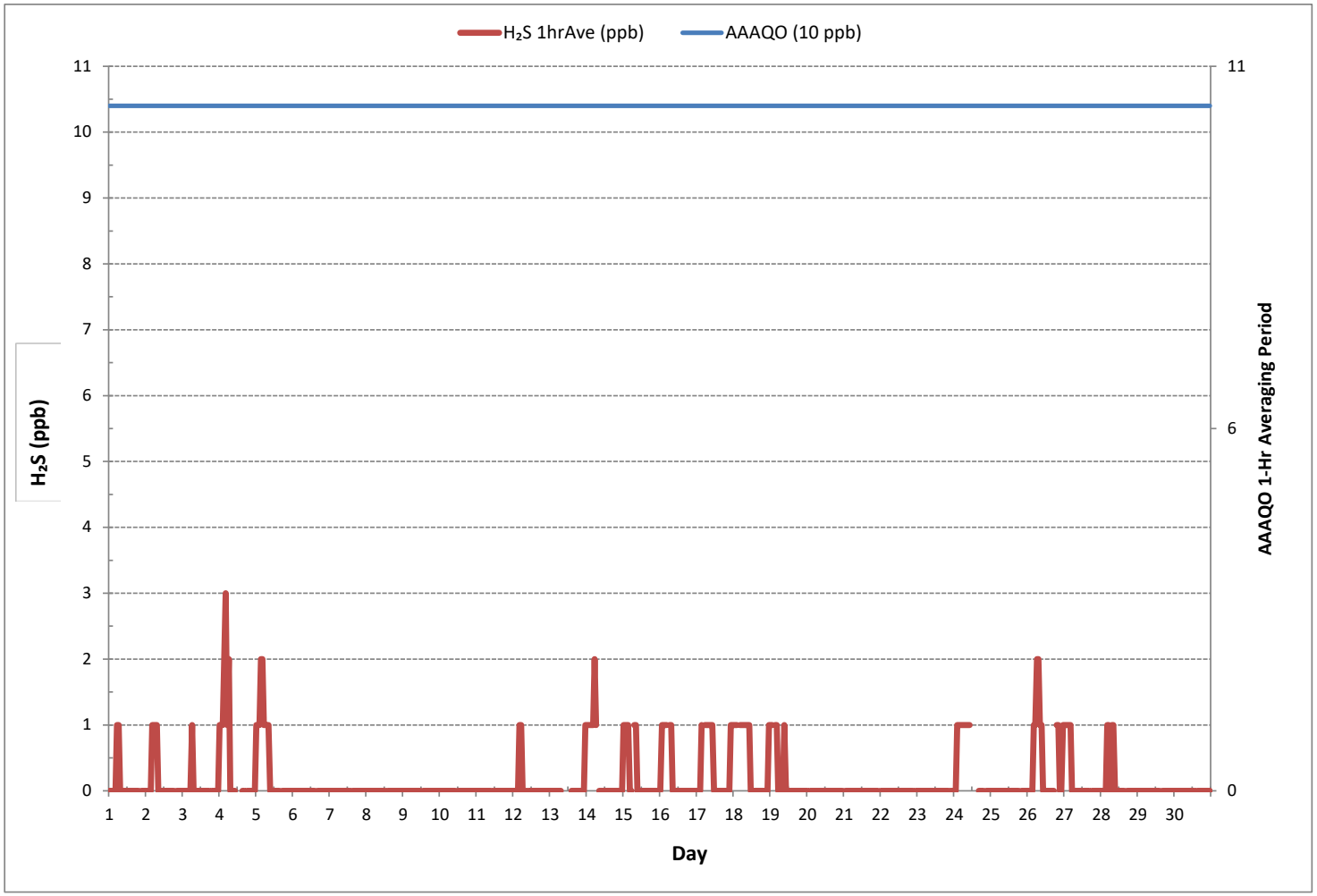


MONTHLY SUMMARY

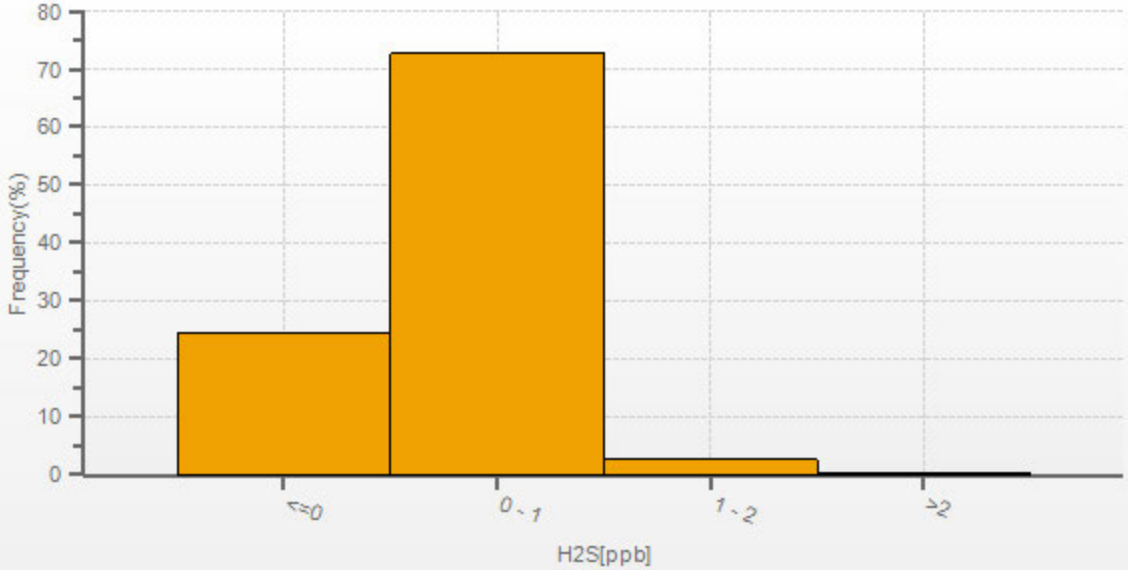
NUMBER OF 1-HR EXCEEDANCES:	0					
NUMBER OF 24-HR EXCEEDANCES:	0					
NUMBER OF NON-ZERO READINGS:	97					
MINIMUM 1-HR AVERAGE	0	ppb	@ HOUR	0	ON DAY	1
MAXIMUM 1-HR AVERAGE:	3	ppb	@ HOUR	4	ON DAY	4
MAXIMUM 24-HR AVERAGE:	1	ppb			ON DAY	4

IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	711	hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:	98.8	%
STANDARD DEVIATION:	0		MONTHLY AVERAGE:	0	ppb

HYDROGEN SULPHIDE Hourly Averages (H_2S ppb)

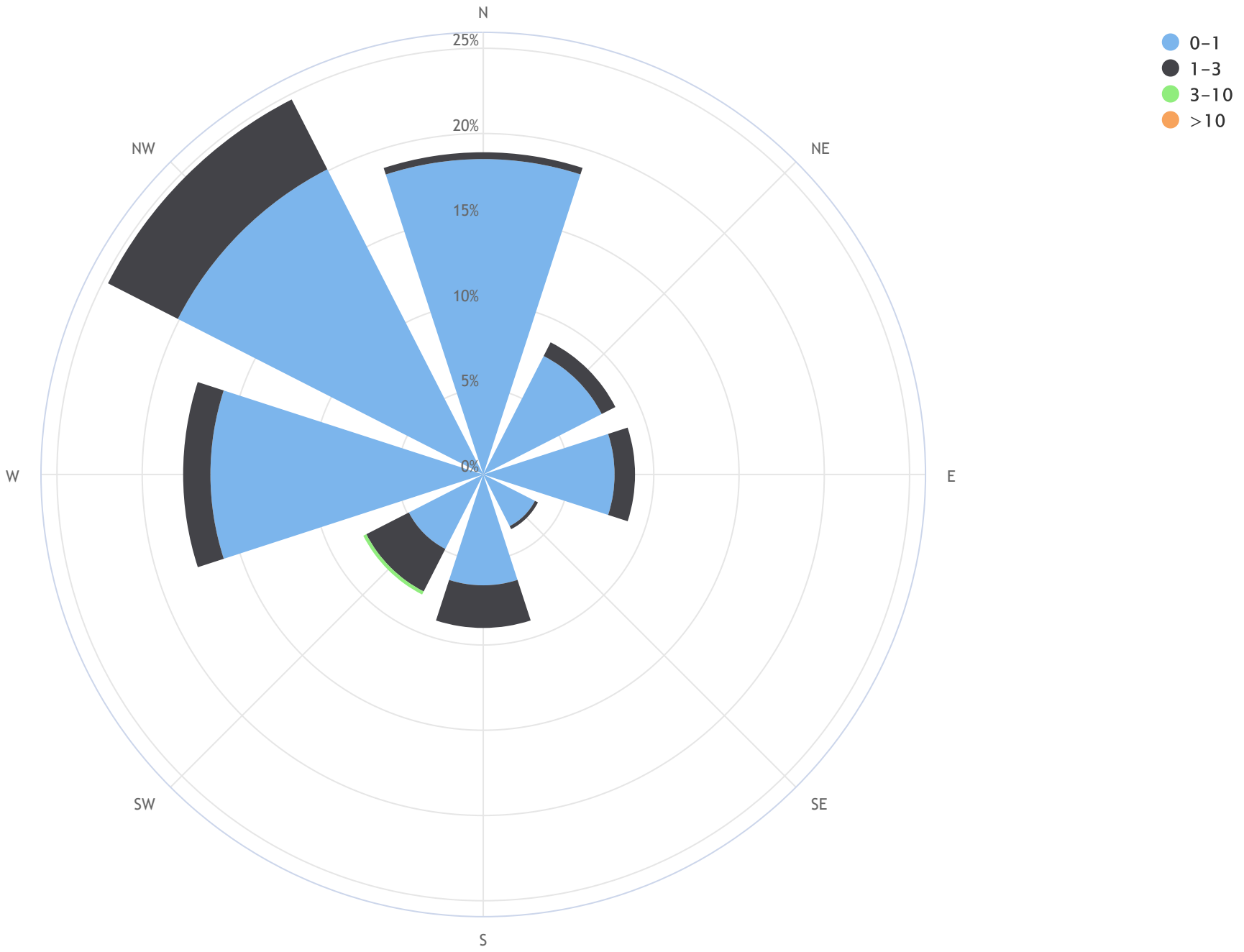


H2S[ppb] Histogram: LICA ST. LINA Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_St. Lina Continuous Monitoring Station_H_2S (ppb)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 0.0, CALM % = 0.7%



Direction	0-1	1-3	3-10	>10	TOTAL
N	18.5	0.4	0.0	0.0	18.9
NE	7.8	0.9	0.0	0.0	8.7
E	7.7	1.2	0.0	0.0	8.9
SE	3.4	0.2	0.0	0.0	3.6
S	6.5	2.5	0.0	0.0	9.0
SW	4.9	2.8	0.2	0.0	7.8
W	16.0	1.6	0.0	0.0	17.6
NW	20.1	4.6	0.0	0.0	24.7
Summary	84.9	14.2	0.2	0.0	99.3
CALM	0.7	0.0	0.0	0.0	0.7

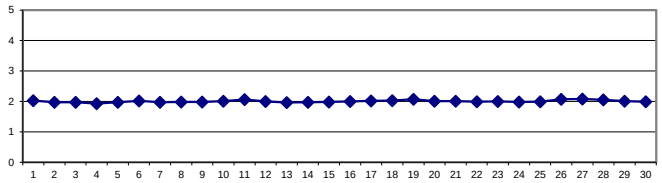
TOTAL HYDROCARBONS Hourly Averages (THC ppm)

HR START (MST) / HR END (MST)	0:00 0:59	1:00 1:59	2:00 2:59	3:00 3:59	4:00 4:59	5:00 5:59	6:00 6:59	7:00 7:59	8:00 8:59	9:00 9:59	10:00 10:59	11:00 11:59	12:00 12:59	13:00 13:59	14:00 14:59	15:00 15:59	16:00 16:59	17:00 17:59	18:00 18:59	19:00 19:59	20:00 20:59	21:00 21:59	22:00 22:59	23:00 23:59	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
DAY																											
1	2.05	2.07	2.16	2.14	2.16	2.18	2.17	2.14	2.07	2.01	2.01	1.98	1.96	1.95	1.95	1.95	1.95	1.96	1.98	2.00	S	1.95	1.98	2.00	1.95	2.18	2.03	24
2	2.01	2.01	2.02	2.01	2.05	2.05	2.08	2.04	1.97	1.91	1.90	1.89	1.89	1.89	1.88	1.88	1.88	1.88	1.88	S	1.90	2.03	2.13	2.07	1.88	2.13	1.97	24
3	2.06	2.02	1.96	1.93	1.94	2.01	2.19	2.42	2.11	2.03	1.96	1.92	1.92	1.91	1.91	1.89	1.89	1.88	S	1.88	1.88	1.89	1.90	1.91	1.88	2.42	1.97	24
4	1.92	1.93	1.94	1.96	1.99	1.99	1.99	1.95	1.92	1.92	1.91	1.91	1.90	1.92	1.89	1.89	1.89	S	1.90	1.90	1.91	1.92	1.94	1.93	1.89	1.99	1.93	24
5	1.94	1.96	1.99	2.01	2.03	1.98	1.98	1.95	1.93	1.91	C	C	C	C	1.96	1.96	S	1.94	1.95	1.95	1.96	1.96	2.01	2.10	1.91	2.10	1.97	24
6	2.05	2.07	2.07	2.14	2.18	2.20	2.18	2.12	2.04	2.01	2.01	1.97	1.96	1.95	1.94	S	1.94	1.95	1.95	1.96	1.96	1.96	1.95	1.95	1.94	2.20	2.02	24
7	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.97	1.97	1.96	1.96	1.96	S	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.99	1.99	1.96	1.99	1.97	24
8	1.99	2.00	2.00	2.00	2.00	2.00	2.01	1.99	1.98	1.97	1.96	1.95	1.95	S	1.95	1.96	1.96	1.95	1.95	1.96	1.97	1.97	1.99	1.99	1.95	2.01	1.98	24
9	2.00	1.99	2.00	1.98	1.98	1.99	1.99	1.99	1.98	1.98	1.97	1.96	S	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.96	1.98	2.02	2.04	1.95	2.04	1.98	24
10	2.06	2.04	2.03	2.05	2.05	2.06	2.05	2.00	1.99	1.97	1.96	S	1.95	1.95	1.94	1.94	1.94	1.95	1.96	1.97	2.09	2.26	2.00	1.99	1.94	2.26	2.01	24
11	2.00	2.00	2.00	2.01	2.02	2.69	**3.07**	2.18	2.00	1.98	S	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.94	1.96	1.98	1.99	1.98	2.00	1.94	**3.07**	2.06	24
12	2.01	2.04	2.07	2.17	2.20	2.16	2.03	2.00	1.97	S	1.95	1.94	1.93	1.93	1.92	1.92	1.92	1.92	1.92	1.92	2.00	2.02	2.07	2.06	1.92	2.20	2.00	24
13	2.06	2.07	2.05	1.99	1.95	1.94	1.93	1.94	S	1.96	1.93	1.94	1.93	1.93	1.95	1.94	1.93	1.93	1.94	1.95	1.93	1.96	1.96	1.93	2.07	1.96	24
14	1.96	1.98	1.99	2.00	2.01	2.04	2.03	S	1.97	1.96	1.95	1.95	1.95	1.94	1.94	1.94	1.95	1.95	1.95	1.95	1.96	1.95	1.99	2.01	1.94	2.04	1.97	24
15	2.02	2.04	2.03	2.04	2.00	1.99	S	2.01	2.00	1.98	1.98	1.97	1.96	1.96	1.94	1.94	1.96	1.96	1.96	1.96	1.99	1.98	2.01	1.99	1.94	2.04	1.98	24
16	1.98	2.01	2.03	2.04	2.06	S	2.05	2.02	1.99	1.99	1.98	1.97	1.96	1.96	1.96	1.96	1.96	1.97	1.96	1.97	2.01	2.04	2.04	2.09	1.96	2.09	2.00	24
17	2.08	2.04	2.04	2.04	S	2.04	2.04	2.05	2.04	2.03	2.02	2.00	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.99	2.01	2.04	2.06	2.06	1.97	2.08	2.02	24
18	2.06	2.09	2.07	S	2.08	2.08	2.09	2.07	2.04	2.03	2.07	2.04	2.02	1.98	1.95	1.95	1.97	1.96	1.94	1.94	1.96	2.04	2.14	2.10	1.94	2.14	2.03	24
19	2.14	2.23	S	2.16	2.21	2.21	2.20	2.10	2.14	2.15	2.04	1.99	2.01	2.03	2.00	2.01	1.98	1.97	1.98	1.97	1.98	1.99	2.01	2.01	1.97	2.23	2.07	24
20	2.02	S	2.07	2.11	2.09	2.01	1.99	1.99	2.03	2.00	2.00	2.00	1.99	1.99	1.97	1.99	1.99	1.98	1.99	1.98	1.98	2.00	2.00	2.01	1.97	2.11	2.01	24
21	S	2.01	2.01	2.02	2.02	2.05	2.05	2.03	2.05	2.07	2.06	2.01	1.99	2.00	1.99	1.96	1.98	1.98	1.98	1.97	1.98	1.99	1.99	S	1.96	2.07	2.01	24
22	1.97	2.00	2.01	2.00	1.99	1.98	1.99	1.99	1.99	1.99	1.99	1.99	1.99	2.01	2.00	1.97	1.96	1.96	1.98	1.98	1.99	1.99	S	1.99	1.96	2.01	1.99	24
23	2.02	2.04	2.02	2.01	2.03	2.05	2.04	2.03	2.01	2.00	1.98	1.98	1.97	1.97	1.96	1.96	1.96	1.97	1.98	1.99	2.01	S	2.00	1.99	1.96	2.05	2.00	24
24	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.98	1.98	1.97	1.98	1.98	1.97	1.98	1.97	1.97	1.97	1.97	1.97	1.97	S	2.03	2.02	2.01	1.97	2.03	1.98	24
25	2.02	2.01	2.02	2.02	2.07	2.05	2.03	1.99	1.98	1.98	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.97	S	1.97	2.01	2.04	2.05	1.95	2.07	1.99	24
26	2.05	2.01	2.09	2.12	2.19	2.27	2.23	2.16	2.10	2.08	2.01	2.02	2.01	2.00	2.00	2.01	2.03	2.07	S	2.07	2.05	2.01	2.00	2.11	2.00	2.27	2.07	24
27	2.15	2.03	2.05	2.08	2.07	2.14	2.14	2.16	2.26	2.19	2.07	2.04	2.01	2.01	2.00	2.00	2.00	S	2.04	2.06	2.02	2.07	2.07	2.08	2.00	2.26	**2.08**	24
28	2.08	2.08	2.10	2.12	2.08	2.13	2.11	2.11	2.11	2.01	2.03	2.06	2.09	2.02	2.02	1.98	S	1.97	1.99	2.01	1.99	2.03	2.00	2.02	1.97	2.13	2.05	24
29	2.02	2.02	2.03	2.03	2.06	2.10	2.06	2.05	2.02	2.02	1.99	1.98	1.97	1.96	1.97	S	1.96	1.97	2.01	1.97	1.98	2.00	2.01	2.03	1.96	2.10	2.01	24
30	2.01	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.98	1.98	1.98	1.97	1.97	S	1.97	1.96	1.96	1.97	1.98	1.99	2.01	2.01	2.03	1.96	2.03	1.99	24
HOURLY MAX	2.15	2.23	2.16	2.17	2.21	2.69	3.07	2.42	2.26	2.19	2.07	2.06	2.09	2.03	2.02	2.01	2.03	2.07	2.04	2.07	2.09	2.26	2.14	2.11				
HOURLY AVG	2.02	2.03	2.03	2.04	2.05	2.08	2.09	2.05	2.02	2.00	1.99	1.98	1.97	1.97	1.96	1.96	1.95	1.96	1.96	1.97	1.98	2.00	2.01	2.02				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

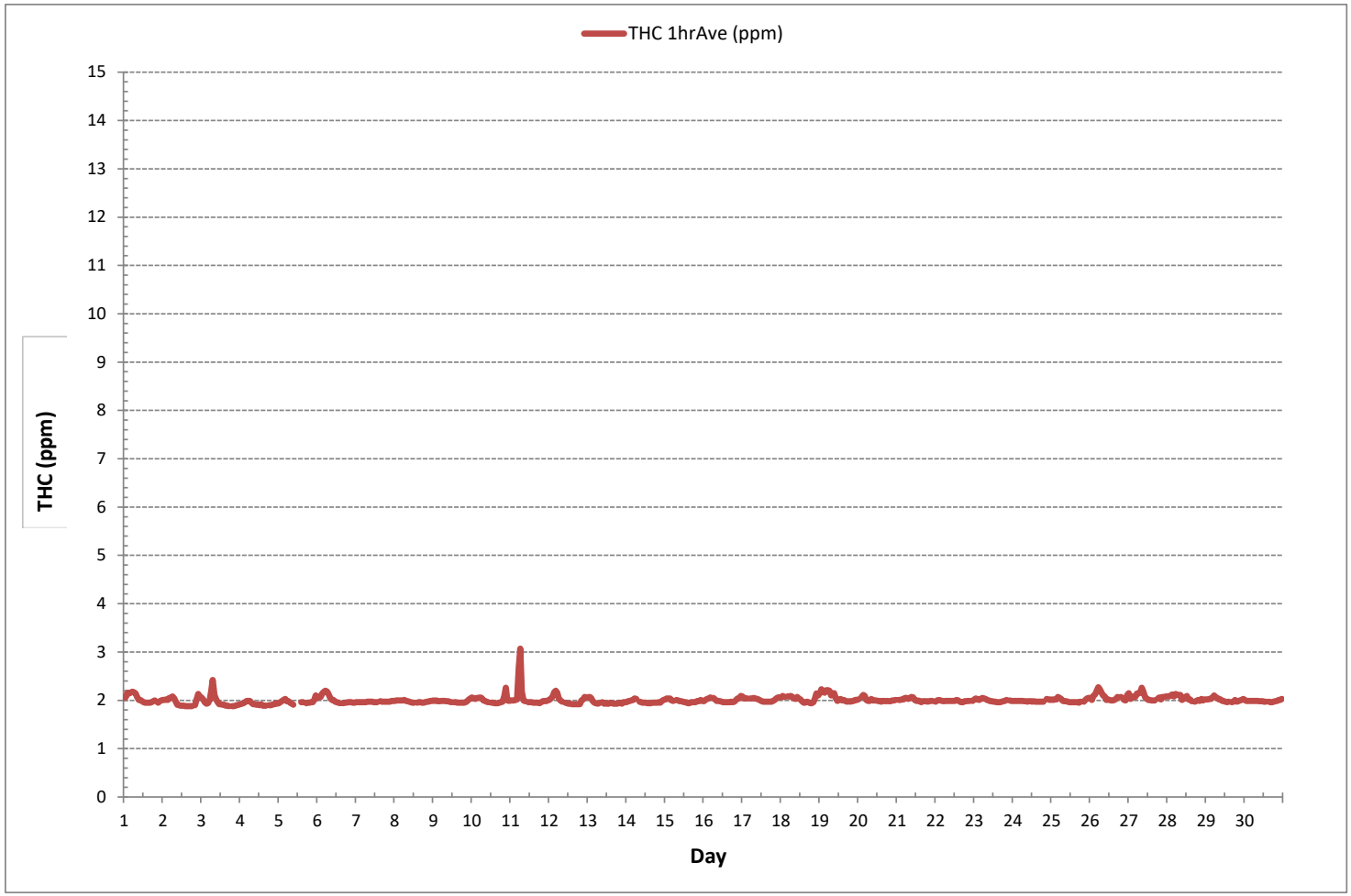
24 HR AVERAGES June 2019



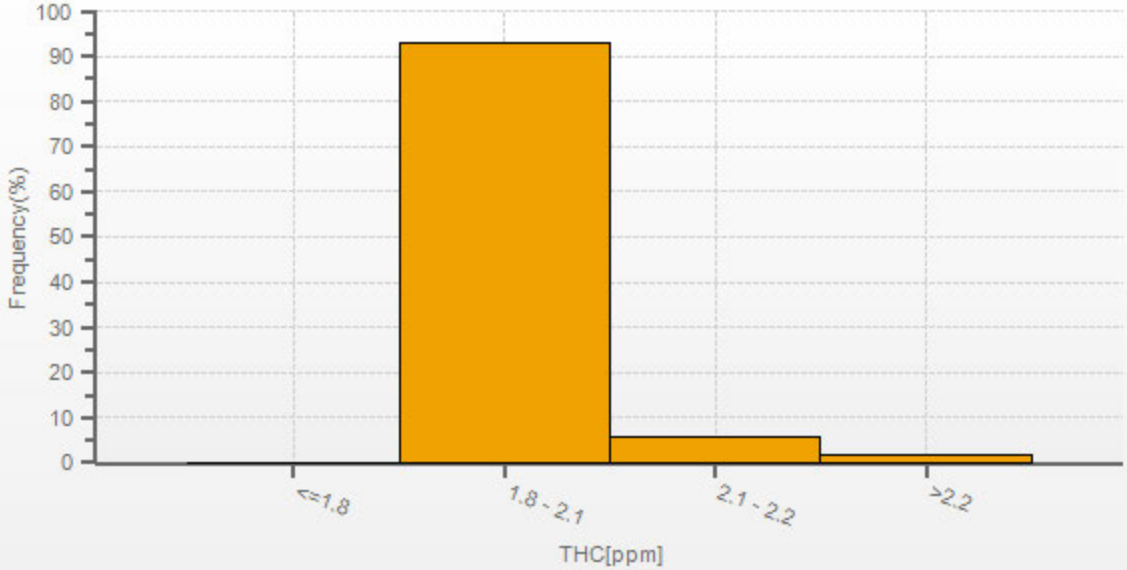
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:			685				
MINIMUM 1-HR AVERAGE	1.88	ppm	@ HOUR	14	ON DAY	2	
MAXIMUM 1-HR AVERAGE:	3.07	ppm	@ HOUR	6	ON DAY	11	
MAXIMUM 24-HR AVERAGE:	2.08	ppm			ON DAY	27	
IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:			720	hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:			100.0	%
STANDARD DEVIATION:	0.08		MONTHLY AVERAGE:			2.00	ppm

TOTAL HYDROCARBONS Hourly Averages (THC ppm)

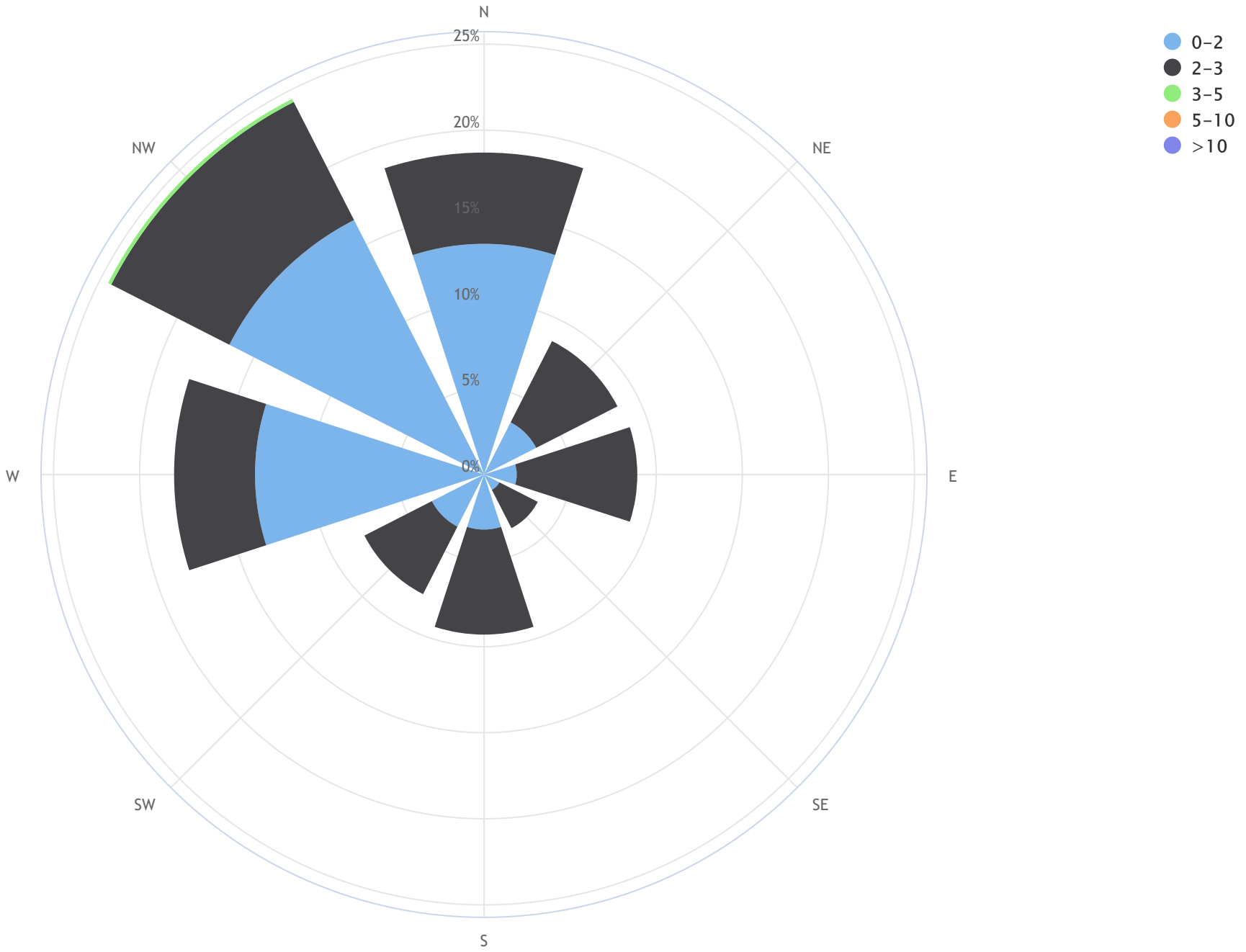


THC[ppm] Histogram: LICA ST. LINA Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_St. Lina Continuous Monitoring Station_THC (ppm)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 2.0, CALM % = 0.7%



Direction	0-2	2-3	3-5	5-10	>10	TOTAL
N	13.4	5.3	0.0	0.0	0.0	18.7
NE	3.4	5.3	0.0	0.0	0.0	8.6
E	1.9	7.0	0.0	0.0	0.0	8.9
SE	1.0	2.5	0.0	0.0	0.0	3.5
S	3.2	6.1	0.0	0.0	0.0	9.3
SW	3.4	4.4	0.0	0.0	0.0	7.7
W	13.3	4.7	0.0	0.0	0.0	18.0
NW	16.6	7.7	0.2	0.0	0.0	24.5
Summary	56.2	42.9	0.2	0.0	0.0	99.3
CALM	0.3	0.4	0.0	0.0	0.0	0.7

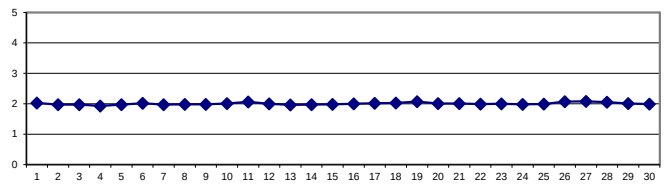
METHANE Hourly Averages (CH_4 ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	2.05	2.07	2.16	2.14	2.16	2.18	2.17	2.14	2.07	2.01	2.01	1.98	1.96	1.95	1.95	1.95	1.95	1.96	1.98	2.00	S	1.95	1.98	2.00	1.95	2.18	2.03	24
2	2.01	2.01	2.02	2.01	2.05	2.05	2.08	2.04	1.97	1.91	1.90	1.89	1.89	1.89	**1.88**	1.88	1.88	1.88	1.88	S	1.90	2.03	2.13	2.07	**1.88**	2.13	1.97	24
3	2.06	2.02	1.95	1.93	1.94	2.01	2.19	2.42	2.11	2.03	1.96	1.92	1.92	1.91	1.91	1.89	1.89	1.88	S	1.88	1.88	1.89	1.90	1.91	1.88	2.42	1.97	24
4	1.92	1.93	1.94	1.96	1.99	1.99	1.99	1.95	1.92	1.92	1.91	1.91	1.90	1.92	1.89	1.89	1.89	S	1.90	1.90	1.91	1.92	1.94	1.93	1.89	1.99	1.93	24
5	1.94	1.96	1.99	2.01	2.03	1.98	1.98	1.95	1.93	1.91	C	C	C	C	1.96	1.96	S	1.94	1.95	1.95	1.96	1.96	2.01	2.10	1.91	2.10	1.97	24
6	2.05	2.07	2.07	2.14	2.18	2.20	2.18	2.12	2.04	2.01	2.01	1.97	1.96	1.95	1.94	S	1.94	1.95	1.95	1.96	1.96	1.96	1.95	1.95	1.94	2.20	2.02	24
7	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.97	1.97	1.96	1.96	1.96	S	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.99	1.99	1.96	1.99	1.97	24
8	1.99	2.00	2.00	2.00	2.00	2.00	2.01	1.99	1.98	1.97	1.96	1.95	1.95	S	1.95	1.96	1.96	1.95	1.95	1.96	1.97	1.97	1.99	1.99	1.95	2.01	1.98	24
9	2.00	1.99	2.00	1.98	1.98	1.99	1.99	1.99	1.98	1.98	1.97	1.96	S	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.96	1.98	2.02	2.04	1.95	2.04	1.98	24
10	2.06	2.04	2.03	2.05	2.05	2.06	2.05	2.00	1.99	1.97	1.96	S	1.95	1.95	1.94	1.94	1.94	1.95	1.96	1.97	2.09	2.26	2.00	1.99	1.94	2.26	2.01	24
11	2.00	2.00	2.00	2.01	2.02	2.69	**3.06**	2.18	2.00	1.98	S	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.94	1.96	1.98	1.99	1.98	2.00	1.94	**3.06**	2.06	24
12	2.01	2.04	2.07	2.17	2.20	2.16	2.03	2.00	1.97	S	1.95	1.94	1.93	1.93	1.92	1.92	1.92	1.92	1.92	1.92	2.00	2.02	2.07	2.06	1.92	2.20	2.00	24
13	2.06	2.07	2.05	1.99	1.95	1.94	1.93	1.94	S	1.96	1.93	1.94	1.93	1.93	1.95	1.94	1.93	1.93	1.93	1.94	1.95	1.93	1.96	1.96	1.93	2.07	1.96	24
14	1.96	1.98	1.99	2.00	2.01	2.04	2.03	S	1.97	1.96	1.95	1.95	1.95	1.94	1.94	1.94	1.95	1.95	1.95	1.95	1.96	1.95	1.99	2.01	1.94	2.04	1.97	24
15	2.02	2.04	2.03	2.04	2.00	1.99	S	2.01	2.00	1.98	1.98	1.97	1.96	1.96	1.94	1.94	1.96	1.96	1.96	1.96	1.99	1.98	2.01	1.99	1.94	2.04	1.98	24
16	1.98	2.01	2.03	2.04	2.06	S	2.05	2.02	1.99	1.99	1.98	1.97	1.96	1.96	1.96	1.96	1.96	1.97	1.96	1.97	2.01	2.04	2.04	2.09	1.96	2.09	2.00	24
17	2.08	2.04	2.03	2.04	S	2.04	2.04	2.05	2.04	2.03	2.02	2.00	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.99	2.01	2.04	2.06	2.06	1.97	2.08	2.02	24
18	2.06	2.09	2.07	S	2.08	2.08	2.09	2.07	2.04	2.03	2.07	2.04	2.02	1.98	1.95	1.95	1.97	1.96	1.94	1.94	1.96	2.04	2.14	2.10	1.94	2.14	2.03	24
19	2.14	2.23	S	2.16	2.21	2.21	2.20	2.10	2.14	2.15	2.04	1.99	2.01	2.03	2.00	2.01	1.98	1.97	1.98	1.97	1.98	1.99	2.01	2.01	1.97	2.23	2.07	24
20	2.02	S	2.07	2.11	2.09	2.01	1.99	1.99	2.03	2.00	2.00	1.99	1.99	1.99	1.97	1.99	1.99	1.98	1.99	1.98	1.98	2.00	2.00	2.01	1.97	2.11	2.01	24
21	S	2.00	2.01	2.02	2.02	2.05	2.05	2.03	2.05	2.07	2.06	2.01	1.99	2.00	1.99	1.96	1.98	1.98	1.98	1.97	1.98	1.99	1.99	S	1.96	2.07	2.01	24
22	1.97	2.00	2.01	2.00	1.99	1.98	1.99	1.99	1.99	1.99	1.99	1.99	1.99	2.01	2.00	1.97	1.96	1.96	1.98	1.98	1.99	1.99	S	1.99	1.96	2.01	1.99	24
23	2.02	2.04	2.02	2.01	2.03	2.05	2.04	2.03	2.01	2.00	1.98	1.98	1.97	1.97	1.96	1.96	1.96	1.97	1.98	1.99	2.01	S	2.00	1.99	1.96	2.05	2.00	24
24	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.98	1.98	1.97	1.98	1.98	1.97	1.98	1.97	1.97	1.97	1.97	1.97	1.97	S	2.03	2.02	2.01	1.97	2.03	1.98	24
25	2.02	2.01	2.02	2.02	2.07	2.05	2.03	1.99	1.98	1.98	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.97	S	1.97	2.01	2.04	2.05	1.95	2.07	1.99	24
26	2.05	2.01	2.09	2.12	2.19	2.27	2.23	2.16	2.10	2.08	2.01	2.02	2.01	2.00	2.00	2.01	2.03	2.07	S	2.07	2.05	2.01	2.00	2.11	2.00	2.27	2.07	24
27	2.15	2.03	2.05	2.08	2.07	2.14	2.14	2.16	2.26	2.19	2.07	2.04	2.01	2.01	2.00	2.00	2.00	S	2.04	2.06	2.02	2.07	2.07	2.08	2.00	2.26	**2.08**	24
28	2.08	2.08	2.09	2.12	2.08	2.13	2.11	2.11	2.11	2.01	2.03	2.06	2.09	2.02	2.02	1.98	S	1.97	1.99	2.01	1.99	2.03	2.00	2.02	1.97	2.13	2.05	24
29	2.02	2.02	2.03	2.03	2.06	2.10	2.06	2.05	2.02	2.02	1.99	1.98	1.97	1.96	1.97	S	1.96	1.97	2.01	1.97	1.98	2.00	2.01	2.03	1.96	2.10	2.01	24
30	2.01	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.98	1.98	1.98	1.97	1.97	S	1.97	1.96	1.96	1.97	1.98	1.99	2.01	2.01	2.03	1.96	2.03	1.99	24
HOURLY MAX	2.15	2.23	2.16	2.17	2.21	2.69	3.06	2.42	2.26	2.19	2.07	2.06	2.09	2.03	2.02	2.01	2.03	2.07	2.04	2.07	2.09	2.26	2.14	2.11				
HOURLY AVG	2.02	2.02	2.03	2.04	2.05	2.08	2.09	2.05	2.02	2.00	1.99	1.97	1.97	1.97	1.96	1.96	1.95	1.96	1.96	1.97	1.98	2.00	2.01	2.02				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

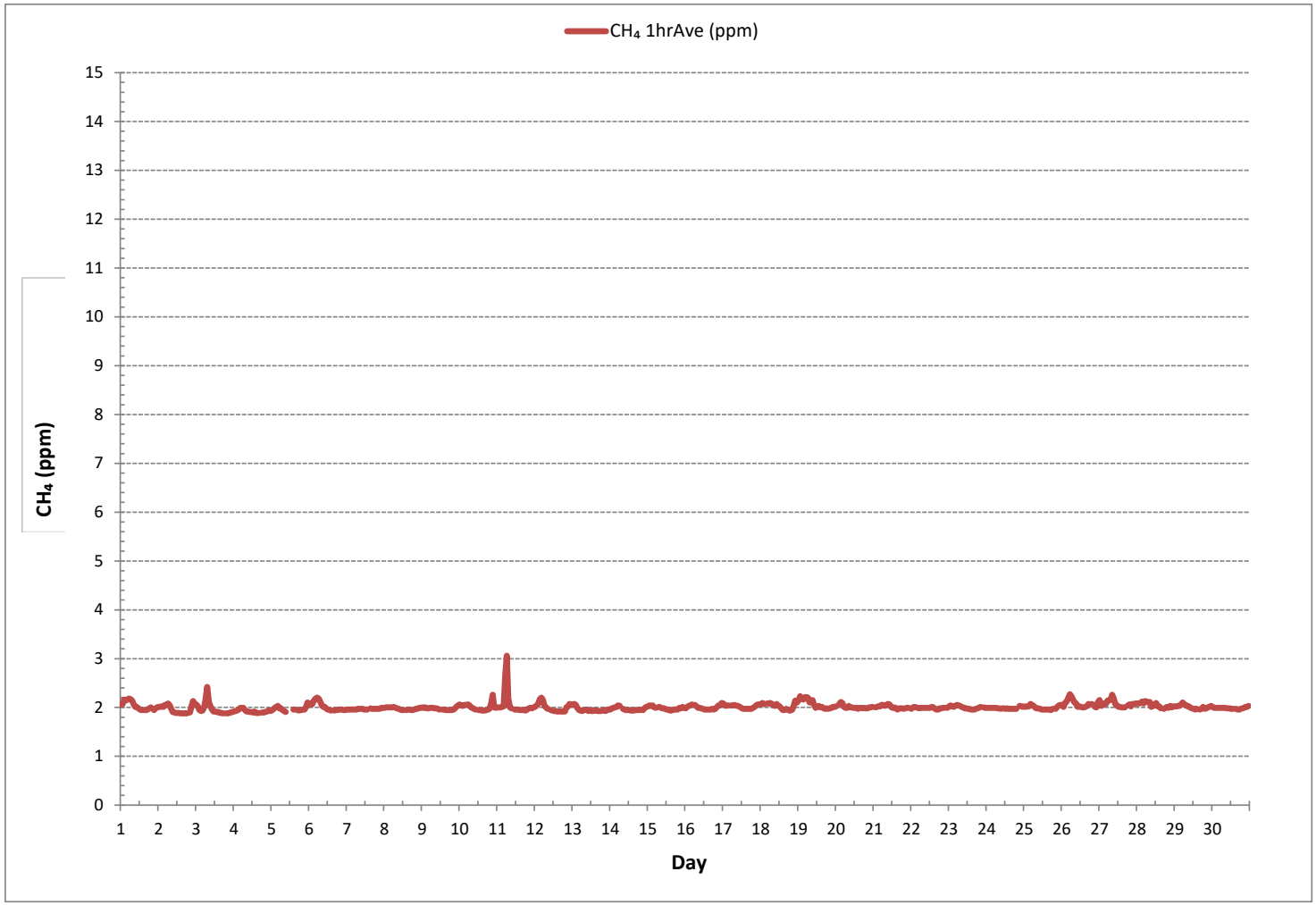
24 HR AVERAGES June 2019



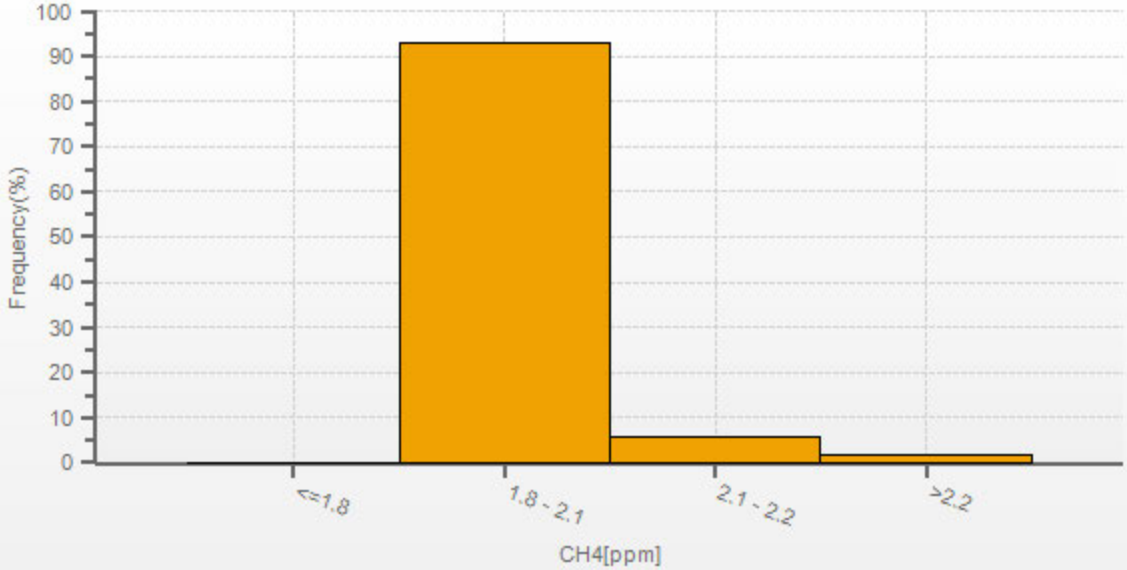
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:			685				
MINIMUM 1-HR AVERAGE	1.88	ppm	@ HOUR	14	ON DAY	2	
MAXIMUM 1-HR AVERAGE:	3.06	ppm	@ HOUR	6	ON DAY	11	
MAXIMUM 24-HR AVERAGE:	2.08	ppm			ON DAY	27	
IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:			720	hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:			100.0	%
STANDARD DEVIATION:	0.08		MONTHLY AVERAGE:			2.00	ppm

METHANE Hourly Averages (CH_4 ppm)

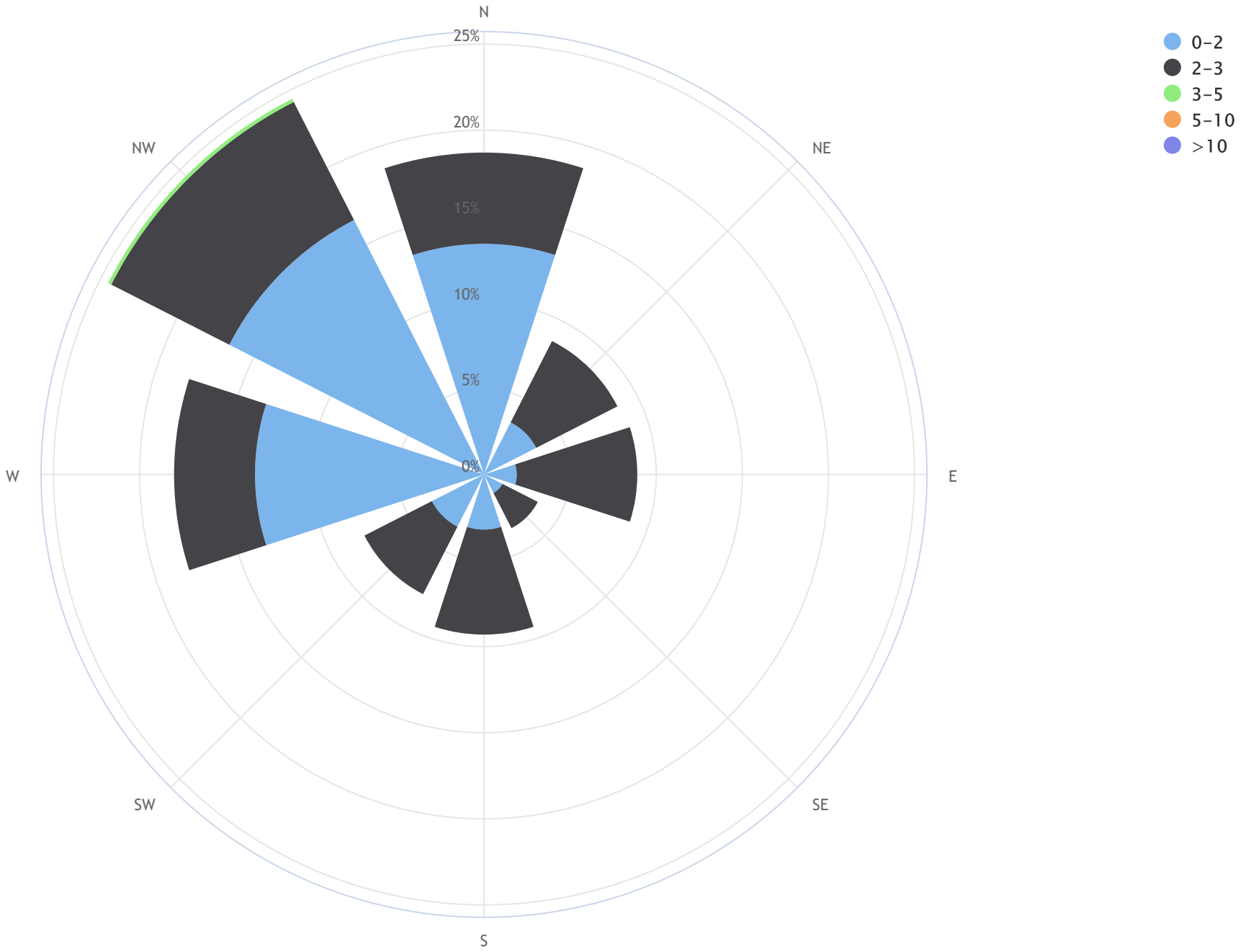


CH4[ppm] Histogram: LICA ST. LINA Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_St. Lina Continuous Monitoring Station_CH_4 (ppm)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 2.0, CALM % = 0.7%



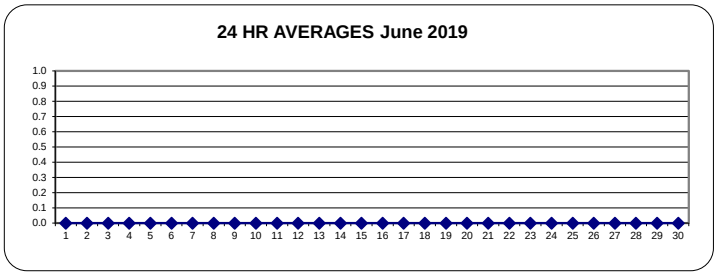
Direction	0-2	2-3	3-5	5-10	>10	TOTAL
N	13.4	5.3	0.0	0.0	0.0	18.7
NE	3.4	5.3	0.0	0.0	0.0	8.6
E	1.9	7.0	0.0	0.0	0.0	8.9
SE	1.2	2.3	0.0	0.0	0.0	3.5
S	3.2	6.1	0.0	0.0	0.0	9.3
SW	3.4	4.4	0.0	0.0	0.0	7.7
W	13.3	4.7	0.0	0.0	0.0	18.0
NW	16.6	7.7	0.2	0.0	0.0	24.5
Summary	56.4	42.8	0.2	0.0	0.0	99.3
CALM	0.3	0.4	0.0	0.0	0.0	0.7

NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)

HR START (MST) / HR END (MST)	0:00 0:59	1:00 1:59	2:00 2:59	3:00 3:59	4:00 4:59	5:00 5:59	6:00 6:59	7:00 7:59	8:00 8:59	9:00 9:59	10:00 10:59	11:00 11:59	12:00 12:59	13:00 13:59	14:00 14:59	15:00 15:59	16:00 16:59	17:00 17:59	18:00 18:59	19:00 19:59	20:00 20:59	21:00 21:59	22:00 22:59	23:00 23:59	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
DAY																												
1	**0.00**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	**0.00**	0.00	**0.00**	24
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	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**C**	**C**	**C**	**C**	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	24
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	**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	24
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	**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	24
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	**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	24
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	24
11	0.00	0.00	0.00	0.00	0.00	**0.01**	0.01	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.01**	0.00	24
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	24
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	24
15	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	24
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	24
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	24
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	24
19	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	24
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	24
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	**S**	0.00	0.00	0.00	24
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	**S**	0.00	0.00	0.00	0.00	24
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	24
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	24
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	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	24
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	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	**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	24
HOURLY MAX	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
HOURLY AVG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				

STATUS FLAG CODES

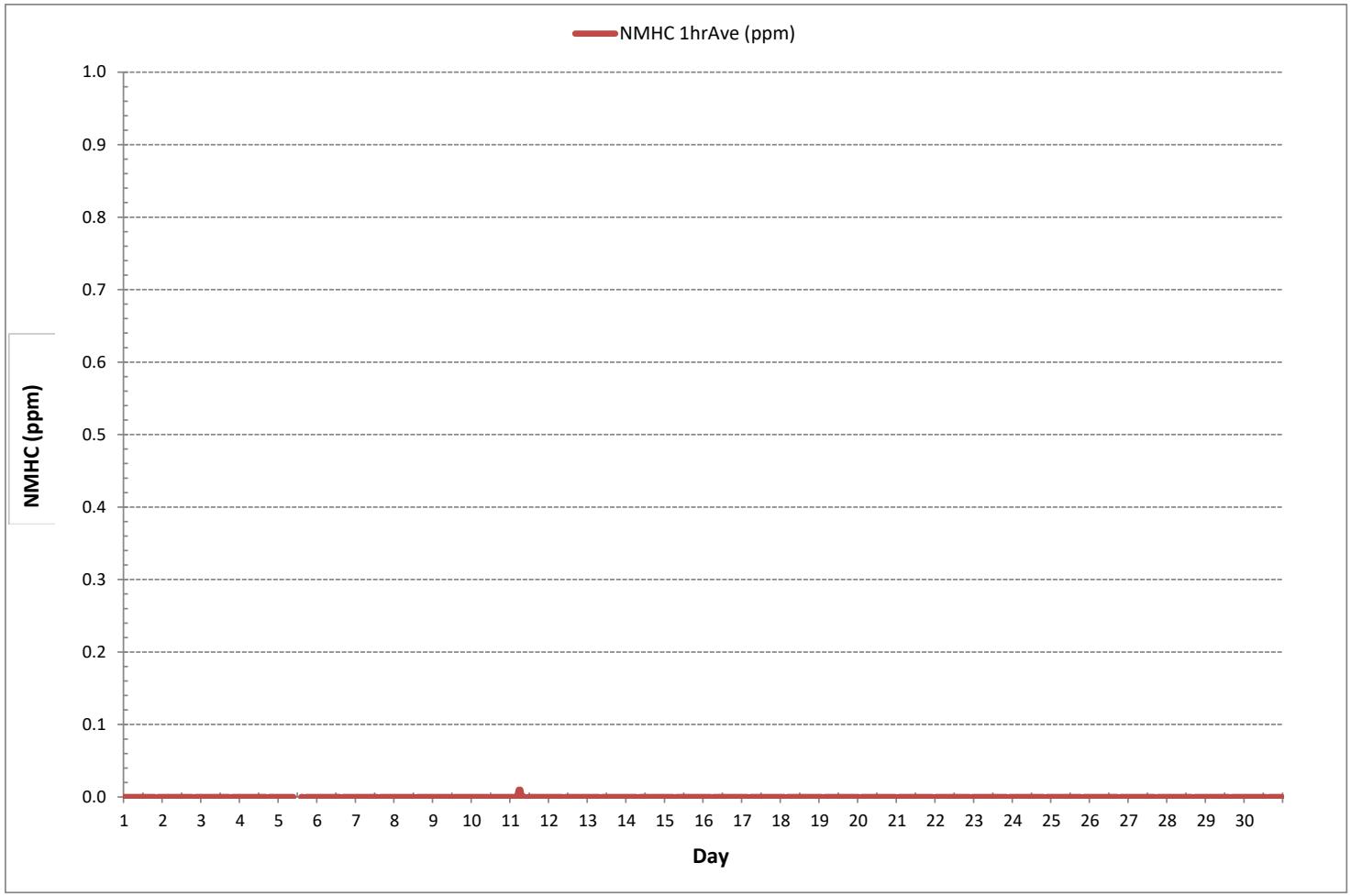
C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE



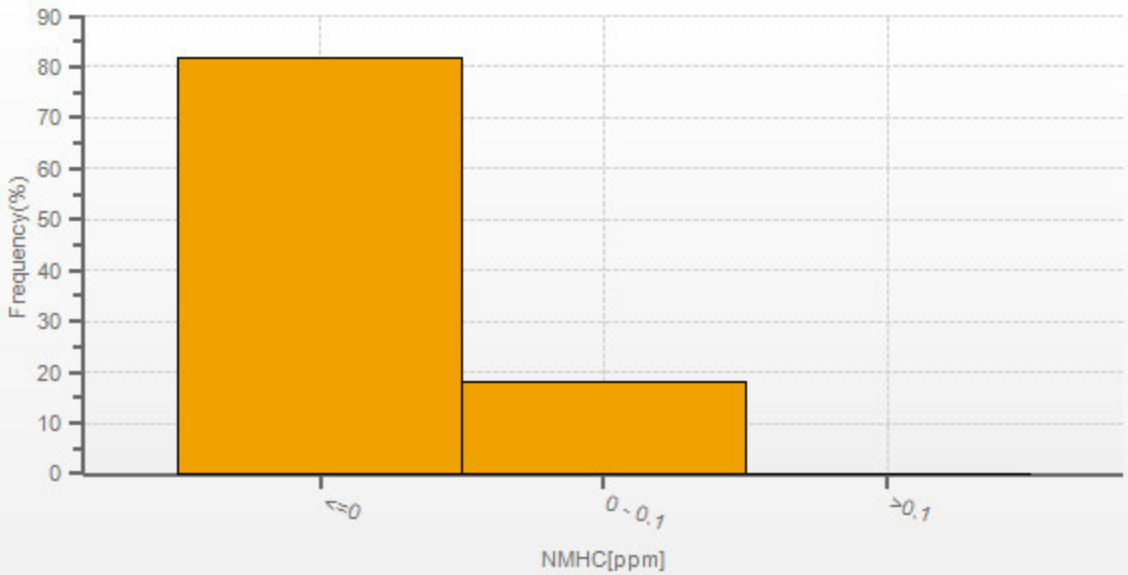
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:			2				
MINIMUM 1-HR AVERAGE	0.00	ppm	@ HOUR	0	ON DAY	1	
MAXIMUM 1-HR AVERAGE:	0.01	ppm	@ HOUR	5	ON DAY	11	
MAXIMUM 24-HR AVERAGE:	0.00	ppm			ON DAY	1	
IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:			720	hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:			100.0	%
STANDARD DEVIATION:	0.00		MONTHLY AVERAGE:			0.00	ppm

NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)

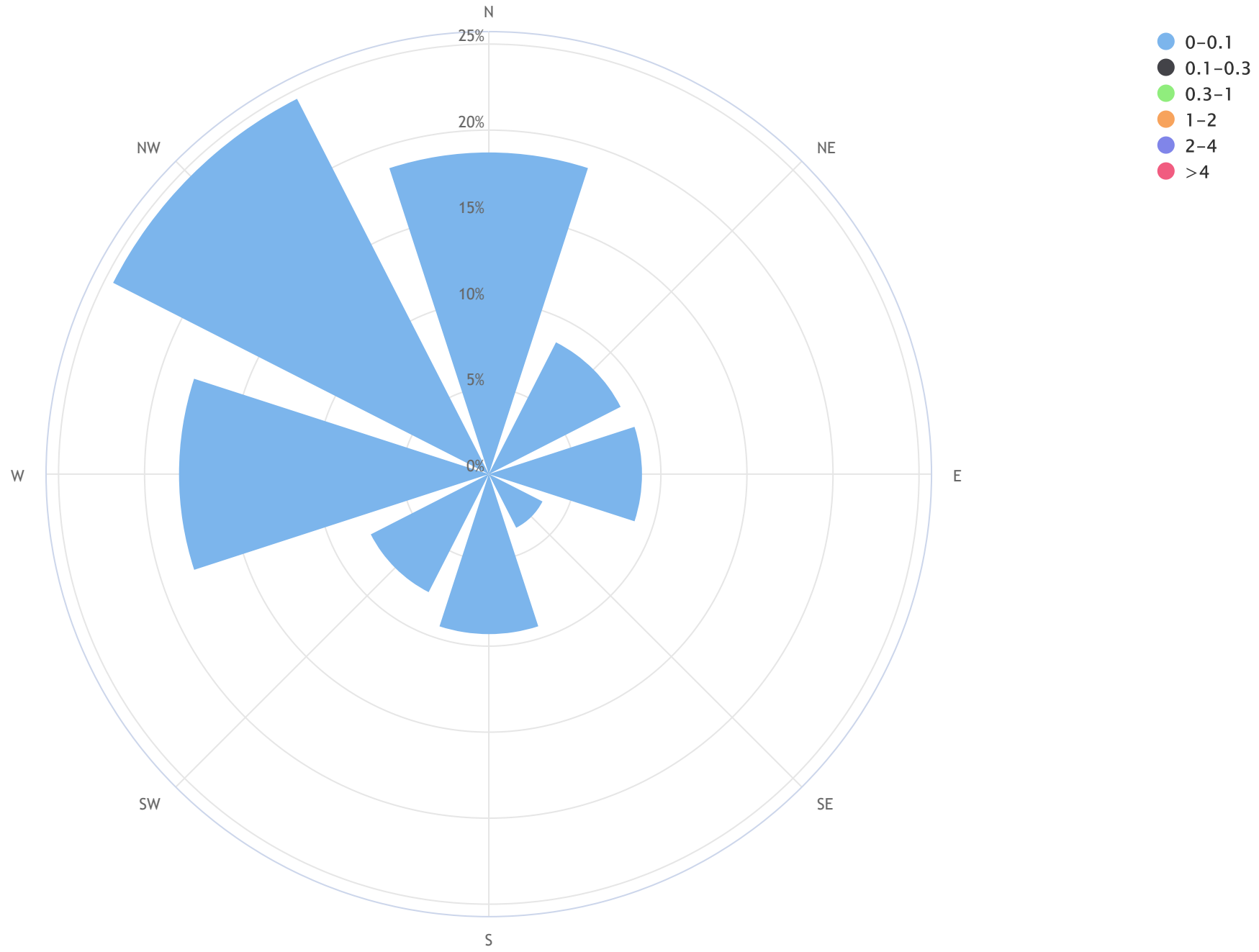


NMHC[ppm] Histogram: LICA ST. LINA Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_St. Lina Continuous Monitoring Station_NMHC (ppm)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 0.0, CALM % = 0.7%



Direction	0-0.1	0.1-0.3	0.3-1	1-2	2-4	>4	TOTAL
N	18.7	0.0	0.0	0.0	0.0	0.0	18.7
NE	8.6	0.0	0.0	0.0	0.0	0.0	8.6
E	8.9	0.0	0.0	0.0	0.0	0.0	8.9
SE	3.5	0.0	0.0	0.0	0.0	0.0	3.5
S	9.3	0.0	0.0	0.0	0.0	0.0	9.3
SW	7.7	0.0	0.0	0.0	0.0	0.0	7.7
W	18.0	0.0	0.0	0.0	0.0	0.0	18.0
NW	24.5	0.0	0.0	0.0	0.0	0.0	24.5
Summary	99.3	0.0	0.0	0.0	0.0	0.0	99.3
CALM	0.7	0.0	0.0	0.0	0.0	0.0	0.7

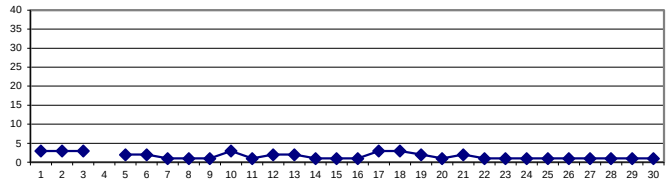
OXIDES OF NITROGEN Hourly Averages (NO_x ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	3	3	4	4	4	4	5	4	4	3	3	3	2	2	3	3	3	3	3	3	S	4	4	4	2	5	3	24
2	5	4	4	5	5	6	5	4	3	2	1	1	1	1	1	1	1	1	1	S	2	2	1	1	1	6	3	24
3	2	4	2	3	2	4	7	9	4	3	2	2	2	2	2	2	1	1	S	1	1	1	1	1	1	9	3	24
4	1	1	1	2	2	3	4	4	2	1	1	C	C	C	C	C	C	S	2	1	1	2	2	2	1	4	-	24
5	2	3	3	3	3	4	3	1	1	1	1	1	1	1	1	1	S	2	1	1	2	2	1	3	1	4	2	24
6	2	2	3	5	5	6	4	5	4	2	2	1	1	1	1	S	1	1	1	1	1	1	1	1	1	6	2	24
7	0	0	1	0	0	0	1	1	1	0	1	0	1	1	S	4	2	1	1	1	1	1	1	1	0	4	1	24
8	1	1	0	0	0	1	1	1	1	1	0	0	0	S	1	1	1	0	0	1	1	1	1	1	0	1	1	24
9	1	1	1	1	1	1	1	1	1	0	1	0	S	1	1	1	1	1	1	1	3	1	1	2	0	3	1	24
10	2	4	5	5	6	7	5	4	3	2	1	S	2	2	1	1	1	1	1	1	1	1	1	1	1	7	3	24
11	1	1	1	1	1	1	1	1	1	1	S	2	1	1	1	1	1	1	1	1	2	2	1	2	1	2	1	24
12	2	2	3	4	4	4	3	4	4	S	3	2	2	2	2	1	1	1	1	1	1	2	3	4	1	4	2	24
13	4	4	5	5	4	4	3	3	S	2	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	5	2	24
14	1	1	1	1	1	1	1	S	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	24
15	1	1	1	1	1	1	S	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	24
16	1	1	1	1	1	S	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	4	1	4	1	24
17	4	4	3	3	S	5	5	5	4	5	3	2	2	2	1	2	1	1	1	2	2	3	4	5	1	5	3	24
18	5	5	5	S	6	6	5	5	4	3	4	3	3	2	1	1	2	2	1	1	1	2	2	3	1	6	3	24
19	2	3	S	4	4	4	4	3	6	4	2	2	2	2	1	2	1	1	1	1	1	1	1	1	1	6	2	24
20	1	S	2	3	3	1	1	1	2	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	3	1	24
21	S	1	1	1	1	1	1	2	3	3	3	2	1	1	1	2	2	2	2	1	1	1	1	S	1	3	2	24
22	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	2	1	2	1	24
23	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	2	1	1	2	1	24
24	1	1	1	1	1	1	1	2	1	1	1	1	1	2	1	1	1	1	1	1	S	2	1	1	1	2	1	24
25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	2	1	1	1	1	2	1	24
26	1	1	1	1	1	2	2	1	2	1	1	1	1	1	1	1	1	1	S	2	1	1	1	1	1	2	1	24
27	1	1	1	1	1	1	1	3	4	3	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	4	1	24
28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	2	1	1	1	1	1	1	1	2	1	24
29	1	1	1	1	2	3	1	2	2	1	1	1	1	1	1	S	2	1	1	1	1	1	1	1	1	3	1	24
30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	24
HOURLY MAX	5	5	5	5	6	7	7	9	6	5	4	3	3	2	3	4	3	3	3	3	3	4	4	5				
HOURLY AVG	2	2	2	2	2	3	2	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

24 HR AVERAGES June 2019

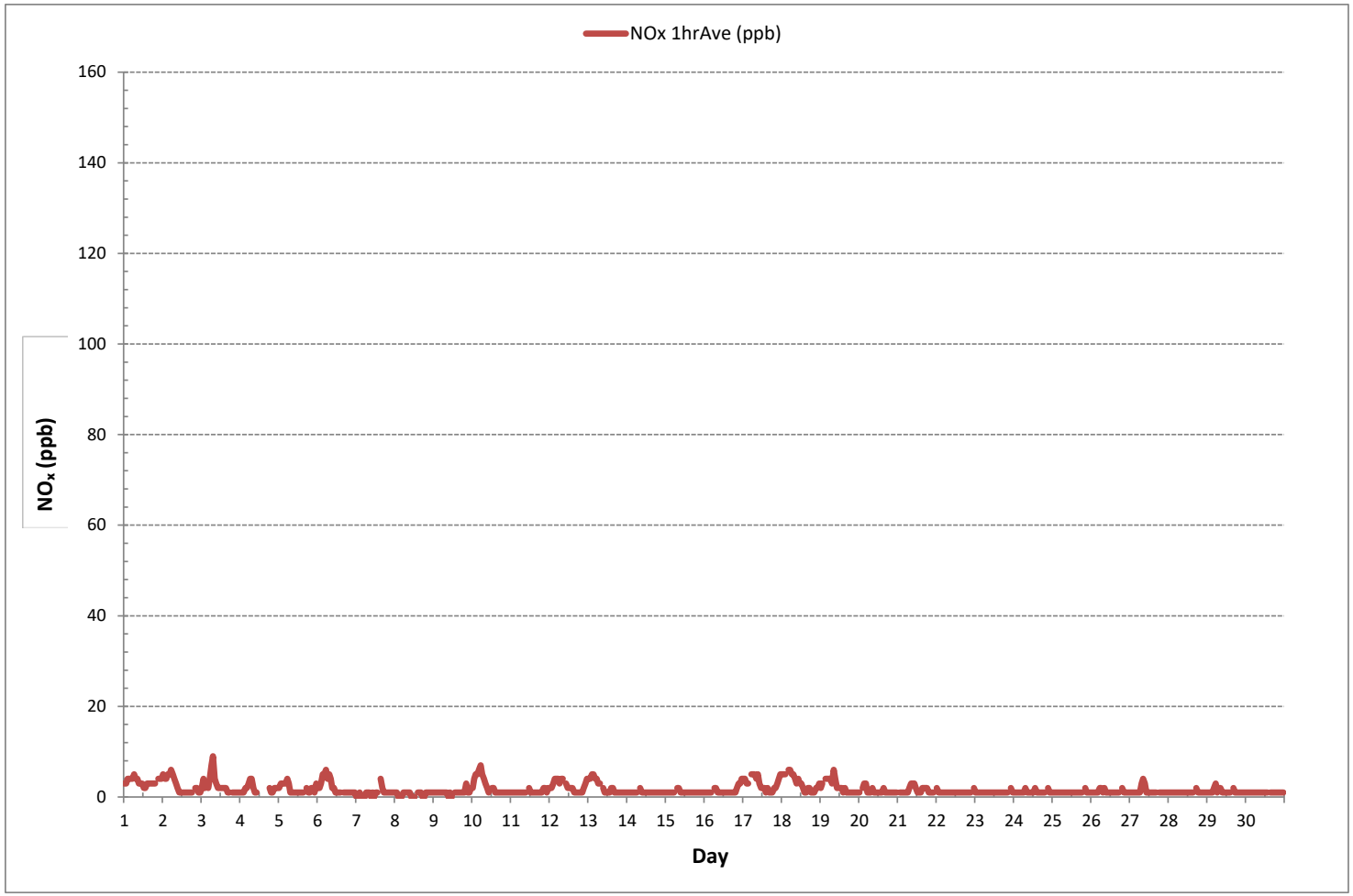


MONTHLY SUMMARY

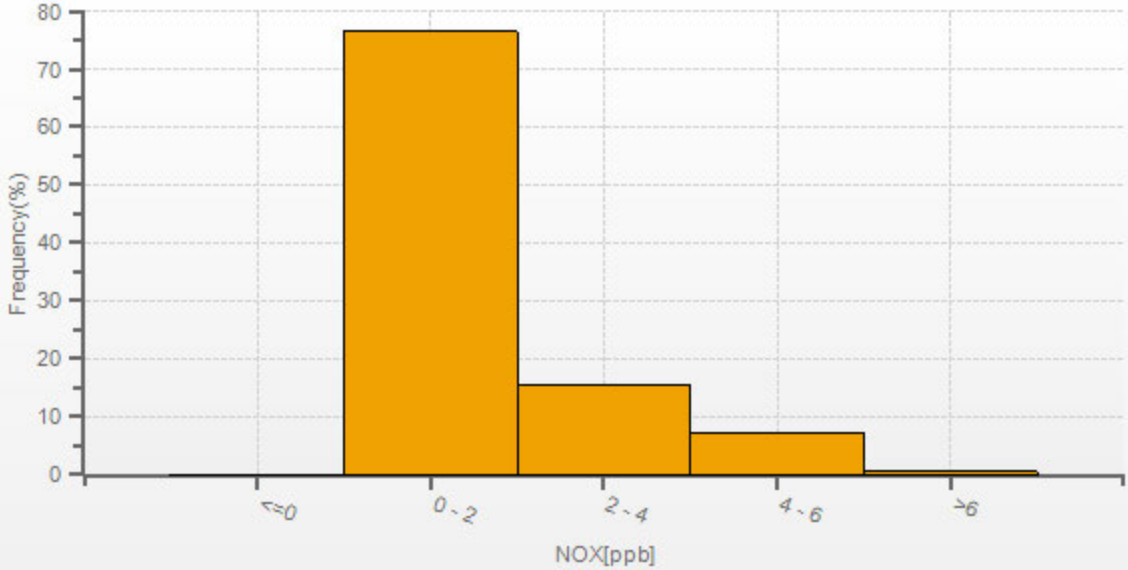
NUMBER OF NON-ZERO READINGS:			666				
MINIMUM 1-HR AVERAGE	0	ppb	@ HOUR	0	ON DAY		7
MAXIMUM 1-HR AVERAGE:	9	ppb	@ HOUR	7	ON DAY		3
MAXIMUM 24-HR AVERAGE:	3	ppb			ON DAY		1

IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	720	hrs
MONTHLY CALIBRATION TIME:	6	hrs	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	1		MONTHLY AVERAGE:	2	ppb

OXIDES OF NITROGEN Hourly Averages (NO_x ppb)

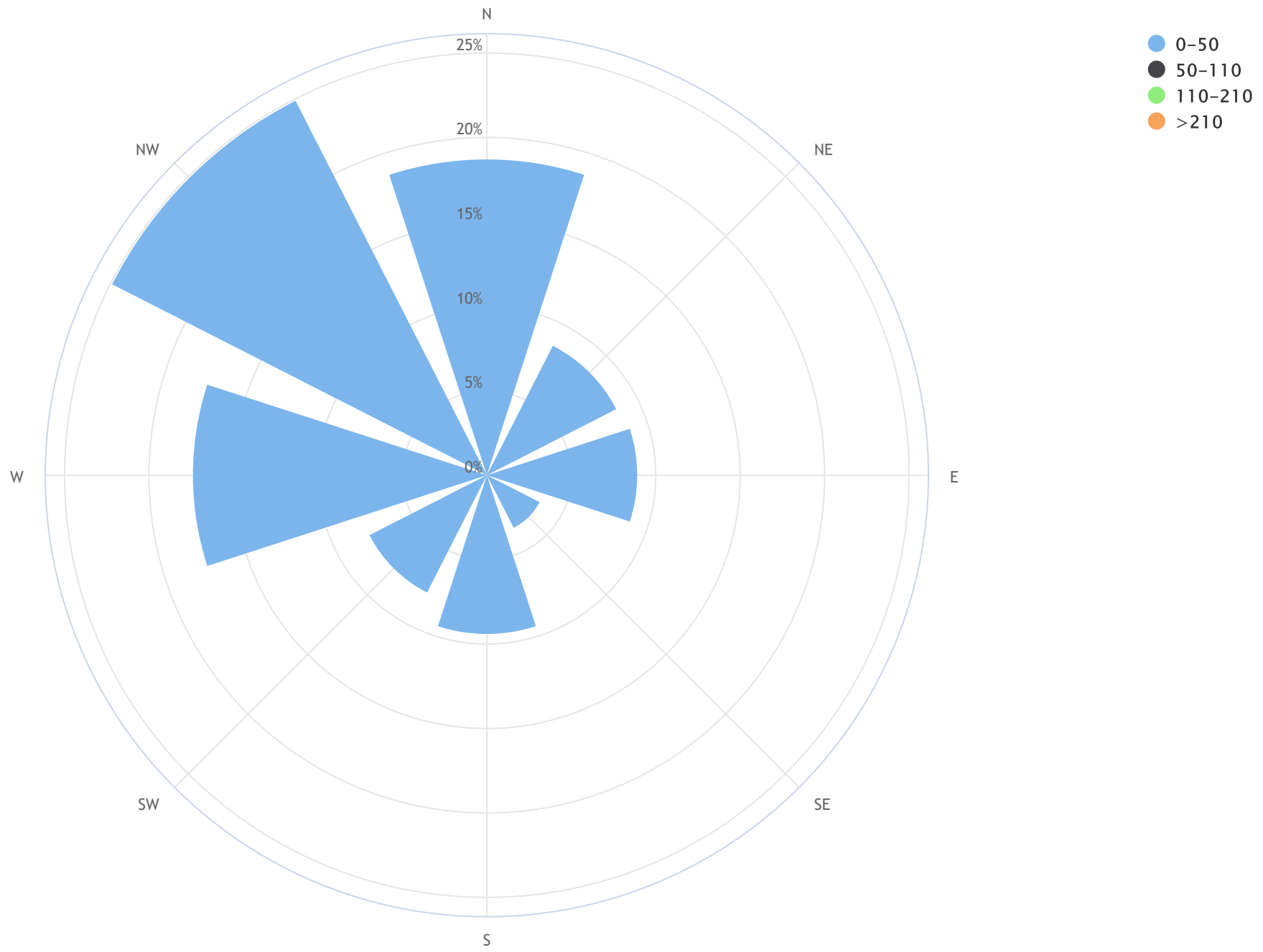


NOX[ppb] Histogram: LICA ST. LINA Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_St. Lina Continuous Monitoring Station_NO_X (ppb)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 1.0, CALM % = 0.7%



Direction	0-50	50-110	110-210	>210	TOTAL
N	18.7	0.0	0.0	0.0	18.7
NE	8.6	0.0	0.0	0.0	8.6
E	8.9	0.0	0.0	0.0	8.9
SE	3.5	0.0	0.0	0.0	3.5
S	9.4	0.0	0.0	0.0	9.4
SW	7.8	0.0	0.0	0.0	7.8
W	17.4	0.0	0.0	0.0	17.4
NW	24.9	0.0	0.0	0.0	24.9
Summary	99.3	0.0	0.0	0.0	99.3
CALM	0.7	0.0	0.0	0.0	0.7

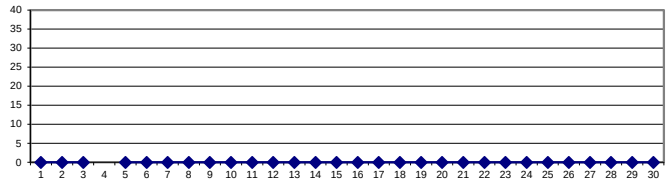
NITRIC OXIDE Hourly Averages (NO ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	**0**	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	**0**	1	**0**	24
2	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	1	0	24
3	0	0	0	0	0	0	1	**2**	1	1	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	**2**	0	24
4	0	0	0	0	0	0	1	1	0	0	0	**C**	**C**	**C**	**C**	**C**	**C**	**S**	0	0	0	0	0	0	0	1	-	24
5	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	1	0	24
6	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	1	0	24
7	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	24
8	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	24
9	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	24
10	0	0	0	0	0	1	2	1	1	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	24
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	24
12	0	0	0	0	0	1	1	1	2	**S**	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	0	24
13	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	24
14	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	24
15	0	0	0	0	0	0	**S**	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
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	24
17	0	0	0	0	**S**	1	1	2	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	24
18	0	0	0	**S**	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
19	0	0	**S**	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
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	24
21	**S**	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	1	0	24
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	24
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	24
24	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	**S**	0	0	0	0	1	0	24
25	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	24
26	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	1	0	24
27	0	0	0	0	0	0	0	1	1	1	0	0	1	0	0	0	0	**S**	0	0	0	0	0	0	0	1	0	24
28	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	24
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	24
30	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	24
HOURLY MAX	0	0	0	0	0	1	2	2	2	2	1	0	1	1	1	0	0	0	0	0	0	0	0	0				
HOURLY AVG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

24 HR AVERAGES June 2019

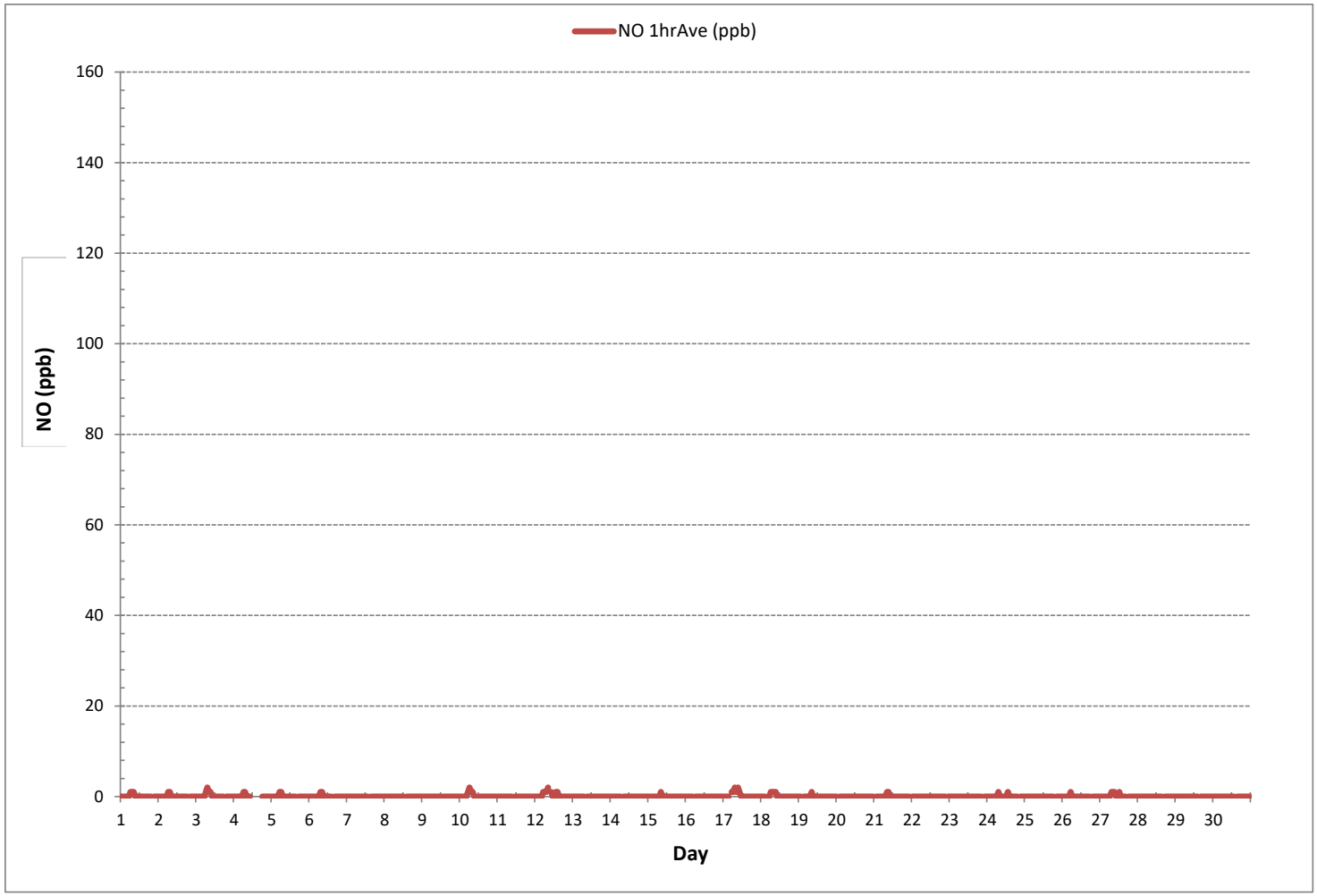


MONTHLY SUMMARY

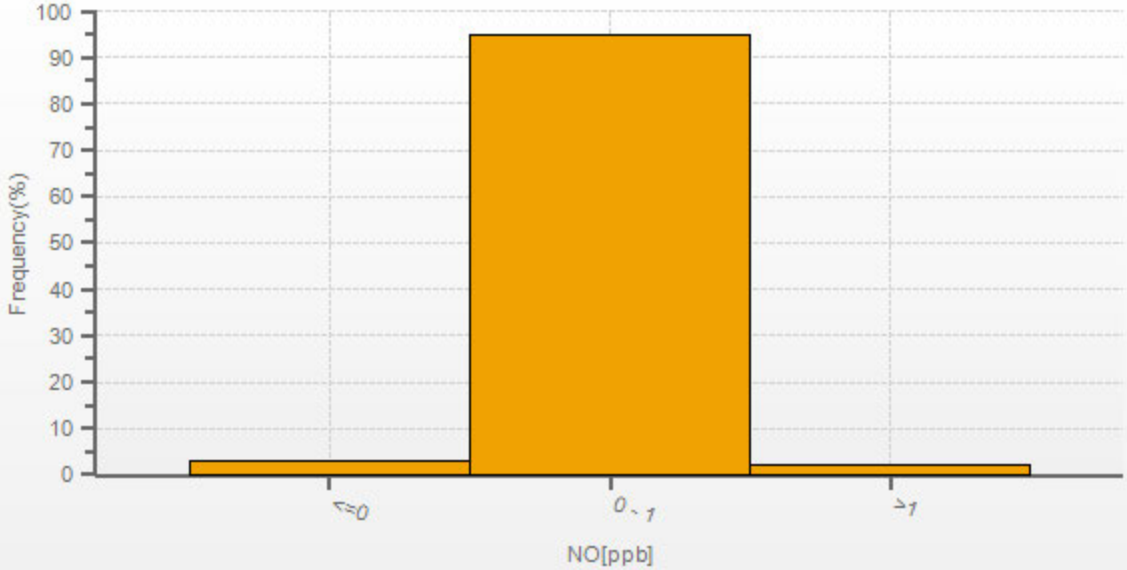
NUMBER OF NON-ZERO READINGS:			47				
MINIMUM 1-HR AVERAGE	0	ppb	@ HOUR	0	ON DAY		1
MAXIMUM 1-HR AVERAGE:	2	ppb	@ HOUR	7	ON DAY		3
MAXIMUM 24-HR AVERAGE:	0	ppb			ON DAY		1

IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	720	hrs
MONTHLY CALIBRATION TIME:	6	hrs	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	0		MONTHLY AVERAGE:	0	ppb

NITRIC OXIDE Hourly Averages (NO ppb)

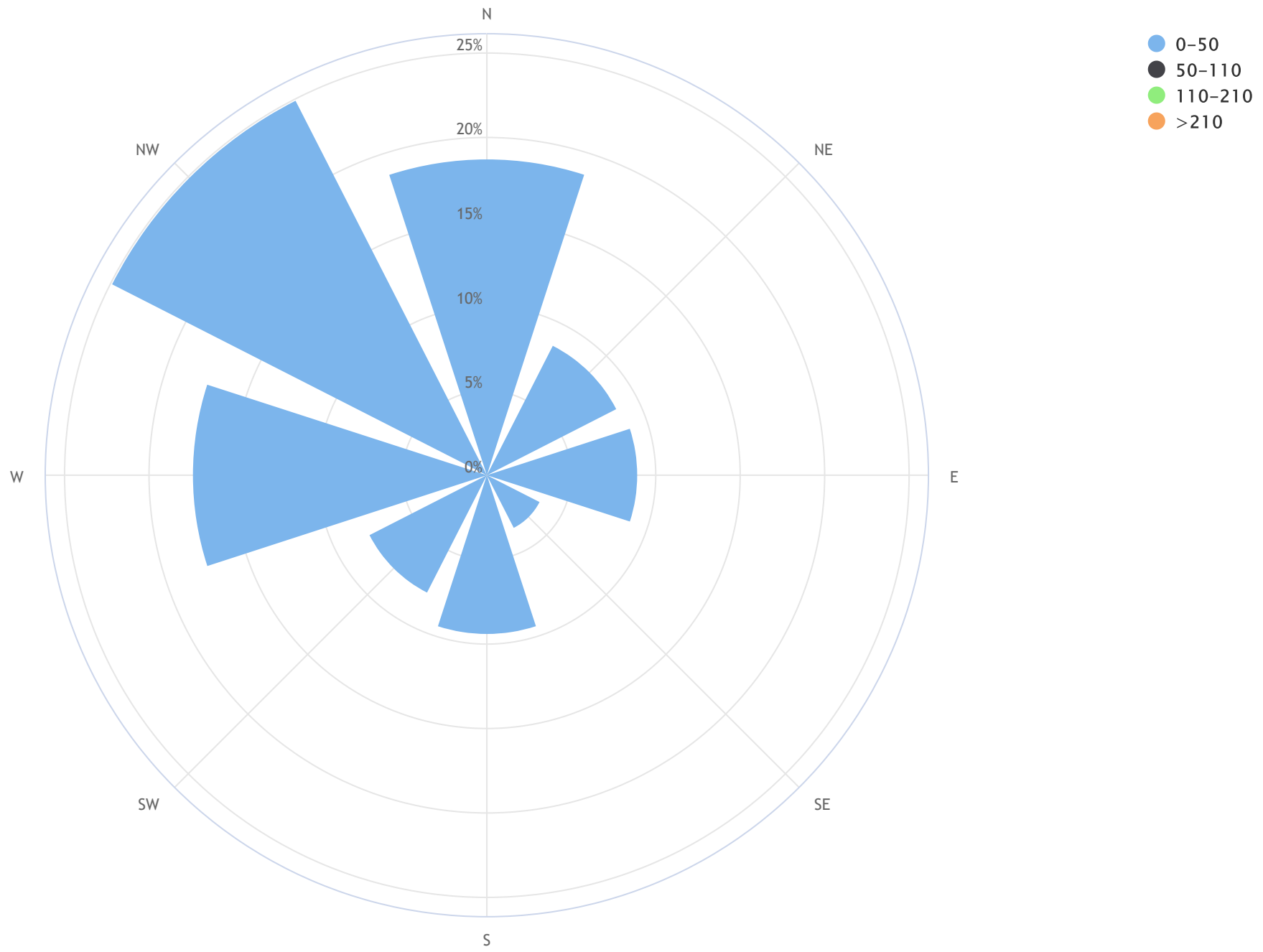


NO[ppb] Histogram: LICA ST. LINA Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_St. Lina Continuous Monitoring Station_NO (ppb)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 0.0, CALM % = 0.7%



Direction	0-50	50-110	110-210	>210	TOTAL
N	18.7	0.0	0.0	0.0	18.7
NE	8.6	0.0	0.0	0.0	8.6
E	8.9	0.0	0.0	0.0	8.9
SE	3.5	0.0	0.0	0.0	3.5
S	9.4	0.0	0.0	0.0	9.4
SW	7.8	0.0	0.0	0.0	7.8
W	17.4	0.0	0.0	0.0	17.4
NW	24.9	0.0	0.0	0.0	24.9
Summary	99.3	0.0	0.0	0.0	99.3
CALM	0.7	0.0	0.0	0.0	0.7

NITROGEN DIOXIDE Hourly Averages (NO_2 ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	3	3	4	4	4	4	4	4	3	2	3	2	2	2	2	3	3	3	3	3	S	3	4	4	2	4	3	24
2	4	4	4	5	5	5	5	3	2	2	1	1	1	1	1	1	1	1	1	S	2	1	1	1	1	5	2	24
3	2	4	2	3	2	3	6	7	3	3	2	1	2	2	2	2	1	1	S	1	1	1	1	1	1	7	2	24
4	1	1	1	2	2	3	3	3	2	1	1	C	C	C	C	C	C	S	1	1	1	1	2	2	1	3	-	24
5	2	3	3	3	3	3	2	1	1	1	1	0	0	1	1	1	S	1	1	1	1	2	1	3	0	3	2	24
6	2	2	3	5	5	5	4	4	3	2	2	1	1	0	0	S	1	1	1	1	1	1	1	0	0	5	2	24
7	0	0	0	0	0	0	0	1	1	0	0	0	1	1	S	3	2	1	1	1	1	1	1	1	0	3	1	24
8	1	0	0	0	0	0	1	1	1	0	0	0	0	S	1	1	0	0	0	1	1	1	1	1	0	1	1	24
9	1	1	1	1	1	1	1	1	1	0	1	0	S	1	1	1	1	1	1	1	2	1	1	2	0	2	1	24
10	2	4	5	5	6	5	4	3	2	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	6	2	24
11	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	2	2	1	2	1	2	1	24
12	2	2	3	4	4	4	2	3	2	S	2	1	1	1	1	1	1	1	1	1	1	2	3	4	1	4	2	24
13	4	4	5	5	4	3	3	2	S	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	2	24
14	1	1	1	1	1	1	1	S	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	24
15	1	1	1	1	1	1	S	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	24
16	1	1	1	1	1	S	2	1	1	1	1	1	0	1	1	1	1	1	1	1	2	3	3	3	0	3	1	24
17	4	3	3	3	S	4	4	4	3	3	2	2	1	1	1	1	1	1	1	2	2	3	4	5	1	5	3	24
18	5	5	5	S	6	5	5	4	3	3	3	2	2	2	1	1	2	1	1	1	1	1	2	3	1	6	3	24
19	2	3	S	4	4	4	4	3	5	4	2	2	2	2	1	2	1	1	1	1	1	1	1	1	1	5	2	24
20	1	S	2	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1	24
21	S	1	1	1	1	1	1	2	2	3	2	1	1	1	1	2	1	1	1	1	1	1	1	S	1	3	1	24
22	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	2	1	2	1	24
23	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	24
24	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	1	1	1	S	2	1	1	0	2	1	24
25	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0	0	0	1	1	S	2	1	1	1	0	2	1	24
26	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	2	1	1	1	1	1	2	1	24
27	1	1	1	1	1	1	1	2	3	2	1	1	0	1	1	1	1	S	1	1	1	1	1	1	0	3	1	24
28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	24
29	1	1	1	1	2	3	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	3	1	24
30	1	1	1	1	1	1	0	0	0	0	0	1	1	1	S	1	1	1	1	1	1	1	1	1	0	1	1	24
HOURLY MAX	5	5	5	5	6	5	6	7	5	4	3	2	2	2	2	3	3	3	3	3	2	3	4	5				
HOURLY AVG	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

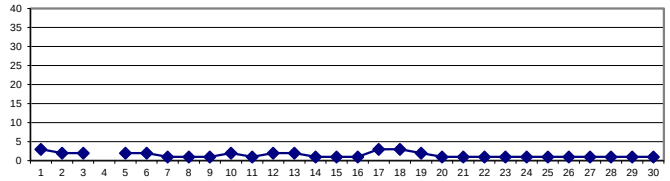
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 159 ppb

MONTHLY SUMMARY

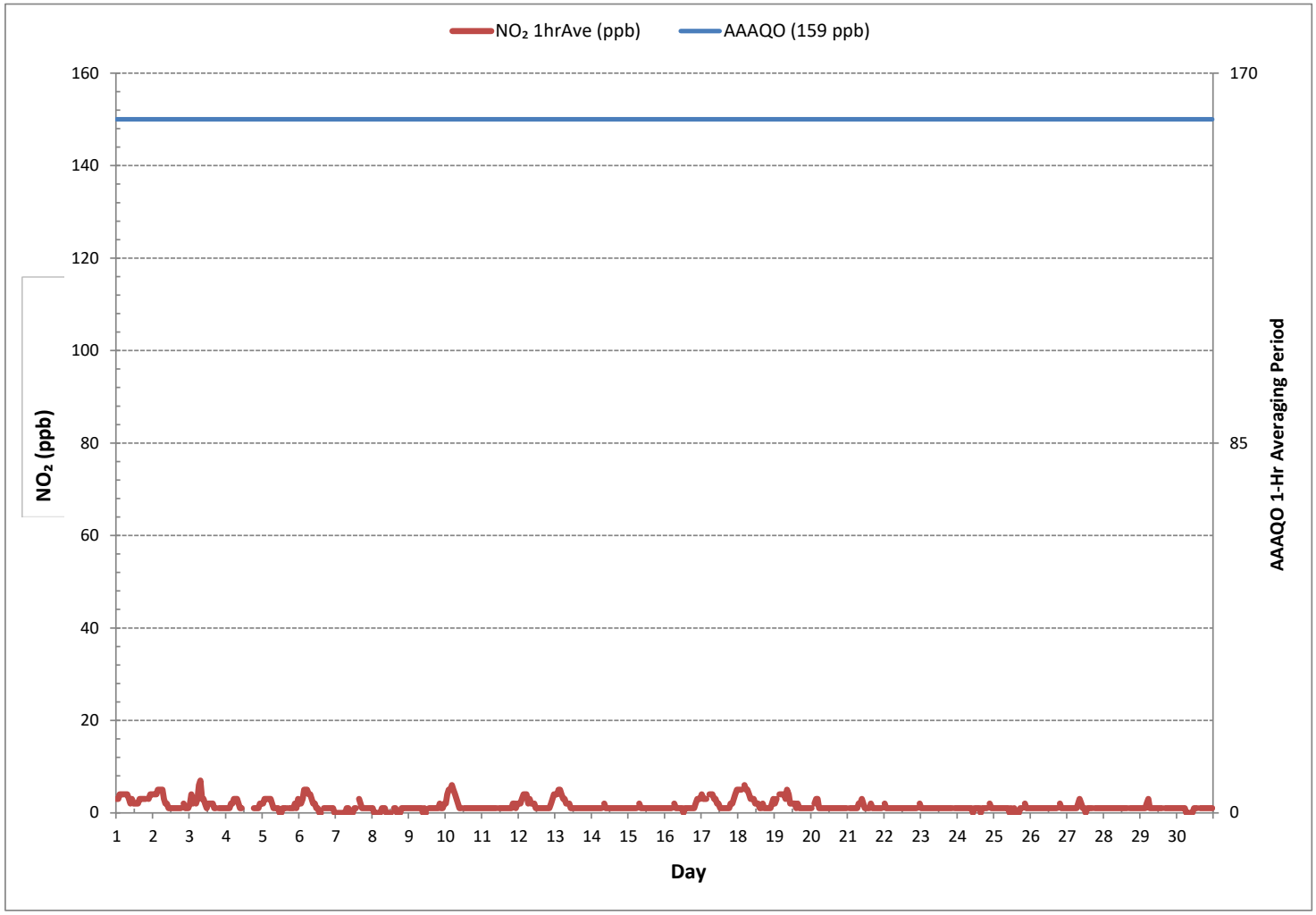
NUMBER OF 1-HR EXCEEDANCES:	0					
NUMBER OF NON-ZERO READINGS:	640					
MINIMUM 1-HR AVERAGE	0	ppb	@ HOUR	11	ON DAY	5
MAXIMUM 1-HR AVERAGE:	7	ppb	@ HOUR	7	ON DAY	3
MAXIMUM 24-HR AVERAGE:	3	ppb			ON DAY	1

IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	720	hrs
MONTHLY CALIBRATION TIME:	6	hrs	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	1		MONTHLY AVERAGE:	1	ppb

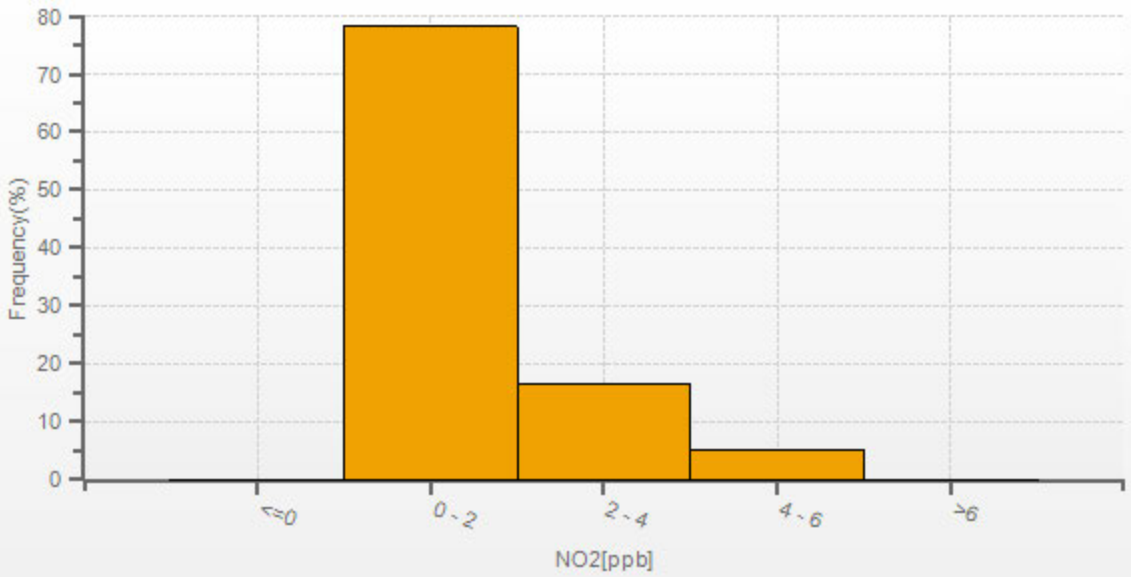
24 HR AVERAGES June 2019



NITROGEN DIOXIDE Hourly Averages (NO_2 ppb)

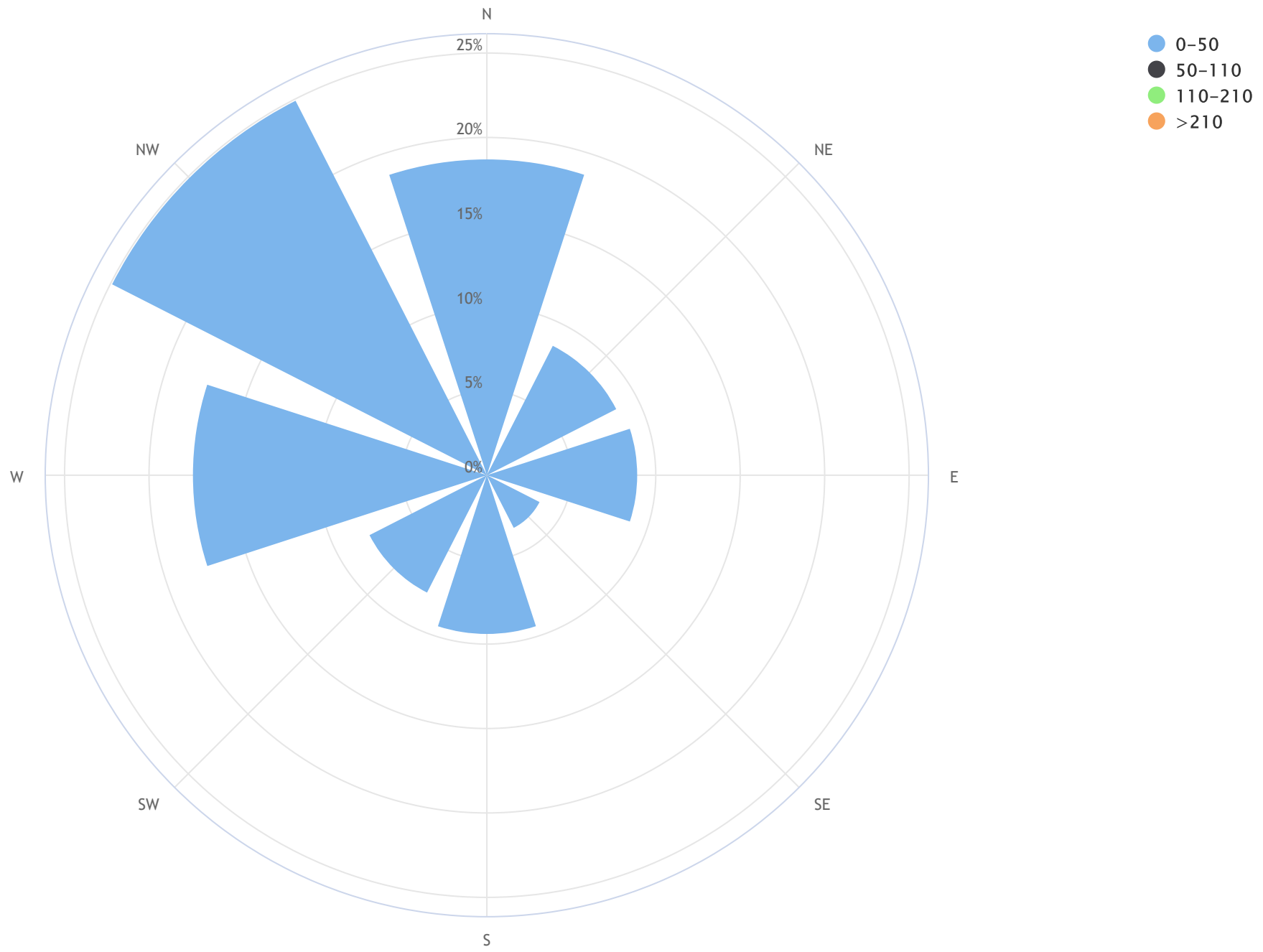


NO2[ppb] Histogram: LICA ST. LINA Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_St. Lina Continuous Monitoring Station_NO_2 (ppb)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 1.0, CALM % = 0.7%



Direction	0-50	50-110	110-210	>210	TOTAL
N	18.7	0.0	0.0	0.0	18.7
NE	8.6	0.0	0.0	0.0	8.6
E	8.9	0.0	0.0	0.0	8.9
SE	3.5	0.0	0.0	0.0	3.5
S	9.4	0.0	0.0	0.0	9.4
SW	7.8	0.0	0.0	0.0	7.8
W	17.4	0.0	0.0	0.0	17.4
NW	24.9	0.0	0.0	0.0	24.9
Summary	99.3	0.0	0.0	0.0	99.3
CALM	0.7	0.0	0.0	0.0	0.7

OZONE Hourly Averages (O_3 ppb)

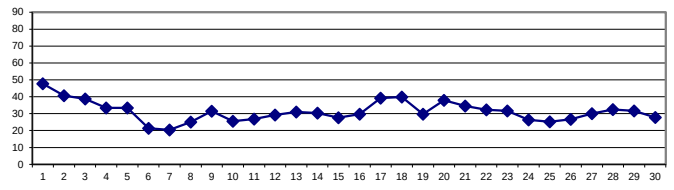
HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	31.3	32.4	28.4	30.2	29.3	28.2	28.4	32.0	37.8	44.7	48.3	53.9	57.2	59.8	61.8	65.1	67.5	**68.4**	66.7	64.8	**S**	59.6	54.3	46.2	28.2	**68.4**	**47.7**	24
2	40.4	37.0	34.5	29.6	31.2	30.5	28.6	33.5	39.8	43.7	45.9	46.2	46.1	47.7	48.5	47.3	47.2	46.5	45.0	**S**	42.8	42.0	39.3	40.4	28.6	48.5	40.6	24
3	37.5	37.0	42.1	43.2	43.4	35.6	25.3	26.4	39.3	39.2	34.3	34.4	39.4	38.8	40.3	43.6	48.1	48.9	**S**	44.4	41.8	37.8	35.2	34.6	25.3	48.9	38.7	24
4	30.6	28.9	31.6	26.5	19.9	19.5	20.1	25.9	32.0	34.9	36.1	36.9	39.0	41.2	41.1	42.3	42.7	**S**	41.7	41.1	37.2	34.6	32.4	34.1	19.5	42.7	33.5	24
5	30.5	27.5	23.6	19.0	16.4	20.2	20.5	29.8	31.8	34.1	**C**	**C**	**C**	**C**	**C**	43.2	**S**	45.9	45.6	44.2	46.5	47.5	43.7	30.3	16.4	47.5	33.4	24
6	29.6	27.5	25.8	22.0	20.6	19.2	20.5	20.5	22.9	21.4	16.8	18.3	17.1	16.9	19.8	**S**	20.0	21.3	21.5	21.0	21.1	22.7	23.4	22.8	16.8	29.6	21.4	24
7	21.4	20.2	18.9	19.5	18.9	18.8	19.1	18.9	18.7	18.1	18.6	19.3	19.8	19.9	**S**	20.5	23.6	26.0	28.3	23.3	20.1	19.7	19.2	19.0	18.1	28.3	20.4	24
8	17.8	17.7	17.2	17.2	20.4	21.3	21.3	22.3	24.3	25.6	28.3	30.0	30.5	**S**	30.6	29.1	29.2	29.9	29.8	28.5	26.8	26.1	25.7	25.0	17.2	30.6	25.0	24
9	24.5	26.2	25.8	28.0	27.4	23.5	23.9	25.4	27.4	29.7	32.1	35.0	**S**	38.1	39.0	39.6	39.0	39.4	39.1	36.2	34.3	33.9	31.6	26.1	23.5	39.6	31.5	24
10	21.8	17.7	16.3	13.0	**11.8**	11.8	16.3	21.3	24.6	30.6	34.2	**S**	34.9	35.8	34.1	35.0	30.3	32.3	28.8	29.1	29.2	29.0	26.8	24.2	**11.8**	35.8	25.6	24
11	22.5	21.7	21.0	21.8	20.8	20.6	19.8	21.6	23.4	26.3	**S**	33.5	32.6	33.9	34.2	34.8	35.5	32.1	29.1	26.1	28.7	26.2	27.2	25.6	19.8	35.5	26.9	24
12	23.9	25.4	24.1	19.7	15.4	13.8	19.8	22.5	25.5	**S**	31.0	29.8	29.9	30.2	32.9	36.2	37.8	38.4	37.1	36.4	36.8	36.0	35.6	33.2	13.8	38.4	29.2	24
13	30.5	28.5	26.1	24.1	25.0	24.4	26.6	21.7	**S**	23.0	29.5	36.1	40.9	41.2	35.1	37.0	37.5	36.1	34.5	34.7	32.0	30.4	28.7	29.9	21.7	41.2	31.0	24
14	29.2	26.6	25.4	25.9	26.5	24.1	22.4	**S**	22.7	28.5	31.5	31.9	32.3	35.1	36.1	36.1	36.0	36.5	35.6	32.6	31.1	33.0	30.0	26.8	22.4	36.5	30.3	24
15	27.3	22.8	23.1	21.9	22.6	22.1	**S**	19.9	22.5	25.3	26.8	30.1	32.5	34.4	33.9	30.1	28.8	31.9	31.2	33.6	30.4	29.9	28.1	25.2	19.9	34.4	27.6	24
16	26.0	23.4	21.7	21.5	19.8	**S**	19.3	22.8	27.5	29.3	29.7	31.4	32.9	36.3	38.0	35.7	35.6	34.6	34.6	35.8	34.0	32.6	31.6	30.1	19.3	38.0	29.8	24
17	24.8	26.8	26.1	25.2	**S**	22.7	23.2	23.9	28.8	34.8	41.6	48.9	51.0	48.4	50.6	50.4	50.9	51.0	50.7	49.9	46.9	43.9	41.5	40.8	22.7	51.0	39.2	24
18	41.1	40.2	38.9	**S**	35.5	34.1	33.6	36.1	39.8	43.9	43.9	49.4	50.4	48.8	46.3	41.0	40.3	44.8	45.0	41.2	36.0	31.9	27.6	28.4	27.6	50.4	39.9	24
19	28.7	25.5	**S**	21.4	21.7	24.9	29.3	36.3	30.0	33.4	33.7	35.7	33.9	33.5	40.5	41.6	35.8	38.2	34.3	27.7	23.8	19.4	18.1	18.4	18.1	41.6	29.8	24
20	18.2	**S**	22.5	24.9	31.6	39.3	41.9	41.5	32.3	39.1	43.2	49.1	49.4	44.2	41.9	44.6	43.7	42.1	35.9	36.6	37.7	36.7	37.0	37.1	18.2	49.4	37.9	24
21	**S**	31.6	28.7	27.1	26.6	24.4	23.4	26.1	26.8	30.0	32.6	39.9	42.1	36.0	40.7	52.2	46.6	41.3	38.1	38.6	38.3	35.8	34.8	**S**	23.4	52.2	34.6	24
22	44.5	38.1	35.6	35.2	32.7	30.0	25.7	23.7	24.1	26.7	31.1	31.3	30.1	30.3	33.6	37.4	36.3	34.5	31.1	35.0	32.5	30.5	**S**	33.5	23.7	44.5	32.3	24
23	30.4	22.9	25.5	25.4	23.7	22.5	20.3	22.0	28.0	31.8	34.2	39.3	45.1	43.5	40.2	39.5	40.6	36.8	37.8	32.6	28.9	**S**	29.7	28.6	20.3	45.1	31.7	24
24	28.0	26.4	24.5	24.6	25.7	23.8	22.8	22.8	24.1	26.5	28.0	28.8	30.5	27.1	28.3	28.9	30.6	29.8	30.5	31.0	**S**	24.2	21.1	18.9	18.9	31.0	26.4	24
25	17.8	17.5	18.6	17.9	13.9	13.8	15.7	18.7	19.5	21.7	25.2	30.7	29.6	30.5	33.0	31.4	34.9	35.4	33.1	**S**	35.5	32.2	26.9	27.0	13.8	35.5	25.2	24
26	24.9	33.1	22.7	21.7	22.2	15.9	14.8	18.8	21.3	23.2	28.1	26.7	28.3	34.3	34.7	31.7	28.3	29.3	**S**	27.6	26.6	33.1	34.6	31.0	14.8	34.7	26.6	24
27	28.5	31.3	29.8	26.0	26.6	23.8	19.0	20.7	22.1	27.3	32.8	35.7	38.2	38.7	40.4	39.2	38.5	**S**	34.3	31.9	31.1	27.4	25.2	24.4	19.0	40.4	30.1	24
28	23.5	22.4	20.4	18.5	21.4	19.5	27.2	25.4	24.4	44.1	37.3	29.4	24.2	36.9	40.3	44.2	**S**	47.5	43.4	33.2	40.3	45.1	41.3	37.1	18.5	47.5	32.5	24
29	34.6	34.1	31.3	26.6	24.4	21.6	23.2	25.5	31.5	32.1	35.3	41.5	42.2	41.9	39.6	**S**	35.6	35.8	36.3	29.8	28.3	26.0	24.3	26.2	21.6	42.2	31.6	24
30	26.5	26.4	24.0	23.0	21.2	19.6	20.8	23.8	24.8	29.3	29.9	28.8	32.9	32.7	**S**	33.0	35.6	34.3	33.7	30.6	27.9	26.9	27.7	26.8	19.6	35.6	27.8	24
HOURLY MAX	44.5	40.2	42.1	43.2	43.4	39.3	41.9	41.5	39.8	44.7	48.3	53.9	57.2	59.8	61.8	65.1	67.5	68.4	66.7	64.8	46.9	59.6	54.3	46.2				
HOURLY AVG	28.1	27.5	26.0	24.2	24.0	23.1	23.2	25.2	27.5	31.0	32.9	35.1	36.2	37.0	38.4	39.0	37.7	38.2	36.9	34.9	33.1	32.9	31.1	29.4				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 76 ppb

24 HR AVERAGES June 2019

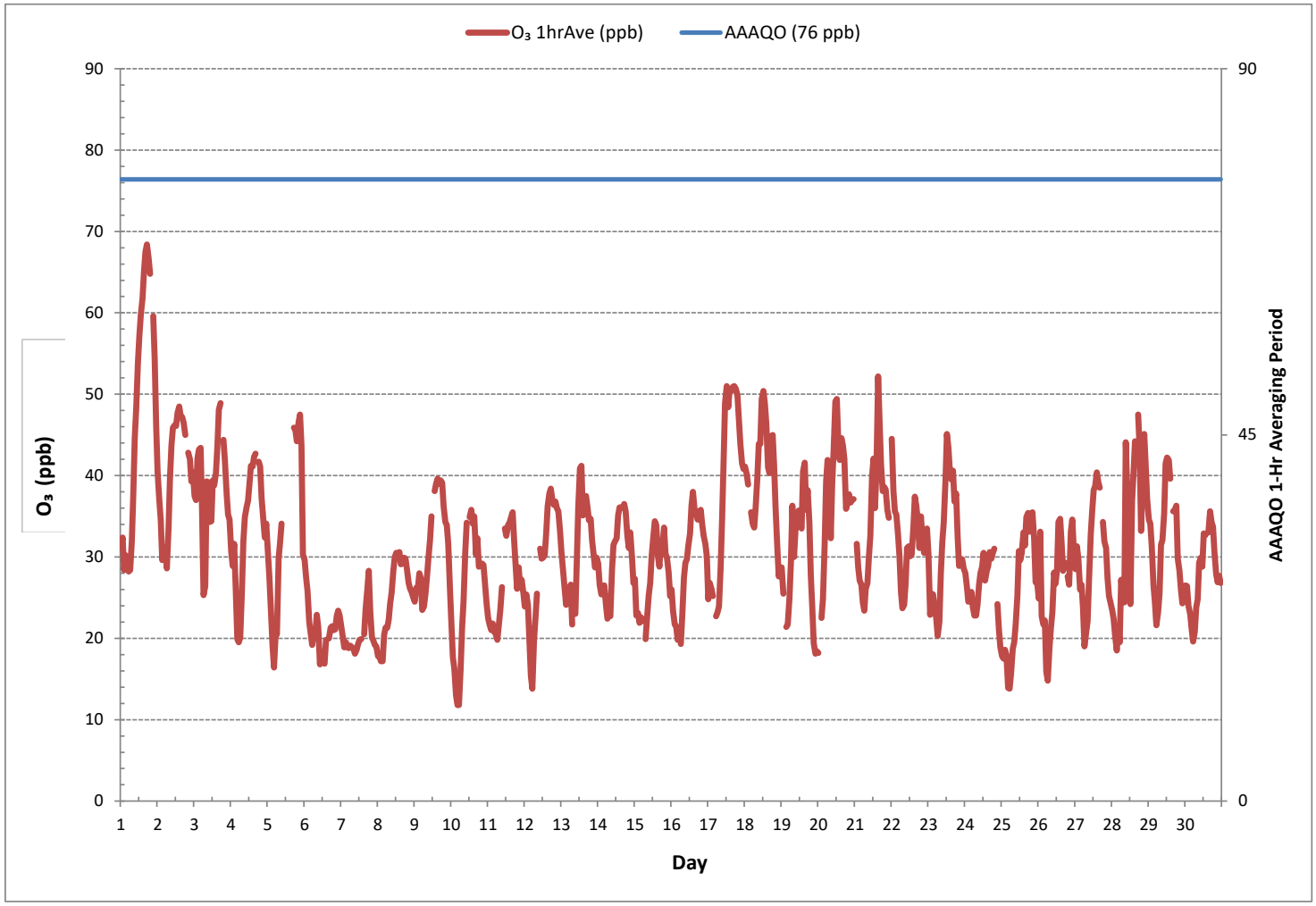


MONTHLY SUMMARY

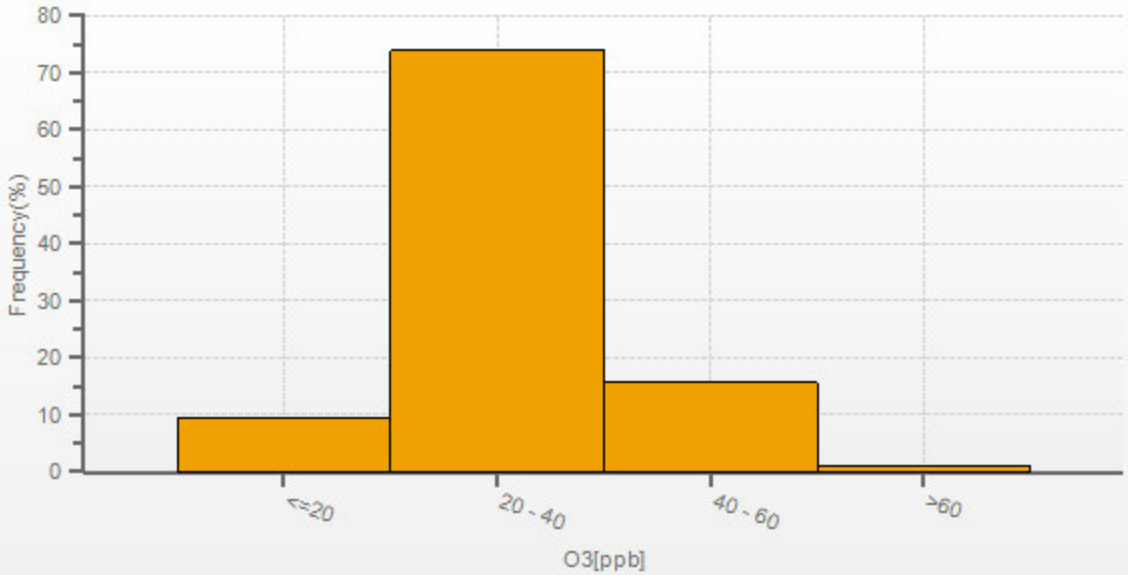
NUMBER OF 1-HR EXCEEDANCES:		0				
NUMBER OF NON-ZERO READINGS:		684				
MINIMUM 1-HR AVERAGE	11.8	ppb	@ HOUR	4	ON DAY	10
MAXIMUM 1-HR AVERAGE:	68.4	ppb	@ HOUR	17	ON DAY	1
MAXIMUM 24-HR AVERAGE:	47.7	ppb			ON DAY	1

IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	720	hrs
MONTHLY CALIBRATION TIME:	5	hrs	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	9.1		MONTHLY AVERAGE:	31.3	ppb

OZONE Hourly Averages (O_3 ppb)

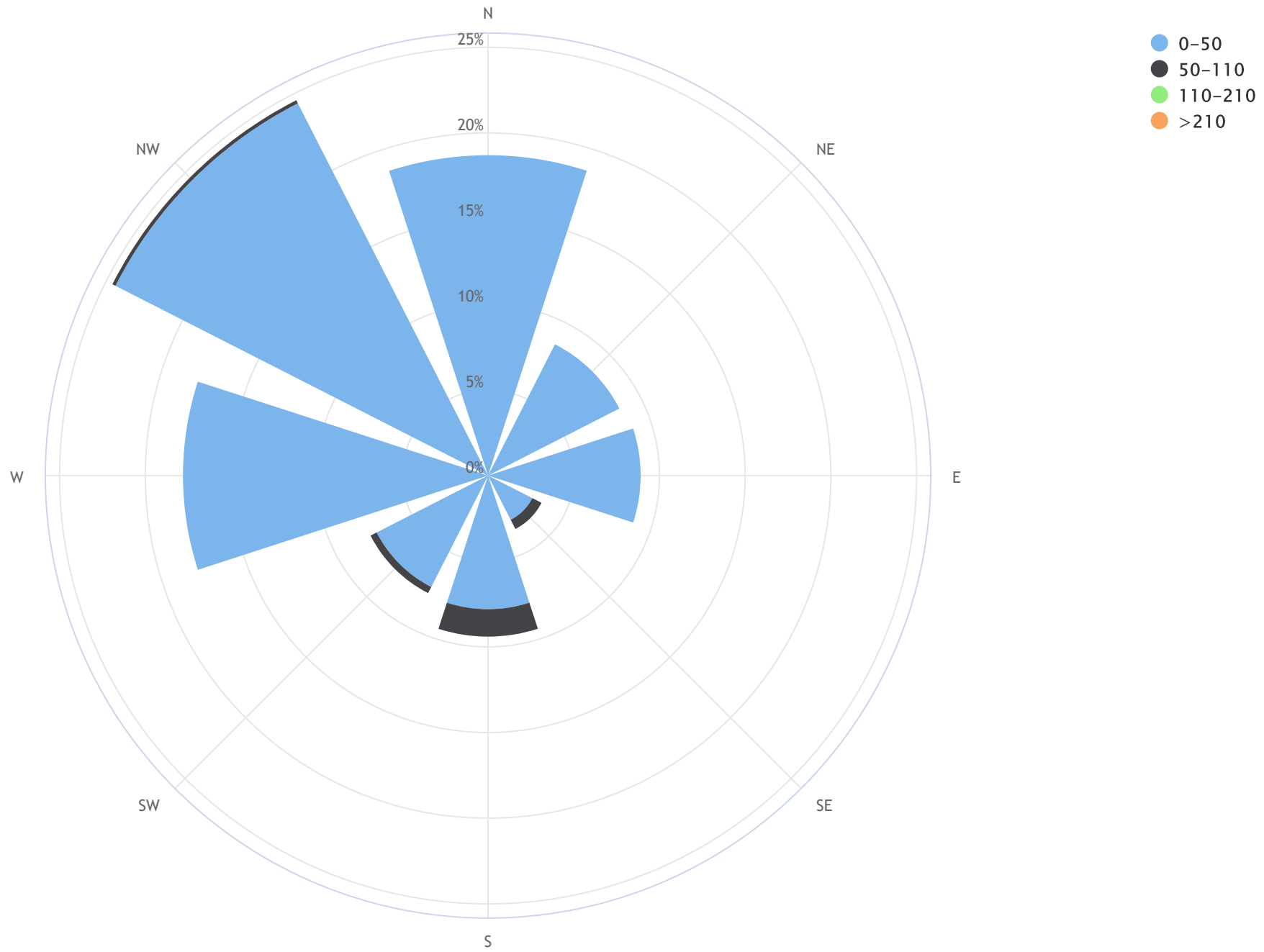


O3[ppb] Histogram: LICA ST. LINA Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_St. Lina Continuous Monitoring Station_O_3 (ppb)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 33.8, CALM % = 0.7%



Direction	0-50	50-110	110-210	>210	TOTAL
N	18.7	0.0	0.0	0.0	18.7
NE	8.6	0.0	0.0	0.0	8.6
E	8.9	0.0	0.0	0.0	8.9
SE	2.9	0.6	0.0	0.0	3.5
S	7.8	1.6	0.0	0.0	9.4
SW	7.3	0.4	0.0	0.0	7.8
W	17.8	0.0	0.0	0.0	17.8
NW	24.4	0.2	0.0	0.0	24.6
Summary	96.5	2.8	0.0	0.0	99.3
CALM	0.7	0.0	0.0	0.0	0.7

PARTICULATE MATTER < 2.5 MICRONS Hourly Averages ($PM_{2.5}$ µg/m^3)

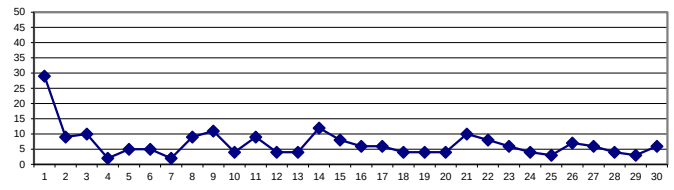
HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	12	14	15	16	17	15	15	14	14	13	16	27	36	40	41	47	49	**50**	50	48	44	37	35	27	12	**50**	**29**	24
2	19	14	13	13	13	12	12	15	27	16	11	7	4	3	3	3	4	5	5	5	5	5	5	5	3	27	9	24
3	5	5	4	4	3	4	6	5	4	5	6	11	25	45	47	35	20	3	3	2	2	2	2	**1**	**1**	47	10	24
4	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	1	1	2	2	24
5	2	3	5	4	6	10	8	11	11	8	8	4	2	2	**C**	3	2	3	2	3	4	4	4	4	2	11	5	24
6	4	5	6	7	7	8	8	9	10	10	11	8	7	4	3	2	2	3	3	3	3	3	2	1	1	11	5	24
7	1	1	1	1	1	1	1	2	1	1	1	1	1	1	3	6	4	4	4	4	4	3	3	2	1	6	2	24
8	2	1	1	1	1	3	16	30	19	21	7	4	4	4	4	3	3	2	3	11	16	28	25	18	1	30	9	24
9	14	12	16	19	15	12	10	13	19	17	15	12	11	11	8	6	6	6	6	6	6	7	6	6	6	19	11	24
10	5	4	4	5	5	5	4	4	3	3	3	2	2	3	3	3	2	3	3	3	4	5	5	4	2	5	4	24
11	5	5	6	6	6	6	6	8	21	22	20	17	13	13	10	9	8	5	2	3	7	6	5	5	2	22	9	24
12	6	8	10	10	8	7	5	3	3	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	2	10	4	24
13	4	5	6	5	4	4	3	3	3	4	3	3	2	3	5	4	3	3	3	3	5	4	4	4	2	6	4	24
14	3	4	5	5	6	9	22	27	25	22	16	15	13	11	11	12	12	13	8	7	9	11	10	11	3	27	12	24
15	12	13	13	11	10	10	11	12	12	12	10	8	6	5	4	6	6	5	5	4	3	4	4	5	3	13	8	24
16	5	6	6	6	6	6	6	7	7	7	6	5	5	5	5	5	5	5	5	4	6	7	7	7	4	7	6	24
17	8	7	6	7	6	6	6	6	6	7	7	7	6	6	6	6	6	7	7	7	7	7	7	6	6	8	6	24
18	5	4	3	3	2	2	2	3	3	3	4	4	4	5	4	4	6	5	3	2	3	3	6	9	2	9	4	24
19	10	4	3	3	3	2	3	7	8	7	5	4	4	4	3	3	2	3	3	3	3	2	3	4	2	10	4	24
20	4	4	4	6	5	5	4	3	2	1	2	2	2	2	4	6	6	5	4	5	5	5	5	4	1	6	4	24
21	4	4	5	5	6	6	7	8	9	7	7	5	6	13	20	18	22	16	16	12	10	10	10	7	4	22	10	24
22	5	6	7	6	6	7	9	11	13	14	12	14	15	19	15	3	3	3	4	3	4	4	5	5	3	19	8	24
23	5	3	3	3	3	3	5	6	6	5	6	7	8	8	7	7	6	7	7	7	7	7	7	6	3	8	6	24
24	8	8	6	6	5	5	5	4	4	3	3	3	2	2	3	2	3	4	4	4	3	3	3	3	2	8	4	24
25	2	2	2	2	3	5	5	4	4	5	4	3	3	3	3	4	2	3	4	4	4	3	4	4	2	5	3	24
26	5	6	6	6	6	6	6	7	8	7	7	7	7	7	8	8	7	6	6	6	5	6	6	6	5	8	7	24
27	6	6	6	7	6	6	6	7	8	8	8	7	6	7	7	7	7	7	7	6	5	4	4	4	4	8	6	24
28	4	4	3	4	5	5	5	5	5	2	2	4	5	4	4	3	3	2	3	5	4	3	3	3	2	5	4	24
29	3	3	3	3	4	4	4	4	4	4	3	2	2	2	2	2	3	2	2	1	2	2	2	2	1	4	3	24
30	2	2	3	4	5	6	6	7	8	7	7	7	7	6	5	5	6	6	6	7	9	10	10	9	2	10	6	24
HOURLY MAX	19	14	16	19	17	15	22	30	27	22	20	27	36	45	47	47	49	50	50	48	44	37	35	27				
HOURLY AVG	6	6	6	6	6	6	7	8	9	8	7	7	7	8	8	8	7	6	6	6	6	7	7	6				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 80 µg/m^3 | 24-HR 29 µg/m^3

24 HR AVERAGES June 2019



MONTHLY SUMMARY

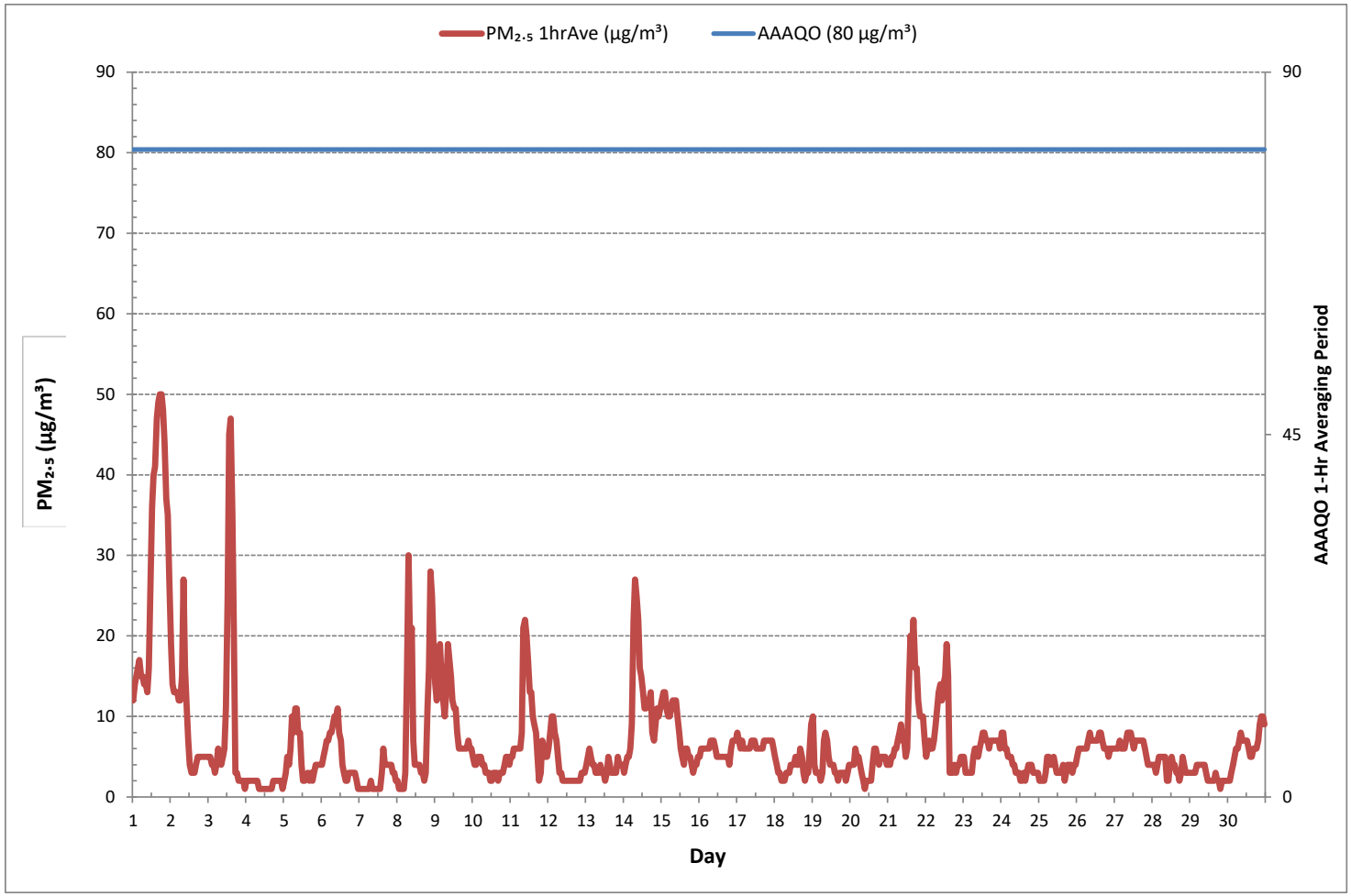
NUMBER OF 1-HR EXCEEDANCES:	0					
NUMBER OF 24-HR EXCEEDANCES:	0					
NUMBER OF NON-ZERO READINGS:	719					
MINIMUM 1-HR AVERAGE	1	µg/m^3	@ HOUR	23	ON DAY	3
MAXIMUM 1-HR AVERAGE:	50	µg/m^3	@ HOUR	17	ON DAY	1
MAXIMUM 24-HR AVERAGE:	29	µg/m^3			ON DAY	1

			OPERATIONAL TIME:	720	hrs
MONTHLY CALIBRATION TIME:	1	hrs	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	7		MONTHLY AVERAGE:	7	µg/m^3

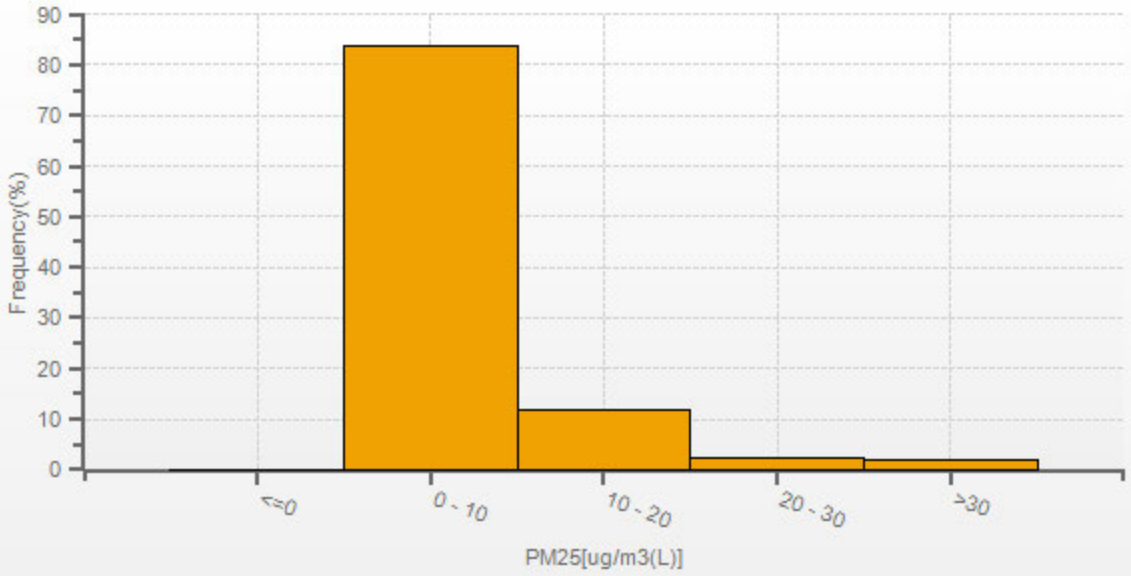
LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Continuous Monitoring Station - June 2019

PARTICULATE MATTER < 2.5 MICRONS Hourly Averages ($PM_{2.5}$ µg/m³)

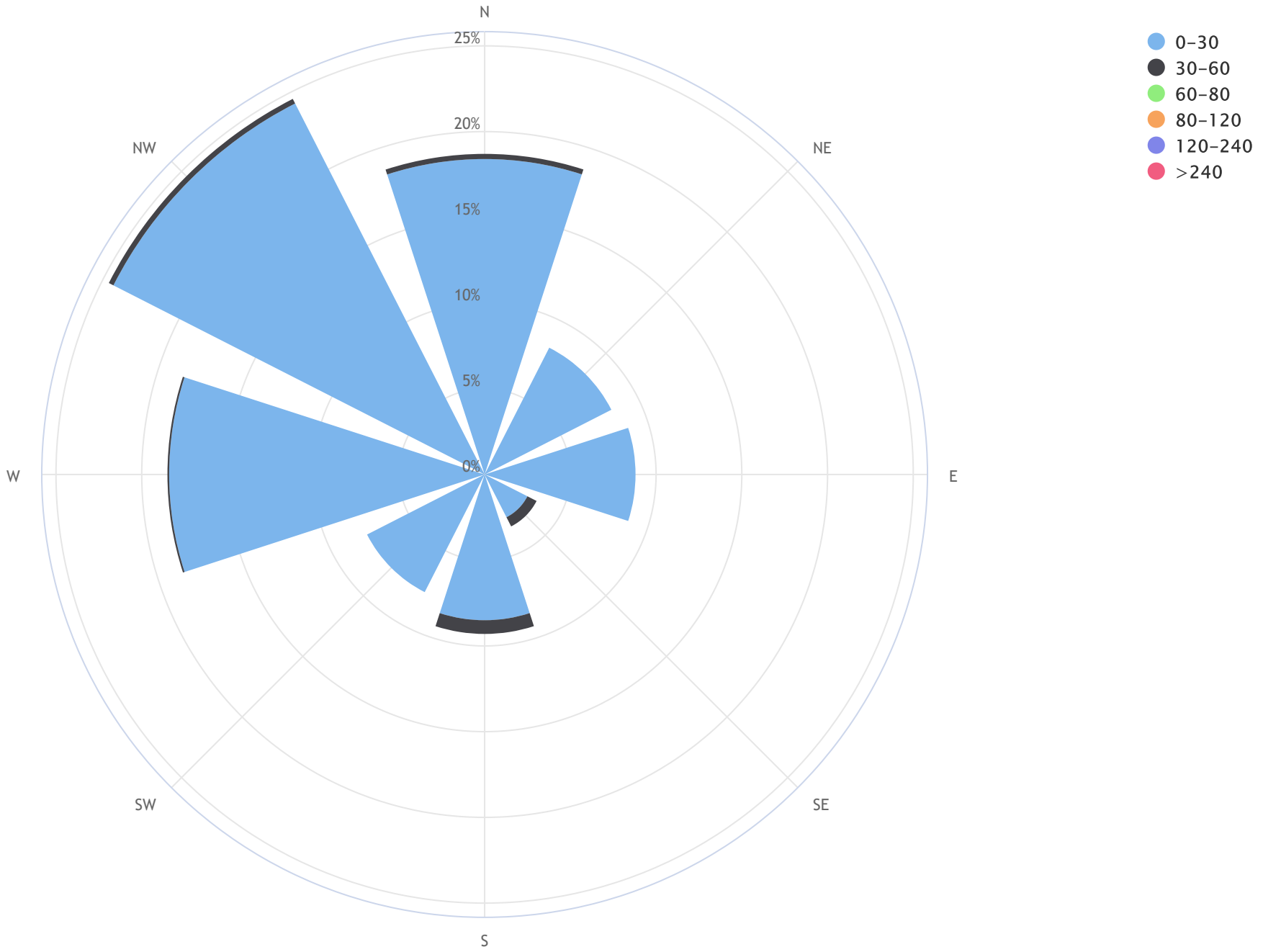


PM25[ug/m3(L)] Histogram: LICA ST. LINA Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_St. Lina Continuous Monitoring Station_$PM_{2.5}$ ($\mu g/m^3$)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 4.5, CALM % = 0.8%



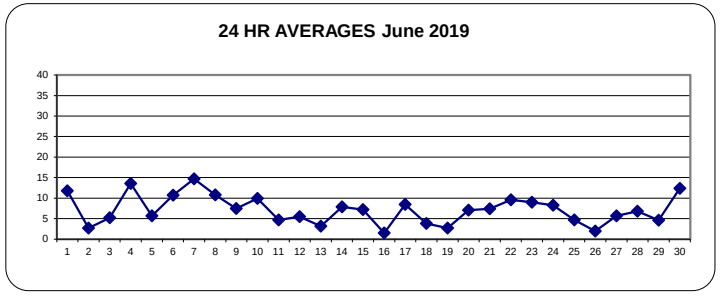
Direction	0-30	30-60	60-80	80-120	120-240	>240	TOTAL
N	18.4	0.3	0.0	0.0	0.0	0.0	18.6
NE	8.3	0.0	0.0	0.0	0.0	0.0	8.3
E	8.8	0.0	0.0	0.0	0.0	0.0	8.8
SE	2.8	0.6	0.0	0.0	0.0	0.0	3.3
S	8.5	0.8	0.0	0.0	0.0	0.0	9.3
SW	7.7	0.0	0.0	0.0	0.0	0.0	7.7
W	18.4	0.1	0.0	0.0	0.0	0.0	18.5
NW	24.3	0.3	0.0	0.0	0.0	0.0	24.6
Summary	97.1	2.1	0.0	0.0	0.0	0.0	99.2
CALM	0.8	0.0	0.0	0.0	0.0	0.0	0.8

WIND SPEED Hourly Averages (WS kph)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	10.6	9.4	10.8	10.3	9.5	9.6	10.0	11.3	11.5	14.2	15.5	16.5	15.0	17.6	15.7	14.6	14.7	13.7	11.8	11.0	3.6	9.6	14.7	15.2	3.6	17.6	11.8	24
2	13.6	10.8	2.7	7.2	8.9	7.8	5.6	9.6	11.4	12.5	9.4	8.5	9.2	10.9	9.1	7.1	6.9	5.2	1.7	2.7	5.9	6.4	6.5	6.2	1.7	13.6	2.7	24
3	6.7	7.7	10.9	10.7	9.3	7.0	8.2	10.7	8.6	7.8	12.2	11.9	11.5	12.8	11.7	14.7	21.0	11.5	11.3	7.5	6.5	9.7	6.6	9.3	6.5	21.0	5.2	24
4	8.8	8.5	10.4	9.4	10.4	8.5	7.3	14.3	18.1	22.0	**27.0**	23.6	26.3	20.3	16.4	12.0	12.4	25.4	10.8	9.5	8.0	8.6	8.9	10.4	7.3	**27.0**	13.6	24
5	9.0	7.4	5.7	7.2	6.4	5.8	3.1	6.1	6.7	8.0	6.4	7.9	15.4	8.9	10.3	9.7	10.0	7.1	8.1	5.0	4.6	3.1	1.4	9.3	1.4	15.4	5.7	24
6	8.3	5.1	6.5	6.7	6.3	7.4	10.4	13.6	12.2	8.4	8.9	11.2	13.2	12.8	15.2	16.4	14.6	14.7	15.6	12.2	12.7	15.5	15.1	13.9	5.1	16.4	10.7	24
7	15.1	17.2	15.1	15.1	15.4	16.5	15.3	15.0	17.0	18.1	18.7	20.2	19.5	18.6	15.9	17.3	18.4	18.7	17.4	11.9	9.9	7.9	8.3	9.7	7.9	20.2	**14.7**	24
8	8.4	9.7	10.2	9.9	10.5	10.3	9.7	10.2	15.0	13.6	16.4	17.4	17.1	14.2	15.5	12.5	11.5	11.7	10.3	8.8	7.0	6.1	7.5	8.1	6.1	17.4	10.8	24
9	7.1	6.7	6.9	7.5	6.4	8.1	8.4	9.8	10.1	10.8	10.1	11.6	11.6	13.6	11.5	12.2	11.0	10.7	9.4	2.5	3.4	5.6	6.4	7.1	2.5	13.6	7.5	24
10	8.0	9.7	8.4	6.5	7.6	8.2	9.9	13.1	16.8	19.1	17.9	16.6	19.4	19.9	17.8	8.9	6.7	10.2	5.8	9.2	8.3	8.9	9.3	10.1	5.8	19.9	9.9	24
11	8.3	9.3	8.4	9.0	8.4	4.9	4.2	6.6	5.6	6.7	8.9	8.9	8.6	8.5	7.9	5.7	9.2	15.1	9.1	2.9	9.2	8.2	8.3	8.0	2.9	15.1	4.7	24
12	9.0	8.5	9.2	8.1	5.8	7.9	9.8	9.0	6.4	6.2	7.5	8.7	10.8	8.9	7.4	6.3	7.8	8.9	3.3	2.7	7.8	8.4	9.7	9.5	2.7	10.8	5.5	24
13	8.0	7.4	12.6	14.5	12.6	11.9	9.3	3.3	1.5	5.1	3.8	7.0	8.5	3.0	2.8	5.6	4.1	3.0	4.0	1.3	6.2	6.7	3.2	6.2	1.3	14.5	3.2	24
14	7.7	10.5	7.3	6.4	8.1	10.4	7.9	9.9	9.0	10.0	11.0	10.4	11.0	11.5	10.7	8.4	8.6	8.0	9.0	6.3	7.6	7.2	8.9	6.8	6.3	11.5	7.9	24
15	9.7	9.4	8.5	8.0	8.3	6.9	4.5	6.6	7.8	8.1	9.4	8.4	8.0	14.3	7.5	9.3	6.9	9.3	7.1	8.2	4.6	5.0	6.1	6.5	4.5	14.3	7.2	24
16	6.0	5.8	6.2	8.8	8.4	5.6	4.3	4.0	2.7	3.7	3.8	5.2	4.3	4.3	4.3	6.2	3.7	6.5	4.6	5.2	10.6	11.1	10.6	10.5	2.7	11.1	1.5	24
17	12.0	11.9	9.3	8.2	7.4	7.8	6.6	5.7	6.0	6.4	7.6	6.6	7.7	8.6	9.7	10.3	11.6	10.2	9.5	9.9	10.1	10.8	12.0	12.1	5.7	12.1	8.5	24
18	11.9	10.3	11.3	11.2	12.4	10.9	10.1	10.6	10.4	11.8	10.0	9.9	8.5	13.2	16.6	10.6	8.2	9.2	8.3	5.6	4.9	3.2	5.0	2.7	2.7	16.6	3.8	24
19	4.9	6.8	4.8	4.1	6.7	6.4	8.0	8.0	8.9	11.8	9.0	7.0	10.2	7.8	7.1	8.6	9.8	9.4	6.9	7.3	3.4	3.7	3.8	5.7	3.4	11.8	2.7	24
20	6.8	7.1	10.9	12.3	14.3	18.8	19.8	21.1	19.1	16.2	11.2	10.4	9.5	10.1	9.1	6.1	3.9	8.5	7.5	8.4	10.4	10.3	12.3	11.1	3.9	21.1	7.1	24
21	9.8	9.7	7.6	7.6	7.4	5.5	5.5	6.4	5.0	4.1	3.8	6.5	8.3	7.0	11.7	13.9	10.4	7.3	11.2	9.9	10.1	8.7	8.6	11.0	3.8	13.9	7.4	24
22	10.2	10.1	11.1	10.8	11.6	12.5	12.6	13.6	12.4	14.0	14.0	14.3	14.2	13.3	9.1	7.7	4.7	5.8	7.0	9.4	8.3	8.1	7.6	7.5	4.7	14.3	9.6	24
23	7.1	6.8	6.8	7.1	7.2	5.8	4.9	7.1	7.3	7.6	10.2	13.6	15.1	14.8	12.6	12.6	9.6	12.1	10.3	8.1	7.4	10.3	9.3	8.7	4.9	15.1	9.0	24
24	9.1	10.1	9.1	10.0	11.2	10.4	9.6	9.8	9.9	9.5	9.7	10.8	7.2	8.2	9.8	8.6	9.1	11.0	7.4	6.4	5.5	5.0	6.8	5.5	5.0	11.2	8.3	24
25	6.0	6.3	5.8	4.5	6.1	5.0	6.8	5.3	5.0	5.4	5.5	7.3	7.7	4.9	4.4	6.7	4.7	3.7	2.8	2.2	5.9	8.7	9.2	5.9	2.2	9.2	4.7	24
26	5.8	6.2	7.2	**0.9**	3.8	3.1	3.4	3.0	3.7	6.0	9.8	5.6	4.9	4.2	6.5	6.0	4.5	6.6	5.7	2.9	10.3	7.9	7.3	2.2	**0.9**	10.3	2.0	24
27	4.1	4.3	5.4	6.0	7.3	1.3	5.3	6.7	6.1	6.8	8.6	7.9	8.2	7.6	8.3	9.1	7.0	7.4	7.0	8.3	9.7	10.2	10.4	13.1	1.3	13.1	5.7	24
28	13.2	13.3	11.4	10.8	11.2	8.1	10.2	11.5	7.8	11.9	10.6	9.2	9.9	13.8	14.0	15.5	16.8	14.2	4.8	8.8	13.0	8.0	8.1	5.2	4.8	16.8	6.8	24
29	8.0	7.2	8.2	5.3	7.5	8.2	5.1	7.3	8.4	8.2	9.5	11.6	13.6	8.7	4.3	9.5	12.4	3.3	7.6	3.8	4.8	5.1	8.3	11.6	3.3	13.6	4.6	24
30	12.6	13.1	13.1	12.3	12.5	10.8	10.1	11.7	13.5	17.1	18.6	16.7	21.2	8.0	17.6	18.5	19.0	18.1	15.1	12.0	11.0	9.6	8.2	9.1	8.0	21.2	12.4	24
HOURLY MAX	15.1	17.2	15.1	15.1	15.4	18.8	19.8	21.1	19.1	22.0	27.0	23.6	26.3	20.3	17.8	18.5	21.0	25.4	17.4	12.2	13.0	15.5	15.1	15.2				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

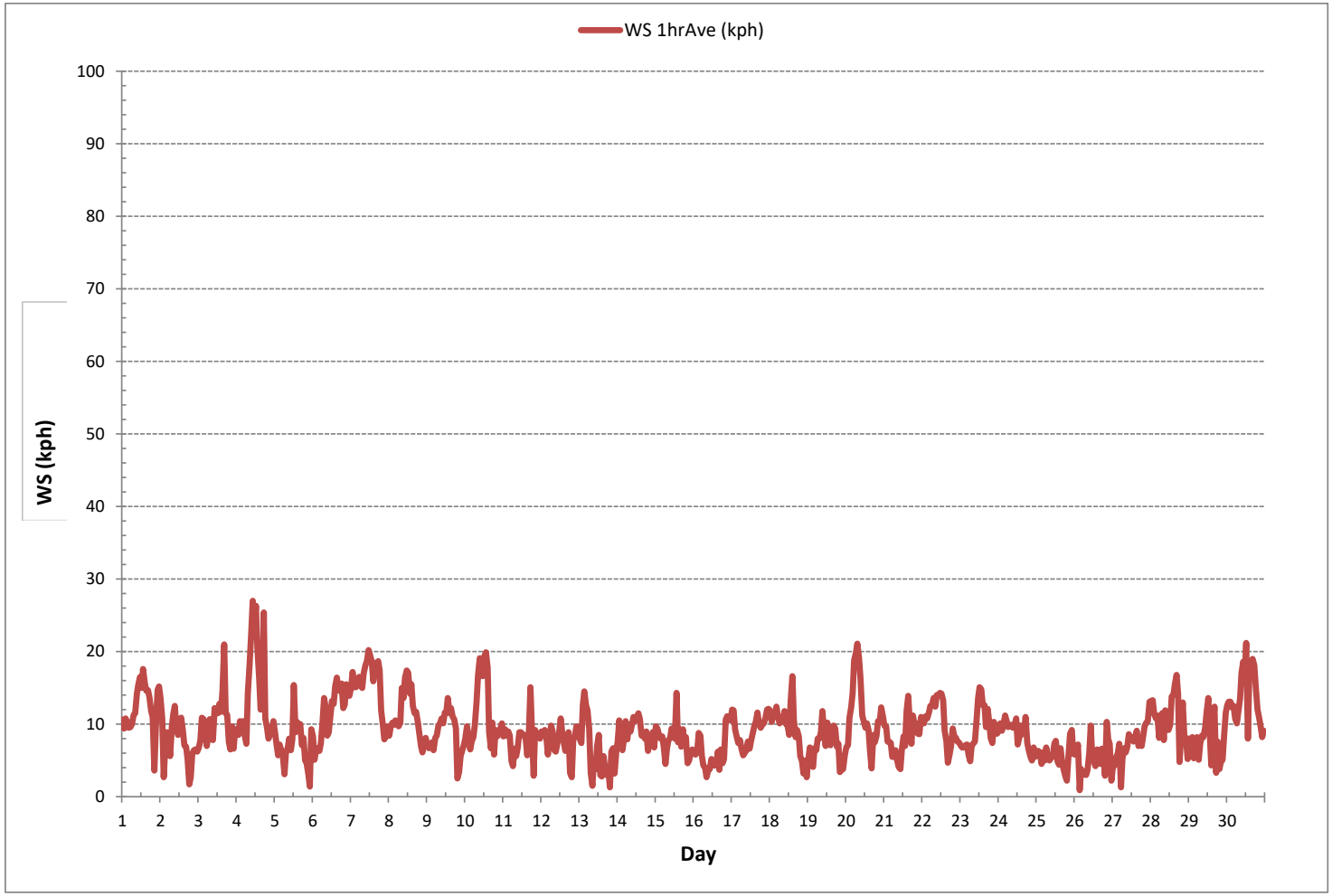


LAST CALIBRATION:	May 3, 2019
DECLINATION :	MAGNETIC DECLINATION 19 DEGREE EAST

MONTHLY SUMMARY

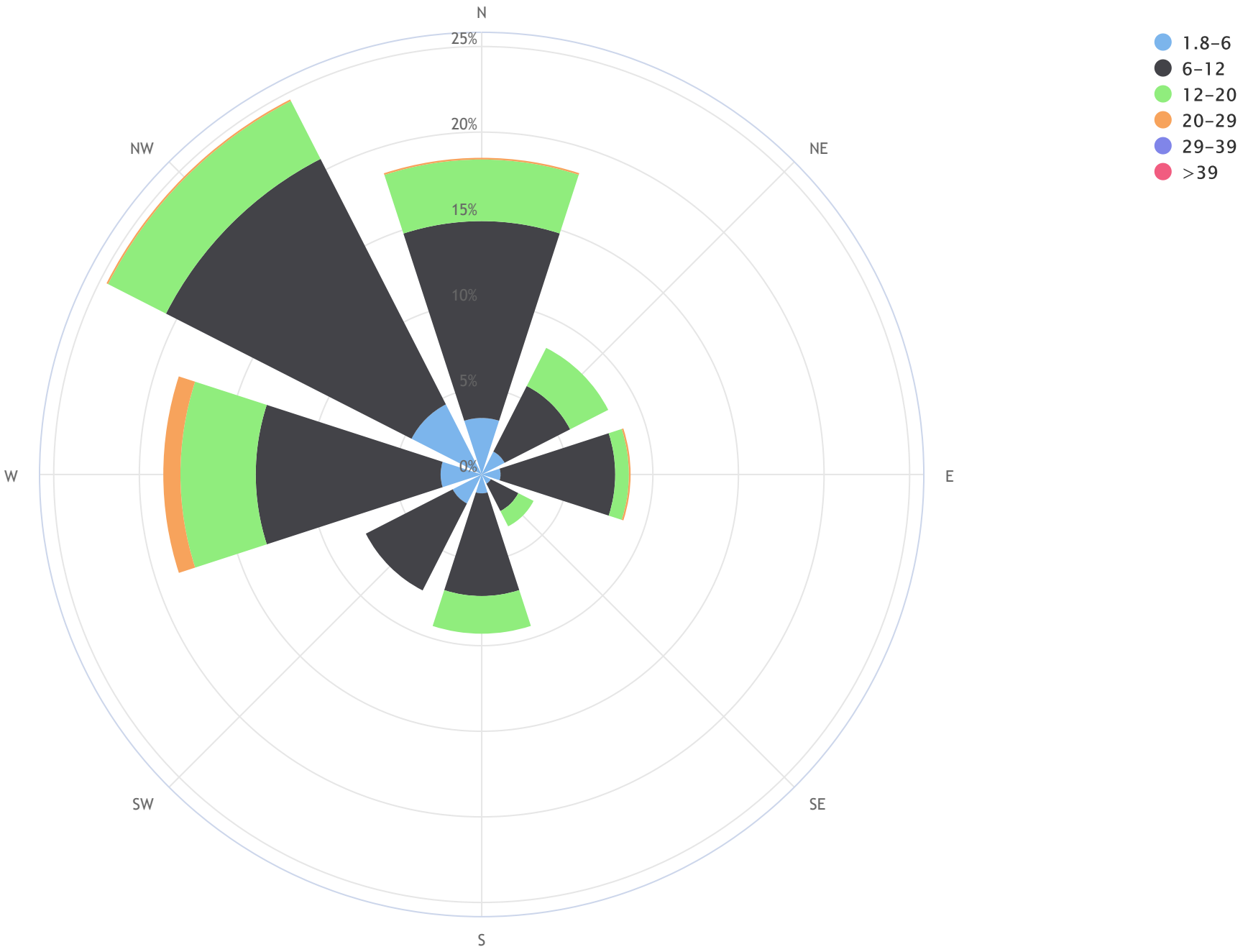
NUMBER OF NON-ZERO READINGS:			720				
MINIMUM 1-HR AVERAGE	0.9	kph	@ HOUR	3	ON DAY	26	
MAXIMUM 1-HR AVERAGE:	27.0	kph	@ HOUR	10	ON DAY	4	
MAXIMUM 24-HR AVERAGE:	14.7	kph			ON DAY	7	
					OPERATIONAL TIME:	720	hrs
MONTHLY CALIBRATION TIME:	0	hrs			AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	4.0				MONTHLY AVERAGE:	3.3	kph

WIND SPEED Hourly Averages (WS kph)



Lakeland Industry & Community Association_St. Lina Continuous Monitoring Station_19/06

Wind Rose_Wind Frequency (Blowing From)_CALM Avg = 1.4_CALM % = 0.8%



Direction	1.8-6	6-12	12-20	20-29	29-39	>39	TOTAL
N	3.3	11.5	3.6	0.1	0.0	0.0	18.6
NE	1.5	4.3	2.5	0.0	0.0	0.0	8.3
E	1.1	6.7	0.8	0.1	0.0	0.0	8.8
SE	0.6	1.8	1.0	0.0	0.0	0.0	3.3
S	1.1	6.0	2.2	0.0	0.0	0.0	9.3
SW	1.9	5.7	0.0	0.0	0.0	0.0	7.6
W	2.4	10.8	4.4	1.0	0.0	0.0	18.6
NW	4.6	16.1	3.8	0.1	0.0	0.0	24.6
Summary	16.5	62.9	18.3	1.4	0.0	0.0	99.2
CALM	0.8	0.0	0.0	0.0	0.0	0.0	0.8

WIND DIRECTION Hourly Averages (WD)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR AVG	24-HR
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	QUADRANT	RDGS.
DAY																										
1	SSE	S	S	S	SSE	SSE	S	S	S	S	S	S	S	S	S	S	S	SSE	SSE	SE	WSW	SSE	SE	SE	SSE	24
2	SE	SSE	SE	NE	ENE	NE	NNE	NNE	N	N	NNW	NW	WNW	NW	NW	NW	NW	WNW	W	SSW	S	ESE	E	E	N	24
3	E	ESE	SE	ESE	ESE	ENE	NNE	ENE	ENE	NNW	N	N	N	N	N	NW	NNW	N	NW	WNW	W	W	W	W	N	24
4	WSW	WSW	W	WSW	WSW	WSW	SW	W	W	W	WSW	W	W	W	W	WNW	WNW	WSW	SW	SW	SW	WSW	WSW	W	W	24
5	WSW	SW	SW	SW	WSW	NW	W	NNW	WNW	W	WNW	W	W	WNW	W	WNW	WSW	WSW	W	W	WNW	W	NNE	E	W	24
6	E	ENE	NE	NE	NE	NE	ENE	ENE	ENE	NNE	NNW	N	NNE	N	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	24
7	NNE	NNE	NNE	NNE	NNE	NNE	NNE	N	N	N	N	N	N	N	N	N	N	N	N	N	NNW	NW	WNW	NW	N	24
8	NW	WNW	WNW	WNW	WNW	W	WNW	WNW	WNW	NW	WNW	NW	NW	NW	WNW	NNW	NNW	NNW	NNW	N	NNW	NNW	WNW	WNW	NW	24
9	WNW	NNW	NNW	NNW	NW	W	W	NW	WNW	NW	WNW	WNW	NW	WNW	WNW	NW	WNW	WNW	W	W	SSW	SSW	SW	SW	WNW	24
10	SW	WSW	WSW	SW	SW	SW	WSW	WSW	W	W	W	W	WSW	WSW	W	NNW	NNE	N	W	W	WNW	NW	WNW	WNW	W	24
11	WNW	WNW	W	WNW	W	WNW	NW	NW	WNW	W	WNW	NW	NNW	NW	NNW	NNW	WNW	W	W	ENE	ENE	ESE	E	E	WNW	24
12	ESE	SSE	S	SSW	SW	WSW	W	WSW	W	W	WSW	W	W	W	WNW	W	WNW	WNW	WNW	SSW	S	S	S	SSW	SW	24
13	SSW	SW	WSW	W	W	WSW	W	S	WNW	NNE	E	SSE	SSW	SSE	WNW	N	N	NNW	WNW	NNW	N	NE	SSW	WSW	W	24
14	W	WNW	NW	NNW	WNW	NW	NW	NW	NW	NNW	N	N	N	NNE	N	NNW	NNW	NNW	NNE	N	NNW	NW	WNW	NW	NNW	24
15	NW	WNW	NNW	NNW	NNW	NNW	NW	NW	NW	NW	NW	NNW	NW	NW	NNW	NNW	N	N	N	NNE	NE	N	N	NNW	NNW	24
16	N	NNW	NW	NW	NW	NNW	NNW	NW	WNW	WNW	W	WNW	NW	NNW	NNW	NNE	ENE	ENE	SSE	S	S	S	S	S	WNW	24
17	SSW	SSW	SW	SW	SW	SW	SW	SW	SW	SSW	S	SSW	S	SW	SSW	SSW	S	SSW	SSW	S	S	SSE	SSE	S	SSW	24
18	S	S	S	S	S	S	S	S	S	SSE	SSE	S	SW	W	NW	NNW	NNW	NNW	NW	NNW	NE	ENE	E	ESE	SSW	24
19	E	E	E	NNE	NE	NE	E	ENE	NE	ENE	ENE	NE	NE	E	SE	S	SSW	SSW	SW	SW	SW	WSW	WSW	NW	E	24
20	NNW	NNW	NNE	NE	ENE	ENE	E	E	SE	SE	SE	ESE	ESE	E	ENE	SE	WNW	NNW	NW	NE	NNE	N	N	N	ENE	24
21	N	NNE	N	N	N	N	NNE	NNE	NE	NNE	N	NNW	NW	N	NNE	WNW	NW	NNE	NNW	NNW	NW	NNW	NNW	NNW	N	24
22	NNW	NNW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NE	E	NNE	NNW	NW	WNW	NNW	NNW	NNW	N	NNW	24
23	NW	NW	NW	NW	NW	WNW	NW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	WNW	NNW	WNW	NNW	NW	WNW	W	W	WNW	WNW	24
24	WNW	NW	NW	WNW	NW	NW	NW	NW	NW	NW	NW	WNW	WNW	W	WNW	NNW	NW	NW	NW	NNW	N	N	NNW	NNW	NW	24
25	NNW	NNW	N	NNW	NW	NNW	N	N	NNW	NNW	NNE	NNW	NNE	NNE	N	NNE	NE	N	NW	WNW	W	W	WNW	NNW	NNW	24
26	NNE	N	W	ESE	S	SW	SW	SW	WSW	W	W	NW	WNW	N	NE	ENE	ESE	SSE	S	SW	W	WNW	NW	S	W	24
27	NE	WNW	WNW	NW	N	NE	ENE	ENE	ENE	E	ESE	ENE	E	E	E	ESE	ESE	E	E	E	E	E	ENE	E	E	24
28	E	E	ENE	ENE	ESE	E	ESE	E	E	E	E	E	E	ESE	SE	SSE	S	SSW	SW	N	NNW	NE	NE	NNW	E	24
29	N	NE	NE	NE	NE	NNE	NNE	N	N	NNE	N	N	NW	NNW	N	WSW	WSW	E	NNE	W	W	WNW	WSW	W	NNW	24
30	WNW	NW	NW	NW	NW	NW	WNW	W	W	W	W	W	W	WSW	WSW	WSW	W	W	W	WSW	WSW	SW	SW	SW	W	24

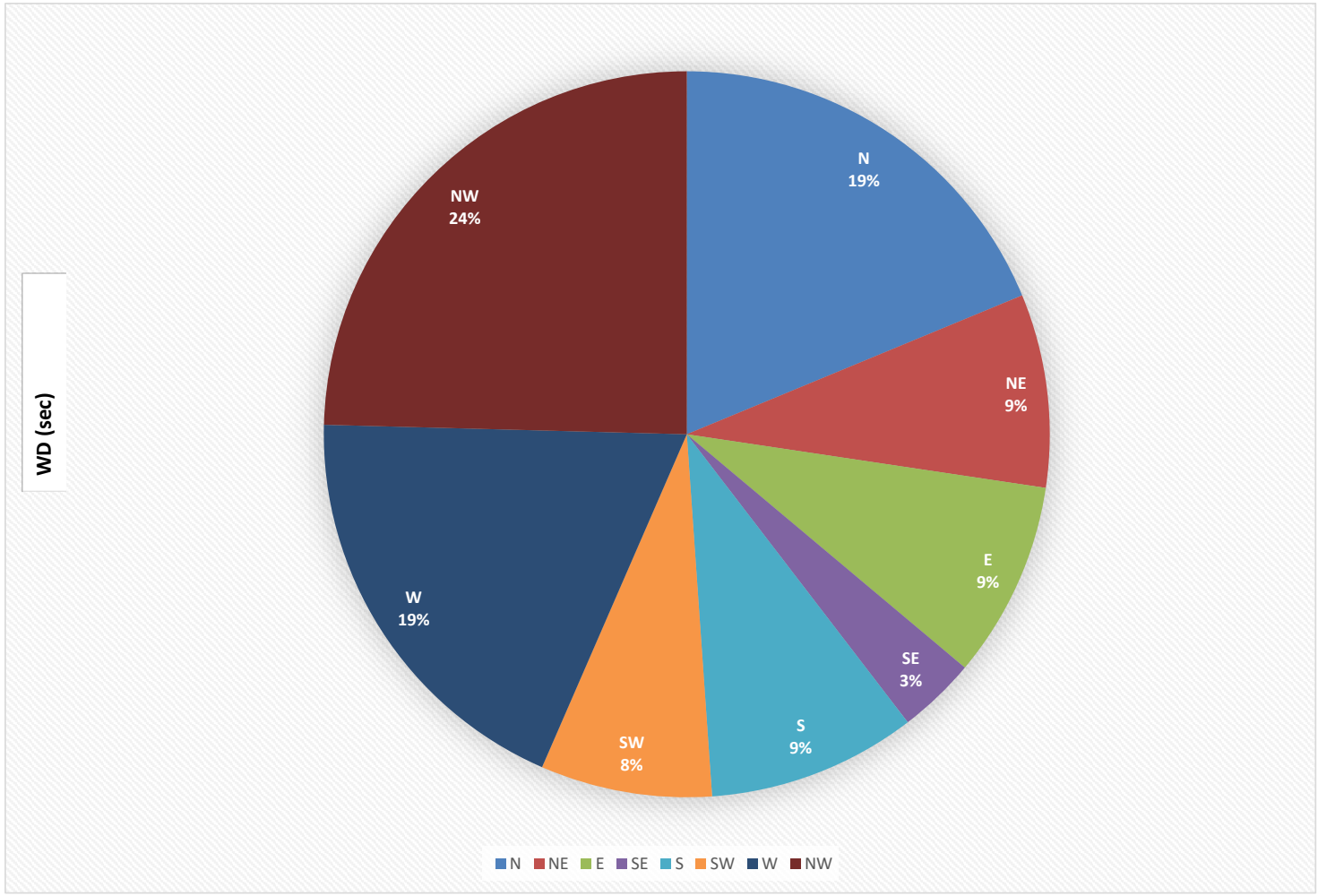
STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

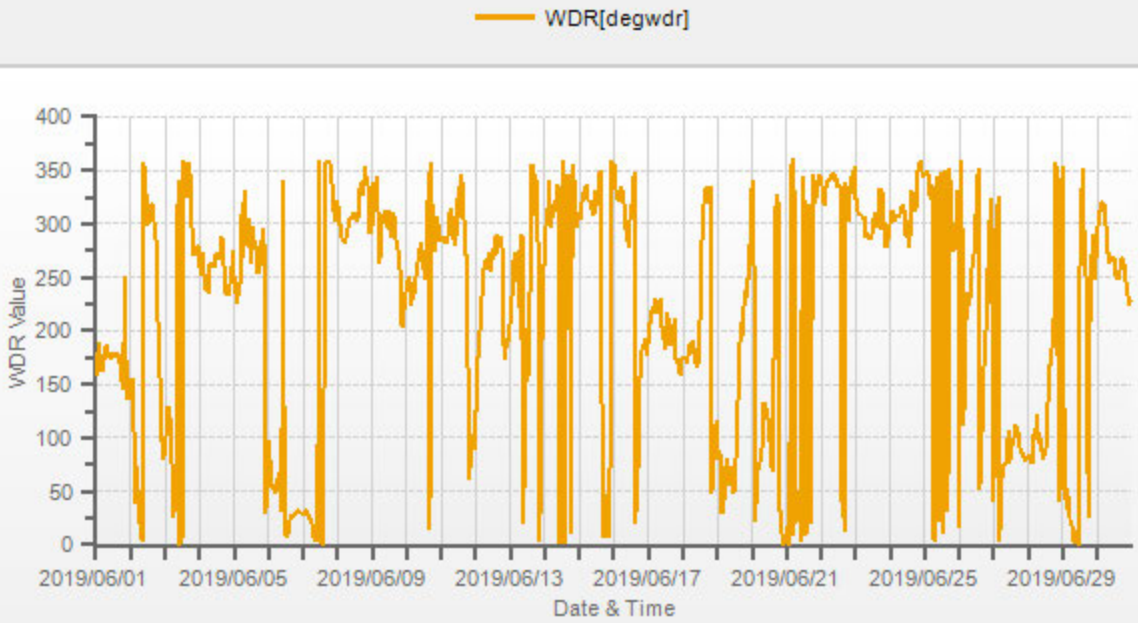
LAST CALIBRATION:	May 3, 2019
DECLINATION :	MAGNETIC DECLINATION 19 DEGREE EAST

MONTHLY CALIBRATION TIME:	0	hrs	OPERATIONAL TIME:	720	hrs
STANDARD DEVIATION:	114		AMD OPERATION UPTIME:	100.0	%
			MONTHLY AVERAGE:	314 (NW)	

WIND DIRECTION Hourly Averages (WD)



WDR[degwdr] Station: LICA ST. LINA Monthly: 19/06 Type: AVG 1 Hr. [1 Hr.]



STANDARD DEVIATION WIND DIRECTION Hourly Averages (STDWD deg)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	
DAY																									
1	5	23	5	6	12	9	4	6	9	11	9	11	16	11	12	15	10	10	5	5	69	43	7	4	24
2	5	16	67	22	9	15	45	11	10	9	12	13	20	13	22	22	17	23	44	13	20	20	10	14	24
3	11	21	13	6	10	16	20	8	7	27	10	9	13	11	13	12	13	17	14	16	15	11	14	8	24
4	5	8	8	14	4	5	10	10	9	11	11	12	11	10	10	18	13	12	24	17	7	5	9	9	24
5	6	9	15	10	26	16	28	13	27	26	28	35	17	26	22	23	17	25	12	14	12	20	56	9	24
6	8	18	7	7	8	6	5	5	12	20	10	9	7	10	10	7	5	5	5	5	5	3	4	5	24
7	5	4	4	4	4	5	5	6	5	5	5	4	5	5	6	4	6	6	6	5	8	12	6	6	24
8	9	7	5	5	4	6	7	12	10	14	15	11	11	18	15	21	13	15	13	6	8	12	4	3	24
9	16	8	9	12	12	11	10	17	16	18	26	19	20	20	19	18	20	17	12	18	15	6	14	12	24
10	4	9	10	6	4	6	7	7	10	10	15	13	12	11	32	48	25	15	14	9	8	6	6	3	24
11	7	5	5	4	6	21	26	21	21	24	23	22	20	28	16	33	18	12	7	45	11	3	10	20	24
12	14	13	10	13	9	6	7	11	20	25	24	19	17	27	19	40	22	17	23	28	8	6	3	5	24
13	6	8	13	6	18	11	11	19	68	17	40	20	21	68	62	18	25	29	26	54	47	15	36	10	24
14	9	5	22	14	6	10	8	11	12	14	10	19	21	11	12	20	16	19	9	8	8	18	6	18	24
15	8	6	20	10	6	9	17	14	11	22	17	21	20	20	14	15	16	14	11	11	15	18	15	9	24
16	16	24	9	6	7	7	12	24	31	41	45	38	42	45	29	31	34	25	22	11	6	3	5	10	24
17	8	4	5	6	6	7	7	12	10	24	19	22	24	19	18	18	10	15	14	12	5	4	3	5	24
18	5	6	8	4	4	5	9	11	14	11	13	16	23	30	9	10	9	9	10	16	19	43	12	19	24
19	20	9	21	16	9	13	11	14	16	10	15	12	7	39	20	42	11	11	13	8	28	30	19	9	24
20	9	12	8	9	4	6	4	9	11	7	13	15	15	12	21	51	26	11	32	17	15	8	5	7	24
21	5	5	13	11	12	13	13	10	24	24	20	23	19	30	13	32	15	29	6	11	10	16	4	4	24
22	7	5	5	8	4	4	5	7	7	9	8	11	9	13	44	12	17	14	23	6	15	5	7	12	24
23	10	11	11	9	11	10	18	10	12	17	15	18	11	14	16	21	19	12	19	19	9	10	6	10	24
24	9	6	9	6	6	8	7	11	8	11	16	19	19	10	22	11	17	17	17	19	10	10	4	7	24
25	5	8	6	19	8	12	8	12	23	20	25	32	11	26	31	24	22	23	29	16	4	6	4	36	24
26	18	23	27	71	12	27	12	24	30	16	12	23	21	36	25	21	34	19	13	50	8	13	22	61	24
27	33	29	24	21	16	66	14	10	11	17	14	14	13	18	21	13	14	10	6	6	9	6	4	4	24
28	4	4	7	7	11	12	30	5	23	12	8	8	14	19	12	13	7	11	60	25	20	18	8	53	24
29	18	8	7	18	11	6	16	10	10	19	13	11	14	23	45	15	20	53	13	30	24	39	6	8	24
30	7	6	6	8	6	9	11	11	9	12	12	11	11	12	13	13	10	10	7	8	4	5	3	5	24

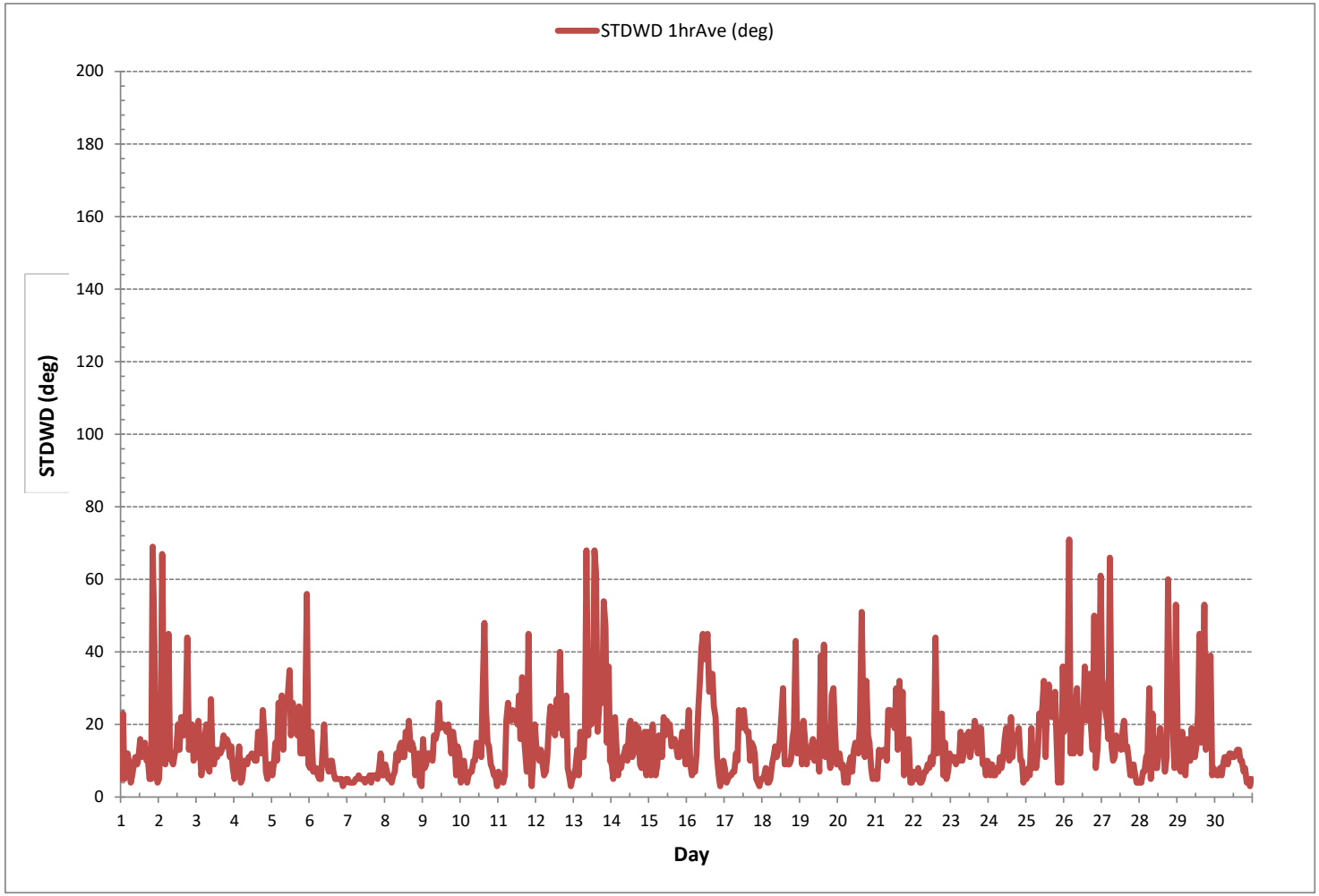
STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

LAST CALIBRATION: May 3, 2019

CALIBRATION TIME: 0 hrs OPERATIONAL TIME: 720 hrs

STANDARD DEVIATION WIND DIRECTION Hourly Averages (STDWD deg)



VECTOR WIND SPEED Hourly Averages (kph) & WIND DIRECTION Hourly Averages

HR START (MST)		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)		0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																													
1	WS	10.6	9.4	10.8	10.3	9.5	9.6	10.0	11.3	11.5	14.2	15.5	16.5	15.0	17.6	15.7	14.6	14.7	13.7	11.8	11.0	3.6	9.6	14.7	15.2	3.6	17.6	11.8	24
	WD	SSE	S	S	S	SSE	SSE	S	S	S	S	S	S	S	S	S	S	S	SSE	SSE	SE	WSW	SSE	SE	SE	-	-	-	24
2	WS	13.6	10.8	2.7	7.2	8.9	7.8	5.6	9.6	11.4	12.5	9.4	8.5	9.2	10.9	9.1	7.1	6.9	5.2	1.7	2.7	5.9	6.4	6.5	6.2	1.7	13.6	2.7	24
	WD	SE	SSE	SE	NE	ENE	NE	NNE	NNE	N	N	NNW	NW	WNW	NW	NW	NW	NW	WNW	W	SSW	S	ESE	E	E	-	-	-	24
3	WS	6.7	7.7	10.9	10.7	9.3	7.0	8.2	10.7	8.6	7.8	12.2	11.9	11.5	12.8	11.7	14.7	21.0	11.5	11.3	7.5	6.5	9.7	6.6	9.3	6.5	21.0	5.2	24
	WD	E	ESE	SE	ESE	ESE	ENE	NNE	ENE	ENE	NNW	N	N	N	N	N	NW	NNW	N	NW	WNW	W	W	W	W	-	-	-	24
4	WS	8.8	8.5	10.4	9.4	10.4	8.5	7.3	14.3	18.1	22.0	**27.0**	23.6	26.3	20.3	16.4	12.0	12.4	25.4	10.8	9.5	8.0	8.6	8.9	10.4	7.3	**27.0**	13.6	24
	WD	WSW	WSW	W	WSW	WSW	WSW	SW	W	W	W	WSW	W	W	W	W	WNW	WNW	WSW	SW	SW	SW	WSW	WSW	W	-	-	-	24
5	WS	9.0	7.4	5.7	7.2	6.4	5.8	3.1	6.1	6.7	8.0	6.4	7.9	15.4	8.9	10.3	9.7	10.0	7.1	8.1	5.0	4.6	3.1	1.4	9.3	1.4	15.4	5.7	24
	WD	WSW	SW	SW	SW	WSW	NW	W	NNW	WNW	W	WNW	W	W	WNW	W	WNW	WSW	WSW	W	W	WNW	W	NNE	E	-	-	-	24
6	WS	8.3	5.1	6.5	6.7	6.3	7.4	10.4	13.6	12.2	8.4	8.9	11.2	13.2	12.8	15.2	16.4	14.6	14.7	15.6	12.2	12.7	15.5	15.1	13.9	5.1	16.4	10.7	24
	WD	E	ENE	NE	NE	NE	NE	ENE	ENE	ENE	NNE	NNW	N	NNE	N	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	-	-	-	24
7	WS	15.1	17.2	15.1	15.1	15.4	16.5	15.3	15.0	17.0	18.1	18.7	20.2	19.5	18.6	15.9	17.3	18.4	18.7	17.4	11.9	9.9	7.9	8.3	9.7	7.9	20.2	**14.7**	24
	WD	NNE	NNE	NNE	NNE	NNE	NNE	NNE	N	N	N	N	N	N	N	N	N	N	N	N	N	NNW	NW	WNW	NW	-	-	-	24
8	WS	8.4	9.7	10.2	9.9	10.5	10.3	9.7	10.2	15.0	13.6	16.4	17.4	17.1	14.2	15.5	12.5	11.5	11.7	10.3	8.8	7.0	6.1	7.5	8.1	6.1	17.4	10.8	24
	WD	NW	WNW	WNW	WNW	WNW	W	WNW	WNW	WNW	NW	WNW	NW	NW	NW	WNW	NNW	NNW	NNW	NNW	N	NNW	NNW	WNW	WNW	-	-	-	24
9	WS	7.1	6.7	6.9	7.5	6.4	8.1	8.4	9.8	10.1	10.8	10.1	11.6	11.6	13.6	11.5	12.2	11.0	10.7	9.4	2.5	3.4	5.6	6.4	7.1	2.5	13.6	7.5	24
	WD	WNW	NNW	NNW	NNW	NW	W	W	NW	WNW	NW	WNW	WNW	NW	WNW	WNW	NW	WNW	WNW	W	W	SSW	SSW	SW	SW	-	-	-	24
10	WS	8.0	9.7	8.4	6.5	7.6	8.2	9.9	13.1	16.8	19.1	17.9	16.6	19.4	19.9	17.8	8.9	6.7	10.2	5.8	9.2	8.3	8.9	9.3	10.1	5.8	19.9	9.9	24
	WD	SW	WSW	WSW	SW	SW	SW	WSW	WSW	W	W	W	W	WSW	WSW	W	NNW	NNE	N	W	W	WNW	NW	WNW	WNW	-	-	-	24
11	WS	8.3	9.3	8.4	9.0	8.4	4.9	4.2	6.6	5.6	6.7	8.9	8.9	8.6	8.5	7.9	5.7	9.2	15.1	9.1	2.9	9.2	8.2	8.3	8.0	2.9	15.1	4.7	24
	WD	WNW	WNW	W	WNW	W	WNW	NW	NW	WNW	W	WNW	NW	NNW	NW	NNW	NNW	WNW	W	W	ENE	ENE	ESE	E	E	-	-	-	24
12	WS	9.0	8.5	9.2	8.1	5.8	7.9	9.8	9.0	6.4	6.2	7.5	8.7	10.8	8.9	7.4	6.3	7.8	8.9	3.3	2.7	7.8	8.4	9.7	9.5	2.7	10.8	5.5	24
	WD	ESE	SSE	S	SSW	SW	WSW	W	WSW	W	W	WSW	W	W	W	WNW	W	WNW	WNW	WNW	SSW	S	S	S	SSW	-	-	-	24
13	WS	8.0	7.4	12.6	14.5	12.6	11.9	9.3	3.3	1.5	5.1	3.8	7.0	8.5	3.0	2.8	5.6	4.1	3.0	4.0	1.3	6.2	6.7	3.2	6.2	1.3	14.5	3.2	24
	WD	SSW	SW	WSW	W	W	WSW	W	S	WNW	NNE	E	SSE	SSW	SSE	WNW	N	N	NNW	WNW	NNW	N	NE	SSW	WSW	-	-	-	24
14	WS	7.7	10.5	7.3	6.4	8.1	10.4	7.9	9.9	9.0	10.0	11.0	10.4	11.0	11.5	10.7	8.4	8.6	8.0	9.0	6.3	7.6	7.2	8.9	6.8	6.3	11.5	7.9	24
	WD	W	WNW	NW	NNW	WNW	NW	NW	NW	NW	NNW	N	N	N	NNE	N	NNW	NNW	NNW	NNE	N	NNW	NW	WNW	NW	-	-	-	24
15	WS	9.7	9.4	8.5	8.0	8.3	6.9	4.5	6.6	7.8	8.1	9.4	8.4	8.0	14.3	7.5	9.3	6.9	9.3	7.1	8.2	4.6	5.0	6.1	6.5	4.5	14.3	7.2	24
	WD	NW	WNW	NNW	NNW	NNW	NNW	NW	NW	NW	NW	NW	NNW	NW	NW	NNW	NNW	N	N	N	NNE	NE	N	N	NNW	-	-	-	24
16	WS	6.0	5.8	6.2	8.8	8.4	5.6	4.3	4.0	2.7	3.7	3.8	5.2	4.3	4.3	4.3	6.2	3.7	6.5	4.6	5.2	10.6	11.1	10.6	10.5	2.7	11.1	1.5	24
	WD	N	NNW	NW	NW	NW	NNW	NNW	NW	WNW	WNW	W	WNW	NW	NNW	NNW	NNE	ENE	ENE	SSE	S	S	S	S	S	-	-	-	24
17	WS	12.0	11.9	9.3	8.2	7.4	7.8	6.6	5.7	6.0	6.4	7.6	6.6	7.7	8.6	9.7	10.3	11.6	10.2	9.5	9.9	10.1	10.8	12.0	12.1	5.7	12.1	8.5	24
	WD	SSW	SSW	SW	SW	SW	SW	SW	SW	SW	SSW	S	SSW	S	SW	SSW	SSW	S	SSW	SSW	S	S	SSE	SSE	S	-	-	-	24
18	WS	11.9	10.3	11.3	11.2	12.4	10.9	10.1	10.6	10.4	11.8	10.0	9.9	8.5	13.2	16.6	10.6	8.2	9.2	8.3	5.6	4.9	3.2	5.0	2.7	2.7	16.6	3.8	24
	WD	S	S	S	S	S	S	S	S	S	SSE	SSE	S	SW	W	NW	NNW	NNW	NNW	NW	NNW	NE	ENE	E	ESE	-	-	-	24
19	WS	4.9	6.8	4.8	4.1	6.7	6.4	8.0	8.0	8.9	11.8	9.0	7.0	10.2	7.8	7.1	8.6	9.8	9.4	6.9	7.3	3.4	3.7	3.8	5.7	3.4	11.8	2.7	24
	WD	E	E	E	NNE	NE	NE	E	ENE	NE	ENE	ENE	NE	NE	E	SE	S	SSW	SSW	SW	SW	SW	WSW	WSW	NW	-	-	-	24
20	WS	6.8	7.1	10.9	12.3	14.3	18.8	19.8	21.1	19.1	16.2	11.2	10.4	9.5	10.1	9.1	6.1	3.9	8.5	7.5	8.4	10.4	10.3	12.3	11.1	3.9	21.1	7.1	24
	WD	NNW	NNW	NNE	NE	ENE	ENE	E	E	SE	SE	SE	ESE	ESE	E	ENE	SE	WNW	NNW	NW	NE	NNE	N	N	N	-	-	-	24

VECTOR WIND SPEED Hourly Averages (kph) & WIND DIRECTION Hourly Averages

HR START (MST)		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)		0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																													
21	WS	9.8	9.7	7.6	7.6	7.4	5.5	5.5	6.4	5.0	4.1	3.8	6.5	8.3	7.0	11.7	13.9	10.4	7.3	11.2	9.9	10.1	8.7	8.6	11.0	3.8	13.9	7.4	24
	WD	N	NNE	N	N	N	N	NNE	NNE	NE	NNE	N	NNW	NW	N	NNE	WNW	NW	NNE	NNW	NNW	NW	NNW	NNW	NNW	-	-	-	24
22	WS	10.2	10.1	11.1	10.8	11.6	12.5	12.6	13.6	12.4	14.0	14.0	14.3	14.2	13.3	9.1	7.7	4.7	5.8	7.0	9.4	8.3	8.1	7.6	7.5	4.7	14.3	9.6	24
	WD	NNW	NNW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NE	E	NNE	NNW	NW	WNW	NNW	NNW	NNW	N	-	-	-	24
23	WS	7.1	6.8	6.8	7.1	7.2	5.8	4.9	7.1	7.3	7.6	10.2	13.6	15.1	14.8	12.6	12.6	9.6	12.1	10.3	8.1	7.4	10.3	9.3	8.7	4.9	15.1	9.0	24
	WD	NW	NW	NW	NW	NW	WNW	NW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	WNW	NNW	WNW	NNW	NW	WNW	W	W	WNW	-	-	-	24
24	WS	9.1	10.1	9.1	10.0	11.2	10.4	9.6	9.8	9.9	9.5	9.7	10.8	7.2	8.2	9.8	8.6	9.1	11.0	7.4	6.4	5.5	5.0	6.8	5.5	5.0	11.2	8.3	24
	WD	WNW	NW	NW	WNW	NW	NW	NW	NW	NW	NW	NW	WNW	WNW	W	WNW	NNW	NW	NW	NW	NNW	N	N	NNW	NNW	-	-	-	24
25	WS	6.0	6.3	5.8	4.5	6.1	5.0	6.8	5.3	5.0	5.4	5.5	7.3	7.7	4.9	4.4	6.7	4.7	3.7	2.8	2.2	5.9	8.7	9.2	5.9	2.2	9.2	4.7	24
	WD	NNW	NNW	N	NNW	NW	NNW	N	N	NNW	NNW	NNE	NNW	NNE	NNE	N	NNE	NE	N	NW	WNW	W	W	WNW	NNW	-	-	-	24
26	WS	5.8	6.2	7.2	**0.9**	3.8	3.1	3.4	3.0	3.7	6.0	9.8	5.6	4.9	4.2	6.5	6.0	4.5	6.6	5.7	2.9	10.3	7.9	7.3	2.2	**0.9**	10.3	2.0	24
	WD	NNE	N	W	ESE	S	SW	SW	SW	WSW	W	W	NW	WNW	N	NE	ENE	ESE	SSE	S	SW	W	WNW	NW	S	-	-	-	24
27	WS	4.1	4.3	5.4	6.0	7.3	1.3	5.3	6.7	6.1	6.8	8.6	7.9	8.2	7.6	8.3	9.1	7.0	7.4	7.0	8.3	9.7	10.2	10.4	13.1	1.3	13.1	5.7	24
	WD	NE	WNW	WNW	NW	N	NE	ENE	ENE	ENE	E	ESE	ENE	E	E	E	ESE	ESE	E	E	E	E	E	ENE	E	-	-	-	24
28	WS	13.2	13.3	11.4	10.8	11.2	8.1	10.2	11.5	7.8	11.9	10.6	9.2	9.9	13.8	14.0	15.5	16.8	14.2	4.8	8.8	13.0	8.0	8.1	5.2	4.8	16.8	6.8	24
	WD	E	E	ENE	ENE	ESE	E	ESE	E	E	E	E	E	E	ESE	SE	SSE	S	SSW	SW	N	NNW	NE	NE	NNW	-	-	-	24
29	WS	8.0	7.2	8.2	5.3	7.5	8.2	5.1	7.3	8.4	8.2	9.5	11.6	13.6	8.7	4.3	9.5	12.4	3.3	7.6	3.8	4.8	5.1	8.3	11.6	3.3	13.6	4.6	24
	WD	N	NE	NE	NE	NE	NNE	NNE	N	N	NNE	N	N	NW	NNW	N	WSW	WSW	E	NNE	W	W	WNW	WSW	W	-	-	-	24
30	WS	12.6	13.1	13.1	12.3	12.5	10.8	10.1	11.7	13.5	17.1	18.6	16.7	21.2	8.0	17.6	18.5	19.0	18.1	15.1	12.0	11.0	9.6	8.2	9.1	8.0	21.2	12.4	24
	WD	WNW	NW	NW	NW	NW	NW	WNW	W	W	W	W	W	W	WSW	WSW	WSW	W	W	W	WSW	WSW	SW	SW	SW	-	-	-	24
WS HOURLY MAX		15.1	17.2	15.1	15.1	15.4	18.8	19.8	21.1	19.1	22.0	27.0	23.6	26.3	20.3	17.8	18.5	21.0	25.4	17.4	12.2	13.0	15.5	15.1	15.2				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

LAST CALIBRATION:	May 3, 2019
DECLINATION :	MAGNETIC DECLINATION 16 DEGREE EAST

MONTHLY SUMMARY

WIND SPEED						
MINIMUM 1-HR AVERAGE	0.9	kph	@ HOUR(S)	3	ON DAY(S)	26
MAXIMUM 1-HR AVERAGE:	27.0	kph	@ HOUR(S)	10	ON DAY(S)	4
MAXIMUM 24-HR AVERAGE:	14.7	kph			ON DAY(S)	7
					VAR-VARIOUS	
				MONTHLY AVERAGE:		**3.3 kph**
WIND DIRECTION						
				MONTHLY AVERAGE:		**314 (NW)**
HOURS IN SERVICE	720	hrs				
HOURS OF DATA	720	hrs				
HOURS OF CALIBRATION	0	hrs		STANDARD DEVIATION:		4.4
HOURS OF MISSING DATA	0	hrs		AMD OPERATION UPTIME:		100.0 %

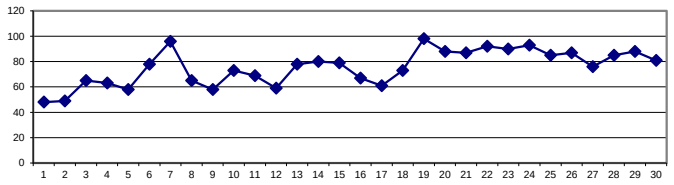
RELATIVE HUMIDITY Hourly Averages (RH %)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	58	57	67	64	68	66	63	57	48	41	38	35	33	31	31	30	30	31	33	36	43	73	64	55	30	73	48	24
2	55	52	55	67	65	65	65	61	65	49	40	37	37	33	31	33	35	35	36	41	47	51	56	53	31	67	49	24
3	55	55	52	49	53	62	74	71	59	62	68	67	65	65	63	59	67	59	61	66	78	80	80	83	49	83	65	24
4	92	96	86	94	**100**	91	79	65	53	46	41	39	31	32	31	**28**	31	40	55	62	70	80	87	83	**28**	**100**	63	24
5	91	97	100	100	100	97	86	65	60	52	47	39	29	31	31	30	31	31	32	39	42	42	51	60	29	100	58	24
6	61	68	71	75	78	79	81	74	68	73	88	84	78	79	75	75	78	77	80	83	87	90	90	91	61	91	78	24
7	91	91	92	92	98	100	100	100	100	100	100	100	100	100	100	100	99	97	95	92	89	88	89	89	88	100	96	24
8	92	94	95	97	92	90	84	77	68	61	53	50	47	46	43	43	41	39	39	48	56	61	67	73	39	97	65	24
9	74	71	76	85	95	97	92	80	66	58	50	40	34	33	33	34	33	33	34	38	46	54	63	78	33	97	58	24
10	89	96	97	99	100	96	84	74	62	48	37	37	37	42	50	82	78	78	76	71	75	77	81	86	37	100	73	24
11	89	88	89	86	88	87	87	83	78	70	57	48	46	43	42	37	36	45	50	60	84	88	80	83	36	89	69	24
12	87	80	81	86	91	91	78	72	65	60	55	50	41	41	39	37	35	34	35	37	44	51	56	60	34	91	59	24
13	67	75	74	67	71	78	84	91	86	87	73	63	57	64	96	80	71	72	71	73	83	100	100	100	57	100	78	24
14	99	99	97	97	95	96	94	91	92	82	76	73	74	69	64	58	57	53	68	74	75	75	82	85	53	99	80	24
15	87	96	94	95	95	93	91	91	86	77	72	64	57	66	73	69	70	61	63	62	76	83	87	88	57	96	79	24
16	91	95	97	98	99	94	89	79	67	61	57	51	43	37	34	41	39	46	47	45	65	77	81	86	34	99	67	24
17	91	87	87	90	90	85	80	74	66	62	59	49	42	38	37	35	36	35	37	44	55	58	60	63	35	91	61	24
18	65	67	66	68	68	67	64	60	55	51	53	50	50	61	87	99	92	80	79	78	88	99	100	100	50	100	73	24
19	100	100	100	100	100	100	100	100	96	94	98	94	98	99	96	98	99	95	95	94	94	99	100	100	94	100	**98**	24
20	100	100	100	100	98	95	92	90	89	84	81	77	73	71	69	83	90	87	94	94	90	87	86	88	69	100	88	24
21	92	93	96	98	96	94	88	84	80	78	76	67	62	70	86	89	91	85	81	81	93	98	100	100	62	100	87	24
22	100	100	100	100	100	100	100	99	95	87	80	80	77	75	73	85	92	92	93	92	94	96	98	97	73	100	92	24
23	99	100	100	100	100	100	100	100	96	84	76	72	71	66	58	63	89	93	93	96	100	100	100	100	58	100	90	24
24	100	100	100	100	100	100	100	98	95	89	87	88	95	96	82	77	72	78	79	92	99	100	100	100	72	100	93	24
25	100	100	100	100	100	100	100	95	95	91	81	73	85	82	67	85	77	62	67	62	69	77	88	91	62	100	85	24
26	94	82	95	100	98	99	96	89	86	80	78	83	73	59	59	81	94	90	91	88	94	89	88	92	59	100	87	24
27	96	94	94	96	95	90	90	87	85	81	74	66	58	56	51	54	55	59	63	68	69	78	82	82	51	96	76	24
28	82	87	92	98	100	100	100	100	100	100	100	99	94	79	72	58	50	45	55	84	79	81	90	95	45	100	85	24
29	99	99	100	100	100	100	94	89	81	77	68	62	67	67	72	62	87	94	98	100	99	99	100	100	62	100	88	24
30	99	100	100	100	100	100	94	85	77	67	66	65	73	95	75	80	59	58	59	65	76	83	83	84	58	100	81	24
HOURLY MAX	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99	97	98	100	100	100	100	100				
HOURLY AVG	87	87	88	90	91	90	88	83	77	72	68	63	61	61	61	63	64	63	65	69	75	80	83	85				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

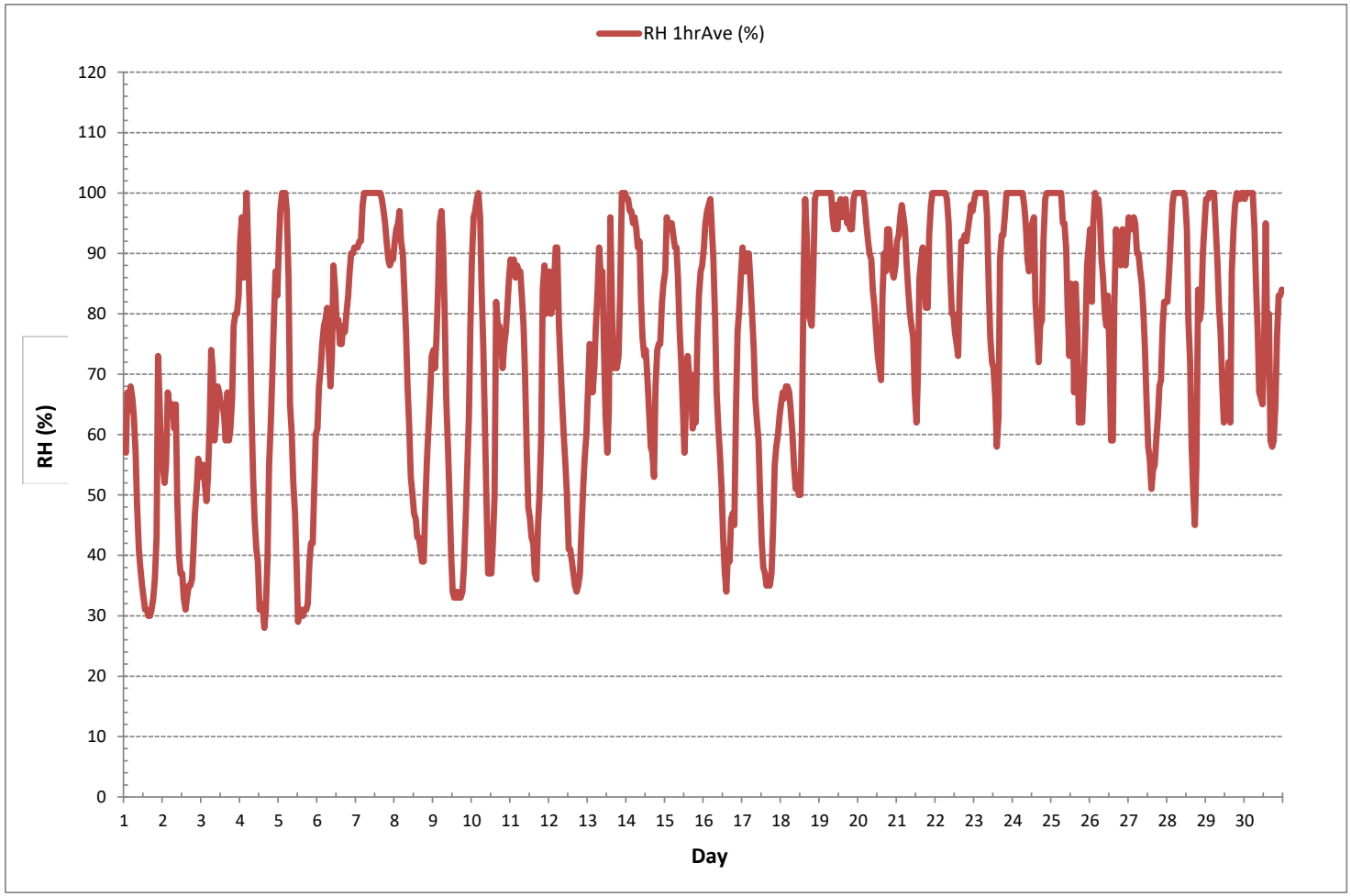
24 HR AVERAGES June 2019



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	28	%	@ HOUR	15	ON DAY	4	
MAXIMUM 1-HR AVERAGE:	100	%	@ HOUR	4	ON DAY	4	
MAXIMUM 24-HR AVERAGE:	98	%			ON DAY	19	
			OPERATIONAL TIME:			720	hrs
			AMD OPERATION UPTIME:			100.0	%
STANDARD DEVIATION:	21		MONTHLY AVERAGE:			76	%

RELATIVE HUMIDITY Hourly Averages (RH %)

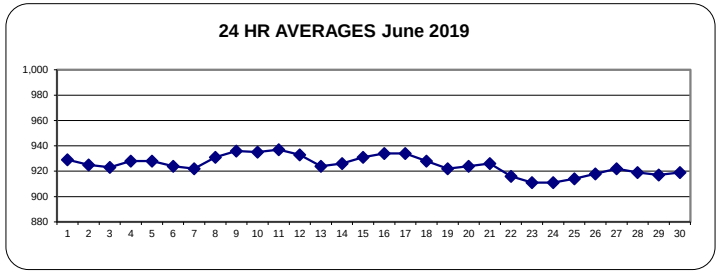


BAROMETRIC PRESSURE Hourly Averages (BP mbar)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	932	932	931	931	931	930	931	931	931	931	931	931	930	930	930	929	928	927	927	926	926	925	924	924	924	932	929	24
2	923	922	922	922	922	922	924	925	925	926	926	927	927	927	927	927	927	926	927	926	925	924	924	923	922	927	925	24
3	923	923	922	922	921	921	921	920	921	922	922	922	922	922	923	925	925	925	926	927	926	926	926	925	920	927	923	24
4	925	925	925	926	926	927	928	929	929	929	930	930	930	930	929	929	929	929	928	928	928	927	927	927	925	930	928	24
5	927	927	927	927	927	927	928	929	930	930	930	930	930	930	929	929	929	929	929	928	927	927	926	926	926	930	928	24
6	925	925	924	923	923	923	923	923	924	924	924	924	924	924	925	924	924	924	924	924	924	923	923	923	923	925	924	24
7	923	922	922	921	921	921	921	920	920	920	920	919	920	920	920	921	921	922	923	924	925	925	926	925	919	926	922	24
8	926	926	927	928	928	929	929	930	931	931	932	932	932	932	933	933	933	933	934	934	934	933	934	933	926	934	931	24
9	934	934	934	934	934	935	935	936	937	937	937	938	938	938	938	938	938	938	938	938	938	936	936	935	934	938	936	24
10	935	935	934	934	934	934	934	935	935	935	936	936	936	936	935	934	934	934	934	935	935	935	934	934	934	936	935	24
11	934	935	935	935	936	936	936	937	938	938	939	939	939	939	939	**940**	939	938	938	937	936	936	936	935	934	**940**	**937**	24
12	935	935	935	934	934	934	934	935	935	935	935	935	934	934	933	933	932	932	931	931	929	928	927	926	926	935	933	24
13	926	925	925	925	926	926	925	925	925	925	925	925	925	924	923	924	924	924	924	924	924	923	922	922	922	926	924	24
14	922	922	922	922	922	923	923	924	925	926	926	927	927	927	927	928	928	928	928	927	928	928	928	928	922	928	926	24
15	928	928	928	929	929	929	930	931	931	932	932	932	932	932	932	932	933	934	934	934	933	932	931	931	928	934	931	24
16	931	932	932	932	932	932	933	934	934	935	935	935	935	935	935	935	935	935	935	935	934	933	933	933	931	935	934	24
17	933	933	933	933	933	933	934	934	935	936	936	936	936	936	936	935	935	934	934	934	933	932	931	930	930	936	934	24
18	930	929	929	928	928	928	928	929	929	929	929	929	929	929	928	927	927	928	929	929	928	927	927	926	926	930	928	24
19	926	925	925	924	924	924	924	923	923	922	921	921	920	920	919	919	920	921	921	921	922	922	922	921	919	926	922	24
20	920	920	919	919	919	919	919	920	922	923	924	925	926	927	927	927	927	927	927	927	927	927	928	928	919	928	924	24
21	928	928	928	929	929	929	930	931	931	932	932	933	933	933	932	920	920	920	919	919	920	920	920	919	919	933	926	24
22	919	919	918	918	918	918	918	918	918	917	917	916	915	915	915	916	915	915	915	914	914	914	914	913	913	919	916	24
23	913	913	913	913	913	913	913	912	912	912	911	911	911	910	910	**909**	910	911	911	910	910	911	911	911	**909**	913	911	24
24	911	910	911	911	911	911	911	911	911	911	911	911	911	910	910	910	910	910	910	911	911	912	912	912	910	912	911	24
25	912	912	912	913	913	913	914	914	914	914	914	913	914	914	913	914	914	914	914	914	915	916	916	916	912	916	914	24
26	916	916	917	917	917	917	918	918	918	918	918	918	918	917	917	919	919	919	919	920	920	921	921	922	916	922	918	24
27	922	922	922	922	922	923	923	923	923	923	923	923	923	922	922	922	922	922	922	922	922	923	922	922	922	923	922	24
28	922	922	921	921	921	921	920	920	920	920	920	919	919	918	918	917	917	917	917	918	919	919	919	919	917	922	919	24
29	919	918	918	918	917	917	917	917	916	915	915	915	915	915	915	916	917	917	917	916	917	917	917	917	915	919	917	24
30	917	918	918	919	920	920	920	920	920	920	920	920	920	920	920	920	919	918	918	918	918	918	918	917	917	920	919	24
HOURLY MAX	935	935	935	935	936	936	936	937	938	938	939	939	939	939	939	940	939	938	938	938	938	936	936	935				
HOURLY AVG	925	924	924	924	924	925	925	925	925	926	926	926	926	926	925	925	925	925	925	925	925	925	925	924				

STATUS FLAG CODES

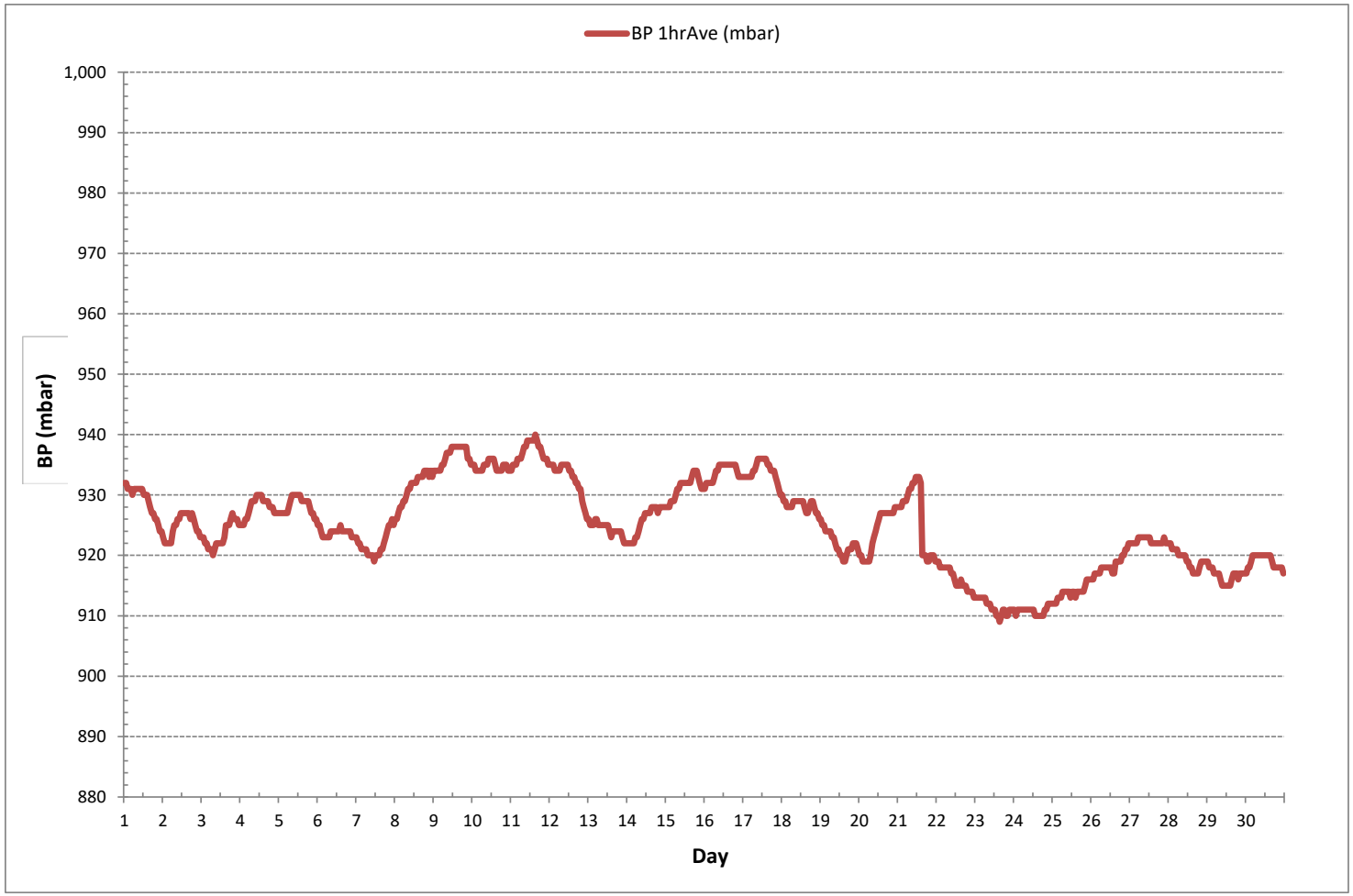
C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	909	mbar	@ HOUR	15	ON DAY	23
MAXIMUM 1-HR AVERAGE:	940	mbar	@ HOUR	15	ON DAY	11
MAXIMUM 24-HR AVERAGE:	937	mbar			ON DAY	11
			OPERATIONAL TIME:		720	hrs
			AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	7		MONTHLY AVERAGE:		925	mbar

BAROMETRIC PRESSURE Hourly Averages (BP mbar)

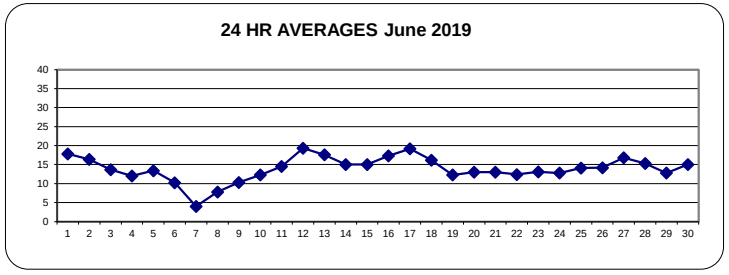


AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	12.6	12.4	11.0	10.9	10.3	10.5	11.6	13.8	16.7	18.7	19.9	21.3	22.4	23.0	23.6	24.0	24.0	23.5	23.1	21.9	20.5	16.5	17.2	16.8	10.3	24.0	17.8	24
2	15.5	15.4	14.8	12.4	12.4	12.7	13.6	15.4	16.6	17.4	17.6	17.8	18.0	17.9	18.1	18.9	18.6	19.7	20.0	18.7	16.5	15.4	15.0	14.9	12.4	20.0	16.4	24
3	14.2	13.9	14.1	14.1	13.6	12.7	12.3	13.5	16.0	15.8	14.9	15.4	15.5	15.7	15.7	16.1	13.1	13.7	14.0	13.4	11.3	10.4	9.6	9.1	9.1	16.1	13.7	24
4	7.5	6.6	7.0	5.7	4.3	6.5	9.4	11.6	13.7	14.9	15.4	16.3	17.6	17.6	17.7	19.0	17.9	15.4	13.1	12.2	11.2	9.8	8.5	8.8	4.3	19.0	12.0	24
5	7.3	6.4	6.1	5.0	4.6	7.2	9.8	12.2	13.1	14.2	15.5	17.1	18.2	18.2	18.2	18.2	18.5	19.1	18.7	16.8	15.6	15.1	13.6	11.9	4.6	19.1	13.4	24
6	12.0	11.0	10.1	9.5	9.3	9.1	9.3	11.2	13.2	12.0	10.2	11.3	12.4	11.8	12.0	10.9	10.2	10.2	9.8	9.3	8.2	7.3	7.2	7.0	7.0	13.2	10.2	24
7	6.7	6.5	6.2	5.8	5.1	4.7	4.5	4.4	4.2	3.9	3.7	3.1	2.3	1.6	**0.5**	1.3	3.1	3.4	3.5	4.4	4.7	4.7	4.5	4.3	**0.5**	6.7	4.0	24
8	3.5	2.8	2.4	1.9	1.9	2.2	3.8	6.1	7.6	8.7	10.0	10.4	10.9	11.2	12.5	12.5	12.8	12.6	12.5	10.7	9.1	8.0	7.2	6.5	1.9	12.8	7.8	24
9	6.4	6.6	5.9	5.3	4.6	4.8	6.0	7.6	8.9	9.8	10.7	12.0	13.3	13.9	14.2	14.1	15.0	15.3	15.3	15.2	13.0	11.4	9.4	8.1	4.6	15.3	10.3	24
10	6.9	6.6	6.9	5.9	5.6	6.9	9.9	12.1	14.7	16.6	17.9	18.3	18.5	18.3	16.8	11.1	13.1	12.7	14.7	14.1	12.7	12.3	11.3	10.2	5.6	18.5	12.3	24
11	9.9	10.0	9.8	10.1	9.8	10.1	10.8	11.7	13.3	15.1	16.7	18.2	19.0	19.0	19.6	21.3	20.5	18.9	18.1	16.7	13.2	12.2	12.8	12.2	9.8	21.3	14.5	24
12	11.5	12.4	12.2	11.7	11.4	12.3	15.1	17.3	19.1	20.2	21.9	22.2	22.9	23.9	24.1	24.6	25.0	25.1	**25.4**	24.8	21.9	20.4	18.9	18.0	11.4	**25.4**	**19.3**	24
13	16.9	15.6	15.9	17.1	17.1	16.7	16.2	16.2	17.4	17.2	19.4	21.3	22.5	20.5	15.9	19.6	21.2	20.9	21.4	20.6	17.5	12.4	11.7	11.8	11.7	22.5	17.6	24
14	11.9	11.8	11.6	10.9	10.6	10.9	12.0	13.7	14.2	15.5	16.6	16.8	16.4	17.5	18.2	19.7	19.7	20.3	17.1	15.9	15.5	14.7	14.3	14.0	10.6	20.3	15.0	24
15	13.5	12.4	12.1	11.3	11.1	11.9	12.7	13.2	14.1	16.0	17.3	18.8	19.7	17.0	16.0	17.6	17.6	18.5	18.2	17.4	14.7	13.8	13.3	12.5	11.1	19.7	15.0	24
16	11.8	11.6	11.4	11.3	11.3	12.3	13.5	15.4	17.3	18.6	19.6	20.5	21.7	22.4	23.3	22.2	23.2	21.5	21.1	21.1	18.2	16.5	15.4	14.2	11.3	23.3	17.3	24
17	13.5	13.8	13.2	12.5	12.4	13.8	15.3	17.2	19.8	20.9	21.5	22.9	23.3	24.7	24.5	24.6	24.0	24.0	23.7	21.9	19.9	18.5	17.5	16.5	12.4	24.7	19.2	24
18	15.7	14.6	13.9	13.1	12.9	13.5	14.7	16.2	18.4	19.8	19.9	20.9	21.8	20.1	15.4	14.4	15.7	17.7	17.2	17.4	15.0	13.6	13.1	12.8	12.8	21.8	16.2	24
19	12.4	12.1	11.8	11.0	10.6	11.0	11.4	13.2	14.4	14.1	13.4	13.7	13.3	13.5	13.5	12.6	12.3	12.8	12.5	12.2	11.8	10.9	10.5	10.1	10.1	14.4	12.3	24
20	10.0	9.5	10.2	10.5	11.3	12.0	12.5	13.0	11.9	12.0	13.0	13.9	15.5	16.8	18.3	14.4	13.1	14.0	13.8	13.3	13.5	13.7	13.0	12.3	9.5	18.3	13.0	24
21	11.9	11.6	11.0	10.5	10.4	10.6	12.3	13.5	14.9	15.6	15.8	17.6	18.3	18.2	13.2	11.5	12.2	13.3	13.4	13.6	11.6	10.7	10.1	9.8	9.8	18.3	13.0	24
22	9.3	9.0	8.6	8.6	8.9	9.3	9.9	11.2	12.1	13.8	15.3	15.9	16.8	17.6	17.0	13.0	13.1	13.9	13.7	13.1	12.7	11.8	11.3	11.2	8.6	17.6	12.4	24
23	10.7	9.9	9.9	9.9	9.9	10.0	10.3	11.1	13.0	14.1	15.8	16.7	16.7	17.7	19.0	18.4	13.6	13.6	13.2	13.0	12.3	12.0	12.2	12.0	9.9	19.0	13.1	24
24	11.9	11.9	11.7	11.5	11.4	11.4	11.8	11.8	12.2	13.2	13.4	13.3	12.0	12.8	15.2	15.5	16.1	15.7	15.2	12.8	12.0	12.0	11.8	11.8	11.4	16.1	12.8	24
25	11.8	11.7	11.6	11.5	11.3	11.7	12.2	13.1	13.2	13.8	15.5	16.3	14.6	15.4	17.6	14.2	16.3	17.9	16.5	17.1	15.1	14.5	13.3	12.5	11.3	17.9	14.1	24
26	12.1	13.3	11.4	10.6	10.9	11.4	12.4	13.6	14.7	16.1	16.1	15.5	17.4	19.8	19.6	15.4	13.8	13.9	14.8	15.3	13.5	13.3	13.1	12.1	10.6	19.8	14.2	24
27	11.7	12.1	11.9	11.8	12.2	13.3	14.2	15.4	16.3	17.3	18.1	19.6	19.8	21.1	21.3	21.4	20.9	20.2	19.5	18.9	17.6	16.6	15.9	15.5	11.7	21.4	16.8	24
28	15.4	14.8	14.0	13.2	13.1	12.9	13.2	13.3	13.5	12.5	13.3	15.1	17.4	19.3	19.8	21.0	21.3	21.6	19.7	15.0	13.6	12.1	10.9	10.4	10.4	21.6	15.3	24
29	9.7	9.3	9.6	9.1	9.1	10.2	11.9	13.9	16.3	17.7	18.8	18.9	16.5	14.9	15.1	16.5	11.9	10.9	10.6	11.1	11.4	11.2	11.0	10.8	9.1	18.9	12.8	24
30	11.0	10.9	11.2	11.3	11.1	10.8	11.9	13.6	15.8	17.3	18.2	18.7	16.3	12.7	17.4	16.1	18.8	19.5	19.4	19.0	16.5	14.7	14.0	13.6	10.8	19.5	15.0	24
HOURLY MAX	16.9	15.6	15.9	17.1	17.1	16.7	16.2	17.3	19.8	20.9	21.9	22.9	23.3	24.7	24.5	24.6	25.0	25.1	25.4	24.8	21.9	20.4	18.9	18.0				
HOURLY AVG	11.2	10.9	10.6	10.1	10.0	10.4	11.5	12.9	14.2	15.1	15.8	16.7	17.0	17.1	17.1	16.7	16.6	16.7	16.3	15.6	14.0	12.9	12.3	11.7				

STATUS FLAG CODES

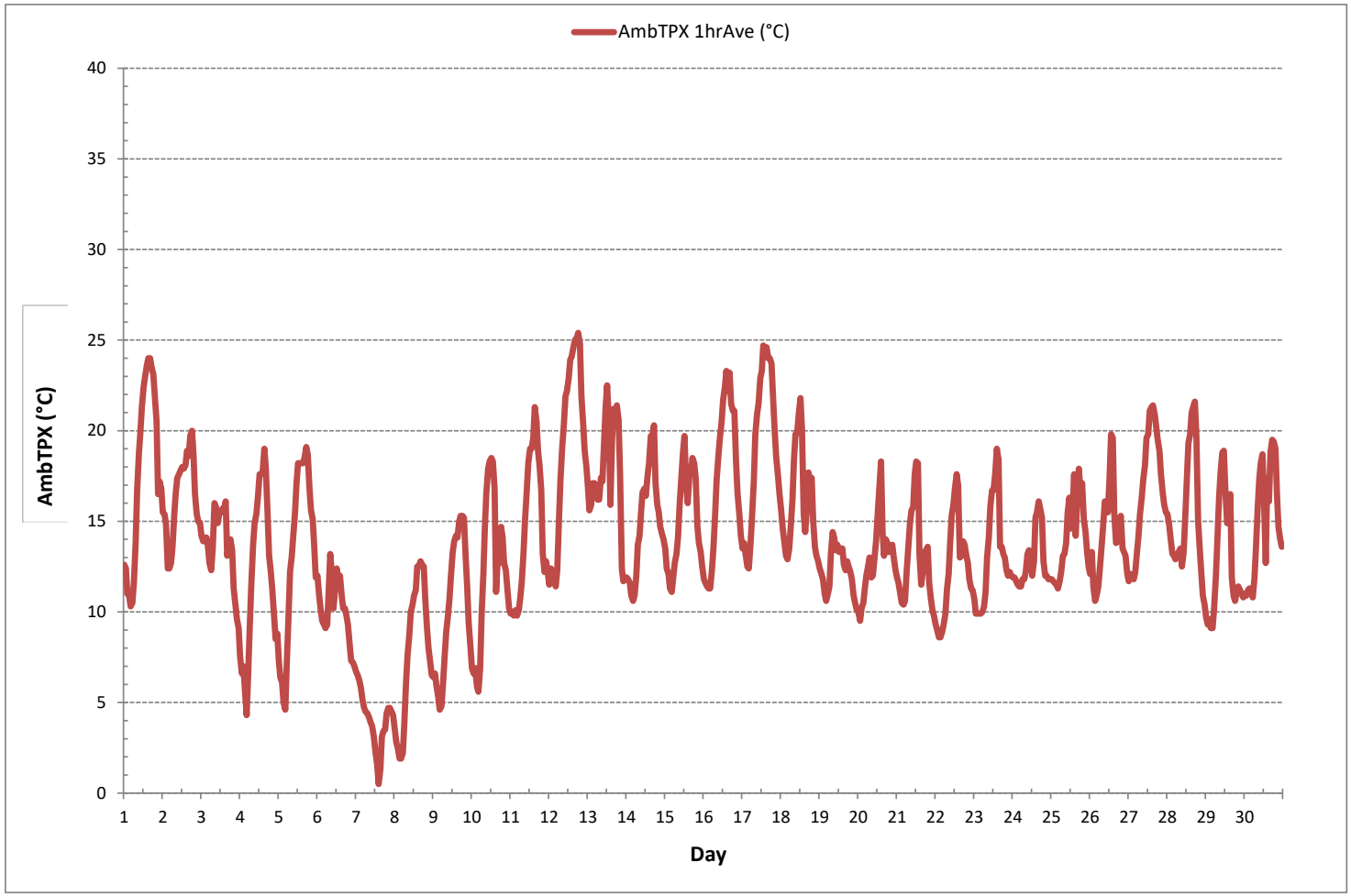
C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	0.5	°C	@ HOUR	14	ON DAY	7
MAXIMUM 1-HR AVERAGE:	25.4	°C	@ HOUR	18	ON DAY	12
MAXIMUM 24-HR AVERAGE:	19.3	°C			ON DAY	12
			OPERATIONAL TIME:			720 hrs
			AMD OPERATION UPTIME:			100.0 %
STANDARD DEVIATION:	4.5		MONTHLY AVERAGE:			13.9 °C

AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)



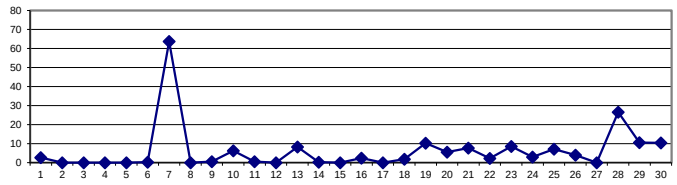
PRECIPITATION Hourly TOTALS (mm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	SUM	
DAY																												
1	**0.0**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.1	0.0	0.0	**0.0**	1.6	2.7	24
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	24
7	0.0	0.0	0.0	0.1	1.3	2.8	3.3	3.6	0.8	1.3	5.3	5.7	6.5	6.2	7.4	**10.0**	4.1	3.5	1.8	0.0	0.0	0.0	0.0	0.0	0.0	**10.0**	**63.7**	24
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
9	0.0	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.5	24
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	0.5	4.3	0.1	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	6.3	24
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	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.6	0.6	24
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
13	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	4.6	2.1	0.0	0.0	0.0	0.0	0.0	1.1	0.1	0.0	0.0	0.0	4.6	8.3	24
14	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	24
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
16	0.0	0.0	0.0	0.0	2.4	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	0.0	0.0	0.0	0.0	0.0	2.4	2.4	24
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
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	1.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	1.6	1.8	24
19	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	1.3	0.0	1.7	2.7	3.1	0.8	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.0	3.1	10.2	24
20	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	2.2	1.9	0.1	0.0	0.0	0.0	0.0	2.2	5.5	24
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	4.6	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6	7.7	24
22	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.2	24
23	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	1.4	3.7	0.0	0.2	0.0	0.0	1.0	0.4	1.6	0.0	3.7	8.6	24
24	0.3	0.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	1.9	2.9	24
25	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	2.5	0.1	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	2.5	7.1	24
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	0.2	1.5	0.5	1.8	0.0	0.0	0.0	0.0	0.0	0.0	1.8	4.0	24
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
28	0.0	0.0	0.2	5.4	3.9	6.0	1.5	0.3	7.2	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	7.2	26.5	24
29	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	4.0	2.6	2.5	0.1	0.6	0.6	0.0	0.0	0.0	4.0	10.6	24
30	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	1.1	0.4	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	10.4	24
HOURLY MAX	0.3	0.3	0.2	5.4	3.9	6.0	3.3	3.6	7.2	2.0	5.3	5.7	7.7	6.2	7.4	10.0	4.1	3.5	2.5	1.9	1.6	1.1	0.4	1.6				
HOURLY SUM	0.0	0.0	0.0	0.2	0.3	0.3	0.2	0.1	0.3	0.1	0.2	0.2	0.6	0.5	0.7	0.8	0.5	0.3	0.4	0.1	0.1	0.1	0.0	0.1				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

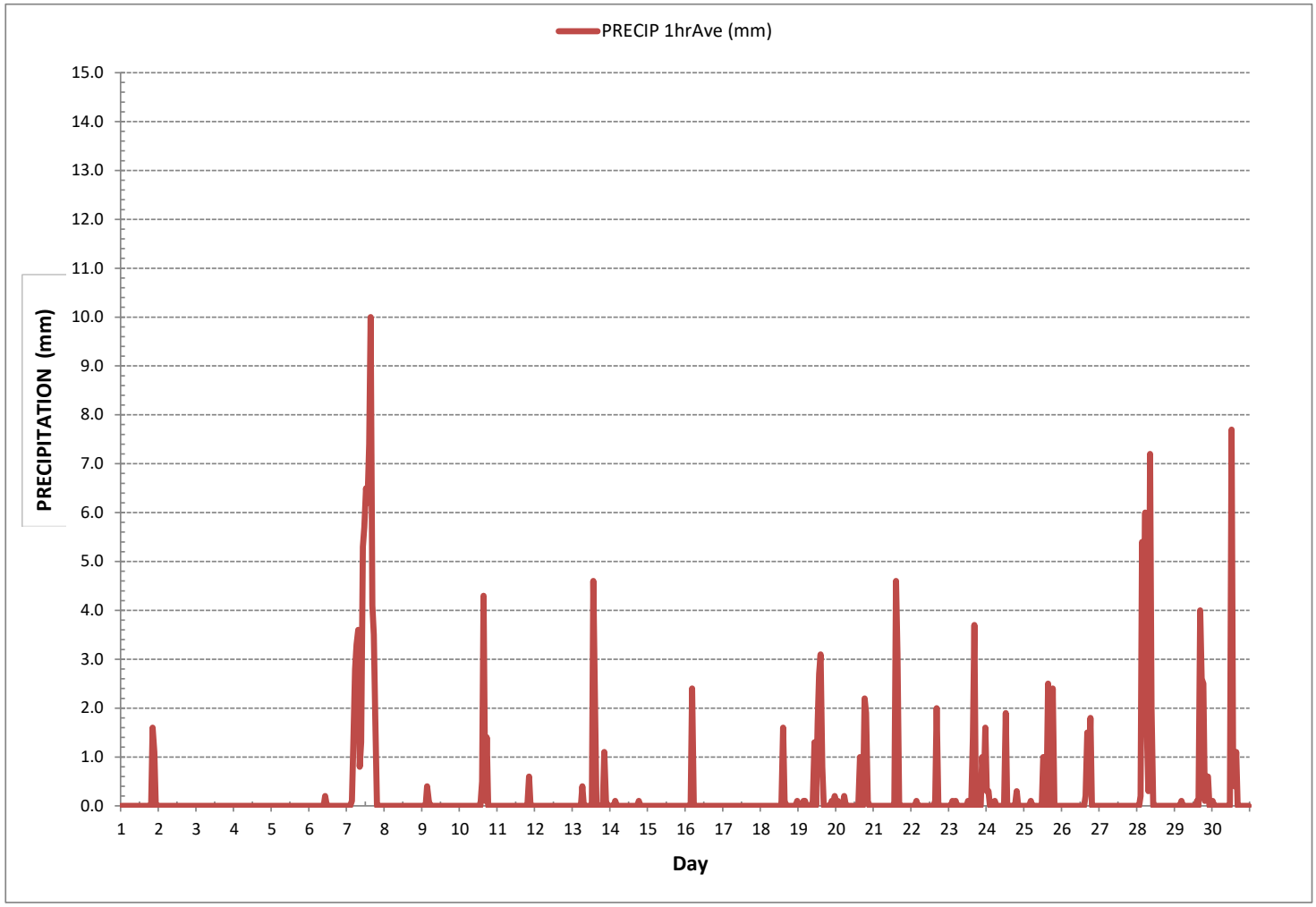
24 HR TOTALS June 2019



MONTHLY SUMMARY

MINIMUM 1-HR TOTAL:	0.0	mm	@ HOUR	0	ON DAY	1
MAXIMUM 1-HR TOTAL:	10.0	mm	@ HOUR	15	ON DAY	7
MAXIMUM 24-HR TOTAL:	63.7	mm			ON DAY	7
			OPERATIONAL TIME:		720	hrs
			AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	1.0		MONTHLY TOTAL:		182.4	mm

PRECIPITATION Hourly TOTALS (mm)



SULPHUR DIOXIDE Instantaneous Maximum (SO_2 ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	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	24
2	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	24
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	24
4	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	C	0	S	0	0	0	0	0	0	0	0	0	24
5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	S	0	0	0	0	0	0	0	0	1	0	24
6	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	0	24
7	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	24
8	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	24
9	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	24
10	0	0	0	0	0	1	1	1	1	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
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	24
12	0	0	0	0	0	0	0	2	2	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	24
13	0	0	0	1	1	1	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
14	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	24
15	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	24
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	24
17	0	0	0	0	S	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
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	24
19	0	0	S	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
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	24
21	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	24
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	24
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	24
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	24
25	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	24
26	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	24
27	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	24
28	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	24
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	24
30	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	24
HOURLY MAX	0	0	0	1	1	1	1	2	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0				
HOURLY AVG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

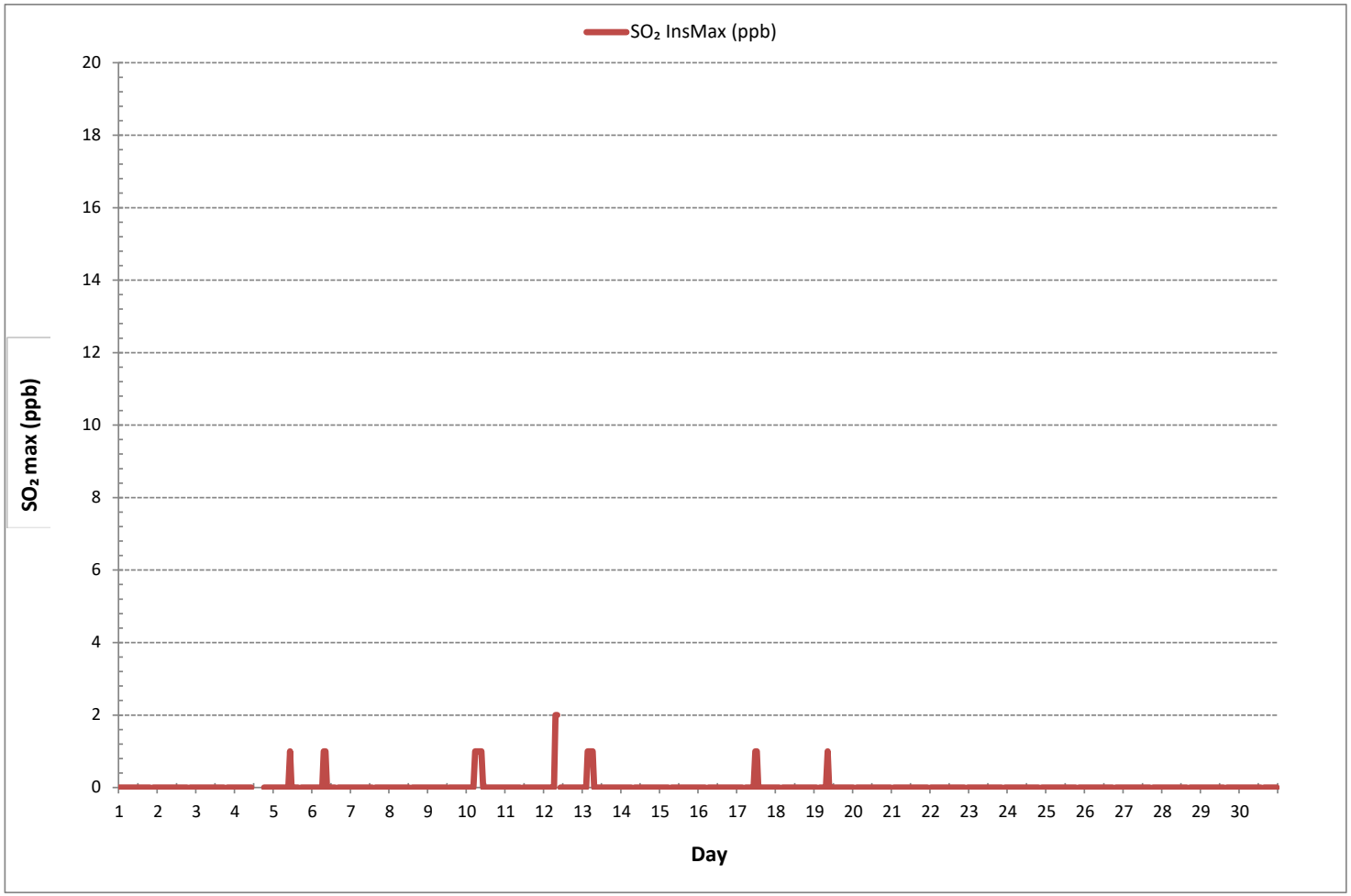
NUMBER OF NON-ZERO READINGS: 17

MAXIMUM INSTANTANEOUS VALUE: 2 ppb @ HOUR 7 ON DAY 12

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 5 hrs
STANDARD DEVIATION: 0

OPERATIONAL TIME: 720 hrs

SULPHUR DIOXIDE Instantaneous Maximum (SO_2 ppb)



HYDROGEN SULPHIDE Instantaneous Maximum (H_2S ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	2	3	3	3	3	3	3	3	3	3	2	3	3	3	3	2	2	3	2	2	S	3	3	3	2	3	3	24
2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	2	2	2	S	2	2	2	2	2	3	3	24
3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	S	3	3	3	3	3	2	3	3	24
4	4	4	4	5	6	5	5	3	3	3	2	C	C	C	C	1	0	S	0	0	1	0	1	1	0	6	2	24
5	1	1	2	2	3	2	1	1	1	1	1	1	1	1	0	1	S	1	0	1	1	1	1	1	0	3	1	24
6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	24
7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	24
8	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	0	1	0	1	0	1	1	1	1	0	1	1	24
9	1	1	1	1	0	1	1	1	1	0	1	1	S	1	1	1	1	0	1	0	0	0	1	1	0	1	1	24
10	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	24
11	1	1	1	2	2	1	2	2	1	2	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	24
12	2	1	2	2	2	2	2	2	2	S	1	2	1	2	2	2	2	2	2	1	1	2	2	2	1	2	2	24
13	2	2	3	2	2	2	2	2	S	2	C1	C1	C1	C1	C1	1	0	1	1	1	1	1	1	1	0	3	1	19
14	1	1	2	2	1	2	2	S	1	1	1	0	1	1	1	1	0	1	0	1	1	1	1	1	0	2	1	24
15	1	2	1	2	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	24
16	1	1	2	2	2	S	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	24
17	1	1	1	2	S	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	24
18	1	1	1	S	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	2	1	24
19	2	2	S	2	2	1	1	1	1	2	1	1	1	1	1	1	1	1	2	1	1	2	1	1	1	2	1	24
20	1	S	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	2	1	24
21	S	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	2	1	24
22	1	2	2	2	1	1	1	1	1	1	1	1	2	1	1	1	2	1	2	1	1	1	S	2	1	2	1	24
23	2	2	1	1	1	2	2	2	2	2	1	2	1	1	1	1	2	1	2	1	2	S	2	2	1	2	2	24
24	2	2	2	2	2	2	2	2	2	2	1	C1	C1	C1	C1	C1	0	0	0	0	S	0	0	0	0	2	1	19
25	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	S	0	1	0	0	0	1	0	24
26	0	0	1	1	2	1	2	3	1	1	1	1	0	1	1	0	1	1	S	1	1	1	1	1	0	3	1	24
27	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	24
28	1	1	1	1	2	2	1	2	2	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	2	1	24
29	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	24
30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	24
HOURLY MAX	4	4	4	5	6	5	5	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3				
HOURLY AVG	1	1	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

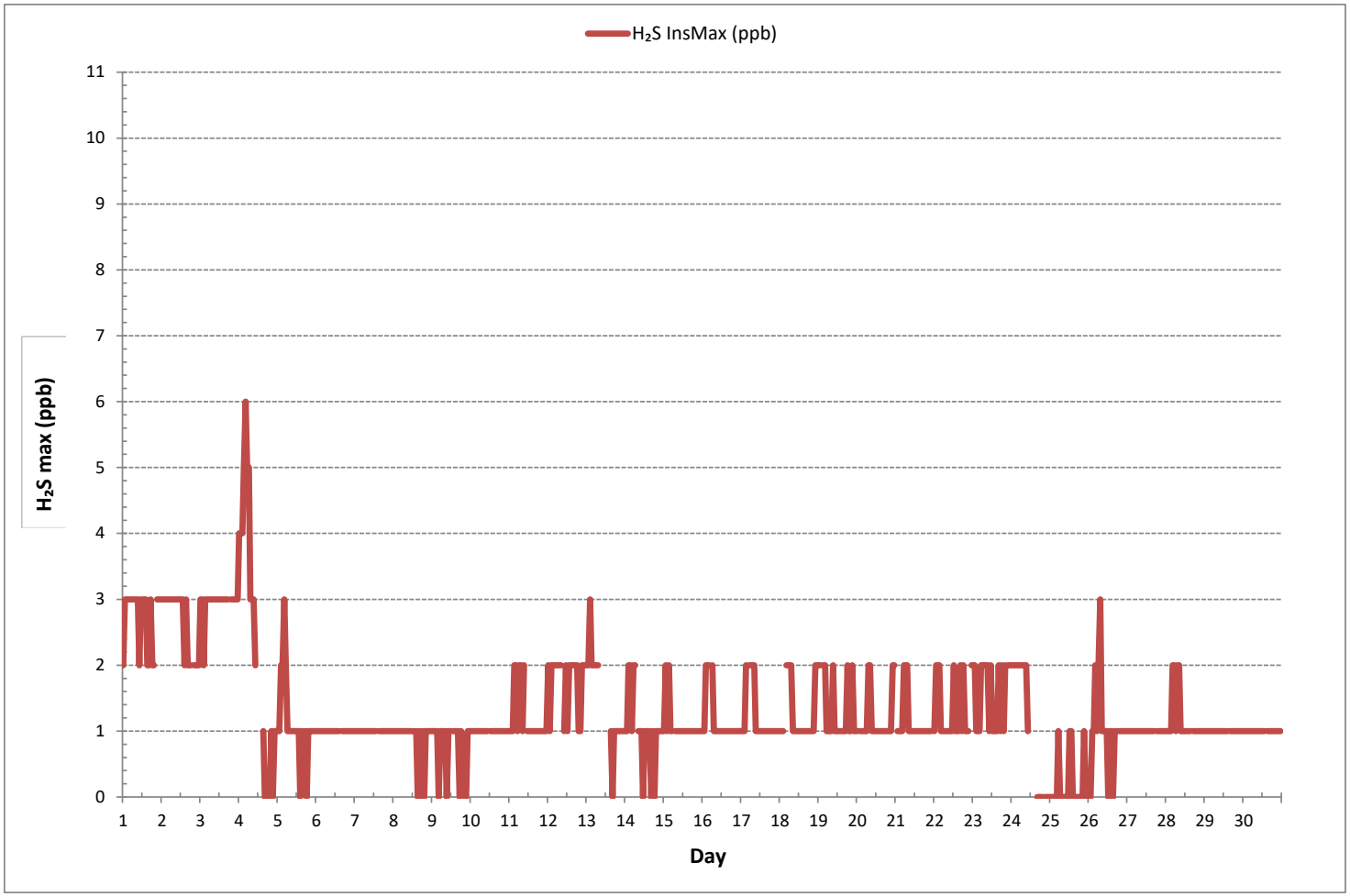
NUMBER OF NON-ZERO READINGS: 626

MAXIMUM INSTANTANEOUS VALUE: 6 ppb @ HOUR 4 ON DAY 4

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 4 hrs
STANDARD DEVIATION: 1

OPERATIONAL TIME: 710 hrs

HYDROGEN SULPHIDE Instantaneous Maximum (H_2S ppb)



TOTAL HYDROCARBONS Instantaneous Maximum (THC ppm)

HR START (MST) / HR END (MST)	0:00 / 0:59	1:00 / 1:59	2:00 / 2:59	3:00 / 3:59	4:00 / 4:59	5:00 / 5:59	6:00 / 6:59	7:00 / 7:59	8:00 / 8:59	9:00 / 9:59	10:00 / 10:59	11:00 / 11:59	12:00 / 12:59	13:00 / 13:59	14:00 / 14:59	15:00 / 15:59	16:00 / 16:59	17:00 / 17:59	18:00 / 18:59	19:00 / 19:59	20:00 / 20:59	21:00 / 21:59	22:00 / 22:59	23:00 / 23:59	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
DAY																												
1	2.09	2.15	2.20	2.17	2.18	2.21	2.20	2.17	2.13	2.04	2.03	2.03	1.98	1.97	1.96	1.97	1.96	1.97	2.00	2.02	S	1.97	2.01	2.02	1.96	2.21	2.06	24
2	2.04	2.04	2.22	2.07	2.09	2.10	2.10	2.09	2.00	1.94	1.91	1.92	1.91	1.92	1.91	1.90	1.91	1.89	1.91	S	1.93	2.30	2.50	2.37	1.89	2.50	2.04	24
3	2.15	2.11	2.21	1.96	1.99	2.05	2.57	2.59	2.26	2.10	2.03	1.95	1.95	1.93	1.93	1.91	1.91	1.90	S	1.89	1.92	1.92	1.92	1.93	1.89	2.59	2.05	24
4	1.95	1.95	1.96	1.99	2.00	2.01	2.02	1.98	1.95	1.93	1.92	1.93	1.93	1.94	1.94	1.90	1.92	S	1.91	1.93	1.92	1.95	1.95	1.95	1.90	2.02	1.95	24
5	1.96	1.99	2.00	2.05	2.06	2.02	2.00	1.98	1.96	1.94	C	C	C	C	1.99	1.98	S	1.98	1.96	1.99	1.97	1.99	2.42	2.21	1.94	2.42	2.02	24
6	2.09	2.12	2.14	2.19	2.22	2.23	2.21	2.20	2.07	2.02	2.07	2.01	1.97	1.99	1.95	S	1.96	1.98	1.96	1.99	2.20	1.98	1.98	1.97	1.95	2.23	2.06	24
7	1.98	1.98	1.99	1.97	1.99	1.97	1.99	2.00	1.98	1.99	1.98	1.99	2.11	1.98	S	2.00	1.98	1.99	2.00	1.99	2.00	1.99	2.00	2.00	1.97	2.11	1.99	24
8	2.01	2.01	2.02	2.02	2.01	2.02	2.02	2.01	1.99	1.99	1.98	1.99	1.96	S	1.99	1.97	2.00	1.96	1.98	2.00	2.00	1.99	2.01	2.02	1.96	2.02	2.00	24
9	2.02	2.01	2.02	2.01	1.99	2.01	2.00	2.02	1.99	1.99	2.00	2.01	S	1.97	2.00	1.96	1.99	1.97	1.96	1.96	1.99	2.02	2.04	2.07	1.96	2.07	2.00	24
10	2.08	2.08	2.05	2.07	2.07	2.09	2.06	2.03	2.03	1.99	1.97	S	1.98	1.96	1.98	1.95	1.97	1.98	2.33	2.45	3.38	3.13	2.28	2.02	1.95	3.38	2.17	24
11	2.02	2.15	2.02	2.22	2.05	**9.78**	9.37	3.52	2.09	2.00	S	1.97	2.00	1.99	1.97	1.99	1.97	1.98	1.95	2.08	2.00	2.02	2.01	2.06	1.95	**9.78**	2.75	24
12	2.07	2.08	2.13	2.20	2.24	2.20	2.09	2.02	2.07	S	1.97	1.96	1.95	1.95	1.94	1.95	1.93	1.95	1.96	1.94	2.16	2.06	2.13	2.07	1.93	2.24	2.04	24
13	2.11	2.08	2.12	2.02	1.97	1.96	1.97	1.98	S	1.99	1.96	1.96	1.95	1.97	1.96	1.95	1.95	1.94	1.96	1.96	1.97	1.98	1.98	1.98	1.94	2.12	1.98	24
14	2.08	2.00	2.04	2.04	2.03	2.07	2.05	S	1.99	2.00	1.96	1.98	1.97	1.95	1.97	1.96	1.97	1.97	1.98	1.97	2.00	1.97	2.03	2.05	1.95	2.08	2.00	24
15	2.05	2.10	2.07	2.10	2.04	2.01	S	2.05	2.01	2.03	2.01	2.00	1.99	1.97	1.97	1.97	1.99	1.98	2.00	1.99	2.11	2.05	2.09	2.02	1.97	2.11	2.03	24
16	2.02	2.06	2.08	2.07	2.09	S	2.08	2.09	2.03	2.01	2.01	1.98	2.00	1.97	1.97	1.99	1.99	2.00	1.98	2.00	2.04	2.07	2.06	2.28	1.97	2.28	2.04	24
17	2.09	2.10	2.07	2.05	S	2.06	2.06	2.13	2.08	2.05	2.05	2.02	2.00	2.00	1.99	2.00	1.99	2.00	1.99	2.05	2.02	2.07	2.09	2.11	1.99	2.13	2.04	24
18	2.09	2.12	2.11	S	2.13	2.09	2.12	2.10	2.10	2.08	2.09	2.08	2.03	2.01	1.97	1.97	1.99	2.05	1.97	2.00	2.04	2.20	2.30	2.22	1.97	2.30	2.08	24
19	2.20	2.40	S	2.23	2.24	2.24	2.26	2.14	2.18	2.21	2.16	2.01	2.05	2.06	2.06	2.05	2.00	1.99	1.99	2.00	2.00	2.01	2.03	2.02	1.99	2.40	2.11	24
20	2.04	S	2.09	2.27	2.13	2.06	2.02	2.01	2.06	2.02	2.01	2.25	2.02	2.02	1.99	2.04	2.00	2.01	2.00	2.00	2.00	2.02	2.02	2.03	1.99	2.27	2.05	24
21	S	2.03	2.03	2.04	2.04	2.08	2.11	2.05	2.08	2.10	2.09	2.06	2.00	2.01	2.01	1.99	2.00	2.01	2.00	1.99	1.99	2.00	2.01	S	1.99	2.11	2.03	24
22	2.00	2.01	2.02	2.02	2.01	1.99	2.00	2.00	2.01	2.01	2.00	2.01	2.01	2.02	2.02	1.98	1.99	1.98	2.00	2.10	2.10	2.01	S	2.02	1.98	2.10	2.01	24
23	2.04	2.06	2.04	2.03	2.04	2.06	2.06	2.05	2.03	2.02	2.00	2.00	1.99	1.99	1.98	1.97	1.98	1.98	1.99	2.01	2.03	S	2.02	2.00	1.97	2.06	2.01	24
24	2.00	2.01	2.00	2.00	2.00	2.00	2.01	1.99	1.99	1.99	1.99	1.99	2.03	2.04	1.99	1.98	1.98	1.99	1.99	1.98	S	2.07	2.04	2.03	1.98	2.07	2.00	24
25	2.03	2.02	2.04	2.05	2.10	2.07	2.05	2.01	1.99	1.99	1.98	1.98	1.98	1.97	1.97	2.00	2.02	1.97	1.98	S	1.99	2.03	2.05	2.39	1.97	2.39	2.03	24
26	2.09	2.03	2.18	2.18	2.30	2.33	2.29	2.24	2.13	2.11	2.03	2.03	2.02	2.01	2.03	2.04	2.10	2.18	S	2.17	2.08	2.03	2.01	2.26	2.01	2.33	2.13	24
27	2.30	2.09	2.10	2.12	2.15	2.35	2.35	2.23	2.31	2.28	2.24	2.06	2.07	2.03	2.02	2.02	2.02	S	2.06	2.09	2.06	2.10	2.08	2.10	2.02	2.35	2.14	24
28	2.10	2.16	2.16	2.14	2.12	2.17	2.15	2.13	2.14	2.05	2.06	2.09	2.51	2.07	2.05	2.01	S	1.98	2.15	2.03	2.03	2.38	2.08	2.28	1.98	2.51	2.13	24
29	2.05	2.05	2.08	2.15	2.10	2.17	2.09	2.08	2.05	2.03	2.02	1.99	2.00	1.98	1.99	S	1.97	2.06	2.37	2.00	2.01	2.03	2.04	2.06	1.97	2.37	2.06	24
30	2.02	2.02	2.00	2.00	2.00	2.01	2.01	2.00	2.00	2.00	1.99	1.99	2.01	1.99	S	1.99	1.97	1.97	1.98	1.99	2.02	2.03	2.03	2.08	1.97	2.08	2.00	24
HOURLY MAX	2.30	2.40	2.22	2.27	2.30	9.78	9.37	3.52	2.31	2.28	2.24	2.25	2.51	2.07	2.06	2.05	2.10	2.18	2.37	2.45	3.38	3.13	2.50	2.39				
HOURLY AVG	2.06	2.07	2.08	2.08	2.08	2.36	2.36	2.13	2.06	2.03	2.02	2.01	2.01	1.99	1.98	1.98	1.98	1.99	2.01	2.02	2.07	2.08	2.08	2.09				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

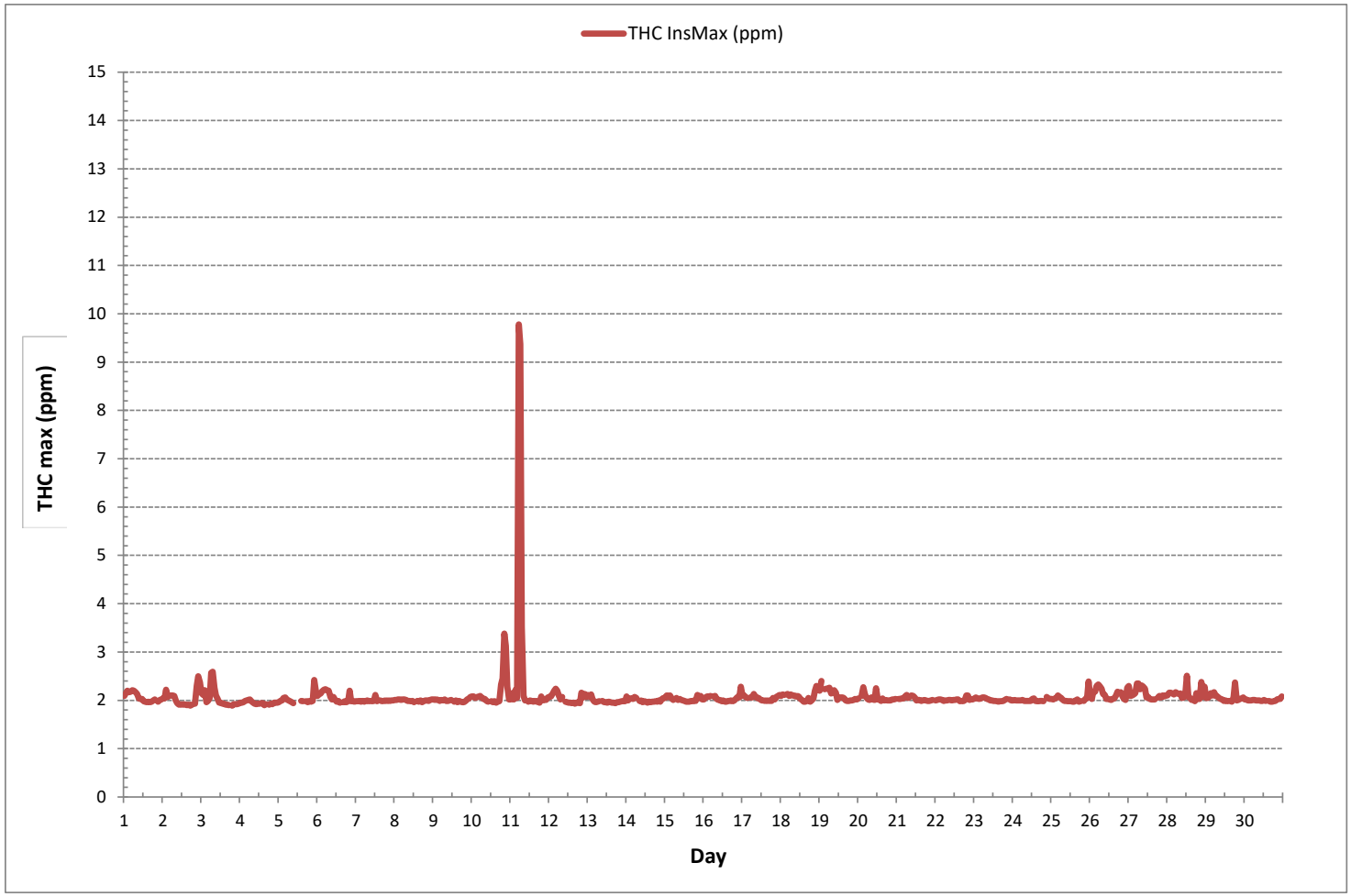
NUMBER OF NON-ZERO READINGS: 685

MAXIMUM INSTANTANEOUS VALUE: 9.78 ppm @ HOUR 5 ON DAY 11

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 4 hrs
STANDARD DEVIATION: 0.43

OPERATIONAL TIME: 720 hrs

TOTAL HYDROCARBONS Instantaneous Maximum (THC ppm)



METHANE MAX Instantaneous Maximum (CH_4 ppm)

HR START (MST) / HR END (MST)	0:00 0:59	1:00 1:59	2:00 2:59	3:00 3:59	4:00 4:59	5:00 5:59	6:00 6:59	7:00 7:59	8:00 8:59	9:00 9:59	10:00 10:59	11:00 11:59	12:00 12:59	13:00 13:59	14:00 14:59	15:00 15:59	16:00 16:59	17:00 17:59	18:00 18:59	19:00 19:59	20:00 20:59	21:00 21:59	22:00 22:59	23:00 23:59	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
DAY																												
1	2.09	2.15	2.20	2.17	2.18	2.21	2.20	2.17	2.13	2.04	2.03	2.03	1.98	1.97	1.96	1.97	1.96	1.97	2.00	2.02	S	1.97	2.01	2.02	1.96	2.21	2.06	24
2	2.04	2.04	2.22	2.07	2.09	2.10	2.10	2.09	2.00	1.94	1.91	1.92	1.91	1.92	1.91	1.90	1.91	1.89	1.91	S	1.93	2.30	2.50	2.37	1.89	2.50	2.04	24
3	2.15	2.11	2.03	1.96	1.99	2.05	2.57	2.59	2.26	2.10	2.03	1.95	1.95	1.93	1.93	1.91	1.91	1.90	S	1.89	1.92	1.92	1.92	1.93	1.89	2.59	2.04	24
4	1.95	1.95	1.96	1.99	2.00	2.01	2.02	1.98	1.95	1.93	1.92	1.93	1.93	1.94	1.94	1.90	1.92	S	1.91	1.93	1.92	1.95	1.95	1.95	1.90	2.02	1.95	24
5	1.96	1.99	2.00	2.05	2.06	2.02	2.00	1.98	1.96	1.94	C	C	C	C	1.99	1.98	S	1.98	1.96	1.99	1.97	1.99	2.42	2.21	1.94	2.42	2.02	24
6	2.09	2.12	2.14	2.19	2.22	2.23	2.21	2.20	2.07	2.02	2.07	2.01	1.97	1.99	1.95	S	1.96	1.98	1.96	1.99	1.98	1.98	1.98	1.97	1.95	2.23	2.06	24
7	1.98	1.98	1.99	1.97	1.99	1.97	1.99	2.00	1.98	1.99	1.98	1.99	1.97	1.98	S	2.00	1.98	1.99	2.00	1.99	2.00	1.99	2.00	2.00	1.97	2.00	1.99	24
8	2.01	2.01	2.02	2.02	2.01	2.02	2.02	2.01	1.99	1.99	1.98	1.99	1.96	S	1.99	1.97	2.00	1.96	1.98	1.98	2.00	1.99	2.01	2.02	1.96	2.02	2.00	24
9	2.02	2.01	2.02	2.01	1.99	2.01	2.00	2.02	1.99	1.99	2.00	1.97	S	1.97	2.00	1.96	1.99	1.97	1.96	1.96	1.99	2.02	2.04	2.07	1.96	2.07	2.00	24
10	2.08	2.08	2.05	2.07	2.07	2.09	2.06	2.03	2.03	1.99	1.97	S	1.98	1.96	1.98	1.95	1.97	1.98	2.33	2.45	3.38	3.13	2.28	2.02	1.95	3.38	2.17	24
11	2.02	2.15	2.02	2.08	2.05	**9.49**	9.06	3.52	2.09	2.00	S	1.97	2.00	1.99	1.97	1.99	1.97	1.98	1.95	2.08	2.00	2.02	2.01	2.06	1.95	**9.49**	2.72	24
12	2.07	2.08	2.13	2.20	2.24	2.20	2.09	2.02	2.01	S	1.97	1.96	1.95	1.95	1.94	1.95	1.93	1.95	1.93	1.94	2.09	2.06	2.13	2.07	1.93	2.24	2.04	24
13	2.11	2.08	2.12	2.02	1.97	1.96	1.97	1.98	S	1.99	1.96	1.96	1.95	1.97	1.96	1.95	1.95	1.94	1.96	1.96	1.97	1.98	1.98	1.98	1.94	2.12	1.98	24
14	2.08	2.00	2.04	2.04	2.03	2.07	2.05	S	1.99	2.00	1.96	1.98	1.97	1.95	1.97	1.96	1.97	1.97	1.98	1.97	2.00	1.97	2.03	2.05	1.95	2.08	2.00	24
15	2.05	2.10	2.07	2.10	2.04	2.01	S	2.05	2.01	2.03	2.01	2.00	1.99	1.97	1.97	1.97	1.99	1.98	2.00	1.99	2.11	2.05	2.09	2.02	1.97	2.11	2.03	24
16	2.02	2.06	2.08	2.07	2.09	S	2.08	2.04	2.03	2.01	2.01	1.98	2.00	1.97	1.97	1.99	1.99	2.00	1.98	2.00	2.04	2.07	2.06	2.28	1.97	2.28	2.03	24
17	2.09	2.10	2.07	2.05	S	2.06	2.06	2.06	2.08	2.05	2.05	2.02	2.00	2.00	1.99	2.00	1.99	2.00	1.99	2.05	2.02	2.07	2.09	2.11	1.99	2.11	2.04	24
18	2.09	2.12	2.11	S	2.13	2.09	2.12	2.10	2.10	2.08	2.09	2.08	2.03	2.01	1.97	1.97	1.99	2.01	1.97	2.00	2.04	2.20	2.30	2.22	1.97	2.30	2.08	24
19	2.20	2.40	S	2.23	2.24	2.24	2.26	2.14	2.18	2.21	2.16	2.01	2.05	2.06	2.06	2.05	2.00	1.99	1.99	2.00	2.00	2.01	2.03	2.02	1.99	2.40	2.11	24
20	2.04	S	2.09	2.19	2.13	2.06	2.02	2.01	2.06	2.02	2.01	2.00	2.02	2.02	1.99	2.04	2.00	2.01	2.00	2.00	2.00	2.02	2.02	2.03	1.99	2.19	2.03	24
21	S	2.02	2.03	2.04	2.04	2.08	2.11	2.05	2.08	2.10	2.09	2.06	2.00	2.01	2.01	1.99	2.00	2.01	2.00	1.99	1.99	2.00	2.01	S	1.99	2.11	2.03	24
22	2.00	2.01	2.02	2.02	2.01	1.99	2.00	2.00	2.00	2.01	2.00	2.01	2.01	2.02	2.02	1.98	1.97	1.98	2.00	1.99	2.00	2.01	S	2.02	1.97	2.02	2.00	24
23	2.04	2.06	2.04	2.03	2.04	2.06	2.06	2.05	2.03	2.02	2.00	2.00	1.99	1.99	1.98	1.97	1.98	1.98	1.99	2.01	2.03	S	2.02	2.00	1.97	2.06	2.01	24
24	2.00	2.01	2.00	2.00	2.00	2.00	2.01	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.98	1.98	1.99	1.99	1.98	S	2.05	2.04	2.03	1.98	2.05	2.00	24
25	2.03	2.02	2.04	2.05	2.10	2.07	2.05	2.01	1.99	1.99	1.98	1.98	1.98	1.97	1.97	2.00	2.02	1.97	1.98	S	1.99	2.03	2.05	2.39	1.97	2.39	2.03	24
26	2.09	2.03	2.18	2.18	2.30	2.33	2.29	2.24	2.13	2.11	2.03	2.03	2.02	2.01	2.03	2.04	2.10	2.17	S	2.17	2.08	2.02	2.01	2.26	2.01	2.33	2.12	24
27	2.30	2.09	2.10	2.12	2.15	2.35	2.35	2.23	2.31	2.28	2.24	2.06	2.07	2.03	2.02	2.02	2.02	S	2.06	2.09	2.06	2.10	2.08	2.10	2.02	2.35	2.14	24
28	2.10	2.16	2.16	2.14	2.12	2.17	2.15	2.13	2.14	2.05	2.06	2.09	2.51	2.07	2.05	2.01	S	1.98	2.15	2.03	2.03	2.38	2.08	2.04	1.98	2.51	2.12	24
29	2.05	2.05	2.08	2.15	2.10	2.17	2.09	2.08	2.05	2.03	2.02	1.99	2.00	1.98	1.99	S	1.97	2.06	2.37	2.00	2.01	2.03	2.04	2.06	1.97	2.37	2.06	24
30	2.02	2.02	2.00	2.00	2.00	2.01	2.01	2.00	2.00	2.00	1.99	1.99	2.01	1.99	S	1.99	1.97	1.97	1.98	1.99	2.02	2.03	2.03	2.08	1.97	2.08	2.00	24
HOURLY MAX	2.30	2.40	2.22	2.23	2.30	9.49	9.06	3.52	2.31	2.28	2.24	2.09	2.51	2.07	2.06	2.05	2.10	2.17	2.37	2.45	3.38	3.13	2.50	2.39				
HOURLY AVG	2.06	2.07	2.07	2.08	2.08	2.35	2.34	2.13	2.06	2.03	2.02	2.00	2.01	1.99	1.98	1.98	1.98	1.98	2.01	2.02	2.06	2.08	2.08	2.08				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

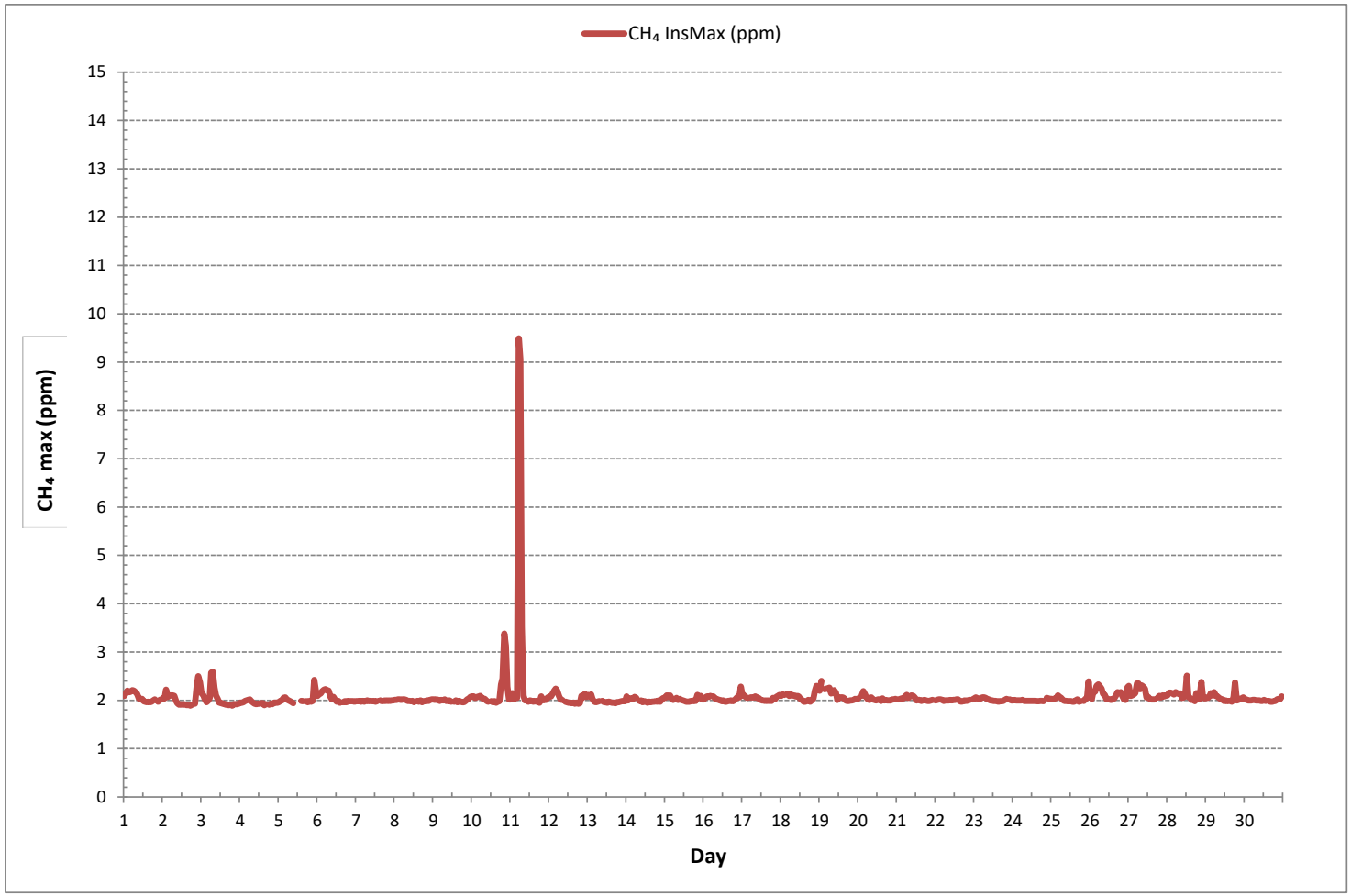
NUMBER OF NON-ZERO READINGS: 685

MAXIMUM INSTANTANEOUS VALUE: 9.49 ppm @ HOUR 5 ON DAY 11

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 4 hrs
STANDARD DEVIATION: 0.41

OPERATIONAL TIME: 720 hrs

METHANE MAX Instantaneous Maximum (CH_4 ppm)



NON-METHANE HYDROCARBONS Instantaneous Maximum (NMHC ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	S	0.00	0.00	0.00	0.00	0.01	0.00	24
2	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
3	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.02	0.00	0.00	0.00	0.25	0.01	24
4	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	24
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C	C	C	C	0.00	0.00	S	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.02	0.00	24
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	0.23	0.00	0.00	0.00	0.00	0.23	0.01	24
7	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	S	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.15	0.01	24
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	S	0.01	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.04	0.00	24
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	S	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	24
10	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
11	0.00	0.00	0.00	0.14	0.00	0.29	**0.30**	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	**0.30**	0.03	24
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.24	0.00	0.00	0.00	0.00	0.24	0.02	24
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
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	0.02	0.00	0.00	0.00	0.00	0.02	0.00	24
15	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	0.00	0.00	0.01	0.00	0.06	0.00	0.00	0.06	0.00	24
16	0.00	0.01	0.01	0.00	0.00	S	0.00	0.08	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	0.08	0.01	24
17	0.00	0.00	0.05	0.00	S	0.01	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.01	24
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	0.01	0.08	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.08	0.00	24
19	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	24
20	0.00	S	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.26	0.02	24
21	S	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.01	0.00	24
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.11	0.11	0.00	S	0.00	0.00	0.11	0.01	24
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	24
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	0.06	0.07	0.00	0.00	0.00	0.00	0.00	0.00	S	0.04	0.01	0.00	0.00	0.07	0.01	24
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	S	0.01	0.00	0.00	0.00	0.00	0.01	0.00	24
26	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	24
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	0.01	0.00	0.01	0.00	24
28	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.23	0.01	24
29	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	24
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	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	24
HOURLY MAX	0.00	0.01	0.25	0.14	0.01	0.29	0.30	0.08	0.10	0.01	0.00	0.26	0.15	0.07	0.01	0.01	0.01	0.08	0.05	0.11	0.24	0.04	0.06	0.23				
HOURLY AVG	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.01				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

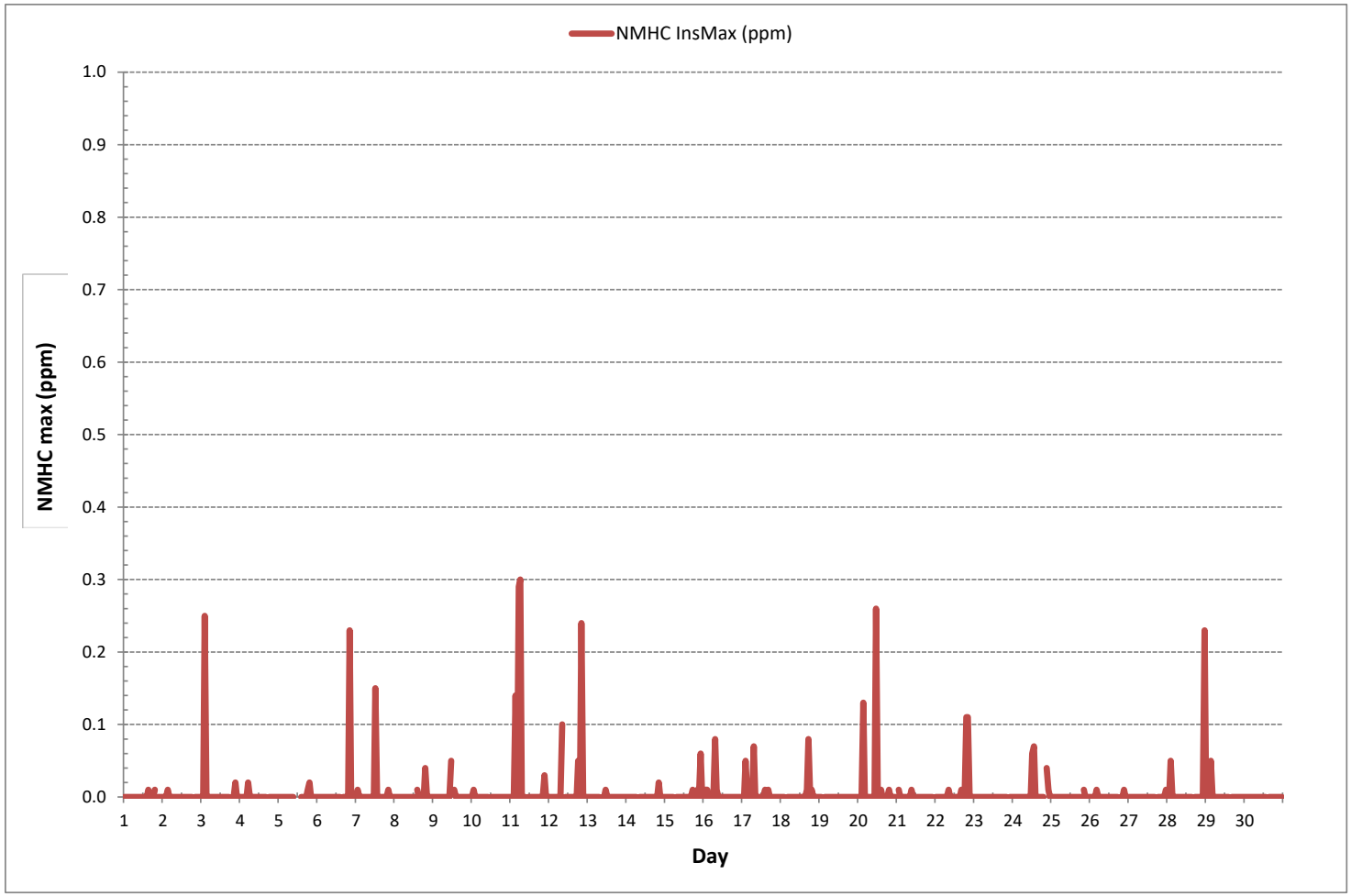
NUMBER OF NON-ZERO READINGS: 62

MAXIMUM INSTANTANEOUS VALUE: 0.30 ppm @ HOUR 6 ON DAY 11

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 4 hrs
STANDARD DEVIATION: 0.03

OPERATIONAL TIME: 720 hrs

NON-METHANE HYDROCARBONS Instantaneous Maximum (NMHC ppm)



OXIDES OF NITROGEN Instantaneous Maximum (NO_x ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	3	4	4	4	4	5	5	5	4	3	3	3	3	3	3	3	3	3	3	4	S	4	5	5	3	5	4	24
2	5	5	5	5	5	7	5	5	3	4	3	5	2	2	4	1	2	2	2	S	9	2	2	2	1	9	4	24
3	3	4	3	3	3	5	13	13	6	17	3	2	2	3	3	5	3	1	S	7	5	5	2	2	1	17	5	24
4	1	1	2	2	3	3	9	12	3	2	8	C	C	C	C	C	C	S	5	5	5	2	7	3	1	12	-	24
5	3	4	4	4	5	5	8	5	11	2	12	2	8	5	3	4	S	3	5	1	7	5	2	3	1	12	5	24
6	3	3	4	5	5	6	5	6	4	3	4	2	2	2	1	S	2	1	1	1	1	1	1	1	1	6	3	24
7	1	0	1	0	0	0	1	1	1	0	1	1	1	2	S	6	2	1	2	1	6	4	1	2	0	6	2	24
8	1	0	0	1	0	1	1	4	2	1	3	3	1	S	2	1	1	1	0	1	1	1	1	1	0	4	1	24
9	1	1	1	1	1	4	1	1	1	1	1	1	S	1	2	5	10	2	1	8	24	1	1	2	1	24	3	24
10	3	5	5	6	7	13	11	15	5	3	1	S	8	3	2	2	11	2	6	2	3	1	1	1	1	15	5	24
11	1	1	1	1	1	3	3	5	5	4	S	4	1	2	1	7	2	3	2	3	2	2	1	2	1	7	3	24
12	2	2	3	4	4	10	4	12	39	S	8	10	16	25	14	6	2	3	3	7	1	2	4	4	1	39	8	24
13	4	5	6	6	4	4	6	3	S	4	2	2	1	2	7	4	2	2	2	1	2	1	1	1	1	7	3	24
14	1	1	1	1	1	1	7	S	9	2	1	1	2	1	1	1	3	3	2	1	1	1	1	1	1	9	2	24
15	1	1	1	1	1	2	S	10	12	2	2	3	3	2	2	3	1	1	1	1	1	1	2	2	1	12	2	24
16	1	2	1	1	1	S	2	6	2	5	7	1	5	9	2	1	1	1	2	2	2	3	3	4	1	9	3	24
17	4	4	3	3	S	6	13	12	5	43	4	2	2	8	3	7	1	3	6	2	2	3	4	5	1	43	6	24
18	5	5	5	S	6	6	6	5	5	3	4	4	10	2	2	3	4	2	5	2	2	2	2	3	2	10	4	24
19	3	3	S	5	5	5	6	4	7	5	4	2	2	2	1	2	2	1	3	4	2	2	1	1	1	7	3	24
20	1	S	2	3	3	2	1	1	2	1	1	1	1	1	1	4	2	3	2	1	1	1	1	1	1	4	2	24
21	S	2	1	1	1	1	2	3	3	5	4	5	10	1	3	16	4	2	4	3	2	1	1	S	1	16	3	24
22	6	4	1	1	1	1	1	2	2	3	4	3	1	1	1	1	1	2	3	1	1	2	S	2	1	6	2	24
23	3	1	1	1	1	1	1	1	1	1	3	2	3	1	1	1	2	9	1	1	1	S	2	1	1	9	2	24
24	1	1	1	1	1	1	4	23	2	3	1	5	15	22	3	1	4	12	1	2	S	8	1	1	1	23	5	24
25	1	1	1	1	1	1	1	2	2	1	1	8	1	12	2	0	1	1	8	S	13	1	1	1	0	13	3	24
26	1	1	1	1	1	17	7	3	9	1	1	3	2	1	1	1	6	1	S	4	1	1	4	1	1	17	3	24
27	1	1	1	1	1	2	1	4	5	4	1	1	9	1	1	1	1	S	2	1	1	1	1	1	1	9	2	24
28	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	S	3	3	3	4	1	1	3	1	4	2	24
29	1	1	1	1	3	5	1	2	2	1	1	2	4	2	1	S	2	1	1	5	2	3	1	1	1	5	2	24
30	1	1	1	1	1	1	0	1	1	4	1	1	2	7	S	2	3	1	1	1	5	9	1	3	0	9	2	24
HOURLY MAX	6	5	6	6	7	17	13	23	39	43	12	10	16	25	14	16	11	12	8	8	24	9	7	5				
HOURLY AVG	2	2	2	2	2	4	4	6	5	4	3	3	4	4	3	3	3	3	3	3	4	2	2	2				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

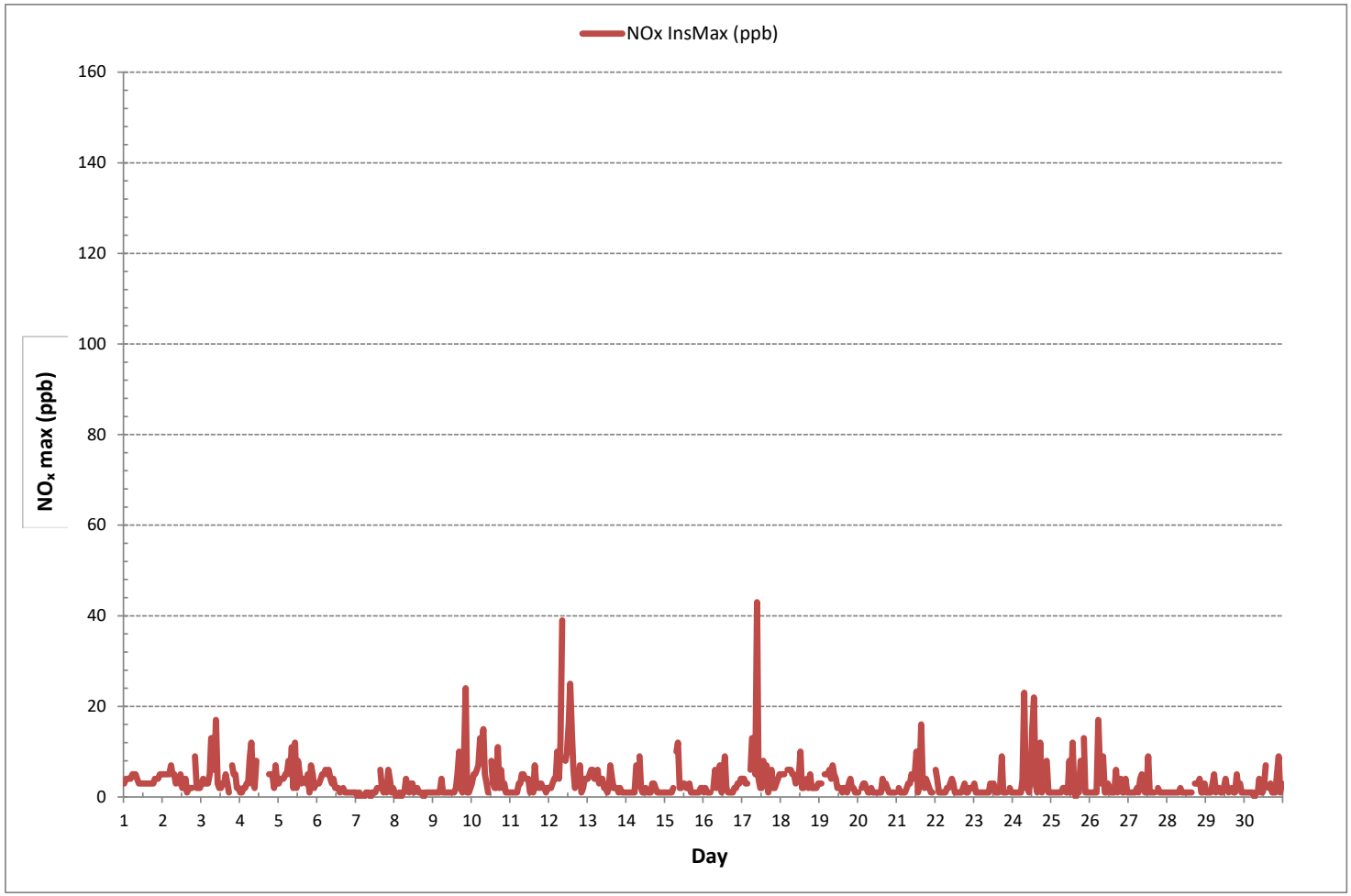
NUMBER OF NON-ZERO READINGS: 672

MAXIMUM INSTANTANEOUS VALUE: 43 ppb @ HOUR 9 ON DAY 17

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 6 hrs
STANDARD DEVIATION: 4

OPERATIONAL TIME: 720 hrs

OXIDES OF NITROGEN Instantaneous Maximum (NO_x ppb)



NITRIC OXIDE Instantaneous Maximum (NO ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	1	0	24
2	0	0	0	0	0	1	1	1	0	1	1	2	1	1	1	0	0	0	0	S	1	0	0	0	0	2	1	24
3	0	0	0	0	0	0	2	2	1	7	1	0	0	1	1	1	1	0	S	2	1	1	0	0	0	7	1	24
4	0	0	0	0	0	1	4	12	1	1	4	C	C	C	C	C	C	S	1	1	1	0	2	0	0	12	-	24
5	0	0	0	0	0	1	3	2	5	1	5	1	5	2	1	2	S	0	2	0	1	0	0	0	0	5	1	24
6	0	0	0	0	0	0	1	2	1	1	0	0	1	1	0	S	0	0	0	0	0	0	0	0	0	2	0	24
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	2	1	0	1	0	3	3	0	1	0	3	0	24
8	0	0	0	0	0	0	0	3	1	0	1	1	0	S	1	0	1	0	0	0	0	0	0	0	0	3	0	24
9	0	0	0	0	0	2	0	0	1	0	1	0	S	0	1	2	4	1	0	1	7	0	0	0	0	7	1	24
10	0	0	0	0	1	6	5	9	2	1	0	S	5	3	0	1	5	0	2	0	0	0	0	0	0	9	2	24
11	0	0	0	0	0	1	1	3	2	2	S	2	0	1	0	4	0	1	0	0	0	0	0	0	0	4	1	24
12	0	0	0	0	0	4	1	6	24	S	3	5	7	18	10	2	1	1	1	2	0	0	0	0	0	24	4	24
13	0	0	0	0	0	0	2	1	S	1	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	2	0	24
14	0	0	0	0	0	0	4	S	6	1	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	6	1	24
15	0	0	0	0	0	0	S	4	9	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	9	1	24
16	0	0	0	0	0	S	0	2	1	2	4	0	4	6	0	0	0	0	0	0	0	0	0	0	0	6	1	24
17	0	0	0	0	S	2	6	5	2	30	1	0	0	3	0	2	0	0	1	0	0	0	0	0	0	30	2	24
18	0	0	0	S	0	1	1	1	1	1	1	1	3	0	1	1	1	0	1	0	0	0	0	0	0	3	1	24
19	0	0	S	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	24
20	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	24
21	S	0	0	0	0	0	0	1	1	1	1	1	7	0	0	10	2	0	1	1	0	0	0	S	0	10	1	24
22	1	1	0	0	0	0	0	1	1	2	2	2	0	0	0	0	0	0	0	0	0	0	S	0	0	2	0	24
23	1	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	2	0	0	0	S	0	0	0	2	0	24
24	0	0	0	0	0	0	3	15	1	1	0	3	10	12	2	0	2	10	0	0	S	1	0	0	0	15	3	24
25	0	0	0	0	0	0	0	0	1	0	0	3	0	4	1	0	0	0	3	S	4	0	0	0	0	4	1	24
26	0	0	0	0	0	11	3	2	4	0	0	1	1	0	0	0	1	0	S	1	0	0	1	0	0	11	1	24
27	0	0	0	0	0	0	0	1	1	1	0	0	20	0	0	0	0	S	0	0	0	0	0	0	0	20	1	24
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	1	2	2	0	0	1	0	2	0	24
29	0	0	0	0	0	1	0	0	0	0	0	1	1	1	0	S	0	0	0	1	0	1	0	0	0	1	0	24
30	0	0	0	0	0	0	0	0	1	3	1	1	1	3	S	0	2	0	0	0	2	3	0	1	0	3	1	24
HOURLY MAX	1	1	0	0	1	11	6	15	24	30	5	5	20	18	10	10	5	10	3	2	7	3	2	1				
HOURLY AVG	0	0	0	0	0	1	1	3	2	2	1	1	2	2	1	1	1	1	1	0	1	0	0	0				

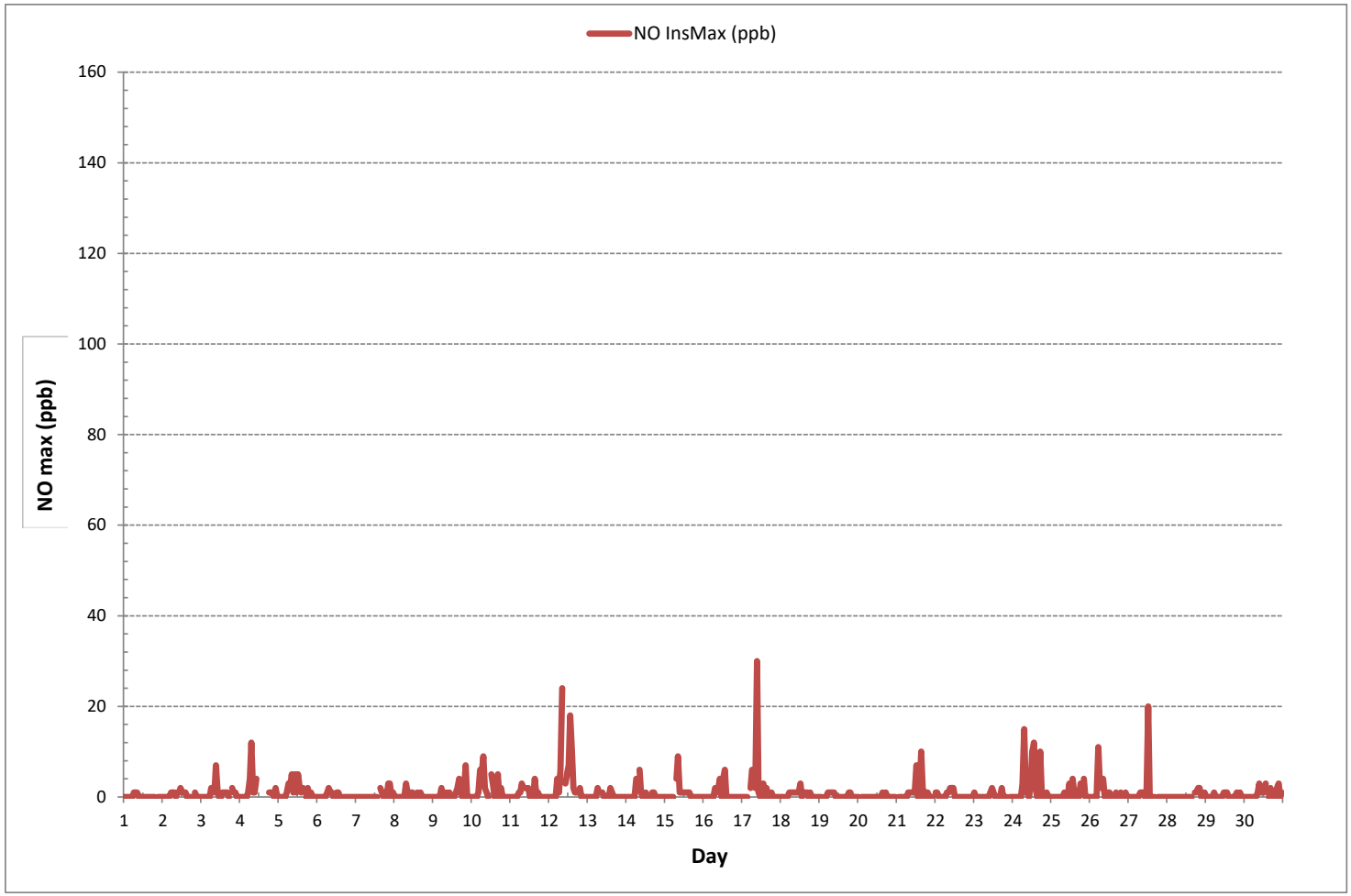
STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	238					
MAXIMUM INSTANTANEOUS VALUE:	30	ppb	@ HOUR	9	ON DAY	17
IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:			720 hrs
MONTHLY CALIBRATION TIME:	6	hrs				
STANDARD DEVIATION:	2					

NITRIC OXIDE Instantaneous Maximum (NO ppb)



NITROGEN DIOXIDE Instantaneous Maximum (NO_2 ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	3	4	4	4	4	4	4	4	3	3	3	3	2	2	3	3	3	3	3	4	S	4	4	5	2	5	3	24
2	5	4	5	5	5	6	5	4	3	3	2	3	1	2	3	1	1	1	1	S	8	2	1	2	1	8	3	24
3	3	4	3	3	3	4	11	11	5	10	3	2	2	2	3	3	2	1	S	4	4	4	2	1	1	11	4	24
4	1	1	1	2	3	3	5	4	2	2	4	C	C	C	C	C	C	S	4	4	4	2	5	3	1	5	-	24
5	3	4	4	4	4	4	5	3	6	2	7	1	4	4	2	3	S	2	3	1	7	5	2	3	1	7	4	24
6	3	3	4	5	5	6	4	5	3	3	3	1	1	1	1	S	2	1	1	1	1	1	1	1	1	6	2	24
7	1	1	1	1	0	1	1	1	1	0	1	0	1	1	S	4	2	1	2	1	3	2	1	1	0	4	1	24
8	1	1	1	1	1	1	1	2	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	2	1	24
9	1	1	1	1	1	2	1	1	1	1	1	1	S	1	1	3	6	2	1	7	16	2	1	2	1	16	2	24
10	3	5	5	6	6	8	6	7	3	2	1	S	3	2	1	2	6	2	4	1	2	1	1	1	1	8	3	24
11	1	1	1	1	1	2	2	2	3	2	S	2	1	1	1	3	1	2	1	2	2	2	1	2	1	3	2	24
12	2	2	3	4	4	5	3	6	16	S	5	5	9	7	5	4	1	2	2	5	1	2	4	4	1	16	5	24
13	4	5	6	6	4	4	4	3	S	3	2	1	1	2	5	3	2	1	2	1	1	1	1	1	1	6	3	24
14	1	1	1	1	1	1	3	S	3	2	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	3	1	24
15	1	1	1	1	1	1	S	5	4	1	1	2	2	1	1	2	1	1	1	1	1	1	2	2	1	5	1	24
16	1	2	1	1	1	S	2	4	2	3	4	1	1	4	1	1	1	1	1	2	2	3	3	4	1	4	2	24
17	4	4	3	3	S	5	7	8	4	13	3	2	2	5	2	5	1	3	5	2	2	3	4	5	1	13	4	24
18	5	5	5	S	6	5	5	4	4	3	3	3	7	2	2	2	3	2	4	2	1	2	2	3	1	7	4	24
19	2	3	S	5	5	4	5	3	6	5	3	2	2	2	1	2	2	1	3	3	2	2	1	1	1	6	3	24
20	1	S	2	4	3	2	1	1	2	1	1	1	1	1	1	3	2	2	2	1	1	1	1	1	1	4	2	24
21	S	2	1	1	1	1	2	2	3	4	4	4	4	1	2	9	3	2	3	2	1	1	1	S	1	9	3	24
22	5	3	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	2	2	1	1	1	S	2	1	5	2	24
23	3	1	1	1	1	1	1	1	1	1	2	1	2	1	1	1	2	6	1	1	1	S	2	1	1	6	1	24
24	1	1	1	1	1	1	1	9	1	2	1	3	5	10	1	1	2	4	1	2	S	7	1	1	1	10	2	24
25	1	1	1	1	1	1	1	1	1	1	1	5	0	7	1	1	1	1	5	S	9	1	1	1	0	9	2	24
26	1	1	1	1	1	7	4	2	5	1	1	1	1	1	1	1	5	1	S	3	1	1	3	1	1	7	2	24
27	2	1	1	1	1	1	1	3	4	3	1	1	2	1	1	1	1	S	2	1	1	1	1	1	1	4	1	24
28	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	S	2	2	3	2	1	1	2	1	3	1	24
29	1	1	1	1	3	4	1	2	2	1	1	2	3	1	1	S	2	1	1	5	2	3	1	1	1	5	2	24
30	1	1	1	1	1	1	0	0	1	2	1	1	1	5	S	2	1	1	1	1	3	6	1	2	0	6	1	24
HOURLY MAX	5	5	6	6	6	8	11	11	16	13	7	5	9	10	5	9	6	6	5	7	16	7	5	5				
HOURLY AVG	2	2	2	2	2	3	3	3	3	3	2	2	2	3	2	2	2	2	2	2	3	2	2	2				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

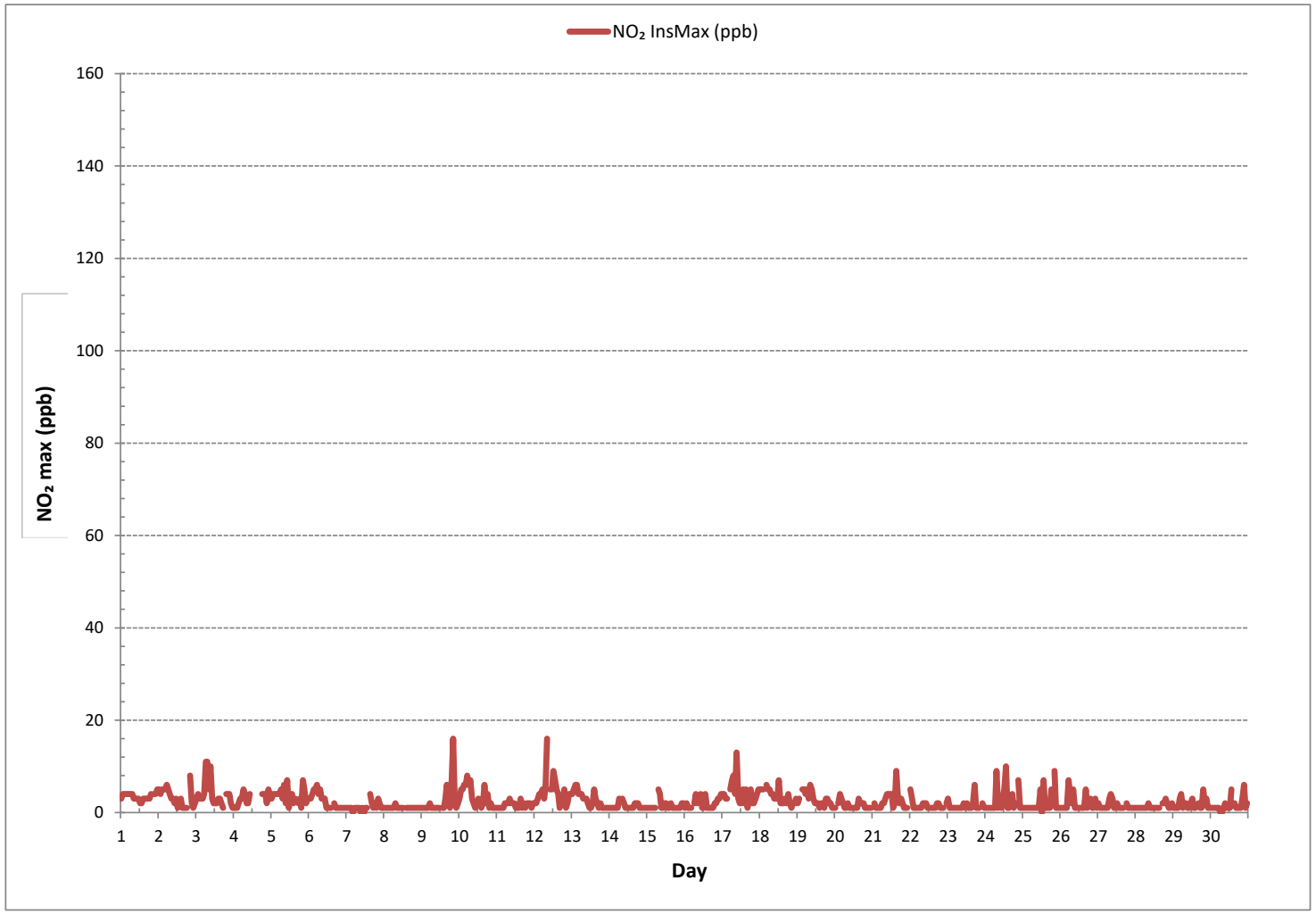
NUMBER OF NON-ZERO READINGS: 677

MAXIMUM INSTANTANEOUS VALUE: 16 ppb @ HOUR 20 ON DAY 9

VAR-VARIOUS

IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	720	hrs
MONTHLY CALIBRATION TIME:	6	hrs			
STANDARD DEVIATION:	2				

NITROGEN DIOXIDE Instantaneous Maximum (NO_2 ppb)



OZONE Instantaneous Maximum (O_3 ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	32.6	35.5	29.6	31.9	29.9	29.6	29.9	35.7	41.5	46.9	50.5	56.5	58.7	61.5	64.1	67.7	**69.4**	69.4	67.7	66.8	**S**	63.3	58.7	49.3	29.6	**69.4**	49.8	24
2	44.2	37.9	36.7	31.2	32.9	32.9	31.0	36.8	42.0	45.5	48.3	47.7	47.8	50.5	50.9	48.5	48.9	48.1	47.9	**S**	44.7	46.1	45.0	43.2	31.0	50.9	43.0	24
3	39.1	40.6	45.0	44.7	44.9	41.6	28.9	32.5	45.2	45.8	35.7	38.7	41.2	39.8	42.6	46.3	51.3	50.5	**S**	46.5	44.6	40.3	36.3	35.5	28.9	51.3	41.6	24
4	33.5	30.7	33.6	30.5	23.3	21.2	23.0	29.5	33.9	37.0	37.9	38.2	41.2	42.3	42.7	43.6	44.5	**S**	44.3	42.7	40.0	36.1	34.8	35.8	21.2	44.5	35.7	24
5	33.3	29.7	26.2	22.0	19.6	23.1	26.6	32.9	34.4	35.4	**C**	**C**	**C**	**C**	**C**	44.8	**S**	47.9	47.7	45.9	48.4	49.1	47.4	35.3	19.6	49.1	36.1	24
6	30.4	29.4	27.8	23.6	21.4	19.8	21.6	22.3	24.2	23.2	18.4	19.9	18.3	18.2	21.2	**S**	20.6	22.2	22.1	21.6	21.9	23.5	24.1	23.7	18.2	30.4	22.6	24
7	22.4	21.1	19.6	20.2	19.5	19.4	19.9	19.8	19.5	18.8	19.3	20.0	20.8	20.8	**S**	22.7	25.7	28.2	33.8	28.0	21.6	20.6	20.0	19.9	18.8	33.8	21.8	24
8	18.4	18.2	18.1	19.7	21.6	22.6	22.4	23.7	25.7	27.3	30.9	31.2	31.7	**S**	31.9	31.1	30.2	31.0	31.1	29.4	28.4	26.8	26.5	26.1	18.1	31.9	26.2	24
9	25.1	28.5	27.7	29.6	28.8	26.6	25.6	26.7	29.1	31.4	34.9	37.5	**S**	39.3	40.0	40.8	40.2	40.6	40.3	39.1	38.5	35.2	33.3	29.8	25.1	40.8	33.4	24
10	23.5	20.6	17.5	15.6	12.9	14.5	20.0	23.8	27.8	33.9	35.9	**S**	36.3	36.7	36.0	38.3	35.0	36.1	33.2	31.7	30.1	29.8	28.3	25.3	12.9	38.3	27.9	24
11	23.6	22.7	22.1	22.8	22.1	22.1	21.6	22.6	24.5	30.7	**S**	34.8	34.0	35.3	35.5	35.9	36.5	35.3	32.1	29.0	29.8	27.5	28.1	27.5	21.6	36.5	28.5	24
12	26.8	26.5	24.8	21.7	17.5	16.2	23.6	23.9	27.9	**S**	32.4	31.4	30.9	31.5	34.5	37.9	38.9	39.3	39.1	37.9	36.9	36.3	35.8	34.2	16.2	39.3	30.7	24
13	32.1	28.9	29.4	25.0	26.2	26.6	28.1	25.4	**S**	25.2	34.3	40.4	43.9	43.7	38.3	39.2	39.6	38.0	36.7	37.4	35.4	32.5	32.3	32.6	25.0	43.9	33.5	24
14	31.9	28.5	28.8	28.8	28.3	24.7	23.5	**S**	26.1	32.2	32.6	32.7	34.2	35.9	36.4	36.6	37.1	37.6	39.1	33.9	32.8	33.5	32.8	28.5	23.5	39.1	32.0	24
15	28.3	25.5	24.6	24.9	22.8	23.0	**S**	22.2	23.1	27.3	30.0	32.0	34.1	38.4	38.3	32.6	31.8	34.4	33.9	35.9	32.2	31.2	31.4	26.0	22.2	38.4	29.7	24
16	26.9	25.4	22.2	22.7	20.5	**S**	20.8	24.8	29.9	31.4	31.8	33.0	34.7	39.4	39.5	39.1	37.5	36.8	35.9	36.7	34.7	33.4	31.9	31.8	20.5	39.5	31.3	24
17	27.3	27.6	27.4	25.9	**S**	23.4	24.5	25.7	32.0	38.3	45.9	53.0	53.1	52.1	52.4	51.6	51.7	52.4	51.8	51.8	48.4	45.0	42.4	41.7	23.4	53.1	41.1	24
18	41.6	40.7	40.0	**S**	35.8	35.1	35.2	37.3	44.7	45.8	45.5	53.2	54.6	53.7	47.4	42.9	43.9	49.6	48.7	43.1	40.6	35.3	33.6	32.6	32.6	54.6	42.6	24
19	32.1	28.6	**S**	24.9	24.7	27.9	39.3	39.2	34.6	39.4	37.5	39.5	38.4	40.9	44.6	44.3	38.7	39.9	37.6	31.6	26.0	25.7	19.4	19.7	19.4	44.6	33.7	24
20	19.6	**S**	25.0	26.3	35.5	42.7	42.8	42.2	38.5	43.7	46.1	51.4	52.2	46.8	44.6	48.6	49.3	45.0	40.2	39.1	39.2	38.3	38.1	38.1	19.6	52.2	40.6	24
21	**S**	33.1	31.0	28.9	27.3	26.8	26.5	27.6	29.8	34.8	34.3	43.4	46.8	38.7	49.2	55.7	51.4	49.6	38.8	39.6	40.0	37.5	35.7	**S**	26.5	55.7	37.6	24
22	46.5	40.8	36.0	36.0	34.6	30.6	28.1	24.2	25.3	32.8	33.9	35.4	32.0	31.8	40.1	39.8	38.1	38.3	34.2	35.7	34.4	31.5	**S**	35.3	24.2	46.5	34.6	24
23	35.3	25.7	26.2	26.0	24.2	23.9	21.6	24.8	32.0	34.1	37.0	45.1	46.2	47.4	41.1	41.6	45.2	40.7	39.9	34.4	30.0	**S**	30.4	29.4	21.6	47.4	34.0	24
24	28.4	27.0	25.3	26.0	26.0	24.5	23.1	23.9	25.0	28.7	30.5	31.2	32.9	29.3	29.2	31.6	32.1	30.5	33.0	33.5	**S**	27.0	22.6	20.6	20.6	33.5	27.9	24
25	18.6	18.4	19.7	19.1	15.8	14.7	16.2	21.7	21.4	23.1	27.6	35.3	32.0	36.0	38.9	33.8	38.7	37.5	35.5	**S**	38.5	34.7	28.0	30.8	14.7	38.9	27.7	24
26	30.2	34.8	26.3	24.2	23.1	20.0	17.9	20.7	22.3	25.8	33.4	29.2	30.1	36.9	39.1	33.9	33.6	33.2	**S**	31.1	29.8	34.2	36.5	35.2	17.9	39.1	29.6	24
27	33.5	34.3	33.3	31.6	28.5	30.7	23.0	23.1	24.3	31.8	34.9	38.8	42.1	41.1	42.0	41.1	41.2	**S**	36.5	33.0	32.7	28.2	26.0	25.1	23.0	42.1	32.9	24
28	23.7	23.5	21.2	19.7	22.2	20.2	34.5	29.3	38.0	46.5	40.7	38.9	27.2	41.5	42.8	46.0	**S**	48.0	48.9	34.9	46.2	47.7	43.8	39.2	19.7	48.9	35.8	24
29	35.9	36.3	33.7	29.4	26.3	24.1	24.9	27.2	36.4	36.2	40.6	44.2	46.7	44.3	42.2	**S**	38.8	41.9	40.3	33.7	36.2	31.2	29.1	27.5	24.1	46.7	35.1	24
30	27.7	26.8	25.2	23.2	22.5	20.3	22.6	25.1	25.6	31.2	30.9	30.3	39.5	38.9	**S**	34.8	36.6	35.3	35.2	32.8	29.1	28.0	28.4	28.3	20.3	39.5	29.5	24
HOURLY MAX	46.5	40.8	45.0	44.7	44.9	42.7	42.8	42.2	45.2	46.9	50.5	56.5	58.7	61.5	64.1	67.7	69.4	69.4	67.7	66.8	48.4	63.3	58.7	49.3				
HOURLY AVG	30.1	29.2	27.7	26.1	25.5	25.1	25.7	27.4	30.5	33.9	35.4	38.0	38.6	39.7	40.9	41.1	40.2	40.6	39.5	37.0	35.4	34.8	33.1	31.3				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

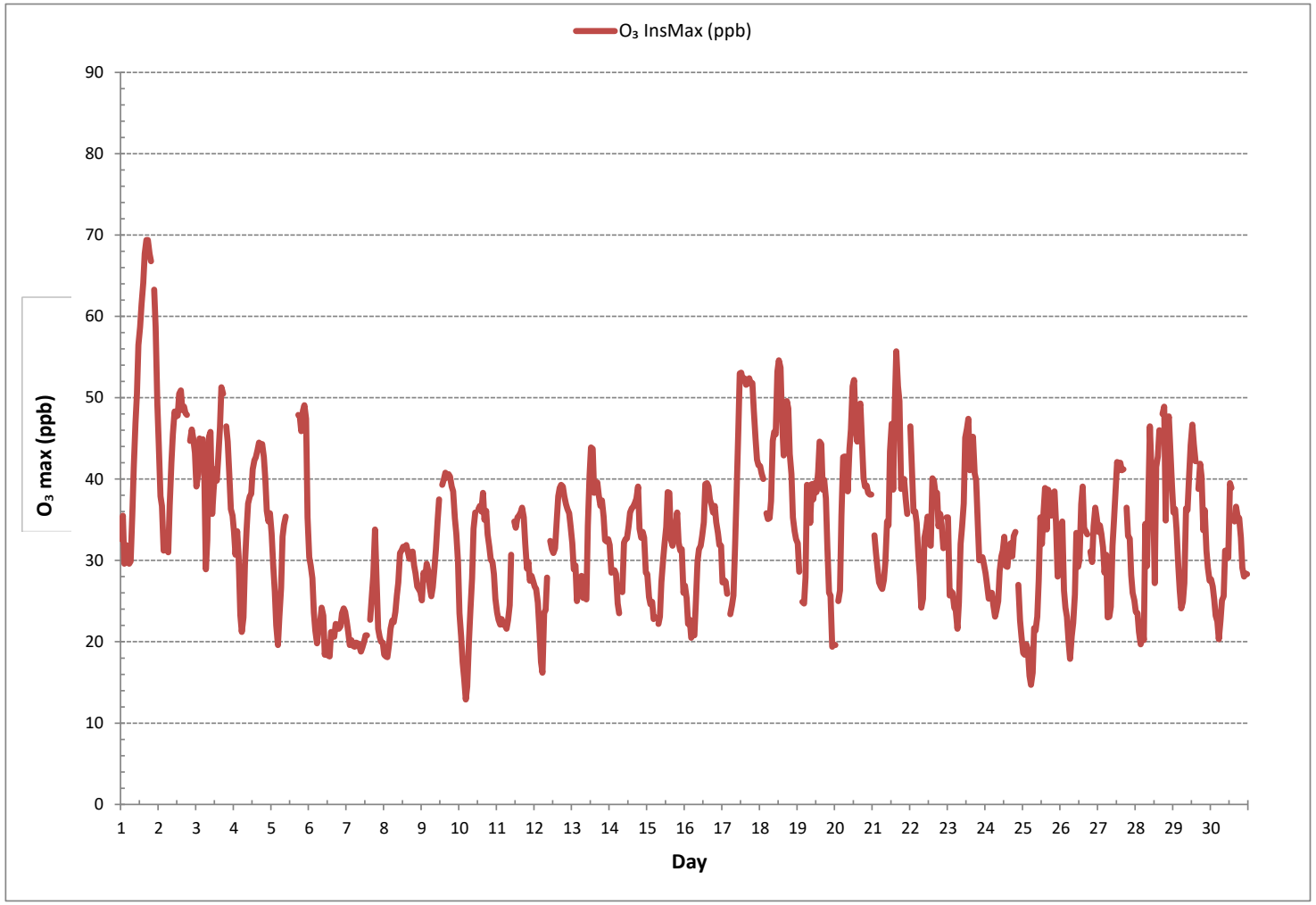
NUMBER OF NON-ZERO READINGS: 684

MAXIMUM INSTANTANEOUS VALUE: 69.4 ppb @ HOUR 16 ON DAY 1

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 5 hrs
STANDARD DEVIATION: 9.4

OPERATIONAL TIME: 720 hrs

OZONE Instantaneous Maximum (O_3 ppb)



WIND SPEED Instantaneous Maximum (WS kph)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	18.3	19.3	14.9	18.6	15.0	16.5	19.7	21.4	24.7	27.8	31.2	33.7	32.4	40.0	33.1	31.2	33.2	29.5	23.7	27.7	39.2	34.4	29.2	33.3	14.9	40.0	27.0	24
2	31.8	24.5	21.3	15.7	15.3	16.3	25.8	22.5	27.7	32.2	23.9	19.0	19.7	24.5	24.9	17.5	19.3	13.2	7.6	6.4	8.4	8.8	12.4	10.8	6.4	32.2	18.7	24
3	11.6	13.7	20.9	21.2	18.8	14.7	24.5	24.0	19.2	23.9	26.3	26.8	24.9	28.3	26.6	40.8	57.6	37.2	26.7	18.6	9.8	19.0	14.1	14.5	9.8	57.6	23.5	24
4	10.3	13.4	14.9	15.3	13.6	11.1	14.6	25.9	29.7	40.2	43.9	41.6	49.2	37.1	36.4	26.2	28.9	**58.1**	33.3	25.3	16.3	18.3	12.0	16.3	10.3	**58.1**	26.3	24
5	12.0	10.5	8.7	9.7	11.1	13.8	8.1	18.0	16.9	18.1	18.3	47.0	32.1	25.6	27.2	25.8	20.0	22.1	16.5	8.8	7.3	4.6	10.2	18.2	4.6	47.0	17.1	24
6	21.0	8.5	12.8	11.4	10.8	15.6	22.8	30.2	27.7	25.9	22.9	26.3	33.1	32.2	35.0	38.1	32.6	33.0	36.4	28.5	30.4	35.2	36.0	32.6	8.5	38.1	26.6	24
7	32.8	34.5	34.8	31.6	36.6	36.9	35.3	37.0	41.2	37.8	40.2	44.3	43.3	39.6	33.1	39.8	43.8	47.6	57.5	26.9	26.4	21.5	15.9	19.9	15.9	57.5	35.8	24
8	15.3	17.7	20.0	14.1	16.7	15.1	20.3	24.2	32.0	34.8	34.1	37.9	39.5	32.5	33.3	35.5	32.2	25.8	24.1	19.4	15.6	12.1	11.0	13.6	11.0	39.5	24.0	24
9	11.0	14.0	13.2	18.9	13.7	12.0	16.2	20.4	22.0	21.7	25.1	30.2	32.7	30.1	25.5	32.0	23.7	25.7	19.0	9.0	4.8	7.6	9.1	9.9	4.8	32.7	18.6	24
10	10.9	13.2	13.6	11.6	10.3	13.1	20.5	21.7	31.5	33.7	33.7	35.2	39.4	35.2	51.8	45.6	21.9	31.2	12.8	15.6	13.1	13.9	14.9	15.2	10.3	51.8	23.3	24
11	14.2	14.5	11.6	14.7	12.5	11.4	10.3	14.7	11.5	15.3	20.9	21.0	22.7	23.5	23.4	20.2	23.9	37.9	19.7	18.6	24.6	14.4	14.9	16.2	10.3	37.9	18.0	24
12	15.8	15.1	13.8	13.6	11.0	12.9	14.3	15.6	15.3	14.9	24.0	19.7	23.8	25.5	21.4	19.4	20.5	19.4	10.2	6.3	10.6	12.5	12.9	14.1	6.3	25.5	15.9	24
13	13.0	15.9	23.9	22.9	25.9	23.1	17.5	7.2	16.3	16.0	14.9	18.3	21.2	22.5	21.4	14.5	11.3	10.3	10.9	5.0	43.0	28.0	5.7	7.5	5.0	43.0	17.3	24
14	11.2	19.5	17.0	14.7	16.5	20.8	16.7	21.0	21.1	25.1	30.8	27.9	29.1	33.2	25.9	23.6	22.7	23.1	34.5	16.2	14.9	13.0	16.4	14.0	11.2	34.5	21.2	24
15	17.2	16.9	18.6	15.6	17.1	15.7	11.1	14.8	17.8	18.4	20.0	22.4	23.2	40.8	21.0	21.3	16.2	22.4	18.3	17.6	12.7	7.6	11.3	11.1	7.6	40.8	17.9	24
16	11.5	11.1	12.5	16.2	13.9	13.0	11.3	10.6	8.9	14.0	16.8	18.6	17.9	17.3	16.5	19.8	15.0	20.2	9.6	8.3	18.1	16.2	17.0	16.7	8.3	20.2	14.6	24
17	18.6	21.6	20.9	16.8	14.8	16.7	16.6	12.9	14.2	17.7	17.8	17.4	19.0	22.9	24.1	28.0	26.4	24.7	20.7	21.1	17.9	21.2	22.8	23.5	12.9	28.0	19.9	24
18	22.1	18.6	21.6	21.1	20.2	19.2	18.8	20.6	25.2	25.1	22.6	24.4	23.0	36.1	35.1	23.3	16.7	17.9	20.5	13.3	9.2	8.8	8.4	7.2	7.2	36.1	19.9	24
19	10.8	14.1	13.7	12.9	14.2	15.8	19.5	18.8	24.6	26.6	23.7	19.5	23.8	40.1	22.1	24.2	21.4	18.4	17.4	18.2	11.7	10.0	7.6	13.9	7.6	40.1	18.5	24
20	13.9	15.5	28.7	24.3	34.1	39.7	45.2	49.2	44.5	35.9	24.9	24.5	22.5	25.8	25.4	43.3	12.8	20.4	20.7	23.2	20.9	21.8	25.1	26.9	12.8	49.2	27.9	24
21	22.0	19.2	16.8	15.9	15.3	12.3	13.7	13.4	13.6	11.9	12.9	18.9	19.4	21.8	38.0	34.5	29.1	24.3	25.3	24.3	22.4	16.6	18.5	21.7	11.9	38.0	20.1	24
22	20.2	16.8	23.4	23.2	24.6	26.7	26.4	27.9	27.7	32.7	34.6	30.1	31.4	28.5	41.9	26.1	16.8	12.3	16.1	16.3	18.4	16.3	14.6	16.2	12.3	41.9	23.7	24
23	15.6	15.5	13.0	13.4	14.3	10.5	10.3	14.5	13.7	15.2	18.9	27.4	28.8	29.9	25.1	33.3	35.6	31.8	25.1	19.8	13.2	22.9	16.2	17.1	10.3	35.6	20.1	24
24	21.1	23.7	20.0	19.2	23.9	25.8	22.0	22.0	22.0	20.8	23.5	21.5	14.9	16.5	22.7	19.2	20.5	23.7	18.3	20.8	10.6	9.4	11.4	10.0	9.4	25.8	19.3	24
25	14.0	13.8	12.0	9.5	11.5	12.0	15.0	12.2	13.5	12.6	14.4	24.5	20.6	17.6	13.4	30.5	11.3	12.7	7.7	6.0	8.6	16.3	15.6	13.8	6.0	30.5	14.1	24
26	13.4	10.9	15.1	8.4	6.0	6.6	7.5	8.1	9.3	16.9	17.9	13.5	13.2	13.4	27.8	18.9	10.8	11.8	12.8	11.1	18.5	12.9	12.0	12.9	6.0	27.8	12.9	24
27	9.7	9.3	8.5	12.7	11.4	9.3	11.3	15.1	14.3	14.6	17.7	24.0	19.5	21.1	19.5	23.9	17.2	18.1	15.0	17.7	21.7	20.0	20.6	26.3	8.5	26.3	16.6	24
28	25.8	29.4	25.8	23.4	24.9	20.1	31.6	25.2	25.4	27.4	26.3	21.1	22.5	33.9	32.3	33.3	37.8	31.5	29.1	30.3	30.8	18.1	20.5	29.3	18.1	37.8	27.3	24
29	15.1	14.9	15.3	9.4	12.5	15.6	13.1	15.8	20.2	22.0	27.2	27.6	32.2	22.4	21.6	42.6	38.3	33.3	24.9	17.1	15.6	24.6	11.7	21.4	9.4	42.6	21.4	24
30	20.6	28.6	27.8	29.3	29.6	23.0	21.7	19.9	21.8	30.6	32.6	34.5	52.5	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	16.5	**X**	16.5	52.5	-	14
HOURLY MAX	32.8	34.5	34.8	31.6	36.6	39.7	45.2	49.2	44.5	40.2	43.9	47.0	52.5	40.8	51.8	45.6	57.6	58.1	57.5	30.3	43.0	35.2	36.0	33.3				

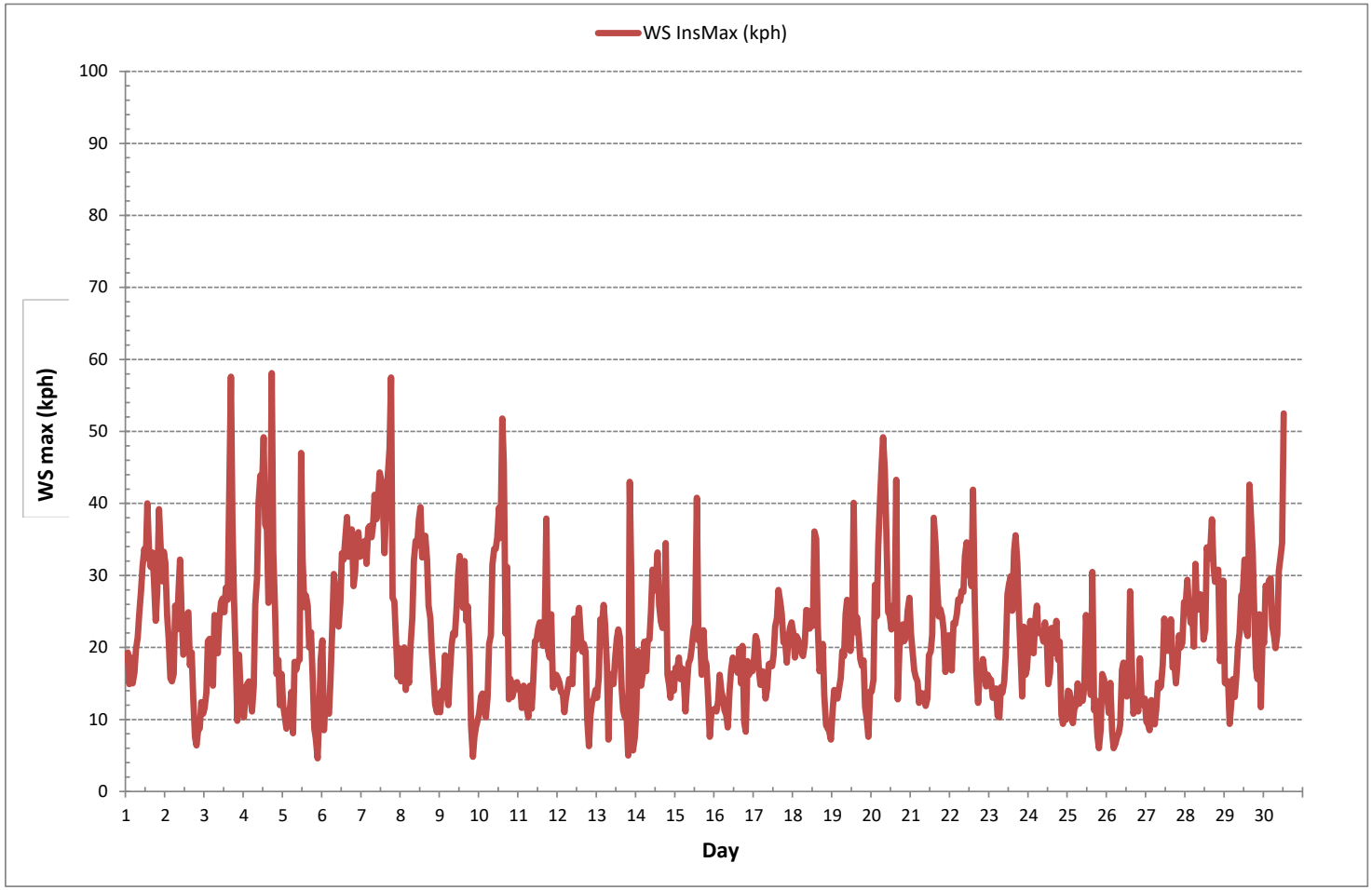
STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS VALUE:	58.1	kph	@ HOUR	17	ON DAY	4
OPERATIONAL TIME:					710	hrs

WIND SPEED Instantaneous Maximum (WS kph)



1.0 Quality Control Activities

Quality control procedures are established to govern the performance of the monitoring equipment and to protect operational uptime. Data collected during QC/QA activities are assigned a data validation code to comply with the requirements outlined in Chapter 6, 4.1.1, DQ 4-A (AMD, 2016). Calibrations are deemed successful only if the AMD calibration acceptance limits are met (Chapter 7, 9.0, AMD 2016).

A daily zero-span test procedure is performed for each gaseous parameter by challenging the analyzer with a zero-air source and span gas. Daily review of the data ensures the zero and span check are within the required acceptance limits and do not deviate more than ±10% from the expected value. The total zero-span cycle is complete within an hour with the zero phase commencing at the beginning of the scheduled hour. This QC activity is conducted in accordance with Chapter 7, 4.0, Cal 4-A (AMD, 2016).

The allowable time for a zero-span check is one hour per calendar day. The time allotted for the zero-span check does not contribute to downtime and is identified with a data validation code of "S". If any additional zero-span response checks are performed, the time accrued during the QC activity is considered downtime and is identified with a data validation code of "S1". The initiation of an additional zero-span check may be warranted during the investigation of operational issues or suspect data.

Each month, a scheduled multipoint calibration is performed on each gas analyzer. Prior to any adjustments, an as-found response test is completed to obtain the zero reading of the analyzer and the response to the highest span concentration. The zero and high point test gases are then re-introduced into the analyzer to establish the zero and high set-points. Once these adjustments are satisfactory, a mid-point and a low-point test concentration is introduced. Additional multi-point calibrations are required if any of the conditions, outlined in Chapter 7, 2.1, Cal 2G (AMD, 2016) exist.

The time allotted for the first multi-point calibration is not considered downtime and is identified with a data validation code of "C". If any additional as-found response checks or multipoint calibrations are performed, the time accrued during the QC activity is considered downtime and is identified with a data validation code of "C1".

A mechanical wind system undergoes annual calibration, as a minimum, while an ultrasonic wind system is factory calibrated every two years (Chapter 6, 6.0, Cal 6-A, AMD 2016). Supplementary to this, a visual inspection of the equipment is performed during each scheduled monthly site visit.

The time allotted for the wind system calibration is not considered downtime and is identified with a data validation code of "C". If function checks or additional calibrations are performed, the time accrued during the QC activity is not considered downtime and is identified with a data validation code of "Q" and "C", respectively. If QC activity goes beyond 10% of the monthly operating time, the time exceeding 10% is considered downtime and is assigned a data validation code of "C1". Data identified with a data validation code of "Q" is in accordance with Chapter 6, 4.1.3 (AMD, 2016) which states QA/QC activities are not included when calculating data completeness.

High volume samplers are calibrated every three months, as a minimum, in accordance with Chapter 7, 7.0, Cal 7-B (AMD, 2016).

Where passive sampling is in practice, quality control samples will be deployed in accordance with Chapter 4, 3.0, 3.1.3. Method blanks, replicate samples and spiked blanks are exposed and handled in the same manner as each passive sample. To comply with the data submission requirements in Chapter 9, 3.1, the replicate and corresponding passive sample concentrations are reportable data values and have not been averaged.

As recommended in Chapter 6, 4.2 (AMD 2016), daily data review is conducted to verify data and avoid significant data losses. Automated flags, originating from the data-logger, and data anomalies are reviewed and may prompt the need to dispatch a technician for investigation and/or corrective action. Additionally, there are several automated alarm scenarios that serve to screen raw data, alert technicians and elicit investigation or corrective action.

Comparisons of the measured ambient concentrations to the corresponding AAAQO are assessed using the significant figures protocol in Chapter 9, 3.1.2. If the measurement is near the set objective, raw data may undergo necessary data adjustments to confirm a true exceedance. Should an exceedance occur, Bureau Veritas will formally notify the client; however, the reporting protocol to AEP is defined by the client and may not involve Bureau Veritas. Exceedance events are acknowledged in the report, based on the information available at the time.

2.0 Data Verification and Validation

The data validation procedures, outlined in Chapter 6, 4.0, AMD 2016, are used to accept, reject and qualify data. The data verification and validation process, and the current Data Collection and Management Process Flow Chart have been compiled from sections 4.2 to 4.6 (AMD, 2016) and are shown below.

Baseline adjustments are applied by interpolation between two valid zero checks, as determined by the Data Acquisition System. In the event that zero check results are not reliable, data may be adjusted by applying a constant offset to data collected between two adjacent zero checks. Both adjustment approaches are deemed acceptable by the AMD.

Table 1 (Chapter 6) outlines the quantitative parameter relationships to be considered and dictates that data adjustments are applied equally for NO/NO_2/NOx and CH_4/NMHC/THC parameters. Below zero adjustments are applied to 1-hour averages, in accordance with Table 2 (Chapter 6), and are done after baseline corrections.

Instantaneous data, where provided, is provided for reference purposes and has not undergone zero correction. The minimum and maximum statistics are highlighted in the data table and are for reference only. The highlighted cells are based on the software's interpretation of the exact position of the minimum or maximum value. The visual presentation of these statistics may not be the obvious choice in a data range due to rounding, truncating or analyzer specifications.

All calculations and reporting of results follow the methods described in the AMD, 2016.

There were no deviations from the prescribed methods.

AMD Data Verification and Validation Process

The following steps were used to complete the data verification and validation process:

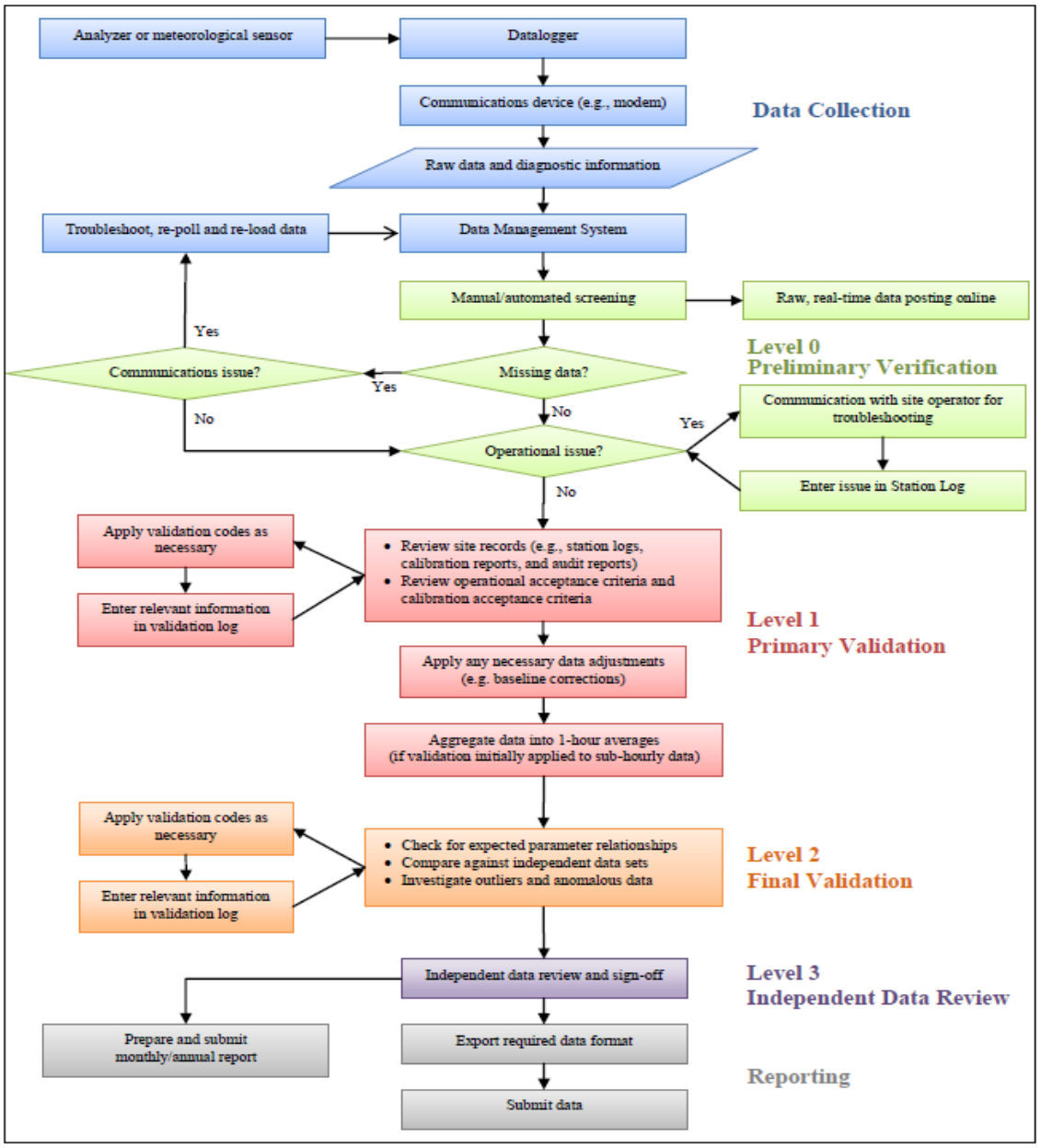
Level 0 Preliminary Verification	Level 0 data are raw data obtained directly from the data acquisition system (DAS). At this level, data undergoes a certain amount of manual or automated screening and flagging. Screening checks include: a) identification of periods of missing data; b) verification of time stamps against reference time; c) verification that instrument diagnostics/data-logger flags indicate normal operation; d) comparison of data to upper and lower limits; e) rate of change flagging indicating that data changed too rapidly or not at all; and f) verification that zero, span and multipoint performance checks are within specifications. This level of verification is performed on a daily basis.

Level 1 Primary Validation	Primary validation involves more thorough evaluation and documentation of issues identified during data screening, along with appropriate application of data validation codes. Level 1 activities include: a) review of all screening flags assigned during preliminary verification; b) review of all supporting site information and documentation; c) review of operational acceptance limits for each parameter/analyzer; d) review of daily zero/span and monthly calibration results for all gaseous parameters; and e) application of any necessary adjustments to data (e.g. baseline adjustments, below zero adjustments). This level of validation is performed on a monthly basis.

Level 2 Final Validation	The purpose of Level 2 validation is to verify that there are no inconsistencies among related data, or among regional data measured at nearby sites. At this level of review, some general knowledge of pollutant and meteorological behavior can be used to determine if data is suspect.

Level 3 Independent Data Review	Level 3 validation involves a final cursory review of validated data, and is completed by an individual independent of both field operations and primary data validation. At this level, a final independent QA review/endorsement is performed before data is submitted to Alberta Environment and Parks.

Post-Final Validation	The Post-Final Validation step serves to re-evaluate validated data for errors or omissions discovered and/or suspected after the initial monthly data submittal. This level of validation is performed on an annual basis, when annual reporting is required or requested.



Source: Air Monitoring Directive (December 2016), Chapter 6, Ambient Data Quality
Figure 1 Data Collection and Management Process Flow Chart

Validation Certificate Form

Client:	Lakeland Industry & Community Association	**Project #:**	2833-2019-06-25-C
Site:	St. Lina Continuous Monitoring Station	**Contact:**	Mike Bisaga

Level 0 Preliminary Verification	bimadeniji	**Date**	12- Jul- 2019
Level 1 Primary Validation	bimadeniji	**Date**	15- Jul- 2019
Level 2 Final Validation	bimadeniji	**Date**	23- Jul- 2019
Level 3 Independent Data Review		**Date**	23- Jul- 2019
Post-Final Validation	**NA**	**Date**	**NA**

Notes

The Post-Final Validation step serves to re-evaluate the data that errors or omissions are discovered and/or suspected after the initial submittal of data. This validation is performed on an annual basis.

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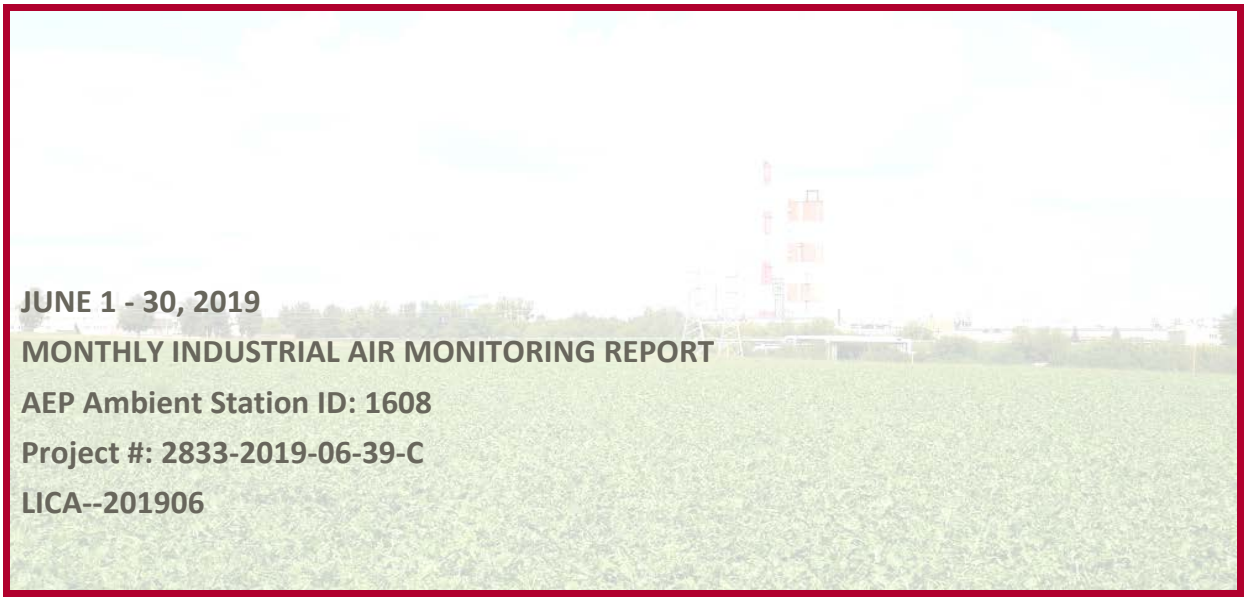

JUNE 1 - 30, 2019
MONTHLY INDUSTRIAL AIR MONITORING REPORT
AEP Ambient Station ID: 1608
Project #: 2833-2019-06-39-C
LICA--201906

Prepared for:

Lakeland Industry & Community Association

Mike Bisaga

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Facility:

Bonnyville East Site Continuous Monitoring Station

Date of Report Issuance: July 25, 2019

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Project Team Lead, Customer Service, Air Services

BUREAU VERITAS

#1 - 2080 39 Avenue NE, Calgary AB, T2E 6P7

Lakeland Industry & Community Association

5107 50 St.

Bonnyville, Alberta T9N 2J5

Attention: Mike Bisaga

Date: July 25, 2019

Subject: MONTHLY INDUSTRIAL AIR MONITORING REPORT for JUNE 1 - 30, 2019

In June 2019, Bureau Veritas was contracted to manage the ambient air quality monitoring and maintenance activities at the Bonnyville East Site Continuous Monitoring Station near Bonnyville, Alberta. The monitoring program provides measurements of ambient air pollutants and meteorological data to satisfy the reporting requirements of the Industrial Operation.

Station Parameters for Continuous Monitoring:

This monthly report, where applicable, was prepared in accordance with Chapter 9 of the Air Monitoring Directive (AMD, 2016). The report summarizes the continuous monitoring results for pollutant and meteorological parameters and presents the hourly statistics, graphs and rose charts for the month. Calibration records are provided in a separate PDF document in order to comply with AMD requirements Chapter 9, 13.1.7, RC 13-R. The station is equipped with analyzers to measure SO_2, H_2S, THC, CH_4, NMHC, NOx, NO, NO_2, $PM_{2.5}$ and O_3. The meteorological sensors and equipment capture data for WS, WD and STDWD

Exceedance & Performance Reporting:

The operational time for all continuous ambient air analyzers, meteorological systems and data acquisition systems were above the 90% requirement, as per the AMD, Chapter 6, DQ 4-C, 2016.

Non- Conformance: Comparisons of the measured ambient air concentrations to the corresponding AAAQOs were done in accordance with Appendix A, Alberta Ambient Air Quality Objective Calculation Guidelines (AMD, Chapter 9, Appendix A, 2016). For H_2S, there were concentrations recorded in excess of the Alberta Ambient Air Quality Objectives and Guidelines (AAAQO, January 2019). Nine 1-hr and one 24-hr exceedances were recorded for H_2S this month. Details of the exceedance are recorded in the AAAQO Exceedance Summary Report (Page 5). For all the remaining parameters, there were no ambient concentrations in excess of the AAAQOs.

Monthly Monitoring Overview:

In relation to the previous month, there were no changes made to the scope or management of the ambient air monitoring program.

The evaluation of data collected in the month of June did not reveal any errors or omissions that would require resubmission of air data to AEP's airdata warehouse.

During this monitoring period, there were no scheduled audits that Bureau Veritas was privy to.

H_2S: Two hours of downtime were recorded on June 24, due to an additional quality check performed to assess a biased high drift in zero and span response.

Canister System: A canister event was recorded on June 21 at 09:05, at an initial concentration of 0.52 ppm. The sample was processed for analysis by InnoTech and the results will be included in the June 2019 Integrated Report which will be prepared by LICA.

Should you have any questions concerning the results or if we can be of further assistance, please contact your Bureau Veritas representative indicated below.

Reviewed by:

Wunmi Adekanmbi, M.Sc., EPt, PMP
Project Team Lead, Customer Service, Air Services
403-219-3661

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. Certification of submitted information is specific to the contents of this report and is not intended to represent the onus of the Person Responsible, as outlined in Chapter 9, RC 12-E.

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List of Acronyms

AAAQO	Alberta Ambient Air Quality Objectives and Guidelines Summary
AEP	Alberta Environment and Parks
AMD	Air Monitoring Directive
CH_4	Methane
DAS	Data acquisition system
hr	Hour
hrs	Hours
H_2S	Hydrogen Sulphide
IZS	Internal zero-span
kph	Kilometers per hour
NO	Nitric Oxide
NO_2	Nitrogen dioxide
NOx	Total oxides of nitrogen
O_3	Ozone
NMHC	Non-Methane Hydrocarbon
$PM_{2.5}$	Particulate matter less than or equal to 2.5 microns in diameter
ppb	Parts per billion
ppm	Parts per million
QA	Quality Assurance
QC	Quality Control
SHARP	Synchronized Hybrid Ambient Real-time Particulate Monitor
SOP	Standard Operating Procedure
SO_2	Sulphur Dioxide
STDWD	Standard Deviation Wind Direction
THC	Total hydrocarbons
$\mu g/m^3$	Microgram per cubic meter
WS	Wind Speed
WD	Wind Direction
°C	Degrees Celsius

AAAQO Exceedance Summary Report

SO_2 1-Hour Exceedances

Measured concentrations of sulphur dioxide were below the 1-hour AAAQO of 172 ppb.

SO_2 24-Hour Exceedances

Measured concentrations of sulphur dioxide were below the 24-hour AAAQO of 48.0 ppb.

H_2S 1-Hour Exceedances

DATE	TIME (MST)	READING (ppb)	WS (kph)	WD (sector)	AEP Reference #
June 1	23:00	13	22.9	SSE	354168
June 2	01:00	13	23.8	SSE	354169
June 2	22:00	33	2.4	E	354169
June 3	03:00	17	10.8	SE	354228
June 21	02:00	11	4.6	E	355059
June 21	03:00	13	1.6	SE	355059
June 21	05:00	11	1.2	E	355059
June 26	02:00	14	5.2	S	355266
June 26	22:00	16	1.5	NE	355266

H_2S 24-Hour Exceedances

DATE	READING (ppb)	WS (kph)	WD (sector)	AEP Reference #
June 1	4	13.9	SSE	354168

NO_2 1-Hour Exceedances

Measured concentrations of nitrogen dioxide were below the 1-hour AAAQO of 159 ppb.

$PM_{2.5}$ 1-Hour Exceedances

Measured concentrations of fine particulate matter were below the 1-hour AAAQG of 80 µg/m³.

$PM_{2.5}$ 24-Hour Exceedances

Measured concentrations of fine particulate matter were below the 24-hour AAAQO of 29 µg/m³.

O_3 1-Hour Exceedances

Measured concentrations of ozone were below the 1-hour AAAQO of 76 ppb.

In accordance with EPEA and the Substance Release Regulation
In accordance with A Guide to Release Reporting and the Alberta Ambient Air Quality Objectives and Guidelines Summary

MONTHLY CONTINUOUS DATA SUMMARY

Lakeland Industry & Community Association Bonnyville East Site Continuous Monitoring Station						MAXIMUM VALUES							OPERATIONAL TIME (%)
						1-HOUR					24-HOUR		
PARAMETER	OBJECTIVES		EXCEEDANCES		MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (kph)	WIND DIRECTION (sector)	READING	DAY	
	1-hr	24-hr	1-hr	24-hr									
SO_2 (ppb)	172	48	0	0	0	2	1	7	10.3	SSE	1	1	100.0
H_2S (ppb)	10	3	9	1	1	33	2	22	2.4	E	4	1	99.7
THC (ppm)	-	-	-	-	2.10	2.95	3	0	2.8	N	2.23	27	100.0
CH_4 (ppm)	-	-	-	-	2.10	2.95	3	0	2.8	N	2.23	27	100.0
NMHC (ppm)	-	-	-	-	0.00	0.14	21	9	8.3	E	0.01	21	100.0
NO_2 (ppb)	159	-	0	-	2	35	12	4	4.8	N	4	2	100.0
NO (ppb)	-	-	-	-	1	154	12	4	4.8	N	7	12	100.0
NOx (ppb)	-	-	-	-	3	189	12	4	4.8	N	11	12	100.0
O_3 (ppb)	76	-	0	-	30.0	63.3	1	17	19.3	SSE	41.4	18	100.0
$PM_{2.5}$ ($\mu g/m^3$)	80	29	0	0	7	54	1	18	15.3	SE	23	1	100.0
VECTOR WS (kph)	-	-	-	-	2.8	37.4	20	6	-	E	18.8	7	100.0
VECTOR WD (sec)	-	-	-	-	304 (WNW)	-	-	-	-	-	-	-	100.0

OPERATIONAL SUMMARY

Parameter	Equipment	Method & Procedure	Operational Notes
SULPHUR DIOXIDE (SO_2)	**Thermo 43i TLE Pulsed Fluorescence Analyzer**	**Bureau Veritas AIR SOP-00209: Ambient Sulphur Monitoring**	• Operational time was 100% and there were no performance issues identified. • The routine monthly calibration was performed on June 6, between the hours of 10:00 and 13:00.
HYDROGEN SULPHIDE (H_2S)	**Thermo 450i UV Fluorescence Analyzer**	**Bureau Veritas SOP-00209: Ambient Sulphur Monitoring**	• Operational time for the monitoring period was 99.7%, equivalent to 2 hours of downtime. • The biased high drift in span response that began towards the end of the May monitoring period was corrected with the June routine monthly calibration, which was successfully completed on June 6, between 10:00 – 14:00. The reference span value was updated following the post calibration zero-span check. As the calibration results met AMD requirements, no data was discarded due to the span drift. • For undetermined reasons, both daily zero and span response began to exhibit a gradual high trend at about mid-month. As a proactive measure, an as-found response check was successfully completed on June 24, assuring analyzer performance. The reference span value was updated following a multi-point calibration on July 8. Two hours of downtime were incurred due to the additional quality check. • There were nine 1-hr and one 24-hr exceedances recorded this month. Details of the exceedance are recorded in the AAAQO Exceedance Summary Report (Page 5).
TOTAL HYDROCARBONS (THC), METHANE (CH_4) & NON-METHANE HYDROCARBONS (NMHC)	**Thermo 55i FID Analyzer**	**Maxxam AIR SOP-00001: Methane, Non-Methane Hydrocarbon Analyzer Monitoring** **Monitoring** **Maxxam AIR SOP-00225: The Collection of VOCs in Ambient Air Using Canisters and Xontech**	• Operational time was 100% and there were no performance issues identified. • The routine monthly calibration was performed on June 7, between the hours of 09:00 and 11:00. • The canister sampler is programmed to draw in a whole air sample when the 5-minute average concentration of NMHC is above 0.30 ppm. A representative sample of ambient air is collected over a one-hour period when the canister event is triggered. • A canister event was recorded on June 21 at 09:05, at an initial concentration of 0.52 ppm. The sample was processed for analysis by InnoTech Alberta and the results will be included in the June 2019 Integrated Report which will be prepared by LICA.
OXIDES OF NITROGEN (NOx), NITRIC OXIDE (NO) & NITROGEN DIOXIDE (NO_2)	**Thermo 42i Chemiluminescent Analyzer**	**Bureau Veritas AIR SOP-00213: Ambient NO/NO_2/NOx Monitoring**	• Operational time for the monitoring period was 100%. • The routine monthly calibration was performed on June 6, between the hours of 10:00 and 15:00. • The analyzer spanned abruptly towards the upper acceptance limit on June 11, for undetermined reasons. Subsequent daily zero-span checks were much closer to the mean and the upward drift did not continue into a trend. No further action was required.
OZONE (O_3)	**Thermo 49i Photometric Analyzer**	**Bureau Veritas AIR SOP-00212: Ambient O_3 Monitoring**	• Operational time was 100% and there were no performance issues identified. • The routine monthly calibration was performed on June 7, between the hours of 09:00 and 12:00.

OPERATIONAL SUMMARY

Parameter	Equipment	Method & Procedure	Operational Notes
PARTICULATE MATTER < 2.5 MICRONS ($PM_{2.5}$)	**Thermo SHARP 5030i Unit**	**Bureau Veritas AIR SOP-00014: Measurement of Particulate Concentration Using the THERMO SHARP**	• Operational time was 100% and there were no performance issues identified. • The routine quarterly calibration was performed on June 20, between the hours of 10:00 and 12:00.
WIND SPEED (WS), WIND DIRECTION (WD) & STANDARD DEVIATION WIND DIRECTION (STDWD)	**Met One Unit**	**Bureau Veritas AIR SOP-00013: RM Young Wind Monitor Calibration**	• Operational time was 100% and there were no performance issues identified. • Wind data is reported as vector wind speed and vector wind direction. Wind direction is defined as the direction from which the wind is blowing and is measured in degrees from true north.
Datalogger	**Envista Ultimate Unit**	**Operation Manual**	• There were no performance issues identified.

SUMMARY TABLES, GRAPHS AND ROSES

SULPHUR DIOXIDE Hourly Averages (SO_2 ppb)

HR START (MST) / HR END (MST)	0:00 0:59	1:00 1:59	2:00 2:59	3:00 3:59	4:00 4:59	5:00 5:59	6:00 6:59	7:00 7:59	8:00 8:59	9:00 9:59	10:00 10:59	11:00 11:59	12:00 12:59	13:00 13:59	14:00 14:59	15:00 15:59	16:00 16:59	17:00 17:59	18:00 18:59	19:00 19:59	20:00 20:59	21:00 21:59	22:00 22:59	23:00 23:59	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
DAY																												
1	1	1	1	1	1	1	1	**2**	1	1	1	**0**	1	0	0	0	0	0	0	0	**S**	0	0	0	**0**	**2**	**1**	24
2	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	**S**	0	0	0	0	0	1	0	24
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	**S**	0	0	0	0	0	0	1	0	24
4	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	24
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	24
6	0	0	0	0	0	0	0	0	0	0	**C**	**C**	**C**	**C**	0	**S**	0	0	0	0	0	0	0	0	0	0	0	24
7	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	24
8	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	24
9	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	24
10	0	0	0	1	1	1	1	1	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
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	24
12	0	0	0	1	1	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
13	0	0	0	0	0	1	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
14	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	24
15	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	24
16	0	0	0	0	0	**S**	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1	0	24
17	1	1	1	1	**S**	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	24
18	1	0	1	**S**	1	1	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	24
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	24
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	24
21	**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	24
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	24
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	24
24	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	24
25	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	1	0	24
26	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	24
27	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	24
28	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	24
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	24
30	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	24
HOURLY MAX	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	0	0	0	0	0	1	1	1	1				
HOURLY AVG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

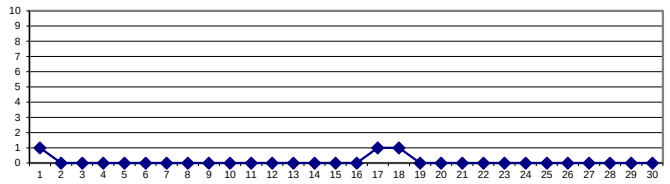
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 ppb | 24-HR 48 ppb

MONTHLY SUMMARY

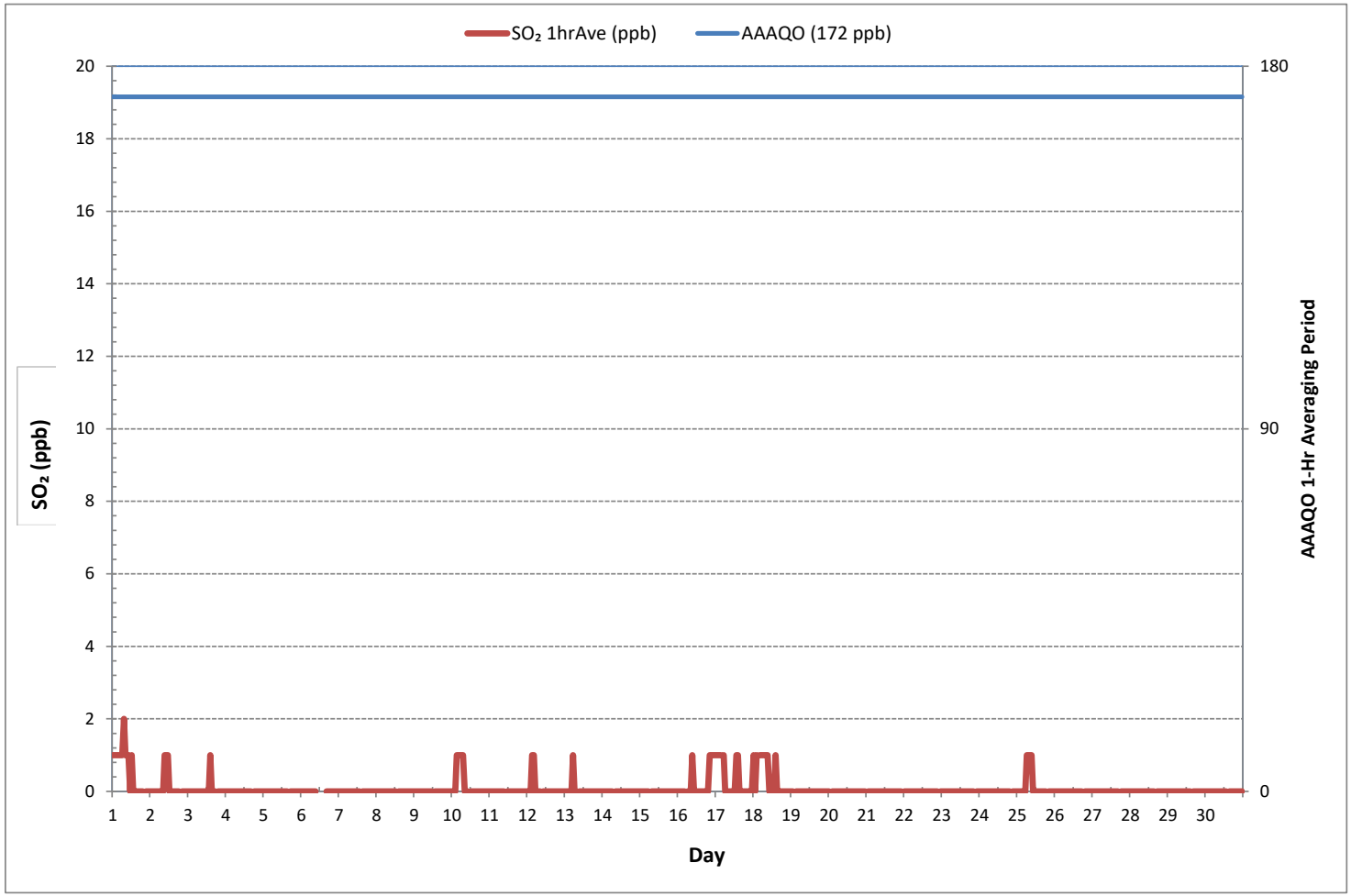
NUMBER OF 1-HR EXCEEDANCES:	0					
NUMBER OF 24-HR EXCEEDANCES:	0					
NUMBER OF NON-ZERO READINGS:	49					
MINIMUM 1-HR AVERAGE	0	ppb	@ HOUR	11	ON DAY	1
MAXIMUM 1-HR AVERAGE:	2	ppb	@ HOUR	7	ON DAY	1
MAXIMUM 24-HR AVERAGE:	1	ppb			ON DAY	1

IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	720	hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	0		MONTHLY AVERAGE:	0	ppb

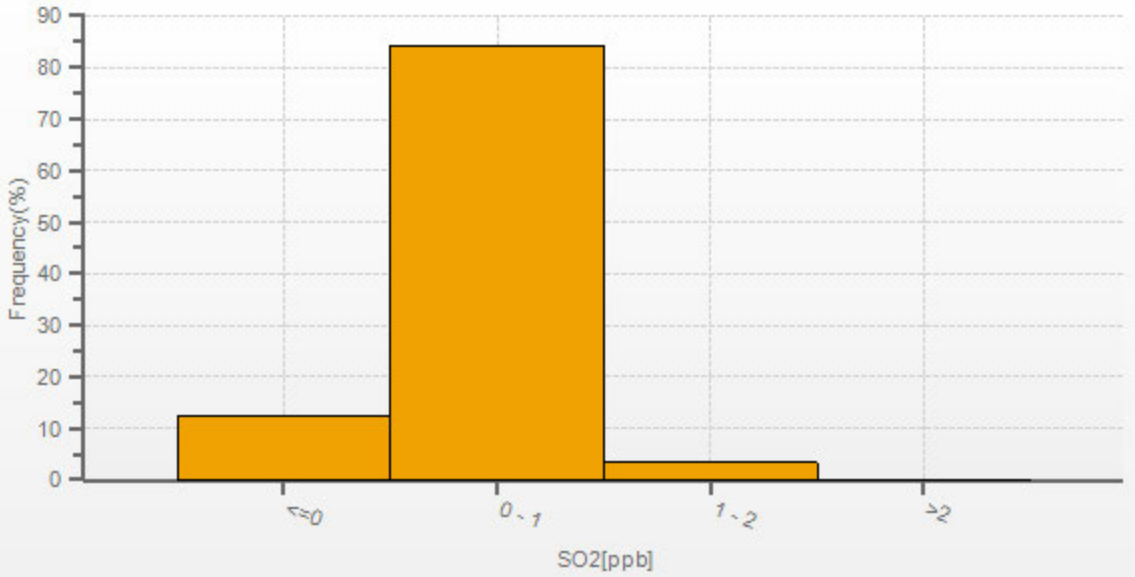
24 HR AVERAGES June 2019



SULPHUR DIOXIDE Hourly Averages (SO_2 ppb)

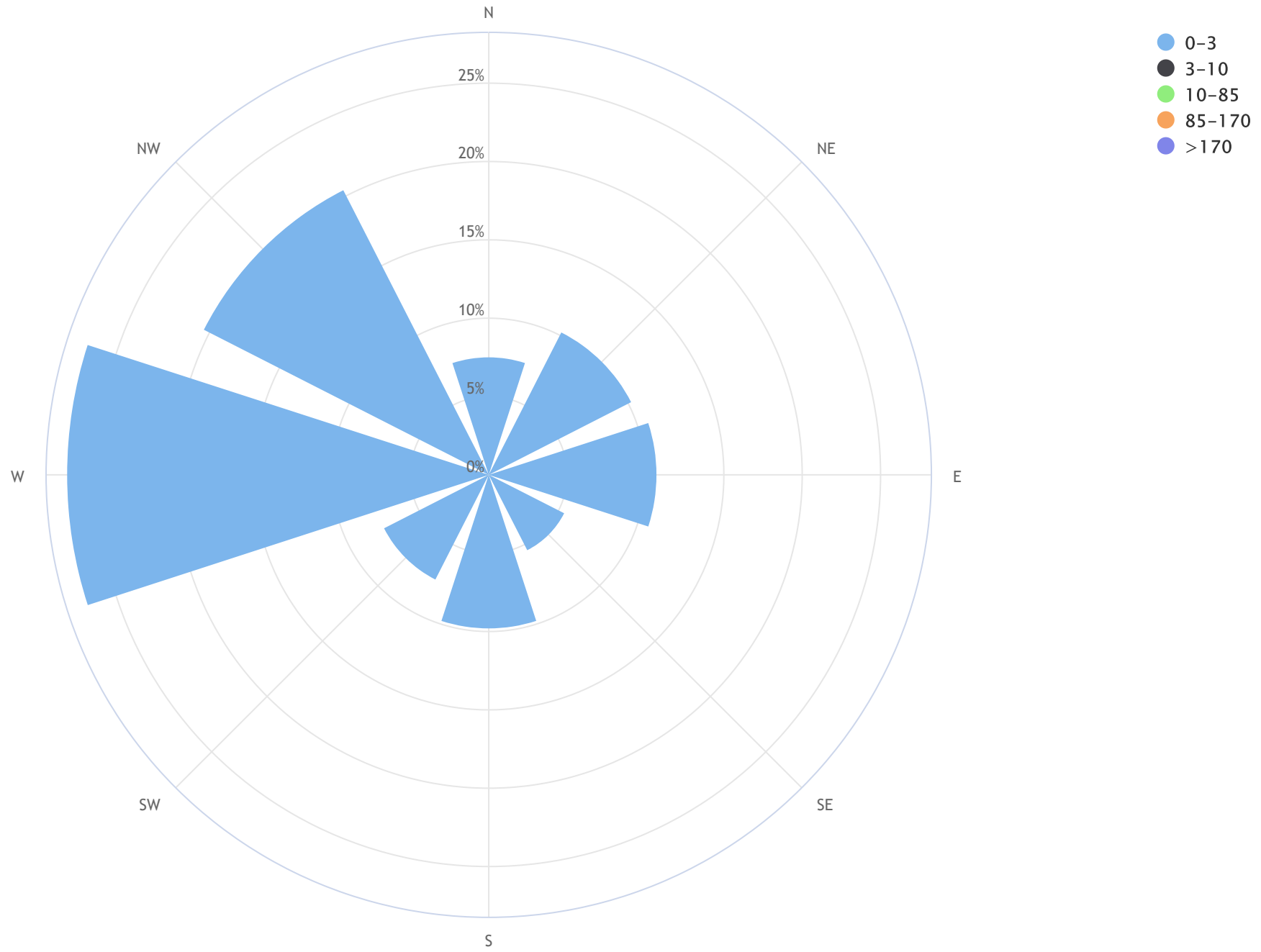


SO2[ppb] Histogram: LICA Bonnyville East Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Bonnyville East Site Continuous Monitoring Station_SO_2 (ppb)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 0.0, CALM % = 1.8%



Direction	0-3	3-10	10-85	85-170	>170	TOTAL
N	7.5	0.0	0.0	0.0	0.0	7.5
NE	10.2	0.0	0.0	0.0	0.0	10.2
E	10.7	0.0	0.0	0.0	0.0	10.7
SE	5.4	0.0	0.0	0.0	0.0	5.4
S	9.8	0.0	0.0	0.0	0.0	9.8
SW	7.5	0.0	0.0	0.0	0.0	7.5
W	26.9	0.0	0.0	0.0	0.0	26.9
NW	20.4	0.0	0.0	0.0	0.0	20.4
Summary	98.3	0.0	0.0	0.0	0.0	98.3
CALM	1.8	0.0	0.0	0.0	0.0	1.8

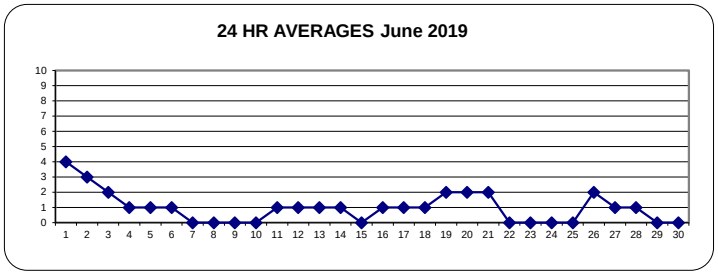
HYDROGEN SULPHIDE Hourly Averages (H_2S ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	**0**	1	1	4	4	4	6	3	1	5	4	3	3	2	3	2	1	1	7	0	**S**	6	9	13	**0**	13	**4**	24
2	10	13	7	2	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	**S**	0	1	**33**	7	0	**33**	3	24
3	6	4	4	17	2	3	1	1	1	1	0	0	0	0	0	0	0	0	**S**	0	0	1	2	1	0	17	2	24
4	2	3	1	1	2	3	2	1	1	0	0	0	0	0	0	0	0	**S**	0	2	0	1	1	1	0	3	1	24
5	1	3	3	1	3	2	1	0	0	0	0	0	0	0	0	0	**S**	0	0	2	4	0	1	2	0	4	1	24
6	1	1	1	3	2	2	1	1	1	1	**C**	**C**	**C**	**C**	**C**	**S**	0	0	0	0	0	0	0	0	0	3	1	24
7	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	24
8	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	24
9	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	1	0	0	1	0	24
10	0	0	1	1	0	1	0	0	0	0	0	**S**	0	0	1	1	0	0	0	0	0	1	1	1	0	1	0	24
11	1	1	1	1	1	1	1	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	1	9	1	0	9	1	24
12	7	2	0	0	3	2	1	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	1	24
13	8	6	2	2	1	1	2	1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	1	3	2	0	8	1	24
14	3	1	1	2	2	2	1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	3	1	24
15	0	1	1	1	1	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	24
16	1	2	3	2	5	**S**	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	24
17	0	0	6	1	**S**	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	6	1	24
18	0	1	1	**S**	1	1	1	1	1	2	1	1	1	0	0	0	0	0	0	0	0	1	1	1	0	2	1	24
19	1	3	**S**	1	1	1	0	1	1	0	0	0	0	4	8	0	2	1	0	1	6	2	1	2	0	8	2	24
20	2	**S**	1	3	2	2	2	1	4	7	6	2	0	0	0	1	0	0	0	0	0	3	2	1	0	7	2	24
21	**S**	2	11	13	4	11	5	1	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	**S**	0	13	2	24
22	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	1	0	24
23	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	1	0	24
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**C1**	**C1**	1	**S**	0	0	0	0	1	0	22
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	1	0	1	0	24
26	1	1	14	1	1	7	3	1	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	16	3	0	16	2	24
27	1	3	3	4	4	5	5	2	1	0	0	0	0	0	0	0	0	**S**	0	0	0	1	1	1	0	5	1	24
28	1	1	1	1	1	2	4	1	1	1	1	0	0	0	0	0	**S**	5	5	2	0	0	0	0	0	5	1	24
29	0	0	1	2	1	2	0	1	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	2	0	24
30	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	1	0	0	0	0	0	0	0	0	1	0	24
HOURLY MAX	10	13	14	17	5	11	6	3	4	7	6	3	3	4	8	2	2	5	7	2	6	6	33	13				
HOURLY AVG	2	2	2	2	2	2	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	3	1				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

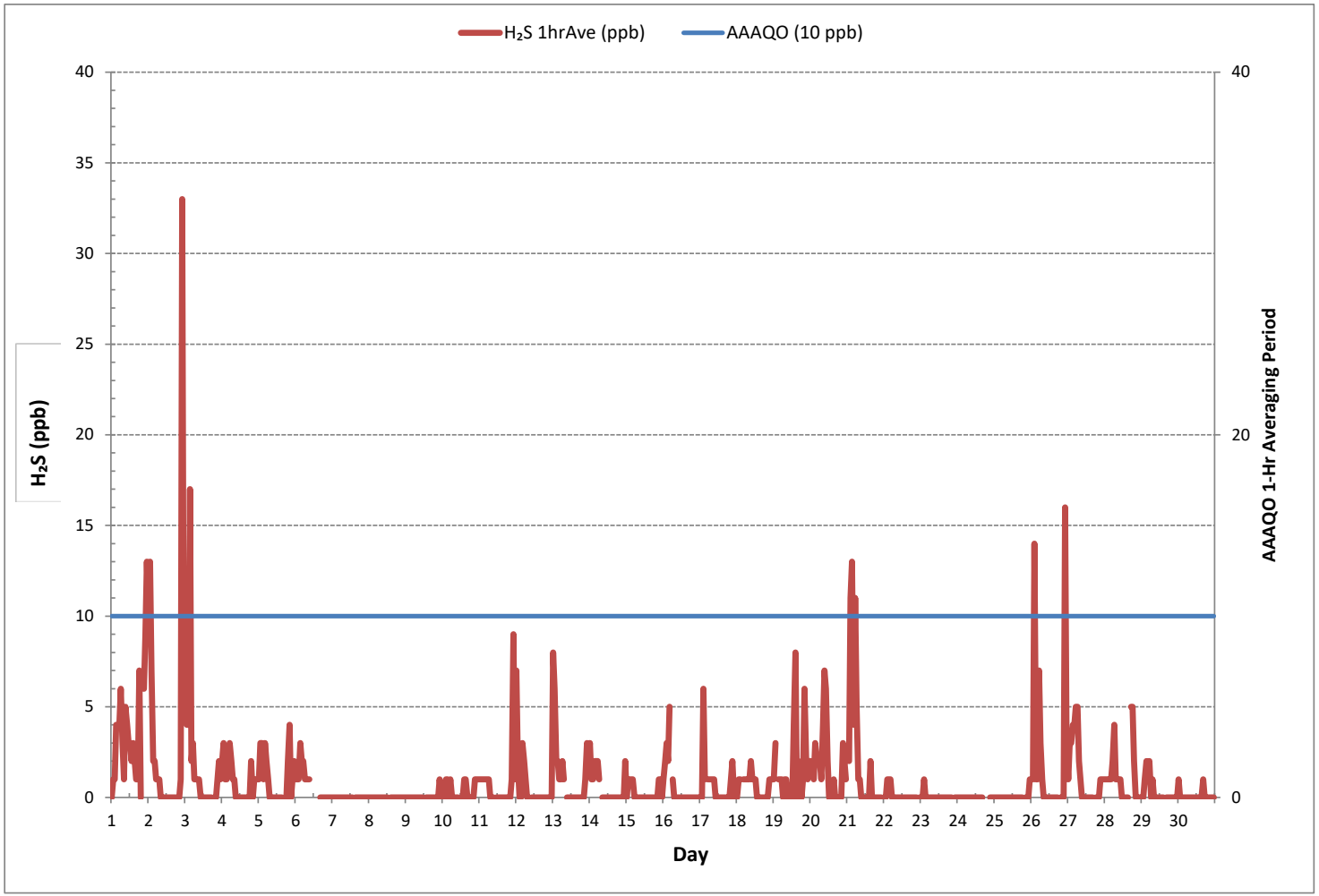
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 10 ppb | 24-HR 3 ppb



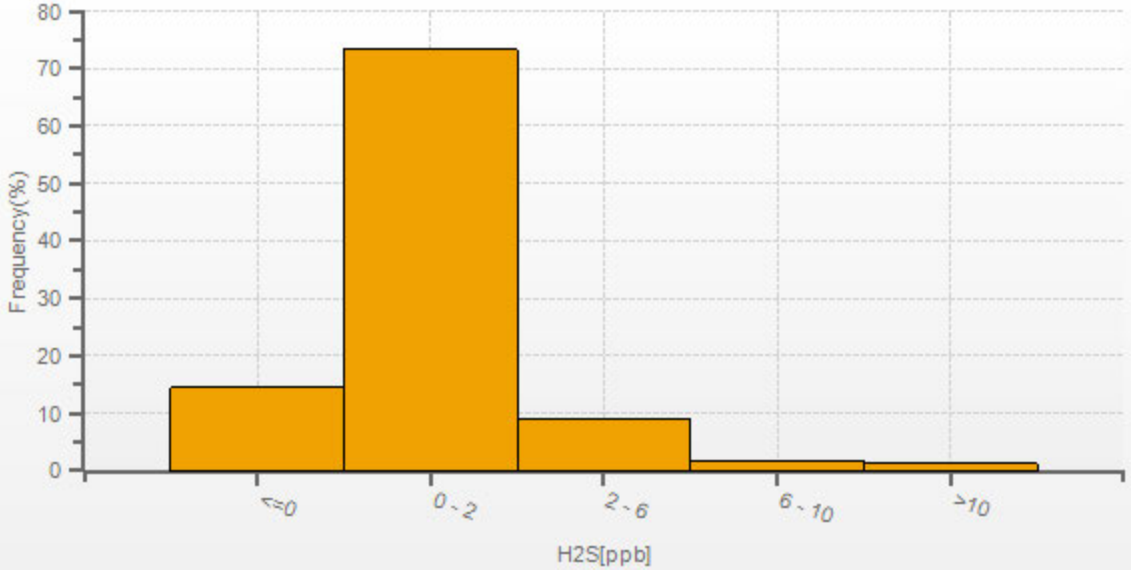
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDANCES:		9				
NUMBER OF 24-HR EXCEEDANCES:		1				
NUMBER OF NON-ZERO READINGS:		246				
MINIMUM 1-HR AVERAGE	0 ppb	@ HOUR	0	ON DAY		1
MAXIMUM 1-HR AVERAGE:	33 ppb	@ HOUR	22	ON DAY		2
MAXIMUM 24-HR AVERAGE:	4 ppb			ON DAY		1
IZS CALIBRATION TIME:	31 hrs		OPERATIONAL TIME:		718	hrs
MONTHLY CALIBRATION TIME:	5 hrs		AMD OPERATION UPTIME:		99.7	%
STANDARD DEVIATION:	2		MONTHLY AVERAGE:		1	ppb

HYDROGEN SULPHIDE Hourly Averages (H_2S ppb)

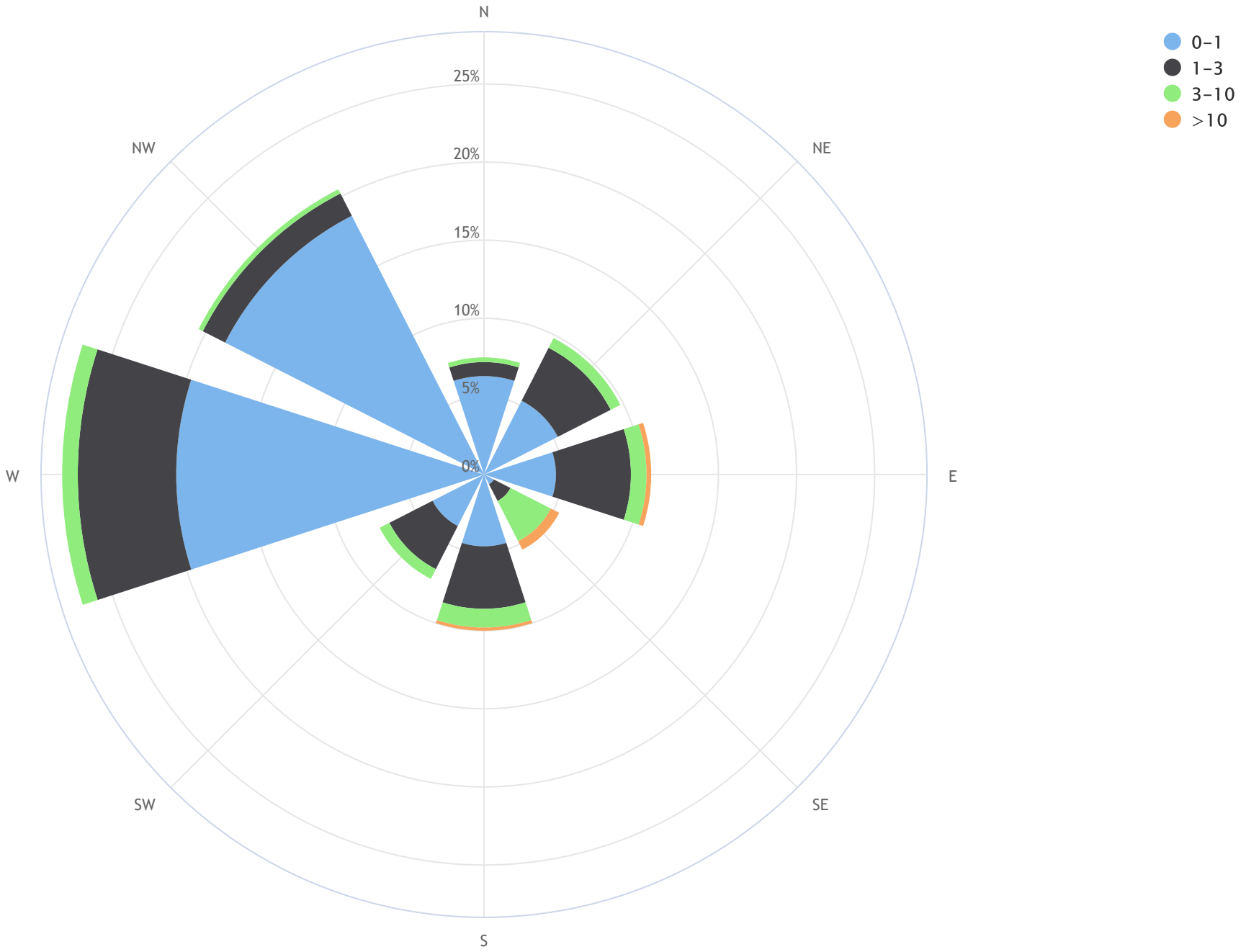


H2S[ppb] Histogram: LICA Bonnyville East Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Bonnyville East Site Continuous Monitoring Station_H_2S (ppb)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 5.0, CALM % = 1.8%



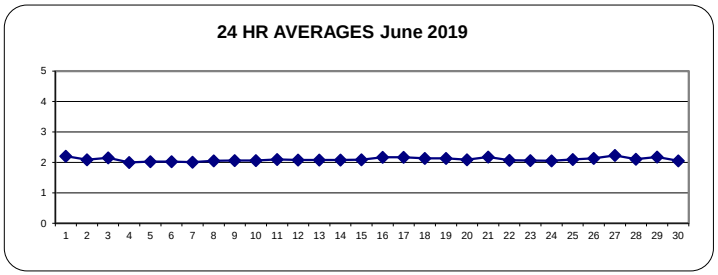
Direction	0-1	1-3	3-10	>10	TOTAL
N	6.3	0.9	0.3	0.0	7.5
NE	5.3	3.8	0.7	0.0	9.8
E	4.6	4.8	1.0	0.3	10.7
SE	0.7	1.2	2.9	0.6	5.4
S	4.6	4.0	1.2	0.2	9.8
SW	3.7	3.1	0.7	0.0	7.5
W	19.7	6.3	1.0	0.0	27.0
NW	18.6	1.6	0.3	0.0	20.5
Summary	63.4	25.7	8.2	1.0	98.2
CALM	0.6	0.3	0.4	0.4	1.8

TOTAL HYDROCARBONS Hourly Averages (THC ppm)

HR START (MST) / HR END (MST)	0:00 0:59	1:00 1:59	2:00 2:59	3:00 3:59	4:00 4:59	5:00 5:59	6:00 6:59	7:00 7:59	8:00 8:59	9:00 9:59	10:00 10:59	11:00 11:59	12:00 12:59	13:00 13:59	14:00 14:59	15:00 15:59	16:00 16:59	17:00 17:59	18:00 18:59	19:00 19:59	20:00 20:59	21:00 21:59	22:00 22:59	23:00 23:59	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
DAY																											
1	2.23	2.34	2.30	2.31	2.42	2.58	2.55	2.34	2.24	2.23	2.14	2.19	2.14	2.06	2.04	2.04	2.03	2.04	2.11	2.14	S	2.12	2.09	2.10	2.03	2.58	2.21	24
2	2.10	2.10	2.07	2.07	2.11	2.13	2.09	2.14	2.08	2.08	2.05	2.03	2.02	2.00	1.98	**1.97**	1.98	1.98	1.98	S	2.03	2.03	2.38	2.76	**1.97**	2.76	2.09	24
3	**2.95**	2.54	2.45	2.25	2.21	2.35	2.36	2.18	2.12	2.05	2.02	2.03	2.02	2.00	2.02	2.01	1.99	1.98	S	1.98	1.98	1.98	2.03	2.01	1.98	**2.95**	2.15	24
4	2.01	2.03	2.00	2.02	2.04	2.05	2.03	2.01	2.00	2.00	1.99	1.98	1.98	1.97	1.97	1.97	1.97	S	1.98	1.98	1.98	1.99	2.01	2.04	1.97	2.05	2.00	24
5	2.04	2.10	2.05	2.05	2.08	2.08	2.05	2.03	2.01	1.99	1.98	1.97	1.98	1.98	1.98	1.98	S	1.99	1.99	2.00	2.06	2.05	2.07	2.10	1.97	2.10	2.03	24
6	2.11	2.13	2.12	2.13	2.16	2.09	2.05	2.01	2.01	2.02	2.01	2.00	2.00	1.99	1.98	S	1.99	1.98	1.98	1.99	1.99	1.99	2.01	1.99	1.98	2.16	2.03	24
7	2.00	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.97	C	C	C	2.02	2.02	S	2.02	2.03	2.01	2.02	2.01	2.02	2.03	2.05	2.06	1.97	2.06	2.01	24
8	2.07	2.11	2.07	2.04	2.03	2.04	2.03	2.04	2.03	2.03	2.03	2.02	2.02	S	2.03	2.03	2.02	2.02	2.03	2.02	2.04	2.06	2.09	2.14	2.02	2.14	2.05	24
9	2.16	2.16	2.10	2.04	2.04	2.04	2.04	2.04	2.05	2.04	2.04	2.03	S	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.09	2.09	2.05	2.06	2.03	2.16	2.06	24
10	2.10	2.08	2.10	2.08	2.08	2.09	2.07	2.07	2.05	2.05	2.04	S	2.03	2.04	2.04	2.03	2.03	2.03	2.04	2.05	2.05	2.06	2.07	2.08	2.03	2.10	2.06	24
11	2.09	2.09	2.14	2.14	2.12	2.11	2.10	2.10	2.18	2.21	S	2.10	2.07	2.05	2.04	2.03	2.03	2.04	2.04	2.03	2.03	2.06	2.14	2.27	2.03	2.27	2.10	24
12	2.19	2.16	2.10	2.06	2.15	2.21	2.22	2.24	2.15	S	2.05	2.01	2.00	1.99	2.00	1.99	1.99	1.99	1.99	2.01	2.13	2.10	2.08	2.10	1.99	2.24	2.08	24
13	2.30	2.33	2.14	2.11	2.08	2.02	2.01	2.01	S	2.02	2.04	2.04	2.03	2.01	2.03	2.08	2.03	2.03	2.05	2.06	2.12	2.12	2.03	2.05	2.01	2.33	2.08	24
14	2.13	2.10	2.23	2.26	2.22	2.15	2.12	S	2.07	2.08	2.02	2.02	2.02	2.01	2.01	2.01	2.01	2.01	2.01	2.03	2.04	2.05	2.08	2.13	2.01	2.26	2.08	24
15	2.16	2.16	2.15	2.16	2.26	2.17	S	2.11	2.10	2.16	2.13	2.07	2.04	2.04	2.03	2.03	2.02	2.02	2.02	2.02	2.02	2.08	2.07	2.13	2.02	2.26	2.09	24
16	2.22	2.31	2.34	2.51	2.45	S	2.49	2.31	2.12	2.04	2.03	2.03	2.03	2.03	2.03	2.03	2.07	2.10	2.06	2.10	2.14	2.15	2.14	2.19	2.03	2.51	2.17	24
17	2.28	2.27	2.34	2.31	S	2.38	2.32	2.27	2.25	2.26	2.23	2.18	2.05	2.02	2.04	2.05	2.04	2.04	2.04	2.04	2.10	2.18	2.17	2.16	2.02	2.38	2.17	24
18	2.19	2.22	2.24	S	2.23	2.21	2.21	2.21	2.16	2.13	2.10	2.10	2.10	2.06	2.04	2.04	2.04	2.04	2.05	2.08	2.09	2.13	2.13	2.15	2.04	2.24	2.13	24
19	2.16	2.24	S	2.14	2.12	2.11	2.07	2.09	2.14	2.06	2.02	2.03	2.07	2.07	2.06	2.07	2.11	2.10	2.09	2.16	2.30	2.25	2.29	2.28	2.02	2.30	2.13	24
20	2.23	S	2.27	2.15	2.09	2.06	2.04	2.04	2.07	2.07	2.08	2.06	2.03	2.03	2.02	2.03	2.02	2.02	2.02	2.04	2.06	2.17	2.24	2.25	2.02	2.27	2.09	24
21	S	2.39	2.42	2.48	2.43	2.44	2.36	2.35	2.20	2.31	2.19	2.03	2.01	2.00	1.99	2.01	2.01	2.02	2.02	2.02	2.05	2.10	2.10	S	1.99	2.48	2.18	24
22	2.14	2.11	2.09	2.15	2.16	2.15	2.13	2.12	2.10	2.04	2.02	2.00	2.00	2.03	2.01	2.01	2.01	2.04	2.05	2.06	2.08	2.07	S	2.09	2.00	2.16	2.07	24
23	2.08	2.13	2.16	2.15	2.15	2.16	2.13	2.09	2.09	2.05	2.03	1.99	1.98	2.00	2.00	1.99	1.99	2.00	2.00	2.00	2.02	S	2.04	2.03	1.98	2.16	2.06	24
24	2.04	2.05	2.09	2.11	2.11	2.13	2.10	2.05	2.02	2.02	2.01	2.00	2.00	2.00	2.00	2.01	2.01	2.01	2.02	2.04	S	2.05	2.11	2.18	2.00	2.18	2.05	24
25	2.26	2.28	2.20	2.19	2.27	2.26	2.16	2.08	2.07	2.06	2.05	2.03	2.00	2.00	2.00	2.00	2.02	2.02	2.03	S	2.04	2.08	2.13	2.13	2.00	2.28	2.10	24
26	2.19	2.12	2.24	2.20	2.26	2.38	2.27	2.14	2.08	2.06	2.04	2.04	2.04	2.02	2.04	2.06	2.06	2.06	S	2.06	2.06	2.10	2.32	2.27	2.02	2.38	2.13	24
27	2.32	2.18	2.31	2.43	2.46	2.70	2.77	2.50	2.21	2.12	2.09	2.07	2.07	2.05	2.03	2.03	2.05	S	2.05	2.08	2.09	2.23	2.22	2.18	2.03	2.77	**2.23**	24
28	2.17	2.15	2.12	2.13	2.15	2.19	2.19	2.18	2.16	2.16	2.15	2.11	2.06	2.06	2.06	2.07	S	2.05	2.06	2.05	2.05	2.09	2.08	2.08	2.05	2.19	2.11	24
29	2.11	2.18	2.21	2.24	2.21	2.28	2.34	2.31	2.31	2.29	2.37	2.33	2.27	2.20	2.02	S	2.02	2.02	2.01	2.01	2.05	2.06	2.11	2.12	2.01	2.37	2.18	24
30	2.11	2.06	2.07	2.09	2.08	2.07	2.06	2.04	2.04	2.03	2.02	2.02	2.02	2.02	S	2.03	2.02	2.02	2.02	2.03	2.04	2.09	2.06	2.10	2.02	2.11	2.05	24
HOURLY MAX	2.95	2.54	2.45	2.51	2.46	2.70	2.77	2.50	2.31	2.31	2.37	2.33	2.27	2.20	2.06	2.08	2.11	2.10	2.11	2.16	2.30	2.25	2.38	2.76				
HOURLY AVG	2.18	2.18	2.18	2.17	2.18	2.19	2.18	2.14	2.11	2.10	2.07	2.05	2.04	2.03	2.02	2.02	2.02	2.02	2.03	2.04	2.06	2.09	2.12	2.15				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

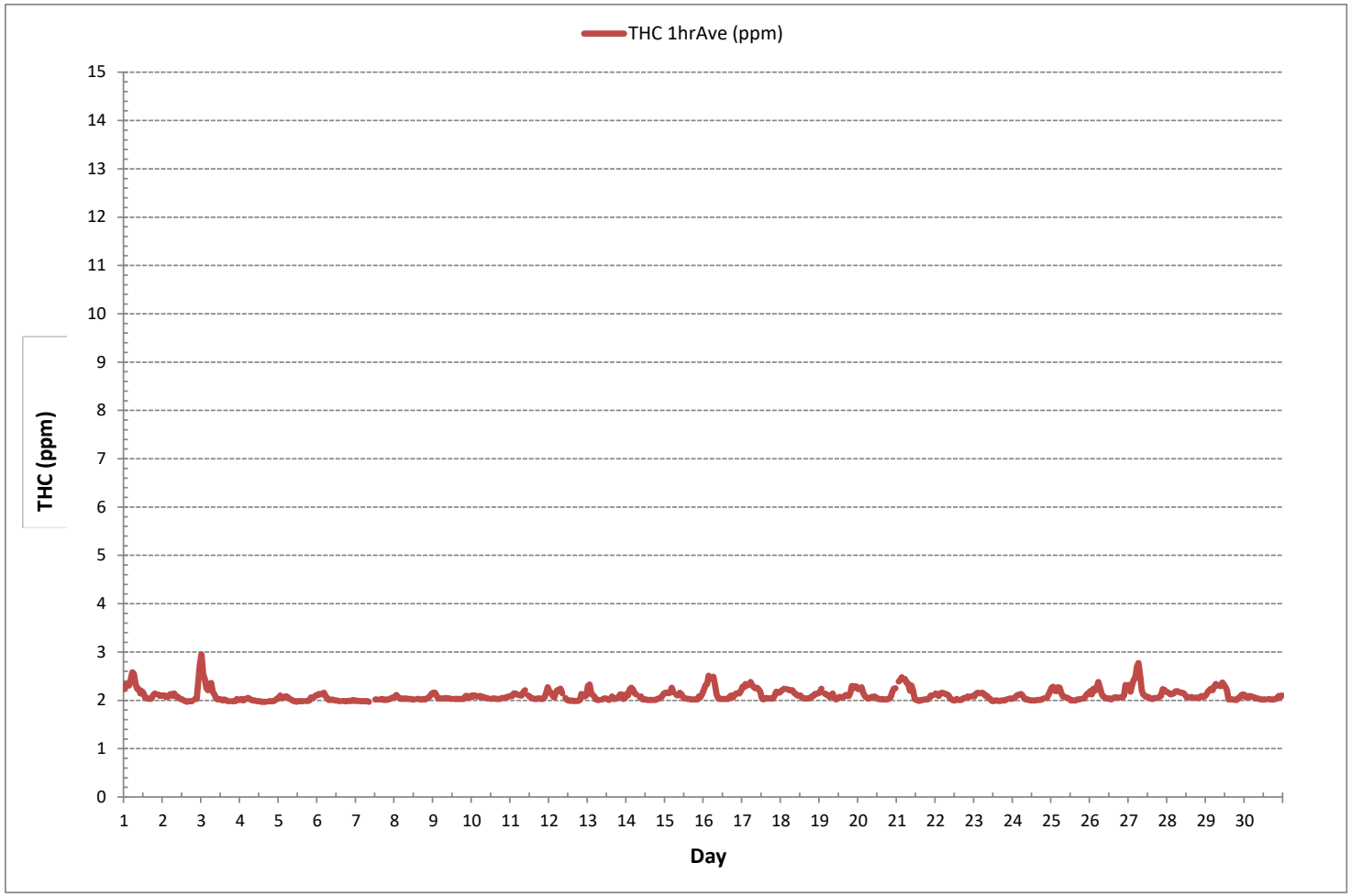


MONTHLY SUMMARY

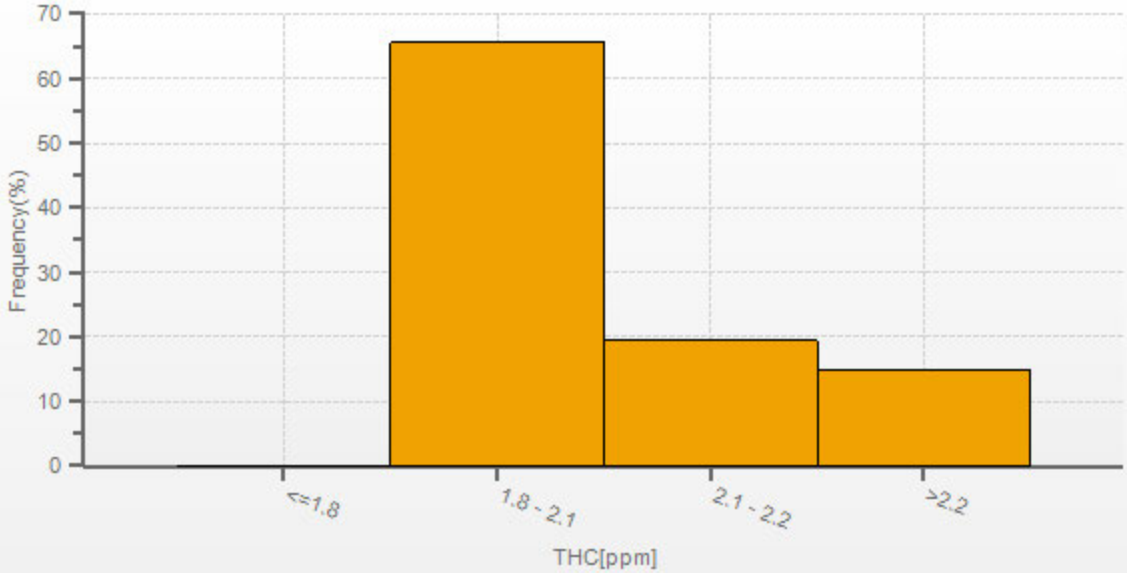
NUMBER OF NON-ZERO READINGS:		686				
MINIMUM 1-HR AVERAGE	1.97	ppm	@ HOUR	15	ON DAY	2
MAXIMUM 1-HR AVERAGE:	2.95	ppm	@ HOUR	0	ON DAY	3
MAXIMUM 24-HR AVERAGE:	2.23	ppm			ON DAY	27

IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	720	hrs
MONTHLY CALIBRATION TIME:	3	hrs	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	0.12		MONTHLY AVERAGE:	2.10	ppm

TOTAL HYDROCARBONS Hourly Averages (THC ppm)

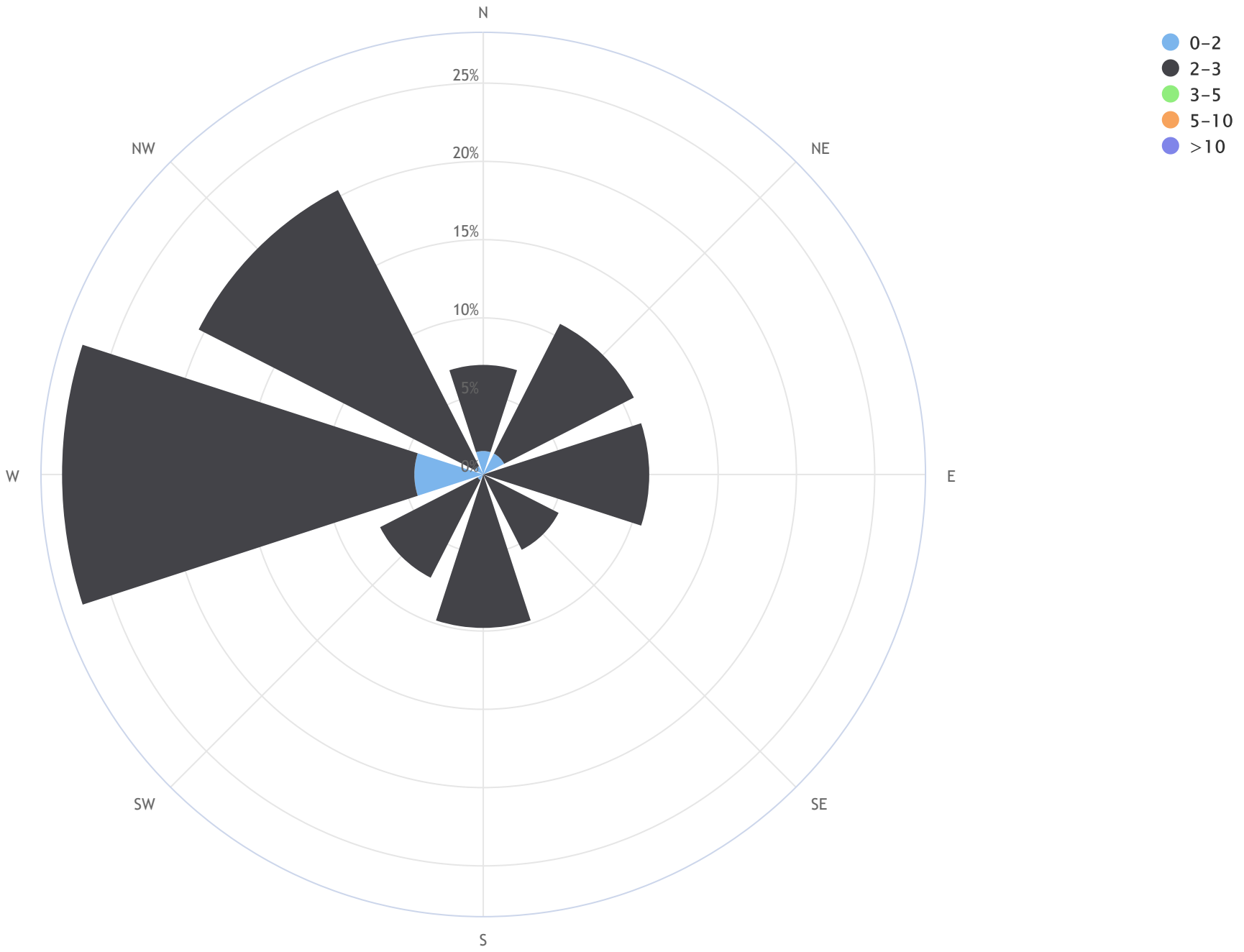


THC[ppm] Histogram: LICA Bonnyville East Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Bonnyville East Site Continuous Monitoring Station_THC (ppm)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 2.2, CALM % = 1.7%



Direction	0-2	2-3	3-5	5-10	>10	TOTAL
N	1.5	5.5	0.0	0.0	0.0	7.0
NE	1.5	9.3	0.0	0.0	0.0	10.8
E	0.0	10.6	0.0	0.0	0.0	10.6
SE	0.0	5.4	0.0	0.0	0.0	5.4
S	0.0	9.8	0.0	0.0	0.0	9.8
SW	0.4	7.0	0.0	0.0	0.0	7.4
W	4.4	22.5	0.0	0.0	0.0	26.8
NW	0.6	19.8	0.0	0.0	0.0	20.4
Summary	8.3	90.0	0.0	0.0	0.0	98.3
CALM	0.0	1.8	0.0	0.0	0.0	1.8

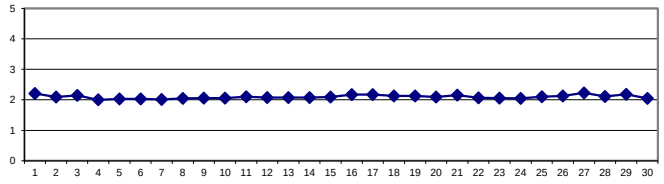
METHANE Hourly Averages (CH_4 ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	2.23	2.34	2.30	2.31	2.42	2.58	2.55	2.34	2.24	2.23	2.14	2.19	2.14	2.06	2.04	2.04	2.03	2.04	2.11	2.14	S	2.12	2.09	2.10	2.03	2.58	2.21	24
2	2.10	2.10	2.07	2.07	2.11	2.13	2.09	2.14	2.08	2.08	2.05	2.03	2.02	2.00	1.98	**1.97**	1.98	1.98	1.98	S	2.03	2.03	2.38	2.76	**1.97**	2.76	2.09	24
3	**2.95**	2.54	2.45	2.25	2.21	2.35	2.36	2.18	2.12	2.05	2.02	2.03	2.02	2.00	2.02	2.01	1.99	1.98	S	1.98	1.98	1.98	2.03	2.01	1.98	**2.95**	2.15	24
4	2.01	2.03	2.00	2.02	2.04	2.05	2.03	2.01	2.00	2.00	1.99	1.98	1.98	1.97	1.97	1.97	1.97	S	1.98	1.98	1.98	1.99	2.01	2.04	1.97	2.05	2.00	24
5	2.04	2.10	2.05	2.05	2.08	2.08	2.05	2.03	2.01	1.99	1.98	1.97	1.98	1.98	1.98	1.98	S	1.99	1.99	2.00	2.06	2.05	2.07	2.10	1.97	2.10	2.03	24
6	2.11	2.13	2.12	2.13	2.16	2.09	2.05	2.01	2.01	2.02	2.01	2.00	2.00	1.99	1.98	S	1.99	1.98	1.98	1.99	1.99	1.99	2.01	1.99	1.98	2.16	2.03	24
7	2.00	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.97	C	C	C	2.02	2.02	S	2.02	2.03	2.01	2.02	2.01	2.02	2.03	2.05	2.06	1.97	2.06	2.01	24
8	2.07	2.11	2.07	2.04	2.03	2.04	2.03	2.04	2.03	2.03	2.03	2.02	2.02	S	2.03	2.03	2.02	2.02	2.03	2.02	2.04	2.06	2.09	2.14	2.02	2.14	2.05	24
9	2.16	2.16	2.10	2.04	2.04	2.04	2.04	2.04	2.05	2.04	2.04	2.03	S	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.09	2.09	2.05	2.06	2.03	2.16	2.06	24
10	2.10	2.08	2.10	2.08	2.08	2.09	2.07	2.07	2.05	2.05	2.04	S	2.03	2.04	2.04	2.03	2.03	2.03	2.04	2.05	2.05	2.06	2.07	2.08	2.03	2.10	2.06	24
11	2.09	2.09	2.14	2.14	2.12	2.11	2.10	2.10	2.18	2.21	S	2.10	2.07	2.05	2.04	2.03	2.03	2.04	2.04	2.03	2.03	2.06	2.14	2.27	2.03	2.27	2.10	24
12	2.19	2.16	2.10	2.06	2.15	2.21	2.22	2.24	2.15	S	2.05	2.01	2.00	1.99	2.00	1.99	1.99	1.99	1.99	2.01	2.13	2.10	2.08	2.10	1.99	2.24	2.08	24
13	2.30	2.33	2.14	2.11	2.08	2.02	2.01	2.01	S	2.02	2.04	2.04	2.03	2.01	2.03	2.08	2.03	2.03	2.05	2.06	2.12	2.12	2.03	2.05	2.01	2.33	2.08	24
14	2.13	2.10	2.23	2.26	2.22	2.15	2.12	S	2.07	2.08	2.02	2.02	2.02	2.01	2.01	2.01	2.01	2.01	2.01	2.03	2.04	2.05	2.08	2.13	2.01	2.26	2.08	24
15	2.16	2.16	2.15	2.16	2.26	2.17	S	2.11	2.10	2.16	2.13	2.07	2.04	2.04	2.03	2.03	2.02	2.02	2.02	2.02	2.02	2.08	2.07	2.13	2.02	2.26	2.09	24
16	2.22	2.31	2.34	2.51	2.45	S	2.49	2.31	2.12	2.04	2.03	2.03	2.03	2.03	2.03	2.03	2.07	2.10	2.06	2.10	2.14	2.15	2.14	2.19	2.03	2.51	2.17	24
17	2.28	2.27	2.34	2.31	S	2.38	2.32	2.27	2.25	2.26	2.23	2.18	2.05	2.02	2.04	2.05	2.04	2.04	2.04	2.04	2.10	2.18	2.17	2.16	2.02	2.38	2.17	24
18	2.19	2.22	2.24	S	2.23	2.21	2.21	2.21	2.16	2.13	2.10	2.10	2.10	2.06	2.04	2.04	2.04	2.04	2.05	2.08	2.09	2.13	2.13	2.15	2.04	2.24	2.13	24
19	2.15	2.24	S	2.14	2.12	2.11	2.07	2.09	2.14	2.06	2.02	2.03	2.07	2.07	2.06	2.07	2.11	2.10	2.09	2.16	2.30	2.25	2.29	2.28	2.02	2.30	2.13	24
20	2.23	S	2.27	2.15	2.09	2.06	2.04	2.04	2.07	2.07	2.08	2.06	2.03	2.03	2.02	2.03	2.02	2.02	2.02	2.04	2.06	2.17	2.24	2.25	2.02	2.27	2.09	24
21	S	2.39	2.42	2.48	2.43	2.44	2.36	2.35	2.17	2.17	2.07	2.03	2.01	2.00	1.99	2.01	2.01	2.02	2.02	2.02	2.05	2.10	2.10	S	1.99	2.48	2.16	24
22	2.14	2.11	2.09	2.15	2.16	2.15	2.13	2.12	2.10	2.04	2.02	2.00	2.00	2.03	2.01	2.01	2.01	2.04	2.05	2.06	2.08	2.07	S	2.09	2.00	2.16	2.07	24
23	2.08	2.13	2.16	2.15	2.15	2.16	2.13	2.09	2.09	2.05	2.03	1.99	1.98	2.00	2.00	1.99	1.99	2.00	2.00	2.00	2.02	S	2.04	2.03	1.98	2.16	2.06	24
24	2.04	2.05	2.09	2.11	2.11	2.13	2.10	2.05	2.02	2.02	2.01	2.00	2.00	2.00	2.00	2.01	2.01	2.01	2.02	2.04	S	2.05	2.11	2.18	2.00	2.18	2.05	24
25	2.26	2.28	2.20	2.19	2.27	2.26	2.16	2.08	2.07	2.05	2.03	2.02	2.00	2.00	2.00	2.00	2.02	2.02	2.03	S	2.04	2.08	2.13	2.13	2.00	2.28	2.10	24
26	2.19	2.12	2.24	2.20	2.26	2.38	2.27	2.14	2.08	2.06	2.04	2.04	2.03	2.02	2.04	2.06	2.06	2.06	S	2.06	2.06	2.10	2.32	2.27	2.02	2.38	2.13	24
27	2.32	2.18	2.31	2.41	2.46	2.70	2.77	2.50	2.21	2.12	2.09	2.07	2.07	2.05	2.03	2.03	2.05	S	2.05	2.08	2.09	2.23	2.22	2.18	2.03	2.77	**2.23**	24
28	2.17	2.15	2.12	2.13	2.15	2.19	2.19	2.18	2.16	2.16	2.15	2.11	2.06	2.06	2.06	2.07	S	2.05	2.06	2.05	2.05	2.09	2.08	2.08	2.05	2.19	2.11	24
29	2.11	2.18	2.21	2.24	2.21	2.28	2.34	2.31	2.31	2.29	2.37	2.33	2.27	2.20	2.02	S	2.02	2.02	2.01	2.01	2.05	2.06	2.11	2.12	2.01	2.37	2.18	24
30	2.11	2.06	2.07	2.09	2.08	2.07	2.06	2.04	2.04	2.03	2.02	2.02	2.02	2.02	S	2.03	2.02	2.02	2.02	2.03	2.04	2.09	2.06	2.10	2.02	2.11	2.05	24
HOURLY MAX	2.95	2.54	2.45	2.51	2.46	2.70	2.77	2.50	2.31	2.29	2.37	2.33	2.27	2.20	2.06	2.08	2.11	2.10	2.11	2.16	2.30	2.25	2.38	2.76				
HOURLY AVG	2.18	2.18	2.18	2.17	2.18	2.19	2.18	2.14	2.11	2.09	2.07	2.05	2.04	2.03	2.02	2.02	2.02	2.02	2.03	2.04	2.06	2.09	2.12	2.15				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

24 HR AVERAGES June 2019

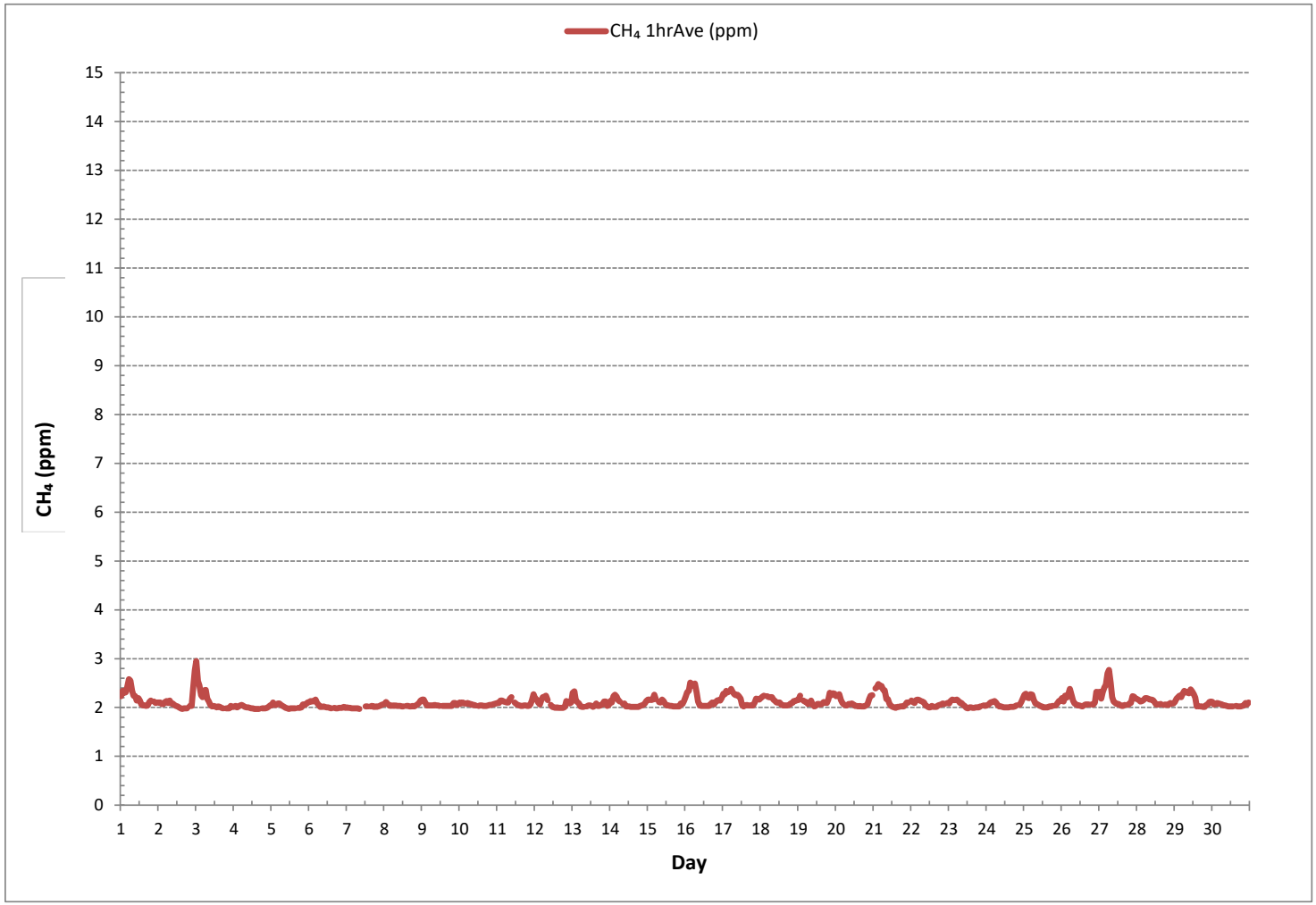


MONTHLY SUMMARY

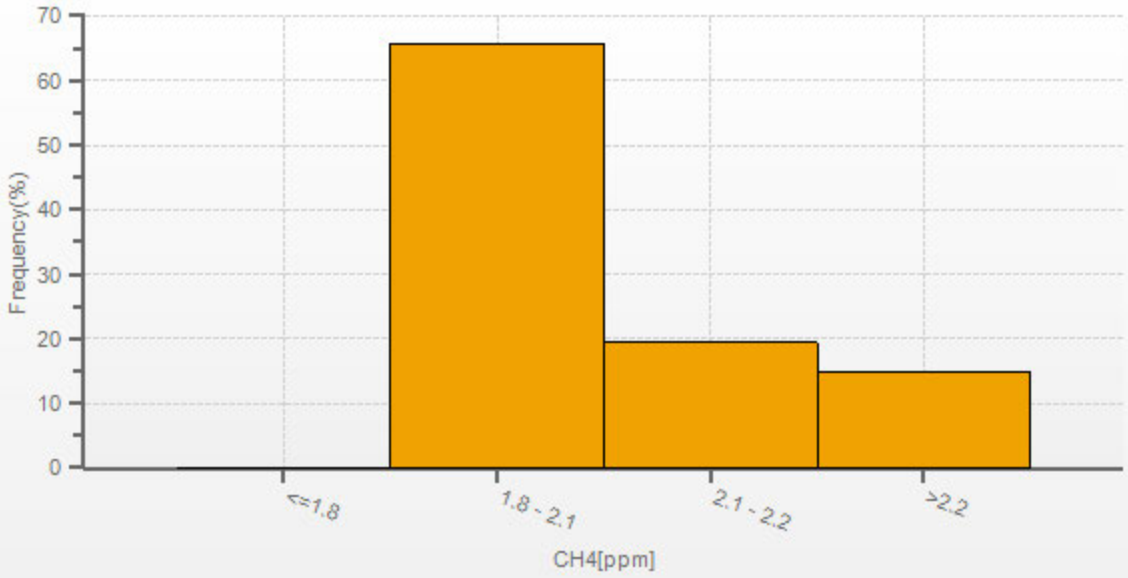
NUMBER OF NON-ZERO READINGS:		686				
MINIMUM 1-HR AVERAGE	1.97	ppm	@ HOUR	15	ON DAY	2
MAXIMUM 1-HR AVERAGE:	2.95	ppm	@ HOUR	0	ON DAY	3
MAXIMUM 24-HR AVERAGE:	2.23	ppm			ON DAY	27

IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	720	hrs
MONTHLY CALIBRATION TIME:	3	hrs	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	0.12		MONTHLY AVERAGE:	2.10	ppm

METHANE Hourly Averages (CH_4 ppm)

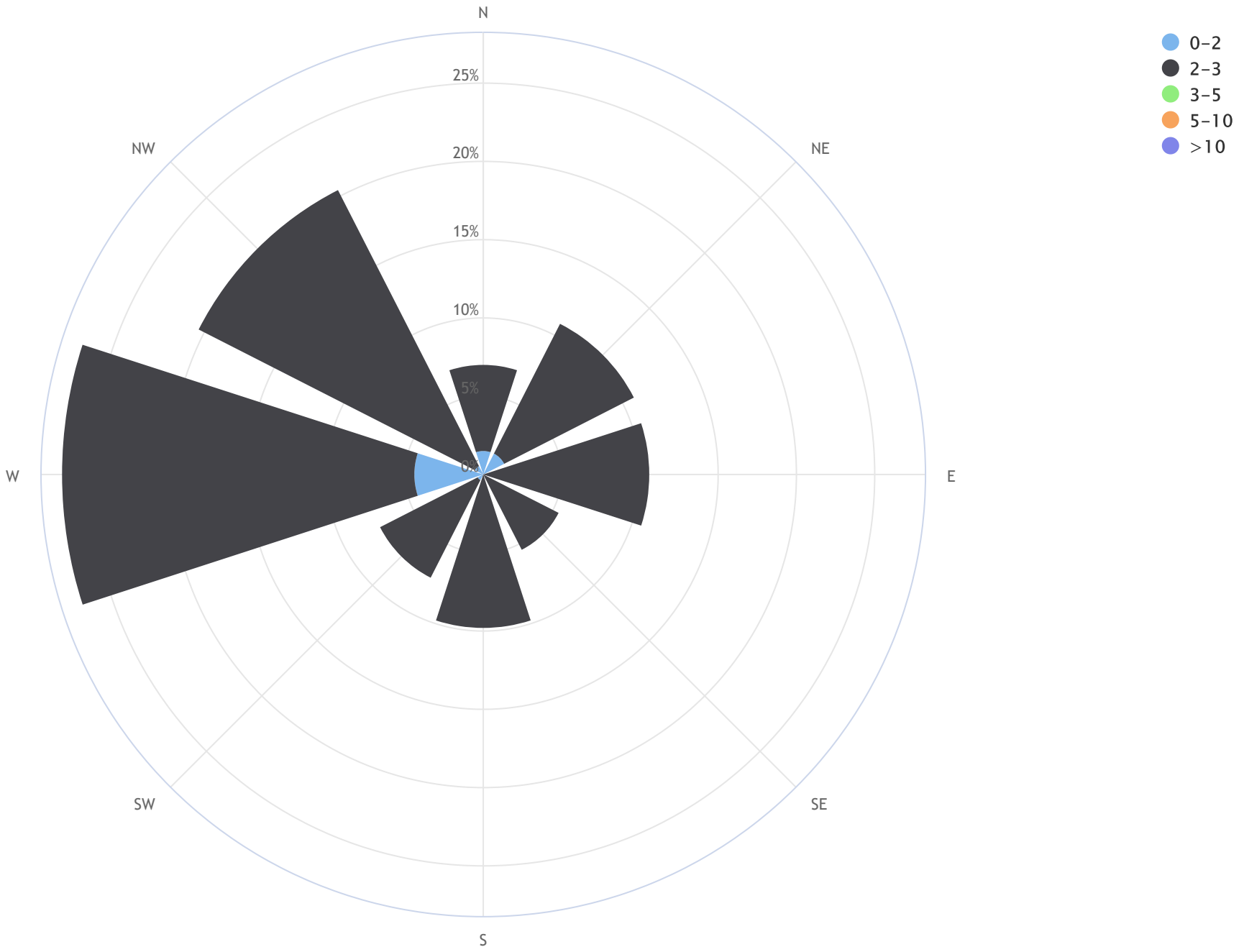


CH4[ppm] Histogram: LICA Bonnyville East Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Bonnyville East Site Continuous Monitoring Station_CH_4 (ppm)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 2.2, CALM % = 1.7%



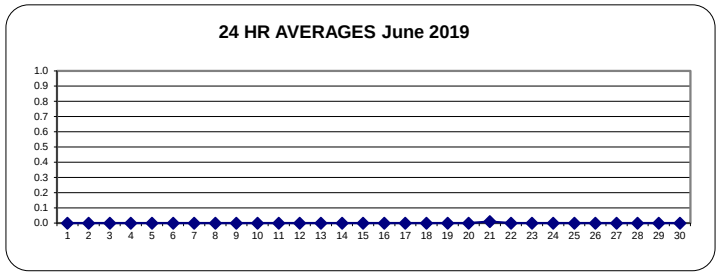
Direction	0-2	2-3	3-5	5-10	>10	TOTAL
N	1.5	5.5	0.0	0.0	0.0	7.0
NE	1.5	9.3	0.0	0.0	0.0	10.8
E	0.0	10.6	0.0	0.0	0.0	10.6
SE	0.0	5.4	0.0	0.0	0.0	5.4
S	0.0	9.8	0.0	0.0	0.0	9.8
SW	0.4	7.0	0.0	0.0	0.0	7.4
W	4.4	22.5	0.0	0.0	0.0	26.8
NW	0.6	19.8	0.0	0.0	0.0	20.4
Summary	8.3	90.0	0.0	0.0	0.0	98.3
CALM	0.0	1.8	0.0	0.0	0.0	1.8

NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)

HR START (MST) / HR END (MST)	0:00 0:59	1:00 1:59	2:00 2:59	3:00 3:59	4:00 4:59	5:00 5:59	6:00 6:59	7:00 7:59	8:00 8:59	9:00 9:59	10:00 10:59	11:00 11:59	12:00 12:59	13:00 13:59	14:00 14:59	15:00 15:59	16:00 16:59	17:00 17:59	18:00 18:59	19:00 19:59	20:00 20:59	21:00 21:59	22:00 22:59	23:00 23:59	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
DAY																												
1	**0.00**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	**0.00**	0.00	0.00	24
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	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	24
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**C**	**C**	**C**	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	**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	24
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	**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	24
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	24
11	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	24
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	24
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	24
15	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	24
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	24
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	24
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	24
19	0.01	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
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	24
21	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	**0.14**	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	**0.14**	**0.01**	24
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	**S**	0.00	0.00	0.00	0.00	24
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	24
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	24
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.02	0.00	24
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	0.01	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
27	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	24
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	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	**S**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	24
HOURLY MAX	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.02	0.14	0.12	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
HOURLY AVG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				

STATUS FLAG CODES

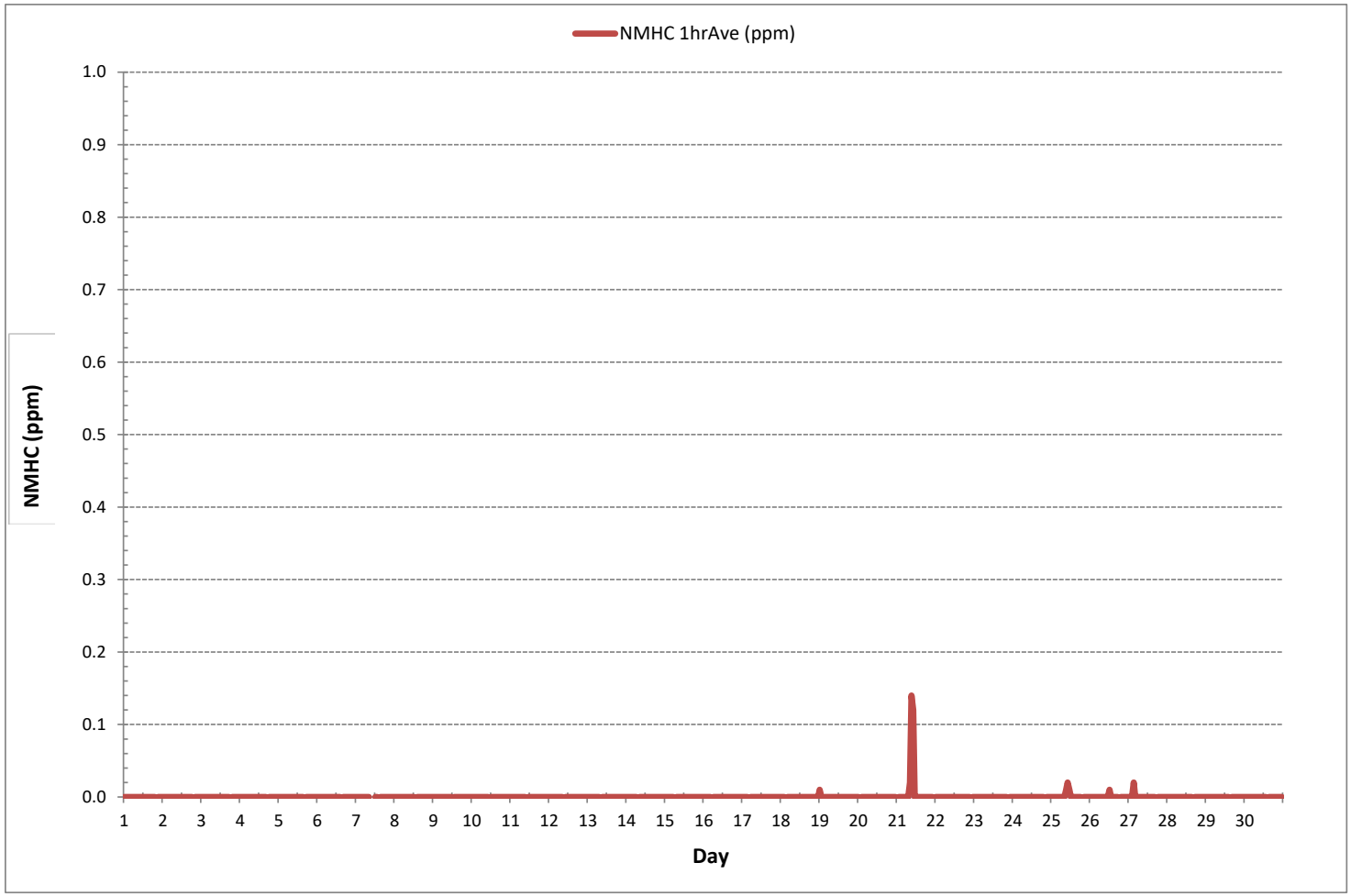
C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE



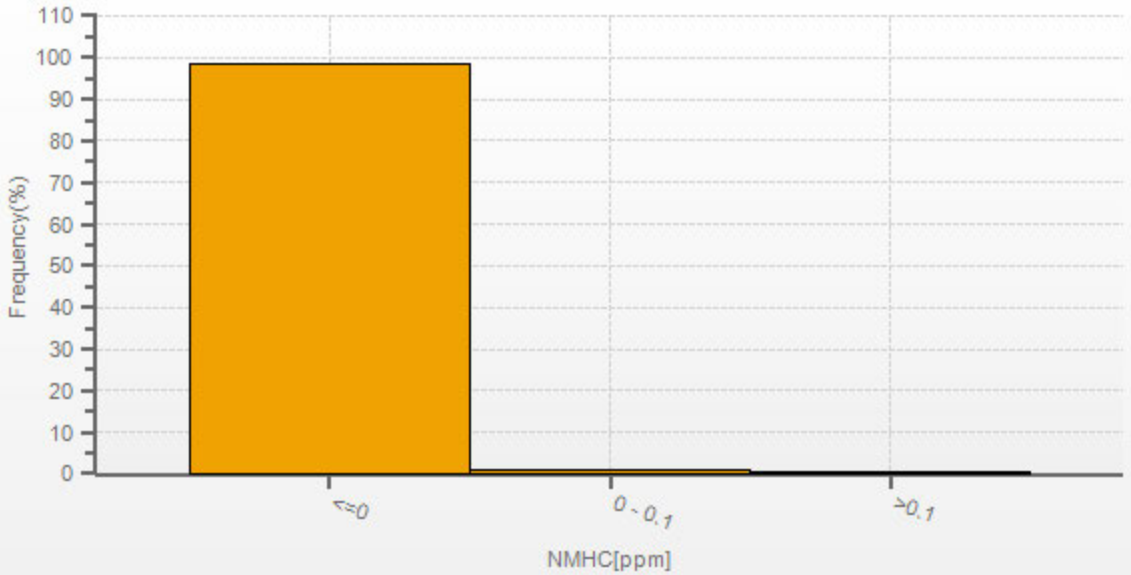
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:			9				
MINIMUM 1-HR AVERAGE	0.00	ppm	@ HOUR	0	ON DAY	1	
MAXIMUM 1-HR AVERAGE:	0.14	ppm	@ HOUR	9	ON DAY	21	
MAXIMUM 24-HR AVERAGE:	0.01	ppm			ON DAY	21	
IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:			720	hrs
MONTHLY CALIBRATION TIME:	3	hrs	AMD OPERATION UPTIME:			100.0	%
STANDARD DEVIATION:	0.01		MONTHLY AVERAGE:			0.00	ppm

NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)

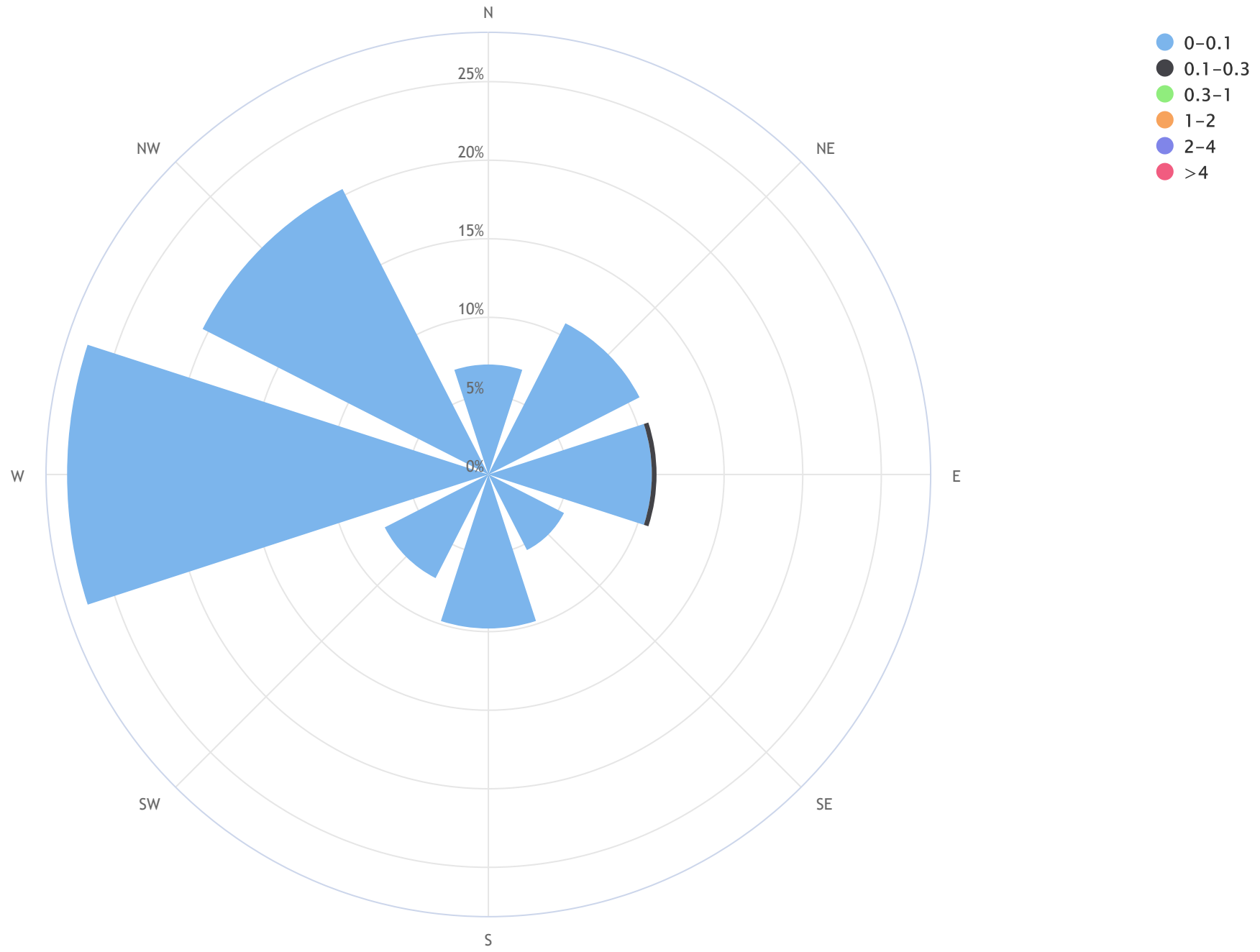


NMHC[ppm] Histogram: LICA Bonnyville East Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Bonnyville East Site Continuous Monitoring Station_NMHC (ppm)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 0.0, CALM % = 1.7%



Direction	0-0.1	0.1-0.3	0.3-1	1-2	2-4	>4	TOTAL
N	7.0	0.0	0.0	0.0	0.0	0.0	7.0
NE	10.8	0.0	0.0	0.0	0.0	0.0	10.8
E	10.4	0.3	0.0	0.0	0.0	0.0	10.6
SE	5.4	0.0	0.0	0.0	0.0	0.0	5.4
S	9.8	0.0	0.0	0.0	0.0	0.0	9.8
SW	7.4	0.0	0.0	0.0	0.0	0.0	7.4
W	26.8	0.0	0.0	0.0	0.0	0.0	26.8
NW	20.4	0.0	0.0	0.0	0.0	0.0	20.4
Summary	98.0	0.3	0.0	0.0	0.0	0.0	98.3
CALM	1.8	0.0	0.0	0.0	0.0	0.0	1.8

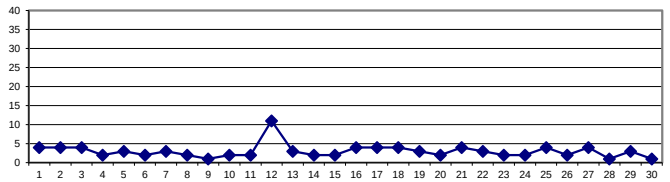
OXIDES OF NITROGEN Hourly Averages (NO_x ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	5	6	5	6	6	6	6	5	4	4	2	2	2	2	2	2	2	3	3	4	S	3	4	3	2	6	4	24
2	3	3	3	3	3	3	14	3	3	3	3	2	2	1	1	1	1	1	1	S	8	4	5	17	1	17	4	24
3	15	13	7	3	3	5	6	4	2	1	1	1	2	2	2	2	2	3	S	2	2	1	2	2	1	15	4	24
4	2	2	1	2	2	3	3	2	2	2	1	1	1	1	1	1	1	S	2	2	2	2	3	4	1	4	2	24
5	4	5	4	5	5	5	5	4	2	1	1	1	1	1	1	1	S	2	1	1	4	5	2	2	1	5	3	24
6	2	2	1	1	7	3	2	1	1	1	C	C	C	C	C	C	5	4	1	1	1	1	2	1	1	7	2	24
7	1	1	1	1	16	1	3	1	20	1	2	1	1	1	S	2	4	2	2	2	1	2	2	3	1	20	3	24
8	3	4	3	2	1	1	1	1	1	1	1	1	1	S	1	1	2	1	1	1	2	2	2	3	1	4	2	24
9	4	4	2	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	2	2	2	2	1	4	1	24
10	2	3	3	4	5	5	4	3	2	1	1	S	1	2	2	1	1	1	1	1	2	2	2	2	1	5	2	24
11	2	2	2	2	2	2	2	3	4	5	S	3	2	2	2	1	1	2	2	2	2	3	4	4	1	5	2	24
12	2	2	2	2	189	7	4	4	3	S	2	1	1	2	3	1	1	1	1	3	3	3	5	6	1	189	11	24
13	6	5	4	4	5	4	3	3	S	4	3	2	3	2	2	4	2	1	2	2	4	3	3	1	1	6	3	24
14	1	3	5	5	4	3	2	S	3	3	2	2	1	1	1	1	1	1	1	2	2	3	3	3	1	5	2	24
15	4	3	3	3	5	5	S	3	3	3	2	1	1	1	1	1	1	3	1	1	1	2	3	3	1	5	2	24
16	5	6	6	8	6	S	11	7	2	1	1	1	1	1	1	2	1	2	1	2	3	3	4	4	1	11	4	24
17	5	5	6	6	S	8	7	6	5	5	5	3	2	1	2	2	2	2	2	2	3	4	3	4	1	8	4	24
18	5	4	5	S	6	5	5	5	4	3	2	2	2	1	2	2	3	2	3	4	4	5	5	6	1	6	4	24
19	5	3	S	3	3	3	2	3	2	2	1	1	1	2	2	2	2	2	2	3	3	3	3	4	1	5	3	24
20	3	S	4	2	1	2	1	1	1	1	1	2	1	1	1	1	1	1	1	3	2	4	4	4	1	4	2	24
21	S	7	5	4	6	7	17	3	2	2	2	2	1	1	1	1	3	2	2	2	3	4	3	S	1	17	4	24
22	4	3	3	4	4	4	4	4	3	2	1	1	2	1	2	2	2	2	2	2	3	2	S	3	1	4	3	24
23	3	3	4	4	4	4	4	3	2	1	1	1	1	1	1	1	1	1	1	2	2	S	3	1	1	4	2	24
24	1	2	3	3	3	4	3	2	2	2	2	1	1	1	1	1	1	5	2	2	S	4	4	4	1	5	2	24
25	5	4	4	4	6	5	5	4	21	8	3	1	1	1	1	1	1	1	1	S	2	3	3	3	1	21	4	24
26	2	2	3	2	2	4	2	2	2	1	1	1	3	1	2	2	1	1	S	2	2	3	2	2	1	4	2	24
27	2	2	2	3	4	9	6	7	3	7	8	7	1	1	5	1	4	S	2	2	1	3	2	1	1	9	4	24
28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	2	2	2	1	2	1	24
29	2	3	3	4	4	4	7	4	3	2	2	2	2	2	1	S	2	1	1	1	2	2	2	2	1	7	3	24
30	1	1	2	2	2	2	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	2	1	24
HOURLY MAX	15	13	7	8	189	9	17	7	21	8	8	7	3	2	5	4	5	5	3	4	8	5	5	17				
HOURLY AVG	3	4	3	3	11	4	5	3	4	2	2	2	1	1	2	1	2	2	2	2	2	3	3	3				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

24 HR AVERAGES June 2019

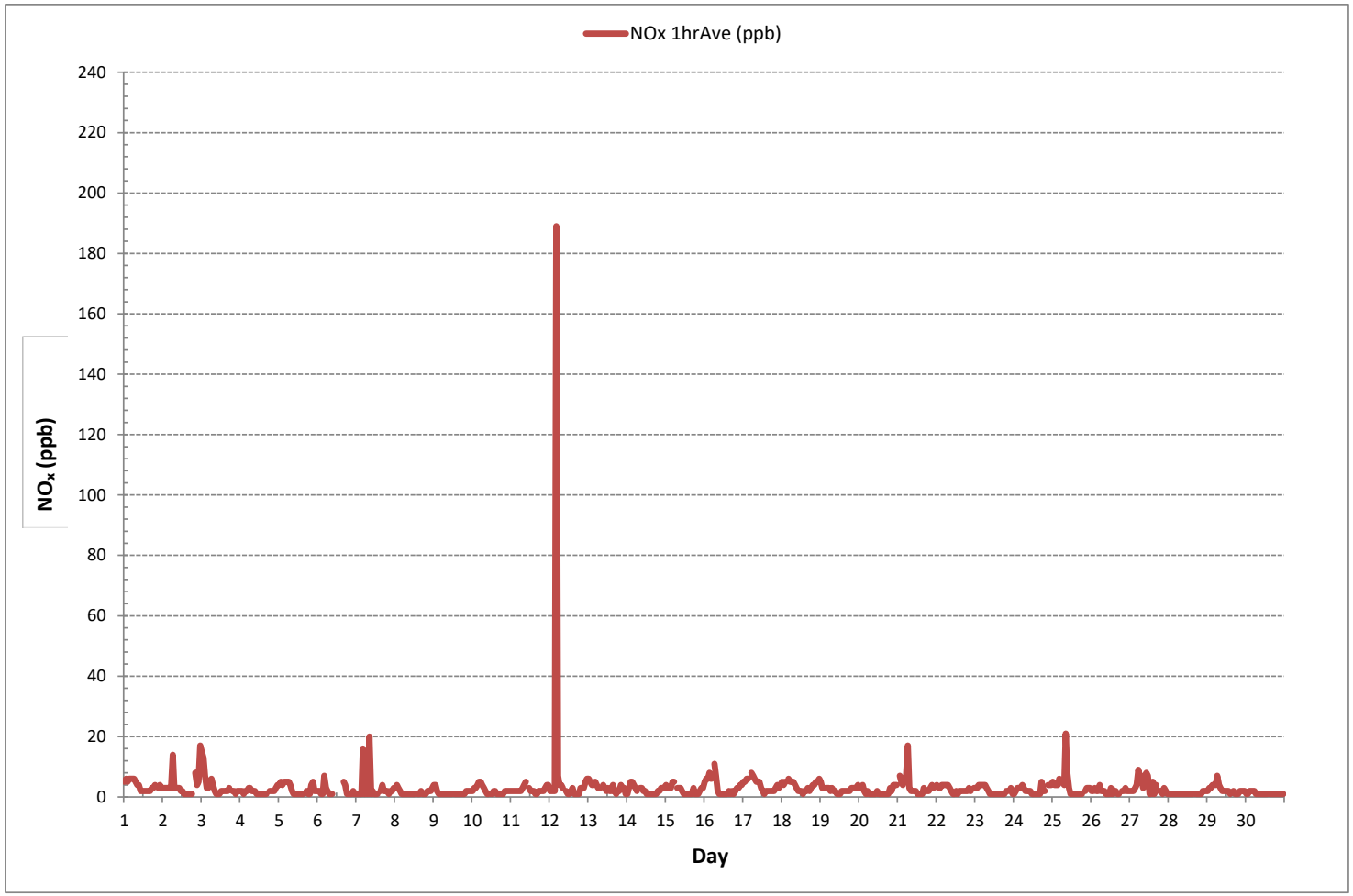


MONTHLY SUMMARY

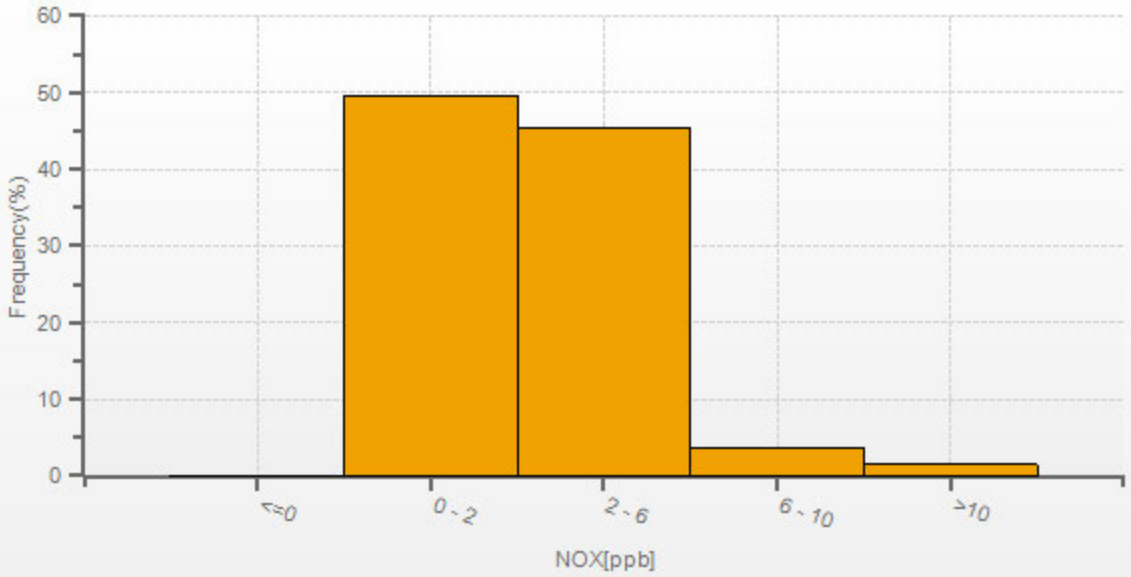
NUMBER OF NON-ZERO READINGS:		684				
MINIMUM 1-HR AVERAGE	1	ppb	@ HOUR	13	ON DAY	2
MAXIMUM 1-HR AVERAGE:	189	ppb	@ HOUR	4	ON DAY	12
MAXIMUM 24-HR AVERAGE:	11	ppb			ON DAY	12

IZS CALIBRATION TIME:	30	hrs	OPERATIONAL TIME:	720	hrs
MONTHLY CALIBRATION TIME:	6	hrs	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	7		MONTHLY AVERAGE:	3	ppb

OXIDES OF NITROGEN Hourly Averages (NO_x ppb)

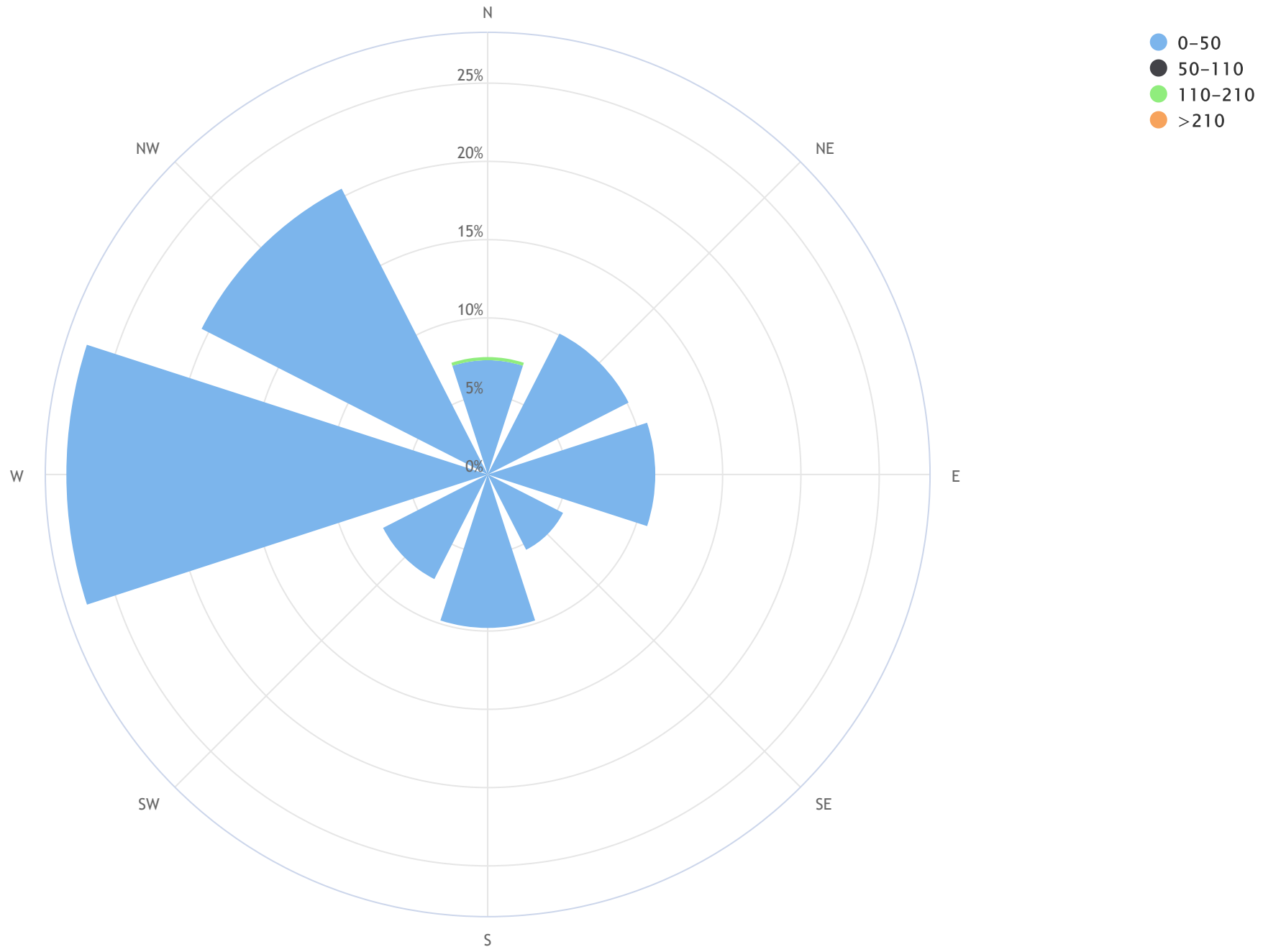


NOX[ppb] Histogram: LICA Bonnyville East Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Bonnyville East Site Continuous Monitoring Station_NO_X (ppb)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 3.3, CALM % = 1.8%



Direction	0-50	50-110	110-210	>210	TOTAL
N	7.3	0.0	0.2	0.0	7.5
NE	10.1	0.0	0.0	0.0	10.1
E	10.7	0.0	0.0	0.0	10.7
SE	5.4	0.0	0.0	0.0	5.4
S	9.8	0.0	0.0	0.0	9.8
SW	7.5	0.0	0.0	0.0	7.5
W	26.9	0.0	0.0	0.0	26.9
NW	20.5	0.0	0.0	0.0	20.5
Summary	98.1	0.0	0.2	0.0	98.3
CALM	1.8	0.0	0.0	0.0	1.8

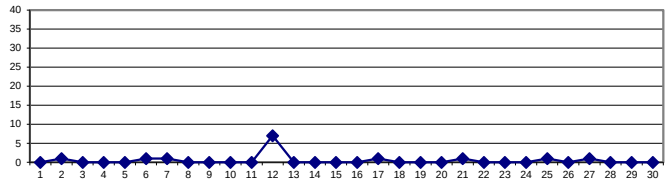
NITRIC OXIDE Hourly Averages (NO ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	**0**	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	**0**	1	0	24
2	0	0	0	0	0	0	7	1	1	1	0	0	0	0	0	0	0	0	0	**S**	0	0	0	1	0	7	1	24
3	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	**S**	0	0	0	0	0	0	1	0	24
4	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	1	0	24
5	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	**S**	1	0	0	0	0	0	0	0	1	0	24
6	0	0	0	0	4	2	1	0	0	1	**C**	**C**	**C**	**C**	**C**	**C**	5	2	0	0	0	0	0	0	0	5	1	24
7	0	0	0	0	10	0	1	0	17	0	0	0	0	0	**S**	0	1	0	0	0	0	0	0	0	0	17	1	24
8	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	1	0	0	0	0	0	0	0	0	1	0	24
9	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	24
10	0	0	0	0	0	1	1	1	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
11	0	0	0	0	0	0	0	1	1	1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
12	0	0	0	0	**154**	3	1	1	1	**S**	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**154**	**7**	24
13	0	0	0	0	0	0	0	0	**S**	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	0	1	0	24
14	0	0	0	0	0	1	1	**S**	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
15	0	0	0	0	0	1	**S**	1	1	1	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	24
16	0	0	0	0	1	**S**	4	3	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	4	0	24
17	0	0	0	0	**S**	2	2	2	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	24
18	0	0	0	**S**	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
19	0	0	**S**	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
20	0	**S**	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	24
21	**S**	0	0	0	1	1	7	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	**S**	0	7	1	24
22	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	1	0	24
23	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	1	0	24
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	**S**	0	0	0	0	3	0	24
25	0	0	0	0	1	1	1	1	11	6	2	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	11	1	24
26	0	0	0	0	0	1	1	1	0	0	0	0	1	0	1	0	0	0	**S**	0	0	0	0	0	0	1	0	24
27	0	0	0	0	1	3	2	4	1	3	5	4	0	0	1	0	2	**S**	0	0	0	0	0	0	0	5	1	24
28	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	24
29	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	1	0	24
30	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	24
HOURLY MAX	0	1	0	0	154	3	7	4	17	6	5	4	1	1	1	1	5	3	1	1	0	0	0	1				
HOURLY AVG	0	0	0	0	6	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

24 HR AVERAGES June 2019

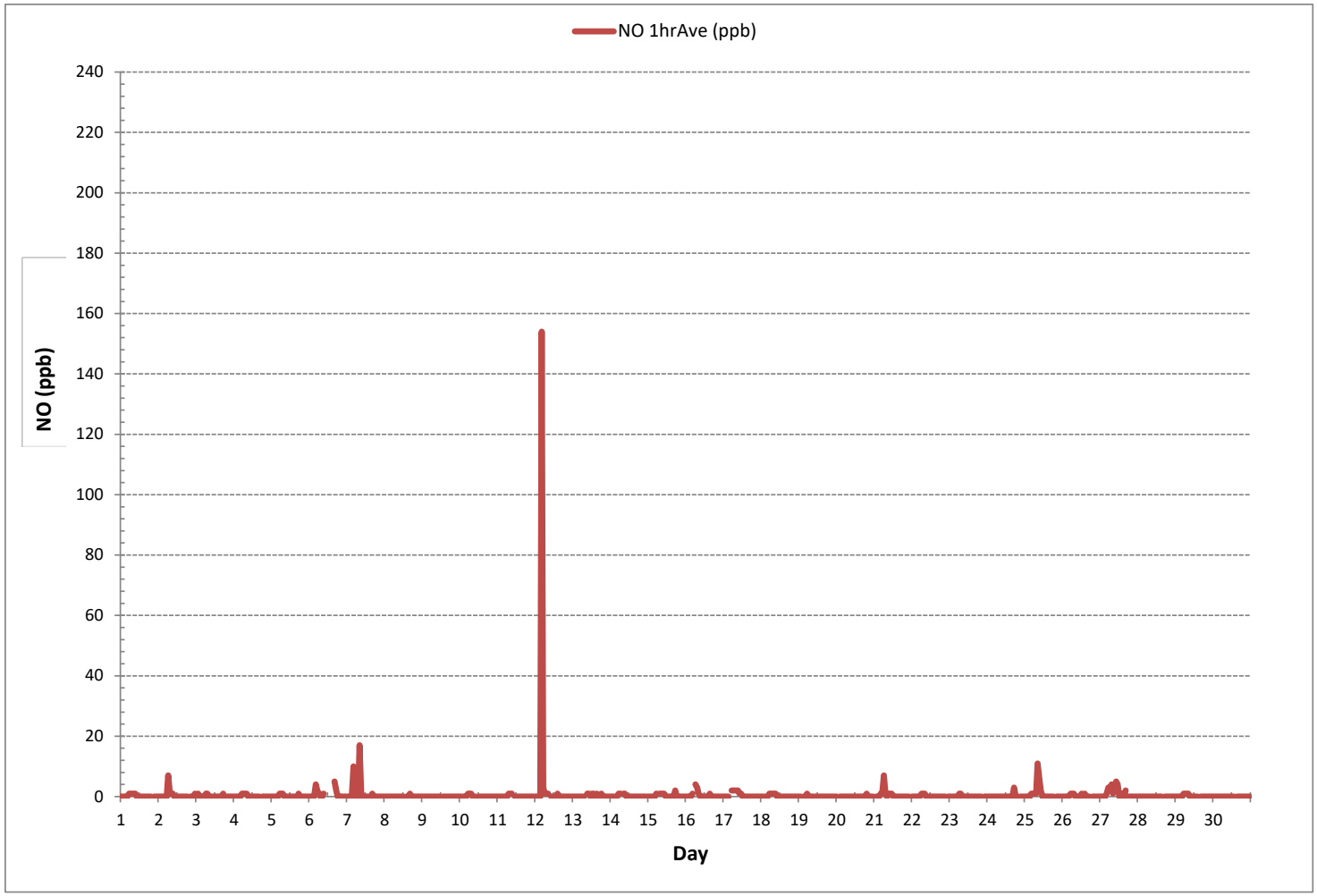


MONTHLY SUMMARY

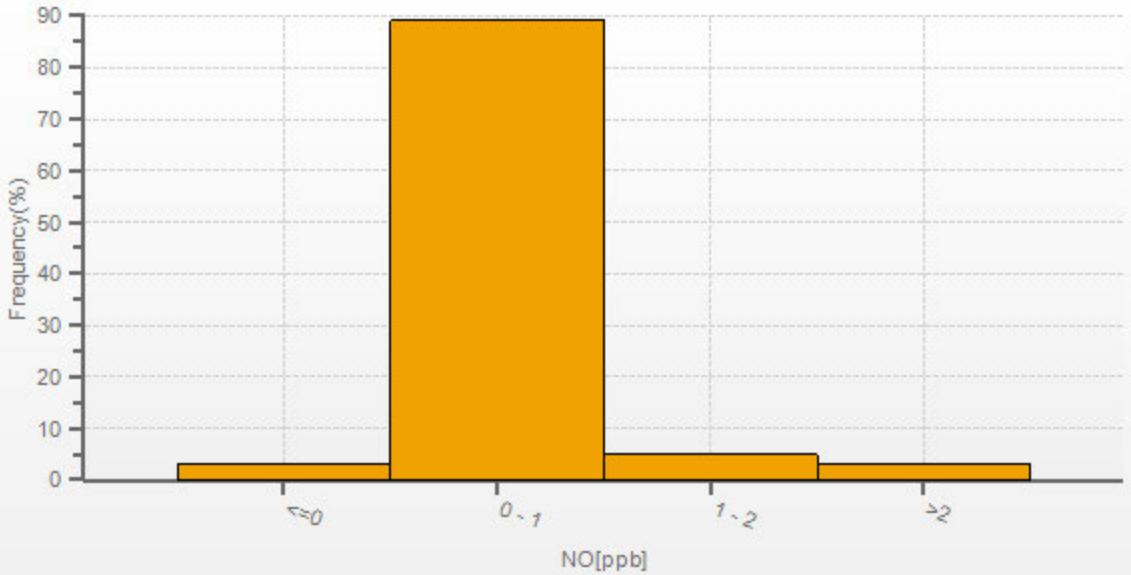
NUMBER OF NON-ZERO READINGS:			119			
MINIMUM 1-HR AVERAGE	0	ppb	@ HOUR	0	ON DAY	1
MAXIMUM 1-HR AVERAGE:	154	ppb	@ HOUR	4	ON DAY	12
MAXIMUM 24-HR AVERAGE:	7	ppb			ON DAY	12

IZS CALIBRATION TIME:	30	hrs	OPERATIONAL TIME:	720	hrs
MONTHLY CALIBRATION TIME:	6	hrs	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	6		MONTHLY AVERAGE:	1	ppb

NITRIC OXIDE Hourly Averages (NO ppb)

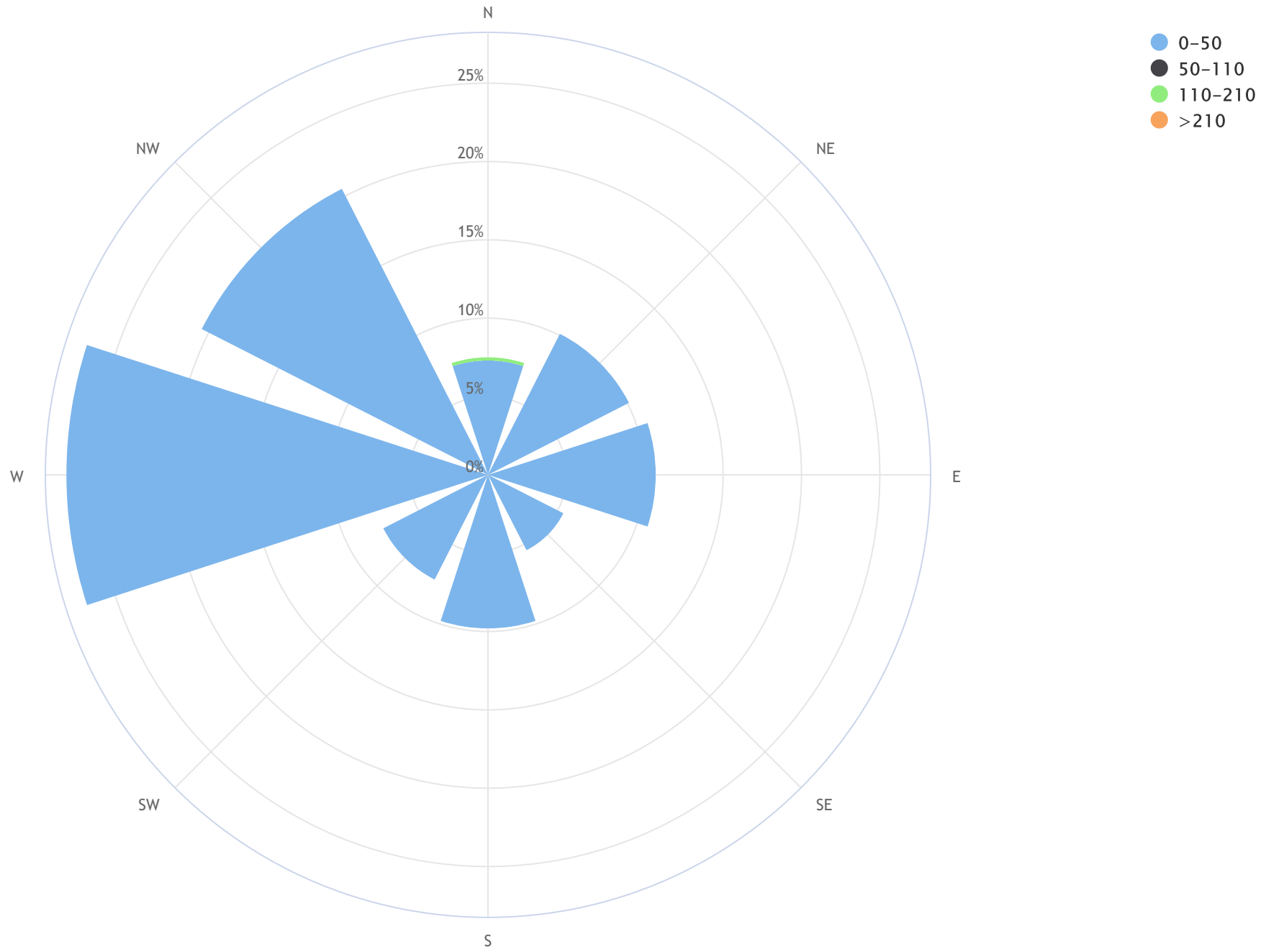


NO[ppb] Histogram: LICA Bonnyville East Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Bonnyville East Site Continuous Monitoring Station_NO (ppb)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 0.3, CALM % = 1.8%



Direction	0-50	50-110	110-210	>210	TOTAL
N	7.3	0.0	0.2	0.0	7.5
NE	10.1	0.0	0.0	0.0	10.1
E	10.7	0.0	0.0	0.0	10.7
SE	5.4	0.0	0.0	0.0	5.4
S	9.8	0.0	0.0	0.0	9.8
SW	7.5	0.0	0.0	0.0	7.5
W	26.9	0.0	0.0	0.0	26.9
NW	20.5	0.0	0.0	0.0	20.5
Summary	98.1	0.0	0.2	0.0	98.3
CALM	1.8	0.0	0.0	0.0	1.8

NITROGEN DIOXIDE Hourly Averages (NO_2 ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	5	6	5	6	6	6	5	4	3	3	2	2	2	2	2	2	2	2	3	3	S	3	4	3	2	6	3	24
2	3	3	3	3	3	3	8	3	3	3	3	2	2	1	1	1	1	1	1	S	8	4	5	16	1	16	4	24
3	14	12	7	3	2	5	5	4	1	1	1	1	1	2	2	2	2	2	S	2	2	1	2	2	1	14	3	24
4	1	2	1	2	2	2	2	2	2	1	1	1	1	0	1	1	1	S	2	2	2	2	3	4	0	4	2	24
5	4	5	4	5	5	4	3	3	2	1	1	1	1	1	1	1	S	2	1	1	4	5	2	2	1	5	2	24
6	1	2	1	1	3	1	1	1	1	1	C	C	C	C	C	C	0	2	1	1	1	1	2	1	0	3	1	24
7	1	1	1	1	5	1	2	1	3	1	1	1	1	1	S	2	3	1	2	2	1	2	2	3	1	5	2	24
8	3	4	3	2	1	1	1	1	0	1	1	1	1	S	1	1	1	1	1	1	2	2	2	3	0	4	1	24
9	4	4	2	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	2	2	2	1	1	4	1	24
10	2	3	3	3	4	4	3	2	2	1	1	S	1	1	1	1	1	1	1	1	1	2	2	2	1	4	2	24
11	2	2	2	2	2	2	2	2	2	3	S	3	2	2	1	1	1	1	2	2	2	2	3	4	1	4	2	24
12	2	2	2	2	35	5	3	3	2	S	2	1	1	1	2	1	1	1	1	2	3	3	5	6	1	35	4	24
13	6	5	4	4	5	4	3	3	S	4	2	2	2	1	2	3	1	1	1	2	4	3	2	1	1	6	3	24
14	1	2	5	5	4	2	2	S	2	2	2	2	1	1	1	1	1	1	1	2	2	3	3	3	1	5	2	24
15	4	3	3	3	4	3	S	3	2	2	2	1	1	1	1	1	1	1	1	1	1	2	3	3	1	4	2	24
16	5	6	6	8	6	S	7	5	2	1	1	1	1	1	1	1	1	2	1	2	3	3	4	4	1	8	3	24
17	5	5	5	6	S	6	5	4	4	4	3	3	2	1	2	2	1	2	2	2	3	4	3	4	1	6	3	24
18	5	4	5	S	5	5	4	4	3	3	2	2	2	1	1	2	2	2	3	3	4	5	5	6	1	6	3	24
19	5	3	S	3	3	2	2	2	2	2	1	1	1	2	2	2	2	2	2	3	2	3	3	4	1	5	2	24
20	3	S	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	4	4	4	1	4	2	24
21	S	7	4	4	6	6	10	2	2	2	1	2	1	1	1	1	2	2	2	2	3	4	3	S	1	10	3	24
22	4	3	3	4	4	4	3	3	3	1	1	1	1	1	1	2	1	1	2	2	3	2	S	3	1	4	2	24
23	3	3	4	4	4	4	3	2	2	1	1	1	1	1	1	1	1	1	1	2	2	S	2	1	1	4	2	24
24	1	2	3	3	3	3	3	2	1	1	1	1	1	1	1	1	1	3	1	1	S	4	4	4	1	4	2	24
25	5	4	4	4	5	4	4	3	9	2	2	1	1	0	1	1	1	1	1	S	2	3	3	2	0	9	3	24
26	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	S	2	2	2	2	2	1	2	2	24
27	2	2	2	2	3	6	4	2	2	3	4	2	1	1	3	1	2	S	2	1	1	2	2	1	1	6	2	24
28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	2	2	2	1	2	1	24
29	2	3	3	4	3	4	5	3	2	2	2	2	1	1	1	S	2	1	1	1	2	1	2	2	1	5	2	24
30	1	1	2	2	2	2	1	1	1	1	0	0	1	1	S	1	1	1	1	1	1	1	1	1	0	2	1	24
HOURLY MAX	14	12	7	8	35	6	10	5	9	4	4	3	2	2	3	3	3	3	3	3	8	5	5	16				
HOURLY AVG	3	4	3	3	4	3	3	2	2	2	2	1	1	1	1	1	1	1	1	2	2	3	3	3				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

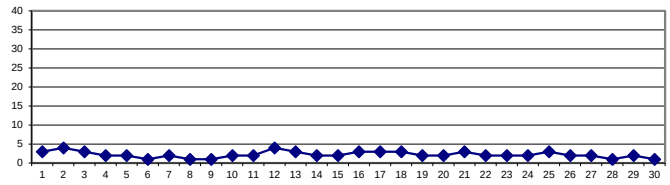
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 159 ppb

MONTHLY SUMMARY

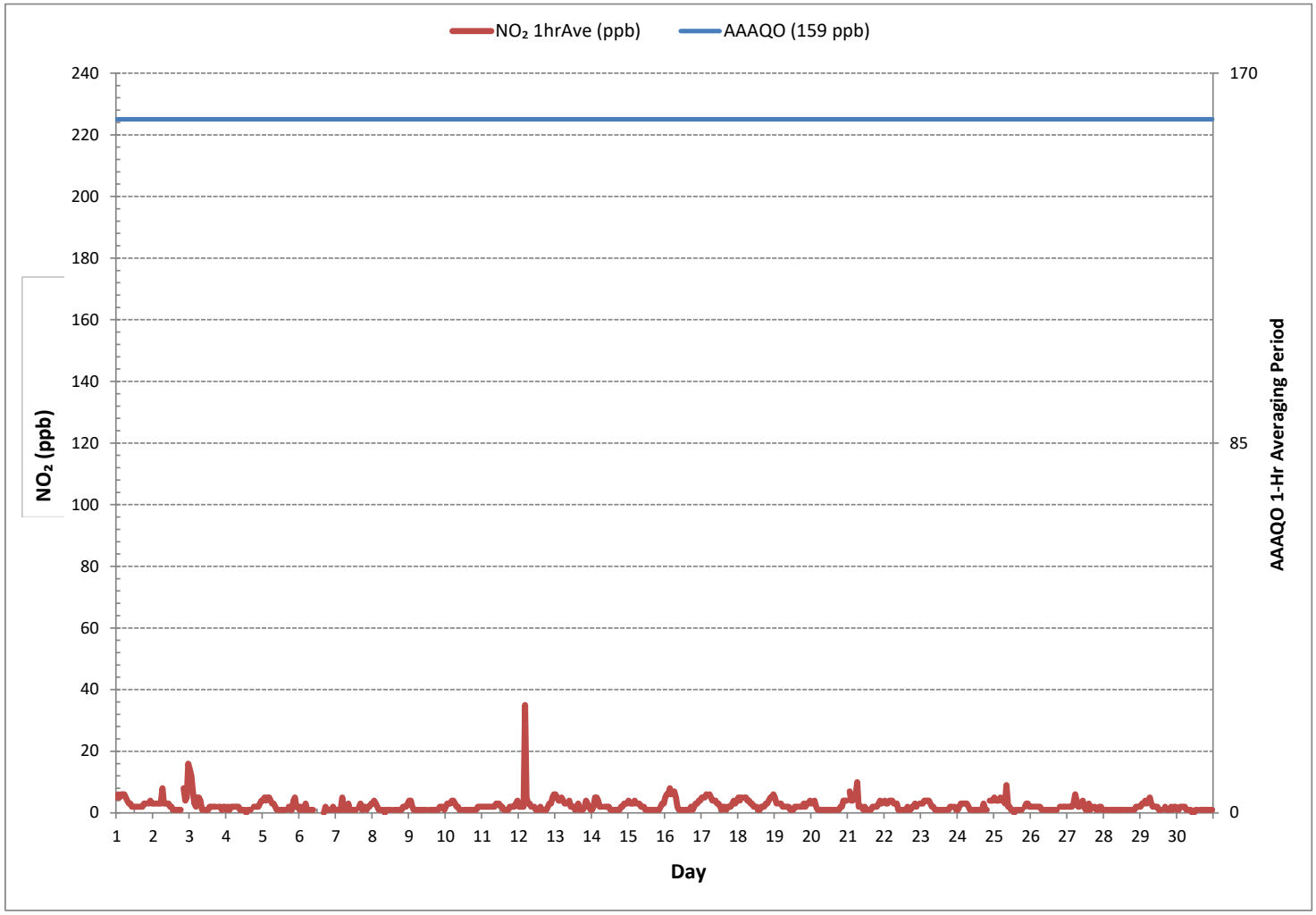
NUMBER OF 1-HR EXCEEDANCES:	0					
NUMBER OF NON-ZERO READINGS:	678					
MINIMUM 1-HR AVERAGE	0	ppb	@ HOUR	13	ON DAY	4
MAXIMUM 1-HR AVERAGE:	35	ppb	@ HOUR	4	ON DAY	12
MAXIMUM 24-HR AVERAGE:	4	ppb			ON DAY	2

IZS CALIBRATION TIME:	30	hrs	OPERATIONAL TIME:	720	hrs
MONTHLY CALIBRATION TIME:	6	hrs	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	2		MONTHLY AVERAGE:	2	ppb

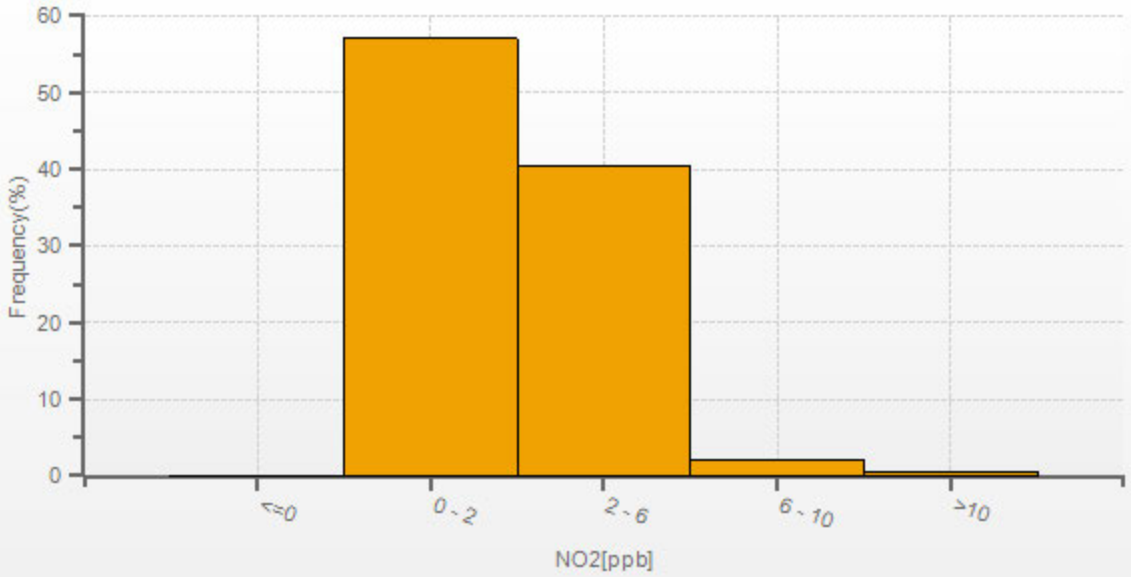
24 HR AVERAGES June 2019



NITROGEN DIOXIDE Hourly Averages (NO_2 ppb)

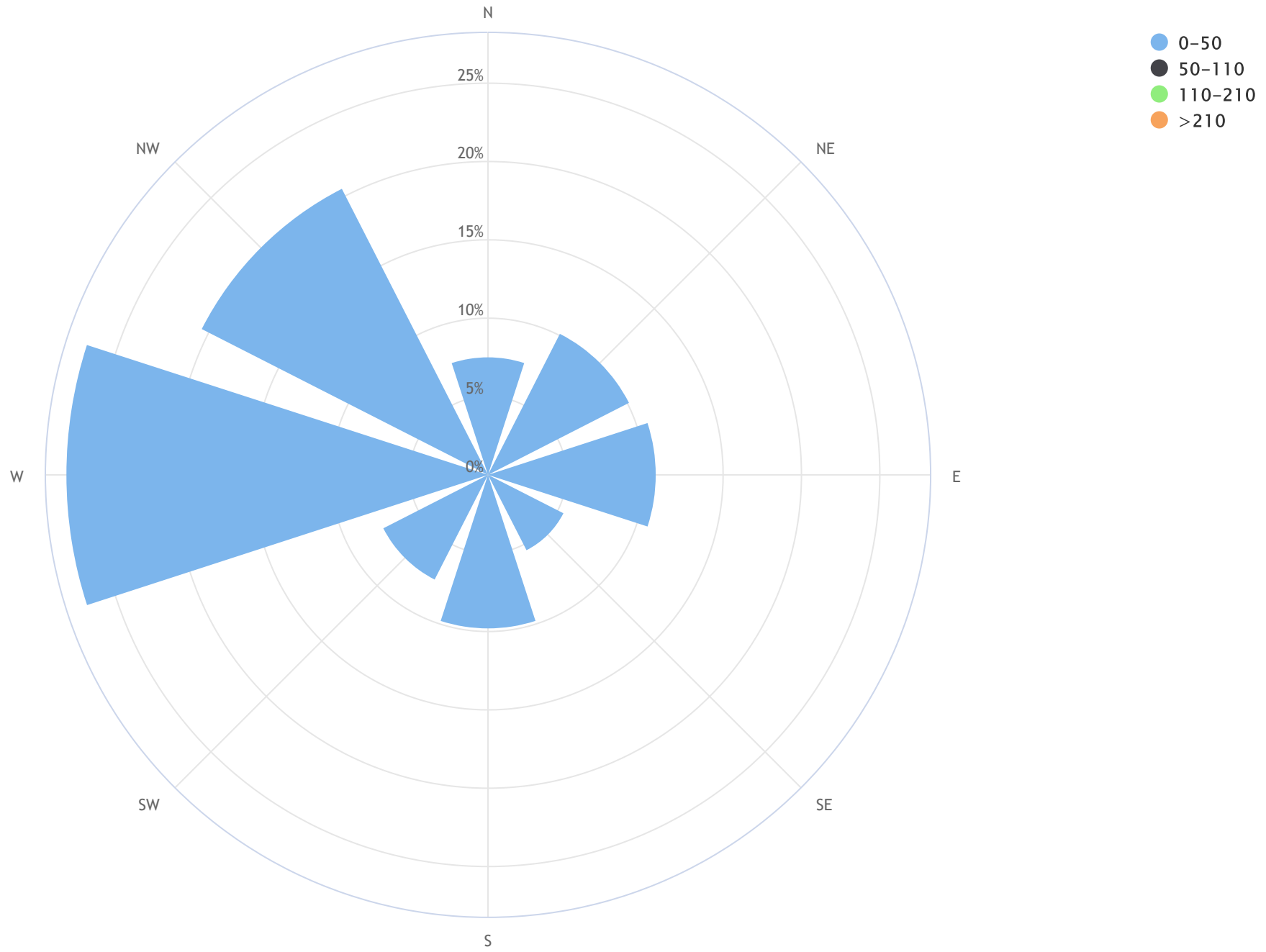


NO2[ppb] Histogram: LICA Bonnyville East Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Bonnyville East Site Continuous Monitoring Station_NO_2 (ppb)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 2.8, CALM % = 1.8%



Direction	0-50	50-110	110-210	>210	TOTAL
N	7.5	0.0	0.0	0.0	7.5
NE	10.1	0.0	0.0	0.0	10.1
E	10.7	0.0	0.0	0.0	10.7
SE	5.4	0.0	0.0	0.0	5.4
S	9.8	0.0	0.0	0.0	9.8
SW	7.5	0.0	0.0	0.0	7.5
W	26.9	0.0	0.0	0.0	26.9
NW	20.5	0.0	0.0	0.0	20.5
Summary	98.3	0.0	0.0	0.0	98.3
CALM	1.8	0.0	0.0	0.0	1.8

OZONE Hourly Averages (O_3 ppb)

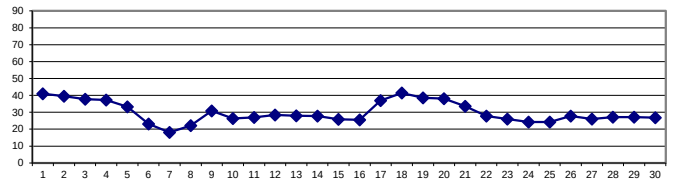
HR START (MST) / HR END (MST)	0:00 0:59	1:00 1:59	2:00 2:59	3:00 3:59	4:00 4:59	5:00 5:59	6:00 6:59	7:00 7:59	8:00 8:59	9:00 9:59	10:00 10:59	11:00 11:59	12:00 12:59	13:00 13:59	14:00 14:59	15:00 15:59	16:00 16:59	17:00 17:59	18:00 18:59	19:00 19:59	20:00 20:59	21:00 21:59	22:00 22:59	23:00 23:59	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
DAY																											
1	22.7	20.0	19.6	18.4	21.2	21.4	22.6	28.5	34.7	37.7	44.4	48.6	50.0	51.8	54.3	56.3	60.8	**63.3**	61.4	58.0	S	53.3	51.0	42.4	18.4	**63.3**	41.0	24
2	41.4	40.4	37.9	35.9	32.0	28.7	26.7	30.6	32.1	37.9	44.5	47.2	50.6	51.9	53.4	53.0	52.3	49.3	48.6	S	35.6	37.7	28.5	12.4	12.4	53.4	39.5	24
3	16.1	17.6	28.5	37.5	39.9	29.6	22.6	27.7	39.5	45.3	45.0	45.1	44.7	46.2	47.0	41.1	43.4	43.2	S	45.2	44.8	43.7	38.0	34.9	16.1	47.0	37.7	24
4	34.7	33.0	38.5	33.1	29.3	26.0	27.9	32.3	36.4	38.4	39.6	39.0	38.6	40.0	42.3	44.9	43.8	S	44.6	45.4	42.8	41.2	35.6	31.1	26.0	45.4	37.3	24
5	29.1	25.6	24.6	20.7	19.2	18.2	23.0	29.9	35.0	37.1	37.2	37.8	38.6	39.7	40.4	42.7	S	44.2	45.1	41.9	38.6	32.8	31.1	30.6	18.2	45.1	33.2	24
6	30.9	28.3	27.5	24.0	20.9	22.8	23.5	24.3	22.6	19.8	18.7	20.7	19.5	21.6	23.9	S	22.6	21.7	23.2	22.9	22.8	22.9	22.3	23.4	18.7	30.9	23.1	24
7	21.6	20.7	20.2	20.2	18.9	18.7	17.9	16.6	15.8	C	C	C	C	17.3	S	17.7	17.7	22.7	18.4	17.8	17.3	14.6	15.2	13.8	13.8	22.7	18.1	24
8	12.9	12.1	13.3	15.5	16.1	16.4	17.8	19.5	22.4	24.1	26.1	26.9	27.5	S	29.2	28.9	29.0	29.1	28.6	26.9	23.4	21.9	21.4	18.1	12.1	29.2	22.1	24
9	16.3	14.8	20.1	27.3	27.9	27.7	27.7	27.1	29.5	31.0	33.8	35.2	S	37.2	38.0	38.0	39.1	39.1	37.8	37.2	34.1	31.0	30.8	30.4	14.8	39.1	30.9	24
10	27.3	20.4	17.4	16.5	16.3	17.1	19.7	22.0	26.6	28.5	31.4	S	33.9	30.9	31.7	33.5	31.6	36.0	34.3	30.7	30.5	25.2	23.8	21.9	16.3	36.0	26.4	24
11	20.2	18.9	17.7	17.4	16.6	16.7	17.6	19.2	22.3	28.1	S	39.4	37.9	37.9	37.9	37.2	37.5	34.0	32.1	31.4	28.6	25.4	22.8	23.3	16.6	39.4	27.0	24
12	24.2	23.8	22.4	25.1	16.8	14.2	23.0	23.7	26.4	S	33.6	35.8	34.8	34.3	35.1	36.9	34.8	35.4	34.8	31.5	32.7	30.6	23.2	19.5	14.2	36.9	28.4	24
13	20.8	24.0	29.9	28.1	22.4	23.8	23.4	21.4	S	22.0	25.7	29.6	33.7	37.6	35.2	30.3	31.3	30.0	30.8	25.9	19.8	27.6	36.1	31.1	19.8	37.6	27.9	24
14	25.8	21.7	16.5	15.0	15.7	16.7	18.7	S	23.0	25.1	31.3	38.6	34.0	33.5	34.7	34.5	35.1	33.4	31.3	38.5	32.5	29.9	29.0	24.7	15.0	38.6	27.8	24
15	22.6	20.5	19.6	18.3	15.2	16.9	S	21.0	23.4	25.4	31.1	35.0	33.3	29.4	30.1	30.5	32.5	31.6	34.9	33.8	31.7	22.9	20.8	16.1	15.2	35.0	25.9	24
16	13.4	12.2	8.8	6.9	**5.9**	S	10.9	19.7	27.3	32.1	34.3	34.2	33.7	35.1	37.1	36.5	36.0	33.4	33.4	31.0	28.7	26.6	25.5	24.1	**5.9**	37.1	25.5	24
17	21.3	19.9	17.6	16.6	S	15.6	19.4	23.1	25.3	28.0	34.4	42.9	49.8	51.4	52.9	52.7	51.4	50.7	50.0	49.4	44.9	42.7	45.4	44.9	15.6	52.9	37.0	24
18	41.5	40.1	38.1	S	34.5	34.7	34.9	37.1	41.8	47.3	52.5	53.5	54.5	57.1	58.1	48.4	47.8	42.5	39.7	35.7	34.3	28.4	27.0	22.1	22.1	58.1	**41.4**	24
19	24.7	30.7	S	40.1	42.6	43.0	41.3	34.1	34.5	40.6	43.9	39.7	38.9	46.2	47.6	41.0	40.5	41.0	46.5	43.5	38.0	36.2	28.6	24.3	24.3	47.6	38.6	24
20	28.2	S	23.9	32.7	43.8	45.9	44.7	43.1	42.3	46.0	45.8	44.4	43.8	43.3	46.4	43.2	43.2	40.9	40.4	37.5	33.6	25.0	20.0	17.7	17.7	46.4	38.1	24
21	S	18.3	21.7	19.5	14.9	14.9	19.6	24.5	36.6	37.4	41.4	45.7	45.4	45.6	46.4	43.4	47.8	44.2	41.9	37.7	32.5	29.8	30.9	S	14.9	47.8	33.6	24
22	29.8	32.3	29.5	24.9	21.9	20.5	21.1	20.1	19.7	23.9	33.1	33.3	37.3	39.0	35.1	33.1	32.6	31.3	29.8	27.2	22.5	21.5	S	19.1	19.1	39.0	27.8	24
23	18.4	15.9	15.2	14.7	13.8	14.4	16.6	19.3	20.5	25.3	28.2	36.8	36.6	35.5	34.6	35.6	36.7	34.0	33.8	31.6	28.7	S	25.3	25.6	13.8	36.8	26.0	24
24	22.8	20.4	17.8	17.6	16.1	15.5	16.8	21.2	23.6	25.6	26.9	30.6	34.8	31.3	30.1	29.2	28.9	31.9	31.9	28.1	S	22.3	17.9	17.3	15.5	34.8	24.3	24
25	15.9	15.0	13.3	11.7	8.2	9.5	13.2	17.2	18.9	25.1	29.7	29.8	35.9	34.0	34.4	36.5	35.9	36.9	35.6	S	28.4	26.1	22.2	26.6	8.2	36.9	24.3	24
26	26.6	24.6	19.2	20.1	17.5	15.4	19.9	28.3	33.4	34.9	36.4	35.0	36.6	34.2	32.7	33.4	36.7	32.8	S	29.9	28.3	24.8	18.8	19.2	15.4	36.7	27.8	24
27	16.6	18.3	13.5	9.5	8.8	9.2	12.5	19.0	30.2	33.3	34.8	35.8	38.1	40.9	42.2	40.1	38.6	S	31.8	28.7	28.8	21.6	21.9	23.4	8.8	42.2	26.0	24
28	22.2	22.2	22.1	21.7	21.1	20.2	20.0	19.3	20.0	18.8	22.0	25.1	32.4	31.4	31.8	31.4	S	44.5	43.9	41.2	34.5	27.4	24.6	25.6	18.8	44.5	27.1	24
29	22.2	19.3	18.2	18.8	18.5	17.6	15.1	17.9	17.7	21.6	22.3	23.8	30.6	35.6	42.4	S	50.8	37.6	40.4	38.3	34.9	29.7	25.9	22.9	15.1	50.8	27.1	24
30	23.6	26.2	23.7	20.6	20.3	19.5	20.4	20.7	22.6	27.6	30.4	31.3	31.9	33.6	S	33.6	34.0	31.7	32.1	28.7	26.2	26.5	26.1	27.1	19.5	34.0	26.9	24
HOURLY MAX	41.5	40.4	38.5	40.1	43.8	45.9	44.7	43.1	42.3	47.3	52.5	53.5	54.5	57.1	58.1	56.3	60.8	63.3	61.4	58.0	44.9	53.3	51.0	44.9				
HOURLY AVG	23.9	22.7	21.9	21.7	21.3	21.1	22.0	24.4	27.7	31.0	34.2	36.5	37.8	38.1	39.5	38.0	38.3	37.4	37.0	34.8	31.4	29.3	27.2	24.6				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 76 ppb

24 HR AVERAGES June 2019

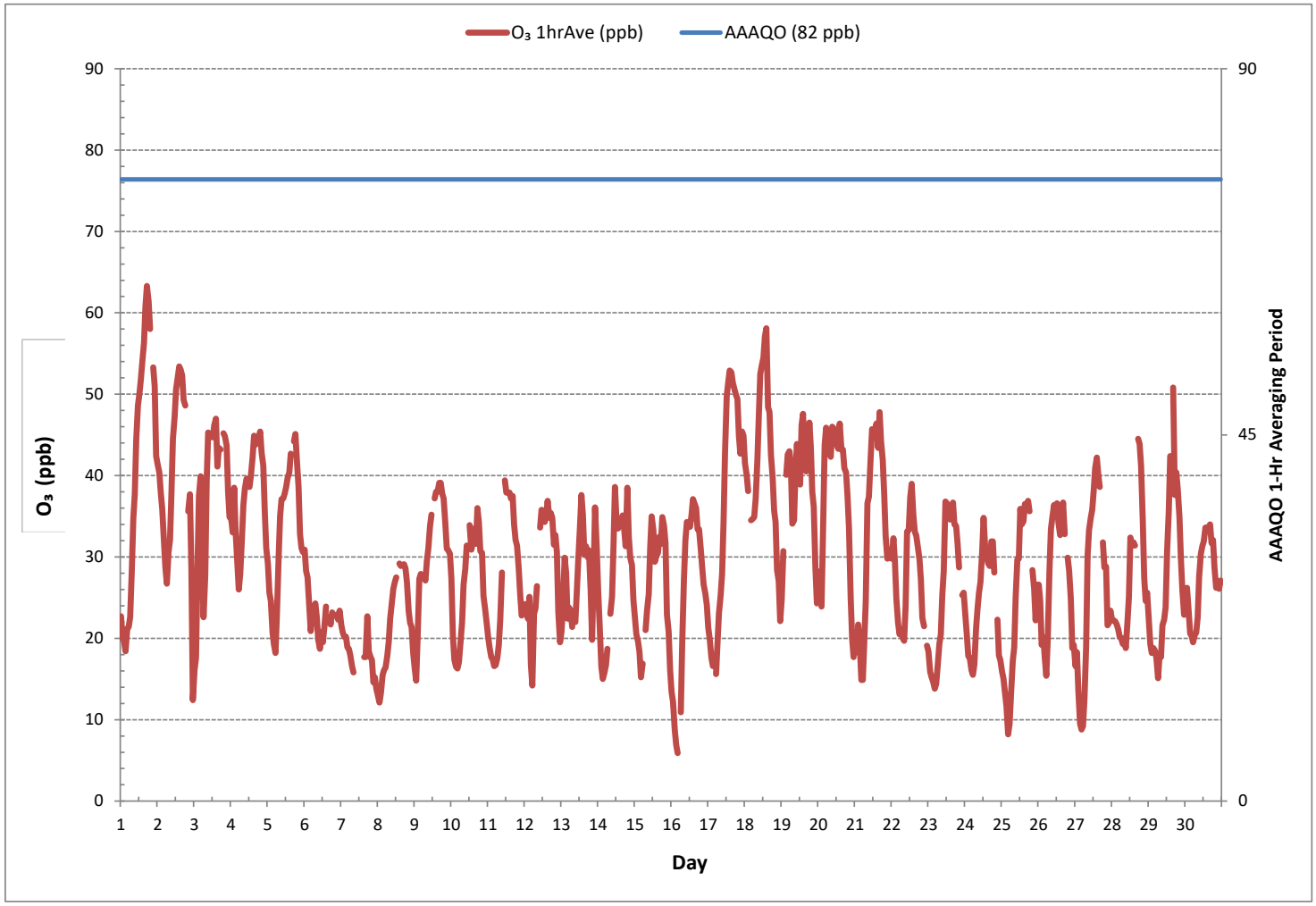


MONTHLY SUMMARY

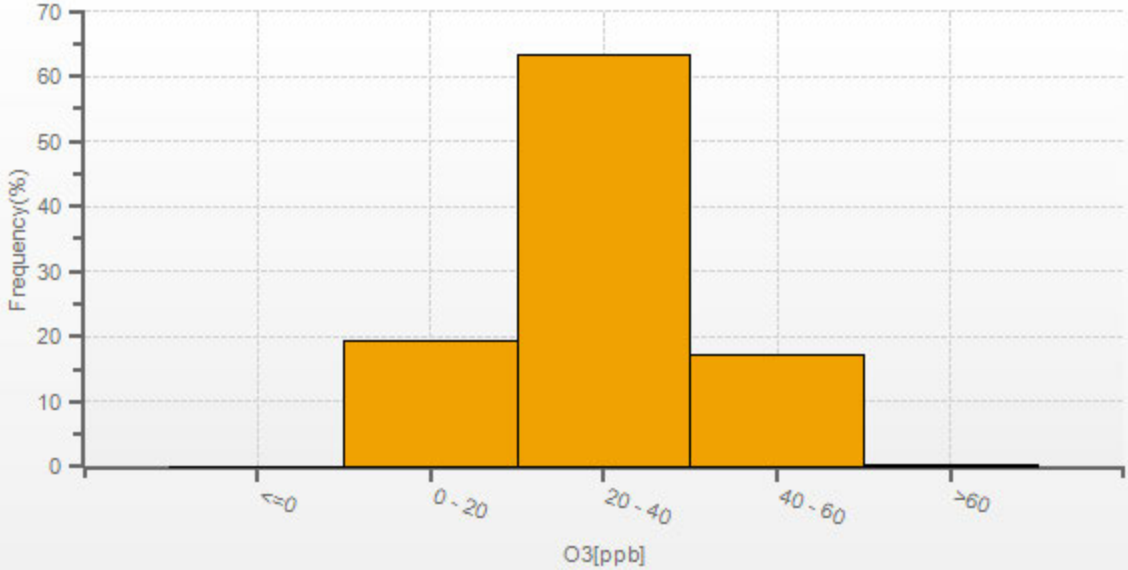
NUMBER OF 1-HR EXCEEDANCES:	0					
NUMBER OF NON-ZERO READINGS:	685					
MINIMUM 1-HR AVERAGE	5.9	ppb	@ HOUR	4	ON DAY	16
MAXIMUM 1-HR AVERAGE:	63.3	ppb	@ HOUR	17	ON DAY	1
MAXIMUM 24-HR AVERAGE:	41.4	ppb			ON DAY	18

IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	720	hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	10.4		MONTHLY AVERAGE:	30.0	ppb

OZONE Hourly Averages (O_3 ppb)

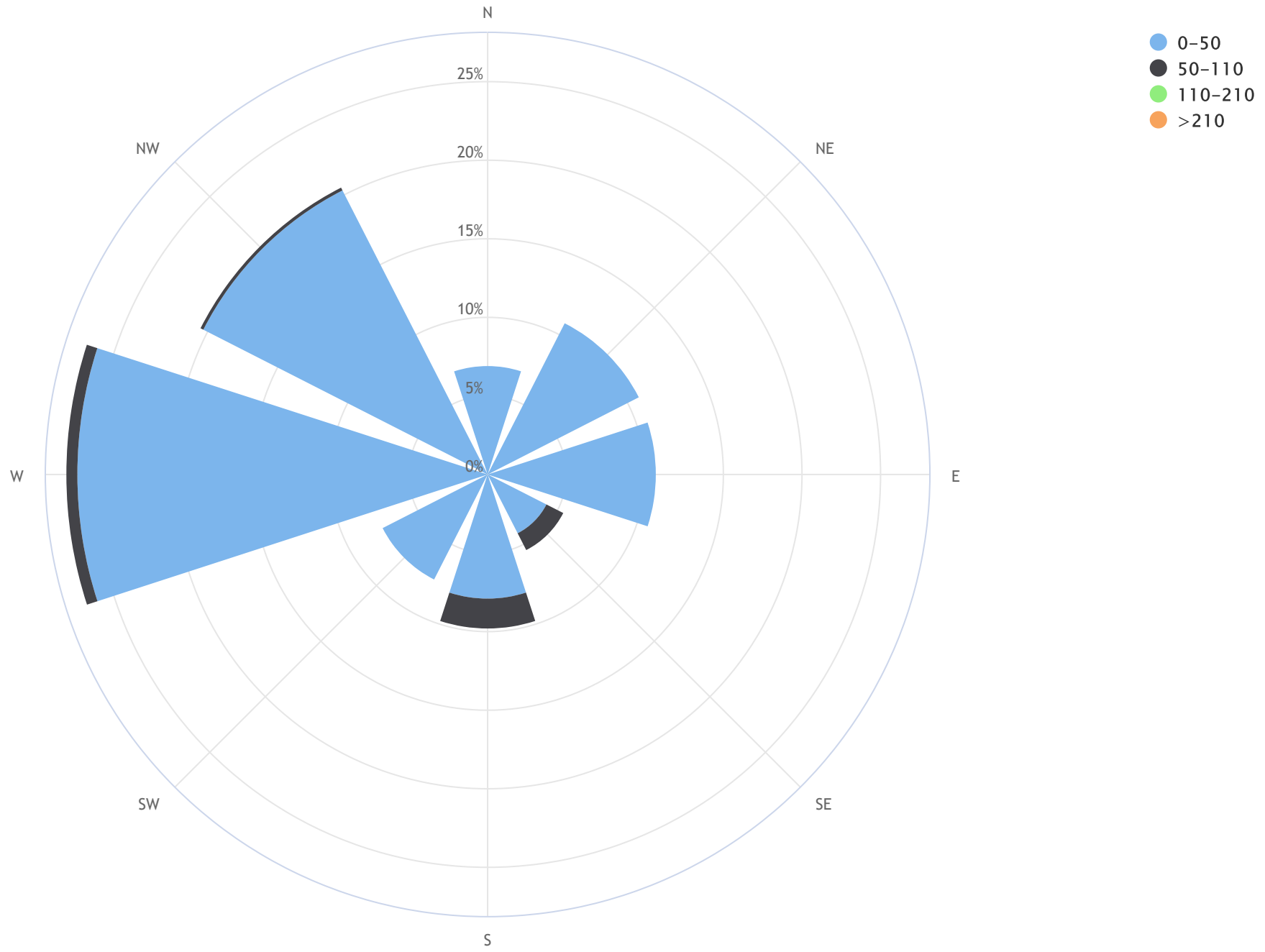


O3[ppb] Histogram: LICA Bonnyville East Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Bonnyville East Site Continuous Monitoring Station_O_3 (ppb)_19/06

Pollutant Rose_Wind Frequency (Blowing From)_ CALM Avg = 25.9, CALM % = 1.8%



Direction	0-50	50-110	110-210	>210	TOTAL
N	6.9	0.0	0.0	0.0	6.9
NE	10.8	0.0	0.0	0.0	10.8
E	10.7	0.0	0.0	0.0	10.7
SE	4.2	1.2	0.0	0.0	5.4
S	7.9	1.9	0.0	0.0	9.8
SW	7.5	0.0	0.0	0.0	7.5
W	26.1	0.7	0.0	0.0	26.9
NW	20.3	0.2	0.0	0.0	20.4
Summary	94.3	4.0	0.0	0.0	98.3
CALM	1.8	0.0	0.0	0.0	1.8

PARTICULATE MATTER < 2.5 MICRONS Hourly Averages ($PM_{2.5}$ µg/m^3)

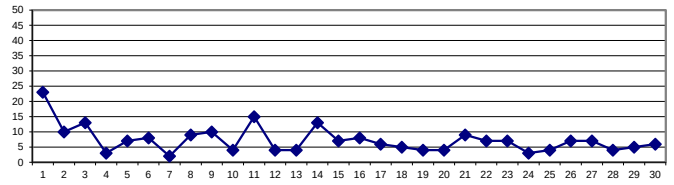
HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	14	11	10	9	9	9	8	10	12	17	17	21	15	18	20	23	41	50	**54**	53	44	28	38	15	8	**54**	**23**	24
2	12	11	10	11	10	8	9	9	9	14	25	23	19	14	5	4	4	4	4	5	5	5	6	14	4	25	10	24
3	8	7	6	6	6	5	4	5	6	6	8	9	10	12	13	34	38	36	18	11	7	5	36	14	4	38	13	24
4	7	20	7	5	**1**	1	1	1	2	2	2	2	1	1	1	1	1	1	2	1	1	1	1	1	**1**	20	3	24
5	2	3	3	5	8	10	10	6	5	6	8	11	8	8	6	5	6	7	6	7	9	6	10	7	2	11	7	24
6	9	9	9	11	20	14	11	11	12	8	7	7	10	11	10	6	5	8	5	5	4	4	3	2	2	20	8	24
7	3	5	2	2	2	1	2	2	1	1	1	1	1	1	1	1	1	2	3	3	2	2	3	3	1	5	2	24
8	3	3	2	1	1	1	1	2	2	6	20	17	12	13	11	10	8	11	15	16	17	16	12	10	1	20	9	24
9	12	14	15	15	17	13	11	12	11	11	10	11	10	9	9	9	8	6	7	8	7	7	7	6	6	17	10	24
10	5	4	4	4	4	4	3	3	3	3	3	3	2	4	8	7	6	3	3	4	3	3	4	4	2	8	4	24
11	4	4	5	7	11	6	6	12	21	34	38	34	28	24	24	21	17	17	13	8	5	5	5	6	4	38	15	24
12	6	8	7	6	9	9	7	7	5	4	2	1	1	1	2	1	1	2	2	2	3	4	4	3	1	9	4	24
13	4	4	4	4	5	4	4	4	3	5	4	4	4	5	4	4	4	5	5	5	5	6	6	5	3	6	4	24
14	7	7	9	12	11	12	12	13	23	24	19	22	21	16	14	12	12	13	11	5	6	7	8	8	5	24	13	24
15	9	9	10	11	11	9	7	8	9	8	7	7	7	6	5	5	4	6	5	7	4	6	8	8	4	11	7	24
16	8	8	9	10	11	10	10	9	9	8	8	8	7	7	7	7	7	7	5	7	7	8	7	5	5	11	8	24
17	5	5	6	7	8	8	7	6	6	6	6	6	6	6	7	6	6	8	7	8	7	6	5	4	4	8	6	24
18	3	3	2	2	2	3	3	4	4	5	6	6	10	5	9	11	5	4	4	5	5	5	6	7	2	11	5	24
19	6	5	7	7	7	7	4	6	4	3	3	4	6	5	4	3	2	2	2	2	2	2	3	3	2	7	4	24
20	3	6	6	5	5	3	3	2	1	1	**C**	**C**	**C**	3	4	4	5	5	7	6	5	6	6	6	1	7	4	24
21	6	6	7	7	7	7	7	7	5	5	4	4	6	6	7	8	10	26	21	14	15	13	12	11	4	26	9	24
22	8	6	7	8	8	8	8	10	11	10	9	9	5	5	5	5	5	5	4	5	6	7	7	7	4	11	7	24
23	8	9	10	11	10	9	8	8	7	6	7	6	7	9	9	5	4	6	7	5	5	5	5	5	4	11	7	24
24	5	5	6	6	5	5	4	4	4	3	4	4	3	2	2	3	3	3	2	1	2	2	3	2	1	6	3	24
25	2	2	2	3	4	3	3	3	3	7	5	4	2	3	3	2	3	3	3	4	5	6	5	5	2	7	4	24
26	5	6	7	7	7	6	7	7	8	8	7	6	9	10	11	8	6	6	6	7	14	8	7	7	5	14	7	24
27	6	8	9	6	5	8	10	10	7	10	10	6	7	7	9	7	6	6	5	5	4	4	4	3	3	10	7	24
28	3	3	3	6	6	7	7	6	6	3	4	5	4	4	3	4	3	3	3	3	2	6	6	6	2	7	4	24
29	6	5	5	6	5	4	8	9	11	11	11	14	12	9	3	2	2	2	1	1	2	2	1	1	1	14	5	24
30	1	2	2	2	3	6	7	6	8	8	8	7	10	10	9	8	6	6	4	3	4	6	10	10	1	10	6	24
HOURLY MAX	14	20	15	15	20	14	12	13	23	34	38	34	28	24	24	34	41	50	54	53	44	28	38	15				
HOURLY AVG	6	7	6	7	7	7	6	7	7	8	9	9	8	8	8	8	8	9	8	7	7	6	8	6				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 80 µg/m^3 | 24-HR 29 µg/m^3

24 HR AVERAGES June 2019



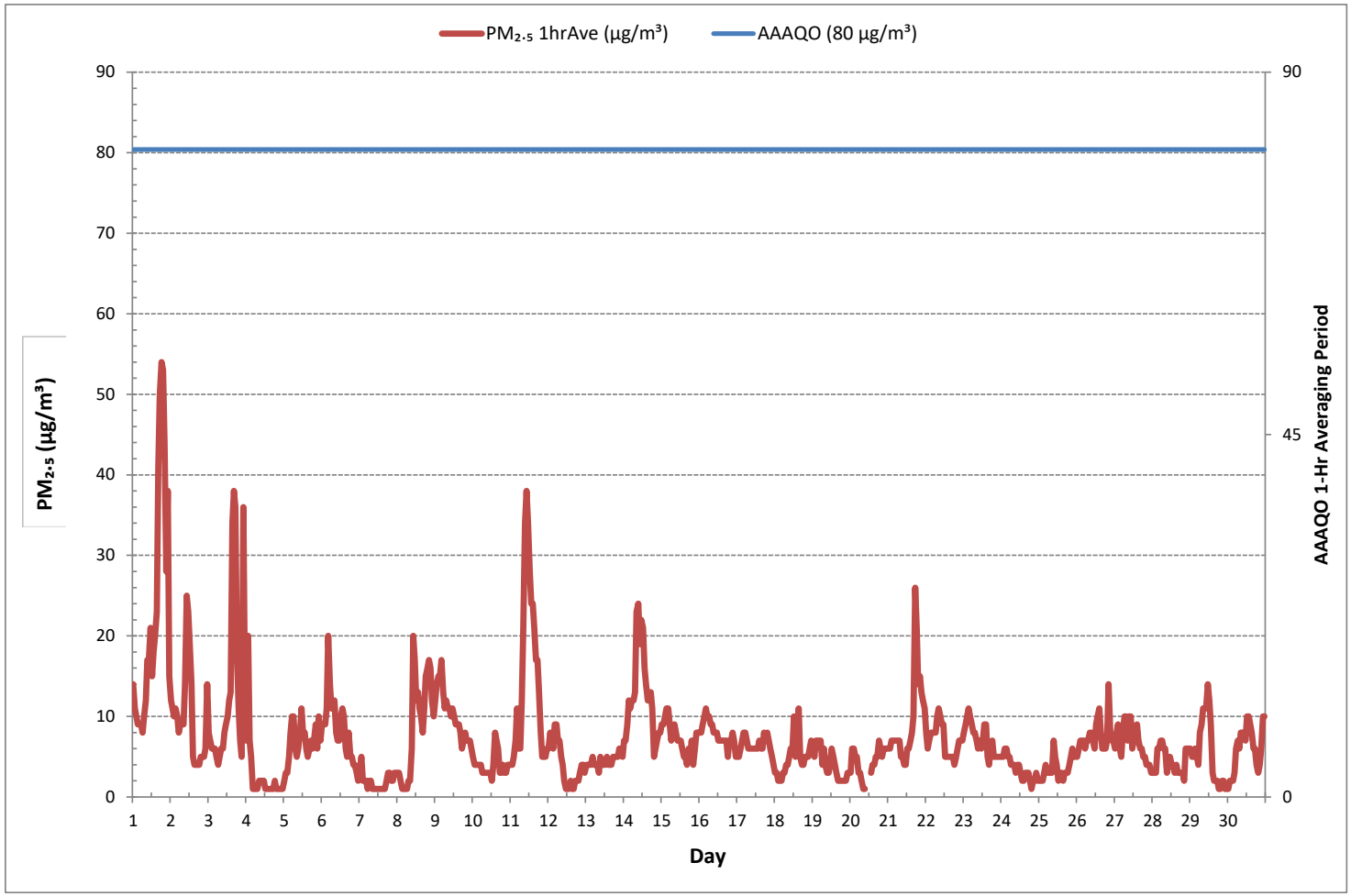
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDANCES:	0					
NUMBER OF 24-HR EXCEEDANCES:	0					
NUMBER OF NON-ZERO READINGS:	717					
MINIMUM 1-HR AVERAGE	1	µg/m^3	@ HOUR	4	ON DAY	4
MAXIMUM 1-HR AVERAGE:	54	µg/m^3	@ HOUR	18	ON DAY	1
MAXIMUM 24-HR AVERAGE:	23	µg/m^3			ON DAY	1
			OPERATIONAL TIME:		720	hrs
MONTHLY CALIBRATION TIME:	3	hrs	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	6		MONTHLY AVERAGE:		7	µg/m^3

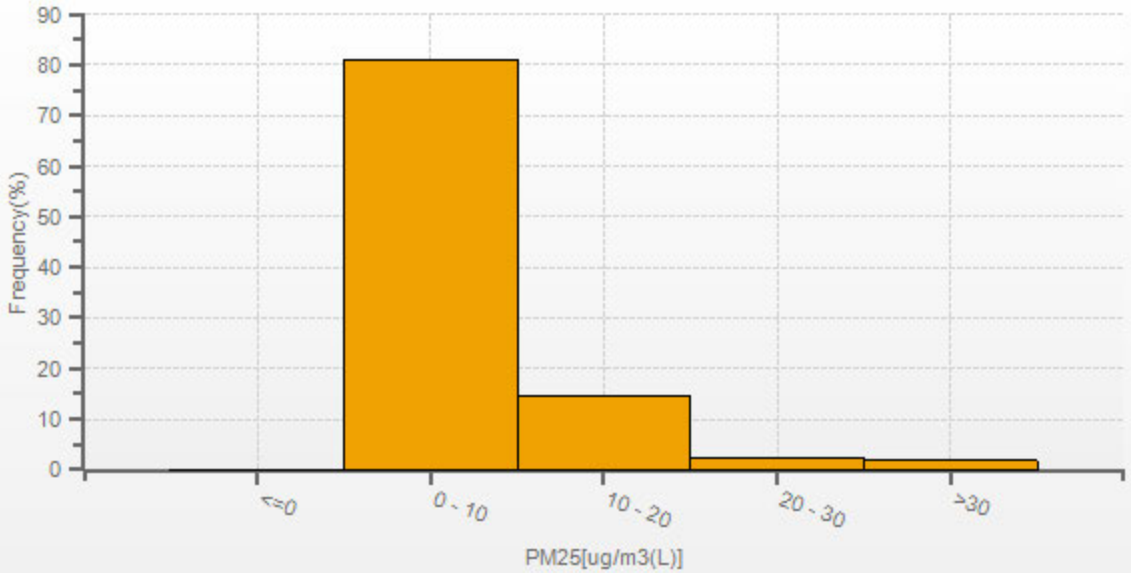
LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Bonnyville East Site Continuous Monitoring Station - June 2019

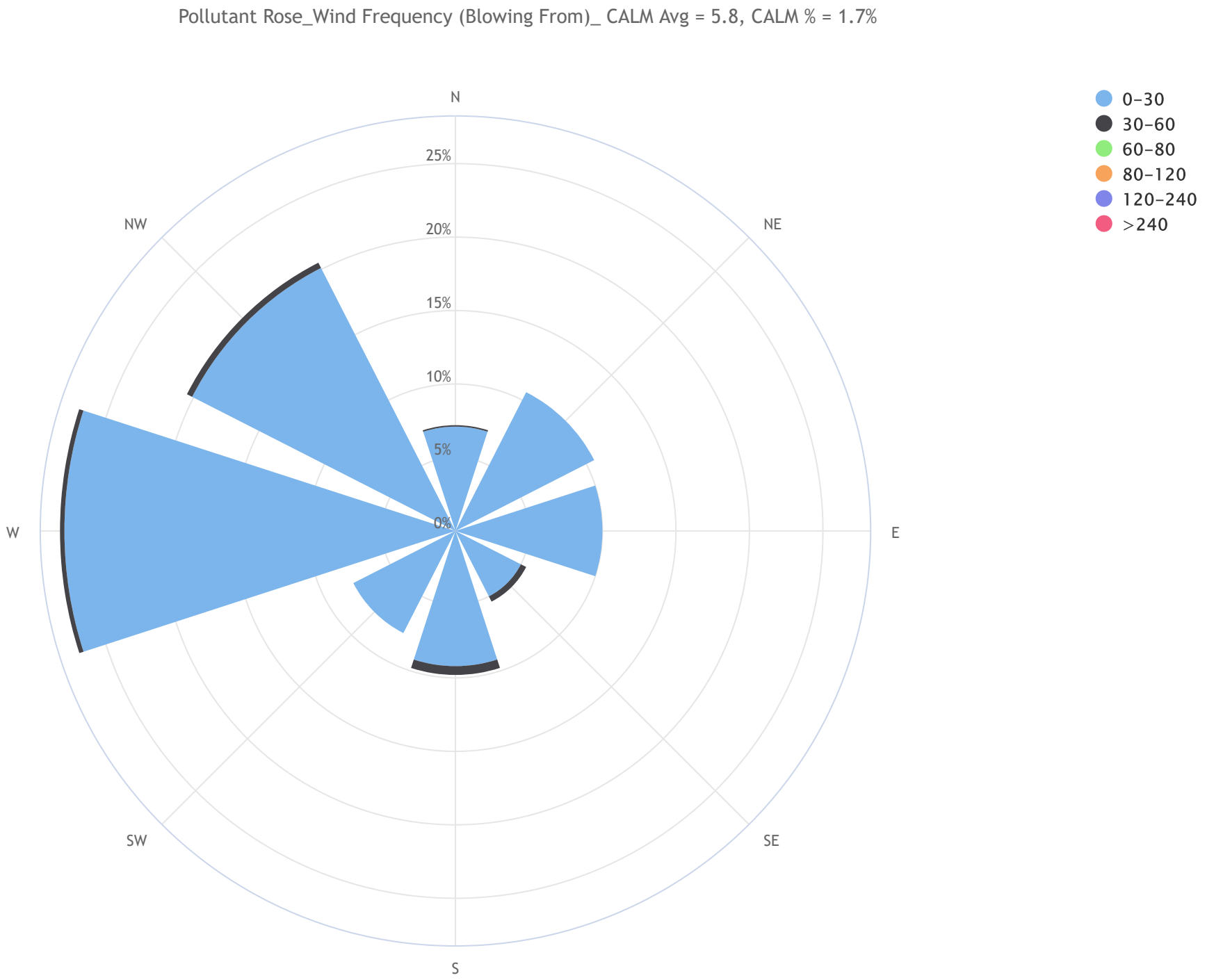
PARTICULATE MATTER < 2.5 MICRONS Hourly Averages ($PM_{2.5}$ µg/m³)



PM25[ug/m3(L)] Histogram: LICA Bonnyville East Monthly: 19/06 1 Hr.



Lakeland Industry & Community Association_Bonnyville East Site Continuous Monitoring Station_$PM_{2.5}$ ($\mu g/m^3$)_19/06



Direction	0-30	30-60	60-80	80-120	120-240	>240	TOTAL
N	7.1	0.1	0.0	0.0	0.0	0.0	7.3
NE	10.6	0.0	0.0	0.0	0.0	0.0	10.6
E	10.0	0.0	0.0	0.0	0.0	0.0	10.0
SE	5.0	0.4	0.0	0.0	0.0	0.0	5.4
S	9.2	0.6	0.0	0.0	0.0	0.0	9.8
SW	7.8	0.0	0.0	0.0	0.0	0.0	7.8
W	26.6	0.3	0.0	0.0	0.0	0.0	26.9
NW	20.1	0.4	0.0	0.0	0.0	0.0	20.5
Summary	96.5	1.8	0.0	0.0	0.0	0.0	98.3
CALM	1.7	0.0	0.0	0.0	0.0	0.0	1.7

WIND SPEED Hourly Averages (WS kph)

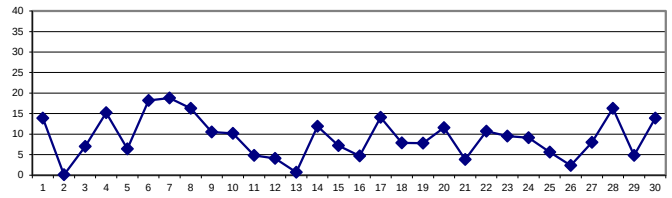
HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	6.7	11.2	6.2	2.9	5.9	8.4	8.3	10.3	13.3	17.8	19.4	19.7	20.8	21.1	22.6	20.6	20.7	19.3	15.3	15.2	13.7	11.8	15.7	22.9	2.9	22.9	13.9	24
2	23.5	23.8	18.4	10.3	12.1	12.4	11.9	9.0	12.4	11.0	14.5	7.2	6.8	12.3	13.6	12.6	12.6	7.7	6.7	4.6	8.6	5.0	2.4	5.2	2.4	23.8	0.1	24
3	2.8	3.9	4.8	10.8	10.4	7.4	8.1	13.2	15.9	19.4	7.9	9.8	14.2	12.6	13.2	26.6	27.2	27.6	19.0	16.4	12.2	13.7	9.3	12.8	2.8	27.6	7.0	24
4	13.0	10.2	15.3	9.4	10.5	9.3	11.0	12.5	18.7	20.7	24.2	24.8	25.5	26.0	21.9	22.3	16.8	18.2	21.6	16.2	10.3	8.3	7.9	5.9	5.9	26.0	15.2	24
5	5.8	6.8	8.9	9.1	10.1	9.2	9.8	10.1	9.5	11.7	14.0	15.0	15.3	11.7	11.1	11.4	9.4	9.7	4.2	0.6	4.9	1.5	15.8	16.9	0.6	16.9	6.4	24
6	17.6	18.0	13.3	11.8	9.0	14.1	15.7	19.2	20.4	22.6	20.3	25.4	23.2	27.3	26.4	23.7	25.9	26.0	23.7	18.7	16.9	14.6	15.0	19.3	9.0	27.3	18.2	24
7	20.3	21.9	19.7	22.6	21.1	19.1	16.8	20.7	20.2	19.0	21.4	27.7	28.0	30.8	21.8	14.3	13.0	27.4	25.8	26.2	19.6	11.6	13.6	13.0	11.6	30.8	**18.8**	24
8	13.4	14.4	17.4	17.0	16.7	16.2	15.6	13.4	16.9	19.2	22.9	22.4	23.5	23.4	21.5	20.4	17.9	18.7	19.9	14.6	10.8	9.9	10.4	7.9	7.9	23.5	16.3	24
9	5.7	7.2	11.9	17.0	14.4	12.9	14.6	13.9	15.9	16.7	16.2	13.3	12.0	15.7	17.6	15.0	13.3	12.6	7.8	8.8	4.2	8.1	10.0	10.4	4.2	17.6	10.5	24
10	11.1	6.9	7.5	8.4	6.6	9.3	12.8	17.3	18.2	20.5	19.0	20.1	20.4	16.6	9.3	9.3	13.9	10.4	10.5	9.3	8.8	7.0	8.2	6.3	6.3	20.5	10.2	24
11	6.0	8.6	9.3	9.1	8.0	10.9	10.3	7.9	5.9	6.1	2.3	7.3	9.1	8.8	2.8	7.6	9.7	7.8	6.5	14.6	11.5	4.2	4.7	9.9	2.3	14.6	4.8	24
12	10.5	12.3	3.4	4.1	4.8	3.4	4.0	6.5	7.3	6.0	6.4	7.7	8.7	4.8	4.1	2.2	10.9	9.4	7.0	5.1	7.7	9.7	9.0	7.9	2.2	12.3	4.1	24
13	4.5	1.5	4.3	13.9	18.4	14.6	10.9	6.6	5.5	10.9	6.5	7.3	6.5	7.1	6.5	10.9	16.0	13.2	8.9	6.9	3.1	13.8	5.1	7.6	1.5	18.4	0.7	24
14	8.3	11.0	8.5	8.4	8.5	7.7	7.0	9.3	11.9	12.6	16.6	24.2	22.6	18.8	15.8	15.7	20.7	18.9	20.0	15.4	10.7	11.0	6.2	8.5	6.2	24.2	11.9	24
15	9.8	9.9	9.6	9.4	9.8	9.6	9.8	9.0	8.9	7.4	8.7	9.5	14.6	15.3	21.9	9.5	18.4	16.3	11.0	5.6	**0.2**	4.9	6.0	4.6	**0.2**	21.9	7.2	24
16	2.2	2.9	2.6	3.9	3.5	4.6	7.3	8.1	7.7	8.5	7.0	7.6	6.9	8.6	2.3	7.0	11.2	10.9	12.8	17.3	18.9	16.1	14.8	14.9	2.2	18.9	4.7	24
17	14.0	9.1	9.7	11.7	9.5	15.5	14.8	10.9	13.5	12.8	13.9	14.2	9.4	14.0	18.8	19.7	16.7	14.6	16.7	16.2	13.6	15.2	20.2	20.4	9.1	20.4	14.1	24
18	20.1	22.7	20.1	18.7	16.7	18.1	16.3	19.3	18.1	16.8	19.4	17.4	14.2	11.1	10.6	18.1	20.0	14.3	8.7	5.1	5.5	6.7	7.3	7.0	5.1	22.7	7.9	24
19	5.8	4.9	5.0	2.3	7.2	8.5	8.2	10.6	14.1	18.9	25.6	26.2	26.2	23.9	24.3	14.5	7.0	4.2	6.5	7.7	8.5	4.9	0.3	7.8	0.3	26.2	7.8	24
20	7.3	5.5	11.5	21.5	34.2	35.8	**37.4**	31.6	20.3	17.2	12.9	9.6	19.2	19.1	13.4	6.0	9.8	14.3	9.0	8.3	5.4	2.7	3.0	4.4	2.7	**37.4**	11.6	24
21	2.5	2.5	4.6	1.6	6.3	1.2	4.5	4.2	6.1	8.3	8.3	10.5	12.3	5.0	8.5	8.4	14.3	22.0	18.3	9.1	9.0	10.0	10.5	10.3	1.2	22.0	3.8	24
22	9.0	10.4	10.7	10.6	11.1	10.3	11.1	13.6	14.8	15.9	18.9	17.2	16.3	15.2	7.9	12.3	12.6	13.9	14.7	11.5	9.9	11.7	10.8	10.4	7.9	18.9	10.7	24
23	9.7	9.4	8.1	8.6	8.7	11.2	10.8	10.5	10.2	13.2	12.7	13.4	8.7	5.7	8.8	10.8	2.7	10.0	16.1	8.1	8.5	11.3	14.0	15.6	2.7	16.1	9.5	24
24	14.3	12.6	10.7	9.5	8.7	9.7	11.1	13.8	13.0	15.7	11.2	13.1	17.2	13.4	9.5	9.8	8.3	12.2	3.0	4.0	6.0	7.2	7.2	6.6	3.0	17.2	9.1	24
25	6.0	7.8	7.5	5.8	6.7	7.0	6.8	5.1	4.9	4.0	4.8	10.0	14.1	10.0	8.4	12.5	2.6	1.5	4.5	3.7	7.0	6.3	5.3	5.6	1.5	14.1	5.6	24
26	2.3	4.8	5.2	7.2	6.7	0.2	3.2	3.9	3.3	4.2	7.6	6.9	1.4	3.2	6.2	11.0	12.0	3.7	6.3	5.7	4.3	3.5	1.5	2.8	0.2	12.0	2.4	24
27	6.7	6.4	7.1	1.4	2.6	3.6	5.5	5.1	7.6	11.1	11.0	10.1	11.5	12.3	9.3	9.9	12.4	12.9	17.1	16.4	15.4	10.9	13.0	19.9	1.4	19.9	8.0	24
28	19.0	22.7	24.9	26.3	21.0	13.6	20.3	29.5	23.0	22.4	23.3	22.6	23.1	26.6	25.5	25.7	19.5	20.4	16.5	11.1	9.1	15.5	6.8	7.3	6.8	29.5	16.3	24
29	6.0	8.8	3.5	6.8	5.9	5.0	5.7	6.5	5.8	6.0	4.1	3.6	2.4	16.8	23.1	2.5	10.4	21.5	17.0	14.1	8.3	7.1	7.4	7.7	2.4	23.1	4.8	24
30	10.9	16.4	17.6	16.1	16.4	14.8	16.7	17.7	14.3	19.9	21.4	21.1	18.9	19.3	13.1	16.0	17.6	13.4	14.0	8.4	10.0	12.1	12.1	11.1	8.4	21.4	13.9	24
HOURLY MAX	23.5	23.8	24.9	26.3	34.2	35.8	37.4	31.6	23.0	22.6	25.6	27.7	28.0	30.8	26.4	26.6	27.2	27.6	25.8	26.2	19.6	16.1	20.2	22.9				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

LAST CALIBRATION:	October 24, 2018
DECLINATION :	MAGNETIC DECLINATION 13 DEGREE EAST

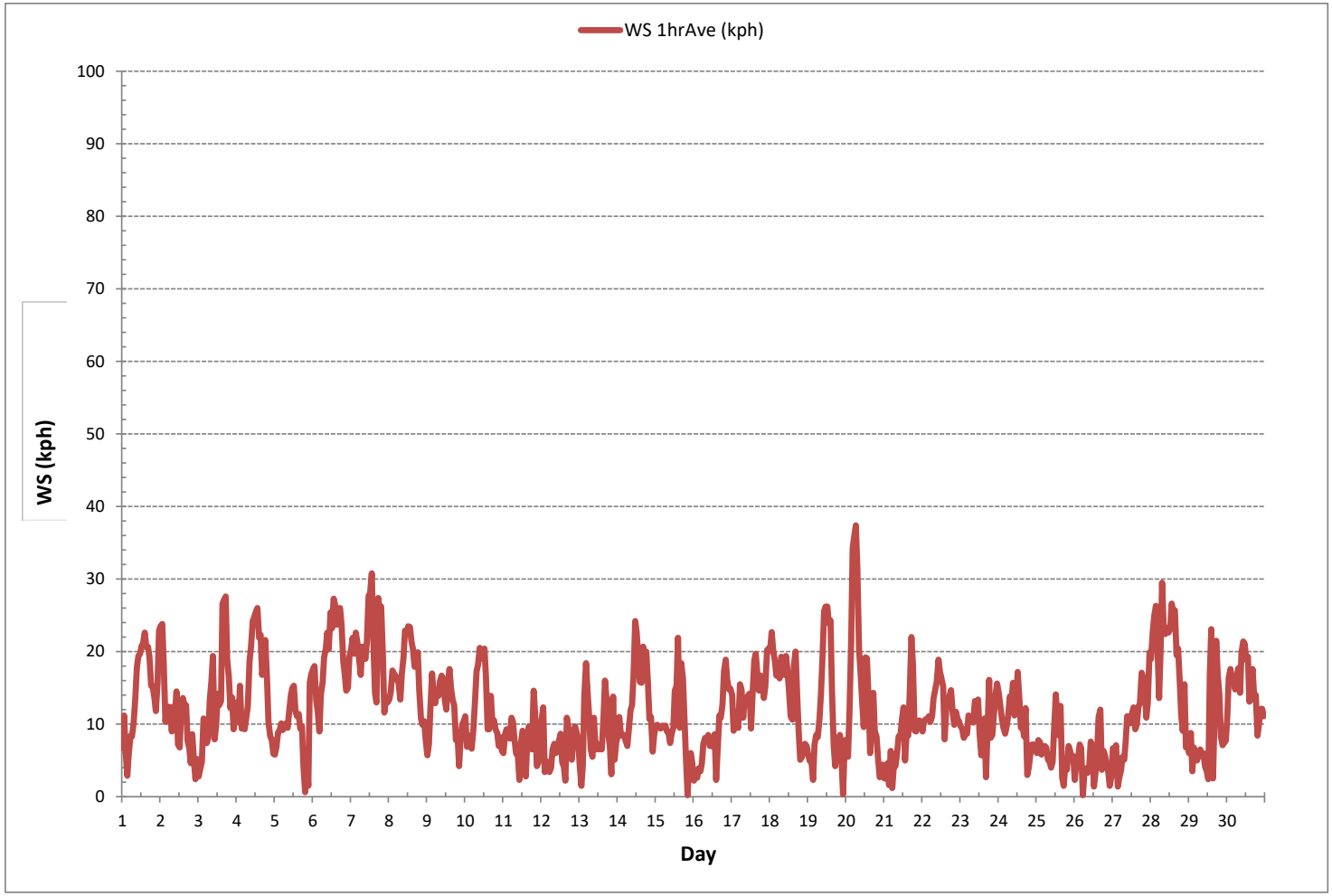
24 HR AVERAGES June 2019



MONTHLY SUMMARY

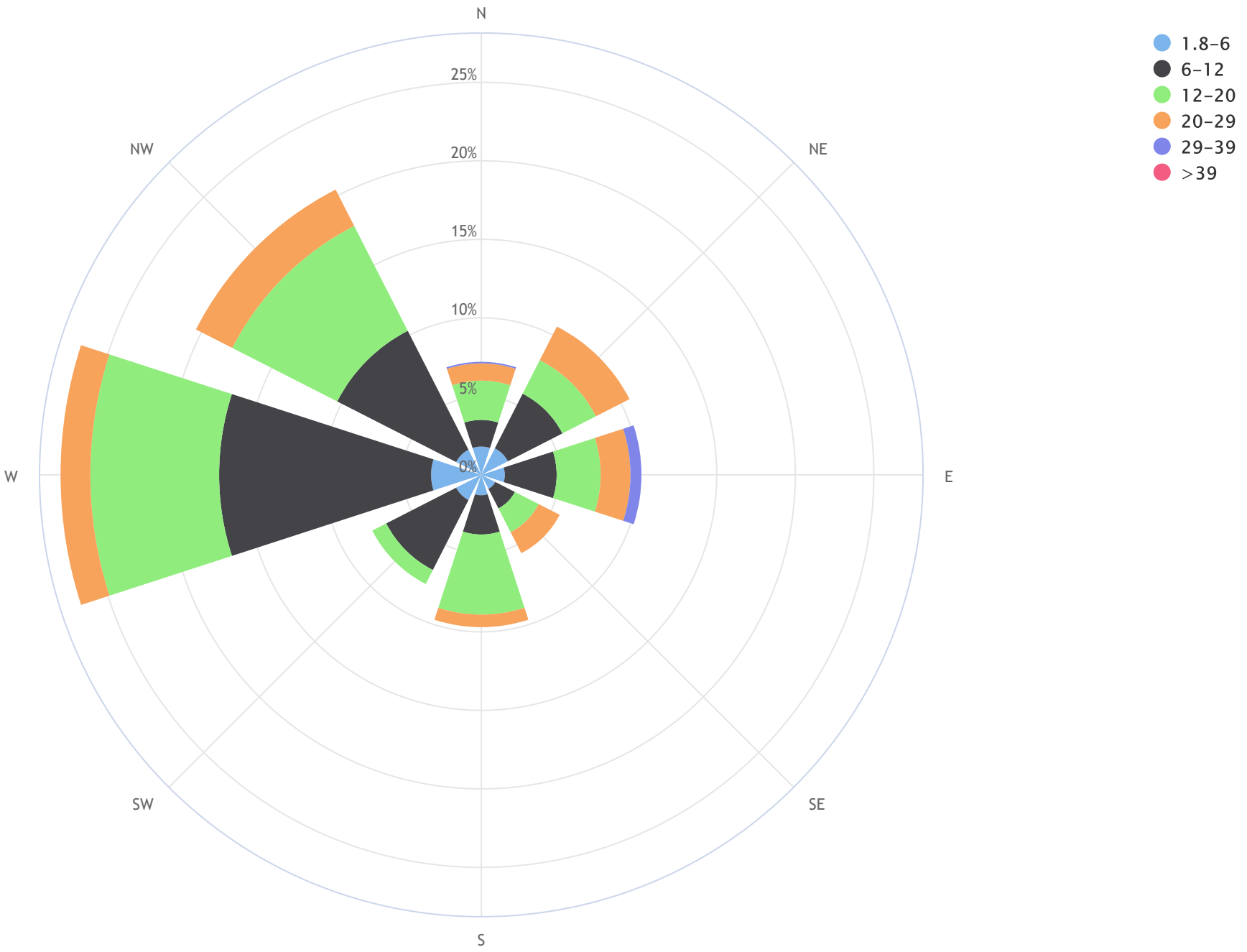
NUMBER OF NON-ZERO READINGS:		720					
MINIMUM 1-HR AVERAGE	0.2	kph	@ HOUR	20	ON DAY	15	
MAXIMUM 1-HR AVERAGE:	37.4	kph	@ HOUR	6	ON DAY	20	
MAXIMUM 24-HR AVERAGE:	18.8	kph			ON DAY	7	
OPERATIONAL TIME:						720	hrs
MONTHLY CALIBRATION TIME:	0	hrs	AMD OPERATION UPTIME:			100.0	%
STANDARD DEVIATION:	6.4		MONTHLY AVERAGE:			2.8	kph

WIND SPEED Hourly Averages (WS kph)



Lakeland Industry & Community Association_Bonnyville East Site Continuous Monitoring Station_19/06

Wind Rose_Wind Frequency (Blowing From)_CALM Avg = 1.1_CALM % = 1.7%



Direction	1.8-6	6-12	12-20	20-29	29-39	>39	TOTAL
N	1.8	1.7	2.5	1.1	0.1	0.0	7.2
NE	1.9	3.9	2.4	2.4	0.0	0.0	10.6
E	1.5	3.3	2.8	1.9	0.7	0.0	10.3
SE	1.0	1.4	1.7	1.5	0.0	0.0	5.6
S	1.3	2.5	5.1	0.8	0.0	0.0	9.7
SW	1.8	5.0	1.0	0.0	0.0	0.0	7.8
W	3.2	13.5	8.2	1.9	0.0	0.0	26.8
NW	1.8	8.5	7.5	2.6	0.0	0.0	20.4
Summary	14.3	39.7	31.1	12.4	0.8	0.0	98.3
CALM	1.7	0.0	0.0	0.0	0.0	0.0	1.7

WIND DIRECTION Hourly Averages (WD)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR AVG	24-HR
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	QUADRANT	RDGS.
DAY																										
1	SSE	SSE	S	WSW	E	E	SE	SSE	SSE	SSE	SSE	SSE	SE	SE	SSE	SSE	SSE	SSE	SE	SE	ESE	SSE	SSE	SSE	SSE	24
2	SSE	SSE	SSE	NE	ENE	ENE	NE	E	NNW	N	N	NNW	WNW	W	W	W	W	W	WSW	SW	SSW	SSW	E	E	WSW	24
3	N	S	SE	SE	E	ENE	NNE	NE	ENE	E	ENE	NNE	N	N	NNW	NW	NW	NW	NNW	NW	WNW	WNW	WSW	W	NNW	24
4	W	WSW	W	SW	SW	WSW	WSW	WSW	W	W	W	W	W	W	W	W	W	W	WSW	SW	SW	WSW	SW	SW	W	24
5	SW	SW	WSW	WSW	WSW	WSW	W	NW	W	W	W	W	W	W	W	W	W	WNW	WNW	WSW	SSW	ENE	ENE	E	W	24
6	E	E	E	NE	NE	ENE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NNE	NNE	NNE	NNE	NNE	NNE	N	N	NNE	NE	24
7	NNE	NNE	NNE	NNE	NNE	N	N	N	N	N	N	N	N	NNW	NNW	NNW	NW	NNW	NW	NW	NNW	WNW	WNW	WNW	N	24
8	WNW	WNW	WNW	WNW	WNW	WNW	WNW	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NNW	NNW	NNW	NW	NW	NW	NW	WNW	24
9	WSW	WSW	W	WNW	W	W	WNW	NW	NW	NW	NW	WNW	WNW	WNW	WNW	NW	NW	NW	NW	WNW	SW	SSW	SSW	SSW	WNW	24
10	SW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	W	W	W	W	N	N	S	WSW	WSW	W	W	W	WSW	WSW	WSW	W	24
11	WSW	WSW	WSW	WSW	WSW	W	W	NW	N	N	S	WSW	WSW	WSW	NNW	WSW	WNW	NW	W	NW	NNW	NE	SE	E	W	24
12	SE	S	SSW	SSW	N	N	WSW	WSW	W	W	W	W	W	W	NNE	W	W	WSW	WSW	SW	SSW	SSW	S	SSE	SW	24
13	S	E	WSW	WSW	W	WSW	WSW	SW	WSW	NW	NNW	ESE	E	ENE	ENE	ENE	E	ENE	ENE	NE	NE	NNW	E	SW	N	24
14	WSW	NW	W	W	W	W	WSW	W	WNW	WNW	NW	NNW	NNW	NNW	NNW	NNW	NW	NNW	NW	N	NW	WNW	WNW	W	NW	24
15	WNW	W	W	WNW	WNW	NW	NW	NW	NW	WNW	W	W	W	WNW	NW	NW	NNE	NE	ENE	NE	WNW	WSW	WNW	NW	NW	24
16	NW	WNW	NW	NW	W	WNW	W	W	W	W	WSW	WSW	W	WSW	ENE	ESE	ESE	SSE	S	SSE	S	S	SSE	SSE	SSW	24
17	S	S	SSE	SSE	S	S	S	S	S	S	S	S	SSW	S	S	S	S	S	S	SSE	SSE	SSE	SSE	SSE	S	24
18	SSE	SSE	SSE	SSE	SSE	SSE	S	SSE	S	SSE	SSE	S	SSE	SE	SSE	W	NW	NNW	NW	NW	NNW	NNE	NE	NE	SSE	24
19	NE	ESE	SE	NNW	NNE	NE	NE	NE	ENE	NE	NE	ENE	E	SE	SE	S	SE	SSE	E	ESE	SE	SE	NE	NNW	E	24
20	NW	NNE	NE	ENE	ENE	ENE	E	ESE	SE	SE	SE	E	E	ENE	ENE	SSE	NNE	NNE	NE	NE	NNE	ESE	NW	WNW	E	24
21	NW	NE	E	SE	NW	E	ENE	ENE	E	E	E	ENE	ENE	E	ENE	NW	WNW	NW	NNW	NW	NW	WNW	WNW	WNW	NNW	24
22	WNW	W	WNW	WNW	WNW	WNW	W	WNW	NW	NNW	NNW	N	NW	ENE	WNW	WNW	WNW	NW	NW	NW	WNW	WNW	WNW	WNW	NW	24
23	NW	NW	WNW	WNW	WNW	W	WNW	WNW	WNW	W	W	W	WNW	W	WNW	N	NNW	W	WNW	WNW	NW	WNW	W	W	WNW	24
24	WNW	WNW	NW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NNW	NW	WNW	W	W	WSW	NNE	NE	SSW	WNW	NW	WNW	WNW	NW	24
25	WNW	NNW	NNW	WNW	NW	NNW	N	N	NNW	NW	NW	NNW	NW	W	NW	NNW	ENE	SW	WSW	SW	WNW	WNW	WNW	W	NW	24
26	WNW	WSW	S	SW	SW	ENE	W	W	WSW	WSW	W	W	NE	WSW	N	ESE	SE	S	SW	WSW	W	W	NE	SSE	SW	24
27	S	WSW	WSW	N	NE	E	SE	E	ENE	ENE	E	ENE	E	ENE	ENE	ENE	ESE	E	ENE	ENE	E	NE	ENE	ENE	E	24
28	E	ENE	E	E	ESE	ESE	E	E	E	E	E	E	ESE	E	E	E	SE	SE	SSE	S	WSW	NW	NNE	NE	E	24
29	NNW	NW	N	NE	NNE	N	NNE	E	NNE	E	E	WSW	SSW	WNW	NW	SW	WSW	WSW	W	NW	WNW	WSW	WSW	WSW	WNW	24
30	W	WNW	WNW	WNW	WNW	WNW	WNW	W	W	W	W	W	W	W	WSW	SW	SW	SW	WSW	WSW	SW	SW	SW	SW	W	24

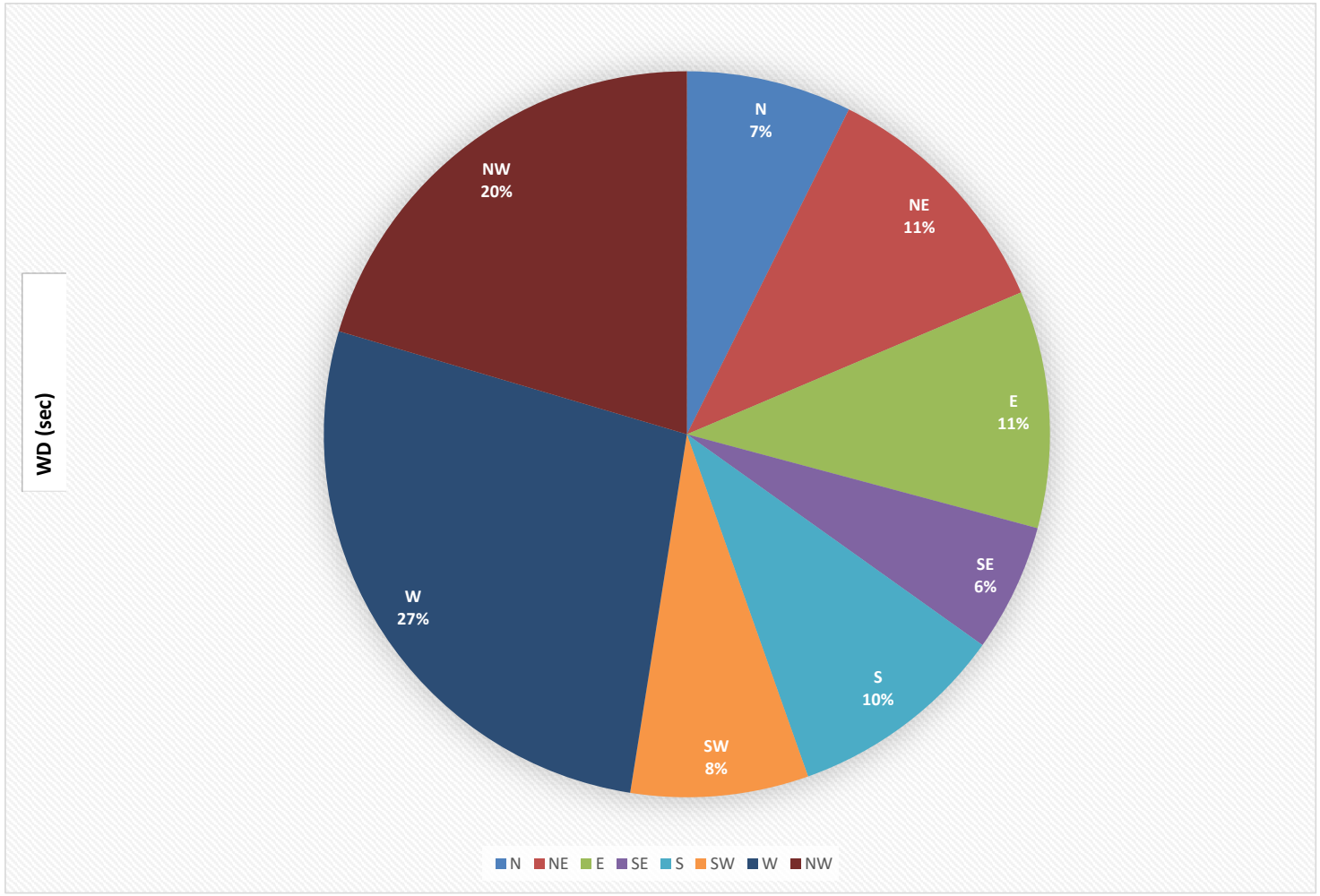
STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

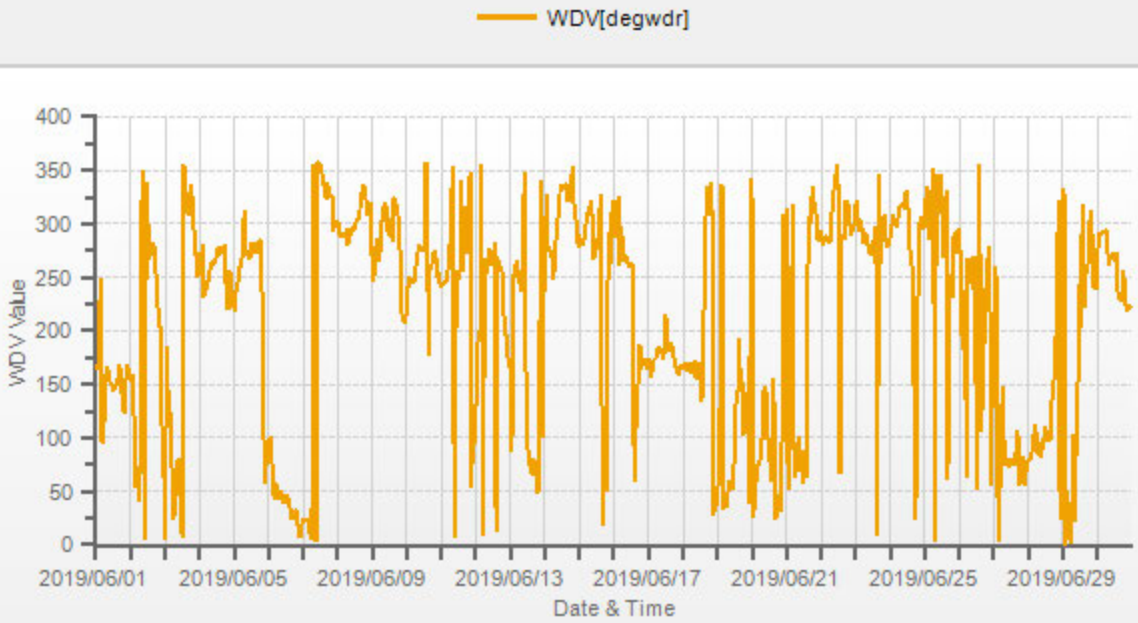
LAST CALIBRATION:	October 24, 2018
DECLINATION :	MAGNETIC DECLINATION 13 DEGREE EAST

MONTHLY CALIBRATION TIME:	0	hrs	OPERATIONAL TIME:	720	hrs
STANDARD DEVIATION:	102		AMD OPERATION UPTIME:	100.0	%
			MONTHLY AVERAGE:	304 (WNW)	

WIND DIRECTION Hourly Averages (WD)



WDV[degwdr] Station: LICA Bonnyville East Monthly: 19/06 Type: AVG 1 Hr. [1 Hr.]



STANDARD DEVIATION WIND DIRECTION Hourly Averages (STDWD deg)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	
DAY																									
1	13	4	11	60	34	15	21	8	9	9	10	13	12	13	12	12	13	5	8	5	6	52	34	4	24
2	5	3	27	49	24	19	18	33	11	14	15	21	33	11	7	10	15	21	15	13	3	22	33	24	24
3	56	44	40	12	8	25	18	23	5	5	18	25	13	15	22	12	8	9	11	7	13	8	9	14	24
4	19	9	5	13	5	6	7	8	7	10	8	8	7	7	8	7	9	7	13	8	8	11	7	9	24
5	18	19	9	7	11	13	7	17	15	10	9	9	15	16	17	14	13	11	17	60	22	74	4	8	24
6	7	7	5	5	12	7	4	5	6	5	5	8	8	5	6	10	8	5	6	6	6	7	6	5	24
7	4	6	7	4	8	4	6	4	6	7	4	4	3	5	4	12	20	7	5	3	5	4	6	6	24
8	12	7	3	3	4	6	7	12	11	12	8	9	12	12	17	8	13	13	8	4	6	4	7	21	24
9	22	6	16	12	16	6	11	9	13	14	16	16	22	22	16	8	12	12	12	12	21	3	2	3	24
10	8	5	3	5	6	6	8	4	6	9	7	8	17	9	46	15	12	9	5	5	10	12	9	17	24
11	10	6	5	4	7	10	8	21	20	22	62	16	13	16	51	31	21	15	10	21	15	49	50	15	24
12	43	11	38	50	39	24	33	16	11	19	18	21	14	37	39	61	9	11	10	10	4	4	7	6	24
13	11	38	21	11	6	10	9	16	42	8	40	11	27	14	24	42	7	8	8	16	30	40	54	19	24
14	20	9	17	13	11	8	12	9	20	13	21	6	12	11	11	12	11	7	8	7	18	11	7	11	24
15	6	5	9	9	6	12	8	9	10	15	10	22	16	13	18	43	8	17	16	10	76	22	16	9	24
16	24	14	30	11	18	16	11	8	10	8	13	17	17	17	62	15	23	17	14	5	4	2	5	5	24
17	7	7	7	3	4	3	10	8	12	13	10	14	23	18	11	8	9	10	7	3	7	5	2	2	24
18	2	2	5	3	4	2	5	5	10	10	13	14	16	15	24	35	17	6	14	16	23	28	11	9	24
19	10	45	32	51	8	11	12	9	8	6	9	4	13	10	19	18	41	40	17	18	18	35	79	9	24
20	8	15	14	4	3	3	5	10	15	12	8	23	15	7	14	52	25	16	47	39	24	42	39	38	24
21	37	40	31	63	16	58	31	23	14	15	9	23	22	35	29	44	6	8	7	22	11	11	7	5	24
22	3	5	5	6	4	6	5	8	8	7	14	9	9	40	32	9	8	15	4	6	13	6	7	7	24
23	5	10	13	10	11	4	5	7	6	6	7	9	23	45	47	14	45	9	18	12	12	4	6	5	24
24	6	5	6	5	5	4	6	9	6	6	12	14	12	16	10	6	10	39	57	32	15	6	10	11	24
25	11	6	8	9	7	11	9	11	16	41	42	9	21	5	41	9	46	59	22	11	19	11	25	26	24
26	26	20	28	15	12	52	17	15	24	35	22	14	67	64	51	8	9	40	9	31	25	59	51	28	24
27	13	15	5	53	26	37	15	17	12	6	8	10	7	10	15	13	12	13	5	6	14	3	11	2	24
28	5	6	2	5	8	12	6	9	5	8	4	7	6	12	9	5	24	14	8	31	31	23	23	24	24
29	31	18	38	10	22	22	30	14	27	20	32	53	61	15	14	61	29	4	10	27	30	19	10	6	24
30	15	5	4	3	4	4	5	5	6	5	5	8	16	22	8	7	9	14	4	7	7	4	2	4	24

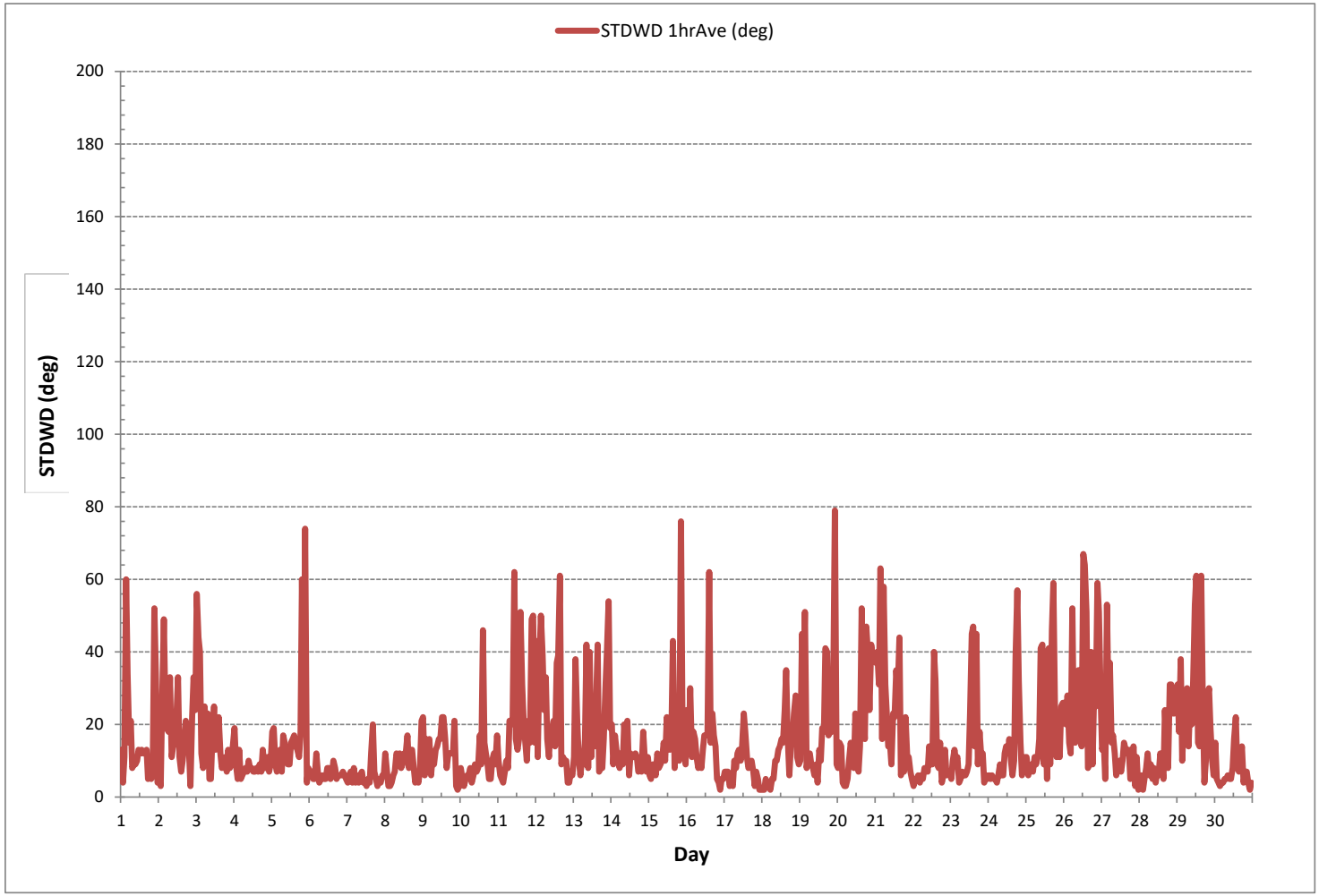
STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

LAST CALIBRATION: October 24, 2018

CALIBRATION TIME: 0 hrs OPERATIONAL TIME: 720 hrs

STANDARD DEVIATION WIND DIRECTION Hourly Averages (STDWD deg)



VECTOR WIND SPEED Hourly Averages (kph) & WIND DIRECTION Hourly Averages

HR START (MST)		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)		0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																													
1	WS	6.7	11.2	6.2	2.9	5.9	8.4	8.3	10.3	13.3	17.8	19.4	19.7	20.8	21.1	22.6	20.6	20.7	19.3	15.3	15.2	13.7	11.8	15.7	22.9	2.9	22.9	13.9	24
	WD	SSE	SSE	S	WSW	E	E	SE	SSE	SSE	SSE	SSE	SSE	SE	SE	SSE	SSE	SSE	SSE	SE	SE	ESE	SSE	SSE	SSE	-	-	-	24
2	WS	23.5	23.8	18.4	10.3	12.1	12.4	11.9	9.0	12.4	11.0	14.5	7.2	6.8	12.3	13.6	12.6	12.6	7.7	6.7	4.6	8.6	5.0	2.4	5.2	2.4	23.8	0.1	24
	WD	SSE	SSE	SSE	NE	ENE	ENE	NE	E	NNW	N	N	NNW	WNW	W	W	W	W	W	WSW	SW	SSW	SSW	E	E	-	-	-	24
3	WS	2.8	3.9	4.8	10.8	10.4	7.4	8.1	13.2	15.9	19.4	7.9	9.8	14.2	12.6	13.2	26.6	27.2	27.6	19.0	16.4	12.2	13.7	9.3	12.8	2.8	27.6	7.0	24
	WD	N	S	SE	SE	E	ENE	NNE	NE	ENE	E	ENE	NNE	N	N	NNW	NW	NW	NW	NNW	NW	WNW	WNW	WSW	W	-	-	-	24
4	WS	13.0	10.2	15.3	9.4	10.5	9.3	11.0	12.5	18.7	20.7	24.2	24.8	25.5	26.0	21.9	22.3	16.8	18.2	21.6	16.2	10.3	8.3	7.9	5.9	5.9	26.0	15.2	24
	WD	W	WSW	W	SW	SW	WSW	WSW	WSW	W	W	W	W	W	W	W	W	W	W	WSW	SW	SW	WSW	SW	SW	-	-	-	24
5	WS	5.8	6.8	8.9	9.1	10.1	9.2	9.8	10.1	9.5	11.7	14.0	15.0	15.3	11.7	11.1	11.4	9.4	9.7	4.2	0.6	4.9	1.5	15.8	16.9	0.6	16.9	6.4	24
	WD	SW	SW	WSW	WSW	WSW	WSW	W	NW	W	W	W	W	W	W	W	W	W	WNW	WNW	WSW	SSW	ENE	ENE	E	-	-	-	24
6	WS	17.6	18.0	13.3	11.8	9.0	14.1	15.7	19.2	20.4	22.6	20.3	25.4	23.2	27.3	26.4	23.7	25.9	26.0	23.7	18.7	16.9	14.6	15.0	19.3	9.0	27.3	18.2	24
	WD	E	E	E	NE	NE	ENE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NNE	NNE	NNE	NNE	NNE	NNE	N	N	NNE	-	-	-	24
7	WS	20.3	21.9	19.7	22.6	21.1	19.1	16.8	20.7	20.2	19.0	21.4	27.7	28.0	30.8	21.8	14.3	13.0	27.4	25.8	26.2	19.6	11.6	13.6	13.0	11.6	30.8	**18.8**	24
	WD	NNE	NNE	NNE	NNE	NNE	N	N	N	N	N	N	N	N	NNW	NNW	NNW	NW	NNW	NW	NW	NNW	WNW	WNW	WNW	-	-	-	24
8	WS	13.4	14.4	17.4	17.0	16.7	16.2	15.6	13.4	16.9	19.2	22.9	22.4	23.5	23.4	21.5	20.4	17.9	18.7	19.9	14.6	10.8	9.9	10.4	7.9	7.9	23.5	16.3	24
	WD	WNW	WNW	WNW	WNW	WNW	WNW	WNW	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NNW	NNW	NNW	NW	NW	NW	NW	-	-	-	24
9	WS	5.7	7.2	11.9	17.0	14.4	12.9	14.6	13.9	15.9	16.7	16.2	13.3	12.0	15.7	17.6	15.0	13.3	12.6	7.8	8.8	4.2	8.1	10.0	10.4	4.2	17.6	10.5	24
	WD	WSW	WSW	W	WNW	W	W	WNW	NW	NW	NW	NW	WNW	WNW	WNW	WNW	NW	NW	NW	WNW	SW	SSW	SSW	SSW	-	-	-	24
10	WS	11.1	6.9	7.5	8.4	6.6	9.3	12.8	17.3	18.2	20.5	19.0	20.1	20.4	16.6	9.3	9.3	13.9	10.4	10.5	9.3	8.8	7.0	8.2	6.3	6.3	20.5	10.2	24
	WD	SW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	W	W	W	W	N	N	S	WSW	WSW	W	W	W	WSW	WSW	WSW	-	-	-	24
11	WS	6.0	8.6	9.3	9.1	8.0	10.9	10.3	7.9	5.9	6.1	2.3	7.3	9.1	8.8	2.8	7.6	9.7	7.8	6.5	14.6	11.5	4.2	4.7	9.9	2.3	14.6	4.8	24
	WD	WSW	WSW	WSW	WSW	WSW	W	W	NW	N	N	S	WSW	WSW	WSW	NNW	WSW	WNW	NW	W	NW	NNW	NE	SE	E	-	-	-	24
12	WS	10.5	12.3	3.4	4.1	4.8	3.4	4.0	6.5	7.3	6.0	6.4	7.7	8.7	4.8	4.1	2.2	10.9	9.4	7.0	5.1	7.7	9.7	9.0	7.9	2.2	12.3	4.1	24
	WD	SE	S	SSW	SSW	N	N	WSW	WSW	W	W	W	W	W	W	NNE	W	W	WSW	WSW	SW	SSW	SSW	S	SSE	-	-	-	24
13	WS	4.5	1.5	4.3	13.9	18.4	14.6	10.9	6.6	5.5	10.9	6.5	7.3	6.5	7.1	6.5	10.9	16.0	13.2	8.9	6.9	3.1	13.8	5.1	7.6	1.5	18.4	0.7	24
	WD	S	E	WSW	WSW	W	WSW	WSW	SW	WSW	NW	NNW	ESE	E	ENE	ENE	ENE	E	ENE	ENE	NE	NE	NNW	E	SW	-	-	-	24
14	WS	8.3	11.0	8.5	8.4	8.5	7.7	7.0	9.3	11.9	12.6	16.6	24.2	22.6	18.8	15.8	15.7	20.7	18.9	20.0	15.4	10.7	11.0	6.2	8.5	6.2	24.2	11.9	24
	WD	WSW	NW	W	W	W	W	WSW	W	WNW	WNW	NW	NNW	NNW	NNW	NNW	NNW	NW	NNW	NW	N	NW	WNW	WNW	W	-	-	-	24
15	WS	9.8	9.9	9.6	9.4	9.8	9.6	9.8	9.0	8.9	7.4	8.7	9.5	14.6	15.3	21.9	9.5	18.4	16.3	11.0	5.6	**0.2**	4.9	6.0	4.6	**0.2**	21.9	7.2	24
	WD	WNW	W	W	WNW	WNW	NW	NW	NW	NW	WNW	W	W	W	WNW	NW	NW	NNE	NE	ENE	NE	WNW	WSW	WNW	NW	-	-	-	24
16	WS	2.2	2.9	2.6	3.9	3.5	4.6	7.3	8.1	7.7	8.5	7.0	7.6	6.9	8.6	2.3	7.0	11.2	10.9	12.8	17.3	18.9	16.1	14.8	14.9	2.2	18.9	4.7	24
	WD	NW	WNW	NW	NW	W	WNW	W	W	W	W	WSW	WSW	W	WSW	ENE	ESE	ESE	SSE	S	SSE	S	S	SSE	SSE	-	-	-	24
17	WS	14.0	9.1	9.7	11.7	9.5	15.5	14.8	10.9	13.5	12.8	13.9	14.2	9.4	14.0	18.8	19.7	16.7	14.6	16.7	16.2	13.6	15.2	20.2	20.4	9.1	20.4	14.1	24
	WD	S	S	SSE	SSE	S	S	S	S	S	S	S	S	SSW	S	S	S	S	S	S	SSE	SSE	SSE	SSE	SSE	-	-	-	24
18	WS	20.1	22.7	20.1	18.7	16.7	18.1	16.3	19.3	18.1	16.8	19.4	17.4	14.2	11.1	10.6	18.1	20.0	14.3	8.7	5.1	5.5	6.7	7.3	7.0	5.1	22.7	7.9	24
	WD	SSE	SSE	SSE	SSE	SSE	SSE	S	SSE	S	SSE	SSE	S	SSE	SE	SSE	W	NW	NNW	NW	NW	NNW	NNE	NE	NE	-	-	-	24
19	WS	5.8	4.9	5.0	2.3	7.2	8.5	8.2	10.6	14.1	18.9	25.6	26.2	26.2	23.9	24.3	14.5	7.0	4.2	6.5	7.7	8.5	4.9	0.3	7.8	0.3	26.2	7.8	24
	WD	NE	ESE	SE	NNW	NNE	NE	NE	NE	ENE	NE	NE	ENE	E	SE	SE	S	SE	SSE	E	ESE	SE	SE	NE	NNW	-	-	-	24
20	WS	7.3	5.5	11.5	21.5	34.2	35.8	**37.4**	31.6	20.3	17.2	12.9	9.6	19.2	19.1	13.4	6.0	9.8	14.3	9.0	8.3	5.4	2.7	3.0	4.4	2.7	**37.4**	11.6	24
	WD	NW	NNE	NE	ENE	ENE	ENE	E	ESE	SE	SE	SE	E	E	ENE	ENE	SSE	NNE	NNE	NE	NE	NNE	ESE	NW	WNW	-	-	-	24

VECTOR WIND SPEED Hourly Averages (kph) & WIND DIRECTION Hourly Averages

HR START (MST)		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)		0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																													
21	WS	2.5	2.5	4.6	1.6	6.3	1.2	4.5	4.2	6.1	8.3	8.3	10.5	12.3	5.0	8.5	8.4	14.3	22.0	18.3	9.1	9.0	10.0	10.5	10.3	1.2	22.0	3.8	24
	WD	NW	NE	E	SE	NW	E	ENE	ENE	E	E	E	ENE	ENE	E	ENE	NW	WNW	NW	NNW	NW	NW	WNW	WNW	WNW	-	-	-	24
22	WS	9.0	10.4	10.7	10.6	11.1	10.3	11.1	13.6	14.8	15.9	18.9	17.2	16.3	15.2	7.9	12.3	12.6	13.9	14.7	11.5	9.9	11.7	10.8	10.4	7.9	18.9	10.7	24
	WD	WNW	W	WNW	WNW	WNW	WNW	W	WNW	NW	NNW	NNW	N	NW	ENE	WNW	WNW	WNW	NW	NW	NW	WNW	WNW	WNW	WNW	-	-	-	24
23	WS	9.7	9.4	8.1	8.6	8.7	11.2	10.8	10.5	10.2	13.2	12.7	13.4	8.7	5.7	8.8	10.8	2.7	10.0	16.1	8.1	8.5	11.3	14.0	15.6	2.7	16.1	9.5	24
	WD	NW	NW	WNW	WNW	WNW	W	WNW	WNW	WNW	W	W	W	WNW	W	WNW	N	NNW	W	WNW	WNW	NW	WNW	W	W	-	-	-	24
24	WS	14.3	12.6	10.7	9.5	8.7	9.7	11.1	13.8	13.0	15.7	11.2	13.1	17.2	13.4	9.5	9.8	8.3	12.2	3.0	4.0	6.0	7.2	7.2	6.6	3.0	17.2	9.1	24
	WD	WNW	WNW	NW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NNW	NW	WNW	W	W	WSW	NNE	NE	SSW	WNW	NW	WNW	WNW	-	-	-	24
25	WS	6.0	7.8	7.5	5.8	6.7	7.0	6.8	5.1	4.9	4.0	4.8	10.0	14.1	10.0	8.4	12.5	2.6	1.5	4.5	3.7	7.0	6.3	5.3	5.6	1.5	14.1	5.6	24
	WD	WNW	NNW	NNW	WNW	NW	NNW	N	N	NNW	NW	NW	NNW	NW	W	NW	NNW	ENE	SW	WSW	SW	WNW	WNW	WNW	W	-	-	-	24
26	WS	2.3	4.8	5.2	7.2	6.7	0.2	3.2	3.9	3.3	4.2	7.6	6.9	1.4	3.2	6.2	11.0	12.0	3.7	6.3	5.7	4.3	3.5	1.5	2.8	0.2	12.0	2.4	24
	WD	WNW	WSW	S	SW	SW	ENE	W	W	WSW	WSW	W	W	NE	WSW	N	ESE	SE	S	SW	WSW	W	W	NE	SSE	-	-	-	24
27	WS	6.7	6.4	7.1	1.4	2.6	3.6	5.5	5.1	7.6	11.1	11.0	10.1	11.5	12.3	9.3	9.9	12.4	12.9	17.1	16.4	15.4	10.9	13.0	19.9	1.4	19.9	8.0	24
	WD	S	WSW	WSW	N	NE	E	SE	E	ENE	ENE	E	ENE	E	ENE	ENE	ENE	ESE	E	ENE	ENE	E	NE	ENE	ENE	-	-	-	24
28	WS	19.0	22.7	24.9	26.3	21.0	13.6	20.3	29.5	23.0	22.4	23.3	22.6	23.1	26.6	25.5	25.7	19.5	20.4	16.5	11.1	9.1	15.5	6.8	7.3	6.8	29.5	16.3	24
	WD	E	ENE	E	E	ESE	ESE	E	E	E	E	E	E	ESE	E	E	E	SE	SE	SSE	S	WSW	NW	NNE	NE	-	-	-	24
29	WS	6.0	8.8	3.5	6.8	5.9	5.0	5.7	6.5	5.8	6.0	4.1	3.6	2.4	16.8	23.1	2.5	10.4	21.5	17.0	14.1	8.3	7.1	7.4	7.7	2.4	23.1	4.8	24
	WD	NNW	NW	N	NE	NNE	N	NNE	E	NNE	E	E	WSW	SSW	WNW	NW	SW	WSW	WSW	W	NW	WNW	WSW	WSW	WSW	-	-	-	24
30	WS	10.9	16.4	17.6	16.1	16.4	14.8	16.7	17.7	14.3	19.9	21.4	21.1	18.9	19.3	13.1	16.0	17.6	13.4	14.0	8.4	10.0	12.1	12.1	11.1	8.4	21.4	13.9	24
	WD	W	WNW	WNW	WNW	WNW	WNW	WNW	W	W	W	W	W	W	W	WSW	SW	SW	SW	WSW	WSW	SW	SW	SW	SW	-	-	-	24
WS HOURLY MAX		23.5	23.8	24.9	26.3	34.2	35.8	37.4	31.6	23.0	22.6	25.6	27.7	28.0	30.8	26.4	26.6	27.2	27.6	25.8	26.2	19.6	16.1	20.2	22.9				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

LAST CALIBRATION:	October 24, 2018
DECLINATION :	MAGNETIC DECLINATION 13 DEGREE EAST

MONTHLY SUMMARY

WIND SPEED						
MINIMUM 1-HR AVERAGE	0.2	kph	@ HOUR(S)	20	ON DAY(S)	15
MAXIMUM 1-HR AVERAGE:	37.4	kph	@ HOUR(S)	6	ON DAY(S)	20
MAXIMUM 24-HR AVERAGE:	18.8	kph			ON DAY(S)	7
					VAR-VARIOUS	
				MONTHLY AVERAGE:		**2.8 kph**
WIND DIRECTION						
				MONTHLY AVERAGE:		**304 (WNW)**
HOURS IN SERVICE	720	hrs				
HOURS OF DATA	720	hrs				
HOURS OF CALIBRATION	0	hrs		STANDARD DEVIATION:		6.8
HOURS OF MISSING DATA	0	hrs		AMD OPERATION UPTIME:		100.0 %

@ HOUR(S)

SULPHUR DIOXIDE Instantaneous Maximum (SO_2 ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	3	3	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	0	0	S	0	0	0	0	3	1	24
2	0	0	0	0	0	0	1	0	1	1	1	1	1	0	0	0	0	0	0	S	0	0	0	0	0	1	0	24
3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	S	0	0	0	0	0	0	1	0	24
4	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	1	0	24
5	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	1	0	24
6	0	0	0	0	0	0	0	0	0	0	C	C	C	C	0	S	1	0	0	0	0	0	1	1	0	1	0	24
7	1	0	1	1	2	0	0	0	3	0	0	0	0	0	S	0	0	0	0	0	0	0	1	0	0	3	0	24
8	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	24
9	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	24
10	0	0	1	1	1	2	2	1	1	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	24
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	24
12	0	0	0	2	5	0	0	0	0	S	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	24
13	0	0	0	0	0	1	1	1	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
14	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	24
15	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	24
16	0	0	0	0	0	S	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	2	1	0	2	1	24
17	2	1	2	2	S	2	1	0	0	0	0	1	1	1	1	1	0	1	1	1	0	0	1	1	0	2	1	24
18	2	1	2	S	1	2	1	1	2	1	0	1	0	1	1	1	1	0	0	0	0	0	1	1	0	2	1	24
19	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	24
20	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	24
21	S	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0	24
22	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	1	0	24
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	24
24	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	S	0	0	0	0	1	0	24
25	0	0	0	1	0	0	1	1	2	1	1	0	0	0	0	0	0	0	0	S	0	0	0	0	0	2	0	24
26	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	24
27	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	S	0	0	0	0	0	0	0	1	0	24
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	1	0	1	0	24
29	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	0	24
30	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	24
HOURLY MAX	3	3	2	2	5	2	2	2	3	2	2	1	1	1	1	1	1	1	1	1	1	1	2	1				
HOURLY AVG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

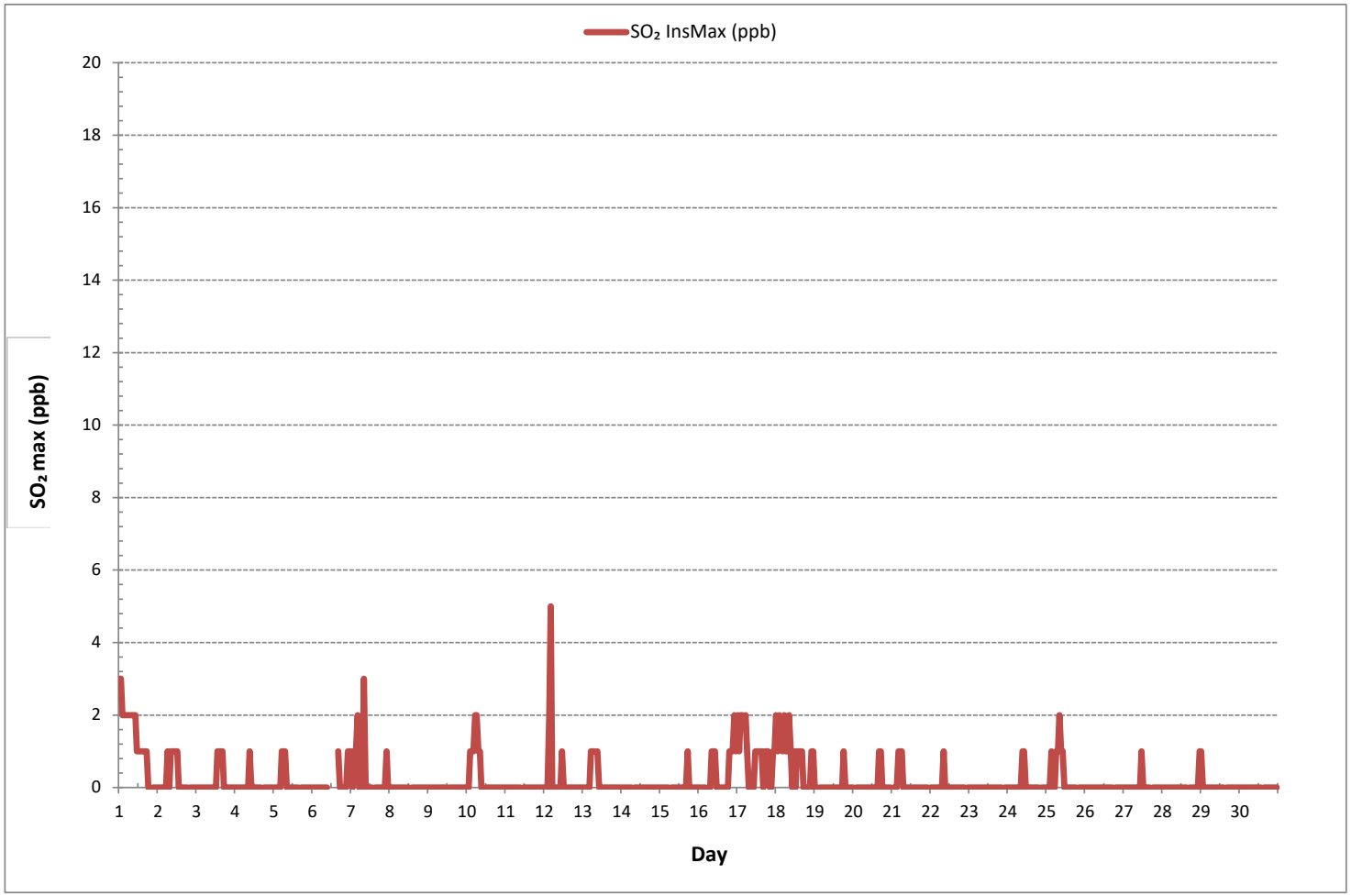
NUMBER OF NON-ZERO READINGS: 114

MAXIMUM INSTANTANEOUS VALUE: 5 ppb @ HOUR 4 ON DAY 12

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 4 hrs
STANDARD DEVIATION: 1

OPERATIONAL TIME: 720 hrs

SULPHUR DIOXIDE Instantaneous Maximum (SO_2 ppb)



HYDROGEN SULPHIDE Instantaneous Maximum (H_2S ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	2	2	2	17	15	13	29	13	12	16	13	9	13	9	10	10	9	13	24	2	S	18	38	28	2	38	14	24
2	24	21	24	12	8	4	3	3	2	2	2	2	2	2	2	2	2	2	2	S	2	13	160	15	2	160	13	24
3	10	18	24	38	9	7	4	3	2	2	2	2	2	2	2	2	2	2	S	2	2	3	4	4	2	38	6	24
4	5	5	5	5	5	6	4	2	3	2	2	2	2	2	2	2	2	S	2	21	2	6	4	4	2	21	4	24
5	3	8	8	4	8	6	3	2	2	2	2	2	2	2	2	2	S	2	2	41	80	3	3	4	2	80	8	24
6	3	3	4	7	5	4	3	2	2	2	C	C	C	C	C	S	1	0	0	0	0	1	1	1	0	7	2	24
7	1	1	1	1	2	1	1	1	4	1	1	1	1	0	S	0	0	1	0	0	0	1	1	0	0	4	1	24
8	1	0	0	1	0	1	0	1	1	1	1	0	1	S	0	0	0	0	0	0	0	0	1	0	0	1	0	24
9	0	1	1	1	1	1	1	1	1	1	1	1	S	1	0	1	0	0	0	1	6	2	3	0	0	6	1	24
10	1	1	1	1	1	1	1	1	1	1	1	S	0	1	9	3	1	2	1	1	1	2	2	2	0	9	2	24
11	1	1	1	2	2	2	1	1	1	2	S	1	1	1	1	1	1	1	1	1	1	15	37	3	1	37	3	24
12	31	17	1	1	11	3	3	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	31	4	24
13	46	17	5	7	4	3	5	3	S	1	1	1	2	1	2	1	1	1	2	2	2	6	24	4	1	46	6	24
14	8	4	5	5	6	4	3	S	2	1	1	2	1	1	1	2	1	1	1	1	1	2	1	9	1	9	3	24
15	2	5	6	3	2	2	S	2	1	1	1	1	2	2	1	1	1	1	1	2	2	3	3	2	1	6	2	24
16	2	7	6	6	10	S	2	2	2	2	1	1	2	2	1	2	2	2	1	5	1	2	2	2	1	10	3	24
17	2	2	21	2	S	3	2	2	2	2	2	2	1	1	1	1	1	1	2	2	6	7	2	2	1	21	3	24
18	2	2	3	S	6	4	2	4	2	7	7	5	6	2	2	2	2	2	2	2	2	5	5	4	2	7	3	24
19	4	9	S	5	4	3	2	3	2	2	2	2	2	15	37	5	17	5	2	8	36	24	3	3	2	37	8	24
20	4	S	4	5	4	4	4	3	23	20	19	16	2	2	2	13	2	2	2	2	2	36	5	5	2	36	8	24
21	S	5	56	50	11	75	15	3	3	2	2	2	2	2	2	37	2	2	2	2	2	2	2	S	2	75	13	24
22	3	2	3	3	3	3	2	2	2	2	2	2	2	4	2	2	2	2	2	2	2	2	S	3	2	4	2	24
23	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	S	2	2	2	2	2	24
24	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	2	C1	C1	16	S	2	2	2	2	16	3	22
25	2	3	2	2	2	2	2	2	3	2	2	2	2	2	2	2	4	2	2	S	2	3	4	3	2	4	2	24
26	3	9	120	4	7	24	7	3	3	2	2	2	2	2	2	2	3	5	S	2	2	2	94	8	2	120	14	24
27	3	8	7	9	8	21	17	7	3	2	2	2	2	3	2	2	2	S	2	3	3	3	4	3	2	21	5	24
28	4	3	3	5	4	8	9	4	4	4	3	3	2	3	3	3	S	16	16	14	3	2	3	3	2	16	5	24
29	3	3	6	6	6	7	3	4	4	3	7	4	3	3	2	S	3	3	3	2	2	3	3	3	2	7	4	24
30	5	3	3	3	3	2	3	3	3	4	3	3	3	4	S	3	4	3	2	3	2	3	2	3	2	5	3	24
HOURLY MAX	46	21	120	50	15	75	29	13	23	20	19	16	13	15	37	37	17	16	24	41	80	36	160	28				
HOURLY AVG	6	6	11	7	5	8	5	3	3	3	3	3	2	3	4	4	3	3	3	5	6	6	14	4				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

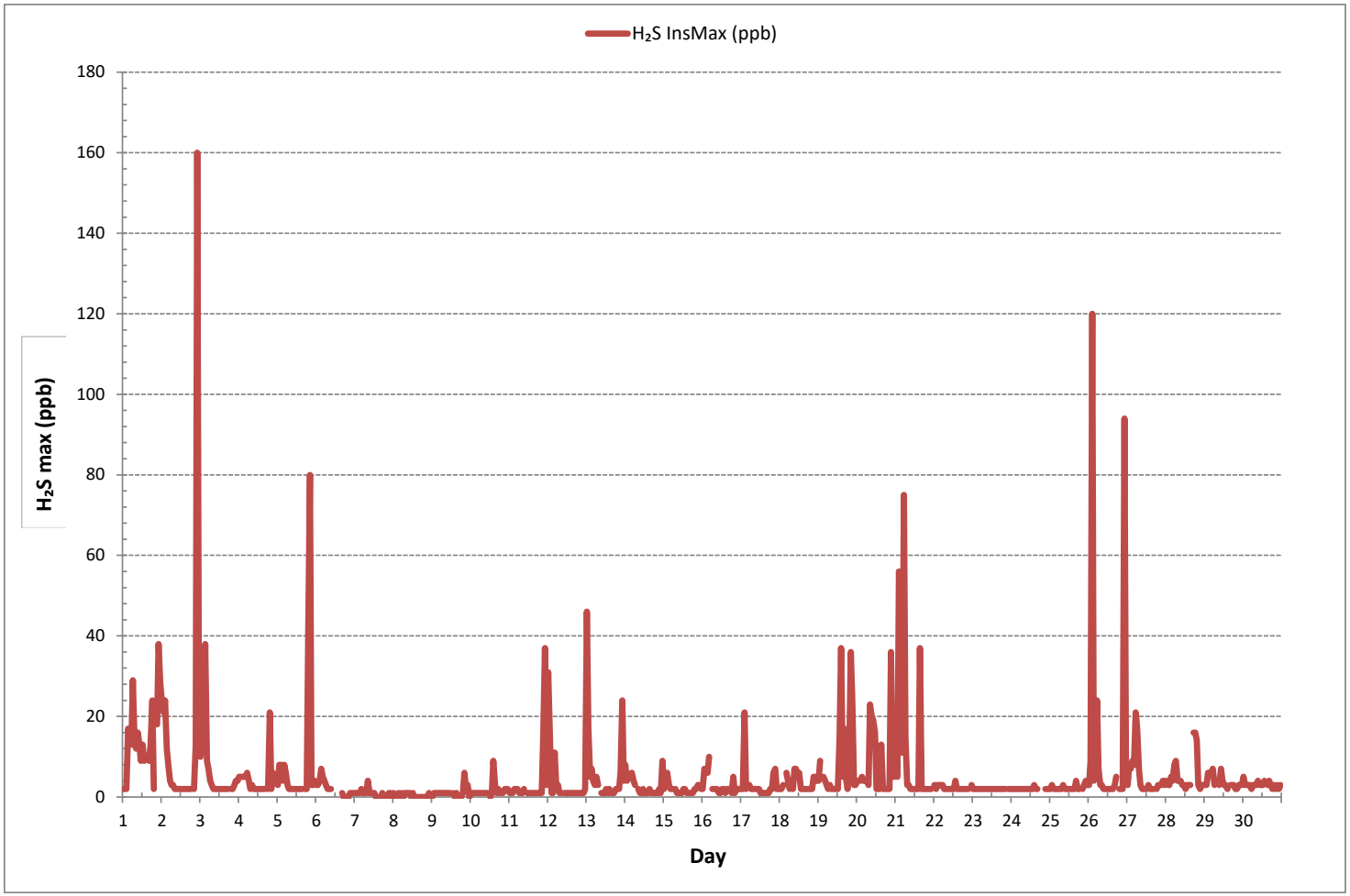
NUMBER OF NON-ZERO READINGS: 650

MAXIMUM INSTANTANEOUS VALUE: 160 ppb @ HOUR 22 ON DAY 2

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 5 hrs
STANDARD DEVIATION: 11

OPERATIONAL TIME: 718 hrs

HYDROGEN SULPHIDE Instantaneous Maximum (H_2S ppb)



TOTAL HYDROCARBONS Instantaneous Maximum (THC ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	2.31	2.41	2.34	2.47	2.58	2.75	2.67	2.48	2.31	2.30	2.19	2.22	2.24	2.10	2.09	2.10	2.09	2.14	2.16	2.21	S	2.18	2.17	2.16	2.09	2.75	2.29	24
2	2.15	2.14	2.14	2.12	2.13	2.18	2.19	2.26	2.13	2.11	2.08	2.04	2.04	2.03	1.99	1.99	1.99	1.99	2.00	S	2.18	2.21	3.53	3.57	1.99	3.57	2.22	24
3	3.26	3.23	3.30	2.37	2.35	2.53	2.46	2.31	2.18	2.09	2.04	2.04	2.04	2.02	2.13	2.03	2.02	2.00	S	1.99	2.01	2.00	2.07	2.05	1.99	3.30	2.28	24
4	2.05	2.05	2.04	2.05	2.07	2.08	2.06	2.04	2.02	2.02	2.00	1.99	1.99	1.99	1.98	1.98	1.99	S	2.00	2.01	2.01	2.05	2.05	2.08	1.98	2.08	2.03	24
5	2.13	2.45	2.09	2.07	2.10	2.10	2.07	2.05	2.04	2.01	1.99	1.99	2.00	1.99	1.99	2.00	S	2.00	2.00	2.34	2.55	2.12	2.15	2.13	1.99	2.55	2.10	24
6	2.16	2.19	2.16	2.18	2.23	2.14	2.08	2.02	2.03	2.04	2.03	2.03	2.03	2.00	2.00	S	2.01	2.00	1.99	2.00	2.00	2.02	2.03	2.01	1.99	2.23	2.06	24
7	2.02	2.01	2.00	2.00	1.99	2.00	2.00	1.99	C	C	C	C	C	2.04	S	2.05	2.08	2.03	2.03	2.03	2.04	2.05	2.06	2.10	1.99	2.10	2.03	24
8	2.12	2.14	2.12	2.05	2.05	2.05	2.05	2.06	2.04	2.05	2.04	2.04	2.04	S	2.04	2.04	2.03	2.04	2.04	2.03	2.06	2.10	2.12	2.18	2.03	2.18	2.07	24
9	2.18	2.17	2.16	2.08	2.05	2.05	2.06	2.06	2.07	2.05	2.05	2.04	S	2.04	2.04	2.05	2.05	2.06	2.05	2.05	2.54	2.27	2.07	2.13	2.04	2.54	2.10	24
10	2.15	2.10	2.13	2.10	2.11	2.10	2.09	2.09	2.07	2.06	2.05	S	2.06	2.06	2.12	2.07	2.05	2.04	2.08	2.08	2.08	2.09	2.09	2.11	2.04	2.15	2.09	24
11	2.13	2.15	2.17	2.17	2.15	2.14	2.12	2.12	2.24	2.26	S	2.12	2.09	2.08	2.06	2.05	2.05	2.05	2.06	2.04	2.05	2.18	2.44	2.43	2.04	2.44	2.14	24
12	2.35	2.35	2.14	2.16	2.24	2.24	2.28	2.28	2.22	S	2.07	2.04	2.01	2.01	2.02	2.01	2.00	2.00	2.02	2.08	2.55	2.72	2.56	2.15	2.00	2.72	2.20	24
13	2.99	2.57	2.25	2.17	2.12	2.05	2.03	2.03	S	2.04	2.06	2.07	2.05	2.04	2.17	2.30	2.05	2.06	2.10	2.12	2.41	2.33	2.16	2.08	2.03	2.99	2.18	24
14	2.21	2.20	2.29	2.29	2.26	2.20	2.14	S	2.16	2.16	2.04	2.04	2.04	2.03	2.03	2.02	2.02	2.02	2.03	2.05	2.06	2.09	2.11	2.17	2.02	2.29	2.12	24
15	2.19	2.19	2.19	2.25	2.29	2.21	S	2.14	2.12	2.26	2.27	2.11	2.08	2.12	2.15	2.06	2.04	2.04	2.04	2.05	2.12	2.12	2.11	2.18	2.04	2.29	2.14	24
16	2.36	2.51	2.44	2.57	2.54	S	2.55	2.49	2.22	2.06	2.06	2.04	2.05	2.04	2.05	2.04	2.14	2.19	2.10	2.17	2.16	2.16	2.16	2.25	2.04	2.57	2.23	24
17	2.32	2.30	2.50	2.35	S	2.41	2.37	2.29	2.28	2.29	2.25	2.22	2.09	2.04	2.06	2.07	2.06	2.10	2.06	2.06	2.24	2.27	2.20	2.19	2.04	2.50	2.22	24
18	2.20	2.25	2.28	S	2.28	2.25	2.23	2.27	2.19	2.18	2.15	2.14	2.14	2.12	2.10	2.19	2.06	2.07	2.07	2.09	2.13	2.18	2.16	2.21	2.06	2.28	2.17	24
19	2.58	2.52	S	2.21	2.18	2.13	2.10	2.13	2.18	2.12	2.05	2.05	2.09	2.12	2.12	2.09	2.22	2.19	2.15	2.29	2.48	2.50	2.37	2.33	2.05	2.58	2.23	24
20	2.27	S	2.49	2.18	2.14	2.08	2.07	2.06	2.12	2.12	2.17	2.10	2.05	2.05	2.05	2.06	2.04	2.03	2.08	2.07	2.10	2.45	2.72	2.38	2.03	2.72	2.17	24
21	S	2.81	2.67	2.78	2.60	2.93	2.55	2.46	3.36	4.06	**5.95**	2.07	2.02	2.02	2.02	2.11	2.03	2.03	2.04	2.04	2.08	2.16	2.15	S	2.02	**5.95**	2.59	24
22	2.17	2.13	2.12	2.19	2.19	2.17	2.16	2.14	2.14	2.07	2.05	2.03	2.03	2.11	2.03	2.03	2.03	2.11	2.11	2.08	2.09	2.10	S	2.13	2.03	2.19	2.10	24
23	2.12	2.18	2.20	2.17	2.17	2.18	2.16	2.11	2.11	2.08	2.05	2.01	2.01	2.03	2.01	2.01	2.01	2.02	2.03	2.03	2.06	S	2.06	2.05	2.01	2.20	2.08	24
24	2.06	2.07	2.13	2.13	2.14	2.16	2.14	2.10	2.04	2.05	2.03	2.03	2.02	2.02	2.02	2.03	2.04	2.03	2.05	2.11	S	2.08	2.15	2.22	2.02	2.22	2.08	24
25	2.32	2.34	2.23	2.26	2.29	2.30	2.24	2.10	2.11	2.63	2.55	2.49	2.02	2.02	2.03	2.02	2.06	2.03	2.05	S	2.07	2.14	2.18	2.29	2.02	2.63	2.21	24
26	2.72	2.24	3.08	2.39	2.51	2.48	2.36	2.22	2.14	2.09	2.07	2.06	2.41	2.09	2.07	2.12	2.10	2.12	S	2.09	2.08	2.25	3.54	3.06	2.06	3.54	2.36	24
27	2.75	2.29	2.33	2.84	2.55	2.86	2.95	2.64	2.32	2.17	2.15	2.10	2.09	2.07	2.05	2.05	2.07	S	2.07	2.12	2.18	2.31	2.31	2.21	2.05	2.95	2.33	24
28	2.21	2.19	2.16	2.15	2.19	2.25	2.25	2.20	2.18	2.18	2.23	2.14	2.08	2.09	2.09	2.10	S	2.10	2.13	2.11	2.10	2.11	2.11	2.12	2.08	2.25	2.15	24
29	2.18	2.23	2.28	2.31	2.27	2.38	2.43	2.39	2.40	2.35	2.41	2.37	2.31	2.28	2.04	S	2.04	2.03	2.03	2.04	2.09	2.11	2.17	2.15	2.03	2.43	2.23	24
30	2.17	2.08	2.08	2.10	2.10	2.10	2.08	2.06	2.06	2.05	2.03	2.04	2.03	2.05	S	2.04	2.05	2.04	2.04	2.05	2.10	2.13	2.08	2.12	2.03	2.17	2.07	24
HOURLY MAX	3.26	3.23	3.30	2.84	2.60	2.93	2.95	2.64	3.36	4.06	5.95	2.49	2.41	2.28	2.17	2.30	2.22	2.19	2.16	2.34	2.55	2.72	3.54	3.57				
HOURLY AVG	2.30	2.29	2.29	2.25	2.24	2.26	2.24	2.19	2.20	2.21	2.25	2.10	2.08	2.06	2.06	2.06	2.05	2.06	2.06	2.09	2.17	2.19	2.28	2.25				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

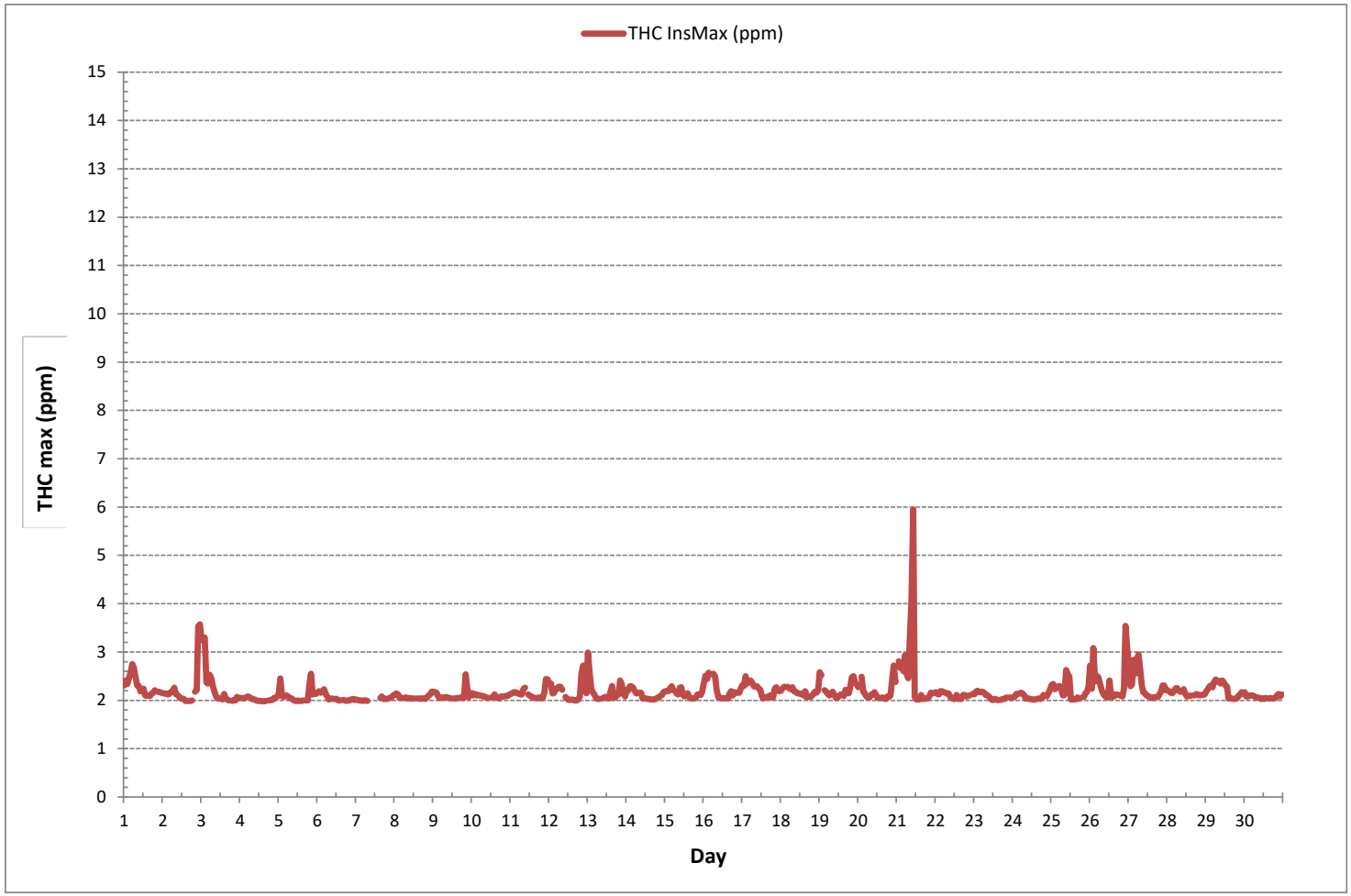
NUMBER OF NON-ZERO READINGS: 684

MAXIMUM INSTANTANEOUS VALUE: 5.95 ppm @ HOUR 10 ON DAY 21

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 5 hrs
STANDARD DEVIATION: 0.26

OPERATIONAL TIME: 720 hrs

TOTAL HYDROCARBONS Instantaneous Maximum (THC ppm)



METHANE MAX Instantaneous Maximum (CH_4 ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	2.31	2.41	2.34	2.47	2.58	2.75	2.67	2.48	2.31	2.30	2.19	2.22	2.24	2.10	2.09	2.10	2.09	2.14	2.16	2.21	S	2.18	2.17	2.16	2.09	2.75	2.29	24
2	2.15	2.14	2.14	2.12	2.13	2.18	2.19	2.26	2.13	2.11	2.08	2.04	2.04	2.03	1.99	1.99	1.99	1.99	2.00	S	2.18	2.21	3.53	**3.57**	1.99	**3.57**	2.22	24
3	3.26	3.23	3.30	2.37	2.35	2.53	2.46	2.31	2.18	2.09	2.04	2.04	2.04	2.02	2.13	2.03	2.02	2.00	S	1.99	2.01	2.00	2.07	2.05	1.99	3.30	2.28	24
4	2.05	2.05	2.04	2.05	2.07	2.08	2.06	2.04	2.02	2.02	2.00	1.99	1.99	1.99	1.98	1.98	1.99	S	2.00	2.01	2.01	2.05	2.05	2.08	1.98	2.08	2.03	24
5	2.13	2.45	2.09	2.07	2.10	2.10	2.07	2.05	2.04	2.01	1.99	1.99	2.00	1.99	1.99	2.00	S	2.00	2.00	2.34	2.55	2.12	2.15	2.13	1.99	2.55	2.10	24
6	2.16	2.19	2.16	2.18	2.23	2.14	2.08	2.02	2.03	2.04	2.03	2.03	2.03	2.00	2.00	S	2.01	2.00	1.99	2.00	2.00	2.02	2.03	2.01	1.99	2.23	2.06	24
7	2.02	2.01	2.00	2.00	1.99	2.00	2.00	1.99	C	C	C	C	C	2.04	S	2.05	2.08	2.03	2.03	2.03	2.04	2.05	2.06	2.10	1.99	2.10	2.03	24
8	2.12	2.14	2.12	2.05	2.05	2.05	2.05	2.06	2.05	2.05	2.04	2.04	2.04	S	2.04	2.04	2.03	2.04	2.04	2.03	2.06	2.10	2.12	2.18	2.03	2.18	2.07	24
9	2.18	2.17	2.16	2.08	2.05	2.05	2.06	2.06	2.07	2.05	2.05	2.04	S	2.04	2.04	2.05	2.05	2.06	2.05	2.05	2.54	2.27	2.07	2.13	2.04	2.54	2.10	24
10	2.15	2.10	2.13	2.10	2.11	2.10	2.09	2.09	2.07	2.06	2.05	S	2.06	2.06	2.12	2.07	2.05	2.04	2.08	2.08	2.08	2.09	2.09	2.11	2.04	2.15	2.09	24
11	2.13	2.15	2.17	2.17	2.15	2.14	2.12	2.12	2.24	2.26	S	2.12	2.09	2.08	2.06	2.05	2.05	2.05	2.06	2.04	2.05	2.18	2.44	2.43	2.04	2.44	2.14	24
12	2.35	2.35	2.14	2.16	2.24	2.24	2.28	2.28	2.22	S	2.07	2.04	2.01	2.01	2.02	2.01	2.00	2.00	2.02	2.08	2.55	2.72	2.56	2.15	2.00	2.72	2.20	24
13	2.99	2.57	2.25	2.17	2.12	2.05	2.03	2.03	S	2.04	2.06	2.07	2.05	2.04	2.11	2.30	2.05	2.06	2.10	2.12	2.41	2.33	2.16	2.08	2.03	2.99	2.18	24
14	2.21	2.20	2.29	2.29	2.26	2.20	2.14	S	2.16	2.16	2.04	2.04	2.04	2.03	2.03	2.02	2.02	2.02	2.03	2.05	2.06	2.09	2.11	2.17	2.02	2.29	2.12	24
15	2.19	2.19	2.19	2.25	2.29	2.21	S	2.14	2.12	2.26	2.27	2.11	2.08	2.12	2.15	2.06	2.04	2.04	2.04	2.05	2.12	2.12	2.11	2.18	2.04	2.29	2.14	24
16	2.36	2.51	2.44	2.57	2.54	S	2.55	2.49	2.22	2.06	2.06	2.04	2.05	2.04	2.05	2.04	2.14	2.19	2.10	2.17	2.16	2.16	2.16	2.25	2.04	2.57	2.23	24
17	2.32	2.30	2.50	2.35	S	2.41	2.37	2.29	2.28	2.29	2.25	2.22	2.09	2.04	2.06	2.07	2.06	2.10	2.06	2.06	2.24	2.27	2.20	2.19	2.04	2.50	2.22	24
18	2.20	2.25	2.28	S	2.28	2.25	2.23	2.27	2.19	2.18	2.15	2.14	2.14	2.12	2.10	2.19	2.06	2.07	2.07	2.09	2.13	2.18	2.16	2.21	2.06	2.28	2.17	24
19	2.20	2.52	S	2.21	2.18	2.13	2.10	2.13	2.18	2.12	2.05	2.05	2.09	2.12	2.12	2.09	2.22	2.19	2.15	2.29	2.48	2.50	2.37	2.33	2.05	2.52	2.21	24
20	2.27	S	2.49	2.18	2.14	2.08	2.07	2.06	2.12	2.12	2.17	2.10	2.05	2.05	2.05	2.06	2.04	2.03	2.08	2.07	2.10	2.45	2.72	2.38	2.03	2.72	2.17	24
21	S	2.81	2.67	2.78	2.60	2.93	2.55	2.46	2.27	2.22	2.09	2.07	2.02	2.02	2.02	2.11	2.03	2.03	2.04	2.04	2.08	2.16	2.15	S	2.02	2.93	2.28	24
22	2.17	2.13	2.12	2.19	2.19	2.17	2.16	2.14	2.14	2.07	2.05	2.03	2.03	2.11	2.03	2.03	2.03	2.11	2.11	2.08	2.09	2.10	S	2.13	2.03	2.19	2.10	24
23	2.12	2.18	2.20	2.17	2.17	2.18	2.16	2.11	2.11	2.08	2.05	2.01	2.01	2.03	2.01	2.01	2.01	2.02	2.03	2.03	2.06	S	2.06	2.05	2.01	2.20	2.08	24
24	2.06	2.07	2.13	2.13	2.14	2.16	2.14	2.10	2.04	2.05	2.03	2.03	2.02	2.02	2.02	2.03	2.04	2.03	2.05	2.11	S	2.08	2.15	2.22	2.02	2.22	2.08	24
25	2.32	2.34	2.23	2.26	2.29	2.30	2.24	2.10	2.11	2.18	2.06	2.05	2.02	2.02	2.03	2.02	2.06	2.03	2.05	S	2.07	2.14	2.18	2.29	2.02	2.34	2.15	24
26	2.72	2.24	3.08	2.39	2.51	2.48	2.36	2.22	2.14	2.09	2.07	2.06	2.08	2.09	2.07	2.12	2.10	2.12	S	2.09	2.08	2.25	3.54	3.06	2.06	3.54	2.34	24
27	2.75	2.29	2.33	2.53	2.55	2.86	2.95	2.64	2.32	2.17	2.15	2.10	2.09	2.07	2.05	2.05	2.07	S	2.07	2.12	2.18	2.31	2.31	2.21	2.05	2.95	2.31	24
28	2.21	2.19	2.16	2.15	2.19	2.25	2.25	2.20	2.18	2.18	2.23	2.14	2.08	2.09	2.09	2.10	S	2.10	2.13	2.11	2.10	2.11	2.11	2.12	2.08	2.25	2.15	24
29	2.18	2.23	2.28	2.31	2.27	2.38	2.43	2.39	2.40	2.35	2.41	2.37	2.31	2.28	2.04	S	2.04	2.03	2.03	2.04	2.09	2.11	2.17	2.15	2.03	2.43	2.23	24
30	2.17	2.08	2.08	2.10	2.10	2.10	2.08	2.06	2.06	2.05	2.03	2.04	2.03	2.05	S	2.04	2.05	2.04	2.04	2.05	2.10	2.13	2.08	2.12	2.03	2.17	2.07	24
HOURLY MAX	3.26	3.23	3.30	2.78	2.60	2.93	2.95	2.64	2.40	2.35	2.41	2.37	2.31	2.28	2.15	2.30	2.22	2.19	2.16	2.34	2.55	2.72	3.54	3.57				
HOURLY AVG	2.29	2.29	2.29	2.24	2.24	2.26	2.24	2.19	2.16	2.13	2.10	2.08	2.07	2.06	2.05	2.06	2.05	2.06	2.06	2.09	2.17	2.19	2.28	2.25				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

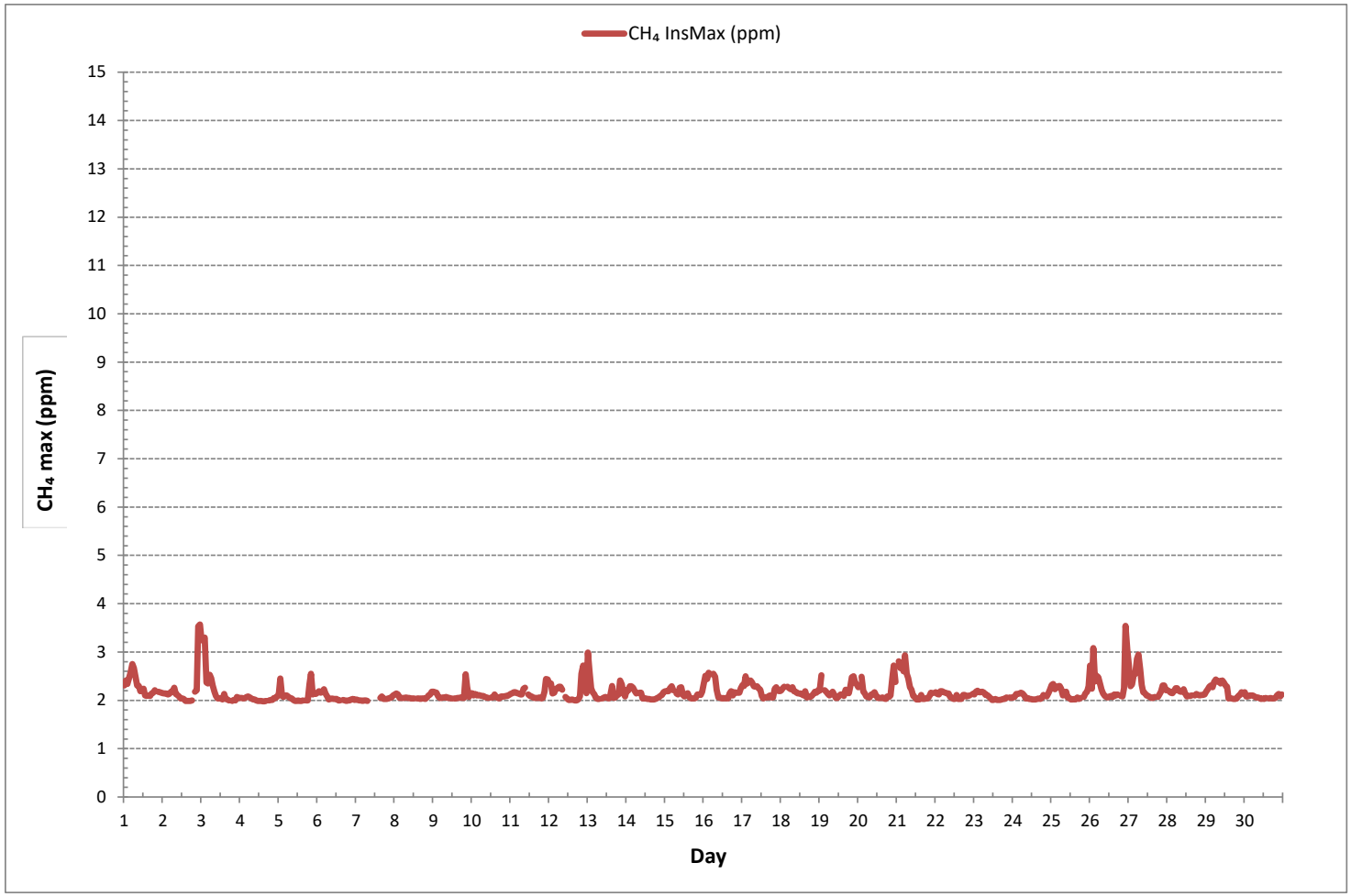
NUMBER OF NON-ZERO READINGS: 684

MAXIMUM INSTANTANEOUS VALUE: 3.57 ppm @ HOUR 23 ON DAY 2

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 5 hrs
STANDARD DEVIATION: 0.20

OPERATIONAL TIME: 720 hrs

METHANE MAX Instantaneous Maximum (CH_4 ppm)



NON-METHANE HYDROCARBONS Instantaneous Maximum (NMHC ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	24
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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	24
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C	C	C	C	C	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	24
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	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	24
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	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	24
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	24
11	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	24
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	24
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	24
15	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	24
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	24
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	24
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	24
19	0.40	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	0.40	0.02	24
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	24
21	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.22	1.87	**3.88**	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	**3.88**	0.32	24
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	S	0.00	0.00	0.00	0.00	24
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	24
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	24
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.52	0.45	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	0.52	0.06	24
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	0.36	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.02	24
27	0.00	0.00	0.00	0.44	0.00	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	0.44	0.02	24
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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	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	24
HOURLY MAX	0.40	0.00	0.00	0.44	0.00	0.00	0.00	0.00	1.22	1.87	3.88	0.45	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
HOURLY AVG	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.04	0.08	0.16	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

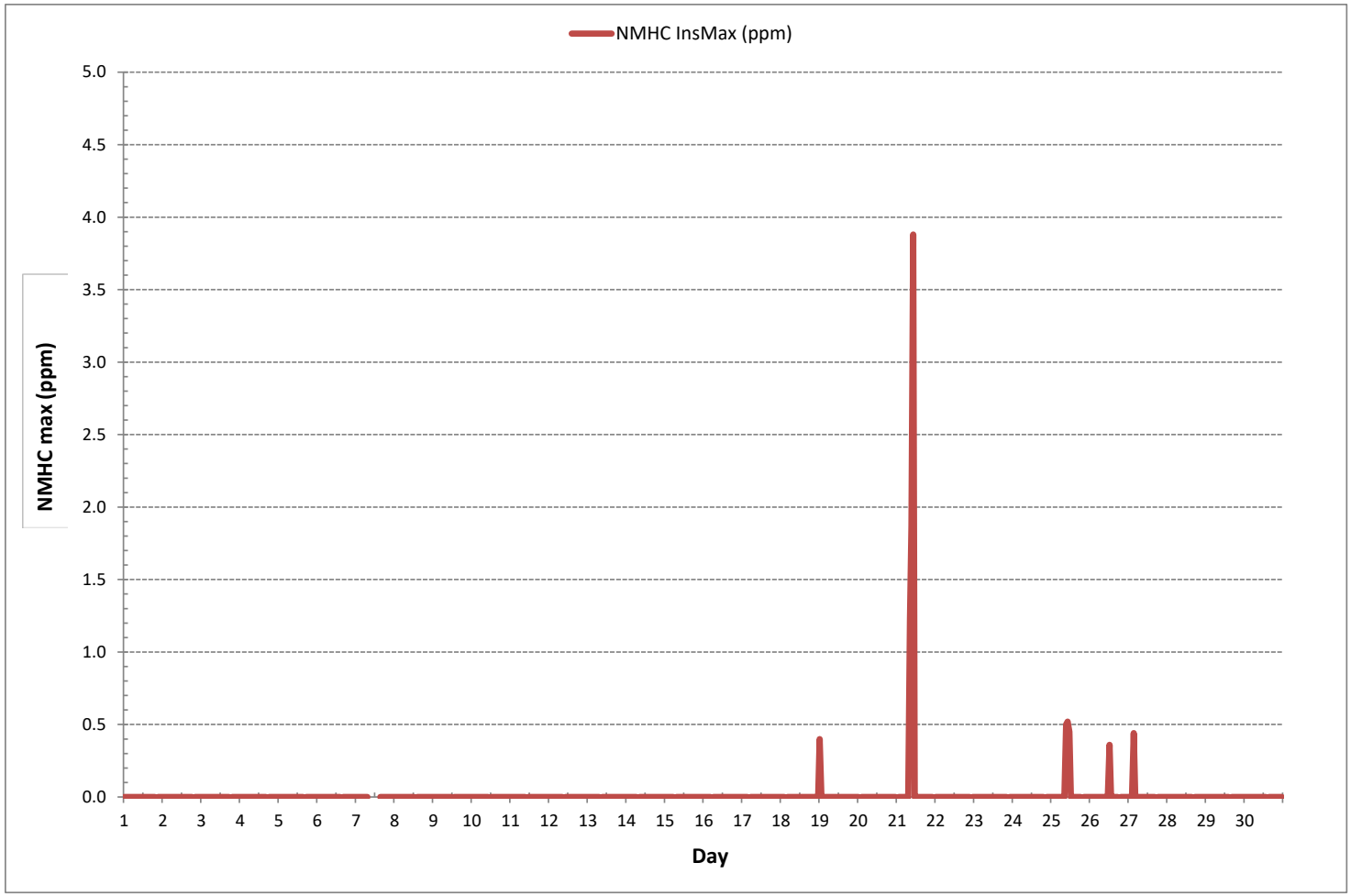
NUMBER OF NON-ZERO READINGS: 9

MAXIMUM INSTANTANEOUS VALUE: 3.88 ppm @ HOUR 10 ON DAY 21

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 5 hrs
STANDARD DEVIATION: 0.18

OPERATIONAL TIME: 720 hrs

NON-METHANE HYDROCARBONS Instantaneous Maximum (NMHC ppm)



OXIDES OF NITROGEN Instantaneous Maximum (NO_x ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	6	7	6	9	9	7	7	6	5	6	3	3	3	7	5	2	4	3	4	4	S	4	6	4	2	9	5	24
2	4	4	4	5	5	5	153	5	4	4	4	3	3	2	1	2	2	2	2	S	16	8	8	39	1	153	12	24
3	20	19	9	5	8	11	12	6	3	1	1	2	2	2	3	3	3	29	S	3	3	2	3	2	1	29	7	24
4	2	2	2	4	3	4	3	3	3	2	1	1	1	1	1	1	1	S	2	2	4	3	5	5	1	5	2	24
5	8	8	6	5	6	6	6	6	3	2	1	1	1	1	1	1	S	13	1	2	9	9	9	3	1	13	5	24
6	3	4	2	2	33	16	10	2	3	9	C	C	C	C	C	C	58	39	2	2	2	2	3	2	2	58	11	24
7	2	1	2	1	305	9	22	2	510	2	2	1	1	1	S	4	5	2	2	2	2	3	2	3	1	510	39	24
8	4	4	4	2	2	1	1	1	1	1	5	1	1	S	1	1	28	1	1	1	3	2	2	3	1	28	3	24
9	5	5	3	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	2	3	2	2	1	5	2	24
10	2	3	4	4	6	6	5	4	3	2	1	S	2	2	3	2	2	1	1	2	2	2	2	2	1	6	3	24
11	3	3	3	2	3	2	3	4	5	6	S	4	2	2	2	2	1	2	3	3	3	3	6	5	1	6	3	24
12	4	3	2	4	997	31	4	5	4	S	3	2	2	7	12	9	1	1	1	7	6	6	7	7	1	997	49	24
13	8	8	10	5	5	4	4	4	S	7	7	4	34	11	4	28	5	2	9	3	7	9	27	1	1	34	9	24
14	2	5	6	5	5	3	3	S	12	4	2	2	2	2	1	1	3	1	1	2	3	4	4	5	1	12	3	24
15	5	4	4	4	5	22	S	4	3	4	3	2	1	2	1	2	10	22	1	1	3	3	4	4	1	22	5	24
16	6	7	8	9	9	S	12	11	3	1	1	1	1	1	1	24	2	2	2	4	3	4	5	5	1	24	5	24
17	5	6	6	6	S	9	8	7	6	6	7	4	2	2	2	2	2	4	2	3	5	5	4	4	2	9	5	24
18	5	5	6	S	6	5	7	6	6	6	2	2	3	2	3	6	3	3	3	4	5	8	7	10	2	10	5	24
19	8	5	S	5	17	19	2	8	3	2	2	5	2	3	4	3	3	3	3	4	10	12	4	5	2	19	6	24
20	3	S	8	2	2	13	1	1	1	3	1	9	4	1	1	2	2	2	2	20	2	17	17	6	1	20	5	24
21	S	8	7	5	9	10	229	4	5	14	17	17	2	12	1	3	4	3	2	3	4	4	4	S	1	229	17	24
22	5	4	4	4	5	5	4	4	4	3	2	1	2	2	2	3	2	2	2	3	3	2	S	4	1	5	3	24
23	3	4	5	4	5	5	5	4	3	2	1	1	1	1	1	1	1	2	2	2	2	S	4	2	1	5	3	24
24	2	3	3	3	4	4	4	3	2	2	3	2	1	1	1	1	1	66	2	2	S	5	4	5	1	66	5	24
25	5	4	4	5	6	6	8	5	144	26	27	1	2	1	1	2	1	2	1	S	3	4	4	3	1	144	12	24
26	3	2	4	3	3	7	3	4	4	1	1	1	34	4	11	2	3	1	S	2	2	4	3	3	1	34	5	24
27	3	2	2	3	11	11	8	34	30	38	36	100	2	1	67	12	94	S	2	2	5	4	3	1	1	100	20	24
28	1	1	1	1	1	2	2	3	1	1	2	2	3	2	1	2	S	2	1	1	2	3	2	2	1	3	2	24
29	4	4	4	5	4	5	8	5	5	3	2	2	2	2	1	S	3	1	1	1	3	2	2	2	1	8	3	24
30	2	1	2	2	2	2	1	1	1	1	1	1	1	1	S	2	1	1	1	1	1	1	1	1	1	2	1	24
HOURLY MAX	20	19	10	9	997	31	229	34	510	38	36	100	34	12	67	28	94	66	9	20	16	17	27	39				
HOURLY AVG	5	5	5	4	51	8	18	5	27	6	5	6	4	3	5	4	9	8	2	3	4	5	5	5				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

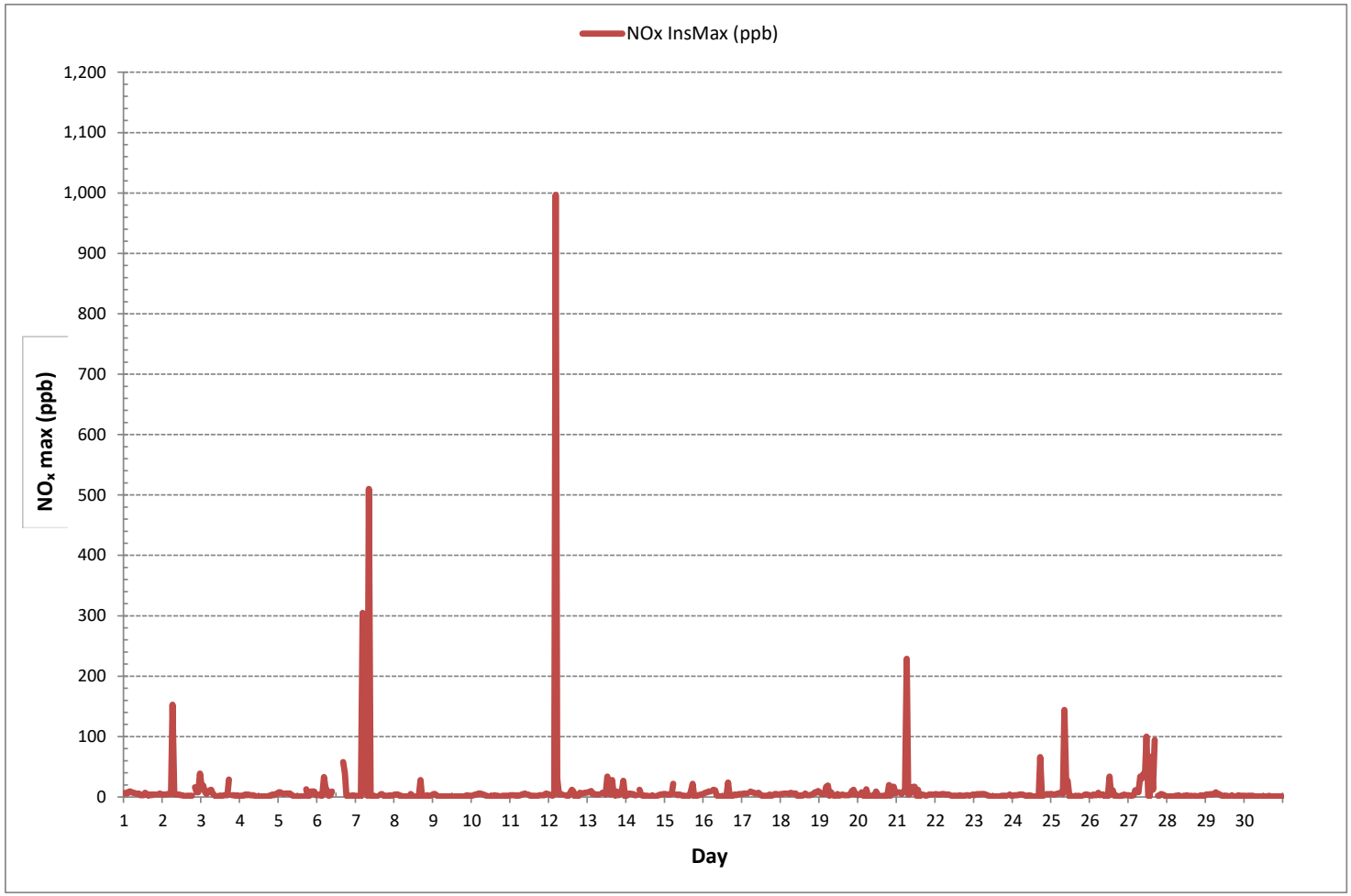
NUMBER OF NON-ZERO READINGS: 684

MAXIMUM INSTANTANEOUS VALUE: 997 ppb @ HOUR 4 ON DAY 12

IZS CALIBRATION TIME: 30 hrs
MONTHLY CALIBRATION TIME: 6 hrs
STANDARD DEVIATION: 46

OPERATIONAL TIME: 720 hrs

OXIDES OF NITROGEN Instantaneous Maximum (NO_x ppb)



NITRIC OXIDE Instantaneous Maximum (NO ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	0	0	0	0	1	1	1	1	2	3	1	1	0	2	3	0	0	0	0	0	S	0	0	0	0	3	1	24
2	0	0	0	0	0	1	76	1	1	1	1	0	0	0	0	0	0	0	0	S	1	0	1	13	0	76	4	24
3	3	3	0	0	3	2	3	1	1	0	0	0	0	0	0	0	0	8	S	0	0	0	0	0	0	8	1	24
4	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	1	0	24
5	0	0	0	0	1	2	2	2	1	1	0	0	0	0	0	0	S	8	0	1	1	0	4	0	0	8	1	24
6	0	1	0	0	41	50	7	0	1	11	C	C	C	C	C	C	89	19	0	0	0	0	0	0	0	89	12	24
7	0	0	0	0	189	5	7	0	468	0	0	0	0	1	S	1	1	0	0	0	0	0	0	0	0	468	29	24
8	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	18	0	0	0	0	0	0	0	0	18	1	24
9	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	24
10	0	0	0	0	1	1	1	1	1	0	0	S	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	24
11	0	1	1	0	0	0	0	1	2	2	S	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	24
12	0	0	0	0	**1,026**	24	1	1	1	S	0	0	0	3	6	2	0	0	0	1	0	1	0	0	0	**1026**	46	24
13	0	0	0	0	0	0	0	0	S	1	8	1	27	9	1	18	2	1	5	0	0	1	7	0	0	27	4	24
14	0	0	0	0	1	1	1	S	7	1	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	7	1	24
15	0	0	0	0	1	8	S	1	1	1	1	0	0	0	0	0	5	27	0	0	0	0	0	0	0	27	2	24
16	0	0	0	1	1	S	5	5	1	0	0	0	0	0	0	15	0	0	0	1	0	0	0	0	0	15	1	24
17	0	0	1	0	S	2	2	2	2	2	2	1	0	0	0	1	1	1	0	0	0	0	0	0	0	2	1	24
18	0	0	0	S	1	1	1	1	1	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3	1	24
19	0	0	S	0	11	19	0	3	1	0	0	5	0	0	1	0	0	0	0	0	4	1	0	0	0	19	2	24
20	0	S	0	0	0	9	0	0	0	1	0	4	1	0	0	0	0	0	0	12	0	3	3	0	0	12	2	24
21	S	0	1	0	1	2	111	1	2	8	11	5	0	3	0	1	1	0	0	0	0	0	0	S	0	111	7	24
22	0	0	0	0	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	0	0	0	S	0	0	1	1	24
23	0	1	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	1	0	24
24	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	38	1	0	S	0	0	0	0	38	2	24
25	0	0	1	1	1	1	2	2	94	31	17	1	0	0	0	0	0	0	0	S	0	0	0	0	0	94	7	24
26	0	0	1	0	0	4	1	1	1	0	0	1	24	1	14	1	1	0	S	0	0	0	1	0	0	24	2	24
27	0	0	0	0	4	4	3	32	14	21	23	83	0	0	18	8	50	S	0	0	1	0	0	0	0	83	12	24
28	0	0	0	0	0	0	0	1	1	0	2	1	1	0	0	1	S	1	1	1	0	0	0	0	0	2	1	24
29	0	0	0	0	0	1	2	2	2	1	0	1	1	0	0	S	0	0	0	0	0	0	0	0	0	2	0	24
30	0	0	0	0	0	0	1	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	1	0	24
HOURLY MAX	3	3	1	1	1026	50	111	32	468	31	23	83	27	9	18	18	89	38	5	12	4	3	7	13				
HOURLY AVG	0	0	0	0	44	5	8	2	21	3	2	4	2	1	2	2	6	4	0	1	0	0	1	0				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

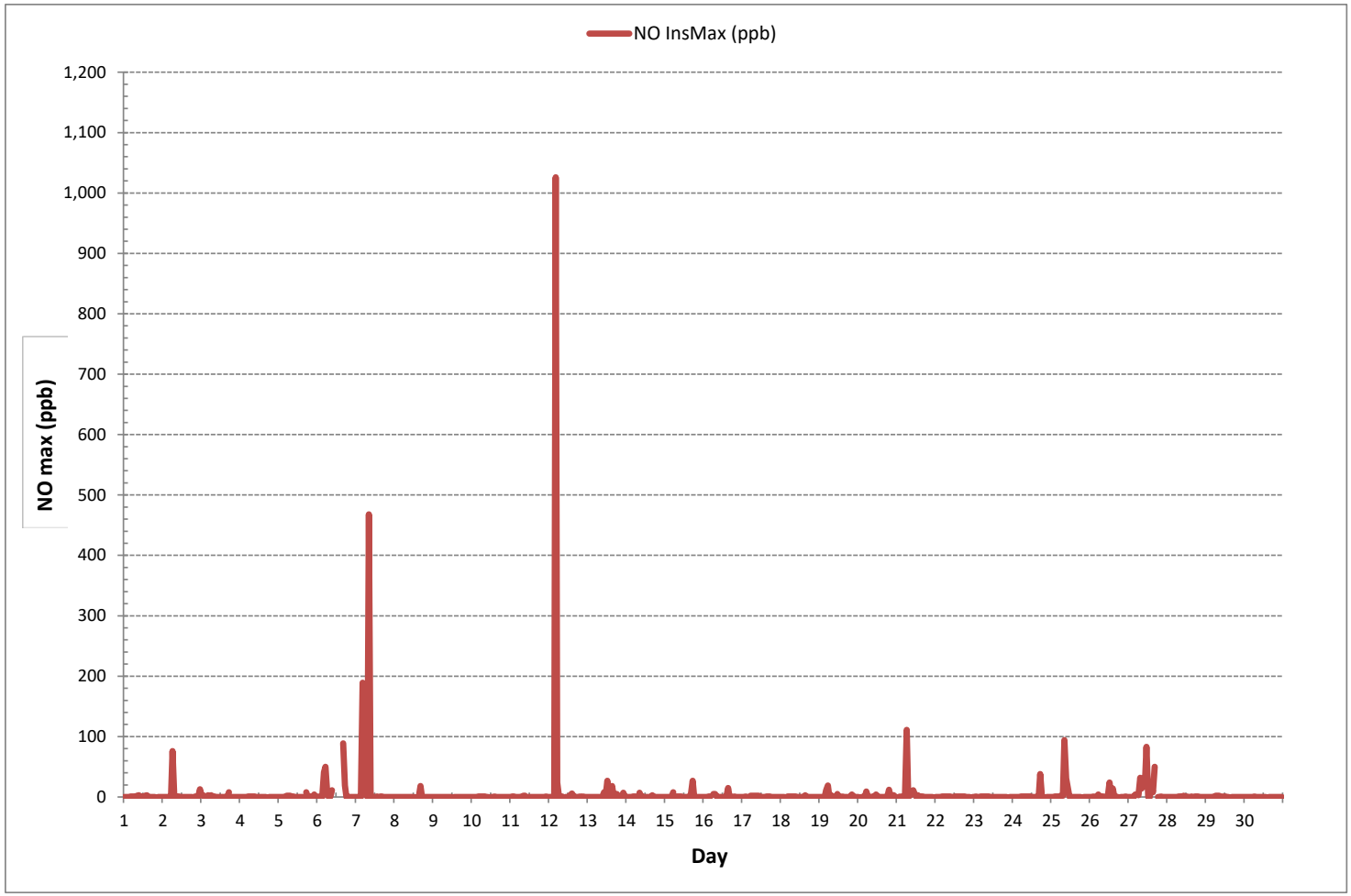
NUMBER OF NON-ZERO READINGS: 239

MAXIMUM INSTANTANEOUS VALUE: 1026 ppb @ HOUR 4 ON DAY 12

IZS CALIBRATION TIME: 30 hrs
MONTHLY CALIBRATION TIME: 6 hrs
STANDARD DEVIATION: 44

OPERATIONAL TIME: 720 hrs

NITRIC OXIDE Instantaneous Maximum (NO ppb)



NITROGEN DIOXIDE Instantaneous Maximum (NO_2 ppb)

DAY	0:00 0:59	1:00 1:59	2:00 2:59	3:00 3:59	4:00 4:59	5:00 5:59	6:00 6:59	7:00 7:59	8:00 8:59	9:00 9:59	10:00 10:59	11:00 11:59	12:00 12:59	13:00 13:59	14:00 14:59	15:00 15:59	16:00 16:59	17:00 17:59	18:00 18:59	19:00 19:59	20:00 20:59	21:00 21:59	22:00 22:59	23:00 23:59	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
1	6	7	6	9	9	6	6	5	4	4	2	2	2	5	3	2	3	3	3	4	S	4	6	4	2	9	5	24
2	3	3	4	4	4	5	77	4	3	3	3	3	2	2	1	1	1	1	2	S	15	8	7	26	1	77	8	24
3	17	18	9	5	5	10	9	5	2	1	1	2	2	2	2	3	3	22	S	2	2	2	3	2	1	22	6	24
4	2	2	2	4	2	3	2	2	2	2	1	1	1	1	1	1	1	S	2	2	3	3	5	5	1	5	2	24
5	7	8	6	5	5	5	4	4	2	1	1	1	1	1	1	1	S	6	1	2	8	8	5	3	1	8	4	24
6	3	3	2	2	24	3	4	1	2	2	C	C	C	C	C	C	11	26	1	2	2	2	3	2	1	26	5	24
7	2	1	2	1	121	4	15	2	101	2	2	1	1	1	S	4	4	2	2	2	2	3	2	3	1	121	12	24
8	4	4	4	2	2	1	1	1	1	1	5	1	1	S	1	1	10	1	1	1	3	2	2	4	1	10	2	24
9	5	5	3	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	2	3	2	2	1	5	2	24
10	2	3	4	4	5	5	4	3	2	1	1	S	2	2	2	1	2	1	1	2	2	3	2	2	1	5	2	24
11	3	2	2	2	2	2	3	3	3	4	S	4	2	2	2	2	1	2	3	3	3	3	6	5	1	6	3	24
12	4	2	3	4	562	13	3	3	3	S	2	2	2	5	6	6	1	1	1	6	5	5	7	7	1	562	28	24
13	8	8	9	5	5	4	4	3	S	6	4	3	11	7	4	13	3	2	6	3	6	8	20	1	1	20	6	24
14	2	4	6	5	5	3	2	S	5	3	2	2	2	1	1	1	1	1	1	2	3	4	4	5	1	6	3	24
15	5	4	4	4	5	18	S	3	3	3	2	2	1	1	1	2	5	9	1	1	3	3	4	4	1	18	4	24
16	5	7	8	9	9	S	8	6	3	1	1	1	1	1	1	10	2	2	2	3	3	4	4	5	1	10	4	24
17	5	5	6	6	S	8	6	4	4	4	5	3	2	2	2	2	2	3	2	2	5	5	4	4	2	8	4	24
18	5	5	6	S	6	5	5	4	4	5	2	2	2	2	3	4	3	2	3	4	5	8	7	10	2	10	4	24
19	8	5	S	4	7	8	2	5	3	2	2	3	2	2	3	3	3	3	3	4	6	11	4	5	2	11	4	24
20	3	S	8	2	2	4	1	1	1	2	1	6	2	1	1	1	2	2	2	9	2	15	14	6	1	15	4	24
21	S	8	7	5	8	9	129	3	4	7	8	14	1	9	1	2	3	2	2	3	4	4	4	S	1	129	11	24
22	5	4	3	4	5	4	4	4	3	2	1	1	2	2	2	2	2	2	2	2	3	2	S	4	1	5	3	24
23	3	4	4	4	4	4	4	3	2	2	1	1	1	1	1	1	1	1	2	2	2	S	4	1	1	4	2	24
24	2	2	3	3	4	3	4	2	1	2	2	1	1	1	1	1	1	29	2	2	S	5	4	5	1	29	3	24
25	6	4	4	5	6	5	6	3	58	13	11	1	2	1	1	2	1	1	1	S	3	4	4	3	1	58	6	24
26	3	2	4	3	2	4	2	3	3	1	1	1	14	4	3	2	2	1	S	2	2	4	2	2	1	14	3	24
27	2	2	2	3	7	8	4	10	17	18	18	38	1	1	49	5	48	S	2	2	4	3	3	1	1	49	11	24
28	1	1	1	1	1	2	2	2	1	1	2	1	2	1	1	2	S	2	1	1	2	3	2	2	1	3	2	24
29	4	4	4	5	4	5	7	4	4	2	2	2	2	2	1	S	3	1	1	1	3	2	2	2	1	7	3	24
30	1	1	2	2	2	2	1	1	1	1	1	1	1	1	S	2	1	1	1	1	1	1	1	1	1	2	1	24
HOURLY MAX	17	18	9	9	562	18	129	10	101	18	18	38	14	9	49	13	48	29	6	9	15	15	20	26				
HOURLY AVG	4	4	4	4	28	5	11	3	8	3	3	4	2	2	4	3	4	5	2	3	4	5	5	4				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 684

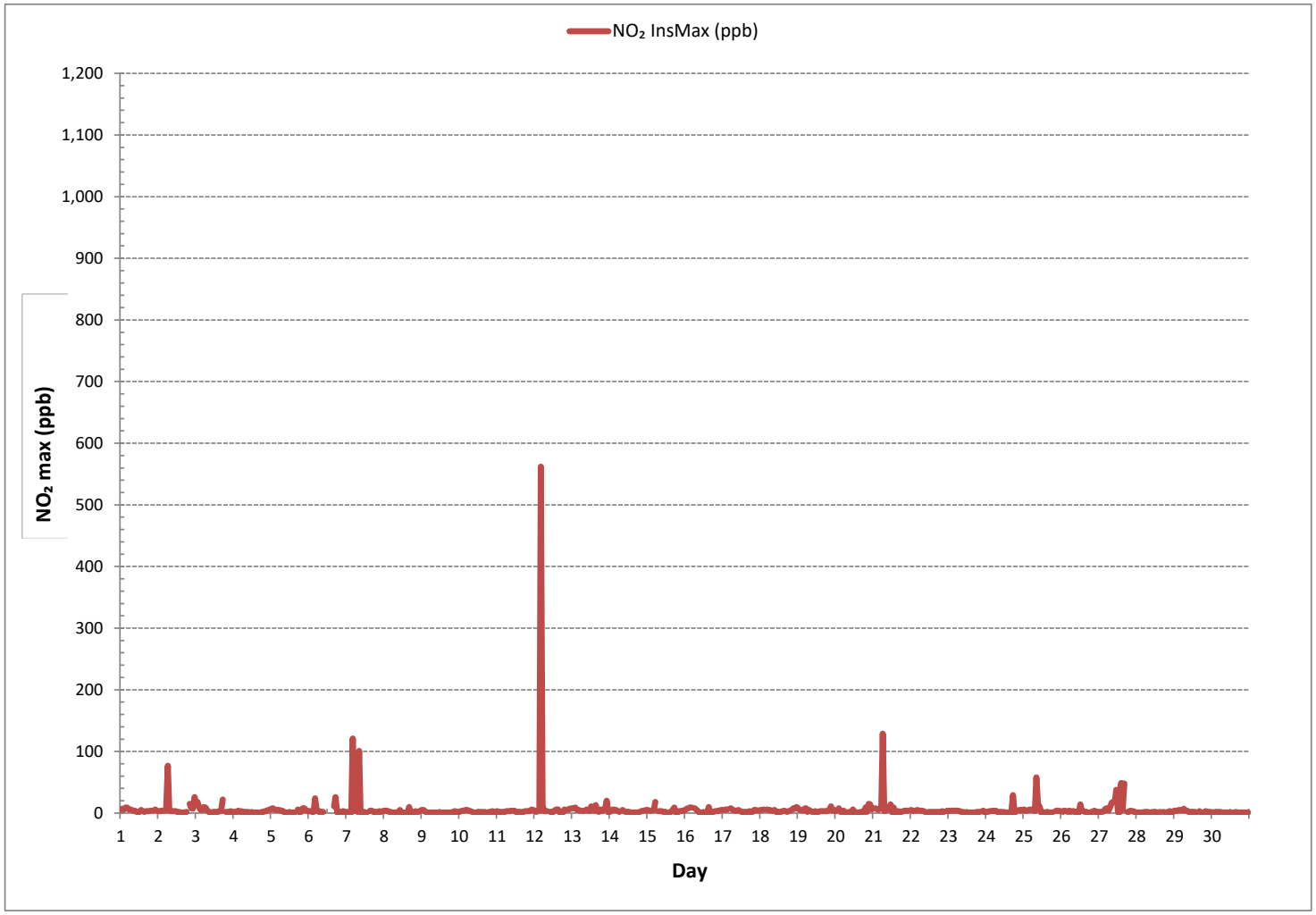
MAXIMUM INSTANTANEOUS VALUE: 562 ppb @ HOUR 4 ON DAY 12

VAR-VARIOUS

IZS CALIBRATION TIME: 30 hrs
MONTHLY CALIBRATION TIME: 6 hrs
STANDARD DEVIATION: 23

OPERATIONAL TIME: 720 hrs

NITROGEN DIOXIDE Instantaneous Maximum (NO_2 ppb)



OZONE Instantaneous Maximum (O_3 ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	23.6	22.1	22.0	23.8	23.7	23.0	24.4	32.1	37.1	40.6	47.6	50.9	51.3	54.1	56.1	58.9	63.3	64.3	63.0	59.4	S	55.8	55.9	46.0	22.0	64.3	43.4	24
2	43.0	42.1	39.7	38.5	34.8	32.8	30.2	32.0	33.8	44.0	46.3	49.2	52.3	54.6	55.2	54.3	55.3	51.0	49.9	S	42.2	41.1	33.2	23.8	23.8	55.3	42.6	24
3	19.8	25.6	32.5	39.4	44.2	43.3	26.8	36.4	44.0	47.3	46.2	46.4	45.5	49.3	50.4	43.9	47.5	45.7	S	46.2	46.2	45.7	39.8	35.8	19.8	50.4	41.2	24
4	38.1	34.1	39.8	38.9	31.1	26.5	29.8	35.1	38.0	39.6	40.4	40.6	39.4	40.6	43.9	46.1	44.9	S	45.8	48.6	43.9	42.9	39.1	32.8	26.5	48.6	39.1	24
5	30.7	27.9	26.2	22.8	20.3	19.1	25.7	33.2	36.5	37.5	37.5	38.2	39.8	40.5	41.4	43.9	S	45.2	45.7	45.0	43.5	42.7	31.7	31.7	19.1	45.7	35.1	24
6	31.9	29.9	28.1	27.8	22.9	24.1	24.3	25.0	24.6	20.9	19.8	21.7	21.2	23.8	24.3	S	22.9	22.7	24.0	23.8	23.6	23.8	23.6	24.1	19.8	31.9	24.3	24
7	22.5	21.3	20.5	20.7	20.3	19.4	19.1	17.4	C	C	C	C	C	17.9	S	18.7	23.5	24.4	21.3	18.7	18.4	15.8	15.9	15.5	15.5	24.4	19.5	24
8	14.1	13.0	15.1	16.3	16.8	17.3	19.1	21.1	24.3	25.3	27.6	27.6	28.4	S	30.4	30.3	30.0	30.8	30.1	28.4	26.1	22.9	22.4	19.9	13.0	30.8	23.4	24
9	18.4	16.2	26.0	29.5	29.1	29.3	28.9	28.4	30.9	33.9	35.5	37.8	S	38.1	39.1	39.6	40.6	40.7	39.8	39.6	36.2	33.3	31.7	31.4	16.2	40.7	32.8	24
10	30.0	23.3	18.4	16.9	17.0	17.9	21.3	23.6	29.1	30.1	32.6	S	35.7	32.8	35.6	35.6	34.3	39.0	38.6	31.8	33.6	28.1	26.2	23.5	16.9	39.0	28.5	24
11	21.5	20.5	19.5	18.3	17.9	18.3	18.5	20.7	24.4	32.5	S	40.8	39.3	39.0	38.9	38.8	38.5	37.7	34.5	33.5	30.6	28.3	26.2	25.3	17.9	40.8	28.8	24
12	27.0	26.4	26.8	29.8	29.2	19.0	26.2	24.6	28.7	S	35.9	37.0	36.1	35.9	37.4	38.0	35.7	36.3	36.2	35.5	36.2	32.2	32.1	21.8	19.0	38.0	31.5	24
13	24.3	29.0	33.0	31.0	22.9	25.6	24.6	22.4	S	24.3	28.2	31.6	35.4	39.1	39.3	32.9	32.8	30.5	33.2	27.8	28.0	42.3	40.4	35.3	22.4	42.3	31.0	24
14	27.4	23.9	18.6	16.6	17.9	18.1	20.1	S	24.3	27.5	37.5	40.6	36.7	36.8	37.8	36.6	36.2	34.9	40.1	40.9	37.2	31.5	30.5	29.5	16.6	40.9	30.5	24
15	24.0	22.1	21.4	21.4	16.7	18.5	S	23.1	26.0	27.6	35.1	36.5	36.3	31.1	34.8	34.1	35.0	34.7	37.2	35.3	35.8	29.9	23.3	19.4	16.7	37.2	28.7	24
16	14.4	14.2	10.3	8.6	7.6	S	14.7	26.4	31.4	33.3	36.1	35.2	36.5	36.4	38.4	38.0	38.3	35.8	35.5	32.1	30.8	27.4	26.3	25.3	7.6	38.4	27.5	24
17	22.6	20.5	20.2	18.1	S	16.9	22.5	24.5	26.6	30.9	39.3	48.4	52.0	52.6	54.2	54.1	53.6	52.2	51.3	51.0	48.2	45.1	46.3	46.1	16.9	54.2	39.0	24
18	42.4	41.4	39.6	S	35.3	35.5	36.2	39.3	44.7	50.3	54.0	54.5	56.6	58.9	59.9	57.4	49.3	47.1	42.3	39.3	38.4	35.1	31.4	27.8	27.8	59.9	44.2	24
19	28.8	40.8	S	46.6	46.7	45.7	43.8	38.4	38.3	43.5	45.7	44.9	44.7	48.5	**74.0**	65.3	47.6	48.3	49.3	48.1	46.8	45.2	32.1	28.8	28.8	**74.0**	45.3	24
20	30.7	S	32.0	36.9	46.4	46.7	46.1	45.1	45.3	49.3	49.3	47.0	46.9	45.4	48.2	46.6	45.4	44.4	46.2	46.4	35.7	33.1	23.9	21.3	21.3	49.3	41.6	24
21	S	19.3	28.2	23.2	20.1	25.0	27.0	30.7	40.0	41.1	45.3	47.5	48.8	46.3	52.1	52.3	53.1	53.3	44.1	41.5	38.8	31.1	32.3	S	19.3	53.3	38.2	24
22	31.6	34.4	34.0	27.4	23.3	21.8	21.8	21.1	24.6	30.6	34.3	35.8	40.5	46.0	40.3	34.5	34.2	33.0	32.3	29.7	25.1	22.7	S	20.1	20.1	46.0	30.4	24
23	20.1	16.9	16.5	16.3	15.0	15.6	18.5	20.1	21.6	28.6	34.2	40.0	39.3	37.5	36.5	37.5	38.0	37.3	38.1	33.2	33.0	S	26.6	26.9	15.0	40.0	28.1	24
24	23.7	21.3	18.6	18.1	17.1	16.3	20.7	24.8	25.0	28.0	29.5	34.2	38.4	34.2	31.2	31.3	30.3	34.6	33.8	32.4	S	25.3	20.6	19.0	16.3	38.4	26.4	24
25	16.9	15.7	14.3	13.4	9.3	11.0	16.1	19.3	21.2	33.1	33.4	38.2	38.7	36.0	36.5	39.0	37.1	38.0	38.5	S	30.7	27.5	23.9	33.2	9.3	39.0	27.0	24
26	31.1	28.7	24.9	22.2	21.3	17.4	22.6	38.2	35.7	37.3	38.1	37.3	39.7	36.7	37.9	36.6	40.5	37.2	S	32.7	31.0	29.5	23.6	25.2	17.4	40.5	31.5	24
27	19.0	20.7	15.4	12.4	10.6	12.3	15.1	27.1	33.5	35.6	37.5	38.3	41.8	42.1	44.3	42.0	40.0	S	37.5	30.7	30.7	23.9	24.6	24.2	10.6	44.3	28.7	24
28	22.8	22.9	22.3	21.8	21.6	21.3	21.0	19.8	20.1	20.3	23.8	27.5	36.2	38.0	35.4	31.8	S	45.7	45.6	43.6	40.1	28.9	25.9	28.4	19.8	45.7	28.9	24
29	24.4	21.4	19.4	22.2	22.3	20.3	20.2	19.4	19.7	24.2	24.5	27.5	34.4	42.7	46.3	S	54.8	40.4	43.4	40.8	36.8	32.6	28.5	25.3	19.4	54.8	30.1	24
30	27.8	27.7	25.1	22.0	20.8	20.2	21.1	22.5	25.6	29.8	31.8	32.5	33.7	40.6	S	35.9	36.1	33.7	33.3	31.0	27.3	27.2	27.8	28.0	20.2	40.6	28.8	24
HOURLY MAX	43.0	42.1	39.8	46.6	46.7	46.7	46.1	45.1	45.3	50.3	54.0	54.5	56.6	58.9	74.0	65.3	63.3	64.3	63.0	59.4	48.2	55.8	55.9	46.1				
HOURLY AVG	26.0	24.9	24.4	24.2	23.5	23.4	24.4	27.3	30.5	33.8	36.7	38.8	40.2	40.5	42.9	41.2	40.7	40.0	39.7	37.4	34.8	32.8	29.9	27.4				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

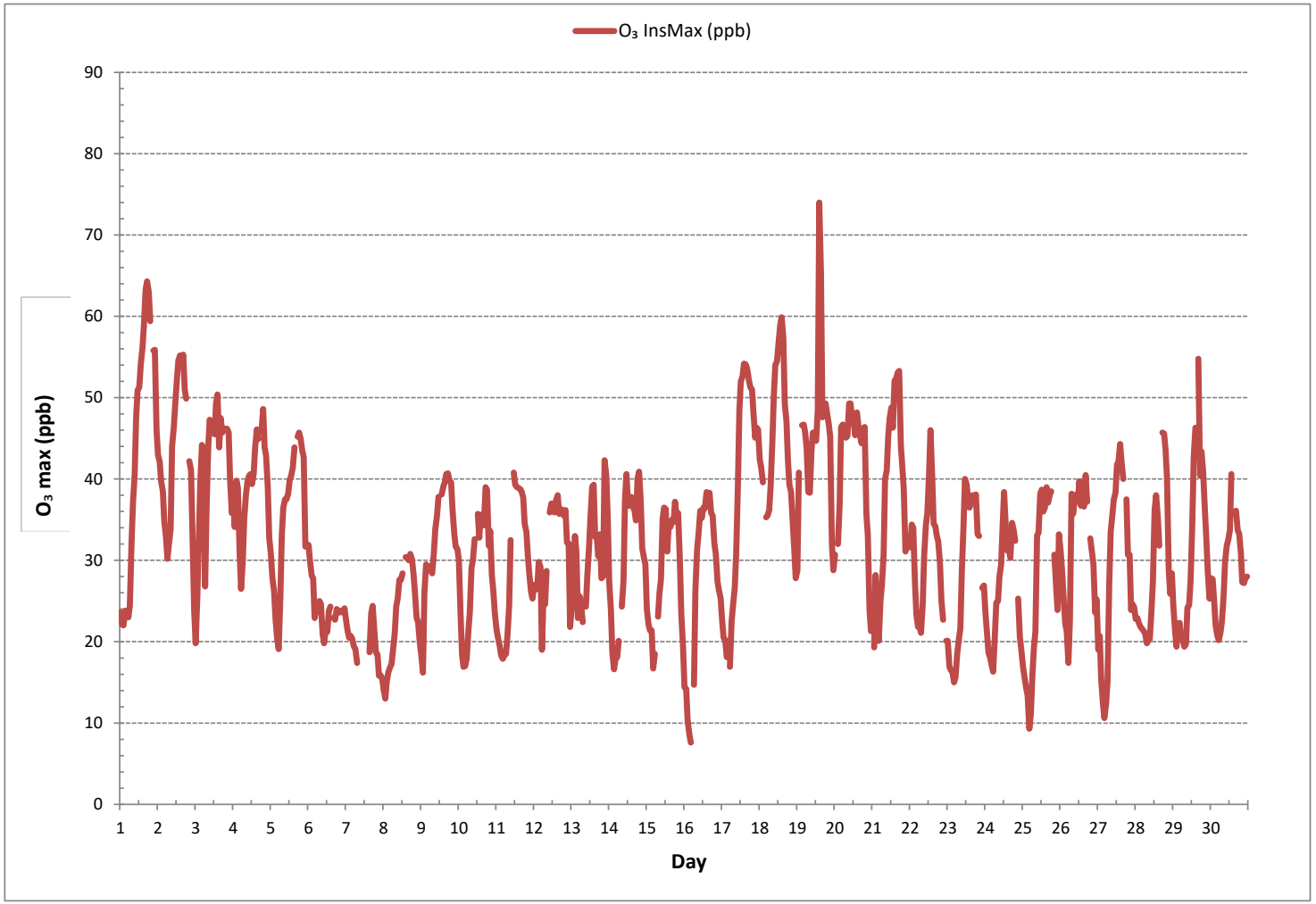
NUMBER OF NON-ZERO READINGS: 684

MAXIMUM INSTANTANEOUS VALUE: 74.0 ppb @ HOUR 14 ON DAY 19

IZS CALIBRATION TIME: 31 hrs
MONTHLY CALIBRATION TIME: 5 hrs
STANDARD DEVIATION: 10.8

OPERATIONAL TIME: 720 hrs

OZONE Instantaneous Maximum (O_3 ppb)



WIND SPEED Instantaneous Maximum (WS kph)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	15.2	14.9	11.8	10.4	10.5	13.3	11.9	14.4	21.8	30.7	26.8	32.4	36.7	31.6	35.8	30.2	34.0	30.2	22.2	20.4	21.9	36.2	31.8	37.2	10.4	37.2	24.3	24
2	39.2	38.7	31.7	35.4	19.0	20.9	18.0	16.9	19.5	23.1	25.0	19.8	21.2	24.9	21.8	20.7	19.8	16.2	12.7	6.5	10.5	11.8	5.5	17.7	5.5	39.2	20.7	24
3	9.4	11.9	13.3	17.3	16.9	11.3	12.7	23.3	22.9	25.9	18.8	28.0	28.0	25.5	36.6	40.2	42.1	41.0	31.9	26.3	21.4	21.8	16.0	29.0	9.4	42.1	23.8	24
4	24.5	18.0	23.2	18.4	20.8	18.1	20.7	24.2	32.0	36.6	40.3	41.2	41.0	41.4	38.8	37.6	27.7	28.4	**57.0**	29.8	18.3	15.2	14.0	11.3	11.3	**57.0**	28.3	24
5	9.8	12.0	12.6	12.6	17.1	15.3	15.5	18.1	19.4	24.7	23.0	25.6	29.8	24.4	26.5	22.6	19.4	16.0	12.1	4.6	7.5	16.8	24.3	25.7	4.6	29.8	18.1	24
6	24.2	25.5	17.2	16.2	13.4	23.9	23.6	27.3	29.5	31.1	30.0	35.1	34.0	42.1	37.1	33.4	37.2	37.8	36.8	31.8	29.7	25.3	24.5	31.9	13.4	42.1	29.1	24
7	34.4	32.1	31.0	34.6	32.9	30.3	26.4	32.3	32.3	29.4	33.1	43.7	43.6	43.9	38.1	26.0	36.2	49.4	39.3	42.6	42.7	19.0	23.5	21.0	19.0	49.4	34.1	24
8	19.5	21.5	25.8	24.2	27.1	23.9	28.3	22.2	30.6	32.4	38.5	36.5	44.5	35.5	36.8	32.7	28.4	26.7	29.7	22.7	17.3	12.9	15.2	12.1	12.1	44.5	26.9	24
9	8.7	9.4	26.5	27.9	24.6	20.9	22.9	20.9	29.9	29.4	28.3	23.5	29.2	32.6	34.4	23.3	20.3	23.0	13.3	18.2	7.0	9.7	12.1	14.7	7.0	34.4	21.3	24
10	22.5	15.1	13.6	15.1	16.3	17.7	25.5	24.1	32.0	34.7	32.9	33.2	50.5	37.9	46.6	15.8	32.2	19.7	18.7	15.7	12.8	13.9	12.2	10.6	10.6	50.5	23.7	24
11	11.6	11.8	12.0	12.0	15.3	19.1	17.2	14.5	12.3	13.3	11.3	13.2	15.9	19.0	14.4	19.0	20.3	19.4	11.4	34.5	20.9	14.6	16.0	14.0	11.3	34.5	16.0	24
12	22.2	17.5	11.6	18.0	11.8	7.0	14.8	11.4	12.9	10.7	14.2	17.7	19.4	13.5	13.3	13.3	20.2	15.8	12.8	11.6	9.6	11.2	10.9	9.5	7.0	22.2	13.8	24
13	7.9	4.6	12.8	30.7	32.5	32.1	22.5	14.9	12.6	17.0	16.7	11.1	11.6	10.7	16.5	23.9	21.8	19.2	13.8	11.9	6.7	53.6	16.1	11.2	4.6	53.6	18.0	24
14	14.8	19.5	12.0	13.3	15.2	12.6	12.7	15.0	22.4	22.4	34.8	34.5	32.5	31.2	24.3	27.1	29.1	29.2	33.3	28.1	15.2	14.1	9.7	14.6	9.7	34.8	21.6	24
15	15.2	16.8	16.0	15.6	15.1	15.0	14.4	13.4	16.2	12.0	16.2	21.7	26.9	26.5	36.9	28.3	29.8	28.9	21.0	9.4	5.3	7.8	8.1	6.8	5.3	36.9	17.6	24
16	4.0	6.5	4.8	7.9	5.7	7.2	11.2	12.2	12.5	13.5	13.2	16.6	17.4	19.1	14.8	13.6	18.8	17.6	20.4	26.0	26.8	22.6	23.0	22.8	4.0	26.8	14.9	24
17	20.7	13.8	16.1	16.4	15.4	22.5	24.2	16.5	18.8	18.9	22.8	27.3	22.8	26.7	29.8	28.2	26.9	21.0	25.1	24.7	19.7	24.9	31.0	32.0	13.8	32.0	22.8	24
18	27.5	30.8	30.3	26.4	25.0	25.2	22.6	26.9	25.9	26.7	29.0	26.2	25.9	24.0	19.3	44.0	42.0	25.6	15.8	10.0	8.9	10.7	11.2	10.4	8.9	44.0	23.8	24
19	9.6	12.6	14.5	8.3	11.1	13.8	14.2	18.3	24.2	31.6	36.2	37.6	40.9	38.7	53.5	32.9	17.4	12.2	11.5	12.3	13.7	9.7	8.6	13.1	8.3	53.5	20.7	24
20	11.4	9.7	26.9	32.2	49.9	49.8	54.3	42.5	36.3	25.1	19.8	19.4	32.1	30.8	23.8	25.9	21.5	27.7	42.3	39.0	9.7	10.1	7.7	9.8	7.7	54.3	27.4	24
21	6.8	7.2	10.0	8.4	14.9	8.4	12.2	8.4	12.5	16.1	14.0	22.5	31.7	13.3	23.0	25.6	25.5	32.1	26.7	19.8	13.6	13.4	14.1	14.9	6.8	32.1	16.5	24
22	12.5	14.8	15.1	14.0	16.1	15.9	16.4	21.6	25.3	22.0	30.8	28.5	32.5	56.6	21.8	23.4	19.4	23.3	19.7	19.1	15.4	19.1	16.4	17.5	12.5	56.6	21.5	24
23	15.2	11.4	12.6	12.7	12.4	20.6	17.4	15.3	15.7	19.3	20.2	21.9	19.2	21.6	36.5	26.4	10.8	24.4	26.8	13.6	13.2	19.5	21.4	22.6	10.8	36.5	18.8	24
24	21.7	18.3	16.5	14.9	13.6	15.0	16.7	19.1	18.1	24.8	19.7	25.4	25.5	22.8	16.4	17.3	16.7	32.1	11.7	10.1	9.3	8.9	9.0	8.7	8.7	32.1	17.2	24
25	8.5	10.1	12.3	8.9	8.4	10.7	10.9	10.0	8.9	12.0	17.7	23.0	21.9	14.4	31.1	26.8	8.9	8.2	9.9	7.7	10.4	8.4	10.2	9.4	7.7	31.1	12.9	24
26	6.8	7.5	8.4	9.4	10.0	2.8	7.8	8.8	7.9	12.7	15.4	13.5	12.8	17.8	19.9	16.5	19.8	7.8	12.0	13.9	9.1	11.5	5.3	7.6	2.8	19.9	11.0	24
27	10.1	10.8	9.4	6.1	7.2	7.8	9.3	8.6	14.2	15.3	15.9	16.7	17.2	17.4	18.5	16.1	20.8	23.2	26.6	25.9	22.1	14.8	20.0	25.7	6.1	26.6	15.8	24
28	27.1	28.9	30.8	33.2	32.9	19.5	31.7	37.9	30.7	30.8	30.7	31.0	33.4	36.1	33.9	31.8	37.2	34.9	31.8	22.5	26.5	35.0	18.9	15.2	15.2	37.9	30.1	24
29	18.2	15.6	8.5	10.0	9.7	10.3	11.2	10.5	11.1	14.0	10.6	12.1	10.7	46.8	45.4	19.8	39.0	42.8	38.0	28.7	19.4	11.7	13.1	14.1	8.5	46.8	19.6	24
30	23.3	26.8	28.4	24.1	24.8	22.8	28.7	25.2	24.8	29.2	33.8	33.0	34.4	52.1	26.7	35.2	31.0	24.0	27.2	16.8	16.5	18.7	20.6	19.0	16.5	52.1	27.0	24
HOURLY MAX	39.2	38.7	31.7	35.4	49.9	49.8	54.3	42.5	36.3	36.6	40.3	43.7	50.5	56.6	53.5	44.0	42.1	49.4	57.0	42.6	42.7	53.6	31.8	37.2				

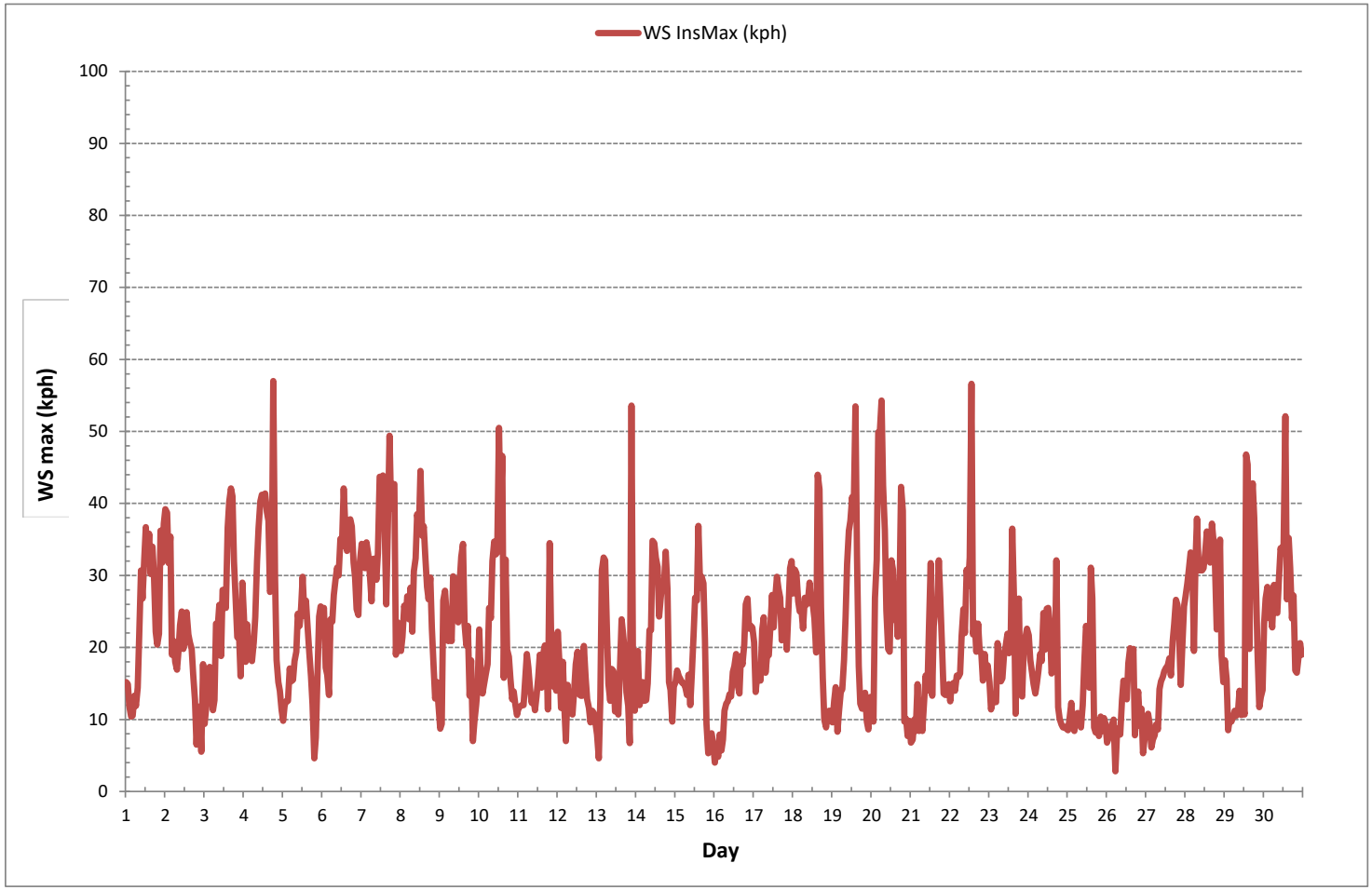
STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS VALUE:	57.0	kph	@ HOUR	18	ON DAY	4
OPERATIONAL TIME:					720	hrs

WIND SPEED Instantaneous Maximum (WS kph)



1.0 Quality Control Activities

Quality control procedures are established to govern the performance of the monitoring equipment and to protect operational uptime. Data collected during QC/QA activities are assigned a data validation code to comply with the requirements outlined in Chapter 6, 4.1.1, DQ 4-A (AMD, 2016). Calibrations are deemed successful only if the AMD calibration acceptance limits are met (Chapter 7, 9.0, AMD 2016).

A daily zero-span test procedure is performed for each gaseous parameter by challenging the analyzer with a zero-air source and span gas. Daily review of the data ensures the zero and span check are within the required acceptance limits and do not deviate more than ±10% from the expected value. The total zero-span cycle is complete within an hour with the zero phase commencing at the beginning of the scheduled hour. This QC activity is conducted in accordance with Chapter 7, 4.0, Cal 4-A (AMD, 2016).

The allowable time for a zero-span check is one hour per calendar day. The time allotted for the zero-span check does not contribute to downtime and is identified with a data validation code of "S". If any additional zero-span response checks are performed, the time accrued during the QC activity is considered downtime and is identified with a data validation code of "S1". The initiation of an additional zero-span check may be warranted during the investigation of operational issues or suspect data.

Each month, a scheduled multipoint calibration is performed on each gas analyzer. Prior to any adjustments, an as-found response test is completed to obtain the zero reading of the analyzer and the response to the highest span concentration. The zero and high point test gases are then re-introduced into the analyzer to establish the zero and high set-points. Once these adjustments are satisfactory, a mid-point and a low-point test concentration is introduced. Additional multi-point calibrations are required if any of the conditions, outlined in Chapter 7, 2.1, Cal 2G (AMD, 2016) exist.

The time allotted for the first multi-point calibration is not considered downtime and is identified with a data validation code of "C". If any additional as-found response checks or multipoint calibrations are performed, the time accrued during the QC activity is considered downtime and is identified with a data validation code of "C1".

A mechanical wind system undergoes annual calibration, as a minimum, while an ultrasonic wind system is factory calibrated every two years (Chapter 6, 6.0, Cal 6-A, AMD 2016). Supplementary to this, a visual inspection of the equipment is performed during each scheduled monthly site visit.

The time allotted for the wind system calibration is not considered downtime and is identified with a data validation code of "C". If function checks or additional calibrations are performed, the time accrued during the QC activity is not considered downtime and is identified with a data validation code of "Q" and "C", respectively. If QC activity goes beyond 10% of the monthly operating time, the time exceeding 10% is considered downtime and is assigned a data validation code of "C1". Data identified with a data validation code of "Q" is in accordance with Chapter 6, 4.1.3 (AMD, 2016) which states QA/QC activities are not included when calculating data completeness.

High volume samplers are calibrated every three months, as a minimum, in accordance with Chapter 7, 7.0, Cal 7-B (AMD, 2016).

Where passive sampling is in practice, quality control samples will be deployed in accordance with Chapter 4, 3.0, 3.1.3. Method blanks, replicate samples and spiked blanks are exposed and handled in the same manner as each passive sample. To comply with the data submission requirements in Chapter 9, 3.1, the replicate and corresponding passive sample concentrations are reportable data values and have not been averaged.

As recommended in Chapter 6, 4.2 (AMD 2016), daily data review is conducted to verify data and avoid significant data losses. Automated flags, originating from the data-logger, and data anomalies are reviewed and may prompt the need to dispatch a technician for investigation and/or corrective action. Additionally, there are several automated alarm scenarios that serve to screen raw data, alert technicians and elicit investigation or corrective action.

Comparisons of the measured ambient concentrations to the corresponding AAAQO are assessed using the significant figures protocol in Chapter 9, 3.1.2. If the measurement is near the set objective, raw data may undergo necessary data adjustments to confirm a true exceedance. Should an exceedance occur, Bureau Veritas will formally notify the client; however, the reporting protocol to AEP is defined by the client and may not involve Bureau Veritas. Exceedance events are acknowledged in the report, based on the information available at the time.

2.0 Data Verification and Validation

The data validation procedures, outlined in Chapter 6, 4.0, AMD 2016, are used to accept, reject and qualify data. The data verification and validation process, and the current Data Collection and Management Process Flow Chart have been compiled from sections 4.2 to 4.6 (AMD, 2016) and are shown below.

Baseline adjustments are applied by interpolation between two valid zero checks, as determined by the Data Acquisition System. In the event that zero check results are not reliable, data may be adjusted by applying a constant offset to data collected between two adjacent zero checks. Both adjustment approaches are deemed acceptable by the AMD.

Table 1 (Chapter 6) outlines the quantitative parameter relationships to be considered and dictates that data adjustments are applied equally for NO/NO_2/NOx and CH_4/NMHC/THC parameters. Below zero adjustments are applied to 1-hour averages, in accordance with Table 2 (Chapter 6), and are done after baseline corrections.

Instantaneous data, where provided, is provided for reference purposes and has not undergone zero correction. The minimum and maximum statistics are highlighted in the data table and are for reference only. The highlighted cells are based on the software's interpretation of the exact position of the minimum or maximum value. The visual presentation of these statistics may not be the obvious choice in a data range due to rounding, truncating or analyzer specifications.

All calculations and reporting of results follow the methods described in the AMD, 2016.

There were no deviations from the prescribed methods.

AMD Data Verification and Validation Process

The following steps were used to complete the data verification and validation process:

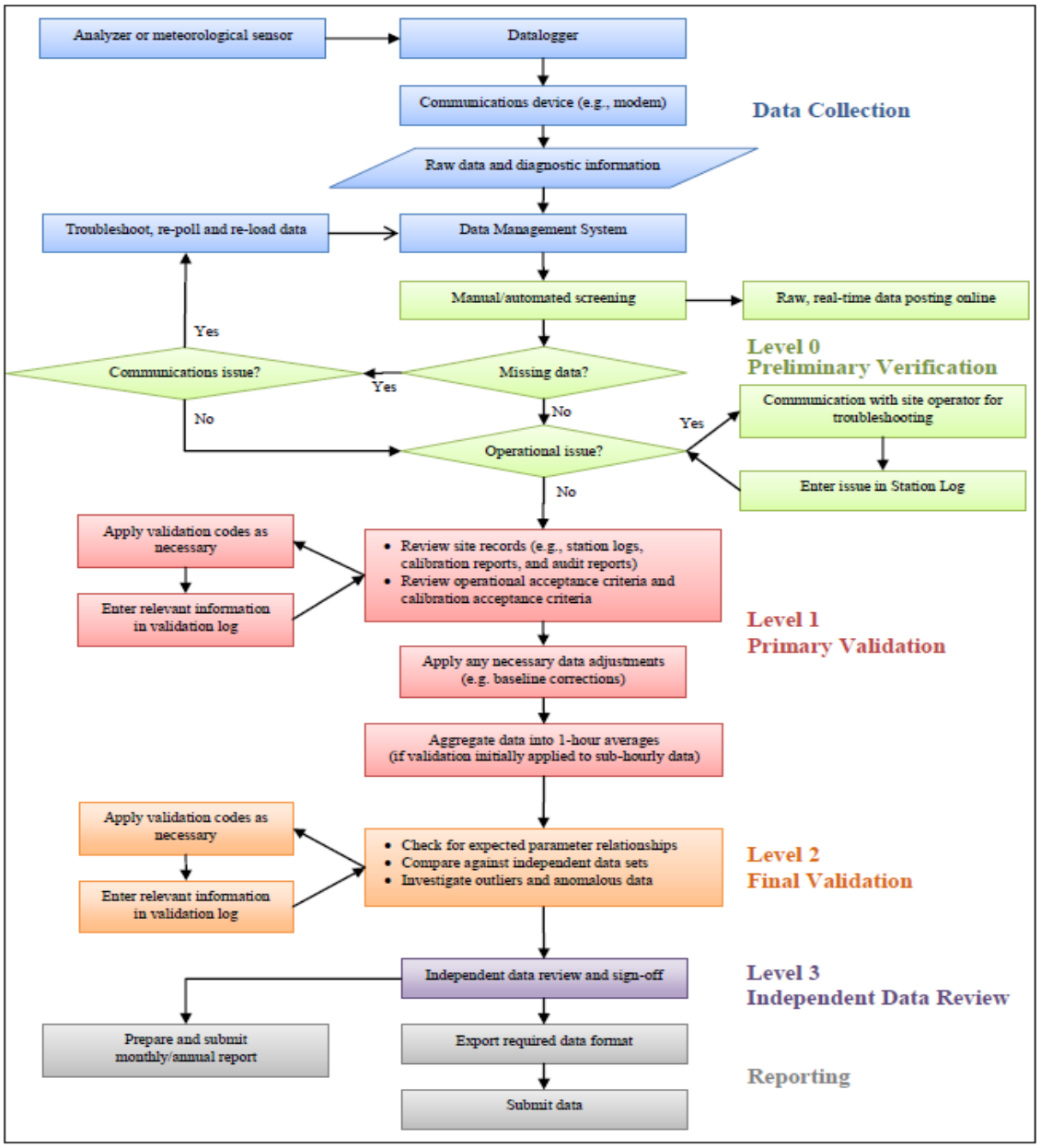
Level 0 Preliminary Verification	Level 0 data are raw data obtained directly from the data acquisition system (DAS). At this level, data undergoes a certain amount of manual or automated screening and flagging. Screening checks include: a) identification of periods of missing data; b) verification of time stamps against reference time; c) verification that instrument diagnostics/data-logger flags indicate normal operation; d) comparison of data to upper and lower limits; e) rate of change flagging indicating that data changed too rapidly or not at all; and f) verification that zero, span and multipoint performance checks are within specifications. This level of verification is performed on a daily basis.

Level 1 Primary Validation	Primary validation involves more thorough evaluation and documentation of issues identified during data screening, along with appropriate application of data validation codes. Level 1 activities include: a) review of all screening flags assigned during preliminary verification; b) review of all supporting site information and documentation; c) review of operational acceptance limits for each parameter/analyzer; d) review of daily zero/span and monthly calibration results for all gaseous parameters; and e) application of any necessary adjustments to data (e.g. baseline adjustments, below zero adjustments). This level of validation is performed on a monthly basis.

Level 2 Final Validation	The purpose of Level 2 validation is to verify that there are no inconsistencies among related data, or among regional data measured at nearby sites. At this level of review, some general knowledge of pollutant and meteorological behavior can be used to determine if data is suspect.

Level 3 Independent Data Review	Level 3 validation involves a final cursory review of validated data, and is completed by an individual independent of both field operations and primary data validation. At this level, a final independent QA review/endorsement is performed before data is submitted to Alberta Environment and Parks.

Post-Final Validation	The Post-Final Validation step serves to re-evaluate validated data for errors or omissions discovered and/or suspected after the initial monthly data submittal. This level of validation is performed on an annual basis, when annual reporting is required or requested.



Source: Air Monitoring Directive (December 2016), Chapter 6, Ambient Data Quality
Figure 1 Data Collection and Management Process Flow Chart

Validation Certificate Form

Client: Lakeland Industry & Community Association **Project #:** 2833-2019-06-39-C
Site: Bonnyville East Continuous Monitoring Station **Contact:** Mike Bisaga

Level 0 Preliminary Verification	bimadeniji	**Date**	19- Jul- 2019
Level 1 Primary Validation	bimadeniji	**Date**	19- Jul- 2019
Level 2 Final Validation	bimadeniji	**Date**	22- Jul- 2019
Level 3 Independent Data Review	[illegible]	**Date**	24- Jul- 2019
Post-Final Validation	**NA**	**Date**	**NA**

Notes

The Post-Final Validation step serves to re-evaluate the data that errors or omissions are discovered and/or suspected after the initial submittal of data. This validation is performed on an annual basis.

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JUNE 1 - 30, 2019
MONTHLY CALIBRATION REPORT
Project #: 2833-2019-06-23-C
LICA-201906

Prepared for:

Lakeland Industry & Community Association

Mike Bisaga

5107 50 St.

Bonnyville, Alberta T9N 2J7

monitoring@lica.ca

780-266-7068

Monitoring Station

Cold Lake South Continuous Monitoring Station

Date of Report Issuance: July 31, 2019

#1 - 2080 39 Avenue NE, Calgary AB, T2E 6P7

SO2 Analyzer Calibration by Dilution

DATE:	11-Jun-2019	PREVIOUS CALIBRATION DATE:	14-May-2019
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Cold Lake South	BAROMETRIC (mBar):	953
PURPOSE	Routine	START TIME (MST):	08:52
PERFORMED BY:	Alex Yakupov	END TIME (MST):	13:37

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1180026018	FLOW (mL/min)	453
INITIAL		FINAL	
BKG/OFFSET	1.82	BKG/OFFSET	1.79
COEF/SLOPE	1.004	COEF/SLOPE	0.987
Expected (reference) Value	266	Expected (reference) Value	264

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	API	MAKE:	Teledyne
MODEL:	700	MODEL:	T701
ID:	690	ID:	132
MFC CALIBRATION DATE:	16-Apr-2019	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL 107918	HIGH ID	n/a
CONC (ppm):	49.5	EXPIRY DATE	n/a
CYLINDER (psi):	1400	LOW ID	n/a
EXPIRY DATE	20-Aug-2026	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

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

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
5000		5000	0.00	0	0		
4962	37.90	5000	375.21	377	375	0.995	1.001
4982	18.00	5000	178.20	n/a	178	n/a	1.001
4991	8.90	5000	88.11	n/a	89	n/a	0.990

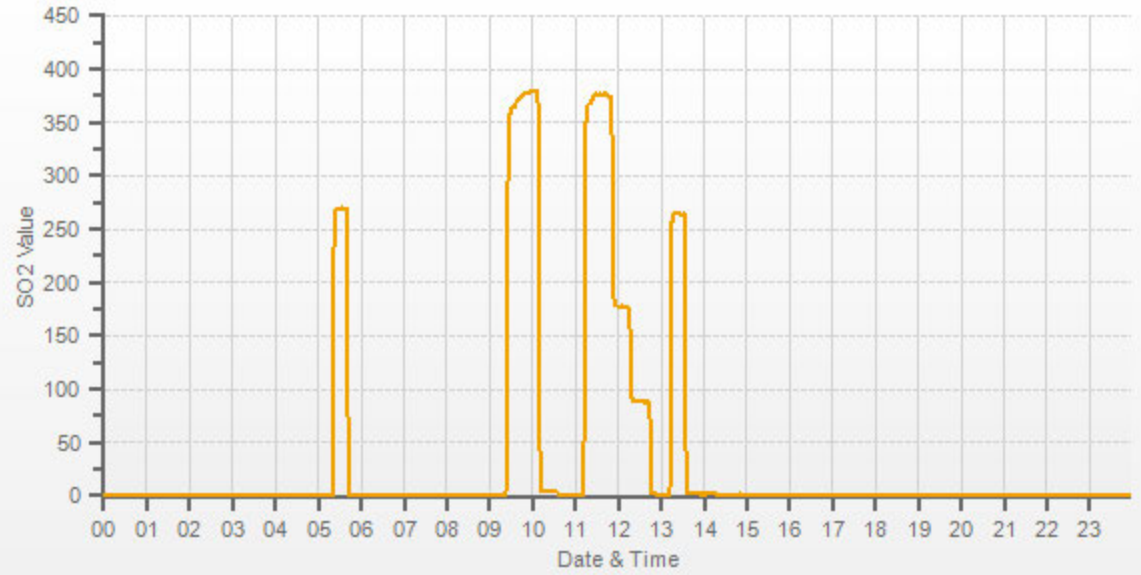
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.999	0.1%

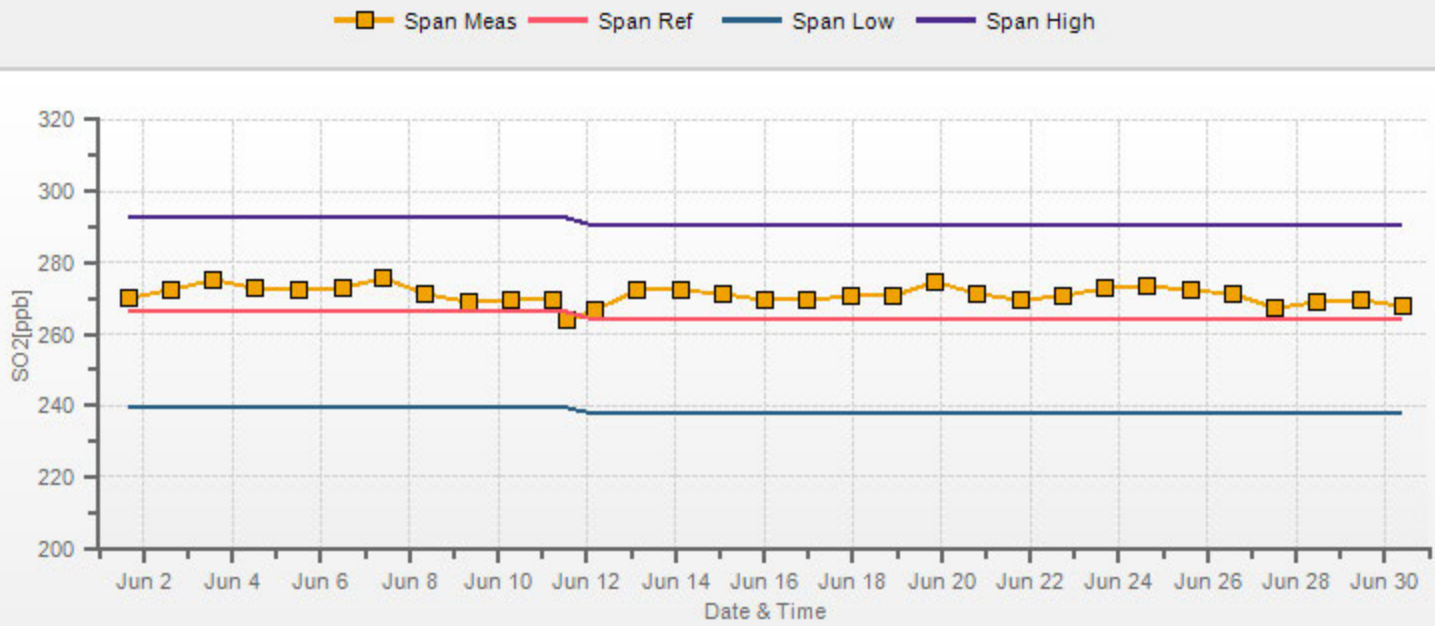
COMMENTS:

The sample inlet filter was changed.

SO2[ppb] Station: LICA COLD LAKE SOUTH Daily: 19/06/11 Type: AVG 1 Min. [1 Min.]



SO2[ppb] Calibration: LICA COLD LAKE SOUTH Monthly: 19/06 Type: Span



TRS Analyzer Calibration by Dilution

DATE:	11-Jun-2019	PREVIOUS CALIBRATION DATE:	14-May-2019
PARAMETER:	TRS	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Cold Lake South	BAROMETRIC (mBar):	953
PURPOSE	Routine	START TIME (MST):	08:52
PERFORMED BY:	Alex Yakupov	END TIME (MST):	13:10

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	812728560	FLOW (mL/min)	489
INITIAL		FINAL	
BKG/OFFSET	15.9	BKG/OFFSET	15.9
COEF/SLOPE	0.912	COEF/SLOPE	0.916
Expected (reference) Value	37.8	Expected (reference) Value	37.5

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	16-Apr-2019	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0001003	HIGH ID	n/a
CONC (ppm):	9.55	EXPIRY DATE	n/a
CYLINDER (psi):	900	LOW ID	n/a
EXPIRY DATE	20-Oct-2020	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:	08:55	SO2 Conc (ppb)	380
END TIME:	09:10	Analyzer Response (ppb)	0.0

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
7500		7500	0.00	0	0		
7439	61.20	7500	77.93	77.2	77.9	1.009	1.000
7470	29.80	7500	37.95	n/a	38	n/a	0.999
7485	14.90	7500	18.97	n/a	18.9	n/a	1.004

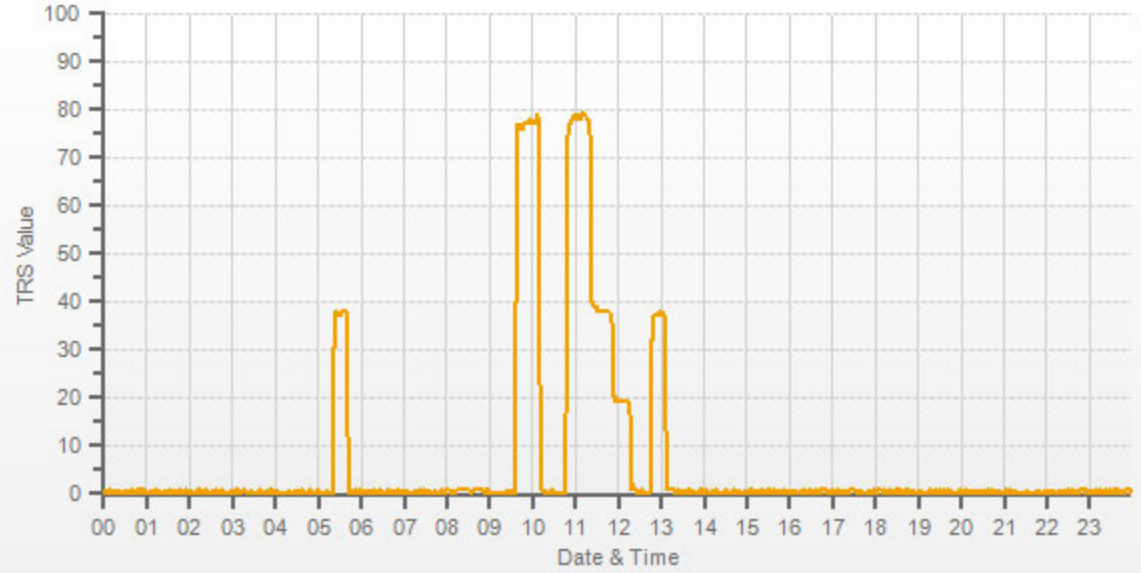
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	0.0%

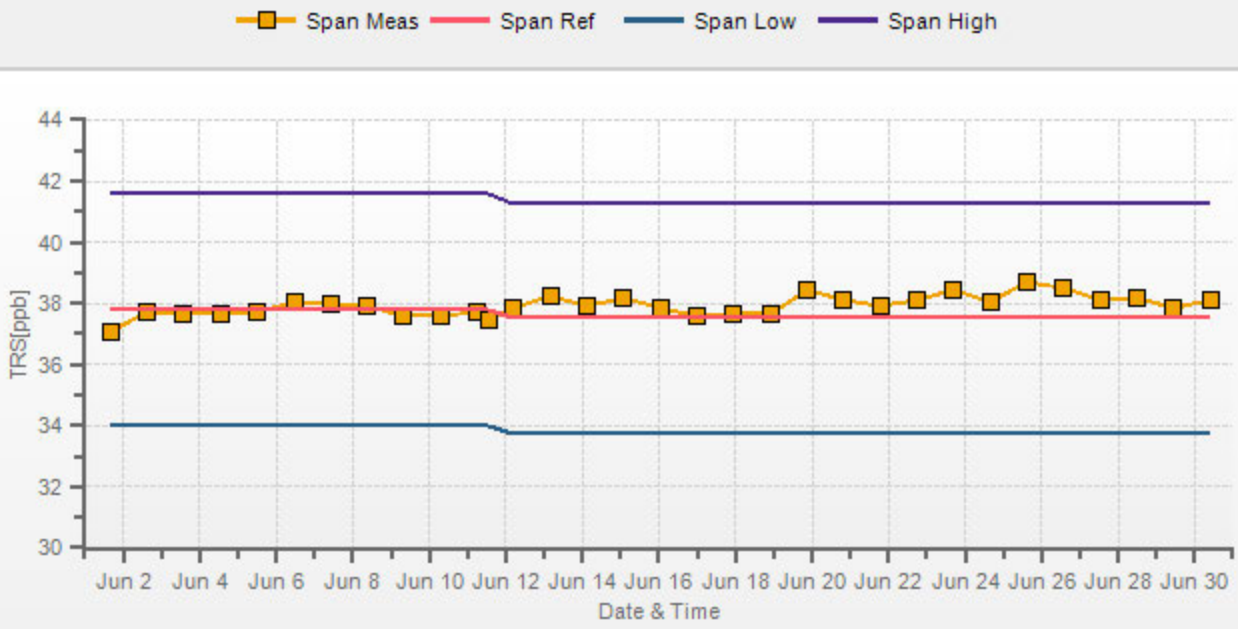
COMMENTS:

The sample inlet filter was changed.

TRS[ppb] Station: LICA COLD LAKE SOUTH Daily: 19/06/11 Type: AVG 1 Min. [1 Min.]



TRS[ppb] Calibration: LICA COLD LAKE SOUTH Monthly: 19/06 Type: Span



Methane/Non-Methane Analyzer Calibration by Dilution

CALIBRATION:

DATE:	11-Jun-2019	PREVIOUS CALIBRATION DATE:	14-May-2019
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Cold Lake South	BAROMETRIC (mBar):	953
PURPOSE	Removal/Shut-down	START TIME (MST):	10:48
PERFORMED BY:	Alex Yakupov	END TIME (MST):	16:44

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	1236656107	1164
PARAMETER:	CH4	NMHC	THC
RANGE (ppm):	20	20	40
PREVIOUS CF:	1.000	1.000	1.000

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 29687		HIGH ID:	n/a
MODEL:	2010 D	MODEL:	T701	CH_4/C_3H_8 (ppm):	598.0	198.0	HIGH EXPIRY:	n/a
ID:	11900613	ID:	132	CYLINDER (psi):	1400		LOW ID:	n/a
MFC CALIBRATION DATE:	16-Apr-2019	OXIDIZER ID:	115	EXPIRY DATE	01-Aug-2026		LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

POINT (CH4/NMHC)	HIGH	MID	LOW	CH4 EQUIVILANCE	
TARGET	14	7	3.5	C_3H_8 as CH_4	544.5
RANGE	12 - 16	6 - 8	2 - 4	THC as CH_4	1142.5

EXPECTED (REFERENCE) VALUE:

INITIAL	CH4	NMHC	THC	FINAL	CH4	NMHC	THC
	9.87	10.90	20.78		n/a	n/a	n/a

CALIBRATION:

FLOW RATE (mL/min)			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC
3000		3000	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a						
2998	70.00	3068	13.64	12.42	26.07	13.22	12.40	25.62	n/a	n/a	n/a	1.032	1.002	1.017	n/a	n/a	n/a
2997	38.00	3035	7.49	6.82	14.30	7.36	6.89	14.26	n/a	n/a	n/a	1.017	0.989	1.003	n/a	n/a	n/a
3000	19.00	3019	3.76	3.43	7.19	3.69	3.42	7.11	n/a	n/a	n/a	1.020	1.002	1.011	n/a	n/a	n/a

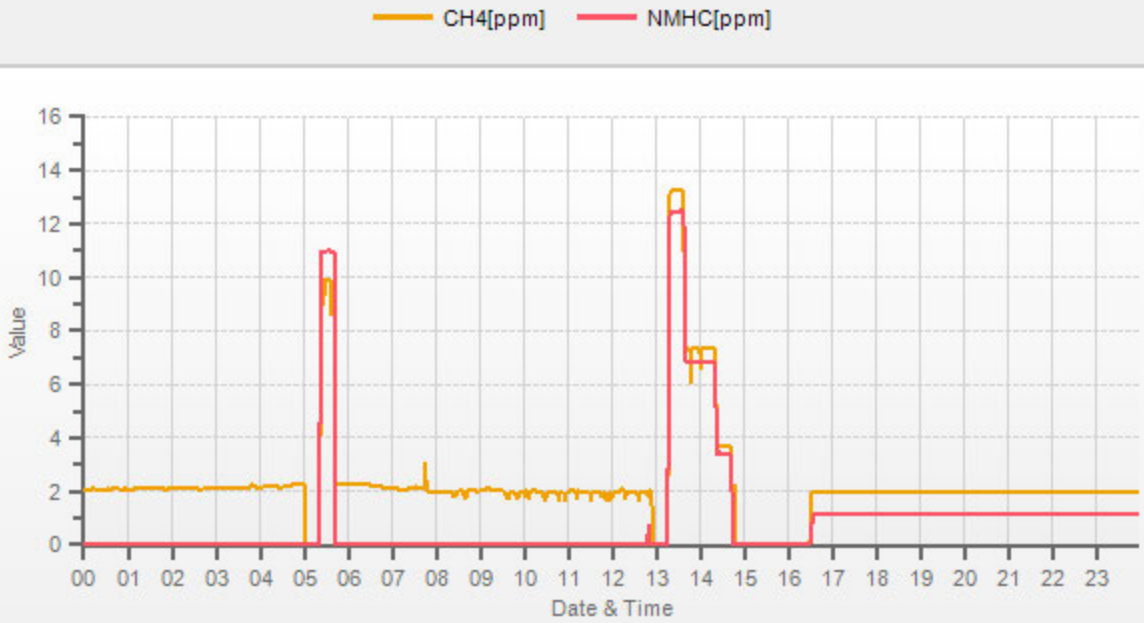
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
CH4	1.000	0.969	0.2%
NMHC	1.000	1.000	0.1%
THC	1.000	0.984	0.1%

COMMENTS:

Shutdown calibration completed to replace LICA analyzer due to faulty injections. The analyzer will be sent for repair.

Station: LICA COLD LAKE SOUTH Daily: 19/06/11 Type: AVG 1 Min. [1 Min.]



Methane/Non-Methane Analyzer Calibration by Dilution

CALIBRATION:

DATE:	12-Jun-2019	PREVIOUS CALIBRATION DATE:	n/a
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Cold Lake South	BAROMETRIC (mBar):	950
PURPOSE	Install/Post-Repair	START TIME (MST):	08:28
PERFORMED BY:	Alex Yakupov	END TIME (MST):	10:56

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	1180030034	1120
PARAMETER:	CH4	NMHC	THC
RANGE (ppm):	20	20	40
PREVIOUS CF:	n/a	n/a	n/a

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	API	MAKE:	Teledyne	CYLINDER ID:	LL 29687		HIGH ID:	n/a
MODEL:	700	MODEL:	T701	CH_4/C_3H_8 (ppm):	598.0	198.0	HIGH EXPIRY:	n/a
ID:	690	ID:	132	CYLINDER (psi):	1400		LOW ID:	n/a
MFC CALIBRATION DATE:	16-Apr-2019	OXIDIZER ID:	115	EXPIRY DATE	01-Aug-2026		LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

POINT (CH4/NMHC)	HIGH	MID	LOW	CH4 EQUIVILANCE	
TARGET	14	7	3.5	C_3H_8 as CH_4	544.5
RANGE	12 - 16	6 - 8	2 - 4	THC as CH_4	1142.5

EXPECTED (REFERENCE) VALUE:

INITIAL	CH4	NMHC	THC	FINAL	CH4	NMHC	THC
	n/a	n/a	n/a		10.44	11.15	21.59

CALIBRATION:

FLOW RATE (mL/min)			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC
3000		3000	0.00	0.00	0.00	n/a	n/a	n/a	0.00	0.00	0.00						
2930	70.00	3000	13.95	12.71	26.66	n/a	n/a	n/a	13.95	12.71	26.66	n/a	n/a	n/a	1.000	1.000	1.000
2962	38.00	3000	7.57	6.90	14.47	n/a	n/a	n/a	7.63	6.93	14.57	n/a	n/a	n/a	0.993	0.995	0.993
2981	19.00	3000	3.79	3.45	7.24	n/a	n/a	n/a	3.84	3.46	7.30	n/a	n/a	n/a	0.986	0.997	0.991

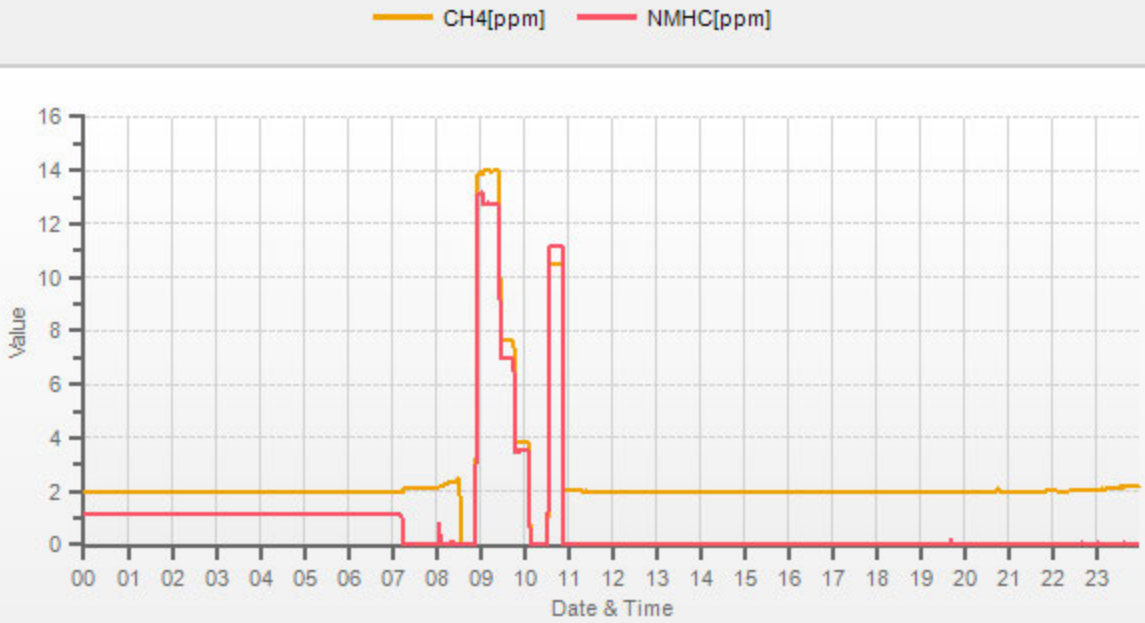
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
CH4	1.000	0.999	0.2%
NMHC	1.000	1.000	0.0%
THC	1.000	1.000	0.1%

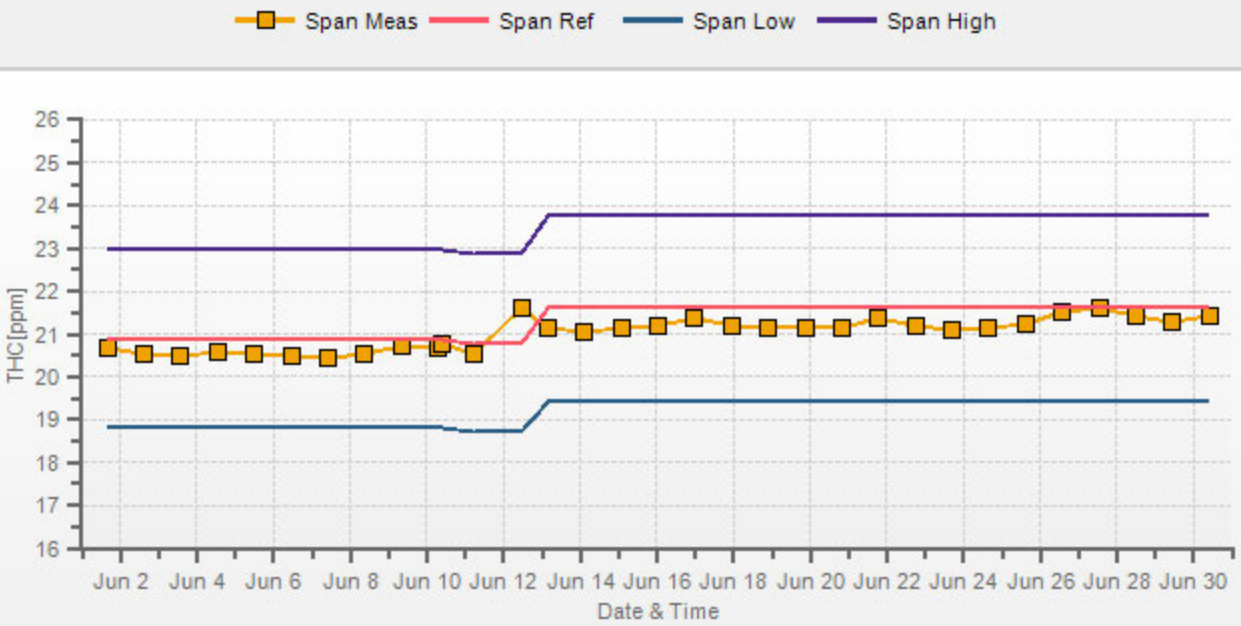
COMMENTS:

The sample inlet filter was changed. The AE analyzer that was installed to replace LICA analyzer. New N2 Purifier was installed and new N2 gas cylinder was connected.

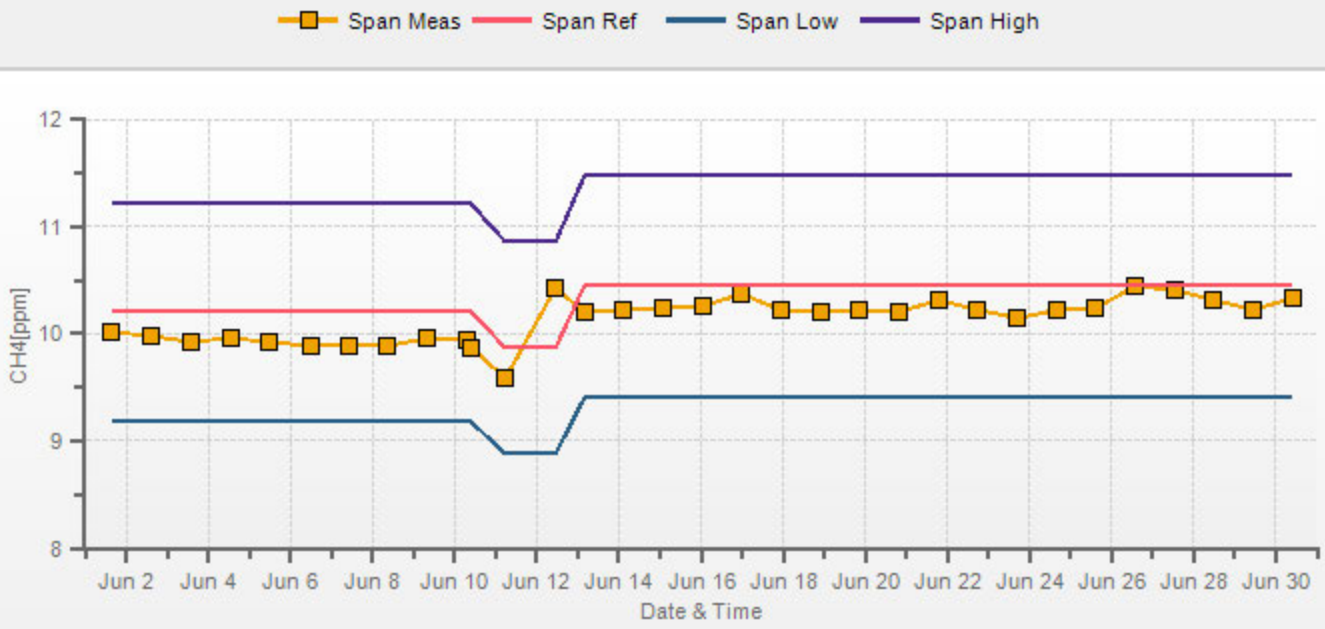
Station: LICA COLD LAKE SOUTH Daily: 19/06/12 Type: AVG 1 Min. [1 Min.]



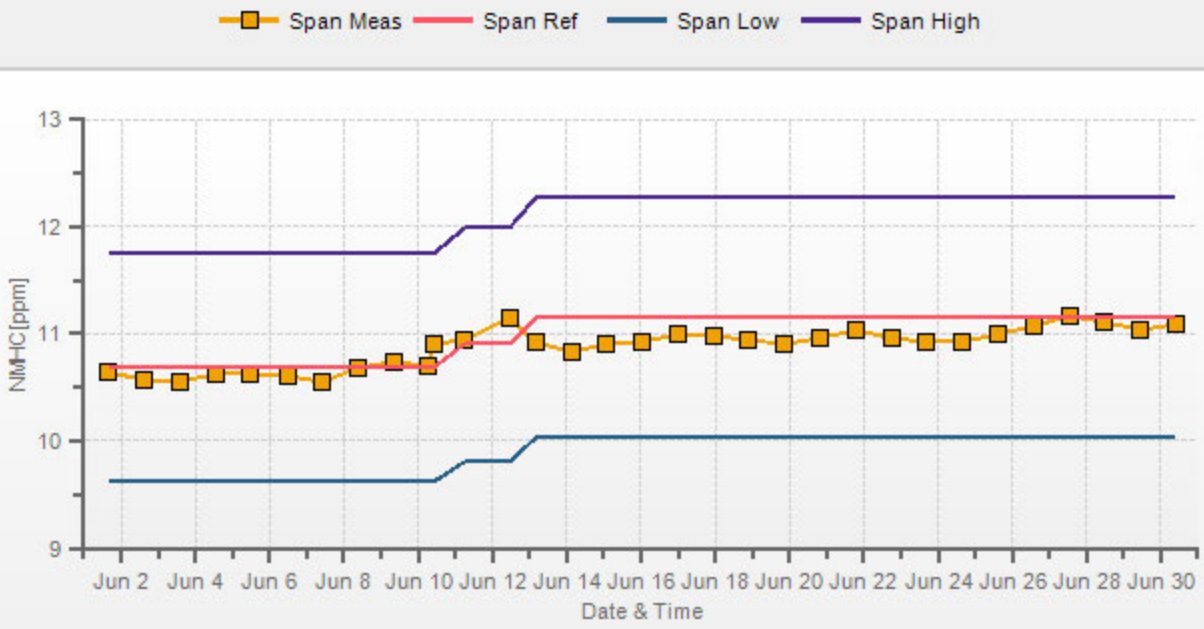
THC[ppm] Calibration: LICA COLD LAKE SOUTH Monthly: 19/06 Type: Span



CH4[ppm] Calibration: LICA COLD LAKE SOUTH Monthly: 19/06 Type: Span



NMHC[ppm] Calibration: LICA COLD LAKE SOUTH Monthly: 19/06 Type: Span



NOx Calibration by Dilution/Gas-Phase Titration

CALIBRATION:

				ANALYZER:			
DATE:	11-Jun-2019	PREVIOUS CALIBRATION DATE:	14-May-2019	MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
CLIENT:	LICA	TEMPERATURE (°C):	22.0	SERIAL #:	1505664393	NOx	1.000
LOCATION:	Cold Lake South	BAROMETRIC (mBar):	953.00	FLOW (mL/min)	765	NO	1.000
PURPOSE	Routine	START TIME (MST):	08:52	RANGE (ppb)	500	NO2	0.999
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:46	GPT FOR O3?		No	

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	API	MAKE:	Teledyne	CYLINDER ID:	LL 107918		HIGH ID:	n/a
MODEL:	700	MODEL:	T701	NO/NOx (PPM):	50.1	50.2	HIGH EXPIRY:	n/a
ID:	690	ID:	132	CYLINDER (psi):	1400		LOW ID:	n/a
MFC CALIBRATION DATE:	16-Apr-2019	OXIDIZER ID:	n/a	EXPIRY DATE	20-Aug-2026		LOW EXPIRY:	n/a

CALIBRATION SETTINGS:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
BKG/OFFSET:	5	5	n/a	BKG/OFFSET:	5	4	n/a
SLOPE/COEF/CE:	1	1	1.0	SLOPE/COEF/CE:	1	1	1.0

EXPECTED (REFERENCE) VALUE:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	266	2	264.0		261	2	259.0

CALIBRATION PARAMETERS:

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

NO/NOx CALIBRATION:

FLOW RATE (mL/min)			CONCENTRATION (ppb)									CORRECTION FACTOR (CF.)					
			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2
5000		5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
4962	37.90	5000	379.8	380.5	0.8	375.0	376.0	1.0	380.0	381.0	1.0	1.013	1.012		0.999	0.999	
4982	18.00	5000	180.4	180.7	0.4	n/a	n/a	n/a	180.0	180.0	0.0	n/a	n/a		1.002	1.004	
4991	8.90	5000	89.2	89.4	0.2	n/a	n/a	n/a	90.0	90.0	0.0	n/a	n/a		0.991	0.993	

GPT CALIBRATION:

Point	CALIBRATOR			INDICATED (ppb)			NO DROP / O3 Conc (ppb)	NO2 GAIN (ppb)	NO2 Corr. FACTOR	CONV. EFFICIENCY
	GAS	TOTAL	O3 SETPOINT	NO	NOx	NO2				
REFERENCE	37.80	5000	0	382.0	382.0	0.0				
AS-FOUND HIGH	37.80	5000	245	131.0	382.0	251.0	251	251	1.000	100.00%
ADJUSTED HIGH	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**n/a**	**n/a**	n/a
MID	37.80	5000	140	237.0	382.0	145.0	145	145	1.000	100.00%
LOW	37.80	5000	45	331.0	382.0	51.0	51	51	1.000	100.00%
NO2 adjustment not required.									AVERAGE:	100.00%

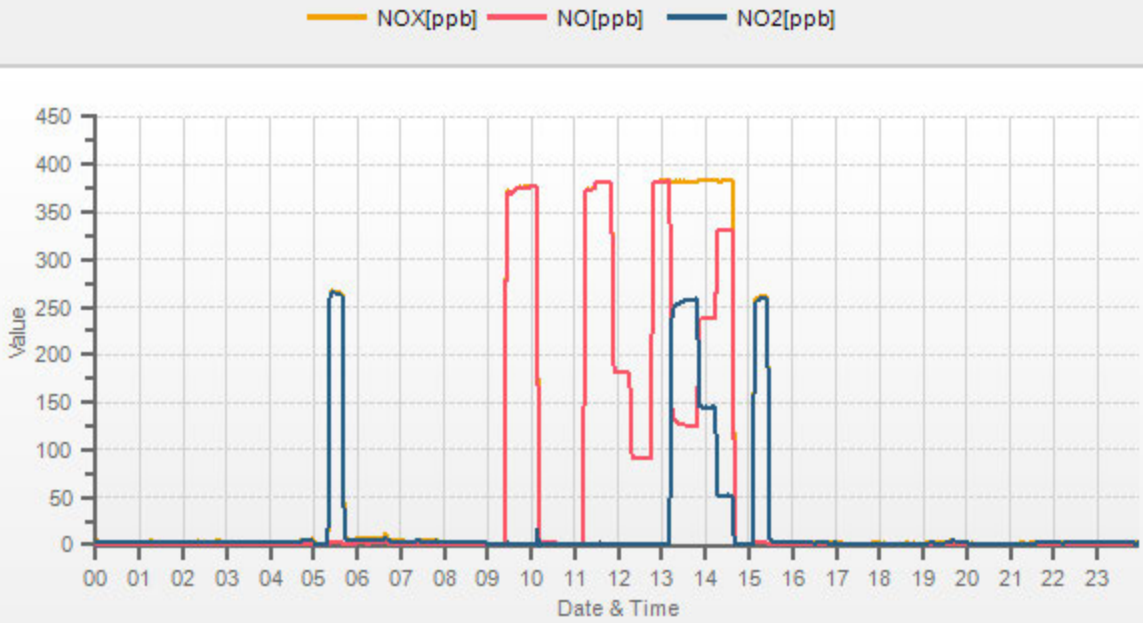
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
NO	1.000	1.000	0.04%
NOx	1.000	1.000	0.00%
NO2	1.000	1.000	0.00%

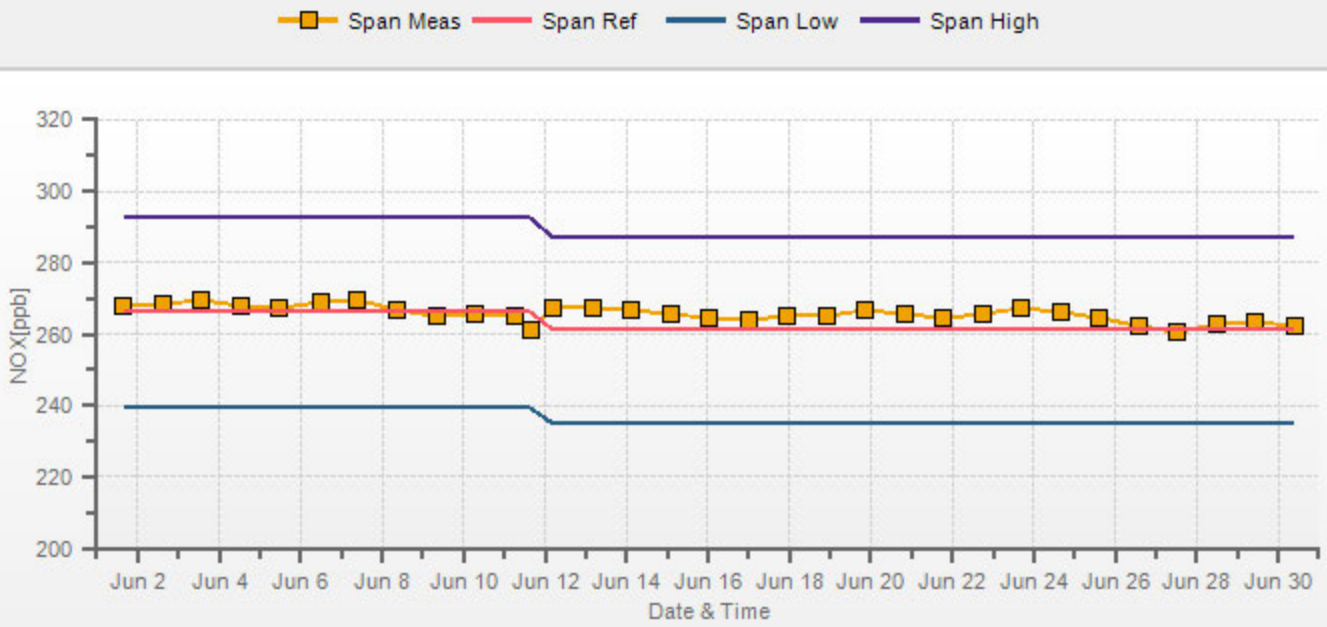
COMMENTS:

The sample inlet filter was changed.

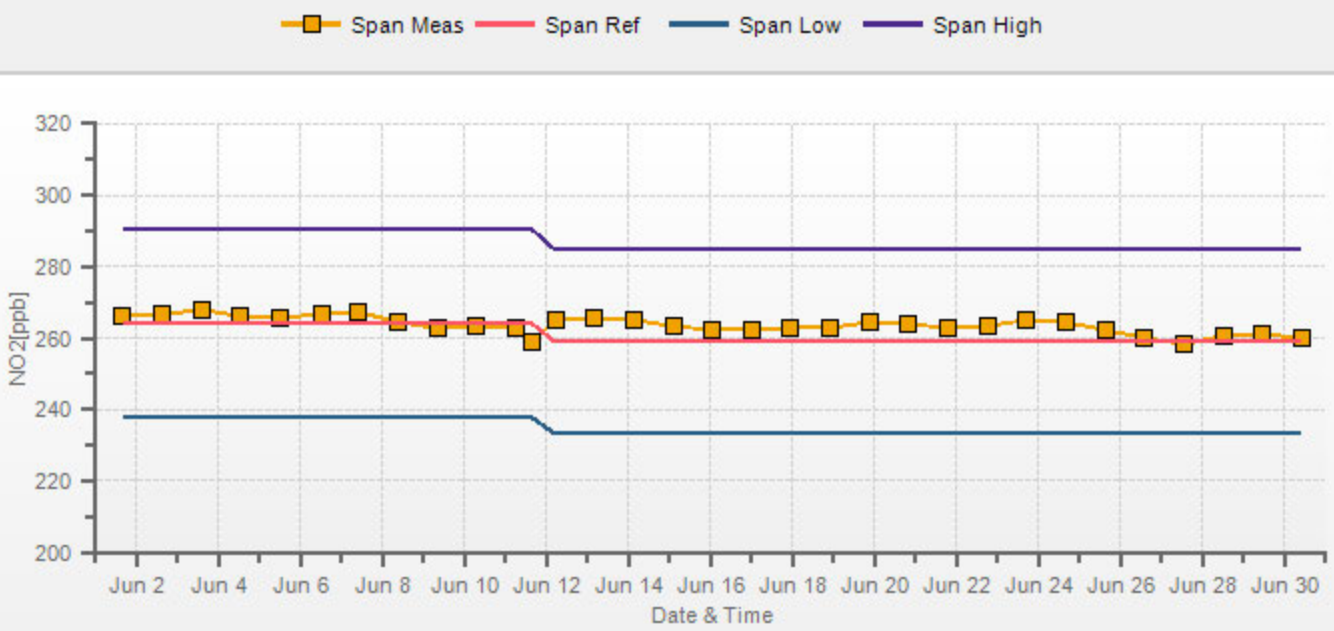
Station: LICA COLD LAKE SOUTH Daily: 19/06/11 Type: AVG 1 Min. [1 Min.]



NOX[ppb] Calibration: LICA COLD LAKE SOUTH Monthly: 19/06 Type: Span



NO2[ppb] Calibration: LICA COLD LAKE SOUTH Monthly: 19/06 Type: Span



Ozone Calibration by Photometer (Varying UV Lamp)

DATE:	12-Jun-2019	PREVIOUS CALIBRATION DATE:	13-May-2019
PARAMETER:	Ozone	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Cold Lake South	BAROMETRIC (mBar):	950
PURPOSE	Routine	START TIME (MST):	08:28
PERFORMED BY:	Alex Yakupov	END TIME (MST):	12:43

ANALYZER:

MAKE/MODEL	Thermo 49i	RANGE	500 ppb
SERIAL #	700419951	FLOW (mL/min)	1458
INITIAL		FINAL	
BKG/OFFSET	0	BKG/OFFSET	0
COEF/SLOPE	1.04	COEF/SLOPE	1.04
Expected (reference) Value	317	Expected (reference) Value	304

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	16-Apr-2019	OXIDIZER ID:	n/a
	CALIBRATION METHOD:	Photometer (Varying UV Lamp)	
GPT DATE:	n/a	GPT END TIME:	n/a

CALIBRATION PARAMETERS:

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

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
5000		5000	0.0	0.0	0.0		
5000		5000	380.0	380.0	380.0	1.000	1.000
5000		5000	180.0	n/a	180.0	n/a	1.000
5000		5000	60.0	n/a	60.0	n/a	1.000

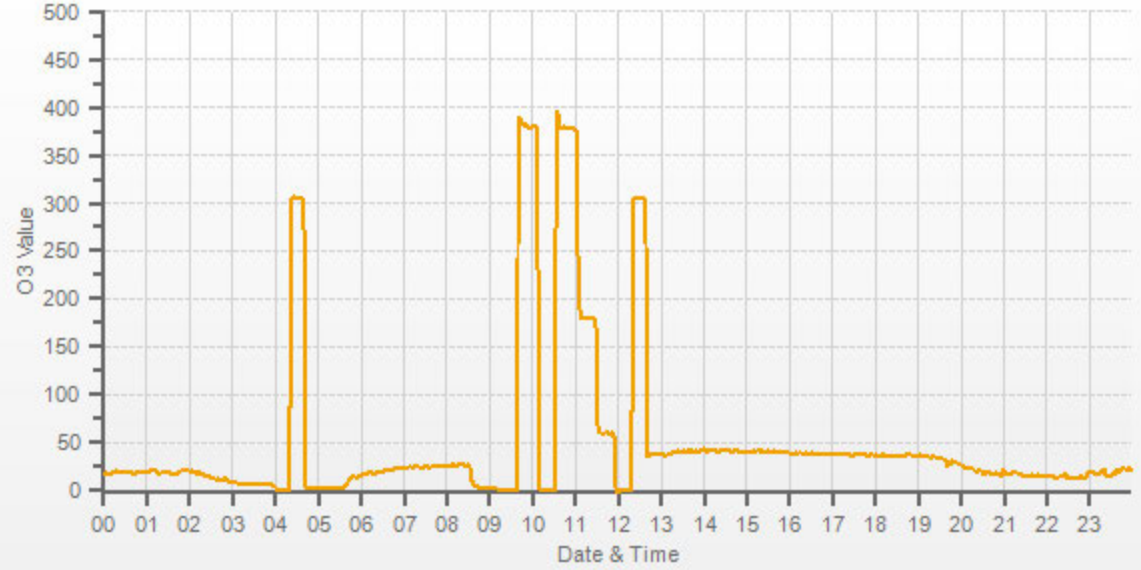
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	0.0%

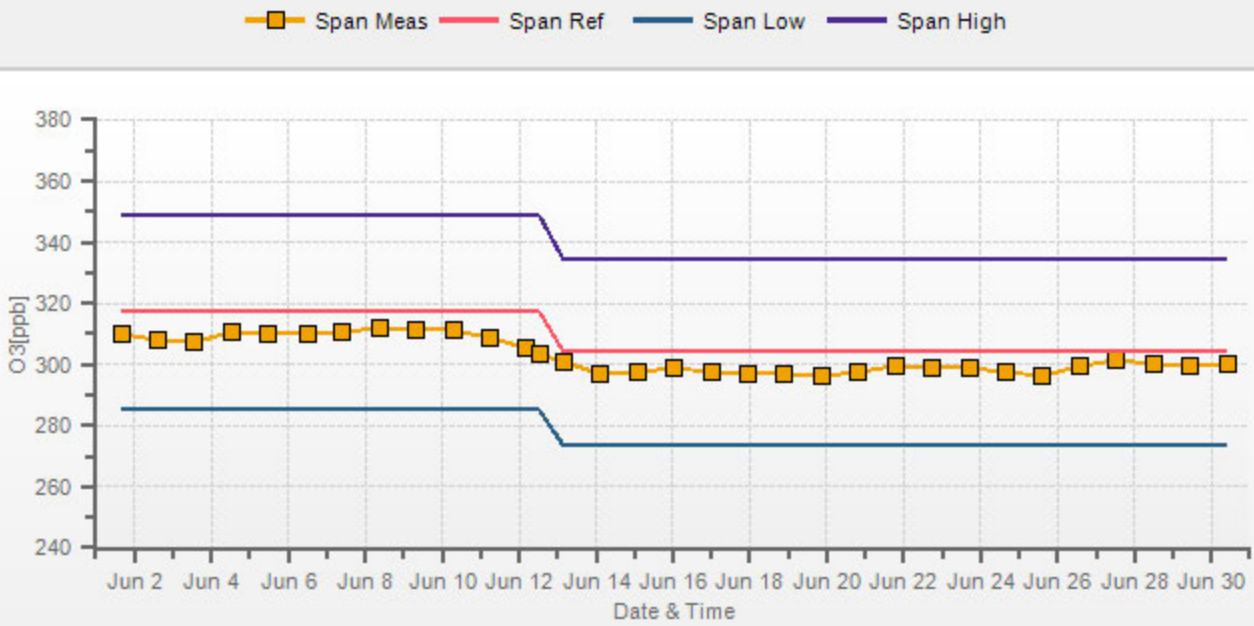
COMMENTS:

The sample inlet filter was changed.

O3[ppb] Station: LICA COLD LAKE SOUTH Daily: 19/06/12 Type: AVG 1 Min. [1 Min.]



O3[ppb] Calibration: LICA COLD LAKE SOUTH Monthly: 19/06 Type: Span



Thermo 5030 SHARP Monitor Calibration

Date:	June 12, 2019		**Performed By/Reviewer:**	Alex Yakupov	Rob Fisher
Company:	LICA		**Start Time (mst):**	12:09	
Station Name/Location:	Cold Lake South		**End Time (mst):**	14:22	
Previous Audit Date:	May 24, 2019		**Calibration Purpose:**	quarterly	
Parameter:	PM 2.5		**Weather Conditions:**	Mainly sunny	

SHARP Information and Status:

Serial Number/Owner:	CM - 2209	LICA	**Status Code**	0
Approx. % Tape Reaming	3/10		**Error Code**	0

Reference Standards/I.D./Cert. Date:

High Flow:	Airmetrics/Chinook High Maxxam ID #4 expires Jan 31, 2020
Digital Manometer:	Dwyer 475 Mark III id# 3 expires January 17, 2020
Temperature:	F.S. 160348895 expires June 19, 2020
Pressure:	F.S. 05544 expires January 16, 2020

As Found Temperatures, Pressure, Humidity:

	T1 (°C)	T2 (°C)	T3 (°C)	T4 (°C)	P3 (hPa)	RH (%)
SHARP:	22	24	25	25	947	54
Reference:	22.0	23.0	23.0	23.0	948.0	55.0
Difference:	0.0	1.0	2.0	2.0	1.0	1.0

Temp Limit: ± 4 °C
Pressure Limit: ± 13.33 hPa
RH Limit: ± 2%

As Left Temperature and Pressure (same as above if as found adequate):

	T1 (°C)	T2 (°C)	T3 (°C)	T4 (°C)	P3 (hPa)	RH (%)
SHARP:	22	23	23	23	948	55
Reference:	22.0	23.0	23.0	23.0	948.0	55.0
Difference:	0.0	0.0	0.0	0.0	0.0	0.0%

Temp Limit: ± 4 °C
Pressure Limit: ± 13.33 hPa
RH Limit: ± 2%

Mass Foil Calibration:

	Mass Foil:		ZERO:		Span Sensitivity
Mass Foil ID:	9015	**QLF:**	0	**OLD:**	7085
Spanfoil Value (µg):	1294	**CONFID:**	9	**NEW:**	7019

Nephalometer Zero:

	As Found		As Left
Analog	160.00	**Analog**	160.00
NEPH	0.10	**NEPH**	-0.10
C14	-19.10	**C14**	-5.60
Conc	0.00	**Conc**	-0.10

Flow rate:

	As Found		As Left
SHARP AirFlow l/hr	1000	**SHARP AirFlow l/hr**	1000
Reference AirFlow (l/min)	16.19	**Reference AirFlow (l/min)**	16.66
Reference AirFlow (l/hr)	971	**Reference AirFlow (l/hr)**	1000
% Difference:	2.9%	**Difference:**	0.0%

$$\%D = 100 \times \frac{Qm - Qi}{Qi}$$

Tolerance +/- 5%

Inlet Assembly:

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

Pump Assembly:

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

Comments:

Leak check: Without adapter = 16.66 vs with adapter = 16.57, difference = 0.09, less than 0.8 lpm. Passed.

Met One Instruments

Sonic Wind Sensor Certificate of Calibration

Sensor Model No.: 50.5H
Sensor Serial No.: F1644
Sensor Output Swing: 0V - 1.0V
Sensor Output Range: 0 - 50.0 MPS
Customer: Maxxam Analytics
Sales Order No.: 125713
Tested per PO: PO0000003392
Calibration Date: 11/09/2017
Calibrated by: David Frith DF
QC Inspection Byron Dawson

Instrument Condition Within Tolerance: As Found ___ As Left X
Corrective Action: No Adjustment ___ Adjust X Repair ___
Preventative Maintenance ___

As Found Test Date: N/A As Left Test Date 11/09/2017

Quality Control Manual Revision: September 16, 2013 MP42201 Rev. G.
All Work Performed per Customer Purchase Order Requirements.
Calibration Document No. 50.5-6100

Test Equipment Used for Calibration of Instruments

Description	Manufacturer	Model No.	Serial No.	Cal Date	Cal Due	Voltage Accuracy	Time Base Accuracy
Data Acquition	Campbell Scientific	CR1000	6569	4/06/2015	4/06/2018	+/- 3mV	< 6 ppm
NIST Cupset	Met One Instruments	170-41	3309	1/26/2017	1/26/2022	Accuracy < 0.15 mph or 1% WS	

Environmental Data: Temperature 65 to 80 Deg F Vibration none
Humidity 20 to 70% Radiation none

Firmware Version: 3194-01 R2.62

The standards used for calibration have accuracies equal to or greater than the instruments tested. These standards are on record and are traceable to NIST to the extent allowed by the institute's calibration facility. Unless otherwise stated heron, all instruments are calibrated to meet the manufacturer's published specifications. The calibration system complies with MIL-STD-45662A (8/1/88). Instrument's accuracy meets the requirements of Regulatory Guide 1.23 (2/72). Compliant with IS) 9001:2008 requirements

Alberta Government

Calibrator Performance Audit

Oxides Of Nitrogen

File No. 2019-050A

Company Maxxam **Operator:** Tom Bourque

Calibrator:

Make/Model	API 700
Serial Number	690
Last Verification Date	March 2018
NO Cylinder S/N	EY0000769
NO [PPM]	51.1 NOx [PPM] 51.2
Expiry Date	December 2019

Flow Measurement Device:

Make/Model	N/A
Serial Number	N/A
Temperature (°C)	24.4 C
Barometric Pressure	699 mmHg

Dilution Flow (sccm)

Pt. #1 5000 Pt. #2 5000 Pt. #3 5000

Gas Flow (sccm)

Pt. #1 80 Pt. #2 40 Pt. #3 20

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO_2	NOx	NO	NOx
5000	0.0	0.000	0.000	0.000	-0.001	-0.001	Limit ± 10%	
5083	80.0	0.804	0.806	0.802	-0.011	0.791	0%	-2%
5044	40.0	0.405	0.406	0.403	-0.006	0.397	-1%	-2%
5022	20.0	0.204	0.204	0.202	-0.004	0.198	-1%	-2%
						Absolute Average Percent Difference	1%	2%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

NO		LIMITS	NOx	
Correlation=	1.0000	≥ 0.990	Correlation=	1.0000
m (Slope)=	0.9974	0.90-1.10	m (Slope)=	0.9833
b (Intercept % of FS)=	-0.0592	± 3% F.S.	b (Intercept % of FS)=	-0.1772

Flow	O_3 Conc	NO Decrease	NO	NO2	NOX	% Diff. Vs Audit gas	
5083	0.000	0.000	0.802	-0.011	0.791	NO_2	% Diff. Limit
5083	0.500	0.518	0.284	0.488	0.771	-4%	± 10%
5083	0.300	0.323	0.479	0.294	0.774	-6%	± 10%
5083	0.150	0.167	0.635	0.142	0.777	-8%	± 10%
						6%	± 10%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

NO_2		LIMITS
Correlation=	0.9998	≥ 0.995
m (Slope)=	0.9649	0.90-1.10
b (Intercept % of FS)=	-1.4907	± 3% F.S.

Big shift down in NOx when entering GPT function.
Possible flow change.

AENV Standards

Audit Calibrator

Make/Model	Teco 146i
Serial/AMU Number	AMU 1809
SRM Gas Cylinder No.	APEX1236646
Cylinder Conc. (ppm)	50.04

NO_X Analyzer

Make/Model	Teco 42i
Serial/AMU Number	AMU 2265
Last Calibration Date	April 15, 2019
Full Scale (ppm)	1.0
Cylinder Gas Expiry Date	June 2021

COMMENTS: With ZAG Teledyne 701 Maxxam ID 11986.

Auditor: Al Clark Date: April 16, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibrator Performance Audit

OZONE

File No. 2019-049A

Company: Maxxam **Operator:** Tom Bourque

Calibrator:		Flow Measurement Device:	
Make/Model	Sabio 2010	Make/Model	N/A
Serial Number	11900613	Serial Number	N/A
Oven Temperature	N/A	Temperature (°C)	24.4 C
Last Verification Date	August 2018	Barometric Pressure	699 mmHg

Flow Measurements

Pt. No. 1 N/A **Pt. No. 2** N/A **Pt. No. 3** N/A

Calibrator Flow (sccm)	Calculated Concentration (ppm)	Indicated Concentration (ppm)	% Difference vs Audit Gas	% Difference % Diff. Limit
Zero Air	0.000	0.000		
5001	0.400	0.407	2%	± 10%
4999	0.200	0.208	4%	± 10%
5001	0.100	0.104	4%	± 10%
		Absolute Average Percent Difference	3%	± 10%

LINEAR REGRESSION ANALYSIS

y=mx+b (where x=calculated concentration, y=indicated concentration)

O_3		LIMITS
Correlation=	0.9999	**≥ 0.995**
m (Slope)=	1.0169	**0.90-1.10**
b (Intercept % of FS)=	0.3600	**± 3% F.S.**

AENV Standards		Ozone Analyzer	
Audit Calibrator		Make/Model	Teco 49i
Make/Model	Teco 49i PS	Serial/AMU Number	AMU 1843
Serial/AMU Number	AMU 1808	Last Calibration Date	April 15, 2019
Ozone Standard	Primary Standard	Full Scale (ppm)	0.5

COMMENTS: With ZAG Teledyne 701 Maxxam ID: 11981. Should have Maxxam ID 11986 instead.

Auditor: Al Clark Date: April 16, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

Single Component Cylinder Gas

File No. 2019-392CGA

Company: Maxxam **Operator's Name:** Alex

Cylinder #: LL107918 Concentration PPM: 49.5 Tolerance(%) 1 Certified By: Praxair

Expiry Date: August 2026

Reference Calibrator and Gas:

Make/Model: Sabio 2010
Serial Number: AMU 2092
Last Verification Date: January 14, 2019
Gas Type: SO2 Conc. 50.26
Cylinder Number: FF28071
Expiry Date: March 2020

Flow Measurement Device:

Make/Model: Mesa Definer 220
Serial Number: H-133034 / L-132702
Temp.°C: 22.7 C
B.P. 707 mmHg

Reference Analyzer:

Make/Model: Teco 43i Serial/AMU Number: 2195
Instrument Settings: Zero: 11.8 Span: 0.980 Range: 1.0
Last Calibration: Date: Jan 14/19 C.F. 1.000 Done By: Shea Beaton

Calibrator Flows (sccm)		Indicated	Gas Flow/	Concentration	Cylinder
Dilution	Gas	Concentration (PPM)	Dilution Flow	Factor	Concentration
5000	0.0	0.000			
4898	78.1	0.790	0.01595	62.714	49.5
4893	38.7	0.389	0.00791	126.434	49.2
4894	19.3	0.192	0.00394	253.575	48.7
				Average Cylinder Concentration:	**49.1**

Previous Stated Concentration PPM: 49.5

Percent variance from Stated: **1**

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: January 15, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

Single Component Cylinder Gas

File No. 2017-493CGA

Company: Maxxam **Operator's Name:** Mike

Cylinder #: EY0001003 Concentration PPM: 9.55 Tolerance(%) 2 Certified By: Praxair

Expiry Date: October 2020

Reference Calibrator and Gas:

Make/Model: Sabio 2010
Serial Number: AMU 2092
Last Verification Date: January 17, 2018
Gas Type: H2S Conc. 20.43
Cylinder Number: CAL015272
Expiry Date: January 2019

Flow Measurement Device:

Make/Model: Mesa Defender 530
Serial Number: H-153961 / L-153874
Temp.°C: 23.0 C
B.P. 697 mmHg

Reference Analyzer:

Make/Model: Teco 450i Serial/AMU Number: 1980

Instrument Settings: Zero: 12.9 Span: 0.955 Range: 0.1

Last Calibration: Date: Jan 17/18 C.F. 1.000 Done By: Al Clark

Calibrator Flows (sccm)		Indicated	Gas Flow/	Concentration	Cylinder
Dilution	Gas	Concentration (PPM)	Dilution Flow	Factor	Concentration
5000	0.0	0.0000			
5051	39.6	0.0753	0.00784	127.551	9.60
5028	20.2	0.0387	0.00402	248.911	9.63
5033	10.5	0.0198	0.00209	479.333	9.49
				Average Cylinder Concentration:	**9.58**

Previous Stated Concentration PPM: 9.55

Percent variance from Stated: 0

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:** Used AEP regulator

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: January 18, 2018

Operator Signature: Al Clark Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

CH4 / C3H8 Cylinder Gas

File No. 2019-393CGA

Company: Maxxam **Operators name:** Alex

Cylinder #: LL29687 Conc CH4 (PPM) 598/198 Tolerance (%) 1 Certified By: Praxair

Expiry Date: August 2026

Reference Calibrator and Gas:

Make/Model	Sabio 2010		
Serial Number	AMU 2092		
Last Verification Date	January 14, 2019		
Gas Type	CH4	Conc.	990.4
Cylinder Number	05604875	Expiry Date	July 2021
Gas Type	C3H8	Conc.	246.5
Cylinder Number	XF003845B	Expiry Date	July 2022

Flow Measurement Device:

Make/Model	Mesa Definer 220
Serial Number	H-133034 / L-132702
Temp.°C	23.8 C
B.P.	707 mmHg

Reference Analyzer:

Make/Model: Teco 55i Serial/AMU Number: 2221

Instrument Settings Zero: N/A Span: N/A Range: 20.0

Last Calibration: Date: Jan 14/19 C.F. 1.000 Done By: Shea Beaton

Calibrator Flows (sccm)		Indicated Conc. (ppm)		Gas Flow/	Concentration	Cylinder Concentration	
Dilution	Gas	CH4	C3H8	Dilution Flow	Factor	CH4	C3H8
5000	0.0	0.00	0.00				
3990	77.5	11.71	11.18	0.02	51.48	603	209
3976	39.1	5.87	5.71	0.01	101.69	597	211
3986	20.0	2.96	2.86	0.01	199.30	590	207
					Average Cylinder Concentration:	**597**	**209**

	CH4	C3H8
Previous Stated Concentration PPM:	598	198
Percent variance from Stated:	**0**	**6**

Cylinder gas tolerances based on CH4 only

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: January 15, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

NO Cylinder Gas

File No. 2019-391CGA

Company: Maxxam **Operators name:** Alex

Cylinder #: LL107918 Conc (PPM) 50.1/50.2 Tolerance (%) 1 Certified By: Praxair

Expiry Date: August 2026

Reference Calibrator and Gas:

Make/Model	Teco 146i
Serial Number	AMU 1809
Last Verification Date	January 14, 2019
Gas Type	NO
Conc.	50.05
Cylinder Number	APEX1236645
Expiry Date	June 2021

Flow Measurement Device:

Make/Model	Mesa Definer 220
Serial Number	H-133034 / L-132702
Temp.°C	22.7 C
B.P.	707 mmHg

Reference Analyzer:

Make/Model: Teco 42i Serial/AMU Number: 2268

Instrument Settings Zero: 9.2 Span: 1.223 Range: 1.0

Last Calibration: Date: Jan 14/19 C.F. 1.000 Done By: Al Clark

Calibrator Flows (sccm)		Indicated Conc. (ppm)		Gas Flow/	Concentration	Cylinder Concentration	
Dilution	Gas	NO	NOX	Dilution Flow	Factor	NO	NOX
5000	0.0	0.000	0.000				
4898	78.1	0.792	0.793	0.016	62.714	49.7	49.7
4893	38.7	0.395	0.395	0.008	126.434	49.9	49.9
4894	19.3	0.195	0.195	0.004	253.575	49.4	49.4
					Average Cylinder Concentration:	**49.7**	**49.7**

	NO	NOx
Previous Stated Concentration PPM:	50.1	50.2
Percent variance from Stated:	**1**	**1**

Cylinder gas tolerances based on NO only

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: Janaury 15, 2019

Operator Signature: Location: McIntyre Center Edmonton

June 1 - 30, 2019

MONTHLY CALIBRATION REPORT

Project #: 2833-2019-06-24-C

LICA-201906

Prepared for:

Lakeland Industry & Community Association

Mike Bisaga

5107 50 St.

Bonnyville, Alberta T9N 2J7

monitoring@lica.ca

780-266-7068

Monitoring Station

Maskwa Continuous Monitoring Station

Date of Report Issuance: July 24, 2019

#1 - 2080 39 Avenue NE, Calgary AB, T2E 6P7

SO2 Analyzer Calibration by Dilution

DATE:	14-Jun-2019	PREVIOUS CALIBRATION DATE:	10-May-2019
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Maskwa	BAROMETRIC (mBar):	932
PURPOSE	Routine	START TIME (MST):	09:51
PERFORMED BY:	Alex Yakupov	END TIME (MST):	13:46

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	1000 ppb
SERIAL #	1180930031	FLOW (mL/min)	453
INITIAL		FINAL	
BKG/OFFSET	2.3	BKG/OFFSET	2.25
COEF/SLOPE	0.949	COEF/SLOPE	0.948
Expected (reference) Value	426	Expected (reference) Value	429

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	API	MAKE:	Teledyne
MODEL:	700	MODEL:	T701
ID:	690	ID:	132
MFC CALIBRATION DATE:	16-Apr-2019	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL 107918	HIGH ID	n/a
CONC (ppm):	49.5	EXPIRY DATE	n/a
CYLINDER (psi):	1400	LOW ID	n/a
EXPIRY DATE	20-Aug-2026	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

POINT	HIGH	MID	LOW
TARGET	780	380	190
RANGE	600 - 800	300 - 400	100 - 200

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

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

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
5000		5000	0.00	0	0		
4922	77.80	5000	770.22	769	770	1.002	1.000
4962	37.90	5000	375.21	n/a	373	n/a	1.006
4981	18.90	5000	187.11	n/a	185	n/a	1.011

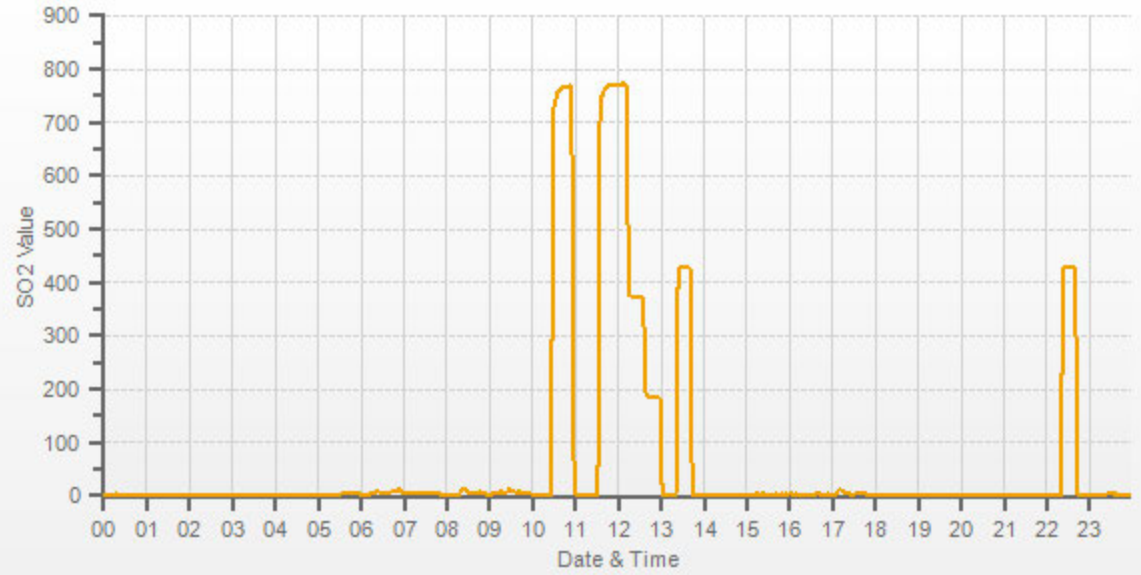
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	-0.1%

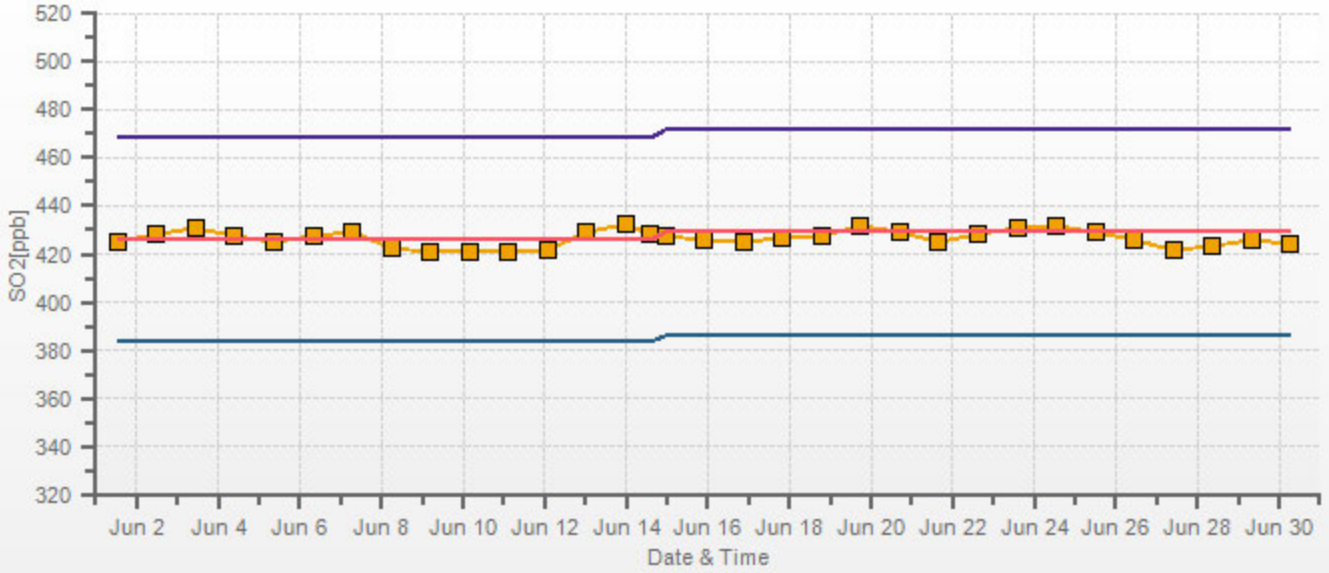
COMMENTS:

Sample inlet filter was changed.

SO2[ppb] Station: LICA MASKWA Daily: 19/06/14 Type: AVG 1 Min. [1 Min.]



SO2[ppb] Calibration: LICA MASKWA Monthly: 19/06 Type: Span



H2S Analyzer Calibration by Dilution

DATE:	14-Jun-2019	PREVIOUS CALIBRATION DATE:	10-May-2019
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Maskwa	BAROMETRIC (mBar):	932
PURPOSE	Routine	START TIME (MST):	09:52
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:17

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	CM 17360005	FLOW (mL/min)	936
INITIAL		FINAL	
BKG/OFFSET	19.9	BKG/OFFSET	20.8
COEF/SLOPE	0.794	COEF/SLOPE	0.778
Expected (reference) Value	49.5	Expected (reference) Value	49.8

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	16-Apr-2019	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0001003	HIGH ID	n/a
CONC (ppm):	9.55	EXPIRY DATE	n/a
CYLINDER (psi):	800	LOW ID	n/a
EXPIRY DATE	20-Oct-2020	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:	10:04	SO2 Conc (ppb)	780
END TIME:	10:19	Analyzer Response (ppb)	0.0

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
7500		7500	0.00	0.9	0		
7439	61.20	7500	77.93	81.4	77.9	0.968	1.000
7470	29.80	7500	37.95	n/a	37.7	n/a	1.007
7485	14.90	7500	18.97	n/a	18.7	n/a	1.015

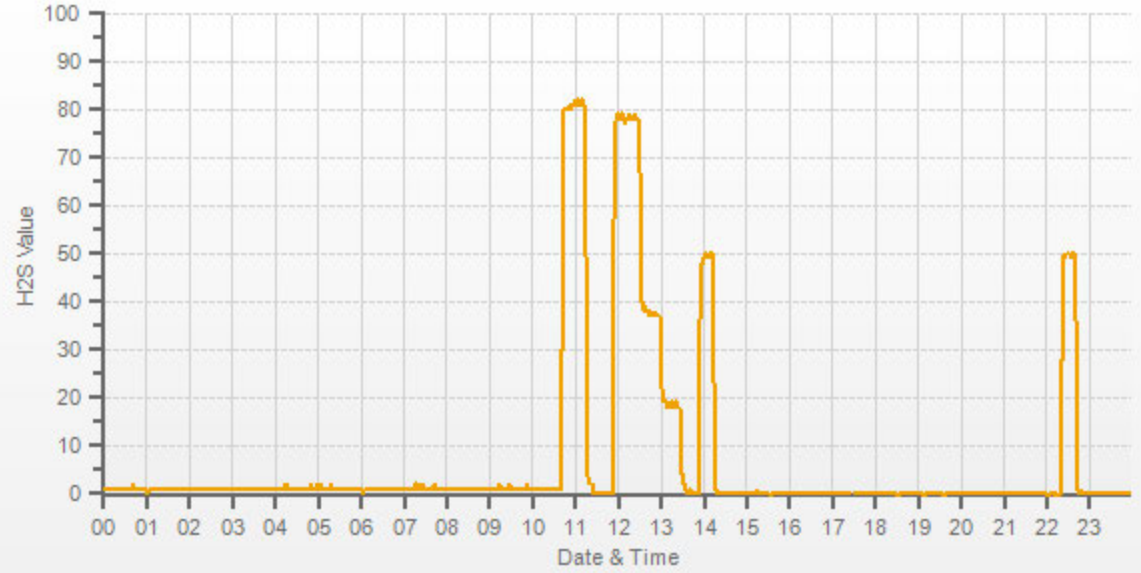
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.001	-0.2%

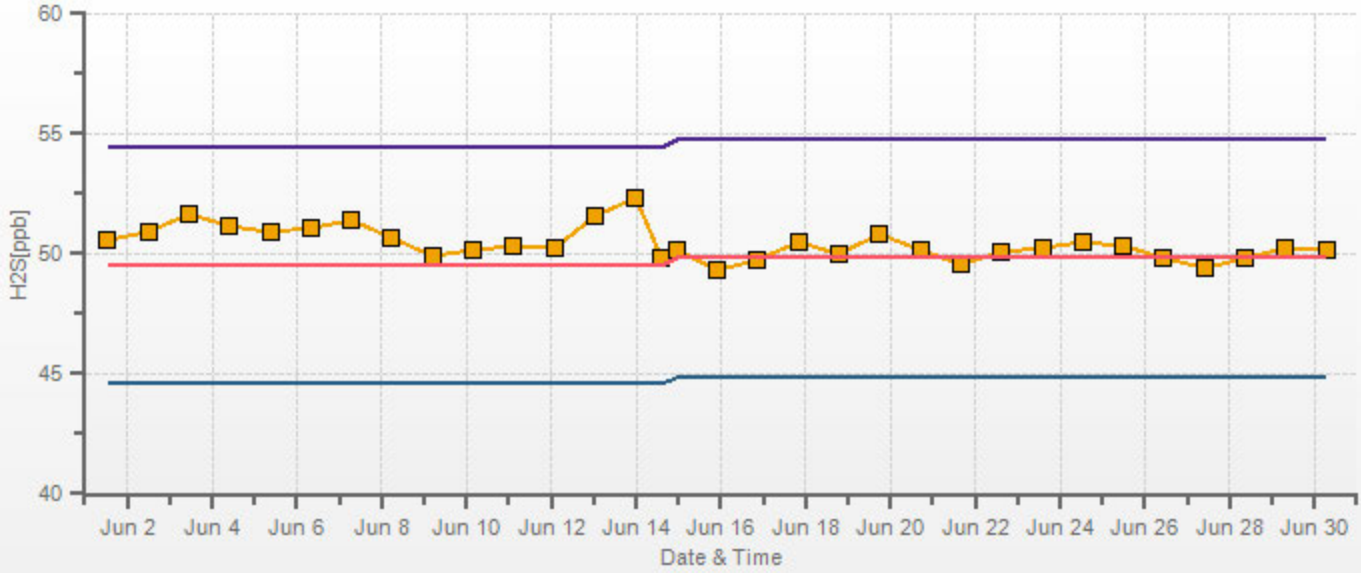
COMMENTS:

n/a

H2S[ppb] Station: LICA MASKWA Daily: 19/06/14 Type: AVG 1 Min. [1 Min.]



H2S[ppb] Calibration: LICA MASKWA Monthly: 19/06 Type: Span



Methane/Non-Methane Analyzer Calibration by Dilution

CALIBRATION:

DATE:	14-Jun-2019	PREVIOUS CALIBRATION DATE:	09-May-2019
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Maskwa	BAROMETRIC (mBar):	932
PURPOSE	Routine	START TIME (MST):	14:02
PERFORMED BY:	Alex Yakupov	END TIME (MST):	17:23

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	1180930026	1112
PARAMETER:	CH4	NMHC	THC
RANGE (ppm):	20	20	40
PREVIOUS CF:	1.000	1.000	1.000

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 29687		HIGH ID:	n/a
MODEL:	2010 D	MODEL:	T701	CH_4/C_3H_8 (ppm):	598.0	198.0	HIGH EXPIRY:	n/a
ID:	11900613	ID:	132	CYLINDER (psi):	1400		LOW ID:	n/a
MFC CALIBRATION DATE:	16-Apr-2019	OXIDIZER ID:	115	EXPIRY DATE	01-Aug-2026		LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

POINT (CH4/NMHC)	HIGH	MID	LOW	CH4 EQUIVILANCE	
TARGET	14	7	3.5	C_3H_8 as CH_4	544.5
RANGE	12 - 16	6 - 8	2 - 4	THC as CH_4	1142.5

EXPECTED (REFERENCE) VALUE:

INITIAL	CH4	NMHC	THC	FINAL	CH4	NMHC	THC
	10.22	11.00	21.22		9.99	10.70	20.69

CALIBRATION:

FLOW RATE (mL/min)			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC
3000		3000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
2998	70.00	3068	13.64	12.42	26.07	13.68	12.81	26.49	13.64	12.42	26.06	0.997	0.970	0.984	1.000	1.000	1.000
3000	38.00	3038	7.48	6.81	14.29	n/a	n/a	n/a	7.55	6.88	14.43	n/a	n/a	n/a	0.991	0.990	0.990
2998	19.00	3017	3.77	3.43	7.20	n/a	n/a	n/a	3.80	3.45	7.25	n/a	n/a	n/a	0.991	0.994	0.992

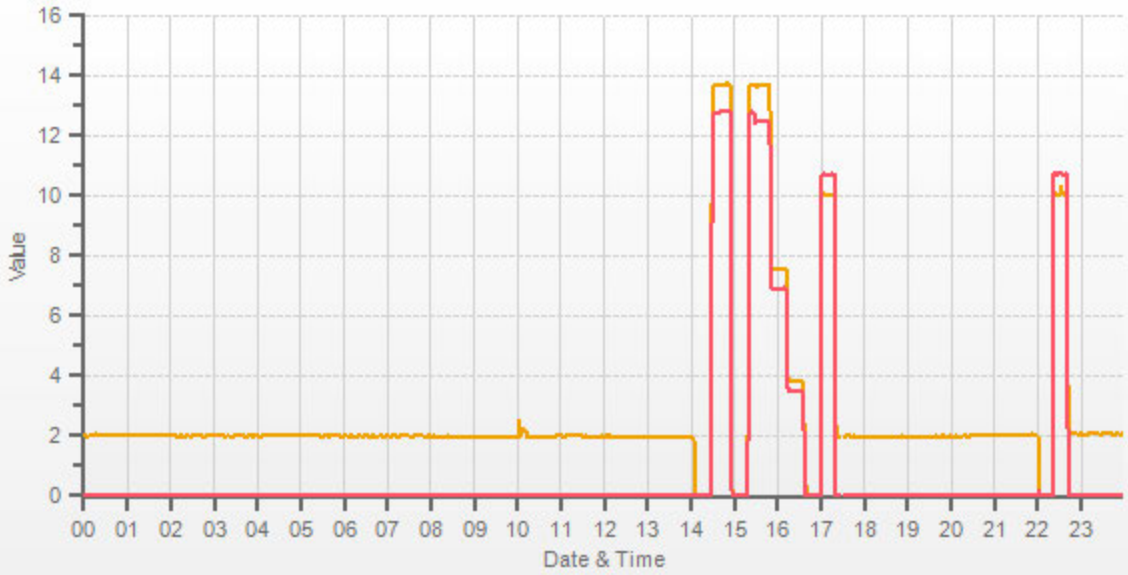
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
CH4	1.000	1.000	0.1%
NMHC	1.000	1.000	0.1%
THC	1.000	1.000	0.1%

COMMENTS:

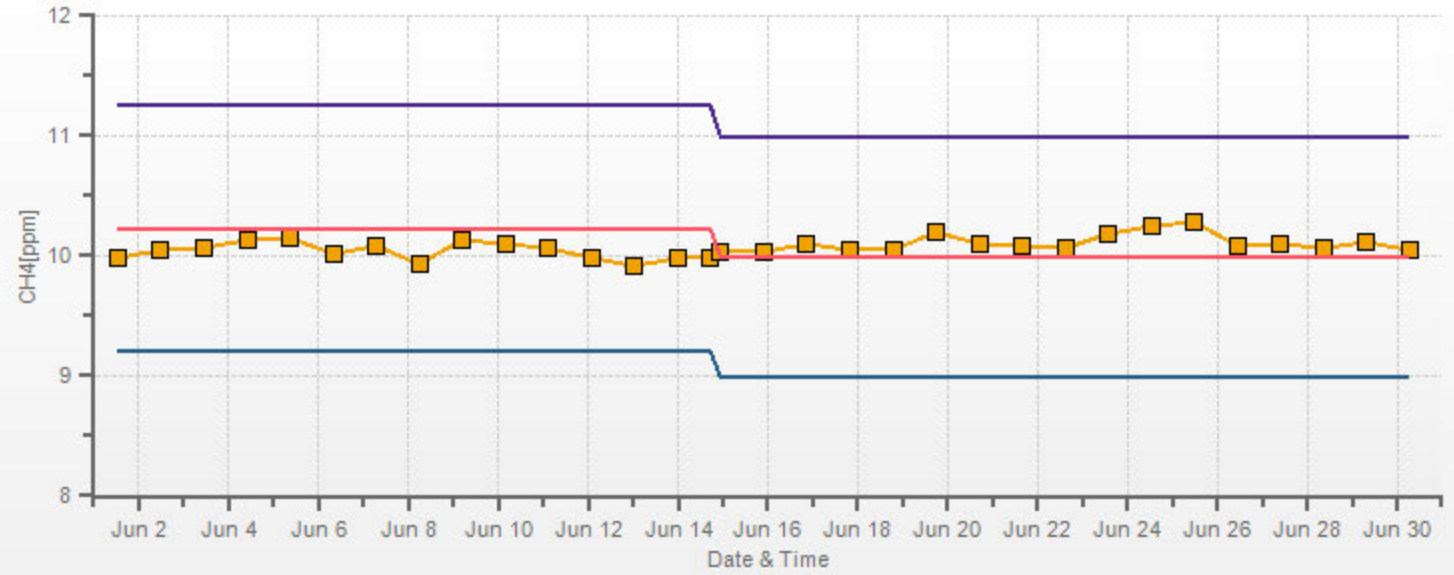
Sample inlet filter was changed.

Station: LICA MASKWA Daily: 19/06/14 Type: AVG 1 Min. [1 Min.]

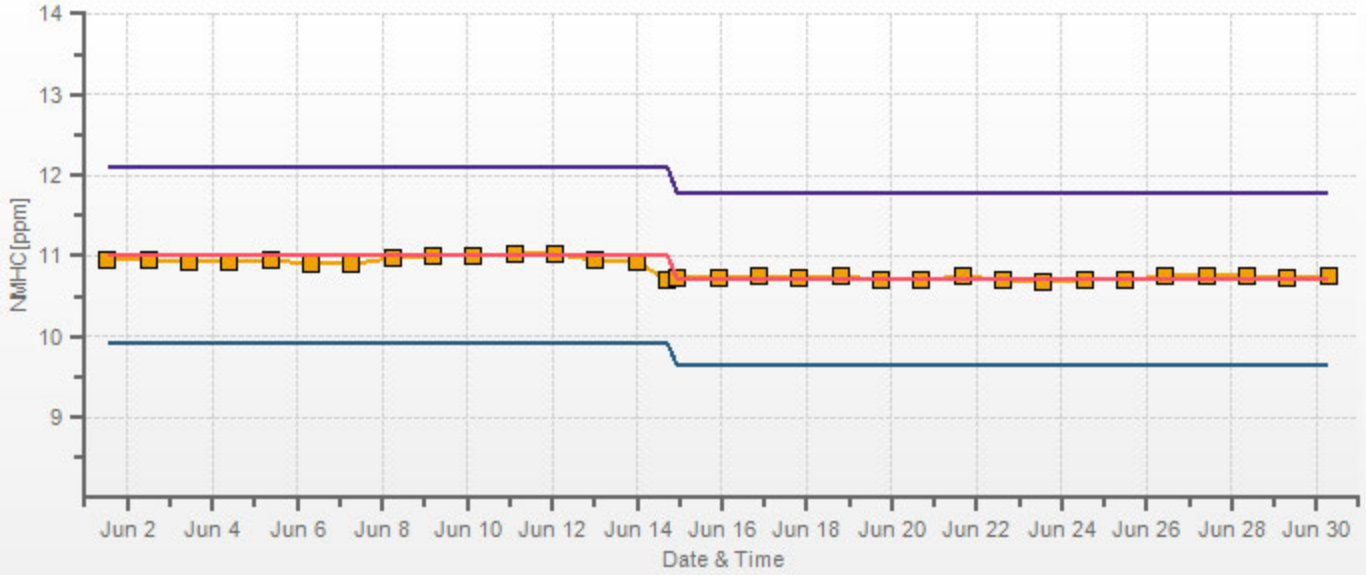


THC[ppm] Calibration: LICA MASKWA Monthly: 19/06 Type: Span

CH4[ppm] Calibration: LICA MASKWA Monthly: 19/06 Type: Span



NMHC[ppm] Calibration: LICA MASKWA Monthly: 19/06 Type: Span



NOx Calibration by Dilution/Gas-Phase Titration

CALIBRATION:

				ANALYZER:			
DATE:	14-Jun-2019	PREVIOUS CALIBRATION DATE:	10-May-2019	MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
CLIENT:	LICA	TEMPERATURE (°C):	22.0	SERIAL #:	1180930028	NOx	1.000
LOCATION:	Maskwa	BAROMETRIC (mBar):	932.00	FLOW (mL/min)	533	NO	1.000
PURPOSE	Routine	START TIME (MST):	09:51	RANGE (ppb)	1000	NO2	1.000
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:54	GPT FOR O3?		No	

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	API	MAKE:	Teledyne	CYLINDER ID:	LL 107918		HIGH ID:	n/a
MODEL:	700	MODEL:	T701	NO/NOx (PPM):	50.1	50.2	HIGH EXPIRY:	n/a
ID:	690	ID:	132	CYLINDER (psi):	1400		LOW ID:	n/a
MFC CALIBRATION DATE:	16-Apr-2019	OXIDIZER ID:	n/a	EXPIRY DATE	20-Aug-2026		LOW EXPIRY:	n/a

CALIBRATION SETTINGS:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
BKG/OFFSET:	3	3	n/a	BKG/OFFSET:	3	3	n/a
SLOPE/COEF/CE:	1	1	1.0	SLOPE/COEF/CE:	1	1	1.0

EXPECTED (REFERENCE) VALUE:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	405	4	401.0		407	4	403.0

CALIBRATION PARAMETERS:

POINT	NO TARGET (PPB)	NO2 TARGET (PPB)	NO2 RANGE	O3 POINT
HIGH	780	500	470-540	n/a
MID	380	275	235-310	n/a
LOW	190	90	80-115	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		5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
4922	77.80	5000	779.6	781.1	1.6	773.0	774.0	1.0	780.0	781.0	1.0	1.008	1.009		0.999	1.000	
4962	37.90	5000	379.8	380.5	0.8	n/a	n/a	n/a	380.0	380.0	0.0	n/a	n/a		0.999	1.001	
4981	18.90	5000	189.4	189.8	0.4	n/a	n/a	n/a	191.0	191.0	0.0	n/a	n/a		0.992	0.993	

GPT CALIBRATION:

Point	CALIBRATOR			INDICATED (ppb)			NO DROP / O3 Conc (ppb)	NO2 GAIN (ppb)	NO2 Corr. FACTOR	CONV. EFFICIENCY
	GAS	TOTAL	O3 SETPOINT	NO	NOx	NO2				
REFERENCE	77.80	5000	0	779.0	780.0	1.0				
AS-FOUND HIGH	77.80	5000	480	281.0	777.0	496.0	498	495	1.006	99.40%
ADJUSTED HIGH	77.80	5000	n/a	280.0	780.0	500.0	499	499	1.000	100.00%
MID	77.80	5000	265	501.0	780.0	279.0	278	278	1.000	100.00%
LOW	77.80	5000	90	685.0	779.0	94.0	94	93	1.011	98.94%
NO2 COEF/CONVERTER EFFICIENCY ADJUSTED									AVERAGE:	99.65%

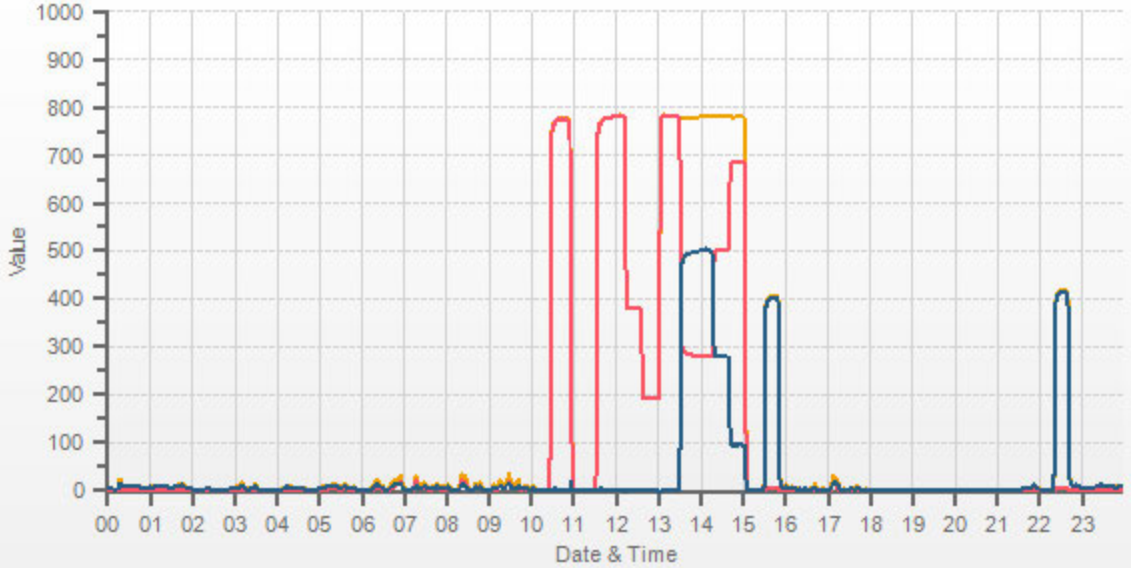
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
NO	1.000	1.000	0.06%
NOx	1.000	1.000	0.04%
NO2	1.000	1.002	-0.10%

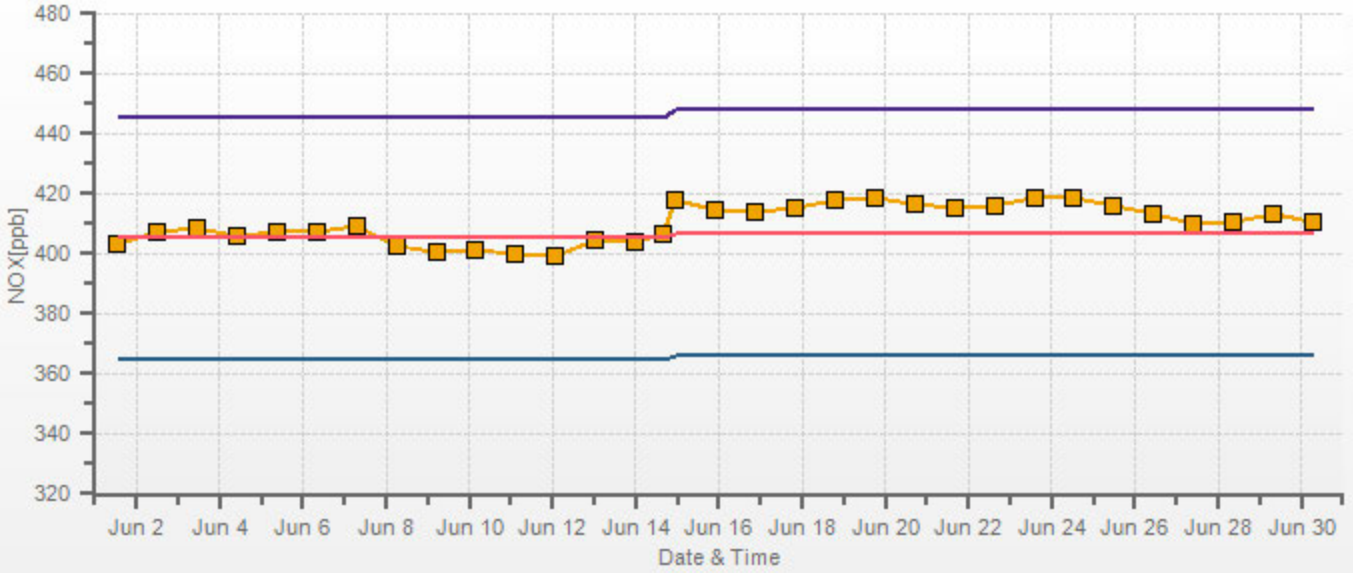
COMMENTS:

Sample inlet filter was changed.

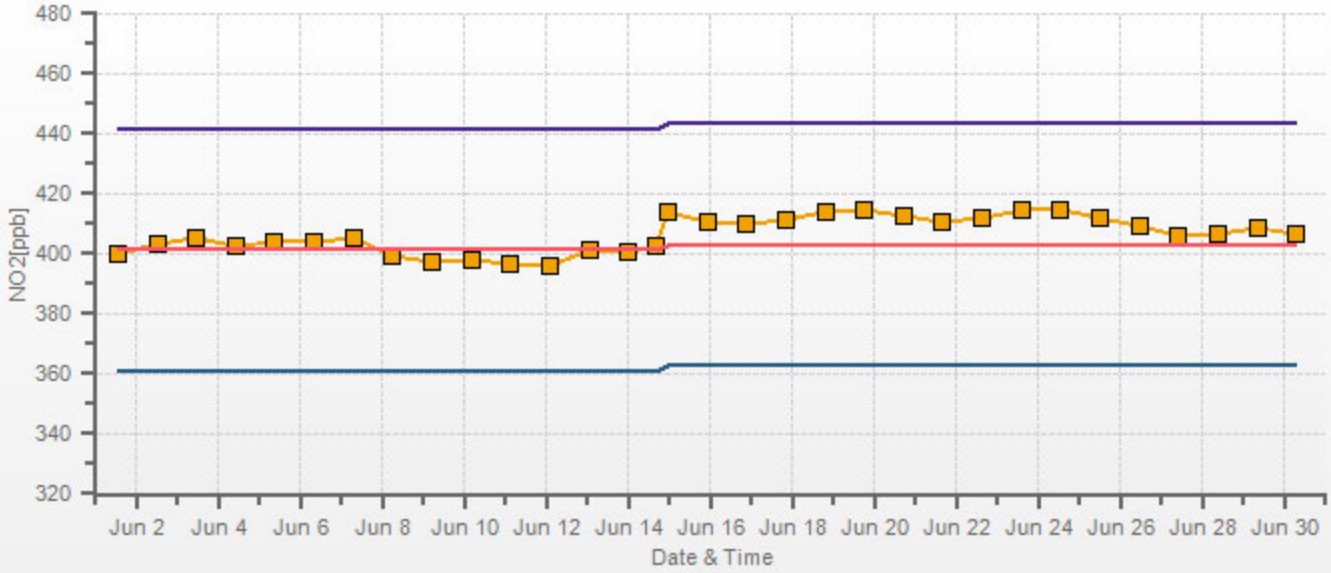
Station: LICA MASKWA Daily: 19/06/14 Type: AVG 1 Min. [1 Min.]



NOX[ppb] Calibration: LICA MASKWA Monthly: 19/06 Type: Span



NO2[ppb] Calibration: LICA MASKWA Monthly: 19/06 Type: Span



Meteorological Sensor Audit/Calibration

Location Information

Company:	LICA	**Performed By:**	Alex Yakupov
Audit Location:	Maskwa	**Reviewed By:**	Rob Fisher
Audit Date:	September 17, 2018	**Start/End Time (mst):**	9:36 / 12:48
Calibration Purpose:	installation	**Weather Conditions:**	Cloudy/Overcast

Wind Sensor Information

Sensor ID Data:		**Sensor Outputs:**	
Sensor Make:	RM Young	**Velocity Voltage Output Range:**	0-1 V
Sensor Model:	05305VK	**Velocity Unit Output Range:**	0-200 km/h
Serial #:	161465	**Direction Voltage Output Range:**	0-1 V
Previous Cal/Audit Date:	May 17, 2018	**Direction Unit Output Range:**	0-360 degrees

Wind Calibrator Information

Calibrator I.D. and Expiry Date: Model 18860-90/18802 SN: CA 4744; expiration May 18, 2019

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	0.995
2000	36.9	36.9	36.9	1.000
3000	55.3	55.4	55.4	0.998
4000	73.7	73.8	73.8	0.999
5000	92.2	92.3	92.3	0.999
6000	110.6	110.8	110.8	0.998
7000	129.0	129.3	129.3	0.998
8000	147.4	147.7	147.7	0.998
9000	165.9	166.1	166.1	0.999
10000	184.3	184.9	184.9	0.997
		The audit meets AMD requirements.	**Average Correction Factor=**	**0.998**

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	0.3	0.1	0.2
30	330	30	329	-0.4	0.7	0.5
60	300	62	300	-1.9	-0.3	1.1
90	270	91	270	-1.3	-0.3	0.8
120	240	121	241	-1.0	-0.8	0.9
150	210	152	212	-1.7	-1.7	1.7
180	180	181	182	-1.1	-2.0	1.6
210	150	211	152	-1.1	-1.8	1.5
240	120	241	122	-0.5	-1.8	1.2
270	90	270	91	-0.1	-0.8	0.5
300	60	300	61	0.4	-0.6	0.5
330	30	330	31	-0.1	-0.7	0.4
355	0	354	0	0.6	0.3	0.5
The audit meets AMD requirements.			**Average Absolute Degrees Difference=**			**0.9**

Comments:

Alberta Government

Calibrator Performance Audit

Oxides Of Nitrogen

File No. 2019-050A

Company Maxxam **Operator:** Tom Bourque

Calibrator:				**Flow Measurement Device:**	
Make/Model	API 700			Make/Model	N/A
Serial Number	690			Serial Number	N/A
Last Verification Date	March 2018			Temperature (°C)	24.4 C
NO Cylinder S/N	EY0000769			Barometric Pressure	699 mmHg
NO [PPM]	51.1	NOx [PPM]	51.2		
Expiry Date	December 2019				

Dilution Flow (sccm)

Pt. #1 5000 Pt. #2 5000 Pt. #3 5000

Gas Flow (sccm)

Pt. #1 80 Pt. #2 40 Pt. #3 20

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO_2	NOx	NO	NOx
5000	0.0	0.000	0.000	0.000	-0.001	-0.001	Limit ± 10%	
5083	80.0	0.804	0.806	0.802	-0.011	0.791	0%	-2%
5044	40.0	0.405	0.406	0.403	-0.006	0.397	-1%	-2%
5022	20.0	0.204	0.204	0.202	-0.004	0.198	-1%	-2%
						Absolute Average Percent Difference	1%	2%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

NO		**LIMITS**	**NOx**	
Correlation=	1.0000	**≥ 0.990**	Correlation=	1.0000
m (Slope)=	0.9974	**0.90-1.10**	m (Slope)=	0.9833
b (Intercept % of FS)=	-0.0592	**± 3% F.S.**	b (Intercept % of FS)=	-0.1772

Flow	O_3 Conc	NO Decrease	NO	NO2	NOX	% Diff. Vs Audit gas	
5083	0.000	0.000	0.802	-0.011	0.791	NO_2	% Diff. Limit
5083	0.500	0.518	0.284	0.488	0.771	-4%	± 10%
5083	0.300	0.323	0.479	0.294	0.774	-6%	± 10%
5083	0.150	0.167	0.635	0.142	0.777	-8%	± 10%
						6%	± 10%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

NO_2		**LIMITS**
Correlation=	0.9998	**≥ 0.995**
m (Slope)=	0.9649	**0.90-1.10**
b (Intercept % of FS)=	-1.4907	**± 3% F.S.**

Big shift down in NOx when entering GPT function.
Possible flow change.

AENV Standards		**NO_X Analyzer**	
Audit Calibrator			
Make/Model	Teco 146i	Make/Model	Teco 42i
Serial/AMU Number	AMU 1809	Serial/AMU Number	AMU 2265
SRM Gas Cylinder No.	APEX1236646	Last Calibration Date	April 15, 2019
Cylinder Conc. (ppm)	50.04	Full Scale (ppm)	1.0
		Cylinder Gas Expiry Date	June 2021

COMMENTS: With ZAG Teledyne 701 Maxxam ID 11986.

Auditor: Al Clark Date: April 16, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibrator Performance Audit

Oxides Of Nitrogen

File No. 2019-048A

Company Maxxam **Operator:** Tom Bourque

Calibrator:			
Make/Model	Sabio 2010		
Serial Number	11900613		
Last Verification Date	August 2018		
NO Cylinder S/N	EY0000769		
NO [PPM]	51.1	NOx [PPM]	51.2
Expiry Date	December 2019		

Flow Measurement Device:	
Make/Model	N/A
Serial Number	N/A
Temperature (°C)	24.4 C
Barometric Pressure	699 mmHg

Dilution Flow (sccm)

Pt. #1 5000 Pt. #2 5000 Pt. #3 5000

Gas Flow (sccm)

Pt. #1 80 Pt. #2 40 Pt. #3 20

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO_2	NOx	NO	NOx
5000	0.0	0.000	0.000	0.000	-0.002	-0.002	Limit ± 10%	
5080	80.0	0.805	0.806	0.815	-0.007	0.808	1%	0%
5041	40.0	0.405	0.406	0.414	-0.004	0.410	2%	1%
5019	20.0	0.204	0.204	0.210	-0.004	0.206	3%	2%
						Absolute Average Percent Difference	2%	1%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

NO		**LIMITS**	**NOx**	
Correlation=	1.0000	**≥ 0.990**	Correlation=	1.0000
m (Slope)=	1.0117	**0.90-1.10**	m (Slope)=	1.0039
b (Intercept % of FS)=	0.2171	**± 3% F.S.**	b (Intercept % of FS)=	-0.0020

Flow	O_3 Conc	NO Decrease	NO	NO2	NOX	% Diff. Vs Audit gas	
						NO_2	% Diff. Limit
5080	0.000	0.000	0.815	-0.009	0.806		
5080	1.400	0.517	0.298	0.511	0.809	1%	± 10%
5080	0.900	0.308	0.507	0.299	0.806	0%	± 10%
5080	0.500	0.140	0.675	0.130	0.805	-1%	± 10%
						0%	± 10%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

NO_2		**LIMITS**
Correlation=	1.0000	**≥ 0.995**
m (Slope)=	1.0062	**0.90-1.10**
b (Intercept % of FS)=	-1.0004	**± 3% F.S.**

AENV Standards **Audit Calibrator**		**NO_X Analyzer**	
Make/Model	Teco 146i	Make/Model	Teco 42i
Serial/AMU Number	AMU 1809	Serial/AMU Number	AMU 2265
SRM Gas Cylinder No.	APEX1236646	Last Calibration Date	April 15, 2019
Cylinder Conc. (ppm)	50.04	Full Scale (ppm)	1.0
		Cylinder Gas Expiry Date	June 2021

COMMENTS: With ZAG Teledyne 701 Maxxam ID: 11981. Should have Maxxam ID 11986 instead

Auditor: Al Clark Date: April 16, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

Single Component Cylinder Gas

File No. 2019-392CGA

Company: Maxxam **Operator's Name:** Alex

Cylinder #: LL107918 Concentration PPM: 49.5 Tolerance(%) 1 Certified By: Praxair

Expiry Date: August 2026

Reference Calibrator and Gas:

Make/Model: Sabio 2010
Serial Number: AMU 2092
Last Verification Date: January 14, 2019
Gas Type: SO2 Conc. 50.26
Cylinder Number: FF28071
Expiry Date: March 2020

Flow Measurement Device:

Make/Model: Mesa Definer 220
Serial Number: H-133034 / L-132702
Temp.°C: 22.7 C
B.P. 707 mmHg

Reference Analyzer:

Make/Model: Teco 43i Serial/AMU Number: 2195
Instrument Settings: Zero: 11.8 Span: 0.980 Range: 1.0
Last Calibration: Date: Jan 14/19 C.F. 1.000 Done By: Shea Beaton

Calibrator Flows (sccm)		Indicated	Gas Flow/	Concentration	Cylinder
Dilution	Gas	Concentration (PPM)	Dilution Flow	Factor	Concentration
5000	0.0	0.000			
4898	78.1	0.790	0.01595	62.714	49.5
4893	38.7	0.389	0.00791	126.434	49.2
4894	19.3	0.192	0.00394	253.575	48.7
				Average Cylinder Concentration:	**49.1**

Previous Stated Concentration PPM: 49.5

Percent variance from Stated: **1**

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: January 15, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

Single Component Cylinder Gas

File No. 2017-493CGA

Company: Maxxam **Operator's Name:** Mike

Cylinder #: EY0001003 Concentration PPM: 9.55 Tolerance(%) 2 Certified By: Praxair

Expiry Date: October 2020

Reference Calibrator and Gas:

Make/Model: Sabio 2010
Serial Number: AMU 2092
Last Verification Date: January 17, 2018
Gas Type: H2S Conc. 20.43
Cylinder Number: CAL015272
Expiry Date: January 2019

Flow Measurement Device:

Make/Model: Mesa Defender 530
Serial Number: H-153961 / L-153874
Temp.°C: 23.0 C
B.P. 697 mmHg

Reference Analyzer:

Make/Model: Teco 450i Serial/AMU Number: 1980

Instrument Settings: Zero: 12.9 Span: 0.955 Range: 0.1

Last Calibration: Date: Jan 17/18 C.F. 1.000 Done By: Al Clark

Calibrator Flows (sccm)		Indicated	Gas Flow/	Concentration	Cylinder
Dilution	Gas	Concentration (PPM)	Dilution Flow	Factor	Concentration
5000	0.0	0.0000			
5051	39.6	0.0753	0.00784	127.551	9.60
5028	20.2	0.0387	0.00402	248.911	9.63
5033	10.5	0.0198	0.00209	479.333	9.49
				Average Cylinder Concentration:	**9.58**

Previous Stated Concentration PPM: 9.55

Percent variance from Stated: 0

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:** Used AEP regulator

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: January 18, 2018

Operator Signature: Al Clark Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

CH4 / C3H8 Cylinder Gas

File No. 2019-393CGA

Company: Maxxam **Operators name:** Alex

Cylinder #: LL29687 Conc CH4 (PPM) 598/198 Tolerance (%) 1 Certified By: Praxair

Expiry Date: August 2026

Reference Calibrator and Gas:

Make/Model	Sabio 2010		
Serial Number	AMU 2092		
Last Verification Date	January 14, 2019		
Gas Type	CH4	Conc.	990.4
Cylinder Number	05604875	Expiry Date	July 2021
Gas Type	C3H8	Conc.	246.5
Cylinder Number	XF003845B	Expiry Date	July 2022

Flow Measurement Device:

Make/Model	Mesa Definer 220
Serial Number	H-133034 / L-132702
Temp.°C	23.8 C
B.P.	707 mmHg

Reference Analyzer:

Make/Model: Teco 55i Serial/AMU Number: 2221

Instrument Settings Zero: N/A Span: N/A Range: 20.0

Last Calibration: Date: Jan 14/19 C.F. 1.000 Done By: Shea Beaton

Calibrator Flows (sccm)		Indicated Conc. (ppm)		Gas Flow/	Concentration	Cylinder Concentration	
Dilution	Gas	CH4	C3H8	Dilution Flow	Factor	CH4	C3H8
5000	0.0	0.00	0.00				
3990	77.5	11.71	11.18	0.02	51.48	603	209
3976	39.1	5.87	5.71	0.01	101.69	597	211
3986	20.0	2.96	2.86	0.01	199.30	590	207
					Average Cylinder Concentration:	**597**	**209**

	CH4	C3H8
Previous Stated Concentration PPM:	598	198
Percent variance from Stated:	**0**	**6**

Cylinder gas tolerances based on CH4 only

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: January 15, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

NO Cylinder Gas

File No. 2019-391CGA

Company: Maxxam **Operators name:** Alex

Cylinder #: LL107918 Conc (PPM) 50.1/50.2 Tolerance (%) 1 Certified By: Praxair

Expiry Date: August 2026

Reference Calibrator and Gas:

Make/Model	Teco 146i
Serial Number	AMU 1809
Last Verification Date	January 14, 2019
Gas Type	NO Conc. 50.05
Cylinder Number	APEX1236645
Expiry Date	June 2021

Flow Measurement Device:

Make/Model	Mesa Definer 220
Serial Number	H-133034 / L-132702
Temp.°C	22.7 C
B.P.	707 mmHg

Reference Analyzer:

Make/Model: Teco 42i Serial/AMU Number: 2268

Instrument Settings Zero: 9.2 Span: 1.223 Range: 1.0

Last Calibration: Date: Jan 14/19 C.F. 1.000 Done By: Al Clark

Calibrator Flows (sccm)		Indicated Conc. (ppm)		Gas Flow/	Concentration	Cylinder Concentration	
Dilution	Gas	NO	NOX	Dilution Flow	Factor	NO	NOX
5000	0.0	0.000	0.000				
4898	78.1	0.792	0.793	0.016	62.714	49.7	49.7
4893	38.7	0.395	0.395	0.008	126.434	49.9	49.9
4894	19.3	0.195	0.195	0.004	253.575	49.4	49.4
					Average Cylinder Concentration:	**49.7**	**49.7**

	NO	NOx
Previous Stated Concentration PPM:	50.1	50.2
Percent variance from Stated:	**1**	**1**

Cylinder gas tolerances based on NO only

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: Janaury 15, 2019

Operator Signature: Location: McIntyre Center Edmonton

June 1 - 30, 2019
MONTHLY CALIBRATION REPORT
Project #: 2833-2019-06-25-C
LICA-201906

Prepared for:

Lakeland Industry & Community Association

Mike Bisaga

5107 50 St.

Bonnyville, Alberta T9N 2J7

monitoring@lica.ca

780-266-7068

St. Lina Continuous Monitoring Station

Date of Report Issuance: July 24, 2019

#1 - 2080 39 Avenue NE, Calgary AB, T2E 6P7

SO2 Analyzer Calibration by Dilution

DATE:	04-Jun-2019	PREVIOUS CALIBRATION DATE:	23-May-2019
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	930
PURPOSE	Routine	START TIME (MST):	11:03
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:05

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	1000 ppb
SERIAL #	1180930030	FLOW (mL/min)	434
INITIAL		FINAL	
BKG/OFFSET	4.1	BKG/OFFSET	3.9
COEF/SLOPE	1.108	COEF/SLOPE	1.115
Expected (reference) Value	710	Expected (reference) Value	722

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	API	MAKE:	Teledyne
MODEL:	700	MODEL:	T701
ID:	690	ID:	132
MFC CALIBRATION DATE:	16-Apr-2019	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL 107918	HIGH ID	n/a
CONC (ppm):	49.5	EXPIRY DATE	n/a
CYLINDER (psi):	1500	LOW ID	n/a
EXPIRY DATE	20-Aug-2026	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

POINT	HIGH	MID	LOW
TARGET	780	380	190
RANGE	600 - 800	300 - 400	100 - 200

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

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

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
5000		5000	0.00	-0.3	0		
4922	77.80	5000	770.22	767	770	1.004	1.000
4962	37.90	5000	375.21	n/a	375	n/a	1.001
4981	18.90	5000	187.11	n/a	186	n/a	1.006

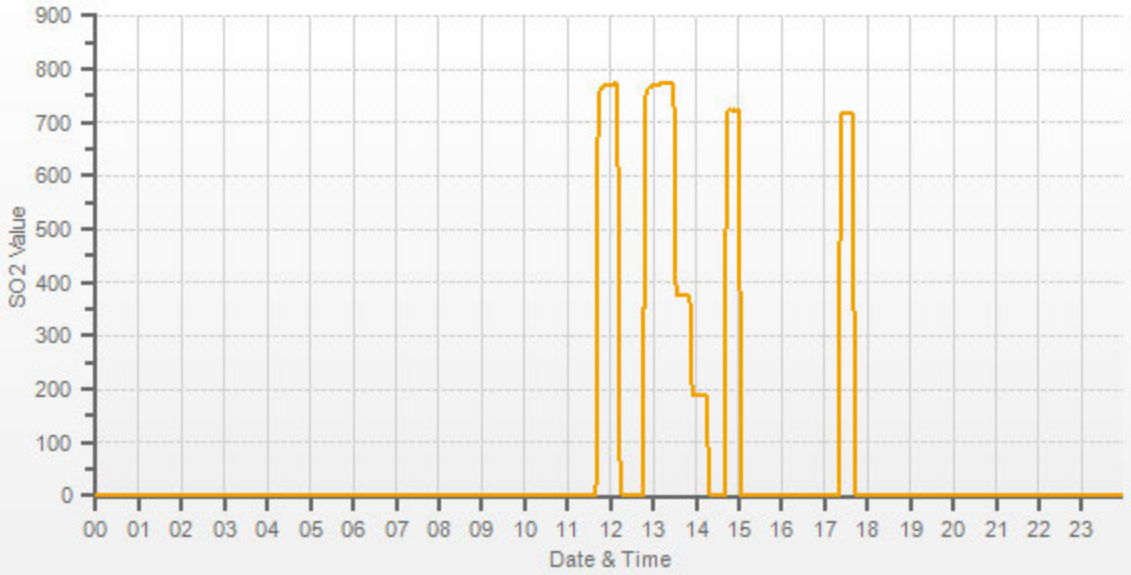
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	0.0%

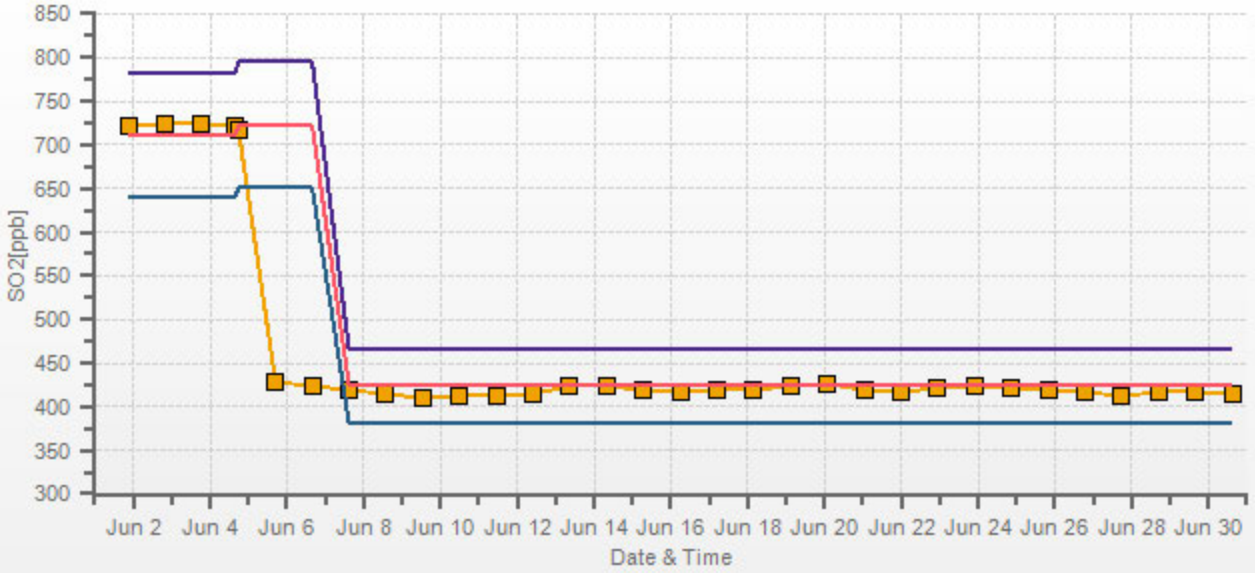
COMMENTS:

The sample inlet filter was changed.The oven temperature was adjusted from 45 to 35 degrees.

SO2[ppb] Station: LICA ST. LINA Daily: 19/06/04 Type: AVG 1 Min. [1 Min.]



SO2[ppb] Calibration: LICA ST. LINA Monthly: 19/06 Type: Span



H2S Analyzer Calibration by Dilution

DATE:	04-Jun-2019	PREVIOUS CALIBRATION DATE:	16-May-2019
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	0.999
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	930
PURPOSE	Routine	START TIME (MST):	11:03
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:58

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	18010058	FLOW (mL/min)	815
INITIAL		FINAL	
BKG/OFFSET	37.3	BKG/OFFSET	39.2
COEF/SLOPE	0.822	COEF/SLOPE	0.829
Expected (reference) Value	27.7	Expected (reference) Value	52.8

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	16-Apr-2019	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0001003	HIGH ID	n/a
CONC (ppm):	9.55	EXPIRY DATE	n/a
CYLINDER (psi):	900	LOW ID	n/a
EXPIRY DATE	20-Oct-2020	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

START TIME:	11:04	SO2 Conc (ppb)	780
END TIME:	11:19	Analyzer Response (ppb)	0.0

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
7500		7500	0.00	1.8	0		
7439	61.20	7500	77.93	79.7	77.9	1.000	1.000
7470	29.80	7500	37.95	n/a	37.9	n/a	1.001
7485	14.90	7500	18.97	n/a	19	n/a	0.999

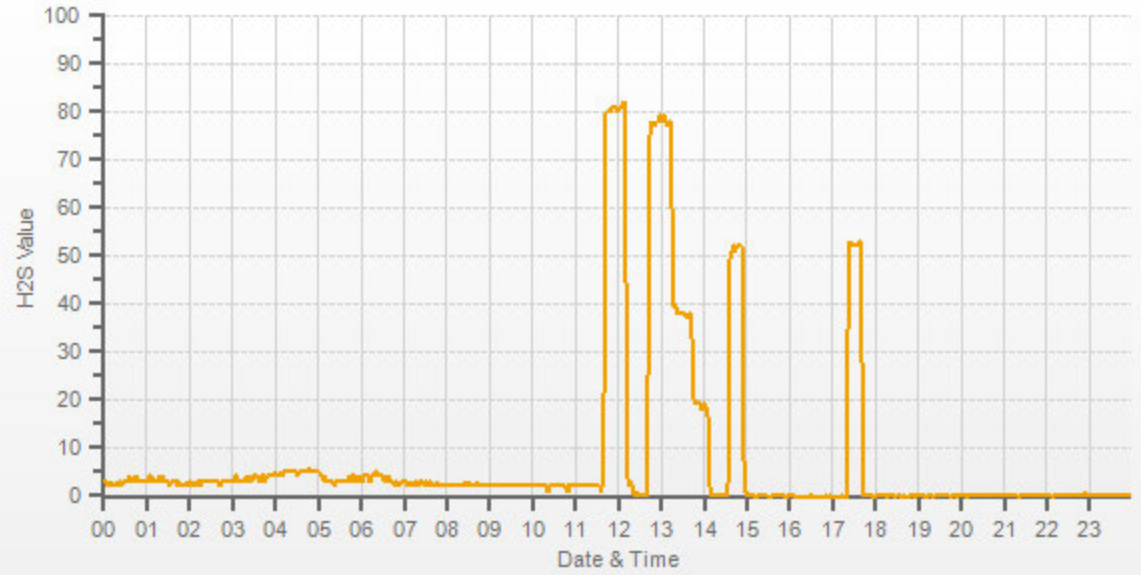
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.999	0.0%

COMMENTS:

The sample inlet filter was changed.

H2S[ppb] Station: LICA ST. LINA Daily: 19/06/04 Type: AVG 1 Min. [1 Min.]



H2S Analyzer Calibration by Dilution

DATE:	13-Jun-2019	PREVIOUS CALIBRATION DATE:	04-Jun-2019
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	23.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	925
PURPOSE	Repeat	START TIME (MST):	10:41
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:05

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	18010058	FLOW (mL/min)	815
INITIAL		FINAL	
BKG/OFFSET	39.2	BKG/OFFSET	41.2
COEF/SLOPE	0.829	COEF/SLOPE	0.83
Expected (reference) Value	56.4	Expected (reference) Value	64

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	16-Apr-2019	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0001003	HIGH ID	n/a
CONC (ppm):	9.55	EXPIRY DATE	n/a
CYLINDER (psi):	900	LOW ID	n/a
EXPIRY DATE	20-Oct-2020	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	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
7500		7500	0.00	1.2	0		
7439	61.20	7500	77.93	79.8	77.9	0.991	1.000
7470	29.80	7500	37.95	n/a	38	n/a	0.999
7485	14.90	7500	18.97	n/a	19	n/a	0.999

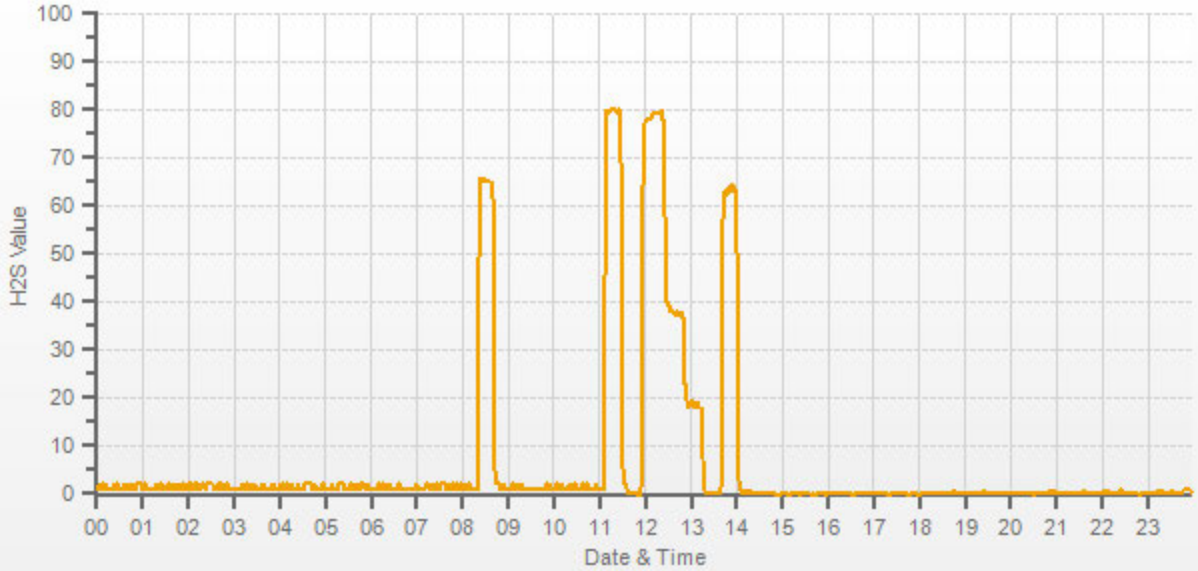
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	0.0%

COMMENTS:

Scrubber check was performed on June 4, 2019, during a monthly calibration. The repeat calibration was required because according to a daily report the analyzer SPAN check showed steady drift over 10%. This drift of SPAN value is attributed to a new perm tube drift. The repeat calibration was required to re-adjust the EV.

H2S[ppb] Station: LICA ST. LINA Daily: 19/06/13 Type: AVG 1 Min. [1 Min.]



H2S Analyzer Calibration by Dilution

DATE:	24-Jun-2019	PREVIOUS CALIBRATION DATE:	13-Jun-2019
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	910
PURPOSE	Repeat	START TIME (MST):	11:08
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:24

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	18010058	FLOW (mL/min)	815
INITIAL		FINAL	
BKG/OFFSET	41.2	BKG/OFFSET	42.6
COEF/SLOPE	0.83	COEF/SLOPE	0.834
Expected (reference) Value	64	Expected (reference) Value	70.7

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	16-Apr-2019	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0001003	HIGH ID	n/a
CONC (ppm):	9.55	EXPIRY DATE	n/a
CYLINDER (psi):	800	LOW ID	n/a
EXPIRY DATE	20-Oct-2020	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	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
7500		7500	0.00	0.9	0		
7439	61.20	7500	77.93	78.2	77.9	1.008	1.000
7470	29.80	7500	37.95	n/a	38	n/a	0.999
7485	14.90	7500	18.97	n/a	19	n/a	0.999

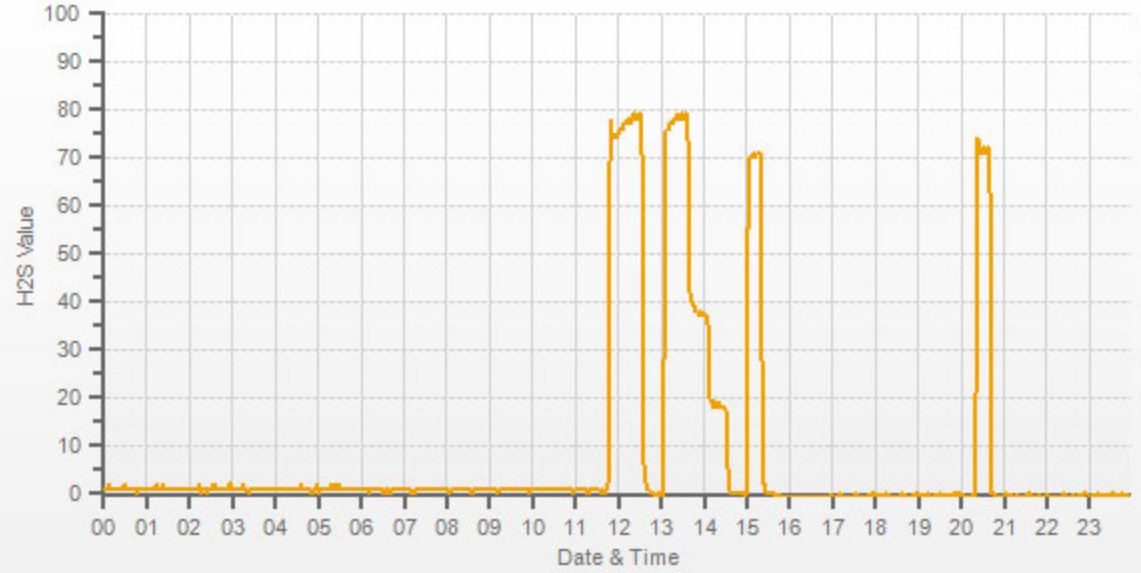
LINEAR REGRESSION ANALYSIS:

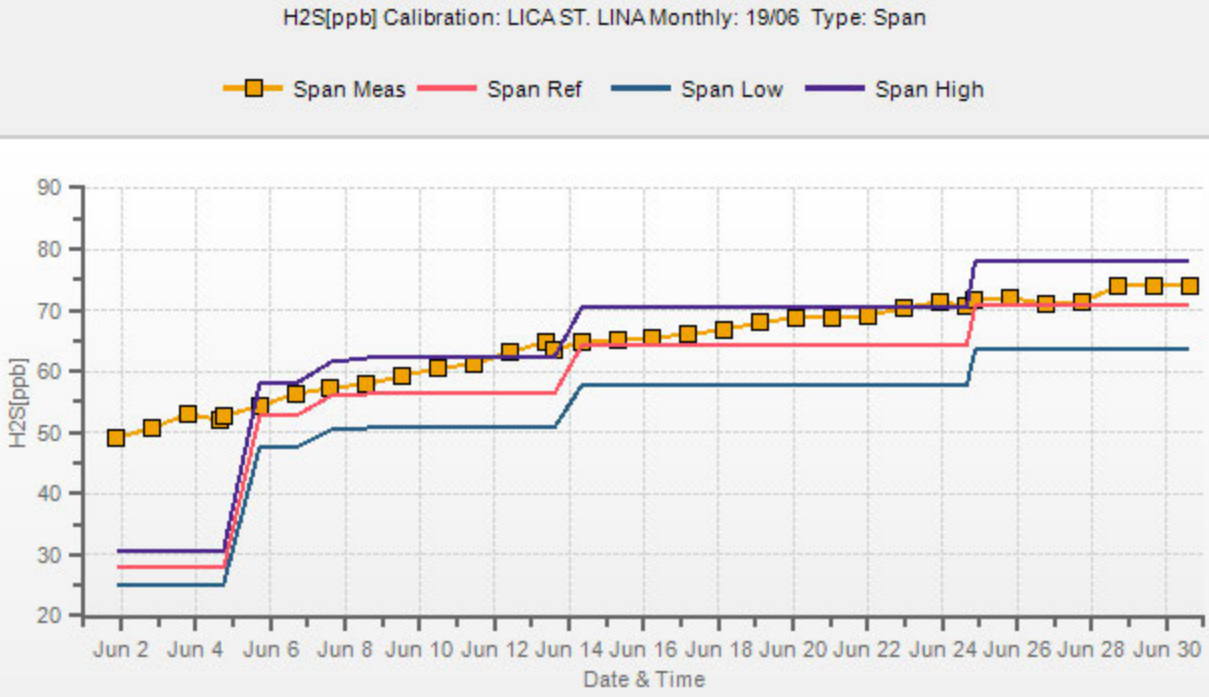
	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	0.0%

COMMENTS:

Scrubber check was performed on June 4, 2019, during a monthly calibration. The repeat calibration was required because according to a daily report the analyzer SPAN check showed steady drift over 10%. This drift of SPAN value is attibuted to a new perm tube drift. The repeat calibration was required to re-adjust the EV.

H2S[ppb] Station: LICA ST. LINA Daily: 19/06/24 Type: AVG 1 Min. [1 Min.]




H2S[ppb] Calibration: LICA ST. LINA Monthly: 19/06 Type: Span
Span Meas
Span Ref
Span Low
Span High
H2S[ppb]
90
80
70
60
50
40
30
20
Jun 2
Jun 4
Jun 6
Jun 8
Jun 10
Jun 12
Jun 14
Jun 16
Jun 18
Jun 20
Jun 22
Jun 24
Jun 26
Jun 28
Jun 30
Date & Time

Methane/Non-Methane Analyzer Calibration by Dilution

CALIBRATION:

DATE:	05-Jun-2019	PREVIOUS CALIBRATION DATE:	16-May-2019
CLIENT:	LICA	TEMPERATURE (°C):	24.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	930
PURPOSE	Routine	START TIME (MST):	10:13
PERFORMED BY:	Alex Yakupov	END TIME (MST):	13:51

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	1180930025	1210
PARAMETER:	CH4	NMHC	THC
RANGE (ppm):	20	20	40
PREVIOUS CF:	1.000	1.000	1.000

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	API	MAKE:	Teledyne	CYLINDER ID:	LL 29687		HIGH ID:	n/a
MODEL:	700	MODEL:	T701	CH_4/C_3H_8 (ppm):	598.0	198.0	HIGH EXPIRY:	n/a
ID:	690	ID:	132	CYLINDER (psi):	1400		LOW ID:	n/a
MFC CALIBRATION DATE:	16-Apr-2019	OXIDIZER ID:	115	EXPIRY DATE	01-Aug-2026		LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

POINT (CH4/NMHC)	HIGH	MID	LOW	CH4 EQUIVILANCE	
TARGET	14	7	3.5	C_3H_8 as CH_4	544.5
RANGE	12 - 16	6 - 8	2 - 4	THC as CH_4	1142.5

EXPECTED (REFERENCE) VALUE:

INITIAL	CH4	NMHC	THC	FINAL	CH4	NMHC	THC
	10.83	10.92	21.75		11.13	11.15	22.28

CALIBRATION:

FLOW RATE (mL/min)			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC
3025		3025	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
2955	70.00	3025	13.84	12.60	26.44	13.49	12.25	25.73	13.84	12.60	26.44	1.026	1.029	1.028	1.000	1.000	1.000
2987	38.00	3025	7.51	6.84	14.35	n/a	n/a	n/a	7.54	6.90	14.44	n/a	n/a	n/a	0.996	0.991	0.994
3006	19.00	3025	3.76	3.42	7.18	n/a	n/a	n/a	3.77	3.51	7.29	n/a	n/a	n/a	0.996	0.974	0.984

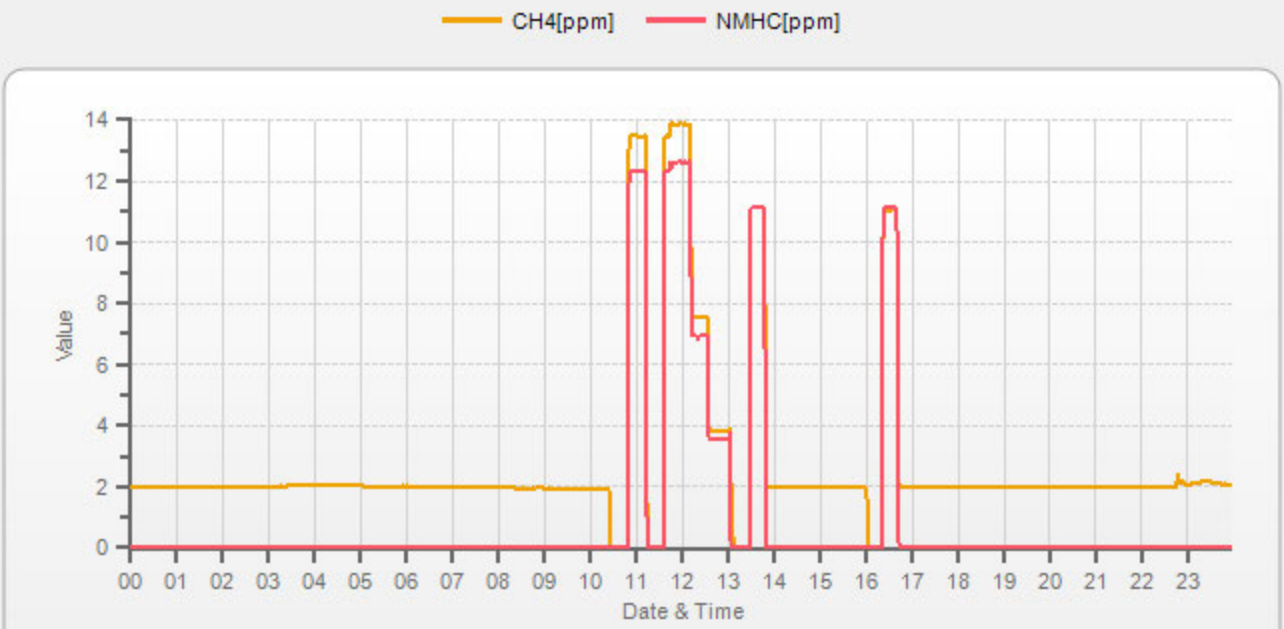
LINEAR REGRESSION ANALYSIS:

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

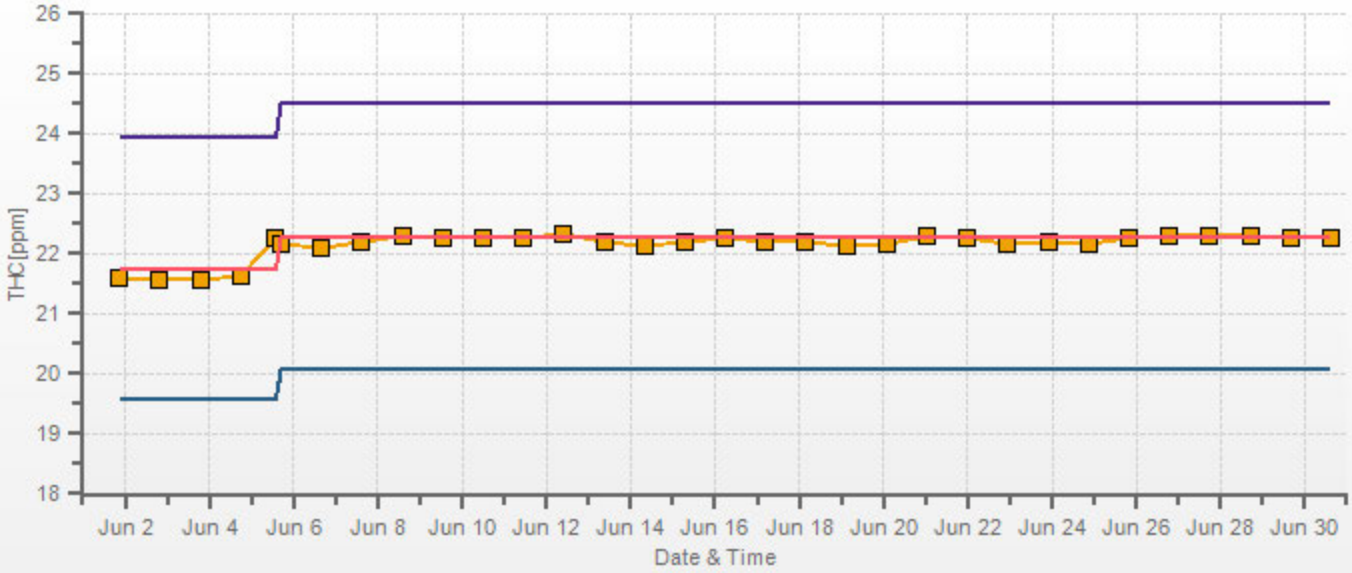
COMMENTS:

The sample inlet filter was changed.

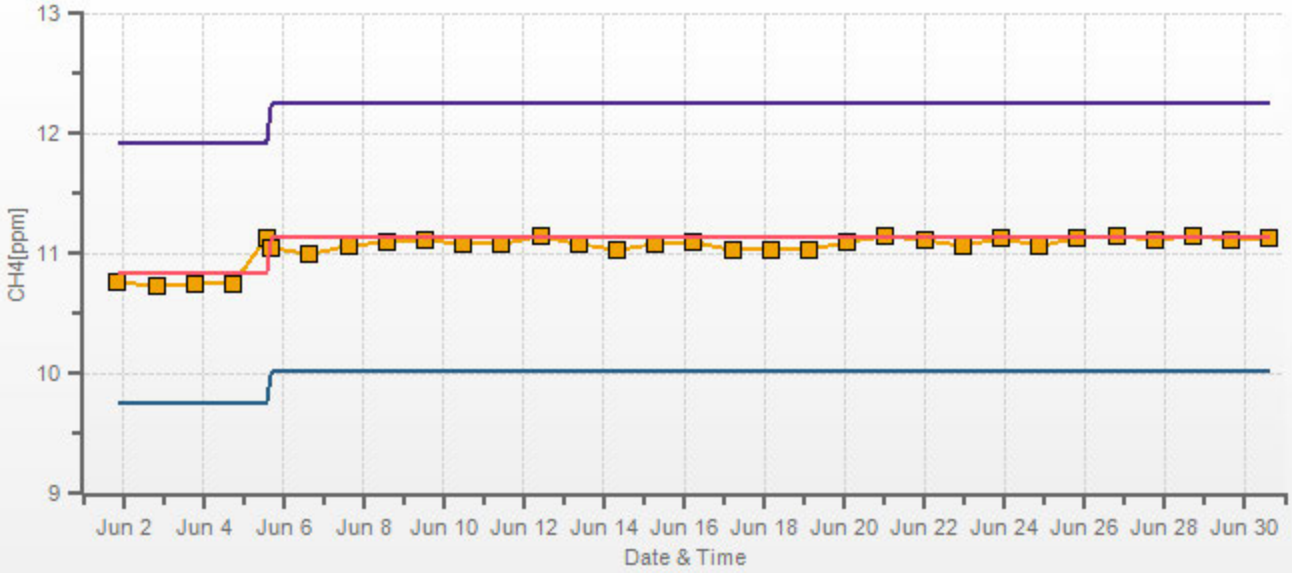
Station: LICA ST. LINA Daily: 19/06/05 Type: AVG 1 Min. [1 Min.]



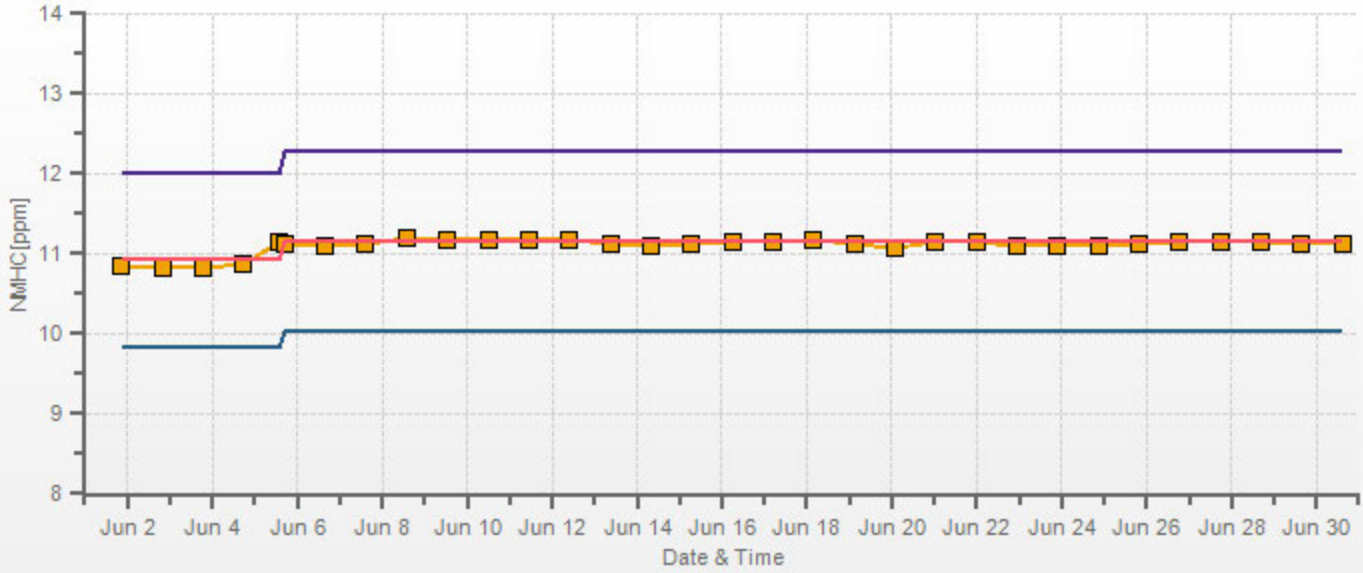
THC[ppm] Calibration: LICA ST. LINA Monthly: 19/06 Type: Span



CH4[ppm] Calibration: LICA ST. LINA Monthly: 19/06 Type: Span



NMHC[ppm] Calibration: LICA ST. LINA Monthly: 19/06 Type: Span



NOx Calibration by Dilution/Gas-Phase Titration

CALIBRATION:

				ANALYZER:			
DATE:	04-Jun-2019	PREVIOUS CALIBRATION DATE:	23-May-2019	MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
CLIENT:	LICA	TEMPERATURE (°C):	22.0	SERIAL #:	1180930029	NOx	1.000
LOCATION:	St. Lina	BAROMETRIC (mBar):	930.00	FLOW (mL/min)	518	NO	0.999
PURPOSE	Routine	START TIME (MST):	11:02	RANGE (ppb)	1000	NO2	1.000
PERFORMED BY:	Alex Yakupov	END TIME (MST):	16:55	GPT FOR O3?		No	

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	API	MAKE:	Teledyne	CYLINDER ID:	LL 107918		HIGH ID:	n/a
MODEL:	700	MODEL:	T701	NO/NOx (PPM):	50.1	50.2	HIGH EXPIRY:	n/a
ID:	690	ID:	132	CYLINDER (psi):	1500		LOW ID:	n/a
MFC CALIBRATION DATE:	16-Apr-2019	OXIDIZER ID:	n/a	EXPIRY DATE	20-Aug-2026		LOW EXPIRY:	n/a

CALIBRATION SETTINGS:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
BKG/OFFSET:	6	6	n/a	BKG/OFFSET:	6	6	n/a
SLOPE/COEF/CE:	1	1	1.0	SLOPE/COEF/CE:	1	1	1.0

EXPECTED (REFERENCE) VALUE:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	376	3	373.0		351	3	348.0

CALIBRATION PARAMETERS:

POINT	NO TARGET (PPB)	NO2 TARGET (PPB)	NO2 RANGE	O3 POINT
HIGH	780	500	470-540	n/a
MID	380	275	235-310	n/a
LOW	190	90	80-115	n/a
EXTRA 1	n/a	n/a	n/a	n/a

NO/NOx CALIBRATION:

FLOW RATE (mL/min)			CONCENTRATION (ppb)									CORRECTION FACTOR (CF.)					
			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2
5000		5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
4922	77.80	5000	779.6	781.1	1.6	780.0	781.0	1.0	780.0	781.0	1.0	0.999	1.000		0.999	1.000	
4962	37.90	5000	379.8	380.5	0.8	n/a	n/a	n/a	380.0	381.0	1.0	n/a	n/a		0.999	0.999	
4981	18.90	5000	189.4	189.8	0.4	n/a	n/a	n/a	190.0	190.0	0.0	n/a	n/a		0.997	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	77.80	5000	0	786.0	786.0	0.0				
AS-FOUND HIGH	77.80	5000	480	286.0	786.0	500.0	500	500	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	77.80	5000	265	507.0	786.0	279.0	279	279	1.000	100.00%
LOW	77.80	5000	95	686.0	786.0	100.0	100	100	1.000	100.00%
NO2 adjustment not required.									AVERAGE:	100.00%

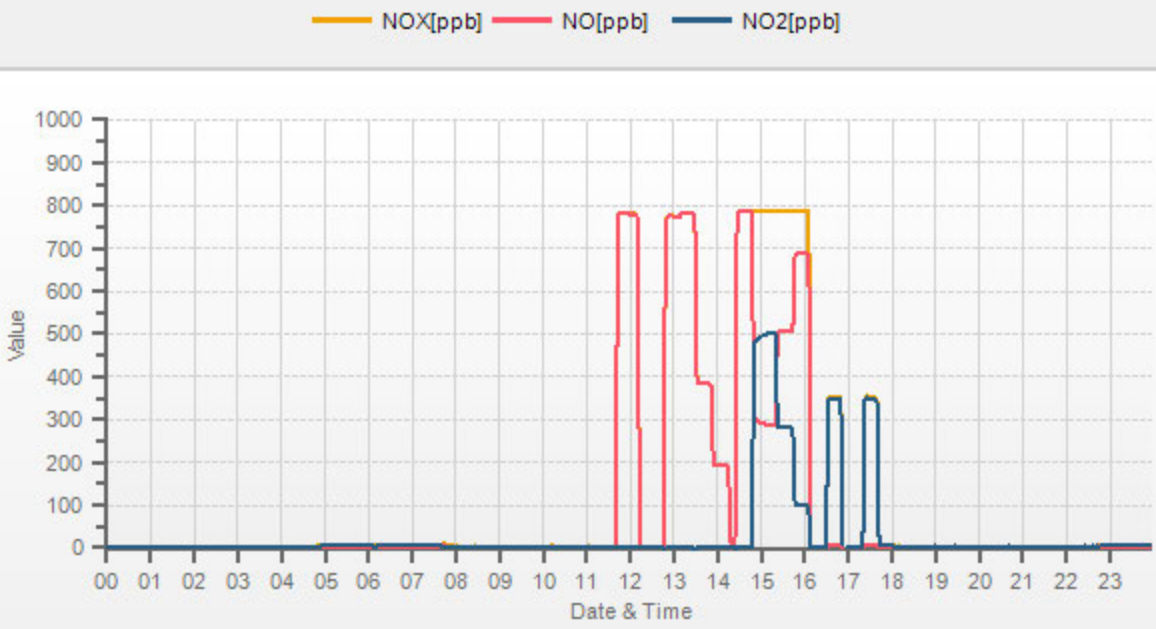
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
NO	1.000	1.000	0.02%
NOx	1.000	1.000	0.02%
NO2	1.000	1.000	0.00%

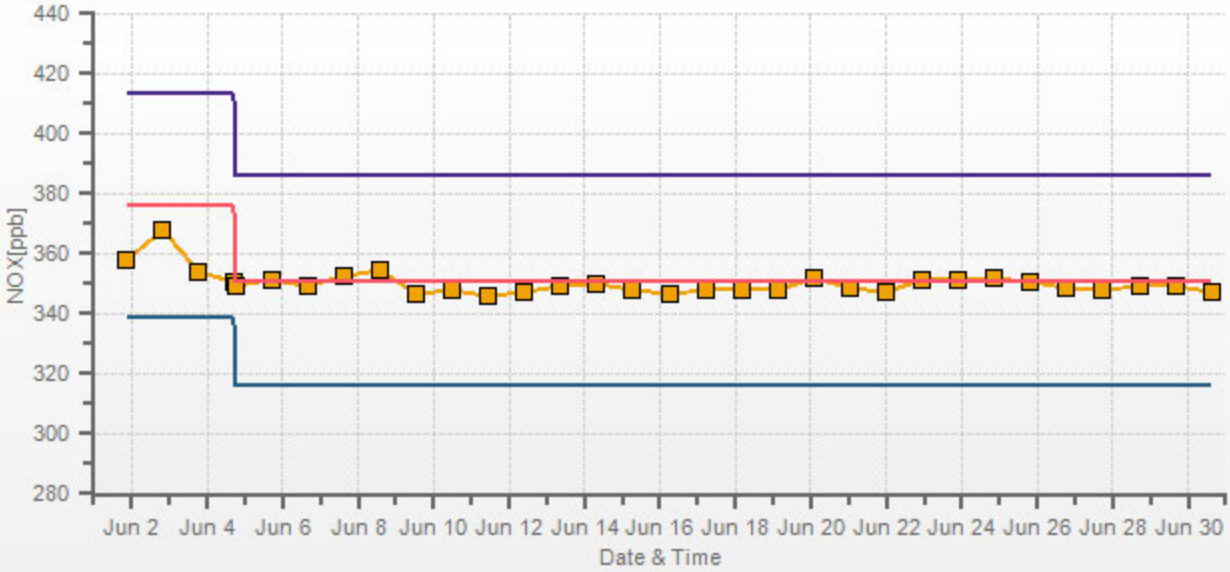
COMMENTS:

The sample inlet filter was changed.

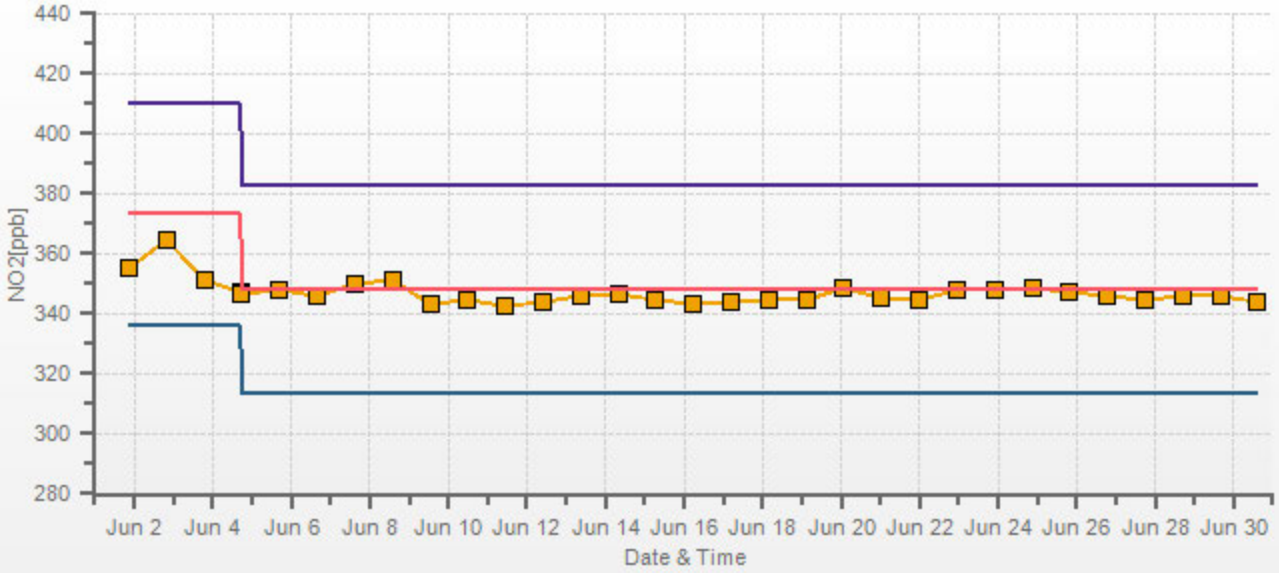
Station: LICA ST. LINA Daily: 19/06/04 Type: AVG 1 Min. [1 Min.]



NOX[ppb] Calibration: LICA ST. LINA Monthly: 19/06 Type: Span



NO2[ppb] Calibration: LICA ST. LINA Monthly: 19/06 Type: Span



Ozone Calibration by Photometer (Varying UV Lamp)

DATE:	05-Jun-2019	PREVIOUS CALIBRATION DATE:	23-May-2019
PARAMETER:	Ozone	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	24.0
LOCATION:	St. Lina	BAROMETRIC (mBar):	930
PURPOSE	Routine	START TIME (MST):	10:13
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:50

ANALYZER:

MAKE/MODEL	Thermo 49i	RANGE	500 ppb
SERIAL #	1002240371	FLOW (mL/min)	1497
INITIAL		FINAL	
BKG/OFFSET	-0.2	BKG/OFFSET	-0.2
COEF/SLOPE	1.009	COEF/SLOPE	1.009
Expected (reference) Value	358	Expected (reference) Value	358

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	16-Apr-2019	OXIDIZER ID:	n/a
	CALIBRATION METHOD:	Photometer (Varying UV Lamp)	
GPT DATE:	n/a	GPT END TIME:	n/a

CALIBRATION PARAMETERS:

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

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
5000		5000	0.0	0.0	0.0		
5000		5000	380.0	380.0	380.0	1.000	1.000
5000		5000	180.0	n/a	180.0	n/a	1.000
5000		5000	60.0	n/a	60.0	n/a	1.000

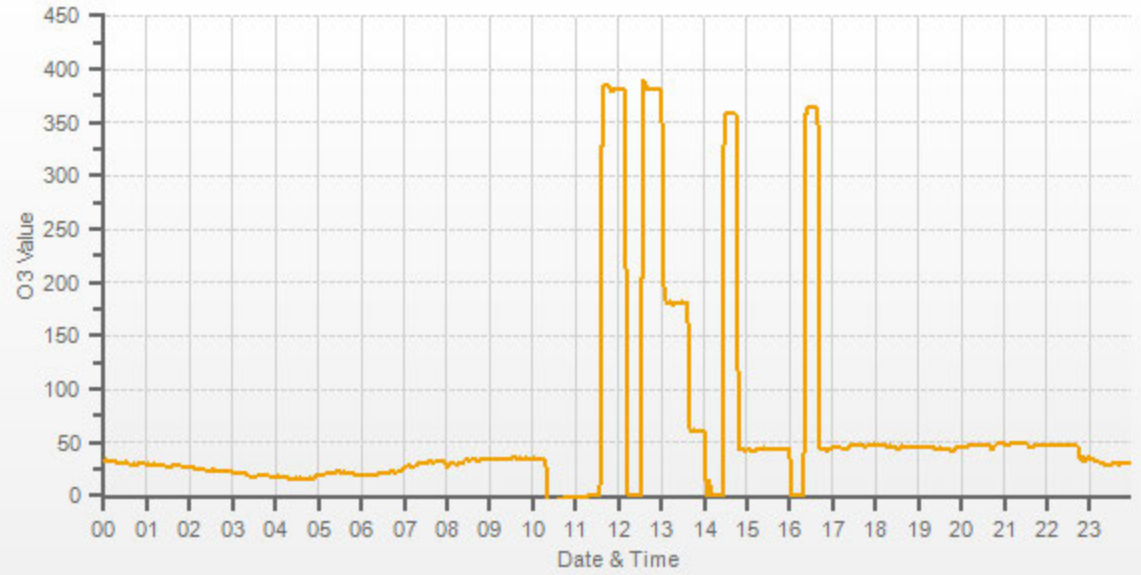
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	0.0%

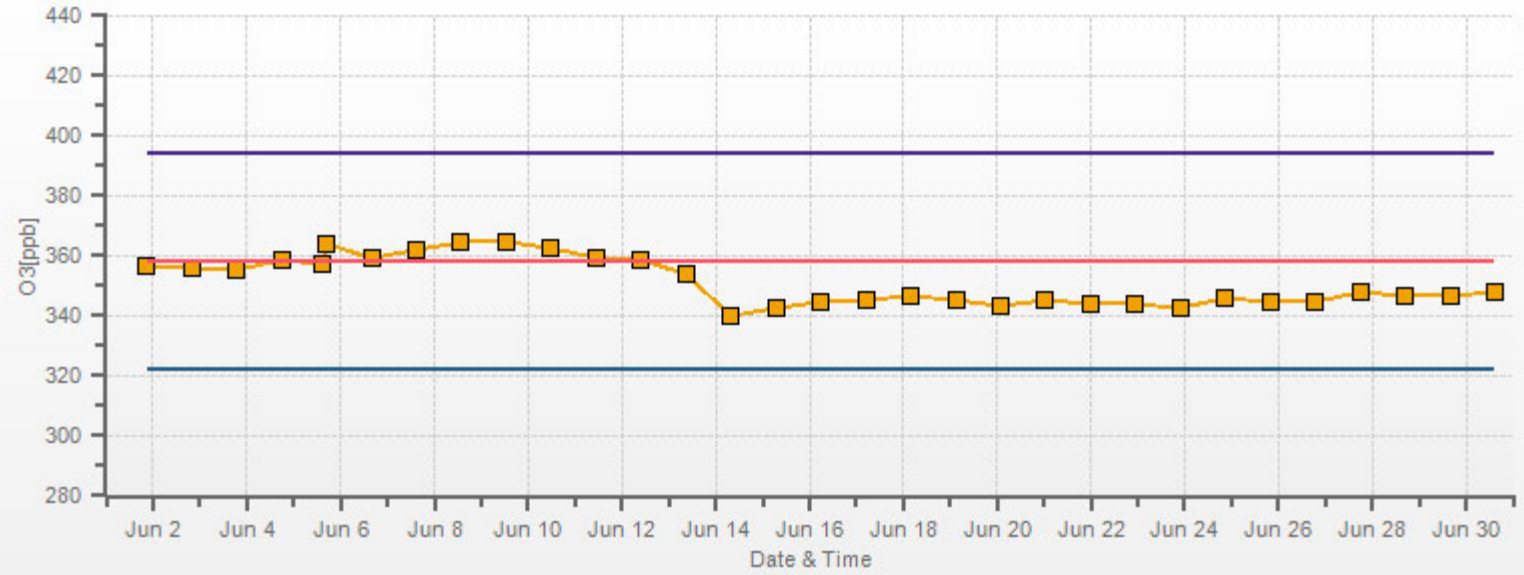
COMMENTS:

The sample inlet filter was changed.

O3[ppb] Station: LICA ST. LINA Daily: 19/06/05 Type: AVG 1 Min. [1 Min.]



O3[ppb] Calibration: LICA ST. LINA Monthly: 19/06 Type: Span



Thermo 5030i SHARP Monitor Monthly Check

Date:	June 5, 2019	**Performed By/Reviewer:**	Alex Yakupov / Rob Fisher
Company:	LICA	**Start Time (mst):**	14:18
Station Name/Location:	Cold Lake South	**End Time (mst):**	15:01
Previous Audit Date:	May 27, 2019	**Calibration Purpose:**	routine monthly
Parameter:	PM 2.5	**Weather Conditions:**	Mainly sunny

SHARP 5030i Information and Status:

Serial Number: CM 17091001 **Filter Tape Counter** 205

Reference Standards:

	Air Flow		Pressure:		Temp / RH:	
	Manometer	**Orifice**				
Make:	Dwyer	Chinook	Fisher Scientific		Fisher Scientific	
Model:	475 Mk. III	170101	FB61291		11-661-7B	11745843
Serial Number:	#3	#4	130168457		160348895	
Calibration Expiration Date:	January 17, 2020	January 31, 2020	January 17, 2020		June 19, 2020	

Ambient Temperature (°C)

	Reference	SHARP	Difference
#1	17.70	17.9	-0.2

Ambient Relative Humidity (%RH)

As Found:

	Reference	SHARP	Difference
#1	32.10	31.7	0.4

Barometric Pressure (mmHg)

As Found:

	Reference	SHARP	Difference
#1	697.0	697.8	-0.8

Flow Audit (L/min)

As Found:

	Reference	SHARP
#1	16.67	16.68
#2	16.66	16.65
#3	16.66	16.66
Average	16.66	16.66

Leak Check (L/min)

	Without Leak Check Adapter			With leak Check Adapter			
	Reference	SHARP	Difference	Reference	SHARP	Difference	
#1	16.66	16.66	0.00	16.63	16.66	-0.03	*Leak Limit: 0.80 L/min*
					LEAK RATE:	**-0.03**	

Meteorological Sensor Audit/Calibration

Location Information

Company:	LICA	**Performed By:**	Alex Yakupov
Audit Location:	St. Lina	**Reviewed By:**	Rob Fisher
Audit Date:	May 3, 2019	**Start/End Time (mst):**	11:51 / 15:17
Calibration Purpose:	installation	**Weather Conditions:**	Cloudy/Overcast

Wind Sensor Information

Sensor ID Data:		**Sensor Outputs:**	
Sensor Make:	RM Young	**Velocity Voltage Output Range:**	0-1 V
Sensor Model:	05305VK	**Velocity Unit Output Range:**	0-200 km/h
Serial #:	WM 161466	**Direction Voltage Output Range:**	0-1 V
Previous Cal/Audit Date:	May 17, 2018	**Direction Unit Output Range:**	0-360 degrees

Wind Calibrator Information

Calibrator I.D. and Expiry Date: 18860-90/18802 #CA 4744 expires May 18, 2019

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	0.995
2000	36.9	36.9	37.0	0.999
3000	55.3	55.4	55.4	0.998
4000	73.7	73.9	73.9	0.997
5000	92.2	92.2	92.5	0.998
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	0.995
9000	165.9	166.7	166.7	0.995
10000	184.3	185.2	184.9	0.996
		The audit meets AMD requirements.	**Average Correction Factor=**	**0.997**

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

Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	1	355	0.5	0.0	0.3
30	330	31	330	-1.1	0.1	0.6
60	300	62	300	-1.7	0.0	0.9
90	270	92	271	-2.1	-0.8	1.5
120	240	122	242	-2.1	-1.8	2.0
150	210	152	211	-1.8	-1.4	1.6
180	180	183	183	-2.5	-2.5	2.5
210	150	212	152	-2.2	-1.5	1.8
240	120	242	122	-2.3	-2.3	2.3
270	90	271	93	-0.7	-2.7	1.7
300	60	300	61	-0.2	-1.3	0.7
330	30	330	30	0.3	-0.3	0.3
355	0	355	1	0.0	0.5	0.3
The audit meets AMD requirements.			**Average Absolute Degrees Difference=**			**1.3**

Comments:

Alberta Government

Calibrator Performance Audit

Oxides Of Nitrogen

File No. 2019-050A

Company Maxxam **Operator:** Tom Bourque

Calibrator:				**Flow Measurement Device:**	
Make/Model	API 700			Make/Model	N/A
Serial Number	690			Serial Number	N/A
Last Verification Date	March 2018			Temperature (°C)	24.4 C
NO Cylinder S/N	EY0000769			Barometric Pressure	699 mmHg
NO [PPM]	51.1	NOx [PPM]	51.2		
Expiry Date	December 2019				

Dilution Flow (sccm)

Pt. #1 5000 Pt. #2 5000 Pt. #3 5000

Gas Flow (sccm)

Pt. #1 80 Pt. #2 40 Pt. #3 20

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO_2	NOx	NO	NOx
5000	0.0	0.000	0.000	0.000	-0.001	-0.001	Limit ± 10%	
5083	80.0	0.804	0.806	0.802	-0.011	0.791	0%	-2%
5044	40.0	0.405	0.406	0.403	-0.006	0.397	-1%	-2%
5022	20.0	0.204	0.204	0.202	-0.004	0.198	-1%	-2%
						Absolute Average Percent Difference	1%	2%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

NO		**LIMITS**	**NOx**	
Correlation=	1.0000	**≥ 0.990**	Correlation=	1.0000
m (Slope)=	0.9974	**0.90-1.10**	m (Slope)=	0.9833
b (Intercept % of FS)=	-0.0592	**± 3% F.S.**	b (Intercept % of FS)=	-0.1772

Flow	O_3 Conc	NO Decrease	NO	NO2	NOX	% Diff. Vs Audit gas	
5083	0.000	0.000	0.802	-0.011	0.791	NO_2	% Diff. Limit
5083	0.500	0.518	0.284	0.488	0.771	-4%	± 10%
5083	0.300	0.323	0.479	0.294	0.774	-6%	± 10%
5083	0.150	0.167	0.635	0.142	0.777	-8%	± 10%
						6%	± 10%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

NO_2		**LIMITS**
Correlation=	0.9998	**≥ 0.995**
m (Slope)=	0.9649	**0.90-1.10**
b (Intercept % of FS)=	-1.4907	**± 3% F.S.**

Big shift down in NOx when entering GPT function.
Possible flow change.

AENV Standards		**NO_X Analyzer**	
Audit Calibrator			
Make/Model	Teco 146i	Make/Model	Teco 42i
Serial/AMU Number	AMU 1809	Serial/AMU Number	AMU 2265
SRM Gas Cylinder No.	APEX1236646	Last Calibration Date	April 15, 2019
Cylinder Conc. (ppm)	50.04	Full Scale (ppm)	1.0
		Cylinder Gas Expiry Date	June 2021

COMMENTS: With ZAG Teledyne 701 Maxxam ID 11986.

Auditor: Al Clark Date: April 16, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibrator Performance Audit

Oxides Of Nitrogen

File No. 2019-048A

Company Maxxam **Operator:** Tom Bourque

Calibrator:

Make/Model	Sabio 2010
Serial Number	11900613
Last Verification Date	August 2018
NO Cylinder S/N	EY0000769
NO [PPM]	51.1 NOx [PPM] 51.2
Expiry Date	December 2019

Flow Measurement Device:

Make/Model	N/A
Serial Number	N/A
Temperature (°C)	24.4 C
Barometric Pressure	699 mmHg

Dilution Flow (sccm)

Pt. #1 5000 Pt. #2 5000 Pt. #3 5000

Gas Flow (sccm)

Pt. #1 80 Pt. #2 40 Pt. #3 20

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO_2	NOx	NO	NOx
5000	0.0	0.000	0.000	0.000	-0.002	-0.002	Limit ± 10%	
5080	80.0	0.805	0.806	0.815	-0.007	0.808	1%	0%
5041	40.0	0.405	0.406	0.414	-0.004	0.410	2%	1%
5019	20.0	0.204	0.204	0.210	-0.004	0.206	3%	2%
						Absolute Average Percent Difference	2%	1%

LINEAR REGRESSION ANALYSIS

y=mx+b (where x=calculated concentration, y=indicated concentration)

	NO	LIMITS	NOx
Correlation=	1.0000	≥ 0.990	1.0000
m (Slope)=	1.0117	0.90-1.10	1.0039
b (Intercept % of FS)=	0.2171	± 3% F.S.	-0.0020

Flow	O_3 Conc	NO Decrease	NO	NO2	NOX	% Diff. Vs Audit gas	
						NO_2	% Diff. Limit
5080	0.000	0.000	0.815	-0.009	0.806		
5080	1.400	0.517	0.298	0.511	0.809	1%	± 10%
5080	0.900	0.308	0.507	0.299	0.806	0%	± 10%
5080	0.500	0.140	0.675	0.130	0.805	-1%	± 10%
						0%	± 10%

LINEAR REGRESSION ANALYSIS

y=mx+b (where x=calculated concentration, y=indicated concentration)

	NO_2	LIMITS
Correlation=	1.0000	≥ 0.995
m (Slope)=	1.0062	0.90-1.10
b (Intercept % of FS)=	-1.0004	± 3% F.S.

AENV Standards

Audit Calibrator

Make/Model	Teco 146i
Serial/AMU Number	AMU 1809
SRM Gas Cylinder No.	APEX1236646
Cylinder Conc. (ppm)	50.04

NO_X Analyzer

Make/Model	Teco 42i
Serial/AMU Number	AMU 2265
Last Calibration Date	April 15, 2019
Full Scale (ppm)	1.0
Cylinder Gas Expiry Date	June 2021

COMMENTS: With ZAG Teledyne 701 Maxxam ID: 11981. Should have Maxxam ID 11986 instead

Auditor: Al Clark Date: April 16, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

Single Component Cylinder Gas

File No. 2019-392CGA

Company: Maxxam **Operator's Name:** Alex

Cylinder #: LL107918 Concentration PPM: 49.5 Tolerance(%) 1 Certified By: Praxair

Expiry Date: August 2026

Reference Calibrator and Gas:

Make/Model: Sabio 2010
Serial Number: AMU 2092
Last Verification Date: January 14, 2019
Gas Type: SO2 Conc. 50.26
Cylinder Number: FF28071
Expiry Date: March 2020

Flow Measurement Device:

Make/Model: Mesa Definer 220
Serial Number: H-133034 / L-132702
Temp.°C: 22.7 C
B.P. 707 mmHg

Reference Analyzer:

Make/Model: Teco 43i Serial/AMU Number: 2195
Instrument Settings: Zero: 11.8 Span: 0.980 Range: 1.0
Last Calibration: Date: Jan 14/19 C.F. 1.000 Done By: Shea Beaton

Calibrator Flows (sccm)		Indicated	Gas Flow/	Concentration	Cylinder
Dilution	Gas	Concentration (PPM)	Dilution Flow	Factor	Concentration
5000	0.0	0.000			
4898	78.1	0.790	0.01595	62.714	49.5
4893	38.7	0.389	0.00791	126.434	49.2
4894	19.3	0.192	0.00394	253.575	48.7
				Average Cylinder Concentration:	**49.1**

Previous Stated Concentration PPM: 49.5

Percent variance from Stated: **1**

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: January 15, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

Single Component Cylinder Gas

File No. 2017-493CGA

Company: Maxxam **Operator's Name:** Mike

Cylinder #: EY0001003 Concentration PPM: 9.55 Tolerance(%) 2 Certified By: Praxair

Expiry Date: October 2020

Reference Calibrator and Gas:

Make/Model: Sabio 2010
Serial Number: AMU 2092
Last Verification Date: January 17, 2018
Gas Type: H2S Conc. 20.43
Cylinder Number: CAL015272
Expiry Date: January 2019

Flow Measurement Device:

Make/Model: Mesa Defender 530
Serial Number: H-153961 / L-153874
Temp.°C: 23.0 C
B.P. 697 mmHg

Reference Analyzer:

Make/Model: Teco 450i Serial/AMU Number: 1980

Instrument Settings: Zero: 12.9 Span: 0.955 Range: 0.1

Last Calibration: Date: Jan 17/18 C.F. 1.000 Done By: Al Clark

Calibrator Flows (sccm)		Indicated	Gas Flow/	Concentration	Cylinder
Dilution	Gas	Concentration (PPM)	Dilution Flow	Factor	Concentration
5000	0.0	0.0000			
5051	39.6	0.0753	0.00784	127.551	9.60
5028	20.2	0.0387	0.00402	248.911	9.63
5033	10.5	0.0198	0.00209	479.333	9.49
				Average Cylinder Concentration:	**9.58**

Previous Stated Concentration PPM: 9.55

Percent variance from Stated: 0

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:** Used AEP regulator

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: January 18, 2018

Operator Signature: Al Clark Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

CH4 / C3H8 Cylinder Gas

File No. 2019-393CGA

Company: Maxxam **Operators name:** Alex

Cylinder #: LL29687 Conc CH4 (PPM) 598/198 Tolerance (%) 1 Certified By: Praxair

Expiry Date: August 2026

Reference Calibrator and Gas:

Make/Model	Sabio 2010		
Serial Number	AMU 2092		
Last Verification Date	January 14, 2019		
Gas Type	CH4	Conc.	990.4
Cylinder Number	05604875	Expiry Date	July 2021
Gas Type	C3H8	Conc.	246.5
Cylinder Number	XF003845B	Expiry Date	July 2022

Flow Measurement Device:

Make/Model	Mesa Definer 220
Serial Number	H-133034 / L-132702
Temp.°C	23.8 C
B.P.	707 mmHg

Reference Analyzer:

Make/Model: Teco 55i Serial/AMU Number: 2221

Instrument Settings Zero: N/A Span: N/A Range: 20.0

Last Calibration: Date: Jan 14/19 C.F. 1.000 Done By: Shea Beaton

Calibrator Flows (sccm)		Indicated Conc. (ppm)		Gas Flow/	Concentration	Cylinder Concentration	
Dilution	Gas	CH4	C3H8	Dilution Flow	Factor	CH4	C3H8
5000	0.0	0.00	0.00				
3990	77.5	11.71	11.18	0.02	51.48	603	209
3976	39.1	5.87	5.71	0.01	101.69	597	211
3986	20.0	2.96	2.86	0.01	199.30	590	207
					Average Cylinder Concentration:	**597**	**209**

	CH4	C3H8
Previous Stated Concentration PPM:	598	198
Percent variance from Stated:	**0**	**6**

Cylinder gas tolerances based on CH4 only

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: January 15, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

NO Cylinder Gas

File No. 2019-391CGA

Company: Maxxam **Operators name:** Alex

Cylinder #: LL107918 Conc (PPM) 50.1/50.2 Tolerance (%) 1 Certified By: Praxair

Expiry Date: August 2026

Reference Calibrator and Gas:

Make/Model	Teco 146i
Serial Number	AMU 1809
Last Verification Date	January 14, 2019
Gas Type	NO Conc. 50.05
Cylinder Number	APEX1236645
Expiry Date	June 2021

Flow Measurement Device:

Make/Model	Mesa Definer 220
Serial Number	H-133034 / L-132702
Temp.°C	22.7 C
B.P.	707 mmHg

Reference Analyzer:

Make/Model: Teco 42i Serial/AMU Number: 2268

Instrument Settings Zero: 9.2 Span: 1.223 Range: 1.0

Last Calibration: Date: Jan 14/19 C.F. 1.000 Done By: Al Clark

Calibrator Flows (sccm)		Indicated Conc. (ppm)		Gas Flow/	Concentration	Cylinder Concentration	
Dilution	Gas	NO	NOX	Dilution Flow	Factor	NO	NOX
5000	0.0	0.000	0.000				
4898	78.1	0.792	0.793	0.016	62.714	49.7	49.7
4893	38.7	0.395	0.395	0.008	126.434	49.9	49.9
4894	19.3	0.195	0.195	0.004	253.575	49.4	49.4
					Average Cylinder Concentration:	**49.7**	**49.7**

	NO	NOx
Previous Stated Concentration PPM:	50.1	50.2
Percent variance from Stated:	**1**	**1**

Cylinder gas tolerances based on NO only

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: Janaury 15, 2019

Operator Signature: Location: McIntyre Center Edmonton

JUNE 1 - 30, 2019
MONTHLY CALIBRATION REPORT
Project #: 2833-2019-06-39-C
LICA-201906

Prepared for:

Lakeland Industry & Community Association

Mike Bisaga

5107 50 St.

Bonnyville, Alberta T9N 2J7

monitoring@lica.ca

780-266-7068

Monitoring Station

Bonnyville East Continuous Monitoring Station

Date of Report Issuance: July 25, 2019

BUREAU VERITAS

#1 - 2080 39 Avenue NE, Calgary AB, T2E 6P7

SO2 Analyzer Calibration by Dilution

DATE:	06-Jun-2019	PREVIOUS CALIBRATION DATE:	17-May-2019
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Bonnyville - East	BAROMETRIC (mBar):	929
PURPOSE	Routine	START TIME (MST):	10:01
PERFORMED BY:	Alex Yakupov	END TIME (MST):	13:50

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	1000 ppb
SERIAL #	1180320043	FLOW (mL/min)	453
INITIAL		FINAL	
BKG/OFFSET	4.64	BKG/OFFSET	4.55
COEF/SLOPE	0.977	COEF/SLOPE	0.96
Expected (reference) Value	596	Expected (reference) Value	605

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	API	MAKE:	Teledyne
MODEL:	700	MODEL:	T701
ID:	690	ID:	132
MFC CALIBRATION DATE:	16-Apr-2019	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	LL 107918	HIGH ID	n/a
CONC (ppm):	49.5	EXPIRY DATE	n/a
CYLINDER (psi):	1400	LOW ID	n/a
EXPIRY DATE	20-Aug-2026	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

POINT	HIGH	MID	LOW
TARGET	780	380	190
RANGE	600 - 800	300 - 400	100 - 200

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

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

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
5000		5000	0.00	0	0		
4922	77.80	5000	770.22	782	770	0.985	1.000
4962	37.90	5000	375.21	n/a	375	n/a	1.001
4981	18.90	5000	187.11	n/a	187	n/a	1.001

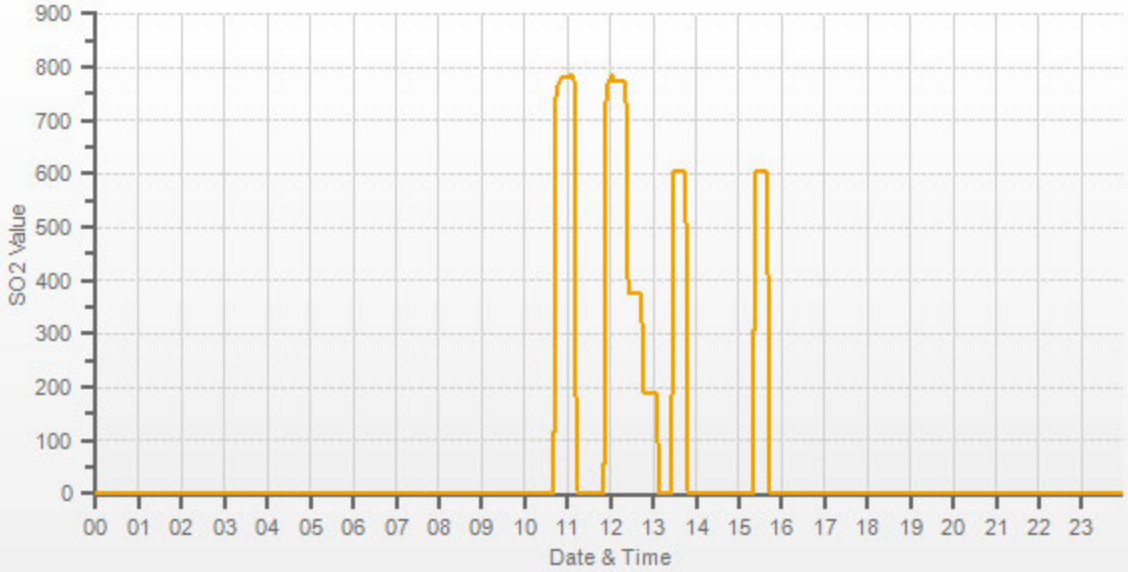
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	0.0%

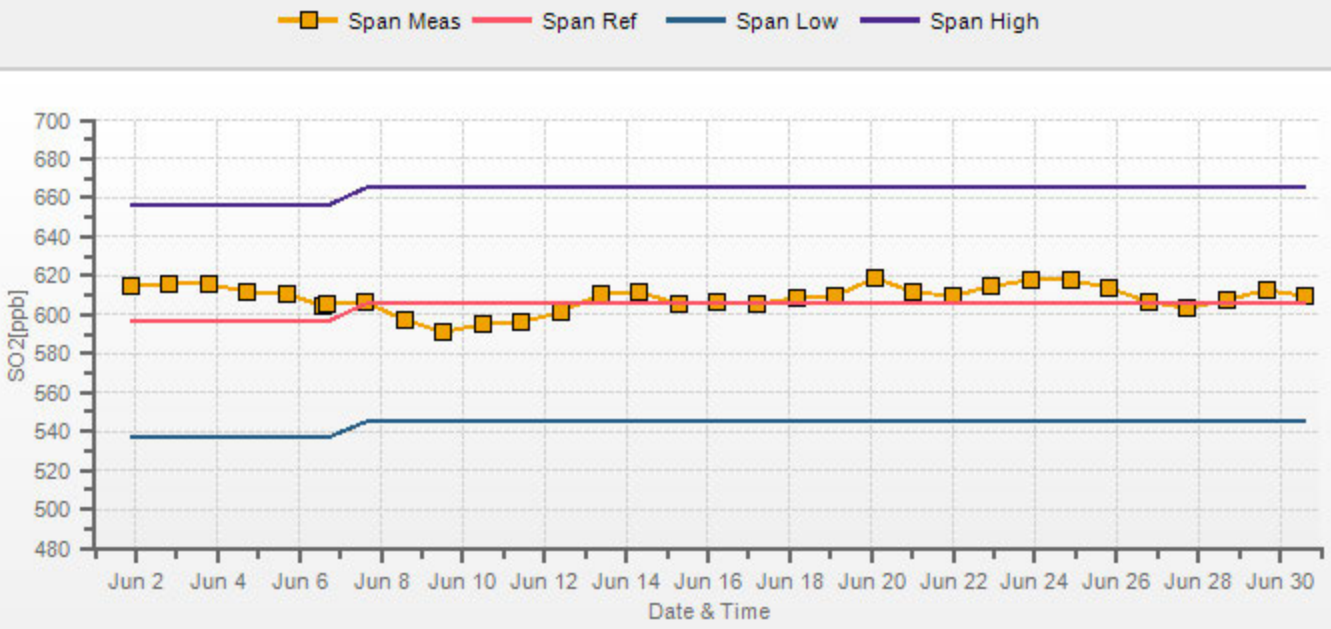
COMMENTS:

The sample inlet filter was changed.

SO2[ppb] Station: LICA Bonnyville East Daily: 19/06/06 Type: AVG 1 Min. [1 Min.]



SO2[ppb] Calibration: LICA Bonnyville East Monthly: 19/06 Type: Span



H2S Analyzer Calibration by Dilution

DATE:	06-Jun-2019	PREVIOUS CALIBRATION DATE:	17-May-2019
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Bonnyville - East	BAROMETRIC (mBar):	929
PURPOSE	Routine	START TIME (MST):	10:01
PERFORMED BY:	Alex Yakupov	END TIME (MST):	14:36

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	CM 17360002	FLOW (mL/min)	941
INITIAL		FINAL	
BKG/OFFSET	23.7	BKG/OFFSET	25
COEF/SLOPE	1.153	COEF/SLOPE	1.146
Expected (reference) Value	51.6	Expected (reference) Value	53.3

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	16-Apr-2019	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0001003	HIGH ID	n/a
CONC (ppm):	9.55	EXPIRY DATE	n/a
CYLINDER (psi):	900	LOW ID	n/a
EXPIRY DATE	20-Oct-2020	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:	10:16	SO2 Conc (ppb)	780
END TIME:	10:31	Analyzer Response (ppb)	0.0

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
7500		7500	0.00	1.4	0		
7439	61.20	7500	77.93	80.7	77.9	0.983	1.000
7470	29.80	7500	37.95	n/a	38	n/a	0.999
7485	14.90	7500	18.97	n/a	19	n/a	0.999

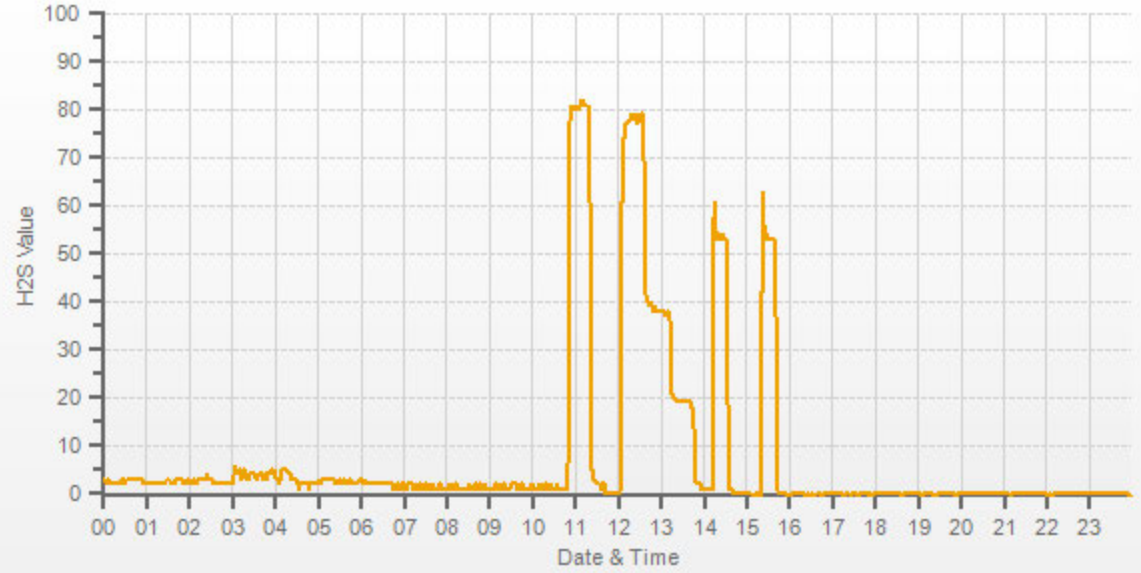
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	0.0%

COMMENTS:

The sample inlet filter was changed.

H2S[ppb] Station: LICA Bonnyville East Daily: 19/06/06 Type: AVG 1 Min. [1 Min.]



H2S Analyzer Calibration by Dilution

DATE:	24-Jun-2019	PREVIOUS CALIBRATION DATE:	06-Jun-2019
PARAMETER:	H2S	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	24.0
LOCATION:	Bonnyville - East	BAROMETRIC (mBar):	916
PURPOSE	As-Found	START TIME (MST):	17:25
PERFORMED BY:	Alex Yakupov	END TIME (MST):	18:52

ANALYZER:

MAKE/MODEL	Thermo 450i	RANGE	100 ppb
SERIAL #	CM 17360002	FLOW (mL/min)	946
INITIAL		FINAL	
BKG/OFFSET	25	BKG/OFFSET	25
COEF/SLOPE	1.146	COEF/SLOPE	1.146
Expected (reference) Value	53.5	Expected (reference) Value	53.3

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	16-Apr-2019	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY 0001003	HIGH ID	n/a
CONC (ppm):	9.55	EXPIRY DATE	n/a
CYLINDER (psi):	900	LOW ID	n/a
EXPIRY DATE	20-Oct-2020	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	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
7500		7500	0.00	1.3	n/a		
7439	61.20	7500	77.93	79.9	n/a	0.991	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

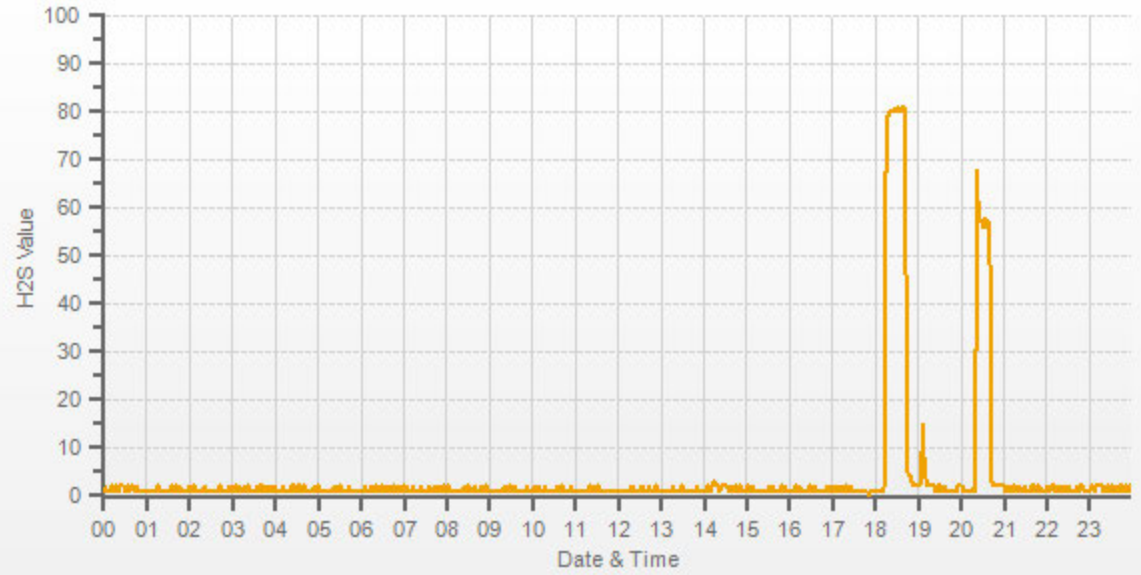
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	n/a	n/a	**n/a**

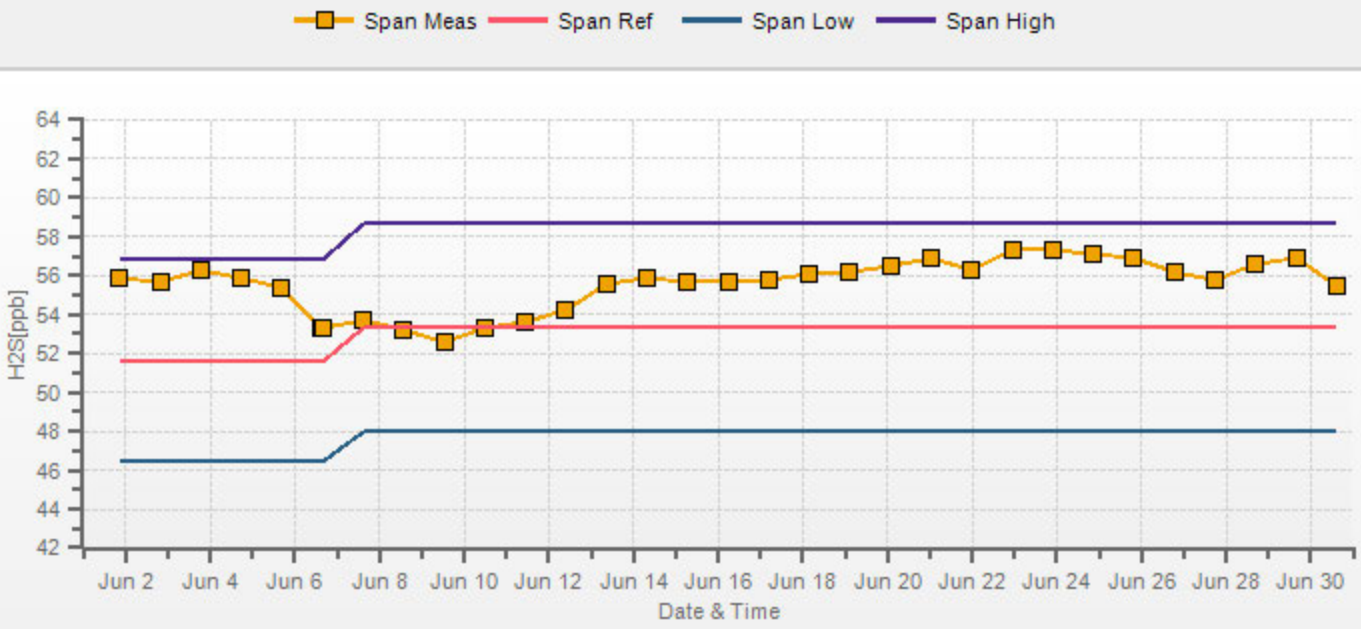
COMMENTS:

An As Found calibration was completed due to drift in the Daily Span.

H2S[ppb] Station: LICA Bonnyville East Daily: 19/06/24 Type: AVG 1 Min. [1 Min.]



H2S[ppb] Calibration: LICA Bonnyville East Monthly: 19/06 Type: Span



Methane/Non-Methane Analyzer Calibration by Dilution

CALIBRATION:

DATE:	07-Jun-2019	PREVIOUS CALIBRATION DATE:	22-May-2019
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Bonnyville - East	BAROMETRIC (mBar):	921
PURPOSE	Routine	START TIME (MST):	08:58
PERFORMED BY:	Ale Yakupov	END TIME (MST):	12:12

ANALYZER:

VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
	Thermo 55i	1180320044	1051
PARAMETER:	CH4	NMHC	THC
RANGE (ppm):	20	20	40
PREVIOUS CF:	1.000	1.000	1.000

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	API	MAKE:	Teledyne	CYLINDER ID:	LL 29687		HIGH ID:	n/a
MODEL:	700	MODEL:	T701	CH_4/C_3H_8 (ppm):	598.0	198.0	HIGH EXPIRY:	n/a
ID:	690	ID:	132	CYLINDER (psi):	1400		LOW ID:	n/a
MFC CALIBRATION DATE:	16-Apr-2019	OXIDIZER ID:	115	EXPIRY DATE	01-Aug-2026		LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

POINT (CH4/NMHC)	HIGH	MID	LOW	CH4 EQUIVILANCE	
TARGET	14	7	3.5	C_3H_8 as CH_4	544.5
RANGE	12 - 16	6 - 8	2 - 4	THC as CH_4	1142.5

EXPECTED (REFERENCE) VALUE:

INITIAL	CH4	NMHC	THC	FINAL	CH4	NMHC	THC
	10.23	11.12	21.35		10.24	11.09	21.33

CALIBRATION:

FLOW RATE (mL/min)			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC	CH4	NMHC	THC
3000		3000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
2930	70.00	3000	13.95	12.71	26.66	13.70	12.58	26.28	13.95	12.71	26.66	1.018	1.010	1.014	1.000	1.000	1.000
2962	38.00	3000	7.57	6.90	14.47	n/a	n/a	n/a	7.63	6.96	14.60	n/a	n/a	n/a	0.993	0.991	0.991
2981	19.00	3000	3.79	3.45	7.24	n/a	n/a	n/a	3.84	3.52	7.36	n/a	n/a	n/a	0.986	0.980	0.983

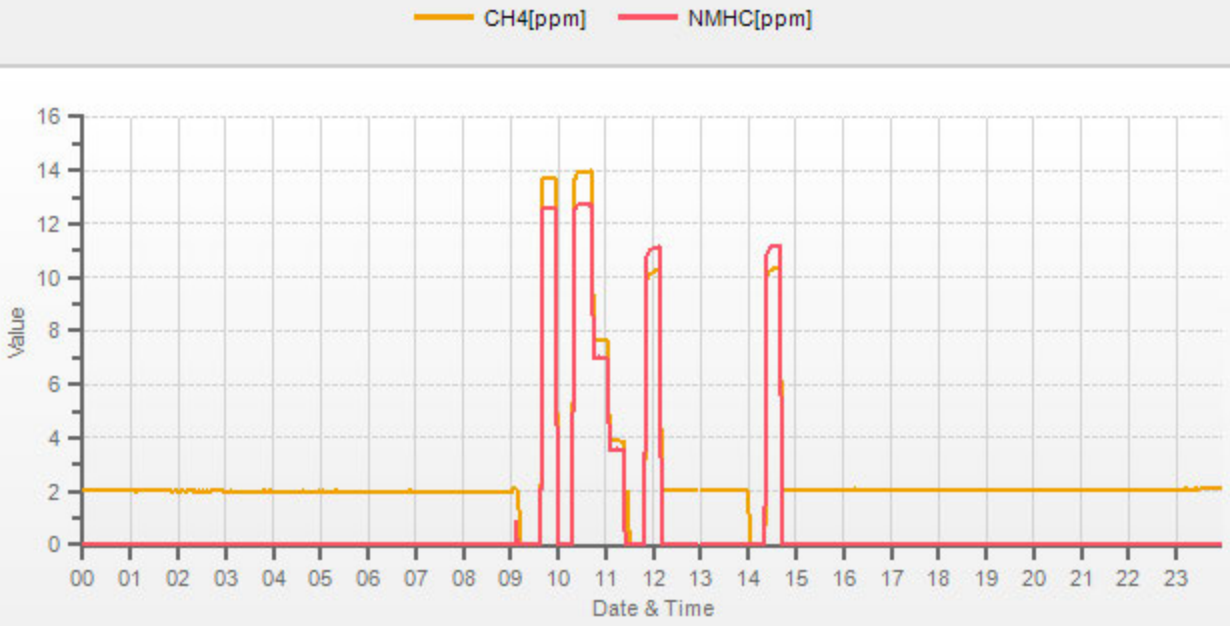
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
CH4	1.000	0.999	0.2%
NMHC	1.000	1.000	0.2%
THC	1.000	0.999	0.2%

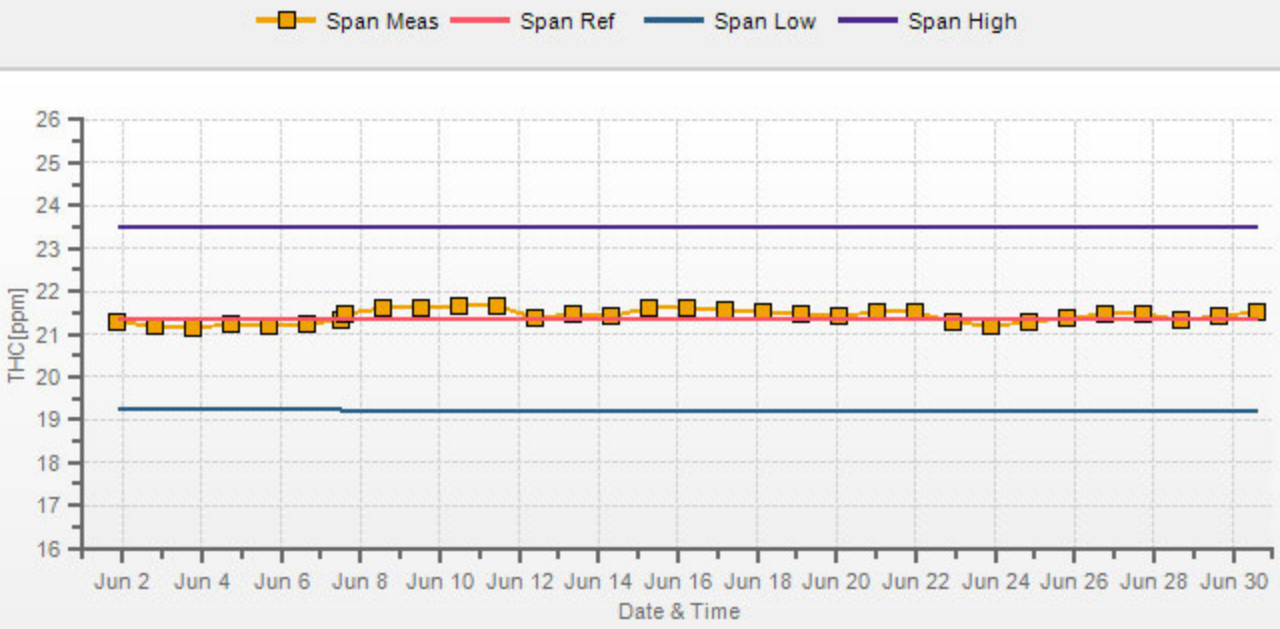
COMMENTS:

The sample inlet filter was changed.

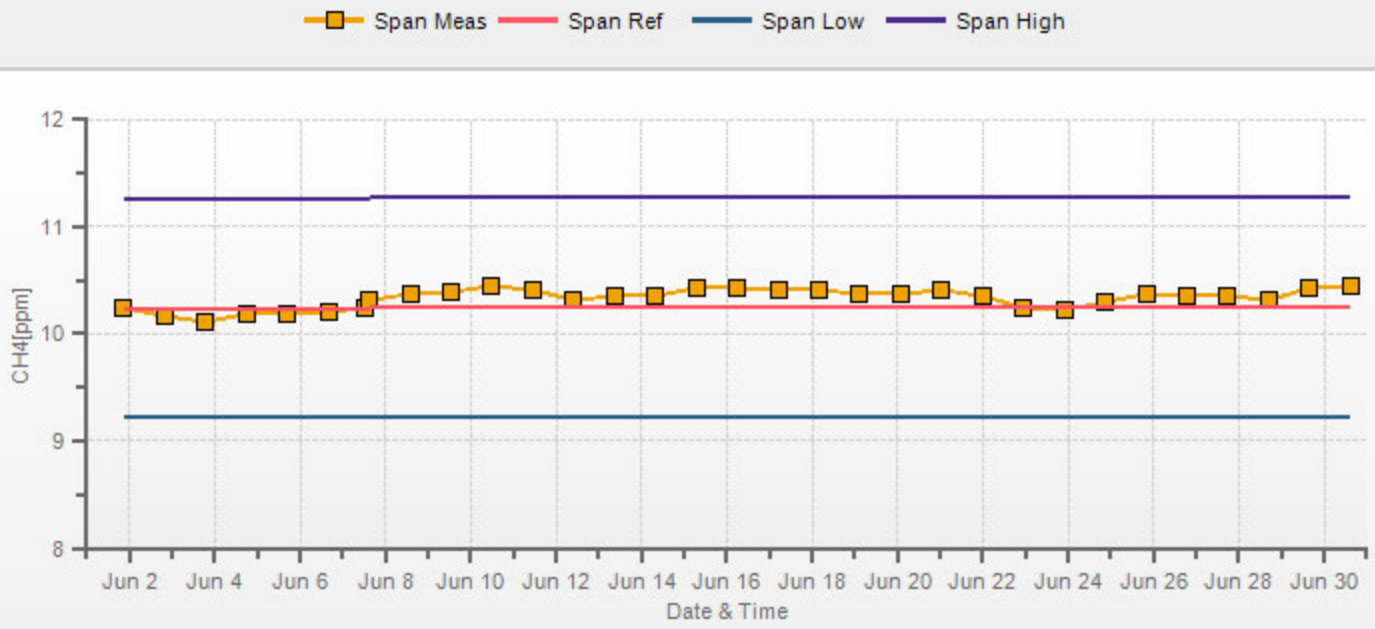
Station: LICA Bonnyville East Daily: 19/06/07 Type: AVG 1 Min. [1 Min.]



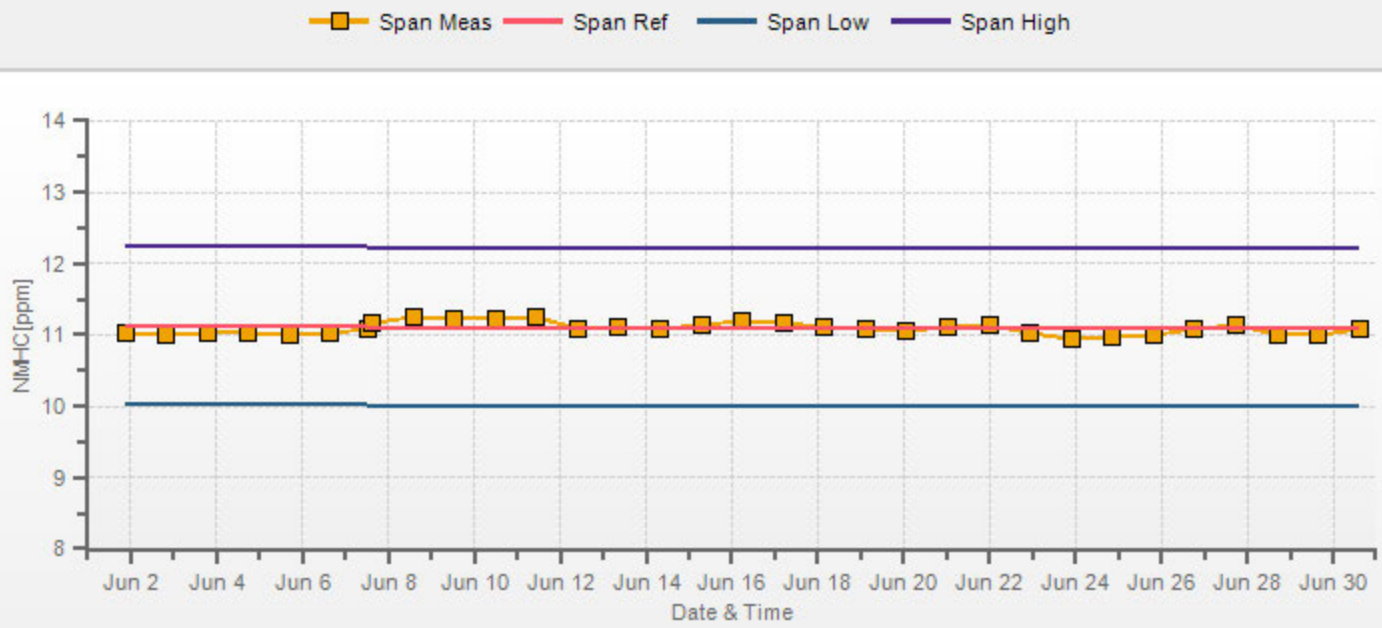
THC[ppm] Calibration: LICA Bonnyville East Monthly: 19/06 Type: Span



CH4[ppm] Calibration: LICA Bonnyville East Monthly: 19/06 Type: Span



NMHC[ppm] Calibration: LICA Bonnyville East Monthly: 19/06 Type: Span



NOx Calibration by Dilution/Gas-Phase Titration

CALIBRATION:

				ANALYZER:			
DATE:	06-Jun-2019	PREVIOUS CALIBRATION DATE:	28-May-2019	MAKE/MODEL:	Thermo 42i	PREVIOUS CF.	
CLIENT:	LICA	TEMPERATURE (°C):	22.0	SERIAL #:	1180930027	NOx	1.000
LOCATION:	Bonnyville - East	BAROMETRIC (mBar):	929.00	FLOW (mL/min)	693	NO	1.000
PURPOSE	Routine	START TIME (MST):	10:01	RANGE (ppb)	1000	NO2	1.000
PERFORMED BY:	Alex Yakupov	END TIME (MST):	15:22	GPT FOR O3?		No	

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:			FLOWMETERS (if applicable):	
MAKE:	SABIO	MAKE:	Teledyne	CYLINDER ID:	LL 107918		HIGH ID:	n/a
MODEL:	2010 D	MODEL:	T701	NO/NOx (PPM):	50.1	50.2	HIGH EXPIRY:	n/a
ID:	11900613	ID:	132	CYLINDER (psi):	1400		LOW ID:	n/a
MFC CALIBRATION DATE:	16-Apr-2019	OXIDIZER ID:	n/a	EXPIRY DATE	20-Aug-2020		LOW EXPIRY:	n/a

CALIBRATION SETTINGS:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
BKG/OFFSET:	7	7	n/a	BKG/OFFSET:	7	7	n/a
SLOPE/COEF/CE:	1	1	1.0	SLOPE/COEF/CE:	1	1	1.0

EXPECTED (REFERENCE) VALUE:

INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	427	3	424.0		432	3	429.0

CALIBRATION PARAMETERS:

POINT	NO TARGET (PPB)	NO2 TARGET (PPB)	NO2 RANGE	O3 POINT
HIGH	780	500	470-540	n/a
MID	380	275	235-310	n/a
LOW	190	90	80-115	n/a
EXTRA 1	n/a	n/a	n/a	n/a

NO/NOx CALIBRATION:

FLOW RATE (mL/min)			CONCENTRATION (ppb)									CORRECTION FACTOR (CF.)					
			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2
5000		5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
4922	77.80	5000	779.6	781.1	1.6	768.0	769.0	1.0	780.0	781.0	1.0	1.015	1.016		0.999	1.000	
4962	37.90	5000	379.8	380.5	0.8	n/a	n/a	n/a	380.0	381.0	1.0	n/a	n/a		0.999	0.999	
4981	18.90	5000	189.4	189.8	0.4	n/a	n/a	n/a	189.0	190.0	1.0	n/a	n/a		1.002	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	77.80	5000	0	781.0	781.0	0.0				
AS-FOUND HIGH	77.80	5000	480	285.0	781.0	496.0	496	496	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	77.80	5000	265	503.0	781.0	278.0	278	278	1.000	100.00%
LOW	77.80	5000	95	682.0	781.0	99.0	99	99	1.000	100.00%
NO2 adjustment not required.									AVERAGE:	100.00%

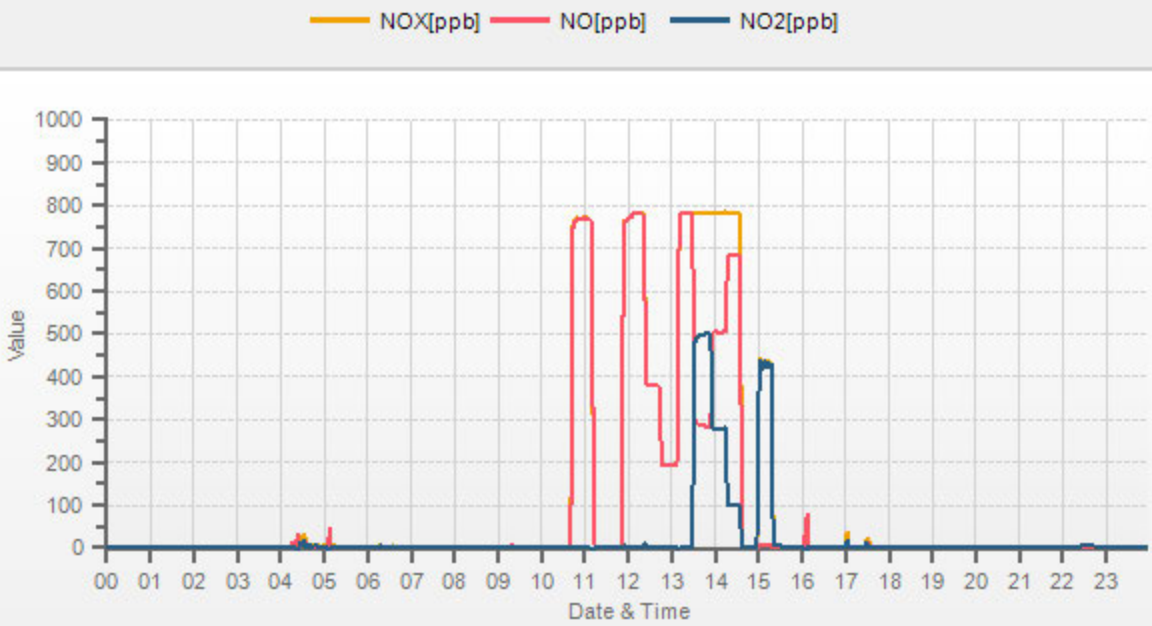
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
NO	1.000	1.001	-0.02%
NOx	1.000	1.000	0.02%
NO2	1.000	1.000	0.00%

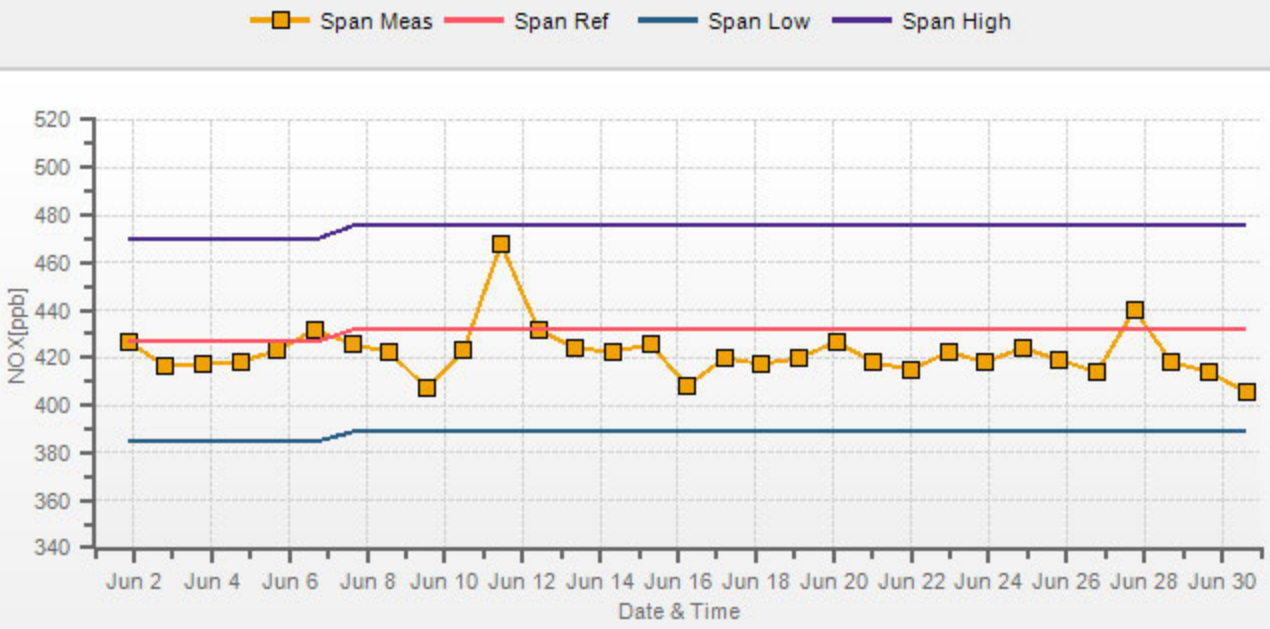
COMMENTS:

The sample inlet filter was changed.

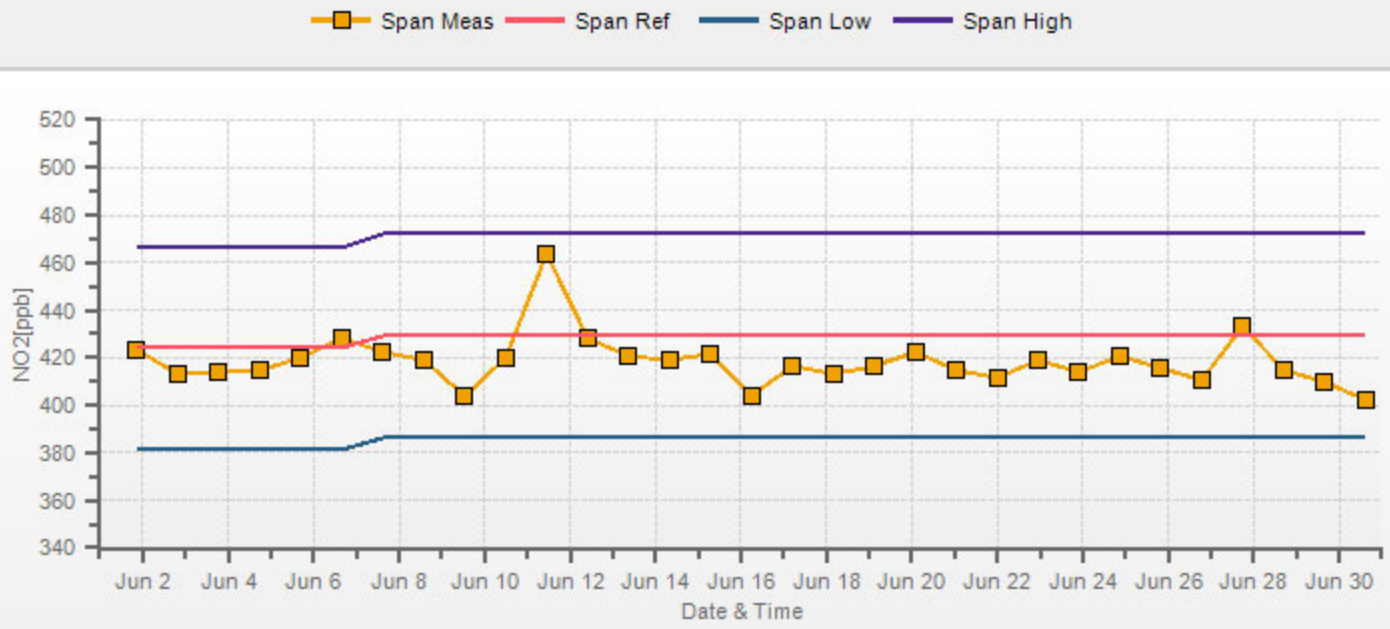
Station: LICA Bonnyville East Daily: 19/06/06 Type: AVG 1 Min. [1 Min.]



NOX[ppb] Calibration: LICA Bonnyville East Monthly: 19/06 Type: Span



NO2[ppb] Calibration: LICA Bonnyville East Monthly: 19/06 Type: Span



Ozone Calibration by Photometer (Varying UV Lamp)

DATE:	07-Jun-2019	PREVIOUS CALIBRATION DATE:	22-May-2019
PARAMETER:	Ozone	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	LICA	TEMPERATURE (°C):	22.0
LOCATION:	Bonnyville	BAROMETRIC (mBar):	921
PURPOSE	Routine	START TIME (MST):	08:58
PERFORMED BY:	Alex Yakupov	END TIME (MST):	12:57

ANALYZER:

MAKE/MODEL	Thermo 49i	RANGE	500 ppb
SERIAL #	1002240372	FLOW (mL/min)	1.504
INITIAL		FINAL	
BKG/OFFSET	0	BKG/OFFSET	-0.3
COEF/SLOPE	1.031	COEF/SLOPE	1.026
Expected (reference) Value	414	Expected (reference) Value	414

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	SABIO	MAKE:	Teledyne
MODEL:	2010 D	MODEL:	T701
ID:	11900613	ID:	132
MFC CALIBRATION DATE:	16-Apr-2019	OXIDIZER ID:	n/a
	CALIBRATION METHOD:	Photometer (Varying UV Lamp)	
GPT DATE:	n/a	GPT END TIME:	n/a

CALIBRATION PARAMETERS:

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

CALIBRATION:

FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
			ACTUAL	INDICATED		Initial	Final
DILUENT	GAS	TOTAL		Initial	Final		
5000		5000	0.0	0.0	0.0		
5000		5000	380.0	380.0	380.0	1.000	1.000
5000		5000	180.0	n/a	180.0	n/a	1.000
5000		5000	60.0	n/a	60.0	n/a	1.000

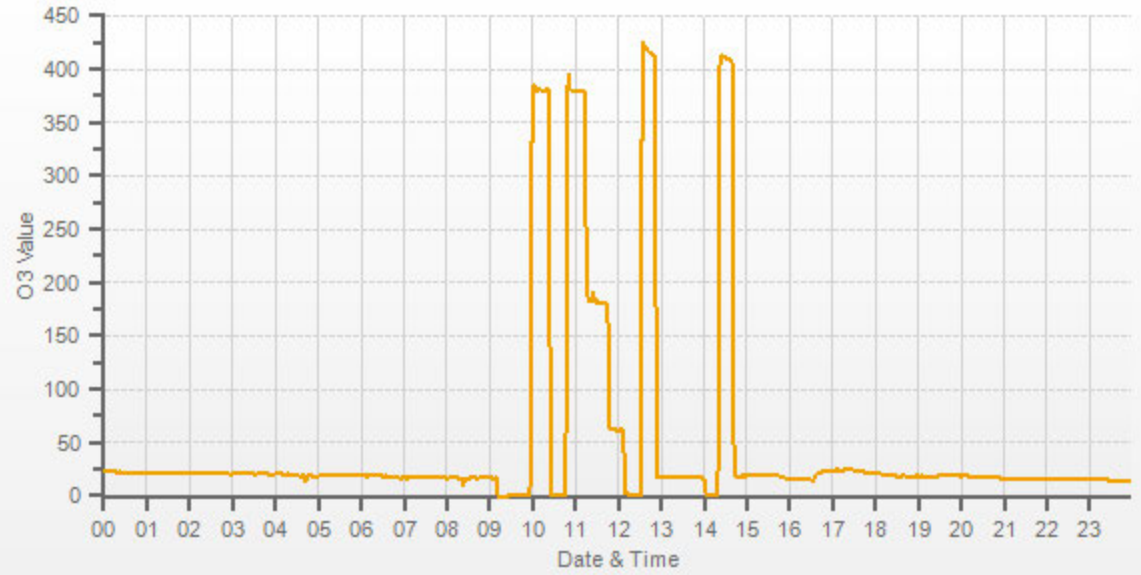
LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	0.0%

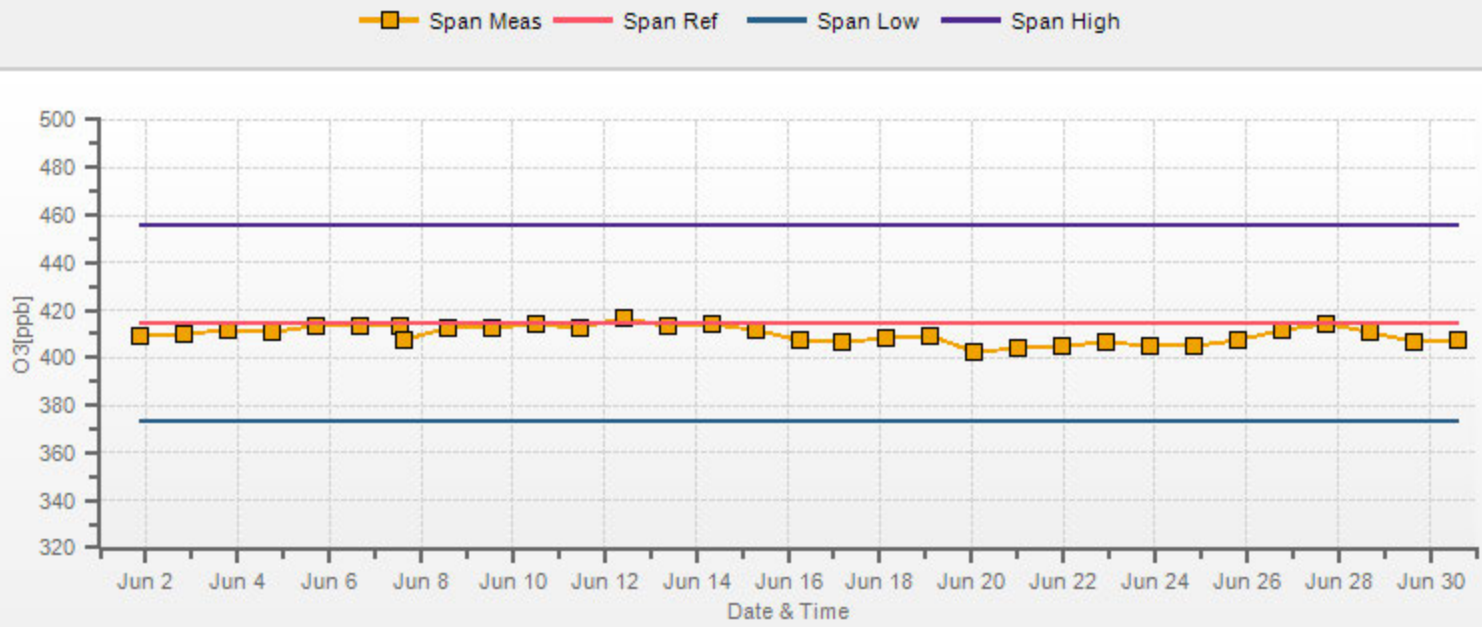
COMMENTS:

The sample inlet filter was changed.

O3[ppb] Station: LICA Bonnyville East Daily: 19/06/07 Type: AVG 1 Min. [1 Min.]



O3[ppb] Calibration: LICA Bonnyville East Monthly: 19/06 Type: Span



Thermo 5030i SHARP Monitor Calibration

Date:	June 20, 2019	**Performed By/Reviewer:**	Alex Yakupov / Rob Fisher
Company:	LICA	**Start Time (mst):**	10:38
Station Name/Location:	Bonnyville - East	**End Time (mst):**	12:35
Previous Audit Date:	May 22, 2019	**Calibration Purpose:**	Quarterly
Parameter:	PM 2.5	**Weather Conditions:**	Light rain/scattered showers

SHARP 5030i Information and Status:

Serial Number: CM 17071016 **Filter Tape Counter** 253

Reference Standards: **Air Flow**

	Manometer	Orifice	Pressure:		Temp / RH:	
Make:	Dwyer	chinook	Fisher Scientific		Fisher Scientific	
Model:	475 Mk. III	CHN0901	FB61291		11-661-7B	11745843
Serial Number:	#3	#2	130168457		160348895	
Expiry Date:	January 17, 2020	January 31, 2020	January 17, 2020		June 19, 2020	

Ambient Temperature (°C)

	As Found:			As Left: (same as found if acceptable)			
	Reference	SHARP	Difference	Reference	SHARP	Difference	
#1	14.84	15.1	-0.3	14.84	15.1	-0.3	*Temp Limit: ± 2°C*
#2	14.81	15.1	-0.3	14.81	15.1	-0.3	
#3	14.89	15.1	-0.2	14.89	15.1	-0.2	
Average	14.8	15.1	-0.3	14.8	15.1	-0.3	

Ambient Relative Humidity (%RH)

	As Found:			As Left: (same as found if acceptable)			
	Reference	SHARP	Offset (ZERO)	Reference	SHARP	Offset (ZERO)	
#1	71.37	71.2	0.2	71.37	71.2	0.2	*RH Limit: ± 2 %RH*
#2	71.31	71.4	-0.1	71.31	71.4	-0.1	
#3	71.29	71.2	0.1	71.29	71.2	0.1	
Average	71.3	71.3	0.1	71.3	71.3	0.1	

Flow Temperature (°C)

	As Found:			As Left: (same as found if acceptable)			
	Reference	SHARP	Difference	Reference	SHARP	Difference	
#1	23.40	23.9	-0.5	23.40	23.9	-0.5	*Temp Limit: ± 2°C*
#2	23.60	24.0	-0.4	23.60	24.0	-0.4	
#3	23.30	23.8	-0.5	23.30	23.8	-0.5	
Average	23.4	23.9	-0.5	23.4	23.9	-0.5	

Barometric Pressure (mmHg)

	As Found:			As Left: (same as found if acceptable)			
	Reference	SHARP	Difference	Reference	SHARP	Difference	
#1	704.0	703.0	1.0	704.0	704.0	0.0	*BP Limit: ± 2 mmHg*

Nephelometer Relative Humidity (%RH)

	As Found:			As Left: (same as found if acceptable)			
	Reference	SHARP	Difference	Reference	SHARP	Difference	
#1	33.64	33.3	0.3	33.64	33.3	0.3	*RH Limit: ± 2 %RH*

Nephelometer Temperature (%RH)

	As Found:			As Left: (same as found if acceptable)			
	Reference	SHARP	Difference	Reference	SHARP	Difference	
#1	23.92	24.1	-0.2	23.92	24.1	-0.2	*Temp Limit: ± 2°C*

Nephelometer Source Level

As Found:		As Left: (same as found if acceptable)		
Variable	Value	Variable	Value	
IRED	68	IRED	68	*IRED Limit (as found): 60-70 mA*
SRC LEVEL	48	SRC LEVEL	48	Adjusted IRED Limit (as left): *65 mA*

Detector Calibration (Auto)

Detector Auto Calibration Completed:	As Left: Variable	Value
YES	HIGH VOLT	1470
	BETA REF TH	480
	ALPHA TH	1380
	DIFF HV	4

Mass Coefficient (Auto)

Zero		Span		
Variable	Value	Variable	Value	
MASS COEF	7031.8	MASS COEF	7032.2	**Foil Set: CM1597**
FOIL VALUE	0	FOIL VALUE	1328	
Beta Avg	10447	Beta Avg	8649	
difference	Foil Set# 9258	difference	0.0	

Flow Calibration (L/min)

	As Found:			As Left: (same as found if acceptable)			
	Reference	SHARP	Difference	Reference	SHARP	Difference	
#1	16.66	16.67	-0.01	16.66	16.67	-0.01	*Flow Limit: 16.67 ± 0.33 L/min*
#2	16.67	16.68	-0.01	16.67	16.68	-0.01	
#3	16.66	16.66	0.00	16.66	16.66	0.00	
Average	16.66	16.67	-0.01	16.66	16.67	-0.01	

Leak Check (L/min)

	Without Leak Check Adapter			With leak Check Adapter			
	Reference	SHARP	Difference	Reference	SHARP	Difference	
#1	16.66	16.67	-0.01	16.63	16.65	-0.02	*Leak Limit: 0.08 L/min*
					LEAK RATE:	**-0.01**	

Meteorological Sensor Audit/Calibration

Location Information

Company:	LICA	**Performed By:**	Alex Yakupov
Audit Location:	Bonnyville East	**Reviewed By:**	Rob Fisher
Audit Date:	October 24, 2018	**Start/End Time (mst):**	12:56 / 14:01
Calibration Purpose:	installation	**Weather Conditions:**	Mainly sunny

Wind Sensor Information

Sensor ID Data:		**Sensor Outputs:**	
Sensor Make:	RM Young	**Velocity Voltage Output Range:**	0-1 V
Sensor Model:	05305VK	**Velocity Unit Output Range:**	0-200 km/h
Serial #:	56778	**Direction Voltage Output Range:**	0-1 V
Previous Cal/Audit Date:	n/a or unknown	**Direction Unit Output Range:**	0-360 degrees

Wind Calibrator Information

Calibrator I.D. and Expiry Date: Model 18860-90/18802 SN: CA 4744, calibrated on May 18, 2018

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	18.4	18.4	1.000
2000	36.9	36.8	36.8	1.003
3000	55.3	55.4	55.4	0.998
4000	73.7	73.8	73.8	0.999
5000	92.2	92.2	92.2	1.000
6000	110.6	110.6	110.6	1.000
7000	129.0	129.0	129.0	1.000
8000	147.4	147.4	147.4	1.000
9000	165.9	165.8	166.0	1.000
10000	184.3	184.0	184.4	1.001
		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	0	355	0.0	0.0	0.0
30	330	30	331	0.0	-0.6	0.3
60	300	60	301	0.0	-0.8	0.4
90	270	90	271	0.0	-1.0	0.5
120	240	121	241	-0.6	-0.8	0.7
150	210	151	211	-0.8	-1.3	1.1
180	180	181	182	-0.9	-1.8	1.4
210	150	211	152	-1.0	-2.3	1.7
240	120	240	121	-0.3	-1.4	0.9
270	90	270	92	0.0	-2.0	1.0
300	60	300	62	0.1	-1.6	0.9
330	30	330	31	-0.1	-1.0	0.6
355	0	355	0	0.0	0.3	0.2
The audit meets AMD requirements.			**Average Absolute Degrees Difference=**			**0.7**

Comments:

Alberta Government

Calibrator Performance Audit

Oxides Of Nitrogen

File No. 2019-050A

Company Maxxam **Operator:** Tom Bourque

Calibrator:				**Flow Measurement Device:**	
Make/Model	API 700			Make/Model	N/A
Serial Number	690			Serial Number	N/A
Last Verification Date	March 2018			Temperature (°C)	24.4 C
NO Cylinder S/N	EY0000769			Barometric Pressure	699 mmHg
NO [PPM]	51.1	NOx [PPM]	51.2		
Expiry Date	December 2019				

Dilution Flow (sccm)

Pt. #1 5000 Pt. #2 5000 Pt. #3 5000

Gas Flow (sccm)

Pt. #1 80 Pt. #2 40 Pt. #3 20

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO_2	NOx	NO	NOx
5000	0.0	0.000	0.000	0.000	-0.001	-0.001	Limit ± 10%	
5083	80.0	0.804	0.806	0.802	-0.011	0.791	0%	-2%
5044	40.0	0.405	0.406	0.403	-0.006	0.397	-1%	-2%
5022	20.0	0.204	0.204	0.202	-0.004	0.198	-1%	-2%
						Absolute Average Percent Difference	1%	2%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

NO		**LIMITS**	**NOx**	
Correlation=	1.0000	**≥ 0.990**	Correlation=	1.0000
m (Slope)=	0.9974	**0.90-1.10**	m (Slope)=	0.9833
b (Intercept % of FS)=	-0.0592	**± 3% F.S.**	b (Intercept % of FS)=	-0.1772

Flow	O_3 Conc	NO Decrease	NO	NO2	NOX	% Diff. Vs Audit gas	
5083	0.000	0.000	0.802	-0.011	0.791	NO_2	% Diff. Limit
5083	0.500	0.518	0.284	0.488	0.771	-4%	± 10%
5083	0.300	0.323	0.479	0.294	0.774	-6%	± 10%
5083	0.150	0.167	0.635	0.142	0.777	-8%	± 10%
						6%	± 10%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

NO_2		**LIMITS**
Correlation=	0.9998	**≥ 0.995**
m (Slope)=	0.9649	**0.90-1.10**
b (Intercept % of FS)=	-1.4907	**± 3% F.S.**

Big shift down in NOx when entering GPT function.
Possible flow change.

AENV Standards		**NO_X Analyzer**	
Audit Calibrator			
Make/Model	Teco 146i	Make/Model	Teco 42i
Serial/AMU Number	AMU 1809	Serial/AMU Number	AMU 2265
SRM Gas Cylinder No.	APEX1236646	Last Calibration Date	April 15, 2019
Cylinder Conc. (ppm)	50.04	Full Scale (ppm)	1.0
		Cylinder Gas Expiry Date	June 2021

COMMENTS: With ZAG Teledyne 701 Maxxam ID 11986.

Auditor: Al Clark Date: April 16, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibrator Performance Audit

Oxides Of Nitrogen

File No. 2019-048A

Company Maxxam **Operator:** Tom Bourque

Calibrator:

Make/Model	Sabio 2010
Serial Number	11900613
Last Verification Date	August 2018
NO Cylinder S/N	EY0000769
NO [PPM]	51.1 NOx [PPM] 51.2
Expiry Date	December 2019

Flow Measurement Device:

Make/Model	N/A
Serial Number	N/A
Temperature (°C)	24.4 C
Barometric Pressure	699 mmHg

Dilution Flow (sccm)

Pt. #1 5000 Pt. #2 5000 Pt. #3 5000

Gas Flow (sccm)

Pt. #1 80 Pt. #2 40 Pt. #3 20

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO_2	NOx	NO	NOx
5000	0.0	0.000	0.000	0.000	-0.002	-0.002	Limit ± 10%	
5080	80.0	0.805	0.806	0.815	-0.007	0.808	1%	0%
5041	40.0	0.405	0.406	0.414	-0.004	0.410	2%	1%
5019	20.0	0.204	0.204	0.210	-0.004	0.206	3%	2%
						Absolute Average Percent Difference	2%	1%

LINEAR REGRESSION ANALYSIS

y=mx+b (where x=calculated concentration, y=indicated concentration)

	NO	LIMITS	NOx
Correlation=	1.0000	≥ 0.990	1.0000
m (Slope)=	1.0117	0.90-1.10	1.0039
b (Intercept % of FS)=	0.2171	± 3% F.S.	-0.0020

Flow	O_3 Conc	NO Decrease	NO	NO2	NOX	% Diff. Vs Audit gas	
						NO_2	% Diff. Limit
5080	0.000	0.000	0.815	-0.009	0.806		
5080	1.400	0.517	0.298	0.511	0.809	1%	± 10%
5080	0.900	0.308	0.507	0.299	0.806	0%	± 10%
5080	0.500	0.140	0.675	0.130	0.805	-1%	± 10%
						0%	± 10%

LINEAR REGRESSION ANALYSIS

y=mx+b (where x=calculated concentration, y=indicated concentration)

	NO_2	LIMITS
Correlation=	1.0000	≥ 0.995
m (Slope)=	1.0062	0.90-1.10
b (Intercept % of FS)=	-1.0004	± 3% F.S.

AENV Standards

Audit Calibrator

Make/Model	Teco 146i
Serial/AMU Number	AMU 1809
SRM Gas Cylinder No.	APEX1236646
Cylinder Conc. (ppm)	50.04

NO_X Analyzer

Make/Model	Teco 42i
Serial/AMU Number	AMU 2265
Last Calibration Date	April 15, 2019
Full Scale (ppm)	1.0
Cylinder Gas Expiry Date	June 2021

COMMENTS: With ZAG Teledyne 701 Maxxam ID: 11981. Should have Maxxam ID 11986 instead

Auditor: Al Clark Date: April 16, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

Single Component Cylinder Gas

File No. 2019-392CGA

Company: Maxxam **Operator's Name:** Alex

Cylinder #: LL107918 Concentration PPM: 49.5 Tolerance(%) 1 Certified By: Praxair

Expiry Date: August 2026

Reference Calibrator and Gas:

Make/Model: Sabio 2010
Serial Number: AMU 2092
Last Verification Date: January 14, 2019
Gas Type: SO2 Conc. 50.26
Cylinder Number: FF28071
Expiry Date: March 2020

Flow Measurement Device:

Make/Model: Mesa Definer 220
Serial Number: H-133034 / L-132702
Temp.°C: 22.7 C
B.P. 707 mmHg

Reference Analyzer:

Make/Model: Teco 43i Serial/AMU Number: 2195
Instrument Settings: Zero: 11.8 Span: 0.980 Range: 1.0
Last Calibration: Date: Jan 14/19 C.F. 1.000 Done By: Shea Beaton

Calibrator Flows (sccm)		Indicated	Gas Flow/	Concentration	Cylinder
Dilution	Gas	Concentration (PPM)	Dilution Flow	Factor	Concentration
5000	0.0	0.000			
4898	78.1	0.790	0.01595	62.714	49.5
4893	38.7	0.389	0.00791	126.434	49.2
4894	19.3	0.192	0.00394	253.575	48.7
				Average Cylinder Concentration:	**49.1**

Previous Stated Concentration PPM: 49.5

Percent variance from Stated: **1**

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: January 15, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

Single Component Cylinder Gas

File No. 2017-493CGA

Company: Maxxam **Operator's Name:** Mike

Cylinder #: EY0001003 Concentration PPM: 9.55 Tolerance(%) 2 Certified By: Praxair

Expiry Date: October 2020

Reference Calibrator and Gas:

Make/Model: Sabio 2010
Serial Number: AMU 2092
Last Verification Date: January 17, 2018
Gas Type: H2S Conc. 20.43
Cylinder Number: CAL015272
Expiry Date: January 2019

Flow Measurement Device:

Make/Model: Mesa Defender 530
Serial Number: H-153961 / L-153874
Temp.°C: 23.0 C
B.P. 697 mmHg

Reference Analyzer:

Make/Model: Teco 450i Serial/AMU Number: 1980

Instrument Settings: Zero: 12.9 Span: 0.955 Range: 0.1

Last Calibration: Date: Jan 17/18 C.F. 1.000 Done By: Al Clark

Calibrator Flows (sccm)		Indicated	Gas Flow/	Concentration	Cylinder
Dilution	Gas	Concentration (PPM)	Dilution Flow	Factor	Concentration
5000	0.0	0.0000			
5051	39.6	0.0753	0.00784	127.551	9.60
5028	20.2	0.0387	0.00402	248.911	9.63
5033	10.5	0.0198	0.00209	479.333	9.49
				Average Cylinder Concentration:	**9.58**

Previous Stated Concentration PPM: 9.55

Percent variance from Stated: 0

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:** Used AEP regulator

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: January 18, 2018

Operator Signature: Al Clark Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

CH4 / C3H8 Cylinder Gas

File No. 2019-393CGA

Company: Maxxam **Operators name:** Alex

Cylinder #: LL29687 Conc CH4 (PPM) 598/198 Tolerance (%) 1 Certified By: Praxair

Expiry Date: August 2026

Reference Calibrator and Gas:

Make/Model	Sabio 2010		
Serial Number	AMU 2092		
Last Verification Date	January 14, 2019		
Gas Type	CH4	Conc.	990.4
Cylinder Number	05604875	Expiry Date	July 2021
Gas Type	C3H8	Conc.	246.5
Cylinder Number	XF003845B	Expiry Date	July 2022

Flow Measurement Device:

Make/Model	Mesa Definer 220
Serial Number	H-133034 / L-132702
Temp.°C	23.8 C
B.P.	707 mmHg

Reference Analyzer:

Make/Model: Teco 55i Serial/AMU Number: 2221

Instrument Settings Zero: N/A Span: N/A Range: 20.0

Last Calibration: Date: Jan 14/19 C.F. 1.000 Done By: Shea Beaton

Calibrator Flows (sccm)		Indicated Conc. (ppm)		Gas Flow/	Concentration	Cylinder Concentration	
Dilution	Gas	CH4	C3H8	Dilution Flow	Factor	CH4	C3H8
5000	0.0	0.00	0.00				
3990	77.5	11.71	11.18	0.02	51.48	603	209
3976	39.1	5.87	5.71	0.01	101.69	597	211
3986	20.0	2.96	2.86	0.01	199.30	590	207
					Average Cylinder Concentration:	**597**	**209**

	CH4	C3H8
Previous Stated Concentration PPM:	598	198
Percent variance from Stated:	**0**	**6**

Cylinder gas tolerances based on CH4 only

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: January 15, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

NO Cylinder Gas

File No. 2019-391CGA

Company: Maxxam **Operators name:** Alex

Cylinder #: LL107918 Conc (PPM) 50.1/50.2 Tolerance (%) 1 Certified By: Praxair

Expiry Date: August 2026

Reference Calibrator and Gas:

Make/Model	Teco 146i
Serial Number	AMU 1809
Last Verification Date	January 14, 2019
Gas Type	NO Conc. 50.05
Cylinder Number	APEX1236645
Expiry Date	June 2021

Flow Measurement Device:

Make/Model	Mesa Definer 220
Serial Number	H-133034 / L-132702
Temp.°C	22.7 C
B.P.	707 mmHg

Reference Analyzer:

Make/Model: Teco 42i Serial/AMU Number: 2268

Instrument Settings Zero: 9.2 Span: 1.223 Range: 1.0

Last Calibration: Date: Jan 14/19 C.F. 1.000 Done By: Al Clark

Calibrator Flows (sccm)		Indicated Conc. (ppm)		Gas Flow/	Concentration	Cylinder Concentration	
Dilution	Gas	NO	NOX	Dilution Flow	Factor	NO	NOX
5000	0.0	0.000	0.000				
4898	78.1	0.792	0.793	0.016	62.714	49.7	49.7
4893	38.7	0.395	0.395	0.008	126.434	49.9	49.9
4894	19.3	0.195	0.195	0.004	253.575	49.4	49.4
					Average Cylinder Concentration:	**49.7**	**49.7**

	NO	NOx
Previous Stated Concentration PPM:	50.1	50.2
Percent variance from Stated:	**1**	**1**

Cylinder gas tolerances based on NO only

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: Janaury 15, 2019

Operator Signature: Location: McIntyre Center Edmonton