Lakeland Industry & Community Association

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Alberta Environment
Monitoring and Science
Data Management
Floor 11 Oxbridge Place
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Edmonton Alberta T5K 2J6

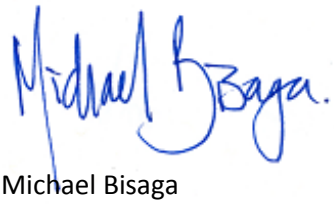
November 15, 2014

RE: September 2014 Ambient Air Monitoring Monthly Reports

Attached are the monthly ambient air monitoring reports for the LICA Airshed Zone's Cold Lake South, Maskwa, St. Lina, and Elk Point continuous stations. In addition, there are also summaries for the passive monitoring network and speciated VOC and PAH sampling programs.

Should you have any questions, please don't hesitate to contact me directly at (780) 266-7068.

Respectfully,



Michael Bisaga

Airshed Program Manager
Lakeland Industry and Community Association

cc (email): LICA Office

Lakeland Industry & Community Association

Cold Lake Monitoring Site
Ambient Air Monitoring
Data Report
For
September 2014

Prepared By:

Maxxam
A Bureau Veritas Group Company

October 24, 2014

Lakeland Industry & Community Association
Cold Lake Monitoring Site
Ambient Air Monitoring

Table of Contents

Introduction

The following Ambient Air Monitoring report was prepared for:

Mr. Mike Bisaga
Lakeland Industry & Community Association
Box 8237
5107W – 50 Street
Bonnyville, Alberta
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Monitoring Location: Cold Lake
Data Period: September 2014

The monthly ambient data report:

- Prepared by Ernestine Tangang
- Reviewed by Lily Lin

The monthly analytical report for passive monitoring:
Authorized by Levi Manchak

Calibration Procedure

The following calibration procedure applies to all calibrations conducted at the Lakeland Industry & Community Association Air Monitoring Station.

Calibration gas concentrations are generated using a dynamic mass flow controlled calibrator. EPA Protocol one gases are diluted with zero air generated on site. The Mass Flow Controllers in the calibrator are referenced using an NIST traceable flow meter once per month. All listed flows are reported as corrected to Standard Temperature and Pressure (STP).

Generated zero gas is introduced to the analyzer first. Three concentrations of calibration gas are then generated in order to introduce points at approximately 50-80%, 25-40% & 10-20% of the analyzer's full-scale range. An auto zero and span are then performed to validate the daily zero and span values recorded to the next multi-point calibration.

All indicated concentrations are taken from the ESC data logger used to collect the data for monthly reporting.

Conformance of each calibration to Alberta Environment regulations is outlined in the individual calibration reports. The slope and correlation coefficient are derived from the calculated and indicated analyzer responses. The percent change is calculated using the previous calibration correction factor and the current correction factor before adjustment. The calibration conforms to the procedure outlined in the *Air Monitoring Directive, Appendix A-10, Section 1.6.*

MONTHLY CONTINUOUS DATA SUMMARY
LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

Continuous Ambient Monitoring – September 2014

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION COLD LAKE SITE						MAXIMUM VALUES							OPERATIONAL TIME (PERCENT)
						1-HOUR					24-HOUR		
PARAMETER	OBJECTIVES		EXCEEDENCES		MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (KPH)	WIND DIRECTION (DEGREES)	READING	DAY	
	1-HR	24-HR	1-HR	24-HR									
SO_2 (PPB)	172	48	0	0	0.07	2	VAR	VAR	VAR	VAR	0.4	4, 21	93.8
TRS (PPB)	-	-	-	-	0.12	5	24	22	1.3	235(SW)	0.7	24	99.9
NO_2 (PPB)	159	-	0	-	2.31	21.9	22	18	1.3	83(E)	5.5	22	100.0
NO (PPB)	-	-	-	-	0.80	15.7	16	7	0.5	282(W)	3.9	2	100.0
NOx (PPB)	-	-	-	-	3.11	25.4	22	18	1.3	83(E)	7.0	2	100.0
O_3 (PPB)	82	-	0	-	19.25	49	22	16	3.1	254(WSW)	29.5	25	99.9
THC (PPM)	-	-	-	-	1.97	3.8	4	5, 6	0.6, 0.7	249(WSW) 256(WSW)	2.6	4	98.1
PM 2.5 (UG/M^3)	-	30	-	0	5.37	28	24, 26	15, 11	12, 7.5	140(SE) 23(NNE)	15.0	24	94.0
TEMPERATURE (DEG C)	-	-	-	-	10.84	28.8	21	15	7.3	241(WSW)	16.8	22	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	70.57	98	3, 5	VAR	VAR	VAR	91.2	7	100.0
VECTOR WS (KPH)	-	-	-	-	5.08	20.3	19	16	-	349(NNW)	9.6	29	100.0
VECTOR WD (DEGREES)	-	-	-	-	269(W)	-	-	-	-	-	-	-	100.0

VAR-VARIOUS NA: NOT AVAILABLE

Monthly Non-Continuous Data Summary
LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

Passive Ambient Monitoring Network – September 2014

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PASSIVE NETWORK			
NETWORK MAXIMUM			NETWORK AVERAGE
PARAMETER	STATION	READING (PPB)	READING (PPB)
SO_2	#27	1.6	0.3
H_2S	#17	0.30	0.19
NO_2	#6	4.0	1.3
O_3	#32	22.81	18.52

General Monthly Summary

Equipment Operation
The following summary outlines the analyzer performance. Any non-conformances, problems or maintenance performed are detailed at the end of each section.

AQM STATION – LICA - COLD LAKE SOUTH

Sulphur Dioxide (PPB)
- Analyzer make / model – Thermo 43i, S/N: 806528242

The SO2 channel was put into the Maintenance mode for the manifold cleaning on September 9th at hour 13. The monthly calibration was performed on September 10th. The inlet filter was changed before the monthly calibration. The analyzer failed on September 29th during hour 0 due to sample pump failure. The pump was replaced on September 30th at hour 19. A zero/span check was run on September 30th at hour 22 to ensure the analyzer's functionality after the pump replacement. 44 hours of data were invalidated due to this event. Data was corrected using daily zero information.

Total Reduced Sulphur (PPB)
- Analyzer make / model –TEI 450i, S/N: 812728560
- Converter - CD NOVA CDN 101, S/N: 501

The analyzer was working well throughout the month. The TRS channel was put into the Maintenance mode for the manifold cleaning on September 9th at hour 13. The monthly calibration was performed on September 10th. The inlet filter was changed before the monthly calibration. Data was corrected using daily zero information.

Total Hydrocarbon (PPM)
- Analyzer make / model - Thermo 51C, S/N: AMU1634

The analyzer was working well throughout the month. The monthly calibration was performed on September 9th. The inlet filter was changed before the monthly calibration. 14 hours of data were invalidated as the hourly readings were below 1.5 ppm of the background concentration. Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA - COLD LAKE SOUTH

Particulate Matter 2.5 (UG/M3)

- Analyzer make / model –TEOM1405F, S/N: 1405A201620804

Two Teom audits were performed this month: one was completed on September 9th, and the other audit was performed on September 19th. Data was corrected using Alberta air quality guideline. If the data was between 0 to –3, the data was corrected to 0. If the data was below –3, the data was invalidated. 43 hours of data were invalidated as the data were below –3 ug/m3. Hourly data collected on September 26th hour 6 is missing due to a power outage.

Nitrogen Dioxide (PPB)

- Analyzer make / model - TECO 42C, S/N: 427408716

The analyzer was working well throughout the month. The monthly calibration was performed on September 9th. The inlet filter was changed before the monthly calibration. Some daily span went above the +10% acceptable limits due to high station temperature. This issue did not affect data quality. Data was corrected using daily zero information.

Ozone (PPB)

- Analyzer make / model –Thermo 49i, S/N: 700419951

The O3 channel was put into the Maintenance mode for the manifold cleaning on September 9th at hour 13. The monthly calibration was performed on September 9th. The inlet filter was changed before the monthly calibration. Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA - COLD LAKE SOUTH

Relative Humidity (PERCENT)

· System make / model - Rotronic Hygroclip-S3

No operational issues were observed during the month.

Ambient Temperature (DEGC)

· System make / model - Rotronic Hygroclip-S3

No operational issues were observed during the month.

Vector Wind Speed (KPH) & Vector Wind Direction (DEG)

· System make / model –MetOne, S/N: F1644

The wind system is reported as vector wind speed and vector wind direction. The wind direction data included in this report represents where the wind was coming from. The last wind system calibration was performed on November 18th, 2012.

No operational issues were observed during the month. The instantaneous data for wind speed collected on September 19th hour 15 and 16 were invalidated as the readings went above the full scale.

Trailer Temperature (DEGC)

· System make / model - R&R 61

No operational issues were observed during the month.

General Monthly Summary

AQM STATION – LICA - COLD LAKE SOUTH

Datalogger

- System make / model - ESC 8832, S/N: 263
- Software make / version - ESC v 5.51a

The ESC 8832 is connected to a modem with DSL for continuous connection with the base computer.

Trailer

The glass manifold was cleaned on September 9th.

Passive Network

The samplers installed at site #2 had been removed, so no sample filters were installed.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Sulphur Dioxide

Lakeland Industry & Community Association - Cold Lake South Site

SEPTEMBER 2014

SULPHUR DIOXIDE (SO2) hourly averages in ppb

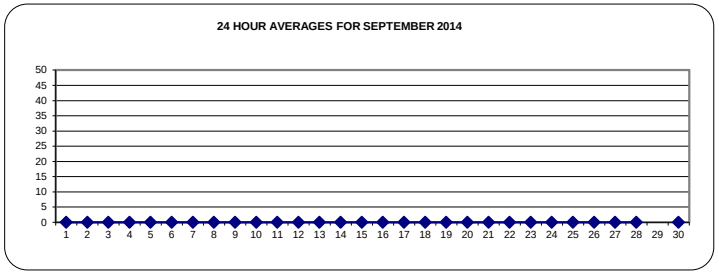
MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	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
2	0	0	0	0	0	0	0	0	0	1	1	S	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
3	0	0	0	0	0	0	0	0	0	0	S	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0.1	24
4	0	0	0	0	0	0	0	0	0	S	*2*	*2*	*2*	1	1	1	1	0	0	0	0	0	0	0	***2***	***0.4***	24
5	0	0	0	0	0	0	0	0	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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	0	0	0.0	24
8	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
9	0	0	0	0	S	0	0	0	0	0	0	0	0	Y	0	0	0	0	0	0	0	0	0	0	0	0.0	23
10	0	0	0	S	0	0	0	0	C	C	C	C	C	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	1	1	1	0	1	1	1	0.2	24
13	S	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	S	1	0.2	24
14	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
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	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0.0	24
17	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
18	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	S	0	0	0	0	0	1	0.1	24
19	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
20	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
21	0	0	0	0	0	0	0	0	1	1	1	1	*2*	*2*	1	S	0	0	0	0	0	0	0	0	***2***	***0.4***	24
22	0	0	0	0	0	0	0	0	0	0	1	0	0	1	S	1	1	1	0	0	0	0	0	0	1	0.2	24
23	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
24	0	0	0	0	0	0	0	0	0	0	0	0	S	1	*2*	1	0	0	0	0	0	0	0	0	***2***	0.2	24
25	0	0	0	0	0	0	0	0	0	0	0	S	0	0	1	0	0	0	0	0	0	0	0	0	1	0.0	24
26	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
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	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
29	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			0
30	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0	0	S	0	0	0.0	4
HOURLY MAX	0	0	0	0	0	0	0	1	1	1	2	2	2	2	2	1	1	1	1	1	1	0	1	1			
HOURLY AVG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.2	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

STATUS FLAG CODES

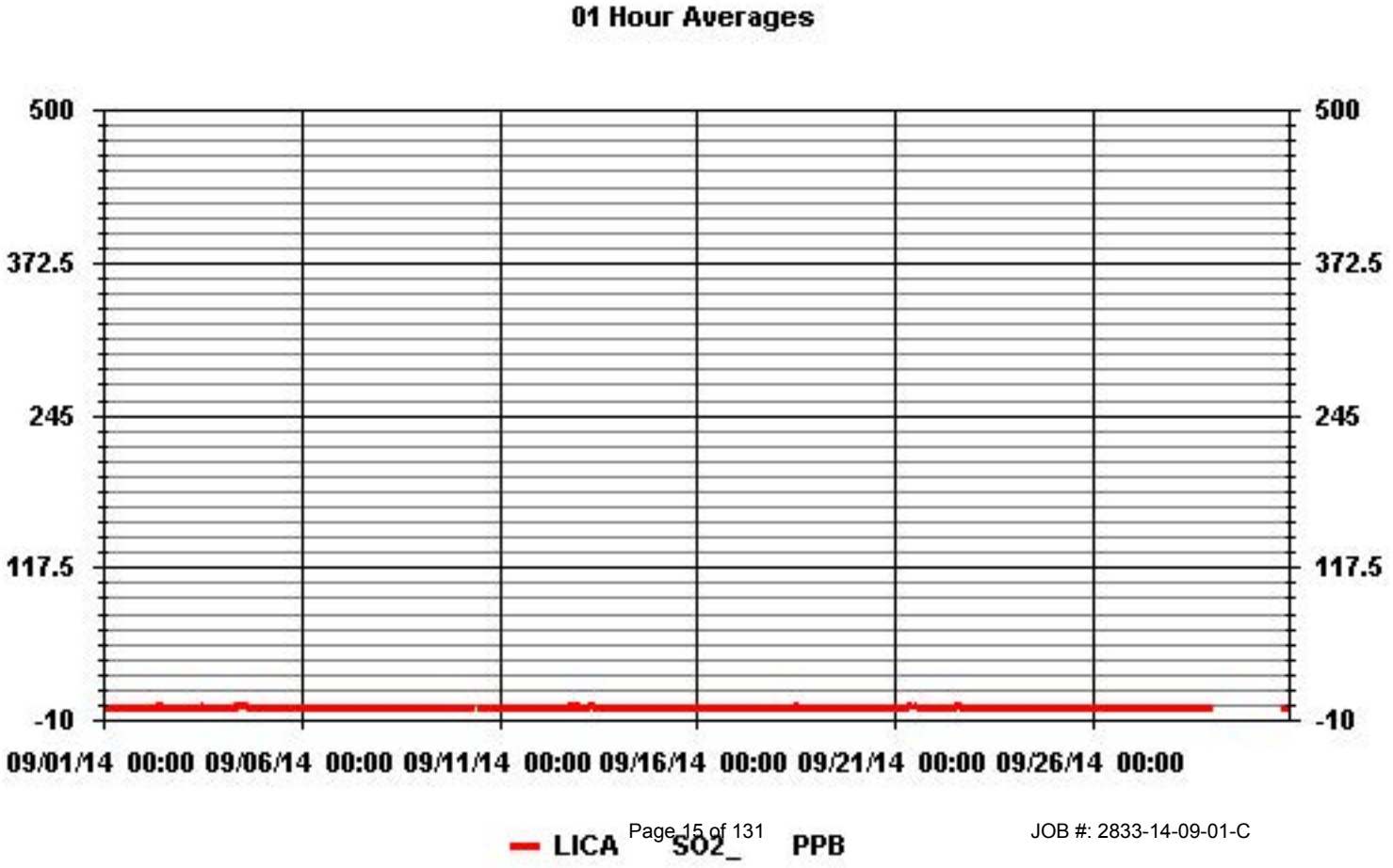
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

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



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	39					
MAXIMUM 1-HR AVERAGE:	2	PPB	@ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 24-HR AVERAGE:	0.4	PPB			ON DAY(S)	4, 21
				VAR-VARIOUS		
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:		675	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:		93.8	%
STANDARD DEVIATION:	0.29		MONTHLY AVERAGE:		0.07	PPB



JOB #: 2833-14-09-01-C

Lakeland Industry & Community Association - Cold Lake South Site

SEPTEMBER 2014

SULPHUR DIOXIDE MAX instantaneous maximum in ppb

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
2	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	0	1	1	1	1	1.0	24
3	1	1	0	1	0	1	1	1	1	1	**S**	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0.9	24
4	1	1	1	1	1	1	1	1	1	**S**	3	2	3	2	2	1	1	1	1	1	1	1	1	1	3	***1.3***	24
5	1	1	1	1	1	1	1	2	**S**	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1	24
6	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	1.0	24
7	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	1.0	24
8	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	1.0	24
9	1	1	1	1	**S**	1	1	1	1	1	1	1	1	**Y**	1	1	1	1	1	1	1	1	1	1	1	1.0	23
10	1	1	1	**S**	1	1	1	**C**	**C**	**C**	**C**	**C**	**C**	1	0	1	1	1	1	1	1	1	1	0	1	0.9	24
11	0	1	**S**	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0.9	24
12	0	**S**	0	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	2	2	2	1	1	2	2	1.0	24
13	**S**	1	0	1	1	1	1	2	2	2	2	1	1	1	1	1	0	1	1	1	1	1	1	**S**	2	1.1	24
14	1	1	0	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	**S**	0	1	0.8	24
15	0	0	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	**S**	0	1	1	0.7	24
16	0	0	1	0	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	**S**	1	0	1	1	0.7	24
17	0	0	0	0	1	0	0	0	1	0	0	0	0	1	1	1	1	1	0	**S**	0	0	0	0	1	0.3	24
18	0	1	0	0	1	1	1	1	1	1	1	1	2	1	1	0	0	1	**S**	0	0	0	0	1	2	0.7	24
19	1	0	0	0	0	1	0	0	1	1	1	1	0	0	1	0	0	**S**	0	0	1	1	1	1	1	0.5	24
20	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	1	**S**	0	1	1	0	0	0	0	1	0.3	24
21	1	0	1	1	0	1	1	0	2	2	2	1	2	3	1	**S**	1	1	1	0	0	0	0	0	3	0.9	24
22	0	1	0	1	0	0	0	1	1	1	1	1	1	2	**S**	2	2	2	1	1	0	0	1	0	2	0.8	24
23	0	1	0	0	0	1	0	0	1	1	1	1	1	**S**	0	1	0	1	0	0	0	1	0	1	1	0.5	24
24	1	1	1	0	1	0	0	0	1	1	1	1	**S**	3	***4***	***4***	1	1	1	1	1	0	1	0	***4***	1.1	24
25	1	0	1	0	0	0	0	0	0	0	1	**S**	1	1	1	1	1	1	1	0	0	1	1	1	1	0.6	24
26	1	1	0	0	0	0	0	0	0	0	**S**	0	0	0	0	1	0	0	0	1	1	0	1	0	1	0.3	24
27	1	0	0	1	0	1	0	0	0	**S**	0	0	1	0	0	0	0	1	0	1	1	1	1	1	1	0.4	24
28	0	0	0	0	0	0	0	0	**S**	1	0	1	1	1	0	1	0	1	0	1	3	1	1	1	3	0.6	24
29	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**			0
30	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	1	**S**	**S**	1	1.0	3
HOURLY MAX	1	1	1	1	1	1	1	2	2	2	3	2	3	3	4	4	2	2	2	2	3	1	1	2			
HOURLY AVG	0.6	0.7	0.5	0.6	0.6	0.7	0.6	0.6	0.9	1.0	1.0	0.9	1.0	1.1	1.0	1.0	0.8	1.0	0.8	0.8	0.8	0.7	0.8	0.7			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 465

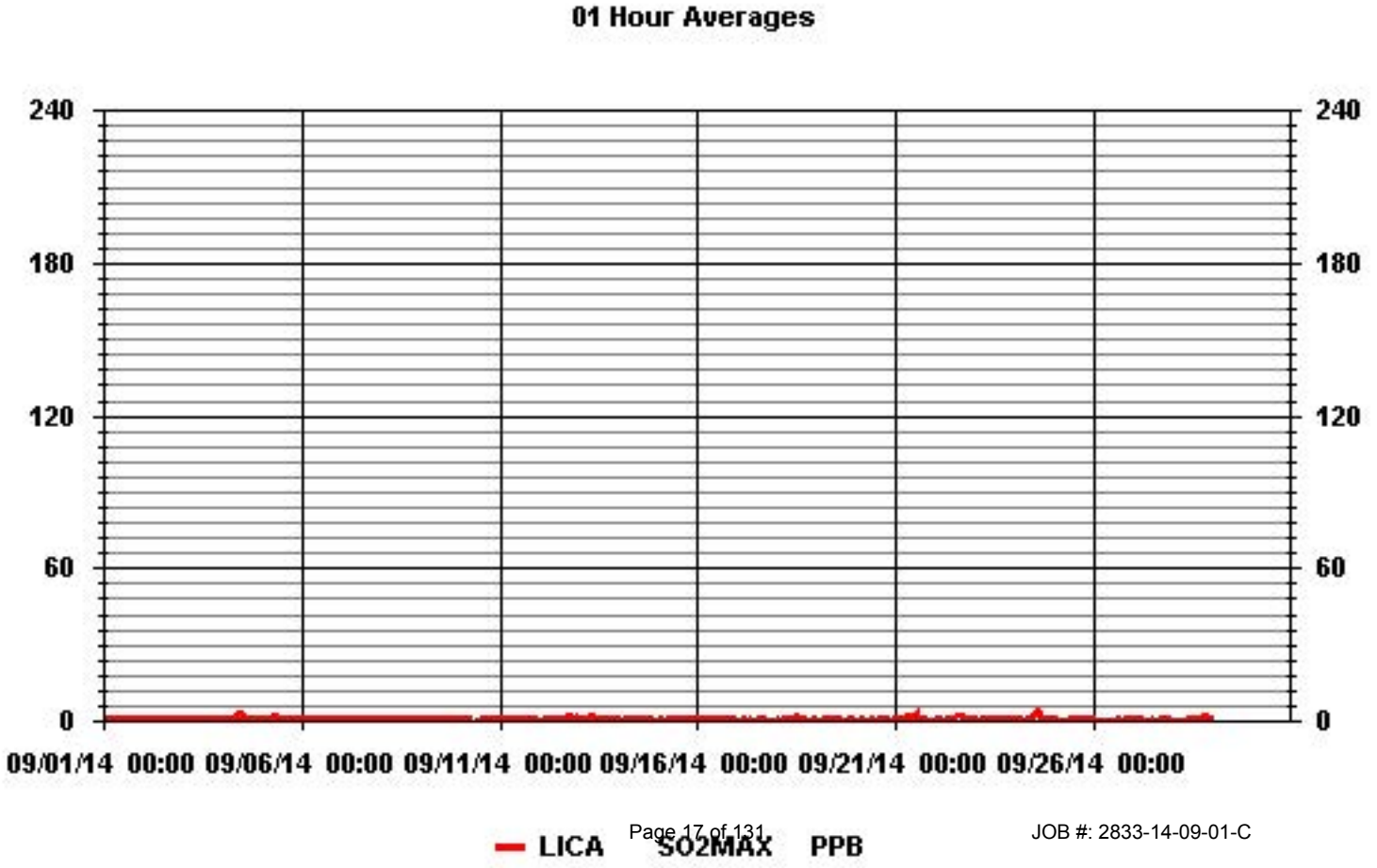
MAXIMUM INSTANTANEOUS VALUE: 4 PPB @ HOUR(S) 14, 15 ON DAY(S) 24

VAR-VARIOUS

IZS CALIBRATION TIME: 31 HRS OPERATIONAL TIME: 674 HRS

MONTHLY CALIBRATION TIME: 6 HRS

STANDARD DEVIATION: 0.57



JOB #: 2833-14-09-01-C

LICA
SO2_ / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 01
Site Name : LICA
Parameter : SO2_
Units : PPB

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	1.09	5.15	6.87	4.06	4.53	4.68	10.78	5.00	4.84	3.28	7.03	15.62	12.65	8.12	3.75	2.50	100.00
< 60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 170	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	1.09	5.15	6.87	4.06	4.53	4.68	10.78	5.00	4.84	3.28	7.03	15.62	12.65	8.12	3.75	2.50	

Calm : .00 %

Total # Operational Hours : 640

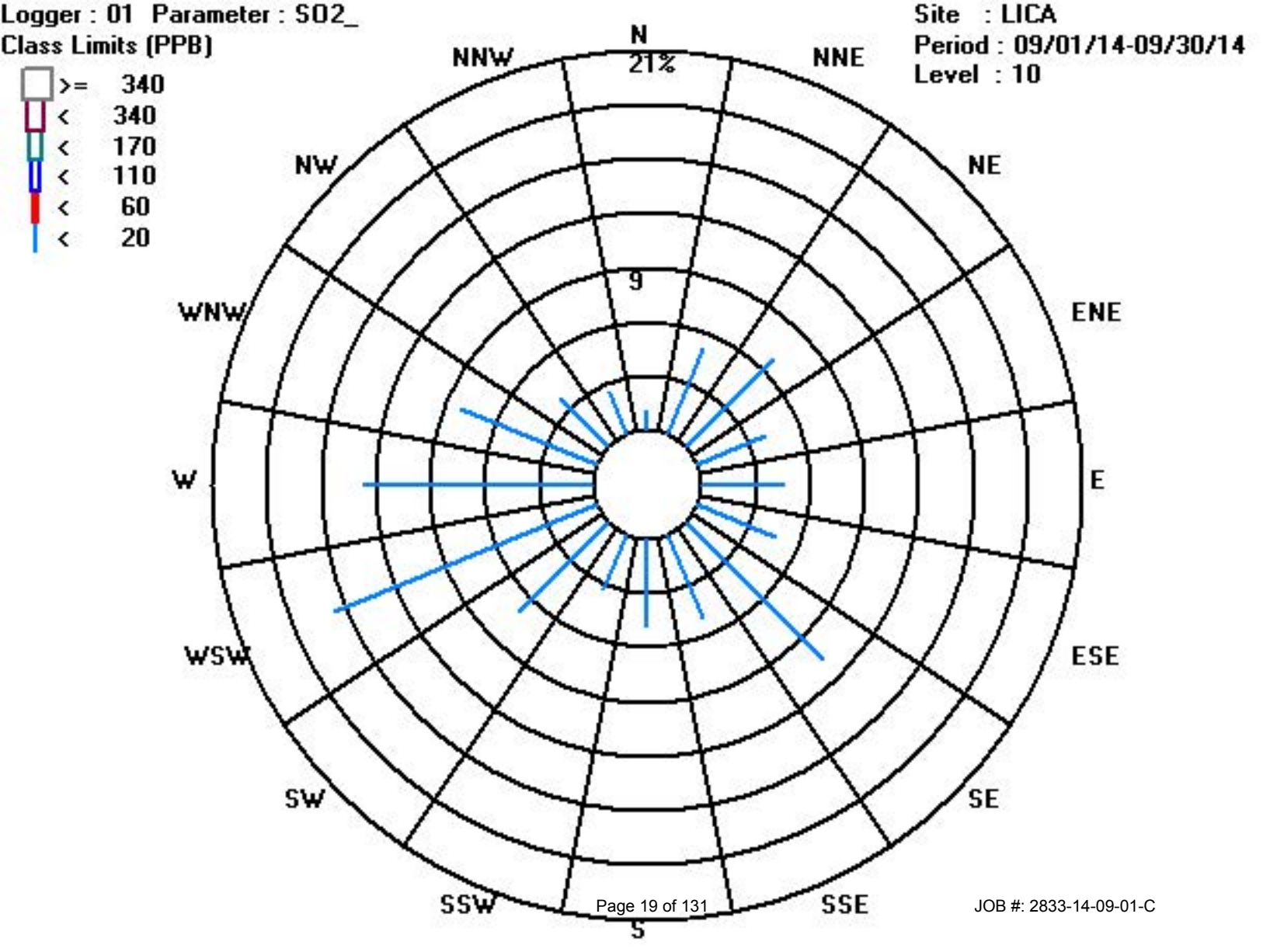
Distribution By Samples

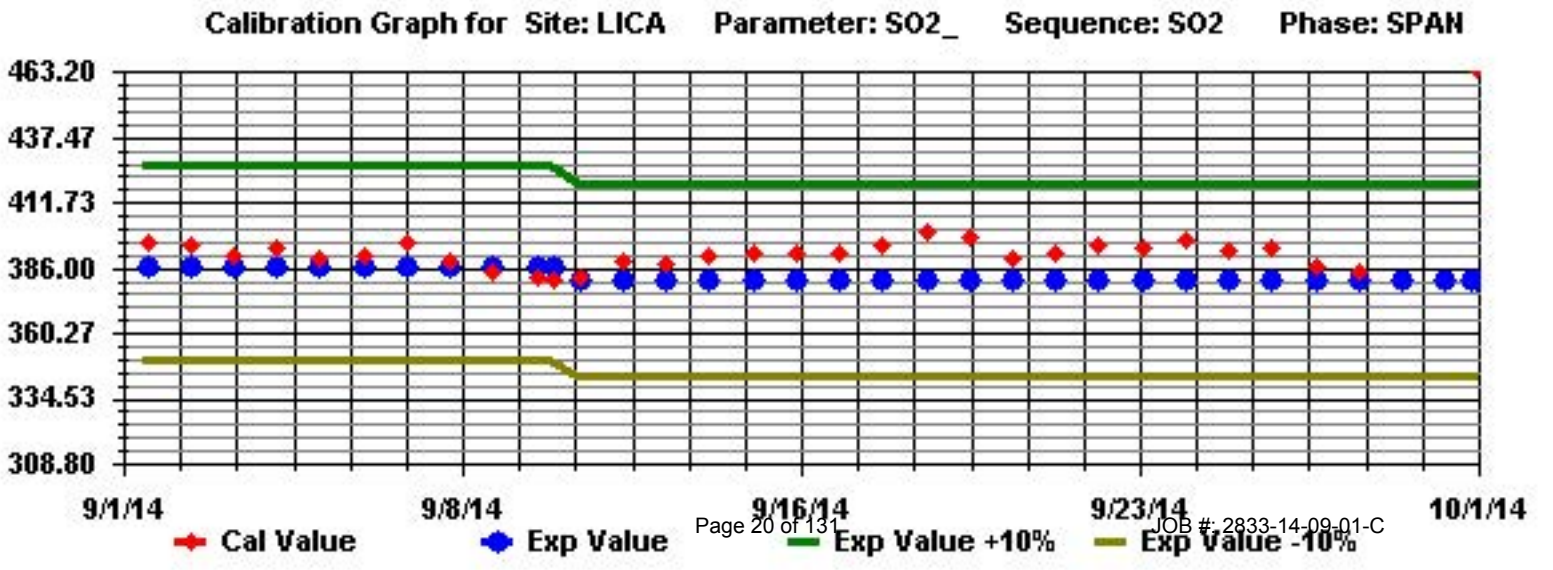
Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	7	33	44	26	29	30	69	32	31	21	45	100	81	52	24	16	640
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	7	33	44	26	29	30	69	32	31	21	45	100	81	52	24	16	

Calm : .00 %

Total # Operational Hours : 640


Logger : 01 Parameter : SO2_
Class Limits (PPB)
>= 340
< 340
< 170
< 110
< 60
< 20
Site : LICA
Period : 09/01/14-09/30/14
Level : 10
N
21%
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
9


Calibration Graph for Site: LICA Parameter: SO2_ Sequence: SO2 Phase: SPAN
463.20
437.47
411.73
386.00
360.27
334.53
308.80
9/1/14
9/8/14
9/16/14
9/23/14
10/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Reduced Sulphur

Lakeland Industry & Community Association - Cold Lake South Site

SEPTEMBER 2014

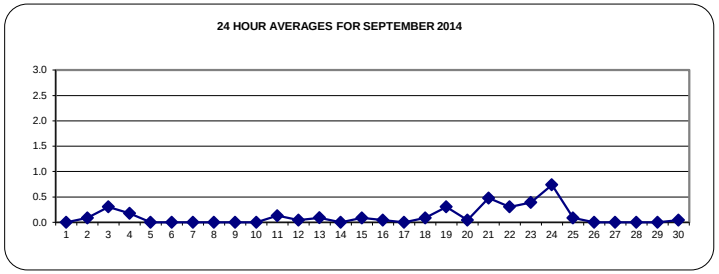
TOTAL REDUCED SULPHUR (TRS) hourly averages in ppb

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	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
2	0	0	0	0	0	1	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	1	1	0.1	24
3	1	1	1	1	2	1	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.3	24
4	0	0	0	0	0	1	1	1	1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	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	0	0	0.0	24
8	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
9	0	0	0	0	**S**	0	0	0	**S**	0	0	0	0	**Y**	0	0	0	0	0	0	0	0	0	0	0	0.0	23
10	0	0	0	**S**	0	0	0	0	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
11	0	0	**S**	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
12	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.0	24
13	**S**	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	1	0.1	24
14	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
15	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	1	0.1	24
16	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	1	0.0	24
17	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
18	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	1	0.1	24
19	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	1	0.3	24
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	1	1	0.0	24
21	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	**S**	0	0	0	0	0	0	0	0	1	0.5	24
22	0	0	0	0	0	0	1	1	1	1	1	1	1	0	**S**	0	0	0	0	0	0	0	0	0	1	0.3	24
23	1	1	1	1	1	0	1	1	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	1	1	1	0.4	24
24	0	1	1	1	1	1	2	0	1	0	0	0	**S**	0	0	0	0	0	0	0	0	2	***5***	2	***5***	***0.7***	24
25	0	0	0	0	0	1	1	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
26	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
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	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	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	0	0	0	0	0	**S**	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
HOURLY MAX	1	1	1	1	2	1	2	1	1	1	1	1	1	0	0	0	0	0	0	0	0	2	5	2			
HOURLY AVG	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

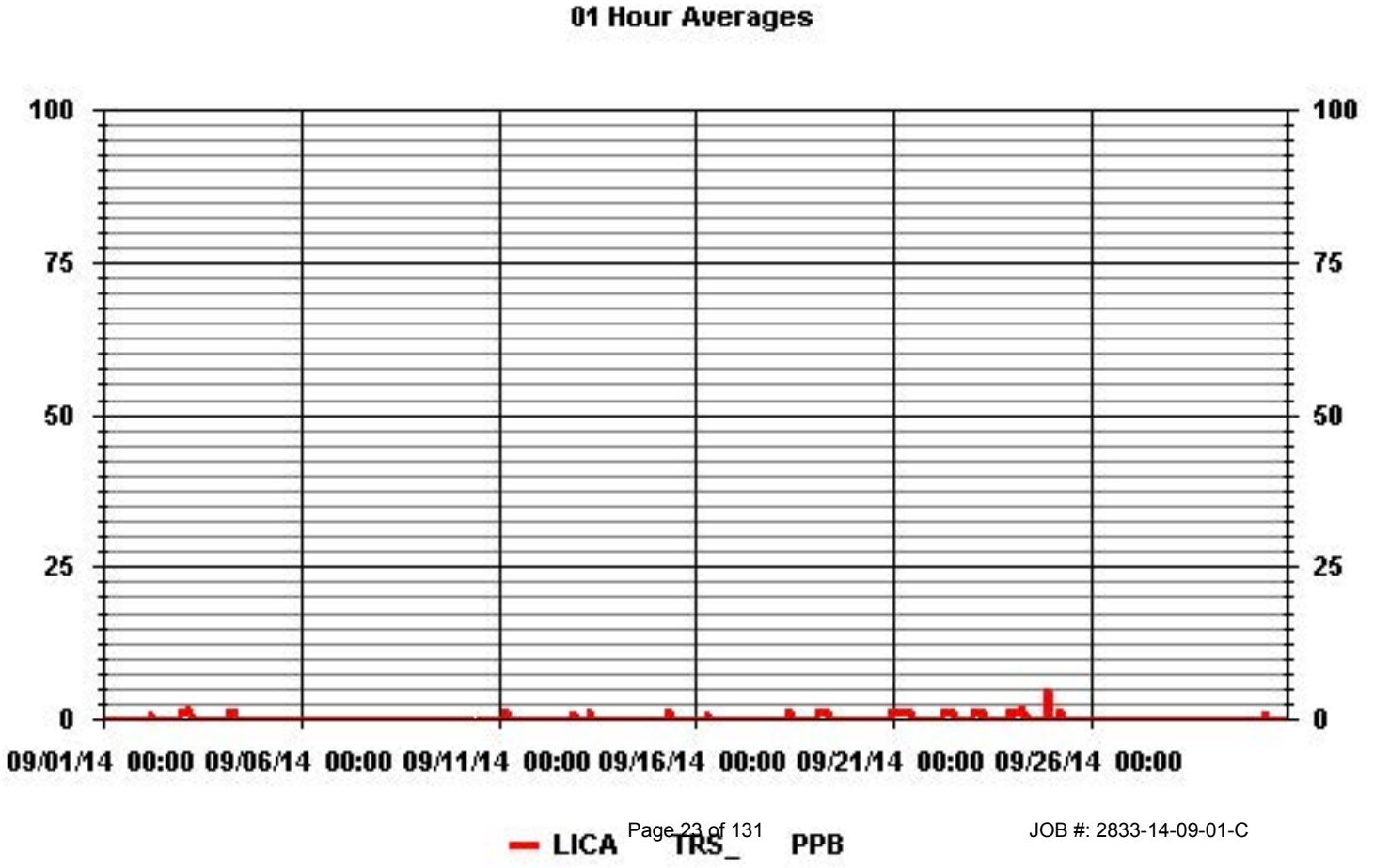


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:**

1-HR	NA	PPB	24-HR	NA	PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	NA						
NUMBER OF 24-HR EXCEEDENCES:	NA						
NUMBER OF NON-ZERO READINGS:	71						
MAXIMUM 1-HR AVERAGE:	5	PPB	@ HOUR(S)	22	ON DAY(S)		24
MAXIMUM 24-HR AVERAGE:	0.7	PPB			ON DAY(S)		24
					VAR-VARIOUS		
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:			719	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:			99.9	%
STANDARD DEVIATION:	0.38		MONTHLY AVERAGE:			0.12	PPB



JOB #: 2833-14-09-01-C

Lakeland Industry & Community Association - Cold Lake South Site

SEPTEMBER 2014

TOTAL REDUCED SULPHUR MAX instantaneous maximum in ppb

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	1	1	0	1	1	1	1	1	1	1	1	0	**S**	1	0	1	0	0	1	1	0	1	1	1	1	0.7	24
2	1	1	1	1	1	2	1	1	1	1	1	**S**	1	1	0	1	1	1	1	1	1	1	1	1	2	1.0	24
3	2	1	1	2	3	2	1	1	1	1	**S**	0	1	1	1	1	0	1	1	1	0	0	1	1	3	1.0	24
4	1	1	1	1	1	1	1	1	2	**S**	1	1	1	1	1	0	1	0	1	1	0	1	1	1	2	0.9	24
5	1	1	1	1	1	1	1	1	**S**	1	1	1	1	1	0	1	0	1	0	1	1	1	1	1	1	0.9	24
6	1	1	1	1	1	1	1	**S**	1	1	1	1	0	1	0	0	1	1	0	0	1	0	1	0	1	0.7	24
7	1	1	1	1	1	0	**S**	0	0	0	0	0	0	0	1	1	0	0	1	0	1	0	0	0	1	0.4	24
8	0	1	0	0	0	**S**	0	0	1	0	0	0	0	0	0	1	1	0	0	0	1	1	1	0	1	0.3	24
9	0	0	1	1	**S**	1	0	1	**S**	1	1	1	0	**Y**	1	0	1	0	1	1	0	1	0	0	1	0.6	23
10	1	1	1	**S**	1	1	1	**C**	**C**	**C**	**C**	**C**	**C**	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
11	1	1	**S**	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	0	1	1	1	1	1	0.9	24
12	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1.0	24
13	**S**	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0	0	0	1	1	1	**S**	1	0.8	24
14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1.0	24
15	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	**S**	1	1	1	0.9	24
16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	**S**	1	1	0	1	0.9	24
17	1	1	0	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1	1	0.9	24
18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	**S**	1	1	1	1	1	1	1.0	24
19	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	0	1	**S**	0	1	1	0	1	1	2	0.9	24
20	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1	1	**S**	1	0	1	1	1	1	1	1	0.8	24
21	1	2	1	1	2	2	2	2	1	2	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	2	1.3	24
22	1	1	1	1	1	1	2	1	1	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	2	1.0	24
23	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1	0	1	1	1	3	1	3	1.0	24
24	1	1	2	2	5	2	4	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	8	***11***	4	***11***	***2.3***	24
25	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1	0	1	1	1	0	1	1	1	1	0.9	24
26	1	1	1	1	1	1	1	1	0	1	**S**	1	0	1	0	0	1	1	0	1	1	1	1	0	1	0.7	24
27	1	1	0	1	1	1	1	1	0	**S**	1	0	0	0	0	0	1	0	1	1	1	1	1	1	1	0.6	24
28	1	0	1	1	1	1	1	1	**S**	1	0	1	1	0	0	1	1	1	1	1	1	1	1	1	1	0.8	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	1.0	24
30	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	1.0	24
HOURLY MAX	2	2	2	2	5	2	4	2	2	2	1	1	1	1	1	1	1	1	1	1	1	8	11	4			
HOURLY AVG	1.0	1.0	0.9	1.0	1.2	1.1	1.1	1.0	0.9	1.0	0.8	0.8	0.8	0.7	0.7	0.7	0.8	0.8	0.7	0.8	0.8	1.1	1.3	0.9			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 572

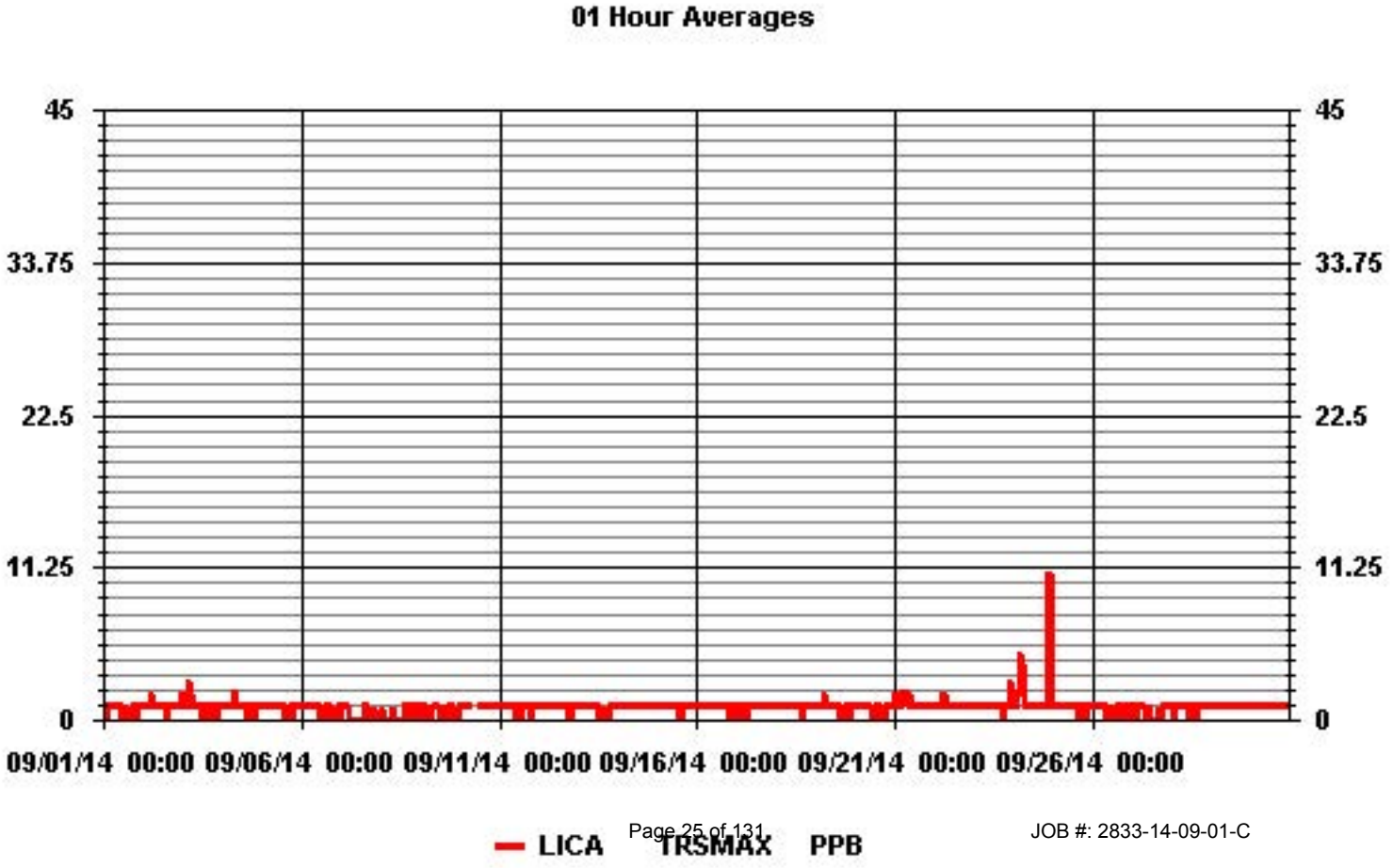
MAXIMUM INSTANTANEOUS VALUE: 11 PPB @ HOUR(S) 22 ON DAY(S) 24

VAR-VARIOUS

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 719 HRS

MONTHLY CALIBRATION TIME: 6 HRS

STANDARD DEVIATION: 0.68



JOB #: 2833-14-09-01-C

LICA
TRS_ / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 01
Site Name : LICA
Parameter : TRS_
Units : PPB

Wind Parameter : WDR
Instrument Height : 10 Meters

		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3	1.02	4.83	6.45	3.81	4.10	4.39	13.48	5.71	4.54	3.07	6.45	14.95	12.46	8.50	3.66	2.34	99.85
<	10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14	.00	.00	.00	.00	.00	.14
<	50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	1.02	4.83	6.45	3.81	4.10	4.39	13.48	5.71	4.54	3.07	6.59	14.95	12.46	8.50	3.66	2.34	

Calm : .00 %

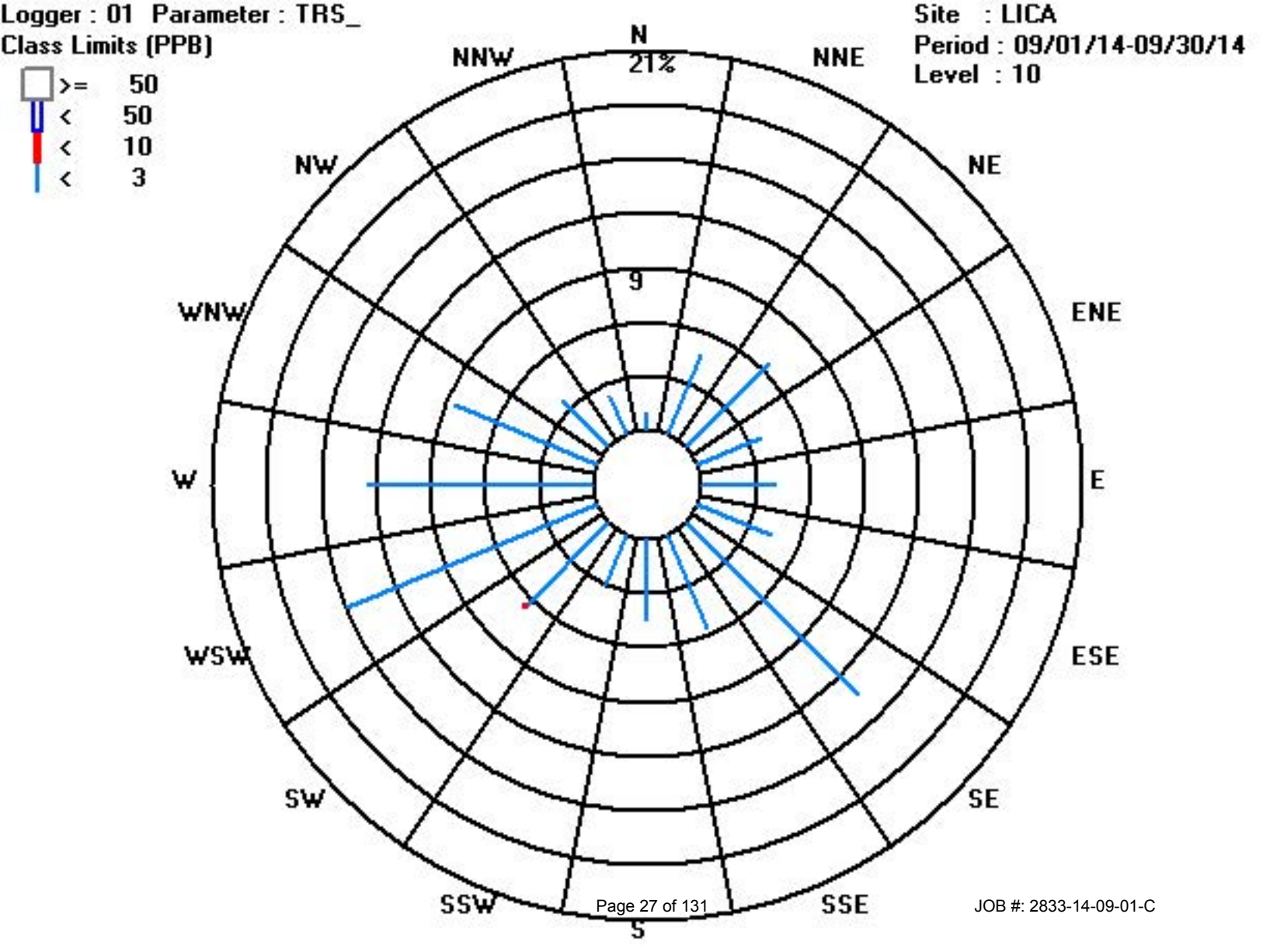
Total # Operational Hours : 682

Distribution By Samples

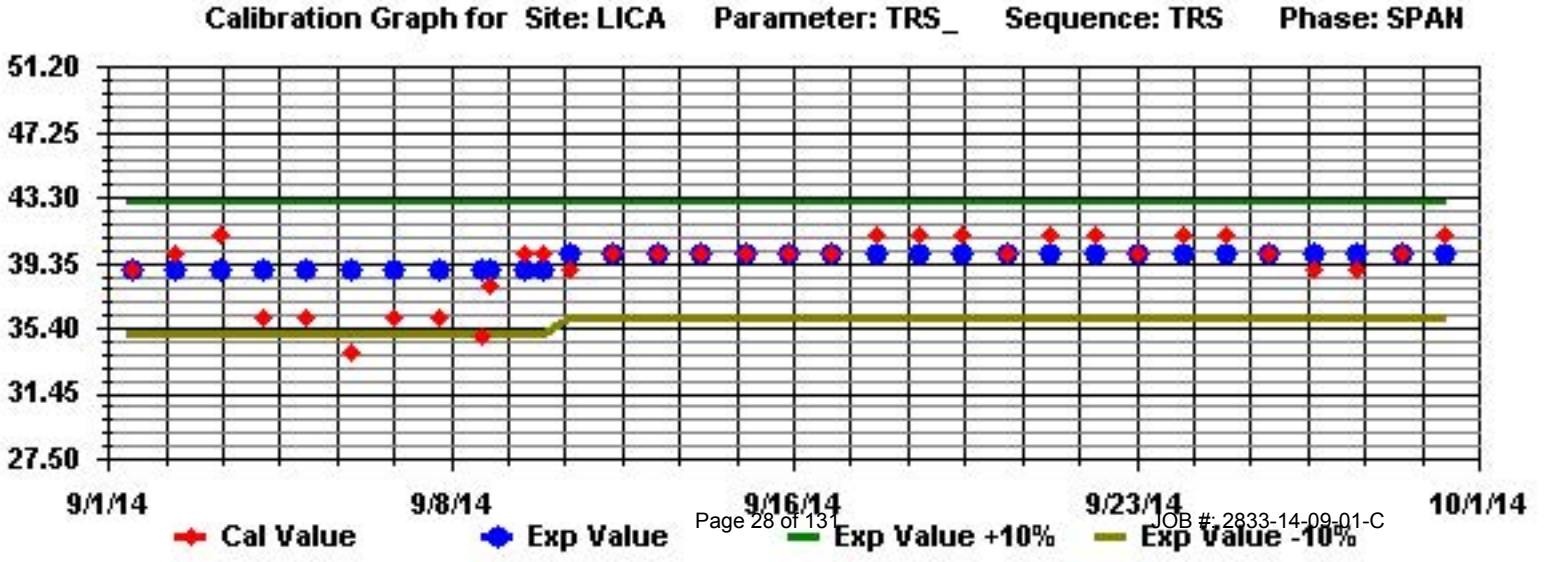
		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3	7	33	44	26	28	30	92	39	31	21	44	102	85	58	25	16	681
<	10											1						1
<	50																	
>=	50																	
	Totals	7	33	44	26	28	30	92	39	31	21	45	102	85	58	25	16	

Calm : .00 %

Total # Operational Hours : 682



JOB #: 2833-14-09-01-C


Calibration Graph for Site: LICA Parameter: TRS_ Sequence: TRS Phase: SPAN
51.20
47.25
43.30
39.35
35.40
31.45
27.50
9/1/14
9/8/14
9/16/14
9/23/14
10/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Hydrocarbons

Lakeland Industry & Community Association - Cold Lake South Site

SEPTEMBER 2014

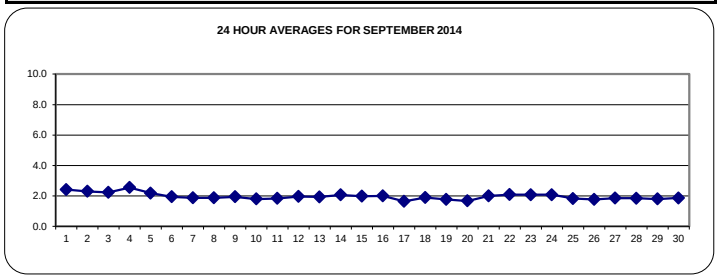
TOTAL HYDROCARBONS (THC) hourly averages in ppm

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2.9	2.8	2.9	3.0	2.8	2.9	2.8	2.6	2.3	2.1	1.9	2.0	**S**	1.9	1.9	1.9	2.0	2.0	2.2	2.4	2.6	2.4	2.4	2.7	3.0	2.4	24
2	2.7	2.9	3.1	3.3	3.4	3.6	3.2	2.8	2.7	2.2	1.9	**S**	1.9	1.7	1.6	1.6	1.6	1.6	1.6	1.8	1.8	1.9	1.9	2.0	3.6	2.3	24
3	2.0	2.0	1.9	2.1	2.2	2.0	2.0	2.4	2.2	1.9	**S**	1.8	1.8	1.9	2.1	2.2	2.1	2.2	2.5	2.5	2.7	2.8	3.0	3.1	3.1	2.2	24
4	3.2	3.4	3.4	3.5	3.7	***3.8***	***3.8***	3.4	3.2	**S**	1.9	1.8	1.8	1.8	1.8	1.7	1.8	1.8	2.0	1.9	2.1	2.1	2.4	2.4	***3.8***	***2.6***	24
5	2.4	2.5	2.6	2.5	2.7	2.8	2.7	2.4	**S**	1.9	1.8	1.7	1.7	1.7	1.7	1.7	1.8	1.9	2.0	2.1	2.2	2.4	2.6	2.5	2.8	2.2	24
6	2.7	2.3	2.2	2.3	2.5	2.6	2.7	**S**	2.2	1.9	1.8	1.7	1.6	1.5	1.5	1.5	1.5	**X**	1.5	1.5	1.7	1.8	1.9	1.8	2.7	1.9	23
7	1.9	2.1	2.1	1.9	1.7	1.8	**S**	1.9	1.8	1.8	1.8	1.7	1.7	1.8	1.8	1.8	1.9	1.9	1.9	1.9	2.0	2.0	2.1	2.1	2.1	1.9	24
8	2.0	2.1	2.1	2.1	2.2	**S**	1.8	1.8	1.8	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.9	1.9	1.9	2.0	2.0	2.2	1.9	24
9	2.0	2.0	2.1	2.1	**S**	2.1	2.2	2.1	**C**	**C**	**C**	**C**	**C**	**C**	1.7	1.9	1.9	1.8	1.8	1.8	1.9	1.8	1.9	1.9	2.2	1.9	24
10	1.9	1.9	1.9	**S**	1.9	1.9	1.9	1.9	1.8	1.7	1.7	1.7	1.8	1.9	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.9	1.8	24
11	1.9	1.9	**S**	2.2	2.2	2.3	2.3	2.0	1.9	1.8	1.7	1.7	1.8	1.6	1.6	1.5	1.5	1.6	1.7	1.8	1.8	1.9	2.0	2.3	2.3	1.8	24
12	2.1	**S**	2.1	2.1	2.3	2.2	2.3	2.2	2.2	2.1	1.9	1.8	1.9	1.9	2.1	1.7	1.7	1.7	1.7	1.7	1.7	1.7	2.0	1.9	2.3	2.0	24
13	**S**	2.1	2.2	2.0	2.0	1.9	2.0	2.0	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.8	1.9	2.0	2.1	2.3	2.3	**S**	2.3	1.9	24
14	2.2	2.2	2.2	2.3	2.3	2.4	2.5	2.7	2.7	2.4	2.1	1.8	1.7	1.6	1.6	1.6	1.6	1.7	1.8	1.8	1.8	2.3	**S**	2.3	2.7	2.1	24
15	2.2	2.5	2.4	2.4	2.4	2.5	2.5	2.4	2.0	1.8	1.7	1.6	1.6	1.5	1.5	1.5	**X**	1.5	1.6	1.7	1.9	**S**	2.1	2.2	2.5	2.0	23
16	2.4	2.5	2.6	2.6	2.6	2.6	2.7	3.0	2.3	2.1	2.0	1.8	1.5	1.5	1.5	1.6	1.5	1.5	1.5	1.5	**S**	1.5	1.6	1.6	3.0	2.0	24
17	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	**S**	1.6	1.6	1.7	1.7	1.7	1.6	24
18	1.7	1.8	1.8	2.0	1.9	2.2	2.0	1.9	2.1	2.0	1.7	**S**	**X**	**X**	**X**	**X**	1.5	1.6	**S**	1.8	2.0	2.0	2.2	1.9	2.2	1.9	20
19	1.9	1.8	1.9	1.9	1.9	2.0	2.1	2.0	1.8	1.6	1.5	1.5	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	1.5	1.6	1.7	1.6	2.1	1.8	16
20	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	**S**	1.6	1.6	1.9	1.8	2.0	2.0	2.2	2.2	1.7	24
21	2.3	2.3	2.3	2.3	2.5	2.5	2.6	2.5	2.2	2.1	1.9	1.7	1.6	1.5	1.5	**S**	1.5	1.6	1.6	1.8	1.8	1.9	1.9	1.9	2.6	2.0	24
22	2.0	2.1	2.2	2.2	2.2	2.3	2.5	2.3	2.0	1.8	1.8	1.8	1.8	1.7	**S**	1.8	1.8	1.8	2.2	2.1	2.4	2.3	2.4	2.5	2.5	2.1	24
23	2.5	2.6	2.7	2.6	2.8	2.7	2.7	2.5	2.0	1.7	1.5	1.5	1.5	**S**	1.5	**S**	1.5	1.5	1.6	1.9	1.8	2.1	2.1	2.3	2.8	2.1	24
24	2.2	2.3	2.5	2.5	2.6	2.7	2.7	1.9	1.8	1.8	1.8	1.7	**S**	1.8	1.8	1.7	1.8	1.8	1.9	1.9	1.9	2.0	2.3	2.4	2.7	2.1	24
25	2.2	1.9	1.9	1.8	2.1	2.1	2.1	2.0	2.0	2.0	1.9	**S**	1.7	1.7	1.6	1.6	1.6	1.6	1.7	1.6	1.7	1.7	1.7	1.7	2.2	1.8	24
26	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	**S**	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.7	1.8	1.8	1.8	1.8	1.8	24
27	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	**S**	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.8	24
28	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	**S**	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.8	24
29	1.9	1.9	1.9	1.9	1.8	1.9	1.9	**S**	2.0	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	2.0	1.8	24
30	1.8	1.9	1.8	1.8	1.8	1.8	**S**	1.9	2.0	2.1	2.3	2.6	1.9	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8	2.6	1.9	24
HOURLY MAX	3	3	3	4	4	4	4	3	3	2	2	3	2	2	2	2	2	2	3	3	3	3	3	3			
HOURLY AVG	2.1	2.2	2.2	2.2	2.3	2.3	2.3	2.2	2.1	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.9	1.9	2.0	2.0	2.1			

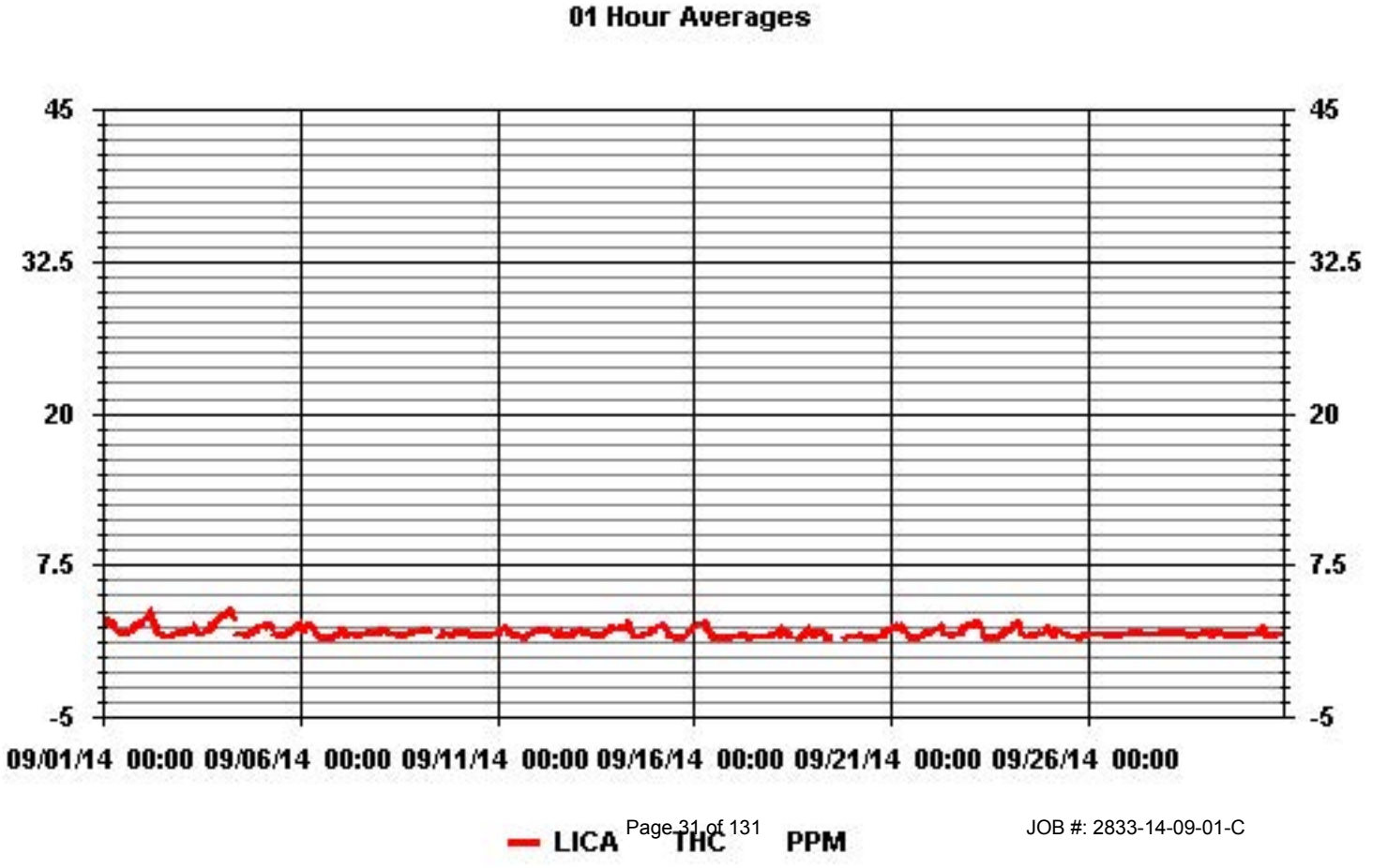
STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	668					
MAXIMUM 1-HR AVERAGE:	3.8	PPM	@ HOUR(S)	5, 6	ON DAY(S)	4
MAXIMUM 24-HR AVERAGE:	2.6	PPM			ON DAY(S)	4
					VAR-VARIOUS	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		706	HRS
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:		98.1	%
STANDARD DEVIATION:	0.39		MONTHLY AVERAGE:		1.97	PPM



JOB #: 2833-14-09-01-C

Lakeland Industry & Community Association - Cold Lake South Site

SEPTEMBER 2014

TOTAL HYDROCARBONS MAX instantaneous maximum in ppm

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	3.2	2.9	2.9	3.1	3	3	2.9	2.7	2.4	2.2	2	2	**S**	1.9	1.9	2	2	2.1	2.3	2.4	2.8	2.6	2.5	2.9	3.2	2.5	24
2	2.9	3	3.2	3.5	3.6	3.8	3.6	3	3	2.5	2.1	**S**	2	1.8	1.7	1.7	1.6	1.8	1.9	2.2	2.1	2.2	2.2	2.3	3.8	2.5	24
3	2.4	2.2	2.1	2.4	2.7	2.2	2.2	2.5	2.5	2	**S**	1.8	1.9	2	2.1	2.3	2.2	2.4	2.7	2.7	2.9	3	3.2	3.2	3.2	2.4	24
4	3.3	3.6	3.7	3.6	3.9	***4***	***4***	3.6	3.4	**S**	2	1.9	1.9	1.8	1.8	1.8	1.9	1.9	2.7	1.9	2.2	2.5	2.5	2.5	***4***	***2.7***	24
5	2.6	2.7	2.8	2.7	2.8	3	2.9	2.7	**S**	1.9	1.8	1.8	1.7	1.7	1.8	1.8	1.8	2	3.5	2.4	2.5	2.7	3	2.8	3.5	2.4	24
6	2.8	2.7	2.3	2.4	2.9	2.9	2.9	**S**	2.5	2	1.8	1.7	1.7	1.6	1.5	1.5	1.5	1.5	1.6	1.6	2	1.9	2.2	1.9	2.9	2.1	24
7	2	2.2	2.3	2.4	1.7	1.9	**S**	2.1	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	2	2	2	2	2.1	2.4	2.0	24
8	2.1	2.1	2.1	2.2	2.2	**S**	1.9	1.8	1.8	2.2	1.8	1.8	1.8	1.8	1.7	1.7	1.8	1.8	1.9	2	1.9	2	2.1	2.3	2.3	1.9	24
9	2.1	2.1	2.3	2.2	**S**	2.2	2.3	2.2	**C**	**C**	**C**	**C**	**C**	**C**	1.9	2	2.1	1.9	1.9	1.8	1.9	1.9	1.9	1.9	2.3	2.0	24
10	1.9	2	2	**S**	2	2	1.9	1.9	2	1.8	1.7	1.7	2	2.1	1.8	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.9	2.1	1.9	24
11	1.9	2	**S**	2.4	2.3	2.4	2.4	2.2	1.9	1.9	1.8	1.7	1.9	1.7	1.7	1.6	1.6	1.5	1.7	1.8	1.9	1.9	2	2.1	2.4	1.9	24
12	2.2	**S**	2.3	2.4	2.5	2.2	2.4	2.3	2.3	2.2	2.1	1.9	2.1	1.9	2.2	2.1	1.8	1.7	1.7	1.7	1.7	1.8	2.1	2	2.5	2.1	24
13	**S**	2.3	2.3	2.2	2.2	2	2.1	2.1	2	1.9	1.8	1.8	1.8	1.8	1.8	1.7	1.9	2.3	2.2	2.2	2.3	2.5	2.5	**S**	2.5	2.1	24
14	2.5	2.7	2.4	2.6	2.5	2.6	2.7	2.9	2.8	2.5	2.3	2	1.7	1.8	1.7	1.7	1.7	1.9	2.3	2.1	2	2.6	**S**	2.7	2.9	2.3	24
15	2.5	2.8	2.6	2.8	2.7	2.7	2.7	2.8	2.2	1.9	1.8	1.7	1.7	1.6	1.5	1.5	1.6	1.8	2.1	2.1	2.2	**S**	2.3	2.5	2.8	2.2	24
16	2.6	2.8	2.8	2.8	2.8	2.8	3	3.3	2.8	2.1	2	2	1.6	1.5	1.6	2.1	1.6	1.6	1.5	1.5	**S**	1.5	1.6	1.6	3.3	2.2	24
17	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	**S**	1.7	1.7	1.7	2.3	2.3	1.7	24
18	1.9	2.1	1.9	2.5	2.3	3	2.4	2.3	2.3	2	1.8	1.5	1.5	2	1.5	**X**	1.6	2.1	**S**	2.1	2.7	2.7	3	2.2	3	2.2	23
19	2.2	2	2.7	2.1	2.1	2.2	2.3	2.1	1.9	1.7	1.6	1.6	1.5	**X**	1.5	**X**	**X**	**X**	**X**	1.5	1.6	1.8	1.7	1.7	2.7	1.9	19
20	1.7	1.7	1.6	1.6	1.7	1.8	1.7	1.7	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.6	**S**	1.6	1.8	2.2	2.4	2.2	2.2	2.4	2.4	1.8	24
21	2.5	2.6	2.5	2.6	2.7	2.7	2.8	2.7	2.5	2.2	2	1.8	1.6	1.6	1.6	**S**	1.6	1.6	1.8	2.3	2.1	2	2	2.1	2.8	2.2	24
22	2.3	2.2	2.8	3.2	2.6	2.8	3.4	2.7	2.1	1.9	1.8	1.9	1.9	1.8	**S**	2	2	2.2	3.1	2.3	3.6	2.5	2.9	2.8	3.6	2.5	24
23	3	3.3	2.9	3	3.1	2.9	3.2	2.8	2.2	1.9	1.6	1.5	1.5	**S**	1.5	1.5	1.5	1.6	1.9	2.6	2.3	2.4	2.8	2.9	3.3	2.3	24
24	2.5	2.7	2.7	2.9	3.1	3	3	2.6	1.8	1.8	1.8	1.7	**S**	1.8	1.9	1.8	1.8	1.9	2.1	2	2	2.3	3	2.9	3.1	2.3	24
25	2.5	1.9	2.1	2	2.3	2.2	2.3	2.1	2.1	2	2.2	**S**	1.7	1.7	1.8	1.7	1.7	2	1.8	1.7	1.7	1.7	1.7	1.8	2.5	1.9	24
26	1.8	1.8	1.8	1.8	2.2	1.8	1.8	1.8	1.8	1.8	**S**	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8	2.2	1.8	24
27	1.8	1.9	2	1.9	1.9	1.9	2	1.9	1.9	**S**	1.8	1.8	1.9	1.8	2.4	1.8	1.8	1.8	2.2	1.9	2.2	1.9	2	1.9	2.4	1.9	24
28	1.9	1.9	2	1.9	2	1.9	1.9	1.9	**S**	1.9	1.9	1.9	1.9	1.8	1.9	1.7	1.7	1.8	1.8	1.8	1.9	1.9	1.9	1.9	2	1.9	24
29	1.9	2	2	2	2.2	2	2	**S**	2	2	1.9	1.9	1.8	1.8	1.8	1.7	1.7	1.7	1.8	1.8	1.8	1.7	1.7	1.8	2.2	1.9	24
30	2	1.9	1.9	1.9	2	1.9	**S**	2	2.3	2.2	2.5	2.7	2.3	1.8	1.7	1.8	1.7	1.7	1.8	1.9	1.8	1.8	1.9	1.8	2.7	2.0	24
31																											0
HOURLY MAX	3	4	4	4	4	4	4	4	3	3	3	3	2	2	2	2	2	2	4	3	4	3	3	3			
HOURLY AVG	2.3	2.3	2.4	2.4	2.5	2.5	2.5	2.4	2.2	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.0	2.0	2.1	2.1	2.2	2.2			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 678

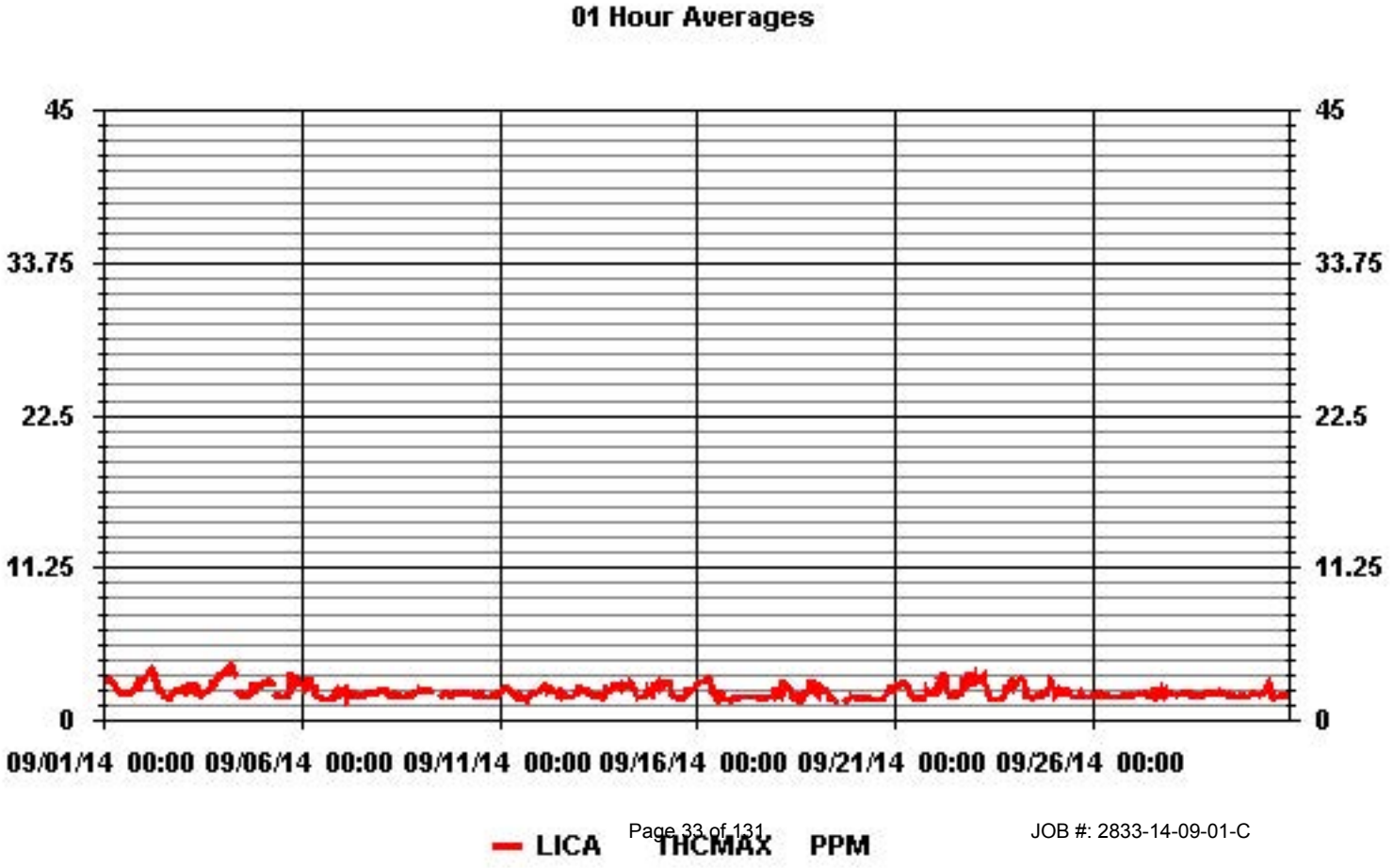
MAXIMUM INSTANTANEOUS VALUE: 4 PPM @ HOUR(S) 5, 6 ON DAY(S) 4

VAR-VARIOUS

IZS CALIBRATION TIME: 30 HRS OPERATIONAL TIME: 714 HRS

MONTHLY CALIBRATION TIME: 6 HRS

STANDARD DEVIATION: 0.47



JOB #: 2833-14-09-01-C

LICA
THC / WD Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 01
Site Name : LICA
Parameter : THC
Units : PPM

Wind Parameter : WD
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3.0	.89	5.38	6.43	3.74	4.04	4.19	13.47	5.68	4.04	2.69	6.73	14.22	11.97	8.08	3.44	2.24	97.30
<	10.0	.00	.00	.00	.00	.00	.00	.14	.14	.59	.44	.00	1.04	.00	.14	.14	.00	2.69
<	50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	.89	5.38	6.43	3.74	4.04	4.19	13.62	5.83	4.64	3.14	6.73	15.26	11.97	8.23	3.59	2.24	

Calm : .00 %

Total # Operational Hours : 668

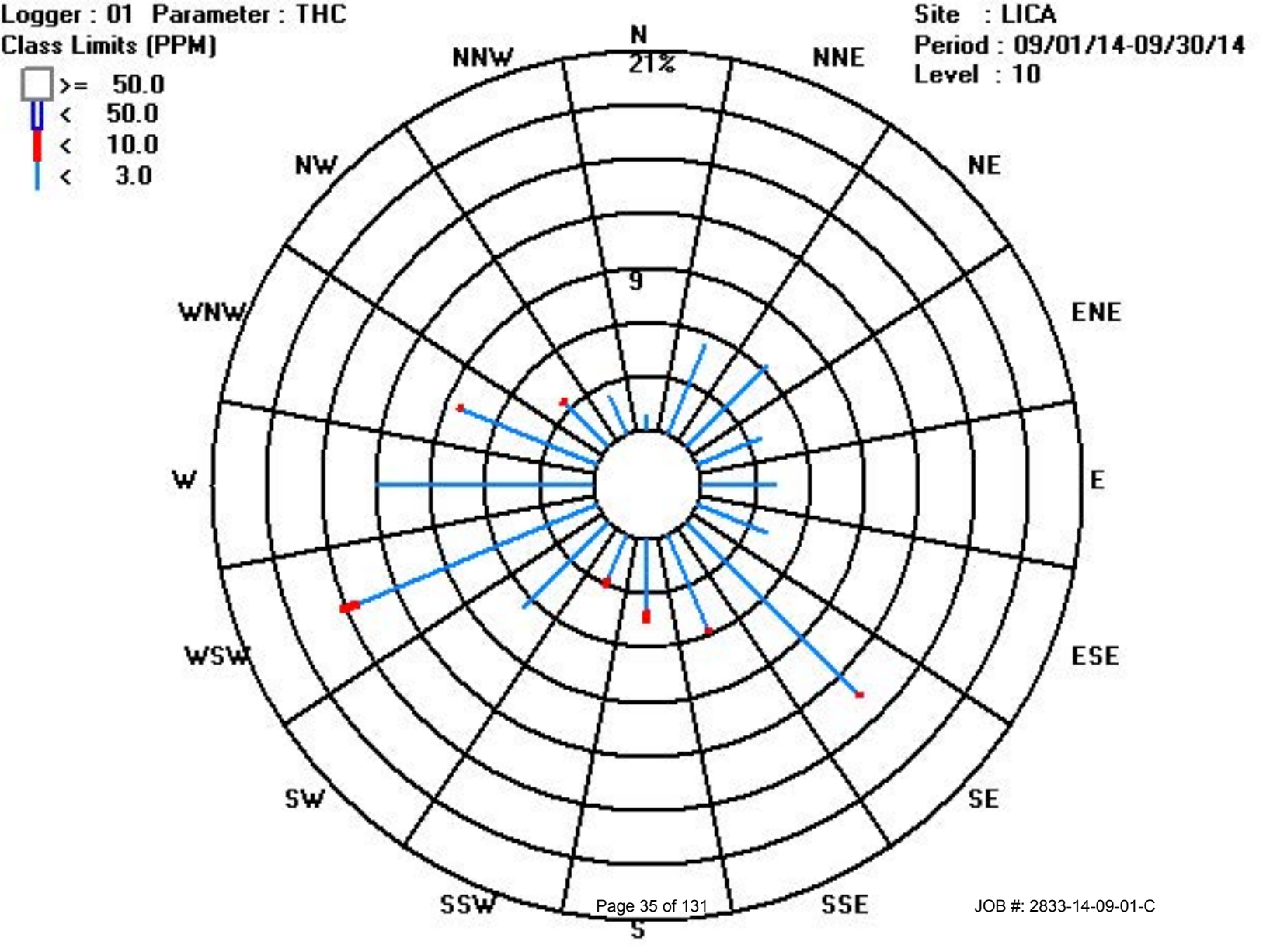
Distribution By Samples

Direction

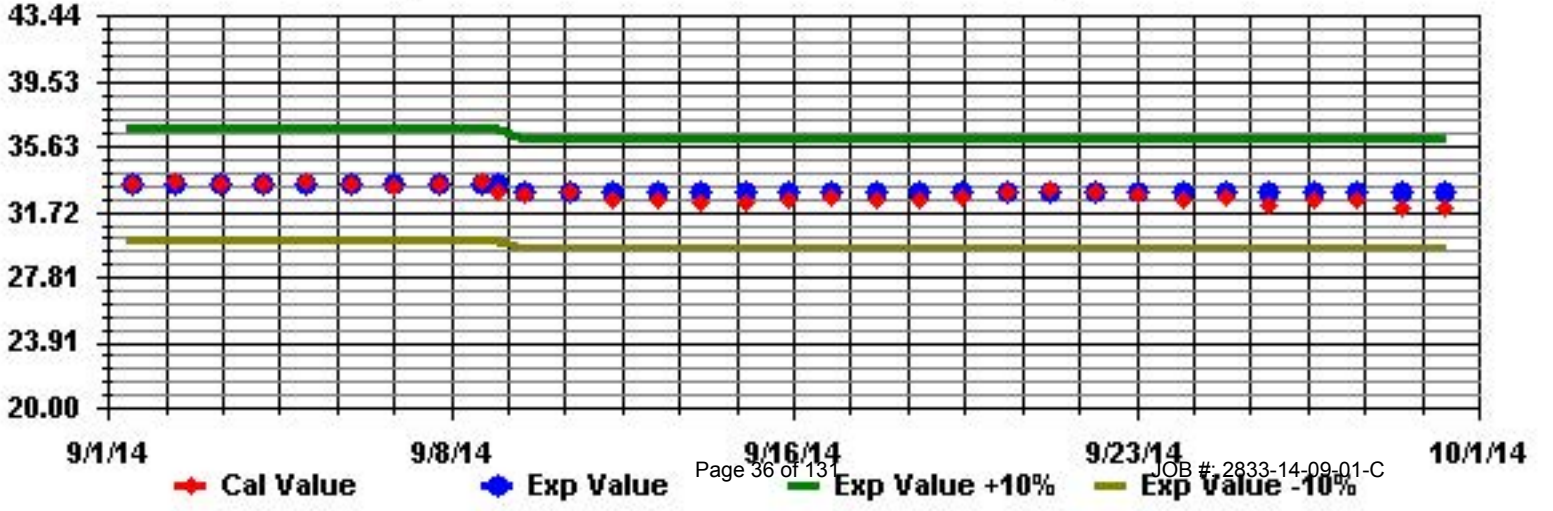
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3.0	6	36	43	25	27	28	90	38	27	18	45	95	80	54	23	15	650
<	10.0							1	1	4	3		7		1	1		18
<	50.0																	
>=	50.0																	
	Totals	6	36	43	25	27	28	91	39	31	21	45	102	80	55	24	15	

Calm : .00 %

Total # Operational Hours : 668



JOB #: 2833-14-09-01-C


Calibration Graph for Site: LICA Parameter: THC Sequence: THC Phase: SPAN
43.44
39.53
35.63
31.72
27.81
23.91
20.00
9/1/14
9/8/14
9/16/14
9/23/14
10/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Particulate Matter 2.5

Lakeland Industry & Community Association - Cold Lake South Site

SEPTEMBER 2014

PARTICULATE MATTER 2.5 (LESS THAN 2.5 MICRONS) (PM2.5) hourly averages in ug/m3

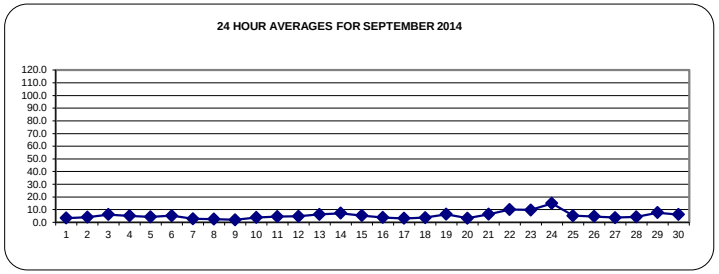
MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	8	3	2	3	2	4	4	5	X	2	9	4	2	5	1	5	0	5	2	0	0	1	1	10	10	3.4	23
2	5	1	6	3	4	5	5	0	0	7	17	7	9	12	0	0	0	0	X	X	X	X	0	0	17	4.1	20
3	X	X	X	X	X	X	0	X	X	19	12	3	1	0	9	0	12	1	8	18	9	2	1	3	19	6.1	16
4	2	0	1	0	2	2	4	3	5	X	X	5	11	5	6	10	7	15	7	6	2	6	5	8	15	5.1	22
5	5	6	3	3	1	0	4	0	4	3	8	X	4	1	4	0	7	9	0	5	6	10	8	6	10	4.2	23
6	5	5	7	5	0	2	5	10	8	3	3	0	1	7	1	0	16	7	10	11	2	5	9	3	16	5.2	24
7	7	9	7	4	0	5	1	2	2	2	1	2	1	3	4	3	3	2	0	0	0	1	0	6	9	2.7	24
8	4	4	1	5	0	0	2	5	4	4	7	4	5	0	2	0	0	0	3	2	6	3	0	0	7	2.5	24
9	5	0	2	2	5	0	0	2	0	X	1	3	0	3	C	C	C	0	5	1	2	3	1	3	5	1.9	23
10	4	4	2	4	3	1	4	2	0	5	6	5	6	10	3	3	5	4	4	3	3	4	3	4	10	3.8	24
11	1	2	6	5	6	4	5	4	4	5	7	7	8	9	11	0	X	X	X	X	0	1	0	4	11	4.5	20
12	5	4	2	1	1	5	1	1	1	3	5	5	4	3	4	4	2	10	13	7	7	9	10	8	13	4.8	24
13	5	6	5	5	6	5	8	5	5	4	5	11	10	6	4	6	4	7	7	5	6	8	7	9	11	6.2	24
14	7	5	4	4	6	6	5	3	8	10	14	13	14	9	10	14	1	2	X	8	5	5	6	6	14	7.2	23
15	7	5	8	8	9	8	8	8	8	7	8	5	8	4	4	5	1	1	0	0	X	X	0	6	9	5.4	22
16	1	2	4	3	5	3	5	6	5	9	7	9	4	7	3	5	6	0	0	0	0	0	X	X	9	3.8	22
17	X	2	2	3	3	1	3	4	5	5	6	4	8	5	5	7	4	0	0	0	0	0	0	5	8	3.1	23
18	2	3	3	2	5	3	5	7	1	8	9	13	7	2	5	2	4	0	3	0	0	1	1	3	13	3.7	24
19	1	3	6	11	9	9	9	C	4	16	13	13	7	7	0	X	0	13	X	X	X	0	0	0	16	6.4	20
20	X	3	9	5	3	3	3	5	7	6	7	0	0	0	0	0	0	0	0	X	X	X	7	7	9	3.3	20
21	2	5	10	8	10	9	10	6	9	8	5	9	11	13	15	4	11	0	1	0	0	0	0	X	15	6.3	23
22	0	0	0	0	8	5	8	6	10	10	10	18	16	22	21	10	12	6	22	15	10	12	11	8	22	10.0	24
23	9	7	18	12	15	13	10	12	14	16	12	9	10	19	15	10	2	5	8	7	2	0	4	4	19	9.7	24
24	10	13	14	8	9	14	17	12	12	13	18	27	18	27	23	***28***	15	14	12	15	12	12	10	7	***28***	***15.0***	24
25	10	1	X	X	X	0	6	8	5	7	2	5	5	7	10	10	6	2	4	X	0	X	X	X	10	5.2	17
26	3	8	2	4	0	0	4	8	6	2	12	***28***	5	0	4	5	3	6	1	3	2	2	0	3	***28***	4.6	24
27	0	2	3	3	2	3	2	1	2	1	1	6	0	0	1	5	5	4	3	9	16	10	8	2	16	3.7	24
28	0	4	2	1	3	0	3	3	2	0	2	5	0	8	7	3	8	6	6	5	9	7	8	8	9	4.2	24
29	6	5	8	1	7	5	8	5	7	0	2	7	11	11	15	14	16	12	7	7	9	8	7	6	16	7.7	24
30	4	6	6	4	2	3	6	6	8	7	6	8	9	10	4	7	2	6	8	17	7	3	5	4	17	6.2	24
HOURLY MAX	10	13	18	12	15	14	17	12	14	19	18	28	18	27	23	28	16	15	22	18	16	12	11	10			
HOURLY AVG	4.4	4.1	5.1	4.2	4.5	4.1	5.2	5.0	5.2	6.5	7.4	8.1	6.5	7.2	6.6	5.7	5.4	4.7	5.2	5.8	4.4	4.3	4.0	4.9			

STATUS FLAG CODES

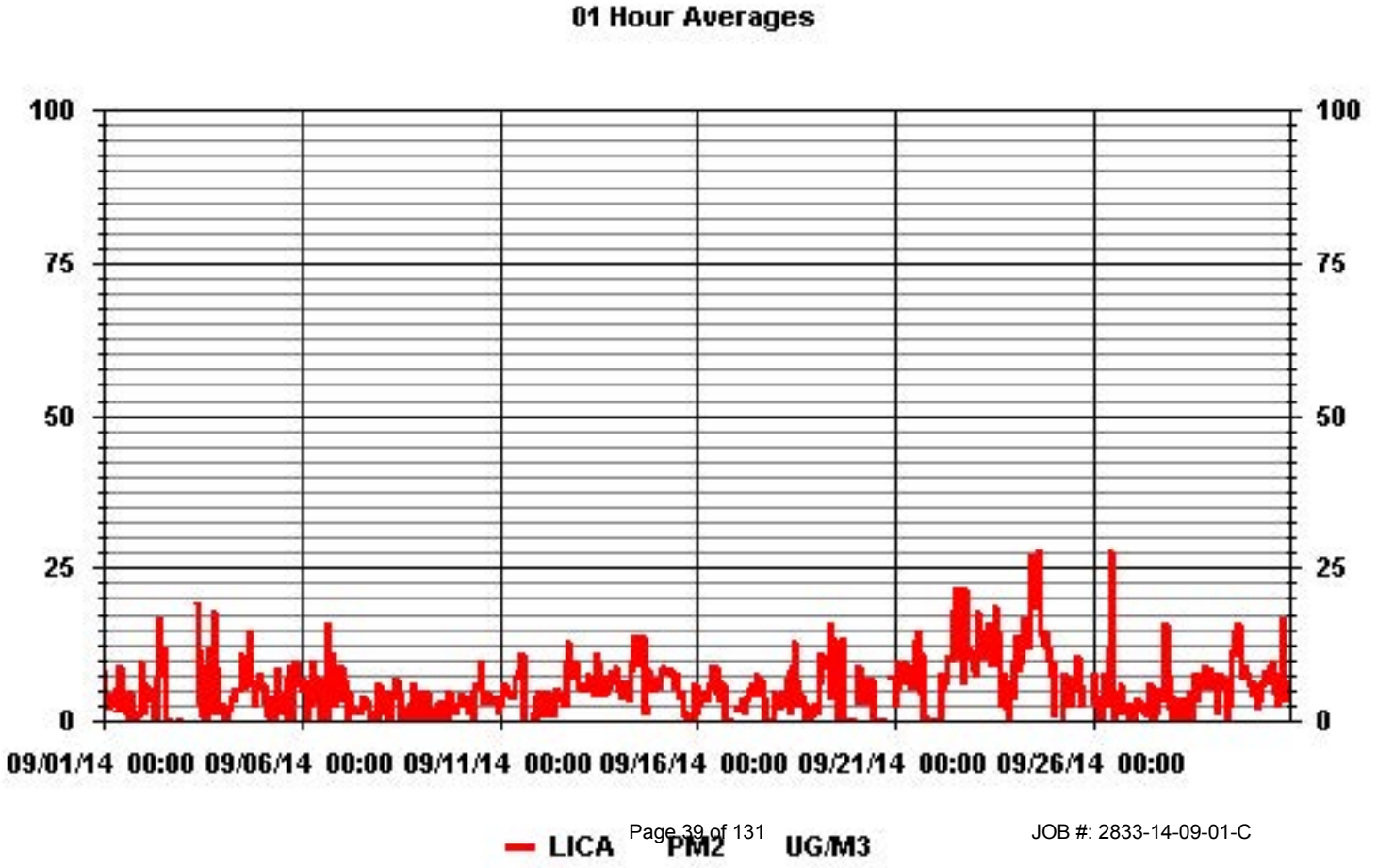
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 24-HR 30 ug/m3



MONTHLY SUMMARY

NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	573					
MAXIMUM 1-HR AVERAGE:	28	ug/m3	@ HOUR(S)	15, 11	ON DAY(S)	24, 26
MAXIMUM 24-HR AVERAGE:	15.0	ug/m3			ON DAY(S)	24
					VAR-VARIOUS	
			OPERATIONAL TIME:	677	HRS	
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	94.0	%	
STANDARD DEVIATION:	4.65		MONTHLY AVERAGE:	5.37	ug/m3	



JOB #: 2833-14-09-01-C

LICA
PM2 / WD Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 01
Site Name : LICA
Parameter : PM2
Units : UG/M3

Wind Parameter : WD
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	30	1.63	5.49	5.94	3.86	4.01	4.45	14.11	5.64	3.86	2.82	6.24	14.56	12.33	8.76	4.01	2.22	100.00
<	60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	80	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	120	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	240	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	240	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	1.63	5.49	5.94	3.86	4.01	4.45	14.11	5.64	3.86	2.82	6.24	14.56	12.33	8.76	4.01	2.22	

Calm : .00 %

Total # Operational Hours : 673

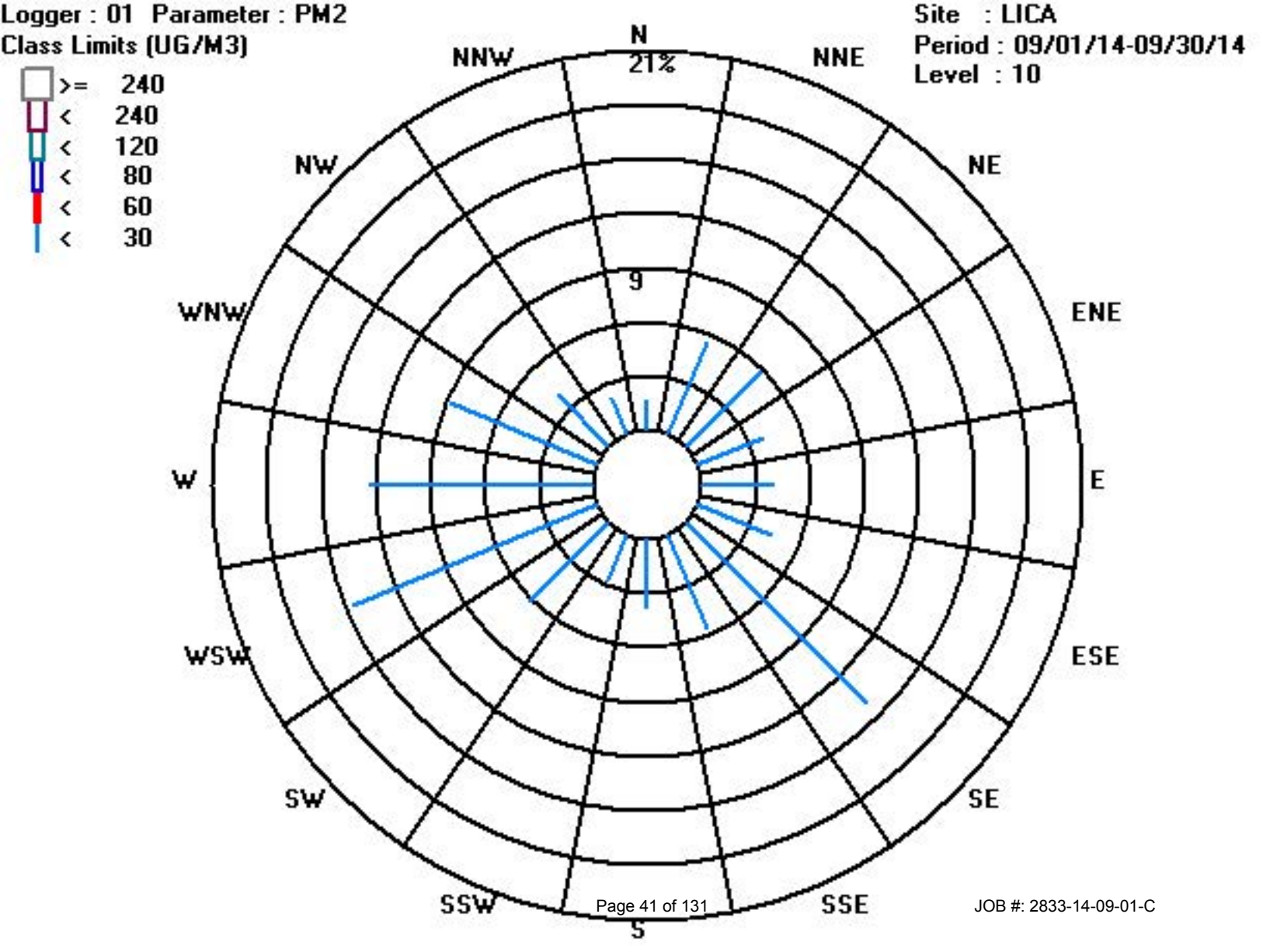
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	30	11	37	40	26	27	30	95	38	26	19	42	98	83	59	27	15	673
<	60																	
<	80																	
<	120																	
<	240																	
>=	240																	
	Totals	11	37	40	26	27	30	95	38	26	19	42	98	83	59	27	15	

Calm : .00 %

Total # Operational Hours : 673


Logger : 01 Parameter : PM2
Class Limits (UG/M3)
>= 240
< 240
< 120
< 80
< 60
< 30
Site : LICA
Period : 09/01/14-09/30/14
Level : 10
N
21%
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
9

Nitrogen Dioxide

Lakeland Industry & Community Association - Cold Lake South Site

SEPTEMBER 2014

NITROGEN DIOXIDE (NO2) hourly averages in ppb

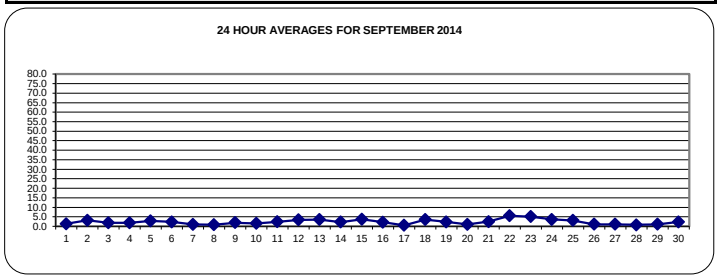
MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2.9	2.2	2.4	2.1	2	1.6	**S**	**S**	0.8	0.5	0	0	**S**	0.6	0.6	0.5	0.5	0.6	0.7	1.4	2.2	1.9	1	2.9	2.9	1.3	24
2	4.5	4.4	5	6.7	5.8	3.7	3.2	4.9	4.8	4	2.7	**S**	3.7	1.2	0.9	1.8	2.1	1.5	1.9	2.2	1.8	2.1	1.9	1.6	6.7	3.1	24
3	1.3	1.2	1.9	2.4	1.5	1.4	2.8	5.3	2.4	0	**S**	0.7	0.6	0.6	2.8	2.9	1.1	1.2	2.7	2.9	1.9	2.2	1.2	1	5.3	1.8	24
4	0.8	0.7	0	0	0	0	0	0.1	4.8	**S**	2.8	1.8	2.8	2.2	2.1	1.8	2.2	2.2	2.4	1.8	1.6	3.7	3.9	5.2	5.2	1.9	24
5	4.8	4.4	4.6	5.7	3.4	3.2	4.6	5.3	**S**	1.6	1	0.8	0.7	0.8	1	1.1	1.9	2.7	2.7	3.1	3.3	3.3	2.4	2.5	5.7	2.8	24
6	7	4.4	4.2	4	2.9	2.7	3	**S**	3.5	2.3	1.2	1	0.8	0.7	0.8	1.1	1	1.1	2.6	3.6	2	1.4	1.4	0.9	7	2.3	24
7	1.3	1.7	2.7	1	0.7	1	**S**	3.4	1	0.5	0.6	0.8	0.8	1.1	0.9	0.7	0.8	0.6	0.7	0.5	0.5	0.2	0.1	0.1	3.4	0.9	24
8	0	0	0	0	0.4	**S**	0.8	0.7	0.6	1	0.9	0.7	0.7	0.5	0.8	1.2	1.1	2	2.1	1.5	1.7	1.2	1.5	0.9	2.1	0.9	24
9	0.2	0.8	0.8	1.6	**S**	2.3	6	5	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1.1	1.4	2.1	1.3	1.6	1.5	1.7	1.5	6	1.9	24
10	1.9	1.6	0.7	**S**	2.4	1.3	3.2	2.9	2.4	0.7	0.3	0.3	0.4	0.3	0.1	0.8	1.2	1.3	1.6	1.8	2.6	3.3	2.3	2.3	3.3	1.6	24
11	2.6	2.5	**S**	6.9	3.7	4	5.8	3.1	1.8	1	0.8	0.9	1.6	0.9	0.9	0.6	0.5	0.5	1.4	3.7	2.5	2.6	3	3.2	6.9	2.4	24
12	2.5	**S**	2.2	2.7	2.3	3.5	6.3	4.2	3.5	4	3.6	4	4	3.9	6.7	1.8	1.6	1.6	1.2	1.7	1.7	1.5	5.9	8	8	3.4	24
13	**S**	7.7	5	6.9	7.1	6.2	5.2	6.6	4.9	4	3.1	1.4	0.5	0.2	0.4	0.4	1	2	2.4	1.9	4.1	3.9	3.6	**S**	7.7	3.6	24
14	4.3	2.4	2	1.9	2.1	2	2	2.3	4	2.9	2.3	1.4	0.8	0.7	0.7	0.9	1	1.2	3.7	2.7	2.1	4.7	**S**	3.4	4.7	2.2	24
15	2.4	2	2.1	2.8	4.7	5.7	5.4	7.9	6.3	4	2.8	1.6	1.4	0.8	0.8	1.1	2.7	3.9	5.3	6.5	4.6	**S**	4.8	4	7.9	3.6	24
16	3.3	2.2	1.6	1.2	1.2	1.6	1.6	3.5	6.3	7	3.6	2.1	0.4	0.3	0.9	4.2	2.8	4.3	1.2	0.3	**S**	0.2	0	0	7	2.2	24
17	0	0	0	0	0	0.1	1	1.4	0	0	0	0	0.1	0.1	0.4	0.5	1.2	0.8	0.8	**S**	1.3	1.5	1.4	1.3	1.5	0.5	24
18	1.2	1.9	2.6	2.9	3.4	2.8	4.8	4	4.7	4.7	4.5	1.8	2.8	3.3	2	1.2	2.9	3.8	**S**	5.6	6.1	3.9	4.4	5.7	6.1	3.5	24
19	4.7	4.4	4	3.3	3	3.7	3.8	4.9	4.1	2.7	2.5	1.8	0.8	0.1	0.2	0.5	0.4	**S**	1.3	0.6	1.3	1.3	1.3	2	4.9	2.3	24
20	0.6	0	0	0	0	0.4	0.6	0.9	0	0	0	0	0	0	0	0	**S**	0.3	2.5	5.1	4.9	2.2	3.1	2.2	5.1	1.0	24
21	1.9	2.1	2.6	2.3	1.5	3.6	3.9	3.7	4.3	3.7	3.2	1	1.9	1.6	0.6	**S**	0.9	1.1	5.3	4.8	3.7	2	1	0	5.3	2.5	24
22	0	0	0	0	3	2.9	5.6	**S**	**S**	0	0	0	2.4	2.1	**S**	3.4	2.8	3.1	***21.9***	16.9	13.2	14.9	12.8	10.4	***21.9***	***5.5***	24
23	9.4	5.5	3.9	9.9	9.1	12.3	16	9.2	2.7	0.1	0	0	0	**S**	0.9	0.6	1.4	1.1	6.3	9.5	7.3	3.1	4.5	4.5	16	5.1	24
24	4.9	6	5.2	6.3	4.5	5.2	5.8	7.1	3.1	0.7	0.4	0	**S**	1.9	1.9	2.1	2.7	3.1	4.1	3.6	4	2.4	3.5	4.6	7.1	3.6	24
25	6.2	2.3	4	1.9	3.5	3.9	5.9	5.8	5.2	3.8	2.9	**S**	1.5	2.2	3	2.2	1.8	4.7	5.7	1.2	0.7	0.6	0.7	1.1	6.2	3.1	24
26	1.1	0.7	0.3	0.2	0.7	1.1	1.2	1.1	0.6	0.6	**S**	1.3	1.2	0.5	0.9	1	1.6	0.9	0.9	1.6	2.6	2.6	1.6	0.6	2.6	1.1	24
27	0.5	0.3	1.7	1.6	1.2	1.3	1.3	0.7	0.4	**S**	0.1	0.1	0.1	0.3	0.2	0.6	0.5	0.6	1.2	2.3	4.4	3.7	1.5	0.3	4.4	1.1	24
28	0.1	0	0.7	0.5	0.4	1.1	**S**	0.1	**S**	0	0	0.1	0	**S**	0.5	0.3	0.6	0.9	1.1	1.4	1.5	2	2.5	2.2	2.5	0.8	24
29	1.7	1.5	1	1.1	1.3	1.3	1.6	**S**	0.9	1	0.7	0.6	0.7	0.6	0.7	0.9	1.2	1.4	1.6	0.9	1	0.7	0.8	1.2	1.7	1.1	24
30	1.3	1.3	1.3	1.1	1.3	2.1	**S**	4	3.4	4.1	6	7.4	2.4	1.2	1	1.4	0.7	0.8	1.2	1.2	1.2	2.4	3.3	3.6	7.4	2.3	24
HOURLY MAX	9	8	5	10	9	12	16	9	6	7	6	7	4	4	7	4	3	5	22	17	13	15	13	10			
HOURLY AVG	2.5	2.2	2.2	2.7	2.5	2.8	3.9	3.8	2.9	2.0	1.7	1.2	1.2	1.1	1.2	1.3	1.4	1.7	3.1	3.2	3.0	2.7	2.7	2.7			

STATUS FLAG CODES

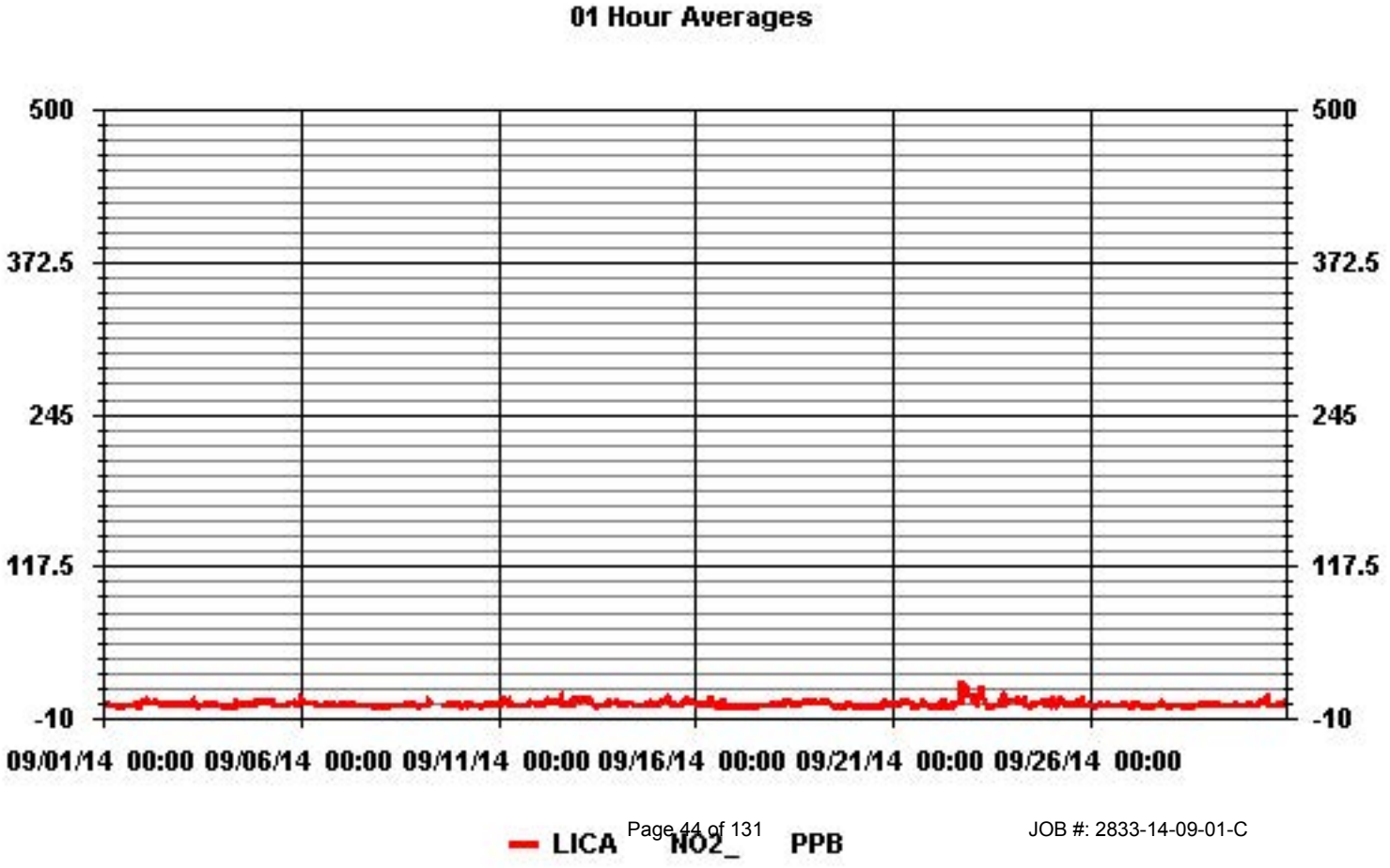
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

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



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	624					
MAXIMUM 1-HR AVERAGE:	21.9	PPB	@ HOUR(S)	18	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:	5.5	PPB			ON DAY(S)	22
					VAR-VARIOUS	
IZS CALIBRATION TIME:	37	HRS	OPERATIONAL TIME:		720	HRS
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	2.32		MONTHLY AVERAGE:		2.31	PPB



JOB #: 2833-14-09-01-C

Lakeland Industry & Community Association - Cold Lake South Site

SEPTEMBER 2014

NITROGEN DIOXIDE MAX instantaneous maximum in ppb

MST

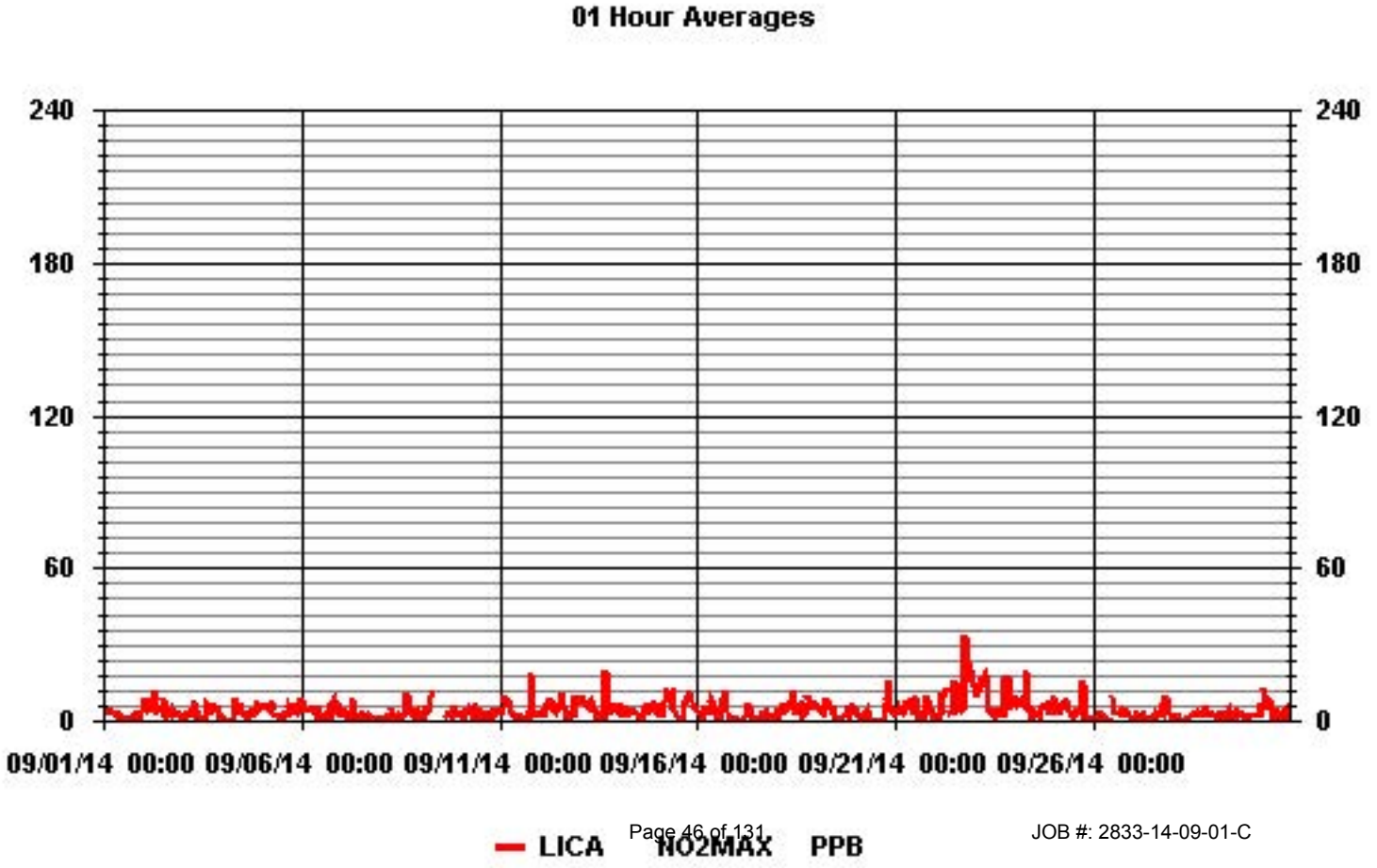
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	5.4	3.4	3.4	2.9	2.9	3.9	**S**	**S**	2.3	2.3	2.3	1.4	**S**	1.6	1.1	1.1	1.1	1.1	1.5	2	3	2.5	2	4	5.4	2.4	24
2	6.5	5.5	7.5	7.5	7.5	5	4.5	11.5	6.1	5.1	4.6	**S**	7.5	2.5	2	3.6	3.6	2.6	4.5	3.1	2.6	3.1	2.6	2	11.5	4.8	24
3	1.6	1.6	3.1	3.5	2.1	2.1	5	7.5	4.4	1.9	**S**	0.6	1.1	0.6	7.1	6.5	2	6.6	4.5	7	3	5.5	1.7	2	7.5	3.5	24
4	1	0.5	0.5	0	0	0	0	2.5	8	**S**	4.3	6.8	3.8	3.4	2.8	1.9	2.9	2.9	3.9	3.3	4.8	7.3	4.8	5.8	8	3.1	24
5	5.8	5.8	5.8	6.3	5.3	4.3	6.8	6.3	**S**	2.5	1.5	1.5	0.6	1	3.5	1.5	6.6	5.6	6.1	4	4.5	5	3	3.5	6.8	4.2	24
6	8.5	7	4.5	4.5	4	4	5	**S**	5	3.3	2.1	3.5	1.1	1.5	1.5	2.1	3.1	2.5	7	8	3.5	8	3	1.1	8.5	4.1	24
7	3.5	3	4	3	2.5	2.1	**S**	7.4	3.4	1	1	1	1	2.4	2.4	1.5	2.4	0.9	1.9	0.9	0.9	0.4	0.9	0.4	7.4	2.1	24
8	0.5	0.5	1	0.4	2.4	**S**	4	1.5	1.3	1.5	1.5	2.5	1.5	1.5	2	2.5	11	3.5	4.5	3.7	3	2	3.5	2	11	2.5	24
9	1	2	1.5	4.5	**S**	5	9.5	11.5	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2	2.6	3.1	2.1	6.1	4.1	3.1	3.1	11.5	4.1	24
10	2.6	3.1	1.6	**S**	4.3	2.3	4.8	3.8	4.8	1.8	1.3	0.8	4.7	1.2	1.3	1.8	2.8	1.8	2.8	2.3	3.8	4.3	3.3	3.8	4.8	2.8	24
11	3.8	3.8	**S**	8.5	8.5	5.5	8	4	3	1.5	1.5	1	2	1.5	1	1	0.5	3.5	18.5	3.5	3.5	3	3.5	18.5	4.0	24	
12	2.5	**S**	4.3	3.7	5.2	5.2	8.2	5.7	4.7	5.8	4.3	5.8	6.8	4.8	10.3	6.3	2.3	2.8	1.8	2.3	2.3	2.3	9.8	8.8	10.3	5.0	24
13	**S**	9	6	8	8	7	6	7.5	6	5	4.5	1.5	0.5	0.5	1.5	0.5	19.5	3.5	3.5	4.5	5.5	4.5	4.5	**S**	19.5	5.3	24
14	6.2	3.7	2.7	3.2	5.7	3.2	2.7	3.7	4.2	3.7	3.7	3.2	1.7	1.2	1.2	2.7	5.7	2.2	6.7	4.7	5.2	7.2	**S**	6.2	7.2	3.9	24
15	3.7	2.7	2.7	3.7	7.7	11.2	11.2	10.7	11.2	5.7	4.2	2.2	1.7	1.2	1.7	1.2	6.2	7.7	9.7	11.7	8.2	**S**	6	5	11.7	6.0	24
16	4.5	3.5	2	1.5	5.5	2.5	4.5	5.5	9	8	6	3.5	1.5	1.5	3.5	8.5	6	12	4	1	**S**	1.5	1	0.5	12	4.2	24
17	0.5	0.5	0.5	1	1	1.5	3	6.5	2.5	2	1	1	1	1	1.5	1.5	4	2	4.5	**S**	1.5	2	1.5	1.5	6.5	1.9	24
18	1.5	3.5	3.5	4	6.5	5	6.5	5.5	6.5	5.5	11.5	2.5	4	6	6.5	2.5	3	6	**S**	9.5	8.5	6	6.5	6.5	11.5	5.5	24
19	5	5	5	4	3.5	9	4.5	7	6	4	4.5	3	1.5	0.5	0.5	1	1	**S**	2.6	1.5	5	5.5	3.5	5.5	9	3.9	24
20	3.5	2.5	1.5	2	1.5	2.5	2.5	4	2	0.5	0.5	0	0	0	0	0	**S**	0.9	6.9	8.4	15.9	3.9	4.9	3.9	15.9	2.9	24
21	3.4	4.4	5.9	4.4	3.8	5.8	4.8	6.8	6.8	4.4	8.9	2.4	9.4	4.9	0.9	**S**	2.3	1.8	9.8	8.8	5.8	3.8	3.8	1.3	9.8	5.0	24
22	2.3	1.8	1.8	2.3	11.3	10.3	11.8	**S**	**S**	3.3	3.8	2.3	15.8	4.3	**S**	5.3	4.3	4.8	***33.8***	24.8	18.8	19.8	16.3	14.3	***33.8***	***10.2***	24
23	13.8	9.3	11.3	14.8	16.3	17.3	18.3	14.3	5.3	4.3	3.3	2.8	0.8	**S**	4	1.1	3	1.6	17	13	18	4.5	7.5	8	18.3	9.1	24
24	7	9.5	7	7.5	6.5	7	10	19.5	5.5	3	6	2	**S**	2.6	2.6	2.1	6.1	4.1	6.6	4.1	5.6	2.6	7.6	5.6	19.5	6.1	24
25	9.6	2.6	6.1	2.6	4.1	6.1	7.6	8.1	6.6	4.6	3.6	**S**	2.1	3.1	3.6	4.1	2.6	15.6	14.6	1.6	1.1	0.6	1.1	1.6	15.6	4.9	24
26	1.1	1.1	0.6	0.1	2.6	2.6	2.1	2.1	1.1	0.6	**S**	8.5	3	3	3	3	4	2.5	2	2	4	3.5	2.5	1.5	8.5	2.5	24
27	1	0.9	2.4	2.4	1.4	2.4	2.9	0.9	0.9	**S**	0.9	0.4	0.9	2.4	0.9	3.9	1.4	4.4	3.4	6.4	9.9	7.4	3.4	1.4	9.9	2.7	24
28	0.9	0.9	1.4	1.4	1.4	**S**	**S**	1.4	**S**	1.4	0.9	2.4	**S**	**S**	3.5	1	3	2	2	2	6	4	3	3	6	2.2	24
29	2.9	2.4	1.4	1.4	2.9	2.4	2.4	**S**	2	3.5	4.6	1.6	2.1	1.6	2.1	4.6	2.6	3.1	3.1	2.1	2.1	1.6	1.6	2.1	4.6	2.4	24
30	2.1	2.1	2.6	2.1	2.1	6.1	**S**	11.7	4.3	5.3	8.8	8.3	5.8	1.8	1.8	2.8	1.3	1.3	2.8	2.8	1.8	4.3	5.3	5.3	11.7	4.0	24
HOURLY MAX	14	10	11	15	16	17	18	20	11	8	12	9	16	6	10	9	20	16	34	25	19	20	16	14			
HOURLY AVG	3.9	3.5	3.5	3.8	4.7	5.0	6.0	6.8	4.7	3.4	3.7	2.7	3.2	2.1	2.6	2.7	4.0	3.8	6.1	5.7	5.7	4.5	4.2	3.9			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	664					
MAXIMUM INSTANTANEOUS VALUE:	33.8	PPB	@ HOUR(S)	18	ON DAY(S)	22
					VAR-VARIOUS	
IZS CALIBRATION TIME:	39	HRS	OPERATIONAL TIME:		720	HRS
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION:	3.61					



JOB #: 2833-14-09-01-C

LICA
NO2_ / WD Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 01
Site Name : LICA
Parameter : NO2_
Units : PPB

Wind Parameter : WD
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	1.18	5.18	6.37	3.70	4.00	4.29	13.33	5.33	4.59	3.11	6.66	14.81	12.59	8.74	3.70	2.37	100.00
<	110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	1.18	5.18	6.37	3.70	4.00	4.29	13.33	5.33	4.59	3.11	6.66	14.81	12.59	8.74	3.70	2.37	

Calm : .00 %

Total # Operational Hours : 675

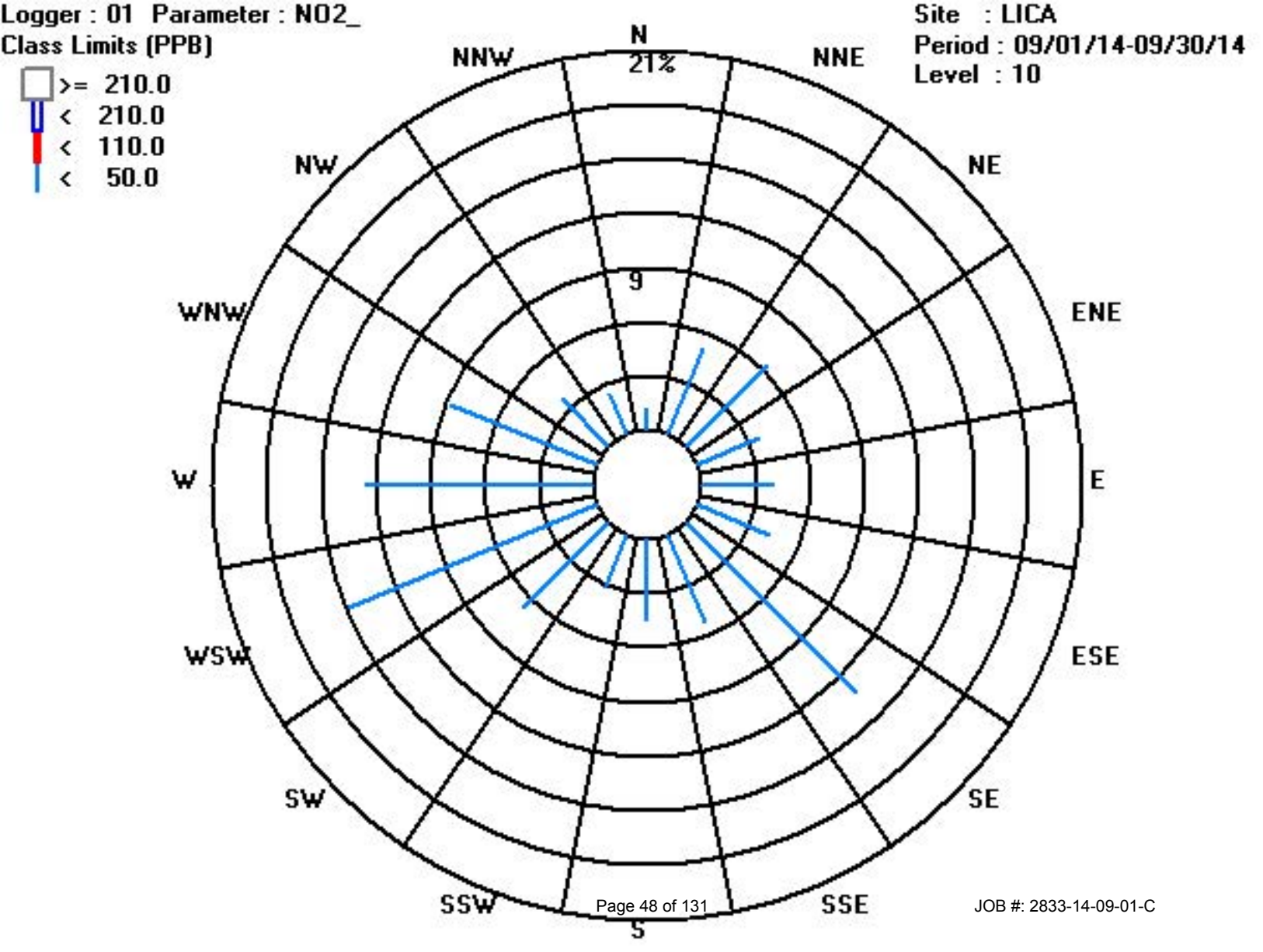
Distribution By Samples

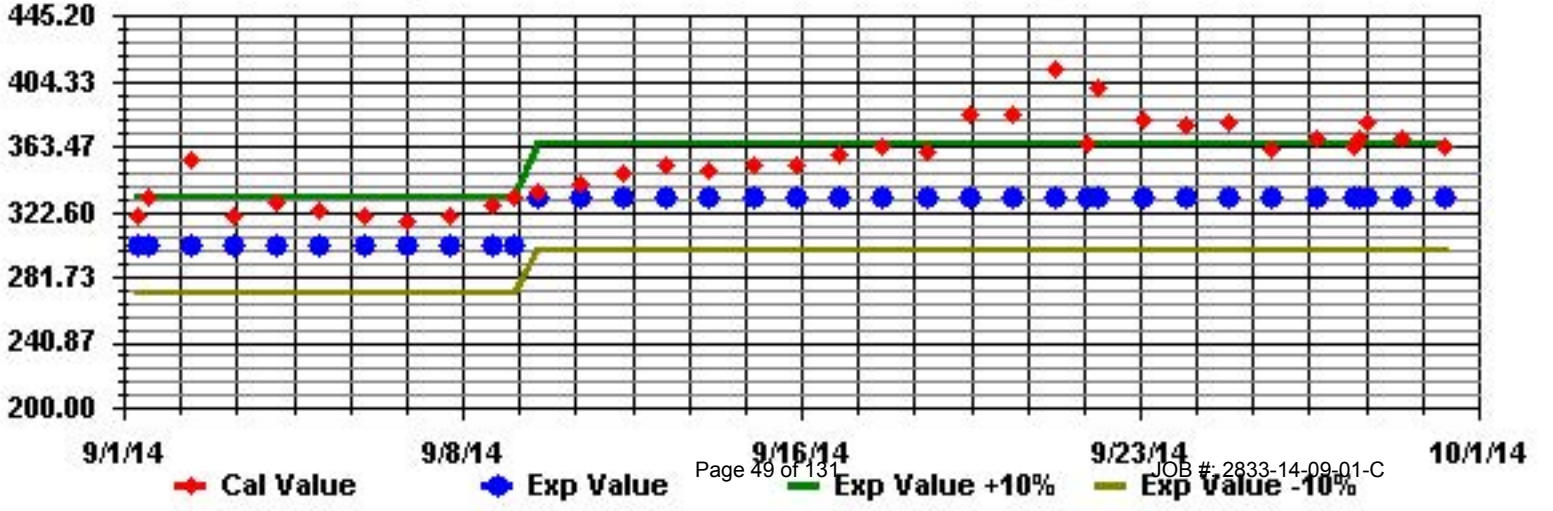
Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	8	35	43	25	27	29	90	36	31	21	45	100	85	59	25	16	675
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	8	35	43	25	27	29	90	36	31	21	45	100	85	59	25	16	

Calm : .00 %

Total # Operational Hours : 675


Logger : 01 Parameter : NO2_
Class Limits (PPB)
>= 210.0
< 210.0
< 110.0
< 50.0
Site : LICA
Period : 09/01/14-09/30/14
Level : 10
N
21%
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
9


Calibration Graph for Site: LICA Parameter: NO2_ Sequence: NO2 Phase: SPAN
445.20
404.33
363.47
322.60
281.73
240.87
200.00
9/1/14
9/8/14
9/16/14
9/23/14
10/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitric Oxide

Lakeland Industry & Community Association - Cold Lake South Site

SEPTEMBER 2014

NITRIC OXIDE (NO) hourly averages in ppb

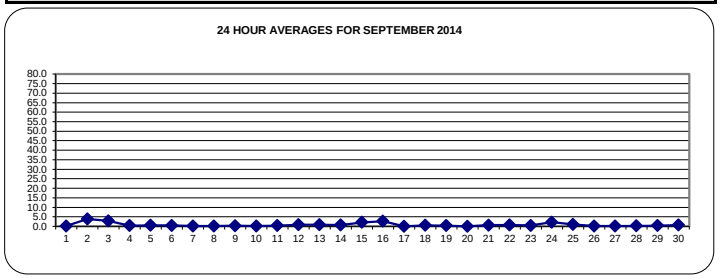
MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	0.1	**S**	**S**	1.1	0.8	0.4	0.1	**S**	0	0	0	0.1	0	0	0	0	0	0	0	1.1	0.1	24
2	0	0	0	0	0.9	1.8	3.5	6.2	6.3	3	1.8	**S**	2.2	2.5	3.1	3.8	5	5.5	6.5	7.1	7.3	8.6	7.8	6.8	8.6	***3.9***	24
3	6.6	7	6.9	7.3	7	6.8	7.6	7	1.6	0	**S**	0	0	0	0.7	0.4	0.3	0.4	0.4	0.6	0.7	2	0.4	0.5	7.6	2.8	24
4	0.2	0.3	0	0	0	0	0	0.6	4.9	**S**	0.9	0.5	0.5	0.3	0.4	0.1	0.1	0	0	0	0	0	0	0	4.9	0.4	24
5	0	0	0	0	0	0.4	3	4.6	**S**	0.9	0.5	0.4	0.2	0.2	0.4	0.2	0.4	0.3	0.4	0.2	0.3	0.3	0.3	0.3	4.6	0.6	24
6	0.1	0.1	0.1	0.1	0.3	0.6	1.9	**S**	2.4	1	0.5	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.4	0.5	0.1	0.4	0	0	2.4	0.4	24
7	0	0.1	0.2	0	0.1	0	**S**	0.9	0.1	0	0	0	0.1	0.2	0.3	0.1	0	0	0	0	0	0	0	0	0.9	0.1	24
8	0	0	0	0	0.1	**S**	0.1	0	0	0.1	0.2	0.4	0.2	0.3	0.3	0.4	0.6	0.3	0.1	0.2	0.2	0.1	0.1	0	0.6	0.2	24
9	0	0	0	0.2	**S**	0.5	1	1.4	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0.1	0.3	0.1	0	0.1	0.2	0.2	0.2	1.4	0.3	24
10	0.2	0.1	0	**S**	0	0	0.7	0.8	0.5	0.1	0	0	0.2	0.1	0.1	0	0.2	0	0	0	0	0	0	0	0.8	0.1	24
11	0.1	0	**S**	0.3	0.7	0.2	2.1	1.5	0.8	0.5	0.3	0.2	0.6	0.2	0.2	0.2	0.1	0.1	0.2	0.7	0.1	0	0	0	2.1	0.4	24
12	0.1	**S**	0.3	0.2	0.2	0.3	1.3	1.1	1.8	2.4	2.5	1.6	1.4	1.2	2	0.5	0.2	0.1	0.1	0.2	0	0	0.2	0.3	2.5	0.8	24
13	**S**	0.3	0.2	0.2	0.3	0.2	0.8	3.8	3.5	2.5	1.9	0.5	0.2	0.2	0.2	0	0.8	0.3	0.3	0.3	0.3	0.3	0.2	**S**	3.8	0.8	24
14	0.4	0.3	0.2	0.3	0.8	0.7	1	2.1	2	1.3	0.8	0.5	0.3	0.4	0.2	0.5	0.5	0.3	0.4	0.4	0.5	0.4	**S**	0.3	2.1	0.6	24
15	0.2	0.2	0.1	0.1	3.2	4.2	13.2	9.7	4.8	2.4	1.1	0.3	0.2	0.2	0.2	0.3	1.4	1.7	1.2	1.3	0.7	**S**	0.5	0.5	13.2	2.1	24
16	1	0.9	0.9	0.8	3.8	1.1	6.5	***15.7***	7.5	4.4	1.5	0.6	0.4	0.7	1.3	2.8	3	3.4	3.2	1.9	**S**	0	0	0	***15.7***	2.7	24
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0.1	0	0	0	0.1	0.0	24
18	0	0.1	0.1	0.2	1.2	0.4	0.9	1.2	2.4	3.1	2.4	0.1	0.2	0.3	0.1	0.1	0.1	0.3	**S**	0	0	0	0	0	3.1	0.6	24
19	0	0	0	0	0	1.1	0.2	0.9	1.7	1.2	0.4	0.2	0	0	0.4	0.8	1.1	**S**	0	0	0	0	0	0	1.7	0.3	24
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0.3	0	0	0.4	0	0	0	0.4	0.0	24
21	0	0	0	0	0	0	0.6	2.4	1	0.7	0.1	0	0	0.3	1.1	**S**	1.7	2.3	2.3	0.9	0	0	0	0	2.4	0.6	24
22	0	0	0	0	0	0	0	**S**	**S**	0	0	0	0	0	**S**	1.8	2	2.4	3.5	2.1	1	0.9	0	0	3.5	0.7	24
23	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	1.2	1.5	1.9	2	1.8	1.1	1.2	0	0	0	2	0.5	24
24	0	0	0	0.4	0	9.3	12.8	2.6	0	0	0	0	**S**	0.3	1.1	1.8	2.6	2.9	3.2	3.1	3	2.6	2.3	1.3	12.8	2.1	24
25	0.6	0.2	0	0	0	0	0.2	0.8	0.7	0.6	0.5	**S**	0.4	1.4	2.1	2.4	2.7	3.1	3.2	1.9	1.2	0.5	0	0	3.2	1.0	24
26	0	0.1	0	0	0.1	0.3	0.1	0	0.1	0.1	**S**	0.3	0.3	0.8	0.9	0.5	0.5	0.1	0	0	0	0.1	0	0	0.9	0.2	24
27	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0.2	0	0	0.7	0.5	1.3	0.8	0.2	0	1.3	0.2	24
28	0	0	0	0	0	0	**S**	0.3	**S**	0.5	0.6	0.8	0.6	**S**	0.2	0.2	0.3	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.8	0.2	24
29	0.1	0.1	0	0	0.3	0.2	0.2	**S**	0.9	1	0.9	0.8	0.4	0.4	0.5	0.6	0.4	0.3	0.3	0.3	0.2	0.3	0.2	0.3	1	0.4	24
30	0.2	0.2	0.2	0.3	0.2	0.5	**S**	1.9	0.6	1.4	3	4.4	0.9	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0	0.1	0.1	0.2	4.4	0.7	24
HOURLY MAX	7	7	7	7	7	9	13	16	8	4	3	4	2	3	3	4	5	6	7	7	7	9	8	7			
HOURLY AVG	0.3	0.3	0.3	0.4	0.7	1.0	2.2	2.5	1.7	1.0	0.8	0.4	0.4	0.4	0.6	0.7	0.9	0.9	1.0	0.8	0.7	0.6	0.4	0.4			

STATUS FLAG CODES

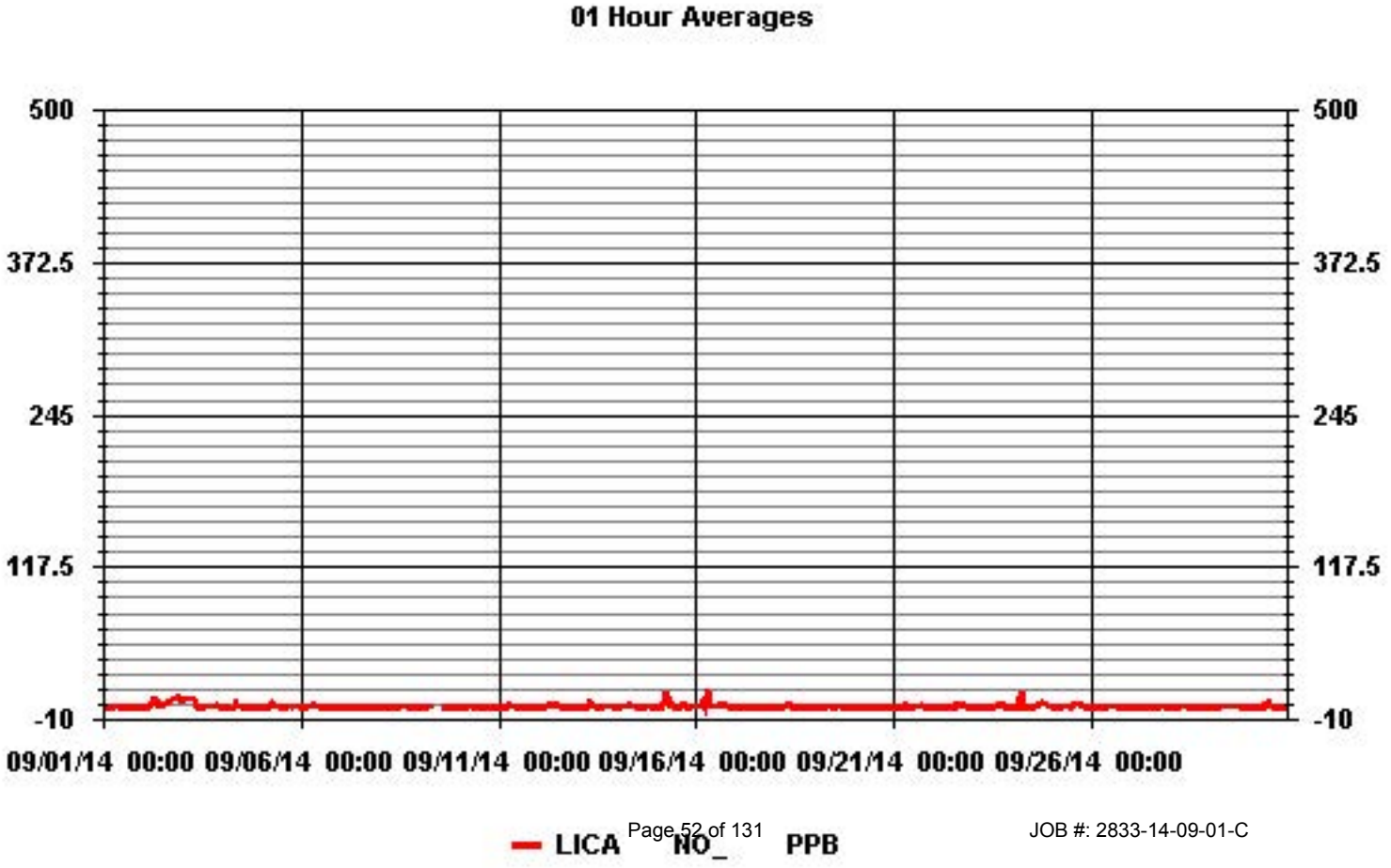
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR NA PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	NA					
NUMBER OF NON-ZERO READINGS:	432					
MAXIMUM 1-HR AVERAGE:	15.7	PPB	@ HOUR(S)	7	ON DAY(S)	16
MAXIMUM 24-HR AVERAGE:	3.9	PPB			ON DAY(S)	2
					VAR-VARIOUS	
IZS CALIBRATION TIME:	37	HRS	OPERATIONAL TIME:		720	HRS
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	1.70		MONTHLY AVERAGE:		0.80	PPB



JOB #: 2833-14-09-01-C

Lakeland Industry & Community Association - Cold Lake South Site

SEPTEMBER 2014

NITRIC OXIDE MAX instantaneous maximum in ppb

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0.5	0.2	0	0.4	0	0.9	**S**	**S**	1.6	1.5	3.1	0.6	**S**	0.5	0.5	0.5	0.5	0	0	0	0	0.5	0.5	0.5	3.1	0.6	24
2	0.4	0	0.5	0.5	3.4	4.9	7.9	29.5	8.9	5.5	2.5	**S**	4.5	3	3.5	5.1	8.6	6.1	10.5	8.1	9	9.6	9.6	7.1	29.5	6.5	24
3	7.1	7.6	7.6	8.6	7.6	8.6	10	11	4	5.5	**S**	0.5	0.5	0.5	2.4	3.4	1	9.9	1	4.9	6.4	19.4	0.9	4.9	19.4	5.8	24
4	0.4	0.9	0.9	0.2	0	0	0	8.9	7.9	**S**	1.9	5	1.4	0.9	0.9	0.5	0.5	0.5	1	0	0	0	0	0	8.9	1.4	24
5	0.5	0.5	0.4	0.4	0.4	4.5	4.9	7.9	**S**	3.1	1.2	2.7	0.7	0.7	4.2	0.2	2.7	3.2	4.7	1.7	1.2	0.7	0.7	0.7	7.9	2.1	24
6	0.1	0.1	0.1	0.6	1.1	1.6	3.1	**S**	3.5	2.6	1.1	1.1	1.6	0.6	1.1	0.6	1.5	1	3.6	3.6	1.6	8	0.1	0.1	8	1.7	24
7	0.1	0.6	0.6	0.1	3	0.1	**S**	2.5	2	0	1	0.5	1.5	1.5	1	0.9	0.5	0.5	0.5	0.3	0.5	0	1.4	0.2	3	0.8	24
8	0	0	0	0	2.5	**S**	2.1	1	0	2	1	5	0.6	3.5	1	1.2	8	1.6	0.6	1	1	1	1.5	0.5	8	1.5	24
9	0	0.5	0	2.5	**S**	1.7	2.7	5.7	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0.9	3.5	1.5	1	2	2.5	2	1.5	5.7	1.9	24
10	2	1.5	1.5	**S**	0	0.5	2	1.5	2.5	0.5	0	0.5	2.9	2.9	3.5	0.5	5	0.5	0.5	0.5	1	0	0.5	1	5	1.4	24
11	1.5	1.5	**S**	1.7	11.7	0.7	4.2	2.7	1.7	0.7	0.7	0.2	1.7	0.7	0.7	0.2	0.7	0.2	1.7	11.7	0.2	0.2	0.2	0.2	11.7	2.0	24
12	0.2	**S**	0.8	0.7	0.8	1.7	3.2	1.7	4.3	2.7	3.3	3.3	2.8	1.8	3.3	2.3	0.3	0.8	0.3	0.3	0.3	0.3	0.3	0.3	4.3	1.6	24
13	**S**	0.3	0.3	0.8	1.3	0.3	1.8	4.8	4.8	3.8	3.3	1.3	0.3	0.8	0.8	0.3	19.8	0.3	0.3	0.8	0.8	0.8	0.3	**S**	19.8	2.2	24
14	0.9	0.4	0.4	0.9	8.9	1.4	1.9	2.9	2.9	1.9	0.9	2.9	0.4	0.9	0.4	5.4	4.4	0.4	0.9	0.9	3.4	0.4	**S**	2.7	8.9	2.0	24
15	1.2	0.7	0.7	0.2	13.2	24.2	38.7	14.7	12.7	3.7	2.2	0.7	0.7	0.2	0.7	1.2	2.7	8.2	3.7	15.2	6.7	**S**	0.9	0.9	38.7	***6.7***	24
16	1.9	1.9	1.4	1.4	***43.4***	1.9	13.4	19.9	15.4	5.9	2.9	1.4	0.4	1.9	1.9	6.9	5.4	5.9	4.9	3	**S**	2.5	0	2	***43.4***	6.3	24
17	0	0	0	0	0.5	0	1	4.5	0	0.5	3	7.5	0.5	1	0	0	2.5	0.5	2	**S**	0.1	0.1	0.1	0.1	7.5	1.0	24
18	0.1	0.1	0.6	1.1	4.6	1.1	2.6	2.1	5.1	5.1	5.1	0.6	0.6	1.1	0.6	0.6	0.6	1.1	**S**	0.5	0.5	0.5	0.5	0	5.1	1.5	24
19	0	0	0	0	0	29.5	0.5	1.5	2.5	2.5	2	0.5	0.5	0	1	1.5	1.5	**S**	0.1	0	0	0	0	0	29.5	1.9	24
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0.3	0.3	3.8	18.3	0	0	0	18.3	1.0	24
21	0	0	0.3	0.3	0.2	0.2	2.2	5.3	3.7	1.3	4.3	1.3	5.8	0.8	2.3	**S**	2.5	2.6	3.1	2	0.5	0	0	0	5.8	1.7	24
22	0	0	0	0	6.5	4	0.5	**S**	**S**	0.3	0.3	0	4.8	0.3	**S**	8.3	2.3	2.9	8.8	10.8	7.8	24.3	0	1.8	24.3	4.0	24
23	2.3	0	0	0	0	3.8	6.8	0.3	0	0	0	0	0	**S**	7	2.5	2	2	4.5	2	20.6	0	0	0	20.6	2.3	24
24	0	0.5	3.5	2.5	0.5	16.5	20.5	15.5	1	0	3	3.5	**S**	2	2	2.6	4.5	3.5	6	3.5	4	3	2.6	2.1	20.5	4.5	24
25	1	0.5	0	0	0	0	1	1.5	1	1	1	**S**	1	2	2.6	3.5	4.5	6	8.5	4	1.5	1	0.5	0.5	8.5	1.9	24
26	0.5	1.5	1	1	1	3	1	1	2	1.5	**S**	3.1	1.6	10.1	9.1	3.6	5.1	1.6	0.1	0.6	0.6	0.6	0.1	0.1	10.1	2.2	24
27	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	**S**	0	0	0.4	1.9	0.4	1.4	0.4	1.4	16.9	3.4	3.9	4.4	1.4	0.9	16.9	1.6	24
28	0	0	0	0.5	0	**S**	**S**	1.3	**S**	0.6	2.5	5.5	**S**	**S**	1.2	0.2	2.7	0.2	1.2	0.7	4.7	0.7	0.2	0.2	5.5	1.2	24
29	0.6	0.2	0.2	0.2	3.6	0.6	0.7	**S**	1.3	6.3	5.9	6.9	0.9	0.9	1.9	3.4	0.9	0.9	0.9	0.4	0.4	0.4	0.9	0.4	6.9	1.7	24
30	0.4	0.4	0.4	0.4	0.9	1.4	**S**	27.3	0.8	2.3	4.3	5.8	2.8	0.8	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.3	27.3	2.3	24
HOURLY MAX	7	8	8	9	43	30	39	30	15	6	6	8	6	10	9	8	20	10	17	15	21	24	10	7			
HOURLY AVG	0.8	0.7	0.7	0.9	4.0	4.0	5.1	6.7	3.5	2.3	2.1	2.2	1.5	1.5	1.9	2.0	3.2	2.3	3.0	2.9	3.4	2.8	0.9	1.0			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 571

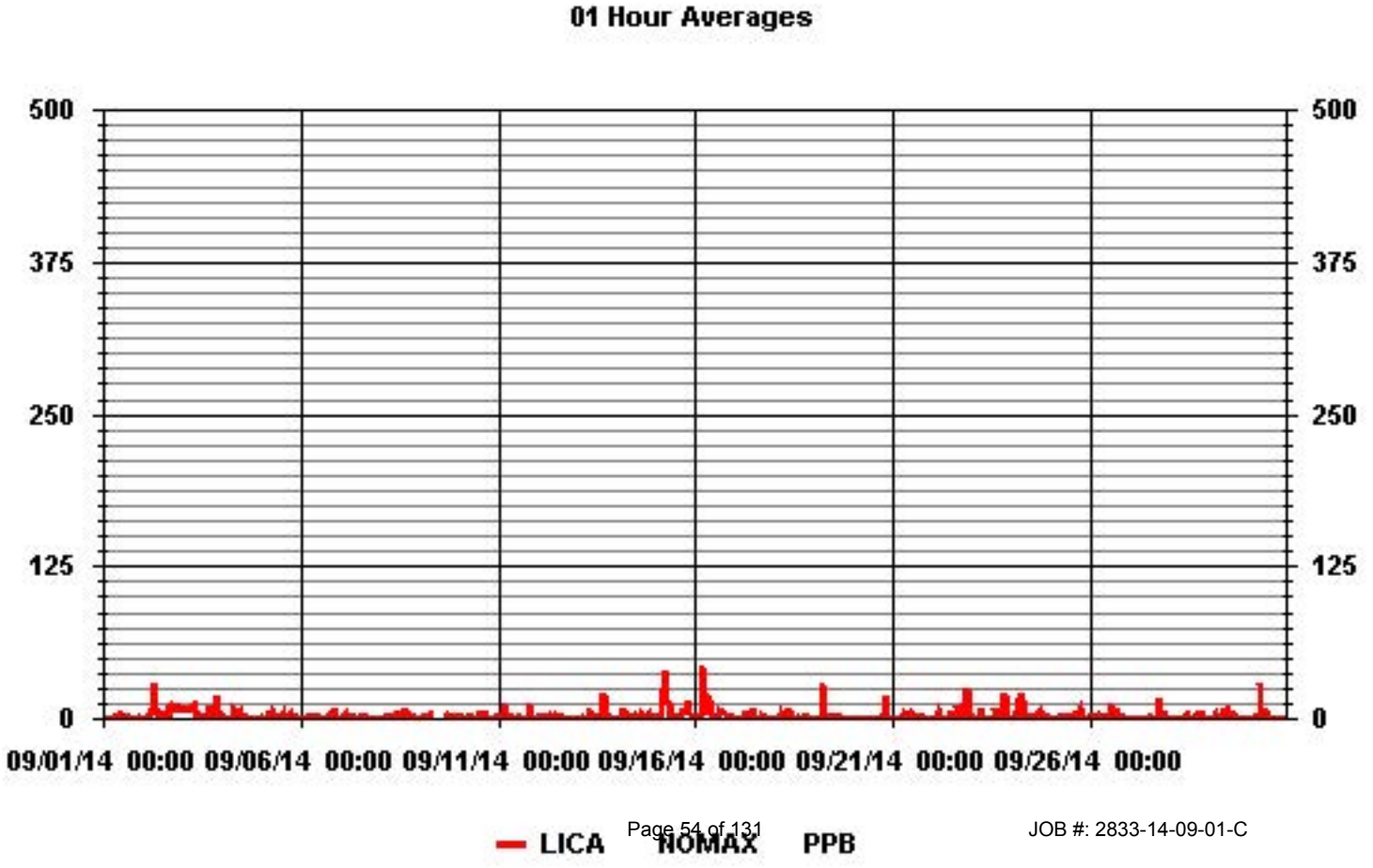
MAXIMUM INSTANTANEOUS VALUE: 43.4 PPB @ HOUR(S) 4 ON DAY(S) 16

VAR-VARIOUS

IZS CALIBRATION TIME: 39 HRS OPERATIONAL TIME: 720 HRS

MONTHLY CALIBRATION TIME: 8 HRS

STANDARD DEVIATION: 4.38



JOB #: 2833-14-09-01-C

LICA
NO_ / WD Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 01
Site Name : LICA
Parameter : NO_
Units : PPB

Wind Parameter : WD
Instrument Height : 10 Meters

		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	1.18	5.18	6.37	3.70	4.00	4.29	13.33	5.33	4.59	3.11	6.66	14.81	12.59	8.74	3.70	2.37	100.00
<	110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	1.18	5.18	6.37	3.70	4.00	4.29	13.33	5.33	4.59	3.11	6.66	14.81	12.59	8.74	3.70	2.37	

Calm : .00 %

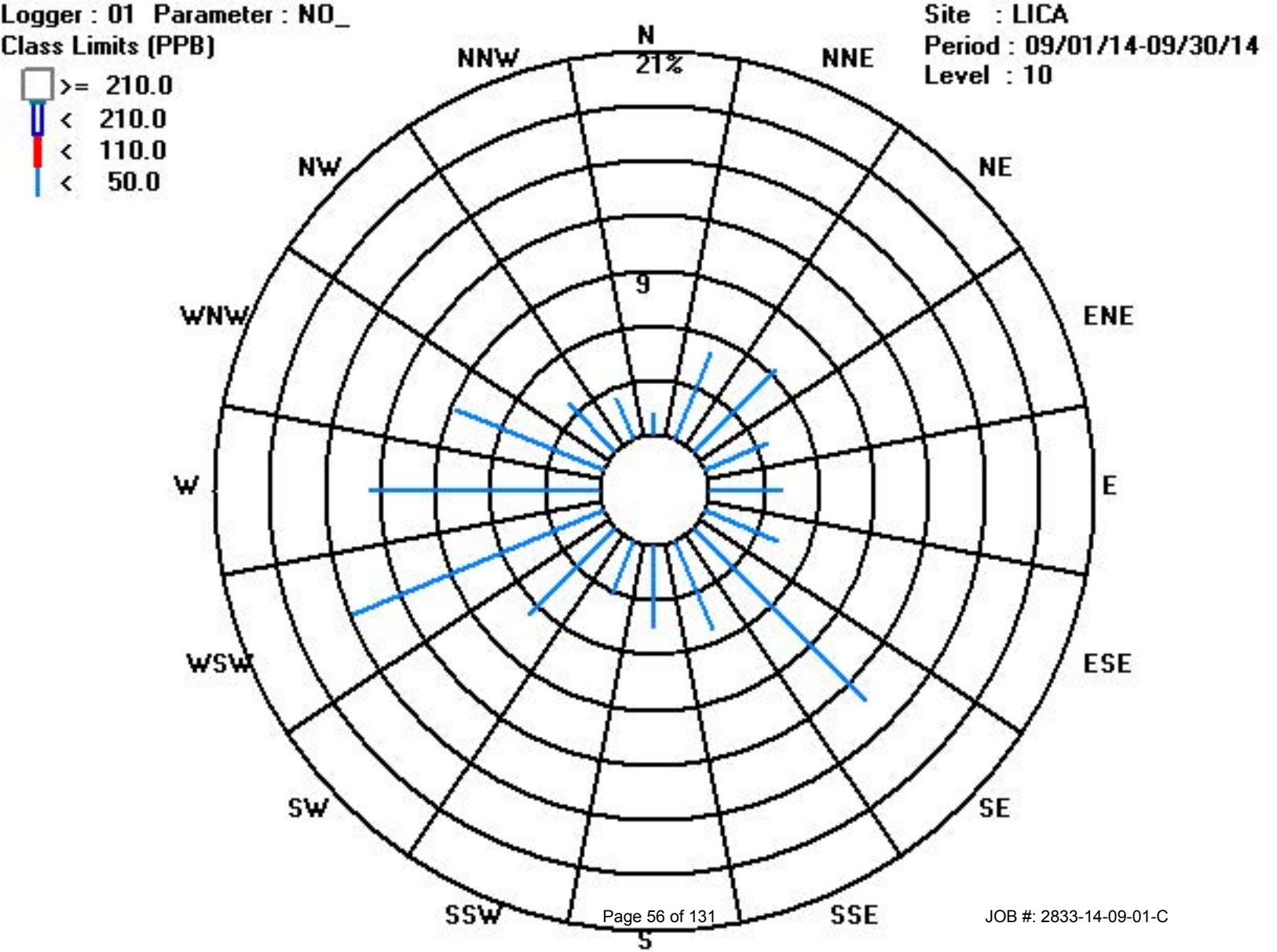
Total # Operational Hours : 675

Distribution By Samples

		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	8	35	43	25	27	29	90	36	31	21	45	100	85	59	25	16	675
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	8	35	43	25	27	29	90	36	31	21	45	100	85	59	25	16	

Calm : .00 %

Total # Operational Hours : 675


Logger : 01 Parameter : NO_
Class Limits (PPB)
>= 210.0
< 210.0
< 110.0
< 50.0
Site : LICA
Period : 09/01/14-09/30/14
Level : 10
N
21%
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
9

Oxides of Nitrogen

Lakeland Industry & Community Association - Cold Lake South Site

SEPTEMBER 2014

OXIDES OF NITROGEN (NOx) hourly averages in ppb

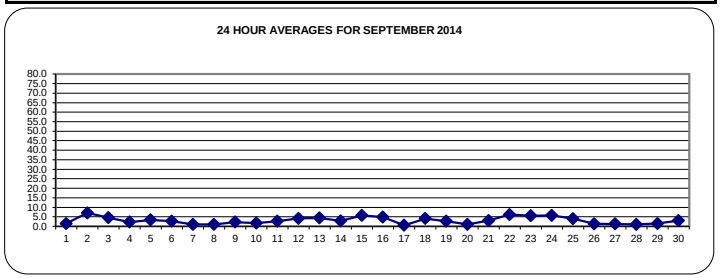
MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2.9	2.2	2.4	2.1	2	1.7	**S**	**S**	1.9	1.3	0.4	0.1	**S**	0.6	0.6	0.5	0.6	0.6	0.7	1.4	2.2	1.9	1	2.9	2.9	1.4	24
2	4.5	4.4	5	6.7	6.7	5.5	6.7	11.1	11.1	7	4.5	**S**	5.9	3.7	4	5.6	7.1	7	8.4	9.3	9.1	10.7	9.7	8.4	11.1	***7.0***	24
3	7.9	8.2	8.8	9.7	8.5	8.2	10.4	12.3	4	0	**S**	0.7	0.6	0.6	3.5	3.3	1.4	1.6	3.1	3.5	2.6	4.2	1.6	1.5	12.3	4.6	24
4	1	1	0	0	0	0	0	0.7	9.7	**S**	3.7	2.3	3.3	2.5	2.5	1.9	2.3	2.2	2.4	1.8	1.6	3.7	3.9	5.2	9.7	2.2	24
5	4.8	4.4	4.6	5.7	3.4	3.6	7.6	9.9	**S**	2.5	1.5	1.2	0.9	1	1.4	1.3	2.3	3	3.1	3.3	3.6	3.6	2.7	2.8	9.9	3.4	24
6	7.1	4.5	4.3	4.1	3.2	3.3	4.9	**S**	5.9	3.3	1.7	1.3	1	0.8	0.9	1.2	1.1	1.3	3	4.1	2.1	1.8	1.4	0.9	7.1	2.7	24
7	1.3	1.8	2.9	1	0.8	1	**S**	4.3	1.1	0.5	0.6	0.8	0.9	1.3	1.2	0.8	0.8	0.6	0.7	0.5	0.5	0.2	0.1	0.1	4.3	1.0	24
8	0	0	0	0	0.5	**S**	0.9	0.7	0.6	1.1	1.1	1.1	0.9	0.8	1.1	1.6	1.7	2.3	2.2	1.7	1.9	1.3	1.6	0.9	2.3	1.0	24
9	0.2	0.8	0.8	1.8	**S**	2.8	7	6.4	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1.2	1.7	2.2	1.3	1.7	1.7	1.9	1.7	7	2.2	24
10	2.1	1.7	0.7	**S**	2.4	1.3	3.9	3.7	2.9	0.8	0.3	0.3	0.6	0.4	0.2	0.8	1.4	1.3	1.6	1.8	2.6	3.3	2.3	2.3	3.9	1.7	24
11	2.7	2.5	**S**	7.2	4.4	4.2	7.9	4.6	2.6	1.5	1.1	1.1	2.2	1.1	1.1	0.8	0.6	0.6	1.6	4.4	2.6	2.6	3	3.2	7.9	2.8	24
12	2.6	**S**	2.5	2.9	2.5	3.8	7.6	5.3	5.3	6.4	6.1	5.6	5.4	5.1	8.7	2.3	1.8	1.7	1.3	1.9	1.7	1.5	6.1	8.3	8.7	4.2	24
13	**S**	8	5.2	7.1	7.4	6.4	6	10.4	8.4	6.5	5	1.9	0.7	0.4	0.6	0.4	1.8	2.3	2.7	2.2	4.4	4.2	3.8	**S**	10.4	4.4	24
14	4.7	2.7	2.2	2.2	2.9	2.7	3	4.4	6	4.2	3.1	1.9	1.1	1.1	0.9	1.4	1.5	1.5	4.1	3.1	2.6	5.1	**S**	3.7	6	2.9	24
15	2.6	2.2	2.2	2.9	7.9	9.9	18.6	17.6	11.1	6.4	3.9	1.9	1.6	1	1	1.4	4.1	5.6	6.5	7.8	5.3	**S**	5.3	4.5	18.6	5.7	24
16	4.3	3.1	2.5	2	5	2.7	8.1	19.2	13.8	11.4	5.1	2.7	0.8	1	2.2	7	5.8	7.7	4.4	2.2	**S**	0.2	0	0	19.2	4.8	24
17	0	0	0	0	0	0.1	1	1.4	0	0	0	0	0.1	0.1	0.4	0.5	1.2	0.8	0.8	**S**	1.4	1.5	1.4	1.3	1.5	0.5	24
18	1.2	2	2.7	3.1	4.6	3.2	5.7	5.2	7.1	7.8	6.9	1.9	3	3.6	2.1	1.3	3	4.1	**S**	5.6	6.1	3.9	4.4	5.7	7.8	4.1	24
19	4.7	4.4	4	3.3	3	4.8	4	5.8	5.8	3.9	2.9	2	0.8	0.1	0.6	1.3	1.5	**S**	1.3	0.6	1.3	1.3	1.3	2	5.8	2.6	24
20	0.6	0	0	0	0	0.4	0.6	0.9	0	0	0	0	0	0	0	0	**S**	0.6	2.5	5.1	5.3	2.2	3.1	2.2	5.3	1.0	24
21	1.9	2.1	2.6	2.3	1.5	3.6	4.5	6.1	5.3	4.4	3.3	1	1.9	1.9	1.7	**S**	2.6	3.4	7.6	5.7	3.7	2	1	0	7.6	3.0	24
22	0	0	0	0	3	2.9	5.6	**S**	**S**	0	0	0	2.4	2.1	**S**	5.2	4.8	5.5	***25.4***	19	14.2	15.8	12.8	10.4	***25.4***	6.1	24
23	9.4	5.5	3.9	9.9	9.1	12.3	16	9.2	2.7	0.1	0	0	0	**S**	2.1	2.1	3.3	3.1	8.1	10.6	8.5	3.1	4.5	4.5	16	5.6	24
24	4.9	6	5.2	6.7	4.5	14.5	18.6	9.7	3.1	0.7	0.4	0	**S**	2.2	3	3.9	5.3	6	7.3	6.7	7	5	5.8	5.9	18.6	5.8	24
25	6.8	2.5	4	1.9	3.5	3.9	6.1	6.6	5.9	4.4	3.4	**S**	1.9	3.6	5.1	4.6	4.5	7.8	8.9	3.1	1.9	1.1	0.7	1.1	8.9	4.1	24
26	1.1	0.8	0.3	0.2	0.8	1.4	1.3	1.1	0.7	0.7	**S**	1.6	1.5	1.3	1.8	1.5	2.1	1	0.9	1.6	2.6	2.7	1.6	0.6	2.7	1.3	24
27	0.5	0.3	1.7	1.6	1.2	1.3	1.3	0.7	0.4	**S**	0.1	0.1	0.1	0.3	0.2	0.8	0.5	0.6	1.9	2.8	5.7	4.5	1.7	0.3	5.7	1.2	24
28	0.1	0	0.7	0.5	0.4	1.1	**S**	0.4	**S**	0.5	0.6	0.9	0.6	**S**	0.7	0.5	0.9	1	1.2	1.5	1.8	2.1	2.6	2.3	2.6	1.0	24
29	1.8	1.6	1	1.1	1.6	1.5	1.8	**S**	1.8	2	1.6	1.4	1.1	1	1.2	1.5	1.6	1.7	1.9	1.2	1.2	1	1	1.5	2	1.4	24
30	1.5	1.5	1.5	1.4	1.5	2.6	**S**	5.9	4	5.5	9	11.8	3.3	1.5	1.3	1.6	0.9	0.9	1.3	1.3	1.2	2.5	3.4	3.8	11.8	3.0	24
HOURLY MAX	9	8	9	10	9	15	19	19	14	11	9	12	6	5	9	7	7	8	25	19	14	16	13	10			
HOURLY AVG	2.9	2.6	2.5	3.0	3.2	3.8	6.1	6.3	4.7	3.1	2.5	1.6	1.6	1.4	1.8	2.0	2.3	2.7	4.0	4.0	3.7	3.3	3.1	3.0			

STATUS FLAG CODES

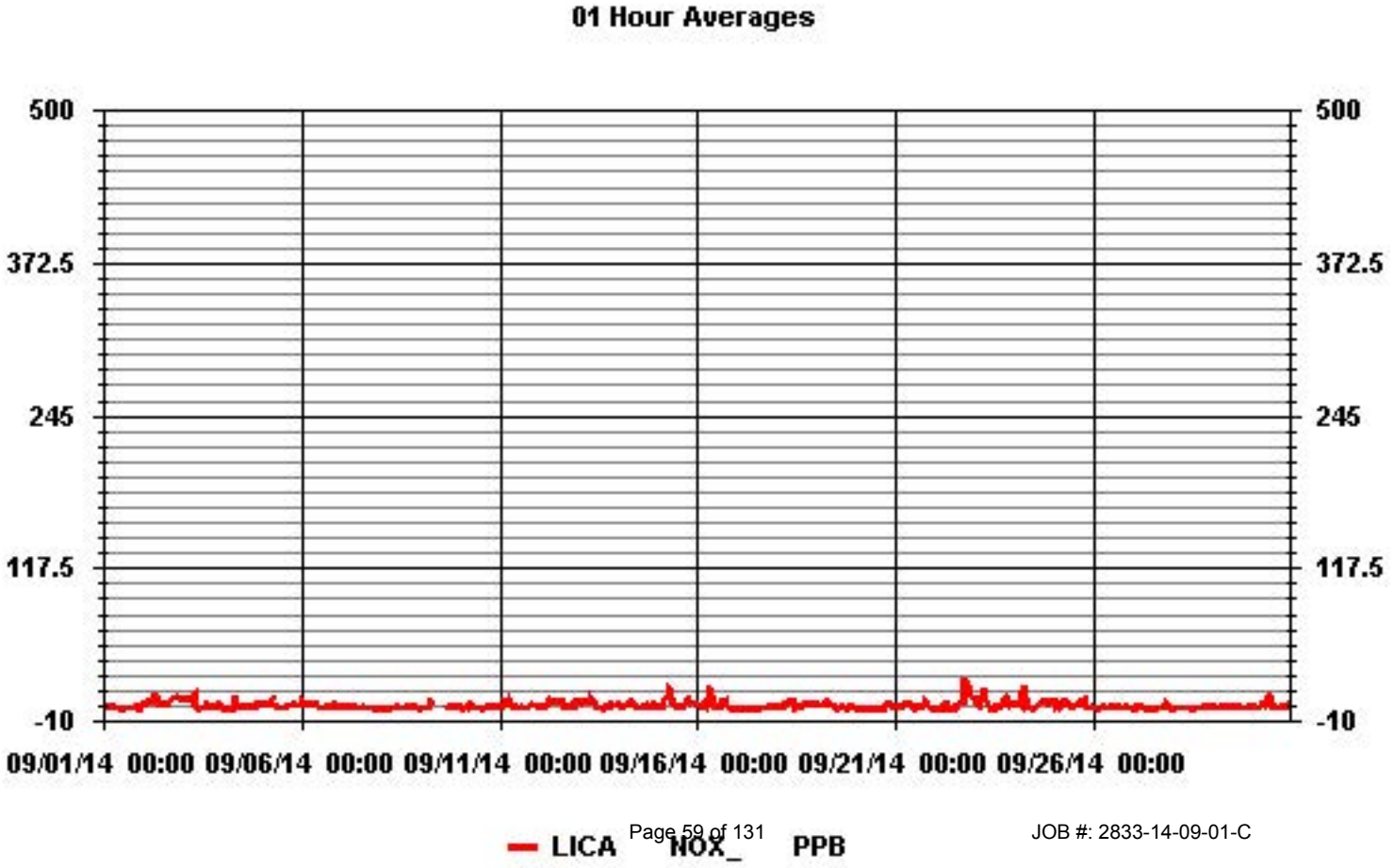
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR NA PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	NA					
NUMBER OF NON-ZERO READINGS:	629					
MAXIMUM 1-HR AVERAGE:	25.4	PPB	@ HOUR(S)	18	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:	7.0	PPB			ON DAY(S)	2
					VAR-VARIOUS	
IZS CALIBRATION TIME:	37	HRS	OPERATIONAL TIME:		720	HRS
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	3.20		MONTHLY AVERAGE:		3.11	PPB



JOB #: 2833-14-09-01-C

Lakeland Industry & Community Association - Cold Lake South Site

SEPTEMBER 2014

OXIDES OF NITROGEN MAX instantaneous maximum in ppb

MST

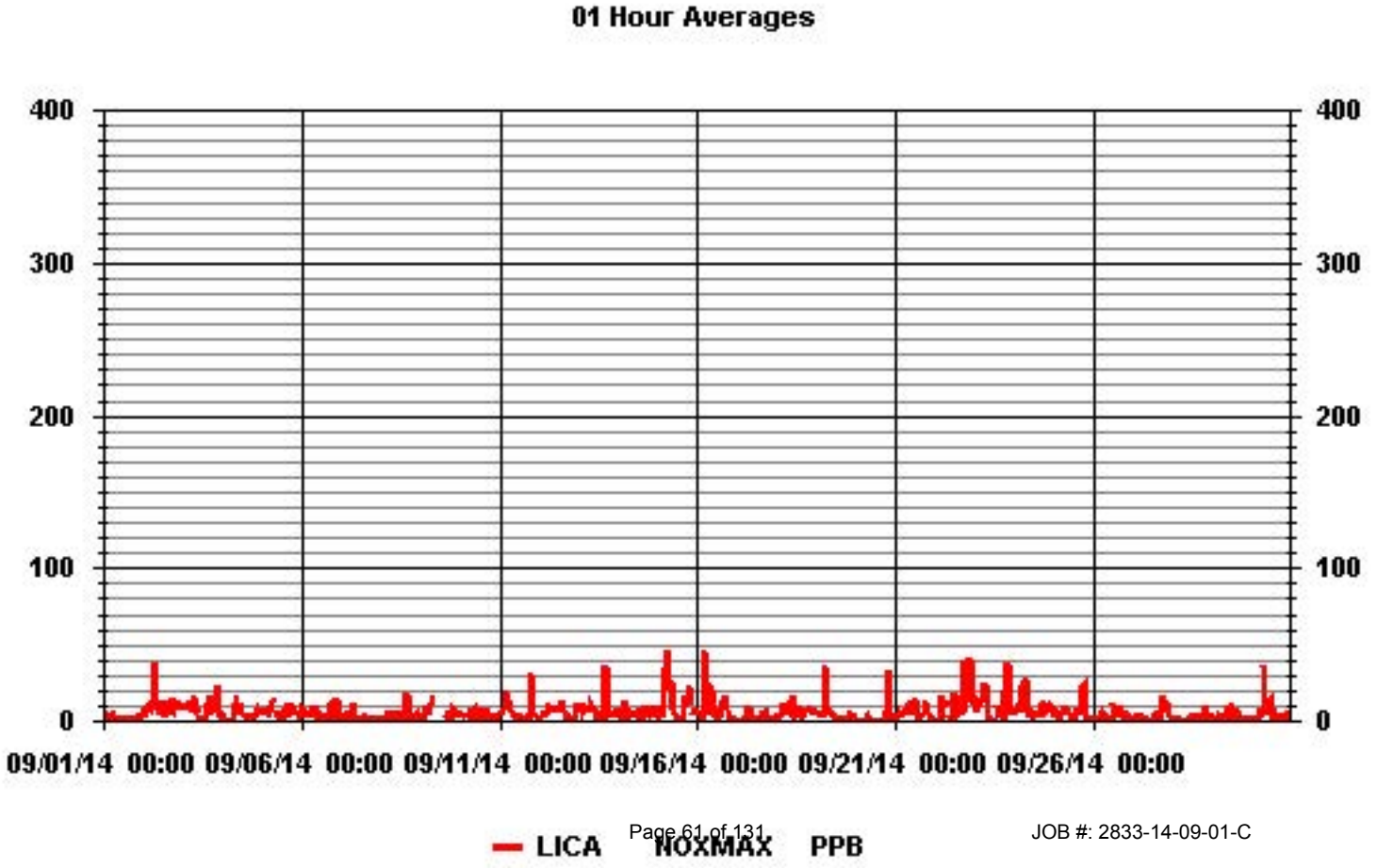
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	5	2.4	3	2.4	2.6	4.9	**S**	**S**	2.4	3	1.5	0.5	**S**	1.5	1	1	1.5	1	1.5	2	3	2.4	2	4	5	2.3	24
2	6.5	5.5	8	7.5	10.4	8.9	12.4	38.4	14.5	10.5	6.5	**S**	12.1	4.6	5.1	7.7	10.1	8.2	14.2	10.1	11.7	11.7	11.7	8.6	38.4	10.6	24
3	8.6	8.6	10.1	11.2	9.2	11.1	12.1	16.6	8.1	6.5	**S**	1.3	1.3	1.3	9.8	9.7	3.2	16.2	5.8	11.7	8.2	22.3	2.7	6.7	22.3	8.8	24
4	1.4	1.7	1.7	0	0	0	0.6	11.7	14.8	**S**	6.5	10.9	5.5	4	3.5	2.5	3	3	4	3.5	4.9	7.5	4.9	6	14.8	4.4	24
5	6	5.9	5.9	6.5	5.4	8.9	11.9	13.9	**S**	4.9	2.5	4	1	2	7.9	2	9	9	9	6	6	5.5	3.4	3.9	13.9	6.1	24
6	8.5	7.4	4.9	4.9	4.4	4.9	6.9	**S**	8.4	4.9	2.9	4	1.9	2	2.4	2.5	4.5	3.5	10.5	11.5	4.5	14.5	2.9	1	14.5	5.4	24
7	2.9	3	3.9	3	4.4	2	**S**	9.9	5	1	1.9	1	1.9	2.9	2.9	2.4	2.9	1.5	2.5	1	1	0.6	2	0.5	9.9	2.6	24
8	0.5	0.5	0.5	0.5	3.9	**S**	5.5	2.5	1	2.1	2.1	5.5	1.6	2.6	3.1	3.1	17.5	4	5	4.5	3.6	2.5	5	2.5	17.5	3.5	24
9	0.5	2	1.5	7.5	**S**	5.5	11	14.5	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	3.3	4.9	4.9	2.9	8.4	6.9	4.4	4.4	14.5	5.5	24
10	4.4	4.4	3.4	**S**	4.4	2.9	6.4	5.4	7.4	1.9	1.4	0.9	7.8	3.9	3.9	2.4	7.4	2.4	3.4	2.9	3.9	4.4	3.4	3.9	7.8	4.0	24
11	4.9	5.4	**S**	9.5	20.5	6.5	12.5	7	4.5	2.5	2.5	1.5	3	2.5	1.5	1.5	2	1	5.5	30.5	4	4	3.5	3.5	30.5	6.1	24
12	3	**S**	4.5	4	5.5	6	10.9	7.4	8.4	8.4	7.5	9	9.5	6.5	13.5	8.5	2.5	3.5	2	2.5	2	2	9.5	9	13.5	6.3	24
13	**S**	9.5	6.5	9	9	7.5	8	12.5	11	8.5	7.5	3	1	1.5	2	0.5	37	4	4	5	6	5	4.5	**S**	37	7.4	24
14	6.5	4	3	3	12.5	4	3.5	6	6.5	5.5	4.5	5.5	1.5	1.5	1.5	7.5	9.5	2	7.5	5	8	7.5	**S**	9	12.5	5.4	24
15	5	3	3.5	4	20	35	45.5	24	24	9	6	2.5	2	1.5	2	2.5	9	16	13.5	23.5	12	**S**	6.3	5.8	45.5	12.0	24
16	5.8	5.3	3.3	2.8	***46.3***	3.3	17.8	23.8	20.8	13.8	8.8	4.3	1.3	2.8	5.8	13.3	10.8	15.8	8.3	3.3	**S**	2.4	0.4	0.9	***46.3***	9.6	24
17	0	0	0	0.4	0.9	1.4	3.4	10.4	2.4	2.4	1.4	2.4	1.4	0.9	0.9	1.4	5.9	2.4	6.9	**S**	1.8	1.8	1.8	1.8	10.4	2.3	24
18	1.8	3.8	4.3	4.8	11.3	5.8	8.8	7.3	11.3	10.3	16.3	3.3	4.3	7.3	7.3	3.3	3.8	7.3	**S**	9.5	9	6	6.5	6.5	16.3	7.0	24
19	5	5	5	3.6	3.5	36.5	5	8	7	6.5	5	3.5	1.5	0.5	1.5	2	2	**S**	2.5	1.1	4	4	2.1	3.5	36.5	5.1	24
20	2.1	0.5	0	0.5	0	0.5	1	3.5	1	0	0	0	0	0	0	0	**S**	1.2	6.6	9.6	33.6	3.1	4.1	3.1	33.6	3.1	24
21	2.6	3.6	6.1	4.1	4.1	6	6	10.6	10	5.1	12.6	3.1	15.1	5.1	2.1	**S**	4.1	4.6	12.5	10.5	6.1	3	3	0	15.1	6.1	24
22	0	0	0	1	16	10.5	12	**S**	**S**	3	3.5	0.5	17.5	4	**S**	8	6.5	7	39.5	30.5	22.5	42	15	14	42	***12.0***	24
23	16	6.5	9	13	14.5	21	24	14	3.5	3	1	0.5	0	**S**	9	3	5	3.6	20.5	14.5	37.5	4	6.5	6.5	37.5	10.3	24
24	6	8	10.5	10	6.5	23.5	26.5	26	6.5	2	8	3	**S**	5	4.5	4.5	10.5	7	12.5	7.5	9.1	5.5	10.5	8	26.5	9.6	24
25	10.5	3	6.5	3	4.5	6.5	9	9.5	8.5	5.5	4.5	**S**	2.5	5.5	6	7	6.6	21.6	23	5	2.5	1.5	1.5	2.5	23	6.8	24
26	2	2	2	1.5	3	6	3.5	3.5	3.5	2	**S**	10.5	3.5	5	8.5	5	9	3.5	1.5	2.5	4	4	2.5	1	10.5	3.9	24
27	1	0.9	2.4	2.4	1.4	2.4	2.9	0.9	0.9	**S**	0.4	0.9	0.9	4.4	1.4	5.5	1.4	6	16.4	7.9	12.5	11.4	4.4	1.9	16.4	3.9	24
28	0.9	0.4	1.4	1.4	1.4	**S**	**S**	1.9	**S**	1.4	1.9	4	**S**	**S**	4	1	5	2	3.5	2	10.5	3.5	3	3	10.5	2.7	24
29	3.5	2.4	1.4	1.9	4.4	2.9	3.4	**S**	2.9	9.4	10	2	2.5	1.5	3.5	7.5	2	3	3	2	1.5	1	1.5	2	10	3.3	24
30	1.5	1.5	2	2	2.5	7	**S**	34.5	5	7.5	12.5	14	9	2	2	3	1	1	3	3	2	4	5	6	34.5	5.7	24
HOURLY MAX	16	10	11	13	46	37	46	38	24	14	16	14	18	7	14	13	37	22	40	31	38	42	15	14			
HOURLY AVG	4.2	3.7	3.9	4.3	8.0	8.6	10.4	12.5	7.7	5.2	5.2	3.8	4.2	3.0	4.2	4.2	6.8	5.7	8.7	8.0	8.4	6.7	4.6	4.5			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	653					
MAXIMUM INSTANTANEOUS VALUE:	46.3	PPB	@ HOUR(S)	4	ON DAY(S)	16
				VAR-VARIOUS		
IZS CALIBRATION TIME:	39	HRS	OPERATIONAL TIME:		720	HRS
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION:	6.43					



JOB #: 2833-14-09-01-C

LICA
NOX_ / WD Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 01
Site Name : LICA
Parameter : NOX_
Units : PPB

Wind Parameter : WD
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	1.18	5.18	6.37	3.70	4.00	4.29	13.33	5.33	4.59	3.11	6.66	14.81	12.59	8.74	3.70	2.37	100.00
<	110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	1.18	5.18	6.37	3.70	4.00	4.29	13.33	5.33	4.59	3.11	6.66	14.81	12.59	8.74	3.70	2.37	

Calm : .00 %

Total # Operational Hours : 675

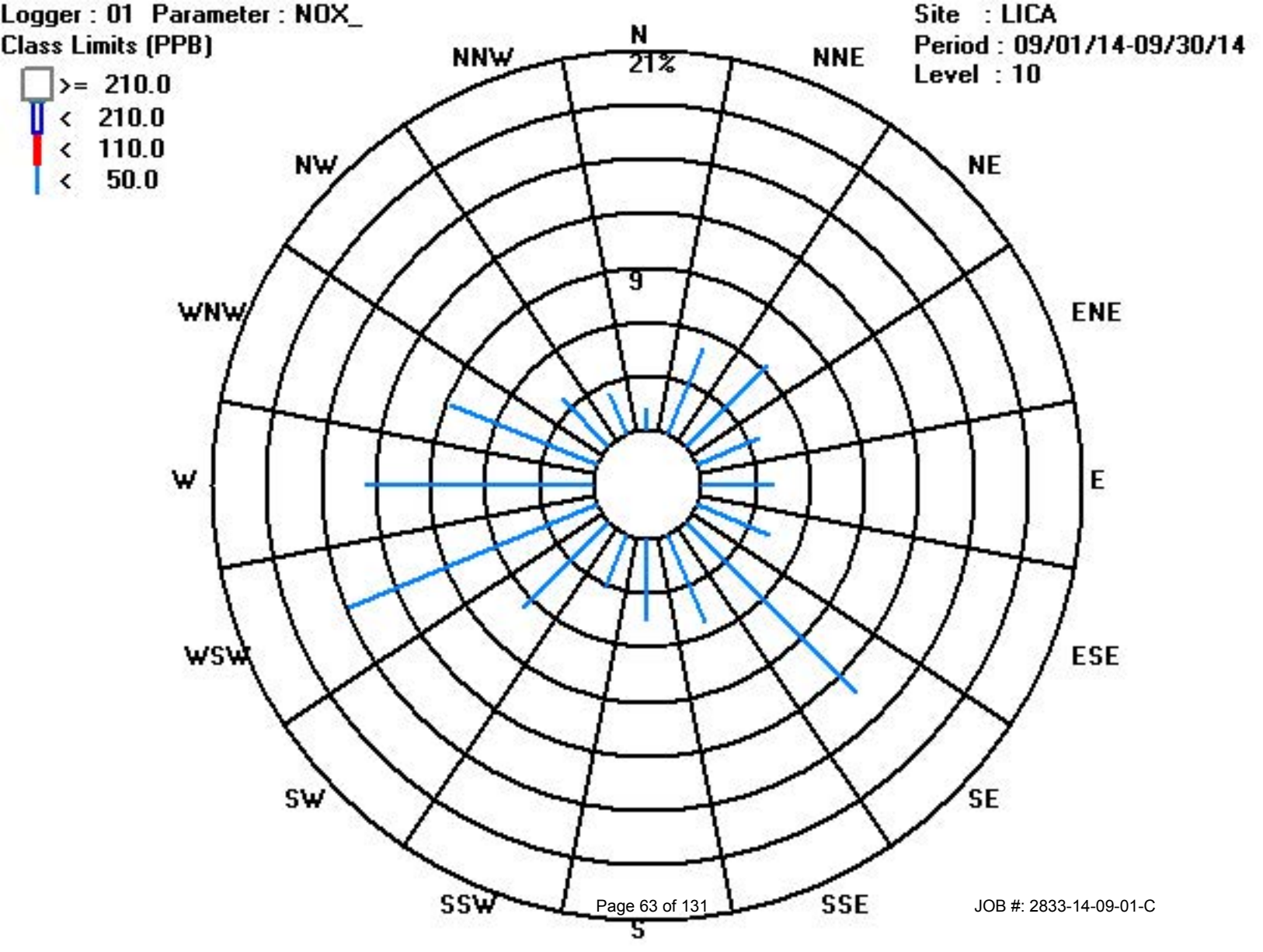
Distribution By Samples

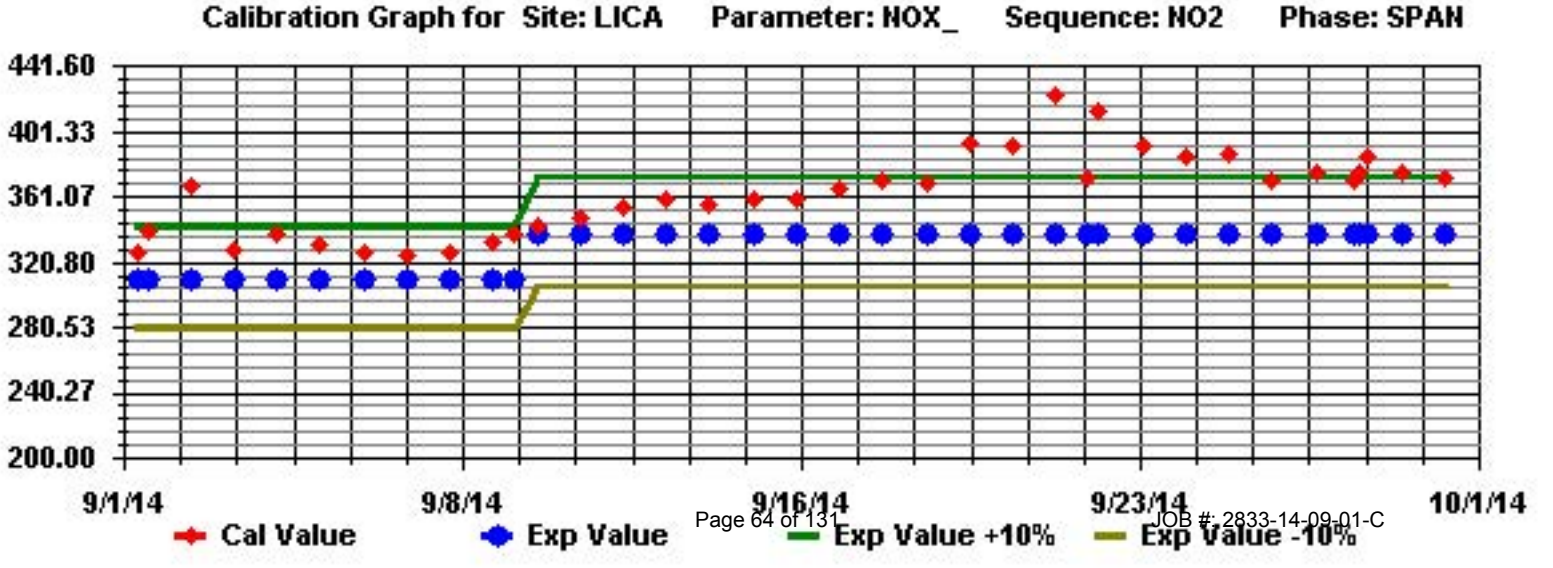
Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	8	35	43	25	27	29	90	36	31	21	45	100	85	59	25	16	675
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	8	35	43	25	27	29	90	36	31	21	45	100	85	59	25	16	

Calm : .00 %

Total # Operational Hours : 675


Logger : 01 Parameter : NOX_
Class Limits (PPB)
>= 210.0
< 210.0
< 110.0
< 50.0
Site : LICA
Period : 09/01/14-09/30/14
Level : 10
N
21%
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
9


Calibration Graph for Site: LICA Parameter: NOX_ Sequence: NO2 Phase: SPAN
441.60
401.33
361.07
320.80
280.53
240.27
200.00
9/1/14
9/8/14
9/16/14
9/23/14
10/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ozone

Lakeland Industry & Community Association - Cold Lake South Site

SEPTEMBER 2014

OZONE (O3) hourly averages in ppb

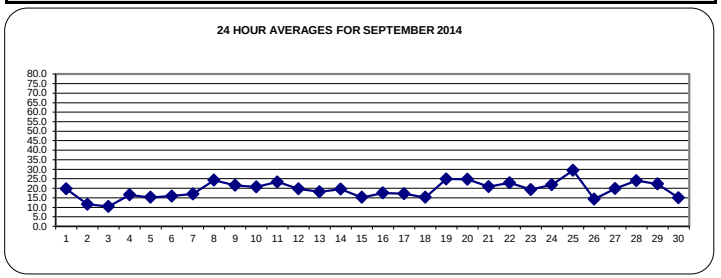
MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	12	15	13	10	12	10	10	13	17	21	25	27	**S**	32	32	32	30	29	28	21	19	18	15	11	32	19.7	24
2	10	8	7	4	2	1	4	7	8	16	23	**S**	22	30	30	26	28	19	11	3	2	1	1	2	30	11.5	24
3	3	3	2	1	2	1	2	3	9	21	**S**	28	28	28	24	18	23	22	8	5	3	2	2	2	28	10.4	24
4	1	1	0	0	0	0	0	2	11	**S**	24	30	31	31	32	35	34	31	23	27	22	19	15	12	35	16.6	24
5	9	6	4	5	4	2	3	7	**S**	21	23	26	28	30	30	32	29	25	24	17	10	6	4	5	32	15.2	24
6	8	14	13	8	4	3	3	**S**	8	14	17	20	24	25	27	28	28	25	21	17	16	15	12	16	28	15.9	24
7	13	6	4	11	13	11	**S**	10	15	15	17	18	16	16	16	18	21	22	23	24	24	25	26	28	28	17.0	24
8	29	26	25	24	23	**S**	24	24	23	23	25	26	27	26	26	25	25	24	22	21	25	22	21	23	29	24.3	24
9	22	23	19	19	**S**	21	18	19	22	25	26	26	26	**Y**	25	**C**	**C**	**C**	**C**	21	15	21	20	21	26	21.6	23
10	21	17	10	**S**	12	11	8	11	14	21	25	26	28	28	28	29	28	28	26	24	23	20	19	18	29	20.7	24
11	16	16	**S**	12	10	7	7	16	22	26	30	31	32	32	32	32	33	34	30	24	24	24	24	23	34	23.3	24
12	22	**S**	18	16	9	6	6	12	14	14	16	19	21	22	20	30	28	29	32	30	29	25	19	15	32	19.7	24
13	**S**	12	8	10	8	12	10	11	16	21	25	29	32	33	33	33	32	25	15	11	6	6	10	**S**	33	18.1	24
14	6	6	7	5	4	2	3	6	19	24	33	40	40	40	40	39	38	35	21	15	11	8	**S**	7	40	19.5	24
15	8	5	5	7	3	1	2	6	14	18	25	30	33	33	32	34	29	27	17	10	7	**S**	2	2	34	15.2	24
16	1	1	1	1	1	1	1	2	11	20	28	36	38	37	39	43	39	35	15	14	**S**	13	13	14	43	17.6	24
17	13	12	12	11	10	10	10	10	11	12	12	17	21	24	28	29	28	26	22	**S**	20	20	19	16	29	17.1	24
18	10	5	3	2	3	3	3	5	6	9	20	31	32	31	34	37	31	25	**S**	17	10	10	9	14	37	15.2	24
19	14	15	14	16	13	8	10	13	15	21	27	29	34	38	36	37	37	**S**	38	36	32	29	31	29	38	24.9	24
20	30	28	28	27	26	24	23	24	26	28	30	32	33	33	33	34	**S**	33	27	14	10	11	8	8	34	24.8	24
21	6	5	5	4	3	4	3	7	21	24	29	31	35	39	38	**S**	37	38	27	21	22	25	28	28	39	20.9	24
22	24	25	23	19	15	11	9	19	25	27	30	34	38	42	**S**	48	***49***	45	17	12	6	4	3	2	***49***	22.9	24
23	2	3	2	3	3	5	4	14	23	32	38	39	38	**S**	39	39	38	38	27	16	14	12	8	7	39	19.3	24
24	4	3	2	2	1	1	1	15	21	27	30	35	**S**	41	41	40	39	39	36	35	32	30	15	14	41	21.9	24
25	21	31	30	32	25	24	19	23	28	30	33	**S**	39	40	40	39	39	34	31	29	27	22	22	20	40	***29.5***	24
26	19	18	19	19	19	19	18	18	18	19	**S**	15	15	15	14	13	12	10	9	8	8	8	7	7	19	14.2	24
27	8	9	7	8	12	13	15	16	18	**S**	22	24	24	24	26	26	27	27	26	25	26	25	24	24	27	19.8	24
28	24	23	21	21	23	24	24	24	**S**	24	24	25	26	28	28	28	27	26	25	24	23	21	20	19	28	24.0	24
29	18	17	16	16	15	14	12	**S**	13	16	21	25	27	29	29	29	30	30	29	29	27	25	23	22	30	22.3	24
30	19	18	17	16	15	13	**S**	8	7	7	6	6	14	15	17	16	19	20	20	20	20	18	17	18	20	15.0	24
HOURLY MAX	30	31	30	32	26	24	24	24	28	32	38	40	40	42	41	48	49	45	38	36	32	30	31	29			
HOURLY AVG	13.6	12.8	11.6	11.3	10.0	9.0	9.0	12.3	16.3	20.6	24.4	27.0	28.6	30.1	30.0	31.0	30.6	28.6	23.2	19.7	17.7	16.7	15.1	14.7			

STATUS FLAG CODES

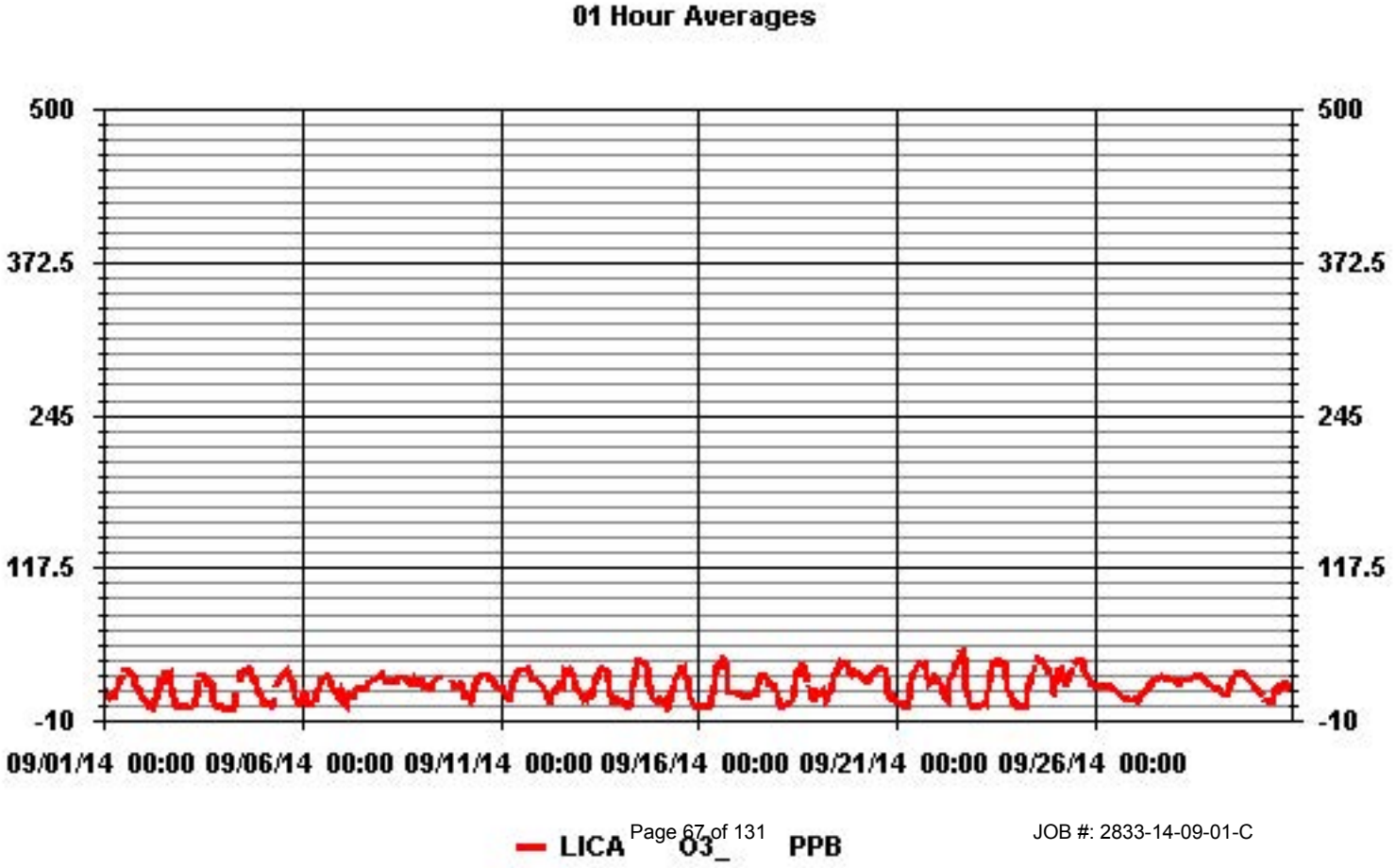
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 82 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	679					
MAXIMUM 1-HR AVERAGE:	49	PPB	@ HOUR(S)	16	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:	29.5	PPB			ON DAY(S)	25
					VAR-VARIOUS	
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:		719	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:		99.9	%
STANDARD DEVIATION:	10.73		MONTHLY AVERAGE:		19.25	PPB



JOB #: 2833-14-09-01-C

Lakeland Industry & Community Association - Cold Lake South Site

SEPTEMBER 2014

OZONE MAX instantaneous maximum in ppb

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	16	17	14	12	13	12	12	16	19	25	27	30	**S**	34	33	34	31	31	33	25	21	21	18	14	34	22.1	24
2	11	10	9	5	4	3	9	8	10	19	29	**S**	31	33	32	30	32	30	17	7	4	2	2	3	33	14.8	24
3	6	6	4	2	3	3	4	5	16	26	**S**	29	29	30	31	23	26	28	13	10	6	4	4	4	31	13.6	24
4	3	2	3	1	1	1	1	4	14	**S**	28	32	33	34	35	38	37	34	30	29	26	22	18	13	38	19.1	24
5	11	10	6	7	7	5	4	12	**S**	25	25	28	30	32	32	34	33	29	30	22	13	11	7	10	34	18.4	24
6	10	16	15	12	8	7	5	**S**	12	17	23	22	25	26	28	29	29	27	23	20	17	19	19	17	29	18.5	24
7	17	12	6	14	14	14	**S**	16	17	17	19	19	17	17	17	20	22	24	25	25	25	27	30	29	30	19.3	24
8	30	28	26	25	25	**S**	24	25	24	25	27	27	28	28	28	27	27	26	25	27	27	24	26	28	30	26.4	24
9	26	24	24	24	**S**	23	20	21	25	29	29	28	27	**Y**	26	**C**	**C**	**C**	**C**	25	22	22	22	22	29	24.4	23
10	21	21	13	**S**	15	15	9	16	17	25	26	28	29	29	31	30	30	30	28	26	24	23	20	20	31	22.9	24
11	19	18	**S**	14	13	10	11	20	25	28	31	33	33	33	33	33	34	35	34	28	26	27	25	24	35	25.5	24
12	23	**S**	19	19	14	8	11	14	15	16	20	21	23	24	22	32	31	34	34	31	30	27	24	17	34	22.1	24
13	**S**	13	12	11	11	13	13	13	27	27	28	32	33	34	34	34	34	30	22	14	9	11	14	**S**	34	21.3	24
14	10	9	10	7	7	4	4	13	22	31	37	42	41	42	43	42	41	41	33	18	15	11	**S**	10	43	23.2	24
15	13	8	8	11	6	2	3	10	16	23	28	32	35	35	34	37	32	30	26	14	10	**S**	3	3	37	18.2	24
16	1	1	1	1	1	1	1	4	17	26	33	39	40	39	44	45	41	41	19	15	**S**	14	14	15	45	19.7	24
17	13	13	12	11	11	11	11	11	12	12	13	20	22	27	30	30	30	28	25	**S**	20	20	20	18	30	18.3	24
18	16	7	5	3	9	7	6	7	7	12	28	34	34	34	37	39	35	30	**S**	22	14	14	15	18	39	18.8	24
19	18	18	17	18	17	12	14	15	17	25	29	31	38	39	37	39	39	**S**	39	38	35	32	32	31	39	27.4	24
20	30	30	29	28	27	24	24	26	28	29	32	33	33	33	33	35	**S**	35	33	21	14	17	9	14	35	26.8	24
21	8	12	8	7	6	5	5	15	24	27	31	33	38	40	40	**S**	39	41	34	29	27	28	31	30	41	24.3	24
22	27	29	28	28	20	19	17	25	26	29	32	36	41	45	**S**	51	***52***	51	42	19	9	5	5	3	***52***	27.8	24
23	3	6	3	5	6	7	10	20	27	36	40	40	39	**S**	41	41	40	39	35	21	22	18	11	10	41	22.6	24
24	7	4	2	3	2	2	6	22	25	29	32	40	**S**	42	42	43	41	41	37	36	35	34	26	20	43	24.8	24
25	31	32	35	35	31	26	23	30	30	32	39	**S**	40	41	41	40	40	38	33	32	28	25	23	21	41	***32.4***	24
26	20	18	20	20	20	20	19	18	19	19	**S**	16	16	16	15	15	14	12	10	9	9	9	8	8	20	15.2	24
27	10	10	9	9	13	14	16	19	19	**S**	24	25	25	26	27	27	29	28	28	27	29	28	26	25	29	21.4	24
28	26	25	23	23	25	26	26	25	**S**	25	25	26	27	30	30	29	28	27	26	25	24	22	20	19	30	25.3	24
29	19	17	17	17	16	15	14	**S**	14	19	23	27	29	30	29	30	31	31	30	30	29	26	23	23	31	23.4	24
30	22	32	18	17	17	15	**S**	10	8	7	7	9	15	18	18	18	20	21	21	21	21	20	18	21	32	17.1	24
HOURLY MAX	31	32	35	35	31	26	26	30	30	36	40	42	41	45	44	51	52	51	42	38	35	34	32	31			
HOURLY AVG	16.1	15.4	13.7	13.4	12.5	11.2	11.5	15.7	19.0	23.6	27.3	29.0	30.4	31.8	31.8	33.0	32.8	31.9	28.0	23.0	20.4	19.4	17.7	16.9			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 684

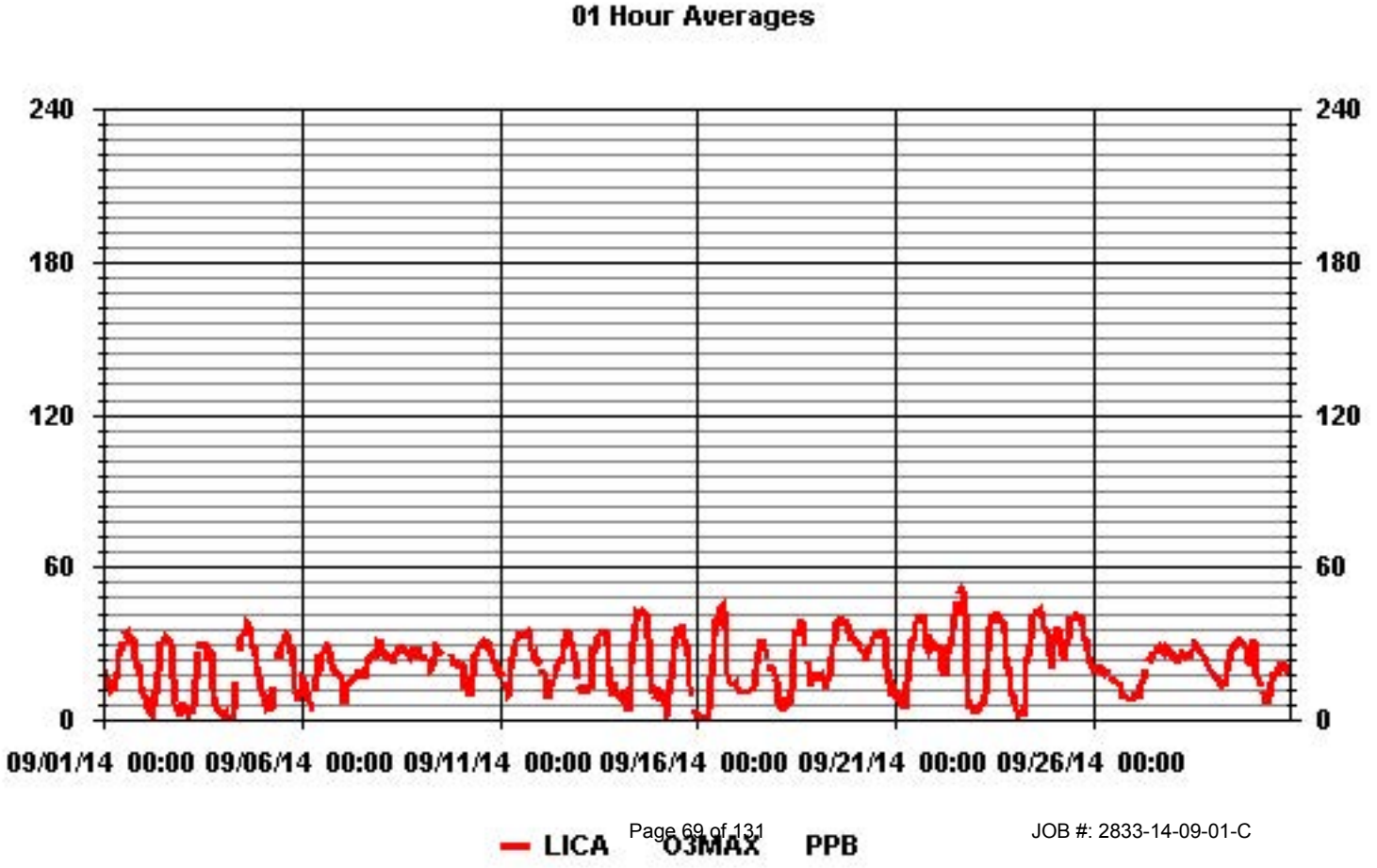
MAXIMUM INSTANTANEOUS VALUE: 52 PPB @ HOUR(S) 16 ON DAY(S) 22

VAR-VARIOUS

IZS CALIBRATION TIME: 31 HRS OPERATIONAL TIME: 719 HRS

MONTHLY CALIBRATION TIME: 4 HRS

STANDARD DEVIATION: 10.80



JOB #: 2833-14-09-01-C

LICA
O3_ / WD Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 01
Site Name : LICA
Parameter : O3_
Units : PPB

Wind Parameter : WD
Instrument Height : 10 Meters

		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	1.16	5.11	6.28	3.65	4.09	4.38	13.45	5.70	4.53	3.07	6.57	14.91	12.42	8.62	3.65	2.33	100.00
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	1.16	5.11	6.28	3.65	4.09	4.38	13.45	5.70	4.53	3.07	6.57	14.91	12.42	8.62	3.65	2.33	

Calm : .00 %

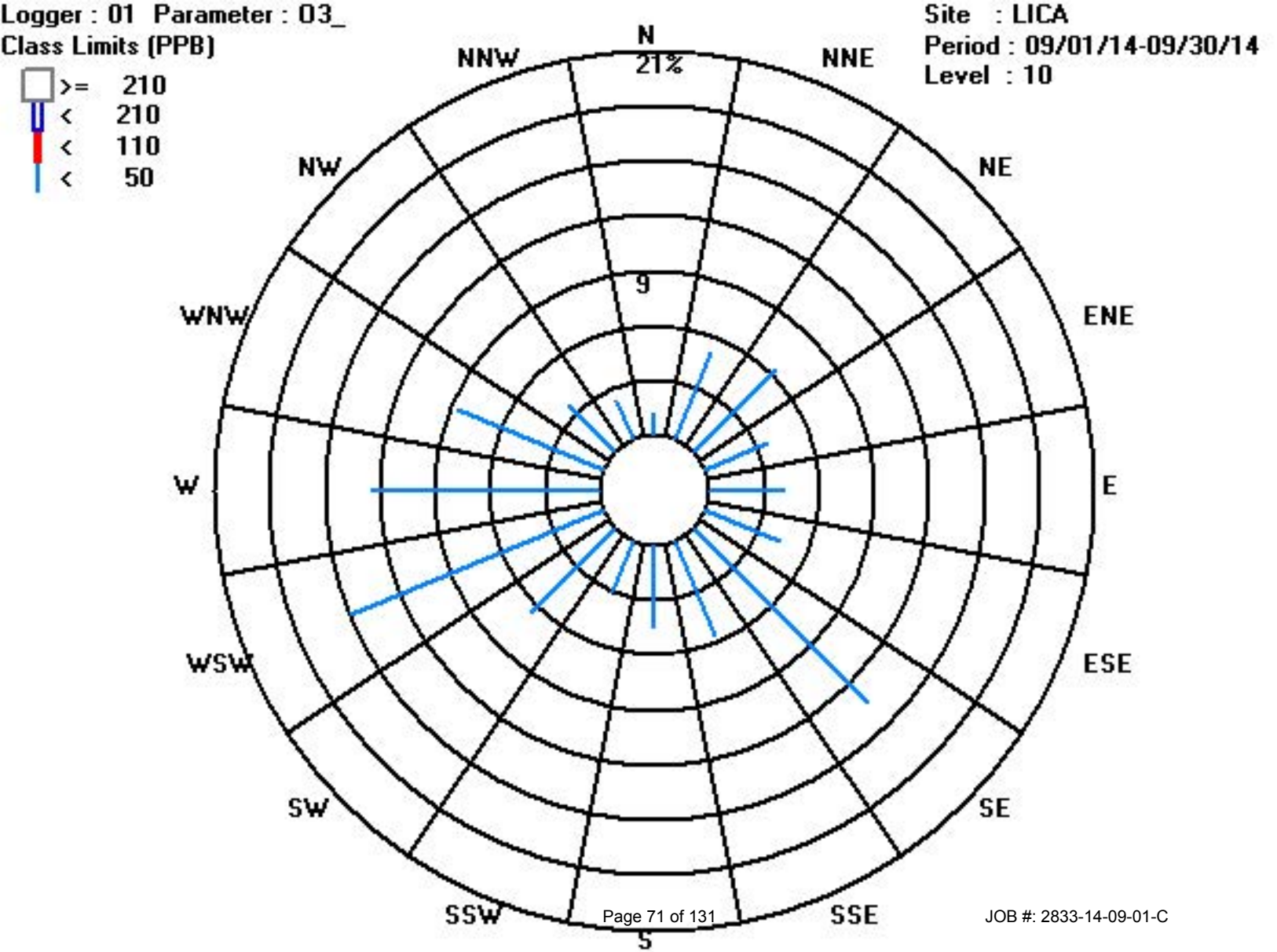
Total # Operational Hours : 684

Distribution By Samples

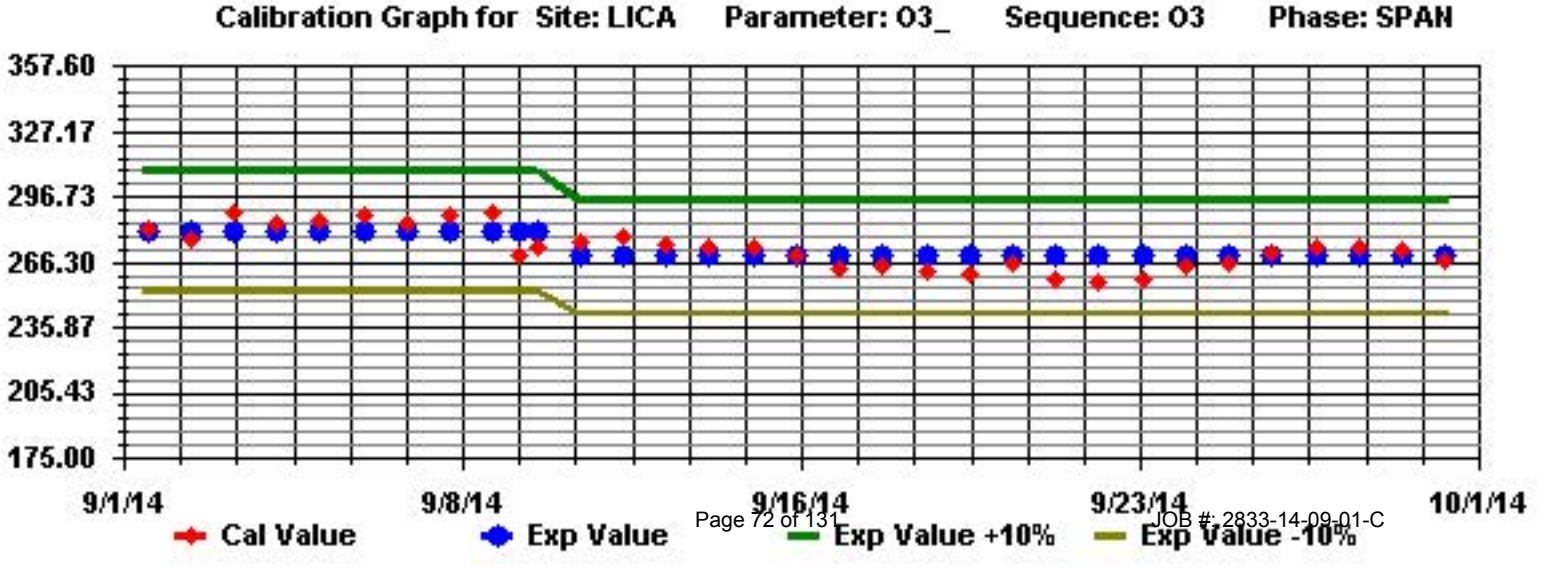
		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	8	35	43	25	28	30	92	39	31	21	45	102	85	59	25	16	684
<	110																	
<	210																	
>=	210																	
	Totals	8	35	43	25	28	30	92	39	31	21	45	102	85	59	25	16	

Calm : .00 %

Total # Operational Hours : 684



JOB #: 2833-14-09-01-C


Calibration Graph for Site: LICA Parameter: O3_ Sequence: O3 Phase: SPAN
357.60
327.17
296.73
266.30
235.87
205.43
175.00
9/1/14
9/8/14
9/16/14
9/23/14
10/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ambient Temperature

Lakeland Industry & Community Association - Cold Lake South Site

SEPTEMBER 2014

AMBIENT TEMPERATURE (TPX) hourly averages in Degrees Celsius

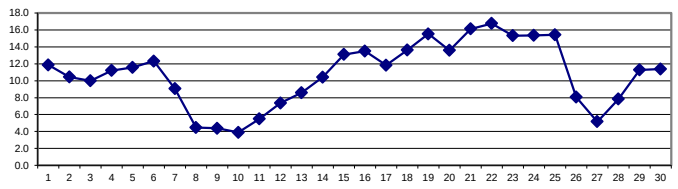
MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	8.1	7.9	7.5	6.7	6.7	6.2	7.1	9.7	12	14.7	16.7	16.7	16.9	16.8	16.8	15.7	15.8	13.9	12.6	11.8	11.7	11.5	11.2	10.5	16.9	11.9	24
2	9.8	9.3	9.2	8.6	7.1	5.9	6.9	10	11.8	13.6	15.2	15.9	14.9	15	11.3	10.8	12.1	12.5	11.3	9.2	7.5	6.9	7.4	8.4	15.9	10.4	24
3	8.8	8	7	5.9	4.9	4.2	5.6	7.6	11.3	13.9	15.1	15.8	16.4	15.6	11.2	11.7	15.1	16.2	13.7	9.3	7.4	6.2	5	4.3	16.4	10.0	24
4	3.6	2.9	2.6	2.3	2	1.4	2.9	6.2	10.8	14.5	16.9	18.5	18.1	16.9	18.7	19.8	18.3	18.3	15.6	14.6	13	11.9	10.2	9.3	19.8	11.2	24
5	8.6	7.5	6.4	7.2	6	5	5.6	8.8	10.9	12.5	12.9	14.7	16.2	16.7	17.1	17.4	16.9	15.9	15.2	14.1	13.2	11.1	9.3	8.7	17.4	11.6	24
6	9	9.5	9.3	7.9	6.3	5.5	6.1	8	10.1	11.4	11.8	13.1	15	17	18.5	19.1	19.2	18.8	17.4	15.1	13.3	12.3	11	11	19.2	12.3	24
7	10.4	8.8	7.9	10.4	11.1	10.5	10.3	11.6	11.9	11.3	11.4	11.5	11.3	11	10.8	9.6	8.1	7.5	6.9	6.1	5.5	5.1	4.4	4	11.9	9.1	24
8	3.7	3.9	3.8	3.5	3.2	3	3	3.2	3.6	4.1	4.8	5.2	5.5	5.5	5.9	6.1	5.8	5.8	5.4	4.9	5	4.5	4	4	6.1	4.5	24
9	3.5	3.7	3.4	3.3	3.5	3.1	3	3.3	4.2	5	5.4	5.3	5.9	5.9	6	6.2	6.1	5.4	4.2	4.2	3.6	3.9	3.6	3.5	6.2	4.4	24
10	3.5	3.1	2.3	2.1	1.5	0.3	0.2	1.1	2.4	4.1	4.8	5.1	5.6	5.9	7.1	6.7	6.5	6	5.2	4.7	4.4	3.9	3.6	3.4	7.1	3.9	24
11	2.9	2.6	1.6	-0.6	-2.1	***-2.9***	-2	1.6	4.5	6.6	7.9	8.9	9.9	10.9	11.7	12.2	12.2	11.8	9.3	6.5	5.4	4.7	4.3	4.1	12.2	5.5	24
12	3.7	2.9	2.1	1.3	-0.6	-0.1	1.3	2.9	4.8	6.9	9.1	10.6	11.5	12.6	12.6	14.5	13.7	12.4	11.4	10.5	9.7	8.7	7.7	6.5	14.5	7.4	24
13	6.2	6	5.4	5.4	5.8	5.5	5.1	6.8	9.1	10.5	11.4	11.9	12.7	13	13.5	13.6	13.6	12.4	8.7	6	5.6	5.9	6.2	6.1	13.6	8.6	24
14	6.2	6.1	5.7	4.9	4	3.2	3	6	9.9	12.3	14.7	16.1	17.2	17.8	18.3	18.6	18.1	18.5	13.6	9.6	7.5	6.9	6.4	5.7	18.6	10.4	24
15	5.6	4.9	5.3	6.1	5.9	5.4	6.3	10.6	14.1	16.4	18.5	20.2	20.7	21.2	22.1	22.6	21.3	21	17.5	13.2	11	9.3	8.3	7.1	22.6	13.1	24
16	6.4	5.5	4.8	4	3.5	2.9	3.4	9.1	13.2	16.9	19.8	22.3	23.9	24.8	25.4	23.1	23.6	22.1	16.1	13.4	11.5	10.8	9.2	8.4	25.4	13.5	24
17	7.7	7.1	6.7	6.5	6.4	6.3	6.4	6.7	7.3	8.2	9.6	13.1	15.9	17.9	19.2	20.2	19.7	18.6	16.5	14.8	13.4	12.4	12	11.3	20.2	11.8	24
18	9.5	8	7.8	8.3	9	9.2	9.5	10.4	11	13.2	16.7	18.5	19	18.5	18.9	18.5	17.7	17.4	16.5	15.1	14.1	13.8	13.3	13.5	19	13.6	24
19	13.2	12.7	11.7	11.9	10.8	9.6	10.1	11.6	13.4	16.3	17.8	19.1	21	21.3	21.4	21.3	20.7	20.2	18.7	17	14.5	12.6	13.4	12.8	21.4	15.5	24
20	12.2	11.3	11.7	11.5	10.3	9.1	9	11.4	13.4	15.2	17.1	18.3	19.3	20	19.7	20	20.1	19.2	16.1	11.7	9.2	7.7	6.9	6.1	20.1	13.6	24
21	5.5	4.9	4.5	4.1	4.1	3.7	4.2	9.4	14.3	17.4	21.6	24.7	26.6	27.6	28.3	***28.8***	27.8	26.2	21.1	17.3	17.1	17.4	15.9	14.8	***28.8***	16.1	24
22	13	12.5	11.7	10.7	9.4	8.4	8.6	13.1	15.8	18.4	20.5	22.4	24.1	25	26.6	27.5	27.4	25.7	19.6	15.8	13.7	12.3	10.9	9.8	27.5	***16.8***	24
23	9	8.6	8	9.4	9.4	9.6	9.9	12.5	16.2	19.2	21.1	22.2	22.5	23.1	23.7	23.3	21.6	21	18.8	15.3	13	11.6	10.2	8.8	23.7	15.3	24
24	7.7	6.9	6.3	5.8	5.3	5.1	5.7	11.4	14.4	16.2	18.6	20.9	22.5	23	23.6	23.6	23.3	22.7	21.4	20.1	19.3	17.7	14.4	13.3	23.6	15.4	24
25	13.8	14.7	13.8	12.6	11.5	11.2	10.9	13.1	13.9	14.5	17.4	19.4	20.7	21.5	21.4	21.2	20.7	19.5	16.8	15.6	14.1	11.9	10.6	9.9	21.5	15.4	24
26	9.6	9.3	8.8	8.6	8.5	8.3	8.4	8.6	8.6	8.7	7.7	7.4	7.7	8	8.3	8.3	8.1	7.9	7.5	7.4	7.2	7.4	7.1	6.3	9.6	8.1	24
27	5.2	4.3	3.8	3.3	3.1	2.8	2.6	2.7	3.1	3.8	4.5	5.5	6.2	7.1	7.5	7.7	7.4	7.2	6.9	6.7	6.2	5.8	5.5	5	7.7	5.2	24
28	4.8	4.6	4.4	4.6	4.6	4.7	4.8	5	5.5	7	8.4	10	11.1	12.2	12.9	13.3	12.6	11.3	9.6	8.5	7.4	7.1	7.3	6.6	13.3	7.8	24
29	5.8	4.9	4.5	4.3	3.9	3.8	3.7	4.4	6.4	9.7	12.1	13.7	15.2	16.6	17.2	17.1	17.5	17.2	16.7	15.8	16.1	15.7	14.9	13.7	17.5	11.3	24
30	12.1	11.4	11.2	11	10.7	10.2	9.8	9.7	10.1	10.6	10.8	11.2	12	12.2	12.8	13	13.7	13.3	12.2	11.5	11.9	11	10.6	10.3	13.7	11.4	24
HOURLY MAX	13.8	14.7	13.8	12.6	11.5	11.2	10.9	13.1	16.2	19.2	21.6	24.7	26.6	27.6	28.3	28.8	27.8	26.2	21.4	20.1	19.3	17.7	15.9	14.8			
HOURLY AVG	7.6	7.1	6.6	6.4	5.9	5.4	5.7	7.9	9.9	11.8	13.3	14.6	15.5	16.0	16.3	16.4	16.2	15.5	13.4	11.5	10.4	9.6	8.8	8.2			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

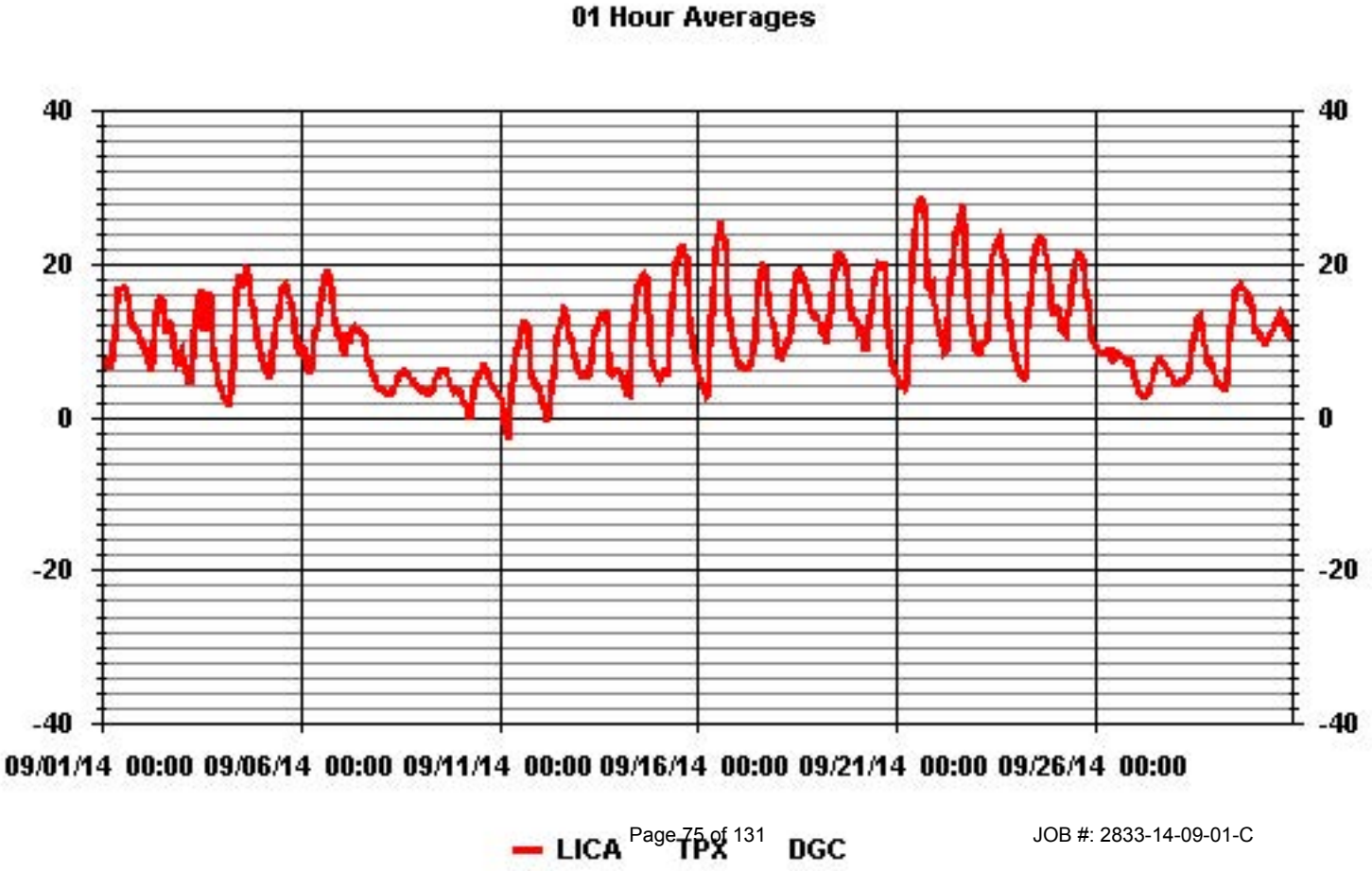
24 HOUR AVERAGES FOR SEPTEMBER 2014



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-2.9	°C	@ HOUR(S)	5	ON DAY(S)	11
MAXIMUM 1-HR AVERAGE:	28.8	°C	@ HOUR(S)	15	ON DAY(S)	21
MAXIMUM 24-HR AVERAGE:	16.8	°C			ON DAY(S)	22
					VAR-VARIOUS	

OPERATIONAL TIME:		720	HRS
AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	5.94	MONTHLY AVERAGE:	10.84 °C



JOB #: 2833-14-09-01-C

Relative Humidity

Lakeland Industry & Community Association - Cold Lake South Site

SEPTEMBER 2014

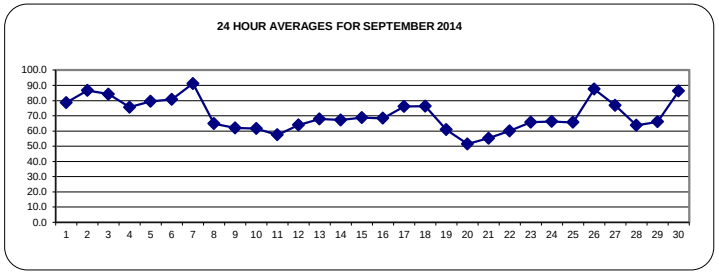
RELATIVE HUMIDITY (RH) hourly averages in %

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	95	95	96	96	96	96	93	84	76	68	60	60	55	52	53	60	63	70	76	84	86	88	91	93	96	78.6	24
2	92	94	94	94	95	95	95	88	82	75	66	63	68	63	82	91	84	87	93	95	95	96	97	97	97	86.7	24
3	***98***	97	97	97	97	97	***98***	***98***	90	70	53	52	51	54	85	91	72	64	83	93	95	96	97	97	***98***	84.3	24
4	97	97	97	97	97	97	97	95	84	72	62	52	51	58	54	48	52	50	65	63	74	79	87	90	97	75.6	24
5	92	95	96	97	97	97	***98***	93	79	71	69	61	55	52	53	55	62	68	71	79	86	92	95	96	***98***	79.5	24
6	94	89	89	94	96	97	97	97	91	83	81	74	67	62	58	58	59	63	69	77	84	85	87	88	97	80.8	24
7	91	94	95	96	94	93	95	90	87	87	85	86	90	89	86	89	94	94	91	93	94	92	91	92	96	***91.2***	24
8	89	86	84	83	84	82	78	76	74	68	56	52	49	52	49	48	49	49	56	60	51	60	62	59	89	64.8	24
9	62	61	70	70	62	63	62	62	61	54	52	58	57	59	57	52	52	59	74	69	77	64	66	65	77	62.0	24
10	66	71	85	82	82	87	88	83	76	65	54	50	42	40	37	38	39	42	48	52	55	61	66	69	88	61.6	24
11	72	73	74	78	87	89	86	66	53	48	42	39	36	36	35	36	35	36	47	59	61	64	63	64	89	57.5	24
12	67	73	77	80	89	89	87	80	72	67	60	55	53	51	52	39	46	52	48	49	54	60	66	70	89	64.0	24
13	71	76	83	80	81	85	86	80	70	64	58	51	43	39	41	41	42	53	71	80	83	84	84	84	86	67.9	24
14	84	86	87	88	91	91	93	82	62	56	48	42	38	36	35	36	38	42	64	77	82	84	85	86	93	67.2	24
15	88	90	91	90	89	90	87	74	65	57	50	45	44	41	39	38	41	43	62	77	83	88	88	90	91	68.8	24
16	91	90	91	91	92	92	93	78	72	60	52	43	35	32	32	41	37	46	67	74	80	81	85	86	93	68.4	24
17	88	90	93	95	95	94	93	92	90	87	82	69	60	53	48	46	49	53	61	69	75	79	81	84	95	76.1	24
18	89	91	92	91	91	91	91	90	89	80	63	52	52	54	53	54	62	66	72	77	81	83	85	83	92	76.3	24
19	84	86	88	88	89	92	93	91	84	71	63	58	43	35	37	34	35	34	34	36	44	49	46	47	93	60.9	24
20	51	55	55	56	62	67	68	60	53	48	42	36	32	30	31	30	30	30	41	59	68	74	76	80	80	51.4	24
21	84	83	84	86	87	87	86	70	57	51	42	35	30	28	25	***24***	25	28	41	53	52	52	56	59	87	55.2	24
22	66	66	69	74	77	80	79	64	58	52	46	41	38	37	33	31	32	39	59	72	78	81	85	85	85	60.1	24
23	88	89	90	90	90	89	86	77	63	56	50	46	44	41	38	37	40	41	50	64	70	76	80	84	90	65.8	24
24	85	87	88	87	90	89	89	83	74	64	56	48	43	43	43	44	45	46	51	55	59	64	76	80	90	66.2	24
25	79	74	75	78	83	85	86	79	77	75	60	50	43	42	43	43	45	48	58	61	68	73	75	77	86	65.7	24
26	80	80	79	80	79	80	80	83	83	82	92	95	92	90	85	84	88	94	96	97	97	97	95	93	97	87.5	24
27	90	88	90	91	87	87	86	86	86	77	75	72	70	67	66	66	66	65	67	69	71	71	73	78	91	76.8	24
28	78	80	85	83	78	73	71	70	68	62	57	53	51	49	47	47	48	52	56	59	63	65	66	69	85	63.8	24
29	72	76	78	79	82	84	85	84	77	65	58	55	52	50	51	52	53	56	59	61	61	62	65	70	85	66.1	24
30	81	81	81	82	84	90	94	95	94	91	89	92	90	92	87	84	79	77	80	80	80	90	89	88	95	86.3	24
HOURLY MAX	98	97	97	97	97	97	98	98	94	91	92	95	92	92	87	91	94	94	96	97	97	97	97	97			
HOURLY AVG	82.1	83.1	85.1	85.8	86.8	87.6	87.3	81.7	74.9	67.5	60.8	56.2	52.5	50.9	51.2	51.2	52.1	54.9	63.7	69.8	73.6	76.3	78.6	80.1			

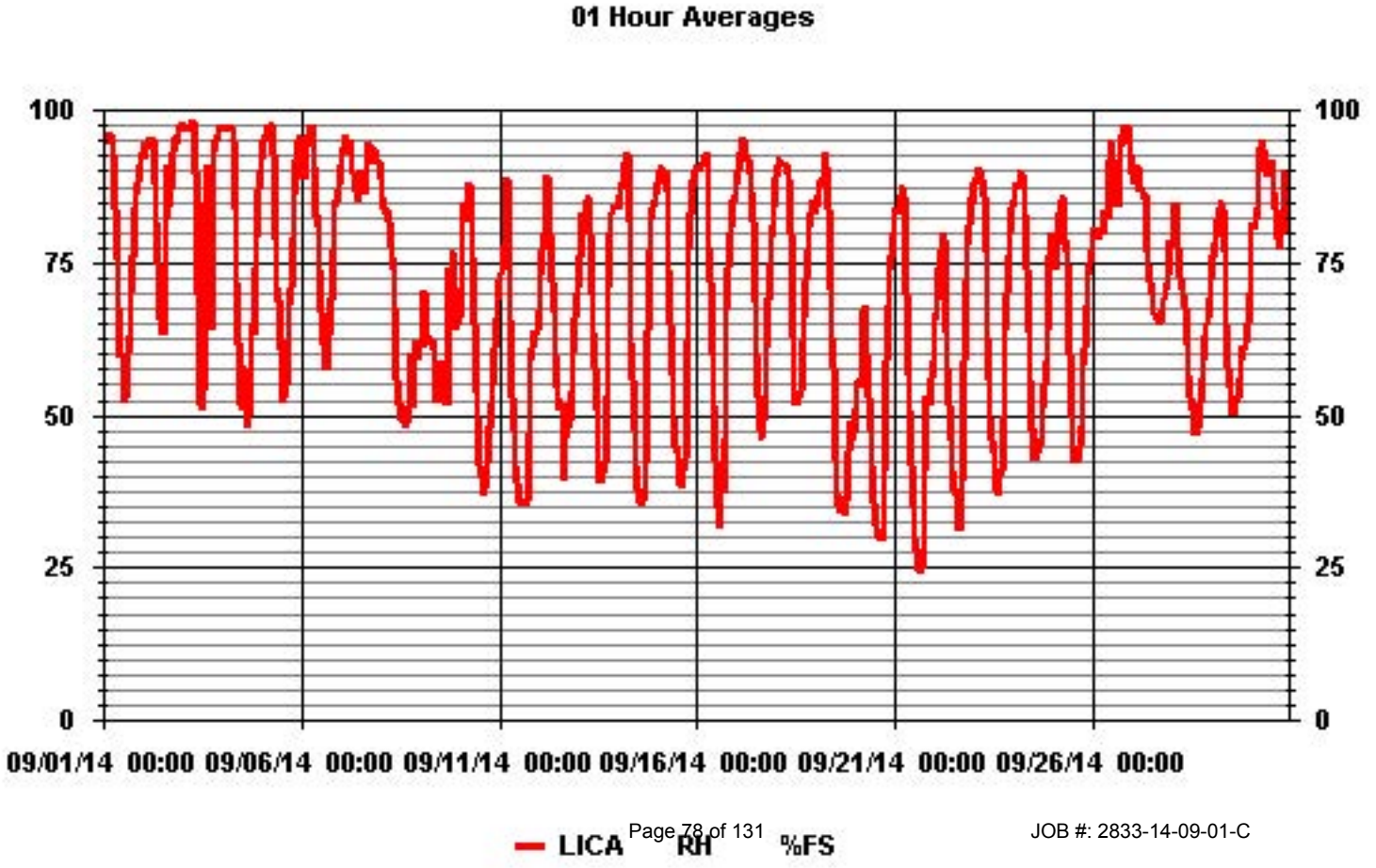
STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	98	%	@ HOUR(S)	VAR	ON DAY(S)	3, 5
MAXIMUM 24-HR AVERAGE:	91.2	%			ON DAY(S)	7
				VAR-VARIOUS		
			OPERATIONAL TIME:		720	HRS
			AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	19.02		MONTHLY AVERAGE:		70.57	%



JOB #: 2833-14-09-01-C

Vector Wind Speed

Lakeland Industry & Community Association - Cold Lake South Site

SEPTEMBER 2014

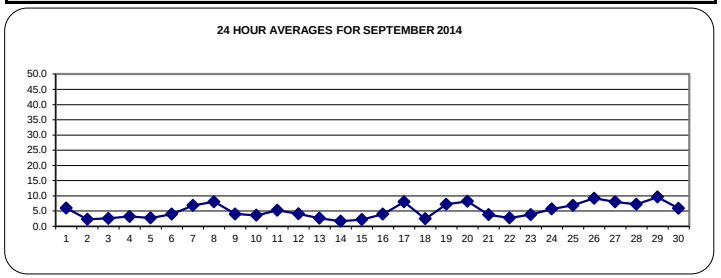
WIND SPEED (WS) hourly averages in km/hr

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	4.5	5.7	5	3.4	4.4	3.8	3.8	4	6	5.4	6.8	8.5	10.8	12.4	11.3	10.9	8.4	9	5.1	2.8	2.9	2.4	2.4	2.9	12.4	5.9	24
2	3.7	3.5	3.1	2.7	1.1	0.5	2.1	2.9	2.7	1.1	1.9	1.8	0.6	4.8	9.4	2.6	4.2	0.8	0.8	1.5	0.5	0.1	1.1	1.3	9.4	2.3	24
3	1.7	2	2.3	0.7	1.3	1.4	1.6	1.7	3.5	6.5	7	7.2	5.2	5.9	0.7	2.8	1.6	3.3	2	1.4	0.8	0.5	0.5	0.7	7.2	2.6	24
4	0.7	0.4	0.5	0.5	0.6	0.6	0.7	1.1	2.5	3.2	3.5	5.3	6.6	6.2	3.3	4.6	5.2	5.6	2.5	7.5	3.8	3.9	3.8	4.4	7.5	3.2	24
5	2.6	2.5	3.5	4	3.5	3.1	3.1	3.3	2.5	3.3	1.8	3	2.1	3.8	3.4	3.6	3	4.8	0.2	0.6	0.3	2.2	2.8	3.5	4.8	2.8	24
6	4.5	4.9	4.1	3.3	2.8	2.1	1.9	1.1	1.5	3.6	4.9	5.8	6.5	6.3	5	5.1	5.4	5.8	4.9	4.8	2.5	3	2.1	4.8	6.5	4.0	24
7	1.1	0.1	1.7	6.6	6.1	2.6	0.7	2.7	7.8	9	8.4	6.2	6.1	7.3	8.1	8.8	10	9.4	9.9	9.7	10	10.3	12	9.5	12.0	6.8	24
8	11.3	11.4	10.8	10.9	9.1	9.2	10	11	11.1	11.1	12.3	9.8	8.7	9.1	9.9	8.2	7.6	4.7	2.1	3.5	4.8	3.5	2.2	1.2	12.3	8.1	24
9	3.9	2.7	0.6	2.5	6	4.1	2.9	4.1	5.4	5.7	4.4	1.6	4	6.5	6.5	5.7	4.5	4.8	2.9	2.4	1.1	5.8	4.4	4.6	6.5	4.0	24
10	3.3	1.6	1.3	2.2	1.6	1.8	2	1.3	3.7	6.4	7.5	6.4	6.8	5.8	2.3	2.7	4.4	4.8	3.9	4.6	4.3	2.9	2.7	2.6	7.5	3.6	24
11	3.1	2.2	3.7	4.1	1.2	0.7	0.8	2.9	5.6	7.4	8.4	8.8	9	8.1	10.9	10.9	10.4	8.8	4.1	2.9	2.8	2.4	3	4	10.9	5.3	24
12	2.9	3	2.3	1.5	1	0.3	1.4	2.5	4.6	3.7	3.5	4.3	5.1	5.7	6.8	6.6	3.3	6	8.4	7.3	5.9	4.5	4.4	4.2	8.4	4.1	24
13	3.7	2.7	2.2	1.6	1.9	2.6	1.7	3	2	3.7	4.9	3.7	3.9	5.8	5.6	4.5	4.1	1.8	1.1	0.8	0.5	0.2	1.2	0.3	5.8	2.6	24
14	1	0.4	0.2	0.4	0.9	0.8	0.4	0.4	2	2.5	2.5	3.1	4.5	4.6	4.3	3.6	1.7	2	1.1	1.3	0.7	0.5	0.2	0.3	4.6	1.6	24
15	0.6	0.8	0.6	1.6	0.2	0.1	0.2	1.4	2.2	2.3	2.9	3.2	7.1	8.1	7	4.5	4.2	1.8	1.3	0.8	0.5	0.5	1	0.8	8.1	2.2	24
16	0.5	0.2	0.5	0.1	0.4	0.9	0.5	0.5	1.8	2.2	3.1	5.4	4.2	3.8	3.1	5.3	4.7	4.9	10.6	11.5	8.8	7.4	6.3	9	11.5	4.0	24
17	8.6	10	8.9	8.1	8	8.5	7.4	7.5	8.5	8.2	7.2	7.9	6.9	8	7.8	7.7	8.4	9.4	9.5	9.6	10	7.7	6.2	2.9	10.0	8.0	24
18	0.4	1.2	0.8	0.5	1.2	0.8	0.8	1.1	3.4	2.8	4.6	3.8	5.6	5	3.7	6.1	4.5	2.5	1.9	1.7	0.8	1	2.2	2.8	6.1	2.5	24
19	2.3	2.7	3.2	3.8	3.3	2	3.5	5.1	5.7	7.5	6.5	9	10	14.7	12.9	11.5	***20.3***	11.1	9.4	5.4	4.9	5.8	6.2	7.1	***20.3***	7.2	24
20	6	7.1	9.6	9.8	7	6.7	6.9	11.3	12.6	11.8	13.5	16	16.3	14.5	13.5	12.2	8.7	8.9	2.8	1	0.4	0.2	0.6	0.6	16.3	8.3	24
21	0.4	0.6	0.4	1	0.7	0.4	0.5	0.3	3.9	5.3	5.8	7.5	10.4	10.3	9.8	7.3	4.2	3.4	2.8	0.8	3.6	3.2	4.9	4.1	10.4	3.8	24
22	3.7	3.2	3.9	1.6	1.4	0.9	0.8	3.9	4.3	4	4.1	5.3	5.1	4.8	5.9	4.6	3.1	0.7	1.3	0.9	0.2	1	0.1	0.7	5.9	2.7	24
23	1	0.5	0.9	0.2	3.6	5.8	4.4	4.7	6.1	7.6	5.6	4.8	8.8	9.1	7.6	7.1	6.8	4.6	0.5	0.9	0.7	0.1	0.6	0.6	9.1	3.9	24
24	0.3	0.7	0.5	0.3	0.6	0.2	0.7	4.7	4.8	9.4	11.9	15.6	16.6	13.3	12.3	12	7	6	6.1	5.1	3.4	2.1	1.3	2.3	16.6	5.7	24
25	7.8	4.3	4.1	5.1	4.8	4.5	3.8	3.9	4.3	5.3	3.2	4.1	7.2	5.1	6.4	7.2	7.4	4.1	5.8	9.6	11.2	16.2	13.3	17	17.0	6.9	24
26	12.1	14	19.4	15.1	11.8	12.9	7.6	9.1	12.4	11.9	6.9	7.5	10	14.4	8.6	6.3	2.8	1.9	4.8	4.6	5	6.1	8.7	7.8	19.4	9.2	24
27	9.3	9.1	9.4	9	9.7	9.9	9.3	7.6	9.5	9.5	10.2	8.4	9	8.1	8	8.8	7.8	6.3	6.2	5.9	6.3	4.7	4.8	5	10.2	8.0	24
28	5.7	2.8	2.4	3.7	4.8	5.1	5.5	6.3	5.5	8.5	9.6	9.9	10.7	11	10.5	8.7	9.3	10	9.9	7.3	6.2	6.6	6.9	6.9	11.0	7.2	24
29	6.4	7.4	9.9	8.1	8.2	9.4	10.4	10.9	12.9	10.6	11.8	13.3	13.5	10.8	11.5	13.2	9.9	7.8	6	8.1	6.8	6.5	8.4	9	13.5	***9.6***	24
30	3.5	6.2	4.4	5.4	4.1	4.7	3.8	3.1	1.9	3.2	6.6	4.5	8.4	6.8	6	7.2	8.4	8.2	5.5	5.2	8.1	10.8	8.3	6	10.8	5.8	24
HOURLY MAX	12.1	14.0	19.4	15.1	11.8	12.9	10.4	11.3	12.9	11.9	13.5	16.0	16.6	14.7	13.5	13.2	20.3	11.1	10.6	11.5	11.2	16.2	13.3	17.0			
HOURLY AVG	3.9	3.8	4.0	3.9	3.7	3.5	3.3	4.1	5.4	6.1	6.4	6.7	7.7	8.0	7.4	7.0	6.4	5.4	4.4	4.3	3.9	4.1	4.1	4.2			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

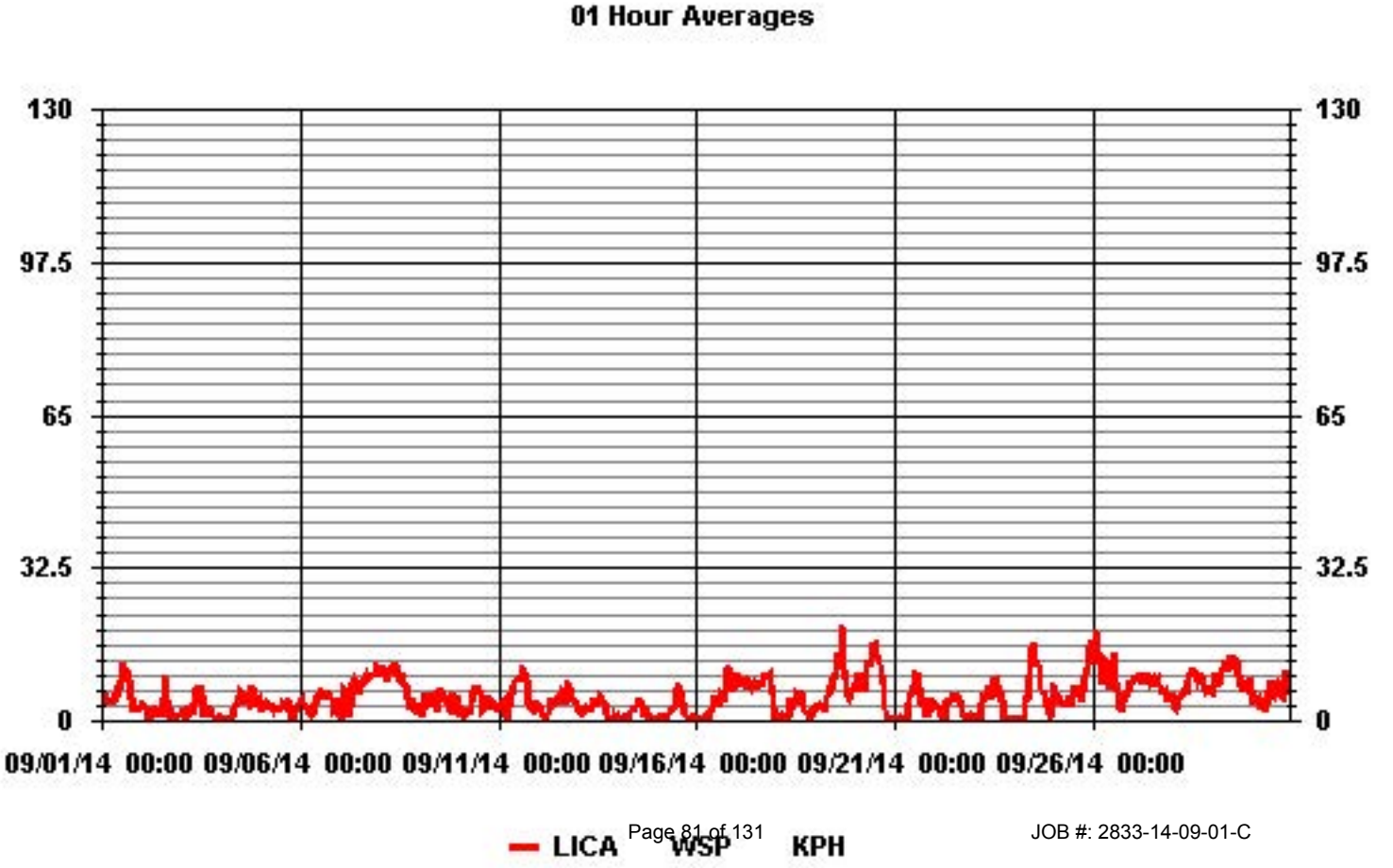


LAST CALIBRATION:	November 28, 2012
DECLINATION :	MAGNETIC DELINATION 19 DEGREE EAST

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	720						
MAXIMUM 1-HR AVERAGE:	20.3	KPH	@ HOUR(S)	16	ON DAY(S)	19	
MAXIMUM 24-HR AVERAGE:	9.6	KPH			ON DAY(S)	29	
					VAR-VARIOUS		
			OPERATIONAL TIME:		720	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME:		100.0	%	
STANDARD DEVIATION:	3.67		MONTHLY AVERAGE:		5.08	KPH	

JOB #: 2833-14-09-01-C



JOB #: 2833-14-09-01-C

Lakeland Industry & Community Association - Cold Lake South Site

SEPTEMBER 2014

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST

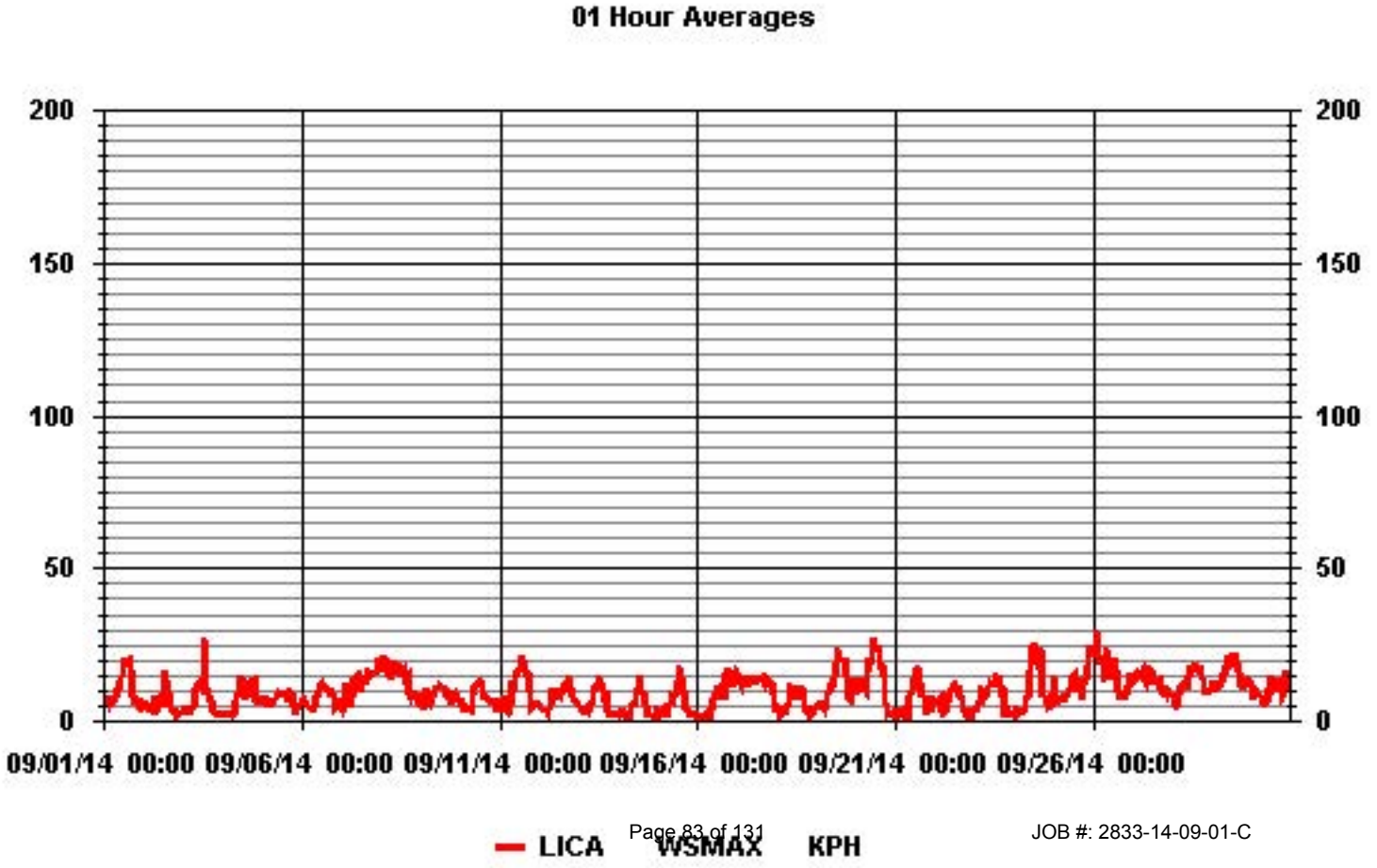
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	7.1	7.9	7.6	5.8	7	6	6.8	7.8	10	10.6	13.1	14.7	19.6	19.7	17.8	19.7	20.2	17.6	8.8	5.5	6.8	4.9	4.5	6.9	20	10.7	24
2	5.4	5.8	4.5	5.1	4.1	3.5	5.1	7.4	7.7	5	5.9	8.6	4.5	16.3	13.8	7.7	8	3.7	3.9	3.3	1.9	3.1	2.5	2.9	16	5.8	24
3	3.9	3.2	3.9	2.8	2.9	4	4.2	4.5	10.6	11.8	12.6	13	11.9	27.4	8.8	10.8	8.8	7	3.8	3.1	2.6	2	2.1	2.4	27	7.0	24
4	2.1	2.3	2	2.6	2.2	2.4	1.8	2.4	6.6	8.3	8.6	14.5	12.4	14.1	7.3	9.5	9.1	11.2	13.2	13.6	7.6	7.8	5.5	7.4	15	7.3	24
5	4.9	6.9	6.3	7.9	5.2	5.1	5.5	6	7.1	8.8	9.7	9.2	9.2	8.6	8.9	9.2	6	9.6	9.2	5.2	2.3	3.8	4.3	5.7	10	6.9	24
6	6.6	7.5	6.6	5.3	4.9	5	4.6	3.1	4.7	7.7	9.2	10.5	11.5	12.4	11.3	10.4	10.4	9.1	9.6	8.2	4.5	5.3	5.8	7.4	12	7.6	24
7	5.1	3.6	4.6	12.6	11.4	8.1	4	8	13.6	14.4	14.9	10.1	10.1	12.7	14.1	13.6	16.8	14.9	15.7	15.4	15.6	16	20.1	16.2	20	12.2	24
8	18	18.8	20.9	17.5	15.4	15.2	14.8	16.9	19.3	17.6	18.1	16.2	14.5	16.3	17.1	14.1	14.9	9.3	7.9	9.1	9.5	8.5	6.1	6	21	14.3	24
9	9	5.5	3.4	8.1	10.3	7	6.1	7.8	8.9	11.7	10	11.8	11.2		11	9.3	8.4	10.8	7.1	5.7	7.5	8.6	7.3	6.8	12	8.4	23
10	5.7	6.2	2.8	4.6	3.7	3.5	4.1	3.7	8.1	11	11.7	12.8	13.1	11.8	7.9	7.9	8.1	7.5	6.7	7	6.4	7.6	4.5	4.3	13	7.1	24
11	5.7	4.4	7.1	7.2	4	3	3.6	5.2	13.3	12.3	14.6	16.4	17.5	21.4	20.4	18.9	15.3	15.2	10	4.9	5.7	5.5	5.8	6.2	21	10.2	24
12	5.8	4.7	4.2	3.7	3.6	2.5	3.6	5.4	10.7	8	9.8	7.1	10.4	9.3	11.6	11.3	9.5	12.8	14.7	11.7	8.5	7.1	7.3	6.2	15	7.9	24
13	5.6	3.9	3.5	4.1	3.9	4.6	3.6	5.2	6.3	9.3	10.8	11.9	14.9	12.4	12.2	8.1	8.5	3.4	2	1.9	2.2	2.5	2.3	2.6	15	6.1	24
14	2.5	1.8	2.5	4	2.1	1.7	1.5	3	5.4	5.9	5.8	10.6	8.8	14.7	9.7	9.4	6.3	5.7	2.5	2.3	1.8	1.9	1.6	3.6	15	4.8	24
15	3.2	2	3.8	4.3	1.3	2.6	1	5.4	7.7	6.8	8	8.5	13.2	17.7	14.8	10.8	10	4.8	3.7	2.7	2.2	2.8	2.3	2.5	18	5.9	24
16	1.5	2.1	1.9	0.8	1.8	2.1	2.1	1.5	3.8	6.8	8	9.9	9.2	11.3	11.8	8.4	8.1	15.1	15.2	17.4	15.3	11.2	14.1	16.2	17	8.2	24
17	15.5	15	13.1	11.7	13.2	13.9	13.3	12.9	14.8	13.3	11.6	14	14.2	13.6	14	13.8	14.4	12.4	13.4	12.8	12.8	12.7	9.1	6.1	16	13.0	24
18	2.5	4.4	2.3	2.8	3.5	3.2	4.3	5.8	12	7.8	11.6	8.6	9.1	8.7	8.4	11	9.7	4.9	4.2	3.3	1.9	2.5	4.5	4.2	12	5.9	24
19	4.4	5.8	5.2	5.7	5.1	4	6.3	9.3	9.9	12.5	11.4	13.9	18.7	23.6	20.5	**X**	**X**	19.9	14.8	8	7.4	13.9	9.4	10.2	24	10.9	22
20	8.5	13.3	13.4	13.6	10.6	10.5	9.8	16.2	20.3	18.5	22.2	27.3	24.9	22.6	24.6	17.7	17.9	15.2	6.2	1.9	2.4	2.3	2.3	2.9	27	13.5	24
21	2	1.7	2.3	2.9	2.1	1.5	3.6	3	7.8	8.8	9.9	13.6	16.8	17.4	16.2	12.9	8.7	8.3	3.8	2.3	6.1	5.3	8.1	6.7	17	7.2	24
22	6.5	6.3	7.2	5.5	4	2.8	3.1	8.1	7.6	9.8	10.1	11.4	11.9	10.5	10.8	8.8	8	3.6	2.6	3	1.4	2.2	1.7	3.7	12	6.3	24
23	4.4	4.1	6.6	5.2	10.3	9.8	6.7	8	11.2	13.2	12.8	11.1	12.6	15.8	13.9	14.2	10.7	11.6	2.4	2.5	3.3	2.2	2.2	2.6	16	8.2	24
24	1.8	4.8	2.2	2.5	2.5	3.3	4.2	7.5	7.9	16.1	18.5	24.2	25.2	20.8	19.7	16.6	23.5	9	8.3	6.9	5.3	6.4	4	8.8	25	10.4	24
25	14.7	8.2	5.6	7.2	7.4	7.2	5.9	9.3	8	10.8	9.3	14.4	15.2	11	10.7	11.9	13.7	6.9	12.3	13.3	18.3	24.8	20.7	24.4	25	12.1	24
26	21.2	23.2	***29.6***	22.4	18.7	19.8	14.5	14.9	23.7	18.2	13.7	17	14.6	20.3	17.4	10.5	8.1	8.1	8	7.8	8.8	11.1	15.8	11.7	***30***	***15.8***	24
27	14.4	14.2	15.6	14.6	14.9	16	16.9	13.5	12.4	14.3	18.1	14.3	15	12.1	13.6	13	13.4	10.9	9.7	10.6	10.5	8.7	9.5	9.1	18	13.1	24
28	8.7	5.5	5.1	6	8.9	11.3	12.3	12.3	9.9	15.1	18.2	15.7	16.5	19	17.8	17.5	16.3	16.7	14.3	9.9	8.4	10.5	10.2	11.6	19	12.4	24
29	10.5	10.4	13.1	11	11.4	12.6	13.2	15.4	18.1	16.9	21.6	20.4	22.2	18.6	22.5	19.8	16.3	12.1	10.2	12	12.8	10.8	13.4	12.8	23	14.9	24
30	6.5	11.8	7.7	9.6	7.5	9	6.3	6.5	5.6	6.2	11	8.2	14.9	11.9	9.3	12.4	13.3	13.5	8.3	9.1	13.9	16.7	12.5	11.1	17	10.1	24
HOURLY MAX	21	23	30	22	19	20	17	17	24	19	22	27	25	27	25	20	24	20	16	17	18	25	21	24			
HOURLY AVG	7.1	7.2	7.2	7.2	6.8	6.7	6.4	7.9	10.4	11.3	12.4	13.3	14.1	15.6	13.9	12.4	11.8	10.4	8.4	7.3	7.1	7.6	7.3	7.6			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS VALUE:	30	KPH	@ HOUR(S)	2	ON DAY(S)	26
				VAR-VARIOUS		
OPERATIONAL TIME:					717	HRS



JOB #: 2833-14-09-01-C

LICA
WSP / WD Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 01
Site Name : LICA
Parameter : WSP
Units : KPH

Wind Parameter : WD
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	.55	1.38	1.25	1.38	2.77	3.61	6.25	2.50	4.02	2.63	4.86	12.91	8.05	5.55	1.80	.97	60.55
<	12.0	.83	3.61	4.30	1.11	1.38	.41	5.83	2.36	.00	.00	1.52	1.80	3.61	1.80	2.08	.97	31.66
<	20.0	.00	.13	.69	.83	.00	.00	1.11	.13	.00	.00	.00	.00	.41	.97	.00	.00	4.30
<	29.0	.13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.13
<	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	1.52	5.13	6.25	3.33	4.16	4.02	13.19	5.00	4.02	2.63	6.38	14.72	12.08	8.33	3.88	1.94	

Calm : 3.33 %

Total # Operational Hours : 720

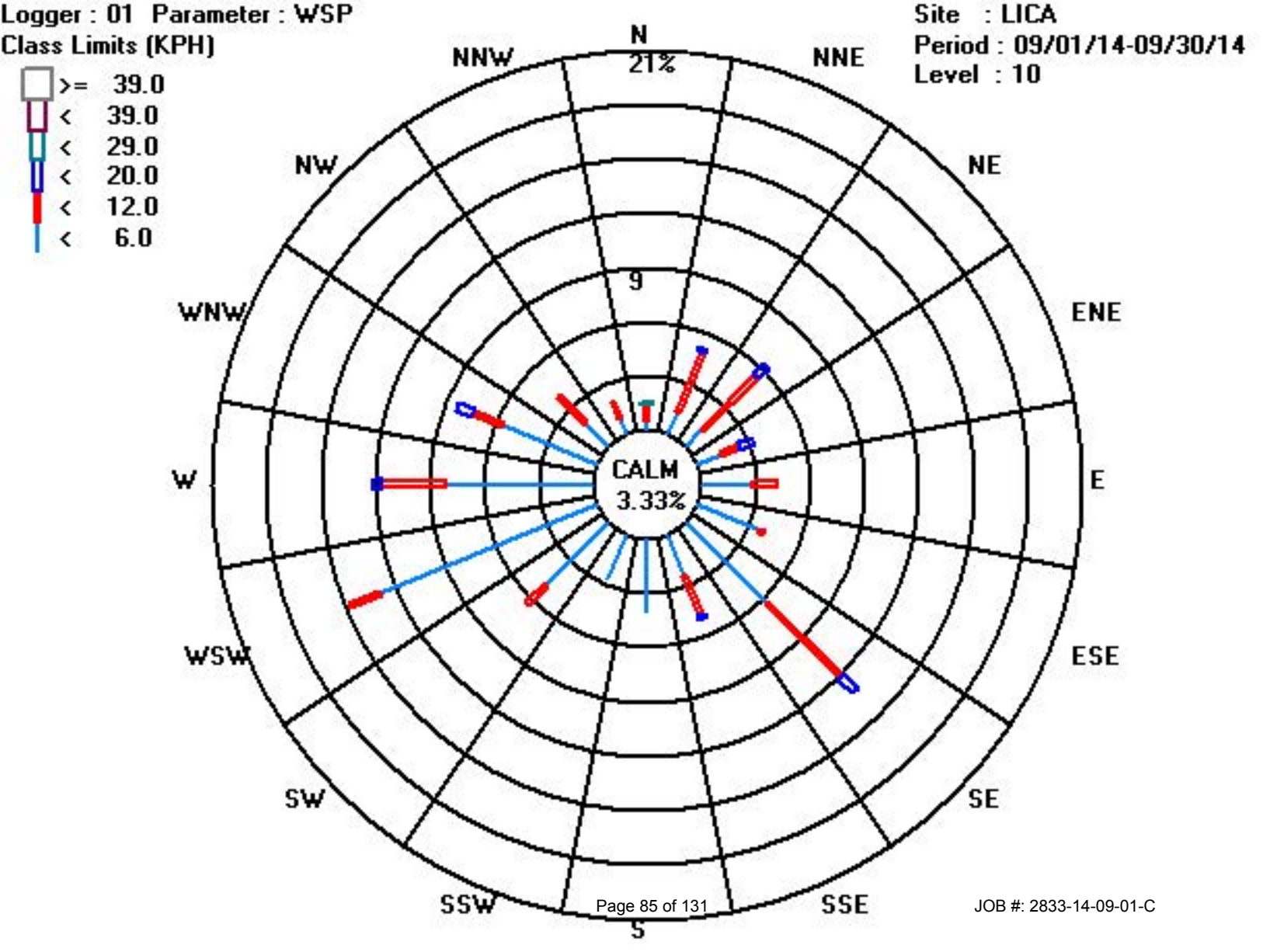
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	4	10	9	10	20	26	45	18	29	19	35	93	58	40	13	7	436
<	12.0	6	26	31	8	10	3	42	17			11	13	26	13	15	7	228
<	20.0		1	5	6			8	1					3	7			31
<	29.0	1																1
<	39.0																	
>=	39.0																	
	Totals	11	37	45	24	30	29	95	36	29	19	46	106	87	60	28	14	

Calm : 3.33 %

Total # Operational Hours : 720



JOB #: 2833-14-09-01-C

Vector Wind Direction

Lakeland Industry & Community Association - Cold Lake South Site

SEPTEMBER 2014

WIND DIRECTION (WD) hourly averages in degrees

MST

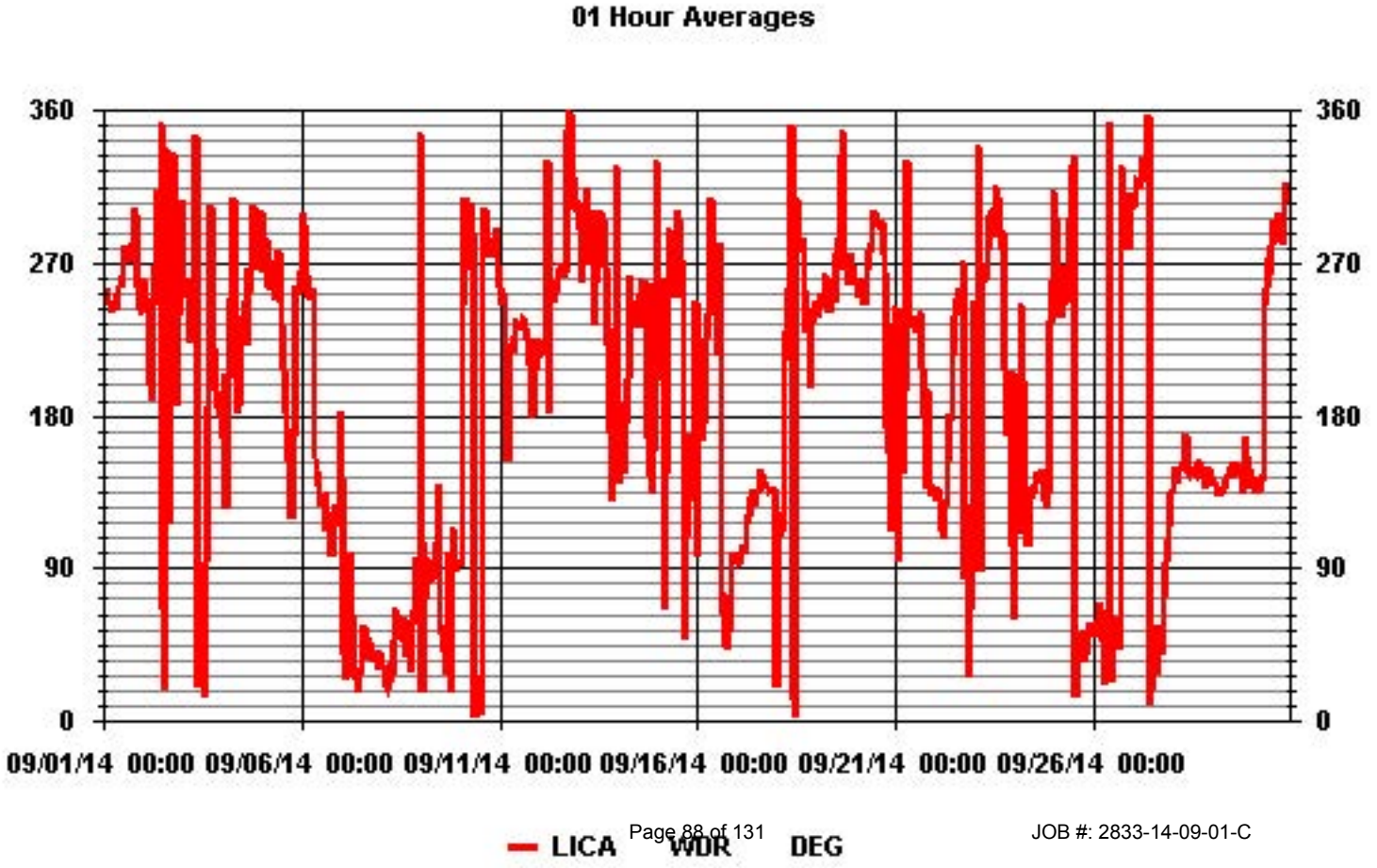
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUANDRANT	RDGS.
DAY																											
1	252	252	254	249	246	241	244	244	252	256	260	259	277	280	277	271	273	275	281	302	299	257	243	240	302	WNW	24
2	261	257	250	248	199	188	245	268	260	313	283	353	67	18	338	148	116	322	335	223	195	185	239	260	353	N	24
3	307	260	249	261	236	222	251	282	346	19	27	31	32	14	94	186	278	304	256	221	196	186	184	180	346	NNW	24
4	167	205	125	185	202	249	256	309	239	181	186	235	238	230	248	221	267	252	281	304	282	267	269	287	309	NW	24
5	301	265	270	284	257	254	262	272	248	275	275	248	234	207	182	173	154	143	119	127	167	256	254	252	301	WNW	24
6	265	299	293	264	249	256	248	255	156	143	144	126	133	131	132	111	123	118	96	103	114	128	123	135	299	WNW	24
7	182	144	40	24	30	62	99	64	27	26	17	28	31	49	57	36	43	45	42	39	34	41	30	41	182	S	24
8	37	33	31	21	19	23	32	31	47	66	64	52	49	46	55	61	38	53	28	56	65	84	97	94	97	E	24
9	347	16	106	71	96	88	83	84	88	94	106	139	57	52	41	27	42	67	100	16	114	92	88	92	347	NNW	24
10	93	93	244	309	300	281	266	305	289	1	27	16	15	3	282	303	291	275	273	282	276	284	290	270	309	NW	24
11	256	245	248	249	222	153	179	223	217	226	235	234	233	231	238	237	233	226	210	178	181	183	206	223	256	WSW	24
12	223	217	218	219	236	330	181	254	253	246	259	252	266	270	263	263	265	348	359	358	342	322	303	302	359	N	24
13	307	290	258	278	284	314	291	269	301	233	262	258	285	301	280	297	269	223	182	170	129	212	231	327	327	NW	24
14	140	172	188	175	146	175	201	262	242	247	245	236	232	252	261	244	260	237	168	146	134	258	158	330	330	NNW	24
15	233	200	248	261	65	254	145	291	267	256	264	249	301	297	256	271	47	108	169	161	169	129	137	247	301	WNW	24
16	97	215	168	166	175	226	240	282	309	277	267	240	215	230	281	62	75	45	42	52	60	95	99	96	309	NW	24
17	97	94	96	104	101	98	116	121	132	136	126	137	135	136	148	146	145	142	138	136	137	136	134	138	148	SE	24
18	20	119	109	123	111	230	212	255	296	351	13	1	308	289	276	283	285	255	228	234	196	235	243	245	351	N	24
19	245	237	246	252	249	264	243	252	241	261	259	246	275	285	276	333	349	265	274	270	256	275	270	261	349	NNW	24
20	258	250	259	261	253	245	253	265	277	281	299	301	295	293	292	293	293	276	266	173	157	170	112	234	301	WNW	24
21	245	153	94	243	218	145	195	330	234	239	235	236	239	229	232	241	209	179	136	196	146	140	132	136	330	NNW	24
22	130	133	138	131	113	107	127	131	153	179	179	215	239	249	254	251	254	272	83	106	25	127	66	107	272	W	24
23	248	210	340	87	256	259	260	270	278	298	301	285	303	316	310	296	277	289	208	168	197	172	102	206	340	NNW	24
24	59	148	110	158	246	202	144	115	103	132	135	134	139	146	144	140	145	148	142	131	125	134	235	259	259	WSW	24
25	313	298	253	250	237	243	245	269	247	256	297	328	333	14	38	46	50	51	34	44	39	55	54	57	333	NNW	24
26	50	54	59	61	69	66	48	21	35	42	353	23	54	60	59	57	41	327	304	299	298	278	311	302	353	N	24
27	306	304	318	317	314	317	330	330	342	358	9	22	18	29	27	57	48	39	55	73	94	106	114	135	358	N	24
28	137	147	149	139	148	149	152	151	169	148	146	149	146	149	147	151	154	147	144	142	137	142	149	145	169	SSE	24
29	144	139	141	135	132	135	135	137	141	143	146	144	144	153	151	148	151	146	135	137	167	157	150	141	167	SSE	24
30	143	139	136	134	144	136	143	143	245	255	272	263	280	295	282	288	299	294	286	280	307	316	316	307	316	NW	24

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

LAST CALIBRATION:	November 28, 2012
DECLINATION :	MAGNETIC DELINATION 19 DEGREE EAST

MONTHLY CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS
STANDARD DEVIATION:	91.17		AMD OPERATION UPTIME:	100.0	%
			MONTHLY AVERAGE:	269	DEG



JOB #: 2833-14-09-01-C

Standard Deviation Wind Direction

Lakeland Industry & Community Association - Cold Lake South Site

SEPTEMBER 2014

STANDARD DEVIATION WIND DIRECTION (STDWD) hourly averages in degrees

MST

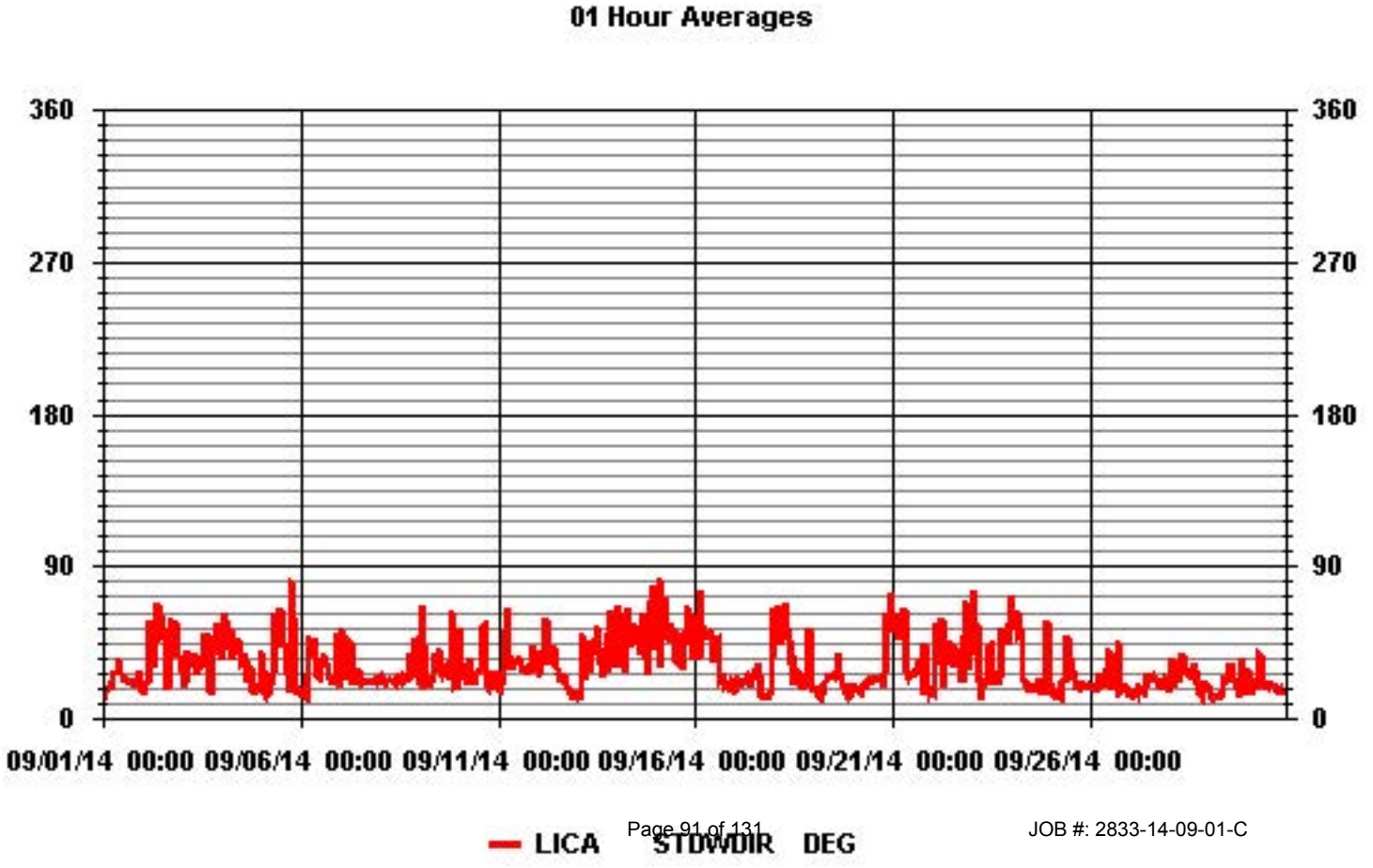
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00
DAY																								
1	13	17	17	19	21	20	27	27	27	35	31	28	23	23	23	22	22	22	21	18	23	19	28	22
2	17	14	20	22	58	56	34	30	44	68	56	62	49	50	17	24	23	59	53	40	58	38	37	29
3	28	19	21	40	31	31	37	32	38	26	29	31	35	51	47	48	48	17	15	38	45	56	39	46
4	34	63	44	58	40	54	34	41	40	41	47	39	33	34	38	35	21	28	31	17	15	20	15	18
5	40	30	16	14	17	15	20	27	63	43	60	63	63	44	44	38	27	15	80	79	61	20	14	16
6	15	16	15	14	27	49	45	43	44	37	26	25	31	32	38	34	32	24	21	21	25	19	51	18
7	49	53	50	42	22	37	46	45	20	22	22	29	22	21	22	21	21	22	22	22	23	24	22	23
8	23	25	23	22	21	22	23	23	22	23	21	24	25	23	25	23	24	26	39	36	25	26	46	47
9	22	21	67	44	19	24	23	22	25	27	37	37	42	29	26	28	30	27	25	25	64	20	21	20
10	23	53	22	29	33	19	31	36	22	22	24	27	28	30	54	55	33	22	20	18	20	28	20	19
11	18	28	24	20	42	52	66	30	30	34	33	34	32	37	29	29	30	28	28	29	32	43	41	27
12	29	25	32	40	56	59	45	43	31	37	43	32	30	27	22	25	25	21	19	18	16	13	13	14
13	12	13	13	51	30	22	35	27	46	42	41	47	55	43	33	30	25	29	29	50	62	64	30	46
14	30	67	61	50	45	27	62	65	42	44	54	56	46	50	37	45	63	35	39	26	57	70	78	53
15	41	47	83	30	73	46	71	48	45	56	54	53	35	33	31	51	28	49	48	67	59	62	35	60
16	52	61	35	75	56	49	49	46	49	51	50	33	42	47	48	23	24	20	22	19	18	21	19	22
17	23	19	21	22	21	22	23	25	22	19	23	26	30	25	32	27	15	14	13	13	13	15	15	35
18	65	43	48	66	43	64	56	68	54	48	31	39	22	22	30	22	23	17	26	22	37	54	20	15
19	18	18	18	15	14	21	19	22	25	25	26	25	26	24	25	39	28	20	20	17	15	19	19	15
20	16	19	19	17	16	19	18	18	22	23	20	23	23	24	23	24	23	20	20	27	63	59	50	74
21	56	52	62	47	52	47	51	65	28	25	27	27	26	26	28	26	34	36	14	45	38	19	15	17
22	16	15	32	57	44	47	59	18	31	43	45	39	45	31	31	34	39	39	21	49	69	29	45	38
23	53	76	55	57	22	11	20	23	20	21	42	43	22	22	26	26	20	24	53	48	48	50	43	56
24	72	56	62	52	64	49	50	21	24	20	19	18	16	21	19	15	22	22	18	14	20	56	56	46
25	15	17	14	14	13	14	13	22	24	21	49	44	37	30	25	22	19	18	21	21	21	18	18	18
26	20	19	18	19	20	16	26	18	21	23	29	42	20	17	23	20	38	46	16	17	17	20	16	17
27	16	14	13	14	17	15	18	17	16	20	18	26	23	23	25	22	25	20	19	19	20	24	23	21
28	15	24	36	19	23	23	24	28	38	29	28	27	26	29	25	33	30	21	15	15	13	16	22	19
29	19	14	13	12	13	13	13	15	13	20	25	22	25	33	31	22	24	19	17	13	36	31	25	15
30	29	13	21	18	19	17	24	39	38	23	20	21	19	21	21	20	18	19	17	18	15	15	15	17

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

LAST CALIBRATION: November 28,2012

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 720 HRS



JOB #: 2833-14-09-01-C

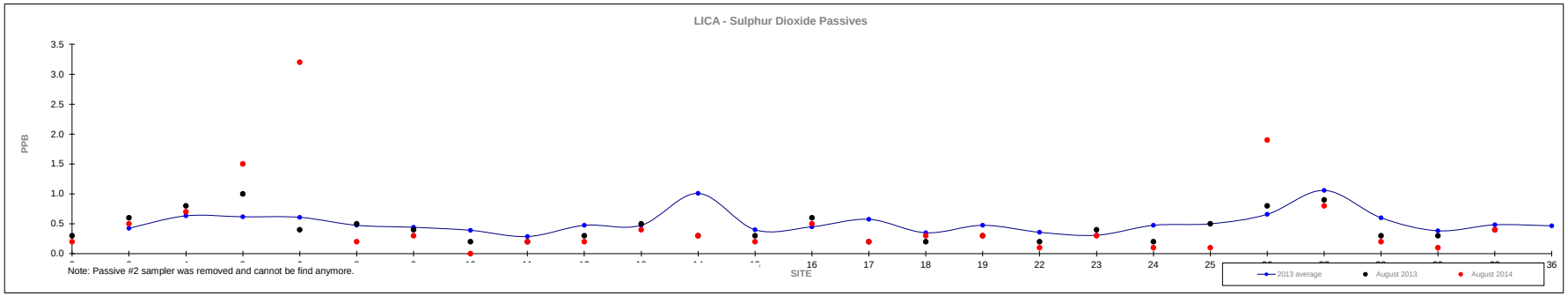
Non-Continuous Monitoring

Passive Summary Results for September 2014

Lakeland Industry & Community Association

Sulphur Dioxide
ppb

	2013																									September 2014	
	2	**3**	**4**	**5**	**6**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**32**	**36**	**Reading**	**Site**
Mean	NA	0.4	0.6	0.6	0.6	0.5	0.4	0.4	0.3	0.5	0.5	1.0	0.4	0.5	0.6	0.4	0.5	0.4	0.3	0.5	0.5	0.7	1.1	0.6	0.4	0.5	0.5	0.3	-
Minimum	NA	0.2	0.3	0.3	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.5	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.1	0.4	0.3	0.4	0.2	0.2	0.2	<0.1	VAR
Maximum	NA	0.8	1.0	0.9	1.0	0.8	0.8	0.6	0.4	1.0	0.9	1.7	0.6	0.8	1.0	0.6	1.3	0.6	0.5	0.8	1.0	1.3	1.8	0.9	0.7	0.9	0.8	1.6	#27



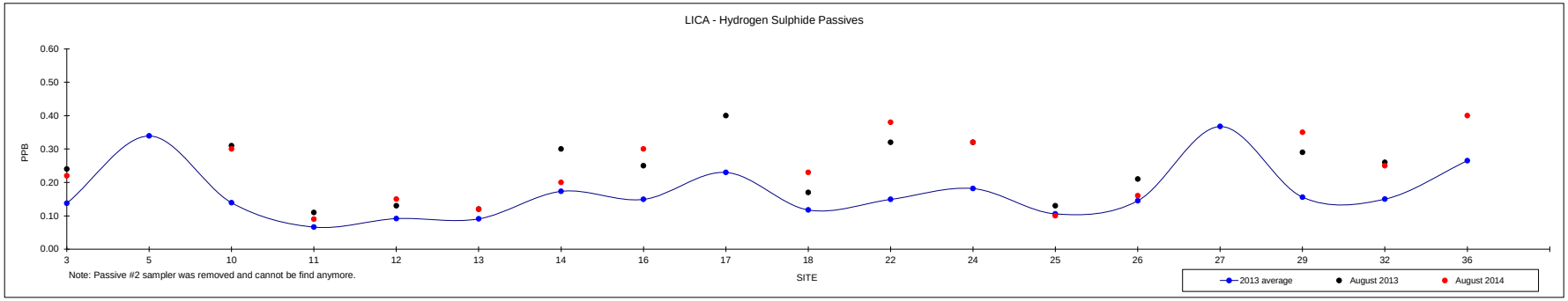
Note: Passive #2 sampler was removed and cannot be find anymore.

Passive Summary Results for September 2014

Lakeland Industry & Community Association

Hydrogen Sulphide
ppb

	2013																		September 2014	
	3	5	10	11	12	13	14	16	17	18	22	24	25	26	27	29	32	36	Reading	Site
Mean	0.14	0.34	0.14	0.07	0.09	0.09	0.17	0.15	0.23	0.12	0.15	0.18	0.11	0.15	0.37	0.16	0.15	0.27	0.19	-
Minimum	0.05	0.07	0.06	0.04	0.02	0.02	0.05	0.07	0.11	0.04	0.04	0.06	0.03	0.06	0.04	0.05	0.05	0.07	0.09	#25
Maximum	0.24	0.97	0.31	0.11	0.20	0.16	0.30	0.29	0.44	0.17	0.32	0.32	0.16	0.21	1.23	0.33	0.26	1.36	0.30	#17

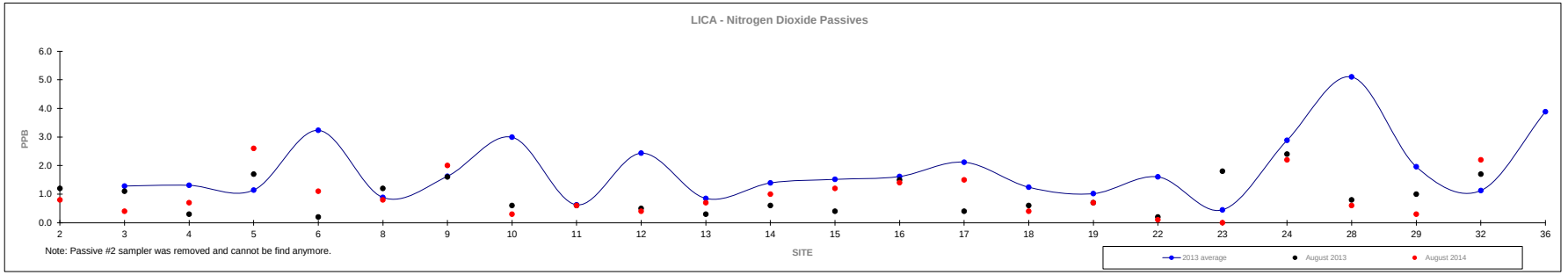


Passive Summary Results for September 2014

Lakeland Industry & Community Association

Nitrogen Dioxide
ppb

	2013																								September 2014	
	2	**3**	**4**	**5**	**6**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**22**	**23**	**24**	**28**	**29**	**32**	**36**	**Reading**	**Site**
Mean	NA	1.3	1.3	1.1	3.2	0.9	1.6	3.0	0.6	2.4	0.9	1.4	1.5	1.6	2.1	1.2	1.0	1.6	0.5	2.9	5.1	2.0	1.1	3.9	1.3	-
Minimum	NA	0.2	0.2	0.1	1.5	0.1	0.3	0.8	0.1	0.6	0.1	0.3	0.2	0.4	0.8	0.2	0.1	0.4	0.1	0.9	1.2	0.5	0.2	1.4	0.1	#23
Maximum	NA	3.7	2.8	3.4	7.1	2.0	4.0	6.7	1.5	4.7	1.9	3.4	4.9	3.9	4.9	2.8	3.1	4.3	1.0	5.7	11.6	4.7	2.6	8.1	4.0	#6



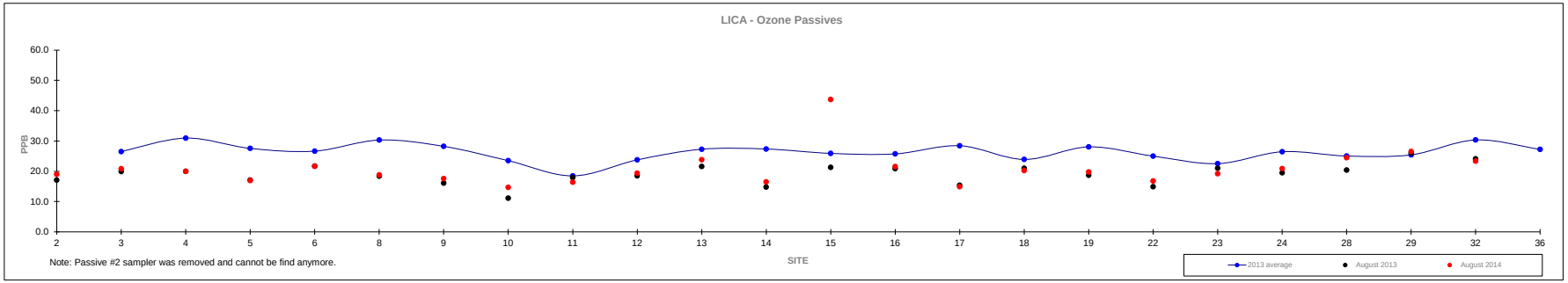
Note: Passive #2 sampler was removed and cannot be find anymore.

Passive Summary Results for September 2014

Lakeland Industry & Community Association

Ozone
ppb

	2013																							September 2014	
	2	**3**	**4**	**5**	**6**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**22**	**23**	**24**	**28**	**29**	**32**	**36**	**Reading**	**Site**
Mean	NA	26.5	31.0	27.6	26.7	30.3	28.2	23.5	18.5	23.8	27.3	27.4	25.9	25.7	28.4	23.9	28.1	25.0	22.5	26.5	25.0	25.4	30.3	27.2	18.52	-
Minimum	NA	15.9	16.7	16.3	13.2	18.9	17.6	12.1	11.1	14.8	18.1	16.8	14.7	14.1	14.4	12.0	17.6	13.5	12.5	15.5	14.8	15.4	20.7	15.5	13.13	#36
Maximum	NA	37.0	48.1	47.1	43.3	45.1	43.3	36.3	31.5	34.0	38.6	37.5	39.3	40.2	44.1	36.2	41.8	36.1	35.1	38.7	36.3	38.9	40.5	39.4	22.81	#32



Note: Passive #2 sampler was removed and cannot be find anymore.

Calibration Reports

Sulphur Dioxide

Thermo 43i SO2 Analyzer Calibration

Date:	10-Sep-14	**Start/End Time (mst):**	0820-1206
Company:	LICA	**Calibration Purpose:**	routine monthly
Station Name/Location:	Cold Lake South	**Converter Make & Model:**	na
Performed by:	Tom Bourque	**Converter Serial #:**	na
Application H_2S/TRS/SO_2:	SO2	**Cal Gas Expiry Date:**	4-Feb-14

Analyzer:

Serial Number:	AMU 1771	**Range ppb:**	500
Last Calibration Date:	11-Aug-14	**As Found C.F.**	1.033
Previous Cal High Point C.F.:	1.002	**New C.F.:**	1.004

		As found:		**As left:**
	BKG:	6.8	BKG:	7.0
	COEF:	1.121	COEF:	1.128
MOTHERBOARD:	3.3	3.3	3.3	3.3
	5.0	5.0	5.0	5.0
	15.0	15.0	15.0	15.0
	24.0	24.0	24.0	24.0
	-3.3	-3.2	-3.3	-3.2
INTERFACE BOARD:	PMT:	-632.0	PMT:	-632.0
	FLASH:	716	FLASH:	716
	3.3	3.3	3.3	3.3
	5.0	5.0	5.0	5.0
	15.0	14.8	15.0	14.8
	-15.0	-15.1	-15.0	-15.1
	24.0	23.7	24.0	23.7
	INTERNAL:	29.5	INTERNAL:	29.5
	CHAMBER:	45.0	CHAMBER:	45.0
	PERM OVEN GAS:	45.00	PERM OVEN GAS:	45.00
	PERM OVEN HEATER:	44.20	PERM OVEN HEATER:	44.20
	PRESSURE:	693.7	PRESSURE:	693.7
	SAMPLE FLOW:	.459	SAMPLE FLOW:	.459
	LAMP INTENSITY:	77 %	LAMP INTENSITY:	77 %
	CONVERTER:	na	CONVERTER:	na
	CONVERTER SET:	na	CONVERTER SET:	na
	Internal Span:	387.4	Internal Span:	381

Calibrator:

Flow Meter ID's:	na
Make & Model:	API 700
Serial #:	830
Cal Gas Cylinder I.D. # :	BLM000711
Cal Gas Conc. (ppm):	48.2

Calibrator Flow Targets:

point	diluent (cc/min)	cal gas (cc/min)	total (cc/min)
zero	5000	0	5000
high	5000	38	5038
mid	5000	19	5019
low	5000	9	5009

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	5000	0.0	5000	0	0.3	NA
adjusted zero	5000	0.0	5000	0	0.1	NA
as found high	4960	38.80	4999	374.1	362.3	1.033
adjusted high	4960	38.80	4999	374.1	374.3	1.000
mid	4980	18.10	4998	174.6	172.3	1.014
low	4992	7.80	5000	75.2	75.4	0.999
calibrator zero	5000	0.00	5000	0	1.1	NA
					Average C.F.=	1.004

Linear Regression/Calibration Results:

		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**1.000**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**0.08%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**-3.07%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

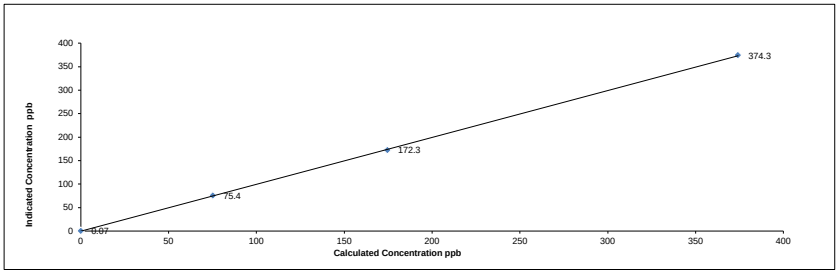
****run converter effeciency test immediately following zero adjust****

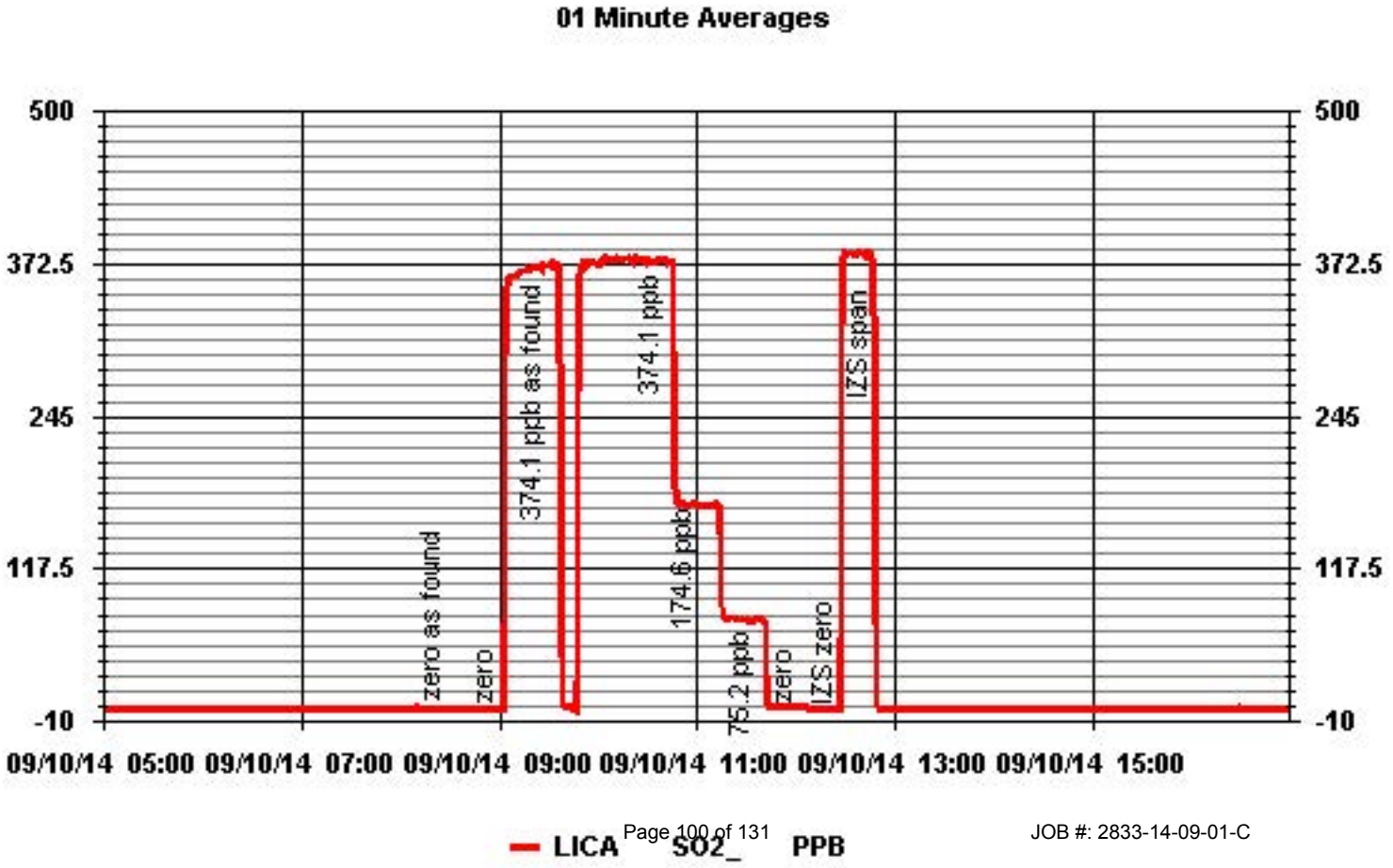
SO_2 High Point gas concentration:	na	Time gas run (mst):	na
Zero corrrected analyzer response:	na		

Comments:

changed filter

Thermo 43i SO2 Analyzer Calibration





JOB #: 2833-14-09-01-C

Total Reduced Sulphur

Thermo 450i TRS Analyzer Calibration

Date:	10-Sep-14	**Start/End Time (mst):**	0820-1206
Company:	LICA	**Calibration Purpose:**	routine monthly
Station Name/Location:	Cold Lake South	**Converter Make & Model:**	Thermo CDN-101
Performed by:	Tom Bourque	**Converter Serial #:**	501
Application H_2S/TRS/SO_2:	TRS	**Cal Gas Expiry Date:**	5-Dec-15

Analyzer:

Serial Number:	812728560	**Range ppb:**	100
Last Calibration Date:	11-Aug-14	**As Found C.F.**	0.943
Previous Cal High Point C.F.:	1.000	**New C.F.:**	1.012

		As found:	As left:
	BKG:	14.1	13.8
	COEF:	1.028	1.014
MOTHERBOARD:	3.3	3.3	3.3
	5.0	5.0	5.0
	15.0	15.0	15.0
	24.0	23.9	23.9
	-3.3	-3.2	-3.2
INTERFACE BOARD:	PMT:	-650.5	-650.5
	FLASH:	741	741
	3.3	3.2	3.2
	5.0	5.0	5.0
	15.0	14.6	14.6
	-15.0	-15.0	-15.0
	24.0	23.5	23.5
	INTERNAL:	32.9	32.9
	CHAMBER:	45.2	45.2
	CONVERTER TEMP:	326	326
	CONVERTER SET:	325	325
	PERM OVEN GAS:	45.00	45.00
	PERM OVEN HTR:	44.38	44.38
	PRESSURE:	667.8	667.8
	SAMPLE FLOW:	.517	.517
	LAMP INTENSITY:	92 %	92 %
	Internal Span:	39.0	39.5

Calibrator:

Flow Meter ID's:	na
Make & Model:	Environics 6100
Serial #:	4760
Cal Gas Cylinder I.D. # :	BLM005049
Cal Gas Conc. (ppm):	10.1

Calibrator Flow Targets:

point	diluent (cc/min)	cal gas (cc/min)	total (cc/min)
zero	5000	0	5000
high	5000	39	5039
mid	5000	19	5019
low	5000	11	5011

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	5000	0.0	5000	0	0.1	NA
adjusted zero	5000	0.0	5000	0	0.1	NA
as found high	4995	38.86	5034	78.0	82.7	0.943
adjusted high	4995	38.86	5034	78.0	78.0	1.001
mid	4995	18.95	5014	38.2	37.4	1.023
low	4995	8.97	5004	18.1	18.0	1.014
calibrator zero	5000	0.00	5000	0	0.0	NA
					Average C.F.=	1.012

Linear Regression/Calibration Results:

		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**1.001**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**0.16%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**5.66%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

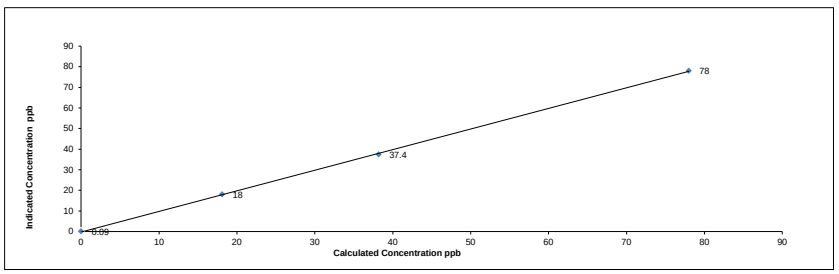
****run converter effeciency test immediately following zero adjust****

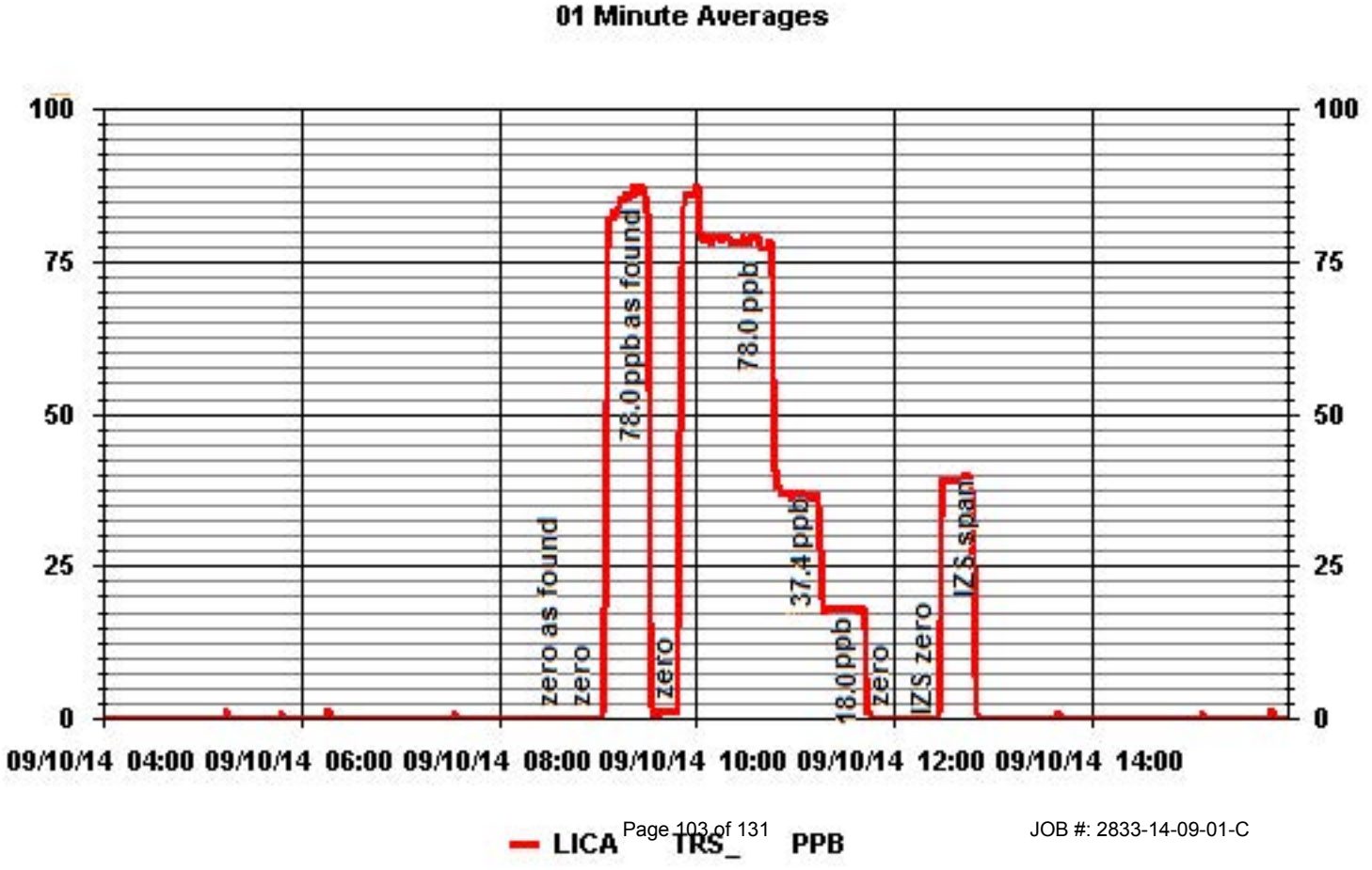
SO_2 High Point gas concentration:	374.1	Time gas run (mst):	0939-0945
Zero corrrected analyzer response:	1.0		

Comments:

changed filter

Thermo 450i TRS Analyzer Calibration





JOB #: 2833-14-09-01-C

Total Hydrocarbons

Thermo 51C THC Analyzer Calibration

Date:	9-Sep-14	**Start Time (mst):**	9:41
Company:	LICA	**End Time (mst):**	12:48
Station Name/Location:	Cold Lake South	**Calibration Purpose:**	monthly
Performed by:	Tom Bourque	**Cal Gas Expiry Date:**	26-Mar-17

Analyzer:

Serial Number:	51CLT-77021-384	**Range ppm:**	50
Last Calibration Date:	9-Jul-14	**As Found C.F.**	0.970
Previous Cal High Point C.F.:	0.998	**New C.F.:**	1.015

		As found:	As left:
	H_2 cylinder (psi):	550	550
	H_2 cylinder reg set (psi):	21	21
	Span Cylinder (psi):	1100	1100
	Span Cylinder Reg Set (psi):	25	25
	Zero Air Gen Pressure:	33	33
	measurement alarms:	none	none
	service alarms:	none	none
FID status:	cnt:	1903	1903
	rng:	1	1
	try:	1	1
	flm:	193.5	193.5
	det:	125.7	125.7
Oven Readings:	Flame:	193	193
	Filter:	125	125
	Base:	125	125
	Pump:	6.88	6.88
Voltages:	+5	4.9	4.9
	+15	14.8	14.8
	-15	-14.9	-14.9
	Internal Span:	33.36	32.86

Calibrator:

Flow Meter ID's:	na	
Make & Model:	API 700	
Serial #:	830	
Cal Gas Cylinder I.D. # :	LL33674	
CH_4/C_3H_8 Cylinder Conc. (ppm):	601.4	202.0
CH_4 as propane/total CH_4 equivilants (ppm):	555.5	1156.9

Calibrator Flow Targets:

point	diluent (cc/min)	cal gas (cc/min)	total (cc/min)
zero	2000	0	2000
high	2000	65	2065
mid	2000	30	2030
low	2000	15	2015

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppm)	(ppm)	
as found zero	2000	0.00	2000	0	0.05	NA
adjusted zero	2000	0.00	2000	0	0.01	NA
as found high	2003	64.76	2068	36.23	37.38	0.970
adjusted high	2003	64.76	2068	36.23	36.19	1.002
mid	2003	34.89	2038	19.81	19.55	1.014
low	2004	14.94	2019	8.56	8.32	1.030
calibrator zero	2000	0.00	2000	0	-0.05	NA
					Average C.F.=	1.015

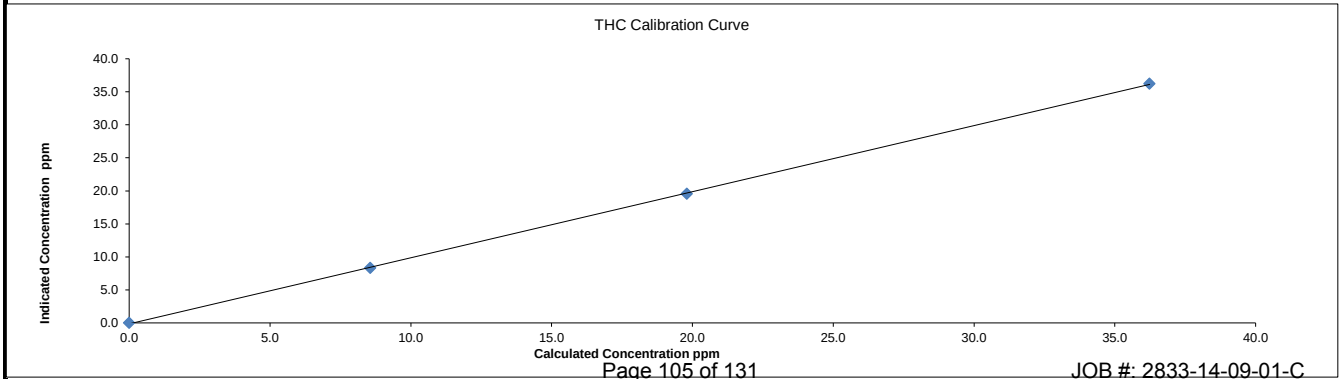
Linear Regression/Calibration Results:

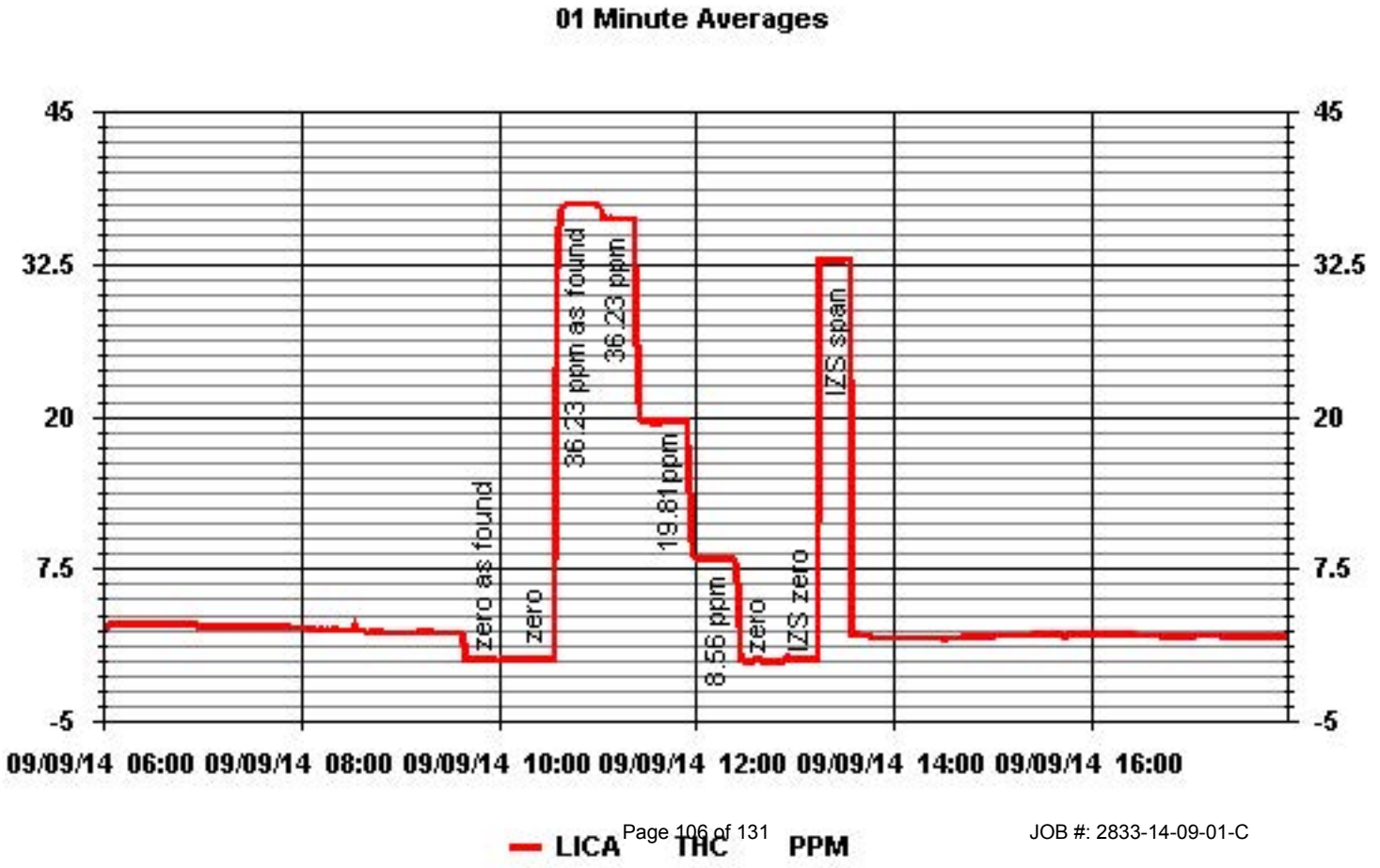
		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**1.000**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**-0.260%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**2.85%**	**± 15%**	**PASS**

Comments:

changed analyzer filter

Thermo 51C THC Analyzer Calibration





JOB #: 2833-14-09-01-C

Particulate Matter 2.5

R & P 1405F TEOM PM 2.5 Analyzer Calibration

Date:	9-Sep-14	**Parameter:**	PM2.5
Company:	LICA	**Performed by:**	Tom Bourque
Station Name/Location:	Cold Lake South	**Start/End Time (mst):**	1400-1700
Previous Audit Date:	8-Aug-14	**Calibration Purpose:**	routine monthly

1400A Information and Status:

Serial Number:	1405A201620804	**As Found Filter Loading %:**	0.23
Ko Factor:	14578	**As Left Filter Loading %:**	16.85
Ambient Temperature °C:	6.71	**As Found Noise:**	0.012
Ambient Pressure atm:	.950	**As Left Noise:**	0.007
Main Flow Reading lpm:	3.00	**Pump Vacuum:**	0.28
Aux Flow Reading lpm:	13.67	**Warnings:**	none

Reference Standards:

	Flow:	Pressure:	Temperature:
Make:	Dwyer	Fisher Scientific	Fisher Scientific
Model:	475 Mark III	FB61291	FB61291
Serial Number:	NA	130168457	130168457
Calibration Date:	NA	11-Apr-14	11-Apr-14

As found leak check:

		Base	Zero	Reference	Zero
PM 2.5 Flow	actual	0.03	0.23	0.03	0.23
	limit	0.15		0.15	
Bypass Flow	actual	0.11	0.28	0.09	0.28
	limit	0.60		0.60	

As left leak check (same as above if as found passes):

		Base	Zero	Reference	Zero
PM 2.5 Flow	actual	0.03	0.23	0.03	0.23
	limit	0.15		0.15	
Bypass Flow	actual	0.11	0.28	0.09	0.28
	limit	0.60		0.60	

As found temperature and pressure:

	tolerance +/- 2.0°C		**tolerance +/- 0.01 atm**
1405F temperature °C:	6.5	**1405F pressure atm:**	0.952
reference temperature °C:	5.7	**reference pressure:**	0.948
difference °C:	-0.8	**difference :**	0.004

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

	tolerance +/- 2.0°C		**tolerance +/- 0.01 atm**
1405F temperature °C:	6.5	**1405F pressure atm:**	0.952
reference temperature °C:	5.7	**reference pressure:**	0.948
difference °C:	-0.8	**difference :**	-0.004

As found flows:

	main flow tolerance 3.00 lpm +/- 0.20 lpm		**total/aux flow tolerance 16.67/13.67 lpm +/- 1.00 lpm/+/- 7%**
1405F main flow lpm:	3.00	**1400A total/aux flow lpm:**	16.67
reference main flow lpm:	2.91	**reference total/aux flow lpm:**	16.52
difference lpm:	-0.09	**difference lpm:**	-0.15

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

	main flow tolerance 3.00 lpm +/- 0.20 lpm		**total/aux flow tolerance 16.67/13.67 lpm +/- 1.00 lpm/+/- 7%**
1405F main flow lpm:	3.00	**1400A total/aux flow lpm:**	16.67
reference main flow lpm:	2.91	**reference total/aux flow lpm:**	16.52
difference lpm:	-0.09	**difference lpm:**	-0.15

K_o Audit:

Last K_o audit date:	1-May-14
1405F K_o factor:	14578
Measured K_o factor:	
% difference:	

Comments:

last pump change the pump was left in the middle of the floor - relocated it to the pump closet, also changed zero reference filter

R & P 1405F TEOM PM 2.5 Analyzer Calibration

Date:	19-Sep-14	**Parameter:**	PM2.5
Company:	LICA	**Performed by:**	Tom Bourque
Station Name/Location:	Cold Lake South	**Start/End Time (mst):**	0700-0830
Previous Audit Date:	9-Sep-14	**Calibration Purpose:**	routine monthly

1400A Information and Status:

Serial Number:	1405A201620804	**As Found Filter Loading %:**	23.00
Ko Factor:	14578	**As Left Filter Loading %:**	17.00
Ambient Temperature °C:	13.3	**As Found Noise:**	0.012
Ambient Pressure atm:	.937	**As Left Noise:**	0.007
Main Flow Reading lpm:	3.00	**Pump Vacuum:**	0.32
Aux Flow Reading lpm:	13.67	**Warnings:**	none

Reference Standards:

	Flow:	**Pressure:**	**Temperature:**
Make:	Dwyer	Fisher Scientific	Fisher Scientific
Model:	475 Mark III	FB61291	FB61291
Serial Number:	NA	130168457	130168457
Calibration Date:	NA	11-Apr-14	11-Apr-14

As found leak check:

		Base	**Zero**	**Reference**	**Zero**
PM 2.5 Flow	actual	0.10	0.24	0.11	0.24
	limit	0.15		0.15	
Bypass Flow	actual	0.07	0.29	0.07	0.29
	limit	0.60		0.60	

As left leak check (same as above if as found passes):

		Base	**Zero**	**Reference**	**Zero**
PM 2.5 Flow	actual	0.10	0.24	0.11	0.24
	limit	0.15		0.15	
Bypass Flow	actual	0.07	0.29	0.07	0.29
	limit	0.60		0.60	

As found temperature and pressure:

	tolerance +/- 2.0°C		**tolerance +/- 0.01 atm**
1405F temperature °C:	12.4	**1405F pressure atm:**	0.928
reference temperature °C:	13.3	**reference pressure:**	0.937
difference °C:	1.0	**difference :**	-0.009

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

	tolerance +/- 2.0°C		**tolerance +/- 0.01 atm**
1405F temperature °C:	12.4	**1405F pressure atm:**	0.928
reference temperature °C:	13.3	**reference pressure:**	0.937
difference °C:	1.0	**difference :**	0.009

As found flows:

	main flow tolerance 3.00 lpm +/- 0.20 lpm		**total/aux flow tolerance 16.67/13.67 lpm +/- 1.00 lpm/+/- 7%**
1405F main flow lpm:	3.00	**1400A total/aux flow lpm:**	16.67
reference main flow lpm:	2.91	**reference total/aux flow lpm:**	15.94
difference lpm:	-0.09	**difference lpm:**	-0.73

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

	main flow tolerance 3.00 lpm +/- 0.20 lpm		**total/aux flow tolerance 16.67/13.67 lpm +/- 1.00 lpm/+/- 7%**
1405F main flow lpm:	3.00	**1400A total/aux flow lpm:**	16.67
reference main flow lpm:	2.91	**reference total/aux flow lpm:**	15.94
difference lpm:	-0.09	**difference lpm:**	-0.73

K_o Audit:

Last K_o audit date:	1-May-14
1405F K_o factor:	14578
Measured K_o factor:	
% difference:	

Comments:

JOB #: 2833-14-09-01-C

Nitrogen Dioxide

Thermo 42C NOx Analyzer Calibration

Date:	9-Sep-14	**Start Time (mst):**	9:40
Company:	LICA	**End Time (mst):**	15:08
Station Name/Location:	Cold Lake South	**Calibration Purpose:**	monthly
Performed by:	Tom Bourque	**Cal Gas Expiry Date:**	4-Feb-14

Analyzer Serial Number:	427408716
Last Calibration Date:	23-Jul-14
Range ppb:	500

Correction Factors:

	As found C.F.	Previous Cal High Point C.F.:
NO=	1.008	1.001
NOx=	1.005	1.000
NO_2=	0.991	0.996

	As found:	**As left:**
NO Bkg ppb:	5.8	5.7
NOx Bkg ppb:	5.9	6.0
NO Coef:	1.499	1.530
NOx Coef:	1.020	1.024
NO_2 Coef:	.997	1.010
PMT:	-821	-821
+5:	5.0	5.0
+15:	15.1	15.1
-15:	-15.1	-15.1
Battery:	3.2	3.2
Internal:	28.0	28.0
Chamber:	49.8	49.8
Cooler:	-2.5	-2.5
Converter:	317	317
Converter Set:	319	319
Pressure:	208.4	208.4
Sample Flow:	.521	.521
Ozonator Flow:	OK	OK
Internal Span:	302/8.5/311	332/7/339

Calibrator Flow Targets:

Make & Model:	Environics 6100
Serial #:	4760
Cal Gas Cylinder I.D. # :	BLM000711
NO Cylinder Conc. (ppm):	50.1
NOx Cylinder Conc. (ppm):	50.2

point	diluent (cc/min)	cal gas (cc/min)	O_3 setting (v or ppb)	total (cc/min)
zero	5000	0	0	5000
high	5000	50	300.00	5050
mid	5000	40	150.00	5040
low	5000	20	75.00	5020

Calibration:

Calibrator Flow Rates (cc/min)				Calculated NO	Calculated NOx	Indicated NO	Indicated NOx	NO C.F.	NOx C.F.
Point	Diluent	Cal Gas	Total Flow	(ppb)	(ppb)	(ppb)	(ppb)		
as found zero	5000	0.0	5000	0	0	0.0	0.1	NA	NA
adjusted zero	5000	0.0	5000	0	0	0.0	0.1	NA	NA
as found high	4963	34.90	4998	349.8	350.5	347	349	1.008	1.005
adjusted high	4963	34.90	4998	349.8	350.5	348	351	1.005	0.999
mid	4980	17.50	4998	175.4	175.8	168	169	1.044	1.041
low	4990	7.50	4998	75.2	75.3	75	76	1.005	0.998
calibrator zero	5000	0.00	5000	0	0	0.9	1.1	NA	NA
							Average C.F.=	1.018	1.012

Calibrator Flow Rates (cc/min)				Calibrator Setting	Indicated NO	Indicated NOx	Indicated NO_2	NO drop	NO_2 increase	NO_2 C.F.
Point	Diluent	Cal Gas	Total Flow	volts or ppb	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
NOx reference	4963	34.90	4998	0.0	354.0	359.0	5.4	0.0	0.1	
as found NO_2	4963	34.90	4998	300.0	29.5	362.0	333.0	324.5	327.6	0.991
adjusted NO_2	4963	34.90	4998	300.0	30.0	358.7	328.5	324.0	323.1	1.003
gpt mid	4963	34.90	4998	150.0	183.0	362.0	178.0	171.0	172.6	0.991
gpt low	4963	34.90	4998	75.0	273.0	363.0	90.0	81.0	84.6	0.957
									Average NO_2 C.F.=	0.984

Linear Regression/Calibration Results:

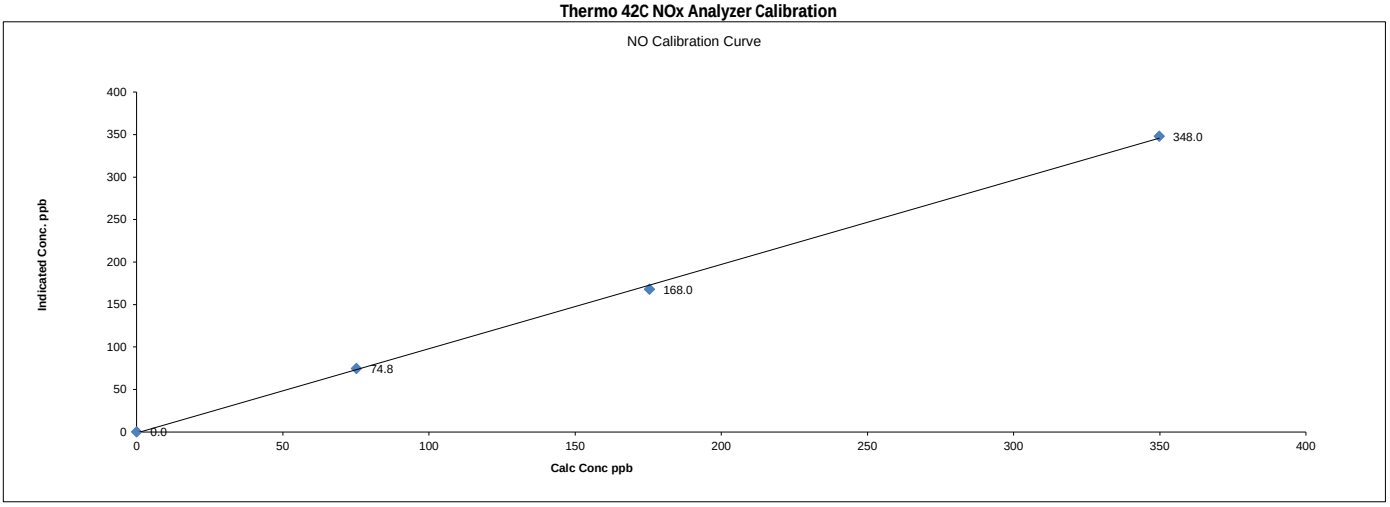
	NO	NOx	NO_2	LIMITS
Correlation Coeffecient =	**1.000**	**1.000**	**1.000**	**> or = 0.995**
Slope =	**0.992**	**0.998**	**0.994**	**0.85-1.15**
b (Intercept as % of full scale)=	**-0.25%**	**-0.25%**	**0.40%**	**± 3% F.S.**
% change in C.F. from last cal=	**-0.72%**	**-0.47%**	**0.55%**	**+/-15%**
NO2 converter effeciency			**101.7%**	**>85%**

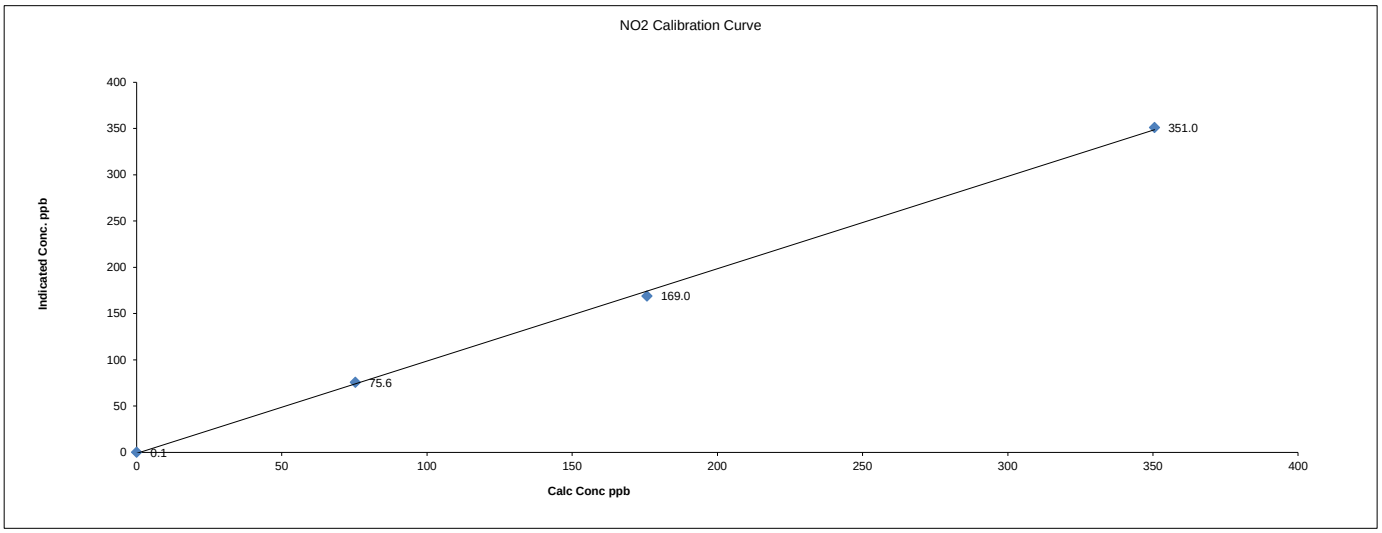
Comments:

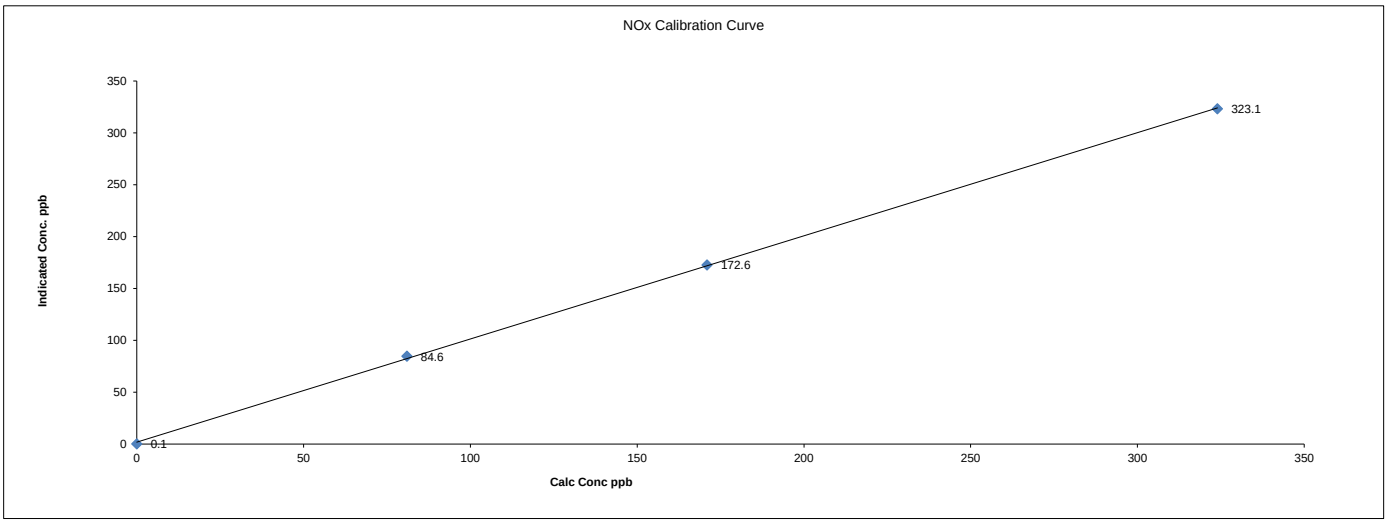
Changed the NOx pump scrubber and changed the analyzer filter.

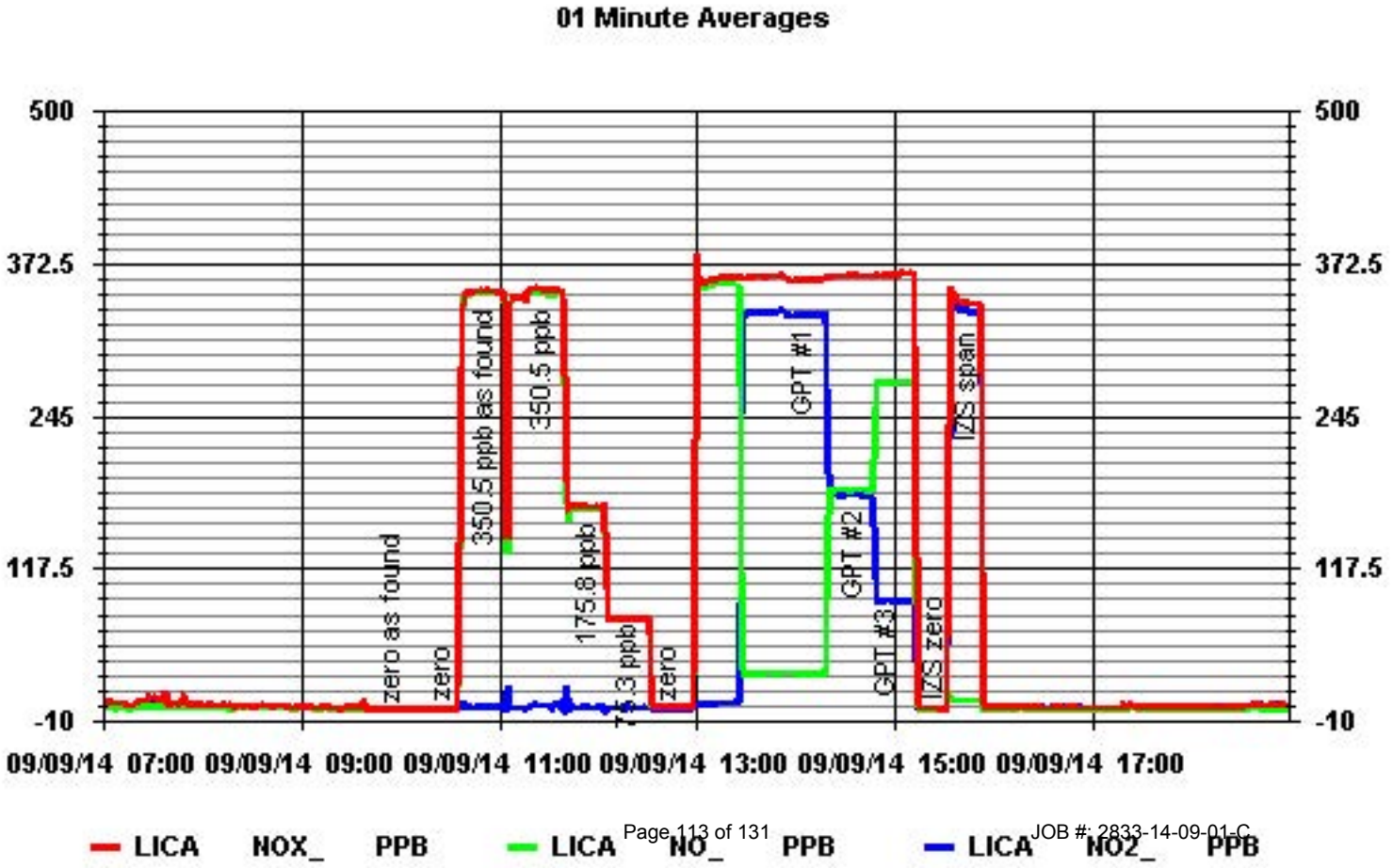
Date:	9-Sep-14	**Start Time (mst):**	9:40
Company:	LICA	**End Time (mst):**	15:08
Station Name/Location:	Cold Lake South	**Calibration Purpose:**	monthly
Performed by:	Tom Bourque	**Cal Gas Expiry Date:**	4-Feb-14

Thermo 42C NOx Analyzer Calibration








01 Minute Averages
500
372.5
245
117.5
-10
zero as found
zero
350.5 ppb as found
350.5 ppb
175.8 ppb
zero
GPT #1
GPT #2
GPT #3
IZS zero
IZS span
09/09/14 07:00
09/09/14 09:00
09/09/14 11:00
09/09/14 13:00
09/09/14 15:00
09/09/14 17:00
LICA NOX_ PPB
LICA NO_ PPB
LICA NO2_ PPB

Ozone

Thermo 49i O_3 Analyzer Calibration

Date:	9-Sep-14	**Start Time (mst):**	15:21
Company:	LICA	**End Time (mst):**	17:45
Station Name/Location:	Cold Lake South	**Calibration Purpose:**	routine monthly
Performed by:	Tom Bourque	**G.P.T. Date:**	9-Sep-14

Analyzer:

Serial Number:	700419951	**Range ppm:**	500
Last Calibration Date:	11-Aug-14	**As Found C.F.**	0.934
Previous Cal High Point C.F.:	1.000	**New C.F.:**	1.019

		As found:		As left:
	O_3 Bkg:	0.0	O_3 Bkg:	0.0
	O_3 Coef:	1.072	O_3 Coef:	.997
Motherboard:	3.3	3.3	3.3	3.3
	15.0	15.1	15.0	15.1
	24.0	23.9	24.0	23.9
	-3.3	-3.2	-3.3	-3.2
Interface Board:	3.3	3.3	3.3	3.3
	5.0	4.9	5.0	4.9
	15.0	14.8	15.0	14.8
	-15.0	-14.8	-15.0	-14.8
	Photo Lamp	8.7	Photo Lamp	8.7
	24.0	23.9	24.0	23.9
	O_3 Lamp	9.0	O_3 Lamp	9.0
	Bench:	28.9	Bench:	28.9
	Bench Lamp:	53.4	Bench Lamp:	53.4
	O_3 Lamp:	67.4	O_3 Lamp:	67.4
	Pressure:	723.1	Pressure:	723.1
	Cell A lpm:	.722	Cell A lpm:	.722
	Cell B lpm:	.761	Cell B lpm:	.761
	O_3 ppb:	.3	O_3 ppb:	.3
	Cell A ppb:	1.1	Cell A ppb:	1.1
	Cell B ppb:	-1.1	Cell B ppb:	-1.1
	Cell A int:	63514	Cell A int:	63514
	Cell B int:	60409	Cell B int:	60409
	Internal Span:	281.3	Internal Span:	268.5

Calibrator:

Make & Model:	Environics 6100
Serial #:	4760
NOx Gas Cylinder I.D. # :	BLM000711
NOx Cylinder Conc. (ppm):	50.1

Calibrator Flow Targets:

point	total flow (cc/min)	O_3 setting (v or ppb)
zero	4998	0
high	4998	300
mid	4998	150
low	4998	175

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	4998	0.0	4998	0.0	0.1	NA
adjusted zero	na	0.0	na	0.0		NA
as found high	4998	0.00	4998	324.0	347.0	0.934
adjusted high	4998	0.00	4998	324.0	324.0	1.000
mid	4998	0.00	4998	171.0	166.0	1.030
low	4998	0.00	4998	81.0	78.9	1.026
calibrator zero	4998	0.00	4998	0.0		NA

copy and paste flows and NO decrease from NOx cal in to calculated concentration **Average C.F.=** 1.019

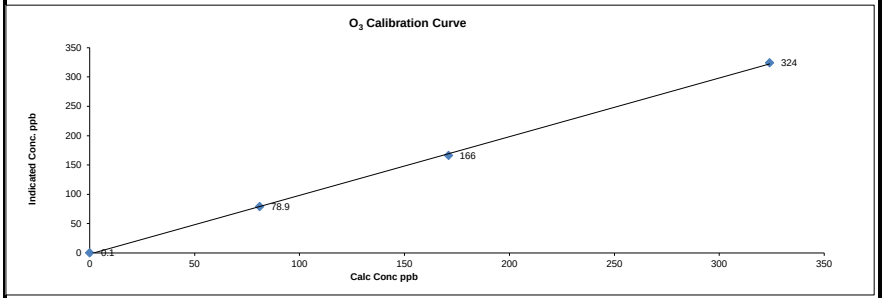
Linear Regression/Calibration Results:

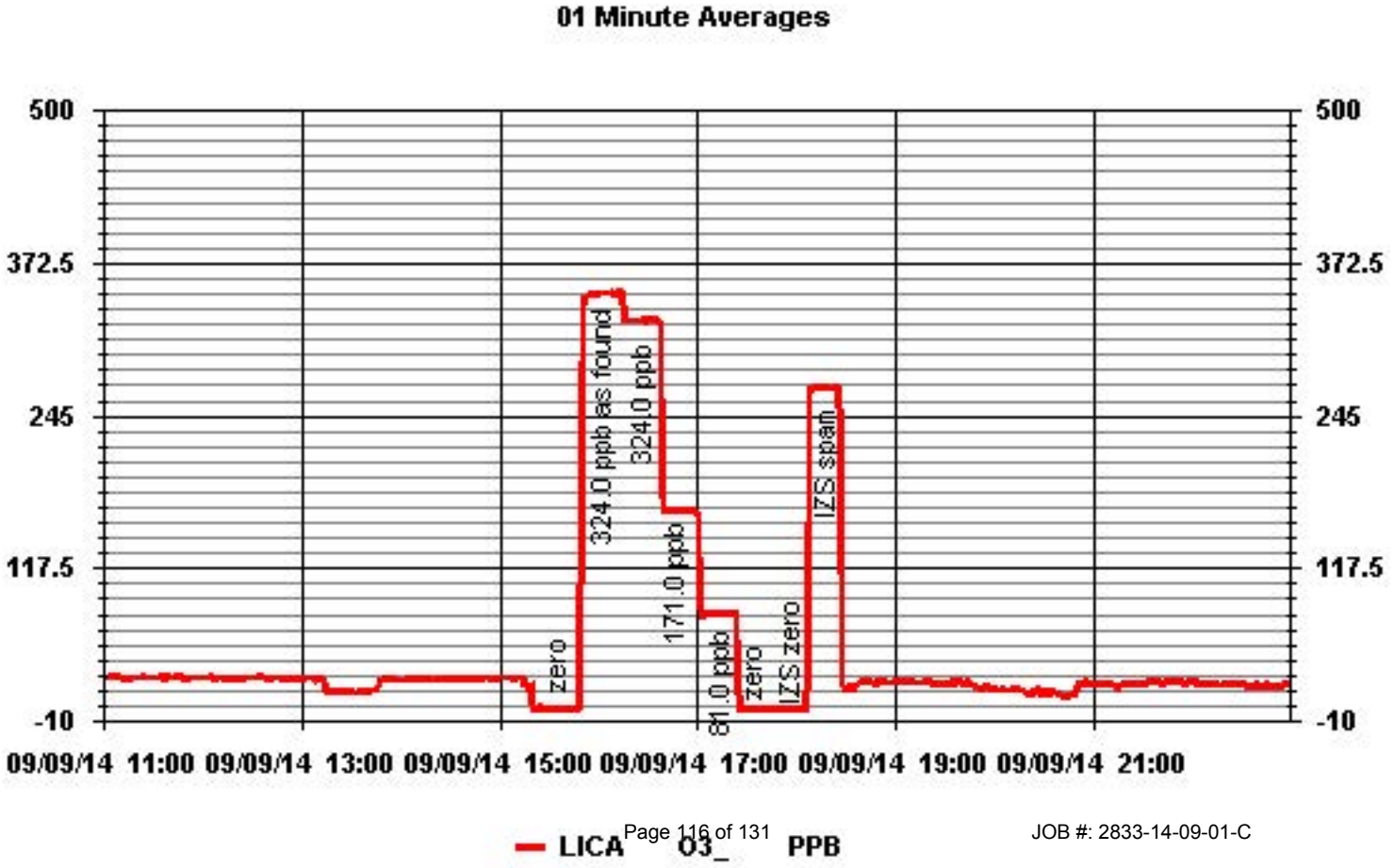
		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**1.000**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**-0.341%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**7%**	**± 15%**	**PASS**

Comments:

changed sample filter

Thermo 49i O3 Analyzer Calibration





JOB #: 2833-14-09-01-C

Passive Bubble Maps

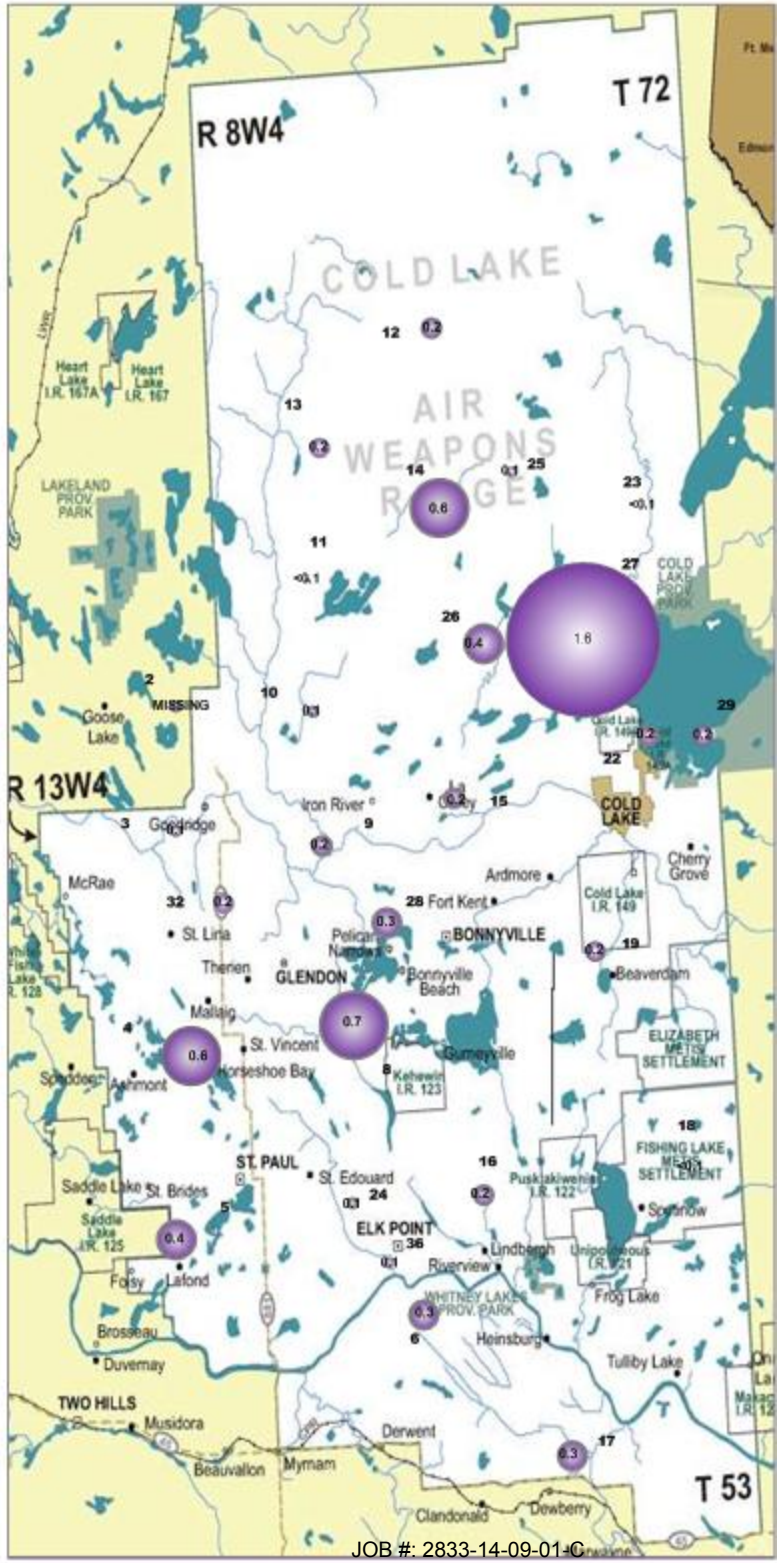
Lakeland Industry & Community Association
SO_2 Passive Bubble Map

SEPTEMBER 2014

PASSIVE STATIONS		DUPLICATE
2 – Sand River	MISSING	NA
3 – Therien	0.1 PPB	NA
4 – Flat Lake	0.6 PPB	NA
5 – Lake Eliza	0.4 PPB	NA
6 – Telegraph Creek	0.3 PPB	NA
8 – Muriel-Kehewin	0.7 PPB	NA
9 – Dupre	0.2 PPB	NA
10 – La Corey	0.1 PPB	NA
11 – Wolf Lake	<0.1 PPB	<0.1PPB
12 – Foster Creek	0.1 PPB	0.2 PPB
13 – Primrose	0.2 PPB	0.2 PPB
14 – Maskwa	0.6 PPB	NA
15 – Ardmore	0.2 PPB	NA
16 – Frog Lake	0.2 PPB	NA
17 – Clear Range	0.3 PPB	NA
18 – Fishing Lake	<0.1 PPB	NA
19 – Beaverdam	0.2 PPB	NA
22 – Cold Lake South	0.2 PPB	NA
23 – Medley-Martineau	<0.1 PPB	NA
24 – Fort George	0.1 PPB	NA
25 – Burnt Lake	0.1 PPB	NA
26 – Mahikan	0.4 PPB	NA
27 – Mahkeses	1.6 PPB	NA
28 – Town of Bonnyville	0.3 PPB	NA
29 – Cold Lake South 2	0.2 PPB	NA
32 – St. Lina	0.2 PPB	NA
36 – Elk Point	0.1 PPB	NA

Summary

Minimum : < 0.1 PPB – Various Stations
Maximum: 1.6 PPB – Mahkeses
Average: 0.3 PPB *Includes Duplicates



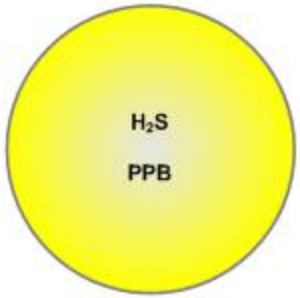
JOB #: 2833-14-09-01-C

Lakeland Industry & Community Association
H_2S Passive Bubble Map

SEPTEMBER 2014

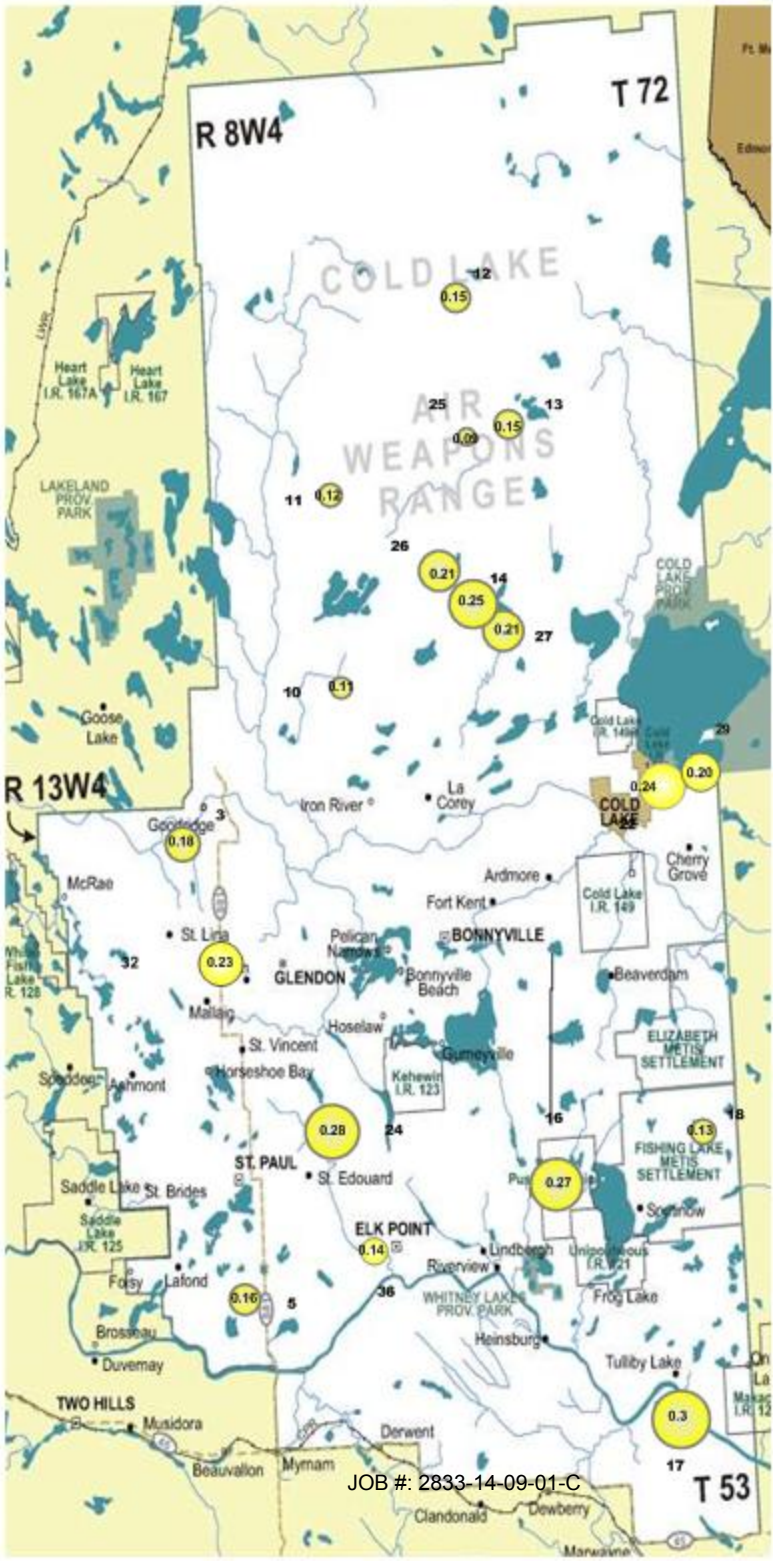
PASSIVE STATIONS

		DUPLICATE
3 – Therien	0.18 PPB	NA
5 – Lake Eliza	1.16 PPB	NA
10 – La Corey	0.11 PPB	NA
11 – Wolf Lake	0.12 PPB	NA
12 – Foster Creek	0.15 PPB	NA
13 – Primrose	0.15 PPB	NA
14 – Maskwa	0.25 PPB	NA
16 – Frog Lake	0.27 PPB	NA
17 – Clear Range	0.08 PPB	0.51 PPB
18 – Fishing Lake	0.14 PPB	0.12 PPB
22 – Cold Lake South	0.24 PPB	NA
24 – Fort George	0.28 PPB	NA
25 – Burnt Lake	0.09 PPB	NA
26 – Mahihkan	0.21 PPB	NA
27 – Mahkeses	0.21 PPB	NA
29 – Cold Lake South 2	0.20 PPB	NA
32 – St. Lina	0.23 PPB	NA
36 – Elk Point	0.14 PPB	NA



Summary

Minimum : 0.09 PPB – Burnt Lake
Maximum: 0.30 PPB – Clear Range
Average: 0.19 PPB (Includes Duplicates)



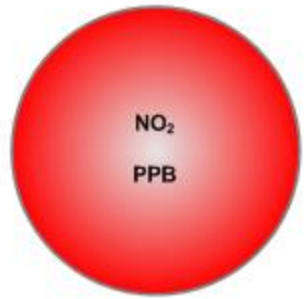
JOB #: 2833-14-09-01-C

Lakeland Industry & Community Association
NO_2 Passive Bubble Map

SEPTEMBER 2014

PASSIVE STATIONS

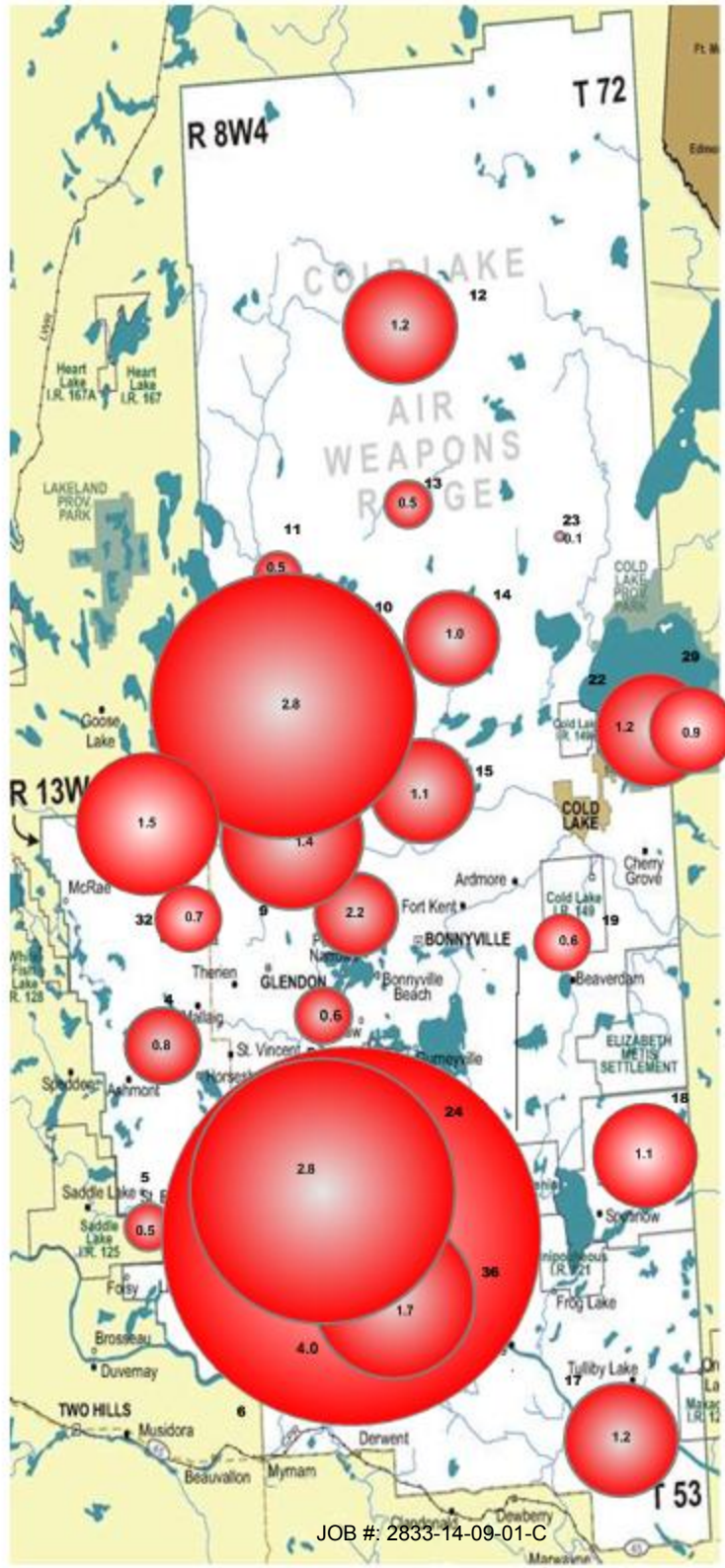
		DUPLICATE
2 – Sand River	MISSING	NA
3 – Therien	1.5 PPB	NA
4 – Flat Lake	0.8 PPB	NA
5 – Lake Eliza	0.5 PPB	NA
6 – Telegraph Creek	4.0 PPB	NA
8 – Muriel-Kehewin	0.6 PPB	NA
9 – Dupre	1.4 PPB	NA
10 – La Corey	2.8 PPB	NA
11 – Wolf Lake	0.5 PPB	NA
12 – Foster Creek	1.2 PPB	NA
13 – Primrose	0.5 PPB	NA
14 – Maskwa	1.0 PPB	NA
15 – Ardmore	1.1 PPB	NA
16 – Frog Lake	1.2 PPB	1.4 PPB
17 – Clear Range	1.1 PPB	1.2 PPB
18 – Fishing Lake	1.1 PPB	NA
19 – Beaverdam	0.6 PPB	NA
22 – Cold Lake South	1.2 PPB	NA
23 – Medley-Martineau	0.1 PPB	NA
24 – Fort George	2.8 PPB	NA
28 – Town of Bonnyville	2.9 PPB	NA
29 – Cold Lake South 2	0.9 PPB	NA
32 – St. Lina	0.7 PPB	NA
36 – Elk Point	1.7 PPB	NA



Summary

Minimum : 0.1 PPB – Medley-Martineau
Maximum: 4.0 PPB – Telegraph Creek

Average: 1.3 PPB *Includes Duplicates



JOB #: 2833-14-09-01-C

Lakeland Industry & Community Association
O_3 Passive Bubble Map

SEPTEMBER 2014

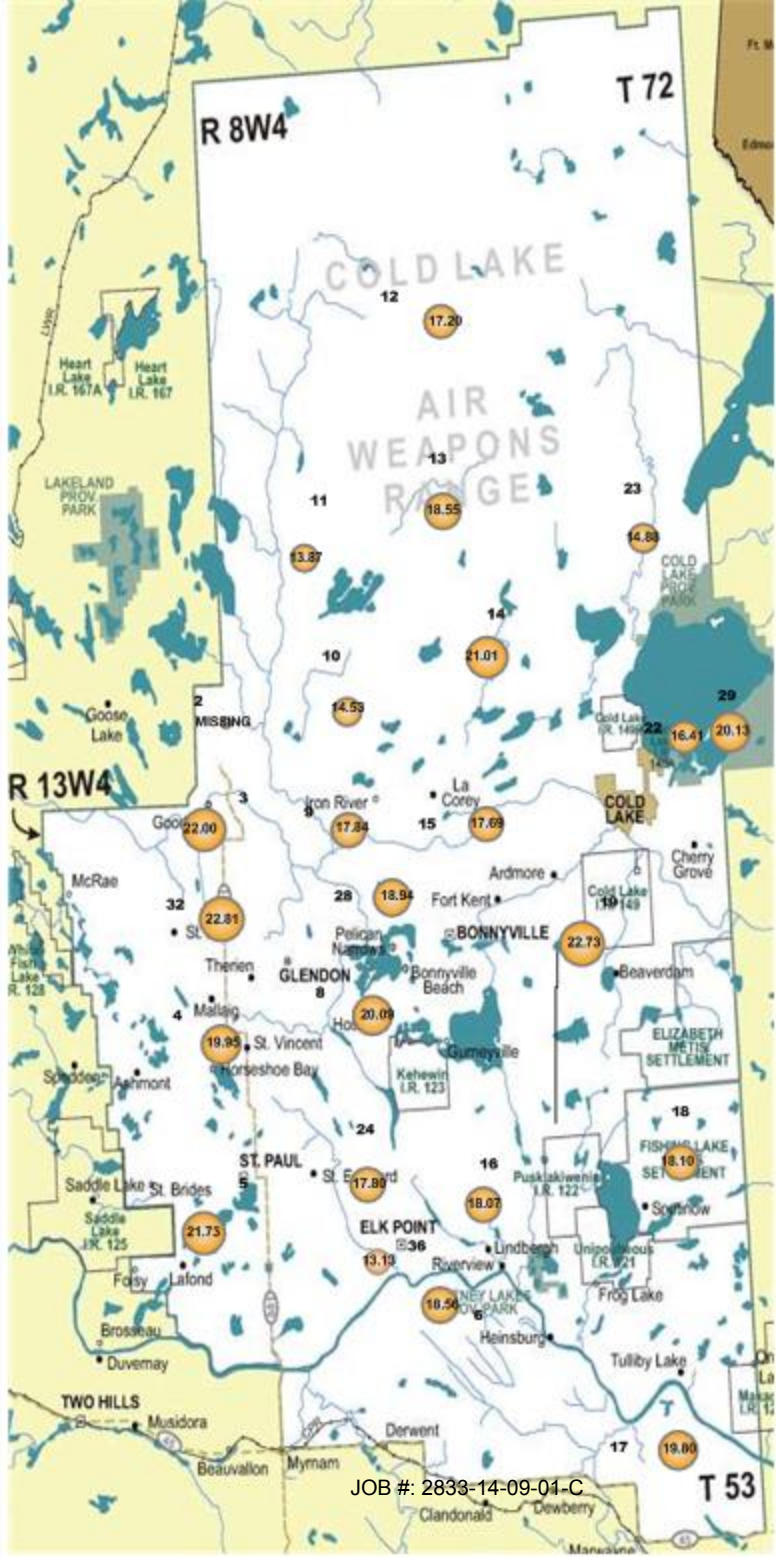
PASSIVE STATIONS

		DUPLICATE
2 – Sand River	MISSING	NA
3 – Therien	22.00 PPB	NA
4 – Flat Lake	19.95 PPB	NA
5 – Lake Eliza	21.73 PPB	NA
6 – Telegraph Creek	18.56 PPB	NA
8 – Muriel-Kehewin	20.09 PPB	NA
9 – Dupre	17.84 PPB	NA
10 – La Corey	14.53 PPB	NA
11 – Wolf Lake	13.87 PPB	NA
12 – Foster Creek	17.20 PPB	NA
13 – Primrose	18.55 PPB	NA
14 – Maskwa	21.01 PPB	NA
15 – Ardmore	17.69 PPB	NA
16 – Frog Lake	19.06 PPB	17.08 PPB
17 – Clear Range	20.41 PPB	19.19 PPB
18 – Fishing Lake	18.10 PPB	NA
19 – Beaverdam	22.73 PPB	NA
22 – Cold Lake South	16.41 PPB	NA
23 – Medley-Martineau	14.88 PPB	NA
24 – Fort George	17.80 PPB	NA
28 – Town of Bonnyville	18.94 PPB	NA
29 – Cold Lake South 2	20.13PPB	NA
32 – St. Lina	22.81 PPB	NA
36 – Elk Point	13.13 PPB	NA

O_3 PPB

Summary

Minimum : 13.13 PPB – Elk Point
Maximum: 22.81 PPB – St. Lina
Average: 18.52 PPB *Includes Duplicates



JOB #: 2833-14-09-01-C

Passive Field Data

Passive Sampler Data Sheet for

ID	SAMPLER	START		END		NOTES
		DATE	TIME	DATE	TIME	
2	$SO_2/NO_2/O_3$	NA	NA	NA	NA	All samplers had been removed. No samples was installed.
3	$H_2S/SO_2/NO_2/O_3$	2014/08/29	11:52	2014/10/01	11:27	
4	$SO_2/NO_2/O_3$	2014/08/27	17:01	2014/10/02	16:14	
5	$H_2S/SO_2/NO_2/O_3$	2014/08/27	17:50	2014/10/05	15:22	
6	$SO_2/NO_2/O_3$	2014/08/27	13:37	2014/10/02	13:45	
8	$SO_2/NO_2/O_3$	2014/08/27	19:32	2014/10/02	17:22	
9	$SO_2/NO_2/O_3$	2014/08/29	10:55	2014/10/01	08:50	
10	$H_2S/SO_2/NO_2/O_3$	2014/08/28	14:31	2014/10/03	15:08	
11	$H_2S/SO_2/NO_2/O_3$	2014/08/28	13:44	2014/10/03	13:13	
12	$H_2S/SO_2/NO_2/O_3$	2014/08/28	11:07	2014/10/03	11:03	
13	$H_2S/SO_2/NO_2/O_3$	2014/08/28	15:41	2014/10/01	16:14	
14	$H_2S/SO_2/NO_2/O_3$	2014/08/28	17:29	2014/10/01	17:13	
15	$SO_2/NO_2/O_3$	2014/08/29	9:58	2014/10/02	08:03	
16	$H_2S/SO_2/NO_2/O_3$	2014/08/27	11:07	2014/10/02	0943	
17	$H_2S/SO_2/NO_2/O_3$	2014/08/27	12:20	2014/10/02	12:53	
18	$H_2S/SO_2/NO_2/O_3$	2014/08/27	10:12	2014/10/02	1115	
19	$SO_2/NO_2/O_3$	2014/08/27	8:50	2014/10/02	09:01	
22	$H_2S/SO_2/NO_2/O_3$	2014/08/28	20:22	2014/10/01	12:52	
23	$SO_2/NO_2/O_3$	2014/08/28	19:07	2014/10/01	15:00	
24	$H_2S/SO_2/NO_2/O_3$	2014/08/27	14:18	2014/10/02	14:26	
25	H_2S/SO_2	2014/08/28	12:21	2014/10/03	12:04	
26	H_2S/SO_2	2014/08/28	16:22	2014/10/01	16:57	
27	H_2S/SO_2	2014/08/28	18:07	2014/10/01	17:54	
28	$SO_2/NO_2/O_3$	2014/08/29	11:14	2014/10/01	09:11	
29	$H_2S/SO_2/NO_2/O_3$	2014/08/28	20:22	2014/10/01	12:52	
32	$H_2S/SO_2/NO_2/O_3$	2014/08/27	15:56	2014/10/01	10:38	
36	$H_2S/SO_2/NO_2/O_3$	2014/08/27	18:30	2014/10/02	14:43	

Passive Sampler Data Sheet

ID	SAMPLER	START		END		NOTES
		DATE	TIME	DATE	TIME	
Duplicate # 11	SO_2	2014/08/28	13:44	2014/10/03	13:13	
Duplicate # 12	SO_2	2014/08/28	11:07	2014/10/03	11:03	
Duplicate # 13	SO_2	2014/08/28	15:41	2014/10/01	16:14	
Duplicate # 17	H_2S	2014/08/27	12:20	2014/10/02	12:53	
Duplicate # 18	H_2S	2014/08/27	10:12	2014/10/02	1115	
Duplicate # 16	NO_2	2014/08/27	11:07	2014/10/02	0943	
Duplicate # 17	NO_2	2014/08/27	12:20	2014/10/02	12:53	
Duplicate # 16	O_3	2014/08/27	11:07	2014/10/02	0943	
Duplicate # 17	O_3	2014/08/27	12:20	2014/10/02	12:53	

Passive Network Laboratory Analysis

Your Project #: 2014/08/27 - 2014/10/01
Site Location: LICA

Attention:MICHAEL BISAGA

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
PO BOX 8237
5107W- 50TH STREET
BONNYVILLE, AB
CANADA T9N 2J5

Report Date: 2014/10/10
Report #: R1660663
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B489867
Received: 2014/10/06, 15:28

Sample Matrix: Air
Samples Received: 32

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
H2S Passive Analysis (1)	20	2014/10/10	2014/10/10	PTC SOP-00150	Tang.Passive H2S in
NO2 Passive Analysis (1)	25	2014/10/10	2014/10/10	PTC SOP-00148	Passive NO2 in ATM
O3 Passive Analysis (1)	25	2014/10/09	2014/10/10	PTC SOP-00197	EPA 300 R2.1
SO2 Passive Analysis (1)	29	2014/10/09	2014/10/10	PTC SOP-00149	Tang Passive SO2 in

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) The detection limit is based on a 30 day sampling period.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Levi Manchak, Customer Service
Email: LManchak@maxxam.ca
Phone# (780) 378-8500
==========
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B489867
Report Date: 2014/10/10

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2014/08/27 - 2014/10/01
Site Location: LICA
Sampler Initials: WA

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		KU4450	KU4451	KU4452	KU4453	KU4454	KU4455	KU4456		
Sampling Date		2014/08/29 11:52	2014/08/27 17:01	2014/08/29 17:50	2014/08/27 13:37	2014/08/27 18:32	2014/08/29 10:55	2014/08/28 14:32		
	Units	3	4	5	6	8	9	10	RDL	QC Batch
Passive Monitoring										
Calculated H2S	ppb	0.18		0.16				0.11	0.02	7675181
Calculated NO2	ppb	1.5	0.8	0.5	4.0	0.6	1.4	2.8	0.1	7674888
Calculated O3	ppb	22.00	19.95	21.73	18.56	20.09	17.84	14.53	0.1	7672708
Calculated SO2	ppb	0.1	0.6	0.4	0.3	0.7	0.2	0.1	0.1	7673156
RDL = Reportable Detection Limit										

Maxxam ID		KU4457	KU4458	KU4459	KU4460	KU4461	KU4462	KU4463		
Sampling Date		2014/08/28 13:44	2014/08/28 11:07	2014/08/28 15:41	2014/08/28 17:29	2014/08/29 09:58	2014/08/27 11:07	2014/08/27 12:20		
	Units	11	12	13	14	15	16	17	RDL	QC Batch
Passive Monitoring										
Calculated H2S	ppb	0.12	0.15	0.15	0.25		0.27	0.08	0.02	7675181
Calculated NO2	ppb	0.5	1.2	0.5	1.0	1.1	1.2	1.1	0.1	7674888
Calculated O3	ppb	13.87	17.20	18.55	21.01	17.69	19.06	20.41	0.1	7672708
Calculated SO2	ppb	<0.1	0.1	0.2	0.6	0.2	0.2	0.3	0.1	7673156
RDL = Reportable Detection Limit										

Maxxam ID		KU4464	KU4465	KU4466	KU4467		KU4468	KU4469		
Sampling Date		2014/08/27 10:12	2014/08/27 08:50	2014/08/28 20:22	2014/08/28 19:07		2014/08/27 14:07	2014/08/28 12:21		
	Units	18	19	22	23	QC Batch	24	25	RDL	QC Batch
Passive Monitoring										
Calculated H2S	ppb	0.14		0.24		7675181	0.28	0.09	0.02	7675181
Calculated NO2	ppb	1.1	0.6	1.2	0.1	7674888	2.8		0.1	7674894
Calculated O3	ppb	18.10	22.73	16.41	14.88	7672708	17.80		0.1	7672708
Calculated SO2	ppb	<0.1	0.2	0.2	<0.1	7673156	0.1	0.1	0.1	7673159
RDL = Reportable Detection Limit										

Maxxam ID		KU4470	KU4471		KU4472	KU4473	KU4474	KU4475		
Sampling Date		2014/08/28 16:22	2014/08/28 18:07		2014/08/29 11:14	2014/08/28 20:22	2014/08/27 15:56	2014/08/02 18:30		
	Units	26	27	QC Batch	28	29	32	36	RDL	QC Batch
Passive Monitoring										
Calculated H2S	ppb	0.21	0.21	7675181		0.20	0.23	0.14	0.02	7675181
Calculated NO2	ppb			7674894	2.9	0.9	0.7	1.7	0.1	7674894
Calculated O3	ppb			7672708	18.94	20.13	22.81	13.13	0.1	7672719
Calculated SO2	ppb	0.4	1.6	7673159	0.3	0.2	0.2	0.1	0.1	7673159
RDL = Reportable Detection Limit										

Maxxam Analytics International Corporation o/a Maxxam Analytics, Edmonton, 6744 50th Street T6B 3M9 Telephone(780) 378-8500 FAX(780) 378-8933

Maxxam Job #: B489867
Report Date: 2014/10/10

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2014/08/27 - 2014/10/01
Site Location: LICA
Sampler Initials: WA

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		KU4478	KU4479	KU4480	KU4481	KU4482	KU4483		
Sampling Date		2014/08/28 13:44	2014/08/28 11:07	2014/08/28 15:41	2014/08/27 11:07	2014/08/27 12:20	2014/08/27 10:12		
	Units	11 DUP	12 DUP	13 DUP	16 DUP	17 DUP	18 DUP	RDL	QC Batch
Passive Monitoring									
Calculated H2S	ppb					0.51	0.12	0.02	7675181
Calculated NO2	ppb				1.4	1.2		0.1	7674894
Calculated O3	ppb				17.08	19.19		0.1	7672719
Calculated SO2	ppb	<0.1	0.2	0.2				0.1	7673159
RDL = Reportable Detection Limit									

Maxxam Job #: B489867
Report Date: 2014/10/10

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2014/08/27 - 2014/10/01
Site Location: LICA
Sampler Initials: WA

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics Edmonton: 6744 - 50th Street T6B 3M9 Telephone(780) 378-8500 FAX(780) 378-8699

Maxxam Job #: B489867
Report Date: 2014/10/10

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2014/08/27 - 2014/10/01
Site Location: LICA
Sampler Initials: WA

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
7672708	OZ	Spiked Blank	Calculated O3	2014/10/09		100	%	90 - 110
7672708	OZ	Method Blank	Calculated O3	2014/10/09	<0.1		ppb	
7672719	OZ	Spiked Blank	Calculated O3	2014/10/09		100	%	90 - 110
7672719	OZ	Method Blank	Calculated O3	2014/10/09	<0.1		ppb	
7673156	SS6	Spiked Blank	Calculated SO2	2014/10/09		101	%	90 - 110
7673156	SS6	Method Blank	Calculated SO2	2014/10/09	<0.1		ppb	
7673159	SS6	Spiked Blank	Calculated SO2	2014/10/09		100	%	90 - 110
7673159	SS6	Method Blank	Calculated SO2	2014/10/09	<0.1		ppb	
7674888	SS6	Spiked Blank	Calculated NO2	2014/10/10		96	%	90 - 110
7674888	SS6	Method Blank	Calculated NO2	2014/10/10	<0.1		ppb	
7674894	SS6	Spiked Blank	Calculated NO2	2014/10/10		99	%	90 - 110
7674894	SS6	Method Blank	Calculated NO2	2014/10/10	<0.1		ppb	
7675181	SSZ	Spiked Blank	Calculated H2S	2014/10/10		103	%	90 - 110

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

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Maxxam Job #: B489867
Report Date: 2014/10/10

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2014/08/27 - 2014/10/01
Site Location: LICA
Sampler Initials: WA

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Linda Lin, Supervisor, Centre for Passive Sampling Technology

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Lakeland Industry & Community Association

Maskwa Monitoring Site
Ambient Air Monitoring
Data Report
For
September 2014

Prepared By:

October 22, 2014

JOB #: 2833-14-09-30-C

Lakeland Industry & Community Association
Ambient Air Monitoring
Maskwa

Table of Contents

Introduction

The following Ambient Air Monitoring report was prepared for:

Mr. Mike Bisaga
Lakeland Industry & Community Association
Box 8237
5107W – 50 Street
Bonnyville, Alberta
T9N 2J5

Monitoring Location: Maskwa
Data Period: September 2014

The monthly ambient data report:

- Prepared by Ernestine Tangang
- Reviewed by Lily Lin

Calibration Procedure

The following calibration procedure applies to all calibrations conducted at the Lakeland Industry & Community Association Air Monitoring Station.

Calibration gas concentrations are generated using a dynamic mass flow controlled calibrator. EPA Protocol one gases are diluted with zero air generated on site. The Mass Flow Controllers in the calibrator are referenced using an NIST traceable flow meter once per month. All listed flows are reported as corrected to Standard Temperature and Pressure (STP).

Generated zero gas is introduced to the analyzer first. Three concentrations of calibration gas are then generated in order to introduce points at approximately 50-80%, 25-40% & 10-20% of the analyzer's full-scale range. An auto zero and span are then performed to validate the daily zero and span values recorded to the next multi-point calibration.

All indicated concentrations are taken from the ESC data logger used to collect the data for monthly reporting.

The calibrations conducted at the LICA - Maskwa Air Monitoring Stations conform to the following Maxxam Standard Operation Procedures:

- AIR SOP-00211
- AIR SOP-00209
- AIR SOP-00213
- AIR SOP-00214
- AIR SOP-00208

Conformance of each calibration to Alberta Environment regulations is outlined in the individual calibration reports. The slope and correlation coefficient are derived from the calculated and indicated analyzer responses. The percent change is calculated using the previous calibration correction factor and the current correction factor before adjustment. All calibration's and maintenance conforms to the procedures outlined in the *Air Monitoring Directive, Appendix A-10, Section 1.6.*

MONTHLY CONTINUOUS DATA SUMMARY
LAKELAND INDUSTRY & COMMUNITY ASSOCIATION – MASKWA

Continuous Ambient Monitoring – September 2014

LICA MASKWA SITE						MAXIMUM VALUES							OPERATIONAL TIME (PERCENT)
						1-HOUR					24-HOUR		
PARAMETER	OBJECTIVES		EXCEEDENCES		MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (KPH)	WIND DIRECTION (DEGREES)	READING	DAY	
	1-HR	24-HR	1-HR	24-HR									
SO2 (PPB)	172	48	0	0	0.24	5	12	9	2.5	301(WNW)	1.1	12	100.0
H2S (PPB)	10	3	1	0	0.21	13	24	2	0.3	105(ESE)	1.5	24	100.0
THC (PPM)	-	-	-	-	2.08	3.3	19	8	5.8	208(SSW)	2.2	VAR	97.8
NO2 (PPB)	159	-	0	-	2.38	16.9	23	6	2.5	307(NW)	4.6	23	100.0
NO (PPB)	-	-	-	-	0.67	20.3	15	8	2.2	298(WNW)	1.9	15	100.0
NO_x (PPB)	-	-	-	-	3.06	32.6	15	8	2.2	298(WNW)	5.9	15	100.0
VECTOR WS (KPH)	-	-	-	-	4.59	15.9	26	1	15.9	29(NNE)	8.3	8	100.0
VECTOR WD (DEGREES)	-	-	-	-	225(SW)	-	-	-	-	-	-	-	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	71.25	93	VAR	VAR	VAR	VAR	90.2	7	100.0
TEMPERATURE (DEG C)	-	-	-	-	10.05	28.3	21	14	7.2	217(SW)	17.3	21	100.0
BAROMETRIC PRESSURE (MILIBAR)	-	-	-	-	941.9	962	10	VAR	VAR	VAR	960.3	10	100.0
PRECIPITATION (MM)	-	-	-	-	0.04	6.8	26	10	4.2	4(N)	0.7	26	99.9

NA-NOT AVAILABLE VAR-VARIOUS

General Monthly Summary

Equipment Operation

The following summary outlines the analyzer performance. Any non-conformances, problems encountered or maintenance performed are detailed at the end of each section.

AQM STATION – LICA - Maskwa

Sulphur Dioxide (PPB)

· Analyzer make / model - API 100E, S/N: 508

No operational issues were observed during the month. The monthly calibration was performed on September 30th. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information.

Hydrogen Sulphide (PPB)

· Analyzer make / model - API 101E, S/N: 511

An as found points check was performed on September 30th and the result was good. Following the as found point check, the UV lamp was adjusted and the sample filter was changed. A post-repair calibration was performed following the maintenance and the result was good. One 1-hour contravention was recorded on September 24th hour 2. The result was 13 ppb. Data was corrected using daily zero information.

Total Hydrocarbon (PPM)

· Analyzer make / model –TECO 51C-LT, S/N: 436609738

The monthly calibration was performed on September 30th. The inlet filter was changed before the monthly calibration was started. The analyzer flamed out on September 16th because the H2 gas cylinder was empty. The H2 gas cylinder was replaced on September 17th. 16 hours of data from September 16 hour 18 to September 17 hour 9 was invalidated as this event affected data quality. Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA - Maskwa

Nitrogen Dioxide (PPB)

· Analyzer make / model - API 200E, S/N: 594

No operational issues were observed during the month. The monthly calibration was performed on September 30th. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information.

Vector Wind Speed (KPH) & Vector Wind Direction (DEG)

· System make / model - RM Young 5103VK, S/N: 129612

The wind system is reported as vector wind speed and vector wind direction. The wind direction data included in this report represents where the wind was coming from. The last wind system calibration was performed by manufacturer on February 5th, 2014.

No operational issues were observed this month.

Relative Humidity (PERCENT)

· System make / model - Met One 083

No operational issues were observed during the month.

Precipitation (MM)

· System make / model - Met One 387

No operational issues were observed during the month. The rain gauge was checked and cleaned on September 30th, and it passed the requirements.

Barometric Pressure (MILLIBAR)

· System make / model - Met One 092

No operation issues were observed during the month. The barometric pressure sensor was checked on September 30th, and it passed the requirement.

General Monthly Summary

AQM STATION – LICA - Maskwa

Ambient Temperature (DEGC)

· System make / model - Met One 060

No operational issues were observed during the month.

Trailer Temperature (DEG C)

· System make / model – R&R 61

No operational issues were observed during the month.

Standard Deviation Wind Direction (DEG)

· System make / model –Met One 50.5H

No operational issues were observed during the month.

Datalogger

· System make / model - ESC 8832

· Software make/version - ESC v 5.51a

No operational issues were observed during the month.

Trailer

The manifold system was cleaned on September 30th.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Sulphur Dioxide

Lakeland Industry & Community Association - Maskwa Site

SEPTEMBER 2014

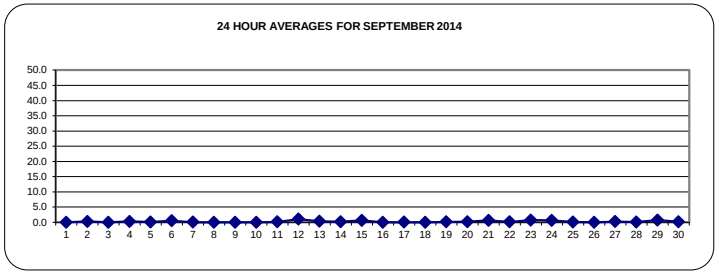
SULPHUR DIOXIDE (SO2) hourly averages in ppb

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0.0	24
2	0	0	0	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	S	0	0	0	2	0.3	24
3	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
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	3	1	0	2	0	3	0.3	24
5	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	1	1	0.1	24
6	4	4	0	0	0	1	1	0	0	0	0	0	0	0	0	1	S	0	0	1	0	0	0	0	4	0.5	24
7	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	1	0.0	24
8	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
9	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
10	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
11	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	1	1	1	0.1	24
12	1	1	1	1	1	1	1	1	1	*5*	S	2	1	1	1	1	0	0	0	1	1	1	1	1	*5*	*1.1*	24
13	0	0	1	0	1	1	0	1	1	S	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24
14	0	0	0	0	0	0	0	0	S	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
15	0	0	0	0	0	0	0	S	2	3	2	2	1	1	1	1	0	0	1	0	0	0	0	0	3	0.6	24
16	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
17	0	0	0	0	0	S	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.0	24
18	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
19	0	0	0	S	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
20	0	0	S	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0	2	0.2	24
21	0	S	0	0	0	0	0	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0.7	24
22	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	S	1	0.1	24
23	0	0	0	0	0	1	3	3	2	3	1	1	0	1	1	0	0	0	0	0	0	0	S	0	3	0.7	24
24	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	2	1	2	1	1	1	S	0	1	2	0.7	24
25	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	1	0.1	24
26	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
27	1	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	2	0.2	24
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	1	1	1	0.1	24
29	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	0	0	0	0	0	0	0	1	0.7	24
30	0	0	0	0	0	0	0	0	C	C	C	C	C	C	C	0	0	0	0	1	1	0	0	1	1	0.2	24
HOURLY MAX	4	4	2	1	1	1	3	3	2	5	2	2	1	2	1	2	1	2	1	3	1	1	2	1			
HOURLY AVG	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.4	0.6	0.4	0.4	0.2	0.3	0.2	0.3	0.1	0.1	0.1	0.3	0.2	0.1	0.2	0.2			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

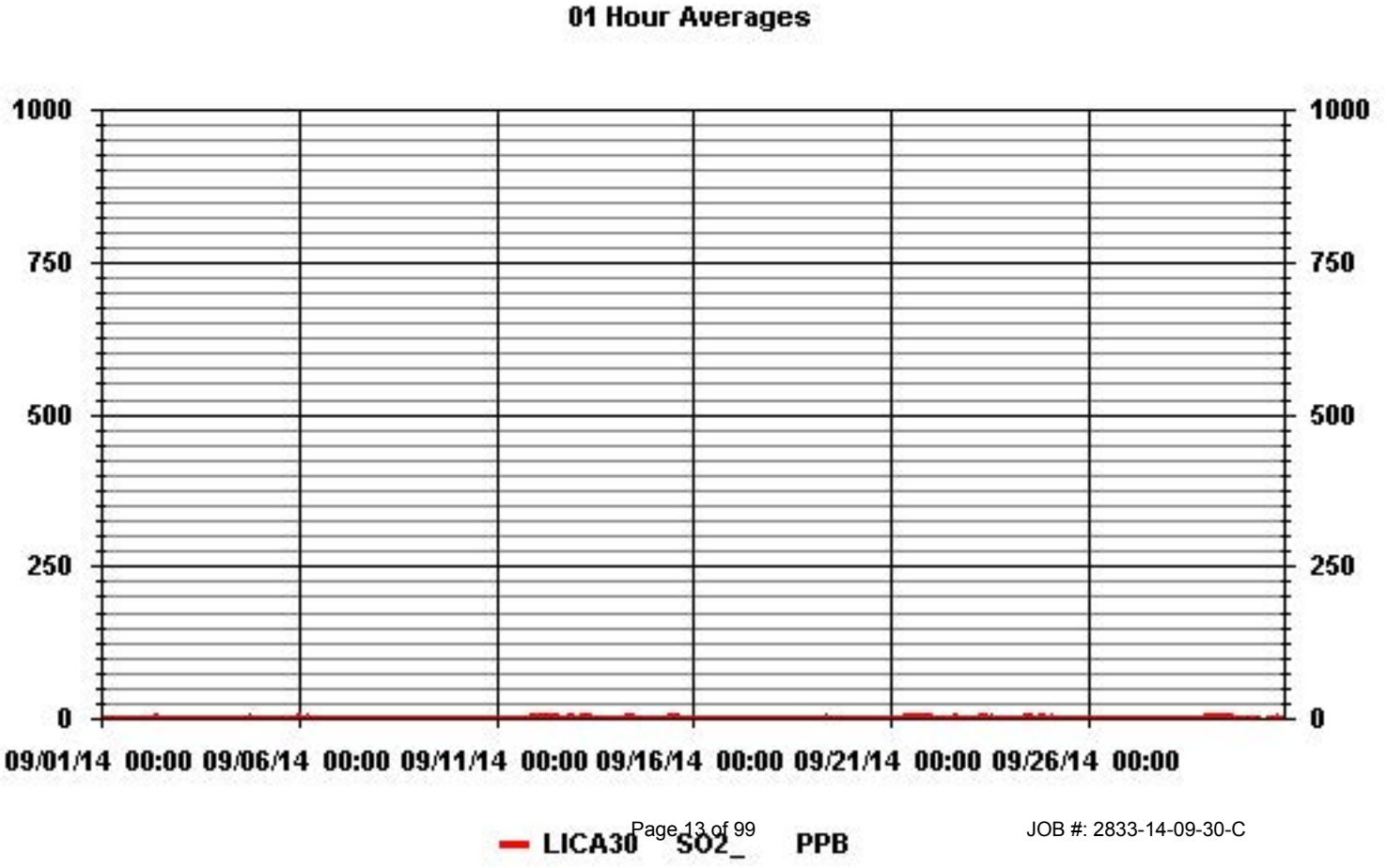


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB 24-HR 48 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	132					
MAXIMUM 1-HR AVERAGE:	5	PPB	@ HOUR(S)	9	ON DAY(S)	12
MAXIMUM 24-HR AVERAGE:	1.1	PPB			ON DAY(S)	12
					VAR-VARIOUS	
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:		720	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	0.57		MONTHLY AVERAGE:		0.24	PPB

JOB #: 2833-14-09-30-C



JOB #: 2833-14-09-30-C

Lakeland Industry & Community Association - Maskwa Site

SEPTEMBER 2014

SULPHUR DIOXIDE MAX instantaneous maximum in ppb

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	S	0	0	1	0.1	24
2	0	0	0	0	0	0	0	0	5	5	4	1	0	0	0	1	1	1	0	0	S	0	0	0	5	0.8	24
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	S	0	0	1	1	1	0.2	24
4	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	8	2	1	7	0	8	1.4	24
5	1	0	1	1	1	0	1	2	2	0	1	1	0	0	0	0	1	S	1	1	1	0	0	2	2	0.7	24
6	12	8	3	1	0	3	3	1	1	1	1	1	1	1	1	3	S	2	1	1	1	1	1	1	12	2.1	24
7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	0	0	0	0	0	0	0	0	1	0.7	24
8	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
9	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	1	1	1	1	0	0	0	0	1	0.2	24
10	0	0	0	0	0	0	0	0	0	0	0	0	S	1	0	2	2	1	0	0	0	0	0	0	2	0.3	24
11	0	0	0	0	0	0	0	0	0	0	0	S	1	1	1	1	1	1	1	1	1	1	1	1	1	0.5	24
12	1	1	1	1	1	1	1	2	2	***14***	S	4	5	5	4	6	1	1	1	1	1	1	1	2	***14***	***2.5***	24
13	1	0	9	2	4	5	0	2	3	S	4	2	0	2	1	1	0	0	0	0	0	1	0	1	9	1.7	24
14	0	0	0	1	1	1	1	1	S	2	2	2	1	1	2	2	1	1	1	1	1	1	1	1	2	1.1	24
15	1	1	1	1	1	1	1	S	4	6	4	5	1	3	2	1	1	1	1	1	1	1	1	1	6	1.8	24
16	1	1	1	1	1	1	S	0	1	1	1	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0.5	24
17	0	0	0	0	0	S	1	1	0	0	0	0	1	2	2	1	1	1	0	0	1	1	1	1	2	0.6	24
18	1	1	1	1	S	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0.3	24
19	0	0	0	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	24
20	1	0	S	0	0	0	0	0	0	1	4	3	4	5	0	0	0	0	0	0	0	0	0	0	5	0.8	24
21	0	S	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1.2	24
22	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1.0	24
23	1	1	1	1	1	3	5	6	5	8	3	3	2	3	5	1	1	1	1	0	1	1	S	0	8	2.3	24
24	0	0	0	0	1	0	1	0	1	1	2	1	3	2	2	3	3	3	2	1	1	S	1	1	3	1.3	24
25	1	3	2	1	1	1	0	0	0	0	0	0	3	2	1	1	1	0	0	0	S	0	0	0	3	0.7	24
26	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	1	S	0	1	2	2	2	0.4	24
27	2	3	5	4	5	1	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	5	0.9	24
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	S	1	1	1	1	1	2	2	0.3	24
29	2	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	S	0	1	1	0	0	0	0	2	1.2	24
30	0	0	1	0	0	0	0	C	C	C	C	C	C	C	C	0	0	0	0	3	3	0	0	4	4	0.7	24
HOURLY MAX	12	8	9	4	5	5	5	6	5	14	4	5	5	5	5	6	3	3	2	8	3	1	7	4			
HOURLY AVG	0.9	0.8	1.0	0.7	0.8	0.8	0.7	0.8	1.2	1.7	1.2	1.1	1.1	1.3	1.0	1.1	0.8	0.6	0.6	0.9	0.6	0.5	0.8	0.8			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 372

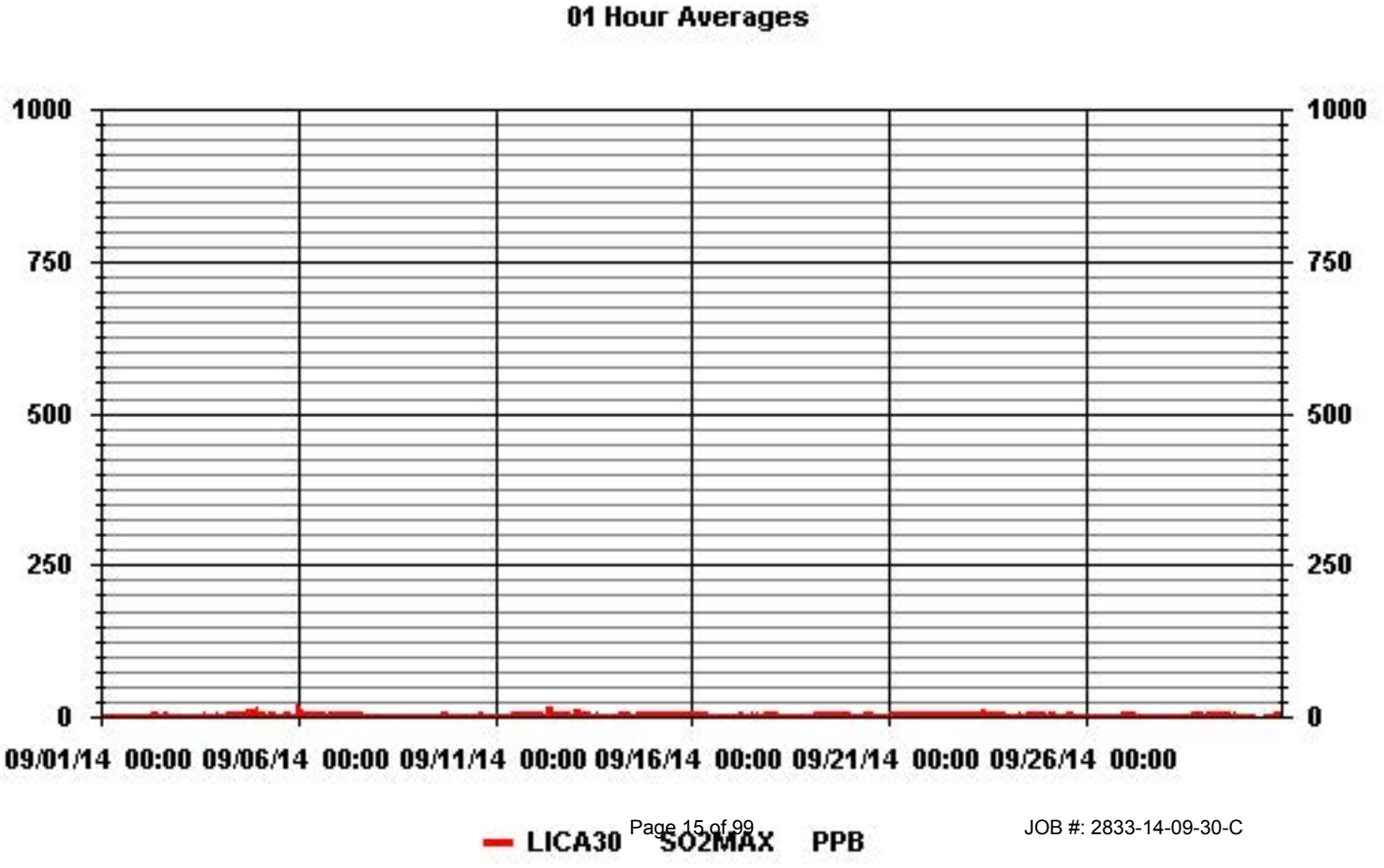
MAXIMUM INSTANTANEOUS VALUE: 14 PPB @ HOUR(S) 9 ON DAY(S) 12

VAR-VARIOUS

IZS CALIBRATION TIME: 30 HRS OPERATIONAL TIME: 720 HRS

MONTHLY CALIBRATION TIME: 8 HRS

STANDARD DEVIATION: 1.40



JOB #: 2833-14-09-30-C

LICA30
SO2_ / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 30
Site Name : LICA30
Parameter : SO2_
Units : PPB

Wind Parameter : WDR
Instrument Height : 10 Meters

		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	20	3.80	13.17	5.12	2.19	1.31	3.36	4.97	8.63	6.73	18.59	7.02	4.09	5.85	7.32	3.51	4.24	100.00
<	60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	170	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	3.80	13.17	5.12	2.19	1.31	3.36	4.97	8.63	6.73	18.59	7.02	4.09	5.85	7.32	3.51	4.24	

Calm : .00 %

Total # Operational Hours : 683

Distribution By Samples

		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	20	26	90	35	15	9	23	34	59	46	127	48	28	40	50	24	29	683
<	60																	
<	110																	
<	170																	
<	340																	
>=	340																	
	Totals	26	90	35	15	9	23	34	59	46	127	48	28	40	50	24	29	

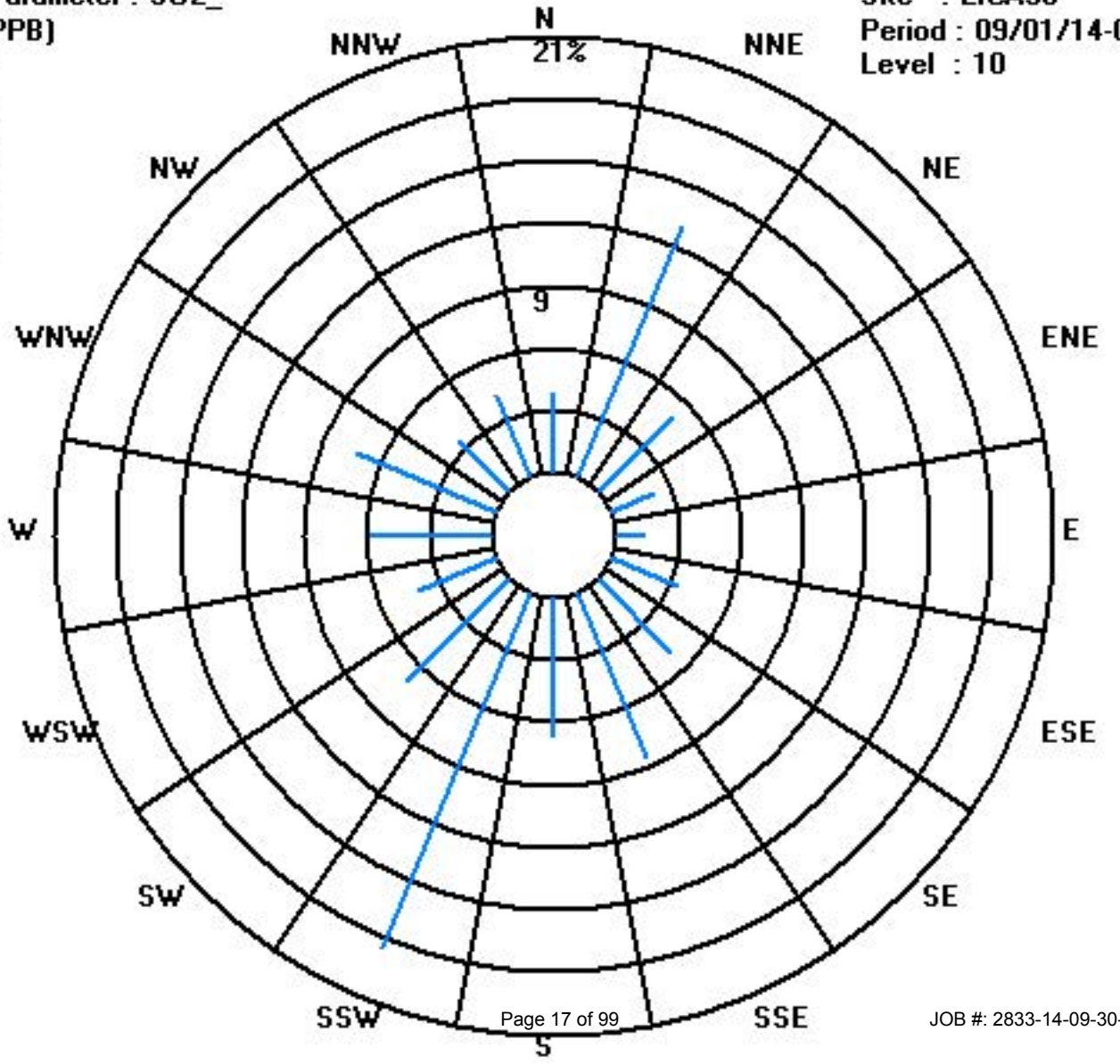
Calm : .00 %

Total # Operational Hours : 683

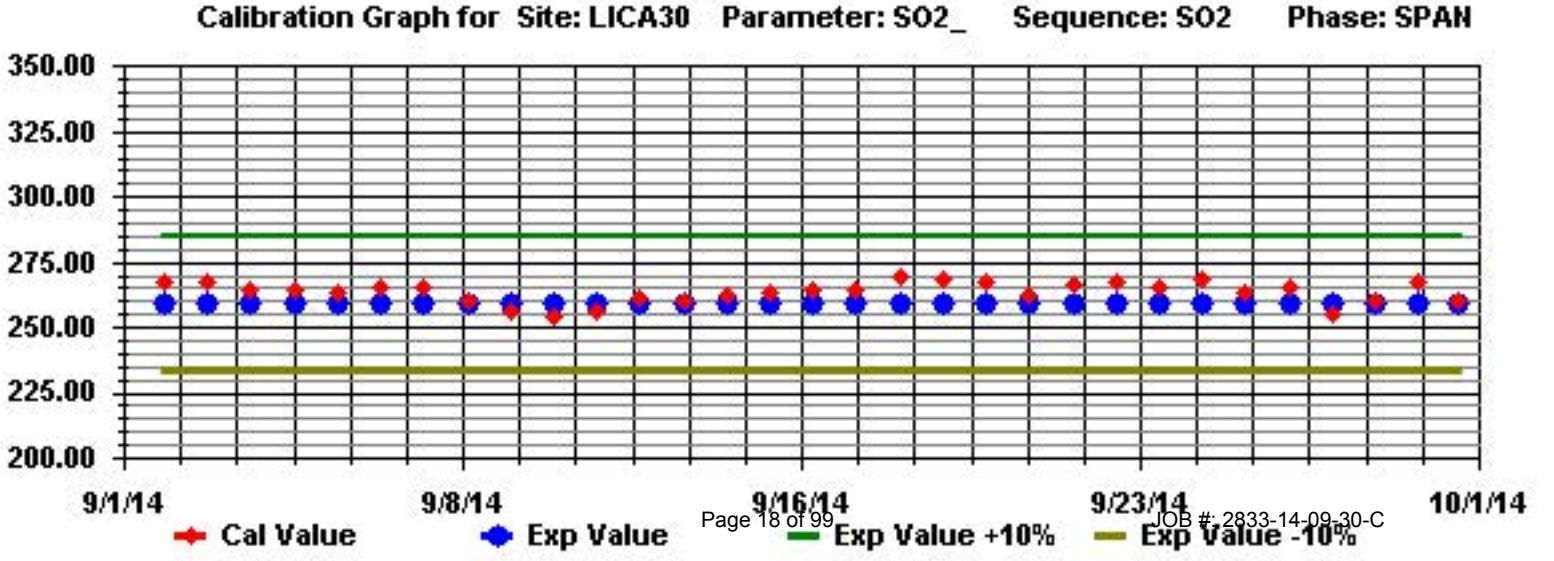
Logger : 30 Parameter : SO2_
Class Limits (PPB)

>= 340
< 340
< 170
< 110
< 60
< 20

Site : LICA30
Period : 09/01/14-09/30/14
Level : 10



JOB #: 2833-14-09-30-C


Calibration Graph for Site: LICA30 Parameter: SO2_ Sequence: SO2 Phase: SPAN
350.00
325.00
300.00
275.00
250.00
225.00
200.00
9/1/14
9/8/14
9/16/14
9/23/14
10/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Hydrogen Sulphide

Lakeland Industry & Community Association - Maskwa Site

SEPTEMBER 2014

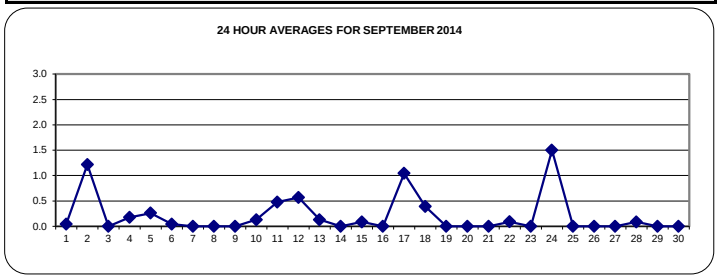
HYDROGEN SULPHIDE (H2S) hourly averages in ppb

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	1	0	1	0.0	24
2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	3	4	2	1	**S**	0	0	0	4	1.2	24
3	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
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	1	1	1	1	1	0.2	24
5	1	0	0	0	1	1	1	1	0	0	0	0	1	0	0	0	0	**S**	0	0	0	0	0	0	1	0.3	24
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**S**	0	0	0	0	0	0	0	1	0.0	24
7	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
8	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
9	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
10	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	1	2	2	0.1	24
11	4	3	1	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	1	1	1	0	0	0	0	4	0.5	24
12	1	1	1	1	0	0	1	1	1	1	**S**	1	1	0	0	1	0	0	0	0	0	1	1	0	1	0.6	24
13	0	0	0	0	1	1	1	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
14	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
15	0	0	0	0	0	0	0	**S**	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
16	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
17	0	0	0	0	0	**S**	0	2	1	1	1	1	1	2	1	1	2	5	1	1	1	1	1	1	5	1.0	24
18	1	2	2	2	**S**	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.4	24
19	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
20	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
21	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
22	**S**	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	1	0.1	24
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0.0	24
24	5	6	***13***	4	1	0	0	0	0	**S**	3	1	0	0	0	0	0	0	0	0	0	**S**	0	0	***13***	***1.5***	24
25	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
26	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
27	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
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	**S**	0	0	0	0	0	0	1	0.1	24
29	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
30	0	0	0	0	0	0	0	0	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	0	0	0	0	0.0	24
HOURLY MAX	5	6	13	4	1	1	1	2	1	1	3	1	1	2	1	3	3	5	2	1	1	1	1	2			
HOURLY AVG	0.4	0.4	0.6	0.3	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.1	0.1	0.1	0.1	0.2	0.1			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

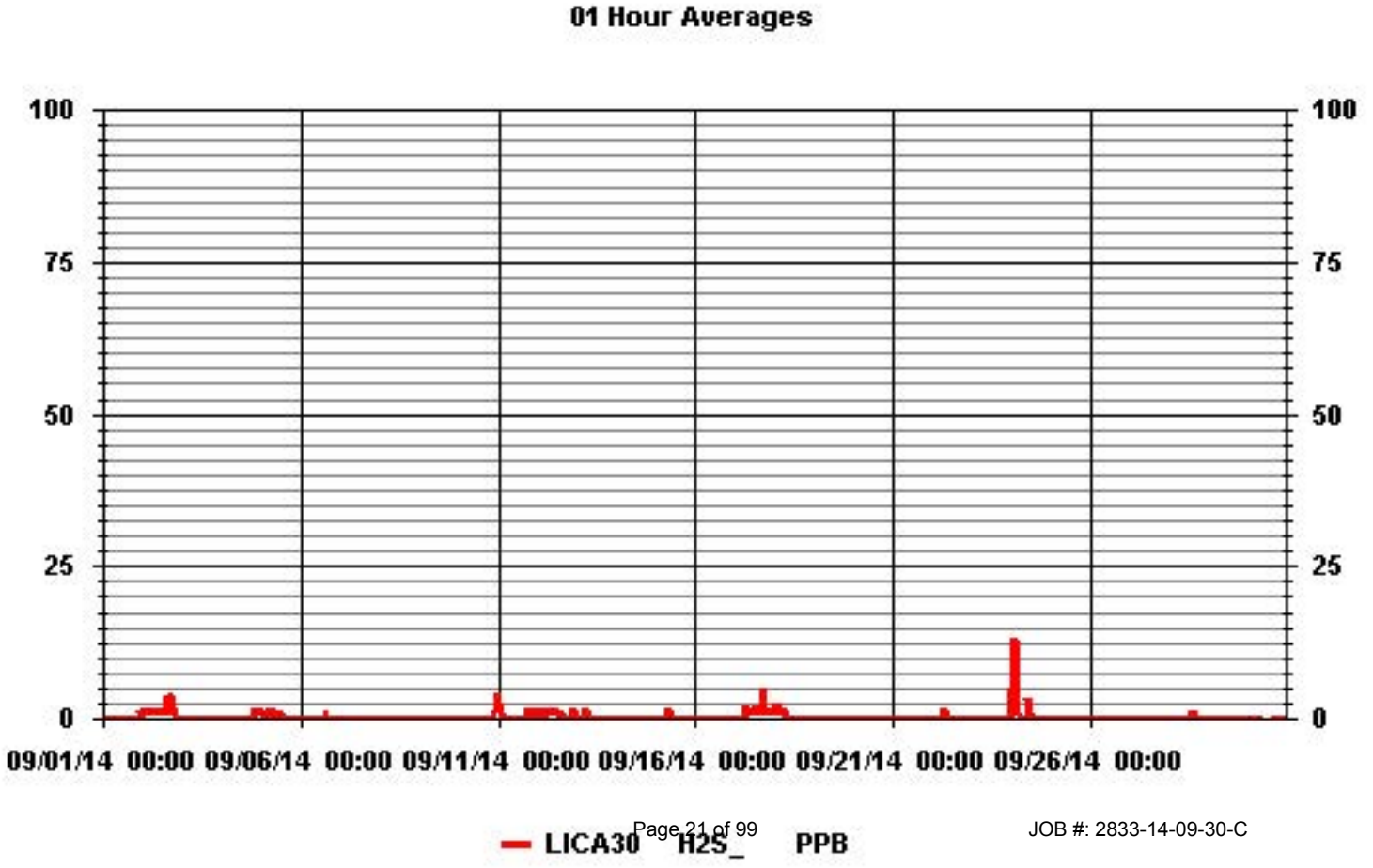


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 10 PPB 24-HR 3 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	1					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	92					
MAXIMUM 1-HR AVERAGE:	13	PPB	@ HOUR(S)	2	ON DAY(S)	24
MAXIMUM 24-HR AVERAGE:	1.5	PPB			ON DAY(S)	24
					VAR-VARIOUS	
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:		720	HRS
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	0.78		MONTHLY AVERAGE:		0.21	PPB

JOB #: 2833-14-09-30-C



JOB #: 2833-14-09-30-C

Lakeland Industry & Community Association - Maskwa Site

SEPTEMBER 2014

HYDROGEN SULPHIDE MAX instantaneous maximum in ppb

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	1	**S**	1	1	2	0.3	24
2	1	1	1	2	1	2	1	3	2	2	2	1	4	1	4	4	5	6	3	1	**S**	0	0	0	6	2.0	24
3	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0	0	**S**	0	0	0	0	2	0.2	24
4	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**S**	1	2	1	1	1	2	0.3	24
5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	0	0	0	0	0	1	1	0.8	24
6	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	**S**	1	0	0	0	0	0	1	1	0.3	24
7	1	1	0	0	0	5	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	5	0.3	24
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	1	1	1	1	1	1	1	1	1	1	0.4	24
9	1	1	1	1	0	0	1	1	1	0	1	1	1	**S**	0	1	1	1	1	1	1	1	0	1	1	0.8	24
10	0	0	0	0	0	0	1	1	1	0	1	0	**S**	0	1	1	0	0	0	1	1	1	3	3	3	0.7	24
11	6	4	2	1	1	1	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	6	1.4	24
12	1	1	1	1	1	1	1	1	1	1	**S**	2	1	1	1	1	1	1	1	1	1	2	2	1	2	1.1	24
13	1	1	1	1	1	1	1	1	1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4	24
14	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
15	0	0	0	0	0	0	0	**S**	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0.3	24
16	0	0	0	0	0	0	**S**	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0.1	24
17	0	1	1	0	0	**S**	1	4	2	2	1	2	2	2	2	1	4	10	2	1	1	1	1	1	10	1.8	24
18	2	2	2	3	**S**	2	1	1	0	1	1	1	1	0	1	1	0	0	0	1	1	1	0	0	3	1.0	24
19	1	1	1	**S**	1	1	1	1	1	0	1	1	0	0	0	0	1	0	1	0	0	0	0	1	1	0.6	24
20	1	1	**S**	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
21	0	**S**	0	0	0	0	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
22	**S**	0	1	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	**S**	1	0.6	24
23	1	0	1	1	1	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	**S**	1	2	0.3	24
24	12	10	***23***	9	3	1	0	0	**S**	**S**	5	2	1	1	1	1	0	1	1	0	1	**S**	1	1	***23***	***3.5***	24
25	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	0	**S**	1	0	0	1	0.2	24
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	**S**	0	0	0	0	1	0.1	24
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	1	1	1	1	0.1	24
28	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	**S**	0	0	0	0	0	0	1	0.7	24
29	0	1	0	0	1	1	0	0	0	0	1	1	1	1	1	0	**S**	1	1	1	1	1	1	1	1	0.7	24
30	1	0	1	1	1	1	0	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	0	0	0	1	0.3	24
HOURLY MAX	12	10	23	9	3	5	1	4	3	2	5	2	4	2	4	4	5	10	3	2	2	2	3	3			
HOURLY AVG	1.1	0.9	1.3	0.8	0.5	0.7	0.5	0.7	0.7	0.6	0.6	0.7	0.6	0.4	0.6	0.5	0.6	0.8	0.5	0.4	0.5	0.4	0.5	0.6			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 301

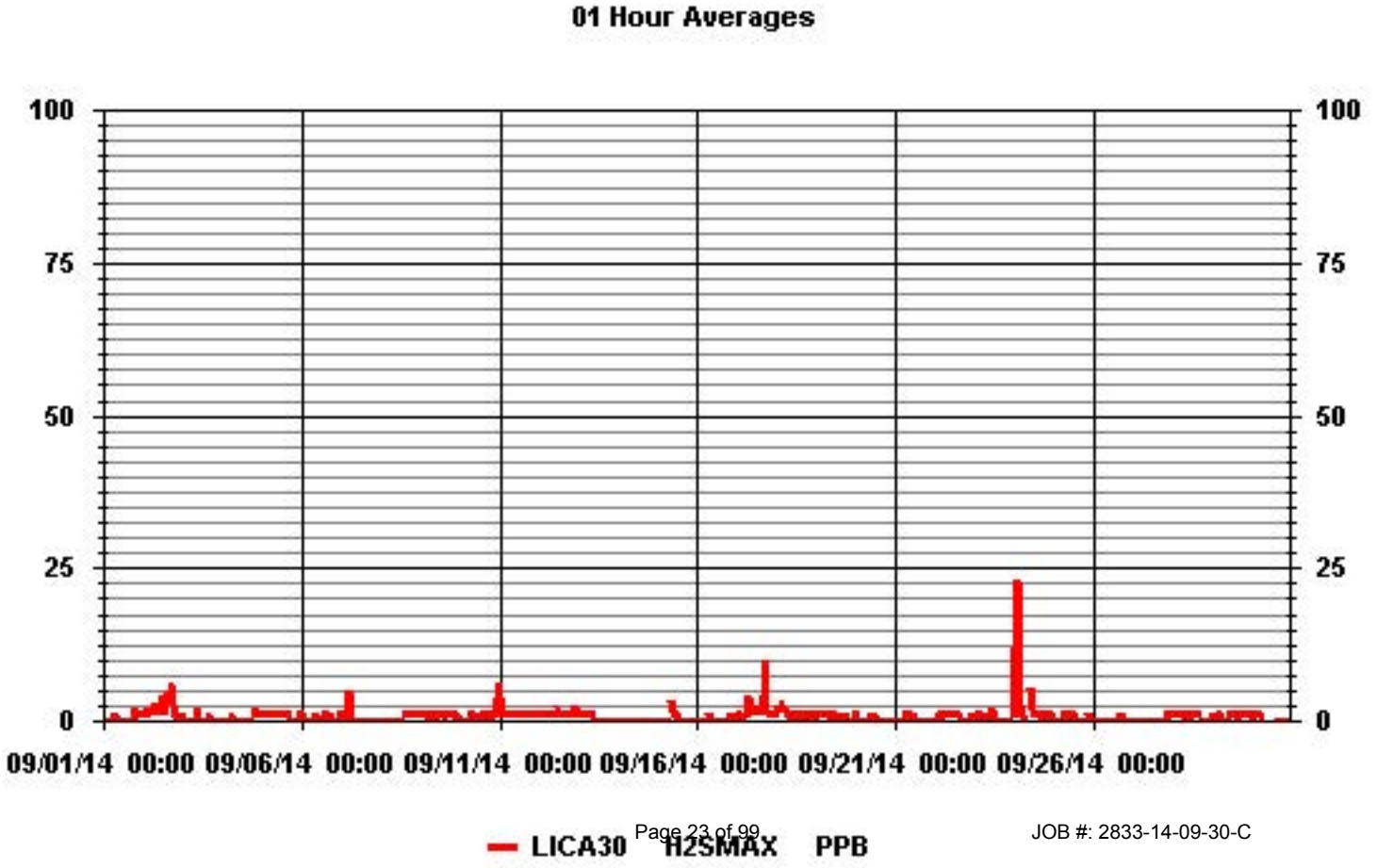
MAXIMUM INSTANTANEOUS VALUE: 23 PPB @ HOUR(S) 2 ON DAY(S) 24

VAR-VARIOUS

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 720 HRS

MONTHLY CALIBRATION TIME: 9 HRS

STANDARD DEVIATION: 1.40



JOB #: 2833-14-09-30-C

LICA30
H2S_ / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 30
Site Name : LICA30
Parameter : H2S_
Units : PPB

Wind Parameter : WDR
Instrument Height : 10 Meters

		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3	3.81	13.21	4.99	2.05	1.32	2.34	4.99	8.66	6.60	18.35	7.04	4.11	5.87	7.19	3.52	4.25	98.38
<	10	.00	.00	.14	.14	.00	.73	.00	.00	.14	.29	.00	.00	.00	.00	.00	.00	1.46
<	50	.00	.00	.00	.00	.00	.14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14
>=	50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	3.81	13.21	5.13	2.20	1.32	3.23	4.99	8.66	6.75	18.64	7.04	4.11	5.87	7.19	3.52	4.25	

Calm : .00 %

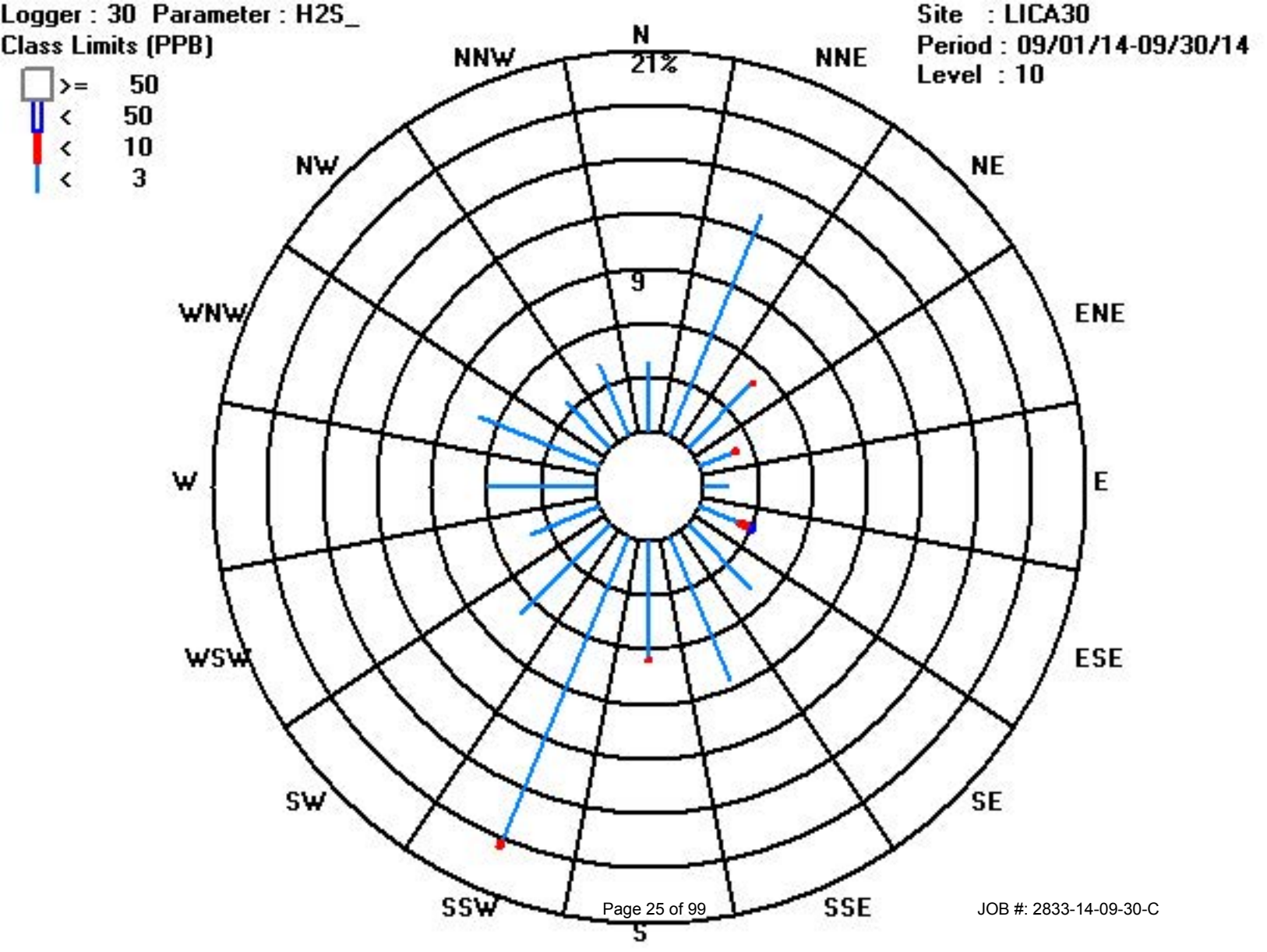
Total # Operational Hours : 681

Distribution By Samples

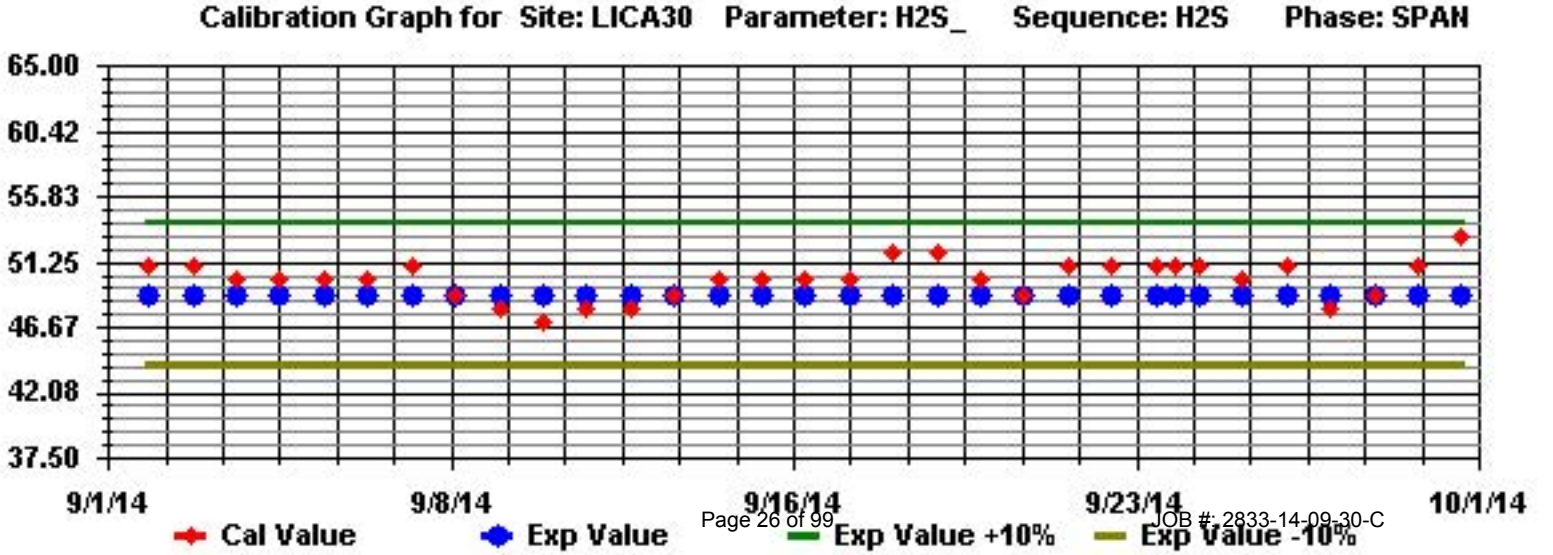
		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3	26	90	34	14	9	16	34	59	45	125	48	28	40	49	24	29	670
<	10			1	1		5			1	2							10
<	50						1											1
>=	50																	
	Totals	26	90	35	15	9	22	34	59	46	127	48	28	40	49	24	29	

Calm : .00 %

Total # Operational Hours : 681



JOB #: 2833-14-09-30-C


Calibration Graph for Site: LICA30 Parameter: H2S_ Sequence: H2S Phase: SPAN
65.00
60.42
55.83
51.25
46.67
42.08
37.50
9/1/14
9/8/14
9/16/14
9/23/14
10/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Hydrocarbons

Lakeland Industry & Community Association - Maskwa Site

SEPTEMBER 2014

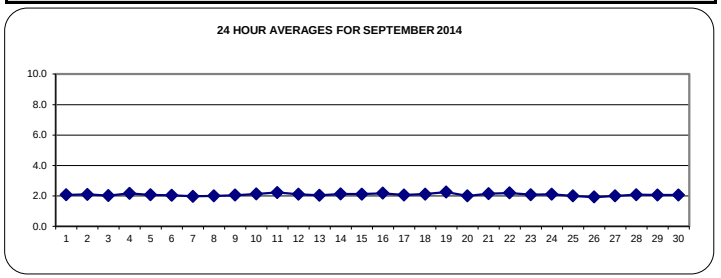
TOTAL HYDROCARBONS (THC) hourly averages in ppm

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	**S**	2.0	2.0	2.2	2.1	24
2	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.1	**S**	2.0	2.1	2.1	2.3	2.1	24
3	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.3	2.2	2.0	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9	**S**	2.0	2.0	2.1	2.2	2.3	2.0	24
4	2.2	2.2	2.3	2.3	2.4	2.3	2.6	2.7	2.5	2.2	2.3	2.0	2.0	2.0	2.0	2.0	1.9	1.9	**S**	2.0	2.0	2.0	2.1	2.0	2.7	2.2	24
5	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	**S**	2.1	2.1	2.1	2.2	2.2	2.5	2.5	2.1	24
6	2.3	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	**S**	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.0	24
7	2.2	2.1	2.2	2.1	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	**S**	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.2	2.0	24
8	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	**S**	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	24
9	2.0	2.0	2.0	2.1	2.2	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	**S**	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.0	24
10	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	**S**	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.4	2.4	2.1	24
11	2.6	2.5	2.3	2.2	2.2	2.5	2.4	2.3	2.4	2.3	2.2	**S**	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.6	2.2	24
12	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.3	2.3	**S**	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.3	2.1	24
13	2.0	2.0	2.1	2.0	2.1	2.1	2.1	2.1	2.0	**S**	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.0	24
14	2.2	2.3	2.4	2.4	2.3	2.3	2.3	2.3	**S**	2.1	2.0	2.1	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.4	2.1	24
15	2.2	2.3	2.4	2.4	2.5	2.5	2.5	**S**	2.5	2.2	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.5	2.1	24
16	2.1	2.1	2.2	2.3	2.3	2.5	**S**	2.7	2.2	2.1	2.3	2.3	2.1	2.0	1.9	1.9	1.8	**S**	**X**	**X**	**X**	**X**	**X**	**X**	2.7	2.2	18
17	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.1	14
18	2.0	2.1	2.1	2.2	**S**	2.2	2.2	2.3	2.4	2.4	2.2	2.1	2.0	1.9	1.9	2.0	1.9	1.9	1.9	2.0	2.1	2.1	2.3	2.4	2.4	2.1	24
19	2.3	2.2	2.1	**S**	2.6	2.7	3.0	3.2	***3.3***	3.0	2.7	1.9	1.9	1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	***3.3***	***2.2***	24
20	1.9	1.9	**S**	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.3	2.3	2.0	24
21	2.4	**S**	2.2	2.2	2.3	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.1	2.1	2.4	2.1	24
22	**S**	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.2	2.2	2.2	2.3	**S**	2.3	2.2	24
23	2.5	2.8	2.9	2.5	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	**S**	2.1	2.9	2.1	24
24	2.3	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.1	2.0	2.1	2.1	2.1	2.2	**S**	2.2	2.3	2.3	2.1	24
25	2.0	1.9	1.9	1.9	1.9	2.2	2.6	2.4	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	**S**	1.9	1.9	2.0	2.6	2.0	24
26	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	**S**	2.0	1.9	2.0	2.0	2.0	1.9	24
27	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	**S**	2.0	2.0	2.0	2.0	2.0	2.0	2.0	24
28	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	**S**	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	24
29	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.0	2.0	2.0	2.0	2.0	**S**	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.1	24
30	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.2	2.0	2.0	**S**	**C**	**C**	**C**	**C**	**C**	2.0	2.0	1.9	1.9	2.0	2.3	2.1	24
HOURLY MAX	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	3			
HOURLY AVG	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1			

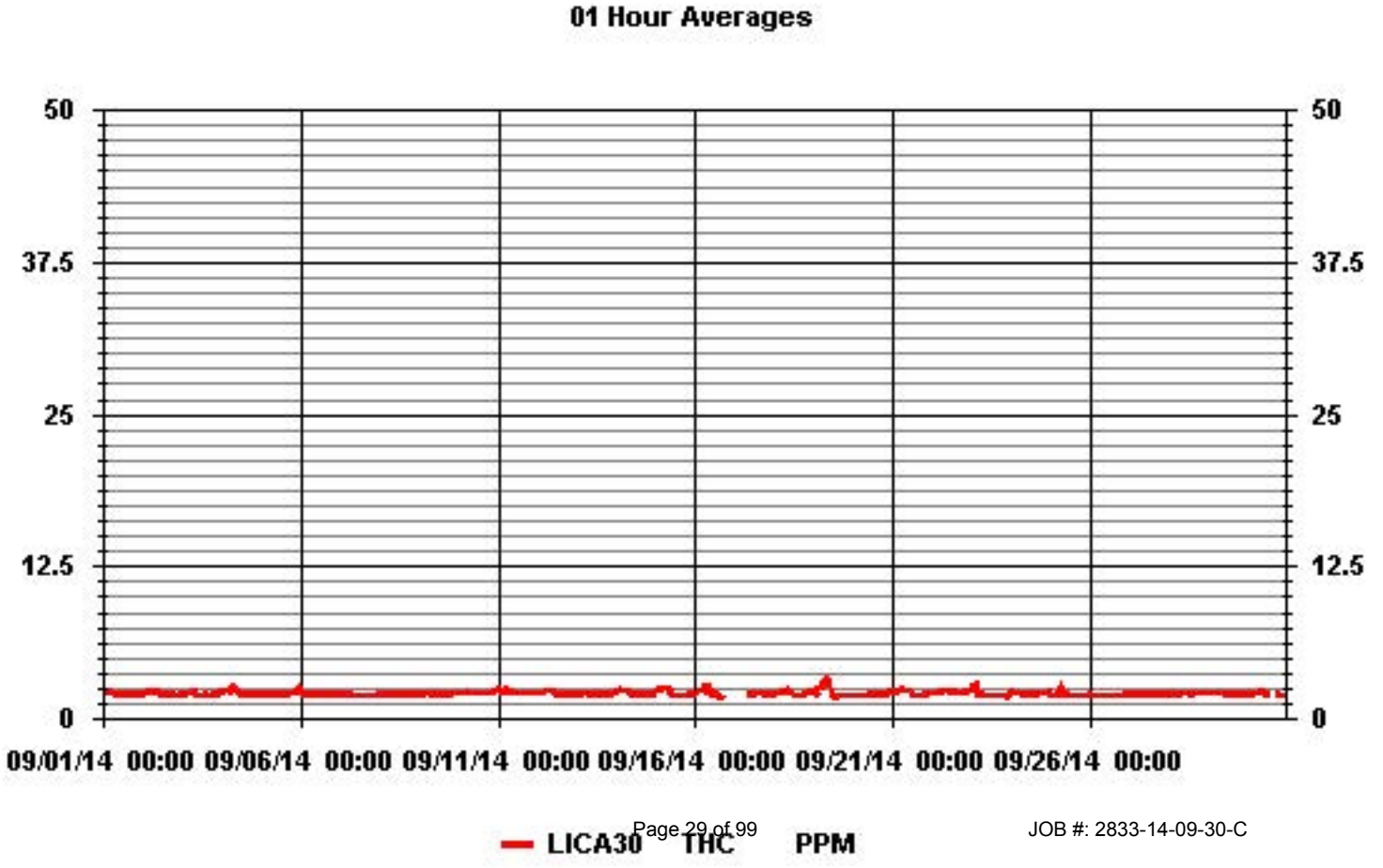
STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	668					
MAXIMUM 1-HR AVERAGE:	3.3	PPM	@ HOUR(S)	8	ON DAY(S)	19
MAXIMUM 24-HR AVERAGE:	2.2	PPM			ON DAY(S)	VAR
					VAR-VARIOUS	
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:		704	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:		97.8	%
STANDARD DEVIATION:	0.17		MONTHLY AVERAGE:		2.08	PPM



JOB #: 2833-14-09-30-C

Lakeland Industry & Community Association - Maskwa Site

SEPTEMBER 2014

TOTAL HYDROCARBONS MAX instantaneous maximum in ppm

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2	2	2	2	2	2	2.1	2	2	**S**	2	2	2.3	2.1	24
2	2.1	2.1	2.1	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.1	2	2	2	2.1	2.1	2.3	2	2.1	2.1	**S**	2.1	2.1	2.1	2.3	2.1	24
3	2.1	2	2.2	2.1	2.2	2.2	2.3	2.5	2.5	2.1	1.9	1.9	1.9	2	2	2	2	1.9	2	**S**	2	2.1	2.2	2.2	2.5	2.1	24
4	2.2	2.2	2.3	2.4	2.4	2.3	3.2	3.2	2.5	2.3	2.5	2.1	2	2	2	2	2	2	**S**	2.1	2.1	2.1	2.2	2	3.2	2.3	24
5	2	2	2.1	2.1	2	2.1	2.2	2.1	2.1	2.1	2	2	2.1	2.1	2	2	2	**S**	2.1	2.1	2.1	2.3	3	***4.3***	***4.3***	2.2	24
6	3.5	2.1	2.1	2	2.1	2.3	2.3	2.1	2.1	2	2	2	2	2	2	2	**S**	2	2	2.2	2	2	2.1	2.5	3.5	2.1	24
7	2.3	2.3	2.4	2.2	2.1	2	2	2.1	2	2	2	2	1.9	1.9	1.9	**S**	1.9	1.9	2	2	2	2	2	2	2.4	2.0	24
8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	**S**	2	2	2	2	2	2	2	2	2	2	2.0	24
9	2	2	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2	2	**S**	2	2.1	2	2	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	24
10	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	**S**	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.6	2.6	2.6	2.2	24
11	2.7	2.6	2.4	2.3	2.3	2.6	2.6	2.3	2.4	2.4	2.5	**S**	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.7	2.3	24
12	2.2	2.2	2.1	2.1	2.2	2.2	2.3	2.3	2.3	2.4	**S**	2.2	2.1	2.1	2.1	2	2	2	2	2	2.1	2.1	2.1	2	2.4	2.1	24
13	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.2	2	**S**	2	2	2	2	2	2	2	2	2	2	2.1	2.1	2.1	2.2	2.2	2.1	24
14	2.2	2.4	2.4	2.4	2.4	2.3	2.3	2.3	**S**	2.2	2.1	2.1	2.1	2	2.2	2.2	2.1	2	2	2	2.1	2.1	2.1	2.2	2.4	2.2	24
15	2.4	2.5	2.4	2.5	2.6	2.6	2.5	**S**	2.6	2.4	2.1	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2	2.1	2	2.2	2.6	2.2	24
16	2.1	2.1	2.2	2.5	2.4	2.7	**S**	3	2.3	2.2	2.4	2.4	2.2	2.1	2	1.9	1.9	**S**	**X**	**X**	**X**	**X**	**X**	**X**	3	2.3	18
17	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2	2	2	2	2.2	2.1	14
18	2.1	2.2	2.2	2.4	**S**	2.2	2.3	2.5	3	2.5	2.3	2.3	2	1.9	1.9	2	1.9	1.9	2	2	2.1	2.2	2.3	2.4	3	2.2	24
19	2.4	2.3	2.2	**S**	2.8	2.8	3.4	3.5	3.6	3.3	3	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	3.6	***2.4***	24
20	2	1.9	**S**	1.9	1.9	2	1.9	1.9	1.9	2	2	2	2	2	2	2	2	2	2	2	2.1	2.1	2.3	2.3	2.3	2.0	24
21	2.5	**S**	2.3	2.2	2.3	2.4	2.5	2.4	2.4	2.3	2.4	2.4	2.2	2	1.9	1.9	1.9	1.9	2	2	2	2	2.1	2.1	2.5	2.2	24
22	**S**	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.4	**S**	2.4	2.2	24
23	2.6	3	3.1	2.9	2.3	2	2.1	2.1	2	1.9	1.9	1.9	1.9	2	2	1.9	1.9	2	2	2	2.1	2	**S**	2.2	3.1	2.2	24
24	2.5	2.6	2.5	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.3	**S**	2.5	2.4	2.6	2.2	24
25	2.1	1.9	1.9	1.9	2	2.5	2.6	2.6	2.2	2.1	2	2	2	1.9	1.9	1.9	1.9	1.9	2	1.9	**S**	1.9	2	2	2.6	2.0	24
26	2	2	1.9	1.9	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	**S**	2	2	2.1	2.1	2.1	1.9	24
27	2.1	2.1	2.1	2.1	2.1	2	2	2.1	2.1	2	2	2	2	2	2	2	2	2	**S**	2	2	2	2.1	2	2.1	2.0	24
28	2	2	2	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	**S**	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	24
29	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.3	2.2	2	2	2	2	2	**S**	2	2	2	2.1	2.1	2.1	2.1	2.3	2.1	24
30	2.1	2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2	2	1.9	1.9	2	2.3	2.1	24
HOURLY MAX	4	3	3	3	3	3	3	4	4	3	3	2	2	2	2	2	2	2	2	2	2	2	3	4			
HOURLY AVG	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.2			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 667

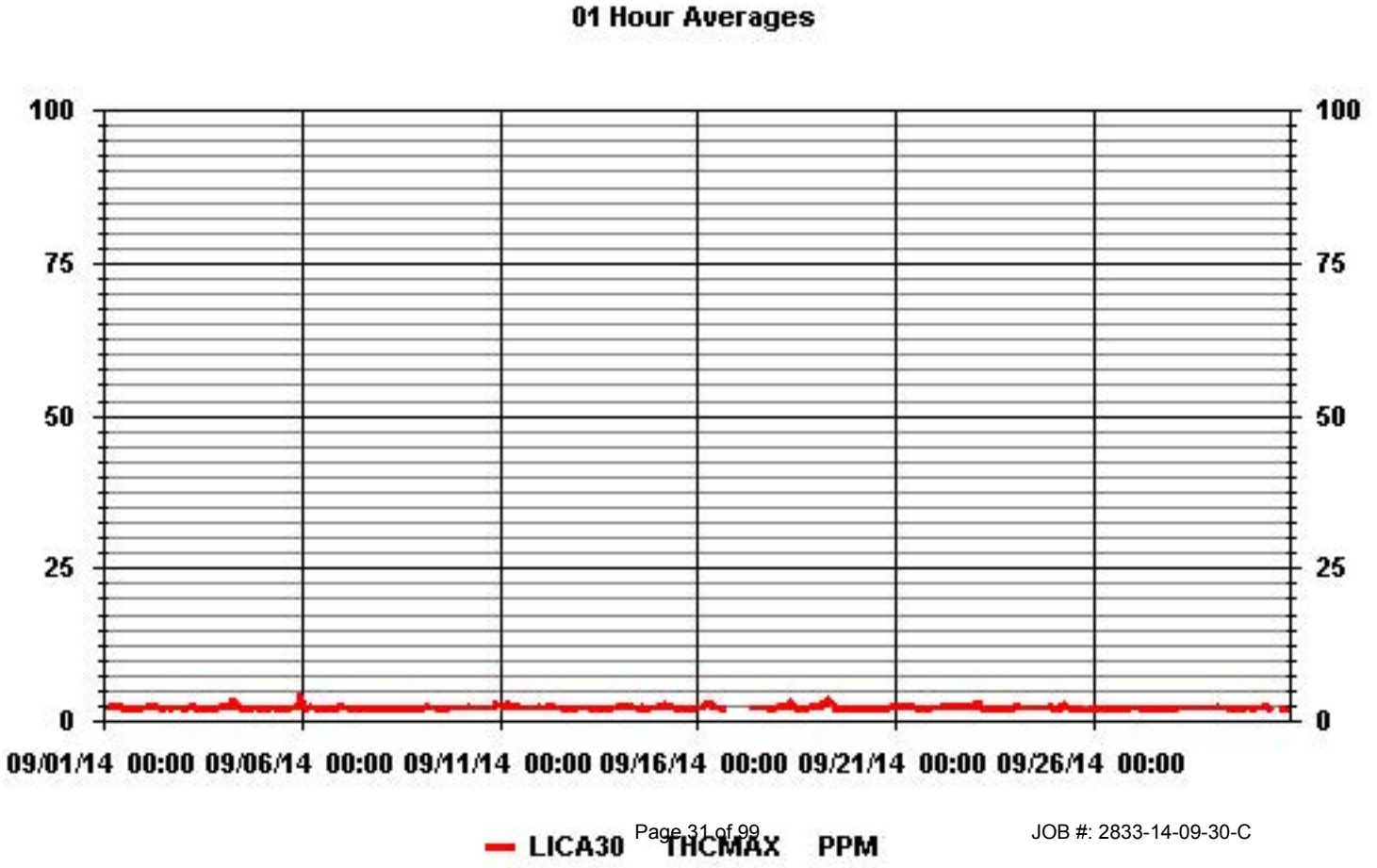
MAXIMUM INSTANTANEOUS VALUE: 4.3 PPM @ HOUR(S) 23 ON DAY(S) 5

VAR-VARIOUS

IZS CALIBRATION TIME: 30 HRS OPERATIONAL TIME: 704 HRS

MONTHLY CALIBRATION TIME: 7 HRS

STANDARD DEVIATION: 0.24



JOB #: 2833-14-09-30-C

LICA30
THC / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 30
Site Name : LICA30
Parameter : THC
Units : PPM

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3.0	3.89	13.47	4.19	1.94	.89	3.14	4.79	8.83	6.88	18.41	7.33	4.34	5.68	7.63	3.59	4.34	99.40
<	10.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.59	.00	.00	.00	.00	.00	.00	.59
<	50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	3.89	13.47	4.19	1.94	.89	3.14	4.79	8.83	6.88	19.01	7.33	4.34	5.68	7.63	3.59	4.34	

Calm : .00 %

Total # Operational Hours : 668

Distribution By Samples

Direction

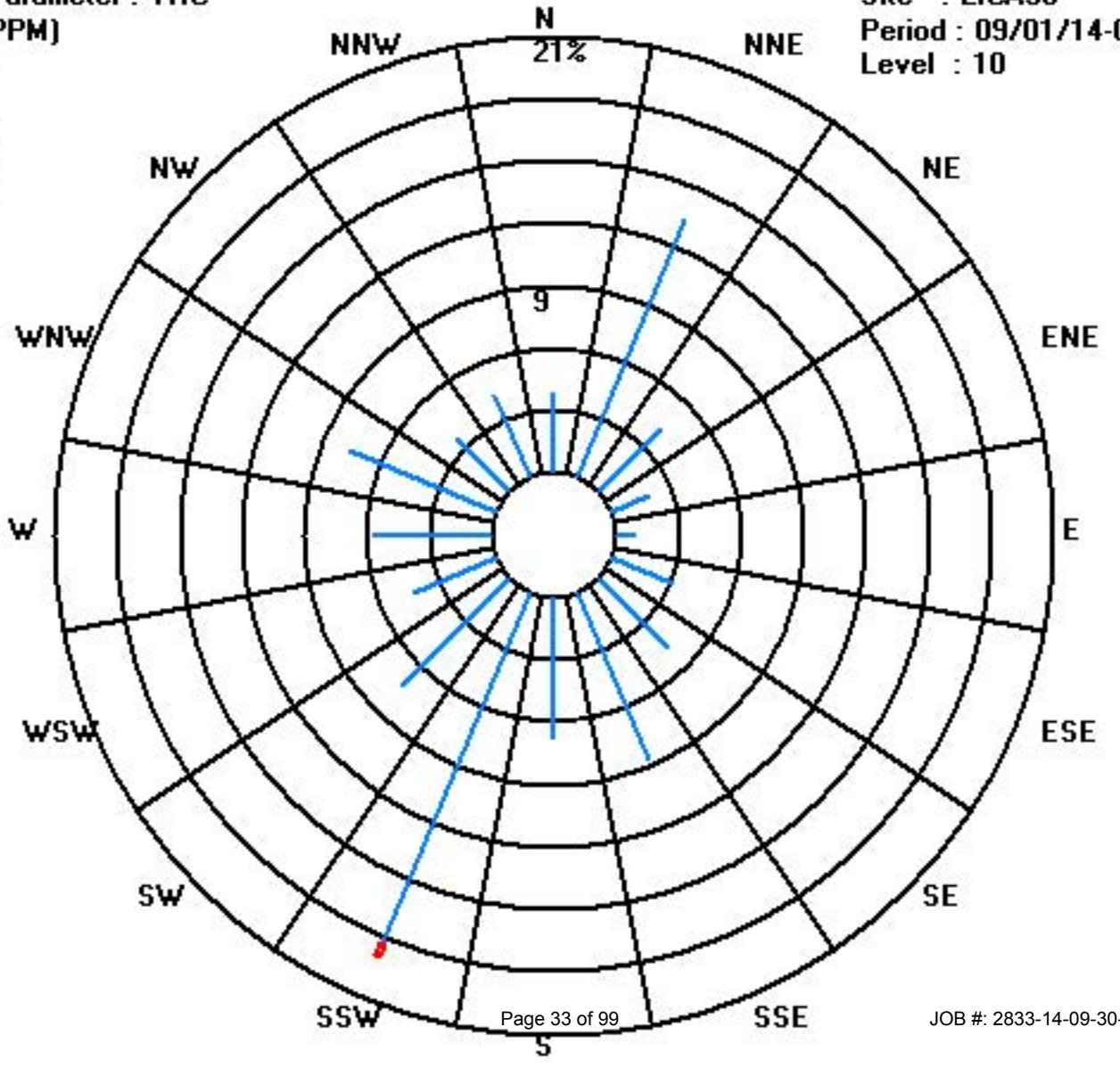
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3.0	26	90	28	13	6	21	32	59	46	123	49	29	38	51	24	29	664
<	10.0										4							4
<	50.0																	
>=	50.0																	
	Totals	26	90	28	13	6	21	32	59	46	127	49	29	38	51	24	29	

Calm : .00 %

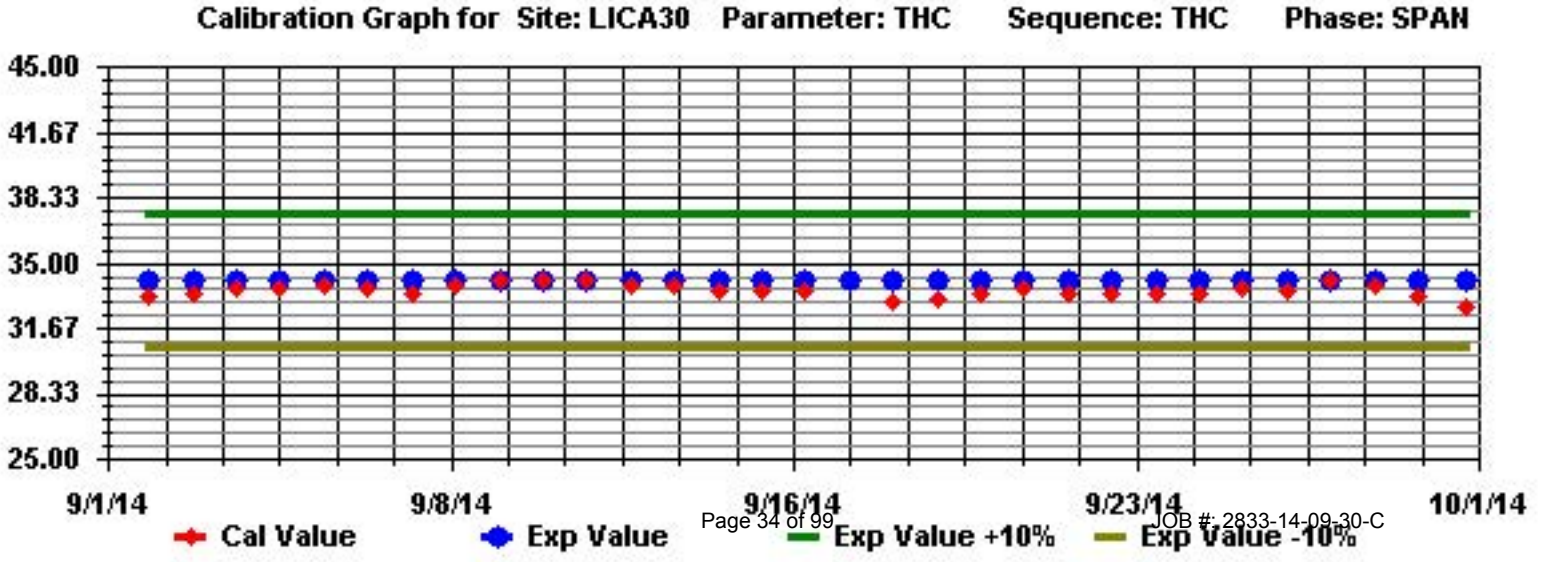
Total # Operational Hours : 668

Logger : 30 Parameter : THC
Class Limits (PPM)
>= 50.0
< 50.0
< 10.0
< 3.0

Site : LICA30
Period : 09/01/14-09/30/14
Level : 10



JOB #: 2833-14-09-30-C


Calibration Graph for Site: LICA30 Parameter: THC Sequence: THC Phase: SPAN
45.00
41.67
38.33
35.00
31.67
28.33
25.00
9/1/14
9/8/14
9/16/14
9/23/14
10/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitrogen Dioxide

Lakeland Industry & Community Association - Maskwa Site

SEPTEMBER 2014

NITROGEN DIOXIDE (NO2) hourly averages in ppb

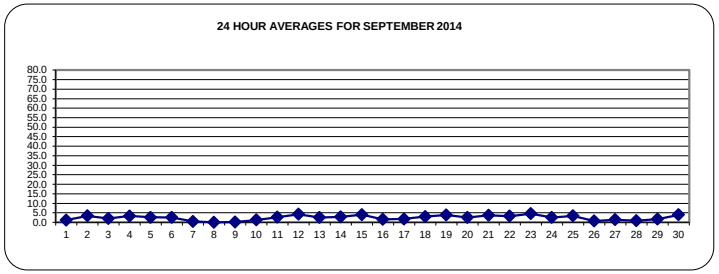
MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0.4	0.3	0.4	0.4	1.2	2.3	2.7	2.6	1.7	1.8	1.2	1.7	0.4	0	0.3	0	0	0.1	6.6	1.3	0.3	**S**	0.6	0.9	6.6	1.2	24
2	4.4	2.8	4	2.5	3.1	2.6	3.2	3.6	7.9	7.7	5.5	2.9	1.5	1.4	4.3	2.9	5.2	4.5	3.3	2.1	**S**	1.8	0.6	0.6	7.9	3.4	24
3	0.7	1	0.9	1	0.7	2.8	3.8	2.1	2.4	0.4	0.6	0.4	0.5	1.6	7.7	4.9	3.5	3	2.4	**S**	0.5	1.7	2.3	1.2	7.7	2.0	24
4	1.9	2.9	1.4	2.1	1.2	1.6	5.2	6.6	3.6	2.8	3.7	3.3	3.5	3.2	2.1	1.7	0.4	0.4	**S**	10.3	6.9	2	7	2.5	10.3	3.3	24
5	4.3	2.5	3.3	4	2.3	3	5.2	6.3	2	0.8	1.4	1.9	1	0.9	0.9	0.6	0.9	**S**	2	1.7	1.8	1.3	2.2	9.9	9.9	2.6	24
6	13.8	6.4	0.7	0.8	1.1	5	7	2.4	1.7	1.6	1.3	1.2	1.6	1.5	1.4	3.3	**S**	1.1	0.7	2.3	1.4	0.7	0.9	1.6	13.8	2.6	24
7	0.8	0.7	0.6	1.1	0.5	0.4	0.5	0.8	0.5	0.5	0.7	0.8	1.4	0.5	0.2	**S**	0	0	0	0	0	0	0	0	1.4	0.4	24
8	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0.1	0.0	24
9	0.3	0	0	0	0	0.1	0.4	0.5	0.7	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0.7	0.1	24
10	0	0	0	0.3	1	2.5	4.1	0.5	0.7	0.2	0	0	**S**	1.1	0.9	2.3	3.1	2.1	0.7	0.5	0.6	1	3.4	3.5	4.1	1.2	24
11	5.1	5	2.2	2.1	3.1	7.5	7.3	4.3	3.5	3	2.7	**S**	1.1	0.9	1.2	1.2	1.2	0.9	0.9	1.3	1.6	1.6	1.7	1.8	7.5	2.7	24
12	2	2	2	2.4	2.8	4.4	8.1	10.1	8.6	10.7	**S**	9.6	4.3	3	5	3.3	1.4	0.9	1.2	1.7	2.1	3.5	4	4.1	10.7	4.2	24
13	2.4	2.1	6.8	2.5	6.9	6	5.9	7	3.3	**S**	3.3	3.1	0.1	1.4	1.3	0	0	0.1	0.1	0.5	0.8	1.6	1.9	2.2	7	2.6	24
14	2.8	3.5	5.1	4.9	8.1	5.5	5.4	7.1	**S**	4.1	2.7	2.4	3.1	1.8	1.3	2.2	0.4	0.3	0.5	0.3	0.5	1	1.9	2	8.1	2.9	24
15	2.2	4.1	7.8	8.6	6.4	6.6	6	**S**	12.3	13.3	5.5	5.2	0.8	1.2	1.7	1.7	1	0.8	1	1.5	3.1	0.9	0.4	1.1	13.3	4.1	24
16	0.7	0.8	0.8	0.4	0.8	2.3	**S**	2.7	6	2.7	4.4	4.3	3	1.5	1	1.5	2.1	0.1	0	0	0	0	0	0	6	1.5	24
17	0	0	0.1	1.8	2.2	**S**	5.5	3.5	1.1	0.9	0.9	0.9	1.5	3.5	2.7	1.2	3.4	3.4	1.4	1.2	1.5	1.4	1.2	1.2	5.5	1.8	24
18	1.1	1.2	0.9	0.6	**S**	1.8	3.6	4.2	3.8	5.8	3	7	1.8	1.2	1.9	3.8	1.7	1.6	1.9	2.5	3.9	4.1	5.3	6.1	7	3.0	24
19	4	2.3	1.5	**S**	8.9	12.4	14.9	11.9	9.4	9.2	8.1	1.4	0.4	0.4	0.2	0.9	0.1	0.1	0	0	0	0.1	0.2	0.1	14.9	3.9	24
20	10.4	0.3	**S**	1	0.3	1.3	1.5	1.1	0.8	2.4	4.4	3.3	6.2	7.5	0.4	0.1	0.7	0	0.1	0.7	0.8	2.5	6.7	6.9	10.4	2.6	24
21	6.6	**S**	3.7	3.8	4.9	7.5	8.6	8.4	8.7	7	6.6	4.4	2.1	0.9	1	0.6	0.6	0.7	0.9	0.9	1.2	1.3	2.7	3.5	8.7	3.8	24
22	**S**	3.3	3.2	3	3.5	4.1	3.7	3.6	3.1	2.8	3.1	2.8	2.6	2.9	3.1	3.5	3.1	3	2.7	3.4	4	3.3	3.6	**S**	4.1	3.2	24
23	4.3	3.1	3.8	4.3	1.2	4.7	***16.9***	14.9	6.7	6.2	1.9	5.2	2	3.4	4.1	2.1	0.2	0.7	2.5	1.4	7.2	3.1	**S**	4.8	***16.9***	***4.6***	24
24	1.7	0.8	0.8	0.9	0.8	0.7	0.5	1.7	2.1	4.1	5.5	3.5	6.3	2.9	1.5	2.3	1.9	1.5	3	4.6	3.3	**S**	1.3	7.1	7.1	2.6	24
25	1.4	4.1	7.7	4.2	2.1	8	12.4	9.7	4.3	2.5	2.7	4.1	6.8	2.3	0.8	0.7	0.5	1.1	0.8	0.6	**S**	0.1	0.2	0.5	12.4	3.4	24
26	0.9	0.4	0.1	0.1	0.1	0	0	0	0.3	0	2.5	0.6	0	0	0	0	0	0.1	1.1	**S**	1.4	2	3.2	3.3	3.3	0.7	24
27	4.1	4.5	7	5.8	4.9	1.3	0.7	0.6	0.5	0.4	0.3	0.4	0.4	0.6	0.4	0.3	0	0.2	**S**	0	0	0	0	0	7	1.4	24
28	0.1	0.3	0.2	0	0.8	1.4	0	0	0.6	0.6	0.5	0.3	0.4	0	0	0	0	**S**	1.3	2.4	3.1	2.4	3	3.3	3.3	0.9	24
29	3.6	3	2.2	2.4	1.1	1.2	1.7	1.9	1.4	1.2	1.1	0.9	1	0.7	0.8	0.8	**S**	0.9	2.4	3	2.3	1.5	1.5	1.7	3.6	1.7	24
30	1.6	1.6	2.2	2.8	1.8	2.5	3.9	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1.1	10.7	13.5	7.1	0.2	0.2	6	13.5	3.9	24
HOURLY MAX	14	6	8	9	9	12	17	15	12	13	8	10	7	8	8	5	5	5	11	14	7	4	7	10			
HOURLY AVG	2.8	2.0	2.4	2.2	2.5	3.4	4.8	4.2	3.5	3.3	2.6	2.6	1.9	1.7	1.7	1.5	1.2	1.0	1.7	2.1	2.0	1.4	1.9	2.7			

STATUS FLAG CODES

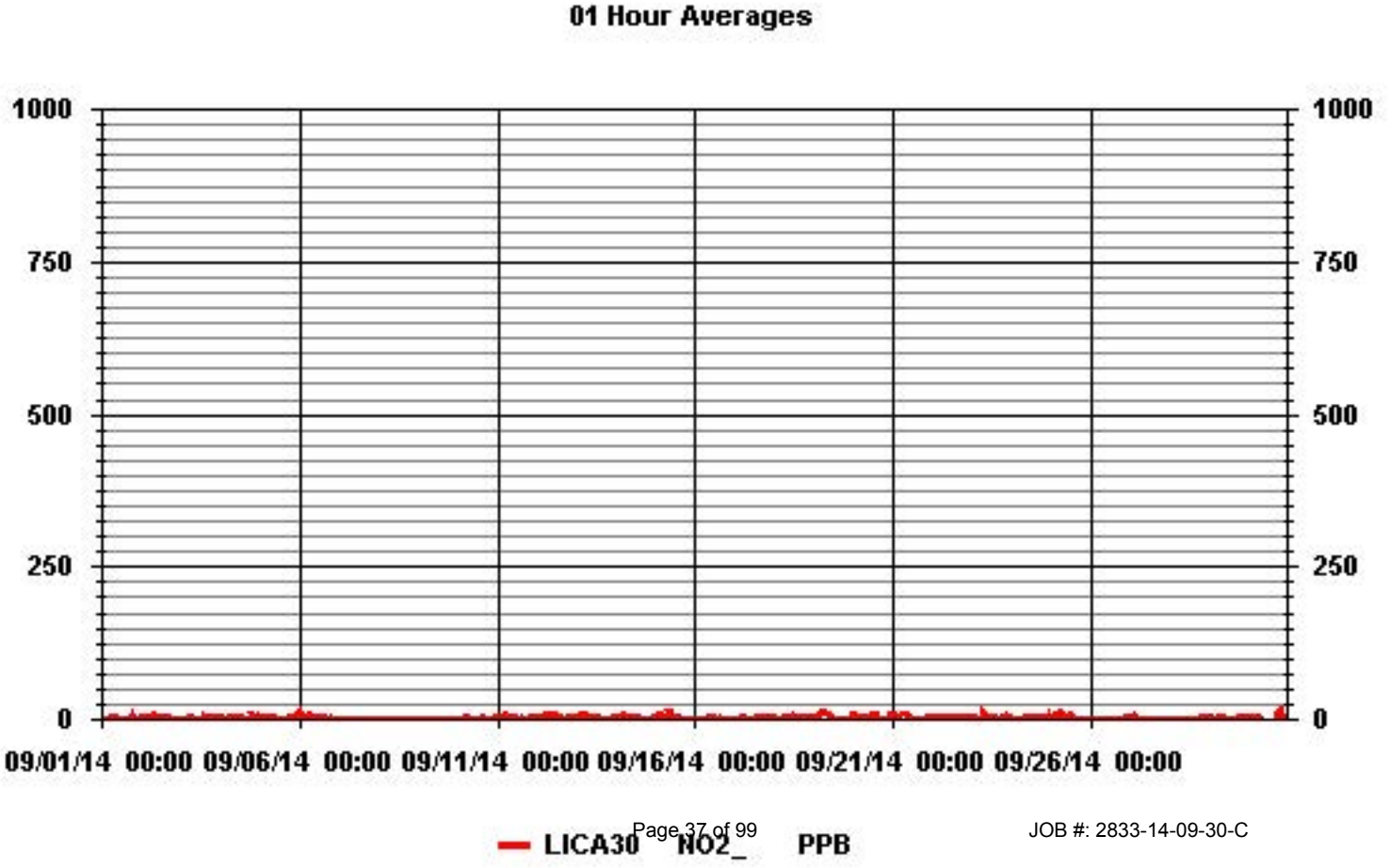
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

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



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	589					
MAXIMUM 1-HR AVERAGE:	16.9	PPB	@ HOUR(S)	6	ON DAY(S)	23
MAXIMUM 24-HR AVERAGE:	4.6	PPB			ON DAY(S)	23
					VAR-VARIOUS	
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:		720	HRS
MONTHLY CALIBRATION TIME:	10	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	2.63		MONTHLY AVERAGE:		2.38	PPB



JOB #: 2833-14-09-30-C

Lakeland Industry & Community Association - Maskwa Site

SEPTEMBER 2014

NITROGEN DIOXIDE MAX instantaneous maximum in ppb

MST

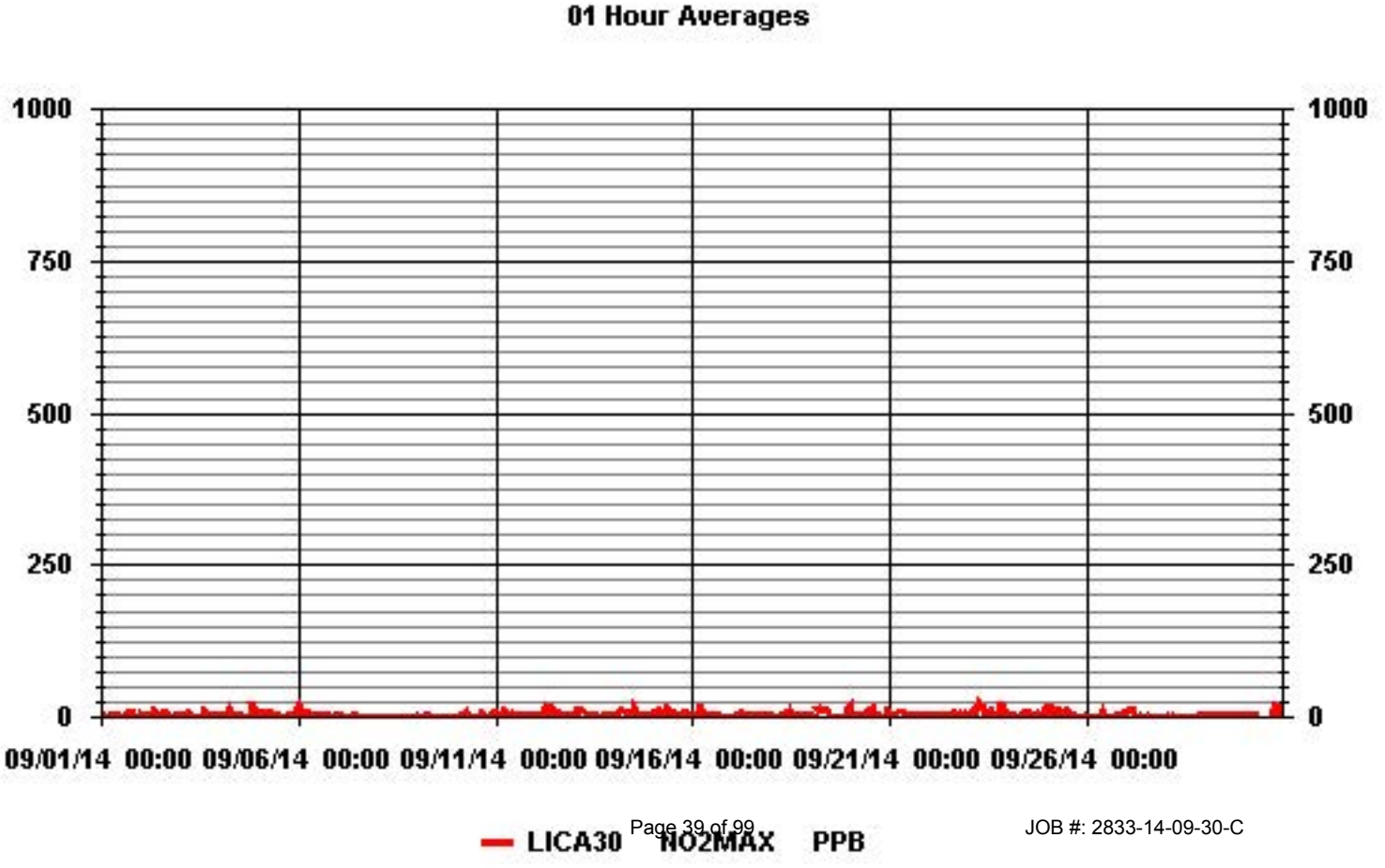
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	1.6	1.4	1.6	1.8	2.2	5.1	4.8	6.5	3.3	3.2	3.5	3.6	1.1	0.9	1.1	1	1	1.1	12.7	5.8	1.3	**S**	0.7	1.2	12.7	2.9	24
2	7	4.6	5.5	3.4	4.6	4.7	4.5	5.2	13	12.4	7.6	3.9	1.8	1.4	8.1	5.2	8.1	5.1	4	2.6	**S**	3.6	1.1	1.1	13	5.2	24
3	1.4	1.4	1.7	1.5	1.1	7.2	6.7	3.8	4.1	0.9	0.7	0.5	0.7	4.3	12.7	11.6	6.1	3.5	3.3	**S**	1.3	4.5	4.6	2.7	12.7	3.8	24
4	2.8	6	2.9	3.3	2.2	3.1	14.2	9.9	4.1	3.6	4.3	4	4.6	5.1	2.6	3	1	2.3	**S**	21	11.3	3.2	17.1	5.6	21	6.0	24
5	5.8	3.8	8.2	8.2	5.1	7.7	8.5	8.1	7.2	2	2.6	3	1.6	1.7	1.3	0.9	2.1	**S**	2.6	2.1	2.5	1.5	6.5	15.5	15.5	4.7	24
6	20.2	12.3	3.5	1.2	2.1	10.1	9.2	3.4	1.8	2.4	1.4	1.4	1.9	1.4	1.4	5.2	**S**	3.2	1.1	3.4	2.1	1	1.8	2.3	20.2	4.1	24
7	1.5	1.5	1.2	1.8	0.9	0.8	1	2.2	1.2	1.2	1.5	1.7	2.3	1	0.8	**S**	0.3	0.4	0.5	0.2	0.6	0.6	0.6	0.8	2.3	1.1	24
8	0.5	0.3	0.3	0.6	0.4	0.6	0.6	0.6	0.5	0.3	0.5	0.5	0.6	0.5	**S**	0.4	0.6	0.6	0.4	0.4	0.6	0.7	1.1	0.8	1.1	0.5	24
9	1.1	1.2	0.5	0.6	0.7	1.3	1.4	1.6	1.5	1.2	0.7	0.7	0.5	**S**	0.2	0.3	0.4	0.4	0.2	0.4	0.2	0.4	0.1	0.3	1.6	0.7	24
10	0.5	0.3	1	1	3.7	4.4	8.7	1.6	1.4	0.7	0.5	0.4	**S**	2.7	1.2	6.8	7.8	5.3	1.1	0.9	1	2.9	5.9	5.6	8.7	2.8	24
11	6.7	5.8	3	2.6	4.5	10.7	10.5	5.9	4.4	3.4	7.9	**S**	1.6	1.6	1.7	1.8	1.8	1.2	2.1	2	2.1	2.1	2.1	2.1	10.7	3.8	24
12	2.6	2.6	3.2	3.7	3.5	7	16.7	12.8	9.4	16.8	**S**	12.3	9.3	4.9	8.2	7.7	1.9	1.3	1.6	2.3	2.5	4.5	4.8	5.7	16.8	6.3	24
13	2.9	4.1	16.5	4.5	11.4	11.4	9.6	9.1	5.6	**S**	6.7	4.7	2.4	3.8	2.7	0.9	0.4	1.3	1.2	1.9	1.9	2.4	2.7	3	16.5	4.8	24
14	4.5	4.5	6.5	6.4	10.3	10.3	11.2	9.2	**S**	6.1	5.6	3	16.5	11.5	4.9	5.4	1.3	1.1	1.5	1	1.3	2.1	2.7	3.1	16.5	5.7	24
15	3.4	7.1	9.6	11.5	7.5	8.4	7.4	**S**	16.5	16.2	8.1	9.1	2.1	4.6	4.2	2.9	2.7	2.3	1.8	4.2	11.9	2	1.1	1.8	16.5	6.4	24
16	1.6	1.2	1	1.1	1.8	17.5	**S**	8.7	6.6	4.2	5.1	5.3	4	2	1.8	2.3	4.8	1.7	0.3	0.3	0.4	0.5	0.2	0.5	17.5	3.2	24
17	0.2	0.4	2.5	4	3.9	**S**	8.7	6.4	2	1.2	1.3	1.6	2.4	5.7	6.4	1.4	4	6	2	1.7	2.2	2	1.8	2	8.7	3.0	24
18	1.8	1.9	1.7	1.4	**S**	3.2	4.5	4.8	6.1	8.8	3.2	10.2	3	1.7	3.6	6.7	4.3	3.5	2.6	4	4.4	4.8	5.9	7.7	10.2	4.3	24
19	5.3	3.7	2	**S**	12.6	13.8	16.5	14.1	9.9	10	9.8	3.6	1.3	1.1	0.5	1.5	0.6	0.8	0.3	0.2	0.7	0.8	0.6	15.5	16.5	5.4	24
20	19.3	0.8	**S**	4	1.2	3.2	3	1.8	1.5	5.6	9.6	8.2	13.1	15.3	1	0.8	4.2	0.8	0.8	1.4	2.1	3.6	10.1	10.1	19.3	5.3	24
21	7.6	**S**	4.2	4.2	6	9.5	9.2	8.8	10.1	7	6.2	5.5	2.7	1.5	1.5	1.1	1.2	1	1.3	1.4	1.6	1.8	3.3	4.1	10.1	4.4	24
22	**S**	3.7	3.8	3.6	4.3	4.6	5.5	4.5	3.9	3.5	3.4	3.3	3.3	3.6	4.1	6.2	6.2	3.3	3.2	6.1	6.2	4.1	7.5	**S**	7.5	4.5	24
23	6.9	4.5	8.5	10.5	2.5	16.3	***25.1***	20.2	18	16	6.3	8.7	4.5	8.5	10.7	4.2	1.3	4.2	4.4	2.6	22.3	10.1	**S**	10.1	***25.1***	***9.8***	24
24	3.7	1.2	1.3	1.2	1.2	1.2	0.7	2	4.8	6.6	7.5	4.5	10.8	10.1	1.6	2.9	3.2	2.3	5.7	5.7	5.1	**S**	1.9	13.7	13.7	4.3	24
25	2.6	20.9	15.1	11.6	8.7	12.3	14.2	12.6	7.8	3.2	3.6	8.1	12.8	9.6	2	1.5	1.1	2.4	2.3	1.4	**S**	0.6	0.5	1.1	20.9	6.8	24
26	1.3	0.9	0.5	0.6	0.5	0.4	0.3	0.5	0.7	0.7	8.5	1.2	0.5	0.5	0.6	0.5	0.5	0.7	4.3	**S**	3.2	4.1	6.9	6.9	8.5	1.9	24
27	7.4	7.8	10.3	10	12.2	4.8	3.4	1.4	1	1	1	0.9	0.9	1.3	1.1	0.9	0.9	0.8	**S**	0.3	0.5	0.3	1.7	0.8	12.2	3.1	24
28	1.4	1	1.1	1.2	3	2.9	0.6	0.8	1.4	1.1	0.8	0.9	0.9	0.7	0.6	0.7	0.7	**S**	2.9	4.3	4.3	3.4	3.7	4	4.3	1.8	24
29	4.1	3.5	3.5	3.6	2	1.5	2.7	2.4	1.8	1.7	1.7	1.2	1.2	1	1.1	1.3	**S**	1.6	4.2	4.4	3.1	2.1	2.1	2.2	4.4	2.3	24
30	2.2	2.4	3.5	3.6	2.5	6.1	4.8	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	3.7	18.9	19.6	13.7	1.4	1.6	17.3	19.6	7.2	24
HOURLY MAX	20	21	17	12	13	18	25	20	18	17	10	12	17	15	13	12	8	6	19	21	22	10	17	17			
HOURLY AVG	4.4	3.8	4.3	3.9	4.2	6.6	7.4	6.0	5.3	5.0	4.3	4.0	3.9	3.9	3.1	3.0	2.5	2.2	3.1	3.6	3.9	2.5	3.5	5.1			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	680					
MAXIMUM INSTANTANEOUS VALUE:	25.1	PPB	@ HOUR(S)	6	ON DAY(S)	23
				VAR-VARIOUS		
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:			720 HRS
MONTHLY CALIBRATION TIME:	10	HRS				
STANDARD DEVIATION:	4.21					



JOB #: 2833-14-09-30-C

LICA30
NO2_ / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 30
Site Name : LICA30
Parameter : NO2_
Units : PPB

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	3.82	13.23	5.14	2.20	1.32	3.38	5.00	8.67	6.76	18.52	7.05	4.11	5.88	7.05	3.52	4.26	100.00
<	110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	3.82	13.23	5.14	2.20	1.32	3.38	5.00	8.67	6.76	18.52	7.05	4.11	5.88	7.05	3.52	4.26	

Calm : .00 %

Total # Operational Hours : 680

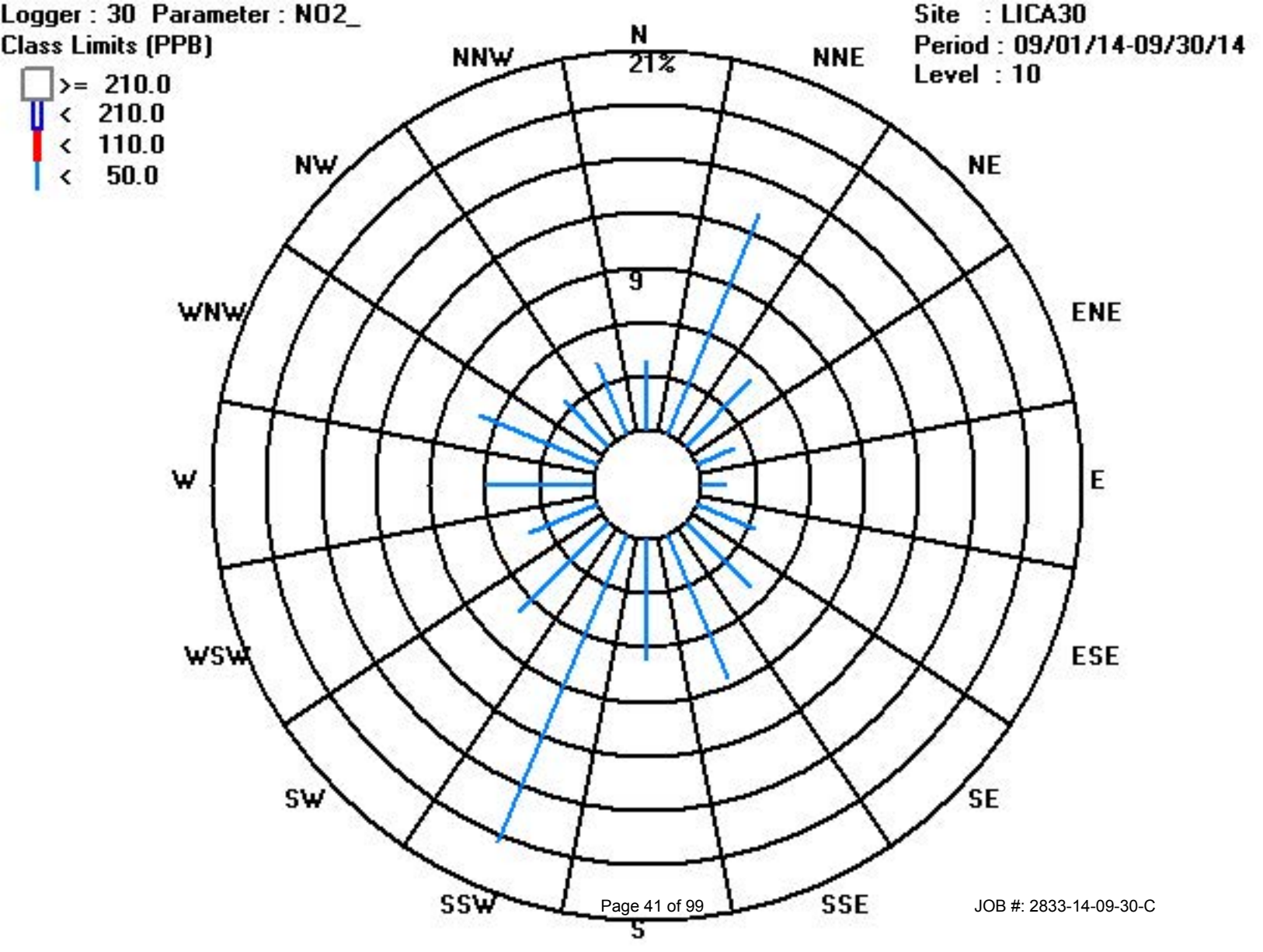
Distribution By Samples

Direction

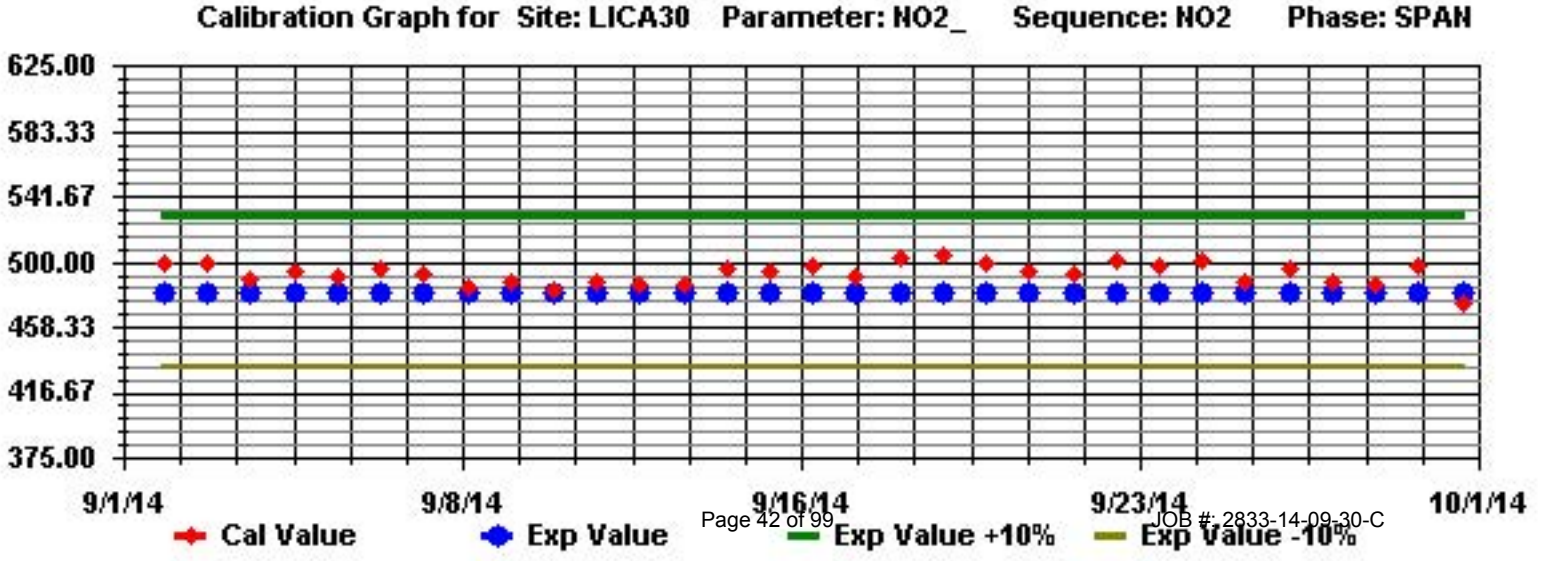
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	26	90	35	15	9	23	34	59	46	126	48	28	40	48	24	29	680
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	26	90	35	15	9	23	34	59	46	126	48	28	40	48	24	29	

Calm : .00 %

Total # Operational Hours : 680



JOB #: 2833-14-09-30-C


Calibration Graph for Site: LICA30 Parameter: NO2_ Sequence: NO2 Phase: SPAN
625.00
583.33
541.67
500.00
458.33
416.67
375.00
9/1/14
9/8/14
9/16/14
9/23/14
10/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitric Oxide

Lakeland Industry & Community Association - Maskwa Site

SEPTEMBER 2014

NITRIC OXIDE (NO) hourly averages in ppb

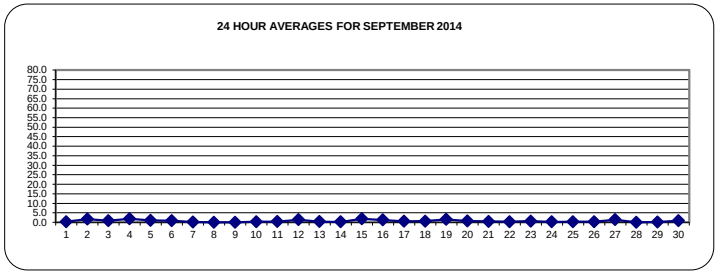
MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	0.5	0.7	1.8	1	1.3	0.4	0.3	0	0	0	0	0	0	0	0	0	**S**	0.1	0.1	1.8	0.3	24
2	0.5	0.2	0.2	0.2	0.2	0.6	2.6	3.7	12.1	7.4	4.3	1.1	0.1	0	1.5	0.9	1.7	0.8	0.1	0	**S**	0.5	0.4	0.3	12.1	1.7	24
3	0.4	0.4	0.4	0.2	0.3	2.2	2.3	2.2	2.7	0.5	0.2	0	0.1	0.4	2.5	3	1.2	0.6	0.3	**S**	0	0.1	0.2	0	3	0.9	24
4	0.2	0.1	0.4	1.5	0.6	0.9	9.4	7.2	3.7	2.3	2.5	1.4	0.5	0.4	0.2	0.1	0	0	**S**	2.8	0.3	0.2	5.7	0.4	9.4	1.8	24
5	0.6	0.4	0.9	1.2	0.7	1	4.2	5.3	1.1	0.9	1.7	1.8	0.6	0.5	0.3	0.2	0.2	**S**	0	0	0	0	0.1	1.5	5.3	1.0	24
6	7	3	0	0	0	1.6	3	0.4	0.6	0.6	0.5	0.2	0.4	0	0	0.9	**S**	0	0	0.1	0.1	0.1	0	0	7	0.8	24
7	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.6	0.3	0.3	0.3	0.3	0.4	0.1	0.4	**S**	0	0	0	0	0	0	0	0	0.6	0.2	24
8	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
9	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
10	0	0	0	0	0	0	6.1	0	0	0	0	0	**S**	0.2	0	0.7	0.3	0.1	0	0	0	0	0	0	6.1	0.3	24
11	0	0	0	0	0	0	0.6	1.5	1.9	1.5	1.3	**S**	0.4	0	0.5	0.1	0	0	0	0	0.1	0	0	0	1.9	0.3	24
12	0	0	0	0	0.1	0.2	2.7	4.1	4.1	12.4	**S**	5.5	1.4	0	1.1	0.4	0	0	0	0	0	0	0	0	12.4	1.4	24
13	0	0	0.8	0	0.4	0.3	1.2	2.8	0.9	**S**	1.2	0.8	0	0	0	0	0	0	0	0	0	0	0	0	2.8	0.4	24
14	0	0	0	0	0	0	0.4	2.6	**S**	1.6	0.4	0	0.5	0	0	0	0	0	0	0	0	0	0	0	2.6	0.2	24
15	0	0	0	0	0	0	2	**S**	***20.3***	16.1	2.8	2.1	0	0	0.1	0	0	0	0	0	0	0	0	0	***20.3***	***1.9***	24
16	0	0	0.2	0.4	0.7	6.8	**S**	13.6	3.4	0.8	1.3	0.9	0.4	0	0	0	0	0	0	0	0	0	0	0	13.6	1.2	24
17	0	0	0.1	0.9	1	**S**	3.5	1.3	0	0.1	0.1	0.4	0.4	2.6	0.9	0	0	0	0	0	0	0	0	0	3.5	0.5	24
18	0	0	0	0	**S**	1.1	4.8	1	1	3.8	0.5	2.1	0	0	0	0	0	0	0	0	0	0	0	0	4.8	0.6	24
19	0	0	0	**S**	0.4	0.6	3.3	7	11	7.6	4.5	0	0	0	0	0	0	0	0	0	0	0	0	0	11	1.5	24
20	0	0	**S**	0	0	0.2	0.3	0.1	0	1.1	2.6	1.6	3.9	4.9	0	0	0	0	0	0	0	0	0	0.1	4.9	0.6	24
21	0	**S**	0	0	0	0	0	1.5	3.6	2.4	2.1	0.4	0	0	0	0	0	0	0	0	0	0	0	0	3.6	0.4	24
22	**S**	0	0	0.1	0.1	0.1	0.4	0.7	1	1.1	1	0.5	0.3	0.2	0.3	0.4	0.2	0	0	0	0	0	0	**S**	1.1	0.3	24
23	0	0	0	0	0	0.2	2.9	2.8	2.1	2.2	0.2	1.3	0	0.6	0.9	0.2	0	0	0	0	0	0	**S**	0.1	2.9	0.6	24
24	0	0	0	0	0	0	0	0.2	0.6	0.9	1.3	0.5	1	0.1	0	0	0	0	0	0	0	**S**	0	0.3	1.3	0.2	24
25	0	0	0	0	0	0	0.4	1.1	1	0.3	0.1	0.4	2.1	0.4	0	0	0	0	0	0	**S**	0	0	0	2.1	0.3	24
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0.2	3.7	3.8	3.8	0.3	24
27	5.7	4.1	11.5	6.2	4.7	0.2	0	0	0	0	0	0.1	0	0.1	0	0.1	0	0	**S**	0	0	0	0	0	11.5	1.4	24
28	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
29	0	0.1	0.1	0	0	0	0.1	0.6	0.8	1	0.7	0	0	0	0	0	0	**S**	0	0	0	0	0	0	1	0.1	24
30	0	0	0	0	0	0	0	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0	1.3	3.3	2.9	0	0	3.8	3.8	0.8	24
HOURLY MAX	7	4	12	6	5	7	9	14	20	16	5	6	4	5	3	3	2	1	1	3	3	1	6	4			
HOURLY AVG	0.5	0.3	0.5	0.4	0.3	0.6	1.8	2.2	2.6	2.4	1.1	0.8	0.4	0.4	0.3	0.3	0.1	0.1	0.1	0.2	0.1	0.0	0.4	0.4			

STATUS FLAG CODES

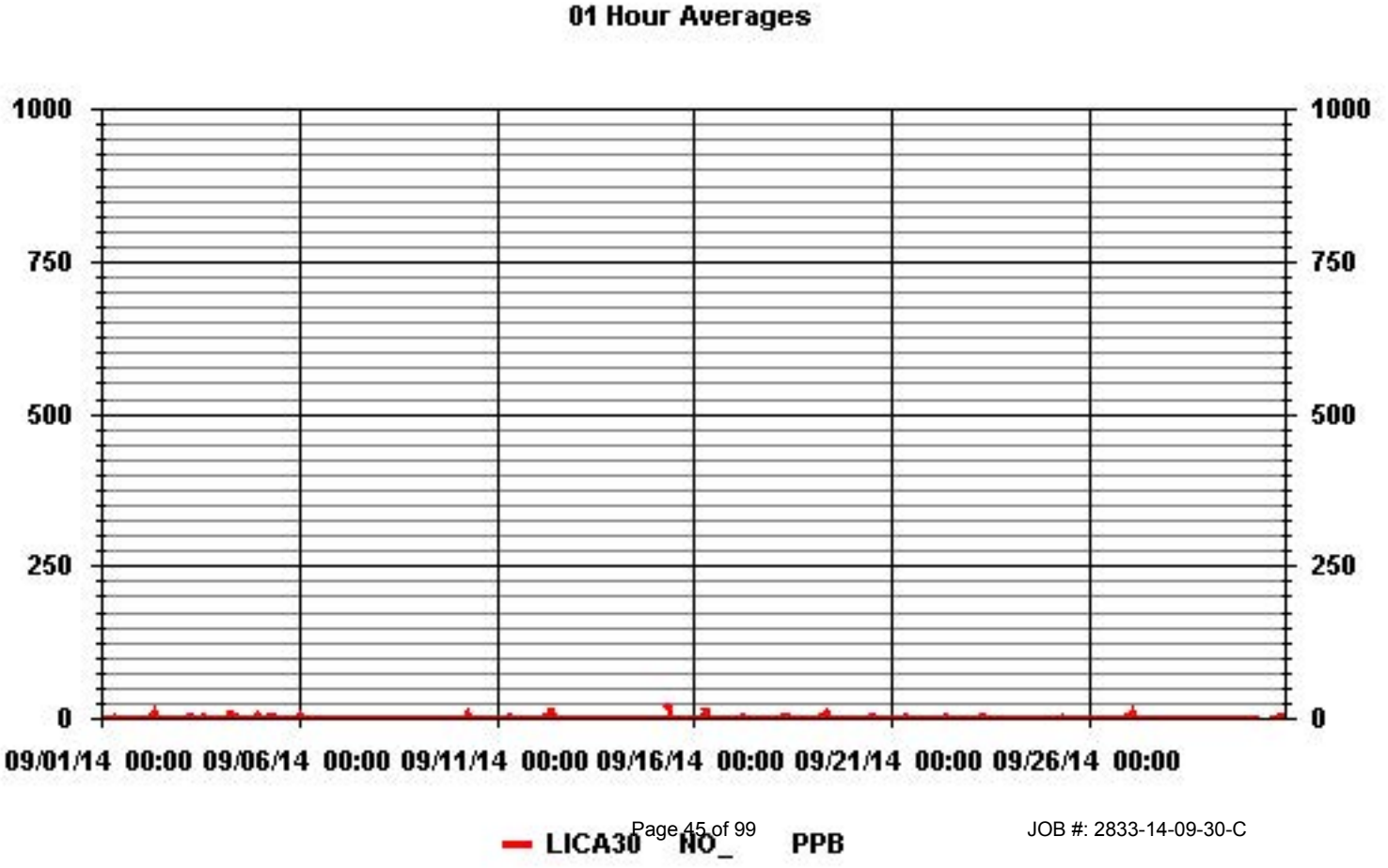
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR NA PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	NA					
NUMBER OF NON-ZERO READINGS:	275					
MAXIMUM 1-HR AVERAGE:	20.3	PPB	@ HOUR(S)	8	ON DAY(S)	15
MAXIMUM 24-HR AVERAGE:	1.9	PPB			ON DAY(S)	15
					VAR-VARIOUS	
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:		720	HRS
MONTHLY CALIBRATION TIME:	10	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	1.85		MONTHLY AVERAGE:		0.67	PPB



JOB #: 2833-14-09-30-C

Lakeland Industry & Community Association - Maskwa Site

SEPTEMBER 2014

NITRIC OXIDE MAX instantaneous maximum in ppb

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0.4	0.4	0.3	0.5	0.4	3.2	1.8	5.3	2.3	3.1	1.4	1.4	0.6	0	0.3	0.1	0.4	0.4	1.6	0.4	0.3	**S**	0.7	0.7	5.3	1.1	24
2	1.3	0.9	0.7	0.7	0.7	3.2	4.2	7.2	21.4	18.6	9.7	2.9	1	0.6	3.8	2	4.3	1.9	0.7	0.6	**S**	1.1	1	1	21.4	3.9	24
3	1.1	1.1	1	0.9	0.8	9.2	4	4.2	5.7	1.3	0.8	0.6	0.7	1.9	11	7.4	3.1	1.5	0.9	**S**	0.4	1.1	0.9	0.4	11	2.6	24
4	1.5	2	3.4	4.1	1.6	3.3	31.7	11	5	3.3	3.6	2.7	1.7	1.9	1	0.9	0.2	1	**S**	7.2	1	0.9	19.9	1	31.7	4.8	24
5	2.2	1	3.2	3.4	2.2	4.2	9.4	9.5	3.9	1.8	2.7	3.4	1.4	1.2	0.9	0.8	0.8	**S**	0.6	0.5	0.5	0.4	0.9	5.4	9.5	2.6	24
6	19.9	8.4	1.4	0.6	0.3	6.9	6.7	1	1.6	1.3	1.2	1	1.5	0.7	0.8	2.7	**S**	1.2	0.5	0.8	0.9	0.7	0.6	0.7	19.9	2.7	24
7	0.9	0.8	0.7	0.8	0.7	0.8	0.7	2.9	0.9	1.2	0.9	1	1.1	0.8	0.9	**S**	0.3	0.2	0.1	0.2	0.3	0.1	0.1	0.2	2.9	0.7	24
8	0.2	0.1	0.5	0.3	0.5	0.4	0.2	0.3	0.3	0.4	0.4	0.2	0.3	0.3	**S**	0.4	0.4	0.5	0.5	0.3	0.4	0.4	0.4	0.5	0.5	0.4	24
9	0.5	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.5	0.5	**S**	0.5	0.4	0.3	0.5	0.3	0.3	0.4	0.3	0.2	0.2	0.6	0.4	24
10	0.4	0.5	0.1	0.2	0.3	0.3	25.1	1	0.6	0.8	0.4	0.3	**S**	1.9	0.7	3.8	2.5	1	0.5	0.5	0.4	0.4	0.3	0.3	25.1	1.8	24
11	0.3	0.9	0.3	0.7	0.3	1.8	1.9	2.6	2.9	2.3	7.7	**S**	1	0.8	1.3	0.9	0.6	0.3	0.1	0.4	0.5	0.6	0.9	0.6	7.7	1.3	24
12	0.5	0.5	0.4	0.6	0.8	1.1	28.5	6.5	7.8	27.2	**S**	12.1	7	1.1	3.2	5	0.3	0	0	0	0.2	0.1	0.1	0.2	28.5	4.5	24
13	0.3	0.1	7.8	0.7	3.8	3.6	3.9	5.3	2.8	**S**	4.3	2.7	0.1	1.8	0.6	0	0	0	0	0.1	0.1	0	0.1	0.2	7.8	1.7	24
14	0.2	0.2	0.4	0.3	0.3	1.1	4.4	4.1	**S**	3.2	2.7	0.9	24	5.5	0.9	1.3	-0.1	0	0	0.2	0.3	0.3	0.3	0.3	24	2.2	23
15	0.3	0.5	0.4	0.6	0.4	0.8	4.5	**S**	38.1	29.7	5.8	5.8	0.6	1.9	1.5	0.9	0.6	0.4	0.2	0.4	0.3	0.3	0.4	0.5	38.1	4.1	24
16	0.2	0.5	1.2	1.2	7.5	48.4	**S**	***68.5***	5.8	2	2.1	2.1	1.3	0.6	0.5	0.6	0.8	0.6	0.3	0.2	0.3	0.3	0.5	0.6	***68.5***	***6.4***	24
17	0.6	0.6	1.6	2.7	2.1	**S**	7.8	4.9	0.7	0.7	0.7	1.2	2	7.5	6.1	0.4	0.9	0.8	0.1	0.1	0.2	0.1	0	0.2	7.8	1.8	24
18	0.4	0.4	0.3	0.4	**S**	5.7	15.1	2.8	3.9	9.1	1.3	4.2	1.1	0.1	0.3	1.2	1	0	0	0.1	0.2	0.2	0.2	0.1	15.1	2.1	24
19	0.1	0.5	0.3	**S**	2.3	2.6	8.1	9.8	15.2	11.4	6.8	2.6	0.6	0.2	0.7	1.4	0	0	0	0.1	0	0	0.1	0.7	15.2	2.8	24
20	0.5	0	**S**	0.4	0.5	2.9	2.2	0.8	0.9	4.4	7.9	5.5	10.6	12.7	0.5	0.7	0.5	0.2	0.4	0.5	0.5	0.6	0.5	0.8	12.7	2.4	24
21	0.7	**S**	0	0.2	0.1	0.8	1.9	3.1	4.7	3.3	2.5	2.4	0.2	0	0	0	0	0	0	0	0	0	0	0	4.7	0.9	24
22	**S**	0.6	0.6	0.7	0.7	0.7	1.5	1.6	1.8	1.7	1.7	1.2	1.1	1.3	0.8	1.9	1.9	0.6	0.4	0.3	0.7	0.4	0.7	**S**	1.9	1.0	24
23	0.3	0.4	0.7	0.7	0.5	2.1	8.8	5.5	26.9	8	2.8	4.2	0.9	3.1	4.8	1	0.2	0	0.1	0.3	0.2	0	**S**	0.7	26.9	3.1	24
24	0.5	0.5	0.2	0.4	0.5	0.5	0.5	1	2	2.3	2.9	1.8	3.7	2.4	0.4	0.4	0.3	0.2	0.2	0.2	0.2	**S**	0.3	2.7	3.7	1.0	24
25	0.4	1.1	0.4	0.2	1.1	1	1.5	2.4	2.6	1.3	0.9	2	5.9	3.4	0.6	0.3	0.1	0.3	0.5	0.4	**S**	0.6	0.3	0	5.9	1.2	24
26	0.1	0.5	0.5	0.6	0.5	0.2	0.2	0.5	0.5	0.5	1.5	0.4	0.2	0.4	0.4	0.5	0.5	0.2	0.4	**S**	3.2	3.6	12.8	13	13	1.8	24
27	14.6	14	19.6	14.9	15.6	3.3	1.9	0.7	0.4	0.4	0.5	0.8	0.6	0.7	0.7	0.9	0.5	0.5	**S**	0.3	0.1	0	0	0.1	19.6	4.0	24
28	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.2	0.4	0.2	0	0	0	**S**	0.4	0.6	0.6	0.4	0.5	0.4	0.6	0.2	24
29	0.7	0.6	0.6	0.5	0.5	0.6	0.8	1.4	1.4	1.7	1.5	0.7	0.6	0.5	0.4	0.4	**S**	0.4	0.3	0.4	0.3	0.3	0.6	0.4	1.7	0.7	24
30	0.4	0.7	0.5	0.6	0.3	1.9	1.5	**S**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0.7	6.1	9.8	7.4	0.4	0.2	15.8	15.8	3.3	24
HOURLY MAX	20	14	20	15	16	48	32	69	38	30	10	12	24	13	11	7	4	2	6	10	7	4	20	16			
HOURLY AVG	1.7	1.3	1.6	1.3	1.6	3.8	6.2	5.9	5.7	5.1	2.7	2.3	2.5	1.9	1.6	1.3	0.8	0.5	0.5	0.9	0.7	0.5	1.5	1.6			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 638

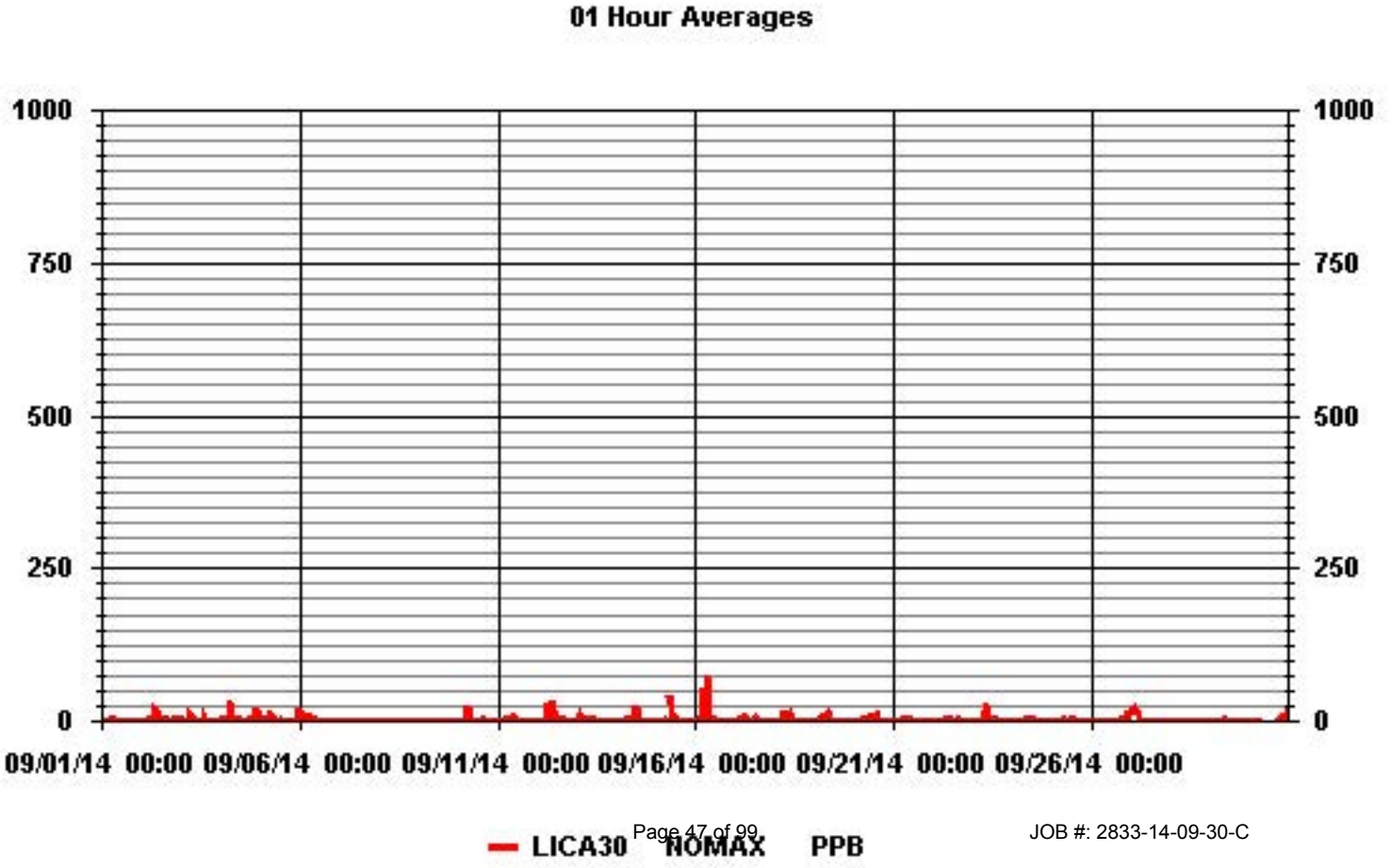
MAXIMUM INSTANTANEOUS VALUE: 68.5 PPB @ HOUR(S) 7 ON DAY(S) 16

VAR-VARIOUS

IZS CALIBRATION TIME: 31 HRS OPERATIONAL TIME: 719 HRS

MONTHLY CALIBRATION TIME: 9 HRS

STANDARD DEVIATION: 5.23



JOB #: 2833-14-09-30-C

LICA30
NO_ / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 30
Site Name : LICA30
Parameter : NO_
Units : PPB

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	3.82	13.23	5.14	2.20	1.32	3.38	5.00	8.67	6.76	18.52	7.05	4.11	5.88	7.05	3.52	4.26	100.00
<	110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	3.82	13.23	5.14	2.20	1.32	3.38	5.00	8.67	6.76	18.52	7.05	4.11	5.88	7.05	3.52	4.26	

Calm : .00 %

Total # Operational Hours : 680

Distribution By Samples

Direction

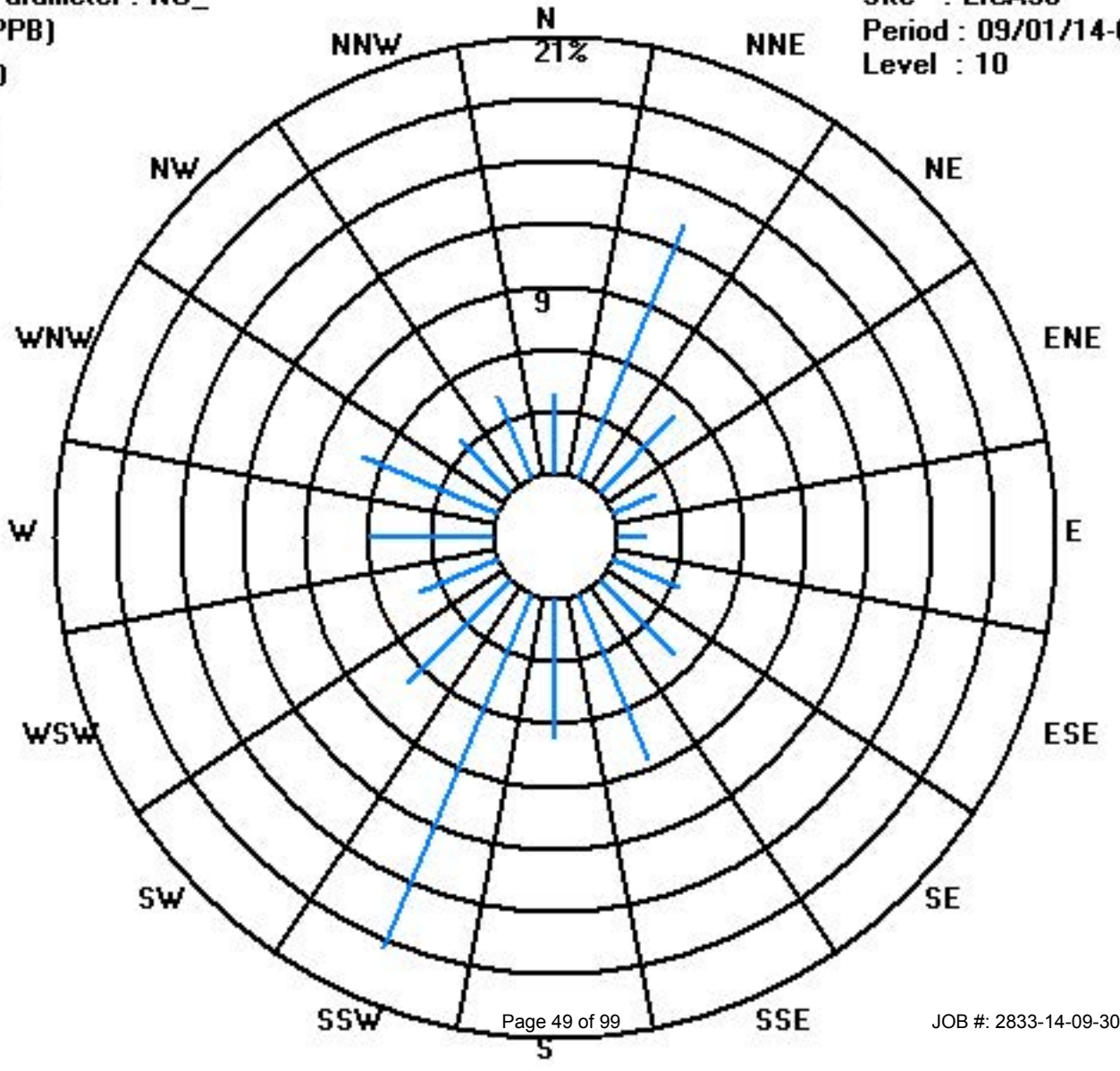
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	26	90	35	15	9	23	34	59	46	126	48	28	40	48	24	29	680
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	26	90	35	15	9	23	34	59	46	126	48	28	40	48	24	29	

Calm : .00 %

Total # Operational Hours : 680

Logger : 30 Parameter : NO_
Class Limits (PPB)
>= 210.0
< 210.0
< 110.0
< 50.0

Site : LICA30
Period : 09/01/14-09/30/14
Level : 10



JOB #: 2833-14-09-30-C

Oxides of Nitrogen

Lakeland Industry & Community Association - Maskwa Site

SEPTEMBER 2014

OXIDES OF NITROGEN (NOx) hourly averages in ppb

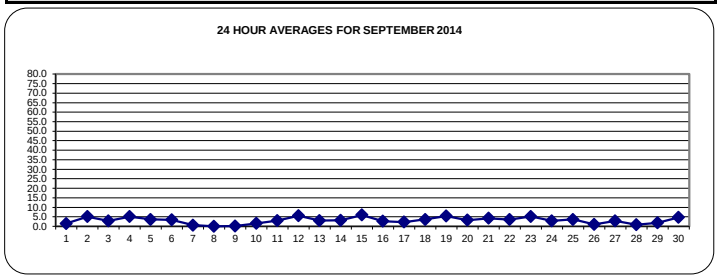
MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0.4	0.3	0.4	0.4	1.2	2.8	3.4	4.4	2.7	3.1	1.6	2	0.4	0	0.3	0	0	0.1	6.6	1.3	0.3	**S**	0.7	1	6.6	1.5	24
2	4.9	3	4.2	2.7	3.3	3.2	5.8	7.3	20	15.1	9.8	4	1.6	1.4	5.8	3.8	6.9	5.3	3.4	2.1	**S**	2.3	1	0.9	20	5.1	24
3	1.1	1.4	1.3	1.2	1	5	6.1	4.3	5.1	0.9	0.8	0.4	0.6	2	10.2	7.9	4.7	3.6	2.7	**S**	0.5	1.8	2.5	1.2	10.2	2.9	24
4	2.1	3	1.8	3.6	1.8	2.5	14.6	13.8	7.3	5.1	6.2	4.7	4	3.6	2.3	1.8	0.4	0.4	**S**	13.1	7.2	2.2	12.7	2.9	14.6	5.1	24
5	4.9	2.9	4.2	5.2	3	4	9.4	11.6	3.1	1.7	3.1	3.7	1.6	1.4	1.2	0.8	1.1	**S**	2	1.7	1.8	1.3	2.3	11.4	11.6	3.6	24
6	20.8	9.4	0.7	0.8	1.1	6.6	10	2.8	2.3	2.2	1.8	1.4	2	1.5	1.4	4.2	**S**	1.1	0.7	2.4	1.5	0.8	0.9	1.6	20.8	3.4	24
7	1	0.9	0.8	1.3	0.6	0.6	0.6	1.4	0.8	0.8	1	1.1	1.8	0.6	0.6	**S**	0	0	0	0	0	0	0	0	1.8	0.6	24
8	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0.1	0.0	24
9	0.3	0	0	0	0	0.1	0.4	0.5	0.7	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0.7	0.1	24
10	0	0	0	0.3	1	2.5	10.2	0.5	0.7	0.2	0	0	**S**	1.3	0.9	3	3.4	2.2	0.7	0.5	0.6	1	3.4	3.5	10.2	1.6	24
11	5.1	5	2.2	2.1	3.1	7.5	7.9	5.8	5.4	4.5	4	**S**	1.5	0.9	1.7	1.3	1.2	0.9	0.9	1.3	1.7	1.6	1.7	1.8	7.9	3.0	24
12	2	2	2	2.4	2.9	4.6	10.8	14.2	12.7	23.1	**S**	15.1	5.7	3	6.1	3.7	1.4	0.9	1.2	1.7	2.1	3.5	4	4.1	23.1	5.6	24
13	2.4	2.1	7.6	2.5	7.3	6.3	7.1	9.8	4.2	**S**	4.5	3.9	0.1	1.4	1.3	0	0	0.1	0.1	0.5	0.8	1.6	1.9	2.2	9.8	2.9	24
14	2.8	3.5	5.1	4.9	8.1	5.5	5.8	9.7	**S**	5.7	3.1	2.4	3.6	1.8	1.3	2.2	0.4	0.3	0.5	0.3	0.5	1	1.9	2	9.7	3.1	24
15	2.2	4.1	7.8	8.6	6.4	6.6	8	**S**	***32.6***	29.4	8.3	7.3	0.8	1.2	1.8	1.7	1	0.8	1	1.5	3.1	0.9	0.4	1.1	***32.6***	***5.9***	24
16	0.7	0.8	1	0.8	1.5	9.1	**S**	16.3	9.4	3.5	5.7	5.2	3.4	1.5	1	1.5	2.1	0.1	0	0	0	0	0	0	16.3	2.8	24
17	0	0	0.2	2.7	3.2	**S**	9	4.8	1.1	1	1	1.3	1.9	6.1	3.6	1.2	3.4	3.4	1.4	1.2	1.5	1.4	1.2	1.2	9	2.3	24
18	1.1	1.2	0.9	0.6	**S**	2.9	8.4	5.2	4.8	9.6	3.5	9.1	1.8	1.2	1.9	3.8	1.7	1.6	1.9	2.5	3.9	4.1	5.3	6.1	9.6	3.6	24
19	4	2.3	1.5	**S**	9.3	13	18.2	18.9	20.4	16.8	12.6	1.4	0.4	0.4	0.2	0.9	0.1	0.1	0	0	0.1	0.2	0.1	3.4	20.4	5.4	24
20	10.4	0.3	**S**	1	0.3	1.5	1.8	1.2	0.8	3.5	7	4.9	10.1	12.4	0.4	0.1	0.7	0	0.1	0.7	0.8	2.5	6.7	7	12.4	3.2	24
21	6.6	**S**	3.7	3.8	4.9	7.5	8.6	9.9	12.3	9.4	8.7	4.8	2.1	0.9	1	0.6	0.6	0.7	0.9	0.9	1.2	1.3	2.7	3.5	12.3	4.2	24
22	**S**	3.3	3.2	3.1	3.6	4.2	4.1	4.3	4.1	3.9	4.1	3.3	2.9	3.1	3.4	3.9	3.3	3	2.7	3.4	4	3.3	3.6	**S**	4.3	3.5	24
23	4.3	3.1	3.8	4.3	1.2	4.9	19.8	17.7	8.8	8.4	2.1	6.5	2	4	5	2.3	0.2	0.7	2.5	1.4	7.2	3.1	**S**	4.9	19.8	5.1	24
24	1.7	0.8	0.8	0.9	0.8	0.7	0.5	1.9	2.7	5	6.8	4	7.3	3	1.5	2.3	1.9	1.5	3	4.6	3.3	**S**	1.3	7.4	7.4	2.8	24
25	1.4	4.1	7.7	4.2	2.1	8	12.8	10.8	5.3	2.8	2.8	4.5	8.9	2.7	0.8	0.7	0.5	1.1	0.8	0.6	**S**	0.1	0.2	0.5	12.8	3.6	24
26	0.9	0.4	0.1	0.1	0.1	0	0	0	0.3	0	2.5	0.6	0	0	0	0	0	0.1	1.1	**S**	1.4	2.2	6.9	7.1	7.1	1.0	24
27	9.8	8.6	18.5	12	9.6	1.5	0.7	0.6	0.5	0.4	0.3	0.5	0.4	0.7	0.4	0.4	0	0.2	**S**	0	0	0	0	0	18.5	2.8	24
28	0.1	0.3	0.2	0	0.8	1.4	0	0	0.6	0.6	0.5	0.3	0.4	0	0	0	0	**S**	1.3	2.4	3.1	2.4	3	3.3	3.3	0.9	24
29	3.6	3.1	2.3	2.4	1.1	1.2	1.8	2.5	2.2	2.2	1.8	0.9	1	0.7	0.8	0.8	**S**	0.9	2.4	3	2.3	1.5	1.5	1.7	3.6	1.8	24
30	1.6	1.6	2.2	2.8	1.8	2.5	3.9	**S**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1.1	12	16.8	10	0.2	0.2	9.8	16.8	4.8	24
HOURLY MAX	21	9	19	12	10	13	20	19	33	29	13	15	10	12	10	8	7	5	12	17	10	4	13	11			
HOURLY AVG	3.3	2.3	2.9	2.6	2.8	4.0	6.5	6.4	6.1	5.7	3.7	3.3	2.4	2.0	2.0	1.7	1.3	1.1	1.8	2.3	2.1	1.4	2.3	3.1			

STATUS FLAG CODES

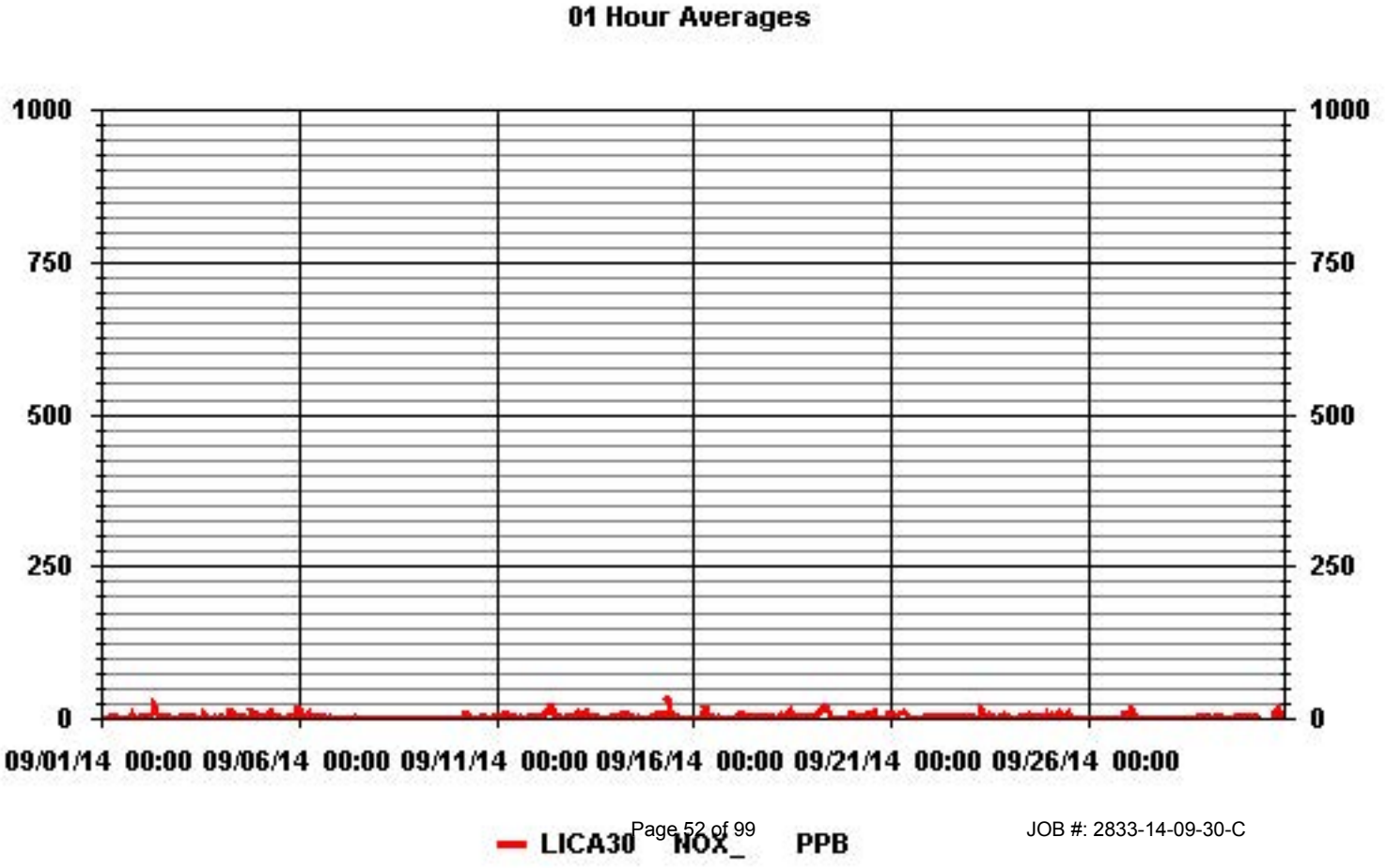
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR NA PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	NA					
NUMBER OF NON-ZERO READINGS:	589					
MAXIMUM 1-HR AVERAGE:	32.6	PPB	@ HOUR(S)	8	ON DAY(S)	15
MAXIMUM 24-HR AVERAGE:	5.9	PPB			ON DAY(S)	15
					VAR-VARIOUS	
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:		720	HRS
MONTHLY CALIBRATION TIME:	9	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	3.98		MONTHLY AVERAGE:		3.06	PPB



JOB #: 2833-14-09-30-C

Lakeland Industry & Community Association - Maskwa Site

SEPTEMBER 2014

OXIDES OF NITROGEN MAX instantaneous maximum in ppb

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	1.4	1	1.1	1.4	2.2	7.8	6.3	11.5	4.7	5.7	4.6	4.5	1.1	0.7	1.1	0.6	0.8	0.8	12.9	5.6	1	**S**	1.3	1.7	12.9	3.5	24
2	8.7	5.4	6.1	4.4	5.3	7.9	8.9	12.9	33.9	31.5	17.6	7.4	3	2.1	12.5	7.9	12.9	6.7	4.9	3.4	**S**	4.7	1.8	1.7	33.9	9.2	24
3	1.9	2.2	2.5	2.1	1.8	16.4	10.3	8.2	9.9	1.9	1.9	1.1	1.6	6.4	23.9	19.6	9.7	5	4.3	**S**	1.4	5.2	5.2	3.1	23.9	6.3	24
4	4.2	7.9	6.4	7.2	3.7	6	45.4	20.9	9	6.6	7.7	6.6	6.3	7.5	3.9	4	1.3	3.7	**S**	28.1	12.3	3.5	37	6.6	45.4	10.7	24
5	7.7	4.5	11.1	10.9	7.1	11.9	17.7	16.9	11	3.6	4.8	6.1	3	2.9	2.1	1.6	2.7	**S**	3.6	2.6	3.6	2.2	8.2	21.3	21.3	7.3	24
6	39.5	20	5.1	1.6	2.6	17.4	16.3	4.6	3.3	4	2.7	2.6	3.7	2.5	2.5	8.8	**S**	4.7	1.5	4.2	2.7	1.4	1.9	2.6	39.5	6.8	24
7	2.1	1.8	1.7	2.3	1.4	1.3	1.6	4.8	1.7	1.7	2	2.6	3.3	1.3	1.3	**S**	0.7	0.6	0.4	0.4	0.6	0.5	0.8	1	4.8	1.6	24
8	0.4	0.4	0.6	0.7	0.8	0.8	0.7	1	0.7	0.5	0.7	0.5	0.6	0.8	**S**	0.4	0.4	0.7	0.7	0.3	0.7	0.6	1.1	0.8	1.1	0.6	24
9	1	1.3	0.4	0.5	0.7	1.5	1.5	1.7	1.7	1.5	0.7	0.6	0.7	**S**	0.7	0.6	0.3	0.6	0.3	0.3	0.6	0.1	0.3	0.3	1.7	0.8	24
10	0.6	0.6	0.9	1.1	3.8	4.7	30.9	2.5	1.7	1.4	0.7	0.5	**S**	4.5	1.7	10.9	10.7	6.7	1.5	1.2	1.4	3.3	6.6	6.2	30.9	4.5	24
11	7.1	6.4	3.3	3	4.8	12.6	12.3	8.5	7.5	5.8	12.7	**S**	2.5	2.1	3.1	2.8	2.4	1.8	2.5	2.3	2.5	2.4	2.5	12.7	4.9	24
12	2.7	2.9	3.4	4.2	4.2	8.5	41.9	19	16.8	44.2	**S**	23.6	17.2	6.7	12.3	13.5	2.4	1.7	1.9	2.5	2.8	5	5.1	5.9	44.2	10.8	24
13	3.3	4.5	25	5.7	15.7	15.5	14	15.2	8.9	**S**	11.4	6.9	3	5.9	3.9	0.9	0.4	1.3	1.3	1.8	2.2	2.7	2.7	3	25	6.7	24
14	4.5	4.5	6.8	6.5	10.2	10.7	14.8	13.2	**S**	9.7	8.4	4.2	40.4	17.9	6.4	7	1.2	1.4	1.8	1.1	1.4	2.3	2.8	3.4	40.4	7.9	24
15	3.5	7.2	9.8	11.9	7.8	9.5	10.2	**S**	54.6	46	14.5	15.8	3.2	6.9	6.1	4.1	3.4	3.2	2.2	4.5	12.3	2.3	1.3	2.1	54.6	10.5	24
16	1.8	1.7	2.2	1.9	9.1	57.4	**S**	***77.2***	12.5	6.3	7.7	7.9	5.4	2.9	2.4	2.8	6	2.3	0.5	0.5	0.8	0.5	0.5	0.5	***77.2***	9.2	24
17	0.7	0.8	4	6.5	6.1	**S**	16.7	11.6	2.8	1.9	1.9	2.9	4.5	13.7	13.1	2.4	4.8	7.1	2.3	2.1	2.6	2.1	1.9	2.1	16.7	5.0	24
18	1.9	2	1.8	1.5	**S**	8.1	18.4	7.7	10.4	17.8	4.6	14.8	4.5	2.4	4.1	8.5	5.7	4.3	3	4.1	5	5.1	6.3	7.9	18.4	6.5	24
19	5.7	4.2	2.5	**S**	15.1	15.9	23.5	23.4	24.7	20.1	17.5	7.2	2.8	2.1	2	3.4	1.1	1.4	0.8	0.8	1.2	1.1	0.8	17	24.7	8.4	24
20	20.6	1.1	**S**	4.2	1.4	5.9	4.3	2.4	2.2	10.4	17.5	14.3	23.9	28.3	1.9	1.4	4.7	0.8	1	1.7	2.3	3.7	10.3	10.3	28.3	7.6	24
21	7.6	**S**	4.6	4.5	6.7	10.3	11.5	11.8	15.1	11.1	9.6	8.7	3.6	1.6	1.8	1.5	1.4	1.4	1.8	1.6	2	2.2	3.7	4.4	15.1	5.6	24
22	**S**	4.2	4.2	3.9	4.5	5.3	6.7	5.2	5.1	4.8	4.9	4.6	4	4.6	4.9	8.1	8.3	4	3.5	6.2	6.9	4.2	8.3	**S**	8.3	5.3	24
23	6.9	4.5	8.8	10.7	2.2	17.7	33.3	25.1	42.6	24.1	9.4	13	5.3	12.2	15.4	5	1	3.8	4	2.2	22.5	10.2	**S**	11.3	42.6	***12.7***	24
24	4	1.7	1.7	1.8	1.6	1.5	1.2	3.3	7	9.2	11.1	7.1	15.2	13.1	2.4	3.4	4	2.4	6.1	5.9	5.4	**S**	2.3	16.5	16.5	5.6	24
25	2.8	22.2	15.5	12	10.1	13.5	14.9	14	10.6	4.7	4.4	10.6	18.8	13.5	2.8	1.7	1.2	2.7	2.8	1.6	**S**	1	1	1.3	22.2	8.0	24
26	1.6	1.2	0.7	0.8	0.8	0.7	0.6	0.9	1.1	0.8	10.2	1.4	0.6	0.6	0.7	0.7	0.8	0.9	4.7	**S**	6.7	7.7	19.4	19.3	19.4	3.6	24
27	21.9	21.6	30.1	24.6	27.9	8.3	5.1	1.7	1.4	1.2	1	1.3	1.3	1.9	1.4	1.7	1	0.7	**S**	0.4	0.5	0.5	1.7	0.6	30.1	6.9	24
28	1.4	1.1	1.1	1.1	2.7	3.1	0.7	0.7	1.5	1.4	1.4	1.1	1.3	1.2	0.7	0.9	0.9	**S**	3.1	4.9	4.4	3.8	4.1	4.3	4.9	2.0	24
29	4.4	3.9	3.8	4.1	2.2	2	3.6	3.4	2.8	3.3	3	1.9	1.8	1.5	1.6	2	**S**	1.7	4.6	4.7	3.2	2.3	2.4	2.6	4.7	2.9	24
30	2.4	2.6	3.7	4	2.6	8	6.4	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	4.5	25.1	25.2	21.2	1.1	1.1	32.7	32.7	10.0	24
HOURLY MAX	40	22	30	25	28	57	45	77	55	46	18	24	40	28	24	20	13	7	25	28	23	10	37	33			
HOURLY AVG	5.9	4.9	5.8	5.0	5.7	10.0	13.1	11.8	10.9	10.0	7.0	6.4	6.5	6.0	4.9	4.5	3.3	2.7	3.7	4.3	4.7	2.9	4.9	6.7			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 680

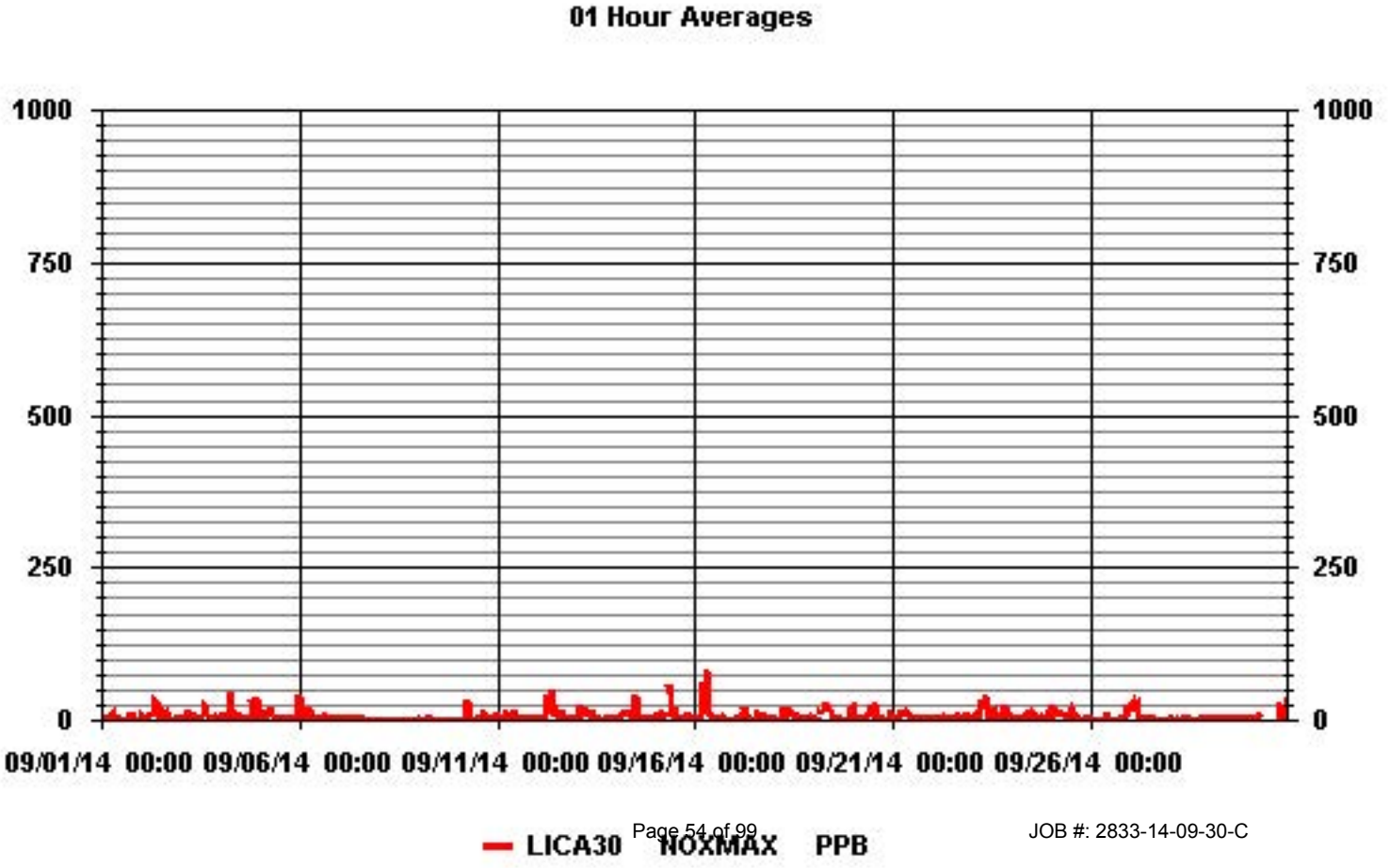
MAXIMUM INSTANTANEOUS VALUE: 77.2 PPB @ HOUR(S) 7 ON DAY(S) 16

VAR-VARIOUS

IZS CALIBRATION TIME: 30 HRS OPERATIONAL TIME: 720 HRS

MONTHLY CALIBRATION TIME: 10 HRS

STANDARD DEVIATION: 8.21



JOB #: 2833-14-09-30-C

LICA30
NOX_ / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 30
Site Name : LICA30
Parameter : NOX_
Units : PPB

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	3.82	13.23	5.14	2.20	1.32	3.38	5.00	8.67	6.76	18.52	7.05	4.11	5.88	7.05	3.52	4.26	100.00
<	110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	3.82	13.23	5.14	2.20	1.32	3.38	5.00	8.67	6.76	18.52	7.05	4.11	5.88	7.05	3.52	4.26	

Calm : .00 %

Total # Operational Hours : 680

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	26	90	35	15	9	23	34	59	46	126	48	28	40	48	24	29	680
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	26	90	35	15	9	23	34	59	46	126	48	28	40	48	24	29	

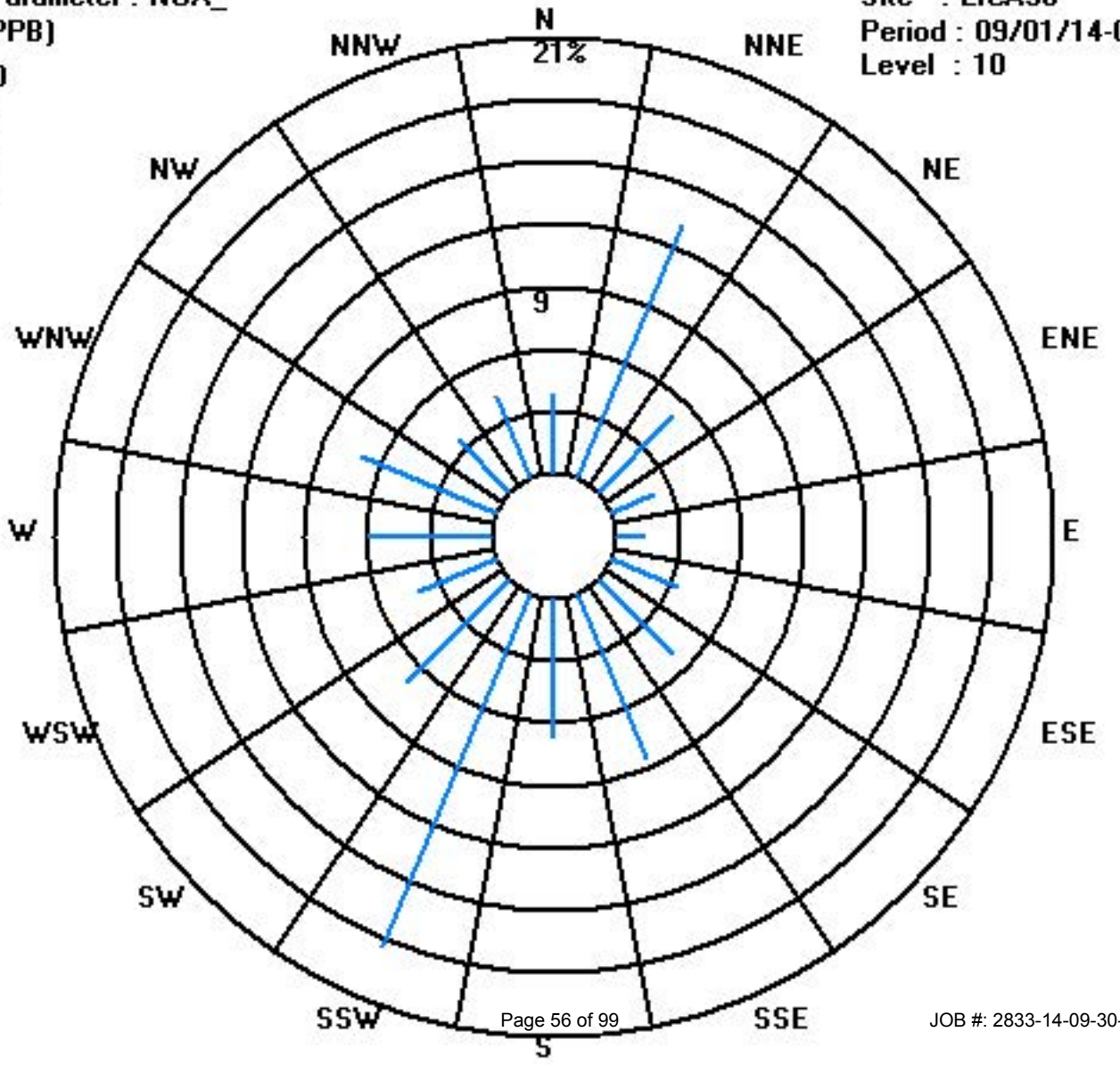
Calm : .00 %

Total # Operational Hours : 680

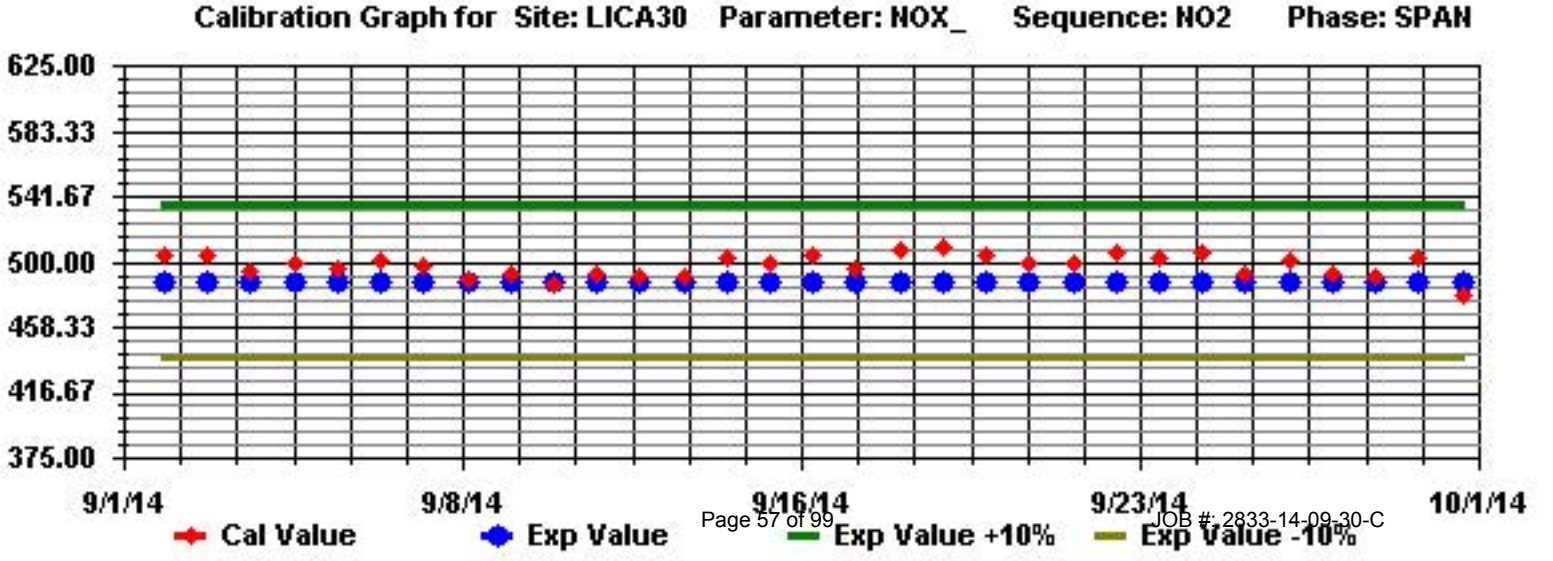
Logger : 30 Parameter : NOX_
Class Limits (PPB)

>= 210.0
< 210.0
< 110.0
< 50.0

Site : LICA30
Period : 09/01/14-09/30/14
Level : 10



JOB #: 2833-14-09-30-C


Calibration Graph for Site: LICA30 Parameter: NOX_ Sequence: NO2 Phase: SPAN
625.00
583.33
541.67
500.00
458.33
416.67
375.00
9/1/14
9/8/14
9/16/14
9/23/14
10/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Temperature

Lakeland Industry & Community Association - Maskwa Site

SEPTEMBER 2014

AMBIENT TEMPERATURE (TPX) hourly averages in Degrees Celsius

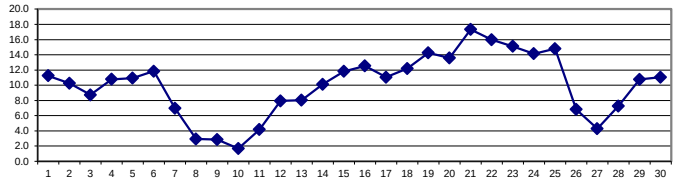
MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	6.8	6.7	6.1	5.7	5.9	5.5	6.4	9.5	12.9	15.1	17.4	16.1	16.8	17.4	16.2	17.1	15.2	13.2	11.8	10.2	9.9	9.7	9.2	9.1	17.4	11.2	24
2	9.2	8.7	7	6.5	6.7	5.9	6.1	9.2	12.3	13.7	15.7	15.9	15.1	10.1	10.4	13.5	14.3	14.1	12.4	10.1	7.3	7.2	7.8	7	15.9	10.3	24
3	5.5	4.5	3.9	3.1	2.4	2.3	3.8	6.3	9.5	13.1	15.5	16.9	16.5	11	10.5	14.8	16.2	13.3	10.6	8.1	6.4	5.8	5.1	4.4	16.9	8.7	24
4	3.4	3.1	2.5	2.3	1.9	1.2	3	7	9.7	13.8	15.4	17.9	18.2	18.8	19.9	19.8	19.3	17	13.9	13	11	8.6	9.1	8.8	19.9	10.8	24
5	8.8	8.1	8.1	7.7	6.2	4.5	4.9	9.3	10.1	12.2	13.2	14.5	15.9	15.7	15.9	16.1	15.6	14	12.9	11.9	11.1	9.2	8.1	8.6	16.1	10.9	24
6	9.7	9.9	9	8.6	7.4	6.5	7.5	8.3	9.5	11	12.8	14.5	16.9	17.5	18.7	19.3	19.1	16.7	13.9	11.4	10.2	9.3	8.6	8	19.3	11.8	24
7	7.3	6.4	6.7	7.6	8.1	8.2	8.1	8.8	9.3	10	10.4	10.1	9.9	9.4	8.3	7.1	6.4	5.5	4.5	3.9	3.5	3	2.5	2.3	10.4	7.0	24
8	2.1	2	1.6	1.2	0.7	-0.1	-0.1	1	2.2	3.8	4.9	4.6	4.8	5.2	5.6	5.6	5.3	4.8	4	3.1	2.4	2	1.7	1.8	5.6	2.9	24
9	2.1	2.1	2	1.1	0.7	0.2	0.7	1.3	2.2	3.8	4.8	5.2	5.5	6	5.9	5.4	5.1	4.8	3.8	2.1	1.4	1.1	1	0.3	6	2.9	24
10	0.1	-0.5	-2.2	-3.4	***-4.2***	***-4.2***	-3.2	-1.2	1.2	3.3	5.2	5.6	4.9	6.9	6.5	7.3	6.4	5.6	4.7	3.2	1.7	0.2	-0.9	-2.4	7.3	1.7	24
11	-3.3	-4	***-4.2***	-4	-4	-3.6	-2.8	0.2	3.1	5.5	7.9	8.9	9.9	10.6	11.4	11.8	12	10.9	8.6	6.2	6	5.2	4.2	3.5	12	4.2	24
12	3	2.9	2.7	2.2	2.1	2.3	2.6	3.6	5.3	9.3	11.1	13.4	15.3	14	14.9	14.8	13.4	11.8	10.3	9.1	7.8	7.3	5.8	5.4	15.3	7.9	24
13	4.9	4.4	5.3	5.3	4.6	2.3	0.7	4.7	8.8	11	12.2	13.2	12.5	13.3	13.5	14	13.1	11.6	6.7	5.1	5.6	6.5	6.5	7.4	14	8.1	24
14	7.1	7.1	6.6	5.6	4.6	3.4	1.9	4.6	9.4	12.4	15.1	16.3	17.4	17.4	17.7	18.8	17.9	15.7	10.6	7.4	5.5	5.7	6.8	8	18.8	10.1	24
15	6.5	5.7	5.4	5.3	4.7	3.3	2.8	7	13.2	17.5	19.7	21.1	21.2	20.1	20.4	21.6	18.8	17.6	13.8	10.7	8.5	7.2	6.4	5.6	21.6	11.8	24
16	4.8	4.2	3.5	3.2	3	3	3.3	7.1	13.6	17.7	19.9	21.7	23.2	24.2	24.7	25.3	25.3	17.9	13.5	11	9.1	7.7	7.2	7	25.3	12.5	24
17	7	7.3	7.2	6.9	6.6	6.5	6.4	6.6	7	7.6	8.6	10.9	15	16.5	18.3	19.2	19.1	17	15.2	13.5	12.6	11.7	10.1	8.4	19.2	11.1	24
18	7.5	6.3	5.9	6.6	7.2	7.6	8.2	9.6	10.6	12.3	15	16.8	17.3	17.3	16.7	17.1	16.9	16.1	15.1	14.2	13.6	12.4	11.1	11.3	17.3	12.2	24
19	10.2	9	8	8.3	9.8	9.6	9.9	10.4	12.1	15.1	16.9	19.9	21.6	20.5	20.8	20	20	19	17	14.8	12.9	13.5	12.4	10.7	21.6	14.3	24
20	10.3	10.7	11.5	11.5	10.7	10.5	10.4	12.2	14.1	15.9	17.9	19.3	19.9	20.2	19.9	20.1	19.6	17.1	13.7	9.5	7.4	6.8	7.8	9.2	20.2	13.6	24
21	9.8	8.5	9.2	8.6	8.5	7.6	7.4	10.6	14.2	17.5	20.8	23.7	26.1	27.3	***28.3***	27.8	26.9	24.3	19.3	18.5	19.3	18.6	17.2	16	***28.3***	***17.3***	24
22	14.5	13.6	13.5	12.9	9.4	8.2	9.2	13.1	15.4	17.2	19.6	21.1	22.6	24	25.1	26	25.4	21.8	16.6	13.3	11.9	10.8	9.6	8.8	26	16.0	24
23	8.2	7.7	8.3	10	11.5	12.1	12.5	14.2	17.7	19.7	21.8	22.6	22.4	23.6	23.3	22.4	20.5	19	15.5	12.6	11.7	10	8.2	7.1	23.6	15.1	24
24	6.1	4.7	4.2	4.3	3.9	4.6	4.5	8.1	13.6	17.9	19.5	21.4	21.9	23.2	23.1	23.1	22.4	21.7	19.6	18.4	15.7	13.1	11.8	12.8	23.2	14.2	24
25	14.6	13.4	12.4	11.1	10.6	10.1	9.8	10.4	14.1	16.9	18.1	19.5	20.5	21.8	22.1	21.8	20.6	18.3	15.6	13.3	11.9	10.5	9.4	8.6	22.1	14.8	24
26	8.4	8.1	7.8	7.9	7.8	7.4	7.3	7.1	6.9	6.6	6.3	6	6.1	6.7	7.2	7.1	6.7	6.5	6.6	6.7	6.6	5.9	5.4	4.3	8.4	6.8	24
27	3.2	3	2.8	2.4	2.2	1.9	1.6	1.8	2.3	3.3	4.3	5.2	6.2	6.8	7.1	7	7	6.2	5.5	5	4.8	4.6	4.4	4.5	7.1	4.3	24
28	4.1	3.6	3.3	3	3.4	3.7	3.7	4.1	5.3	7.2	8.6	10.3	11.3	12.7	13.2	13	12.3	10.6	8.9	7.7	6.6	6	6	5.7	13.2	7.3	24
29	4.8	4.4	3.2	2.9	2.2	2.1	3	4.7	6.1	8.8	12.1	14.2	15.7	16.4	17.3	17.5	17	16.4	15.9	15.4	15	15.2	14.4	13.6	17.5	10.8	24
30	12.7	12	11.4	10.8	9.8	9.6	9.3	9.3	9.6	10.2	11	11.9	11.7	12.7	12.7	13.3	13.4	12.1	10.8	11.4	10.9	9.8	9.5	9.1	13.4	11.0	24
HOURLY MAX	14.6	13.6	13.5	12.9	11.5	12.1	12.5	14.2	17.7	19.7	21.8	23.7	26.1	27.3	28.3	27.8	26.9	24.3	19.6	18.5	19.3	18.6	17.2	16			
HOURLY AVG	6.6	6.1	5.8	5.5	5.1	4.7	5.0	7.0	9.4	11.6	13.4	14.6	15.4	15.6	15.9	16.3	15.7	14.0	11.7	10.0	8.9	8.2	7.5	7.2			

STATUS FLAG CODES

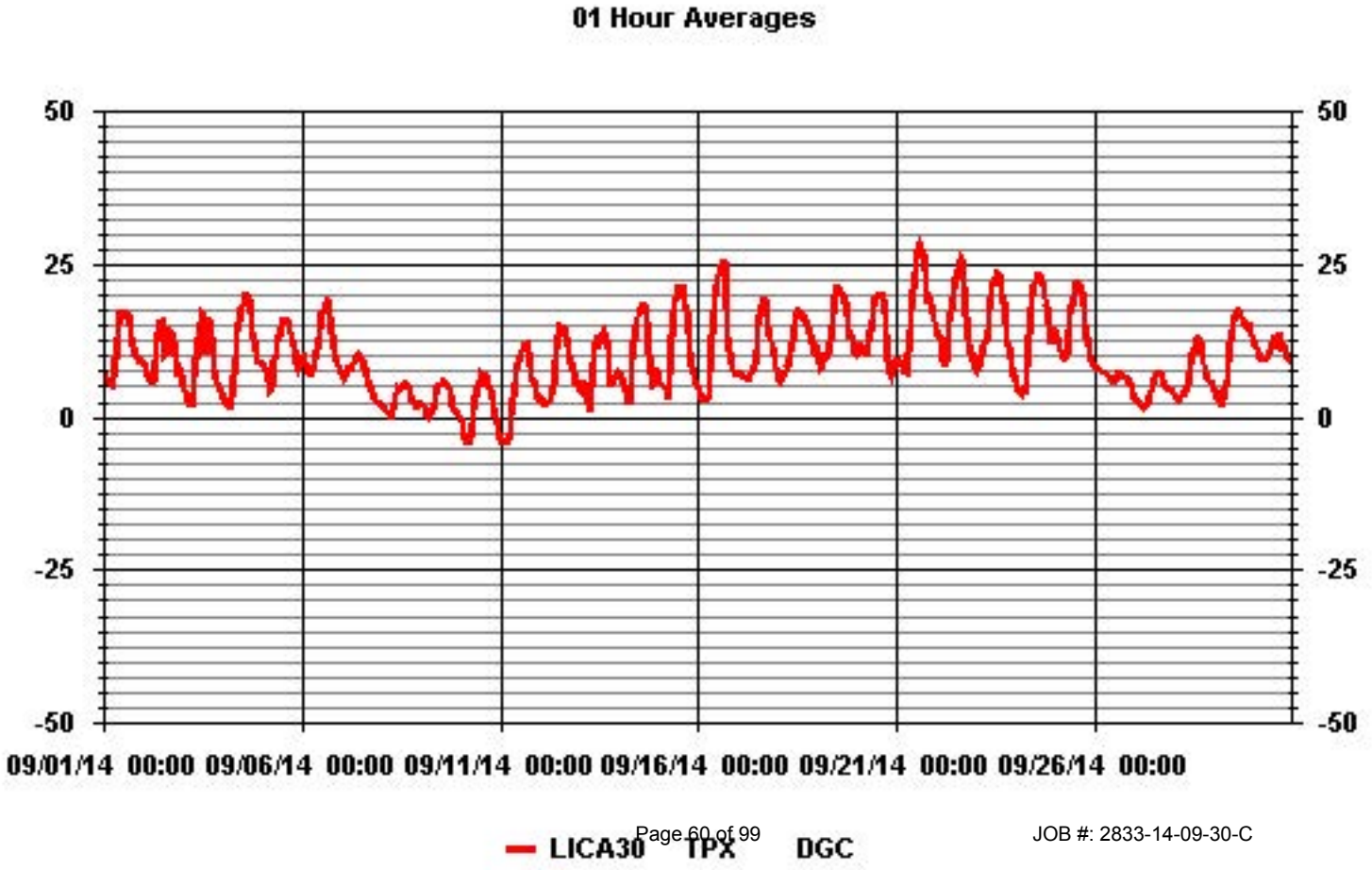
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

24 HOUR AVERAGES FOR SEPTEMBER 2014



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-4.2	°C	@ HOUR(S)	VAR	ON DAY(S)	10, 11
MAXIMUM 1-HR AVERAGE:	28.3	°C	@ HOUR(S)	14	ON DAY(S)	21
MAXIMUM 24-HR AVERAGE:	17.3	°C			ON DAY(S)	21
				VAR-VARIOUS		
			OPERATIONAL TIME:		720	HRS
			AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	6.22		MONTHLY AVERAGE:		10.05	°C



JOB #: 2833-14-09-30-C

Precipitation

Lakeland Industry & Community Association - Maskwa Site

SEPTEMBER 2014

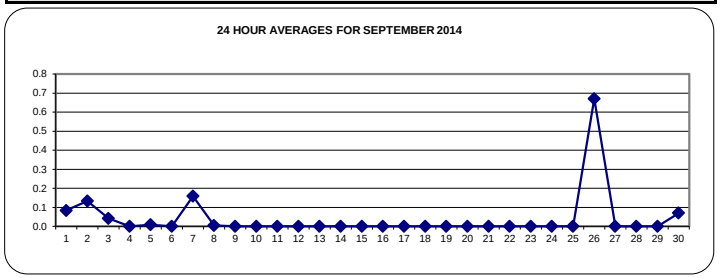
PRECIPITATION hourly averages in millimeter

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.1	0.7	0.1	0	0	0	1.1	0.1	24
2	0	0	0	0	0	0	0	0	0	0	0	0	0.1	2.5	0.6	0	0	0	0	0	0	0	0	0	2.5	0.1	24
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0.8	0.1	0	0	0.1	0	0	0	0	0	0	0.8	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	24
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0	0	0	0	0.1	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	24
7	0	0	0	0	0	0	0	0	0	0	0.6	1	0.8	0	0	0.3	0.6	0.2	0	0.1	0.1	0	0.1	0	1	0.2	24
8	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.0	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	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	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	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	24
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	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	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	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	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	24
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	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	24
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
26	0	0	0	0	0	0	0	0.7	0	0.7	***6.8***	5	0.5	0	0	0.6	0.1	0.9	0	0.5	0.2	0.1	0	0	***6.8***	***0.7***	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	24
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	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	24
30	0	0	0	0	0	0	0	0	0	0	0	**Y**	0.3	0	0	0	0	0	0	0	0.7	0.4	0.1	0.1	0.7	0.1	23
HOURLY MAX	0.1	0	0	0	0	0	0	0.7	0	0.7	6.8	5	0.8	2.5	0.6	0.6	0.6	0.9	1.1	0.7	0.7	0.4	0.1	0.1			
HOURLY AVG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

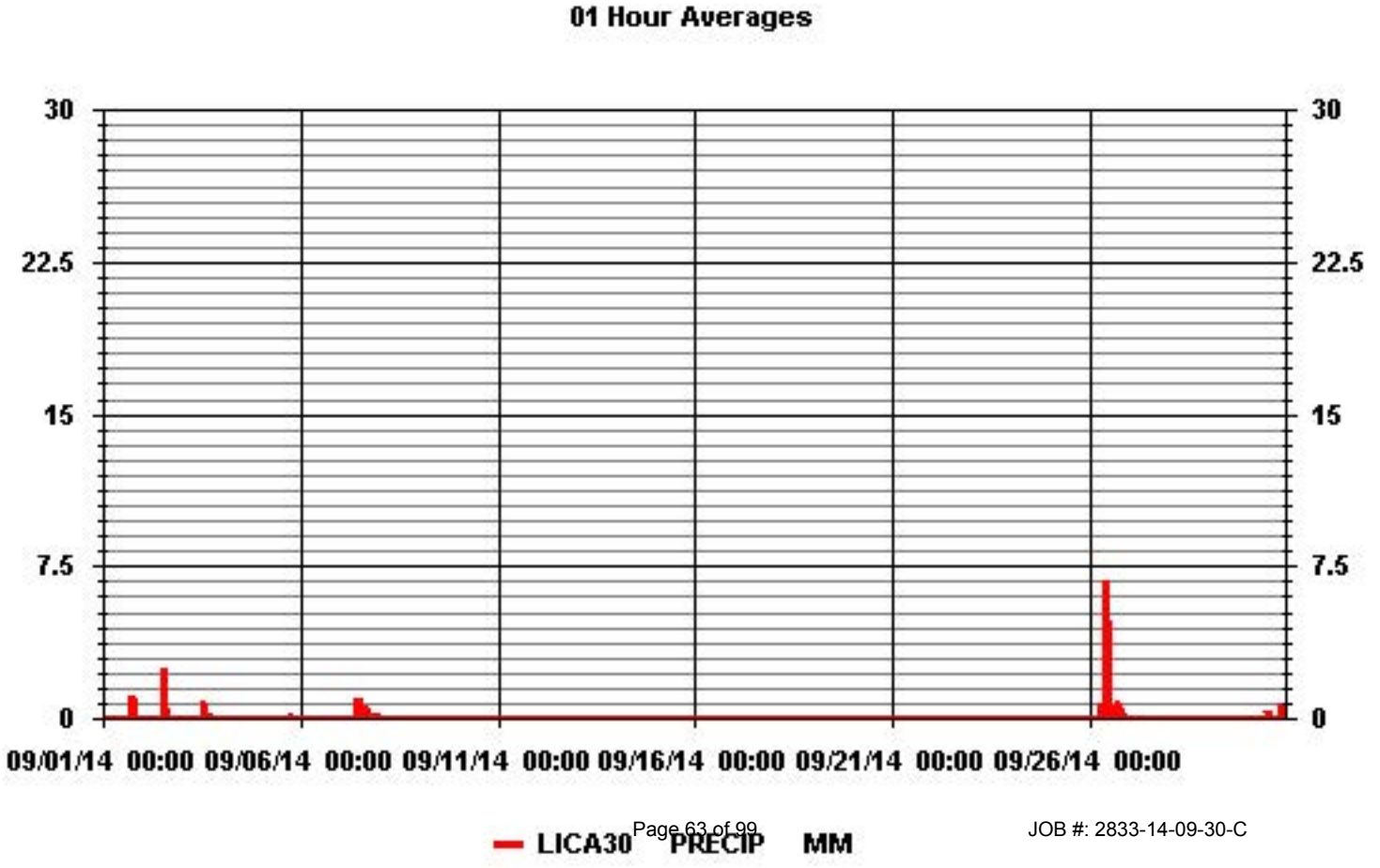
STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:		6.8	MM	@ HOUR(S)	10	ON DAY(S)	26
MAXIMUM 24-HR AVERAGE:		0.7	MM			ON DAY(S)	26
MONTHLY TOTAL	28 MM					VAR-VARIOUS	
				OPERATIONAL TIME:		719	HRS
				AMD OPERATION UPTIME:		99.9	%
STANDARD DEVIATION:	0.34			MONTHLY AVERAGE:		0.04	MM



JOB #: 2833-14-09-30-C

Relative Humidity

Lakeland Industry & Community Association - Maskwa Site

SEPTEMBER 2014

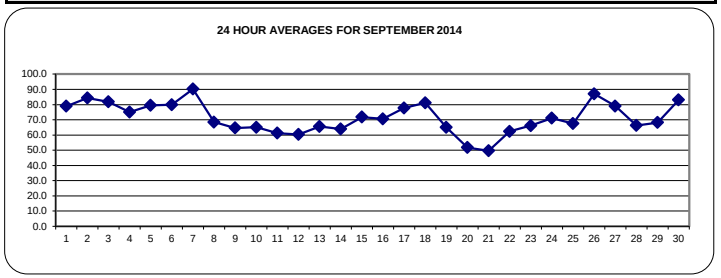
RELATIVE HUMIDITY (RH) hourly averages in %

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	92	92	92	92	***93***	***93***	***93***	88	76	69	60	64	57	55	59	52	60	73	79	90	91	91	92	92	***93***	79.0	24
2	92	92	92	***93***	***93***	***93***	***93***	***93***	84	78	68	63	61	83	86	75	74	74	82	86	91	92	***93***	92	***93***	84.3	24
3	92	92	92	92	92	92	***93***	***93***	90	66	56	51	51	81	85	68	59	75	86	91	92	92	92	92	***93***	81.9	24
4	92	92	92	92	92	92	92	***93***	88	73	67	58	54	53	49	45	46	54	67	70	78	87	87	87	***93***	75.0	24
5	88	90	90	90	91	92	92	85	80	72	68	61	56	56	58	60	65	76	82	89	91	92	***93***	92	***93***	79.5	24
6	86	84	87	88	90	92	91	88	84	79	75	68	62	60	58	58	60	69	79	89	91	92	***93***	***93***	***93***	79.8	24
7	***93***	***93***	***93***	***93***	***93***	***93***	***93***	92	91	86	85	88	88	88	89	90	90	90	90	91	90	89	89	87	***93***	***90.2***	24
8	88	87	85	83	84	86	86	81	76	66	53	53	54	53	50	49	51	55	61	68	70	71	69	65	88	68.5	24
9	61	60	61	72	73	78	74	71	70	67	56	54	56	54	56	57	56	60	65	68	70	70	69	73	78	64.6	24
10	75	78	82	85	88	88	88	83	73	57	46	40	40	36	38	37	40	46	54	67	73	81	83	84	88	65.1	24
11	88	88	89	88	85	84	78	73	65	55	47	40	39	38	37	37	37	40	47	58	59	62	67	69	89	61.3	24
12	72	73	74	77	77	77	77	74	69	59	54	45	39	38	40	44	45	46	52	56	61	64	67	69	77	60.4	24
13	74	79	75	76	81	86	90	84	68	59	52	42	44	42	42	41	44	51	73	79	77	73	72	70	90	65.6	24
14	70	69	73	76	77	81	86	79	62	53	45	42	38	37	38	37	39	47	69	81	87	88	82	78	88	63.9	24
15	84	89	89	89	91	91	92	89	68	56	48	44	43	45	45	42	50	53	69	81	89	91	92	92	92	71.8	24
16	92	92	92	92	92	92	92	***93***	74	56	51	46	40	36	34	34	34	61	71	77	83	87	87	87	***93***	70.6	24
17	87	87	88	89	91	90	89	89	87	86	83	76	64	60	56	54	55	63	67	73	76	80	85	90	91	77.7	24
18	92	92	92	***93***	92	***93***	***93***	92	88	82	71	63	63	63	69	67	66	73	76	80	82	86	90	90	***93***	81.2	24
19	92	92	***93***	***93***	***93***	***93***	***93***	***93***	88	77	71	56	39	43	38	40	38	36	39	44	50	48	52	58	***93***	65.0	24
20	61	61	58	58	61	63	64	59	54	48	41	36	31	31	34	32	32	35	46	62	71	73	69	62	73	51.8	24
21	60	65	63	67	68	73	74	66	58	51	45	39	34	29	25	25	27	31	45	46	45	48	52	55	74	49.6	24
22	59	62	62	64	76	81	79	66	59	55	50	48	44	41	39	36	37	47	65	77	82	87	90	92	92	62.4	24
23	92	92	***93***	87	77	74	73	70	62	57	51	47	43	40	41	42	45	49	60	70	74	78	83	88	***93***	66.2	24
24	89	90	91	92	92	***93***	***93***	***93***	81	61	55	50	49	45	45	47	50	51	58	62	71	81	86	83	***93***	71.2	24
25	72	74	77	82	84	86	88	87	76	65	59	54	51	45	44	46	46	52	62	67	70	76	78	79	88	67.5	24
26	80	79	80	81	83	81	82	85	88	86	90	91	90	89	88	89	91	91	91	92	92	91	90	89	92	87.0	24
27	89	89	89	88	87	88	87	86	86	81	78	75	73	70	69	69	69	73	74	75	76	76	76	74	89	79.0	24
28	77	80	82	86	82	77	74	72	69	63	59	55	53	51	50	50	52	57	61	64	67	69	70	72	86	66.3	24
29	75	77	81	83	85	87	86	81	77	70	61	56	54	53	52	52	56	59	61	64	66	64	67	70	87	68.2	24
30	73	75	78	81	87	87	88	88	88	85	82	83	87	83	81	77	76	81	83	79	85	89	88	89	89	83.0	24
HOURLY MAX	93	93	93	93	93	93	93	93	91	86	90	91	90	89	89	90	91	91	91	92	92	92	93	93			
HOURLY AVG	81.2	82.2	82.8	84.1	85.0	85.9	85.8	82.9	76.0	67.3	60.9	56.3	53.2	53.3	53.2	51.7	53.0	58.9	67.1	73.2	76.7	78.9	80.1	80.4			

STATUS FLAG CODES

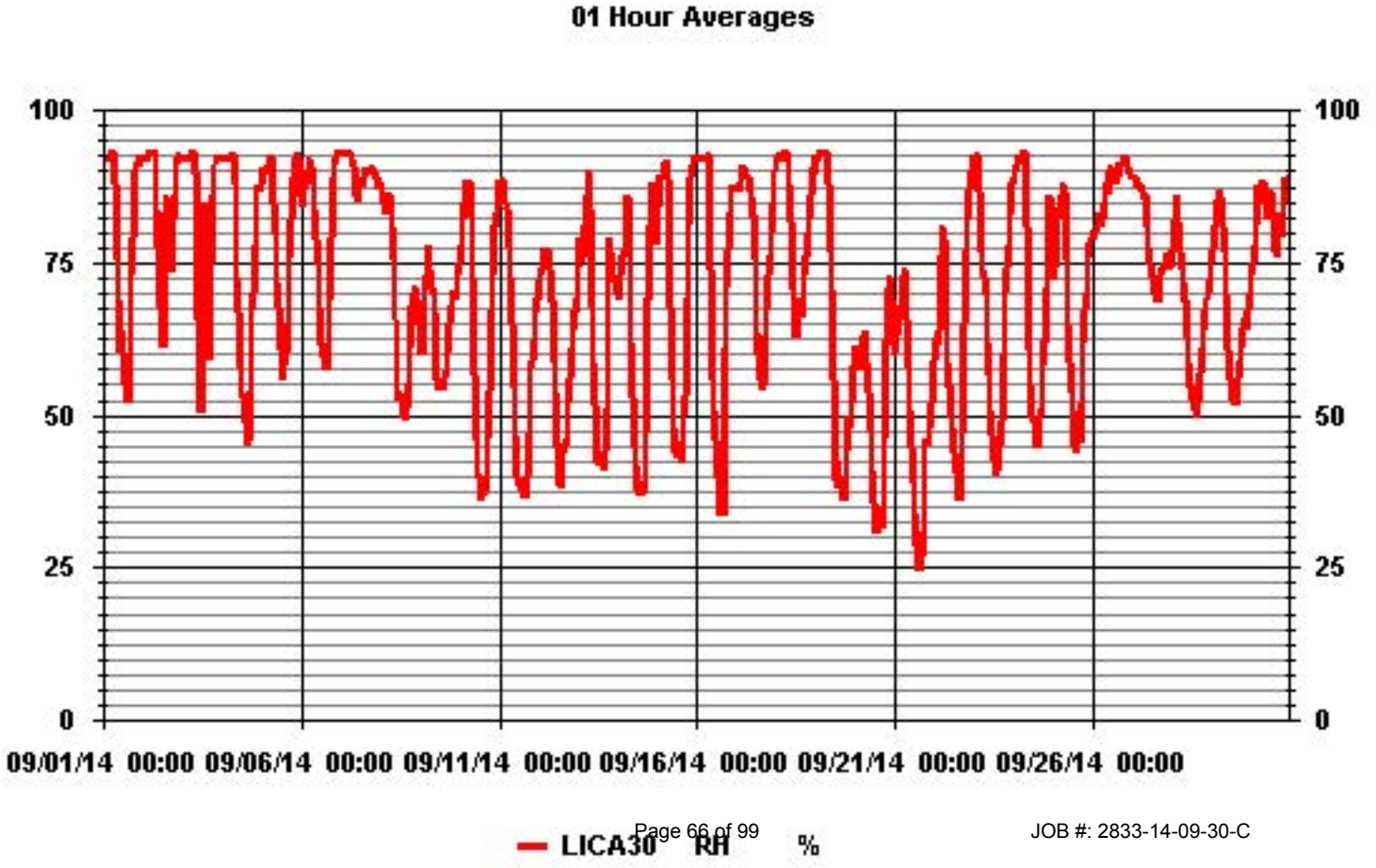
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	93	%	@ HOUR(S)	VAR	ON DAY(S)		VAR
MAXIMUM 24-HR AVERAGE:	90.2	%			ON DAY(S)		7
					VAR-VARIOUS		
			OPERATIONAL TIME:			720	HRS
			AMD OPERATION UPTIME:			100.0	%
STANDARD DEVIATION:	17.77		MONTHLY AVERAGE:			71.25	%

JOB #: 2833-14-09-30-C



JOB #: 2833-14-09-30-C

Barometric Pressure

Lakeland Industry & Community Association - Maskwa Site

SEPTEMBER 2014

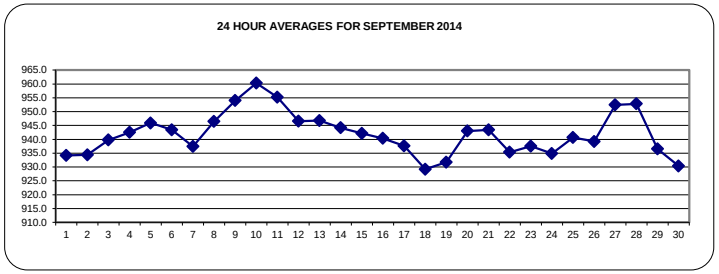
BAROMETRIC PRESSURE (BP) hourly averages in millibar

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	934	934	934	934	934	934	934	933	935	935	936	935	935	935	935	934	934	934	934	934	934	933	933	933	936	934.2	24
2	933	933	933	933	933	933	933	934	935	935	935	935	935	935	934	935	935	935	935	935	935	935	936	936	936	934.4	24
3	936	936	936	936	937	937	938	939	940	940	941	941	941	941	941	941	942	942	942	941	942	942	941	941	942	939.8	24
4	941	941	941	941	941	942	942	943	943	943	943	943	943	943	943	942	942	942	943	943	942	944	944	945	945	942.5	24
5	945	946	947	947	947	947	948	948	949	949	949	948	948	947	946	945	944	944	943	943	943	943	943	943	949	945.9	24
6	944	944	945	945	945	946	946	946	946	947	947	946	945	945	944	943	942	942	941	940	939	939	938	937	947	943.4	24
7	936	936	936	936	936	936	936	936	937	937	937	937	937	937	937	937	938	938	939	939	940	940	939	941	941	937.4	24
8	941	942	942	943	943	944	944	945	945	946	947	947	947	947	947	948	948	949	949	949	950	950	950	951	951	946.4	24
9	951	951	951	952	952	952	952	953	953	954	954	955	955	955	955	955	955	955	955	955	956	956	957	957	957	954.0	24
10	958	958	958	958	958	959	959	960	961	***962***	***962***	***962***	***962***	***962***	***962***	961	961	961	961	961	961	961	960	960	***962***	***960.3***	24
11	960	959	959	959	959	958	958	958	958	958	958	958	957	956	955	954	953	952	951	950	949	949	948	948	960	955.2	24
12	948	947	947	946	946	946	946	946	946	946	947	947	947	947	946	946	946	947	947	947	946	947	947	947	948	946.6	24
13	947	947	947	948	947	947	948	948	949	949	949	948	948	948	947	947	946	946	945	944	944	944	944	945	949	946.8	24
14	944	944	944	944	944	944	944	944	945	945	946	946	945	945	945	945	945	944	944	943	943	943	942	942	946	944.2	24
15	942	942	942	942	942	942	942	942	943	943	944	944	943	943	943	943	943	942	942	941	941	940	940	941	944	942.2	24
16	941	940	940	940	940	940	939	940	940	941	941	941	941	940	940	940	940	940	940	940	941	941	941	941	941	940.3	24
17	941	941	941	941	941	940	940	940	940	939	939	939	939	938	938	937	936	935	934	934	933	933	932	931	941	937.6	24
18	931	930	929	929	928	928	928	929	929	929	929	930	930	930	929	929	929	929	929	929	929	929	929	930	931	929.2	24
19	930	929	929	929	930	930	930	931	931	932	932	932	933	933	932	932	932	932	933	932	933	934	935	935	935	931.7	24
20	936	936	937	938	939	939	940	942	943	944	945	945	946	946	946	946	946	946	946	946	945	945	945	945	946	943.0	24
21	945	945	945	945	945	945	944	945	945	946	946	945	945	945	944	943	942	942	941	941	941	940	939	939	946	943.5	24
22	938	937	937	936	936	935	935	935	936	936	936	936	936	936	935	935	935	935	934	934	934	934	933	934	938	935.3	24
23	934	933	934	935	935	936	937	938	938	939	939	939	939	939	939	939	939	939	939	938	938	938	938	938	939	937.5	24
24	938	938	937	937	937	937	936	936	937	937	936	936	935	934	934	933	933	933	933	932	932	931	931	933	938	934.8	24
25	935	936	937	937	938	939	939	940	941	942	943	943	943	943	943	942	942	942	942	942	942	942	942	941	943	940.7	24
26	942	942	941	941	940	939	940	940	938	937	938	937	937	936	937	938	938	938	939	939	940	940	942	942	942	939.2	24
27	943	945	945	946	947	948	949	950	952	953	954	954	955	955	955	955	956	956	956	957	957	957	957	957	957	952.5	24
28	957	957	957	956	956	956	955	955	956	956	955	955	954	954	953	952	951	950	949	947	948	947	946	946	957	952.8	24
29	945	944	943	942	941	940	940	939	939	938	938	937	936	935	934	933	933	932	932	932	931	931	931	930	945	936.5	24
30	930	930	929	929	929	929	928	929	928	928	929	929	929	930	930	931	931	932	932	932	933	934	934	934	934	930.4	24
HOURLY MAX	960	959	959	959	959	959	959	960	961	962	962	962	962	962	962	961	961	961	961	961	961	961	960	960			
HOURLY AVG	941.5	941.4	941.4	941.5	941.5	941.6	941.7	942.1	942.6	942.9	943.2	943.0	942.9	942.7	942.3	942.0	941.9	941.8	941.7	941.3	941.4	941.4	941.2	941.4			

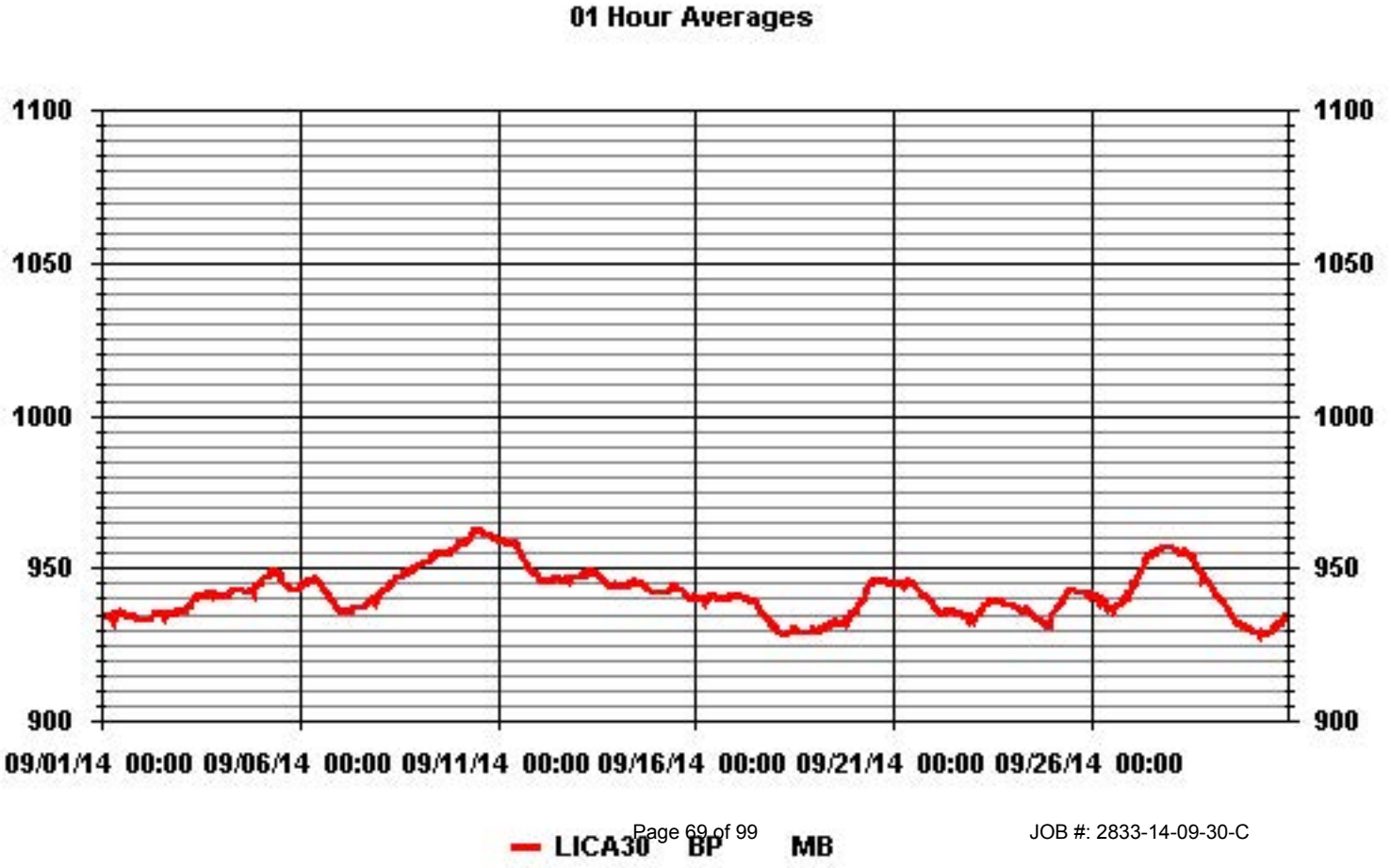
STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	962	MB	@ HOUR(S)	VAR	ON DAY(S)	10
MAXIMUM 24-HR AVERAGE:	960.3	MB			ON DAY(S)	10
				VAR-VARIOUS		
			OPERATIONAL TIME:		720	HRS
			AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	7.88		MONTHLY AVERAGE:		941.9	MB



JOB #: 2833-14-09-30-C

Vector Wind Speed

Lakeland Industry & Community Association - Maskwa Site

SEPTEMBER 2014

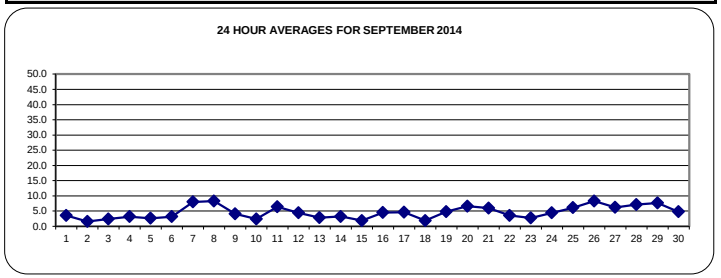
WIND SPEED (WS) hourly averages in km/hr

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2.5	2.2	2.2	2.6	3.6	3.1	2.6	1.7	4.4	5.2	4.7	6.5	5.6	5.5	5.5	6.5	4.9	4.2	2.5	1.4	2.2	1.9	2.3	2.2	6.5	3.6	24
2	1.6	1.6	1.5	1.2	1.3	0.5	0.9	0.5	0.6	0.9	3.8	4.8	6.9	2.9	2.1	0.8	1.9	0.7	1.3	0.7	0.7	0.2	0.1	0.3	6.9	1.6	24
3	0.6	0.6	0.9	0.4	0.2	0.7	0.1	0.1	2.8	7.5	6.7	5.3	7.2	2.1	3.1	1.4	4.1	1.5	2	2.4	2.4	1.4	1.6	1.7	7.5	2.4	24
4	0.3	0.6	0.4	1.1	0.5	1.3	1.7	4.5	4.3	4.7	7.6	5.3	5.2	4.3	5.4	5.1	4.1	3.2	4.6	3.4	2	0.7	2.9	3	7.6	3.2	24
5	2.4	2.1	2.5	2.2	1.4	0.8	0.9	2.5	2.5	2.6	4.5	2.9	4	5.9	5.8	5.1	4	1.1	0.6	1.1	2	1.9	1.4	3.2	5.9	2.6	24
6	4.9	5.6	3.5	3.1	2.5	1.2	2.1	3.4	4.3	3.3	3.7	4.6	4.5	4.8	4.7	4.1	4.3	4.5	3.8	2	0.9	0.2	0.3	0.2	5.6	3.2	24
7	0.2	1	4.1	5.2	6.5	3.8	0.7	6.6	9.1	8.6	6.4	6.4	7.8	8	10.7	12	11.1	12.5	12.2	11.8	12.9	12.5	12.6	9.3	12.9	8.0	24
8	10.5	10.3	11.6	10.7	7.3	5.5	7	10.9	10.7	12.4	13.4	10.9	10.2	11.3	9.8	8.2	7.7	6.3	4.7	2.7	2.5	3.3	4.6	6.3	13.4	***8.3***	24
9	5.8	3.8	3.5	1.5	3.3	1.5	3.4	4.3	5.3	4.2	5.5	3.8	3.4	4.5	5	7.1	6.2	3.9	2.4	2.9	4.4	6.1	3.6	2.6	7.1	4.1	24
10	3	1.4	1.3	1.2	0.2	0.3	0.4	0.4	2.7	7.1	7.2	6	5.7	3	3.5	2.7	2.5	2.3	1.5	1.2	0.3	0.4	1.1	1.6	7.2	2.4	24
11	2	1.7	3	3.4	3.9	4.5	5.1	5.7	6.5	6.9	7	10	9.4	12.1	10.4	11	9.4	7.7	5.8	4.3	6	6.7	6.4	6	12.1	6.5	24
12	6.6	7.7	7.1	5.2	5.2	3.7	3	3.4	3.2	2.5	2.7	3.5	4.6	4	4.2	4.5	6.4	9.6	6.6	4.5	2.8	1.9	2.2	1.7	9.6	4.5	24
13	0.9	0.6	2.8	2.5	2.8	1.2	0.9	1.9	2.8	3.2	3.1	3.6	2.8	3.7	3	3.7	2.8	2.7	2.1	3.7	3.7	4.1	4.1	5.5	5.5	2.8	24
14	4.1	5.6	2.9	3.4	3.2	2.9	1.9	1.8	2.7	3.8	4.5	4.6	4.1	4.6	3.2	2.8	2.5	1.7	3.4	3.3	0.5	2.3	3.7	4.1	5.6	3.2	24
15	1.2	2.2	2.3	1.8	3.3	0.7	0.3	0.5	2.2	2.1	3.6	2.9	4.9	3.4	3	2.9	1	1.3	1.4	2	1.5	0.5	0.2	0.6	4.9	1.9	24
16	0.3	0.4	0.3	0.8	0.8	0.9	1.1	1.1	3.7	6.2	5.4	6.2	6.2	6.2	1.3	2.4	1.5	11.7	10.9	9.9	8.7	7.7	8.4	7	11.7	4.5	24
17	6.4	5.2	6.1	4.9	5.6	5.5	4.7	4.6	6.2	6	6.2	4.5	4.6	4.2	3	4.1	3.6	3.9	4.5	4.4	4.9	3.2	2.5	1.8	6.4	4.6	24
18	1.2	0.7	0.7	0	0.8	0.5	1.3	1.3	1.1	3.3	3.9	3	2.2	2	2	2.4	1.2	2.5	3.2	3.7	2.6	1.9	1.7	2.2	3.9	1.9	24
19	1.5	1.1	1.1	2.4	4.2	3.4	3.5	3.4	5.8	5.1	5.8	5.7	8.3	9.5	7.2	7	5.3	7.4	6.8	3.1	3.2	7.4	4.9	3.5	9.5	4.9	24
20	3.5	4.6	7.4	8.6	5.4	7.1	6.8	7.1	8.5	9	9.3	9.2	11.4	10.3	7.9	8.4	7.6	5.9	2.3	2.8	3	3.1	3.5	5.2	11.4	6.6	24
21	6.7	5.1	7.5	4.8	6	4.4	4.1	4.2	5.8	5.7	6.2	5.2	5.5	8.3	7.2	8.3	8.8	5.8	4.2	5.2	6.1	6.7	6.7	5.9	8.8	6.0	24
22	4.1	4.3	4.1	3.5	2.6	3.6	4	4.4	6	4.6	4	6.5	5.5	5.7	6.2	5.8	4.9	2.8	0.9	0.2	1	0.5	0.8	0.2	6.5	3.6	24
23	0.5	0.3	0.5	2	2	2.7	2.5	3	4.8	4.2	3.2	3.8	4.2	6.1	5.6	4.3	6	3.3	0.8	1.3	2.3	0.6	0.7	1.2	6.1	2.7	24
24	1.7	0.3	0.4	2.7	0.3	3.1	3.2	2.8	3.5	7.6	8.2	9.6	8.2	10.8	9.7	7.8	5.8	5.3	4.8	4.7	2.2	0.9	1	2.3	10.8	4.5	24
25	5	2.7	3.1	3.1	4.5	5.7	3.9	1.2	2.9	3.6	3.2	3.7	4.7	4.5	4.1	4.3	7.7	8.2	9.3	9.9	12.6	12.3	13	13.8	13.8	6.1	24
26	15	***15.9***	15.6	12.5	11.1	10.9	8.1	8.5	14.5	13.8	4.2	8.8	8	10.3	7.1	5.2	3.6	3.6	1.1	2.5	4.4	3.7	4.8	5.4	***15.9***	8.3	24
27	5.3	5.3	6.1	7	6.4	5.6	6.7	6	5.4	8.5	8.3	7.6	8.6	10.1	7.5	7.3	6	7.7	6.4	3.4	3.5	3.5	2.7	5	10.1	6.2	24
28	5	4.3	4.6	4.2	4.1	5.7	6.1	6.9	7.3	8.7	9	8.3	8.5	8.5	9.4	11.1	10.8	8.7	6.7	7.5	6.7	6.4	7	6.5	11.1	7.2	24
29	5.7	5	3.5	3.5	3.1	3.5	5.6	6.1	7.5	8.1	9.9	12.7	11.4	14.1	11.3	11	8.7	9.1	7.2	5.4	6.5	9.9	7.2	7.3	14.1	7.6	24
30	6.5	4.5	5.3	3.7	2.9	1.9	2.4	2.3	1.5	2.7	3.8	6.8	5.5	6.1	5.5	8.2	6	5.8	6.9	6.6	6.6	4.9	3.5	4.6	8.2	4.8	24
HOURLY MAX	15.0	15.9	15.6	12.5	11.1	10.9	8.1	10.9	14.5	13.8	13.4	12.7	11.4	14.1	11.3	12.0	11.1	12.5	12.2	11.8	12.9	12.5	13.0	13.8			
HOURLY AVG	3.8	3.6	3.9	3.6	3.5	3.2	3.2	3.7	5.0	5.7	5.8	6.1	6.3	6.6	5.8	5.9	5.3	5.2	4.4	3.9	4.0	3.9	3.9	4.0			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

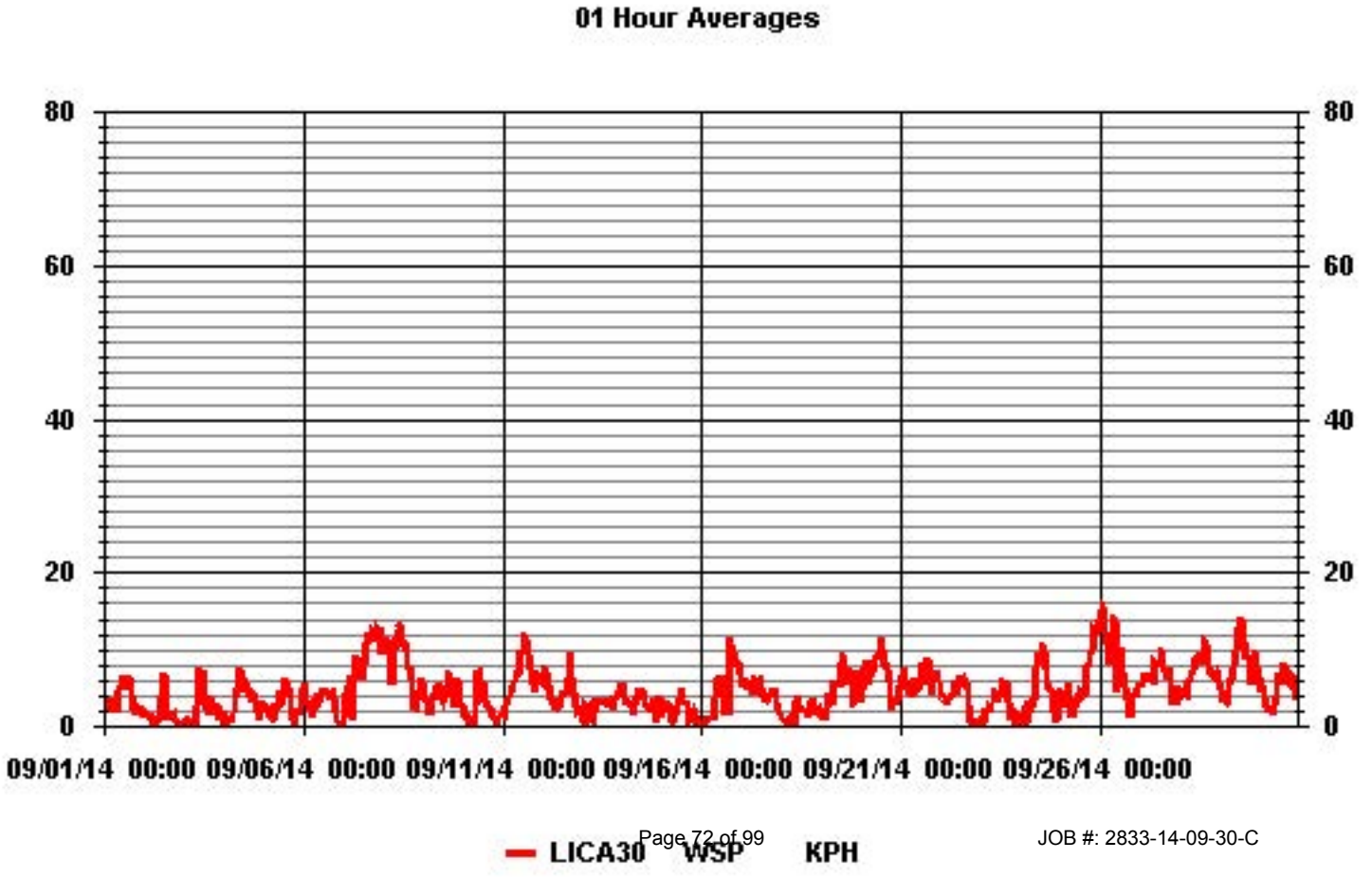


LAST CALIBRATION:	February 5, 2014
DECLINATION :	19 DEGREE FROM MAGNETIC NORTH

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	719						
MAXIMUM 1-HR AVERAGE:	15.9	KPH	@ HOUR(S)	1	ON DAY(S)	26	
MAXIMUM 24-HR AVERAGE:	8.3	KPH			ON DAY(S)	8	
					VAR-VARIOUS		
OPERATIONAL TIME:	720	HRS					
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME:	100.0	%		
STANDARD DEVIATION:	3.09		MONTHLY AVERAGE:	4.59	KPH		

JOB #: 2833-14-09-30-C



JOB #: 2833-14-09-30-C

Lakeland Industry & Community Association - Maskwa Site

SEPTEMBER 2014

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST

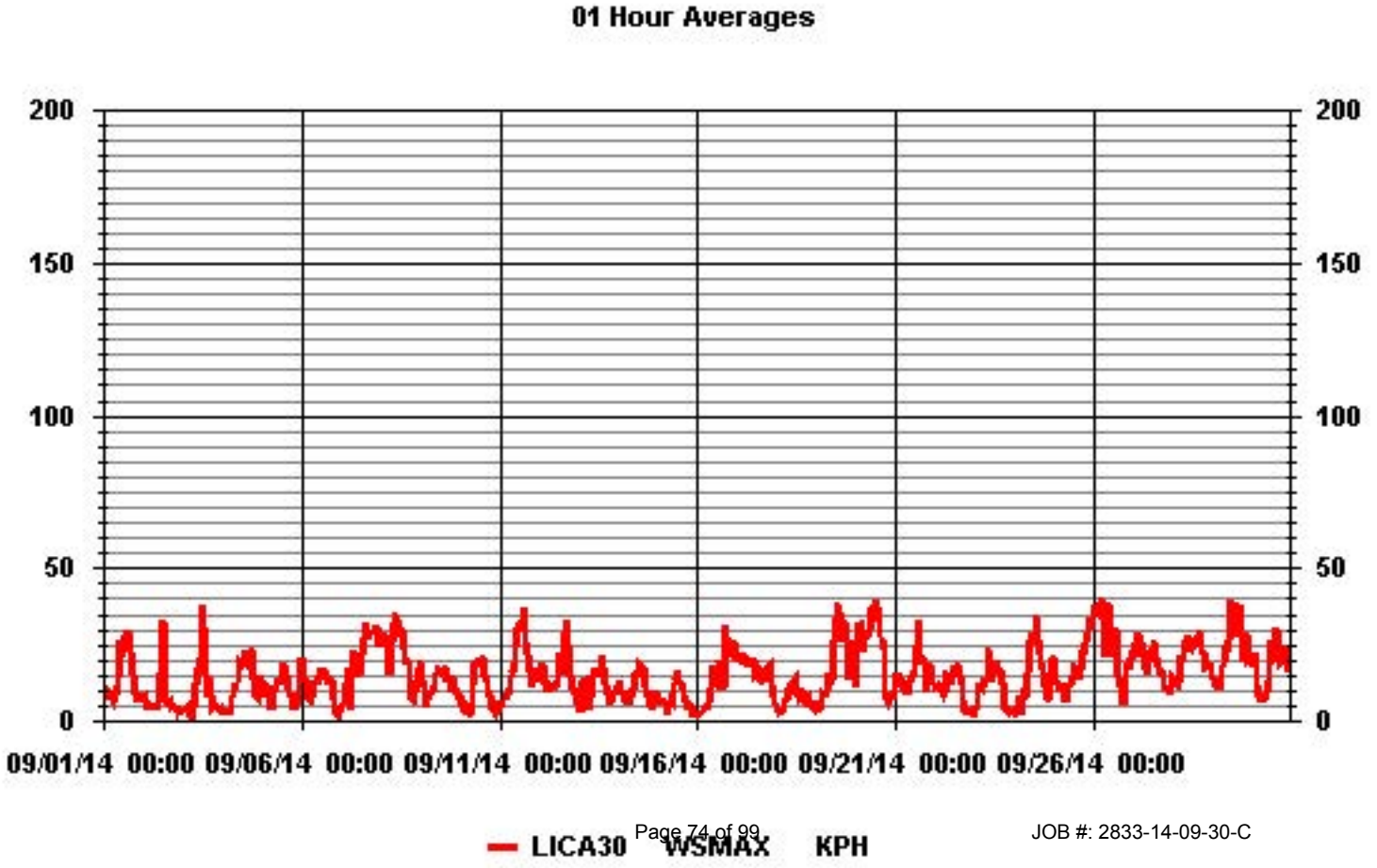
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	10.9	7.8	8.8	7.3	9.6	7.6	6.6	8.9	11	14	26.4	21.1	24	28.2	23.7	29.5	23.8	23	15.7	9.6	6.8	6.7	9.3	7.1	30	14.5	24
2	7.2	7.9	5.2	5	5.8	5.3	3.3	5	4.8	5.9	15.3	17.2	32.6	9	6.6	5.8	6.5	5	5.7	5.3	4.3	2.9	3.9	3	33	7.4	24
3	3.3	3.3	4	4.7	2.6	2.9	0.2	4.5	11.9	17	17.7	20.7	37.8	31.2	15.9	7.5	14.7	8.8	4.4	5.2	5.2	5	3.7	4.4	38	9.9	24
4	2.8	2.9	2.8	3.3	3.2	4.3	8	12.2	10.7	12.3	19.5	18.9	18.1	18.9	23	21.5	19.2	20.2	24	14.3	8.4	7.7	15.1	13.7	24	12.7	24
5	11.4	8	12.1	11.5	9.3	5	4.9	9.1	10.9	12	13.6	11.6	17.1	19.1	14.7	15.6	11.1	8.9	8.7	4.8	4.8	5.2	8.7	13.5	19	10.5	24
6	19.5	19.7	13.8	13.2	7.9	7.4	9.3	8.3	12.3	12.3	14.8	13.4	16.9	15.8	16.2	15.1	11.8	13.5	13.1	7.6	5.5	2.8	1.8	3.6	20	11.5	24
7	4.3	5.5	11.7	12.6	17.4	12.6	3.7	18.2	22.8	18	15.3	15.5	16.3	21.5	26.9	32.2	26.9	29.1	28.8	28.9	30.4	30.5	30.3	25	32	20.2	24
8	24.9	25.5	29.1	25.2	23.2	14.9	18.3	26.1	31.7	35.1	33.5	28.7	29	30.2	24.3	21.3	18.3	19.5	13.6	8.1	7.3	9.3	10.8	17.5	35	21.9	24
9	19.8	13.5	12.4	4.5	9.7	7.1	8.7	9.5	11.7	15.8	17.7	17.4	15	17.2	14.6	18.4	13.5	13.1	9.3	12.7	14.8	11.4	9.6	8.2	20	12.7	24
10	8.1	5.3	4.5	6.1	2.1	3.6	2.7	3.3	11.9	18.7	19.4	20.7	17.5	18.9	21.7	15.2	13.7	10.6	8.8	4.8	3.8	3.1	6.8	5.1	22	9.9	24
11	4	4.6	6.6	8.2	7.9	8.7	10.9	14.8	15.9	18.5	24	30.1	32	32.7	29.4	37.1	26.6	22.4	16.8	11.1	13	17.4	15.7	14.2	37	17.6	24
12	14.5	14.9	18.6	12.8	12.9	9.3	12.8	12.2	10.4	12.1	11.6	12.2	22.6	15.4	19.3	19.3	28.5	32.7	25.6	15.2	10.8	8.4	10.3	6.3	33	15.4	24
13	4.3	4.2	12.7	13.2	13.6	6.8	3.2	7.4	12.3	14.1	16.4	16.6	14.3	17.3	21.7	18.4	12.3	9.3	5.3	7.5	7.2	8.7	9.9	11.3	22	11.2	24
14	10.2	13.1	9.7	8.1	8.6	6.9	5.3	9.3	8.3	10.3	15.7	16.5	18.8	18.2	14.2	18.4	12	8.2	5.6	5.8	3.4	8.8	8.4	9.7	19	10.6	24
15	7.6	5.9	6	6.3	7.4	3.1	2.1	5.7	7.6	6.8	12.4	13.5	16.2	13.6	12.9	10.9	8.7	6.9	4.7	4.4	4.4	2.4	2.5	2.7	16	7.3	24
16	2	2.8	2.6	2.9	5	3.5	5.5	6.2	10.9	18.5	15.8	16.5	16.6	19.5	11.1	10.9	11.5	31.4	27.9	26.5	21.1	22.4	26.6	20	31	14.1	24
17	22	19.6	21.9	18.5	21.4	21	20.7	17.7	20.6	19.1	20.3	15	15.5	18.2	13.9	13.2	14.1	12.6	18.4	17.4	18.2	12.4	8.7	6.1	22	16.9	24
18	3.8	2.9	3.5	3	3.5	6.3	7.2	10.3	11.9	8.2	13.1	14	11.3	8.4	9.4	10.4	7.2	6.1	6.9	7.9	6.1	5.2	4.4	6.3	14	7.4	24
19	5	3.9	4.2	6.6	9.3	8.7	9.1	10	15.7	13.1	13.7	26.4	33.4	38.4	36.2	26.6	27.4	32.7	29.3	13.7	14.7	26.3	20.7	17.5	38	18.4	24
20	10.6	25.4	31.3	31.8	22.2	25.4	26.6	27.6	29.7	37.2	38.2	34.2	39.8	37.6	33.4	27.9	25.1	25.5	7.4	6.3	8.1	8.3	8.1	10	40	24.1	24
21	15.6	14	15.3	13.1	13.1	10.2	9.7	9.7	13	14.3	14	16	18.4	24.3	32.6	22.2	21.1	19	9.1	14.9	15.4	18.4	15.4	12.6	33	15.9	24
22	11.3	12	11.2	11.3	9.9	8.4	9.2	15.1	14.7	13.6	12.2	18.4	14.3	16.2	18.8	15.8	12.6	7.3	3.6	2	4.2	2.6	2.7	2.5	19	10.4	24
23	5	3.3	9.1	12.5	11.5	13.7	11.4	12.9	23.6	16.6	12.4	14.9	16.8	20	17.5	15.5	17.3	12.8	4.1	4.1	3.9	2.7	3.1	3.4	24	11.2	24
24	4	2.5	2.8	8.4	2.2	8.9	8.4	7.5	15.4	26.2	25	28.6	25.4	34.9	27.5	22.7	18	18.1	12	9.7	8.1	6.3	15.8	20	35	14.9	24
25	21.1	13.7	12.6	10.3	10.3	12.2	9.5	5.6	10.1	11.4	12.1	14.4	17.9	17.6	15.3	13.4	16.8	22.8	21.8	25.4	29.1	33.9	29.5	33.6	34	17.5	24
26	34.9	37	37.6	35.1	34.5	***40.2***	38.4	20.6	35.3	38.8	20.7	29.3	27.8	25.8	30.6	15	11.3	13.1	4.8	8.2	18.6	17.1	20.5	23.2	***40***	***25.8***	24
27	20.4	25.5	22	28.4	28.2	25.8	21.9	17.8	14.8	22.1	23	18.8	23.5	25.9	21.2	18.5	15.5	17.2	15	10.9	10.3	10.2	9.9	15	28	19.2	24
28	14.6	12.4	12.2	11.8	12.5	21.3	19.2	26.1	22.3	27.9	23.7	25.8	24.1	24.9	27.1	27.9	29.8	24.7	21.9	23	17.1	17.2	17.3	18.7	30	21.0	24
29	14.6	14	11	12.4	10.5	13.2	18	19	24.6	22.7	26.7	39.2	32	39	35.8	34.2	26.9	38.3	21.3	19	24.1	28.8	20.3	21	39	23.6	24
30	19.3	17.4	22.1	11.9	8.6	6.8	6.8	8	6.6	9.1	13	26.6	21.5	20.4	21.1	30.5	20.6	18.6	19.3	20.3	23.8	25	15.9	18.7	31	17.2	24
HOURLY MAX	35	37	38	35	35	40	38	28	35	39	38	39	40	39	36	37	30	38	29	29	30	34	30	34			
HOURLY AVG	11.9	11.6	12.6	12.0	11.5	11.0	10.7	12.3	15.4	17.4	18.6	20.4	22.2	22.6	21.2	19.7	17.4	17.7	13.8	11.8	11.8	12.2	12.2	12.5			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS VALUE:	40	KPH	@ HOUR(S)	5	ON DAY(S)	26
				VAR-VARIOUS		
OPERATIONAL TIME:					720	HRS



JOB #: 2833-14-09-30-C

LICA30
WSP / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 30
Site Name : LICA30
Parameter : WSP
Units : KPH

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	2.50	4.30	2.63	1.94	1.25	3.05	3.88	4.72	4.58	14.72	6.66	3.88	4.16	5.13	3.47	4.02	70.97
<	12.0	1.38	6.66	1.94	.13	.13	.55	1.11	3.61	1.66	3.61	.41	.13	1.80	2.22	.55	.00	25.97
<	20.0	.00	2.22	.27	.00	.00	.00	.00	.27	.00	.13	.00	.00	.00	.00	.00	.00	2.91
<	29.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	3.88	13.19	4.86	2.08	1.38	3.61	5.00	8.61	6.25	18.47	7.08	4.02	5.97	7.36	4.02	4.02	

Calm : .13 %

Total # Operational Hours : 720

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	18	31	19	14	9	22	28	34	33	106	48	28	30	37	25	29	511
<	12.0	10	48	14	1	1	4	8	26	12	26	3	1	13	16	4		187
<	20.0		16	2					2		1							21
<	29.0																	
<	39.0																	
>=	39.0																	
	Totals	28	95	35	15	10	26	36	62	45	133	51	29	43	53	29	29	

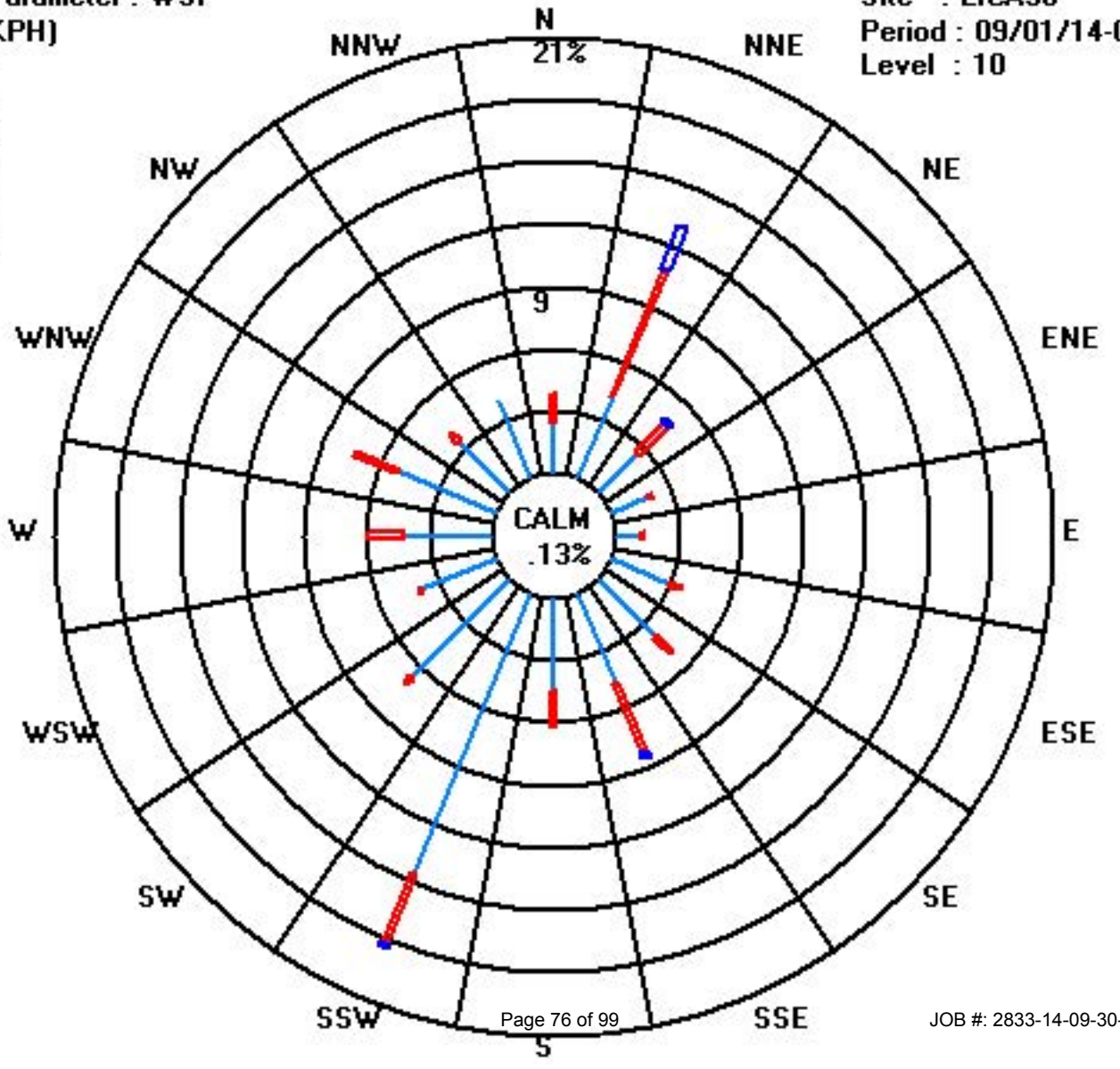
Calm : .13 %

Total # Operational Hours : 720

Logger : 30 Parameter : WSP
Class Limits (KPH)

>= 39.0
< 39.0
< 29.0
< 20.0
< 12.0
< 6.0

Site : LICA30
Period : 09/01/14-09/30/14
Level : 10



JOB #: 2833-14-09-30-C

Vector Wind Direction

Lakeland Industry & Community Association - Maskwa Site

SEPTEMBER 2014

WIND DIRECTION (WD) hourly averages in degrees

MST

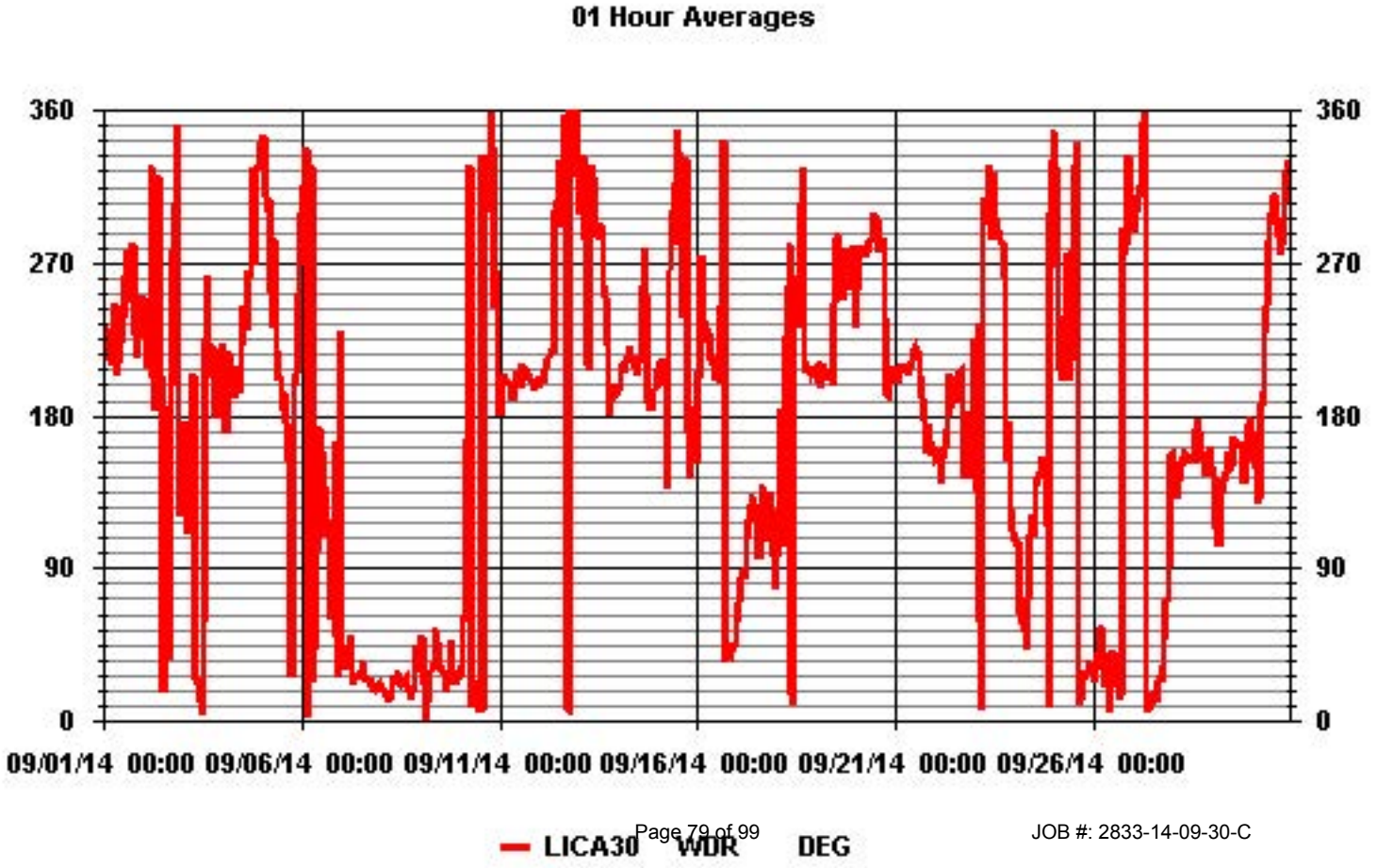
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUANDRANT	RDGS.
DAY																											
1	222	232	221	217	214	210	213	246	203	211	225	225	238	263	277	258	247	249	281	228	214	226	236	231	281	W	24
2	250	243	208	216	220	327	203	183	265	321	201	204	16	31	185	35	120	205	277	305	197	351	120	150	351	N	24
3	163	176	140	110	162	176	202	202	26	23	21	12	3	58	225	263	212	222	204	192	178	220	199	197	263	W	24
4	223	213	169	210	218	198	210	208	190	195	193	209	221	245	234	230	263	263	326	298	268	326	326	339	339	NNW	24
5	339	346	310	300	309	254	231	284	257	220	202	202	183	194	177	176	154	122	26	170	197	205	252	268	346	NNW	24
6	299	315	333	338	2	295	328	22	42	99	126	174	147	158	139	109	119	60	69	76	49	165	26	214	338	NNW	24
7	230	46	30	34	30	36	51	21	25	28	24	28	27	36	27	27	25	24	21	17	21	19	20	20	230	SW	24
8	22	20	19	16	11	16	13	25	25	26	29	23	21	22	23	25	21	18	12	17	19	28	42	42	42	NE	24
9	37	51	22	1	11	14	29	32	32	55	47	40	33	31	29	22	17	29	41	47	28	21	28	29	55	NE	24
10	25	33	60	60	166	155	327	7	24	23	19	17	4	333	6	299	309	330	334	359	339	244	265	186	359	N	24
11	179	195	200	204	201	200	198	200	188	195	206	203	204	196	210	203	208	205	202	201	200	195	197	197	210	SSW	24
12	201	201	201	207	209	213	214	219	216	301	306	300	331	310	291	337	358	9	8	360	352	334	321	360	360	N	24
13	301	298	311	333	284	211	206	293	328	322	288	287	290	292	291	257	251	222	180	182	189	191	199	192	333	NNW	24
14	195	196	211	205	211	212	215	221	212	215	210	204	213	213	240	256	278	252	188	184	184	194	195	197	278	W	24
15	208	212	208	213	209	199	136	266	298	297	280	317	349	337	326	238	315	332	170	143	180	154	185	151	349	NNW	24
16	204	204	275	268	237	233	223	230	214	209	215	204	205	199	244	270	343	35	38	40	39	46	44	46	343	NNW	24
17	58	70	84	88	83	91	107	118	128	133	129	125	118	97	97	140	106	113	133	125	135	126	98	77	140	SE	24
18	96	111	120	184	102	156	227	257	281	17	9	233	262	231	252	306	326	206	208	205	208	204	206	208	326	NW	24
19	209	201	196	207	208	205	203	201	208	204	198	246	285	288	274	277	247	277	277	261	254	279	272	280	288	WNW	24
20	232	253	278	280	273	280	274	277	282	285	290	299	293	297	276	278	283	283	239	194	193	200	209	203	299	WNW	24
21	205	201	199	211	209	208	209	208	203	208	212	219	221	217	217	204	191	178	158	166	175	166	156	158	221	SW	24
22	154	155	157	158	140	154	161	172	180	204	184	198	193	187	190	206	207	184	143	164	182	175	155	142	207	SSW	24
23	226	135	235	59	6	307	307	292	298	328	284	293	323	298	284	288	284	282	263	156	153	176	126	113	328	NNW	24
24	107	105	105	64	56	65	54	42	72	110	114	121	108	138	143	146	144	156	149	145	115	7	299	331	331	NNW	24
25	348	327	269	221	208	201	215	238	276	201	212	277	300	328	341	9	16	13	24	30	27	35	27	32	348	NNW	24
26	23	29	30	40	54	56	42	20	31	30	4	34	41	30	32	21	12	15	290	275	281	333	293	294	333	NNW	24
27	292	288	299	309	316	331	352	359	4	16	7	15	10	17	11	23	27	22	33	47	71	72	91	156	359	N	24
28	157	152	140	130	141	153	156	160	154	155	154	156	154	152	172	178	172	157	155	154	144	150	158	161	178	S	24
29	151	145	113	126	102	120	134	142	147	158	154	150	151	166	166	164	162	162	148	140	149	174	178	178	178	S	24
30	172	154	150	131	128	131	186	194	229	245	283	297	300	309	312	294	286	274	281	297	313	325	330	308	330	NNW	24

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

LAST CALIBRATION:	February 5, 2014
DECLINATION :	19 DEGREE FROM MAGNETIC NORTH

MONTHLY CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS
STANDARD DEVIATION:	97.85		AMD OPERATION UPTIME:	100.0	%
			MONTHLY AVERAGE:	225	DEG



JOB #: 2833-14-09-30-C

Standard Deviation Wind Direction

Lakeland Industry & Community Association - Maskwa Site

SEPTEMBER 2014

STANDARD DEVIATION WIND DIRECTION (STDWD) hourly averages in degrees

MST

HOUR START	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
HOUR END	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	0:00
DAY																								
1	28	29	25	23	17	18	27	43	25	33	42	34	44	45	41	43	45	41	43	50	38	28	30	28
2	41	36	45	45	39	45	9	63	48	45	46	40	45	22	46	54	37	33	28	39	33	44	58	40
3	52	24	36	19	55	22	50	45	26	22	29	38	40	48	34	39	35	31	13	7	10	17	15	8
4	16	23	33	16	21	19	17	23	22	28	24	40	37	41	41	43	45	41	35	38	39	47	38	42
5	41	32	40	49	40	48	43	42	42	49	36	58	53	25	28	27	19	73	62	33	15	18	35	39
6	38	38	40	43	36	39	39	16	33	34	40	41	47	48	50	47	39	30	26	25	37	57	1	74
7	31	43	34	24	18	25	39	15	20	19	22	17	19	21	18	18	18	17	16	18	16	17	19	18
8	17	17	17	18	21	20	19	15	19	18	22	20	22	19	23	23	19	19	20	23	24	18	17	20
9	24	26	22	24	17	21	18	19	21	34	37	56	50	43	38	25	21	18	20	17	20	13	16	21
10	16	20	20	19	34	40	18	23	24	18	32	39	32	54	51	53	42	43	36	26	43	17	25	24
11	6	20	8	12	9	11	14	19	22	28	34	28	33	27	31	27	28	27	19	17	18	17	17	16
12	16	15	18	21	19	25	32	36	30	51	40	41	45	43	42	42	34	22	20	25	27	32	39	37
13	29	33	41	43	35	28	26	45	50	45	52	49	47	54	56	51	43	28	8	7	7	9	13	13
14	17	15	26	12	15	13	16	22	34	30	33	40	47	43	46	55	45	33	4	5	5	9	14	15
15	26	16	11	43	12	6	31	44	30	50	48	56	43	36	45	40	35	45	17	39	18	19	28	12
16	1	19	15	17	22	32	23	23	28	24	27	30	29	32	52	49	59	22	24	23	23	24	25	25
17	28	31	35	36	34	34	40	37	35	34	37	43	53	49	52	37	32	29	26	32	31	34	28	24
18	14	8	10	49	44	61	42	55	51	22	47	36	42	32	39	45	42	16	15	13	13	16	16	13
19	22	28	13	10	15	15	30	22	21	22	21	42	41	35	42	35	42	36	33	40	32	32	29	35
20	30	38	36	30	38	31	32	36	36	35	34	39	34	37	35	36	33	31	27	17	10	14	14	14
21	15	14	15	18	17	15	17	21	20	25	24	35	39	31	33	28	20	20	11	17	19	21	20	20
22	19	19	21	20	37	17	15	21	23	34	37	32	31	35	28	27	21	9	12	0	7	15	19	38
23	34	52	51	30	34	33	37	37	38	45	56	45	41	32	34	37	25	30	29	15	10	13	16	25
24	20	38	29	18	33	20	17	25	27	32	33	29	33	28	27	25	26	24	15	14	23	44	31	43
25	31	37	30	23	15	14	22	32	30	31	39	43	36	36	41	40	18	18	15	17	17	22	18	20
26	15	19	20	26	27	28	25	18	21	20	49	34	26	21	25	22	24	28	32	31	28	38	36	37
27	34	31	34	32	39	40	28	26	24	23	24	23	23	21	24	22	24	15	21	24	26	25	25	22
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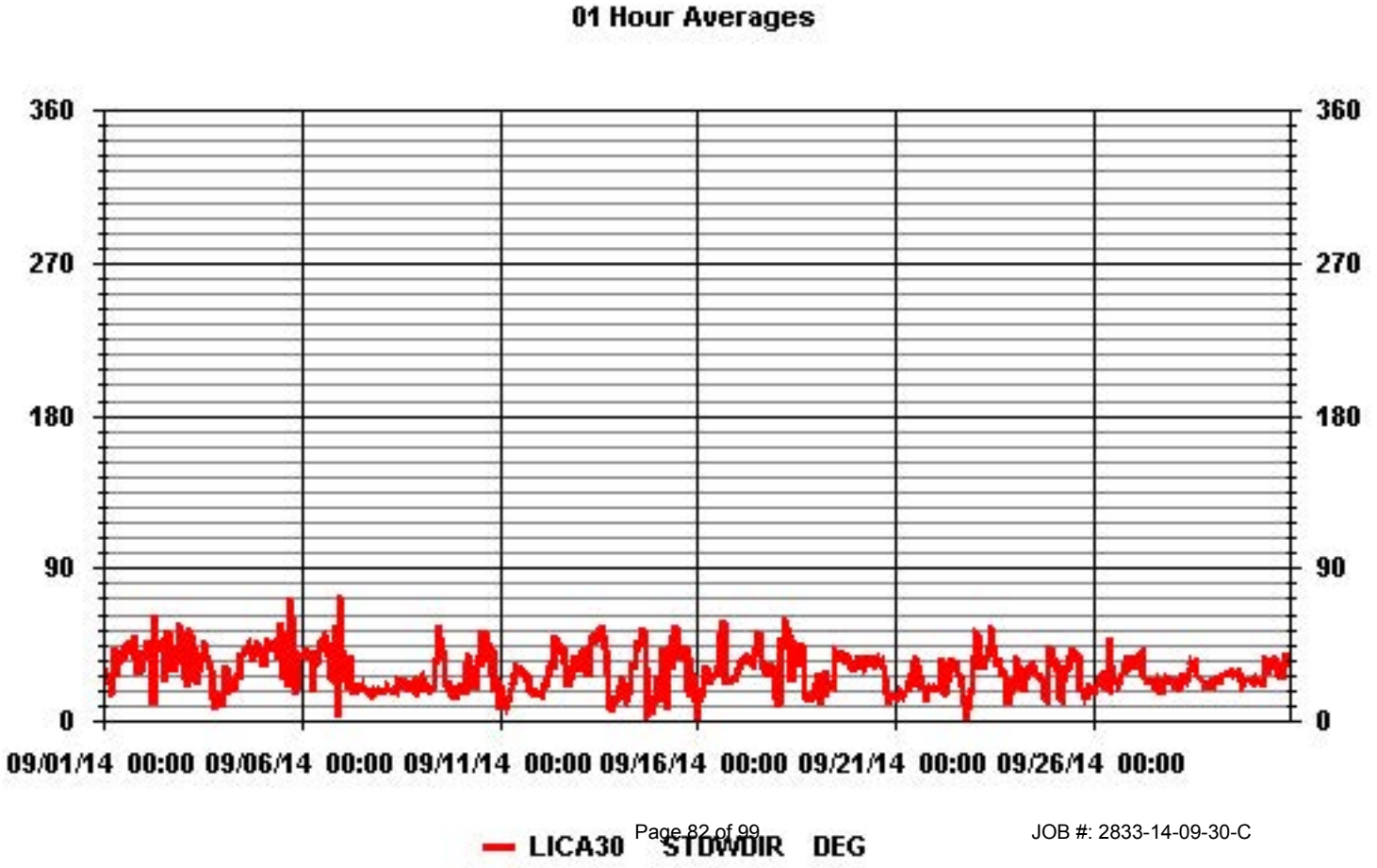
29	18	22	23	26	21	26	27	27	28	28	27	27	31	28	29	28	29	25	21	22	23	24	24	24
30	24	23	25	23	23	23	21	21	39	31	28	32	32	36	39	31	28	27	24	34	38	37	40	33

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

LAST CALIBRATION: February 5, 2014

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 720 HRS



JOB #: 2833-14-09-30-C

Calibration Reports

Sulphur Dioxide

API 100E SO2 Analyzer Calibration

Date:	30-Sep-14	**Start/End Time (mst):**	0745/1018
Company:	LICA	**Calibration Purpose:**	As Found
Station Name/Location:	Maskwa	**Converter Make & Model:**	NA
Performed by:	Limin Li	**Converter Serial #:**	NA
Application $H_2S/TRS/SO_2$:	SO2	**Cal Gas Expiry Date:**	15-Oct-17

Analyzer:

Serial Number:	508	**Range ppb:**	1000
Last Calibration Date:	22-Aug-14	**As Found C.F.**	0.986
Previous Cal High Point C.F.:	0.999	**New C.F.:**	NA

	As found:	**As left:**
SLOPE:	1.288	1.288
OFFSET:	85.6	85.6
HVPS:	491	491
RCELL TEMP:	50.0	50.0
BOX TEMP:	28.6	28.6
PMT TEMP:	7.7	7.7
IZS TEMP:	45.0	45.0
TEST:	NA	NA
STABIL:	0.1	0.1
PRES:	23.9	23.9
SAMP FL:	583	583
PMT:	72	72
NORM PMT:	88.9	88.9
UV LAMP:	2441	2441
LAMP RATIO:	81.3	81.3
STR. LGT	55.1	55.1
DRK PMT:	11.6	11.6
DRK LMP:	-1.9	-1.9
Internal Span:	268.5	268.5

Calibrator:

Flow Meter ID's:	NA
Make & Model:	Sabio 2010
Serial #:	042531101(0911)
Cal Gas Cylinder I.D. # :	BAL1263
Cal Gas Conc. (ppm):	49.5

Calibrator Flow Targets:

point	diluent (cc/min)	cal gas (cc/min)	total (cc/min)
zero	4999	0	4999
high	4924	76	5000
mid			
low			

Calibration:

Calibrator Flow Rates (cc/min)				**Calculated Concentration:**	**Indicated Concentration:**	**Correction Factors:**
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	4999	0.0	4999	0	2.0	NA
adjusted zero	NA	0.0	NA	0		NA
as found high	4924	76.00	5000	752.4	763.0	0.986
adjusted high		NA				
mid		NA				
low		NA				
calibrator zero	NA	0.00	NA	0		NA
					Average C.F.=	

Linear Regression/Calibration Results:

		LIMITS	**Pass/Fail ?**
Correlation Coeffecient =		**> or = 0.995**	
Slope =		**0.85-1.15**	
b (Intercept as % of full scale)=		**± 3% F.S.**	
% change in C.F. from last cal	**1.29%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

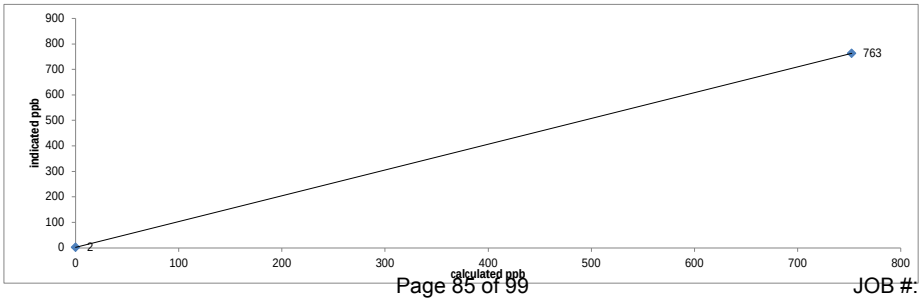
****run converter effeciency test immediately following zero adjust****

SO_2 High Point gas concentration:	NA	Time gas run (mst):	NA
Zero corrrected analyzer response:	NA		

Comments:

After as found point adjust UV Lamp and change sample filter.

API 100E SO2 Analyzer Calibration



API 100E SO2 Analyzer Calibration

Date:	30-Sep-14	**Start/End Time (mst):**	1105/1450
Company:	LICA	**Calibration Purpose:**	Post Repair
Station Name/Location:	Maskwa	**Converter Make & Model:**	NA
Performed by:	Limin Li	**Converter Serial #:**	NA
Application $H_2S/TRS/SO_2$:	SO2	**Cal Gas Expiry Date:**	15-Oct-17

Analyzer:

Serial Number:	508	**Range ppb:**	1000
Last Calibration Date:	22-Aug-14	**As Found C.F.**	NA
Previous Cal High Point C.F.:	0.999	**New C.F.:**	1.000

	As found:	**As left:**
SLOPE:	1.288	0.998
OFFSET:	85.6	112.8
HVPS:	491	495
RCELL TEMP:	50.0	50.0
BOX TEMP:	28.6	28.9
PMT TEMP:	7.7	7.7
IZS TEMP:	45.0	45.0
TEST:	NA	NA
STABIL:	0.1	0.1
PRES:	23.9	23.9
SAMP FL:	583	583
PMT:	72	72
NORM PMT:	88.9	88.9
UV LAMP:	2441	3283
LAMP RATIO:	81.3	102
STR. LGT	55.1	55.1
DRK PMT:	11.6	11.6
DRK LMP:	-1.9	-1.9
Internal Span:	268.5	260.8

Calibrator:

Flow Meter ID's:	NA
Make & Model:	Sabio 2010
Serial #:	042531101(0911)
Cal Gas Cylinder I.D. # :	BAL1263
Cal Gas Conc. (ppm):	49.5

Calibrator Flow Targets:

point	diluent (cc/min)	cal gas (cc/min)	total (cc/min)
zero	4999	0	4999
high	4924	76.0	5000
mid	4962	37.0	4999
low	4979	18.5	4998

Calibration:

Calibrator Flow Rates (cc/min)				**Calculated Concentration:**	**Indicated Concentration:**	**Correction Factors:**
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	na	0.0	na	0		NA
adjusted zero	4999	0.0	4999	0	0.0	NA
as found high		na				
adjusted high	4924	76.00	5000	752.4	752.4	1.000
mid	4962	37.00	4999	366.4	369.0	0.993
low	4979	18.50	4998	183.2	182.0	1.007
calibrator zero	4999	0.00	4999	0	0.0	NA
					Average C.F.=	1.000

Linear Regression/Calibration Results:

		LIMITS	**Pass/Fail ?**
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**0.999**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**0.00%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**#VALUE!**	**± 15%**	**######**

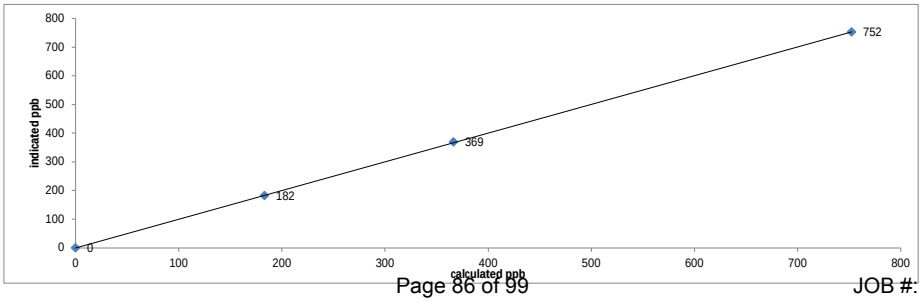
Converter Effeciency Check for H_2S/TRS application:

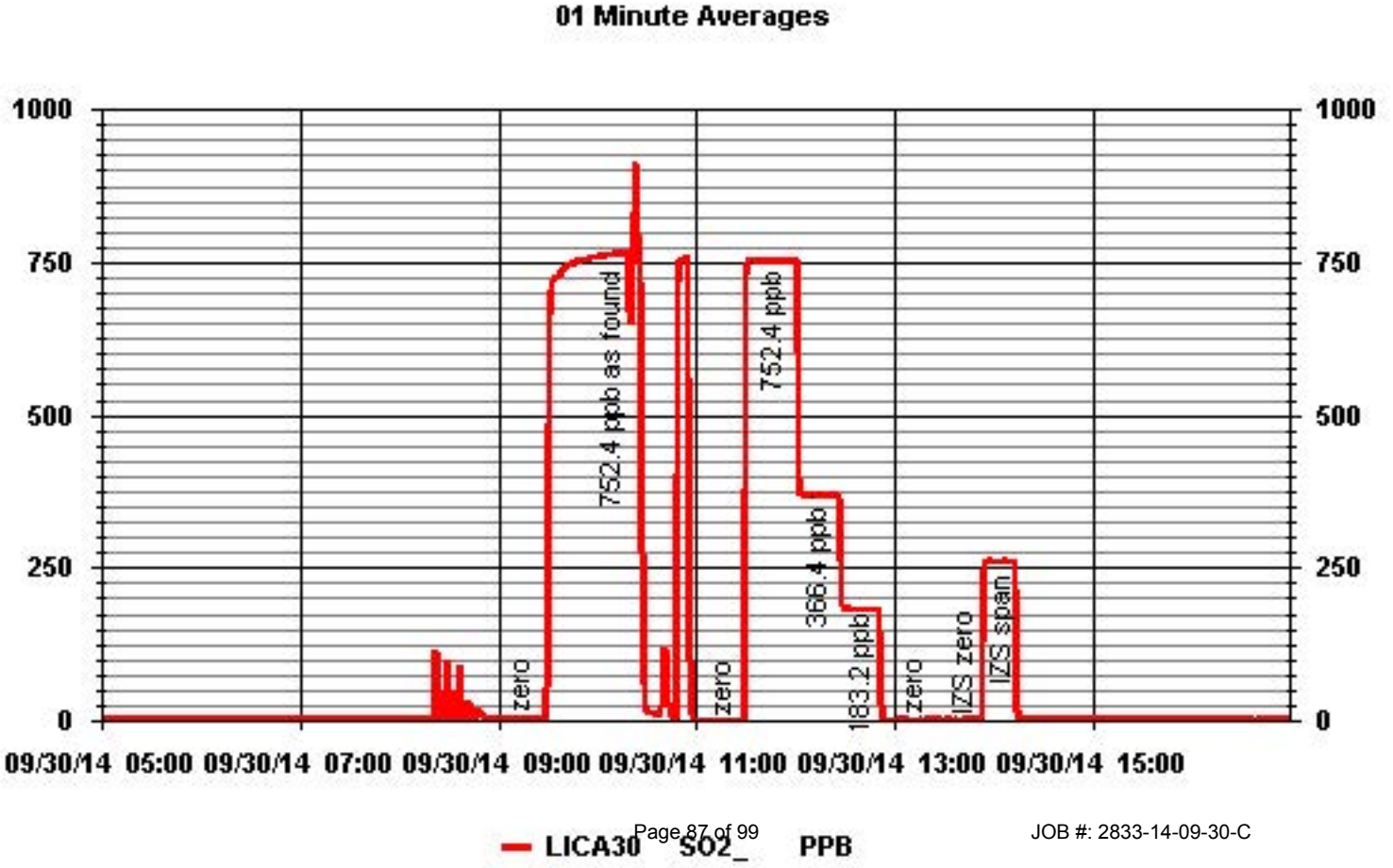
****run converter effeciency test immediately following zero adjust****

SO_2 High Point gas concentration:	NA	Time gas run (mst):	NA
Zero corrrected analyzer response:	NA		

Comments:

API 100E SO2 Analyzer Calibration





JOB #: 2833-14-09-30-C

Hydrogen Sulphide

API 101E H2S Analyzer Calibration

Date:	30-Sep-14	**Start/End Time (mst):**	0745/1030
Company:	LICA	**Calibration Purpose:**	As Found
Station Name/Location:	Maskwa	**Converter Make & Model:**	NA
Performed by:	Limin Li	**Converter Serial #:**	NA
Application H_2S/TRS/SO_2:	H2S	**Cal Gas Expiry Date:**	8-Jul-16

Analyzer:

Serial Number:	511	**Range ppb:**	100
Last Calibration Date:	22-Aug-14	**As Found C.F.**	1.017
Previous Cal High Point C.F.:	1.001	**New C.F.:**	1.031

	As found:	As left:
SLOPE:	1.208	1.208
OFFSET:	32.7	32.7
HVPS:	584	584
RCELL TEMP:	50.0	50.0
BOX TEMP:	30.1	30.1
PMT TEMP:	7.9	7.9
IZS TEMP:	45.0	45.0
TEST:	NA	NA
STABIL:	0.1	0.1
PRES:	28.5	28.5
SAMP FL:	647	647
PMT:	56.2	56.2
NORM PMT:	34.2	34.2
UV LAMP:	3123	3123
LAMP RATIO:	86.7	86.7
STR. LGT	19.7	19.7
DRK PMT:	30	30
DRK LMP:	5.6	5.6
Internal Span:	50.78	50.78

Calibrator:

Flow Meter ID's:	NA
Make & Model:	API 700
Serial #:	831
Cal Gas Cylinder I.D. # :	BAL4853
Cal Gas Conc. (ppm):	10.44

Calibrator Flow Targets:

point	diluent (cc/min)	cal gas (cc/min)	total (cc/min)
zero	5000	0	5000
high	4959	38	4997
mid			
low			

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	5000	0.0	5000	0	0.8	NA
adjusted zero	na	0.0	na	0		NA
as found high	4959	37.50	4997	78.4	76.0	1.031
adjusted high		na				
mid		na				
low		na				
calibrator zero	na	0.00	na	0		NA
					Average C.F.=	

Linear Regression/Calibration Results:

		LIMITS	Pass/Fail ?
Correlation Coeffecient =		**> or = 0.995**	
Slope =		**0.85-1.15**	
b (Intercept as % of full scale)=		**± 3% F.S.**	
% change in C.F. from last cal	**-1.60%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

****run converter effeciency test immediately following zero adjust****

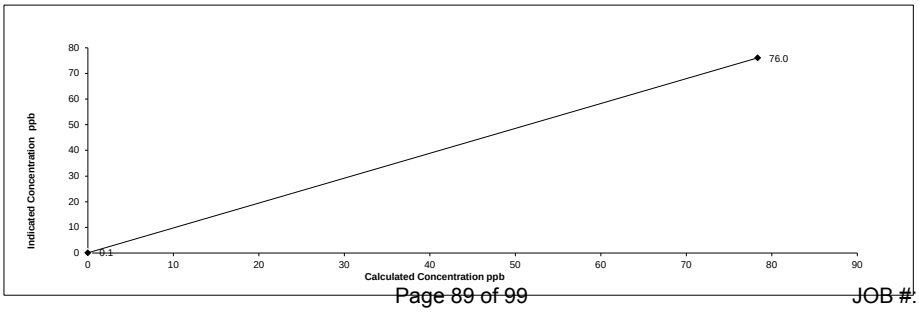
SO_2 High Point gas concentration: na Time gas run (mst): na

Zero corrrected analyzer response: na

Comments:

When doing high point, it is unstable. Up-down-up. Change regulator. Ok. After as found point adjust UV Lamp and change sample filter.

API 101E H2S Analyzer Calibration



API 101E H2S Analyzer Calibration

Date:	30-Sep-14	**Start/End Time (mst):**	1240/1550
Company:	LICA	**Calibration Purpose:**	Post Repair
Station Name/Location:	Maskwa	**Converter Make & Model:**	NA
Performed by:	Limin Li	**Converter Serial #:**	NA
Application $H_2S/TRS/SO_2$:	H2S	**Cal Gas Expiry Date:**	8-Jul-16

Analyzer:

Serial Number:	511	**Range ppb:**	100
Last Calibration Date:	22-Aug-14	**As Found C.F.**	
Previous Cal High Point C.F.:	1.001	**New C.F.:**	1.004

	As found:	As left:
SLOPE:	1.208	0.943
OFFSET:	32.7	45.5
HVPS:	584	616
RCELL TEMP:	50.0	50.0
BOX TEMP:	30.1	30.5
PMT TEMP:	7.9	7.9
IZS TEMP:	45.0	45.0
TEST:	NA	NA
STABIL:	0.1	0.1
PRES:	28.5	28.5
SAMP FL:	647	647
PMT:	56.2	56.2
NORM PMT:	34.2	34.2
UV LAMP:	3123	3111
LAMP RATIO:	86.7	100
STR. LGT	19.7	19.7
DRK PMT:	30	30
DRK LMP:	5.6	5.6
Internal Span:	50.78	52.67

Calibrator:

Flow Meter ID's:	NA
Make & Model:	API 700
Serial #:	831
Cal Gas Cylinder I.D. # :	BAL4853
Cal Gas Conc. (ppm):	10.44

Calibrator Flow Targets:

point	diluent (cc/min)	cal gas (cc/min)	total (cc/min)
zero	5000	0	5000
high	4959	37.5	4997
mid	4980	18.2	4998
low	4985	11.0	4996

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	na	0.0	na	0		NA
adjusted zero	5000	0.0	5000	0	0.0	NA
as found high		na				
adjusted high	4959	37.50	4997	78.4	78.4	0.999
mid	4980	18.20	4998	38.0	38.0	1.000
low	4985	11.00	4996	23.0	22.7	1.013
calibrator zero	5000	0.00	5000	0	0.0	NA
					Average C.F.=	1.004

Linear Regression/Calibration Results:

		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**0.998**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**0.12%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**NA**	**± 15%**	**FAIL**

Converter Effeciency Check for H_2S/TRS application:

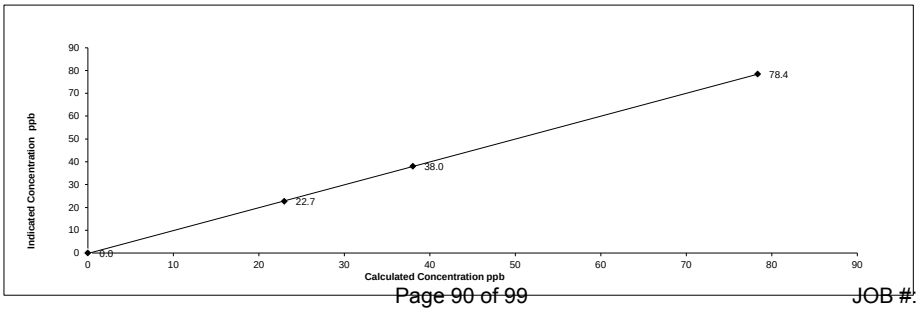
****run converter effeciency test immediately following zero adjust****

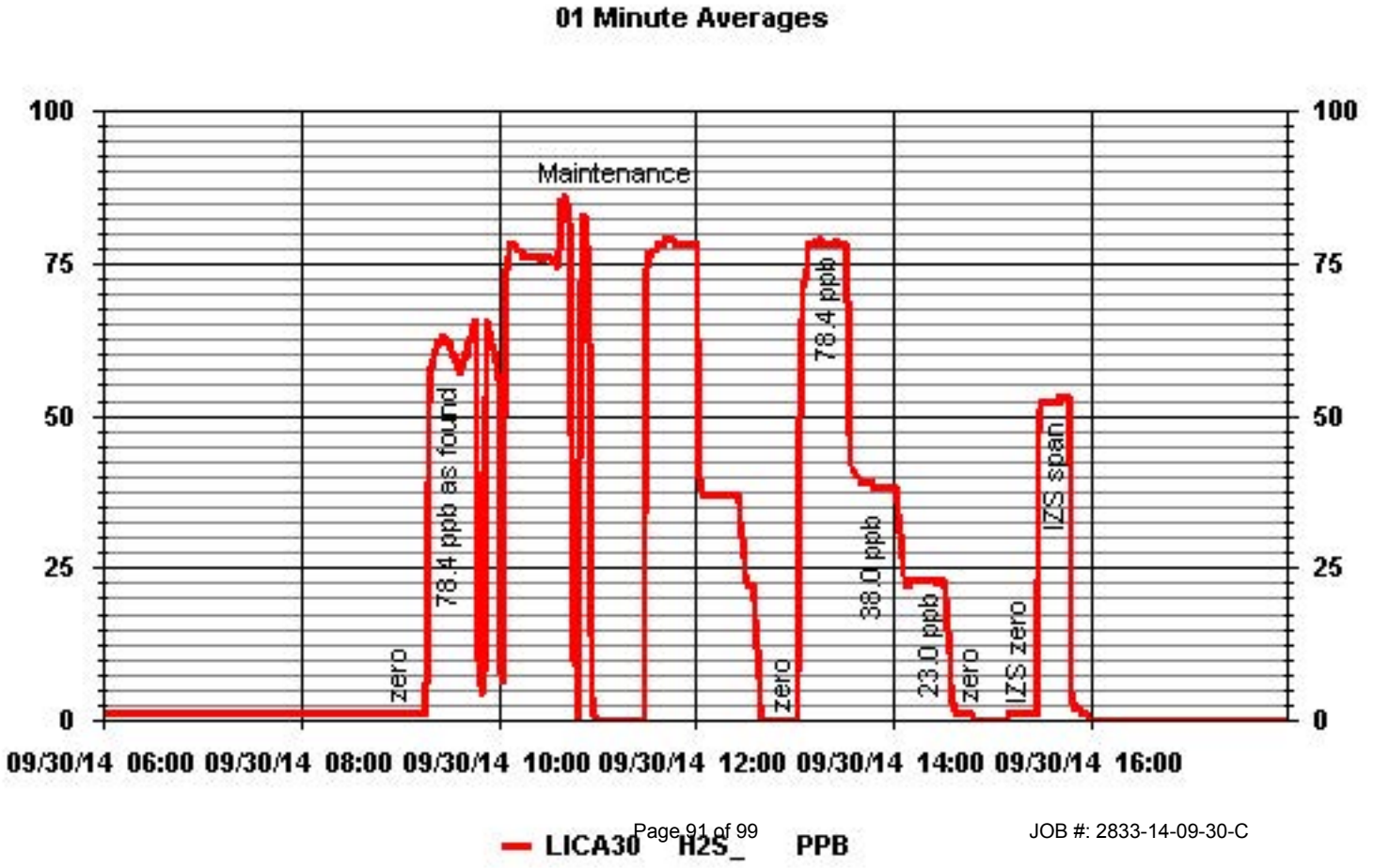
SO_2 High Point gas concentration: na Time gas run (mst): na

Zero corrrected analyzer response: na

Comments:

API 101E H2S Analyzer Calibration





JOB #: 2833-14-09-30-C

Total Hydrocarbons

Maxxam Thermo 51C THC Analyzer Calibration

Date:	30-Sep-14	**Start Time (mst):**	16:00
Company:	LICA	**End Time (mst):**	19:30
Station Name/Location:	Maskwa	**Calibration Purpose:**	Monthly Calibration
Performed by:	Limin Li	**Cal Gas Expiry Date:**	11-Jul-21

Analyzer:

Serial Number:	436609738	**Range ppm:**	50
Last Calibration Date:	22-Aug-14	**As Found C.F.**	0.988
Previous Cal High Point C.F.:	1.000	**New C.F.:**	1.012

		As found:		As left:
	H_2 cylinder (psi):	1800	H_2 cylinder (psi):	1800
	H_2 cylinder reg set (psi):	25	H_2 cylinder reg set (psi):	25
	Span Cylinder (psi):	1050	Span Cylinder (psi):	1050
	Span Cylinder Reg Set (psi):	27	Span Cylinder Reg Set (psi):	27
	Zero Air Gen Pressure:	32	Zero Air Gen Pressure:	32
	measurement alarms:	None	measurement alarms:	None
	service alarms:	None	service alarms:	None
FID status:	cnt:	2557	cnt:	2557
	rng:	1	rng:	1
	try:	3	try:	3
	flm:	178.2	flm:	178.2
	det:	125.1	det:	125.1
Oven Readings:	Flame:	178	Flame:	178
	Filter:	125	Filter:	125
	Base:	125	Base:	125
	Pump:	7.5	Pump:	7.5
Voltages:	+5	4.9	+5	4.9
	+15	14.8	+15	14.8
	-15	-15.0	-15	-15.0
	Internal Span:	36.6	Internal Span:	36.6

Calibrator:

Flow Meter ID's:	NA	
Make & Model:	API 700	
Serial #:	831	
Cal Gas Cylinder I.D. # :	LL109092	
CH_4/C_3H_8 Cylinder Conc. (ppm):	607.0	202.0
CH_4 as propane/total CH_4 equivilants (ppm):	555.5	1162.5

Calibrator Flow Targets:

point	diluent (cc/min)	cal gas (cc/min)	total (cc/min)
zero	2000	0	2000
high	2000	68	2068
mid	2000	32	2032
low	2000	16	2016

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppm)	(ppm)	
as found zero	2000	0.00	2000	0	-0.06	NA
adjusted zero	2000	0.00	2000	0	0.00	NA
as found high	2000	68.00	2068	38.23	38.70	0.988
adjusted high	2000	68.00	2068	38.23	38.30	0.998
mid	2000	32.00	2032	18.31	18.00	1.017
low	2000	16.00	2016	9.23	9.03	1.022
calibrator zero	2000	0.00	2000	0	0.00	NA
					Average C.F.=	1.012

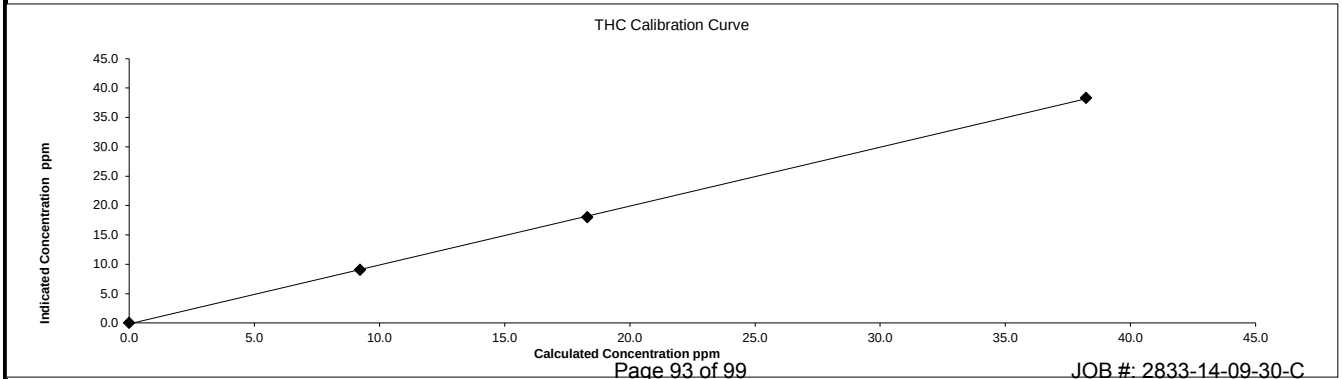
Linear Regression/Calibration Results:

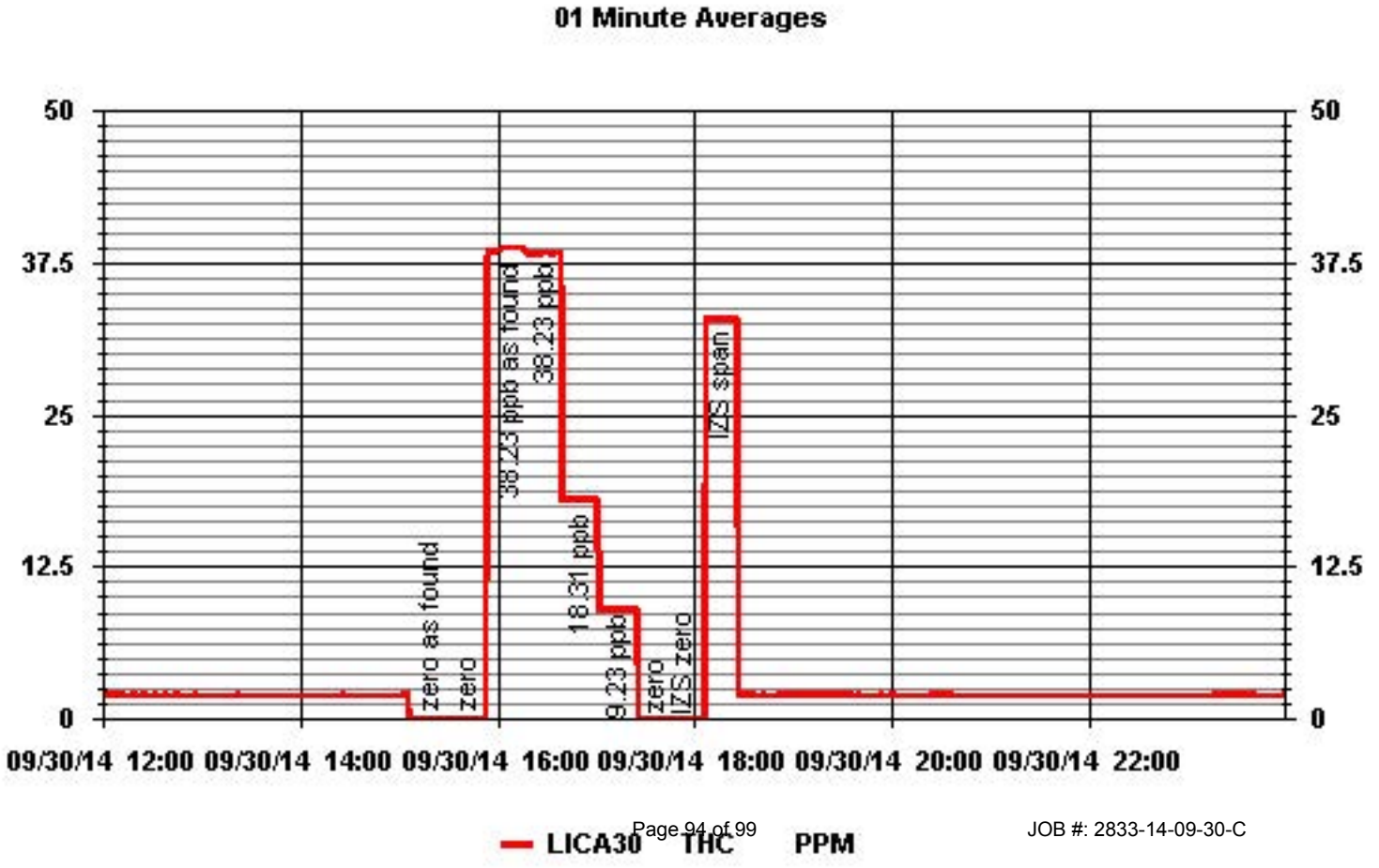
		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**1.003**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**-0.316%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**1.23%**	**± 15%**	**PASS**

Comments:

Sample filter changed. No high point adjusted.

Thermo 51C THC Analyzer Calibration





JOB #: 2833-14-09-30-C

Nitrogen Dioxide

API 200E NOx Analyzer Calibration

Date:	30-Sep-14	**Start Time (mst):**	7:45
Company:	LICA	**End Time (mst):**	10:18
Station Name/Location:	Maskwa	**Calibration Purpose:**	As Found
Performed by:	Limin Li	**Cal Gas Expiry Date:**	15-Oct-17

Analyzer Serial Number:	594
Last Calibration Date:	22-Aug-14
Range ppb:	1000

Correction Factors:

As found C.F.		Previous Cal High Point C.F.:	
NO=	0.973	NO=	1.000
NOx=	0.966	NOx=	0.999
NO_2=	NA	NO_2=	0.990

As found:		**As left:**	
NOx SLOPE:	1.059	NOx SLOPE:	1.059
NOx OFFS:	-0.2	NOx OFFS:	-0.2
NO SLOPE:	1.054	NO SLOPE:	1.054
NO OFFS:	0.1	NO OFFS:	0.1
TEST:	NA	TEST:	NA
SAMP FLW:	449	SAMP FLW:	449
OZONE FL:	78	OZONE FL:	78
PMT:	38	PMT:	38
NORM PMT:	4.8	NORM PMT:	4.8
AZERO:	15.1	AZERO:	15.1
HVPS:	750	HVPS:	750
RCELL TEMP:	50.2	RCELL TEMP:	50.2
BOX TEMP:	29.2	BOX TEMP:	29.2
PMT TEMP:	6.6	PMT TEMP:	6.6
IZS TEMP:	42.1	IZS TEMP:	42.1
MOLY TEMP:	315.8	MOLY TEMP:	315.8
RCEL:	5.8	RCEL:	5.8
SAMP:	26.1	SAMP:	26.1
Internal Span:	500/6/494	Internal Span:	500/6/494

Calibrator Flow Targets:

Make & Model:	SABIO 2010
Serial #:	042531101(0911)
Cal Gas Cylinder I.D. # :	BAL1263
NO Cylinder Conc. (ppm):	51.3
NOx Cylinder Conc. (ppm):	51.3

point	diluent (cc/min)	cal gas (cc/min)	O_3 setting (v or ppb)	total (cc/min)
zero	4995	0	0	4995
high	4924	76		5000
mid				
low				

Calibration:

Calibrator Flow Rates (cc/min)				Calculated NO	Calculated NOx	Indicated NO	Indicated NOx	NO C.F.	NOx C.F.
Point	Diluent	Cal Gas	Total Flow	(ppb)	(ppb)	(ppb)	(ppb)		
as found zero	4999	0.0	4999	0	0	0.0	0.4	NA	NA
adjusted zero	na	0.0	na	0	0			NA	NA
as found high	4924	76.00	5000	779.8	779.8	801	807	0.973	0.966
adjusted high		na							
mid		na							
low		na							
calibrator zero	na	0.00	na	0	0			NA	NA
							Average C.F.=		

Calibrator Flow Rates (cc/min)				Calibrator Setting	Indicated NO	Indicated NOx	Indicated NO_2	NO drop	NO_2 increase	NO_2 C.F.
Point	Diluent	Cal Gas	Total Flow	volts or ppb	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
NOx reference										
as found NO_2										
adjusted NO_2										
gpt mid										
gpt low										
									Average NO_2 C.F.=	

Linear Regression/Calibration Results:

	NO	NOx	NO_2	LIMITS
Correlation Coeffecient =				**> or = 0.995**
Slope =				**0.85-1.15**
b (Intercept as % of full scale)=				**± 3% F.S.**
% change in C.F. from last cal=	**2.65%**	**3.28%**	**#VALUE!**	**+/-15%**
NO2 converter effeciency				**>85%**

Comments:

API 200E NOx Analyzer Calibration

Date:	30-Sep-14	**Start Time (mst):**	11:05
Company:	LICA	**End Time (mst):**	16:30
Station Name/Location:	Maskwa	**Calibration Purpose:**	Monthly Calibration
Performed by:	Limin Li	**Cal Gas Expiry Date:**	15-Oct-17

Analyzer Serial Number:	594
Last Calibration Date:	22-Aug-14
Range ppb:	1000

Correction Factors:

As found C.F.		Previous Cal High Point C.F.:	
NO=	NA	NO=	1.000
NOx=	NA	NOx=	0.999
NO_2=	0.991	NO_2=	0.990

As found:		**As left:**	
NOx SLOPE:	1.059	NOx SLOPE:	1.027
NOx OFFS:	-0.2	NOx OFFS:	0.9
NO SLOPE:	1.054	NO SLOPE:	1.029
NO OFFS:	0.1	NO OFFS:	0.4
TEST:	NA	TEST:	NA
SAMP FLW:	449	SAMP FLW:	449
OZONE FL:	78	OZONE FL:	78
PMT:	38	PMT:	38
NORM PMT:	4.8	NORM PMT:	4.8
AZERO:	15.1	AZERO:	15.1
HVPS:	750	HVPS:	750
RCELL TEMP:	50.2	RCELL TEMP:	50.2
BOX TEMP:	29.2	BOX TEMP:	29.6
PMT TEMP:	6.6	PMT TEMP:	6.6
IZS TEMP:	42.1	IZS TEMP:	42.1
MOLY TEMP:	315.8	MOLY TEMP:	315.8
RCEL:	5.8	RCEL:	5.8
SAMP:	26.1	SAMP:	26.1
Internal Span:	500/6/494	Internal Span:	479/6/473

Calibrator Flow Targets:

Make & Model:	SABIO 2010
Serial #:	042531101(0911)
Cal Gas Cylinder I.D. # :	BAL1263
NO Cylinder Conc. (ppm):	51.3
NOx Cylinder Conc. (ppm):	51.3

point	diluent (cc/min)	cal gas (cc/min)	O_3 setting (v or ppb)	total (cc/min)
zero	4995	0	0	4995
high	4924	76.0	500.00	5000
mid	4962	37.0	280.00	4999
low	4979	18.5	95.00	4998

Calibration:

Calibrator Flow Rates (cc/min)				Calculated NO	Calculated NOx	Indicated NO	Indicated NOx	NO C.F.	NOx C.F.
Point	Diluent	Cal Gas	Total Flow	(ppb)	(ppb)	(ppb)	(ppb)		
as found zero	na	0.0	na	0	0			NA	NA
adjusted zero	4999	0.0	4999	0	0	0.0	0.0	NA	NA
as found high		na							
adjusted high	4924	76.00	5000	779.8	779.8	780	780	1.000	1.000
mid	4962	37.00	4999	379.7	379.7	384	384	0.989	0.989
low	4979	18.50	4998	189.9	189.9	191	191	0.994	0.994
calibrator zero	4999	0.00	4999	0	0	0.0	0.0	NA	NA
							Average C.F.=	0.994	0.994

Calibrator Flow Rates (cc/min)				Calibrator Setting	Indicated NO	Indicated NOx	Indicated NO_2	NO drop	NO_2 increase	NO_2 C.F.
Point	Diluent	Cal Gas	Total Flow	volts or ppb	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
NOx reference	4924	76.00	5000	0.0	784.0	783.0	-1.0	0.0	0.0	
as found NO_2	4924	76.00	5000	500.0	204.0	788.0	584.0	580.0	585.0	0.991
adjusted NO_2	4924	76.00	5000	500.0	203.0	783.0	580.0	581.0	581.0	1.000
gpt mid	4924	76.00	5000	280.0	480.0	784.0	304.0	304.0	305.0	0.997
gpt low	4924	76.00	5000	95.0	673.0	783.0	110.0	111.0	111.0	1.000
								Average NO_2 C.F.=		0.999

Linear Regression/Calibration Results:

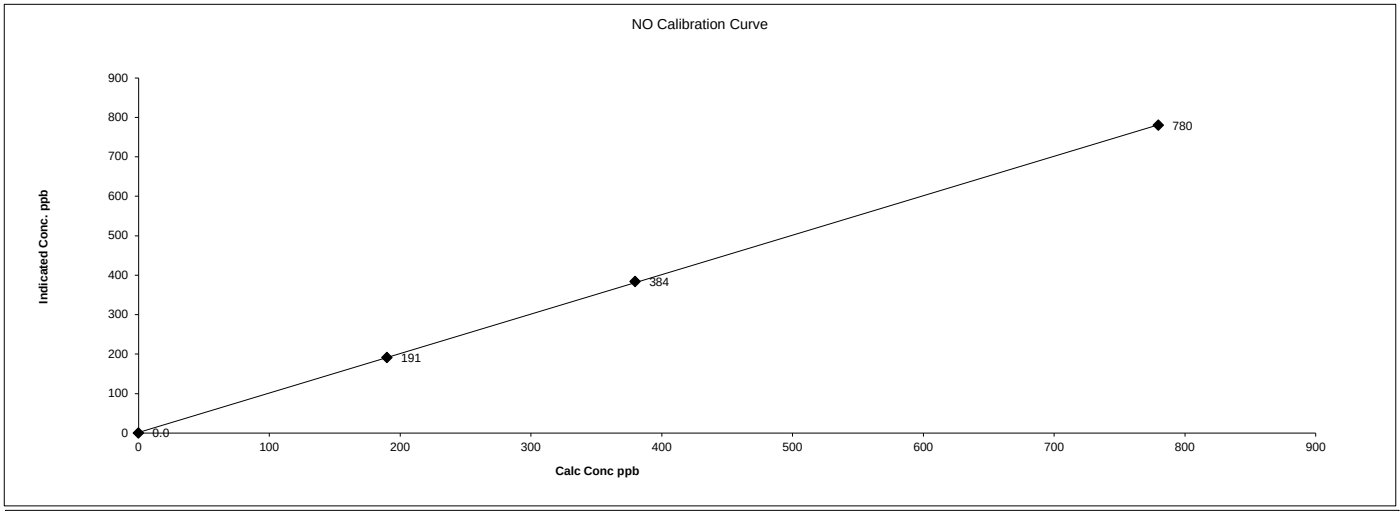
	NO	NOx	NO_2	LIMITS
Correlation Coeffecient =	**1.000**	**1.000**	**1.000**	**> or = 0.995**
Slope =	**1.000**	**1.000**	**1.009**	**0.85-1.15**
b (Intercept as % of full scale)=	**0.13%**	**0.13%**	**-0.07%**	**± 3% F.S.**
% change in C.F. from last cal=	NA	NA	**-0.15%**	**+/-15%**
NO2 converter effeciency			**100.1%**	**>85%**

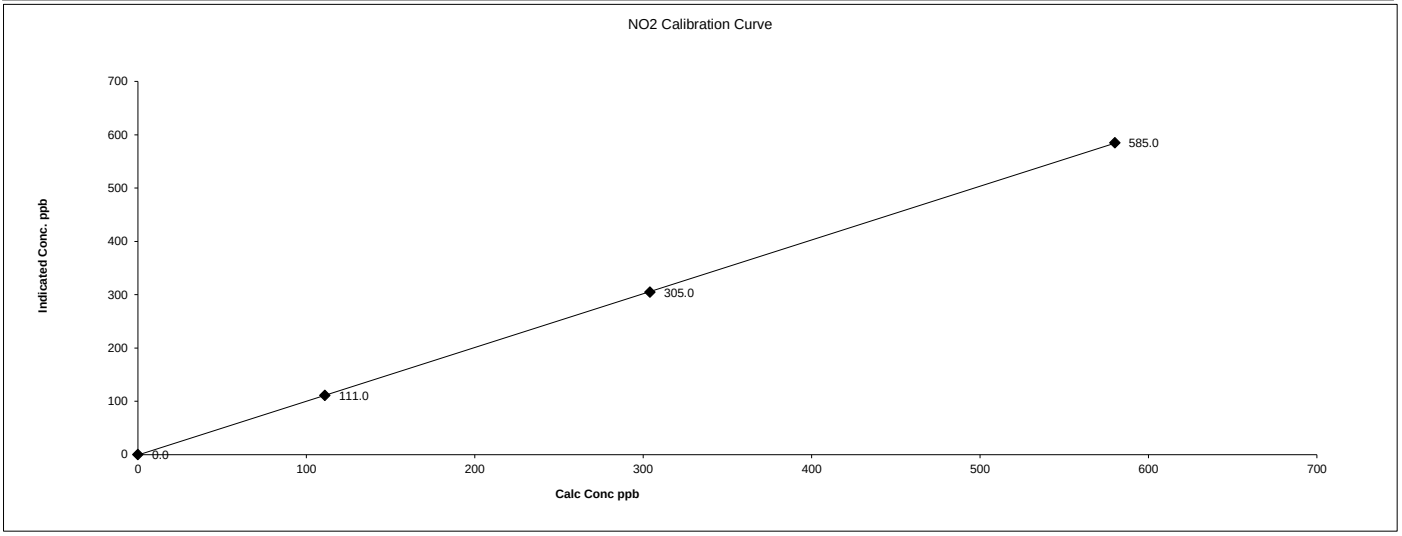
Comments:

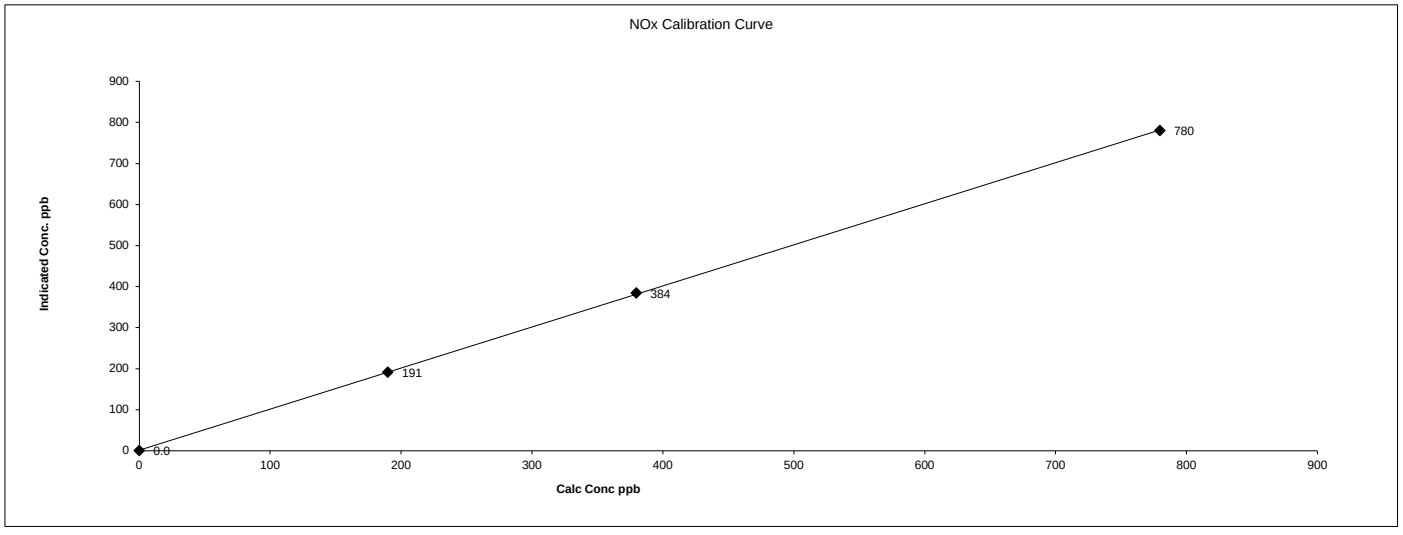
NO2 Converter efficiency: AF 0.984. AL0.991

Date:	30-Sep-14	**Start Time (mst):**	11:05
Company:	LICA	**End Time (mst):**	16:30
Station Name/Location:	Maskwa	**Calibration Purpose:**	Monthly Calibration
Performed by:	Limin Li	**Cal Gas Expiry Date:**	15-Oct-17

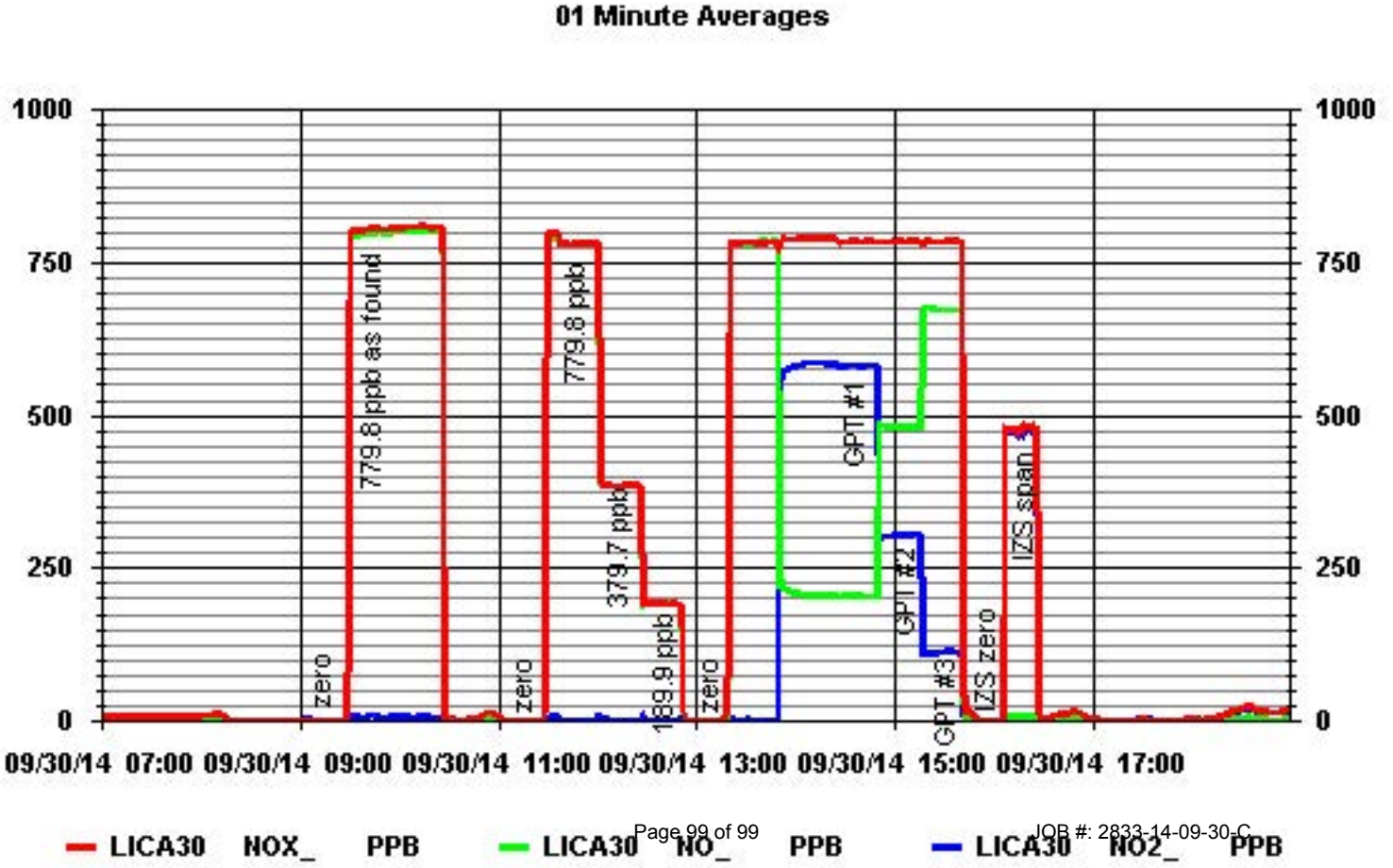
API 200E NOx Analyzer Calibration







JOB #: 2833-14-09-30-C



JOB #: 2833-14-09-30-C

Lakeland Industry & Community Association

St. Lina Monitoring Site
Ambient Air Monitoring
Data Report
For
September 2014

Prepared By:

Maxxam
A Bureau Veritas Group Company

October 23, 2014

Lakeland Industry & Community Association
St. Lina
Ambient Air Monitoring

Table of Contents

Introduction

The following Ambient Air Monitoring report was prepared for:

Mr. Mike Bisaga
Lakeland Industry & Community Association
Box 8237
5107W – 50 Street
Bonnyville, Alberta
T9N 2J5

Monitoring Location: St. Lina
Data Period: September 2014

The monthly ambient data report:

- Prepared by Ernestine
- Reviewed by Lily Lin

Calibration Procedure

The following calibration procedure applies to all calibrations conducted at the Lakeland Industry & Community Association Air Monitoring Station.

Calibration gas concentrations are generated using a dynamic mass flow controlled calibrator. EPA Protocol one gases are diluted with zero air generated on site. The Mass Flow Controllers in the calibrator are referenced using an NIST traceable flow meter once per month. All listed flows are reported as corrected to Standard Temperature and Pressure (STP).

Generated zero gas is introduced to the analyzer first. Three concentrations of calibration gas are then generated in order to introduce points at approximately 50-80%, 25-40% & 10-20% of the analyzer's full-scale range. An auto zero and span are then performed to validate the daily zero and span values recorded to the next multi-point calibration.

All indicated concentrations are taken from the ESC data logger used to collect the data for monthly reporting.

The calibrations conducted at the LICA – St. Lina Air Monitoring Stations conform to the following Maxxam Standard Operation Procedures:

- AIR SOP-00211
- AIR SOP-00209
- AIR SOP-00213
- AIR SOP-00214
- AIR SOP-00208
- AIR SOP-00215

Conformance of each calibration to Alberta Environment regulations is outlined in the individual calibration reports. The slope and correlation coefficient are derived from the calculated and indicated analyzer responses. The percent change is calculated using the previous calibration correction factor and the current correction factor before adjustment. All calibration's and maintenance conforms to the procedures outlined in the *Air Monitoring Directive, Appendix A-10, Section 1.6.*

MONTHLY CONTINUOUS DATA SUMMARY
LAKELAND INDUSTRY & COMMUNITY ASSOCIATION – ST. LINA

Continuous Ambient Monitoring – September 2014

LICA ST. LINA SITE						MAXIMUM VALUES							OPERATIONAL TIME (PERCENT)
						1-HOUR					24-HOUR		
PARAMETER	OBJECTIVES		EXCEEDENCES		MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (KPH)	WIND DIRECTION (DEGREES)	READING	DAY	
	1-HR	24-HR	1-HR	24-HR									
SO2 (PPB)	172	48	0	0	0.06	1	VAR	VAR	VAR	VAR	0.4	12	99.4
H2S (PPB)	10	3	0	0	0.06	2	4	9	8.3	193(S)	0.6	24	96.8
THC (PPM)	-	-	-	-	2.01	2.8	10	5	3.8	20(NNE)	2.2	9, 10	99.6
OZONE (PPB)	82	-	0	-	25.79	51	22	13, 14	4.4, 4.3	221(SW) 236(SW)	38.1	23	100.0
NO2 (PPB)	159	-	-	-	1.41	10.3	10	5	3.8	20(NNE)	2.8	9	99.7
NO (PPB)	-	-	-	-	0.16	4.6	15	8	9.1	230(SW)	0.6	4	99.7
NO_x (PPB)	-	-	-	-	1.58	11.2	15	8	9.1	230(SW)	3.0	9	99.7
PM2.5 (ug/m3)	-	30	-	0	2.12	16	3	13	6.1	357(WSW)	4.9	3	34.9
TEMPERATURE (DEGREE C)	-	-	-	-	11.16	30.5	22	15	5.6	279(W)	19.7	22	100.0
BP (MILLIBAR)	-	-	-	-	931.2	950	10	VAR	VAR	VAR	948.0	10	100.0
RH (%)	-	-	-	-	66.48	92	19	6	9.9	247(NNW)	87.3	26	100.0
PRECIPITATION (MM)	-	-	-	-	0.04	4.9	26	9	8.7	61(ENE)	0.9	26	99.9
VECTOR WS (KPH)	-	-	-	-	9.47	29.8	26	3	-	53(NE)	15.1	28	100.0
VECTOR WD (DEGREES)	-	-	-	-	237(SW)	-	-	-	-	-	-	-	100.0

VAR-VARIOUS

General Monthly Summary

Equipment Operation
The following summary outlines the analyzer performance. Any non-conformances, problems or maintenance performed are detailed at the end of each section.

AQM STATION – LICA – St. Lina

Sulphur Dioxide (PPB)
Analyzer make / model - API 100E, S/N: 468
The analyzer was working well throughout the month. The monthly calibration was performed on September 2nd. The inlet filter was changed before the calibration was started. The analyzer was put into maintenance mode on September 3rd between hour 10 and hour 13 for the O3 analyzer calibration. Hourly maximum data collected on September 15th hour 18, September 21st hour 22 and September 25th hour 15 were invalidated due to small power outages. Data was corrected using daily zero information.

Hydrogen Sulphide (PPB)
Analyzer make / model - API 101E, S/N: 510 replaced with API 101E, S/N: 722
The monthly calibration was performed on September 2nd. The sample filter was changed before the monthly calibration was started. The daily span result went above the +10% of the acceptance limit after the monthly calibration. An as found points check was performed on September 11th to ensure the analyzer's functionality, and the result was within the acceptable range. The issue causing the analyzer to span high was from the unstable zero/span system. Following the as found point check, the UV lamp was adjusted. A post-repair calibration was performed following the maintenance. As the IZS system kept showing its instability, it was decided to replace the analyzer for maintenance purpose. A removal calibration was performed on API 101 E, S/N: 510 LICA owned, and the API 101E S/N: 722 MAXXAM supplied, was installed on September 22nd. An installation calibration was performed after the analyzer was installed. The analyzer was allowed to stabilize overnight. A leak check and a factory calibration were performed on September 23rd.The results for both checks were good and no issue was identified. 23 hours of data from September 22 hour 16 to September 23 hour 14 were invalidated due to this event. Hourly maximum data collected on September 15th hour 18, September 21st hour 22 and September 25th hour 15 were invalidated due to small power outages. Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA – St. Lina

Total Hydrocarbon (PPM)
Analyzer make / model – Thermo 51C-LT, S/N: 04366-09739
The monthly calibration was performed on September 3rd. The inlet filter was changed before the calibration was started. The analyzer did not span on September 11th. An as found points check was performed on the same day and the result was good. It was noticed that the sample pump was due for maintenance. The sample pump was rebuilt on September 11th. A post-repair calibration was performed following the maintenance. The analyzer was again put into the maintenance mode on September 22rd between hour 13 and hour 14 for case fan repair. Hourly maximum data collected on September 15th hour 18, September 21st hour 22 and September 25th hour 15 were invalidated due to small power outages. Data was corrected using daily zero information.

Nitrogen Dioxide (PPB)
Analyzer make / model - API 200A S/N: 592
The analyzer was working well throughout the month. The monthly calibration was performed on September 2nd. The inlet filter was changed before the calibration was started. The analyzer was put into maintenance mode on September 3rd between hour 8 and hour 10 for the O3 analyzer calibration. Hourly maximum data collected on September 15th hour 18, September 21st hour 22 and September 25th hour 15 were invalidated due to small power outages. Data was corrected using daily zero information.

Ozone (PPB)
Analyzer make / model - Thermo 49i, S/N: 1002240371
The analyzer was working well throughout the month. The monthly calibration was performed on September 3rd. The inlet filter was changed before the calibration was started. Hourly maximum data collected on September 15th hour 18, September 21st hour 22 and September 25th hour 15 were invalidated due to small power outages. Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA – St. Lina

Particulate Matter 2.5 (UG/M3)
Analyzer make / model – Thermo Teom 1400A S/N: 140AB228720001
The teom unit failed on September 11th at hour 11. As the issue could not be fixed in the field, it was removed from the site and sent back to the manufacturer for repair on September 11th. A total of 469 hourly data was missing due to this issue. Data was corrected using Alberta air quality guideline. If the data was between 0 to –3, the data was corrected to 0. If the data was below –3, the data was invalidated. The analyzer's operational uptime was 34.9%.

Temperature (Degree C)
Analyzer make / model – Met One 060
The temperature sensor was working well throughout the month.

Barometric Pressure (Millibar)
Analyzer make / model - Met One 092
The BP sensor was working well throughout the month.

Relative Humidity (%)
Analyzer make / model - Met One 083
The RH sensor was working well throughout the month.

Precipitation (MM)
Analyzer make / model - Met One 387
No operational issues were observed during the month. The rain gauge was checked and cleaned on September 15h, and it passed the requirements.

General Monthly Summary

AQM STATION – LICA – St. Lina

Vector Wind Speed (KPH) & Vector Wind Direction (DEG)
System make / model –MetOne 50.5H Sonic, S/N: H12635 replaced with RM Young 5103VK, S/N: 41334
The wind system is reported as vector wind speed and vector wind direction. The wind direction data included in this report represents where the wind was coming from.
The wind system calibration was performed on August 12th, 2012. Magnetic declination was recalculated to: 13° 52.4' East
The wind system was working well throughout the month.

Datalogger
System make / model - ESC 8832, S/N: AO717
Software make/version - ESC v 5.51a
The station is connected to a modem to allow for daily polling of the station.

Trailer
The sample manifold was cleaned on September 11th.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Sulphur Dioxide

Lakeland Industry & Community Association - St. Lina Site

SEPTEMBER 2014

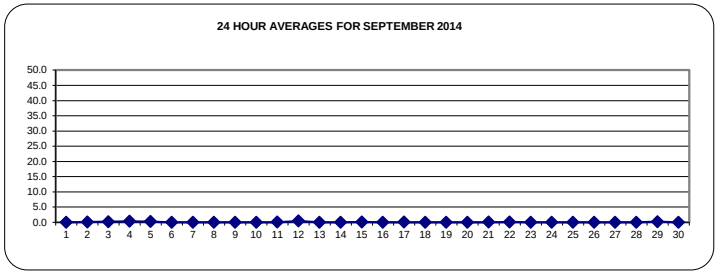
SULPHUR DIOXIDE (SO2) hourly averages in ppb

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0.0	24
2	0	0	0	0	0	0	0	0	0	0	C	C	C	C	0	0	0	0	0	*1*	0	0	S	0	*1*	0.1	24
3	0	0	0	0	0	0	0	0	0	*1*	Y	Y	Y	Y	*1*	*1*	*1*	0	0	0	0	S	0	0	*1*	0.2	20
4	0	0	*1*	*1*	*1*	*1*	*1*	*1*	*1*	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	*1*	0.3	24
5	0	0	0	0	0	0	0	0	0	0	0	0	0	*1*	0	*1*	*1*	*1*	*1*	S	0	0	0	0	*1*	0.2	24
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0.0	24
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0.0	24
8	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
9	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
10	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
11	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	*1*	*1*	0.0	24
12	0	*1*	0	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	S	0	0	0	0	0	0	0	0	0	0	0	*1*	*0.4*	24
13	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
14	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
15	0	0	0	0	0	0	0	0	*1*	S	0	0	0	0	0	0	0	0	*1*	0	0	0	0	0	*1*	0.1	24
16	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
17	0	0	0	0	0	0	0	S	0	0	0	0	0	0	*1*	0	0	0	0	0	0	0	0	0	*1*	0.0	24
18	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
19	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
20	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
21	0	0	0	S	0	0	0	0	0	*1*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*1*	0.0	24
22	0	0	S	0	0	0	0	0	0	0	*1*	*1*	0	0	0	0	0	0	0	0	0	0	0	0	*1*	0.1	24
23	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
24	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
25	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
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0.0	24
27	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
28	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
29	0	0	0	0	0	0	0	0	0	0	0	*1*	*1*	0	0	0	*1*	*1*	S	0	0	0	0	0	*1*	0.2	24
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0.0	24
HOURLY MAX	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1			
HOURLY AVG	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

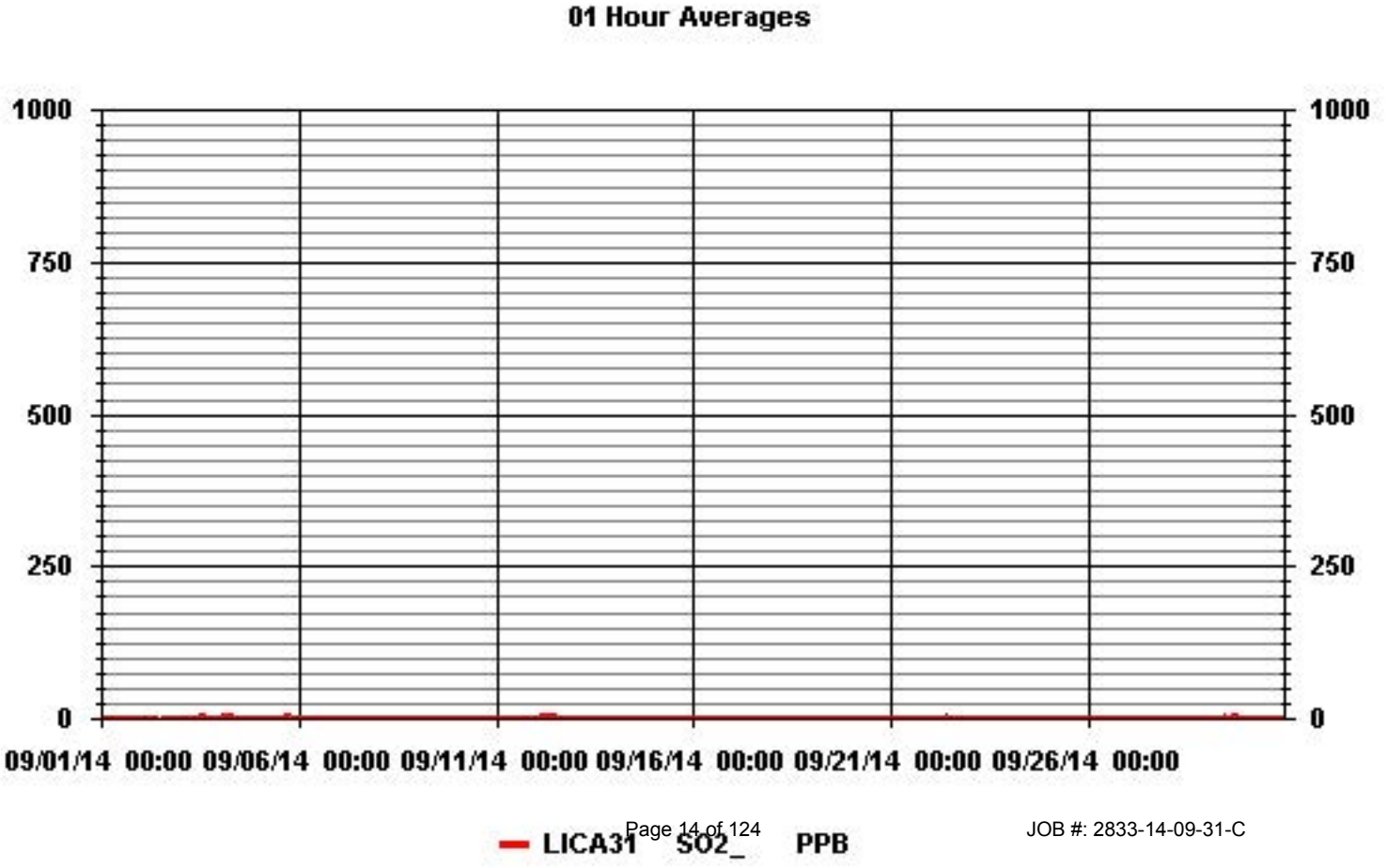


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB 24-HR 48 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0						
NUMBER OF 24-HR EXCEEDENCES:	0						
NUMBER OF NON-ZERO READINGS:	38						
MAXIMUM 1-HR AVERAGE:	1	PPB	@ HOUR(S)	VAR	ON DAY(S)		VAR
MAXIMUM 24-HR AVERAGE:	0.4	PPB			ON DAY(S)		12
					VAR-VARIOUS		
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:			716	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:			99.4	%
STANDARD DEVIATION:	0.23		MONTHLY AVERAGE:			0.06	PPB

JOB #: 2833-14-09-31-C



JOB #: 2833-14-09-31-C

Lakeland Industry & Community Association - St. Lina Site

SEPTEMBER 2014

SULPHUR DIOXIDE MAX instantaneous maximum in ppb

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0.0	24
2	0	0	*2*	0	0	0	0	0	0	S	S	S	S	S	1	1	1	1	1	*2*	*2*	1	S	1	*2*	0.7	24
3	1	*2*	1	1	1	1	1	1	*2*	*2*	S	S	S	S	*2*	*2*	*2*	*2*	*2*	1	1	S	*2*	1	*2*	1.5	24
4	1	1	*2*	*2*	*2*	*2*	*2*	*2*	*2*	0	1	*2*	*2*	0	0	0	1	1	1	1	S	1	1	1	*2*	1.2	24
5	1	1	1	1	1	1	1	1	0	0	0	0	0	*2*	*2*	*2*	*2*	*2*	*2*	S	1	0	0	0	*2*	0.9	24
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	1	1	1	1	0.2	24
7	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	S	1	*2*	1	1	1	1	*2*	0.9	24
8	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	1.0	24
9	1	1	1	1	1	1	1	1	*2*	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	*2*	1.0	24
10	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	1.0	24
11	1	1	1	1	1	1	1	1	1	1	1	1	1	0	S	1	1	1	*2*	1	1	1	1	*2*	*2*	1.0	24
12	1	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	S	1	1	1	1	1	1	1	1	1	1	1	*2*	*1.5*	24
13	1	1	0	1	0	0	0	0	0	0	0	S	0	0	1	0	1	0	1	1	1	1	1	1	1	0.5	24
14	1	1	1	1	1	1	1	1	1	1	S	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0.5	24
15	0	0	0	0	0	0	0	1	*2*	S	*2*	1	0	0	0	0	0	*2*	S	0	0	0	0	0	*2*	0.4	24
16	0	0	0	0	0	0	0	0	S	0	1	1	1	1	1	1	0	0	1	0	0	0	0	0	1	0.3	24
17	0	0	0	0	0	0	0	S	0	0	0	1	0	*2*	*2*	1	1	1	1	1	1	1	1	1	*2*	0.6	24
18	1	1	1	1	1	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24
19	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
20	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
21	1	1	0	S	0	0	0	1	1	*2*	*2*	*2*	*2*	1	1	1	1	1	1	1	1	1	S	1	*2*	1.0	24
22	1	1	S	0	0	1	0	1	1	1	*2*	*2*	1	1	1	1	0	1	1	0	1	1	0	1	*2*	0.8	24
23	1	S	1	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
24	S	0	0	0	0	0	1	1	1	1	*2*	1	1	1	1	1	1	*2*	1	1	1	1	1	S	*2*	0.9	24
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	0	0	0	0	0	S	0	1	0.0	24
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0.0	24
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0.0	24
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	S	0	0	0	0	1	0.2	24
29	0	0	0	1	1	1	1	1	1	1	*2*	*2*	*2*	1	1	*2*	*2*	*2*	S	0	0	0	0	0	*2*	0.9	24
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0.0	24
HOURLY MAX	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2			
HOURLY AVG	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.6	0.7	0.5	0.7	0.7	0.5	0.5	0.7	0.6	0.6	0.8	0.7	0.5	0.6	0.5	0.5	0.5			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 329

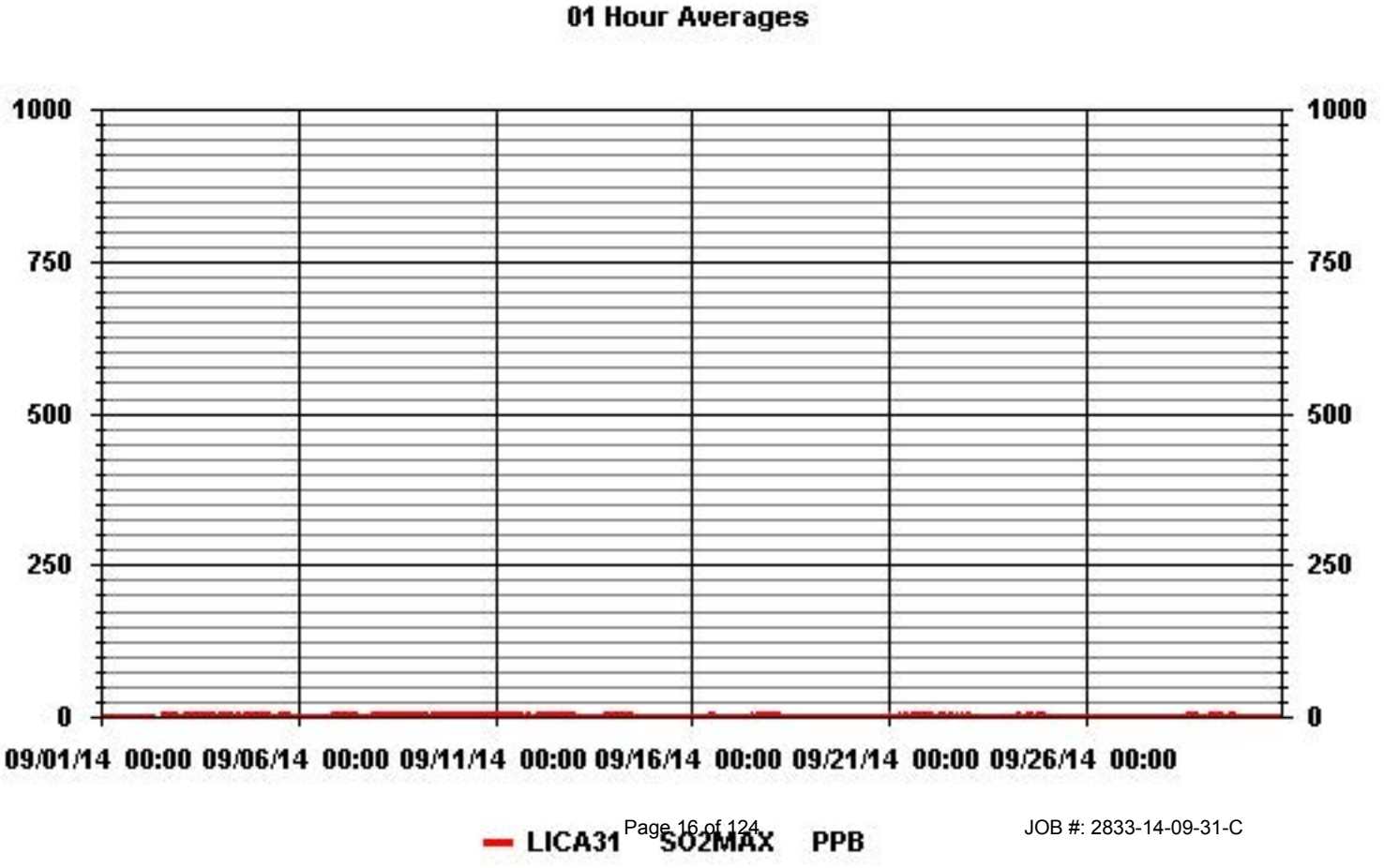
MAXIMUM INSTANTANEOUS VALUE: 2 PPB @ HOUR(S) VAR ON DAY(S) VAR

VAR-VARIOUS

IZS CALIBRATION TIME: 44 HRS OPERATIONAL TIME: 720 HRS

MONTHLY CALIBRATION TIME: 0 HRS

STANDARD DEVIATION: 0.65



JOB #: 2833-14-09-31-C

LICA31
SO2_ / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 31
Site Name : LICA31
Parameter : SO2_
Units : PPB

Wind Parameter : WDR
Instrument Height : 10 Meters

		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	20	5.58	8.38	5.73	3.52	1.76	2.35	3.52	8.38	8.52	10.58	6.76	7.50	11.91	8.67	4.11	2.64	100.00
<	60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	170	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	5.58	8.38	5.73	3.52	1.76	2.35	3.52	8.38	8.52	10.58	6.76	7.50	11.91	8.67	4.11	2.64	

Calm : .00 %

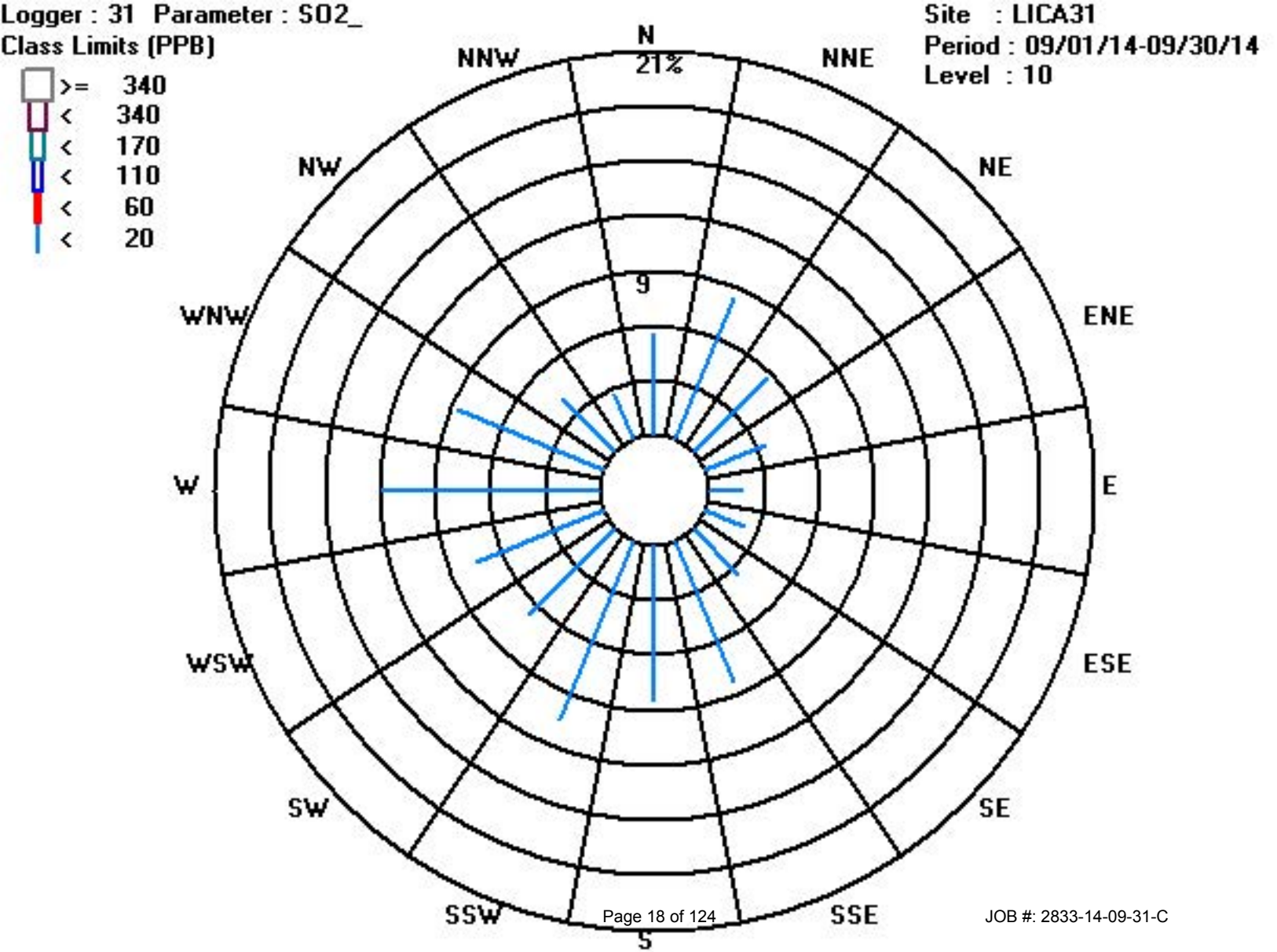
Total # Operational Hours : 680

Distribution By Samples

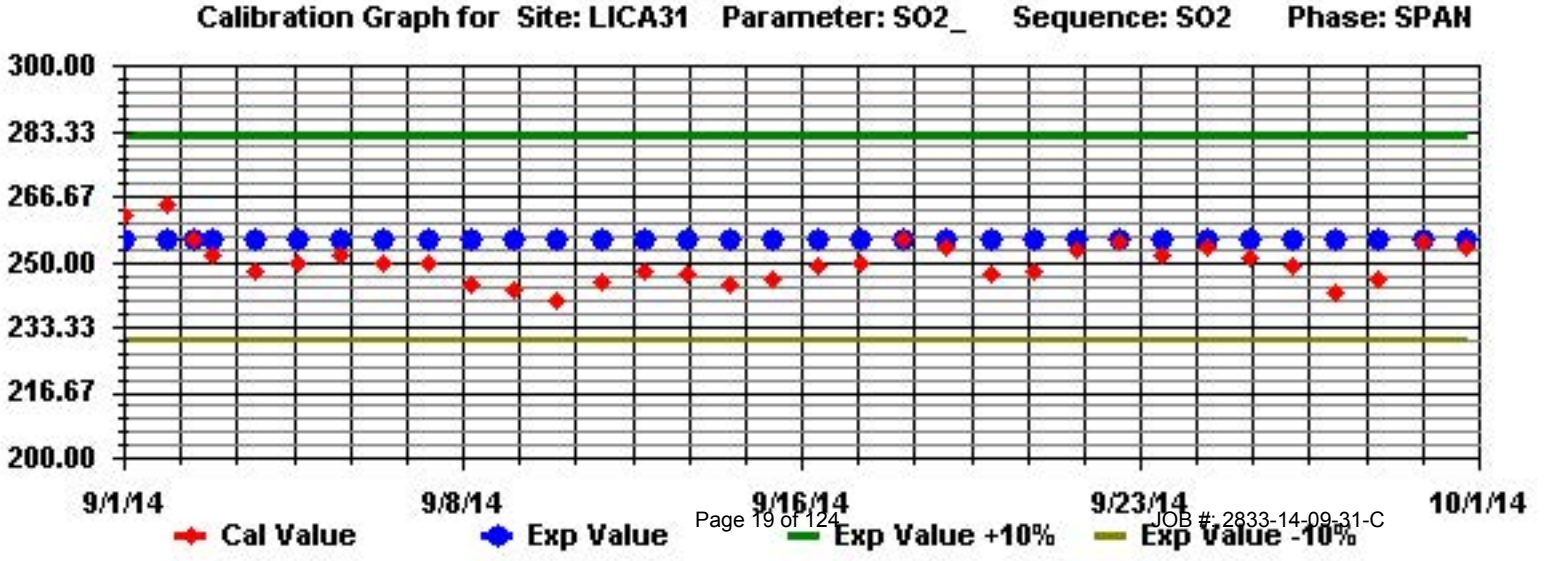
		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	20	38	57	39	24	12	16	24	57	58	72	46	51	81	59	28	18	680
<	60																	
<	110																	
<	170																	
<	340																	
>=	340																	
	Totals	38	57	39	24	12	16	24	57	58	72	46	51	81	59	28	18	

Calm : .00 %

Total # Operational Hours : 680



JOB #: 2833-14-09-31-C


Calibration Graph for Site: LICA31 Parameter: SO2_ Sequence: SO2 Phase: SPAN
300.00
283.33
266.67
250.00
233.33
216.67
200.00
9/1/14
9/8/14
9/16/14
9/23/14
10/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Hydrogen Sulphide

Lakeland Industry & Community Association - St. Lina Site

SEPTEMBER 2014

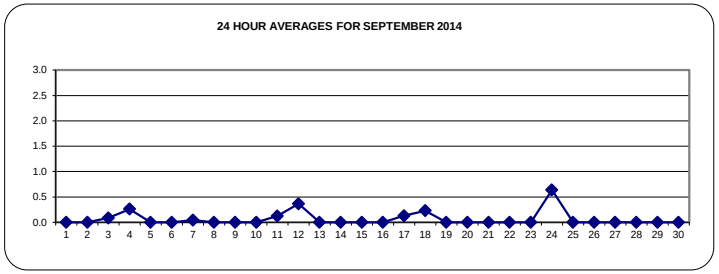
HYDROGEN SULPHIDE (H2S) hourly averages in ppb

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0.0	24
2	0	0	0	0	0	0	S	S	0	0	C	C	C	C	0	0	0	0	0	0	0	0	S	0	0	0.0	24
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	S	0	1	0.1	24
4	0	0	0	0	0	1	1	1	1	*2*	0	0	0	0	0	0	0	0	0	0	S	0	0	0	*2*	0.3	24
5	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
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0.0	24
7	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	1	0.0	24
8	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
9	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	S	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	S	0	0	0	0	0	0	0	0	0	0	0.0	24
11	0	0	0	0	0	S	1	0	0	0	C	C	C	C	C	C	C	0	0	0	0	0	1	0	1	0.1	24
12	0	1	0	1	0	1	1	1	1	0	1	1	S	0	0	0	0	0	0	0	0	S	0	0	1	0.4	24
13	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
14	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
15	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
16	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
17	0	0	0	0	0	0	0	S	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0.1	24
18	1	0	1	1	1	1	S	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	1	0.2	24
19	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
20	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
21	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
22	0	0	S	0	0	0	0	0	0	0	0	0	0	C	C	C	Y	Y	Y	Y	Y	Y	Y	Y	0	0.0	16
23	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	C	0	0	0	0	0	0	0.0	9
24	S	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	1	1	1	S	1	*0.6*	24
25	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
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0.0	24
27	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
28	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
29	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
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0.0	24
HOURLY MAX	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	0	0	0	1	1	1	1	1			
HOURLY AVG	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

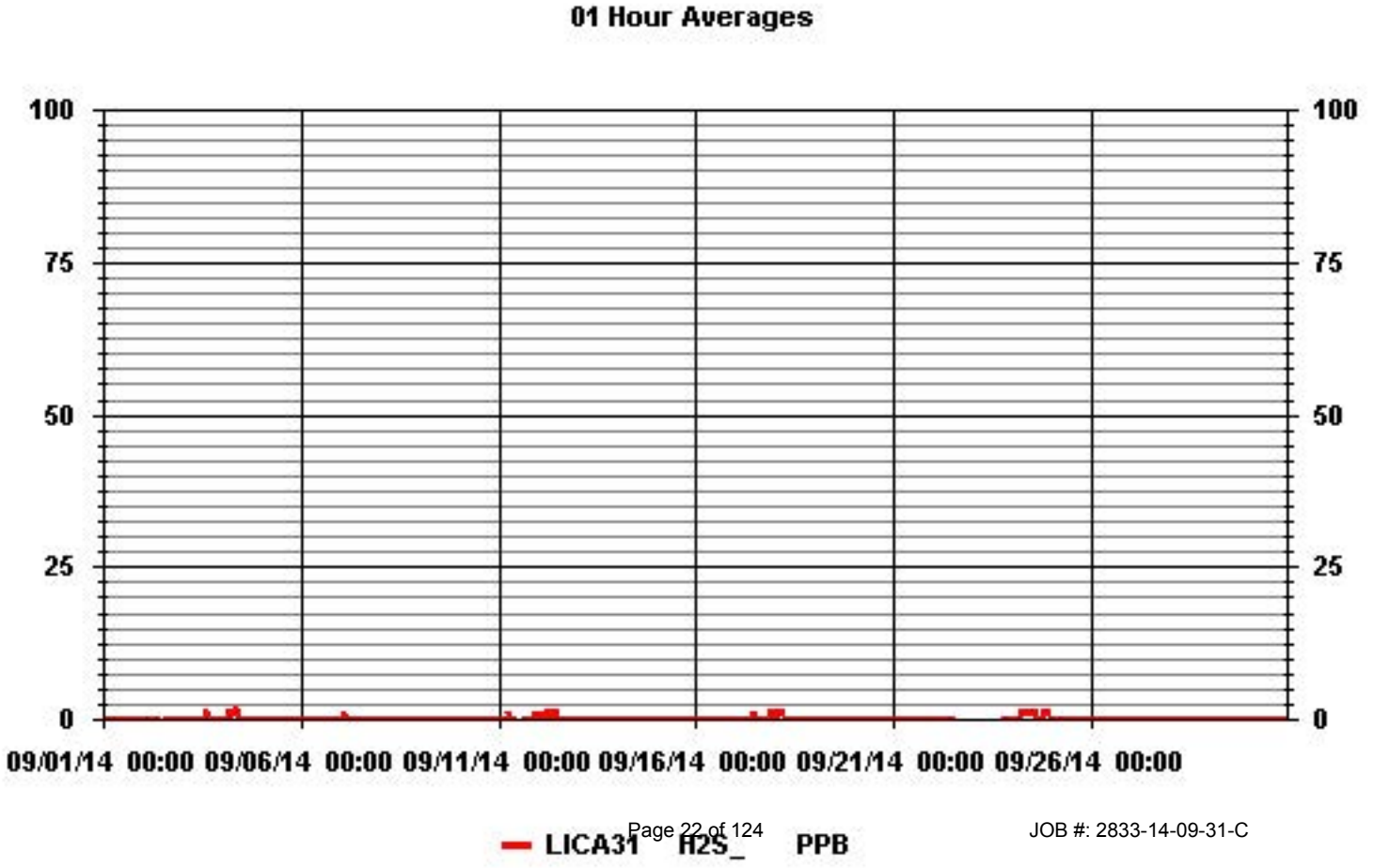


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 10 PPB 24-HR 3 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	40					
MAXIMUM 1-HR AVERAGE:	2	PPB	@ HOUR(S)	9	ON DAY(S)	4
MAXIMUM 24-HR AVERAGE:	0.6	PPB			ON DAY(S)	24
					VAR-VARIOUS	
IZS CALIBRATION TIME:	36	HRS	OPERATIONAL TIME:		697	HRS
MONTHLY CALIBRATION TIME:	18	HRS	AMD OPERATION UPTIME:		96.8	%
STANDARD DEVIATION:	0.25		MONTHLY AVERAGE:		0.06	PPB

JOB #: 2833-14-09-31-C



JOB #: 2833-14-09-31-C

Lakeland Industry & Community Association - St. Lina Site

SEPTEMBER 2014

HYDROGEN SULPHIDE MAX instantaneous maximum in ppb

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	**S**	0	0	1	1	1	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	**S**	3	0.3	24
2	0	0	0	0	0	0	**S**	**S**	1	**S**	**S**	**S**	**S**	**S**	1	0	0	1	1	1	0	1	**S**	0	1	0.4	24
3	0	1	1	1	1	0	0	1	1	1	0	0	0	2	***4***	2	1	0	0	0	0	**S**	0	0	***4***	0.7	24
4	0	0	1	1	1	2	1	1	2	3	1	1	1	1	1	0	0	1	1	0	**S**	0	0	0	3	0.8	24
5	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	1	0.2	24
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	1	1	1	1	1	0.2	24
7	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	**S**	0	0	0	0	0	0	0	1	0.7	24
8	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	**S**	0	0	0	0	0	0	0	1	0.2	24
9	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	**S**	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	**S**	2	0	0	0	0	0	0	0	1	2	0.1	24
11	1	1	1	1	1	**S**	2	1	0	1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0	1	1	1	1	1	1	2	0.9	24
12	1	1	1	1	1	1	1	1	2	1	2	2	**S**	0	0	0	0	0	0	**S**	**S**	0	0	0	2	0.7	24
13	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	1	1	0	0	1	0.1	24
14	0	0	0	0	1	1	1	0	1	1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
15	0	0	0	0	1	0	0	0	0	**S**	0	0	0	0	0	0	0	0	**P**	0	0	0	0	0	1	0.0	23
16	0	0	0	0	0	0	0	0	**S**	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
17	0	0	0	0	0	0	0	**S**	0	0	0	1	1	0	1	0	0	1	1	1	1	1	1	1	1	0.4	24
18	1	1	1	1	2	2	**S**	0	0	0	0	0	0	0	0	0	**S**	**S**	0	0	0	0	0	0	2	0.4	24
19	0	1	1	0	0	**S**	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
20	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
21	0	0	0	**S**	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	1	**P**	0	1	0.2	23
22	1	0	**S**	0	0	0	0	0	0	0	0	0	0	**C**	**C**	**C**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	1	0.1	16
23	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**C**	**C**	**C**	**C**	0	0	0	0	0	0.0	8
24	**S**	0	0	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	2	***1.0***	24
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**P**	0	0	0	0	0	0	**S**	0	0	0.0	23
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	**S**	0	1	1	0.1	24
27	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	1	0.2	24
28	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	0	**S**	0	1	0	0	2	0.3	24
29	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	1	1	0.1	24
30	0	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	1	0.2	24
HOURLY MAX	2	1	1	1	2	2	2	1	2	3	2	2	1	2	4	3	1	1	1	1	1	1	1	1			
HOURLY AVG	0.3	0.3	0.3	0.4	0.5	0.4	0.3	0.3	0.4	0.4	0.2	0.3	0.2	0.2	0.3	0.4	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 166

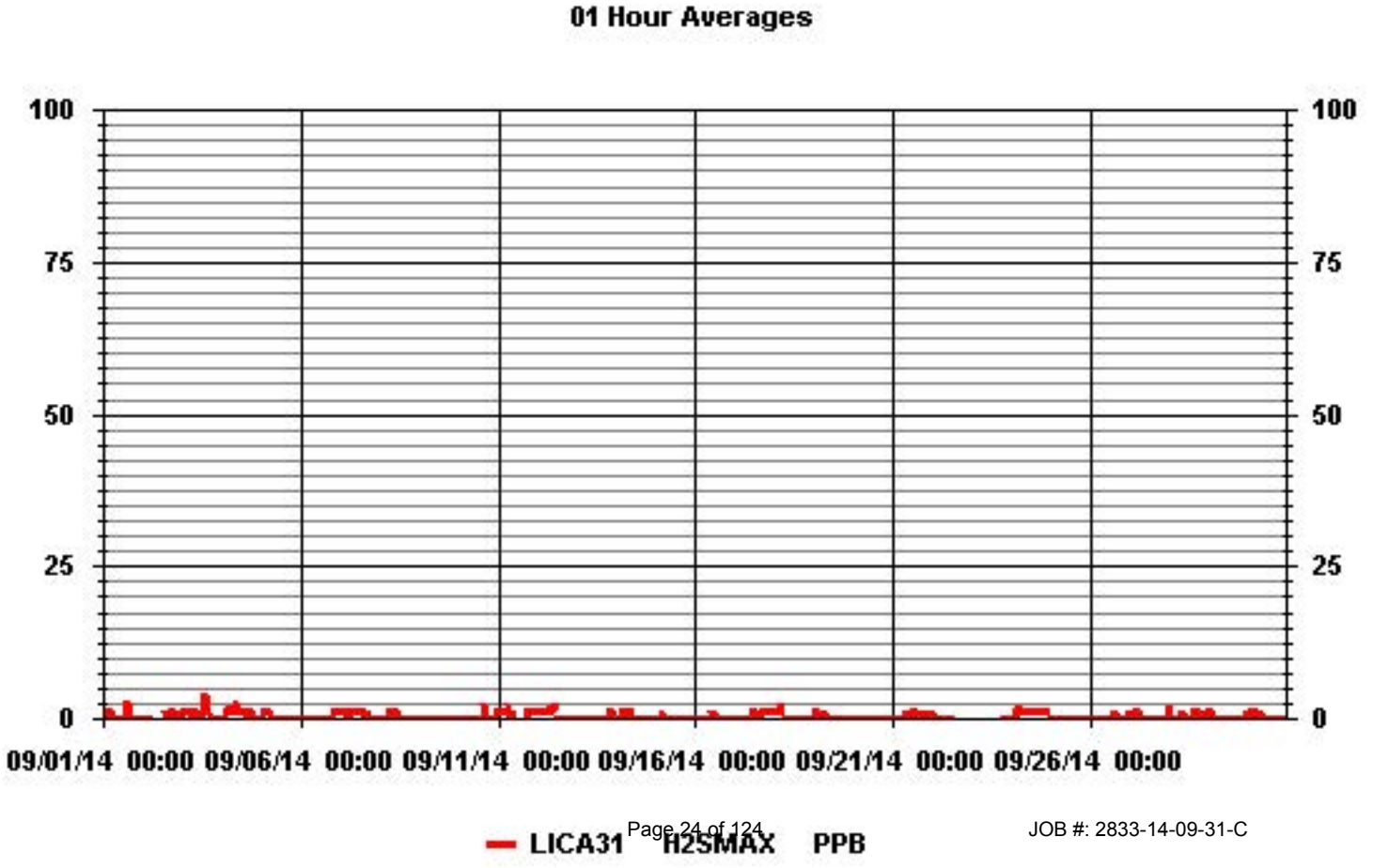
MAXIMUM INSTANTANEOUS VALUE: 4 PPB @ HOUR(S) 14 ON DAY(S) 3

VAR-VARIOUS

IZS CALIBRATION TIME: 43 HRS OPERATIONAL TIME: 693 HRS

MONTHLY CALIBRATION TIME: 14 HRS

STANDARD DEVIATION: 0.53



JOB #: 2833-14-09-31-C

LICA31
H2S_ / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 31
Site Name : LICA31
Parameter : H2S_
Units : PPB

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	5.75	9.02	5.90	3.73	1.86	2.48	3.73	8.86	8.86	10.41	5.90	7.30	11.50	8.08	3.57	2.95	100.00
< 10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.75	9.02	5.90	3.73	1.86	2.48	3.73	8.86	8.86	10.41	5.90	7.30	11.50	8.08	3.57	2.95	

Calm : .00 %

Total # Operational Hours : 643

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	37	58	38	24	12	16	24	57	57	67	38	47	74	52	23	19	643
< 10																	
< 50																	
>= 50																	
Totals	37	58	38	24	12	16	24	57	57	67	38	47	74	52	23	19	

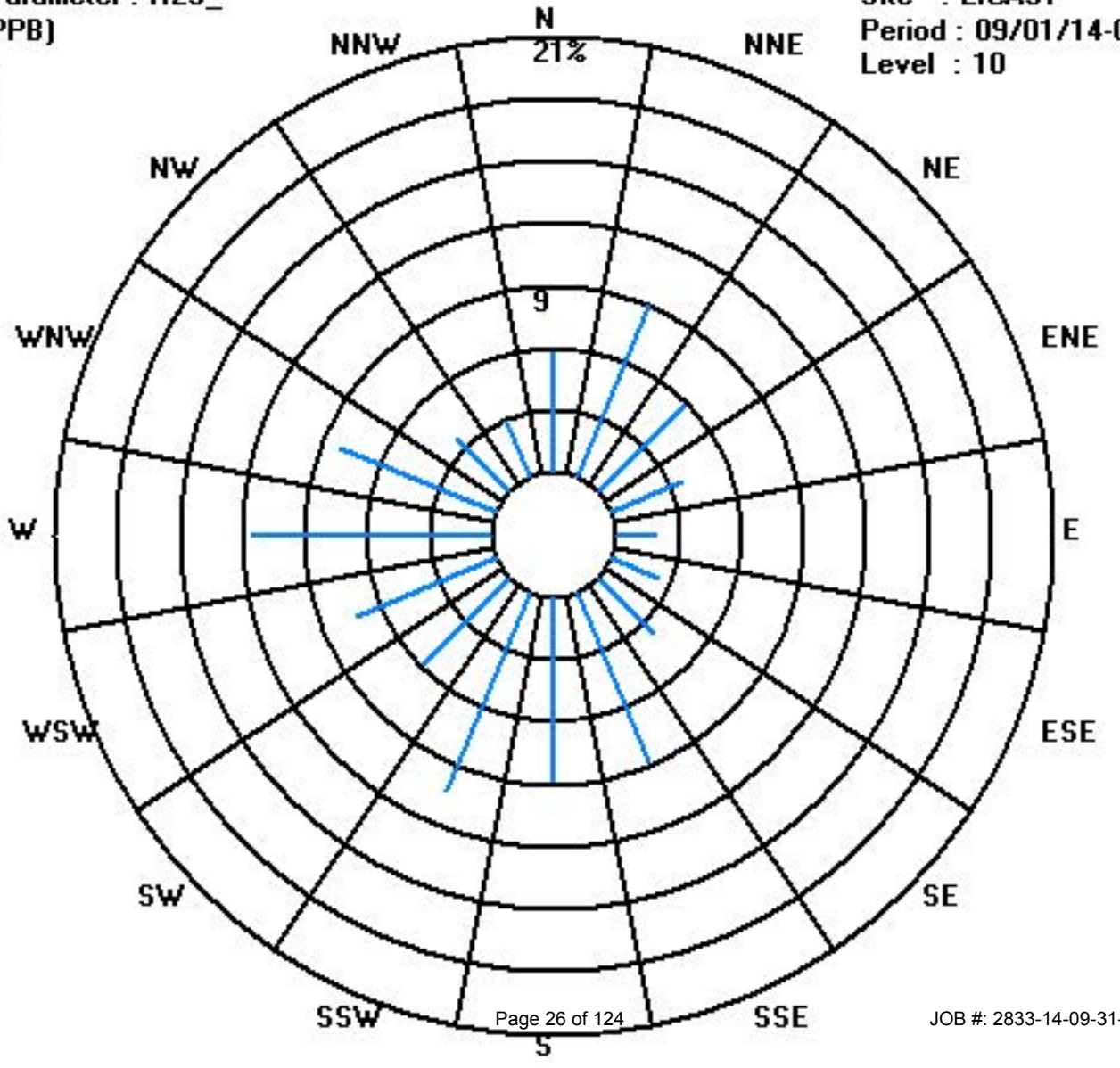
Calm : .00 %

Total # Operational Hours : 643

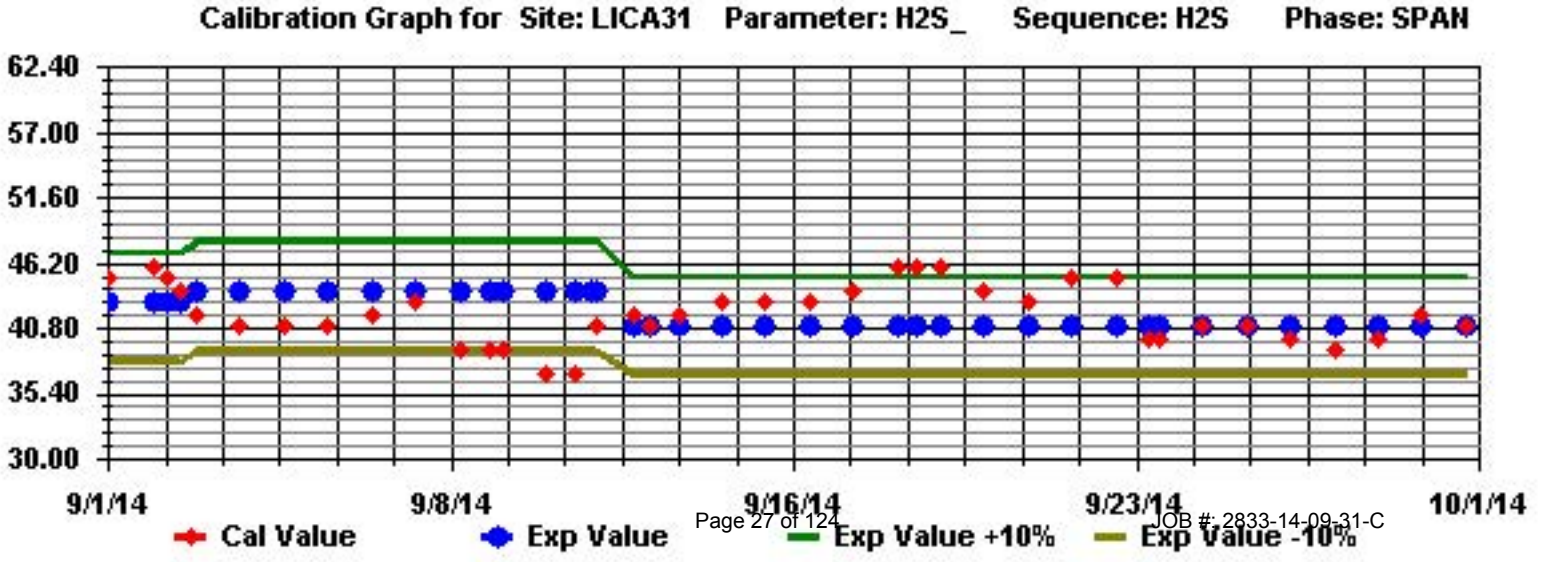
Logger : 31 Parameter : H2S_
Class Limits (PPB)

>= 50
< 50
< 10
< 3

Site : LICA31
Period : 09/01/14-09/30/14
Level : 10



JOB #: 2833-14-09-31-C


Calibration Graph for Site: LICA31 Parameter: H2S_ Sequence: H2S Phase: SPAN
62.40
57.00
51.60
46.20
40.80
35.40
30.00
9/1/14
9/8/14
9/16/14
9/23/14
10/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Hydrocarbons

Lakeland Industry & Community Association - St. Lina Site

SEPTEMBER 2014

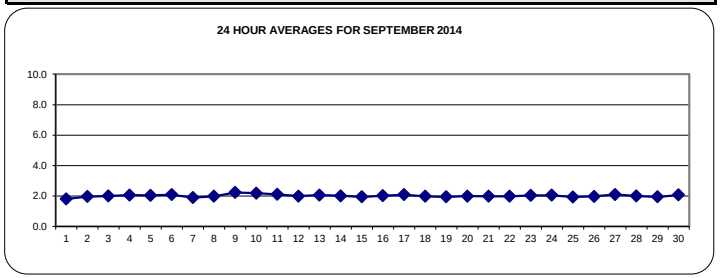
TOTAL HYDROCARBONS (THC) hourly averages in ppm

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	**S**	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.7	1.7	1.7	**S**	2.0	1.8	24
2	1.8	2.1	2.0	1.9	2.3	2.2	2.1	2.0	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	2.0	1.9	2.0	2.3	**S**	2.0	2.3	2.0	24
3	1.9	1.9	1.9	2.0	2.0	2.4	2.0	2.0	**C**	**C**	**C**	**C**	**C**	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	**S**	2.0	2.0	2.4	2.0	24
4	2.0	2.0	2.0	2.1	2.2	2.2	2.2	2.1	2.1	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	**S**	2.0	2.0	2.2	2.2	2.1	24
5	2.2	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.0	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	**S**	2.1	2.1	2.1	2.1	2.2	2.0	24
6	2.1	2.1	2.2	2.1	2.2	2.2	2.1	2.2	2.2	2.1	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.1	**S**	2.0	2.1	2.1	1.9	1.9	2.2	2.1	24
7	1.9	1.9	1.9	2.0	2.0	2.1	2.1	2.1	2.0	2.1	1.9	1.8	1.8	1.8	1.9	1.9	1.8	**S**	1.7	1.8	1.7	1.8	1.8	1.9	2.1	1.9	24
8	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	**S**	1.9	1.9	1.9	2.0	2.0	2.1	2.2	2.2	2.0	24
9	2.4	2.4	2.5	2.6	2.7	2.7	2.6	2.7	2.5	2.2	2.0	2.0	2.0	2.0	2.0	**S**	1.9	1.9	1.9	2.0	2.0	2.1	2.1	2.1	2.7	***2.2***	24
10	2.3	2.3	2.2	2.1	2.3	***2.8***	2.5	2.3	2.1	2.0	2.0	2.0	2.0	2.0	**S**	2.0	2.0	2.0	2.2	2.3	2.2	2.2	2.2	2.1	***2.8***	***2.2***	24
11	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	**C**	**C**	**Y**	**C**	**C**	**C**	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.1	23
12	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	**S**	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.1	2.0	24
13	2.3	2.2	2.1	2.0	2.0	2.2	2.1	2.0	2.0	1.9	1.9	**S**	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.3	2.1	24
14	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	**S**	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.2	2.0	24
15	1.9	1.9	2.0	2.0	2.0	1.9	1.9	2.0	2.1	**S**	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	1.9	24
16	1.9	2.0	2.0	2.0	2.1	2.1	2.1	2.1	**S**	2.1	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.1	2.1	2.0	24
17	2.1	2.1	2.1	2.1	2.1	2.1	2.1	**S**	2.2	2.2	2.2	2.2	2.2	2.1	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.1	24
18	2.1	2.0	2.1	2.1	2.1	2.1	**S**	2.0	2.0	2.0	1.9	2.2	2.2	2.0	1.9	1.8	1.8	1.8	1.9	1.9	1.8	1.8	2.0	2.0	2.2	2.0	24
19	1.9	2.0	2.0	2.0	2.0	**S**	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.0	2.0	1.9	24
20	2.0	2.0	2.0	2.0	**S**	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	24
21	2.0	2.0	2.1	**S**	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	2.2	2.0	24
22	1.8	1.8	**S**	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	**Y**	**Y**	2.0	2.1	2.1	2.0	2.1	2.0	2.0	2.0	2.1	2.1	2.0	22
23	2.1	**S**	2.1	2.0	2.0	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.0	24
24	**S**	1.9	1.9	1.9	1.9	2.2	2.4	2.4	2.4	2.5	2.6	2.4	2.0	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	**S**	2.6	2.0	24
25	1.8	1.9	1.8	1.9	1.9	2.0	2.0	1.9	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.9	2.0	2.0	2.0	**S**	1.9	2.0	1.9	24
26	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	**S**	1.9	2.0	2.0	2.0	24
27	2.0	2.0	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.3	**S**	2.0	2.1	1.9	2.3	2.1	24
28	1.9	2.0	2.0	2.1	2.1	2.0	2.1	2.2	2.1	2.1	2.1	2.0	1.9	1.8	1.8	1.9	1.9	1.9	1.9	**S**	2.0	2.0	2.0	2.0	2.2	2.0	24
29	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	1.9	2.0	2.0	1.9	1.9	1.8	1.8	1.9	1.9	1.9	**S**	1.9	1.9	1.9	1.9	2.0	2.1	1.9	24
30	2.0	2.0	2.0	2.0	2.1	2.4	2.5	2.1	2.0	2.2	2.2	2.0	2.0	2.0	1.9	1.8	1.8	**S**	2.0	2.1	2.1	2.2	2.1	2.1	2.5	2.1	24
HOURLY MAX	2	2	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2			
HOURLY AVG	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0			

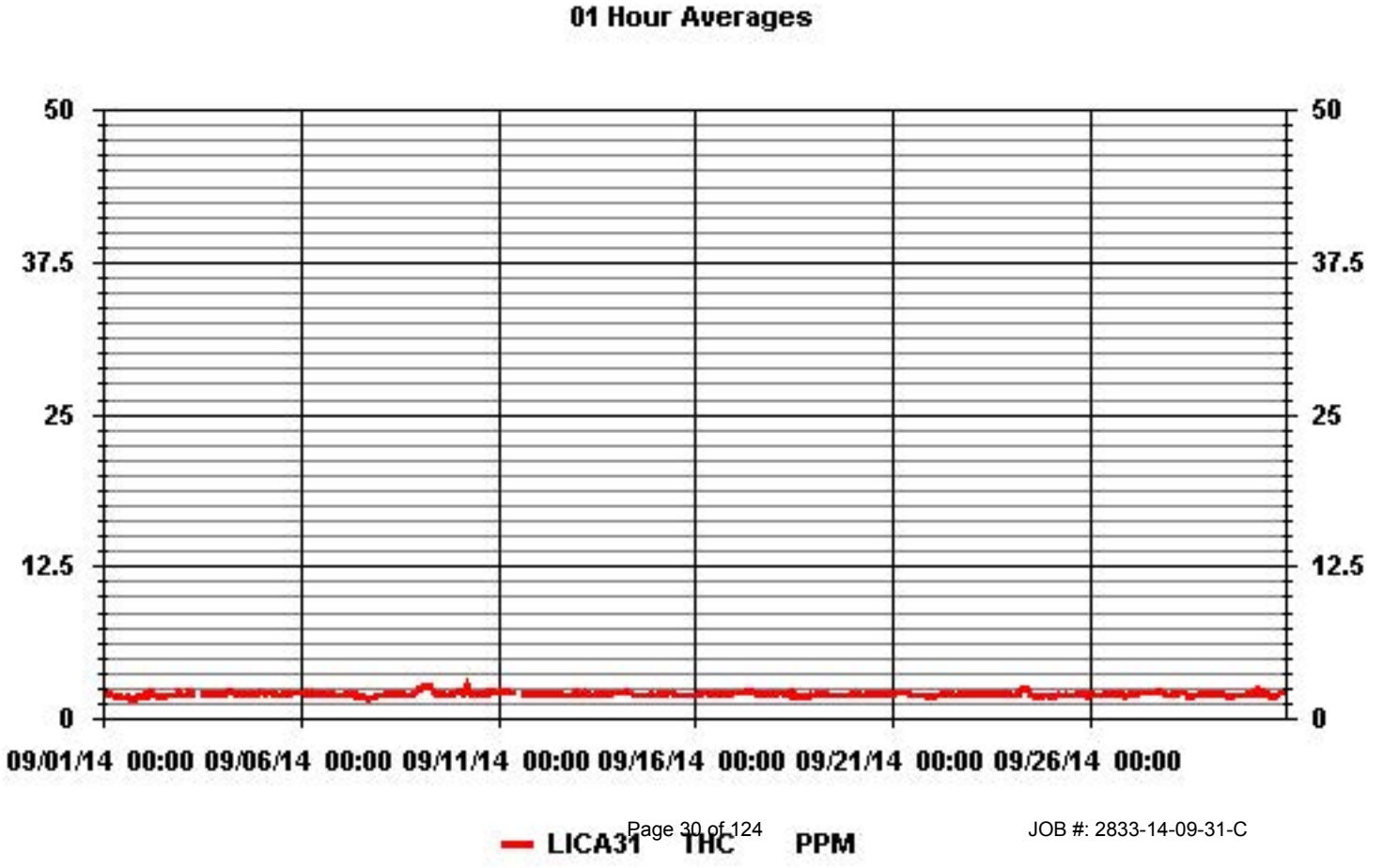
STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	676					
MAXIMUM 1-HR AVERAGE:	2.8	PPM	@ HOUR(S)	5	ON DAY(S)	10
MAXIMUM 24-HR AVERAGE:	2.2	PPM			ON DAY(S) VAR-VARIOUS	9, 10
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:		717	HRS
MONTHLY CALIBRATION TIME:	10	HRS	AMD OPERATION UPTIME:		99.6	%
STANDARD DEVIATION:	0.14		MONTHLY AVERAGE:		2.01	PPM



JOB #: 2833-14-09-31-C

Lakeland Industry & Community Association - St. Lina Site

SEPTEMBER 2014

TOTAL HYDROCARBONS MAX instantaneous maximum in ppm

MST

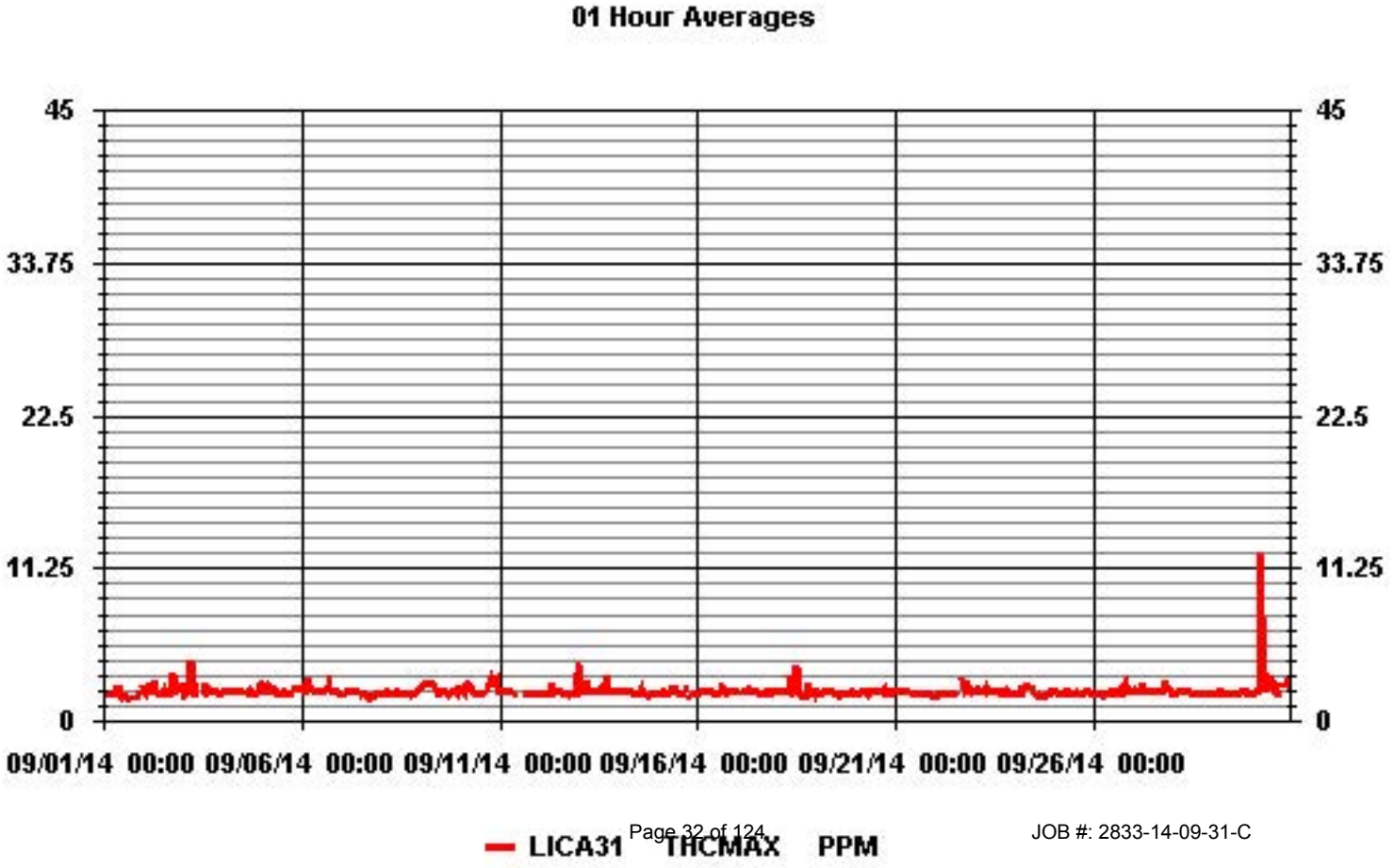
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	**S**	2.2	2.1	2	2	2	2	2.3	2.1	1.9	2.5	1.9	1.9	1.8	1.8	1.7	1.8	1.7	1.7	1.7	1.7	2	2.1	**S**	2.5	2.0	24
2	2.5	2.2	2.6	2	2.6	2.7	2.4	2.6	2.2	2	1.9	1.9	2	2.3	1.9	1.9	1.9	2.2	3.6	2	2.2	2.4	**S**	2.7	3.6	2.3	24
3	2.3	1.9	2	2.6	2.1	4.4	3	2	**C**	**C**	**C**	**C**	**C**	2.1	2.7	2.1	2.2	2.2	2.2	2.1	2.1	**S**	2	2	4.4	2.3	24
4	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.3	2.1	2	**S**	2	2.1	2.7	2.7	2.2	24
5	3	2.3	2.2	2.2	2.6	2.4	2.5	2.4	2.1	2.2	2	2	2	2.1	2.1	2	2	2	2	**S**	2.4	2.4	2.3	2.3	3	2.2	24
6	2.4	2.3	2.7	2.5	3.1	2.7	2.3	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.3	2.3	3.1	**S**	2.1	2.1	2.1	2.1	1.9	3.1	2.3	24
7	1.9	1.9	2	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	1.9	2	2	2	1.9	**S**	1.7	1.8	1.8	1.9	1.9	1.9	2.2	2.0	24
8	1.9	1.9	1.9	2	2.1	2.1	2	2	2.1	2	2.1	2.1	2	2	2	2	**S**	2	1.9	2	2	2.1	2.2	2.3	2.3	2.0	24
9	2.4	2.5	2.6	2.7	2.8	2.8	2.7	2.7	2.7	2.4	2.1	2.1	2	2.1	2.1	**S**	2	1.9	2	2.1	2.1	2.1	2.3	2.1	2.8	2.3	24
10	2.4	2.4	2.3	2.1	2.7	2.8	2.7	2.4	2.2	2.1	2	2	2	2.1	**S**	2.1	2.2	2.5	2.8	3.2	2.9	2.8	3	2.2	3.2	2.4	24
11	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.1	**C**	**C**	**C**	**Y**	**C**	**C**	**C**	2	2	2	2	2	2	2	2.3	2.1	23
12	2	2	2	2	2	2	2.1	2.1	2.8	2.1	2.2	2.2	**S**	2.2	2.2	2.1	2	2	1.9	2	2	2	2	3.5	3.5	2.1	24
13	4.2	3	2.4	2	2.7	3	2.4	2.2	2.1	2.1	2.2	**S**	2.2	2.4	2.3	2.5	2.5	3.3	2.1	2.1	2.1	2.1	2.1	2.1	4.2	2.4	24
14	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.1	**S**	1.9	1.9	2.1	2.4	2	2	2	1.9	2	2	2	2	2	2.4	2.1	24
15	2	2	2	2.1	2.1	2	2	2.1	2.1	**S**	2.4	2.1	2.1	2	2.1	2	2.2	2.5	**P**	1.9	2	1.9	1.9	1.9	2.5	2.1	23
16	2	2	2.1	2.1	2.1	2.1	2.1	2.1	**S**	2.2	2.1	2	2	2	2.1	2.7	2.2	2.1	2	2.2	2.2	2.1	2.1	2.2	2.7	2.1	24
17	2.1	2.1	2.1	2.2	2.2	2.2	2.2	**S**	2.3	2.3	2.2	2.2	2.2	2.2	2.1	2	2.1	2.2	2	2	2	2.1	2.1	2.1	2.3	2.1	24
18	2.1	2.1	2.1	2.1	2.2	2.2	**S**	3.2	2.1	2	2.1	3.1	4.1	2.8	2	1.9	1.8	1.8	1.9	2.7	1.9	1.9	2.2	2.2	4.1	2.3	24
19	1.9	2.1	2.1	2	2.1	**S**	2.1	2.1	2.2	2.1	2.2	2.1	2	2	1.9	2	2	2	2.1	2	2	2.2	2.1	2.1	2.2	2.1	24
20	2	2	2	2.1	**S**	2.2	2.2	2	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.1	2.4	2.1	2	2	2.1	2.1	2.4	2.1	24
21	2.1	2.1	2.1	**S**	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2	2	2	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	**P**	1.8	2.2	2.0	23
22	1.8	1.8	**S**	2	2	2	2	2	2	2	2	2	2.1	**Y**	**Y**	2.3	**Y**	2.9	2.1	2.2	2.6	2.4	2.1	2.2	2.9	2.1	21
23	2.2	**S**	2.4	2.2	2.2	2.4	2.2	2.5	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.3	2.2	2.1	2.3	2.1	2	2	2	2.5	2.2	24
24	**S**	2	2	2	2	2.4	2.5	2.5	2.5	2.6	2.6	2.5	2.2	2	1.9	1.9	1.8	1.8	1.8	1.8	1.9	1.9	2.2	**S**	2.6	2.1	24
25	2.2	2.2	1.9	1.9	2	2	2.1	2.1	2.2	2	2	2.1	2	2.2	2	**P**	2	2	2	2.1	2.1	2.1	**S**	2	2.2	2.1	23
26	2	2	2	2	2	2	1.9	2	2	2.2	2	2	2.2	2.1	2.1	2.1	2	2	2.6	2.8	2.2	**S**	2.2	2.3	2.8	2.1	24
27	2.2	2.3	2.3	2.2	2.4	2.3	2.7	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.4	2.8	**S**	2.3	2.3	2	2.8	2.3	24
28	2	2	2.1	2.2	2.1	2.1	2.2	2.3	2.2	2.2	2.1	2.1	2	1.9	1.9	1.9	1.9	1.9	1.9	**S**	2	2	2	2	2.3	2.0	24
29	2	2	2	2	2.1	2.1	2.1	2.1	2	2.1	2	2	1.9	1.9	1.9	1.9	1.9	2	**S**	2.3	2.1	2.2	2	2	2.3	2.0	24
30	2	2	2.1	2.1	2.5	***12.5***	7.7	2.3	2.3	3.3	3.3	2.8	3	2.6	2.9	2	2	**S**	2.6	2.6	2.6	2.9	2.9	2.4	***12.5***	***3.2***	24
HOURLY MAX	4	3	3	3	3	13	8	3	3	3	3	3	4	3	3	3	3	3	4	3	3	3	3	4			
HOURLY AVG	2.2	2.1	2.2	2.1	2.3	2.7	2.5	2.3	2.2	2.2	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.1	2.1	2.2	2.2			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	671					
MAXIMUM INSTANTANEOUS VALUE:	12.5	PPM	@ HOUR(S)	5	ON DAY(S)	30
				VAR-VARIOUS		
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:		713	HRS
MONTHLY CALIBRATION TIME:	11	HRS				
STANDARD DEVIATION:	0.54					



JOB #: 2833-14-09-31-C

LICA31
THC / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 31
Site Name : LICA31
Parameter : THC
Units : PPM

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	5.62	8.28	5.76	3.55	1.77	2.36	3.55	8.43	8.57	10.20	6.50	7.54	12.13	8.87	4.14	2.66	100.00
< 10.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.62	8.28	5.76	3.55	1.77	2.36	3.55	8.43	8.57	10.20	6.50	7.54	12.13	8.87	4.14	2.66	

Calm : .00 %

Total # Operational Hours : 676

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	38	56	39	24	12	16	24	57	58	69	44	51	82	60	28	18	676
< 10.0																	
< 50.0																	
>= 50.0																	
Totals	38	56	39	24	12	16	24	57	58	69	44	51	82	60	28	18	

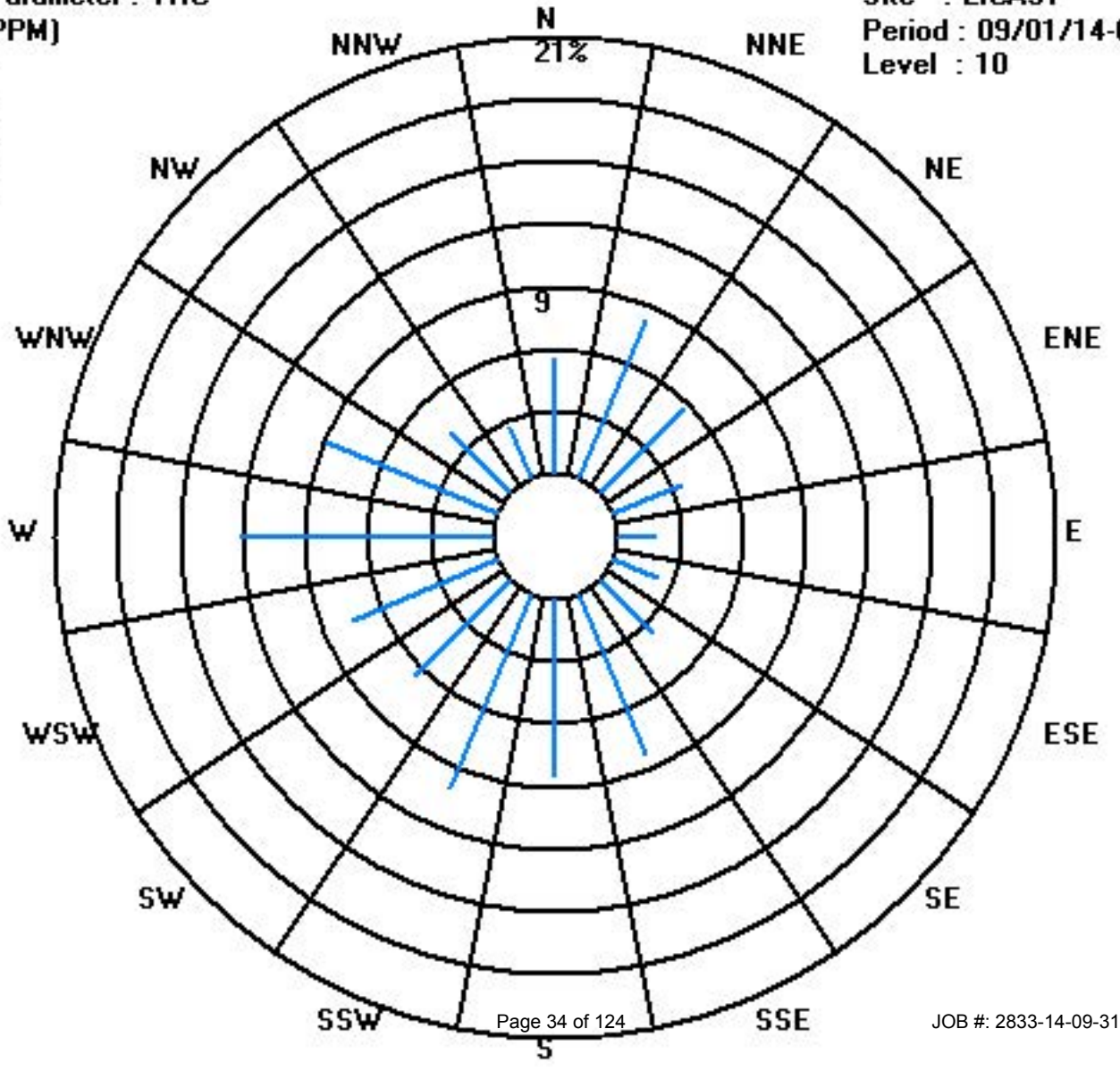
Calm : .00 %

Total # Operational Hours : 676

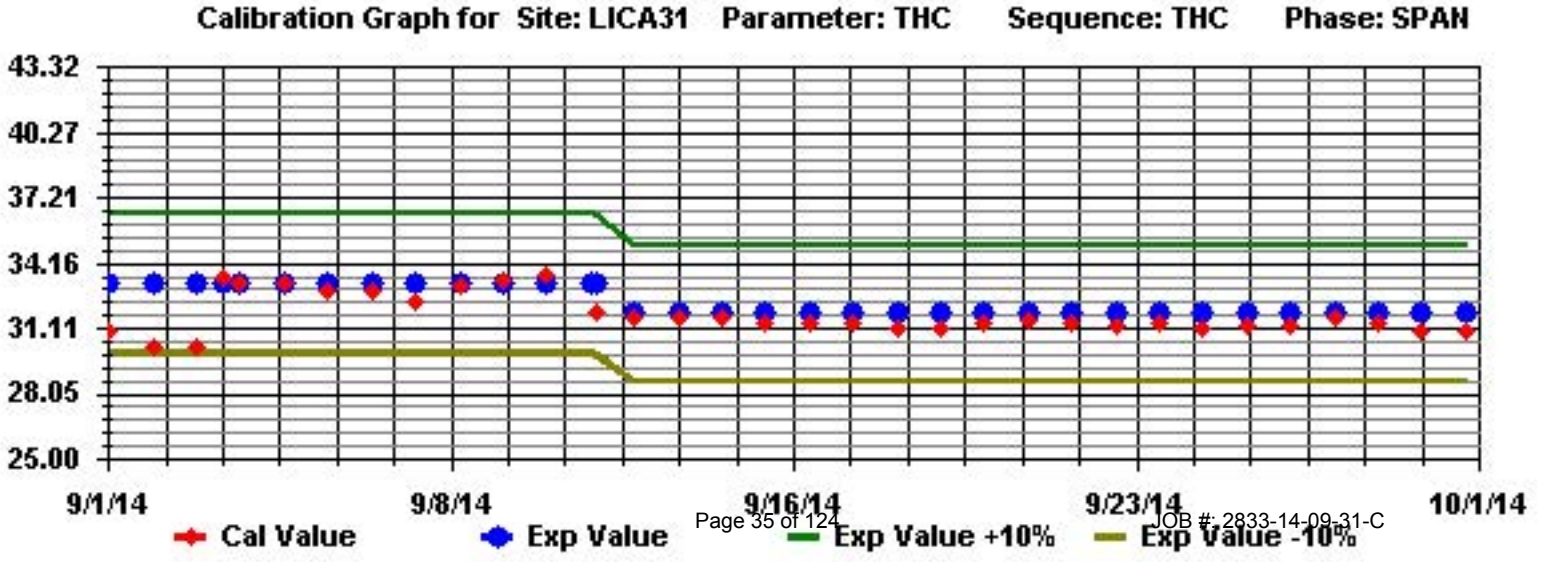
Logger : 31 Parameter : THC
Class Limits (PPM)

>= 50.0
< 50.0
< 10.0
< 3.0

Site : LICA31
Period : 09/01/14-09/30/14
Level : 10



JOB #: 2833-14-09-31-C


Calibration Graph for Site: LICA31 Parameter: THC Sequence: THC Phase: SPAN
43.32
40.27
37.21
34.16
31.11
28.05
25.00
9/1/14
9/8/14
9/16/14
9/23/14
10/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ozone

Lakeland Industry & Community Association - St. Lina Site

SEPTEMBER 2014

OZONE (O3) hourly averages in ppb

MST

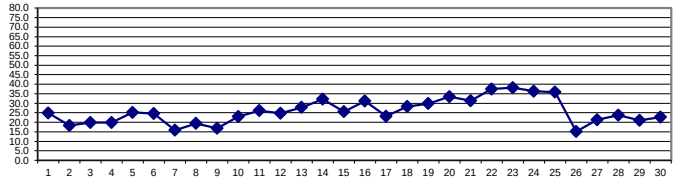
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	**S**	17	17	21	20	17	17	18	18	23	26	30	32	33	33	32	33	32	30	25	24	24	24	**S**	33	24.8	24
2	20	15	17	16	11	10	9	11	11	16	20	25	25	**S**	29	28	28	26	18	19	17	12	**S**	19	29	18.3	24
3	16	15	15	17	15	10	12	12	17	23	**C**	**C**	**C**	**C**	27	29	31	29	27	20	22	**S**	21	18	31	19.8	24
4	17	14	14	11	8	8	8	11	13	16	18	20	25	31	32	31	28	31	31	28	**S**	22	20	19	32	19.8	24
5	17	16	15	14	16	17	17	18	24	25	28	29	29	33	35	37	34	34	29	**S**	31	28	27	27	37	25.2	24
6	26	25	23	22	22	21	19	14	15	20	24	27	30	35	35	31	27	27	**S**	24	25	27	25	21	35	24.6	24
7	21	22	20	20	14	10	12	13	14	14	15	16	14	14	13	10	12	**S**	15	16	18	20	20	21	22	15.8	24
8	21	21	19	20	19	18	16	17	18	17	18	21	22	25	25	24	**S**	24	21	20	17	15	14	14	25	19.4	24
9	13	10	9	9	8	8	9	9	13	20	24	26	26	25	25	**S**	24	22	21	17	16	17	19	18	26	16.9	24
10	14	13	15	18	12	4	8	15	20	25	26	27	28	30	**S**	32	32	29	28	29	32	32	32	28	32	23.0	24
11	23	18	18	19	20	18	15	16	18	22	28	28	29	**S**	34	36	37	38	36	33	32	30	28	25	38	26.1	24
12	24	22	21	19	17	15	14	13	14	18	19	26	**S**	34	33	33	34	38	33	30	29	28	27	27	38	24.7	24
13	25	25	24	21	22	18	19	20	20	26	31	**S**	33	34	34	35	35	32	31	32	31	31	31	30	35	27.8	24
14	30	28	27	27	25	24	23	23	22	26	**S**	37	40	41	41	41	41	38	39	40	39	33	28	26	41	32.1	24
15	24	23	22	19	15	14	13	13	16	**S**	29	34	33	33	33	33	32	31	28	28	28	29	29	28	34	25.5	24
16	25	23	23	23	22	23	23	23	**S**	29	41	47	49	49	46	46	44	44	43	37	17	13	13	14	49	31.2	24
17	14	13	12	12	12	11	11	**S**	14	16	19	22	27	35	41	41	39	33	35	30	27	26	22	20	41	23.1	24
18	19	19	17	16	14	12	**S**	23	31	33	34	31	32	30	35	37	37	36	33	32	34	33	30	32	37	28.3	24
19	28	16	17	17	16	**S**	12	13	14	18	23	35	36	38	42	42	42	44	42	41	39	38	37	36	44	29.8	24
20	35	33	33	32	**S**	30	30	29	30	32	34	35	36	36	36	36	36	35	34	34	35	32	33	32	36	33.4	24
21	29	28	27	**S**	25	22	20	19	20	23	28	32	38	41	41	38	37	36	34	36	37	37	36	36	41	31.3	24
22	36	35	**S**	32	31	29	26	24	23	25	28	36	43	***51***	***51***	48	47	46	47	43	42	42	42	35	***51***	37.5	24
23	37	**S**	30	31	33	33	32	33	34	35	36	36	41	42	42	43	43	40	42	43	42	43	43	43	43	***38.1***	24
24	**S**	42	41	40	38	30	24	28	32	36	38	41	43	42	41	40	39	39	36	34	32	32	32	**S**	43	36.4	24
25	43	42	41	42	38	32	32	32	31	30	37	42	41	42	42	40	40	38	36	32	27	25	**S**	21	43	35.9	24
26	20	19	17	20	19	19	18	17	16	16	15	15	15	15	14	13	13	12	13	11	11	**S**	11	10	20	15.2	24
27	10	11	12	14	15	16	16	19	20	22	27	28	29	30	29	28	27	27	25	22	**S**	18	19	26	30	21.3	24
28	27	26	25	21	21	21	20	19	21	21	21	22	23	25	26	28	29	28	27	**S**	25	24	23	22	29	23.7	24
29	21	19	18	17	15	15	14	14	17	19	21	24	25	27	29	29	27	25	**S**	23	22	21	21	20	29	21.0	24
30	20	19	17	15	15	14	14	13	15	16	18	20	26	31	34	33	32	**S**	31	30	28	27	27	28	34	22.7	24
HOURLY MAX	43	42	41	42	38	33	32	33	34	36	41	47	49	51	51	48	47	46	47	43	42	43	43	43			
HOURLY AVG	23.4	21.7	20.9	20.9	19.2	17.9	17.3	18.2	19.7	22.8	25.9	29.0	31.1	33.4	33.7	33.6	33.1	32.6	30.9	28.9	27.8	27.1	26.2	24.9			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

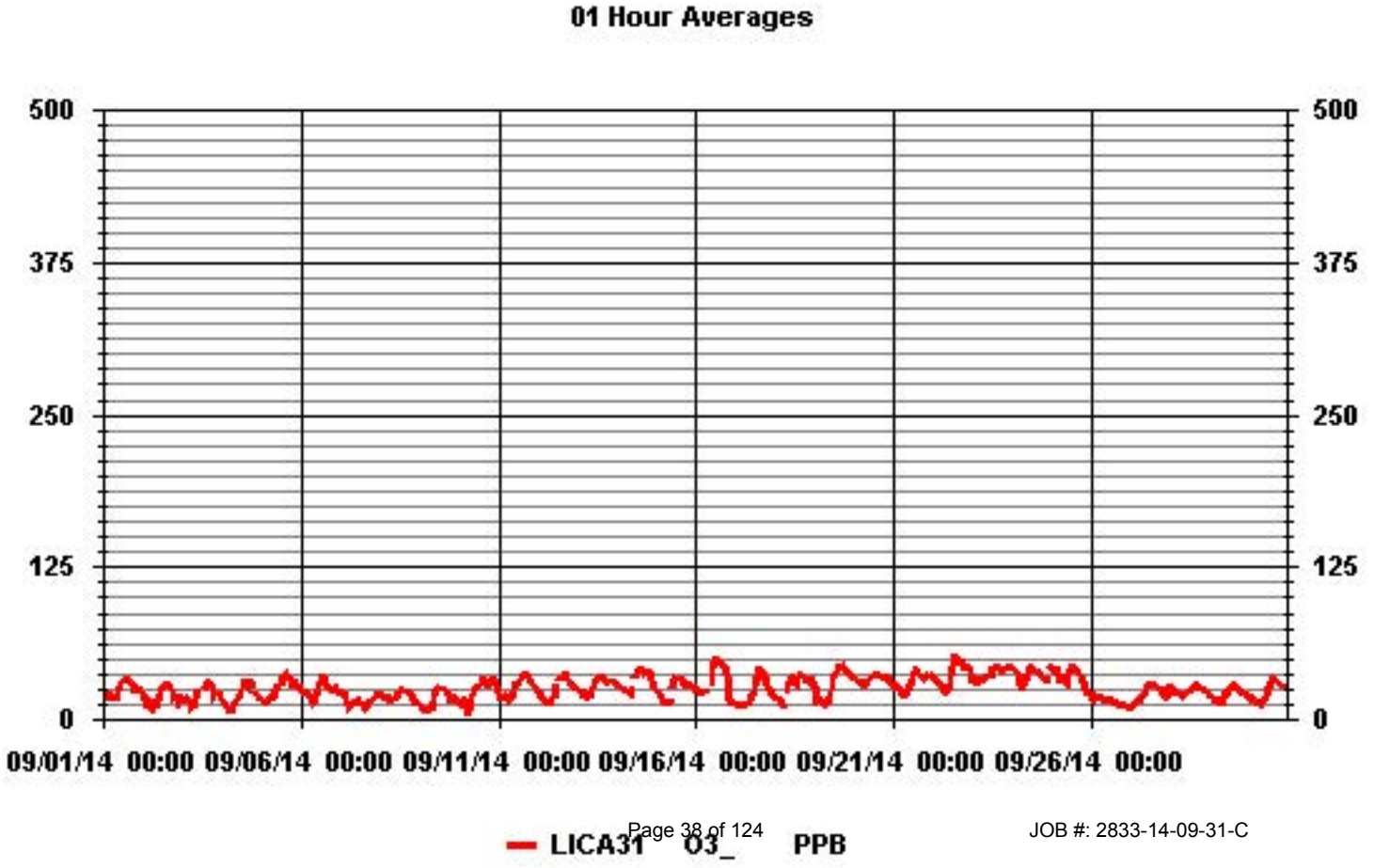
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 82 PPB

24 HOUR AVERAGES FOR SEPTEMBER 2014



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	683					
MAXIMUM 1-HR AVERAGE:	51	PPB	@ HOUR(S)	13, 14	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:	38.1	PPB			ON DAY(S)	23
					VAR-VARIOUS	
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		720	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	9.41		MONTHLY AVERAGE:		25.79	PPB



JOB #: 2833-14-09-31-C

Lakeland Industry & Community Association - St. Lina Site

SEPTEMBER 2014

OZONE MAX instantaneous maximum in ppb

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	**S**	21	19	23	22	19	19	21	22	27	29	33	33	35	34	33	34	34	32	28	25	26	25	**S**	35	27.0	24
2	24	18	19	19	16	12	12	13	12	19	26	26	27	**S**	31	29	30	28	25	24	24	17	**S**	22	31	21.5	24
3	18	18	18	19	18	15	16	14	21	28	**C**	**C**	**C**	**C**	33	33	33	32	29	23	24	**S**	23	20	33	22.9	24
4	18	15	15	13	10	10	11	12	14	19	20	24	31	32	35	33	30	34	33	30	**S**	23	22	20	35	21.9	24
5	18	17	16	16	20	18	19	21	27	28	30	30	31	36	37	39	37	38	32	**S**	33	29	28	28	39	27.3	24
6	27	26	24	24	23	23	22	18	20	22	26	29	34	37	37	34	28	28	**S**	27	27	27	27	22	37	26.6	24
7	22	24	23	23	19	11	14	14	15	16	17	19	16	16	15	14	15	**S**	17	18	19	23	21	22	24	18.0	24
8	24	22	21	21	20	20	17	18	18	18	21	23	24	27	26	25	**S**	25	24	23	19	17	15	14	27	21.0	24
9	14	11	11	10	9	10	10	11	16	23	27	27	27	26	26	**S**	26	25	23	19	17	19	20	20	27	18.6	24
10	16	15	17	20	19	6	11	20	22	27	28	29	29	31	**S**	32	33	31	30	31	33	33	33	29	33	25.0	24
11	28	20	20	20	21	20	17	17	20	28	29	29	31	**S**	36	37	39	39	38	35	33	32	29	27	39	28.0	24
12	25	23	21	20	18	16	15	14	17	20	21	29	**S**	36	34	35	37	40	37	31	30	30	28	27	40	26.3	24
13	26	27	27	22	29	20	20	21	23	31	32	**S**	35	35	36	37	37	35	32	33	32	32	31	32	37	29.8	24
14	31	30	28	29	26	24	24	24	26	29	**S**	40	42	43	42	42	42	40	40	42	40	38	30	27	43	33.9	24
15	26	24	23	22	17	16	14	14	20	**S**	33	36	34	34	34	34	33	33	**P**	29	29	31	30	28	36	27.0	23
16	28	24	24	24	23	24	25	24	**S**	35	46	49	50	50	50	48	46	46	44	41	27	14	13	16	50	33.5	24
17	16	13	13	12	12	12	12	**S**	14	17	20	25	31	39	42	42	42	39	38	33	28	28	24	21	42	24.9	24
18	20	19	18	17	16	14	**S**	31	33	34	35	33	34	33	39	40	39	39	35	34	35	35	33	34	40	30.4	24
19	34	18	19	18	18	**S**	13	15	16	21	29	38	37	43	43	44	43	45	44	41	40	38	38	37	45	31.8	24
20	36	34	33	32	**S**	31	31	30	31	33	35	36	36	37	37	37	37	36	35	36	36	35	34	34	37	34.4	24
21	31	29	28	**S**	26	25	22	20	21	26	32	36	40	42	42	40	40	37	35	37	38	38	**P**	37	42	32.8	23
22	37	36	**S**	33	31	30	28	25	24	27	31	40	48	***54***	***54***	50	49	48	48	46	43	47	46	37	***54***	39.7	24
23	42	**S**	37	34	35	34	34	34	35	37	38	39	44	43	44	45	45	43	44	45	43	43	45	44	45	***40.3***	24
24	**S**	42	42	40	40	36	26	35	35	37	40	42	44	43	42	41	40	40	38	36	33	33	35	**S**	44	38.2	24
25	44	44	42	42	42	36	34	34	34	35	41	43	42	44	43	**P**	42	40	37	35	29	26	**S**	23	44	37.8	23
26	21	20	19	21	20	19	19	18	18	17	16	16	16	17	16	14	15	13	13	12	12	**S**	12	12	21	16.3	24
27	11	12	13	15	16	18	17	21	21	25	29	29	30	32	31	30	29	29	28	25	**S**	20	26	28	32	23.3	24
28	28	27	26	25	22	22	21	20	22	22	21	23	24	26	28	29	30	28	28	**S**	27	25	24	23	30	24.8	24
29	21	20	19	18	16	15	14	15	19	21	24	25	27	29	30	30	29	27	**S**	24	23	22	22	21	30	22.2	24
30	20	19	18	16	15	16	16	14	17	17	19	23	28	34	35	34	33	**S**	32	31	29	28	29	28	35	24.0	24
HOURLY MAX	44	44	42	42	42	36	34	35	35	37	46	49	50	54	54	50	49	48	48	46	43	47	46	44			
HOURLY AVG	25.2	23.0	22.5	22.3	21.3	19.7	19.1	20.3	21.8	25.5	28.4	31.1	33.0	35.3	35.6	35.0	34.9	34.7	33.0	31.0	29.6	28.9	27.5	26.2			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 680

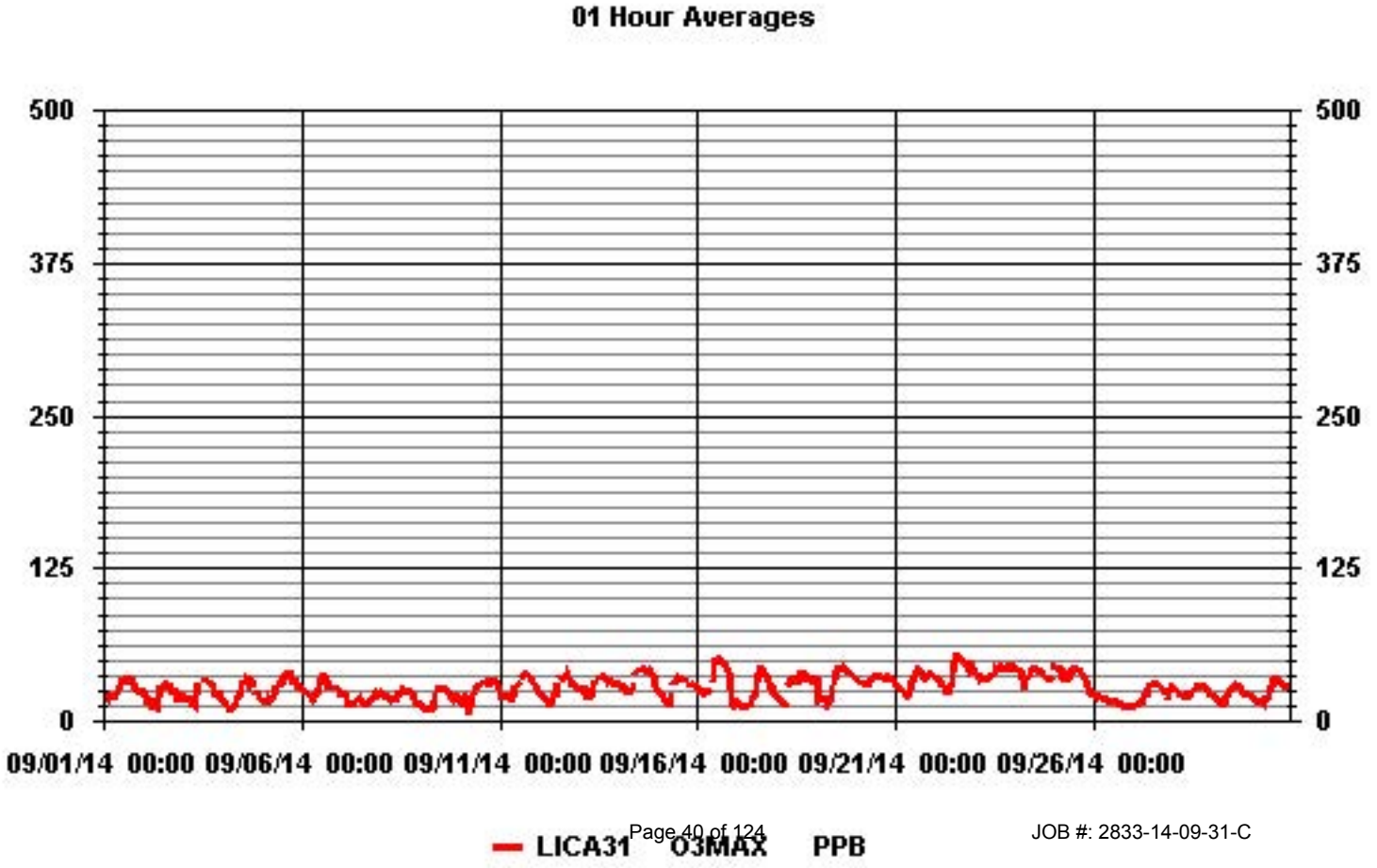
MAXIMUM INSTANTANEOUS VALUE: 54 PPB @ HOUR(S) 13, 14 ON DAY(S) 22

VAR-VARIOUS

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 717 HRS

MONTHLY CALIBRATION TIME: 4 HRS

STANDARD DEVIATION: 9.46



JOB #: 2833-14-09-31-C

LICA31
O3_ / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 31
Site Name : LICA31
Parameter : O3_
Units : PPB

Wind Parameter : WDR
Instrument Height : 10 Meters

		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	5.56	8.34	5.71	3.51	1.75	2.34	3.51	8.34	8.49	10.54	6.73	7.46	12.00	8.63	4.09	2.63	99.70
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.29	.00	.00	.00	.00	.00	.29
<	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	5.56	8.34	5.71	3.51	1.75	2.34	3.51	8.34	8.49	10.54	7.02	7.46	12.00	8.63	4.09	2.63	

Calm : .00 %

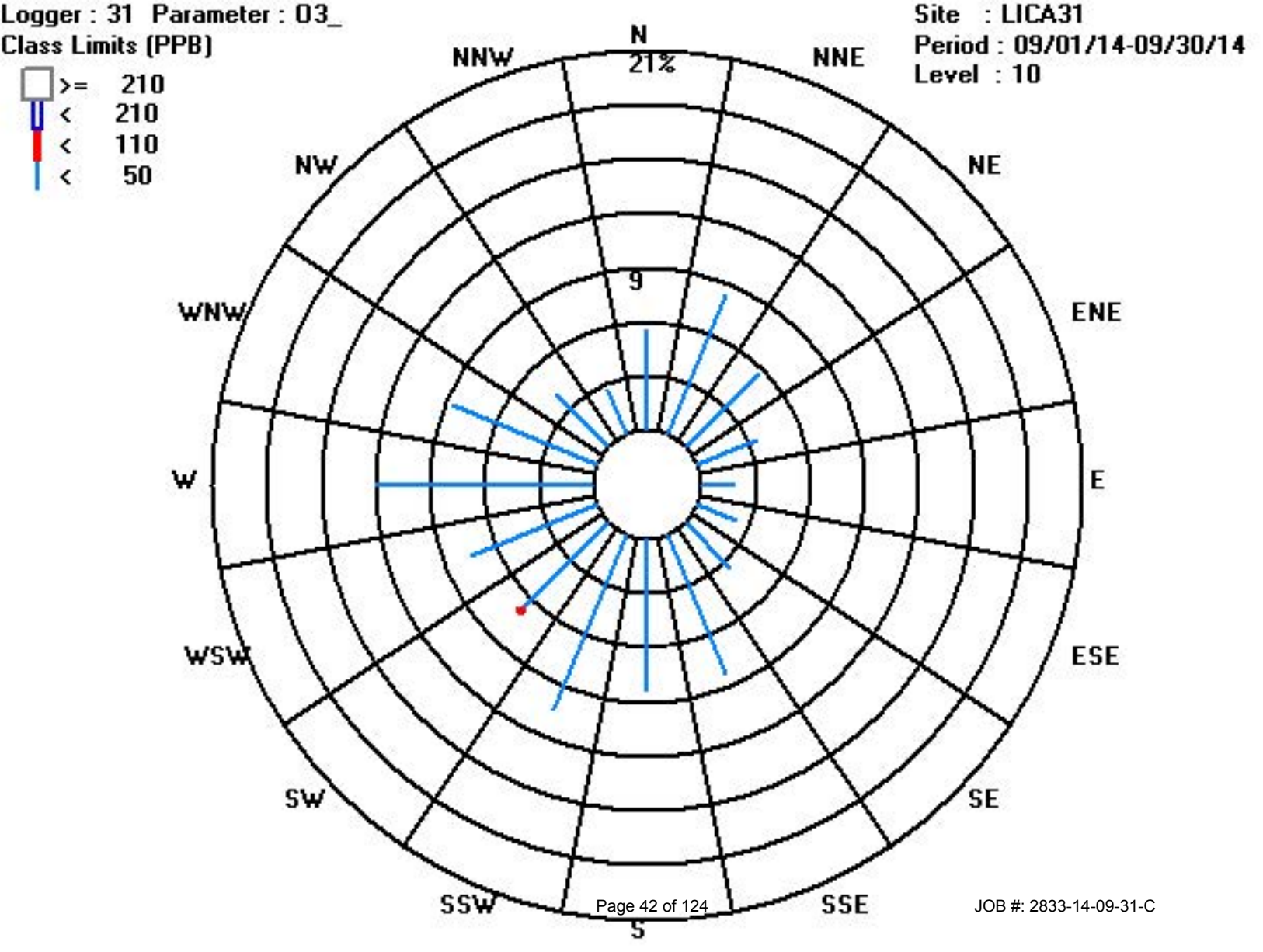
Total # Operational Hours : 683

Distribution By Samples

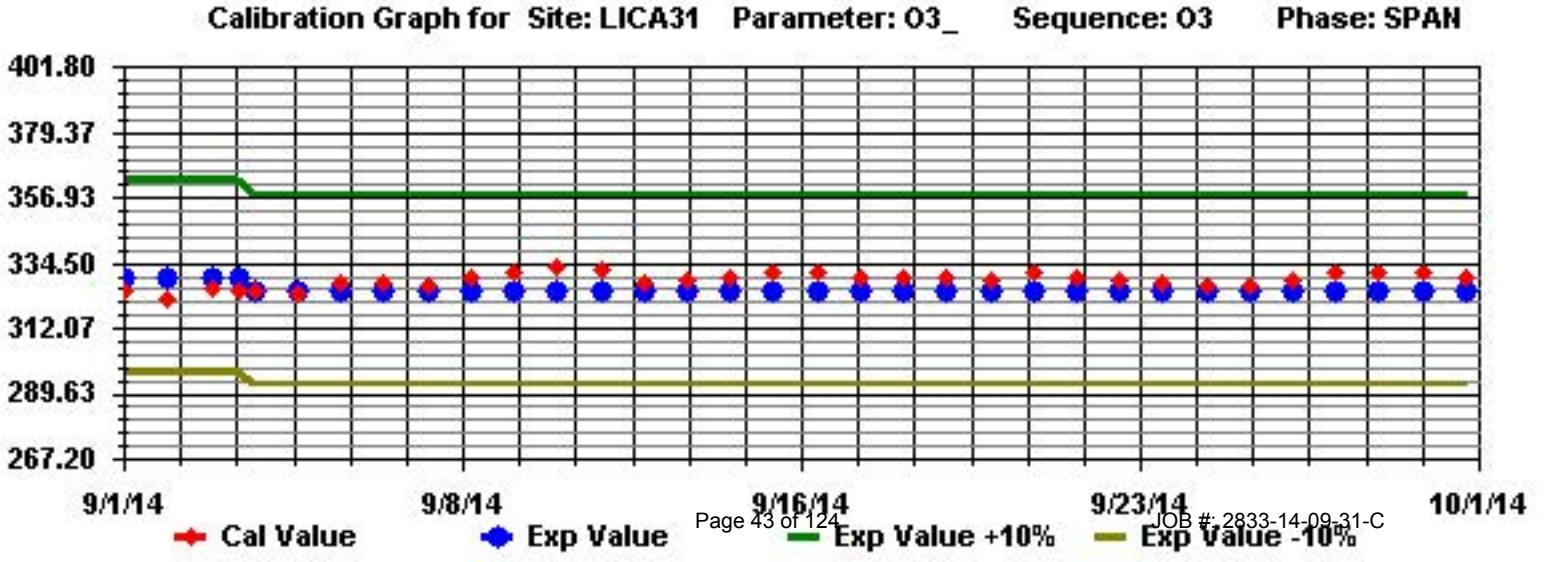
		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	38	57	39	24	12	16	24	57	58	72	46	51	82	59	28	18	681
<	110											2						2
<	210																	
>=	210																	
	Totals	38	57	39	24	12	16	24	57	58	72	48	51	82	59	28	18	

Calm : .00 %

Total # Operational Hours : 683



JOB #: 2833-14-09-31-C


Calibration Graph for Site: LICA31 Parameter: O3_ Sequence: O3 Phase: SPAN
401.80
379.37
356.93
334.50
312.07
289.63
267.20
9/1/14
9/8/14
9/16/14
9/23/14
10/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitrogen Dioxide

Lakeland Industry & Community Association - St. Lina Site

SEPTEMBER 2014

NITROGEN DIOXIDE (NO2) hourly averages in ppb

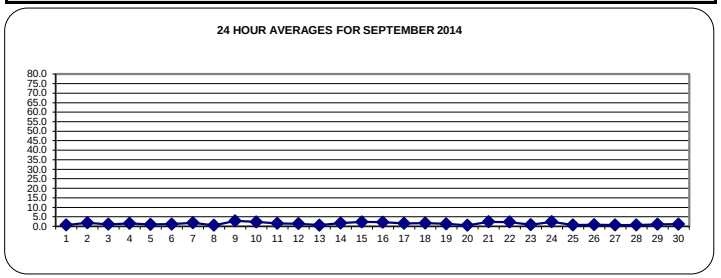
MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	**S**	1.6	1.5	1	1.3	1.5	1.2	0.8	0.8	0.5	0.5	0.6	0.5	0.4	0.2	0.2	0.3	0.1	0.2	0.6	0.7	0.7	1	**S**	1.6	0.7	24
2	0.5	1.9	1.1	1	2.5	3.2	2.5	1.7	1.2	1	**C**	**C**	**C**	**C**	**C**	**C**	0.5	0.4	0.8	1.4	2.6	5.8	**S**	2.7	5.8	1.8	24
3	2	1.8	1.2	1	1.3	1.4	1.2	1.3	**Y**	**Y**	1	0.8	0.5	0.6	0.4	0.3	0.2	0.4	0.5	2.2	0.9	**S**	1.7	1.5	2.2	1.1	22
4	1.5	1.5	1.6	1.5	1.4	1.5	2.8	2.2	2.6	3	3.3	3.4	2.4	1.6	1.2	0.8	0.8	0.6	0.7	0.6	**S**	0.5	0.7	0.4	3.4	1.6	24
5	0.7	0.7	0.5	0.6	0.3	0.5	0.4	0.3	0.2	0.2	0.3	0.4	0.4	1.3	1	1.7	1.9	2.4	3.1	**S**	1.9	1.2	0.8	1	3.1	0.9	24
6	1.2	1.2	1	0.7	0.8	0.8	1	1.4	1	0.7	0.8	0.9	0.8	1.4	1.4	0.9	0.6	0.8	**S**	1.4	2.2	2.1	1.9	2.1	2.2	1.2	24
7	2.4	2.6	3	2.8	2.7	3	3.3	2.5	1.9	2.6	1.5	1.5	1.4	1.2	2.3	2.2	0.9	**S**	0.4	0.6	0.4	0.3	0.7	0.9	3.3	1.8	24
8	1	0.6	0.2	0.2	0.3	0.3	0.2	0.3	0.4	0.6	0.8	0.6	0.5	0.4	0.4	0.5	**S**	0.2	0.7	0.2	0	0.3	1.2	2.4	2.4	0.5	24
9	3.9	4.1	5.4	6	7.2	7.6	6	5.8	5.3	1.8	0.7	0	0	0	0.2	**S**	0.6	1	1.4	1.5	1.8	2.2	1.4	1.2	7.6	***2.8***	24
10	3.6	3.8	2.9	1	3.6	***10.3***	6.7	4.2	2.4	0.8	1.5	0.7	0.1	0.3	**S**	0.5	0.9	2	1.7	1.3	1	0.8	0.8	1.3	***10.3***	2.3	24
11	2.3	2.2	1.6	1.2	1.5	2.3	4.2	2.3	1.9	1.7	0.9	1.3	1.2	**S**	1.1	0.9	0.7	0.7	1	1.6	1.4	1.3	1.3	1.2	4.2	1.6	24
12	1.5	1.5	1.6	1.4	1.5	1.8	3.2	3.1	3.3	3.2	2.8	2	**S**	1.2	1	0.8	0.8	0.9	0.2	0.2	0.2	0	0.2	0	3.3	1.4	24
13	0.3	0.8	0.6	0.7	0.4	0.5	0.7	0.9	0.7	0.4	0.1	**S**	0.3	0.3	0.2	0.1	0.3	0.6	0.3	0.3	0.9	1.3	1.4	1.3	1.4	0.6	24
14	1.2	1	1.3	1.6	2.5	2.6	3.1	2.9	2.2	2.1	**S**	1.7	1.4	1.2	1	0.8	0.8	1.2	0.8	1	1.2	2.3	2.2	2.6	3.1	1.7	24
15	2.2	2.4	2.8	3.8	3.6	3.4	3.7	5.2	6.6	**S**	4.6	2.2	1	0.8	0.7	0.9	0.6	0.7	0.9	0.7	1.6	1.1	1.4	1.6	6.6	2.3	24
16	1.9	2	2.8	4	4.1	3.2	3.4	2.4	**S**	2.6	2.1	2.2	2.3	1.8	1.2	1	1.3	0.9	1.3	3.8	2	1.1	0.9	0.8	4.1	2.1	24
17	0.6	0.4	0.7	0.7	0.8	0.8	1.2	**S**	1.8	1.7	1.6	1.5	1.7	1.7	1.7	1.3	1.6	2.2	1.4	1.8	1.9	2.1	2.5	2.4	2.5	1.5	24
18	2.4	2.2	2.2	2.3	2.5	2.4	**S**	3	2.2	1.6	1.1	1.6	1.3	1.3	1	0.9	0.6	0.7	1.1	1.3	1.6	1.1	2.5	2.7	3	1.7	24
19	1.8	2.6	2.5	2.2	4.1	**S**	4.1	2.8	2.3	1.8	1.3	0.2	0.1	0	0	0	0.4	0.1	1.5	1.1	0.1	0.5	0	0.1	4.1	1.3	24
20	0	0	0	0	**S**	0.3	0.3	0.2	0.3	0.3	0	0	0	0	0	0	0.2	0.1	0.2	1.4	1.7	3.1	2.2	2.9	3.1	0.6	24
21	4.6	4.7	4	**S**	3.8	3.6	4.1	3.8	4.1	4.6	3.6	2.2	1.5	1	0.9	1	0.6	0.6	1	0.9	1.3	1.2	1.1	1.3	4.7	2.4	24
22	1.5	1.3	**S**	1.6	1.7	1.4	2.1	2.9	3	3.1	3.9	4.2	3.5	3.2	2.3	1.5	0.9	1.4	0.8	2.1	1.9	1.8	1.5	3.7	4.2	2.2	24
23	3.6	**S**	2	0.7	0.3	0.2	0.8	0.8	1	0.8	0.6	1	0.8	0.4	0.5	0.6	0.1	1.8	0.6	0.5	0.6	0.6	0.7	0.6	3.6	0.9	24
24	**S**	1.4	1.4	1.1	1.1	2.4	5.8	5.3	3.8	3.6	3.5	2.5	1.7	1.5	1.3	1.3	1.4	1.7	1.7	2.1	3.2	2.4	2.8	**S**	5.8	2.4	24
25	0	0.4	0.2	0.2	0.5	1.2	1.3	1	0.9	1.2	0.6	0.1	0	0	0	0.1	0.6	1	0.7	0.9	1.1	1.6	**S**	1.6	1.6	0.7	24
26	1	1.4	1.3	0.6	0.5	0.3	0.1	0.8	1.1	1.4	1.9	1.6	1.6	1.3	1.3	1.5	1.6	1.1	0	0	0	**S**	0.4	0.1	1.9	0.9	24
27	0.3	0.5	0.8	0.9	0.5	0.4	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.4	0.8	0.9	1.1	0.4	**S**	2.1	2	0.1	2.1	0.6	24
28	0	0	0.5	1.4	1.5	1	1.8	2.1	0.9	0.4	0.4	0.4	0.2	0.1	0.2	0.2	0.4	0.3	0.6	**S**	0.7	0.9	0.9	0.9	2.1	0.7	24
29	0.7	0.8	0.9	1.1	1.3	1.1	1.6	1.4	0.9	0.8	0.8	0.5	0.6	0.5	0.7	0.9	0.9	0.8	**S**	1.4	1.2	1.6	2.2	2	2.2	1.1	24
30	1.9	1.9	1.8	1.8	1.9	2.1	2.2	2.5	1.8	1.5	1	0.7	0.6	0.6	0.7	0.5	0.4	**S**	0.7	0.5	0.7	0.5	0.4	0.5	2.5	1.2	24
HOURLY MAX	5	5	5	6	7	10	7	6	7	5	5	4	4	3	2	2	2	2	3	4	3	6	3	4			
HOURLY AVG	1.6	1.6	1.6	1.5	1.9	2.1	2.4	2.2	2.0	1.6	1.5	1.3	1.0	0.9	0.8	0.8	0.7	0.9	0.9	1.1	1.2	1.4	1.3	1.4			

STATUS FLAG CODES

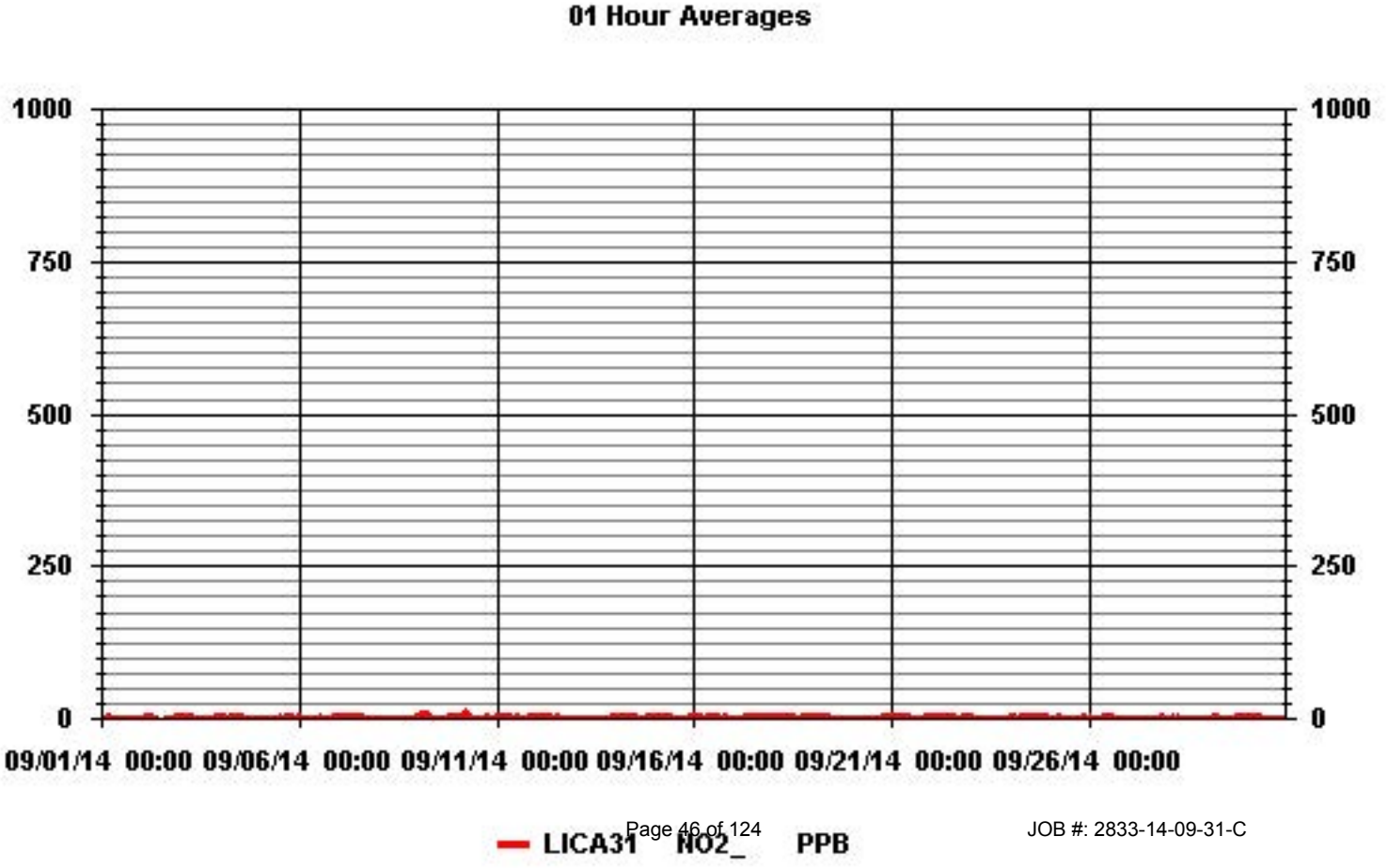
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

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



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	651					
MAXIMUM 1-HR AVERAGE:	10.3	PPB	@ HOUR(S)	5	ON DAY(S)	10
MAXIMUM 24-HR AVERAGE:	2.8	PPB			ON DAY(S)	9
					VAR-VARIOUS	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		718	HRS
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:		99.7	%
STANDARD DEVIATION:	1.24		MONTHLY AVERAGE:		1.41	PPB



JOB #: 2833-14-09-31-C

Lakeland Industry & Community Association - St. Lina Site

SEPTEMBER 2014

NITROGEN DIOXIDE MAX instantaneous maximum in ppb

MST

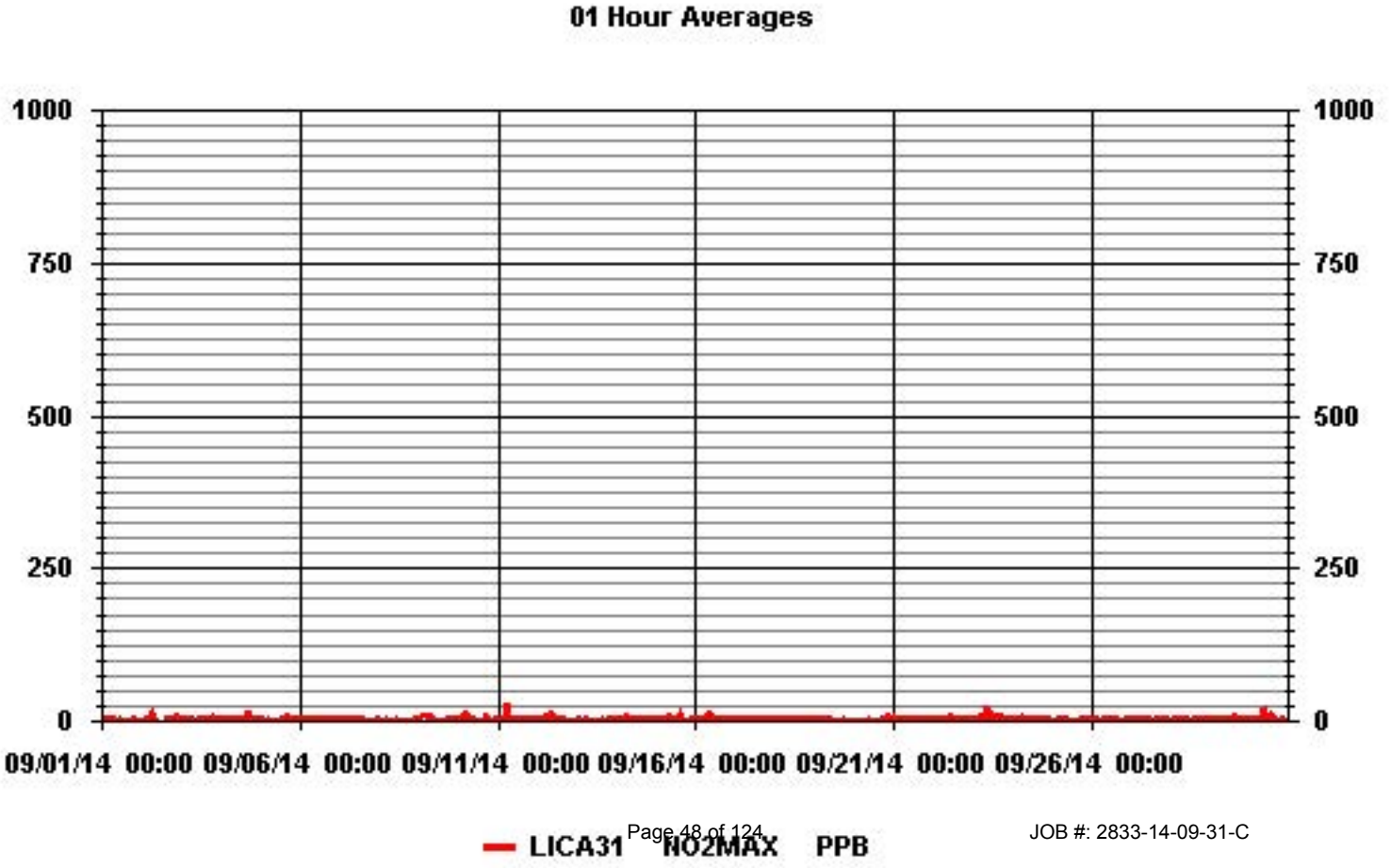
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	**S**	2.7	2.5	1.7	2	2.3	1.8	1.6	1.3	1	0.9	1.4	1.2	0.7	0.7	0.9	0.9	0.7	0.7	1.5	1.3	1.3	2.7	**S**	2.7	1.4	24
2	0.8	3.5	1.7	1.7	4.8	5.3	10.7	2.1	1.5	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1.4	1.4	2.2	3.5	4.9	7.4	**S**	3.6	10.7	3.5	24
3	2.6	2.7	1.9	1.9	1.8	1.9	1.7	2.1	**Y**	**Y**	**Y**	2.5	1.9	2	2	1.6	2.2	2.1	1.7	7	2.8	**S**	2.8	3	7	2.4	21
4	2.2	2.2	2.3	2.2	2	2.3	4.2	2.8	3.5	3.7	4.3	4.8	3.5	2.6	2.6	1.9	2.1	14.4	7.4	1.5	**S**	1.3	1.3	1	14.4	3.3	24
5	1.1	1.3	1.6	1.7	0.8	1.2	1.5	1	1	0.9	0.8	1	0.9	2.5	1.8	3.1	2.6	12.7	5.4	**S**	2.7	2.1	1.7	1.7	12.7	2.2	24
6	1.9	1.8	1.9	1.9	1.6	1.7	2.4	3.7	1.6	1.1	1.5	1.4	1.5	2.1	1.8	1.6	1.3	1.9	**S**	2.3	2.8	2.9	2.5	2.8	3.7	2.0	24
7	2.8	3.3	3.5	3.9	3.5	4	3.9	3.2	2.7	3.4	2.1	2.6	2.1	1.5	2.8	2.8	1.7	**S**	0.8	1	0.9	0.8	1.1	1.4	4	2.4	24
8	1.4	1.7	0.5	0.5	1.1	1	0.6	0.6	0.8	0.9	1.1	1	0.8	0.8	0.7	1.2	**S**	0.9	2.3	0.7	0.7	1.2	2.4	3.4	3.4	1.1	24
9	4.9	4.9	6.8	7.5	8.9	8.7	6.8	6.8	6	3.9	1.8	0.6	0.7	0.9	0.7	**S**	1.5	1.8	2.3	2.3	3.3	3.3	2.6	2	8.9	3.9	24
10	4.9	4.7	4	2.3	8.7	12.1	10.2	5.3	4.7	1.5	2.5	1.5	0.8	1.2	**S**	1.3	2.3	7.7	8	3.8	3.5	1.7	1.7	2.2	12.1	4.2	24
11	4.6	3.1	2.5	2.2	2.9	3.8	***28.4***	5.2	2.7	2.4	1.7	2.1	2.5	**S**	1.5	1.3	1.6	1.7	2.4	3.2	4	2.2	2.4	2.1	***28.4***	3.8	24
12	2.4	2.7	2.5	2.5	2.3	2.8	12.1	3.9	3.9	13.8	4.1	2.8	**S**	2.1	1.8	1.5	1.4	1.5	0.9	1	0.6	0.5	0.5	0.6	13.8	3.0	24
13	1.2	1.5	1.1	1.4	1	1.2	1.3	1.3	1.3	1	0.6	**S**	1.1	0.9	0.7	0.9	1.4	1.7	1	1.3	1.6	1.8	2.3	2.1	2.3	1.3	24
14	2	2	2	2.7	3.1	2.9	5.5	5.4	3.4	2.7	**S**	2.5	2	2.1	1.6	1.4	1.5	1.9	1.4	1.7	2.2	3	3	3.3	5.5	2.6	24
15	3	3.5	3.5	5	5	4.6	5.1	7.1	7.4	**S**	5.8	3.6	2	1.5	1.1	8.4	1.5	1.3	**P**	1.2	2.7	1.9	2.4	2.6	8.4	3.6	23
16	3	3	5	4.7	5	4	6.4	6.3	**S**	11.7	3.5	2.9	2.9	2.4	2	2	2.2	2	3.3	5.6	4.1	2	1.5	1.4	11.7	3.8	24
17	1.5	1.4	1.6	1.4	1.6	1.6	2.2	**S**	2.3	2.4	2.2	2.1	2.3	2.7	2.3	1.8	2.7	2.9	1.8	2.3	2.3	3	3	3	3	2.2	24
18	2.9	2.7	2.7	2.9	3.1	3.8	**S**	3.9	2.7	2	1.8	2.7	2.5	2.2	2.2	2	1.6	1.4	2.1	2	2.6	1.7	4.8	4.7	4.8	2.7	24
19	2.5	3.7	3.1	2.9	4.7	**S**	4.5	3.6	3	2.9	2.1	1	0.8	0.9	0.9	0.5	1.4	0.9	2.7	2.4	0.7	1.5	0.6	0.8	4.7	2.1	24
20	0.8	0.7	0.4	0.7	**S**	0.8	1.1	0.9	1.1	1.1	1	0.7	0.7	0.8	0.5	0.9	0.9	1.2	1	3.5	4.1	7.7	4.1	4.8	7.7	1.7	24
21	5.4	5.4	4.7	**S**	6.1	4.6	4.7	4.7	5.1	5.4	4.7	3	2.4	1.7	1.5	2.4	1	1.2	1.7	1.5	1.9	1.7	**P**	1.9	6.1	3.3	23
22	1.9	2	**S**	2.1	2.3	2.4	5.2	4.6	6	3.7	5.3	5.5	6.6	4	3.6	2.4	2.1	4.4	1.5	4.8	2.8	2.7	2.8	4.7	6.6	3.6	24
23	4.7	**S**	3.1	1.7	1.2	0.9	8.1	10.1	24.1	10	1.7	15.2	13.1	8.6	1.2	12.5	1.8	5.7	1.8	1.8	1.6	1.8	1.6	1.9	24.1	***5.8***	24
24	**S**	2	2.1	1.6	1.9	4.4	6.9	6.4	4.4	4.1	3.9	3.2	2.4	1.9	1.9	1.6	1.8	2.1	2.2	3	4.4	3	4.2	**S**	6.9	3.2	24
25	0.9	1	0.8	1	1.6	2.7	2.6	2.3	1.8	2.3	1.8	1.1	0.8	0.6	0.6	**P**	1.4	1.8	1.8	2.1	2.5	2.7	**S**	2.4	2.7	1.7	23
26	2	2.2	2.2	1.5	1.3	0.9	1.1	2	2	2.3	2.8	2.6	2.6	1.9	2.2	2.8	3.1	2.4	1	0.9	0.9	**S**	1.1	1.1	3.1	1.9	24
27	1	1.1	1.4	1.4	1.5	1.2	1.1	1	1.1	1.3	1	1.1	1	0.9	1	1.4	1.7	1.7	2.1	1.3	**S**	4.4	4.2	1.1	4.4	1.5	24
28	0.8	1	1.2	2.4	2.4	1.9	3.2	3.1	1.8	1.2	1.2	1.1	0.9	0.7	1	1	1.2	1.3	1.6	**S**	1.6	1.6	1.6	1.4	3.2	1.5	24
29	1.6	1.6	1.7	1.9	2.3	2.1	2.2	2.3	1.6	1.4	1.3	1.3	1.3	1.3	1.3	10.2	1.7	1.8	**S**	2.3	1.7	2.3	2.7	2.5	10.2	2.2	24
30	2.4	2.5	2.5	2.5	2.8	2.7	3.6	11.7	6.8	12.6	1.9	1.3	7.6	1.4	10.5	1.8	1.3	**S**	1.5	1.9	1.5	1.2	1.1	0.8	12.6	3.6	24
HOURLY MAX	5	5	7	8	9	12	28	12	24	14	6	15	13	9	11	13	3	14	8	7	5	8	5	5			
HOURLY AVG	2.4	2.5	2.4	2.3	3.0	3.1	5.1	4.0	3.8	3.7	2.3	2.6	2.5	1.9	1.9	2.6	1.7	2.9	2.3	2.4	2.4	2.5	2.3	2.3			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	675					
MAXIMUM INSTANTANEOUS VALUE:	28.4	PPB	@ HOUR(S)	6	ON DAY(S)	11
				VAR-VARIOUS		
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		714	HRS
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION:	2.51					



JOB #: 2833-14-09-31-C

LICA31
NO2_ / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 31
Site Name : LICA31
Parameter : NO2_
Units : PPB

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	5.44	8.38	5.58	3.52	1.76	2.35	3.52	8.38	8.52	10.58	6.76	7.50	11.91	8.67	4.11	2.94	100.00
<	110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	5.44	8.38	5.58	3.52	1.76	2.35	3.52	8.38	8.52	10.58	6.76	7.50	11.91	8.67	4.11	2.94	

Calm : .00 %

Total # Operational Hours : 680

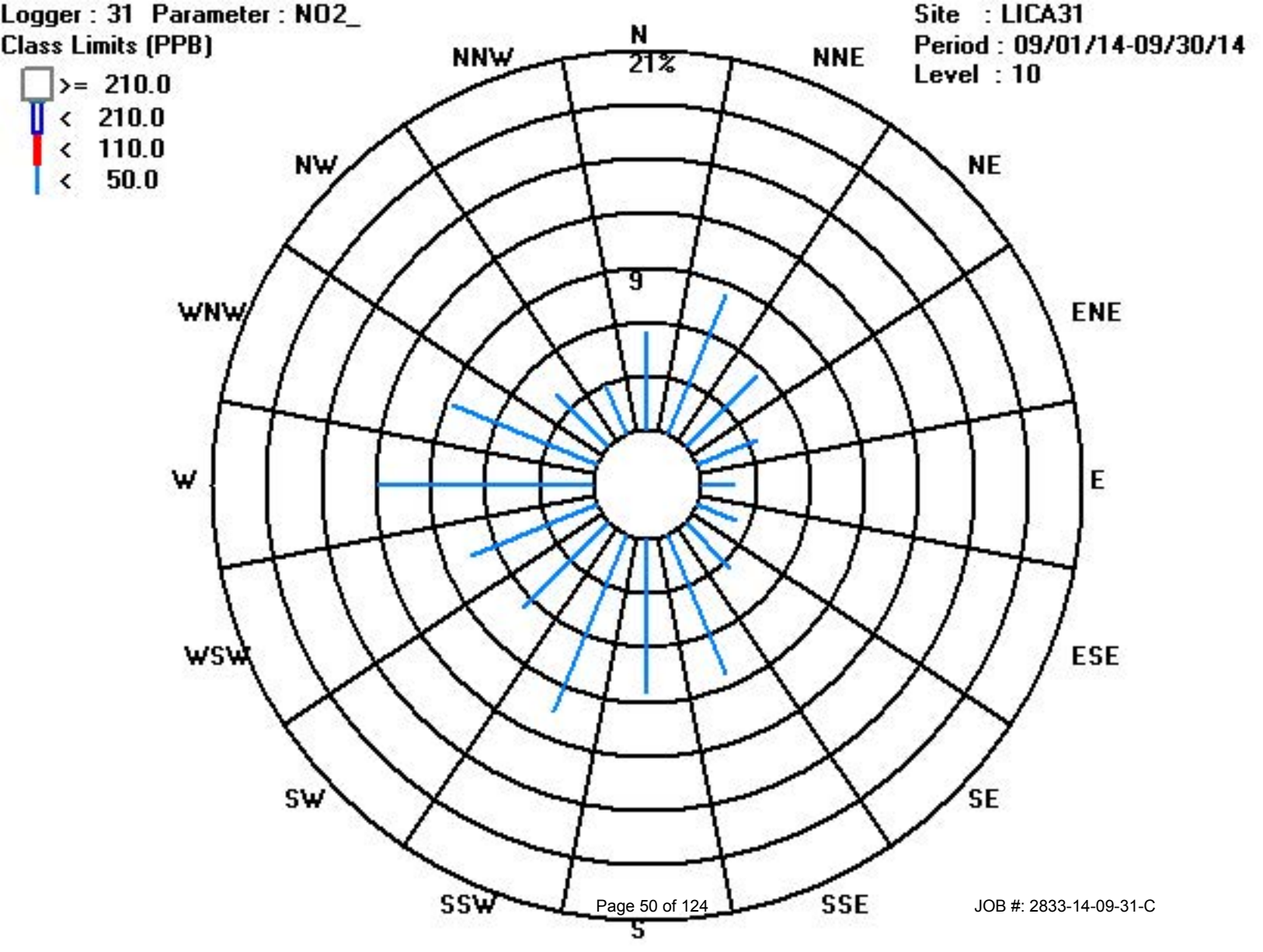
Distribution By Samples

Direction

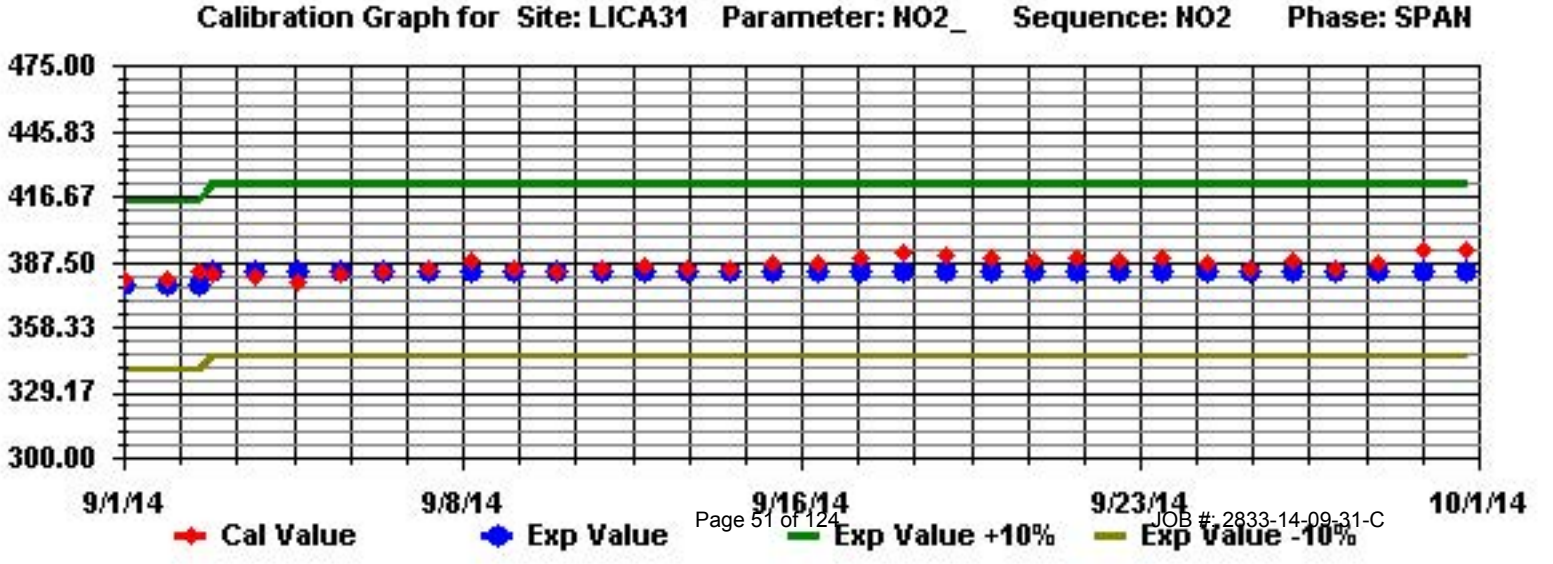
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	37	57	38	24	12	16	24	57	58	72	46	51	81	59	28	20	680
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	37	57	38	24	12	16	24	57	58	72	46	51	81	59	28	20	

Calm : .00 %

Total # Operational Hours : 680



JOB #: 2833-14-09-31-C


Calibration Graph for Site: LICA31 Parameter: NO2_ Sequence: NO2 Phase: SPAN
475.00
445.83
416.67
387.50
358.33
329.17
300.00
9/1/14
9/8/14
9/16/14
9/23/14
10/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitric Oxide

Lakeland Industry & Community Association - St. Lina Site

SEPTEMBER 2014

NITRIC OXIDE (NO) hourly averages in ppb

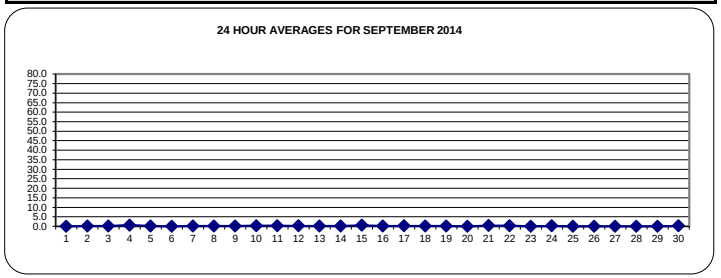
MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	**S**	0	0.1	0	0	0	0.1	0.3	0.2	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	**S**	0.3	0.0	24
2	0	0	0	0	0	0	0.2	0.1	0.2	0.1	**C**	**C**	**C**	**C**	**C**	**C**	0.2	0.1	0	0.1	0.3	0.2	**S**	0.1	0.3	0.1	24
3	0	0	0	0.2	0.1	0	0.1	0.5	**Y**	**Y**	0.5	0.4	0.1	0	0.1	0	0	0	0	0.9	0.2	**S**	0.2	0.3	0.9	0.2	22
4	0	0	0.2	0	0	0	1.4	1.6	2.1	1.6	1.3	1.6	1.4	0.6	0.5	0.3	0.1	0.5	0.1	0	**S**	0	0.1	0.1	2.1	***0.6***	24
5	0.1	0	0	0	0.1	0	0	0	0	0.1	0	0.1	0	0.3	0	0.2	0	0.5	0.3	**S**	0.2	0	0.1	0	0.5	0.1	24
6	0	0	0	0	0	0	0	0.3	0.1	0.1	0	0	0	0	0	0.2	0	0	**S**	0	0	0	0.1	0	0.3	0.0	24
7	0	0	0	0	0	0	0.2	0.6	0.4	0.6	0.3	0.1	0.2	0	0.3	0.2	0	**S**	0.3	0	0	0	0	0	0.6	0.1	24
8	0.2	0.2	0	0.1	0.1	0.1	0.1	0.1	0.3	0	0.2	0.4	0.3	0.2	0.2	0	**S**	0.1	0.1	0	0	0	0	0	0.4	0.1	24
9	0	0.1	0	0.2	0	0.2	0.3	1.2	1.6	0.5	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	1.6	0.2	24
10	0	0	0.1	0	0	0.3	1	1.7	1.3	0.5	0.3	0	0	0	**S**	0.2	0	0.5	0.5	0	0	0	0	0	1.7	0.3	24
11	0	0	0	0	0	0	2.8	1.1	1.2	0.9	0.1	0.4	0.3	**S**	0	0	0	0	0	0	0	0	0	0	2.8	0.3	24
12	0	0	0	0	0	0	0.8	0.5	0.4	1	0.9	0.5	**S**	0.2	0.2	0.1	0.2	0	0	0	0	0	0.1	0	1	0.2	24
13	0	0	0	0.1	0.1	0	0.1	0.2	0.2	0.3	0.1	**S**	0.4	0	0	0	0.3	0	0	0	0	0	0	0	0.4	0.1	24
14	0.1	0	0	0	0	0	0.2	0.7	0.8	0.9	**S**	0.5	0.4	0.1	0.2	0	0.1	0	0	0	0	0	0	0	0.9	0.2	24
15	0	0	0	0.1	0	0.2	0.3	3.1	***4.6***	**S**	2.2	0.6	0.2	0	0.1	0.5	0	0.1	0.1	0	0	0	0.2	0	***4.6***	0.5	24
16	0	0	0	0.1	0	0	0.6	0.5	**S**	0.9	0.1	0	0	0.1	0.1	0	0	0	0	0	0	0	0	0.1	0.9	0.1	24
17	0	0	0	0	0	0	0	**S**	0.6	1.1	1.1	0.8	0.5	0.1	0.2	0	0.1	0.2	0.1	0	0.1	0.1	0	0.2	1.1	0.2	24
18	0.1	0.3	0	0	0	0.4	**S**	0.5	0	0.1	0	0.4	0.1	0.2	0.3	0.2	0.1	0.3	0.1	0	0	0	0	0	0.5	0.1	24
19	0.1	0.2	0.2	0.2	0.1	**S**	0.5	0.9	0.7	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.9	0.1	24
20	0	0	0	0	**S**	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.0	24
21	0	0	0	**S**	0.3	0.3	0.3	1	1.9	2.3	1.4	0.6	0.3	0.1	0.1	0.2	0	0	0	0	0	0	0	0	2.3	0.4	24
22	0.1	0	**S**	0	0	0	0	0.4	1.5	1	1.4	0.9	0.4	0	0	0.1	0	0	0	0	0	0	0	0	1.5	0.3	24
23	0	**S**	0	0	0	0	0	0.3	0	0	0	0.2	0.1	0	0	0.1	0	0	0	0	0	0	0	0	0.3	0.0	24
24	**S**	0.2	0	0.2	0	0.1	0.2	0.5	0.7	0.7	0.6	0.5	0.3	0.1	0	0	0	0	0	0	0.2	0	0.2	**S**	0.7	0.2	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	**S**	0	0.1	0.0	24
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	**S**	0.3	0	0.3	0.0	24
27	0	0.1	0	0	0	0	0	0	0	0.2	0.1	0	0.1	0	0.2	0.1	0.1	0.2	0	0	**S**	0	0	0	0.2	0.0	24
28	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
29	0	0	0	0	0	0	0	0.1	0	0.1	0.1	0	0	0	0	0	0	0	**S**	0.1	0	0	0	0.1	0.1	0.0	24
30	0	0	0	0.1	0.2	0.1	0.3	1.3	0.6	0.8	0.4	0.1	0.4	0.4	0.5	0.2	0.2	**S**	0	0	0	0	0	0	1.3	0.2	24
HOURLY MAX	0	0	0	0	0	0	3	3	5	2	2	2	1	1	1	1	0	1	1	1	0	0	0	0			
HOURLY AVG	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.6	0.7	0.5	0.4	0.3	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0			

STATUS FLAG CODES

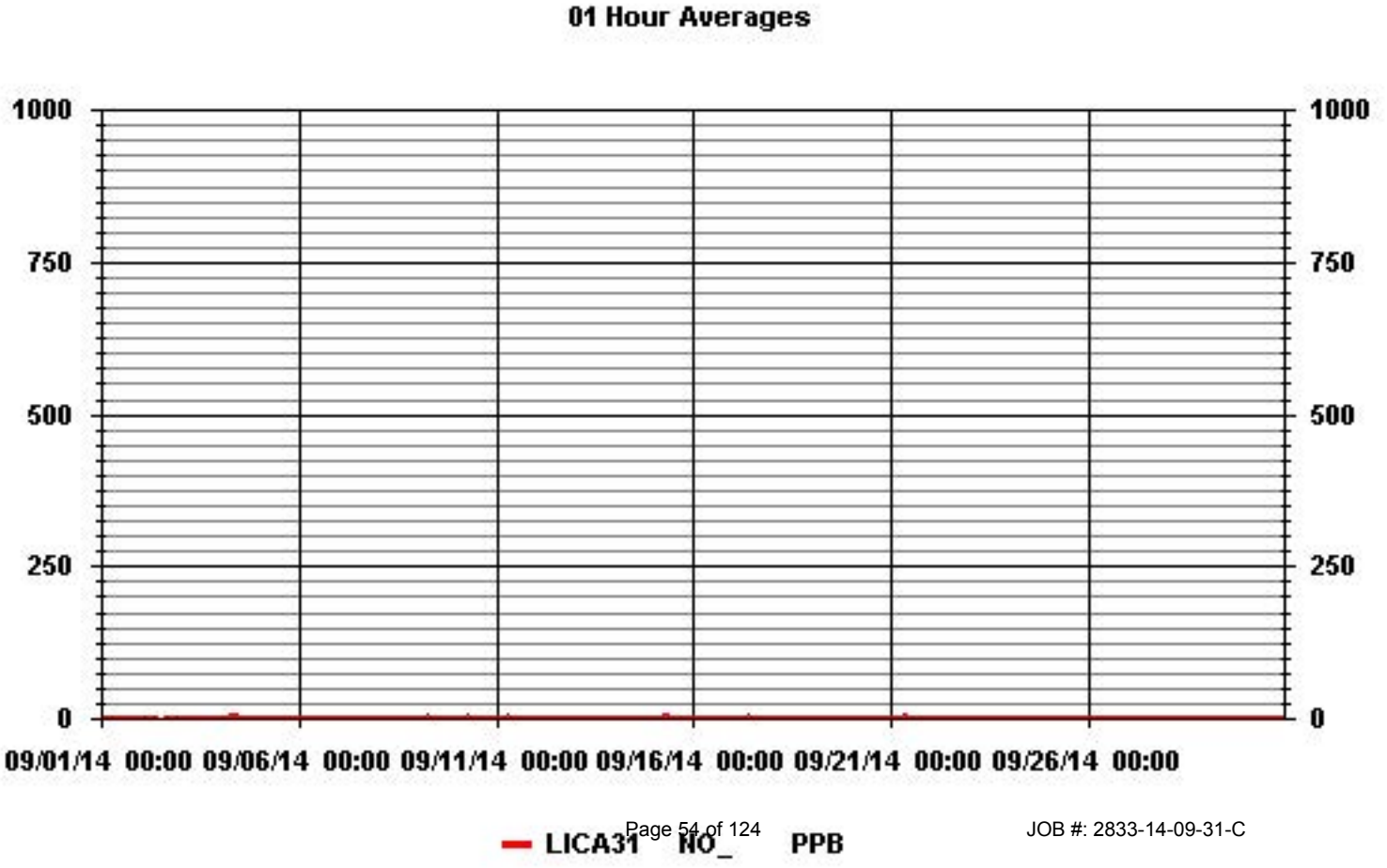
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR NA PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	NA					
NUMBER OF NON-ZERO READINGS:	261					
MAXIMUM 1-HR AVERAGE:	4.6	PPB	@ HOUR(S)	8	ON DAY(S)	15
MAXIMUM 24-HR AVERAGE:	0.6	PPB			ON DAY(S)	4
					VAR-VARIOUS	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		718	HRS
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:		99.7	%
STANDARD DEVIATION:	0.39		MONTHLY AVERAGE:		0.16	PPB



JOB #: 2833-14-09-31-C

Lakeland Industry & Community Association - St. Lina Site

SEPTEMBER 2014

NITRIC OXIDE MAX instantaneous maximum in ppb

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	**S**	0.7	0.9	0.6	0.7	0.9	0.7	1.1	1.7	0.6	0.7	0.9	1.6	1.1	0.7	0.4	0.5	0.3	0.6	0.6	0.5	0.6	1.7	**S**	1.7	0.8	24
2	0.7	0.3	0.3	0.4	0.3	0.9	15.1	0.6	1.5	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1.1	0.6	0.7	0.7	0.9	0.7	**S**	0.8	15.1	1.6	24
3	0.7	0.5	0.8	0.8	0.7	0.6	0.8	1.3	**S**	**Y**	**Y**	1.2	0.6	0.6	0.6	0.9	0.6	0.6	0.6	4.3	2	**S**	0.8	1.8	4.3	1.0	22
4	0.8	0.7	0.8	0.8	0.6	0.8	6.2	2.5	3.5	2.3	2.4	2.7	2.5	2	3.1	1.6	1.6	11.5	6.6	0.7	**S**	1.1	0.7	0.6	11.5	2.4	24
5	0.7	0.7	0.4	0.6	0.7	0.6	0.4	0.5	0.6	0.5	0.7	0.7	0.6	1.8	0.8	1	0.8	12.7	1.5	**S**	0.7	0.9	0.9	0.5	12.7	1.3	24
6	0.4	0.6	0.7	0.5	0.4	0.7	0.4	2.4	0.6	0.9	0.6	0.6	0.5	0.6	0.6	0.9	1.2	0.7	**S**	0.7	0.7	0.3	0.7	0.6	2.4	0.7	24
7	0.6	0.7	0.7	0.3	0.8	0.5	0.8	1.4	1.3	1.7	1.3	1.1	0.9	0.9	1.2	1.1	0.7	**S**	1	0.7	0.5	0.6	0.8	0.7	1.7	0.9	24
8	0.7	1	0.6	0.7	0.7	0.7	0.6	0.8	0.9	0.7	0.8	1.1	0.9	1.1	0.8	0.7	**S**	0.7	0.8	0.7	0.5	0.5	0.4	0.6	1.1	0.7	24
9	0.6	0.7	0.6	1	0.8	0.8	0.9	1.9	2.4	1.4	0.8	0.6	0.6	0.5	0.7	**S**	0.8	0.6	0.6	0.6	0.7	0.7	0.8	0.6	2.4	0.9	24
10	0.6	0.6	0.6	0.6	0.6	1	1.8	2.7	3	1.3	1.1	0.5	0.5	0.5	**S**	0.8	0.8	5	6.1	2.1	0.3	0.5	0.7	0.7	6.1	1.4	24
11	0.4	0.6	0.6	0.6	0.6	0.9	***44***	3.3	1.7	1.8	1	1.4	1	**S**	0.8	0.6	0.5	0.8	0.3	0.6	0.1	0.4	0.2	0.2	***44***	2.7	24
12	0.2	0.3	0.2	0.6	0.2	0.6	23.9	1.9	1.4	22	2.3	2.5	**S**	1.1	1.2	1.4	0.9	0.8	0.6	0.7	0.6	0.4	1.1	0.6	23.9	2.8	24
13	0.6	0.9	0.9	1	1	0.4	0.9	0.7	1.2	1.5	0.9	**S**	1	0.6	0.5	0.6	0.9	0.6	0.4	0.4	0.5	0.5	0.8	0.3	1.5	0.7	24
14	0.9	0.7	0.4	0.4	0.5	0.7	1	1.8	2	1.5	**S**	1.1	1.4	0.8	1	0.6	0.7	0.7	0.7	0.5	0.7	0.7	0.6	0.6	2	0.9	24
15	0.4	0.4	0.5	0.8	1.3	2.4	1.3	8	5.4	**S**	4.1	1.5	1.5	1	0.9	26.5	0.9	0.9	**P**	0.5	0.6	0.7	0.8	0.5	26.5	2.8	23
16	0.5	0.6	0.6	0.7	0.9	0.6	4.1	3.6	**S**	12.6	0.8	0.6	1	0.8	0.9	0.6	0.9	0.6	0.2	0.5	0.7	0.6	0.6	0.8	12.6	1.5	24
17	0.6	0.6	0.7	0.6	0.5	0.5	0.6	**S**	1.6	1.9	1.8	1.6	1.3	0.8	1	0.7	0.8	0.8	0.9	0.6	0.8	0.8	0.6	0.8	1.9	0.9	24
18	0.8	1	0.8	0.8	0.8	2.9	**S**	1.3	0.7	0.8	0.7	1.8	1.2	1.8	1.9	1.4	1.3	1.2	0.8	0.6	1	0.6	0.8	0.5	2.9	1.1	24
19	0.6	0.8	0.9	0.9	0.7	**S**	3.8	2.8	2.5	1	1.4	0.4	0.6	0.6	0.3	0.2	0.6	0.6	1.3	0.4	0.1	1.2	0.2	0.4	3.8	1.0	24
20	0.2	0.3	0.1	0.5	**S**	0.6	1	0.2	0.4	0.8	0.2	0.2	0.4	0.6	0.3	0.2	1.9	0.6	0.4	0.1	0.4	0.9	0.6	0.4	1.9	0.5	24
21	0.6	0.5	0.5	**S**	2.4	1	0.8	2.1	2.8	3.7	2.3	1.4	0.8	0.6	0.8	1.4	0.7	0.7	0.6	0.5	0.7	0.6	**P**	0.7	3.7	1.2	23
22	0.7	0.7	**S**	0.7	0.7	0.5	1.7	2	6.3	2.2	3.1	1.8	3.1	0.9	1.2	0.9	0.5	0.7	0.4	0.3	0.5	0.5	0.5	0.5	6.3	1.3	24
23	0.3	**S**	0.7	0.4	0.2	0.4	10.9	14.1	12.5	5.4	0.6	7.6	14	7	1.1	8.9	1	0.5	0.3	0.2	0.5	0.2	0.7	0.3	14.1	***3.8***	24
24	**S**	0.8	0.8	0.9	0.8	0.7	0.8	1.4	1.3	1.4	1.2	1.1	0.9	0.7	0.5	0.6	0.8	0.9	0.5	0.5	1	0.5	1.4	**S**	1.4	0.9	24
25	0.4	0.4	0.5	0.5	0.5	0.4	0.5	0.5	0.7	0.9	0.6	0.7	0.6	0.3	0.5	**P**	0.5	0.5	0.5	0.4	0.2	0.5	**S**	0.4	0.9	0.5	23
26	0.3	0.3	0.4	0.4	0.5	0.6	0.4	0.5	0.4	0.4	0.6	0.7	0.8	0.9	0.5	0.4	0.9	0.6	0.4	0.3	0.1	**S**	1.5	0.4	1.5	0.5	24
27	0.6	0.7	0.6	0.6	0.6	0.6	0.9	0.8	0.8	0.7	0.6	0.8	0.7	0.8	1	0.8	0.7	1.3	0.7	0.5	**S**	0.5	0.3	0.4	1.3	0.7	24
28	0.3	0.1	0.4	0.3	0.3	0.4	0.5	0.8	0.5	0.6	0.6	0.7	0.3	0.3	0.3	0.3	0.4	0.5	0.5	**S**	0.5	0.5	0.5	0.5	0.8	0.4	24
29	0.4	0.6	0.3	0.6	0.5	0.2	0.8	0.8	0.7	0.9	0.7	0.5	0.7	0.4	0.4	6	1.1	0.4	**S**	0.7	0.8	0.7	0.7	0.8	6	0.9	24
30	1.1	0.6	0.6	0.8	0.9	0.9	2.2	16.8	10.1	19.7	2.3	1	9.1	1.7	12.5	1.2	1	**S**	1	0.8	0.5	0.3	0.5	0.8	19.7	3.8	24
HOURLY MAX	1	1	1	1	2	3	44	17	13	22	4	8	14	7	13	27	2	13	7	4	2	1	2	2			
HOURLY AVG	0.6	0.6	0.6	0.6	0.7	0.8	4.4	2.7	2.4	3.3	1.3	1.3	1.8	1.1	1.3	2.2	0.9	1.7	1.1	0.7	0.6	0.6	0.7	0.6			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 675

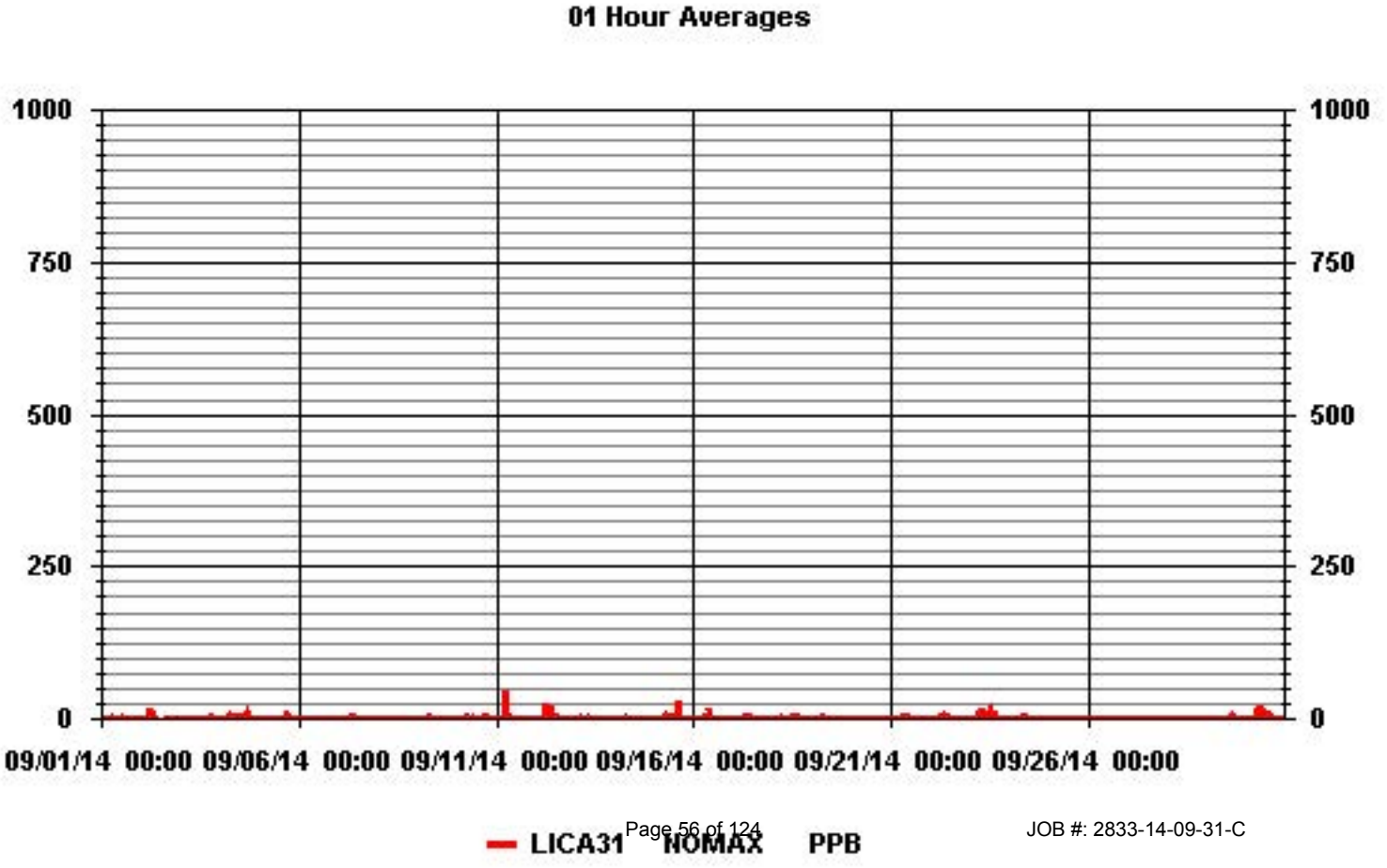
MAXIMUM INSTANTANEOUS VALUE: 44 PPB @ HOUR(S) 6 ON DAY(S) 11

VAR-VARIOUS

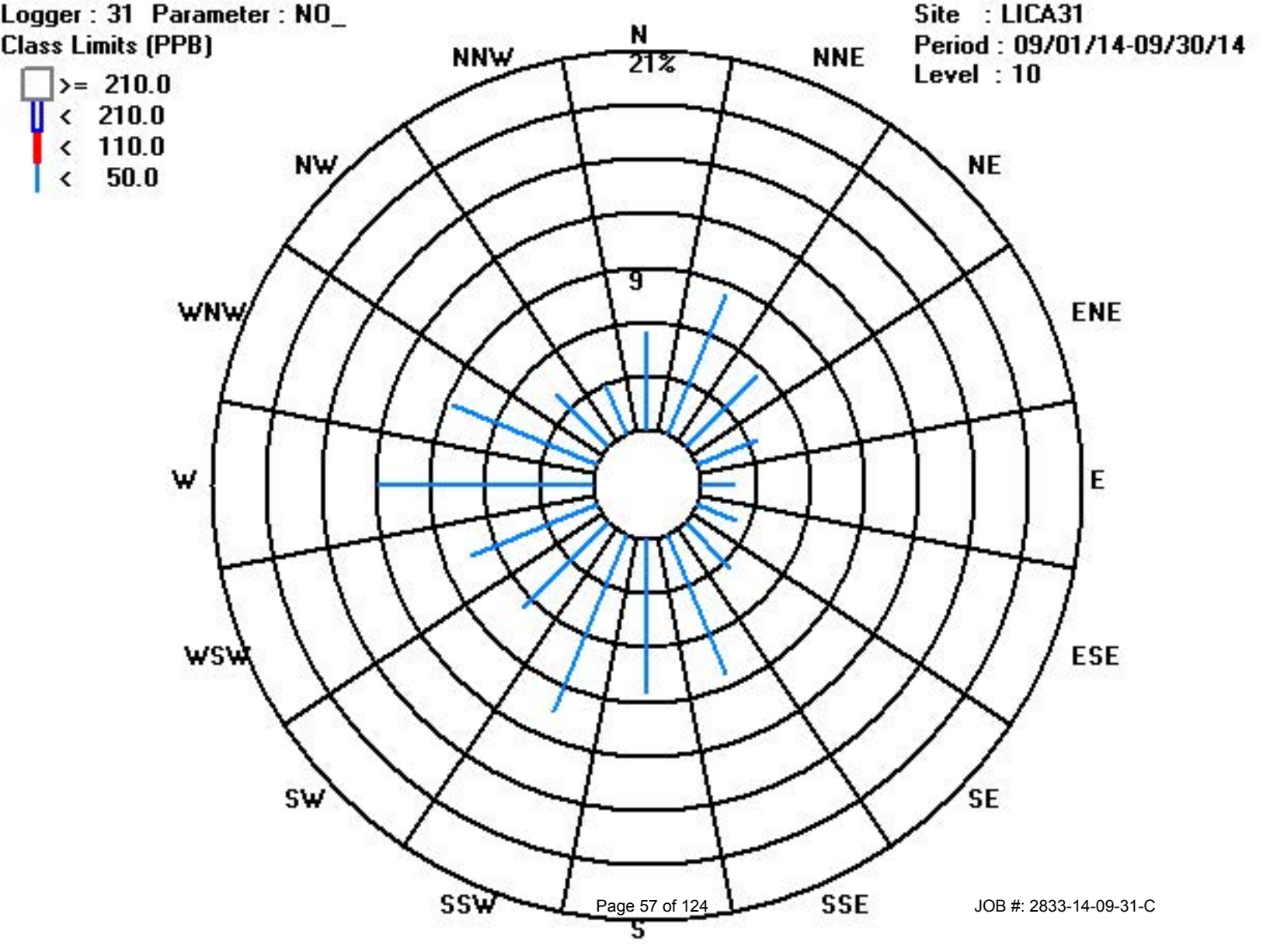
IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 715 HRS

MONTHLY CALIBRATION TIME: 7 HRS

STANDARD DEVIATION: 2.99



JOB #: 2833-14-09-31-C



JOB #: 2833-14-09-31-C

LICA31
NO_ / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 31
Site Name : LICA31
Parameter : NO_
Units : PPB

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	5.44	8.38	5.58	3.52	1.76	2.35	3.52	8.38	8.52	10.58	6.76	7.50	11.91	8.67	4.11	2.94	100.00
<	110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	5.44	8.38	5.58	3.52	1.76	2.35	3.52	8.38	8.52	10.58	6.76	7.50	11.91	8.67	4.11	2.94	

Calm : .00 %

Total # Operational Hours : 680

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	37	57	38	24	12	16	24	57	58	72	46	51	81	59	28	20	680
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	37	57	38	24	12	16	24	57	58	72	46	51	81	59	28	20	

Calm : .00 %

Total # Operational Hours : 680

Oxides of Nitrogen

Lakeland Industry & Community Association - St. Lina Site

SEPTEMBER 2014

OXIDES OF NITROGEN (NOx) hourly averages in ppb

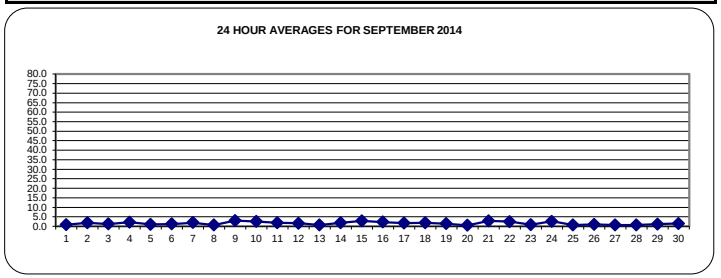
MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	**S**	1.6	1.6	1	1.3	1.5	1.3	1.1	1	0.5	0.5	0.6	0.6	0.4	0.2	0.2	0.3	0.1	0.2	0.6	0.7	0.7	1	**S**	1.6	0.8	24
2	0.5	1.9	1.1	1	2.5	3.2	2.7	1.8	1.4	1.1	**C**	**C**	**C**	**C**	**C**	**C**	0.7	0.5	0.8	1.5	2.9	6	**S**	2.8	6	1.9	24
3	2	1.8	1.2	1.2	1.4	1.4	1.3	1.8	**Y**	**Y**	1.5	1.2	0.6	0.6	0.5	0.3	0.2	0.4	0.5	3.1	1.1	**S**	1.9	1.8	3.1	1.2	22
4	1.5	1.5	1.8	1.5	1.2	1.5	4.2	3.8	4.7	4.6	4.6	5	3.8	2.2	1.7	1.1	0.9	1.1	0.8	0.6	**S**	0.5	0.8	0.5	5	2.2	24
5	0.8	0.7	0.5	0.6	0.4	0.5	0.4	0.3	0.2	0.3	0.3	0.5	0.4	1.6	1	1.9	1.9	2.9	3.4	**S**	2.1	1.2	0.9	1	3.4	1.0	24
6	1.2	1.2	1	0.7	0.8	0.8	1	1.7	1.1	0.8	0.8	0.9	0.8	1.4	1.4	1.1	0.6	0.8	**S**	1.4	2.2	2.1	2	2.1	2.2	1.2	24
7	2.4	2.6	3	2.8	2.7	3	3.5	3.1	2.3	3.2	1.8	1.6	1.6	1.2	2.6	2.4	0.9	**S**	0.7	0.6	0.4	0.3	0.7	0.9	3.5	1.9	24
8	1.2	0.8	0.2	0.3	0.4	0.4	0.3	0.4	0.7	0.6	1	1	0.8	0.6	0.6	0.5	**S**	0.3	0.8	0.2	0	0.3	1.2	2.4	2.4	0.7	24
9	3.9	4.2	5.4	6.2	7.2	7.8	6.3	7	6.9	2.3	0.7	0	0	0	0.2	**S**	0.6	1	1.4	1.5	1.8	2.2	1.4	1.2	7.8	***3.0***	24
10	3.6	3.8	3	1	3.6	10.6	7.7	5.9	3.7	1.3	1.8	0.7	0.1	0.3	**S**	0.7	0.9	2.5	2.2	1.3	1	0.8	0.8	1.3	10.6	2.5	24
11	2.3	2.2	1.6	1.2	1.5	2.3	7	3.4	3.1	2.6	1	1.7	1.5	**S**	1.1	0.9	0.7	0.7	1	1.6	1.4	1.3	1.3	1.2	7	1.9	24
12	1.5	1.5	1.6	1.4	1.5	1.8	4	3.6	3.7	4.2	3.7	2.5	**S**	1.4	1.2	0.9	1	0.9	0.2	0.2	0.2	0	0.3	0	4.2	1.6	24
13	0.3	0.8	0.6	0.8	0.5	0.5	0.8	1.1	0.9	0.7	0.2	**S**	0.7	0.3	0.2	0.1	0.6	0.6	0.3	0.3	0.9	1.3	1.4	1.3	1.4	0.7	24
14	1.3	1	1.3	1.6	2.5	2.6	3.3	3.6	3	3	**S**	2.2	1.8	1.3	1.2	0.8	0.9	1.2	0.8	1	1.2	2.3	2.2	2.6	3.6	1.9	24
15	2.2	2.4	2.8	3.9	3.6	3.6	4	8.3	***11.2***	**S**	6.8	2.8	1.2	0.8	0.8	1.4	0.6	0.8	1	0.7	1.6	1.1	1.6	1.6	***11.2***	2.8	24
16	1.9	2	2.8	4.1	4.1	3.2	4	2.9	**S**	3.5	2.2	2.2	2.3	1.9	1.3	1	1.3	0.9	1.3	3.8	2	1.1	0.9	0.9	4.1	2.2	24
17	0.6	0.4	0.7	0.7	0.8	0.8	1.2	**S**	2.4	2.8	2.7	2.3	2.2	1.8	1.9	1.3	1.7	2.4	1.5	1.8	2	2.2	2.5	2.6	2.8	1.7	24
18	2.5	2.5	2.2	2.3	2.5	2.8	**S**	3.5	2.2	1.7	1.1	2	1.4	1.5	1.3	1.1	0.7	1	1.2	1.3	1.6	1.1	2.5	2.7	3.5	1.9	24
19	1.9	2.8	2.7	2.4	4.2	**S**	4.6	3.7	3	1.9	1.3	0.2	0.1	0	0	0	0.4	0.1	1.5	1.1	0.1	0.5	0	0.1	4.6	1.4	24
20	0	0	0	0	**S**	0.3	0.4	0.2	0.3	0.3	0	0	0	0	0	0	0.2	0.1	0.2	1.4	1.7	3.1	2.2	2.9	3.1	0.6	24
21	4.6	4.7	4	**S**	4.1	3.9	4.4	4.8	6	6.9	5	2.8	1.8	1.1	1	1.2	0.6	0.6	1	0.9	1.3	1.2	1.1	1.3	6.9	2.8	24
22	1.6	1.3	**S**	1.6	1.7	1.4	2.1	3.3	4.5	4.1	5.3	5.1	3.9	3.2	2.3	1.6	0.9	1.4	0.8	2.1	1.9	1.8	1.5	3.7	5.3	2.5	24
23	3.6	**S**	2	0.7	0.3	0.2	0.8	1.1	1	0.8	0.6	1.2	0.9	0.4	0.5	0.7	0.1	1.8	0.6	0.5	0.6	0.6	0.7	0.6	3.6	0.9	24
24	**S**	1.6	1.4	1.3	1.1	2.5	6	5.8	4.5	4.3	4.1	3	2	1.6	1.3	1.3	1.4	1.7	1.7	2.1	3.4	2.4	3	**S**	6	2.6	24
25	0	0.4	0.2	0.2	0.5	1.2	1.3	1	1	1.2	0.6	0.1	0	0	0	0.1	0.6	1	0.7	0.9	1.1	1.6	**S**	1.6	1.6	0.7	24
26	1	1.4	1.3	0.6	0.5	0.3	0.1	0.8	1.1	1.4	1.9	1.6	1.6	1.4	1.3	1.5	1.6	1.1	0	0	0	**S**	0.7	0.1	1.9	0.9	24
27	0.3	0.6	0.8	0.9	0.5	0.4	0.5	0.5	0.4	0.6	0.4	0.3	0.4	0.3	0.4	0.5	0.9	1.1	1.1	0.4	**S**	2.1	2	0.1	2.1	0.7	24
28	0	0	0.5	1.4	1.5	1	1.8	2.1	0.9	0.4	0.4	0.4	0.2	0.1	0.2	0.2	0.4	0.3	0.6	**S**	0.7	0.9	0.9	0.9	2.1	0.7	24
29	0.7	0.8	0.9	1.1	1.3	1.1	1.6	1.5	0.9	0.9	0.9	0.5	0.6	0.5	0.7	0.9	0.9	0.8	**S**	1.5	1.2	1.6	2.2	2.1	2.2	1.1	24
30	1.9	1.9	1.8	1.9	2.1	2.2	2.5	3.8	2.4	2.3	1.4	0.8	1	1	1.2	0.7	0.6	**S**	0.7	0.5	0.7	0.5	0.4	0.5	3.8	1.4	24
HOURLY MAX	5	5	5	6	7	11	8	8	11	7	7	5	4	3	3	2	2	3	3	4	3	6	3	4			
HOURLY AVG	1.6	1.7	1.7	1.5	1.9	2.2	2.7	2.8	2.7	2.1	1.9	1.5	1.2	1.0	0.9	0.9	0.8	1.0	1.0	1.2	1.3	1.5	1.4	1.5			

STATUS FLAG CODES

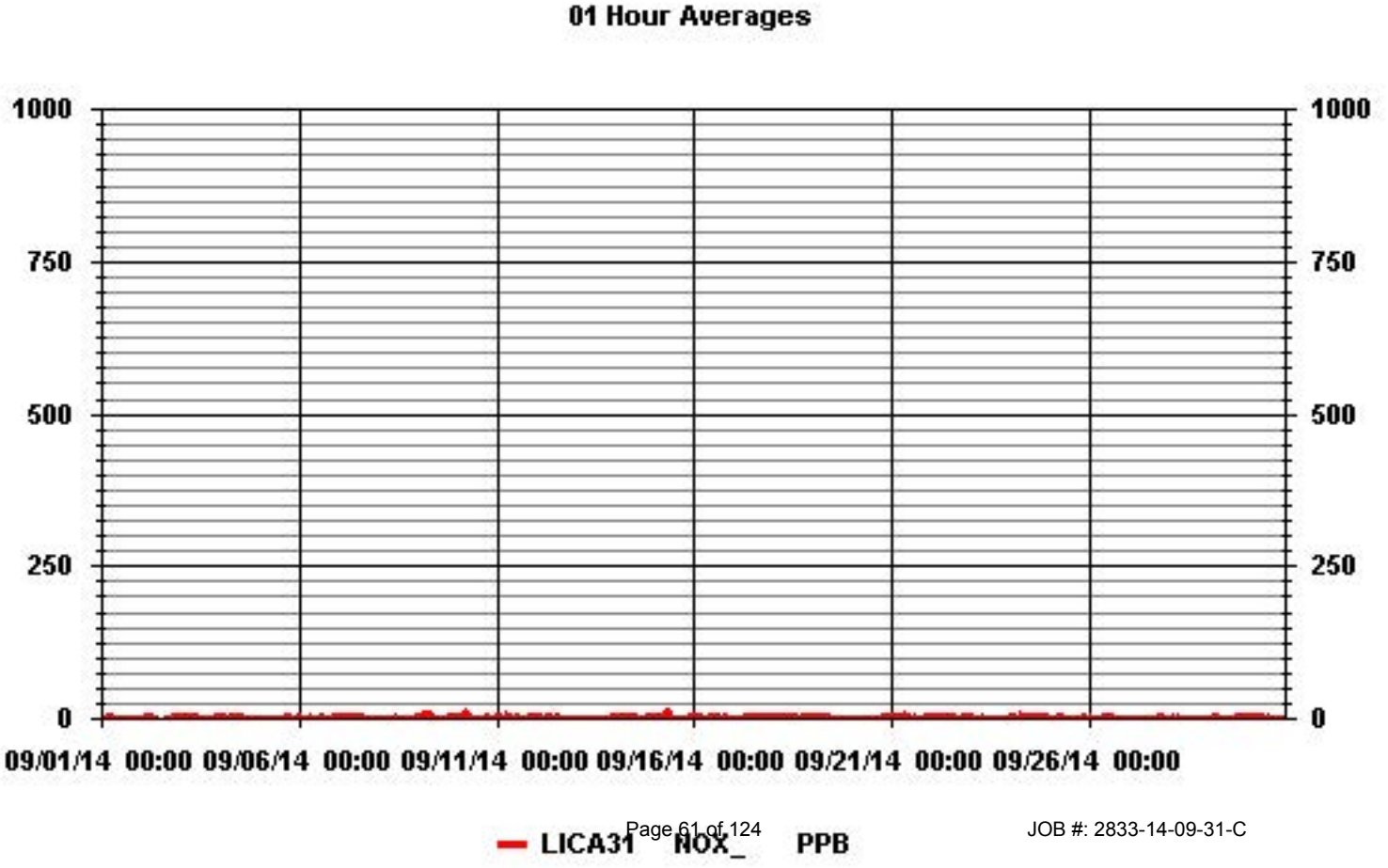
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR NA PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	NA					
NUMBER OF NON-ZERO READINGS:	651					
MAXIMUM 1-HR AVERAGE:	11.2	PPB	@ HOUR(S)	8	ON DAY(S)	15
MAXIMUM 24-HR AVERAGE:	3.0	PPB			ON DAY(S)	9
					VAR-VARIOUS	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		718	HRS
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:		99.7	%
STANDARD DEVIATION:	1.46		MONTHLY AVERAGE:		1.58	PPB



JOB #: 2833-14-09-31-C

Lakeland Industry & Community Association - St. Lina Site

SEPTEMBER 2014

OXIDES OF NITROGEN MAX instantaneous maximum in ppb

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	**S**	2.4	2.7	1.8	2	2.4	2	2.2	2.9	1.5	1.3	1.8	2.7	1.5	1	0.8	1	0.8	1	2.1	1.3	1.4	3.9	**S**	3.9	1.8	24
2	1.2	3.5	1.7	1.7	4.9	6.1	25.4	2.7	2.8	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1.8	1.2	1.8	3.6	4.7	7.3	**S**	3.9	25.4	4.6	24
3	2.8	2.7	1.9	2.2	2	1.9	1.9	2.6	**S**	**Y**	**Y**	2.7	1.5	1.5	1.3	0.9	1.9	1.5	1.3	10.3	3.9	**S**	3.2	4.5	10.3	2.6	22
4	2.2	2.2	2.4	2.2	2	2.6	10.1	5	6	5.5	6.3	6.9	5.6	4.2	5.3	2.5	3.1	21.7	13.8	1.9	**S**	1.4	1.4	1.2	21.7	5.0	24
5	1.4	1.4	1.7	1.6	1.2	1.2	1	1	0.9	1	1	1.2	1.2	4	1.8	4	2.7	25.3	6.6	**S**	3	2	1.9	1.6	25.3	3.0	24
6	2.1	1.8	2.2	2.2	1.6	1.7	2.5	5.8	2	1.5	1.8	1.8	1.4	2.3	2	2.2	1.9	2.5	**S**	2.5	3.1	2.8	3.1	3	5.8	2.3	24
7	3	3.5	3.8	3.8	4	4.3	4.2	3.8	3.2	4.9	3.5	3.8	2.9	1.9	3.5	3.4	2	**S**	1.5	1.3	1.2	1.2	1.5	1.7	4.9	3.0	24
8	2	1.7	0.7	1	1.5	1.7	0.9	1	1.5	1.5	1.5	1.8	1.4	1.3	1.5	1.3	**S**	1.1	2.3	1	0.5	1	2.1	3.2	3.2	1.5	24
9	4.9	4.9	6.5	7.4	8.6	9.1	6.9	7.7	8.1	4.9	2.1	0.6	0.6	0.6	1	**S**	1.8	1.8	2.2	2	2.8	3.1	2.8	1.8	9.1	4.0	24
10	4.7	4.7	4.2	2.4	8.6	11.9	10.6	6.9	7	2.1	2.9	1.6	0.7	1.2	**S**	1.9	2.5	12.4	13.6	5.6	3.2	1.4	1.6	2.2	13.6	5.0	24
11	4.3	3	2.2	2.1	2.5	4.3	***69.7***	8.3	3.8	3.7	1.9	2.7	2.9	**S**	1.8	1.7	1.7	2.3	2.3	3.4	3.6	2.3	2	1.9	***69.7***	5.8	24
12	2.2	2.2	2.2	2.2	2.2	3.2	33.7	5.6	5.1	33	6	5	**S**	3.1	2.9	2.3	1.9	2	1	1.2	0.9	0.7	1.1	0.6	33.7	5.2	24
13	1.3	1.5	1.4	1.6	1.4	1.2	1.6	1.9	2.1	2.1	1	**S**	1.9	0.9	0.8	0.8	2	1.8	0.9	1.2	1.7	2	2.5	2.1	2.5	1.6	24
14	2.2	1.7	1.9	2.6	3.1	3.1	5.9	6.1	5.1	3.8	**S**	3	2.9	2.4	2.2	1.7	1.7	1.9	1.5	1.5	2.1	3.5	3.2	3.2	6.1	2.9	24
15	2.9	3.4	3.7	5.2	6	6.6	6.1	14	12.5	**S**	9.6	4.6	3	1.7	1.8	33.4	2	1.8	**P**	1.3	3	2	2.6	2.7	33.4	5.9	23
16	3.2	2.8	5.2	5	5.1	4.2	10.5	9.8	**S**	20.9	3.8	3.3	4	2.7	2.1	1.8	2.2	1.7	3.2	5.4	4.2	1.7	1.6	1.6	20.9	4.6	24
17	1.4	1.3	1.5	1.5	1.5	1.4	2.2	**S**	3.5	3.6	3.3	3	3	3	2.8	2.1	3	3.1	2.2	2.6	2.6	2.9	3.3	3.3	3.6	2.5	24
18	3.1	3.1	3	3.3	3.5	6.1	**S**	5	2.9	2.4	2.1	4.1	2.8	3.1	3.8	3	2.6	2.3	2.6	2.6	3.2	1.9	4.5	4.5	6.1	3.3	24
19	2.8	3.8	3.2	3.5	5.1	**S**	7.8	5.5	5.2	3.7	2.9	1	1	1.1	1	0.5	1.6	1.2	3.6	2.6	0.8	2.5	0.8	0.6	7.8	2.7	24
20	0.6	0.6	0.3	0.6	**S**	1.1	1.9	1.1	1	1.6	0.9	0.6	0.7	0.8	0.6	0.5	2.5	1.6	0.9	3.4	3.6	8.2	4.2	4.9	8.2	1.8	24
21	5.4	5.3	4.7	**S**	8	5.3	5.2	6.5	7.4	8.9	6.6	3.8	2.6	1.9	2.1	3.8	1.2	1.3	1.8	1.6	2.1	1.9	**P**	1.9	8.9	4.1	23
22	2.4	2.1	**S**	2.4	2.9	2.2	6.9	5.9	12.3	5.9	8.3	6.9	9.3	4.7	4.9	2.9	2.3	4.6	1.6	4.6	2.7	3	3.2	4.7	12.3	4.6	24
23	4.7	**S**	3.3	1.6	1	0.9	16	22.7	36.6	15.1	1.9	17	22.3	15.6	2.2	19.3	2.4	5.5	1.6	1.3	1.3	1.5	1.3	1.5	36.6	***8.5***	24
24	**S**	2.6	2.5	1.8	1.9	4.9	7.3	7.3	5.3	5.1	4.7	4.1	2.7	2.2	2	2	2	2.5	2.3	3.1	4.6	3.1	4.5	**S**	7.3	3.6	24
25	0.7	1.2	0.7	0.9	1.6	2.3	2.3	2.3	2.3	3	2	1.6	0.8	0.4	0.7	**S**	1.3	1.8	2	2.2	2	2.4	**S**	2.3	3	1.7	24
26	1.8	2.1	2.1	1.4	1.1	1.1	1.3	1.8	2	2.3	2.7	2.5	2.8	2.2	2.2	2.7	3.7	2.2	0.7	0.5	0.5	**S**	1.9	0.8	3.7	1.8	24
27	1	1.6	1.6	1.6	1.3	0.9	1.3	1.2	1	1.4	1.2	1	1.2	0.9	1.2	1.4	1.8	1.8	2.1	0.9	**P**	3.9	3.9	1	3.9	1.5	23
28	0.6	0.8	1.2	2.5	2.5	1.8	3.3	3.3	1.8	0.9	1.1	1.2	1.1	0.7	1	1	1	1.2	1.4	**S**	1.4	1.7	1.6	1.6	3.3	1.5	24
29	1.4	1.7	1.6	1.8	2.2	1.9	2.4	2.2	1.6	1.7	1.6	1.3	1.8	1.3	1.6	13.4	2.2	1.4	**S**	2.3	1.8	2.6	3	2.7	13.4	2.4	24
30	3	2.7	2.5	2.6	2.8	3	5.3	25.5	15.8	30.7	3.3	1.4	14.1	2.2	21.6	2.3	1.9	**S**	2.6	2.3	1.4	1.4	1	1.4	30.7	6.6	24
HOURLY MAX	5	5	7	7	9	12	70	26	37	33	10	17	22	16	22	33	4	25	14	10	5	8	5	5			
HOURLY AVG	2.5	2.5	2.5	2.4	3.2	3.4	8.8	6.0	5.8	6.4	3.2	3.2	3.5	2.5	2.7	4.2	2.1	3.9	2.9	2.7	2.4	2.5	2.5	2.4			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 675

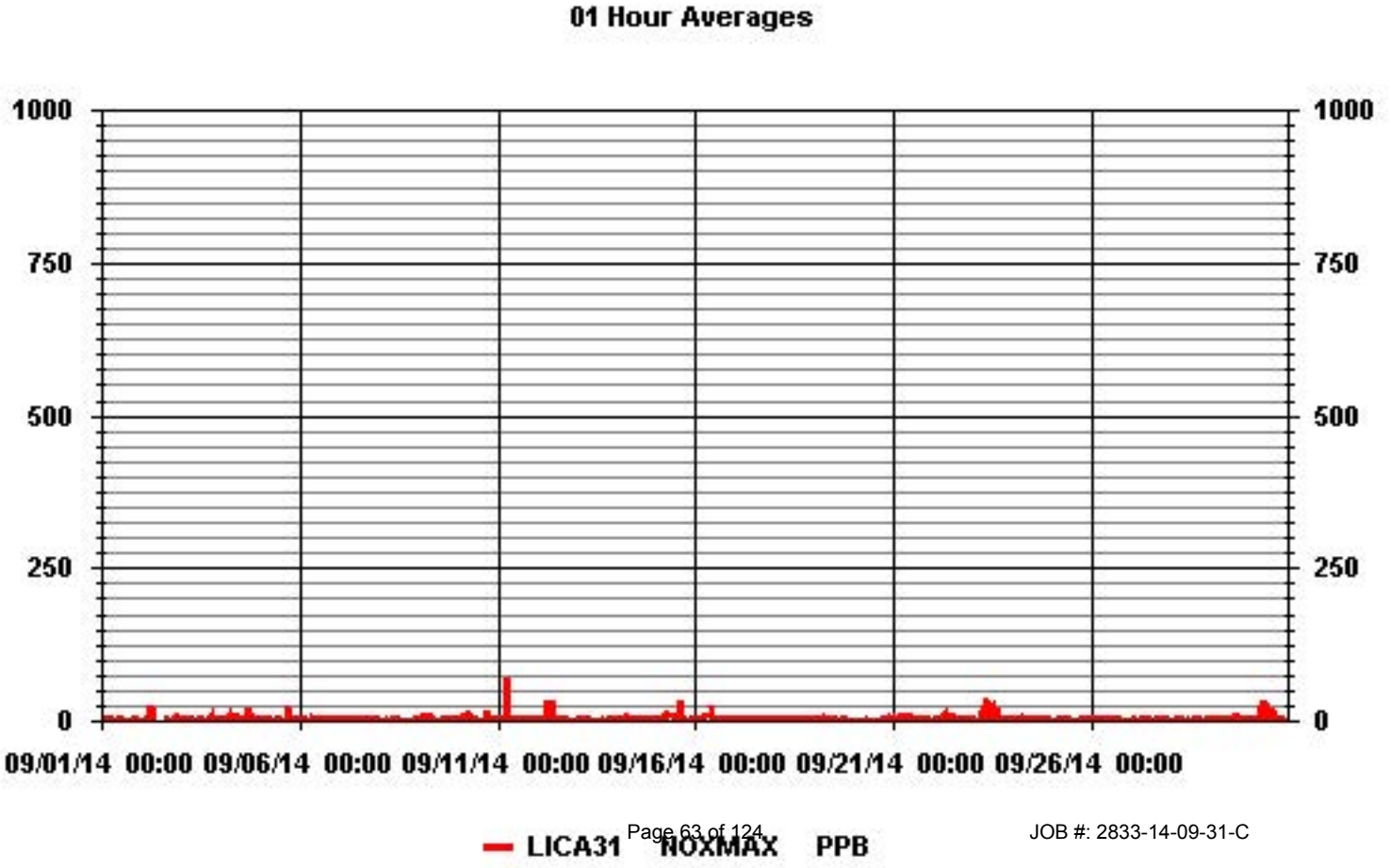
MAXIMUM INSTANTANEOUS VALUE: 69.7 PPB @ HOUR(S) 6 ON DAY(S) 11

VAR-VARIOUS

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 715 HRS

MONTHLY CALIBRATION TIME: 7 HRS

STANDARD DEVIATION: 4.93



JOB #: 2833-14-09-31-C

LICA31
NOX_ / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 31
Site Name : LICA31
Parameter : NOX_
Units : PPB

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	5.44	8.38	5.58	3.52	1.76	2.35	3.52	8.38	8.52	10.58	6.76	7.50	11.91	8.67	4.11	2.94	100.00
<	110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	5.44	8.38	5.58	3.52	1.76	2.35	3.52	8.38	8.52	10.58	6.76	7.50	11.91	8.67	4.11	2.94	

Calm : .00 %

Total # Operational Hours : 680

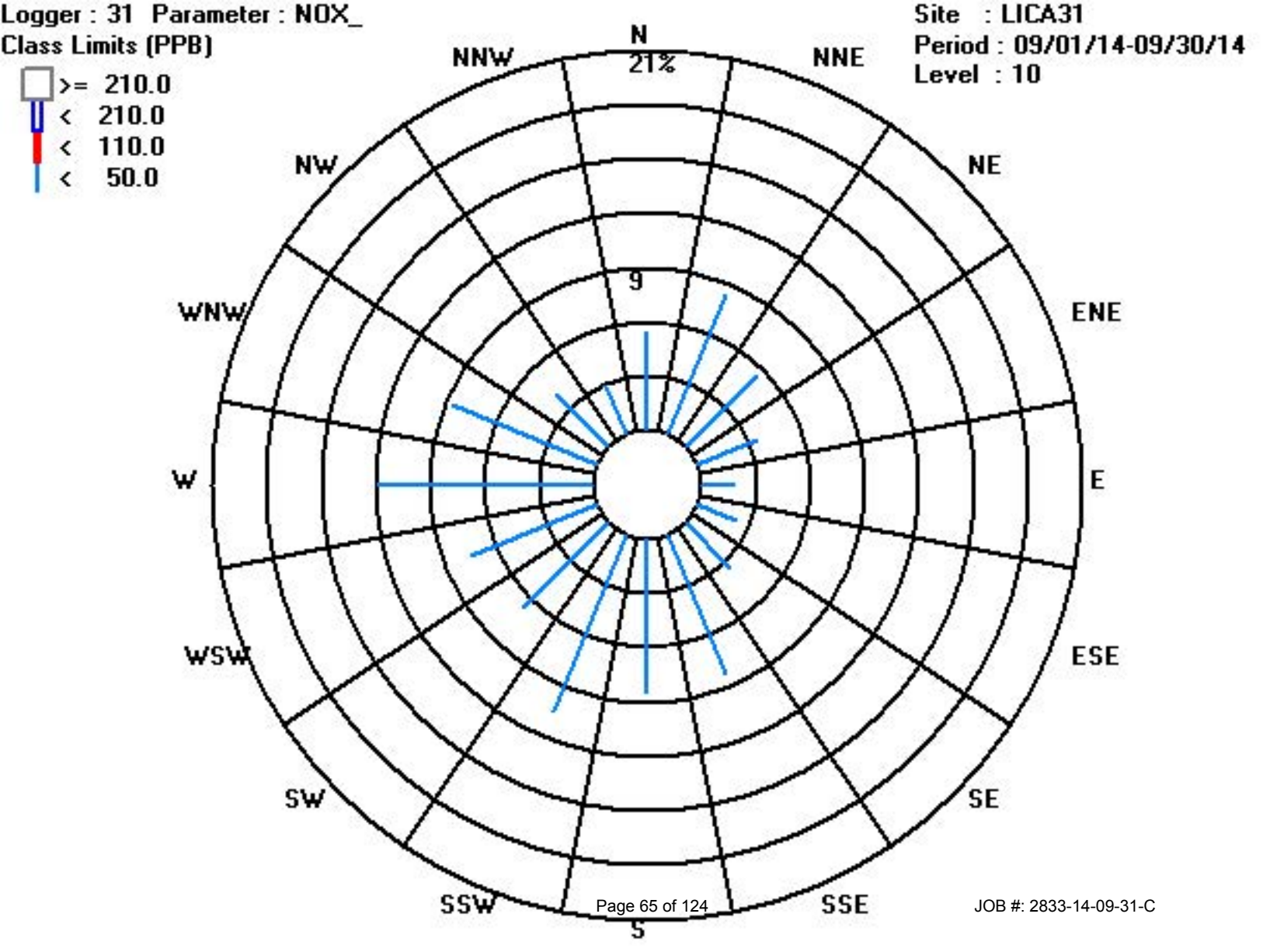
Distribution By Samples

Direction

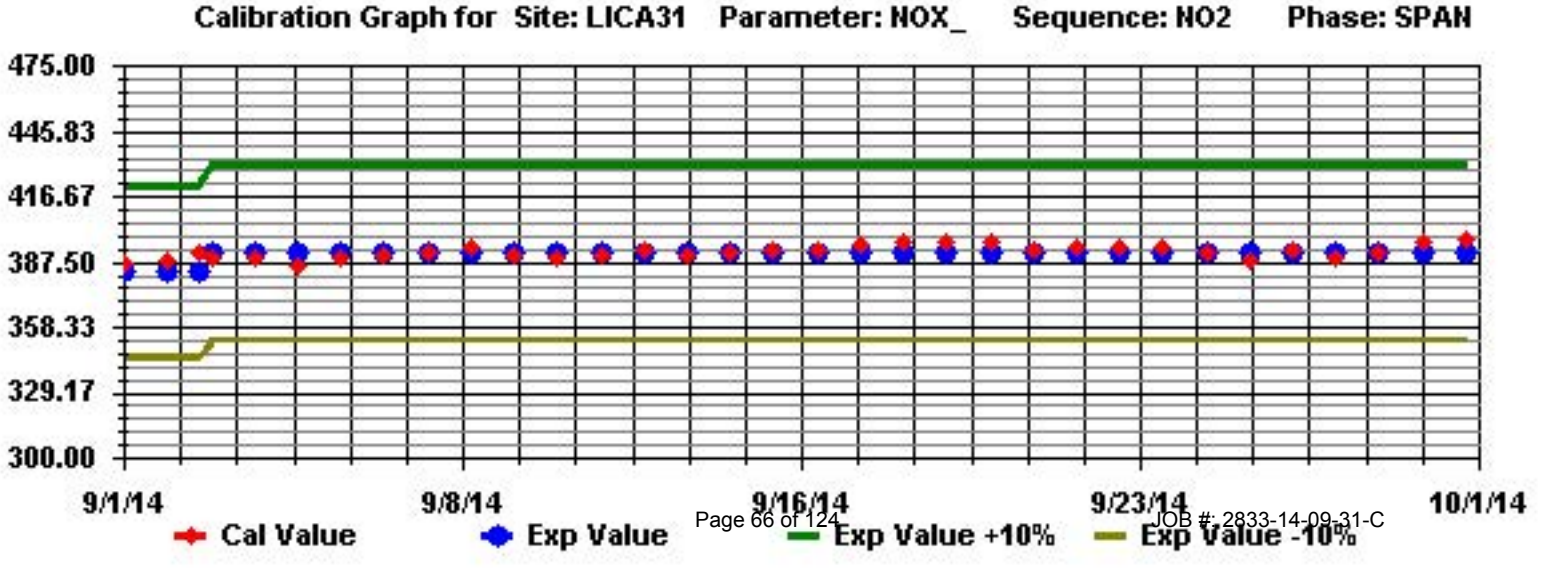
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	37	57	38	24	12	16	24	57	58	72	46	51	81	59	28	20	680
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	37	57	38	24	12	16	24	57	58	72	46	51	81	59	28	20	

Calm : .00 %

Total # Operational Hours : 680



JOB #: 2833-14-09-31-C


Calibration Graph for Site: LICA31 Parameter: NOX_ Sequence: NO2 Phase: SPAN
475.00
445.83
416.67
387.50
358.33
329.17
300.00
9/1/14
9/8/14
9/16/14
9/23/14
10/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Particulate Matter 2.5

Lakeland Industry & Community Association - St. Lina Site

SEPTEMBER 2014

PARTICULATE MATTER 2.5 (LESS THAN 2.5 MICRONS) (PM2.5) hourly averages in ug/m3

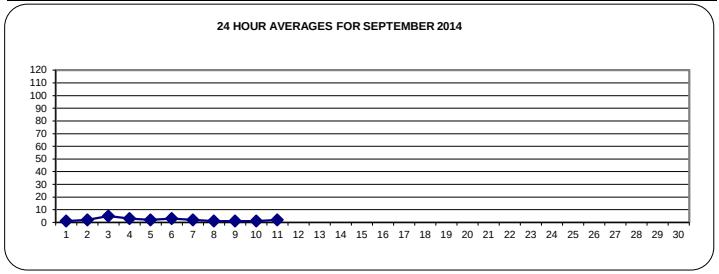
MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2	1	2	3	1	1	5	0	3	1	1	0	1	0	1	0	0	0	1	1	1	0	0	1	5	1.1	24
2	0	0	1	0	0	0	7	1	1	0	0	1	1	1	1	6	5	6	5	3	6	5	3	4	7	2.4	24
3	3	2	3	3	4	2	4	7	3	1	3	3	C	***16***	11	7	7	7	7	7	4	3	3	3	***16***	***4.9***	24
4	3	3	3	1	1	2	3	6	3	3	3	3	1	1	4	5	5	6	5	4	3	2	3	4	6	3.2	24
5	0	1	2	1	0	0	1	0	0	0	0	0	0	0	2	3	5	3	4	5	6	5	4	4	6	1.9	24
6	5	4	5	4	6	2	4	3	2	2	2	1	2	3	3	2	1	1	2	5	6	4	2	3	6	3.1	24
7	3	3	5	5	6	3	2	4	3	4	2	2	1	2	2	0	0	0	0	0	0	0	1	0	6	2.0	24
8	0	2	1	1	0	1	1	0	0	0	0	0	0	0	1	1	0	0	1	1	0	6	0	0	6	0.7	24
9	0	0	0	0	0	0	1	1	0	0	0	0	0	3	0	0	0	1	1	3	1	2	1	1	3	0.6	24
10	0	0	1	0	1	1	1	0	0	0	4	0	0	0	0	0	2	4	4	4	2	2	2	3	4	1.3	24
11	4	5	6	3	3	1	2	1	1	0	0	G	G	G	G	G	G	G	G	G	G	G	G	G	6	2.4	11
12	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G			
13	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G			
14	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G			
15	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G			
16	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G			
17	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G			
18	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G			
19	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G			
20	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G			
21	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G			
22	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G			
23	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G			
24	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G			
25	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G			
26	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G			
27	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G			
28	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G			
29	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G			
30	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G			
HOURLY MAX	5	5	6	5	6	3	7	7	3	4	4	3	2	16	11	7	7	7	7	7	6	6	4	4			
HOURLY AVG	1.8	1.9	2.6	1.9	2.0	1.2	2.8	2.1	1.5	1.0	1.4	1.0	0.7	2.6	2.5	2.4	2.5	2.8	3.0	3.3	2.9	2.9	1.9	2.3			

STATUS FLAG CODES

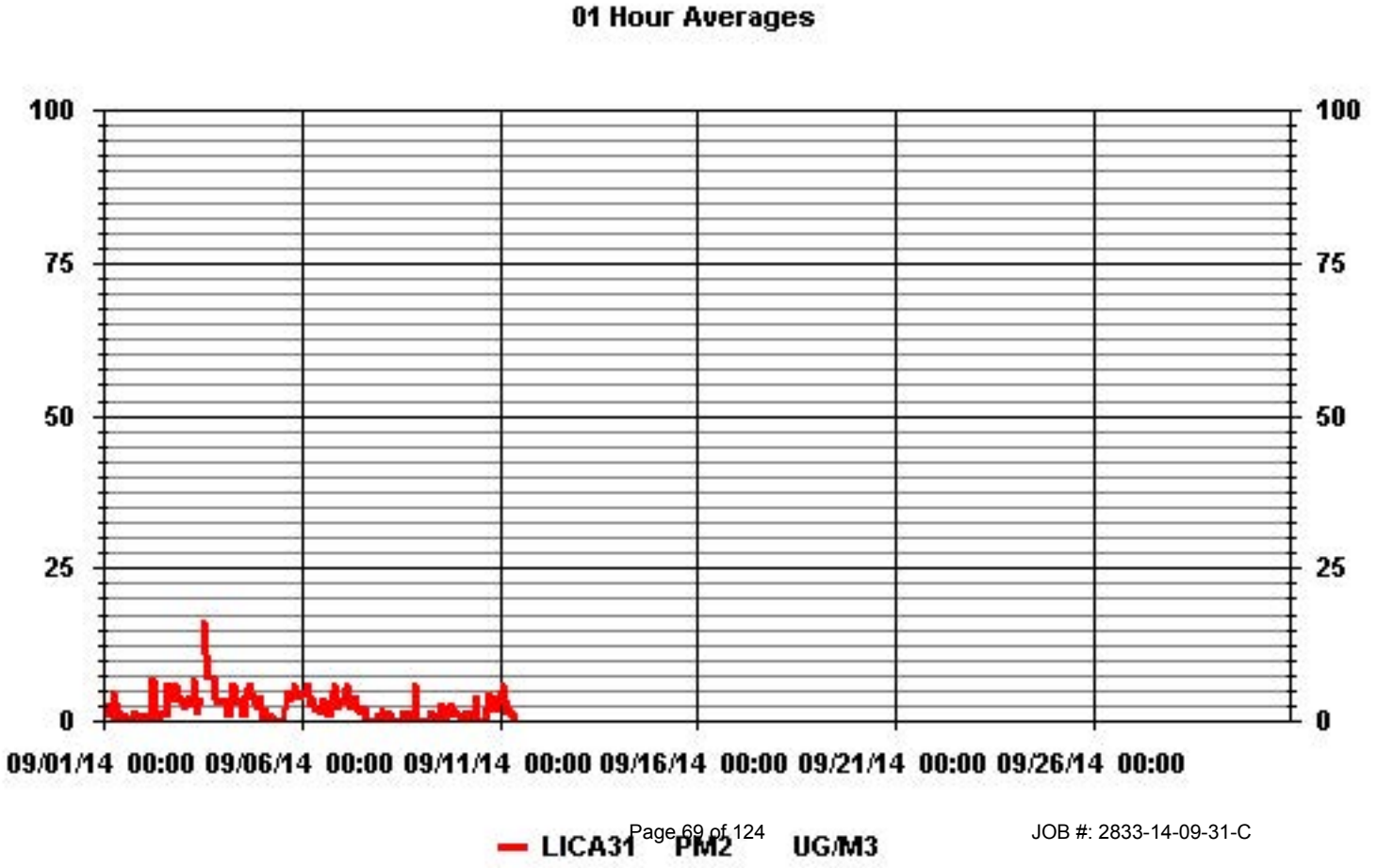
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 24-HR 30 ug/m3



MONTHLY SUMMARY

NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	176					
MAXIMUM 1-HR AVERAGE:	16	ug/m3	@ HOUR(S)	13	ON DAY(S)	3
MAXIMUM 24-HR AVERAGE:	4.9	ug/m3			ON DAY(S)	3
					VAR-VARIOUS	
OPERATIONAL TIME:					251	HRS
MONTHLY CALIBRATION TIME:	1	HRS	AMD OPERATION UPTIME:		34.9	%
STANDARD DEVIATION:	2.23		MONTHLY AVERAGE:		2.12	ug/m3



JOB #: 2833-14-09-31-C

LICA31
PM2 / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 31
Site Name : LICA31
Parameter : PM2
Units : UG/M3

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	30	9.60	16.80	9.60	2.40	2.00	.80	1.20	1.60	6.80	4.40	8.80	11.20	10.40	7.20	2.00	5.20	100.00
<	60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	80	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	120	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	240	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	240	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	9.60	16.80	9.60	2.40	2.00	.80	1.20	1.60	6.80	4.40	8.80	11.20	10.40	7.20	2.00	5.20	

Calm : .00 %

Total # Operational Hours : 250

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	30	24	42	24	6	5	2	3	4	17	11	22	28	26	18	5	13	250
<	60																	
<	80																	
<	120																	
<	240																	
>=	240																	
	Totals	24	42	24	6	5	2	3	4	17	11	22	28	26	18	5	13	

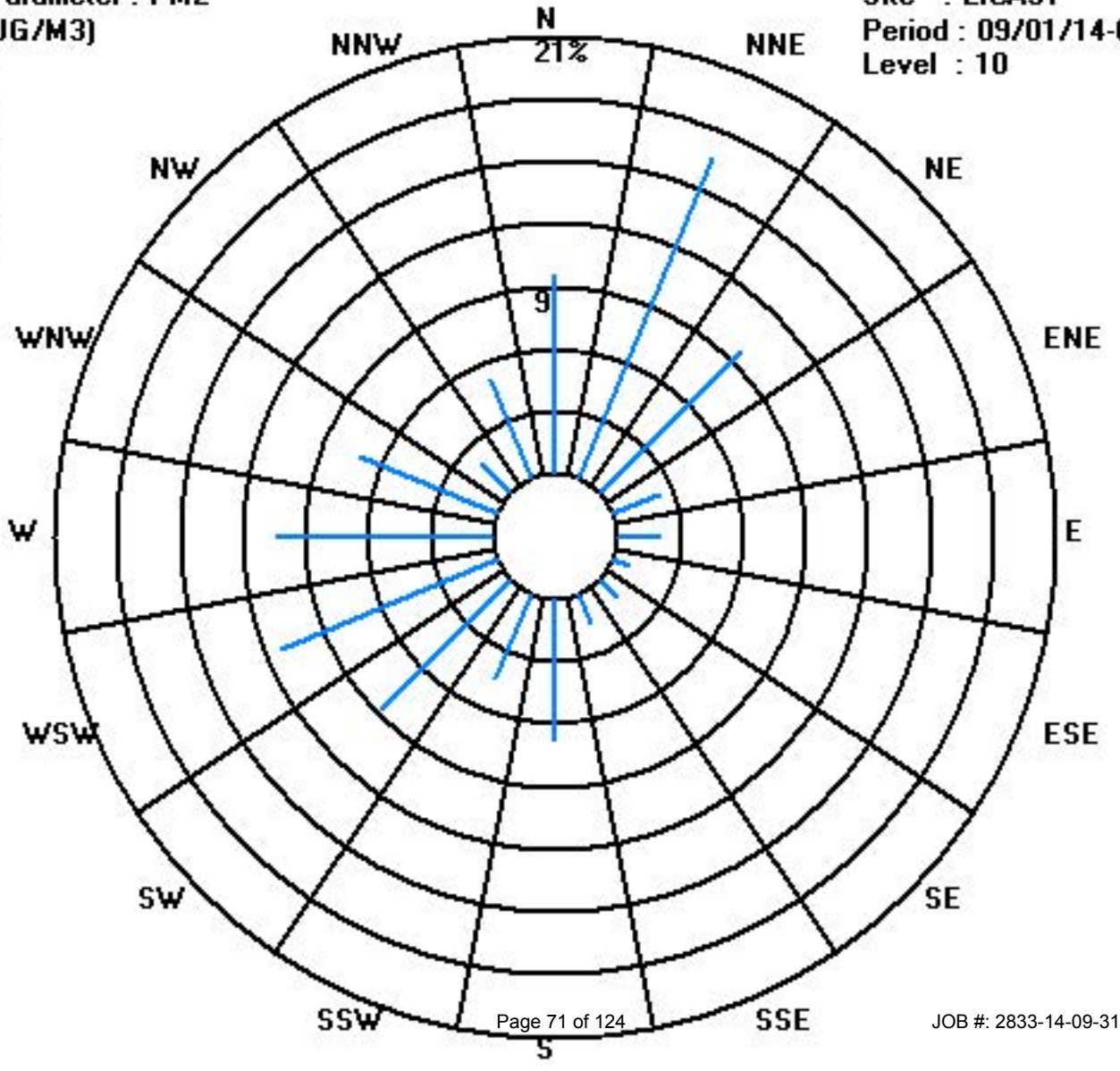
Calm : .00 %

Total # Operational Hours : 250

Logger : 31 Parameter : PM2
Class Limits (UG/M3)

>= 240
< 240
< 120
< 80
< 60
< 30

Site : LICA31
Period : 09/01/14-09/30/14
Level : 10



JOB #: 2833-14-09-31-C

Temperature

Lakeland Industry & Community Association - St. Lina Site

SEPTEMBER 2014

AMBIENT TEMPERATURE (TPX) hourly averages in Degrees Celsius

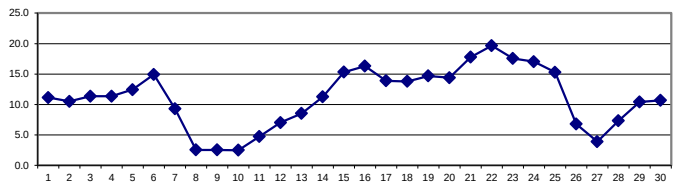
MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	7	6.4	6	6.3	6.2	5.7	8.2	10.9	13.5	14.4	15.2	17.2	16.1	15.5	15.7	14.8	14.5	14.4	12.2	10.4	9.2	9.3	9.2	9.1	17.2	11.1	24
2	8.7	6.7	7.2	7.2	5.6	5.4	7.2	8.6	10.5	13.1	15.9	15.7	14.6	15	17.5	12.9	13	12	11.3	9.7	8.7	9.2	8.7	7.9	17.5	10.5	24
3	7.9	7.4	7.2	6.8	6.6	6.1	7.1	9.2	12.7	15.3	16.7	17.2	15.9	14.8	15.4	15.9	17.9	16.8	12.9	10.3	8.9	8.4	7.7	7	17.9	11.3	24
4	6.4	6.3	5.9	5	4	3.7	5	8	11	12.6	14.9	16	18.9	20.1	19.7	19.2	17.7	16.3	12.9	11.2	9.9	9.3	9.2	8.8	20.1	11.3	24
5	8	7.5	7.4	6.6	5.8	5.8	7	10.3	12.9	13.6	14.7	16.1	16.9	17.9	18.4	18.4	17.7	16.6	15.1	14.1	13	12.1	11.6	11	18.4	12.4	24
6	10.4	9.7	9	8.3	7.4	7.4	8	9.5	10.8	12.9	15.8	17.8	19.7	22.3	23.8	24	24.1	22.9	20.5	17.1	14.5	14	14.7	13.5	24.1	14.9	24
7	13	12.7	11.6	11.9	11.1	9.9	10	10.6	13	12.3	11.9	12.1	11.7	12.2	11.4	10.3	8	6.7	6	4.6	3.8	3.2	2.8	2.2	13	9.3	24
8	1.9	1.8	1.8	1.2	0.8	0.4	0.3	0.9	1.5	2.1	3.2	4.2	5.2	6.7	5.7	5.2	4.9	4.8	3.7	2.2	0.9	0.5	0.6	0.6	6.7	2.5	24
9	0.9	0.6	0.5	0.5	0.5	0.5	0.6	1.2	2.5	3.8	4.3	4.8	5	4.8	5.2	5	4.9	4.2	2.7	1.9	1.7	1.7	1.7	1.5	5.2	2.5	24
10	1	0.2	0	0.2	0.1	-0.4	-0.9	1.9	5.4	6.8	5.5	5.2	4.6	4.9	5.2	6	5.1	4	3	1.5	1	0.7	0.1	-1.4	6.8	2.5	24
11	-1.4	-2.2	-2.4	-2.6	-2.7	***-3***	-2.1	0.1	3	5.9	8.4	9.7	10.5	11.6	12.4	12.9	12.8	10.9	8.5	6.2	5.5	4.4	3.5	3.2	12.9	4.7	24
12	3	2.2	1.5	1.2	1.2	1.1	1.8	2.7	4.5	6.8	7.9	11.3	13.2	12.3	11.8	13	13.5	13.1	10.8	9.5	8.7	7.4	5.3	4.8	13.5	7.0	24
13	4.1	4.5	4.4	3.9	4.2	3.1	3.5	6.1	8.7	10.7	13.1	13.1	13	13.2	14	14	13.4	11.8	9.9	8.8	8.3	6.9	6.2	5.8	14	8.5	24
14	5.2	5	4.6	4.2	3.5	3.1	3.3	7	10.4	12.2	15.5	16.7	17.9	19.4	18.1	19.6	19.1	15.8	14.3	13.1	12	10.5	9.8	9.8	19.6	11.3	24
15	9.5	9.2	9.8	9.4	7.9	7.4	8	12.7	15.8	18.5	20.6	21.5	22.1	22.8	23.1	22.8	22.5	20.3	15.8	13.8	13.8	13.9	13.7	12.7	23.1	15.3	24
16	11.7	10.3	10.3	9.9	8.7	8.2	9.5	13	15.1	18.2	21.7	22.9	24.3	25.4	26.7	26.5	25.1	23	18.8	16.3	14	12	10.7	9	26.7	16.3	24
17	7.6	7.2	7.2	6.9	6.8	6.9	7.2	7.8	8.8	10.6	13.9	16.3	18.9	21.4	22.9	22.9	22.9	21.2	19.9	17.6	16.4	15.3	13.9	12.7	22.9	13.9	24
18	11.8	11.4	11.1	10.9	10.5	10.3	10.9	12.8	15.1	15.8	16.2	16.8	16.7	16.7	17.4	17.2	17	16.6	14.6	12.6	12.8	12.3	11.4	12.2	17.4	13.8	24
19	12	10.6	9.5	8.7	9.4	8.9	9.1	12.1	13.8	15.1	17.6	20.8	20.5	20.9	21.1	20.8	20.2	19.3	17	15	13.8	13.3	11.8	11.3	21.1	14.7	24
20	11.3	11	10.9	10.4	10.2	9.4	9.8	11.8	13.9	16.3	17.8	18.5	19	20.1	20.6	20.7	20.2	18.5	14.7	14.1	13.1	11.7	10.9	10.8	20.7	14.4	24
21	10.4	9.5	8.8	7.9	8.1	7.3	7.6	11.8	14.3	18	22.1	24.7	26.4	27	27.6	26.4	26.3	24.8	22.4	21	20	18.8	18	17.1	27.6	17.8	24
22	16.2	14.9	13.8	12.5	11.7	10.9	10.4	13.1	15.8	18.8	21.6	23.2	24.9	28	29.7	***30.5***	29.4	25.9	23.1	21.5	20.6	19.5	19.7	16.3	***30.5***	***19.7***	24
23	16.7	15.4	14.9	15.3	15.6	15.1	14.3	15.5	17.3	19.9	20.6	20.3	20.6	22.4	22.4	22.5	20.6	18.8	16.8	16.5	15.8	15.5	14.8	13.9	22.5	17.6	24
24	13.1	13.2	13.1	13.2	12.9	10.1	9.3	11.7	15.2	18	19.4	20.4	21.3	22.2	23.1	22.7	22.3	21.8	20.2	18.5	17.8	16.9	16.6	15.4	23.1	17.0	24
25	14.1	13.4	12.6	12	10.8	9.7	10.1	11.4	14.9	17.3	19.1	20.4	22	22.8	22.2	21.9	20.4	17.8	15.2	14	12.9	11.5	10.5	9.6	22.8	15.3	24
26	8.7	8.2	8	7.5	7	6.8	6.6	6.4	6.4	6.4	6.4	6.8	7.3	7.3	7.1	7.3	7.4	7.3	6.9	6.2	5.7	5.4	5.2	4.7	8.7	6.8	24
27	3.7	2.7	2.4	2	1.7	1.7	1.7	1.7	2	2.8	3.8	4.4	5	5.9	6.1	6.2	5.8	5.6	5.1	4.8	4.7	4.6	4.6	4.7	6.2	3.9	24
28	4.8	4.7	4.7	4.3	3.5	2.4	2.3	3.8	4.9	5.4	6.8	8.9	10	11.3	12.1	12.5	12.5	11.6	9.9	8.8	8.3	7.9	7.3	6.8	12.5	7.3	24
29	6	5.2	4.9	4.6	4.2	4.2	4.4	5.3	8	10	11.8	13.5	14.3	14.9	16.2	17	15.8	14.4	13.5	13	12.6	12	12.3	11.8	17	10.4	24
30	11.5	11.1	10.5	9.9	9.9	9.5	9.3	9	8.8	9.3	10.3	11.3	12	13.6	14.3	14.1	13.3	12	10.9	10.3	9.7	9	8.5	7.7	14.3	10.7	24
HOURLY MAX	16.7	15.4	14.9	15.3	15.6	15.1	14.3	15.5	17.3	19.9	22.1	24.7	26.4	28	29.7	30.5	29.4	25.9	23.1	21.5	20.6	19.5	19.7	17.1			
HOURLY AVG	8.2	7.6	7.2	6.9	6.4	5.9	6.3	8.2	10.4	12.1	13.8	14.9	15.6	16.4	16.9	16.8	16.3	15.0	13.0	11.5	10.6	9.9	9.4	8.7			

STATUS FLAG CODES

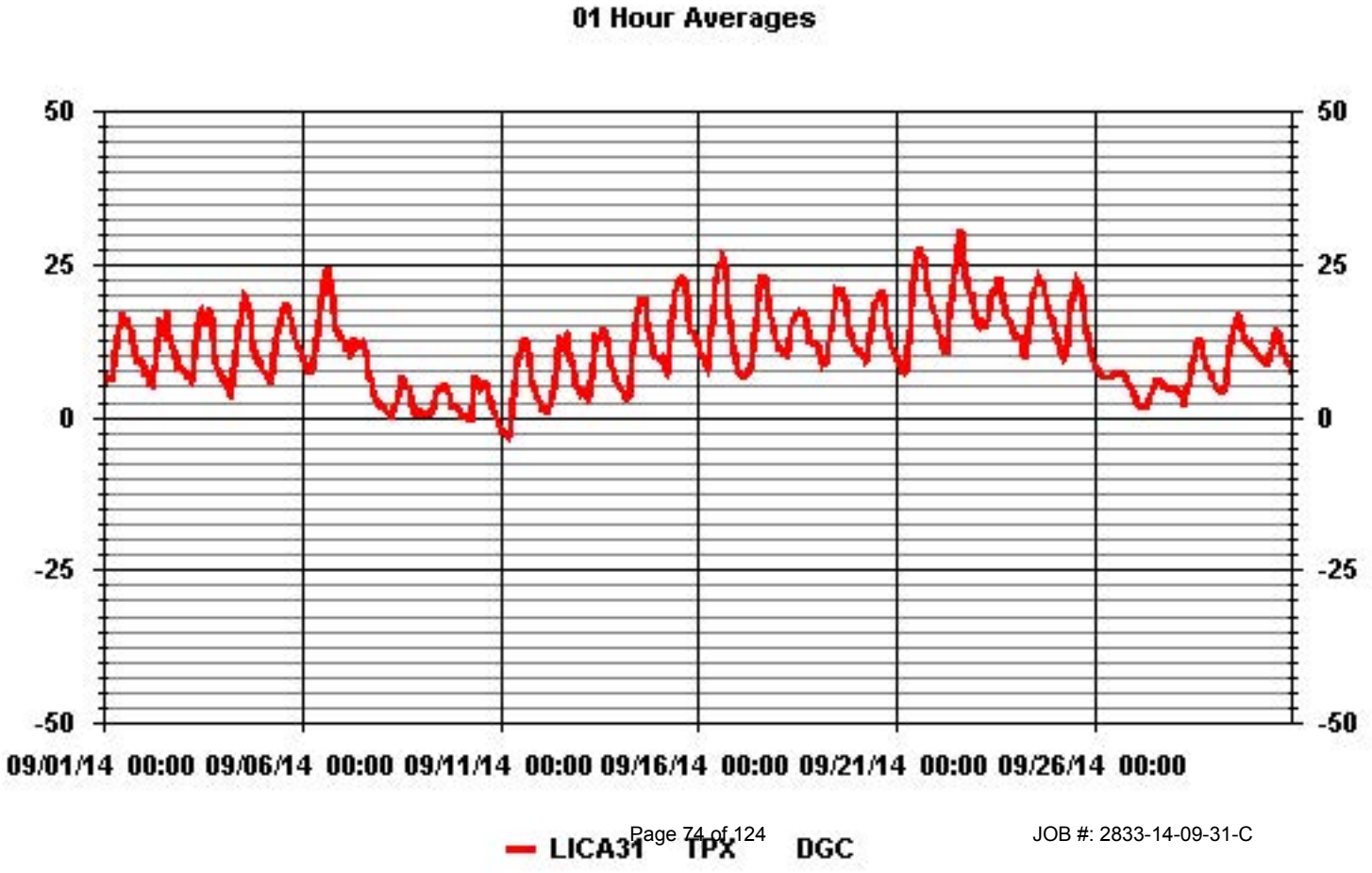
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

24 HOUR AVERAGES FOR SEPTEMBER 2014



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-3	°C	@ HOUR(S)	5	ON DAY(S)	11
MAXIMUM 1-HR AVERAGE:	30.5	°C	@ HOUR(S)	15	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:	19.7	°C			ON DAY(S)	22
					VAR-VARIOUS	
			OPERATIONAL TIME:		720	HRS
			AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	6.44		MONTHLY AVERAGE:		11.16	°C



JOB #: 2833-14-09-31-C

Barometric Pressure

Lakeland Industry & Community Association - St. Lina Site

SEPTEMBER 2014

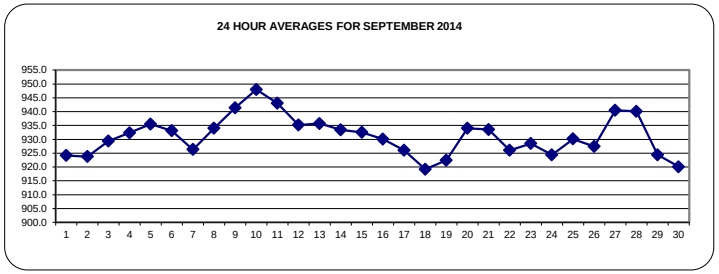
BAROMETRIC PRESSURE (BP) hourly averages in millibar

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	923	924	924	924	924	923	924	924	925	925	926	926	926	925	925	925	924	925	924	923	923	923	923	922	926	924.2	24
2	922	922	922	922	922	922	922	923	924	924	925	925	925	924	926	925	925	924	924	924	924	924	925	925	926	923.8	24
3	925	925	925	925	926	927	927	928	929	930	931	931	931	931	931	932	933	933	932	931	931	931	931	930	933	929.4	24
4	930	930	930	930	930	930	930	931	932	932	933	933	933	934	934	934	933	934	933	933	934	934	934	935	935	932.3	24
5	935	935	936	936	936	936	937	937	938	938	938	937	937	936	936	935	934	934	933	933	933	933	934	934	938	935.5	24
6	934	934	935	934	934	934	934	935	935	935	936	935	935	935	935	934	933	933	932	931	929	928	928	927	936	933.1	24
7	927	926	925	925	926	925	925	925	926	927	927	926	926	926	926	926	926	926	927	927	927	928	928	928	928	926.3	24
8	929	929	930	930	931	931	932	932	933	933	934	935	935	935	936	936	936	937	937	937	937	937	937	938	938	934.0	24
9	938	938	938	938	939	939	939	940	940	941	942	942	943	943	943	943	943	943	943	943	943	944	944	944	944	941.4	24
10	945	945	945	945	946	946	947	947	949	949	***950***	***950***	***950***	***950***	***950***	***950***	***950***	949	949	949	948	948	948	947	***950***	***948.0***	24
11	947	946	946	946	945	945	945	945	945	946	946	946	945	945	944	943	942	941	940	938	938	937	936	936	947	943.0	24
12	935	935	934	934	934	933	933	933	934	935	935	936	936	936	936	936	937	937	936	936	936	936	936	936	937	935.2	24
13	936	936	936	936	936	936	936	936	937	937	938	938	937	937	937	936	936	935	935	934	933	933	933	933	938	935.7	24
14	932	932	932	932	932	932	932	932	933	934	935	935	935	935	935	935	936	935	934	933	933	933	932	932	936	933.4	24
15	932	932	932	932	932	931	931	932	932	933	934	934	934	934	934	934	934	934	933	932	931	931	931	931	934	932.5	24
16	931	930	930	930	929	929	929	929	930	930	931	931	931	931	932	931	931	931	930	929	929	929	929	929	932	930.0	24
17	928	928	928	928	927	927	927	927	927	927	928	928	928	928	927	927	926	925	924	923	923	922	921	921	928	926.0	24
18	920	919	919	918	918	918	918	919	918	919	920	920	920	920	920	920	920	920	920	919	919	919	919	919	920	919.2	24
19	919	919	919	919	919	919	920	920	922	922	923	924	924	924	923	924	924	924	924	924	925	925	926	926	926	922.4	24
20	927	928	928	929	930	930	931	932	934	935	936	937	937	937	937	938	938	938	937	936	936	936	935	935	938	934.0	24
21	935	935	934	934	934	934	933	934	935	936	936	937	936	936	935	934	934	933	932	931	930	929	929	928	937	933.5	24
22	927	926	926	925	925	924	924	924	925	926	927	927	927	927	928	928	928	927	926	926	926	925	925	925	928	926.0	24
23	925	925	925	926	927	928	928	928	929	929	930	930	930	931	931	930	930	930	929	929	929	929	928	928	931	928.5	24
24	928	927	927	927	926	926	924	924	925	925	925	924	924	924	924	923	923	923	923	922	922	922	923	924	928	924.4	24
25	925	926	927	928	928	928	928	929	931	932	933	933	933	933	933	933	932	931	931	931	930	930	929	929	933	930.1	24
26	929	929	928	927	927	926	927	926	926	927	925	925	925	926	926	926	927	927	928	929	929	930	931	932	932	927.4	24
27	933	933	934	935	936	936	937	938	940	941	942	942	943	943	943	943	944	944	944	944	944	944	944	944	944	940.5	24
28	944	944	944	943	943	942	942	942	942	942	942	942	942	941	941	940	939	938	937	936	935	935	934	933	944	940.1	24
29	932	931	930	929	928	927	926	926	926	925	925	924	924	924	923	923	922	922	921	920	920	919	919	919	932	924.4	24
30	918	918	918	918	***917***	918	918	918	918	918	919	919	920	920	921	922	922	922	923	923	923	923	923	923	923	920.1	24
HOURLY MAX	947	946	946	946	946	946	947	947	949	949	950	950	950	950	950	950	950	949	949	949	948	948	948	947			
HOURLY AVG	930.4	930.2	930.2	930.2	930.2	930.1	930.2	930.5	931.3	931.8	932.4	932.4	932.4	932.4	932.4	932.2	932.1	931.8	931.4	930.9	930.7	930.6	930.5	930.4			

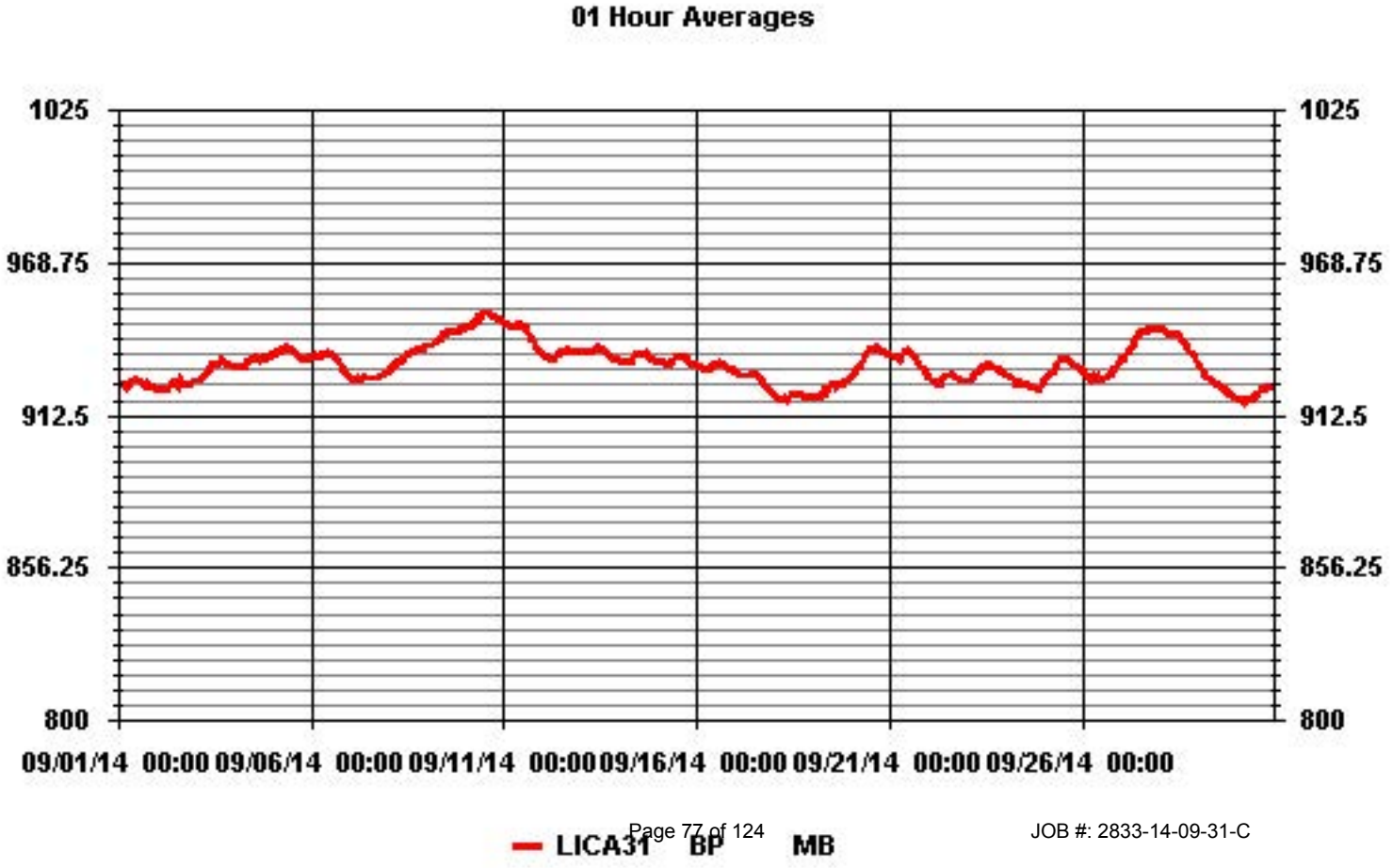
STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	950	MB	@ HOUR(S)	VAR	ON DAY(S)	10
MAXIMUM 24-HR AVERAGE:	948.0	MB			ON DAY(S)	10
				VAR-VARIOUS		
			OPERATIONAL TIME:		720	HRS
			AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	7.25		MONTHLY AVERAGE:		931.2	MB



JOB #: 2833-14-09-31-C

Relative Humidity

Lakeland Industry & Community Association - St. Lina Site

SEPTEMBER 2014

RELATIVE HUMIDITY (RH) hourly averages in %

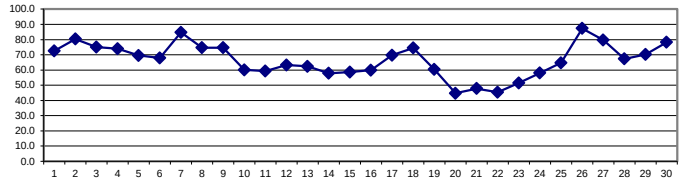
MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	88	89	90	87	86	87	77	71	67	62	59	52	54	54	57	61	60	60	69	78	83	83	83	84	90	72.5	24
2	84	89	90	89	90	90	89	86	83	74	64	63	70	67	56	71	71	78	85	87	89	89	87	89	90	80.4	24
3	89	90	91	91	91	90	91	87	74	63	56	51	56	64	64	58	48	53	65	81	86	86	87	89	91	75.0	24
4	90	90	91	90	90	90	91	87	80	76	69	64	53	45	44	46	51	53	68	78	83	83	82	83	91	74.0	24
5	86	88	89	89	90	90	88	78	71	66	60	56	54	51	51	49	53	54	61	60	66	72	73	74	90	69.5	24
6	76	78	82	83	88	89	89	85	82	73	64	58	53	47	42	41	39	43	51	67	79	79	70	71	89	67.9	24
7	70	71	76	75	83	88	87	85	78	79	85	85	88	87	88	89	89	90	90	90	90	90	90	90	90	84.7	24
8	89	89	89	87	87	87	87	85	82	80	75	67	62	54	55	57	58	57	63	70	76	79	80	78	89	74.7	24
9	77	79	78	78	77	77	78	77	71	65	62	62	65	70	72	71	71	75	80	83	83	81	80	81	83	74.7	24
10	80	81	82	82	83	83	82	69	57	49	49	48	50	45	42	40	41	48	53	56	51	52	55	65	83	60.1	24
11	72	84	83	81	79	80	77	73	69	60	44	45	43	38	36	33	33	37	45	55	59	62	66	69	84	59.3	24
12	71	73	76	78	80	82	79	77	73	66	65	55	48	48	52	46	45	42	48	54	57	61	69	72	82	63.2	24
13	75	76	77	79	81	86	83	75	69	62	52	50	48	44	42	40	41	50	57	57	59	63	65	66	86	62.4	24
14	67	68	71	72	74	76	77	67	63	59	51	44	40	36	38	35	38	48	51	53	57	64	69	70	77	57.8	24
15	72	73	73	75	82	84	81	65	57	50	44	41	39	37	37	37	39	46	60	66	63	61	60	65	84	58.6	24
16	68	74	75	76	81	83	78	67	64	55	44	39	35	32	29	29	35	41	53	60	73	79	82	84	84	59.8	24
17	86	89	89	90	90	90	90	89	86	80	69	62	55	47	43	42	44	50	51	58	62	65	71	76	90	69.8	24
18	80	81	83	83	85	87	84	77	66	61	61	64	64	68	62	62	63	65	74	83	82	83	86	83	87	74.5	24
19	83	88	90	91	91	91	***92***	83	79	75	63	43	42	39	33	34	36	31	35	41	44	44	49	51	***92***	60.3	24
20	52	54	55	58	59	63	61	55	48	42	37	33	31	28	25	25	25	30	41	43	47	52	54	55	63	44.7	24
21	58	62	67	71	70	74	73	63	59	52	42	35	29	26	24	26	26	30	36	39	43	46	48	49	74	47.8	24
22	51	56	60	65	68	71	73	65	59	52	46	42	39	30	24	***20***	21	27	30	32	34	38	37	48	73	45.3	24
23	46	51	59	61	61	65	71	69	62	51	48	49	42	38	37	35	37	44	50	49	51	51	52	56	71	51.5	24
24	59	60	61	59	60	71	75	68	60	56	54	52	49	47	45	45	47	49	55	60	63	67	66	67	75	58.1	24
25	71	74	77	79	84	88	87	83	72	64	54	44	41	38	39	41	47	52	61	66	68	71	75	77	88	64.7	24
26	78	78	79	81	87	88	89	90	90	90	91	90	90	88	89	89	88	89	90	89	89	89	89	86	91	***87.3***	24
27	86	87	86	86	86	86	87	84	84	83	79	77	75	71	70	70	73	72	75	79	80	82	80	74	87	79.7	24
28	72	73	73	77	79	81	80	75	72	70	66	61	59	57	55	54	54	57	62	65	67	68	69	70	81	67.3	24
29	73	75	77	78	81	81	82	79	72	68	65	61	60	60	58	56	60	65	68	70	72	74	74	76	82	70.2	24
30	77	78	81	84	84	85	86	86	89	90	89	85	78	68	63	63	64	68	71	73	76	78	80	82	90	78.3	24
HOURLY MAX	90	90	91	91	91	91	92	90	90	90	91	90	90	88	89	89	89	90	90	90	90	90	90	90			
HOURLY AVG	74.2	76.6	78.3	79.2	80.9	82.8	82.1	76.7	71.3	65.8	60.2	55.9	53.7	50.8	49.1	48.8	49.9	53.5	59.9	64.7	67.7	69.7	70.9	72.7			

STATUS FLAG CODES

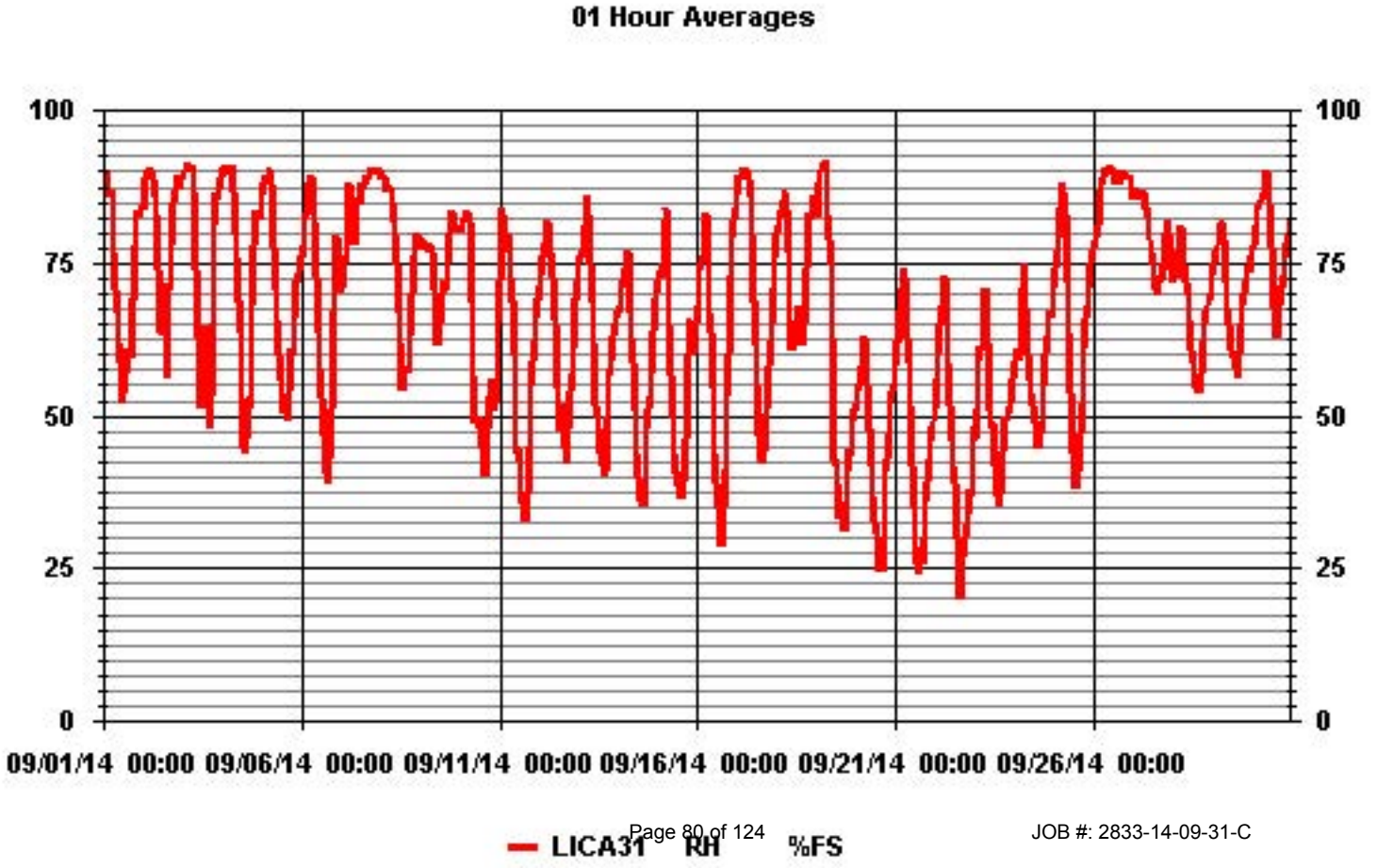
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

24 HOUR AVERAGES FOR SEPTEMBER 2014



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	92	%	@ HOUR(S)	6	ON DAY(S)	19
MAXIMUM 24-HR AVERAGE:	87.3	%			ON DAY(S)	26
					VAR-VARIOUS	
			OPERATIONAL TIME:		720	HRS
			AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	17.36		MONTHLY AVERAGE:		66.48	%



JOB #: 2833-14-09-31-C

Precipitation

Lakeland Industry & Community Association - St. Lina Site

SEPTEMBER 2014

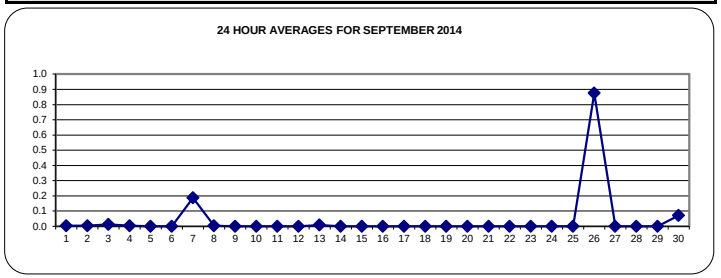
PRECIPITATION hourly averages in millimeter

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	*0*	*0*	0.1	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	0.1	0.0	24
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*	*0*	0.1	0.0	24
3	*0*	0.1	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	0.1	0.1	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	0.1	0.0	24
4	*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	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	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	24
7	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	1	0.5	0.9	*0*	0.2	0.3	0.1	0.1	0.4	0.2	0.2	0.3	0.2	0.1	1	0.2	24
8	*0*	0.1	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	0.1	0.0	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	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	24
11	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	**Y**	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	0.0	23
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	24
13	*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*	0.2	0.0	24
14	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	0.0	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	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	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	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	24
19	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	0.0	24
20	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	0.0	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	24
22	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	0.0	24
23	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	0.0	24
24	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	0.0	24
25	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	0.0	24
26	*0*	*0*	*0*	0.1	0.8	0.9	2.6	0.2	3	***4.9***	3.2	3	1.6	*0*	0.1	0.5	*0*	*0*	0.1	*0*	*0*	*0*	*0*	*0*	***4.9***	***0.9***	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	24
28	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	0.0	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	24
30	*0*	*0*	*0*	*0*	*0*	*0*	*0*	0.3	0.4	0.9	0.1	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	0.9	0.1	24
HOURLY MAX	0	0.1	0.1	0.1	0.8	0.9	2.6	0.3	3	4.9	3.2	3	1.6	0.1	0.2	0.5	0.1	0.1	0.4	0.2	0.2	0.3	0.2	0.1			
HOURLY AVG	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

STATUS FLAG CODES

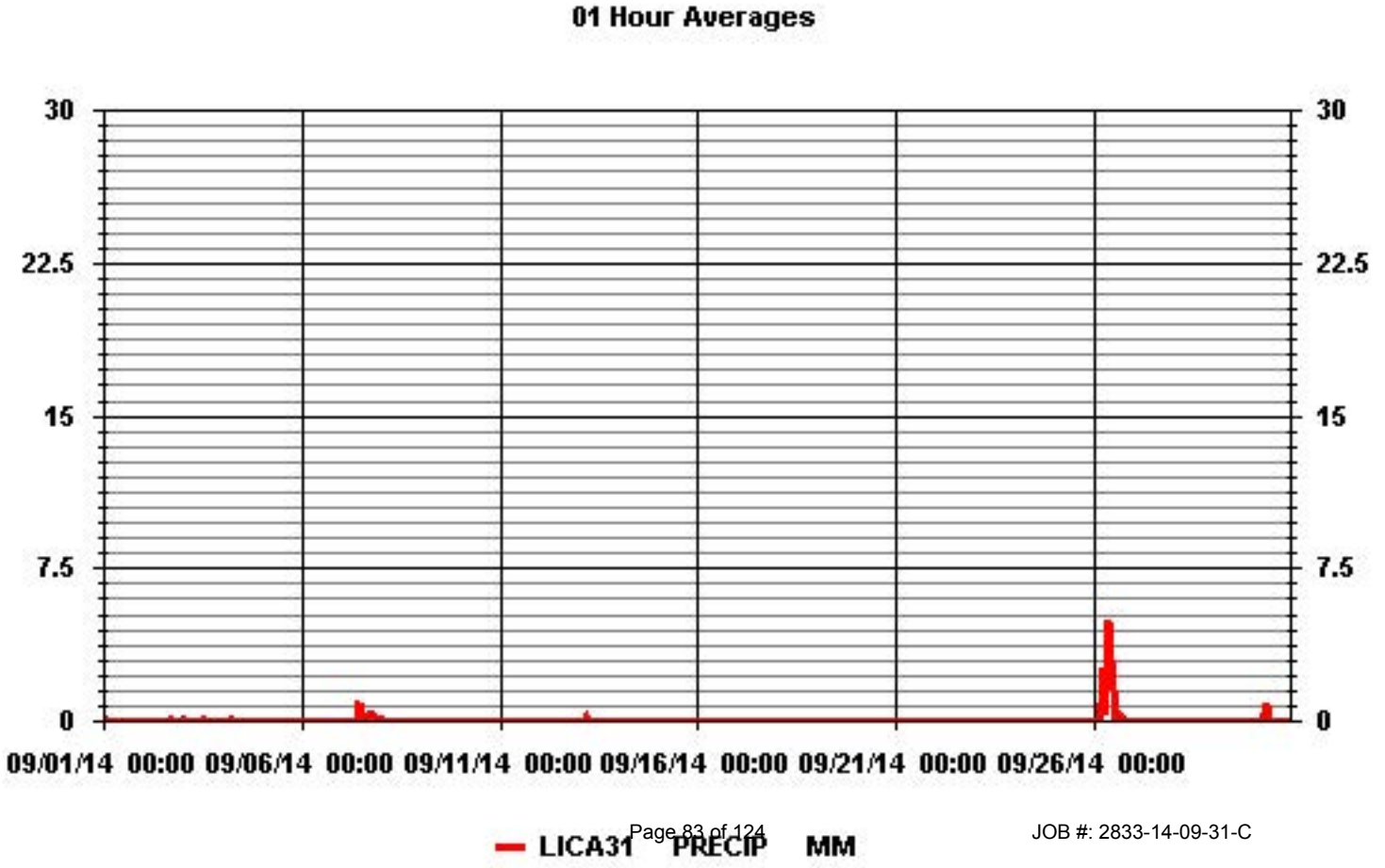
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	4.9	MM	@ HOUR(S)	9	ON DAY(S)	26
MAXIMUM 24-HR AVERAGE:	0.9	MM			ON DAY(S)	26
					VAR-VARIOUS	
			OPERATIONAL TIME:		719	HRS
			AMD OPERATION UPTIME:		99.9	%
STANDARD DEVIATION:	0.30		MONTHLY AVERAGE:		0.04	MM

JOB #: 2833-14-09-31-C



JOB #: 2833-14-09-31-C

Vector Wind Speed

Lakeland Industry & Community Association - St. Lina Site

SEPTEMBER 2014

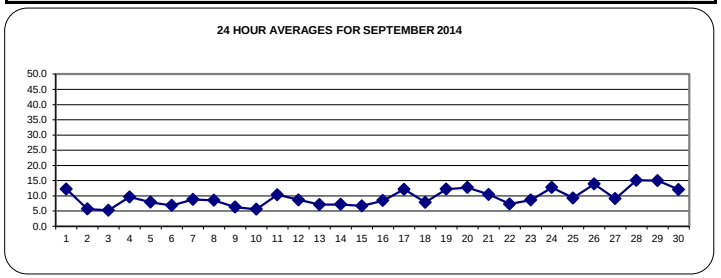
WIND SPEED (WS) hourly averages in km/hr

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	10.3	9.1	11.1	13.1	12.4	12	10.8	9.8	9.1	10	12.1	11.9	15.4	21.1	19	20.7	19.4	16.6	10.4	8.8	7.8	7.7	7.9	8.1	21.1	12.3	24
2	7	8	8.4	7.1	6.7	5.7	6.6	4.7	3	4.7	5.6	7.1	5.5	4.7	6	8.6	4.9	1.3	2.1	5.2	5.2	5.1	6.9	5.9	8.6	5.7	24
3	5.9	5.6	6.7	6	6	4.1	5.3	5.1	5.9	5.8	4.6	5.7	5.5	6.1	3	1.4	1.5	3.7	4.8	5.8	6.3	7.2	6.5	6.9	7.2	5.2	24
4	6.1	6.7	7.2	6.2	6.5	6.5	6.2	6.7	6.6	8.3	11	12.3	11.6	14.4	15.6	13.4	7.6	12.3	11.9	10.6	10.8	11.2	11.3	10.8	15.6	9.7	24
5	8.7	10.8	10.5	8.8	7.5	8.1	7.3	4.4	2.7	2.6	5.6	7.6	7.9	7.1	4.8	9.1	9.6	8.6	8.6	10.6	9	8.9	10.3	11.1	11.1	7.9	24
6	11	9.9	8.6	6.1	4.5	2.9	2	3.3	6.3	7.2	7.3	5.5	6.2	6.7	10.6	9.6	9	5.3	2.4	6.7	8.3	8.1	8.6	8.3	11.0	6.9	24
7	8.6	8.2	8.3	8.5	9.4	9.9	10.9	7.5	6	8.5	6.6	1.6	3.5	5.3	5.3	7.9	10.2	10.9	11.3	11.3	13.1	13.4	13.2	13.3	13.4	8.9	24
8	11.5	10.4	10.2	11.6	10.8	9.1	9.4	9.1	10.1	8.7	7.5	8.7	10.7	11.3	9.2	8.6	6.6	6.6	5.1	5.4	5.5	5.6	5.7	7.5	11.6	8.5	24
9	7	6.2	6.3	6.7	7	6.2	6.5	6.1	6.4	7.3	7.3	7.6	5.6	6	7.1	6.7	5.6	6.2	6.2	5.5	5.8	5.8	5.2	4.7	7.6	6.3	24
10	6.2	7.2	7	5.8	4.7	3.8	3.8	5	6.7	7.5	5.8	5.3	6.5	4.8	5.8	5.5	5.7	4.3	5.2	6.9	3.3	6.1	6.4	5.3	7.5	5.6	24
11	5.7	6.6	6.3	7.2	8.4	8.4	6.7	6.2	6.6	9.4	15.3	13.2	14	14.1	16.3	17.7	17	14.3	9.7	8	8.9	9	9.8	9.9	17.7	10.4	24
12	8.7	10	10.2	9.3	8	8.9	7.9	7	6	6.8	7.7	9.5	8.7	10.6	9.5	9.7	10	13.5	10	7.7	8	7	7	7.1	13.5	8.7	24
13	8.1	8.2	8.8	6.4	3.1	5.5	9.5	8.3	6.6	8.5	6.8	5.8	4.9	8.3	9.5	5.9	5.5	2.1	6.8	8.2	8.7	7.9	8.4	8.7	9.5	7.1	24
14	8.9	8.1	8.3	7.5	7.5	7	7.5	6	5.7	6.2	5.5	6.1	9.7	13.2	8.1	10.5	5.8	2.9	3.4	6.4	7.8	6.3	6.8	7.4	13.2	7.2	24
15	6.8	8.5	8.4	7.2	6.4	6.1	6.4	7	9.1	5.4	3.4	5	7.1	5.6	5.3	5.8	5	4.3	6.6	7.5	9.1	7.7	8.1	9.5	9.5	6.7	24
16	9.1	9.7	10.5	9.1	7.9	7.5	7.3	7	5.7	6.8	9.2	8.3	6.5	4.6	4.4	4.6	3.3	5.6	7.6	9.2	13.5	14.6	15.4	15.6	15.6	8.5	24
17	16.1	17.6	16.4	14.5	13.7	11.2	10.3	10.2	11.1	10.4	8.7	9.6	9.1	10.5	11.6	12.4	11.6	10.4	12.3	12.4	13.3	14	12	12.6	17.6	12.2	24
18	12.6	11.1	7.1	6.3	7.1	8.1	7.4	7.3	9.2	10.7	6.4	7	4.2	6.1	7.4	9.1	9.3	8.3	6.6	7.3	8.1	7	6.8	8.1	12.6	7.9	24
19	6.2	5.3	5.5	8	9.4	10.6	9.9	12.6	8.9	9.7	10.8	12.9	16	18.8	26.3	18.1	14.8	17.4	10.8	9.3	12	11.9	13.6	14.4	26.3	12.2	24
20	15.2	15.5	14.5	14.5	14.5	13	13.1	14.5	15.7	14.7	15	17.5	15.7	15	15.9	14.6	14.3	10.4	6.2	5.7	6.7	6.9	7.4	8.9	17.5	12.7	24
21	8.2	7.5	7.9	8.6	8.3	7.7	6.9	7	7.3	7.6	8.2	9.6	12.6	13.4	14	11.9	13.4	12.4	10.7	11.9	15.4	13.9	13	14.3	15.4	10.5	24
22	14.6	12.2	13.1	12.4	10.5	10.3	9.2	8	6.3	5	5.2	4.5	4.3	4.4	4.3	5.6	5.5	3.6	5.8	6.9	8.4	5	3.1	8.4	14.6	7.4	24
23	7.3	10	13.8	13.2	11.7	10	10.6	11.5	12.4	9.4	8.2	9.6	11.2	6	8.1	8.7	6.5	4.5	4.8	2	7.4	7.2	5.2	8.5	13.8	8.7	24
24	8.8	9.1	9.9	10.1	10.5	10.1	14.4	13.6	14.4	16.4	15.1	16.3	16.7	15.6	13.2	14.4	12.4	10.5	9.5	10.8	11.8	10.7	14.5	16.7	16.7	12.7	24
25	9.5	9.9	9.8	10.2	8.3	6.2	7.5	7.6	5.8	3.9	4.9	1.5	3.9	4.5	6.4	9.4	11.6	8.8	7.5	12.5	16.5	17.1	18.5	21.9	21.9	9.3	24
26	20.5	20.3	25.1	***29.8***	21.2	25.4	15.1	19.1	8.4	8.7	16.8	11.9	7.6	5.2	5.8	3.5	1.5	8.6	13.1	14.3	13.2	11.6	13.9	13.5	***29.8***	13.9	24
27	13.6	13.9	12.7	13.4	12.6	14	12.5	11.5	9.6	7.9	10.7	9.1	8.7	8	8.3	8	6.9	4.3	4.7	4.1	4.7	5.4	6.4	6.7	14.0	9.1	24
28	7.3	7.4	9.2	9.8	9.6	11.9	13.5	13.1	16	18.9	21.6	17.7	18.8	17.1	18.1	19.4	19.9	17.3	14.2	16	17.2	17	16.1	16.2	21.6	***15.1***	24
29	14.6	15.3	14.4	15.9	14.2	15.1	16.1	15.7	15.8	19.3	23.2	27.1	25.2	24	21.2	19.6	14.4	10.5	4.7	4	6.7	10.1	6.2	7.8	27.1	15.0	24
30	8.8	7.5	8.4	8.1	10.6	3.6	5.6	9.7	13	13.4	13	14.1	16.8	16.7	14.3	13.9	16	16.2	15.8	16.3	14.2	11.7	11.1	10.1	16.8	12.0	24
HOURLY MAX	20.5	20.3	25.1	29.8	21.2	25.4	16.1	19.1	16.0	19.3	23.2	27.1	25.2	24.0	26.3	20.7	19.9	17.4	15.8	16.3	17.2	17.1	18.5	21.9			
HOURLY AVG	9.8	9.9	10.2	10.0	9.3	9.0	8.9	8.8	8.5	9.0	9.6	9.7	10.0	10.3	10.5	10.5	9.5	8.7	8.0	8.6	9.6	9.4	9.5	10.3			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

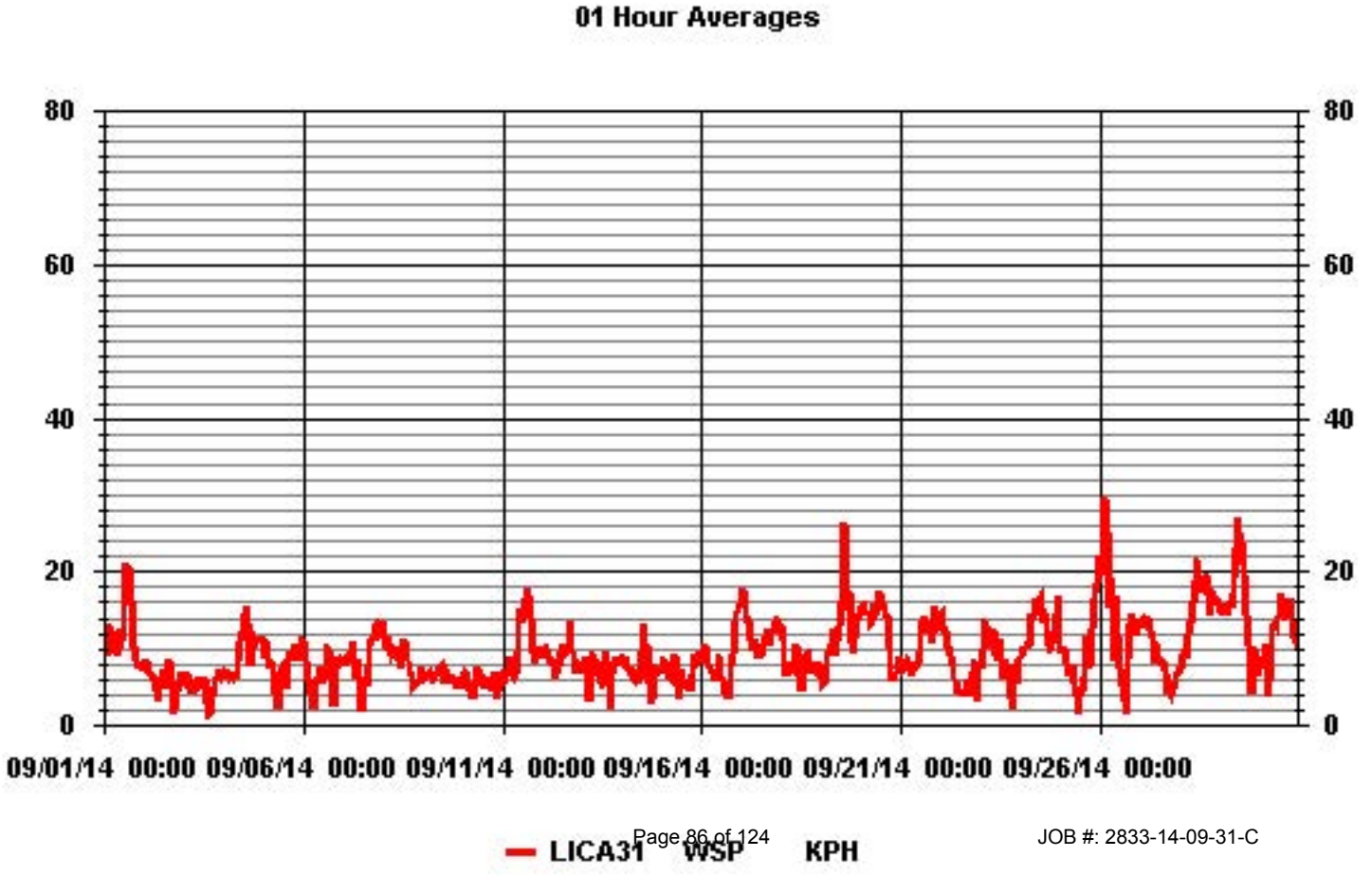


LAST CALIBRATION:	August 12, 2014
DECLINATION :	MAGNETIC DECLINATION 13 DEGREE EAST

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	720					
MAXIMUM 1-HR AVERAGE:	29.8	KPH	@ HOUR(S)	3	ON DAY(S)	26
MAXIMUM 24-HR AVERAGE:	15.1	KPH			ON DAY(S)	28
					VAR-VARIOUS	
			OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	4.31		MONTHLY AVERAGE:	9.47	KPH	

JOB #: 2833-14-09-31-C



JOB #: 2833-14-09-31-C

Lakeland Industry & Community Association - St. Lina Site

SEPTEMBER 2014

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST

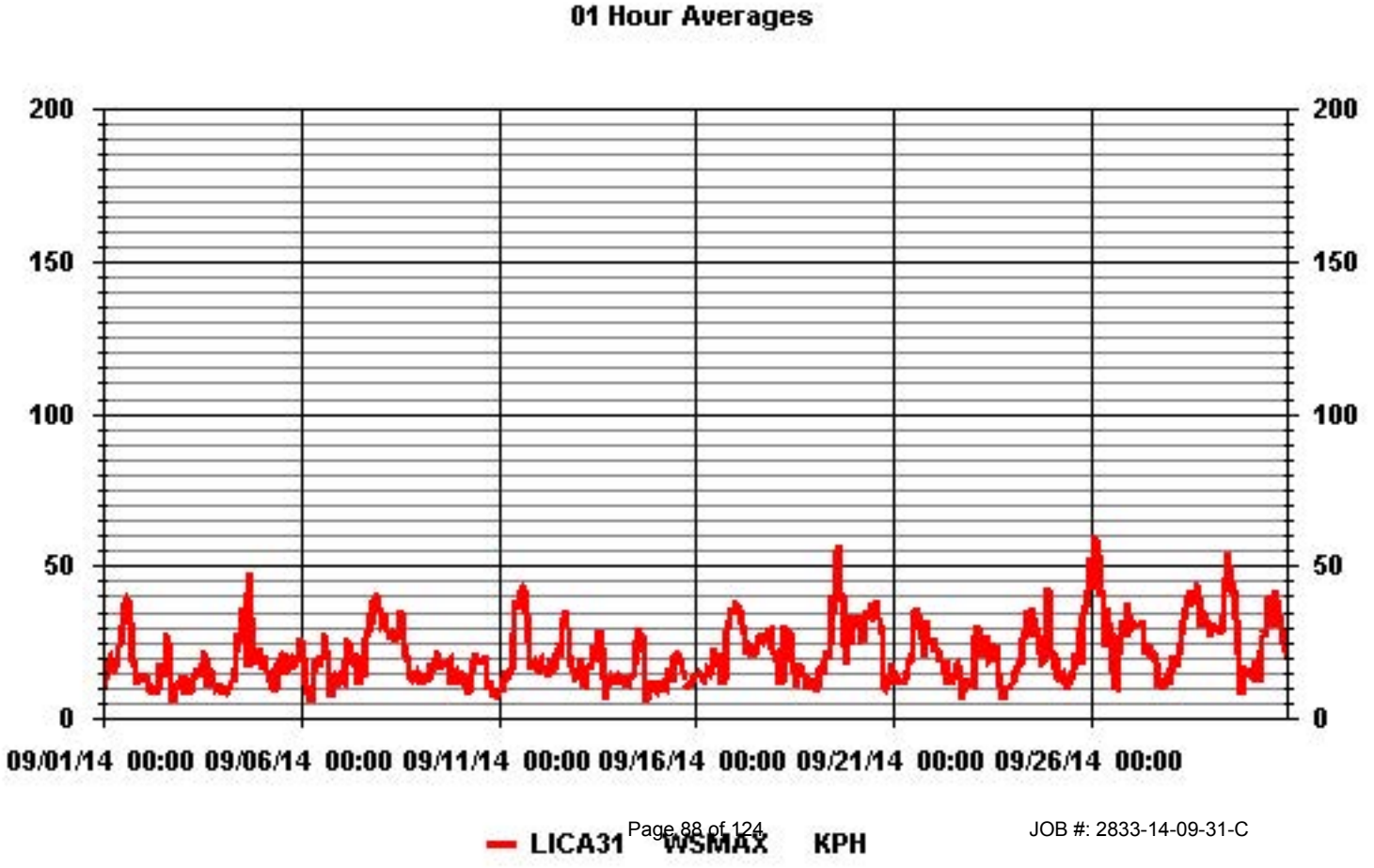
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	13.4	12.5	15.9	18.9	19.8	17.1	16.3	17.3	19.4	23.7	24.2	30.2	31.2	37.7	39.1	37.7	37.6	31.8	19.2	17.6	10.6	13.7	14	13.4	39	22.2	24
2	13.2	14.3	14.2	12.3	9.4	8.9	9.5	10.1	7.4	9.4	17.4	17.1	15.9	15.5	27.6	25.7	16.2	8.6	5.5	9.1	11.5	9.6	11.6	10.4	28	12.9	24
3	9.5	9.2	13.8	10	9.9	9.4	10.2	12.7	14.3	16.4	13.5	16.1	15.1	21.8	20.6	11.3	11.3	16	13.4	12.1	9.9	10.5	9.9	11.8	22	12.9	24
4	8.7	8.9	9.5	8.7	9.8	10	12	14.8	14.3	21.2	28.2	25.2	29.6	36	34.9	41	16.6	47.6	34.1	21.2	20.1	17.6	21.5	22.9	48	21.4	24
5	15.6	18	20.2	15.9	14.1	14.7	12.2	10.6	9.8	10	17.9	19.5	20.4	18.4	13.8	21.2	15.4	18.6	19.5	17.3	17.6	20.1	18.3	23	23	16.8	24
6	26.1	19.2	20.8	11.5	8.5	7.2	5.6	7.7	18.8	17.9	19.8	17.1	19.8	20.5	28.2	22.5	21.4	15.8	6.8	12.7	14.4	10.3	14.5	14.2	28	15.9	24
7	14.8	13.1	12.5	19.2	26.1	24.8	24	18.7	18	20.1	21.8	12.1	10.9	15.5	13.6	26	27.1	28.4	34.9	31	38.4	39.3	41.3	36.2	41	23.7	24
8	35.5	30.7	31.4	34.4	28.9	27.7	28.3	25.9	28.5	25.2	27.1	26.2	30.6	35.4	29	24.3	20.7	19.2	16.3	13.4	12.4	12.9	13.5	15.2	36	24.7	24
9	14.3	11.5	13.1	14.4	14.1	12.2	16.1	15.3	18.2	19.5	21.4	21.3	16.9	16.9	17.2	19.1	17.2	18.5	19.2	12.4	12.1	15.1	15.6	10.7	21	15.9	24
10	15.7	14	15.6	12.9	10.7	9.1	8.1	13.6	15.2	18.7	20.8	18.8	18.5	19.4	19	17.3	20.9	11.8	9.5	12.5	6.7	10	8.7	7.5	21	14.0	24
11	8.1	9	9.2	12.3	12.3	15.4	12.6	14.1	16.2	27.9	38.6	36.6	36.5	38.4	41.6	43.2	42.7	34.5	25.9	15.7	17.8	17	18.5	17.1	43	23.4	24
12	16.3	18.4	19.5	17.9	16.4	15.6	13.2	15	19.6	15.8	16.3	21.5	22.6	24.8	20.2	32.8	30.5	35.7	30.5	18.8	19.3	16.2	13.1	13.3	36	20.1	24
13	15.3	14.8	19.3	14.5	11.3	10.9	16.9	17.2	16.2	21	23.7	19.8	20	28	28.3	23.8	13.2	6.3	10.7	12.2	13.4	11.4	13.2	13.8	28	16.5	24
14	14.7	13.9	12.2	12.1	13.6	10.3	12.5	11.7	13.5	13.9	14.9	17.6	25.7	29.6	21.4	27.8	23.3	8.5	5.6	9.1	11.3	11.5	10.7	9.8	30	14.8	24
15	9.2	11.7	12	11.4	8.7	11.1	10.2	13	16.5	14.8	11.9	20.1	21.3	21.3	18.9	18.8	16.3	13.4	**P**	10.8	11.5	11.2	12	13.4	21	13.9	23
16	14.4	14.7	15.8	15.2	13.1	12.6	13.8	15.9	15	16.9	22	23	18.2	18.8	21.2	16	11.5	12.4	13.1	29.1	31.6	34.1	36.4	34.2	36	19.5	24
17	37.8	37.7	37.3	36.2	31.2	27.9	23.1	21	23.8	23.1	19.7	23.6	20.6	23.8	26.3	25.8	28.1	26.2	27.3	27	29.3	29.7	23.5	22	38	27.2	24
18	20.6	21.2	14.8	10.7	13.6	12	30.3	25	24.8	28.9	18.9	15.9	11.6	11.7	17.1	17.2	14.6	14.7	10.4	10.6	12.9	12.2	9	12.7	30	16.3	24
19	10.8	9	10.4	16.2	17.2	14.3	16.5	21	21	19.1	23.9	40.2	33.9	48.7	55.1	56.6	38.3	41.1	23.7	17.5	28.1	33.9	24.2	29.6	57	27.1	24
20	31.6	33.4	33.1	31.2	33.7	25.7	26.1	35.8	33.6	34.3	33.7	37.9	35.4	39	37.2	33.4	31	28	10.3	9.6	10.8	11.3	13.7	17.9	39	27.8	24
21	16.3	12.8	12.2	12.7	12.9	12.5	12.2	13.2	15.5	18.6	18.8	21.5	28.9	35.2	36.4	34	31.5	26.9	20	26.7	32.3	29.3	**P**	25.6	36	22.0	23
22	25.7	21.9	22.9	22.6	18.7	19.8	16.8	17.4	17.9	11.9	11.8	11.9	13.4	13.4	17.2	18	14.4	5.6	8.7	10.5	11.8	11.3	11.8	12.3	26	15.3	24
23	11.8	27.2	29.8	29.8	27.8	22.2	20.5	26.4	26.5	24.5	19.2	19.9	24.4	18	21.3	23.9	15.4	10.7	7.3	7.3	9.2	9.6	10.1	11.1	30	18.9	24
24	11.3	12.1	15.6	16.8	18	17.2	26.1	29	26.1	35.5	34.7	35.1	35.3	33.3	26.9	30	28.1	21.6	18.4	18.9	20.4	28.8	42.5	38.9	43	25.9	24
25	20.8	20.9	16.3	17.2	13.4	11.8	13.3	14.2	11.5	9.4	13.6	10.7	12.4	15.6	20.6	**P**	29	21.2	17.2	33.8	36.4	36.7	42.4	53	53	21.4	23
26	42.6	46.6	***59.3***	59	47.7	54.3	39.8	42.4	23.1	25.9	36.3	32	28.8	15.6	14.4	10.4	10.2	20.5	27	31.7	29.5	26.5	37.5	31.3	***59***	***33.0***	24
27	33.2	32.5	30.1	30.4	30.6	30.8	31.2	31.3	25.2	21.5	22.7	24.4	21.1	20.2	21.2	20.7	19	10.1	11.3	9.6	12	9.9	13.6	13.1	33	21.9	24
28	16.5	15.2	19.7	19.8	16.5	20.5	24.7	27.8	32.4	35.9	40.5	36.5	42	38.5	39	40.1	44	40.2	30.6	30.6	32.9	35.3	30.8	32.4	44	30.9	24
29	26.2	29.8	29.7	31.4	29	30.6	28.5	28.6	34.1	41.6	45.9	54.3	51.1	45	40.7	42.4	33.3	21.6	10.7	7.4	9.5	17.2	13.4	15.8	54	29.9	24
30	14.4	13.9	15.9	14	18.6	16.6	11.7	22.6	27.4	29	27	29.5	39.3	40.6	36.4	29.5	42.3	39.7	34.2	33.2	29.5	25	21.8	22.6	42	26.4	24
HOURLY MAX	43	47	59	59	48	54	40	42	34	42	46	54	51	49	55	57	44	48	35	34	38	39	43	53			
HOURLY AVG	18.8	18.9	20.1	19.7	18.5	17.8	18.1	19.6	20.1	21.7	23.5	24.5	25.0	26.6	26.8	27.3	24.0	21.8	18.0	17.6	18.8	19.2	19.6	20.2			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS VALUE:	59	KPH	@ HOUR(S)	2	ON DAY(S)	26
				VAR-VARIOUS		
OPERATIONAL TIME:					717	HRS



JOB #: 2833-14-09-31-C

LICA31
WSP / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 31
Site Name : LICA31
Parameter : WSP
Units : KPH

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	2.50	2.63	1.25	.69	.13	.13	.27	.55	.55	2.08	1.25	.97	1.94	1.11	1.25	1.94	19.30
<	12.0	3.19	5.00	2.91	1.11	1.25	1.94	1.94	2.63	5.55	6.80	5.41	5.00	6.66	4.44	1.25	.97	56.11
<	20.0	.00	.69	.69	1.38	.27	.27	1.11	4.72	1.52	1.38	.41	1.66	3.19	3.33	1.52	.13	22.36
<	29.0	.00	.00	.55	.27	.00	.00	.00	.27	.55	.00	.00	.27	.13	.00	.00	.00	2.08
<	39.0	.00	.00	.13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.13
>=	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	5.69	8.33	5.55	3.47	1.66	2.36	3.33	8.19	8.19	10.27	7.08	7.91	11.94	8.88	4.02	3.05	

Calm : .00 %

Total # Operational Hours : 720

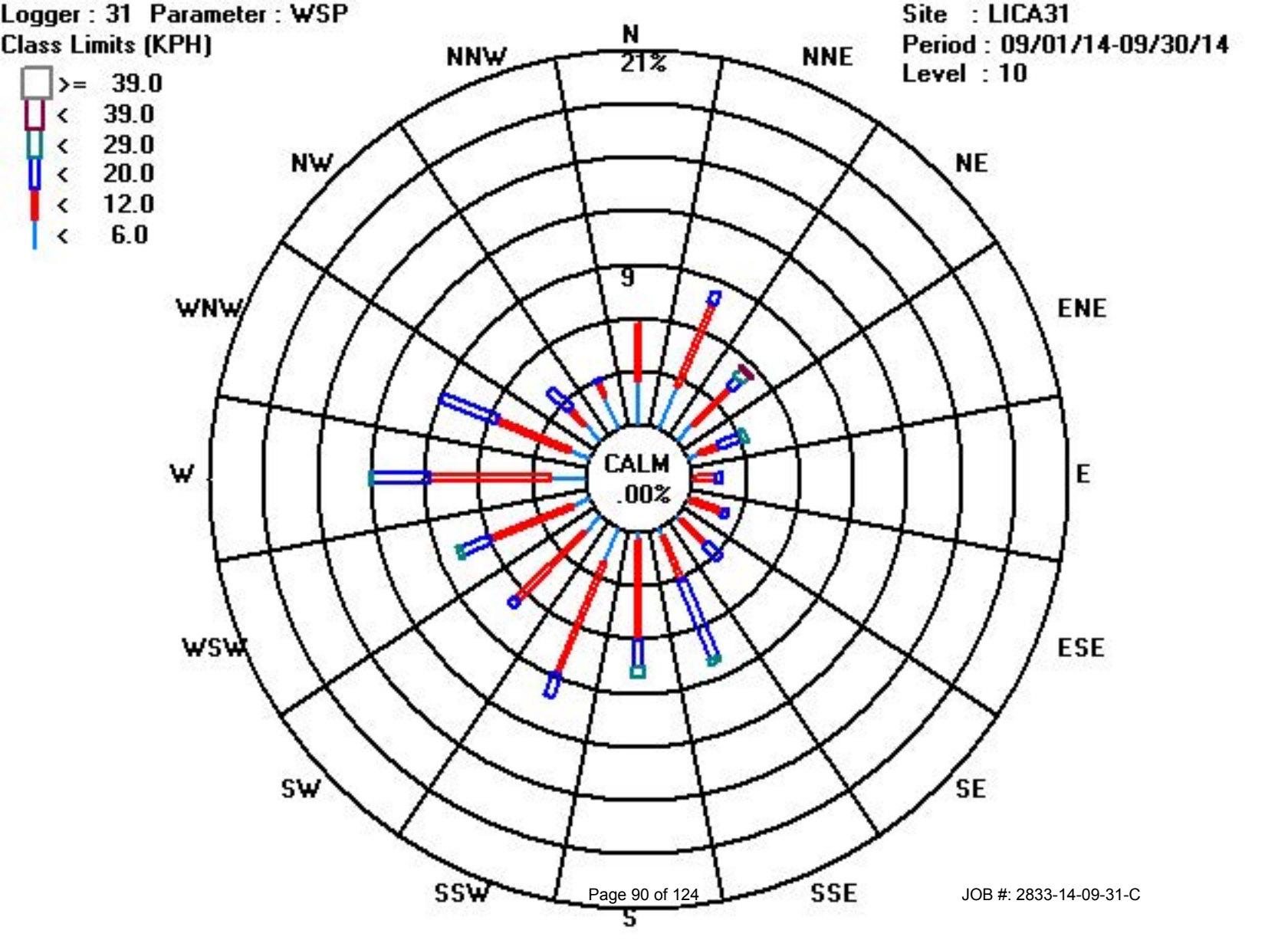
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	18	19	9	5	1	1	2	4	4	15	9	7	14	8	9	14	139
<	12.0	23	36	21	8	9	14	14	19	40	49	39	36	48	32	9	7	404
<	20.0		5	5	10	2	2	8	34	11	10	3	12	23	24	11	1	161
<	29.0			4	2				2	4			2	1				15
<	39.0			1														1
>=	39.0																	
	Totals	41	60	40	25	12	17	24	59	59	74	51	57	86	64	29	22	

Calm : .00 %

Total # Operational Hours : 720



JOB #: 2833-14-09-31-C

Vector Wind Direction

Lakeland Industry & Community Association - St. Lina Site

SEPTEMBER 2014

WIND DIRECTION (WD) hourly averages in degrees

MST

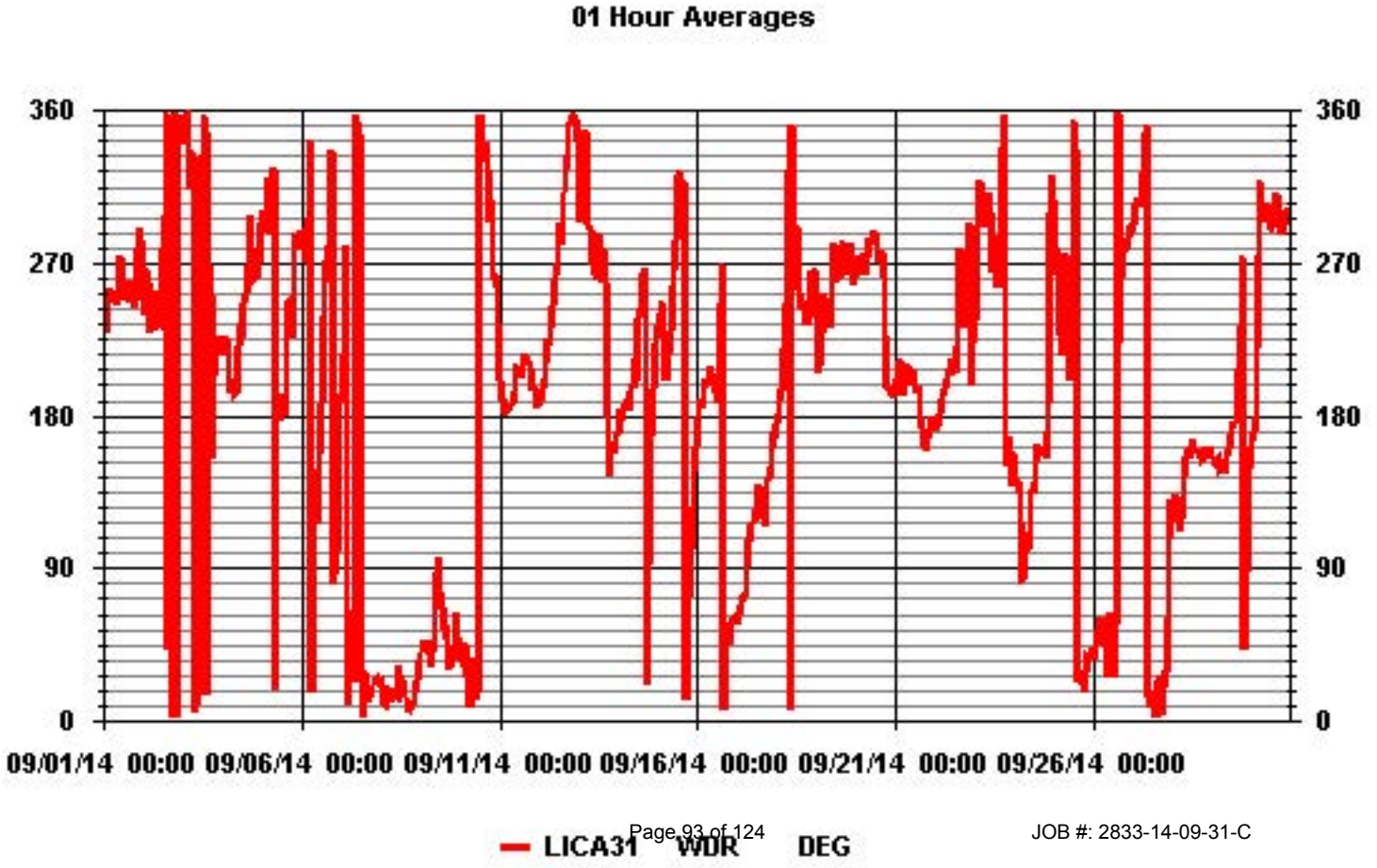
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUANDRANT	RDGS.
DAY																											
1	246	228	242	253	253	246	254	250	245	275	265	272	261	250	250	247	251	253	260	244	248	278	291	285	291	WNW	24
2	262	239	267	259	228	236	230	254	234	240	236	235	279	298	359	41	55	107	1	359	2	357	354	340	359	N	24
3	346	356	357	342	338	313	335	5	9	32	32	331	333	357	15	347	270	252	155	203	220	225	222	226	357	N	24
4	216	222	226	218	195	195	200	200	192	193	221	234	226	246	251	253	269	298	280	268	261	262	270	294	298	WNW	24
5	301	288	292	320	298	286	303	326	18	188	176	189	184	192	180	235	247	249	225	250	280	287	278	289	326	NW	24
6	283	288	289	270	297	342	17	149	135	116	129	158	187	238	258	271	278	278	336	80	87	100	165	190	342	NNW	24
7	189	189	217	280	9	44	65	46	23	357	354	347	128	1	29	17	11	16	14	21	23	23	25	23	357	N	24
8	24	12	11	18	20	15	14	17	18	16	15	32	28	25	18	15	9	10	8	10	12	17	24	36	36	NE	24
9	40	46	46	46	48	41	31	40	47	65	88	97	77	68	54	57	49	30	32	41	40	44	63	51	97	E	24
10	38	36	40	46	27	20	8	29	37	26	12	16	358	351	330	336	341	326	294	307	260	264	257	235	358	N	24
11	202	189	191	184	183	184	184	186	192	191	210	206	204	202	209	215	215	213	211	208	197	196	189	185	215	SSW	24
12	192	189	196	201	211	223	223	231	245	260	263	270	293	280	288	312	331	330	352	354	356	359	355	343	359	N	24
13	294	301	301	332	349	294	293	290	270	263	272	260	287	266	259	278	260	180	144	147	165	157	164	169	349	NNW	24
14	170	181	180	183	187	186	183	194	198	196	214	201	237	243	264	248	267	21	92	125	168	196	222	232	267	W	24
15	226	240	247	233	209	200	209	216	230	256	265	283	322	325	312	313	319	12	38	73	101	126	147	162	325	NW	24
16	179	190	184	189	196	202	198	203	209	205	202	194	187	203	246	270	6	57	47	45	57	59	60	58	270	W	24
17	58	63	68	71	73	76	90	106	115	117	122	121	130	140	125	128	121	115	142	143	149	160	170	167	170	SSE	24
18	175	181	188	195	219	223	246	325	6	351	345	293	291	256	253	245	244	244	233	247	265	251	238	267	351	N	24
19	252	205	209	228	252	250	247	242	231	241	262	282	259	263	261	277	283	278	278	276	263	281	257	262	283	W	24
20	265	271	270	274	276	263	269	273	282	282	287	287	282	273	271	276	276	262	228	197	195	195	194	190	287	WNW	24
21	195	202	212	214	192	199	199	211	198	204	207	204	197	193	197	180	173	162	159	170	167	175	179	175	214	SSW	24
22	172	172	174	181	190	192	196	201	205	205	213	210	209	221	236	279	265	263	232	243	262	293	197	222	293	WNW	24
23	236	246	301	319	315	298	291	297	309	309	301	264	267	286	255	259	309	338	358	150	154	168	138	158	358	N	24
24	157	143	142	135	119	85	86	103	101	111	135	135	141	153	163	160	161	160	158	155	171	187	300	321	321	NW	24
25	309	280	267	268	229	215	267	276	251	200	207	257	354	338	23	28	26	22	16	29	39	38	40	43	354	N	24
26	39	36	46	53	61	58	47	44	25	61	63	49	26	59	56	359	222	261	276	280	280	285	292	288	359	N	24
27	293	306	303	308	303	319	323	346	351	14	18	8	10	18	2	23	26	4	12	19	29	61	107	130	351	N	24
28	122	121	134	125	112	119	128	144	155	159	155	162	166	160	160	159	156	158	154	155	157	160	160	162	166	SSE	24
29	156	153	152	154	150	152	147	147	154	156	160	169	173	176	177	189	207	233	275	42	71	88	148	161	275	W	24
30	165	171	179	219	274	319	304	295	295	305	300	292	291	294	306	311	304	296	287	298	300	301	301	294	319	NW	24

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

LAST CALIBRATION:	August 12, 2014
DECLINATION :	MAGNETIC DECLINATION 13 DEGREE EAST

MONTHLY CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS
STANDARD DEVIATION:	98.54		AMD OPERATION UPTIME:	100.0	%
			MONTHLY AVERAGE:	237	DEG



JOB #: 2833-14-09-31-C

Standard Deviation Wind Direction

Lakeland Industry & Community Association - St. Lina Site

SEPTEMBER 2014

STANDARD DEVIATION WIND DIRECTION (STDWD) hourly averages in degrees

MST

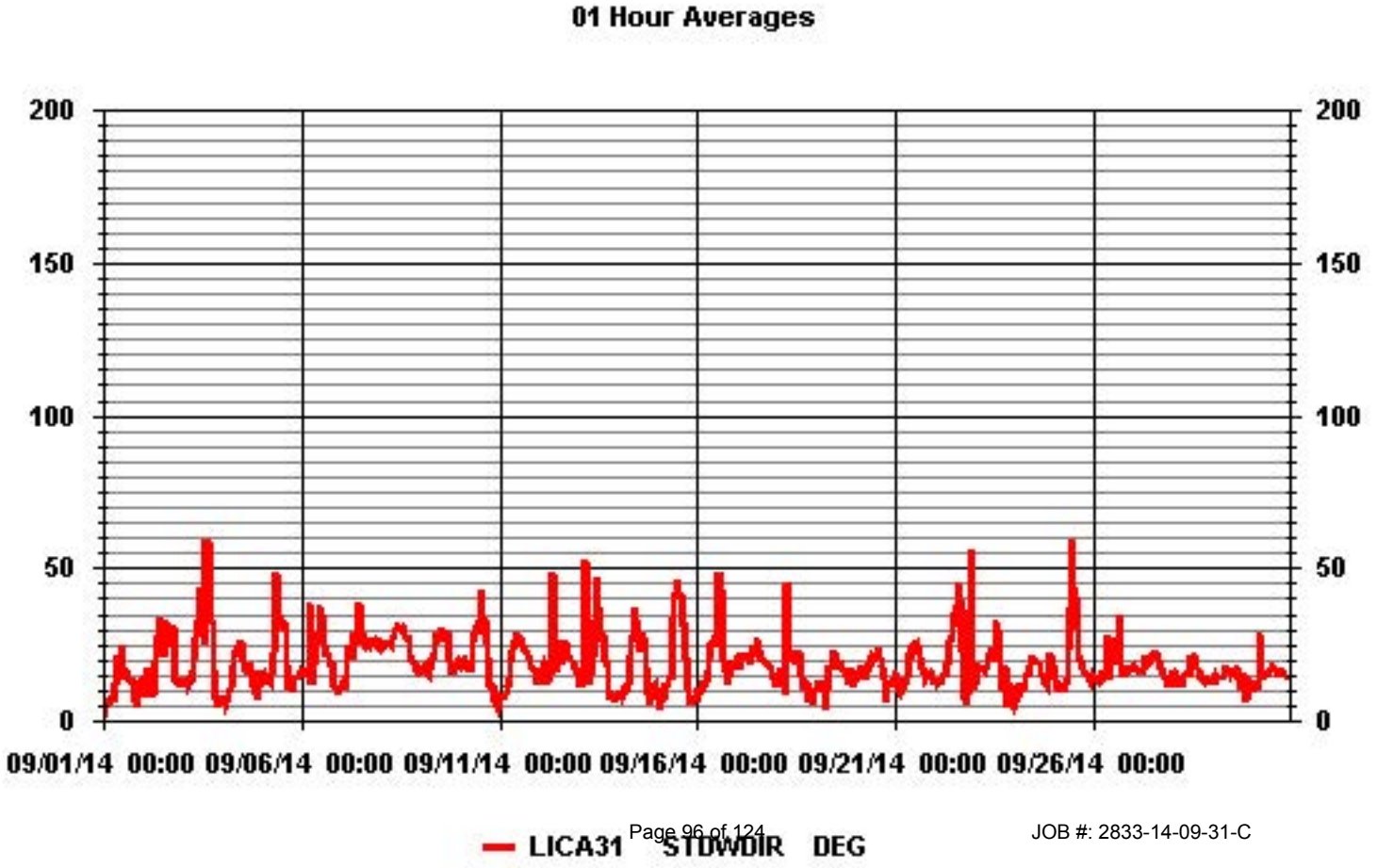
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00
DAY																								
1	2	5	5	6	6	7	7	12	20	20	19	25	17	13	17	14	14	13	13	7	4	12	12	13
2	11	8	9	17	14	12	8	20	28	23	34	25	21	26	33	24	27	29	31	13	15	13	11	14
3	11	12	13	11	12	14	13	20	27	33	44	31	33	25	59	34	59	33	32	17	8	5	6	7
4	7	7	5	6	9	11	18	22	22	24	23	21	26	20	17	16	16	19	17	12	9	7	11	16
5	12	13	15	14	14	13	15	22	49	48	35	31	31	33	30	19	11	11	11	9	14	14	14	16
6	15	15	16	16	14	39	12	22	18	25	29	38	35	28	25	22	22	18	20	12	11	9	9	11
7	12	11	11	15	25	22	21	21	29	25	26	39	27	26	25	27	26	25	26	26	24	26	25	26
8	26	24	25	25	25	26	25	27	28	30	31	31	30	31	30	28	27	27	22	20	19	19	17	16
9	17	17	17	18	16	15	17	20	22	25	28	28	29	30	27	27	29	29	20	16	16	18	19	17
10	19	18	19	17	19	18	16	18	26	29	31	33	28	43	32	34	26	21	12	11	11	7	5	4
11	6	8	8	8	9	11	14	19	23	25	25	29	27	27	25	23	23	22	21	18	17	17	13	13
12	16	13	17	19	18	12	13	15	49	19	16	22	26	19	19	24	26	20	22	20	19	20	16	16
13	12	12	15	15	53	14	12	15	22	22	33	47	38	27	27	29	20	18	7	9	8	7	7	8
14	8	10	8	9	11	9	12	21	28	26	37	34	28	22	29	28	25	18	9	5	7	11	12	10
15	10	4	6	10	7	12	11	14	14	34	42	43	46	41	41	32	32	21	11	8	5	8	7	7
16	10	10	9	12	12	13	16	20	25	26	24	28	37	49	48	44	20	17	12	14	20	19	19	20
17	18	18	19	21	21	21	21	19	19	21	25	24	27	24	20	20	19	19	19	18	19	16	14	12
18	12	15	17	13	14	8	44	45	22	21	23	18	23	21	23	15	11	11	13	6	8	9	5	10
19	10	12	12	11	13	6	4	10	18	17	22	22	19	20	17	20	18	17	15	13	12	17	11	13
20	14	16	17	17	17	14	14	16	19	21	20	21	21	23	23	21	18	14	6	11	12	12	13	13
21	16	14	10	9	10	13	13	14	21	21	24	25	24	25	23	21	18	16	14	15	15	16	15	13
22	13	12	13	13	13	15	15	19	18	26	28	31	35	38	45	40	23	9	8	5	8	36	56	10
23	12	14	18	18	17	17	16	17	19	22	24	21	19	33	30	23	19	11	9	18	5	5	12	7
24	5	6	10	12	10	11	11	15	15	18	21	20	20	19	19	19	16	15	13	12	11	13	22	15
25	16	14	11	10	10	12	9	12	14	23	37	59	44	41	31	22	20	18	17	16	15	14	13	15
26	14	14	14	13	14	13	16	14	28	27	13	21	24	27	19	19	35	14	16	17	16	17	17	17
27	18	17	17	17	16	16	17	20	20	20	18	22	20	22	22	21	20	18	16	15	14	11	12	12
28	16	13	15	14	12	12	12	15	16	15	15	21	19	22	19	18	17	14	14	13	14	14	13	13
29	13	13	15	14	14	14	14	15	17	17	16	15	16	16	17	17	14	10	13	16	6	7	14	13
30	10	10	13	10	12	29	14	14	15	15	16	17	18	18	17	15	15	16	16	16	15	14	14	14

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

LAST CALIBRATION: August 12, 2014

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 720 HRS



JOB #: 2833-14-09-31-C

Calibration Reports

Sulphur Dioxide

API 100E SO2 Analyzer Calibration

Date:	2-Sep-14	**Start/End Time (mst):**	10:05/13:10
Company:	LICA	**Calibration Purpose:**	Monthly Calibration
Station Name/Location:	St.Lina	**Converter Make & Model:**	NA
Performed by:	Kevin Hope	**Converter Serial #:**	NA
Application $H_2S/TRS/SO_2$:	SO2	**Cal Gas Expiry Date:**	4-Feb-18

Analyzer:

Serial Number:	468	**Range ppb:**	1000
Last Calibration Date:	14-Aug-14	**As Found C.F.**	0.976
Previous Cal High Point C.F.:	1.000	**New C.F.:**	1.001

	As found:	**As left:**
SLOPE:	0.984	0.958
OFFSET:	150.9	155.1
HVPS:	544	544
RCELL TEMP:	50.0	50.0
BOX TEMP:	34.1	34.1
PMT TEMP:	7.9	7.9
IZS TEMP:	40.0	40.0
TEST:	NA	NA
STABIL:	0.1	0.1
PRES:	23.7	23.7
SAMP FL:	570	570
PMT:	138.4	138.4
NORM PMT:	154.7	154.7
UV LAMP:	1756	1756
LAMP RATIO:	99.1	99.1
STR. LGT	74.3	74.3
DRK PMT:	18.6	18.6
DRK LMP:	3.6	3.6
Internal Span:	256	256

Calibrator:

Flow Meter ID's:	NA
Make & Model:	Environics 6100
Serial #:	4760
Cal Gas Cylinder I.D. # :	BLM000711
Cal Gas Conc. (ppm):	48.2

Calibrator Flow Targets:

point	diluent (cc/min)	cal gas (cc/min)	total (cc/min)
zero	4995	0	4995
high	4916	78	4994
mid	4957	38	4995
low			

Calibration:

Calibrator Flow Rates (cc/min)				**Calculated Concentration:**	**Indicated Concentration:**	**Correction Factors:**
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	4995	0.0	4995	0	2.0	NA
adjusted zero	4995	0.0	4995	0	0.1	NA
as found high	4916	77.61	4994	749.1	768.0	0.976
adjusted high	4916	77.61	4994	749.1	749.6	1.000
mid	4957	37.81	4995	364.9	365.0	1.000
low	4975	18.90	4994	182.4	182.0	1.003
calibrator zero	4995	0.00	4995	0	0.0	NA
					Average C.F.=	1.001

Linear Regression/Calibration Results:

		LIMITS	**Pass/Fail ?**
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**0.999**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**0.02%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**2.45%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

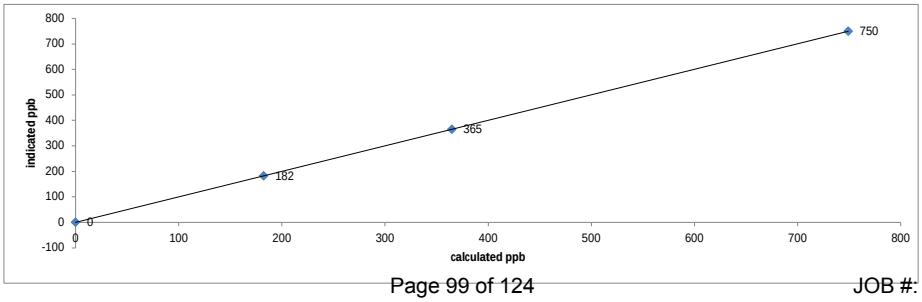
****run converter effeciency test immediately following zero adjust****

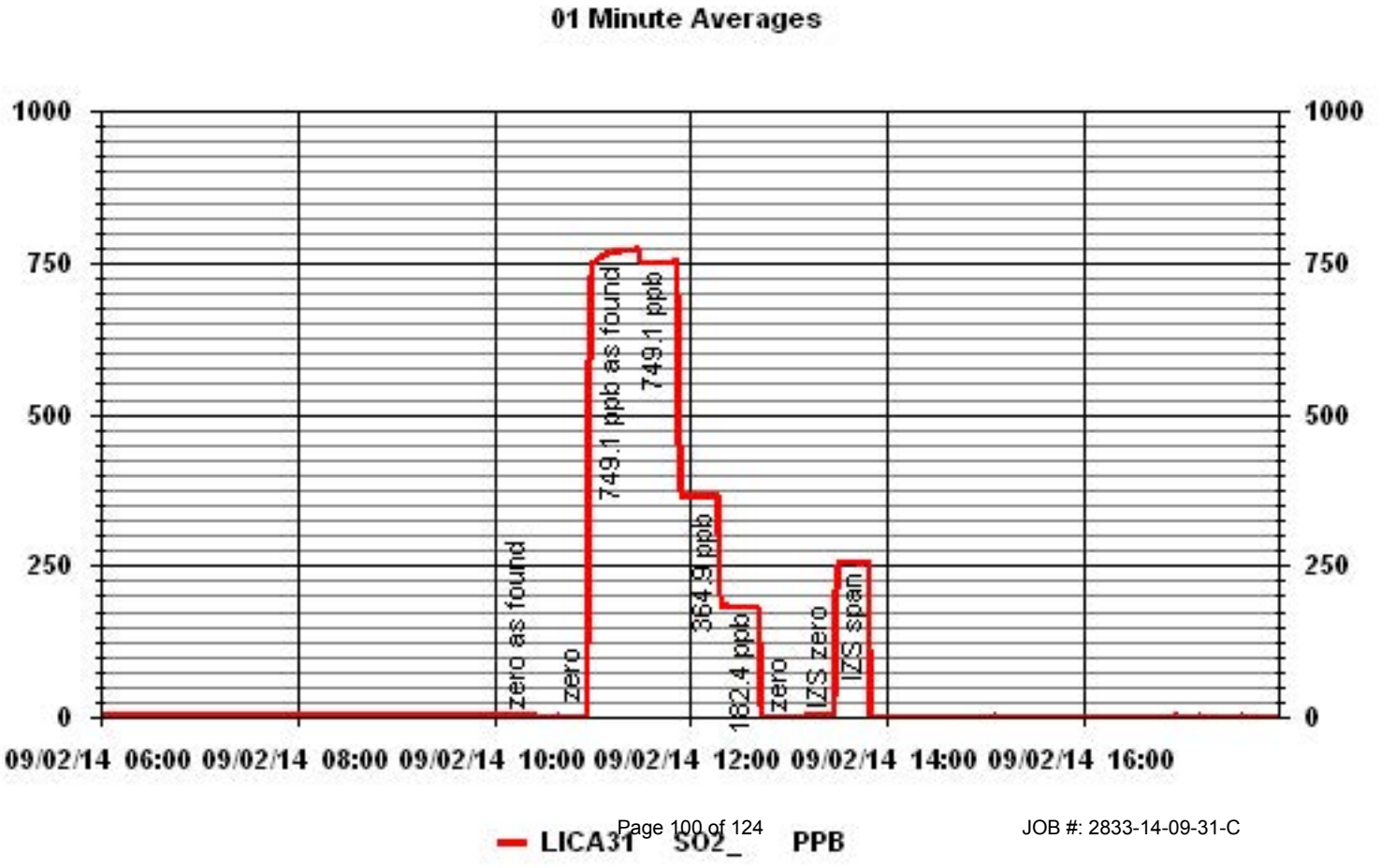
SO_2 High Point gas concentration:	NA	Time gas run (mst):	NA
Zero corrrected analyzer response:	NA		

Comments:

Sample filter changed.

API 100E SO2 Analyzer Calibration





JOB #: 2833-14-09-31-C

Hydrogen Sulphide

API 101E H2S Analyzer Calibration

Date:	2-Sep-14	**Start/End Time (mst):**	10:02/13:10
Company:	LICA	**Calibration Purpose:**	Monthly Calibration
Station Name/Location:	St.Lina	**Converter Make & Model:**	Internal
Performed by:	Kevin Hope	**Converter Serial #:**	NA
Application H_2S/TRS/SO_2:	H2S	**Cal Gas Expiry Date:**	December 25, 2015

Analyzer:

Serial Number:	510	**Range ppb:**	100
Last Calibration Date:	15-Aug-14	**As Found C.F.**	0.986
Previous Cal High Point C.F.:	0.999	**New C.F.:**	1.015

	As found:	As left:
SLOPE:	1.019	1.017
OFFSET:	117.8	121.6
HVPS:	542	542
RCELL TEMP:	50.0	50.0
BOX TEMP:	37.3	37.3
PMT TEMP:	8.4	8.4
IZS TEMP:	45.0	45.0
TEST:	314.4	314.4
STABIL:	0.1	0.1
PRES:	21.5	21.5
SAMP FL:	564	564
PMT:	118.9	118.9
NORM PMT:	122.2	122.2
UV LAMP:	1234	1234
LAMP RATIO:	80.6	80.6
STR. LGT	60.0	60.0
DRK PMT:	41.4	41.4
DRK LMP:	-5.2	-5.2
Internal Span:	42.71	42.71

Calibrator:

Flow Meter ID's:	NA
Make & Model:	API 700
Serial #:	4760
Cal Gas Cylinder I.D. # :	BLM005049
Cal Gas Conc. (ppm):	10.1

Calibrator Flow Targets:

point	diluent (cc/min)	cal gas (cc/min)	total (cc/min)
zero	5000	0	5000
high	4959	39	4998
mid	4980	19	4999
low	4990	11	5001

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	5000	0.0	5000	0	2.0	NA
adjusted zero	5000	0.0	5000	0	0.1	NA
as found high	4959	38.60	4998	78.0	79.2	0.986
adjusted high	4959	38.60	4998	78.0	78.1	1.000
mid	4980	18.80	4999	38.0	37.7	1.010
low	4990	10.90	5001	22.0	21.4	1.034
calibrator zero	5000	0.00	5000	0	0.0	NA
					Average C.F.=	1.015

Linear Regression/Calibration Results:

		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**0.998**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**0.26%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**1.28%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

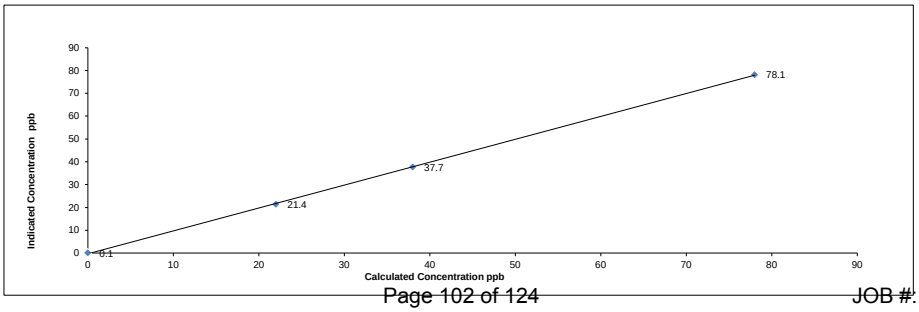
****run converter effeciency test immediately following zero adjust****

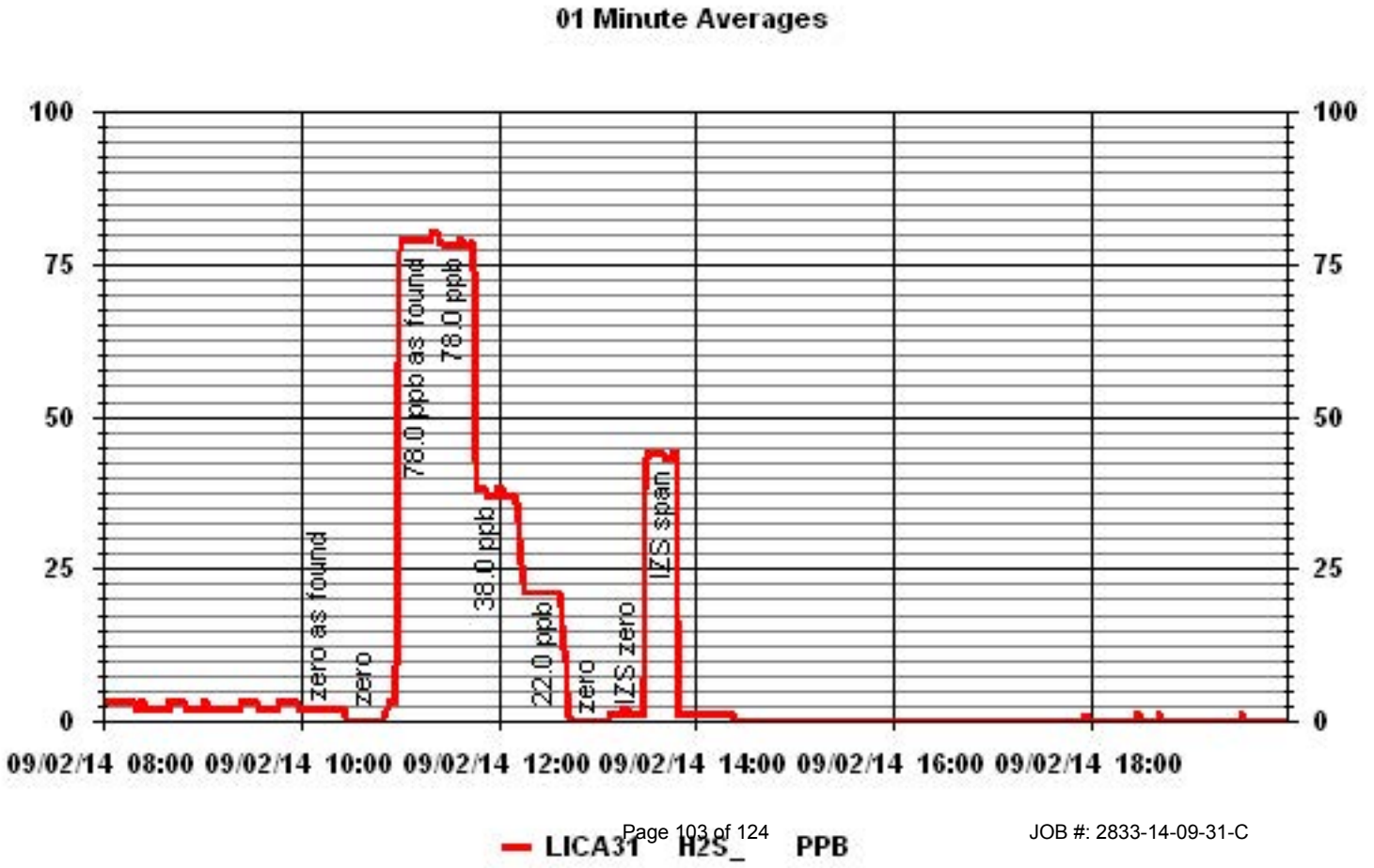
SO_2 High Point gas concentration:	200 PPB	Time gas run (mst):	10:50-10:55
Zero corrrected analyzer response:	2.8		

Comments:

Sample filter changed.

API 101E H2S Analyzer Calibration





JOB #: 2833-14-09-31-C

API 101E H2S Analyzer Calibration

Date:	11-Sep-14	**Start/End Time (mst):**	1100/1202
Company:	LICA	**Calibration Purpose:**	As Found
Station Name/Location:	ST LINA	**Converter Make & Model:**	Internal
Performed by:	Limin Li	**Converter Serial #:**	N/A
Application $H_2S/TRS/SO_2$:	H2S	**Cal Gas Expiry Date:**	July 8, 2016

Analyzer:

Serial Number:	510	**Range ppb:**	100
Last Calibration Date:	2-Sep-14	**As Found C.F.**	1.082
Previous Cal High Point C.F.:	1.000	**New C.F.:**	NA

	As found:	As left:
SLOPE:	1.017	1.017
OFFSET:	121.6	121.6
HVPS:	542	542
RCELL TEMP:	50	50
BOX TEMP:	35.3	35.3
PMT TEMP:	8.4	8.4
IZS TEMP:	45.0	45.0
TEST:	314.8 (ConvTemp)	314.8 (ConvTemp)
STABIL:	8.3	8.3
PRES:	22.3	22.3
SAMP FL:	588	588
PMT:	108.2	108.2
NORM PMT:	117.4	117.4
UV LAMP:	1243	1243
LAMP RATIO:	81%	81%
STR. LGT	61.8	61.8
DRK PMT:	38.9	38.9
DRK LMP:	-5.1	-5.1
Internal Span:	42.7	42.7

Calibrator:

Flow Meter ID's:	N/A
Make & Model:	API 700
Serial #:	829
Cal Gas Cylinder I.D. # :	BLM004853
Cal Gas Conc. (ppm):	10.4

Calibrator Flow Targets:

point	diluent (cc/min)	cal gas (cc/min)	total (cc/min)
zero	5000	0	5000
high	4961	38	4999
mid	4981	19	5000
low	4989	11	5000

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	4998	0.0	4998	0	-1.6	NA
adjusted zero	NA	0.0	NA	0		NA
as found high	4954	37.50	4992	78.4	72.5	1.082
adjusted high		na				
mid		na				
low		na				
calibrator zero	NA	0.00	NA	0		NA
					Average C.F.=	

Linear Regression/Calibration Results:

		LIMITS	Pass/Fail ?
Correlation Coeffecient =		> or = 0.995	
Slope =		0.85-1.15	
b (Intercept as % of full scale)=		± 3% F.S.	
% change in C.F. from last cal	-8.18%	± 15%	PASS

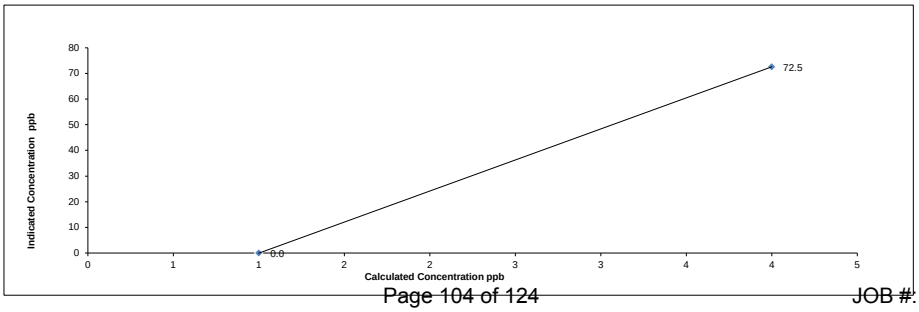
Converter Effeciency Check for H_2S/TRS application:

****run converter effeciency test immediately following zero adjust****

SO_2 High Point gas concentration:	NA	Time gas run (mst):	NA
Zero corrrected analyzer response:	NA		

Comments:

API 101E H2S Analyzer Calibration



JOB #: 2833-14-09-31-C

API 101E H2S Analyzer Calibration

Date:	11-Sep-14	**Start/End Time (mst):**	1340/1700
Company:	LICA	**Calibration Purpose:**	Post Repair
Station Name/Location:	ST LINA	**Converter Make & Model:**	Internal
Performed by:	Limin Li	**Converter Serial #:**	N/A
Application $H_2S/TRS/SO_2$:	H2S	**Cal Gas Expiry Date:**	July 8, 2016

Analyzer:

Serial Number:	510	**Range ppb:**	100
Last Calibration Date:	2-Sep-14	**As Found C.F.**	NA
Previous Cal High Point C.F.:	1.000	**New C.F.:**	1.000

	As found:	As left:
SLOPE:	1.017	0.992
OFFSET:	121.6	120.8
HVPS:	542	542
RCELL TEMP:	50	50
BOX TEMP:	35.3	36.2
PMT TEMP:	8.4	8.4
IZS TEMP:	45.0	45.0
TEST:	314.8 (ConvTemp)	314.8 (ConvTemp)
STABIL:	0.2	1
PRES:	22.3	22.1
SAMP FL:	588	582
PMT:	108.2	127.4
NORM PMT:	117.4	122.2
UV LAMP:	1243	1537.7
LAMP RATIO:	81%	100.3%
STR. LGT	61.8	60.6
DRK PMT:	38.9	39.8
DRK LMP:	-5.1	-5.1
Internal Span:	42.7	40.86

Calibrator:

Flow Meter ID's:	N/A
Make & Model:	API 700
Serial #:	829
Cal Gas Cylinder I.D. # :	BLM004853
Cal Gas Conc. (ppm):	10.4

Calibrator Flow Targets:

point	diluent (cc/min)	cal gas (cc/min)	total (cc/min)
zero	5000	0	5000
high	4961	38	4999
mid	4981	18	4999
low	4989	11	5000

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	NA	0.0	NA	0		NA
adjusted zero	4998	0.0	4998	0	0.0	NA
as found high		na				
adjusted high	4958	37.50	4996	78.4	78.3	1.001
mid	4980	18.30	4998	38.2	38.2	1.001
low	4985	11.00	4996	23.0	23.0	0.999
calibrator zero	NA	0.00	NA	0	0.3	NA
					Average C.F.=	1.000

Linear Regression/Calibration Results:

		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**1.001**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**-0.02%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**#VALUE!**	**± 15%**	**######**

Converter Effeciency Check for H_2S/TRS application:

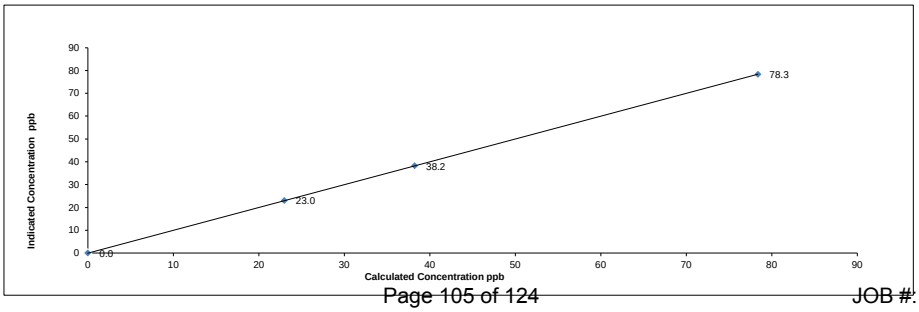
****run converter effeciency test immediately following zero adjust****

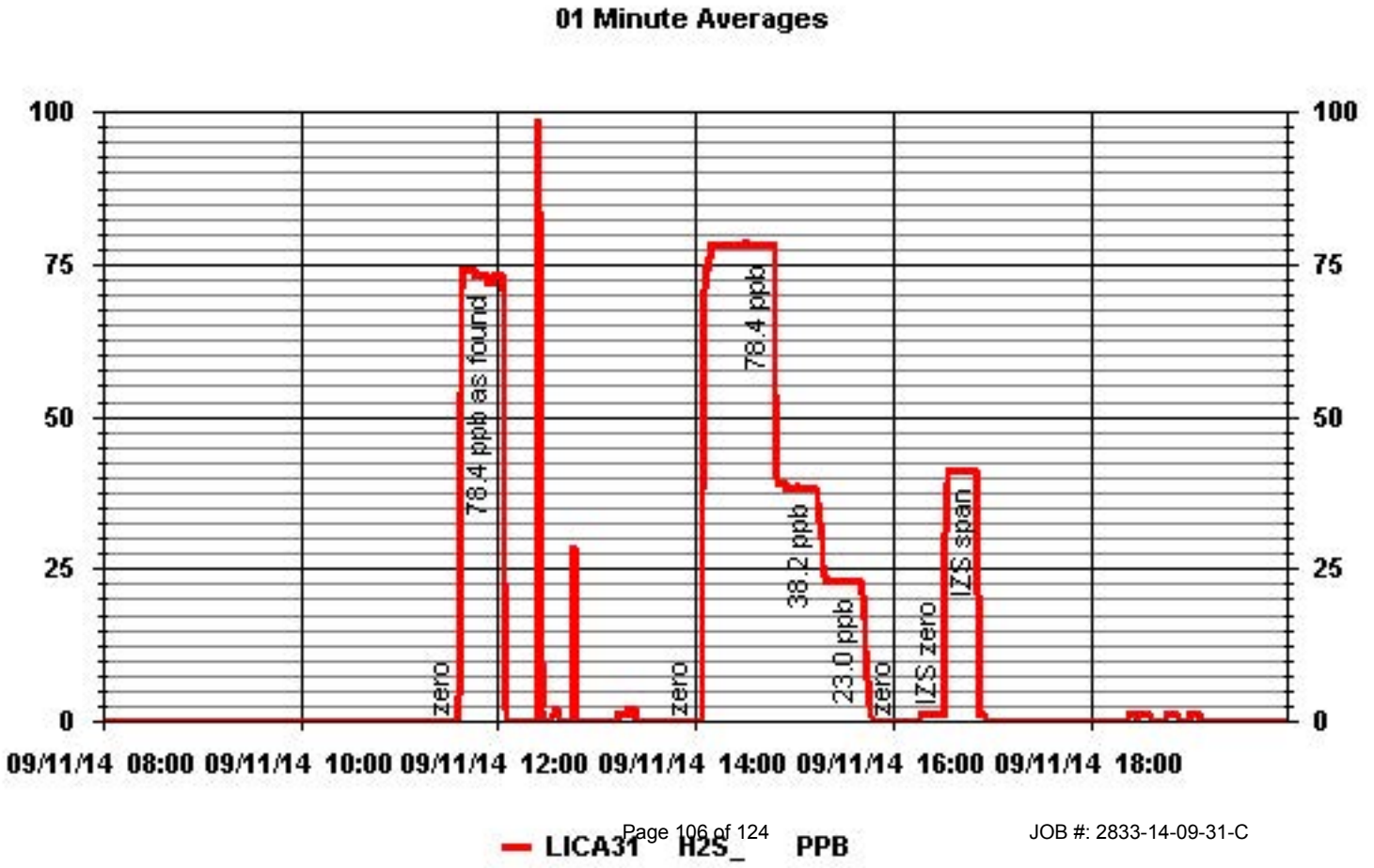
SO_2 High Point gas concentration:	NA	Time gas run (mst):	NA
Zero corrrected analyzer response:	NA		

Comments:

Adjust UV Lamp. Calibrate analog output.

API 101E H2S Analyzer Calibration





JOB #: 2833-14-09-31-C

API 101E H2S Analyzer Calibration

Date:	23-Sep-14	**Start/End Time (mst):**	09:40 - 12:00*
Company:	LICA	**Calibration Purpose:**	Installation
Station Name/Location:	St.Lina	**Converter Make & Model:**	Internal
Performed by:	Chris Wesson	**Converter Serial #:**	NA
Application $H_2S/TRS/SO_2$:	H2S	**Cal Gas Expiry Date:**	July 8, 2016

Analyzer:

Serial Number:	722	**Range ppb:**	100
Last Calibration Date:	NA	**As Found C.F.**	NA
Previous Cal High Point C.F.:	NA	**New C.F.:**	1.028

	As found:	As left:
SLOPE:	0.915	NA
OFFSET:	46.2	NA
HVPS:	622	NA
RCELL TEMP:	50.0	NA
BOX TEMP:	31.4	NA
PMT TEMP:	8.2	NA
IZS TEMP:	45.0	NA
TEST:	ConvTemp=315.1	NA
STABIL:	0.6	NA
PRES:	24.8	NA
SAMP FL:	596	NA
PMT:	198.4	NA
NORM PMT:	48.1	NA
UV LAMP:	2283.9	NA
LAMP RATIO:	103.7	NA
STR. LGT	29.2	NA
DRK PMT:	165.9	NA
DRK LMP:	3.7	NA
Internal Span:	40.86	NA

Calibrator:

Flow Meter ID's:	NA
Make & Model:	Environics 2000
Serial #:	1991
Cal Gas Cylinder I.D. # :	BAL4853
Cal Gas Conc. (ppm):	10.4

Calibrator Flow Targets:

point	diluent (cc/min)	cal gas (cc/min)	total (cc/min)
zero	5000	0	5000
high	4960	40	5000
mid	4980	20	5000
low	4990	11	5001

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	NA	0.0	NA	0		NA
adjusted zero	4996	0.0	4996	0	0.1	NA
as found high		NA				
adjusted high	4962	37.38	4999	78.0	78.2	0.999
mid	4981	18.22	4999	38.0	37.3	1.023
low	4992	9.13	5001	19.1	18.0	1.062
calibrator zero						NA
					Average C.F.=	1.028

Linear Regression/Calibration Results:

		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**0.996**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**0.48%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**NA**	**± 15%**	**N A**

Converter Effeciency Check for H_2S/TRS application:

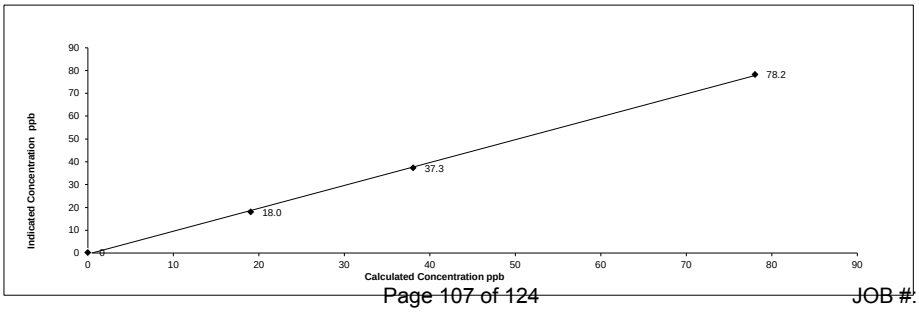
****run converter effeciency test immediately following zero adjust****

SO_2 High Point gas concentration:	NA	Time gas run (mst):	NA
Zero corrrected analyzer response:	NA		

Comments:

* = calibration stopped due to unacceptable result at low point. To be repeated following leak-check and factory calibration

API 101E H2S Analyzer Calibration



API 101E H2S Analyzer Calibration

Date:	23-Sep-14	**Start/End Time (mst):**	15:24 - 19:03
Company:	LICA	**Calibration Purpose:**	Installation
Station Name/Location:	St.Lina	**Converter Make & Model:**	Internal
Performed by:	Chris Wesson	**Converter Serial #:**	NA
Application $H_2S/TRS/SO_2$:	H2S	**Cal Gas Expiry Date:**	July 8, 2016

Analyzer:

Serial Number:	722	**Range ppb:**	100
Last Calibration Date:	NA	**As Found C.F.**	NA
Previous Cal High Point C.F.:	NA	**New C.F.:**	1.007

	As found:	As left:
SLOPE:	1.298	1.322
OFFSET:	40.3	42.3
HVPS:	595	595
RCELL TEMP:	50.0	50.0
BOX TEMP:	31.5	31.4
PMT TEMP:	8.2	8.2
IZS TEMP:	45.0	45.0
TEST:	ConvTemp=315.2	ConvTemp=314.9
STABIL:	0.2	0.5
PRES:	24.9	24.9
SAMP FL:	597	596
PMT:	92.7	89.2
NORM PMT:	43.7	42.3
UV LAMP:	2293	2295
LAMP RATIO:	99.7	99.7
STR. LGT	26.1	27.9
DRK PMT:	57.7	57.8
DRK LMP:	3.7	3.4
Internal Span:	40.86	40.86

Calibrator:

Flow Meter ID's:	NA
Make & Model:	API700
Serial #:	831
Cal Gas Cylinder I.D. # :	BAL4853
Cal Gas Conc. (ppm):	10.4

Calibrator Flow Targets:

point	diluent (cc/min)	cal gas (cc/min)	total (cc/min)
zero	5000	0	5000
high	4960	40	5000
mid	4980	20	5000
low	4990	11	5001

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	NA	0.0	NA	0		NA
adjusted zero	4995	0.0	4995	0	0.0	NA
as found high		NA				
adjusted high	4959	37.40	4996	78.1	78.1	1.001
mid	4979	18.30	4997	38.2	37.8	1.011
low	4984	11.00	4995	23.0	22.8	1.008
calibrator zero	4995	0.00	4995	0	0.0	NA
					Average C.F.=	1.007

Linear Regression/Calibration Results:

		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**1.002**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**0.03%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	NA	**± 15%**	**NA**

Converter Effeciency Check for H_2S/TRS application:

****run converter effeciency test immediately following zero adjust****

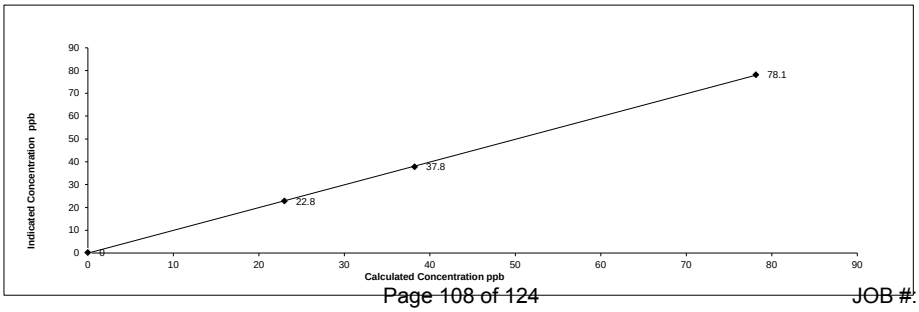
SO_2 High Point gas concentration: NA Time gas run (mst): NA

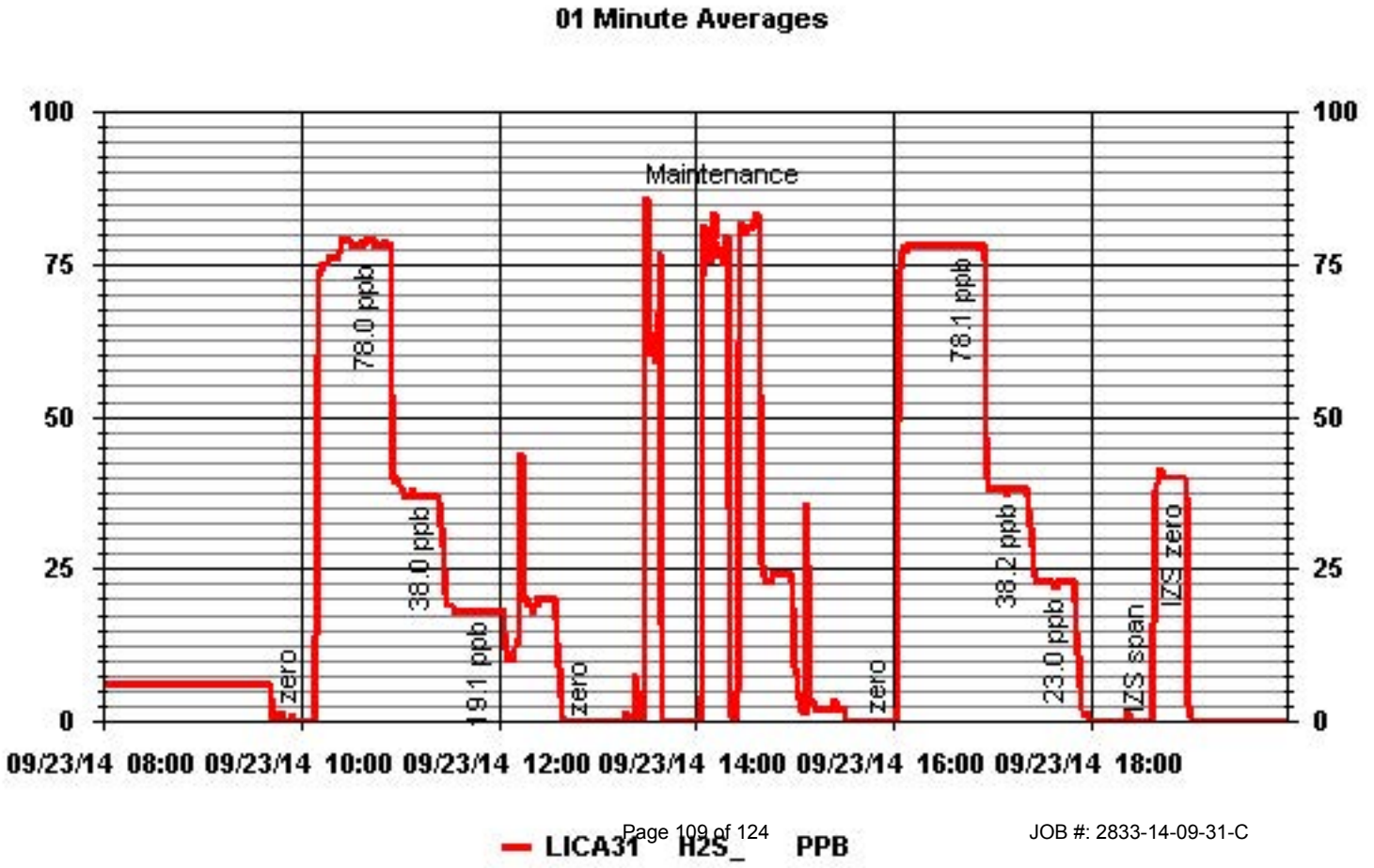
Zero corrrected analyzer response: NA

Comments:

Installation calibration following leak check and facory calibration.

API 101E H2S Analyzer Calibration





JOB #: 2833-14-09-31-C

Total Hydrocarbons

Maxxam Thermo 51C THC Analyzer Calibration

Date:	3-Sep-14	**Start Time (mst):**	9:16
Company:	LICA	**End Time (mst):**	11:54
Station Name/Location:	St.Lina	**Calibration Purpose:**	As Founds
Performed by:	Kevin Hope	**Cal Gas Expiry Date:**	March 26, 2017

Analyzer:

Serial Number:	436609739	**Range ppm:**	50
Last Calibration Date:	14-Aug-14	**As Found C.F.**	1.091
Previous Cal High Point C.F.:	1.000	**New C.F.:**	1.019

		As found:		**As left:**
	H_2 cylinder (psi):	950	H_2 cylinder (psi):	950
	H_2 cylinder reg set (psi):	25	H_2 cylinder reg set (psi):	25
	Span Cylinder (psi):	1250	Span Cylinder (psi):	1250
	Span Cylinder Reg Set (psi):	30	Span Cylinder Reg Set (psi):	30
	Zero Air Gen Pressure:	35	Zero Air Gen Pressure:	35
	measurement alarms:	Low Flo	measurement alarms:	Low Flo
	service alarms:	Flow Reg Fail	service alarms:	Flow Reg Fail
FID status:	cnt:	3185	cnt:	3185
	rng:	1	rng:	1
	try:	1	try:	1
	flm:	200.8	flm:	200.8
	det:	125.3	det:	125.3
Oven Readings:	Flame:	200	Flame:	200
	Filter:	125	Filter:	125
	Base:	125	Base:	125
	Pump:	6.58	Pump:	6.58
Voltages:	+5	4.9	+5	4.9
	+15	14.9	+15	14.9
	-15	-15.0	-15	-15.0
	Internal Span:	33.20	Internal Span:	33.20

Calibrator:

Flow Meter ID's:	NA	
Make & Model:	API 700	
Serial #:	830	
Cal Gas Cylinder I.D. # :	LL33674	
CH_4/C_3H_8 Cylinder Conc. (ppm):	601.4	202.0
CH_4 as propane/total CH_4 equivilants (ppm):	555.5	1156.9

Calibrator Flow Targets:

point	diluent (cc/min)	cal gas (cc/min)	total (cc/min)
zero	2000	0	2000
high	2000	65	2065
mid	2000	30	2030
low	2000	15	2015

Calibration:

Calibrator Flow Rates (cc/min)				**Calculated Concentration:**	**Indicated Concentration:**	**Correction Factors:**
Point	Diluent	Cal Gas	Total	(ppm)	(ppm)	
as found zero	2000	0.00	2000	0	-0.47	NA
adjusted zero	2000	0.00	2000	0	0.01	NA
as found high	2000	65.00	2065	36.42	33.40	1.091
adjusted high	2000	65.00	2065	36.42	36.40	1.001
mid	2000	30.00	2030	17.10	16.80	1.018
low	2000	15.00	2015	8.61	8.30	1.039
calibrator zero	2000	0.00	2000	0	0.07	NA
					Average C.F.=	1.019

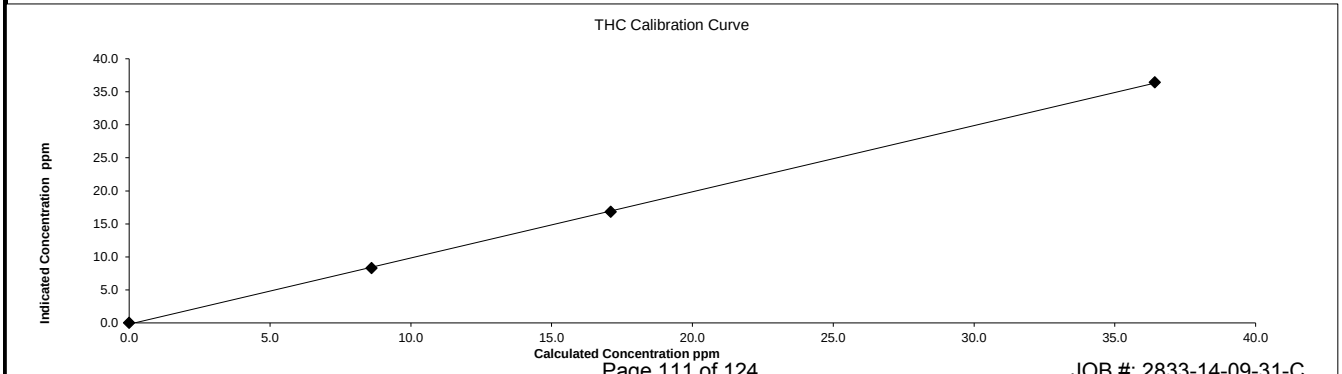
Linear Regression/Calibration Results:

		LIMITS	**Pass/Fail ?**
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**1.002**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**-0.357%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**-9.06%**	**± 15%**	**PASS**

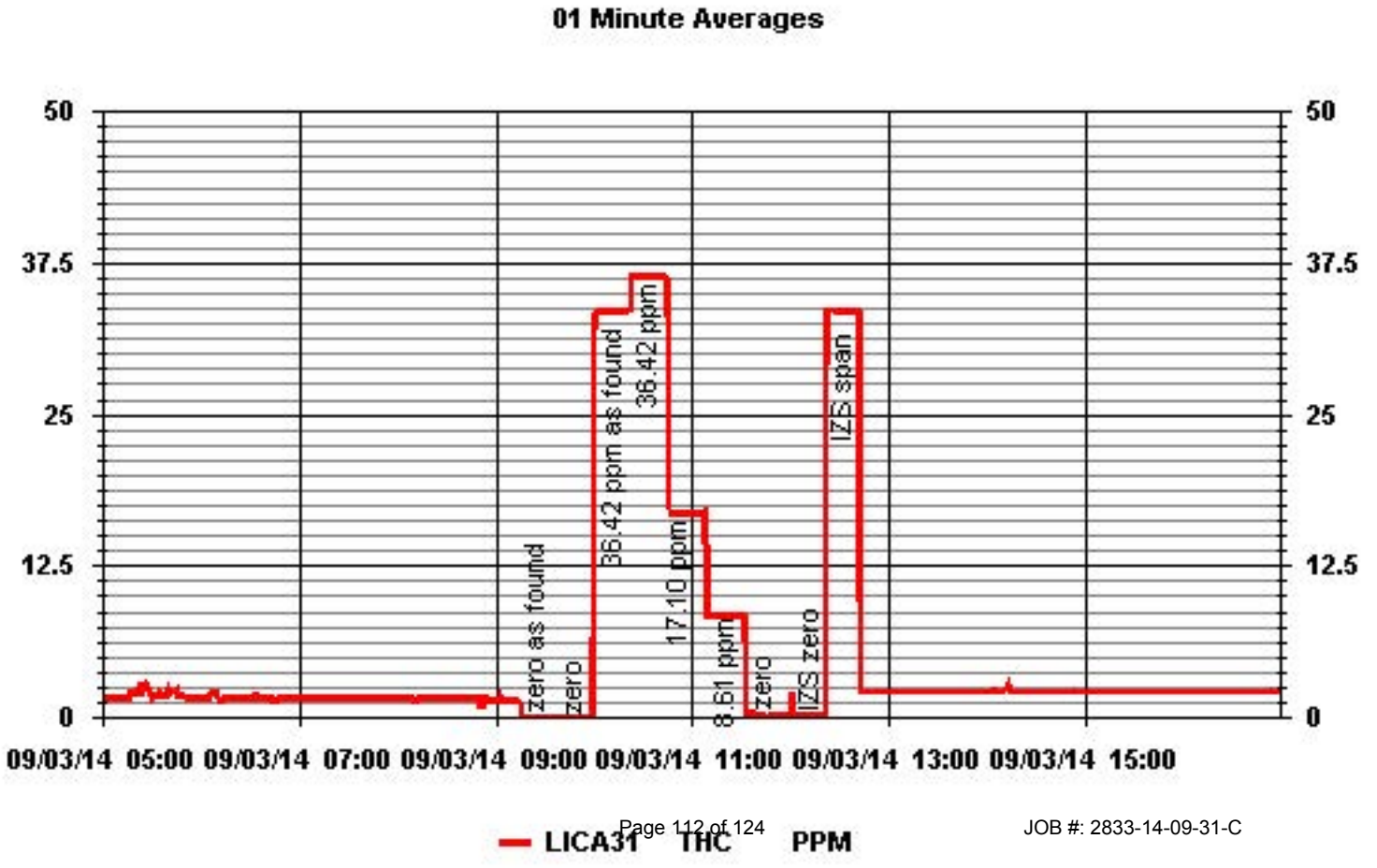
Comments:

Sample filter changed.

Thermo 51C THC Analyzer Calibration



JOB #: 2833-14-09-31-C



JOB #: 2833-14-09-31-C

Thermo 51C THC Analyzer Calibration

Date:	11-Sep-14	**Start Time (mst):**	11:00
Company:	LICA	**End Time (mst):**	12:10
Station Name/Location:	St. Lina	**Calibration Purpose:**	As Found
Performed by:	Limin Li	**Cal Gas Expiry Date:**	July 11, 2021

Analyzer:

Serial Number:	436609739	**Range ppm:**	50
Last Calibration Date:	3-Sep-14	**As Found C.F.**	0.966
Previous Cal High Point C.F.:	1.001	**New C.F.:**	

		As found:	As left:
	H_2 cylinder (psi):	650	650
	H_2 cylinder reg set (psi):	25	25
	Span Cylinder (psi):	110	110
	Span Cylinder Reg Set (psi):	30	30
	Zero Air Gen Pressure:	35	35
	measurement alarms:	Low Flo	Low Flo
	service alarms:	Flow Reg Fail	Flow Reg Fail
FID status:	cnt:	3185	3185
	rng:	1	1
	try:	0	0
	flm:	204	204
	det:	125	125
Oven Readings:	Flame:	204	204
	Filter:	125	125
	Base:	125	125
	Pump:	6.57	6.57
Voltages:	+5	4.9	4.9
	+15	14.9	14.9
	-15	-15	-15
	Internal Span:	33.2	33.2

Calibrator:

Flow Meter ID's:	NA	
Make & Model:	Envoronics 2000	
Serial #:	1991	
Cal Gas Cylinder I.D. # :	LL109092	
CH_4/C_3H_8 Cylinder Conc. (ppm):	607.0	202.0
CH_4 as propane/total CH_4 equivilants (ppm):	555.5	1162.5

Calibrator Flow Targets:

point	diluent (cc/min)	cal gas (cc/min)	total (cc/min)
zero	2000	0	2000
high	2000	68	2068
mid	2000	32	2032
low	2000	16	2016

Calibration:

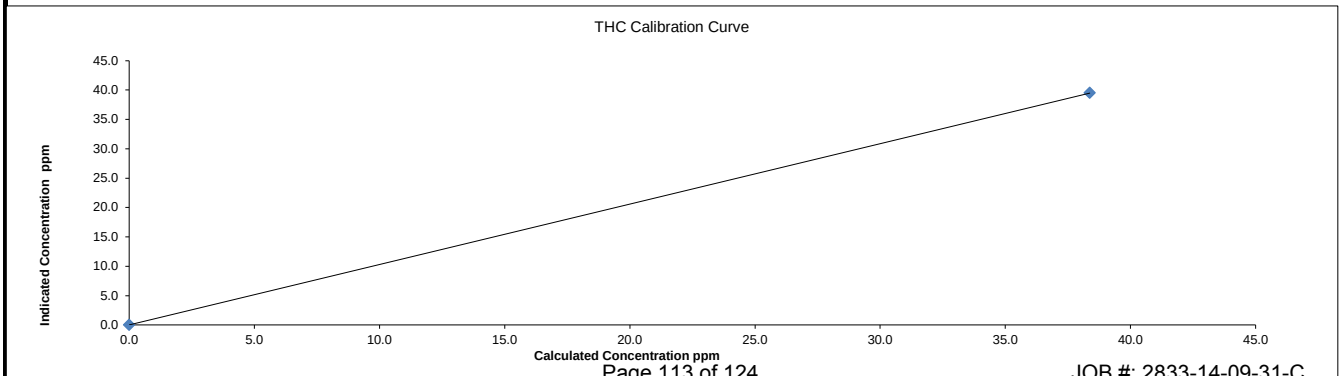
Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppm)	(ppm)	
as found zero	2006	0.00	2006	0	0.44	NA
adjusted zero	NA	0.00	NA	0		NA
as found high	2006	68.10	2074	38.17	39.50	0.966
adjusted high		na				
mid		na				
low		na				
calibrator zero	NA	0.00	NA	0		NA
					Average C.F.=	

Linear Regression/Calibration Results:

		LIMITS	Pass/Fail ?
Correlation Coeffecient =		**> or = 0.995**	
Slope =		**0.85-1.15**	
b (Intercept as % of full scale)=		**± 3% F.S.**	
% change in C.F. from last cal	**3.47%**	**± 15%**	**PASS**

Comments:

Thermo 51C THC Analyzer Calibration



JOB #: 2833-14-09-31-C

Thermo 51C THC Analyzer Calibration

Date:	11-Sep-14	**Start Time (mst):**	14:00
Company:	LICA	**End Time (mst):**	17:00
Station Name/Location:	St. Lina	**Calibration Purpose:**	a 2yüKîê 0l·f
Performed by:	Limin Li	**Cal Gas Expiry Date:**	July 11, 2021

Analyzer:

Serial Number:	436609739	**Range ppm:**	50
Last Calibration Date:	3-Sep-14	**As Found C.F.**	NA
Previous Cal High Point C.F.:	1.001	**New C.F.:**	1.007

		As found:		As left:
	H_2 cylinder (psi):	650	H_2 cylinder (psi):	650
	H_2 cylinder reg set (psi):	25	H_2 cylinder reg set (psi):	25
	Span Cylinder (psi):	110	Span Cylinder (psi):	110
	Span Cylinder Reg Set (psi):	30	Span Cylinder Reg Set (psi):	30
	Zero Air Gen Pressure:	35	Zero Air Gen Pressure:	35
	measurement alarms:	Low Flo	measurement alarms:	NA
	service alarms:	Flow Reg Fail	service alarms:	NA
FID status:	cnt:	3185	cnt:	2336
	rng:	1	rng:	1
	try:	0	try:	0
	flm:	204	flm:	202.7
	det:	125	det:	126.1
Oven Readings:	Flame:	204	Flame:	202
	Filter:	125	Filter:	125
	Base:	125	Base:	126
	Pump:	6.57	Pump:	6.5
Voltages:	+5	4.9	+5	4.9
	+15	14.9	+15	14.9
	-15	-15	-15	-15
	Internal Span:	33.2	Internal Span:	31.81

Calibrator:

Flow Meter ID's:	NA	
Make & Model:	Envoronics 2000	
Serial #:	1991	
Cal Gas Cylinder I.D. # :	LL109092	
CH_4/C_3H_8 Cylinder Conc. (ppm):	607.0	202.0
CH_4 as propane/total CH_4 equivilants (ppm):	555.5	1162.5

Calibrator Flow Targets:

point	diluent (cc/min)	cal gas (cc/min)	total (cc/min)
zero	2000	0	2000
high	2000	68	2068
mid	2000	32	2032
low	2000	26	2026

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppm)	(ppm)	
as found zero	NA	0.00	NA	0		NA
adjusted zero	2006	0.00	2006	0	0.00	NA
as found high		na				
adjusted high	2006	68.10	2074	38.17	38.30	0.997
mid	2006	32.09	2038	18.30	18.30	1.000
low	2006	16.01	2022	9.20	9.00	1.023
calibrator zero	2006	0.00	2006	0	0.00	NA
					Average C.F.=	1.007

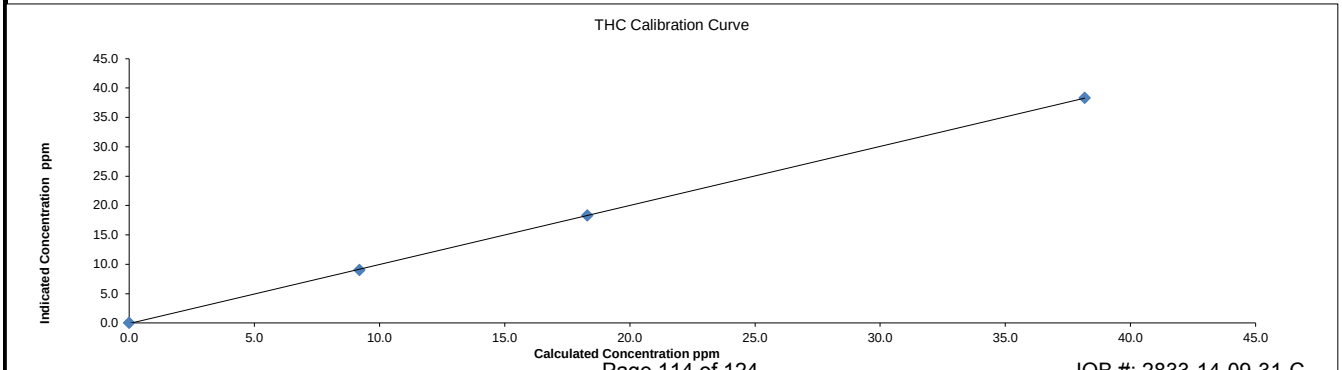
Linear Regression/Calibration Results:

		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**1.005**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**-0.211%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**#VALUE!**	**± 15%**	**######**

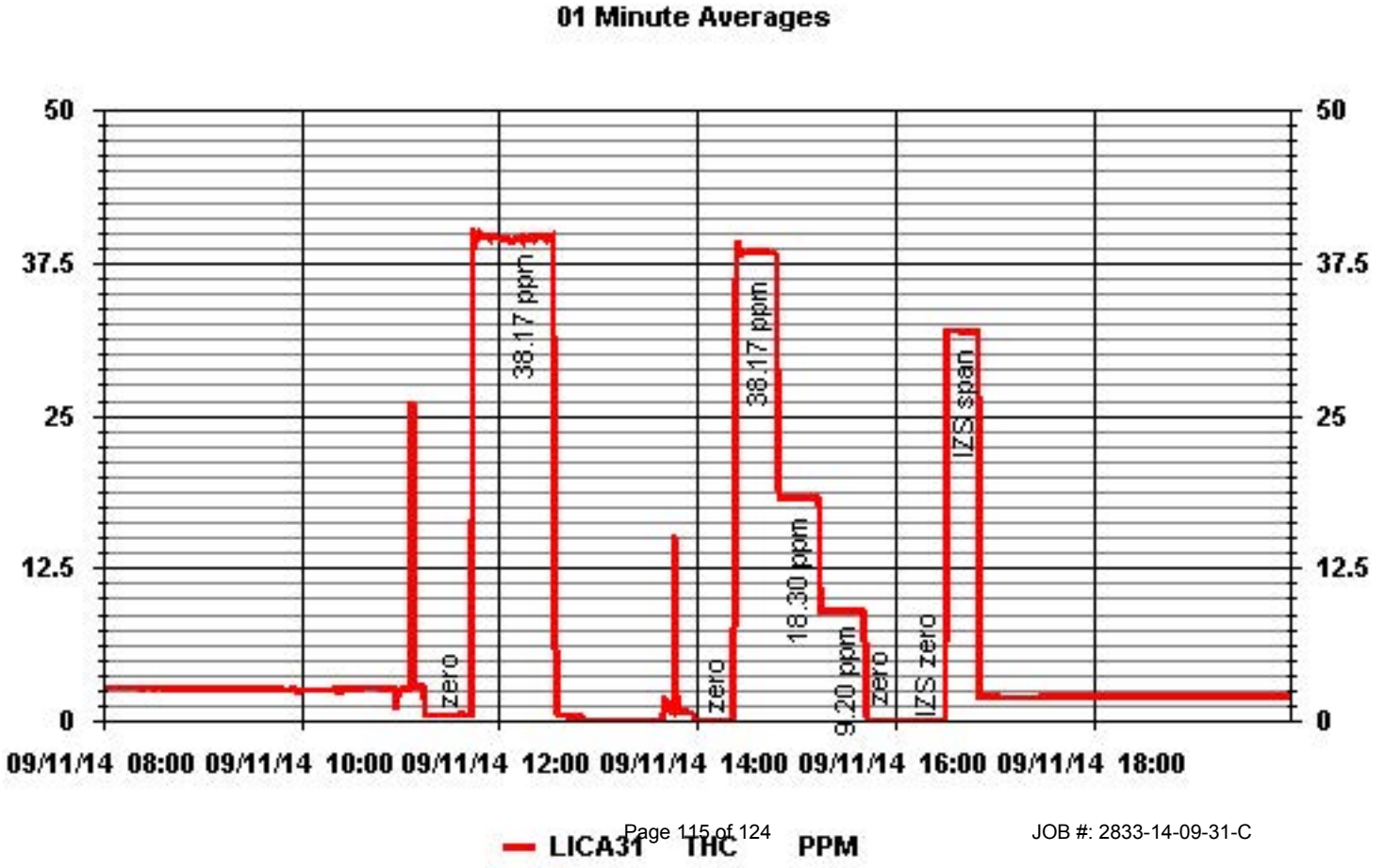
Comments:

Rebuilt pump. Adjust sample pressure to 6.5psi.

Thermo 51C THC Analyzer Calibration



JOB #: 2833-14-09-31-C



JOB #: 2833-14-09-31-C

Nitrogen Dioxide

API 200E NOx Analyzer Calibration

Date:	2-Sep-14	**Start Time (mst):**	10:05
Company:	LICA	**End Time (mst):**	14:52
Station Name/Location:	St.Lina	**Calibration Purpose:**	Monthly Calibration
Performed by:	Kevin Hope	**Cal Gas Expiry Date:**	February 4, 2018

Analyzer Serial Number:	592
Last Calibration Date:	14-Aug-14
Range ppb:	1000

Correction Factors:

	As found C.F.	Previous Cal High Point C.F.:
NO=	1.011	1.000
NOx=	1.012	1.000
NO_2=	0.993	0.997

	As found:	**As left:**
NOx SLOPE:	0.905	0.913
NOx OFFS:	-0.2	0.6
NO SLOPE:	0.900	0.908
NO OFFS:	-1.0	-0.5
TEST:	130.7	130.7
SAMP FLW:	463	463
OZONE FL:	73	73
PMT:	23.2	23.2
NORM PMT:	2.5	2.5
AZERO:	20.6	20.6
HVPS:	654	654
RCELL TEMP:	50.0	50.0
BOX TEMP:	34.9	34.9
PMT TEMP:	6.9	6.9
IZS TEMP:	40.4	40.4
MOLY TEMP:	314.9	314.9
RCEL:	6.7	6.7
SAMP:	26.0	26.0
Internal Span:	383/6.2/377	391.4/8.35/383.5

Calibrator Flow Targets:

Make & Model:	Environics 6100
Serial #:	4760
Cal Gas Cylinder I.D. # :	BLM000711
NO Cylinder Conc. (ppm):	50.1
NOx Cylinder Conc. (ppm):	50.2

point	diluent (cc/min)	cal gas (cc/min)	O_3 setting (v or ppb)	total (cc/min)
zero	4995	0	0	4995
high	4916	78	490.00	4994
mid	4957	38	250.00	4995
low	4975	19	85.00	4994

Calibration:

Calibrator Flow Rates (cc/min)				Calculated NO	Calculated NOx	Indicated NO	Indicated NOx	NO C.F.	NOx C.F.
Point	Diluent	Cal Gas	Total Flow	(ppb)	(ppb)	(ppb)	(ppb)		
as found zero	4995	0.0	4995	0	0	0.3	-0.4	NA	NA
adjusted zero	4995	0.0	4995	0	0	0.2	-0.2	NA	NA
as found high	4916	77.61	4994	778.6	780.2	770	771	1.011	1.012
adjusted high	4916	77.61	4994	778.6	780.2	778	780	1.001	1.000
mid	4957	37.81	4995	379.2	380.0	379	379	1.001	1.002
low	4975	18.90	4994	189.6	190.0	190	190	0.999	0.999
calibrator zero	4995	0.00	4995	0	0	0.0	0.0	NA	NA
							Average C.F.=	1.000	1.000

Calibrator Flow Rates (cc/min)				Calibrator Setting	Indicated NO	Indicated NOx	Indicated NO_2	NO drop	NO_2 increase	NO_2 C.F.
Point	Diluent	Cal Gas	Total Flow	volts or ppb	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
NOx reference	4916	77.61	4994	0.0	777.0	780.0	3.0	0.2	-0.4	
as found NO_2	4916	77.61	4994	490.0	235.0	783.0	549.0	542.0	546.0	0.993
adjusted NO_2	4916	77.61	4994	490.0	235.0	783.0	549.0	542.0	546.0	0.993
gpt mid	4916	77.61	4994	250.0	497.0	785.0	288.0	280.0	285.0	0.982
gpt low	4916	77.61	4994	85.0	687.0	785.0	95	90.0	92.0	0.978
									Average NO_2 C.F.=	0.984

Linear Regression/Calibration Results:

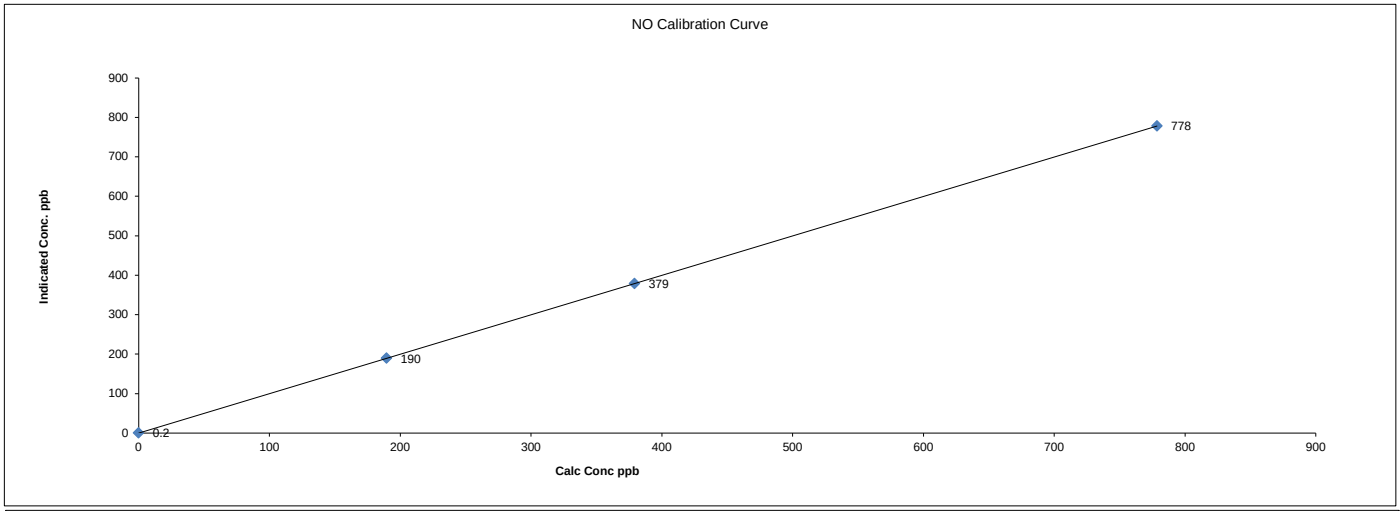
	NO	NOx	NO_2	LIMITS
Correlation Coeffecient =	**1.000**	**1.000**	**1.000**	**> or = 0.995**
Slope =	**0.999**	**1.000**	**1.008**	**0.85-1.15**
b (Intercept as % of full scale)=	**0.04%**	**-0.03%**	**0.08%**	**± 3% F.S.**
% change in C.F. from last cal=	**-1.15%**	**-1.17%**	**0.43%**	**+/-15%**
NO2 converter effeciency			**101.6%**	**>85%**

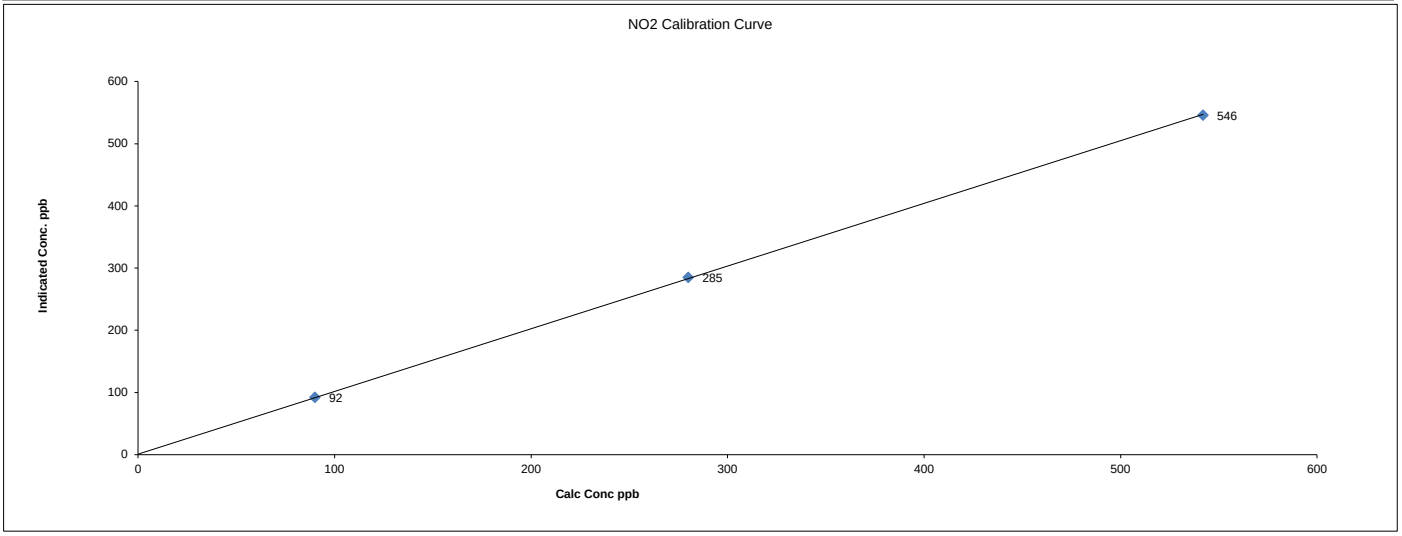
Comments:

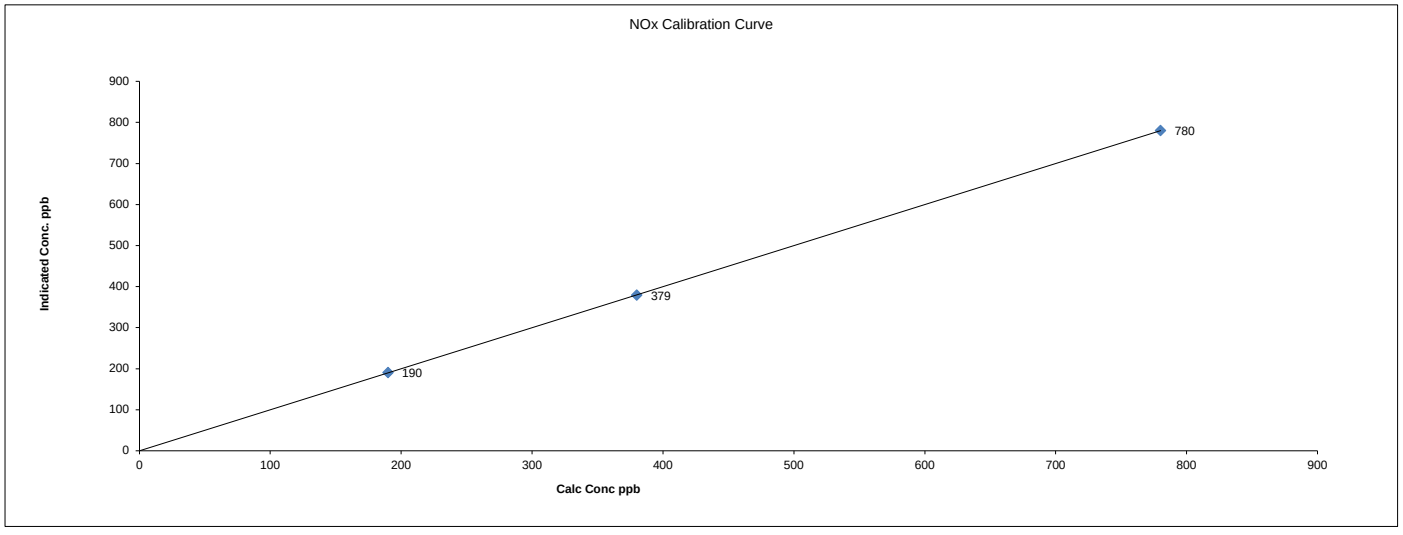
Sample filter changed. No adjusted NO2. Just for calculations.

Date:	2-Sep-14	**Start Time (mst):**	10:05
Company:	LICA	**End Time (mst):**	14:52
Station Name/Location:	St.Lina	**Calibration Purpose:**	Monthly Calibration
Performed by:	Kevin Hope	**Cal Gas Expiry Date:**	4-Feb-18

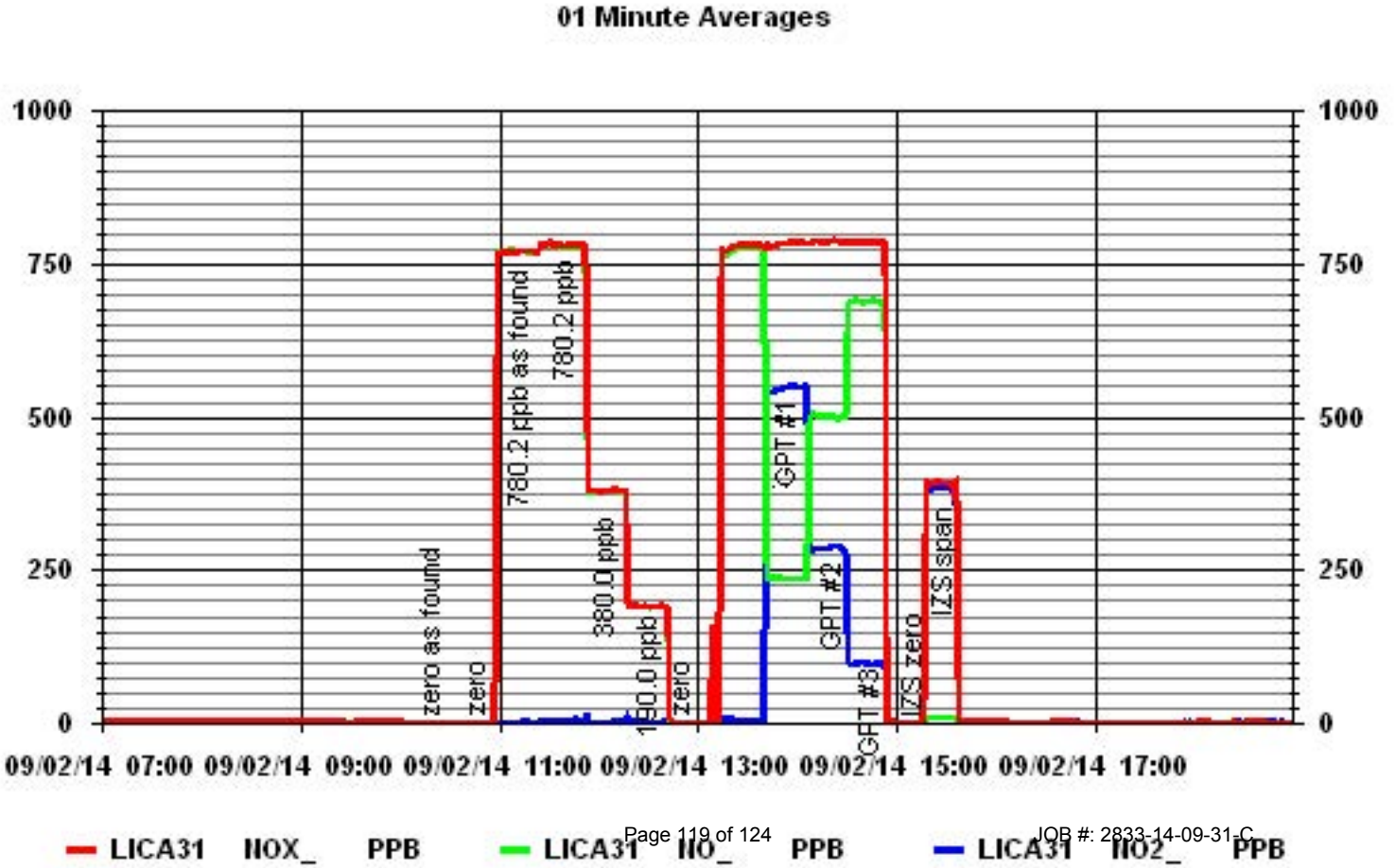
API 200E NOx Analyzer Calibration







JOB #: 2833-14-09-31-C


01 Minute Averages
1000
750
500
250
0
zero as foumd
zero
780.2 ppb as found
780.2 ppb
380.0 ppb
190.0 ppb
zero
iGPT #1
GPT #2
GPT #3
IZS zero
IZS span
09/02/14 07:00
09/02/14 09:00
09/02/14 11:00
09/02/14 13:00
09/02/14 15:00
09/02/14 17:00
LICA31 NOX_ PPB
LICA31 NO_ PPB
LICA31 NO2_ PPB

Ozone

Thermo 49i O_3 Analyzer Calibration

Date:	3-Sep-14	**Start Time (mst):**	10:09
Company:	LICA	**End Time (mst):**	12:33
Station Name/Location:	St.Lina	**Calibration Purpose:**	Monthly Calibration
Performed by:	Kevin Hope	**G.P.T. Date:**	September 3,2014

Analyzer:

Serial Number:	1002240371	**Range ppm:**	500
Last Calibration Date:	15-Aug-14	**As Found C.F.**	0.991
Previous Cal High Point C.F.:	1.000	**New C.F.:**	0.998

		As found:		**As left:**
	O_3 Bkg:	-0.3	O_3 Bkg:	-0.3
	O_3 Coef:	1.036	O_3 Coef:	1.026
Motherboard:	3.3	3.3	3.3	3.3
	15.0	5.0	15.0	5.0
	24.0	14.8	24.0	14.8
	-3.3	23.7	-3.3	23.7
Interface Board:	3.3	-3.2	3.3	-3.2
	5.0	4.9	5.0	4.9
	15.0	14.7	15.0	14.7
	-15.0	-15.0	-15.0	-15.0
	Photo Lamp	9.4	Photo Lamp	9.4
	24.0	23.4	24.0	23.4
	O_3 Lamp	8.3	O_3 Lamp	8.3
	Bench:	30.3	Bench:	30.3
	Bench Lamp:	53.7	Bench Lamp:	53.7
	O_3 Lamp:	67.9	O_3 Lamp:	67.9
	Pressure:	681.2	Pressure:	681.2
	Cell A lpm:	0.728	Cell A lpm:	0.728
	Cell B lpm:	0.724	Cell B lpm:	0.724
	O_3 ppb:	-0.1	O_3 ppb:	-0.1
	Cell A ppb:	-3.9	Cell A ppb:	-3.9
	Cell B ppb:	3.8	Cell B ppb:	3.8
	Cell A int:	67140	Cell A int:	67140
	Cell B int:	76908	Cell B int:	76908
	Internal Span:	329.7	Internal Span:	329.7

Calibrator:

Make & Model:	Environics 6100
Serial #:	4760
NOx Gas Cylinder I.D. # :	BLM000711
NOx Cylinder Conc. (ppm):	50.2

Calibrator Flow Targets:

point	total flow (cc/min)	O_3 setting (v or ppb)
zero	4995	0
high	4995	280
mid	4995	140
low	4995	85

Calibration:

Calibrator Flow Rates (cc/min)				**Calculated Concentration:**	**Indicated Concentration:**	**Correction Factors:**
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	4995	0.0	4995	0.0	0.0	NA
adjusted zero	4995	0.0	4995	0.0	0.0	NA
as found high	4995	0.00	4995	321.0	324.0	0.991
adjusted high	4995	0.00	4995	321.0	321.0	1.000
mid	4995	0.00	4995	164.0	164.0	1.000
low	4995	0.00	4995	95.0	95.7	0.993
calibrator zero	4995	0.00	4995	0.0	0.2	NA

copy and paste flows and NO decrease from NOx cal in to calculated concentration **Average C.F.=** 0.998

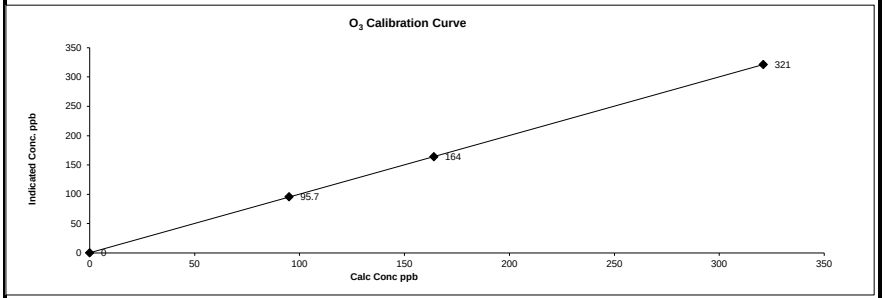
Linear Regression/Calibration Results:

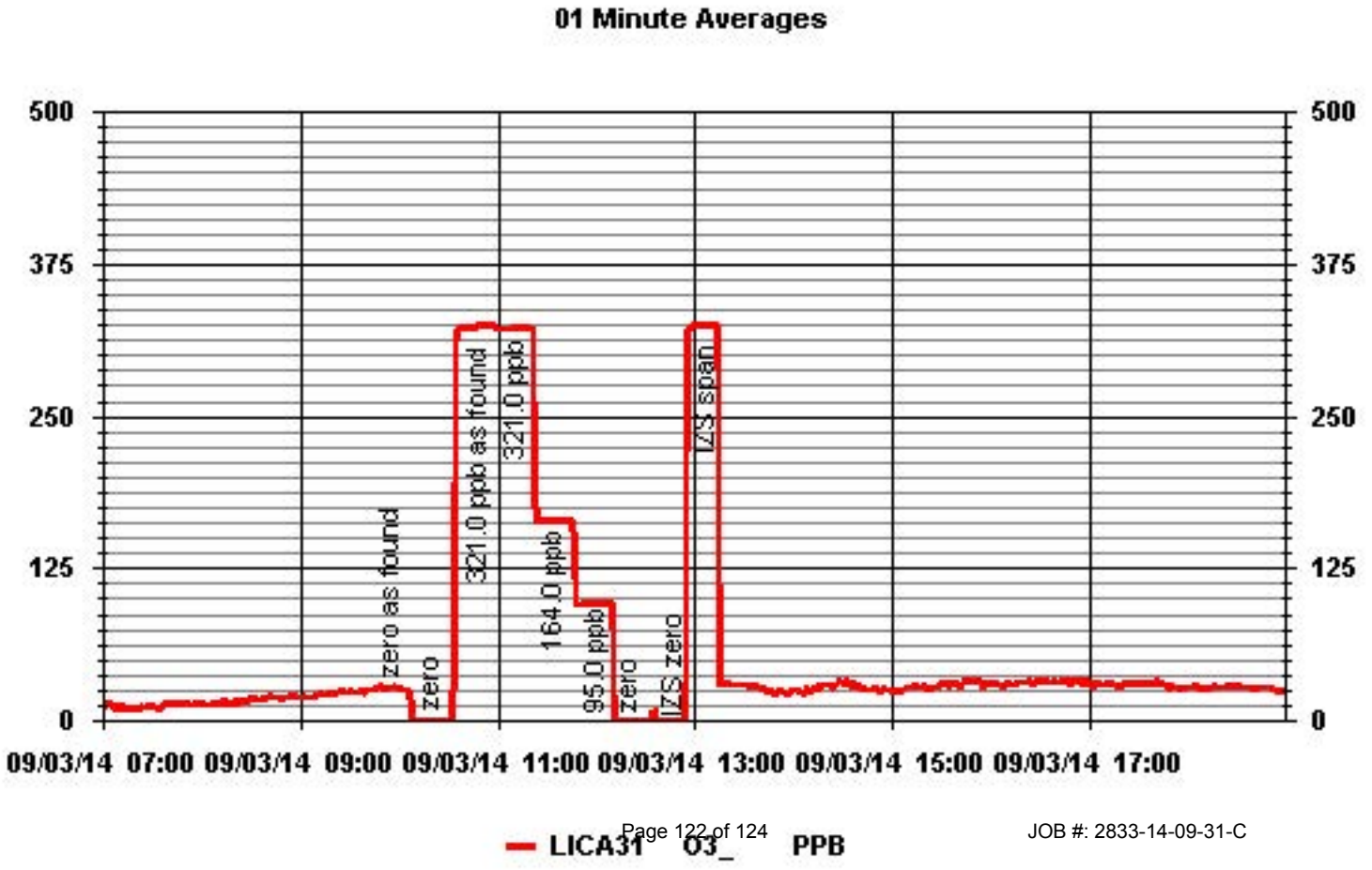
		LIMITS	**Pass/Fail ?**
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**0.999**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**0.054%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**1%**	**± 15%**	**PASS**

Comments:

Sample filter changed. No zero adjustment made because zero was 0.0

Thermo 49i O3 Analyzer Calibration





JOB #: 2833-14-09-31-C

Particulate Matter 2.5

R & P 1400A TEOM PM 2.5 Analyzer Calibration

Date:	3-Sep-14	**Parameter:**	PM 2.5
Company:	LICA	**Performed by:**	Kevin Hope
Station Name/Location:	St.Lina	**Start/End Time (mst):**	12:13/12:30
Previous Audit Date:	18-Aug-14	**Calibration Purpose:**	Monthly Calibration

1400A Information and Status:

Serial Number:	140AB228720001	**As Found Filter Loading %:**	35.00
K_o Factor:	15003	**As Left Filter Loading %:**	20.00
Ambient Temperature °C:	16.0	**As Found Noise:**	0.018
Ambient Pressure atm:	0.937	**As Left Noise:**	0.000
Main Flow Reading lpm:	3.03	**Pump Vacuum:**	Ok
Aux Flow Reading lpm:	13.76	**Warnings:**	None

Reference Standards:

	Flow:	**Pressure:**	**Temperature:**
Make:	Dwyer	Brunton	Fluke
Model:	475 Mark III	ADC Summit	1551A Sti Thermometer
Serial Number:	NA	na	4295
Calibration Date:	unknown	2-Dec-13	Unknown

As Found Pump Off Test and Leak Check :

	main flow	**auxillary flow**	
pump unplugged zero (lpm)	0.06	0.21	
seconds to reach full flow (max. 60s)	47	52	**(maintenance required if either > 60 seconds)**
leak rate (lpm)	0.07	0.04	
0 corrected leak rate (lpm)	0.01	-0.17	
limit (lpm)	0.15	.15 or (.60 with FDMS unit)	

As Left Pump Off Test and Leak Check (same as above if as found adequate):

	main flow	**auxillary flow**	
pump unplugged zero (lpm)	0.06	0.21	
seconds to reach full flow (max. 60s)	47	52	**(maintenance required if either > 60 seconds)**
leak rate (lpm)	0.07	0.04	
0 corrected leak rate (lpm)	0.01	-0.17	
limit (lpm)	0.15	.15 or (.60 with FDMS unit)	

As found temperature and pressure:

	tolerance +/- 2.0°C		**tolerance +/- 0.01 atm**
1400A temperature °C:	16.3	**1400A pressure atm:**	0.936
reference temperature °C:	16.0	**reference pressure:**	0.937
difference °C:	-0.3	**difference :**	0.001

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

	tolerance +/- 2.0°C		**tolerance +/- 0.01 atm**
1400A temperature oC:	16.3	**1400A pressure atm:**	0.936
reference temperature °C:	16.0	**reference pressure:**	0.937
difference °C:	-0.3	**difference :**	0.001

As found flows:

main flow tolerance 3.00 lpm +/- 0.20 lpm		**total/aux flow tolerance 16.67/13.67 lpm +/- 1.00 lpm/+/- 7%**	
1400A main flow lpm:	2.98	**1400A total/aux flow lpm:**	13.61
reference main flow lpm:	3.03	**reference total/aux flow lpm:**	13.76
difference lpm:	0.05	**difference lpm:**	0.15

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

main flow tolerance 3.00 lpm +/- 0.20 lpm		**total/aux flow tolerance 16.67/13.67 lpm +/- 1.00 lpm/+/- 7%**	
1400A main flow lpm:	2.98	**1400A total/aux flow lpm:**	13.61
reference main flow lpm:	3.03	**reference total/aux flow lpm:**	13.76
difference lpm:	0.05	**difference lpm:**	0.15

K_o Audit:

Last K_o audit date:	NA
1400A Ko factor:	15003
Measured K_o factor:	NA
% difference:	NA

Comments:

Leak check, flow audit, cleaned inlet, changed filter. All good.

JOB #: 2833-14-09-31 C

Lakeland Industry & Community Association

Portable / Elk Point Airport Monitoring Site
Ambient Air Monitoring Data Report
For
September 2014

Prepared By:

Maxxam
A Bureau Veritas Group Company

October 24, 2014

Lakeland Industry & Community Association
Portable / Elk Point Airport
Ambient Air Monitoring

Table of Contents

Introduction

The following Ambient Air Monitoring report was prepared for:

Mr. Mike Bisaga
Lakeland Industry & Community Association
Box 8237
5107W – 50 Street
Bonnyville, Alberta
T9N 2J5

Monitoring Location: Portable / Elk Point Airport
Data Period: September 2014

The monthly ambient data report:

- Prepared by Ernestine Tangang
- Reviewed by Lily Lin

Calibration Procedure

The following calibration procedure applies to all calibrations conducted at the Lakeland Industry & Community Association Air Monitoring Station.

Calibration gas concentrations are generated using a dynamic mass flow controlled calibrator. EPA Protocol one gases are diluted with zero air generated on site. The Mass Flow Controllers in the calibrator are referenced using an NIST traceable flow meter once per month. All listed flows are reported as corrected to Standard Temperature and Pressure (STP).

Generated zero gas is introduced to the analyzer first. Three concentrations of calibration gas are then generated in order to introduce points at approximately 50-80%, 25-40% & 10-20% of the analyzer's full-scale range. An auto zero and span are then performed to validate the daily zero and span values recorded to the next multi-point calibration.

All indicated concentrations are taken from the ESC data logger used to collect the data for monthly reporting.

Conformance of each calibration to Alberta Environment regulations is outlined in the individual calibration reports. The slope and correlation coefficient are derived from the calculated and indicated analyzer responses. The percent change is calculated using the previous calibration correction factor and the current correction factor before adjustment. The calibration conforms to the procedure outlined in the *Air Monitoring Directive, Appendix A-10, Section 1.6.*

MONTHLY CONTINUOUS DATA SUMMARY
LAKELAND INDUSTRY & COMMUNITY ASSOCIATION
– PORTABLE – ELK POINT AIRPORT -

Continuous Ambient Monitoring – September 2014

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PORTABLE / ELK POINT AIRPORT SITE						MAXIMUM VALUES							OPERATIONAL TIME (PERCENT)
						1-HOUR					24-HOUR		
PARAMETER	OBJECTIVES		EXCEEDENCES		MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (KPH)	WIND DIRECTION (DEGREES)	READING	DAY	
	1-HR	24-HR	1-HR	24-HR									
SO_2 (PPB)	172	48	0	0	0.24	4	4	12	14.9	251(WSW)	0.5	VAR	100.0
H_2S (PPB)	10	3	0	0	0.05	1	VAR	VAR	VAR	VAR	0.2	VAR	100.0
THC (55i) (PPM)	-	-	-	-	2.63	11.3	7	4	6.5	305(WNW)	5.0	16	99.6
Methane (PPM)	-	-	-	-	2.62	11.0	7	4	6.5	305(WNW)	4.9	16	99.6
NMHC (PPM)	-	-	-	-	0.02	0.3	VAR	VAR	VAR	VAR	0.1	VAR	99.6
NO_2 (PPB)	159	-	0	-	6.26	40.1	24	0	1.1	148(SE)	13.4	24	100.0
NO (PPB)	-	-	-	-	3.65	75.1	11	5	1.1	188(S)	20.0	16	100.0
NOx (PPB)	-	-	-	-	9.91	87.1	11	5	1.1	188(S)	31.0	16	100.0
O_3 (PPB)	82	-	0	-	18.11	50	22	14, 15	5.3, 4.2	259(WSW), 246(WSW)	27.3	25	100.0
PM 2.5 (UG/M^3)	-	30	-	0	6.47	57	2	1	6.3	251(WSW)	12.9	6	77.1
VECTOR WS (KPH)	-	-	-	-	10.21	31.1	20	12	-	295(WNW)	18.1	20	100.0
VECTOR WD (DEGREES)	-	-	-	-	294(WNW)	-	-	-	-	-	-	-	100.0

NA: NOT APPLICABLE VAR-VARIOUS

General Monthly Summary

Equipment Operation
The following summary outlines the analyzer performance. Any non-conformances, problems or maintenance performed are detailed at the end of each section.

AQM STATION – LICA - PORTABLE

Sulphur Dioxide (PPB)
· Analyzer make / model – API 100E, S/N: 467 replaced with API 100A, S/N: 837
The analyzer did not span on September 12th. A zero/span check was manually triggered from the datalogger device on September 12th. The zero/span system responded the trigger, and the check result was good. No issue could be identified. Data quality was not affected due to this event. The monthly calibration was performed on September 16th. The inlet filter was changed before the calibration was started. Hourly maximum data collected on September 30th at hour 21 was invalidated due to a small power outage that affected data quality. Data was corrected using daily zero information.

Hydrogen Sulphide (PPB)
· Analyzer make / model –API 101E, S/N: 509
· Converter - Internal
The analyzer was working well throughout the month. The monthly calibration was performed on September 16th. The inlet filter was changed before the calibration was started. Hourly maximum data collected on September 30th at hour 21 was invalidated due to a small power outage that affected data quality. Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA - PORTABLE

Nitrogen Dioxide (PPB)

· Analyzer make / model – API 200E, S/N: 593

The analyzer spanned high on September 12th. Another zero/span check was run on the same day, and the result was within the acceptable range. No further corrective action was required. Data quality was not affected due to this event. The monthly calibration was performed on September 16th. The inlet filter was changed before the calibration was started. Hourly maximum data collected on September 30th at hour 21 was invalidated due to a small power outage that affected data quality. Data was corrected using daily zero information.

THC 55i (PPM)

· Analyzer make / model –Thermo 55i, S/N: (12)36656107

The monthly calibration was performed on September 16th. The inlet filter was changed before the calibration was started. The analyzer failed after a power outage occurred on September 30th during hour 21. The issue was fixed on October 1st at hour 1. Three hours of data were invalidated due to this event this month. Hourly maximum data collected on September 30th at hour 21 was invalidated due to a small power outage that affected data quality. Data was corrected using daily zero information.

Ozone (PPB)

· Analyzer make / model –Thermo 49i, S/N: 1002240372

The analyzer was working well throughout the month. The monthly calibration was performed on September 16th. The inlet filter was changed before the calibration was started. Hourly maximum data collected on September 30th at hour 21 was invalidated due to a small power outage that affected data quality. Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA - PORTABLE

Particulate Matter 2.5 (ug/m^3)

· Analyzer make / model – TEOM 1405F, S/N: 1405A208301003

The Teom unit failed due to flow issues on September 12th during hour 9. A troubleshooting attempted to be performed on September 12th. However, as the issue could not be fixed in the field, the Teom unit was removed from the site and sent back to the manufacturer for repair. The Teom unit was put back to the site following an installation audit/calibration on September 16th. Due to this event, a total of 69 hours of data was invalidated. Data was corrected using Alberta air quality guideline. If the data was between 0 to –3, the data was corrected to 0. If the data was below –3, the data was invalidated. 68 hours of data were invalidated as the data were below –3 ug/m^3. The operational uptime was 77.1% this month.

Vector Wind Speed (KPH) & Vector Wind Direction (DEG)

· System make / model –RM Young 5103VK, S/N 56589

The wind system is reported as vector wind speed and vector wind direction. The wind direction data included in this report represents where the wind was coming from. The most recent wind system calibration was done on February 21st, 2014.

No operational issues were observed during the month. Hourly maximum data for wind speed collected on September 30th at hour 21 was invalidated due to a small power outage that affected data quality.

Datalogger

· System make / model - ESC 8832, S/N: AO717

· Software make / version - ESC v 5.51a

The ESC 8832 is connected to a modem with DSL for continuous connection with the base computer.

Trailer

The manifold system was cleaned on September 12th.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Sulphur Dioxide

Lakeland Industry & Community Association - Elk Point Site

SEPTEMBER 2014

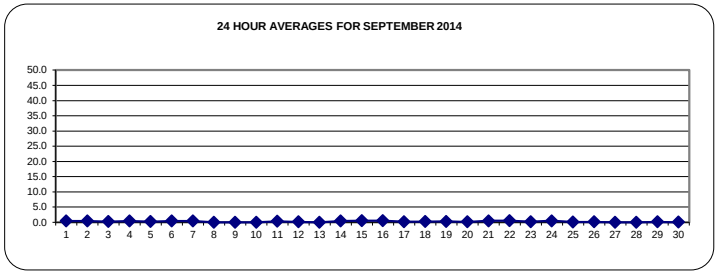
SULPHUR DIOXIDE (SO2) hourly averages in ppb

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	1	1	1	1	0.4	24
2	1	0	0	1	1	1	1	0	0	0	0	0	0	**S**	0	0	1	0	0	1	1	0	0	1	1	0.4	24
3	0	1	1	1	1	0	0	0	0	0	0	1	**S**	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
4	0	0	0	1	0	0	0	0	0	0	0	**S**	***4***	2	1	0	0	0	0	0	0	0	1	0	***4***	0.4	24
5	0	0	0	1	0	1	1	0	0	0	**S**	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0.2	24
6	0	1	1	1	0	1	1	0	0	**S**	0	0	0	0	1	1	1	0	0	0	1	0	0	1	1	0.4	24
7	1	1	1	1	1	1	1	0	**S**	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0.4	24
8	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
9	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
10	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
11	0	0	0	1	**S**	1	1	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	0	0	1	0.3	24
12	0	1	0	**S**	0	0	**S**	**S**	1	**S**	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.2	24
13	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
14	0	**S**	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	1	1	0.4	24
15	**S**	1	0	0	1	1	1	1	0	1	1	1	1	1	0	0	0	0	0	0	0	0	1	**S**	1	0.5	24
16	1	1	1	1	1	1	1	1	0	**C**	**C**	**C**	**C**	**C**	0	0	1	0	0	0	0	0	**S**	0	1	0.5	24
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	**S**	1	1	1	0.2	24
18	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	1	0.2	24
19	1	1	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	1	0.3	24
20	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	1	1	0.1	24
21	1	1	1	0	1	1	1	0	0	2	1	1	0	0	1	0	0	**S**	0	0	0	0	0	0	2	0.5	24
22	0	0	0	0	0	0	0	0	0	0	0	1	2	2	1	1	**S**	1	1	1	1	0	0	1	2	***0.5***	24
23	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	1	0.2	24
24	1	1	0	1	1	1	1	0	0	1	0	1	1	1	**S**	0	0	0	0	0	0	0	0	1	1	0.5	24
25	0	0	0	0	0	1	1	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	1	0.1	24
26	0	1	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	1	0	0	1	0	0	0	0	1	0.1	24
27	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
28	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
29	0	0	0	0	0	1	1	1	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
30	0	0	0	0	1	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
HOURLY MAX	1	1	1	1	1	1	1	1	1	2	1	1	4	2	1	1	1	1	1	1	1	1	1	1			
HOURLY AVG	0.3	0.5	0.3	0.4	0.4	0.4	0.5	0.2	0.1	0.2	0.1	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.3			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

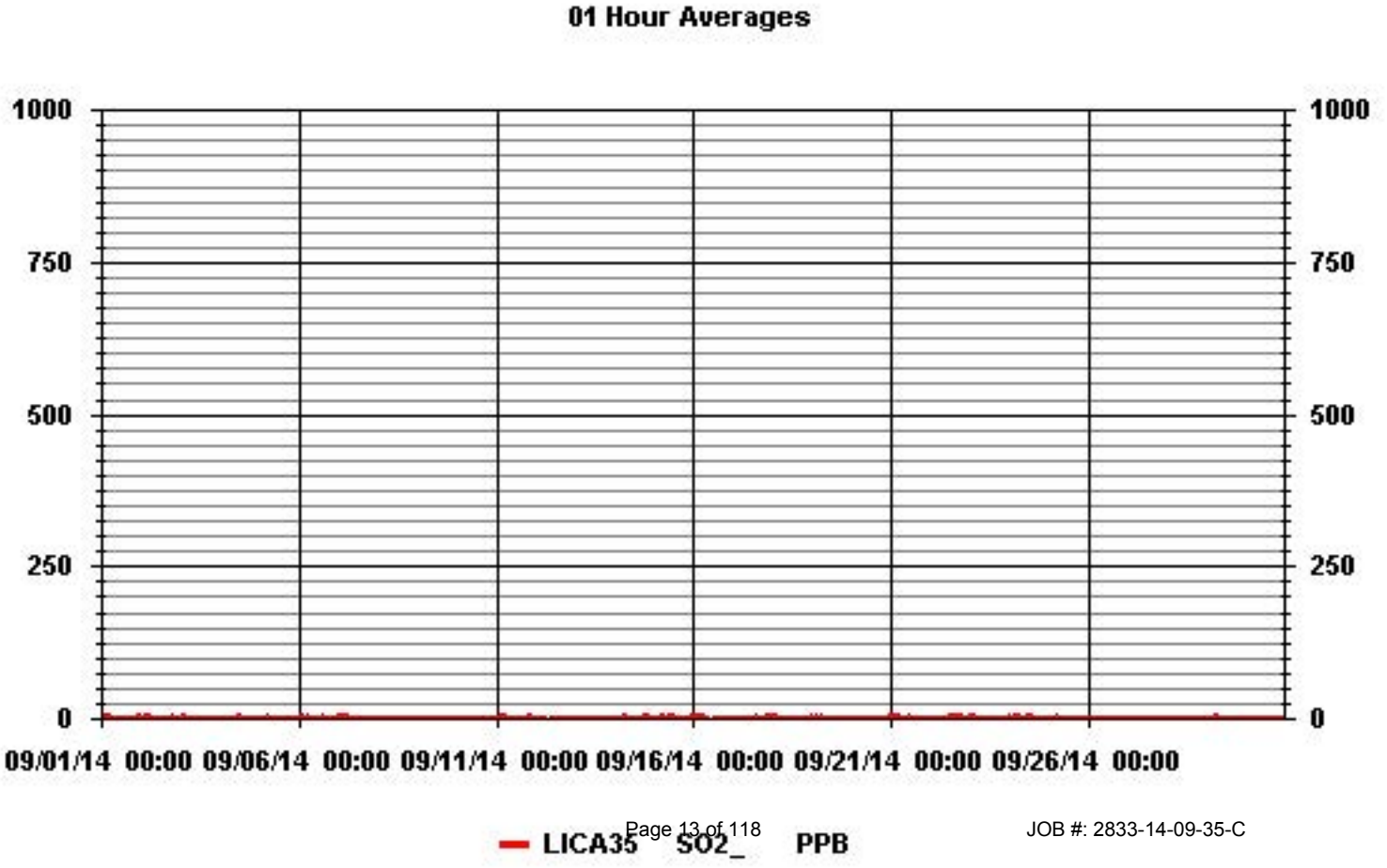


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB 24-HR 48 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	154					
MAXIMUM 1-HR AVERAGE:	4	PPB	@ HOUR(S)	12	ON DAY(S)	4
MAXIMUM 24-HR AVERAGE:	0.5	PPB			ON DAY(S)	VAR
					VAR-VARIOUS	
IZS CALIBRATION TIME:	34	HRS	OPERATIONAL TIME:		720	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	0.46		MONTHLY AVERAGE:		0.24	PPB

JOB #: 2833-14-09-35-C



JOB #: 2833-14-09-35-C

Lakeland Industry & Community Association - Elk Point Site

SEPTEMBER 2014

SULPHUR DIOXIDE MAX instantaneous maximum in ppb

MST

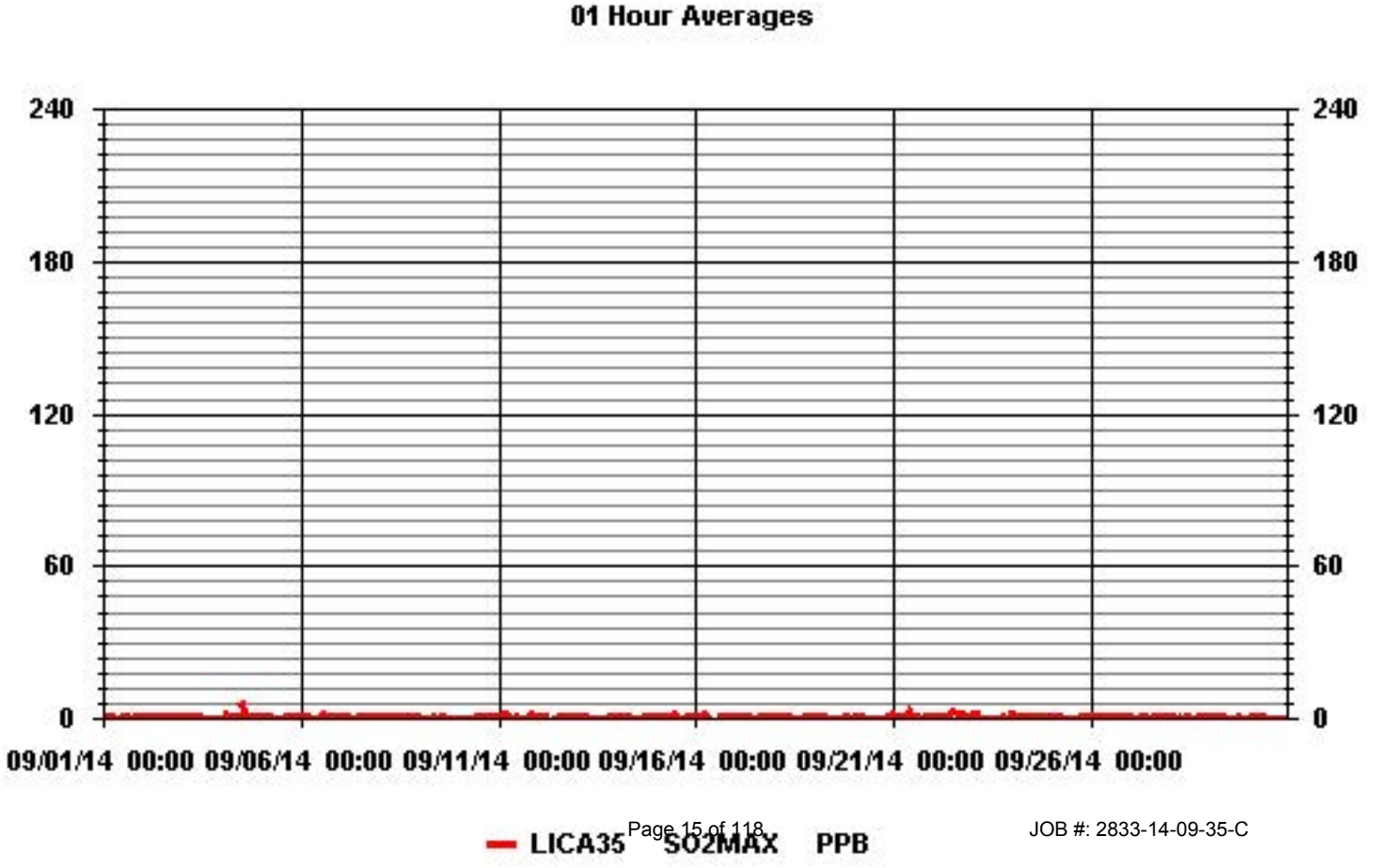
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	1	1	1	1	1	1	1	1	0	0	0	0	1	1	**S**	1	0	0	0	0	1	1	1	1	1	0.7	24
2	1	1	1	1	1	1	1	1	1	0	1	1	0	**S**	1	1	1	0	1	1	1	1	1	1	1	0.9	24
3	1	1	1	1	1	1	0	1	0	0	1	1	**S**	0	0	0	0	0	0	0	0	0	0	0	1	0.4	24
4	0	0	2	2	1	1	1	1	0	0	1	**S**	***6***	5	1	1	1	1	1	0	0	1	1	1	***6***	1.2	24
5	1	1	1	1	1	1	1	1	0	0	**S**	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0.7	24
6	1	1	1	1	1	1	1	0	0	**S**	0	0	1	1	2	1	1	0	1	1	1	0	1	1	2	0.8	24
7	1	1	1	1	1	1	1	0	**S**	0	1	0	0	1	0	0	1	1	1	1	1	1	1	1	1	0.7	24
8	1	1	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1.0	24
9	1	1	0	0	0	0	**S**	0	0	1	1	0	0	1	1	1	1	0	0	0	0	0	0	0	1	0.3	24
10	0	0	0	0	0	**S**	0	0	0	0	0	1	1	1	1	1	1	0	1	0	1	1	1	1	1	0.5	24
11	1	1	1	1	**S**	2	2	1	1	0	0	1	1	0	0	0	0	0	1	1	2	1	1	1	2	0.8	24
12	1	1	1	**S**	1	1	**S**	**S**	1	**S**	0	0	0	1	0	0	1	1	1	1	0	1	1	1	1	0.7	24
13	1	1	**S**	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0.5	24
14	1	**S**	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0.7	24
15	**S**	1	1	1	1	1	1	1	0	1	1	2	2	1	0	0	0	0	0	1	0	1	1	**S**	2	0.8	24
16	1	1	1	1	1	1	2	1	0	**C**	**C**	**C**	**C**	**C**	0	1	1	1	0	1	0	0	**S**	1	2	0.8	24
17	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	1	0	0	1	1	1	**S**	1	1	1	0.7	24
18	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	1	**S**	0	0	1	1	0.6	24
19	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	**S**	1	0	0	0	1	0.4	24
20	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	1	1	2	2	0.5	24
21	2	1	1	1	1	1	1	1	1	3	2	1	0	0	1	0	1	**S**	0	0	1	1	1	1	3	1.0	24
22	0	0	1	1	1	1	1	1	1	1	1	2	3	2	2	2	**S**	1	2	2	1	1	1	1	3	***1.3***	24
23	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	1	1	0	0	0	2	0.4	24
24	3	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	0	1	0	0	1	1	1	1	1	3	1.0	24
25	1	1	1	0	1	1	1	0	0	0	0	0	0	**S**	0	0	0	0	1	1	1	1	1	1	1	0.5	24
26	0	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	0	1	0.9	24
27	1	0	0	0	0	0	1	0	0	0	1	**S**	0	0	1	1	0	1	0	1	1	0	1	1	1	0.4	24
28	1	1	0	1	0	0	1	0	0	0	**S**	1	1	0	0	0	0	0	1	1	1	1	1	1	1	0.5	24
29	1	1	1	1	1	1	1	1	1	**S**	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.4	24
30	0	1	1	1	1	1	1	1	**S**	1	0	0	0	0	0	0	0	0	0	0	0	**P**	0	0	1	0.4	23
HOURLY MAX	3	2	2	2	1	2	2	1	1	3	2	2	6	5	2	2	1	1	2	2	2	1	1	2			
HOURLY AVG	1.0	0.9	0.9	0.9	0.8	0.9	1.0	0.7	0.4	0.5	0.5	0.5	0.7	0.6	0.5	0.5	0.5	0.3	0.7	0.7	0.7	0.7	0.7	0.8			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	428					
MAXIMUM INSTANTANEOUS VALUE:	6	PPB	@ HOUR(S)	12	ON DAY(S)	4 22
				VAR-VARIOUS		
IZS CALIBRATION TIME:	34	HRS	OPERATIONAL TIME:			719 HRS
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION:	0.62					



JOB #: 2833-14-09-35-C

LICA-ELK
SO2_ / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 35
Site Name : LICA-ELK
Parameter : SO2_
Units : PPB

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	20	3.37	7.04	5.28	2.79	5.87	8.22	5.87	4.11	1.76	3.08	3.67	5.72	14.68	14.09	9.83	4.55	100.00
<	60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	170	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	3.37	7.04	5.28	2.79	5.87	8.22	5.87	4.11	1.76	3.08	3.67	5.72	14.68	14.09	9.83	4.55	

Calm : .00 %

Total # Operational Hours : 681

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	20	23	48	36	19	40	56	40	28	12	21	25	39	100	96	67	31	681
<	60																	
<	110																	
<	170																	
<	340																	
>=	340																	
	Totals	23	48	36	19	40	56	40	28	12	21	25	39	100	96	67	31	

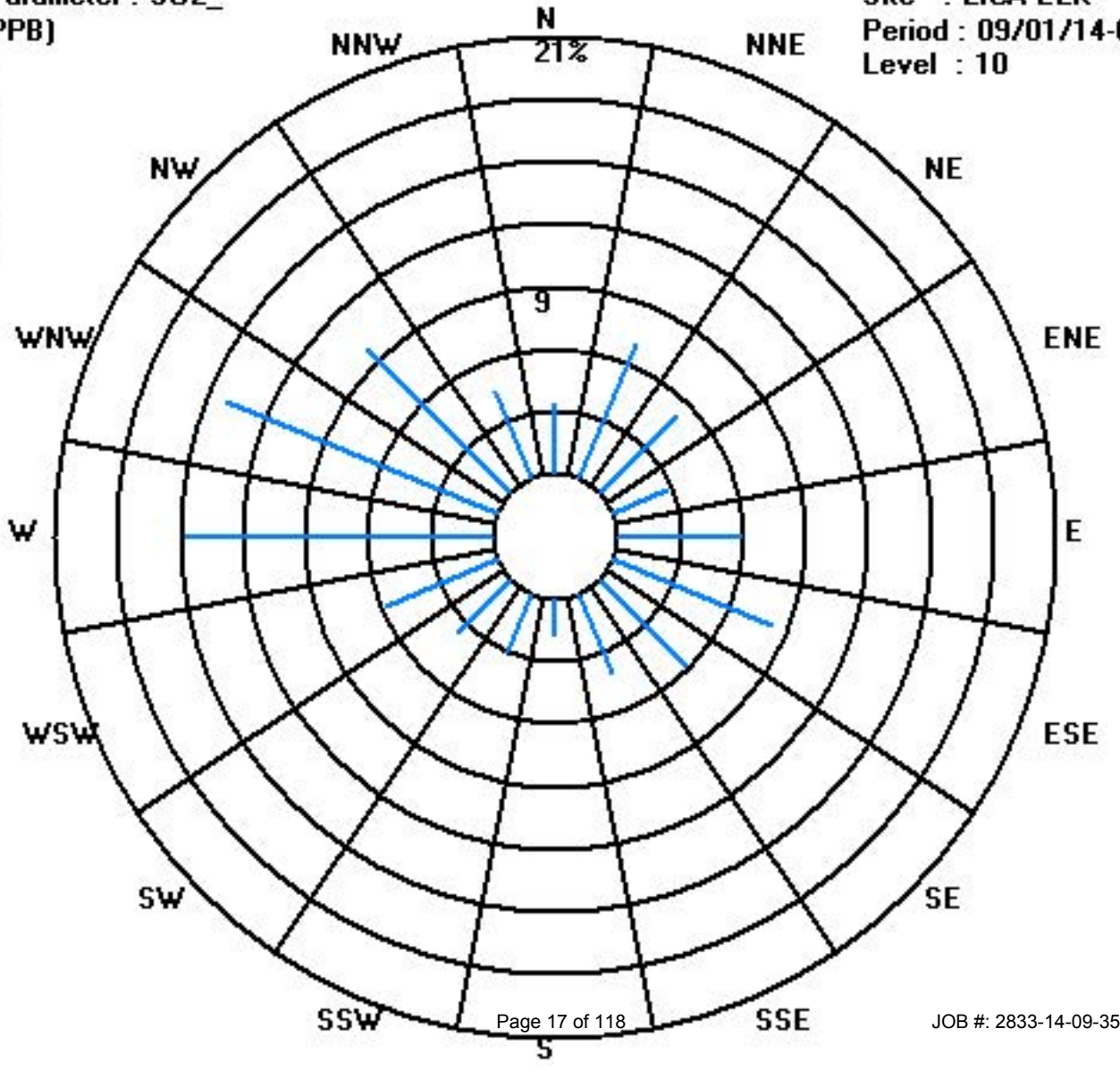
Calm : .00 %

Total # Operational Hours : 681

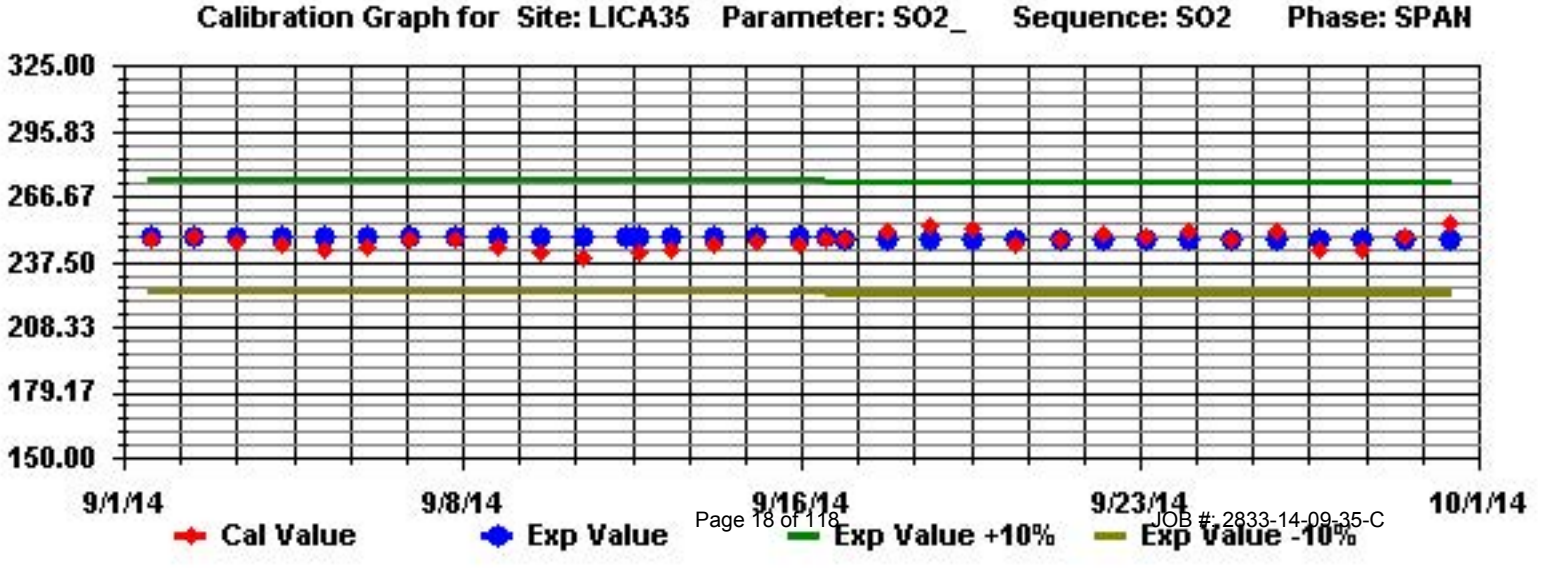
Logger : 35 Parameter : SO2_
Class Limits (PPB)

>=	340
<	340
<	170
<	110
<	60
<	20

Site : LICA-ELK
Period : 09/01/14-09/30/14
Level : 10



JOB #: 2833-14-09-35-C


Calibration Graph for Site: LICA35 Parameter: SO2_ Sequence: SO2 Phase: SPAN
325.00
295.83
266.67
237.50
208.33
179.17
150.00
9/1/14
9/8/14
9/16/14
9/23/14
10/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Hydrogen Sulphide

Lakeland Industry & Community Association - Elk Point Site

SEPTEMBER 2014

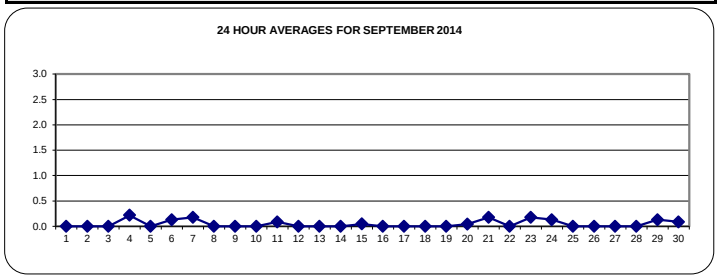
HYDROGEN SULPHIDE (H2S) hourly averages in ppb

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
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	0	0.0	24
2	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
3	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
4	0	0	0	*1*	*1*	*1*	*1*	*1*	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	*1*	*0.2*	24
5	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
6	0	0	0	0	*1*	*1*	*1*	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*1*	0.1	24
7	0	0	*1*	*1*	*1*	*1*	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*1*	0.2	24
8	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
9	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
10	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
11	0	0	0	0	S	*1*	*1*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*1*	0.1	24
12	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
13	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
14	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
15	S	0	0	0	0	0	*1*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	*1*	0.0	24
16	0	0	0	0	0	0	0	0	0	C	C	C	C	C	0	0	0	0	0	0	0	0	S	0	0	0.0	24
17	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
18	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
19	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
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	*1*	*1*	0.0	24
21	*1*	0	0	0	0	*1*	*1*	*1*	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	*1*	0.2	24
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0.0	24
23	*1*	*1*	*1*	*1*	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	*1*	0.2	24
24	0	0	0	0	0	0	*1*	*1*	*1*	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	*1*	0.1	24
25	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
26	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
27	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
28	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
29	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*	0.1	24
30	0	0	0	0	0	0	*1*	*1*	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*1*	0.1	24
HOURLY MAX	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
HOURLY AVG	0.1	0.0	0.1	0.1	0.1	0.2	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

STATUS FLAG CODES

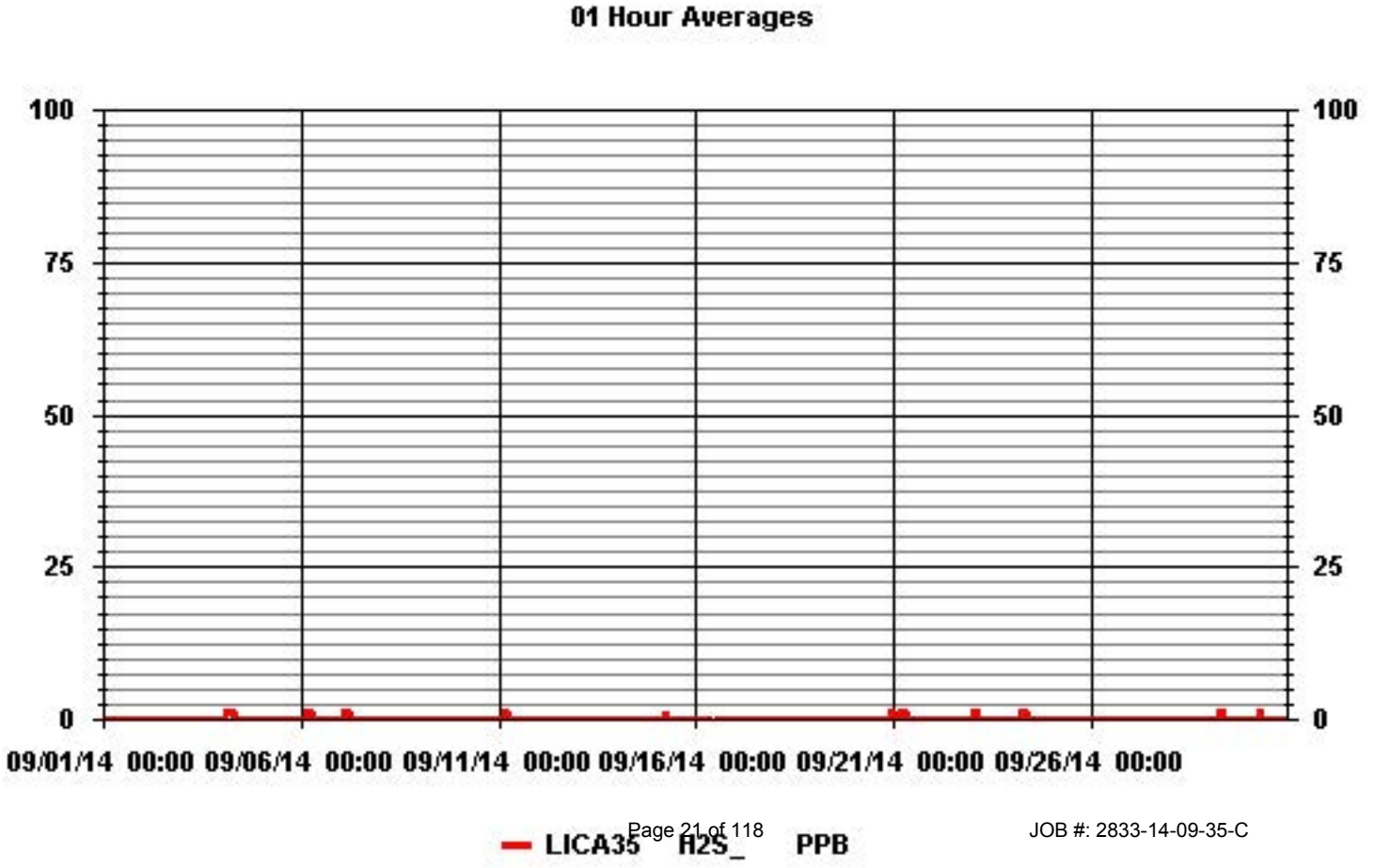
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



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

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	32					
MAXIMUM 1-HR AVERAGE:	1	PPB	@ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 24-HR AVERAGE:	0.2	PPB			ON DAY(S)	VAR
					VAR-VARIOUS	
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:		720	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	0.21		MONTHLY AVERAGE:		0.05	PPB



JOB #: 2833-14-09-35-C

Lakeland Industry & Community Association - Elk Point Site

SEPTEMBER 2014

HYDROGEN SULPHIDE MAX instantaneous maximum in ppb

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
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	0	0.0	24
2	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
3	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	1	0	0	0	0	1	0.0	24
4	0	1	***3***	***3***	2	2	2	2	1	1	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	***3***	***0.7***	24
5	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	1	1	1	1	1	1	0	1	0.3	24
6	1	1	1	1	1	1	2	1	1	**S**	0	0	0	0	0	0	0	0	1	0	0	0	1	1	2	0.6	24
7	1	1	1	1	2	2	1	0	**S**	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0.5	24
8	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
9	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
10	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
11	0	0	0	1	**S**	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	0.3	24
12	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
13	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
14	0	**S**	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
15	**S**	1	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**S**	1	0.3	24
16	0	0	0	0	0	1	1	0	0	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	1	0	0	**S**	0	1	0.2	24
17	0	0	0	0	0	0	2	1	1	1	0	1	1	0	0	1	1	1	1	1	1	**S**	0	0	2	0.6	24
18	0	0	0	1	0	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	**S**	0	0	1	1	0.3	24
19	1	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	1	0.3	24
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	2	2	0.1	24
21	2	1	1	0	1	1	2	2	1	1	1	0	0	0	0	0	2	**S**	0	0	0	0	0	0	2	0.7	24
22	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	**S**	0	0	2	0	0	0	1	2	0.3	24
23	1	2	2	2	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	2	0.3	24
24	***3***	0	0	0	1	1	1	2	2	1	1	0	0	0	**S**	0	0	0	0	0	0	0	0	1	***3***	0.6	24
25	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
26	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
27	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
28	0	0	0	0	0	0	1	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
29	0	1	1	1	1	1	1	1	1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.4	24
30	0	1	1	1	1	1	1	1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	**P**	0	0	1	0.3	23
HOURLY MAX	3	2	3	3	2	2	2	2	2	1	1	1	1	0	0	2	2	1	1	2	1	1	1	2			
HOURLY AVG	0.3	0.3	0.4	0.4	0.4	0.5	0.7	0.5	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.1	0.2			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 126

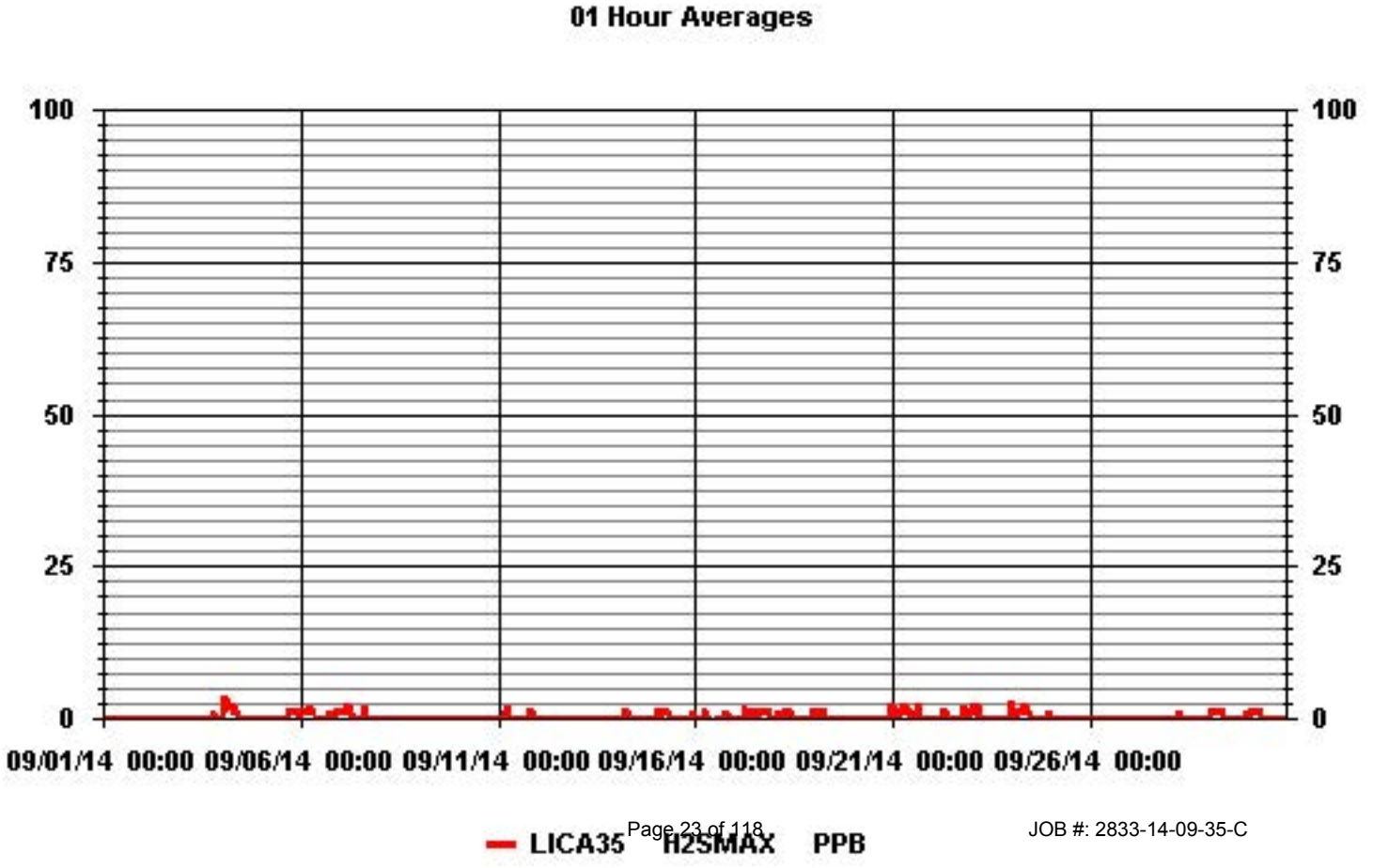
MAXIMUM INSTANTANEOUS VALUE: 3 PPB @ HOUR(S) VAR ON DAY(S) 4, 24

VAR-VARIOUS

IZS CALIBRATION TIME: 31 HRS OPERATIONAL TIME: 719 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION: 0.51



JOB #: 2833-14-09-35-C

LICA-ELK
H2S_ / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 35
Site Name : LICA-ELK
Parameter : H2S_
Units : PPB

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3	3.36	7.01	5.26	2.77	5.84	8.33	5.99	4.09	1.75	3.07	3.65	5.70	14.76	14.03	9.79	4.53	100.00
<	10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	3.36	7.01	5.26	2.77	5.84	8.33	5.99	4.09	1.75	3.07	3.65	5.70	14.76	14.03	9.79	4.53	

Calm : .00 %

Total # Operational Hours : 684

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3	23	48	36	19	40	57	41	28	12	21	25	39	101	96	67	31	684
<	10																	
<	50																	
>=	50																	
	Totals	23	48	36	19	40	57	41	28	12	21	25	39	101	96	67	31	

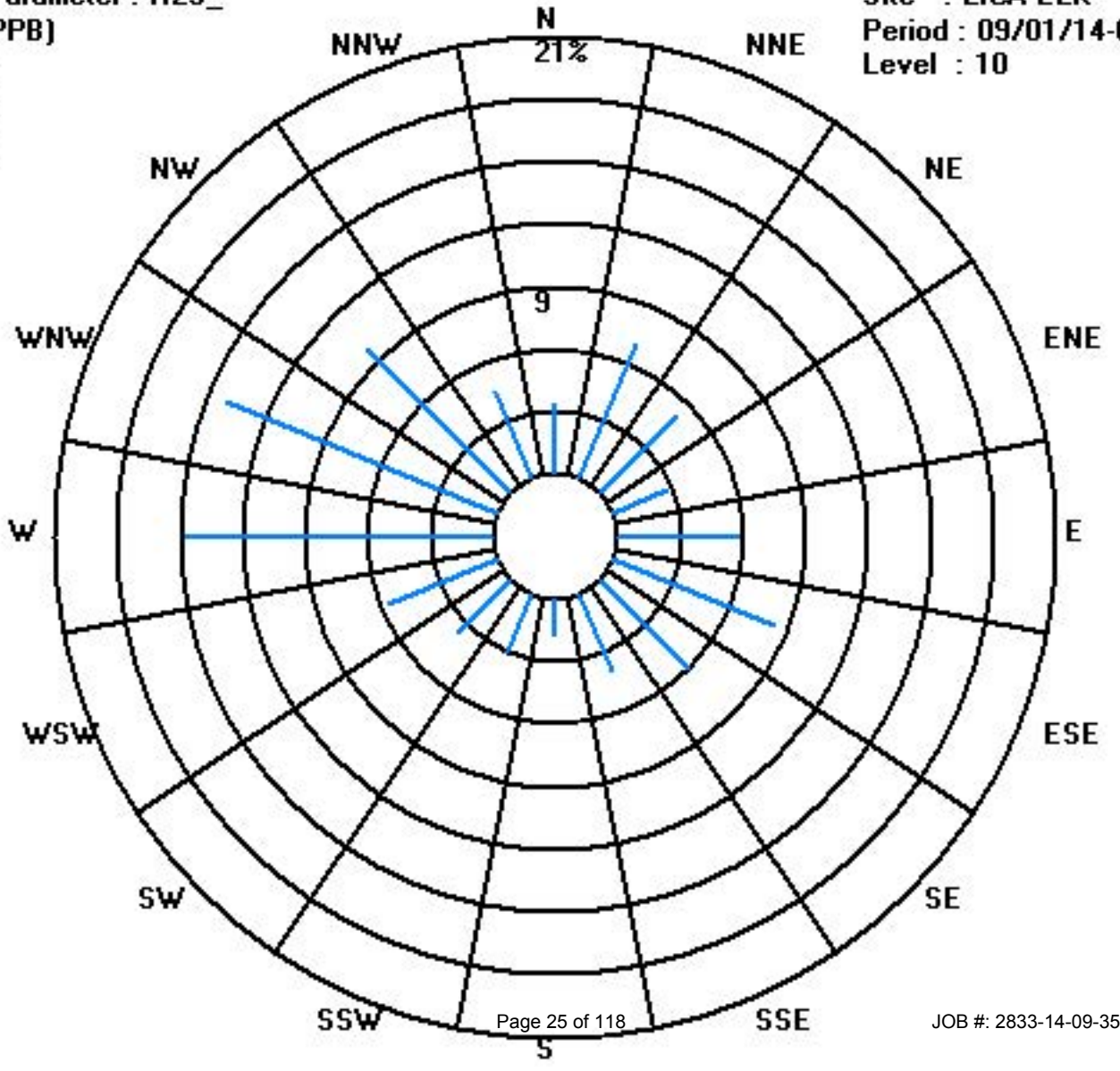
Calm : .00 %

Total # Operational Hours : 684

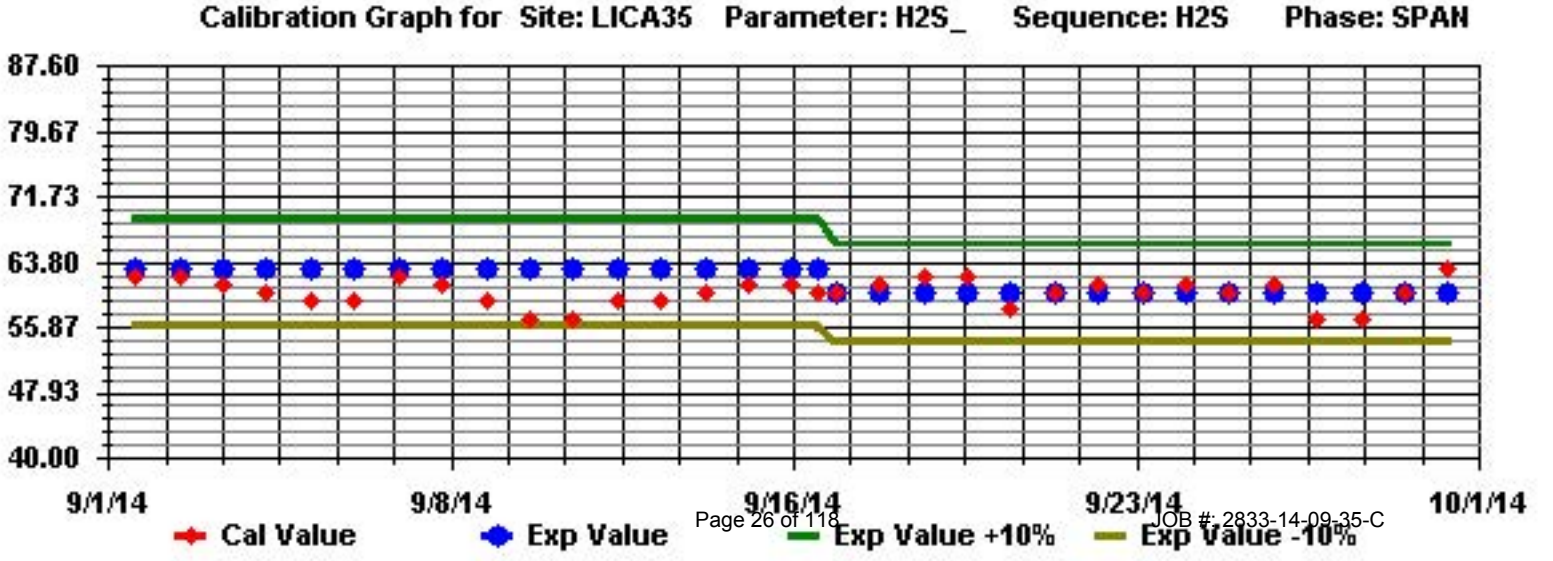
Logger : 35 Parameter : H2S_
Class Limits (PPB)

>= 50
< 50
< 10
< 3

Site : LICA-ELK
Period : 09/01/14-09/30/14
Level : 10



JOB #: 2833-14-09-35-C


Calibration Graph for Site: LICA35 Parameter: H2S_ Sequence: H2S Phase: SPAN
87.60
79.67
71.73
63.80
55.87
47.93
40.00
9/1/14
9/8/14
9/16/14
9/23/14
10/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Particulate Matter 2.5

Lakeland Industry & Community Association - Elk Point Site

SEPTEMBER 2014

PARTICULATE MATTER 2.5 (LESS THAN 2.5 MICRONS) (PM2.5) hourly averages in ug/m3

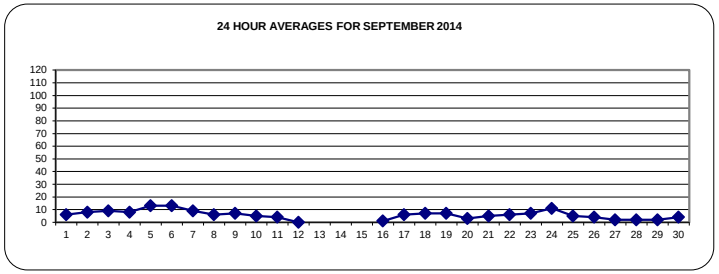
MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	11	17	17	15	10	4	9	0	0	5	0	1	8	0	6	3	3	9	5	3	7	10	12	17	6.5	24
2	17	***57***	0	5	0	0	0	6	17	0	9	1	1	4	**X**	5	16	6	9	11	2	8	11	5	***57***	8.3	23
3	8	6	9	22	26	31	22	6	0	15	2	7	8	12	0	3	6	3	1	0	1	10	12	11	31	9.2	24
4	16	10	3	11	7	8	4	**X**	**X**	4	9	11	8	8	8	4	**X**	13	10	5	7	9	10	12	16	8.4	21
5	18	10	0	10	23	22	39	10	14	0	8	4	3	13	7	2	10	40	15	25	18	6	7	3	40	12.8	24
6	4	7	17	23	20	20	17	37	1	5	19	9	16	11	13	12	6	9	9	17	16	2	12	7	37	***12.9***	24
7	6	17	20	19	**X**	9	33	4	14	6	4	5	1	6	3	0	1	**X**	5	**X**	**X**	**X**	**X**	**X**	33	9.0	17
8	0	**X**	**X**	5	8	6	3	5	1	10	0	**X**	3	1	2	18	6	3	2	17	15	11	10	9	18	6.4	21
9	7	4	0	**X**	**X**	**X**	0	4	0	15	8	13	**X**	**X**	10	**X**	3	15	21	13	1	**X**	0	1	21	6.8	17
10	0	2	0	0	0	0	**X**	**X**	**X**	**X**	**X**	8	0	7	11	14	4	5	10	7	6	3	**X**	**X**	14	4.5	17
11	**X**	**X**	**X**	**X**	1	6	5	0	6	5	6	0	10	0	**X**	0	0	**X**	3	6	3	3	14	5	14	4.1	18
12	0	2	1	0	**X**	**X**	**X**	**X**	4	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	4	1.4	5
13	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**			0
14	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**			0
15	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**			0
16	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**C**	**C**	**C**	0	0	4	0	3	3	4	4	5	3	0	5	2.4	14
17	0	5	4	1	7	3	6	4	8	5	5	6	6	7	12	4	6	4	9	7	10	5	1	12	12	5.7	24
18	5	3	0	6	4	1	9	9	10	9	8	7	7	6	2	7	8	3	8	12	12	14	10	5	14	6.9	24
19	10	9	5	8	12	8	10	20	7	15	10	3	1	7	1	0	5	7	3	0	2	5	5	3	20	6.5	24
20	3	3	**X**	6	1	0	5	4	0	3	2	1	5	13	0	0	6	**X**	0	0	5	0	5	7	13	3.1	22
21	9	5	2	5	3	7	6	9	10	13	11	7	5	4	**X**	2	8	0	0	4	4	5	2	0	13	5.3	23
22	4	0	**X**	3	0	4	0	14	3	5	4	7	7	9	4	7	4	6	7	12	8	13	18	10	18	6.5	23
23	6	12	9	7	15	16	12	8	4	7	10	8	4	0	4	5	2	0	6	7	7	7	10	11	16	7.4	24
24	7	8	9	9	13	10	11	14	7	11	11	7	14	8	6	7	5	7	12	17	14	32	21	13	32	11.4	24
25	3	6	8	**X**	5	2	8	6	10	4	6	0	0	10	**X**	0	3	3	10	2	9	4	3	7	10	5.0	22
26	5	**X**	5	**X**	0	0	9	0	6	**X**	17	10	**X**	**X**	**X**	0	4	**X**	**X**	**X**	**X**	0	1	0	17	4.1	14
27	4	4	3	1	0	3	6	**X**	2	0	**X**	**X**	0	**X**	**X**	**X**	**X**	0	**X**	0	0	0	**X**	2	6	1.7	15
28	5	0	1	0	**X**	0	0	2	2	8	0	1	2	1	2	0	10	2	0	0	0	0	4	0	10	1.7	23
29	5	0	0	0	0	3	**X**	1	**X**	5	0	4	**X**	1	6	2	2	0	10	8	0	0	2	0	10	2.3	21
30	7	**X**	0	1	9	2	5	0	2	3	8	4	5	8	6	2	2	0	9	9	18	0	0	1	18	4.4	23
HOURLY MAX	18	57	20	23	26	31	39	37	17	15	19	13	16	13	13	18	16	40	21	25	18	32	21	13			
HOURLY AVG	6.0	8.2	5.1	7.2	7.7	7.1	9.3	7.8	5.6	6.4	7.0	5.3	4.9	6.3	4.9	4.3	5.0	6.0	7.1	7.8	6.9	6.2	7.4	5.7			

STATUS FLAG CODES

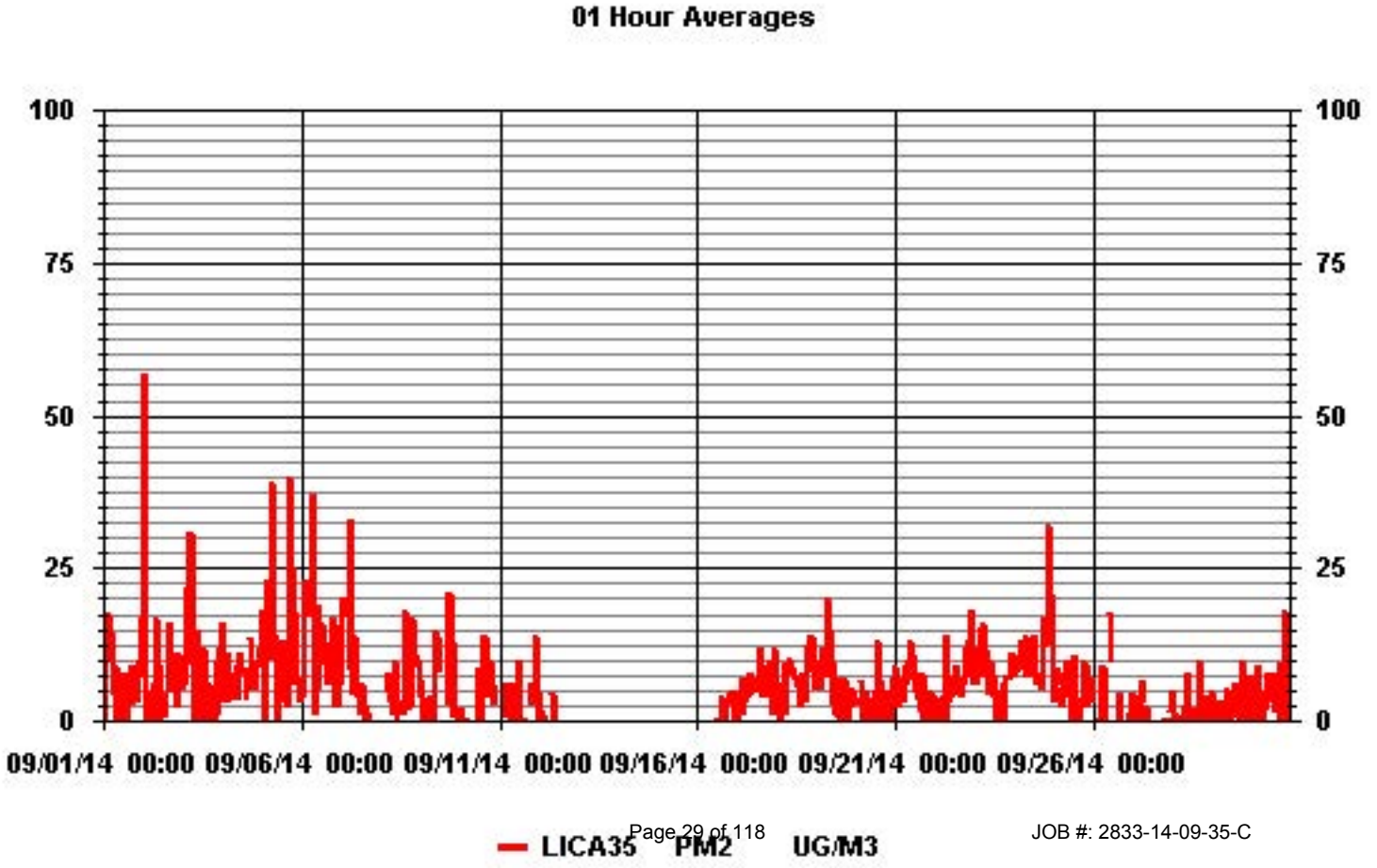
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 24-HR 30 ug/m3



MONTHLY SUMMARY

NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	453					
MAXIMUM 1-HR AVERAGE:	57	ug/m3	@ HOUR(S)	1	ON DAY(S)	2
MAXIMUM 24-HR AVERAGE:	12.9	ug/m3			ON DAY(S)	6
					VAR-VARIOUS	
			OPERATIONAL TIME:		555	HRS
MONTHLY CALIBRATION TIME:	3	HRS	AMD OPERATION UPTIME:		77.1	%
STANDARD DEVIATION:	6.43		MONTHLY AVERAGE:		6.47	ug/m3



JOB #: 2833-14-09-35-C

LICA-ELK
PM2 / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 35
Site Name : LICA-ELK
Parameter : PM2
Units : UG/M3

Wind Parameter : WDR
Instrument Height : 10 Meters

		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	30	2.46	6.31	4.16	3.08	6.00	8.62	5.54	4.77	1.84	2.92	3.85	5.70	14.79	14.48	9.70	4.62	98.92
<	60	.00	.15	.00	.00	.00	.00	.15	.00	.00	.00	.00	.46	.00	.00	.15	.15	1.07
<	80	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	120	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	240	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	240	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	2.46	6.47	4.16	3.08	6.00	8.62	5.70	4.77	1.84	2.92	3.85	6.16	14.79	14.48	9.86	4.77	

Calm : .00 %

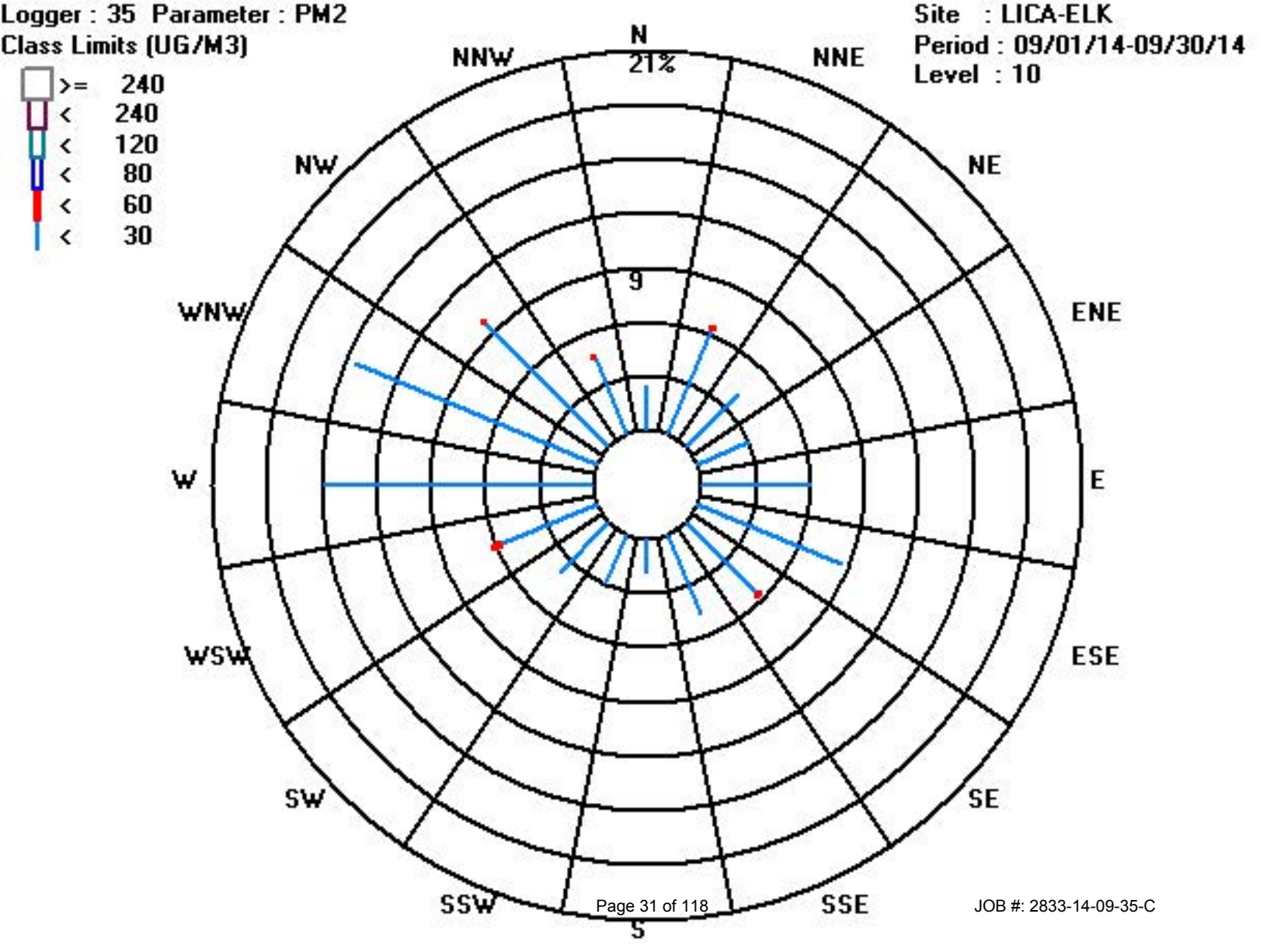
Total # Operational Hours : 649

Distribution By Samples

		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	30	16	41	27	20	39	56	36	31	12	19	25	37	96	94	63	30	642
<	60		1					1					3			1	1	7
<	80																	
<	120																	
<	240																	
>=	240																	
	Totals	16	42	27	20	39	56	37	31	12	19	25	40	96	94	64	31	

Calm : .00 %

Total # Operational Hours : 649



JOB #: 2833-14-09-35-C

Nitrogen Dioxide

Lakeland Industry & Community Association - Elk Point Site

SEPTEMBER 2014

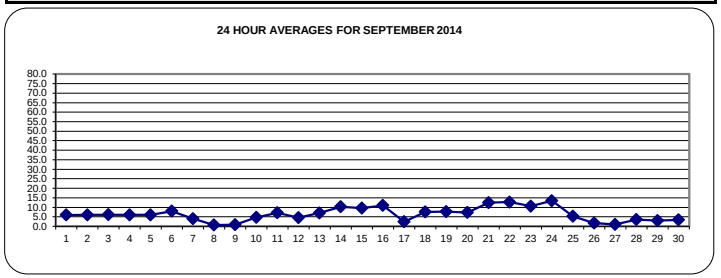
NITROGEN DIOXIDE (NO2) hourly averages in ppb

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	8.3	4.9	5.7	5.4	7.2	11.1	10.1	4.2	5.4	1.9	0.6	0.4	0.5	0.3	**S**	1.8	1.8	2.9	2.7	5.6	11.1	17	14.3	13.2	17	5.9	24
2	13.2	11.6	9.2	13.1	10.1	8.7	8	3.7	5.3	4.9	4.4	3.2	1.5	**S**	1.4	1.2	0.6	1	1.9	5	**S**	7.9	6.3	9.3	13.2	6.0	24
3	3.8	1.4	5.6	7.9	9	8.5	5.3	3.1	1.2	0.9	1	1	**S**	1.5	2.9	0.7	0.8	0.7	2.2	16.2	17.7	18	17	14	18	6.1	24
4	12.2	12.3	10.8	12	7.4	6.6	6	8.6	7.8	7.4	4.3	**S**	5.2	3	1.9	1.9	2.5	3.1	5.8	1.8	2.1	7	5.3	2.5	12.3	6.0	24
5	5.2	7.5	10.1	9.4	6.7	10.9	8	**S**	4.8	1.7	**S**	2.8	1.5	1.4	1.6	2.3	2.6	13.3	10.5	10.7	9.7	6.6	2	2.2	13.3	6.0	24
6	6.8	11	8	7.8	10.4	14.4	11.8	9.2	5.2	**S**	3.9	3.2	2.1	1.9	1.7	2.5	2	2.9	12.1	12.6	11	14.6	13.3	14.1	14.6	7.9	24
7	15.9	12.5	10.4	9.2	11.6	15.3	6	1.9	**S**	0.9	1.2	1	0.8	0.8	1.7	0.8	1.1	0.6	0.5	0.1	0	0	0	0	15.9	4.0	24
8	0	0	0	0	0	0	0.1	**S**	1.4	1	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0	0.5	1.2	2.2	3.2	3	2.4	3.2	0.7	24
9	2.1	1.4	1.1	1.2	0.4	0.7	**S**	1.2	0.8	0.5	0.1	0.7	0.2	0.5	0	0.4	0.5	0	0.1	0.2	0.2	2.7	1.6	2	2.7	0.8	24
10	2.1	3.2	1.6	0	0	**S**	3.2	4.1	0.7	0.4	0.2	0.2	0.3	0.3	0.4	0.6	0.4	0.6	2.6	10	20.3	19.5	17.8	18.2	20.3	4.6	24
11	17.3	16.7	14.4	13.4	**S**	12	10	7.9	9.9	5.4	2.4	0.8	1.3	0.9	0.6	0.9	0.7	1.2	4.3	17.7	16.9	4	2.5	2.1	17.7	7.1	24
12	2.5	1.9	2.2	**S**	11.4	14.8	**S**	**S**	9.4	**S**	7.8	5.3	2.5	2.8	1.6	1.9	4.1	5	6.6	4.4	0.3	0.5	0.4	5.4	14.8	4.5	24
13	13	12.8	**S**	10.4	9.1	6.5	13.1	10.5	4.5	0.9	0.1	0.2	0.1	0.1	0.3	0.3	0.4	0.8	6.4	14.8	20.2	12.4	10.2	13.4	20.2	7.0	24
14	12.7	**S**	11.3	13.8	15.2	14.9	13.9	10.1	9.4	5.2	3.5	1.6	0.9	0.8	0.8	0.7	2.1	2.5	11.2	16.7	30	19.1	18.7	20.3	30	10.2	24
15	**S**	23	23.1	21.7	21	20	17.6	13.2	6.9	3.7	2.4	2.1	1.1	1	0.8	0.8	0.6	0.4	0.8	7.2	9.8	16.2	17	**S**	23.1	9.6	24
16	19.4	16.8	12.2	14	12.9	15.1	13.4	9.6	9.9	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2	5.4	19	12.1	2.3	**S**	0.8	19.4	11.0	24
17	0.7	0.7	1.1	0.7	1.3	3	2.9	2.4	2.1	1.9	1.6	1.8	1.8	2	2	2	2.2	2.4	5.3	4.7	3.7	**S**	4.7	4.2	5.3	2.4	24
18	4.8	4.8	4.8	6.3	7	7	4.8	5.8	7.7	7.8	5.2	1.9	2.1	2	1.5	0.6	1	1.3	10.1	19.7	**S**	17.4	25.9	23.1	25.9	7.5	24
19	22.7	20.2	13.1	16	11.7	12.3	11.7	8.5	4.2	3.5	3.5	1.8	1	1	1.3	0.8	1.2	1	2.6	**S**	18.6	11.5	3.6	6.2	22.7	7.7	24
20	6.8	1.5	2.4	4.2	3.4	6	5.5	1.8	2	1.5	0.4	0.2	0.7	0.3	0.3	0.4	1	4.9	**S**	11.4	23	27.7	29.1	31.7	31.7	7.2	24
21	29	27.6	25.9	25	23.7	23.8	22.6	16.8	13.6	10.8	11.4	4.3	1.3	1.1	1.6	3.1	4.5	**S**	3.3	3.9	8.8	9.1	8.8	7.1	29	12.5	24
22	8	6.2	7.5	10.9	10	14.4	11.7	10.5	7.1	4.6	3.8	4.1	3.8	3.4	2.3	2.4	**S**	11	15.6	35.8	24.9	29.4	30.7	34.1	35.8	12.7	24
23	34.6	29.9	27	19.2	7	2.6	2	3.5	2.3	1.5	1.4	1	0.7	0.8	0.8	**S**	1.2	3.2	13.6	19.1	14.4	17.3	15.8	23.1	34.6	10.5	24
24	***40.1***	28.4	25	20.7	18	17.8	18.1	16.6	9.4	4.8	3.9	3.1	2.5	2	**S**	2.7	3.5	4.7	9.5	12.8	10.3	15.7	16.4	21.7	***40.1***	***13.4***	24
25	4.3	2.4	5.4	7.6	7.4	20.2	19.7	14.8	10.6	10.6	4.6	1.5	0.8	**S**	0.7	1.1	0.9	0.9	1.6	2.6	2	0.7	0.4	0.4	20.2	5.3	24
26	0.5	0.7	0.5	0.4	0.4	0.2	0.1	0.5	0.6	3.9	1.2	0.6	**S**	1.2	3.5	1.6	2.1	4	2.8	3.4	2.4	1.9	4.1	2.1	4.1	1.7	24
27	1.5	1.4	0.8	0.6	1.2	1.5	0.7	0.6	0.5	0.6	0.5	**S**	1.3	0.8	0.8	0.7	0.6	0.5	0.3	0.4	1.4	1.6	2.1	2.7	2.7	1.0	24
28	2.9	3.3	1.4	2.2	2.9	7.6	9.9	4.5	1.9	1	**S**	1.4	0.8	0.9	0.9	0.8	0.8	2.2	4.5	6.3	5.9	6.8	7.1	4.3	9.9	3.5	24
29	3.9	4.7	4.2	4.9	4.6	4.2	3.6	3.4	2.3	**S**	1.9	1.6	1.4	1.4	1.3	1.5	1.7	2.4	3.7	2.5	2.4	3.1	3.5	4.7	4.9	3.0	24
30	3.1	3.6	4.3	5.8	5.5	7	9.4	8.9	**S**	6.1	3.9	3.3	2.9	1.7	1.5	0.7	0.7	0.8	1.5	3.1	3.4	0.6	0.5	0.5	9.4	3.4	24
HOURLY MAX	40	30	27	25	24	24	23	17	14	11	11	5	5	3	4	3	5	13	16	36	30	29	31	34			
HOURLY AVG	10.3	9.4	8.6	9.1	8.2	9.9	8.9	6.9	5.2	3.6	2.8	1.8	1.5	1.3	1.3	1.3	1.5	2.6	5.1	9.3	10.2	10.1	9.7	9.9			

STATUS FLAG CODES

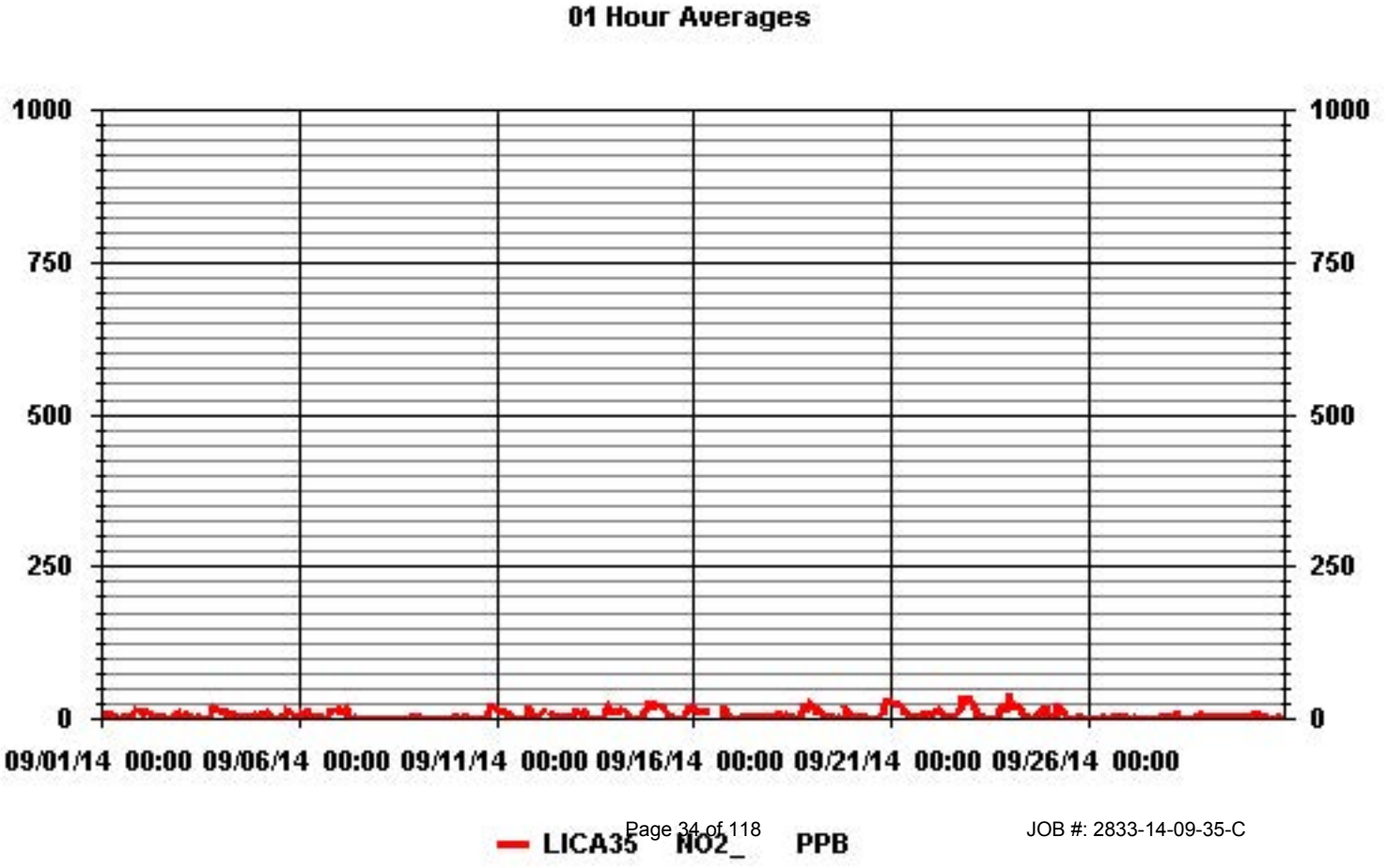
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



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

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	661					
MAXIMUM 1-HR AVERAGE:	40.1	PPB	@ HOUR(S)	0	ON DAY(S)	24
MAXIMUM 24-HR AVERAGE:	13.4	PPB			ON DAY(S)	24
					VAR-VARIOUS	
IZS CALIBRATION TIME:	36	HRS	OPERATIONAL TIME:		720	HRS
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	7.02		MONTHLY AVERAGE:		6.26	PPB



JOB #: 2833-14-09-35-C

Lakeland Industry & Community Association - Elk Point Site

SEPTEMBER 2014

NITROGEN DIOXIDE MAX instantaneous maximum in ppb

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	16.1	11	7.6	8.7	9.7	14.2	12.9	7.4	89.8	3.2	2	1.5	1.7	1.9	**S**	3.3	4.5	6.4	15.9	8	18.2	26.2	18.2	20.6	89.8	13.4	24
2	21.4	14.1	12.9	15.2	13.1	10.1	9.9	7.3	7.3	6.3	5.8	5	3.9	**S**	2.2	1.9	1.3	1.8	3.9	**S**	**S**	12.1	10	11.9	21.4	8.4	24
3	6.2	2.3	9.2	10.3	10.7	10.7	6.8	4.7	2.4	1.6	1.9	2	**S**	2.3	6	1.3	1.6	1.2	9.4	32.9	19.9	20.4	20.9	16.4	32.9	8.7	24
4	13.9	13.7	27.9	24.1	9.1	11.1	8.3	10.3	9.6	8.3	7.2	**S**	7	6.2	2.6	4.7	4.7	6.9	9.1	4.1	4.1	16.3	12.5	5	27.9	9.9	24
5	11.3	13.5	12.1	12.6	10	11.6	**S**	**S**	8	2.7	**S**	4.2	2.5	2.2	2.5	3.8	4.1	23.6	21.9	17.3	15.5	18.2	2.9	2.9	23.6	9.7	24
6	11.3	14.4	9.8	11.3	13.6	15.8	18	10.1	8.6	**S**	4.9	4.5	2.5	2.4	2.2	5.2	3.1	5.8	20.6	24.9	16.3	16.9	15.2	16.4	24.9	11.0	24
7	17.2	14.3	14.3	10.6	14.3	16.3	11.5	4.4	**S**	1.6	1.9	1.4	1.5	1.6	2.8	1.6	1.9	1.6	1.4	1	1	0.8	0.8	0.9	17.2	5.4	24
8	0.9	0.7	0.9	0.7	0.7	0.8	1.1	**S**	2.3	1.5	0.9	1	0.8	0.8	0.6	0.6	0.8	0.6	1.4	3.1	3.7	5.1	4.5	3.2	5.1	1.6	24
9	2.9	2.5	1.7	3.3	1.1	1.3	**S**	2.6	1.5	1.4	1.1	2.1	1.1	1.4	1	1.3	1.5	0.8	1.1	1.6	1.7	5.4	6.2	5.1	6.2	2.2	24
10	3.8	5.1	3.2	0.8	1.2	**S**	5.2	6.6	1.9	1.3	0.8	0.9	0.9	1	0.9	1.3	1	1.7	5.2	18.8	21.9	29.4	24	20.9	29.4	6.9	24
11	19.7	19	16	16.5	**S**	15	14.9	9.3	11.9	10.7	51.9	1.7	2.4	2.7	1.7	2.3	1.9	3.6	11	31	24.3	15.4	3.9	3.2	51.9	12.6	24
12	3.9	3.1	3.7	**S**	15.3	17.2	**S**	**S**	11.8	**S**	11.3	11.4	5.2	5.2	3.5	4.7	5.6	6.3	10.4	16.1	1.5	1.8	2.4	17.1	17.2	7.9	24
13	18.6	18.6	**S**	15.7	12.7	9.9	17.9	13.1	7.7	3.6	1.2	1.5	1.1	1.5	1.7	1.6	1.8	2.8	14.9	26.4	27.4	16.1	13.4	17	27.4	10.7	24
14	16.7	**S**	13.3	16.1	16.5	17.5	18.6	13.6	11.7	6.5	5.8	2.7	2.1	2.5	2.8	1.7	4.8	5.6	38.5	27.6	33.8	25.7	21.8	23.8	38.5	14.3	24
15	**S**	26.2	25.2	23.9	21.8	21.8	20.8	15.9	9.1	6.6	3.5	3.7	2.2	1.7	1.8	1.7	1.7	1.2	6.6	17	18.2	22	22.6	**S**	26.2	12.5	24
16	22	19.4	15.1	15.3	15.3	17	16.6	11.4	12	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	3.3	17.3	26.7	20.9	5	**S**	2.3	26.7	14.6	24
17	2.1	2.7	2.7	2.7	3.7	5.2	4.8	3.7	3.3	3.1	2.7	3.2	3.1	3.4	3.6	3.5	4.5	5.5	7.3	8.2	5.8	**S**	6.1	5.5	8.2	4.2	24
18	6.3	6.6	6.8	8.8	10.2	9.4	6.7	9.6	9.9	10	10.1	4.4	3.3	3	7.7	1.5	2.3	5.8	25.1	26.9	**S**	22.3	29.5	28.3	29.5	11.1	24
19	26.5	25.1	17.7	20	16.5	16.2	13.9	12.4	5.7	5.5	4.7	3.4	2.1	1.9	2.9	1.9	3.5	3.7	8.7	**S**	34.6	15.3	13.2	12.5	34.6	11.6	24
20	13	2.8	8.2	9.2	8	8.6	11.5	7	4	2.9	1.5	1.5	2.2	1.3	1.5	1.5	2.9	14	**S**	17.6	29	31.7	32.4	34.8	34.8	10.7	24
21	34.9	30.7	29.6	27	24.8	25.4	32.4	21.1	15.9	15.7	14	9.1	2.3	2.5	5.3	5.9	11.1	**S**	5.5	7.4	13	17.5	20.9	16.3	34.9	16.9	24
22	14	7.4	9.6	29.1	13.5	18.5	17.2	15.5	8.8	7.9	4.9	5.8	5.2	5	3.6	4.6	**S**	33.9	27.8	59	34.5	36.6	36.4	41.7	59	19.2	24
23	38.7	32.1	29.7	26.8	13.5	3.9	6	6.3	5.4	2.8	2.5	1.8	1.6	1.8	1.7	**S**	2.7	7	30.3	27.3	24.1	23.2	21.9	30	38.7	14.8	24
24	***439.7***	30.3	28.5	23.1	19.5	20.3	21.9	19	14.7	7.2	5	4.5	4	3.4	**S**	4.4	6.1	8	20.6	25.5	17.5	19.8	18.7	28	***439.7***	***34.3***	24
25	18.6	5.6	7.3	12.5	26.6	29	29.2	23.7	13.6	15.6	8.8	3.2	1.7	**S**	1.7	2.1	2	2	3	3.9	3.8	2.1	1.4	1.4	29.2	9.5	24
26	1.7	1.6	1.6	1.6	1.6	1.6	1.2	1.5	1.9	7.5	3.9	1.8	**S**	2.7	6.9	4.9	3.5	7.1	5.8	6.6	5.5	4.7	9.1	5.3	9.1	3.9	24
27	4.5	3.3	2.4	1.5	2.7	3.3	1.8	1.8	1.7	1.6	1.3	**S**	2.5	1.7	1.7	1.4	1.3	1.3	1.2	1.2	2.7	2.7	5.1	5.1	5.1	2.3	24
28	6.6	7	3.1	3.6	5.7	12.4	16.7	8.2	3.3	2.3	**S**	2.8	1.7	2.3	2.5	1.9	1.9	7.4	7.6	10.3	11.7	10.2	9.7	9.5	16.7	6.5	24
29	7.7	8.1	7.3	7.9	7.8	5.7	5.3	4.7	3.6	**S**	3.1	2.5	2.3	2.9	3.1	3.7	3.6	5.2	5.4	3.9	3.7	4.2	4.5	8.1	8.1	5.0	24
30	4.7	5.8	6.4	8.1	7	10.1	12.3	10.9	**S**	9.2	5.7	5.8	4.7	4.2	2.9	1.5	1.5	1.7	4.3	6.5	7.3	**P**	1.5	1.3	12.3	5.6	23
HOURLY MAX	440	32	30	29	27	29	32	24	90	16	52	11	7	6	8	6	11	34	39	59	35	37	36	42			
HOURLY AVG	27.8	12.0	11.5	12.7	11.2	12.4	12.7	9.7	10.3	5.6	6.2	3.5	2.7	2.6	2.9	2.7	3.1	6.1	11.8	16.5	15.1	15.3	13.4	13.6			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 673

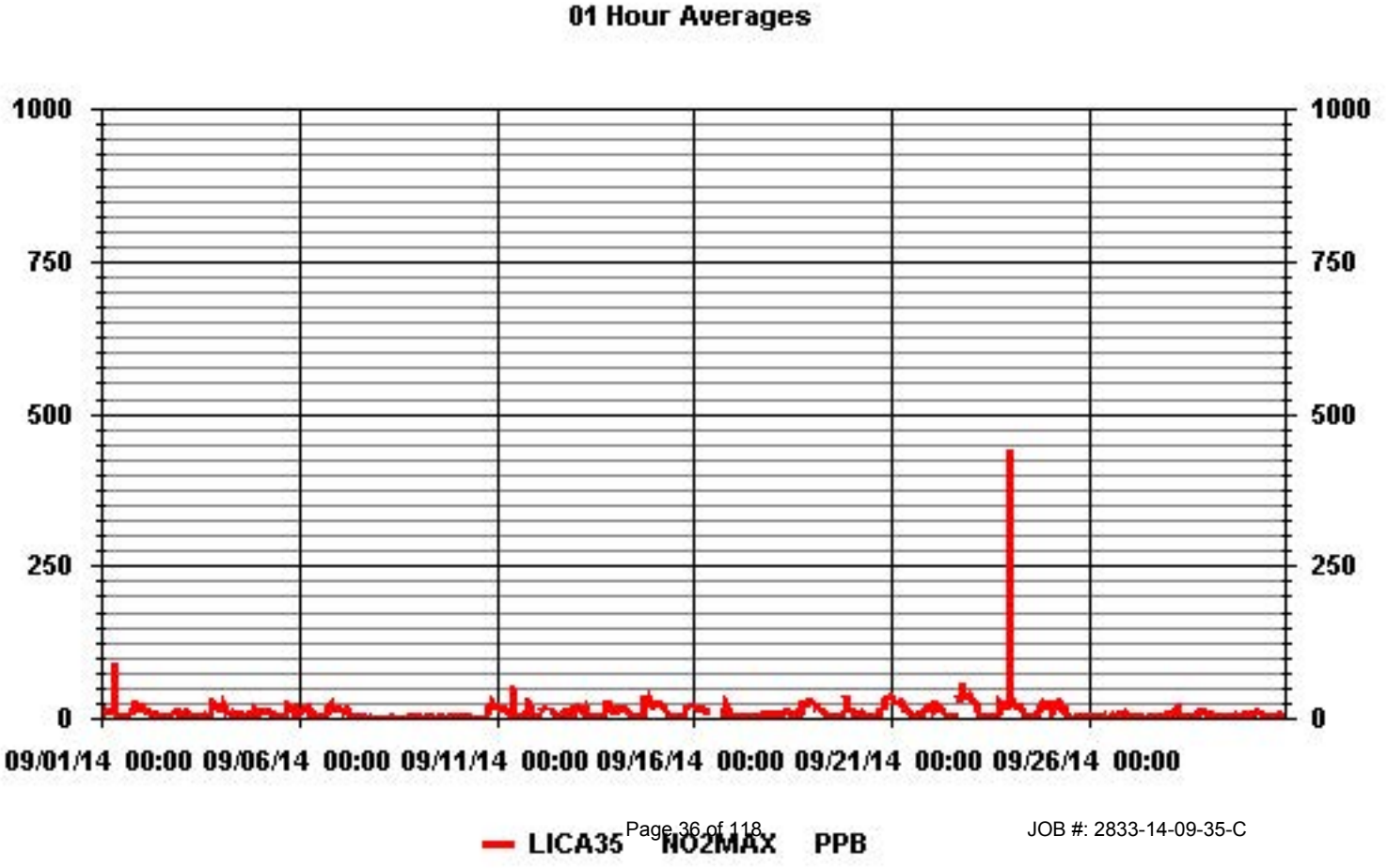
MAXIMUM INSTANTANEOUS VALUE: 439.7 PPB @ HOUR(S) 0 ON DAY(S) 24

VAR-VARIOUS

IZS CALIBRATION TIME: 38 HRS OPERATIONAL TIME: 719 HRS

MONTHLY CALIBRATION TIME: 8 HRS

STANDARD DEVIATION: 19.09



JOB #: 2833-14-09-35-C

LICA-ELK
NO2_ / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 35
Site Name : LICA-ELK
Parameter : NO2_
Units : PPB

Wind Parameter : WDR
Instrument Height : 10 Meters

		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	3.40	7.10	5.32	2.81	5.91	8.28	5.91	4.14	1.77	3.10	3.69	5.76	14.49	14.20	9.76	4.28	100.00
<	110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	3.40	7.10	5.32	2.81	5.91	8.28	5.91	4.14	1.77	3.10	3.69	5.76	14.49	14.20	9.76	4.28	

Calm : .00 %

Total # Operational Hours : 676

Distribution By Samples

		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	23	48	36	19	40	56	40	28	12	21	25	39	98	96	66	29	676
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	23	48	36	19	40	56	40	28	12	21	25	39	98	96	66	29	

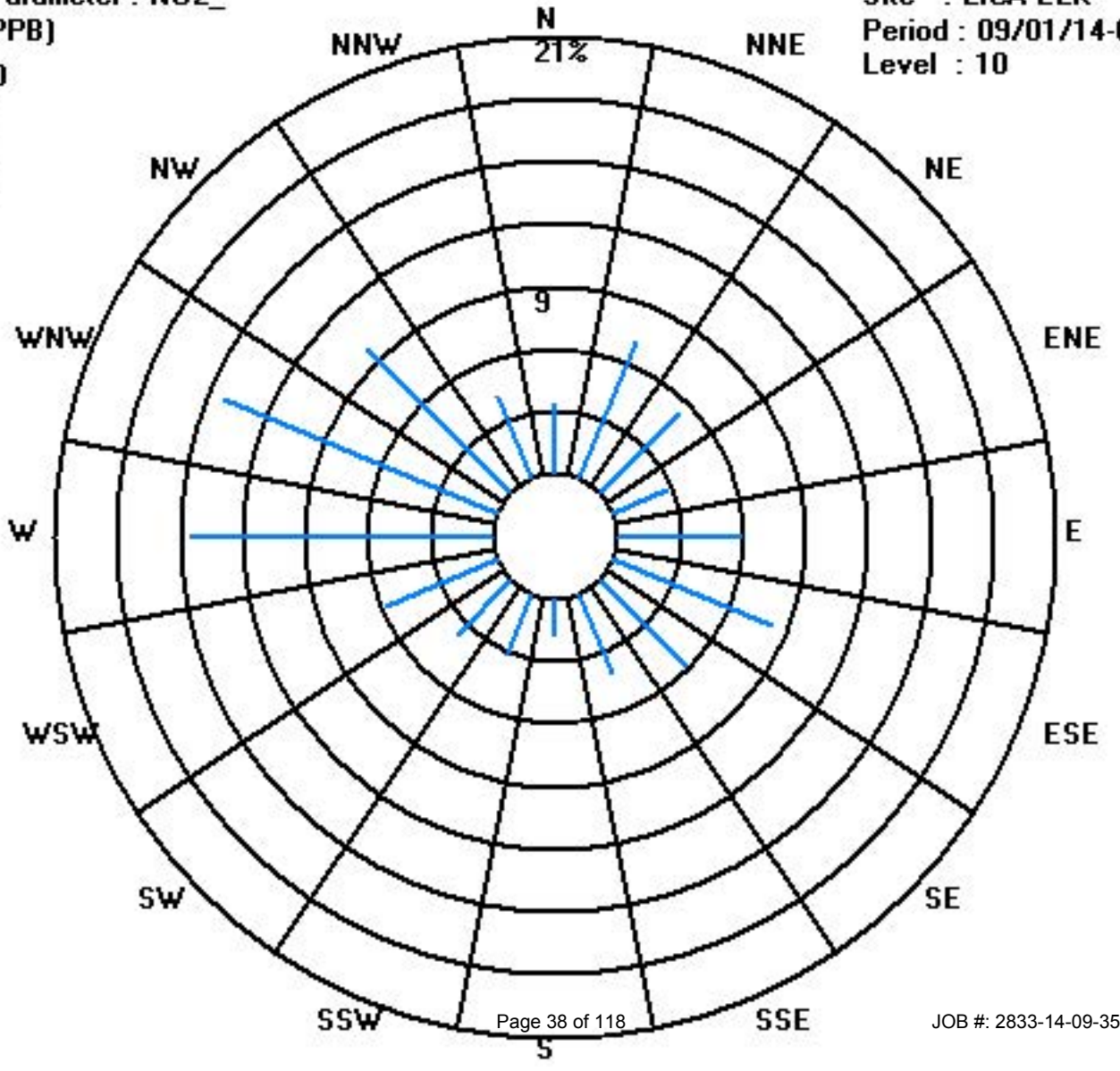
Calm : .00 %

Total # Operational Hours : 676

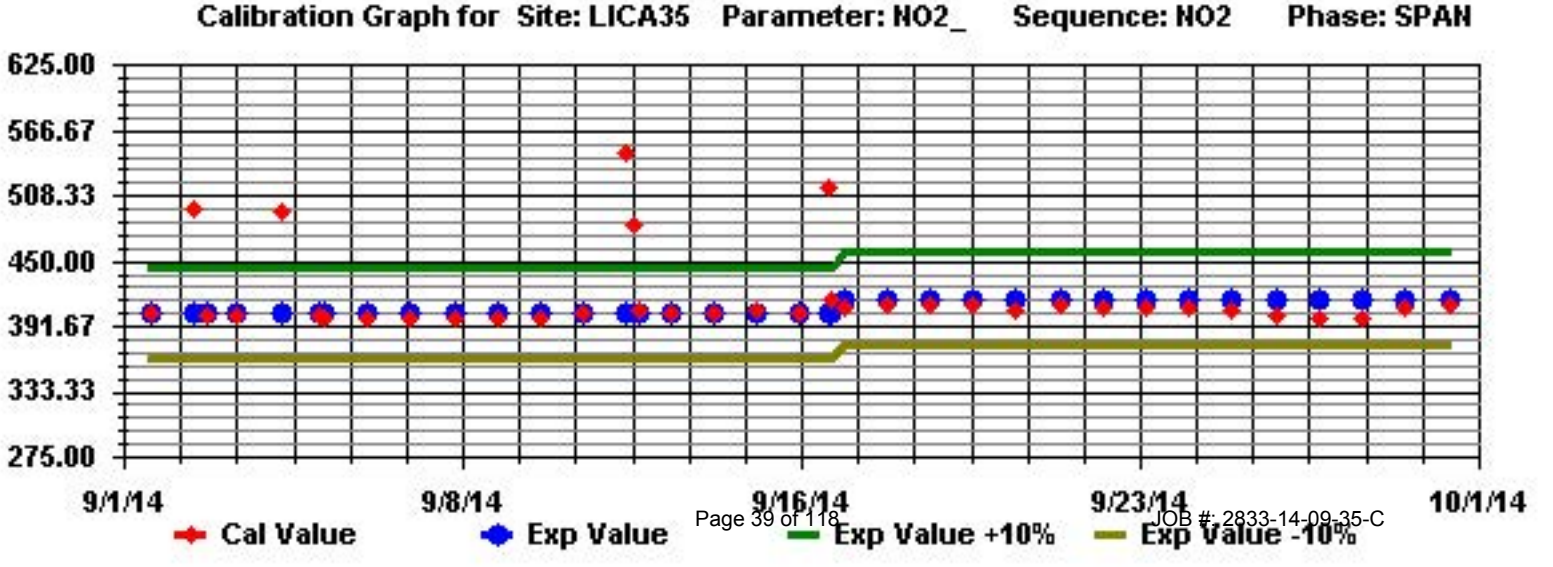
Logger : 35 Parameter : NO2_
Class Limits (PPB)

>= 210.0
< 210.0
< 110.0
< 50.0

Site : LICA-ELK
Period : 09/01/14-09/30/14
Level : 10



JOB #: 2833-14-09-35-C


Calibration Graph for Site: LICA35 Parameter: NO2_ Sequence: NO2 Phase: SPAN
625.00
566.67
508.33
450.00
391.67
333.33
275.00
9/1/14
9/8/14
9/16/14
9/23/14
10/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitric Oxide

Lakeland Industry & Community Association - Elk Point Site

SEPTEMBER 2014

NITRIC OXIDE (NO) hourly averages in ppb

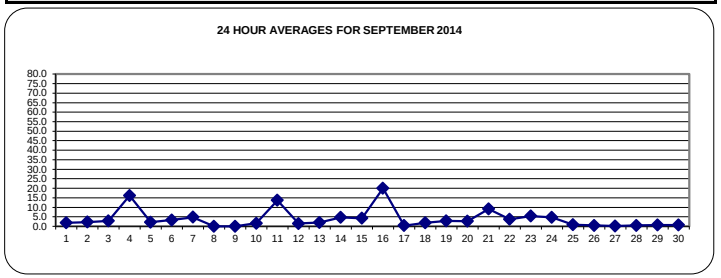
MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0.3	0.9	0.4	0.3	0.4	9.5	11.6	3.4	4.2	1.9	0.7	0.5	0.6	0.4	**S**	0.3	0.1	0.2	0.1	0.1	0.4	5.1	1.1	0.3	11.6	1.9	24
2	0.6	0	2.4	8.3	2.8	3.7	6	2.1	4.2	4	2.1	1.2	0.7	**S**	0.2	0.1	0	0	0	0.2	**S**	2.3	0.1	7.9	8.3	2.2	24
3	0	0	0.1	0.8	3	4.5	0.6	1.7	0.6	0.5	0.5	0.3	**S**	0.2	0.3	0	0.1	0	0	11.5	2.6	10.1	16.4	11.9	16.4	2.9	24
4	7.7	14.1	35.2	62.5	41.9	49.4	45.3	57.9	31.1	19.9	2.5	**S**	1.9	0.5	0.4	0.3	0.2	0.3	0.1	0	0	0.4	0.1	0	62.5	16.2	24
5	1.1	2	1.8	3.3	2.2	12.2	10.9	**S**	6.5	1.2	**S**	1.2	0.5	0.5	0.4	0.4	0.4	1.2	0.4	0.8	0.1	0.1	0	0	12.2	2.1	24
6	0.2	0.2	0	0	0.5	10	15.1	12.9	2.9	**S**	2.1	1.3	0.1	0	0	0.2	0.1	0.3	3.5	2.7	1	6.3	7.6	9.8	15.1	3.3	24
7	9.4	15.3	21.4	18.7	29.6	14.4	0.5	0.2	**S**	0	0.1	0.1	0	0	0.1	0	0	0	0	0	0	0	0	0	29.6	4.8	24
8	0	0	0	0	0	0	0	**S**	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.0	24
9	0	0	0	0	0	0	**S**	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.0	24
10	0	0	0	0	0	**S**	0.5	1.3	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.2	0.1	1	3.7	10.4	9.4	8.4	10.4	1.6	24
11	18.3	24.5	22	35.1	**S**	***75.1***	68	23	24	7.4	1.1	0.4	0.5	0.6	0.5	0.3	0	0.3	0.6	7	5.7	0	0	0	***75.1***	13.7	24
12	0	0	0	**S**	2.2	9.4	**S**	**S**	7.4	**S**	2.8	3	0.8	0.4	0.1	0.1	0.6	0.5	0.4	0	0	0	0	0.8	9.4	1.4	24
13	6.2	1.7	**S**	1.8	2.3	0.9	9.3	9.3	3.1	0.7	0.3	0.1	0.2	0.2	0.4	0.4	0.2	0.2	1.1	1.9	4.5	0.3	0.2	0.4	9.3	2.0	24
14	0.1	**S**	0.5	2.7	5	21.4	26.2	17.3	11.8	3.6	2.3	0.8	0.5	0.4	0.4	0.3	0.5	0.4	2.7	1.6	3.7	0.7	0.6	3.9	26.2	4.7	24
15	**S**	12.2	10.4	4.3	2.9	7.2	20	18.1	3.9	2.1	1.5	0.8	0.4	0.2	0.1	0.2	0.2	0.1	0	0.3	2	3.3	3.3	**S**	20	4.3	24
16	19.4	26.8	30.5	36	37	42.8	52.2	27.9	26.5	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0	0	0.8	0.3	0	**S**	0	52.2	***20.0***	24
17	0	0	0	0	0	0.1	0.8	0.7	0.6	0.9	1.2	1.2	0.9	0.5	0.5	0.1	0.5	0.1	0.5	0.4	0	**S**	0.2	0	1.2	0.4	24
18	0.1	0	0	0.8	0.8	1.1	0.6	3.4	8.6	5.6	3	0.1	0.2	0.2	0.3	0.1	0.1	0.1	0.8	2	**S**	0.7	6.6	6	8.6	1.8	24
19	8	15.7	1	15.4	4.4	1.4	4.9	4.5	3.5	1.8	1	0.5	0.3	0.3	0.3	0.3	0.4	0.2	0.2	**S**	1.3	0.2	0.1	0	15.7	2.9	24
20	0	0	0	0	0	0	0	0.1	0.8	0.6	0	0	0	0.1	0	0	0	0.3	**S**	0.3	3.1	2.8	7.3	45.4	45.4	2.6	24
21	55.6	23	15	6.6	3.3	11.9	36.6	17.5	14	8.3	8.6	1.9	0.5	0.4	0.7	1.2	2	**S**	0.6	0.5	0.6	0.3	0.7	0.5	55.6	9.1	24
22	0.4	0.3	0.1	1.7	0.4	1.4	2.6	5.8	4.5	2.6	2	2	1.2	0.8	0.3	0.5	**S**	1.4	0.9	11.7	1.3	7.6	8.9	26.8	26.8	3.7	24
23	29.1	38.8	36.1	15.8	0.1	0.1	0	0.4	0.3	0.1	0.4	0.2	0.1	0	0.1	**S**	0	0	1.1	0	0	0	0.3	0.9	38.8	5.4	24
24	10.9	15.4	13.8	9.5	8.3	7.7	18.3	10.9	3.6	1.3	1	0.5	0.1	0	**S**	0.3	0.6	0.4	0.6	1.3	0.2	0.3	0	1.8	18.3	4.6	24
25	0	0	0	0	0.5	2.2	3.5	4.8	3.1	3.9	1.5	0.4	0	**S**	0.1	0	0	0	0	0	0	0	0	0	4.8	0.9	24
26	0	0	0	0	0	0	0	0	0	0.2	0	0	**S**	0.3	1	0.5	0.2	0.9	0.3	0.8	0.9	0.5	3.5	0.8	3.5	0.4	24
27	0.6	1.2	0.4	0.1	0.4	0.2	0.1	0.1	0.2	0.1	0	**S**	0.5	0.3	0	0	0	0	0	0	0	0	0	0	1.2	0.2	24
28	0	0.2	0	0	0	1.3	3.5	1.5	0.8	0.4	**S**	0.4	0	0.3	0.5	0.2	0.1	0.5	0.4	0.3	0.2	0.3	0	0	3.5	0.5	24
29	0	0.2	0.2	0.9	1.1	1.5	1	2.7	2.4	**S**	1.2	0.8	0.7	0.7	0.6	0.5	0.3	0.3	0.3	0	0	0	0	0.2	2.7	0.7	24
30	0.1	0.1	0.2	0.3	0.1	0.2	1.9	4.2	**S**	3.5	1.2	0.8	1.1	0.4	0.3	0	0	0	0.2	0.5	0.6	0.5	0	0.1	4.2	0.7	24
HOURLY MAX	56	39	36	63	42	75	68	58	31	20	9	3	2	1	1	1	2	1	4	12	6	10	16	45			
HOURLY AVG	5.8	6.6	6.6	7.8	5.1	10.0	12.1	8.6	6.0	2.7	1.4	0.7	0.4	0.3	0.3	0.2	0.2	0.3	0.5	1.6	1.2	1.8	2.3	4.3			

STATUS FLAG CODES

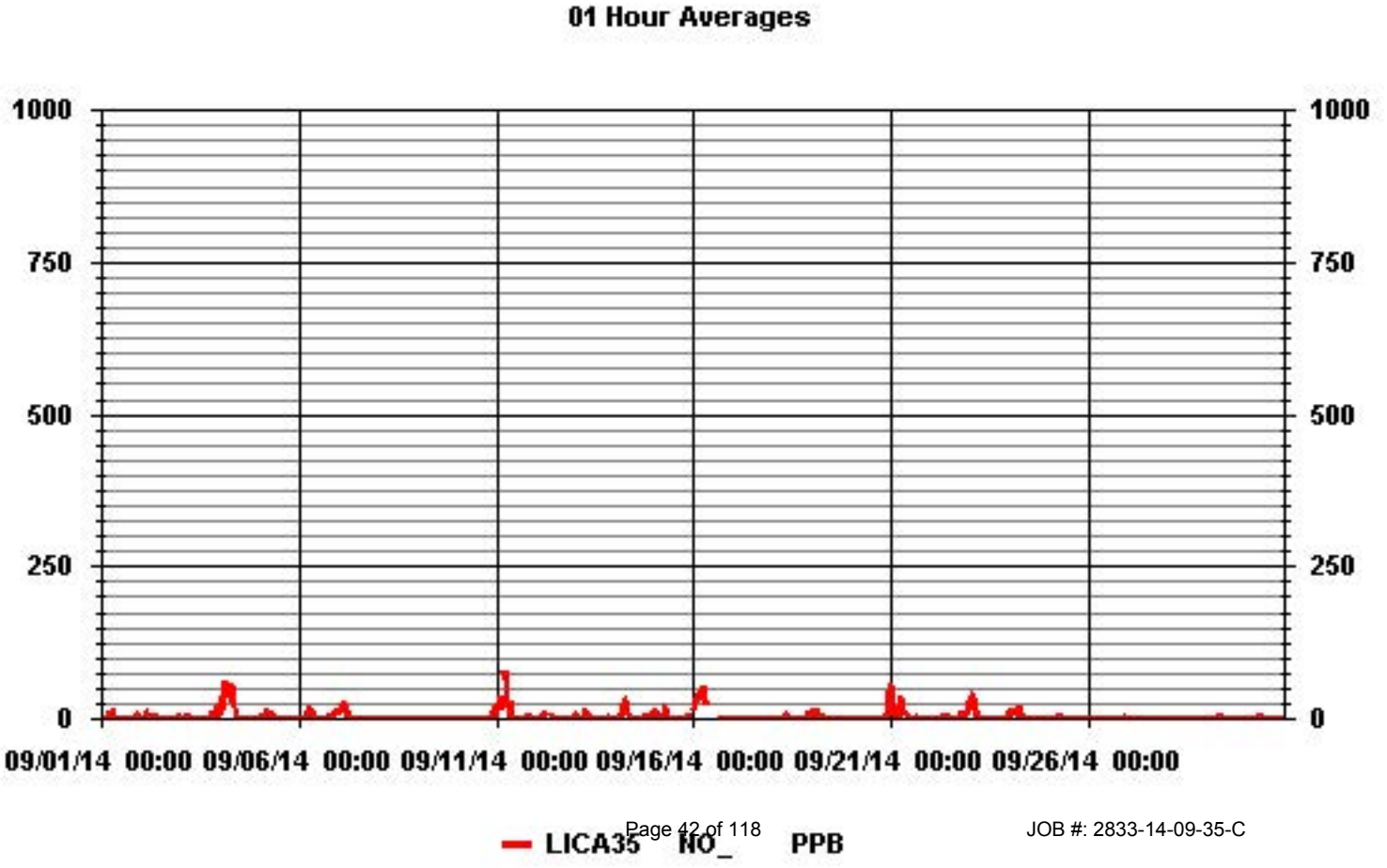
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR NA PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	NA					
NUMBER OF NON-ZERO READINGS:	497					
MAXIMUM 1-HR AVERAGE:	75.1	PPB	@ HOUR(S)	5	ON DAY(S)	11
MAXIMUM 24-HR AVERAGE:	20.0	PPB			ON DAY(S)	16
					VAR-VARIOUS	
IZS CALIBRATION TIME:	36	HRS	OPERATIONAL TIME:		720	HRS
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	9.07		MONTHLY AVERAGE:		3.65	PPB



JOB #: 2833-14-09-35-C

Lakeland Industry & Community Association - Elk Point Site

SEPTEMBER 2014

NITRIC OXIDE MAX instantaneous maximum in ppb

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	1.5	6.4	1.4	1	1.1	22.7	20.7	6	35.7	3	1.2	1	1.2	0.9	**S**	0.9	1	0.8	0.7	0.7	2.8	38.3	5	3.2	38.3	6.8	24
2	2.6	0.9	10.6	15.6	6.9	15.5	14.5	7	9.4	5.8	4	2	2.1	**S**	0.9	0.7	0.3	0.4	0.4	**S**	**S**	10.1	1.1	15.5	15.6	6.0	24
3	0.4	0.2	1.1	3.7	14.1	14.3	1.6	2.5	1.4	1.2	1	0.8	**S**	0.9	1	0.5	0.6	0.6	1.1	52.2	7.9	21.2	26.5	22.1	52.2	7.7	24
4	30.1	34.7	155.6	153.2	77.5	98.1	73.2	79.1	40.1	28.7	6.2	**S**	2.8	1.6	1.1	1	0.9	1.6	1.3	0.7	0.7	2.3	1.1	0.4	155.6	***34.4***	24
5	5.5	7.5	4.8	8.5	10.7	21.2	**S**	**S**	13.4	2.6	**S**	2.1	1.1	1.2	1.2	1.1	1.4	2.3	2	3.7	1.5	2	0.2	0.4	21.2	4.5	24
6	1.2	0.8	0.3	0.6	1.7	20.2	53	17.3	7.1	**S**	3.7	3.3	0.9	0.8	0.6	1.2	0.8	1.2	14.5	40	10.5	12.3	13	15.5	53	9.6	24
7	16.5	54	37.7	31.5	56.3	30.1	3	11.4	**S**	0.7	0.7	0.5	0.6	0.6	0.8	0.4	0.6	0.2	0.2	0.1	0	0	0	0.1	56.3	10.7	24
8	0.1	0	0	0	0	0	0.1	**S**	0.7	0.7	0.5	0.5	0.3	0.3	0.5	0.4	0.3	0.3	0.2	0.3	0.5	0.3	0.3	0.2	0.7	0.3	24
9	0.3	0.3	0.3	0.2	0.1	0.3	**S**	0.7	0.6	0.7	0.4	0.8	0.6	0.5	0.2	0.6	0.4	0.1	0.1	0.2	0.3	0.2	2.5	2.5	2.5	0.6	24
10	0.2	0.3	0.3	0.2	0.2	**S**	1.3	2.1	0.9	1.1	0.8	0.8	0.8	0.7	0.7	0.8	0.6	0.8	0.5	4.2	6.3	46.5	45.9	21.5	46.5	6.0	24
11	33.2	35.9	29.4	53.1	**S**	95.1	123.8	37.8	29.1	21.7	8.1	1.3	1.5	1.2	1.4	1.1	0.9	0.9	2.4	30.7	19.9	2.8	0.1	0.4	123.8	23.1	24
12	0.6	0.3	0.3	**S**	6.3	25.4	**S**	**S**	12.3	**S**	3.9	5.9	1.4	1.3	0.8	0.8	1.2	1.1	2.5	1.3	0.4	0.4	0.1	8.8	25.4	3.8	24
13	12.9	9.5	**S**	4.9	5.3	3.1	25.6	17	5.7	2	0.9	0.7	0.7	1	0.8	1.2	1	0.7	3	8	10.8	1.5	1.2	1.7	25.6	5.2	24
14	0.9	**S**	1	5.3	8	41.8	39.7	34.9	15.9	4.5	4.2	1.5	1	1	1	0.8	1.3	1	33	5.9	10.1	2.1	1.3	10.8	41.8	9.9	24
15	**S**	26.1	16.1	8.2	7	12.6	33.9	26.9	5.6	4	3.8	1.5	1	0.9	0.9	0.6	0.6	0.8	0.5	2.4	7	11.1	11.6	**S**	33.9	8.3	24
16	38	33.1	50.3	42.4	54.3	56	65.6	52.2	34.1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1.2	1	3.2	1.6	0.2	**S**	0.4	65.6	28.9	24
17	0.2	0.3	0	0	0.7	2	2.7	2.3	2.2	2.1	2.3	1.9	1.5	1.1	2.2	0.7	1.5	1.3	1.4	9.5	0.7	**S**	1	0.6	9.5	1.7	24
18	0.6	0.5	0.8	4.1	3.2	3.3	2.9	10.6	12.7	8.1	8.2	0.8	0.8	1.1	9.3	0.8	0.8	3.3	4.3	8.2	**S**	1.2	13.6	14	14	4.9	24
19	23.3	33	5.3	32.5	12.3	5.4	14.8	6.5	5.1	3.6	2	1.2	0.9	0.9	0.9	0.7	1	0.9	0.6	**S**	24.1	0.9	0.7	0.4	33	7.7	24
20	0.8	0.1	0.6	0.6	1.2	0.2	1.4	1.3	1.4	1.3	0.7	0.4	0.6	0.8	0.4	0.7	0.8	1.1	**S**	1.1	10.3	4.7	12.4	95.3	95.3	6.0	24
21	94.9	52.1	23.2	13.2	6.7	25	75.4	38	17.9	16.4	13.4	5.1	1.1	1.3	2.1	3	5.7	**S**	1.5	1.8	2.2	2.7	4	2.4	94.9	17.8	24
22	1.9	0.7	0.7	35.7	1.9	5.1	7.5	10.7	6.2	4.9	2.8	2.8	1.8	1.3	0.7	1.4	**S**	6.4	4.6	98.3	5.9	38	24.9	38.3	98.3	13.2	24
23	39.4	63.3	50.2	51.5	0.9	0.5	0.7	0.9	1.2	0.7	1	0.6	0.6	0.5	0.5	**S**	0.6	0.6	7.6	1.3	0.8	0.8	2	3.1	63.3	10.0	24
24	***200.4***	33.8	18.9	16.2	13.2	19.2	46.5	18.4	8.6	2.5	1.8	1.1	1.1	0.6	**S**	0.8	1.8	1.9	3.8	13	1.2	1.8	0.5	5.8	***200.4***	18.0	24
25	0.9	0.5	0.3	0.4	7.7	9.9	35.3	12.8	4.4	7.2	3.7	1.1	0.5	**S**	0.7	0.7	0.6	0.5	0.2	0.3	0.1	0.2	0.2	0.2	35.3	3.8	24
26	0.2	0.2	0.1	0.2	0.1	0	0.1	0.2	0.2	1.5	0.3	0.1	**S**	0.9	2.2	2.3	1	3.7	1.6	2.7	2.9	2.3	14.4	3.2	14.4	1.8	24
27	2.3	3.2	1.6	0.5	1.6	1.8	0.6	0.6	0.6	0.5	0.7	**S**	1	0.8	0.8	0.5	0.5	0.2	0.2	0.3	0	0.2	0.4	0.6	3.2	0.8	24
28	0.8	1	0.3	0.2	0.6	3.2	11	3.3	1.7	1.2	**S**	1.2	1.4	1.3	1.7	0.8	0.8	3.1	2.7	1.9	2.1	1.8	1	0.8	11	1.9	24
29	2.2	3	2.8	3	3.9	3.3	3	4.4	3.6	**S**	2.2	1.9	1.8	2.3	1.8	2	1.6	1.3	1.2	0.4	0.4	0.4	0.6	1.7	4.4	2.1	24
30	0.5	1	1.3	2.2	0.9	1.5	4	8.4	**S**	8.2	2.7	2.1	2	1.5	0.8	0.6	0.4	0.5	1	1.6	2	**P**	1.3	0.6	8.4	2.1	23
HOURLY MAX	200	63	156	153	78	98	124	79	40	29	13	6	3	2	9	3	6	6	33	98	24	47	46	95			
HOURLY AVG	17.7	13.9	14.3	16.9	10.5	18.5	24.5	15.3	9.9	5.2	3.0	1.6	1.2	1.0	1.3	1.0	1.0	1.3	3.2	10.5	4.8	7.4	6.4	9.3			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 661

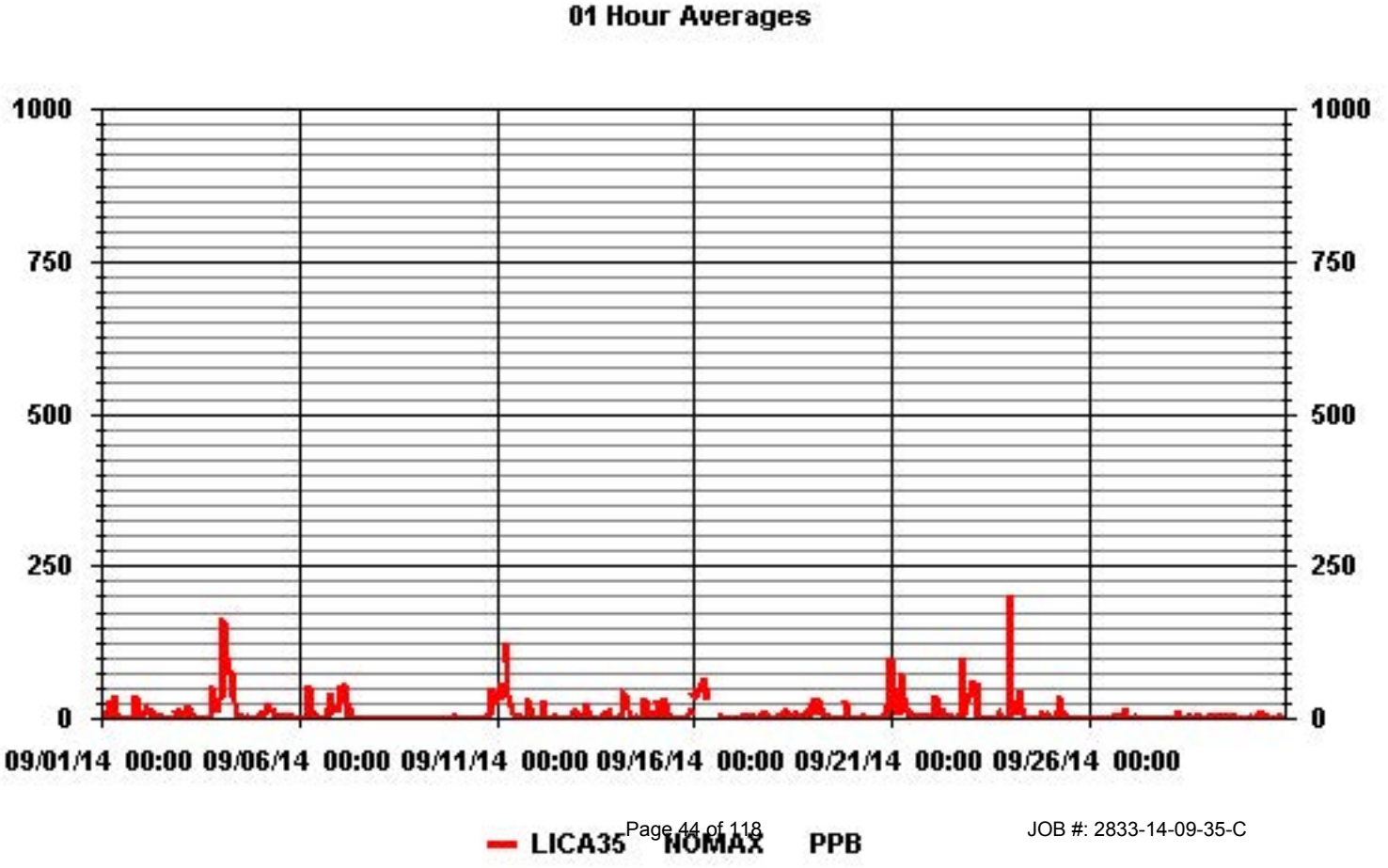
MAXIMUM INSTANTANEOUS VALUE: 200.4 PPB @ HOUR(S) 0 ON DAY(S) 24

VAR-VARIOUS

IZS CALIBRATION TIME: 38 HRS OPERATIONAL TIME: 719 HRS

MONTHLY CALIBRATION TIME: 8 HRS

STANDARD DEVIATION: 18.92



JOB #: 2833-14-09-35-C

LICA-ELK
NO_ / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 35
Site Name : LICA-ELK
Parameter : NO_
Units : PPB

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	3.40	7.10	5.17	2.81	5.91	8.13	5.76	4.14	1.62	3.10	3.69	5.76	14.49	14.05	9.61	4.28	99.11
<	110.0	.00	.00	.14	.00	.00	.14	.14	.00	.14	.00	.00	.00	.00	.14	.14	.00	.88
<	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	3.40	7.10	5.32	2.81	5.91	8.28	5.91	4.14	1.77	3.10	3.69	5.76	14.49	14.20	9.76	4.28	

Calm : .00 %

Total # Operational Hours : 676

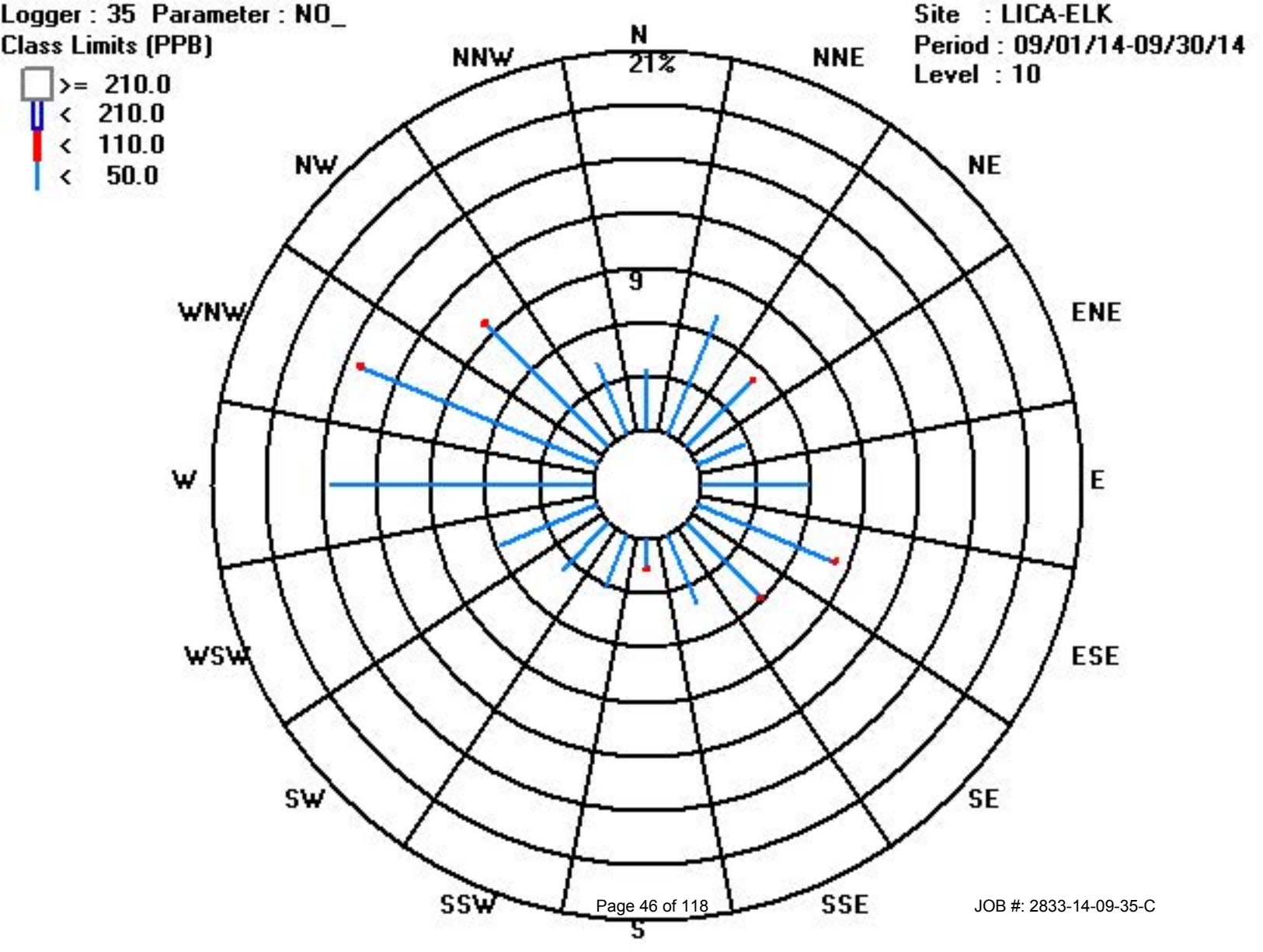
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	23	48	35	19	40	55	39	28	11	21	25	39	98	95	65	29	670
<	110.0			1			1	1		1					1	1		6
<	210.0																	
>=	210.0																	
	Totals	23	48	36	19	40	56	40	28	12	21	25	39	98	96	66	29	

Calm : .00 %

Total # Operational Hours : 676



JOB #: 2833-14-09-35-C

Oxides of Nitrogen

Lakeland Industry & Community Association - Elk Point Site

SEPTEMBER 2014

OXIDES OF NITROGEN (NOx) hourly averages in ppb

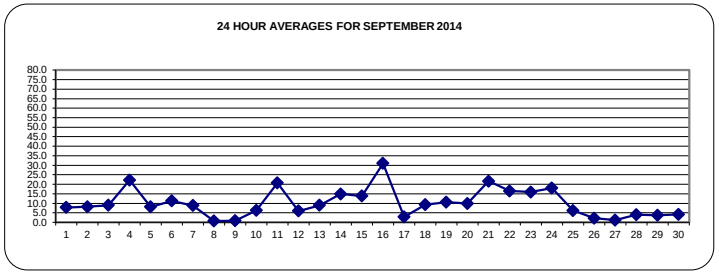
MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	8.6	5.8	6.1	5.7	7.6	20.6	21.7	7.6	9.6	3.8	1.3	0.9	1.1	0.7	**S**	2.1	1.9	3.1	2.8	5.7	11.5	22.1	15.4	13.5	22.1	7.8	24
2	13.8	11.6	11.6	21.4	12.9	12.4	14	5.8	9.5	8.9	6.5	4.4	2.2	**S**	1.6	1.3	0.6	1	1.9	5.2	**S**	10.2	6.4	17.2	21.4	8.2	24
3	3.8	1.4	5.7	8.7	12	13	5.9	4.8	1.8	1.4	1.5	1.3	**S**	1.7	3.2	0.7	0.9	0.7	2.2	27.7	20.3	28.1	33.4	25.9	33.4	9.0	24
4	19.9	26.4	46	74.5	49.3	56	51.3	66.5	38.9	27.3	6.8	**S**	7.1	3.5	2.3	2.2	2.7	3.4	5.9	1.8	2.1	7.4	5.4	2.5	74.5	22.1	24
5	6.3	9.5	11.9	12.7	8.9	23.1	18.9	**S**	11.3	2.9	**S**	4	2	1.9	2	2.7	3	14.5	10.9	11.5	9.8	6.7	2	2.2	23.1	8.1	24
6	7	11.2	8	7.8	10.9	24.4	26.9	22.1	8.1	**S**	6	4.5	2.2	1.9	1.7	2.7	2.1	3.2	15.6	15.3	12	20.9	20.9	23.9	26.9	11.3	24
7	25.3	27.8	31.8	27.9	41.2	29.7	6.5	2.1	**S**	0.9	1.3	1.1	0.8	0.8	1.8	0.8	1.1	0.6	0.5	0.1	0	0	0	0	41.2	8.8	24
8	0	0	0	0	0	0	0.1	**S**	1.4	1.1	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0	0.5	1.2	2.2	3.2	3	2.4	3.2	0.7	24
9	2.1	1.4	1.1	1.2	0.4	0.7	**S**	1.4	0.8	0.5	0.1	0.7	0.2	0.5	0	0.4	0.5	0	0.1	0.2	0.2	2.7	1.6	2	2.7	0.8	24
10	2.1	3.2	1.6	0	0	**S**	3.7	5.4	1.1	0.7	0.4	0.4	0.5	0.4	0.5	0.8	0.5	0.8	2.7	11	24	29.9	27.2	26.6	29.9	6.2	24
11	35.6	41.2	36.4	48.5	**S**	***87.1***	78	30.9	33.9	12.8	3.5	1.2	1.8	1.5	1.1	1.2	0.7	1.5	4.9	24.7	22.6	4	2.5	2.1	***87.1***	20.8	24
12	2.5	1.9	2.2	**S**	13.6	24.2	**S**	**S**	16.8	**S**	10.6	8.3	3.3	3.2	1.7	2	4.7	5.5	7	4.4	0.3	0.5	0.4	6.2	24.2	6.0	24
13	19.2	14.5	**S**	12.2	11.4	7.4	22.4	19.8	7.6	1.6	0.4	0.3	0.3	0.3	0.7	0.7	0.6	1	7.5	16.7	24.7	12.7	10.4	13.8	24.7	9.0	24
14	12.8	**S**	11.8	16.5	20.2	36.3	40.1	27.4	21.2	8.8	5.8	2.4	1.4	1.2	1.2	1	2.6	2.9	13.9	18.3	33.7	19.8	19.3	24.2	40.1	14.9	24
15	**S**	35.2	33.5	26	23.9	27.2	37.6	31.3	10.8	5.8	3.9	2.9	1.5	1.2	0.9	1	0.8	0.5	0.8	7.5	11.8	19.5	20.3	**S**	37.6	13.8	24
16	38.8	43.6	42.7	50	49.9	57.9	65.6	37.5	36.4	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2	5.4	19.8	12.4	2.3	**S**	0.8	65.6	***31.0***	24
17	0.7	0.7	1.1	0.7	1.3	3.1	3.7	3.1	2.7	2.8	2.8	3	2.7	2.5	2.5	2.1	2.7	2.5	5.8	5.1	3.7	**S**	4.9	4.2	5.8	2.8	24
18	4.9	4.8	4.8	7.1	7.8	8.1	5.4	9.2	16.3	13.4	8.2	2	2.3	2.2	1.8	0.7	1.1	1.4	10.9	21.7	**S**	18.1	32.5	29.1	32.5	9.3	24
19	30.7	35.9	14.1	31.4	16.1	13.7	16.6	13	7.7	5.3	4.5	2.3	1.3	1.3	1.6	1.1	1.6	1.2	2.8	**S**	19.9	11.7	3.7	6.2	35.9	10.6	24
20	6.8	1.5	2.4	4.2	3.4	6	5.5	1.9	2.8	2.1	0.4	0.2	0.7	0.4	0.3	0.4	1	5.2	**S**	11.7	26.1	30.5	36.4	77.1	77.1	9.9	24
21	84.6	50.6	40.9	31.6	27	35.7	59.2	34.3	27.6	19.1	20	6.2	1.8	1.5	2.3	4.3	6.5	**S**	3.9	4.4	9.4	9.4	9.5	7.6	84.6	21.6	24
22	8.4	6.5	7.6	12.6	10.4	15.8	14.3	16.3	11.6	7.2	5.8	6.1	5	4.2	2.6	2.9	**S**	12.4	16.5	47.5	26.2	37	39.6	60.9	60.9	16.4	24
23	63.7	68.7	63.1	35	7.1	2.7	2	3.9	2.6	1.6	1.8	1.2	0.8	0.8	0.9	**S**	1.2	3.2	14.7	19.1	14.4	17.3	16.1	24	68.7	15.9	24
24	51	43.8	38.8	30.2	26.3	25.5	36.4	27.5	13	6.1	4.9	3.6	2.6	2	**S**	3	4.1	5.1	10.1	14.1	10.5	16	16.4	23.5	51	18.0	24
25	4.3	2.4	5.4	7.6	7.9	22.4	23.2	19.6	13.7	14.5	6.1	1.9	0.8	**S**	0.8	1.1	0.9	0.9	1.6	2.6	2	0.7	0.4	0.4	23.2	6.1	24
26	0.5	0.7	0.5	0.4	0.4	0.2	0.1	0.5	0.6	4.1	1.2	0.6	**S**	1.5	4.5	2.1	2.3	4.9	3.1	4.2	3.3	2.4	7.6	2.9	7.6	2.1	24
27	2.1	2.6	1.2	0.7	1.6	1.7	0.8	0.7	0.7	0.7	0.5	**S**	1.8	1.1	0.8	0.7	0.6	0.5	0.3	0.4	1.4	1.6	2.1	2.7	2.7	1.2	24
28	2.9	3.5	1.4	2.2	2.9	8.9	13.4	6	2.7	1.4	**S**	1.8	0.8	1.2	1.4	1	0.9	2.7	4.9	6.6	6.1	7.1	7.1	4.3	13.4	4.0	24
29	3.9	4.9	4.4	5.8	5.7	5.7	4.6	6.1	4.7	**S**	3.1	2.4	2.1	2.1	1.9	2	2	2.7	4	2.5	2.4	3.1	3.5	4.9	6.1	3.7	24
30	3.2	3.7	4.5	6.1	5.6	7.2	11.3	13.1	**S**	9.6	5.1	4.1	4	2.1	1.8	0.7	0.7	0.8	1.7	3.6	4	1.1	0.5	0.6	13.1	4.1	24
HOURLY MAX	85	69	63	75	50	87	78	67	39	27	20	8	7	4	5	4	7	15	17	48	34	37	40	77			
HOURLY AVG	16.1	16.0	15.2	16.9	13.3	19.9	21.0	15.5	11.3	6.3	4.2	2.5	1.9	1.6	1.6	1.5	1.7	2.9	5.6	10.8	11.3	11.9	12.0	14.2			

STATUS FLAG CODES

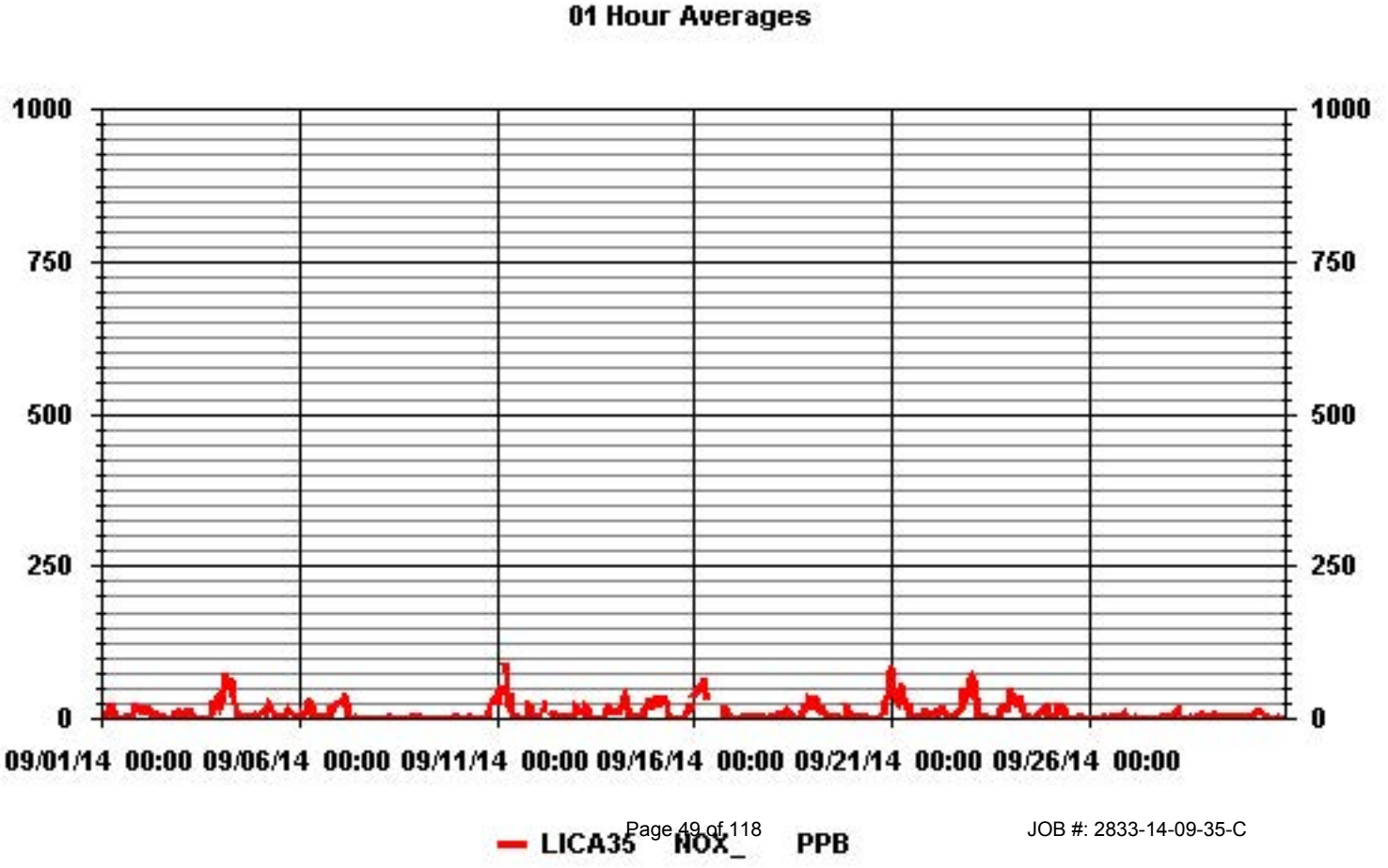
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR NA PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	NA					
NUMBER OF NON-ZERO READINGS:	661					
MAXIMUM 1-HR AVERAGE:	87.1	PPB	@ HOUR(S)	5	ON DAY(S)	11
MAXIMUM 24-HR AVERAGE:	31.0	PPB			ON DAY(S)	16
					VAR-VARIOUS	
IZS CALIBRATION TIME:	36	HRS	OPERATIONAL TIME:		720	HRS
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	13.90		MONTHLY AVERAGE:		9.91	PPB



JOB #: 2833-14-09-35-C

Lakeland Industry & Community Association - Elk Point Site

SEPTEMBER 2014

OXIDES OF NITROGEN MAX instantaneous maximum in ppb

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	17	17.1	8	9.1	10.1	35.5	33	13.1	120.3	5.4	2.4	1.6	2.1	2	**S**	4.3	5.5	6.9	16.1	8.1	21.1	62.5	22.8	23.2	120.3	19.4	24
2	24.3	14.8	24	31	20.3	25.9	25	14.4	17.2	10.7	9.4	6.4	5.7	**S**	2.7	1.9	1.3	1.8	3.9	**S**	**S**	21.4	10.1	25.9	31	14.2	24
3	6.2	2	9.1	13.9	24.6	24.3	7.4	6	3.4	2.1	2.1	2	**S**	2.4	6.5	1.5	1.5	1.2	10	74.7	28	39.2	44.2	37.8	74.7	15.2	24
4	42.4	47.3	171.6	172.7	86.4	107.4	81.4	87.6	49.7	35.8	13.1	**S**	9.2	7.8	3.5	5.2	5.1	8.5	9.9	4.3	4.3	18	13.7	5.7	172.7	43.1	24
5	17.2	21.2	17	21.6	20.2	32.5	**S**	**S**	21.4	5	**S**	5.8	3.2	3.1	3.2	4.5	4.7	25.7	23.7	21	16.8	20	2.9	3.1	32.5	14.0	24
6	12.3	15.4	10.1	11.9	15.7	35.2	69.2	27.1	15.9	**S**	8.5	7.9	3.2	3	2.5	6.4	3.4	7	35.3	62.2	27.6	27.6	26.5	30.7	69.2	20.2	24
7	34.3	68.1	52.2	42.8	67.6	46.4	15	9.8	**S**	2	2	1.6	1.5	1.5	2.6	1.4	1.7	1.5	1.2	0.8	0.6	0.5	0.4	0.4	68.1	15.5	24
8	0.5	0.4	0.5	0.2	0.5	0.5	0.6	**S**	2.9	1.6	0.9	1	0.7	0.7	0.7	0.6	0.7	0.4	1.5	2.8	3.7	5.2	4.4	3.1	5.2	1.5	24
9	2.7	2.3	1.7	3	1	1.1	**S**	2.6	1.4	1.3	0.9	2.6	1	1.5	0.5	1.3	1.2	0.4	0.8	1.1	1.2	4.8	8.1	7	8.1	2.2	24
10	3.3	4.8	2.6	0.3	0.9	**S**	6.1	7.9	2.3	1.5	1	1	1	1	1.2	1.5	1	1.9	5.3	22.6	28.1	74.6	69.4	41.5	74.6	12.2	24
11	52	54.5	42.9	65.7	**S**	107.9	136.3	46.7	40.1	32.2	57.2	2.2	3.3	3.2	2.6	2.9	1.7	4	11.7	59.1	43.9	17.8	3.5	2.8	136.3	34.5	24
12	3.9	2.8	3.3	**S**	20.3	41	**S**	**S**	23.9	**S**	13.7	16.3	5.6	5.8	3.4	4.6	5.8	6.8	11.1	16.8	0.7	1.2	1.9	25.9	41	10.7	24
13	31.1	27.6	**S**	19.3	17.2	12.6	43.2	29.5	12.7	4.8	1.3	1.1	0.8	1.5	1.7	1.7	1.6	2.4	17.4	34.3	37.5	16.3	13.9	17.1	43.2	15.1	24
14	16.8	**S**	13.6	21.1	23.9	56	55.3	47.8	27.6	10.1	9.1	3	2.1	2.9	3	1.7	5.3	5.5	69.4	28.6	42.6	27.5	22.3	31.2	69.4	22.9	24
15	**S**	51	40.6	31.1	27.9	32.6	53.4	41.8	13.8	9.9	4.8	4.5	2.5	1.7	1.5	1.5	1.5	1.2	6.6	19.2	24.5	28.2	33	**S**	53.4	19.7	24
16	57.6	49.7	63.4	56.6	68.3	72.2	80.7	63.1	44.8	**C**	**C**	**C**	**C**	**C**	**C**	**C**	3.5	17.7	28.3	21.7	4.4	**S**	1.6	80.7	42.2	24	
17	1.5	1.7	1.7	1.6	3.8	6.6	6.7	4.6	4.5	4.3	4.2	3.9	3.5	3.4	4.8	3.1	4.6	4.9	7.7	16.1	5.9	**S**	6.1	5	16.1	4.8	24
18	6.3	6.3	7	12.4	12.8	12.2	8.8	20	21.7	17.6	17.9	4.6	2.9	3.2	12.6	1.3	2.1	7.7	28	34.7	**S**	22.5	41.5	40.7	41.5	15.0	24
19	49.1	53.7	21.8	49	28.5	21	27.6	18.4	10.1	8.2	5.8	3.7	2.4	2.2	2.6	1.9	3.1	3.9	8.7	**S**	57.4	15.3	13.1	12.1	57.4	18.2	24
20	13.3	2.3	8.1	9.3	7.7	8.1	12.3	7.8	4.7	3.3	1.5	0.9	2	1.1	1	1.2	2.8	14.7	**S**	17.8	38.2	35.6	44.7	129.6	129.6	16.0	24
21	129.6	82.7	47.2	39.4	30.6	50.6	100.9	56.9	33.6	31.3	25.7	13.6	2.6	2.9	6.8	8.4	16.4	**S**	6.4	7.7	14.8	20.3	24.8	18.3	129.6	33.5	24
22	15.2	7.3	9.7	64.4	14.6	22.5	21.8	25.8	13.7	12	6.9	7.7	6.2	5.7	3.5	5.3	**S**	40	31.9	150.9	37	74.9	61.2	75.6	150.9	31.0	24
23	75.8	93.4	79.6	77.5	13.5	3.8	6	6.6	6.2	2.8	2.9	1.8	1.5	1.7	1.5	**S**	2.4	6.8	37.5	27.5	24.7	23.5	23.2	31.6	93.4	24.0	24
24	***638***	64.1	45.7	38.7	30.7	36.4	64.8	37.2	23.4	9.4	6.3	5.2	4.2	3.6	**S**	4.5	6.6	9.2	23.9	37.3	17.8	20.3	18.7	33.5	***638***	***51.3***	24
25	19.1	5.5	7	12.1	34.3	38.3	59.2	36	17.6	22.1	11.9	3.7	1.5	**S**	1.5	1.8	1.9	1.6	2.6	3.5	3.2	1.6	1	1	59.2	12.5	24
26	1.2	1.2	1	1	0.9	1	1	1.1	1.6	8.1	3.9	1.5	**S**	2.9	8.6	6.3	4.2	10.4	7.1	8.9	7.7	6.3	22.8	7.9	22.8	5.1	24
27	6.3	5.9	3.4	1.2	3.6	4.4	1.3	1.4	1.3	1.2	1.2	**S**	3	1.6	1.7	1.2	1.1	1.1	0.8	1.2	2.3	2.4	5.1	5	6.3	2.5	24
28	6.8	7.2	2.9	3.3	5.9	15.3	27.5	11.1	4.2	3.2	**S**	3.7	2.5	2.7	3.6	2.2	1.7	9.7	9.2	11.6	13.2	11.6	9.9	9.6	27.5	7.8	24
29	9.3	10.7	9.7	10.4	11.1	8.8	8.2	8.8	6.5	**S**	4.8	3.7	3.3	4.5	4.3	5	4.7	5.9	6	3.5	3.4	4	4.6	9.4	11.1	6.5	24
30	4.6	6.3	7.4	9.4	7.4	10.9	15.9	19.1	**S**	17.5	8	7.3	6	5.2	3	1.3	1.2	1.4	4.6	7.5	8.6	**P**	1.2	1.1	19.1	7.0	23
HOURLY MAX	638	93	172	173	86	108	136	88	120	36	57	16	9	8	13	8	16	40	69	151	57	75	69	130			
HOURLY AVG	44.7	25.1	24.6	28.6	21.0	30.0	35.9	24.2	19.5	10.1	8.4	4.4	3.1	2.9	3.4	3.0	3.4	6.8	14.3	25.4	19.2	21.7	19.1	22.0			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 673

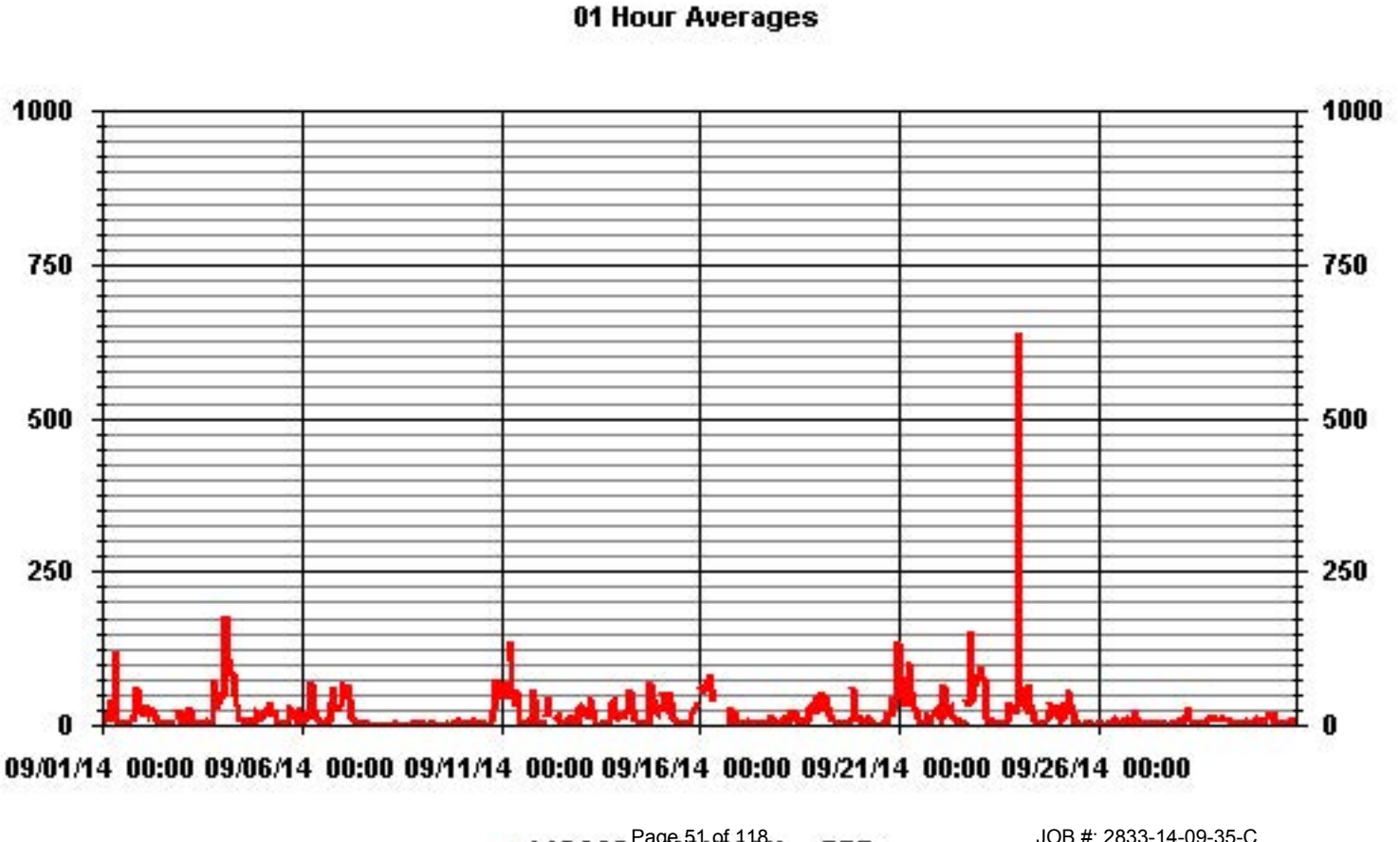
MAXIMUM INSTANTANEOUS VALUE: 638 PPB @ HOUR(S) 0 ON DAY(S) 24

VAR-VARIOUS

IZS CALIBRATION TIME: 38 HRS OPERATIONAL TIME: 719 HRS

MONTHLY CALIBRATION TIME: 8 HRS

STANDARD DEVIATION: 33.36



JOB #: 2833-14-09-35-C

LICA-ELK
NOX_ / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 35
Site Name : LICA-ELK
Parameter : NOX_
Units : PPB

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	3.40	7.10	5.17	2.81	5.76	8.13	5.62	3.69	1.62	3.10	3.55	5.76	14.34	13.75	9.17	4.28	97.33
<	110.0	.00	.00	.14	.00	.14	.14	.29	.44	.14	.00	.14	.00	.14	.44	.59	.00	2.66
<	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	3.40	7.10	5.32	2.81	5.91	8.28	5.91	4.14	1.77	3.10	3.69	5.76	14.49	14.20	9.76	4.28	

Calm : .00 %

Total # Operational Hours : 676

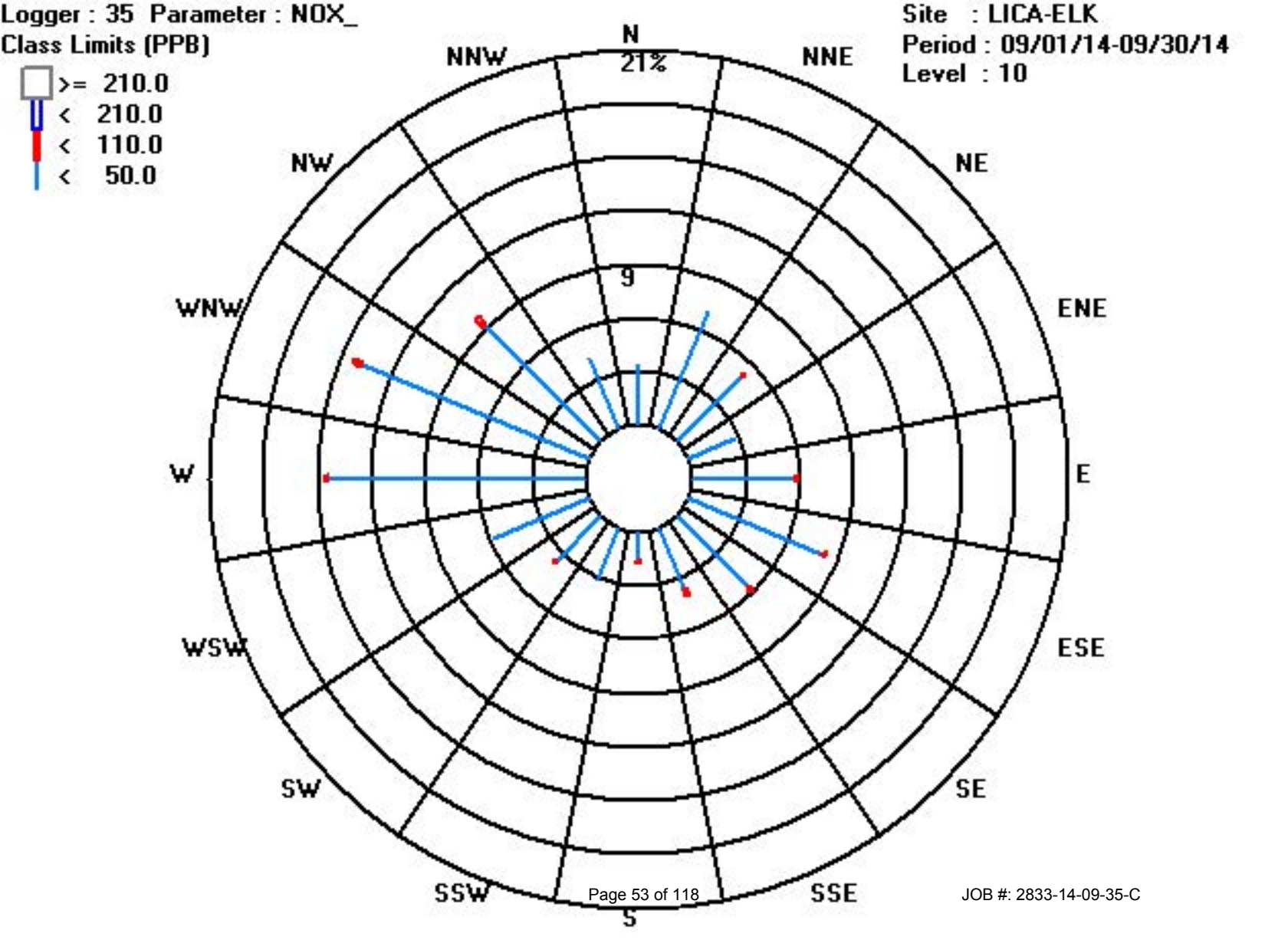
Distribution By Samples

Direction

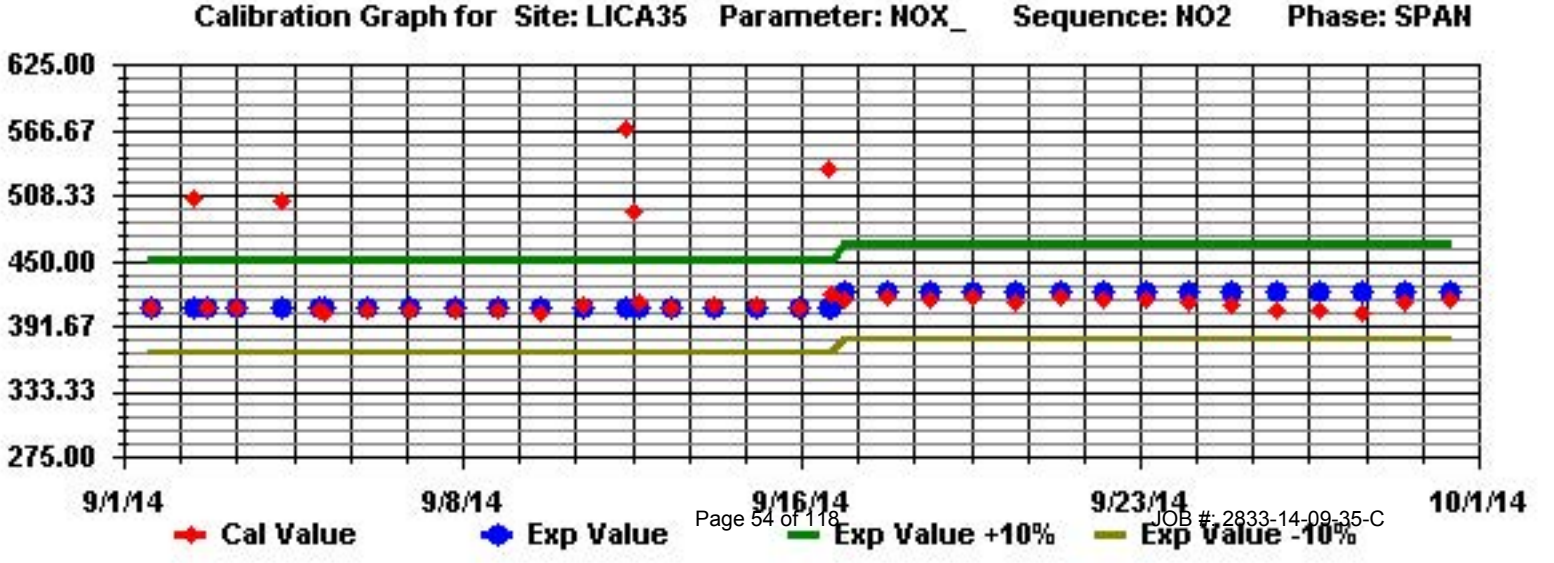
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	23	48	35	19	39	55	38	25	11	21	24	39	97	93	62	29	658
<	110.0			1		1	1	2	3	1		1		1	3	4		18
<	210.0																	
>=	210.0																	
	Totals	23	48	36	19	40	56	40	28	12	21	25	39	98	96	66	29	

Calm : .00 %

Total # Operational Hours : 676



JOB #: 2833-14-09-35-C


Calibration Graph for Site: LICA35 Parameter: NOX_ Sequence: NO2 Phase: SPAN
625.00
566.67
508.33
450.00
391.67
333.33
275.00
9/1/14
9/8/14
9/16/14
9/23/14
10/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ozone

Lakeland Industry & Community Association - St. Lina Site

SEPTEMBER 2014

OZONE (O3) hourly averages in ppb

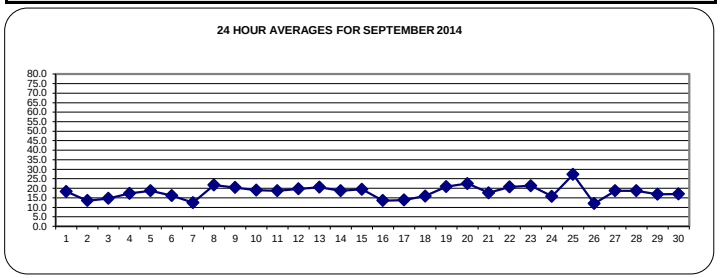
MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	13	10	8	8	8	2	5	12	15	21	29	31	32	33	**S**	32	32	32	31	24	15	9	10	10	33	18.3	24
2	8	6	5	1	4	4	4	10	8	12	19	19	27	**S**	30	30	29	28	21	16	12	6	10	2	30	13.5	24
3	9	9	6	4	2	1	5	10	19	24	28	31	**S**	32	27	33	30	30	26	7	3	1	0	1	33	14.7	24
4	1	1	1	0	0	0	1	2	4	8	26	**S**	31	32	34	35	43	36	29	30	27	19	19	18	43	17.3	24
5	12	7	4	4	5	1	3	7	11	20	**S**	29	31	31	34	36	36	24	20	13	23	25	27	26	36	18.7	24
6	19	13	14	13	7	1	4	5	15	**S**	19	26	32	35	36	35	35	27	14	10	7	2	1	0	36	16.1	24
7	0	1	0	0	0	1	7	10	**S**	20	20	19	18	17	13	14	14	13	15	18	20	23	21	23	23	12.5	24
8	22	27	26	22	20	20	20	**S**	19	22	25	24	25	24	25	25	25	25	23	20	18	15	14	14	27	21.7	24
9	15	17	18	19	20	20	**S**	18	20	22	24	25	25	25	26	25	23	24	22	21	20	15	15	11	26	20.4	24
10	10	12	13	18	20	**S**	16	13	20	27	30	30	28	28	28	30	31	30	25	16	5	3	3	2	31	19.0	24
11	0	0	0	0	**S**	0	1	4	6	20	29	30	30	32	33	34	36	36	31	15	16	27	25	24	36	18.7	24
12	23	22	21	**S**	6	2	2	5	8	11	11	20	29	31	35	33	27	23	18	24	29	27	27	19	35	19.7	24
13	10	9	**S**	13	13	13	6	9	23	33	34	34	34	34	34	36	35	34	23	12	7	11	9	6	36	20.5	24
14	8	**S**	6	2	1	1	1	4	10	23	28	37	40	40	41	42	41	40	28	17	4	10	5	2	42	18.7	24
15	**S**	1	1	1	1	1	2	8	20	25	29	36	40	40	37	38	37	34	31	22	14	7	4	**S**	40	19.5	24
16	1	1	1	0	0	0	1	3	4	9	17	20	38	42	42	**C**	**C**	**C**	**C**	18	26	22	**S**	12	42	13.5	24
17	11	10	8	8	8	8	**S**	**S**	9	10	12	15	18	21	23	25	25	**S**	**S**	15	15	**S**	12	9	25	13.8	24
18	7	7	5	3	3	1	1	2	2	5	20	33	35	37	40	40	38	37	24	11	**S**	11	1	3	40	15.9	24
19	0	1	6	1	6	5	6	8	11	21	24	30	36	36	38	39	40	40	38	**S**	16	22	30	25	40	20.8	24
20	25	28	26	23	23	19	19	24	24	26	30	32	32	32	33	33	33	28	**S**	20	7	0	0	0	33	22.5	24
21	0	0	0	0	0	0	0	5	8	17	18	31	36	37	36	33	30	**S**	29	30	22	23	25	25	37	17.6	24
22	19	19	17	14	13	8	7	11	17	22	26	29	37	45	***50***	***50***	**S**	35	32	10	13	3	0	0	***50***	20.7	24
23	0	0	0	5	18	22	24	24	28	31	33	34	35	37	37	**S**	39	37	23	18	19	13	12	2	39	21.3	24
24	0	0	0	0	0	0	0	3	16	26	30	35	37	37	**S**	35	33	29	21	16	19	12	10	4	37	15.8	24
25	25	29	26	23	19	7	7	14	18	18	28	37	40	**S**	41	42	42	40	37	32	30	27	25	21	42	***27.3***	24
26	19	19	17	16	15	16	16	14	14	9	10	12	**S**	15	12	12	10	7	8	7	8	7	5	7	19	12.0	24
27	7	8	9	10	12	11	13	15	16	17	20	**S**	24	26	27	27	27	26	26	25	22	21	21	20	27	18.7	24
28	20	21	23	22	20	14	10	17	21	21	**S**	21	23	24	24	25	24	21	18	15	14	12	9	11	25	18.7	24
29	10	8	7	6	5	4	4	4	6	**S**	19	22	24	27	29	29	30	28	25	25	23	19	18	15	30	16.8	24
30	15	13	11	7	6	4	1	2	**S**	9	15	17	17	20	23	25	27	26	26	24	24	26	26	26	27	17.0	24
HOURLY MAX	25	29	26	23	23	22	24	24	28	33	34	37	40	45	50	50	43	40	38	32	30	27	30	26			
HOURLY AVG	10.7	10.3	9.6	8.4	8.8	6.4	6.6	9.4	14.0	18.9	23.3	27.1	30.5	31.1	31.7	31.9	31.1	29.3	24.6	18.3	16.5	14.4	13.2	11.7			

STATUS FLAG CODES

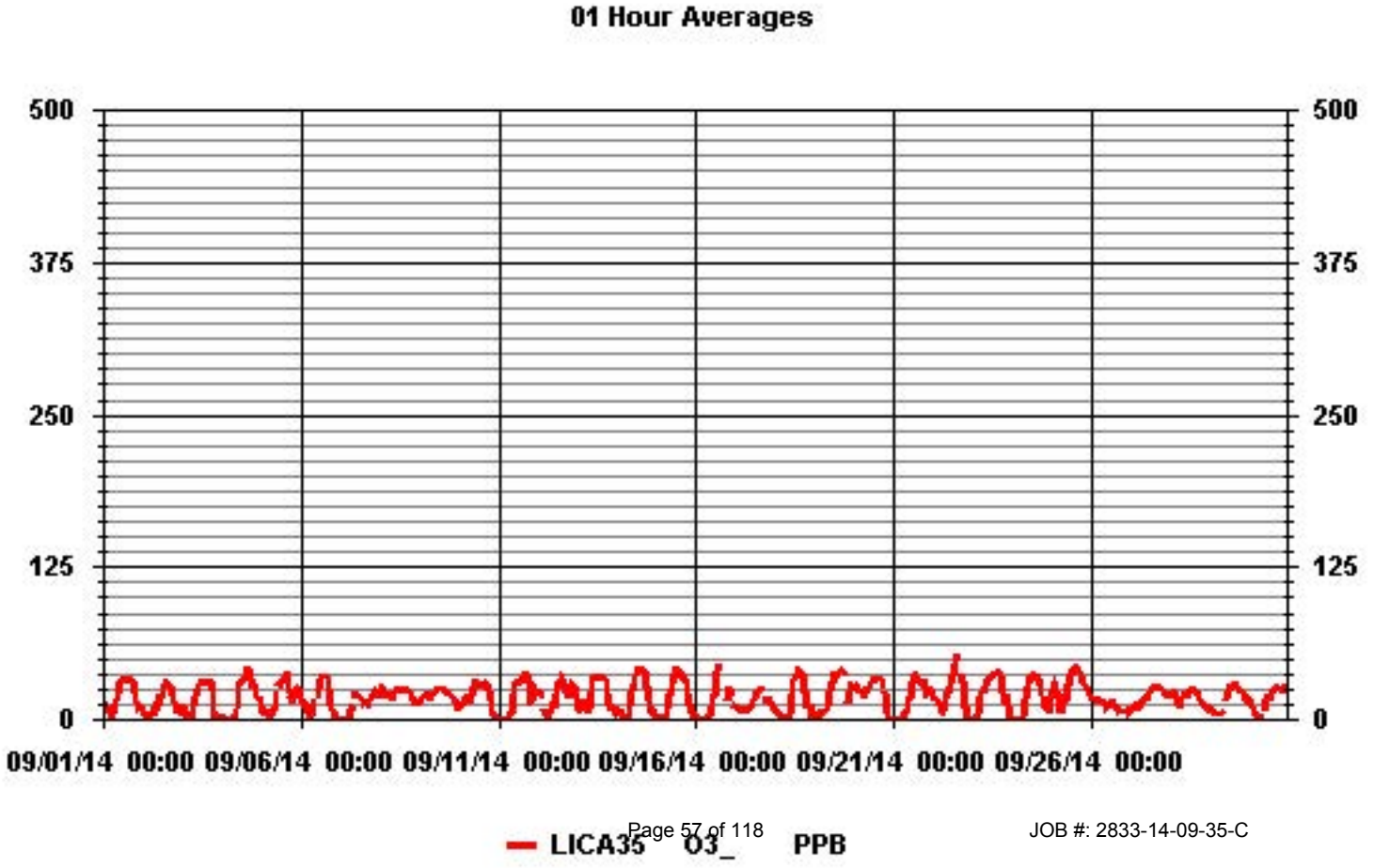
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 82 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	641					
MAXIMUM 1-HR AVERAGE:	50	PPB	@ HOUR(S)	14, 15	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:	27.3	PPB			ON DAY(S)	25
					VAR-VARIOUS	
IZS CALIBRATION TIME:	35	HRS	OPERATIONAL TIME:		720	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	11.81		MONTHLY AVERAGE:		18.11	PPB



JOB #: 2833-14-09-35-C

Lakeland Industry & Community Association - Elk Point Site

SEPTEMBER 2014

OZONE MAX instantaneous maximum in ppb

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	16	15	9	10	9	8	10	15	17	27	32	32	34	35	**S**	34	35	34	33	27	22	16	14	14	35	21.7	24
2	12	10	10	3	8	7	7	11	10	21	25	24	30	**S**	32	31	31	31	24	23	15	13	15	9	32	17.5	24
3	13	13	10	10	3	2	8	15	22	27	30	33	**S**	33	32	34	32	31	29	20	9	2	1	3	34	17.9	24
4	3	2	2	1	1	1	1	3	8	21	31	**S**	33	34	35	42	47	40	34	31	29	25	22	20	47	20.3	24
5	17	14	7	8	7	3	6	9	16	25	**S**	32	32	33	36	38	38	35	26	21	28	29	29	28	38	22.5	24
6	27	18	16	17	12	2	10	10	19	**S**	22	30	34	37	38	37	37	32	23	17	18	4	3	1	38	20.2	24
7	1	2	1	1	1	3	10	12	**S**	22	22	20	20	20	14	15	15	14	17	21	22	25	24	25	25	14.2	24
8	24	29	29	24	22	21	21	**S**	20	25	26	26	26	25	25	27	26	26	25	21	19	17	16	16	29	23.3	24
9	17	18	19	21	21	21	**S**	20	21	24	25	26	26	26	26	26	25	25	24	22	21	19	18	14	26	22.0	24
10	12	13	17	19	23	**S**	19	16	24	30	31	32	29	29	30	31	32	31	29	23	8	9	10	7	32	21.9	24
11	2	1	1	1	**S**	1	2	5	9	30	32	32	31	33	34	36	37	37	35	25	22	28	27	25	37	21.1	24
12	23	23	22	**S**	11	4	4	6	10	13	13	29	32	37	38	34	29	25	23	30	30	28	29	25	38	22.5	24
13	17	15	**S**	16	17	16	14	18	28	35	35	35	36	35	37	37	37	36	31	20	17	15	14	9	37	24.8	24
14	10	**S**	9	6	2	1	2	7	25	24	33	40	41	41	42	43	43	43	37	32	9	18	10	5	43	22.7	24
15	**S**	2	5	3	3	1	3	21	22	28	33	40	42	42	39	39	38	36	33	27	22	13	9	**S**	42	22.8	24
16	1	1	1	1	1	1	2	4	6	13	26	33	41	43	**C**	**C**	**C**	**C**	**C**	31	32	32	**S**	13	43	15.7	24
17	12	10	9	9	9	9	**S**	**S**	10	12	15	17	19	23	25	26	**S**	**S**	**S**	17	15	**S**	14	11	26	14.6	24
18	9	8	8	6	6	2	3	4	3	8	34	35	37	39	41	41	40	39	35	22	**S**	18	8	12	41	19.9	24
19	4	6	10	9	12	10	12	11	15	26	28	34	38	38	40	41	42	42	41	**S**	24	27	33	29	42	24.9	24
20	29	29	28	27	26	22	23	25	27	29	31	32	33	33	33	34	34	33	**S**	26	18	6	2	0	34	25.2	24
21	0	0	0	0	1	0	0	9	10	23	24	36	38	39	38	36	36	**S**	31	33	26	26	30	30	39	20.3	24
22	24	22	20	20	17	12	12	16	21	25	28	32	41	49	***52***	***52***	**S**	47	40	37	21	10	4	0	***52***	26.2	24
23	0	0	0	17	22	24	26	27	30	33	34	35	37	37	38	**S**	40	39	35	26	25	22	22	7	40	25.0	24
24	0	0	0	0	0	0	0	10	20	28	34	37	38	37	**S**	36	35	33	29	22	25	17	15	14	38	18.7	24
25	28	32	29	29	27	16	19	22	23	23	34	41	41	**S**	43	43	43	41	40	34	31	29	26	23	43	***31.2***	24
26	20	20	18	17	16	16	16	15	15	15	11	13	**S**	16	15	14	12	10	10	10	10	10	9	10	20	13.8	24
27	8	10	10	12	13	12	15	16	17	20	21	**S**	26	27	28	28	28	28	28	26	24	23	23	22	28	20.2	24
28	21	24	25	24	22	20	17	20	22	22	**S**	22	24	25	26	26	25	25	20	17	18	14	14	13	26	21.1	24
29	12	10	9	8	7	6	5	5	8	**S**	22	23	25	29	30	30	31	31	27	26	24	21	19	19	31	18.6	24
30	16	15	13	10	8	6	3	3	**S**	16	18	19	20	23	24	26	28	27	27	27	26	**P**	27	27	28	18.6	23
HOURLY MAX	29	32	29	29	27	24	26	27	30	35	35	41	42	49	52	52	47	47	41	37	32	32	33	30			
HOURLY AVG	13.0	12.5	11.6	11.3	11.3	8.5	9.6	12.7	17.1	23.0	26.8	30.0	32.3	32.8	33.0	33.5	33.2	32.3	29.1	24.6	21.0	18.4	16.8	14.9			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 660

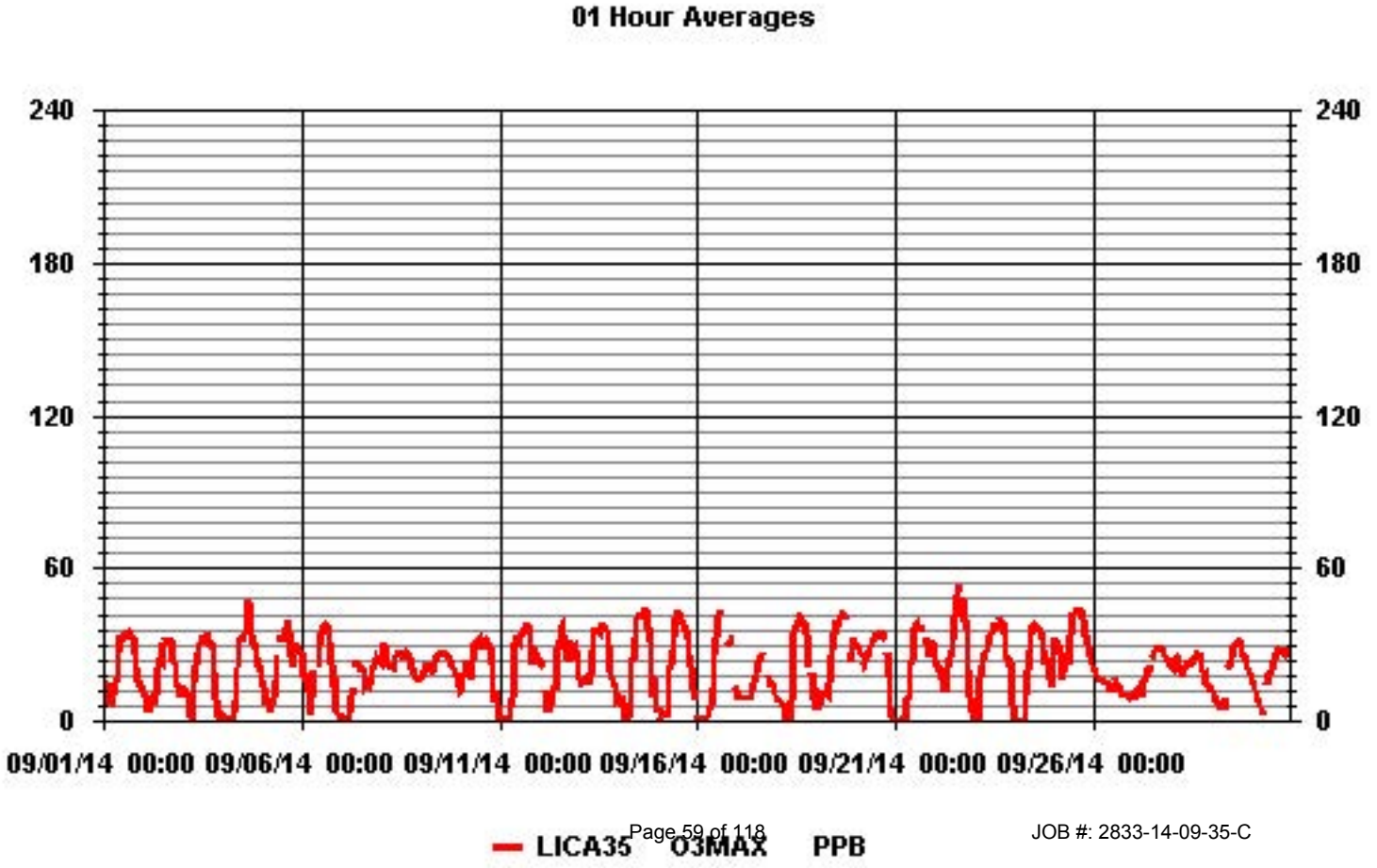
MAXIMUM INSTANTANEOUS VALUE: 52 PPB @ HOUR(S) 14, 15 ON DAY(S) 22

VAR-VARIOUS

IZS CALIBRATION TIME: 36 HRS OPERATIONAL TIME: 719 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION: 11.78



JOB #: 2833-14-09-35-C

LICA-ELK
O3_ / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 35
Site Name : LICA-ELK
Parameter : O3_
Units : PPB

Wind Parameter : WDR
Instrument Height : 10 Meters

		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	3.37	7.04	5.28	2.93	5.72	8.07	5.72	4.11	1.76	3.23	3.81	5.72	14.68	14.09	9.69	4.40	99.70
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14	.14	.00	.00	.00	.29
<	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	3.37	7.04	5.28	2.93	5.72	8.07	5.72	4.11	1.76	3.23	3.81	5.87	14.83	14.09	9.69	4.40	

Calm : .00 %

Total # Operational Hours : 681

Distribution By Samples

		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	23	48	36	20	39	55	39	28	12	22	26	39	100	96	66	30	679
<	110												1	1				2
<	210																	
>=	210																	
	Totals	23	48	36	20	39	55	39	28	12	22	26	40	101	96	66	30	

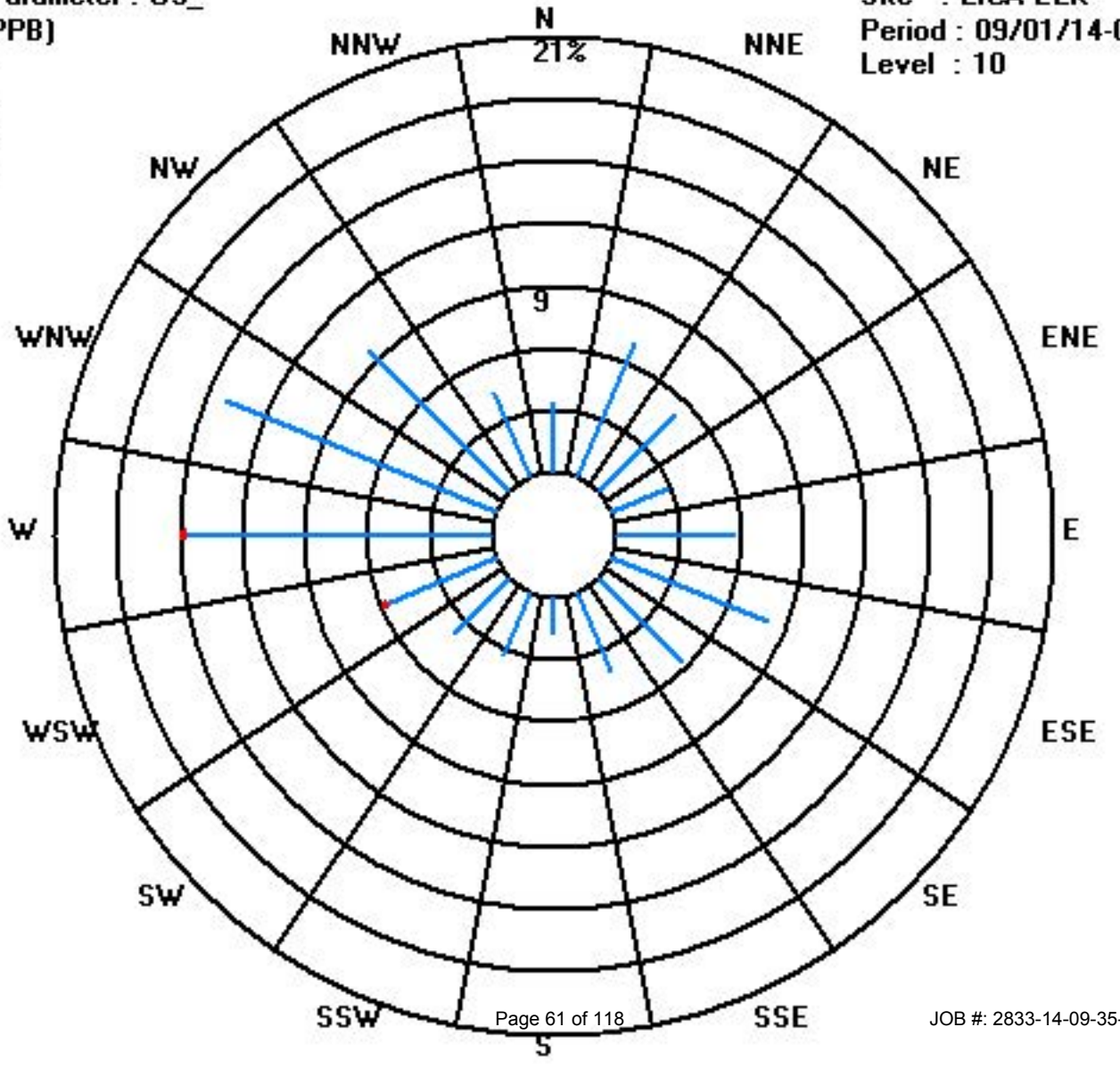
Calm : .00 %

Total # Operational Hours : 681

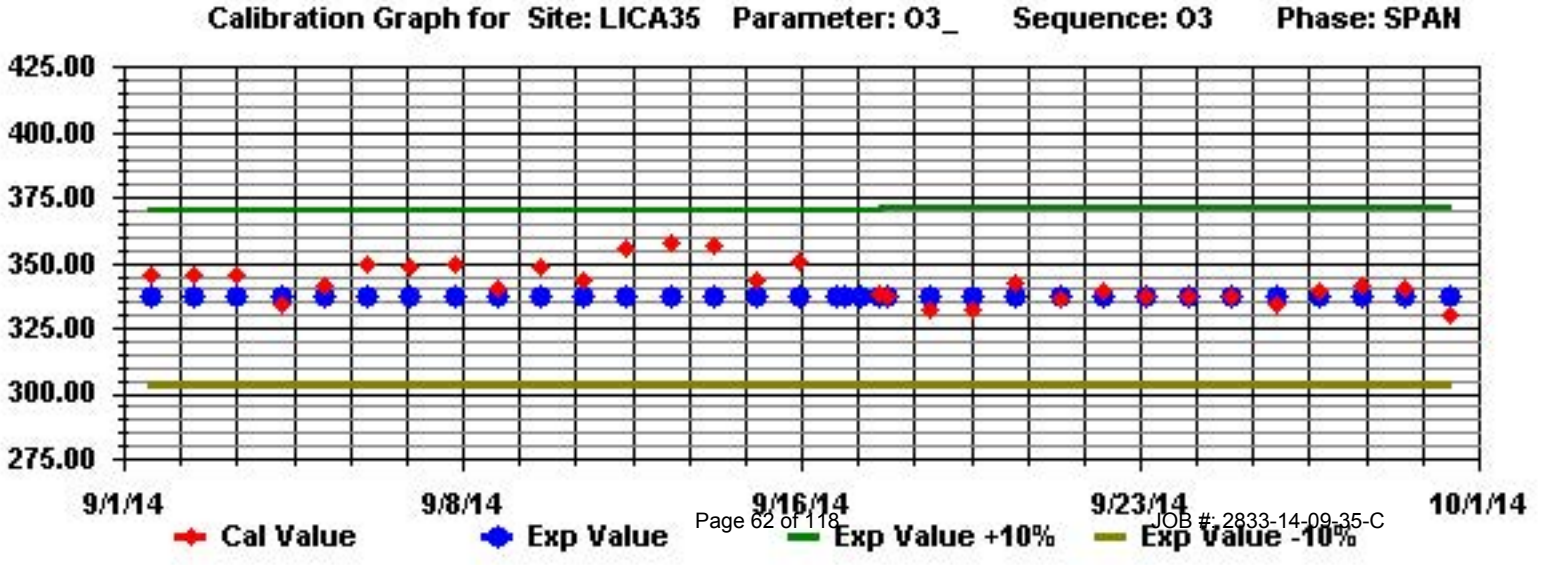
Logger : 35 Parameter : 03_
Class Limits (PPB)

>= 210
< 210
< 110
< 50

Site : LICA-ELK
Period : 09/01/14-09/30/14
Level : 10



JOB #: 2833-14-09-35-C


Calibration Graph for Site: LICA35 Parameter: O3_ Sequence: O3 Phase: SPAN
425.00
400.00
375.00
350.00
325.00
300.00
275.00
9/1/14
9/8/14
9/16/14
9/23/14
10/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Hydrocarbons (55i)

Lakeland Industry & Community Association - Elk Point Site

SEPTEMBER 2014

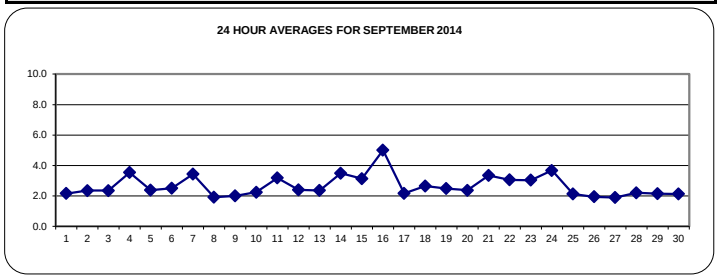
TOTAL HYDROCARBONS (THC) hourly averages in ppm

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2.2	2.0	2.0	2.1	2.1	2.9	2.8	2.1	2.0	1.9	1.8	1.8	1.8	1.8	**S**	1.8	1.8	1.9	1.9	2.0	2.3	2.9	3.1	2.5	3.1	2.2	24
2	2.4	2.5	2.7	3.4	2.6	2.4	2.6	2.1	2.3	2.2	2.1	2.0	1.8	**S**	1.8	1.8	1.8	1.9	1.9	2.0	2.1	2.8	2.4	4.4	4.4	2.3	24
3	2.3	2.1	2.3	2.8	3.2	3.3	2.6	2.3	2.0	1.9	1.9	1.9	**S**	1.8	1.9	1.8	1.8	1.8	1.9	2.1	2.8	2.9	3.2	3.4	3.4	2.3	24
4	3.7	4.4	4.6	7.8	6.1	6.2	5.9	6.1	5.1	5.1	2.5	**S**	1.8	1.9	1.8	1.9	1.9	1.9	2.1	1.9	2.0	2.2	2.2	2.1	7.8	3.5	24
5	2.4	2.4	2.6	3.0	2.6	2.9	2.3	2.2	2.3	2.0	**S**	2.0	1.9	1.9	1.9	1.9	1.9	2.7	2.9	3.4	2.4	2.3	2.3	2.3	3.4	2.4	24
6	2.2	2.5	2.2	2.1	2.5	3.2	2.5	3.5	2.8	**S**	2.3	2.3	2.1	2.0	1.9	1.9	1.8	1.9	2.3	3.4	2.8	2.7	3.3	3.5	3.5	2.5	24
7	6.8	7.7	6.5	7.2	***11.3***	5.4	3.1	2.3	**S**	2.0	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	***11.3***	3.4	24
8	1.9	1.9	1.9	1.8	1.9	1.9	1.9	**S**	1.9	1.9	1.8	1.9	1.8	1.8	1.8	1.9	1.9	1.8	1.9	2.0	2.0	2.1	2.2	2.2	2.2	1.9	24
9	2.2	2.1	2.1	2.2	2.0	2.1	**S**	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.2	2.2	2.2	2.0	24
10	2.4	2.4	2.3	2.0	2.0	**S**	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.7	2.9	3.0	3.4	3.2	3.4	2.2	24
11	3.6	3.9	3.7	5.1	**S**	7.3	6.9	5.2	5.6	3.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.3	2.4	2.3	2.3	2.2	7.3	3.2	24
12	2.1	2.1	2.1	**S**	2.5	3.6	4.9	4.0	3.2	2.6	2.1	2.1	2.0	1.9	1.9	1.9	2.0	2.0	2.0	2.1	1.9	1.9	1.9	2.2	4.9	2.4	24
13	2.6	2.9	**S**	2.5	2.4	2.2	2.3	2.6	2.3	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	2.2	3.1	3.6	3.1	2.9	3.2	3.6	2.4	24
14	3.3	**S**	3.4	3.7	4.5	6.4	6.5	5.1	4.4	2.7	2.5	2.0	1.9	1.9	1.8	1.9	1.9	2.0	2.1	3.0	3.8	4.6	4.8	6.1	6.5	3.5	24
15	**S**	5.8	5.0	4.4	3.9	6.3	6.3	4.5	2.4	2.1	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.0	2.7	3.4	3.5	**S**	6.3	3.1	24
16	6.5	7.1	5.8	6.8	6.7	6.7	6.9	5.8	7.2	6.5	5.1	**C**	**C**	**C**	**C**	**C**	**C**	2.0	2.3	2.8	2.7	2.3	**S**	2.0	7.2	***5.0***	24
17	2.0	2.0	2.0	2.0	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.3	2.3	**S**	2.3	2.4	2.4	2.2	24
18	2.5	2.5	2.6	2.8	2.9	3.0	2.9	2.8	3.8	3.1	2.6	1.9	2.0	2.0	1.9	1.8	1.8	1.9	2.3	2.8	**S**	2.6	4.8	3.5	4.8	2.6	24
19	3.3	5.8	3.0	4.4	3.3	2.7	2.6	2.2	2.1	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.0	**S**	2.7	2.2	2.0	2.1	5.8	2.5	24
20	2.1	1.9	2.0	2.1	1.9	2.1	2.1	2.0	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.9	1.9	2.1	**S**	2.2	3.1	4.0	3.9	6.3	6.3	2.4	24
21	6.8	5.0	4.6	4.0	4.0	4.4	5.5	4.3	4.0	3.5	3.9	2.3	1.9	1.8	1.8	2.0	2.0	**S**	2.0	2.1	2.7	3.0	2.6	2.5	6.8	3.3	24
22	2.6	2.3	2.4	2.6	3.1	3.0	3.1	3.4	3.0	2.4	2.3	2.4	2.0	2.0	1.9	1.9	**S**	2.2	3.5	4.0	4.0	5.1	5.2	5.7	5.7	3.0	24
23	7.1	7.3	7.5	4.7	2.3	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	**S**	1.8	1.9	2.2	3.2	2.9	3.7	3.2	3.7	7.5	3.0	24
24	4.7	5.2	5.7	5.2	5.5	5.7	5.6	5.8	4.1	2.9	2.9	2.2	2.1	2.0	**S**	2.0	2.0	2.2	2.3	2.3	2.9	3.6	3.6	3.9	5.8	3.7	24
25	2.1	2.0	2.2	2.1	2.2	2.8	3.0	2.7	2.6	2.4	2.1	2.0	1.9	**S**	1.8	1.8	1.8	1.9	1.9	2.0	2.0	1.9	1.9	1.9	3.0	2.1	24
26	1.9	1.9	1.9	1.8	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	**S**	1.9	2.0	1.9	1.9	2.0	2.0	2.1	2.0	1.9	2.2	2.0	2.2	1.9	24
27	1.9	1.9	1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.8	**S**	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	2.0	2.1	2.0	2.1	2.1	1.9	24
28	2.1	2.2	2.1	2.1	2.2	2.7	2.8	2.4	2.1	2.0	**S**	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.2	2.4	2.4	2.7	2.4	2.3	2.8	2.2	24
29	2.2	2.4	2.4	2.5	2.4	2.4	2.4	2.5	2.4	**S**	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	1.9	2.0	2.0	2.0	2.2	2.5	2.1	24
30	2.1	2.2	2.3	2.7	2.4	2.5	2.7	3.1	**S**	2.4	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	**X**	**X**	**X**	3.1	2.1	21
HOURLY MAX	7	8	8	8	11	7	7	6	7	7	5	2	2	2	2	2	2	3	4	4	4	5	5	6			
HOURLY AVG	3.1	3.3	3.2	3.4	3.3	3.5	3.5	3.1	2.9	2.5	2.2	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.4	2.5	2.8	2.8	3.0			

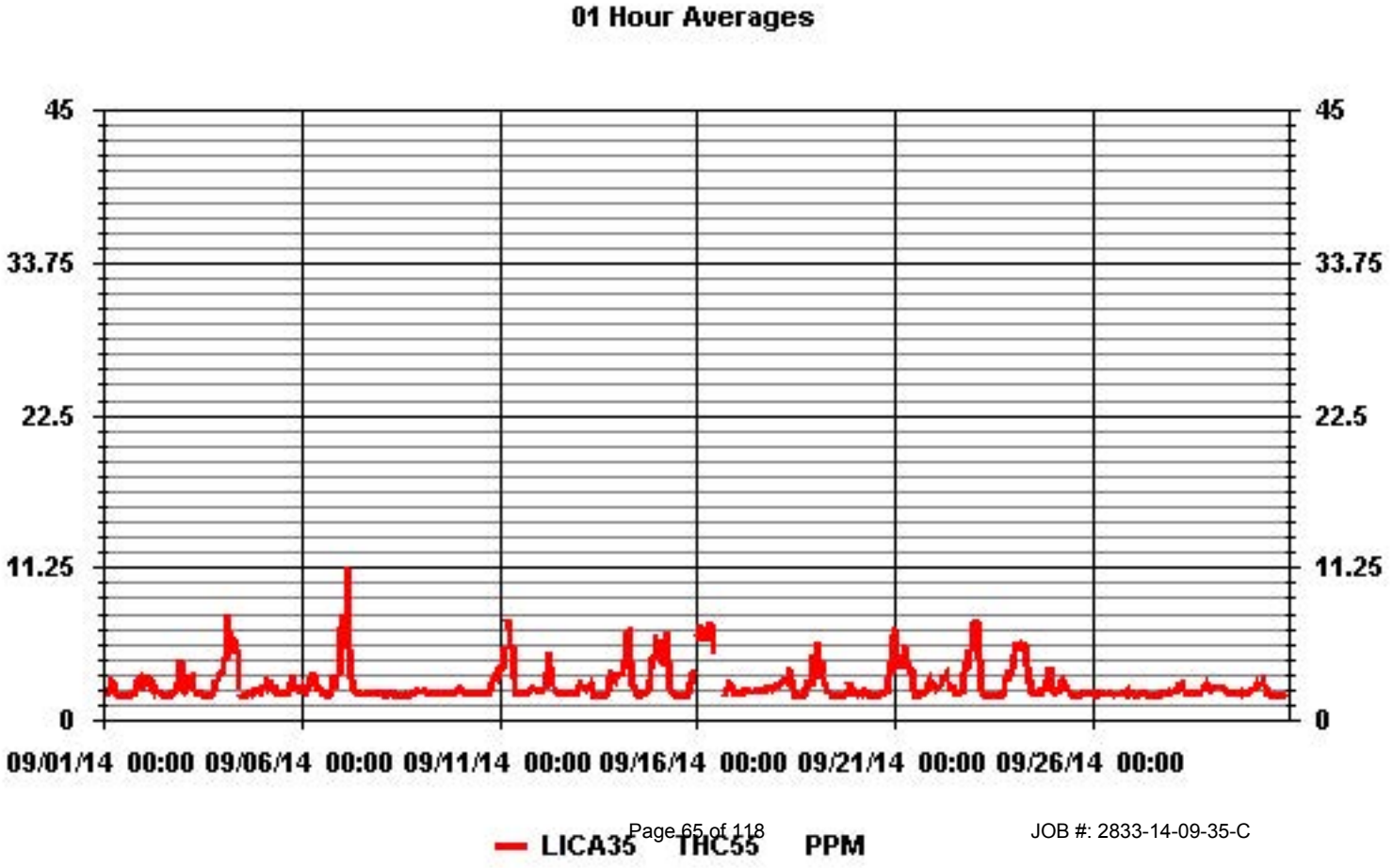
STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	680						
MAXIMUM 1-HR AVERAGE:	11.3	PPM	@ HOUR(S)	4	ON DAY(S)	7	
MAXIMUM 24-HR AVERAGE:	5.0	PPM			ON DAY(S)	16	
					VAR-VARIOUS		
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:			717	HRS
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:			99.6	%
STANDARD DEVIATION:	1.26		MONTHLY AVERAGE:			2.63	PPM



JOB #: 2833-14-09-35-C

Lakeland Industry & Community Association - Elk Point Site

SEPTEMBER 2014

TOTAL HYDROCARBONS MAX instantaneous maximum in ppm

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2.68	2.71	2.25	2.34	2.46	3.95	3.52	2.53	2.06	2.03	1.96	1.89	1.93	1.96	**S**	1.95	2	2.04	2.15	2.19	3.05	3.85	3.83	2.72	3.95	2.5	24
2	2.7	2.79	4.3	5.55	3.15	2.7	2.83	2.56	2.91	2.3	2.44	2.17	2.08	**S**	1.89	1.93	2.03	2.07	2.08	2.08	2.44	4.7	3.01	6.11	6.11	2.9	24
3	2.78	2.37	2.87	3.86	4.61	4.57	2.9	2.59	2.21	2.18	2	1.94	**S**	1.89	2	1.89	1.91	1.95	2.28	2.81	3.4	4.25	4.49	4.3	4.61	2.9	24
4	6.2	6.27	12.44	15.58	12.67	8.95	6.64	6.83	5.7	6.26	3.22	**S**	1.92	1.94	2.05	2.16	2.08	2.09	2.29	2.24	2.22	2.85	2.72	2.54	15.58	5.1	24
5	3.24	2.97	2.88	3.59	3.15	4.63	2.76	2.4	2.63	2.17	**S**	2.25	2.04	2.02	2.04	2.19	2.2	3.51	4.21	9.63	3.69	3.36	4.85	3.64	9.63	3.3	24
6	2.8	3.2	2.39	2.32	5.08	5.16	3.07	4.59	6.48	**S**	2.74	2.64	2.27	2.17	2.17	2.14	2.1	2.23	3.53	5.21	3.87	3.34	4.51	4.87	6.48	3.4	24
7	15.42	17.39	7.44	12.62	***21.73***	9.17	4.8	2.54	**S**	2.21	2.06	2.13	1.98	2.08	2.13	2.09	2.03	2.05	1.97	1.94	1.94	1.92	1.92	1.93	***21.73***	5.3	24
8	2.17	1.91	2.08	1.92	1.94	1.95	1.94	**S**	2.08	1.92	1.9	1.93	1.91	1.9	1.89	1.92	1.93	1.91	1.97	2.18	2.18	2.15	2.44	2.4	2.44	2.0	24
9	2.27	2.21	2.21	2.55	2.15	2.14	**S**	2.16	2.15	2.07	2.17	1.98	2.02	2	2	2.08	1.96	1.97	2.13	2.19	2.09	2.42	3.44	2.59	3.44	2.2	24
10	2.54	2.55	2.4	2.12	2.12	**S**	2.23	2.21	2.01	1.97	1.94	1.93	1.94	1.94	1.93	1.94	1.93	1.96	2.71	3.54	3.22	4.16	5.82	4.15	5.82	2.6	24
11	4.45	5.14	4.39	7	**S**	8.03	8.33	5.63	6.12	5.59	2.21	1.97	2.02	2.02	1.99	2.04	1.96	2	2.24	2.66	2.77	2.65	2.43	2.33	8.33	3.7	24
12	2.19	2.12	2.31	**S**	2.87	4.61	6.61	4.39	3.93	3.1	2.26	2.34	2.09	2.06	1.99	2.05	2.06	2.34	2.14	2.87	1.94	2.09	2.07	3.1	6.61	2.8	24
13	3.22	3.71	**S**	2.82	2.64	2.5	2.76	3.08	2.66	2.06	1.92	1.91	1.92	1.9	1.95	1.92	1.94	1.99	2.95	4.41	4.4	3.56	3.11	3.65	4.41	2.7	24
14	3.61	**S**	3.63	4.02	5.38	7.86	8.05	6.37	5	2.97	2.98	2.11	1.95	1.93	1.92	2.04	2.08	2.44	2.33	4.69	4.87	12.21	6.19	7.42	12.21	4.4	24
15	**S**	10.13	5.83	5.37	4.83	10.85	10.33	5.33	2.73	2.41	2.02	2.04	1.93	1.92	1.96	1.89	1.87	1.97	1.91	2.84	6.45	5.88	4.26	**S**	10.85	4.3	24
16	9.71	9.66	7.48	7.68	8.37	7.24	8.63	6.73	8.07	7.27	5.76	**C**	**C**	**C**	**C**	**C**	**C**	2.26	2.56	3.75	3.52	2.73	**S**	2.08	9.71	***6.1***	24
17	2.27	2.08	2.25	2.12	2.48	2.39	2.32	2.28	2.33	2.35	2.22	2.24	2.34	2.26	2.19	2.15	2.34	2.49	2.79	2.47	2.43	**S**	2.55	2.67	2.79	2.3	24
18	2.85	2.98	3.13	3.28	3.8	3.74	3.02	3.1	5.31	3.58	3.21	2.12	2.11	2.09	2.02	1.89	1.92	2.02	3.87	3.35	**S**	3.23	6.48	5.85	6.48	3.3	24
19	4.2	10.53	5.47	6.56	4.82	3.16	3.43	2.55	2.35	2.19	2.04	1.92	1.88	1.91	1.94	1.93	1.97	2	2.26	**S**	3.87	2.43	2.72	2.48	10.53	3.2	24
20	2.48	2.07	2.48	2.61	2.27	2.28	2.8	2.38	2.06	2.08	1.93	1.92	1.92	1.9	1.91	1.95	2	2.56	**S**	2.74	6.37	6.37	4.45	9.51	9.51	3.0	24
21	9.51	6.82	5.92	4.44	4.24	5.2	6.92	6.17	4.39	4.23	4.71	3.44	1.94	1.9	2.06	2.13	2.39	**S**	2.14	2.41	3.01	3.84	3.31	3.03	9.51	4.1	24
22	3.63	2.54	2.68	3.3	3.68	3.78	3.5	3.92	3.49	2.68	2.53	2.64	2.19	2.11	2.09	1.96	**S**	3.22	6.03	5.15	7.46	8.29	7.98	6.44	8.29	4.0	24
23	9.01	9.65	8.37	8.24	2.89	2.06	1.96	2.05	1.88	1.88	2.02	1.88	1.86	1.91	1.86	**S**	1.9	2.2	2.4	4.93	4.52	4.61	4	4.23	9.65	3.8	24
24	6.89	6.6	6.39	5.74	6.14	6.2	5.8	6.26	5.16	3.34	3.24	2.64	2.25	2.24	**S**	2.28	2.6	2.55	2.73	2.98	4.35	4.13	3.96	4.61	6.89	4.3	24
25	3.45	2.97	2.32	2.3	3.76	3.91	3.94	3.7	3.02	2.7	2.32	2.08	1.96	**S**	1.89	1.93	1.92	1.96	1.99	2.18	2.15	2.08	1.93	2.04	3.94	2.5	24
26	1.96	1.95	2.02	1.92	1.92	1.93	1.96	2.02	2.03	3.07	2.08	1.96	**S**	2	2.37	2.04	2.08	2.47	2.2	2.38	2.82	2.19	3.33	2.32	3.33	2.2	24
27	2.18	1.99	1.94	1.93	2.01	1.97	1.92	1.93	1.92	1.92	1.9	**S**	1.91	1.92	1.9	1.92	1.91	1.94	1.93	1.95	2.18	2.18	2.17	2.27	2.27	2.0	24
28	2.33	2.35	2.22	2.21	2.42	3.19	3.39	3.19	2.28	2.12	**S**	2.08	2	2.13	2.08	2.04	1.97	2.4	2.53	2.65	2.92	2.92	2.51	2.54	3.39	2.5	24
29	2.39	2.69	2.83	2.78	2.91	2.72	2.73	2.7	2.68	**S**	2.2	2.19	2.02	2.09	2.18	2.96	2.19	2.15	2.15	2.16	2.21	2.3	2.17	2.45	2.96	2.4	24
30	2.26	2.33	2.69	3.42	2.92	2.81	2.98	3.48	**S**	3.08	2.19	2.02	2.02	1.92	1.88	1.96	1.87	1.96	1.95	2	2.02	**X**	**X**	**X**	3.48	2.4	21
HOURLY MAX	15	17	12	16	22	11	10	7	8	7	6	3	2	2	2	3	3	4	6	10	7	12	8	10			
HOURLY AVG	4.2	4.6	4.0	4.5	4.5	4.5	4.2	3.6	3.4	2.9	2.5	2.2	2.0	2.0	2.0	2.0	2.0	2.2	2.6	3.2	3.4	3.8	3.7	3.7			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 680

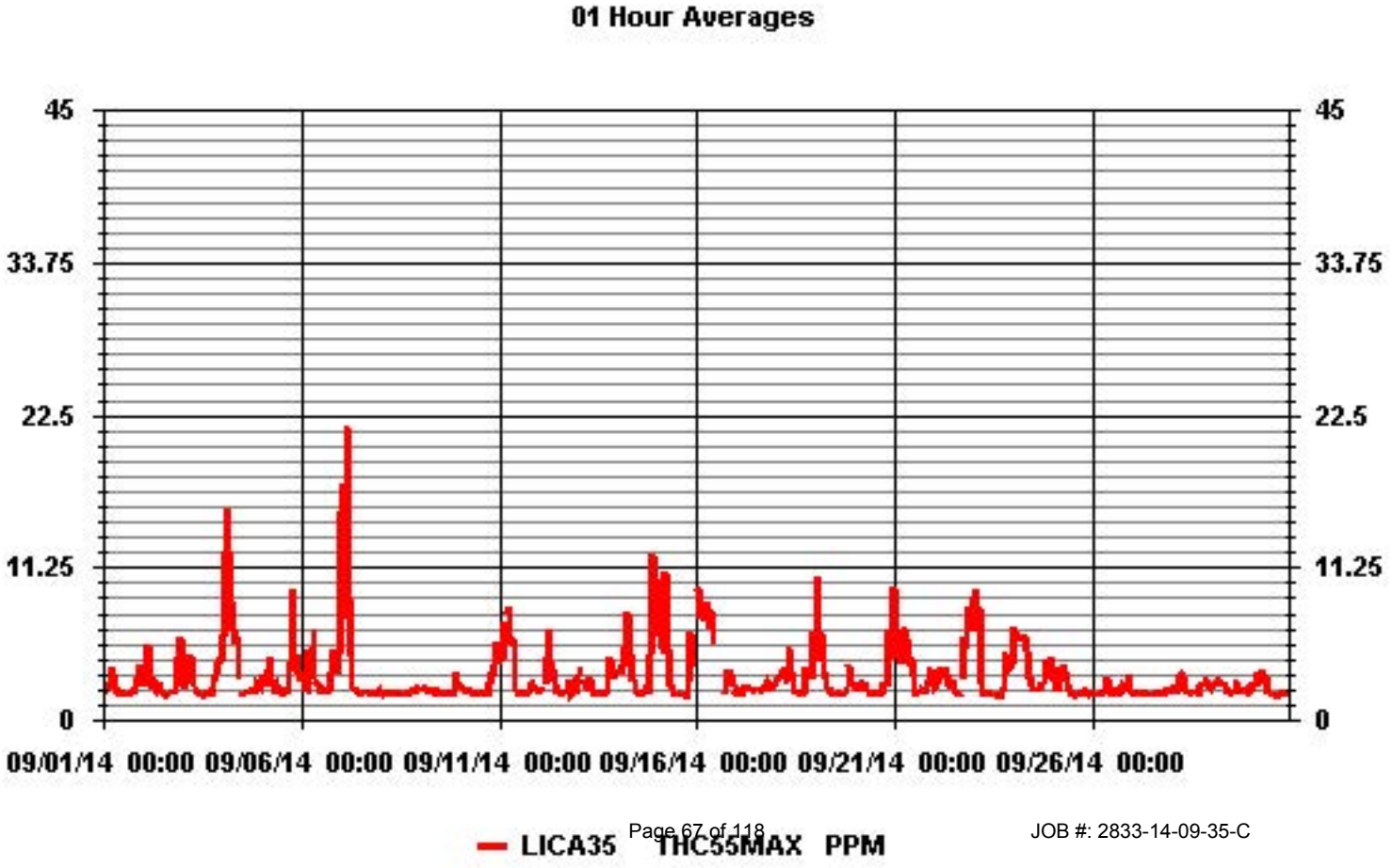
MAXIMUM INSTANTANEOUS VALUE: 21.73 PPM @ HOUR(S) 4 ON DAY(S) 7

VAR-VARIOUS

IZS CALIBRATION TIME: 31 HRS OPERATIONAL TIME: 717 HRS

MONTHLY CALIBRATION TIME: 6 HRS

STANDARD DEVIATION: 2.16



JOB #: 2833-14-09-35-C

LICA35
THC55 / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 35
Site Name : LICA35
Parameter : THC55
Units : PPM

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3.0	3.38	6.76	4.70	2.05	3.82	5.88	4.55	3.08	1.32	2.50	2.94	4.85	12.50	10.44	6.02	4.11	78.97
<	10.0	.00	.29	.58	.88	2.20	2.50	1.47	1.02	.44	.58	.73	.88	2.20	3.67	3.08	.29	20.88
<	50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14	.00	.14
>=	50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	3.38	7.05	5.29	2.94	6.02	8.38	6.02	4.11	1.76	3.08	3.67	5.73	14.70	14.11	9.26	4.41	

Calm : .00 %

Total # Operational Hours : 680

Distribution By Samples

Direction

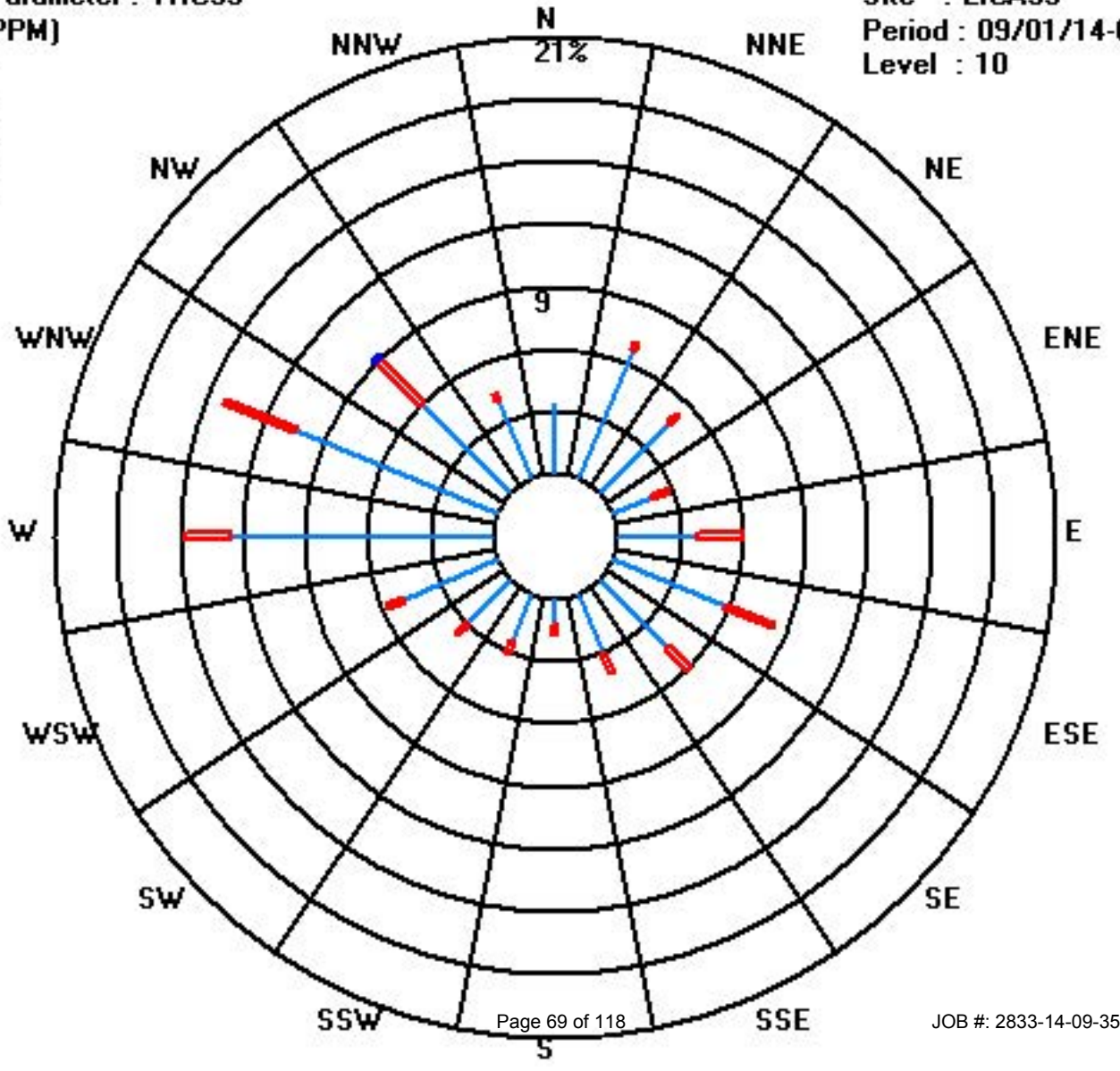
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3.0	23	46	32	14	26	40	31	21	9	17	20	33	85	71	41	28	537
<	10.0		2	4	6	15	17	10	7	3	4	5	6	15	25	21	2	142
<	50.0															1		1
>=	50.0																	
	Totals	23	48	36	20	41	57	41	28	12	21	25	39	100	96	63	30	

Calm : .00 %

Total # Operational Hours : 680

Logger : 35 Parameter : THC55
Class Limits (PPM)
>= 50.0
< 50.0
< 10.0
< 3.0

Site : LICA35
Period : 09/01/14-09/30/14
Level : 10



JOB #: 2833-14-09-35-C

Methane

Lakeland Industry & Community Association - Elk Point Site

SEPTEMBER 2014

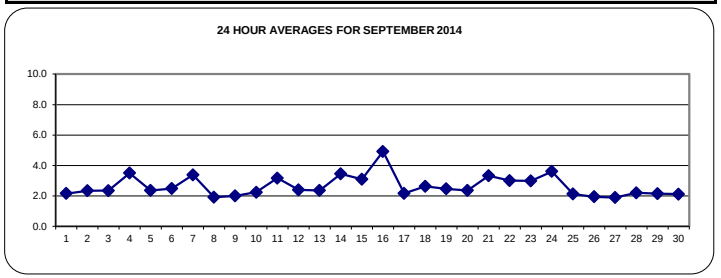
METHANE (CH4) hourly averages in ppm

MST

HOUR START / HOUR END	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	23:00 0:00	DAILY MAX.	24-HOUR AVG.	RDGS.
DAY																											
1	2.2	2.0	2.0	2.1	2.1	2.9	2.8	2.1	2.0	1.9	1.8	1.8	1.8	1.8	**S**	1.8	1.8	1.9	1.9	2.0	2.3	2.9	3.1	2.5	3.1	2.2	24
2	2.4	2.5	2.7	3.4	2.6	2.4	2.6	2.1	2.3	2.2	2.1	2.0	1.8	**S**	1.8	1.8	1.8	1.9	1.9	2.0	2.1	2.8	2.4	4.3	4.3	2.3	24
3	2.3	2.1	2.3	2.8	3.2	3.3	2.6	2.3	2.0	1.9	1.9	1.9	**S**	1.8	1.9	1.8	1.8	1.8	1.9	2.1	2.8	2.9	3.2	3.4	3.4	2.3	24
4	3.6	4.3	4.5	7.7	6.0	6.2	5.9	6.0	5.1	5.0	2.5	**S**	1.8	1.9	1.8	1.9	1.9	1.9	2.1	1.9	2.0	2.2	2.2	2.1	7.7	3.5	24
5	2.3	2.4	2.6	3.0	2.6	2.9	2.3	2.2	2.3	2.0	**S**	2.0	1.9	1.9	1.9	1.9	1.9	2.7	2.8	3.3	2.4	2.3	2.3	2.3	3.3	2.4	24
6	2.2	2.5	2.2	2.1	2.5	3.2	2.5	3.5	2.8	**S**	2.3	2.3	2.1	2.0	1.9	1.9	1.8	1.9	2.3	3.4	2.8	2.6	3.1	3.4	3.5	2.5	24
7	6.6	7.5	6.4	7.1	***11.0***	5.3	3.0	2.3	**S**	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	***11.0***	3.4	24
8	1.9	1.9	1.9	1.8	1.9	1.9	1.9	**S**	1.9	1.9	1.8	1.9	1.8	1.8	1.8	1.9	1.9	1.8	1.9	2.0	2.0	2.1	2.2	2.2	2.2	1.9	24
9	2.2	2.1	2.1	2.2	2.0	2.1	**S**	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.2	2.2	2.2	2.0	24
10	2.4	2.4	2.3	2.0	2.0	**S**	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.7	2.9	3.0	3.4	3.2	3.4	2.2	24
11	3.6	3.9	3.7	5.0	**S**	7.2	6.8	5.2	5.6	3.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.2	2.4	2.3	2.3	2.2	7.2	3.2	24
12	2.1	2.1	2.1	**S**	2.5	3.6	4.8	4.0	3.2	2.6	2.1	2.1	2.0	1.9	1.9	1.9	2.0	2.0	2.0	2.1	1.9	1.9	1.9	2.2	4.8	2.4	24
13	2.6	2.9	**S**	2.5	2.4	2.2	2.3	2.6	2.3	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	2.2	3.0	3.5	3.1	2.9	3.2	3.5	2.4	24
14	3.3	**S**	3.4	3.7	4.4	6.2	6.3	5.0	4.3	2.7	2.4	2.0	1.9	1.9	1.8	1.9	1.9	2.0	2.1	2.9	3.8	4.5	4.7	6.0	6.3	3.4	24
15	**S**	5.7	4.9	4.3	3.9	6.3	6.2	4.3	2.4	2.1	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.8	2.0	2.7	3.3	3.4	**S**	6.3	3.1	24
16	6.4	7.0	5.5	6.6	6.5	6.4	6.8	5.8	7.1	6.4	5.0	**C**	**C**	**C**	**C**	**C**	**C**	2.0	2.3	2.8	2.7	2.3	**S**	2.0	7.1	***4.9***	24
17	2.0	2.0	2.0	2.0	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.3	2.3	**S**	2.3	2.4	2.4	2.2	24
18	2.5	2.5	2.6	2.8	2.9	3.0	2.9	2.8	3.7	3.1	2.6	1.9	2.0	2.0	1.9	1.8	1.8	1.9	2.3	2.8	**S**	2.6	4.7	3.4	4.7	2.6	24
19	3.3	5.7	3.0	4.3	3.3	2.7	2.6	2.2	2.0	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.0	**S**	2.7	2.2	2.0	2.1	5.7	2.5	24
20	2.1	1.9	2.0	2.1	1.9	2.1	2.1	2.0	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.9	1.9	2.1	**S**	2.2	3.1	3.9	3.9	6.2	6.2	2.4	24
21	6.7	4.9	4.6	4.0	4.0	4.4	5.4	4.3	4.0	3.5	3.8	2.3	1.9	1.8	1.8	2.0	2.0	**S**	2.0	2.1	2.7	3.0	2.6	2.5	6.7	3.3	24
22	2.6	2.3	2.4	2.6	3.0	3.0	3.1	3.3	3.0	2.4	2.3	2.4	2.0	2.0	1.9	1.9	**S**	2.2	3.5	3.9	3.9	4.9	5.0	5.5	5.5	3.0	24
23	6.8	7.1	7.2	4.6	2.3	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	**S**	1.8	1.9	2.2	3.1	2.9	3.6	3.1	3.6	7.2	3.0	24
24	4.5	5.0	5.5	5.0	5.4	5.6	5.5	5.7	4.0	2.9	2.9	2.2	2.1	2.0	**S**	2.0	2.0	2.2	2.3	2.3	2.9	3.5	3.5	3.8	5.7	3.6	24
25	2.1	2.0	2.2	2.1	2.2	2.8	3.0	2.7	2.6	2.4	2.1	2.0	1.9	**S**	1.8	1.8	1.8	1.9	1.9	2.0	2.0	1.9	1.9	1.9	3.0	2.1	24
26	1.9	1.9	1.9	1.8	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	**S**	1.9	2.0	1.9	1.9	2.0	2.0	2.1	2.0	1.9	2.2	2.0	2.2	1.9	24
27	1.9	1.9	1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.8	**S**	1.8	1.8	1.8	1.8	1.9	1.9	1.9	2.0	2.1	2.0	2.1	2.1	2.1	1.9	24
28	2.1	2.2	2.1	2.1	2.2	2.7	2.8	2.4	2.1	2.0	**S**	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.2	2.4	2.4	2.7	2.4	2.3	2.8	2.2	24
29	2.2	2.4	2.4	2.5	2.4	2.4	2.4	2.5	2.4	**S**	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	1.9	2.0	2.0	2.0	2.2	2.5	2.1	24
30	2.1	2.2	2.3	2.7	2.4	2.5	2.6	3.0	**S**	2.3	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	**X**	**X**	**X**	3.0	2.1	21
HOURLY MAX	7	8	7	8	11	7	7	6	7	6	5	2	2	2	2	2	2	3	4	4	4	5	5	6			
HOURLY AVG	3.1	3.3	3.1	3.3	3.2	3.5	3.4	3.1	2.9	2.5	2.2	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.4	2.5	2.7	2.8	3.0			

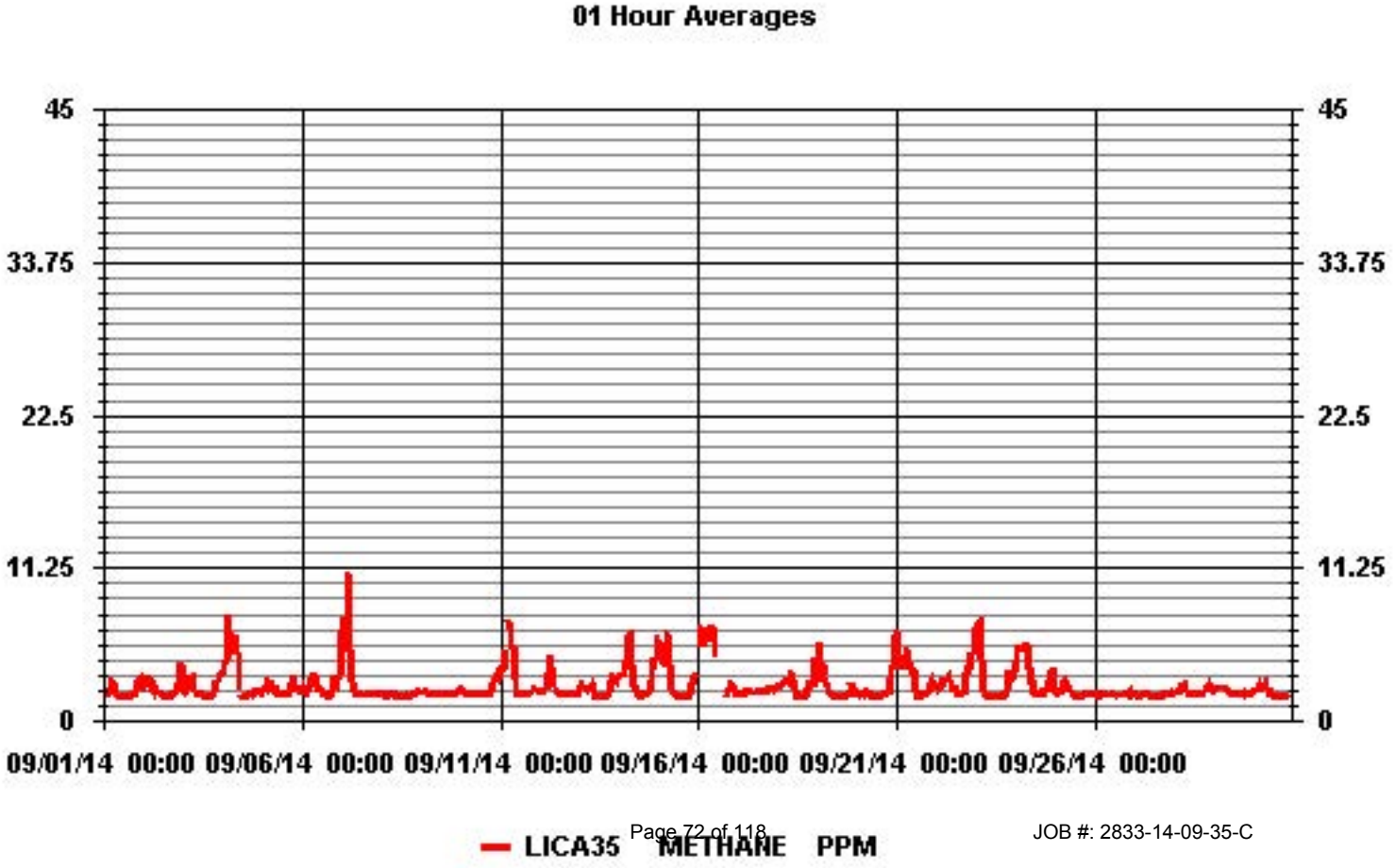
STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	680						
MAXIMUM 1-HR AVERAGE:	11.0	PPM	@ HOUR(S)	4	ON DAY(S)	7	
MAXIMUM 24-HR AVERAGE:	4.9	PPM			ON DAY(S)	16	
					VAR-VARIOUS		
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:			717	HRS
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:			99.6	%
STANDARD DEVIATION:	1.22		MONTHLY AVERAGE:			2.62	PPM



JOB #: 2833-14-09-35-C

Lakeland Industry & Community Association - Elk Point Site

SEPTEMBER 2014

METHANE MAX instantaneous maximum in ppm

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2.67	2.71	2.23	2.34	2.29	3.95	3.52	2.53	2.06	2.03	1.96	1.89	1.93	1.95	**S**	1.96	1.99	2.04	2.16	2.19	3.06	3.85	3.82	2.72	3.95	2.5	24
2	2.7	2.8	4.19	5.35	3.05	2.7	2.76	2.57	2.91	2.31	2.37	2.07	2.08	**S**	1.89	1.93	1.93	1.99	2.09	2.09	2.43	4.57	3.01	5.83	5.83	2.9	24
3	2.78	2.24	2.87	3.86	4.47	4.39	2.87	2.49	2.22	2.03	1.96	1.95	**S**	1.89	2.01	1.89	1.91	1.96	2.29	2.81	3.41	4.22	4.37	4.29	4.47	2.8	24
4	6.12	6.3	12.07	15	12.36	8.83	6.47	6.65	5.46	6.17	3.2	**S**	1.92	1.94	2.02	2.16	1.99	2.1	2.3	2.25	2.23	2.86	2.68	2.54	15	5.0	24
5	3.24	2.94	2.88	3.59	3.15	4.56	2.61	2.4	2.64	2.18	**S**	2.08	2.04	2.02	2.04	2.19	2.2	3.36	4.02	9.23	3.53	3.31	4.78	3.63	9.23	3.2	24
6	2.81	3.2	2.38	2.16	5.08	5.12	2.93	4.42	6.5	**S**	2.62	2.61	2.18	2.08	2.17	2.14	2.02	2.21	3.53	5.14	3.72	3.09	4.08	4.74	6.5	3.3	24
7	15.06	17.01	7.25	12.37	***20.28***	8.56	4.64	2.42	**S**	2.15	2.05	2.01	1.98	2.01	2.08	2.1	2.03	2.02	1.97	1.94	1.94	1.92	1.92	1.93	***20.28***	5.1	24
8	1.95	1.91	1.94	1.92	1.94	1.95	1.94	**S**	1.93	1.92	1.9	1.93	1.91	1.9	1.89	1.92	1.93	1.92	1.98	2.18	2.18	2.16	2.43	2.4	2.43	2.0	24
9	2.28	2.21	2.21	2.55	2.15	2.15	**S**	2.16	2.06	2.08	2.17	1.98	2.01	2	1.99	2.09	1.96	1.97	2.14	2.19	2.1	2.42	3.44	2.6	3.44	2.2	24
10	2.54	2.55	2.4	2.14	2.13	**S**	2.23	2.21	2.01	1.98	1.94	1.93	1.94	1.94	1.93	1.94	1.93	1.96	2.59	3.54	3.22	4.15	5.72	4.14	5.72	2.6	24
11	4.45	5.13	4.36	6.87	**S**	7.8	8.12	5.49	5.99	5.6	2.21	1.97	2.01	2.02	1.98	2.04	1.96	2	2.24	2.47	2.69	2.65	2.43	2.33	8.12	3.7	24
12	2.19	2.13	2.31	**S**	2.87	4.59	6.45	4.35	3.92	3.11	2.26	2.35	2.1	2.06	1.98	2.04	2.06	2.34	2.14	2.71	1.94	2.1	2.06	3.11	6.45	2.7	24
13	3.22	3.71	**S**	2.82	2.65	2.5	2.58	3.08	2.66	2.06	1.92	1.91	1.92	1.9	1.93	1.92	1.94	1.98	2.95	4.33	4.32	3.49	3.02	3.55	4.33	2.7	24
14	3.4	**S**	3.56	4.01	5.24	7.58	7.79	6.25	4.74	2.92	2.83	2.12	1.96	1.93	1.92	2.03	2.09	2.44	2.31	4.1	4.87	11.97	5.99	7.17	11.97	4.3	24
15	**S**	9.98	5.76	5.24	4.73	10.68	10.18	5.03	2.73	2.41	2.03	2.04	1.93	1.92	1.89	1.89	1.87	1.9	1.91	2.79	6	5.68	4.02	**S**	10.68	4.2	24
16	9.5	9.5	7.14	7.54	7.88	6.92	8.53	6.64	7.75	7.03	5.57	**C**	**C**	**C**	**C**	**C**	**C**	2.26	2.57	3.75	3.39	2.71	**S**	2.09	9.5	***5.9***	24
17	2.06	2.1	2.13	2.13	2.47	2.3	2.31	2.28	2.33	2.3	2.22	2.25	2.25	2.26	2.19	2.15	2.34	2.49	2.74	2.44	2.42	**S**	2.56	2.59	2.74	2.3	24
18	2.85	2.98	3.13	3.28	3.63	3.63	3.02	2.95	5.12	3.57	3.1	2.04	2.09	2.1	2.03	1.89	1.92	2.02	3.71	3.3	**S**	3.23	6.23	5.72	6.23	3.2	24
19	4.03	10.41	5.25	6.39	4.63	3.13	3.25	2.55	2.21	2.2	1.96	1.92	1.89	1.91	1.94	1.93	1.97	2.01	2.27	**S**	3.76	2.37	2.73	2.4	10.41	3.2	24
20	2.4	2.07	2.47	2.62	2.27	2.29	2.68	2.38	2.05	2.08	1.93	1.92	1.92	1.9	1.91	1.96	2.01	2.56	**S**	2.74	6.14	6.14	4.3	9.32	9.32	3.0	24
21	9.32	6.74	5.87	4.29	4.23	5.16	6.66	6	4.26	4.22	4.37	3.34	1.94	1.9	2.06	2.15	2.39	**S**	2.15	2.41	3.01	3.77	3.17	3.03	9.32	4.0	24
22	3.56	2.44	2.63	3.25	3.49	3.76	3.44	3.88	3.49	2.68	2.51	2.65	2.19	2.11	1.94	1.95	**S**	3.21	6.04	4.97	7.22	7.75	7.65	6.18	7.75	3.9	24
23	8.52	9.25	8.05	8.04	2.89	2.06	1.97	1.94	1.88	1.88	1.87	1.88	1.86	1.91	1.86	**S**	1.9	2.2	2.4	4.75	4.45	4.4	3.96	3.98	9.25	3.6	24
24	6.52	6.4	6.26	5.55	5.97	6.01	5.76	6.13	5.1	3.34	3.08	2.65	2.18	2.1	**S**	2.29	2.61	2.46	2.59	2.99	4.34	3.92	3.82	4.38	6.52	4.2	24
25	3.25	2.96	2.32	2.31	3.76	3.73	3.94	3.6	3	2.71	2.31	2.09	1.96	**S**	1.89	1.93	1.92	1.96	1.99	2.1	2.11	1.98	1.93	1.93	3.94	2.5	24
26	1.96	1.95	1.93	1.92	1.93	1.93	1.95	1.99	1.93	3.07	2.09	1.97	**S**	2	2.37	2.04	2.09	2.46	2.21	2.38	2.82	2.19	3.33	2.31	3.33	2.2	24
27	2.18	1.99	1.95	1.93	2.01	1.98	1.93	1.94	1.92	1.92	1.9	**S**	1.91	1.92	1.91	1.92	1.91	1.94	1.93	1.95	2.18	2.18	2.17	2.28	2.28	2.0	24
28	2.34	2.36	2.22	2.21	2.42	3.19	3.39	3.19	2.29	2.13	**S**	2.09	2	2.14	2.09	2.03	1.97	2.4	2.53	2.65	2.92	2.93	2.51	2.54	3.39	2.5	24
29	2.39	2.69	2.79	2.78	2.91	2.72	2.73	2.65	2.6	**S**	2.2	2.19	2.02	2.1	2.18	2.95	2.2	2.16	2.16	2.06	2.04	2.1	2.12	2.43	2.95	2.4	24
30	2.27	2.3	2.61	3.42	2.81	2.67	2.86	3.33	**S**	3.08	2.05	1.97	1.99	1.92	1.88	1.84	1.87	1.87	1.95	2	2.02	**X**	**X**	**X**	3.42	2.3	21
HOURLY MAX	15	17	12	15	20	11	10	7	8	7	6	3	2	2	2	3	3	3	6	9	7	12	8	9			
HOURLY AVG	4.1	4.5	3.9	4.4	4.3	4.4	4.1	3.6	3.3	2.9	2.4	2.1	2.0	2.0	2.0	2.0	2.0	2.2	2.5	3.1	3.3	3.7	3.6	3.6			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 680

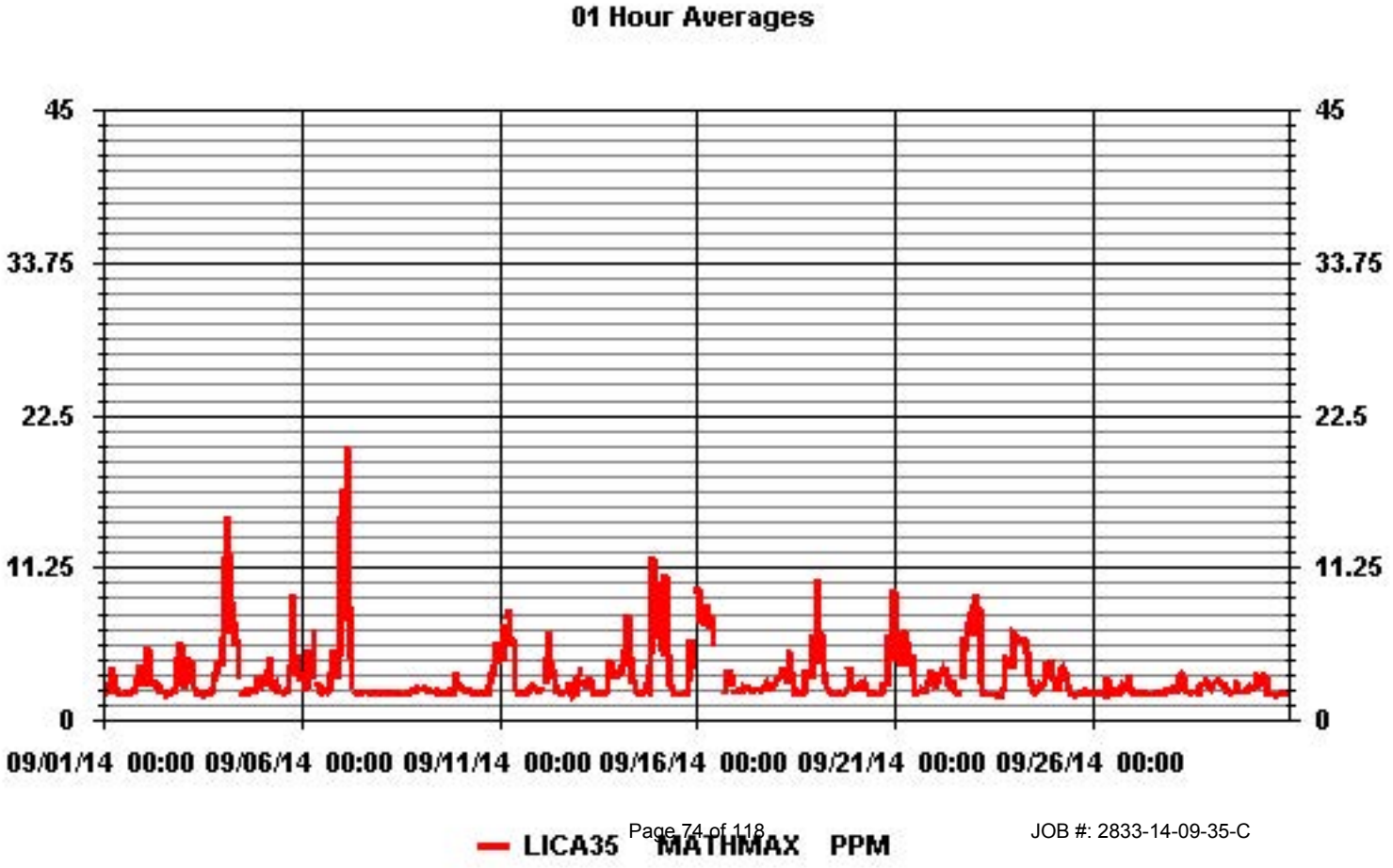
MAXIMUM INSTANTANEOUS VALUE: 20.28 PPM @ HOUR(S) 4 ON DAY(S) 7

VAR-VARIOUS

IZS CALIBRATION TIME: 31 HRS OPERATIONAL TIME: 717 HRS

MONTHLY CALIBRATION TIME: 6 HRS

STANDARD DEVIATION: 2.07



JOB #: 2833-14-09-35-C

LICA35
METHANE / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 35
Site Name : LICA35
Parameter : METHANE
Units : PPM

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	3.38	6.76	4.70	2.05	3.82	5.88	4.55	3.08	1.32	2.64	2.94	4.85	12.50	10.44	6.02	4.11	79.11
< 10.0	.00	.29	.58	.88	2.20	2.50	1.47	1.02	.44	.44	.73	.88	2.20	3.67	3.08	.29	20.73
< 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14	.00	.14
>= 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.38	7.05	5.29	2.94	6.02	8.38	6.02	4.11	1.76	3.08	3.67	5.73	14.70	14.11	9.26	4.41	

Calm : .00 %

Total # Operational Hours : 680

Distribution By Samples

Direction

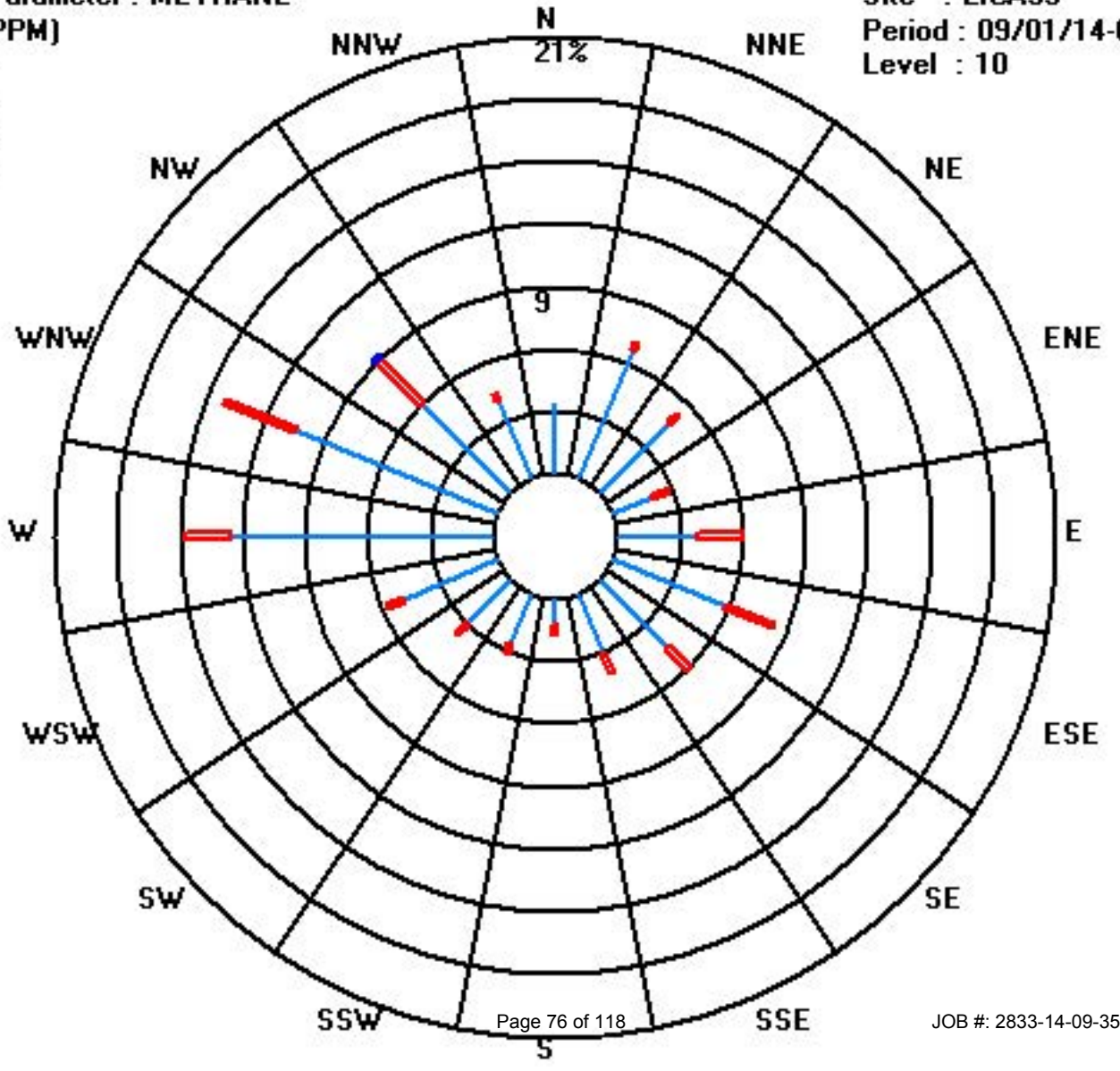
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	23	46	32	14	26	40	31	21	9	18	20	33	85	71	41	28	538
< 10.0		2	4	6	15	17	10	7	3	3	5	6	15	25	21	2	141
< 50.0															1		1
>= 50.0																	
Totals	23	48	36	20	41	57	41	28	12	21	25	39	100	96	63	30	

Calm : .00 %

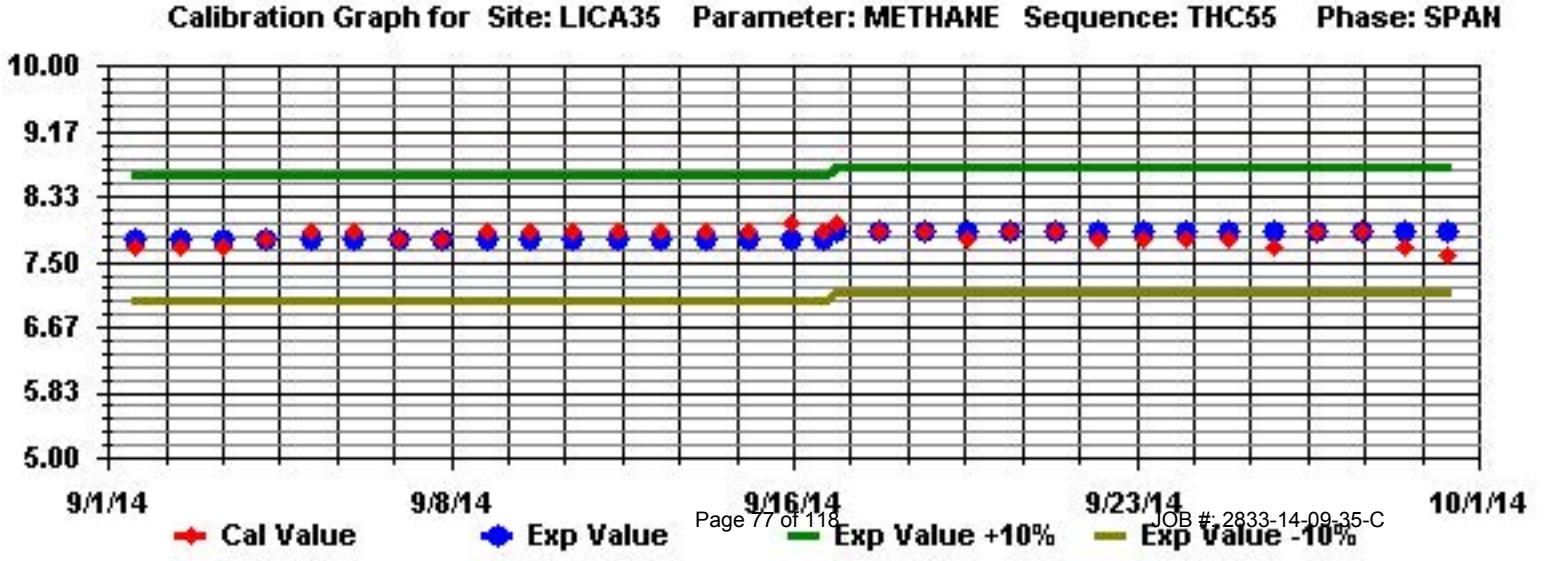
Total # Operational Hours : 680

Logger : 35 Parameter : METHANE
Class Limits (PPM)
>= 50.0
< 50.0
< 10.0
< 3.0

Site : LICA35
Period : 09/01/14-09/30/14
Level : 10



JOB #: 2833-14-09-35-C


Calibration Graph for Site: LICA35 Parameter: METHANE Sequence: THC55 Phase: SPAN
10.00
9.17
8.33
7.50
6.67
5.83
5.00
9/1/14
9/8/14
9/16/14
9/23/14
10/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Non-Methane Hydrocarbons

Lakeland Industry & Community Association - Elk Point Site

SEPTEMBER 2014

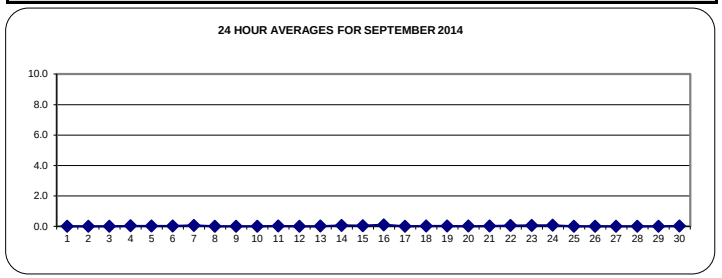
NON-METHANE HYDROCARBONS (NMHC) hourly averages in ppm

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
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	0	0.0	24
2	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0.1	0.1	0.0	24
3	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
4	0.1	0.1	0.1	0.1	0.1	0	0	0.1	0	0.1	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.0	24
5	0.1	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0.1	0.1	0	0	0	0	0.1	0.0	24
6	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	0.1	0.2	0.0	24
7	0.2	0.2	0.1	0.1	***0.3***	0.1	0.1	0	**S**	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	***0.3***	0.1	24
8	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
9	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
10	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
11	0	0	0	0.1	**S**	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0.1	0.0	24
12	0	0	0	**S**	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.0	24
13	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0	0	0	0.1	0.0	24
14	0	**S**	0	0	0.1	0.2	0.2	0.1	0.1	0	0.1	0	0	0	0	0	0	0	0	0.1	0	0.1	0.1	0.1	0.2	0.1	24
15	**S**	0.1	0.1	0.1	0	0	0.1	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	**S**	0.2	0.0	24
16	0.1	0.1	***0.3***	0.2	0.2	***0.3***	0.1	0	0.1	0.1	0.1	**C**	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	**S**	0	***0.3***	***0.1***	24
17	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
18	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0.1	0.1	0.1	0.0	24
19	0	0.1	0	0.1	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0.1	0.0	24
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0.1	0	0.1	0.1	0.0	24
21	0.1	0.1	0	0	0	0	0.1	0	0	0	0.1	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0.1	0.0	24
22	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0	0	0	**S**	0	0	0.1	0.1	0.2	0.2	0.2	0.2	0.0	24
23	***0.3***	0.2	***0.3***	0.1	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0.1	0	0.1	0.1	0.1	***0.3***	0.1	24
24	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0	0	0	0	0	0	**S**	0	0	0	0	0	0.1	0.1	0.1	0.2	0.1	24
25	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
26	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
27	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
28	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
29	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
30	0	0	0	0	0	0	0.1	0.1	**S**	0.1	0	0	0	0	0	0	0	0	0	0	0	**X**	**X**	**X**	0.1	0.0	21
HOURLY MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

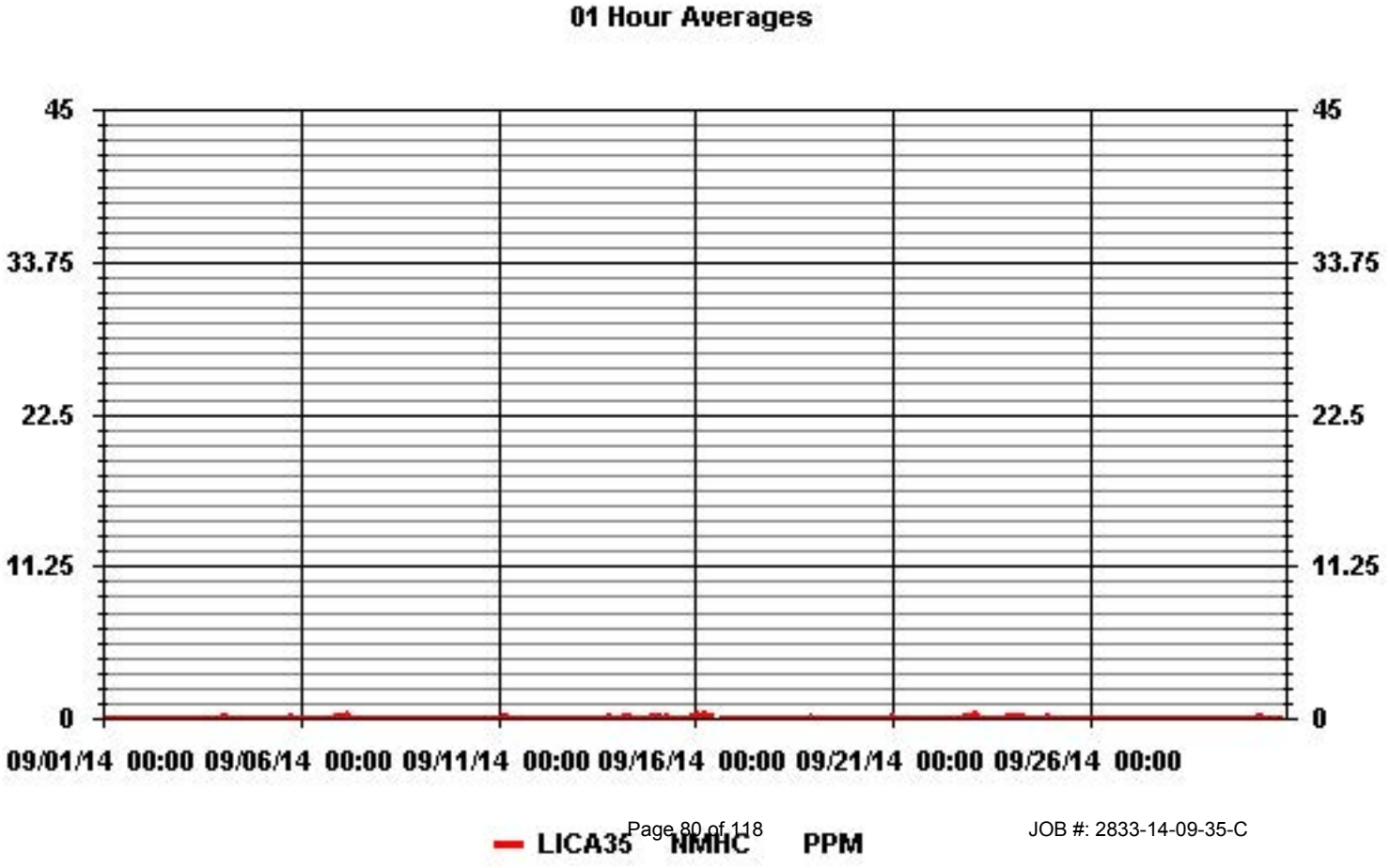
STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	98					
MAXIMUM 1-HR AVERAGE:	0.3	PPM	@ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 24-HR AVERAGE:	0.1	PPM			ON DAY(S)	VAR
				VAR-VARIOUS		
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:		717	HRS
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:		99.6	%
STANDARD DEVIATION:	0.05		MONTHLY AVERAGE:		0.02	PPM



JOB #: 2833-14-09-35-C

Lakeland Industry & Community Association - Elk Point Site

SEPTEMBER 2014

NON-METHANE HYDROCARBONS MAX instantaneous maximum in ppm

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0.19	0.15	0.21	0	0.24	0.23	0.13	0.13	0	0	0	0	0	0	**S**	0	0	0	0	0	0.1	0.19	0.19	0.13	0.24	0.1	24
2	0	0	0.14	0.21	0.11	0.07	0.18	0	0.07	0	0.18	0.15	0	**S**	0	0	0.13	0.13	0	0	0.17	0.21	0.1	0.3	0.3	0.1	24
3	0	0.2	0.09	0.2	0.17	0.21	0.13	0.12	0	0.2	0.07	0	**S**	0	0	0	0	0	0	0.07	0.14	0.18	0.18	0.17	0.21	0.1	24
4	0.19	0.25	0.39	0.56	0.31	0.3	0.2	0.32	0.24	0.27	0.14	**S**	0	0	0.16	0	0.13	0	0.06	0	0	0	0.08	0	0.56	0.2	24
5	0.16	0.14	0.06	0.13	0.1	0.2	0.18	0	0.1	0	**S**	0.2	0	0	0	0	0	0.22	0.19	0.4	0.16	0.05	0.06	0	0.4	0.1	24
6	0.1	0	0	0.18	0.13	0.21	0.19	0.21	0.22	**S**	0.15	0.19	0.17	0.15	0	0.17	0.22	0.21	0.14	0.21	0.36	0.25	0.42	0.28	0.42	0.2	24
7	0.33	0.57	0.37	0.37	0.58	0.61	0.31	0.17	**S**	0.2	0	0.17	0	0.12	0.11	0.09	0	0.08	0	0	0	0	0	0	0.61	0.2	24
8	0.24	0	0.18	0	0	0	0	**S**	0.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.24	0.0	24
9	0	0	0	0	0	0	**S**	0	0.11	0	0	0	0	0	0	0	0	0	0	0.14	0	0	0	0	0.14	0.0	24
10	0.13	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0.13	0	0	0.1	0.19	0.16	0.19	0.0	24
11	0.14	0.16	0.2	0.39	**S**	0.33	0.25	0.22	0.26	0.16	0	0	0	0	0	0	0	0	0	0.17	0.11	0	0	0	0.39	0.1	24
12	0	0	0	**S**	0	0.12	0.18	0.21	0.18	0	0	0.19	0	0	0	0	0	0.14	0.13	0.19	0	0	0	0	0.21	0.1	24
13	0	0.12	**S**	0.04	0	0	0.19	0	0	0	0	0	0	0	0.05	0	0	0	0	0.15	0.13	0.21	0.09	0.21	0.21	0.1	24
14	0.24	**S**	0.13	0.17	0.28	0.34	0.39	0.24	0.25	0.09	0.14	0	0	0	0	0	0	0	0.11	0.61	0.19	0.25	0.23	0.26	0.61	0.2	24
15	**S**	0.26	0.25	0.2	0.15	0.29	0.33	0.31	0.14	0.23	0	0	0	0	0.1	0	0	0.12	0	0.15	0.47	0.42	0.27	**S**	0.47	0.2	24
16	0.29	0.3	0.36	0.35	0.5	0.38	0.35	0.27	0.35	0.3	0.27	**C**	**C**	**C**	**C**	**C**	**C**	0.13	0	0.16	0.19	0.11	**S**	0	0.5	***0.3***	24
17	0.22	0	0.17	0	0	0.11	0	0	0	0.15	0	0	0.1	0	0	0	0	0	0.18	0.16	0	**S**	0	0.21	0.22	0.1	24
18	0	0.19	0.13	0.19	0.21	0.14	0.07	0.16	0.2	0.23	0.14	0.1	0.05	0	0	0	0	0	0.17	0.28	**S**	0.14	0.28	0.23	0.28	0.1	24
19	0.33	0.37	0.23	0.26	0.22	0.15	0.24	0.14	0.19	0.14	0.14	0	0	0	0	0	0	0	0	**S**	0.1	0.14	0	0.08	0.37	0.1	24
20	0.08	0	0	0	0	0	0.18	0	0	0	0	0	0	0	0	0	0	0	**S**	0.15	0.23	0.24	0.21	0.23	0.24	0.1	24
21	0.29	0.25	0.22	0.18	0.17	0.2	0.26	0.24	0.23	0.21	0.45	0.11	0	0	0	0	0	**S**	0	0	0.18	0.21	0.14	0	0.45	0.1	24
22	0.19	0.14	0.2	0.12	0.21	0.19	0.18	0.23	0.14	0.13	0.18	0.12	0	0.11	0.18	0	**S**	0.11	0.23	0.26	0.27	**0.7**	0.35	0.39	**0.7**	0.2	24
23	0.49	0.4	0.38	0.34	0.14	0	0	0.13	0	0	0.15	0	0	0	0	**S**	0	0	0	0.19	0.18	0.23	0.22	0.26	0.49	0.1	24
24	0.38	0.38	0.32	0.32	0.24	0.26	0.26	0.26	0.21	0.19	0.18	0	0.17	0.18	**S**	0	0	0.08	0.18	0.15	0.18	0.28	0.24	0.29	0.38	0.2	24
25	0.2	0.21	0.1	0.08	0.17	0.17	0.16	0.18	0.13	0	0	0	0	**S**	0	0	0	0	0	0.13	0.14	0.12	0	0.13	0.21	0.1	24
26	0	0	0.11	0	0	0	0	0.06	0.15	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0.15	0.0	24
27	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
28	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
29	0	0	0.14	0	0.1	0	0	0.11	0.11	**S**	0	0.06	0	0	0	0	0	0.09	0	0.19	0.23	0.28	0.13	0.15	0.28	0.1	24
30	0.14	0.12	0.21	0.17	0.21	0.18	0.19	0.18	**S**	0.2	0.2	0.11	0.1	0	0	0.13	0	0.12	0	0	0	**X**	**X**	**X**	0.21	0.1	21
HOURLY MAX	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0			
HOURLY AVG	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.1			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 342

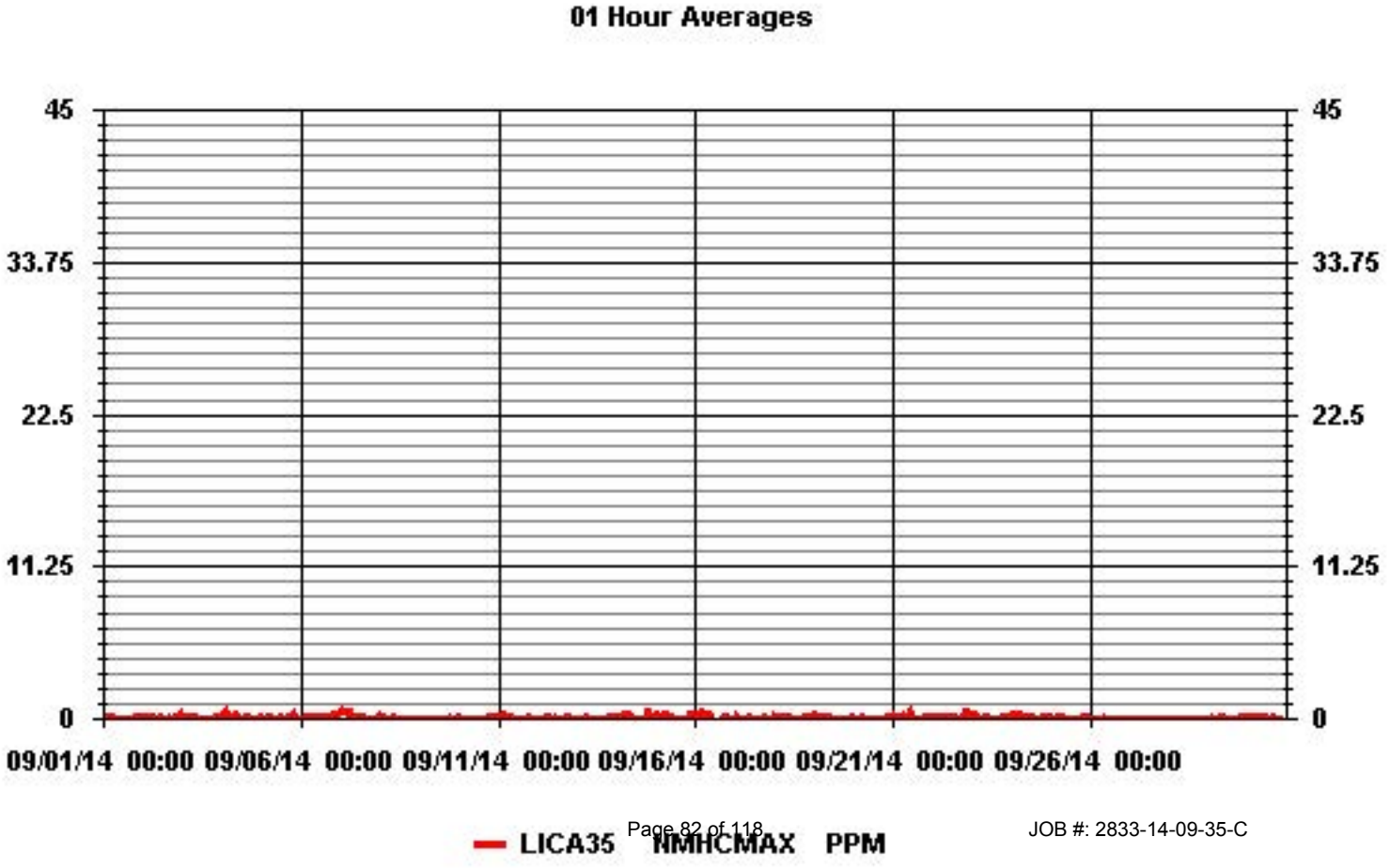
MAXIMUM INSTANTANEOUS VALUE: 0.7 PPM @ HOUR(S) 21 ON DAY(S) 22

VAR-VARIOUS

IZS CALIBRATION TIME: 31 HRS OPERATIONAL TIME: 717 HRS

MONTHLY CALIBRATION TIME: 6 HRS

STANDARD DEVIATION: 0.12



JOB #: 2833-14-09-35-C

LICA35
NMHC / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 35
Site Name : LICA35
Parameter : NMHC
Units : PPM

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< .2	3.38	7.05	5.29	2.94	6.02	8.38	6.02	3.97	1.76	3.08	3.67	5.73	14.41	13.97	9.11	4.41	99.26
< .5	.00	.00	.00	.00	.00	.00	.00	.14	.00	.00	.00	.00	.29	.14	.14	.00	.73
< 1.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 2.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 4.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 4.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.38	7.05	5.29	2.94	6.02	8.38	6.02	4.11	1.76	3.08	3.67	5.73	14.70	14.11	9.26	4.41	

Calm : .00 %

Total # Operational Hours : 680

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< .2	23	48	36	20	41	57	41	27	12	21	25	39	98	95	62	30	675
< .5								1					2	1	1		5
< 1.0																	
< 2.0																	
< 4.0																	
>= 4.0																	
Totals	23	48	36	20	41	57	41	28	12	21	25	39	100	96	63	30	

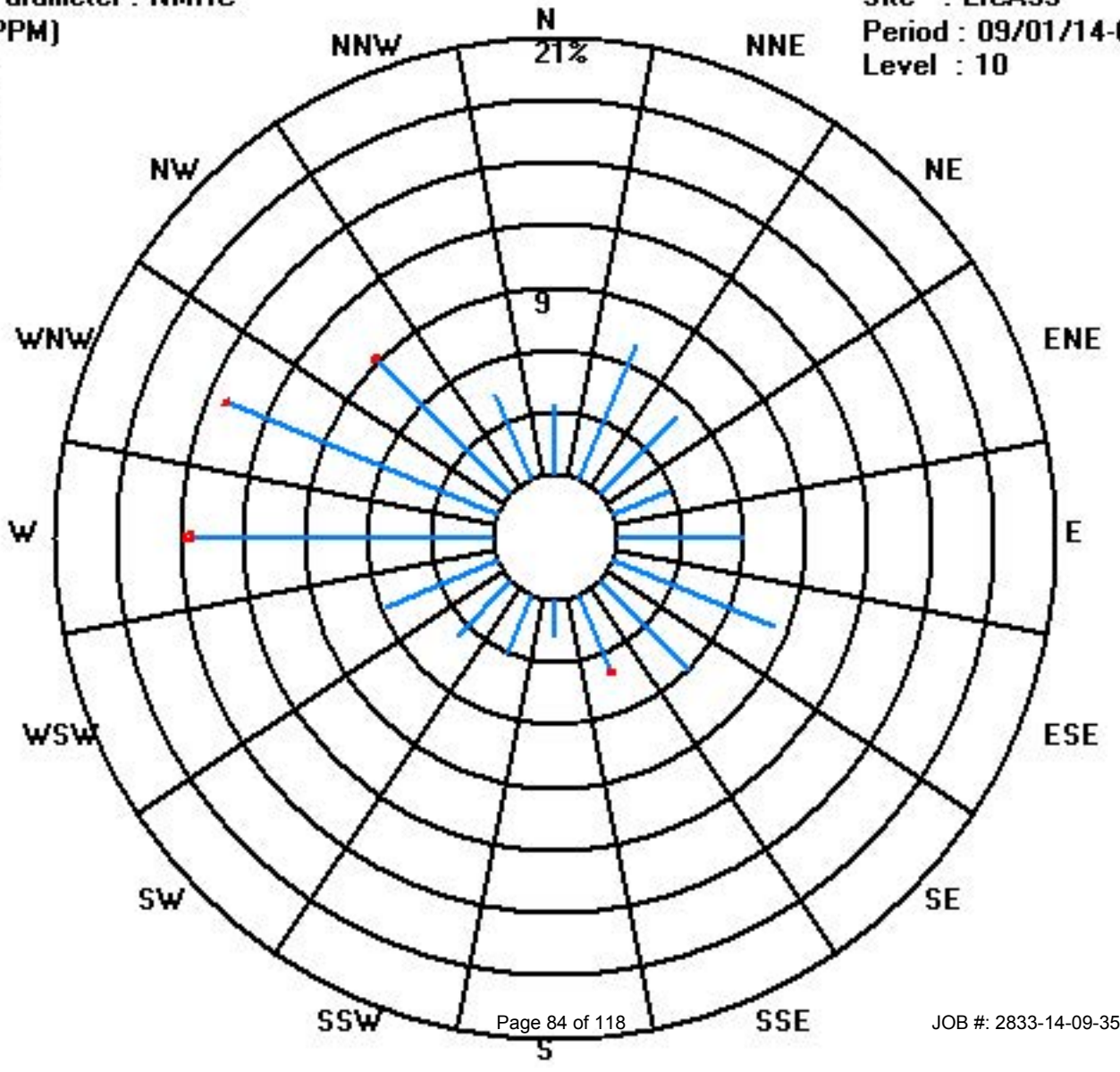
Calm : .00 %

Total # Operational Hours : 680

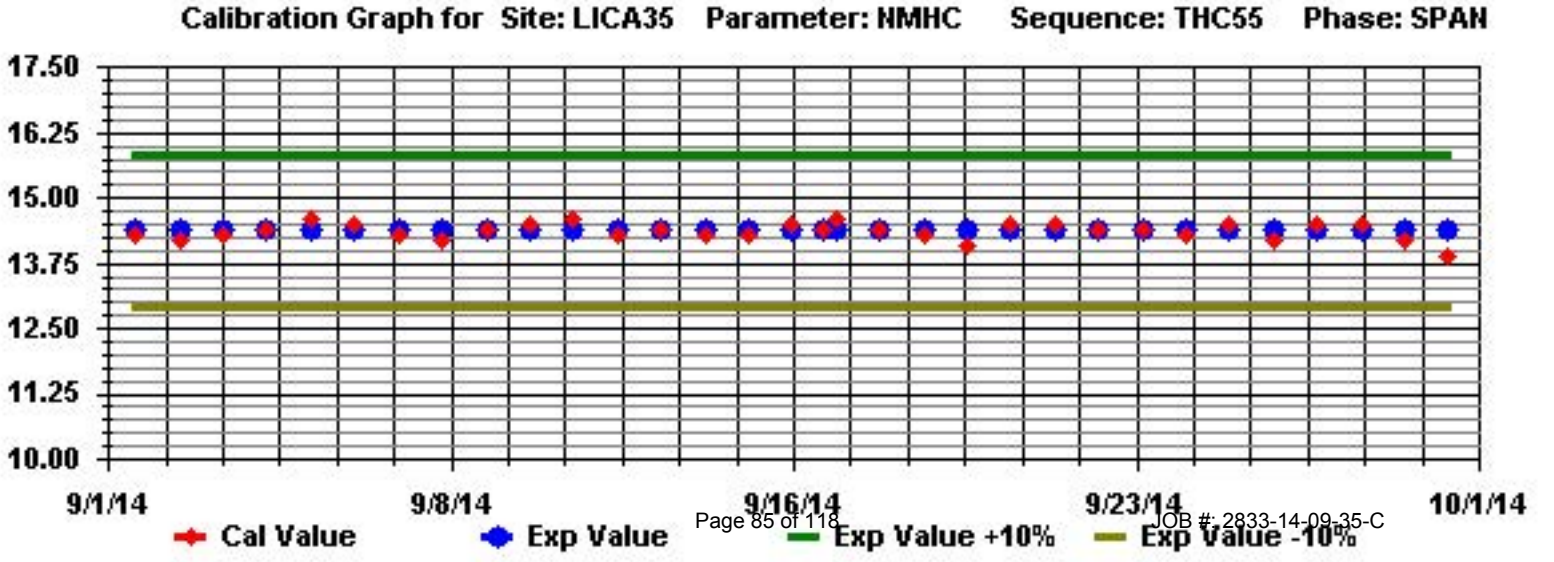
Logger : 35 Parameter : NMHC
Class Limits (PPM)

>= 4.0
< 4.0
< 2.0
< 1.0
< .5
< .2

Site : LICA35
Period : 09/01/14-09/30/14
Level : 10



JOB #: 2833-14-09-35-C


Calibration Graph for Site: LICA35 Parameter: NMHC Sequence: THC55 Phase: SPAN
17.50
16.25
15.00
13.75
12.50
11.25
10.00
9/1/14
9/8/14
9/16/14
9/23/14
10/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Vector Wind Speed

Lakeland Industry & Community Association - Elk Point Site

SEPTEMBER 2014

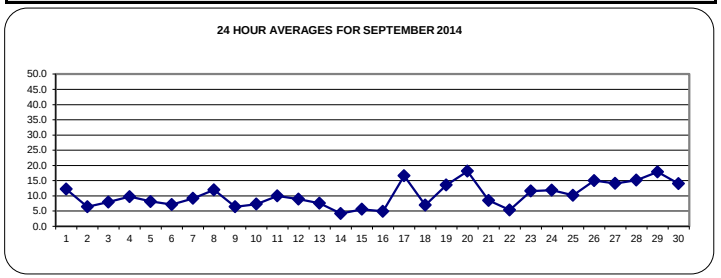
WIND SPEED (WS) hourly averages in km/hr

MST

HOUR START	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	24-HOUR	
HOUR END	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	0:00	MAX.	AVG.	RDGS.
DAY																											
1	10.1	8.1	7.3	7.3	8.2	6.8	8.4	6.5	7.4	10.2	17.2	19.3	21.6	21.1	21.8	23.5	15.4	18.2	16.7	9.4	7.2	7.9	6.5	7.2	23.5	12.2	24
2	9.2	6.3	4.6	3.6	7.4	9.8	6.2	6.3	4.1	3	7.7	13.2	11.8	6.3	9.3	10.5	8.8	5.7	4.1	0.5	5.1	3.7	1.6	4.8	13.2	6.4	24
3	8.7	6.9	5.6	7.7	5.7	6.9	8.8	6.8	6.5	8.1	11	12.4	10.4	13.8	14.2	13	16	8.9	2.3	3.3	5.2	3.5	1.8	3.4	16.0	8.0	24
4	3.2	5	5.2	5.4	1	2.2	1.7	0.6	1.8	5.1	8.8	13.6	14.9	19.7	18.5	21.6	16	12.4	10.6	16.3	13.1	9.2	14.2	13.4	21.6	9.7	24
5	13.9	12	11.5	11.8	5.2	6.2	7.4	6.5	2.4	1.3	2	5.9	7.6	8.7	8.7	11.3	7.2	4.4	4.1	3.2	11	13.4	13.2	16.8	16.8	8.2	24
6	11.9	11.5	10.5	11.8	6	3	5	1.4	4.8	6.9	6.8	9.3	12.7	4.3	11.7	16.9	15.3	10.8	5	2.1	2	0.2	0.1	0.9	16.9	7.1	24
7	1	2.3	3.5	1	6.5	4.9	5.9	4.4	5.7	11.7	13.4	13.7	6.2	7.2	6.8	9.5	10.2	12.8	14.9	13.6	15.7	17.1	14.8	17.6	17.6	9.2	24
8	17	19.9	15.2	14.4	14.9	12.7	13.2	13.4	13.5	16.2	16.1	14.5	17.2	15.7	12.3	14.3	12.7	11.2	7.5	5	5.2	2.4	2	0.6	19.9	12.0	24
9	1.5	3.5	4.2	3.5	6	7.6	7	6.9	6.9	10.1	9.6	9.6	7.4	4.1	4.7	8	9.4	8.7	7.7	8.6	5.1	4.7	5.6	3.2	10.1	6.4	24
10	2.5	8.9	4.1	4.6	2.6	5.5	4.4	5.4	6.8	11.6	14.1	11.8	10.7	11.7	8.6	10.1	8.1	6.7	6.2	8.2	5.7	5.2	6	5.7	14.1	7.3	24
11	1.8	2.5	1.6	1.6	2.5	1.1	3	2.3	1.8	8	14.6	16.3	15.6	17.7	18.5	18.1	19.4	16.6	11.2	10.8	10.9	14.9	14.5	14.6	19.4	10.0	24
12	10.7	6.5	5.3	3.1	3	4.3	2.4	0.8	1.4	4.8	0.9	7.1	18	15.4	16.1	14.8	13	12.5	11.5	11.5	13.2	12	12.3	12.8	18.0	8.9	24
13	13.3	12.4	9.9	10.8	12.5	9.8	5	5.3	7.8	11	10.2	10.4	10.9	10.1	10.1	9.8	4.6	2.2	3.3	3.3	3.5	3	1	1.7	13.3	7.6	24
14	1.2	3.9	1	2.2	0.7	0.1	0.2	0.4	1.1	5.5	8.7	7.3	9	9.8	10.7	10.3	7.2	6	5.3	3.8	1.4	2.2	1.1	0.9	10.7	4.2	24
15	1	2.4	2.5	3.4	2	2.6	0.3	1.8	7.3	7.1	4.5	6.8	15	14.9	15.9	13.6	12.9	9.3	3.8	2.6	2.3	0.4	0.6	0.9	15.9	5.6	24
16	3.9	4	2.8	0.6	0.2	0.8	3.4	2	1.2	3.4	3.9	7.1	5.3	4.1	1.5	3.2	2.2	8.1	7.9	5.1	6.8	15	12.1	13.3	15.0	4.9	24
17	12.7	9.9	9.2	9.8	14	17.8	17.6	18.9	18	18.3	17.3	18.4	19.8	19.5	21	21.8	20.6	19.6	19.5	21.6	18.5	14.1	11.1	9.7	21.8	16.6	24
18	8.3	5.5	5.5	8.5	3.6	2.7	2.6	4.1	5.3	2.6	9.1	12.1	10	9.4	14.1	13.6	10.9	8.8	4.9	4.7	4.7	6.7	4	4.6	14.1	6.9	24
19	2.4	3.6	3.2	4.3	2.4	5.3	6	8.9	13.9	14	11.6	18.1	21.7	20	23.7	28.2	30.7	27.6	18.2	10.6	7.3	14	18	11.9	30.7	13.6	24
20	16.5	24.5	25.6	19.2	16.5	13.5	15.9	20.1	25.3	24.9	28.5	28.3	***31.1***	24	22.6	21.7	22.9	18.7	12.3	6.9	7.3	1.8	2.7	3.9	***31.1***	***18.1***	24
21	1.1	0.4	2.5	1.9	0.2	1.4	0.3	0.9	0.4	3.2	3.8	10.5	16.5	17.4	17.3	18.1	19.4	12.7	11.4	12.6	10.7	13.9	15.5	11.1	19.4	8.5	24
22	6.7	7	7.1	8.9	7.1	5.7	7.9	7.8	7.1	6.2	6.2	7.7	6.5	5.1	5.3	4.2	1	5.7	5.6	1	4.1	2	1.1	2.2	8.9	5.4	24
23	4.5	5.5	5.1	11.6	14.6	18.4	18	16.4	19.8	16.3	13.9	13	16.3	18.5	16.6	15.5	12.5	11.4	6.5	8.5	6.6	3.7	3.7	1	19.8	11.6	24
24	1.1	1.6	3	3	6.4	7.2	6.9	9.7	19	24.8	26.9	23	21.2	18.9	18.8	17	14.2	8.2	12	11	8.2	5.1	6	11.3	26.9	11.9	24
25	17.5	15.3	10.8	10.4	9.3	3.9	7.5	3.4	7.2	2.2	2.5	4.9	5.6	9	11	14.8	16.6	15	11.4	9.2	11.2	14.9	16.6	14.8	17.5	10.2	24
26	18.8	20.1	22.1	21.7	22	16.3	11.6	18.1	17.1	6.7	10.3	10.8	14	5.3	7.3	11	9.1	8.8	12.6	18	21	20.7	16.5	20.4	22.1	15.0	24
27	20.4	23.1	24.3	23.1	25.1	21.6	13.6	16.8	15.7	14.6	13.1	14.2	16.6	13.2	14.5	11.6	11.3	7.8	7.5	6.1	5	5	6.5	7.9	25.1	14.1	24
28	11.6	13.5	12.4	10.6	11.4	10.8	8.6	11.6	16.7	17.3	16.7	19	19.6	19.7	19.3	20.8	20.4	18.4	15.2	13.9	13.6	13.4	13.4	15.6	20.8	15.1	24
29	13.8	14.5	15.6	15.3	18.1	16.8	17	20.9	19.5	20.9	20.7	22.2	19.7	22	23.1	23.9	20.6	15	11.6	18.3	17.6	16.2	14.4	10.4	23.9	17.8	24
30	11	13.1	10	7.1	4.6	2.4	0.3	1.3	7	17.8	19.2	17.4	17.1	18.2	18.6	16.6	13.6	13.2	21.5	20.6	21.8	22.1	22.3	18.9	22.3	14.0	24
HOURLY MAX	20.4	24.5	25.6	23.1	25.1	21.6	18.0	20.9	25.3	24.9	28.5	28.3	31.1	24.0	23.7	28.2	30.7	27.6	21.5	21.6	21.8	22.1	22.3	20.4			
HOURLY AVG	8.6	9.1	8.4	8.3	8.0	7.6	7.2	7.7	9.1	10.5	11.6	13.3	14.3	13.5	14.1	14.9	13.4	11.5	9.7	9.0	9.0	8.9	8.6	8.7			

STATUS FLAG CODES

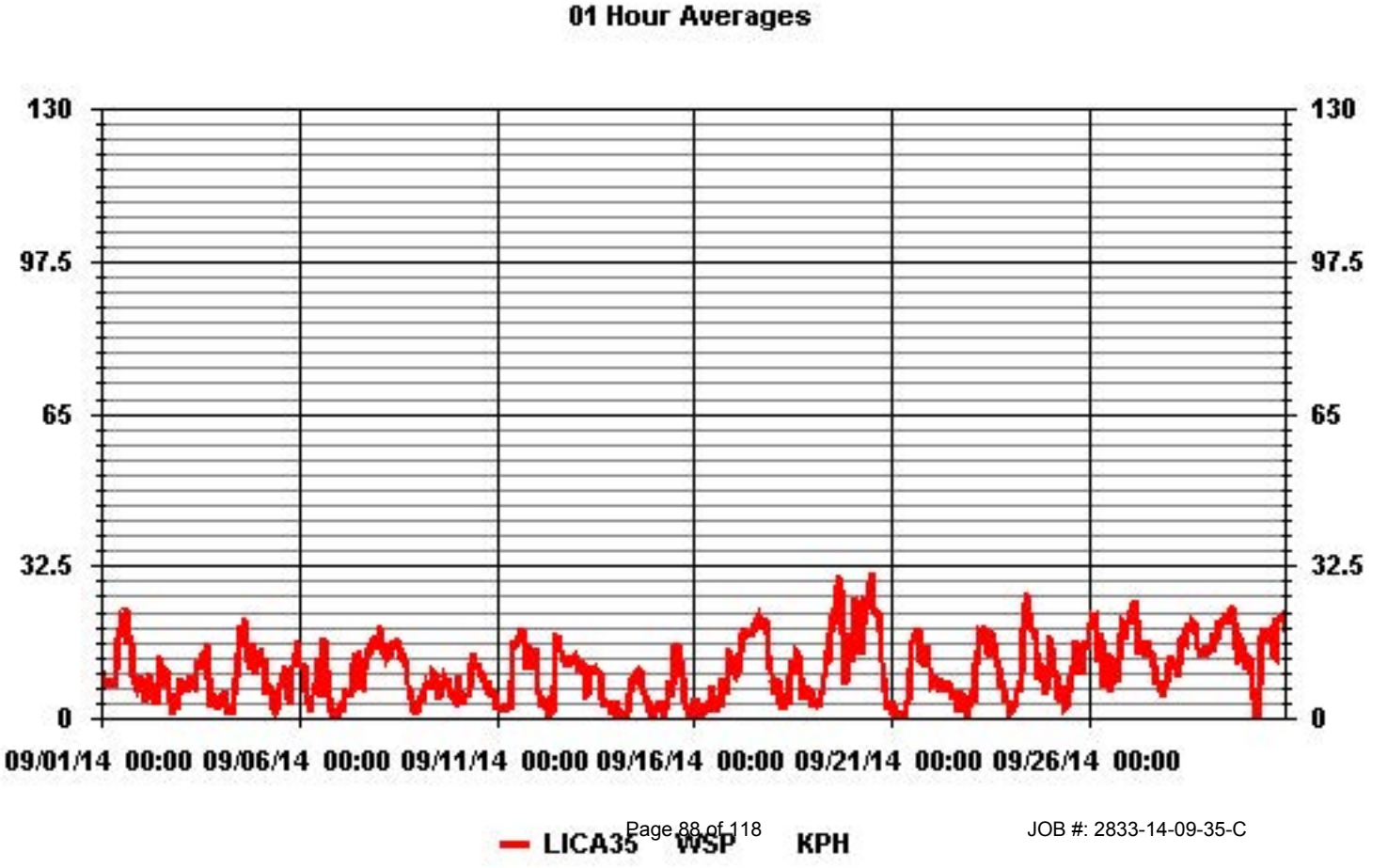
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



LAST CALIBRATION:	February 21, 2014
DECLINATION :	MAEGNETIC DECLINATION 19 DEGREES EAST

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	720						
MAXIMUM 1-HR AVERAGE:	31.1	KPH	@ HOUR(S)	12	ON DAY(S)		20
MAXIMUM 24-HR AVERAGE:	18.1	KPH			ON DAY(S)		20
					VAR-VARIOUS		
			OPERATIONAL TIME:			720	HRS
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME:			100.0	%
STANDARD DEVIATION:	6.51		MONTHLY AVERAGE:			10.21	KPH



JOB #: 2833-14-09-35-C

Lakeland Industry & Community Association - Elk Point Site

SEPTEMBER 2014

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST

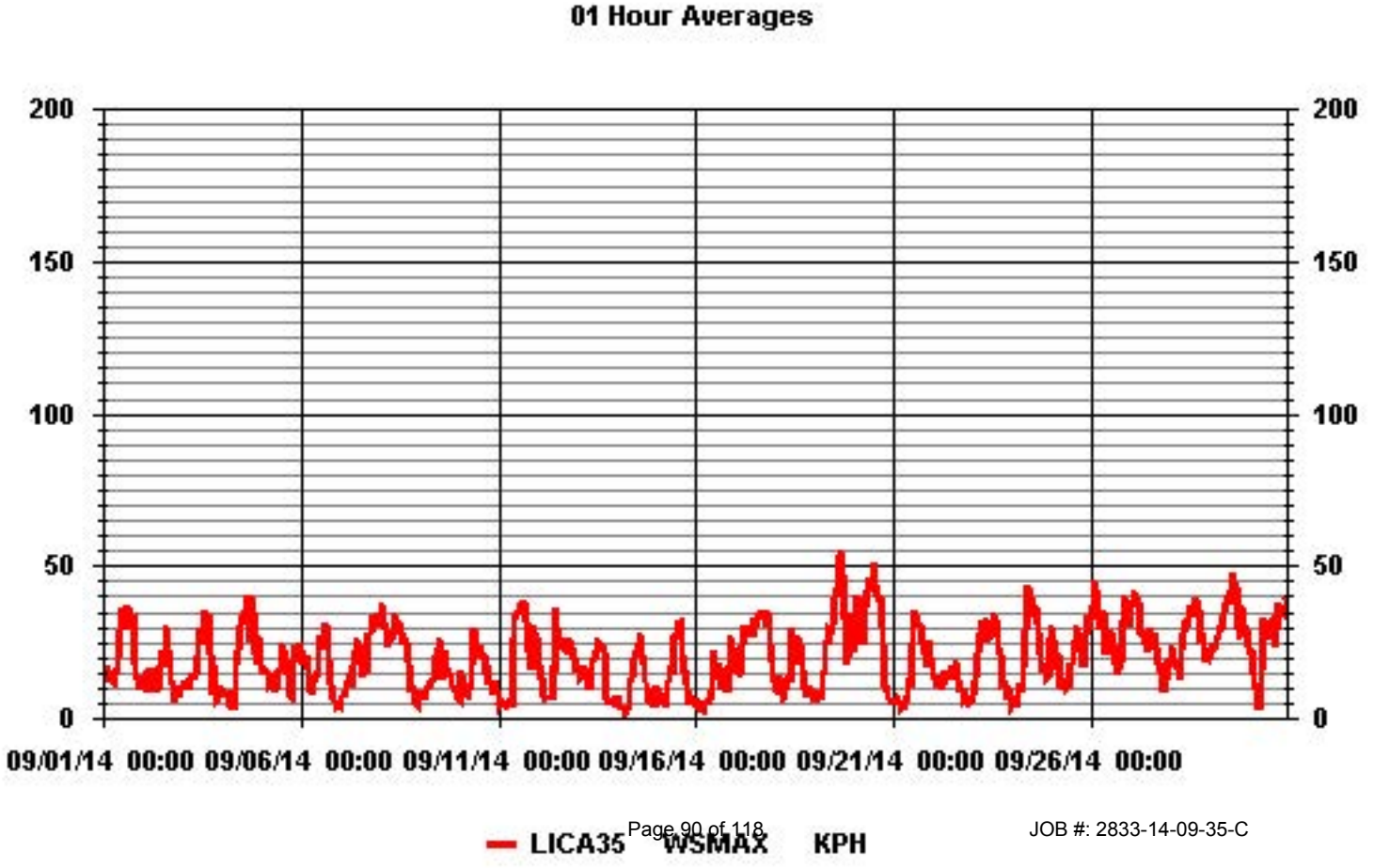
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	15.9	16.2	13.1	13.8	15.3	13.3	12.6	14.7	16.5	19.7	28.6	35.2	35.1	36.2	33.3	37.3	28.9	31.6	32.3	18.1	13.7	10.4	10.4	13.5	37.3	21.5	24
2	13.8	14.6	11.1	8.8	12.6	15.9	15.6	13.4	8.6	9.6	17	22.5	19.8	17.1	30.1	23	17.5	12.2	11.5	5.4	10.3	8.1	8	10.2	30.1	14.0	24
3	11.9	11.8	9.8	11.5	11	12.6	14.5	12.6	14.4	20.3	25.5	29.2	24	30.6	35.6	31.1	34.4	21.3	7.7	18.4	9.4	6.2	6.9	10.6	35.6	17.6	24
4	7.8	8.9	8.2	8.5	3.8	5.2	4.5	4.3	9.3	17.1	22.6	30.3	31.3	33.4	35.7	40.1	39.2	24.9	40.6	35.4	21.8	17.4	27	20.6	40.6	20.7	24
5	17.5	16	14.5	16.5	15.2	11.3	12.1	11.4	9.8	8.9	15.5	16.2	24.6	23.1	22.3	19.4	14.8	8.5	7.7	11	22.7	22.4	18.5	24.9	24.9	16.0	24
6	23.1	17.4	19.1	19.5	16.3	8.7	10.4	7.5	11.7	13.9	15.9	27.2	24.7	24.2	26	31	29.2	19.5	11.8	6.9	6.4	3.9	4.4	5.1	31.0	16.0	24
7	4.4	6.9	8	6.7	12.5	10.8	14.9	9.9	17.6	22.2	26.2	24.7	19.6	13.4	14.4	17.8	17.2	27.3	27.7	28.5	33.1	33.2	34	33.5	34.0	19.4	24
8	30.1	38	31.9	30	29.1	23.7	25.3	27.8	25.5	34.3	27.5	30.1	31.7	28.9	24.1	27.2	25.4	19.5	18.1	8.8	10.7	8.7	5.1	4.4	38.0	23.6	24
9	6	8.7	7.3	7.1	9	10	10.6	11.9	12.8	19.3	19.3	23.1	26.7	14.4	14.2	22.4	20.6	17.1	14.9	14.2	11.1	9.5	9	7	26.7	13.6	24
10	6.3	15.5	14.6	12.2	8.7	8.2	11.2	9.2	17.1	29.8	27.9	22.7	23	20.9	19.3	21.3	16.2	16.5	12.2	11.6	7.5	8.8	12.6	9.7	29.8	15.1	24
11	4.2	5	5.6	4.9	4.9	4.4	5.4	5.4	5.2	26.4	32.1	34.1	35.1	35.5	37.4	38.4	38.1	32.5	22.5	17.4	17.2	30.7	28.1	26.9	38.4	20.7	24
12	21.3	17.7	13.6	7.5	6.6	6.7	6.7	7	6.9	17	14.7	36.3	30.3	27.3	24.6	25.1	23	22.4	23.3	26.4	22.2	23.4	20.2	16	36.3	18.6	24
13	15.7	17.4	13.5	14.1	16.8	14.3	11.5	9.2	13.2	19.4	19.6	22.3	26.1	24	22.3	24.5	22.2	6.8	5.5	5.4	6	6.3	4.6	4.7	26.1	14.4	24
14	5.1	6.9	4	3.9	3.5	2	3.5	4.1	12.1	13.3	19.5	21.2	21.8	24.4	27.6	21.1	18.2	12.5	7.5	8.2	4.8	6	4.9	4.7	27.6	10.9	24
15	11	6.8	7.4	7.6	5.7	5.6	4	12.1	15.8	15.4	15.3	27.1	28	31.5	31.9	26.8	21.1	16.2	11.9	9.4	4.2	7.4	5.2	4.4	31.9	13.8	24
16	5.4	5.4	4.5	3.1	2.8	4.1	5.2	5.4	6.4	9.3	12.6	22.5	17	17	17.4	14.9	9.3	16.3	12.2	8.6	16.9	27.4	23.5	19.9	27.4	12.0	24
17	20.4	15.9	15.5	13.9	24.2	29.6	30	29.7	29	29	26.8	31.8	31.4	32.8	33.8	32.4	35.2	35	29.5	35.1	30.6	24.9	18.7	13.1	35.2	27.0	24
18	12.7	9.3	8.1	13.6	8.4	5.5	13.5	12.2	13.9	12	29.3	22.4	17.2	19.5	26.9	24.7	21.8	16.3	9.7	7	9.2	10.6	6.6	8.7	29.3	14.1	24
19	5.2	7.3	8.4	8.6	8.1	14.7	15.6	25.2	24.2	29.6	29.1	30.6	38.9	39.8	42.7	53.1	***55.5***	47.7	33	17.9	20	31.6	34.3	21.4	***55.5***	26.8	24
20	28.7	37.9	40	33.4	26.1	24.3	26	36.2	41.7	45.8	43.9	45.9	50.8	40.3	41.3	39	39.1	30.4	25	11.1	9.5	6.7	5.5	5.3	50.8	30.6	24
21	5.7	4.3	6.6	6	3.6	4.6	4.2	5.6	7.3	12.1	11.8	24.9	35.4	34.5	30.4	31.6	31.1	24.9	21.1	23.4	16.6	21.6	25.7	20.3	35.4	17.2	24
22	14.9	13.2	10.2	12	13.7	9.4	11.3	14.7	14.9	12.9	15.6	16.3	17.5	14.5	18.8	13.1	9	9	9.1	5.8	6.5	5.2	5.5	5.8	18.8	11.6	24
23	7.6	12.1	13.5	21.4	28.1	31.3	31	28	32.8	26.4	26.6	26.9	31.8	34.2	29.4	32.3	23.4	21.4	11.6	12.1	11.2	7.7	8.2	3.5	34.2	21.4	24
24	4.2	4.2	4.2	7.4	9.4	11	8.7	16.6	28.7	42.7	42.8	39.9	38.1	32.8	37.4	31.8	28.6	21.8	16.3	16.2	16.9	13	13.6	26.5	42.8	21.4	24
25	30.5	26	17.1	17	21.5	10.4	13.1	9.1	12.7	10	10.6	17.5	18.1	24.2	23.8	30.1	28.6	27.3	25.2	16.6	26.6	27.9	33.4	29.1	33.4	21.1	24
26	32.3	37.3	45	42.5	39.3	35.1	28.7	31.2	35.6	20.7	23.5	21.4	28.4	24.8	24	18.5	14.8	16.4	18.6	32.4	40.5	32.7	30.7	30.8	45.0	29.4	24
27	37.7	37.6	41.7	38.7	39	38.2	28.6	27.5	27.8	25.1	21.9	25.8	29.9	27.3	27.5	22.2	24.2	18.5	16.1	12.5	8.9	11.6	12.8	18.3	41.7	25.8	24
28	19.5	23.5	19.1	16.5	18.5	16.5	12.9	22.8	28	31.7	30.1	33.2	36.1	36.3	35.5	38.8	38.8	36.5	27	27.7	26.8	21.8	18.6	22.6	38.8	26.6	24
29	20.8	22	24.1	22.5	26.4	26.5	29.3	29.5	33.3	35	38	40.2	36.9	41.9	47.3	44.8	43.6	29.6	26.1	37.4	31.6	31.1	29.4	24.1	47.3	***32.1***	24
30	20.8	22.9	15.2	12.4	9.8	5.8	2.9	4.7	15.5	33	31.6	26.8	26.9	31.5	32	28	23.6	28.9	37.5	33.1	34.8	**P**	38.4	33.3	38.4	23.9	23
HOURLY MAX	37.7	38.0	45.0	42.5	39.3	38.2	31.0	36.2	41.7	45.8	43.9	45.9	50.8	41.9	47.3	53.1	55.5	47.7	40.6	37.4	40.5	33.2	38.4	33.5			
HOURLY AVG	15.4	16.2	15.2	14.7	15.0	14.0	14.1	15.3	18.3	22.1	24.0	27.6	28.5	27.9	28.9	28.7	26.4	22.3	19.1	17.4	16.9	16.4	16.8	16.0			

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS VALUE:	55.5	KPH	@ HOUR(S)	16	ON DAY(S)	19
				VAR-VARIOUS		
OPERATIONAL TIME:					719	HRS



JOB #: 2833-14-09-35-C

LICA-ELK
WSP / WDR Joint Frequency Distribution (Percent)

September 2014

Distribution By % Of Samples

Logger Id : 35
Site Name : LICA-ELK
Parameter : WSP
Units : KPH

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	.41	1.52	1.52	1.80	2.91	2.50	1.38	1.11	.55	.97	1.38	1.52	3.88	4.16	3.88	1.80	31.38
<	12.0	.83	3.05	1.80	.69	2.63	2.36	.83	.55	.83	1.11	1.11	3.88	5.41	2.50	1.80	1.38	30.83
<	20.0	1.94	2.63	1.25	.55	.27	3.05	2.77	1.66	.27	.97	1.38	.41	3.47	4.44	2.77	1.66	29.58
<	29.0	.00	.00	.55	.00	.00	.55	.83	1.11	.00	.00	.00	.00	1.52	2.36	.97	.00	7.91
<	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.13	.13	.00	.00	.27
>=	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	3.19	7.22	5.13	3.05	5.83	8.47	5.83	4.44	1.66	3.05	3.88	5.83	14.44	13.61	9.44	4.86	

Calm : .00 %

Total # Operational Hours : 720

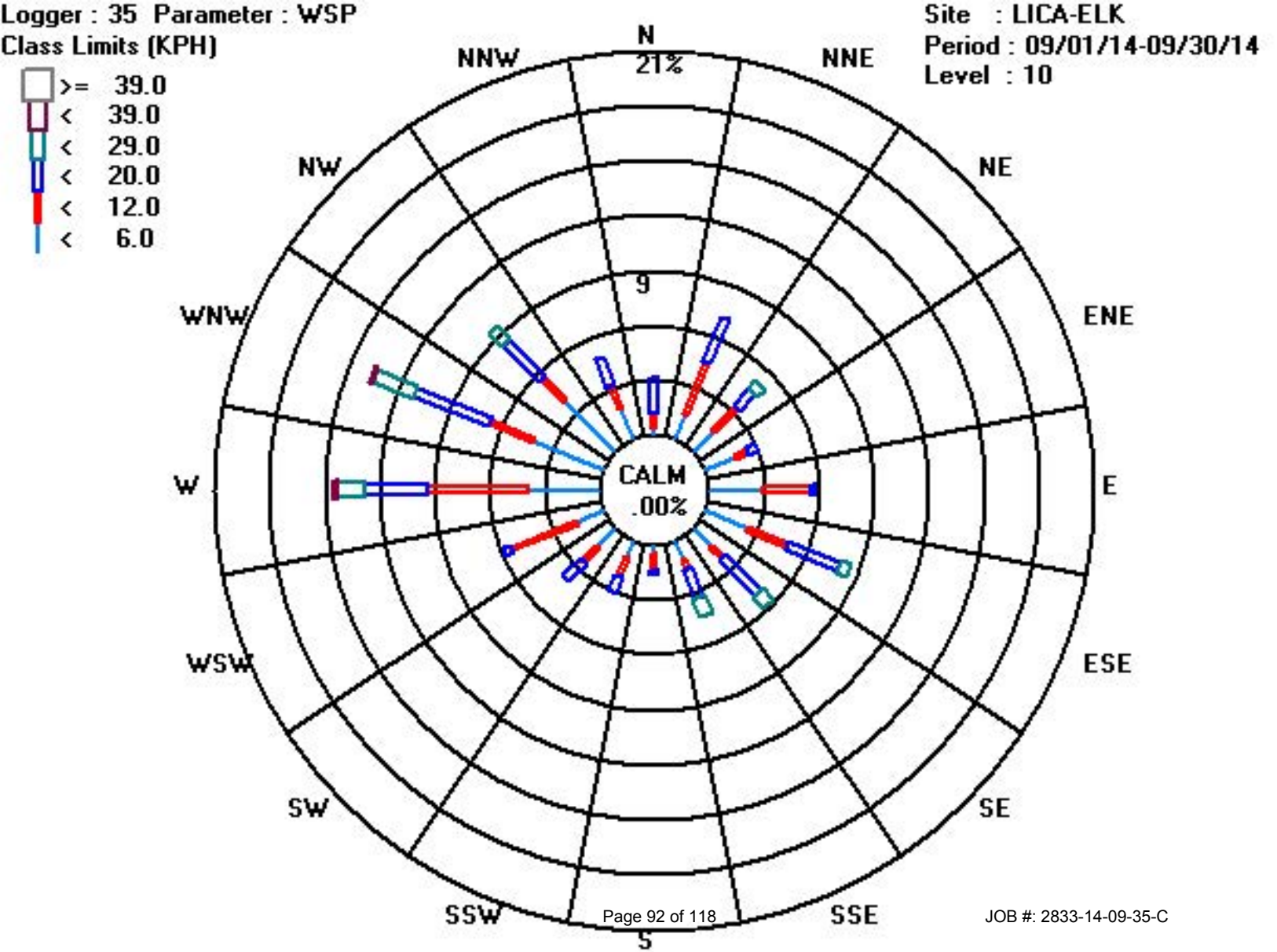
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	3	11	11	13	21	18	10	8	4	7	10	11	28	30	28	13	226
<	12.0	6	22	13	5	19	17	6	4	6	8	8	28	39	18	13	10	222
<	20.0	14	19	9	4	2	22	20	12	2	7	10	3	25	32	20	12	213
<	29.0			4			4	6	8					11	17	7		57
<	39.0													1	1			2
>=	39.0																	
	Totals	23	52	37	22	42	61	42	32	12	22	28	42	104	98	68	35	

Calm : .00 %

Total # Operational Hours : 720



JOB #: 2833-14-09-35-C

Vector Wind Direction

Lakeland Industry & Community Association - Elk Point Site

SEPTEMBER 2014

WIND DIRECTION (WD) hourly averages in degrees

MST

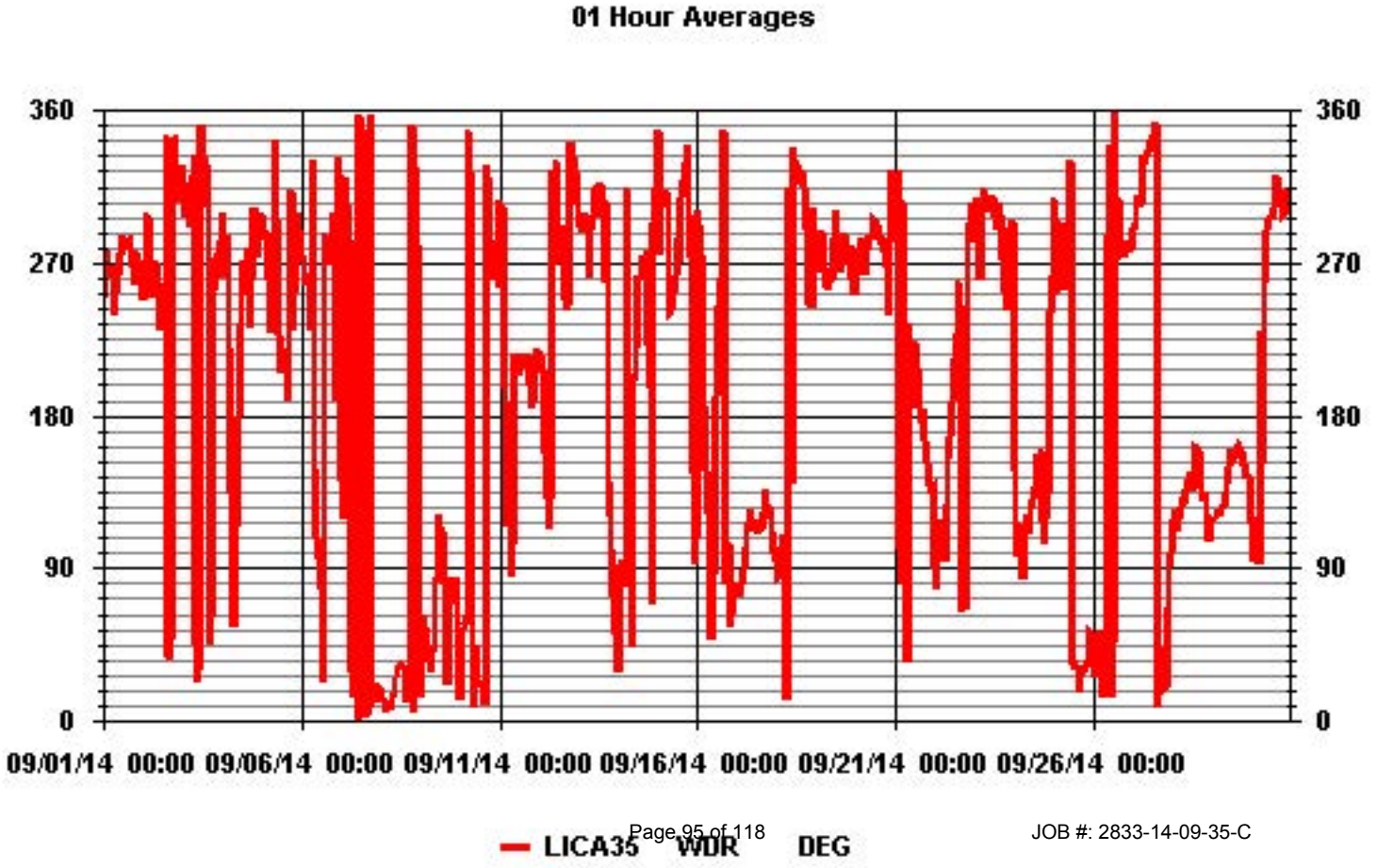
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUANDRANT	RDGS.
DAY																											
1	251	274	277	266	261	269	239	257	256	262	275	284	284	279	282	283	279	278	269	256	277	273	269	259	284	WNW	24
2	248	251	299	297	251	253	249	253	271	259	232	232	236	250	345	39	36	47	341	342	328	311	315	305	345	NNW	24
3	327	318	299	298	291	307	321	334	46	22	30	352	339	334	303	328	45	62	63	254	273	275	283	261	352	N	24
4	300	267	278	286	221	135	98	56	62	115	179	234	251	270	271	278	262	231	259	301	301	273	289	290	301	WNW	24
5	300	289	284	289	261	229	243	268	343	296	228	205	209	206	220	189	207	238	313	230	252	277	300	291	343	NNW	24
6	271	274	262	257	264	255	230	331	150	108	97	80	78	23	287	279	285	279	268	300	271	189	332	141	332	NNW	24
7	322	207	119	321	305	285	30	14	33	34	0	357	347	26	1	349	3	8	358	13	15	22	10	21	358	N	24
8	11	15	12	5	11	10	6	15	15	25	32	33	30	34	31	20	11	28	14	352	4	327	281	24	352	N	24
9	13	56	62	56	34	40	28	41	45	83	84	121	115	113	81	40	21	36	74	84	82	69	85	21	121	ESE	24
10	12	30	55	57	63	348	325	276	7	42	45	20	24	21	23	9	327	321	285	284	277	260	263	255	348	NNW	24
11	307	300	304	197	114	188	121	85	104	214	214	207	204	208	217	215	214	216	199	184	187	196	205	218	307	NW	24
12	218	216	208	159	136	132	113	130	325	268	330	296	274	273	292	289	249	243	245	341	339	333	324	305	341	NNW	24
13	300	293	289	292	299	294	261	294	293	300	313	314	297	317	300	258	307	290	142	122	103	75	50	70	317	NW	24
14	29	89	88	95	92	315	79	87	43	205	200	219	261	262	271	274	267	277	223	197	69	293	315	286	315	NW	24
15	348	275	305	305	308	313	305	241	242	260	252	262	284	270	309	319	323	329	340	300	275	147	92	107	348	NNW	24
16	301	293	275	228	187	148	124	121	48	66	86	192	216	244	261	316	348	81	91	106	55	63	75	82	348	NNW	24
17	77	77	74	80	89	102	111	117	124	116	111	118	111	113	113	114	123	136	126	128	120	112	100	94	136	SE	24
18	96	85	86	102	109	94	12	315	157	140	338	332	324	325	316	325	316	315	290	245	265	243	303	271	338	NNW	24
19	280	264	283	289	276	255	267	254	265	266	259	285	301	273	264	279	273	288	273	269	279	259	280	251	301	WNW	24
20	264	268	276	285	282	263	270	277	285	286	284	296	295	293	290	281	286	277	267	270	239	282	324	307	324	NW	24
21	321	322	102	80	307	133	152	34	234	212	184	199	224	209	197	180	181	167	165	153	140	137	138	139	322	NW	24
22	91	77	93	103	119	111	93	127	155	167	188	189	213	228	259	246	64	95	118	66	283	293	306	284	306	NW	24
23	282	309	273	259	303	314	312	310	306	308	299	310	298	289	294	306	299	273	253	242	278	291	282	295	314	NW	24
24	148	96	117	105	113	83	99	121	110	118	125	131	138	154	157	153	160	119	104	120	123	134	241	263	263	W	24
25	309	296	254	255	267	275	293	253	270	315	330	34	36	32	31	17	27	32	29	33	33	53	52	41	330	NNW	24
26	26	41	47	45	54	40	14	25	46	286	340	14	46	359	271	308	294	283	275	275	283	279	281	277	359	N	24
27	290	293	305	309	306	304	334	328	335	338	336	338	345	351	353	8	25	43	29	19	20	67	90	100	353	N	24
28	119	125	115	111	119	126	132	128	136	142	147	135	141	162	161	161	160	138	130	135	133	121	106	120	162	SSE	24
29	119	120	122	122	122	124	126	127	134	139	150	160	152	156	160	162	159	161	159	152	145	145	144	117	162	SSE	24
30	94	114	116	120	94	94	230	152	258	289	296	297	300	299	306	321	316	314	304	298	299	310	313	313	321	NW	24

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

LAST CALIBRATION:	February 21, 2014
DECLINATION :	MAEGNETIC DECLINATION 19 DEGREES EAST

MONTHLY CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS
STANDARD DEVIATION:	104.53		AMD OPERATION UPTIME:	100.0	%
			MONTHLY AVERAGE:	294	DEG



JOB #: 2833-14-09-35-C

Standard Deviation Wind Direction

Lakeland Industry & Community Association - Elk Point Site

SEPTEMBER 2014

STANDARD DEVIATION WIND DIRECTION (STDWD) hourly averages in degrees

MST

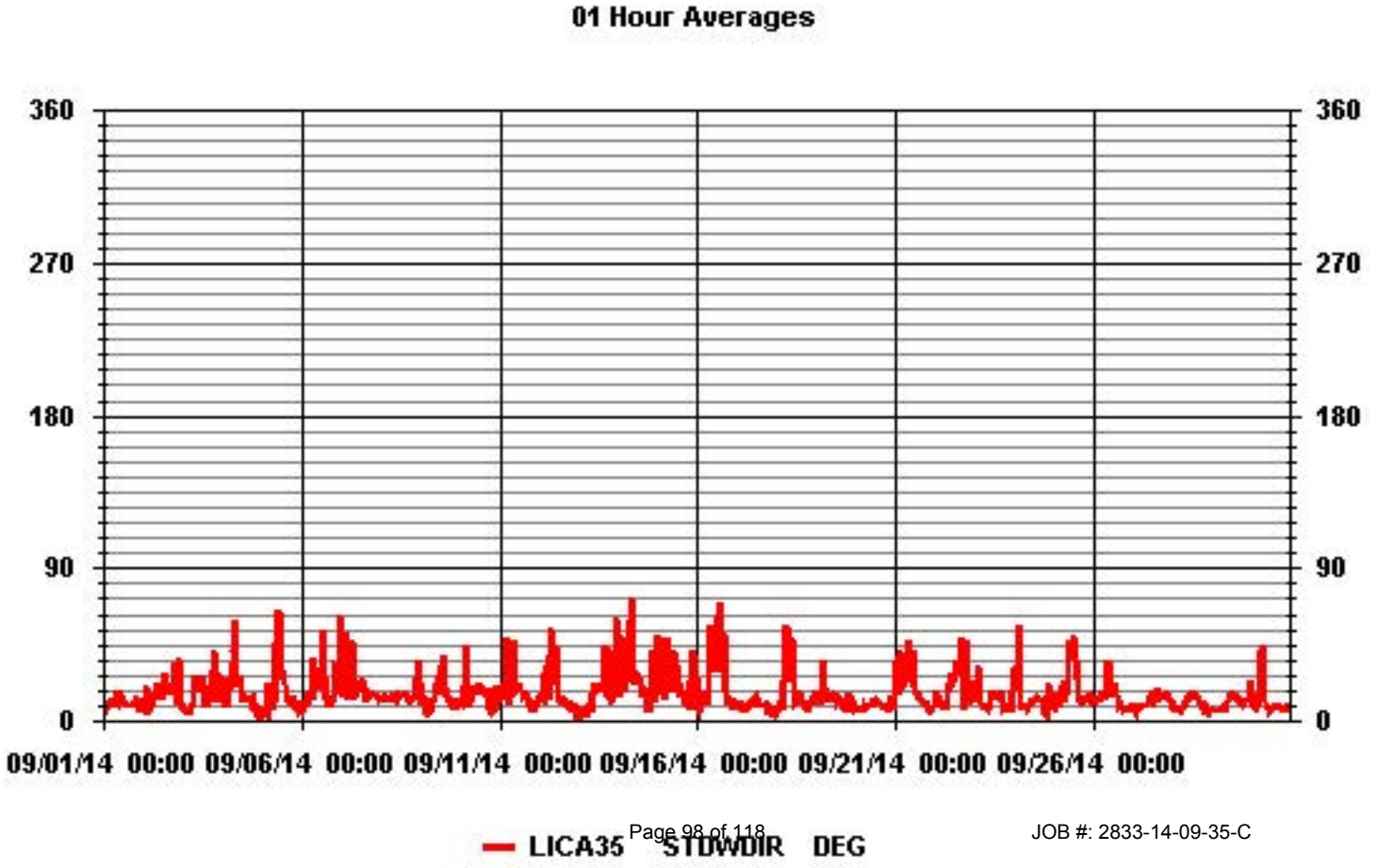
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00
DAY																								
1	9	12	9	11	12	11	8	12	16	16	12	14	11	11	9	9	9	9	10	11	14	8	9	8
2	7	13	21	10	7	8	16	13	16	22	18	12	16	28	19	17	17	21	21	34	13	14	37	11
3	8	6	6	5	5	9	9	16	27	25	20	21	26	13	8	20	15	15	30	41	11	28	13	27
4	13	10	8	16	19	25	34	41	60	24	25	21	17	12	14	13	13	13	14	8	6	10	6	5
5	3	5	5	4	22	11	7	11	43	42	65	35	31	26	22	13	13	11	10	15	11	7	5	6
6	11	7	9	10	16	18	17	37	22	18	29	30	19	54	27	14	10	8	15	11	15	33	32	63
7	23	14	27	52	17	13	18	48	21	16	17	19	23	25	20	11	14	14	15	16	15	15	15	13
8	14	13	14	14	13	13	14	14	14	13	17	14	15	15	16	16	13	13	12	13	15	23	22	36
9	24	12	11	15	6	5	6	11	13	20	19	26	33	24	39	20	15	13	13	10	7	11	7	12
10	12	11	21	19	44	8	21	11	15	21	16	18	22	18	21	17	15	16	8	5	6	7	21	11
11	15	12	19	22	12	49	9	18	40	47	18	19	22	19	15	16	16	14	9	6	6	10	12	11
12	14	15	14	28	32	12	39	55	42	43	43	23	11	14	9	14	12	10	9	12	9	8	8	3
13	2	3	5	4	4	8	10	9	15	16	21	21	21	20	22	27	44	13	33	14	10	23	41	61
14	37	14	51	17	23	25	39	60	73	24	21	29	26	25	22	15	15	10	5	20	41	18	11	21
15	51	15	21	24	12	18	49	41	17	22	41	34	20	23	14	16	11	9	17	23	6	42	39	26
16	8	6	9	15	16	16	9	53	56	31	33	28	41	62	69	47	52	18	10	12	10	11	11	6
17	9	9	11	6	6	8	8	8	10	10	12	14	11	12	11	9	9	10	7	8	6	8	7	4
18	6	8	11	10	23	25	57	43	22	49	32	11	12	16	18	11	11	8	8	6	11	13	12	14
19	18	15	16	10	35	17	18	16	11	13	16	15	12	14	14	13	12	8	6	13	16	10	8	11
20	10	7	7	7	7	10	8	9	9	9	9	13	10	13	12	11	10	6	9	9	5	15	13	7
21	35	15	39	42	27	22	23	31	47	37	38	21	18	17	14	14	13	11	10	10	7	6	8	9
22	15	18	11	8	11	9	6	9	17	22	28	25	27	35	29	33	49	7	13	48	9	14	24	11
23	15	12	33	14	11	8	8	9	7	9	12	17	14	14	18	14	15	7	8	9	8	10	5	18
24	31	33	19	56	9	8	8	9	7	8	10	12	13	15	14	13	13	12	5	4	15	22	12	16
25	9	8	9	9	16	20	11	24	15	48	42	43	51	37	25	16	13	11	12	13	15	14	12	14
26	11	11	13	12	12	13	17	13	18	35	29	14	17	22	16	9	10	8	6	7	7	7	7	8
27	8	6	9	9	8	9	9	9	10	13	13	12	17	18	16	19	14	15	14	14	16	15	12	12
28	8	8	7	7	7	6	8	9	11	14	15	16	15	16	14	14	13	11	8	10	9	6	5	6
29	7	6	6	6	6	7	7	7	10	11	14	14	16	16	14	14	13	11	10	12	12	12	12	24
30	18	9	9	8	11	29	41	44	12	9	6	7	7	8	8	9	9	9	7	6	6	8	8	8

STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

LAST CALIBRATION: November 20, 2012

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 720 HRS



JOB #: 2833-14-09-35-C

Calibration Reports

Sulphur Dioxide

API 100A SO2 Analyzer Calibration

Date:	16-Sep-14	**Start/End Time (mst):**	0944-1248
Company:	LICA	**Calibration Purpose:**	routine monthly
Station Name/Location:	Elk Point	**Converter Make & Model:**	na
Performed by:	Tom Bourque	**Converter Serial #:**	na
Application H_2S/TRS/SO_2:	SO2	**Cal Gas Expiry Date:**	4-Feb-18

Analyzer:

Serial Number:	837	**Range ppb:**	1000
Last Calibration Date:	12-Aug-14	**As Found C.F.**	1.014
Previous Cal High Point C.F.:	1.000	**New C.F.:**	1.000

	As found:	As left:
SLOPE:	.968	.979
OFFSET:	24.3	24.3
HVPS:	755	755
DCPS:	2593	2593
RCELL TEMP:	49.6	49.6
BOX TEMP:	26.3	26.3
PMT TEMP:	7.3	7.3
IZS TEMP:	40.1	40.1
STABIL:	0.0	0.0
PRES:	26.9	26.9
SAMP FL:	660	660
PMT:	64.4	64.4
UV LAMP:	3261	3261
STR. LGT	11.7	11.7
DRK PMT:	37.2	37.2
DRK LMP:	-6.8	-6.8
Internal Span:	249	248.1

Calibrator:

Flow Meter ID's:	na
Make & Model:	Environics 6100
Serial #:	4760
Cal Gas Cylinder I.D. # :	BLM00071
Cal Gas Conc. (ppm):	48.2

Calibrator Flow Targets:

point	diluent (cc/min)	cal gas (cc/min)	total (cc/min)
zero	5000	0	5000
high	5000	77	5077
mid	5000	37	5037
low	5000	17	5017

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	5000	0.0	5000	0	-0.4	NA
adjusted zero	5000	0.0	5000	0	-0.3	NA
as found high	5000	77.77	5078	738.2	728.0	1.014
adjusted high	5000	77.77	5078	738.2	738.6	0.999
mid	4995	37.88	5033	362.8	362.5	1.000
low	4995	16.94	5012	162.9	162.5	1.001
calibrator zero	5000	0.00	5000	0	0.3	NA
					Average C.F.=	1.000

Linear Regression/Calibration Results:

		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**0.999**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**0.05%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**-1.36%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

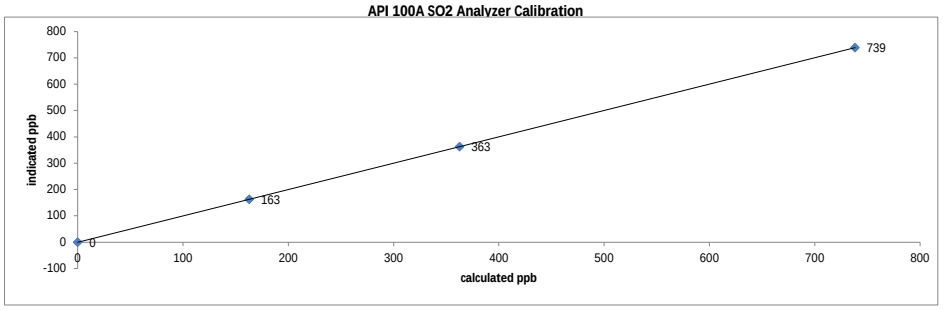
****run converter effeciency test immediately following zero adjust****

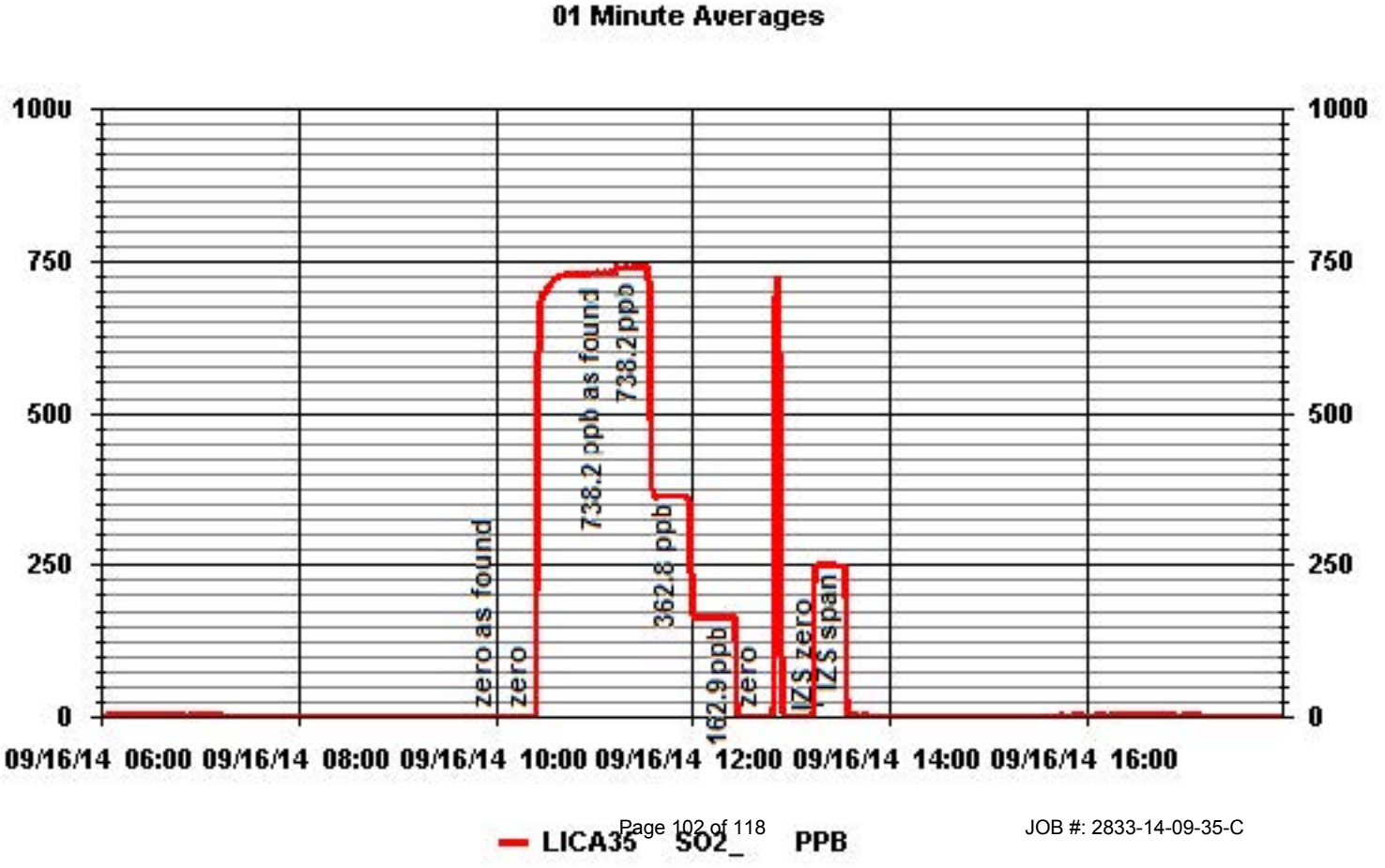
SO_2 High Point gas concentration: na Time gas run (mst): na

Zero corrrected analyzer response: na

Comments:

changed filter





JOB #: 2833-14-09-35-C

Hydrogen Sulphide

API 101E H2S Analyzer Calibration

Date:	16-Sep-14	**Start/End Time (mst):**	0955-1251
Company:	LICA	**Calibration Purpose:**	routine monthly
Station Name/Location:	Elk Point	**Converter Make & Model:**	internal
Performed by:	Tom Bourque	**Converter Serial #:**	na
Application H_2S/TRS/SO_2:	H2S	**Cal Gas Expiry Date:**	25-Dec-15

Analyzer:

Serial Number:	509	**Range ppb:**	100
Last Calibration Date:	19-Aug-14	**As Found C.F.**	0.994
Previous Cal High Point C.F.:	1.001	**New C.F.:**	1.002

	As found:	As left:
SLOPE:	1.149	1.146
OFFSET:	102.6	103.0
HVPS:	536	536
RCELL TEMP:	50.0	50.0
BOX TEMP:	28.2	28.2
PMT TEMP:	7.9	7.9
IZS TEMP:	45.0	45.0
TEST:	NA	NA
STABIL:	.1	.1
PRES:	27.7	27.7
SAMP FL:	572	572
PMT:	105.0	105.0
NORM PMT:	103.2	103.2
UV LAMP:	3420	3420
LAMP RATIO:	96.7 %	96.7 %
STR. LGT	58.9	58.9
DRK PMT:	10.1	10.1
DRK LMP:	0.7	0.7
Internal Span:	62.54	60.39

Calibrator:

Flow Meter ID's:	na
Make & Model:	API 700
Serial #:	830
Cal Gas Cylinder I.D. # :	BLM0005049
Cal Gas Conc. (ppm):	10.1

Calibrator Flow Targets:

point	diluent (cc/min)	cal gas (cc/min)	total (cc/min)
zero	5000	0	5000
high	5000	38	5038
mid	5000	18	5018
low	5000	8	5008

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	5000	0.0	5000	0	0.1	NA
adjusted zero	5000	0.0	5000	0	0.1	NA
as found high	5000	38.00	5038	76.2	76.7	0.994
adjusted high	5000	38.00	5038	76.2	76.3	1.000
mid	5001	18.00	5019	36.2	35.7	1.017
low	5000	8.00	5008	16.1	16.4	0.988
calibrator zero	5000	0.00	5000	0	0.3	NA
					Average C.F.=	1.002

Linear Regression/Calibration Results:

		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**1.001**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**-0.04%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**0.67%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

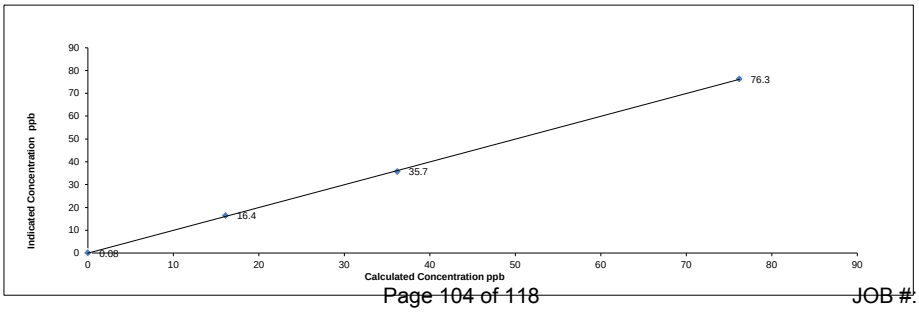
****run converter effeciency test immediately following zero adjust****

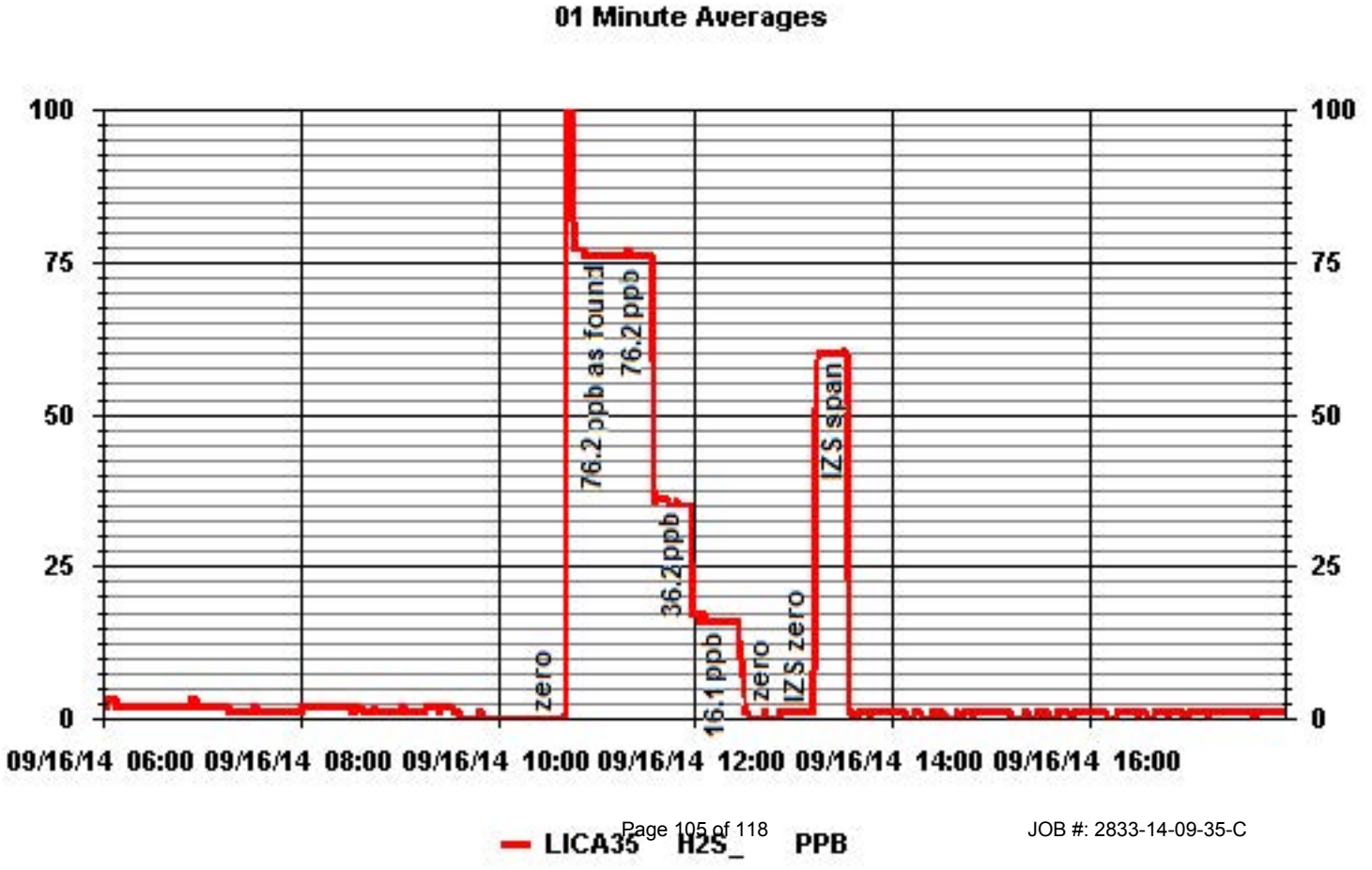
SO_2 High Point gas concentration:	738.0	Time gas run (mst):	0938-0942
Zero corrrected analyzer response:	0.22		

Comments:

changed filter

API 101E H2S Analyzer Calibration





JOB #: 2833-14-09-35-C

Total Hydrocarbons (55i)

Thermo 55I Methane/Non-Methane Analyzer Calibration

Date:	16-Sep-14	**Start Time (mst):**	13:03
Company:	LICA	**End Time (mst):**	15:46
Station Name:	Elk Point	**Calibration Purpose:**	routine monthly
Performed by:	Tom Bourque	**Cal Gas Expiry Date:**	26-Mar-17

Analyzer & Diagnostics:

		As found C.F.	**Previous Cal High Point C.F.**	**Analyzer Range**
Serial Number:	1236656107	CH_4= 1.011	CH_4= 1.017	CH_4= 20
Last Calibration Date:	12-Aug-14	NMHC= 1.002	NMHC= 1.010	NMHC= 20
		THC= 1.006	THC= 1.005	THC= 40

Mother Board Voltages:	3.3:	3.3	Calibration History cnt'd>1:	CH_4 SP Ratio:	.000737
	5.0:	4.9		CH_4 RT:	12.2
	15.0:	14.9		CH_4 PK IDX:	21
	24.0:	24.0		CH_4 PK HT:	9679
	-3.3:	-3.2		NM Span Conc:	6.59
Interface Board Voltages:	3.3:	3.3		NM SP Ratio:	.000163
	5.0:	5.0		NM Peak Area:	40404
	15.0:	15.0	Run History>1:	Date:	september 16, 2014
	24.0:	23.4		Time:	1517
	-15.0:	-15.1		CH_4 PK HT:	9550
	Bias Supply:	-293.4		CH_4 RT:	12.2
Temperatures:	Detector Oven:	175.0		CH_4 Baseline:	1565
	Filter:	175.0		CH_4 LOD:	40
	Column Oven:	74.9		CH_4 SD:	13
	Flame:	361.9		CH_4 CONC:	7.03
	Internal:	37.6		NM PK HT:	1468
Pressures cylinder/reg.:	Carrier:	800 / 60		NM Peak Area:	40125
	Fuel:	850 / 45		NM CONC:	6.54
	Air:	NA / 45		NM Base Start:	1589
FID Status:	Status:	lit		NM Base End:	1607
	Counts:	19809		NM LOD:	11
	Flame:	361.8		NM Start IDX:	9
	Det Base:	175.0		NM End IDX:	89
Flame and Power Stats:	Last Power On:	april 30, 2014		NM Max Slope:	.85
	Flameouts:	17		NM Min Slope:	-.67
	Det Oven at Start:	169.0		NM PT Count:	81
	Col Oven at Start:	74.6	Daily Zero/Span Values:	Previous CH4:	7.84
Calibration History>1:	Time:	1153		Previous NMHC	14.44
	Type:	span		Previous THC:	22.32
	Status:	good		New CH4:	7.97
	Check/Adjust:	adjust		New NMHC	14.44
	CH_4 Span Conc:	7.13		New THC:	22.43

Calibrator and Gas Information:

Make & Model:	API 700		
Serial #:	830		
Cal Gas Cylinder I.D. # :	LL33674		
CH_4 Cylinder Conc.=	601.4	202.0	=C_3H_8 Cylinder Conc.
CH_4 as C_3H_8=	555.5	1156.9	=total CH_4 equivilant

Calibrator Flow Targets: (cc/min):

point	diluent	cal gas	total flow
zero	3000	0	3000
high	3000	36	3036
mid	3000	18	3018
low	3000	10	3010

Calibration Data:

Calibrator Flow Rates (cc/min)				Calculated CH_4 (ppm)	Calculated NMHC (ppm)	Calculated THC (ppm)	Indicated CH_4 (ppm)	Indicated NMHC (ppm)	Indicated THC (ppm)	Correction Factors:		
Point	Diluent	Cal Gas	Total Flow							CH4	NMHC	THC
20 min as found zero	3000	0.00	3000	0.00	0.00	0.00	0.00	0.00	0.00	NA	NA	NA
20 min adjusted zero	N/A											
20 min as found high point	2998	36.00	3034	7.14	6.59	13.73	7.06	6.58	13.64	1.011	1.002	1.006
20 min adjusted high	2998	36.00	3034	7.14	6.59	13.73	7.13	6.62	13.75	1.001	0.996	0.998
20 min mid	2999	18.00	3017	3.59	3.31	6.90	3.56	3.31	6.87	1.008	1.001	1.005
20 min low	2998	10.00	3008	2.00	1.85	3.85	2.03	1.91	3.94	0.985	0.967	0.976
20 min calibrator zero	3000	0.00	3000	0.00	0.00	0.00	0.00	0.00	0.00	NA	NA	NA
									Average C.F.=	0.998	0.988	0.993

Linear Regression/Calibration Results:

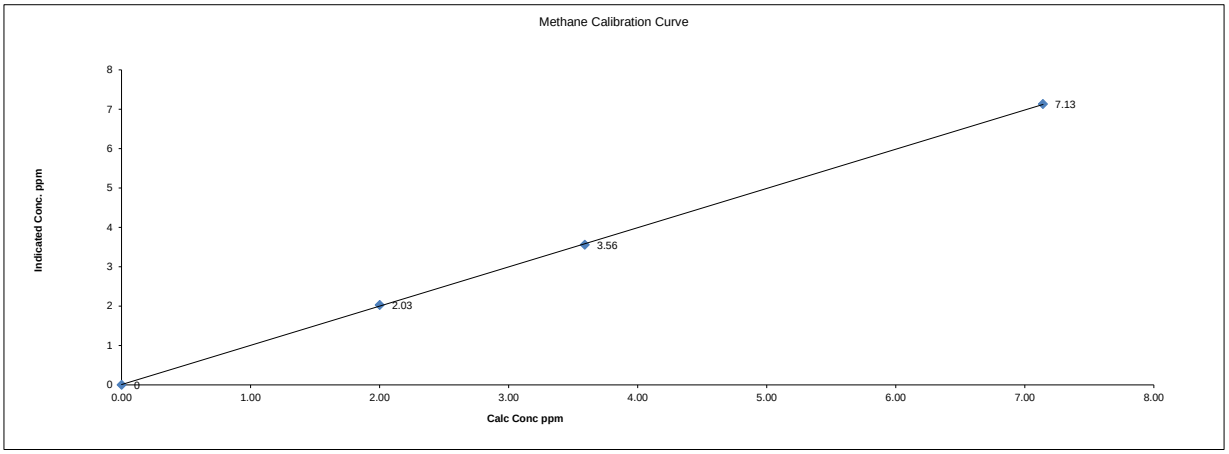
	CH_4	NMHC	THC	LIMITS
Correlation Coeffecient =	**1.000**	**1.000**	**1.000**	**> or = 0.995**
Slope =	**0.997**	**1.002**	**0.999**	**0.85-1.15**
b (Intercept as % of full scale)=	**0.04%**	**0.08%**	**0.06%**	**± 3% F.S.**
% change in C.F. from last cal=	**0.61%**	**-0.83%**	**0.14%**	**+/-15%**

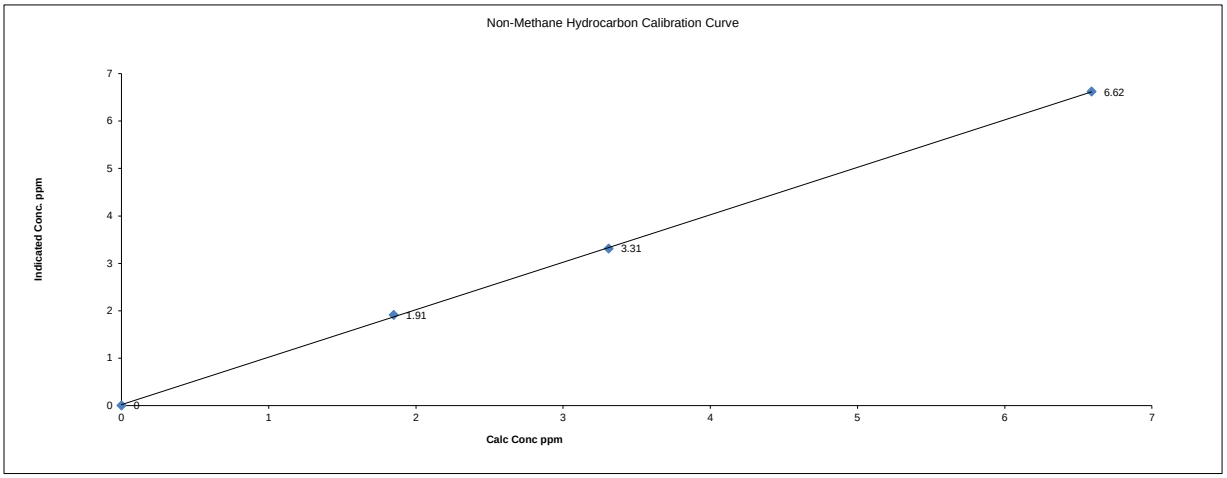
Comments:

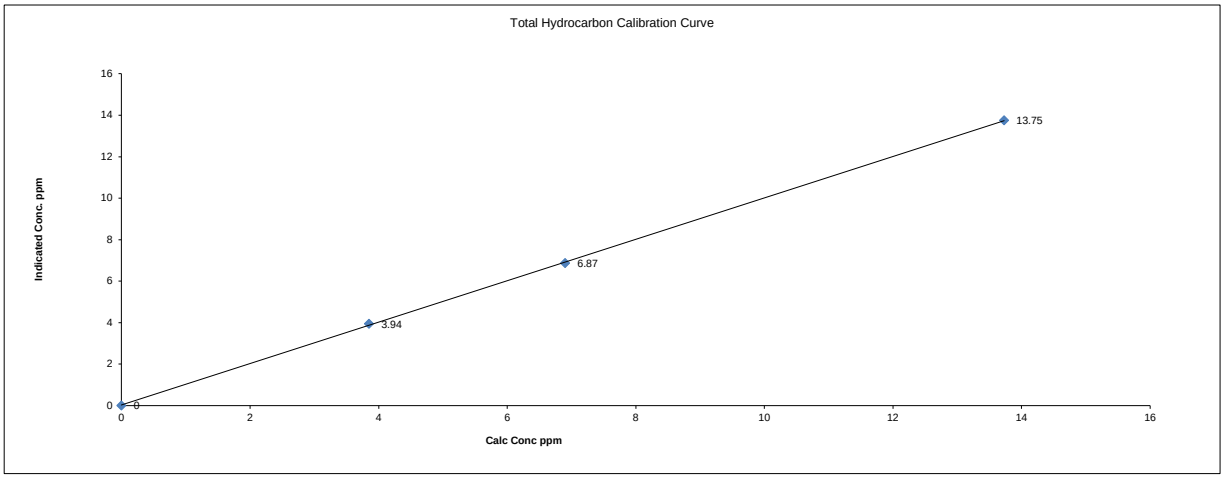
changed filter

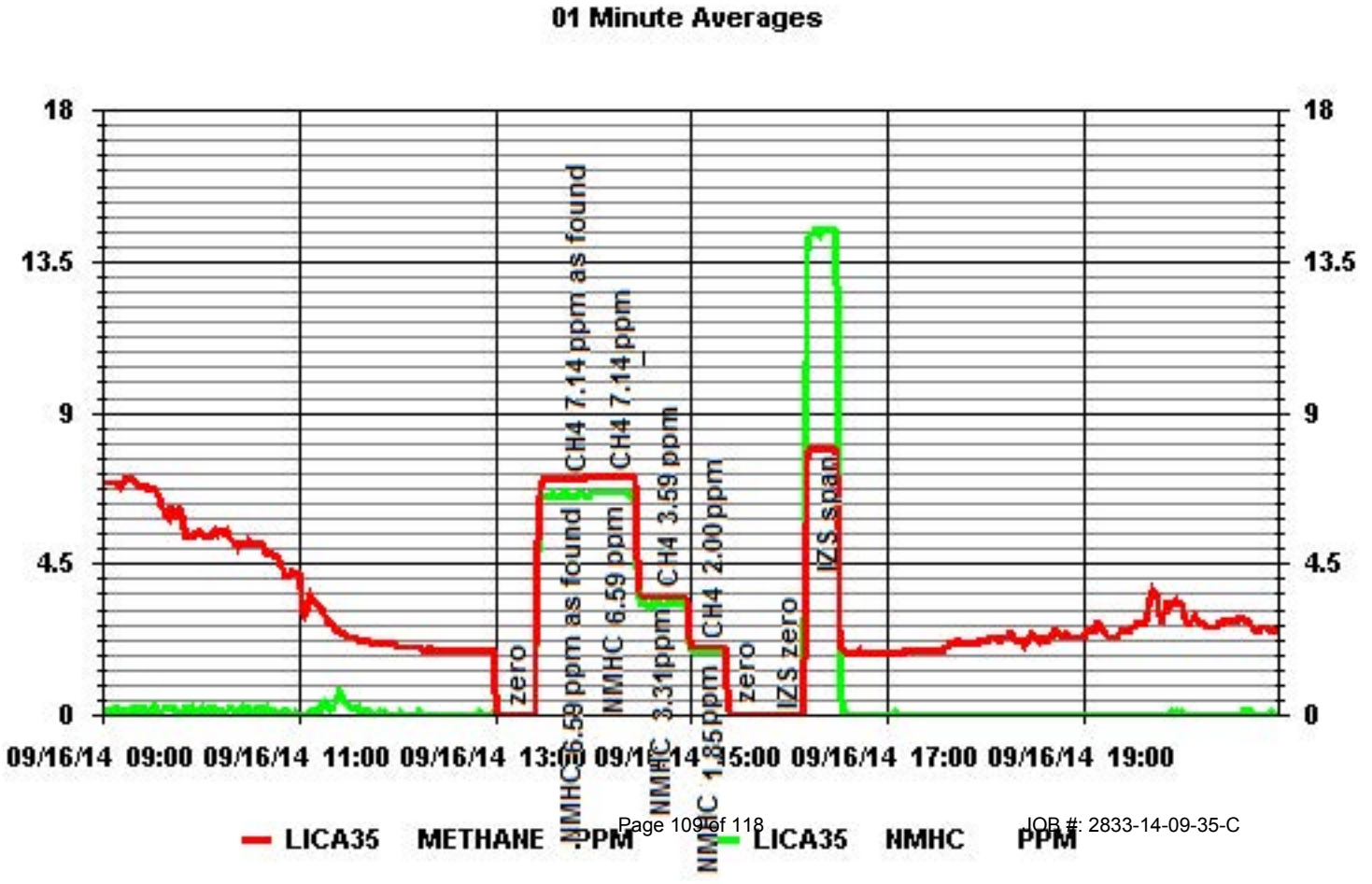
Date:	16-Sep-14	**Start Time (mst):**	13:03
Company:	LICA	**End Time (mst):**	15:46
Station Name:	Elk Point	**Calibration Purpose:**	routine monthly
Performed by:	Tom Bourque	**Cal Gas Expiry Date:**	26-Mar-17

Thermo 55C Methane/Non-Methane Analyzer Calibration








01 Minute Averages
18
13.5
9
4.5
0
zero
CH4 7.14 ppm as found
NMHC 6.59 ppm as found
CH4 7.14 ppm
NMHC 6.59 ppm
CH4 3.59 ppm
NMHC 3.31ppm
CH4 2.00ppm
NMHC 1.85ppm
zero
IZS zero
IZS span
09/16/14 09:00
09/16/14 11:00
09/16/14 13:00
09/16/14 15:00
09/16/14 17:00
09/16/14 19:00
LICA35 METHANE PPM
LICA35 NMHC PPM

Particulate Matter 2.5

R & P 1405F TEOM PM 2.5 Analyzer Calibration

Date:	16-Sep-14	**Parameter:**	PM2.5
Company:	LICA	**Performed by:**	Tom Bourque
Station Name/Location:	Elk Point	**Start/End Time (mst):**	10:00-11:00
Previous Audit Date:	na-new install	**Calibration Purpose:**	install

1400A Information and Status:

Serial Number:	1405A207691003	**As Found Filter Loading %:**	20.42
Ko Factor:	15634	**As Left Filter Loading %:**	17.50
Ambient Temperature °C:	24	**As Found Noise:**	0.150
Ambient Pressure atm:	.939	**As Left Noise:**	0.000
Main Flow Reading lpm:	3.00	**Pump Vacuum:**	0.31
Aux Flow Reading lpm:	13.67	**Warnings:**	none

Reference Standards:

	Flow:	**Pressure:**	**Temperature:**
Make:	Dwyer	Fisher Scientific	Fisher Scientific
Model:	475 Mark III	FB61291	FB61291
Serial Number:	NA	130168457	130168457
Calibration Date:	NA	11-Apr-14	11-Apr-14

As found leak check:

		Base	**Zero**	**Reference**	**Zero**
PM 2.5 Flow	actual	0.00	0.05	0.00	0.04
	limit	0.15		0.15	
Bypass Flow	actual	0.00	0.48	0.00	0.48
	limit	0.60		0.60	

As left leak check (same as above if as found passes):

		Base	**Zero**	**Reference**	**Zero**
PM 2.5 Flow	actual	0.00	0.05	0.00	0.04
	limit	0.15		0.15	
Bypass Flow	actual	0.00	0.48	0.00	0.48
	limit	0.60		0.60	

As found temperature and pressure:

	tolerance +/- 2.0°C		**tolerance +/- 0.01 atm**
1405F temperature °C:	24.6	**1405F pressure atm:**	0.930
reference temperature °C:	24.5	**reference pressure:**	0.939
difference °C:	-0.1	**difference :**	-0.009

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

	tolerance +/- 2.0°C		**tolerance +/- 0.01 atm**
1405F temperature °C:	24.6	**1405F pressure atm:**	0.930
reference temperature °C:	24.5	**reference pressure:**	0.939
difference °C:	-0.1	**difference :**	0.009

As found flows:

	main flow tolerance 3.00 lpm +/- 0.20 lpm		**total/aux flow tolerance 16.67/13.67 lpm +/- 1.00 lpm/+/- 7%**
1405F main flow lpm:	3.00	**1400A total/aux flow lpm:**	16.67
reference main flow lpm:	3.09	**reference total/aux flow lpm:**	16.38
difference lpm:	0.09	**difference lpm:**	-0.29

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

	main flow tolerance 3.00 lpm +/- 0.20 lpm		**total/aux flow tolerance 16.67/13.67 lpm +/- 1.00 lpm/+/- 7%**
1405F main flow lpm:	3.00	**1400A total/aux flow lpm:**	16.67
reference main flow lpm:	3.09	**reference total/aux flow lpm:**	16.38
difference lpm:	0.09	**difference lpm:**	-0.29

K_o Audit:

Last K_o audit date:	na
1405F K_o factor:	15634
Measured K_o factor:	na
% difference:	na

Comments:

installed new pump, also bypass filtering system is leaking, removed from bypass flow loop - TEOM head was extremely dirty

Nitrogen Dioxide

API 200E NOx Analyzer Calibration

Date:	16-Sep-14	**Start Time (mst):**	9:44
Company:	LICA	**End Time (mst):**	14:47
Station Name/Location:	Elk Point	**Calibration Purpose:**	routine monthly
Performed by:	Tom Bourque	**Cal Gas Expiry Date:**	4-Feb-18

Analyzer Serial Number:	593
Last Calibration Date:	12-Aug-14
Range ppb:	1000

Correction Factors:

As found C.F.		Previous Cal High Point C.F.:	
NO=	1.023	NO=	0.999
NOx=	1.022	NOx=	1.000
NO_2=	0.999	NO_2=	0.997

As found:		**As left:**	
NOx SLOPE:	1.257	NOx SLOPE:	1.288
NOx OFFS:	.2	NOx OFFS:	0.0
NO SLOPE:	1.251	NO SLOPE:	1.279
NO OFFS:	-.2	NO OFFS:	-.2
TEST:	126.0	TEST:	126.0
SAMP FLW:	474	SAMP FLW:	474
OZONE FL:	77	OZONE FL:	77
PMT:	6.1	PMT:	6.1
NORM PMT:	0.1	NORM PMT:	0.1
AZERO:	6.9	AZERO:	6.9
HVPS:	630	HVPS:	630
RCELL TEMP:	50.0	RCELL TEMP:	50.0
BOX TEMP:	28.4	BOX TEMP:	28.4
PMT TEMP:	6.7	PMT TEMP:	6.7
IZS TEMP:	45.1	IZS TEMP:	45.1
MOLY TEMP:	313.9	MOLY TEMP:	313.9
RCEL:	6.5	RCEL:	6.5
SAMP:	27.3	SAMP:	27.3
Internal Span:	6.4/403/409	Internal Span:	6.2/416/422

Calibrator Flow Targets:

Make & Model:	Environics 6100
Serial #:	4760
Cal Gas Cylinder I.D. # :	BLM000711
NO Cylinder Conc. (ppm):	50.1
NOx Cylinder Conc. (ppm):	50.2

point	diluent (cc/min)	cal gas (cc/min)	O_3 setting (v or ppb)	total (cc/min)
zero	5000	0	0	5000
high	5000	77	550.00	5077
mid	5000	37	300.00	5037
low	5000	17	115.00	5017

Calibration:

Calibrator Flow Rates (cc/min)				Calculated NO	Calculated NOx	Indicated NO	Indicated NOx	NO C.F.	NOx C.F.
Point	Diluent	Cal Gas	Total Flow	(ppb)	(ppb)	(ppb)	(ppb)		
as found zero	5000	0.0	5000	0	0	0.3	-0.2	NA	NA
adjusted zero	5000	0.0	5000	0	0	0.4	0.0	NA	NA
as found high	4995	77.77	5073	768.1	769.6	751	753	1.023	1.022
adjusted high	4995	77.77	5073	768.1	769.6	768	772	1.001	0.997
mid	4995	37.88	5033	377.1	377.8	376	379	1.004	0.997
low	4995	16.94	5012	169.3	169.7	169	171	1.005	0.992
calibrator zero	5000	0.00	5000	0	0	0.5	0.1	NA	NA
							Average C.F.=	1.003	0.996

Calibrator Flow Rates (cc/min)				Calibrator Setting	Indicated NO	Indicated NOx	Indicated NO_2	NO drop	NO_2 increase	NO_2 C.F.
Point	Diluent	Cal Gas	Total Flow	volts or ppb	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
NOx reference	5000	77.77	5078	0.0	768.0	769.0	1.5	0.4	-0.4	
as found NO_2	5000	77.77	5078	550.0	177.0	770.0	593.0	591.0	591.5	0.999
adjusted NO_2	N/A									
gpt mid	5000	77.77	5078	300.0	441.0	772.0	331.0	327.0	329.5	0.992
gpt low	5000	77.77	5078	115.0	643.0	771.0	129.0	125.0	127.5	0.980
								Average NO_2 C.F.=		0.986

Linear Regression/Calibration Results:

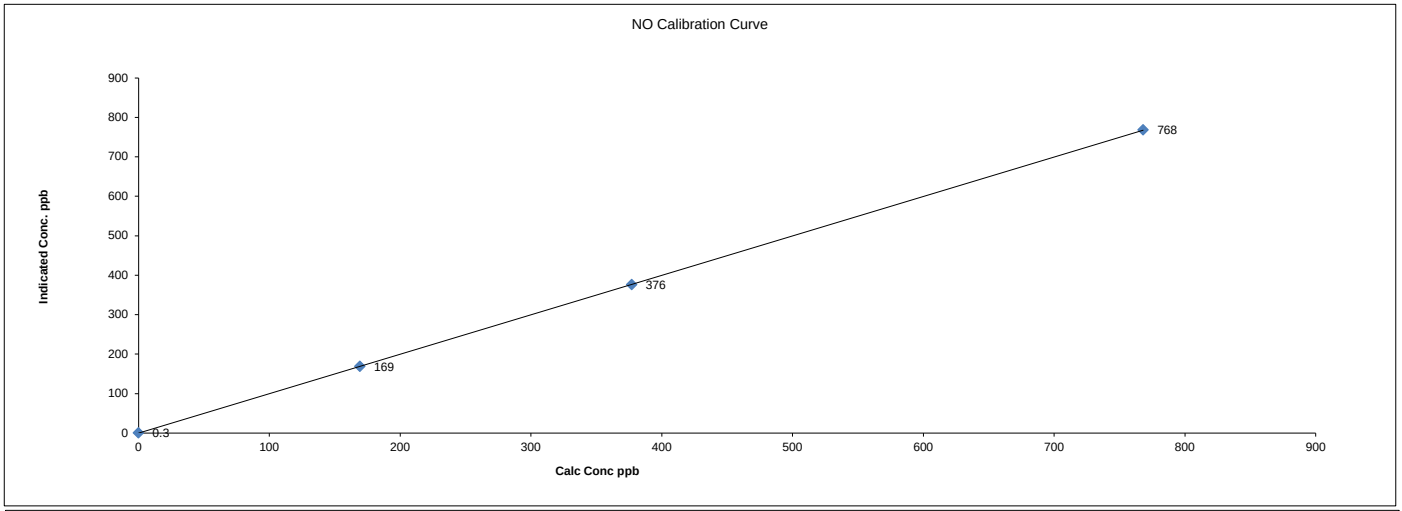
	NO	NOx	NO_2	LIMITS
Correlation Coeffecient =	**1.000**	**1.000**	**1.000**	**> or = 0.995**
Slope =	**1.000**	**1.003**	**1.000**	**0.85-1.15**
b (Intercept as % of full scale)=	**-0.02%**	**0.02%**	**0.12%**	**± 3% F.S.**
% change in C.F. from last cal=	**-2.44%**	**-2.21%**	**-0.22%**	**+/-15%**
NO2 converter effeciency			**101.4%**	**>85%**

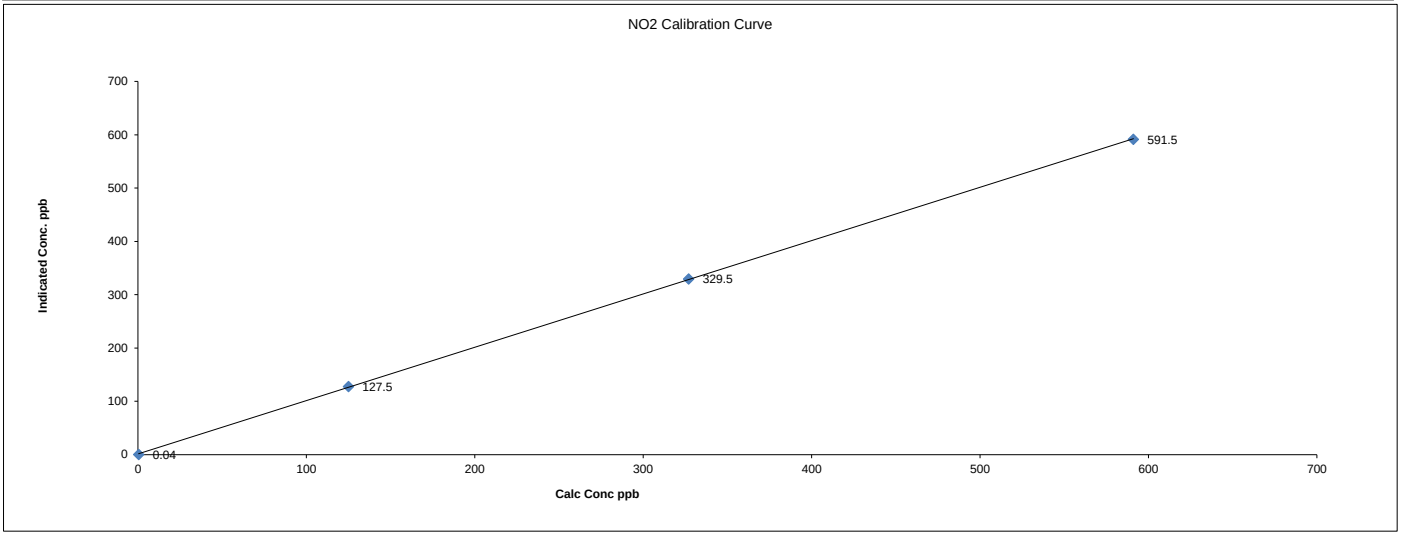
Comments:

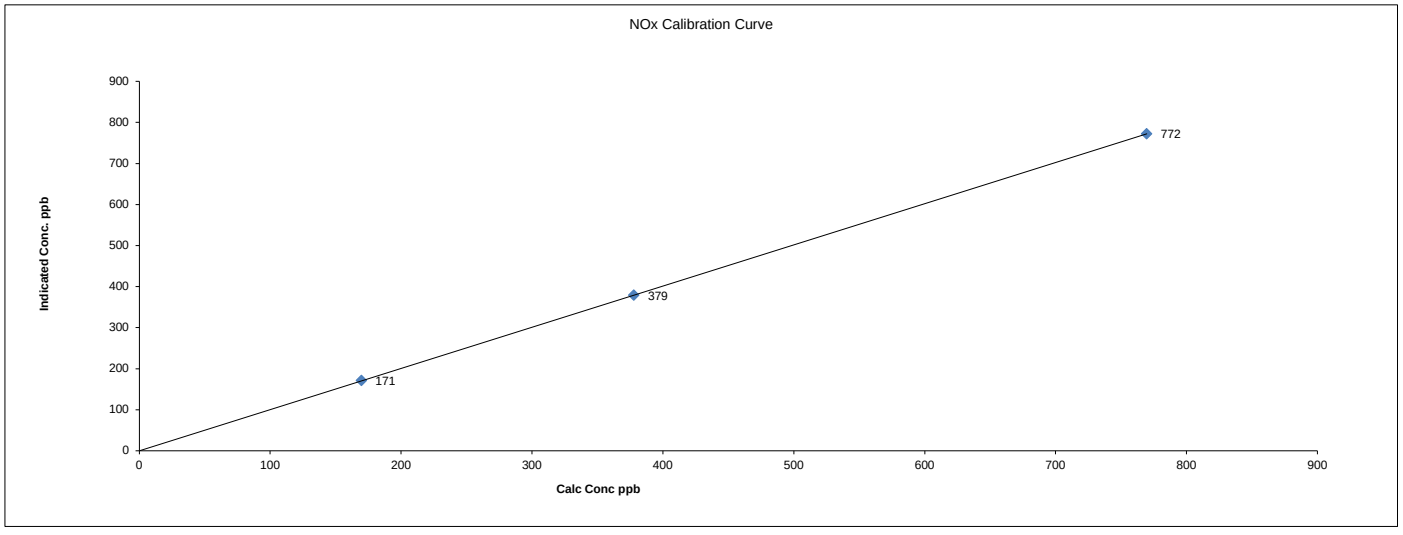
changed filter, no adjustment made on NO2 (not possible on this API model) - also - had to repeat the zero/span following the cal a second time - the initial one came in over 500 ppb, checked all analyzer operational parameters and there is no explanation - second one came in fine

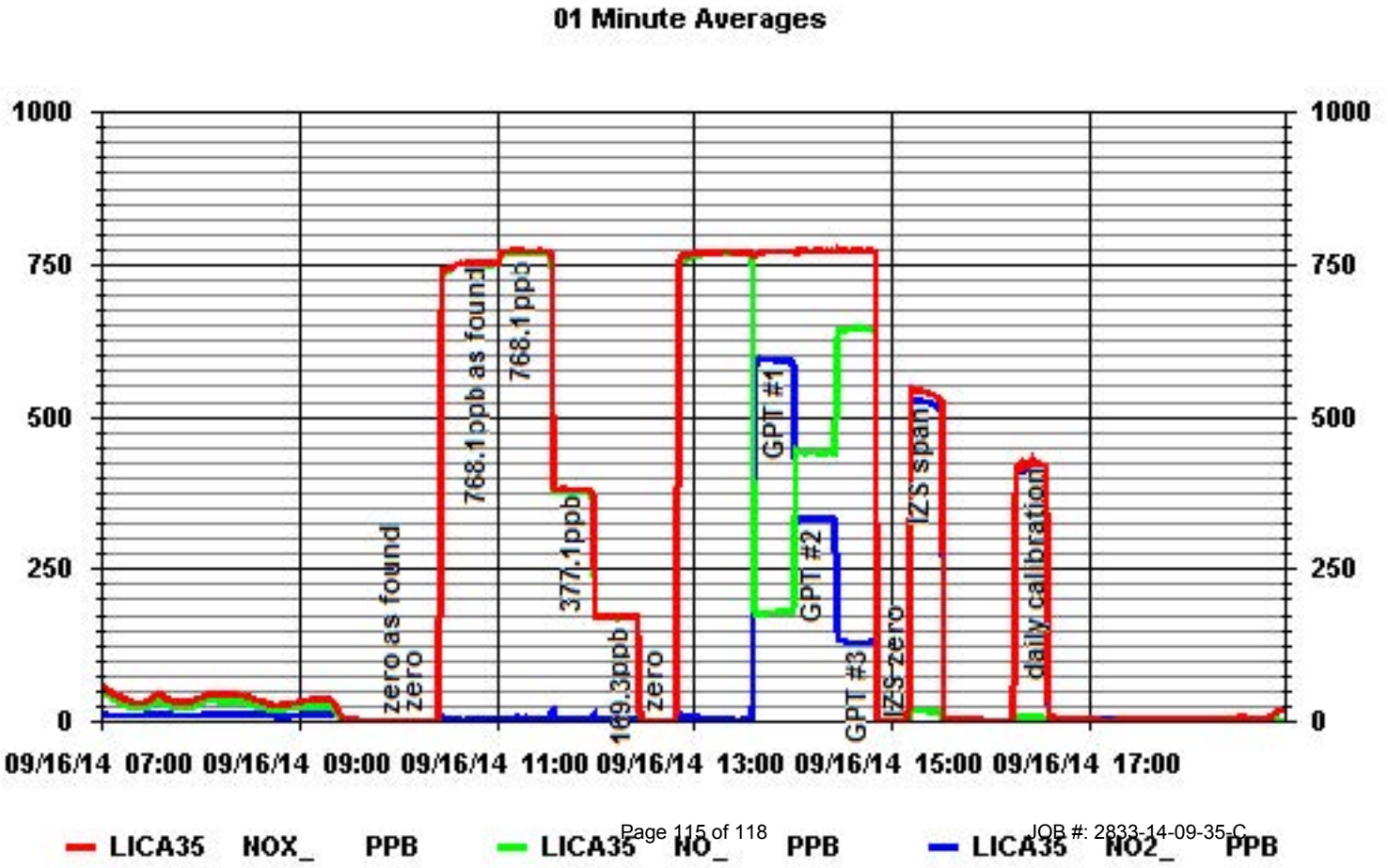
Date:	16-Sep-14	**Start Time (mst):**	9:44
Company:	LICA	**End Time (mst):**	14:47
Station Name/Location:	Elk Point	**Calibration Purpose:**	routine monthly
Performed by:	Tom Bourque	**Cal Gas Expiry Date:**	4-Feb-18

API 200E NOx Analyzer Calibration








01 Minute Averages
1000
750
500
250
0
zero as found
zero
768.1ppb as found
768.1ppb
377.1ppb
169.3ppb
zero
GPT #1
GPT #2
GPT #3
IZS zero
IZS span
daily calibration
09/16/14 07:00
09/16/14 09:00
09/16/14 11:00
09/16/14 13:00
09/16/14 15:00
09/16/14 17:00
LICA35 NOX_ PPB
LICA35 NO_ PPB
LICA35 NO2_ PPB

Ozone

Thermo 49i O_3 Analyzer Calibration

Date:	16-Sep-14	**Start Time (mst):**	15:01
Company:	LICA	**End Time (mst):**	17:50
Station Name/Location:	Elk Point	**Calibration Purpose:**	routine monthly
Performed by:	Tom Bourque	**G.P.T. Date:**	16-Sep-14

Analyzer:

Serial Number:	1002240372	**Range ppm:**	500
Last Calibration Date:		**As Found C.F.**	1.001
Previous Cal High Point C.F.:		**New C.F.:**	1.005

		As found:		As left:
	O_3 Bkg:	-.2	O_3 Bkg:	-.3
	O_3 Coef:	1.035	O_3 Coef:	1.033
Motherboard:	3.3	3.3	3.3	3.3
	15.0	5.0	15.0	5.0
	24.0	15.0	24.0	15.0
	-3.3	23.9	-3.3	23.9
Interface Board:	3.3	3.3	3.3	3.3
	5.0	5.0	5.0	5.0
	15.0	14.9	15.0	14.9
	-15.0	-15.1	-15.0	-15.1
	Photo Lamp	9.8	Photo Lamp	9.8
	24.0	23.5	24.0	23.5
	O_3 Lamp	9.3	O_3 Lamp	9.3
	Bench:	30.9	Bench:	30.9
	Bench Lamp:	54.1	Bench Lamp:	54.1
	O_3 Lamp:	68.3	O_3 Lamp:	68.3
	Pressure:	695.6	Pressure:	695.6
	Cell A lpm:	.751	Cell A lpm:	.751
	Cell B lpm:	.757	Cell B lpm:	.757
	O_3 ppb:	.2	O_3 ppb:	.2
	Cell A ppb:	-3.5	Cell A ppb:	-3.5
	Cell B ppb:	3.9	Cell B ppb:	3.9
	Cell A int:	48654	Cell A int:	48654
	Cell B int:	48479	Cell B int:	48479
	Internal Span:	336.8	Internal Span:	

Calibrator:

Make & Model:	Environics 6100
Serial #:	4760
NOx Gas Cylinder I.D. # :	BLM000711
NOx Cylinder Conc. (ppm):	50.2

Calibrator Flow Targets:

point	total flow (cc/min)	O_3 setting (v or ppb)
zero	5077	0
high	5077	300
mid	5077	115
low	5077	75

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	5073	0.0	5073	0.0	0.1	NA
adjusted zero	5073	0.0	5073	0.0	0.2	NA
as found high	5073	0.00	5073	327.0	327.0	1.001
adjusted high	5073	0.00	5073	327.0	327.0	1.001
mid	5073	0.00	5073	125.0	125.0	1.002
low	5073	0.00	5073	81.0	80.1	1.014
calibrator zero	5073	0.00	5073	0.0	-0.1	NA

copy and paste flows and NO decrease from NOx cal in to calculated concentration **Average C.F.=** 1.005

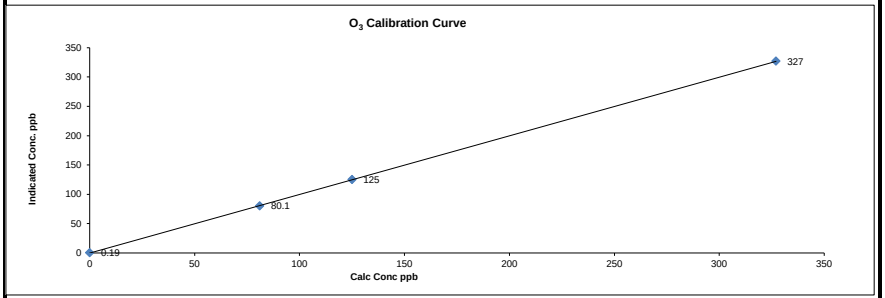
Linear Regression/Calibration Results:

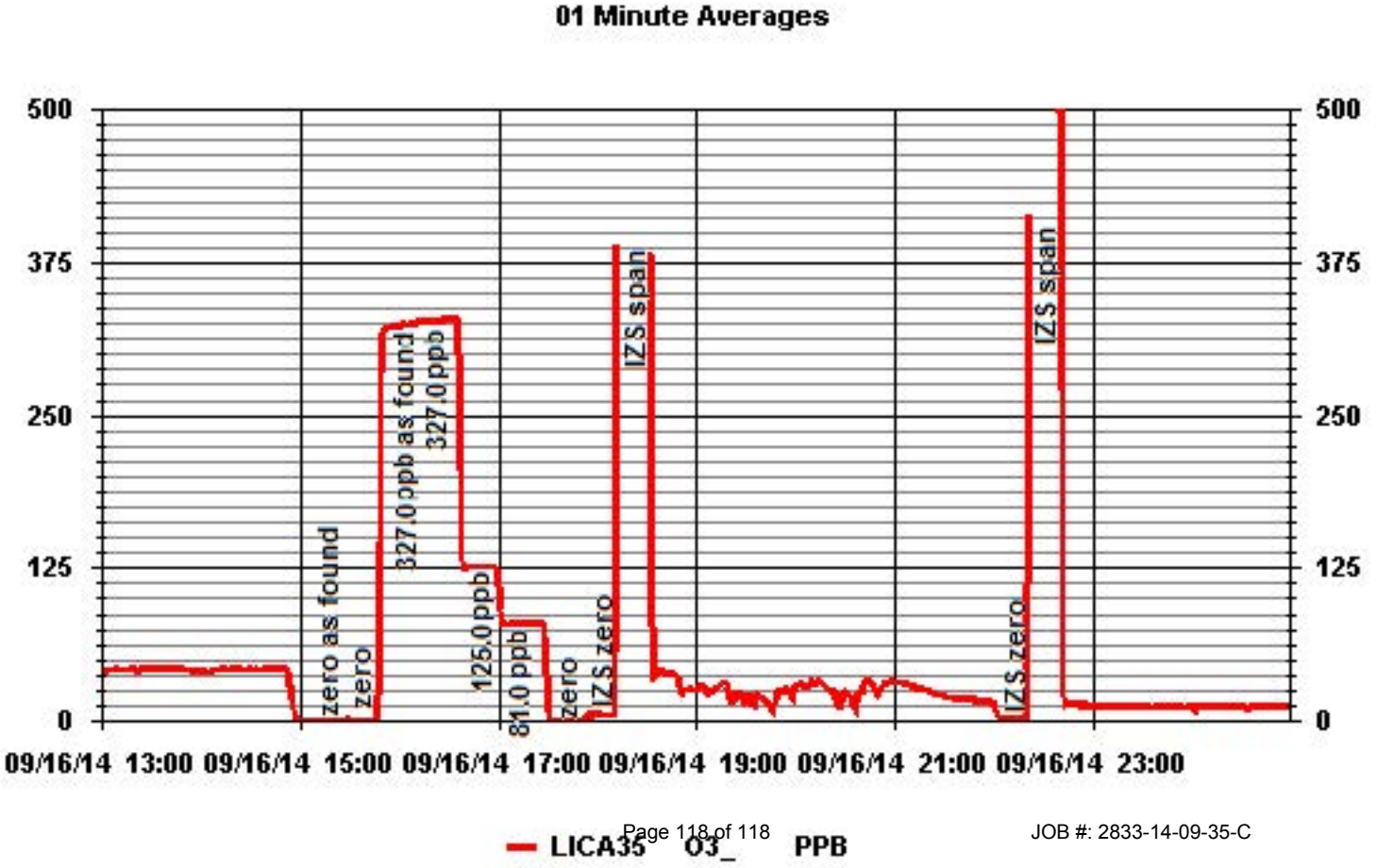
		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**1.000**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**-0.045%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal		**± 15%**	

Comments:

changed sample filter, no span adjust required

Thermo 49i O3 Analyzer Calibration





JOB #: 2833-14-09-35-C