Lakeland Industry & Community Association

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Alberta Environment
Monitoring and Science
Data Management
Floor 11 Oxbridge Place
9820 106 Street
Edmonton Alberta T5K 2J6

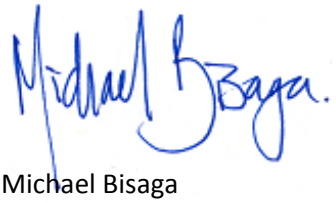
December 11, 2014

RE: October 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.

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
October 2014

Prepared By:

November 24, 2014

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

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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: Cold Lake
Data Period: October 2014

The monthly ambient data report:

- Prepared by Lili Zhou
- 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 – October 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	0.03	4	20	12	5.4	220(SW)	0.6	20	100.0
TRS (PPB)	-	-	-	-	0.00	1	1, 13	VAR	VAR	VAR	0.1	1	100.0
NO_2 (PPB)	159	-	0	-	3.39	23.5	20	18	1.6	92(E)	7.5	20	100.0
NO (PPB)	-	-	-	-	0.87	36.4	22	8	0.7	270(W)	4.1	22	100.0
NOx (PPB)	-	-	-	-	4.26	44.9	22	8	0.7	270(W)	10.6	20	100.0
O_3 (PPB)	82	-	0	-	20.60	44	19	15	7.7	219(SW)	28.8	24	100.0
THC (PPM)	-	-	-	-	2.02	3.4	11	6, 7	4.4, 5	230(SW) 237(SW)	2.5	11	100.0
PM 2.5 (UG/M^3)	-	30	-	0	4.86	24	15	19	1.1	303(WNW)	10.1	31	94.6
TEMPERATURE (DEG C)	-	-	-	-	5.99	20.8	19	15	7.7	219(SW)	11.5	10	98.0
RELATIVE HUMIDITY (%)	-	-	-	-	68.42	100	17	VAR	VAR	VAR	91.5	27	98.0
VECTOR WS (KPH)	-	-	-	-	6.58	21.7	6	16	-	316(NW)	12.8	17	98.0
VECTOR WD (DEGREES)	-	-	-	-	233(SW)	-	-	-	-	-	-	-	98.0

VAR-VARIOUS NA: NOT AVAILABLE

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

Passive Ambient Monitoring Network – October 2014

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PASSIVE NETWORK			
NETWORK MAXIMUM			NETWORK AVERAGE
PARAMETER	STATION	READING (PPB)	READING (PPB)
SO_2	#14, #27	1.0	0.3
H_2S	#27	0.37	0.13
NO_2	#6	6.2	2.3
O_3	#32	24.79	20.36

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 analyzer spanned high on October 1st. An as found points check was performed on October 1st. The result passed the AESRD requirements. The monthly calibration was then performed after the as found points check after change the sample filter. The reason causing the analyzer to span high was likely because the analyzer required a calibration. 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 monthly calibration was performed on October 1st. 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: 77021-384 replaced to Thermo 51C, S/N: 427408718

The Thermo 51C analyzer, S/N: 77021-384, Maxxam supplied, was removed following a removal calibration on October 1st. Thermo 51C analyzer, S/N: 427408718, LICA owned, was then installed following an installation calibration on the same day. The inlet filter and the H2 gas cylinder were changed before the installation calibration started. 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 October 3rd, and the other audit was performed on October 23th. The sample filter was replaced on October 3rd. 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. 40 hours of data were invalidated as the data were below –3 ug/m3.

Nitrogen Dioxide (PPB)

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

The analyzer spanned high on October 1st. An as found points check was performed on October 1st. The result passed the AESRD requirement. Following the as found point check, the MPV voltage was adjusted and the sample filter was changed. A post-repair calibration was performed following the maintenance on October 1st. The reason causing the analyzer to span high was likely because the analyzer required a calibration Data was corrected using daily zero information.

Ozone (PPB)

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

The analyzer was working well throughout the month. The monthly calibration was performed on October 1st. 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

Data collected between October 22nd hour 17 and October 23rd hour 7 were invalidated due to the USP system failure. A total of 15 hours of data were discarded.

Ambient Temperature (DEGC)

- System make / model - Rotronic Hygroclip-S3

Data collected between October 22nd hour 17 and October 23rd hour 7 were invalidated due to the USP system failure. A total of 15 hours of data were discarded.

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.

Data collected between October 22nd hour 17 and October 23rd hour 7 were invalidated due to the USP system failure. A total of 15 hours of data for WS/WD/STNWD were discarded.

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 October 1st.

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

OCTOBER 2014

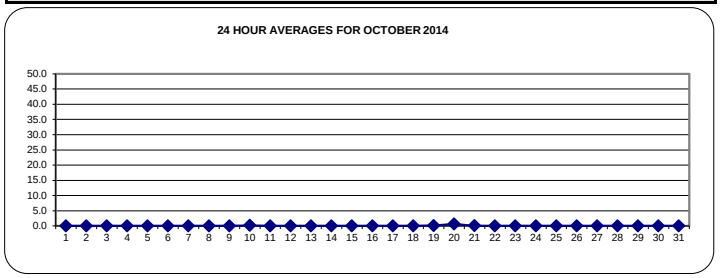
SULPHUR DIOXIDE (SO2) hourly averages in ppb

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	**S**	**S**	**S**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	0	0	0	0	0	0.0	24
2	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
3	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
4	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
5	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
6	**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
7	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
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0.0	24
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0.0	24
10	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	**S**	0	0	0	0	1	0.1	24
11	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
12	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
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0.0	24
14	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
15	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
16	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
17	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
18	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
19	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0.1	24
20	0	0	0	0	0	0	0	0	0	**S**	1	2	***4***	3	2	1	1	0	0	0	0	0	0	0	***4***	***0.6***	24
21	0	0	0	0	0	0	0	0	**S**	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
22	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
23	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
24	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
25	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
26	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
27	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
28	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
29	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0.0	24
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0.0	24
31	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
HOURLY MAX	0	0	0	0	0	0	0	0	0	0	1	2	4	3	2	1	1	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	0.1	0.1	0.2	0.1	0.1	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

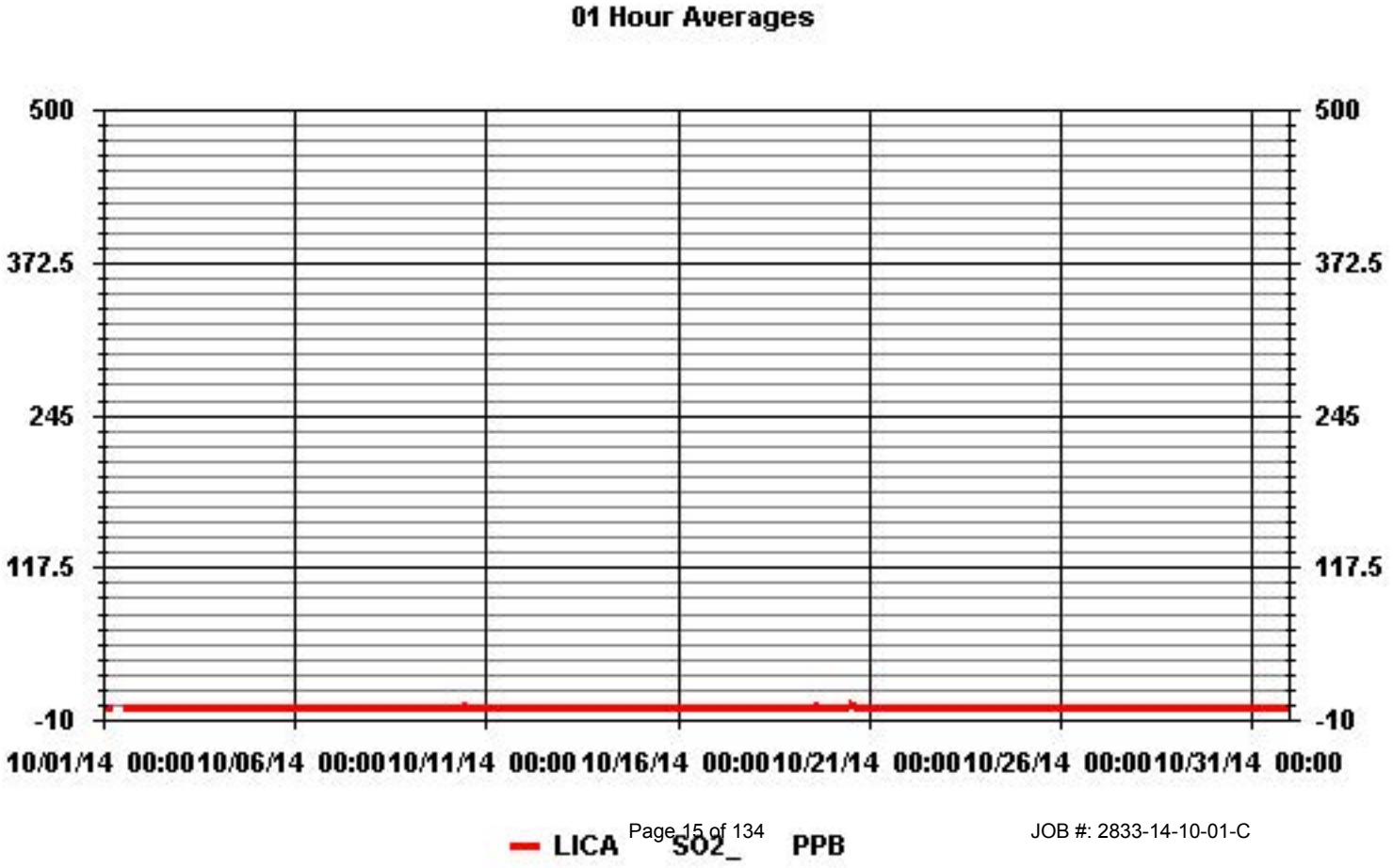


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB 24-HR 48 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	13					
MAXIMUM 1-HR AVERAGE:	4	PPB	@ HOUR(S)	12	ON DAY(S)	20
MAXIMUM 24-HR AVERAGE:	0.6	PPB			ON DAY(S)	20
					VAR-VARIOUS	
IZS CALIBRATION TIME:	35	HRS	OPERATIONAL TIME:		744	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	0.24		MONTHLY AVERAGE:		0.03	PPB

JOB #: 2833-14-10-01-C



JOB #: 2833-14-10-01-C

Lakeland Industry & Community Association - Cold Lake South Site

OCTOBER 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	1	1	1	0	**S**	**S**	**S**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	1	0	0	1	1	0.4	24
2	0	0	1	1	**S**	1	1	1	1	1	0	0	1	1	0	0	0	1	1	1	1	0	0	0	1	0.6	24
3	0	1	0	**S**	1	0	1	1	1	1	1	1	0	1	0	0	1	1	1	0	1	1	0	1	1	0.7	24
4	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	1	0.8	24
5	1	**S**	1	0	1	0	1	1	1	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	1	0.4	24
6	**S**	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	1	0	1	1	1	1	1	**S**	1	0.5	24
7	1	1	1	0	0	0	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	**S**	0	1	0.7	24
8	1	1	1	0	0	0	1	0	0	1	1	1	1	0	1	1	1	1	1	1	1	**S**	1	1	1	0.7	24
9	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	**S**	0	1	0	1	0.8	24
10	0	0	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	**S**	0	1	0	1	1	0.7	24
11	0	0	0	0	1	0	0	1	0	1	0	1	0	0	0	0	0	0	**S**	0	0	1	0	1	1	0.3	24
12	0	0	0	0	1	1	0	0	0	1	0	1	0	0	0	1	0	**S**	0	0	0	1	1	0	1	0.3	24
13	0	1	0	0	0	0	0	0	0	1	1	0	1	1	0	0	**S**	0	1	1	1	1	1	1	1	0.5	24
14	0	1	1	0	0	0	1	1	0	1	0	1	1	1	1	**S**	1	1	0	0	0	0	0	0	1	0.5	24
15	0	1	0	1	0	1	0	1	1	1	1	1	1	1	**S**	1	1	1	1	0	1	0	0	0	1	0.7	24
16	1	0	1	1	1	1	1	1	1	1	1	1	0	**S**	0	1	0	0	0	1	1	1	0	0	1	0.7	24
17	0	0	1	0	0	1	0	0	0	0	1	1	**S**	0	0	0	0	0	1	1	0	0	0	0	1	0.3	24
18	0	1	0	0	0	0	0	0	0	0	1	**S**	1	1	1	1	0	1	0	0	1	0	0	1	1	0.4	24
19	0	0	1	1	0	0	0	0	0	0	**S**	1	1	1	1	2	2	1	1	1	1	1	1	1	2	0.7	24
20	1	1	1	0	0	0	0	0	0	**S**	1	4	***5***	4	2	2	1	1	1	1	1	1	1	1	***5***	***1.3***	24
21	1	0	0	1	0	1	0	0	**S**	1	1	1	2	2	1	1	0	1	1	0	0	0	0	0	2	0.6	24
22	0	1	0	0	0	1	1	**S**	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	24
23	1	0	0	0	0	0	**S**	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	24
24	1	0	1	1	1	**S**	0	0	0	0	0	1	0	0	0	1	1	1	1	0	1	0	1	0	1	0.5	24
25	0	0	0	0	**S**	0	1	1	1	0	1	1	1	1	0	1	0	0	0	1	0	1	0	1	1	0.5	24
26	0	1	1	**S**	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	1	0	1	0.3	24
27	0	0	**S**	0	0	0	0	1	0	0	0	0	0	1	0	0	1	1	1	0	0	1	0	0	1	0.3	24
28	0	**S**	1	0	0	0	1	1	1	1	0	0	1	0	1	1	1	0	0	0	0	1	0	1	1	0.5	24
29	**S**	0	0	1	1	1	0	0	1	0	0	1	1	1	0	0	1	1	1	0	1	0	1	**S**	1	0.5	24
30	0	1	1	1	1	1	0	0	0	1	0	1	0	0	1	1	0	0	0	0	1	1	**S**	1	1	0.5	24
31	1	0	0	0	0	0	0	1	0	0	0	1	1	1	1	0	1	1	1	1	0	**S**	0	0	1	0.4	24
HOURLY MAX	1	1	1	1	1	1	1	1	1	1	1	4	5	4	2	2	2	1	1	1	1	1	1	1			
HOURLY AVG	0.4	0.5	0.6	0.4	0.4	0.4	0.4	0.5	0.4	0.5	0.6	0.9	0.9	0.8	0.6	0.7	0.7	0.6	0.7	0.4	0.6	0.6	0.4	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: 375

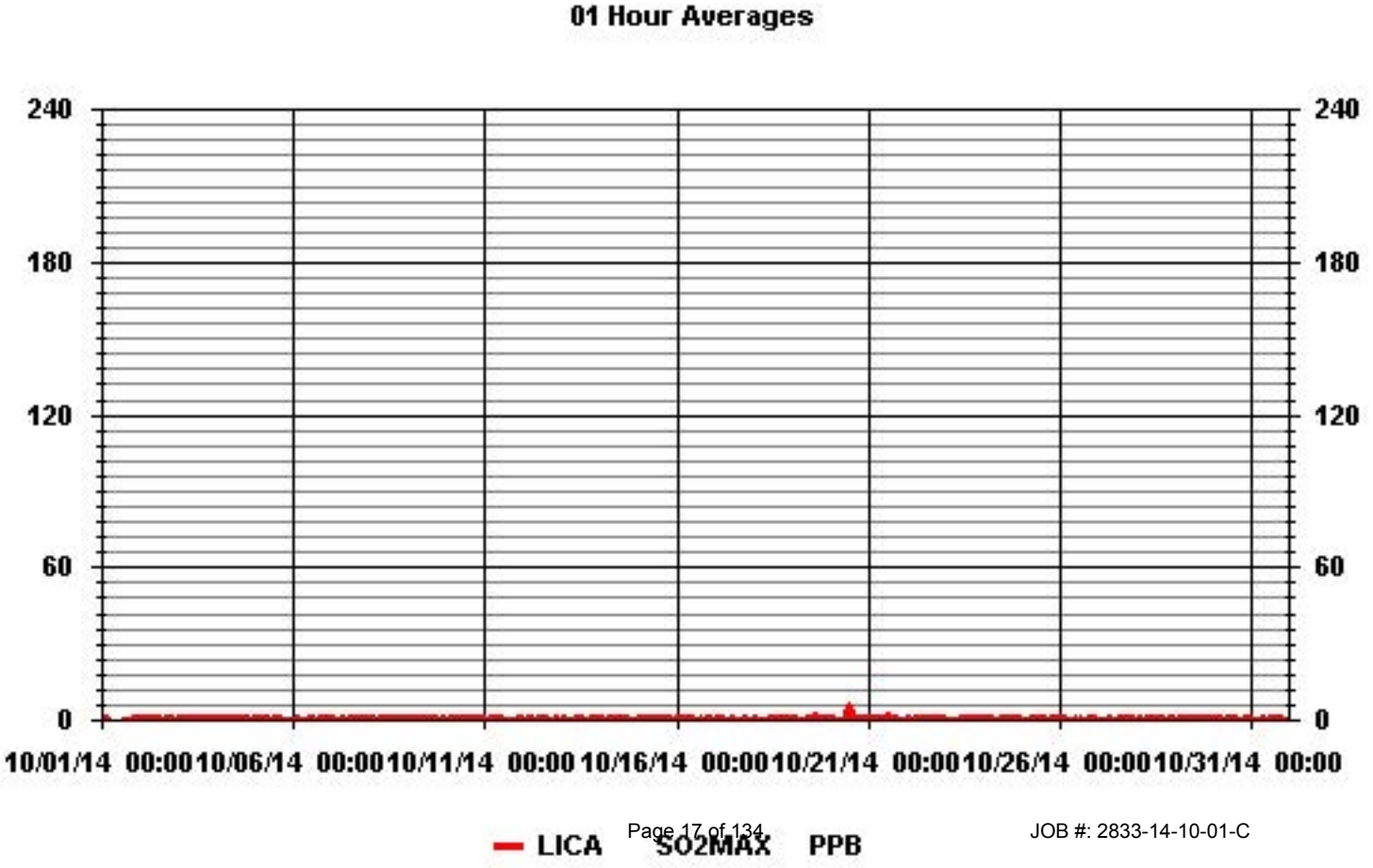
MAXIMUM INSTANTANEOUS VALUE: 5 PPB @ HOUR(S) 12 ON DAY(S) 20

VAR-VARIOUS

IZS CALIBRATION TIME: 35 HRS OPERATIONAL TIME: 744 HRS

MONTHLY CALIBRATION TIME: 7 HRS

STANDARD DEVIATION: 0.57



JOB #: 2833-14-10-01-C

LICA
SO2_ / WDR Joint Frequency Distribution (Percent)

October 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	1.16	2.03	2.90	3.33	7.69	10.30	20.89	2.17	1.59	1.30	3.62	13.35	13.78	5.95	7.11	2.75	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	1.16	2.03	2.90	3.33	7.69	10.30	20.89	2.17	1.59	1.30	3.62	13.35	13.78	5.95	7.11	2.75	

Calm : .00 %

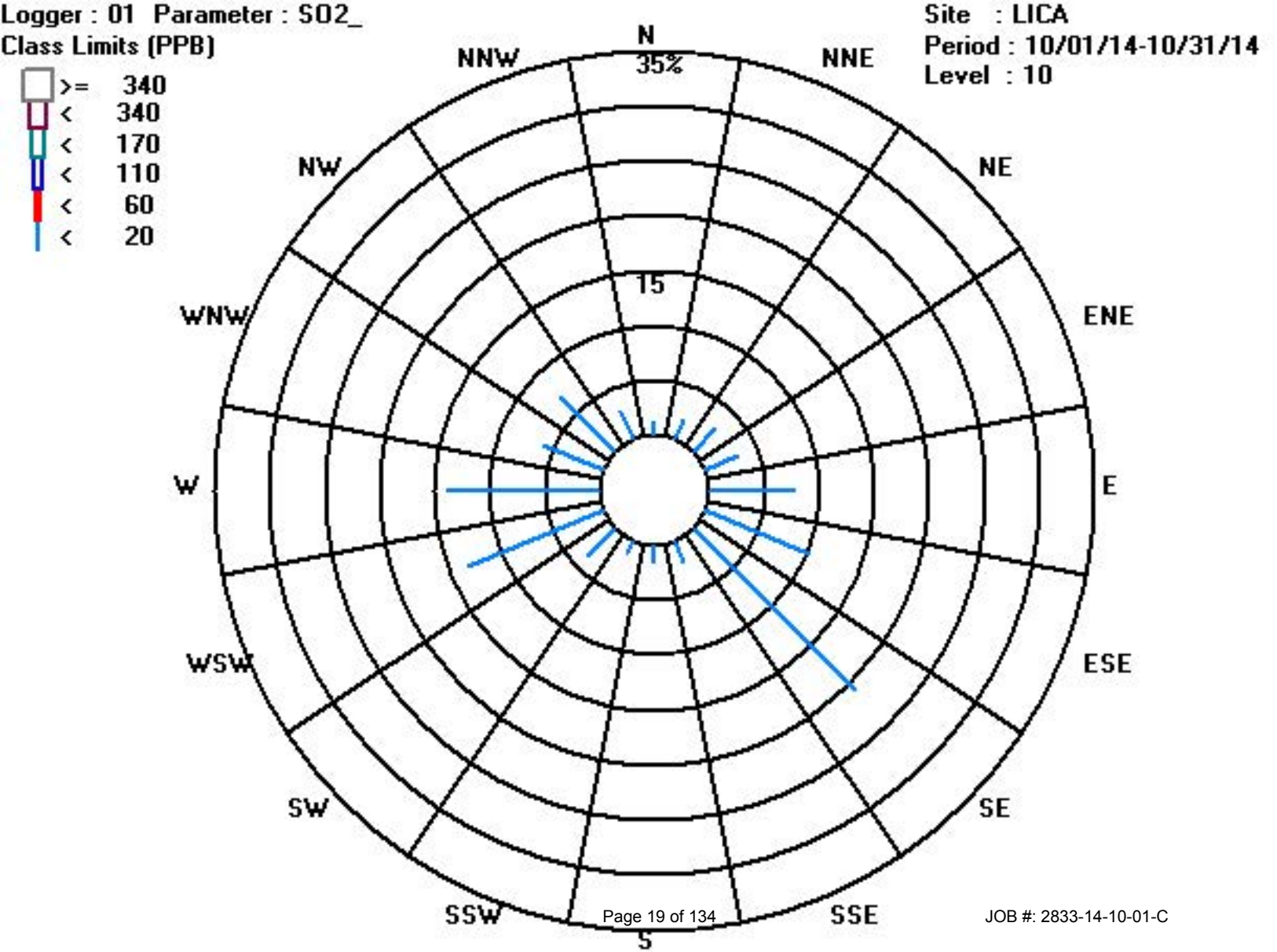
Total # Operational Hours : 689

Distribution By Samples

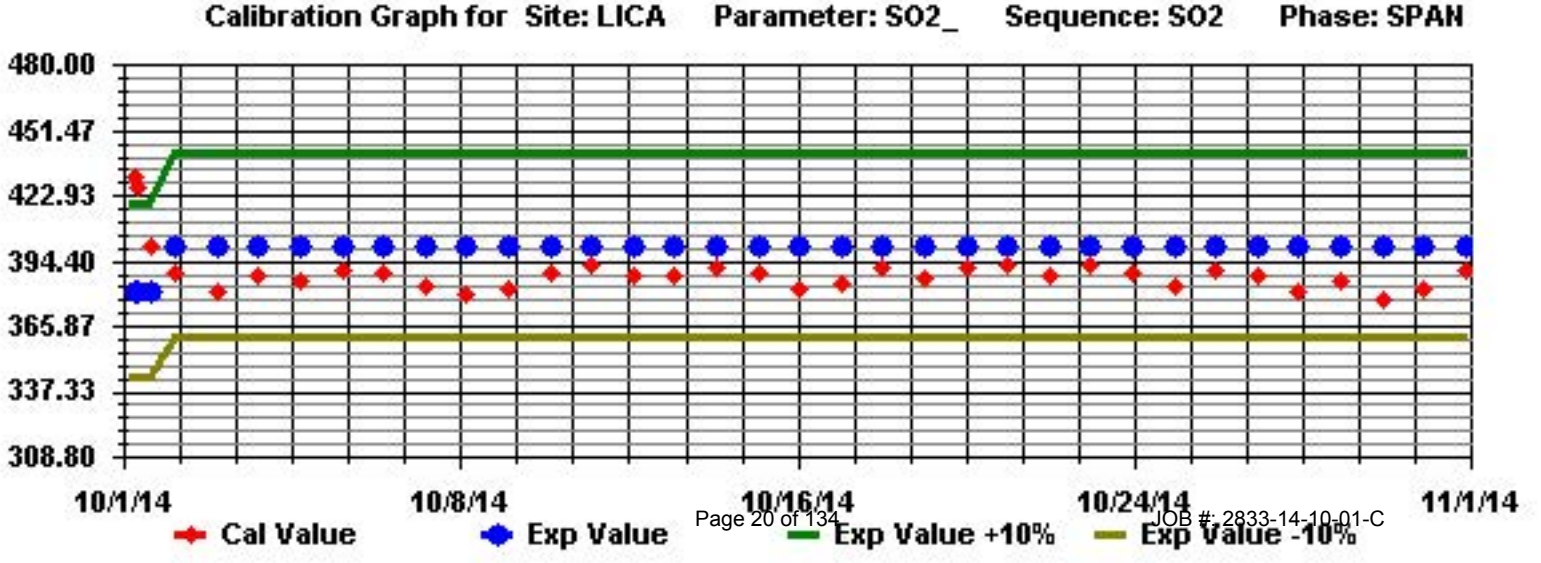
		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	20	8	14	20	23	53	71	144	15	11	9	25	92	95	41	49	19	689
<	60																	
<	110																	
<	170																	
<	340																	
>=	340																	
	Totals	8	14	20	23	53	71	144	15	11	9	25	92	95	41	49	19	

Calm : .00 %

Total # Operational Hours : 689



JOB #: 2833-14-10-01-C


Calibration Graph for Site: LICA Parameter: SO2_ Sequence: SO2 Phase: SPAN
480.00
451.47
422.93
394.40
365.87
337.33
308.80
10/1/14
10/8/14
10/16/14
10/24/14
11/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Reduced Sulphur

Lakeland Industry & Community Association - Cold Lake South Site

OCTOBER 2014

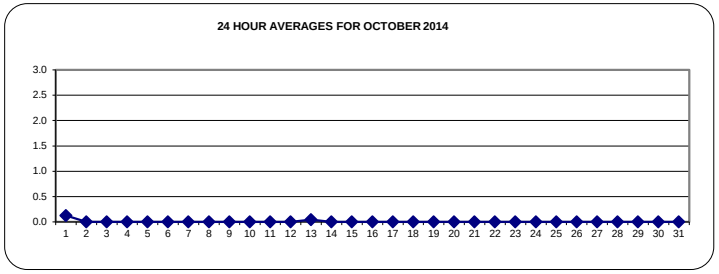
TOTAL REDUCED SULPHUR (TRS) hourly averages in ppb

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	***1***	**S**	***1***	0	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	0	0	0	0	***1***	***0.1***	24
2	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
3	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
4	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
5	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
6	**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
7	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
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0.0	24
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0.0	24
10	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
11	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
12	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
13	0	0	0	0	0	0	0	0	0	***1***	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	***1***	0.0	24
14	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
15	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
16	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
17	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
18	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
19	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
20	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
21	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
22	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
23	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
24	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
25	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
26	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
27	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
28	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
29	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0.0	24
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0.0	24
31	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
HOURLY MAX	0	0	0	0	1	0	1	0	0	1	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

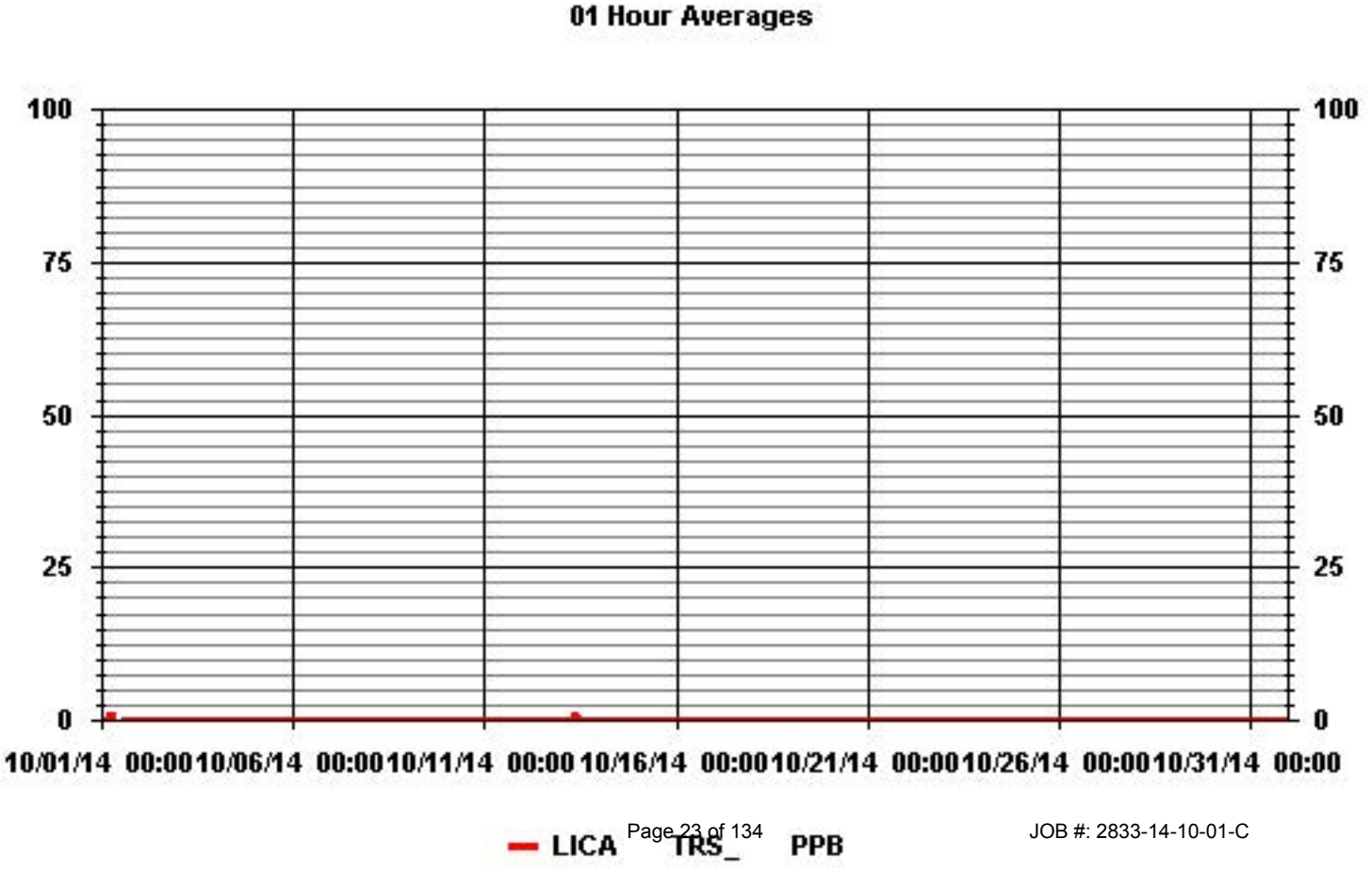


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:**

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:	3						
MAXIMUM 1-HR AVERAGE:	1	PPB	@ HOUR(S)	VAR	ON DAY(S)		1, 13
MAXIMUM 24-HR AVERAGE:	0.1	PPB			ON DAY(S)		1
				VAR-VARIOUS			
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:			744	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:			100.0	%
STANDARD DEVIATION:	0.07		MONTHLY AVERAGE:			0.00	PPB



JOB #: 2833-14-10-01-C

Lakeland Industry & Community Association - Cold Lake South Site

OCTOBER 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	0	1	1	1	**S**	1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0	0	1	0	1	1	1	1	1	1	0.7	24
2	1	1	1	1	**S**	0	0	1	0	0	0	1	0	0	0	1	1	1	0	0	1	1	1	1	1	0.6	24
3	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	0	1	0	0	1	1	0.7	24
4	1	1	**S**	1	1	1	1	1	1	1	1	1	0	0	1	1	0	0	1	0	1	1	1	1	1	0.8	24
5	0	**S**	1	0	0	1	1	0	0	1	1	1	1	0	1	0	1	0	0	0	1	0	1	1	1	0.5	24
6	**S**	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0	0	1	1	0	1	1	**S**	1	0.7	24
7	0	1	1	1	1	1	1	1	0	1	0	1	0	0	1	0	0	1	1	1	1	1	**S**	1	1	0.7	24
8	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	**S**	1	1	1	0.7	24
9	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	**S**	0	0	1	1	0.7	24
10	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1	1	0.9	24
11	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	1	0	0	**S**	0	1	1	1	1	1	0.7	24
12	1	0	0	1	1	0	1	1	0	1	1	0	1	1	1	1	1	**S**	0	1	1	0	0	0	1	0.6	24
13	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	**S**	1	1	0	0	0	0	1	1	0.7	24
14	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1.0	24
15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	0	1	1	1	0	1	1	0	1	1	0.9	24
16	0	1	1	0	0	1	0	1	1	1	0	1	0	**S**	1	0	1	1	1	1	1	1	1	0	1	0.7	24
17	0	0	1	1	1	0	1	1	0	1	1	1	**S**	0	1	1	0	1	1	1	1	0	0	1	1	0.7	24
18	1	1	0	0	1	1	1	1	0	1	1	**S**	1	0	0	0	0	0	0	1	1	0	1	1	1	0.6	24
19	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1.0	24
20	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	***1.0***	24
21	0	1	1	1	1	1	1	1	**S**	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	0.9	24
22	0	1	1	1	1	1	1	**S**	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	1	0.6	24
23	0	0	1	1	0	0	**S**	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	0.7	24
24	1	0	0	0	0	**S**	1	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
25	1	0	0	0	**S**	1	0	1	1	0	0	1	0	0	1	0	1	1	0	0	0	1	0	0	1	0.4	24
26	0	0	1	**S**	1	1	1	1	1	1	0	1	1	0	1	0	0	0	1	0	1	1	0	0	1	0.6	24
27	0	0	**S**	1	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	1	0	1	1	0	1	0.3	24
28	0	**S**	0	0	0	0	0	1	1	1	1	1	1	0	1	1	1	0	1	0	0	1	0	1	1	0.5	24
29	**S**	1	1	0	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	0	1	1	**S**	1	0.7	24
30	0	1	1	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	0	1	**S**	1	1	0.6	24
31	1	1	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	0.9	24
HOURLY MAX	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
HOURLY AVG	0.6	0.6	0.8	0.7	0.8	0.8	0.8	0.9	0.7	0.8	0.7	0.8	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.7	0.7	0.6	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: 476

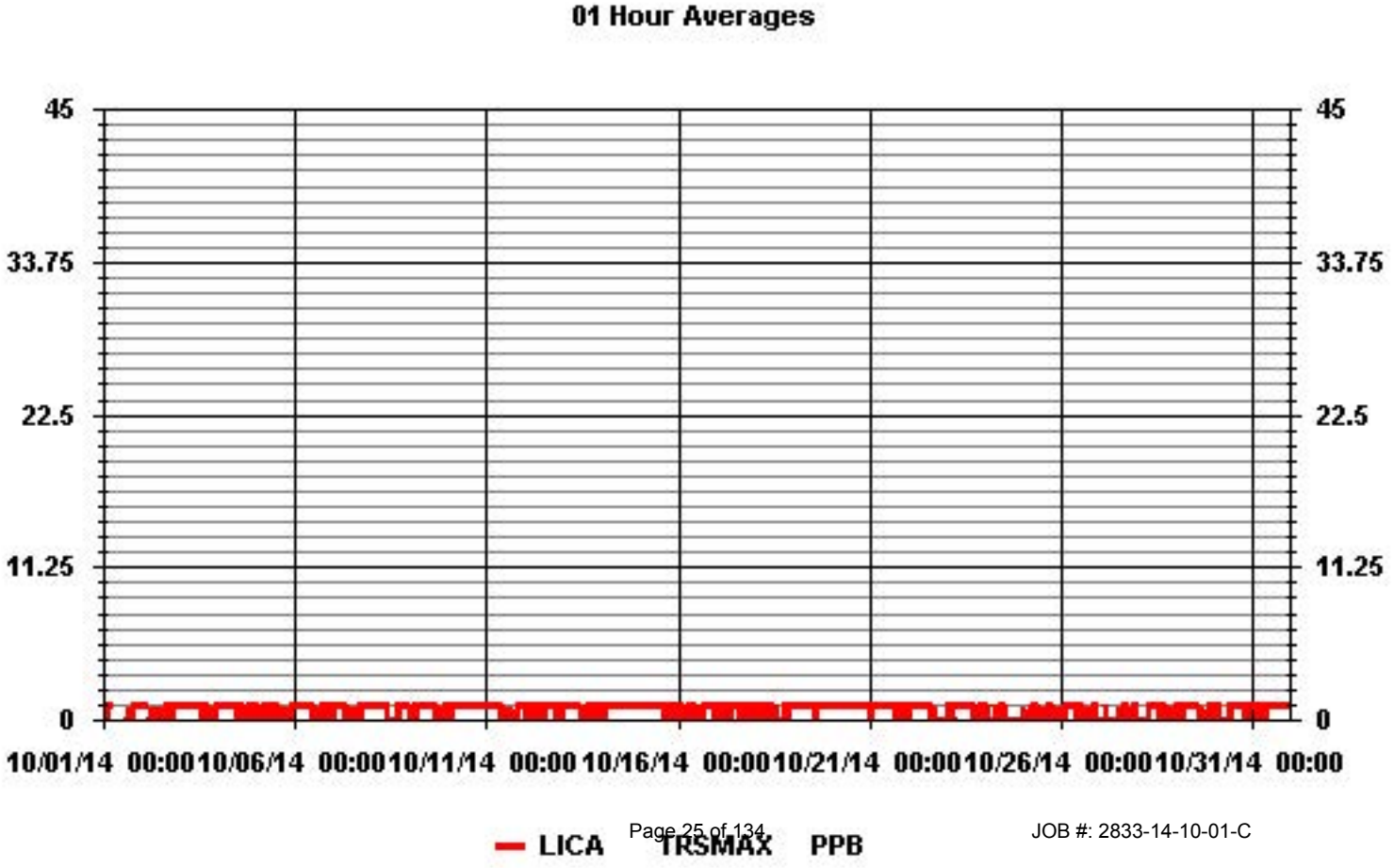
MAXIMUM INSTANTANEOUS VALUE: 1 PPB @ HOUR(S) VAR ON DAY(S) VAR

VAR-VARIOUS

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 744 HRS

MONTHLY CALIBRATION TIME: 8 HRS

STANDARD DEVIATION: 0.47



JOB #: 2833-14-10-01-C

LICA
TRS_ / WDR Joint Frequency Distribution (Percent)

October 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	1.15	2.02	2.89	3.32	7.67	10.27	20.83	2.17	1.59	1.30	3.76	13.45	13.74	5.93	7.09	2.74	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	1.15	2.02	2.89	3.32	7.67	10.27	20.83	2.17	1.59	1.30	3.76	13.45	13.74	5.93	7.09	2.74	

Calm : .00 %

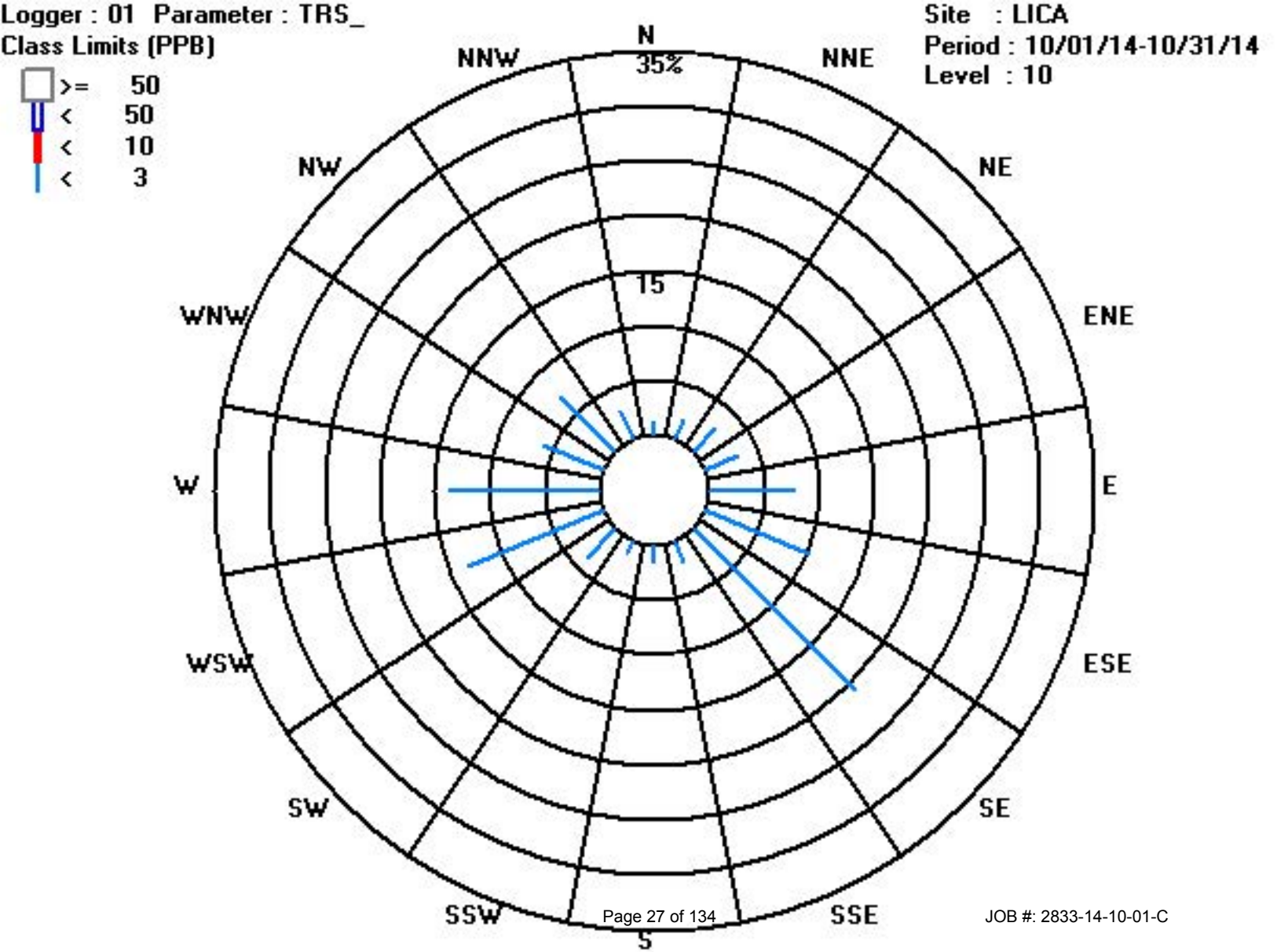
Total # Operational Hours : 691

Distribution By Samples

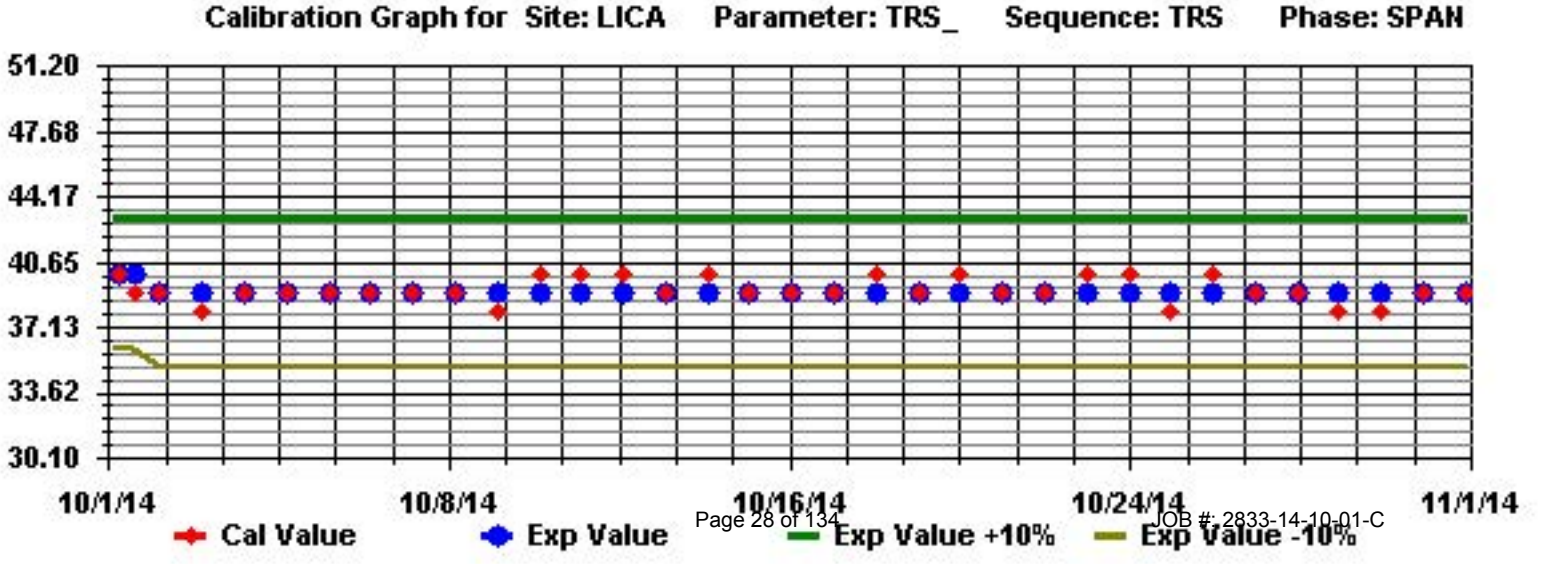
		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3	8	14	20	23	53	71	144	15	11	9	26	93	95	41	49	19	691
<	10																	
<	50																	
>=	50																	
	Totals	8	14	20	23	53	71	144	15	11	9	26	93	95	41	49	19	

Calm : .00 %

Total # Operational Hours : 691



JOB #: 2833-14-10-01-C


Calibration Graph for Site: LICA Parameter: TRS_ Sequence: TRS Phase: SPAN
51.20
47.68
44.17
40.65
37.13
33.62
30.10
10/1/14
10/8/14
10/16/14
10/24/14
11/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Hydrocarbons

Lakeland Industry & Community Association - Cold Lake South Site

OCTOBER 2014

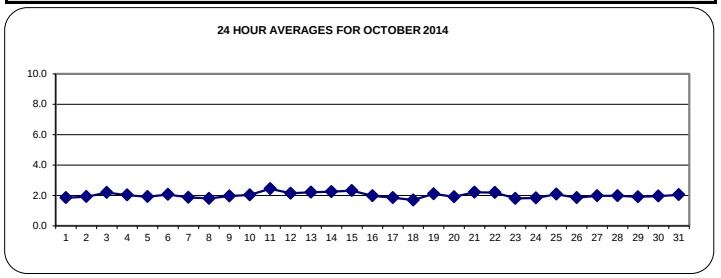
TOTAL HYDROCARBONS (THC) hourly averages in ppm

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	1.8	1.8	1.9	2.0	2.1	**S**	2.1	2.3	1.7	2.1	1.8	1.7	**C**	**C**	**C**	**C**	**C**	**C**	1.8	1.7	1.8	1.7	1.7	1.7	2.3	1.9	24
2	1.7	1.8	1.8	1.9	**S**	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	1.9	24
3	2.2	2.2	2.3	**S**	2.5	2.7	2.6	2.7	2.6	2.3	2.2	2.1	2.1	2.0	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.7	2.2	24
4	2.1	2.1	**S**	2.5	2.5	2.6	2.6	2.8	2.6	2.4	2.2	1.9	1.8	1.7	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.8	1.8	1.9	2.8	2.0	24
5	1.9	**S**	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.1	2.1	2.2	2.1	1.9	1.8	1.7	1.6	1.6	1.7	1.8	1.9	1.9	2.1	2.3	2.3	1.9	24
6	**S**	2.2	2.3	2.4	2.6	2.7	2.9	2.8	2.2	2.1	2.1	1.9	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8	**S**	2.9	2.1	24
7	1.7	1.8	2.0	2.1	2.1	2.2	2.2	2.1	2.0	1.9	1.8	1.7	1.7	1.6	1.7	1.7	1.7	1.7	1.7	1.9	1.9	2.0	**S**	2.0	2.2	1.9	24
8	2.0	1.9	1.8	1.8	1.8	1.8	2.0	1.9	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.7	1.7	1.7	**S**	2.1	2.2	2.2	1.8	24
9	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.1	2.1	2.1	2.0	1.9	1.8	1.8	1.7	1.6	1.6	1.7	1.8	**S**	1.8	1.8	1.8	2.3	2.0	24
10	1.8	1.8	1.9	1.9	2.0	2.1	2.2	2.3	2.5	2.3	2.3	2.0	1.8	1.8	1.7	1.8	1.7	1.7	1.8	**S**	2.2	2.4	2.4	2.6	2.6	2.0	24
11	2.6	3.0	3.0	3.1	3.1	3.1	***3.4***	***3.4***	3.2	2.3	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.9	**S**	2.0	2.1	2.2	2.3	2.2	***3.4***	***2.5***	24
12	2.1	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	**S**	1.9	2.0	2.1	2.2	2.3	2.2	2.3	2.1	24
13	2.2	2.3	2.4	2.3	2.3	2.4	2.7	2.5	2.6	2.5	2.2	2.2	2.1	2.0	2.0	2.0	**S**	2.0	2.1	2.1	2.0	2.0	2.1	2.1	2.7	2.2	24
14	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	**S**	2.5	2.6	2.8	2.8	2.9	2.7	2.5	2.4	2.9	2.3	24
15	2.4	2.5	2.6	2.5	2.5	2.7	2.8	2.9	2.8	2.7	2.6	2.6	2.4	2.3	**S**	1.8	1.8	1.9	2.0	1.9	2.0	2.0	1.9	1.9	2.9	2.3	24
16	1.9	1.9	1.9	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	**S**	1.7	1.7	1.7	1.8	1.9	2.1	2.1	2.0	2.0	2.0	2.1	2.0	24
17	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	**S**	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	2.1	1.9	24
18	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.8	1.8	1.9	1.7	**S**	2.1	1.7	1.6	1.5	1.4	1.5	1.6	1.7	1.8	2.0	2.1	2.1	2.1	1.7	24
19	2.1	2.2	2.3	2.4	2.4	2.5	2.5	2.5	2.6	2.7	**S**	2.0	1.8	1.8	1.7	1.7	1.9	2.0	2.0	1.9	1.7	1.9	1.8	1.9	2.7	2.1	24
20	1.9	1.9	1.9	1.8	1.7	1.8	1.9	1.9	1.9	**S**	2.0	1.9	1.8	1.7	1.7	1.7	1.7	1.9	2.1	2.2	2.3	2.0	2.1	2.2	2.3	1.9	24
21	2.3	2.4	2.5	2.5	2.6	2.8	2.7	3.1	**S**	3.1	2.2	2.0	1.7	1.7	1.6	1.6	1.7	1.8	1.9	1.9	2.4	2.1	2.1	2.3	3.1	2.2	24
22	2.3	2.4	2.6	2.8	2.8	3.0	3.1	**S**	3.0	2.9	2.5	2.0	1.8	1.7	1.7	1.6	1.7	1.8	1.8	1.7	1.7	1.8	1.8	1.9	3.1	2.2	24
23	1.9	1.9	1.9	1.9	1.8	1.8	**S**	1.8	1.8	1.9	1.8	1.8	1.8	1.8	1.7	1.7	1.8	1.9	1.9	1.7	1.8	1.7	1.8	1.7	1.9	1.8	24
24	1.7	1.7	1.7	1.8	1.8	**S**	1.8	1.8	1.9	1.9	1.8	1.8	1.8	1.7	1.7	1.7	1.8	1.8	1.9	1.9	2.1	2.0	2.0	2.1	2.1	1.8	24
25	2.1	2.2	2.2	2.2	**S**	2.3	2.3	2.3	2.4	2.4	2.2	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.4	2.1	24
26	1.8	1.8	1.8	**S**	1.8	1.8	1.8	1.8	1.8	1.9	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.8	24
27	2.0	2.0	**S**	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.0	2.2	2.0	24
28	2.0	**S**	1.9	1.9	2.0	1.9	1.9	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.2	2.2	2.1	2.0	2.0	1.9	1.9	1.9	2.2	2.0	24
29	**S**	1.9	1.9	1.9	1.9	1.8	1.9	1.9	1.8	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	2.0	**S**	2.0	1.9	24
30	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	1.9	1.9	1.9	1.9	1.8	**S**	2.2	2.2	2.0	24
31	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	**S**	2.1	2.1	2.2	2.1	24
HOURLY MAX	3	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2	3	3	3	3	3	3	3	3			
HOURLY AVG	2.0	2.1	2.1	2.1	2.2	2.2	2.3	2.2	2.2	2.2	2.0	2.0	1.9	1.9	1.8	1.8	1.8	1.9	1.9	1.9	2.0	2.0	2.0	2.0			

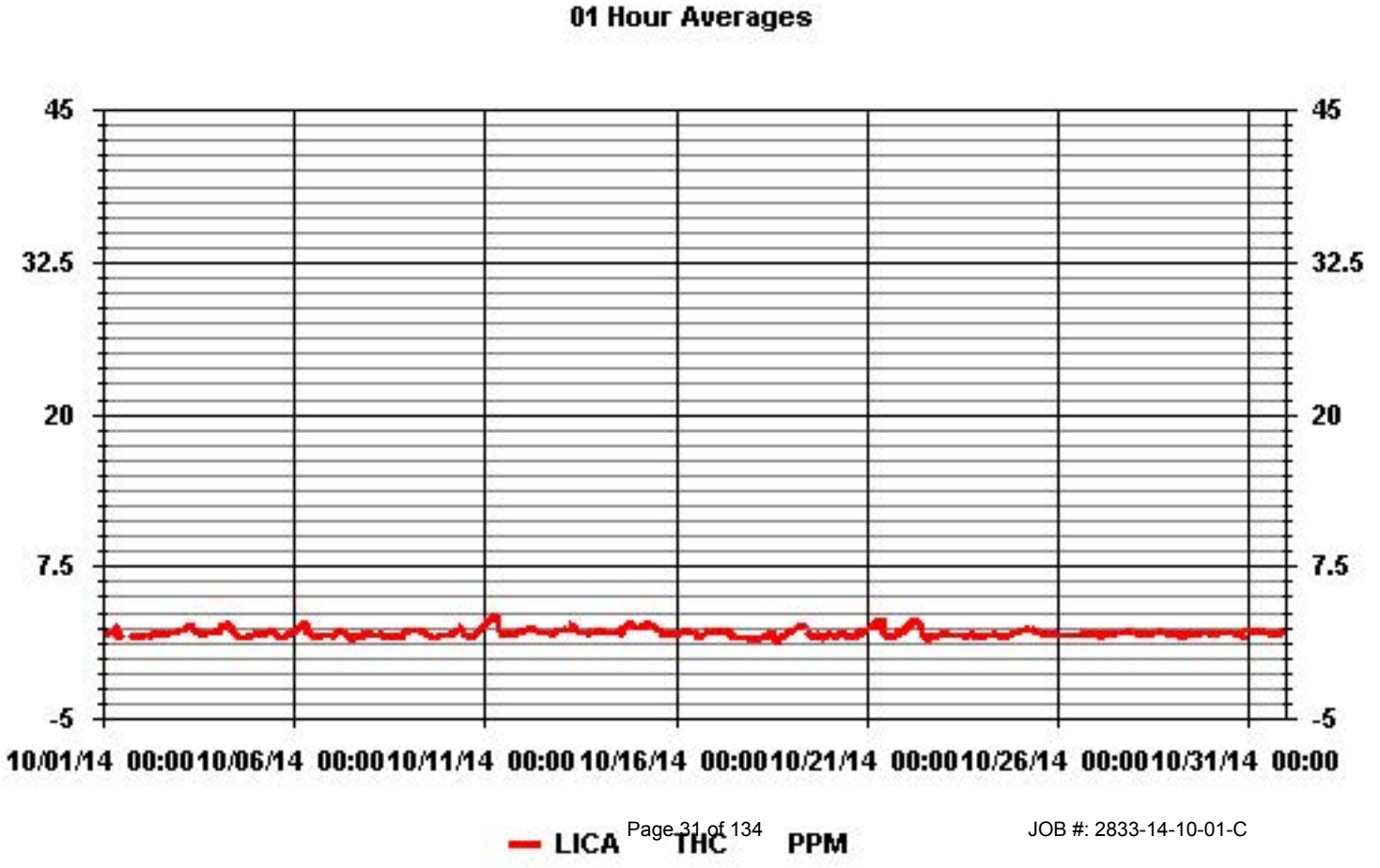
STATUS FLAG CODES

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:	705					
MAXIMUM 1-HR AVERAGE:	3.4	PPM	@ HOUR(S)	6, 7	ON DAY(S)	11
MAXIMUM 24-HR AVERAGE:	2.5	PPM			ON DAY(S)	11
					VAR-VARIOUS	
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		744	HRS
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	0.31		MONTHLY AVERAGE:		2.02	PPM



JOB #: 2833-14-10-01-C

Lakeland Industry & Community Association - Cold Lake South Site

OCTOBER 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	1.8	1.9	1.9	2.1	2.1	**S**	2.3	2.4	2.3	2.4	2	1.8	**C**	**C**	**C**	**C**	**C**	**C**	1.9	1.8	1.8	1.8	1.8	1.8	2.4	2.0	24
2	1.8	1.8	1.9	2	**S**	2	2	2	2	2	2	2	2	2	2	2	2	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.0	24
3	2.3	2.4	2.4	**S**	2.9	2.8	2.8	2.9	2.8	2.5	2.3	2.2	2.1	2.1	2.2	2	2	2.1	2.1	2.3	2	2.1	2.1	2.3	2.9	2.3	24
4	2.2	2.2	**S**	2.6	2.6	2.7	2.9	3.1	3	2.6	2.5	2.1	1.9	1.9	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.9	2	3.1	2.2	24
5	1.9	**S**	2	2	2	2	2.1	2	2.2	2.6	2.3	2.3	2.3	2.1	2	1.9	1.7	1.7	1.8	1.9	2	2	2.3	2.6	2.6	2.1	24
6	**S**	2.6	2.8	2.7	2.9	3.2	3.1	3.1	2.5	2.2	2.3	2.2	1.8	1.8	1.8	1.7	1.8	1.8	1.9	1.8	1.9	1.9	1.9	**S**	3.2	2.3	24
7	1.8	2.1	2.1	2.3	2.2	2.3	2.3	2.3	3.3	2	1.9	1.8	1.7	1.7	1.8	1.8	1.7	1.8	2	2.1	2.1	2.1	**S**	2.2	3.3	2.1	24
8	2.1	2.1	2	1.9	1.8	2	2.1	2.1	2.1	1.8	2.2	1.8	1.7	1.8	1.8	1.8	1.8	2.2	1.8	1.8	1.8	**S**	2.2	2.2	2.2	2.0	24
9	2.2	2.3	2.3	2.3	2.4	2.4	2.4	2.5	2.5	2.1	2.7	2.1	2	1.9	1.9	1.8	1.8	1.9	1.8	1.9	**S**	1.9	1.8	1.9	2.7	2.1	24
10	1.9	2	2	2.1	2.3	2.3	2.4	2.7	2.7	2.4	2.5	2.3	2	1.9	1.8	2.1	1.8	1.8	2	**S**	2.6	2.7	2.6	2.9	2.9	2.3	24
11	3.1	3.4	3.5	3.5	3.4	3.4	3.8	3.6	3.6	2.6	2.1	2	2.4	2	2.1	2	2	2	**S**	2.1	2.2	2.6	2.6	2.4	3.8	***2.7***	24
12	2.2	2.3	2.3	2.4	2.3	2.4	2.3	2.3	2.4	2.3	2.3	2.1	2.1	2.3	2.1	2.1	2.1	**S**	2.3	2.1	2.2	2.3	2.3	2.3	2.4	2.3	24
13	2.3	2.6	2.6	2.5	2.5	2.7	6.7	3	2.8	2.7	2.4	2.3	2.2	2.1	2.1	2.3	**S**	2	2.3	2.3	2.1	2.1	2.1	2.2	6.7	2.6	24
14	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.2	2.3	2.1	**S**	2.6	2.7	3.3	3.1	3.2	3.1	2.7	2.5	3.3	2.4	24
15	2.6	2.7	2.8	2.7	2.6	3.1	3.3	3.2	3	2.8	2.7	2.7	2.5	2.6	**S**	1.9	1.9	2.1	2.1	2.2	2.3	2.1	2	2	3.3	2.5	24
16	2	2	2	2.1	2.2	2.3	2.2	2.3	2.2	2.2	2.3	2.1	2.1	**S**	1.8	2.1	1.9	1.9	2	2.3	2.6	2.3	2.1	2.1	2.6	2.1	24
17	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.1	**S**	1.7	1.7	1.7	1.7	1.6	1.6	1.7	1.6	1.6	1.6	1.6	2.3	1.9	24
18	1.6	1.6	1.6	1.6	1.8	1.7	1.8	1.9	2	2.1	1.8	**S**	2.4	1.9	1.7	1.6	1.6	1.6	1.9	1.9	2	2.3	2.4	2.3	2.4	1.9	24
19	2.3	2.5	2.4	2.5	2.6	2.7	2.9	2.8	2.8	2.9	**S**	2.1	2	1.9	1.7	2	2	2.6	2.1	2.3	1.8	2	1.9	2	2.9	2.3	24
20	2	2	2	1.9	1.8	1.9	2.1	2.2	2.1	**S**	2.1	2	1.9	1.8	1.9	1.8	2.1	2.1	2.4	2.4	2.6	2.5	2.5	2.5	2.6	2.1	24
21	2.5	2.6	3	3.9	2.8	3.2	3.1	3.3	**S**	3.6	2.6	2.1	1.9	1.7	1.8	1.7	3.4	1.9	2	2.1	4.4	2.4	2.3	2.5	4.4	2.6	24
22	2.5	2.7	2.8	3	3.2	3.6	***7***	**S**	3.2	3.2	2.7	2.3	1.9	1.8	1.7	1.7	2	2	2	1.8	1.8	1.9	1.9	2	***7***	2.6	24
23	2	2	1.9	1.9	2	1.9	**S**	1.9	1.9	2	1.9	1.9	1.9	1.9	1.8	1.8	1.8	2.2	2.2	1.8	1.8	1.8	1.8	1.8	2.2	1.9	24
24	1.8	1.8	1.8	1.8	1.8	**S**	1.8	1.9	2	1.9	1.9	2.2	1.8	1.8	1.8	1.8	1.8	1.9	1.9	2	2.1	2.1	2.1	2.1	2.2	1.9	24
25	2.4	2.4	2.4	2.3	**S**	2.4	2.4	2.4	2.6	2.6	2.3	2.2	2.2	3.4	2.1	2	2	2	2	2.1	2	2	2	1.9	3.4	2.3	24
26	1.9	1.9	1.9	**S**	1.9	1.8	1.9	1.9	2.1	2.1	2.2	2	2	2.1	1.9	2.3	2	2	2	2	2	2	2	2	2.3	2.0	24
27	2	2.1	**S**	1.9	1.9	2	2.2	2.1	2	2	2	2	2	2.1	2	2	2	2.1	2.1	2.3	2.3	2.3	2.3	2.2	2.3	2.1	24
28	2.1	**S**	2.1	2	2	2	2	2.3	2.2	2.2	2.1	2	2.1	2.1	2.1	2.1	2.2	2.3	2.2	2.2	2	2	2	2	2.3	2.1	24
29	**S**	1.9	2	1.9	2	2	2	2	1.9	1.9	2	1.9	1.9	2	2	2.2	2.4	2	2	2.1	2.2	2.1	2.1	**S**	2.4	2.0	24
30	2	2	2	2	2.1	2	2	2.1	2	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2	2	2.1	2	1.9	**S**	2.4	2.4	2.1	24
31	2.3	2.3	2.3	2.3	2.3	2.2	2.3	3.2	2.2	2.2	2.2	2.1	2.4	2	2	2	2	2	2	2	2.1	**S**	2.2	2.9	3.2	2.2	24
HOURLY MAX	3	3	4	4	3	4	7	4	4	4	3	3	3	3	2	2	3	3	3	3	4	3	3	3			
HOURLY AVG	2.1	2.2	2.2	2.3	2.3	2.4	2.7	2.5	2.4	2.3	2.2	2.1	2.1	2.0	1.9	1.9	2.0	2.0	2.1	2.1	2.2	2.1	2.1	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: 705

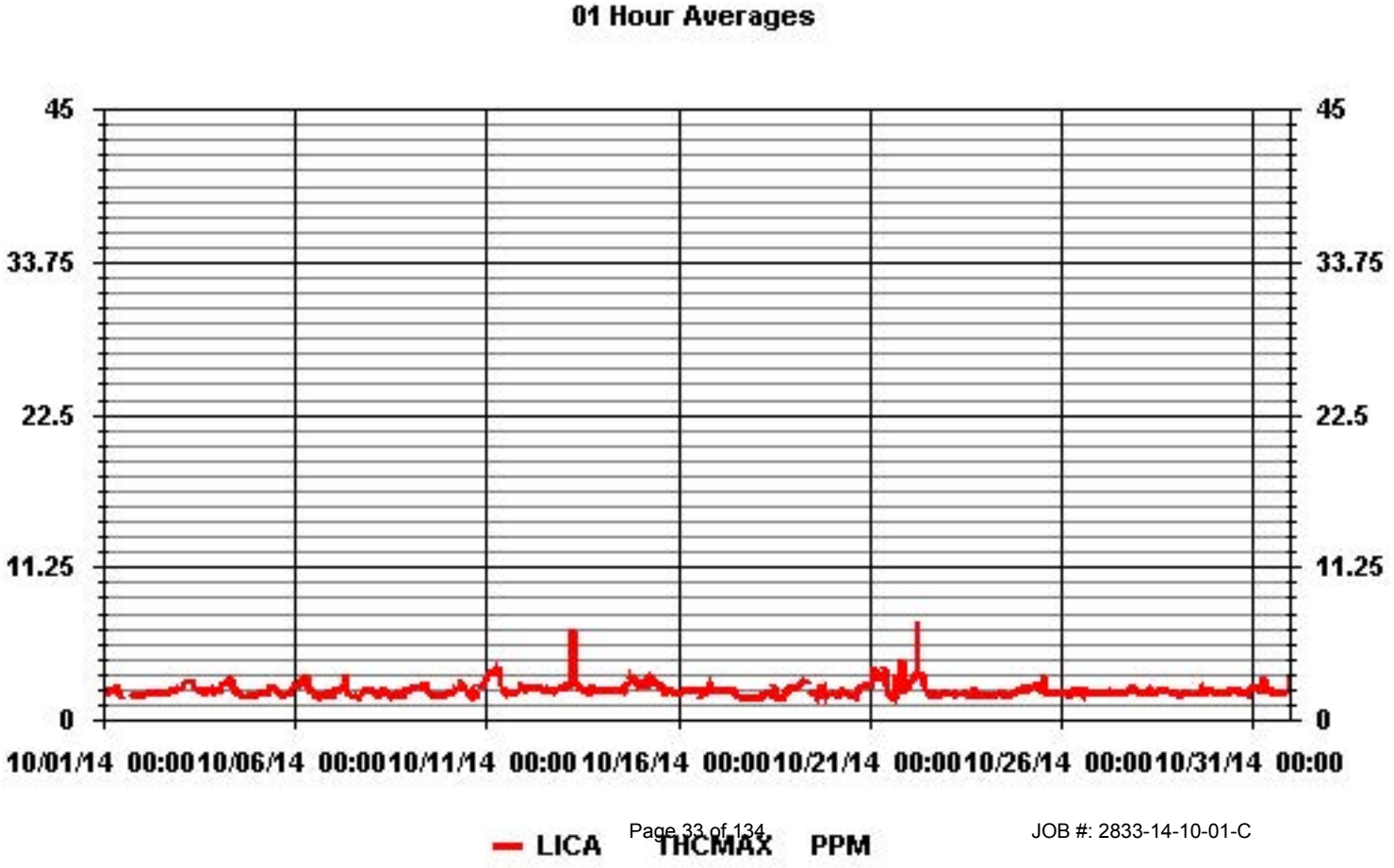
MAXIMUM INSTANTANEOUS VALUE: 7 PPM @ HOUR(S) 6 ON DAY(S) 22

VAR-VARIOUS

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 744 HRS

MONTHLY CALIBRATION TIME: 6 HRS

STANDARD DEVIATION: 0.46



JOB #: 2833-14-10-01-C

LICA
THC / WD Joint Frequency Distribution (Percent)

October 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	1.15	2.02	2.89	3.32	7.67	10.13	20.83	2.17	1.44	1.30	3.32	12.73	13.16	6.07	7.09	2.74	98.11
<	10.0	.00	.00	.00	.00	.00	.14	.00	.00	.14	.00	.43	.86	.28	.00	.00	.00	1.88
<	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	1.15	2.02	2.89	3.32	7.67	10.27	20.83	2.17	1.59	1.30	3.76	13.60	13.45	6.07	7.09	2.74	

Calm : .00 %

Total # Operational Hours : 691

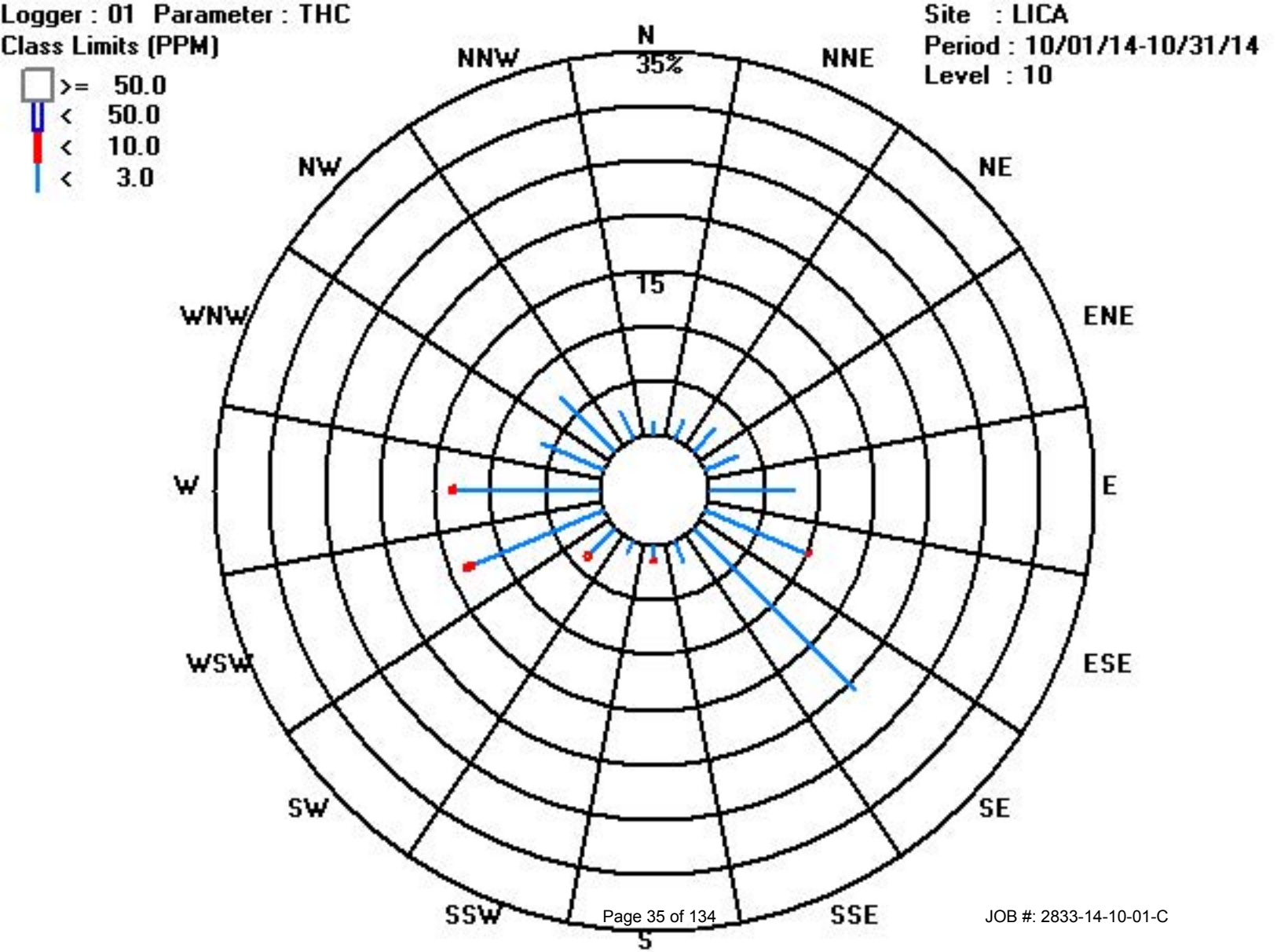
Distribution By Samples

Direction

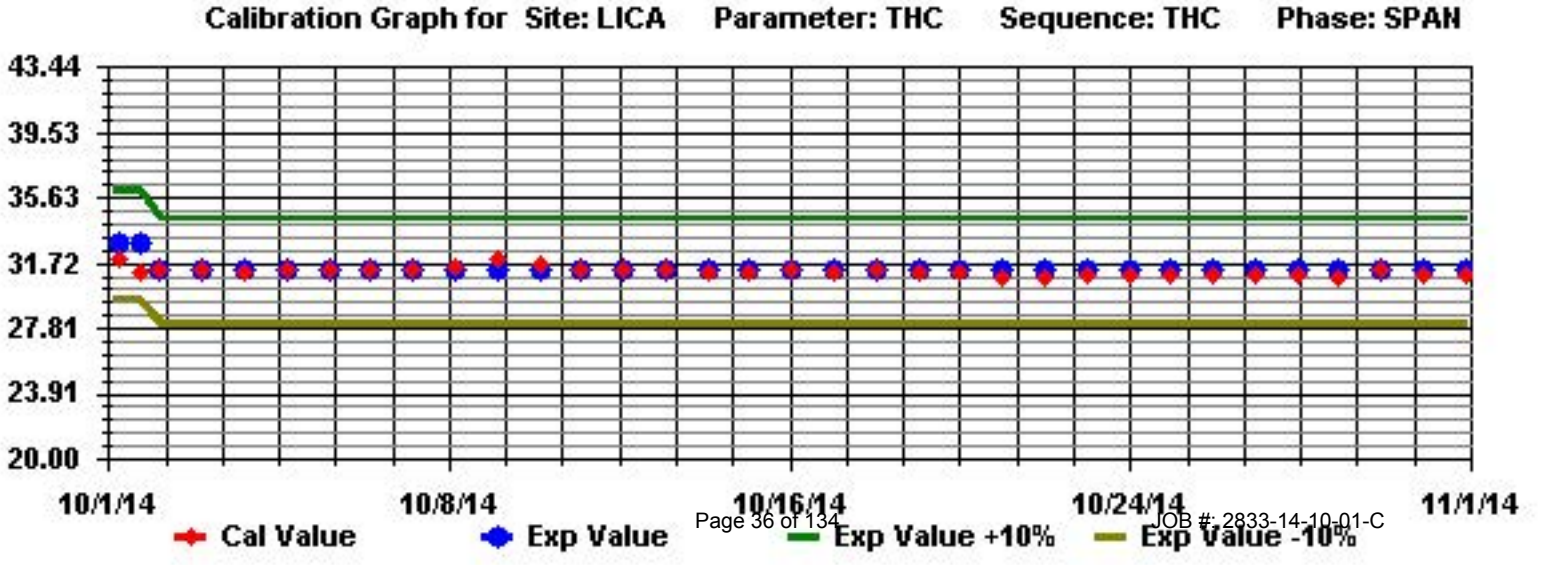
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3.0	8	14	20	23	53	70	144	15	10	9	23	88	91	42	49	19	678
<	10.0						1			1		3	6	2				13
<	50.0																	
>=	50.0																	
	Totals	8	14	20	23	53	71	144	15	11	9	26	94	93	42	49	19	

Calm : .00 %

Total # Operational Hours : 691



JOB #: 2833-14-10-01-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
10/1/14
10/8/14
10/16/14
10/24/14
11/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Particulate Matter 2.5

Lakeland Industry & Community Association - Cold Lake South Site

OCTOBER 2014

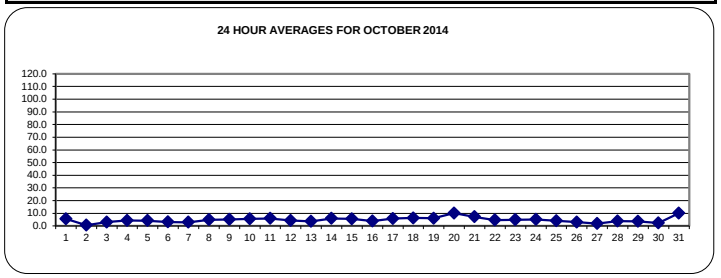
PARTICULATE MATTER 2.5 (LESS THAN 2.5 MICRONS) (PM2.5) hourly averages in ug/m3

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	3	3	4	0	0	2	8	2	X	X	2	9	22	12	5	6	9	5	1	6	X	X	X	X	22	5.5	18
2	X	X	X	0	3	0	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	1	0	0	3	0.6	7
3	1	2	3	X	X	0	3	C	C	C	3	6	2	3	4	3	1	5	1	0	0	6	7	8	8	3.1	22
4	3	1	6	0	7	7	3	4	2	5	0	1	2	9	12	12	4	6	5	4	5	1	2	1	12	4.3	24
5	3	6	3	5	3	1	6	3	7	5	4	3	5	8	7	12	7	4	0	0	2	3	2	2	12	4.2	24
6	10	4	3	5	2	0	6	3	3	0	6	2	3	6	4	4	2	2	0	0	0	3	5	2	10	3.1	24
7	2	6	3	5	2	4	4	0	2	2	0	2	0	5	4	1	4	1	5	4	4	3	2	5	6	2.9	24
8	4	3	3	1	6	7	3	6	0	3	3	1	7	5	8	4	2	5	7	12	9	9	3	5	12	4.8	24
9	5	8	1	6	4	9	7	12	3	6	12	17	9	6	2	2	5	4	X	0	0	1	0	0	17	5.2	23
10	0	0	0	0	0	X	X	X	0	2	21	17	14	10	10	13	3	3	1	0	0	8	7	9	21	5.6	21
11	7	4	4	9	5	10	9	8	11	2	14	5	2	7	6	7	3	1	1	15	4	0	0	8	15	5.9	24
12	12	0	0	5	7	10	3	0	0	0	8	1	0	10	8	5	6	0	3	7	4	1	11	1	12	4.3	24
13	5	0	5	0	12	0	2	1	9	1	4	0	5	7	0	X	2	4	7	5	1	4	3	6	12	3.6	23
14	2	3	2	10	3	16	5	9	14	0	8	5	3	5	11	2	10	1	5	0	9	8	11	1	16	6.0	24
15	8	X	8	0	1	3	7	6	4	6	2	6	0	4	5	0	1	0	14	***24***	4	8	9	10	***24***	5.7	23
16	1	X	3	X	0	X	4	2	0	3	6	0	X	0	1	0	16	15	2	7	7	6	2	0	16	3.8	20
17	2	5	5	4	5	8	4	5	0	7	6	7	1	0	X	18	23	3	15	0	2	6	7	2	23	5.9	23
18	9	9	8	4	8	19	5	8	9	8	6	6	2	17	0	2	0	10	5	1	7	5	1	1	19	6.3	24
19	1	5	6	2	9	3	4	5	6	6	3	12	8	3	11	4	6	1	5	19	8	5	7	7	19	6.1	24
20	5	11	17	17	X	11	1	5	0	6	10	0	8	14	9	19	4	6	20	19	17	11	12	9	20	10.0	23
21	11	8	4	6	3	7	0	5	7	3	9	8	10	11	8	14	8	9	16	0	7	9	4	5	16	7.2	24
22	4	5	4	8	5	6	8	8	7	7	5	0	4	1	0	6	7	4	8	0	2	4	7	3	8	4.7	24
23	8	4	5	5	11	8	1	9	1	C	C	3	0	6	6	1	13	3	6	0	4	9	3	0	13	4.8	24
24	6	5	10	6	2	3	4	2	5	6	2	5	5	5	8	12	6	11	2	0	8	1	6	4	12	5.2	24
25	1	0	3	7	4	0	0	7	1	11	2	4	3	3	3	5	2	8	5	7	6	5	7	3	11	4.0	24
26	5	7	5	4	7	2	4	6	2	3	1	4	3	4	4	1	2	3	0	0	0	4	1	1	7	3.0	24
27	0	0	1	0	2	0	4	3	2	3	0	5	1	1	2	3	2	1	0	0	X	2	10	0	10	1.8	23
28	0	5	2	X	1	1	12	4	2	2	8	4	1	0	1	5	4	4	5	5	1	7	9	6	12	3.9	23
29	5	2	7	4	3	4	5	10	9	3	3	0	2	5	4	0	5	3	6	0	0	2	0	3	10	3.5	24
30	4	X	0	0	4	2	1	0	1	2	5	7	5	3	3	1	1	3	2	0	0	5	2	2	7	2.3	23
31	4	6	8	11	9	11	14	9	7	5	14	10	9	12	10	10	15	11	15	14	12	5	12	10	15	***10.1***	24
HOURLY MAX	12	11	17	17	12	19	14	12	14	11	21	17	22	17	12	19	23	15	20	24	17	11	12	10			
HOURLY AVG	4.4	4.1	4.4	4.4	4.4	5.3	4.6	5.1	4.1	4.0	5.8	5.0	4.7	6.1	5.4	5.9	5.8	4.5	5.6	5.0	4.4	4.7	5.1	3.8			

STATUS FLAG CODES

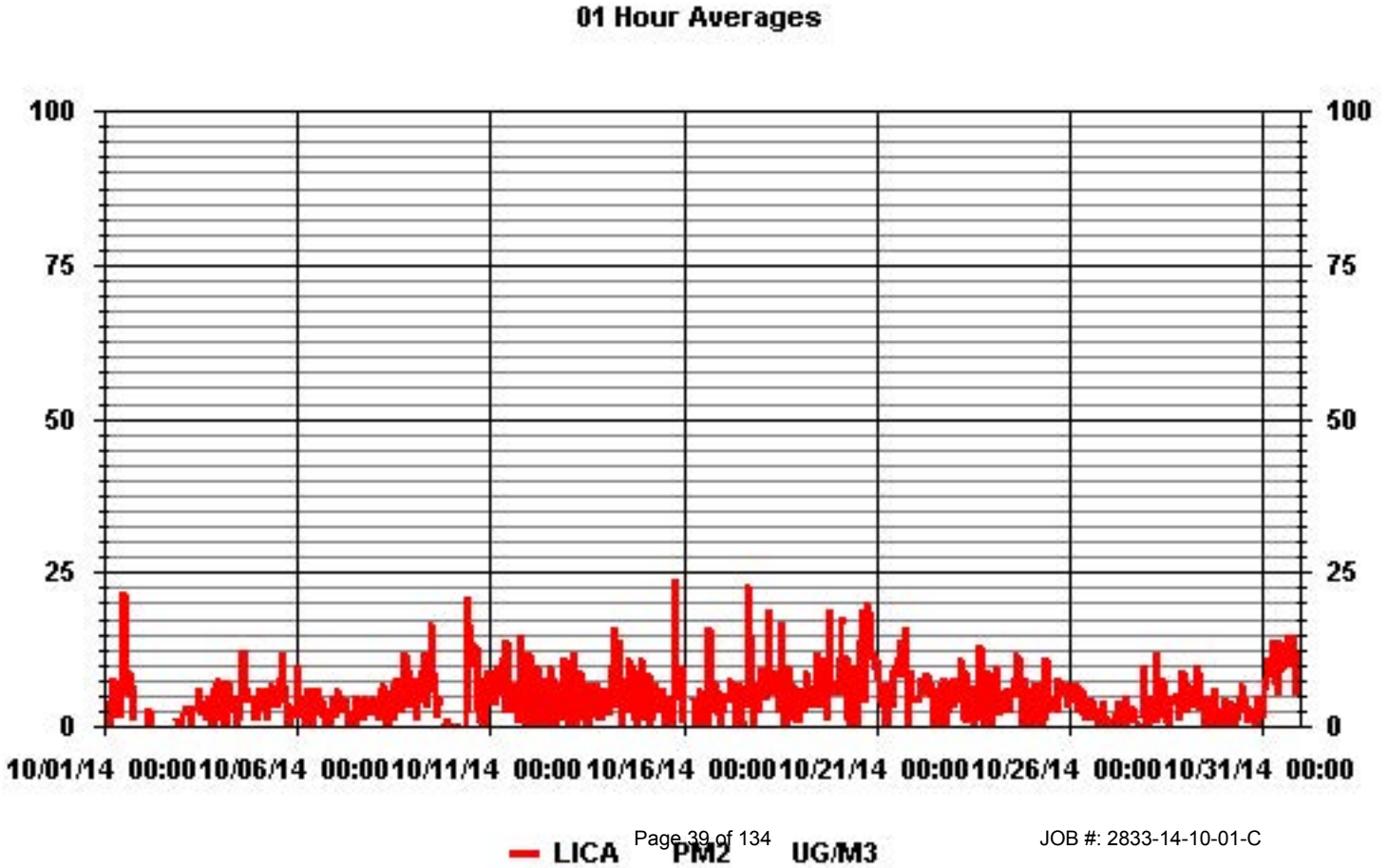
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



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

MONTHLY SUMMARY

NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	596					
MAXIMUM 1-HR AVERAGE:	24	ug/m3	@ HOUR(S)	19	ON DAY(S)	15
MAXIMUM 24-HR AVERAGE:	10.1	ug/m3			ON DAY(S)	31
					VAR-VARIOUS	
			OPERATIONAL TIME:		704	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:		94.6	%
STANDARD DEVIATION:	4.21		MONTHLY AVERAGE:		4.86	ug/m3



JOB #: 2833-14-10-01-C

LICA
PM2 / WD Joint Frequency Distribution (Percent)

October 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	1.31	1.90	2.77	3.65	8.33	9.79	21.34	2.19	1.60	1.31	3.94	13.59	13.45	6.43	5.55	2.77	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	1.31	1.90	2.77	3.65	8.33	9.79	21.34	2.19	1.60	1.31	3.94	13.59	13.45	6.43	5.55	2.77	

Calm : .00 %

Total # Operational Hours : 684

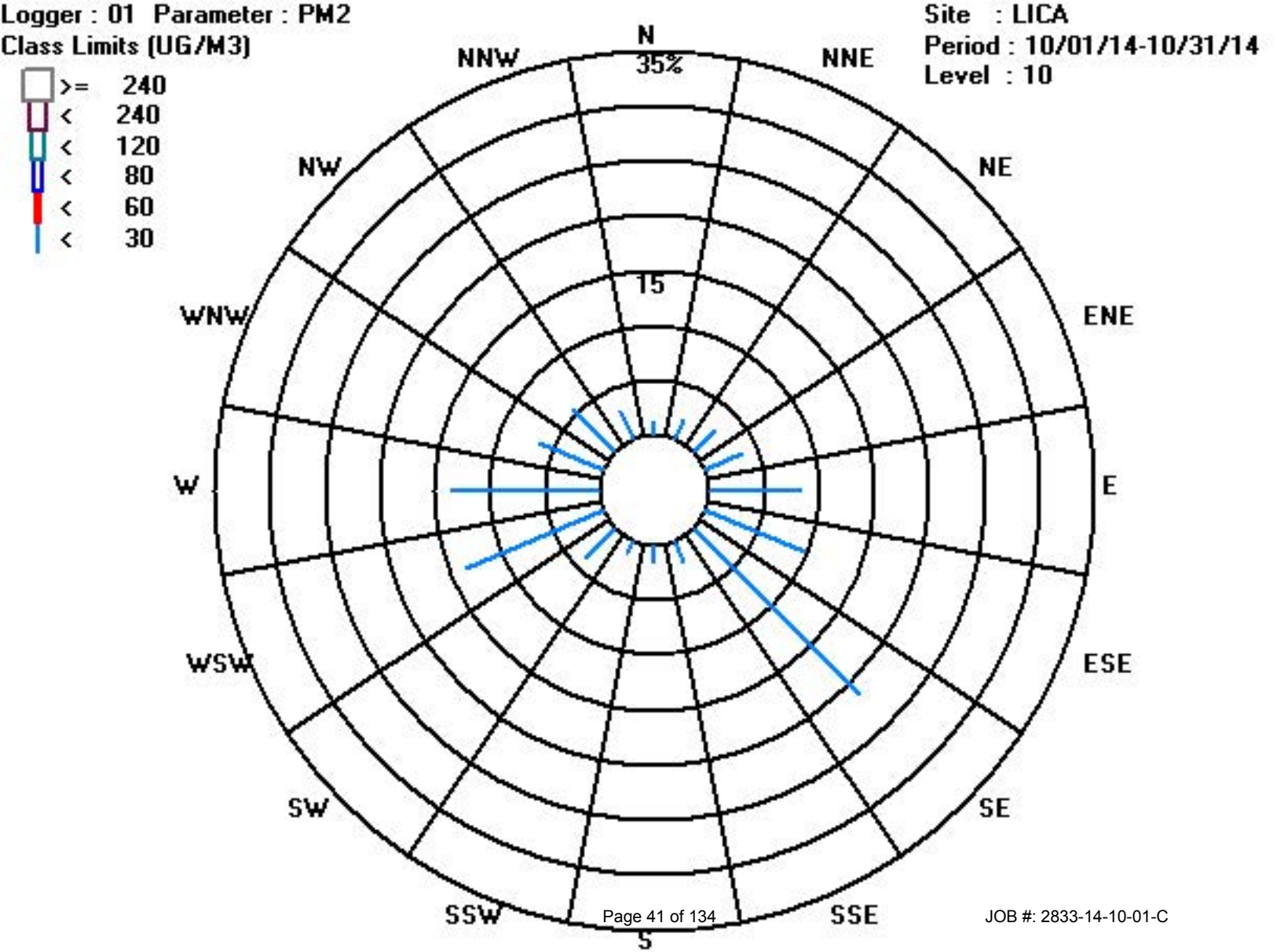
Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 30	9	13	19	25	57	67	146	15	11	9	27	93	92	44	38	19	684
< 60																	
< 80																	
< 120																	
< 240																	
>= 240																	
Totals	9	13	19	25	57	67	146	15	11	9	27	93	92	44	38	19	

Calm : .00 %

Total # Operational Hours : 684



JOB #: 2833-14-10-01-C

Nitrogen Dioxide

Lakeland Industry & Community Association - Cold Lake South Site

OCTOBER 2014

NITROGEN DIOXIDE (NO2) hourly averages in ppb

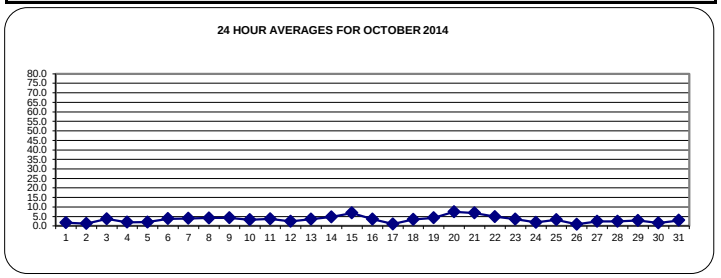
MST

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	2.6	1.7	1.5	3.1	4.1	S	C	C	C	C	C	C	C	C	C	C	1.1	1.5	1.6	1.2	1.2	1.2	0.7	1.1	4.1	1.7	24
2	0.5	1.1	1.2	1.9	S	1.6	0.7	1	1.9	0.6	0.6	0.7	0.5	0.1	0.6	0.4	0.5	1.4	2.3	1.6	4.1	1.7	1.3	1.8	4.1	1.2	24
3	2.8	3.2	3.8	S	8.7	11.3	12.5	10.3	6.5	3.5	2.6	1.1	0.9	1	1.1	1	1.5	4.7	3.3	1.4	1.3	0.8	1	1.1	12.5	3.7	24
4	1.1	1	S	1.8	1.9	2.5	4.3	3.5	4.3	4.6	2.9	1.7	1	0.9	0.7	1.3	0.9	1.8	2.3	1.8	1.3	1.1	0.7	0.7	4.6	1.9	24
5	0.7	S	0.9	1	1.1	1.3	1.3	1.6	2.3	2.7	2.6	2.4	2.5	1.7	1.1	0.6	0.3	0.9	1.7	2.8	4.2	5	3.7	4	5	2.0	24
6	S	5.3	3.9	4.3	7.4	8.5	12	10.8	6.6	5.2	4.7	2	0.8	0.8	0.6	0.5	0.4	0.3	1.4	1	1.7	2.7	2.7	S	12	3.8	24
7	2.2	1.9	5.1	5.5	4.1	5.4	7.4	8.3	4.6	3.5	0.8	0.6	0.7	0.5	0.5	0.5	1.8	0.9	2.9	5.8	6.6	7.5	S	13.8	13.8	4.0	24
8	11.3	6.2	3.3	3.4	4.4	7.6	11.1	9.7	3	1.3	2	1.6	0.9	2.2	4.2	3.3	3.2	3.9	3.4	2.9	3	S	2.3	2.1	11.3	4.2	24
9	1.7	2	2.1	2	2.4	8.2	7.9	11.1	5.1	1.8	2.1	2.5	1.8	1.7	1.8	2.6	3.3	4.9	10.5	14.9	S	1.4	2.1	2.9	14.9	4.2	24
10	1.2	1.2	1.3	1.2	3.3	5.2	6.6	5.7	3	2.8	3.3	2.4	1.6	1.7	1.7	1.9	2.5	2.1	3.6	S	5.1	8.6	5.3	4.3	8.6	3.3	24
11	4.6	3.2	3.9	2.8	7.6	7.5	10.1	11.2	8.2	3	0.8	0.5	0.5	0.6	0.4	0.4	0.5	0.6	S	2.9	4.2	4.4	4.5	3.5	11.2	3.7	24
12	2.5	3.4	3.5	4.5	3.1	2.5	2.1	2.2	2.2	1.7	1.1	0.8	0.7	0.3	0.5	0.7	0.7	S	2.1	3.5	4.3	4.2	3.8	3.8	4.5	2.4	24
13	2.9	3.2	3.2	2.7	3.1	2.7	4.6	4.2	4.3	4	2.2	2.2	1.4	1.1	0.7	0.5	S	9.4	16.4	6.1	1.9	1.5	1.9	1.8	16.4	3.6	24
14	1.6	1.5	1.5	1.7	2.3	2.5	2.9	4.4	5	2.2	2.1	1.9	2.3	2.6	2.7	S	7.8	10.1	13.4	11.6	9.4	8.6	5.6	4.5	13.4	4.7	24
15	5	4.3	2.9	2.4	3	6.7	7.4	10.7	9.9	9.2	7.4	10.5	9.7	4.8	S	4.4	5.4	11.7	13.4	8.9	8.9	4.5	2.2	2.7	13.4	6.8	24
16	0.9	0.7	1.2	2	2.7	3.2	4.5	7.7	3.8	1.2	1.3	0.6	0.7	S	1.7	2.4	2.6	5.9	10.4	11.9	12.2	3.9	0.5	0.6	12.2	3.6	24
17	0.1	0.7	0.8	1	1	1.4	1.7	1.8	1.3	1.3	1.4	1.1	S	0.8	0.9	1	1.1	0.9	0.8	0.7	0.7	0.8	0.8	0.8	1.8	1.0	24
18	0.9	0.8	0.9	1.4	2.6	3.7	2.1	4.1	3.1	3.8	3.4	S	6.1	3.2	2.7	1.5	1.8	3	6.3	5.3	4.4	4.8	5.8	5.8	6.3	3.4	24
19	4.6	6.1	6.4	6.7	7.4	7.7	5.6	5.2	5.9	6.6	S	4.3	2.2	1.9	1.5	1.8	3.2	5.8	4.9	2.7	2	2.2	1.9	2.2	7.7	4.3	24
20	2	1.8	1.6	1.9	1.9	2.5	5.1	4.7	3.5	S	3.4	4.2	5.1	4.9	4.6	4.7	5.7	17.6	***23.5***	21.3	17.6	11.6	12	10.7	***23.5***	***7.5***	24
21	10.1	9.3	7.8	6.6	7.6	8.6	9.6	11.7	S	10.9	4.9	4.4	3	2.9	1.7	1.4	2.8	7.4	8.2	7.1	10.2	9.3	6	4.7	11.7	6.8	24
22	4.5	4.5	6.1	6.3	5.3	4.7	6.4	S	8.5	13.4	13	3.9	0.7	0.6	0.4	2.4	6.1	15.6	2.8	1.1	1.2	1.9	1.5	0.7	15.6	4.9	24
23	1.5	1.6	1.4	1.5	1.2	1.6	S	2.8	6.1	3.8	2.3	1.8	2.2	2.3	2.8	6.9	5.4	8.6	8.1	7.4	5.1	3.8	2.6	1.9	8.6	3.6	24
24	1.3	1.3	1.5	1.6	1.3	S	1.1	1.6	3.7	3.3	1.1	1	1.1	1.1	1.2	1	0.9	1.1	3.1	2.6	4	2.9	2.4	2.1	4	1.8	24
25	2.7	2.4	2.8	2.1	S	5.9	8.1	8.5	4.8	5	3.4	1.5	1.9	1.5	1.6	1.4	4.3	3.9	3.4	2.6	2	1.7	1.6	0.9	8.5	3.2	24
26	0.9	0.9	1	S	1.1	0.8	0.9	1.1	1	1.3	1.4	1.1	1.3	1	1	1.1	1	0.6	0.7	0.6	0.5	0.1	0	0	1.4	0.8	24
27	0.1	0.1	S	0.4	0.6	0.8	3.6	10.1	6	1	0.7	1.3	0.9	1.5	0.6	0.5	0.9	1.1	0.9	3.5	7.4	7	4.4	1.8	10.1	2.4	24
28	1.3	S	1.8	1.9	3.9	2.9	2.5	3.4	5.7	4.1	2.3	1.6	0.9	2	1.9	2	3	3.8	3.1	1.7	1.1	1.3	2.2	2.5	5.7	2.5	24
29	S	2.4	2.5	2.4	3.4	3.8	4.6	4.6	4.9	4.1	4	2.1	2	1.4	2.6	2	3	3.3	3.2	2.5	2.5	1.2	1.2	S	4.9	2.9	24
30	2.5	1.3	1.1	2	2	1.6	2	3.2	2.2	3.4	2.3	1.3	1.2	1.4	0.8	0.8	1.5	1.1	1	0.7	0.6	0.5	S	0.6	3.4	1.5	24
31	0.8	0.9	0.7	0.9	1	1.3	1.6	2.6	2.2	1.9	1.6	1.8	1.8	1.9	2.2	4.3	6.9	5.1	5.7	6.9	6.9	S	5.4	4.1	6.9	3.0	24
HOURLY MAX	11	9	8	7	9	11	13	12	10	13	13	11	10	5	5	7	8	18	24	21	18	12	12	14			
HOURLY AVG	2.6	2.6	2.6	2.7	3.4	4.3	5.2	5.8	4.5	3.8	2.8	2.2	1.9	1.7	1.5	1.8	2.7	4.6	5.5	4.8	4.5	3.7	3.0	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

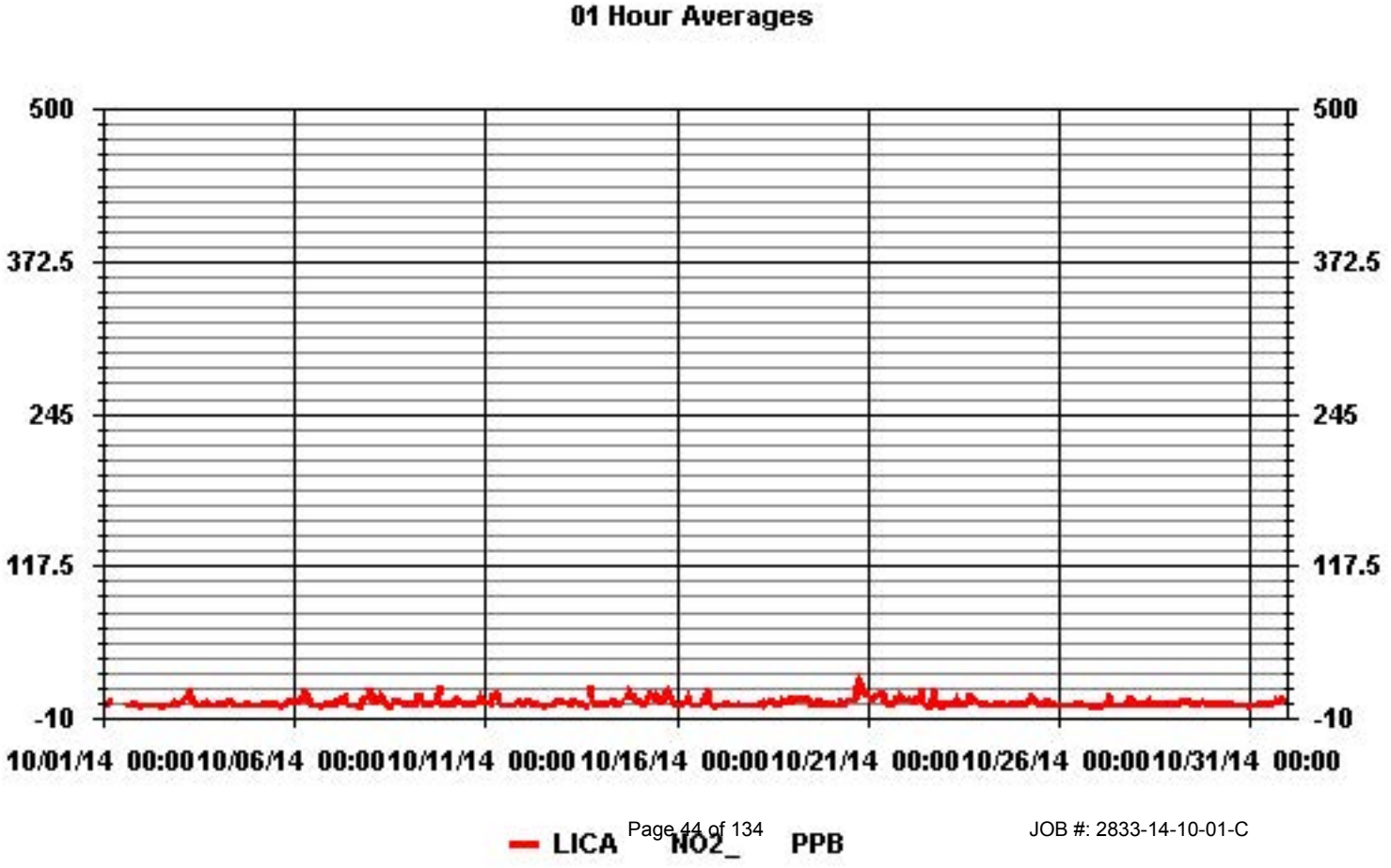
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 159 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	699					
MAXIMUM 1-HR AVERAGE:	23.5	PPB	@ HOUR(S)	18	ON DAY(S)	20
MAXIMUM 24-HR AVERAGE:	7.5	PPB			ON DAY(S) VAR-VARIOUS	20

IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	744	HRS
MONTHLY CALIBRATION TIME:	10	HRS	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	3.15		MONTHLY AVERAGE:	3.39	PPB



JOB #: 2833-14-10-01-C

Lakeland Industry & Community Association - Cold Lake South Site

OCTOBER 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	4.8	2.3	2.8	3.8	5.3	**S**	**S**	**S**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1.5	2	2	1.5	1	2	1.5	1.5	5.3	2.5	24
2	0.5	2	2	2.5	**S**	4.5	1	2	7	3	3	1.5	1.5	0.5	1	1	1	2.5	3	2.5	5.6	5.5	3	3.5	7	2.6	24
3	4.1	4.5	6.5	**S**	10.5	12.5	13.6	13.5	8	6.5	9.5	2	2	1.5	1.5	6.1	3	10.5	6.6	2	2	1.5	1.5	1.5	13.6	5.7	24
4	1.5	1.5	**S**	2.9	2.9	3.4	5.4	4.4	5.4	5.9	3.9	2.4	1.5	1.5	2.5	2.5	1.5	4.5	4.5	3	3	2.5	1.5	1.5	5.9	3.0	24
5	1.5	**S**	1.5	2	2	1.9	2	2.4	2.9	3.4	2.9	4.4	3.4	5.9	1.5	1	1	2	2.5	4	6	7.5	4.5	5	7.5	3.1	24
6	**S**	6.5	6.9	7.9	8.9	9.9	13.9	13.4	9.4	7.9	5.9	5	1.5	1.5	2	1	1	1	2.4	2	2.5	3.5	4	**S**	13.9	5.4	24
7	3.4	4.3	9.3	7.4	5.9	8.3	8.3	12.8	8.3	3.8	2.3	0.9	0.9	0.9	0.9	0.9	10.9	1.9	11.4	11.4	8.9	11.4	**S**	16.3	16.3	6.6	24
8	15.8	14.8	5.3	6.3	9.8	10.3	20.8	20.3	4.3	3.3	6.8	7.3	1.8	5.9	7.8	5.4	5.4	7.3	4.8	4.3	5.3	**S**	4.5	3	20.8	7.9	24
9	2.5	3.5	3	3.5	9.5	13	10.5	17.5	15.5	3.6	4.6	5.1	5.1	4.1	3.6	6.1	7.1	10.1	16.6	21.1	**S**	2.4	2.9	5.9	21.1	7.7	24
10	3.4	1.9	1.9	2.4	10.9	10.9	11.4	11.9	4.9	3.4	4.9	7.4	3.4	2.9	2.9	2.9	3.4	14.9	4.9	**S**	8.5	24	8	5.5	24	6.8	24
11	5.5	5.5	5.5	4.5	11.5	10.5	10.5	12.9	11.5	4	1	0.5	0.5	1	0.5	0.5	0	0.5	**S**	5.5	6.9	6.5	5	5	12.9	5.0	24
12	3.5	5	6	6.4	5.5	4.5	3.5	2.9	2.9	2.5	2.5	1.5	2	1	1.5	1.5	1	**S**	3.5	6	7	6.5	4	5	7	3.7	24
13	4	6	4	4.9	4.4	3.4	11.4	5.9	5.9	4.9	3.4	3.4	2.4	1.5	1.5	1.5	**S**	14.5	22.5	19.4	2.5	2	2.5	2.5	22.5	5.8	24
14	3	3.5	2.5	2.5	5.5	3	4.5	8	8.5	3.5	4	3.5	5.5	8.5	3.5	**S**	8.5	11.5	26	14.4	11.5	10	7.5	8	26	7.3	24
15	7.5	7.4	4.9	4.9	4.9	11.4	9.9	14.4	12.9	10.4	8.4	14.4	14.4	6	**S**	6.2	10.7	17.7	17.7	16.2	11.2	9.2	6.2	6.6	17.7	10.2	24
16	2.2	1.2	1.7	2.6	7.1	5.6	7.1	13.1	7.1	2.1	3.6	3.1	2.1	**S**	3	3.5	5	10.5	15	15.4	13.4	13.9	0.9	0.9	15.4	6.1	24
17	1.4	1.4	1.4	1.4	1.4	2.4	2.4	1.9	1.4	1.4	5.4	2.4	**S**	1.5	2	10.1	10.1	4.1	1.6	1.1	1.1	1.1	1.6	1.6	10.1	2.6	24
18	1.6	1.6	1.6	3.1	7.6	10.1	4.1	7.6	5.1	5.6	5.1	**S**	7.9	3.9	2.9	1.9	2.4	6.4	11.9	7.4	5.4	7.9	7.9	7.9	11.9	5.5	24
19	5.4	8.9	11.3	8.3	8.8	9.8	7.3	7.3	8.3	7.8	**S**	5.5	3.6	4.1	3.1	3.1	4.6	8.6	10.1	4.1	2.6	3.1	2.6	3.6	11.3	6.2	24
20	2.6	2.1	2.1	2.6	2.6	6.6	9.1	8.1	8.1	**S**	4	6	6	5.5	8	8	11.5	24	26.5	25.5	19.5	22.5	14.5	13	26.5	***10.4***	24
21	12	10.5	10	10	10.5	11.9	11.4	13.4	**S**	15	7.5	5.6	3.1	3.6	2.6	2.1	5.1	11.6	9.6	8.6	14.6	18.1	8.1	5.1	18.1	9.1	24
22	5.6	6	10	9	8.5	5	9.5	**S**	13	15.5	21	7	3.5	6.1	2.1	16.1	19.6	***29.1***	7.6	3.6	2.6	3.1	5.1	2.1	***29.1***	9.2	24
23	2.6	2.1	3.1	3.1	3.1	5.1	**S**	6	10	6.9	4	2.5	3.5	4.5	6.5	15.5	10	11.9	15	9	6.5	5	4.5	3	15.5	6.2	24
24	2	2	2.5	2.5	2	**S**	2	3.4	11.4	8.5	2	1	1.5	1.5	1.5	1.5	1.5	2	4.5	7.5	5.5	4.5	3.5	2.4	11.4	3.3	24
25	3.4	2.9	3.4	2.4	**S**	7	12	17.5	6.5	7.5	5.5	2.5	5	2.5	4	3.5	6.5	5	16	3.5	2.5	2	2.5	1.5	17.5	5.4	24
26	2	2	2	**S**	3	1	2	4	2.5	2	2	3	2.5	2	2.5	2	2	1	2	1.5	1.5	1	0.5	0.5	4	1.9	24
27	0.5	0.5	**S**	1	1.5	1.5	18.5	21.5	19	1	8	8	1.5	8.5	1	1	2	2	1	8	9	8	7	6	21.5	5.9	24
28	3.5	**S**	3.5	5	6	3.5	3.5	10.5	10	7.5	3.5	6	2.5	3.5	3.5	3	5.5	5	4	3.5	2	4	3.5	4	10.5	4.6	24
29	**S**	3	4	5	5	6.5	7.5	9.5	8	14	15	3.5	3.5	4	15.5	4	7	5.5	6	3.5	4.5	2	2	**S**	15.5	6.3	24
30	5	2	2	5	3.5	3	4	4.5	4	15.5	4.5	1.5	2	7	1.5	9.5	15	1.5	1.5	2	1.5	1	**S**	1	15.5	4.3	24
31	1	1	1	1.5	1.5	2	2	8.5	3	2.5	2	2	7	3	5	8	22.1	9.6	9.1	9.1	10.6	**S**	7.5	5	22.1	5.4	24
HOURLY MAX	16	15	11	10	12	13	21	22	19	16	21	14	14	9	16	16	22	29	27	26	20	24	15	16			
HOURLY AVG	3.9	4.0	4.2	4.3	5.8	6.5	7.9	9.6	7.8	6.2	5.4	4.1	3.5	3.6	3.3	4.5	6.2	8.0	9.0	7.6	6.2	6.6	4.4	4.4			

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: 700

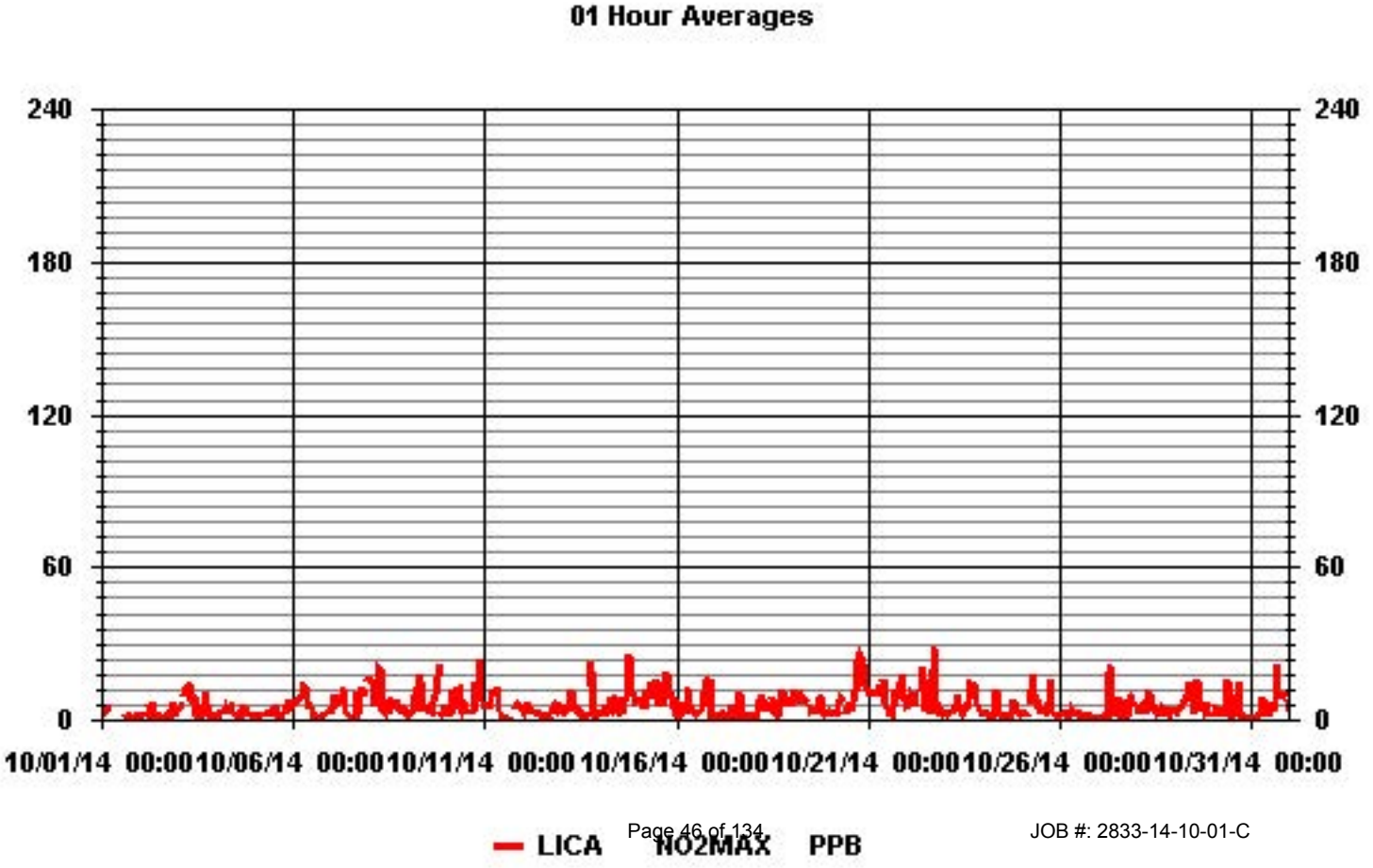
MAXIMUM INSTANTANEOUS VALUE: 29.1 PPB @ HOUR(S) 17 ON DAY(S) 22

VAR-VARIOUS

IZS CALIBRATION TIME: 35 HRS OPERATIONAL TIME: 744 HRS

MONTHLY CALIBRATION TIME: 8 HRS

STANDARD DEVIATION: 4.75



JOB #: 2833-14-10-01-C

LICA
NO2_ / WD Joint Frequency Distribution (Percent)

October 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	1.16	2.03	2.91	3.34	7.71	10.33	20.96	2.18	1.60	1.31	3.63	13.39	13.53	5.96	7.13	2.76	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	1.16	2.03	2.91	3.34	7.71	10.33	20.96	2.18	1.60	1.31	3.63	13.39	13.53	5.96	7.13	2.76	

Calm : .00 %

Total # Operational Hours : 687

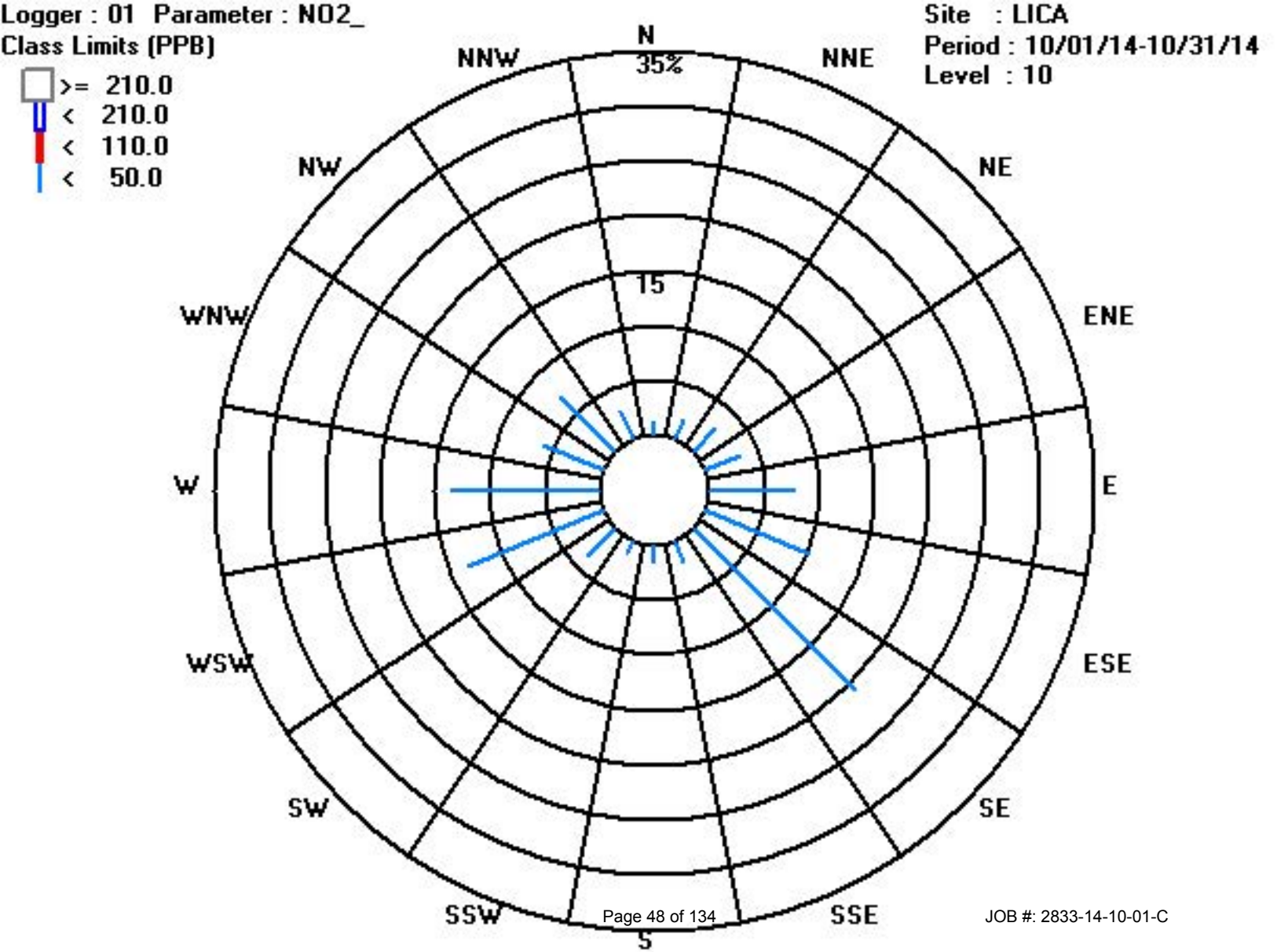
Distribution By Samples

Direction

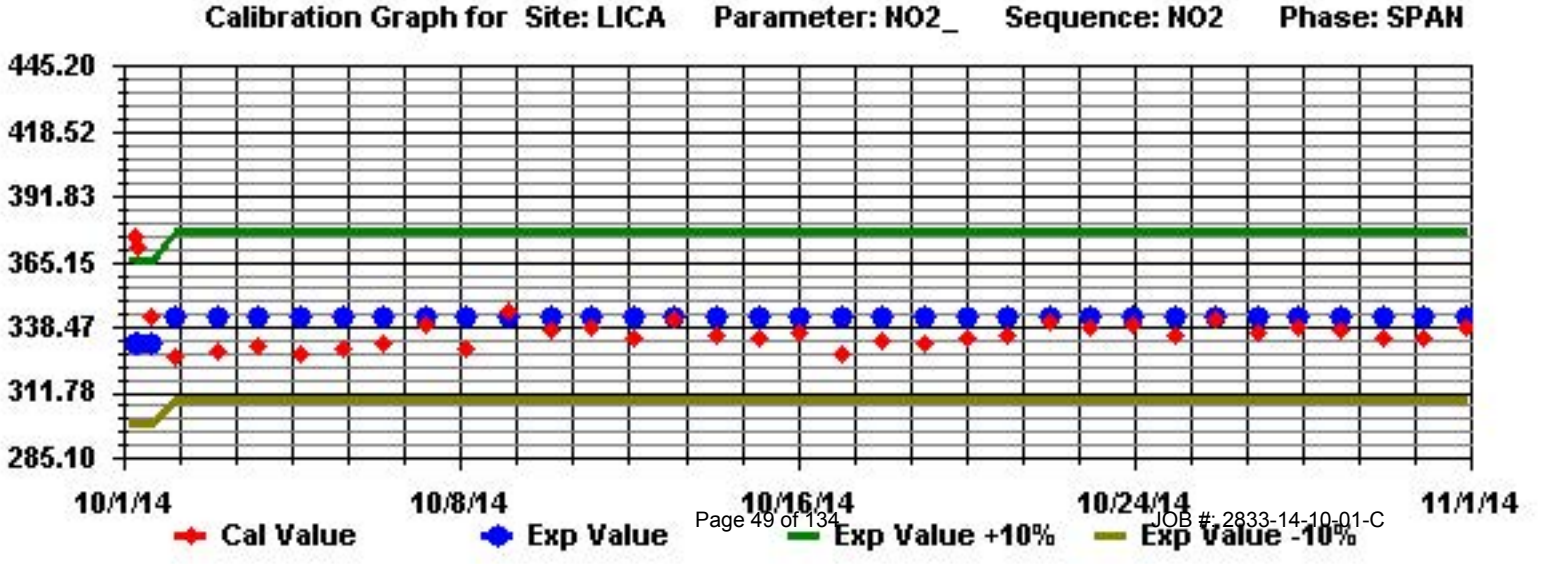
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	8	14	20	23	53	71	144	15	11	9	25	92	93	41	49	19	687
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	8	14	20	23	53	71	144	15	11	9	25	92	93	41	49	19	

Calm : .00 %

Total # Operational Hours : 687



JOB #: 2833-14-10-01-C


Calibration Graph for Site: LICA Parameter: NO2_ Sequence: NO2 Phase: SPAN
445.20
418.52
391.83
365.15
338.47
311.78
285.10
10/1/14
10/8/14
10/16/14
10/24/14
11/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitric Oxide

Lakeland Industry & Community Association - Cold Lake South Site

OCTOBER 2014

NITRIC OXIDE (NO) hourly averages in ppb

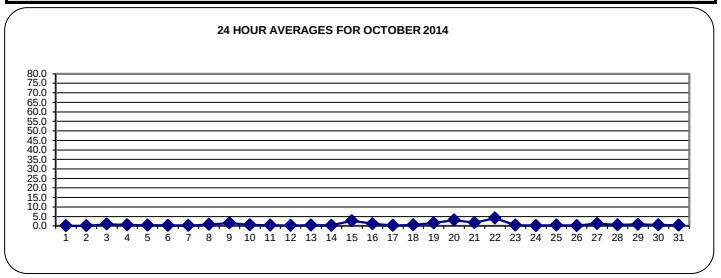
MST

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	0.1	0.1	0.3	0.3	0.4	**S**	**S**	**S**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	0	0	0	0.4	0.1	24
2	0	0	0	0	**S**	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	0.1	0.1	1	0.1	24
3	0.1	0.1	0.3	**S**	0.4	0.5	2.3	5.8	5.1	2.8	2.8	0.4	0.4	0.1	0.1	0.1	0	0.1	0.8	0	0	0	0	0	5.8	1.0	24
4	0	0	**S**	0.2	0.2	0.1	0.4	0.6	2.5	2.9	2.2	1.1	0.5	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.4	0.3	0.2	0.2	2.9	0.6	24
5	0.2	**S**	0	0	0.1	0	0	0	0.2	0.7	1.4	2.4	2.5	0.9	0	0	0	0	0	0.1	0.1	0.1	0	0	2.5	0.4	24
6	**S**	0.1	0.1	0.1	0.1	0.3	1.2	1.6	1	0.6	1.1	0.4	0	0	0	0	0	0	0	0	0	0	0	**S**	1.6	0.3	24
7	0	0.2	0.2	0.2	0.1	0.2	0.1	0.9	1	0.7	0.1	0	0	0	0	0	1.2	0	0	0	0	0.1	**S**	0.9	1.2	0.3	24
8	1.5	0.6	0.1	0.4	0.6	0.6	2.6	3.3	0.6	0.6	1.1	0.6	0.3	0.3	1.6	0.8	0.6	0.8	0.4	0.4	0.2	**S**	0.1	0	3.3	0.8	24
9	0	0.1	0.1	0	0.1	3.6	2.9	17.6	4.2	0.7	1.1	0.7	0.4	0.3	0.3	0.2	0.2	0.3	0.9	2.2	**S**	0.1	0	0.1	17.6	1.6	24
10	0	0	0	0	0.3	0.5	0.7	1.2	0.8	1.1	1.7	0.8	0.2	0.2	0.7	0.1	0.1	0.5	0	**S**	0.1	2	0.2	0	2	0.5	24
11	0	0.1	0.7	0.2	0.7	0.2	0.3	1.5	2.7	0.9	0	0	0	0	0	0	0	0	**S**	0.2	0.2	0.2	0.2	0.2	2.7	0.4	24
12	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.6	0.6	0.5	0.2	0.3	0.2	0.2	0.2	0.2	**S**	0	0	0	0	0	0	0.6	0.2	24
13	0	0.1	0.1	0	0	0	1.2	1.5	1.9	1.7	0.8	0.5	0.2	0	0	0	**S**	0.2	1.7	0.3	0	0	0	0	1.9	0.4	24
14	0	0	0	0	0.1	0	0.1	0.5	0.6	0.2	0.2	0.5	0.5	0.6	0.3	**S**	0.5	0.1	2.1	0.6	0.3	0.2	0.1	0.2	2.1	0.3	24
15	0	0.2	0.2	0.1	0.2	2.4	5.5	20.2	13.9	4.4	3.1	5.2	3.8	1	**S**	0.4	0.2	0.8	0.4	0.1	0.5	0.3	0.1	0.5	20.2	2.8	24
16	0.1	0	0	0	0.4	0.4	1	3.3	2.2	0.6	1	0.4	0.2	**S**	0.6	0.8	0.7	0.3	1.7	5	7.5	1.1	0	0	7.5	1.2	24
17	1.1	0	0	0	0	0.2	0.2	0.4	0.1	0.1	0.8	0.3	**S**	0.2	0.2	0.2	0.3	0.2	0.2	0.1	0.2	0.1	0.2	0.2	1.1	0.2	24
18	0.1	0.2	0.2	0.2	0.3	0.5	0.3	0.6	1.1	2.4	2.1	**S**	3.5	0.8	0.5	0	0	0	0	0	0	0.1	0.1	0	3.5	0.6	24
19	0	0.4	0.4	1	1.1	2.9	2.7	8.5	11.1	4.4	**S**	1.5	0.7	0.2	0	0	0	0.1	0.3	0	0	0	0	0	11.1	1.5	24
20	0	0	0	0.1	0	0	0	0.4	0.9	**S**	1.5	1.8	2.1	1.7	1.2	0.7	0.5	2.3	15.6	17.5	16.8	7.5	0.5	0.2	17.5	3.1	24
21	0.7	1.1	1.1	2.9	3.4	3.4	7.5	6.6	**S**	6.5	1.5	1.1	0.6	0.2	0.1	0.1	0.4	0.1	0.1	0.1	0.4	0.9	0.2	0.2	7.5	1.7	24
22	0.1	0.3	0.3	2.5	4.5	1.2	11.9	**S**	***36.4***	19.6	9.7	1.9	0.3	0.2	0.2	0.5	0.5	3.5	0.2	0.2	0.2	0	0.1	0.1	***36.4***	***4.1***	24
23	0.1	0.1	0.2	0.2	0.1	0.2	**S**	0.1	0.9	1	0.8	0.8	1.4	1.1	0.4	1.5	0.3	0	0.1	0	0	0	0.1	0	1.5	0.4	24
24	0	0	0.1	0	0.1	**S**	0	0.1	1.1	1.4	0.3	0.1	0	0.1	0	0	0	0	0	0.1	0	0	0	0	1.4	0.1	24
25	0	0	0	0	**S**	0	0.2	1.2	1.5	1.9	1.1	0.4	0.5	0.2	0.2	0.1	0.4	0.3	0.5	0.1	0.1	0.2	0.3	0.2	1.9	0.4	24
26	0.3	0.3	0.2	**S**	0.2	0	0	0	0.2	0.4	0.2	0.2	0.3	0.2	0.1	0.3	0	0	0.1	0.1	0	0	0	0	0.4	0.1	24
27	0	0	**S**	0	0	0	2.4	12.5	8.1	0	1.3	1.5	0	0.3	0.1	0	0	0	0	0.3	0.8	0.6	0.5	0	12.5	1.2	24
28	0	**S**	0.2	0.4	0	0.1	0	0.8	3.1	1.4	0.6	0.7	1.3	0.4	1.2	0.6	0.3	0.8	0.4	0.3	0.1	0.2	0.3	0.4	3.1	0.6	24
29	**S**	0.2	0.6	0.8	0.7	0.7	1.1	1.1	1.3	2.6	1.4	0.7	1	0.7	0.9	1.1	0.9	0.6	0.8	0.6	0.6	0.1	0.2	**S**	2.6	0.9	24
30	0.4	0.1	0.1	0.1	0.4	0.4	0.3	0.6	0.3	1.7	1.4	0	0.2	0.4	0.3	3.9	2.1	0	0	0	0	0	**S**	0	3.9	0.6	24
31	0	0	0	0	0	0	0	0.2	0.4	0.5	0.6	0.5	0.5	0.4	0.3	0.7	1.2	0.8	0.4	0.5	0.6	**S**	0.6	0	1.2	0.4	24
HOURLY MAX	2	1	1	3	5	4	12	20	36	20	10	5	4	2	2	4	2	4	16	18	17	8	1	1			
HOURLY AVG	0.2	0.2	0.2	0.3	0.5	0.6	1.6	3.1	3.6	2.2	1.4	0.9	0.7	0.4	0.3	0.4	0.4	0.4	0.9	1.0	1.0	0.5	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

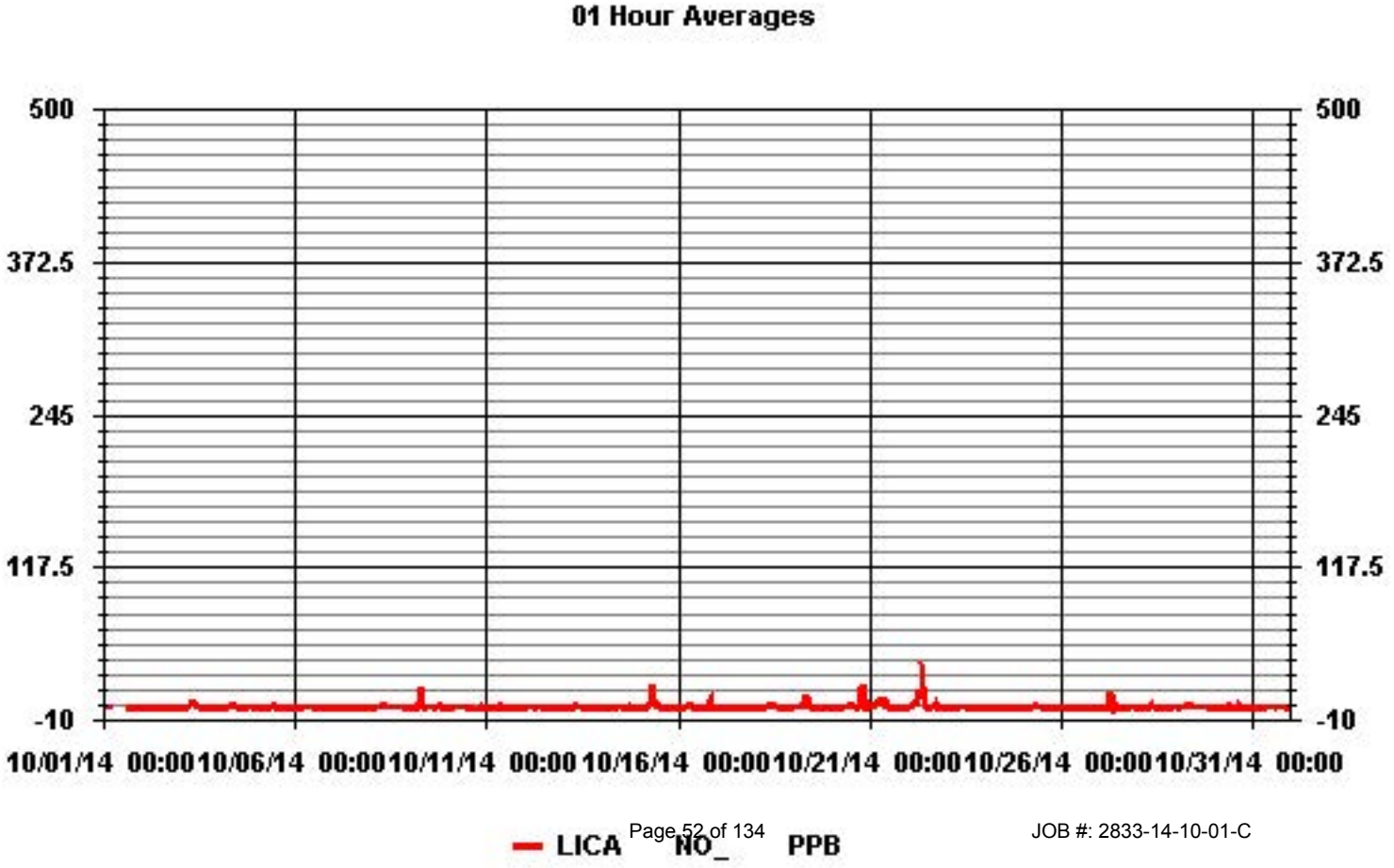
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR NA PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	NA					
NUMBER OF NON-ZERO READINGS:	497					
MAXIMUM 1-HR AVERAGE:	36.4	PPB	@ HOUR(S)	8	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:	4.1	PPB			ON DAY(S) VAR-VARIOUS	22

IZS CALIBRATION TIME:	35	HRS	OPERATIONAL TIME:	744	HRS
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	2.54		MONTHLY AVERAGE:	0.87	PPB



JOB #: 2833-14-10-01-C

Lakeland Industry & Community Association - Cold Lake South Site

OCTOBER 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	0.3	0.3	1.8	0.8	1.3	**S**	**S**	**S**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0.5	0	0	0	0	0.5	1	0.5	1.8	0.5	24
2	0	0	0	0	**S**	0	0	0	4.4	1.4	1.4	0.4	0.4	0	0.4	0	0	0	0	0	0.9	1.4	0.9	0.9	4.4	0.5	24
3	1.4	1.4	1.4	**S**	2.4	1.9	6	10.4	7	5.9	9.4	1	0.9	0.5	3.4	2.9	0.9	0.9	11.9	1.9	0	0	0	0	11.9	3.1	24
4	0	0	**S**	0.5	0.5	0.5	1.4	1	3.4	3.4	2.9	1.4	0.5	0.5	0.5	0.5	0	1	1	1	2	1	1.5	0	3.4	1.1	24
5	1	**S**	0	0.5	2.5	0	0	0	0.4	5	1.9	4	4	6.9	0.5	0	0	0	1.5	1.5	1	1	0.5	0.5	6.9	1.4	24
6	**S**	0.9	2	2.4	1.9	1.4	5	4.4	2.4	2.4	9.4	0.9	0.5	0.5	1	0	0	0	0	0	0	0	0	**S**	9.4	1.6	24
7	1	2.4	1.9	1	1.4	2.9	1.4	3.5	2.9	0.9	0.4	0	0	0	0	0	21	0	0	0	0.5	1	**S**	3.5	21	2.0	24
8	8.4	4.9	0.4	1.9	4	2.4	13.9	13.4	2.4	10.9	5.5	4	3.5	1.4	4.9	4.9	1.9	4.4	2.9	1.4	1.4	**S**	1.4	1.4	13.9	4.4	24
9	0.4	1.9	1.4	0.9	2.9	13.9	7.4	38	33.4	1.5	3	3.5	2.5	3.5	3.5	1.5	3	4.5	2.5	18.5	**S**	1	0.5	2	38	6.6	24
10	0.5	0	0.5	0.5	5.5	4	4.5	5.5	2.5	2	8	2	1	1	1.5	1.5	2	10	0.5	**S**	1.5	26	1.5	0	26	3.6	24
11	1	1	4.5	2	4.5	1	2	3	3.4	1.5	0.5	0	0	0.5	0	0	0	0	**S**	0.5	0	0	0	0.5	4.5	1.1	24
12	2	1	1	1	1	0.5	0.9	0.4	0.4	0.5	0.9	0.5	1	0	0	0	0.5	**S**	0	0	0	0	0	0.5	2	0.5	24
13	0.5	1	0.9	1.4	0.9	0.4	10.9	3.9	4.4	2.9	1.4	2.9	0.5	0.5	1	0	**S**	1.5	8.5	4	0.5	0	0	0.5	10.9	2.1	24
14	0.5	2.5	1	0.5	2	0.5	1.5	2.5	2	1	1.5	3.5	3.5	6	0.5	**S**	1	1	32.5	4.5	1	1.5	2.5	2.5	32.5	3.3	24
15	0.5	3.9	6.5	0.9	1.9	22.4	15.9	26.9	21.9	6.9	3.4	7.4	6.9	1.9	**S**	1	2	2.5	1.5	1.5	2	3.5	4	2.5	26.9	6.4	24
16	2	1	0.5	0.9	7.4	3.4	4.9	12.4	4.4	1.9	2.4	1.9	0.9	**S**	2	2	10.5	1.5	13.5	12.4	28.9	6.9	0	0	28.9	5.3	24
17	35.4	0.5	0.4	0	0	1.9	0.9	0.9	1.4	0.5	14.4	1.4	**S**	0.4	0.4	2	2.5	0.5	0	0	0	0	0	0	35.4	2.8	24
18	0	0.5	0.5	1	1	4	1.5	2.5	1.5	3.5	3.5	**S**	5	1.5	2.5	0	0.5	0	0	0	1	2	1.5	1.5	5	1.5	24
19	1.5	5	7.9	2.9	3.9	6.9	13.4	23.4	16.9	7.9	**S**	3.4	3	1	0.5	0	1	1	6.5	0.5	0	1	0	0.5	23.4	4.7	24
20	0	0	0	0.5	1	1	0.5	1.5	3	**S**	2.5	4	2.5	2.5	2	2	3.5	11.5	44.5	39.5	22.5	25.5	1.5	1.5	44.5	7.5	24
21	2.5	2	2.5	20	8.5	13.9	12.4	16.9	**S**	10.9	3.4	3.4	1	0.5	0.5	0	10.5	0.5	0	0	2	11.5	0.5	1	20	5.4	24
22	0.5	4.4	1.9	14.4	***88.9***	1.9	35.4	**S**	44.9	36.4	18.9	3.4	1.4	2.5	2	6.5	3	27	2.5	2.5	0.5	0	1	1	***88.9***	***13.1***	24
23	1	1	0.5	1	0.5	0.9	**S**	1	2	3.5	3	1.5	10	5	2	8	2	0.5	2.5	0.5	2	0.5	2	0	10	2.2	24
24	0.5	1	1	1	0.5	**S**	0.5	0.9	5.5	4.5	1	0.5	0.5	0.5	0.5	0.5	0	0	0	3	0.5	0	0.5	0	5.5	1.0	24
25	0	0	0	0	**S**	0	0.9	2.9	4.9	4.4	2.4	0.9	1.9	0.9	1.4	0.4	1.9	1.4	7.4	0.9	0.4	0.9	1.4	1.4	7.4	1.6	24
26	0.9	1.4	0.9	**S**	2.4	0.4	0.9	0.4	1.4	5.4	1.4	0.9	1.9	1.9	1.4	2.9	0.9	0.4	2.4	0.9	1.4	0.5	0	0	5.4	1.3	24
27	0	0	**S**	0	0	0	21.4	26.4	28.9	0.4	19.4	16.9	0.4	5.4	0.9	0	0	0	0	2.4	3.9	4.4	5.4	0	28.9	5.9	24
28	0	**S**	1.4	2.4	0.4	1.4	0.4	8.4	34.9	9.9	9.9	3.4	19.9	1.9	22.4	2.9	3.4	3.9	1.4	0.9	0.5	2.9	1.9	1.4	34.9	5.9	24
29	**S**	1.4	3.9	2.4	1.9	4.4	2.4	3.9	17.4	29.9	5.9	2.9	7.9	2.9	6.9	3.4	4.9	3.4	3.4	1.9	3.4	1.4	1.9	**S**	29.9	5.4	24
30	2.4	1.4	1.4	1.4	1.9	2.9	1.4	4.4	0.9	18.4	13.4	0.4	2.9	3.9	5.4	30.4	31.4	0.9	0.5	0.4	0.4	0.4	**S**	0	31.4	5.5	24
31	0	0	0	0	0	0.5	0.4	2.9	2.9	1.9	3.4	1.4	1.9	1.4	2.4	3.4	11.5	7	3	1.5	4.5	**S**	2.4	1.4	11.5	2.3	24
HOURLY MAX	35	5	8	20	89	22	35	38	45	36	19	17	20	7	22	30	31	27	45	40	29	26	5	4			
HOURLY AVG	2.2	1.4	1.6	2.1	5.2	3.3	5.8	7.6	9.0	6.4	5.3	2.7	3.0	1.9	2.4	2.6	4.0	2.8	5.0	3.4	2.8	3.3	1.2	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: 576

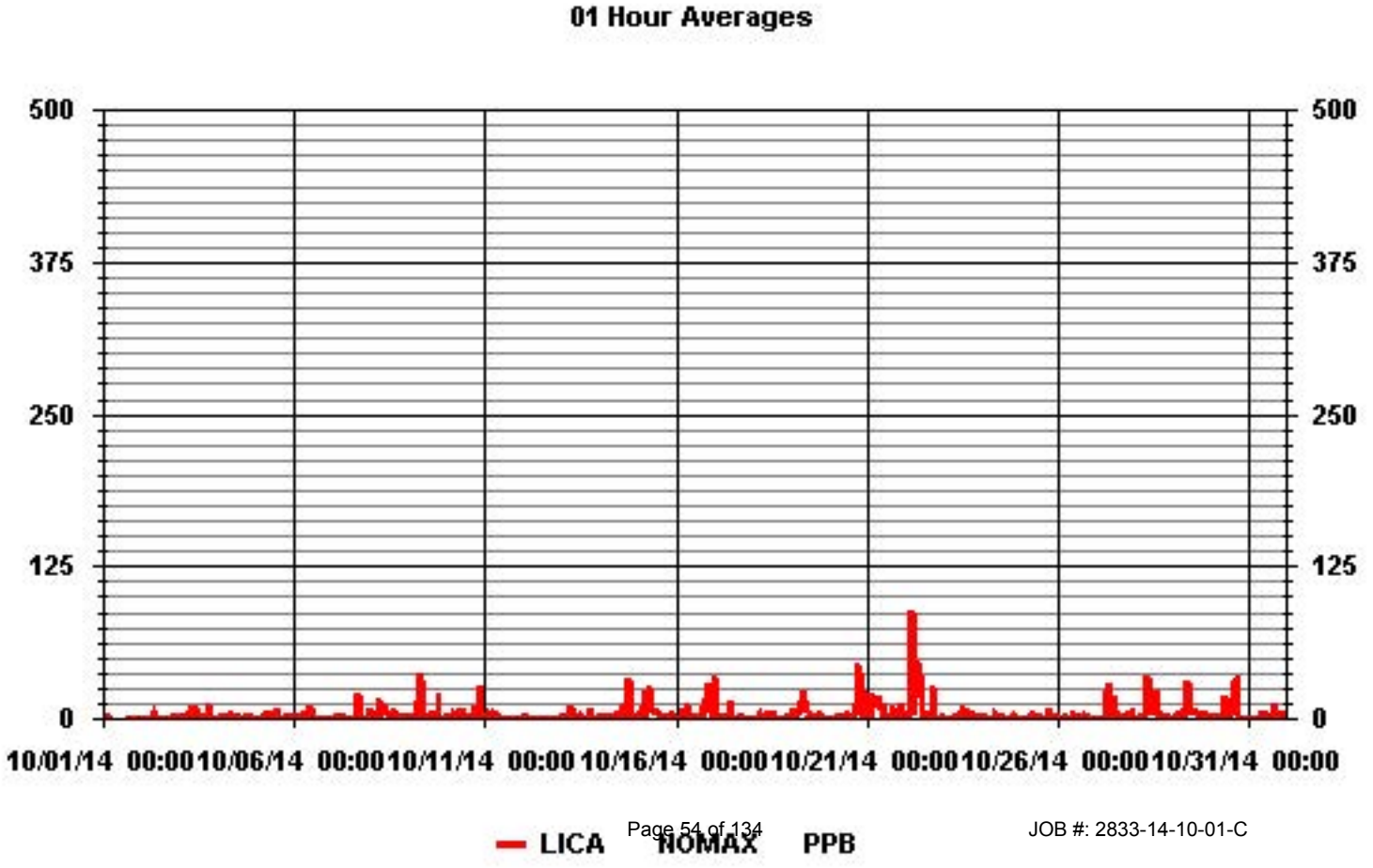
MAXIMUM INSTANTANEOUS VALUE: 88.9 PPB @ HOUR(S) 4 ON DAY(S) 22

VAR-VARIOUS

IZS CALIBRATION TIME: 35 HRS OPERATIONAL TIME: 744 HRS

MONTHLY CALIBRATION TIME: 8 HRS

STANDARD DEVIATION: 7.17



JOB #: 2833-14-10-01-C

LICA
NO_ / WD Joint Frequency Distribution (Percent)

October 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	1.16	2.03	2.91	3.34	7.71	10.33	20.96	2.18	1.60	1.31	3.63	13.39	13.53	5.96	7.13	2.76	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	1.16	2.03	2.91	3.34	7.71	10.33	20.96	2.18	1.60	1.31	3.63	13.39	13.53	5.96	7.13	2.76	

Calm : .00 %

Total # Operational Hours : 687

Distribution By Samples

Direction

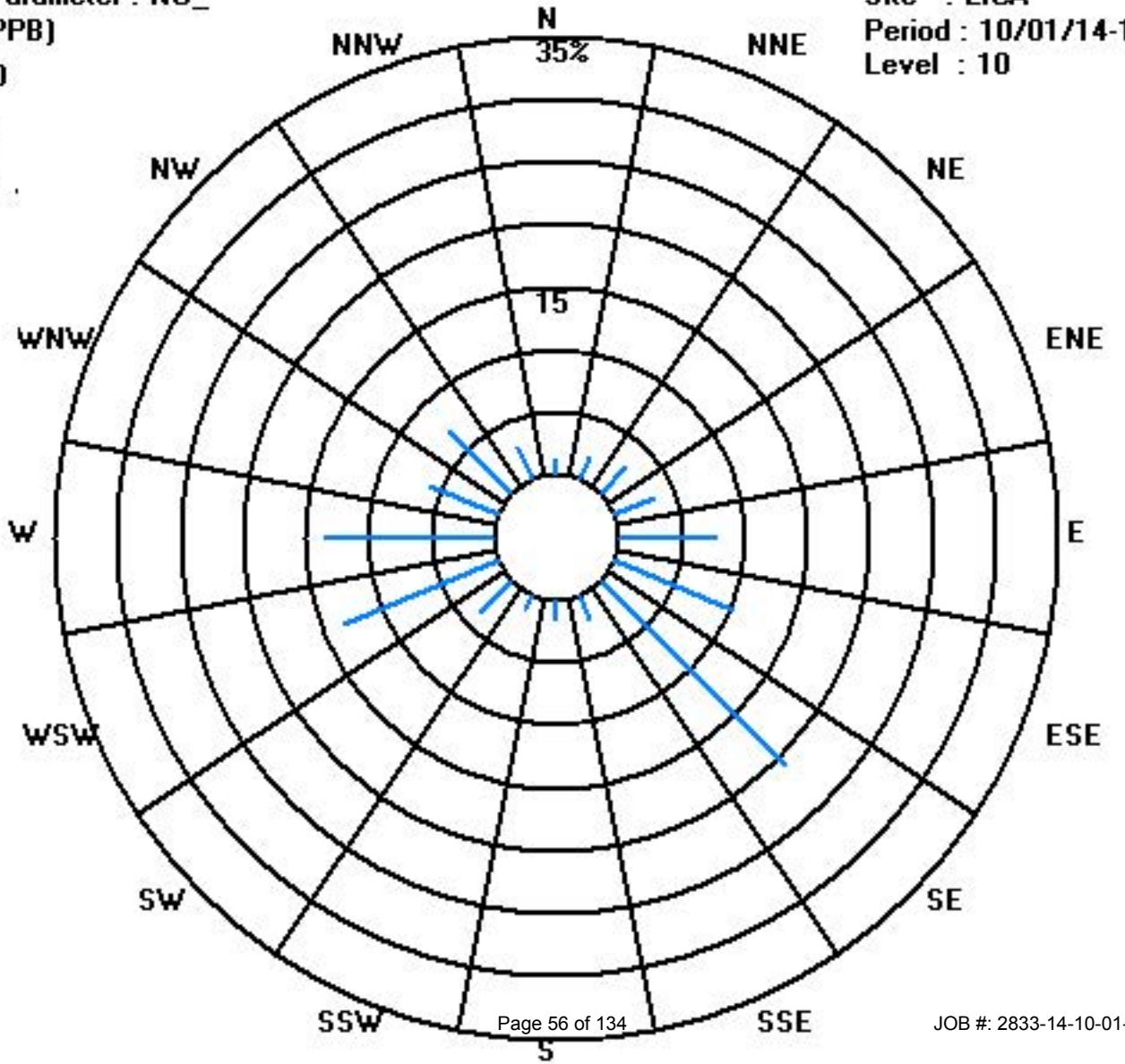
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	8	14	20	23	53	71	144	15	11	9	25	92	93	41	49	19	687
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	8	14	20	23	53	71	144	15	11	9	25	92	93	41	49	19	

Calm : .00 %

Total # Operational Hours : 687

Logger : 01 Parameter : NO_
Class Limits (PPB)
>= 210.0
< 210.0
< 110.0
< 50.0

Site : LICA
Period : 10/01/14-10/31/14
Level : 10



JOB #: 2833-14-10-01-C

Oxides of Nitrogen

Lakeland Industry & Community Association - Cold Lake South Site

OCTOBER 2014

OXIDES OF NITROGEN (NOx) hourly averages in ppb

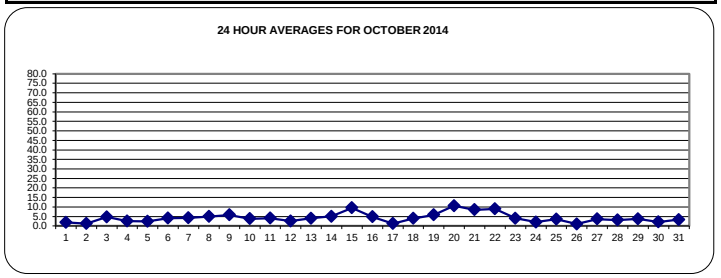
MST

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	2.7	1.8	1.8	3.4	4.5	**S**	**S**	**S**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1.1	1.5	1.6	1.2	1.2	1.2	0.7	1.1	4.5	1.8	24
2	0.5	1.1	1.2	1.9	**S**	1.6	0.7	1	2.9	0.6	0.6	0.7	0.5	0.1	0.6	0.4	0.5	1.4	2.3	1.6	4.2	1.9	1.4	1.9	4.2	1.3	24
3	2.9	3.3	4.1	**S**	9.1	11.8	14.8	16.1	11.6	6.3	5.4	1.5	1.3	1.1	1.2	1.1	1.5	4.8	4.1	1.4	1.3	0.8	1	1.1	16.1	4.7	24
4	1.1	1	**S**	2	2.1	2.6	4.7	4.1	6.8	7.5	5.1	2.8	1.5	1.1	0.9	1.6	1.1	2	2.5	2.1	1.7	1.4	0.9	0.9	7.5	2.5	24
5	0.9	**S**	0.9	1	1.2	1.3	1.3	1.6	2.5	3.4	4	4.8	5	2.6	1.1	0.6	0.3	0.9	1.7	2.9	4.3	5.1	3.7	4	5.1	2.4	24
6	**S**	5.4	4	4.4	7.5	8.8	13.2	12.4	7.6	5.8	5.8	2.4	0.8	0.8	0.6	0.5	0.4	0.3	1.4	1	1.7	2.7	2.7	**S**	13.2	4.1	24
7	2.2	2.1	5.3	5.7	4.2	5.6	7.5	9.2	5.6	4.2	0.9	0.6	0.7	0.5	0.5	0.5	3	0.9	2.9	5.8	6.6	7.6	**S**	14.7	14.7	4.2	24
8	12.8	6.8	3.4	3.8	5	8.2	13.7	13	3.6	1.9	3.1	2.2	1.2	2.5	5.8	4.1	3.8	4.7	3.8	3.3	3.2	**S**	2.4	2.1	13.7	5.0	24
9	1.7	2.1	2.2	2	2.5	11.8	10.8	28.7	9.3	2.5	3.2	3.2	2.2	2	2.1	2.8	3.5	5.2	11.4	17.1	**S**	1.5	2.1	3	28.7	5.8	24
10	1.2	1.2	1.3	1.2	3.6	5.7	7.3	6.9	3.8	3.9	5	3.2	1.8	1.9	2.4	2	2.6	2.6	3.6	**S**	5.2	10.6	5.5	4.3	10.6	3.8	24
11	4.6	3.3	4.6	3	8.3	7.7	10.4	12.7	10.9	3.9	0.8	0.5	0.5	0.6	0.4	0.4	0.5	0.6	**S**	3.1	4.4	4.6	4.7	3.7	12.7	4.1	24
12	2.8	3.6	3.8	4.8	3.4	2.8	2.3	2.4	2.8	2.3	1.6	1	1	0.5	0.7	0.9	0.9	**S**	2.1	3.5	4.3	4.2	3.8	3.8	4.8	2.6	24
13	2.9	3.3	3.3	2.7	3.1	2.7	5.8	5.7	6.2	5.7	3	2.7	1.6	1.1	0.7	0.5	**S**	9.6	18.1	6.4	1.9	1.5	1.9	1.8	18.1	4.0	24
14	1.6	1.5	1.5	1.7	2.4	2.5	3	4.9	5.6	2.4	2.3	2.4	2.8	3.2	3	**S**	8.3	10.2	15.5	12.2	9.7	8.8	5.7	4.7	15.5	5.0	24
15	5	4.5	3.1	2.5	3.2	9.1	12.9	30.9	23.8	13.6	10.5	15.7	13.5	5.8	**S**	4.8	5.6	12.5	13.8	9	9.4	4.8	2.3	3.2	30.9	9.5	24
16	1	0.7	1.2	2	3.1	3.6	5.5	11	6	1.8	2.3	1	0.9	**S**	2.3	3.2	3.3	6.2	12.1	16.9	19.7	5	0.5	0.6	19.7	4.8	24
17	1.2	0.7	0.8	1	1	1.6	1.9	2.2	1.4	1.4	2.2	1.4	**S**	1	1.1	1.2	1.4	1.1	1	0.8	0.9	0.9	1	1	2.2	1.2	24
18	1	1	1.1	1.6	2.9	4.2	2.4	4.7	4.2	6.2	5.5	**S**	9.6	4	3.2	1.5	1.8	3	6.3	5.3	4.4	4.9	5.9	5.8	9.6	3.9	24
19	4.6	6.5	6.8	7.7	8.5	10.6	8.3	13.7	17	11	**S**	5.8	2.9	2.1	1.5	1.8	3.2	5.9	5.2	2.7	2	2.2	1.9	2.2	17	5.8	24
20	2	1.8	1.6	2	1.9	2.5	5.1	5.1	4.4	**S**	4.9	6	7.2	6.6	5.8	5.4	6.2	19.9	39.1	38.8	34.4	19.1	12.5	10.9	39.1	***10.6***	24
21	10.8	10.4	8.9	9.5	11	12	17.1	18.3	**S**	17.4	6.4	5.5	3.6	3.1	1.8	1.5	3.2	7.5	8.3	7.2	10.6	10.2	6.2	4.9	18.3	8.5	24
22	4.6	4.8	6.4	8.8	9.8	5.9	18.3	**S**	***44.9***	33	22.7	5.8	1	0.8	0.6	2.9	6.6	19.1	3	1.3	1.4	1.9	1.6	0.8	***44.9***	9.0	24
23	1.6	1.7	1.6	1.7	1.3	1.8	**S**	2.9	7	4.8	3.1	2.6	3.6	3.4	3.2	8.4	5.7	8.6	8.2	7.4	5.1	3.8	2.7	1.9	8.6	4.0	24
24	1.3	1.3	1.6	1.6	1.4	**S**	1.1	1.7	4.8	4.7	1.4	1.1	1.1	1.2	1.2	1	0.9	1.1	3.1	2.7	4	2.9	2.4	2.1	4.8	2.0	24
25	2.7	2.4	2.8	2.1	**S**	5.9	8.3	9.7	6.3	6.9	4.5	1.9	2.4	1.7	1.8	1.5	4.7	4.2	3.9	2.7	2.1	1.9	1.9	1.1	9.7	3.6	24
26	1.2	1.2	1.2	**S**	1.3	0.8	0.9	1.1	1.2	1.7	1.6	1.3	1.6	1.2	1.1	1.4	1	0.6	0.8	0.7	0.5	0.1	0	0	1.7	1.0	24
27	0.1	0.1	**S**	0.4	0.6	0.8	6	22.6	14.1	1	2	2.8	0.9	1.8	0.7	0.5	0.9	1.1	0.9	3.8	8.2	7.6	4.9	1.8	22.6	3.6	24
28	1.3	**S**	2	2.3	3.9	3	2.5	4.2	8.8	5.5	2.9	2.3	2.2	2.4	3.1	2.6	3.3	4.6	3.5	2	1.2	1.5	2.5	2.9	8.8	3.1	24
29	**S**	2.6	3.1	3.2	4.1	4.5	5.7	5.7	6.2	6.7	5.4	2.8	3	2.1	3.5	3.1	3.9	3.9	4	3.1	3.1	1.3	1.4	**S**	6.7	3.7	24
30	2.9	1.4	1.2	2.1	2.4	2	2.3	3.8	2.5	5.1	3.7	1.3	1.4	1.8	1.1	4.7	3.6	1.1	1	0.7	0.6	0.5	**S**	0.6	5.1	2.1	24
31	0.8	0.9	0.7	0.9	1	1.3	1.6	2.8	2.6	2.4	2.2	2.3	2.3	2.3	2.5	5	8.1	5.9	6.1	7.4	7.5	**S**	6	4.1	8.1	3.3	24
HOURLY MAX	13	10	9	10	11	12	18	31	45	33	23	16	14	7	6	8	8	20	39	39	34	19	13	15			
HOURLY AVG	2.8	2.7	2.8	3.0	3.9	4.9	6.7	8.9	8.1	6.0	4.2	3.0	2.7	2.0	1.9	2.3	3.0	5.0	6.4	5.8	5.5	4.2	3.1	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

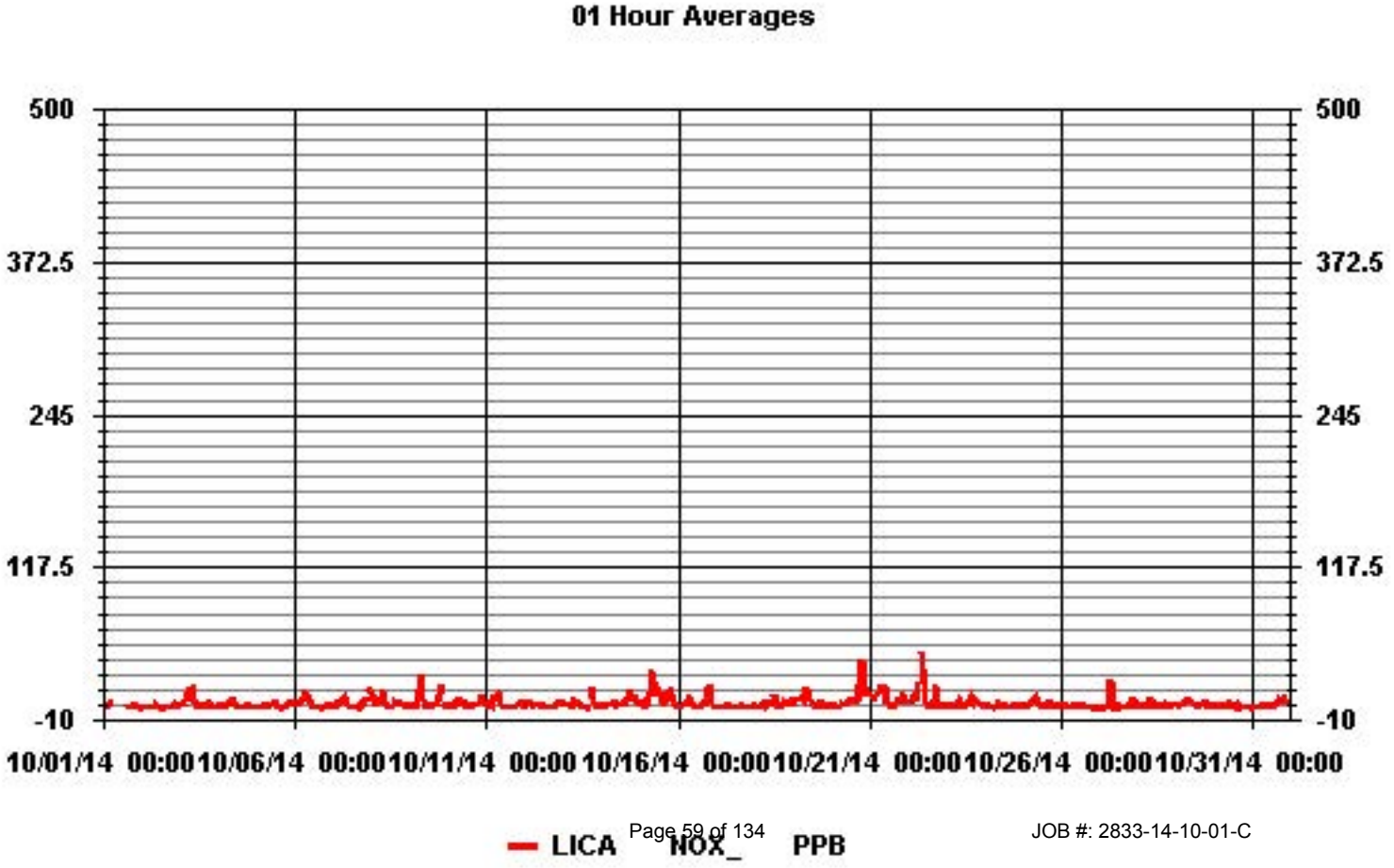
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR NA PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	NA					
NUMBER OF NON-ZERO READINGS:	699					
MAXIMUM 1-HR AVERAGE:	44.9	PPB	@ HOUR(S)	8	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:	10.6	PPB			ON DAY(S)	20
					VAR-VARIOUS	

IZS CALIBRATION TIME:	35	HRS	OPERATIONAL TIME:	744	HRS
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	4.97		MONTHLY AVERAGE:	4.26	PPB



JOB #: 2833-14-10-01-C

Lakeland Industry & Community Association - Cold Lake South Site

OCTOBER 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	4.5	2.5	4	4.5	6	**S**	**S**	**S**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1.8	2.3	2.3	1.8	1.3	2.3	2.8	2.3	6	3.0	24
2	0.8	2.3	2.3	2.8	**S**	4	0.9	2	11	4.5	4.5	1.5	1.5	0.5	1.5	0.5	0.9	2.5	3	2.4	6	6.5	4	4	11	3.0	24
3	5	5.5	7.4	**S**	11.4	14.4	18.5	21.4	14.4	12.4	17.4	2.9	2.4	1.9	4.5	7.9	4	10.9	11.4	3.4	1.9	1.4	1.4	1.9	21.4	8.0	24
4	1.4	1.4	**S**	3.8	3.7	4.3	7.3	5.3	8.7	9.7	7.2	4.3	1.8	1.8	2.8	2.8	1.8	5.3	5.3	3.8	5.3	3.3	3.3	1.3	9.7	4.2	24
5	2.3	**S**	1.5	2	4.5	2	2	2.5	3.5	8.9	5	7.4	7	12	2	1	1	1.5	3.5	4.5	6.5	8	5	5	12	4.3	24
6	**S**	7	9.4	9	10.9	11	16.9	18	11.4	9.5	13.4	6	1.5	1.5	3	0.5	0.5	0.5	2.5	2	2.5	3.5	4	**S**	18	6.6	24
7	3.5	6.4	9.5	7.9	7.4	9.5	9.5	14.4	11.5	5	3.5	1	1	1	1	1	31	2	11.5	12	9	12	**S**	19.1	31	8.2	24
8	24.1	20.5	5.6	8	14	12.6	35	34	6.6	6.1	12.1	9	5.1	7.5	13	9	6.1	11.5	7	5.6	6.5	**S**	5.6	4.1	35	11.7	24
9	2.6	5.1	3.6	4.1	12.6	24.1	17	55.5	49	4.1	6.1	8.1	7.1	7.1	4.1	7.1	10.1	13.1	18.1	37.6	**S**	2.5	3.5	8.5	55.5	13.5	24
10	4	2.5	2	2.5	14	15	15.5	15.5	7	5	11.5	9.5	4.5	3.5	4.5	4	4	24.5	5.5	**S**	9	50	9	6	50	9.9	24
11	6	6.5	9	5.5	12.5	11	11.5	15.5	15	6	2	1	1	1.5	0.5	1	0.5	1	**S**	5.7	7.2	6.7	5.2	5.7	15.5	6.0	24
12	4.7	5.7	6.7	6.7	5.7	5.2	4.2	3.7	3.7	3.2	3.2	1.7	2.7	1.2	1.7	1.7	1.7	**S**	3.5	6	7	6.5	4	5	7	4.1	24
13	4	7	5	4.9	5	3.5	22.4	9.4	8.4	7.4	4.4	6	2.9	1.5	2.5	1.5	**S**	15	30	24	2.5	2	2.5	3	30	7.6	24
14	3.5	5	3.5	2.5	7	3.5	5	9.5	10.5	4	5.5	7	7	14	4	**S**	9	12.5	57	17	12	11	8.5	9.5	57	9.9	24
15	7.5	10.9	10.9	4.9	6	33.4	25.9	39.4	31.4	17.4	11.4	21.9	20.9	7.4	**S**	6.5	12	18.5	19	16.5	13	11.5	9.5	8.5	39.4	15.8	24
16	4.5	1.5	2	3.5	14.4	8.9	10.4	25.9	11.4	3.5	5.5	4.5	2.9	**S**	4.6	5.6	14.6	11.6	26.6	26	37	20	1	1	37	10.7	24
17	20	1.5	1.5	1.5	1.5	3.5	3.5	3	2.5	2	17	3.5	**S**	1.6	2.2	12.2	12.2	4.2	1.7	1.2	1.2	1.2	1.2	1.7	20	4.4	24
18	1.7	2.2	2.7	3.7	8.7	13.7	5.2	8.2	6.2	8.2	8.7	**S**	13	6	4	2	2.5	6.5	12	7.5	6	10	9.5	9.5	13.7	6.9	24
19	6	12	19.4	11.9	12.4	16.9	19.9	28.4	25.4	14.4	**S**	8.4	5	4.5	3	3	5.5	9.5	15	4	2.5	3.5	2	3.5	28.4	10.3	24
20	2	2	2	2.5	3.5	6.5	10	9.5	9.5	**S**	5.5	10	8	8	10.5	10.5	14.5	34	69.5	64	38.5	47	15.5	13	69.5	17.2	24
21	14.5	12	11.5	26	18	22.4	21.4	25.9	**S**	26.5	11	8.5	4.6	4.6	3.1	2.6	13.6	12.6	10.1	9.1	15.6	30.1	9.1	6.1	30.1	13.9	24
22	6.1	10.1	11.5	19	***87***	7.1	45.5	**S**	57.5	49.5	39.5	11	4.6	7.1	2.6	22.1	20.6	52.1	8.1	6.1	3.1	2.6	6.1	3.1	***87***	***21.0***	24
23	3.6	3.1	3.6	4.1	4.1	6.1	**S**	6	12	10.5	6.5	4	9.5	8	7	23	11.5	12	17	9	6.5	5.5	6	3	23	7.9	24
24	2	2	3	3	2.5	**S**	2.5	3.9	16.9	12.5	2.5	1.5	2	2	2	1.5	1	2	4.5	11	5.5	4.5	3	2.4	16.9	4.1	24
25	3.4	2.9	3.4	2.4	**S**	7.2	12.6	20.1	10.6	12.1	7.6	3.1	7.1	3.1	5.2	4.1	8.6	6.2	23.6	4.1	3.1	3.1	3.7	3.1	23.6	7.0	24
26	2.6	2.6	2.6	**S**	5.5	1.4	2.4	4	4	6	2.9	3.4	3.5	2.9	2.9	2.9	2.4	1.4	3.4	2.4	2.9	0.9	0.4	0.5	6	2.8	24
27	0.5	0.5	**S**	1.1	1.6	1.6	34.6	41.1	43.1	1.6	22.1	20.1	1.6	13.6	2.1	0.7	2.1	2.1	1.1	8.6	10.6	12.6	8.1	6.2	43.1	10.3	24
28	3.6	**S**	4.5	7.5	6.1	5	3.5	17.5	20	10	4.5	8	9.5	5.5	16.5	5	6.6	7.1	5	4.5	2.5	5.6	4.5	5.6	20	7.3	24
29	**S**	3.9	7.4	6.9	6.4	9.4	9.4	12.9	20.4	34.9	18.9	5.9	6.5	6.5	20.9	7.4	11.4	8.9	8.4	5.4	7	2.9	2.9	**S**	34.9	10.2	24
30	7	2.4	2.9	6.5	5.4	4.9	4.4	7.4	4.9	32.9	11.9	1.9	3.9	7.9	3.4	29.9	37.9	1.9	1.9	2.4	1.4	0.9	**S**	1	37.9	8.0	24
31	1	1	1	1.5	1.5	2	2.5	10	5	4.5	4	3	8.5	4.5	7.5	11	32.1	11.1	12.1	10.6	13.1	**S**	9	5.6	32.1	7.0	24
HOURLY MAX	24	21	19	26	87	33	46	56	58	50	40	22	21	14	21	30	38	52	70	64	39	50	16	19			
HOURLY AVG	5.3	5.1	5.5	5.9	10.3	9.3	13.1	16.2	15.2	11.5	9.5	6.3	5.4	5.1	4.9	6.5	9.4	10.1	13.3	10.6	8.2	9.6	5.2	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: 701

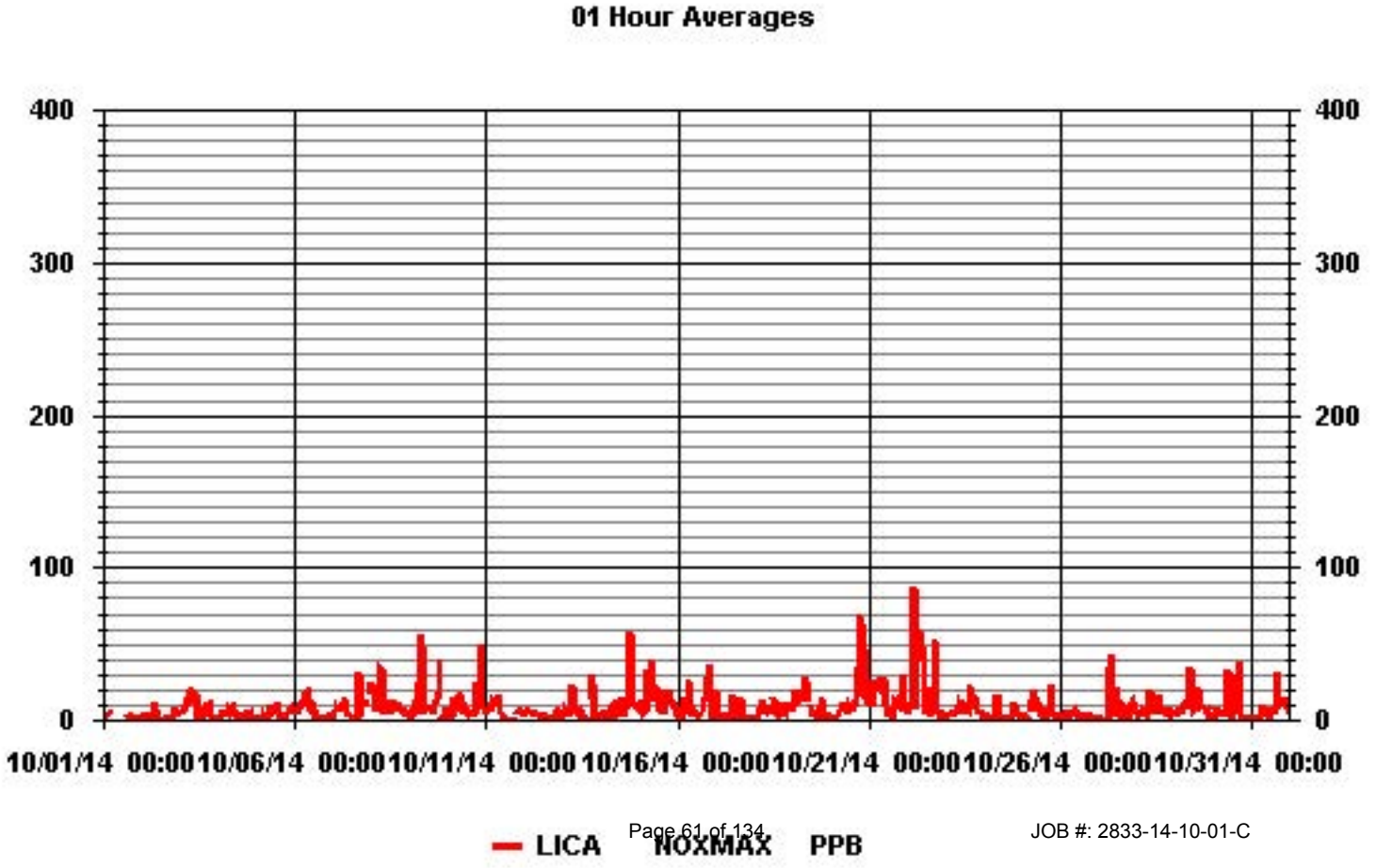
MAXIMUM INSTANTANEOUS VALUE: 87 PPB @ HOUR(S) 4 ON DAY(S) 22

VAR-VARIOUS

IZS CALIBRATION TIME: 35 HRS OPERATIONAL TIME: 744 HRS

MONTHLY CALIBRATION TIME: 8 HRS

STANDARD DEVIATION: 9.81



JOB #: 2833-14-10-01-C

LICA
NOX_ / WD Joint Frequency Distribution (Percent)

October 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	1.16	2.03	2.91	3.34	7.71	10.33	20.96	2.18	1.60	1.31	3.63	13.39	13.53	5.96	7.13	2.76	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	1.16	2.03	2.91	3.34	7.71	10.33	20.96	2.18	1.60	1.31	3.63	13.39	13.53	5.96	7.13	2.76	

Calm : .00 %

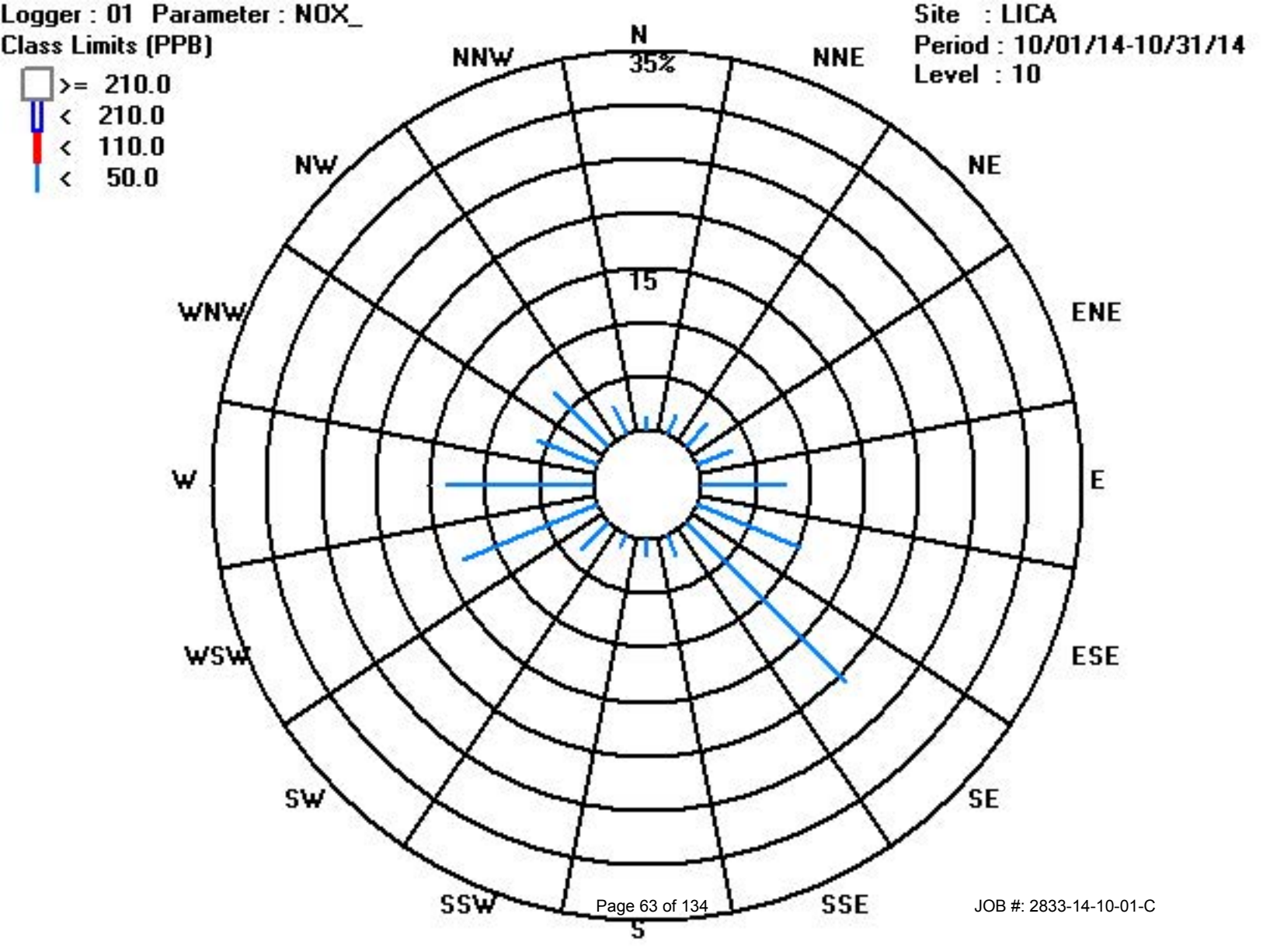
Total # Operational Hours : 687

Distribution By Samples

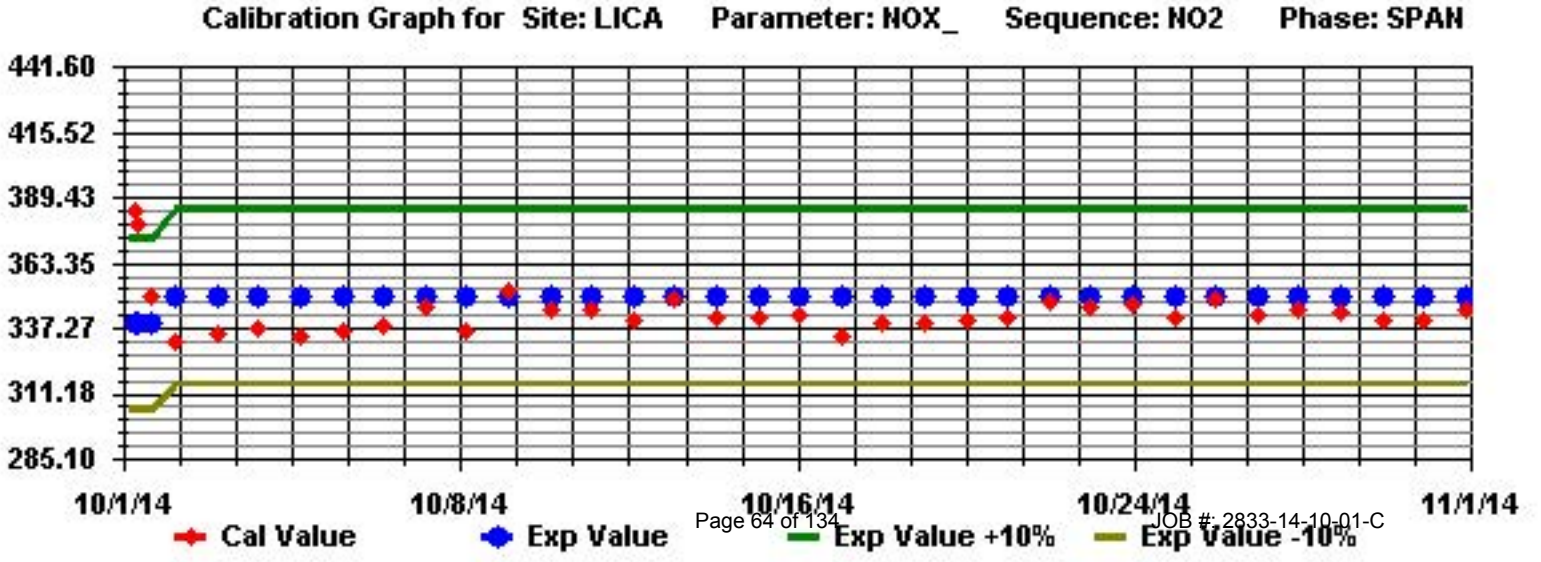
		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	8	14	20	23	53	71	144	15	11	9	25	92	93	41	49	19	687
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	8	14	20	23	53	71	144	15	11	9	25	92	93	41	49	19	

Calm : .00 %

Total # Operational Hours : 687



JOB #: 2833-14-10-01-C


Calibration Graph for Site: LICA Parameter: NOX_ Sequence: NO2 Phase: SPAN
441.60
415.52
389.43
363.35
337.27
311.18
285.10
10/1/14
10/8/14
10/16/14
10/24/14
11/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ozone

Lakeland Industry & Community Association - Cold Lake South Site

OCTOBER 2014

OZONE (O3) hourly averages in ppb

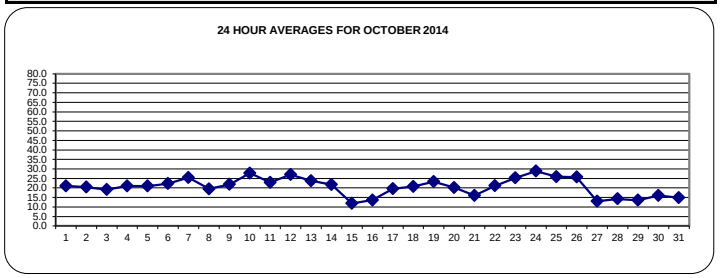
MST

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	16	18	16	14	13	**S**	7	9	14	18	21	28	33	35	37	**C**	**C**	**C**	**C**	34	33	30	13	10	37	21.0	24
2	10	10	15	15	**S**	15	17	19	22	22	23	22	26	26	26	26	25	24	23	22	19	21	21	21	26	20.4	24
3	19	18	17	**S**	10	7	5	7	12	17	21	24	25	26	25	26	24	21	21	23	23	24	23	22	26	19.1	24
4	22	22	**S**	21	19	16	13	13	14	16	18	21	25	28	31	29	29	27	24	21	19	19	19	18	31	21.0	24
5	19	**S**	20	19	19	17	16	15	14	11	12	12	14	20	29	34	36	35	32	27	24	23	19	15	36	21.0	24
6	**S**	16	14	12	7	6	6	8	16	18	20	26	29	29	30	31	35	36	33	32	32	29	26	**S**	36	22.3	24
7	21	19	14	15	19	18	17	17	24	26	34	37	40	40	41	40	40	39	32	22	17	10	**S**	4	41	25.5	24
8	7	17	20	19	19	12	4	11	20	23	24	25	26	25	23	23	22	22	22	21	21	**S**	21	21	26	19.5	24
9	22	21	20	18	13	3	3	3	15	20	21	26	28	32	34	36	37	32	19	13	**S**	29	29	28	37	21.8	24
10	31	31	30	29	23	17	16	18	25	25	27	32	37	38	38	38	36	36	33	**S**	26	19	18	16	38	27.8	24
11	11	6	4	4	3	5	6	8	13	27	36	37	38	39	39	40	40	38	**S**	30	28	24	25	26	40	22.9	24
12	27	26	26	25	25	24	24	22	25	26	27	29	31	33	33	33	33	**S**	29	27	25	25	23	22	33	27.0	24
13	19	21	19	19	18	12	7	6	15	21	27	28	32	35	36	38	**S**	25	12	27	32	32	32	32	38	23.7	24
14	32	32	31	30	28	27	27	25	23	26	24	24	24	24	24	**S**	18	15	8	6	5	9	18	19	32	21.7	24
15	20	15	7	8	15	4	1	1	3	9	15	15	18	23	**S**	25	21	12	6	8	5	13	15	13	25	11.8	24
16	18	16	16	14	12	10	10	8	13	16	17	16	17	**S**	20	20	21	14	4	2	1	15	17	16	21	13.6	24
17	15	14	12	11	10	10	10	11	12	15	17	21	**S**	31	30	30	28	27	26	26	25	24	23	22	31	19.6	24
18	22	21	20	18	16	13	14	9	11	15	19	**S**	22	30	32	37	37	35	25	20	19	17	10	14	37	20.7	24
19	19	7	4	2	2	1	1	1	3	16	**S**	29	34	37	42	***44***	40	36	36	38	38	37	36	33	***44***	23.3	24
20	31	30	28	27	26	24	20	20	20	**S**	23	24	26	28	30	32	29	10	2	1	1	17	10	5	32	20.2	24
21	2	1	1	2	1	1	1	3	**S**	12	24	27	35	36	37	37	33	27	25	23	14	10	9	7	37	16.0	24
22	7	5	4	2	1	1	1	**S**	2	9	19	29	37	39	40	38	31	19	34	35	34	33	32	33	40	21.1	24
23	32	31	30	29	29	28	**S**	25	20	21	22	23	23	25	29	20	24	20	20	24	25	26	28	29	32	25.3	24
24	31	31	30	29	26	**S**	24	23	22	24	29	30	30	30	30	32	33	33	31	31	28	29	29	28	33	***28.8***	24
25	27	25	24	24	**S**	18	15	9	16	20	23	27	30	33	33	33	30	29	31	30	29	29	29	32	33	25.9	24
26	33	33	32	**S**	30	30	29	28	28	27	27	27	27	26	25	25	24	22	21	21	21	20	18	17	33	25.7	24
27	17	18	**S**	19	18	17	14	9	10	11	11	13	14	15	16	16	15	14	13	9	5	5	8	13	19	13.0	24
28	14	**S**	12	12	9	9	9	7	6	10	15	16	16	21	20	20	18	15	16	17	17	17	16	16	21	14.3	24
29	**S**	16	15	15	14	13	11	11	12	14	14	14	14	15	14	14	13	12	11	11	13	15	16	**S**	16	13.5	24
30	13	14	14	13	14	17	16	13	13	12	12	15	15	15	17	17	17	18	19	21	22	22	**S**	19	22	16.0	24
31	18	18	18	18	16	16	16	15	15	15	16	17	18	19	18	16	13	13	13	10	10	**S**	8	7	19	14.9	24
HOURLY MAX	33	33	32	30	30	30	29	28	28	27	36	37	40	40	42	44	40	39	36	38	38	37	36	33			
HOURLY AVG	19.8	19.0	17.7	16.7	15.7	13.5	12.0	12.5	15.3	18.1	21.3	23.8	26.1	28.4	29.3	29.3	27.7	24.3	21.4	21.1	20.4	21.5	20.4	19.2			

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

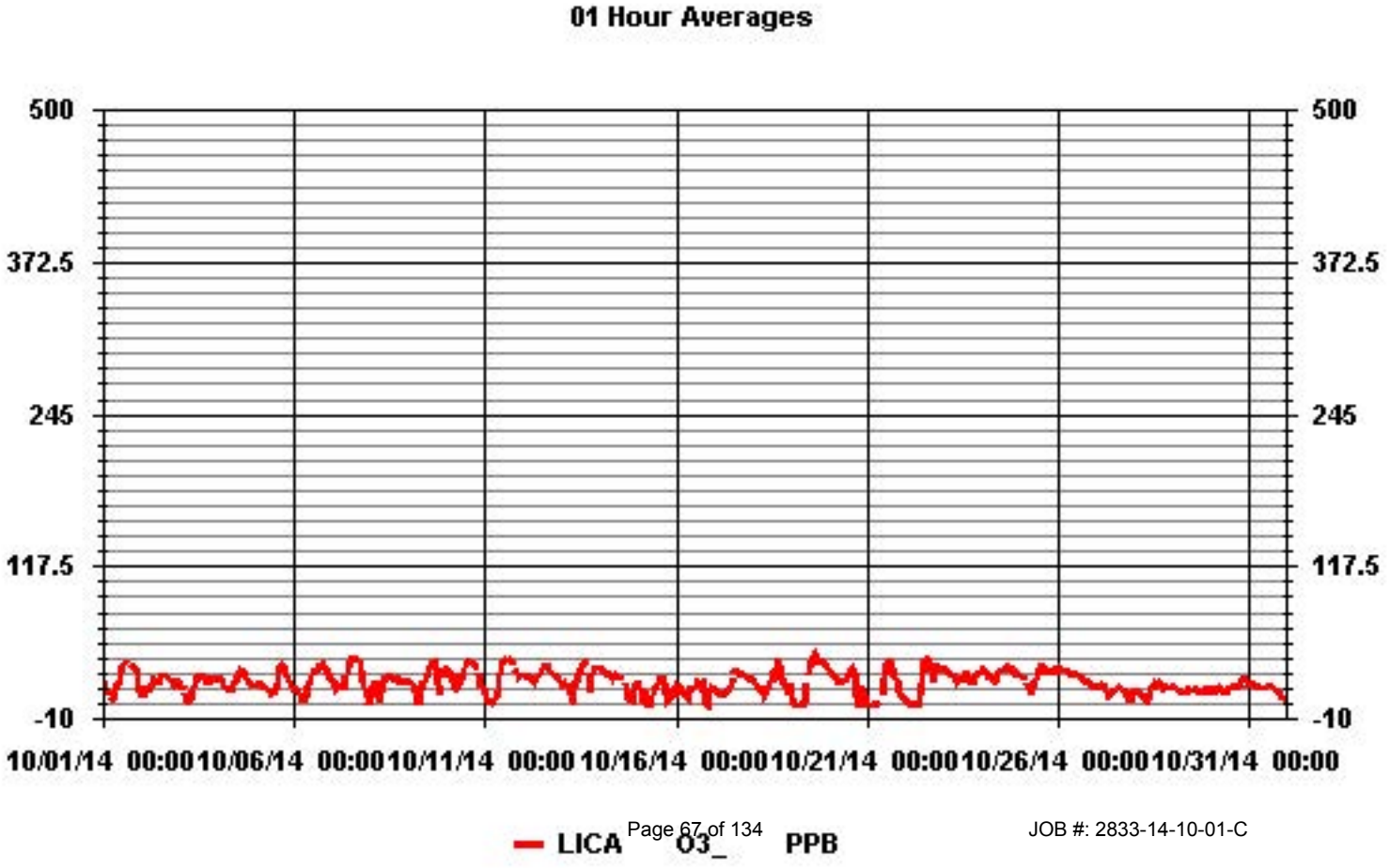
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 82 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	707					
MAXIMUM 1-HR AVERAGE:	44	PPB	@ HOUR(S)	15	ON DAY(S)	19
MAXIMUM 24-HR AVERAGE:	28.8	PPB			ON DAY(S) VAR-VARIOUS	24

IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	744	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	9.43		MONTHLY AVERAGE:	20.60	PPB



JOB #: 2833-14-10-01-C

Lakeland Industry & Community Association - Cold Lake South Site

OCTOBER 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	19	19	19	15	14	**S**	10	12	18	19	24	32	34	38	39	**C**	**C**	**C**	**C**	**C**	34	32	24	11	39	22.9	24
2	11	13	17	16	**S**	16	19	21	23	24	24	23	27	27	27	27	26	25	23	23	21	22	22	22	27	21.7	24
3	20	19	18	**S**	13	9	6	10	16	20	24	26	26	27	26	26	26	24	24	24	24	24	24	23	27	20.8	24
4	23	23	**S**	22	21	19	15	16	16	17	20	24	27	31	35	30	30	29	26	23	21	20	20	19	35	22.9	24
5	21	**S**	21	20	20	18	17	17	15	13	13	13	16	24	31	37	37	37	34	31	26	26	24	19	37	23.0	24
6	**S**	20	19	15	11	12	8	13	20	20	23	28	30	32	31	32	38	37	35	34	32	31	28	**S**	38	25.0	24
7	22	21	16	17	20	20	19	19	26	29	36	40	41	41	42	41	42	40	38	29	23	14	**S**	6	42	27.9	24
8	16	23	25	23	22	17	7	21	21	26	26	26	27	26	26	25	24	24	23	23	23	**S**	23	22	27	22.6	24
9	23	22	21	19	19	6	6	8	18	20	23	28	29	37	36	37	39	37	26	19	**S**	31	31	30	39	24.6	24
10	33	32	31	30	27	21	19	25	26	27	29	35	39	39	39	39	38	37	36	**S**	33	30	29	24	39	***31.2***	24
11	17	10	7	6	6	9	8	9	21	32	38	38	39	39	40	41	41	39	**S**	33	31	28	26	27	41	25.4	24
12	28	27	27	26	26	26	25	23	26	27	29	31	33	34	34	33	33	**S**	30	30	27	26	25	23	34	28.2	24
13	23	22	21	21	21	19	12	9	20	23	29	29	33	36	38	39	**S**	32	28	33	33	33	33	33	39	27.0	24
14	33	34	33	30	30	28	28	27	26	27	26	25	25	25	25	**S**	19	18	13	9	7	16	20	21	34	23.7	24
15	23	20	12	17	20	11	4	2	8	14	16	18	22	25	**S**	28	24	18	10	10	9	17	16	16	28	15.7	24
16	19	18	16	15	14	12	12	11	16	17	18	17	18	**S**	22	22	22	18	7	5	5	19	19	17	22	15.6	24
17	16	15	13	11	11	11	11	12	15	16	19	24	**S**	32	31	31	29	28	26	26	26	25	24	23	32	20.7	24
18	22	22	21	20	18	16	16	12	14	18	20	**S**	27	32	35	39	39	38	33	26	23	23	17	22	39	24.0	24
19	25	15	7	4	4	3	2	2	7	21	**S**	32	37	39	46	47	42	39	38	39	39	38	38	35	47	26.0	24
20	32	30	29	27	26	26	22	21	22	**S**	23	25	27	30	32	33	31	25	2	2	1	29	24	8	33	22.9	24
21	4	2	3	3	2	1	2	5	**S**	19	27	31	37	37	38	39	36	31	26	26	23	15	13	11	39	18.7	24
22	10	9	5	3	2	2	5	**S**	3	20	27	34	40	40	41	42	37	34	***48***	37	35	35	33	33	***48***	25.0	24
23	33	32	31	30	31	29	**S**	27	22	23	23	23	25	29	30	22	26	24	23	26	25	27	29	30	33	27.0	24
24	32	31	31	30	27	**S**	25	24	24	27	31	32	30	30	31	34	34	34	32	32	30	30	30	29	34	30.0	24
25	29	28	25	25	**S**	20	20	15	20	22	26	28	37	36	34	34	33	31	32	31	30	30	31	34	37	28.3	24
26	34	34	34	**S**	31	30	30	29	29	28	28	28	27	28	26	25	26	23	22	22	22	20	20	17	34	26.7	24
27	18	19	**S**	20	20	17	17	12	12	12	13	14	14	16	17	17	16	15	15	13	7	10	13	15	20	14.9	24
28	15	**S**	14	12	11	10	10	8	8	14	18	18	22	22	22	21	19	17	17	18	18	18	18	16	22	15.9	24
29	**S**	17	16	16	16	15	13	13	14	16	15	15	15	16	16	15	15	13	12	13	15	17	17	**S**	17	15.0	24
30	14	15	15	14	15	19	17	15	15	14	14	16	16	16	17	18	18	19	20	21	22	23	**S**	20	23	17.1	24
31	18	18	19	18	17	17	17	16	15	16	17	19	19	19	19	19	15	16	15	12	14	**S**	11	9	19	16.3	24
HOURLY MAX	34	34	34	30	31	30	30	29	29	32	38	40	41	41	46	47	42	40	48	39	39	38	38	35			
HOURLY AVG	21.8	21.0	19.5	18.1	17.8	15.8	14.1	15.1	17.9	20.7	23.3	25.7	28.0	30.1	30.9	30.8	29.5	27.7	24.6	23.1	22.6	24.4	23.5	21.2			

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: 706

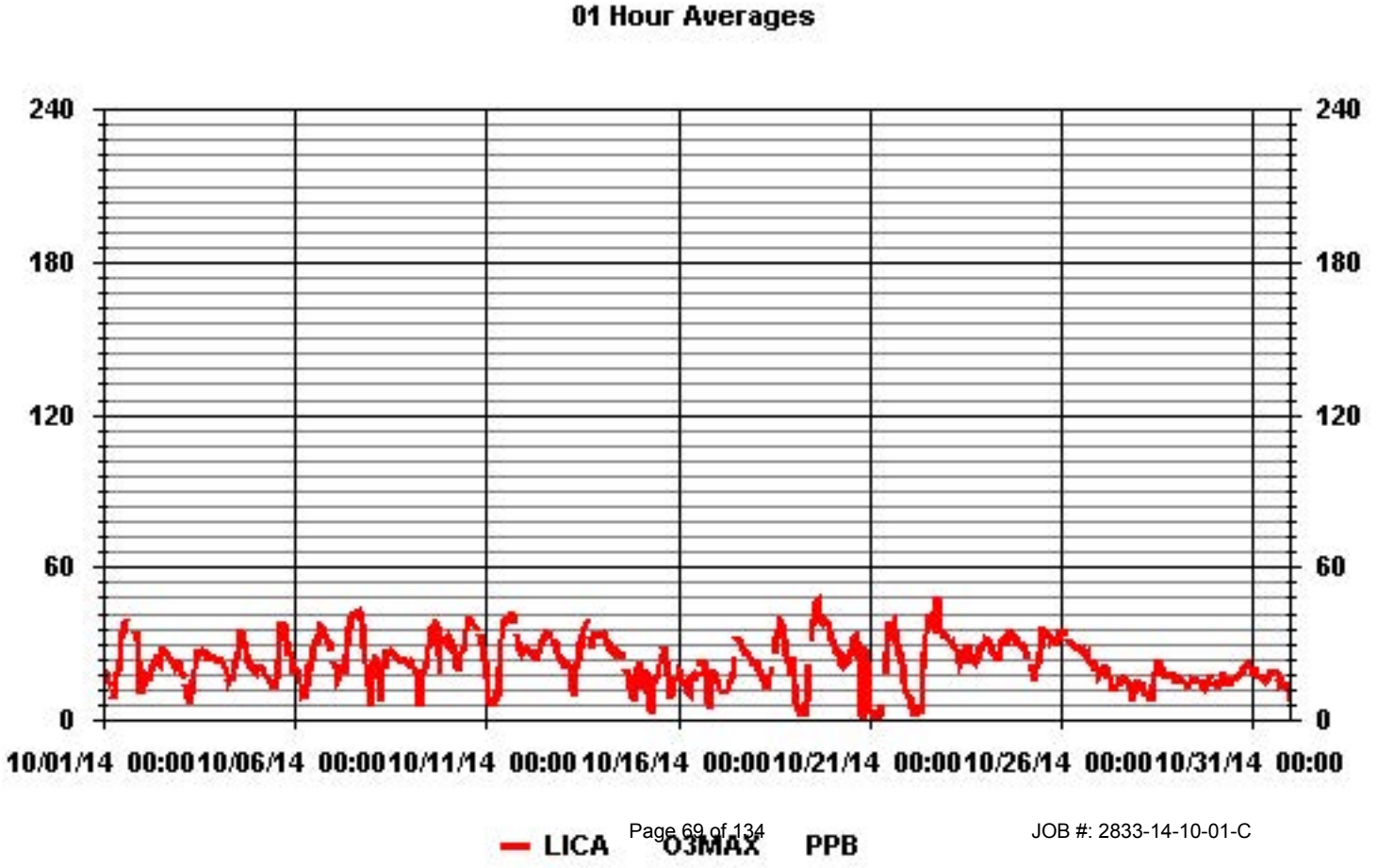
MAXIMUM INSTANTANEOUS VALUE: 48 PPB @ HOUR(S) 18 ON DAY(S) 22

VAR-VARIOUS

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 744 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION: 9.20



JOB #: 2833-14-10-01-C

LICA
O3_ / WD Joint Frequency Distribution (Percent)

October 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	1.15	2.02	2.88	3.31	7.64	10.24	20.77	2.16	1.58	1.29	3.75	13.41	13.70	6.20	7.07	2.74	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	1.15	2.02	2.88	3.31	7.64	10.24	20.77	2.16	1.58	1.29	3.75	13.41	13.70	6.20	7.07	2.74	

Calm : .00 %

Total # Operational Hours : 693

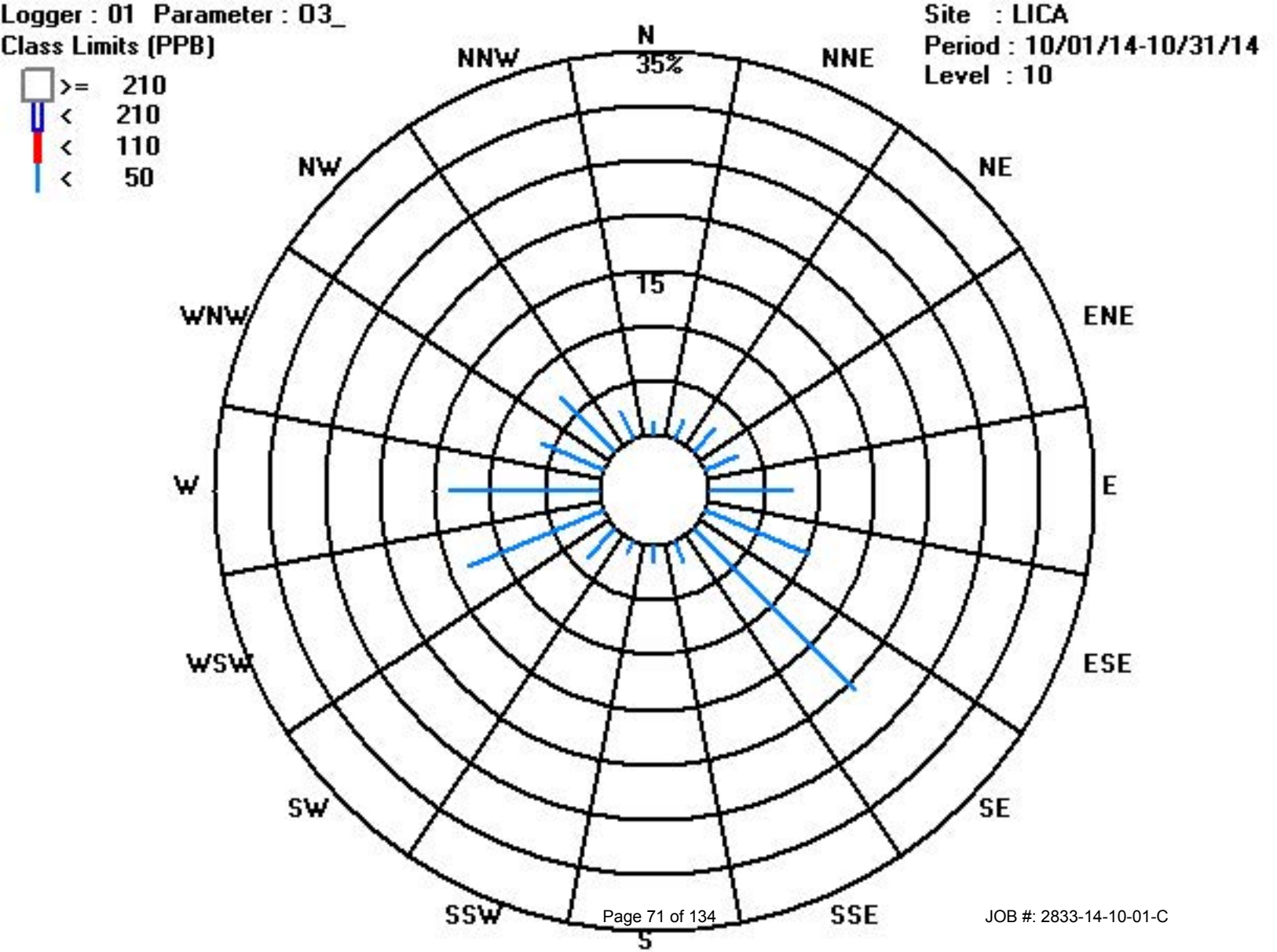
Distribution By Samples

Direction

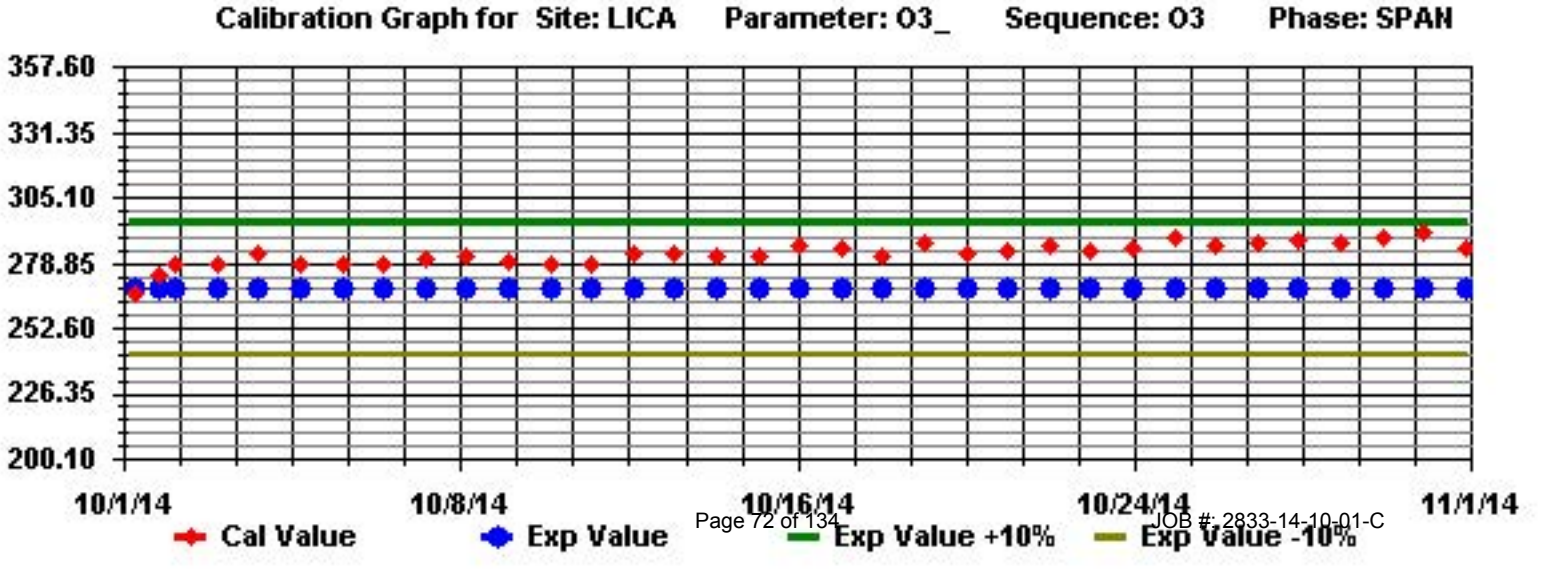
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	8	14	20	23	53	71	144	15	11	9	26	93	95	43	49	19	693
<	110																	
<	210																	
>=	210																	
	Totals	8	14	20	23	53	71	144	15	11	9	26	93	95	43	49	19	

Calm : .00 %

Total # Operational Hours : 693



JOB #: 2833-14-10-01-C


Calibration Graph for Site: LICA Parameter: O3_ Sequence: O3 Phase: SPAN
357.60
331.35
305.10
278.85
252.60
226.35
200.10
10/1/14
10/8/14
10/16/14
10/24/14
11/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ambient Temperature

Lakeland Industry & Community Association - Cold Lake South Site

OCTOBER 2014

AMBIENT TEMPERATURE (TPX) hourly averages in Degrees Celsius

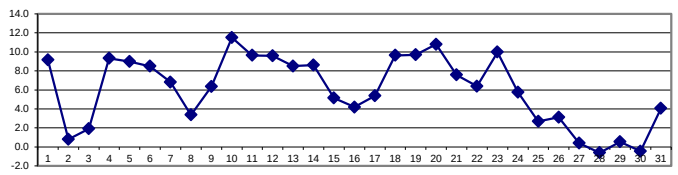
MST

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	9.8	8.9	7.8	7.1	6.2	5.3	4.6	4.7	6.7	9.1	10.9	13.4	14.7	15.2	15	14.3	12.4	11	10	9.3	8.2	6.7	5	3.6	15.2	9.2	24
2	3.2	1.9	0.8	0.6	0.2	0.3	0.3	0.6	1.1	1.2	1.7	1.4	1	1	1.1	1.5	2	1.8	1.4	0.4	-0.1	-1	-1.4	-1.9	3.2	0.8	24
3	-2.1	-2.3	-2.7	-3.1	-3.7	-3.9	***-4.5***	-3.3	-0.5	1.6	3.5	4.6	5.8	6	6.1	6	5.6	5.3	4.7	4.6	4.5	4.5	4.5	4.5	6.1	1.9	24
4	4.6	4.6	5.1	5.2	5.1	4.9	4.3	4.5	7.2	9	11.4	13.7	14.9	15.8	16.6	16.5	16	15.1	12.1	10	8	6.7	6.2	6.4	16.6	9.3	24
5	6.4	5.9	5.6	5.4	5.1	5	5.2	5.2	5.6	6.2	7	8.3	11.6	14.8	17	17.6	16.8	14.9	12.7	10.4	9.3	8.1	6	5.4	17.6	9.0	24
6	5.9	6.6	6.2	5.8	6	6	6.3	6.8	7.3	7.3	8.5	10.6	11.8	12.1	12.2	12.4	12.1	11.2	10.5	9.9	8.6	7.3	6.5	5.7	12.4	8.5	24
7	4.5	3.4	2.9	3.8	4.7	5.1	5	5.4	7	8.3	10.8	12	12.6	13.3	13.2	12.9	11.9	10.2	7.3	4	2.9	1.1	0.4	0.8	13.3	6.8	24
8	1.5	2	2.2	2.2	1.7	0.2	-1	0.5	1.7	2.6	3.5	4.2	5.2	5.3	5.6	5.5	5.4	5.3	5.1	4.8	4.7	4.3	4.3	4.1	5.6	3.4	24
9	3.9	3.3	2.8	1.6	-0.2	-1.2	-1.8	-1	3.2	4.9	7.5	9.8	10.9	12.4	12.9	12.9	12.9	11.5	9.3	7.1	6.8	7.4	7.7	7.9	12.9	6.4	24
10	8.1	7.8	7.7	7.5	6.2	4.5	3.9	4.6	7.9	10.3	13.4	16.7	18.8	19.6	20	19.4	18.6	17.7	15.5	13.9	11.4	8.8	7.5	6.3	20	***11.5***	24
11	4.4	3	2.5	3.3	4	4.8	6.4	7.5	9.5	13.2	14.5	14.6	15.6	16.1	16	16.2	15.7	13.9	11.2	9	8.9	7.5	6.8	6.4	16.2	9.6	24
12	6.1	6.2	6.4	6.2	6.4	5.6	4.7	4.5	7.1	9.4	11.5	13.3	14.3	15	15	14.5	14.5	12.8	11.6	11.4	10.8	9.4	7.4	6	15	9.6	24
13	4.6	4.5	3.6	3.7	3.1	0.9	-0.6	-0.1	4.2	7	11	12.6	13.9	15.7	16.5	16.6	15.8	12.6	9.3	9.9	10.3	10	9.6	9.4	16.6	8.5	24
14	9.1	9.6	9.6	8.8	8.5	8	7.7	7.6	7.9	8.4	8.6	9.6	10.9	11.6	12	11.8	11.8	11.3	8.3	5.7	4.1	4.4	5.6	5.5	12	8.6	24
15	5.7	3.8	1.3	0	1.3	-0.2	-0.4	0.2	1.9	4.4	6.5	7.7	8.5	9.3	9.6	9.3	8.7	8	7.5	6.1	5.9	6.3	6.1	5.9	9.6	5.1	24
16	6.5	5.9	4.4	3.2	1.9	0.9	1.8	2.1	3.4	4.3	5.3	6.3	7.4	8.2	8.4	8	7.9	5.7	2.4	0.6	-0.2	1.9	2.3	1.9	8.4	4.2	24
17	1.2	0.8	0.4	0.2	-0.5	-0.5	-0.2	0.2	1	2.1	3.7	6.9	9.8	11.9	12.5	12.1	11	9.7	8.5	8.4	8.3	7.7	7.1	7	12.5	5.4	24
18	6.9	6.7	6.7	6.4	5.9	5.8	6	5.5	6.9	9.1	11.7	13.5	15.7	17.1	18.1	18.5	17.2	14.8	10.9	8	6.7	5.3	3.7	4	18.5	9.6	24
19	4.6	2.2	1.2	0.5	0	-0.4	-1	-0.7	3.9	9.8	12.2	14.7	16.7	18.8	20.4	***20.8***	18.8	15.6	14	13.3	12.9	11.7	11.6	11	***20.8***	9.7	24
20	10.3	9.3	8.7	8.2	7.8	6.9	5.3	5.2	7.8	10.1	12.2	14.5	16.6	18.5	19.1	19.8	18.5	12.9	9.7	8.3	6.7	9.4	7.4	5.5	19.8	10.8	24
21	4.5	3.9	3.2	2.7	2.1	2.1	1.7	2.2	4.3	8.2	11.4	12.3	14.3	14.6	15	14.3	13.1	12.3	11.1	9.7	7.4	5.5	3.6	2.4	15	7.6	24
22	2.2	1.7	0.6	-0.2	-0.9	-1.5	-2.1	-2.3	1.8	7.5	10.3	14	15.3	16.2	16.5	15.6	13.8	**X**	**X**	**X**	**X**	**X**	**X**	**X**	16.5	6.4	17
23	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	5.8	7	8.9	11.3	13.4	15.6	17.2	12.9	13.3	10.5	9	8.9	7.9	6.8	5.7	5.3	17.2	10.0	16
24	6.1	5.7	5.5	5	5.2	4.3	3.9	3.7	4.5	5.2	6.7	7.4	7.6	8.2	8.9	9.4	8.7	7.8	6.1	5.1	3.7	3.4	3.4	2.4	9.4	5.7	24
25	2	0.6	0.2	0	-1.2	-1.5	-2	-3.2	-0.4	1.9	3.7	4.7	5.1	5.4	5.8	5.9	5.4	4.9	5	4.9	4.7	4.4	3.9	4.1	5.9	2.7	24
26	4	3.9	4.2	4.3	4.3	3.7	3.2	2.7	2.6	2.8	3	3.5	3.5	3.3	3	3.1	3.1	2.8	2.8	2.7	2.6	2.2	2	1.3	4.3	3.1	24
27	1	1	1.2	1.1	0.7	0.4	0.4	0.4	0.4	0.6	1	1.3	1.4	0.9	1.1	1.4	1.2	0.4	-0.1	-0.7	-1.3	-1.5	-1.4	-1.6	1.4	0.4	24
28	-1.5	-1.8	-1.7	-1.6	-1.5	-1.6	-1.5	-1.5	-1.3	-0.8	-0.3	-0.2	0	0.2	0.2	0.3	0.2	0.2	0.1	0	-0.1	-0.1	0	-0.3	0.3	-0.6	24
29	-0.4	-0.4	-0.6	-0.4	-0.1	0	0.1	0.2	0.5	0.7	1	1.2	1.3	1.7	1.9	2.1	1.9	1.2	0.7	0.6	0.5	0.2	-0.2	-0.6	2.1	0.5	24
30	-0.7	-0.7	-0.7	-1.1	-0.9	-0.9	-1.2	-1.1	-0.9	-0.6	0.1	0.7	0.8	0.8	0.2	-0.2	-0.5	-0.6	-0.7	-0.7	-0.6	-0.6	-0.5	-0.1	0.8	-0.4	24
31	0.4	0.7	1	1.1	1.3	1.6	1.6	1.5	1.7	2.7	4.3	6.4	7.4	7.9	8.4	8.2	7.2	6.3	5.8	5.6	5.1	4.1	3.7	3.3	8.4	4.1	24
HOURLY MAX	10.3	9.6	9.6	8.8	8.5	8	7.7	7.6	9.5	13.2	14.5	16.7	18.8	19.6	20.4	20.8	18.8	17.7	15.5	13.9	12.9	11.7	11.6	11			
HOURLY AVG	4.1	3.6	3.2	2.9	2.6	2.2	1.9	2.1	3.9	5.6	7.3	8.7	9.9	10.7	11.1	11.0	10.4	8.9	7.4	6.4	5.6	5.1	4.5	4.1			

STATUS FLAG CODES

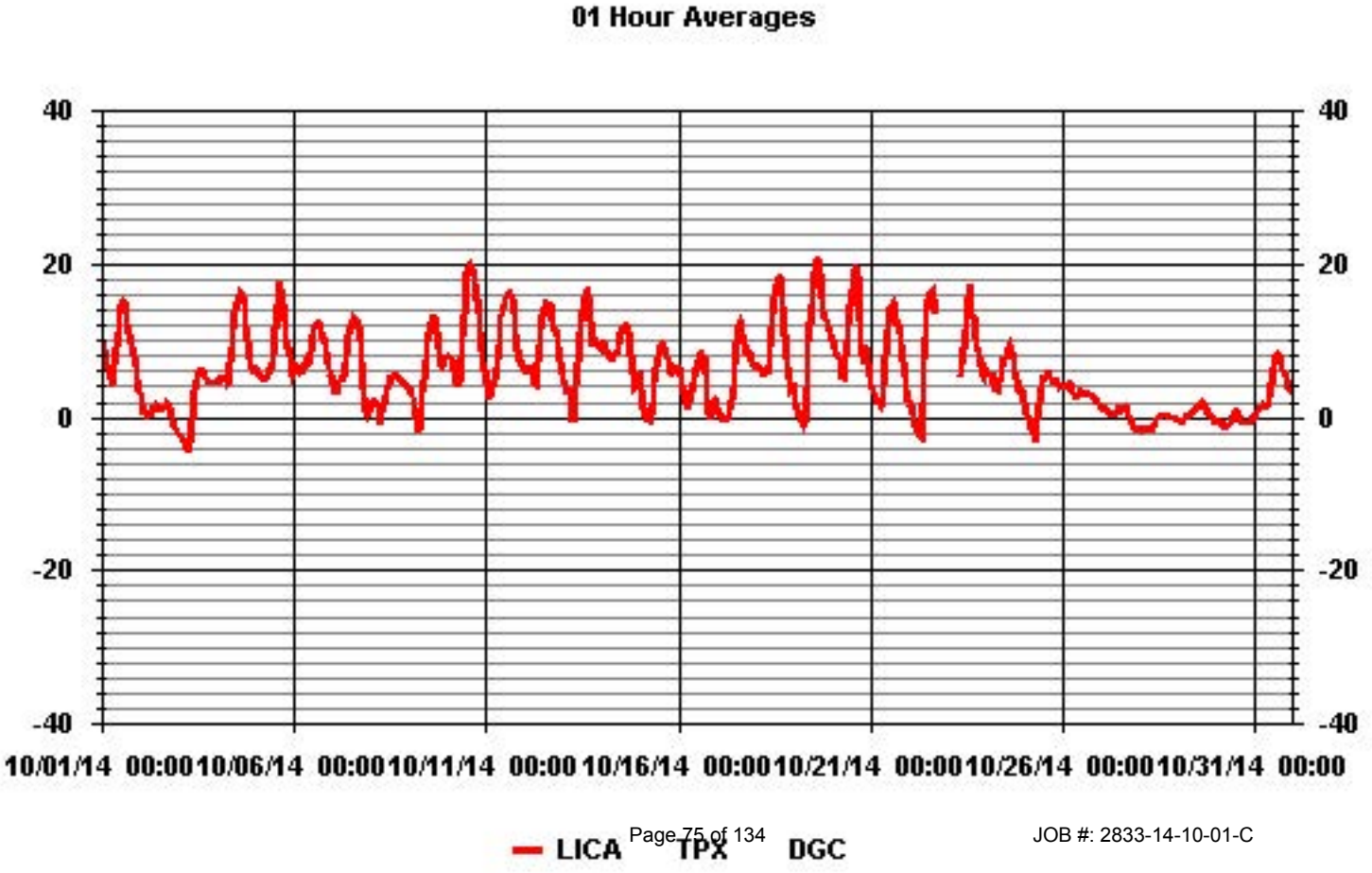
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

24 HOUR AVERAGES FOR OCTOBER 2014



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-4.5	°C	@ HOUR(S)	6	ON DAY(S)	3
MAXIMUM 1-HR AVERAGE:	20.8	°C	@ HOUR(S)	15	ON DAY(S)	19
MAXIMUM 24-HR AVERAGE:	11.5	°C			ON DAY(S)	10
					VAR-VARIOUS	
			OPERATIONAL TIME:		729	HRS
			AMD OPERATION UPTIME:		98.0	%
STANDARD DEVIATION:	5.23		MONTHLY AVERAGE:		5.99	°C



JOB #: 2833-14-10-01-C

Relative Humidity

Lakeland Industry & Community Association - Cold Lake South Site

OCTOBER 2014

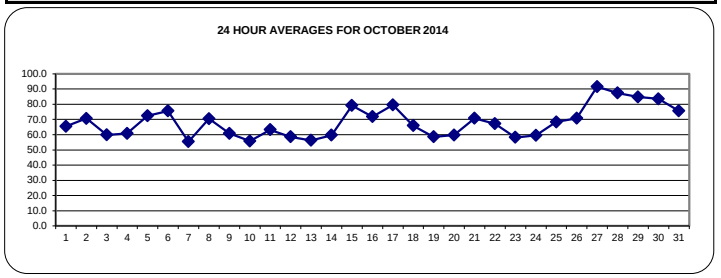
RELATIVE HUMIDITY (RH) hourly averages in %

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	90	88	90	92	93	94	93	94	86	76	65	51	41	36	32	31	38	44	50	53	52	57	59	65	94	65.4	24
2	77	90	89	84	81	84	81	78	71	72	64	69	62	59	56	57	58	58	60	65	68	70	71	72	90	70.7	24
3	72	74	76	79	83	84	86	83	73	64	50	43	40	42	42	43	45	47	50	51	51	50	53	55	86	59.8	24
4	55	56	53	54	57	61	65	68	60	55	54	53	51	49	47	48	50	53	65	72	79	84	86	85	86	60.8	24
5	84	84	86	86	88	89	89	92	94	94	85	78	66	55	45	38	37	42	51	62	66	70	78	80	94	72.5	24
6	80	77	79	82	88	92	91	89	90	95	92	84	73	66	62	59	55	54	59	62	64	69	74	79	95	75.6	24
7	84	89	91	87	80	78	76	72	62	55	35	28	23	22	***21***	***21***	23	26	37	53	60	68	69	69	91	55.4	24
8	71	73	77	79	80	84	87	86	83	77	72	69	64	62	60	60	61	61	62	63	63	65	65	66	87	70.4	24
9	66	68	72	76	83	87	86	85	73	66	57	47	45	41	39	38	37	43	54	61	60	59	59	58	87	60.8	24
10	56	57	58	60	66	72	75	73	63	56	49	43	37	36	36	38	41	43	48	51	60	68	74	78	78	55.8	24
11	84	88	89	87	88	89	91	90	83	63	49	46	43	39	37	35	34	39	47	53	54	61	64	65	91	63.3	24
12	66	67	67	69	70	73	76	78	68	62	56	50	46	42	42	43	43	47	51	51	52	56	63	68	78	58.6	24
13	74	73	76	75	76	82	87	83	71	62	49	45	40	34	31	29	31	41	53	47	46	47	49	50	87	56.3	24
14	50	47	47	50	52	55	56	57	58	57	59	57	54	52	52	53	54	56	67	74	79	80	81	84	84	59.6	24
15	84	86	89	92	93	93	91	92	91	89	81	73	69	63	59	58	63	67	72	77	80	79	79	81	93	79.2	24
16	72	77	77	80	84	88	89	86	74	68	63	63	59	56	52	52	51	63	74	79	80	76	79	83	89	71.9	24
17	86	89	91	92	95	98	99	99	***100***	***100***	***100***	79	64	57	55	57	61	65	67	67	68	70	73	75	***100***	79.5	24
18	77	79	81	83	85	86	84	86	81	70	58	52	44	39	37	37	40	44	55	64	68	74	80	79	86	66.0	24
19	77	82	84	85	87	88	89	89	76	62	56	48	42	36	30	25	30	37	42	45	47	49	48	53	89	58.6	24
20	58	62	66	68	70	74	81	81	71	62	55	47	40	35	33	32	36	52	64	68	72	62	69	75	81	59.7	24
21	79	80	82	86	88	88	89	89	84	74	65	62	47	45	44	44	51	56	61	65	73	78	82	86	89	70.8	24
22	88	89	89	88	89	90	92	90	81	70	61	48	39	32	30	29	36	**X**	**X**	**X**	**X**	**X**	**X**	**X**	92	67.1	17
23	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	75	71	65	56	50	44	41	56	50	59	61	56	58	61	64	64	75	58.2	16
24	63	64	66	69	69	69	71	73	71	68	61	58	57	54	49	44	43	46	48	50	55	58	60	64	73	59.6	24
25	67	73	78	80	83	83	85	88	79	75	71	64	60	56	55	54	56	58	57	59	59	62	68	70	88	68.3	24
26	72	73	64	59	59	60	62	62	64	66	65	64	66	71	72	72	75	79	78	80	81	84	84	87	87	70.8	24
27	89	90	88	87	88	94	94	96	97	96	94	91	91	94	92	88	89	89	90	91	92	92	92	92	97	***91.5***	24
28	92	94	95	95	94	94	94	94	93	90	84	84	85	78	79	80	82	83	83	83	84	85	85	86	95	87.3	24
29	86	85	86	86	85	86	86	88	86	85	84	83	82	79	78	77	79	87	92	92	89	85	84	85	92	84.8	24
30	87	87	87	87	84	84	86	85	85	85	85	83	81	80	80	82	83	82	82	82	81	81	82	83	87	83.5	24
31	83	83	82	82	82	82	82	83	83	79	73	66	63	61	61	63	67	71	73	74	76	80	81	84	84	75.6	24
HOURLY MAX	92	94	95	95	95	98	99	99	100	100	100	91	91	94	92	88	89	89	92	92	92	92	92	92			
HOURLY AVG	75.6	77.5	78.5	79.3	80.7	82.7	83.8	83.6	78.3	73.0	66.4	60.8	55.6	52.1	50.0	49.8	51.6	56.4	61.8	65.0	67.2	69.3	71.8	74.0			

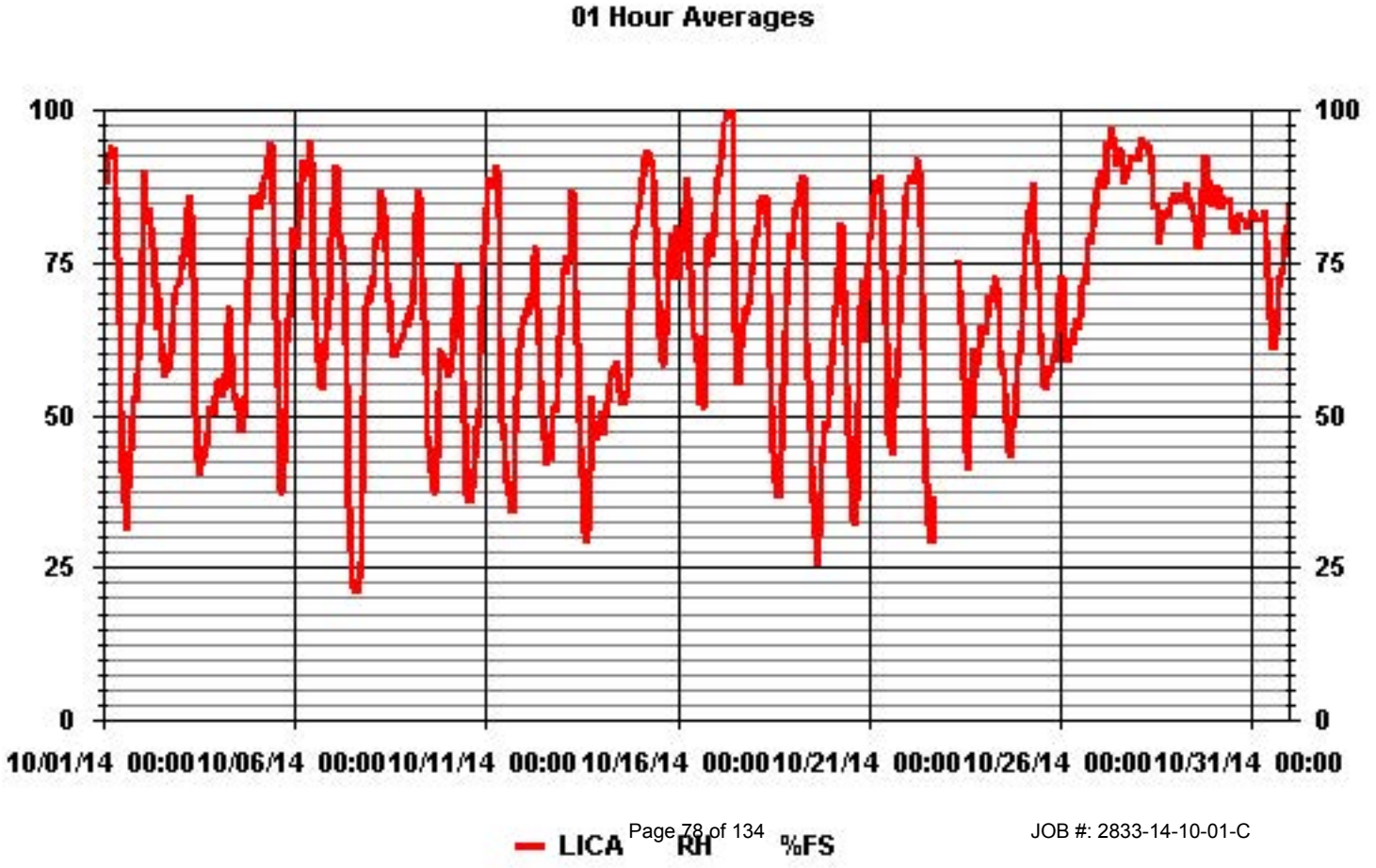
STATUS FLAG CODES

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:	100	%	@ HOUR(S)	VAR	ON DAY(S)	17
MAXIMUM 24-HR AVERAGE:	91.5	%			ON DAY(S)	27
				VAR-VARIOUS		
OPERATIONAL TIME:					729	HRS
AMD OPERATION UPTIME:					98.0	%
STANDARD DEVIATION:	17.41		MONTHLY AVERAGE:		68.42	%



JOB #: 2833-14-10-01-C

Vector Wind Speed

Lakeland Industry & Community Association - Cold Lake South Site

OCTOBER 2014

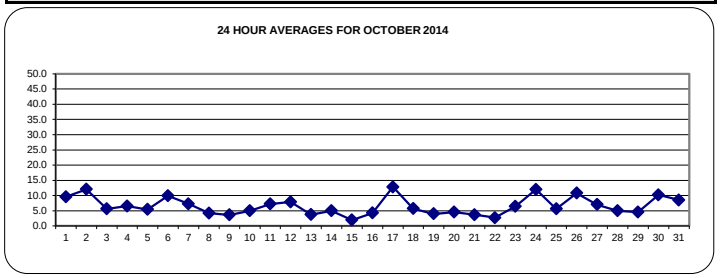
WIND SPEED (WS) hourly averages in km/hr

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	6.5	5.2	4.3	5.8	5.2	5.2	3.4	5.2	6.7	7.2	9.7	12.6	13.9	15	16	16.6	13.8	8.5	9.1	11	12.5	13.3	12.6	10.9	16.6	9.6	24
2	12.2	12.3	14.1	13.1	10.9	10.6	14.3	13.6	16.3	15.5	18.1	13.6	20.7	19.7	18.5	14.3	10.4	11.4	6.5	4	4	5.1	4.8	5.5	20.7	12.1	24
3	5.8	5.7	5.8	4.8	5.3	5.4	4.4	3.4	4.9	4.3	4.3	4.9	4.1	5.6	5.7	2.5	4.2	4.2	5.4	6.7	7.8	10	9.2	9.7	10.0	5.6	24
4	8.5	8.7	5.4	4.3	2.5	1.7	2.2	1.2	4.7	5.7	8.7	10.1	11.7	11.2	11.3	9.7	7.9	5.2	7.7	6.9	7.1	6.4	4.8	3.3	11.7	6.5	24
5	4.4	5.7	4.2	3.8	4.6	2	0.6	2.1	2.2	6.2	7.7	6.5	7	8.8	9.7	12.7	12.7	6.7	4.3	3.6	4.4	3.5	3.8	2.8	12.7	5.4	24
6	2.5	4.7	0.9	1.4	1.2	3.6	4.5	4.1	6	5.1	7.5	12.4	18.1	20.9	19.2	18.3	***21.7***	18.4	15	15.3	12.2	8.7	10.3	6.7	***21.7***	9.9	24
7	5.4	4.8	5.5	6.1	5.5	4	4.9	4.4	6.2	5.5	12	13.4	17.2	16.7	17.4	15.5	13.9	8.4	2.4	1	1.1	0.8	0.8	1.3	17.4	7.3	24
8	2.1	4	2.9	2.8	3.1	1.9	1.1	2.7	4.3	7	5.7	5.8	4.8	4.8	5.6	6.7	5.6	4.4	3.6	4.4	4.8	4.2	3.6	4.6	7.0	4.2	24
9	4.8	3.6	3.3	1.5	0.4	0.3	0.4	0.9	3.3	4.5	4.4	5.5	6.1	5.7	6.2	4.8	4.7	3.4	2.4	2.4	5.7	6	3.3	3.6	6.2	3.6	24
10	7.5	6.9	5.4	5	2.1	0.7	2.6	4.4	8.1	6.1	6.6	5.8	7.2	9.1	8.3	8.1	5.7	4.8	3.8	4.6	2.1	1.9	3.4	0.3	9.1	5.0	24
11	0.4	0.7	0.7	1.2	1.7	2.6	4.4	5	5.9	12.1	15.8	14.9	13.7	17	15	15.4	11.2	6.2	4.1	5.1	5	4.3	5.6	5	17.0	7.2	24
12	5.6	6.6	7.8	8.5	7	6.5	6.5	6.7	9.2	10.7	9.7	10.5	10.4	11.1	10.8	11.3	8.5	6.7	5.5	6.8	6.6	6	5	5.1	11.3	7.9	24
13	4.4	4.6	4.3	4.2	3.8	2.1	0.5	0.4	3.8	4.4	4.9	5.4	5.2	3.5	4.6	4.4	1.1	3.2	1.7	4.4	5.8	4.5	3.9	4	5.8	3.7	24
14	5.5	4.9	5.9	5.9	6.6	6.1	4.8	5.1	4.1	8	6.3	6.1	2.9	4.6	5.5	6.5	6.4	3.6	1.4	2.1	1.6	4	6	5.4	8.0	5.0	24
15	4	2.9	1.9	2.7	3.5	1.4	0.1	0.7	0.2	1.4	0.8	1.7	2.9	2.8	2.3	3.7	1.6	1.5	0.6	1.1	0.4	3.3	3.4	2.4	4.0	2.0	24
16	7	6.7	5.6	5.8	4.5	2.5	4.8	3.9	4.2	4.7	4.2	4	3.4	2.9	4.2	4.9	3.4	1.4	0.5	1	0.9	6.9	7.1	8.1	8.1	4.3	24
17	5.5	7.2	6.7	8.8	10.5	6.7	7.9	8.4	12.4	10.7	11.1	13.7	17.3	18.5	17.7	17.6	16.1	17.1	13.3	16.1	18.1	16.6	15.1	14.4	18.5	***12.8***	24
18	12	9.4	6.8	4.9	2.9	3.6	1.5	1.1	2.3	6.6	7.7	7.4	8.5	10.3	9.6	9.2	8.6	5.4	3.4	3	4.1	2.1	1.1	4.7	12.0	5.7	24
19	4.1	0.7	0.5	0.6	0.7	0.3	1.3	0.6	1	1	3.9	5.8	6.4	8.6	6.5	7.7	3.5	4.4	5.6	6.6	4.9	5.5	7	8	8.6	4.0	24
20	9.9	7.8	6.7	10.7	7.9	5.4	5.3	6.6	4	4.3	4.5	4.6	5.4	3.3	4.7	3.7	2.1	1.7	1.6	1.9	1.3	5.5	0.6	0.2	10.7	4.6	24
21	0.5	0.6	1.4	0.6	0.9	2.8	0.7	5.2	6.5	6	10.6	5.9	9.1	5.7	5.5	6.6	4.4	3.7	3.9	3.6	0.9	1.1	0.8	1.6	10.6	3.7	24
22	2.5	0.9	0.9	0.6	0.7	0.2	0.6	0.7	0.7	0.5	2.4	2.8	7.4	8.6	8.3	5.9	2.4	**X**	**X**	**X**	**X**	**X**	**X**	**X**	8.6	2.7	17
23	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	5.3	6.5	8.4	8.8	6.6	1.9	5.8	3.8	6.1	3.5	6.6	9.2	6.7	7.3	7.5	8.3	9.2	6.4	16
24	12.9	15.1	12.8	11.2	14.9	16.3	13.9	9.7	10.4	12.4	16.5	18	17.7	16.4	16.3	14.1	11.7	8.2	7.4	6.4	5	6.1	6.8	7	18.0	12.0	24
25	7.4	5.3	6.1	5.4	3.9	4.4	3.9	2.2	3.9	4.1	4.6	2.1	2.3	4.1	5.6	5.4	4.5	5.7	7.4	7.5	7.2	7.4	11.1	13.6	13.6	5.6	24
26	11.3	10.5	12.9	12.9	13.2	14.1	13.2	12.3	12.8	10.3	9.7	11.4	9.9	11.9	10	8.7	8	8.7	9.3	9.1	9.1	10.6	8.8	9.8	14.1	10.8	24
27	10.1	9.1	8.5	9.4	8.5	7	7	7.4	8	8	9.2	8.5	7.1	7.6	8.3	7.3	7.1	6.2	5.2	3.5	3.3	3.2	3.6	5.1	10.1	7.0	24
28	6.1	4.7	2.8	2.8	2.3	1.9	1.1	1.6	3.1	3.4	4.8	7.7	8	7.6	6.4	6.7	6.2	5.2	5.6	7.4	7.6	5.8	5.2	5.3	8.0	5.0	24
29	4.7	5.1	5.1	5.2	4.3	4.6	4.4	4.6	4.4	5.1	5	5.2	4.9	5	4.7	3.7	2.9	2.3	6.2	4.4	4.2	5.3	5.2	3.3	6.2	4.6	24
30	4.3	5.4	5.4	4.2	5.7	6.3	6.5	7.3	6.7	7.4	9.4	11.3	13.3	13.4	15.5	13.6	14.2	14.5	13.4	14.7	12.9	12.5	13.1	13.8	15.5	10.2	24
31	14.3	15.5	16.2	16.3	13.7	12.4	12.6	10.5	10.9	12.7	14.2	10.9	9.5	8.4	4.8	4.3	4.1	4.2	2.8	1.3	0.5	2.1	0.2	1.8	16.3	8.5	24
HOURLY MAX	14.3	15.5	16.2	16.3	14.9	16.3	14.3	13.6	16.3	15.5	18.1	18.0	20.7	20.9	19.2	18.3	21.7	18.4	15.0	16.1	18.1	16.6	15.1	14.4			
HOURLY AVG	6.4	6.2	5.7	5.7	5.3	4.8	4.6	4.7	5.9	6.7	8.0	8.3	9.1	9.4	9.4	8.8	7.6	6.3	5.5	5.8	5.6	6.0	5.8	5.9			

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

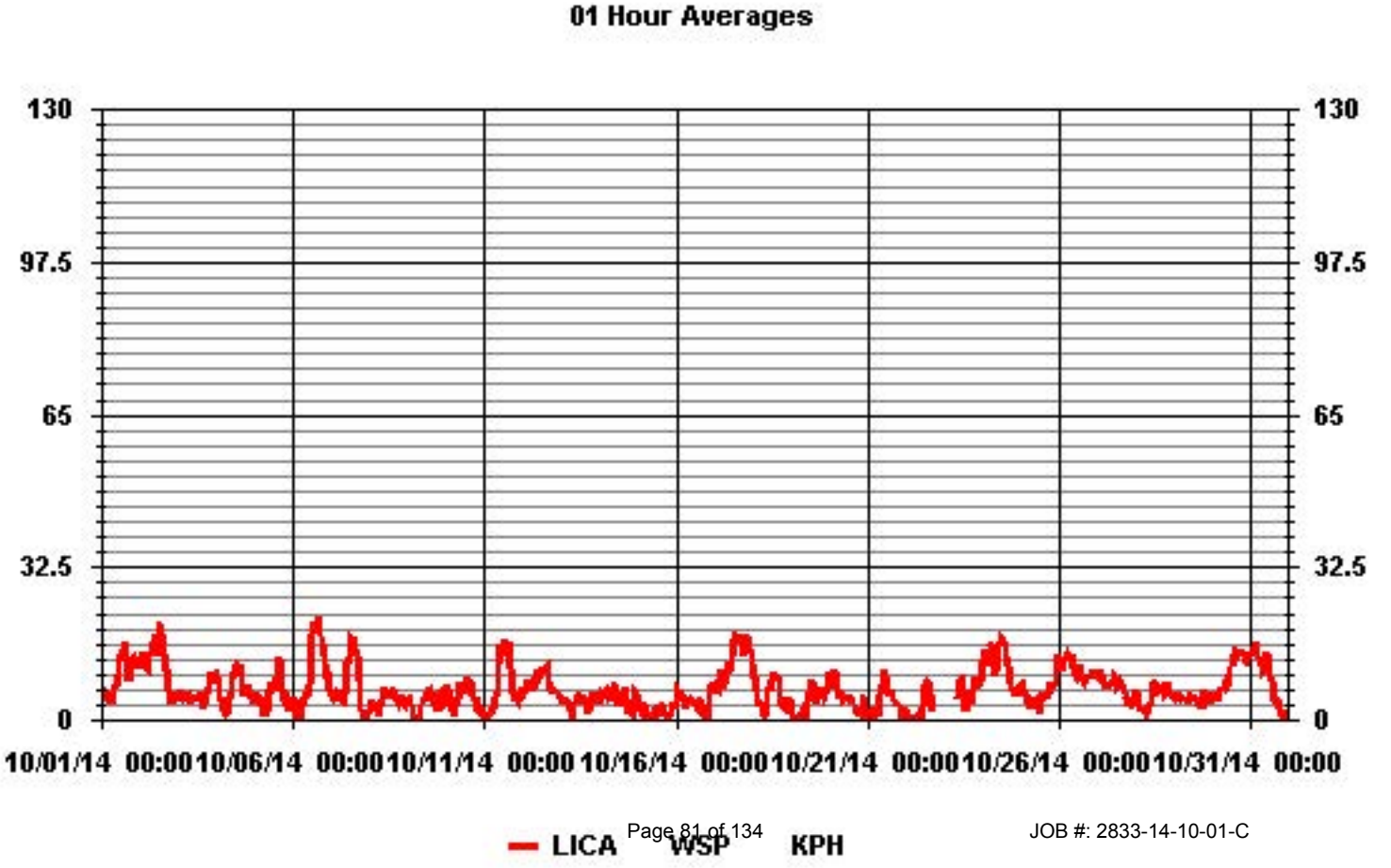


LAST CALIBRATION: November 28, 2012

DECLINATION : MAGNETIC DELINATION 19 DEGREE EAST

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	729						
MAXIMUM 1-HR AVERAGE:	21.7	KPH	@ HOUR(S)	16	ON DAY(S)	6	
MAXIMUM 24-HR AVERAGE:	12.8	KPH			ON DAY(S)	17	
					VAR-VARIOUS		
OPERATIONAL TIME:						729	HRS
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME:			98.0	%
STANDARD DEVIATION:	4.37		MONTHLY AVERAGE:			6.58	KPH



JOB #: 2833-14-10-01-C

Lakeland Industry & Community Association - Cold Lake South Site

OCTOBER 2014

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST

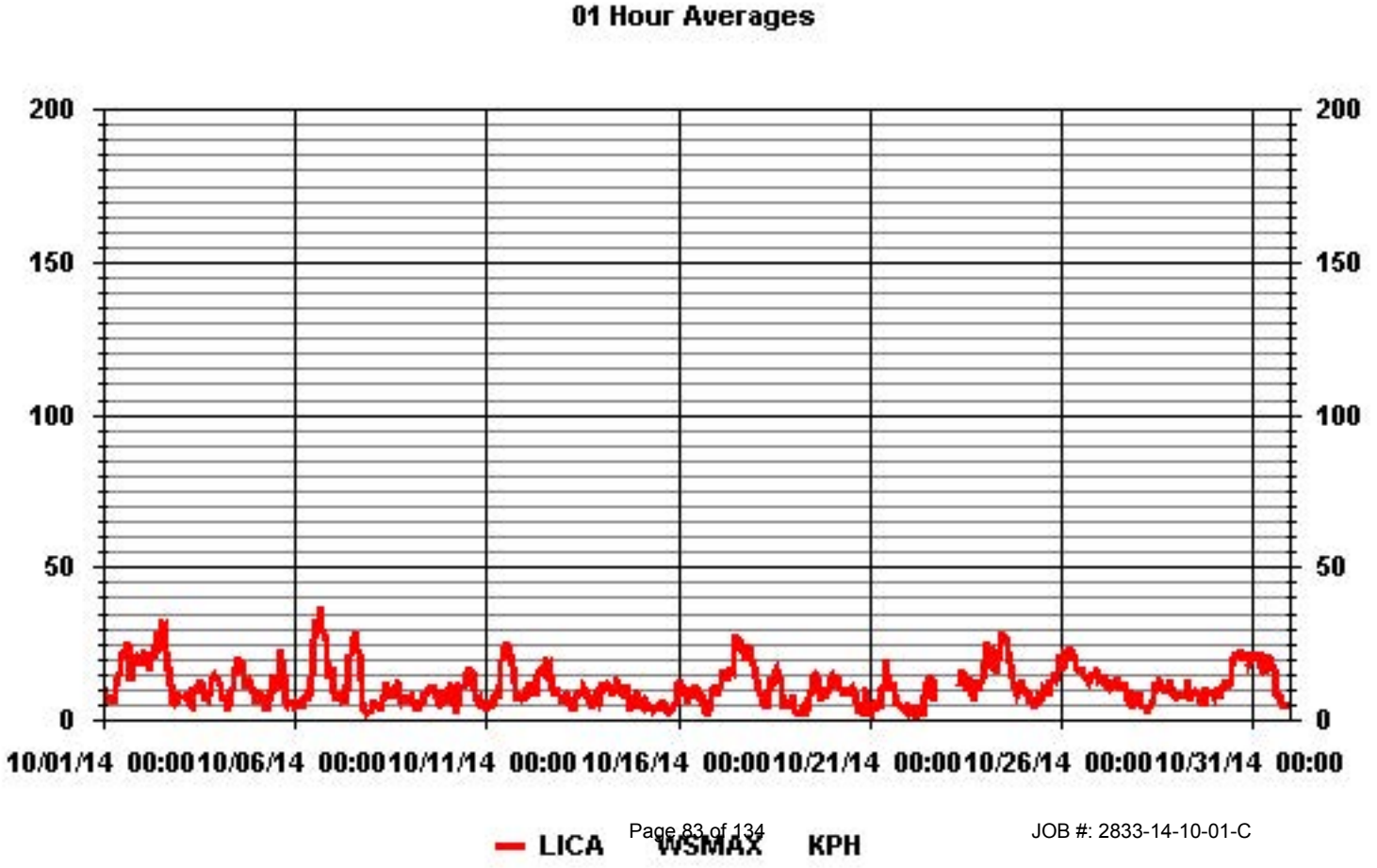
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	10.6	8.7	6.8	7.2	7.1	7	5.4	8.1	11.3	14.1	15.7	21.5	22	21.4	24.5	24.7	25.9	12.3	15.7	20.7	19.7	21	20.2	18.3	25.9	15.4	24
2	18.3	21.8	21.5	19.1	17.1	17.1	21.5	21.2	24	23.6	29	22.8	32.7	30.1	30.7	23	15.7	17.7	12	6.4	5.6	6.6	6.5	7.8	32.7	18.8	24
3	7.9	7.8	7.6	8.1	7.1	7.2	5.9	5.3	10.7	8.8	10.6	10.1	11.1	12.7	9.8	7.3	7	6.4	8.1	9.5	13.4	14.7	13.7	13.8	14.7	9.4	24
4	12.6	11.8	9	7.3	7	3.8	3.7	4.7	9.4	10.8	14.3	17.1	20.3	18.1	19.3	15.5	13.2	9.8	12.5	13.5	12.3	10.9	9.4	5.2	20.3	11.3	24
5	7.2	9.4	6.9	6.3	8.4	3.8	3.9	4.3	6.1	10	14.7	10.3	10.7	14.7	17.2	23.4	20.3	15.5	5.9	4.8	5.9	6.3	6	4.2	23.4	9.4	24
6	4.3	6.3	6	5.7	3.3	7.1	7.8	7.5	10	7.5	14	20.8	26.3	33	29.3	28.1	***37***	29.6	28.8	26.3	19.6	15.2	15.6	16.1	***37.0***	16.9	24
7	9	6.6	7.8	8.2	8.5	6.3	6.7	6.6	11.4	9.1	21.8	20.8	26.3	26.2	28.5	23.1	22.1	13	6.3	3.3	3.2	2	2.7	2.6	28.5	11.8	24
8	3.4	5.8	5.6	4.8	5.1	4.5	3.1	6	8.1	11.9	9.6	10.7	8	8.3	10.3	10.3	12.8	7.6	6	7	7.5	6	6.1	7.1	12.8	7.3	24
9	7.6	5.5	5.6	5.8	3	4	4	4.5	5.6	8.2	8.4	8.7	10	10.5	10.7	9.2	8.1	7.4	5.1	4	9	9.2	6.8	6.5	10.7	7.0	24
10	10.6	11.4	11	8.2	4.9	1.9	4.6	10.9	10.9	11.1	10.2	13.7	13.1	17.6	15.1	16.8	9.7	7.2	6.2	7	5.3	5	6.5	4	17.6	9.3	24
11	2.6	5.6	5.3	3.9	8	6.7	7.8	7.8	11.4	19.3	23.1	23.8	22.1	25.1	20.5	22.4	17.9	12.2	6.7	7.6	8.2	7.1	8	7.1	25.1	12.1	24
12	7.2	9.8	9.5	12	10.2	9.7	10.8	10.1	14.4	16.4	17.2	16.4	15.7	20.9	17.2	18.1	15.7	10.1	7.8	9	10.4	8.8	7.1	7.6	20.9	12.2	24
13	7	8.1	6.5	7.2	5.5	4.6	3.9	2.5	7.3	8.7	9.2	8.9	11.7	11.1	9.2	10.1	5.5	8.3	3.4	7.9	8.8	7.4	5.7	6.7	11.7	7.3	24
14	8.5	12.5	11.1	9.1	11	10.1	9.1	9.4	10.1	13.5	12	11.6	8.9	8.5	10.2	9.9	11.4	8.1	2.9	3.9	4.3	8	9.7	8.3	13.5	9.3	24
15	6.1	4.6	4.1	6.6	6	4.3	4	4.2	2.9	3.4	3.6	4.7	5.5	4.7	5.6	6.6	3.9	3	2.5	3.2	3.3	5.4	5.6	5.8	6.6	4.6	24
16	11.8	13.1	8.7	11.3	8.5	5.5	7.9	9.9	9.9	8.1	8.4	11.8	8.6	7	8	7.9	6.9	2.9	1.3	3.2	5.4	9.7	9.8	11.2	13.1	8.2	24
17	7.7	9.6	10.3	13.3	16	13	14.9	12.9	17.3	16.2	15.7	22.1	27.6	25.6	27.1	23.8	21.4	24.8	19.4	21.4	24.2	22.6	20.4	18.7	27.6	18.6	24
18	17.8	14.3	10.4	8.7	6.7	7.6	4.8	3.4	6.6	12.9	13	11.9	13.5	15.8	16.7	14.8	12.6	9	4.9	4.8	5.2	5.6	3.6	7.2	17.8	9.7	24
19	7.1	3.2	2.4	2.1	2.5	2.7	3.7	2.2	2.2	3.2	7.6	9.8	12.1	14.6	15.3	14.5	9.5	6.3	8.9	9.7	9.3	8.9	10.7	13.8	15.3	7.6	24
20	14.7	12.4	12.9	14.3	11.1	10.2	8.9	9.3	10.7	9	7.6	9.7	10.3	8	10.1	9.2	6.4	3.4	2.9	2.9	2.7	10.5	6.2	1.7	14.7	8.5	24
21	2.8	2.3	5.9	2.8	5.8	5.9	5.5	10.3	10.6	11.8	19.7	9.4	14.4	11.7	10	12.6	9.1	5.5	5.1	4.8	3.6	3.6	3.3	2.9	19.7	7.5	24
22	5.7	2.7	3.5	4	2.2	1.3	2.3	4.9	2.6	2.3	7.8	7	12.2	14.3	14	13.5	6.7	**X**	**X**	**X**	**X**	**X**	**X**	**X**	14.3	6.3	17
23	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	12.2	15.3	16.4	14.2	12.4	9	13.8	8	12.3	6.3	9.9	13.4	9.5	11.8	12.1	13.7	16.4	11.9	16
24	18.9	25.4	19.4	18.6	22.7	23.3	21.7	15.2	18.9	21	24.7	28.9	26.1	24.9	27.1	23.1	19.1	14.5	11.6	11.8	8.4	9.2	10	12.7	28.9	***19.1***	24
25	11.1	8.8	10.7	8.5	5.7	7.2	6.2	3.8	6.8	8.4	7.9	6.6	7.2	10.4	9.6	9.7	7.9	13.3	11.8	13.9	13.2	15.4	18	21.3	21.3	10.1	24
26	18.9	16.3	23.2	19.5	20.1	23.4	21.4	21.8	20	15.7	17	16.7	16.1	16.5	14.1	13.3	13.9	12.9	14.5	14.4	15.2	15.5	16.8	13.3	23.4	17.1	24
27	13.9	13.3	12.7	14.2	12.3	11.1	10.1	10.6	12.6	11.3	13.1	14	10.5	10.5	12.3	11	11	8.2	8.7	5.5	5.1	4.8	5.9	7.9	14.2	10.4	24
28	8.1	8.3	4.8	4.6	4.2	4.1	2.3	3.6	5.6	6.1	8.6	11.6	11.9	13.6	11	11.3	10.5	8.5	10.2	11.3	13.2	11.6	8.7	8.3	13.6	8.4	24
29	7.5	8.1	8.4	7.7	7.8	8	7	13.1	6.5	8.1	8.7	8.6	9.6	8.9	8.4	6.5	6.3	4.1	10.3	8.4	8.4	8.6	9	8.4	13.1	8.2	24
30	7.3	9.1	10.4	6.7	10.6	10.4	11.5	13	11.5	11.8	13	17.4	20.2	21.4	21.9	20.6	22.7	20.3	19.2	22.5	19.7	18	19.2	19.6	22.7	15.8	24
31	21.4	21.4	21.2	21	21.4	17.8	16.5	17.2	14.9	17.9	21.7	16.3	17.5	16.8	9	8.4	7.2	8.6	5.8	3.4	4.9	4.7	4.8	5.1	21.7	13.5	24
HOURLY MAX	21	25	23	21	23	23	22	22	24	24	29	29	33	33	31	28	37	30	29	26	24	23	20	21			
HOURLY AVG	9.9	10.1	9.6	9.2	9.0	8.3	8.2	8.8	10.4	11.5	13.7	14.1	15.3	15.9	15.7	14.7	13.2	10.6	9.1	9.5	9.5	9.8	9.6	9.6			

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:	37.0	KPH	@ HOUR(S)	16	ON DAY(S) 6
					VAR-VARIOUS
OPERATIONAL TIME:					729 HRS



JOB #: 2833-14-10-01-C

LICA
WSP / WD Joint Frequency Distribution (Percent)

October 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	.82	1.64	1.09	2.33	6.17	8.50	6.72	1.50	1.37	.82	3.42	9.32	6.44	2.19	1.23	.54	54.18
<	12.0	.54	.41	1.64	.96	.68	1.23	8.77	.41	.00	.27	.27	3.42	5.07	2.33	2.60	1.50	30.17
<	20.0	.00	.00	.00	.13	.96	.00	4.93	.00	.00	.00	.00	.27	2.74	1.50	2.88	.68	14.12
<	29.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.41	.00	.41
<	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	1.37	2.05	2.74	3.42	7.81	9.73	20.43	1.92	1.37	1.09	3.70	13.03	14.26	6.03	7.13	2.74	

Calm : 1.09 %

Total # Operational Hours : 729

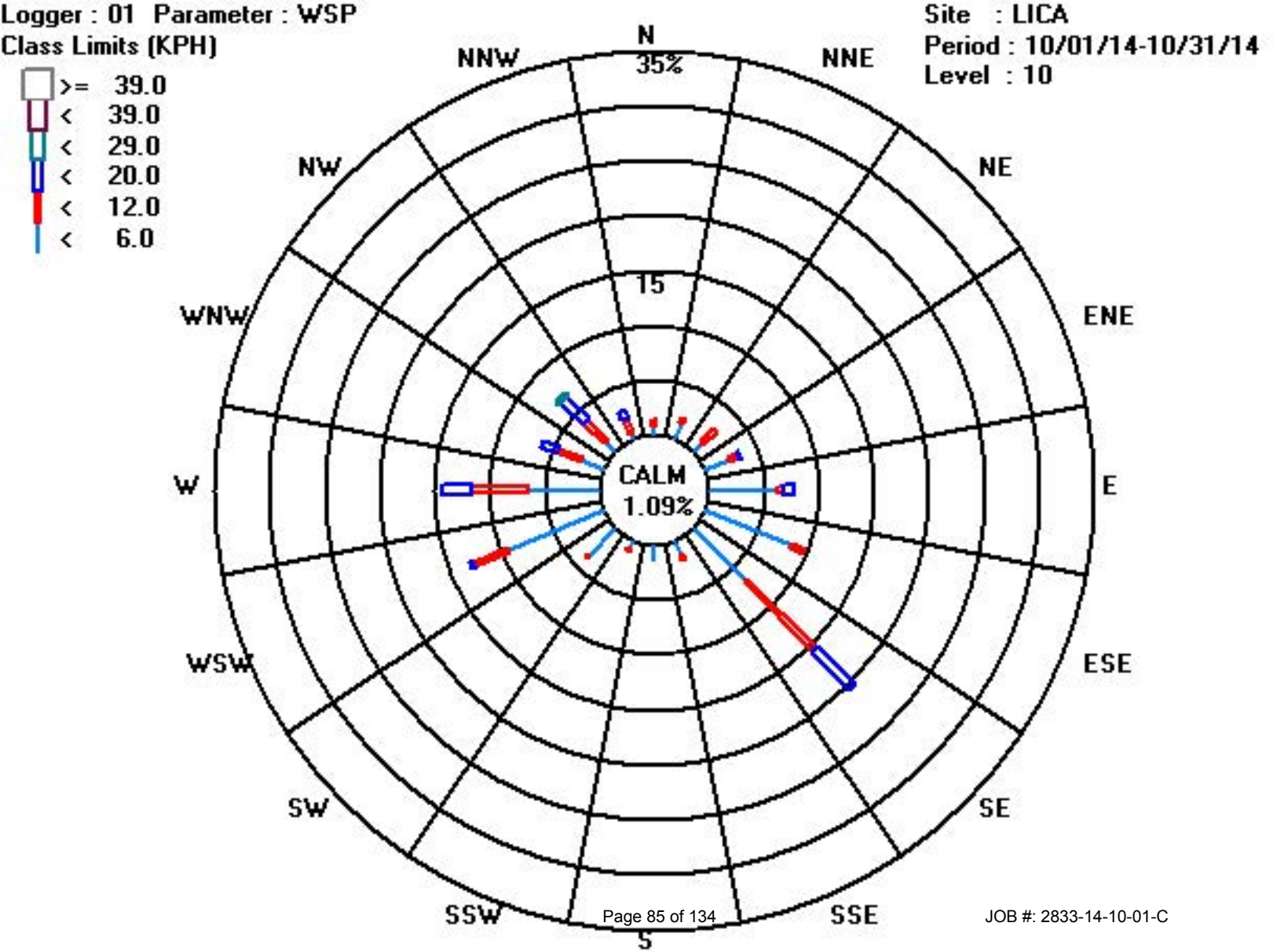
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	6	12	8	17	45	62	49	11	10	6	25	68	47	16	9	4	395
<	12.0	4	3	12	7	5	9	64	3		2	2	25	37	17	19	11	220
<	20.0				1	7		36					2	20	11	21	5	103
<	29.0															3		3
<	39.0																	
>=	39.0																	
	Totals	10	15	20	25	57	71	149	14	10	8	27	95	104	44	52	20	

Calm : 1.09 %

Total # Operational Hours : 729



JOB #: 2833-14-10-01-C

Vector Wind Direction

Lakeland Industry & Community Association - Cold Lake South Site

OCTOBER 2014

WIND DIRECTION (WD) hourly averages in degrees

MST

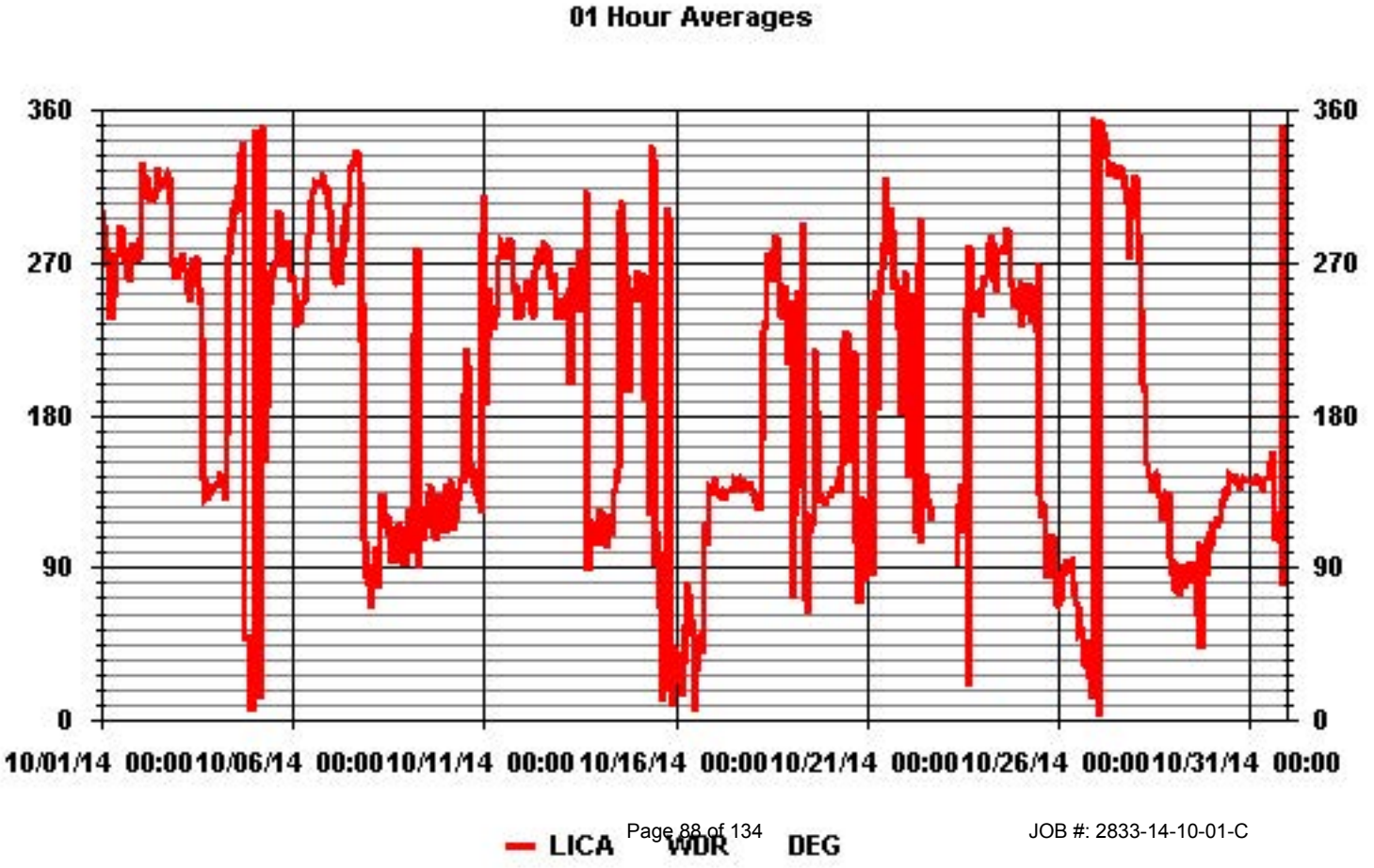
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUANDRANT	RDGS.
DAY																											
1	300	293	279	279	268	260	236	240	249	276	274	286	292	274	280	272	271	262	258	274	281	274	275	271	300	WNW	24
2	285	316	329	320	320	307	310	306	311	309	312	326	316	313	320	314	320	323	321	305	271	268	262	262	329	NNW	24
3	272	269	264	275	268	265	252	246	266	272	262	264	274	256	246	227	143	130	131	136	134	137	137	138	275	W	24
4	139	141	146	141	137	140	129	168	274	289	289	302	306	299	315	335	320	341	51	47	51	41	5	12	341	NNW	24
5	16	348	24	34	12	352	163	151	184	245	266	261	268	271	283	299	299	285	267	274	277	283	261	258	352	N	24
6	263	252	231	238	234	239	246	247	261	278	286	307	311	312	317	316	316	318	321	321	317	310	314	302	321	NW	24
7	284	262	260	262	278	265	257	273	292	282	303	305	324	327	329	330	336	331	319	222	248	107	83	94	336	NNW	24
8	81	66	85	84	103	97	77	134	120	133	113	122	110	95	93	98	97	113	114	98	94	95	91	114	134	SE	24
9	125	98	104	125	229	190	279	89	121	122	106	115	126	135	140	114	107	114	105	115	134	131	127	110	279	W	24
10	139	137	139	142	136	111	117	130	136	141	141	159	193	220	211	152	143	150	138	134	128	135	122	288	288	WNW	24
11	310	185	226	255	238	233	230	237	245	274	283	282	281	272	279	282	282	278	252	256	258	236	243	242	310	NW	24
12	247	252	257	259	252	246	240	237	265	274	270	279	274	283	281	273	274	261	254	262	262	250	238	236	283	W	24
13	240	247	248	239	236	255	198	267	255	245	246	240	277	260	252	253	313	88	94	119	105	113	102	111	313	NW	24
14	112	124	118	105	104	102	120	120	109	137	134	139	148	301	307	289	275	264	193	255	252	254	247	253	307	NW	24
15	266	250	260	246	264	189	213	120	149	339	332	90	113	101	67	10	18	60	184	303	298	18	7	44	339	NNW	24
16	41	34	25	23	14	33	57	81	76	68	60	50	5	29	43	51	39	52	116	103	117	138	137	136	138	SE	24
17	143	137	136	134	135	131	131	133	135	135	136	136	142	141	141	142	137	136	137	141	141	139	138	139	143	SE	24
18	137	134	130	129	123	134	164	230	236	258	276	268	258	276	276	286	269	260	239	238	238	256	209	244	286	WNW	24
19	248	72	186	120	136	254	245	141	294	124	71	63	110	115	121	219	184	130	130	131	133	128	128	131	294	WNW	24
20	133	133	138	135	135	142	135	135	150	224	221	229	220	177	151	183	218	106	92	68	117	132	81	103	229	SW	24
21	92	100	247	84	245	253	182	253	251	265	282	296	320	292	274	303	290	254	260	240	231	180	199	257	320	NW	24
22	266	238	143	221	217	252	110	141	270	297	104	142	143	135	131	127	119	**X**	**X**	**X**	**X**	**X**	**X**	**X**	297	WNW	17
23	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	93	117	128	140	119	110	243	20	280	245	240	254	240	248	251	237	280	W	16
24	255	261	262	270	269	281	285	283	259	253	275	277	278	275	278	283	291	281	261	256	244	253	251	242	291	WNW	24
25	259	231	240	243	254	256	256	235	241	241	228	270	133	119	129	124	93	84	95	98	110	99	74	69	270	W	24
26	68	70	87	92	90	93	93	94	87	77	78	70	68	51	52	49	34	33	47	42	25	12	356	340	356	N	24
27	350	1	354	344	345	342	332	327	322	322	327	328	327	319	326	326	320	323	315	305	271	300	296	316	354	N	24
28	321	305	287	271	243	199	194	152	144	144	136	136	143	145	143	134	132	118	120	134	133	133	97	85	321	NW	24
29	95	76	81	76	74	80	92	77	92	89	93	86	81	90	93	61	106	41	92	90	89	106	100	111	111	ESE	24
30	102	117	115	115	119	116	125	130	136	133	137	145	144	143	142	143	140	140	136	140	143	142	141	141	145	SE	24
31	141	141	140	140	143	142	141	138	137	142	143	144	149	152	159	124	105	120	107	105	79	351	146	246	351	N	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:	729	HRS
STANDARD DEVIATION:	88.49		AMD OPERATION UPTIME:	98.0	%
			MONTHLY AVERAGE:	233	DEG



JOB #: 2833-14-10-01-C

Standard Deviation Wind Direction

Lakeland Industry & Community Association - Cold Lake South Site

OCTOBER 2014

STANDARD DEVIATION WIND DIRECTION (STDWD) hourly averages in degrees

MST

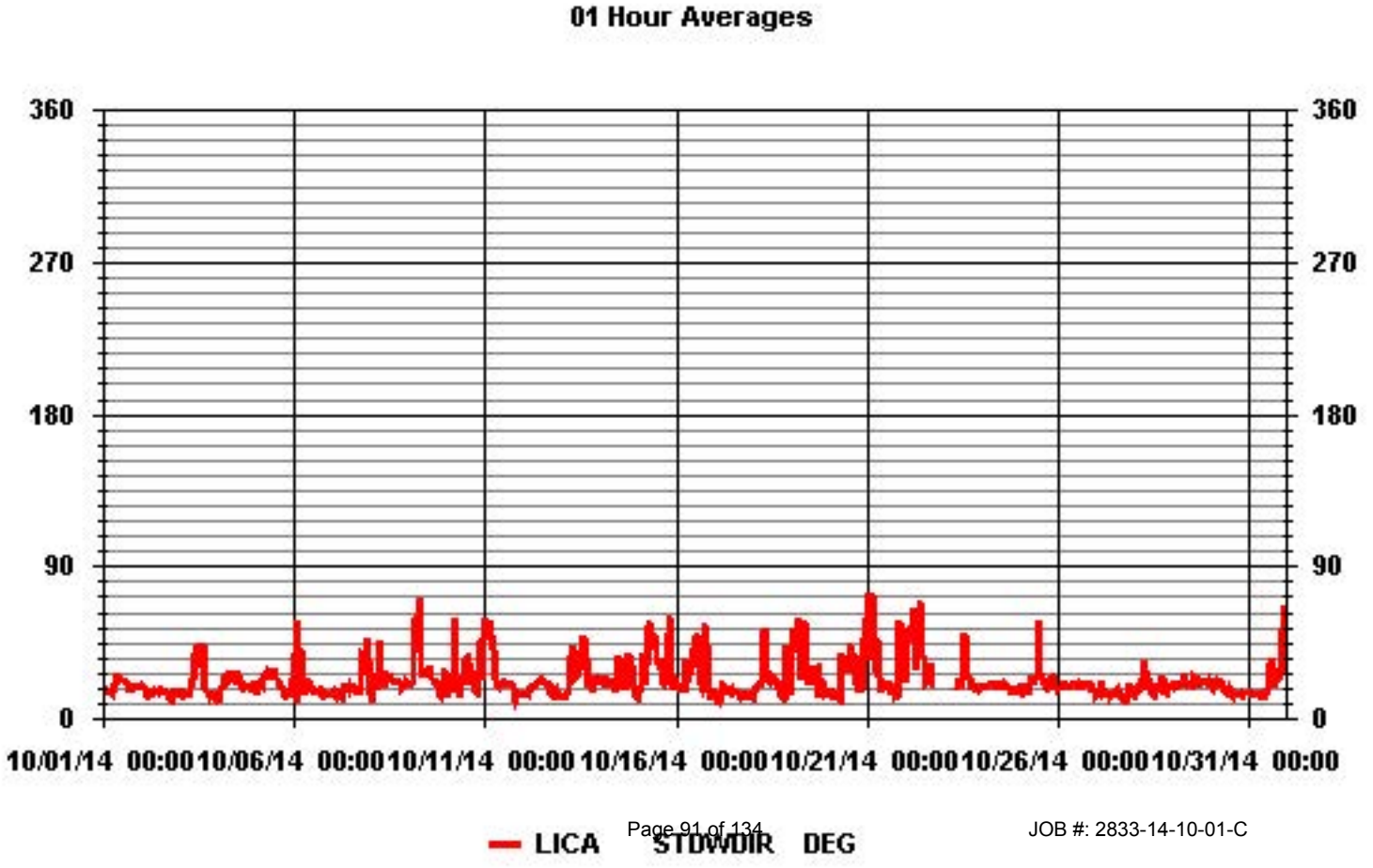
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00
DAY									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

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: 729 HRS



JOB #: 2833-14-10-01-C

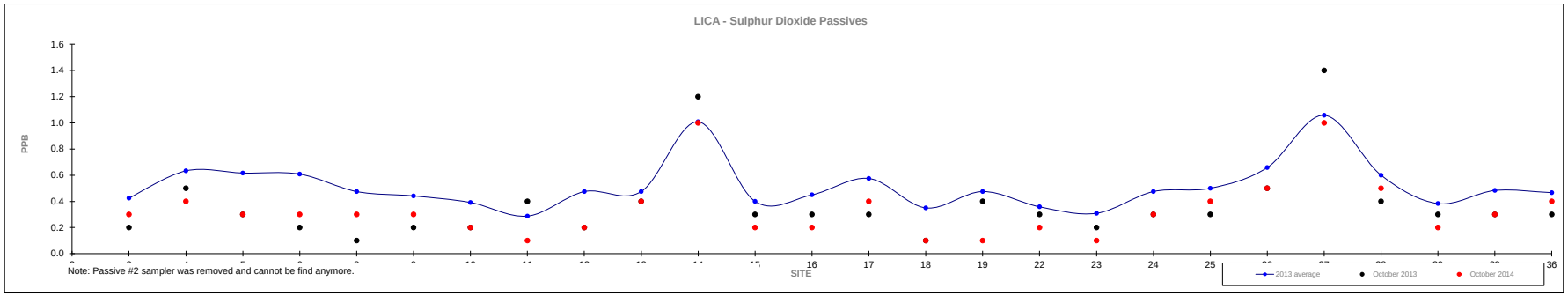
Non-Continuous Monitoring

Passive Summary Results for October 2014

Lakeland Industry & Community Association

Sulphur Dioxide
ppb

	2013																								October 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	#23
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	1.0	#14, #27



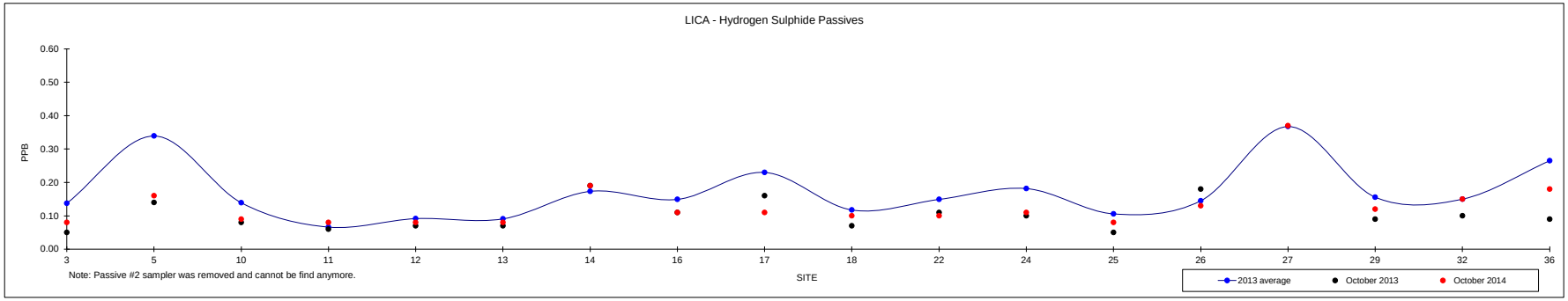
Note: Passive #2 sampler was removed and cannot be find anymore.

Passive Summary Results for October 2014

Lakeland Industry & Community Association

Hydrogen Sulphide
ppb

	2013																		October 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	0.13	-
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	0.08	VAR
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	0.37	#27

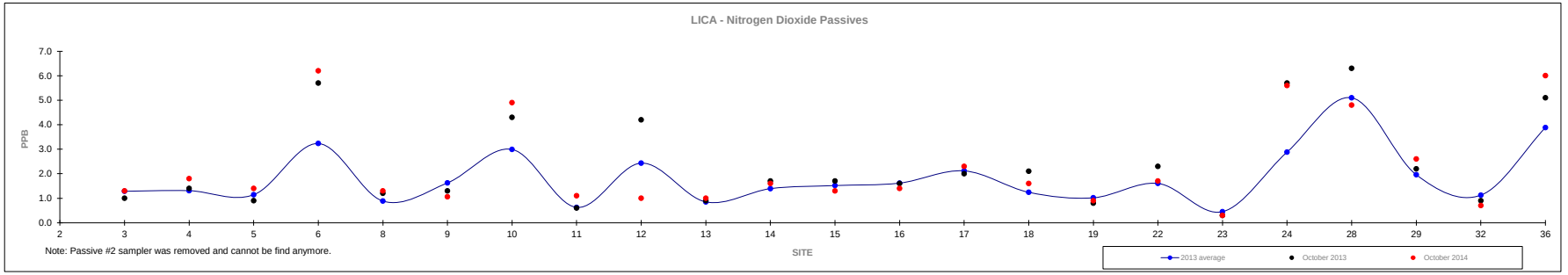


Passive Summary Results for October 2014

Lakeland Industry & Community Association

Nitrogen Dioxide
ppb

	2013																							October 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	2.3	-
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	0.3	#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	6.2	#6



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

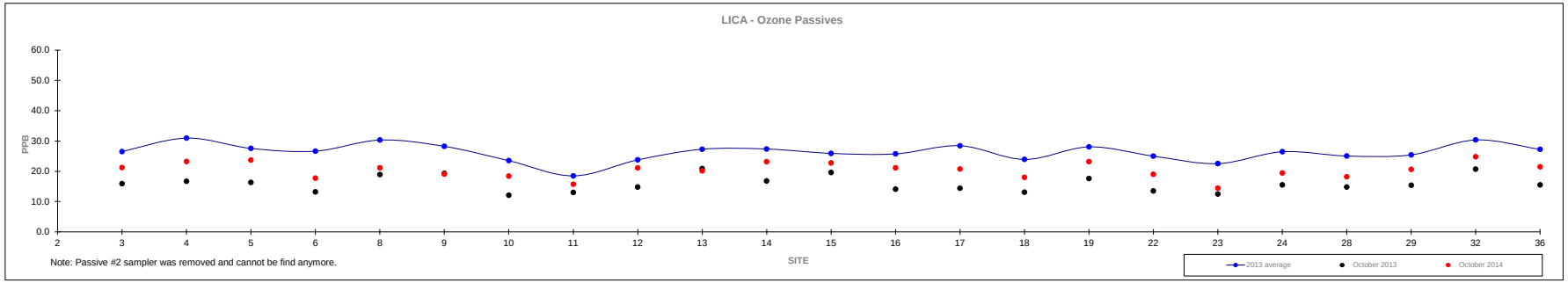
Passive Summary Results for October 2014

Lakeland Industry & Community Association

Ozone
ppb

	2	3	4	5	6	8	9	10	11	12	2013 13	14	15	16	17	18	19	22	23	24	28	29	32	36
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
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
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

October 2014	
Reading	**Site**
20.36	-
14.41	#23
24.79	#32



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

Calibration Reports

Sulphur Dioxide

Thermo 43i SO2 Analyzer Calibration

Date:	1-Oct-14	**Start/End Time (mst):**	0800/1007
Company:	LICA	**Calibration Purpose:**	As Found
Station Name/Location:	Cold Lake South	**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:	AMU 1771	**Range ppb:**	500
Last Calibration Date:	10-Sep-14	**As Found C.F.**	0.952
Previous Cal High Point C.F.:	1.000	**New C.F.:**	NA

		As found:	**As left:**
	BKG:	7.2	7.2
	COEF:	1.128	1.128
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:	-632.3	-632.3
	FLASH:	710	710
	3.3	3.3	3.3
	5.0	5.0	5.0
	15.0	14.8	14.8
	-15.0	-15.1	-15.1
	24.0	23.6	23.6
	INTERNAL:	27.3	27.3
	CHAMBER:	45	45
	PERM OVEN GAS:	45.00	45.00
	PERM OVEN HEATER:	45	45
	PRESSURE:	672.5	672.5
	SAMPLE FLOW:	0.426	0.426
	LAMP INTENSITY:	76	76
	CONVERTER:	NA	NA
	CONVERTER SET:	NA	NA
	Internal Span:	381	381

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	4961	37	4998
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	0.0	NA
adjusted zero	NA	0.0		0		NA
as found high	4961	37.00	4998	366.4	385.0	0.952
adjusted high		NA				
mid		NA				
low		NA				
calibrator zero	NA	0.00		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	**4.82%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

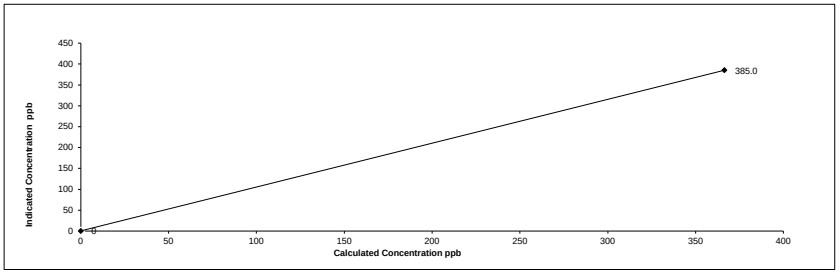
****run converter effeciency test immediately following zero adjust****

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

Comments:

Sample filter changed.

Thermo 43i SO2 Analyzer Calibration



Thermo 43i SO2 Analyzer Calibration

Date:	1-Oct-14	**Start/End Time (mst):**	1030/1430
Company:	LICA	**Calibration Purpose:**	monthly calibration
Station Name/Location:	Cold Lake South	**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:	AMU 1771	**Range ppb:**	500
Last Calibration Date:	10-Sep-14	**As Found C.F.**	0.952
Previous Cal High Point C.F.:	1.000	**New C.F.:**	1.013

		As found:		**As left:**
	BKG:	7.2	BKG:	6.7
	COEF:	1.128	COEF:	1.066
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	23.9	24.0	23.9
	-3.3	-3.2	-3.3	-3.2
INTERFACE BOARD:	PMT:	-632.3	PMT:	-632.3
	FLASH:	710	FLASH:	710
	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	23.6	24.0	23.6
	INTERNAL:	27.3	INTERNAL:	30.6
	CHAMBER:	45	CHAMBER:	45
	PERM OVEN GAS:	45.00	PERM OVEN GAS:	45.00
	PERM OVEN HEATER:	45	PERM OVEN HEATER:	45
	PRESSURE:	672.5	PRESSURE:	672.5
	SAMPLE FLOW:	0.426	SAMPLE FLOW:	0.426
	LAMP INTENSITY:	76	LAMP INTENSITY:	76
	CONVERTER:	NA	CONVERTER:	NA
	CONVERTER SET:	NA	CONVERTER SET:	NA
	Internal Span:	381	Internal Span:	400.8

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	4961	37	4998
mid	4982	18	5000
low	4991	9	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		0		NA
adjusted zero	4999	0.0	4999	0	0.0	NA
as found high		na				
adjusted high	4961	37.00	4998	366.4	366.0	1.001
mid	4982	17.50	5000	173.3	171.0	1.013
low	4991	8.80	5000	87.1	85.0	1.025
calibrator zero	NA	0.00		0	0.0	NA
					Average C.F.=	1.013

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)=	**0.25%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**4.80%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

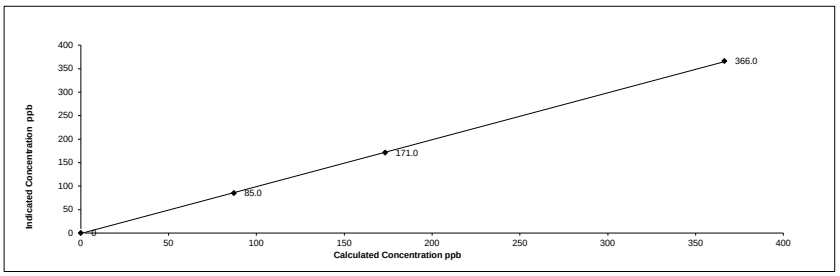
****run converter effeciency test immediately following zero adjust****

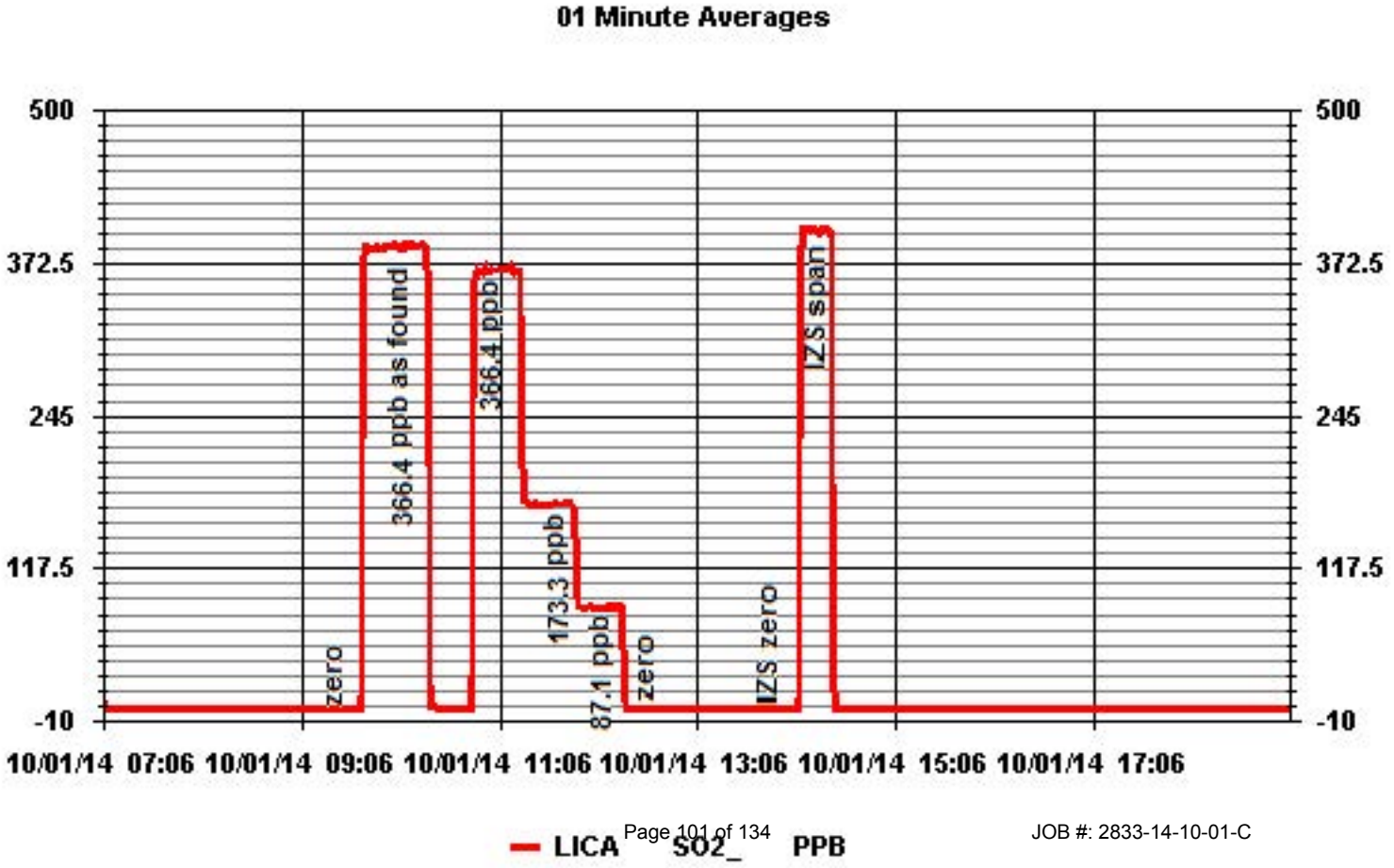
SO_2 High Point gas concentration:	NA	Time gas run (mst):	NA
Zero corrrected analyzer response:	NA		

Comments:

Sample filter changed.

Thermo 43i SO2 Analyzer Calibration





JOB #: 2833-14-10-01-C

Total Reduced Sulphur

Thermo 450i TRS Analyzer Calibration

Date:	1-Oct-14	**Start/End Time (mst):**	0800/1430
Company:	LICA	**Calibration Purpose:**	Monthly calibration
Station Name/Location:	Cold Lake South	**Converter Make & Model:**	Thermo CND-101
Performed by:	Limin Li	**Converter Serial #:**	501
Application H_2S/TRS/SO_2:	TRS	**Cal Gas Expiry Date:**	8-Jul-16

Analyzer:

Serial Number:	812728560		**Range ppb:**	100
Last Calibration Date:	10-Sep-14		**As Found C.F.**	0.973
Previous Cal High Point C.F.:	1.001		**New C.F.:**	1.006

		As found:	**As left:**
	BKG:	14.2	13.7
	COEF:	1.014	0.983
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:	-650.8	-650.8
	FLASH:	741	741
	3.3	3.2	3.2
	5.0	5.0	5.0
	15.0	14.7	14.7
	-15.0	-15.0	-15.0
	24.0	23.4	23.4
	INTERNAL:	29.7	29.7
	CHAMBER:	45.0	45.0
	CONVERTER TEMP:	323.6	323.6
	CONVERTER SET:	325.0	325.0
	PERM OVEN GAS:	44.99	44.99
	PERM OVEN HTR:	44.38	44.38
	PRESSURE:	649	649
	SAMPLE FLOW:	0.507	0.507
	LAMP INTENSITY:	92	92
	Internal Span:	39.5	38.9

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	18.3	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	4997	0.0	4997	0	0.0	NA
adjusted zero	4997	0.0	4997	0	0.0	NA
as found high	4959	37.50	4997	78.4	80.5	0.973
adjusted high	4959	37.50	4997	78.4	78.4	0.999
mid	4980	18.30	4998	38.2	38.3	0.998
low	4985	11.00	4996	23.0	22.5	1.022
calibrator zero	5000	0.00	5000	0	0.0	NA
					Average C.F.=	1.006

Linear Regression/Calibration Results:

		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**0.997**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**0.18%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**2.76%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

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

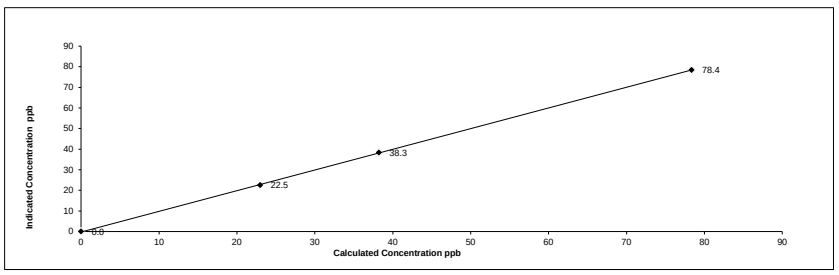
SO_2 High Point gas concentration: NA Time gas run (mst): NA

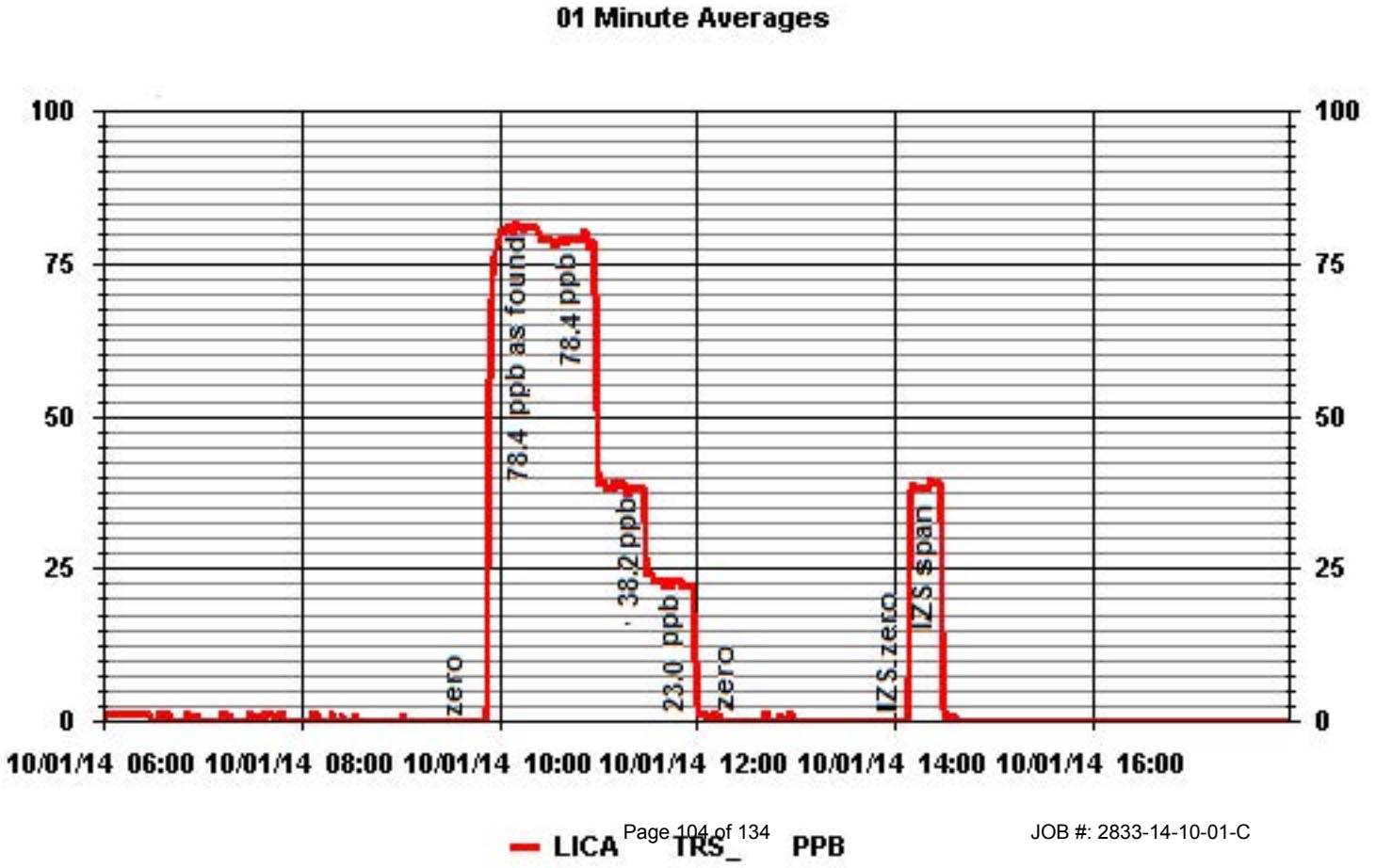
Zero corrrected analyzer response: NA

Comments:

Sample filter change. No Zero adjusted.

Thermo 450i TRS Analyzer Calibration





JOB #: 2833-14-10-01-C

Total Hydrocarbons

Maxxam Thermo 51C THC Analyzer Calibration

Date:	1-Oct-14	**Start Time (mst):**	12:43
Company:	LICA	**End Time (mst):**	14:30
Station Name/Location:	Cold Lake South	**Calibration Purpose:**	Remove calibration
Performed by:	Limin Li	**Cal Gas Expiry Date:**	11-Jul-21

Analyzer:

Serial Number:	51CLT-77021-384	**Range ppm:**	50
Last Calibration Date:	9-Sep-14	**As Found C.F.**	0.993
Previous Cal High Point C.F.:	1.002	**New C.F.:**	

		As found:		As left:
	H_2 cylinder (psi):	2050	H_2 cylinder (psi):	2050
	H_2 cylinder reg set (psi):	22	H_2 cylinder reg set (psi):	22
	Span Cylinder (psi):	800	Span Cylinder (psi):	800
	Span Cylinder Reg Set (psi):	22	Span Cylinder Reg Set (psi):	22
	Zero Air Gen Pressure:	35	Zero Air Gen Pressure:	35
	measurement alarms:	None	measurement alarms:	None
	service alarms:	None	service alarms:	None
FID status:	cnt:	3246	cnt:	3246
	rng:	1	rng:	1
	try:	0	try:	0
	flm:	189.6	flm:	189.6
	det:	125.3	det:	125.3
Oven Readings:	Flame:	189	Flame:	189
	Filter:	125	Filter:	125
	Base:	125	Base:	125
	Pump:	6.9	Pump:	6.9
Voltages:	+5	4.9	+5	4.9
	+15	14.8	+15	14.8
	-15	-14.9	-15	-14.9
	Internal Span:	32.86	Internal Span:	32.86

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:

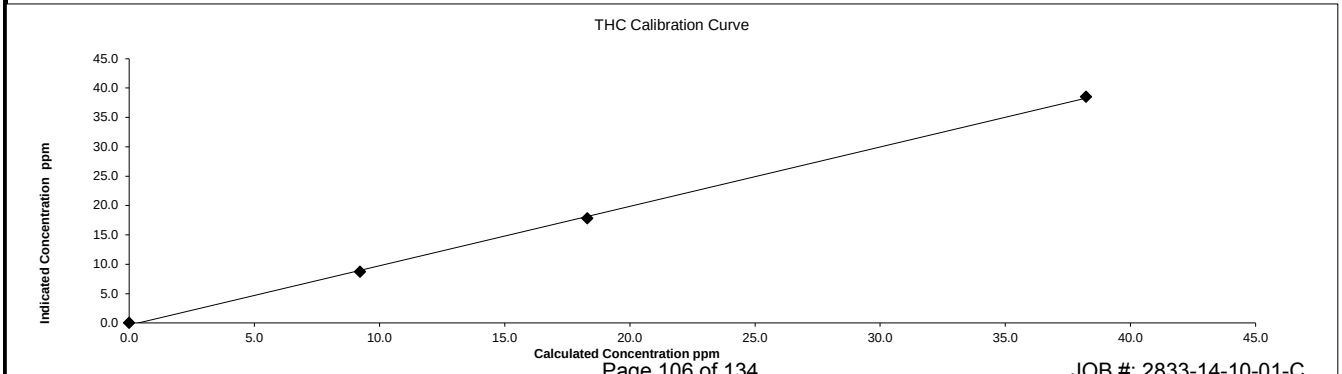
Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppm)	(ppm)	
as found zero	2000	0.00	2000	0	-0.50	NA
adjusted zero	na	0.00		0		NA
as found high	2000	68.00	2068	38.23	38.50	0.993
adjusted high		na				
mid	2000	32.00	2032	18.31	17.80	1.029
low	2000	16.00	2016	9.23	8.70	1.061
calibrator zero	na	0.00		0		NA
					Average C.F.=	

Linear Regression/Calibration Results:

		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**1.011**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**-0.742%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**0.91%**	**± 15%**	**PASS**

Comments:

Thermo 51C THC Analyzer Calibration



JOB #: 2833-14-10-01-C

Maxxam Thermo 51C THC Analyzer Calibration

Date:	1-Oct-14	**Start Time (mst):**	15:00
Company:	LICA	**End Time (mst):**	17:50
Station Name/Location:	Cold Lake South	**Calibration Purpose:**	Install calibration
Performed by:	Limin Li	**Cal Gas Expiry Date:**	11-Jul-21

Analyzer:

Serial Number:	427408718	**Range ppm:**	50
Last Calibration Date:	9-Sep-14	**As Found C.F.**	NA
Previous Cal High Point C.F.:	1.002	**New C.F.:**	1.012

		As found:		As left:
	H_2 cylinder (psi):	2050	H_2 cylinder (psi):	2050
	H_2 cylinder reg set (psi):	22	H_2 cylinder reg set (psi):	22
	Span Cylinder (psi):	800	Span Cylinder (psi):	800
	Span Cylinder Reg Set (psi):	22	Span Cylinder Reg Set (psi):	22
	Zero Air Gen Pressure:	35	Zero Air Gen Pressure:	35
	measurement alarms:	None	measurement alarms:	None
	service alarms:	None	service alarms:	None
FID status:	cnt:	1583	cnt:	1583
	rng:	1	rng:	1
	try:	0	try:	0
	flm:	184	flm:	181.9
	det:	125	det:	125.6
Oven Readings:	Flame:	184	Flame:	181
	Filter:	125	Filter:	125
	Base:	125	Base:	125
	Pump:	6.5	Pump:	6.5
Voltages:	+5	4.9	+5	4.9
	+15	14.8	+15	14.8
	-15	-14.9	-15	-14.9
	Internal Span:	32.86	Internal Span:	31.25

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:

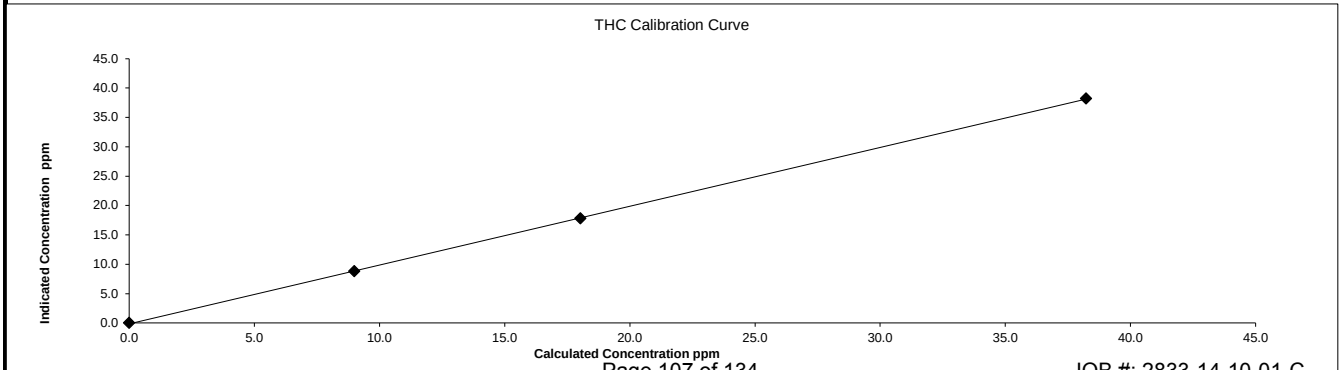
Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppm)	(ppm)	
as found zero	na	0.00		0		NA
adjusted zero	2000	0.00	2000	0	0.00	NA
as found high		na				
adjusted high	2000	68.00	2068	38.23	38.20	1.001
mid	2000	31.50	2032	18.03	17.80	1.013
low	2000	15.60	2016	9.00	8.80	1.022
calibrator zero	na	0.00		0	0.00	NA
					Average C.F.=	1.012

Linear Regression/Calibration Results:

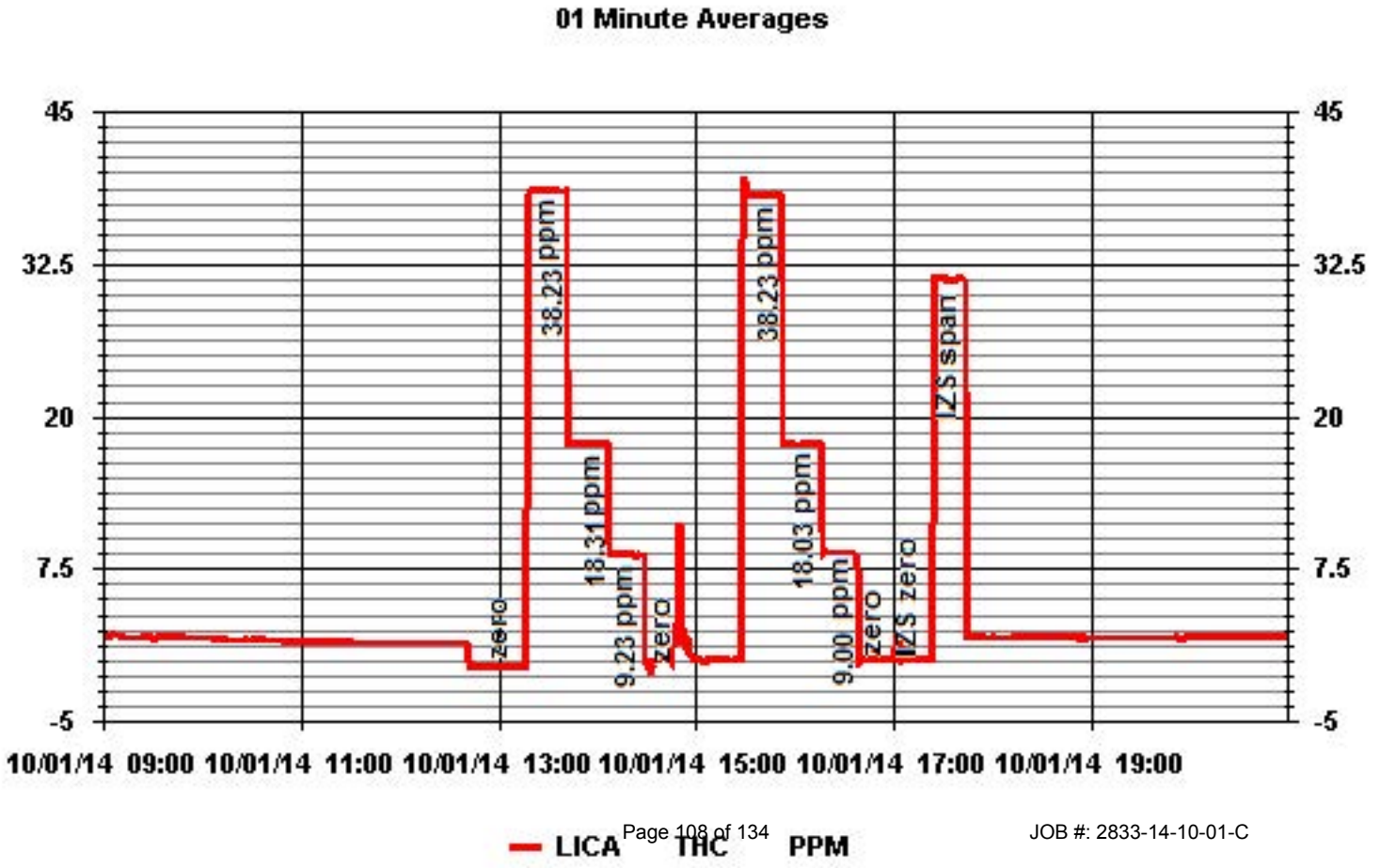
		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**1.001**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**-0.244%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**NA**	**± 15%**	**NA**

Comments:

Thermo 51C THC Analyzer Calibration



JOB #: 2833-14-10-01-C



JOB #: 2833-14-10-01-C

Particulate Matter 2.5

R & P 1405F TEOM PM 2.5 Analyzer Calibration

Date:	3-Oct-14	**Parameter:**	PM 2.5
Company:	LICA	**Performed by:**	Limin Li
Station Name/Location:	Cold Lake South	**Start/End Time (mst):**	07:30/09:00
Previous Audit Date:	September 14,2014	**Calibration Purpose:**	1 st Monthly Calibration

1400A Information and Status:

Serial Number:	1405A201620804	**As Found Filter Loading %:**	25.32
Ko Factor:	14578.0	**As Left Filter Loading %:**	17.00
Ambient Temperature °C:	-4.1	**As Found Noise:**	0.005
Ambient Pressure atm:	0.949	**As Left Noise:**	0.000
Main Flow Reading lpm:	3	**Pump Vacuum:**	0.34
Aux Flow Reading lpm:	13.67	**Warnings:**	None

Reference Standards:

	Flow:	**Pressure:**	**Temperature:**
Make:	Dwyer/BIOS DryCal DC-Lite	BRUNTON	FLUKE
Model:	475 Mark III	ADC	1551A EX
Serial Number:	DC-L 1841	NA	2329070
Calibration Date:	NA	5-May-14	NA

As found leak check:

		Base	**Zero**	**Reference**	**Zero**
PM 2.5 Flow	actual	0.06	0.22	0.05	0.22
	limit	0.15		0.15	
Bypass Flow	actual	0.28	0.27	0.26	0.27
	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	0.06	0.22	0.05	0.22
	limit	0.15		0.15	
Bypass Flow	actual	0.28	0.27	0.26	0.27
	limit	0.60		0.60	

As found temperature and pressure:

	tolerance +/- 2.0°C		**tolerance +/- 0.01 atm**
1405F temperature °C:	-2.6	**1405F pressure atm:**	0.947
reference temperature °C:	-4.1	**reference pressure:**	0.949
difference °C:	-1.5	**difference :**	-0.002

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

	tolerance +/- 2.0°C		**tolerance +/- 0.01 atm**
1405F temperature °C:	-1.8	**1405F pressure atm:**	0.949
reference temperature °C:	-1.8	**reference pressure:**	0.949
difference °C:	0.0	**difference :**	0.000

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:**	16.66
reference main flow lpm:	3.00	**reference total/aux flow lpm:**	16.80
difference lpm:	0.00	**difference lpm:**	0.14

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:**	16.66
reference main flow lpm:	3.00	**reference total/aux flow lpm:**	16.80
difference lpm:	0.00	**difference lpm:**	0.14

K_o Audit:

Last K_o audit date:	NA
1405F K_o factor:	14578.0
Measured K_o factor:	NA
% difference:	NA

Comments:

JOB #: 2833-14-10-01-C

Leak check, flow audit, replaced filters. All good.

R & P 1405F TEOM PM 2.5 Analyzer Calibration

Date:	23-Oct-14	**Parameter:**	PM2.5
Company:	LICA	**Performed by:**	Tom Bourque
Station Name/Location:	Cold Lake South	**Start/End Time (mst):**	0940-1030
Previous Audit Date:	October 3,2014	**Calibration Purpose:**	routine monthly

1400A Information and Status:

Serial Number:	1405A201620804	**As Found Filter Loading %:**	25.12
Ko Factor:	14578	**As Left Filter Loading %:**	24.71
Ambient Temperature °C:	6.02	**As Found Noise:**	0.012
Ambient Pressure atm:	.922	**As Left Noise:**	0.000
Main Flow Reading lpm:	3.00	**Pump Vacuum:**	0.33
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:	5.4	**1405F pressure atm:**	0.931
reference temperature °C:	6.1	**reference pressure:**	0.922
difference °C:	0.7	**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:	5.4	**1405F pressure atm:**	0.931
reference temperature °C:	6.1	**reference pressure:**	0.922
difference °C:	0.7	**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:	2.90	**reference total/aux flow lpm:**	16.21
difference lpm:	-0.10	**difference lpm:**	-0.46

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:	2.90	**reference total/aux flow lpm:**	16.21
difference lpm:	-0.10	**difference lpm:**	-0.46

K_o Audit:

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

Comments:

JOB #: 2833-14-10-01-C

Nitrogen Dioxide

Thermo 42C NOx Analyzer Calibration

Date:	1-Oct-14	**Start Time (mst):**	8:00
Company:	LICA	**End Time (mst):**	10:07
Station Name/Location:	Cold Lake South	**Calibration Purpose:**	As Found
Performed by:	Limin Li	**Cal Gas Expiry Date:**	15-Oct-17

Analyzer Serial Number:	427408716
Last Calibration Date:	9-Sep-14
Range ppb:	500

Correction Factors:

	As found C.F.	Previous Cal High Point C.F.:
NO=	0.869	1.000
NOx=	0.863	1.002
NO_2=	NA	0.996

	As found:	**As left:**
NO Bkg ppb:	5.7	5.7
NOx Bkg ppb:	5.9	5.9
NO Coef:	1.530	1.530
NOx Coef:	1.024	1.024
NO_2 Coef:	1.010	1.010
PMT:	-821	-821
+15:	15.1	15.1
+5:	5.0	5.0
+15:	15.1	15.1
-15:	-15.1	-15.1
Battery:	3.2	3.2
Internal:	28.3	28.3
Chamber:	49.7	49.7
Cooler:	-2.5	-2.5
Converter:	317	317
Converter Set:	319	319
Pressure:	192.9	192.9
Sample Flow:	0.531	0.531
Ozonator Flow:	ok	ok
Internal Span:	339/7/332	339/7/332

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	4999	0	0	4999
high	4961	37		4998
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	-0.5	0.0	NA	NA
adjusted zero	na	0.0		0	0			NA	NA
as found high	4961	37.00	4998	379.8	379.8	437	440	0.869	0.863
adjusted high		na							
mid		na							
low		na							
calibrator zero	na	0.00		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=	**13.10%**	**13.86%**	**NA**	**+/-15%**
NO2 converter effeciency				**>85%**

Comments:

Sample filter changed. After as found point adjust PMT voltage.

JOB #: 2833-14-10-01-C

Thermo 42C NOx Analyzer Calibration

Date:	1-Oct-14	**Start Time (mst):**	10:30
Company:	LICA	**End Time (mst):**	16:00
Station Name/Location:	Cold Lake South	**Calibration Purpose:**	Post Repair
Performed by:	Limin Li	**Cal Gas Expiry Date:**	15-Oct-17

Analyzer Serial Number:	427408716
Last Calibration Date:	9-Sep-14
Range ppb:	500

Correction Factors:

	As found C.F.	Previous Cal High Point C.F.:
NO=	NA	1.000
NOx=	NA	1.002
NO_2=	0.996	0.996

	As found:	**As left:**
NO Bkg ppb:	5.7	5.0
NOx Bkg ppb:	5.9	5.2
NO Coef:	1.530	1.019
NOx Coef:	1.024	1.017
NO_2 Coef:	1.010	1.010
PMT:	-821	-850
+15:	15.1	15.1
+5:	5.0	5.0
+15:	15.1	15.1
-15:	-15.1	-15.1
Battery:	3.2	3.2
Internal:	28.3	34
Chamber:	49.7	49.7
Cooler:	-2.5	-2.5
Converter:	317	317
Converter Set:	319	319
Pressure:	192.9	192.9
Sample Flow:	0.531	0.531
Ozonator Flow:	ok	ok
Internal Span:	339/7/332	350/7/343

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	4999	0	0	4999
high	4961	37	240.00	4998
mid	4982	18	130.00	5000
low	4990	9	45.00	4999

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		0	0			NA	NA
adjusted zero	4999	0.0	4999	0	0	0.0	0.0	NA	NA
as found high		na							
adjusted high	4961	37.00	4998	379.8	379.8	380	380	0.999	0.999
mid	4982	17.50	5000	179.6	179.6	176	176	1.020	1.020
low	4990	8.80	4999	90.3	90.3	87	87	1.038	1.038
calibrator zero	4999	0.00	4999	0	0	0.0	0.0	NA	NA
							Average C.F.=	1.019	1.019

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	4961	37.00	4998	0.0	379.0	379.0	0.0	0.0	0.0	
as found NO_2	4961	37.00	4998	240.0	100.0	380.0	280.0	279.0	280.0	0.996
adjusted NO_2		na								
gpt mid	4961	37.00	4998	130.0	220.0	379.0	159.0	159.0	159.0	1.000
gpt low	4961	37.00	4998	45.0	326.0	381.0	55.0	53.0	55.0	0.964
									Average NO_2 C.F.=	0.982

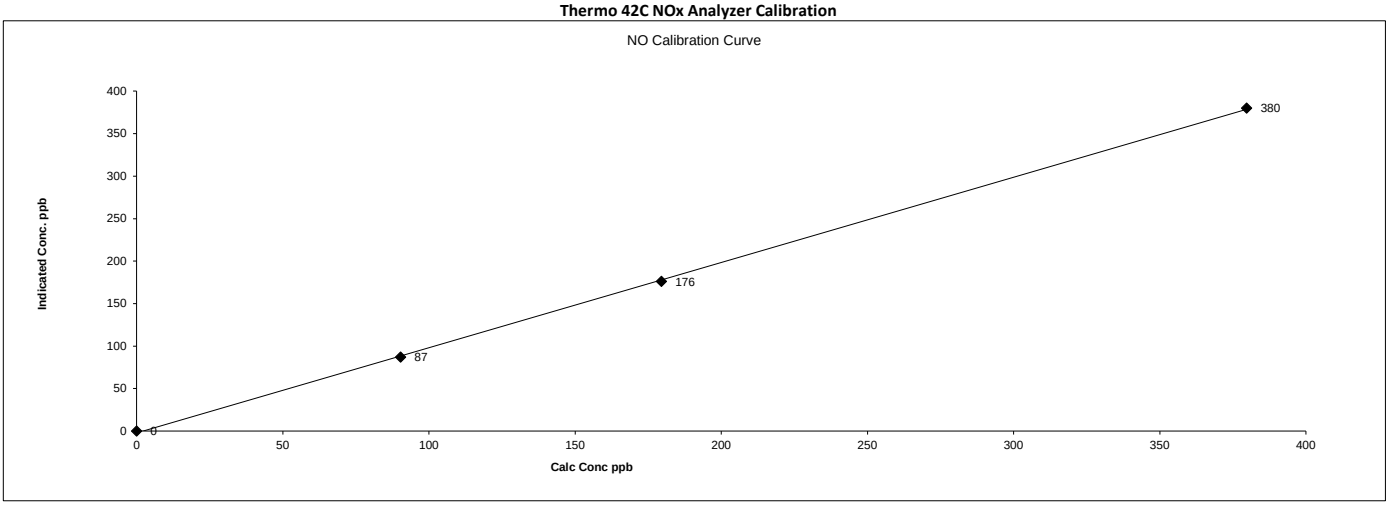
Linear Regression/Calibration Results:

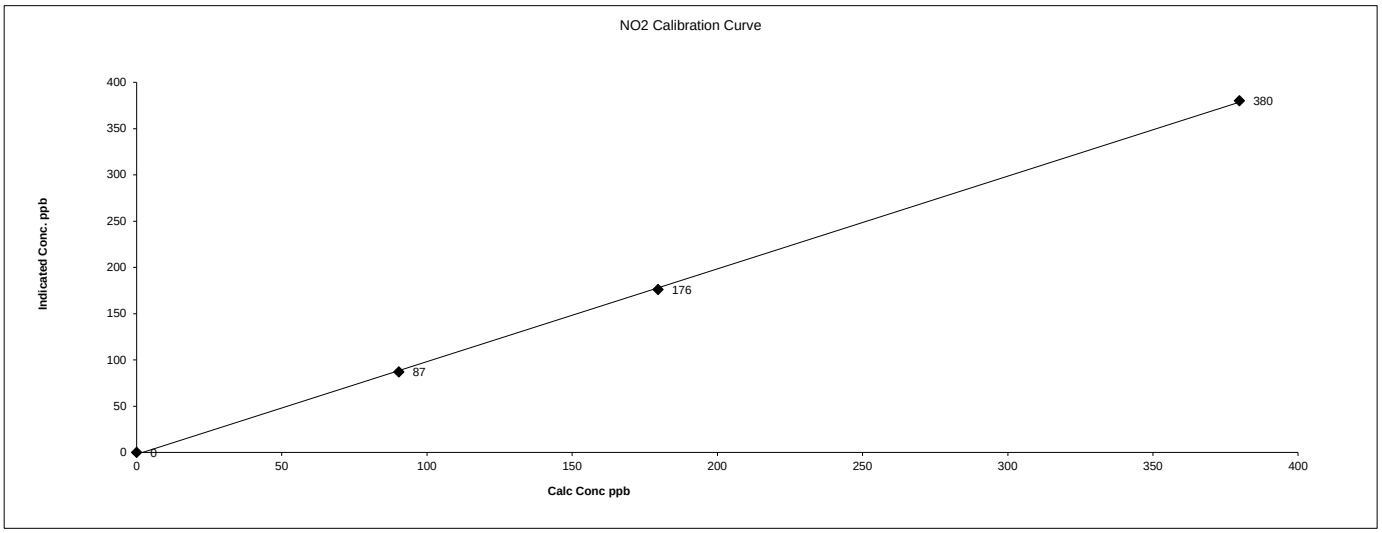
	NO	NOx	NO_2	LIMITS
Correlation Coeffecient =	**1.000**	**1.000**	**1.000**	**> or = 0.995**
Slope =	**1.003**	**1.003**	**1.000**	**0.85-1.15**
b (Intercept as % of full scale)=	**-0.43%**	**-0.43%**	**0.14%**	**± 3% F.S.**
% change in C.F. from last cal=	**NA**	**NA**	**NA**	**+/-15%**
NO2 converter effeciency			**101.9%**	**>85%**

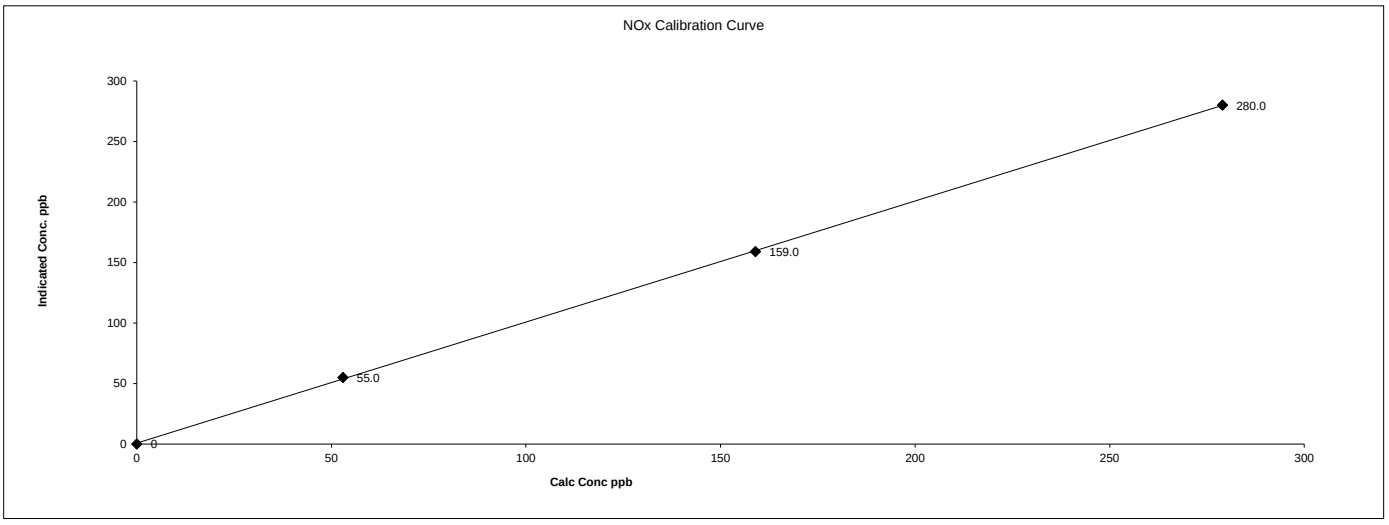
Comments:

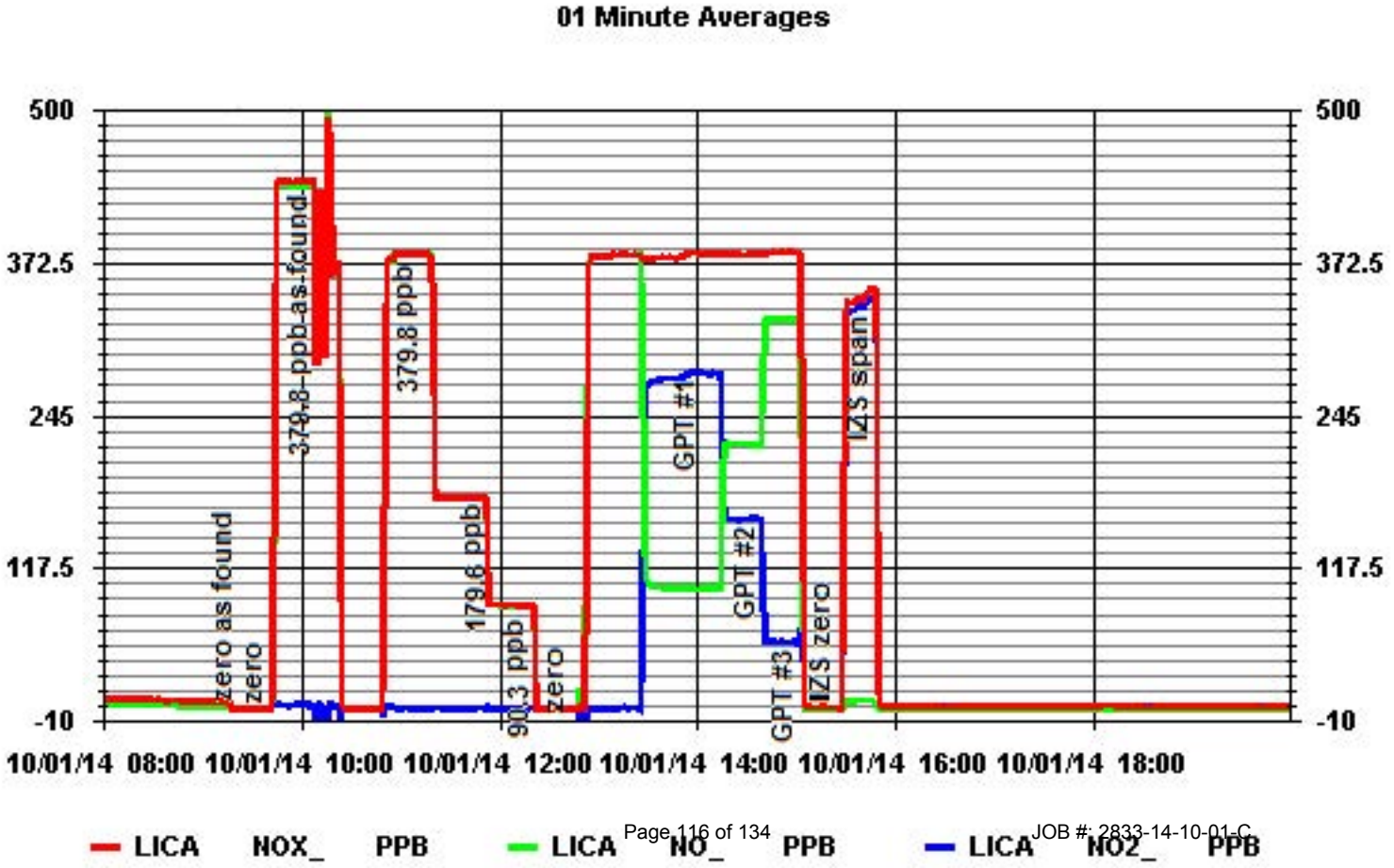
Date:	1-Oct-14	**Start Time (mst):**	10:30
Company:	LICA	**End Time (mst):**	16:00
Station Name/Location:	Cold Lake South	**Calibration Purpose:**	Post Repair
Performed by:	Limin Li	**Cal Gas Expiry Date:**	15-Oct-17

Thermo 42C NOx Analyzer Calibration








01 Minute Averages
500
372.5
245
117.5
-10
zero as found
zero
379.8 ppb as found
379.8 ppb
179.6 ppb
90.3 ppb
zero
GPT #1
GPT #2
GPT #3
IZS zero
IZS span
10/01/14 08:00
10/01/14 10:00
10/01/14 12:00
10/01/14 14:00
10/01/14 16:00
10/01/14 18:00
LICA NOX_ PPB
LICA NO_ PPB
LICA NO2_ PPB

Ozone

Maxxam Thermo 49i O_3 Analyzer Calibration

Date:	1-Oct-14	**Start Time (mst):**	15:40
Company:	LICA	**End Time (mst):**	19:10
Station Name/Location:	Cold Lake South	**Calibration Purpose:**	Monthly Calibration
Performed by:	Limin Li	**G.P.T. Date:**	15-Oct-17

Analyzer:

Serial Number:	700419951	**Range ppm:**	500
Last Calibration Date:	10-Sep-14	**As Found C.F.**	1.033
Previous Cal High Point C.F.:	1.000	**New C.F.:**	0.994

		As found:		As left:
	O_3 Bkg:	0.2	O_3 Bkg:	0.2
	O_3 Coef:	0.997	O_3 Coef:	0.997
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	-14.9	-15.0	-14.9
	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:	31.8	Bench:	31.8
	Bench Lamp:	53.5	Bench Lamp:	53.5
	O_3 Lamp:	67.5	O_3 Lamp:	67.5
	Pressure:	698	Pressure:	698
	Cell A lpm:	0.709	Cell A lpm:	0.709
	Cell B lpm:	0.746	Cell B lpm:	0.746
	O_3 ppb:	37	O_3 ppb:	37
	Cell A ppb:	43	Cell A ppb:	43
	Cell B ppb:	32	Cell B ppb:	32
	Cell A int:	62943	Cell A int:	62943
	Cell B int:	60289	Cell B int:	60289
	Internal Span:	268.5	Internal Span:	268.5

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	240
mid	4995	130
low	4955	45

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	0.0	0.0	NA
adjusted zero	na	0.0		0.0		NA
as found high	4999	0.00	4999	280.0	271.0	1.033
adjusted high	4999	0.00	4999	280.0	280.0	1.000
mid	4999	0.00	4999	159.0	159.5	0.997
low	4999	0.00	4999	55.0	55.8	0.986
calibrator zero	4999	0.00	4999	0.0	0.0	NA

copy and paste flows and NO decrease from NOx cal in to calculated concentration **Average C.F.=** 0.994

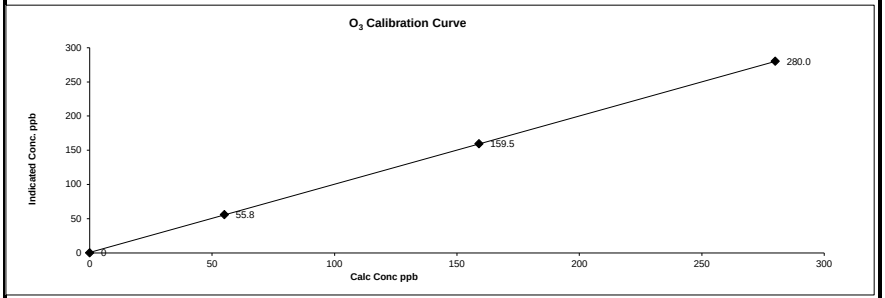
Linear Regression/Calibration Results:

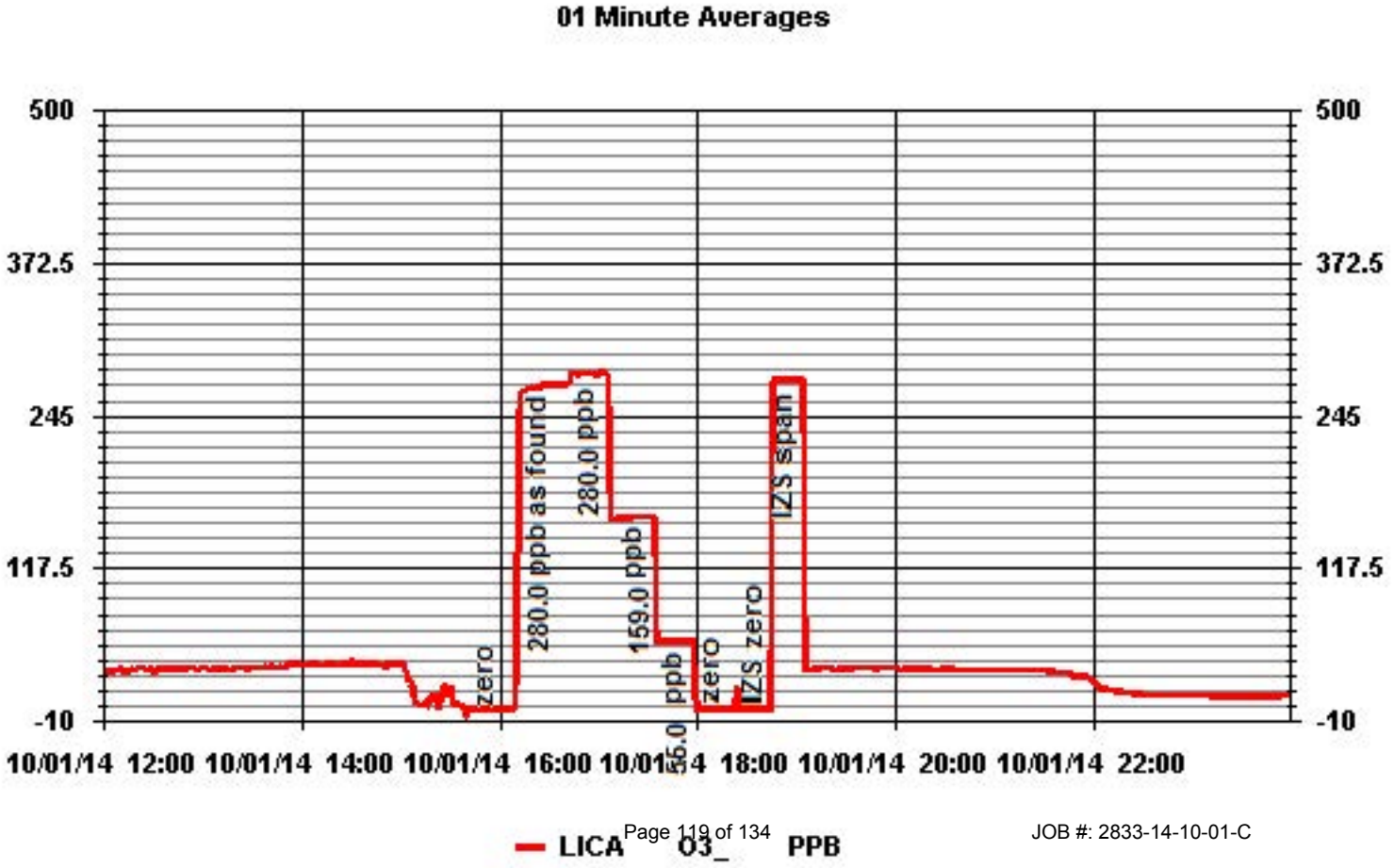
		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**0.999**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**0.085%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**-3%**	**± 15%**	**PASS**

Comments:

Sample filter changed.

Thermo 49i O3 Analyzer Calibration





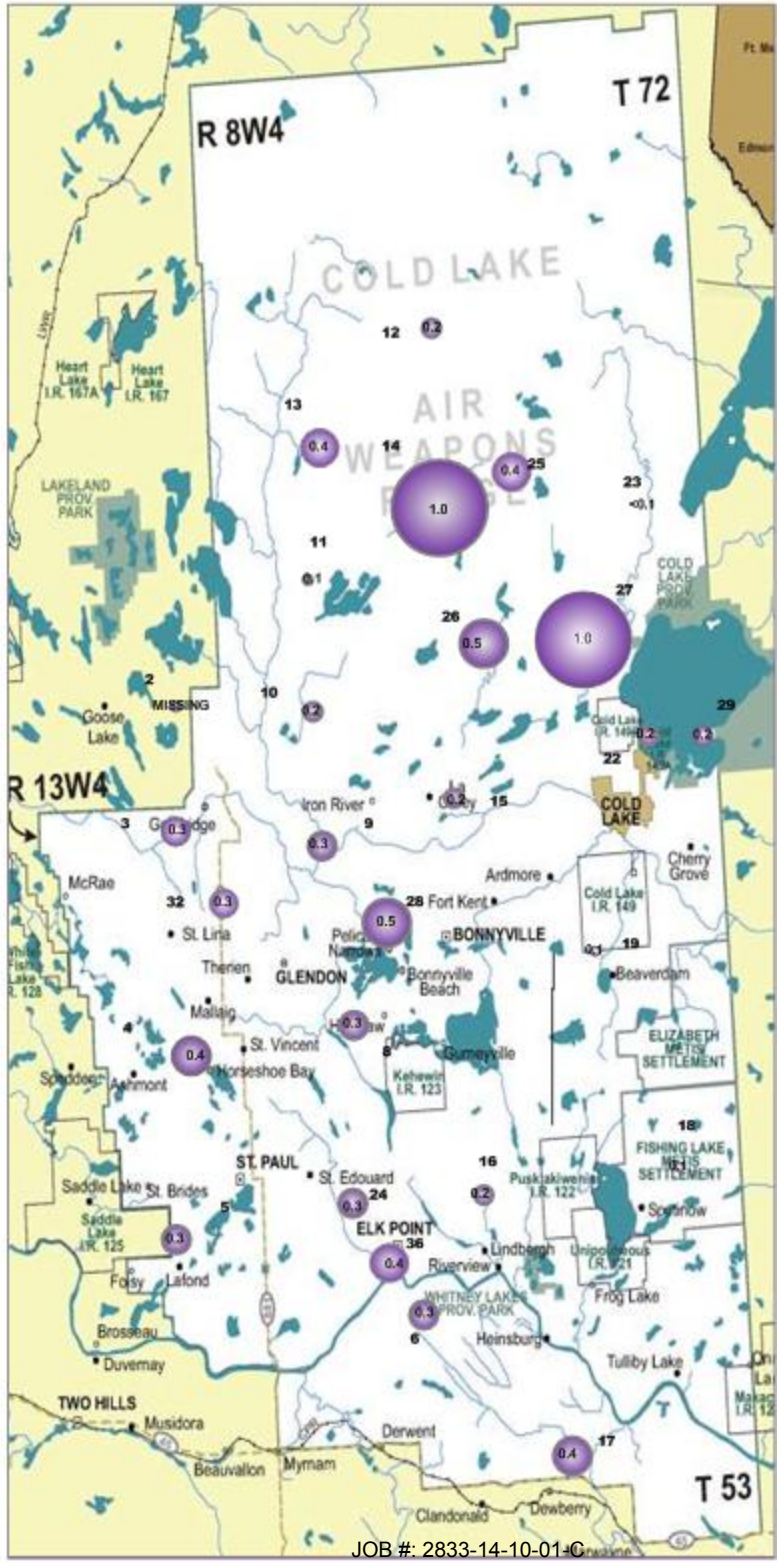
JOB #: 2833-14-10-01-C

Passive Bubble Maps

Lakeland Industry & Community Association
SO_2 Passive Bubble Map

OCTOBER 2014

PASSIVE STATIONS		DUPLICATE
2 – Sand River	MISSING	NA
3 – Therien	0.3 PPB	NA
4 – Flat Lake	0.4 PPB	NA
5 – Lake Eliza	0.3 PPB	NA
6 – Telegraph Creek	0.3 PPB	NA
8 – Muriel-Kehewin	0.3 PPB	NA
9 – Dupre	0.3 PPB	NA
10 – La Corey	0.2 PPB	NA
11 – Wolf Lake	0.1 PPB	NA
12 – Foster Creek	0.2 PPB	NA
13 – Primrose	0.4 PPB	NA
14 – Maskwa	1.1 PPB	0.9 PPB
15 – Ardmore	0.2 PPB	0.2 PPB
16 – Frog Lake	0.2 PPB	0.2 PPB
17 – Clear Range	0.4 PPB	NA
18 – Fishing Lake	0.1 PPB	NA
19 – Beaverdam	0.1 PPB	NA
22 – Cold Lake South	0.2 PPB	NA
23 – Medley-Martineau	<0.1 PPB	NA
24 – Fort George	0.3 PPB	NA
25 – Burnt Lake	0.4 PPB	NA
26 – Mahikan	0.5 PPB	NA
27 – Mahkeses	1.0 PPB	NA
28 – Town of Bonnyville	0.5 PPB	NA
29 – Cold Lake South 2	0.2 PPB	NA
32 – St. Lina	0.3 PPB	NA
36 – Elk Point	0.4 PPB	NA



Summary

Minimum : < 0.1 PPB – Medley-Martineau
Maximum: 1.1 PPB – Maskwa
Average: 0.3 PPB *Includes Duplicates

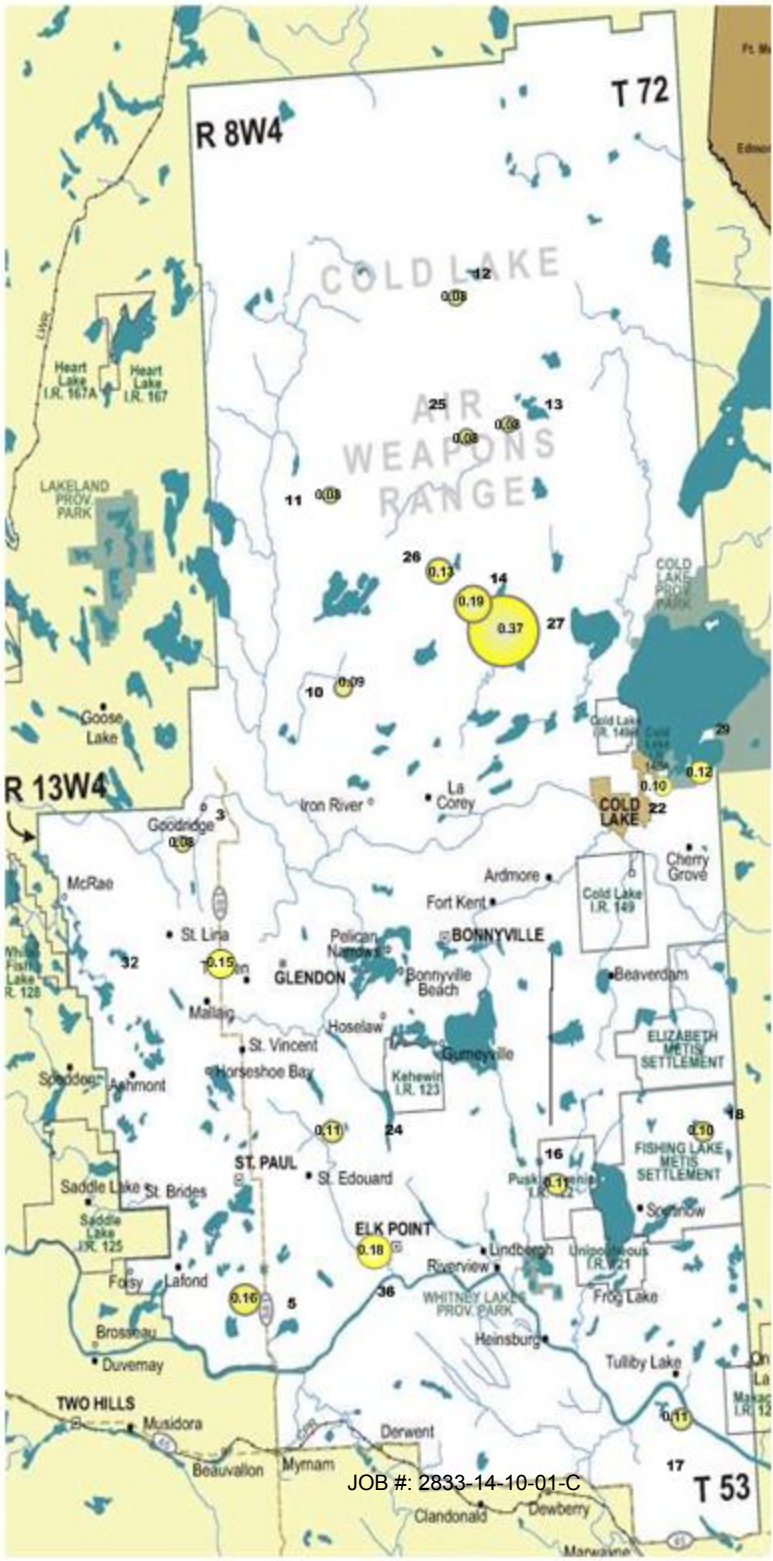
Lakeland Industry & Community Association
H_2S Passive Bubble Map

OCTOBER 2014

PASSIVE STATIONS		DUPLICATE
3 – Therien	0.08 PPB	NA
5 – Lake Eliza	0.16 PPB	NA
10 – La Corey	0.09 PPB	NA
11 – Wolf Lake	0.08 PPB	NA
12 – Foster Creek	0.08 PPB	NA
13 – Primrose	0.08 PPB	NA
14 – Maskwa	0.19 PPB	NA
16 – Frog Lake	0.11 PPB	NA
17 – Clear Range	0.11 PPB	NA
18 – Fishing Lake	0.10 PPB	NA
22 – Cold Lake South	0.11 PPB	0.08 PPB
24 – Fort George	0.11 PPB	0.11 PPB
25 – Burnt Lake	0.08 PPB	NA
26 – Mahihkan	0.13 PPB	NA
27 – Mahkeses	0.37 PPB	NA
29 – Cold Lake South 2	0.12 PPB	NA
32 – St. Lina	0.15 PPB	NA
36 – Elk Point	0.18 PPB	NA

H_2S

PPB



Summary

Minimum : 0.08 PPB – Various stations
Maximum: 0.37 PPB – Mahkeses
Average: 0.13 PPB (Includes Duplicates)

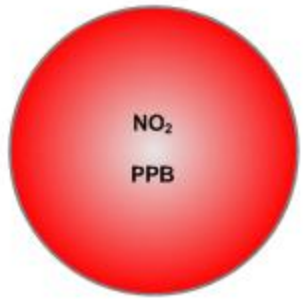
JOB #: 2833-14-10-01-C

Lakeland Industry & Community Association
NO_2 Passive Bubble Map

OCTOBER 2014

PASSIVE STATIONS

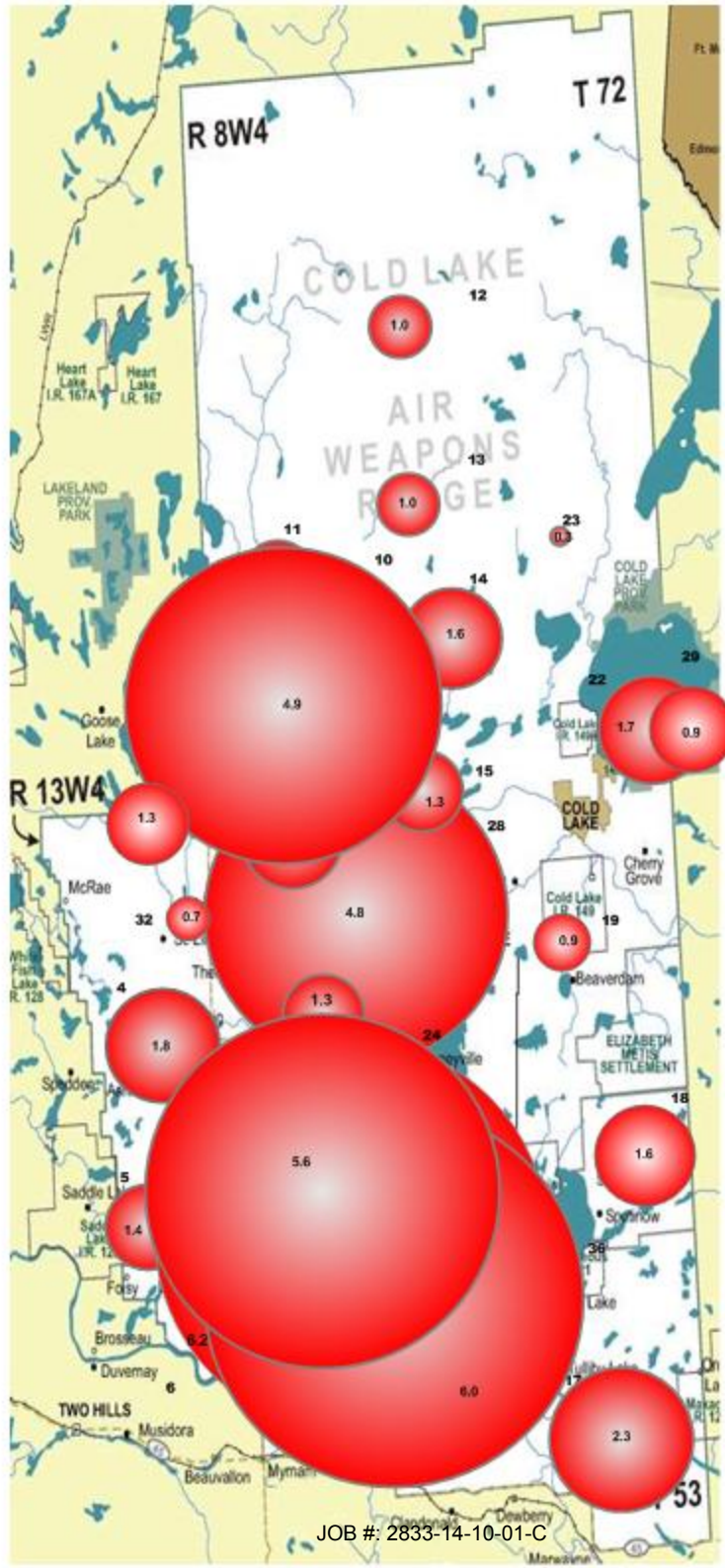
		DUPLICATE
2 – Sand River	MISSING	NA
3 – Therien	1.3 PPB	NA
4 – Flat Lake	1.8 PPB	NA
5 – Lake Eliza	1.4 PPB	NA
6 – Telegraph Creek	6.2 PPB	NA
8 – Muriel-Kehewin	1.3 PPB	NA
9 – Dupre	1.6 PPB	NA
10 – La Corey	4.9 PPB	NA
11 – Wolf Lake	1.1 PPB	NA
12 – Foster Creek	1.0 PPB	NA
13 – Primrose	1.0 PPB	NA
14 – Maskwa	1.6 PPB	NA
15 – Ardmore	1.3 PPB	NA
16 – Frog Lake	1.4 PPB	NA
17 – Clear Range	2.3 PPB	NA
18 – Fishing Lake	1.4 PPB	1.7 PPB
19 – Beaverdam	0.9 PPB	0.8 PPB
22 – Cold Lake South	1.7 PPB	NA
23 – Medley-Martineau	0.3 PPB	NA
24 – Fort George	5.6 PPB	NA
28 – Town of Bonnyville	4.8 PPB	NA
29 – Cold Lake South 2	2.6 PPB	NA
32 – St. Lina	0.7 PPB	NA
36 – Elk Point	6.0 PPB	NA



Summary

Minimum : 0.3 PPB – Medley-Martineau
Maximum: 6.2 PPB – Telegraph Creek

Average: 2.3 PPB *Includes Duplicates



JOB #: 2833-14-10-01-C

Lakeland Industry & Community Association
O_3 Passive Bubble Map

OCTOBER 2014

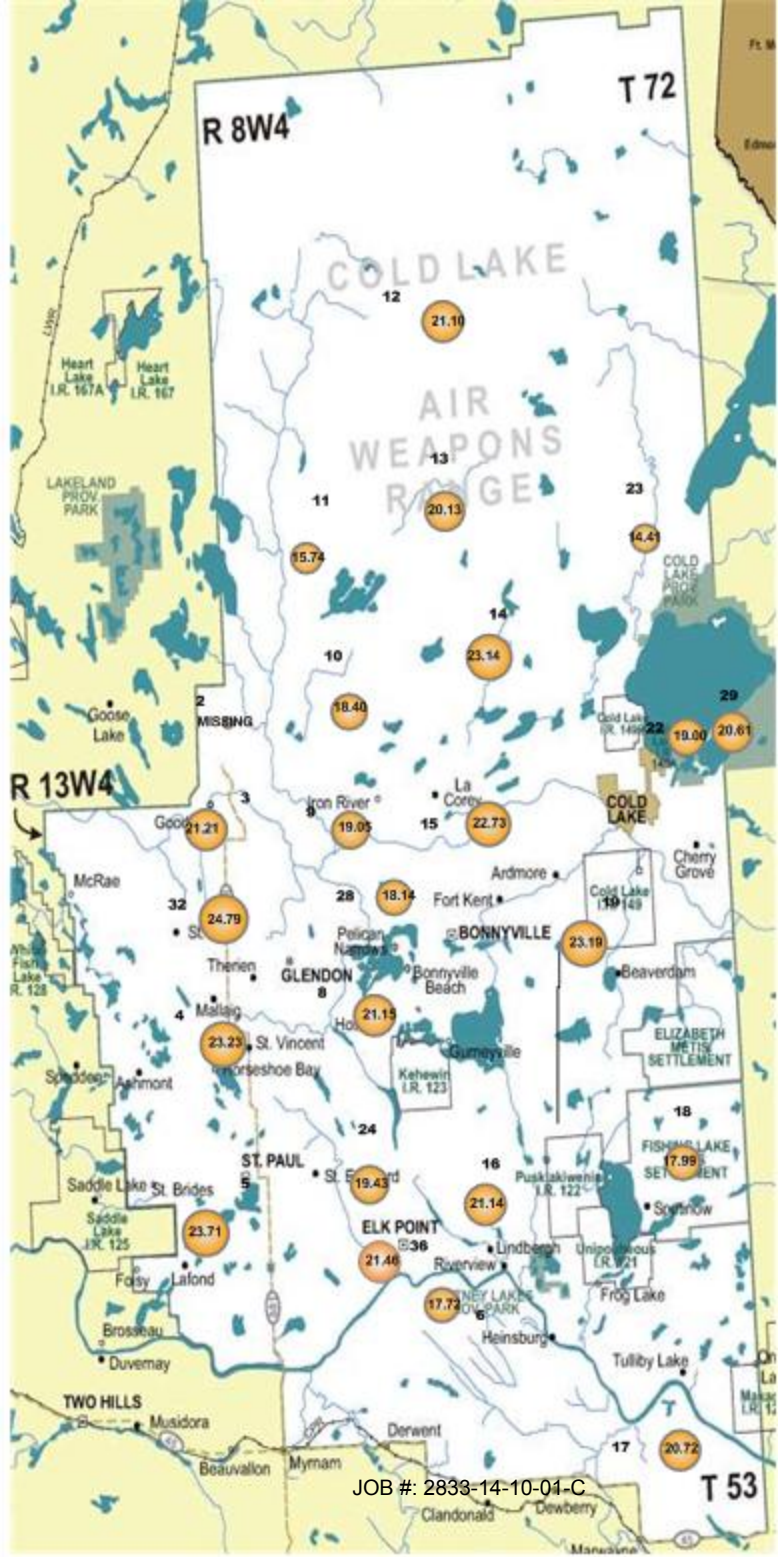
PASSIVE STATIONS

		DUPLICATE
2 – Sand River	MISSING	NA
3 – Therien	21.21 PPB	NA
4 – Flat Lake	23.23 PPB	NA
5 – Lake Eliza	23.71 PPB	NA
6 – Telegraph Creek	17.72 PPB	NA
8 – Muriel-Kehewin	21.15 PPB	NA
9 – Dupre	19.05 PPB	NA
10 – La Corey	18.40 PPB	NA
11 – Wolf Lake	15.74 PPB	NA
12 – Foster Creek	21.10 PPB	NA
13 – Primrose	20.13 PPB	NA
14 – Maskwa	23.14 PPB	NA
15 – Ardmore	23.73 PPB	NA
16 – Frog Lake	21.14 PPB	NA
17 – Clear Range	20.72 PPB	NA
18 – Fishing Lake	18.13 PPB	17.85 PPB
19 – Beaverdam	22.91 PPB	23.47 PPB
22 – Cold Lake South	19.00 PPB	NA
23 – Medley-Martineau	14.41 PPB	NA
24 – Fort George	19.43 PPB	NA
28 – Town of Bonnyville	18.14 PPB	NA
29 – Cold Lake South 2	20.61PPB	NA
32 – St. Lina	24.79 PPB	NA
36 – Elk Point	21.46 PPB	NA

O_3 PPB

Summary

Minimum : 14.41 PPB – Medley-Martineau
Maximum: 24.79 PPB – St. Lina
Average: 20.36 PPB *Includes Duplicates



JOB #: 2833-14-10-01-C

Passive Field Data

Passive Sampler Data Sheet for October

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	$H_2S/SO_2/NO_2/O_3$	2014/10/01	11:27	2014/10/31	11:43	
4	$SO_2/NO_2/O_3$	2014/10/02	16:14	2014/10/29	10:08	
5	$H_2S/SO_2/NO_2/O_3$	2014/10/05	15:22	2014/10/29	11:23	
6	$SO_2/NO_2/O_3$	2014/10/02	13:45	2014/10/29	13:32	
8	$SO_2/NO_2/O_3$	2014/10/02	17:22	2014/10/31	10:14	
9	$SO_2/NO_2/O_3$	2014/10/01	08:50	2014/10/31	11:07	
10	$H_2S/SO_2/NO_2/O_3$	2014/10/03	15:08	2014/10/30	12:58	
11	$H_2S/SO_2/NO_2/O_3$	2014/10/03	13:13	2014/10/30	12:17	
12	$H_2S/SO_2/NO_2/O_3$	2014/10/03	11:03	2014/10/30	10:23	
13	$H_2S/SO_2/NO_2/O_3$	2014/10/01	16:14	2014/10/30	14:01	
14	$H_2S/SO_2/NO_2/O_3$	2014/10/01	17:13	2014/10/30	14:54	
15	$SO_2/NO_2/O_3$	2014/10/02	08:03	2014/10/30	17:44	
16	$H_2S/SO_2/NO_2/O_3$	2014/10/02	09:43	2014/10/29	16:32	
17	$H_2S/SO_2/NO_2/O_3$	2014/10/02	12:53	2014/10/29	14:21	
18	$H_2S/SO_2/NO_2/O_3$	2014/10/02	11:15	2014/10/29	15:42	
19	$SO_2/NO_2/O_3$	2014/10/02	09:01	2014/10/29	17:23	
22	$H_2S/SO_2/NO_2/O_3$	2014/10/01	12:52	2014/10/29	18:23	
23	$SO_2/NO_2/O_3$	2014/10/01	15:00	2014/10/30	16:45	
24	$H_2S/SO_2/NO_2/O_3$	2014/10/02	14:26	2014/10/29	12:55	
25	H_2S/SO_2	2014/10/03	12:04	2014/10/30	11:30	
26	H_2S/SO_2	2014/10/01	16:57	2014/10/30	14:36	
27	H_2S/SO_2	2014/10/01	17:54	2014/10/30	15:21	H2S passive filer paper broken
28	$SO_2/NO_2/O_3$	2014/10/01	09:11	2014/10/31	09:12	
29	$H_2S/SO_2/NO_2/O_3$	2014/10/01	12:52	2014/10/29	18:23	
32	$H_2S/SO_2/NO_2/O_3$	2014/10/01	10:38	2014/10/31	12:29	
36	$H_2S/SO_2/NO_2/O_3$	2014/10/02	14:43	2014/10/29	12:19	

Passive Sampler Data Sheet for October

ID	SAMPLER	START		END		NOTES
		DATE	TIME	DATE	TIME	
Duplicate # 14	SO_2	2014/10/01	17:13	2014/10/30	14:54	
Duplicate # 15	SO_2	2014/10/01	18:29	2014/10/30	17:44	
Duplicate # 16	SO_2	2014/10/02	18:33	2014/10/29	16:32	
Duplicate # 22	H_2S	2014/10/01	12:52	2014/10/29	18:23	
Duplicate # 24	H_2S	2014/10/02	14:21	2014/10/29	12:55	
Duplicate # 18	O3,NO_2	2014/10/02	11:15	2014/10/29	15:42	
Duplicate # 19	O3, NO_2	2014/10/02	09:01	2014/10/29	17:23	

Passive Network Laboratory Analysis

Your Project #: 2014/10/01 - 2014/10/29
Site Location: LICA

Attention:MICHAEL BISAGA

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

Report Date: 2014/11/17
Report #: R1684754
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B499790
Received: 2014/11/03, 11:31

Sample Matrix: Air
Samples Received: 33

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
H2S Passive Analysis (1)	20	2014/11/15	2014/11/17	PTC SOP-00150	Tang.Passive H2S in
NO2 Passive Analysis (1)	25	2014/11/05	2014/11/17	PTC SOP-00148	Passive NO2 in ATM
O3 Passive Analysis (1)	25	2014/11/05	2014/11/17	PTC SOP-00197	EPA 300 R2.1
SO2 Passive Analysis (1)	29	2014/11/14	2014/11/17	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 #: B499790
Report Date: 2014/11/17

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2014/10/01 - 2014/10/29
Site Location: LICA
Sampler Initials: WA

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		LA7491	LA7492	LA7493	LA7494	LA7495	LA7496	LA7497		
Sampling Date		2014/10/01 11:27	2014/10/02 16:13	2014/10/02 15:22	2014/10/02 13:45	2014/10/02 17:22	2014/10/01 08:50	2014/10/03 15:08		
	Units	3	4	5	6	8	9	10	RDL	QC Batch
Passive Monitoring										
Calculated H2S	ppb	0.08		0.16				0.09	0.02	7720534
Calculated NO2	ppb	1.3	1.8	1.4	6.2	1.3	1.6	4.9	0.1	7707520
Calculated O3	ppb	21.21	23.23	23.71	17.72	21.15	19.05	18.40	0.1	7707442
Calculated SO2	ppb	0.3	0.4	0.3	0.3	0.3	0.3	0.2	0.1	7719308
RDL = Reportable Detection Limit										

Maxxam ID		LA7498	LA7499	LA7500	LA7501		LA7502	LA7503		
Sampling Date		2014/10/03 13:12	2014/10/03 11:03	2014/10/01 16:14	2014/10/01 17:13		2014/10/01 08:03	2014/10/02 09:43		
	Units	11	12	13	14	QC Batch	15	16	RDL	QC Batch
Passive Monitoring										
Calculated H2S	ppb	0.08	0.08	0.08	0.19	7720534		0.11	0.02	7720534
Calculated NO2	ppb	1.1	1.0	1.0	1.6	7707520	1.3	1.4	0.1	7707520
Calculated O3	ppb	15.74	21.10	20.13	23.14	7707442	22.73	21.14	0.1	7707457
Calculated SO2	ppb	0.1	0.2	0.4	1.1	7719308	0.2	0.2	0.1	7719308
RDL = Reportable Detection Limit										

Maxxam ID		LA7504	LA7505	LA7506		LA7507		LA7508		
Sampling Date		2014/10/02 12:53	2014/10/02 11:15	2014/10/02 09:01		2014/10/01 12:52		2014/10/01 15:00		
	Units	17	18	19	QC Batch	22	QC Batch	23	RDL	QC Batch
Passive Monitoring										
Calculated H2S	ppb	0.11	0.10		7720534	0.11	7720534		0.02	7720534
Calculated NO2	ppb	2.3	1.4	0.9	7707520	1.7	7707520	0.3	0.1	7707523
Calculated O3	ppb	20.72	18.13	22.91	7707457	19.00	7707457	14.41	0.1	7707457
Calculated SO2	ppb	0.4	0.1	0.1	7719308	0.2	7719313	<0.1	0.1	7719313
RDL = Reportable Detection Limit										

Maxxam ID		LA7509	LA7510	LA7511	LA7512	LA7513	LA7514	LA7515		
Sampling Date		2014/10/02 14:26	2014/10/03 12:04	2014/10/01 16:57	2014/10/01 12:54	2014/10/01 09:11	2014/10/01 12:52	2014/10/01 10:38		
	Units	24	25	26	27	28	29	32	RDL	QC Batch
Passive Monitoring										
Calculated H2S	ppb	0.11	0.08	0.13	0.37		0.12	0.15	0.02	7720534
Calculated NO2	ppb	5.6				4.8	2.6	0.7	0.1	7707523
Calculated O3	ppb	19.43				18.14	20.61	24.79	0.1	7707457
Calculated SO2	ppb	0.3	0.4	0.5	1.0	0.5	0.2	0.3	0.1	7719313
RDL = Reportable Detection Limit										

Maxxam Analytics International Corporation o/a Maxxam Analytics, Edmonton, 6744 50th Street T6B 3M9 Telephone(780) 378-8500 FAX(780) 378-8533

Maxxam Job #: B499790
Report Date: 2014/11/17

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2014/10/01 - 2014/10/29
Site Location: LICA
Sampler Initials: WA

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		LA7516	LA7519	LA7520	LA7521	LA7522	LA7523	LA7524		
Sampling Date		2014/10/02 14:43	2014/10/01 17:13	2014/10/01 08:03	2014/10/02 18:33	2014/10/02 11:15	2014/10/02 09:01	2014/10/01 12:52		
	Units	36	14 DUP	15 DUP	16 DUP	18 DUP	19 DUP	22 DUP	RDL	QC Batch
Passive Monitoring										
Calculated H2S	ppb	0.18						0.08	0.02	7720534
Calculated NO2	ppb	6.0				1.7	0.8		0.1	7707523
Calculated O3	ppb	21.46				17.85	23.47		0.1	7707457
Calculated SO2	ppb	0.4	0.9	0.2	0.2				0.1	7719313
RDL = Reportable Detection Limit										

Maxxam ID		LA7596		
Sampling Date		2014/10/02 14:36		
	Units	24 DUP	RDL	QC Batch
Passive Monitoring				
Calculated H2S	ppb	0.11	0.02	7720534
RDL = Reportable Detection Limit				

Maxxam Job #: B499790
Report Date: 2014/11/17

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2014/10/01 - 2014/10/29
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 #: B499790
Report Date: 2014/11/17

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2014/10/01 - 2014/10/29
Site Location: LICA
Sampler Initials: WA

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
7707442	OZ	Spiked Blank	Calculated O3	2014/11/05		101	%	90 - 110
7707442	OZ	Method Blank	Calculated O3	2014/11/05	<0.1		ppb	
7707457	OZ	Spiked Blank	Calculated O3	2014/11/05		100	%	90 - 110
7707457	OZ	Method Blank	Calculated O3	2014/11/05	<0.1		ppb	
7707520	SS6	Spiked Blank	Calculated NO2	2014/11/05		96	%	90 - 110
7707520	SS6	Method Blank	Calculated NO2	2014/11/05	<0.1		ppb	
7707523	SS6	Spiked Blank	Calculated NO2	2014/11/05		100	%	90 - 110
7707523	SS6	Method Blank	Calculated NO2	2014/11/05	<0.1		ppb	
7719308	SS6	Spiked Blank	Calculated SO2	2014/11/14		100	%	90 - 110
7719308	SS6	Method Blank	Calculated SO2	2014/11/14	<0.1		ppb	
7719313	SS6	Spiked Blank	Calculated SO2	2014/11/14		100	%	90 - 110
7719313	SS6	Method Blank	Calculated SO2	2014/11/14	<0.1		ppb	
7720534	SSZ	Spiked Blank	Calculated H2S	2014/11/15		100	%	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 #: B499790
Report Date: 2014/11/17

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2014/10/01 - 2014/10/29
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
October 2014

Prepared By:

November 21, 2014

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: October 2014

The monthly ambient data report:

- Prepared by Lili Zhou
- 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 – October 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	0.52	8	7	10	9.3	307(NW)	2.4	6	100.0
H2S (PPB)	10	3	0	0	0.18	4	16, 19	19, 22	1.4, 4.7	64(ENE) 102(E)	0.8	8	100.0
THC (PPM)	-	-	-	-	2.08	2.8	13	8, 9	5.5, 4.6	202(SSW) 199(SSW)	2.3	13, 20	100.0
NO2 (PPB)	159	-	0	-	2.83	22.2	20	17	1	128(SE)	6.3	6	100.0
NO (PPB)	-	-	-	-	1.08	68.2	22	7	0.2	92(E)	5.5	22	100.0
NO_x (PPB)	-	-	-	-	3.91	85.6	22	7	0.2	92(E)	10.2	22	100.0
VECTOR WS (KPH)	-	-	-	-	4.93	13.5	2	13	13.5	306(NW)	8.5	24	99.9
VECTOR WD (DEGREES)	-	-	-	-	255(WSW)	-	-	-	-	-	-	-	99.9
RELATIVE HUMIDITY (%)	-	-	-	-	70.29	92	VAR	VAR	VAR	VAR	86.7	27	100.0
TEMPERATURE (DEG C)	-	-	-	-	5.42	19.2	10	14	10.4	193(S)	11.4	10	100.0
BAROMETRIC PRESSURE (MILIBAR)	-	-	-	-	937.0	953	30	VAR	VAR	VAR	950.5	30	100.0
PRECIPITATION (MM)	-	-	-	-	0.01	1.2	6	8	3.3	255(WSW)	0.1	6, 27	100.0

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 October 23rd. The inlet filter was changed before the monthly calibration was started. Hourly maximum data collected on October 17th hour 4 was invalidated due to a small power outage which affected data quality. Data was corrected using daily zero information.

Hydrogen Sulphide (PPB)

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

No operational issues were observed during the month. The monthly calibration was performed on October 23rd. The inlet filter was changed before the monthly calibration was started. Hourly maximum data collected on October 17th hour 4 was invalidated due to a small power outage which affected data quality. Data was corrected using daily zero information.

Total Hydrocarbon (PPM)

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

No operational issues were observed during the month. The monthly calibration was performed on October 23rd. The inlet filter was changed before the monthly calibration was started. Hourly maximum data collected on October 17th hour 4 was invalidated due to a small power outage which 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 October 23rd. The inlet filter was changed before the monthly calibration was started. Hourly maximum data collected on October 17th hour 4 was invalidated due to a small power outage which affected data quality. Data was corrected using daily zero information.

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

- System make / model - RM Young 5103VK, S/N: 129612 replaced with MetOne 50.5H Sonic, S/N: H10703

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 2-year calibration was performed on March 4th, 2014 by MetOne manufacture. The wind system was replaced with MetOne 50.5H Sonic on October 30th.

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.

Barometric Pressure (MILLIBAR)

- System make / model - Met One 092

No operation issues were observed during the month.

General Monthly Summary

AQM STATION ï 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 October 23rd.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Sulphur Dioxide

Lakeland Industry & Community Association - Maskwa Site

OCTOBER 2014

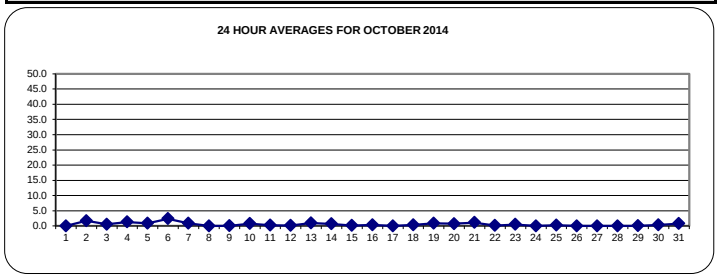
SULPHUR DIOXIDE (SO2) hourly averages in ppb

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	**S**	0	0	0	0	0	0	0	0	0	0	0.0	24
2	0	0	0	0	0	1	5	1	3	3	4	2	3	**S**	3	6	1	1	1	1	1	1	1	1	6	1.7	24
3	0	0	0	0	0	0	0	1	2	1	2	0	**S**	0	0	0	0	1	0	1	1	1	1	1	2	0.5	24
4	1	1	2	2	1	2	1	2	2	3	4	**S**	3	0	0	3	2	1	0	0	0	0	0	0	4	1.3	24
5	0	0	0	0	0	0	0	0	0	0	**S**	2	3	2	0	0	0	0	0	0	1	4	5	3	5	0.9	24
6	2	2	1	1	2	1	1	1	1	**S**	0	3	1	5	4	6	6	7	1	0	1	7	2	0	7	***2.4***	24
7	0	0	0	0	0	0	1	0	**S**	4	***8***	3	2	2	0	1	0	0	0	0	0	0	0	0	***8***	0.9	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	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
10	0	0	0	0	1	**S**	0	0	1	1	1	1	1	0	0	1	1	1	1	1	2	2	2	1	2	0.8	24
11	1	1	1	1	**S**	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24
12	0	0	0	**S**	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0.1	24
13	0	0	**S**	1	1	1	1	1	1	2	1	1	1	0	1	0	0	1	1	1	1	1	3	2	3	1.0	24
14	2	**S**	1	2	1	2	2	0	0	0	1	1	1	0	0	0	0	0	0	0	0	2	0	0	2	0.7	24
15	**S**	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	**S**	2	0.2	24
16	0	0	0	0	0	0	0	0	0	0	0	1	1	2	3	0	0	0	0	0	0	0	**S**	0	3	0.3	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	1	1	0	1	1	0	0	0	0	0	**S**	1	1	1	1	0.3	24
19	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2	1	**S**	0	0	0	0	2	0.9	24
20	0	0	0	0	0	0	0	1	1	0	0	1	1	2	2	2	2	1	**S**	1	1	1	1	0	2	0.7	24
21	0	1	1	1	1	1	1	2	1	3	1	2	2	5	2	1	0	**S**	0	0	0	1	0	0	5	1.1	24
22	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	**S**	0	1	0	0	0	0	0	1	0.2	24
23	0	1	1	1	1	1	1	1	1	1	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	**S**	0	0	0	1	0.5	24
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0.0	24
25	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	**S**	0	1	1	0	0	2	0.2	24
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0.0	24
27	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
28	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
29	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	1	0.0	24
30	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	1	0	0	0	1	1	1	1	1	1	1	0.3	24
31	1	1	1	1	1	1	2	2	2	2	2	2	**S**	0	0	0	0	0	0	0	0	0	0	0	2	0.8	24
HOURLY MAX	2	2	2	2	2	2	5	2	3	4	8	3	3	5	4	6	6	7	1	1	2	7	5	3			
HOURLY AVG	0.3	0.3	0.3	0.4	0.3	0.4	0.6	0.5	0.5	0.7	1.0	0.8	0.9	0.8	0.7	0.7	0.4	0.5	0.2	0.2	0.3	0.8	0.6	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

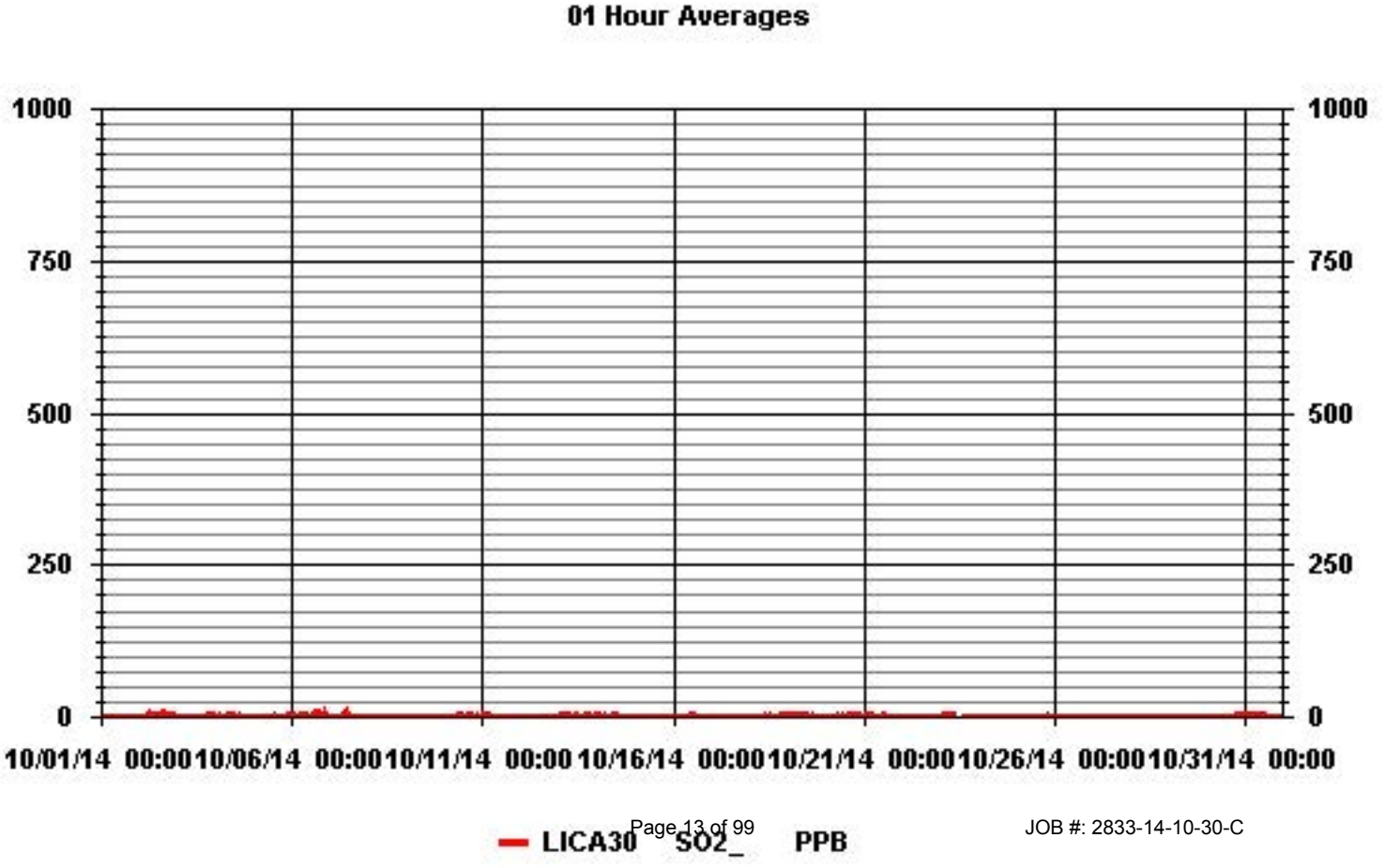


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB | 24-HR 48 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	230					
MAXIMUM 1-HR AVERAGE:	8	PPB	@ HOUR(S)	10	ON DAY(S)	7
MAXIMUM 24-HR AVERAGE:	2.4	PPB			ON DAY(S)	6
					VAR-VARIOUS	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		744	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	1.01		MONTHLY AVERAGE:		0.52	PPB

JOB #: 2833-14-10-30-C



JOB #: 2833-14-10-30-C

Lakeland Industry & Community Association - Maskwa Site

OCTOBER 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	0	0	0	0	0	0	0	0	0	3	5	0	**S**	1	0	0	0	0	0	4	0	0	5	0.7	24
2	1	0	0	0	2	3	9	8	5	6	9	7	6	**S**	8	14	5	3	5	5	1	2	2	2	14	4.5	24
3	1	0	1	1	2	2	1	2	6	3	4	1	**S**	1	1	1	1	1	1	1	1	1	1	1	6	1.5	24
4	2	2	2	2	2	2	2	3	5	4	10	**S**	7	2	1	9	5	5	1	1	1	1	0	1	10	3.0	24
5	1	0	1	1	0	1	1	1	1	1	**S**	7	8	5	2	2	1	1	1	2	2	12	8	6	12	2.8	24
6	5	4	2	3	6	1	1	1	1	**S**	1	6	4	12	8	9	12	13	6	1	7	14	13	4	14	***5.8***	24
7	3	0	0	0	0	1	1	0	**S**	9	***17***	9	10	7	3	3	0	0	0	2	1	1	0	0	***17***	2.9	24
8	0	0	0	0	0	0	0	**S**	0	0	1	1	1	1	1	0	2	1	0	0	0	0	0	0	2	0.3	24
9	0	0	0	0	0	0	**S**	0	0	2	3	1	1	1	1	1	1	1	0	0	0	0	0	0	3	0.5	24
10	0	0	1	1	1	**S**	0	1	1	1	2	3	1	1	1	1	2	2	1	2	3	3	3	2	3	1.4	24
11	2	1	2	1	**S**	2	2	1	1	1	1	1	1	0	0	0	1	0	1	0	1	1	0	0	2	0.9	24
12	0	0	0	**S**	0	0	0	0	0	3	7	5	0	0	0	0	0	0	0	0	0	0	0	0	7	0.7	24
13	0	0	**S**	1	1	1	1	1	2	2	2	1	5	1	1	1	1	1	1	1	2	3	5	4	5	1.7	24
14	4	**S**	2	3	2	3	4	1	1	1	1	1	2	2	1	1	1	1	1	1	1	8	1	0	8	1.9	24
15	**S**	0	0	0	0	1	0	0	0	2	3	5	5	2	1	1	1	0	0	0	0	0	0	**S**	5	1.0	24
16	1	1	1	1	1	1	1	0	0	0	2	3	2	3	9	1	1	0	0	0	0	0	**S**	0	9	1.2	24
17	0	0	0	0	**P**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0.0	23
18	0	1	1	1	1	1	1	1	1	1	1	1	1	2	6	1	0	0	0	0	**S**	1	1	2	6	1.1	24
19	1	1	1	1	1	1	1	2	1	1	1	2	2	3	3	2	2	4	2	**S**	1	1	1	1	4	1.6	24
20	1	1	1	1	1	1	1	2	2	1	1	1	2	2	2	3	3	2	**S**	1	1	1	1	1	3	1.4	24
21	1	1	1	1	1	1	1	4	5	6	3	7	9	12	7	1	1	**S**	1	1	1	1	1	0	12	2.9	24
22	1	0	1	1	0	0	1	3	1	0	1	2	1	1	2	2	**S**	1	2	1	1	1	1	1	3	1.1	24
23	1	1	2	3	1	1	1	2	2	2	**C**	**C**	**C**	**C**	**C**	1	1	1	1	1	**S**	1	1	1	3	1.3	24
24	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	1	1	1	1	1	0.3	24
25	1	1	1	0	1	0	1	1	0	1	1	1	4	1	1	1	1	1	**S**	1	3	3	1	0	4	1.1	24
26	0	0	0	0	1	1	1	1	1	1	1	0	1	0	0	0	0	**S**	0	0	0	0	0	0	1	0.3	24
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	1	1	0	0	0	0	1	0.1	24
28	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	**S**	1	1	1	1	1	1	1	1	1	0.5	24
29	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	0	0	0	0	0	0	0	0	0	1	0.6	24
30	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	1	1	1	1	1	1	1	1	1	2	2	0.5	24
31	2	2	2	2	2	2	2	2	2	2	2	3	**S**	1	1	1	1	1	1	1	1	1	1	1	3	1.6	24
HOURLY MAX	5	4	2	3	6	3	9	8	6	9	17	9	10	12	9	14	12	13	6	5	7	14	13	6			
HOURLY AVG	1.0	0.6	0.8	0.9	0.9	0.9	1.1	1.3	1.3	1.7	2.6	2.5	2.9	2.2	2.2	1.9	1.6	1.4	1.0	0.9	1.1	2.1	1.5	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: 466

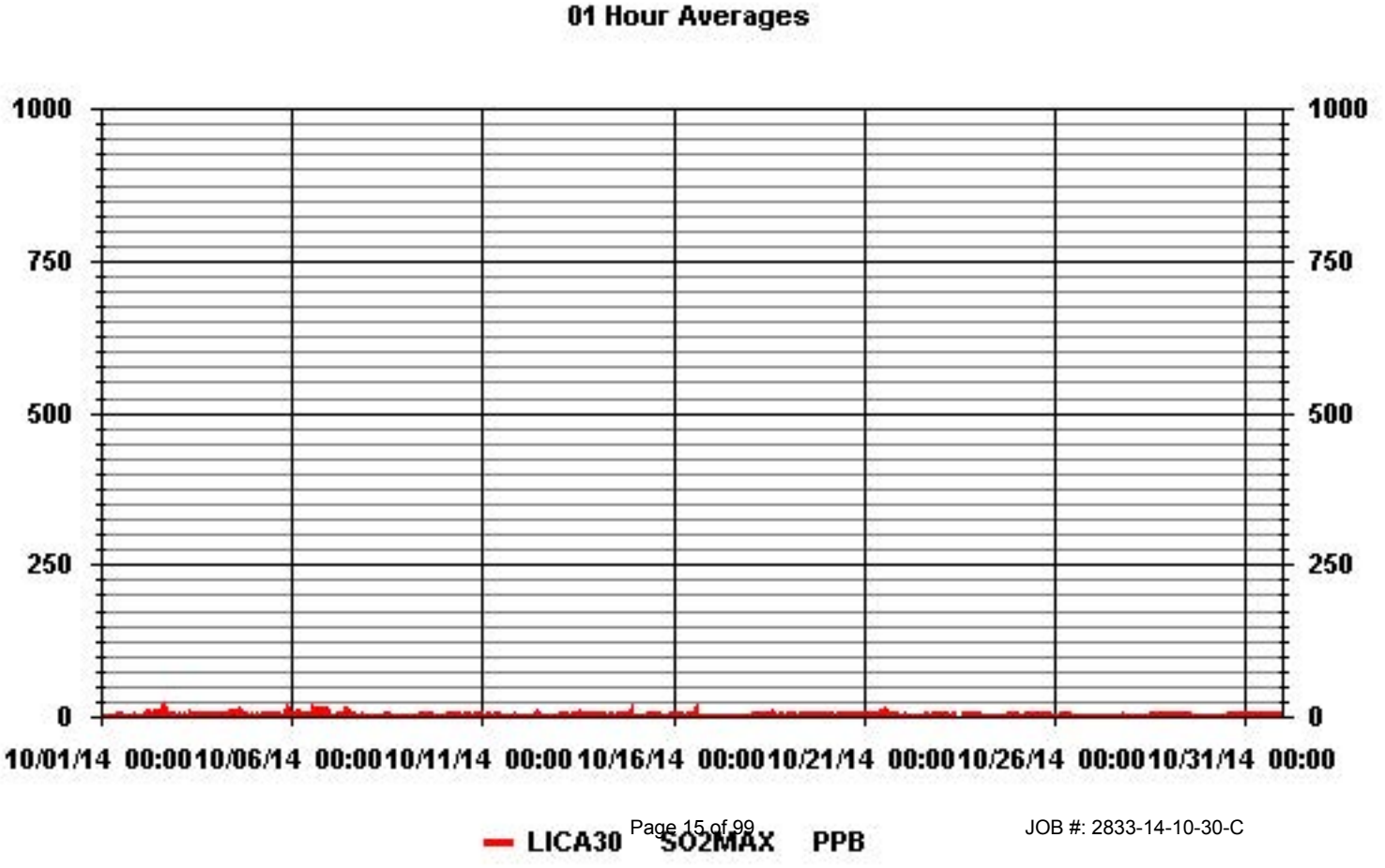
MAXIMUM INSTANTANEOUS VALUE: 17 PPB @ HOUR(S) 10 ON DAY(S) 7

VAR-VARIOUS

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 743 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION: 2.23



JOB #: 2833-14-10-30-C

LICA30
SO2_ / WDR Joint Frequency Distribution (Percent)

October 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	4.39	5.94	7.64	4.95	4.39	9.34	12.88	3.54	3.11	4.24	3.68	3.96	15.86	8.21	4.95	2.83	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	4.39	5.94	7.64	4.95	4.39	9.34	12.88	3.54	3.11	4.24	3.68	3.96	15.86	8.21	4.95	2.83	

Calm : .00 %

Total # Operational Hours : 706

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	31	42	54	35	31	66	91	25	22	30	26	28	112	58	35	20	706
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	31	42	54	35	31	66	91	25	22	30	26	28	112	58	35	20	

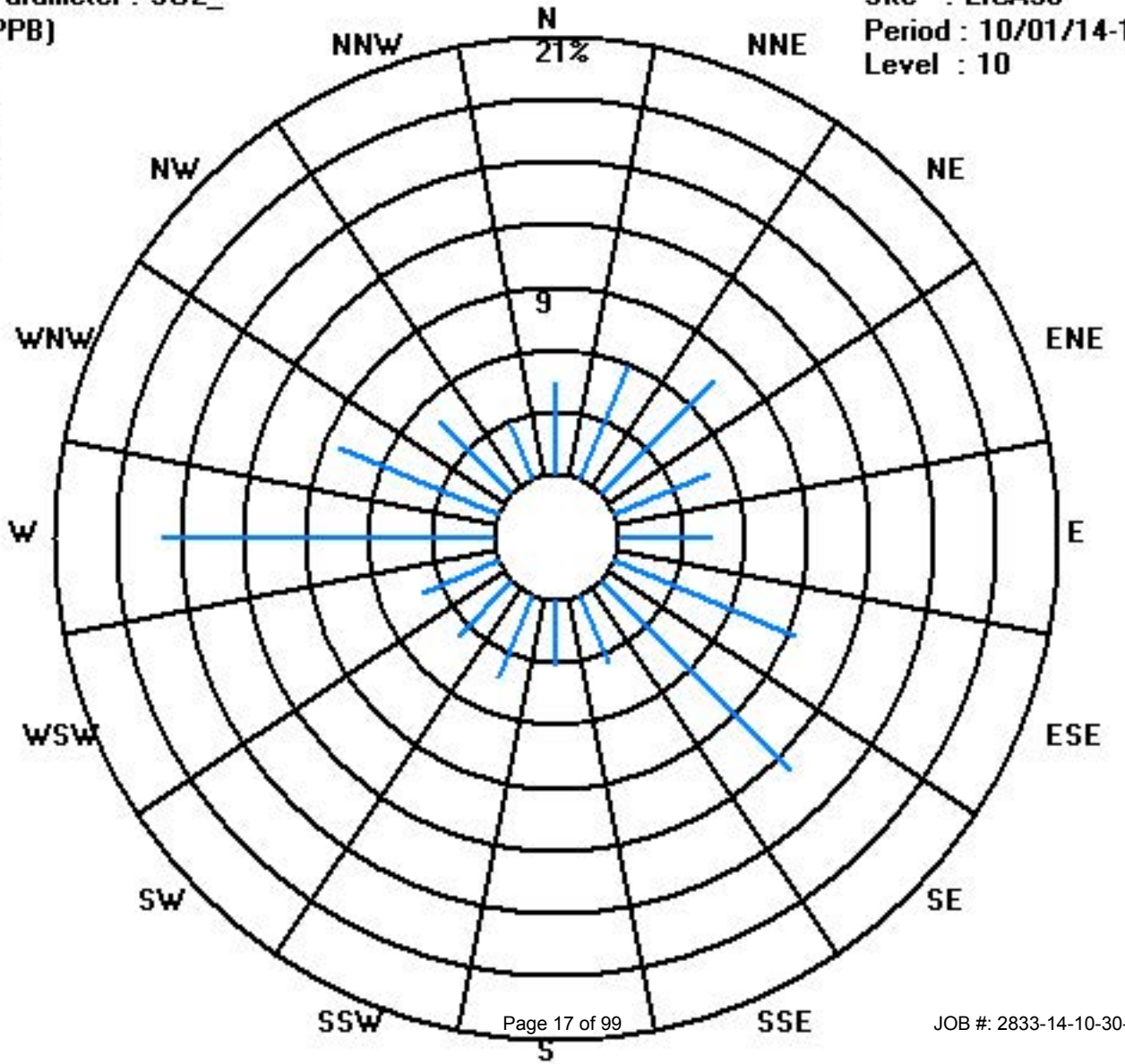
Calm : .00 %

Total # Operational Hours : 706

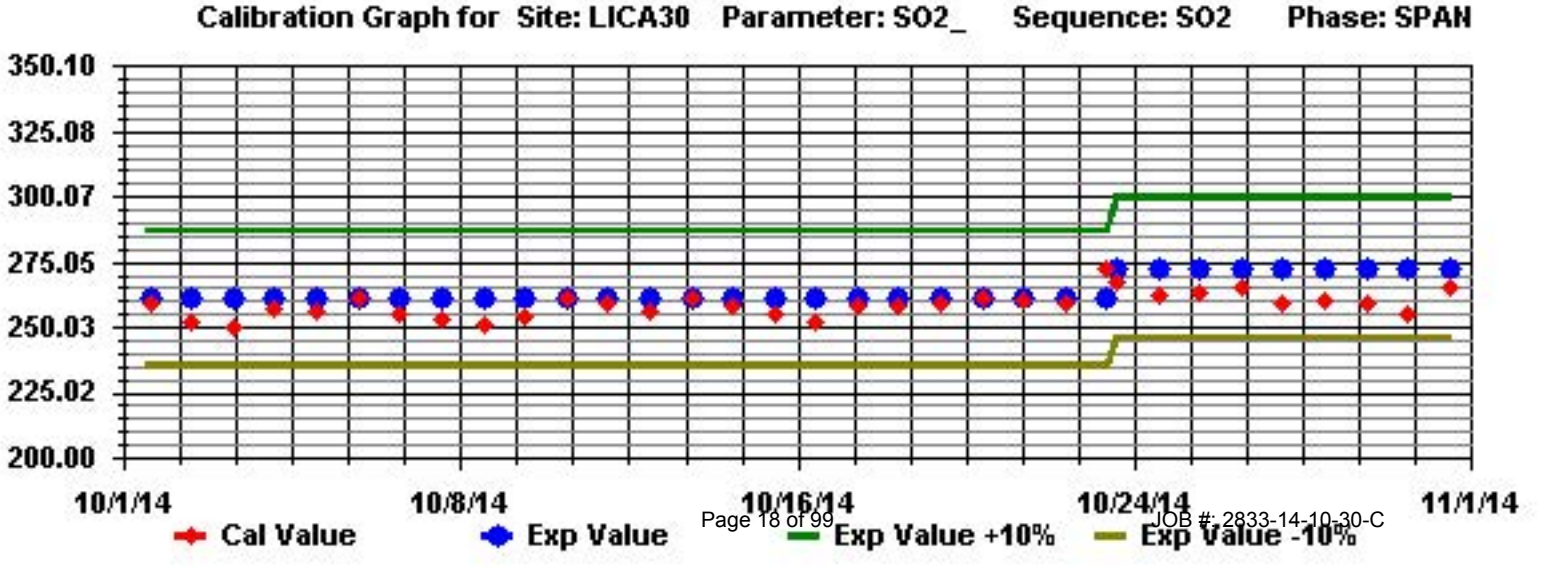
Logger : 30 Parameter : SO2_
Class Limits (PPB)

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

Site : LICA30
Period : 10/01/14-10/31/14
Level : 10



JOB #: 2833-14-10-30-C


Calibration Graph for Site: LICA30 Parameter: SO2_ Sequence: SO2 Phase: SPAN
350.10
325.08
300.07
275.05
250.03
225.02
200.00
10/1/14
10/8/14
10/16/14
10/24/14
11/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Hydrogen Sulphide

Lakeland Industry & Community Association - Maskwa Site

OCTOBER 2014

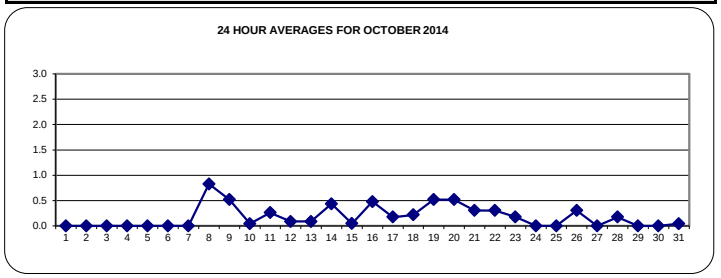
HYDROGEN SULPHIDE (H2S) hourly averages in ppb

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	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
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	0	0	0	0	0	**S**	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	**S**	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	0	0	**S**	1	2	1	1	2	1	1	1	1	1	3	1	1	1	0	1	3	***0.8***	24
9	2	2	1	0	1	1	**S**	0	0	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0.5	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	1	1	0.0	24
11	1	1	0	1	**S**	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.3	24
12	0	0	1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.1	24
13	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0.1	24
14	3	**S**	1	1	0	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0.4	24
15	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	**S**	1	0.0	24
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	***4***	3	1	**S**	0	***4***	0.5	24
17	0	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0	**S**	0	0	3	0.2	24
18	0	1	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	3	0.2	24
19	0	0	0	0	0	0	0	1	1	0	0	0	1	0	1	1	0	0	0	**S**	0	1	***4***	2	***4***	0.5	24
20	2	1	1	1	0	1	0	0	0	0	1	1	1	1	0	0	0	1	**S**	1	0	0	0	0	2	0.5	24
21	1	0	0	1	0	1	1	1	1	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	1	1	0.3	24
22	0	0	1	0	0	0	0	1	1	1	1	0	0	0	0	0	**S**	0	2	0	0	0	0	0	2	0.3	24
23	0	0	0	1	0	0	0	1	0	1	**C**	**C**	**C**	**C**	**C**	**C**	0	0	0	0	**S**	0	0	0	1	0.2	24
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0.0	24
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0.0	24
26	1	1	0	0	1	0	0	1	0	0	0	0	0	1	1	0	0	**S**	0	0	0	1	0	0	1	0.3	24
27	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
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	1	0	0	0	1	1	1	1	0.2	24
29	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
30	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
31	0	0	0	0	0	0	0	0	0	1	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
HOURLY MAX	3	2	3	1	1	1	1	3	1	2	2	1	2	1	1	1	1	1	3	4	3	1	4	2			
HOURLY AVG	0.3	0.2	0.3	0.2	0.1	0.2	0.1	0.3	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.1	0.2	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

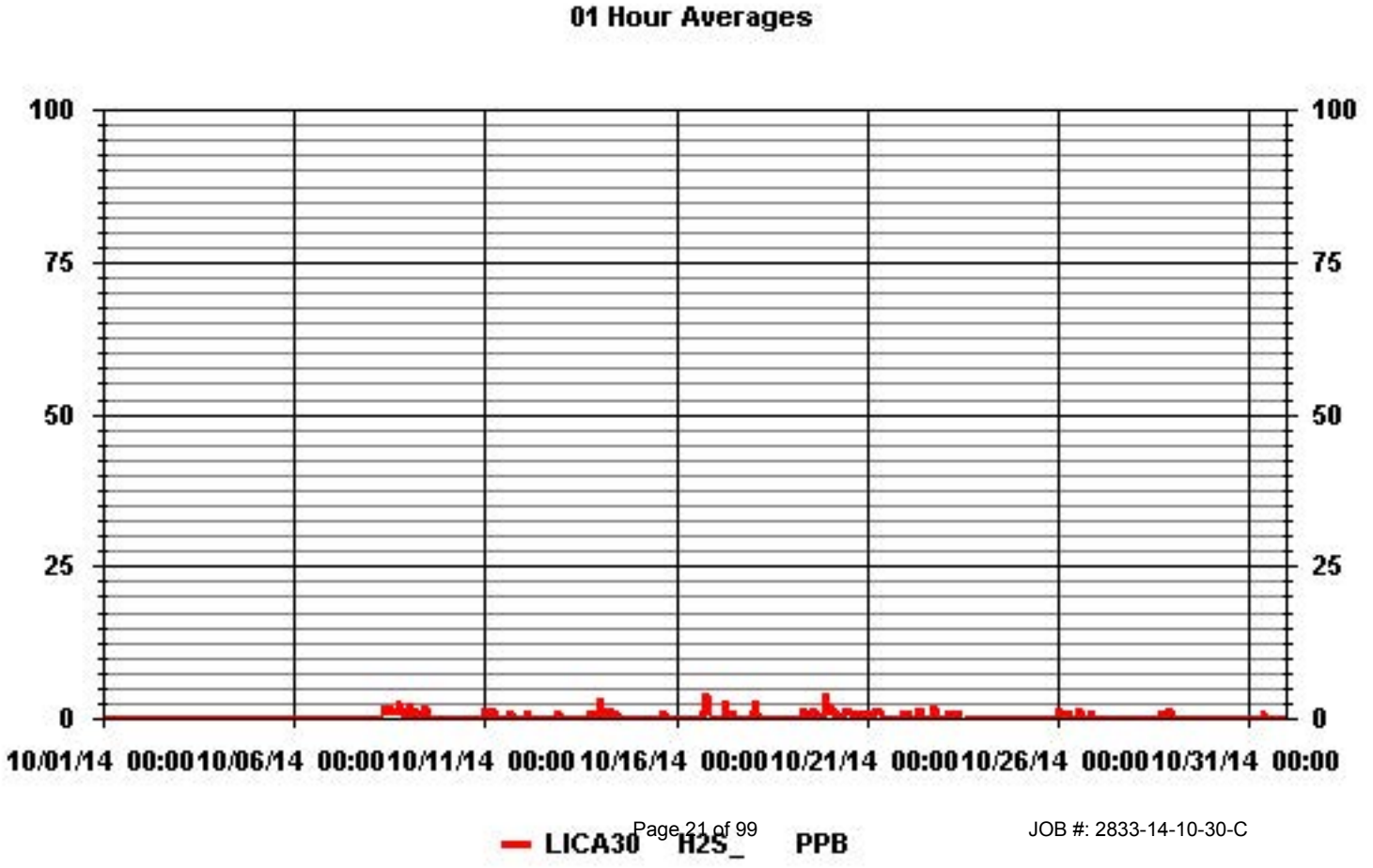


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 10 PPB 24-HR 3 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0						
NUMBER OF 24-HR EXCEEDENCES:	0						
NUMBER OF NON-ZERO READINGS:	101						
MAXIMUM 1-HR AVERAGE:	4	PPB	@ HOUR(S)	19, 22	ON DAY(S)		16, 19
MAXIMUM 24-HR AVERAGE:	0.8	PPB			ON DAY(S)		8
					VAR-VARIOUS		
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:			744	HRS
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:			100.0	%
STANDARD DEVIATION:	0.50		MONTHLY AVERAGE:			0.18	PPB

JOB #: 2833-14-10-30-C



JOB #: 2833-14-10-30-C

Lakeland Industry & Community Association - Maskwa Site

OCTOBER 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	1	0	1	1	1	0	0	1	1	1	0	1	1	1	**S**	0	0	0	0	0	0	1	0	1	1	0.5	24
2	1	0	0	0	1	0	0	1	0	0	0	0	1	**S**	0	0	0	0	0	0	0	0	0	0	1	0.2	24
3	0	1	0	0	0	0	0	1	0	0	0	0	**S**	0	0	0	0	2	3	0	0	0	0	0	3	0.3	24
4	0	0	0	1	1	0	1	1	1	1	1	**S**	0	0	0	0	0	1	1	0	0	0	0	0	1	0.4	24
5	0	0	0	0	0	0	0	1	0	0	**S**	1	0	0	0	0	0	1	1	4	1	1	1	1	4	0.5	24
6	0	0	0	0	0	1	1	0	1	**S**	0	1	1	1	0	1	1	0	1	1	0	1	1	0	1	0.5	24
7	1	1	1	0	1	1	0	1	**S**	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0.4	24
8	0	0	0	0	0	0	0	**S**	1	4	3	2	3	1	1	1	1	2	5	2	1	1	1	4	5	1.4	24
9	3	4	4	1	2	2	**S**	1	0	2	3	2	1	0	0	1	2	0	0	1	1	1	1	1	4	1.4	24
10	1	1	0	0	1	**S**	1	1	1	0	0	1	1	0	0	0	0	1	1	1	2	1	1	2	2	0.7	24
11	2	1	1	2	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	2	1.0	24
12	1	1	1	**S**	1	1	0	1	1	1	1	1	0	1	1	0	0	0	0	0	1	1	2	0	2	0.7	24
13	1	1	**S**	0	0	0	1	1	1	1	0	1	0	0	0	0	0	1	2	1	1	1	1	2	2	0.7	24
14	7	**S**	5	2	1	2	3	3	2	1	1	3	1	1	1	1	1	1	1	0	1	1	0	1	7	***1.7***	24
15	**S**	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	**S**	1	0.7	24
16	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	1	3	3	***9***	***9***	2	**S**	0	***9***	1.3	24
17	0	0	0	0	**P**	0	3	7	1	0	1	1	4	3	0	0	0	0	0	0	0	**S**	1	1	7	1.0	23
18	1	3	5	3	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	**S**	0	0	0	5	1.1	24
19	0	0	0	0	1	1	1	1	1	1	0	1	2	2	1	2	1	0	1	**S**	1	2	6	3	6	1.2	24
20	5	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1	1	5	1.3	24
21	1	1	1	1	1	1	1	1	1	1	1	3	1	1	1	1	1	**S**	1	1	0	0	1	1	3	1.0	24
22	1	1	1	1	1	1	1	3	2	1	2	1	1	1	1	1	**S**	2	6	1	1	1	1	1	6	1.4	24
23	1	0	1	1	1	0	1	3	1	2	**C**	**C**	**C**	**C**	**C**	**C**	2	0	0	0	**S**	0	0	0	3	0.8	24
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	1	1	0	0	1	0.1	24
25	0	0	1	1	1	1	1	1	1	1	0	1	1	0	1	1	1	0	**S**	0	0	2	1	1	2	0.7	24
26	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	**S**	1	1	1	1	2	0	2	1.0	24
27	0	0	1	1	0	1	0	1	1	1	0	1	1	1	1	0	**S**	0	0	0	0	0	0	0	1	0.4	24
28	0	0	0	0	1	1	1	1	1	1	1	0	0	1	0	**S**	1	2	1	1	1	4	3	3	4	1.0	24
29	1	1	1	0	0	0	0	0	0	0	1	1	0	0	**S**	0	0	1	1	0	0	0	0	0	1	0.3	24
30	0	1	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	1	1	1	0	0	0	0	0	1	0.2	24
31	1	0	0	1	1	0	1	1	1	1	1	1	**S**	0	0	0	0	1	2	0	0	0	0	0	2	0.5	24
HOURLY MAX	7	4	5	3	2	2	3	7	2	4	3	3	4	3	1	2	2	3	6	9	9	4	6	4			
HOURLY AVG	1.0	0.7	0.9	0.6	0.7	0.6	0.7	1.2	0.8	0.8	0.8	1.0	0.9	0.7	0.5	0.4	0.6	0.8	1.2	0.9	0.9	0.8	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: 413

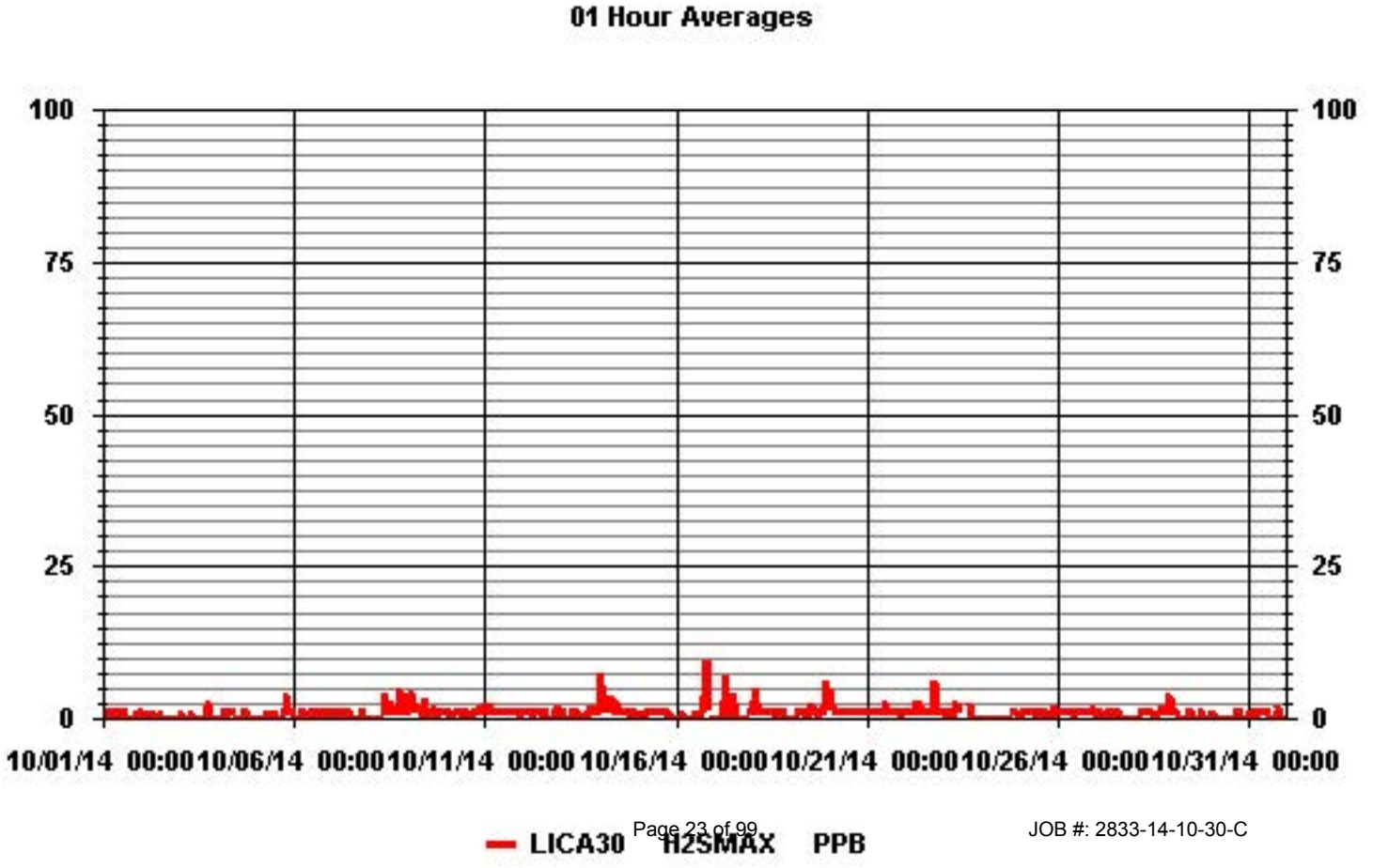
MAXIMUM INSTANTANEOUS VALUE: 9 PPB @ HOUR(S) 19, 20 ON DAY(S) 16

VAR-VARIOUS

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 743 HRS

MONTHLY CALIBRATION TIME: 6 HRS

STANDARD DEVIATION: 1.04



JOB #: 2833-14-10-30-C

LICA30
H2S_ / WDR Joint Frequency Distribution (Percent)

October 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	4.39	5.95	7.65	4.82	4.25	8.65	12.90	3.54	3.12	4.25	3.68	3.97	15.74	8.22	4.96	2.83	99.00
< 10	.00	.00	.00	.14	.14	.70	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.99
< 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	4.39	5.95	7.65	4.96	4.39	9.36	12.90	3.54	3.12	4.25	3.68	3.97	15.74	8.22	4.96	2.83	

Calm : .00 %

Total # Operational Hours : 705

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	31	42	54	34	30	61	91	25	22	30	26	28	111	58	35	20	698
< 10				1	1	5											7
< 50																	
>= 50																	
Totals	31	42	54	35	31	66	91	25	22	30	26	28	111	58	35	20	

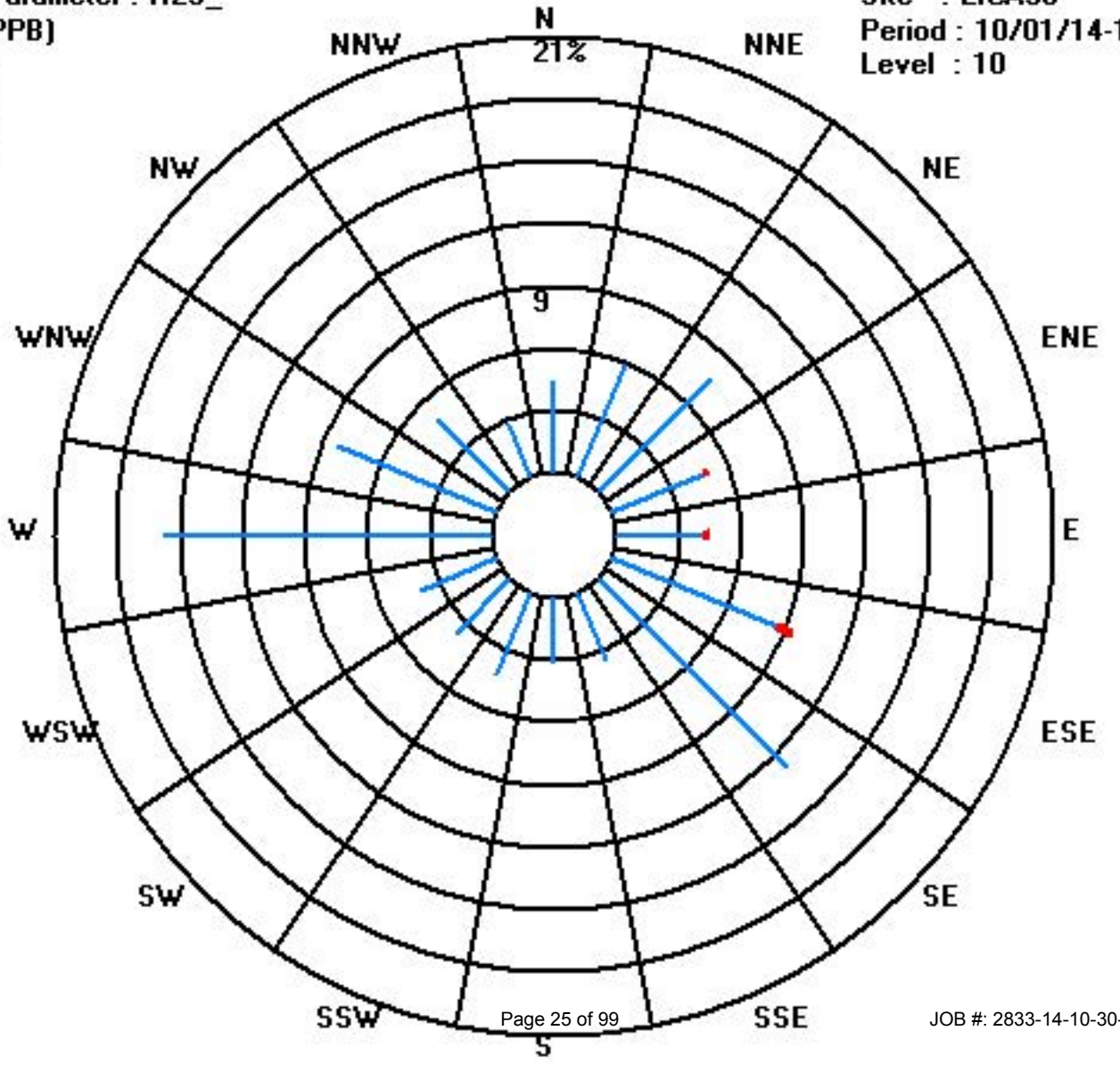
Calm : .00 %

Total # Operational Hours : 705

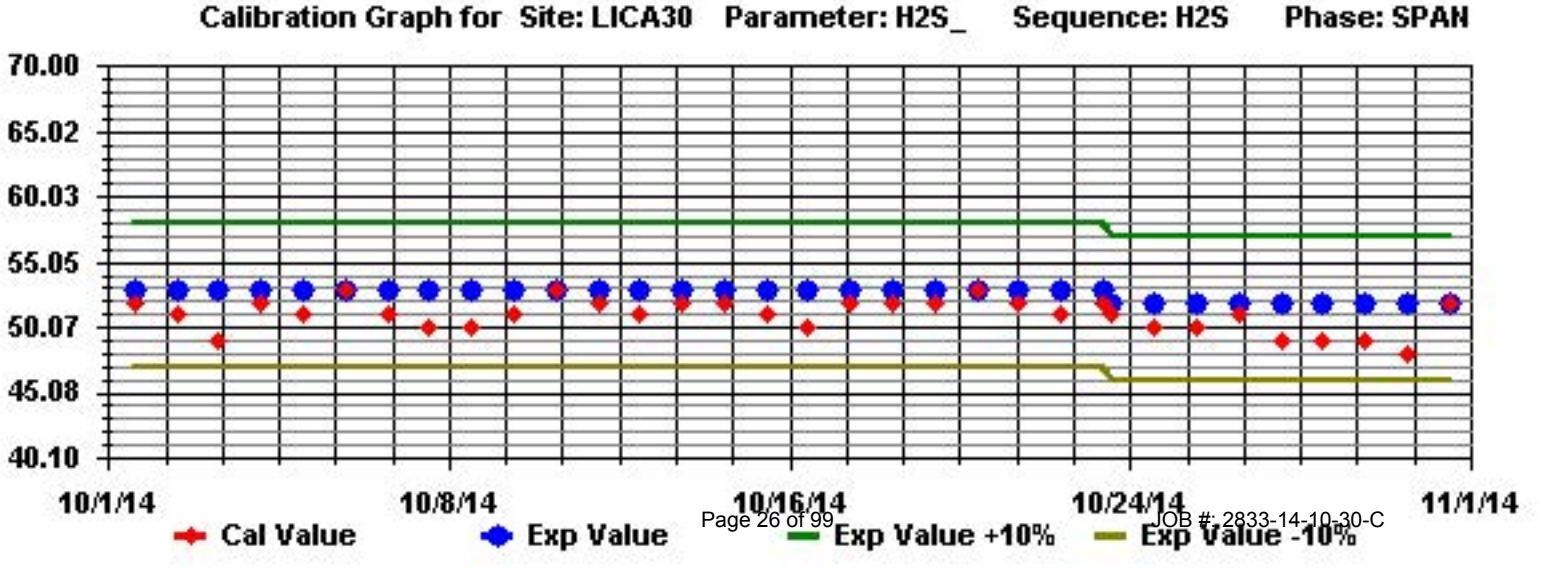
Logger : 30 Parameter : H2S_
Class Limits (PPB)

>= 50
< 50
< 10
< 3

Site : LICA30
Period : 10/01/14-10/31/14
Level : 10



JOB #: 2833-14-10-30-C


Calibration Graph for Site: LICA30 Parameter: H2S_ Sequence: H2S Phase: SPAN
70.00
65.02
60.03
55.05
50.07
45.08
40.10
10/1/14
10/8/14
10/16/14
10/24/14
11/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Hydrocarbons

Lakeland Industry & Community Association - Maskwa Site

OCTOBER 2014

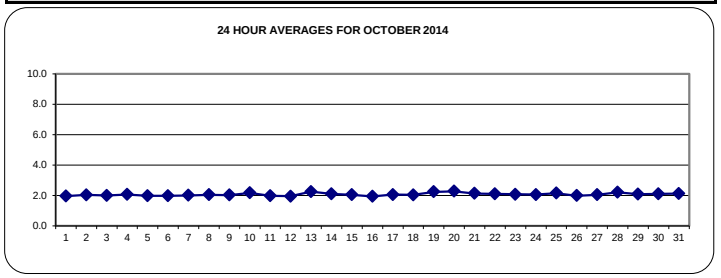
TOTAL HYDROCARBONS (THC) hourly averages in ppm

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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	1.9	**S**	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	24
2	2.0	2.0	2.0	2.0	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.0	2.1	**S**	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.0	24
3	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**	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	24
4	2.1	2.1	2.2	2.2	2.2	2.2	2.3	2.2	2.3	2.2	2.0	**S**	2.0	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.1	24
5	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	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.1	2.0	24
6	2.0	2.0	2.0	2.0	2.1	2.0	2.0	1.9	1.9	**S**	1.9	2.0	2.0	2.0	2.2	2.0	1.9	2.0	1.9	1.9	1.9	2.0	2.0	2.0	2.2	2.0	24
7	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	2.0	2.1	2.1	2.1	2.1	2.0	24
8	2.1	2.0	2.0	2.0	2.0	2.0	2.1	**S**	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	2.1	2.1	2.1	2.1	2.0	24
9	2.1	2.1	2.1	2.1	2.1	2.1	**S**	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	2.0	2.0	2.0	2.0	2.1	2.0	24
10	2.0	2.0	2.1	2.1	2.2	**S**	2.3	2.3	2.4	2.4	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.4	2.2	24
11	2.2	2.2	2.2	2.3	**S**	2.2	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	2.3	2.0	24
12	2.0	2.0	2.0	**S**	1.9	1.9	1.9	1.9	1.9	2.0	2.0	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	24
13	2.0	2.1	**S**	2.4	2.6	2.5	2.5	2.7	***2.8***	***2.8***	2.4	2.3	2.1	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	***2.8***	**2.3**	24
14	2.0	**S**	2.1	2.1	2.0	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.1	2.1	2.0	2.0	2.3	2.1	24
15	**S**	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.4	2.2	2.1	2.0	2.0	2.0	2.0	**S**	2.4	2.0	24
16	2.0	1.9	1.9	1.9	2.0	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	2.0	2.0	2.0	**S**	2.1	2.1	1.9	24
17	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	**S**	2.0	2.1	2.1	24
18	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	**S**	2.1	2.1	2.2	2.0	24
19	2.1	2.1	2.2	2.4	2.4	2.4	2.4	2.5	2.5	2.4	2.1	2.1	2.0	2.1	2.1	2.1	2.2	2.3	2.4	**S**	2.2	2.2	2.2	2.2	2.5	2.2	24
20	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.3	2.4	2.3	2.3	2.4	2.3	2.3	2.2	2.2	2.3	**S**	2.3	2.3	2.3	2.3	2.3	2.4	***2.3***	24
21	2.3	2.4	2.4	2.3	2.6	2.7	2.3	2.2	2.1	2.2	2.0	1.9	1.9	1.9	1.9	1.9	1.9	**S**	2.0	2.0	2.0	2.0	2.1	2.1	2.7	2.1	24
22	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.5	2.0	2.2	2.1	2.0	2.0	**S**	2.0	2.0	2.0	2.0	2.1	2.0	2.5	2.1	24
23	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.3	**C**	**C**	**C**	**C**	2.2	**S**	2.0	2.0	2.0	2.3	2.1	24
24	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	2.1	2.1	2.1	2.1	2.1	2.1	**S**	2.1	2.1	2.1	2.1	2.1	2.1	24
25	2.1	2.1	2.1	2.1	2.2	2.3	2.2	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	**S**	2.1	2.1	2.1	2.1	2.0	2.3	2.2	24
26	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**	1.9	2.0	2.0	1.9	2.0	2.0	2.0	2.0	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	**S**	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.0	24
28	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.3	**S**	2.2	2.4	2.4	2.4	2.3	2.3	2.2	2.2	2.4	2.2	24
29	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	**S**	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.1	24
30	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	**S**	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.2	2.2	2.1	24
31	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	**S**	2.2	2.2	2.3	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.1	24
HOURLY MAX	2	2	2	2	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2			
HOURLY AVG	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.0	2.1	2.1	2.1	2.1	2.1			

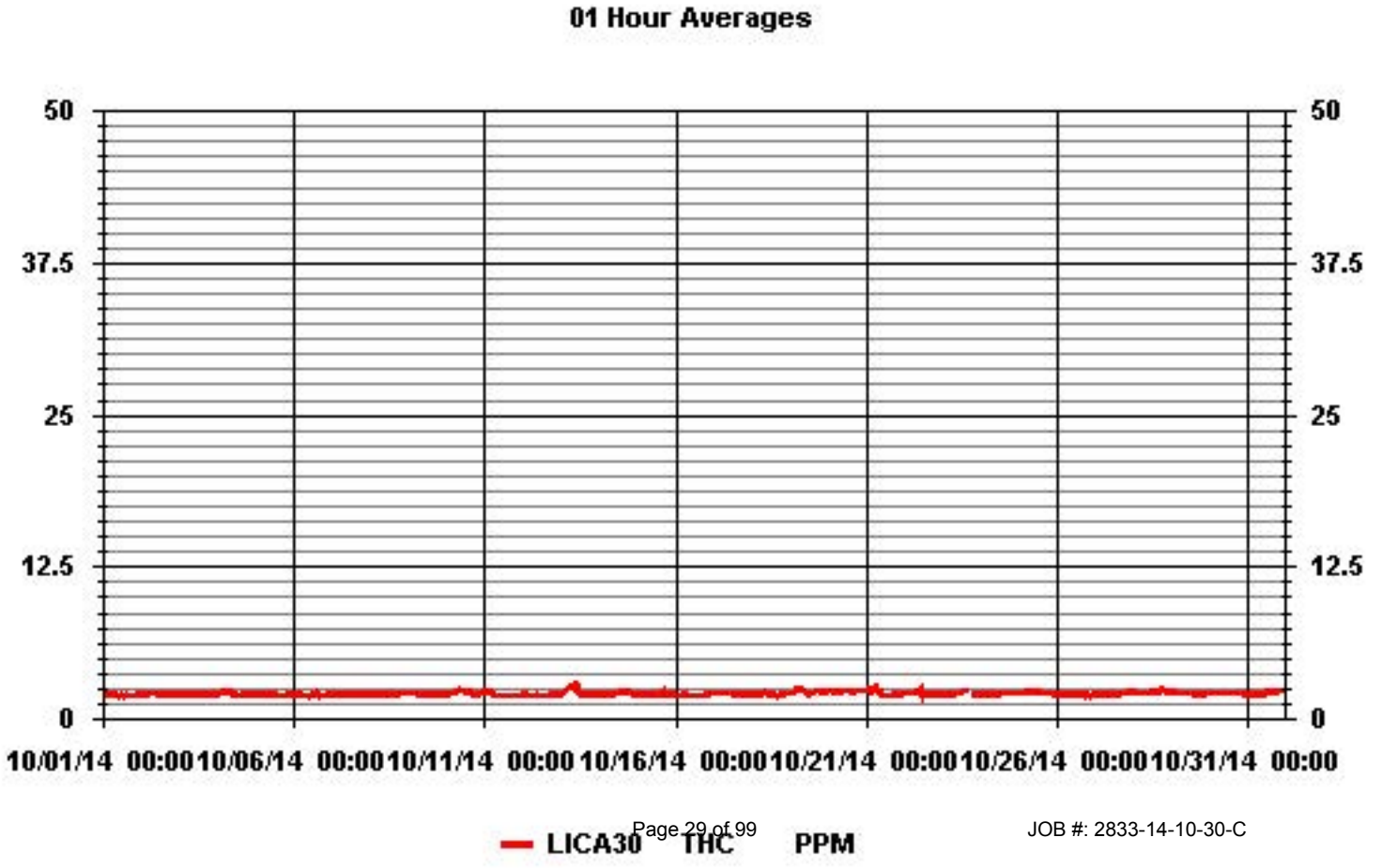
STATUS FLAG CODES

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:	708					
MAXIMUM 1-HR AVERAGE:	2.8	PPM	@ HOUR(S)	8, 9	ON DAY(S)	13
MAXIMUM 24-HR AVERAGE:	2.3	PPM			ON DAY(S)	13, 20
					VAR-VARIOUS	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		744	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	0.13		MONTHLY AVERAGE:		2.08	PPM



JOB #: 2833-14-10-30-C

Lakeland Industry & Community Association - Maskwa Site

OCTOBER 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	2.1	2.1	2	2	2	2	2.1	2.1	2	1.9	2.1	2	1.9	**S**	2	2	2	2	2	2	2.1	2.1	2	2.1	2.0	24
2	2.2	2	2	2	2.2	2.4	2.4	2.2	2.1	2.2	2.1	2.2	2.2	**S**	2	2	2	2	2	2	2	2.1	2	2	2.4	2.1	24
3	2	2	2	2	2	2	2.1	2.1	2.1	2	2	2	**S**	2.1	2.1	2	2	2	2	2	2	2	2	2.1	2.1	2.0	24
4	2.1	2.1	2.2	2.2	2.2	2.3	2.5	2.3	2.3	2.3	2.1	**S**	2.1	1.9	1.9	2	2	2.1	2	2	2	2	2	2	2.5	2.1	24
5	2	2	2	2	2	2.1	2	2.1	2	2.1	**S**	2.1	2	2	2	2	1.9	2	1.9	2.1	2.1	2.1	2.1	2.2	2.2	2.0	24
6	2.1	2.1	2.1	2.1	2.2	2	2	1.9	2	**S**	2	2	2	2.3	2.7	2.4	2	2	1.9	1.9	2	2.2	2.1	2	2.7	2.1	24
7	2	2	2	2	2	2.1	2.1	2	**S**	2.1	2.1	2.1	2	2	2	2	2	2	2	2.1	2.1	2.1	2.2	2.2	2.2	2.1	24
8	2.1	2.1	2.1	2.2	2.1	2.1	2.1	**S**	2.1	2.1	2.1	2.1	2.1	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.1	24
9	2.1	2.1	2.1	2.2	2.2	2.2	**S**	2	2.1	2.2	2.1	2.1	2.1	2	2	2	2.1	2.1	2.1	2.2	2	2.1	2	2.1	2.2	2.1	24
10	2	2.1	2.1	2.1	2.2	**S**	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.2	2.3	2.2	2.1	2	2.1	2.1	2.1	2.2	2.3	2.4	2.2	24
11	2.3	2.3	2.3	2.6	**S**	2.3	2.1	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	2	2.6	2.0	24
12	2	2	2	**S**	1.9	2	2	2	2	2.1	2.1	2	1.9	1.9	2	2	2	2	2	2	2	2	2.1	2	2.1	2.0	24
13	2	2.3	**S**	2.5	2.6	2.6	2.6	2.8	2.9	3	2.6	2.5	2.2	2.1	2.2	2.2	2.1	2.1	2.1	2	2	2.1	2.2	2.2	3	***2.3***	24
14	2.1	**S**	2.2	2.3	2.1	2.2	2.1	2	2	2	2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.2	2.3	2.3	2.2	2.3	2.1	2	2.3	2.2	24
15	**S**	2	2	2	2.1	2.2	2.1	2	2	2.1	2.2	2.1	2	2	2	2.9	2.8	2.4	2.2	2.1	2.1	2	2.1	**S**	2.9	2.2	24
16	2	2	2	2	2	2.1	***3.7***	2.1	2.1	2	2	2	1.9	2	2	1.9	1.9	2	2	2	2	2.1	**S**	2.1	***3.7***	2.1	24
17	2.1	2.1	2.1	2.1	**P**	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	**S**	2	2	2.1	2.1	23
18	2	2	2	2	2	2	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2	2	2	2	2	2	**S**	2.1	2.1	2.2	2.1	24
19	2.1	2.1	2.4	2.5	2.5	2.5	2.4	2.6	2.6	2.5	2.2	2.2	2.1	2.1	2.2	2.1	2.2	2.5	2.5	**S**	2.3	2.2	2.2	2.3	2.6	2.3	24
20	2.3	2.4	2.4	2.4	2.2	2.2	2.2	2.3	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.2	2.3	2.3	**S**	2.4	2.4	2.4	2.4	2.4	2.4	2.3	24
21	2.5	2.5	2.6	2.4	3.1	3	2.5	2.3	2.1	2.7	2.2	2	1.9	2	2	1.9	1.9	**S**	2	2	2	2.2	2.1	2.2	3.1	2.3	24
22	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.2	2.3	2.5	3.1	2.1	2.3	2.2	2.1	2.2	**S**	2.2	2	2	2	2	2.1	2.1	3.1	2.2	24
23	2.1	2.1	2.2	2.2	2.1	2	2	2.1	2.2	2.1	2.1	2.2	2.2	2.3	2.3	**C**	**C**	**C**	**C**	2.3	**S**	2	2	2.1	2.3	2.1	24
24	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	**S**	2.1	2.1	2.2	2.1	2.2	2.1	24
25	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.3	2.2	2.1	2.2	2.1	**S**	2.2	2.3	2.3	2.2	2.1	2.3	2.2	24
26	2	2	2	2	2	2	2	2	2	2	2	2.1	2.1	2.1	2.1	2.1	2.1	**S**	2	2	2	2	2	2	2.1	2.0	24
27	2	2	2	2	2.1	2.1	2	2	2	2.1	2	2	2	2	2	2	**S**	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	24
28	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	**S**	2.3	2.4	2.5	2.4	2.3	2.3	2.3	2.3	2.5	2.3	24
29	2.3	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	**S**	2.1	2.1	2	2	2.1	2.1	2.1	2.1	2.1	2.3	2.1	24
30	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	**S**	2.2	2.1	2.1	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.1	24
31	2.1	2	2	2	2	2	2	2.1	2	2.1	2.1	2.1	**S**	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.2	24
HOURLY MAX	3	3	3	3	3	3	4	3	3	3	3	3	2	2	3	3	3	3	3	2	2	2	2	2			
HOURLY AVG	2.1	2.1	2.1	2.2	2.2	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	2.1	2.1	2.1	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: 707

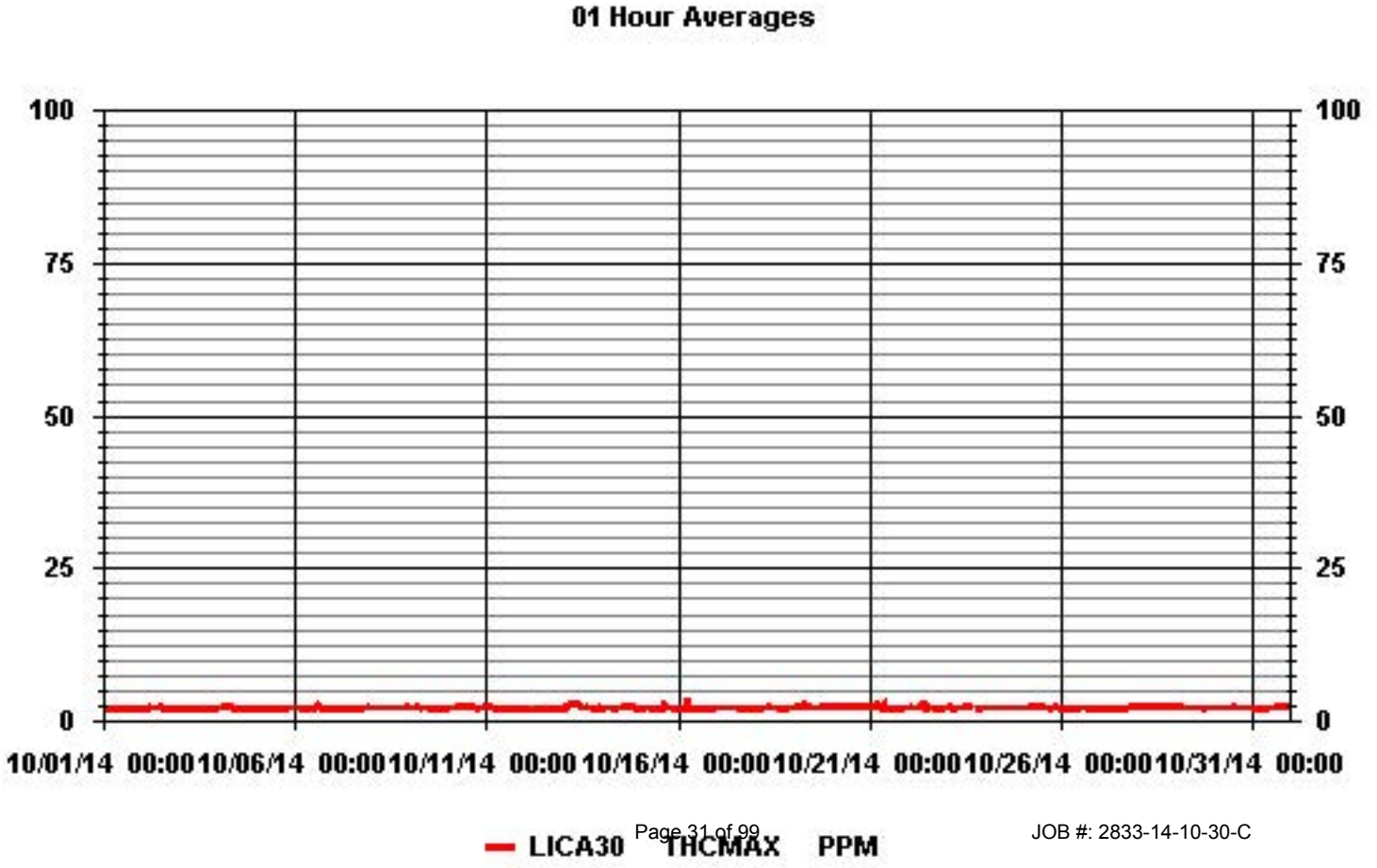
MAXIMUM INSTANTANEOUS VALUE: 3.7 PPM @ HOUR(S) 6 ON DAY(S) 16

VAR-VARIOUS

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 743 HRS

MONTHLY CALIBRATION TIME: 4 HRS

STANDARD DEVIATION: 0.18



JOB #: 2833-14-10-30-C

LICA30
THC / WDR Joint Frequency Distribution (Percent)

October 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	4.38	5.94	7.63	4.95	4.38	9.47	13.15	3.67	3.11	4.24	3.53	3.96	15.55	8.20	4.95	2.82	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	4.38	5.94	7.63	4.95	4.38	9.47	13.15	3.67	3.11	4.24	3.53	3.96	15.55	8.20	4.95	2.82	

Calm : .00 %

Total # Operational Hours : 707

Distribution By Samples

Direction

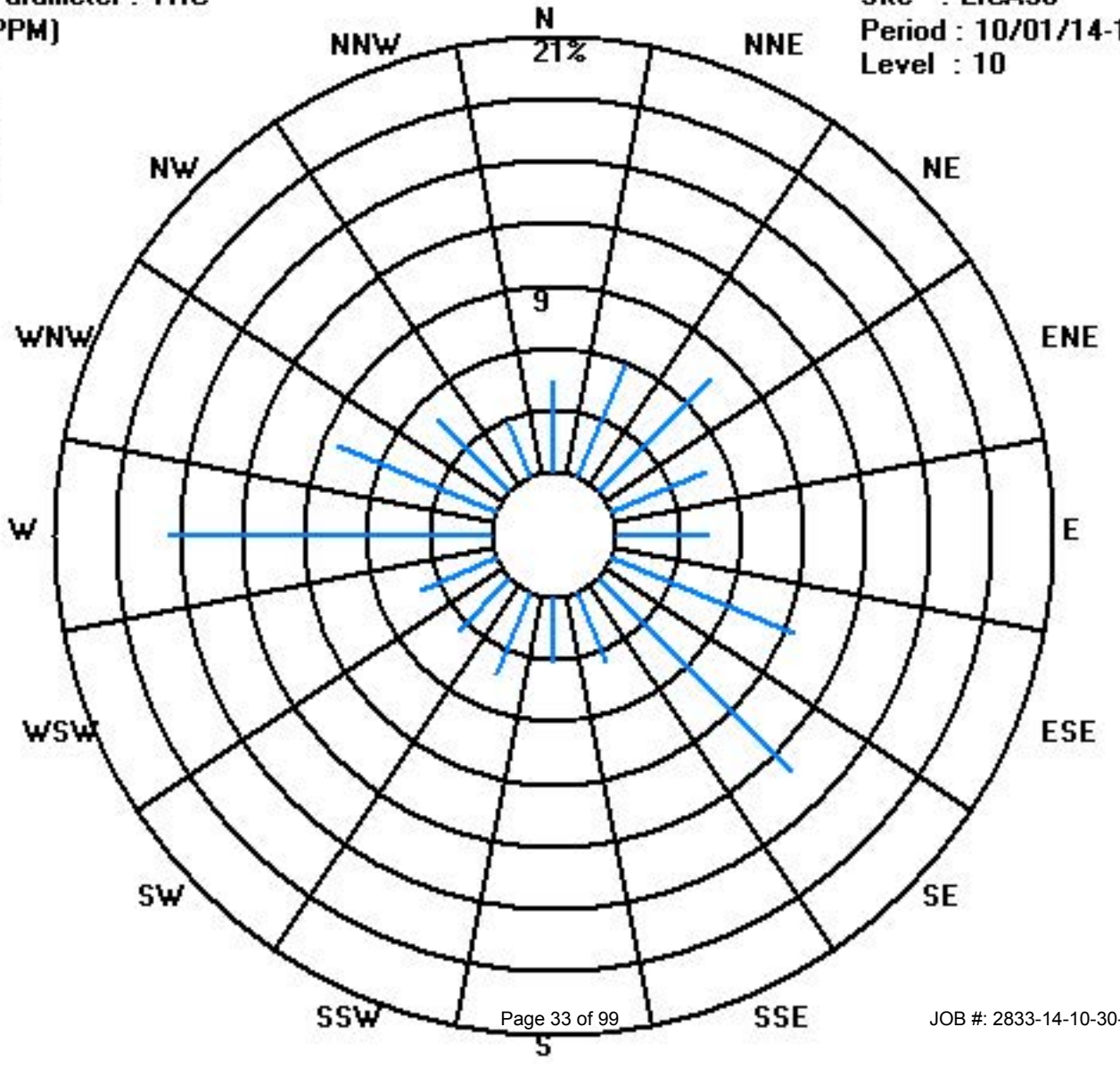
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3.0	31	42	54	35	31	67	93	26	22	30	25	28	110	58	35	20	707
<	10.0																	
<	50.0																	
>=	50.0																	
	Totals	31	42	54	35	31	67	93	26	22	30	25	28	110	58	35	20	

Calm : .00 %

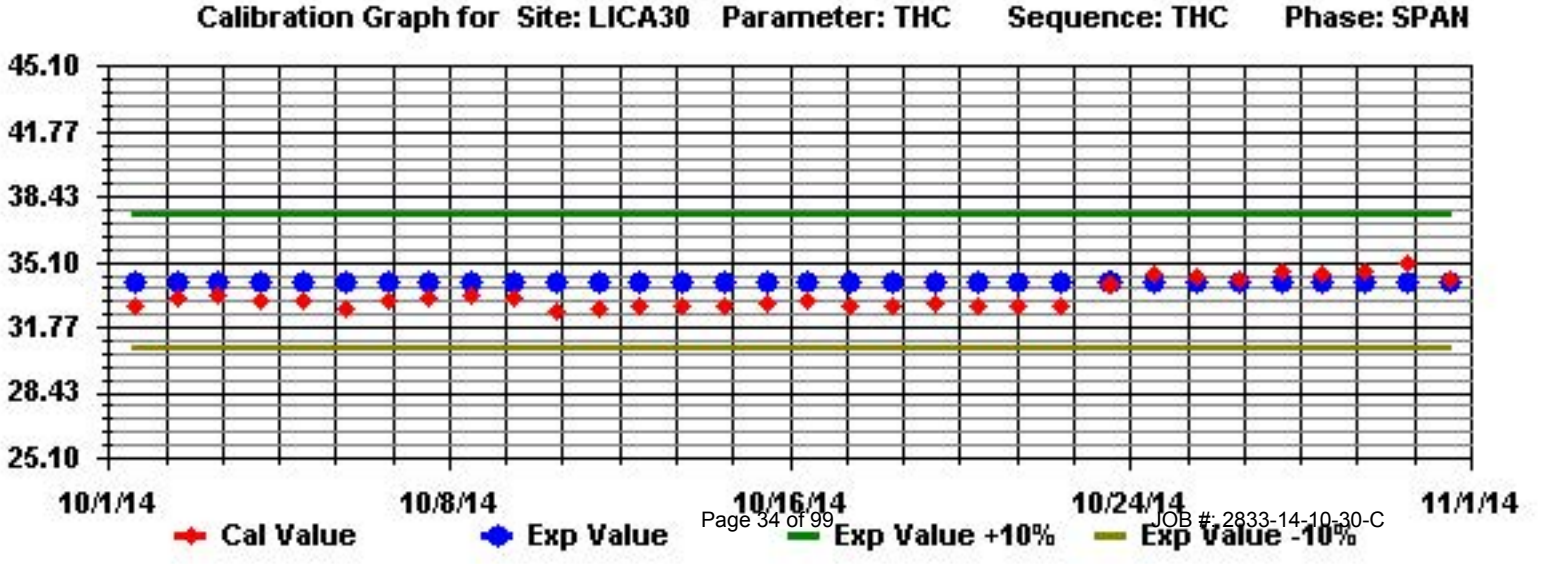
Total # Operational Hours : 707

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

Site : LICA30
Period : 10/01/14-10/31/14
Level : 10



JOB #: 2833-14-10-30-C


Calibration Graph for Site: LICA30 Parameter: THC Sequence: THC Phase: SPAN
45.10
41.77
38.43
35.10
31.77
28.43
25.10
10/1/14
10/8/14
10/16/14
10/24/14
11/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitrogen Dioxide

Lakeland Industry & Community Association - Maskwa Site

OCTOBER 2014

NITROGEN DIOXIDE (NO2) hourly averages in ppb

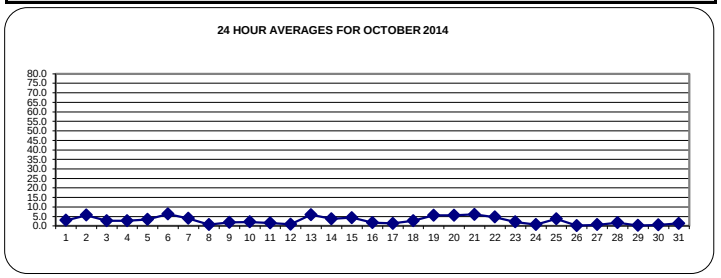
MST

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	4.5	5.3	9.9	8.7	4.8	1.7	3.6	5.6	1.8	2	0.4	4.6	4.6	0.2	**S**	1.3	0	0.1	0	0	0	2.6	2.6	3.5	9.9	2.9	24
2	2.1	0.9	1.1	0.5	2.8	7.8	13.9	6.5	8.9	9.5	8.4	5	8	**S**	4.4	9	1.4	0.7	3.2	1.5	4.8	6.4	15.7	7.2	15.7	5.6	24
3	0	0.4	4.7	4.1	2.8	4.9	11.1	12	4.7	2.5	5.3	0.5	**S**	1.2	0.9	0.7	0.4	1	1.3	0.6	0.7	0.9	0.8	1.5	12	2.7	24
4	1.6	2.2	2.9	2.8	2.3	3.8	3.1	5.5	7.3	5.6	5.6	**S**	3.9	0	0.4	4.1	5.8	2.3	0.6	0.4	0.2	0.3	0.8	0.6	7.3	2.7	24
5	0.4	0.6	0.6	0.8	0.9	2.9	4.2	5.6	3.4	1.4	**S**	5.2	4.1	4.7	0.9	0.2	0	0	0	2.6	9.8	11.2	12.6	7.3	12.6	3.5	24
6	7.2	7.2	7	3.7	6.6	8.4	3.2	1.2	2.4	**S**	5.1	10.8	5.8	10.2	9.9	12.3	9.6	12.6	1.2	0.1	2.3	12.5	3.3	1.4	12.6	***6.3***	24
7	5.4	2	3.6	4.8	0.1	9.9	19.6	8.8	**S**	7.2	9.8	3.1	2.7	3	0.5	1.1	0	0	0	2	1.5	2.7	1.9	0.4	19.6	3.9	24
8	0	0	0	0	0	0	0	**S**	0.1	2.7	0.7	2.4	2.8	0.1	0	0	0.7	0.6	0	0.1	1.1	0.5	0.9	1.9	2.8	0.6	24
9	1.7	2.1	1	1	0.9	1.4	**S**	0.1	0	2.8	5.9	3.4	2.6	1.2	1.4	2	2.5	1.2	2.2	2.7	0.8	2.3	1.6	2.2	5.9	1.9	24
10	0.5	0.7	1.4	2.2	2.8	**S**	1.8	3	3.3	3.3	2.6	2.6	2	1.7	1.3	1.5	1.9	1.6	0.7	1.3	3	3	3.4	3.2	3.4	2.1	24
11	1.7	1.1	1.3	1.4	**S**	18.6	9.9	1.4	0.5	0	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0.1	18.6	1.6	24
12	1.2	0.9	0.3	**S**	0	0.9	2.4	1.5	0.9	3.4	6.3	2.5	0	0	0	0	0	0	0	0.2	0.1	0	0	0.2	6.3	0.9	24
13	0.7	5.2	**S**	9.9	11.6	11.2	14.1	13.1	12.4	10.6	7	5.2	2.1	0.8	2.1	1.7	1	1.3	1	1.1	3.9	3.9	9.7	5.7	14.1	5.9	24
14	2.5	**S**	3.1	6	1.1	4.4	6.9	6.1	4.4	1.3	2.4	3.4	2.8	3.1	2.6	4.4	3.4	2.7	2.4	2.4	5.9	9.2	5.2	0.3	9.2	3.7	24
15	**S**	0.5	1.3	1.6	1.1	12.9	8.1	6	6.4	6	5.7	4.3	13.7	6.3	1.3	5.3	6	2.3	1.6	1.3	1.4	1.3	1	**S**	13.7	4.3	24
16	0.6	0.1	0.2	0.9	0.9	1.9	1	0.3	0.3	0	0.1	1.6	2.5	3.7	5	1	1.4	5.3	9	1.8	2.1	0.5	**S**	0.3	9	1.8	24
17	0	0.1	0.5	0.5	0.9	2.2	3.5	4.8	2.5	2.2	2.1	1.7	1.4	1.1	1.4	1	0.8	0.7	0.5	0.5	0.6	**S**	0.6	0.8	4.8	1.3	24
18	0.7	1.6	3.3	0.9	0.7	1.7	2.7	4.7	5.6	3.9	5.1	3.4	1.6	4.4	4.1	1.1	0.5	0.8	1.2	1.1	**S**	2.3	3.9	7	7	2.7	24
19	4.4	4.4	5.6	10.5	8.5	11.1	12.9	14.3	8.7	5.8	2.9	3.3	2.6	3.1	4.4	4.1	2.8	6.7	4.4	**S**	2	1.9	2.2	2.1	14.3	5.6	24
20	3.3	4	3.2	2.1	2.6	2.1	2.1	4.2	4.1	2.8	3	3.5	5.5	5.9	5.6	5.6	7.1	***22.2***	**S**	9.1	5.5	7	10.5	8.2	***22.2***	5.6	24
21	5.7	5.1	2.3	10.8	6	7.5	7.1	10.7	9.2	10.6	5.9	3.9	3.6	8.7	4.2	3.2	3.8	**S**	3.4	4	7.9	5.8	4	5	10.8	6.0	24
22	4.9	3.7	6.2	4.9	5.2	6.7	7.3	17.4	10.5	6.8	4.1	1.5	3.5	3	2.4	5.7	**S**	3.9	2.1	0.8	1.6	2.2	1.9	1.1	17.4	4.7	24
23	0.8	1.5	1.8	2.2	0.7	0.8	0.6	4.5	3.9	3.2	**C**	**C**	**C**	**C**	**C**	**C**	**C**	3.6	4.9	3.4	**S**	0.7	0.4	0.9	4.9	2.1	24
24	0.6	0.7	0.4	0.2	0.4	0.6	0.5	0.7	0.7	0.3	0.6	0.9	1.3	0.9	0.6	1.6	1.4	0.3	0.3	**S**	0.3	0.8	1.3	0.4	1.6	0.7	24
25	0.7	0.1	0	1.8	2.6	5.5	6	10	8.5	6.1	3.4	4.3	6.8	3.7	2.9	2.5	2.1	0.5	**S**	3.4	6.2	5.3	1.9	0.2	10	3.7	24
26	0.2	0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.3	0.1	0.2	0.1	0.2	0.2	0.5	**S**	0	0.1	0.4	0	0.4	0.3	0.5	0.2	24
27	0.1	0.1	0.4	0	0	0.1	0	0.5	1.4	1.6	1.5	0.8	0.2	0.2	0	0.7	**S**	1.1	1.5	2.2	1	0.7	0.3	0.1	2.2	0.6	24
28	0.1	0.2	0.2	0.1	0.6	0.9	1.5	1.8	2.3	2.1	3.1	3.1	2.9	2.8	3.1	**S**	2.2	2	1.8	1.3	1	1	2.8	3.6	3.6	1.8	24
29	2.6	0.6	0.3	0.3	0.2	0.4	0.5	0.5	0.3	0	0	0	0.3	0	**S**	0	0	0	0	0	0	0	0	0	2.6	0.3	24
30	0	0	0	0	0	0	0.1	0.3	0.5	0.8	1.2	0.9	1.4	**S**	2.1	1.3	0.7	0.5	0.6	0.5	0.5	0.3	0	0.2	2.1	0.5	24
31	0.1	0.4	0.4	0.7	0.8	0.8	1.4	1.2	1.4	1.3	1.8	2.3	**S**	2.1	1.9	2.2	1.6	1.9	1.8	1.4	0.9	1	1.4	2	2.3	1.3	24
HOURLY MAX	7	7	10	11	12	19	20	17	12	11	10	11	14	10	10	12	10	22	9	9	10	13	16	8			
HOURLY AVG	1.8	1.7	2.1	2.8	2.3	4.4	5.0	5.1	3.9	3.5	3.5	2.9	3.2	2.6	2.3	2.5	2.1	2.6	1.6	1.6	2.3	2.9	3.0	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

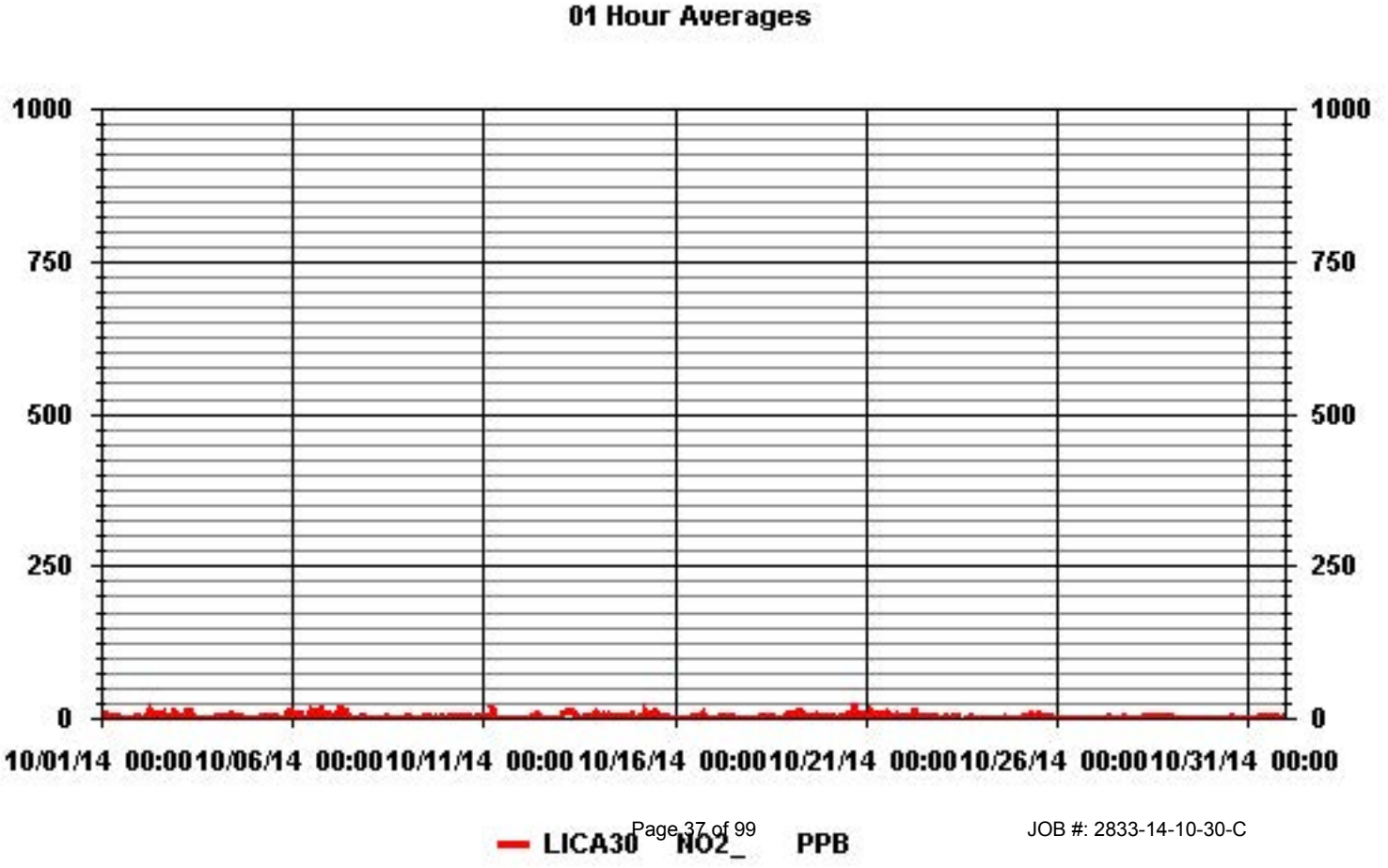
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 159 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	629					
MAXIMUM 1-HR AVERAGE:	22.2	PPB	@ HOUR(S)	17	ON DAY(S)	20
MAXIMUM 24-HR AVERAGE:	6.3	PPB			ON DAY(S)	6
					VAR-VARIOUS	

IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	744	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	3.27		MONTHLY AVERAGE:	2.83	PPB



JOB #: 2833-14-10-30-C

Lakeland Industry & Community Association - Maskwa Site

OCTOBER 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	7.4	7.9	14.1	12.1	10.5	4.8	20.3	10.7	2.8	4.7	1.3	9.6	21.5	1	**S**	9.2	1.4	2	1.2	0.9	0.9	8.2	8.2	8.3	21.5	7.3	24
2	6.9	2.6	3.6	1.7	12.3	11.8	18.2	16.9	13.1	15.3	14.7	19.9	13.9	**S**	12.3	19.2	7.9	5.8	10.7	8.6	15.7	17.1	18.5	15.1	19.9	12.3	24
3	1.6	2.2	8.2	8.6	11.5	13.2	13.6	15.4	10.8	5.5	8.8	4.4	**S**	3	7	3.3	1.8	2.6	2.9	1.8	2	2.1	2	3.1	15.4	5.9	24
4	3	3.7	4.1	4.1	3.2	8.1	6.4	33.2	11.9	9.2	10.6	**S**	8.4	1.6	2.2	11.1	9.5	8.3	2.1	1.6	1.5	1.8	2.4	1.6	33.2	6.5	24
5	1.8	1.8	1.9	2	2	7.1	6.9	8.8	8.6	3.4	**S**	9.7	9.6	8.3	4.3	3	3	0.9	1	18.2	18.5	24.4	24.6	12.8	24.6	7.9	24
6	13.7	12.3	13.4	8	18.1	14.7	12.2	2.8	6.5	**S**	14.1	17.3	14.3	19	17.5	18.6	18.1	20	9.4	2.3	10.4	23.4	22.1	11.9	23.4	***13.9***	24
7	11.2	6.1	8.2	13	1.5	16.3	23.9	17.1	**S**	14.1	20.7	11.7	13.4	15.5	3.6	4	0.8	0.8	10.9	6.6	5.4	3.7	3.7	1.8	23.9	9.3	24
8	1.2	1.2	1	1.1	2.1	0.8	1.2	**S**	1.6	4.5	3.9	7.3	6.6	1.9	2.7	0.9	5.4	5.4	1.4	1.9	3.2	2.5	3.4	4.1	7.3	2.8	24
9	3.7	3.8	3.6	2.4	2.5	8.2	**S**	3.2	1.1	8.2	8	6.3	4.7	2.3	2.6	5.2	5.3	5.6	4.8	5	2.5	4.9	3.8	4.7	8.2	4.5	24
10	1.9	2.1	3	3.5	4.3	**S**	3.6	6.9	4.7	4.7	4	4.1	3.1	2.6	2.7	2.9	3.7	3.5	1.8	3.1	4.1	4.1	4.9	5.1	6.9	3.7	24
11	3.2	2.4	2.6	3.5	**S**	22.7	24.3	4.5	1.8	1.6	4.3	1.2	2.8	1.5	2.3	0.9	0.8	0.8	1	1	1.1	0.8	1	2.3	24.3	3.8	24
12	2.6	2.4	1.4	**S**	1.2	3.8	5.3	4.1	4.4	9.5	12.4	10.2	1.8	1.1	1.5	1.1	1	0.9	1.3	1.6	1.5	1	1	1.6	12.4	3.2	24
13	2.1	10.5	**S**	11.5	13.3	21.9	18.1	17.6	14.5	13.9	11.3	7.4	7.3	2.3	4.1	3.2	2.2	2.8	2.1	3.5	6.7	12.2	14.4	10.6	21.9	9.3	24
14	8.2	**S**	6.6	10.2	5.8	9.7	12.3	9	6.6	2.9	4.6	7	4.1	5.8	5.6	8.4	6.2	4.7	3.5	3.9	14.7	27	13.3	2	27	7.9	24
15	**S**	1.9	4.2	5.5	10	18.1	12.8	8.6	14.3	12.6	13.8	14.7	17.7	15.5	4.4	8.9	8.6	3.8	3	2.6	2.6	2.6	2.1	**S**	18.1	8.6	24
16	2.2	1.5	1.6	2.2	2.7	3.6	2.4	1.6	2	1.1	3.6	4.4	4	6.2	12.8	4.1	3.8	17.9	25.5	3.4	9.9	2.6	**S**	1.7	25.5	5.3	24
17	1.4	1.5	2.1	1.9	**P**	4.1	5.5	6.6	4.5	3.4	3.1	3.3	3	2.2	2.4	1.9	1.6	1.6	1.4	1.3	1.4	**S**	1.5	1.4	6.6	2.6	23
18	1.6	4.7	5.9	2	1.6	5.9	9.1	6.8	14	9.6	7.6	5.7	2.1	25.7	13.6	3.2	1.4	1.9	2	2.1	**S**	3.3	6.8	9.8	25.7	6.4	24
19	6.2	6.8	9	12.3	13.8	16.7	18.2	18.8	13.4	7.6	4.6	7.5	4	7.4	6.6	6.6	6.3	9.9	6.2	**S**	3.5	3.5	3.8	3.3	18.8	8.5	24
20	5.3	6.3	4.6	3.2	3.8	3.4	3.1	7.3	7.2	3.7	3.7	4.6	6.4	6.5	6.4	6.9	14.1	37.7	**S**	16.9	8.9	11.5	30.8	20.1	37.7	9.7	24
21	13.7	10.9	3.2	27.8	17.3	10	11.3	18.1	33.9	16.3	11.1	14.1	14.7	20.1	12.9	5.1	7	**S**	7.9	7.6	11.1	8.9	5.4	6	33.9	12.8	24
22	7	5.7	8.2	8.5	7.3	18.7	13.6	***41.2***	16.3	10.7	6.5	3.2	4.5	4.5	5.1	8.4	**S**	8	4.5	2	2.8	3.3	3.1	2.2	***41.2***	8.5	24
23	2	2.6	8.4	8.4	1.6	1.7	1.4	7.6	8.7	6	**C**	**C**	**C**	**C**	**C**	**C**	**C**	10.2	8.6	5.8	**S**	1.2	1	2.6	10.2	4.9	24
24	1.5	1.2	0.9	0.9	1	1.5	1.3	1.7	1.9	1.3	1.7	2.1	3.3	1.7	1.9	8.9	6	1	1	**S**	1.1	3.1	2.2	1.7	8.9	2.1	24
25	2	1.4	0.6	3.6	5	7.4	20.3	17.5	12.4	8.5	5.1	9.2	12.9	5.4	5	4.6	4.1	1.1	**S**	9.3	12.9	12.3	10.2	0.6	20.3	7.5	24
26	0.7	0.5	0.5	0.7	0.4	0.4	0.4	0.7	0.7	0.5	1.2	0.4	0.5	0.6	0.5	0.8	1.2	**S**	0.5	1.2	1.2	0.5	1.3	1	1.3	0.7	24
27	1	1	1.4	1.1	0.6	0.8	0.7	1.3	2.7	2.8	2.3	1.8	1.1	0.7	0.6	1.5	**S**	0	0.5	1.4	0	0	0	0	2.8	1.0	24
28	0	0	0	0	0	0	0.7	4.2	1.1	1	2.5	2.4	1.7	1.5	1.8	**S**	3.3	2.8	2.3	1.8	1.6	2.1	5.7	6.8	6.8	1.9	24
29	6.3	1.1	1	0.8	1	0.9	1.2	1.1	1.1	0.9	0.7	0.7	1	0.6	**S**	0.3	0.5	0.5	0.4	0.3	0.1	0.3	0.3	0.4	6.3	0.9	24
30	0.5	0.5	0.3	0.4	0.3	0.5	0.9	1.8	1.6	1.3	3.6	2.2	2.3	**S**	2.4	2	1.4	1.4	1.4	1.3	1.2	1.1	0.8	1	3.6	1.3	24
31	1.2	1.4	1.1	1.6	1.8	1.7	2.3	2.2	2.2	1.7	2	2.6	**S**	3	3.2	5.2	2.4	3	2.6	2.2	1.9	1.9	2.4	2.4	5.2	2.3	24
HOURLY MAX	14	12	14	28	18	23	24	41	34	16	21	20	22	26	18	19	18	38	26	18	19	27	31	20			
HOURLY AVG	4.0	3.6	4.2	5.4	5.4	8.0	9.1	9.9	7.5	6.2	6.6	6.7	6.8	6.0	5.3	5.5	4.6	5.7	4.2	4.1	5.1	6.4	6.7	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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 693

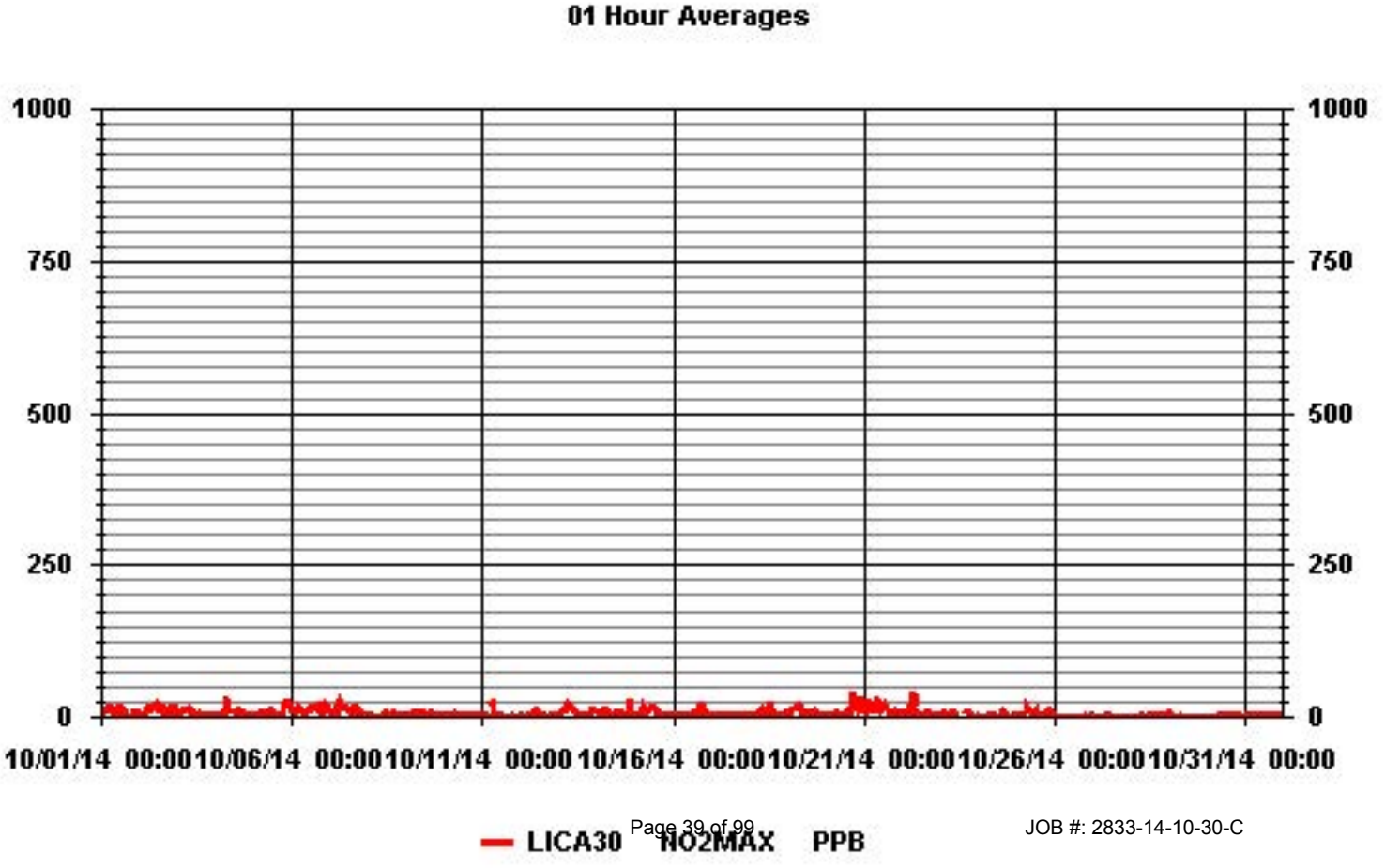
MAXIMUM INSTANTANEOUS VALUE: 41.2 PPB @ HOUR(S) 7 ON DAY(S) 22

VAR-VARIOUS

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 743 HRS

MONTHLY CALIBRATION TIME: 7 HRS

STANDARD DEVIATION: 6.06



JOB #: 2833-14-10-30-C

LICA30
NO2_ / WDR Joint Frequency Distribution (Percent)

October 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	4.40	5.96	7.67	4.97	4.40	9.37	12.92	3.55	3.12	4.26	3.69	3.97	15.62	8.23	4.97	2.84	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	4.40	5.96	7.67	4.97	4.40	9.37	12.92	3.55	3.12	4.26	3.69	3.97	15.62	8.23	4.97	2.84	

Calm : .00 %

Total # Operational Hours : 704

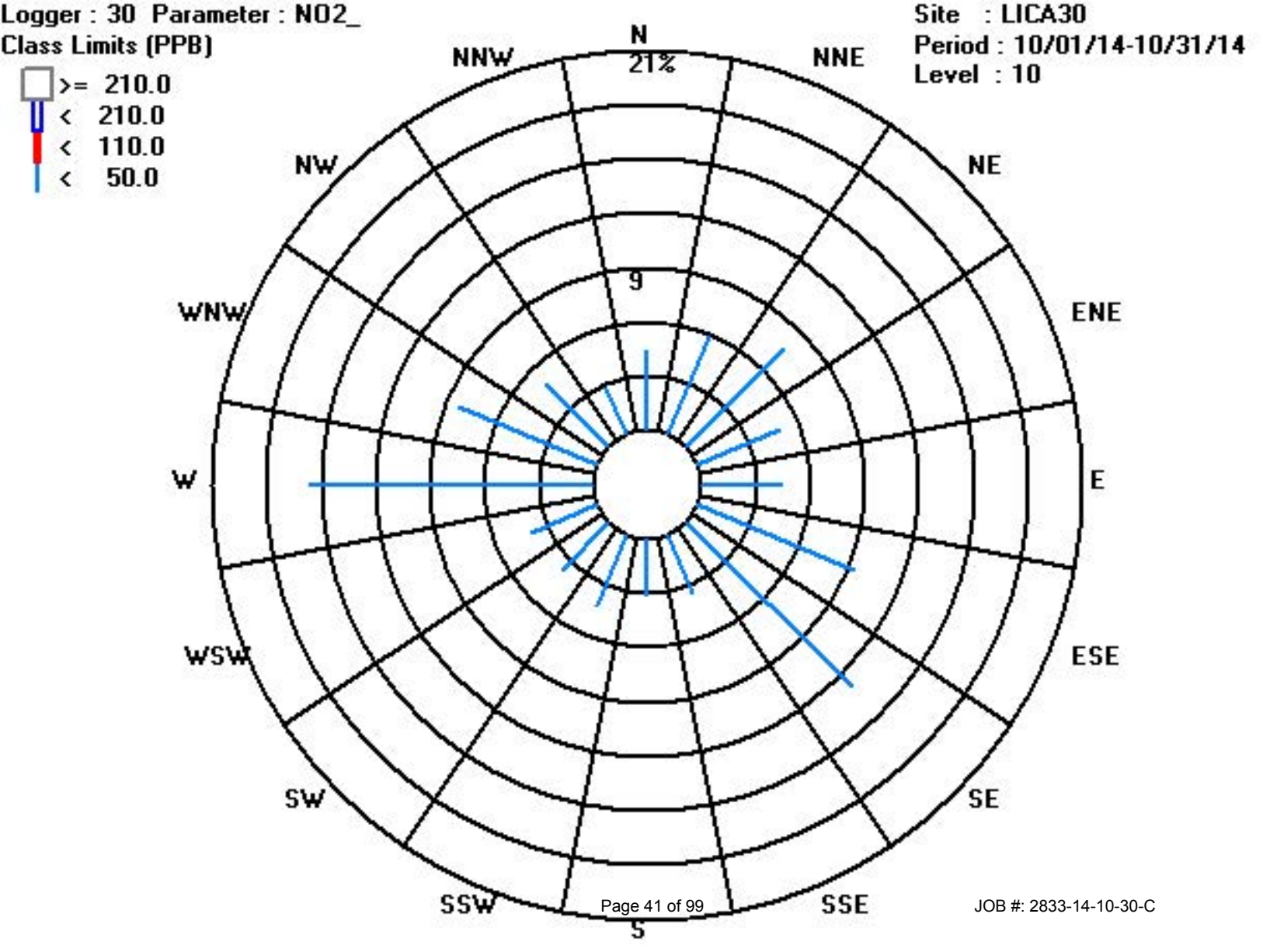
Distribution By Samples

Direction

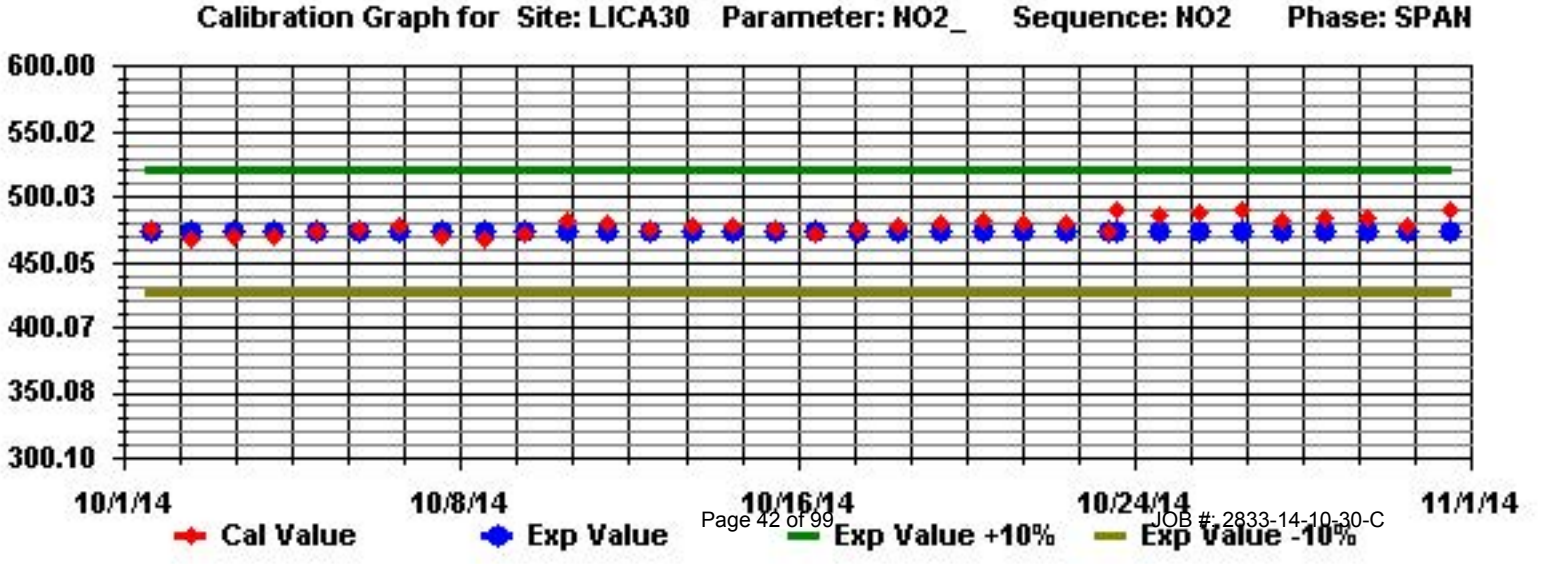
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	31	42	54	35	31	66	91	25	22	30	26	28	110	58	35	20	704
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	31	42	54	35	31	66	91	25	22	30	26	28	110	58	35	20	

Calm : .00 %

Total # Operational Hours : 704



JOB #: 2833-14-10-30-C


Calibration Graph for Site: LICA30 Parameter: NO2_ Sequence: NO2 Phase: SPAN
600.00
550.02
500.03
450.05
400.07
350.08
300.10
10/1/14
10/8/14
10/16/14
10/24/14
11/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitric Oxide

Lakeland Industry & Community Association - Maskwa Site

OCTOBER 2014

NITRIC OXIDE (NO) hourly averages in ppb

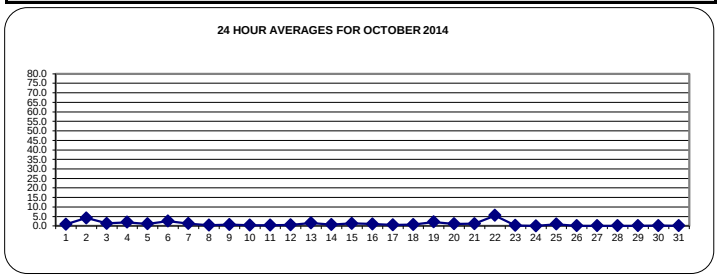
MST

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	0.4	1.5	0.2	0.3	0.2	0.7	0.9	1.9	0.6	1	0	3.2	3.2	0	**S**	0.3	0	0	0.1	0	0	3.1	1.4	1.7	3.2	0.9	24
2	1.9	0	0	0	2.3	8.3	21.9	5.5	8.3	8.8	9.2	5.1	7.8	**S**	3.9	7.5	0.9	0.7	0.6	0.5	0.5	0.5	1.4	0.6	21.9	4.2	24
3	0.2	0.2	0.4	0.4	0.5	0.6	1.9	7.8	4.4	2.7	5.4	1.1	**S**	1.3	0.9	0.5	0.4	0.2	0.2	0.3	0.2	0.3	0.2	0.2	7.8	1.3	24
4	0.1	0.1	0.2	0.2	0.1	0.4	0.5	15.9	7.2	5.6	7.3	**S**	3.9	0	0	2.2	1.1	0	0	0	0.2	0	0.1	0.1	15.9	2.0	24
5	0.2	0	0.2	0.2	0.2	0.7	0.7	0.9	1	0.9	**S**	7.8	4.7	3.2	0.4	0	0	0	0	0.2	0.6	1.8	1.6	0.6	7.8	1.1	24
6	0.5	0.2	0.3	0.1	1.3	0.3	0.3	0.2	0.3	**S**	2	9.4	3.2	7.8	6.5	7.8	5.1	4.5	0.5	0.2	0.4	4.2	2.1	0.6	9.4	2.5	24
7	0.5	0.2	0.1	0.4	0	0.6	1.7	1.3	**S**	4.8	9.1	2.5	2	1.8	0.3	0.7	0	0	0.4	0.3	0.2	0.2	0.1	0.4	9.1	1.2	24
8	0.3	0.2	0.3	0.4	0.2	0.3	0.2	**S**	0.5	1.2	0.5	1	0.8	0.5	0.3	0.2	0.4	0.3	0.1	0.3	0.3	0.2	0.3	0.2	1.2	0.4	24
9	0.1	0.2	0.5	0.3	0.3	0.8	**S**	0.4	0.4	2.4	4.4	1.9	1.7	0.4	0.5	0.5	0.3	0.2	0.1	0.1	0.2	0.3	0.4	0.3	4.4	0.7	24
10	0.3	0.2	0.1	0.3	0.1	**S**	0.4	0.6	1.2	1.8	1.4	1.2	0.5	0.1	0.3	0.3	0.2	0.2	0	0	0	0.1	0.1	0.2	1.8	0.4	24
11	0.2	0.2	0.1	0	**S**	5.1	1.3	0.4	0.2	0.1	0.3	0.1	0.3	0	0.1	0.1	0	0.1	0.2	0.1	0.1	0.1	0	0.3	5.1	0.4	24
12	0.1	0.1	0.2	**S**	0.3	0.3	0.7	0.4	0.6	2.1	4.8	2	0.4	0.1	0.2	0.2	0	0	0.2	0.1	0.1	0.2	0.1	0.1	4.8	0.6	24
13	0.1	0.3	**S**	0.4	0.3	2.1	1.4	2.5	7.3	8.9	5.2	3	1.1	0.4	0.8	0.5	0.2	0.3	0.3	0.2	0.3	0.3	0.5	0.2	8.9	1.6	24
14	0.2	**S**	0.2	0.5	0.2	0.4	0.4	0.4	0.7	0.5	0.7	1.4	0.9	1.2	0.4	2.4	0.6	0.2	0.1	0.2	0.6	3.1	0.3	0.1	3.1	0.7	24
15	**S**	0.4	0.3	0.3	0.4	1.8	1.4	1.4	3.8	2.7	3.7	2.5	6.7	2	0.4	0.4	0.4	0.2	0.1	0.1	0.1	0.2	0.1	**S**	6.7	1.3	24
16	0.5	0.4	0.3	0.3	0.4	0.3	0.4	0.6	0.7	0.5	1.1	2.8	3.5	3.4	5.2	0.5	0.3	0.3	1.1	0.5	0.5	0.4	**S**	0.2	5.2	1.1	24
17	0.5	0.4	0.4	0.4	0.2	0.7	0.8	2.2	1.2	1	1.2	0.7	0.9	0.3	0.3	0	0	0	0	0	0	**S**	0.1	0	2.2	0.5	24
18	0	0	0.1	0	0	0.4	0.4	0.4	2.2	3	3.7	1.6	0.2	2.2	1.6	0.1	0	0	0	0	**S**	0	0	0	3.7	0.7	24
19	0	0	0	0	0.2	2.9	1.8	21	13.7	4.6	0.9	0.7	0.6	0.6	1	0.2	0	0	0	**S**	0	0	0	0	21	2.1	24
20	0	0	0	0	0	0.1	0.1	0.4	1.2	1	1.5	1.9	3	2.6	1.7	0.7	0.2	4.3	**S**	0.7	0.1	0.1	4.7	1.8	4.7	1.1	24
21	0.2	0.1	0.2	5.5	1.2	1.5	1.4	2.4	5.3	3.8	1.3	1	0.9	2	0.7	0	0	**S**	0	0	0	0	0	0	5.5	1.2	24
22	0	0.2	0.1	0	0.1	4.2	7.9	***68.2***	30.6	10	2.7	0.6	0.7	0.4	0.3	0.4	**S**	0	0	0	0.1	0	0	0	***68.2***	***5.5***	24
23	0	0	0.1	0.3	0	0	0	0.2	0.6	1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0.7	0.4	0.1	**S**	0	0	0.1	1	0.2	24
24	0	0	0	0	0	0.2	0	0.1	0.1	0	0.2	0	0.3	0	0	0.1	0	0	0	**S**	0	0	0	0	0.3	0.0	24
25	0	0.1	0	0	0	0	0.8	6.3	3	2.6	1.2	1.5	2.8	0.7	0.5	0.1	0	0	**S**	0.4	0.8	0.7	0.4	0.2	6.3	1.0	24
26	0.3	0.1	0.1	0.2	0	0	0	0	0.1	0	0.2	0.1	0	0.1	0.1	0.2	0.1	**S**	0	0	0	0	0	0	0.3	0.1	24
27	0	0	0	0	0	0	0	0	0.3	0.7	0.8	0.2	0	0	0	0	**S**	0	0	0	0	0	0	0	0.8	0.1	24
28	0	0	0	0	0	0	0	0.4	0.1	0	0.1	0.3	0.2	0	0	**S**	0.1	0	0	0	0	0	0.2	0.2	0.4	0.1	24
29	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0.3	0.1	0.3	0	0.3	0.2	0.2	0.2	0.3	0.3	0.1	24
30	0.2	0	0	0.2	0.1	0.2	0.2	0.3	0.2	0.3	0.8	0.7	0.7	**S**	0	0	0	0	0	0	0	0	0	0	0.8	0.2	24
31	0	0	0	0	0	0	0	0	0	0	0	0.1	**S**	0.8	0.5	0.7	0	0	0	0	0.1	0	0	0	0.8	0.1	24
HOURLY MAX	2	2	1	6	2	8	22	68	31	10	9	9	8	8	7	8	5	5	1	1	1	4	5	2			
HOURLY AVG	0.2	0.2	0.1	0.4	0.3	1.1	1.6	4.7	3.2	2.4	2.4	1.9	1.8	1.1	1.0	0.9	0.4	0.4	0.2	0.2	0.2	0.5	0.5	0.3			

STATUS FLAG CODES

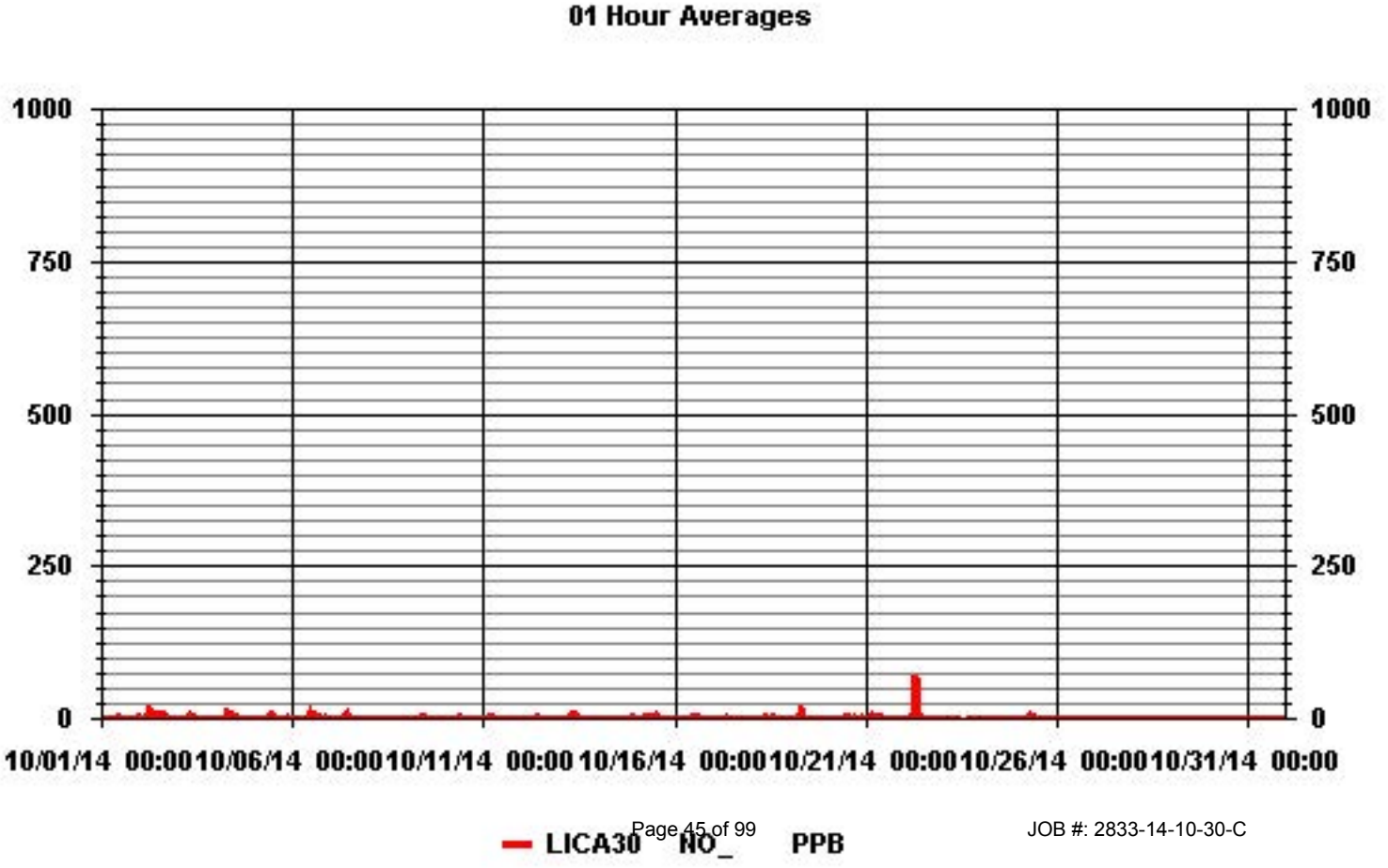
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

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



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	NA					
NUMBER OF NON-ZERO READINGS:	502					
MAXIMUM 1-HR AVERAGE:	68.2	PPB	@ HOUR(S)	7	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:	5.5	PPB			ON DAY(S) VAR-VARIOUS	22
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		744	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	3.48		MONTHLY AVERAGE:		1.08	PPB



JOB #: 2833-14-10-30-C

Lakeland Industry & Community Association - Maskwa Site

OCTOBER 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	2.2	3.7	1.2	1.5	1.6	3.7	26.7	4.1	2	3.5	0.8	8.9	24.7	0.3	**S**	2.9	0.4	0.7	0.7	0.5	0.4	19.5	6.3	4.7	26.7	5.3	24
2	8.2	0.6	0.6	0.5	14.1	16.3	33.2	25.4	13.2	18.2	19.7	29.2	14.5	**S**	11	18.7	4.7	3.4	2.8	2.2	1.6	1.7	2.2	2.1	33.2	10.6	24
3	0.9	0.9	1.3	1.2	9.4	2.5	3.6	12.7	12.2	5.4	9.3	3.7	**S**	2	9.9	2.4	1.2	0.9	0.9	0.8	0.7	1	0.9	0.8	12.7	3.7	24
4	0.6	0.8	0.7	0.7	0.8	1.4	4.4	122.4	15.4	9.6	18.6	**S**	10	1	1.3	7.8	2.3	1.9	0.5	0.7	0.8	0.6	0.7	0.7	122.4	8.9	24
5	0.8	0.6	1	1	0.9	2.2	3.7	3.2	3.4	2	**S**	15.3	14.3	7.6	3.3	2.1	2.2	0.4	0.5	2	1.8	8.4	4.6	2.4	15.3	3.6	24
6	1.4	0.8	1	1.1	5.7	1.7	1.4	0.8	1.9	**S**	5.6	16.7	9.6	16.6	14.3	23.4	10.8	9.1	2.9	0.8	2.5	11.9	15.1	3.7	23.4	6.9	24
7	3.2	0.8	0.8	1.4	0.6	1.4	3.7	2.8	**S**	10	21.3	8.4	9.8	18.7	1.4	3.5	0.5	0.6	8.6	1.2	0.8	0.9	0.8	1	21.3	4.4	24
8	0.9	0.8	0.8	1	0.9	0.9	0.8	**S**	1.3	1.8	2	2.8	1.9	1.2	1	0.8	1.3	1	0.7	0.7	0.8	0.8	1	0.9	2.8	1.1	24
9	0.6	0.9	1.1	1	0.8	5.4	**S**	1.4	1.1	6.9	5.7	4.5	3.6	1.3	1	1.6	0.8	0.8	0.6	0.7	0.8	1.1	0.9	0.8	6.9	1.9	24
10	0.8	0.9	0.6	0.8	0.8	**S**	1.2	1.7	1.8	2.6	2	2.1	1.2	0.5	1.1	1	0.6	0.7	0.5	0.5	0.5	0.7	0.8	0.9	2.6	1.1	24
11	0.8	0.7	0.6	0.4	**S**	11.7	4.4	2.5	0.8	0.9	1.5	0.8	1.6	0.7	1	0.8	0.5	0.6	0.7	0.7	0.6	0.6	0.6	1.1	11.7	1.5	24
12	0.6	0.8	0.7	**S**	0.9	1.2	2.4	1.3	1.6	7.1	12	8.3	1.9	0.8	0.8	0.8	0.8	0.5	0.9	0.7	0.8	1	0.9	0.6	12	2.1	24
13	0.7	1	**S**	1	1	20.9	5.2	4.8	11.9	10.2	9.4	5.4	4.3	1.2	1.7	1.2	0.9	0.8	0.8	0.8	1	1	1.1	0.7	20.9	3.8	24
14	0.8	**S**	0.9	1	0.8	1.2	1	0.9	1.2	1.2	1.8	3.1	1.8	4.2	2.8	7.1	2	0.9	0.6	0.8	2.2	17.1	1.3	0.8	17.1	2.4	24
15	**S**	1	0.9	1	1.3	4.3	4.2	2.8	10.5	9.2	10.5	9.1	9.1	6.6	1.3	1.1	1.2	0.8	0.9	0.8	0.8	0.7	0.8	**S**	10.5	3.6	24
16	1	1	0.8	0.9	1	1.1	1	1.2	1.4	1.2	4.9	6.9	4.9	5.6	16.2	1.4	1.4	1.5	5	1.2	1.8	0.9	**S**	0.8	16.2	2.7	24
17	1	1.2	1	0.9	**P**	1.8	2.1	4.1	2.7	2.6	2.4	1.8	2	0.9	0.9	0.8	0.6	0.5	0.3	0.4	0.5	**S**	0.7	0.4	4.1	1.3	23
18	0.6	0.7	0.6	0.5	0.8	3.1	3.3	1.2	19.4	18.6	7.3	3.5	1	46.5	19.8	2.2	0.2	0.3	0.2	0.3	**S**	0.4	0.6	0.4	46.5	5.7	24
19	0.4	0.6	0.6	0.6	0.8	16.6	3.7	55.5	23.2	7.6	1.5	2.6	1.3	2.5	2	0.9	0.3	0.3	0.4	**S**	0.4	0.3	0.4	0.4	55.5	5.3	24
20	0.6	0.4	0.5	0.6	0.6	0.7	0.6	1.4	3.3	1.7	2.1	2.7	3.9	3.5	3.5	1.7	1.1	26.2	**S**	3.7	0.6	0.9	27.2	10.6	27.2	4.3	24
21	1.6	1.1	0.9	49.7	10.3	3.6	5.2	7	40.1	7.6	4.5	5.2	6.2	7.2	2.7	0.8	0.2	**S**	0.5	0.5	0.8	0.6	0.6	0.4	49.7	6.8	24
22	0.4	0.7	0.5	0.5	0.7	37.8	44.2	***221.3***	61.4	27.6	5	2.9	1.4	1.3	1.6	1	**S**	0.5	0.2	0.4	0.6	0.6	0.5	0.6	***221.3***	***17.9***	24
23	0.4	0.7	0.9	1.4	0.7	0.5	0.6	0.9	1.9	2	**C**	**C**	**C**	**C**	**C**	**C**	**C**	4.1	1.1	0.8	**S**	0.5	0.3	1.4	4.1	1.1	24
24	0.4	0.6	0.5	0.3	0.4	1.4	0.4	0.6	2.1	0.8	2.5	1.1	2.2	1.2	1.3	3.5	0.8	0.6	0.4	**S**	0.6	1.4	0.8	0.4	3.5	1.1	24
25	0.6	0.6	0.4	0.4	0.6	0.5	20	19.7	5.9	4.5	2.8	4.4	5.5	1.4	1.2	0.9	0.6	0.7	**S**	1.2	1.9	2.5	1.6	0.8	20	3.4	24
26	0.8	0.9	0.6	0.6	0.6	0.6	0.9	0.6	0.6	0.6	0.7	0.6	0.5	0.7	0.7	0.9	0.9	**S**	0.4	0.9	0.6	0.7	0.5	0.3	0.9	0.7	24
27	0.7	0.4	0.5	0.4	0.4	0.4	0.3	0.6	1	1.4	1.5	1.4	0.4	0.6	0.7	0.7	**S**	0.3	0.1	0.1	0.1	0.5	0.3	0.2	1.5	0.6	24
28	0.3	0.3	0.3	0.1	0.2	0.4	1.9	23.5	1.2	0.8	1.1	0.9	0.7	0.4	0.7	**S**	0.7	0.4	0.6	0.3	0.3	0.3	1.2	1.4	23.5	1.7	24
29	1.1	0.4	0.2	0.3	0.5	0.5	0.4	0.4	0.3	0.3	0.7	0.4	0.7	0.4	**S**	0.9	0.6	0.9	0.6	0.9	0.8	0.7	0.7	0.9	1.1	0.6	24
30	0.8	0.7	0.5	0.7	0.7	0.9	0.8	0.8	0.8	0.9	2.8	1.4	1.5	**S**	0.6	0.2	0.1	0.1	0.1	0.3	0.2	0	0	0	2.8	0.6	24
31	0	0	0	0	0	0	0.3	0	0.4	0.2	0.5	0.7	**S**	1.5	1.6	3.2	0.4	0.7	0.4	0.5	0.6	0.5	0.4	0.6	3.2	0.5	24
HOURLY MAX	8	4	1	50	14	38	44	221	61	28	21	29	25	47	20	23	11	26	9	4	3	20	27	11			
HOURLY AVG	1.1	0.8	0.7	2.4	2.0	4.8	6.1	17.5	8.1	5.6	5.5	5.3	5.0	4.9	3.8	3.3	1.4	2.1	1.1	0.9	0.9	2.6	2.5	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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 694

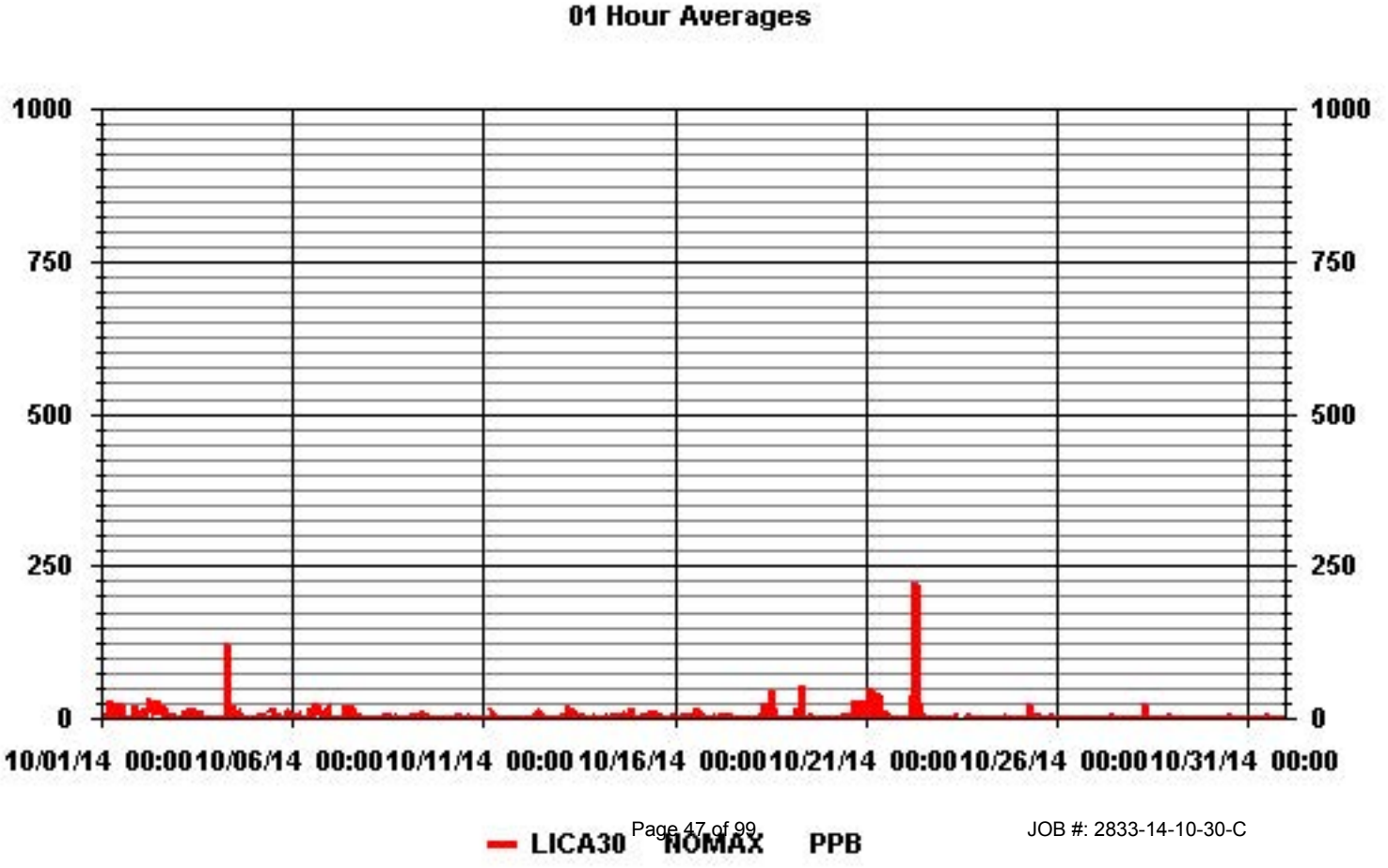
MAXIMUM INSTANTANEOUS VALUE: 221.3 PPB @ HOUR(S) 7 ON DAY(S) 22

VAR-VARIOUS

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 743 HRS

MONTHLY CALIBRATION TIME: 7 HRS

STANDARD DEVIATION: 11.45



JOB #: 2833-14-10-30-C

LICA30
NO_ / WDR Joint Frequency Distribution (Percent)

October 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	4.40	5.96	7.67	4.97	4.26	9.37	12.92	3.55	3.12	4.26	3.69	3.97	15.62	8.23	4.97	2.84	99.85
<	110.0	.00	.00	.00	.00	.14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14
<	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	4.40	5.96	7.67	4.97	4.40	9.37	12.92	3.55	3.12	4.26	3.69	3.97	15.62	8.23	4.97	2.84	

Calm : .00 %

Total # Operational Hours : 704

Distribution By Samples

Direction

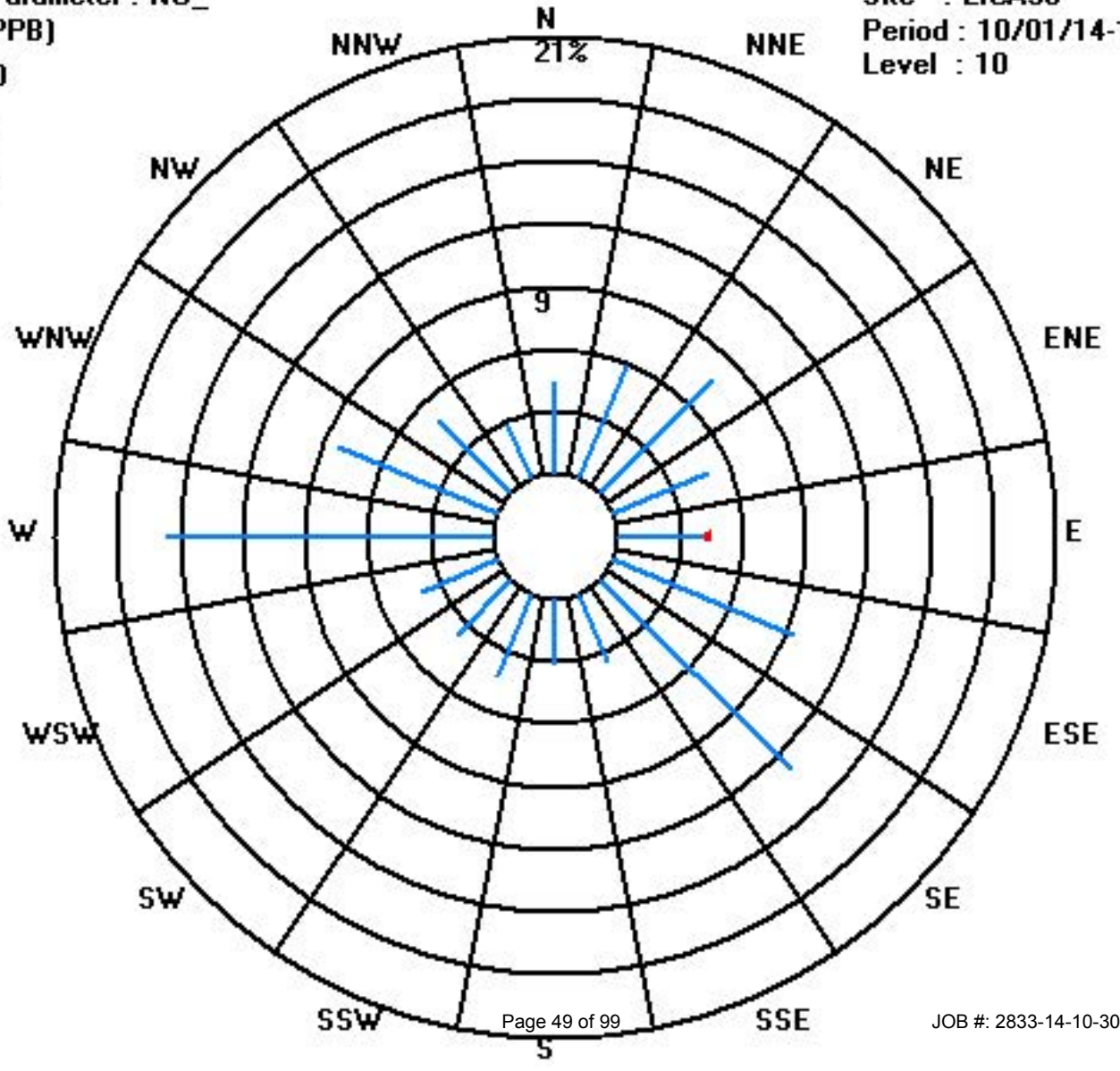
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	31	42	54	35	30	66	91	25	22	30	26	28	110	58	35	20	703
<	110.0					1												1
<	210.0																	
>=	210.0																	
	Totals	31	42	54	35	31	66	91	25	22	30	26	28	110	58	35	20	

Calm : .00 %

Total # Operational Hours : 704

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

Site : LICA30
Period : 10/01/14-10/31/14
Level : 10



JOB #: 2833-14-10-30-C

Oxides of Nitrogen

Lakeland Industry & Community Association - Maskwa Site

OCTOBER 2014

OXIDES OF NITROGEN (NOx) hourly averages in ppb

MST

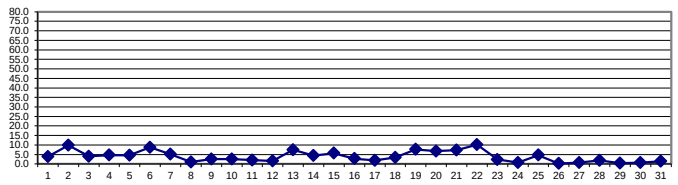
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	4.9	6.8	10.1	9	5	2.4	4.5	7.5	2.4	3	0.4	7.8	7.8	0.2	**S**	1.6	0	0.1	0.1	0	0	5.7	4	5.2	10.1	3.8	24
2	4	0.9	1.1	0.5	5.1	16.1	35.8	12	17.2	18.3	17.6	10.1	15.8	**S**	8.3	16.5	2.3	1.4	3.8	2	5.3	6.9	17.1	7.8	35.8	9.8	24
3	0.2	0.6	5.1	4.5	3.3	5.5	13	19.8	9.1	5.2	10.7	1.6	**S**	2.5	1.8	1.2	0.8	1.2	1.5	0.9	0.9	1.2	1	1.7	19.8	4.1	24
4	1.7	2.3	3.1	3	2.4	4.2	3.6	21.4	14.5	11.2	12.9	**S**	7.8	0	0.4	6.3	6.9	2.3	0.6	0.4	0.4	0.3	0.9	0.7	21.4	4.7	24
5	0.6	0.6	0.8	1	1.1	3.6	4.9	6.5	4.4	2.3	**S**	13	8.8	7.9	1.3	0.2	0	0	2.8	10.4	13	14.2	7.9	14.2	4.6	24	
6	7.7	7.4	7.3	3.8	7.9	8.7	3.5	1.4	2.7	**S**	7.1	20.2	9	18	16.4	20.1	14.7	17.1	1.7	0.3	2.7	16.7	5.4	2	20.2	8.8	24
7	5.9	2.2	3.7	5.2	0.1	10.5	21.3	10.1	**S**	12	18.9	5.6	4.7	4.8	0.8	1.8	0	0	0.4	2.3	1.7	2.9	2	0.8	21.3	5.1	24
8	0.3	0.2	0.3	0.4	0.2	0.3	0.2	**S**	0.6	3.9	1.2	3.4	3.6	0.6	0.3	0.2	1.1	0.9	0.1	0.4	1.4	0.7	1.2	2.1	3.9	1.0	24
9	1.8	2.3	1.5	1.3	1.2	2.2	**S**	0.5	0.4	5.2	10.3	5.3	4.3	1.6	1.9	2.5	2.8	1.4	2.3	2.8	1	2.6	2	2.5	10.3	2.6	24
10	0.8	0.9	1.5	2.5	2.9	**S**	2.2	3.6	4.5	5.1	4	3.8	2.5	1.8	1.6	1.8	2.1	1.8	0.7	1.3	3	3.1	3.5	3.4	5.1	2.5	24
11	1.9	1.3	1.4	1.4	**S**	23.7	11.2	1.8	0.7	0.1	0.9	0.1	0.3	0	0.1	0.1	0	0.1	0.2	0.1	0.1	0.1	0	0.4	23.7	2.0	24
12	1.3	1	0.5	**S**	0.3	1.2	3.1	1.9	1.5	5.5	11.1	4.5	0.4	0.1	0.2	0.2	0	0	0.2	0.3	0.2	0.2	0.1	0.3	11.1	1.5	24
13	0.8	5.5	**S**	10.3	11.9	13.3	15.5	15.6	19.7	19.5	12.2	8.2	3.2	1.2	2.9	2.2	1.2	1.6	1.3	1.3	4.2	4.2	10.2	5.9	19.7	7.5	24
14	2.7	**S**	3.3	6.5	1.3	4.8	7.3	6.5	5.1	1.8	3.1	4.8	3.7	4.3	3	6.8	4	2.9	2.5	2.6	6.5	12.3	5.5	0.4	12.3	4.4	24
15	**S**	0.9	1.6	1.9	1.5	14.7	9.5	7.4	10.2	8.7	9.4	6.8	20.4	8.3	1.7	5.7	6.4	2.5	1.7	1.4	1.5	1.5	1.1	**S**	20.4	5.7	24
16	1.1	0.5	0.5	1.2	1.3	2.2	1.4	0.9	1	0.5	1.2	4.4	6	7.1	10.2	1.5	1.7	5.6	10.1	2.3	2.6	0.9	**S**	0.5	10.2	2.8	24
17	0.5	0.5	0.9	0.9	1.1	2.9	4.3	7	3.7	3.2	3.3	2.4	2.3	1.4	1.7	1	0.8	0.7	0.5	0.5	0.6	**S**	0.7	0.8	7	1.8	24
18	0.7	1.6	3.4	0.9	0.7	2.1	3.1	5.1	7.8	6.9	8.8	5	1.8	6.6	5.7	1.2	0.5	0.8	1.2	1.1	**S**	2.3	3.9	7	8.8	3.4	24
19	4.4	4.4	5.6	10.5	8.7	14	14.7	35.3	22.4	10.4	3.8	4	3.2	3.7	5.4	4.3	2.8	6.7	4.4	**S**	2	1.9	2.2	2.1	35.3	7.7	24
20	3.3	4	3.2	2.1	2.6	2.2	2.2	4.6	5.3	3.8	4.5	5.4	8.5	8.5	7.3	6.3	7.3	26.5	**S**	9.8	5.6	7.1	15.2	10	26.5	6.8	24
21	5.9	5.2	2.5	16.3	7.2	9	8.5	13.1	14.5	14.4	7.2	4.9	4.5	10.7	4.9	3.2	3.8	**S**	3.4	4	7.9	5.8	4	5	16.3	7.2	24
22	4.9	3.9	6.3	4.9	5.3	10.9	15.2	***85.6***	41.1	16.8	6.8	2.1	4.2	3.4	2.7	6.1	**S**	3.9	2.1	0.8	1.7	2.2	1.9	1.1	***85.6***	***10.2***	24
23	0.8	1.5	1.9	2.5	0.7	0.8	0.6	4.7	4.5	4.2	**C**	**C**	**C**	**C**	**C**	**C**	**C**	4.3	5.3	3.5	**S**	0.7	0.4	1	5.3	2.3	24
24	0.6	0.7	0.4	0.2	0.4	0.8	0.5	0.8	0.8	0.3	0.8	0.9	1.6	0.9	0.6	1.7	1.4	0.3	0.3	**S**	0.3	0.8	1.3	0.4	1.7	0.7	24
25	0.7	0.2	0	1.8	2.6	5.5	6.8	16.3	11.5	8.7	4.6	5.8	9.6	4.4	3.4	2.6	2.1	0.5	**S**	3.8	7	6	2.3	0.4	16.3	4.6	24
26	0.5	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.3	0.1	0.5	0.2	0.2	0.2	0.3	0.4	0.6	**S**	0	0.1	0.4	0	0.4	0.3	0.6	0.2	24
27	0.1	0.1	0.4	0	0	0.1	0	0.5	1.7	2.3	2.3	1	0.2	0.2	0	0.7	**S**	1.1	1.5	2.2	1	0.7	0.3	0.1	2.3	0.7	24
28	0.1	0.2	0.2	0.1	0.6	0.9	1.5	2.2	2.4	2.1	3.2	3.4	3.1	2.8	3.1	**S**	2.3	2	1.8	1.3	1	1	3	3.8	3.8	1.8	24
29	2.8	0.6	0.3	0.3	0.2	0.4	0.5	0.5	0.3	0	0	0	0.3	0	**S**	0.3	0.1	0.3	0	0.3	0.2	0.2	0.2	0.3	2.8	0.4	24
30	0.2	0	0	0.2	0.1	0.2	0.3	0.6	0.7	1.1	2	1.6	2.1	**S**	2.1	1.3	0.7	0.5	0.6	0.5	0.5	0.3	0	0.2	2.1	0.7	24
31	0.1	0.4	0.4	0.7	0.8	0.8	1.4	1.2	1.4	1.3	1.8	2.4	**S**	2.9	2.4	2.9	1.6	1.9	1.8	1.4	1	1	1.4	2	2.9	1.4	24
HOURLY MAX	8	7	10	16	12	24	36	86	41	20	19	20	20	18	16	20	15	27	10	10	10	17	17	10			
HOURLY AVG	2.0	1.9	2.3	3.1	2.6	5.5	6.6	9.8	7.1	5.9	5.9	4.8	5.0	3.7	3.2	3.5	2.4	3.0	1.7	1.7	2.5	3.4	3.5	2.5			

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

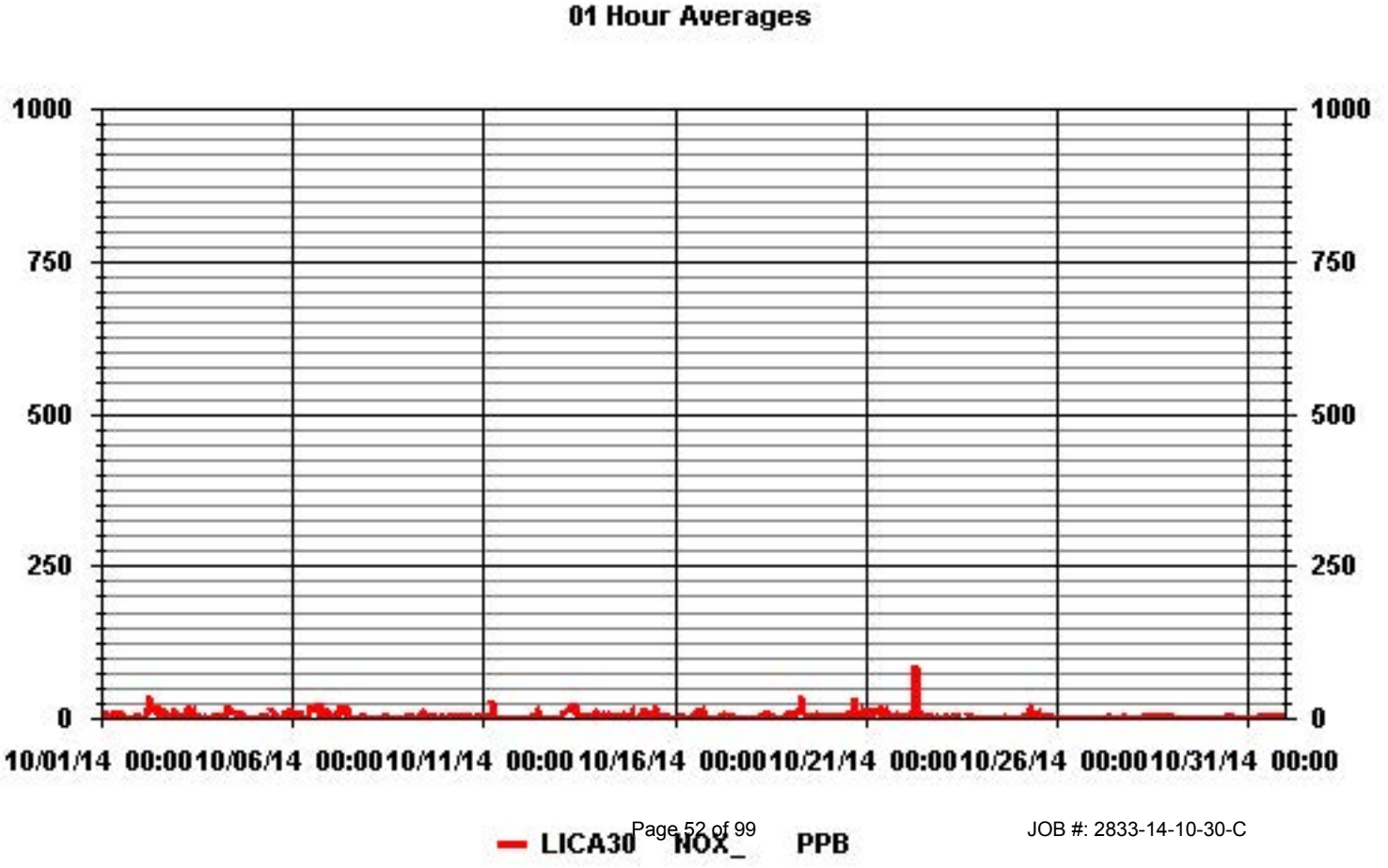
24 HOUR AVERAGES FOR OCTOBER 2014



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	NA					
NUMBER OF NON-ZERO READINGS:	676					
MAXIMUM 1-HR AVERAGE:	85.6	PPB	@ HOUR(S)	7	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:	10.2	PPB			ON DAY(S) VAR-VARIOUS	22

IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	744	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	5.85		MONTHLY AVERAGE:	3.91	PPB



JOB #: 2833-14-10-30-C

Lakeland Industry & Community Association - Maskwa Site

OCTOBER 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	9.5	11.3	14.4	13.5	11.7	7.6	44.8	14.7	4.5	7.9	1.7	18.2	46.1	1.2	**S**	11.7	0.8	2.1	1.2	0.5	0.4	27	12.9	12	46.1	12.0	24
2	13.6	2.2	3.3	1.3	25.5	27.3	49.3	41	25.6	32.9	33.6	46.2	27.5	**S**	22.9	37.2	11.8	8.4	12.6	10.2	16.7	18.2	19.7	16.4	49.3	21.9	24
3	1.5	1.8	8.6	8.8	18	15	16.2	26.5	22.3	10.2	17.3	7.6	**S**	4.1	13.2	4.5	1.7	2	2.5	1.6	1.6	2	2	2.8	26.5	8.3	24
4	2.5	3.4	3.8	3.9	3	8.6	10	138.5	26.2	17.9	27.8	**S**	17.3	2	2.8	18.5	11.2	9.8	1.8	1.2	1.4	1.4	2	1.4	138.5	13.8	24
5	1.6	1.4	1.6	1.8	2	8.8	9.3	11.1	11	4.5	**S**	24.3	23.6	15.5	7.1	4.7	4.6	0.4	0.5	19.4	19.5	32.3	28.5	14.9	32.3	10.8	24
6	14.5	12.3	13.7	8.6	22.8	15	13	2.6	7.6	**S**	18.2	33.1	23.3	34.9	31.1	37.6	26.8	28.2	11.9	1.9	12.4	32.9	36.3	14.9	37.6	19.7	24
7	14	6	8.2	13.7	0.8	16.7	25.9	17.7	**S**	22.1	40.8	19.6	22.8	32.5	4.6	6.4	0.4	0.2	14.2	6.6	5.1	3.7	3	1.7	40.8	12.5	24
8	0.9	0.8	0.7	1	1.6	0.6	0.9	**S**	1.5	5.3	4.9	9.6	7.7	2	2.6	0.7	5.7	5.5	1	1.7	2.9	2.2	3	3.9	9.6	2.9	24
9	3.3	3.4	3.4	2.4	2.3	12.8	**S**	3.8	1	14.1	13	10	7.5	2.8	2.7	6.2	5.3	5.4	4.3	4.4	2.5	4.6	3.7	4.3	14.1	5.4	24
10	1.9	1.6	2.5	3.2	4.1	**S**	3.4	7.6	5.5	6.4	4.9	5.4	3.6	2.7	2.9	2.8	3.6	3.1	1.4	2.8	3.7	4	4.7	5.2	7.6	3.8	24
11	3.1	2.2	2.2	2.9	**S**	33.4	27.8	4.6	1.6	2	5.3	1.2	3.7	1.2	2.7	0.5	0.6	0.4	0.4	0.6	0.6	0.4	0.5	1.8	33.4	4.3	24
12	2.1	1.7	1.2	**S**	0.9	3.4	6.4	4.1	4.9	16	23.8	17.9	2.4	0.8	1.5	0.8	0.6	0.5	1.1	0.9	1	0.6	0.6	0.9	23.8	4.1	24
13	1.6	10.2	**S**	11.4	13	42.1	22.7	20	25.4	22.3	19.8	12	11.2	2.4	4.8	3.4	2	2.8	2	3.3	6.8	12.3	14.6	10.4	42.1	12.0	24
14	8.1	**S**	6.5	10.3	5.6	10.1	12.4	9	6.8	2.9	5.6	9.2	5	9.4	7.8	13	7.8	4.6	3.1	3.5	16.3	43.4	13.2	1.5	43.4	9.4	24
15	**S**	1.8	4.1	5.5	10.5	21.4	15.8	10.8	23	21.3	23.4	22.8	25.9	21.6	5.1	9	8.5	3.5	2.6	2.2	2.3	2.4	1.8	**S**	25.9	11.2	24
16	2	1.2	1.2	1.8	2.4	3.4	2.1	1.6	2.2	1	7.9	10.7	7.9	11.1	27.7	4.9	4.5	18.4	29.6	3.4	11	2.3	**S**	1.3	29.6	6.9	24
17	1.2	1.3	1.6	1.6	**P**	5.3	6.7	10.1	6.8	5.4	4.7	4.1	4.3	2.4	2.7	2.2	1.5	1.3	1.1	1	1.2	**S**	1.2	1.4	10.1	3.1	23
18	1.4	4.9	6	2	1.3	8.8	11.9	7.6	30	27.8	14.6	8.8	2.9	69.4	32.1	5	1.3	1.6	1.8	1.8	**S**	2.8	6.7	9.7	69.4	11.3	24
19	6.2	6.6	9.3	12.1	13.9	32.2	21.4	72	36.1	14.5	5.6	9.8	4.9	9.4	8.2	7.2	6.2	9.8	6	**S**	3.2	3.5	3.5	3.2	72	13.3	24
20	5.2	6	4.3	3.2	3.8	3.6	2.9	8.6	10.3	4.8	5.3	6.9	10.1	9.6	9	8	14.9	62.3	**S**	20.4	9	11.7	54.7	30.7	62.3	13.3	24
21	14.9	11.6	3.4	74.9	27.3	13.1	15	24.7	67.1	23	15.5	19.1	20.6	27.1	15.3	5.7	7	**S**	7.8	7.4	11.2	9	5.2	6	74.9	18.8	24
22	6.9	5.8	8	8.4	7.5	53.2	57.4	***259.5***	77	37.4	11.2	4.7	5.5	5.7	6.5	9	**S**	8.1	4.2	2.1	2.8	3.4	3	2.1	***259.5***	***25.6***	24
23	1.7	2.6	9	9	1.4	1.5	1.2	8	10.2	7.1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	14.2	8.8	6.4	**S**	1.3	1	3.6	14.2	5.4	24
24	1.4	1.2	1	1	1.1	2.5	1.2	1.7	2.9	1.4	3.7	3.1	5.3	3	3.2	12.6	6.5	0.9	0.9	**S**	1.2	4.2	2.8	1.1	12.6	2.8	24
25	1.8	1.4	0.6	3.6	4.8	7.6	38.2	36.9	16.9	12.6	7.3	13.5	17.5	6.1	5.7	5.4	4.5	1.2	**S**	10.5	14.7	15	12	1.1	38.2	10.4	24
26	1.1	1	0.9	0.9	0.6	0.9	0.9	0.7	0.9	0.7	1.4	0.8	0.8	0.9	0.9	0.9	1.7	**S**	0.4	1.1	1	0.7	1.3	0.9	1.7	0.9	24
27	0.7	0.7	1.3	1	0.4	1	0.8	1.5	3.3	3.6	3.3	2.8	1.3	0.7	0.7	1.7	**S**	1.6	2.4	3.4	1.7	1.2	1.1	0.7	3.6	1.6	24
28	0.6	0.7	0.7	0.7	1.3	1.9	4.3	27.2	4.2	3.3	5.3	5.1	4.1	3.5	4.1	**S**	3.7	3	2.5	1.9	1.6	2.2	6.6	8	27.2	4.2	24
29	7.1	1.1	0.8	0.8	0.9	0.9	1.4	1.1	1	0.6	0.9	0.9	1.1	0.6	**S**	0.6	0.6	0.7	0.4	0.7	0.4	0.4	0.4	0.4	7.1	1.0	24
30	0.6	0.6	0.2	0.6	0.7	0.7	1	1.6	1.9	1.6	6.1	3.2	3.5	**S**	2.8	1.9	1.3	1	1.2	1	1	0.8	0.6	0.7	6.1	1.5	24
31	0.7	1.1	1.1	1.4	1.6	1.6	2.1	1.9	2.2	1.9	2.6	3.2	**S**	4.2	4.4	8.3	2.2	3	2.5	2	1.8	2	2.3	2.6	8.3	2.5	24
HOURLY MAX	15	12	14	75	27	53	57	260	77	37	41	46	46	69	32	38	27	62	30	20	20	43	55	31			
HOURLY AVG	4.4	3.6	4.1	7.0	6.6	12.0	14.2	25.9	14.7	11.1	11.6	11.5	11.3	10.2	8.4	7.9	5.3	7.0	4.5	4.3	5.3	8.3	8.3	5.5			

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: 704

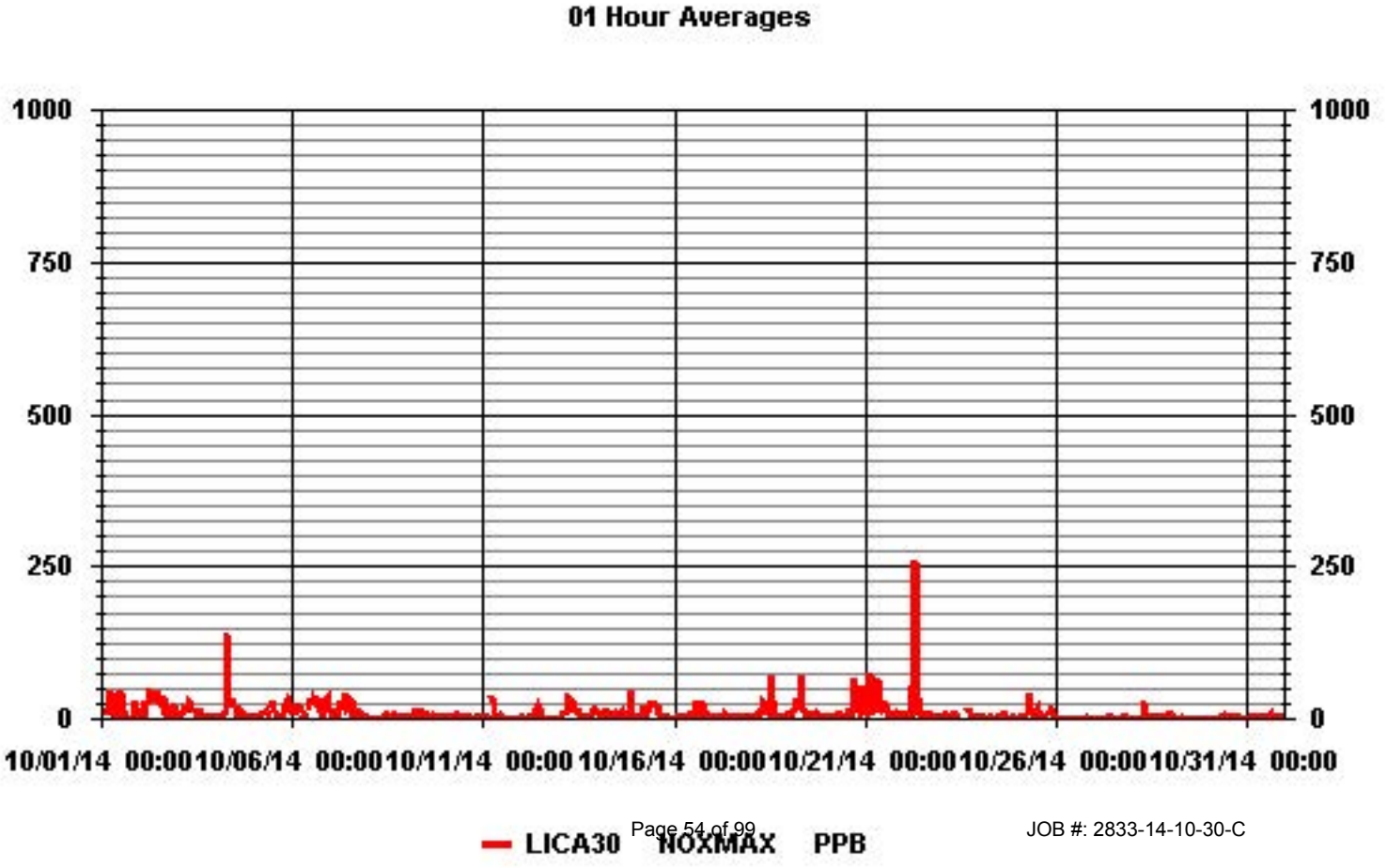
MAXIMUM INSTANTANEOUS VALUE: 259.5 PPB @ HOUR(S) 7 ON DAY(S) 22

VAR-VARIOUS

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 743 HRS

MONTHLY CALIBRATION TIME: 7 HRS

STANDARD DEVIATION: 15.35



JOB #: 2833-14-10-30-C

LICA30
NOX_ / WDR Joint Frequency Distribution (Percent)

October 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	4.40	5.96	7.67	4.97	4.26	9.37	12.92	3.55	3.12	4.26	3.69	3.97	15.62	8.23	4.97	2.84	99.85
<	110.0	.00	.00	.00	.00	.14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14
<	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	4.40	5.96	7.67	4.97	4.40	9.37	12.92	3.55	3.12	4.26	3.69	3.97	15.62	8.23	4.97	2.84	

Calm : .00 %

Total # Operational Hours : 704

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	31	42	54	35	30	66	91	25	22	30	26	28	110	58	35	20	703
<	110.0					1												1
<	210.0																	
>=	210.0																	
	Totals	31	42	54	35	31	66	91	25	22	30	26	28	110	58	35	20	

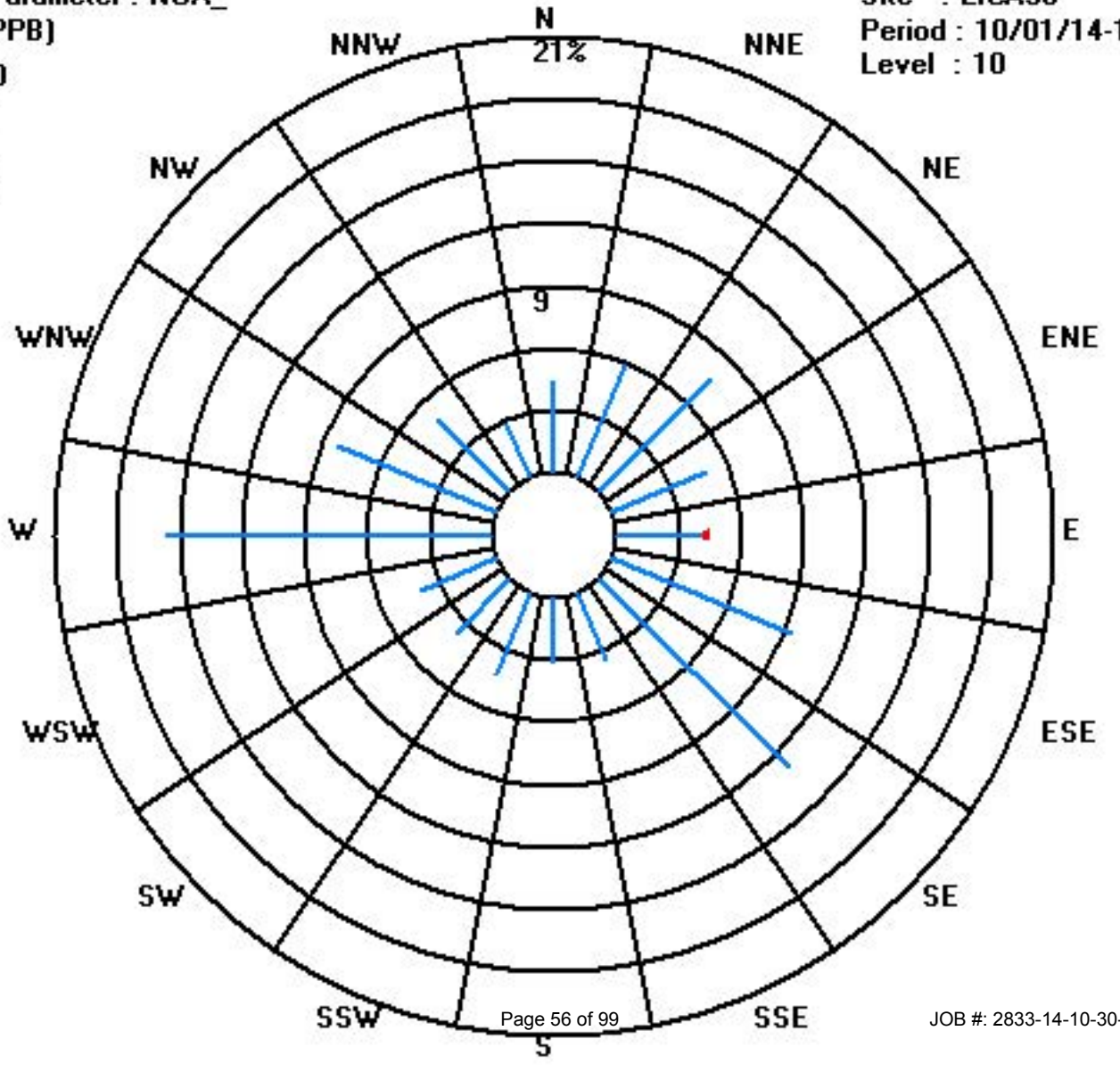
Calm : .00 %

Total # Operational Hours : 704

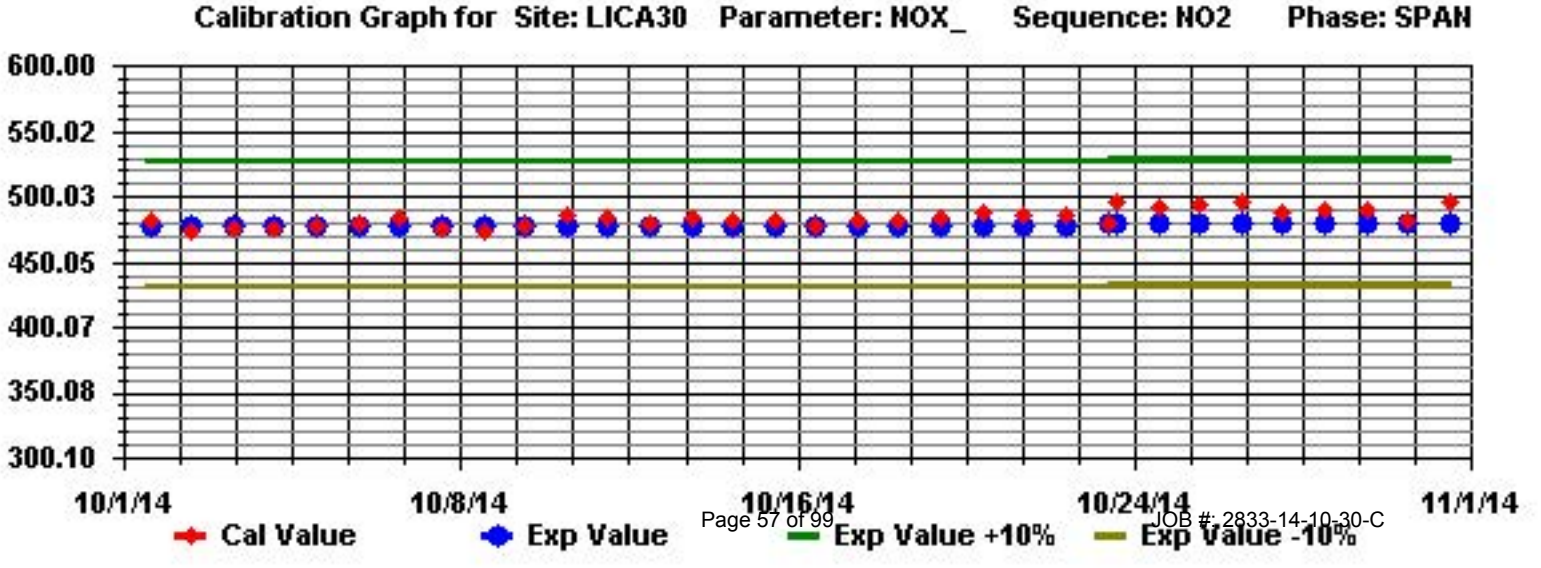
Logger : 30 Parameter : NOX_
Class Limits (PPB)

>= 210.0
< 210.0
< 110.0
< 50.0

Site : LICA30
Period : 10/01/14-10/31/14
Level : 10



JOB #: 2833-14-10-30-C


Calibration Graph for Site: LICA30 Parameter: NOX_ Sequence: NO2 Phase: SPAN
600.00
550.02
500.03
450.05
400.07
350.08
300.10
10/1/14
10/8/14
10/16/14
10/24/14
11/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Temperature

Lakeland Industry & Community Association - Maskwa Site

OCTOBER 2014

AMBIENT TEMPERATURE (TPX) hourly averages in Degrees Celsius

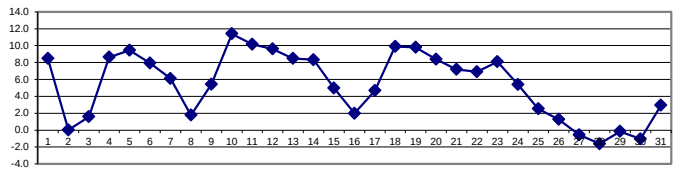
MST

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	7.5	6.4	5	4.7	4.4	4	4.8	7.9	10.4	12.7	13.9	14.9	15.1	14.3	13	10.9	9.6	9.2	7.9	6.7	5.3	3.7	3.1	15.1	8.5	24
2	2.3	0.7	0	-0.5	-0.3	-0.1	-0.1	0.1	0.5	0.6	0.8	0.6	0.5	0.4	0.8	1.1	1.1	0.9	0.2	-0.4	-2.2	-2.1	-2.1	-2.7	2.3	0.0	24
3	-3	-3	-3.2	-3.8	-4.6	-5	***-5.3***	-3	0.4	3.1	5	5.5	5.9	6.3	5.4	5.2	4.7	4.2	3.7	3.9	3.9	4.1	3.8	3.7	6.3	1.6	24
4	3.8	4.1	4.4	4.5	4.6	3.7	2.8	2.6	6.9	10.2	12.7	14.1	16	16.2	15.5	16.9	14.8	11.9	10	8.7	6.5	5.1	5.3	5.8	16.9	8.6	24
5	5.7	5.3	5	4.8	4.6	5	5.3	5.5	6.2	7.7	10.8	13.1	15.3	17.1	17.6	17.4	15.6	13.4	10.6	9.5	9.4	8.3	7.1	6.4	17.6	9.4	24
6	6.5	6.4	6.1	6.4	6.1	5.8	6.1	6.4	6.9	7.3	8.6	11.1	10.6	11.1	11.1	11.1	11.3	10.4	9.1	8.4	7.2	6.2	5.6	4.5	11.3	7.9	24
7	2.9	1.6	1.9	3.2	4	5.1	5.1	5.1	7.6	10.1	11.3	12.3	12.6	12.9	12.8	12.3	10.9	8.6	4.4	2.2	1.3	-0.1	-1.2	-0.3	12.9	6.1	24
8	-0.3	-1	-2	-2.4	-2.9	-3.3	-3.2	-1.7	0.9	3.3	4.5	5.3	4.9	4.7	5	4.8	4.6	4.2	3.8	3.6	3.1	2.3	1.6	2.8	5.3	1.8	24
9	3.4	3.6	2.9	-0.7	-1.2	-2.3	-2.7	-1.7	2.9	6.6	8.7	10.3	12.1	12.8	13.2	13.5	12	8.9	5.1	3.7	4.9	4.2	4.3	6	13.5	5.4	24
10	7.9	7.6	7.4	6.5	5	2.5	1.6	3.5	8.7	10.6	13.8	15.7	17.6	18.6	***19.2***	19.1	17.5	16	14.7	14.4	13.6	12.2	11.7	8.1	***19.2***	***11.4***	24
11	4.3	3.5	3.6	4.5	5.5	7.9	9.3	9.7	12.5	14.3	14.3	14.6	15.7	15.8	16.1	15.8	14.4	12.1	9.8	8.9	9.4	7.9	7.3	6.6	16.1	10.2	24
12	5.7	5.9	5.1	5.2	6.5	6	5.8	6.4	8.2	10.5	12.5	14.4	14.2	14.5	14.9	14.9	14.2	11.2	10.7	11.1	10.4	9.2	7.3	5.9	14.9	9.6	24
13	4.9	5.5	5.1	4.9	3.8	1.5	1.1	2	4.6	7.7	11.5	13	15.8	15.9	15.7	15.1	11.8	9.2	7.1	8.8	9.7	10	9.4	9.1	15.9	8.5	24
14	9.4	8.9	8.4	8.5	7.9	7.4	6.9	7.4	8.3	8.8	9	10.2	10.3	10.6	10.9	11.2	11.1	10.1	6.7	5.4	6.2	6	5.4	5	11.2	8.3	24
15	4.3	3.1	2	2	1.3	1	0.9	1.5	4.3	5.8	8.1	9.9	10	9.8	9.8	9.1	7.7	6	5	4.7	4.4	3.8	3.3	1.9	10	5.0	24
16	1.3	1.9	0.6	-1.1	-2.7	-2.6	-2.5	-2.3	-0.6	1.7	4	6.3	8.9	10.1	9.9	8.9	6.8	3.3	0.3	-1.8	-2.1	-2.5	-0.2	1.8	10.1	2.0	24
17	2	1.1	-0.9	-1.5	-2.2	-1.5	-1.3	-0.6	0.4	1.6	3.3	5.6	9	11.4	12.6	12	10.4	9	7.8	7.3	7.1	6.8	6.4	6.4	12.6	4.7	24
18	6	5.7	5.5	5.3	5.5	5.4	4.5	4.5	6.3	10	12.9	15.5	17.2	17.7	18.2	17.8	15.5	12.2	10.3	9.5	8.8	8.3	8	6.9	18.2	9.9	24
19	6.3	5.6	5.3	3.6	0.6	-0.1	-0.5	-0.4	3.7	10	14.5	17.5	18	18.1	18.6	18.5	15.9	12.5	12.6	13.2	13.1	10.9	9.2	8.5	18.6	9.8	24
20	7.3	5.1	2.9	4.1	6.1	5.2	5.2	4.4	7.5	9.8	11.4	12.9	14.8	16.7	18.2	18.1	14.1	9.8	7.1	5.7	4.7	4	3.5	2.9	18.2	8.4	24
21	2.5	2.4	2.3	1.6	1.2	2.3	4.4	5.6	7.4	10.5	11.3	12.5	14.6	14	13.4	12.7	10.6	9.3	8.6	7.1	5.5	5.4	4.2	3.1	14.6	7.2	24
22	2.5	1.3	0.7	0.1	-0.5	-1	-1.7	-2.3	1.2	6.5	12.7	14.9	15.7	16.3	16.3	13.9	11	8.6	9.9	10.2	9.2	8.3	7.5	4.6	16.3	6.9	24
23	4.2	4.6	4.8	5.6	5.4	5.7	5.8	6.1	6.6	8.1	10	11.9	13.3	14.2	14.3	13.3	11	7.8	7.3	7.7	7.1	6.9	6.7	6	14.3	8.1	24
24	4.9	5.4	4.9	4.6	4.5	3.5	2.8	2.5	4	6.3	7.7	7.8	7.4	8.3	8.2	8.8	7.7	6.7	5.5	4.4	4.3	4.1	2.8	2.4	8.8	5.4	24
25	2.8	1.9	0.8	0.4	0.3	-0.6	-1.8	-3.1	-0.4	2.2	3.6	4.5	6.4	5.5	5.1	4.6	3.9	3.5	3.9	4	4.1	4.3	2.9	2.1	6.4	2.5	24
26	1.5	1.6	1.9	2.2	1.9	1.4	0.7	0.6	1	1.4	1.7	2.2	2.3	2.1	1.8	1.3	0.7	0.7	0.7	0.8	0.7	0.6	0.6	0.5	2.3	1.3	24
27	0.4	0.3	0.3	0.3	0.1	-0.1	-0.3	-0.3	0.1	0.5	1	1.1	0.7	0.9	1.1	0.9	0.4	-0.8	-1.9	-2.3	-2.9	-3.6	-4.1	-5.1	1.1	-0.6	24
28	-4.9	-3.6	-3.2	-3.1	-3	-2.8	-2.7	-2.5	-2.1	-1.5	-0.8	-0.5	-0.5	-0.5	-0.4	-0.4	-0.7	-0.8	-0.8	-0.7	-0.8	-0.8	-0.9	-0.8	-0.4	-1.6	24
29	-0.7	-0.5	-0.4	-0.4	-0.5	-0.6	-0.7	-0.6	-0.4	0	0.2	0.3	0.8	1.2	1.2	1.3	0.5	-0.1	-0.2	-0.5	-0.9	-1	-1	-0.8	1.3	-0.2	24
30	-1.4	-1.1	-1.7	-2.3	-2.1	-1.6	-1.7	-1.6	-1.4	-0.9	-0.6	0	0.2	0.2	0.2	-0.3	-0.8	-1.1	-1.2	-1.2	-1.2	-1.2	-1.2	-1	0.2	-1.0	24
31	-0.5	-0.1	0.2	0.4	0.5	0.6	0.8	0.9	1	2.2	3.8	5.4	6.2	7.1	7.4	6.6	5.7	4.9	4	3.3	3.2	2.6	2.2	2.3	7.4	2.9	24
HOURLY MAX	9.4	8.9	8.4	8.5	7.9	7.9	9.3	9.7	12.5	14.3	14.5	17.5	18	18.6	19.2	19.1	17.5	16	14.7	14.4	13.6	12.2	11.7	9.1			
HOURLY AVG	3.2	2.9	2.5	2.2	1.9	1.7	1.6	1.9	3.9	6.0	7.8	9.1	10.0	10.5	10.6	10.3	8.9	7.2	5.9	5.4	5.0	4.4	3.8	3.4			

STATUS FLAG CODES

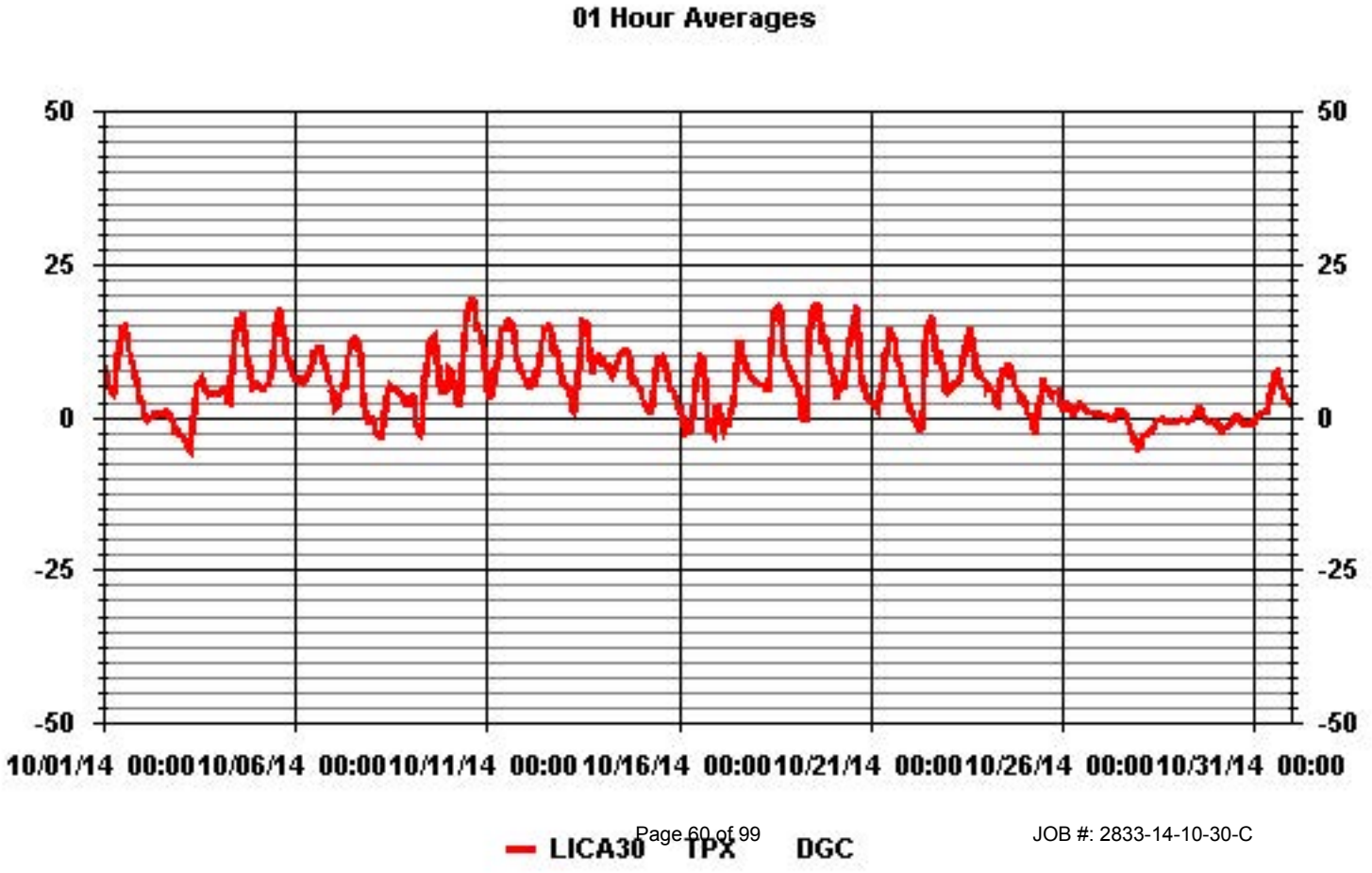
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

24 HOUR AVERAGES FOR OCTOBER 2014



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-5.3	°C	@ HOUR(S)	6	ON DAY(S)	3
MAXIMUM 1-HR AVERAGE:	19.2	°C	@ HOUR(S)	14	ON DAY(S)	10
MAXIMUM 24-HR AVERAGE:	11.4	°C			ON DAY(S)	10
					VAR-VARIOUS	
OPERATIONAL TIME:					744	HRS
AMD OPERATION UPTIME:					100.0	%
STANDARD DEVIATION:	5.38		MONTHLY AVERAGE:		5.42	°C



JOB #: 2833-14-10-30-C

Precipitation

Lakeland Industry & Community Association - Maskwa Site

OCTOBER 2014

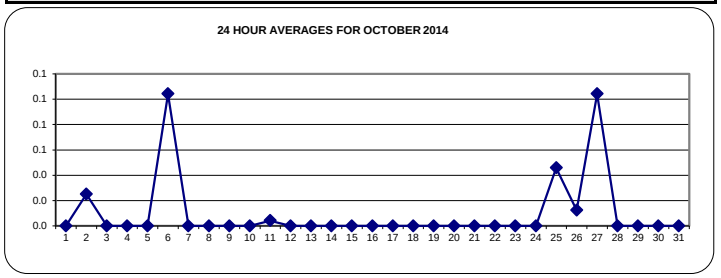
PRECIPITATION hourly averages in millimeter

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	0	0	0	0	0	0	0	0.0	24
2	0	0.4	0	0	0	0	0	0	0	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.0	24
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	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	0	0	0	0	0	0	0.0	24
6	0	0	0	0.1	0.2	0.2	0.3	0.2	***1.2***	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	***1.2***	***0.1***	24
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	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	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	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	0.6	0.5	0.6	0.0	24
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	0	0	0	0	0	0	0	0.2	0.0	24
27	0	0	0	0	0.2	0.5	0.7	0.3	0.2	0.3	0	0	0.2	0.1	0	0	0	0	0	0	0	0	0	0	0.7	***0.1***	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
HOURLY MAX	0	0.4	0	0.1	0.2	0.5	0.7	0.3	1.2	0.3	0.1	0	0.2	0.1	0	0.1	0.2	0	0	0	0	0	0.6	0.5			
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			

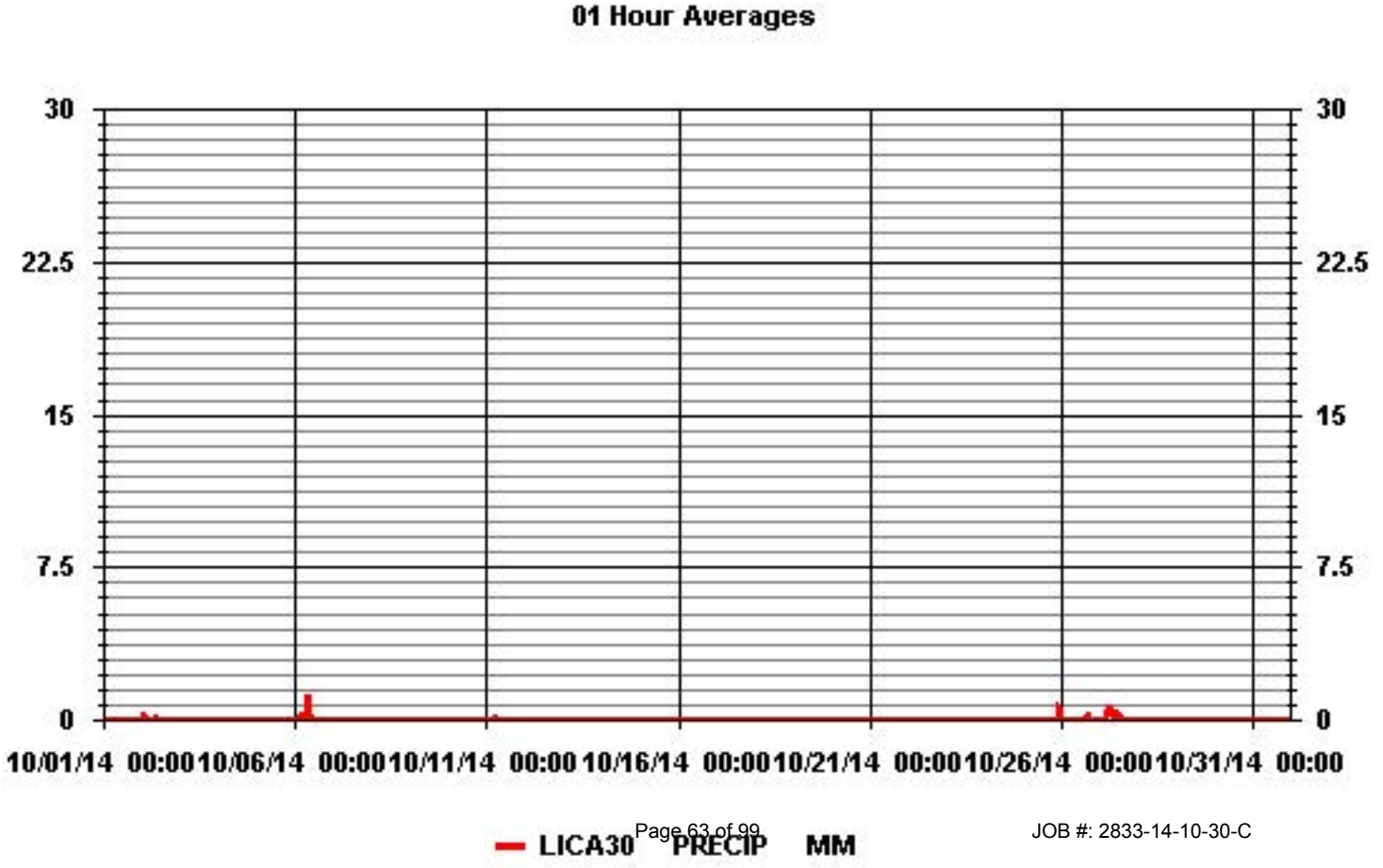
STATUS FLAG CODES

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

MAXIMUM 1-HR AVERAGE:		1.2	MM	@ HOUR(S)	8	ON DAY(S)	6
MAXIMUM 24-HR AVERAGE:		0.1	MM			ON DAY(S)	6, 27
MONTHLY TOTAL	7.1 MM					VAR-VARIOUS	
				OPERATIONAL TIME:		744	HRS
				AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	0.07			MONTHLY AVERAGE:		0.01	MM



JOB #: 2833-14-10-30-C

Relative Humidity

Lakeland Industry & Community Association - Maskwa Site

OCTOBER 2014

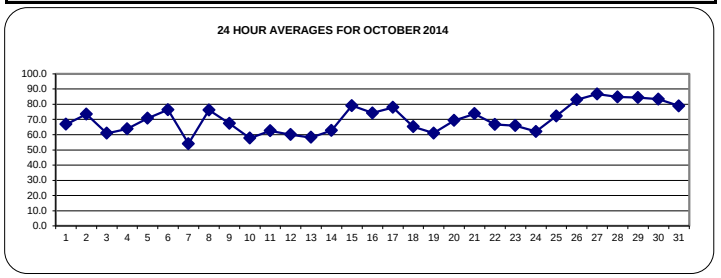
RELATIVE HUMIDITY (RH) hourly averages in %

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	90	90	90	91	***92***	***92***	***92***	91	82	72	61	51	44	38	36	38	45	51	49	56	56	59	65	71	***92***	66.8	24
2	82	87	84	81	83	85	83	80	76	75	73	72	66	63	61	63	63	62	65	69	74	73	71	72	87	73.5	24
3	73	74	76	78	81	83	84	79	68	57	46	42	44	45	47	49	51	54	54	54	53	53	58	58	84	60.9	24
4	58	57	57	57	59	65	72	73	60	57	57	54	51	51	52	49	55	65	72	75	81	84	85	85	85	63.8	24
5	85	84	85	85	86	88	89	90	90	83	70	62	55	47	44	44	48	55	65	68	65	68	70	73	90	70.8	24
6	74	74	75	74	84	88	86	88	88	90	88	81	77	72	69	67	60	61	66	67	69	74	78	82	90	76.3	24
7	87	90	90	86	82	71	67	63	52	40	31	28	25	23	***22***	24	26	32	44	53	58	64	70	68	90	54.0	24
8	74	81	88	88	88	89	89	88	86	79	73	68	65	67	65	67	65	67	70	71	73	75	78	74	89	76.2	24
9	72	69	69	83	87	89	89	87	75	66	57	51	46	45	44	44	48	59	73	80	71	73	74	68	89	67.5	24
10	58	58	60	63	68	78	83	78	62	57	51	48	44	42	41	41	46	50	53	52	54	60	65	74	83	57.8	24
11	85	89	91	88	86	83	79	75	62	53	50	49	45	43	40	39	40	46	53	56	57	62	64	67	91	62.6	24
12	69	70	73	74	72	73	74	73	68	60	55	49	48	46	46	45	46	54	55	53	55	57	62	65	74	60.1	24
13	70	68	69	69	73	81	81	79	71	61	50	46	37	36	36	36	44	54	60	55	53	53	57	57	81	58.2	24
14	53	57	59	57	60	61	64	61	58	57	58	55	56	56	56	56	57	59	71	76	73	77	82	85	85	62.7	24
15	87	90	91	***92***	***92***	***92***	***92***	***92***	91	83	71	61	59	57	55	64	73	78	81	78	77	78	80	83	***92***	79.0	24
16	85	79	82	84	88	89	89	89	86	83	73	65	55	48	49	48	49	59	71	80	83	84	84	79	89	74.2	24
17	79	81	87	90	90	91	91	91	91	91	89	81	70	61	57	59	64	68	71	71	73	74	75	76	91	78.0	24
18	78	80	82	84	84	84	87	88	83	68	56	47	40	40	40	41	45	54	59	62	64	65	66	70	88	65.3	24
19	72	75	75	81	87	90	91	90	82	62	49	40	39	40	39	40	43	51	47	47	48	54	59	62	91	61.0	24
20	69	76	85	82	77	80	80	82	72	65	60	56	50	44	40	40	50	65	73	77	82	85	86	87	87	69.3	24
21	87	87	87	89	90	89	83	81	79	71	67	57	49	47	49	54	63	67	67	73	80	81	85	88	90	73.8	24
22	90	91	91	91	91	91	91	91	***92***	80	57	46	42	38	35	40	47	53	48	49	53	57	62	75	***92***	66.7	24
23	77	77	78	77	79	77	76	74	73	68	61	56	52	50	51	52	58	69	69	62	61	61	61	64	79	66.0	24
24	68	67	69	71	71	72	74	75	68	59	57	58	60	56	53	50	49	51	53	56	57	59	65	70	75	62.0	24
25	73	76	79	82	81	84	86	89	85	76	70	63	54	58	58	60	64	67	66	66	65	65	80	85	89	72.2	24
26	87	86	85	82	82	82	83	83	79	78	76	75	75	75	79	85	89	89	88	87	87	86	86	85	89	82.9	24
27	85	86	85	85	86	88	89	90	88	87	85	84	85	84	84	84	86	87	89	89	89	88	89	89	90	***86.7***	24
28	89	89	88	88	88	88	88	88	88	87	83	81	81	81	80	81	82	82	83	83	83	84	84	84	89	84.7	24
29	85	85	85	87	87	86	86	86	86	85	83	83	82	80	80	80	85	87	86	84	84	84	84	84	87	84.3	24
30	87	85	85	86	85	83	83	84	84	84	84	84	84	83	81	82	82	82	82	82	82	81	82	83	87	83.3	24
31	83	83	83	82	82	83	83	83	83	79	74	70	69	66	66	69	73	77	80	83	84	85	87	86	87	78.9	24
HOURLY MAX	90	91	91	92	92	92	92	92	92	91	89	84	85	84	84	85	89	89	89	89	89	88	89	89			
HOURLY AVG	77.8	78.7	80.1	80.9	82.0	83.1	83.4	82.6	77.7	71.4	65.0	60.1	56.4	54.3	53.4	54.5	57.9	63.1	66.5	68.2	69.2	71.1	74.0	75.8			

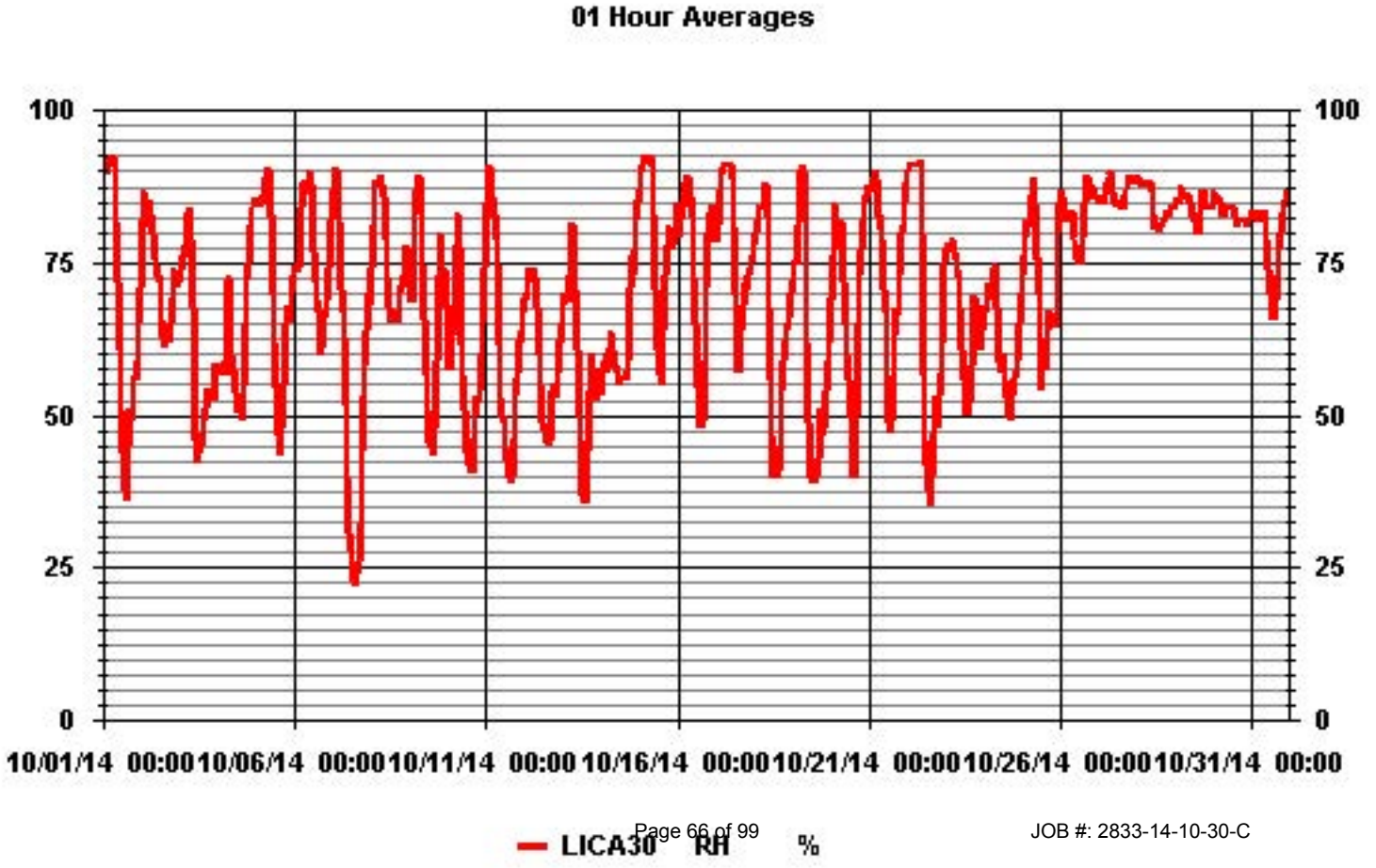
STATUS FLAG CODES

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

MAXIMUM 1-HR AVERAGE:	92	%	@ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 24-HR AVERAGE:	86.7	%			ON DAY(S)	27
					VAR-VARIOUS	
			OPERATIONAL TIME:		744	HRS
			AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	15.60		MONTHLY AVERAGE:		70.29	%



JOB #: 2833-14-10-30-C

Barometric Pressure

Lakeland Industry & Community Association - Maskwa Site

OCTOBER 2014

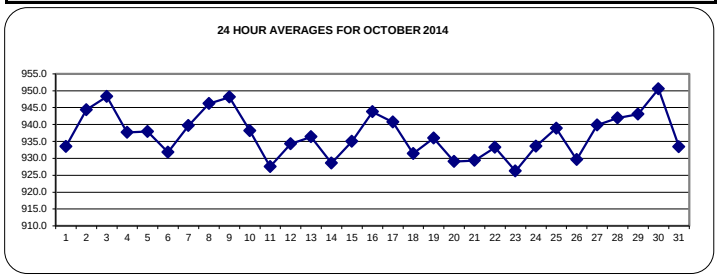
BAROMETRIC PRESSURE (BP) hourly averages in millibar

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	933	933	934	934	933	934	933	934	934	934	934	934	933	933	933	933	933	933	933	933	934	934	934	934	934	933.5	24
2	935	936	938	939	940	941	941	942	943	940	944	945	945	947	947	948	948	949	949	949	949	950	950	950	950	944.4	24
3	951	951	951	951	951	951	951	951	952	951	951	951	950	949	948	948	947	946	945	944	943	942	942	941	952	948.3	24
4	940	939	938	938	938	937	937	937	937	938	938	938	938	937	937	937	937	937	937	937	937	938	938	938	940	937.6	24
5	938	939	939	939	939	939	939	939	939	939	940	940	939	939	939	939	938	938	936	936	935	935	934	933	940	937.9	24
6	933	932	931	931	931	930	930	929	929	929	929	930	930	931	932	932	933	933	934	934	935	934	935	936	936	931.8	24
7	936	936	936	937	937	938	938	938	939	940	940	941	941	941	941	941	941	941	941	941	941	942	942	943	943	939.7	24
8	943	943	944	944	945	945	945	945	946	946	947	947	947	947	947	947	947	947	947	947	948	948	948	948	948	946.2	24
9	948	948	948	948	948	948	948	948	949	949	950	950	950	949	949	949	949	948	947	947	946	946	946	946	950	948.1	24
10	945	945	944	944	943	942	942	941	941	941	941	941	940	939	938	937	935	934	933	932	931	930	929	928	945	938.2	24
11	927	927	926	926	927	927	927	927	928	928	928	928	928	928	928	928	928	927	927	928	928	928	928	929	929	927.5	24
12	929	930	930	930	931	932	932	932	932	934	935	935	936	936	936	936	937	937	937	937	937	937	937	937	937	934.3	24
13	937	937	937	937	937	936	937	937	937	938	938	939	939	938	938	938	937	936	935	934	934	933	932	932	939	936.4	24
14	931	931	930	929	928	928	927	926	926	926	926	926	926	927	927	928	929	930	929	929	930	931	932	933	933	928.5	24
15	933	933	933	933	934	933	934	934	935	935	935	936	936	935	935	935	935	935	936	936	937	937	937	938	938	935.0	24
16	938	940	940	940	941	941	942	943	944	945	946	946	946	946	946	946	945	945	945	945	945	945	945	945	946	943.8	24
17	945	946	945	945	944	944	944	944	944	944	943	943	942	941	941	939	938	938	937	936	935	934	933	932	946	940.7	24
18	931	931	930	929	929	929	928	928	928	929	930	931	931	932	933	933	933	933	933	934	934	934	935	935	935	931.4	24
19	935	936	936	936	936	936	936	936	938	939	939	939	938	937	937	937	937	935	935	935	934	933	932	932	939	936.0	24
20	931	931	930	930	929	929	929	928	929	930	930	930	930	930	930	930	930	929	928	928	927	927	927	926	931	929.1	24
21	926	926	926	926	926	926	926	927	928	929	930	930	930	931	931	931	931	931	932	932	932	932	933	933	933	929.4	24
22	933	933	933	933	933	933	933	933	934	935	936	936	935	935	934	933	933	932	932	933	932	931	931	931	936	933.2	24
23	930	930	929	928	928	927	927	927	926	926	926	925	***924***	***924***	925	925	925	925	925	925	925	925	926	926	930	926.2	24
24	926	927	927	928	929	929	930	931	932	933	934	934	935	935	936	936	937	937	938	938	938	939	938	939	939	933.6	24
25	939	940	940	940	941	942	942	942	942	942	943	942	942	941	940	939	938	937	936	935	934	933	932	931	943	938.9	24
26	930	930	929	928	928	927	927	928	928	928	928	928	928	929	929	930	930	931	931	932	932	933	933	934	934	929.6	24
27	934	935	935	936	936	937	937	938	939	939	940	940	941	941	942	942	943	943	943	942	942	943	944	944	944	939.8	24
28	944	944	944	944	944	944	944	944	944	944	943	943	942	942	942	941	941	940	940	939	939	939	938	937	944	941.9	24
29	938	938	938	938	938	939	939	939	940	941	942	942	943	944	945	945	945	946	947	948	949	949	950	951	951	943.1	24
30	951	952	952	952	***953***	***953***	***953***	***953***	***953***	***953***	***953***	***953***	***953***	952	952	951	950	949	948	947	946	945	945	943	***953***	***950.5***	24
31	942	941	938	938	937	936	935	934	934	933	933	932	931	931	932	931	931	931	931	930	930	931	930	930	942	933.4	24
HOURLY MAX	951	952	952	952	953	953	953	953	953	953	953	953	953	952	952	951	950	949	949	949	949	950	950	951			
HOURLY AVG	936.5	936.8	936.5	936.5	936.6	936.5	936.5	936.6	937.1	937.4	937.8	937.9	937.7	937.6	937.7	937.6	937.5	937.2	937.0	936.9	936.7	936.7	936.6	936.6			

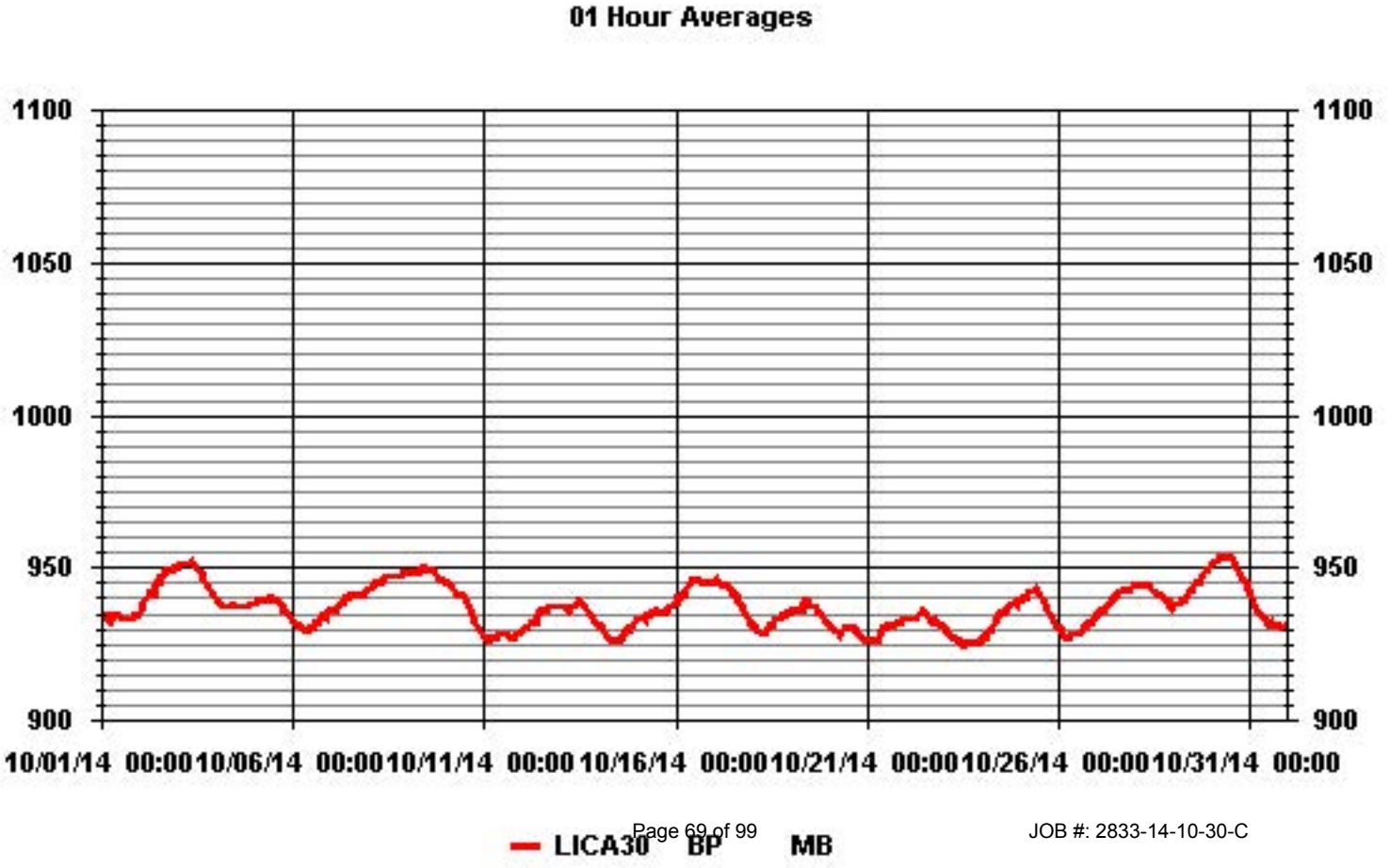
STATUS FLAG CODES

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 1-HR AVERAGE:	953	MB	@ HOUR(S)	VAR	ON DAY(S)	30
MAXIMUM 24-HR AVERAGE:	950.5	MB			ON DAY(S)	30
				VAR-VARIOUS		
OPERATIONAL TIME:					744	HRS
AMD OPERATION UPTIME:					100.0	%
STANDARD DEVIATION:	6.99		MONTHLY AVERAGE:		937.0	MB



JOB #: 2833-14-10-30-C

Vector Wind Speed

Lakeland Industry & Community Association - Maskwa Site

OCTOBER 2014

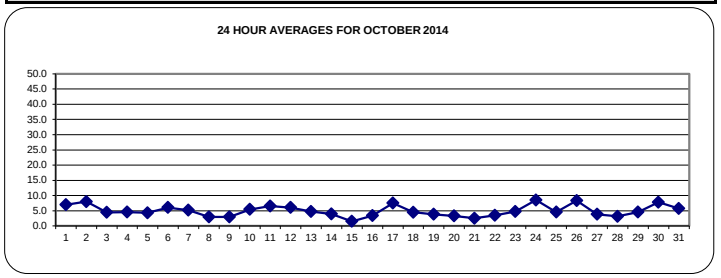
WIND SPEED (WS) hourly averages in km/hr

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	4.7	5.6	4.6	3.1	4.4	4.7	3.9	2.9	5	6.4	7.8	9.4	10.2	10.7	10.8	11.9	8.5	3.6	6.5	5.8	8.4	10.3	9.6	8.1	11.9	7.0	24
2	8.2	9.7	9.2	7.2	6.6	8.3	8.6	9.6	8.7	10.2	10.6	11.7	12.3	***13.5***	12.1	9.4	7	6.2	3.6	1.8	3	5.1	4.7	4.4	***13.5***	8.0	24
3	4.7	5	4.5	3.4	2.8	2.8	2.1	3	3.9	3.2	2.4	2.3	4.2	6	5.1	4.5	4.1	3.6	4.8	5.3	7.2	7.1	7.6	6.7	7.6	4.4	24
4	5.8	4.9	3.9	3.6	2.3	0.8	0.8	0.1	3.3	4.7	6.9	7.9	6.6	6.6	7.7	6	4.7	3.4	4.5	4.4	6.3	6.7	2.8	3.8	7.9	4.5	24
5	4.1	2.1	1.4	2.7	1.2	1.5	2.2	2.1	1.8	3.9	5.1	5.9	5.9	6.9	8.9	9.2	8.1	6.3	4.5	5.3	5.5	3.7	2.5	2.3	9.2	4.3	24
6	1.9	1.4	1.5	2.4	1.8	1.9	2.5	2.7	3.3	3.8	7.5	8.9	12.3	10.7	10.9	9.8	11.6	10.4	7.8	8.3	6.1	6	6.6	4.5	12.3	6.0	24
7	3.3	2.9	3.8	2.8	3.5	7	6.6	6.2	6.1	8	9.3	8.5	9.9	10.1	9	8.1	7.1	3.1	0.4	0.1	0.6	1.4	1.7	3.9	10.1	5.1	24
8	3.1	3.1	2.4	3	2	2.1	1.6	0.9	0.9	3.7	3.9	3.8	3.8	4	4.5	5	5.4	3.6	2.6	2.4	2.2	2.4	2.5	2.2	5.4	3.0	24
9	3	3.1	2.7	0.4	0.4	0.8	1	2.6	1.7	2.3	4.1	4	4	4.3	5.5	5.3	4.4	2.9	2	2.6	3.7	3.1	3.1	3.5	5.5	2.9	24
10	4.4	4.1	2.8	2.8	3.2	1.1	2.4	3.5	4	6	4	7.8	9.1	10.1	10.4	7.9	6.8	6.2	6.4	7.6	7.1	6.1	5.4	0.8	10.4	5.4	24
11	0.7	0.2	1.8	0.8	1.5	4.4	6.2	6.3	10.5	12.3	12.3	10.3	11.4	11.9	10.3	10.6	9.9	6.5	4.5	5.3	7.1	4	4.1	3.3	12.3	6.5	24
12	3.8	3.2	3.9	5.7	7.3	5.6	5.1	6.8	8.8	9.6	8.5	7	7	10.3	7.1	8.2	8	3.5	4.3	5.6	5.1	4.9	3.1	2.6	10.3	6.0	24
13	3.3	5.1	4.5	4.4	5.1	4.4	4.7	5.4	5.5	4.6	3.8	4.6	3.6	4.7	5.7	4.3	3	4.1	4.1	5.6	6.6	7.1	4.7	4.3	7.1	4.7	24
14	6	4	3.7	4.6	4.7	3.8	4.2	4.7	5.1	4.3	4.5	4.3	3.1	2.4	2.3	4.2	4.9	4.6	1.3	3.2	3.3	3.5	3.7	3	6.0	3.9	24
15	2.2	2.7	1.6	2.7	1.5	1.1	1.7	2.3	0.1	0.5	2.5	1.7	2	1.8	1.1	0.9	1.2	0.9	1.9	0.9	1.2	0.5	1.8	1.2	2.7	1.5	24
16	5.4	5.5	3.4	4.2	2.7	2.5	2.3	2.4	5	4.5	4.5	3.3	2	1.6	3	3.9	2.7	1.9	1.7	1.4	2	3.1	5.9	6.9	6.9	3.4	24
17	6.4	3.9	2.3	2.6	1.3	2.2	3.1	4.6	6.3	6.2	6.8	8.3	9.4	11.9	12	12	11.3	10.7	9.8	10.2	10.8	10.2	10.2	7.9	12.0	7.5	24
18	6.3	5	5.3	4.5	4.5	1	0.3	2	3	4.4	5.8	6	8.2	7	6.2	7.7	7.2	3.2	3.2	2.7	3.8	3.6	4.2	2.9	8.2	4.5	24
19	2.7	3.6	3.7	2.3	0.4	0.1	0.6	0.4	1.3	0.2	3	5.1	7.4	6.5	6.5	6	3.5	4.7	5.5	7.3	6.7	4.7	4.7	4.2	7.4	3.8	24
20	2.8	2.8	2.7	3.3	4.6	3.7	4.9	2.5	4.5	5.9	6.1	6.9	5.7	4	3.1	6.2	2.1	1	0.8	1.5	2	0.7	1	0.7	6.9	3.3	24
21	1.3	2.6	0.3	1.2	1.4	2	1.9	3.2	2.8	4	6	5.3	5.2	4.7	4	1.8	0.4	1.9	2.8	2.5	1.6	1.7	1.1	1.1	6.0	2.5	24
22	1.6	1.6	1.8	1.8	0.4	1.2	0.6	0.2	0.2	0.5	0.8	5.9	7.2	7.1	7.6	3.7	2.8	4.1	6.2	7.4	7.1	6	4.6	3.3	7.6	3.5	24
23	4.1	3.4	5.3	3.5	3.5	3.1	4.4	4.3	5	6.2	7.6	5.5	5.4	6.6	3.5	6.4	3	2.8	3.5	5.5	4.7	5.5	5.7	5.6	7.6	4.8	24
24	5.7	7.5	9.1	9.6	11.1	11.4	10.1	8.5	8.5	11.8	11.7	10.9	10.5	10.7	10.5	10.3	10.9	7.8	5.5	4.3	3.9	4.6	4.1	5.3	11.8	***8.5***	24
25	5.6	5.1	3.5	4.4	4.6	3.1	2.1	2.7	3.6	4	4.2	3.6	0.8	4.2	4.9	3.8	3	4.6	4.7	5.4	5.9	7	7.3	10	10.0	4.5	24
26	9.5	9.9	8.8	8.5	9.6	7.9	7.2	6.8	8.5	8.2	8.8	10.5	11.4	9.4	9.5	7.5	6.5	7.1	7.8	7.3	8	8.8	6.2	5.8	11.4	8.3	24
27	6.2	7	6.8	5.1	5	3.6	4.6	3.5	3.6	3	4	4.7	5.1	5	4.1	3.8	3.9	2.6	1.7	2.1	1.6	2.2	1.4	0.9	7.0	3.8	24
28	1	2.1	1.2	0.4	1	0.9	0.4	1.3	1	1.7	3.4	4.2	5.2	5.7	4.4	4	4.2	4.4	5.1	5.5	6	3.5	4.1	5.1	6.0	3.2	24
29	2.4	2.5	2.8	4.6	4.3	5.5	3.8	4.8	4.6	4.5	4.9	5.8	4.7	5.3	4	4.7	7.3	6.2	4.6	4.4	4.9	5.3	4.9	2.4	7.3	4.6	24
30	3.1	4.5	4.3	4.7	5	6.7	6.5	5.1	5.6	6.2	6.5	7.3	8.9	9	10.2	10	**Y**	11.2	9.8	11.5	11.6	10.2	10	10.6	11.6	7.8	23
31	11.7	10.4	10	9.1	9.2	8.9	8.9	8.2	8	9.5	8.2	9.5	5.8	4	4	0.7	2.3	2.7	0.8	1	0.7	0.6	2.5	1.2	11.7	5.7	24
HOURLY MAX	11.7	10.4	10.0	9.6	11.1	11.4	10.1	9.6	10.5	12.3	12.3	11.7	12.3	13.5	12.1	12.0	11.6	11.2	9.8	11.5	11.6	10.3	10.2	10.6			
HOURLY AVG	4.4	4.3	4.0	3.9	3.8	3.7	3.7	3.9	4.5	5.3	6.0	6.5	6.7	7.0	6.7	6.4	5.5	4.7	4.3	4.7	5.0	4.8	4.6	4.1			

STATUS FLAG CODES

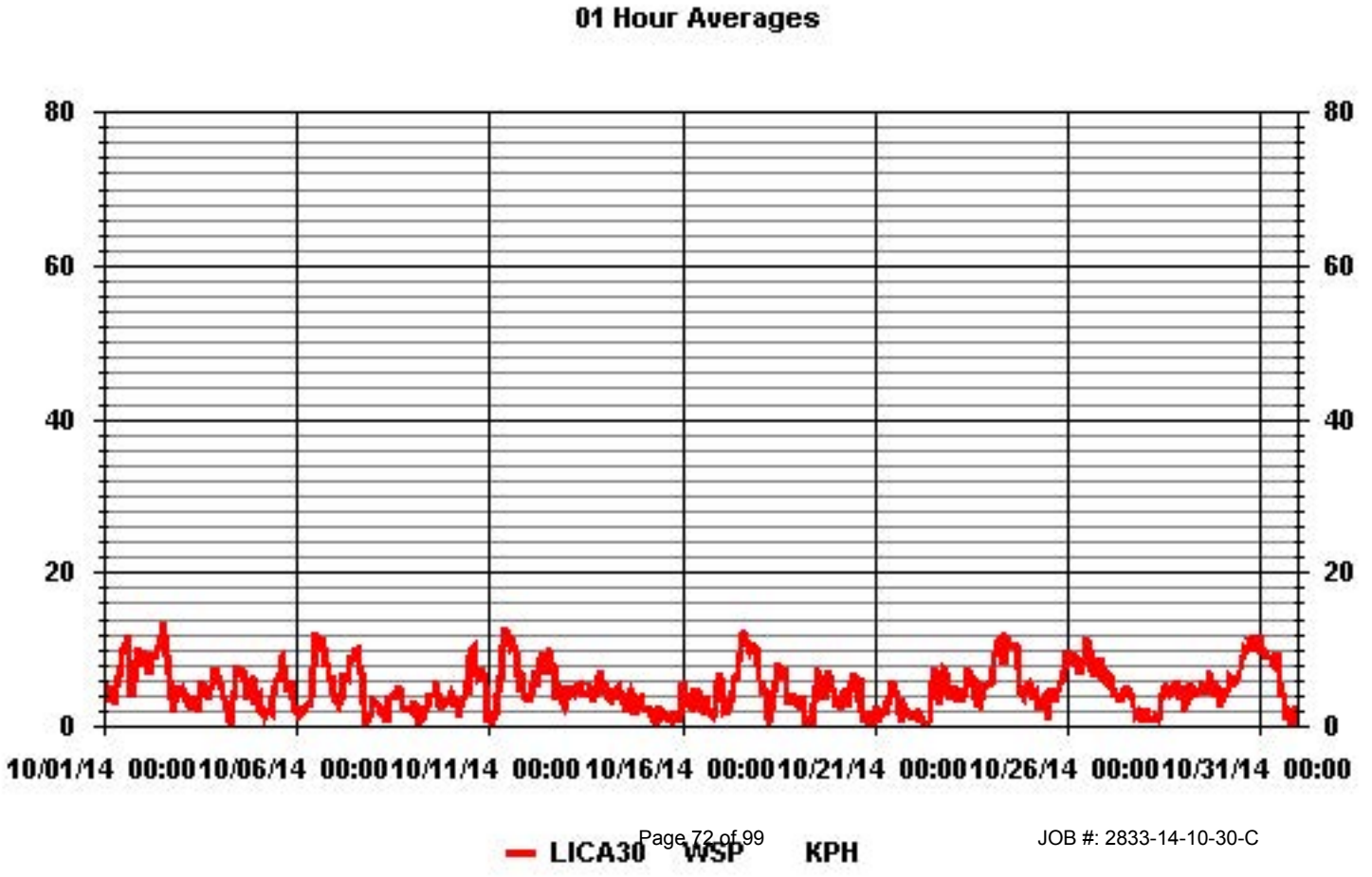
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



LAST CALIBRATION:	March 04, 2014
DECLINATION :	19 DEGREE FROM MAGNETIC NORTH

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	743						
MAXIMUM 1-HR AVERAGE:	13.5	KPH	@ HOUR(S)	13	ON DAY(S)		2
MAXIMUM 24-HR AVERAGE:	8.5	KPH			ON DAY(S)		24
					VAR-VARIOUS		
			OPERATIONAL TIME:			743	HRS
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME:			99.9	%
STANDARD DEVIATION:	2.91		MONTHLY AVERAGE:			4.93	KPH



JOB #: 2833-14-10-30-C

Lakeland Industry & Community Association - Maskwa Site

OCTOBER 2014

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST

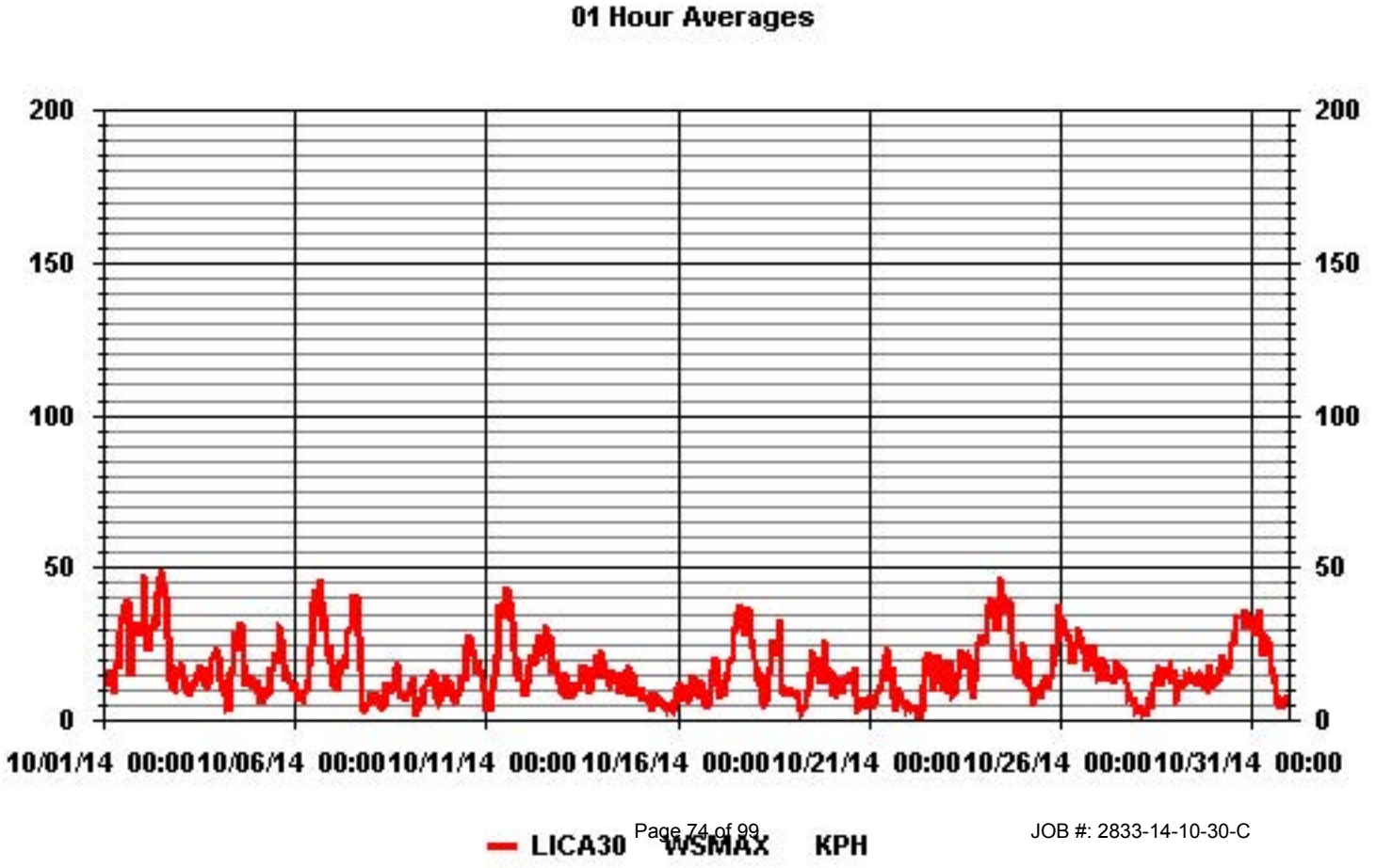
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	15.7	16	13.2	11.4	16.1	14.1	15.6	8.2	17.8	17.7	28.4	31.6	33.8	37.8	35.5	39.1	38.9	13.8	23.2	28.3	28.9	31.9	29.1	28.6	39.1	23.9	24
2	27.7	47.6	37.4	30.5	22.2	24.9	28.9	31	33.8	30.2	41.6	46.6	***49.5***	41.8	45.6	41.3	26.9	28.2	13.1	11.6	11	17	16.5	15.2	***49.5***	30.0	24
3	14.1	18.9	14.6	11.5	10.7	9.4	7.4	9.3	12	10.7	12.8	15.7	14.4	18.2	14.2	12	11.7	10.9	11.9	17	20.5	21.9	20.8	23.7	23.7	14.3	24
4	21	13.7	13.2	10	8.7	4.3	4.8	2.6	15.5	17.2	22.3	28.9	22.2	24.8	32.1	24.6	18.9	11.3	14.2	11.1	13.8	15.1	10.3	11.4	32.1	15.5	24
5	11.8	9.1	5.5	8.1	4.9	9.8	9.6	8.6	9.1	16.6	16.6	18.3	21.8	20.8	30.2	29.5	26.7	19.1	13	15	13.9	12.7	10.4	10.4	30.2	14.6	24
6	12.2	7.3	5.9	9.5	7.5	7.1	9.4	9.8	13	17.5	24.1	34	38.7	42.9	36.2	33.8	45.9	39.8	28.9	34	23.3	20.6	24.9	18.8	45.9	22.7	24
7	11.8	10.9	11	10.8	15	19.8	18.2	16.7	21.1	29	29.9	30.7	37.2	41.5	35.9	41	28.3	16.9	5	3.9	3.3	4.4	5.7	8.8	41.5	19.0	24
8	7.5	6.5	6.3	8.7	5.1	6.4	4.9	4.1	4.6	11.8	11.7	11.9	10	10.2	11	16.9	19.1	10.7	8	7.8	7.5	6.3	8.7	9.1	19.1	9.0	24
9	11.8	9.2	13.9	2.8	2.6	3.3	4.8	7.1	5.3	10.7	11.3	12.5	12.2	14.7	16.4	14.6	14.5	8	5.4	6	12.6	7.7	9.1	15.1	16.4	9.7	24
10	13.4	13	8.7	7.4	8.9	5.1	7.4	9.6	14.1	14	12.6	24.4	26.4	25.8	27.6	23.4	21.9	18.5	14.9	19.7	17.1	14.9	13.7	10.2	27.6	15.5	24
11	3.1	4.1	4	6.7	10.2	14.1	21.3	19.6	37.2	37.6	35.6	32.8	37.6	43.9	36	39.4	32.7	23.1	14.2	18.8	20.2	13.5	13	9.2	43.9	22.0	24
12	7.6	12.2	12.3	17.7	21.5	19.4	19	19.2	24.8	27.9	23.9	22.5	23.6	31.1	25.7	25.5	28.3	15	19.2	16.8	19.2	16.2	12.6	9.4	31.1	19.6	24
13	9	15.2	9.2	12	10.6	8.4	8.6	11.4	11.7	9.5	12	12.3	17.9	16.6	18.2	14.6	8.2	11.4	9.5	16.4	17.2	21.3	16.1	13.2	21.3	12.9	24
14	22.9	14.2	18.6	15.7	14.3	11.5	12.1	15.7	15.7	14.2	13.9	14.4	9.1	10.2	12.9	14.3	16.4	18.3	7.4	13.3	14.2	13.3	11.5	9.6	22.9	13.9	24
15	10	10.1	7.1	6.7	6.8	7.7	6.4	7.8	3.3	4.2	9.1	6.8	6.5	7.6	5.3	3.5	5.3	4	5.7	3.3	4.7	3.3	4.4	5.6	10.1	6.1	24
16	10.5	12.3	10	10.5	6	7.1	6.8	5.7	10.2	13.9	13.7	11.9	8.7	7.4	11.1	13.3	10.6	5.2	4.7	4.6	5.6	10.5	16.8	20	20.0	9.9	24
17	19.9	12.8	6.8	7.9	**P**	8.6	12.9	15.9	19.2	19.5	20.7	28.3	30.7	34.5	34.5	37.6	32.4	32.9	27.3	29.2	37.1	30.3	27.3	24.3	37.6	23.9	23
18	20.4	15	15.6	11.2	15.4	5.8	4	6.7	7.8	15.5	17.4	20.4	26.3	21.9	21.8	25.2	33	12.4	9.2	7.8	9.8	10.1	9.5	9.7	33.0	14.7	24
19	8	9.4	9.3	7.7	3.4	2	2.7	4.2	4.7	8.1	9.8	16	22.8	17.3	20.6	18.3	15.2	12	14.6	20.6	26.7	11.6	14.7	16.1	26.7	12.3	24
20	15.7	8.9	8.4	10.6	13.7	10.9	13.8	8	12.7	12.8	13.8	13.6	15.5	13.4	12.2	17.1	8.5	3.6	3.9	4.2	6.7	4.4	7	4.5	17.1	10.2	24
21	4.6	8.4	6.7	6	7.8	8.8	9.8	11.6	16.4	12.6	21	24	18.3	16.7	16.9	7.6	3	9.9	10.2	9.5	5.6	6.6	5.3	3.9	24.0	10.5	24
22	4.9	3.9	4.7	4.3	2.7	4.5	4.7	0.2	2	2.8	11.6	17.2	20	21.2	21.3	14.6	9.8	11.8	17.7	21.6	17.8	19.8	15.6	9.2	21.6	11.0	24
23	12.4	8.3	19.5	15.8	8.1	8.6	14.8	13.9	15.6	16.7	23.2	20.5	16.5	18.7	21.2	20.3	11	6.7	12.1	19.4	25.8	24.1	28	25.7	28.0	17.0	24
24	27	24.7	36	35.5	40.5	35.8	33.8	34.3	29.2	39.6	47	41.6	34.4	38.4	34.5	37.7	39.8	28.6	23.9	19.9	16.3	15.8	13.5	19.1	47.0	***31.1***	24
25	25.1	19	11.3	20.3	11.9	9.7	6	6.4	10.8	9.8	10.5	9.8	6.5	13.3	12.2	15	10.5	13.5	14.8	17.7	23.2	22.8	25.8	37.5	37.5	15.1	24
26	27.3	33.8	31.6	30.3	27	27	19.4	18.6	25.4	24.3	24.9	30.4	27.8	26.1	23.3	23.7	16.4	17.7	20.5	20.7	19.3	25.1	16.8	14.3	33.8	23.8	24
27	15.1	16.6	20.2	15.6	16.4	13.7	13.6	13.5	13.7	11.5	13.3	18.7	18.4	16.3	13.4	16.8	16.3	12.8	7.4	8	6.9	5.6	6	3.7	20.2	13.1	24
28	4.5	4.7	4.2	2.4	3.6	3.3	2.8	5.8	5.3	8.8	10.9	12.4	15.7	18.1	12.6	11.4	13.4	17.3	16.2	17.1	17.8	11.8	15	15.4	18.1	10.4	24
29	7.5	8.2	10.8	12.6	11.3	11.5	14.5	13.8	12.1	15.2	14.4	13.4	13.3	14.1	11.2	12.9	15.4	12.7	11.7	11.1	14.2	17.7	14.5	10.4	17.7	12.7	24
30	11.4	13.8	13.5	12.3	17.2	21.5	19.5	17.7	15.3	16.5	19.8	25.2	25.5	28.7	33.6	**Y**	**Y**	**Y**	32.8	29.5	35.9	33.3	29.7	33.9	35.9	23.2	21
31	30.6	33.5	27.6	30.9	29.3	36.3	29.5	21	25.8	28.2	24	25.8	17.7	15.5	12.2	6.8	6.6	8.3	3.9	6.5	5	5.4	7.8	6.3	36.3	18.5	24
HOURLY MAX	31	48	37	36	41	36	34	34	37	40	47	47	50	44	46	41	46	40	33	34	37	33	30	38			
HOURLY AVG	14.3	14.2	13.5	13.0	12.6	12.3	12.5	12.2	15.0	16.9	19.4	21.7	21.9	22.9	22.4	21.7	19.5	15.1	13.7	15.2	16.2	15.3	14.8	14.6			

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:	49.5	KPH	@ HOUR(S)	12	ON DAY(S)	2
				VAR-VARIOUS		
OPERATIONAL TIME:					740	HRS



JOB #: 2833-14-10-30-C

LICA30
WSP / WDR Joint Frequency Distribution (Percent)

October 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	3.36	4.57	5.78	4.97	4.03	7.13	6.32	2.01	2.15	3.90	3.90	3.90	9.69	2.82	1.61	2.01	68.23
<	12.0	.94	1.21	1.88	.26	.13	2.15	6.59	1.48	.80	.40	.00	.00	5.92	5.11	2.96	.80	30.68
<	20.0	.00	.00	.00	.00	.00	.00	.13	.13	.00	.00	.00	.00	.13	.26	.40	.00	1.07
<	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	4.30	5.78	7.67	5.24	4.17	9.28	13.05	3.63	2.96	4.30	3.90	3.90	15.74	8.20	4.97	2.82	

Calm : .00 %

Total # Operational Hours : 743

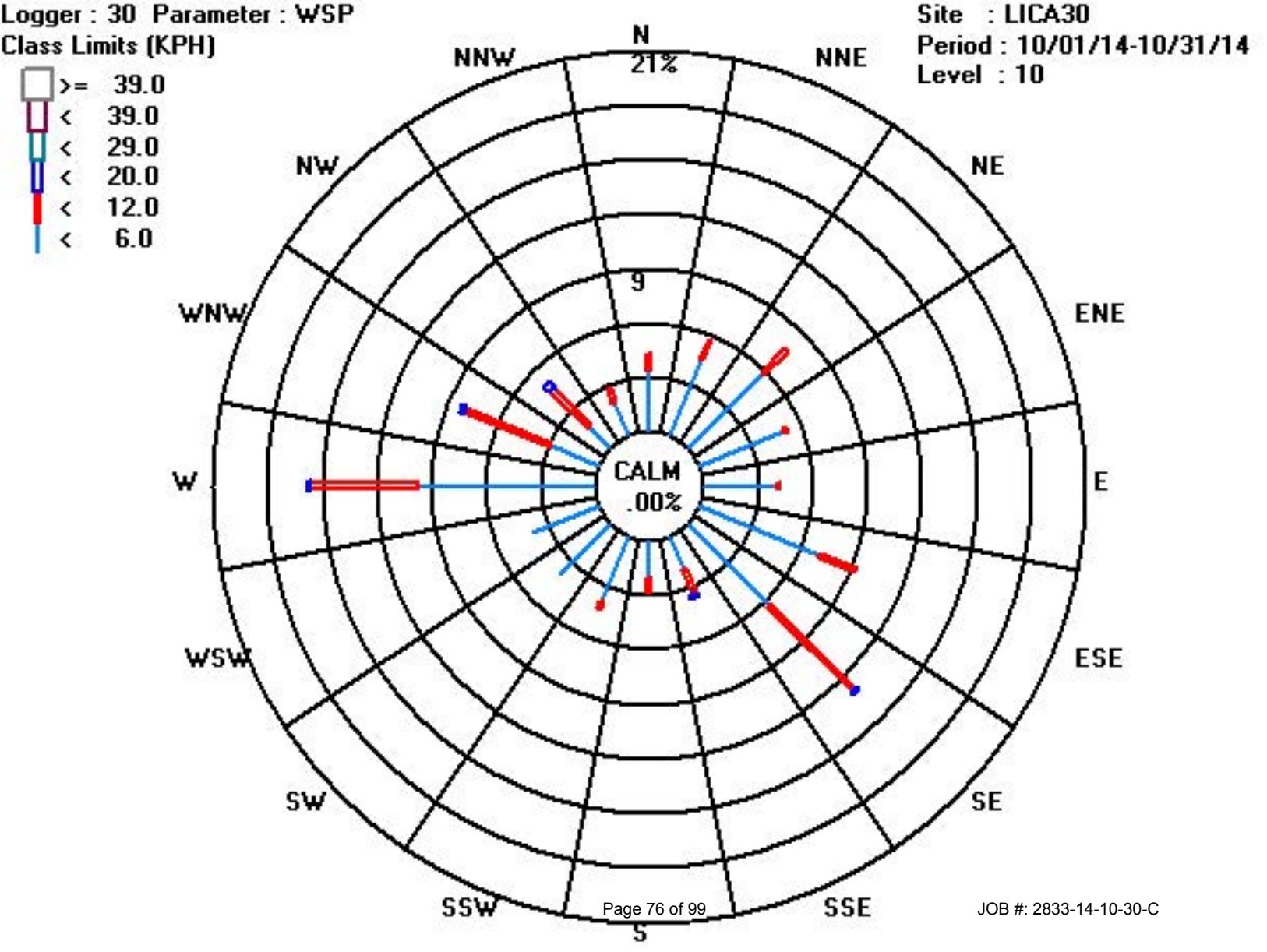
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	25	34	43	37	30	53	47	15	16	29	29	29	72	21	12	15	507
<	12.0	7	9	14	2	1	16	49	11	6	3			44	38	22	6	228
<	20.0							1	1					1	2	3		8
<	29.0																	
<	39.0																	
>=	39.0																	
	Totals	32	43	57	39	31	69	97	27	22	32	29	29	117	61	37	21	

Calm : .00 %

Total # Operational Hours : 743



JOB #: 2833-14-10-30-C

Vector Wind Direction

Lakeland Industry & Community Association - Maskwa Site

OCTOBER 2014

WIND DIRECTION (WD) hourly averages in degrees

MST

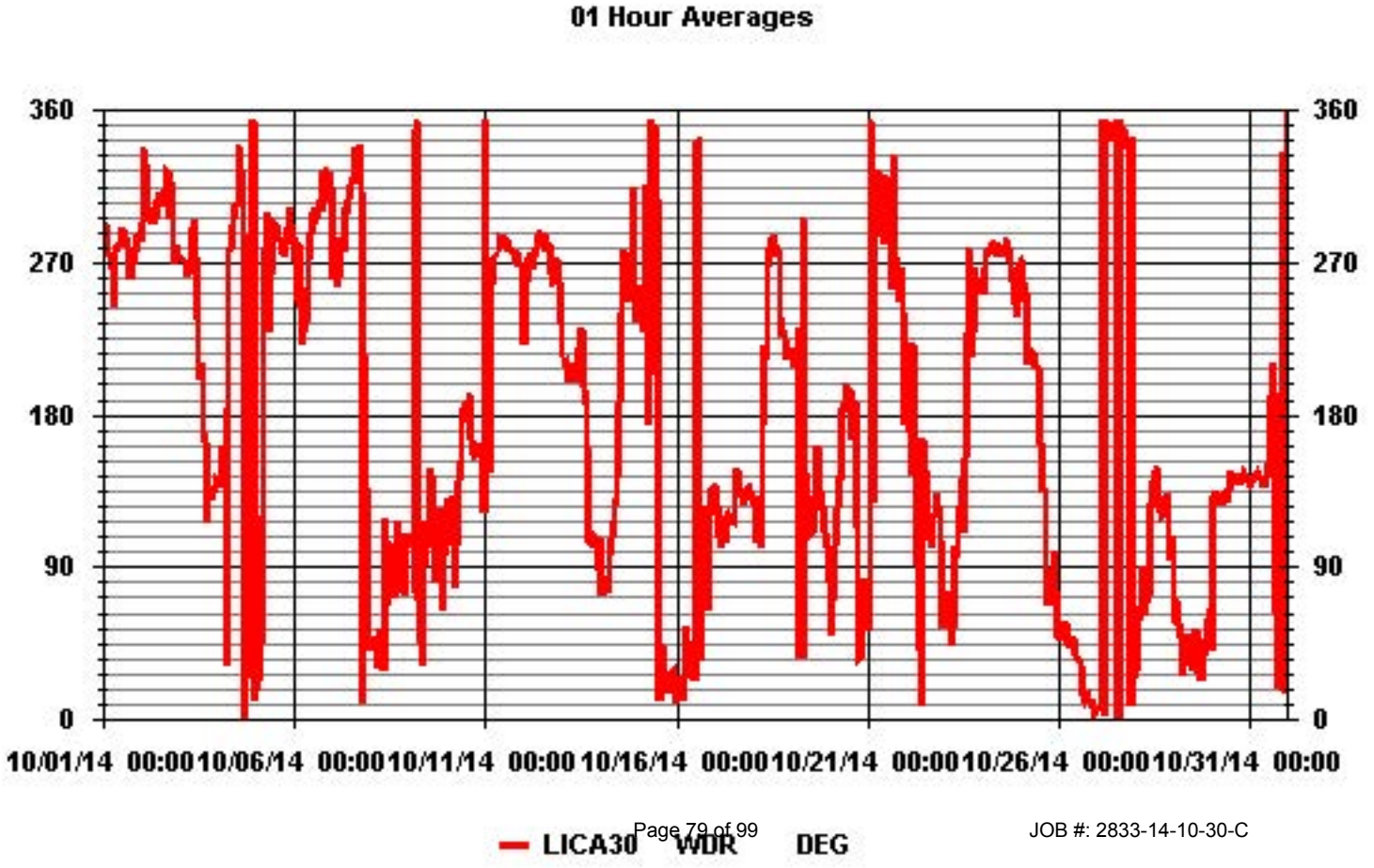
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUANDRANT	RDGS.
DAY																											
1	287	293	282	275	274	276	267	244	277	280	282	288	290	279	282	284	280	260	274	268	276	286	288	282	293	WNW	24
2	294	338	333	329	303	294	299	293	302	295	307	311	304	306	313	309	325	324	295	318	269	277	278	271	338	NNW	24
3	274	273	272	271	261	266	264	272	291	295	274	238	200	208	208	171	164	116	129	132	130	135	137	142	295	WNW	24
4	141	140	144	162	156	184	31	277	278	292	296	304	306	340	326	304	288	0	26	41	28	24	355	10	355	N	24
5	17	22	59	44	120	279	272	299	228	262	286	293	292	292	283	283	277	276	274	281	291	303	294	286	303	WNW	24
6	272	250	247	281	245	222	228	235	255	271	287	299	293	302	296	305	305	304	322	323	316	305	323	316	323	NW	24
7	262	260	269	256	261	285	281	276	303	299	307	316	320	316	338	320	336	340	313	9	217	138	56	41	340	NNW	24
8	46	44	49	46	30	53	50	34	28	119	67	105	93	93	71	81	88	117	106	75	106	73	109	101	119	ESE	24
9	107	108	107	74	349	355	72	46	31	90	117	105	102	149	145	123	109	80	95	105	124	64	96	103	355	N	24
10	121	130	128	132	127	77	102	141	152	182	184	181	176	185	193	166	157	154	160	161	158	158	160	121	193	S	24
11	354	269	145	244	256	272	274	276	284	283	281	280	286	284	276	280	278	276	269	273	277	268	270	241	354	N	24
12	221	245	258	273	276	269	267	273	279	286	289	286	282	288	277	280	282	264	256	273	271	271	260	234	289	WNW	24
13	215	211	212	209	199	208	208	205	202	199	220	218	232	198	190	191	162	106	105	110	109	108	88	98	232	SW	24
14	107	73	82	76	76	85	97	107	117	131	127	143	187	240	266	277	273	273	247	265	268	315	235	248	315	NW	24
15	234	245	257	228	260	316	173	203	355	311	352	327	309	12	14	44	22	21	15	21	28	29	20	10	355	N	24
16	16	25	19	13	13	45	55	31	24	42	46	23	340	341	34	74	103	126	97	64	93	121	136	137	341	NNW	24
17	140	128	122	109	101	119	104	120	122	120	115	118	117	135	148	143	133	132	127	129	136	137	133	133	148	SE	24
18	127	106	106	110	132	101	173	221	212	267	278	285	281	286	281	274	277	238	226	229	225	213	217	218	286	WNW	24
19	218	210	210	213	35	232	207	296	36	146	134	108	109	111	117	124	162	132	133	133	128	111	102	94	296	WNW	24
20	82	49	70	103	116	125	144	141	184	187	198	187	181	196	164	188	187	115	36	37	61	55	81	81	198	SSW	24
21	52	63	355	128	278	291	325	293	285	297	280	321	310	305	316	254	333	271	271	262	247	267	241	173	355	N	24
22	208	192	171	144	222	191	167	92	41	7	124	166	148	123	121	107	102	119	122	134	127	122	107	53	222	SW	24
23	67	62	76	67	43	54	68	103	95	119	126	142	110	154	229	279	260	214	228	267	262	259	256	257	279	W	24
24	251	267	274	276	278	280	281	277	276	279	281	275	275	276	280	284	280	272	268	260	246	237	246	269	284	WNW	24
25	271	268	259	254	210	221	211	216	216	209	206	209	163	163	134	137	69	67	75	89	82	100	77	50	271	W	24
26	46	52	56	50	58	45	42	46	47	47	39	37	35	35	32	15	12	14	15	11	9	11	3	4	58	ENE	24
27	5	7	8	355	1	353	353	345	341	349	344	352	354	0	354	344	339	350	342	339	334	7	344	24	355	N	24
28	35	28	58	67	91	85	61	68	73	126	126	141	146	149	143	123	120	121	128	132	134	107	94	108	149	SSE	24
29	56	68	71	57	49	26	36	32	37	50	43	28	49	40	53	28	25	23	40	37	48	59	65	66	71	ENE	24
30	40	132	134	127	130	128	128	133	134	131	129	135	146	144	144	140	**Y**	144	139	142	147	146	145	141	147	SE	23
31	139	141	143	143	146	144	143	141	138	138	143	151	159	191	210	194	63	98	18	27	335	18	15	357	357	N	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:	March 04, 2014
DECLINATION :	19 DEGREE FROM MAGNETIC NORTH

MONTHLY CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	743	HRS
STANDARD DEVIATION:	100.48		AMD OPERATION UPTIME:	99.9	%
			MONTHLY AVERAGE:	255	DEG



JOB #: 2833-14-10-30-C

Standard Deviation Wind Direction

Lakeland Industry & Community Association - Maskwa Site

OCTOBER 2014

STANDARD DEVIATION WIND DIRECTION (STDWD) hourly averages in degrees

MST

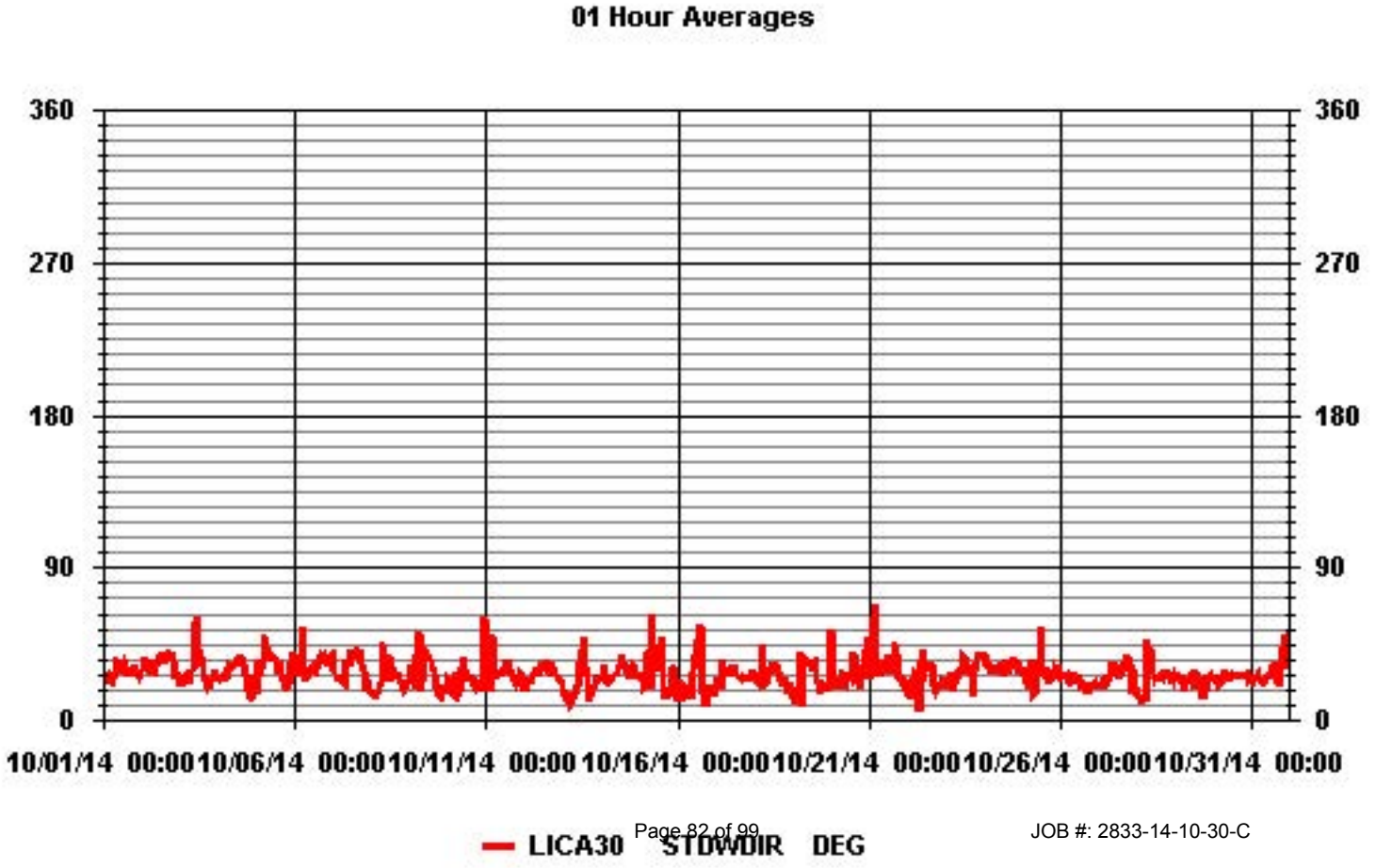
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00
DAY																								
1	27	22	25	27	25	24	28	25	37	28	31	33	31	34	32	27	27	28	28	33	29	29	26	28
2	29	37	35	37	32	29	30	29	35	32	35	37	35	33	37	36	39	41	35	40	36	24	29	27
3	22	22	24	24	26	23	23	29	30	36	58	61	42	38	33	27	24	21	23	22	24	24	29	27
4	25	24	25	25	28	26	26	33	32	31	32	34	37	36	39	34	33	27	19	18	14	12	26	20
5	19	33	33	31	34	50	34	43	34	38	38	37	31	32	29	31	28	25	21	20	21	34	29	40
6	32	25	32	29	30	55	25	25	27	30	31	30	29	34	32	35	38	36	37	39	37	32	38	39
7	30	28	24	24	25	24	24	23	33	33	33	39	39	37	37	42	37	38	28	33	29	16	23	18
8	17	15	16	15	16	21	22	46	23	33	32	38	26	25	26	28	26	26	21	23	18	19	24	22
9	32	30	25	18	38	25	52	17	22	43	34	39	37	36	31	30	28	20	16	15	21	15	19	26
10	25	23	17	16	15	28	15	17	31	24	37	30	27	25	24	27	21	19	20	22	19	19	21	61
11	32	40	16	45	50	28	24	26	28	28	29	32	30	31	35	30	28	25	22	24	24	28	27	23
12	16	24	23	23	23	28	29	29	30	26	30	34	32	29	35	29	28	28	30	27	25	25	23	23
13	16	16	13	14	9	10	12	13	15	20	31	30	42	49	32	30	11	16	14	18	21	27	24	24
14	25	26	33	28	23	22	23	26	27	27	27	32	30	39	35	29	29	25	33	24	33	32	26	26
15	26	25	28	20	21	39	41	18	63	34	42	45	29	32	49	13	18	17	15	16	30	32	17	13
16	11	16	23	12	14	19	19	19	12	28	30	38	47	54	57	28	17	10	8	14	21	16	16	19
17	23	22	21	18	35	31	29	29	26	31	31	31	31	27	26	25	27	26	25	26	25	25	25	29
18	26	26	23	22	27	45	32	22	23	30	32	32	30	31	34	29	25	22	22	23	19	20	17	19
19	16	10	16	13	26	40	7	34	36	34	35	34	29	33	34	24	23	16	18	21	20	19	19	33
20	53	25	18	25	20	22	19	29	24	22	25	25	28	36	40	24	25	24	18	28	33	24	42	49
21	29	24	60	66	66	30	25	36	31	34	27	39	36	35	39	27	46	40	26	25	25	22	20	21
22	15	17	13	25	23	29	28	4	35	22	42	29	32	32	28	34	21	18	20	21	21	24	23	18
23	22	23	25	28	17	21	26	28	27	29	27	38	37	34	29	28	28	14	29	34	38	38	38	38
24	38	33	32	32	29	29	30	30	30	30	29	33	34	31	33	31	30	31	32	37	35	31	32	29
25	28	28	29	23	19	29	36	15	16	25	35	29	55	31	28	29	21	24	30	28	31	29	30	26
26	25	26	27	26	27	24	23	25	27	27	24	25	22	24	23	22	16	19	18	20	20	20	22	20
27	20	20	20	25	19	25	25	30	34	32	32	28	27	26	27	31	34	29	38	35	33	15	30	20
28	15	12	15	10	12	12	48	40	43	35	28	25	27	23	25	27	25	27	27	29	25	26	24	27
29	25	26	24	25	25	16	22	25	22	26	26	18	28	28	26	21	14	14	21	20	25	25	27	25
30	25	24	27	21	22	25	27	30	25	24	24	27	26	27	26	26	**Y**	26	28	24	26	24	26	24
31	23	25	25	27	24	24	24	23	25	27	26	24	29	32	34	30	23	20	41	41	36	50	30	51

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: March 04, 2014

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 743 HRS



JOB #: 2833-14-10-30-C

Calibration Reports

Sulphur Dioxide

API 100E SO2 Analyzer Calibration

Date:	23-Oct-14	**Start/End Time (mst):**	1024-1349
Company:	LICA	**Calibration Purpose:**	monthly
Station Name/Location:	Maskwa	**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:	508	**Range ppb:**	1000
Last Calibration Date:	30-Sep-14	**As Found C.F.**	1.032
Previous Cal High Point C.F.:	1.000	**New C.F.:**	1.000

	As found:	As left:
SLOPE:	1.000	1.030
OFFSET:	112.8	115.7
HVPS:	495	495
RCELL TEMP:	50.0	50.0
BOX TEMP:	29.8	29.8
PMT TEMP:	7.7	7.7
IZS TEMP:	45.0	45.0
TEST:	na	na
STABIL:	1.0	1.0
PRES:	23.9	23.9
SAMP FL:	582	582
PMT:	103.7	103.7
NORM PMT:	115.8	115.8
UV LAMP:	3242	3242
LAMP RATIO:	101.1	101.1
STR. LGT	57.9	57.9
DRK PMT:	11.2	11.2
DRK LMP:	-1.6	-1.6
Internal Span:	260.8	273

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	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	1.8	NA
adjusted zero	5000	0.0	5000	0	0.3	NA
as found high	4994	76.78	5071	729.8	707.8	1.032
adjusted high	4994	76.78	5071	729.8	730.6	0.999
mid	4995	36.88	5032	353.3	353.0	1.002
low	4994	16.94	5011	162.9	163.3	1.000
calibrator zero	5000	0.00	5000	0	0.4	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)=	**-0.01%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**-3.16%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

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

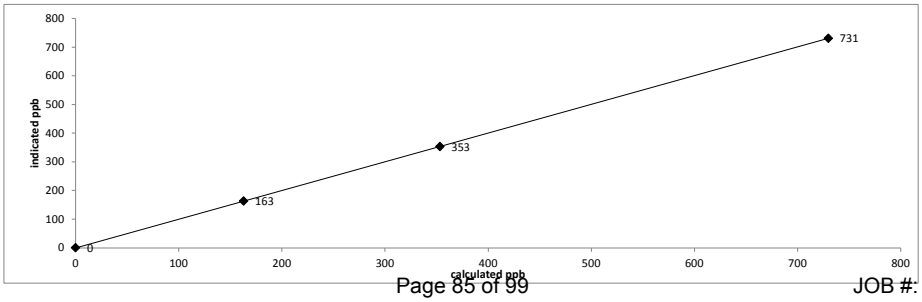
SO_2 High Point gas concentration: na Time gas run (mst): na

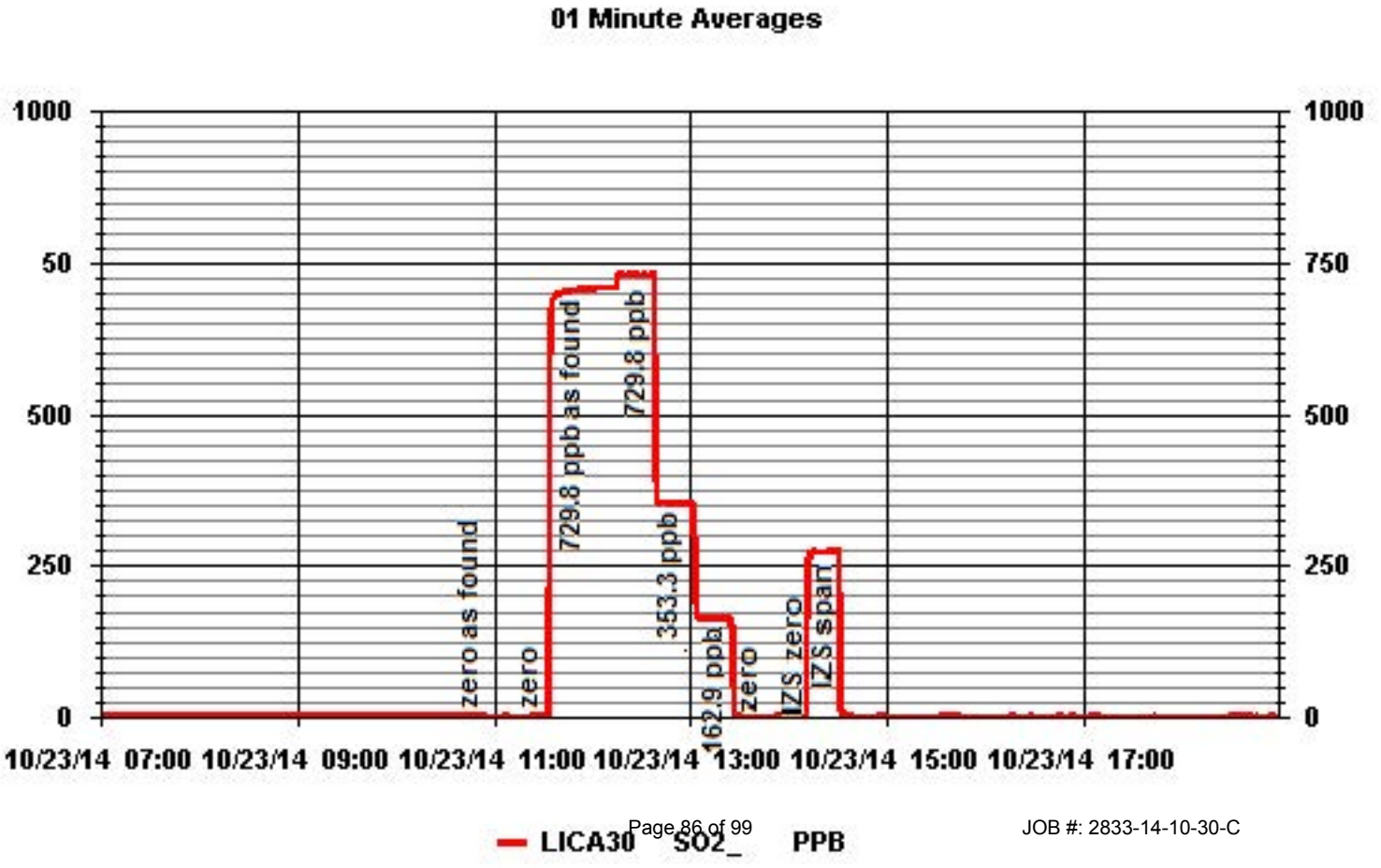
Zero corrrected analyzer response: na

Comments:

changed filter

API 100E SO2 Analyzer Calibration





JOB #: 2833-14-10-30-C

Hydrogen Sulphide

API 101E H2S Analyzer Calibration

Date:	23-Oct-14	**Start/End Time (mst):**	1024-1505
Company:	LICA	**Calibration Purpose:**	monthly
Station Name/Location:	Maskwa	**Converter Make & Model:**	na
Performed by:	Tom Bourque	**Converter Serial #:**	na
Application H_2S/TRS/SO_2:	H2S	**Cal Gas Expiry Date:**	25-Dec-15

Analyzer:

Serial Number:	511	**Range ppb:**	100
Last Calibration Date:	30-Sep-14	**As Found C.F.**	0.976
Previous Cal High Point C.F.:	0.999	**New C.F.:**	1.015

	As found:	As left:
SLOPE:	.940	.919
OFFSET:	32.7	44.9
HVPS:	616	616
RCELL TEMP:	50.0	50.0
BOX TEMP:	30.0	30.0
PMT TEMP:	7.9	7.9
IZS TEMP:	45.0	45.0
TEST:	na	na
STABIL:	0.0	0.0
PRES:	28.5	28.5
SAMP FL:	646	646
PMT:	82.7	82.7
NORM PMT:	44.6	44.6
UV LAMP:	3093.5	3093.5
LAMP RATIO:	99.5	99.5
STR. LGT	21.1	21.1
DRK PMT:	32.5	32.5
DRK LMP:	5.6	5.6
Internal Span:	52.67	51.62

Calibrator:

Flow Meter ID's:	na
Make & Model:	API 700
Serial #:	627
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	35	5035
mid	5000	17	5017
low	5000	7	5007

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	-0.2	NA
adjusted zero	5000	0.0	5000	0	0.0	NA
as found high	5001	40.00	5041	80.1	82.1	0.976
adjusted high	5001	40.00	5041	80.1	80.4	0.997
mid	5002	20.00	5022	40.2	38.7	1.039
low	5002	10.00	5012	20.2	20.0	1.008
calibrator zero	5000	0.00	5000	0	0.1	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)=	**0.45%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**2.27%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

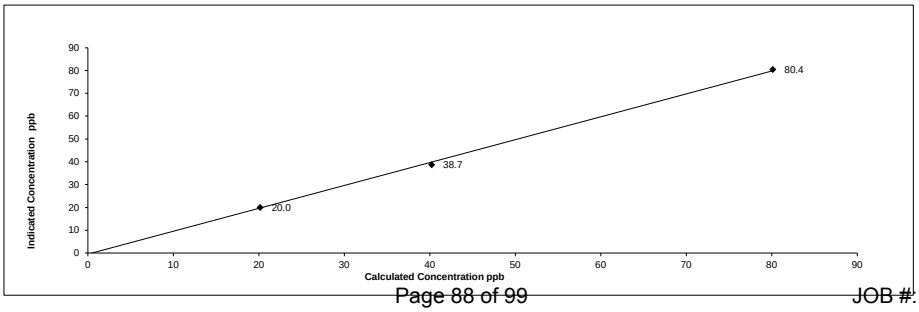
****run converter effeciency test immediately following zero adjust****

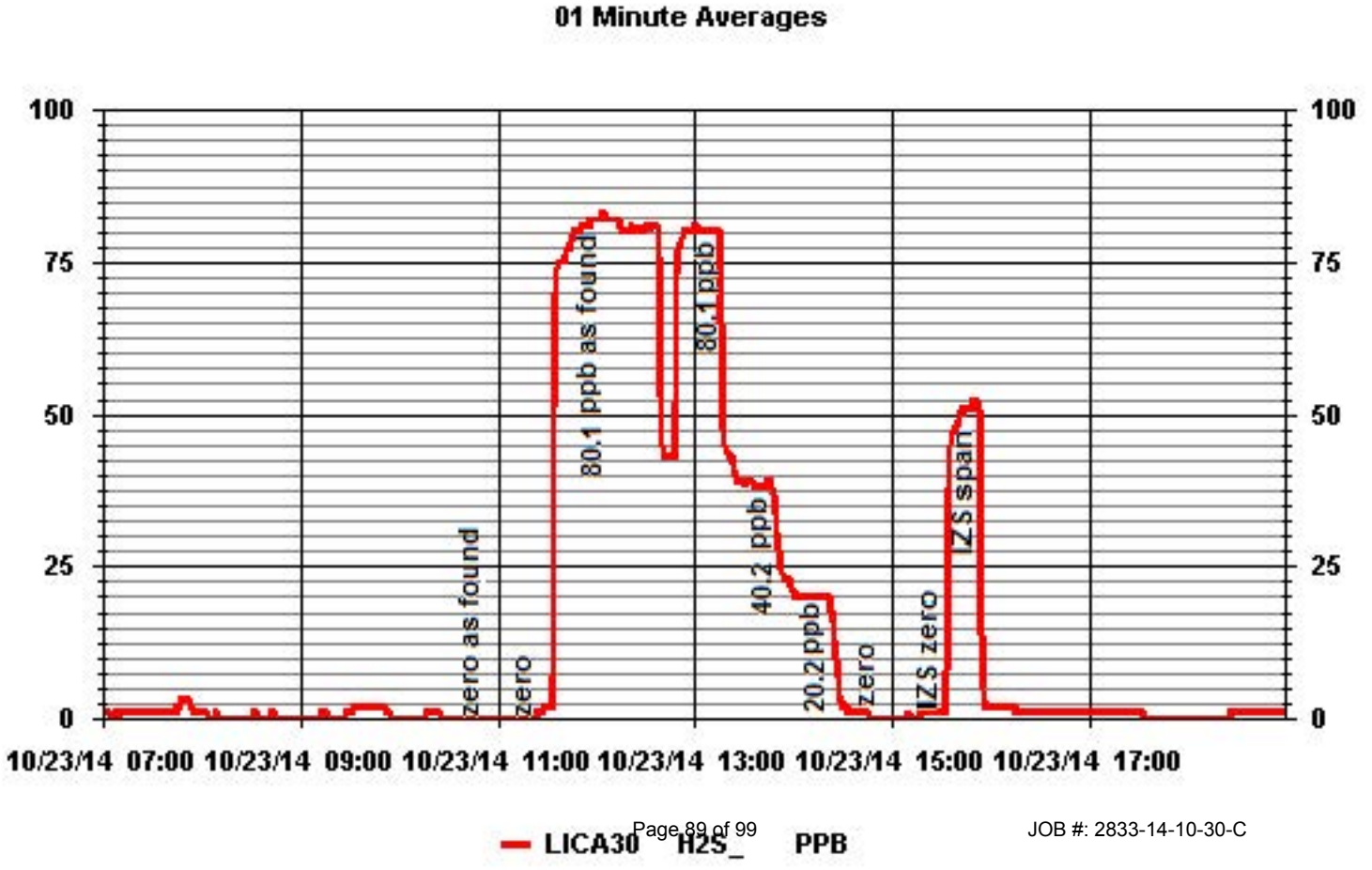
SO_2 High Point gas concentration:	106.0	Time gas run (mst):	1122-1129
Zero corrrected analyzer response:	1.4		

Comments:

changed filter

API 101E H2S Analyzer Calibration





JOB #: 2833-14-10-30-C

Total Hydrocarbons

Thermo 51C THC Analyzer Calibration

Date:	23-Oct-14	**Start Time (mst):**	15:17
Company:	LICA	**End Time (mst):**	17:44
Station Name/Location:	Maskwa	**Calibration Purpose:**	monthly
Performed by:	Tom Bourque	**Cal Gas Expiry Date:**	26-Mar-17

Analyzer:

Serial Number:	436609738	**Range ppm:**	50
Last Calibration Date:	30-Sep-14	**As Found C.F.**	1.044
Previous Cal High Point C.F.:	0.998	**New C.F.:**	0.991

		As found:		As left:
	H_2 cylinder (psi):	1250	H_2 cylinder (psi):	1250
	H_2 cylinder reg set (psi):	25	H_2 cylinder reg set (psi):	25
	Span Cylinder (psi):	750	Span Cylinder (psi):	750
	Span Cylinder Reg Set (psi):	28	Span Cylinder Reg Set (psi):	28
	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:	2636	cnt:	2636
	rng:	1	rng:	1
	try:	3	try:	3
	flm:	177.5	flm:	177.5
	det:	125.6	det:	125.6
Oven Readings:	Flame:	177	Flame:	177
	Filter:	125	Filter:	125
	Base:	125	Base:	125
	Pump:	7.51	Pump:	7.51
Voltages:	+5	4.9	+5	4.9
	+15	14.8	+15	14.8
	-15	-15.0	-15	-15.0
	Internal Span:	34.11	Internal Span:	34.0

Calibrator:

Flow Meter ID's:	na	
Make & Model:	API 700	
Serial #:	627	
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	3000	0	3000
high	3000	80	3080
mid	3000	40	3040
low	3000	20	3020

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppm)	(ppm)	
as found zero	3000	0.00	3000	0	0.01	NA
as found high	3003	80.00	3083	30.02	28.77	1.044
adjusted high	3003	80.00	3083	30.02	30.09	0.998
mid	3002	40.00	3042	15.21	15.27	0.996
low	3002	20.00	3022	7.66	7.81	0.980
calibrator zero	3000	0.00	3000	0	0.01	NA
					Average C.F.=	0.991

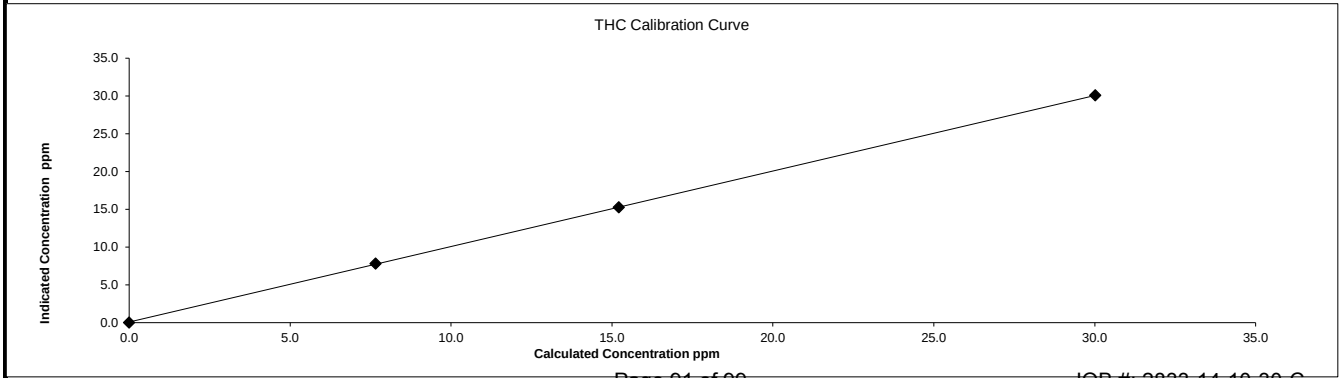
Linear Regression/Calibration Results:

		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)=	**0.128%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**-4.56%**	**± 15%**	**PASS**

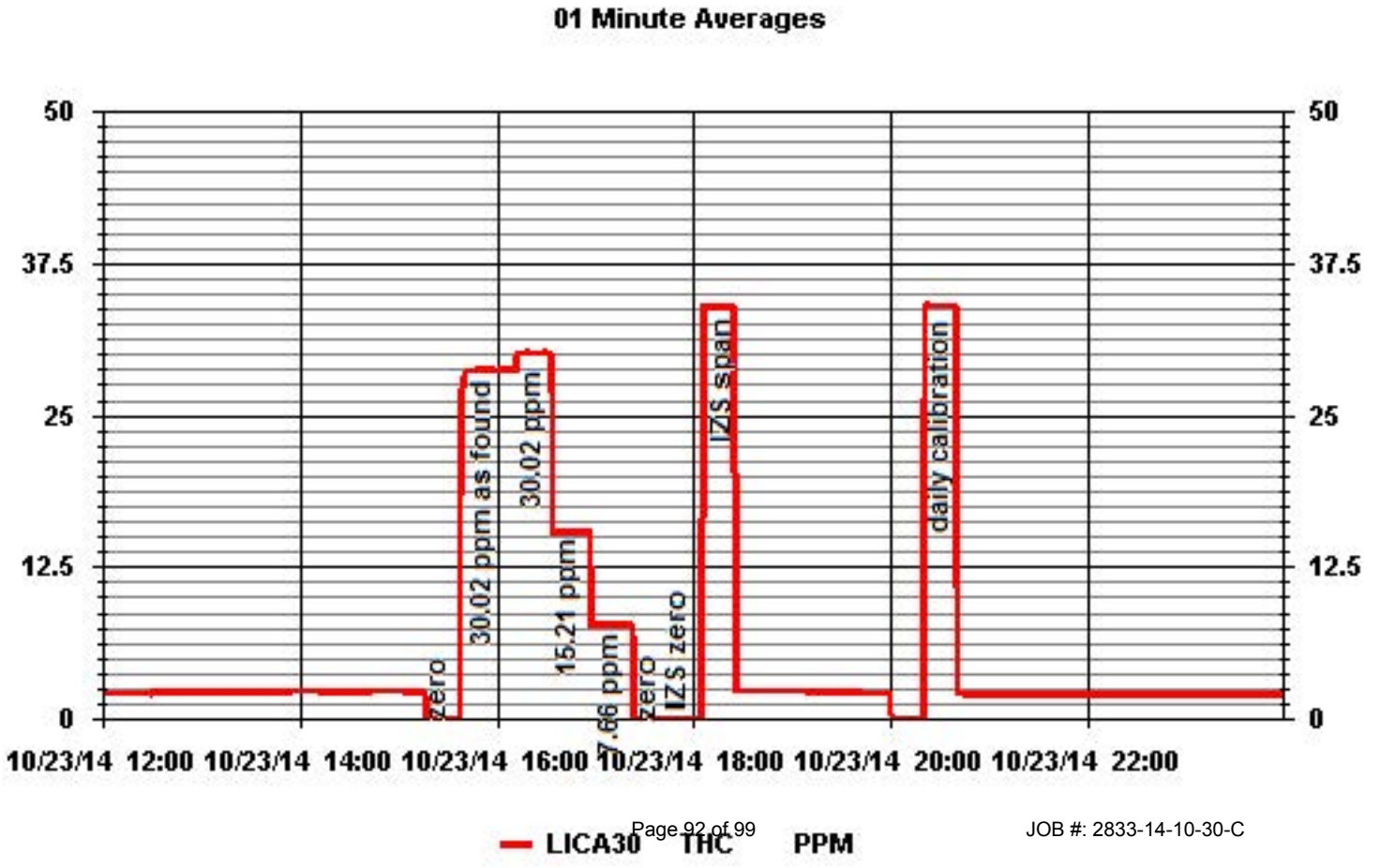
Comments:

no 0 adjust, changed filter

Thermo 51C THC Analyzer Calibration



JOB #: 2833-14-10-30-C



JOB #: 2833-14-10-30-C

Nitrogen Dioxide

API 200E NOx Analyzer Calibration

Date:	23-Oct-14	**Start Time (mst):**	10:24
Company:	LICA	**End Time (mst):**	15:34
Station Name/Location:	Maskwa	**Calibration Purpose:**	monthly
Performed by:	Tom Bourque	**Cal Gas Expiry Date:**	4-Feb-18

Analyzer Serial Number:	594
Last Calibration Date:	30-Sep-14
Range ppb:	1000

Correction Factors:

	As found C.F.	Previous Cal High Point C.F.:
NO=	1.018	1.000
NOx=	1.018	1.000
NO_2=	0.998	1.000

As found:	
NOx SLOPE:	1.030
NOx OFFS:	
NO SLOPE:	1.029
NO OFFS:	
TEST:	na
SAMP FLW:	448
OZONE FL:	78
PMT:	14.5
NORM PMT:	-.7
AZERO:	14.7
HVPS:	750
RCELL TEMP:	49.8
BOX TEMP:	29.2
PMT TEMP:	6.6
IZS TEMP:	42.0
MOLY TEMP:	314.3
RCEL:	5.9
SAMP:	26.7
Internal Span:	6.5/473/479

As left:	
NOx SLOPE:	1.049
NOx OFFS:	4
NO SLOPE:	1.047
NO OFFS:	-.01
TEST:	na
SAMP FLW:	448
OZONE FL:	78
PMT:	14.5
NORM PMT:	-.7
AZERO:	14.7
HVPS:	750
RCELL TEMP:	49.8
BOX TEMP:	29.2
PMT TEMP:	6.6
IZS TEMP:	42.0
MOLY TEMP:	314.3
RCEL:	5.9
SAMP:	26.7
Internal Span:	7.1/473/480

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	500.00	5077
mid	5000	37	270.00	5037
low	5000	17	95.00	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	-0.1	2.8	NA	NA
adjusted zero	5000	0.0	5000	0	0	-0.1	-0.7	NA	NA
as found high	4994	76.78	5071	758.6	760.1	745	746	1.018	1.018
adjusted high	4994	76.78	5071	758.6	760.1	759	762	0.999	0.997
mid	4995	36.88	5032	367.2	367.9	367	366	1.000	1.003
low	4994	16.94	5011	169.4	169.7	171	170	0.990	0.994
calibrator zero	5000	0.00	5000	0	0	0.0	-1.2	NA	NA
							Average C.F.=	0.996	0.998

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	4994	76.75	5071	0.0	758.0	756.0	-2.9	-0.1	-0.6	
as found NO_2	4994	76.75	5071	500.0	166.0	756.0	590.0	592.0	592.9	0.998
gpt mid	4994	76.75	5071	270.0	457.0	757.0	299.0	301.0	301.9	0.997
gpt low	4994	76.75	5071	95.0	646.0	757.0	111.0	112.0	113.9	0.983
									Average NO_2 C.F.=	0.993

Linear Regression/Calibration Results:

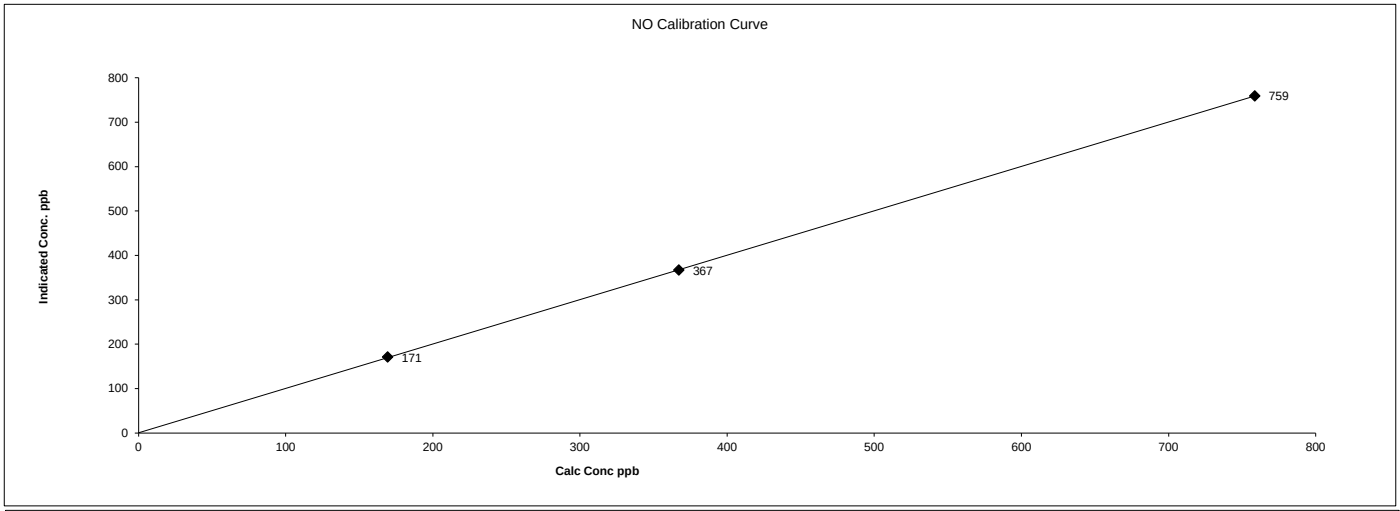
	NO	NOx	NO_2	LIMITS
Correlation Coeffecient =	**1.000**	**1.000**	**1.000**	**> or = 0.995**
Slope =	**1.000**	**1.003**	**1.001**	**0.85-1.15**
b (Intercept as % of full scale)=	**0.05%**	**-0.10%**	**0.06%**	**± 3% F.S.**
% change in C.F. from last cal=	**-1.81%**	**-1.80%**	**0.15%**	**+/-15%**
NO2 converter effeciency			**100.7%**	**>85%**

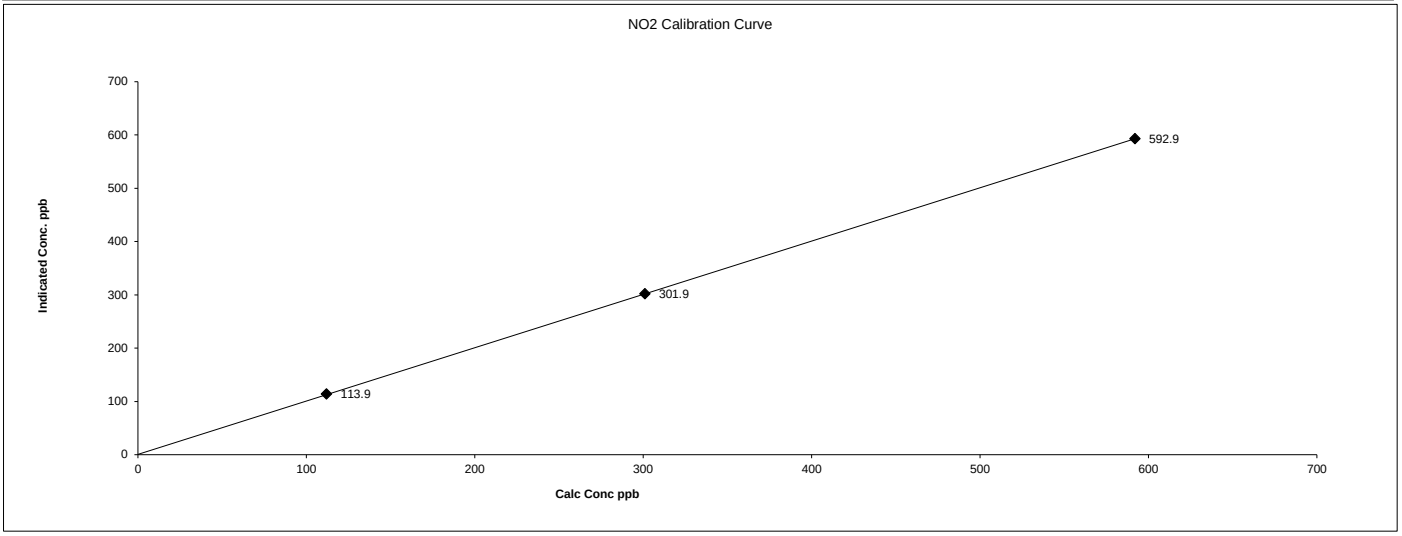
Comments:

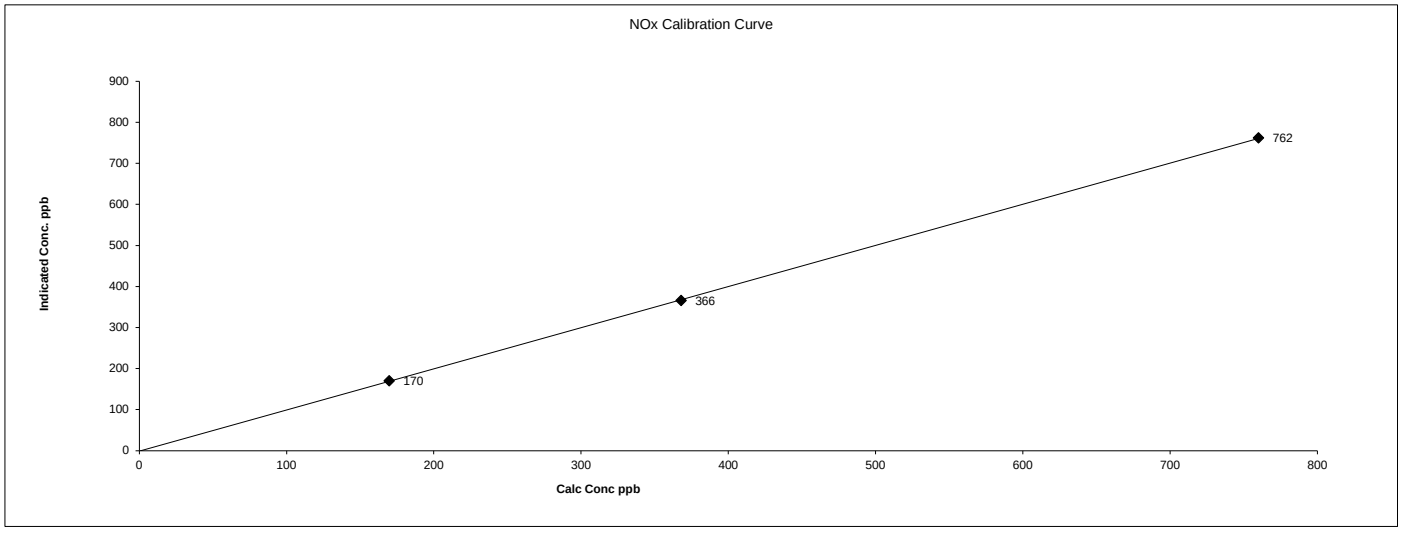
no adjustment made on NO2 high point,changed filter

Date:	23-Oct-14	**Start Time (mst):**	10:24
Company:	LICA	**End Time (mst):**	15:34
Station Name/Location:	Maskwa	**Calibration Purpose:**	monthly
Performed by:	Tom Bourque	**Cal Gas Expiry Date:**	4-Feb-18

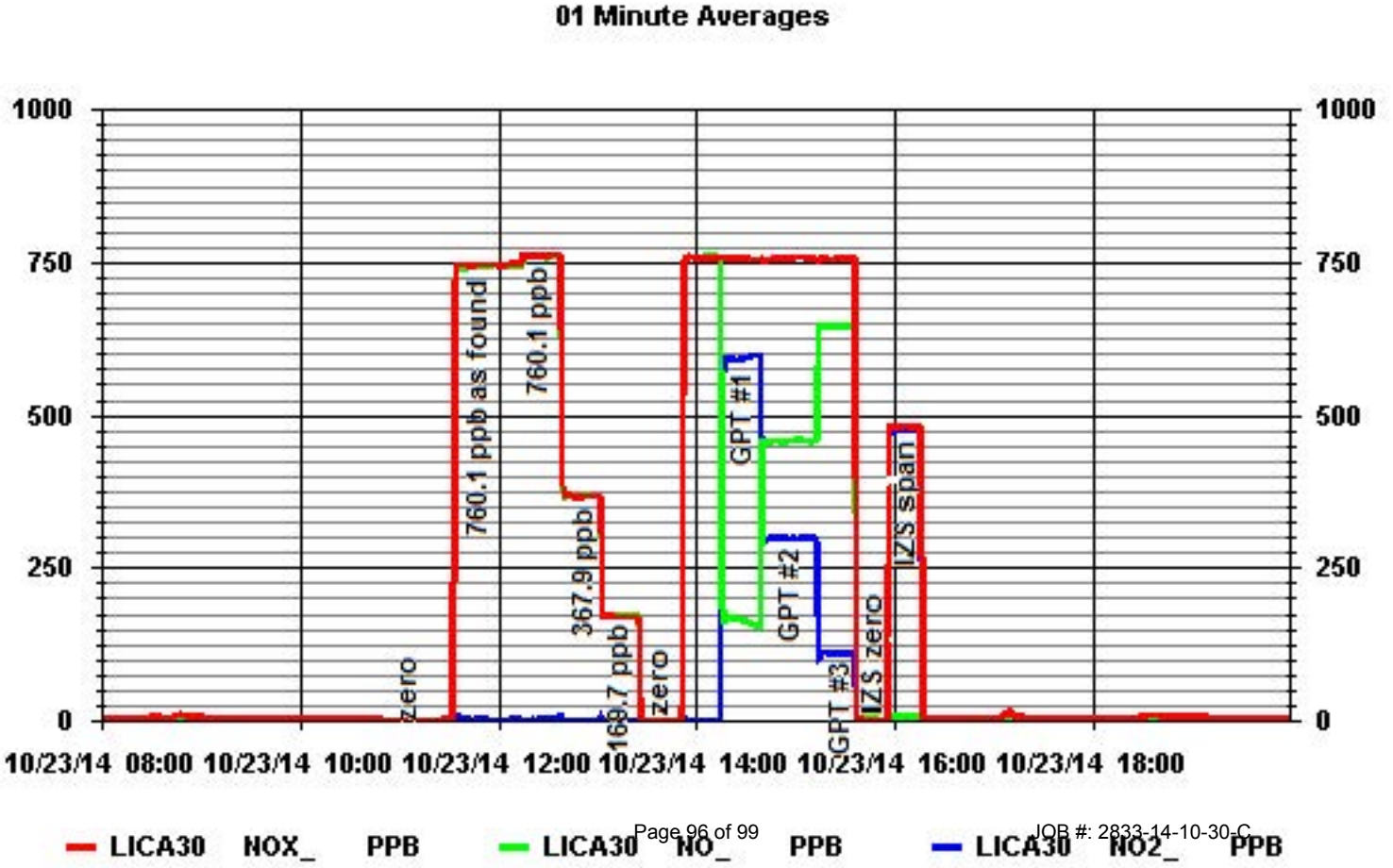
API 200E NOx Analyzer Calibration







JOB #: 2833-14-10-30-C


01 Minute Averages
1000
750
500
250
0
zero
760.1 ppb as found
760.1 ppb
367.9 ppb
169.7 ppb
zero
GPT #1
GPT #2
GPT #3
IZS zero
IZS span
10/23/14 08:00
10/23/14 10:00
10/23/14 12:00
10/23/14 14:00
10/23/14 16:00
10/23/14 18:00
LICA30 NOX_ PPB
LICA30 NO_ PPB
LICA30 NO2_ PPB

Wind System Audit

Met One Instruments Inc.
Certificate of Calibration

Instrument: Sonic Wind Sensor Model No.: 50.5H

Manufacturer: Met One Instruments Inc. Serial No.: H10703

Sales Order No.: 101530

Customer: Maxxam Analytics Tested per P.O. No.: 35-54-786

Instrument Condition Within Tolerance: As Found () As Left (X)
Corrective Action: No Adjustment() Adjust (X) Repair ()
Preventative Maintenance ()
Quality Control Manual Revision: September 16, 2013 MP42201Rev. G
All Work Performed per Customers Purchase Order Requirements
Calibration Document No. 50.5-6100

Date (As Found): n/a Date (As Left Test): 3/4/2014

Calibrated by: Dan Smith Date: 3/4/14

Test Equipment Used for Calibration of Instruments

Description	Manufacturer	Model No.	Serial No.	Cal Date	Cal Due	Accuracy
Digital Multimeter	keithley	197A	490833	3/8/2013	3/8/2014	+/-.02% of input
Counter	Hewlett Packard	5245L	71616181	3/8/2013	3/8/2014	+/- 0.0001%
Standard Cup Assembly	Met One Instruments	170.41	3309	4/24/2012	4/24/2017	<.15mph or 1% ws

Environmental Data: Temperature 65 to 80 DegF Vibration none
Humidity 20 to 70 % Radiation none

The standards used for calibration have accuracies equal to or greater than the instruments tested. These standards are on record and are traceable to NIST to the extent allowed by the institute's calibration facility. Unless otherwise stated hereon, all instruments are calibrated to meet the manufacturer's published specifications. The calibration system complies with MIL-STD-45662A (8/1/88). Instruments accuracy meets the requirements of Regulatory Guide 1.23 (2/72). Compliant with ISO 9001:2008 requirements.

QC Inspection by: Lyon Lawson Date: 3/10/14

Met One Instruments
Sonic Sensor Test Data
50.5-6100

Model: 50.5H Tech: Dan Fusch Date: 3/4/2014
Serial # H10703 Customer: Maxxam Analytics
P.O. No.: 35-54786 Sensor Output Voltage: 1 vdc
Sales Order Number: 101530 As Found: _____ As Left: __X___

Test 1: Actual Wind Tunnel Speed 2.22 m/s

WD Setting (Degree)	WD Output Voltage	WD Indication	WD Error +/- 3 deg	WS Output Voltage	WS Indication	WS Error +/- .20 m/s
30	0.087	31.3	1.3	0.044	2.20	-0.02
60	0.172	61.9	1.9	0.043	2.15	-0.07
120	0.337	121.3	1.3	0.045	2.25	0.03
150	0.418	150.5	0.5	0.045	2.25	0.03
210	0.586	211.0	1.0	0.044	2.20	-0.02
240	0.670	241.2	1.2	0.045	2.25	0.03
300	0.837	301.3	1.3	0.045	2.25	0.03
330	0.922	331.9	1.9	0.045	2.25	0.03

Test 2: Actual Wind Tunnel Speed 11.19 m/s

WD Setting (Degree)	WD Output Voltage	WD Indication	WD +/- 3 deg	WS Output Voltage	WS Indication	WS +/- .24 m/s
30	0.085	30.6	0.6	0.224	11.20	0.01
60	0.169	60.8	0.8	0.225	11.25	0.06
120	0.334	120.2	0.2	0.226	11.30	0.11
150	0.422	151.9	1.9	0.225	11.25	0.06
210	0.586	211.0	1.0	0.223	11.15	-0.04
240	0.672	241.9	1.9	0.225	11.25	0.06
300	0.837	301.3	1.3	0.228	11.40	0.21
330	0.922	331.9	1.9	0.227	11.35	0.16

Lakeland Industry & Community Association

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

Prepared By:

Maxxam
A Bureau Veritas Group Company

November 21, 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: October 2014

The monthly ambient data report:

- Prepared by Lili Zhou
- 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 – October 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	0.08	3	20	14, 15	9.8, 10.3	177(S) 166(SSE)	0.8	20	99.6
H2S (PPB)	10	3	0	0	0.02	1	VAR	VAR	VAR	VAR	0.3	23	99.6
THC (PPM)	-	-	-	-	2.03	2.8	23	7	13.3	97(E)	2.3	23	99.1
OZONE (PPB)	82	-	0	-	26.99	43	7	VAR	VAR	VAR	38.9	7	99.6
NO2 (PPB)	159	-	-	-	1.48	8.2	23	16	21	243(WSW)	3.5	20	99.6
NO (PPB)	-	-	-	-	0.17	3.9	20	10	10.2	237(SW)	0.8	20	99.6
NO_x (PPB)	-	-	-	-	1.65	9.5	20	9	12.8	229(SW)	4.3	20	99.6
PM2.5 (ug/m3)	-	30	-	0	NA	NA	NA	NA	NA	NA	NA	NA	0.0
TEMPERATURE (DEGREE C)	-	-	-	-	6.63	20.5	20	14, 15	9.8, 10.3	177(S) 166(SSE	12.3	20	99.7
BP (MILLIBAR)	-	-	-	-	925.4	939	VAR	VAR	VAR	VAR	936.3	30	99.7
RH (%)	-	-	-	-	63.31	91	5	6	9.8	268(W)	83.1	27	99.7
PRECIPITATION (MM)	-	-	-	-	0.00	0.7	6	5	5.2	356(N)	0.0	ALL	99.7
VECTOR WS (KPH)	-	-	-	-	12.67	29.3	6	14	-	308(NW)	18.3	17	99.5
VECTOR WD (DEGREES)	-	-	-	-	224(SW)	-	-	-	-	-	-	-	99.5

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 October 8th. The inlet filter was changed before the calibration was started. Two hourly data collected on October 29th hour 22 and hour 23 are missing due to a power failure. Hourly data collected on October 30th hour 0 was invalidated as the analyzer was recovering from the power failure. Data was corrected using daily zero information.

Hydrogen Sulphide (PPB)
Analyzer make / model - API 101E, S/N: 722
The analyzer was working well throughout the month. The monthly calibration was performed on October 8th. The inlet filter was changed before the calibration was started. Two hourly data collected on October 29th hour 22 and hour 23 are missing due to a power failure. Hourly data collected on October 30th hour 0 was invalidated as the analyzer was recovering from the power failure. 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
Following a shutdown calibration performed on October 9th, the sample pump was changed, and the inlet filter was replaced. A post repair calibration was performed following the maintenance. Two hourly data collected on October 29th hour 22 and hour 23 are missing due to a power failure. Hourly data collected on October 30th hour 0 was invalidated as the analyzer was recovering from the power failure. 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. An as found points check was performed on October 8th and the result was good. The inlet filter was changed before the as found points check was started. The monthly calibration was performed on October 9th. Two hourly data collected on October 29th hour 22 and hour 23 are missing due to a power failure. Hourly data collected on October 30th hour 0 was invalidated as the analyzer was recovering from the power failure. 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 October 9th. The inlet filter was changed before the calibration was started. Two hourly data collected on October 29th hour 22 and hour 23 are missing due to a power failure. Hourly data collected on October 30th hour 0 was invalidated as the analyzer was recovering from the power failure.

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 was removed from the site and sent back to the manufacturer for repair on September 11th. The unit was installed back on November 6th. Therefore, no data was collected in October. The uptime was 0%. The reference number is 292438.

Temperature (Degree C)
Analyzer make / model – Met One 060
The temperature sensor was working well throughout the month. Two hourly data collected on October 29th hour 22 and hour 23 are missing due to a power failure.

Barometric Pressure (Millibar)
Analyzer make / model - Met One 092
The BP sensor was working well throughout the month. Two hourly data collected on October 29th hour 22 and hour 23 are missing due to a power failure.

Relative Humidity (%)
Analyzer make / model - Met One 083
The RH sensor was working well throughout the month. Two hourly data collected on October 29th hour 22 and hour 23 are missing due to a power failure.

Precipitation (MM)
Analyzer make / model - Met One 387
No operational issues were observed during the month. Two hourly data collected on October 29th hour 22 and hour 23 are missing due to a power failure.

General Monthly Summary

AQM STATION – LICA – St. Lina

Vector Wind Speed (KPH) & Vector Wind Direction (DEG)
System make / model –RM Young 5103VK, S/N: 41334 replaced with MetOne 50.5H Sonic, S/N: H12635
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 2-year calibration was performed on August 28th, 2014 by MetOne manufacture. The wind system was replaced with MetOne 50.5H Sonic on October 30th. Two hourly data collected on October 29th hour 22 and hour 23 are missing due to a power failure.

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 October 8th.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Sulphur Dioxide

Lakeland Industry & Community Association - St. Lina Site

OCTOBER 2014

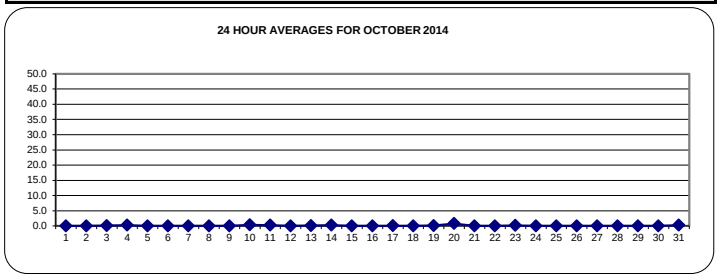
SULPHUR DIOXIDE (SO2) hourly averages in ppb

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	**S**	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	0	0	**S**	0	0	0	0	0	0	0	0	0	0.0	24
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	1	0	0	0	0	1	0	1	0.1	24
4	1	1	1	1	1	0	0	0	0	0	0	1	0	**S**	0	0	0	0	0	0	0	0	0	0	1	0.3	24
5	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
6	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
7	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
8	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	**C**	**C**	**C**	**C**	0	0	0	0	0	0	0.0	24
9	0	0	0	0	**S**	**S**	0	0	**S**	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0.0	24
10	0	0	0	0	0	0	0	**S**	0	0	0	0	1	1	2	0	1	0	0	0	0	0	1	1	2	0.3	24
11	1	1	1	1	1	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
12	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
13	0	0	1	1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
14	0	0	0	**S**	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0.2	24
15	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
16	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
17	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**S**	1	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	**S**	0	0	0.0	24
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	**S**	0	0	1	0.1	24
20	0	0	0	0	0	0	0	0	0	2	2	1	1	2	***3***	***3***	2	1	1	0	**S**	0	0	0	***3***	***0.8***	24
21	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
22	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
23	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	1	**S**	0	0	0	0	0	0	2	0.2	24
24	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
25	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
26	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
27	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
28	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
29	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	**P**	**P**	0	0.0	22
30	**R**	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	23
31	0	0	0	0	1	1	1	1	1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
HOURLY MAX	1	1	1	1	1	1	1	1	1	2	2	1	1	2	3	3	2	1	1	0	0	0	1	1			
HOURLY AVG	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.1	0.1	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

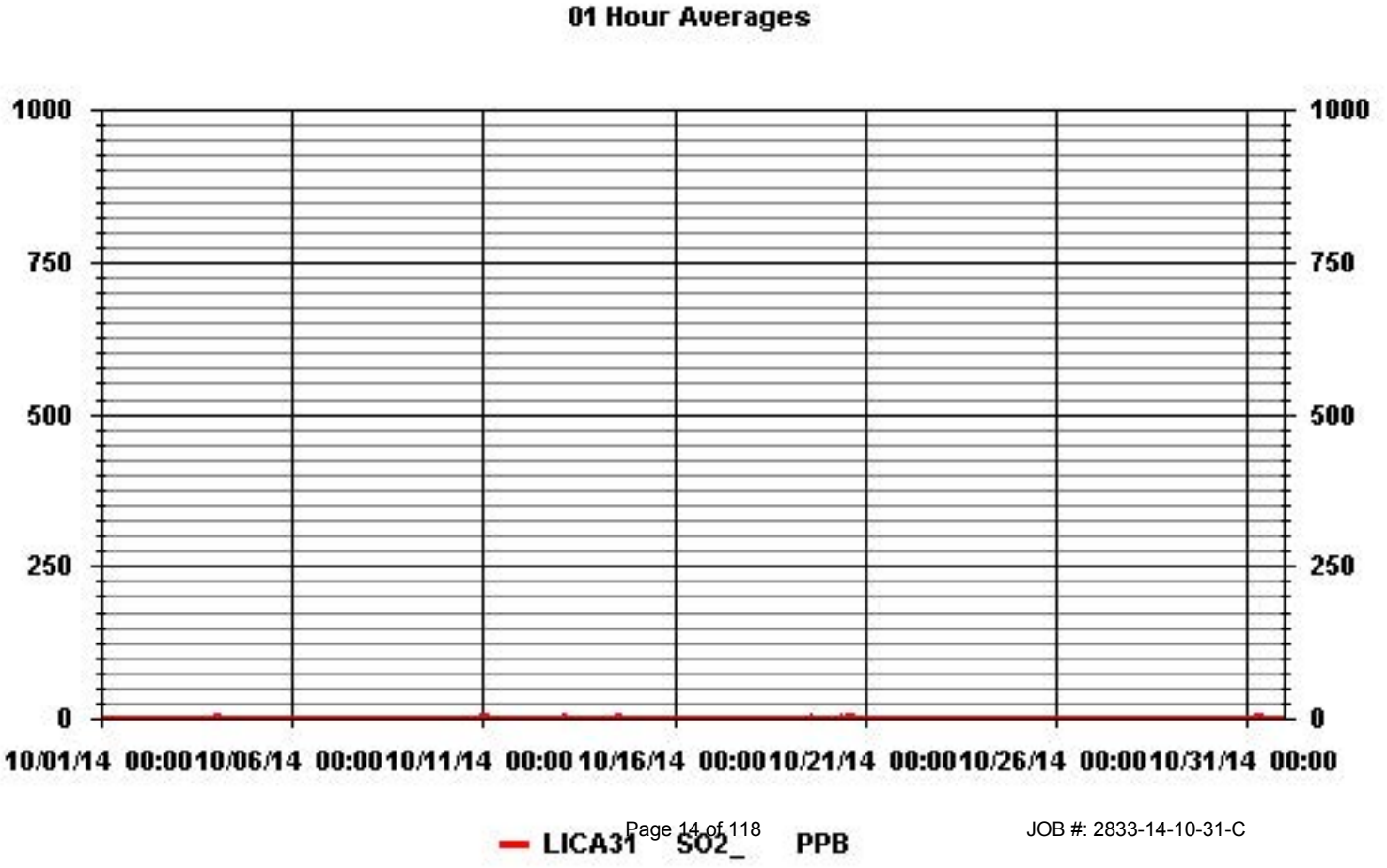


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB 24-HR 48 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	47					
MAXIMUM 1-HR AVERAGE:	3	PPB	@ HOUR(S)	14, 15	ON DAY(S)	20
MAXIMUM 24-HR AVERAGE:	0.8	PPB			ON DAY(S)	20
					VAR-VARIOUS	
IZS CALIBRATION TIME:	35	HRS	OPERATIONAL TIME:		741	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:		99.6	%
STANDARD DEVIATION:	0.33		MONTHLY AVERAGE:		0.08	PPB

JOB #: 2833-14-10-31-C



JOB #: 2833-14-10-31-C

Lakeland Industry & Community Association - St. Lina Site

OCTOBER 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	1	0	0	0	0	0	0	0	0	0	0	**S**	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	**S**	0	0	0	0	0	0	0	0	0	0.0	24
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	1	2	2	1	1	1	2	2	2	0.5	24
4	1	2	2	2	2	1	1	1	2	2	2	2	2	**S**	0	0	0	0	0	0	0	0	0	0	2	1.0	24
5	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	1	0	0	1	0	1	1	1	1	1	0.3	24
6	1	1	1	1	1	1	1	1	1	1	1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	1	0.5	24
7	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
8	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	0.0	24
9	0	0	0	0	**S**	**S**	0	0	**S**	0	0	0	0	0	0	1	1	**S**	1	1	1	2	1	1	2	0.5	24
10	1	1	1	1	2	1	1	**S**	0	0	1	1	3	2	4	1	2	2	1	1	1	1	2	2	4	1.4	24
11	2	2	2	2	2	2	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0.6	24
12	1	1	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
13	0	1	2	2	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0.3	24
14	1	1	0	**S**	1	1	1	1	1	1	1	2	3	2	2	2	1	1	0	0	0	0	0	0	3	1.0	24
15	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
16	0	**S**	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0.1	24
17	**S**	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	2	**S**	2	0.5	24
18	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
19	0	1	0	0	0	0	0	0	1	1	1	1	0	1	3	2	1	0	0	1	0	**S**	0	0	3	0.6	24
20	0	1	1	0	0	0	1	1	1	4	4	2	2	***5***	***5***	4	2	2	2	1	**S**	0	0	0	***5***	***1.7***	24
21	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	1	0.0	24
22	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
23	0	1	1	1	1	1	1	1	1	1	1	1	1	2	2	4	4	**S**	0	0	0	0	0	0	4	1.0	24
24	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
25	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
26	0	0	1	1	1	1	1	0	1	1	0	1	0	0	**S**	0	0	0	0	0	0	0	0	0	1	0.3	24
27	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
28	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	1	0	1	1	1	1	1	1	0.3	24
29	1	1	1	1	1	1	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	**P**	**P**	1	0.3	22
30	**R**	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0.3	23
31	1	2	1	1	2	2	2	2	2	**S**	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2	0.7	24
HOURLY MAX	2	2	2	2	2	2	2	2	2	4	4	2	3	5	5	4	4	2	2	1	1	2	2	2			
HOURLY AVG	0.3	0.5	0.4	0.4	0.4	0.4	0.3	0.2	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.6	0.5	0.3	0.3	0.3	0.3	0.3	0.4	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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 195

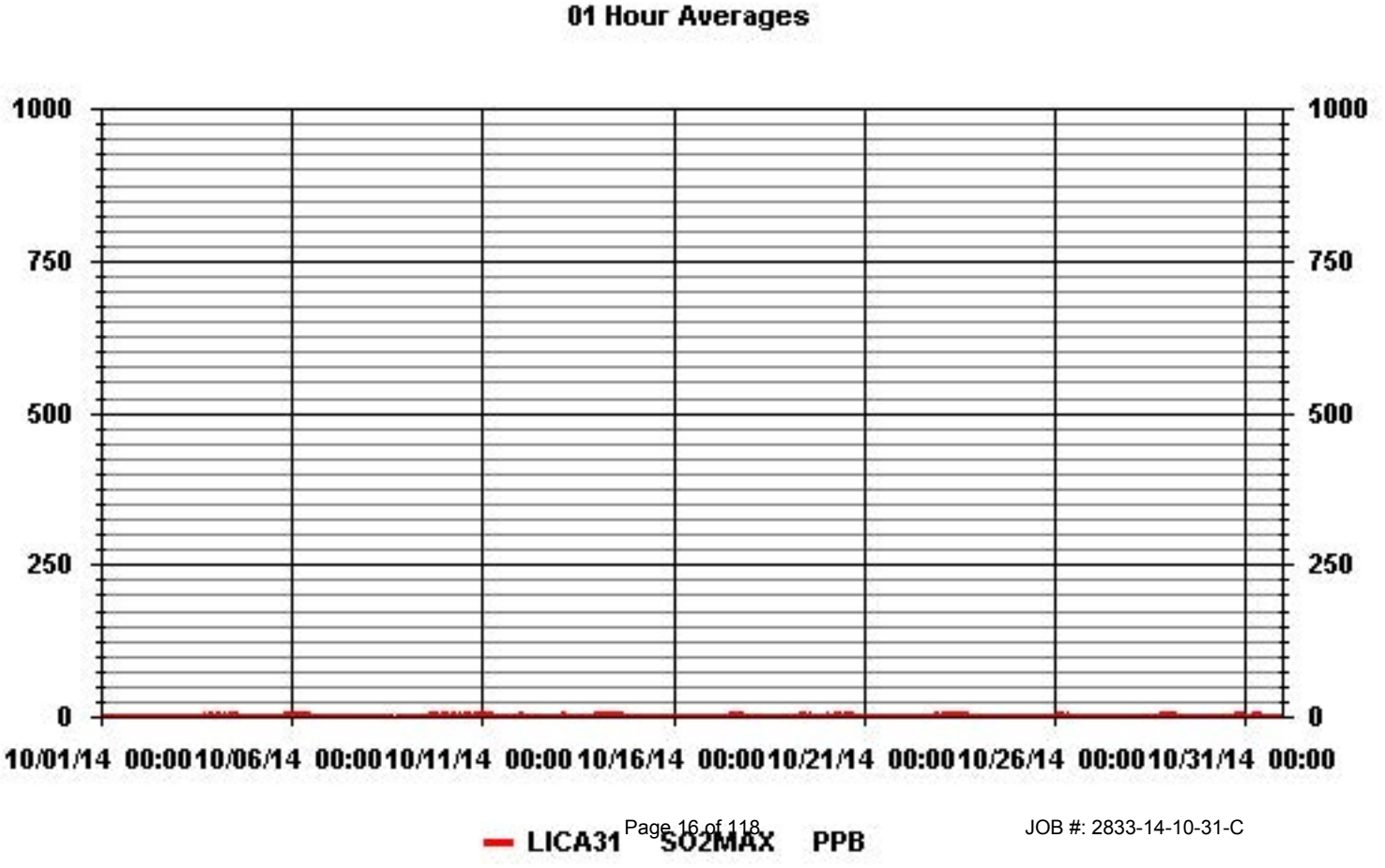
MAXIMUM INSTANTANEOUS VALUE: 5 PPB @ HOUR(S) 13, 14 ON DAY(S) 20

VAR-VARIOUS

IZS CALIBRATION TIME: 35 HRS OPERATIONAL TIME: 741 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION: 0.75



JOB #: 2833-14-10-31-C

LICA31
SO2_ / WDR Joint Frequency Distribution (Percent)

October 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	1.56	2.99	3.13	5.84	4.27	6.13	11.98	6.84	6.99	2.71	3.42	7.41	13.55	12.55	6.99	3.56	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	1.56	2.99	3.13	5.84	4.27	6.13	11.98	6.84	6.99	2.71	3.42	7.41	13.55	12.55	6.99	3.56	

Calm : .00 %

Total # Operational Hours : 701

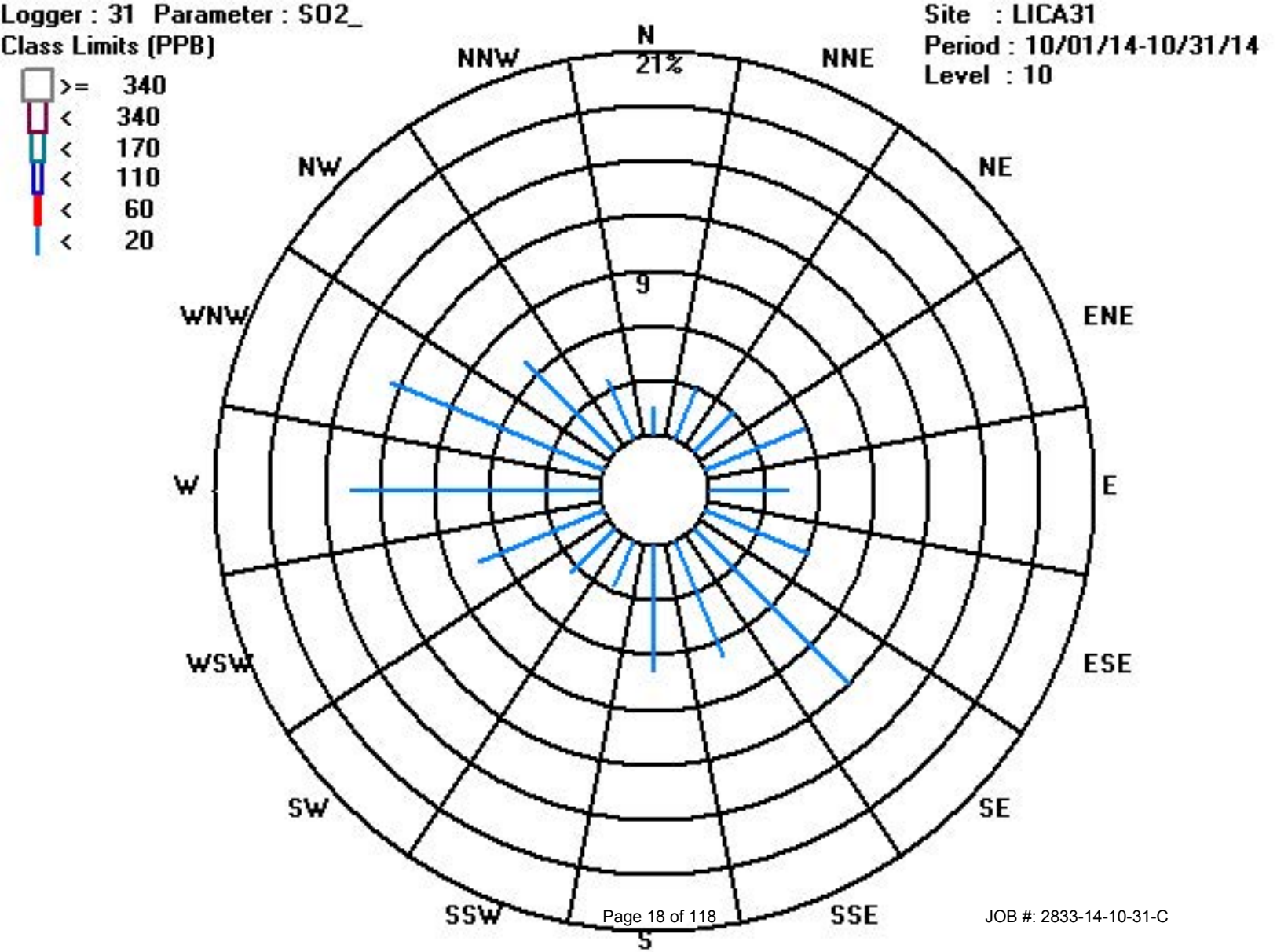
Distribution By Samples

Direction

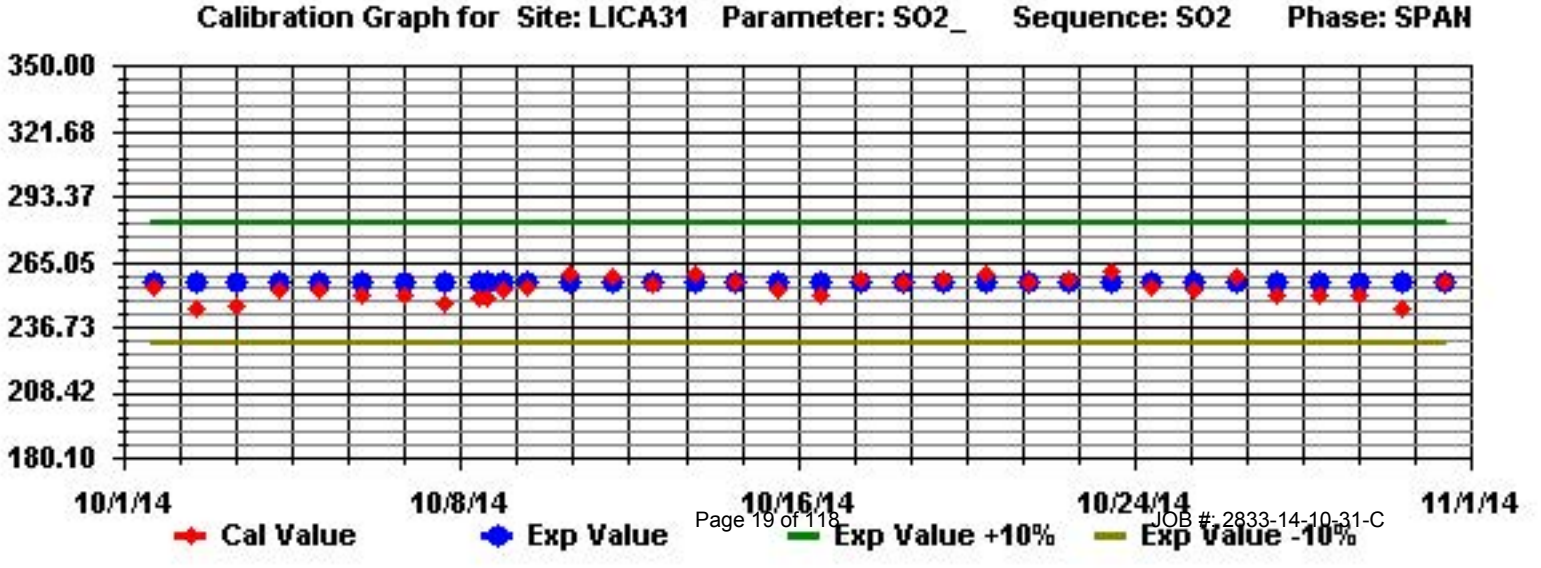
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	20	11	21	22	41	30	43	84	48	49	19	24	52	95	88	49	25	701
<	60																	
<	110																	
<	170																	
<	340																	
>=	340																	
	Totals	11	21	22	41	30	43	84	48	49	19	24	52	95	88	49	25	

Calm : .00 %

Total # Operational Hours : 701



JOB #: 2833-14-10-31-C


Calibration Graph for Site: LICA31 Parameter: SO2_ Sequence: SO2 Phase: SPAN
350.00
321.68
293.37
265.05
236.73
208.42
180.10
10/1/14
10/8/14
10/16/14
10/24/14
11/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Hydrogen Sulphide

Lakeland Industry & Community Association - St. Lina Site

OCTOBER 2014

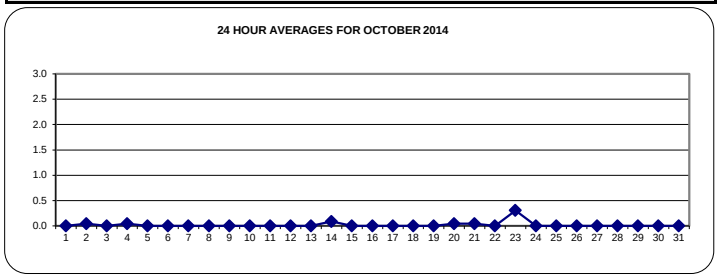
HYDROGEN SULPHIDE (H2S) hourly averages in ppb

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	**S**	0	0	0	0	0	0	0	0	0.0	24
2	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
3	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
4	0	0	0	0	0	0	0	0	0	0	0	***1***	0	**S**	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	**S**	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	**S**	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	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
8	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	**C**	**C**	**C**	**C**	0	0	0	0	0	0	0.0	24
9	0	0	0	0	**S**	**S**	0	0	**S**	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	**S**	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	**S**	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	**S**	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	**S**	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	**S**	0	0	0	0	0	0	***1***	***1***	0	0	0	0	0	0	0	0	0	0	0	0	***1***	0.1	24
15	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
16	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
17	**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
18	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
19	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
20	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
21	0	0	0	0	***1***	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	***1***	0.0	24
22	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
23	0	0	0	0	0	0	***1***	***1***	***1***	***1***	***1***	***1***	***1***	0	0	0	0	**S**	0	0	0	0	0	0	***1***	***0.3***	24
24	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
25	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
26	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
27	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
28	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
29	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	**P**	**P**	0	0.0	22
30	**R**	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	23
31	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
HOURLY MAX	0	0	0	1	1	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0			
HOURLY AVG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

STATUS FLAG CODES

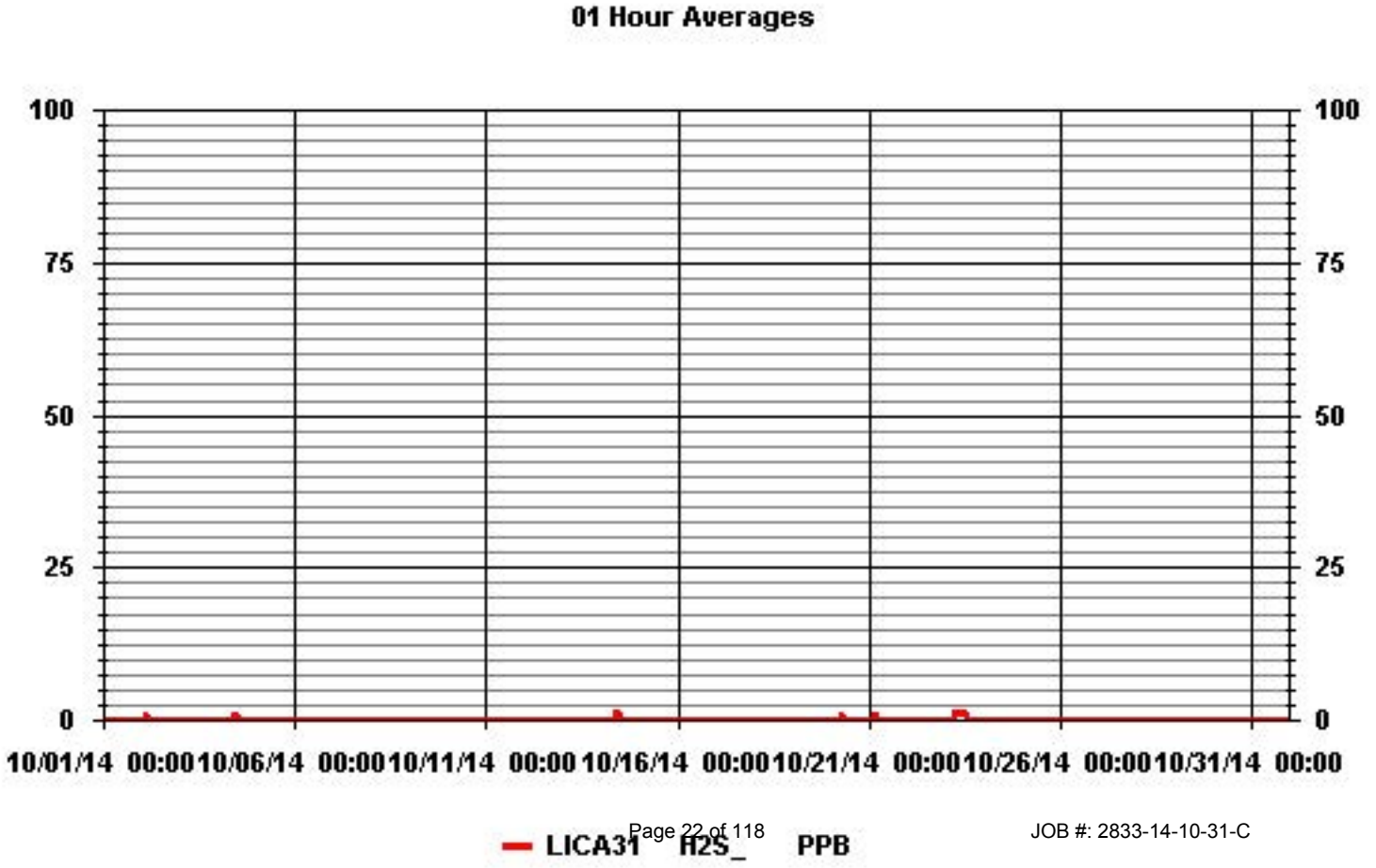
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



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:	13						
MAXIMUM 1-HR AVERAGE:	1	PPB	@ HOUR(S)	VAR	ON DAY(S)		VAR
MAXIMUM 24-HR AVERAGE:	0.3	PPB			ON DAY(S)		23
					VAR-VARIOUS		
IZS CALIBRATION TIME:	34	HRS	OPERATIONAL TIME:			741	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:			99.6	%
STANDARD DEVIATION:	0.13		MONTHLY AVERAGE:			0.02	PPB



JOB #: 2833-14-10-31-C

Lakeland Industry & Community Association - St. Lina Site

OCTOBER 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	2	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	2	0.1	24
2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	**S**	0	0	0	0	0	0	0	0	2	0.1	24
3	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
4	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0.0	24
5	0	0	0	0	***3***	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	***3***	0.1	24
6	0	0	0	0	0	0	1	1	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
7	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
8	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	0.0	24
9	0	0	0	0	**S**	**S**	0	0	**S**	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	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.1	24
11	1	1	1	1	1	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0.3	24
12	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
13	0	0	0	0	**S**	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
14	0	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	1	0.6	24
15	0	0	**S**	0	0	0	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.2	24
16	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
17	**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
18	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	1	0.4	24
19	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	***3***	0	0	0	**S**	0	1	***3***	0.3	24
20	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	**S**	1	1	1	1	***0.9***	24
21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	**S**	0	0	0	0	1	0.7	24
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	1	0	0	1	0.0	24
23	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	**S**	0	0	0	0	0	0	1	0.7	24
24	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
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	1	0	1	1	0	1	0.1	24
26	0	1	1	1	1	1	1	1	1	1	1	0	1	1	**S**	0	0	0	0	0	0	0	0	0	1	0.5	24
27	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
28	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	***3***	***3***	0.1	24
29	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	2	0	**P**	**P**	2	0.1	22
30	**R**	0	0	0	0	1	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	23
31	0	0	0	0	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	24
HOURLY MAX	1	1	1	1	3	1	1	1	2	1	2	1	1	1	1	1	1	3	1	1	2	1	1	3			
HOURLY AVG	0.1	0.2	0.2	0.2	0.4	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	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: 136

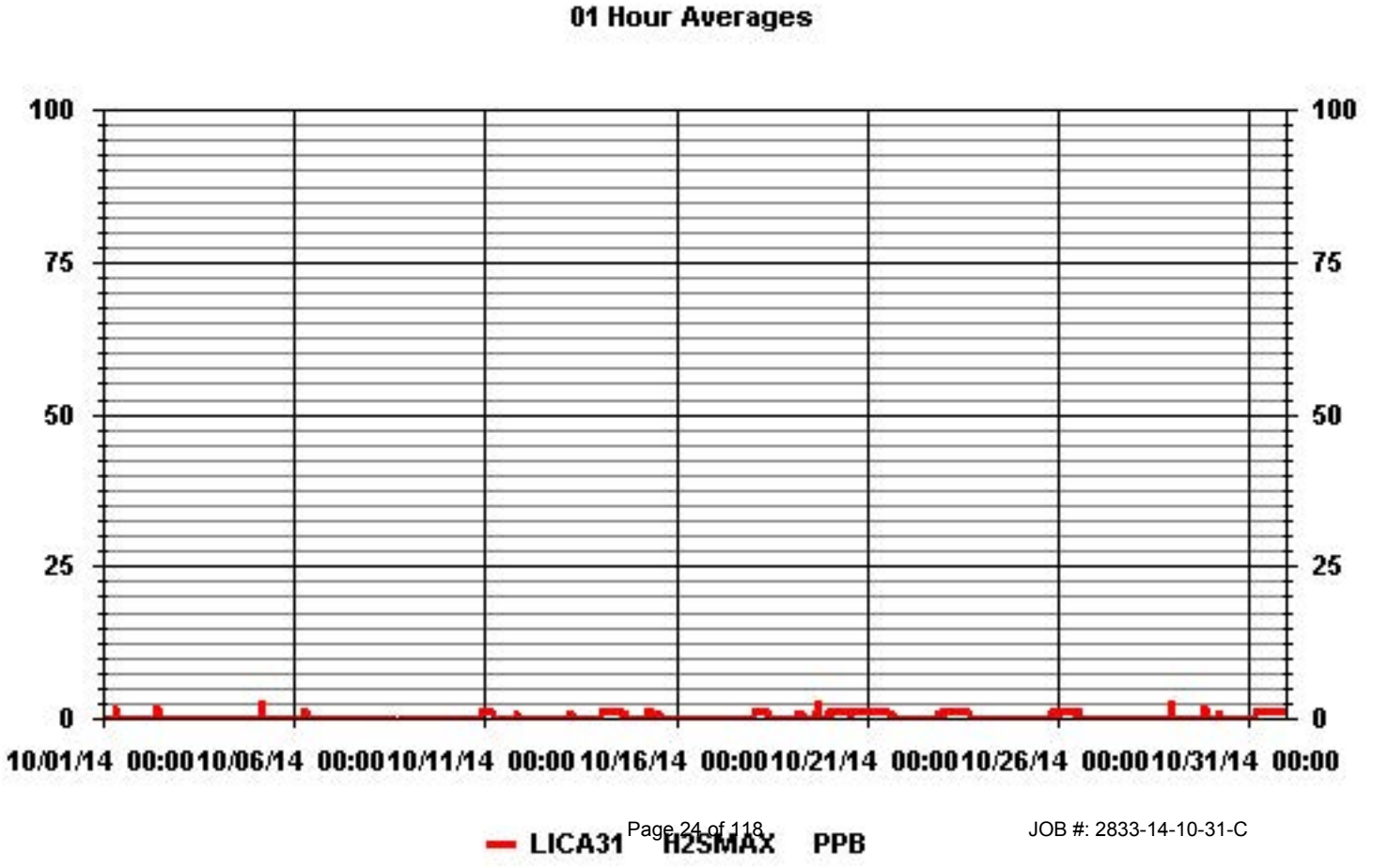
MAXIMUM INSTANTANEOUS VALUE: 3 PPB @ HOUR(S) VAR ON DAY(S) VAR

VAR-VARIOUS

IZS CALIBRATION TIME: 34 HRS OPERATIONAL TIME: 741 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION: 0.45



JOB #: 2833-14-10-31-C

LICA31
H2S_ / WDR Joint Frequency Distribution (Percent)

October 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	1.56	2.99	3.13	5.84	4.27	6.26	11.96	6.83	6.98	2.70	3.41	7.40	13.53	12.53	6.98	3.56	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	1.56	2.99	3.13	5.84	4.27	6.26	11.96	6.83	6.98	2.70	3.41	7.40	13.53	12.53	6.98	3.56	

Calm : .00 %

Total # Operational Hours : 702

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	11	21	22	41	30	44	84	48	49	19	24	52	95	88	49	25	702
< 10																	
< 50																	
>= 50																	
Totals	11	21	22	41	30	44	84	48	49	19	24	52	95	88	49	25	

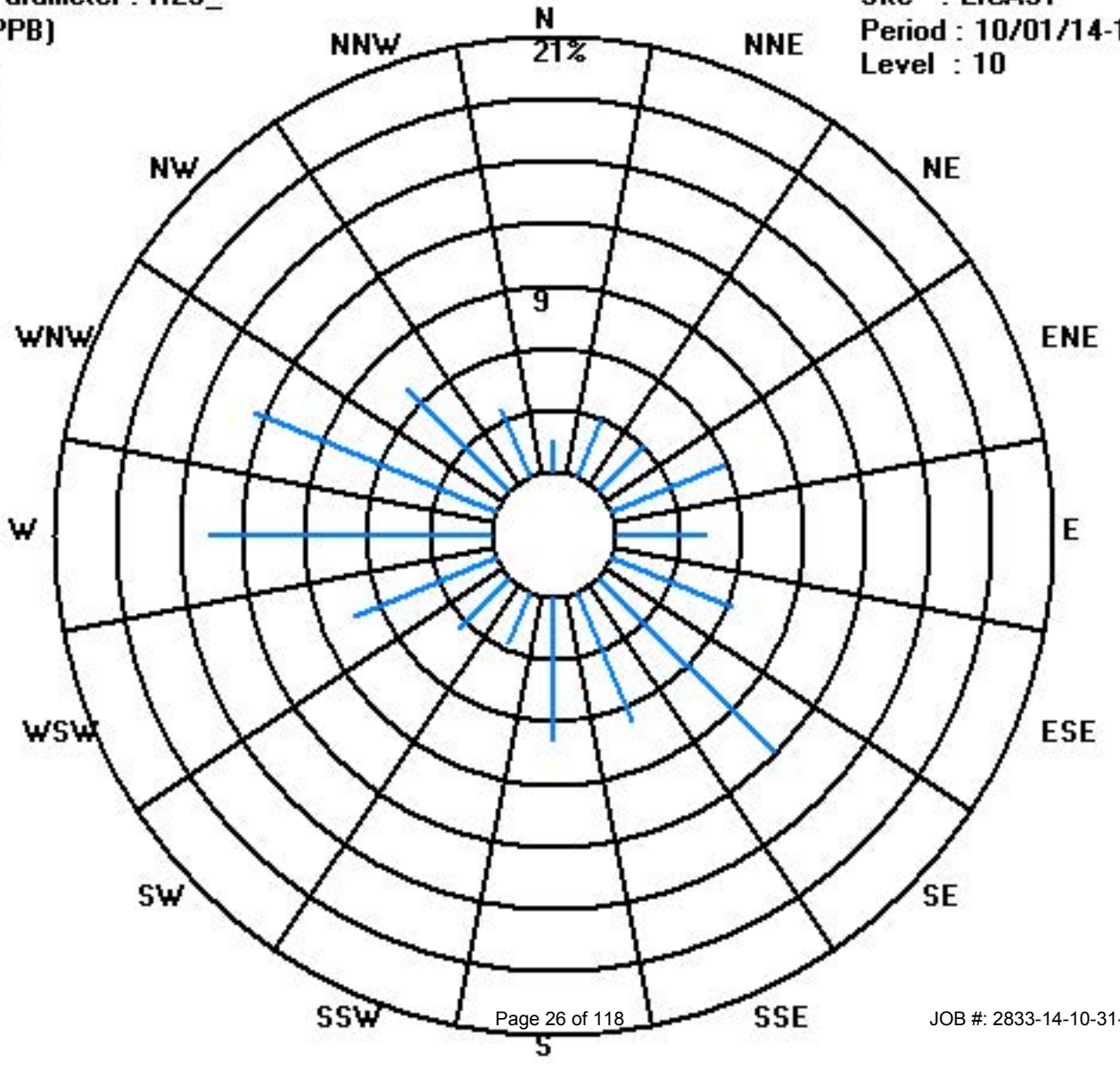
Calm : .00 %

Total # Operational Hours : 702

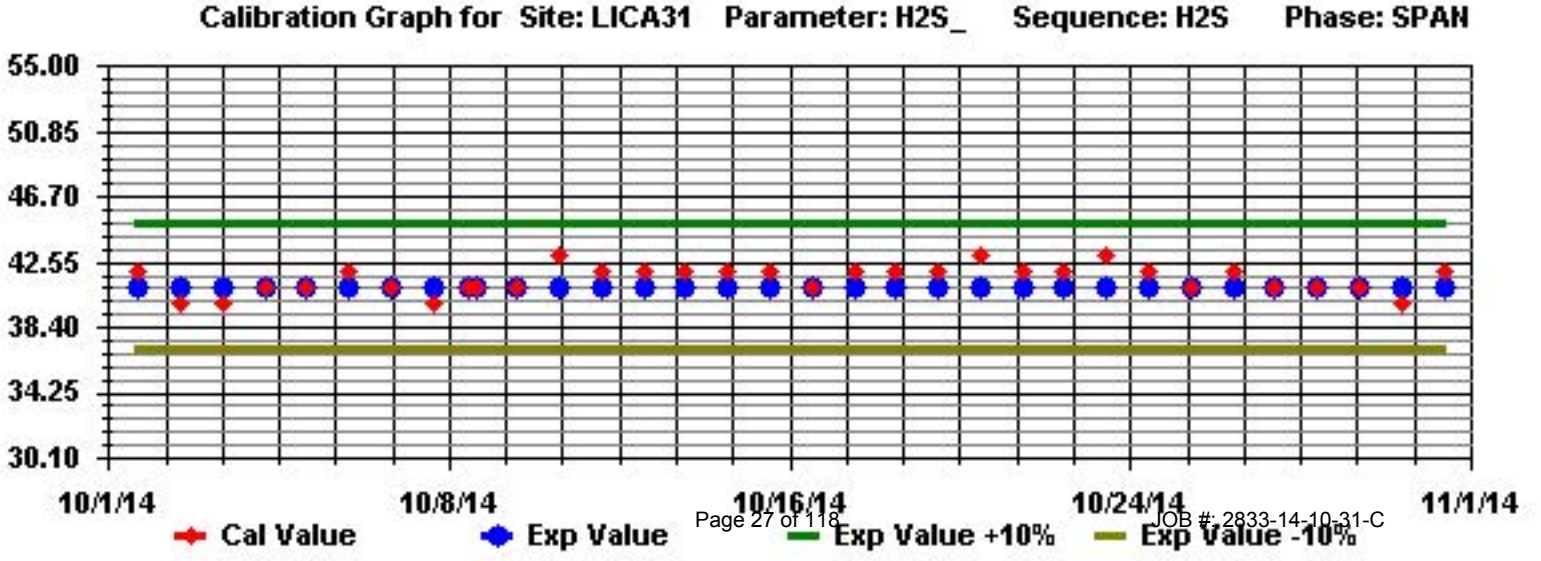
Logger : 31 Parameter : H2S_
Class Limits (PPB)

>= 50
< 50
< 10
< 3

Site : LICA31
Period : 10/01/14-10/31/14
Level : 10



JOB #: 2833-14-10-31-C


Calibration Graph for Site: LICA31 Parameter: H2S_ Sequence: H2S Phase: SPAN
55.00
50.85
46.70
42.55
38.40
34.25
30.10
10/1/14
10/8/14
10/16/14
10/24/14
11/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Hydrocarbons

Lakeland Industry & Community Association - St. Lina Site

OCTOBER 2014

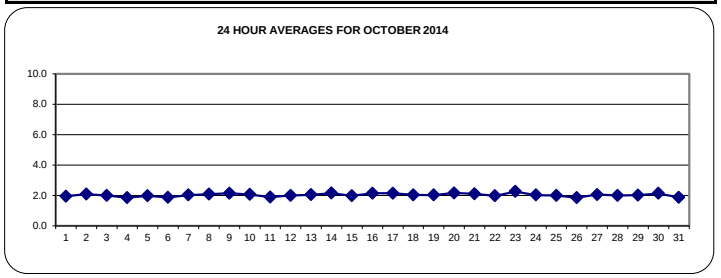
TOTAL HYDROCARBONS (THC) hourly averages in ppm

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	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	**S**	1.6	1.7	1.7	1.8	1.9	1.9	2.0	2.1	2.0	24
2	2.0	2.1	2.0	2.2	2.2	2.3	2.2	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.1	**S**	2.0	2.0	2.1	2.2	2.2	2.1	2.1	2.2	2.3	2.1	24
3	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.0	2.0	2.0	2.0	1.9	**S**	1.9	1.9	1.9	1.9	1.9	1.8	1.9	2.0	1.9	2.2	2.0	24
4	1.9	1.8	1.8	1.8	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.7	**S**	1.9	1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.1	1.9	24
5	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.9	1.9	2.0	**S**	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	2.2	2.0	24
6	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.8	1.7	**S**	1.8	1.8	1.8	1.8	1.9	1.9	2.0	2.0	2.0	2.0	2.2	2.1	2.2	1.9	24
7	2.3	2.1	2.0	2.0	2.0	2.2	2.1	2.1	2.1	2.1	**S**	2.0	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.0	24
8	2.1	2.3	2.4	2.3	2.2	2.2	2.2	2.2	2.2	**S**	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.1	1.9	1.9	2.0	2.4	2.1	24
9	2.0	1.9	2.0	2.0	**S**	**S**	2.1	2.2	**C**	**C**	**C**	**C**	**Y**	**Y**	**Y**	**Y**	**C**	**C**	**C**	2.3	2.3	2.3	2.2	2.3	2.3	2.1	20
10	2.3	2.3	2.3	2.3	2.3	2.3	2.3	**S**	2.4	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.8	1.9	1.9	1.9	1.9	1.8	2.4	2.1	24
11	1.9	1.9	1.9	1.9	1.9	1.9	**S**	1.8	1.9	1.9	1.8	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	24
12	1.9	1.9	1.9	1.9	1.9	**S**	1.9	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.0	24
13	2.2	2.2	2.2	2.2	**S**	2.1	2.1	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.8	1.8	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.4	2.1	24
14	2.3	2.4	2.2	**S**	2.3	2.5	2.5	2.5	2.4	2.4	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	1.9	2.5	2.2	24
15	2.0	2.0	**S**	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	2.0	2.2	2.4	2.4	2.0	1.9	1.9	1.9	2.4	2.0	24
16	1.9	**S**	1.9	2.0	2.1	2.1	2.3	2.5	2.3	2.2	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	2.4	2.5	2.1	24
17	**S**	2.5	2.4	2.5	2.5	2.5	2.4	2.4	2.4	2.3	2.1	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	**S**	2.5	2.2	24
18	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.0	2.0	2.1	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	**S**	2.0	2.1	2.0	24
19	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.0	1.9	2.0	2.2	2.1	1.9	1.9	1.9	2.0	2.1	2.1	**S**	2.0	2.3	2.3	2.0	24
20	2.3	2.4	2.4	2.3	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	**S**	2.3	2.4	2.4	2.4	2.2	24
21	2.4	2.4	2.4	2.3	2.3	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	2.1	**S**	1.9	1.9	1.9	1.9	2.4	2.1	24
22	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.9	2.1	2.0	2.0	2.0	1.9	**S**	2.1	2.1	2.1	2.2	2.3	2.3	2.0	24
23	2.4	2.5	2.6	2.7	2.7	2.7	2.7	***2.8***	2.7	2.6	2.3	2.0	1.8	1.9	1.8	1.9	2.0	**S**	2.0	2.0	2.0	2.0	2.0	2.0	***2.8***	***2.3***	24
24	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	**S**	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.1	2.0	24
25	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.9	1.9	**S**	2.0	2.1	2.1	2.0	2.0	1.9	1.9	1.8	2.1	2.0	24
26	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	**S**	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.8	24
27	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	**S**	2.0	2.0	2.1	2.0	2.1	2.0	2.1	2.1	2.0	2.0	2.2	2.1	24
28	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	1.9	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	2.0	2.1	2.0	24
29	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	**S**	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	**P**	**P**	2.1	2.0	22
30	**R**	2.2	2.2	2.3	2.2	2.3	2.3	2.3	2.3	2.2	**S**	2.2	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.1	23
31	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	**S**	1.9	1.9	1.9	1.8	1.8	1.8	1.8	2.0	1.9	1.9	1.9	1.8	1.8	1.8	2.0	1.9	24
HOURLY MAX	2	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2			
HOURLY AVG	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0			

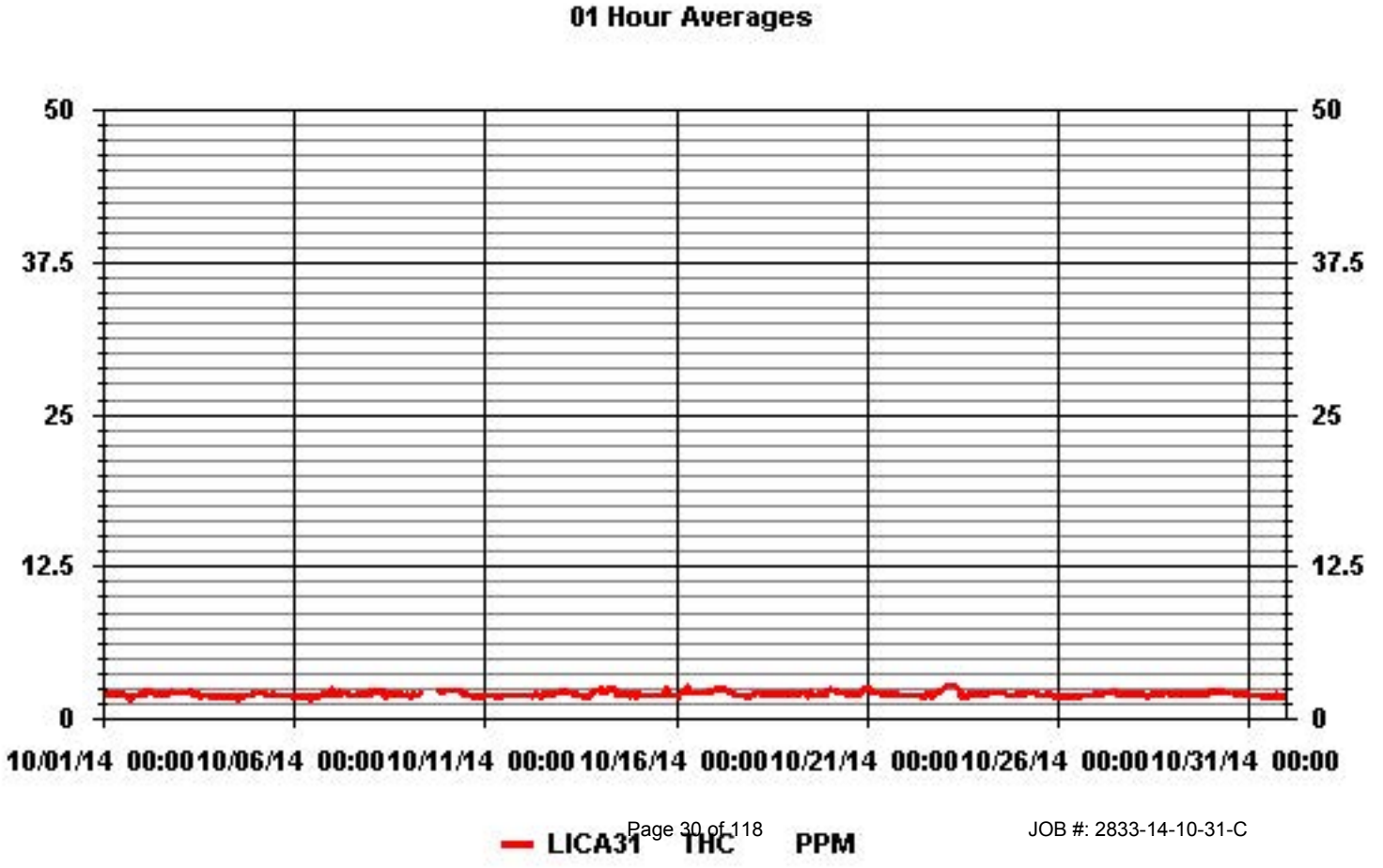
STATUS FLAG CODES

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:	697						
MAXIMUM 1-HR AVERAGE:	2.8	PPM	@ HOUR(S)	7	ON DAY(S)		23
MAXIMUM 24-HR AVERAGE:	2.3	PPM			ON DAY(S)		23
					VAR-VARIOUS		
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:			737	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:			99.1	%
STANDARD DEVIATION:	0.17		MONTHLY AVERAGE:			2.03	PPM



JOB #: 2833-14-10-31-C

Lakeland Industry & Community Association - St. Lina Site

OCTOBER 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	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2	2	**S**	1.8	1.7	1.8	2.3	2.6	2.5	2.6	2.6	2.1	24
2	2.7	2.8	2.6	3.2	3	3.5	3.3	2.9	2.2	2.3	2.1	2.2	2.2	2.2	2.2	**S**	2.2	2.2	2.3	2.7	2.4	2.4	2.4	2.4	3.5	***2.5***	24
3	2.4	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.2	2	2	2	2	**S**	1.9	1.9	1.9	1.9	1.9	1.9	2	2	1.9	2.4	2.1	24
4	1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.8	2.4	3	2.8	2	**S**	2.2	2.6	2.2	2.2	2.6	2.2	2.3	2.2	2	2.3	3	2.2	24
5	2.3	2.1	2.1	2.1	3.2	2.2	2.2	2.4	2.1	2.2	2.2	2.8	**S**	2.5	2	2.2	2.2	2.5	2.3	2.1	2.2	2.2	2.6	2.6	3.2	2.3	24
6	2.7	1.9	1.9	1.8	2.1	1.8	2	2	2.1	2.6	1.8	**S**	1.9	2.1	1.9	2	2.1	2.1	2.1	2.4	2.5	2.2	2.8	2.6	2.8	2.1	24
7	3.4	3.8	2.1	2.1	2.1	3	2.8	2.1	2.4	2.3	**S**	2.2	2.1	2	2.1	2.1	2.2	2	2	2	2	2	2	2	3.8	2.3	24
8	2.2	2.5	2.4	2.4	2.3	2.4	2.3	2.2	2.3	**S**	2.1	2.1	2	2	2	2.1	2.1	2.1	2.2	2.3	2.4	2	2	2.2	2.5	2.2	24
9	2	2	2.3	2.1	**S**	**S**	2.3	**C**	**C**	**C**	**C**	**C**	**Y**	**Y**	**Y**	**Y**	**C**	**C**	**C**	**C**	2.4	2.3	2.3	2.3	2.4	2.2	20
10	2.4	2.4	2.4	2.3	2.4	2.4	2.4	**S**	2.4	2.3	2.1	2.1	2.1	2.1	2	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.4	2.1	24
11	***6.5***	2.4	2.1	2.5	2	2.1	**S**	1.9	1.9	1.9	1.9	2	2	2	2	2	2	2.2	1.9	2	2	1.9	2.7	1.9	***6.5***	2.3	24
12	2	1.9	1.9	1.9	2	**S**	2	2	2	2.1	2.1	2	2.1	2.1	2.2	2.2	2.2	2.3	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.1	24
13	2.3	2.3	2.2	2.3	**S**	2.1	2.1	2.1	2.2	2.1	2.1	2	2	1.9	1.9	1.9	1.9	1.9	2	2.1	2.1	2.3	2.3	2.5	2.5	2.1	24
14	2.4	2.4	2.3	**S**	2.4	2.5	2.7	2.6	2.5	2.4	2.3	2.2	2.3	2.3	2.2	2.3	2.3	2.5	2.6	2.2	2.3	2.2	2	2	2.7	2.3	24
15	2.2	2.6	**S**	1.9	2.4	2.7	2.1	2.6	2.1	2	1.9	2	2	2	2	2	2.1	2.3	2.4	2.5	2.3	2	2	2	2.7	2.2	24
16	2	**S**	2	2.1	2.2	2.2	2.4	2.5	2.4	2.2	2.2	2.2	2.2	2.4	2.2	2.3	2.2	2.5	2.2	2.2	2.4	2.3	2.3	2.4	2.5	2.3	24
17	**S**	2.5	2.5	2.5	2.6	2.6	2.5	2.4	2.4	2.3	2.2	2.2	2.2	2.1	2	2	1.9	1.9	2	2	2	1.9	1.9	**S**	2.6	2.2	24
18	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2	2.1	2.1	2.2	2.7	2.3	2.3	2.2	2.2	2.6	5.4	6.1	2.1	2	2.1	**S**	2.1	6.1	2.5	24
19	2	2	2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2	2	2	2.5	2.3	2	1.9	1.9	2	2.2	2.2	**S**	2.2	2.4	2.5	2.1	24
20	2.4	2.4	2.4	2.4	2.4	2.3	2.2	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2	2.1	2.1	2	2.1	2.2	**S**	2.4	2.5	2.4	2.5	2.2	24
21	2.5	2.7	2.8	2.4	2.6	2.3	2.3	2.4	2.5	2.3	2.3	2.3	2.2	2.5	2.5	2.5	2.8	3.1	2.3	**S**	1.9	2.1	1.9	1.9	3.1	2.4	24
22	1.9	1.9	2	2	2	1.9	2	1.9	1.9	1.9	1.9	1.9	2.3	2.3	2	2	2.1	2	**S**	2.2	2.1	2.1	2.2	2.5	2.5	2.0	24
23	2.5	2.7	2.7	2.8	2.9	2.7	2.7	2.8	2.8	2.8	2.5	2.1	1.9	2	1.9	2	2	**S**	2.1	2.1	2	2	2	2.1	2.9	2.4	24
24	2	2	2.2	2.2	3.1	3.2	2.1	2.1	2.1	2.3	2.3	2.2	2.2	2.2	2.2	2.3	**S**	2.3	2	2	2	2	2	2	3.2	2.2	24
25	2	2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2	2	2	2	**S**	2.1	2.2	2.2	2	2	2	1.9	1.9	2.2	2.1	24
26	1.9	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	**S**	1.9	1.9	2	2	2	2	2	2	2	2	1.9	24
27	2	2	2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.8	2.4	**S**	2.2	2.3	2.4	2.3	2.5	2.3	2.8	2.8	2.5	2.4	2.8	2.3	24
28	2	2	2	2.1	2.1	2	2	2	2	2	2	2	**S**	2	2.1	2.1	2	2	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.0	24
29	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2	2	2.1	2	**S**	2.2	2.2	2.2	2.2	2.1	2.2	2.3	2.1	2.1	2.1	**P**	**P**	2.3	2.1	22
30	**R**	2.2	2.3	2.3	2.3	2.4	2.3	2.4	2.4	2.3	**S**	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2.4	2.2	23
31	2	2	1.9	1.9	1.9	1.9	2	2	2	**S**	2	1.9	1.9	1.8	1.8	1.8	1.9	2.1	2.1	1.9	1.9	1.9	1.9	1.8	2.1	1.9	24
HOURLY MAX	7	4	3	3	3	4	3	3	3	3	3	3	2	3	3	3	3	5	6	3	3	3	3	3			
HOURLY AVG	2.4	2.3	2.2	2.2	2.3	2.3	2.2	2.2	2.2	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.3	2.3	2.1	2.2	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: 695

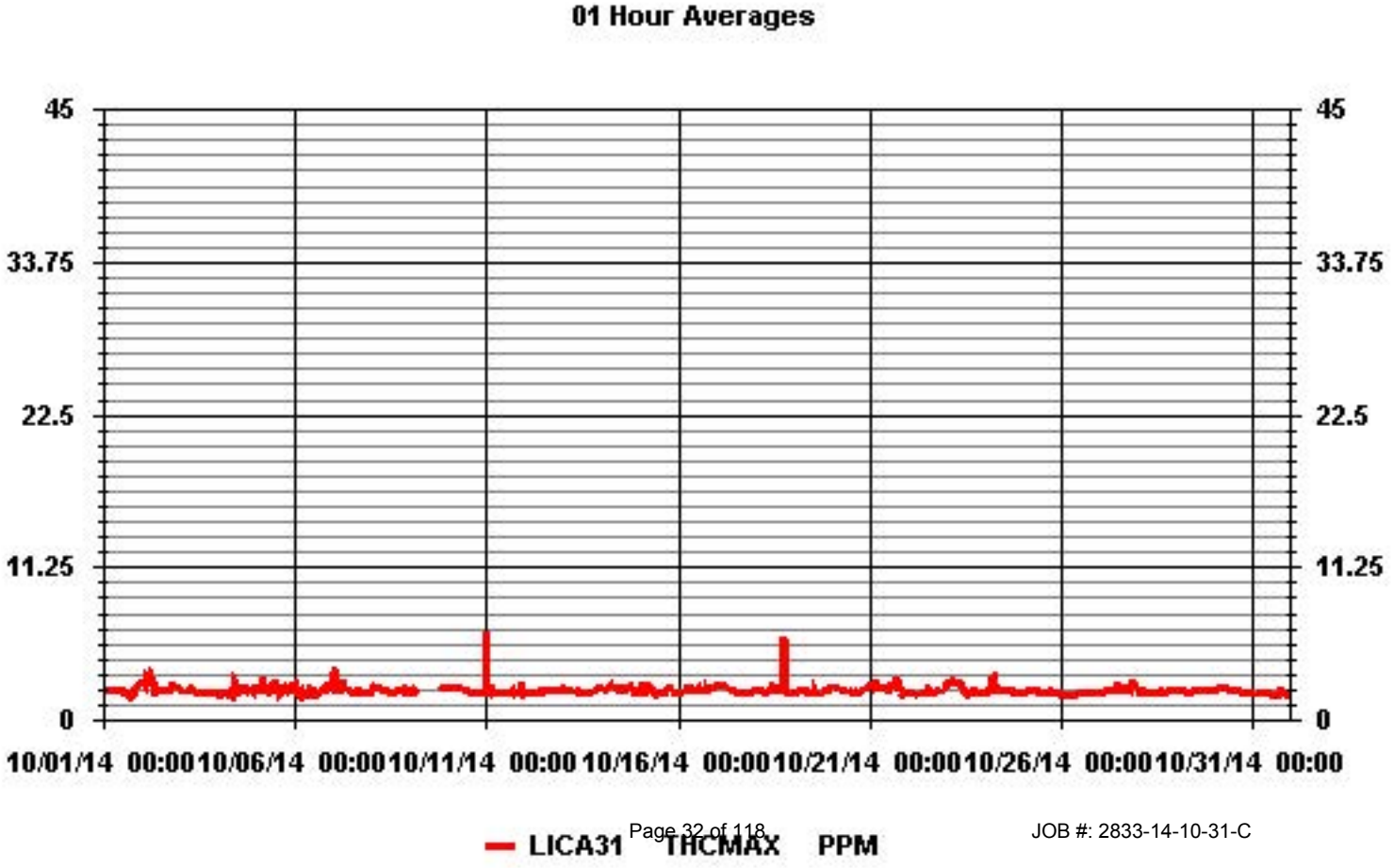
MAXIMUM INSTANTANEOUS VALUE: 6.5 PPM @ HOUR(S) 0 ON DAY(S) 11

VAR-VARIOUS

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 737 HRS

MONTHLY CALIBRATION TIME: 9 HRS

STANDARD DEVIATION: 0.36



JOB #: 2833-14-10-31-C

LICA31
THC / WDR Joint Frequency Distribution (Percent)

October 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	1.58	3.01	3.16	5.89	4.31	5.74	11.78	6.89	7.04	2.72	3.44	7.47	13.64	12.64	7.04	3.59	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	1.58	3.01	3.16	5.89	4.31	5.74	11.78	6.89	7.04	2.72	3.44	7.47	13.64	12.64	7.04	3.59	

Calm : .00 %

Total # Operational Hours : 696

Distribution By Samples

Direction

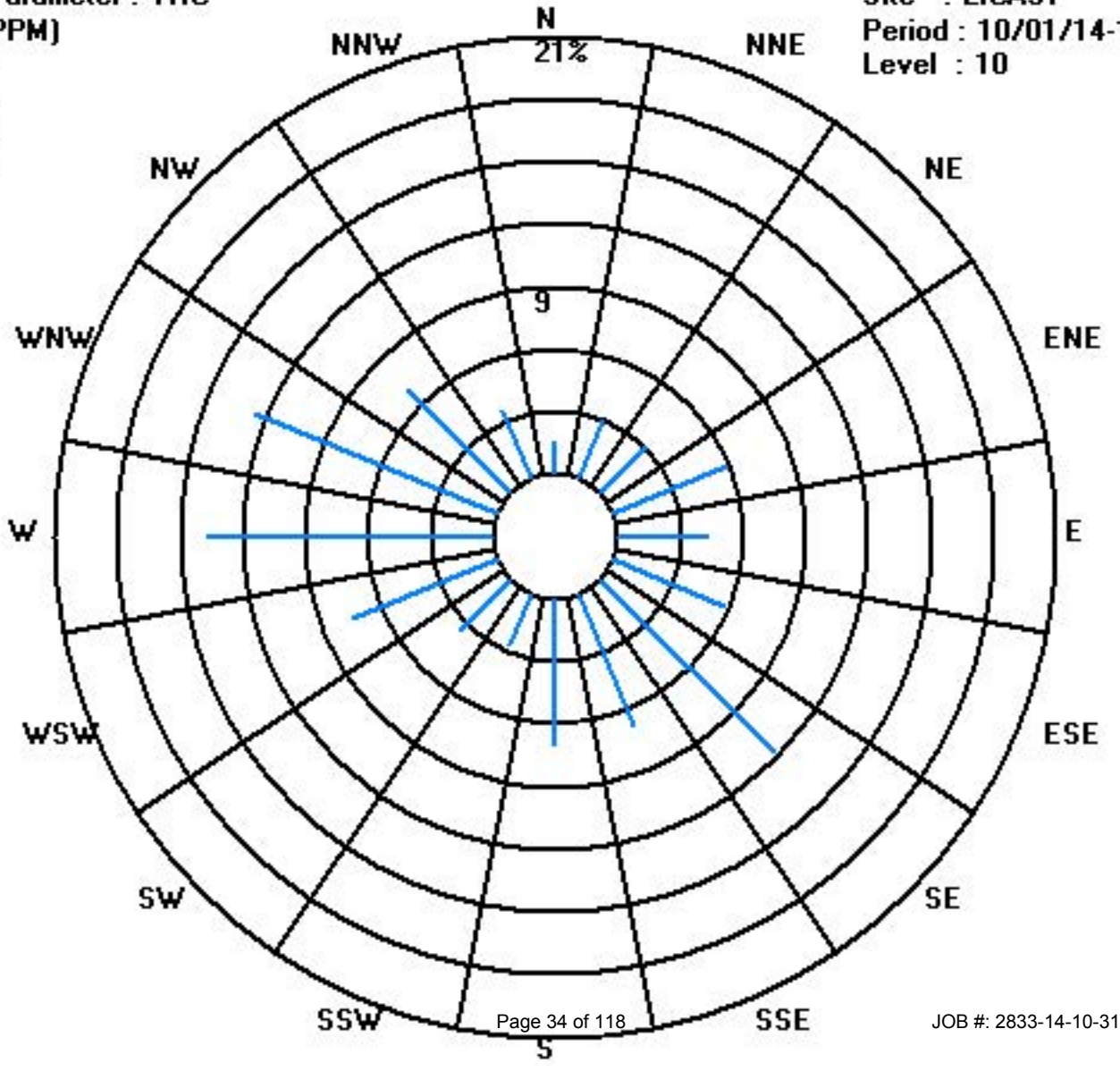
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3.0	11	21	22	41	30	40	82	48	49	19	24	52	95	88	49	25	696
<	10.0																	
<	50.0																	
>=	50.0																	
	Totals	11	21	22	41	30	40	82	48	49	19	24	52	95	88	49	25	

Calm : .00 %

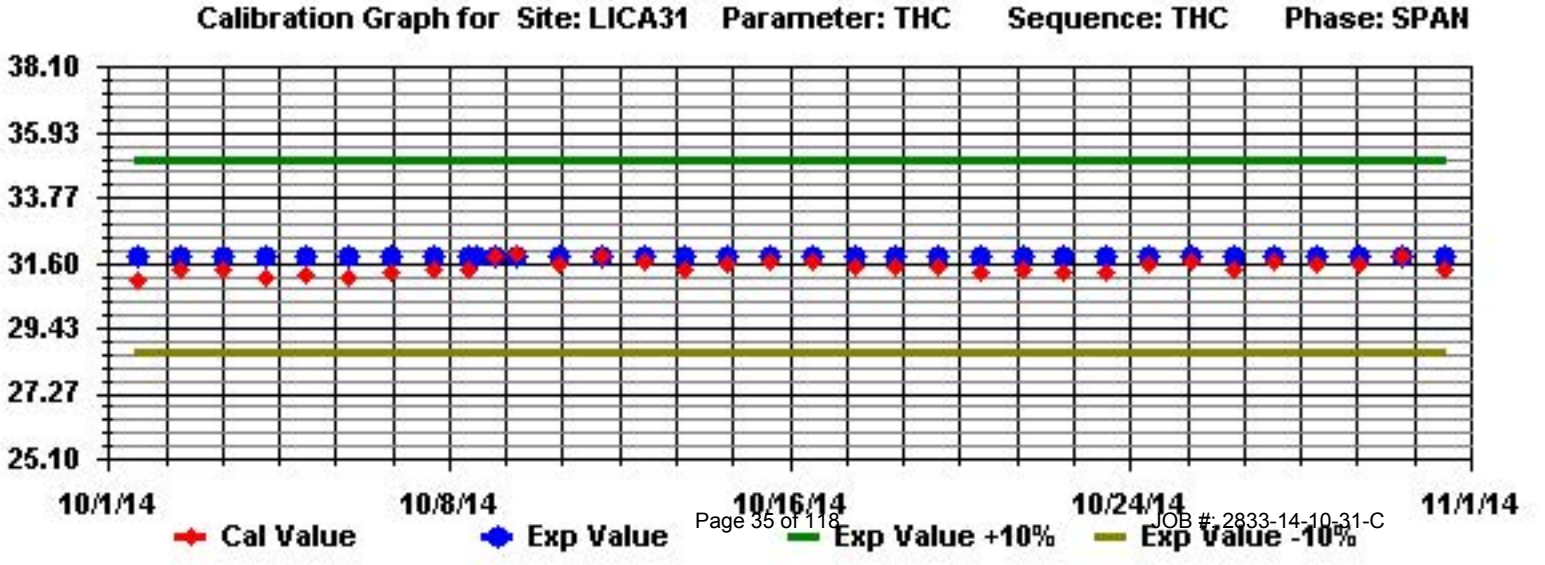
Total # Operational Hours : 696

Logger : 31 Parameter : THC
Class Limits (PPM)
>= 50.0
< 50.0
< 10.0
< 3.0

Site : LICA31
Period : 10/01/14-10/31/14
Level : 10



JOB #: 2833-14-10-31-C


Calibration Graph for Site: LICA31 Parameter: THC Sequence: THC Phase: SPAN
38.10
35.93
33.77
31.60
29.43
27.27
25.10
10/1/14
10/8/14
10/16/14
10/24/14
11/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ozone

Lakeland Industry & Community Association - St. Lina Site

OCTOBER 2014

OZONE (O3) hourly averages in ppb

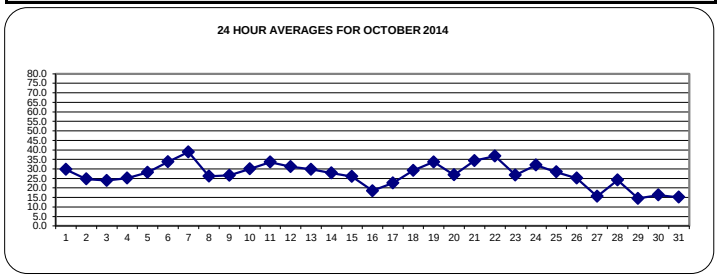
MST

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	27	27	28	28	29	27	26	23	24	27	32	38	40	40	40	37	**S**	39	38	37	32	17	13	14	40	29.7	24
2	17	18	19	18	19	21	22	25	26	26	27	27	29	28	29	**S**	29	29	29	28	26	26	25	24	29	24.7	24
3	24	23	23	23	23	20	19	19	20	23	25	26	27	27	**S**	27	27	26	25	25	26	25	24	23	27	23.9	24
4	23	22	20	18	15	13	13	14	15	17	24	28	31	**S**	32	34	36	37	36	35	34	31	29	20	37	25.1	24
5	14	16	15	14	14	12	16	22	22	25	30	32	**S**	35	37	39	40	40	39	38	38	36	36	36	40	28.1	24
6	35	33	32	34	36	33	25	19	24	27	29	**S**	34	37	40	36	36	39	40	39	37	37	37	37	40	33.7	24
7	37	38	37	37	36	37	35	30	29	32	**S**	41	42	42	***43***	***43***	42	42	42	41	***43***	***43***	42	41	***43***	***38.9***	24
8	36	29	27	27	26	26	25	24	23	**S**	23	24	26	30	31	31	31	29	27	25	23	19	20	19	36	26.1	24
9	20	20	21	21	**S**	**S**	17	18	**S**	17	23	29	35	**C**	**C**	**C**	**C**	**C**	35	34	33	35	35	33	35	26.6	24
10	31	30	29	28	27	25	24	**S**	22	24	26	29	31	33	36	38	37	36	34	33	31	30	28	27	38	30.0	24
11	25	26	25	24	23	25	**S**	30	32	34	35	37	40	40	40	41	40	39	38	37	36	36	35	34	41	33.6	24
12	34	34	33	30	29	**S**	27	26	27	29	31	32	33	33	33	34	34	33	33	32	32	31	31	27	34	31.2	24
13	27	28	25	20	**S**	19	18	18	22	23	28	31	34	37	39	39	39	38	37	35	35	33	31	29	39	29.8	24
14	30	28	30	**S**	27	24	23	22	22	22	22	22	24	25	25	26	31	34	33	32	33	35	35	36	36	27.9	24
15	36	36	**S**	26	32	34	20	27	23	22	28	29	29	29	29	28	28	24	21	18	20	20	20	19	36	26.0	24
16	19	**S**	16	14	12	12	7	7	10	13	16	17	19	22	26	27	27	24	23	24	24	23	23	20	27	18.5	24
17	**S**	16	16	15	15	15	17	17	16	18	21	23	22	26	29	31	31	30	30	28	27	26	27	**S**	31	22.5	24
18	25	24	22	21	21	19	18	18	17	18	23	27	31	37	41	41	40	41	40	38	37	37	**S**	34	41	29.1	24
19	35	36	35	32	28	27	26	23	24	27	32	36	41	41	39	39	40	39	39	37	35	**S**	33	30	41	33.7	24
20	28	26	25	24	23	23	20	17	17	15	18	24	27	32	34	37	31	33	33	34	**S**	32	31	34	37	26.9	24
21	34	30	29	24	23	27	28	29	28	29	33	36	39	42	41	40	40	39	40	**S**	40	40	40	39	42	34.3	24
22	38	38	36	35	31	35	35	38	38	37	39	40	39	39	40	40	40	38	**S**	35	35	34	33	31	40	36.7	24
23	29	27	25	24	22	21	19	16	15	17	20	24	27	31	39	32	27	**S**	31	35	36	35	33	31	39	26.8	24
24	30	31	33	31	31	30	31	27	26	29	28	29	33	34	37	37	**S**	36	36	36	34	33	33	32	37	32.0	24
25	32	31	29	29	28	27	26	26	23	21	24	29	32	31	33	**S**	29	29	28	27	28	30	30	31	33	28.4	24
26	31	33	32	31	29	28	28	27	26	27	27	28	26	25	**S**	25	24	23	22	20	19	18	15	13	33	25.1	24
27	13	13	14	15	15	14	13	13	13	14	13	12	14	**S**	16	16	17	18	19	20	19	19	19	19	20	15.6	24
28	19	20	21	23	22	25	29	31	30	30	29	27	**S**	26	26	27	25	23	22	22	21	20	19	19	31	24.2	24
29	18	18	15	15	15	15	15	15	15	15	17	**S**	12	13	14	14	14	14	13	12	12	13	**P**	**P**	18	14.5	22
30	**R**	13	13	13	15	14	14	14	14	15	**S**	16	17	18	17	17	16	17	18	19	19	20	19	19	20	16.2	23
31	18	18	18	16	16	16	15	15	15	**S**	15	17	17	17	17	17	16	14	12	13	12	11	11	11	18	15.1	24
HOURLY MAX	38	38	37	37	36	37	35	38	38	37	39	41	42	42	43	43	42	42	42	41	43	43	42	41			
HOURLY AVG	27.1	26.1	24.8	23.7	23.5	22.9	21.7	21.7	21.9	23.2	25.4	27.9	29.3	31.1	32.3	31.9	31.0	31.1	30.4	29.6	29.2	28.2	27.8	27.0			

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

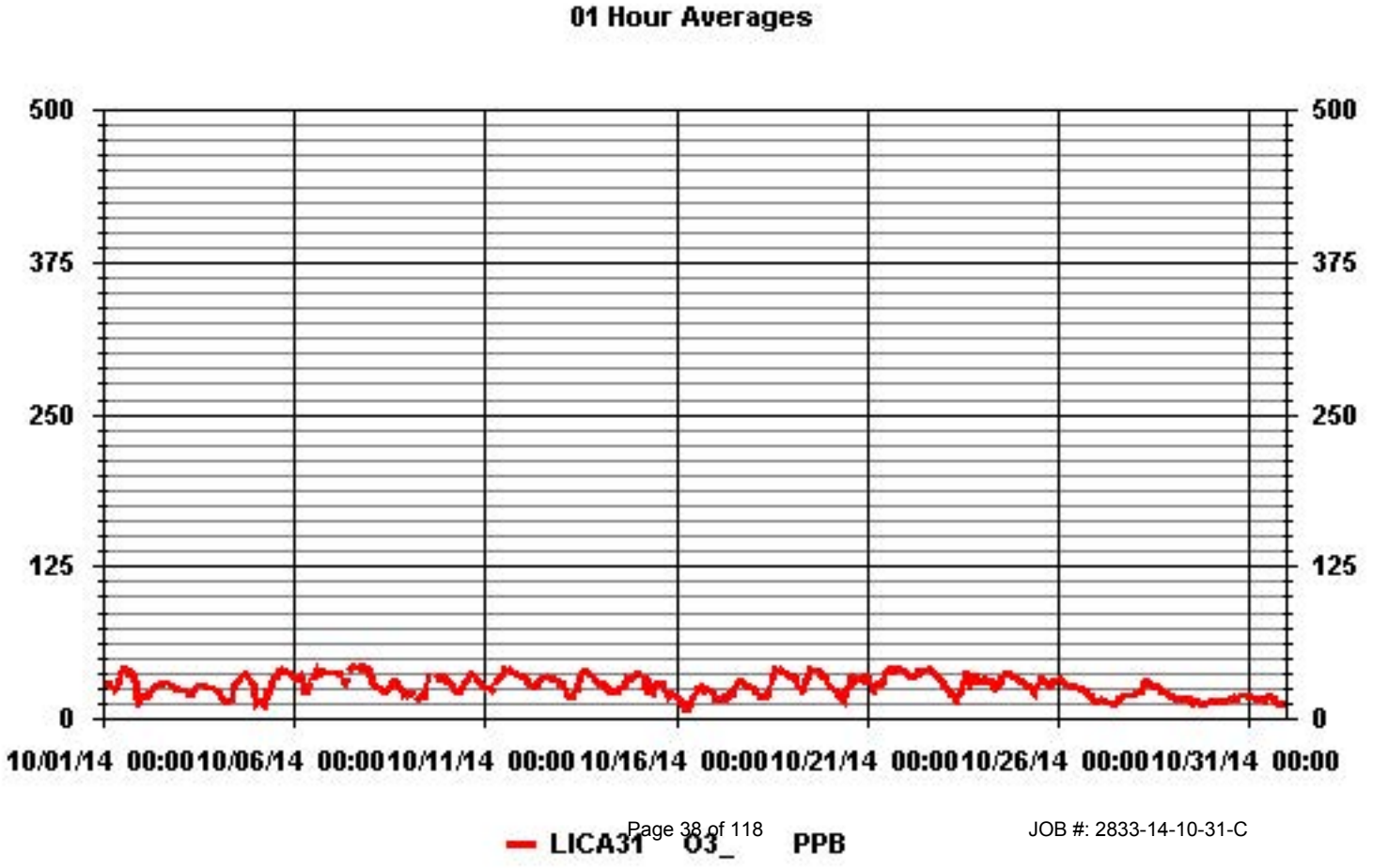
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 82 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	702					
MAXIMUM 1-HR AVERAGE:	43	PPB	@ HOUR(S)	VAR	ON DAY(S)	7
MAXIMUM 24-HR AVERAGE:	38.9	PPB			ON DAY(S)	7
				VAR-VARIOUS		

IZS CALIBRATION TIME:	34	HRS	OPERATIONAL TIME:	741	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:	99.6	%
STANDARD DEVIATION:	8.22		MONTHLY AVERAGE:	26.99	PPB



JOB #: 2833-14-10-31-C

Lakeland Industry & Community Association - St. Lina Site

OCTOBER 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	28	28	29	30	30	28	27	25	26	29	35	40	42	43	43	38	**S**	40	39	38	35	27	13	15	43	31.7	24
2	19	19	19	19	20	22	24	27	27	27	27	28	29	29	30	**S**	30	30	30	29	27	26	25	25	30	25.6	24
3	25	24	24	24	23	23	20	20	22	26	27	27	27	28	**S**	28	28	26	26	26	26	26	25	24	28	25.0	24
4	24	23	22	19	17	13	13	15	16	19	28	30	32	**S**	33	35	38	38	37	35	35	33	31	26	38	26.6	24
5	16	16	16	15	16	16	20	24	23	28	32	33	**S**	37	38	40	41	41	40	39	39	37	37	37	41	29.6	24
6	36	35	34	35	37	35	34	20	27	29	30	**S**	35	40	41	41	38	40	41	40	38	38	38	38	41	35.7	24
7	37	38	38	38	37	37	37	33	31	35	**S**	42	***44***	43	***44***	***44***	***44***	43	43	42	43	43	43	42	***44***	***40.0***	24
8	39	32	29	28	27	27	26	26	24	**S**	24	25	29	31	32	32	32	30	28	26	40	21	20	20	40	28.2	24
9	21	21	22	22	**S**	**S**	19	19	**S**	20	28	33	39	**C**	**C**	**C**	**C**	37	35	35	35	35	35	34	39	28.4	24
10	32	31	30	28	28	26	25	**S**	23	25	28	31	31	36	38	39	38	36	35	34	32	31	29	28	39	31.0	24
11	27	27	26	27	25	28	**S**	32	33	35	36	40	40	40	41	41	41	40	39	38	37	36	36	35	41	34.8	24
12	34	34	34	32	29	**S**	28	26	28	31	31	33	33	34	34	35	35	34	33	33	32	31	31	31	35	32.0	24
13	29	29	28	22	**S**	21	18	21	25	25	32	33	35	39	39	39	40	39	38	37	36	35	32	31	40	31.4	24
14	31	29	30	**S**	28	25	24	22	23	23	23	23	26	26	26	27	35	35	34	33	34	36	35	37	37	28.9	24
15	38	38	**S**	27	35	35	28	35	30	28	31	30	30	31	30	29	29	27	23	20	21	21	20	20	38	28.5	24
16	19	**S**	17	15	14	14	10	10	12	15	17	19	22	23	27	28	28	25	24	25	25	23	24	22	28	19.9	24
17	**S**	16	16	16	17	16	19	19	17	19	23	24	23	29	31	31	32	31	30	29	27	27	28	**S**	32	23.6	24
18	26	24	23	22	21	21	19	18	18	21	25	30	34	40	42	42	42	41	41	39	38	37	**S**	36	42	30.4	24
19	36	38	38	34	30	28	29	26	25	30	34	41	43	***44***	41	41	41	39	40	38	35	**S**	35	32	***44***	35.6	24
20	29	27	25	25	24	24	23	19	17	16	20	27	30	33	36	39	33	33	34	35	**S**	34	33	35	39	28.3	24
21	35	34	32	26	23	29	30	31	30	31	36	37	41	43	42	42	41	41	40	**S**	41	41	41	40	43	36.0	24
22	39	39	39	39	37	37	36	39	38	38	39	41	40	41	41	41	41	40	**S**	36	36	35	34	32	41	38.2	24
23	30	29	26	25	22	22	20	17	17	18	22	27	29	34	43	43	29	**S**	34	36	37	36	35	32	43	28.8	24
24	31	33	33	32	31	32	32	28	27	31	30	32	34	35	38	38	**S**	36	37	36	36	34	34	33	38	33.2	24
25	33	31	30	30	29	29	27	26	26	24	26	33	33	33	35	**S**	30	30	29	28	29	31	31	32	35	29.8	24
26	32	34	33	31	30	29	28	28	27	27	28	28	27	26	**S**	27	25	24	23	21	20	19	17	14	34	26.0	24
27	13	14	15	16	16	14	13	14	14	14	14	13	15	**S**	19	18	17	19	20	20	20	20	19	19	20	16.3	24
28	20	22	25	29	24	30	32	32	31	31	29	28	**S**	27	27	27	26	24	23	22	22	21	20	20	32	25.7	24
29	20	18	18	15	16	15	15	16	16	17	18	**S**	14	14	15	15	15	15	14	13	13	14	**P**	**P**	20	15.5	22
30	**R**	14	13	14	15	15	15	17	14	15	**S**	17	18	18	17	18	17	18	18	20	20	20	20	19	20	16.9	23
31	18	18	18	17	17	16	16	15	15	**S**	16	18	18	18	18	17	17	15	13	13	13	11	11	11	18	15.6	24
HOURLY MAX	39	39	39	39	37	37	37	39	38	38	39	42	44	44	44	44	44	43	43	42	43	43	43	42			
HOURLY AVG	28.2	27.2	26.1	25.1	24.8	24.4	23.6	23.3	23.4	25.1	27.2	29.8	30.8	32.7	33.6	33.4	32.3	32.1	31.4	30.5	30.7	29.3	28.7	28.3			

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: 702

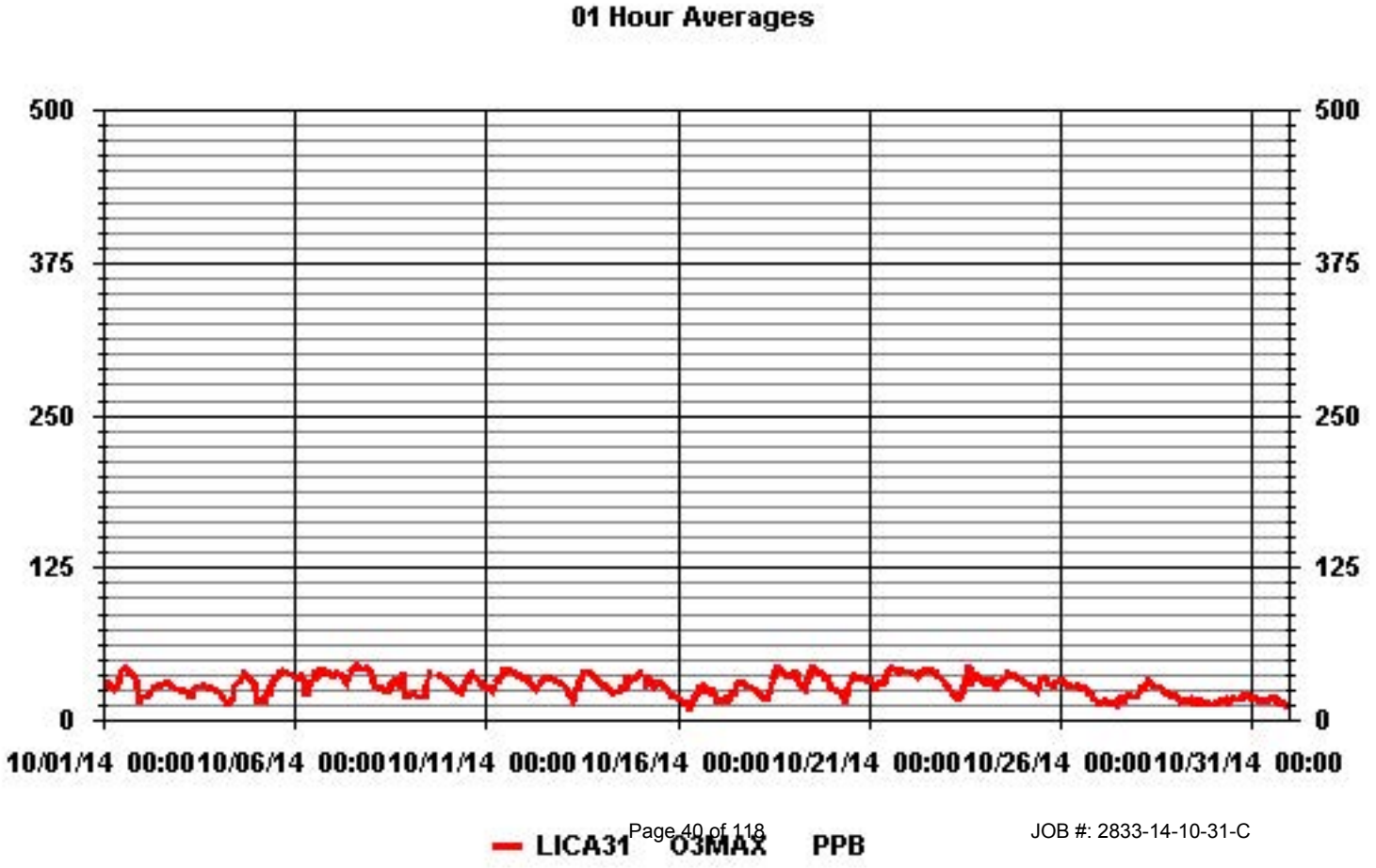
MAXIMUM INSTANTANEOUS VALUE: 44 PPB @ HOUR(S) VAR ON DAY(S) 7, 19

VAR-VARIOUS

IZS CALIBRATION TIME: 34 HRS OPERATIONAL TIME: 741 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION: 8.32



JOB #: 2833-14-10-31-C

LICA31
O3_ / WDR Joint Frequency Distribution (Percent)

October 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	1.56	2.99	3.13	5.84	4.42	6.13	11.84	6.84	6.99	2.71	3.42	7.41	13.55	12.55	6.99	3.56	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	1.56	2.99	3.13	5.84	4.42	6.13	11.84	6.84	6.99	2.71	3.42	7.41	13.55	12.55	6.99	3.56	

Calm : .00 %

Total # Operational Hours : 701

Distribution By Samples

Direction

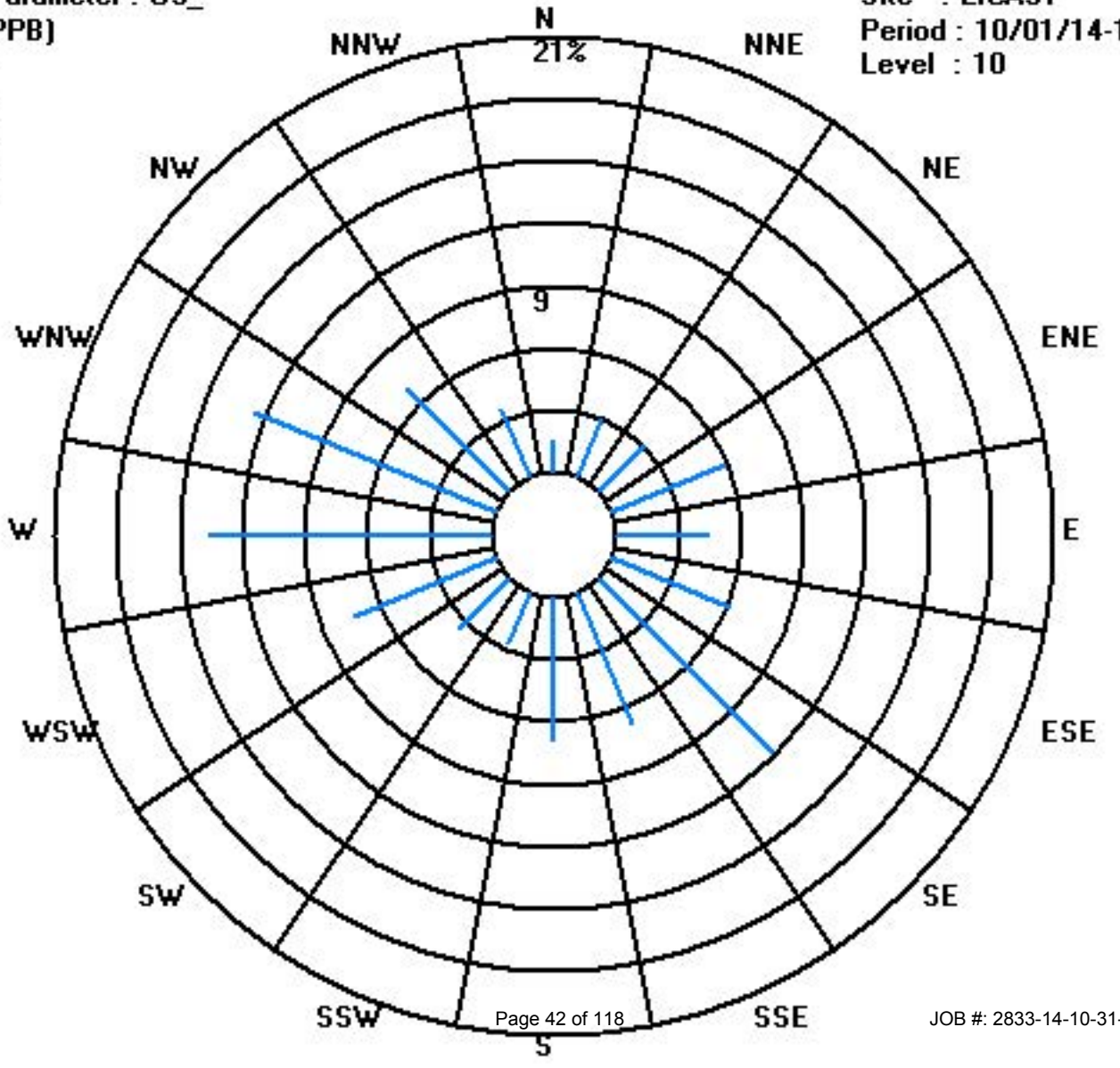
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	11	21	22	41	31	43	83	48	49	19	24	52	95	88	49	25	701
< 110																	
< 210																	
>= 210																	
Totals	11	21	22	41	31	43	83	48	49	19	24	52	95	88	49	25	

Calm : .00 %

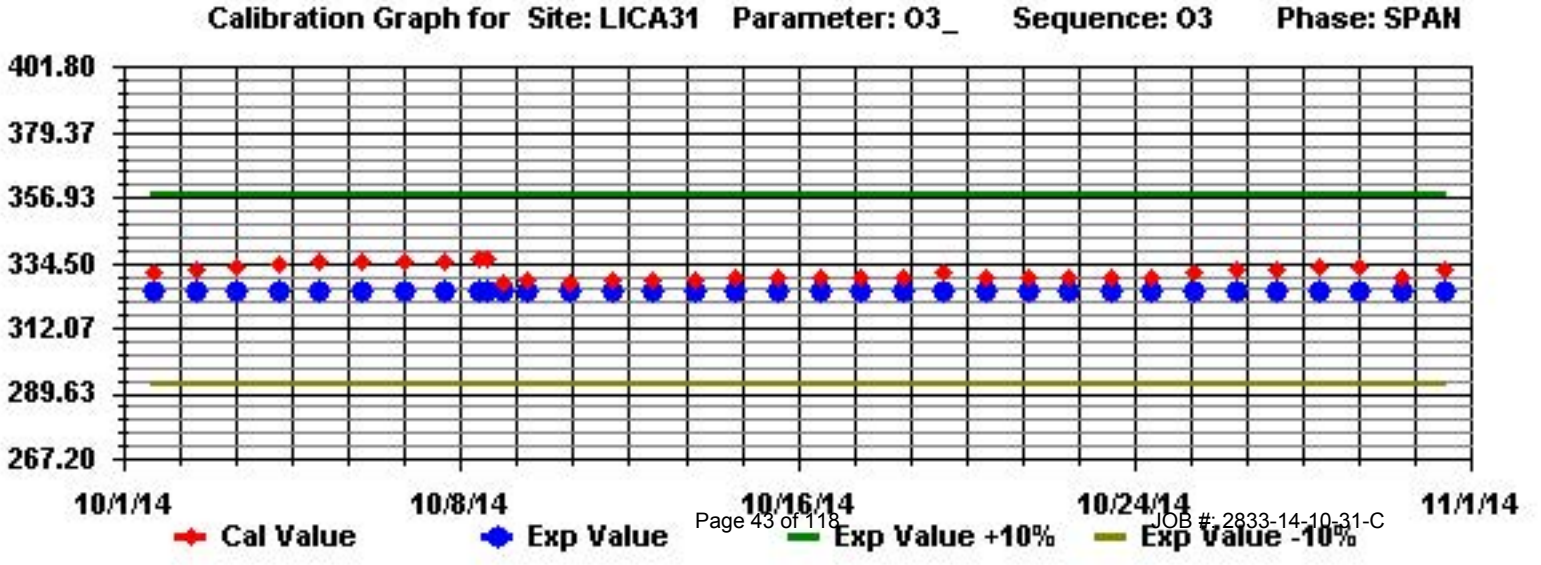
Total # Operational Hours : 701

Logger : 31 Parameter : 03_
Class Limits (PPB)
>= 210
< 210
< 110
< 50

Site : LICA31
Period : 10/01/14-10/31/14
Level : 10



JOB #: 2833-14-10-31-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
10/1/14
10/8/14
10/16/14
10/24/14
11/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitrogen Dioxide

Lakeland Industry & Community Association - St. Lina Site

OCTOBER 2014

NITROGEN DIOXIDE (NO2) hourly averages in ppb

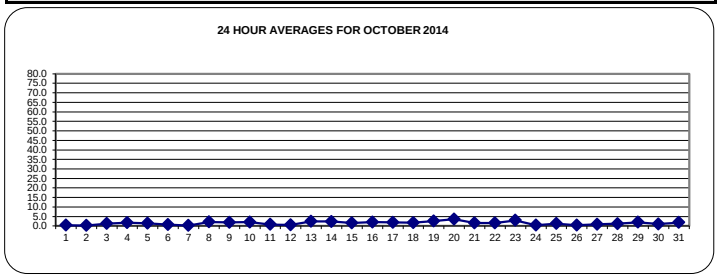
MST

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	0.8	1.1	1	0.4	0.3	0.4	0.4	0.7	0.6	0.6	0.4	0.2	0.1	0.2	0.2	0.3	**S**	0.2	0.3	0.5	0.5	0.2	0.2	0.3	1.1	0.4	24
2	0.2	0.3	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.4	0.2	0.2	0.2	0.1	0.3	**S**	0.3	0.1	0.3	0.1	0.5	0.4	0.6	0.5	0.6	0.3	24
3	0.5	0.7	0.4	0.5	0.4	0.6	1.6	1.5	1.5	0.9	0.8	0.4	0.6	1.1	**S**	1.2	1.1	2.9	2.2	1.8	1.8	2.2	2	2.2	2.9	1.3	24
4	1.9	2	2.7	3.8	4.1	4.7	4.4	3.5	2	1.4	0.9	0.4	0.2	**S**	0	0	0.2	0.4	0	0.2	0.3	0.7	0.7	3.8	4.7	1.7	24
5	5.2	3.3	3.3	3.7	3.7	3.1	2.5	1.1	0.7	0.6	0.2	0.1	**S**	0.4	0.4	0.5	0.1	0.3	0.8	0.6	0.4	0.8	0.8	0.6	5.2	1.4	24
6	0.8	0.4	0.9	0.5	0.4	0.5	1.3	2.8	1.9	1	0.4	**S**	0.2	0.1	0.2	0.3	0.3	0.2	0.2	0.4	0.7	0.5	0.2	0.5	2.8	0.6	24
7	0.2	0.2	0.6	0.3	0.3	0.6	0.6	0.9	1.2	0.8	**S**	0.2	0.2	0	0	0	0	0	0	0.1	0	0	0	0	1.2	0.3	24
8	1.5	4.7	4.2	2.8	1.9	1.1	1.2	1.1	1.6	**S**	1.7	1.7	1.7	1.6	1.9	**C**	**C**	**C**	2.2	2.4	2.8	2.1	1.9	1.7	4.7	2.1	24
9	0.8	0.6	1.1	1.3	**S**	**S**	2.3	2	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2	2.2	1.7	2.1	2.7	3.5	2.4	2.1	1.8	3.5	1.9	24
10	2.1	2.3	1.9	2	2.2	2.6	2.8	**S**	2.9	2.4	2.1	2.1	2.4	2.5	2.5	1.1	1.2	1.1	1.4	1.6	1.7	1.5	1.5	1.7	2.9	2.0	24
11	1.9	1.9	2.6	2.2	2	1.9	**S**	0.7	0.5	0.5	0.4	0.4	0.1	0.2	0.1	0	0.1	0.1	0.2	0.5	0.3	0.3	0.5	0.5	2.6	0.8	24
12	0.4	0.3	0.2	0.6	0.5	**S**	0.7	0.8	0.8	0.7	0.4	0.4	0.2	0.4	0.5	0.2	0.4	0.2	0.2	0.4	0.6	0.9	0.9	2.2	2.2	0.6	24
13	1.5	1.9	4.8	7	**S**	3.7	4.5	3.7	3.1	2.3	1.6	1.6	1.1	1	0.5	0.5	0.4	0.3	0.7	1.8	2	3.1	3.8	3.7	7	2.4	24
14	2.9	2.9	2.2	**S**	2.4	3.1	3.4	3.9	3.4	2.8	2.4	2.7	2.9	3.3	3.3	3.2	2.5	1.5	1.1	1.1	0.5	0.5	0.9	0.5	3.9	2.3	24
15	0.5	0.4	**S**	1.4	1	0.3	1.3	1.3	1.5	1	0.4	0.7	0.4	1.1	1.4	1.3	2	3.7	5.3	6.1	2.1	0.5	0.3	0.4	6.1	1.5	24
16	0.3	**S**	0.6	1.9	3.2	2.8	7.3	7.8	3.8	1.7	1.1	0.8	0.8	0.7	0.5	0.7	1	1.3	2.3	1.7	1.6	1.6	1.3	2.4	7.8	2.1	24
17	**S**	3.4	2.7	2.6	2.7	3	2.6	2.5	2.4	1.8	1.5	1.7	1.6	1.2	1.1	1	1.1	1.1	1.3	1.5	1.7	1.3	1.3	**S**	3.4	1.9	24
18	1.2	1.4	1.3	1.6	1.6	1.7	2.1	2.9	3.4	3.2	2.7	2.1	1.8	1.3	0.6	0.4	1.6	0.9	0.8	1.9	1.9	1.4	**S**	2.1	3.4	1.7	24
19	1.8	1.8	1.8	1.8	2.8	4.2	3.6	4.7	4.9	3.9	3	2.1	1.5	2	2.8	2.5	1.6	1.6	1.7	2.2	2.1	**S**	1.3	2.2	4.9	2.5	24
20	2.3	2.3	2.2	1.9	1.9	1.6	2.1	2.3	2.5	5.9	5.5	4.7	3.9	3.7	4.3	4	4.2	3.9	3.7	3.6	**S**	4.8	5.2	4	5.9	***3.5***	24
21	3.8	3.2	3.2	3.5	3.4	2.2	1.8	1.5	1.5	1.9	1.3	0.8	0.4	0.3	0.3	0.5	1	1.1	0.9	**S**	0.7	0.7	0.8	0.8	3.8	1.5	24
22	1.1	1.2	1.4	2.9	2	1.4	1.8	1.4	1.1	0.9	0.9	0.6	1.1	2	1	1.3	1.2	1.3	**S**	1.9	1.9	1.9	2	2.3	2.9	1.5	24
23	3.3	3.2	3.2	3.2	3.4	3.5	4.3	5.4	4.9	3.5	2.8	2	2.3	2.5	1.7	5.7	***8.2***	**S**	2.2	0.8	0.4	0.6	0.9	0.6	***8.2***	3.0	24
24	0.5	0.6	0.4	0.4	0.2	0.2	0.4	0.5	0.5	0.4	0.5	0.4	0.2	0.3	0.2	0.1	**S**	0.2	0.5	0.6	0.7	0.7	0.7	0.5	0.7	0.4	24
25	0.5	0.5	0.7	0.6	0.6	0.8	1.2	1.4	2.3	2.5	1.5	0.8	0.8	1.4	0.8	**S**	2	2.2	2.5	1.9	1.2	1	0.7	0.8	2.5	1.2	24
26	0.6	0.2	0.4	0.3	0.3	0.3	0.3	0.5	0	0	0	0.2	0.8	1.2	**S**	1.2	0.8	0.4	0.5	0.4	0.3	0.2	0.6	0.5	1.2	0.4	24
27	0.5	0.8	0.6	0.4	0.6	0.8	0.6	0.9	0.8	0.8	1	1.4	1.2	**S**	1.6	1.4	1.2	1.3	1	0.8	0.9	0.7	0.8	0.8	1.6	0.9	24
28	0.8	0.7	0.5	0.6	0.8	0.7	0.3	0.2	0.5	0.4	0.5	0.5	**S**	1	1.2	1.2	1.6	2.1	2.4	2.6	2.3	2.3	2.2	1.6	2.6	1.2	24
29	1.4	1.6	1.8	1.9	1.7	1.5	1.6	1.4	1.6	2	1.4	**S**	3.1	3.8	3.2	2.7	2.2	2	1.7	1.4	1.3	0.9	**P**	**P**	3.8	1.9	22
30	**R**	0.3	0.9	1.3	0.8	1.7	1	1.2	1.1	1	**S**	1.3	1	0.8	1.2	1.3	1.3	1	1.1	0.7	0.6	0.7	0.7	0.9	1.7	1.0	23
31	1	1.1	1	1.6	1.2	1.2	1.2	1.4	1.7	**S**	1.6	1.6	1.4	1.6	1.7	1.8	2.2	3.2	3.4	2.2	2.3	2.5	2.3	2.2	3.4	1.8	24
HOURLY MAX	5	5	5	7	4	5	7	8	5	6	6	5	4	4	4	6	8	4	5	6	4	5	5	4			
HOURLY AVG	1.4	1.5	1.6	1.8	1.6	1.7	2.0	2.0	1.8	1.6	1.3	1.1	1.2	1.3	1.2	1.3	1.5	1.3	1.4	1.5	1.3	1.2	1.3	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

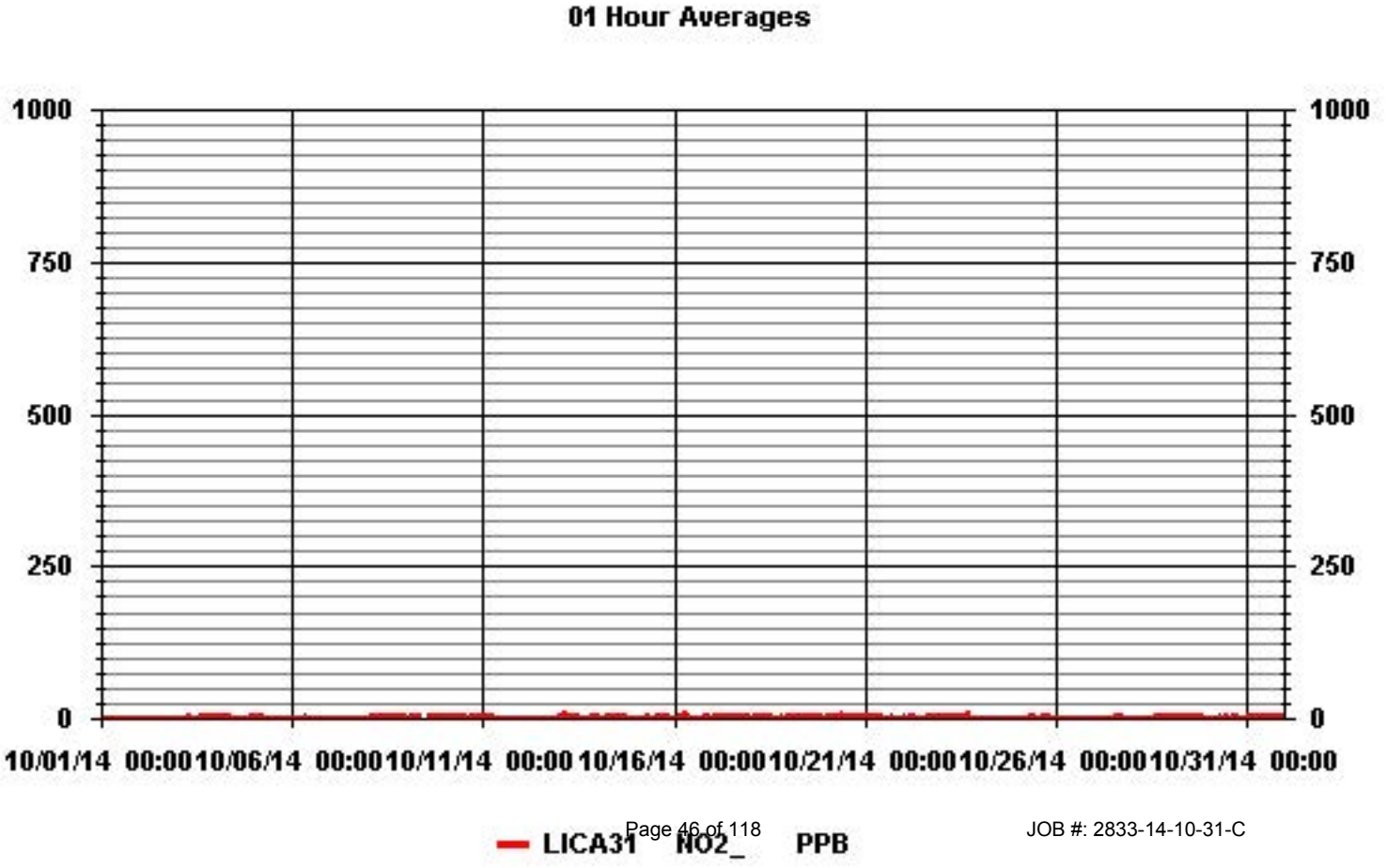
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 159 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	681					
MAXIMUM 1-HR AVERAGE:	8.2	PPB	@ HOUR(S)	16	ON DAY(S)	23
MAXIMUM 24-HR AVERAGE:	3.5	PPB			ON DAY(S)	20
					VAR-VARIOUS	
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		741	HRS
MONTHLY CALIBRATION TIME:	10	HRS	AMD OPERATION UPTIME:		99.6	%
STANDARD DEVIATION:	1.26		MONTHLY AVERAGE:		1.48	PPB

JOB #: 2833-14-10-31-C



JOB #: 2833-14-10-31-C

Lakeland Industry & Community Association - St. Lina Site

OCTOBER 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	1.4	1.6	1.4	1.4	1.1	1.1	0.9	1.1	1	0.9	0.9	0.9	0.6	0.6	1	1	**S**	0.8	1.2	1	1	1	0.9	0.8	1.6	1.0	24
2	0.8	0.6	0.7	0.7	0.6	0.8	0.7	0.7	1.1	1	0.7	0.8	0.5	0.6	0.8	**S**	0.8	0.8	0.8	1	0.9	1	1.1	1.2	1.2	0.8	24
3	1.2	1.8	1	1.1	1	1.8	2.4	1.9	3.3	2.6	2.5	1.3	1.1	1.4	**S**	1.8	2	3.5	2.9	2.5	2.6	3	2.7	2.6	3.5	2.1	24
4	2.7	2.9	3.4	4.2	5	5.2	4.8	14.1	2.5	2	1.8	0.9	0.9	**S**	0.5	0.7	1.5	1.8	0.7	1	0.8	1.5	2.6	6.3	14.1	2.9	24
5	6.3	4.3	4	4.7	4.8	3.7	3.4	2.1	1.2	1.2	0.8	0.8	**S**	0.7	0.8	1.7	1	0.9	1.7	2	1.6	2.9	2.4	2.5	6.3	2.4	24
6	2.5	1.2	2	1.4	1.3	1.4	2.9	4	2.7	1.9	1.1	**S**	1	0.7	1.4	5.3	8.6	0.6	1	1.4	2.3	10	0.7	16.2	16.2	3.1	24
7	1.1	1.2	4.2	0.8	1	1	1.1	1.5	1.8	2	**S**	1	1.3	4.8	1.2	1.1	2.2	1	1.2	1.3	0.8	0.8	0.6	1	4.8	1.5	24
8	3.8	6.2	5.4	4.8	3.3	2.5	2.7	2.8	2.8	**S**	2.2	2.5	2.4	2.1	2.3	**C**	**C**	**C**	3	3.2	3.8	3.2	3.1	2.4	6.2	3.2	24
9	2	1.6	2.1	2.2	**S**	**S**	3.2	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	4	3.1	3.2	3.5	4.6	4.7	3.8	3.2	3.2	4.7	3.2	24
10	3.4	3.5	3.2	3.2	3.6	3.9	4.1	**S**	3.5	2.9	2.7	2.9	3.3	3.2	3.6	2	2.1	2	2.2	2.8	2.4	2.5	2.6	2.8	4.1	3.0	24
11	3.2	3.1	3.8	3.3	3.1	2.9	**S**	1.4	1.2	1.6	1.3	1.1	1	1.3	0.6	1	0.9	0.8	0.9	2.3	1	1.2	1.3	1.3	3.8	1.7	24
12	1.2	1.2	1.1	1.4	1.3	**S**	1.5	1.7	1.4	1.5	1.3	1.1	1.1	1.4	1.5	1.5	1.1	1.2	1.1	1.8	1.6	1.8	2.3	3.3	3.3	1.5	24
13	2.6	3.7	7.2	8.2	**S**	4.3	5.1	4.3	4.7	3.2	3.4	6.5	1.5	1.5	1.3	1.3	0.9	1.1	1.6	3.1	2.8	4.1	4.6	4.6	8.2	3.5	24
14	3.9	3.6	3.3	**S**	3.1	3.8	4.5	4.4	3.9	3.4	3.1	3.6	3.6	3.8	3.9	3.6	4.1	2.2	2.1	15.1	1.3	1	1.8	1	15.1	3.7	24
15	2	1.3	**S**	2.5	2.7	1.3	2.5	3	2.4	1.8	1.1	1.3	1.3	2.4	2.2	2	3.3	5.4	7.2	7.6	5.7	1.5	1.1	1.5	7.6	2.7	24
16	1.2	**S**	1.4	3.6	5.1	4.9	9.8	10	5.6	3.2	2.1	1.6	1.6	1.3	1.2	1.5	1.9	2.5	3.2	3.1	2.7	2.5	2.2	3.4	10	3.3	24
17	**S**	4.7	3.4	3.3	3.6	3.7	3.5	3.1	3.1	2.3	2.2	2.2	2.3	2.2	1.7	1.7	1.5	1.7	2	2.2	2.3	2	1.9	**S**	4.7	2.6	24
18	2.1	2.1	2	2.1	2.1	2.6	3.1	4.2	4.3	4.4	3.4	3	9.3	2.5	1.2	1	***27.3***	3.3	2.1	3.3	2.8	2	**S**	2.9	***27.3***	4.0	24
19	2.7	2.9	2.6	3	3.9	7.3	5.1	6.7	7.2	5.5	4.2	3.2	2.3	3.4	4.8	4	2.9	2.4	2.7	3	3.1	**S**	2.2	3.2	7.3	3.8	24
20	3.3	3.2	3.1	2.9	2.8	2.6	3.9	6.6	11.7	8.4	7.4	5.8	5.4	5.3	14	4.8	5.2	4.9	4.6	4.5	**S**	5.6	6.1	4.8	14	***5.5***	24
21	4.6	4.2	3.9	4.5	4.2	3.3	2.6	2.5	2.1	3	2.1	2	1	2.2	1.2	1.4	3.2	2.4	1.8	**S**	1.5	1.6	1.3	1.9	4.6	2.5	24
22	2.4	2.2	3.1	7.3	4.3	2.4	2.8	2.2	1.9	1.7	1.6	2	2.8	3.4	1.9	1.9	2	2.2	**S**	2.8	2.6	2.6	2.7	3.3	7.3	2.7	24
23	4	3.9	3.8	4.1	4.4	4.3	5.1	6.3	5.9	4.1	3.5	2.5	2.8	3.1	7.1	10.9	10.1	**S**	3.9	1.5	0.8	1.1	1.5	1	10.9	4.2	24
24	1	0.9	0.9	0.7	0.5	0.7	1.3	1.1	0.9	0.9	1.2	1.2	1	0.9	0.7	0.9	**S**	0.8	1.1	1.8	1.6	1.6	1.4	1.3	1.8	1.1	24
25	1	1.2	1.5	1.1	1.3	1.6	1.9	2.6	2.8	3.3	2.1	1.5	1.5	2	1.6	**S**	3.3	3.2	3.6	3.4	2.1	1.7	1.6	1.7	3.6	2.1	24
26	1.5	1.1	1.2	1.2	1.2	1.2	1.4	1.1	0.9	0.8	0.9	1	1.4	1.8	**S**	1.6	1.5	0.9	1	0.9	0.7	0.9	1.5	1.2	1.8	1.2	24
27	1	1.3	1.1	0.8	1.2	2	1.2	1.4	1.4	1.3	1.8	2.1	3.3	**S**	3.2	1.8	2	2	1.9	1.3	1.8	1.8	2.4	1.3	3.3	1.7	24
28	1.4	1.3	0.9	1.2	1.8	1.5	0.9	0.7	1.1	0.9	0.9	1.1	**S**	1.8	1.8	1.8	2.4	2.8	3.1	3.3	2.9	3.2	2.8	2.3	3.3	1.8	24
29	2.5	2.3	2.5	2.6	2.6	2.5	2.4	2.1	2.6	3.1	2.1	**S**	4.5	4.5	4.2	3.5	3.2	2.7	2.4	2.1	2.1	1.6	**P**	**P**	4.5	2.8	22
30	**R**	1.3	2.1	2.7	1.9	2.3	2.1	2	2.1	1.9	**S**	1.6	1.5	1.2	1.5	1.7	1.8	1.9	1.5	1.5	1.3	1.2	1.3	1.5	2.7	1.7	23
31	1.6	1.7	1.5	2.3	1.8	1.6	1.7	2	2	**S**	2.2	2.2	2.1	2.2	2.5	2.5	7.2	6.7	6.6	3.4	3.1	3.5	3.2	3.1	7.2	2.9	24
HOURLY MAX	6	6	7	8	5	7	10	14	12	8	7	7	9	5	14	11	27	7	7	15	6	10	6	16			
HOURLY AVG	2.4	2.4	2.6	2.8	2.6	2.7	3.0	3.4	3.0	2.5	2.2	2.1	2.2	2.2	2.5	2.4	3.8	2.3	2.4	3.0	2.2	2.4	2.2	2.9			

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: 697

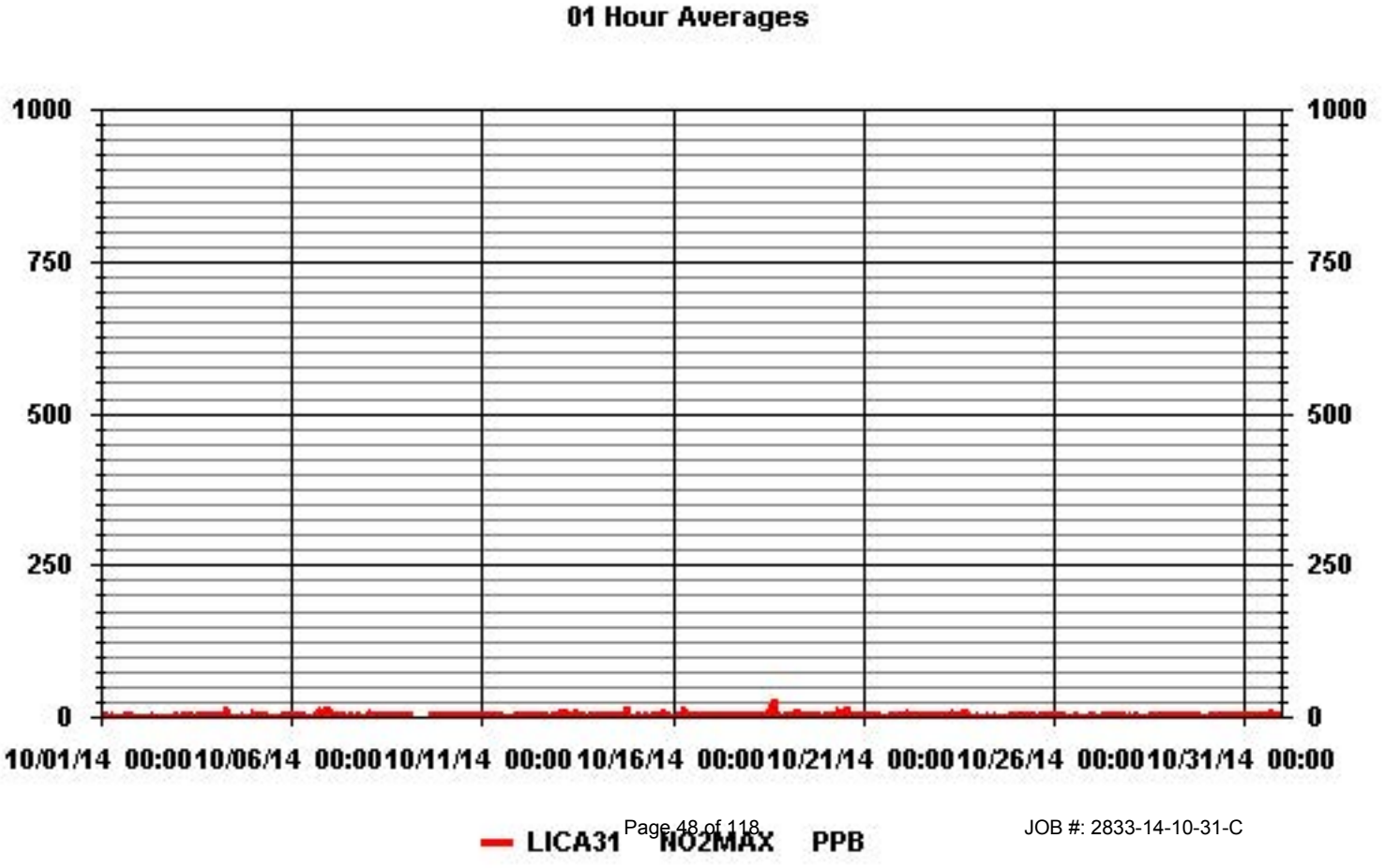
MAXIMUM INSTANTANEOUS VALUE: 27.3 PPB @ HOUR(S) 16 ON DAY(S) 18

VAR-VARIOUS

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 741 HRS

MONTHLY CALIBRATION TIME: 11 HRS

STANDARD DEVIATION: 2.11



JOB #: 2833-14-10-31-C

LICA31
NO2_ / WDR Joint Frequency Distribution (Percent)

October 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	1.57	3.01	3.15	5.88	4.16	6.02	11.76	6.88	7.03	2.72	3.44	7.46	13.62	12.62	7.03	3.58	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	1.57	3.01	3.15	5.88	4.16	6.02	11.76	6.88	7.03	2.72	3.44	7.46	13.62	12.62	7.03	3.58	

Calm : .00 %

Total # Operational Hours : 697

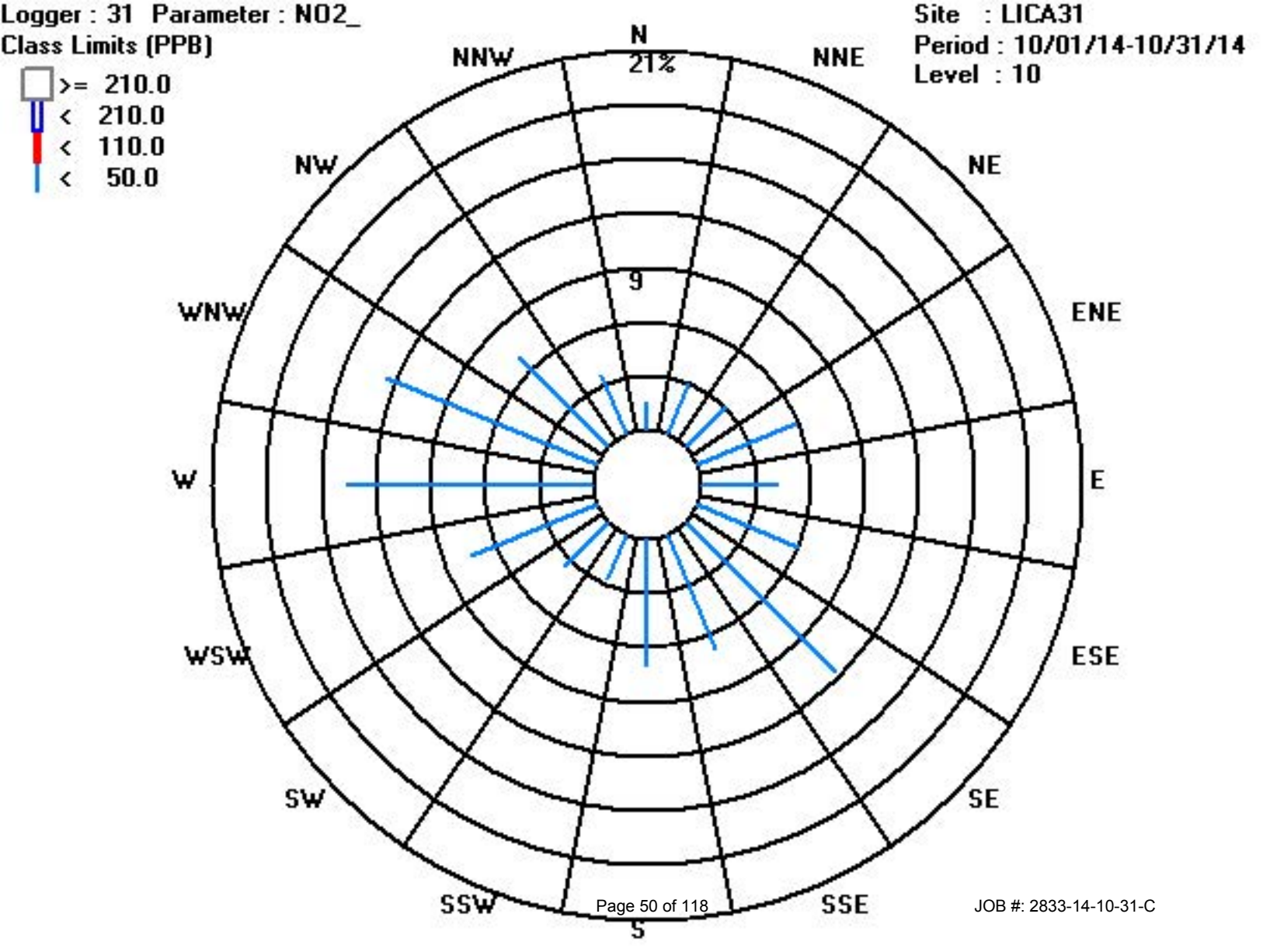
Distribution By Samples

Direction

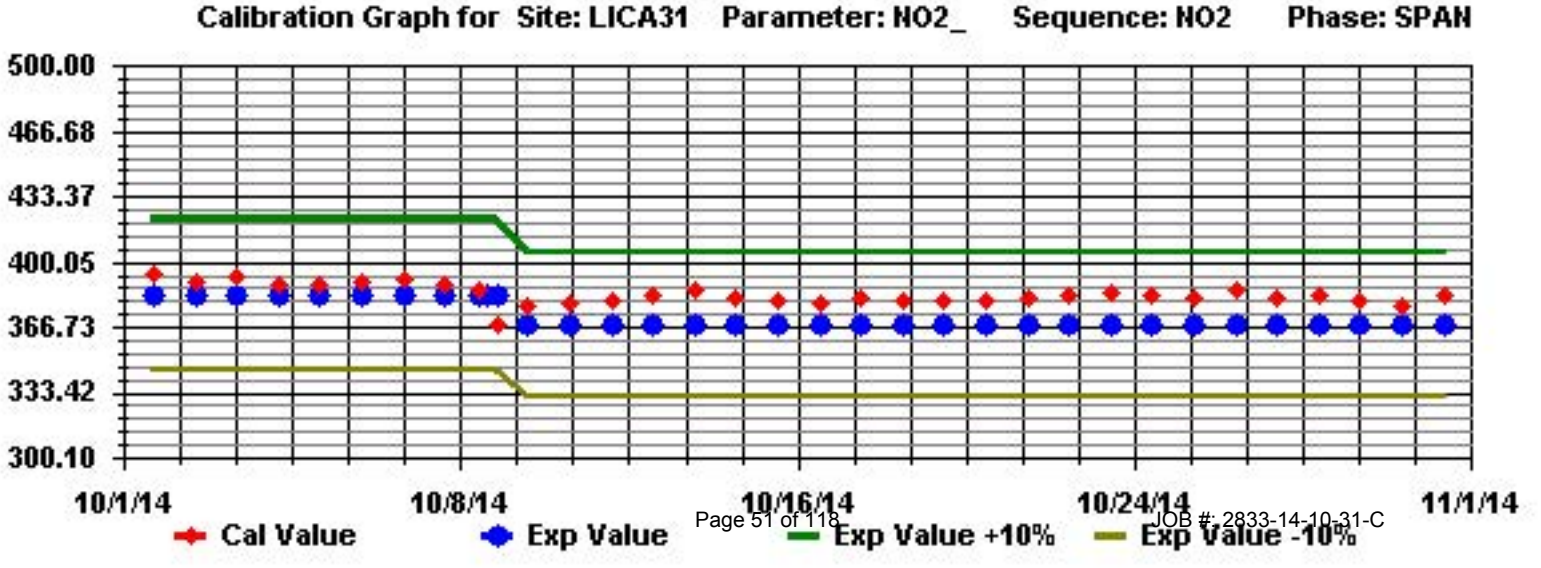
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	11	21	22	41	29	42	82	48	49	19	24	52	95	88	49	25	697
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	11	21	22	41	29	42	82	48	49	19	24	52	95	88	49	25	

Calm : .00 %

Total # Operational Hours : 697



JOB #: 2833-14-10-31-C


Calibration Graph for Site: LICA31 Parameter: NO2_ Sequence: NO2 Phase: SPAN
500.00
466.68
433.37
400.05
366.73
333.42
300.10
10/1/14
10/8/14
10/16/14
10/24/14
11/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitric Oxide

Lakeland Industry & Community Association - St. Lina Site

OCTOBER 2014

NITRIC OXIDE (NO) hourly averages in ppb

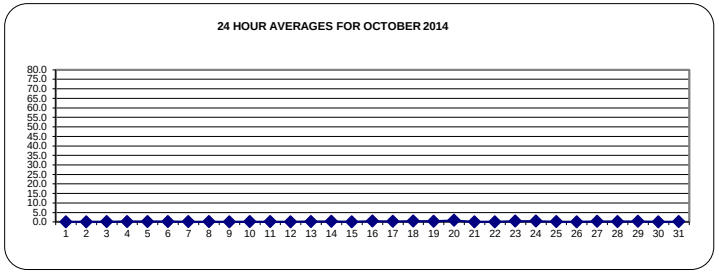
MST

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	0	0	0.1	0.2	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0.1	0.2	0.0	24
2	0	0.1	0.1	0	0	0	0.1	0	0	0	0	0	0	0	0.1	**S**	0	0	0	0	0	0	0	0	0.1	0.0	24
3	0	0	0	0	0	0	0.1	0.1	0.7	0.5	0.5	0	0	0.1	**S**	0.1	0	0	0	0	0	0	0	0	0.7	0.1	24
4	0	0	0	0	0	0	0	0.2	0.7	0.7	0.1	0	0	**S**	0.5	0.4	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.7	0.2	24
5	0.2	0.3	0.2	0.2	0.3	0.2	0.3	0.4	0.3	0.4	0.3	0.4	**S**	0	0	0.1	0	0	0	0	0	0	0	0	0.4	0.2	24
6	0	0	0	0	0	0	0	0.1	0	0	0	**S**	0.4	0.5	0.4	0.6	0.4	0.3	0.2	0.2	0.2	0.5	0.1	0.5	0.6	0.2	24
7	0.2	0.1	0.3	0.1	0.1	0.1	0.1	0.2	0.6	0.5	**S**	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0.6	0.1	24
8	0	0	0	0	0	0	0	0	0	**S**	0.4	0.4	0.3	0.3	0.2	**C**	**C**	**C**	0	0	0	0	0	0	0.4	0.1	24
9	0	0	0	0	**S**	**S**	0	0	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0.1	0	0	0	0	0	0	0	0	0.1	0.0	24
10	0	0	0	0	0	0	0	**S**	0.6	0.6	0.5	0.3	0.3	0.4	0.2	0	0	0	0	0	0	0	0	0	0.6	0.1	24
11	0	0	0	0	0	0	**S**	0.1	0.2	0.1	0.4	0.3	0.2	0	0.2	0.3	0.3	0.1	0	0.1	0	0	0.1	0	0.4	0.1	24
12	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
13	0	0	0	0	**S**	0	0.1	0.4	0.7	0.9	0.6	0.5	0	0.2	0	0	0	0	0	0	0	0	0	0.1	0.9	0.2	24
14	0	0	0	**S**	0	0	0	0.1	0.1	0.7	0.8	1	0.6	0.5	0.6	0.8	0.1	0	0	0.1	0	0	0	0	1	0.2	24
15	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
16	0	**S**	0.1	0.1	0	0.1	0	1.5	2.6	1.8	1	0.8	0.4	0.3	0.4	0.2	0	0.1	0.1	0.2	0	0	0	0	2.6	0.4	24
17	**S**	0.1	0.3	0.2	0	0	0	0.2	0.7	1	0.8	0.7	0.8	0.4	0	0	0	0.1	0	0	0	0	0.1	**S**	1	0.2	24
18	0.2	0.1	0.3	0	0	0.2	0.3	0.2	1	2	1.5	1	0.7	0.3	0.1	0	0.6	0.3	0	0.2	0.2	0.1	**S**	0.2	2	0.4	24
19	0.2	0	0.2	0.1	0	0	0.1	0.6	1.4	1.8	0.9	0.5	0.1	0.5	0.4	0.2	0	0	0	0	0	**S**	0	0	1.8	0.3	24
20	0	0.1	0.1	0.1	0	0	0.3	0.5	0.9	3.6	***3.9***	2.7	2	1.4	1.5	0.5	0.2	0	0	0	**S**	0	0	0	***3.9***	***0.8***	24
21	0	0	0	0	0	0	0	0	0	0.2	0.2	0	0	0	0	0	0.1	0	0	**S**	0	0	0	0	0.2	0.0	24
22	0	0	0	0	0	0	0	0	0	0.1	0	0	0.1	0.3	0	0	0	0	**S**	0	0	0	0	0	0.3	0.0	24
23	0	0	0	0	0	0	0	0.1	1.2	1.8	1.3	0.9	0.5	0.2	0.1	0.5	0.5	**S**	0.4	0.4	0.3	0.3	0.4	0.3	1.8	0.4	24
24	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.5	0.7	0.4	0.7	0.4	0.5	0.5	0.5	0.7	**S**	0.2	0	0.1	0.1	0	0	0	0.7	0.3	24
25	0	0	0	0	0	0	0	0	0.3	0.4	0.5	0	0	0	0.1	**S**	0	0	0	0	0	0	0	0	0.5	0.1	24
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0.2	0.2	0	0	0.2	0.2	0	0	0.2	0.0	24
27	0	0	0	0	0	0.3	0	0	0.1	0.3	0.1	0.4	0.4	**S**	0.5	0.4	0.5	0.6	0.3	0.1	0.2	0	0.4	0.1	0.6	0.2	24
28	0.1	0.1	0.1	0	0.2	0.1	0	0	0	0	0.1	0	**S**	0.6	0.5	0.4	0.2	0.3	0	0.3	0.2	0.3	0.2	0.3	0.6	0.2	24
29	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.5	0.2	0.4	0.3	**S**	1.1	0.8	0.5	0.3	0	0	0	0	0	0.1	**P**	**P**	1.1	0.3	22
30	**R**	0.2	0.3	0.2	0.2	0	0	0	0.2	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.1	23
31	0	0	0	0	0	0	0	0	0	**S**	0.7	0.6	0.3	0.1	0.1	0.1	0.1	0	0.3	0	0	0	0	0.1	0.7	0.1	24
HOURLY MAX	1	0	0	0	0	0	0	2	3	4	4	3	2	1	2	1	1	1	0	0	0	1	0	1			
HOURLY AVG	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.7	0.6	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1			

STATUS FLAG CODES

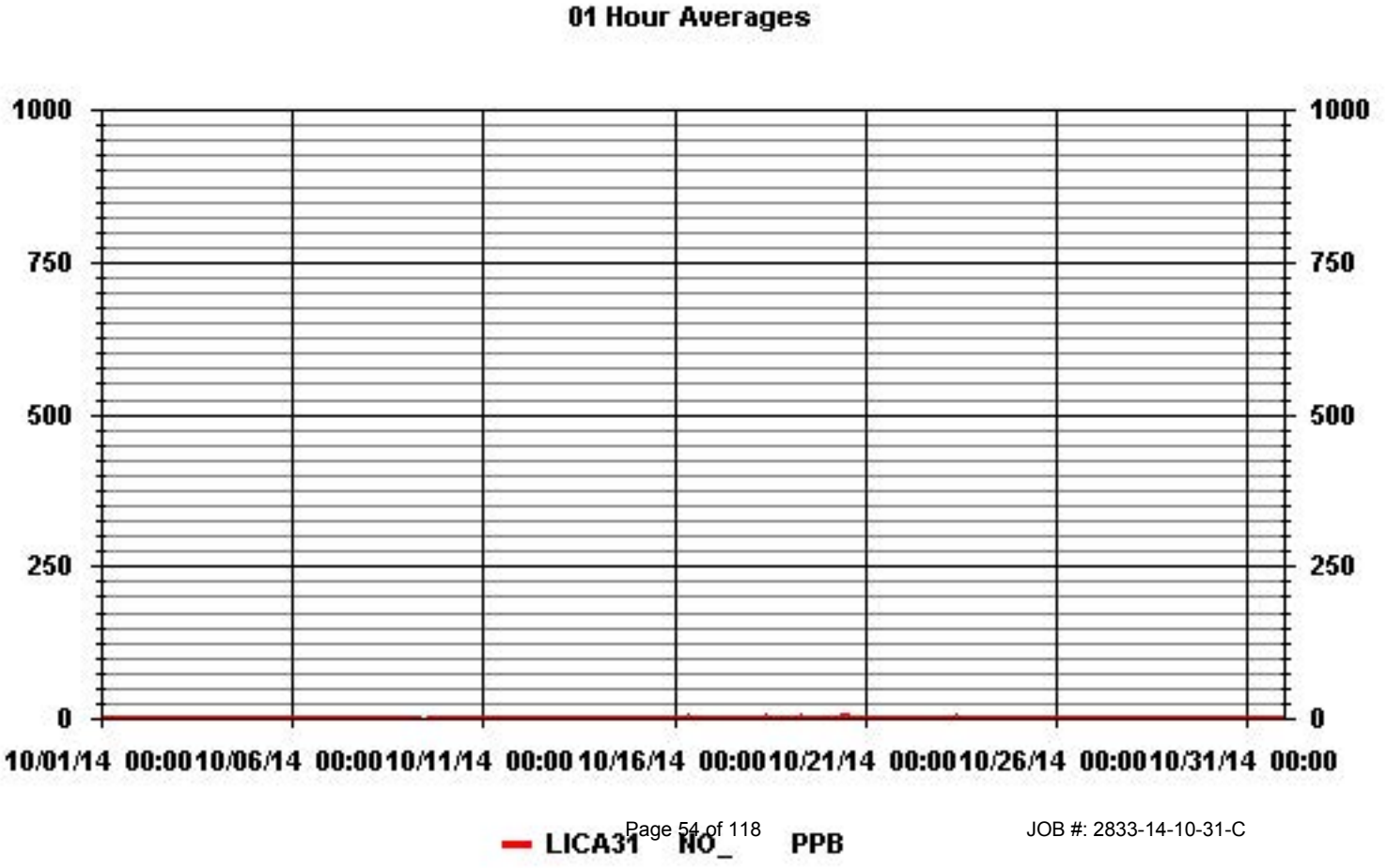
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

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



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	NA					
NUMBER OF NON-ZERO READINGS:	292					
MAXIMUM 1-HR AVERAGE:	3.9	PPB	@ HOUR(S)	10	ON DAY(S)	20
MAXIMUM 24-HR AVERAGE:	0.8	PPB			ON DAY(S)	20
					VAR-VARIOUS	
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		741	HRS
MONTHLY CALIBRATION TIME:	10	HRS	AMD OPERATION UPTIME:		99.6	%
STANDARD DEVIATION:	0.37		MONTHLY AVERAGE:		0.17	PPB



JOB #: 2833-14-10-31-C

Lakeland Industry & Community Association - St. Lina Site

OCTOBER 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	0.8	0.6	0.5	0.5	0.7	0.5	0.7	0.8	0.9	0.5	0.5	0.8	0.5	0.8	1	**S**	0.6	1.1	0.6	0.7	0.6	0.7	0.7	1.1	0.7	24
2	0.7	0.9	0.7	0.6	0.5	0.3	0.8	1.2	0.5	0.9	0.6	0.9	0.9	0.7	0.9	**S**	1	0.6	0.6	0.5	0.8	0.5	0.6	0.4	1.2	0.7	24
3	0.6	0.6	0.6	0.6	0.5	0.4	2.5	0.7	2.9	2.8	2.7	1	0.6	0.7	**S**	1.1	0.4	0.7	0.5	0.5	0.5	0.4	0.2	0.5	2.9	1.0	24
4	0.3	0.5	0.6	1.3	0.3	0.4	0.7	3.3	2.3	1.8	0.8	0.7	0.4	**S**	1.5	1.5	0.9	1.2	1.1	1.1	0.9	0.9	0.9	0.9	3.3	1.1	24
5	0.9	0.9	0.9	0.9	0.9	1	1.1	1.1	1.2	1.3	1.2	1	**S**	0.9	0.7	1.2	0.3	0.5	1.5	0.7	1.2	1.5	0.4	1.1	1.5	1.0	24
6	2.1	0.3	1.4	0.4	0.3	0.2	1.3	1.4	1.1	0.5	0.4	**S**	0.9	1.9	1.9	11.1	13.6	1.1	1.1	1.1	1.6	3.4	0.9	18.9	18.9	2.9	24
7	1.3	1.1	3.2	0.9	0.8	0.8	0.7	0.9	1.4	1.1	**S**	1	1.6	8.7	1	0.1	1.3	0.1	0.3	0.3	0.3	0.3	0.1	0.2	8.7	1.2	24
8	0.2	0.4	0.2	0.5	0.4	0	0	0.2	0.3	**S**	1.1	0.9	0.9	0.8	0.9	**C**	**C**	**C**	0.7	0.5	0.4	0.4	0.2	0.7	1.1	0.5	24
9	0.4	0.2	0.3	0.3	**S**	**S**	0.2	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0.8	0.6	0.4	0.3	0.5	0.6	0.1	0.3	0.3	0.8	0.4	24
10	0.3	0.7	0.2	0.3	0.3	0	0.2	**S**	1.5	1.3	1.2	1.2	1.1	1	0.9	0.5	0.6	0.5	0.4	0.2	0.6	0.4	0.4	0.2	1.5	0.6	24
11	0.6	0.3	0.4	0.3	0.4	0.3	**S**	0.8	1.1	1	1.2	2.3	2.2	1	1.1	1.1	1.4	0.8	0.9	1.9	0.5	0.5	0.8	0.8	2.3	0.9	24
12	0.8	0.7	0.5	0.5	0.4	**S**	0.3	0.4	0.6	0.8	0.4	0.4	0.3	0.6	0.8	0.8	0.7	0.3	0.1	0.3	0.5	0.6	0.3	0.5	0.8	0.5	24
13	0.5	0.2	0.2	0.3	**S**	0.7	0.8	1.1	1.4	3.7	3.5	12.6	0.8	1	0.6	0.6	0.7	0.4	0.4	0.6	0.5	0.7	0.4	0.9	12.6	1.4	24
14	0.6	0.4	0.6	**S**	0.5	0.5	0.6	1	1	1.4	1.6	2.7	2	1	1.4	1.6	0.9	0.5	0.7	***21.7***	0.4	0.5	0.7	0.9	***21.7***	1.9	24
15	1.1	0.4	**S**	0.3	0.5	0	0.1	0.3	0.6	0.4	0.3	0.4	0.3	0.3	0.2	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.3	1.1	0.4	24
16	0.4	**S**	0.7	1.1	0.5	0.8	0.8	2.8	3.4	2.8	2.1	1.4	1	1	1.1	1	0.7	0.8	1	1.1	0.6	0.5	0.5	0.8	3.4	1.2	24
17	**S**	0.8	0.8	0.8	0.7	0.8	0.6	1.2	1.3	1.7	1.5	1.3	1.5	1.5	0.7	0.5	0.8	0.7	0.7	0.4	0.6	0.8	0.8	**S**	1.7	0.9	24
18	1	0.8	0.9	0.6	0.8	0.8	1.1	0.9	2.6	2.8	2.2	1.8	7.6	1.1	0.7	0.7	13.9	2	0.7	1.3	1.1	0.9	**S**	0.8	13.9	2.0	24
19	0.8	0.8	0.8	0.8	0.5	0.8	0.7	1.8	2.7	2.7	1.7	1.5	0.7	1.2	1	0.9	0.4	0.4	0.3	0.6	0.5	**S**	0.5	0.7	2.7	1.0	24
20	0.7	1	0.8	0.7	0.7	0.6	1.2	14.4	11.2	5.4	5.4	3.6	3.1	2.1	11.9	1.5	0.9	0.9	0.4	0.4	**S**	0.8	0.5	0.4	14.4	***3.0***	24
21	0.4	0.6	0.8	0.5	0.6	0.5	0.8	0.8	0.5	2.1	0.8	0.9	0.5	1	0.5	0.4	2.6	0.7	0.9	**S**	0.5	0.5	0.4	0.5	2.6	0.8	24
22	0.3	0.6	0.2	0.4	0.3	0.5	0.6	0.4	0.7	1	0.6	0.6	0.8	1	0.5	0.5	0.8	0.4	**S**	0.2	0.5	0.4	0.4	0.5	1	0.5	24
23	0.6	0.4	0.2	0.5	0.2	0.2	0.5	1	2.2	2.5	2.3	1.4	1.3	1	3.8	2.1	2.1	**S**	1.2	1.4	0.9	1	1.1	1	3.8	1.3	24
24	1.1	1.1	1.2	1.3	1.1	1	1.1	1.2	1.4	1	1.4	1.2	1.4	1.4	1.2	1.9	**S**	0.9	0.7	1.1	1.6	0.4	0.3	0.3	1.9	1.1	24
25	0.6	0.6	0.5	0.9	0.6	0.4	0.5	0.4	1	1.2	1.2	0.7	0.7	0.7	0.7	**S**	0.4	0.3	0.7	0.3	0.3	0.4	0.1	0.4	1.2	0.6	24
26	0.1	0	0.4	0.1	0	0.4	0.2	0.5	0	0.2	0	0	0.4	0.4	**S**	0.9	0.7	0.7	0.7	0.8	0.8	0.8	0.4	0.5	0.9	0.4	24
27	0.7	0.6	0.7	0.7	0.7	1.7	0.7	1	1.2	2.1	1.1	1.2	8.1	**S**	4.7	2.5	1.6	3.2	1.7	1.1	1.3	3	3.2	0.7	8.1	1.9	24
28	0.8	0.8	0.8	0.8	0.8	1	0.5	0.4	0.7	0.6	0.7	0.5	**S**	1.5	1.4	1.1	0.9	0.9	0.6	0.9	0.8	0.9	1	1	1.5	0.8	24
29	1	1	1.2	0.8	0.9	1	1	1.2	1	1	0.8	**S**	2	1.5	1.2	0.8	0.7	0.8	0.6	0.8	0.8	0.8	**P**	**P**	2	1.0	22
30	**R**	0.9	1	0.9	1.1	0.6	0.5	0.7	0.8	0.8	**S**	0.9	0.6	0.5	0.6	0.5	0.7	0.4	0.5	0.4	0.1	0.4	0.4	0.6	1.1	0.6	23
31	0.2	0.3	0.4	0.3	0.5	0.2	0.3	0.4	0.6	**S**	1.3	1.3	0.9	0.8	0.8	1	1.2	0.9	2.8	0.7	0.4	0.6	0.7	0.7	2.8	0.8	24
HOURLY MAX	2	1	3	1	1	2	3	14	11	5	5	13	8	9	12	11	14	3	3	22	2	3	3	19			
HOURLY AVG	0.7	0.6	0.7	0.6	0.6	0.6	0.7	1.5	1.6	1.6	1.4	1.6	1.6	1.3	1.6	1.4	1.8	0.8	0.8	1.4	0.7	0.8	0.6	1.2			

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: 688

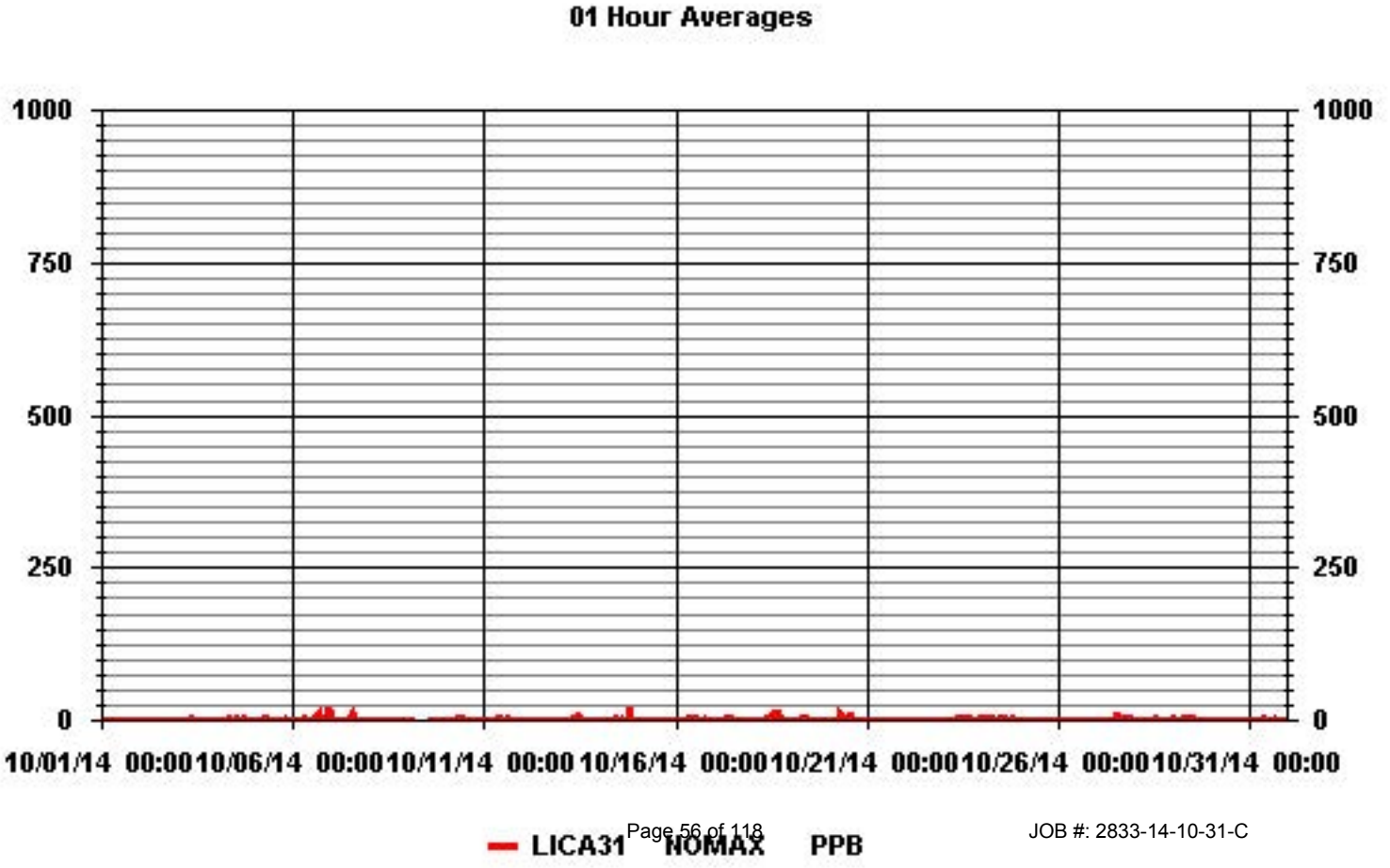
MAXIMUM INSTANTANEOUS VALUE: 21.7 PPB @ HOUR(S) 19 ON DAY(S) 14

VAR-VARIOUS

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 741 HRS

MONTHLY CALIBRATION TIME: 11 HRS

STANDARD DEVIATION: 1.77



JOB #: 2833-14-10-31-C

LICA31
NO_ / WDR Joint Frequency Distribution (Percent)

October 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	1.57	3.01	3.15	5.88	4.16	6.02	11.76	6.88	7.03	2.72	3.44	7.46	13.62	12.62	7.03	3.58	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	1.57	3.01	3.15	5.88	4.16	6.02	11.76	6.88	7.03	2.72	3.44	7.46	13.62	12.62	7.03	3.58	

Calm : .00 %

Total # Operational Hours : 697

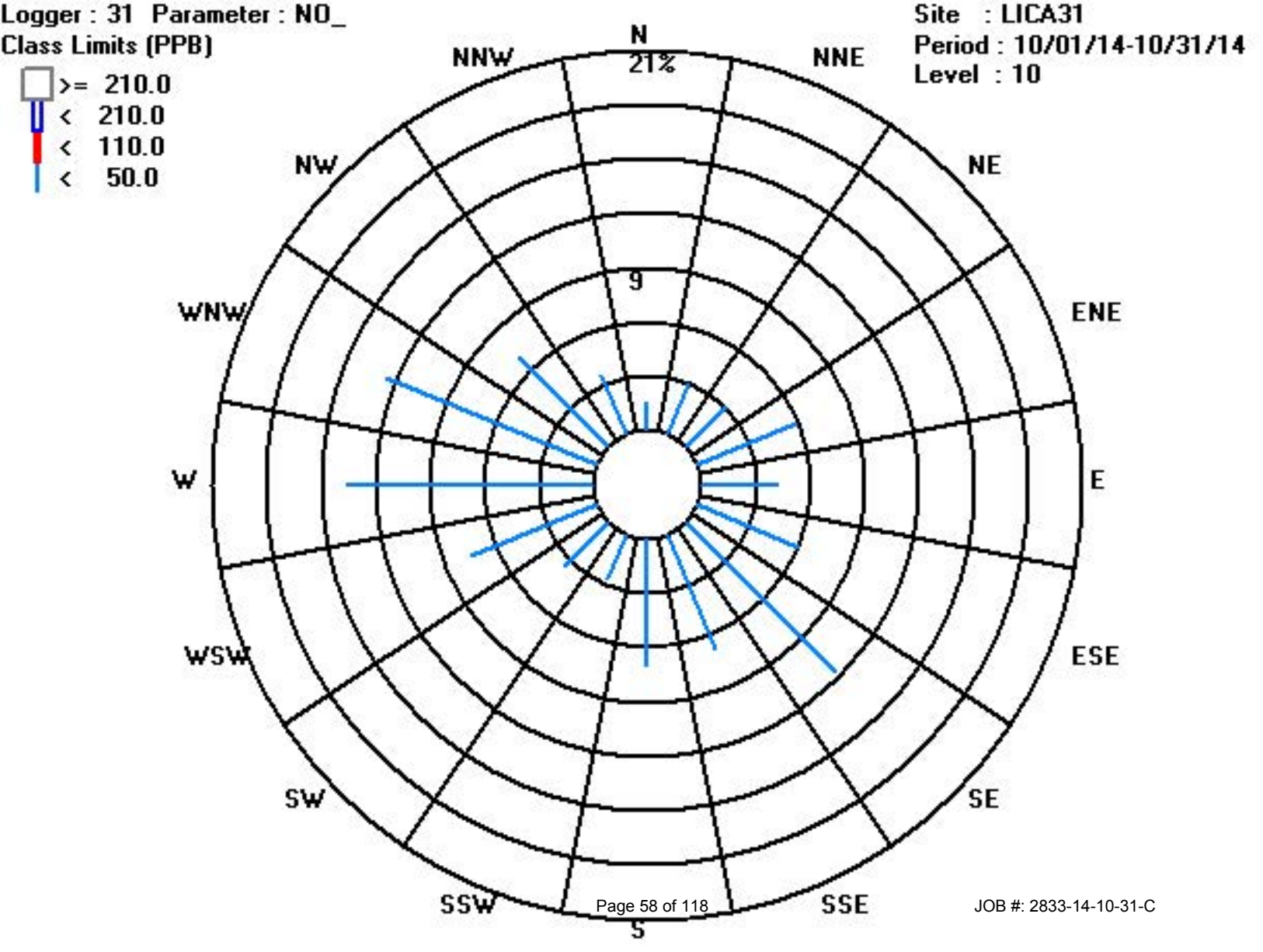
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	11	21	22	41	29	42	82	48	49	19	24	52	95	88	49	25	697
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	11	21	22	41	29	42	82	48	49	19	24	52	95	88	49	25	

Calm : .00 %

Total # Operational Hours : 697



JOB #: 2833-14-10-31-C

Oxides of Nitrogen

Lakeland Industry & Community Association - St. Lina Site

OCTOBER 2014

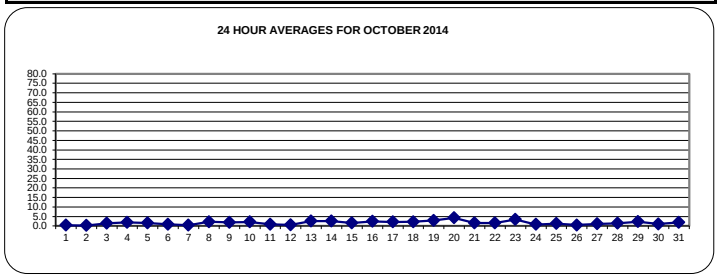
OXIDES OF NITROGEN (NOx) hourly averages in ppb

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	0.8	1.1	1	0.4	0.3	0.4	0.4	0.7	0.7	0.8	0.4	0.2	0.1	0.2	0.2	0.3	**S**	0.2	0.3	0.5	0.5	0.2	0.2	0.4	1.1	0.4	24
2	0.2	0.4	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.4	0.2	0.2	0.2	0.1	0.4	**S**	0.3	0.1	0.3	0.1	0.5	0.4	0.6	0.5	0.6	0.3	24
3	0.5	0.7	0.4	0.5	0.4	0.6	1.7	1.6	2.2	1.4	1.3	0.4	0.6	1.2	**S**	1.3	1.1	2.9	2.2	1.8	1.8	2.2	2	2.2	2.9	1.3	24
4	1.9	2	2.7	3.8	4.1	4.7	4.4	3.7	2.7	2.1	1	0.4	0.2	**S**	0.5	0.4	0.4	0.7	0.3	0.4	0.5	0.9	0.9	4	4.7	1.9	24
5	5.4	3.6	3.5	3.9	4	3.3	2.8	1.5	1	1	0.5	0.5	**S**	0.4	0.4	0.6	0.1	0.3	0.8	0.6	0.4	0.8	0.8	0.6	5.4	1.6	24
6	0.8	0.4	0.9	0.5	0.4	0.5	1.3	2.9	1.9	1	0.4	**S**	0.6	0.6	0.6	0.9	0.7	0.5	0.4	0.6	0.9	1	0.3	1	2.9	0.8	24
7	0.4	0.3	0.9	0.4	0.4	0.7	0.7	1.1	1.8	1.3	**S**	0.2	0.3	0	0	0	0	0	0	0.1	0	0	0	0	1.8	0.4	24
8	1.5	4.7	4.2	2.8	1.9	1.1	1.2	1.1	1.6	**S**	2.1	2.1	2	1.9	2.1	**C**	**C**	**C**	2.2	2.4	2.8	2.1	1.9	1.7	4.7	2.2	24
9	0.8	0.6	1.1	1.3	**S**	**S**	2.3	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2.1	2.2	1.7	2.1	2.7	3.5	2.4	2.1	1.8	3.5	1.9	24
10	2.1	2.3	1.9	2	2.2	2.6	2.8	**S**	3.5	3	2.6	2.4	2.7	2.9	2.7	1.1	1.2	1.1	1.4	1.6	1.7	1.5	1.5	1.7	3.5	2.1	24
11	1.9	1.9	2.6	2.2	2	1.9	**S**	0.8	0.7	0.6	0.8	0.7	0.3	0.2	0.3	0.3	0.4	0.2	0.2	0.6	0.3	0.3	0.6	0.5	2.6	0.9	24
12	0.4	0.3	0.2	0.6	0.5	**S**	0.7	0.8	0.8	0.7	0.4	0.4	0.2	0.4	0.5	0.2	0.4	0.2	0.2	0.4	0.6	0.9	0.9	2.2	2.2	0.6	24
13	1.5	1.9	4.8	7	**S**	3.7	4.6	4.1	3.8	3.2	2.2	2.1	1.1	1.2	0.5	0.5	0.4	0.3	0.7	1.8	2	3.1	3.8	3.8	7	2.5	24
14	2.9	2.9	2.2	**S**	2.4	3.1	3.4	4	3.5	3.5	3.2	3.7	3.5	3.8	3.9	4	2.6	1.5	1.1	1.2	0.5	0.5	0.9	0.5	4	2.6	24
15	0.5	0.4	**S**	1.4	1	0.3	1.3	1.3	1.5	1	0.4	0.7	0.4	1.1	1.4	1.3	2	3.7	5.3	6.1	2.1	0.5	0.3	0.4	6.1	1.5	24
16	0.3	**S**	0.7	2	3.2	2.9	7.3	9.3	6.4	3.5	2.1	1.6	1.2	1	0.9	0.9	1	1.4	2.4	1.9	1.6	1.6	1.3	2.4	9.3	2.5	24
17	**S**	3.5	3	2.8	2.7	3	2.6	2.7	3.1	2.8	2.3	2.4	2.4	1.6	1.1	1	1.1	1.2	1.3	1.5	1.7	1.3	1.4	**S**	3.5	2.1	24
18	1.4	1.5	1.6	1.6	1.6	1.9	2.4	3.1	4.4	5.2	4.2	3.1	2.5	1.6	0.7	0.4	2.2	1.2	0.8	2.1	2.1	1.5	**S**	2.3	5.2	2.1	24
19	2	1.8	2	1.9	2.8	4.2	3.7	5.3	6.3	5.7	3.9	2.6	1.6	2.5	3.2	2.7	1.6	1.6	1.7	2.2	2.1	**S**	1.3	2.2	6.3	2.8	24
20	2.3	2.4	2.3	2	1.9	1.6	2.4	2.8	3.4	***9.5***	9.4	7.4	5.9	5.1	5.8	4.5	4.4	3.9	3.7	3.6	**S**	4.8	5.2	4	***9.5***	***4.3***	24
21	3.8	3.2	3.2	3.5	3.4	2.2	1.8	1.5	1.5	2.1	1.5	0.8	0.4	0.3	0.3	0.5	1.1	1.1	0.9	**S**	0.7	0.7	0.8	0.8	3.8	1.6	24
22	1.1	1.2	1.4	2.9	2	1.4	1.8	1.4	1.1	1	0.9	0.6	1.2	2.3	1	1.3	1.2	1.3	**S**	1.9	1.9	1.9	2	2.3	2.9	1.5	24
23	3.3	3.2	3.2	3.2	3.4	3.5	4.3	5.5	6.1	5.3	4.1	2.9	2.8	2.7	1.8	6.2	8.7	**S**	2.6	1.2	0.7	0.9	1.3	0.9	8.7	3.4	24
24	1	1	0.8	0.8	0.6	0.5	0.7	1	1.2	0.8	1.2	0.8	0.7	0.8	0.7	0.8	**S**	0.4	0.5	0.7	0.8	0.7	0.7	0.5	1.2	0.8	24
25	0.5	0.5	0.7	0.6	0.6	0.8	1.2	1.4	2.6	2.9	2	0.8	0.8	1.4	0.9	**S**	2	2.2	2.5	1.9	1.2	1	0.7	0.8	2.9	1.3	24
26	0.6	0.2	0.4	0.3	0.3	0.3	0.3	0.5	0	0	0	0.2	0.8	1.2	**S**	1.4	1	0.4	0.5	0.6	0.5	0.2	0.6	0.5	1.4	0.5	24
27	0.5	0.8	0.6	0.4	0.6	1.1	0.6	0.9	0.9	1.1	1.1	1.8	1.6	**S**	2.1	1.8	1.7	1.9	1.3	0.9	1.1	0.7	1.2	0.9	2.1	1.1	24
28	0.9	0.8	0.6	0.6	1	0.8	0.3	0.2	0.5	0.4	0.6	0.5	**S**	1.6	1.7	1.6	1.8	2.4	2.4	2.9	2.5	2.6	2.4	1.9	2.9	1.3	24
29	1.7	1.9	2.1	2.1	2	1.8	1.9	1.9	1.8	2.4	1.7	**S**	4.2	4.6	3.7	3	2.2	2	1.7	1.4	1.3	1	**P**	**P**	4.6	2.2	22
30	**R**	0.5	1.2	1.5	1	1.7	1	1.2	1.3	1	**S**	1.3	1	0.8	1.2	1.3	1.3	1	1.1	0.7	0.6	0.7	0.7	0.9	1.7	1.0	23
31	1	1.1	1	1.6	1.2	1.2	1.2	1.4	1.7	**S**	2.3	2.2	1.7	1.7	1.8	1.9	2.3	3.2	3.7	2.2	2.3	2.5	2.3	2.3	3.7	1.9	24
HOURLY MAX	5	5	5	7	4	5	7	9	6	10	9	7	6	5	6	6	9	4	5	6	4	5	5	4			
HOURLY AVG	1.4	1.6	1.7	1.8	1.7	1.8	2.0	2.2	2.3	2.3	1.9	1.5	1.5	1.5	1.4	1.5	1.6	1.3	1.5	1.6	1.3	1.3	1.3	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



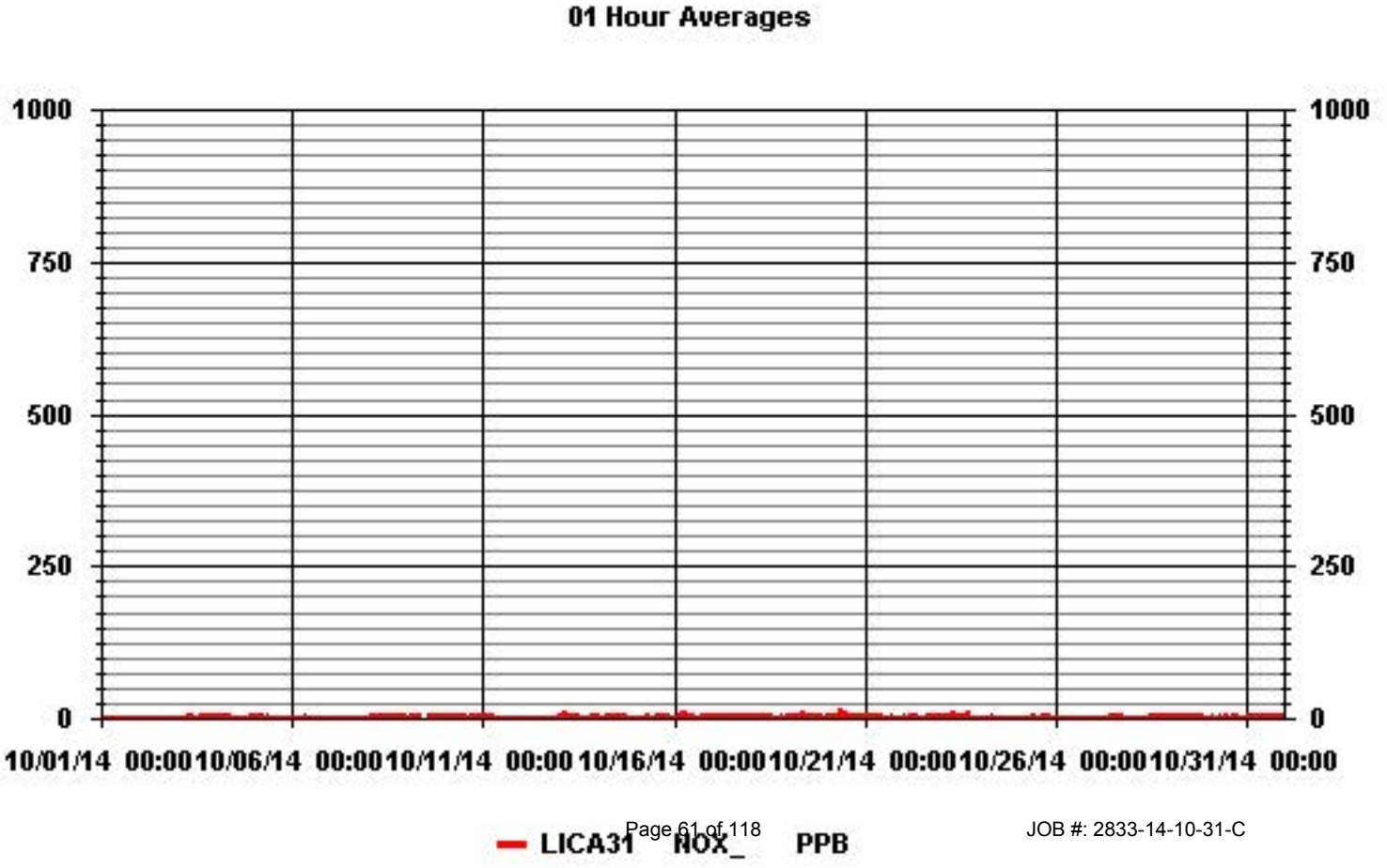
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT: 1-HR NA PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	NA					
NUMBER OF NON-ZERO READINGS:	684					
MAXIMUM 1-HR AVERAGE:	9.5	PPB	@ HOUR(S)	9	ON DAY(S)	20
MAXIMUM 24-HR AVERAGE:	4.3	PPB			ON DAY(S) VAR-VARIOUS	20

IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	741	HRS
MONTHLY CALIBRATION TIME:	11	HRS	AMD OPERATION UPTIME:	99.6	%
STANDARD DEVIATION:	1.43		MONTHLY AVERAGE:	1.65	PPB



JOB #: 2833-14-10-31-C

Lakeland Industry & Community Association - St. Lina Site

OCTOBER 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	2.4	2	1.6	1.3	1.2	1.4	1.3	1.5	1.4	1.6	1	0.8	1.2	0.8	1.5	1.6	**S**	1.1	2.1	1.4	1.5	1.5	1.1	1	2.4	1.4	24
2	0.9	1.2	0.8	1	0.7	0.8	1.1	1.3	1.1	1.1	0.9	1	0.8	0.8	1.3	**S**	1	0.9	1	1.5	1.8	0.9	1.4	1.5	1.8	1.1	24
3	1.3	1.7	1	1.2	0.9	1.6	3.9	2.4	6.1	5.1	4.8	2.1	1.4	2	**S**	2.6	2.1	3.9	3.2	2.4	2.5	3.1	2.8	3	6.1	2.7	24
4	2.5	2.8	3.8	4.9	5.2	5.6	5	16	4.8	3.9	2.3	0.9	1.1	**S**	1.2	1.4	2	2.6	1.2	1.5	1.1	1.8	3	6.7	16	3.5	24
5	6.6	4.6	4.1	4.9	4.9	4.1	4.3	2.4	2.1	2.1	1.5	1.2	**S**	1.3	1.1	2.1	1	1	2.7	2.5	2.7	4.2	2.7	3.4	6.6	2.9	24
6	4.4	1.3	3.3	1.8	1.7	1.4	3.6	5.4	3.1	2.4	1	**S**	1.4	1.7	2.7	13.8	21.9	1.6	1.8	1.8	3.4	11.2	1.1	33	33	5.4	24
7	2	2.1	6.8	1	1.3	1.3	1.5	2.1	2.6	2.6	**S**	1.5	2.6	11	1.5	0.7	3	0.4	0.7	0.8	0.3	0.4	0.2	0.4	11	2.0	24
8	3.3	5.7	4.9	4.1	2.9	1.8	1.8	2.4	2.6	**S**	2.8	2.9	2.7	2.5	2.7	**C**	**C**	**C**	3	3.1	3.6	3	2.7	2.4	5.7	3.0	24
9	1.8	1.3	1.7	2	**S**	**S**	3.1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	4.1	2.9	2.4	3	4	4.6	3.2	2.6	2.5	4.6	2.8	24
10	2.9	3.2	2.8	2.6	3.1	3.4	3.7	**S**	4.4	3.7	3.4	3.7	3.9	3.8	4.1	2.1	1.9	2	2.1	2.3	2.3	2.2	2.1	2.6	4.4	3.0	24
11	2.8	2.9	3.3	3.1	2.8	2.5	**S**	1.6	1.9	2.1	2	2.6	2.5	1.6	1.1	1.4	1.6	1.1	1	3.6	0.9	0.9	1.3	1.4	3.6	2.0	24
12	1	1.3	0.8	1.2	1	**S**	1.8	1.8	1.6	1.6	1.2	1.1	1	1.7	2.1	1.9	1.2	0.9	0.8	1.6	1.2	2	1.7	3	3	1.5	24
13	2.5	3.2	6.8	8.1	**S**	4.5	5.5	4.8	5.1	6.3	6.3	17.8	1.8	1.9	1.7	1.2	1.2	0.9	1.3	2.8	2.9	3.9	4.7	4.5	17.8	4.3	24
14	4.1	3.6	2.9	**S**	3.2	3.8	4.6	4.6	4.5	4.3	4	6.4	5.4	4.6	4.9	4.9	4.4	2	2.3	36.1	1.2	1.2	1.7	1.2	36.1	5.0	24
15	2.7	1	**S**	2.4	2.3	0.8	2.4	3.2	2.6	2.3	1.2	1.4	1.4	2.4	2.2	2	2.8	5	7.3	7.4	5.9	1.2	1.1	1.2	7.4	2.7	24
16	0.9	**S**	1.5	3.3	5.2	4.8	10	10.5	8.1	5.3	3	2.5	1.9	1.7	1.7	1.5	1.7	2.5	3.3	3.4	2.2	2.4	2	3.4	10.5	3.6	24
17	**S**	4.7	3.9	3.6	3.6	3.7	3.4	3.7	3.9	3.3	2.8	3.1	3.3	3.2	1.7	1.6	1.6	1.9	2	2.3	2.2	2	2	**S**	4.7	2.9	24
18	2.2	2.1	2.3	2.2	2.6	2.5	3.2	4.1	5.9	6.3	5.2	4	14.8	3	1.5	1.1	***40.8***	5	2.3	4.5	3.4	2.3	**S**	3	***40.8***	5.4	24
19	2.9	2.6	2.6	3	3.5	7.1	4.9	8.1	9.4	7.7	5.3	3.7	2.5	4.1	4.8	4.2	2.9	2.3	2.3	3.1	3.1	**S**	2	3.3	9.4	4.1	24
20	3	3.1	3	2.8	2.5	2.5	4.3	20.4	14.9	12.8	11.9	8.6	7.9	6.7	21.3	5.2	5.1	4.8	4.3	4.3	**S**	5.8	6.3	4.7	21.3	***7.2***	24
21	4.5	4.2	3.8	4.4	4.3	3.4	3	3	2.1	5	2.3	2.5	1	3	1.2	1.4	5.2	3.2	2.4	**S**	1.3	1.3	1.5	1.6	5.2	2.9	24
22	2.3	2.1	2.7	7	4.1	2.2	2.8	2	1.7	1.8	1.7	1.7	3.4	3.7	1.7	2.1	1.8	1.8	**S**	2.6	2.6	2.6	2.7	3.7	7	2.6	24
23	4	3.9	3.8	3.9	4.1	4.3	5.3	6.7	7.3	6.1	5.5	3.8	3.6	3.5	10.6	12.4	12.1	**S**	4.7	2	1.4	1.6	1.9	1.5	12.4	5.0	24
24	1.6	1.9	1.6	1.4	1.3	1.4	1.8	1.7	1.9	1.4	2.2	1.9	1.7	1.8	1.4	2.6	**S**	1.2	1.1	2.6	3	1.5	1.5	1.2	3	1.7	24
25	1.2	1.2	1.4	1.2	1.2	1.8	2	2.8	3.5	3.7	2.9	2	1.6	2.1	1.9	**S**	3.2	2.9	3.7	3.3	2.1	1.8	1.5	1.7	3.7	2.2	24
26	1.2	0.8	1.4	0.8	0.9	1	1.1	1.5	0.6	0.7	0.7	0.9	1.5	1.8	**S**	2.1	1.8	1.1	1.2	1.3	1.1	0.8	1.3	1.1	2.1	1.2	24
27	1.2	1.5	1.3	1	1.3	3.1	1.5	1.9	2.1	3.2	2.6	2.9	9.7	**S**	5.3	3.3	2.8	4.4	3.3	1.6	2.8	4.8	5.2	1.6	9.7	3.0	24
28	1.7	1.4	1.2	1.3	2	2.3	0.9	0.8	1.2	1.2	1.2	1.2	**S**	2.5	2.4	2.3	2.6	3.4	3.2	3.6	3.2	3.2	3	2.7	3.6	2.1	24
29	2.4	2.5	3	3	2.7	2.6	2.7	2.5	2.8	3.5	2.5	**S**	5.1	5.5	5.1	3.7	3.4	2.8	2.3	2	2	1.8	**P**	**P**	5.5	3.0	22
30	**R**	1.1	2.2	2.4	1.9	2.4	1.8	2	2.1	1.5	**S**	2.2	1.8	1.5	1.8	1.9	2.1	2.1	1.8	1.4	1.3	1.2	1.2	1.6	2.4	1.8	23
31	1.7	1.7	1.5	2.2	2.1	1.7	1.9	2.4	2.4	**S**	3	2.8	2.4	2.4	2.6	2.8	7.9	7.4	9	3	2.8	3.4	3.2	3.2	9	3.2	24
HOURLY MAX	7	6	7	8	5	7	10	20	15	13	12	18	15	11	21	14	41	7	9	36	6	11	6	33			
HOURLY AVG	2.5	2.4	2.7	2.8	2.6	2.8	3.1	4.3	3.8	3.7	3.0	3.1	3.2	3.0	3.3	3.1	5.1	2.5	2.7	3.8	2.3	2.6	2.3	3.5			

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: 697

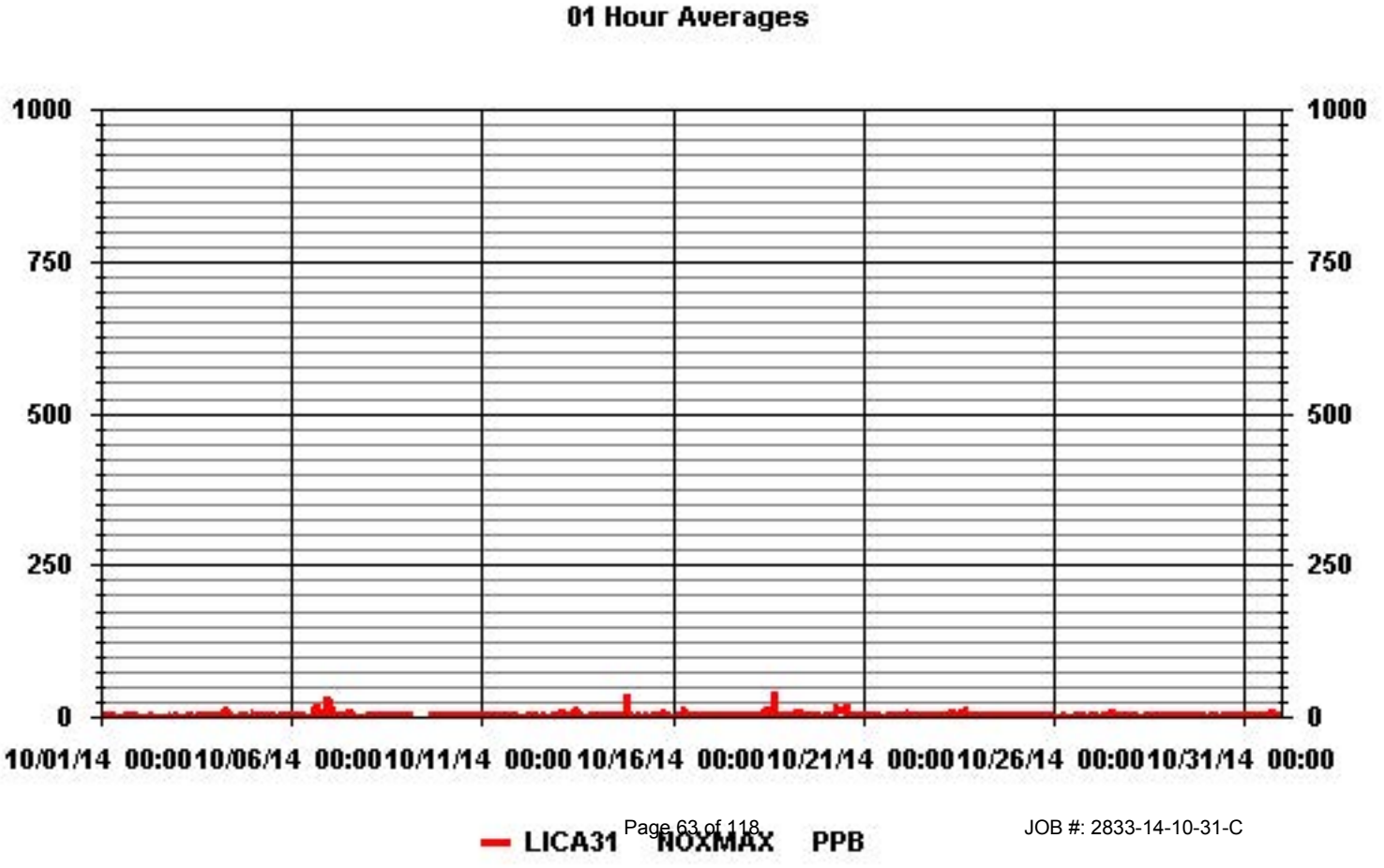
MAXIMUM INSTANTANEOUS VALUE: 40.8 PPB @ HOUR(S) 16 ON DAY(S) 18

VAR-VARIOUS

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 741 HRS

MONTHLY CALIBRATION TIME: 11 HRS

STANDARD DEVIATION: 3.29



JOB #: 2833-14-10-31-C

LICA31
NOX_ / WDR Joint Frequency Distribution (Percent)

October 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	1.57	3.01	3.15	5.88	4.16	6.02	11.76	6.88	7.03	2.72	3.44	7.46	13.62	12.62	7.03	3.58	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	1.57	3.01	3.15	5.88	4.16	6.02	11.76	6.88	7.03	2.72	3.44	7.46	13.62	12.62	7.03	3.58	

Calm : .00 %

Total # Operational Hours : 697

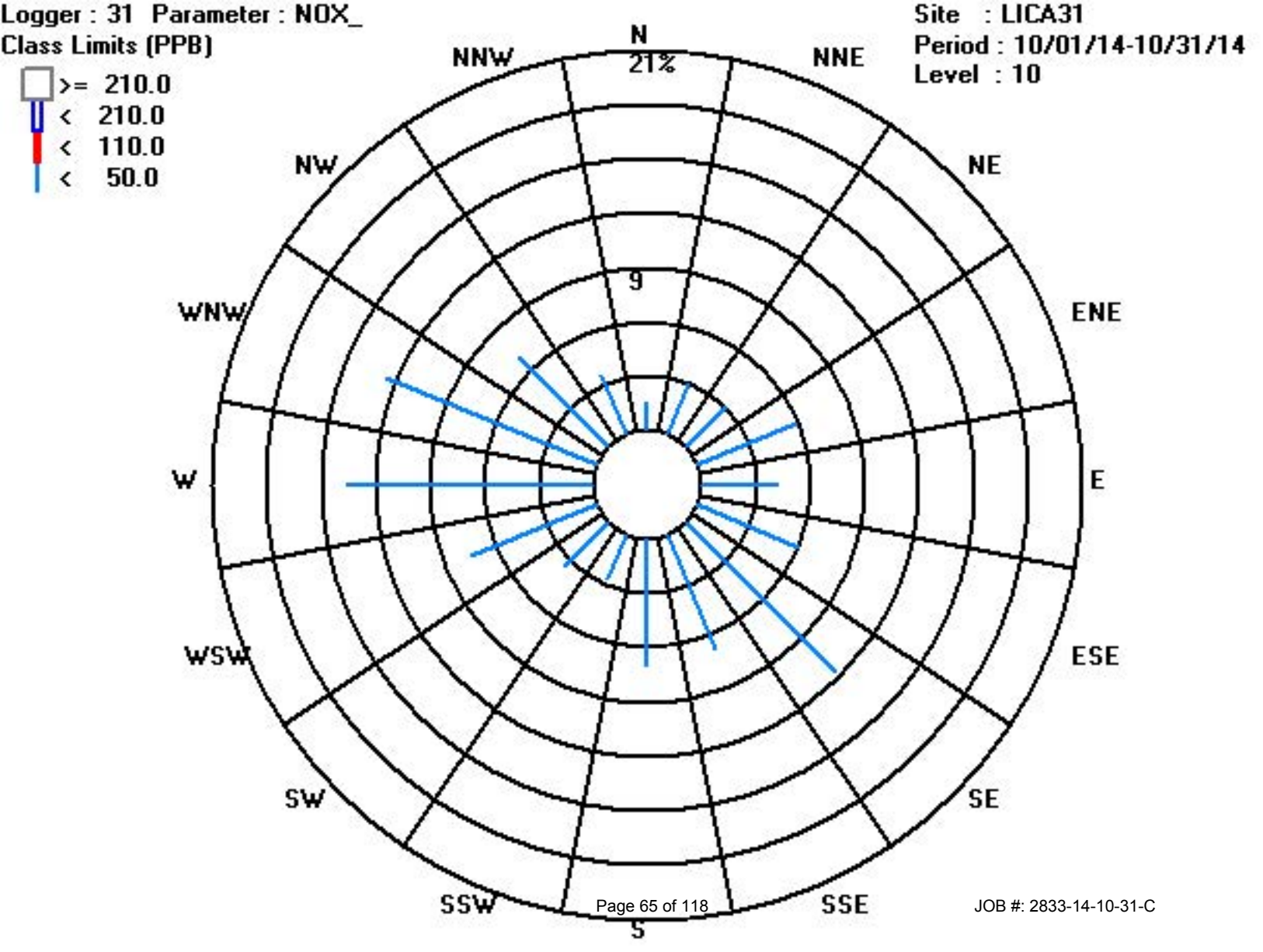
Distribution By Samples

Direction

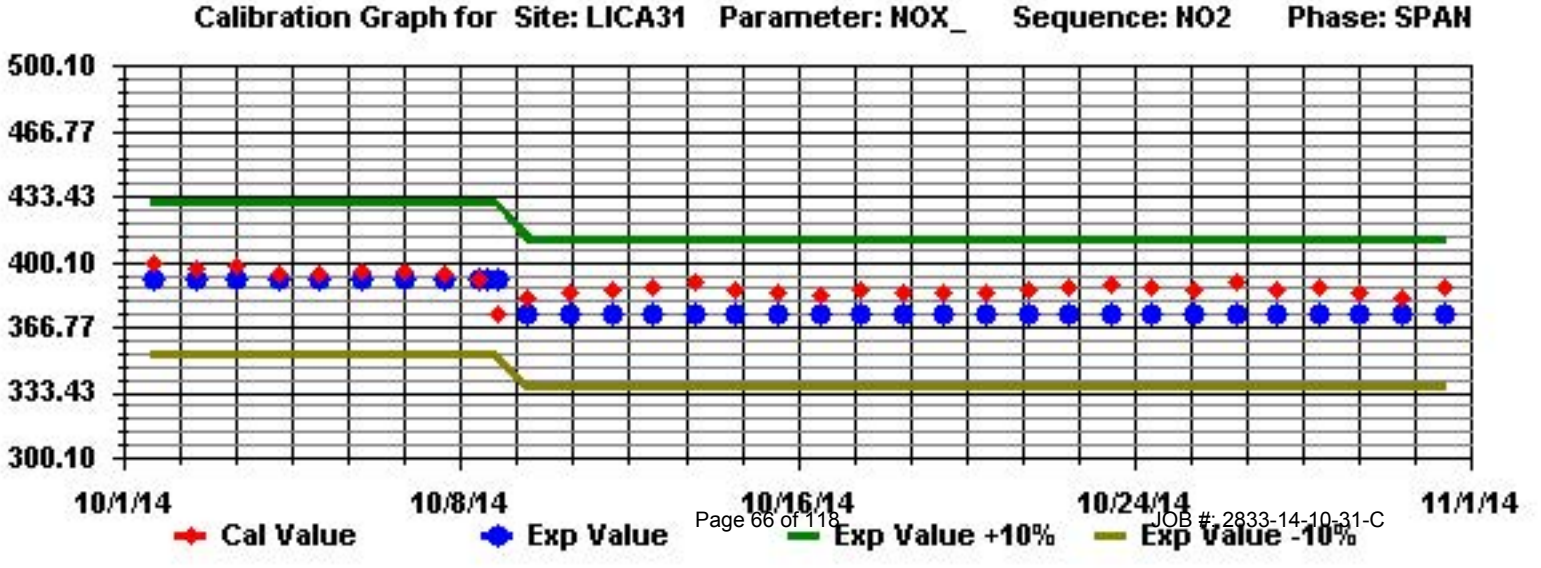
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	11	21	22	41	29	42	82	48	49	19	24	52	95	88	49	25	697
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	11	21	22	41	29	42	82	48	49	19	24	52	95	88	49	25	

Calm : .00 %

Total # Operational Hours : 697



JOB #: 2833-14-10-31-C


Calibration Graph for Site: LICA31 Parameter: NOX_ Sequence: NO2 Phase: SPAN
500.10
466.77
433.43
400.10
366.77
333.43
300.10
10/1/14
10/8/14
10/16/14
10/24/14
11/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Particulate Matter 2.5

No data was collected this month due to analyzer issues

Temperature

Lakeland Industry & Community Association - St. Lina Site

OCTOBER 2014

AMBIENT TEMPERATURE (TPX) hourly averages in Degrees Celsius

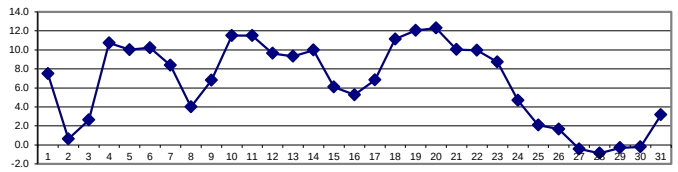
MST

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	6.3	5.7	5.1	4.7	4	3.8	5.2	7.9	10.7	13	13.6	13.6	13	11.8	11	9.9	8.4	7.1	5.7	4.2	3.7	2.8	1.3	13.6	7.5	24
2	0.4	-0.1	0	-0.5	-0.6	-0.8	-0.7	-0.5	-0.3	0.3	0.6	1	1.4	2.3	3.7	4.6	3.7	2.9	1.4	0.5	-0.3	-0.9	-1.4	-1.6	4.6	0.6	24
3	-1.9	-2.5	-2.7	-2.8	-3.1	-4.2	***-4.5***	-2.2	1.6	3.3	3.9	4.8	5.2	6	6.8	6.5	6.5	6.5	6.1	5.9	5.9	6	6	6.1	6.8	2.6	24
4	6	6	6.1	5.9	5.7	5.5	5.5	6.2	8.4	11.6	14	15.3	16.3	16.8	17.3	17.1	16.5	15.3	13.4	12	11	10.2	8.5	6.6	17.3	10.7	24
5	5.2	4.6	4.2	3.8	3.5	2.2	2.8	6	8.6	10.3	13.1	14.9	16.3	17.6	17.7	17.7	16.1	14.2	12.5	11.1	10.3	9.7	8.9	8.9	17.7	10.0	24
6	8.7	8.1	7.7	7.9	8.3	7.3	6.8	6.6	8.5	11	11.8	13.3	13.8	14.6	15.3	14.6	13.9	12.6	11.3	10	8.8	8.1	8	8.3	15.3	10.2	24
7	8.2	7.6	6.9	6.1	5.7	5.6	3.8	3.6	7	9.2	11.3	12.5	12.8	13.4	12.6	12.4	11.4	9.6	7.7	7.3	7.1	6.9	6.4	5.7	13.4	8.4	24
8	4.7	4	3.6	2.9	2.5	1.8	1.5	1.7	2	2.8	3.7	4.7	5.8	6.3	6.6	6.9	6.8	6	5.6	5	3.7	3.1	2.7	1.9	6.9	4.0	24
9	1.5	1	0.8	0.7	0.1	0	-0.5	0.7	1.3	3.9	8.2	11.4	12.6	12.2	13	13.7	13.6	11.7	10	9.4	9.5	9.8	9.8	8.7	13.7	6.8	24
10	7.2	6.4	5.8	5.3	5.2	4.7	4	5	7.1	9.9	13.1	15.5	17.1	18.6	19.7	19.8	19.3	17.1	14.9	13.6	12.8	12.1	11.1	10.4	19.8	11.5	24
11	9.2	9.8	11.2	10.5	9.7	9.9	9.8	10.2	11	11.8	12.3	13.5	15.3	15.7	16.2	16.5	15.8	13	11.4	10.7	9.7	8.3	7.6	7.1	16.5	11.5	24
12	7.8	8.2	6.9	5.4	5.1	4.5	4.4	5.2	7.9	10.5	12.2	13.9	14.6	15.4	15.6	15.4	15.1	13.4	11	9.7	8.6	7.8	7.1	5.4	15.6	9.6	24
13	5	4.7	4.6	3.2	2.3	1.1	0.8	1.8	6	9.4	12	14.2	15.3	16	16.2	15.6	15.6	13.1	12.4	11.6	11.2	11.1	10.6	9.9	16.2	9.3	24
14	9.6	9.2	9.3	8.5	7.7	6.5	6	5.7	6.7	7.9	10.4	12.8	13.4	13.3	14	15.9	16.1	13.4	11.7	10.2	9.3	8.3	6.9	6.5	16.1	10.0	24
15	5.6	5.1	3.5	2.5	3.5	4.8	2	3.4	3.5	6.2	7.8	8.8	9.4	9.7	8.8	8.6	8.2	7.5	7	6.6	6.2	6	5.9	5.6	9.7	6.1	24
16	5.2	4.4	3.1	1.9	1	0.3	-0.4	0.2	2.6	4.6	6.4	8.4	9.6	10.3	10.5	11	10.1	7.2	6.1	5.5	5.2	5	4.6	3.6	11	5.3	24
17	2.3	2.1	2	1.5	1.7	1.4	1.7	2.1	3.3	5	7.2	8.7	9.6	11.5	12	12.8	11.8	11.2	11	9.7	9	8.7	9.1	8.6	12.8	6.8	24
18	8.3	7.7	6.7	6.1	5.9	5.5	4.7	5.2	6.1	9.6	12.7	15.1	17.2	18.9	19.6	18.9	17.7	14.9	13	12	11.4	10.8	9.8	9.1	19.6	11.1	24
19	9.3	9.3	9	6.7	5.6	5.7	5.6	5.2	7.2	10	13.9	17	18.6	18.8	18.9	18.9	16.7	15.3	14.9	13.9	13.3	12.8	11.5	10.7	18.9	12.0	24
20	9.6	8.5	7.7	7	6.1	5.4	3.9	3.8	6.5	8.9	12.4	16.8	18.4	19.5	***20.5***	***20.5***	18	16.6	15.5	15	14.6	13.8	13	13	***20.5***	***12.3***	24
21	12.8	10.4	9.7	8.2	7.2	8	7.3	7.3	8	8.2	10.8	12.1	13.7	13.7	13.5	13	12.5	10.8	10.3	9.6	9.1	8.6	8.5	7.5	13.7	10.0	24
22	7	6.6	6.2	5.5	3.6	4.7	4.4	6.4	9.3	11.4	13.1	14.5	15.2	15.5	15	15	13.7	12	11.5	10.7	10.4	9.6	9.3	8.5	15.5	10.0	24
23	8.3	7.2	6.2	5.6	5.1	4.7	4.6	3.5	5.1	7.9	10.5	13.4	15.4	16.1	14.9	13.4	12.4	10.5	9.4	8.1	7.8	7.4	6.3	5.5	16.1	8.7	24
24	4.6	3.9	3.7	3.2	2.6	1.9	1.7	1.2	2.2	4.1	6.3	7.8	8.3	8.8	9.8	9.5	8.6	6.2	4.9	4.2	2.8	2.1	2.4	1.6	9.8	4.7	24
25	1.3	0.3	-0.4	-0.6	-1.2	-1.7	-2.2	-1.7	-1	0	3.4	5.2	4.9	5.4	5.3	5	4.3	3.9	3.6	3.4	3.4	3.5	3.2	2.8	5.4	2.1	24
26	2.6	2.8	2	1.5	1.1	1.1	1.2	1.1	1.3	1.8	2.7	3.3	3.2	2.6	2.4	2	1.4	1.3	1.2	1.1	1.1	1	0.2	0	3.3	1.7	24
27	-0.1	-0.2	-0.2	-0.3	-0.4	-0.5	-0.6	-0.6	-0.3	-0.2	0	0.2	0.5	0.5	0.2	0	-0.4	-0.8	-0.9	-1.1	-1.2	-1.2	-1.2	-1.2	0.5	-0.4	24
28	-1.2	-1.2	-1.1	-1.1	-1.4	-1.5	-1.5	-1.7	-1.8	-1.5	-1.2	-0.9	-0.5	-0.2	0.4	0.8	0	-0.5	-0.5	-0.5	-0.6	-0.8	-1.1	-1.3	0.8	-0.9	24
29	-1.3	-1.4	-1.6	-1.6	-1.5	-1.4	-1.4	-1.3	-1	-0.5	0.1	0.7	0.8	0.9	0.9	0.7	0.6	0.5	0.5	0.4	0.2	0.1	**P**	**P**	0.9	-0.3	22
30	0	0	-0.1	-0.2	-0.5	-0.6	-0.8	-0.6	-0.3	-0.2	0	0.3	0.1	0.3	0.2	0.4	0.1	-0.2	-0.4	-0.4	-0.5	-0.7	-0.6	-0.4	0.4	-0.2	24
31	0.1	0.4	0.6	0.7	0.7	0.7	0.5	0.3	0.8	2.1	4.2	5.6	6.4	7.2	7.2	6.6	5.9	5.3	4.6	4.1	3.5	3	2.7	2.7	7.2	3.2	24
HOURLY MAX	12.8	10.4	11.2	10.5	9.7	9.9	9.8	10.2	11	11.8	14	17	18.6	19.5	20.5	20.5	19.3	17.1	15.5	15	14.6	13.8	13	13			
HOURLY AVG	4.9	4.5	4.1	3.5	3.1	2.8	2.4	2.9	4.4	6.1	8.1	9.6	10.5	11.0	11.2	11.1	10.4	9.0	8.0	7.3	6.7	6.3	6.0	5.4			

STATUS FLAG CODES

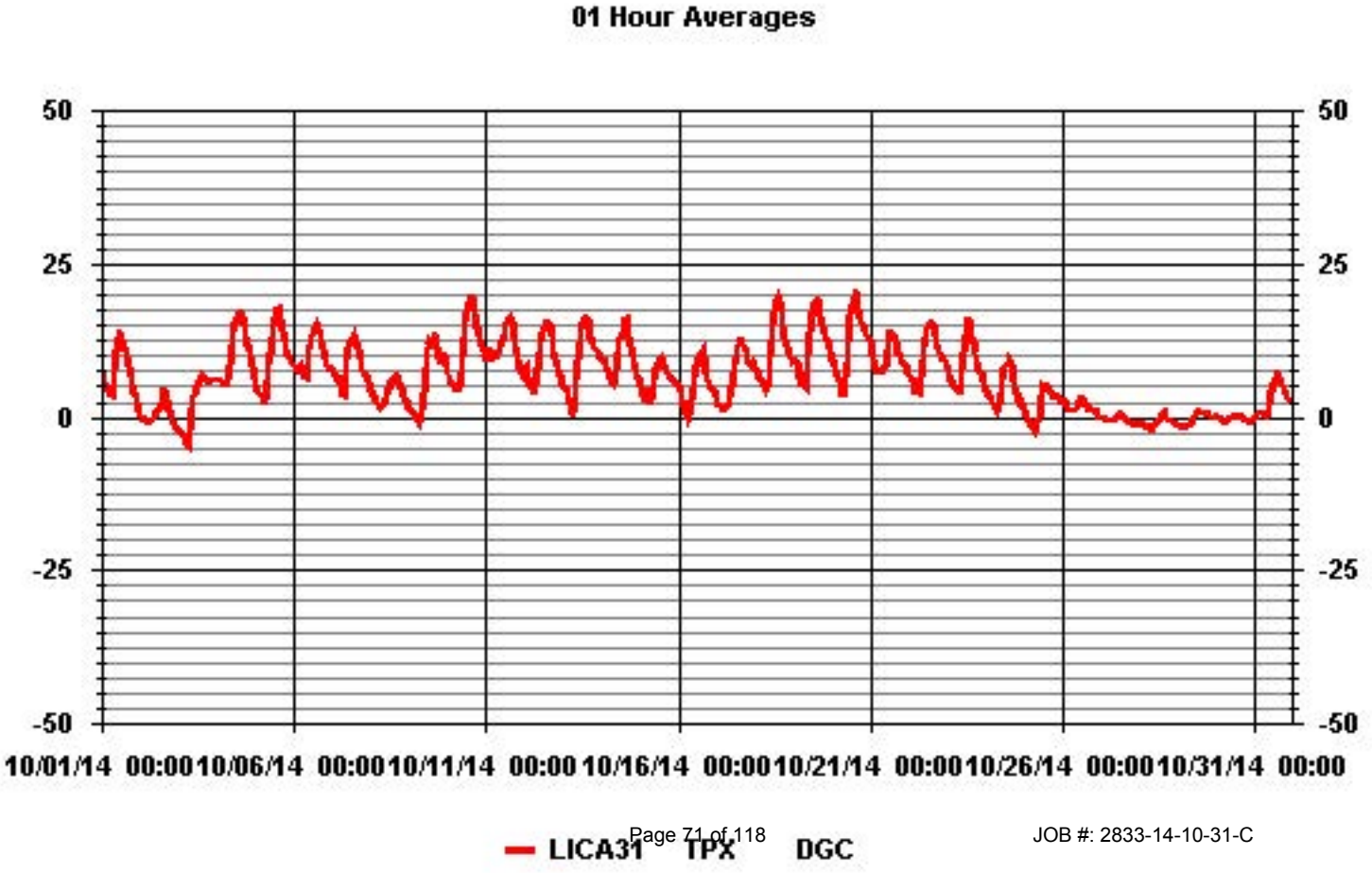
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

24 HOUR AVERAGES FOR OCTOBER 2014



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-4.5	°C	@ HOUR(S)	6	ON DAY(S)	3
MAXIMUM 1-HR AVERAGE:	20.5	°C	@ HOUR(S)	14, 15	ON DAY(S)	20
MAXIMUM 24-HR AVERAGE:	12.3	°C			ON DAY(S)	20
					VAR-VARIOUS	
OPERATIONAL TIME:					742	HRS
AMD OPERATION UPTIME:					99.7	%
STANDARD DEVIATION:	5.44		MONTHLY AVERAGE:		6.63	°C



JOB #: 2833-14-10-31-C

Barometric Pressure

Lakeland Industry & Community Association - St. Lina Site

OCTOBER 2014

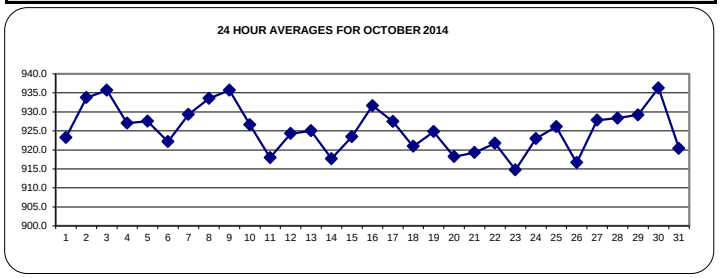
BAROMETRIC PRESSURE (BP) hourly averages in millibar

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	923	923	923	923	923	923	923	923	924	924	924	924	923	923	923	923	923	923	923	923	923	923	924	924	923.2	24
2	925	926	927	928	929	930	930	931	932	933	934	934	935	936	936	937	937	938	938	938	938	***939***	***939***	***939***	***939***	933.7	24
3	***939***	***939***	***939***	***939***	***939***	938	938	938	***939***	***939***	***939***	938	938	937	936	935	934	933	932	931	930	929	929	928	***939***	935.7	24
4	927	927	926	926	926	926	926	926	926	927	928	928	928	928	928	928	928	928	927	927	927	927	927	927	928	927.0	24
5	927	927	927	927	927	927	927	927	928	929	929	930	930	930	930	930	929	928	927	927	926	925	924	923	930	927.5	24
6	923	922	921	921	920	920	919	919	918	919	920	921	922	922	923	923	924	924	924	925	925	925	925	926	926	922.1	24
7	926	927	927	927	927	927	927	927	928	929	930	931	931	931	931	931	931	931	930	930	931	931	931	931	931	929.3	24
8	931	931	932	932	932	932	932	932	933	933	934	934	934	934	934	935	935	935	935	935	935	935	935	935	935	933.5	24
9	935	935	935	935	935	935	935	935	935	936	937	938	938	938	937	937	937	936	935	935	935	934	934	934	938	935.7	24
10	933	932	932	931	931	930	929	929	929	929	929	929	929	928	927	926	925	924	922	921	920	919	918	917	933	926.6	24
11	917	916	917	917	918	918	918	918	918	918	918	918	918	918	919	918	919	918	918	918	918	918	918	919	919	917.9	24
12	919	920	920	921	921	921	922	922	923	924	925	926	926	926	927	927	927	927	927	927	927	926	926	926	927	924.3	24
13	926	926	926	925	925	925	925	925	925	927	927	928	928	928	927	927	926	925	924	923	922	921	920	919	928	925.0	24
14	918	918	917	916	916	915	914	914	914	914	915	916	916	917	918	919	920	920	920	921	922	922	922	922	922	917.7	24
15	922	922	922	922	922	922	922	922	922	923	923	924	924	924	924	924	924	924	924	925	925	925	926	926	926	923.5	24
16	927	928	928	928	928	929	929	930	931	932	933	934	934	934	934	934	934	934	933	933	933	933	933	933	934	931.6	24
17	932	932	932	931	931	931	931	930	930	930	929	929	928	928	927	927	926	925	924	923	922	921	920	919	932	927.4	24
18	919	918	918	917	917	917	917	917	918	918	920	921	922	922	923	924	924	924	924	924	924	924	925	925	925	920.9	24
19	925	925	925	925	925	925	925	926	926	926	927	927	927	927	927	926	926	924	924	923	922	921	921	920	927	924.8	24
20	919	919	918	918	918	917	917	916	917	918	919	919	920	920	920	920	920	919	918	918	917	917	917	916	920	918.2	24
21	916	916	916	916	916	916	917	917	918	919	919	920	920	921	921	921	921	921	922	922	922	922	922	922	922	919.3	24
22	922	922	922	922	922	922	922	922	923	923	924	924	924	923	922	922	922	921	921	920	920	919	919	918	924	921.7	24
23	918	917	916	915	915	914	913	913	***912***	913	913	913	913	914	915	915	916	915	916	915	915	915	916	916	918	914.7	24
24	916	916	916	917	918	919	919	920	921	922	923	924	925	925	926	926	927	927	927	927	927	927	928	928	928	923.0	24
25	928	929	929	929	929	929	929	929	929	930	930	930	929	928	927	926	924	923	923	921	921	919	918	917	930	926.1	24
26	916	916	914	914	913	913	913	914	914	914	915	916	916	916	917	918	918	919	919	920	920	921	921	922	922	916.6	24
27	922	922	923	924	924	925	926	926	927	927	928	928	929	929	930	930	930	931	931	931	931	931	931	931	931	927.8	24
28	931	932	931	931	931	931	931	931	930	930	930	929	929	928	927	927	927	926	926	925	925	924	924	924	932	928.3	24
29	924	924	924	924	925	925	925	926	927	928	929	930	930	931	932	932	933	933	934	935	935	936	**P**	**P**	936	929.2	22
30	938	938	938	***939***	***939***	***939***	***939***	***939***	***939***	***939***	***939***	***939***	938	938	937	937	936	934	933	933	931	931	929	928	***939***	***936.3***	24
31	927	926	925	924	923	922	921	920	919	919	919	919	919	919	920	919	919	919	919	918	919	918	918	918	927	920.4	24
HOURLY MAX	939	939	939	939	939	939	939	939	939	939	939	939	938	938	937	937	937	938	938	938	938	939	939	939			
HOURLY AVG	924.9	924.9	924.7	924.6	924.7	924.6	924.5	924.6	925.0	925.5	926.1	926.5	926.6	926.5	926.6	926.6	926.5	926.1	925.8	925.6	925.4	925.1	924.6	924.4			

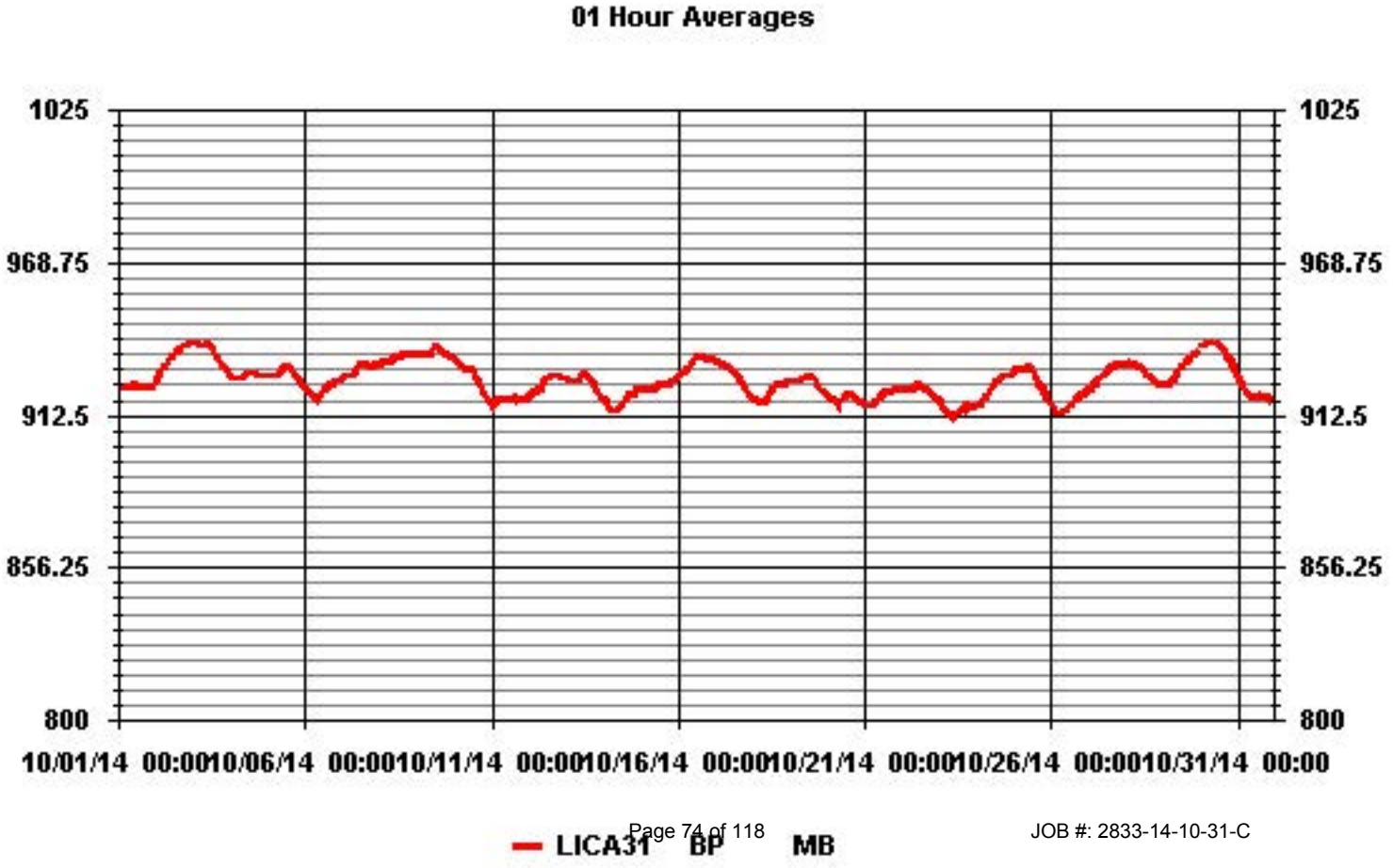
STATUS FLAG CODES

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:	939	MB	@ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 24-HR AVERAGE:	936.3	MB			ON DAY(S)	30
					VAR-VARIOUS	
			OPERATIONAL TIME:		742	HRS
			AMD OPERATION UPTIME:		99.7	%
STANDARD DEVIATION:	6.42		MONTHLY AVERAGE:		925.4	MB



JOB #: 2833-14-10-31-C

Relative Humidity

Lakeland Industry & Community Association - St. Lina Site

OCTOBER 2014

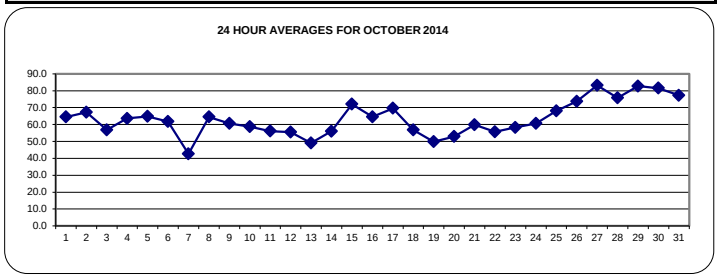
RELATIVE HUMIDITY (RH) hourly averages in %

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	82	84	85	85	84	84	83	76	67	58	48	40	36	36	39	44	50	57	61	65	73	62	66	82	85	64.5	24
2	85	86	81	85	86	85	83	80	77	72	70	64	60	55	49	44	46	47	50	55	59	63	66	67	86	67.3	24
3	69	73	76	77	77	78	80	71	62	55	51	47	42	42	41	43	43	43	46	48	48	49	51	52	80	56.8	24
4	54	56	59	65	73	83	87	88	83	74	62	56	52	50	48	47	46	47	54	59	63	66	73	81	88	63.6	24
5	86	87	89	90	90	90	***91***	87	75	69	58	52	49	44	42	39	40	44	49	53	54	57	60	62	***91***	64.9	24
6	62	64	68	68	70	81	87	88	81	77	75	67	56	48	40	48	48	44	45	50	55	55	54	53	88	61.8	24
7	53	52	55	58	60	60	67	69	59	51	35	***22***	***22***	***22***	25	26	28	32	36	37	36	37	39	42	69	42.6	24
8	45	50	56	62	67	71	74	75	77	75	73	71	63	56	53	53	54	57	59	62	67	74	75	78	78	64.5	24
9	79	81	81	81	83	82	84	79	80	74	61	52	43	42	39	38	39	43	47	49	50	47	49	53	84	60.7	24
10	58	63	66	69	70	73	76	73	67	62	55	50	46	43	41	41	42	47	52	55	60	64	67	70	76	58.8	24
11	73	71	65	70	74	74	74	72	68	61	57	49	40	38	36	32	34	41	45	48	51	56	58	60	74	56.1	24
12	59	59	63	69	71	73	74	71	63	56	51	46	43	40	39	38	38	42	48	52	55	57	59	66	74	55.5	24
13	65	64	64	69	74	80	80	75	62	55	46	40	35	30	26	26	27	33	34	36	37	38	40	43	80	49.1	24
14	44	46	47	52	55	60	63	65	64	62	56	50	48	47	45	41	39	47	56	68	68	70	75	77	77	56.0	24
15	80	81	87	89	86	77	88	82	83	78	69	64	62	58	60	60	59	62	66	68	68	67	67	67	89	72.0	24
16	69	72	75	78	80	80	82	81	74	71	62	56	51	48	45	43	44	52	56	62	65	66	67	69	82	64.5	24
17	73	74	74	76	75	75	77	80	78	78	74	69	67	61	60	57	59	61	62	67	70	70	66	67	80	69.6	24
18	68	71	74	76	76	77	79	75	72	61	51	43	38	34	31	33	36	43	48	51	53	55	58	61	79	56.8	24
19	59	58	59	69	72	70	70	70	62	55	44	37	32	31	30	29	33	37	38	41	44	47	52	56	72	49.8	24
20	60	65	68	71	74	76	81	80	72	66	55	42	38	32	29	28	36	38	41	41	41	43	46	45	81	52.8	24
21	45	54	56	65	70	70	75	76	73	74	65	60	52	47	47	47	47	53	56	57	59	61	62	65	76	59.8	24
22	67	70	71	75	79	77	80	72	62	56	48	41	38	36	36	36	38	43	45	49	51	54	55	57	80	55.7	24
23	58	62	66	68	71	73	74	78	73	65	58	50	45	40	44	45	43	49	51	53	53	55	60	65	78	58.3	24
24	69	71	71	72	74	77	78	81	78	72	64	56	50	45	37	36	39	46	51	53	57	59	58	63	81	60.7	24
25	66	70	73	74	77	79	79	77	75	75	66	59	59	57	57	59	62	64	65	66	66	66	68	72	79	68.0	24
26	74	72	73	74	72	71	71	71	70	67	64	63	67	69	70	75	77	77	78	79	79	80	87	87	87	73.6	24
27	86	87	86	87	87	88	87	86	85	83	82	82	80	79	79	80	83	82	81	81	81	81	81	81	88	***83.1***	24
28	80	80	79	77	79	77	74	74	75	74	74	74	75	73	72	69	72	74	75	76	76	78	80	82	82	75.8	24
29	83	84	85	86	86	86	86	85	85	83	82	81	81	79	79	80	80	80	81	82	83	83	**P**	**P**	86	82.7	22
30	80	81	82	81	82	83	84	84	85	85	84	83	82	79	80	78	80	80	79	79	80	81	82	82	85	81.5	24
31	82	82	82	82	82	82	83	84	83	79	73	69	67	64	65	67	69	72	75	77	82	83	84	86	86	77.3	24
HOURLY MAX	86	87	89	90	90	90	91	88	85	85	84	83	82	79	80	80	83	82	81	82	83	83	87	87			
HOURLY AVG	68.2	70.0	71.5	74.2	76.0	77.2	79.1	77.6	73.2	68.5	61.7	56.0	52.2	49.2	47.9	47.8	49.4	52.8	55.8	58.7	60.8	62.1	63.5	66.4			

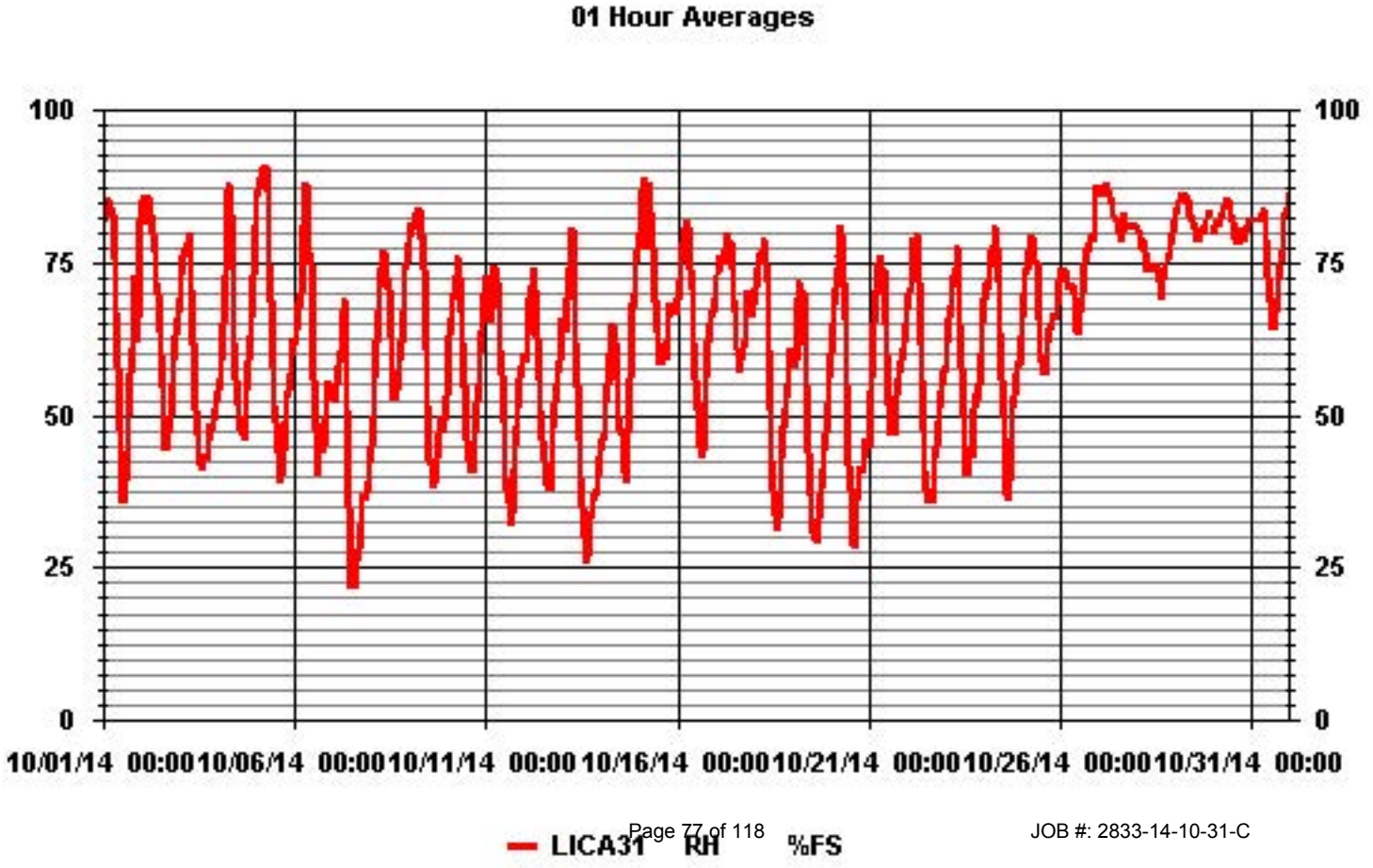
STATUS FLAG CODES

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:	91	%	@ HOUR(S)	6	ON DAY(S)	5
MAXIMUM 24-HR AVERAGE:	83.1	%			ON DAY(S)	27
					VAR-VARIOUS	
			OPERATIONAL TIME:		742	HRS
			AMD OPERATION UPTIME:		99.7	%
STANDARD DEVIATION:	15.80		MONTHLY AVERAGE:		63.31	%



JOB #: 2833-14-10-31-C

Precipitation

Lakeland Industry & Community Association - St. Lina Site

OCTOBER 2014

PRECIPITATION hourly averages in millimeter

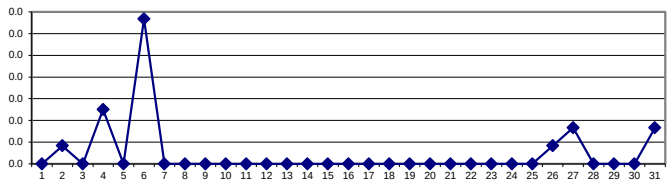
MST

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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
2	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.0	24
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
4	0	0	0	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	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	**0.7**	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0.7**	0.0	24
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0.1	0.0	24
27	0	0	0	0	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	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	**P**	**P**	0	0.0	22
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0	0.2	0.0	24
HOURLY MAX	0	0	0	0	0.1	0.7	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0.1	0			
HOURLY AVG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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

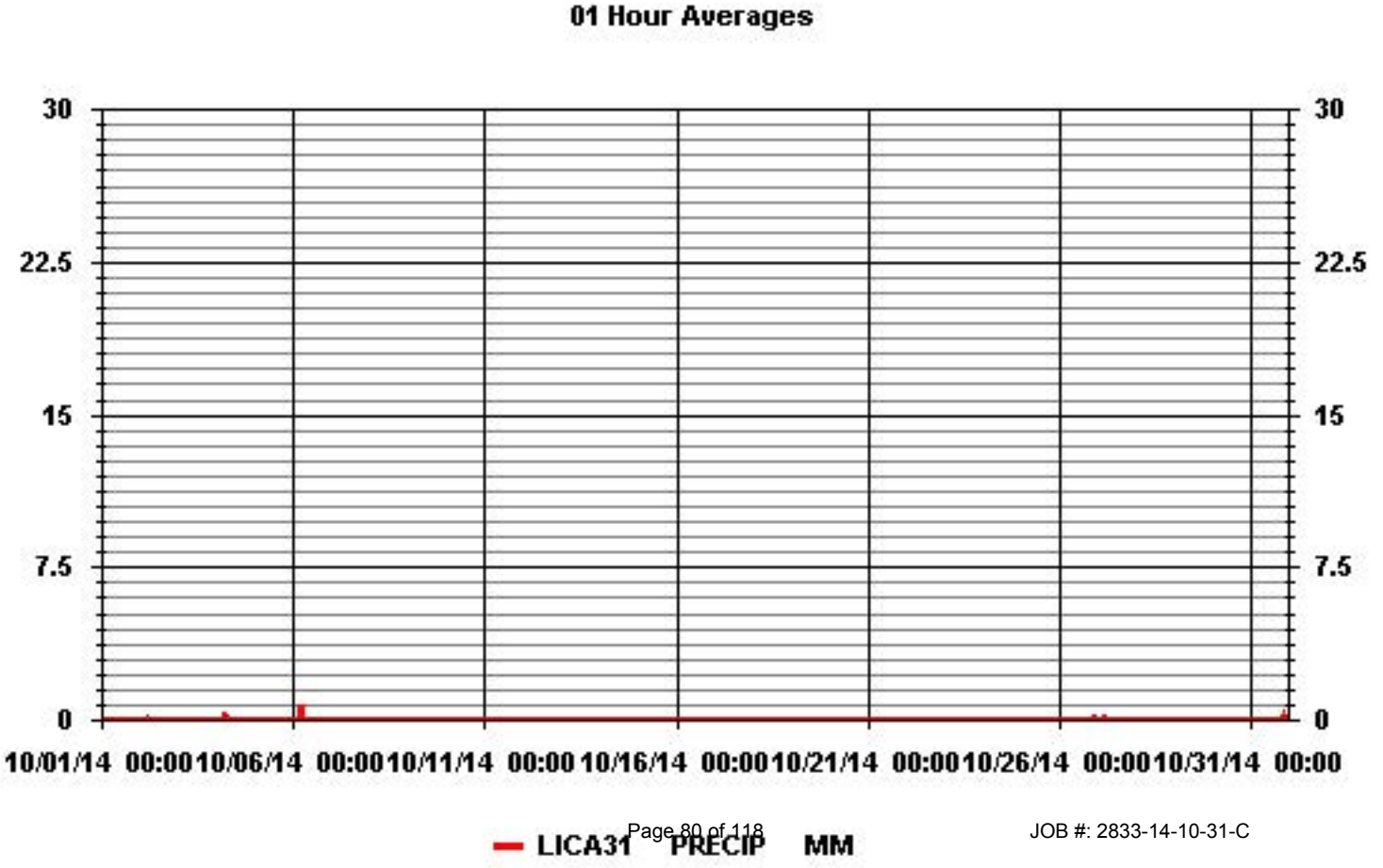
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

24 HOUR AVERAGES FOR OCTOBER 2014



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	0.7	MM	@ HOUR(S)	5	ON DAY(S)	6
MAXIMUM 24-HR AVERAGE:	0.0	MM			ON DAY(S)	ALL
					VAR-VARIOUS	
			OPERATIONAL TIME:		742	HRS
			AMD OPERATION UPTIME:		99.7	%
STANDARD DEVIATION:	0.03		MONTHLY AVERAGE:		0.00	MM



JOB #: 2833-14-10-31-C

Vector Wind Speed

Lakeland Industry & Community Association - St. Lina Site

OCTOBER 2014

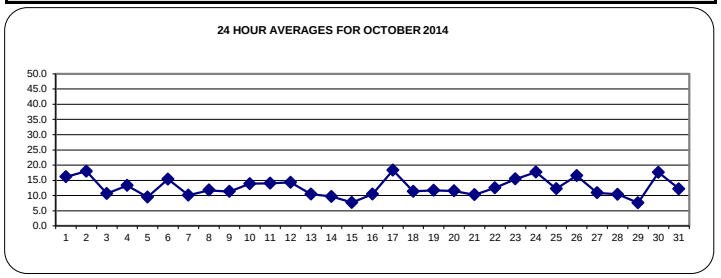
WIND SPEED (WS) hourly averages in km/hr

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	12.7	11.2	10.1	12.3	11.9	12.4	12.3	11.7	12.3	12.2	14.1	19.9	19.1	23.2	20.3	20.8	14.8	17.3	15.9	18.7	20.2	22.1	21.3	20.8	23.2	16.2	24
2	22.2	21.8	20.6	17.8	17.6	17	18.4	20.7	19.3	19.1	22.7	21.9	23.2	23	20.5	20.5	20	18.6	14.2	12.4	10.4	10	10.1	9.8	23.2	18.0	24
3	9.4	10.1	9.8	10.3	9.3	11.2	10.1	8.1	4.4	6	8.9	10.1	10.4	10.5	13	12.6	12.3	11.9	11.6	11	14.1	13.5	13.4	12.8	14.1	10.6	24
4	16.9	13.5	12.2	13.3	13.9	11.2	9.3	9.7	11.3	13	16.7	18.3	17.7	19.3	18	16.7	15.9	17.7	11.1	10.2	9.7	8.5	6.4	8.6	19.3	13.3	24
5	7.7	4.4	3.3	1.3	2.7	6.9	9.8	10.3	8.8	14.6	14.9	12.7	12.2	10.4	11.5	13.6	13.3	9.7	9.1	9.4	11.4	10.5	9.6	9	14.9	9.5	24
6	8	12.2	12.5	12.3	7.5	5.2	3.4	8.3	14.4	15.1	21.9	24.7	27.9	27	***29.3***	20.1	22	20.6	18.5	13.4	11.8	12.1	11.1	10.4	***29.3***	15.4	24
7	10.2	8.5	8.7	10.3	9.9	8.4	7.5	8.8	8.4	8.5	12.9	14.4	15.4	14.7	14.8	15.4	9.8	5.8	7.7	8.3	7.3	8.2	9.3	9.9	15.4	10.1	24
8	10.3	12.6	11.5	14	13.1	12.3	13.8	10.5	11.9	10	9.4	10.3	14.3	15.8	15.6	12.8	11.6	10.6	11.3	10.8	8.9	8.6	10	12	15.8	11.8	24
9	11.3	10.3	10.1	8.1	9.6	8.4	10.2	7.9	7	7.9	9.1	8.7	11.8	13.9	15.4	15	15.2	12.5	13.3	12.5	12.3	15.1	13.5	12.7	15.4	11.3	24
10	14.3	14.6	11.4	10.3	11.3	12.7	12.3	15.2	13.2	15.3	12.2	16.2	15.6	15.3	15.2	16	14.9	13.3	12.7	14.9	15.2	15.3	13.3	12.4	16.2	13.9	24
11	10.9	7.9	11.1	9.8	11.3	11.9	11.4	15.4	16.8	20.3	20.1	18.6	22.5	22.4	21	19.3	13.6	10.7	11.1	10.8	9.7	10.5	8.1	12.3	22.5	14.1	24
12	12.3	12.9	14.8	16.4	16.5	15.4	15.5	16.2	17.5	16.4	18.2	18.4	19.4	17.9	16.3	15.8	12.6	10.9	11	9.5	10.7	9.9	9.5	9.4	19.4	14.3	24
13	9.7	10.3	10.4	9.5	9.1	10.2	9.4	8.4	7.9	5.4	5.5	4.9	5.7	9.2	10.5	9.8	8.5	10.6	13.9	16.8	18.2	18.1	14.7	13.6	18.2	10.4	24
14	12.7	12.6	13.1	11.5	9.1	10.5	9	7.8	6.6	7.3	7.7	7.3	7.4	9.2	9.3	8.7	10.7	8.2	10.3	12.6	13.4	10.7	8.4	8.1	13.4	9.7	24
15	8.9	7.4	7.1	8.5	8.6	7.7	7.4	2.9	4.9	2.6	7.9	5.7	6.2	7.4	7.5	7.7	8.6	8.5	6.3	8.6	10.1	11.2	10.8	11.7	11.7	7.7	24
16	11	7.8	9.8	11.7	11.2	11.8	11.8	11.7	10.5	11.3	10.7	7.7	8.1	9.3	8.3	9	8.5	10.2	9.1	9.7	12.6	12.9	12.8	12.5	12.9	10.4	24
17	12.2	13.6	13.3	11.8	11.9	13.5	15.3	18.1	17.4	19.3	21.7	21.7	22.1	23.4	24.5	25.3	21.5	18.2	20.3	19.9	19.1	18.5	19.4	18.2	25.3	***18.3***	24
18	16.4	14.3	9.8	8.3	8.3	8.7	12.5	11.9	14	16.4	14.6	13	13.7	14.6	13.9	14.9	9.3	5.9	7.5	9	8.7	9.6	8.5	8.5	16.4	11.3	24
19	8.8	3.6	7.9	9.6	8.7	8.2	7.3	10.1	10.3	8.8	5.7	10.7	14.9	14.7	14.6	13.7	12.9	15.1	16.3	14.7	18.2	15.3	14.6	16.3	18.2	11.7	24
20	14.9	13.9	16.3	12.4	12.2	14.1	13.2	11	12.7	12.8	10.2	5.3	5.4	6	9.8	10.3	12	11.9	13	13	11.2	10.1	12.3	12.3	16.3	11.5	24
21	9.7	8.9	13.7	13	13.1	15.7	15	12.8	9.7	11.6	11.7	12.2	11	9.6	7.5	6.5	7.1	7.3	9.9	9.3	8.4	8.1	6.7	7.5	15.7	10.3	24
22	7.1	5.3	5	6.7	9.1	9.3	12.3	12.1	10.9	11.4	16.1	16.7	17.5	17.9	16	12.5	13.7	15.6	15.2	15.1	14.7	13.3	14.2	12.4	17.9	12.5	24
23	12.3	10.2	9.1	10.2	10.7	13.7	13.3	13.3	11.6	10	11.2	10	14.7	23.2	14.2	17.8	21	20.5	16.1	11.5	19.7	25.4	24.3	26.3	26.3	15.4	24
24	25.6	22.8	23.3	20.6	16.3	14.4	17.5	18.9	20	15.8	20.7	22.9	21.3	22.6	22	21.2	14.7	9.9	10.2	9.7	11.3	14.1	14	14.5	25.6	17.7	24
25	13.2	10.9	12.3	14.2	10.8	10.2	7.9	6.2	5.4	5.1	5	4	8.5	8.6	12.6	12.8	15.2	16.2	14.1	17.3	17.8	20	22.4	23.5	23.5	12.3	24
26	22.5	26.4	23.9	23.2	21.2	22.1	19.8	19.2	23.3	23.8	19.5	15.2	13.9	13.8	12.2	13.5	11.7	9	10.7	11.1	11	9.5	10	10.4	26.4	16.5	24
27	11.8	12.8	12.3	11.9	11.7	12.9	12.5	13.5	13	15.2	14.1	10.9	12.4	12.9	12.3	11.4	9.7	8.8	10	10	5.5	6.8	5	4.3	15.2	10.9	24
28	4.7	5.6	4.3	3.6	5.3	5	7.1	9.9	8.3	10.6	12.2	13	13.1	12.1	14.6	15	15.8	13.4	12.3	15.2	14.1	12.6	10.8	10.8	15.8	10.4	24
29	9.4	9.3	10.2	10.9	8.4	7.8	7.8	7.9	7	7.1	7.9	8	5.8	5.9	6.3	6.9	6.7	5.3	4.7	8.1	7.2	8.1	**P**	**P**	10.9	7.6	22
30	9.3	8.5	9.4	11.7	14.2	14.4	16.3	14	16.8	**Y**	**Y**	16.2	20.7	21.9	20.4	20.6	22	22.7	21.5	21.6	20.9	21.6	20.7	21.5	22.7	17.6	22
31	21.3	20.8	19.5	19.5	19.4	18	16.9	19.4	19.8	17.3	15.6	12.1	9.4	2.7	1.1	3.1	5.1	5.5	7	10	7.3	6.4	6.7	8.6	21.3	12.2	24
HOURLY MAX	25.6	26.4	23.9	23.2	21.2	22.1	19.8	20.7	23.3	23.8	22.7	24.7	27.9	27.0	29.3	25.3	22.0	22.7	21.5	21.6	20.9	25.4	24.3	26.3			
HOURLY AVG	12.5	11.8	11.8	11.8	11.4	11.7	11.8	12.0	12.1	12.3	13.3	13.3	14.2	14.8	14.5	14.2	13.2	12.3	12.1	12.4	12.6	12.8	12.4	12.7			

STATUS FLAG CODES

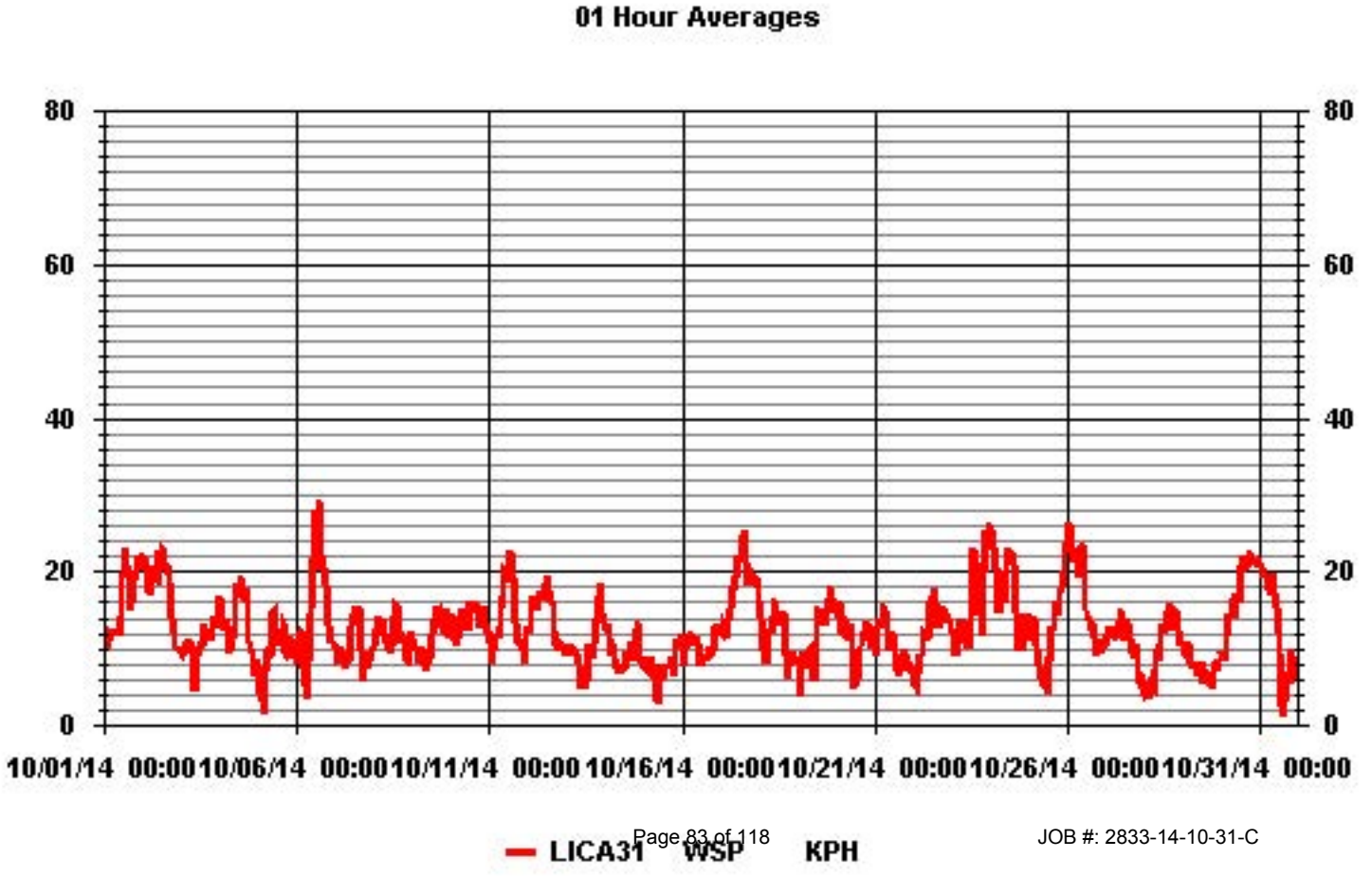
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



LAST CALIBRATION:	August 28, 2014
DECLINATION :	MAGNETIC DECLINATION 13 DEGREE EAST

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	740						
MAXIMUM 1-HR AVERAGE:	29.3	KPH	@ HOUR(S)	14	ON DAY(S)	6	
MAXIMUM 24-HR AVERAGE:	18.3	KPH			ON DAY(S)	17	
					VAR-VARIOUS		
			OPERATIONAL TIME:		740	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME:		99.5	%	
STANDARD DEVIATION:	4.86		MONTHLY AVERAGE:		12.67	KPH	



JOB #: 2833-14-10-31-C

Lakeland Industry & Community Association - St. Lina Site

OCTOBER 2014

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST

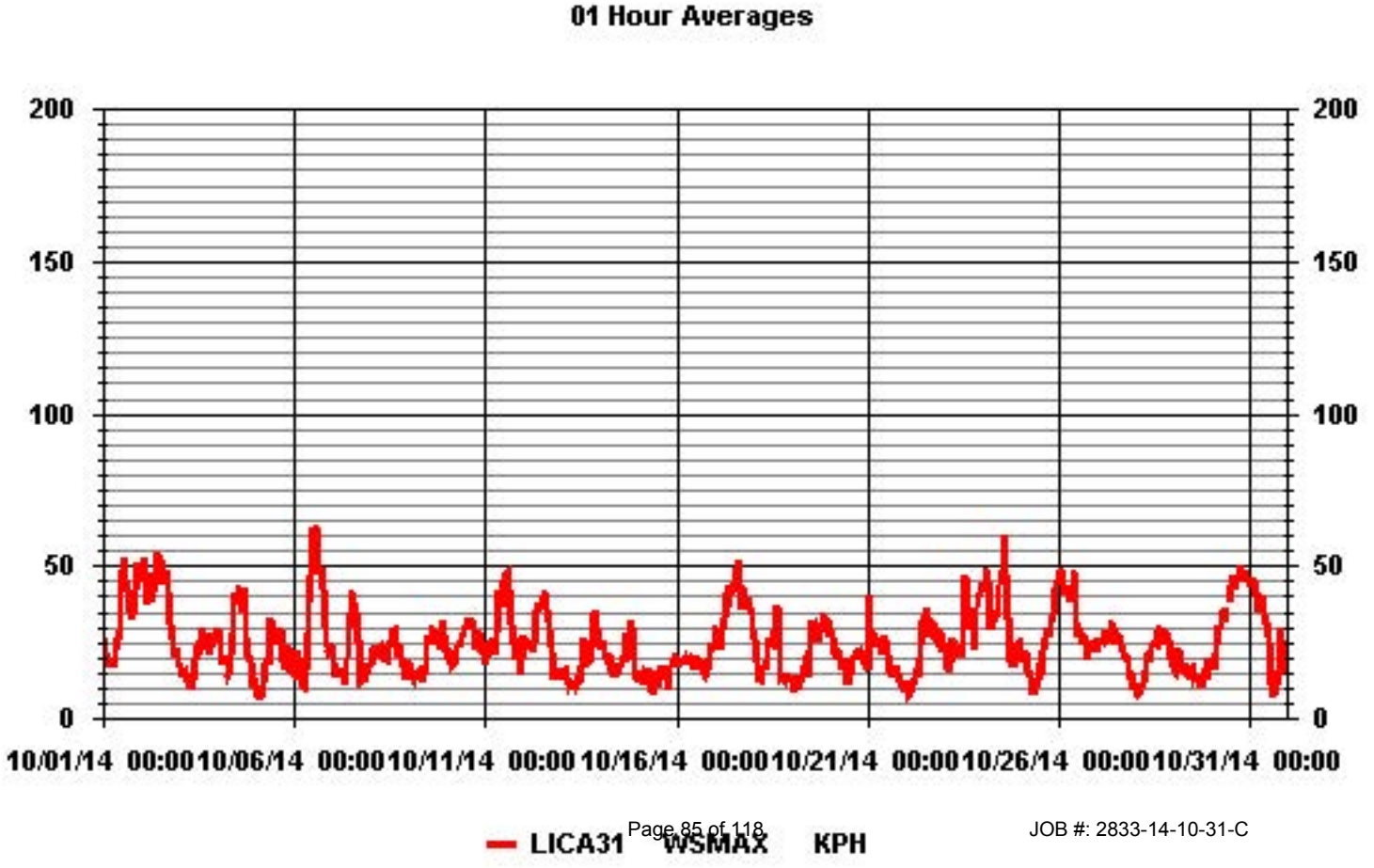
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	25.8	22.2	16.7	19.3	19.1	19.2	17.6	17.5	22.6	26	29.2	48.3	41.4	53	46.3	42	34.8	37.7	33	34	42.4	51.4	50.4	47.9	53	33.2	24
2	50.8	44.8	52.9	37.3	42.3	42.3	37.8	47.5	41.4	43.8	54.2	50.1	52.3	49.1	43.7	46.7	48.4	41.8	31.5	26.8	23.3	19.7	23	18.5	54	***40.4***	24
3	17.6	16.9	13.8	15	13.4	14.6	12.4	10.4	10.5	12.6	19.4	23.6	20.7	25.3	29.9	28.9	24.7	25.2	21	22.5	25.5	27.9	25.8	26.7	30	20.2	24
4	29.1	26.2	21.1	17.6	19.6	18.4	13.6	14.4	20.4	27.9	40.9	39.5	40.2	43.9	38.1	35	43.2	37.7	26.9	21.1	19.5	18.8	9.8	12.8	44	26.5	24
5	11.6	7.9	5.8	7.4	8.7	11.6	17.9	20.3	19.8	32.6	31.7	28.9	24	26.5	28.9	29.4	28.9	19.1	17	16.6	23.5	19.5	18	15.7	33	19.6	24
6	14.9	16.9	22.4	20.5	16.5	11.1	10.6	15.9	27.6	38	47.3	58	62.8	59.6	***63.2***	48.5	48.8	49	42.6	30.8	23.7	21.5	22.2	24.9	***63***	33.2	24
7	21.5	18.3	13.8	16	15.2	15.5	13.9	11.1	16.7	19.7	32.7	32	41.8	36.4	37	35.5	26	12.1	12.6	13.4	11.6	13.9	17.3	17.7	42	20.9	24
8	18.2	22.8	20	24.1	22	23.5	24	19.5	21.6	19.8	19.5	23.5	25.6	28.7	29.1	24.6	23.4	19.6	25	20.5	17.6	12.4	14.5	18.1	29	21.6	24
9	18.1	15	14	13	15.4	13.1	15.5	15.9	11.6	14.4	16.7	23.9	27.4	25.9	29.5	29.3	29	24.2	25.6	24.7	22.7	31.9	27.8	22.3	32	21.1	24
10	20.7	21.9	21.1	17.5	18.3	18.9	23.5	24.8	23.7	28	26.6	30	31.5	30.8	29.7	32.9	30.9	23.6	23.2	26.3	29	23.2	21.3	18.8	33	24.8	24
11	18.6	20	24.3	24.8	21.8	24.9	20.4	27.8	42.4	40.8	36.6	45.1	47.4	48.2	44.1	42.5	31.2	24.5	19.3	26	22.4	21.9	14.1	18.8	48	29.5	24
12	27.3	25.3	23.8	23.7	24.7	23.1	23.2	24.8	35.2	38.1	36.8	39.5	39.4	41.9	36.5	32.4	29.4	24.1	22.4	13	16.1	14.1	14.5	12.7	42	26.8	24
13	14.7	15.7	16.2	12.7	10.8	12	11.8	11.6	10.2	11.4	13.3	13	17.1	22.4	26	21.9	18.3	18.7	22.7	29.9	34.5	35.7	30.6	24.3	36	19.0	24
14	22.8	25.6	24.6	20.9	20.4	17.6	21.3	15.8	13.3	14.8	14.6	14.9	18	16.6	19.8	19.7	27.6	20.8	20.5	32.4	30.5	26.4	13.7	12	32	20.2	24
15	14.4	15.8	12.8	11.5	15.3	14.5	16.2	14.5	9.7	7.9	15.9	12.9	12.4	15.7	15	14.5	17.4	15.9	9.3	15.4	17.1	18.8	18.7	21.2	21	14.7	24
16	20	16.9	18.1	18.4	18.6	19.7	17.6	19.3	19.1	20.7	20.2	15.5	20	20.9	16.3	18.7	15.5	15.5	14.3	15.8	19.9	22	24.7	23.1	25	18.8	24
17	30.6	26.9	26.2	22.2	24.3	28.9	33.2	41.2	36.4	43.7	42.4	41.1	44.7	49.2	48.1	51.5	44.7	35.9	42.4	38.1	37.8	39	36.9	34.7	52	37.5	24
18	29.8	26.1	19.2	13.1	12.8	14.9	17.3	16.1	18.9	25.4	25.3	25.8	25	28.7	31.6	37.1	25.2	12.6	12.9	13.5	12.6	14.7	12.1	13.2	37	20.2	24
19	12.9	8.3	10.9	13.6	11.5	11.1	12.2	14.1	17.3	20.3	12.9	22.1	31.7	29.7	30.9	29.1	25.1	28.8	31.2	27.9	34.3	31.6	31.5	33.2	34	22.2	24
20	26.3	29	27.4	21.8	19.1	22.6	21.6	15.6	18.6	19.7	17.5	10.8	12	14.4	19.3	20.2	21.1	19.2	21.4	22.2	20.3	18.3	17.5	18.7	29	19.8	24
21	15.6	40.3	28.4	28	23.5	27.2	25	24.5	20.4	25.7	27.1	24.6	25.6	21.3	15.8	13.8	15.3	13.4	17.5	15.1	12.9	10.9	9.7	10	40	20.5	24
22	10.6	8.2	9	9	10.9	12.8	15.3	15.1	19.4	23.9	32.1	32.8	33.7	35.8	33.3	27.9	27.5	32.2	28.4	26.5	27.7	25.9	28.5	21.9	36	22.9	24
23	22.8	21.3	16.9	15.4	18.7	25.5	25.5	20.9	21.8	19.9	22.4	20.4	33.9	46.7	34	29.2	36	35.5	34.7	22.6	36.4	40.2	40.4	44.2	47	28.6	24
24	43.1	43.5	49.2	45	44.6	29.4	30.1	31.7	34.4	34.5	43.9	47.8	47.5	48.4	60.3	47.4	33.4	19.3	17.3	17.3	17.5	24.2	24.4	24.9	60	35.8	24
25	20.9	18.4	19.6	22.3	15.8	15.8	13.8	8.8	8.6	11.7	10.4	12.3	16.9	16.5	22.5	25.9	29.3	29.6	26.4	31.6	33.8	42.4	44.3	45.2	45	22.6	24
26	47.8	48.3	47.5	44	40.9	42.9	38.1	40	43.5	48.3	43.6	32.4	26.4	29.9	24.2	27.9	25.6	19.5	21.9	24.5	23.8	24	24.7	21.5	48	33.8	24
27	22.7	25.4	25.6	25.6	24.4	28.4	25.7	26.5	26.8	31.7	30.2	25.6	25.4	28.1	26	22.5	22.5	19.1	21.4	19.2	12.9	16	10.6	10.8	32	23.0	24
28	9.3	10	8.3	9	10.4	11.8	16	21.2	18.7	22.4	23.7	24.1	25.1	24.7	28.4	29.1	29.1	28.9	24.4	29	26.5	26	20.3	17.9	29	20.6	24
29	16	15.3	20	22.7	16.6	16.8	17.1	15	14.3	14.9	15.6	16.2	12.9	13.6	13.9	13.9	12.5	10.1	13.7	16.7	12.7	18.7	**P**	**P**	23	15.4	22
30	17.1	16.1	21.4	24.2	30.1	30.5	35.2	31.6	35.2	**Y**	**Y**	39.2	43.4	46.9	42.6	45.1	46.1	50.5	48.6	44.7	47.5	47.7	45.8	44.1	51	37.9	22
31	44.2	44.2	45.8	39.6	41.6	34.8	35.9	38.5	40.3	34.6	31.8	27.2	25.7	11.3	8	8.2	10.6	11.1	15.5	29.4	16.9	15.4	15.1	24.8	46	27.1	24
HOURLY MAX	51	48	53	45	45	43	38	48	44	48	54	58	63	60	63	52	49	51	49	45	48	51	50	48			
HOURLY AVG	23.1	23.0	22.5	21.1	20.9	21.1	21.3	21.7	23.2	25.8	27.8	29.1	30.7	31.9	31.4	30.0	28.4	25.0	24.0	24.1	24.3	25.0	23.6	23.4			

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 INSTANTANEOUS VALUE:	63	KPH	@ HOUR(S)	14	ON DAY(S) 6
					VAR-VARIOUS
OPERATIONAL TIME:					740 HRS



JOB #: 2833-14-10-31-C

LICA31
WSP / WDR Joint Frequency Distribution (Percent)

October 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	.40	.27	.27	.54	.13	.00	.27	.27	.67	1.08	.67	.27	.40	.54	.00	.27	6.08
<	12.0	1.08	2.29	2.16	2.29	3.78	2.43	1.62	2.02	3.10	1.35	2.02	3.78	5.54	5.94	2.29	1.75	43.51
<	20.0	.00	.54	.40	1.62	.81	3.78	7.70	4.32	3.10	.40	.67	2.29	4.86	4.45	3.10	1.35	39.45
<	29.0	.00	.00	.27	1.21	.00	.40	2.43	.13	.00	.00	.00	.94	2.29	1.48	1.62	.00	10.81
<	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.13	.00	.13
>=	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	1.48	3.10	3.10	5.67	4.72	6.62	12.02	6.75	6.89	2.83	3.37	7.29	13.10	12.43	7.16	3.37	

Calm : .00 %

Total # Operational Hours : 740

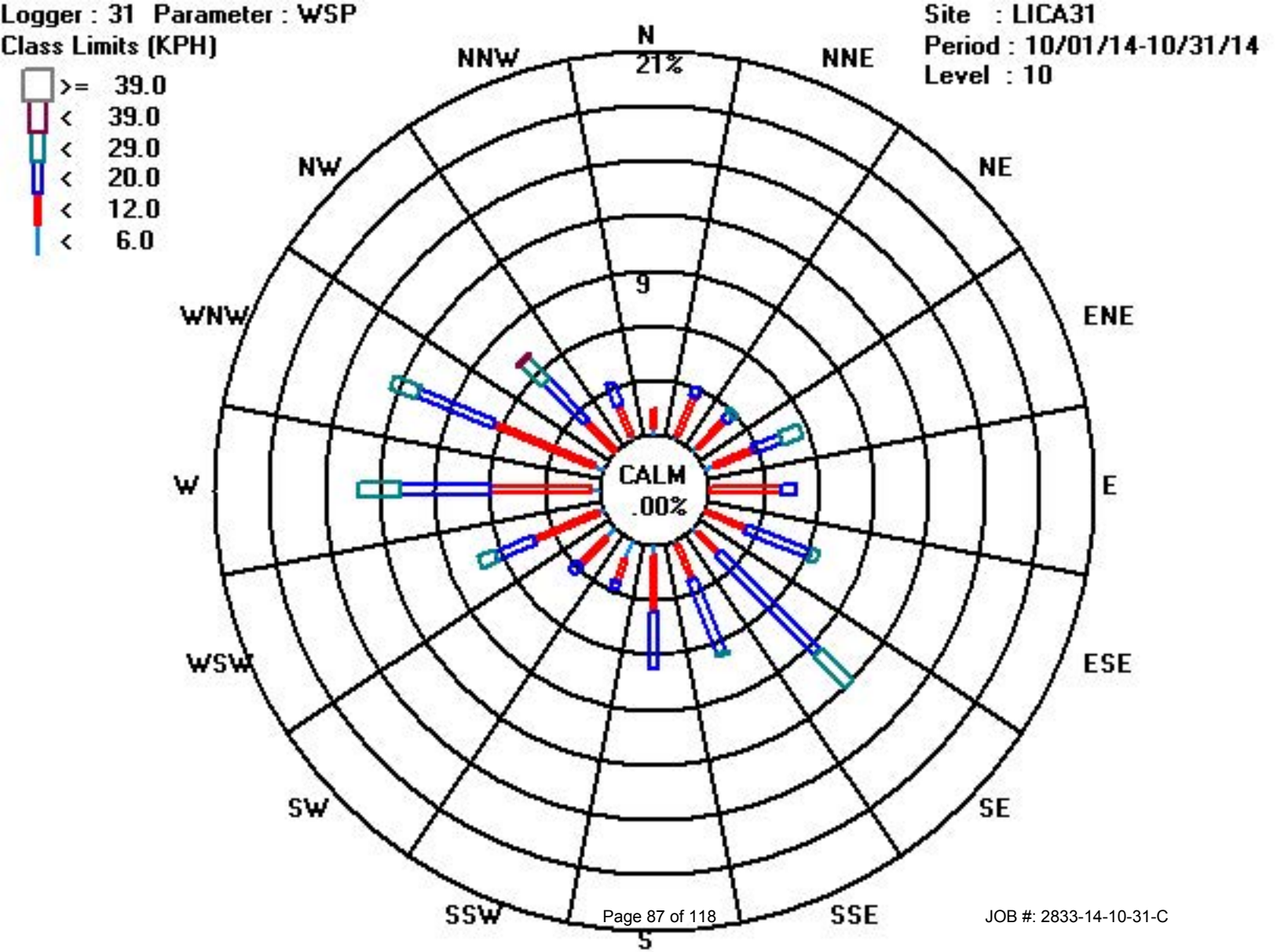
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	3	2	2	4	1		2	2	5	8	5	2	3	4		2	45
<	12.0	8	17	16	17	28	18	12	15	23	10	15	28	41	44	17	13	322
<	20.0		4	3	12	6	28	57	32	23	3	5	17	36	33	23	10	292
<	29.0			2	9		3	18	1				7	17	11	12		80
<	39.0															1		1
>=	39.0																	
	Totals	11	23	23	42	35	49	89	50	51	21	25	54	97	92	53	25	

Calm : .00 %

Total # Operational Hours : 740



JOB #: 2833-14-10-31-C

Vector Wind Direction

Lakeland Industry & Community Association - St. Lina Site

OCTOBER 2014

WIND DIRECTION (WD) hourly averages in degrees

MST

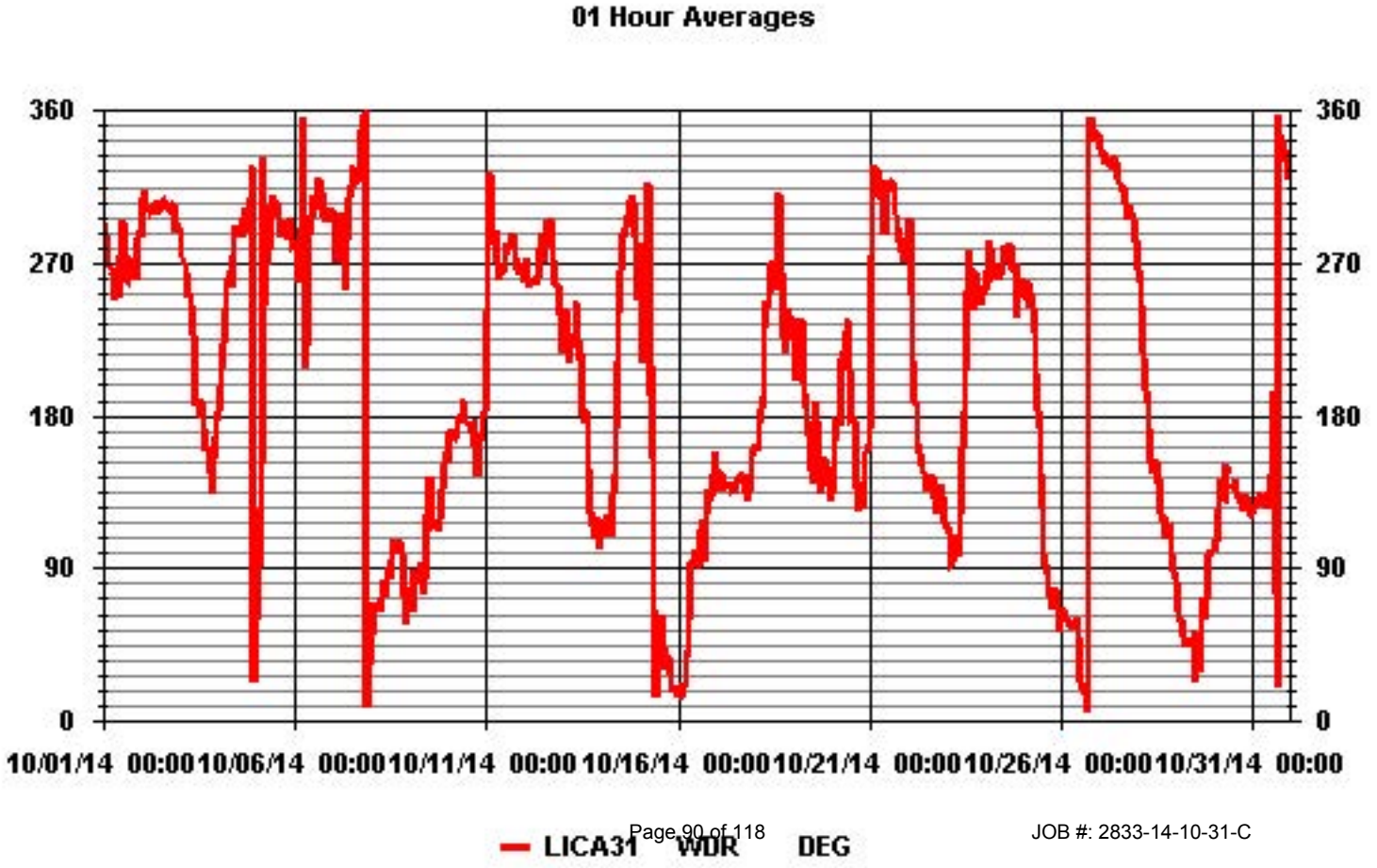
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUANDRANT	RDGS.
DAY																											
1	292	288	280	269	269	267	264	249	251	251	274	293	293	266	261	260	274	272	265	262	260	285	288	285	293	WNW	24
2	305	304	312	302	302	300	302	303	305	298	306	300	306	307	302	306	304	302	303	305	304	289	291	292	312	NW	24
3	289	274	270	270	265	251	251	246	229	198	186	190	178	189	180	174	159	162	151	147	133	155	167	177	289	WNW	24
4	182	197	208	223	243	259	260	265	255	274	290	290	286	288	285	296	303	289	290	290	309	327	22	54	327	NW	24
5	60	90	124	151	332	245	268	286	277	304	310	305	305	299	296	286	289	293	292	283	294	296	280	281	332	NNW	24
6	279	259	264	265	290	356	208	221	247	287	297	298	309	301	308	320	315	312	298	294	299	302	297	302	356	N	24
7	295	285	270	272	285	299	275	254	275	284	308	315	327	324	324	318	319	349	356	357	358	8	15	33	358	N	24
8	51	70	65	68	68	64	73	83	73	81	88	87	94	102	107	102	104	99	107	99	75	56	65	78	107	ESE	24
9	72	64	89	84	85	81	86	93	74	83	121	111	144	142	120	114	117	113	113	119	137	151	159	152	159	SSE	24
10	168	168	172	170	168	170	179	176	180	189	185	177	176	173	174	175	164	153	144	157	165	169	179	183	189	S	24
11	241	285	323	314	285	286	272	262	260	264	265	269	275	282	280	282	288	280	265	272	266	263	267	258	323	NW	24
12	270	272	262	256	259	258	258	258	262	278	287	274	270	289	294	291	296	281	273	258	258	257	241	216	296	WNW	24
13	239	242	239	219	211	221	222	228	247	225	213	218	181	176	183	179	149	124	116	107	109	115	120	101	247	WSW	24
14	109	110	119	114	122	111	111	134	145	172	212	240	266	286	286	291	298	300	306	310	307	286	248	276	310	NW	24
15	269	281	211	220	298	318	191	211	156	67	14	48	61	59	62	44	31	33	38	29	19	19	21	17	318	NW	24
16	18	17	13	21	21	37	41	60	93	94	101	95	92	90	113	119	117	94	122	136	132	133	145	158	158	SSE	24
17	150	135	144	146	136	142	140	137	140	137	139	140	134	143	141	145	147	141	136	130	135	145	157	159	159	SSE	24
18	162	159	162	175	184	192	232	248	243	252	269	271	254	263	299	311	297	266	227	217	224	243	227	238	311	NW	24
19	231	201	215	201	213	237	200	194	186	178	169	148	139	150	188	178	155	133	143	149	156	141	140	130	237	SW	24
20	134	150	165	177	176	174	214	212	218	229	237	207	178	179	177	166	138	124	130	129	141	158	161	161	237	SW	24
21	172	275	308	328	313	326	318	308	298	286	319	314	314	315	318	317	300	287	288	286	278	271	273	275	328	NNW	24
22	275	296	252	214	189	187	164	159	152	148	145	145	136	142	136	145	132	124	124	125	136	139	133	118	296	WNW	24
23	114	114	111	93	94	103	110	97	103	122	161	183	206	254	277	243	243	251	264	263	258	252	245	251	277	W	24
24	254	266	278	283	280	262	263	262	262	270	263	270	280	273	274	279	282	268	266	267	238	249	261	258	283	W	24
25	261	252	248	260	248	249	245	230	206	184	173	124	146	99	93	87	74	68	68	75	78	68	52	55	261	W	24
26	63	66	63	60	59	58	56	56	58	58	60	51	24	19	21	16	5	353	352	356	348	341	347	346	356	N	24
27	339	333	337	329	331	331	329	328	331	332	330	321	318	313	313	315	306	305	296	303	301	297	282	285	339	NNW	24
28	267	259	246	218	215	196	189	174	153	148	148	154	142	142	123	120	122	108	110	113	114	99	89	85	267	W	24
29	83	65	59	61	50	43	46	47	46	48	43	53	22	39	28	42	62	72	59	72	97	100	**P**	**P**	100	E	22
30	102	106	124	142	134	134	133	151	147	**Y**	**Y**	138	137	142	135	133	130	124	128	132	132	129	123	122	151	SSE	22
31	123	125	127	131	134	129	129	128	130	129	135	145	156	195	75	20	357	347	342	341	329	333	319	335	357	N	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 28, 2014
DECLINATION :	MAGNETIC DECLINATION 13 DEGREE EAST

MONTHLY CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	740	HRS
STANDARD DEVIATION:	90.90		AMD OPERATION UPTIME:	99.5	%
			MONTHLY AVERAGE:	224	DEG



JOB #: 2833-14-10-31-C

Standard Deviation Wind Direction

Lakeland Industry & Community Association - St. Lina Site

OCTOBER 2014

STANDARD DEVIATION WIND DIRECTION (STDWD) hourly averages in degrees

MST

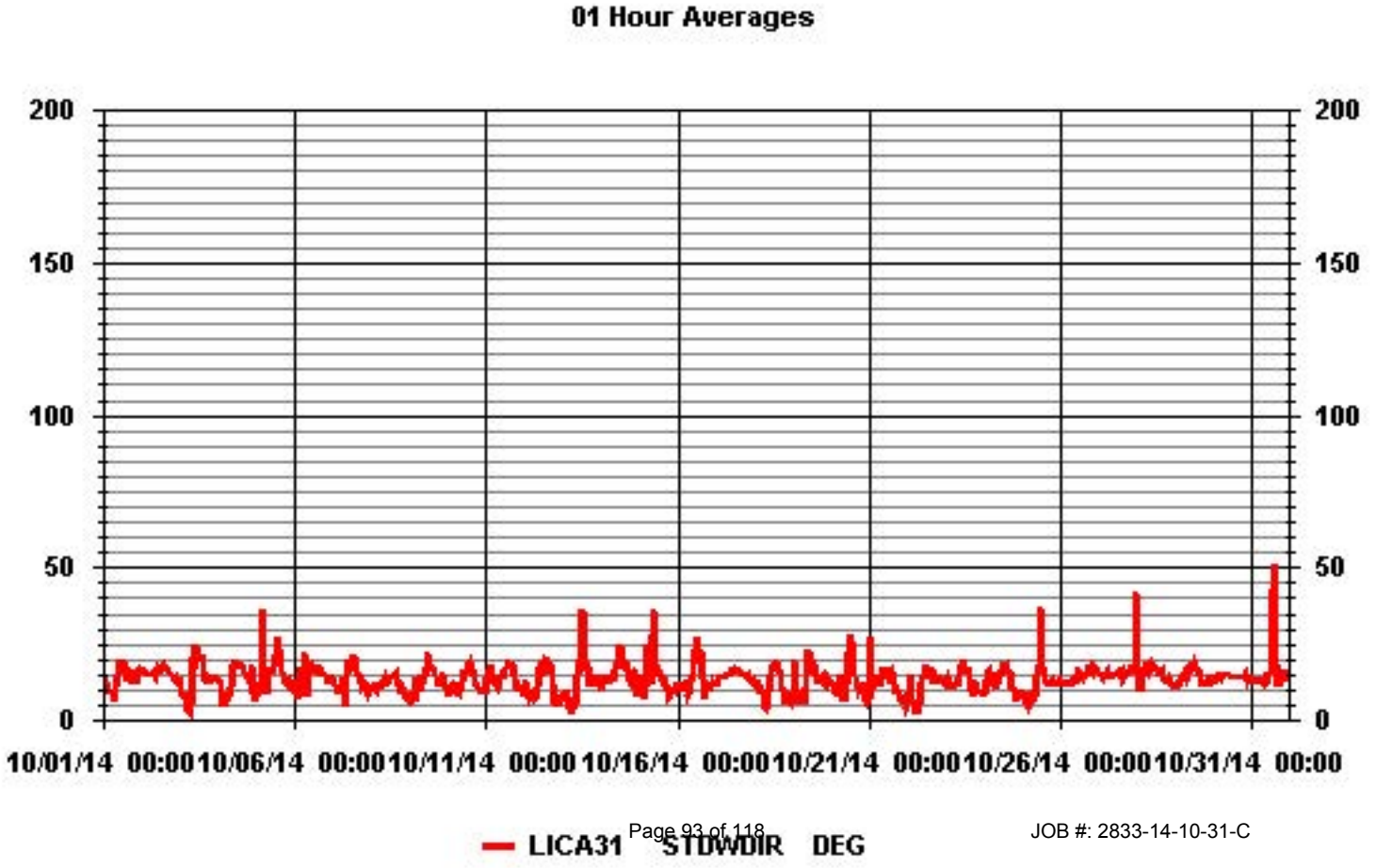
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00
DAY																								
1	14	13	11	9	9	9	7	6	11	15	20	19	19	17	14	13	17	16	13	13	12	16	17	16
2	16	16	15	15	15	15	15	16	15	17	16	16	17	17	18	17	17	16	15	15	14	13	14	13
3	13	9	8	7	9	4	3	5	21	17	25	21	21	20	20	16	14	13	13	14	14	14	14	14
4	13	13	10	5	5	8	6	8	11	18	19	19	19	18	18	18	16	15	15	14	12	18	9	6
5	8	11	12	33	36	9	9	14	17	15	17	20	21	27	24	18	16	13	13	12	13	12	11	12
6	13	7	10	10	17	16	22	8	11	17	18	17	16	16	17	18	15	15	15	15	13	13	14	14
7	14	12	9	9	10	12	11	4	14	20	18	17	18	21	18	16	15	13	11	12	11	11	9	10
8	10	11	11	10	11	11	11	12	12	14	13	14	14	14	14	15	13	11	12	11	10	9	8	7
9	9	7	8	14	6	11	9	15	12	14	17	22	19	16	17	17	15	12	12	14	15	15	12	11
10	8	9	11	12	11	10	11	10	12	13	16	15	18	18	19	17	15	12	12	11	10	9	9	9
11	13	13	16	18	14	14	12	11	12	14	14	16	17	19	19	18	18	15	10	13	11	9	11	8
12	12	12	9	7	8	7	8	7	11	17	18	17	19	18	20	18	18	16	12	6	5	5	8	7
13	7	9	10	7	4	2	4	6	6	15	20	27	36	26	20	16	18	11	12	12	13	14	14	12
14	13	12	14	12	15	12	15	13	16	17	19	21	25	17	19	20	17	14	13	15	16	15	8	9
15	10	11	15	7	11	25	16	28	12	36	14	18	17	15	14	15	12	10	8	9	10	10	11	10
16	11	11	11	9	11	10	8	9	13	15	18	23	27	18	23	20	14	7	9	11	9	11	13	12
17	12	13	14	14	14	14	15	15	15	16	16	17	16	16	16	15	15	15	14	14	15	14	13	12
18	13	12	12	9	10	9	5	4	5	9	15	17	17	19	20	17	16	10	10	5	7	7	6	8
19	8	20	7	5	7	9	9	5	11	15	23	19	17	18	16	15	12	13	14	13	12	14	13	13
20	12	12	10	10	9	8	15	7	7	9	12	22	28	26	17	15	12	10	11	11	11	7	6	8
21	8	27	12	13	12	13	11	14	17	15	16	15	17	15	16	14	12	9	10	9	7	6	6	4
22	5	9	15	7	3	3	3	5	12	14	15	17	17	17	15	16	15	13	13	14	14	14	13	12
23	13	14	12	11	11	11	12	11	14	16	18	20	17	15	17	11	10	8	12	12	10	9	9	9
24	8	13	16	17	16	12	11	11	12	15	15	16	19	17	18	17	16	11	9	11	6	7	9	9
25	9	8	6	7	5	6	8	7	8	15	18	37	16	18	13	13	12	12	12	13	12	12	12	12
26	13	12	12	12	12	12	12	12	13	13	15	17	14	15	14	15	15	17	17	16	18	17	17	16
27	15	15	15	14	15	16	14	14	15	15	15	15	16	15	16	14	15	15	16	15	18	16	15	42
28	17	10	10	14	17	19	17	16	18	19	18	17	17	15	15	16	14	13	13	13	14	13	12	11
29	11	12	12	13	14	15	16	14	15	16	19	17	19	18	17	15	12	12	12	12	11	14	**P**	**P**
30	13	14	15	15	15	14	15	15	15	**Y**	**Y**	14	14	14	14	14	14	14	14	14	15	13	14	14
31	14	13	13	13	13	13	13	12	13	13	15	16	22	43	51	19	12	12	13	14	13	16	15	15

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 28, 2014

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 740 HRS



JOB #: 2833-14-10-31-C

Calibration Reports

Sulphur Dioxide

API 100E SO2 Analyzer Calibration

Date:	8-Oct-14	**Start/End Time (mst):**	1600/1900
Company:	LICA	**Calibration Purpose:**	Routine Calibration
Station Name/Location:	St Lina	**Converter Make & Model:**	NA
Performed by:	Limin Li	**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:	2-Sep-14	**As Found C.F.**	1.021
Previous Cal High Point C.F.:	1.000	**New C.F.:**	0.999

	As found:	As left:
SLOPE:	0.958	0.979
OFFSET:	155.1	158.3
HVPS:	544	544
RCELL TEMP:	50.0	50.0
BOX TEMP:	30.4	30.4
PMT TEMP:	7.9	7.9
IZS TEMP:	40.0	40.0
TEST:	na	na
STABIL:	0.1	0.1
PRES:	24.1	24.1
SAMP FL:	583	583
PMT:	138.7	138.7
NORM PMT:	157.7	157.7
UV LAMP:	1758	1758
LAMP RATIO:	99.1	99.1
STR. LGT	74.3	74.3
DRK PMT:	16.6	16.6
DRK LMP:	3.7	3.7
Internal Span:	256	256

Calibrator:

Flow Meter ID's:	NA
Make & Model:	Environics 6100
Serial #:	4760
Cal Gas Cylinder I.D. # :	BLM711
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	4922	78	5000
mid	4962	38	5000
low	4981	19	5000

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	4996	0.0	4996	0	2.0	NA
adjusted zero	4996	0.0	4996	0	0.4	NA
as found high	4916	77.81	4994	751.0	736.0	1.021
adjusted high	4916	77.81	4994	751.0	751.0	1.001
mid	4957	37.90	4995	365.7	366.0	1.000
low	4976	18.95	4995	182.9	184.0	0.996
calibrator zero	4996	0.00	4996	0	0.0	NA
					Average C.F.=	0.999

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)=	**-0.05%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**-2.10%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

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

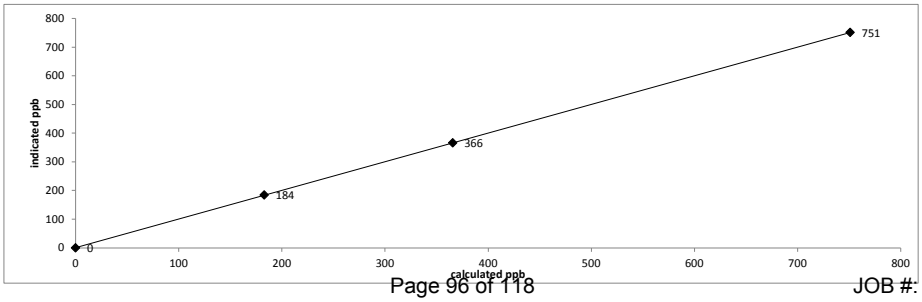
SO_2 High Point gas concentration: NA Time gas run (mst): NA

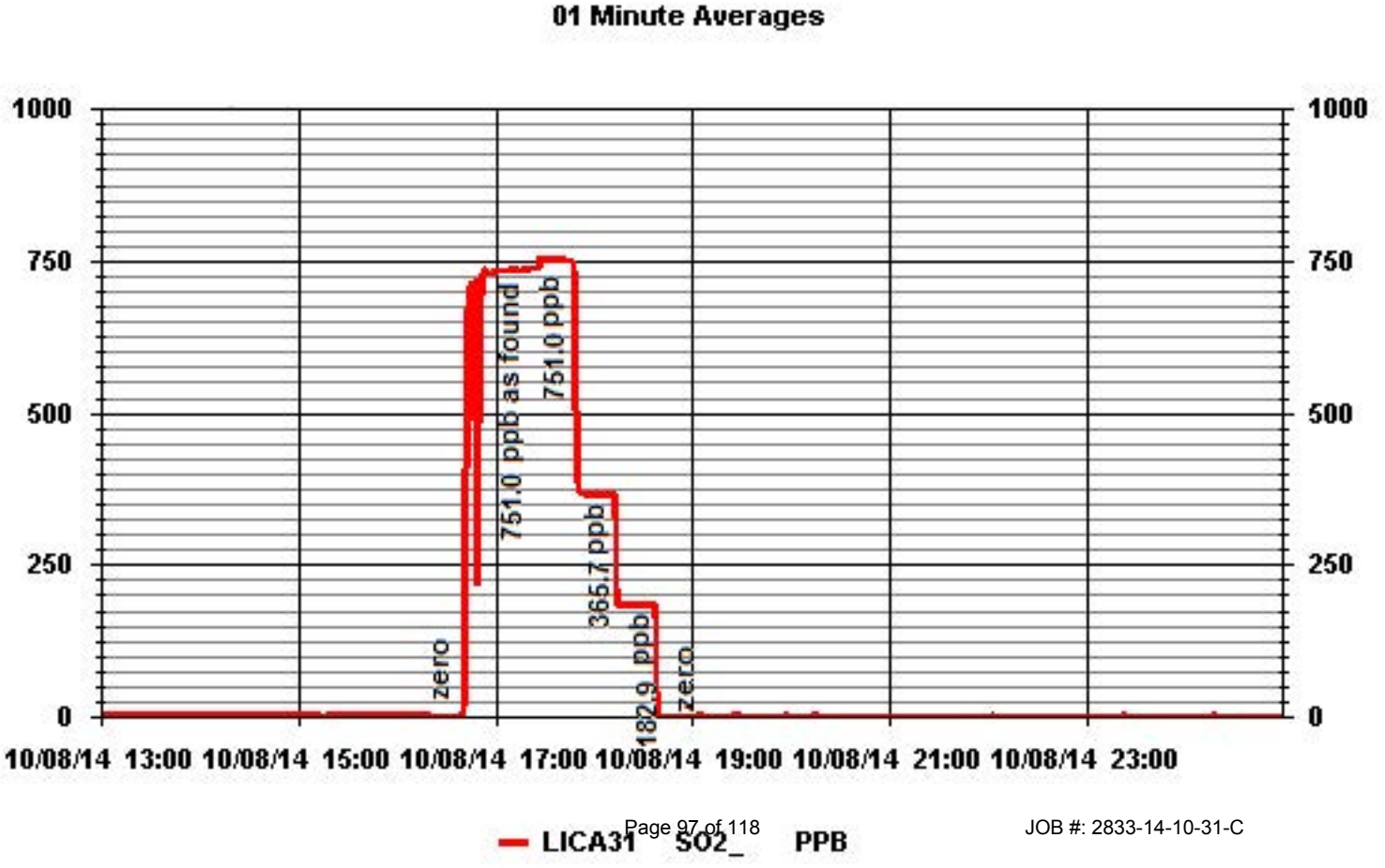
Zero corrrected analyzer response: NA

Comments:

Change sample filter.

API 100E SO2 Analyzer Calibration





JOB #: 2833-14-10-31-C

Hydrogen Sulphide

API 101E H2S Analyzer Calibration

Date:	8-Oct-14	**Start/End Time (mst):**	1600/1900
Company:	LICA	**Calibration Purpose:**	Routine Calibration
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:**	25-Dec-15

Analyzer:

Serial Number:	722	**Range ppb:**	100
Last Calibration Date:	17-Jun-14	**As Found C.F.**	1.026
Previous Cal High Point C.F.:	1.000	**New C.F.:**	1.025

	As found:	As left:
SLOPE:	1.322	1.336
OFFSET:	42.3	42.3
HVPS:	595	595
RCELL TEMP:	50.0	50.0
BOX TEMP:	31.1	31.1
PMT TEMP:	8.1	8.1
IZS TEMP:	45.0	45.0
TEST:	314.8 (ConvTemp)	314.8 (ConvTemp)
STABIL:	0.1	0.1
PRES:	25.3	25.3
SAMP FL:	606	606
PMT:	67.9	67.9
NORM PMT:	43.1	43.1
UV LAMP:	2284	2284
LAMP RATIO:	99.3	99.3
STR. LGT	27.9	27.9
DRK PMT:	32.8	32.8
DRK LMP:	4.3	4.3
Internal Span:	40.86	40.86

Calibrator:

Flow Meter ID's:	na
Make & Model:	API 700
Serial #:	831
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	4961	39	5000
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	4996	0.0	4996	0	0.0	NA
adjusted zero	4996	0.0	4996	0	0.0	NA
as found high	4959	38.60	4998	78.0	76.0	1.026
adjusted high	4959	38.60	4998	78.0	78.0	1.000
mid	4979	18.80	4998	38.0	37.0	1.027
low	4985	11.40	4996	23.0	22.0	1.048
calibrator zero	4996	0.00	4996	0	0.0	NA
					Average C.F.=	1.025

Linear Regression/Calibration Results:

		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**0.997**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**0.60%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**-2.64%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

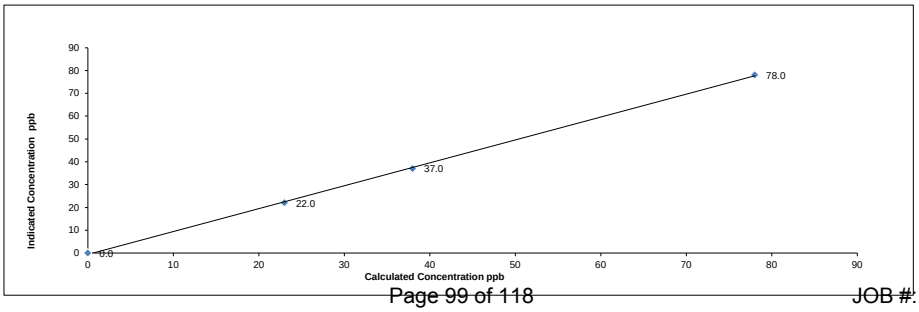
****run converter effeciency test immediately following zero adjust****

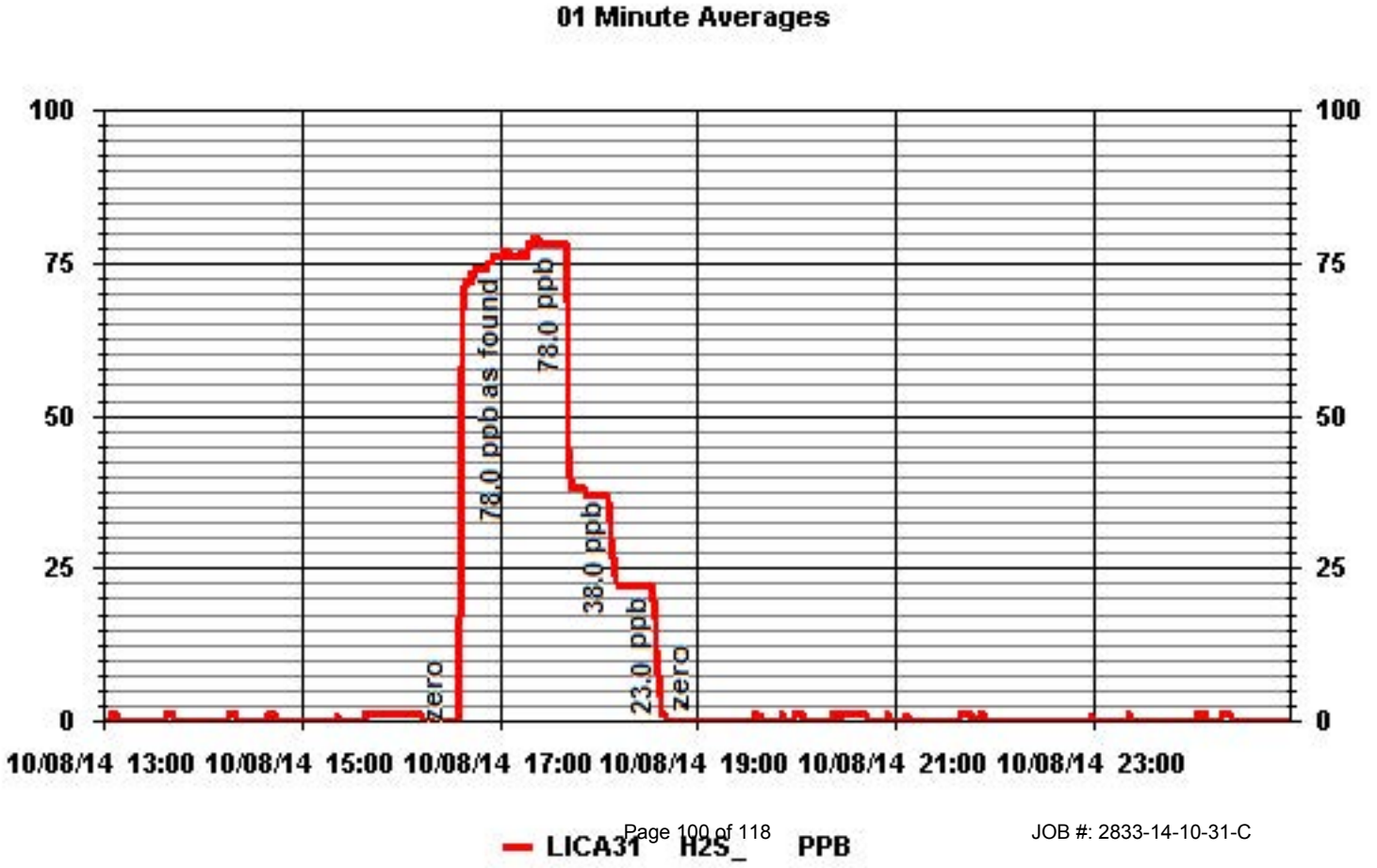
SO_2 High Point gas concentration:	n/a	Time gas run (mst):	n/a
Zero corrrected analyzer response:	n/a		

Comments:

Change sample filter. No Zero adjusted.

API 101E H2S Analyzer Calibration





JOB #: 2833-14-10-31-C

Total Hydrocarbons

Thermo 51C THC Analyzer Calibration

Date:	9-Oct-14	**Start Time (mst):**	8:27
Company:	LICA	**End Time (mst):**	11:20
Station Name/Location:	St. Lina	**Calibration Purpose:**	Shutdown calibration
Performed by:	Limin Li	**Cal Gas Expiry Date:**	26-Mar-17

Analyzer:

Serial Number:	436609739	**Range ppm:**	50
Last Calibration Date:	11-Sep-14	**As Found C.F.**	1.054
Previous Cal High Point C.F.:	0.997	**New C.F.:**	1.084

		As found:	As left:
	H_2 cylinder (psi):	1550	1550
	H_2 cylinder reg set (psi):	25	25
	Span Cylinder (psi):	750	750
	Span Cylinder Reg Set (psi):	25	25
	Zero Air Gen Pressure:	37	37
	measurement alarms:	NONE	NONE
	service alarms:	NONE	NONE
FID status:	cnt:	3402	3402
	rng:	1	1
	try:	0	0
	flm:	201.7	201.7
	det:	125.5	125.5
Oven Readings:	Flame:	201	201
	Filter:	125	125
	Base:	125	125
	Pump:	6.5	6.5
Voltages:	+5	4.9	4.9
	+15	14.9	14.9
	-15	-15	-15
	Internal Span:	31.81	31.81

Calibrator:

Flow Meter ID's:	NA	
Make & Model:	API700	
Serial #:	831	
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	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	-0.17	NA
adjusted zero	2000	0.00	2000	0	0.00	NA
as found high	2000	68.00	2068	38.04	36.10	1.054
adjusted high	2000	68.00	2068	38.04	38.00	1.001
mid	2000	31.60	2032	17.99	16.90	1.065
low	2000	15.70	2016	9.01	7.60	1.186
calibrator zero	2000	0.00	2000	0	0.07	NA
					Average C.F.=	1.084

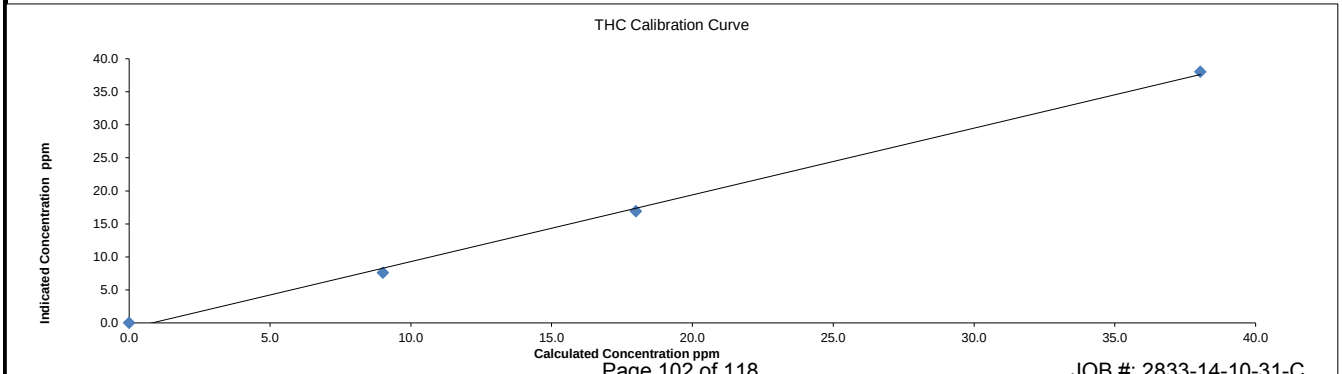
Linear Regression/Calibration Results:

		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**0.999**	**> or = 0.995**	**PASS**
Slope =	**1.009**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**-1.578%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**-5.70%**	**± 15%**	**PASS**

Comments:

Change sample filter.

Thermo 51C THC Analyzer Calibration



JOB #: 2833-14-10-31-C

Thermo 51C THC Analyzer Calibration

Date:	9-Oct-14	**Start Time (mst):**	16:23
Company:	LICA	**End Time (mst):**	18:15
Station Name/Location:	St. Lina	**Calibration Purpose:**	Post Repair
Performed by:	Limin Li	**Cal Gas Expiry Date:**	26-Mar-17

Analyzer:

Serial Number:	436609739	**Range ppm:**	50
Last Calibration Date:	11-Sep-14	**As Found C.F.**	NA
Previous Cal High Point C.F.:	0.997	**New C.F.:**	1.002

		As found:		As left:
	H_2 cylinder (psi):	1550	H_2 cylinder (psi):	1550
	H_2 cylinder reg set (psi):	25	H_2 cylinder reg set (psi):	25
	Span Cylinder (psi):	750	Span Cylinder (psi):	750
	Span Cylinder Reg Set (psi):	25	Span Cylinder Reg Set (psi):	25
	Zero Air Gen Pressure:	37	Zero Air Gen Pressure:	37
	measurement alarms:	NONE	measurement alarms:	NONE
	service alarms:	NONE	service alarms:	NONE
FID status:	cnt:	3402	cnt:	3402
	rng:	1	rng:	1
	try:	0	try:	0
	flm:	206.1	flm:	206.1
	det:	125.5	det:	125.5
Oven Readings:	Flame:	206	Flame:	206
	Filter:	125	Filter:	125
	Base:	125	Base:	125
	Pump:	6.8	Pump:	6.8
Voltages:	+5	4.9	+5	4.9
	+15	14.9	+15	14.9
	-15	-15	-15	-15
	Internal Span:	31.81	Internal Span:	31.81

Calibrator:

Flow Meter ID's:	NA	
Make & Model:	API700	
Serial #:	831	
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	3000	0	3000
high	2500	85	2585
mid	2500	40	2540
low	2500	20	2520

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		0		NA
adjusted zero	2500	0.00	2500	0	0.00	NA
as found high		na				
adjusted high	2500	85.00	2585	38.04	38.00	1.001
mid	2500	40.00	2540	18.22	18.20	1.001
low	2500	20.00	2520	9.18	9.14	1.005
calibrator zero	2500	0.00	2500	0	0.00	NA
					Average C.F.=	1.002

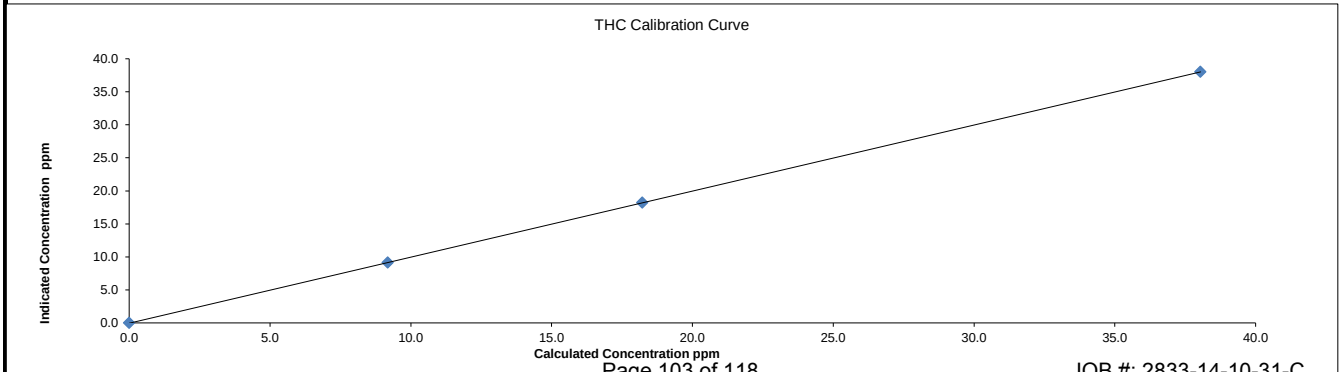
Linear Regression/Calibration Results:

		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)=	**-0.025%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**NA**	**± 15%**	**NA**

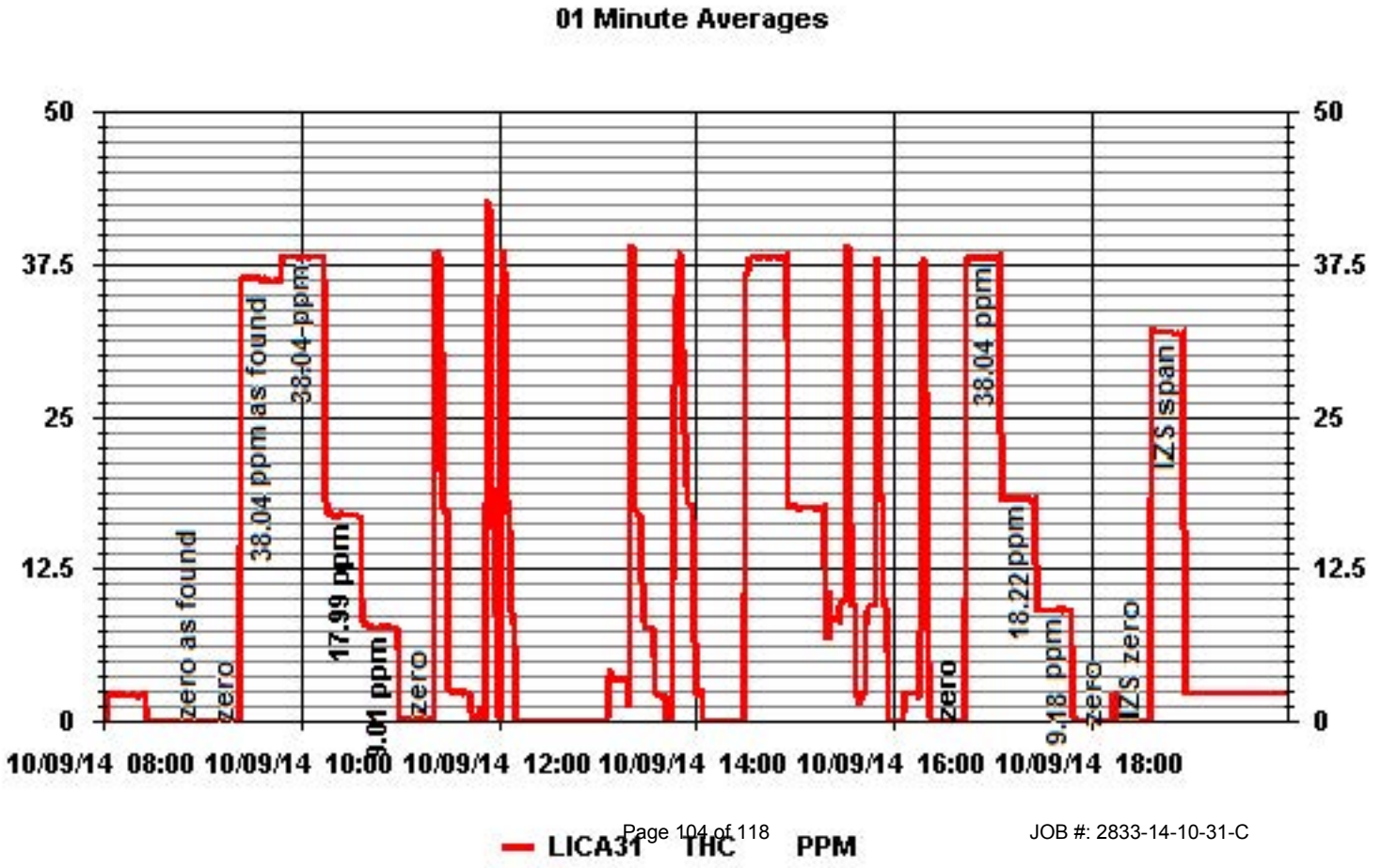
Comments:

Changed pump. Redo calibration after change calibrator valve.

Thermo 51C THC Analyzer Calibration



JOB #: 2833-14-10-31-C



JOB #: 2833-14-10-31-C

Nitrogen Dioxide

API 200E NOx Analyzer Calibration

Date:	8-Oct-14	**Start Time (mst):**	16:00
Company:	LICA	**End Time (mst):**	17:33
Station Name/Location:	St Lina	**Calibration Purpose:**	As Found
Performed by:	Limin Li	**Cal Gas Expiry Date:**	4-Feb-18

Analyzer Serial Number:	592
Last Calibration Date:	2-Sep-14
Range ppb:	1000

Correction Factors:

	As found C.F.	Previous Cal High Point C.F.:
NO=	1.011	1.001
NOx=	0.977	1.000
NO_2=	NA	0.993

As found:	
NOx SLOPE:	0.913
NOx OFFS:	0.6
NO SLOPE:	0.908
NO OFFS:	-0.5
TEST:	130.7
SAMP FLW:	476
OZONE FL:	74
PMT:	23.1
NORM PMT:	-2.6
AZERO:	18.8
HVPS:	654
RCELL TEMP:	50.0
BOX TEMP:	29.6
PMT TEMP:	6.9
IZS TEMP:	40.2
MOLY TEMP:	314
RCEL:	7
SAMP:	26.7
Internal Span:	391/8/383

As left:	
NOx SLOPE:	0.915
NOx OFFS:	2.9
NO SLOPE:	0.909
NO OFFS:	0.7
TEST:	130.7
SAMP FLW:	476
OZONE FL:	74
PMT:	23.1
NORM PMT:	-2.6
AZERO:	18.8
HVPS:	654
RCELL TEMP:	50.0
BOX TEMP:	29.6
PMT TEMP:	6.9
IZS TEMP:	40.2
MOLY TEMP:	314
RCEL:	7
SAMP:	26.7
Internal Span:	391/8/383

Make & Model:	Environics 6100
Serial #:	4760
Cal Gas Cylinder I.D. # :	BLM711
NO Cylinder Conc. (ppm):	50.1
NOx Cylinder Conc. (ppm):	50.2

Calibrator Flow Targets:

point	diluent (cc/min)	cal gas (cc/min)	O_3 setting (v or ppb)	total (cc/min)
zero	5000	0	0	5000
high	4922	78	420.00	5000
mid	4962	38	220.00	5000
low	4981	19	80.00	5000

Calibration:

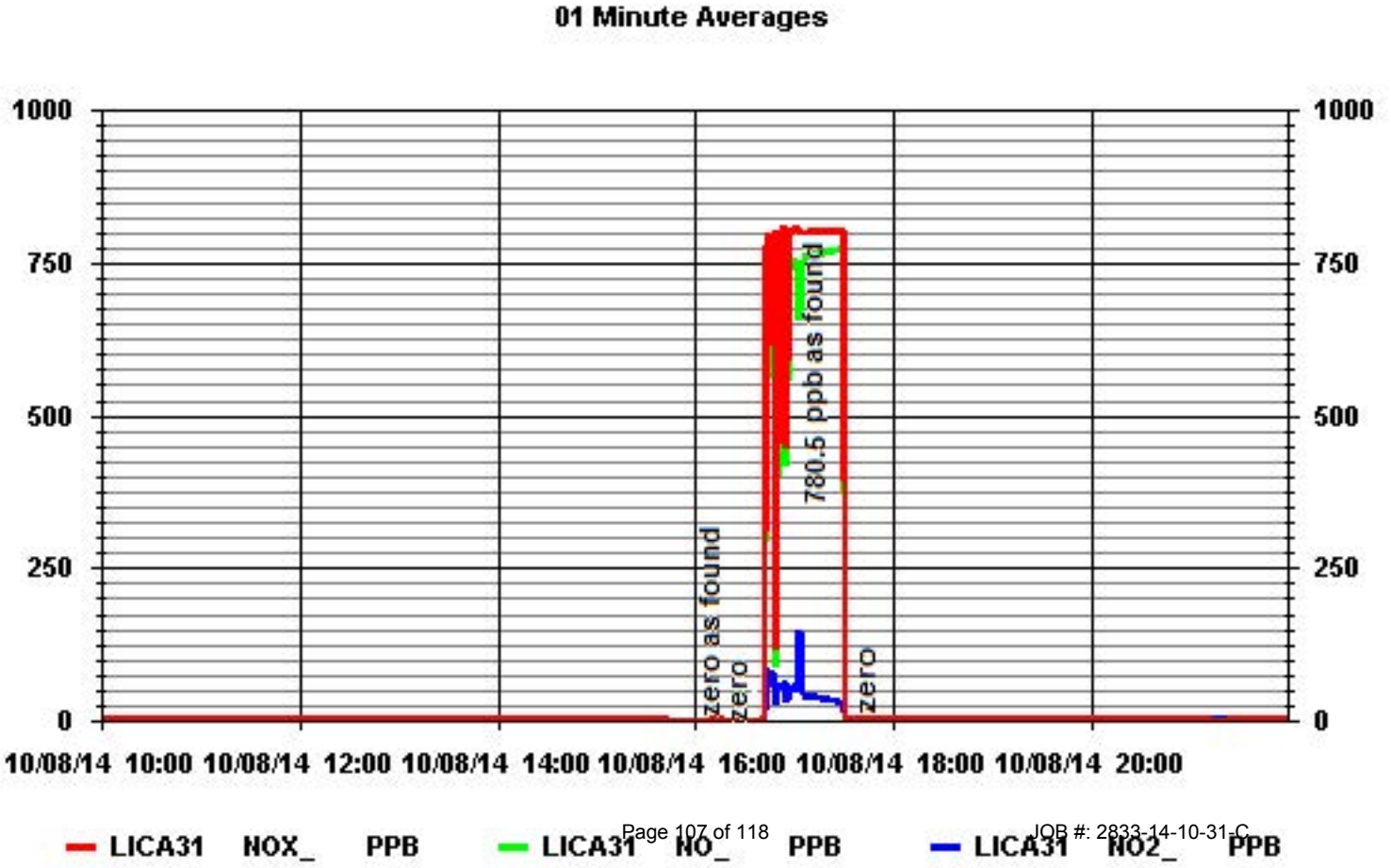
Calibrator Flow Rates (cc/min)				Calculated NO	Calculated NOx	Indicated NO	Indicated NOx	NO C.F.	NOx C.F.
Point	Diluent	Cal Gas	Total Flow	(ppb)	(ppb)	(ppb)	(ppb)		
as found zero	4996	0.0	4996	0	0	0.3	1.5	NA	NA
adjusted zero	4996	0.0	4996	0	0	0.2	0.2	NA	NA
as found high	4916	77.80	4994	780.5	782.1	772	801	1.011	0.977
adjusted high		na							
mid		na							
low		na							
calibrator zero	na	0.00		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=	**-1.03%**	**2.34%**	**NA**	**+/-15%**
NO2 converter effeciency				**>85%**

Comments:


01 Minute Averages
1000
750
500
250
0
zero as found
zero
780.5 ppb as found
zero
10/08/14 10:00
10/08/14 12:00
10/08/14 14:00
10/08/14 16:00
10/08/14 18:00
10/08/14 20:00
LICA31 NOX_ PPB
LICA31 NO_ PPB
LICA31 NO2_ PPB

API 200E NOx Analyzer Calibration

Date:	9-Oct-14	**Start Time (mst):**	8:20
Company:	LICA	**End Time (mst):**	14:30
Station Name/Location:	St Lina	**Calibration Purpose:**	Routine Calibration
Performed by:	Limin Li	**Cal Gas Expiry Date:**	4-Feb-18

Analyzer Serial Number:	592
Last Calibration Date:	2-Sep-14
Range ppb:	1000

Correction Factors:

As found C.F.		Previous Cal High Point C.F.:	
NO=	0.990	NO=	1.001
NOx=	0.967	NOx=	1.000
NO_2=	1.002	NO_2=	0.993

As found:		**As left:**	
NOx SLOPE:	0.915	NOx SLOPE:	0.886
NOx OFFS:	2.9	NOx OFFS:	1
NO SLOPE:	0.909	NO SLOPE:	0.896
NO OFFS:	0.7	NO OFFS:	0.8
TEST:	130.7	TEST:	130.7
SAMP FLW:	476	SAMP FLW:	476
OZONE FL:	74	OZONE FL:	74
PMT:	23.1	PMT:	23.1
NORM PMT:	-2.6	NORM PMT:	-2.6
AZERO:	18.8	AZERO:	18.8
HVPS:	654	HVPS:	654
RCELL TEMP:	50.0	RCELL TEMP:	50.0
BOX TEMP:	29.6	BOX TEMP:	29.6
PMT TEMP:	6.9	PMT TEMP:	6.9
IZS TEMP:	40.2	IZS TEMP:	40.2
MOLY TEMP:	314	MOLY TEMP:	314
RCEL:	7	RCEL:	7
SAMP:	26.7	SAMP:	26.7
Internal Span:	391/8/383	Internal Span:	374/6/368

Calibrator Flow Targets:

Make & Model:	Environics 6100
Serial #:	4760
Cal Gas Cylinder I.D. # :	BLM711
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	4922	78	420.00	5000
mid	4962	38	220.00	5000
low	4981	19	80.00	5000

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		0	0			NA	NA
adjusted zero	4995	0.0	4995	0	0	-0.3	-0.3	NA	NA
as found high	4916	77.79	4994	780.4	782.0	788	808	0.990	0.967
adjusted high	4916	77.79	4994	780.4	782.0	780	782	1.000	1.000
mid	4957	37.90	4995	380.1	380.9	382	380	0.994	1.002
low	4981	18.96	5000	190.0	190.4	191	190	0.993	1.000
calibrator zero	4995	0.00	4995	0	0	0.0	0.0	NA	NA
							Average C.F.=	0.996	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	77.80	4994	0.0	785.0	782.0	-3.0	-0.3	0.0	
as found NO_2	4916	77.80	4994	420.0	287.0	781.0	494.0	498.0	497.0	1.002
adjusted NO_2	4916	77.80	4994	420.0	287.0	781.0	494.0	498.0	497.0	1.002
gpt mid	4916	77.80	4994	220.0	523.0	781.0	258.0	262.0	261.0	1.004
gpt low	4916	77.80	4994	80.0	694.0	781.0	87.0	91.0	90.0	1.011
									Average NO_2 C.F.=	1.006

Linear Regression/Calibration Results:

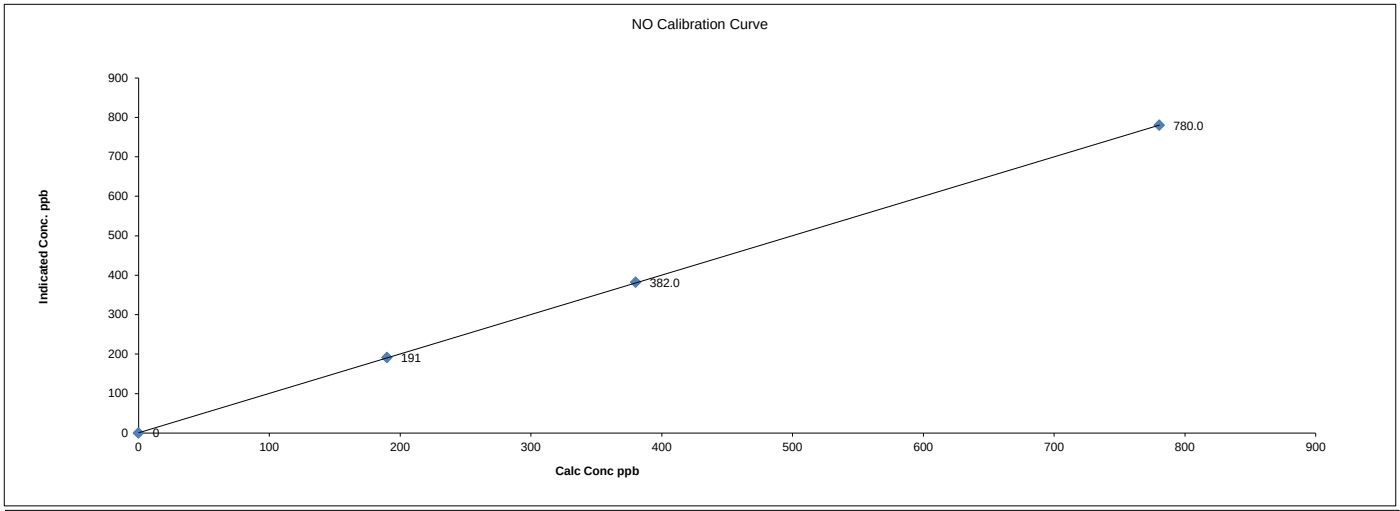
	NO	NOx	NO_2	LIMITS
Correlation Coeffecient =	**1.000**	**1.000**	**1.000**	**> or = 0.995**
Slope =	**0.999**	**1.000**	**0.999**	**0.85-1.15**
b (Intercept as % of full scale)=	**0.09%**	**-0.03%**	**-0.04%**	**± 3% F.S.**
% change in C.F. from last cal=	**1.10%**	**3.26%**	**-0.91%**	**+/-15%**
NO2 converter effeciency			**99.4%**	**>85%**

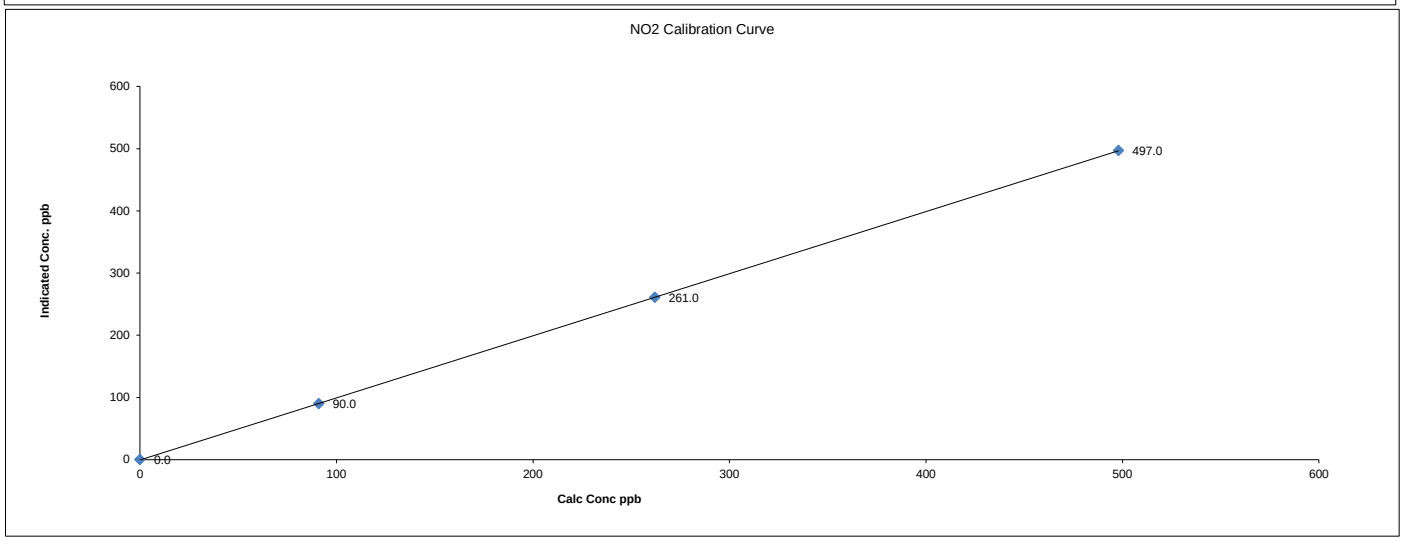
Comments:

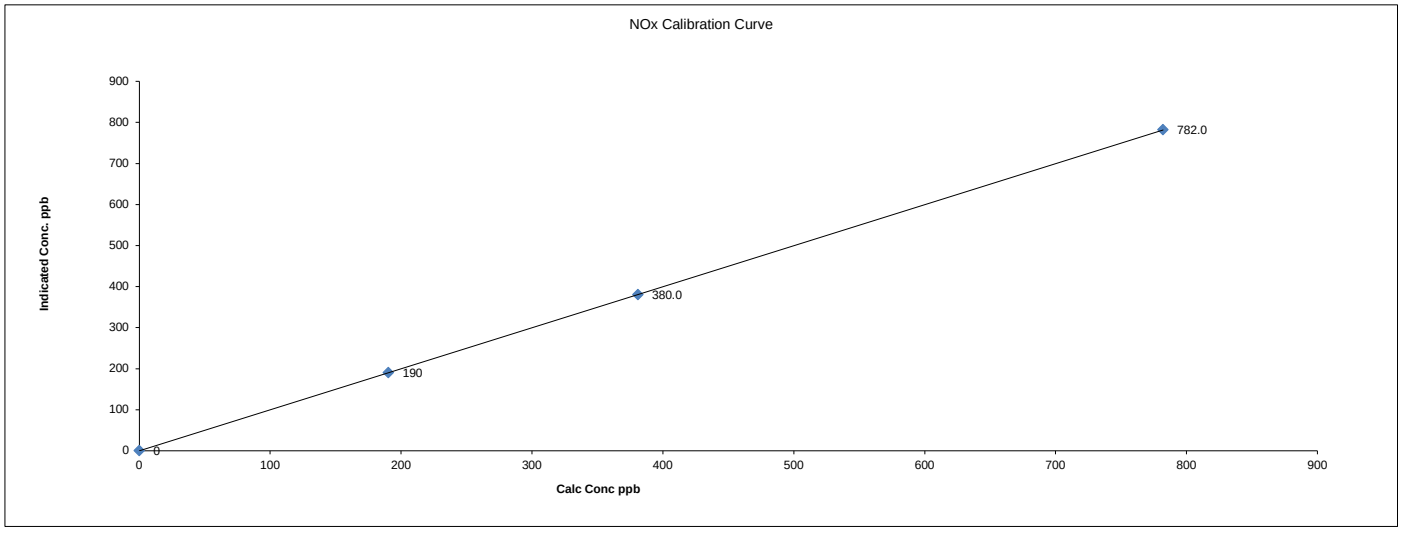
No NO2 adjusted. Do one more GPT point. O3:340 PPB. NOX: 781, NO: 387 ,NO2:394.

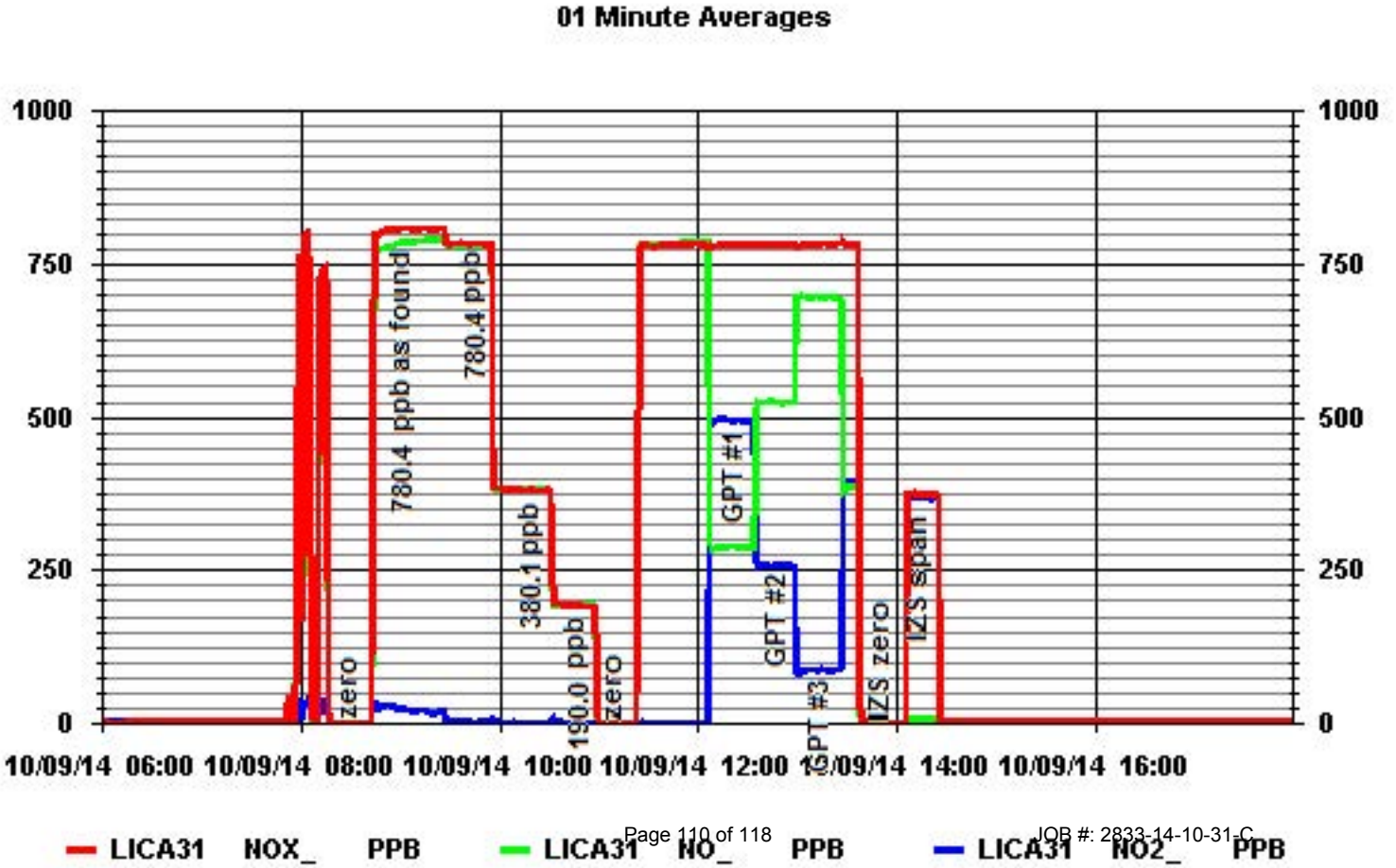
Date:	9-Oct-14	**Start Time (mst):**	8:20
Company:	LICA	**End Time (mst):**	14:30
Station Name/Location:	St Lina	**Calibration Purpose:**	Routine Calibration
Performed by:	Limin Li	**Cal Gas Expiry Date:**	4-Feb-18

API 200E NOx Analyzer Calibration








01 Minute Averages
1000
750
500
250
0
zero
780.4 ppb as found
780.4 ppb
380.1 ppb
190.0 ppb
zero
GPT #1
GPT #2
GPT #3
IZS zero
IZS span
10/09/14 06:00
10/09/14 08:00
10/09/14 10:00
10/09/14 12:00
10/09/14 14:00
10/09/14 16:00
LICA31 NOX_ PPB
LICA31 NO_ PPB
LICA31 NO2_ PPB

Ozone

Thermo 49i O_3 Analyzer Calibration

Date:	9-Oct-14	**Start Time (mst):**	14:00
Company:	LICA	**End Time (mst):**	17:20
Station Name/Location:	St.Lina	**Calibration Purpose:**	Monthly Calibration
Performed by:	Limin Li	**G.P.T. Date:**	18-Jun-14

Analyzer:

Serial Number:	1002240371	**Range ppm:**	500
Last Calibration Date:	3-Sep-14	**As Found C.F.**	0.978
Previous Cal High Point C.F.:	1.000	**New C.F.:**	1.001

		As found:		As left:
	O_3 Bkg:	-0.3	O_3 Bkg:	-0.8
	O_3 Coef:	1.026	O_3 Coef:	1.000
Motherboard:	3.3	3.3	3.3	3.3
	15.0	14.8	15.0	14.8
	24.0	23.7	24.0	23.7
	-3.3	-3.2	-3.3	-3.2
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	23.6	24.0	23.6
	O_3 Lamp	8.3	O_3 Lamp	8.3
	Bench:	31.4	Bench:	31.4
	Bench Lamp:	53.7	Bench Lamp:	53.7
	O_3 Lamp:	67.9	O_3 Lamp:	67.9
	Pressure:	686.8	Pressure:	686.8
	Cell A lpm:	0.733	Cell A lpm:	0.733
	Cell B lpm:	0.726	Cell B lpm:	0.726
	O_3 ppb:	17	O_3 ppb:	17
	Cell A ppb:	17.9	Cell A ppb:	17.9
	Cell B ppb:	16.2	Cell B ppb:	16.2
	Cell A int:	65678	Cell A int:	65678
	Cell B int:	75396	Cell B int:	75396
	Internal Span:	325	Internal Span:	325

Calibrator:

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

Calibrator Flow Targets:

point	total flow (cc/min)	O_3 setting (v or ppb)
zero	5000	0
high	5000	340
mid	5000	220
low	5000	80

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	4997	0.0	4997	0.0	-0.8	NA
adjusted zero	4997	0.0	4997	0.0	0.0	NA
as found high	4997	0.00	4997	398.0	407.0	0.978
adjusted high	4997	0.00	4997	398.0	398.0	1.000
mid	4997	0.00	4997	262.0	260.0	1.008
low	4997	0.00	4997	91.0	91.3	0.997
calibrator zero	4997	0.00	4997	0.0	0.5	NA

copy and paste flows and NO decrease from NOx cal in to calculated concentration **Average C.F.=** 1.001

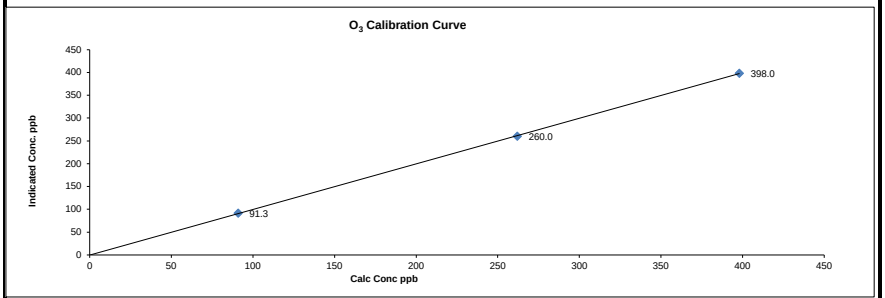
Linear Regression/Calibration Results:

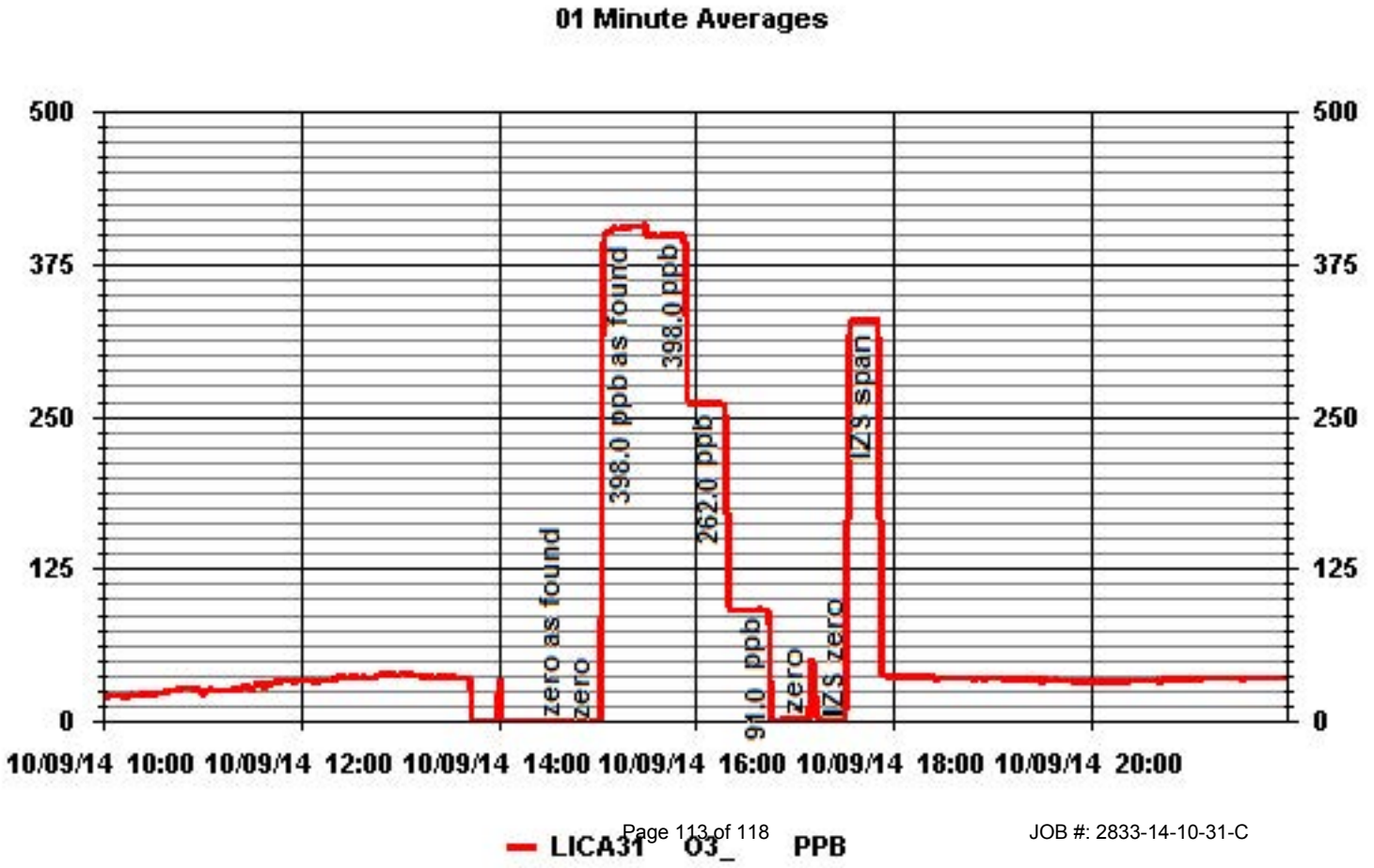
		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**0.998**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**-0.027%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**2%**	**± 15%**	**PASS**

Comments:

Filter changed.

Thermo 49i O3 Analyzer Calibration





JOB #: 2833-14-10-31-C

Particulate Matter 2.5

No Teom audit report is included this month

Wind System Audit

Met One Instruments

Sonic Wind Sensor Certificate of Calibration

Sensor Model No.: 50.5H
Sensor Output Swing 0V - 1.0V
Customer: Maxxam Analytics
Tested per PO: 35-56587
Calibrated by: David Frith DF

Sensor Serial No.: H12635
Sensor Output Range: 0 - 50.0 MPS
Sales Order No.: 10473
Calibration Date: 08/28/2014

QC Inspection Byron Dawson

Instrument Condition Within Tolerance: As Found ___ As Left X
Corrective Action: No Adjustment ___ Adjust X Repair ___
Preventative Maintenance ___

As Found Test Date: N/A As Left Test Date 08/28/2014

Quality Control Manual Revision: September 16, 2013 MP42201 Rev. G.
All Work Performed per Customer Purchase Order Requirements.
Calibration Document No. 50.5-6100

Test Equipment Used for Calibration of Instruments

Description	Manufacturer	Model No.	Serial No.	Cal Date	Cal Due	Voltage Accuracy	Time Base Accuracy
Data Acquition	Campbell Scientific	CR1000	9633	8/19/2013	8/19/2015	+/- 3mV	< 6 ppm
NIST Cupset	Met One Instruments	170-41	3309	4/24/2012	4/24/2017	Accuracy < 0.15 mph or 1% WS	

Environmental Data: Temperature 65 to 80 Deg F Vibration none
Humidity 20 to 70% Radiation none

The standards used for calibration have accuracies equal to or greater than the instruments tested. These standards are on record and are traceable to NIST to the extent allowed by the institute's calibration facility. Unless otherwise stated heron, all instruments are calibrated to meet the manufacturer's published specifications. The calibration system complies with MIL-STD-45662A (8/1/88). Instrument's accuracy meets the requirements of Regulatory Guide 1.23 (2/72). Compliant with IS) 9001:2008 requirements

Met One Instruments

3206 Main St., Suite 106
Regional Service Center
Rowlett, TX. 75088

Wind Tunnel Calibration
Data Sheet
50.5-6100

NIST Cup Model No. 170.41 Serial No. 3309
NIST Sensor Model No. 50.1B Serial No. 1263

Average wind speed this test in mps 11.19

WD Setting Degrees	WD Output Volts	WD Reading Degrees	WD Error +/- 3 Deg	WS Standard mps	WS Output Volts	WS Reading mps	WS Error +/- 0.24 MPS
30.0	0.082	29.6	-0.4	11.21	0.224	11.19	-0.02
60.0	0.164	59.0	-1.0	11.17	0.227	11.33	0.16
120.0	0.331	119.1	-0.9	11.08	0.221	11.06	-0.02
150.0	0.420	151.3	1.3	11.29	0.222	11.11	-0.18
210.0	0.582	209.4	-0.6	11.25	0.223	11.16	-0.09
240.0	0.665	239.4	-0.6	11.18	0.226	11.32	0.14
300.0	0.835	300.5	0.5	11.16	0.224	11.18	0.02
330.0	0.917	330.0	0.0	11.18	0.223	11.15	-0.03

Average wind speed this test in mps 2.21

WD Setting Degrees	WD Output Volts	WD Reading Degrees	WD Error +/- 3 Deg	WS Standard mps	WS Output Volts	WS Reading mps	WS Error +/- 0.20 MPS
30.0	0.081	29.3	-0.7	2.18	0.042	2.08	-0.10
60.0	0.163	58.5	-1.5	2.20	0.043	2.14	-0.06
120.0	0.332	119.6	-0.4	2.21	0.042	2.08	-0.13
150.0	0.417	150.3	0.3	2.22	0.042	2.07	-0.15
210.0	0.584	210.1	0.1	2.20	0.042	2.12	-0.08
240.0	0.666	239.8	-0.2	2.23	0.042	2.10	-0.13
300.0	0.835	300.6	0.6	2.22	0.043	2.18	-0.04
330.0	0.917	330.0	0.0	2.21	0.043	2.17	-0.04

Instrument Test Condition As Found ____ As Left X

Sensor Model No.: 50.5H
Sensor Output Swing: 0V - 1.0V
Customer: Maxxam Analytics
Tested per PO: 35-56587
Calibrated by: David Frith DF

Sensor Serial No.: H12635
Sensor Output Range: 0 - 50 MPS
Sales Order No.: 104703
Calibration Date: 08/28/2014

QC Inspection Dyson Dawson

Lakeland Industry & Community Association

Portable / Elk Point Airport Monitoring Site
Ambient Air Monitoring Data Report
For
October 2014

Prepared By:

Maxxam
A Bureau Veritas Group Company

November 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: October 2014

The monthly ambient data report:

- Prepared by Lili Zhou
- 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 – October 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	0.27	3	14, 23	VAR	VAR	VAR	1.1	19, 23	99.9
H_2S (PPB)	10	3	0	0	0.06	1	VAR	VAR	VAR	VAR	0.6	31	99.9
THC (55i) (PPM)	-	-	-	-	2.45	8.1	20	16	7.8	123(ESE)	4.3	19	99.7
Methane (PPM)	-	-	-	-	2.45	7.9	20	16	7.8	123(ESE)	4.3	19	99.7
NMHC (PPM)	-	-	-	-	0.01	0.2	VAR	VAR	VAR	VAR	0.0	ALL	99.7
NO_2 (PPB)	159	-	0	-	6.92	33.3	18	20	2.8	324(NW)	15.9	21	99.6
NO (PPB)	-	-	-	-	2.88	64.7	22	7	1.4	234(SW)	15.8	19	99.6
NOx (PPB)	-	-	-	-	10.06	188	22	9	5.9	98(E)	32.8	22	99.6
O_3 (PPB)	82	-	0	-	19.56	43	7	16	21.5	310(NW)	28.7	24	99.9
PM 2.5 (UG/M^3)	-	30	-	0	3.71	21	4	7	8.4	266(W)	6.7	31	91.9
VECTOR WS (KPH)	-	-	-	-	13.0	38.7	6, 24	13, 12	-	316(NW) 278(W)	26.0	2	99.9
VECTOR WD (DEGREES)	-	-	-	-	272(W)	-	-	-	-	-	-	-	99.9

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 – API100A S/N: 837 replaced with API 100E, S/N: 467

The analyzer API100A S/N: 837, Maxxam supplied, was removed following a removal calibration on October 7th, the analyzer APIE S/N: 467 LICA owned, was then installed. One point installation calibration was performed after the replacement on October 7th. The full installation calibration was performed on October 8th. Hourly data collected on October 31st hour 23 is missing due to a power outage. Hourly maximum data collected on October 15th at hour 10 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 October 7th. The inlet filter was changed before the calibration was started. Hourly data collected on October 31st hour 23 is missing due to a power outage. Hourly maximum data collected on October 15th at hour 10 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

Ozone (PPB)

- Analyzer make / model –Thermo 49i, S/N: 1002240372

The analyzer was working well throughout the month. The monthly calibration was performed on October 7th. The inlet filter was changed before the calibration was started. The daily zero/span result went low on October 4th because the pump for the zero/span system failed. The pump was rebuilt on October 7th. This issue did not affect the data quality. Hourly data collected on October 31st hour 23 is missing due to a power outage. Hourly maximum data collected on October 15th at hour 10 was invalidated due to a small power outage that affected data quality. Data was corrected using daily zero information.

Nitrogen Dioxide (PPB)

- Analyzer make / model – API 200E, S/N: 593

Following the as found points check on October 7th, the zero/span system pump was rebuilt, the sample filter was changed, and the HVPS was adjusted. A post repair calibration was performed following the maintenance. The analyzer was put into the maintenance mode on October 8th between hour 8 and hour 10 for the O3 analyzer calibration. Some span results went outside the +/- 10% of the acceptable limit this month because the zero/span system was unstable. Multiple zero/span checks were run to ensure the analyzer was functioning properly, and the results were within the acceptable range. This issue did not affect the data quality. Hourly data collected on October 31st hour 23 is missing due to a power outage. Hourly maximum data collected on October 15th at hour 10 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

THC 55i (PPM)

- Analyzer make / model –Thermo 55i, S/N: (12)36656107

The analyzer was working well throughout the month. The monthly calibration was performed on October 7th. The inlet filter was changed before the calibration was started. Hourly data collected on October 1st hour 0 was invalidated as a small power outage affected the data quality. Hourly data collected on October 31st hour 23 is missing due to a power outage. Hourly maximum data collected on October 15th at hour 10 was invalidated due to a small power outage that affected data quality. Data was corrected using daily zero information.

Particulate Matter 2.5 (ug/m^3)

- Analyzer make / model – TEOM 1405F, S/N: 1405A208301003

Three Teom audits were performed this month: one was done on October 3rd and the second one was completed on October 7th. An extra audit was performed on October 24th to ensure the analyzer's functionality. The audit results were all good. The Teom filter was replaced on October 24th. 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. 59 hours of data were invalidated as the data were below –3 ug/m^3. Hourly data collected on October 31st hour 23 is missing due to a power outage.

General Monthly Summary

AQM STATION – LICA – PORTABLE

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 data collected on October 31st hour 23 is missing due to a power outage. Hourly maximum data collected on October 15th at hour 10 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 October 8th.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Sulphur Dioxide

Lakeland Industry & Community Association - Elk Point Site

OCTOBER 2014

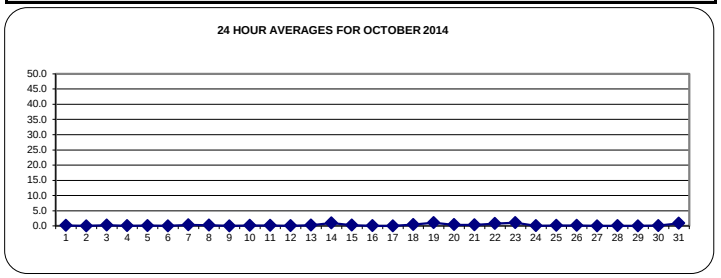
SULPHUR DIOXIDE (SO2) hourly averages in ppb

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	1	1	0	1	0	1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
2	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
3	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	1	1	0	1	1	1	0	1	0	1	0.3	24
4	1	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
5	1	0	1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
6	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
7	0	**S**	0	0	0	0	0	0	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1	1	1	1	1	0.4	24
8	**S**	0	0	1	0	1	1	1	**C**	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	0	0	0	0	**S**	1	0.3	24
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0.0	24
10	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	**S**	0	1	1	0.1	24
11	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	1	0.2	24
12	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	1	0.0	24
13	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	**S**	0	0	1	0	0	1	0.3	24
14	0	0	0	0	1	1	1	1	0	1	1	1	1	***3***	***3***	2	2	**S**	1	1	1	1	0	0	***3***	1.0	24
15	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	1	0.2	24
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	1	0	0	0	0	0	1	0.0	24
17	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
18	0	0	1	0	0	0	1	1	0	1	1	1	1	**S**	0	0	0	0	0	0	0	1	1	1	1	0.4	24
19	1	1	1	1	1	1	1	1	1	1	1	1	**S**	2	2	1	1	1	1	1	1	1	1	1	2	***1.1***	24
20	1	1	1	1	0	1	1	1	1	0	1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4	24
21	0	0	0	0	0	1	0	0	0	0	**S**	0	1	1	0	1	0	1	1	0	0	0	1	1	1	0.3	24
22	0	0	0	1	1	1	1	2	1	**S**	0	1	1	0	0	1	1	1	1	1	1	1	1	1	2	0.8	24
23	1	1	1	1	1	1	1	1	**S**	0	1	1	1	1	2	***3***	2	1	1	1	1	1	1	0	***3***	***1.1***	24
24	0	1	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
25	0	0	0	0	0	0	**S**	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.1	24
26	1	0	1	0	1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
27	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
28	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.0	24
29	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
30	0	**S**	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.1	24
31	**S**	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	**P**	1	0.9	23
HOURLY MAX	1	1	1	1	1	1	1	2	1	1	1	1	1	3	3	3	2	1	1	1	1	1	1	1			
HOURLY AVG	0.3	0.2	0.3	0.2	0.3	0.3	0.4	0.4	0.2	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.3	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

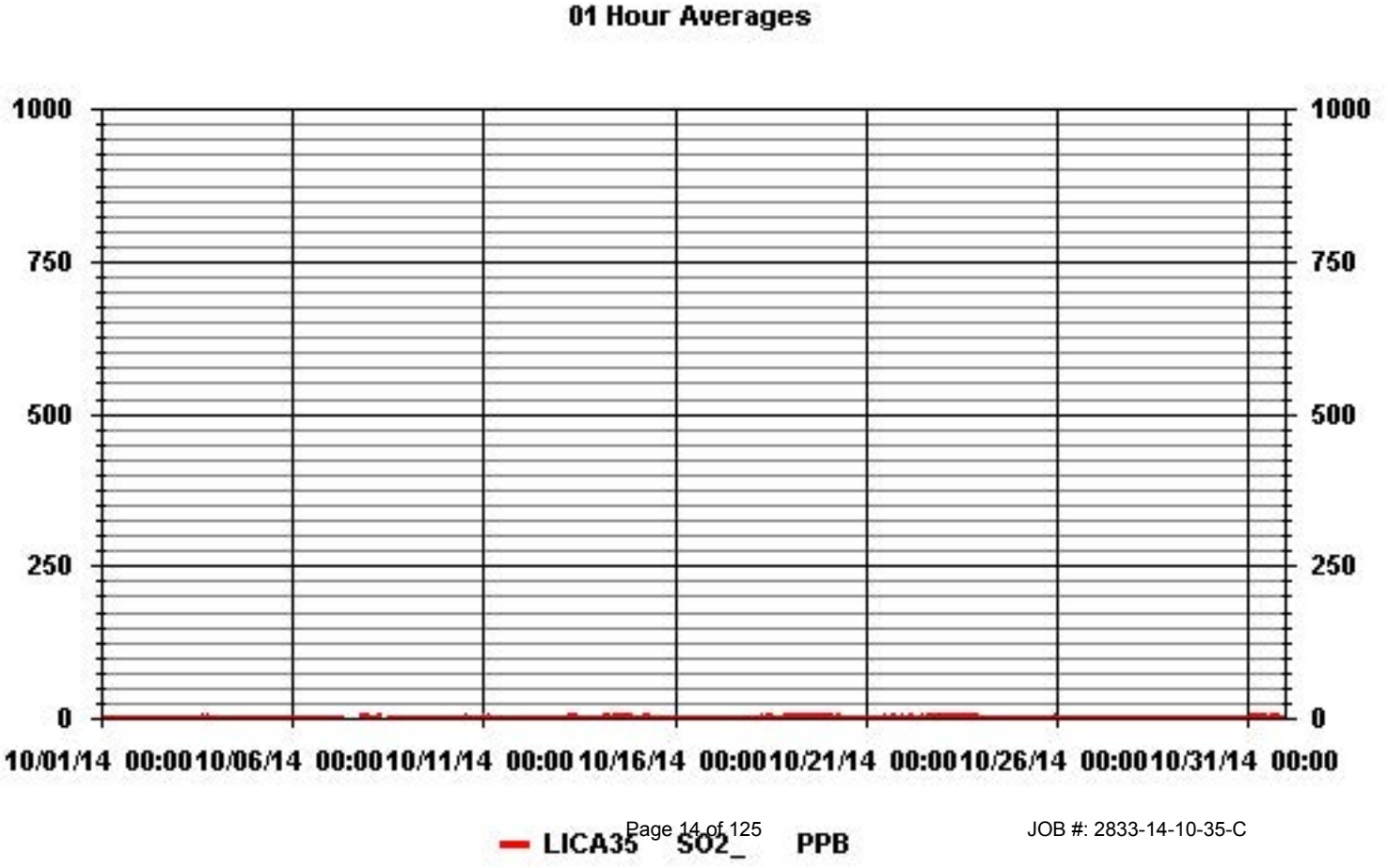


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB 24-HR 48 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	174					
MAXIMUM 1-HR AVERAGE:	3	PPB	@ HOUR(S)	VAR	ON DAY(S)	14, 23
MAXIMUM 24-HR AVERAGE:	1.1	PPB			ON DAY(S)	19, 23
				VAR-VARIOUS		
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		743	HRS
MONTHLY CALIBRATION TIME:	18	HRS	AMD OPERATION UPTIME:		99.9	%
STANDARD DEVIATION:	0.49		MONTHLY AVERAGE:		0.27	PPB

JOB #: 2833-14-10-35-C



JOB #: 2833-14-10-35-C

Lakeland Industry & Community Association - Elk Point Site

OCTOBER 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	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24
2	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
3	0	0	0	0	0	**S**	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	24
4	1	1	1	1	**S**	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0.6	24
5	1	1	1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
6	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
7	0	**S**	0	0	0	0	0	0	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2	2	2	2	2	0.7	24
8	**S**	1	1	1	1	1	1	1	**C**	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	0	0	0	0	**S**	1	0.4	24
9	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
10	1	1	1	1	1	1	1	1	1	1	1	1	3	3	2	1	1	1	1	1	1	**S**	1	1	3	1.2	24
11	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	2	1.1	24
12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1	1	1.0	24
13	1	1	1	1	1	2	1	2	2	2	1	1	1	1	1	1	1	1	**S**	1	1	2	1	1	2	1.2	24
14	1	1	1	1	2	2	2	1	1	1	2	2	3	***4***	***4***	3	3	**S**	2	2	2	2	1	1	***4***	1.9	24
15	2	2	1	1	1	2	2	3	2	2	**P**	1	1	1	1	1	**S**	1	1	1	1	1	1	2	3	1.4	23
16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	2	2	1	1	1	1	2	1.1	24
17	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
18	1	1	1	1	1	1	2	2	2	2	2	2	2	**S**	1	1	1	1	1	2	1	2	2	2	2	1.5	24
19	2	2	2	2	2	2	2	2	2	2	2	2	**S**	***4***	***4***	2	2	2	2	1	2	1	1	1	***4***	2.0	24
20	1	2	2	2	1	2	2	2	2	1	2	**S**	1	1	1	1	1	1	1	2	1	1	1	1	2	1.4	24
21	1	1	1	1	1	2	1	1	1	0	**S**	1	1	1	1	1	1	2	1	2	1	1	2	2	2	1.2	24
22	1	1	1	2	2	2	2	3	2	**S**	1	2	1	1	1	2	2	2	2	1	2	2	2	2	3	1.7	24
23	2	2	2	2	2	2	2	2	**S**	1	2	2	2	2	***4***	***4***	***4***	2	2	2	2	2	1	1	***4***	***2.1***	24
24	1	1	1	1	1	1	1	**S**	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24
25	0	0	0	0	0	0	**S**	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	0.8	24
26	1	1	1	1	1	**S**	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0.3	24
27	0	0	0	0	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	24
28	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	3	2	1	1	1	1	1	3	1.1	24
29	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
30	1	**S**	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	2	1.1	24
31	**S**	2	2	2	1	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	**P**	2	1.9	23
HOURLY MAX	2	2	2	2	2	2	2	3	2	2	2	2	3	4	4	4	4	3	2	2	2	2	2	2			
HOURLY AVG	0.9	1.0	1.0	1.0	1.0	1.1	1.1	1.2	1.1	0.9	1.0	1.0	1.0	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	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: 536

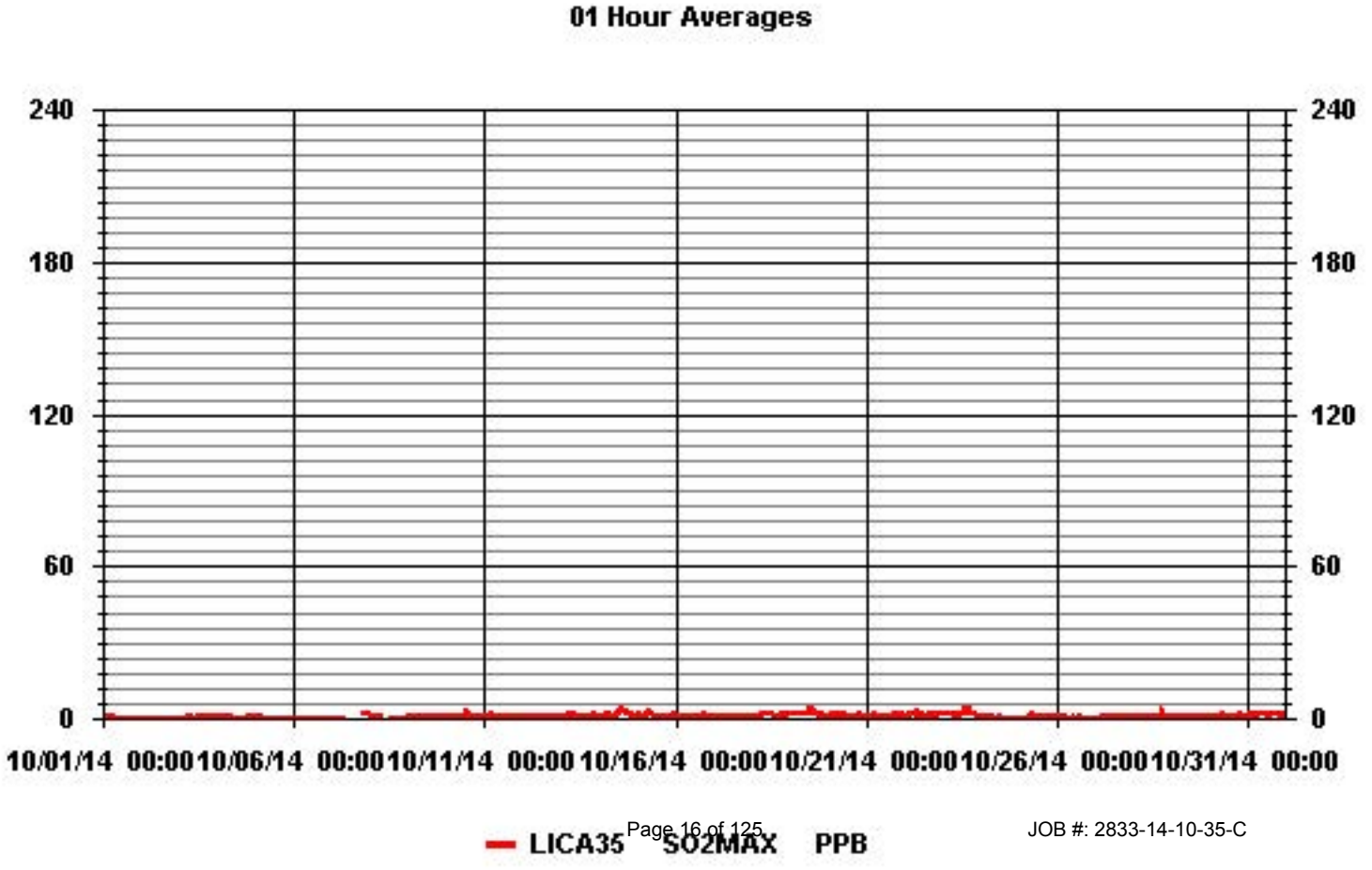
MAXIMUM INSTANTANEOUS VALUE: 4 PPB @ HOUR(S) VAR ON DAY(S) VAR

VAR-VARIOUS

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 742 HRS

MONTHLY CALIBRATION TIME: 18 HRS

STANDARD DEVIATION: 0.74



JOB #: 2833-14-10-35-C

LICA-ELK
SO2_ / WDR Joint Frequency Distribution (Percent)

October 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	1.15	2.16	2.16	2.74	9.37	16.73	10.82	2.45	2.30	1.15	1.01	7.50	13.56	13.27	10.96	2.59	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	1.15	2.16	2.16	2.74	9.37	16.73	10.82	2.45	2.30	1.15	1.01	7.50	13.56	13.27	10.96	2.59	

Calm : .00 %

Total # Operational Hours : 693

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	20	8	15	15	19	65	116	75	17	16	8	7	52	94	92	76	18	693
<	60																	
<	110																	
<	170																	
<	340																	
>=	340																	
	Totals	8	15	15	19	65	116	75	17	16	8	7	52	94	92	76	18	

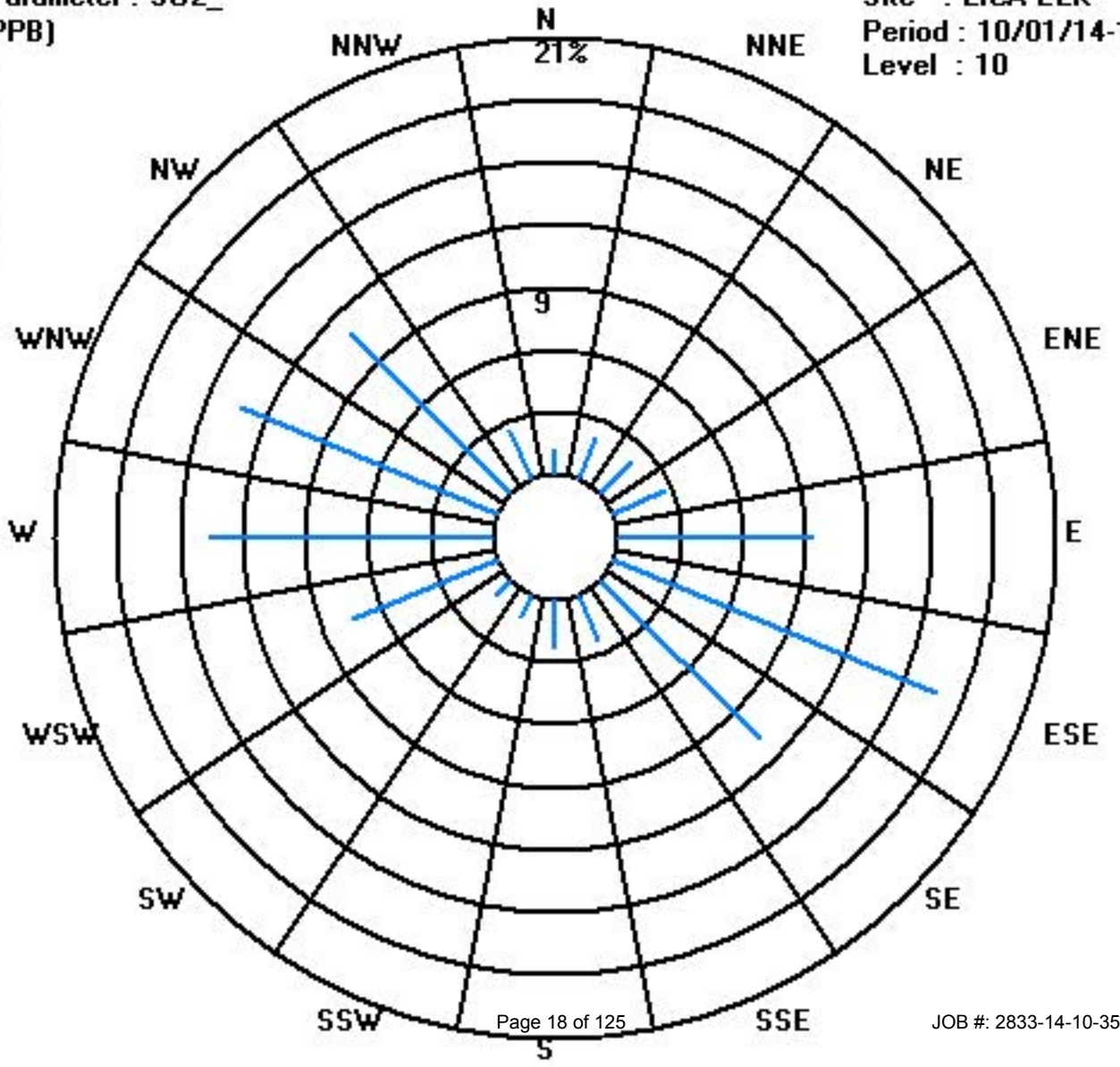
Calm : .00 %

Total # Operational Hours : 693

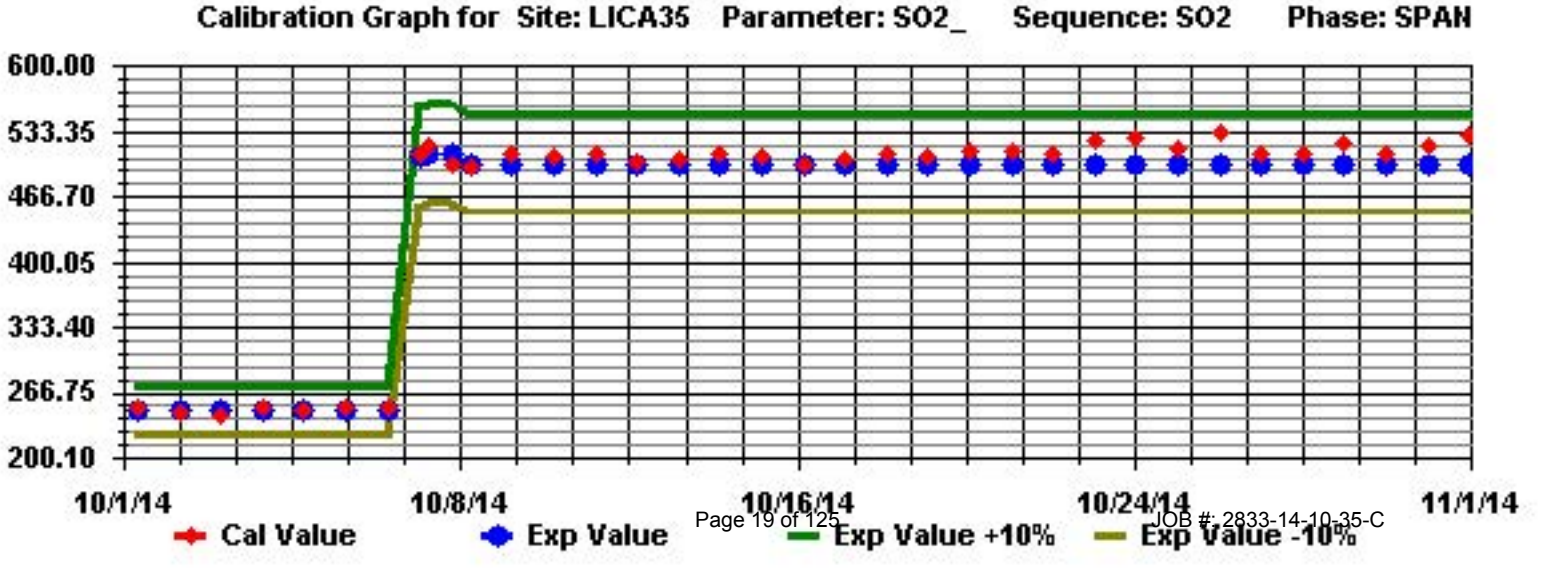
Logger : 35 Parameter : SO2_
Class Limits (PPB)

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

Site : LICA-ELK
Period : 10/01/14-10/31/14
Level : 10



JOB #: 2833-14-10-35-C


Calibration Graph for Site: LICA35 Parameter: SO2_ Sequence: SO2 Phase: SPAN
600.00
533.35
466.70
400.05
333.40
266.75
200.10
10/1/14
10/8/14
10/16/14
10/24/14
11/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Hydrogen Sulphide

Lakeland Industry & Community Association - Elk Point Site

OCTOBER 2014

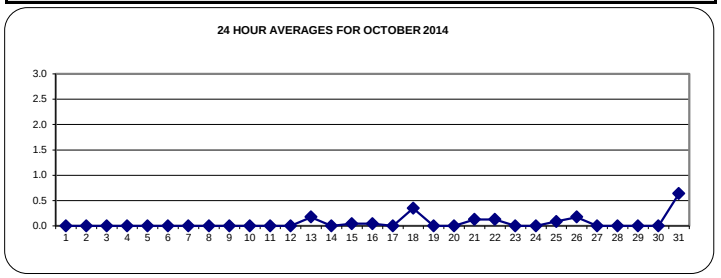
HYDROGEN SULPHIDE (H2S) hourly averages in ppb

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	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
2	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
3	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
4	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
5	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
6	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
7	0	S	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
8	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
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0.0	24
10	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
11	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
12	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
13	0	0	0	0	0	0	*1*	*1*	*1*	*1*	0	0	0	0	0	0	0	0	S	0	0	0	0	0	*1*	0.2	24
14	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
15	0	0	0	0	0	0	0	*1*	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	*1*	0.0	24
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	*1*	0	0	0	0	0	*1*	0.0	24
17	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
18	0	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	*1*	0.3	24
19	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
20	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
21	0	0	0	0	*1*	*1*	*1*	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	*1*	0.1	24
22	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
23	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
24	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
25	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*1*	*1*	*1*	0.1	24
26	*1*	0	*1*	*1*	*1*	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*1*	0.2	24
27	0	0	0	0	S	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
28	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
29	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
30	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
31	S	0	0	0	0	0	0	0	0	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	P	*1*	*0.6*	23
HOURLY MAX	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
HOURLY AVG	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0			

STATUS FLAG CODES

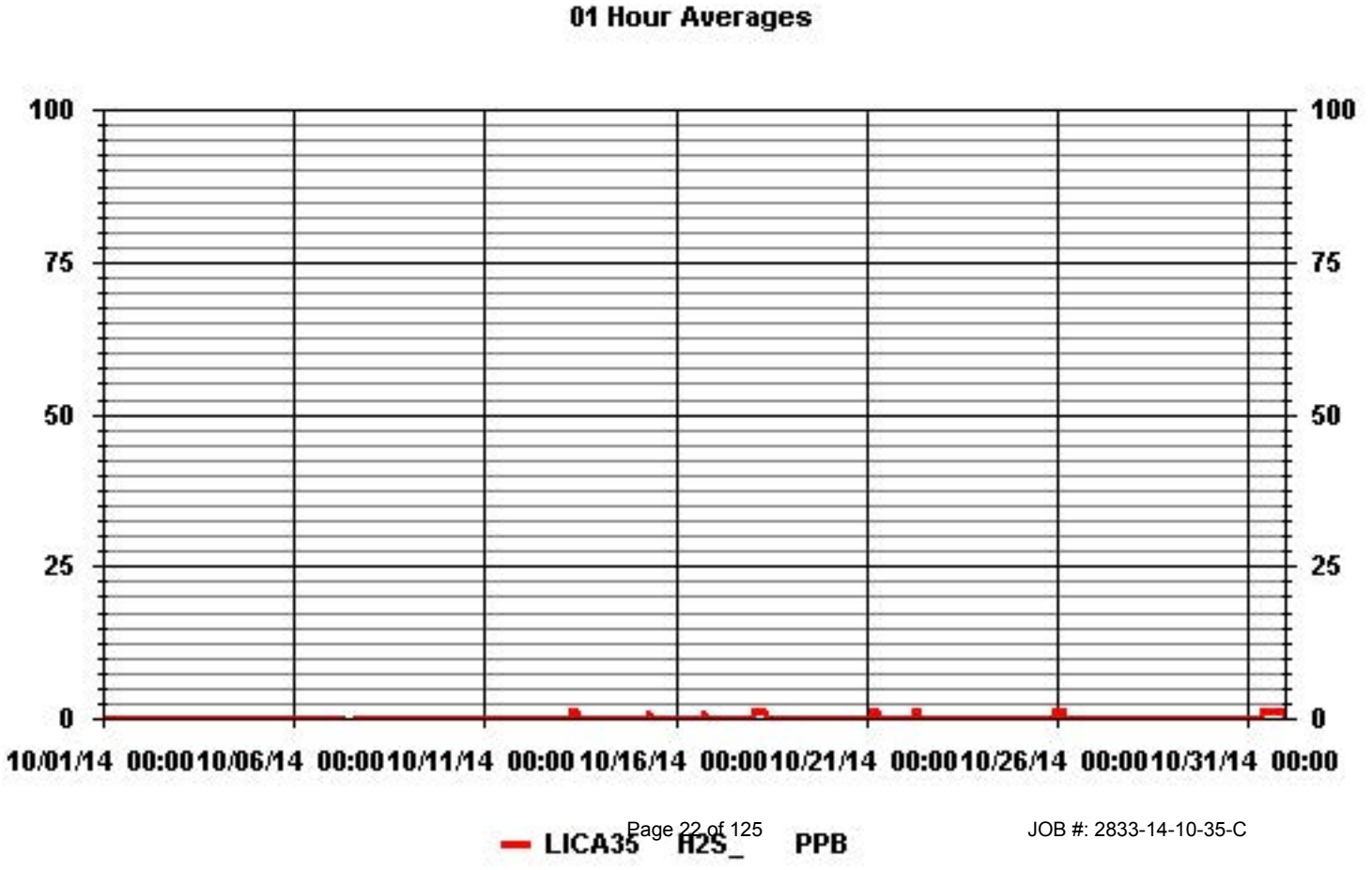
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



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:	1	PPB	@ HOUR(S)	VAR	ON DAY(S)		VAR
MAXIMUM 24-HR AVERAGE:	0.6	PPB			ON DAY(S)		31
					VAR-VARIOUS		
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:			743	HRS
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:			99.9	%
STANDARD DEVIATION:	0.23		MONTHLY AVERAGE:			0.06	PPB



JOB #: 2833-14-10-35-C

Lakeland Industry & Community Association - Elk Point Site

OCTOBER 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	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
2	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
3	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.1	24
4	1	1	1	1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
5	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.0	24
6	1	1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	***3***	0	0	0	0	0	0	0	0	***3***	0.2	24
7	0	**S**	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
8	**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
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0.0	24
10	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	**S**	0	0	2	0.1	24
11	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	2	0.1	24
12	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
13	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	1	0.3	24
14	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	1	0.0	24
15	0	0	0	0	0	1	1	2	1	0	**P**	0	0	0	0	0	**S**	0	0	0	0	0	0	0	2	0.2	23
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	2	1	1	1	0	0	2	0.2	24
17	0	0	0	1	1	1	0	1	1	1	1	1	1	1	**S**	0	0	0	0	0	0	1	1	1	1	0.6	24
18	0	1	1	1	1	1	2	2	1	1	1	1	1	**S**	0	0	0	0	0	0	0	0	0	1	2	0.7	24
19	0	0	0	1	1	1	1	1	1	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24
20	0	0	0	0	0	1	1	1	1	0	0	**S**	0	0	0	0	0	1	1	2	0	0	0	1	2	0.4	24
21	1	1	1	1	2	2	1	1	1	0	**S**	0	0	0	0	0	0	1	1	1	0	0	0	0	2	0.6	24
22	0	0	0	0	0	0	2	2	1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2	24
23	0	0	0	0	1	1	1	1	**S**	1	1	1	1	1	1	0	0	0	0	0	0	0	1	0	1	0.5	24
24	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
25	0	0	0	0	0	0	**S**	0	0	1	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	0.3	24
26	1	1	1	1	1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
27	0	0	0	0	**S**	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
28	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.0	24
29	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
30	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
31	**S**	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**P**	1	***0.9***	23
HOURLY MAX	1	1	1	2	2	2	2	2	1	1	1	1	1	2	1	3	1	1	2	2	1	1	1	1			
HOURLY AVG	0.1	0.2	0.1	0.3	0.3	0.3	0.4	0.5	0.3	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.1	0.2	0.2	0.1	0.2	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: 128

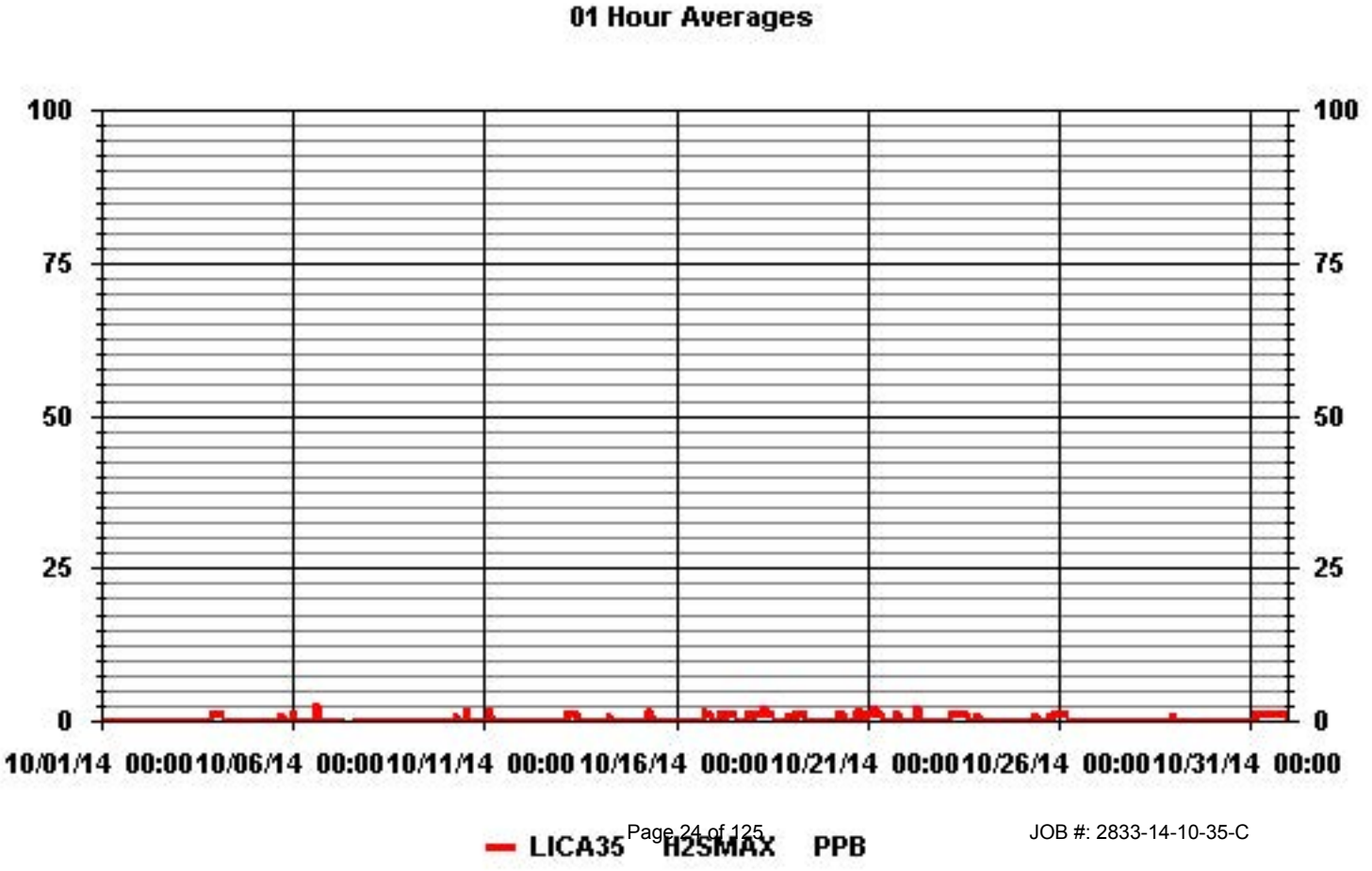
MAXIMUM INSTANTANEOUS VALUE: 3 PPB @ HOUR(S) 15 ON DAY(S) 6

VAR-VARIOUS

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 742 HRS

MONTHLY CALIBRATION TIME: 8 HRS

STANDARD DEVIATION: 0.45



JOB #: 2833-14-10-35-C

LICA-ELK
H2S_ / WDR Joint Frequency Distribution (Percent)

October 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	1.13	2.13	2.13	2.70	9.54	17.09	10.68	2.42	2.27	1.13	.99	7.40	13.39	13.39	10.96	2.56	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	1.13	2.13	2.13	2.70	9.54	17.09	10.68	2.42	2.27	1.13	.99	7.40	13.39	13.39	10.96	2.56	

Calm : .00 %

Total # Operational Hours : 702

Distribution By Samples

		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3	8	15	15	19	67	120	75	17	16	8	7	52	94	94	77	18	702
<	10																	
<	50																	
>=	50																	
	Totals	8	15	15	19	67	120	75	17	16	8	7	52	94	94	77	18	

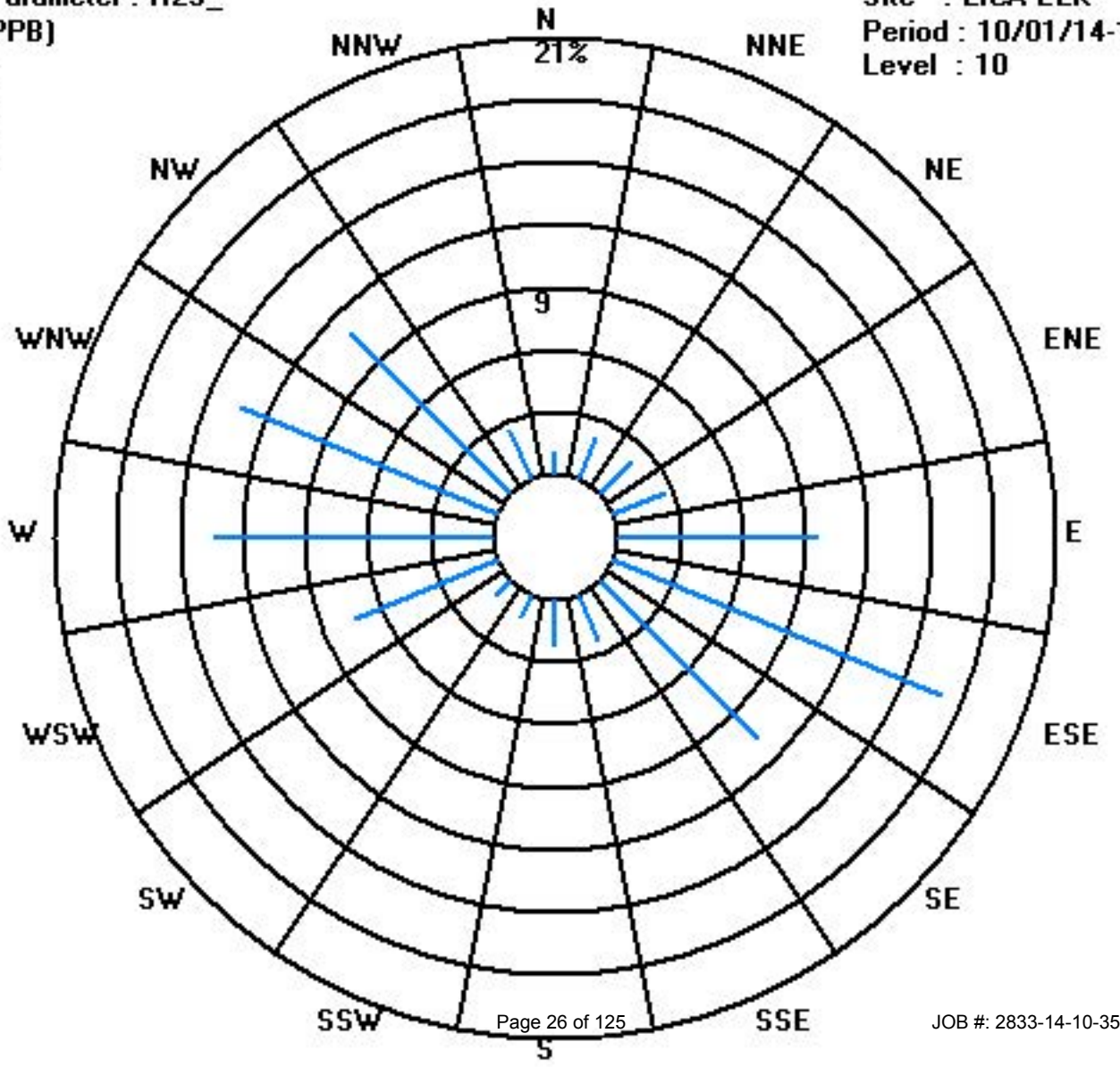
Calm : .00 %

Total # Operational Hours : 702

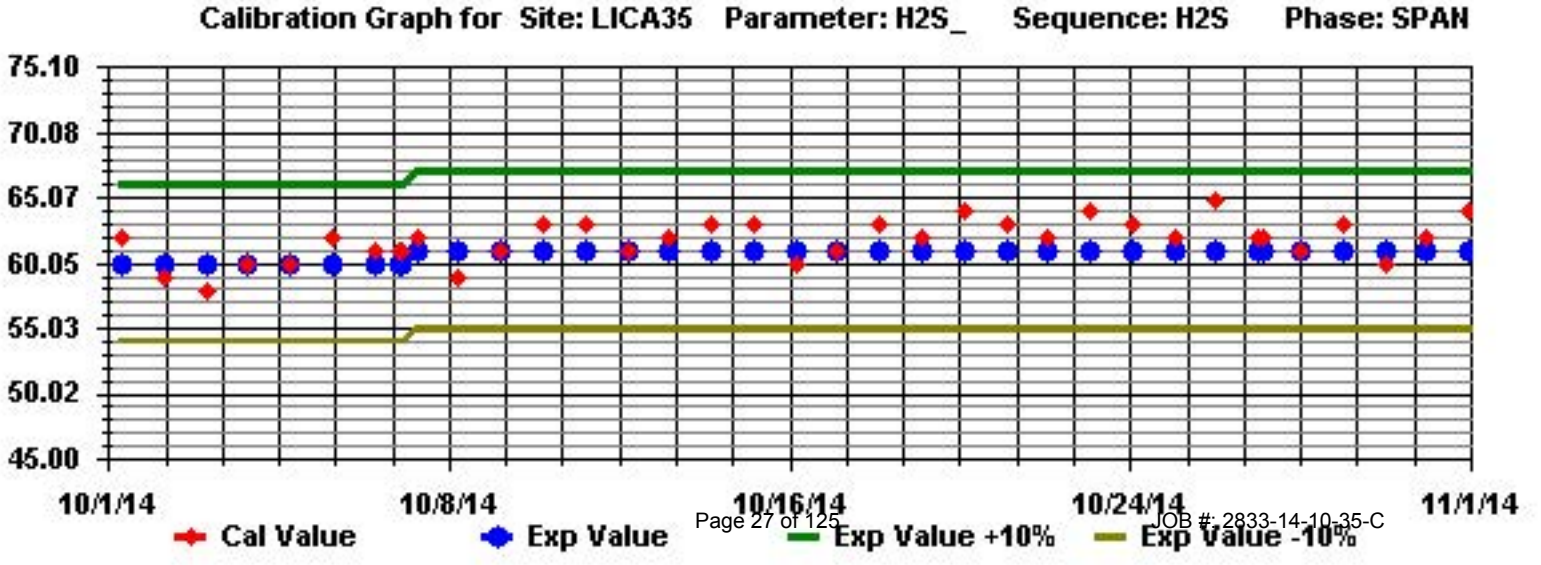
Logger : 35 Parameter : H2S_
Class Limits (PPB)

>= 50
< 50
< 10
< 3

Site : LICA-ELK
Period : 10/01/14-10/31/14
Level : 10



JOB #: 2833-14-10-35-C


Calibration Graph for Site: LICA35 Parameter: H2S_ Sequence: H2S Phase: SPAN
75.10
70.08
65.07
60.05
55.03
50.02
45.00
10/1/14
10/8/14
10/16/14
10/24/14
11/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Particulate Matter 2.5

Lakeland Industry & Community Association - Elk Point Site

OCTOBER 2014

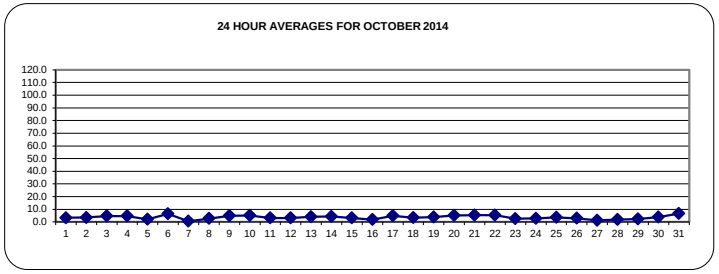
PARTICULATE MATTER 2.5 (LESS THAN 2.5 MICRONS) (PM2.5) hourly averages in ug/m3

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	6	5	0	0	7	2	0	16	6	7	0	**X**	1	0	0	0	0	3	0	6	5	8	3	0	16	3.3	23
2	0	5	0	1	4	2	0	3	0	7	7	2	12	2	2	6	7	0	7	2	8	0	**X**	**X**	12	3.5	22
3	4	**X**	0	**X**	**X**	6	0	13	8	4	**C**	**C**	9	0	**X**	**X**	1	6	**X**	8	**X**	0	**X**	7	13	4.7	16
4	**X**	**X**	8	0	4	4	2	***21***	3	0	4	4	**X**	3	3	2	0	5	6	7	**X**	0	8	9	***21***	4.7	20
5	0	**X**	1	**X**	**X**	1	**X**	**X**	0	0	0	**X**	**X**	1	2	3	3	0	11	4	0	**X**	9	0	11	2.2	16
6	12	2	**X**	12	11	14	9	11	3	1	3	9	6	3	0	3	0	0	5	12	**X**	**X**	**X**	10	14	6.3	20
7	**X**	0	**X**	**X**	0	0	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**C**	0	0	2	0	4	0	4	0.7	10
8	0	2	**X**	4	1	3	1	0	1	8	4	0	0	2	4	6	**X**	2	0	3	0	6	7	5	8	2.7	22
9	12	9	12	1	0	5	**X**	5	5	0	4	11	0	0	3	3	**X**	8	1	9	0	1	12	**X**	12	4.8	21
10	7	3	10	3	4	0	3	7	0	11	8	0	7	**X**	7	1	14	1	5	6	3	7	7	3	14	5.1	23
11	8	1	11	3	2	2	11	3	2	0	**X**	1	0	5	0	6	2	8	1	1	3	2	0	0	11	3.1	23
12	0	11	1	5	2	6	3	1	0	0	1	4	1	5	0	8	0	2	7	4	0	**X**	8	2	11	3.1	23
13	3	2	8	0	1	8	9	8	5	10	2	0	3	7	6	0	1	0	6	**X**	3	2	6	5	10	4.1	23
14	4	3	5	0	5	0	6	4	10	6	6	8	3	1	3	4	8	5	**X**	10	4	4	0	0	10	4.3	23
15	0	1	0	2	**X**	**X**	2	11	0	0	0	**X**	8	3	9	1	5	6	5	6	0	0	6	1	11	3.1	21
16	0	7	0	0	1	5	2	0	2	0	2	2	9	2	0	**X**	1	0	3	2	2	0	4	1	9	2.0	23
17	0	7	7	4	7	3	0	5	2	4	6	10	11	6	5	1	2	12	4	6	7	4	2	4	12	5.0	24
18	6	6	6	4	3	2	9	3	5	2	5	1	3	3	4	1	0	0	4	0	2	3	4	5	9	3.4	24
19	8	3	1	5	2	7	5	7	6	4	0	4	2	0	4	0	3	0	10	6	0	2	5	6	10	3.8	24
20	11	5	3	2	**X**	5	0	3	7	2	5	1	6	1	3	6	0	9	7	5	9	10	6	10	11	5.0	23
21	5	12	4	10	10	8	11	5	4	1	6	2	3	5	8	0	0	1	6	3	6	10	5	5	12	5.4	24
22	5	2	6	11	6	8	7	11	5	7	5	4	3	0	5	9	1	0	9	8	4	5	3	4	11	5.3	24
23	2	4	1	2	4	3	2	11	5	4	6	1	4	1	0	6	0	1	0	0	0	1	3	2	11	2.6	24
24	0	0	**X**	1	0	0	0	1	7	**C**	**C**	5	5	6	3	2	2	2	9	1	2	11	0	1	11	2.8	23
25	5	2	0	3	4	0	3	7	8	7	2	4	6	**X**	3	1	3	5	0	8	2	3	2	5	8	3.6	23
26	2	7	2	6	4	4	0	6	8	1	3	2	3	3	0	0	3	0	3	0	3	5	4	0	8	2.9	24
27	0	0	2	2	2	0	1	2	0	0	1	3	0	0	**X**	0	0	0	3	3	3	2	4	3	4	1.3	23
28	1	2	1	0	0	3	2	1	0	1	3	0	0	0	3	3	4	5	5	1	3	4	2	2	5	1.9	24
29	5	2	6	3	3	0	5	2	1	2	4	0	4	3	1	4	0	0	3	0	1	4	4	0	6	2.4	24
30	0	1	3	1	1	5	1	6	7	6	5	6	2	8	9	7	1	8	6	3	3	5	0	0	9	3.9	24
31	7	6	7	10	2	4	2	6	5	0	11	9	9	8	4	8	10	10	9	9	7	11	0	**P**	11	***6.7***	23
HOURLY MAX	12	12	12	12	11	14	11	21	10	11	11	11	12	8	9	9	14	12	11	12	9	11	12	10			
HOURLY AVG	3.9	3.9	3.9	3.4	3.3	3.7	3.4	6.2	3.8	3.3	3.8	3.6	4.3	2.8	3.3	3.3	2.5	3.3	4.7	4.4	2.9	3.9	4.2	3.2			

STATUS FLAG CODES

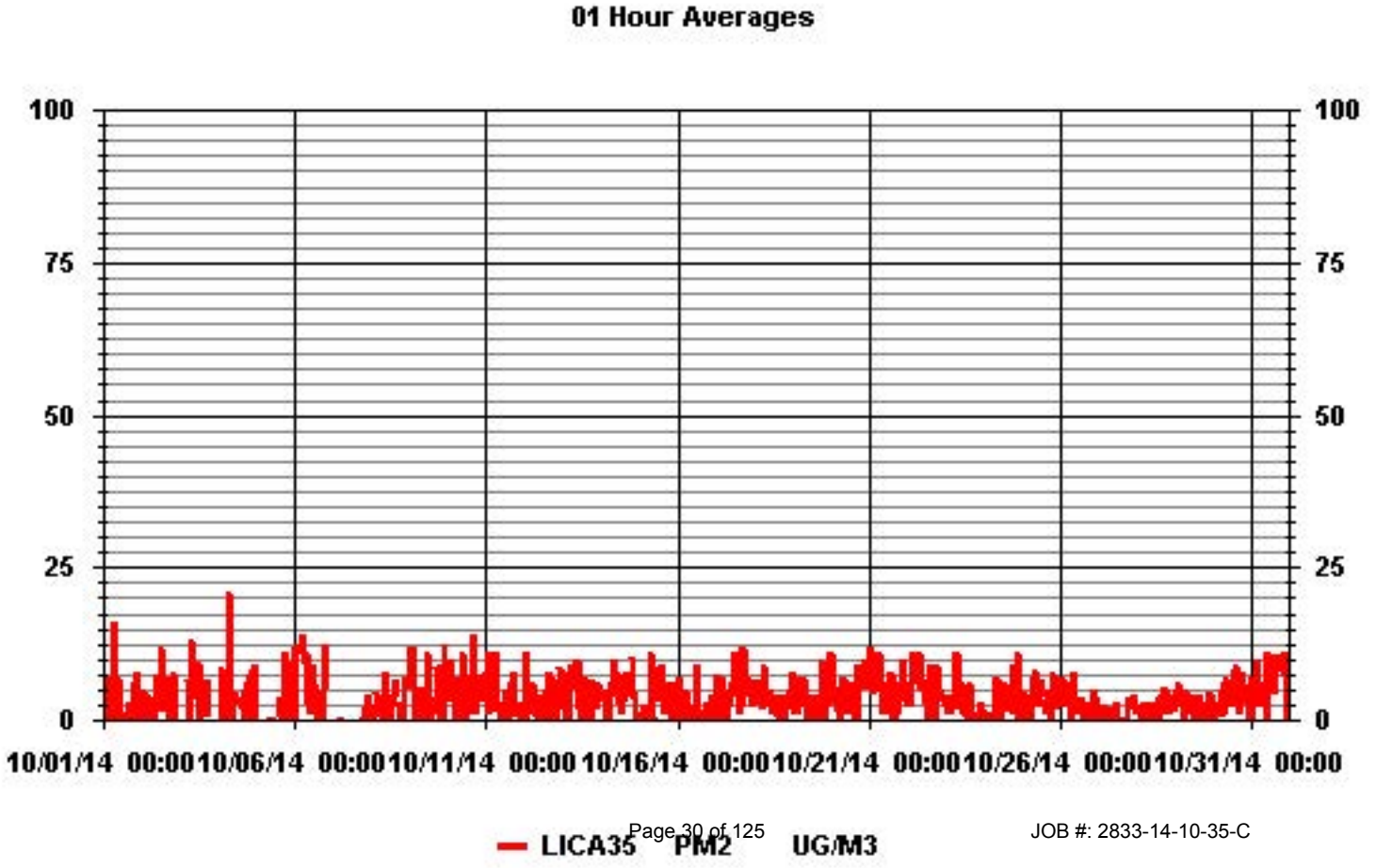
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



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

MONTHLY SUMMARY

NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	527					
MAXIMUM 1-HR AVERAGE:	21	ug/m3	@ HOUR(S)	7	ON DAY(S)	4
MAXIMUM 24-HR AVERAGE:	6.7	ug/m3			ON DAY(S) VAR-VARIOUS	31
			OPERATIONAL TIME:		684	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:		91.9	%
STANDARD DEVIATION:	3.37		MONTHLY AVERAGE:		3.71	ug/m3



JOB #: 2833-14-10-35-C

LICA-ELK
PM2 / WDR Joint Frequency Distribution (Percent)

October 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	1.03	2.20	2.20	2.94	10.30	17.96	10.45	2.50	2.06	.88	.88	7.65	12.66	12.81	10.60	2.79	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	1.03	2.20	2.20	2.94	10.30	17.96	10.45	2.50	2.06	.88	.88	7.65	12.66	12.81	10.60	2.79	

Calm : .00 %

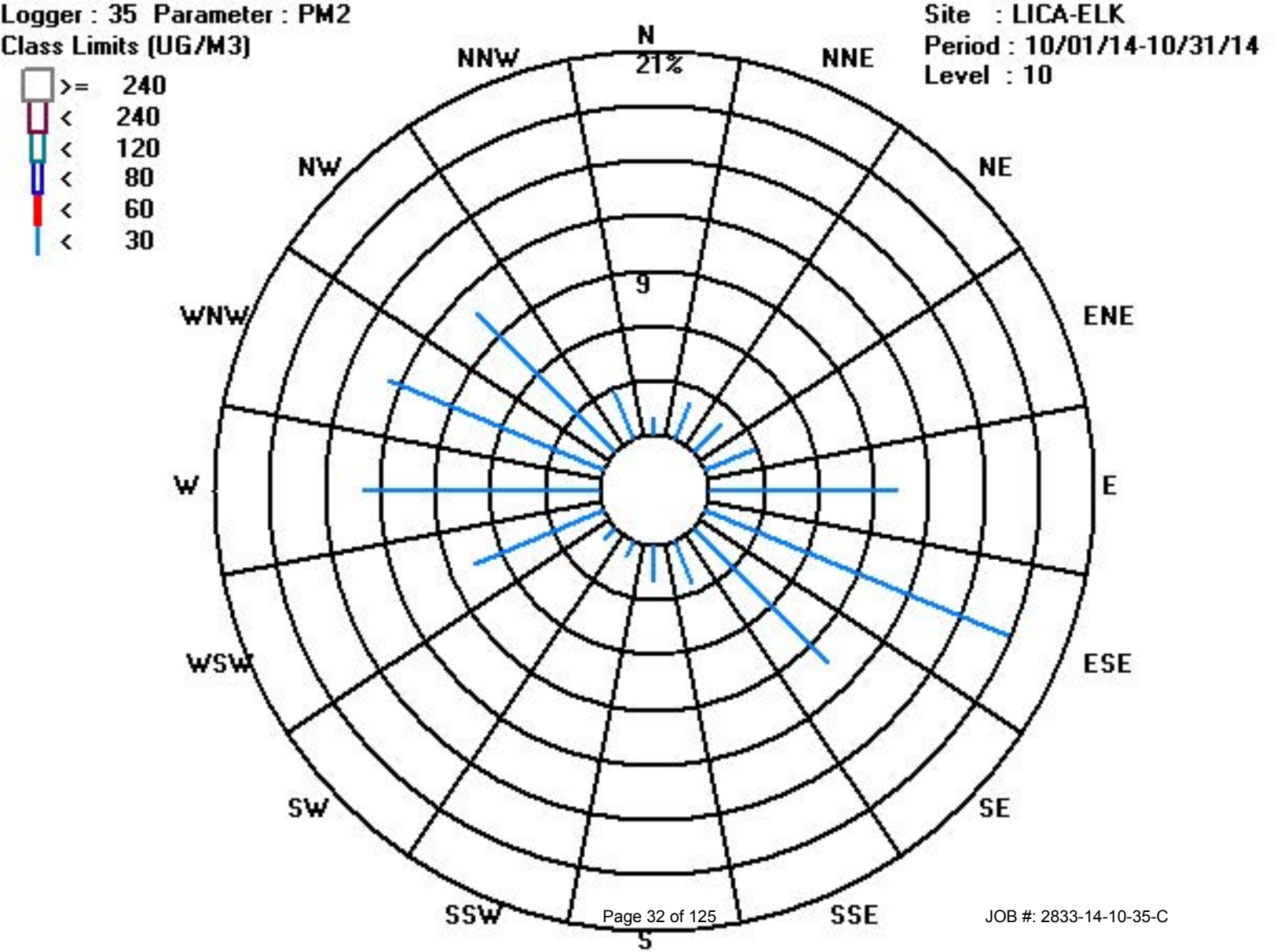
Total # Operational Hours : 679

Distribution By Samples

		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	30	7	15	15	20	70	122	71	17	14	6	6	52	86	87	72	19	679
<	60																	
<	80																	
<	120																	
<	240																	
>=	240																	
	Totals	7	15	15	20	70	122	71	17	14	6	6	52	86	87	72	19	

Calm : .00 %

Total # Operational Hours : 679



JOB #: 2833-14-10-35-C

Nitrogen Dioxide

Lakeland Industry & Community Association - Elk Point Site

OCTOBER 2014

NITROGEN DIOXIDE (NO2) hourly averages in ppb

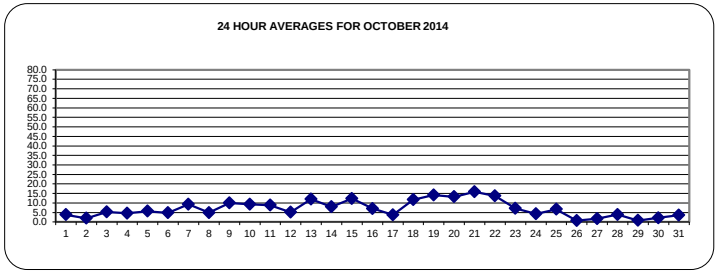
MST

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	3.3	6.6	4.3	7.9	12.2	11.1	8.4	**S**	3.9	2	1.4	1	0.7	1.2	1.2	1.3	2.4	3.3	2.7	1.7	4.1	3.9	1.7	0.9	12.2	3.8	24
2	0.9	1	0.7	0.2	0.5	1.1	**S**	1.6	1	1	0.9	0.8	0.7	0.6	0.2	0.1	0.3	0.9	1.1	4.2	5.4	5.6	7.5	8.1	8.1	1.9	24
3	5.8	1.9	8.6	10.1	11.1	**S**	11.8	10.4	3.9	3	1.2	0.9	1.3	0.8	1.4	2.4	4.6	3.5	8.1	6.1	4.6	4.5	7.4	6.7	11.8	5.2	24
4	6.8	7.9	4.1	4.6	**S**	9.6	11.8	9.3	6.2	2.7	2	0.9	0.7	0.7	0.6	0.3	1.3	1.5	11.1	7.8	5.9	1.2	4.3	3.7	11.8	4.6	24
5	4.8	4.7	3.8	**S**	3.5	3.5	9.7	9.1	7.3	5.4	3.1	0.7	0.5	0.4	0.1	0.6	2.4	4.4	15.8	11.7	11.8	7.1	7.8	12.2	15.8	5.7	24
6	9.8	14.5	**S**	9.6	12.8	3.1	5.4	12.9	8.4	3.2	1.5	0.7	0.4	0.1	0.1	1.4	0.2	0.7	0.7	2.2	1.7	4.9	5.5	10.5	14.5	4.8	24
7	1.8	**S**	12.1	10.9	9.6	8.1	11.2	12.5	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	8.2	6.5	9.3	10.5	10.7	12.5	9.3	24
8	**S**	11.1	12.1	6	3.4	5.9	3.6	3.3	**Y**	**Y**	4.3	3.8	3	3.6	3.9	3.9	5.1	6	3.4	3.4	4	3.6	3.7	**S**	12.1	4.9	22
9	6.5	11.9	8.3	14.4	12.3	17.2	18.7	12.5	9.7	8.3	5.8	5.3	4.6	4.4	3.6	2.6	5.8	6.2	16.4	13.9	18.8	9.9	**S**	11.8	18.8	10.0	24
10	8.8	9.3	14.6	15.4	17.9	21	16.4	15.1	8.1	6.4	4.6	3.6	2.8	2.4	2.2	1.8	2	5.1	11.6	9	12.7	**S**	11.7	9.9	21	9.2	24
11	11.9	10.8	16.7	17.9	16.9	13.2	10	8.6	5.5	1.6	1.6	1	0.7	0.5	0.5	0.7	0.9	14.8	12.8	17	**S**	15	9.6	15.1	17.9	8.8	24
12	11.7	1.8	10.3	3.5	2.7	4.5	3.5	2.4	1.7	1	1	0.6	0.4	0.6	0.5	1.1	1.1	9	6.2	**S**	11.9	11	13.6	18.3	18.3	5.1	24
13	12.1	13.6	17.1	17.1	23.2	24.4	21.8	19	18.6	15.6	8.7	3.8	2	1.6	1.1	1.4	2.7	11.8	**S**	14.7	14.6	13.5	9.7	8.9	24.4	12.0	24
14	8	7	6.8	4.5	6.1	6.9	10	8.1	7.9	6.2	5.1	5.3	4.7	5	4.7	5	5.5	**S**	15.9	19.7	19.8	11.4	6	3.6	19.8	8.0	24
15	5.9	20.7	8.2	17.5	9.8	19.2	24	22.6	21.8	19.2	13.2	**S**	6.4	7.5	8.4	11.6	**S**	13	8.8	6.5	6.2	5.3	6.5	8	24	12.3	24
16	7.1	5.8	5.1	1.8	2	2.3	4	5.3	3.5	2	0.9	1	1.5	1.7	1.3	**S**	6.8	11.1	22.4	21.5	20.3	16	11.5	7.3	22.4	7.1	24
17	5.5	6.6	5.5	5	4	4.2	4.3	3.9	3.5	3.4	3.5	2.9	2.3	1.9	**S**	2.3	2.7	4.4	3.3	2.6	3.4	3.5	4.1	2.5	6.6	3.7	24
18	2.7	2.7	4.2	6.2	6.4	10.1	12.9	13.1	7.5	3.5	4.8	3	2.5	**S**	2.1	2	5.1	3.7	18.9	30.8	***33.3***	31.6	31.6	30.9	***33.3***	11.7	24
19	29.9	27.7	25.3	23.7	23.5	20.9	16.7	15.4	14.3	13.6	10.6	9.1	**S**	4.5	5.2	7.1	9.5	18.8	13.8	10.6	8.6	7.8	5.3	4.9	29.9	14.2	24
20	6.5	6.8	8.1	11.6	10.9	13.1	16.1	16.8	12.9	7.8	6.2	**S**	5.8	6	5.5	5.2	16.3	26.5	30.3	23.1	15.9	16.5	13.5	23.1	30.3	13.2	24
21	22.3	19.9	21.9	20	24.6	24.7	19.8	15.9	14.4	5	**S**	1.2	0.9	1	1.4	2.5	5.4	28.9	30.7	22.3	15	22.9	19.8	24.5	30.7	***15.9***	24
22	21	15.3	18.5	20.2	19.1	17.6	18.6	19.3	15.9	**S**	13.2	14.1	**S**	**S**	2.3	5.9	13.8	13.3	11	11	11.9	11.6	7.4	7.4	21	13.7	24
23	9	7.1	7	7.7	3.9	6.2	8.3	7.9	**S**	4.9	4.1	3.2	3.1	2.1	3.9	7.3	8.8	9.8	10.3	7.6	11.4	20.6	7	3.8	20.6	7.2	24
24	4.1	1.9	2.3	1.2	1.2	1.7	4.2	**S**	1.4	1.1	1	0.7	0.8	0.4	0.6	1.1	6.1	10.1	16.4	15	6.2	7.3	6.5	7	16.4	4.3	24
25	6.1	12	4	8.3	7.2	11	**S**	19	18.1	16.7	7.4	7.1	2.9	4.9	3	2.9	3.5	4.8	5.6	3.2	2	1.3	0.9	0.9	19	6.6	24
26	0.7	0.8	0.9	1	1.1	**S**	1	0.8	0.9	0.4	0.3	0.2	0.1	0.3	0.3	0.2	0.3	0.3	1	1.2	1	1.1	1.1	0.6	1.2	0.7	24
27	0.4	0.5	0.6	0.7	**S**	1.5	1.4	1.5	1.3	1	1.3	1.3	1.1	1	1	1.4	1.5	1.2	2.5	3.1	1.9	3.7	5.1	3.7	5.1	1.7	24
28	7	7.1	5.7	**S**	7.7	8	5.9	**S**	3.6	3.1	2.3	1.5	1.5	2	1.8	2.5	3.3	4	2.1	**S**	3.2	2.1	2.9	3.2	8	3.8	24
29	2.7	2.3	**S**	2.2	1.8	0.9	0.5	0.5	0.3	0.1	0.3	0.1	0.1	0.7	0.2	0.4	0.5	0.2	0.7	1.3	1	0.6	0.4	0.4	2.7	0.8	24
30	1.5	**S**	3.4	3.3	2.4	2.3	2.2	4.2	2.8	2.6	2.2	2.1	1.7	1.7	1.9	1.8	1.7	2.2	2.1	2	1.5	1.6	1.5	1.8	4.2	2.2	24
31	**S**	2.9	2.9	3.1	2.6	2.8	2.9	2.5	2.5	2.4	2.1	2.7	2.2	2.4	2.2	3.3	6.7	4.3	4.7	4.5	4.9	5.9	6.7	**P**	6.7	3.5	23
HOURLY MAX	30	28	25	24	25	25	24	23	22	19	13	14	6	8	8	12	16	29	31	31	33	32	32	31			
HOURLY AVG	7.7	8.4	8.4	8.8	9.0	9.5	9.8	9.8	7.4	5.1	4.0	2.8	2.0	2.1	2.1	2.8	4.4	7.7	10.0	9.9	9.0	8.7	7.7	8.6			

STATUS FLAG CODES

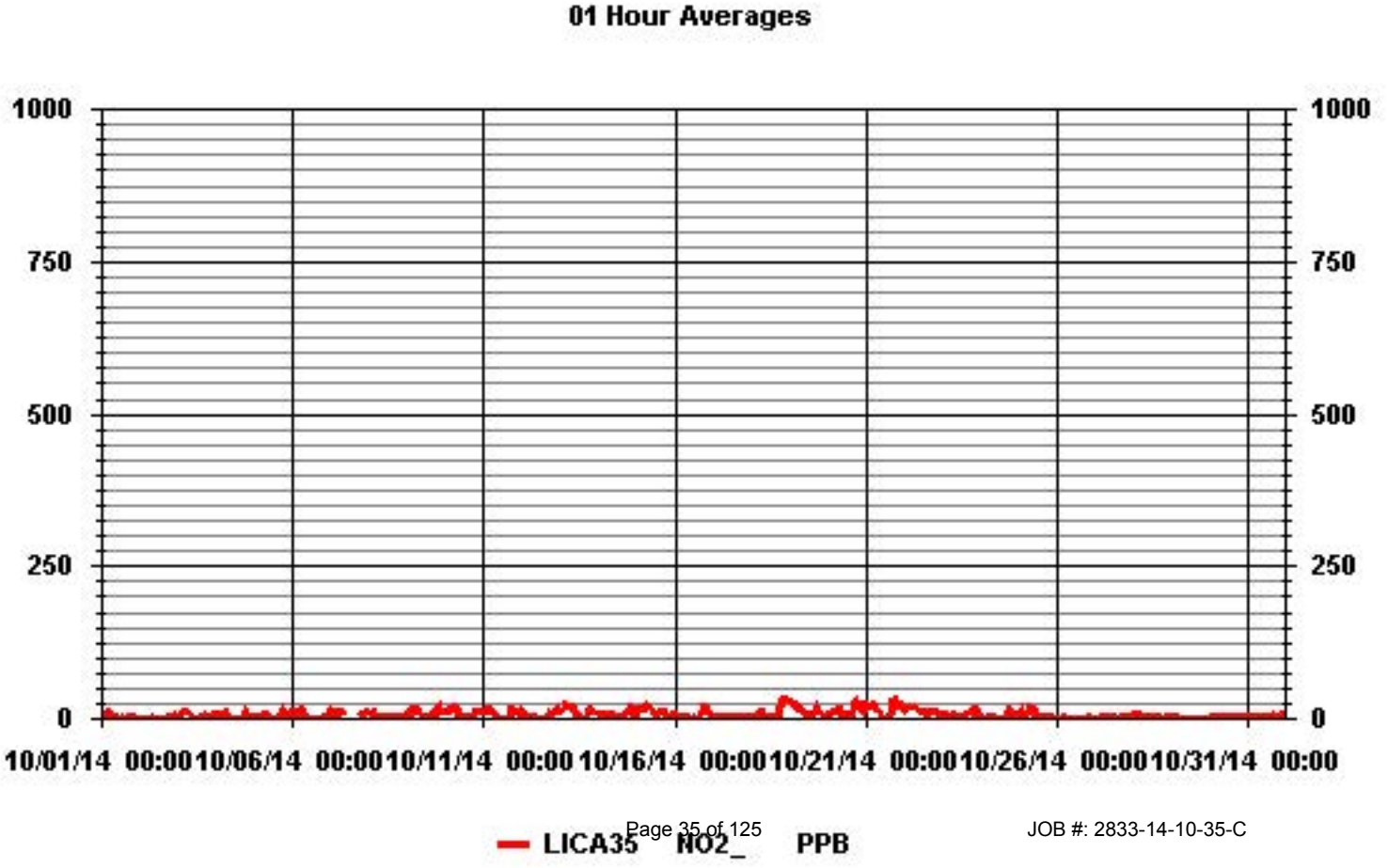
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

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



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	693					
MAXIMUM 1-HR AVERAGE:	33.3	PPB	@ HOUR(S)	20	ON DAY(S)	18
MAXIMUM 24-HR AVERAGE:	15.9	PPB			ON DAY(S) VAR-VARIOUS	21
IZS CALIBRATION TIME:	37	HRS	OPERATIONAL TIME:		741	HRS
MONTHLY CALIBRATION TIME:	11	HRS	AMD OPERATION UPTIME:		99.6	%
STANDARD DEVIATION:	6.62		MONTHLY AVERAGE:		6.92	PPB



JOB #: 2833-14-10-35-C

Lakeland Industry & Community Association - Elk Point Site

OCTOBER 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	12.1	14.9	14.9	16.7	16.3	17.6	10.7	**S**	5	3.3	2.4	2.1	1.5	3.1	2	3.2	3.5	4.9	4.6	3.1	6.6	7.2	4	3	17.6	7.1	24
2	2.2	1.7	1.2	0.6	1.3	2.1	**S**	2.6	2	1.6	1.9	2.1	1.1	1	0.7	0.6	0.9	1.3	1.8	13.6	10.1	14.3	14	15.2	15.2	4.1	24
3	17.8	3.1	13.6	16.5	14.4	**S**	16.7	15.9	7.8	5	2.3	2	16.1	1.5	3.1	4.4	8.5	11.2	18.3	12.3	7.4	7.8	9	8.5	18.3	9.7	24
4	9.9	10.1	5.6	8.2	**S**	23.3	18.3	10.8	7.6	4.6	25.8	1.8	1.7	1.5	1.7	0.9	3.2	3.5	27.1	25.9	18.3	3	7.6	5.2	27.1	9.8	24
5	7.8	6.8	6.9	**S**	4.4	6.6	13.9	10.8	9.5	8.4	5.6	1.7	1.6	1.6	1.4	2.1	8.8	28.7	25	18.5	18.7	14	15.6	17.4	28.7	10.3	24
6	20	23.7	**S**	17.1	20.5	7	12.6	15.4	14	4.9	3.2	1.7	1.4	1	0.9	11	1	1.9	1.4	6.4	2.6	16.4	15.2	22.4	23.7	9.6	24
7	14.4	**S**	19.7	16.7	12.7	13.8	14.6	15.8	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	13.2	12.8	16.3	16.5	13.9	19.7	15.0	24
8	**S**	14.1	14.1	8.9	3.1	10.1	3.5	4.4	**Y**	**Y**	**Y**	5.5	3.5	4.6	5.7	5.2	7	6.6	4.2	3.7	5.5	7.5	5.2	**S**	14.1	6.4	21
9	15.1	17.3	9.7	17.9	16	18.7	22.3	16.7	10.7	8.9	6.2	5.4	4.7	4.6	4.1	2.8	8.2	14.1	30.5	18.7	22.9	20	**S**	15.6	30.5	13.5	24
10	12.6	10.8	17.9	18.5	21.4	23.2	24.1	17.1	12.8	7.4	6.3	4.6	4.9	3.9	4	3.5	4.2	7.9	28.9	13.2	20.8	**S**	17.4	13.7	28.9	13.0	24
11	15.4	18.7	20.1	21.3	21.4	18.6	14.3	11.5	11.7	3.6	3	3.3	1.6	1.9	2.1	2.7	3.7	34.7	28.6	22.9	**S**	22	12.2	23.5	34.7	13.9	24
12	17.3	7	20.5	6.2	4.7	5.8	5.9	3.9	2.7	3	1.9	1.7	1.4	1.7	1.8	6.3	6.5	24.8	10.7	**S**	15.8	16.2	18.7	24.4	24.8	9.1	24
13	16.2	17.2	19.7	20.4	28.7	38.4	23.5	27.9	19.4	17.8	13.8	7.3	2.8	11.4	2.2	2.6	6.5	36.4	**S**	20.8	25.6	19.4	17.1	14.5	38.4	17.8	24
14	14.6	13.8	12.2	6.4	10.6	12.3	17.5	10.5	10.3	6.9	6.4	6.3	7.1	6.5	6.5	7	11.8	**S**	20	23.3	24.8	18.7	17.2	7.4	24.8	12.1	24
15	26.4	28.8	12.8	28.2	22.9	36.5	26.7	29.7	30.4	21	**P**	**S**	22.6	10.5	11.5	15.7	**S**	15.1	11.4	10.2	10	8.4	14.2	14.2	36.5	19.4	23
16	11	8.5	9.6	3.3	2.7	3.6	17.7	8	6.2	2.4	1.6	2	2	2.6	2.6	**S**	11.2	21.4	27.3	24.5	23.4	20.5	13.9	8.4	27.3	10.2	24
17	5.9	7	6.4	5.3	4.7	5.1	5.4	4.5	3.9	4.1	3.8	3.2	2.7	2.4	**S**	3	3.5	5.7	4.8	3.3	4.1	4.3	5.4	3.5	7	4.4	24
18	4.8	4.1	5.7	8.8	8.1	12	16.9	17	13.2	4.8	5.9	4.2	3.1	**S**	2.9	3.5	15.9	12.5	38.5	***45.2***	35.3	34.6	33.6	33.6	***45.2***	15.8	24
19	31.7	41.6	27.6	27.2	27.6	28.7	18	19.5	15.6	14.3	11.9	11.4	**S**	5.7	7.6	11	31.6	30.1	21.7	18.2	13	11.8	7.8	12.5	41.6	19.4	24
20	12.6	10.7	12.7	15.9	15.3	19.4	19.6	21.3	16.8	11.6	8.6	**S**	6.6	7.5	6.6	6.9	37.4	32.3	42.9	44.1	23	22.8	32.1	31.4	44.1	19.9	24
21	29.3	23.8	26.3	24.8	26.1	26.4	22.9	18.3	18.2	7.8	**S**	1.8	1.7	2.2	3.2	5.1	12.8	35	33.8	34.3	26.6	26.4	31.9	28.2	35	***20.3***	24
22	25.3	18.9	36.9	22.8	21.6	18.3	21.2	25.9	19.4	**S**	14.5	15.7	**S**	**S**	5.3	12	24.2	21.2	19.6	17.2	17.9	16.4	10.2	13.2	36.9	18.9	24
23	14.3	9.5	8.8	11.6	6.4	10.3	12.2	10.8	**S**	6.5	6.3	5.9	4.9	3.4	6.2	9.2	10.1	12	12.6	9.4	20.3	36.1	14.8	7.7	36.1	10.8	24
24	7.1	5.7	5.2	3.3	2	3.8	5.4	**S**	2.7	2.2	2.7	1.9	2.3	1.6	2.2	3	16.7	18.1	33.9	22.5	12.1	11.7	8	12.8	33.9	8.1	24
25	9.2	17	8.4	21.8	9.8	22.7	**S**	25.1	21.9	21.6	10.6	8.8	6	7.4	5.5	6.3	4.2	7.8	8.5	4.7	3.3	2.3	1.5	1.4	25.1	10.3	24
26	1.3	1.7	1.6	1.7	1.7	**S**	2.6	1.7	1.7	1.3	0.9	0.8	1.2	1	1.1	1	1.1	1.2	2	2	2	2	2.1	1.5	2.6	1.5	24
27	1.3	1.4	1.5	1.7	**S**	2.1	1.9	1.9	1.5	1.2	1.9	1.8	1.5	1.3	1.3	2.4	1.9	1.6	6.8	6.7	3.2	7.9	8.5	6.7	8.5	3.0	24
28	10.4	10	10	**S**	16.3	14.1	11	**S**	5.3	6.1	4.6	2.4	2.3	3.2	3.3	3.7	5.2	7.6	3.4	**S**	4.7	2.8	5.2	4.5	16.3	6.5	24
29	4.9	3	**S**	3.4	2.6	1.7	1.3	1.5	1.2	1.2	1.1	0.8	0.8	5	1	1.3	1.4	1.2	1.9	2.7	2.5	1.9	1.5	1.7	5	2.0	24
30	3.3	**S**	5.4	5.2	4.1	3.9	4.2	17.1	9.2	3.7	3.3	3.5	2.5	2.7	2.6	2.8	2.8	3.2	2.7	2.8	2.1	2.4	2	2.3	17.1	4.1	24
31	**S**	3.8	3.4	3.8	3.4	3.7	3.7	3.8	3	3.3	3	3.4	3	3.7	3.4	4.9	10.7	8.1	6.3	5.2	6.4	9.4	10.8	**P**	10.8	5.0	23
HOURLY MAX	32	42	37	28	29	38	27	30	30	22	26	16	23	11	12	16	37	36	43	45	35	36	34	34			
HOURLY AVG	12.9	12.2	12.4	12.6	12.1	14.1	13.4	13.2	10.1	6.7	5.9	4.0	4.0	3.7	3.5	5.0	9.1	14.1	16.5	15.5	13.4	13.5	12.4	12.7			

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: 691

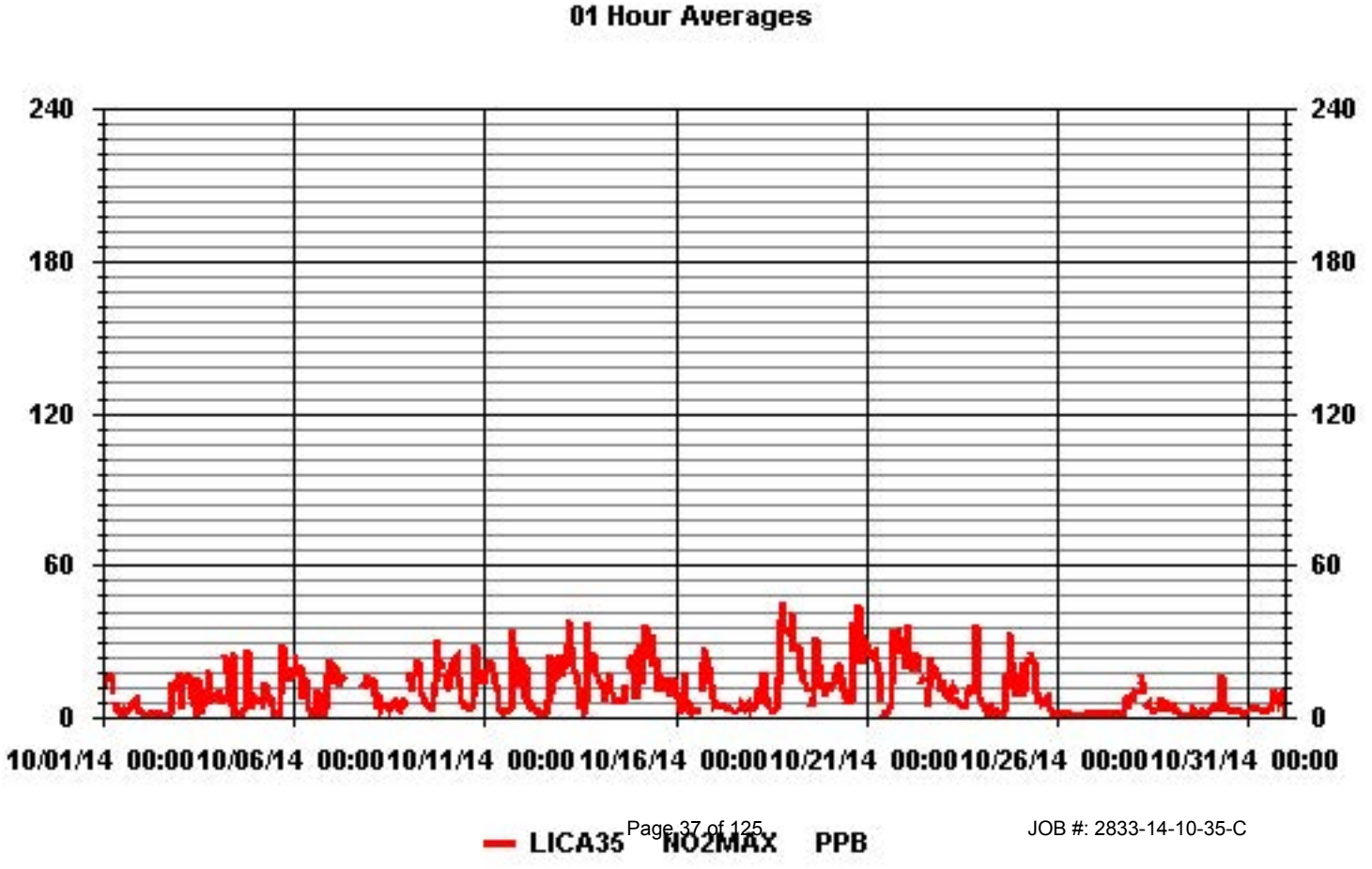
MAXIMUM INSTANTANEOUS VALUE: 45.2 PPB @ HOUR(S) 19 ON DAY(S) 18

VAR-VARIOUS

IZS CALIBRATION TIME: 37 HRS OPERATIONAL TIME: 739 HRS

MONTHLY CALIBRATION TIME: 11 HRS

STANDARD DEVIATION: 9.08



JOB #: 2833-14-10-35-C

LICA-ELK
NO2_ / WDR Joint Frequency Distribution (Percent)

October 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	1.01	2.16	2.16	2.74	9.37	17.17	10.53	2.45	2.30	1.01	1.01	7.50	13.56	13.27	11.11	2.59	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	1.01	2.16	2.16	2.74	9.37	17.17	10.53	2.45	2.30	1.01	1.01	7.50	13.56	13.27	11.11	2.59	

Calm : .00 %

Total # Operational Hours : 693

Distribution By Samples

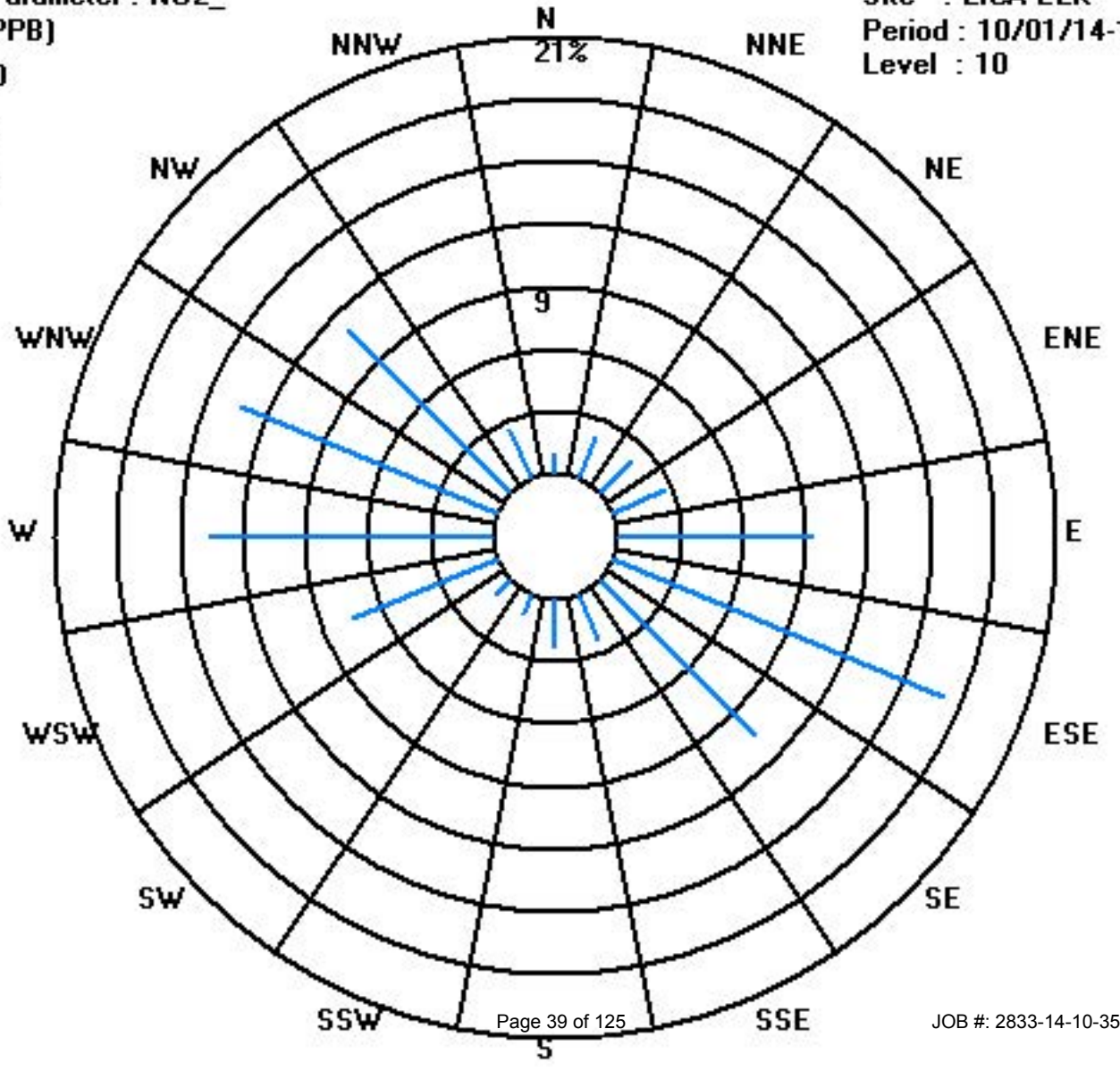
		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	7	15	15	19	65	119	73	17	16	7	7	52	94	92	77	18	693
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	7	15	15	19	65	119	73	17	16	7	7	52	94	92	77	18	

Calm : .00 %

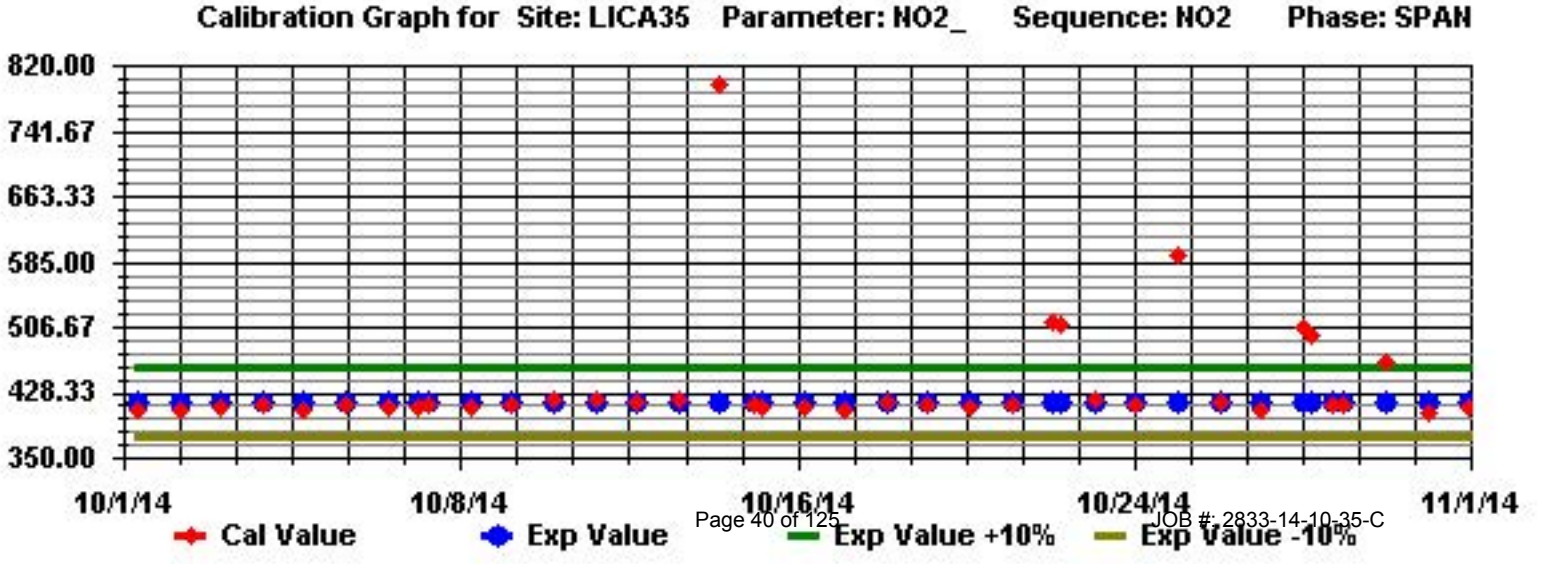
Total # Operational Hours : 693

Logger : 35 Parameter : NO2_
Class Limits (PPB)
>= 210.0
< 210.0
< 110.0
< 50.0

Site : LICA-ELK
Period : 10/01/14-10/31/14
Level : 10



JOB #: 2833-14-10-35-C


Calibration Graph for Site: LICA35 Parameter: NO2_ Sequence: NO2 Phase: SPAN
820.00
741.67
663.33
585.00
506.67
428.33
350.00
10/1/14
10/8/14
10/16/14
10/24/14
11/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitric Oxide

Lakeland Industry & Community Association - Elk Point Site

OCTOBER 2014

NITRIC OXIDE (NO) hourly averages in ppb

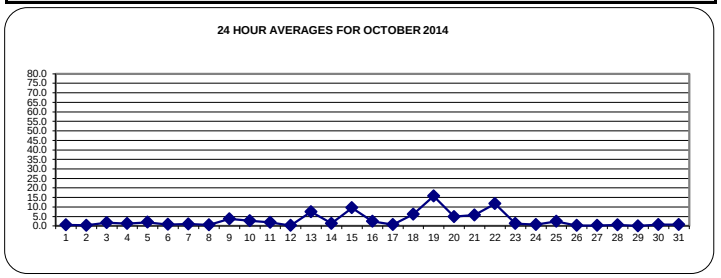
MST

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	0.4	0.9	0.7	1.2	1.6	1.1	1.8	**S**	2.2	1	0.7	0.4	0.4	0.3	0.2	0.1	0.2	0	0	0	0	0	0.2	0	2.2	0.6	24
2	0.2	0.4	0	0	0	0	**S**	0.3	0.3	0.2	0.2	0.2	0	0	0	0	0	0	0	0.8	0.3	0.6	0.1	3.3	3.3	0.3	24
3	3	0	0.7	1.4	1.6	**S**	6.2	8	3.3	3.1	1.3	0.9	1.2	0.5	0.7	0.8	1.2	0.6	1.3	0.6	0.3	0.3	0.8	0.1	8	1.6	24
4	0.3	0.1	0	0	**S**	1.2	2.9	3	4.3	2.6	1.5	0.8	0.6	0.6	0.3	0.4	0.5	0.3	4.8	2.4	1.2	0	0.2	0	4.8	1.2	24
5	0.3	0.1	0.1	**S**	0.4	0.4	2.5	5.1	9.7	9	4.2	0.8	0.5	0.5	0.4	0.5	0.8	2.8	1.9	1.1	1.9	0.5	0.8	0.4	9.7	1.9	24
6	0.3	1	**S**	0.9	1.3	0	0.3	2.3	1.9	1.4	0.9	0.4	0.3	0.3	0.4	3.2	0.2	0.1	0.1	0.4	0	0.7	0.2	1.2	3.2	0.8	24
7	0	**S**	0.9	0.5	0.1	1	1.3	4.4	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0.8	0.7	0.7	0.9	0.4	4.4	1.0	24
8	**S**	0.4	0.4	0.1	0	0.3	0.1	0.1	**Y**	**Y**	1.6	1.5	1.3	1.1	1.1	0.9	1.5	0.7	0	0	0	0	0	**S**	1.6	0.6	22
9	0.6	2.5	0.2	2.8	2.2	10.3	19.7	10.7	6.5	6.4	5.5	3.7	2	1.6	1.4	1	1.6	1	2.2	0.8	1.6	0.7	**S**	0.7	19.7	3.7	24
10	0.3	0.1	0.6	1.1	3.7	9.3	9.6	10.7	5.4	5.6	3.3	2.2	1.3	1.1	1.1	0.9	0.5	0.7	2.8	1	1.6	**S**	0.6	0	10.7	2.8	24
11	0.8	0.8	1.9	16.4	8.4	2	0.8	1	1.8	0.4	0.5	0.4	0.2	0.3	0.3	0.2	0.1	3	0.9	0.7	**S**	0.4	0	0.9	16.4	1.8	24
12	0.1	0	0.8	0	0	0	0	0	0.1	0.1	0.3	0.1	0	0.1	0.2	0.3	0	1.2	0	**S**	0.3	0.1	0.5	1.3	1.3	0.2	24
13	0	0.1	0.8	0.1	5.6	16.8	20.4	33.6	44.7	30.3	7	2	0.8	0.7	0.4	0.3	0.4	2.2	**S**	1.3	1.1	1.1	0	0	44.7	7.4	24
14	0.2	0.1	0.1	0	0	0.2	0.7	0.8	1.4	2	3.3	3.8	2.2	1.4	0.6	0.8	0.8	**S**	1.7	3.7	5.3	0.4	1	0	5.3	1.3	24
15	0.7	6.9	0	4	0.6	23.5	26.1	62.6	44.1	27.5	4.9	**S**	1.3	1.7	1.2	2.1	**S**	0.6	0	0	0	0	0.7	0.4	62.6	9.5	24
16	0.1	0	0	0	0	0	0	2.8	2.3	1.5	0.6	0.6	0.8	0.8	0.3	**S**	1.9	3	18.8	11.7	8.1	2.6	0.6	0.1	18.8	2.5	24
17	0	0.4	0.2	0.1	0.3	1	1.4	1	1.2	1.5	2	1	1.2	0.6	**S**	0.6	0.8	0.9	0.5	0	0.2	0.3	0.8	0	2	0.7	24
18	0	0	0	1.2	0.2	3.3	11.7	20.5	5.2	2.2	3.2	1.6	1	**S**	0.6	0.5	0.6	0	3.9	10.5	9.6	18.2	23.2	24	24	6.1	24
19	20.3	15.8	23.9	38.7	40	45.4	47.3	40.9	31	23	10.9	8.4	**S**	2.2	2.3	2.1	2.6	2.8	1.9	0.7	0.6	0.7	0.4	0.6	47.3	***15.8***	24
20	0.4	0.8	0.2	0.8	3.1	2.9	11.4	22.5	17.7	8.5	5.9	**S**	3.2	2.6	1.7	1	4.1	4.6	11.1	5.3	0.2	0.5	0.8	2.9	22.5	4.9	24
21	3.2	0.4	1.8	3.7	15.3	46.1	9.7	4.7	7.4	0.9	**S**	0.3	0.3	0.3	0.3	0.1	0.4	14.3	10.2	4.5	1.6	1.6	2.3	2.7	46.1	5.7	24
22	3	0.3	5.8	9.4	12.4	14.6	47	***64.7***	49.9	**S**	16.2	11.8	**S**	**S**	0.6	1.2	3.1	2.2	1.5	0.7	0.7	0	0	0	***64.7***	11.7	24
23	0	0	0	0.1	0	0.7	1.2	1.7	**S**	4	3.7	2.7	2.3	1.3	1.3	1.5	1.3	0.7	0.7	0.5	1.2	3.7	0.4	0.3	4	1.3	24
24	0.5	0.2	0.3	0.4	0	0.1	0.1	**S**	0.4	0.7	0.7	0.8	0.7	0.6	0.8	0.7	1.1	0.8	2.9	1.6	0.9	0.4	0.2	0.1	2.9	0.7	24
25	0	0.6	0.1	0.7	0	0.5	**S**	7.4	14.3	14.9	4.8	4.7	1.4	1.9	1.2	0.6	0.1	0.1	0.5	0	0	0.1	0	0	14.9	2.3	24
26	0	0.2	0	0	0	**S**	0.4	0.2	0.1	0.2	0.2	0.1	0.5	0.3	0.2	0.3	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.2	24
27	0.4	0.3	0.4	0.4	**S**	0.3	0	0.1	0.1	0.3	0.6	0.6	0.4	0.3	0.1	0.2	0	0	0.1	0	0	0.3	1	0.1	1	0.3	24
28	0.1	0.1	0.1	**S**	0.7	2	0.6	**S**	0.8	0.6	0.6	0.2	0.4	0.7	0.6	0.6	0.7	0.4	0.1	**S**	0.7	0.1	0.1	0.2	2	0.5	24
29	0.1	0	**S**	0	0	0	0	0	0	0	0	0	0	0.8	0	0	0	0	0	0	0	0	0	0	0.8	0.0	24
30	0	**S**	0.3	0.5	0.6	1.2	1	3.2	2.6	0.7	0.5	0.5	0.6	0.5	0.5	0.6	0.6	0.6	0.2	0.5	0.1	0.1	0.4	0.1	3.2	0.7	24
31	**S**	0.4	0.4	0.4	0.3	0.4	0.9	0.6	0.9	1	1.4	1.6	0.9	1.2	0.8	1	1	0.1	0	0	0	0.5	0.9	**P**	1.6	0.7	23
HOURLY MAX	20	16	24	39	40	46	47	65	50	30	16	12	3	3	2	3	4	14	19	12	10	18	23	24			
HOURLY AVG	1.2	1.1	1.4	2.9	3.4	6.4	7.8	11.2	9.3	5.3	3.0	1.9	0.9	0.9	0.7	0.8	0.9	1.5	2.4	1.7	1.3	1.2	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

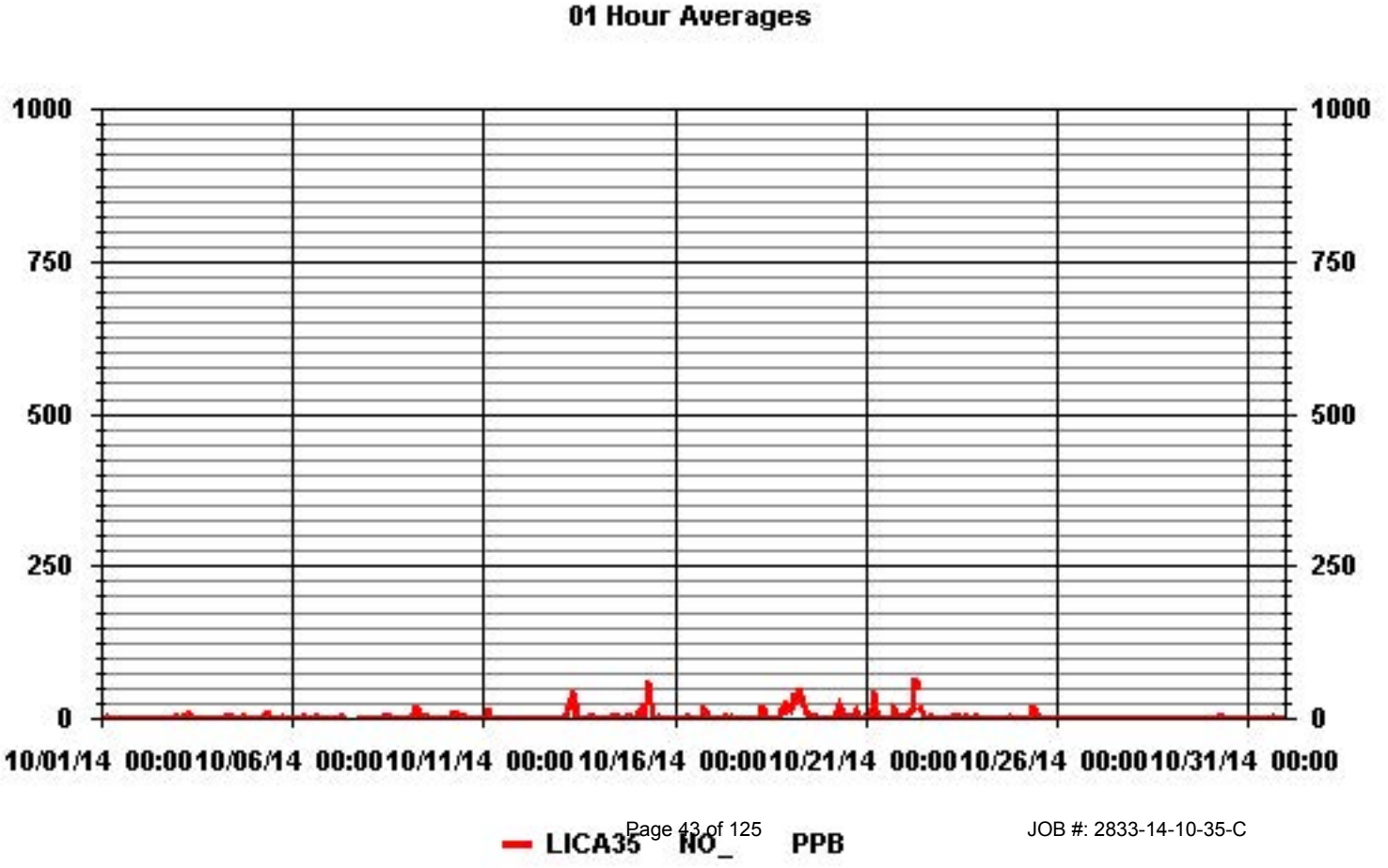
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR NA PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	NA					
NUMBER OF NON-ZERO READINGS:	579					
MAXIMUM 1-HR AVERAGE:	64.7	PPB	@ HOUR(S)	7	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:	15.8	PPB			ON DAY(S)	19
					VAR-VARIOUS	
IZS CALIBRATION TIME:	37	HRS	OPERATIONAL TIME:		741	HRS
MONTHLY CALIBRATION TIME:	11	HRS	AMD OPERATION UPTIME:		99.6	%
STANDARD DEVIATION:	7.49		MONTHLY AVERAGE:		2.88	PPB

JOB #: 2833-14-10-35-C



JOB #: 2833-14-10-35-C

Lakeland Industry & Community Association - Elk Point Site

OCTOBER 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	3.1	4.8	4.8	3.9	4	4.6	5.2	**S**	4.1	2.6	1.3	1.3	1.1	1	0.8	0.7	0.7	0.7	0.4	0.3	0.4	0.8	1.5	1.6	5.2	2.2	24
2	1	1.1	0.9	0.5	0.5	0.5	**S**	0.9	1.2	1.1	0.9	0.9	0.6	0.9	0.4	0.4	0.5	0.4	0.3	7.9	2.8	11.7	2	12.5	12.5	2.2	24
3	18.8	0.2	4.1	6.6	3.5	**S**	17.5	14.6	7	5.2	2.2	2	21.3	1.5	1.8	1.8	4.1	13.6	5.5	3.1	1.7	2	2.2	1.2	21.3	6.2	24
4	2.3	0.9	0.7	0.5	**S**	20.5	7.7	4.3	5.4	4.7	9.2	1.5	1.1	1.3	0.8	1	1.3	1	18.3	13.3	5.9	0.6	1.1	0.5	20.5	4.5	24
5	1.8	0.7	1	**S**	0.9	1.4	5.4	9.2	18.4	16.3	8.3	1.2	1	1.1	0.8	1.1	2.2	22.6	16.5	2.6	4.8	2.5	3.1	0.9	22.6	5.4	24
6	2.6	3.5	**S**	4.1	7.8	0.7	1.4	5.3	4.4	3	1.4	1	1	0.8	0.8	17.7	0.7	0.9	0.6	1.2	0.5	4.6	1.5	4.4	17.7	3.0	24
7	2.4	**S**	2.4	1.8	0.7	2.8	3.3	7.9	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2.7	2.2	2	3.4	1.5	7.9	2.8	24
8	**S**	1.2	2.4	0.9	0.5	2.3	0.8	1.4	**Y**	**Y**	**Y**	2.7	2.9	2.2	3.8	2	2.6	1.5	0.8	0.5	0.5	0.3	0.5	**S**	3.8	1.6	21
9	3.9	11.4	1.1	6.3	46.2	46.9	70.6	24.3	10.6	8.6	7.3	5.8	3.1	2.3	2.5	1.8	3.8	4	8	2.6	4.8	4	**S**	2	70.6	12.3	24
10	0.9	0.8	3.9	3.6	12.9	20.2	29.7	19.1	10.6	6.7	4.7	3.7	3.2	2.1	2.4	1.7	1.3	2	30.6	2.5	5.4	**S**	1.8	1.2	30.6	7.4	24
11	3.3	6	3.6	77.4	29.3	7.6	2.5	1.9	5.2	1.4	1.1	1.1	0.8	1	1	0.9	0.6	14.2	17	2.2	**S**	2.2	0.7	6.7	77.4	8.2	24
12	2.4	0	4.2	0.5	0.5	0.2	0.5	0.3	1.3	1.4	0.9	0.9	0.7	0.7	0.8	1.7	1.8	7.3	0.4	**S**	1	1.2	5	4.8	7.3	1.7	24
13	0.5	1.7	3.2	2	38.5	67.2	26.5	65	48.3	45.4	16.6	4.4	1.6	9.2	1.2	1.1	1.6	17.6	**S**	3.2	5.2	3	0.8	0.4	67.2	15.8	24
14	2.4	2.2	1.8	0.4	1.1	2.7	5.6	2.7	2.8	3.6	4.9	5.3	3.3	2.8	1.3	1.4	3	**S**	4.1	15.9	17.3	1.9	14.6	1.2	17.3	4.4	24
15	22.3	27.3	1.6	27.7	7.4	72.6	62	***134.9***	59.4	51.9	**P**	**S**	9.3	3.4	3.4	4.4	**S**	2.2	0.5	1	0.8	0.4	5.5	4.9	***134.9***	23.9	23
16	1.6	1.8	2.1	0.1	0	0.6	0.9	8.3	6.1	2.2	1.4	1.2	1.3	1.8	1.4	**S**	4.2	30.4	61.7	28.3	38.4	12	1.7	1.1	61.7	9.1	24
17	0.6	1.5	1.5	1.7	2.3	4.7	3.7	2.4	3.5	2.5	3.1	1.9	2.3	1.7	**S**	1.3	1.5	1.6	1.3	1	1.4	1.7	1.8	0.6	4.7	2.0	24
18	0.4	0.2	0.6	3.6	1.1	9	35	63.5	14.1	3.4	4.8	2.3	1.7	**S**	1.1	0.8	2.4	0.8	29.7	83.8	15.4	23.8	32.4	31.7	83.8	15.7	24
19	30.2	66.4	40.6	56.9	56.1	77.2	52.9	77.1	47.4	29.1	13.8	11.4	**S**	3.3	3.3	4.5	19.5	10.3	6.3	1.7	2.1	2.6	2.4	2.5	77.2	***26.9***	24
20	2.6	3.1	1.8	6.5	8	10.5	44.3	77.5	35.8	15.8	9.5	**S**	4	3.9	2.7	2.5	34.8	11.6	58.2	79.5	1.4	2.7	35.9	8.5	79.5	20.0	24
21	11.4	11.8	6.2	11.9	38.9	71	24.4	10.3	19.8	2.1	**S**	0.8	0.9	0.7	0.7	0.7	2.1	53.5	24.4	28.1	11.4	10.9	27.6	7.2	71	16.4	24
22	7.1	1	50.8	20.3	23.1	27.7	109.2	105.9	67.8	**S**	24.1	14.6	**S**	**S**	2.4	2.5	8.4	6.7	5.8	4.7	3.6	2.3	0.1	0.1	109.2	23.2	24
23	0.6	0	0.2	1.9	0.8	3.4	5.4	4.4	**S**	5.7	5.3	4.9	3.8	2.3	2.4	2.6	2.1	1.2	1.8	1	5	26.6	1.7	1.1	26.6	3.7	24
24	1.1	1.1	1.1	1.1	0.6	0.7	0.9	**S**	1	1.2	1.4	1.3	1.3	1.1	2	1.4	2.5	4.4	24.2	4.7	4.6	2.6	0.8	0.6	24.2	2.7	24
25	0.5	2.3	0.6	3.8	0.7	6.4	**S**	17.4	28.7	27.3	7.2	6.3	3.7	3.3	2.7	2.4	0.6	1.3	1.8	0.5	0.4	0.6	0.6	0.6	28.7	5.2	24
26	0.6	0.6	0.6	0.4	0.3	**S**	1	0.8	0.7	0.7	0.7	0.8	1	0.8	0.8	0.7	0.8	0.9	0.7	1	0.9	1	1	1	1	0.8	24
27	0.8	0.9	1	1	**S**	1	0.4	0.7	0.7	0.8	1.7	1.1	1	0.8	0.8	0.7	0.5	0.5	3	2.4	0.3	3.8	3.3	1.6	3.8	1.3	24
28	1.5	1.8	2.5	**S**	3.8	10.2	2.6	**S**	2.4	1.6	2.4	0.8	1.9	2.2	1.6	1.4	2.3	2.2	1.5	**S**	1.7	1.2	1.4	1.3	10.2	2.3	24
29	1.5	0.4	**S**	0.7	0.1	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	46.3	0.4	0.3	0.1	0.3	0.3	0.2	0	0.4	0.2	0	46.3	2.3	24
30	0.3	**S**	0.9	2	1.7	3.3	3.8	29.1	23.2	1.8	1.1	1.7	1.5	1.8	1.5	1.4	1.6	1.7	1.3	1.8	1.1	0.8	2.6	0.8	29.1	3.8	24
31	**S**	1.1	1.1	1.3	1.3	1.8	2.4	2.3	1.9	1.8	2.3	2.4	1.7	2.7	1.7	2.2	2.3	0.7	0.4	0.4	0.3	3.7	5.8	**P**	5.8	1.9	23
HOURLY MAX	30	66	51	77	56	77	109	135	68	52	24	15	21	46	4	18	35	54	62	84	38	27	36	32			
HOURLY AVG	4.4	5.4	5.1	8.6	10.1	16.5	18.1	24.7	15.4	8.9	5.1	3.0	2.8	3.7	1.6	2.2	3.8	7.5	11.2	10.3	4.7	4.5	5.4	3.5			

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: 686

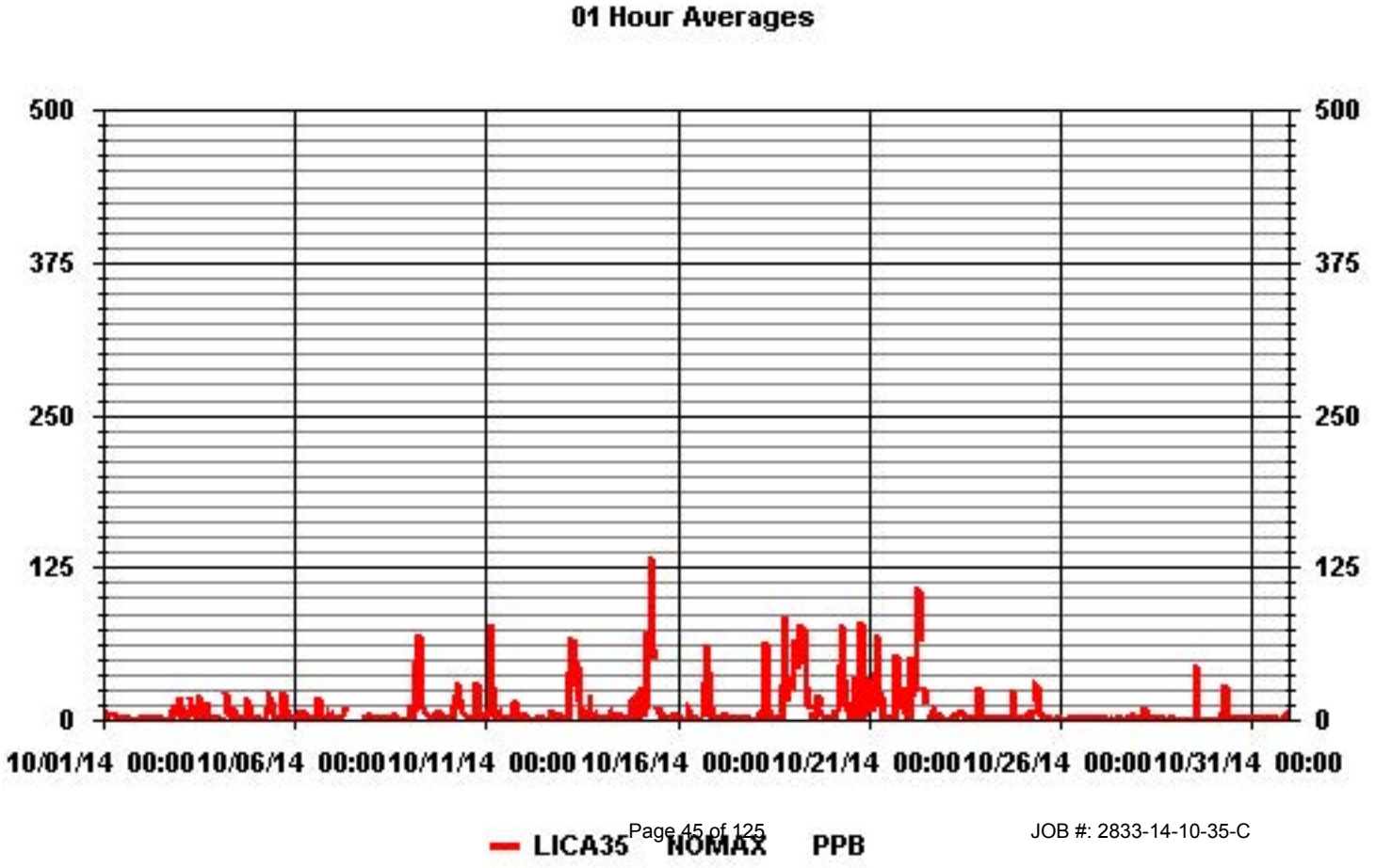
MAXIMUM INSTANTANEOUS VALUE: 134.9 PPB @ HOUR(S) 7 ON DAY(S) 15

VAR-VARIOUS

IZS CALIBRATION TIME: 37 HRS OPERATIONAL TIME: 739 HRS

MONTHLY CALIBRATION TIME: 11 HRS

STANDARD DEVIATION: 15.72



JOB #: 2833-14-10-35-C

LICA-ELK
NO_ / WDR Joint Frequency Distribution (Percent)

October 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	1.01	2.16	2.16	2.74	9.37	17.17	10.53	2.45	2.30	1.01	.86	7.50	13.56	13.27	10.96	2.59	99.71
<	110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14	.00	.00	.00	.14	.00	.28
<	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	1.01	2.16	2.16	2.74	9.37	17.17	10.53	2.45	2.30	1.01	1.01	7.50	13.56	13.27	11.11	2.59	

Calm : .00 %

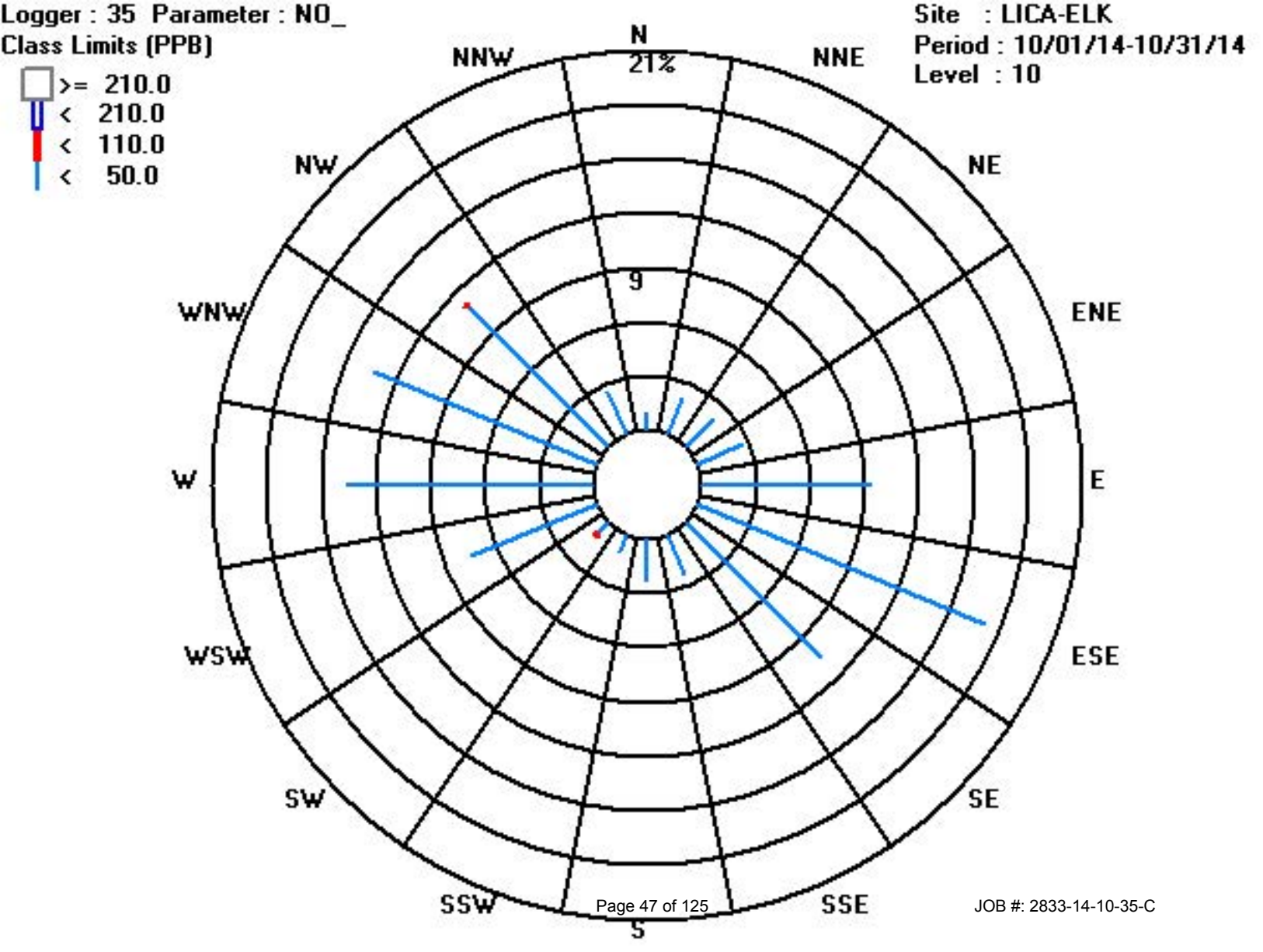
Total # Operational Hours : 693

Distribution By Samples

		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	7	15	15	19	65	119	73	17	16	7	6	52	94	92	76	18	691
<	110.0											1				1		2
<	210.0																	
>=	210.0																	
	Totals	7	15	15	19	65	119	73	17	16	7	7	52	94	92	77	18	

Calm : .00 %

Total # Operational Hours : 693



JOB #: 2833-14-10-35-C

Oxides of Nitrogen

Lakeland Industry & Community Association - Elk Point Site

OCTOBER 2014

OXIDES OF NITROGEN (NOx) hourly averages in ppb

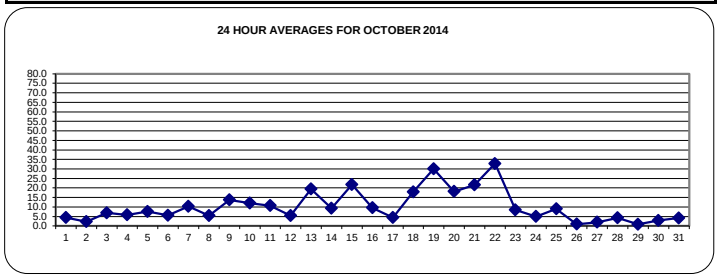
MST

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	3.7	7.5	5	9.1	13.8	12.2	10.2	**S**	6.1	3	2.1	1.4	1.1	1.5	1.4	1.4	2.6	3.3	2.7	1.7	4.1	3.9	1.9	0.9	13.8	4.4	24
2	1.1	1.4	0.7	0.2	0.5	1.1	**S**	1.9	1.3	1.2	1.1	1	0.7	0.6	0.2	0.1	0.3	0.9	1.1	5	5.7	6.2	7.6	11.4	11.4	2.2	24
3	8.8	1.9	9.3	11.5	12.7	**S**	18	18.4	7.2	6.1	2.5	1.8	2.5	1.3	2.1	3.2	5.8	4.1	9.4	6.7	4.9	4.8	8.2	6.8	18.4	6.9	24
4	7.1	8	4.1	4.6	**S**	10.8	14.7	12.3	10.5	5.3	3.5	1.7	1.3	1.3	0.9	0.7	1.8	1.8	15.9	10.2	7.1	1.2	4.5	3.7	15.9	5.8	24
5	5.1	4.8	3.9	**S**	3.9	3.9	12.2	14.2	17	14.4	7.3	1.5	1	0.9	0.5	1.1	3.2	7.2	17.7	12.8	13.7	7.6	8.6	12.6	17.7	7.6	24
6	10.1	15.5	**S**	10.5	14.1	3.1	5.7	15.2	10.3	4.6	2.4	1.1	0.7	0.4	0.5	4.6	0.4	0.8	0.8	2.6	1.7	5.6	5.7	11.7	15.5	5.6	24
7	1.8	**S**	13	11.4	9.7	9.1	12.5	16.9	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	9	7.2	10	11.4	11.1	16.9	10.3	24
8	**S**	11.5	12.5	6.1	3.4	6.2	3.7	3.4	**Y**	**Y**	5.9	5.3	4.3	4.7	5	4.8	6.6	6.7	3.4	3.4	4	3.6	3.7	**S**	12.5	5.4	22
9	7.1	14.4	8.5	17.2	14.5	27.5	38.4	23.2	16.2	14.7	11.3	9	6.6	6	5	3.6	7.4	7.2	18.6	14.7	20.4	10.6	**S**	12.5	38.4	13.7	24
10	9.1	9.4	15.2	16.5	21.6	30.3	26	25.8	13.5	12	7.9	5.8	4.1	3.5	3.3	2.7	2.5	5.8	14.4	10	14.3	**S**	12.3	9.9	30.3	12.0	24
11	12.7	11.6	18.6	34.3	25.3	15.2	10.8	9.6	7.3	2	2.1	1.4	0.9	0.8	0.8	0.9	1	17.8	13.7	17.7	**S**	15.4	9.6	16	34.3	10.7	24
12	11.8	1.8	11.1	3.5	2.7	4.5	3.5	2.4	1.8	1.1	1.3	0.7	0.4	0.7	0.7	1.4	1.1	10.2	6.2	**S**	12.2	11.1	14.1	19.6	19.6	5.4	24
13	12.1	13.7	17.9	17.2	28.8	41.2	42.2	52.6	63.3	45.9	15.7	5.8	2.8	2.3	1.5	1.7	3.1	14	**S**	16	15.7	14.6	9.7	8.9	63.3	19.4	24
14	8.2	7.1	6.9	4.5	6.1	7.1	10.7	8.9	9.3	8.2	8.4	9.1	6.9	6.4	5.3	5.8	6.3	**S**	17.6	23.4	25.1	11.8	7	3.6	25.1	9.3	24
15	6.6	27.6	8.2	21.5	10.4	42.7	50.1	85.2	65.9	46.7	18.1	**S**	7.7	9.2	9.6	13.7	**S**	13.6	8.8	6.5	6.2	5.3	7.2	8.4	85.2	21.8	24
16	7.2	5.8	5.1	1.8	2	2.3	4	8.1	5.8	3.5	1.5	1.6	2.3	2.5	1.6	**S**	8.7	14.1	41.2	33.2	28.4	18.6	12.1	7.4	41.2	9.5	24
17	5.5	7	5.7	5.1	4.3	5.2	5.7	4.9	4.7	4.9	5.5	3.9	3.5	2.5	**S**	2.9	3.5	5.3	3.8	2.6	3.6	3.8	4.9	2.5	7	4.4	24
18	2.7	2.7	4.2	7.4	6.6	13.4	24.6	33.6	12.7	5.7	8	4.6	3.5	**S**	**S**	2.7	2.5	5.7	3.7	22.8	41.3	42.9	49.8	54.8	54.9	54.9	17.9	24
19	50.2	43.5	49.2	62.4	63.5	66.3	64	56.3	45.3	36.6	21.5	17.5	**S**	6.7	7.5	9.2	12.1	21.6	15.7	11.3	9.2	8.5	5.7	5.5	66.3	30.0	24
20	6.9	7.6	8.3	12.4	14	16	27.5	39.3	30.6	16.3	12.1	**S**	9	8.6	7.2	6.2	20.4	31.1	41.4	28.4	16.1	17	14.3	26	41.4	18.1	24
21	25.5	20.3	23.7	23.7	39.9	70.8	29.5	20.6	21.8	5.9	**S**	1.5	1.2	1.3	1.7	2.6	5.8	43.2	40.9	26.8	16.6	24.5	22.1	27.2	70.8	21.6	24
22	24	15.6	24.3	29.6	31.5	32.2	65.6	84	65.8	***188***	29.4	25.9	**S**	**S**	2.9	7.1	16.9	15.5	12.5	11.7	12.6	11.6	7.4	7.4	***188***	***32.8***	24
23	9	7.1	7	7.8	3.9	6.9	9.5	9.6	**S**	8.9	7.8	5.9	5.4	3.4	5.2	8.8	10.1	10.5	11	8.1	12.6	24.3	7.4	4.1	24.3	8.4	24
24	4.6	2.1	2.6	1.6	1.2	1.8	4.3	**S**	1.8	1.8	1.7	1.5	1.5	1	1.4	1.8	7.2	10.9	19.3	16.6	7.1	7.7	6.7	7.1	19.3	4.9	24
25	6.1	12.6	4.1	9	7.2	11.5	**S**	26.4	32.4	31.6	12.2	11.8	4.3	6.8	4.2	3.5	3.6	4.9	6.1	3.2	2	1.4	0.9	0.9	32.4	9.0	24
26	0.7	1	0.9	1	1.1	**S**	1.4	1	1	0.6	0.5	0.3	0.6	0.6	0.5	0.5	0.7	0.7	1.3	1.5	1.3	1.5	1.5	1	1.5	0.9	24
27	0.8	0.8	1	1.1	**S**	1.8	1.4	1.6	1.4	1.3	1.9	1.9	1.5	1.3	1.1	1.6	1.5	1.2	2.6	3.1	1.9	4	6.1	3.8	6.1	1.9	24
28	7.1	7.2	5.8	**S**	8.4	10	6.5	**S**	4.4	3.7	2.9	1.7	1.9	2.7	2.4	3.1	4	4.4	2.2	**S**	3.9	2.2	3	3.4	10	4.3	24
29	2.8	2.3	**S**	2.2	1.8	0.9	0.5	0.5	0.3	0.1	0.3	0.1	0.1	1.5	0.2	0.4	0.5	0.2	0.7	1.3	1	0.6	0.4	0.4	2.8	0.8	24
30	1.5	**S**	3.7	3.8	3	3.5	3.2	7.4	5.4	3.3	2.7	2.6	2.3	2.2	2.4	2.4	2.3	2.8	2.3	2.5	1.6	1.7	1.9	1.9	7.4	2.9	24
31	**S**	3.3	3.3	3.5	2.9	3.2	3.8	3.1	3.4	3.4	3.5	4.3	3.1	3.6	3	4.3	7.7	4.4	4.7	4.5	4.9	6.4	7.6	**P**	7.7	4.2	23
HOURLY MAX	50	44	49	62	64	71	66	85	66	188	29	26	9	9	10	14	20	43	41	41	43	50	55	55			
HOURLY AVG	9.0	9.5	9.8	11.7	12.4	15.9	17.6	20.9	16.7	16.6	6.9	4.7	2.9	3.0	2.8	3.5	5.3	9.2	12.4	11.6	10.3	9.8	8.9	10.0			

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

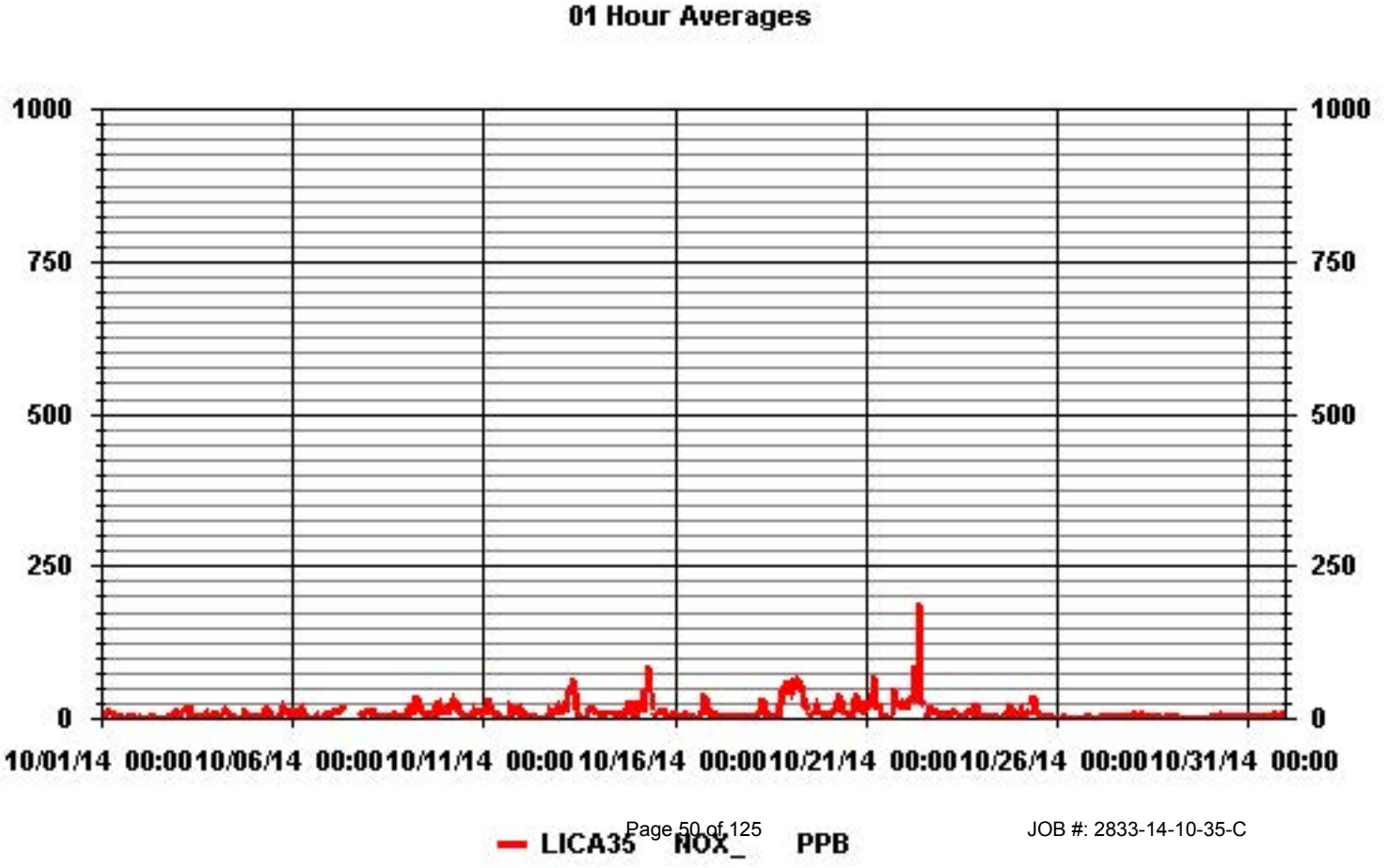
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR NA PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	NA					
NUMBER OF NON-ZERO READINGS:	694					
MAXIMUM 1-HR AVERAGE:	188	PPB	@ HOUR(S)	9	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:	32.8	PPB			ON DAY(S) VAR-VARIOUS	22

IZS CALIBRATION TIME:	36	HRS	OPERATIONAL TIME:	741	HRS
MONTHLY CALIBRATION TIME:	11	HRS	AMD OPERATION UPTIME:	99.6	%
STANDARD DEVIATION:	14.18		MONTHLY AVERAGE:	10.06	PPB



JOB #: 2833-14-10-35-C

Lakeland Industry & Community Association - Elk Point Site

OCTOBER 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	14.8	19.4	19.3	20.2	20.1	21.8	15	**S**	8.7	5.8	3.5	3.1	2.1	3.7	2.5	3.6	3.9	5.1	4.6	3.2	6.8	7.8	5.3	4.6	21.8	8.9	24
2	2.7	2.7	1.8	0.8	1.3	2	**S**	3	3.1	2.6	2.6	2.9	1.5	1.5	0.7	0.8	0.8	1.5	1.7	21.8	11.8	25.1	16.2	27.8	27.8	5.9	24
3	37.2	3.1	18	23.4	17.5	**S**	34	29	14.7	9.5	3.9	3.5	29.6	2.2	4.6	5.8	12.4	25.1	22.8	15.5	9.1	9.5	10.5	9.4	37.2	15.2	24
4	11.3	10.7	5.8	8.4	**S**	44	21.5	13.9	11.9	9.3	35.4	3	2.4	2.5	1.9	1.3	4.2	4.3	41.6	38.9	24.5	3.2	8.3	5.7	44	13.7	24
5	9.7	7.3	7.7	**S**	4.8	7.5	18.8	19.8	27.6	24.5	13.4	1.9	1.6	1.8	1.3	2.3	10.3	50.9	40.9	20.9	23.1	14.5	18.2	17.9	50.9	15.1	24
6	22.4	26.9	**S**	20.6	27.5	7.2	13.3	19.4	18.1	7.5	4.2	2.1	1.7	1.1	1	24.1	0.9	2.2	1.3	7.2	2.3	20.4	16	26.8	27.5	11.9	24
7	17	**S**	21.9	18.1	12.7	15.4	16.4	22.4	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	15.6	13.5	17.1	19.7	15.3	22.4	17.1	24
8	**S**	16.1	17.6	10.6	4.6	13.4	4.8	6.7	**Y**	**Y**	**Y**	8.4	6.7	7.4	10.4	8	10	9.2	5.9	5	7.3	9	6.5	**S**	17.6	8.8	21
9	20.5	27.8	11	25.5	58	57.5	88.5	40.4	22.5	18.7	14.6	10.8	8.8	7.4	7.2	4.6	11.8	19	39.4	22.3	28.4	25.2	**S**	17.5	88.5	25.5	24
10	13.5	11.3	22	20.2	34.1	43.4	54.1	35.6	23.8	13.7	10.8	8	7.8	5.6	5.8	4.8	5.2	9.8	56.8	14.6	25.9	**S**	18.5	13.9	56.8	20.0	24
11	18.3	24.8	23	98	50.6	26	16.6	12.5	16.4	3.9	3.3	3.8	1.7	2.1	2.5	2.6	3.3	48.4	44.2	24.3	**S**	23.1	12.1	30.1	98	21.4	24
12	19.6	7	25	5.9	4.2	5.8	6.2	3.8	3.7	3.7	2.5	1.9	1.5	1.7	2	7.5	7.9	32.1	10.4	**S**	16.3	16.8	22	28.1	32.1	10.2	24
13	16.3	17.6	21.4	22.8	62.3	105.8	49.9	86.4	66.7	63.3	30.7	11.4	4.2	19.4	3.2	3.5	8.2	53.5	**S**	23.8	30.7	21.3	18.3	14.8	105.8	32.8	24
14	17.1	16	14	6.4	11.8	14.7	23.4	13.3	13	10.3	10.6	11.1	10.1	8.9	7.5	8.2	14.7	**S**	24.1	38.8	42.4	21.3	32.5	7.9	42.4	16.4	24
15	49.4	56.6	14.6	54.1	31.1	104.2	88.1	158.8	85.7	72.8	**P**	**S**	32.4	14	14	18.6	**S**	17.3	11.7	11.6	10.9	9	18.5	19.3	158.8	42.5	23
16	12.5	10.3	11.7	3.2	2.6	4.1	18.2	16.4	12.5	4.4	2.9	2.8	2.8	3.9	3.5	**S**	15.6	50.8	86.4	52.7	60.6	33	15.5	9.1	86.4	18.9	24
17	6.3	8.5	7.9	7.3	7	9.6	9.5	6.8	7.3	6.8	6.9	5.2	5.1	4.1	**S**	3.8	4.6	6.8	5.9	4.2	5.6	5.7	6.6	4	9.6	6.3	24
18	5.1	4	6.3	11.8	8.8	21	49.8	78.1	27.4	7.7	10.3	6.2	4.6	**S**	3.9	4	18.2	12.9	67.5	118.1	48.2	53.8	64	63	118.1	30.2	24
19	59.6	108.4	65.6	83.7	82.6	100.6	69.9	95.9	62.6	43.2	25.7	22.6	**S**	8.3	10.5	15.2	50.5	40.3	28.1	19	14.2	12.2	8.2	14.7	108.4	45.3	24
20	14.7	13.8	14.5	20.1	22.3	29.4	61.5	94.4	53	27.5	18.1	**S**	10.3	11	8.9	9.1	69.6	41.7	99.5	118	24.3	24.4	63.6	39.7	118	38.7	24
21	39.7	35.5	32.4	36.8	64.8	97.5	47.2	28.8	38.4	9.5	**S**	2.4	2.2	2.3	3.3	5.4	13.8	87.4	58	61.9	37.6	37.6	58.8	33.7	97.5	36.3	24
22	32	19.8	82.3	42.8	43.4	46	128.4	128.3	87	***529.8***	39	29.8	**S**	**S**	7.1	14.1	31.5	27.8	23.7	21.1	21	16.4	10.1	13.1	***529.8***	***63.4***	24
23	14.7	9.2	8.7	12.7	6.4	13.6	16.1	15	**S**	11.5	10.9	10.4	8	5.3	7.3	11.1	11.5	12.7	13.7	9.7	23.4	61	15.3	8.4	61	13.8	24
24	7.8	6.1	5.7	3.5	2.1	3.8	6	**S**	2.8	2.5	3.3	2.1	2.7	1.9	3.2	3.3	18.4	22	55.9	27.1	14.8	12.7	8.2	12.8	55.9	9.9	24
25	9.2	18.9	8.1	25.5	9.7	29.2	**S**	39.5	50.1	48.9	17.5	14.8	9.6	10.2	7.6	7.2	4.2	8.1	9.9	4.6	3.3	2.4	1.5	1.4	50.1	14.8	24
26	1.3	1.6	1.7	1.7	1.6	**S**	2.8	1.6	1.6	1.2	1	0.8	1	1	1	1	1.1	1.2	1.9	2	1.8	2	2.1	1.5	2.8	1.5	24
27	1.2	1.4	1.5	1.7	**S**	2.8	2	2.2	1.9	1.9	2.6	2.6	2.2	1.8	1.5	2.6	2.1	2	9.7	9.1	3.3	11.9	11.9	8.3	11.9	3.8	24
28	11.7	11.9	11.1	**S**	19.7	23.9	13.7	**S**	7.2	7	6.7	2.9	4	5.1	4.5	4.8	7.1	9.8	4.9	**S**	6.2	3.6	6.2	5.8	23.9	8.5	24
29	5.9	3.1	**S**	3.8	2.4	1.6	1.1	1.2	1.1	0.8	0.8	0.6	0.6	51.1	1.4	1.1	1.2	0.9	1.7	2.4	2.1	2.1	1.1	1.2	51.1	3.9	24
30	3.2	**S**	6	6.4	5.6	7	7.4	43.6	30.8	4.5	4.1	4.6	3.5	4.4	3.4	3.8	4.1	4.8	3.7	4.6	2.8	3	3.9	2.7	43.6	7.3	24
31	**S**	4.8	4	4.7	4.6	5.2	5.9	5.9	4.6	4.8	4.9	5.2	4.5	5.5	4	6.5	12.4	8.1	6.1	5.1	6.2	12.8	16.5	**P**	16.5	6.5	23
HOURLY MAX	60	108	82	98	83	106	128	159	87	530	39	30	32	51	14	24	70	87	100	118	61	61	64	63			
HOURLY AVG	17.1	17.4	16.9	20.7	21.5	29.8	30.7	36.5	25.2	33.0	10.7	6.6	6.2	7.0	4.7	6.5	12.4	21.2	27.0	24.9	17.6	17.3	17.2	15.8			

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: 692

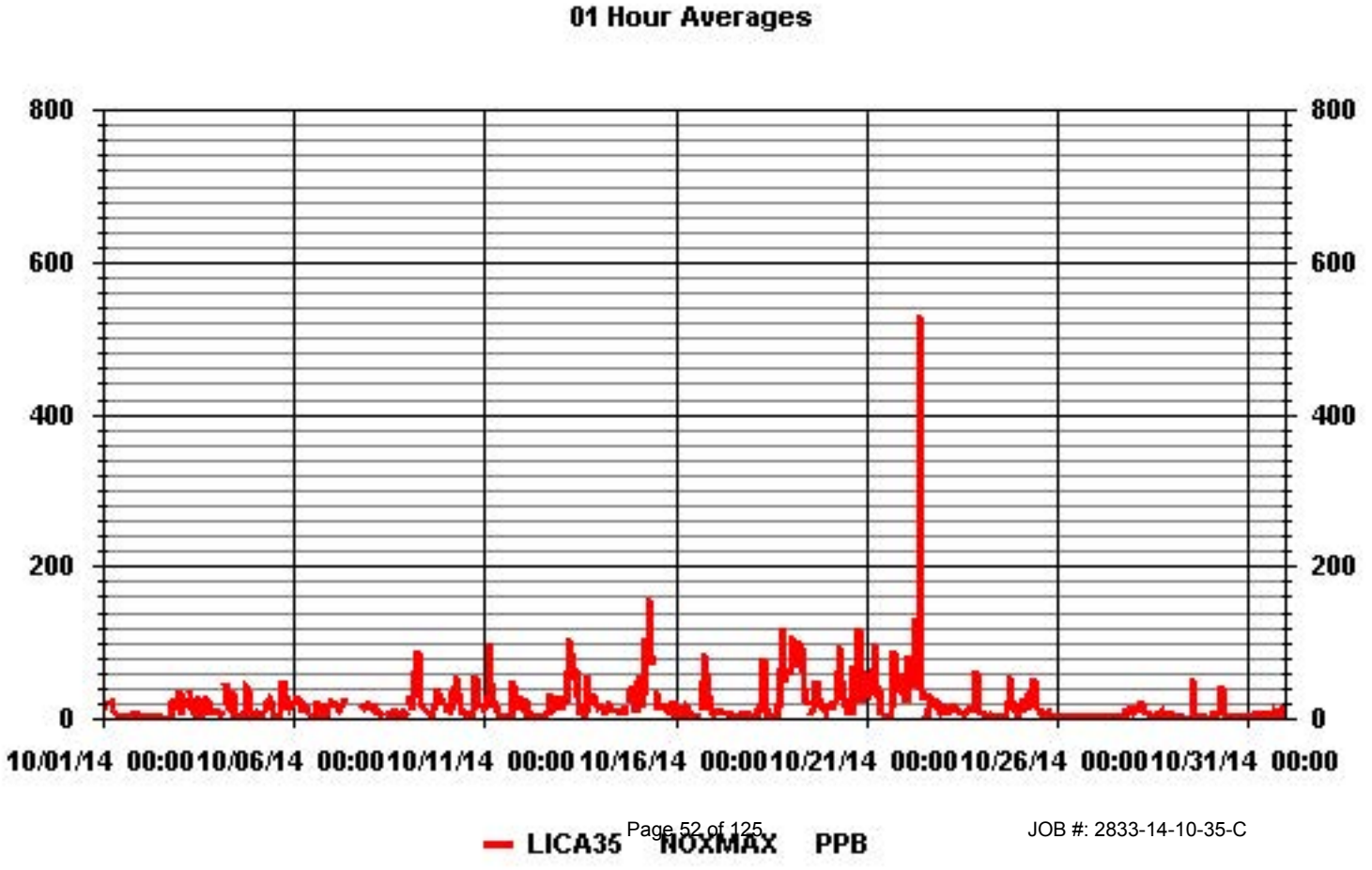
MAXIMUM INSTANTANEOUS VALUE: 529.8 PPB @ HOUR(S) 9 ON DAY(S) 22

VAR-VARIOUS

IZS CALIBRATION TIME: 36 HRS OPERATIONAL TIME: 739 HRS

MONTHLY CALIBRATION TIME: 11 HRS

STANDARD DEVIATION: 29.39



JOB #: 2833-14-10-35-C

LICA-ELK
NOX_ / WDR Joint Frequency Distribution (Percent)

October 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	1.00	2.16	2.16	2.44	9.22	17.00	10.37	2.16	2.30	1.00	.86	7.34	13.25	13.11	10.51	2.44	97.40
<	110.0	.00	.00	.00	.28	.14	.14	.14	.28	.00	.00	.14	.14	.28	.14	.57	.14	2.44
<	210.0	.00	.00	.00	.00	.14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14
>=	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	1.00	2.16	2.16	2.73	9.51	17.14	10.51	2.44	2.30	1.00	1.00	7.49	13.54	13.25	11.09	2.59	

Calm : .00 %

Total # Operational Hours : 694

Distribution By Samples

		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	7	15	15	17	64	118	72	15	16	7	6	51	92	91	73	17	676
<	110.0				2	1	1	1	2			1	1	2	1	4	1	17
<	210.0					1												1
>=	210.0																	
	Totals	7	15	15	19	66	119	73	17	16	7	7	52	94	92	77	18	

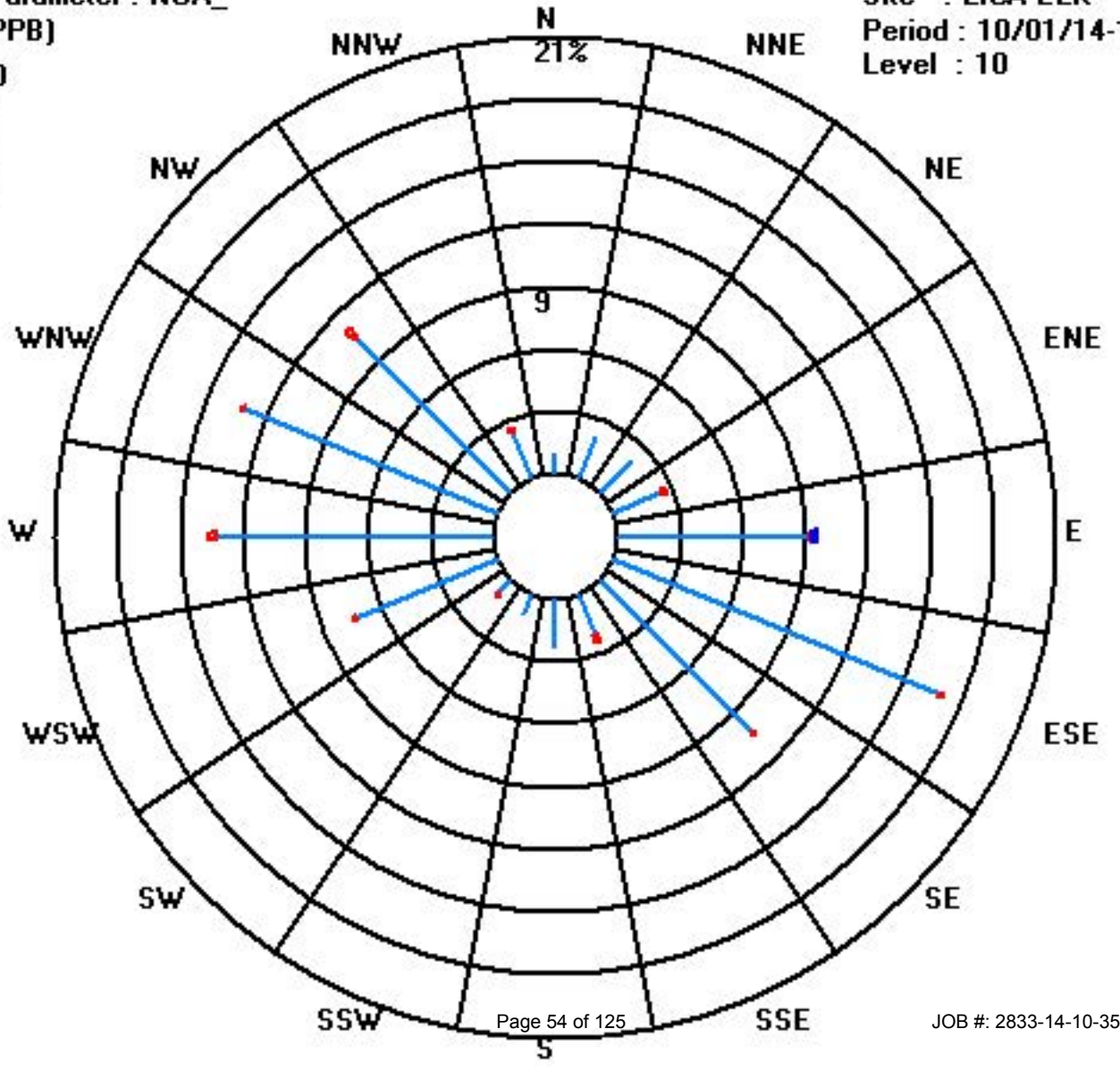
Calm : .00 %

Total # Operational Hours : 694

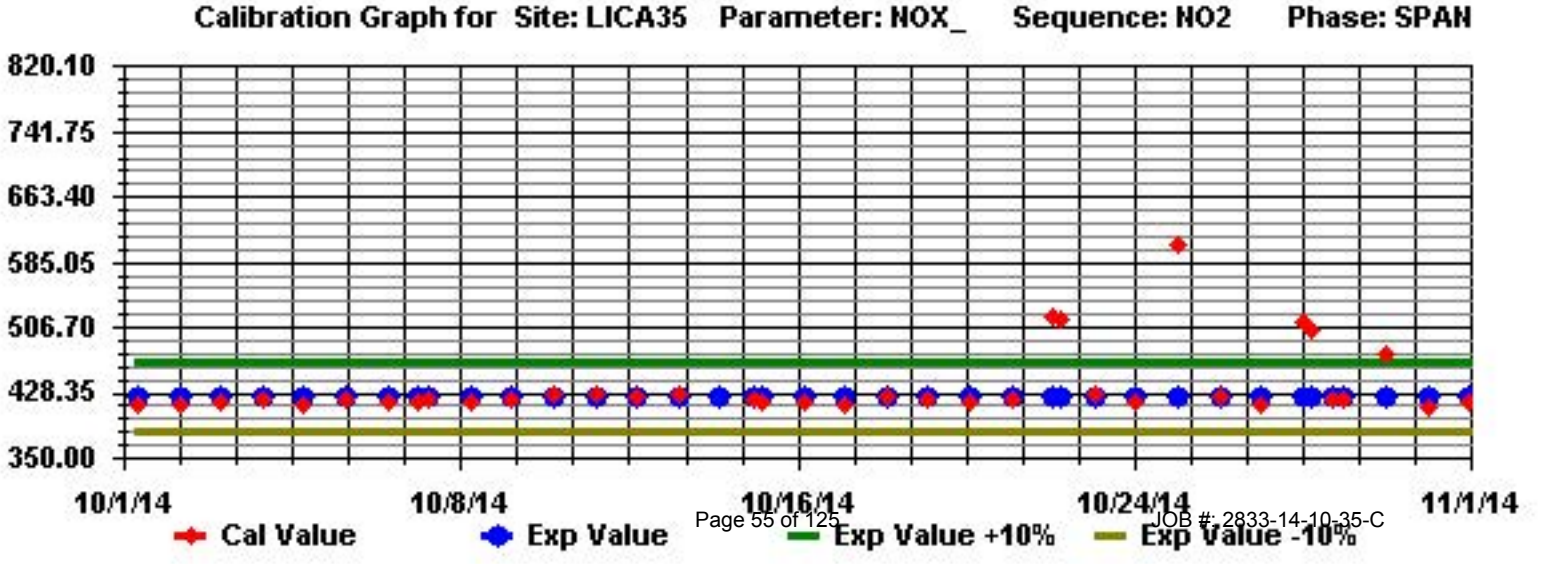
Logger : 35 Parameter : NOX_
Class Limits (PPB)

>= 210.0
< 210.0
< 110.0
< 50.0

Site : LICA-ELK
Period : 10/01/14-10/31/14
Level : 10



JOB #: 2833-14-10-35-C


Calibration Graph for Site: LICA35 Parameter: NOX_ Sequence: NO2 Phase: SPAN
820.10
741.75
663.40
585.05
506.70
428.35
350.00
10/1/14
10/8/14
10/16/14
10/24/14
11/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ozone

Lakeland Industry & Community Association - St. Lina Site

OCTOBER 2014

OZONE (O3) hourly averages in ppb

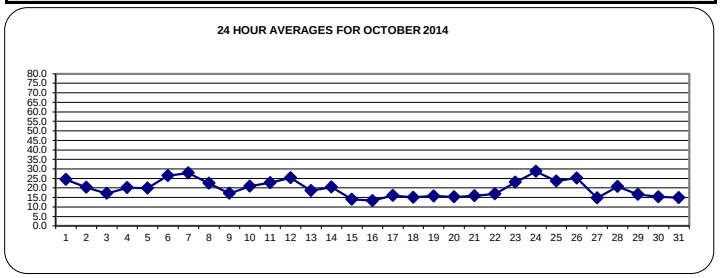
MST

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	21	16	18	13	10	11	12	**S**	17	23	27	32	35	36	35	38	37	35	33	33	30	24	14	11	38	24.4	24
2	12	14	16	18	17	17	**S**	18	21	23	24	24	24	25	26	27	27	26	25	19	17	18	14	13	27	20.2	24
3	15	17	10	9	7	**S**	6	8	14	17	22	24	24	25	25	24	22	23	17	18	19	18	14	15	25	17.1	24
4	15	13	18	16	**S**	8	5	5	9	14	19	24	27	30	32	32	31	30	20	23	24	28	20	19	32	20.1	24
5	13	11	10	**S**	13	11	5	5	5	9	17	27	31	34	37	38	34	30	18	22	21	26	24	17	38	19.9	24
6	19	14	**S**	16	12	26	23	13	15	25	29	29	32	34	36	36	35	34	38	33	33	29	26	22	38	26.5	24
7	29	**S**	20	20	21	18	16	13	19	24	36	39	41	41	40	40	***43***	**S**	**S**	29	28	24	22	21	***43***	27.8	24
8	**S**	18	14	23	26	23	23	23	**C**	**C**	**C**	**C**	**C**	**C**	**C**	25	24	22	25	24	22	22	22	**S**	26	22.4	24
9	17	11	12	4	6	2	1	5	9	11	16	19	26	27	31	36	32	31	19	20	14	24	**S**	20	36	17.1	24
10	22	20	11	9	6	3	7	6	15	17	22	28	35	36	37	37	38	34	24	24	17	**S**	15	16	38	20.8	24
11	11	12	3	2	5	8	14	17	25	33	35	38	39	40	40	40	39	23	24	18	**S**	18	22	16	40	22.7	24
12	20	30	21	26	26	23	24	24	26	28	29	31	33	34	34	33	33	23	26	**S**	17	17	14	10	34	25.3	24
13	13	12	8	7	2	1	1	2	4	8	20	30	36	38	39	39	38	25	**S**	20	20	20	23	22	39	18.6	24
14	23	24	23	24	22	21	17	17	16	18	20	23	27	28	27	25	23	**S**	12	6	7	18	23	25	28	20.4	24
15	23	9	19	12	20	9	1	1	2	6	16	19	20	19	20	16	**S**	11	15	18	18	19	16	14	23	14.0	24
16	13	12	14	16	14	13	12	7	11	14	19	21	21	24	27	**S**	24	17	4	2	2	5	6	7	27	13.3	24
17	7	4	5	5	7	8	8	9	10	12	15	18	19	26	**S**	30	28	26	26	24	23	21	18	18	30	16.0	24
18	15	14	11	8	7	4	1	2	10	16	19	29	31	**S**	38	38	35	36	19	7	1	1	1	1	38	15.0	24
19	1	2	1	1	1	1	1	1	4	8	14	17	**S**	35	39	36	33	20	24	25	26	25	25	23	39	15.8	24
20	20	18	16	10	10	7	3	3	6	13	17	**S**	24	27	31	34	21	10	9	12	18	14	19	9	34	15.3	24
21	10	10	6	4	1	1	4	6	11	26	**S**	36	39	39	39	36	29	5	4	14	19	11	10	6	39	15.9	24
22	6	11	5	2	1	1	1	1	3	**S**	13	19	34	38	40	37	25	24	24	22	20	19	22	20	40	16.9	24
23	19	21	21	19	22	18	13	12	**S**	14	17	25	27	33	34	30	29	29	26	27	20	14	28	30	34	23.0	24
24	29	30	30	30	31	30	27	**S**	29	30	31	30	33	35	35	35	30	25	18	20	27	25	26	24	35	***28.7***	24
25	24	18	26	21	19	14	**S**	9	7	11	20	21	29	27	31	30	29	27	26	28	29	31	32	32	32	23.5	24
26	32	31	29	29	28	**S**	28	27	26	26	26	27	28	28	28	27	26	26	23	20	18	16	15	16	32	25.2	24
27	16	16	17	17	**S**	17	14	13	12	12	12	13	14	15	17	16	16	17	15	15	16	14	12	13	17	14.7	24
28	9	9	14	**S**	17	11	18	21	25	25	27	27	27	26	26	25	24	22	23	22	21	21	19	18	27	20.7	24
29	19	19	**S**	19	18	18	17	16	15	17	16	18	18	18	17	16	17	17	16	14	14	14	14	13	19	16.5	24
30	12	**S**	11	12	13	13	12	10	15	14	16	16	17	15	13	15	17	18	18	19	20	20	19	17	20	15.3	24
31	**S**	17	16	15	15	14	14	15	14	14	15	17	19	19	19	18	13	15	15	14	12	9	8	**P**	19	14.9	23
HOURLY MAX	32	31	30	30	31	30	28	27	29	33	36	39	41	41	40	40	43	36	38	33	33	31	32	32			
HOURLY AVG	16.7	15.6	14.7	14.0	13.7	12.1	11.3	10.7	13.6	17.5	21.0	24.9	27.9	29.4	30.8	30.3	28.4	23.5	20.2	19.7	19.1	18.8	18.1	16.8			

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

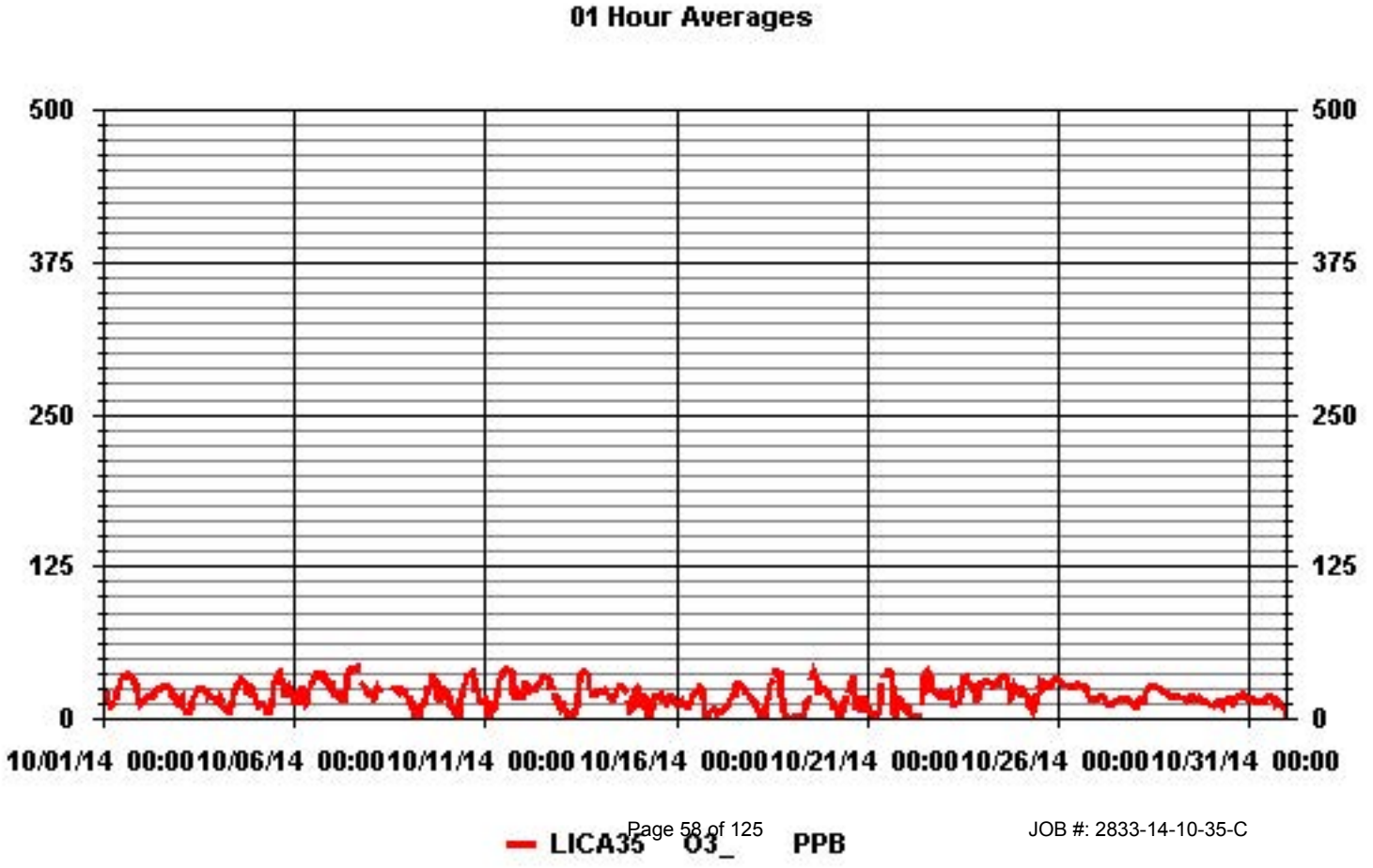
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 82 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	702					
MAXIMUM 1-HR AVERAGE:	43	PPB	@ HOUR(S)	16	ON DAY(S)	7
MAXIMUM 24-HR AVERAGE:	28.7	PPB			ON DAY(S) VAR-VARIOUS	24
IZS CALIBRATION TIME:	34	HRS	OPERATIONAL TIME:		743	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:		99.9	%
STANDARD DEVIATION:	9.55		MONTHLY AVERAGE:		19.56	PPB

JOB #: 2833-14-10-35-C



JOB #: 2833-14-10-35-C

Lakeland Industry & Community Association - Elk Point Site

OCTOBER 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	26	21	22	22	15	20	14	**S**	20	27	29	34	38	38	37	40	39	37	36	34	34	27	20	12	40	27.9	24
2	13	16	18	18	18	18	**S**	20	24	25	25	25	25	26	28	28	28	26	26	24	23	22	19	19	28	22.3	24
3	19	19	17	13	10	**S**	10	13	16	23	24	24	26	26	27	26	25	25	21	21	20	20	17	17	27	20.0	24
4	17	17	19	19	**S**	11	7	8	11	18	21	26	30	32	33	34	33	33	30	29	30	30	26	22	34	23.3	24
5	17	14	13	**S**	15	12	12	6	6	10	25	30	32	37	39	40	38	35	28	29	28	31	32	22	40	24.0	24
6	25	21	**S**	21	23	32	32	16	20	29	31	30	33	36	40	39	35	39	39	37	34	34	32	31	40	30.8	24
7	31	**S**	31	25	25	23	20	17	21	36	38	40	42	42	***43***	42	***43***	**S**	**S**	34	34	32	28	25	***43***	***32.0***	24
8	**S**	22	20	26	26	27	25	25	**C**	**C**	**C**	**C**	**C**	**C**	**C**	27	26	25	27	26	25	24	24	**S**	27	25.0	24
9	22	16	16	7	9	5	2	9	13	14	18	21	29	29	35	37	36	35	33	28	23	27	**S**	26	37	21.3	24
10	23	22	17	16	12	10	12	10	17	21	24	33	36	39	39	39	40	38	32	28	24	**S**	19	19	40	24.8	24
11	15	18	6	7	12	13	17	21	33	36	38	40	40	41	41	41	41	36	31	23	**S**	26	26	23	41	27.2	24
12	29	31	31	29	28	24	26	25	27	29	31	32	34	35	35	35	35	32	33	**S**	23	24	18	24	35	29.1	24
13	23	20	14	13	7	4	2	3	5	11	28	38	37	39	40	40	40	36	**S**	26	26	26	27	27	40	23.1	24
14	26	27	25	25	25	25	21	20	19	19	21	27	29	29	28	27	26	**S**	21	12	14	27	29	28	29	23.9	24
15	28	20	24	22	27	26	1	3	7	15	**P**	22	22	21	22	21	**S**	14	21	20	22	21	21	17	28	19.0	23
16	17	15	17	17	16	15	17	13	14	16	21	22	23	27	28	**S**	30	25	16	8	5	8	8	8	30	16.8	24
17	8	6	6	6	7	9	9	10	11	14	17	19	20	29	**S**	32	29	29	27	25	24	23	21	19	32	17.4	24
18	17	15	13	11	9	7	2	5	16	17	27	31	34	**S**	39	39	40	40	32	22	3	1	1	1	40	18.3	24
19	4	8	1	1	1	1	1	2	6	12	16	21	**S**	39	***43***	41	42	31	32	32	30	27	27	25	***43***	19.3	24
20	22	21	20	16	14	13	8	5	9	18	21	**S**	26	30	33	36	36	18	19	22	23	20	23	16	36	20.4	24
21	17	13	10	9	3	1	9	8	22	31	**S**	38	40	41	41	39	34	14	12	24	26	15	15	11	41	20.6	24
22	13	18	9	6	3	2	1	3	4	**S**	20	26	39	40	42	42	35	30	30	27	25	24	24	24	42	21.2	24
23	22	23	22	23	23	22	18	15	**S**	16	20	28	31	36	38	33	32	31	30	29	28	24	33	33	38	26.5	24
24	33	33	32	32	32	31	29	**S**	30	32	34	31	35	36	36	36	37	33	29	28	33	28	28	28	37	***32.0***	24
25	26	24	29	28	26	19	**S**	17	10	23	26	25	33	31	33	32	30	29	28	29	31	32	33	33	33	27.3	24
26	32	33	30	29	29	**S**	29	28	26	26	27	29	28	29	29	29	28	26	25	21	20	18	16	17	33	26.3	24
27	17	17	18	18	**S**	18	16	14	13	14	13	14	15	18	19	18	16	18	17	16	17	16	15	15	19	16.2	24
28	12	14	26	**S**	28	26	27	28	27	28	28	30	28	28	28	26	25	24	24	23	22	22	22	20	30	24.6	24
29	21	20	**S**	20	19	18	18	17	16	17	17	19	18	19	19	17	17	18	17	17	14	15	14	14	21	17.4	24
30	13	**S**	13	15	15	15	13	12	17	16	18	19	20	19	14	17	18	19	19	21	22	22	20	18	22	17.2	24
31	**S**	18	18	16	16	15	15	15	15	15	17	19	21	20	20	20	18	17	16	15	14	12	10	**P**	21	16.5	23
HOURLY MAX	33	33	32	32	32	32	32	28	33	36	38	40	42	42	43	42	43	40	39	37	34	34	33	33			
HOURLY AVG	20.3	19.4	18.5	17.6	17.0	15.9	14.2	13.4	16.4	21.0	24.1	27.3	29.8	31.4	32.7	32.4	31.7	28.0	25.9	24.3	23.2	22.6	21.6	20.5			

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: 701

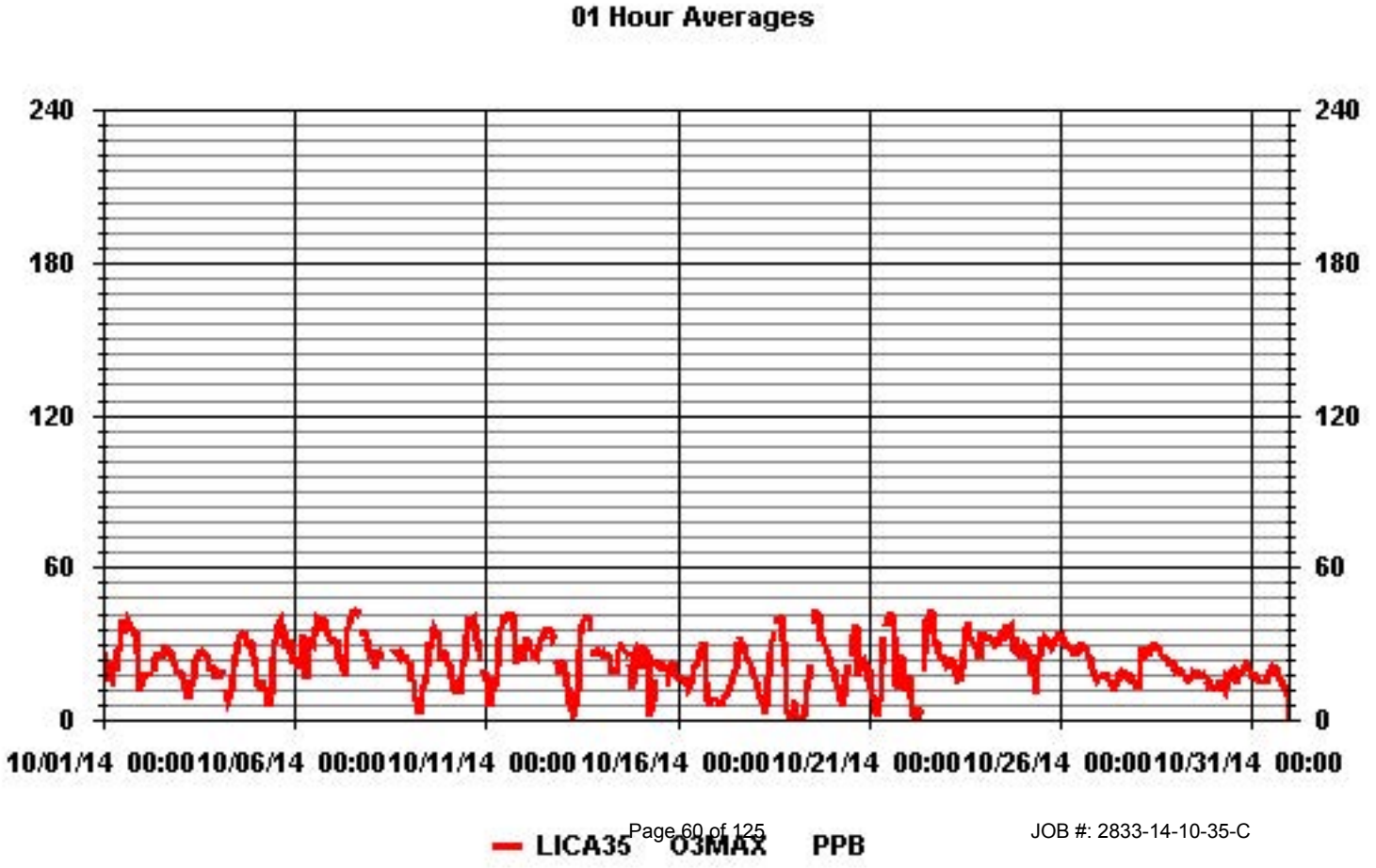
MAXIMUM INSTANTANEOUS VALUE: 43 PPB @ HOUR(S) VAR ON DAY(S) 7, 19

VAR-VARIOUS

IZS CALIBRATION TIME: 34 HRS OPERATIONAL TIME: 742 HRS

MONTHLY CALIBRATION TIME: 7 HRS

STANDARD DEVIATION: 9.51



JOB #: 2833-14-10-35-C

LICA-ELK
O3_ / WDR Joint Frequency Distribution (Percent)

October 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	1.13	2.13	2.13	2.70	9.25	16.38	10.68	2.42	2.27	1.13	.99	7.40	13.53	13.24	11.96	2.56	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	1.13	2.13	2.13	2.70	9.25	16.38	10.68	2.42	2.27	1.13	.99	7.40	13.53	13.24	11.96	2.56	

Calm : .00 %

Total # Operational Hours : 702

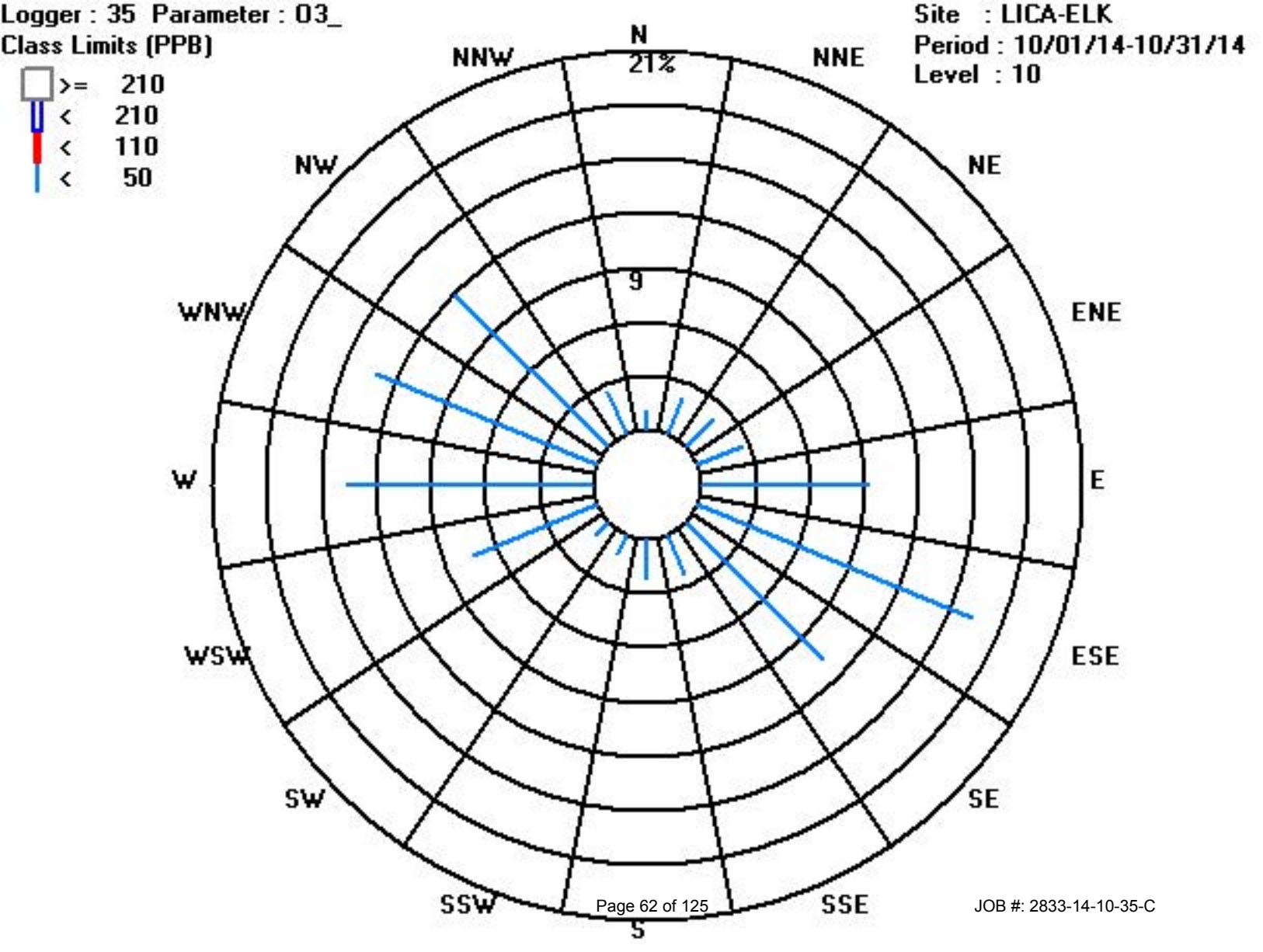
Distribution By Samples

Direction

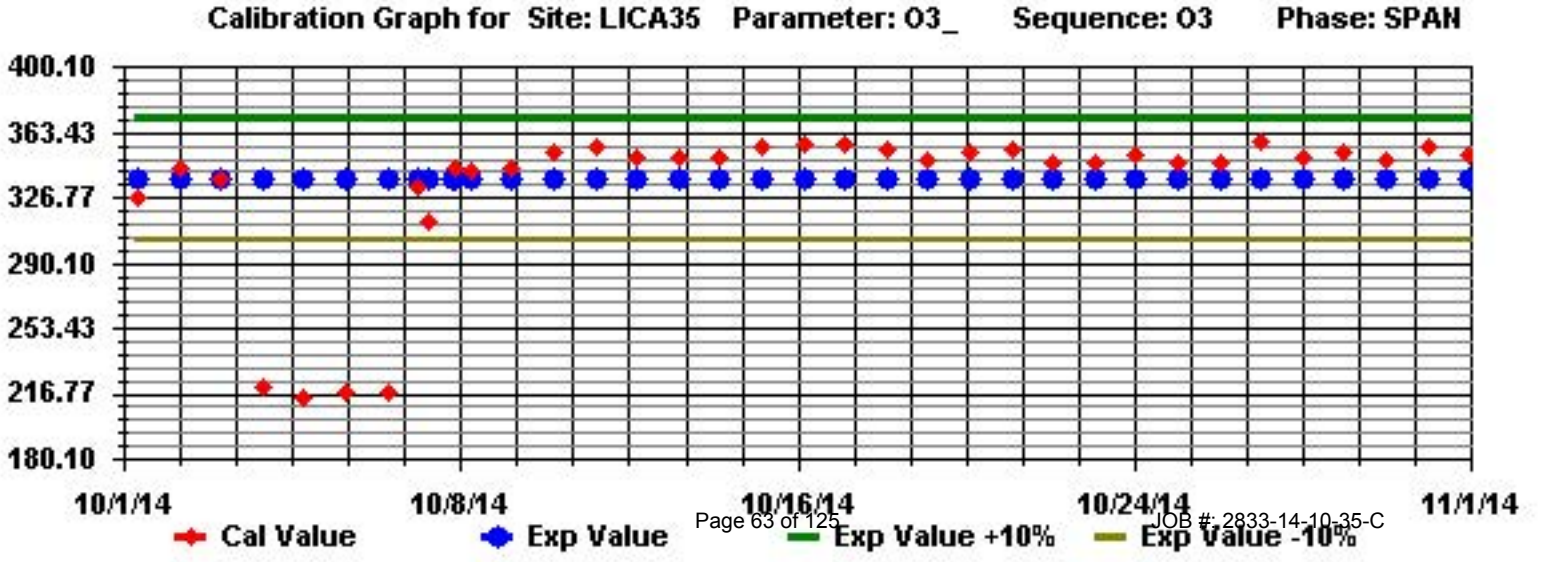
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	8	15	15	19	65	115	75	17	16	8	7	52	95	93	84	18	702
< 110																	
< 210																	
>= 210																	
Totals	8	15	15	19	65	115	75	17	16	8	7	52	95	93	84	18	

Calm : .00 %

Total # Operational Hours : 702



JOB #: 2833-14-10-35-C


Calibration Graph for Site: LICA35 Parameter: O3_ Sequence: O3 Phase: SPAN
400.10
363.43
326.77
290.10
253.43
216.77
180.10
10/1/14
10/8/14
10/16/14
10/24/14
11/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Hydrocarbons (55i)

Lakeland Industry & Community Association - Elk Point Site

OCTOBER 2014

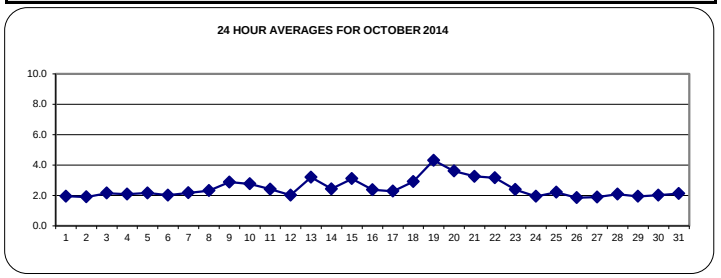
TOTAL HYDROCARBONS (THC) hourly averages in ppm

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	**R**	2.1	2.0	2.3	2.6	2.2	2.0	**S**	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	1.9	2.0	2.0	1.9	1.9	2.6	2.0	23
2	1.8	1.8	1.8	1.8	1.9	1.9	**S**	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.9	1.9	2.0	2.1	2.1	2.2	2.1	2.2	1.9	24
3	2.0	2.0	2.3	2.3	2.3	**S**	2.3	2.2	2.0	2.1	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.5	2.3	2.2	2.3	2.6	2.6	2.6	2.2	24
4	2.7	2.8	2.3	2.3	**S**	2.8	2.2	2.1	2.1	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	2.3	2.0	2.0	1.9	2.1	2.1	2.8	2.1	24
5	2.1	2.2	2.2	**S**	1.9	1.9	2.4	2.5	2.8	2.5	2.1	1.8	1.8	1.8	1.8	1.8	1.8	2.1	2.8	2.5	2.3	2.2	2.1	2.5	2.8	2.2	24
6	2.4	2.6	**S**	2.1	2.7	2.0	2.0	2.3	2.2	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	2.2	2.2	2.7	2.0	24
7	1.9	**S**	2.4	2.4	2.2	2.0	2.1	2.1	2.1	2.1	1.8	1.8	1.8	1.8	**C**	**C**	**C**	**C**	**C**	**C**	2.5	2.7	2.5	2.7	2.7	2.2	24
8	**S**	3.1	3.4	2.8	2.3	2.2	2.2	2.1	2.2	2.2	2.2	2.1	2.0	2.0	2.1	2.2	2.4	2.2	2.1	2.2	2.3	2.3	2.3	**S**	3.4	2.3	24
9	2.4	3.1	2.7	3.2	3.4	3.8	3.6	3.6	3.4	3.3	3.1	2.7	2.4	2.4	2.3	2.1	2.4	2.3	2.4	2.9	2.8	2.7	**S**	3.2	3.8	2.9	24
10	3.1	3.0	3.1	3.2	3.4	3.5	3.5	3.4	3.4	3.3	2.7	2.3	2.0	1.9	1.9	1.9	1.9	2.1	3.1	2.5	2.9	**S**	2.7	2.7	3.5	2.8	24
11	2.8	2.9	3.7	4.7	3.4	3.0	2.2	2.2	2.1	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.9	2.6	2.1	2.2	**S**	2.5	2.1	2.4	4.7	2.4	24
12	2.5	1.9	2.3	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.4	2.0	**S**	2.3	2.2	2.2	2.6	2.6	2.0	24
13	2.5	2.5	3.0	2.9	3.4	4.2	4.2	7.8	5.5	4.5	2.5	2.1	2.1	2.0	1.9	2.0	2.0	2.7	**S**	3.0	3.5	3.4	3.2	2.7	7.8	3.2	24
14	2.7	2.8	2.6	2.4	2.3	2.4	2.4	2.6	2.6	2.4	2.5	2.5	2.3	2.1	2.0	1.9	1.9	**S**	2.6	3.0	3.2	2.5	2.0	2.3	3.2	2.4	24
15	2.4	4.3	3.1	3.1	2.5	3.5	4.2	6.4	5.5	4.1	2.8	2.5	2.4	2.5	2.6	2.7	**S**	3.3	2.7	2.3	2.2	2.1	2.1	2.1	6.4	3.1	24
16	2.1	2.2	2.1	2.0	2.0	2.0	2.0	2.2	2.1	2.1	1.9	1.9	2.0	2.0	1.9	**S**	2.0	2.6	4.2	3.1	3.2	3.4	3.1	2.7	4.2	2.4	24
17	2.6	2.8	2.6	2.6	2.5	2.4	2.5	2.4	2.3	2.3	2.3	2.1	2.0	2.0	**S**	2.0	2.1	2.2	2.1	2.1	2.1	2.1	2.2	2.1	2.8	2.3	24
18	2.1	2.2	2.2	2.5	2.8	2.9	3.4	4.1	2.6	2.1	2.0	1.9	1.9	**S**	1.9	1.9	2.0	1.9	2.9	3.8	4.4	4.6	5.3	5.6	5.6	2.9	24
19	5.7	4.4	5.3	6.5	7.6	6.8	7.0	6.1	6.5	6.2	4.2	4.0	**S**	2.3	2.1	2.2	2.3	3.4	3.1	2.5	2.6	2.9	2.6	2.9	7.6	***4.3***	24
20	2.6	2.6	2.6	3.2	3.6	3.7	3.7	4.2	3.7	3.2	2.7	**S**	2.5	2.5	2.2	2.1	***8.1***	7.5	4.0	4.6	3.1	3.6	3.1	3.7	***8.1***	3.6	24
21	3.6	5.1	4.7	5.0	5.2	6.4	3.9	2.8	2.6	2.1	**S**	1.8	1.8	1.8	1.8	1.8	2.2	3.9	4.6	3.1	2.4	2.6	2.6	3.1	6.4	3.3	24
22	3.1	2.8	2.9	3.5	3.2	3.7	3.8	4.5	5.6	**S**	4.1	4.1	2.4	2.0	1.9	2.1	2.9	2.9	2.8	2.8	2.9	2.9	2.8	3.0	5.6	3.2	24
23	3.4	3.2	3.1	2.9	2.5	2.5	2.6	2.6	**S**	2.9	2.5	2.2	2.1	1.9	1.8	1.9	1.9	1.9	2.1	2.2	2.4	2.3	2.1	2.0	3.4	2.4	24
24	2.0	1.9	1.9	1.9	1.9	1.9	1.9	**S**	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.9	2.1	2.1	2.3	2.1	1.9	2.0	2.0	2.0	2.3	1.9	24
25	2.0	2.3	1.9	2.2	2.1	2.4	**S**	2.2	2.5	3.0	2.4	2.6	2.2	2.4	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.0	1.9	1.9	3.0	2.2	24
26	1.9	1.9	1.9	1.9	1.9	**S**	1.8	1.8	1.9	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	1.9	1.9	1.9	24
27	1.8	1.8	1.8	1.9	**S**	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.9	1.9	1.9	2.0	2.0	2.1	2.1	1.9	24
28	2.4	2.4	2.3	**S**	2.0	2.4	2.2	2.0	2.0	2.1	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.1	2.2	2.4	2.1	24
29	2.1	2.1	**S**	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	1.9	1.9	1.9	2.0	1.9	1.9	2.0	2.1	1.9	24
30	2.0	**S**	2.1	2.0	2.1	2.1	2.0	2.2	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	2.2	2.0	24
31	**S**	2.1	2.1	2.1	2.1	2.0	2.1	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.3	2.2	2.2	2.3	2.3	2.3	2.3	**P**	2.3	2.1	23
HOURLY MAX	6	5	5	7	8	7	7	8	7	6	4	4	3	3	3	3	8	8	5	5	4	5	5	6			
HOURLY AVG	2.5	2.7	2.6	2.7	2.7	2.8	2.8	3.0	2.8	2.5	2.3	2.2	2.0	2.0	1.9	2.0	2.2	2.5	2.5	2.5	2.4	2.4	2.4	2.5			

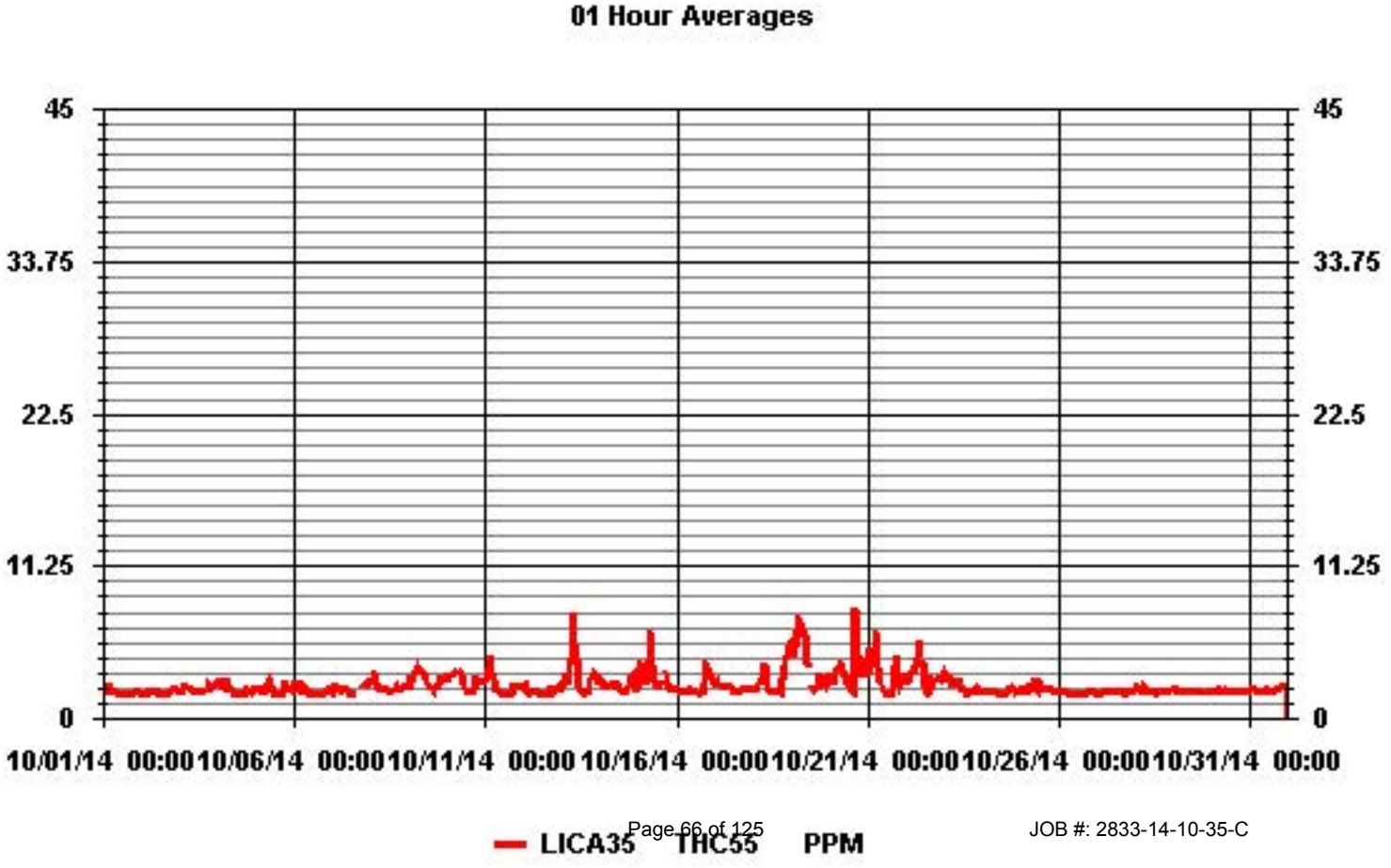
STATUS FLAG CODES

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:	704					
MAXIMUM 1-HR AVERAGE:	8.1	PPM	@ HOUR(S)	16	ON DAY(S)	20
MAXIMUM 24-HR AVERAGE:	4.3	PPM			ON DAY(S)	19
					VAR-VARIOUS	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		742	HRS
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:		99.7	%
STANDARD DEVIATION:	0.90		MONTHLY AVERAGE:		2.45	PPM



JOB #: 2833-14-10-35-C

Lakeland Industry & Community Association - Elk Point Site

OCTOBER 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	**P**	2.98	2.58	2.94	2.99	2.68	2.1	**S**	1.99	1.96	1.96	1.9	1.88	2.08	2.01	1.96	1.92	1.98	1.97	2.07	2.29	2.33	2.08	2.04	2.99	2.2	23
2	2	1.91	1.92	1.89	1.97	1.96	**S**	1.97	1.94	1.92	1.92	1.94	1.92	1.92	1.91	1.91	1.93	1.98	2.05	2.66	2.43	2.39	2.68	2.41	2.68	2.1	24
3	2.4	2.33	3.27	2.61	2.53	**S**	2.76	2.56	2.15	2.21	2.04	2.01	3	1.99	2.13	2.15	2.33	2.48	3.61	2.86	2.28	2.6	2.84	2.88	3.61	2.5	24
4	3.29	3.21	2.57	2.54	**S**	3.18	2.66	2.33	2.21	2.11	2.23	1.89	1.85	1.87	1.85	1.84	1.9	2.14	3.48	3.42	2.26	2.02	2.71	2.24	3.48	2.4	24
5	2.31	2.75	2.4	**S**	2.04	2.02	3.03	2.59	3.45	3.3	2.45	1.9	1.9	1.88	1.86	1.86	1.96	5.29	3.58	3.16	2.94	2.44	2.43	2.87	5.29	2.6	24
6	2.9	3.59	**S**	2.61	3.67	2.28	2.35	2.84	2.78	2.07	1.9	1.94	1.88	1.84	1.85	1.86	1.87	1.9	1.9	2.03	2.01	2.21	2.89	2.91	3.67	2.4	24
7	2.75	**S**	3.75	3.63	2.36	2.21	2.28	2.22	2.16	2.32	1.91	1.9	1.88	**C**	**C**	**C**	**C**	**C**	**C**	**C**	3.76	3.2	3.19	2.91	3.76	2.7	24
8	**S**	3.84	7.05	5.58	2.44	2.42	2.33	2.23	2.34	2.33	2.31	2.33	2.09	2.08	2.14	2.43	2.5	2.38	2.28	2.53	2.57	2.64	2.52	**S**	7.05	2.8	24
9	3.79	4.14	2.92	3.52	3.88	4.94	4.43	4.24	4.24	3.48	3.44	3.04	2.62	2.6	2.6	2.27	2.57	2.57	2.88	3.28	3.36	3.14	**S**	4.29	4.94	3.4	24
10	4.31	3.55	3.54	3.73	3.81	4.02	4	3.92	3.83	3.73	3.28	2.72	2.13	2.04	2.18	2.13	2.11	2.5	4.02	3.03	3.67	**S**	3	3.45	4.31	3.2	24
11	3.27	3.5	4.81	10.67	4.74	5.02	2.88	2.52	2.61	2	2.12	2	1.91	2.01	2.02	1.99	2	4.83	2.23	2.48	**S**	2.94	2.27	3.4	10.67	3.2	24
12	2.81	2.17	3.01	2.13	1.98	2.03	2.01	2.08	2.03	1.98	1.91	1.92	1.96	1.94	1.91	1.92	1.99	3.06	2.21	**S**	2.56	2.39	2.39	4.24	4.24	2.3	24
13	3.21	2.91	3.5	3.49	5.24	6.18	5.92	10.02	6.3	5.95	3.72	2.3	2.34	2.17	2.05	2.2	2.22	4.6	**S**	3.71	4.19	4.33	3.65	2.98	10.02	4.1	24
14	3.1	3.24	3.03	2.95	2.46	2.55	2.68	2.93	2.89	2.71	2.71	2.66	2.55	2.51	2.13	2.1	2.09	**S**	2.9	3.67	3.86	3.39	2.28	3.03	3.86	2.8	24
15	3.31	7.07	4.43	4.28	4.28	7.51	7.1	10.6	7.34	5.95	**P**	2.64	2.54	2.89	3	3.3	**S**	4.46	3.14	2.81	2.7	2.25	2.5	2.41	10.6	4.4	23
16	2.33	2.33	2.33	2.1	2.08	2.08	2.13	2.48	2.38	2.3	2.01	2.02	2.02	2.06	2.11	**S**	2.25	3.34	9.66	3.72	3.87	4.28	3.48	2.99	9.66	2.9	24
17	2.8	2.92	2.84	2.73	2.62	2.61	2.93	2.57	2.44	2.35	2.69	2.22	2.12	2.16	**S**	2.23	2.23	2.39	2.2	2.2	2.24	2.24	2.33	2.29	2.93	2.5	24
18	2.19	2.3	2.36	3.83	3.33	3.48	4.32	5.87	3.6	2.23	2.19	2.12	2.03	**S**	1.95	2.02	2.44	2.92	4.24	7.39	4.92	5.18	5.89	6.39	7.39	3.6	24
19	6.98	5.71	6.46	7.56	9.47	7.83	8.25	6.5	7.44	7.42	4.71	4.8	**S**	2.74	2.33	2.43	3.42	4.69	4.82	2.94	3.19	3.69	2.98	3.3	9.47	5.2	24
20	3.62	3.05	2.91	3.66	10.75	4.58	4.73	4.86	4.07	3.82	3.18	**S**	2.87	2.64	2.47	2.28	***26.59***	20.99	7.36	13.07	3.8	4.51	3.36	4.43	***26.59***	***6.2***	24
21	4.58	15.88	5.96	6.04	6.21	7.46	5.89	3.13	2.98	2.33	**S**	1.88	1.89	1.9	1.9	1.95	2.68	6.02	6.68	5.53	2.64	4.05	2.98	4.6	15.88	4.6	24
22	5.42	3.01	5.05	4.74	4.07	4.79	4.77	7.4	7.72	**S**	5.21	4.84	3.5	2.16	2.04	2.62	3.8	3.62	3.98	3.35	3.3	3.22	3.09	3.93	7.72	4.2	24
23	4.2	3.49	3.29	3.45	3.01	2.91	2.87	3.12	**S**	3.24	2.81	2.62	2.25	1.97	1.94	1.95	2	2.07	2.21	2.34	3.32	2.56	2.63	2.36	4.2	2.7	24
24	2.5	2.35	2.18	2.09	2.15	1.98	1.97	**S**	2.08	2.1	2.06	1.96	1.96	1.92	2.01	2.08	2.43	2.33	2.68	2.26	2.19	2.19	2.12	2.52	2.68	2.2	24
25	2.28	3.13	2.23	2.8	2.42	3.16	**S**	2.56	3.53	3.87	2.75	3.12	2.59	2.57	2.26	2.33	2.26	2.28	2.35	2.28	2.24	2.18	2.05	2	3.87	2.6	24
26	1.95	2	2.02	1.97	1.99	**S**	1.92	1.95	2.07	1.93	1.9	1.9	1.91	2	1.9	1.92	1.91	1.93	1.96	1.95	1.94	1.94	1.98	1.94	2.07	2.0	24
27	1.93	1.92	1.93	1.95	**S**	1.95	1.96	1.98	1.96	1.96	2	2	1.97	1.95	1.97	1.97	1.95	1.92	2.1	2.16	2.02	2.16	2.17	2.28	2.28	2.0	24
28	2.63	2.8	2.82	**S**	2.42	3.18	2.75	2.21	2.39	2.39	2.1	2.07	2.1	2.08	2.07	2.17	2.18	2.32	2.05	2.07	2.09	2.06	2.29	2.27	3.18	2.3	24
29	2.21	2.16	**S**	2.13	2.1	2.1	2	2.02	2	1.95	1.94	1.93	1.92	1.97	1.92	1.93	1.97	1.96	2	2.09	2.14	2.08	2.02	2.21	2.21	2.0	24
30	2.14	**S**	2.23	2.39	2.29	2.43	2.22	2.4	2.26	2.16	2.08	2.08	2.1	2.06	2.08	2.1	2.17	2.18	2.11	2.08	2.06	2.08	2.14	2.16	2.43	2.2	24
31	**S**	2.24	2.33	2.23	2.26	2.22	2.28	2.18	2.22	2.26	2.3	2.25	2.22	2.23	2.14	2.34	3.16	2.55	2.4	2.47	2.47	3.03	2.52	**P**	3.16	2.4	23
HOURLY MAX	7	16	7	11	11	8	8	11	8	7	5	5	4	3	3	3	27	21	10	13	5	5	6	6			
HOURLY AVG	3.1	3.5	3.3	3.5	3.5	3.5	3.4	3.6	3.2	2.9	2.5	2.4	2.2	2.1	2.1	2.1	3.1	3.6	3.3	3.3	2.8	2.9	2.7	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: 702

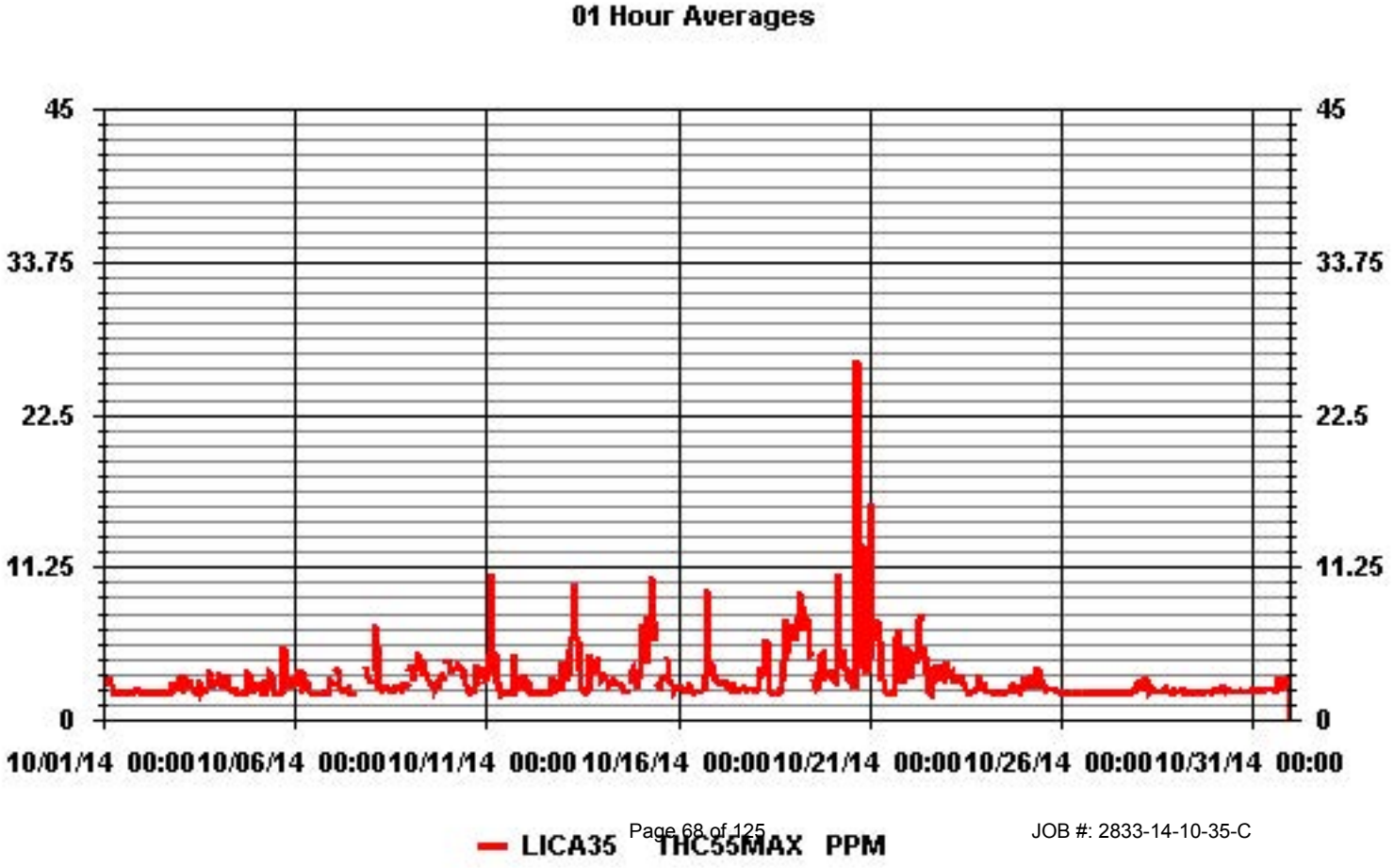
MAXIMUM INSTANTANEOUS VALUE: 26.59 PPM @ HOUR(S) 16 ON DAY(S) 20

VAR-VARIOUS

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 741 HRS

MONTHLY CALIBRATION TIME: 7 HRS

STANDARD DEVIATION: 1.86



JOB #: 2833-14-10-35-C

LICA35
THC55 / WDR Joint Frequency Distribution (Percent)

October 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	.99	1.98	1.98	1.70	5.96	13.06	9.94	1.84	1.84	.99	.85	6.10	12.07	11.64	10.22	2.41	83.66
<	10.0	.14	.14	.14	.99	3.55	3.97	.71	.56	.42	.14	.14	1.27	1.42	1.42	1.13	.14	16.33
<	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	1.13	2.13	2.13	2.69	9.51	17.04	10.65	2.41	2.27	1.13	.99	7.38	13.49	13.06	11.36	2.55	

Calm : .00 %

Total # Operational Hours : 704

Distribution By Samples

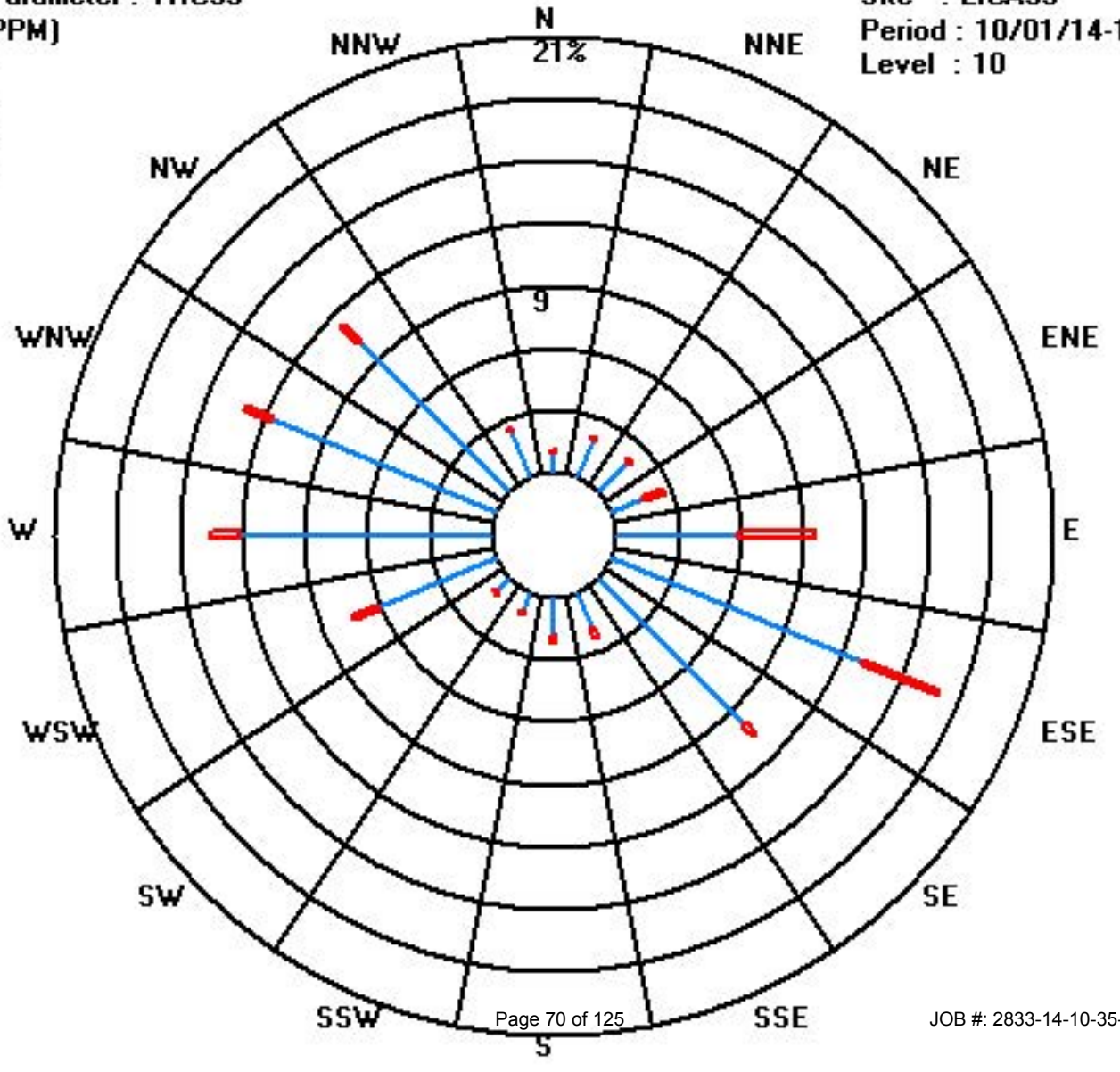
		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3.0	7	14	14	12	42	92	70	13	13	7	6	43	85	82	72	17	589
<	10.0	1	1	1	7	25	28	5	4	3	1	1	9	10	10	8	1	115
<	50.0																	
>=	50.0																	
	Totals	8	15	15	19	67	120	75	17	16	8	7	52	95	92	80	18	

Calm : .00 %

Total # Operational Hours : 704

Logger : 35 Parameter : THC55
Class Limits (PPM)
>= 50.0
< 50.0
< 10.0
< 3.0

Site : LICA35
Period : 10/01/14-10/31/14
Level : 10



JOB #: 2833-14-10-35-C

Methane

Lakeland Industry & Community Association - Elk Point Site

OCTOBER 2014

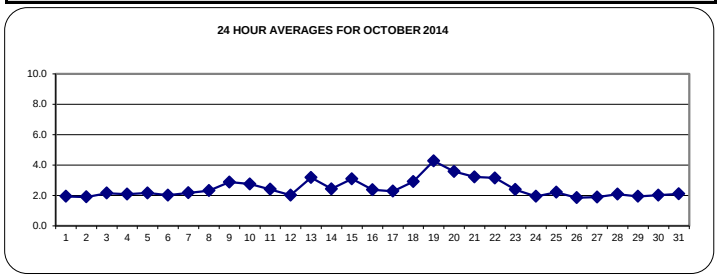
METHANE (CH4) hourly averages in ppm

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	**R**	2.1	2.0	2.3	2.6	2.2	2.0	**S**	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	1.9	2.0	2.0	1.9	1.8	2.6	2.0	23
2	1.8	1.8	1.8	1.8	1.9	1.9	**S**	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.9	1.9	2.0	2.1	2.1	2.2	2.1	2.2	1.9	24
3	2.0	2.0	2.3	2.3	2.3	**S**	2.3	2.2	2.0	2.1	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.5	2.3	2.2	2.3	2.6	2.6	2.6	2.2	24
4	2.7	2.8	2.3	2.3	**S**	2.8	2.2	2.1	2.1	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.9	2.3	2.0	2.0	1.9	2.1	2.1	2.8	2.1	24
5	2.1	2.2	2.2	**S**	1.9	1.9	2.4	2.5	2.8	2.5	2.1	1.8	1.8	1.8	1.8	1.8	1.8	2.1	2.8	2.5	2.3	2.2	2.1	2.5	2.8	2.2	24
6	2.4	2.6	**S**	2.1	2.7	2.0	2.0	2.3	2.2	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	2.2	2.2	2.7	2.0	24
7	1.9	**S**	2.4	2.4	2.2	2.0	2.1	2.1	2.1	2.1	1.8	1.8	1.8	1.8	**C**	**C**	**C**	**C**	**C**	**C**	2.5	2.7	2.5	2.7	2.7	2.2	24
8	**S**	3.1	3.4	2.8	2.3	2.2	2.2	2.1	2.2	2.2	2.2	2.1	2.0	2.0	2.1	2.2	2.4	2.2	2.1	2.2	2.3	2.3	2.3	**S**	3.4	2.3	24
9	2.4	3.1	2.7	3.2	3.4	3.8	3.6	3.6	3.4	3.3	3.1	2.7	2.4	2.4	2.3	2.1	2.4	2.3	2.4	2.9	2.8	2.7	**S**	3.2	3.8	2.9	24
10	3.0	3.0	3.1	3.2	3.4	3.5	3.5	3.4	3.4	3.3	2.7	2.3	2.0	1.9	1.9	1.9	1.9	2.1	3.1	2.5	2.9	**S**	2.7	2.7	3.5	2.8	24
11	2.8	2.9	3.6	4.6	3.4	3.0	2.2	2.2	2.1	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.9	2.6	2.1	2.2	**S**	2.5	2.1	2.4	4.6	2.4	24
12	2.5	1.9	2.3	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.4	2.0	**S**	2.3	2.2	2.2	2.6	2.6	2.0	24
13	2.5	2.5	2.9	2.9	3.4	4.1	4.2	7.7	5.4	4.5	2.5	2.1	2.1	2.0	1.9	2.0	2.0	2.7	**S**	3.0	3.5	3.4	3.2	2.7	7.7	3.2	24
14	2.7	2.8	2.6	2.4	2.3	2.4	2.4	2.6	2.6	2.4	2.5	2.5	2.3	2.1	2.0	1.9	1.9	**S**	2.6	3.0	3.2	2.5	2.0	2.3	3.2	2.4	24
15	2.4	4.2	3.1	3.1	2.5	3.4	4.2	6.3	5.5	4.1	2.8	2.5	2.4	2.5	2.6	2.7	**S**	3.3	2.7	2.3	2.2	2.1	2.1	2.1	6.3	3.1	24
16	2.1	2.2	2.1	2.0	2.0	2.0	2.0	2.2	2.1	2.1	1.9	1.9	2.0	2.0	1.9	**S**	2.0	2.6	4.1	3.1	3.2	3.4	3.1	2.7	4.1	2.4	24
17	2.6	2.8	2.6	2.6	2.5	2.4	2.5	2.4	2.3	2.3	2.3	2.1	2.0	2.0	**S**	2.0	2.1	2.2	2.1	2.1	2.1	2.1	2.2	2.1	2.8	2.3	24
18	2.1	2.2	2.2	2.5	2.8	2.9	3.4	4.1	2.6	2.1	2.0	1.9	1.9	**S**	1.9	1.9	2.0	1.9	2.9	3.8	4.4	4.6	5.2	5.5	5.5	2.9	24
19	5.7	4.3	5.2	6.3	7.5	6.7	6.8	6.0	6.4	6.2	4.2	4.0	**S**	2.3	2.1	2.2	2.3	3.4	3.1	2.5	2.6	2.9	2.6	2.9	7.5	***4.3***	24
20	2.6	2.6	2.6	3.2	3.6	3.6	3.7	4.1	3.6	3.2	2.7	**S**	2.5	2.5	2.2	2.1	***7.9***	7.5	3.9	4.6	3.1	3.6	3.1	3.7	***7.9***	3.6	24
21	3.6	5.0	4.6	4.9	5.1	6.2	3.8	2.8	2.6	2.1	**S**	1.8	1.8	1.8	1.8	1.8	2.2	3.8	4.6	3.1	2.4	2.6	2.6	3.1	6.2	3.2	24
22	3.1	2.8	2.8	3.5	3.2	3.7	3.8	4.5	5.5	**S**	4.1	4.1	2.4	2.0	1.9	2.1	2.9	2.9	2.8	2.8	2.9	2.9	2.8	3.0	5.5	3.2	24
23	3.4	3.2	3.1	2.9	2.5	2.5	2.6	2.6	**S**	2.8	2.5	2.2	2.1	1.9	1.8	1.9	1.9	1.9	2.1	2.2	2.4	2.3	2.1	2.0	3.4	2.4	24
24	2.0	1.9	1.9	1.9	1.9	1.9	1.9	**S**	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.9	2.1	2.1	2.3	2.1	1.9	2.0	2.0	2.0	2.3	1.9	24
25	2.0	2.3	1.9	2.2	2.1	2.4	**S**	2.2	2.5	3.0	2.4	2.6	2.2	2.4	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.0	1.9	1.9	3.0	2.2	24
26	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	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	24
27	1.8	1.8	1.8	1.9	**S**	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.9	1.9	1.9	2.0	2.0	2.1	2.1	1.9	24
28	2.4	2.4	2.3	**S**	2.0	2.4	2.2	2.0	2.0	2.1	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.1	2.2	2.4	2.1	24
29	2.1	2.1	**S**	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	1.9	1.9	1.9	2.0	1.9	1.9	2.0	2.1	1.9	24
30	2.0	**S**	2.1	2.0	2.1	2.1	2.0	2.2	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	2.2	2.0	24
31	**S**	2.1	2.1	2.1	2.1	2.0	2.1	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.2	2.1	2.2	2.2	2.2	2.3	2.2	**P**	2.3	2.1	23
HOURLY MAX	6	5	5	6	8	7	7	8	6	6	4	4	3	3	3	3	8	8	5	5	4	5	5	6			
HOURLY AVG	2.5	2.6	2.6	2.7	2.7	2.8	2.7	3.0	2.8	2.5	2.3	2.2	2.0	2.0	1.9	2.0	2.2	2.5	2.5	2.4	2.4	2.4	2.4	2.5			

STATUS FLAG CODES

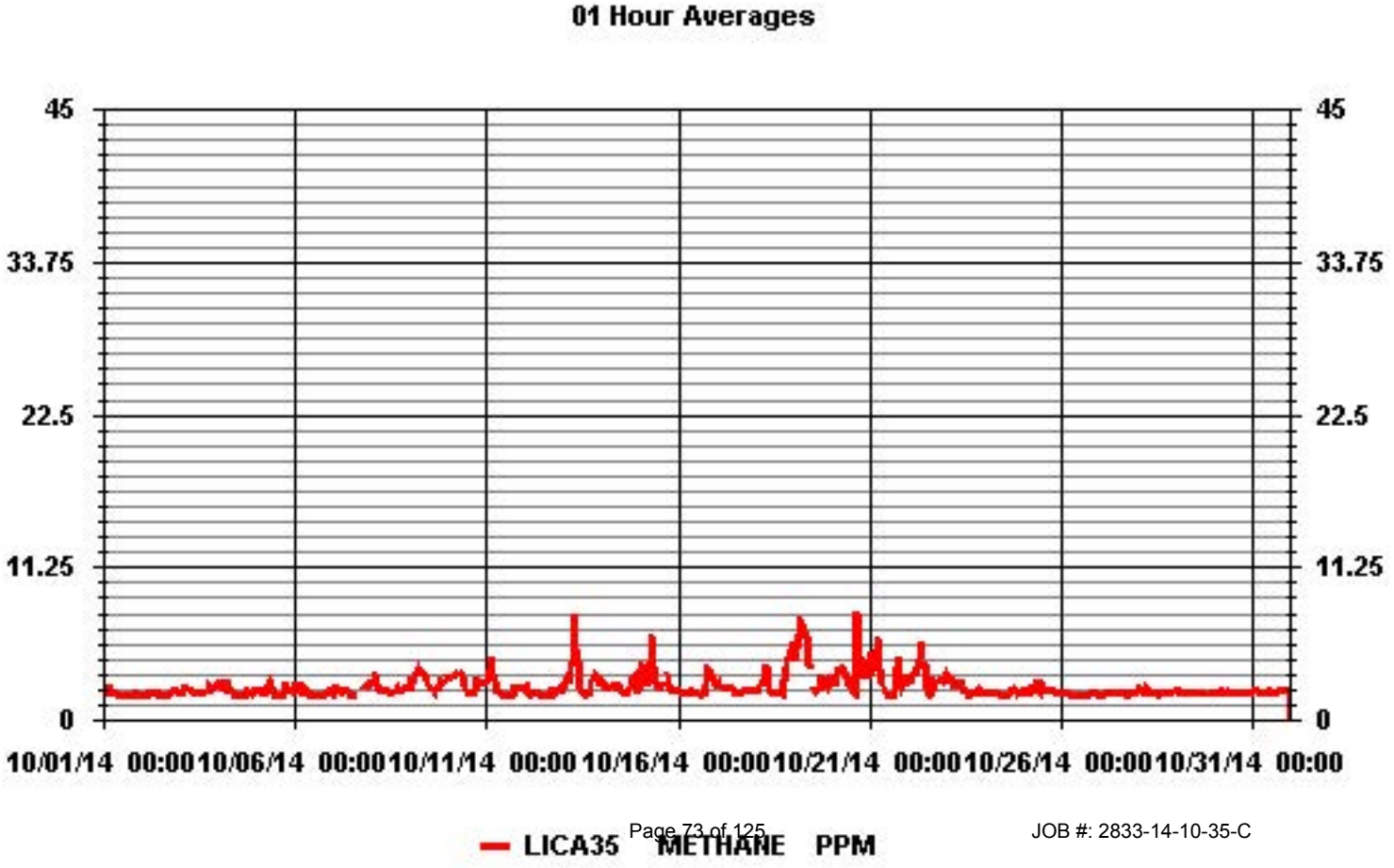
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	704					
MAXIMUM 1-HR AVERAGE:	7.9	PPM	@ HOUR(S)	16	ON DAY(S)	20
MAXIMUM 24-HR AVERAGE:	4.3	PPM			ON DAY(S)	19
					VAR-VARIOUS	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		742	HRS
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:		99.7	%
STANDARD DEVIATION:	0.89		MONTHLY AVERAGE:		2.45	PPM

JOB #: 2833-14-10-35-C



JOB #: 2833-14-10-35-C

Lakeland Industry & Community Association - Elk Point Site

OCTOBER 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	**P**	2.99	2.58	2.95	2.99	2.69	2.11	**S**	1.99	1.95	1.96	1.9	1.88	2.09	2.01	1.96	1.92	1.98	1.97	2.07	2.3	2.33	2.09	2.04	2.99	2.2	23
2	2	1.91	1.92	1.89	1.98	1.97	**S**	1.97	1.94	1.92	1.92	1.94	1.92	1.92	1.91	1.91	1.93	1.99	2.05	2.65	2.42	2.38	2.67	2.41	2.67	2.1	24
3	2.39	2.33	3.28	2.62	2.53	**S**	2.77	2.56	2.15	2.21	2.03	2.02	2.06	1.99	2.14	2.15	2.33	2.48	3.61	2.86	2.28	2.6	2.81	2.88	3.61	2.5	24
4	3.3	3.21	2.57	2.54	**S**	3.18	2.65	2.3	2.19	2.12	1.99	1.89	1.85	1.87	1.84	1.83	1.9	2.04	3.47	3.42	2.26	2.02	2.71	2.25	3.47	2.4	24
5	2.24	2.75	2.39	**S**	2.05	2.03	3.04	2.59	3.42	3.3	2.45	1.9	1.9	1.88	1.86	1.85	1.95	5.24	3.57	3.16	2.94	2.43	2.43	2.87	5.24	2.6	24
6	2.9	3.51	**S**	2.61	3.66	2.22	2.36	2.83	2.78	2.06	1.9	1.86	1.88	1.84	1.84	1.85	1.87	1.9	1.9	2.03	2.01	2.21	2.89	2.92	3.66	2.3	24
7	2.75	**S**	3.75	3.62	2.37	2.21	2.28	2.22	2.16	2.32	1.91	1.9	1.88	**C**	**C**	**C**	**C**	**C**	**C**	**C**	3.76	3.2	3.19	2.92	3.76	2.7	24
8	**S**	3.85	7.08	5.59	2.44	2.42	2.33	2.24	2.35	2.33	2.32	2.34	2.1	2.09	2.16	2.42	2.5	2.37	2.28	2.53	2.57	2.65	2.53	**S**	7.08	2.8	24
9	3.78	4.11	2.93	3.53	3.87	4.95	4.26	4.23	4.23	3.47	3.44	3.04	2.63	2.56	2.44	2.28	2.57	2.57	2.88	3.29	3.24	3.15	**S**	4.2	4.95	3.4	24
10	4.2	3.55	3.55	3.71	3.81	4	3.99	3.79	3.71	3.56	3.15	2.64	2.14	2.04	2.18	2.14	2.13	2.51	3.86	2.96	3.66	**S**	2.91	3.29	4.2	3.2	24
11	3.28	3.35	4.64	10.46	4.62	4.88	2.88	2.53	2.62	2.01	2.13	2.01	1.91	2.02	2.02	1.99	2	4.83	2.23	2.48	**S**	2.94	2.28	3.4	10.46	3.2	24
12	2.81	2.17	3.02	2.14	1.99	2.04	2.01	2.03	2.03	1.98	1.91	1.92	1.96	1.94	1.91	1.92	1.98	3.07	2.21	**S**	2.56	2.38	2.38	4.23	4.23	2.3	24
13	3.21	2.9	3.46	3.43	5.24	5.98	5.93	9.69	6.16	5.71	3.72	2.31	2.35	2.17	2.05	2.17	2.22	4.52	**S**	3.71	4.19	4.33	3.62	2.98	9.69	4.0	24
14	3.11	3.25	3.03	2.95	2.46	2.55	2.68	2.93	2.89	2.58	2.71	2.67	2.55	2.51	2.14	2.09	2.1	**S**	2.83	3.66	3.74	3.37	2.29	3.03	3.74	2.8	24
15	3.31	6.94	4.31	4.21	4.22	7.37	6.94	10.27	7.14	5.74	**P**	2.65	2.54	2.89	2.95	3.3	**S**	4.29	3.14	2.81	2.71	2.25	2.5	2.41	10.27	4.3	23
16	2.34	2.34	2.34	2.11	2.09	2.08	2.14	2.47	2.38	2.31	2.01	2.02	2.03	2.05	2.12	**S**	2.25	3.34	9.36	3.62	3.86	4.28	3.49	2.99	9.36	2.9	24
17	2.81	2.92	2.83	2.68	2.63	2.56	2.94	2.57	2.44	2.36	2.7	2.22	2.14	2.16	**S**	2.12	2.24	2.27	2.2	2.2	2.25	2.25	2.33	2.3	2.94	2.4	24
18	2.19	2.3	2.37	3.68	3.24	3.37	4.31	5.63	3.59	2.24	2.17	2.13	2.04	**S**	1.95	2.02	2.43	2.92	4.15	7.2	4.84	5.03	5.79	6.16	7.2	3.6	24
19	6.9	5.56	6.37	7.08	9.34	7.74	8.08	6.31	7.37	7.32	4.7	4.58	**S**	2.63	2.33	2.34	3.42	4.68	4.77	2.93	3.18	3.66	2.97	3.31	9.34	5.1	24
20	3.46	2.93	2.92	3.66	10.45	4.37	4.65	4.72	3.88	3.7	3.18	**S**	2.74	2.65	2.47	2.29	***20.28***	***20.28***	7.34	12.94	3.75	4.49	3.37	4.43	***20.28***	***5.9***	24
21	4.43	15.73	5.89	6.05	5.95	7.22	5.68	3.07	2.96	2.34	**S**	1.88	1.89	1.9	1.9	1.95	2.67	5.95	6.5	5.48	2.65	4.05	2.98	4.48	15.73	4.5	24
22	5.41	3.01	4.56	4.73	3.9	4.71	4.76	7.29	7.64	**S**	5.17	4.63	3.5	2.16	2.04	2.54	3.77	3.61	3.89	3.35	3.3	3.22	3.09	3.93	7.64	4.1	24
23	4.13	3.43	3.27	3.45	3	2.92	2.87	3.04	**S**	3.18	2.8	2.46	2.25	1.97	1.94	1.95	2	2.06	2.21	2.35	3.19	2.56	2.53	2.37	4.13	2.7	24
24	2.5	2.35	2.18	2.1	2.15	1.99	1.97	**S**	2.1	2.11	2.05	1.96	1.96	1.92	2.01	2.09	2.42	2.33	2.68	2.26	2.19	2.19	2.13	2.53	2.68	2.2	24
25	2.29	3.13	2.24	2.81	2.42	3.16	**S**	2.56	3.53	3.75	2.76	3.12	2.6	2.57	2.27	2.32	2.27	2.29	2.35	2.28	2.25	2.19	2.05	2	3.75	2.6	24
26	1.95	1.99	2.01	1.97	1.98	**S**	1.92	1.95	1.94	1.93	1.91	1.9	1.91	1.91	1.9	1.93	1.91	1.93	1.96	1.95	1.94	1.94	1.99	1.94	2.01	1.9	24
27	1.93	1.93	1.93	1.95	**S**	1.95	1.96	1.98	1.96	1.96	2.01	1.99	1.97	1.95	1.97	1.97	1.95	1.92	2.11	2.16	2.03	2.16	2.17	2.28	2.28	2.0	24
28	2.64	2.8	2.82	**S**	2.42	3.18	2.75	2.21	2.39	2.39	2.11	2.06	2.12	2.09	2.08	2.17	2.18	2.32	2.06	2.07	2.1	2.07	2.3	2.28	3.18	2.3	24
29	2.21	2.16	**S**	2.14	2.11	2.05	1.99	2	1.95	1.95	1.94	1.93	1.92	1.97	1.92	1.93	1.97	1.96	2.01	2.06	2.06	2.09	2.03	2.21	2.21	2.0	24
30	2.15	**S**	2.23	2.39	2.3	2.42	2.2	2.39	2.26	2.16	2.09	2.09	2.11	2.06	2.09	2.11	2.17	2.18	2.12	2.09	2.06	2.09	2.15	2.16	2.42	2.2	24
31	**S**	2.2	2.33	2.24	2.26	2.22	2.29	2.19	2.21	2.27	2.31	2.17	2.22	2.2	2.12	2.27	3.1	2.56	2.3	2.34	2.42	3	2.41	**P**	3.1	2.3	23
HOURLY MAX	7	16	7	10	10	8	8	10	8	7	5	5	4	3	3	3	20	20	9	13	5	5	6	6			
HOURLY AVG	3.1	3.5	3.3	3.5	3.5	3.5	3.3	3.5	3.2	2.8	2.5	2.3	2.2	2.1	2.1	2.1	2.9	3.5	3.2	3.3	2.8	2.9	2.7	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: 702

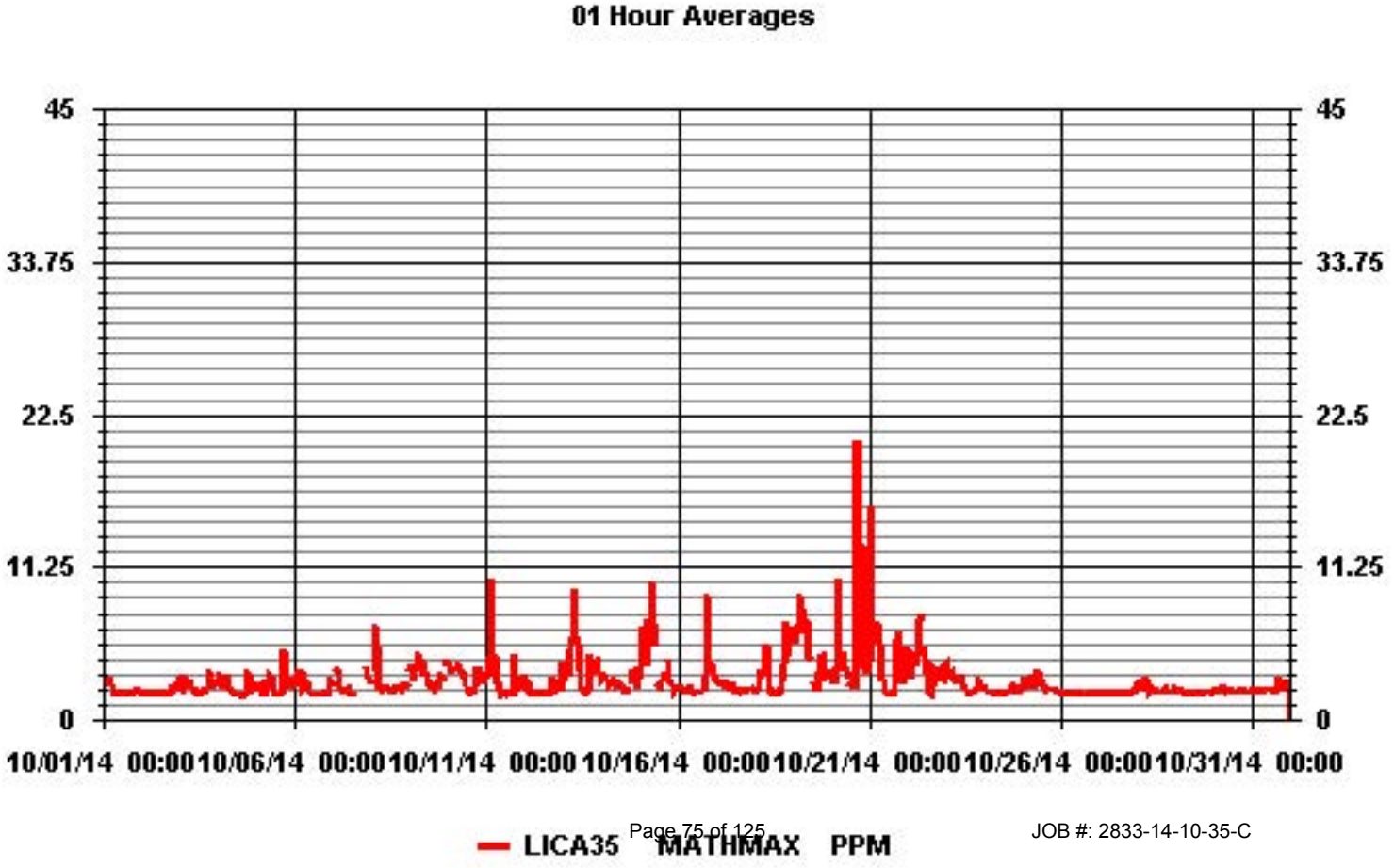
MAXIMUM INSTANTANEOUS VALUE: 20.28 PPM @ HOUR(S) 16, 17 ON DAY(S) 20

VAR-VARIOUS

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 741 HRS

MONTHLY CALIBRATION TIME: 7 HRS

STANDARD DEVIATION: 1.72



JOB #: 2833-14-10-35-C

LICA35
METHANE / WDR Joint Frequency Distribution (Percent)

October 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	.99	1.98	1.98	1.70	5.96	13.06	9.94	1.84	1.84	.99	.85	6.10	12.07	11.78	10.22	2.41	83.80
<	10.0	.14	.14	.14	.99	3.55	3.97	.71	.56	.42	.14	.14	1.27	1.42	1.27	1.13	.14	16.19
<	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	1.13	2.13	2.13	2.69	9.51	17.04	10.65	2.41	2.27	1.13	.99	7.38	13.49	13.06	11.36	2.55	

Calm : .00 %

Total # Operational Hours : 704

Distribution By Samples

Direction

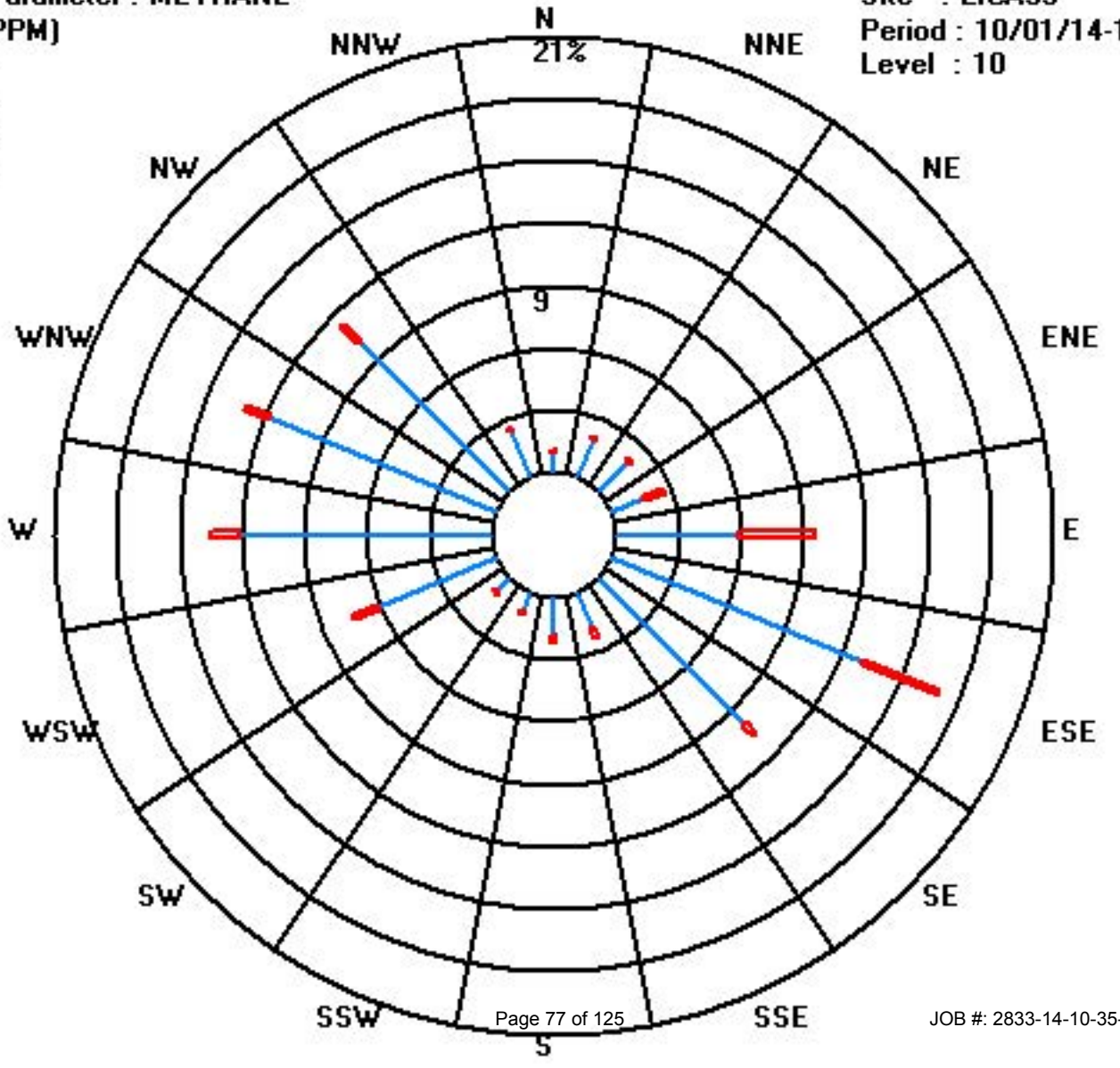
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3.0	7	14	14	12	42	92	70	13	13	7	6	43	85	83	72	17	590
<	10.0	1	1	1	7	25	28	5	4	3	1	1	9	10	9	8	1	114
<	50.0																	
>=	50.0																	
	Totals	8	15	15	19	67	120	75	17	16	8	7	52	95	92	80	18	

Calm : .00 %

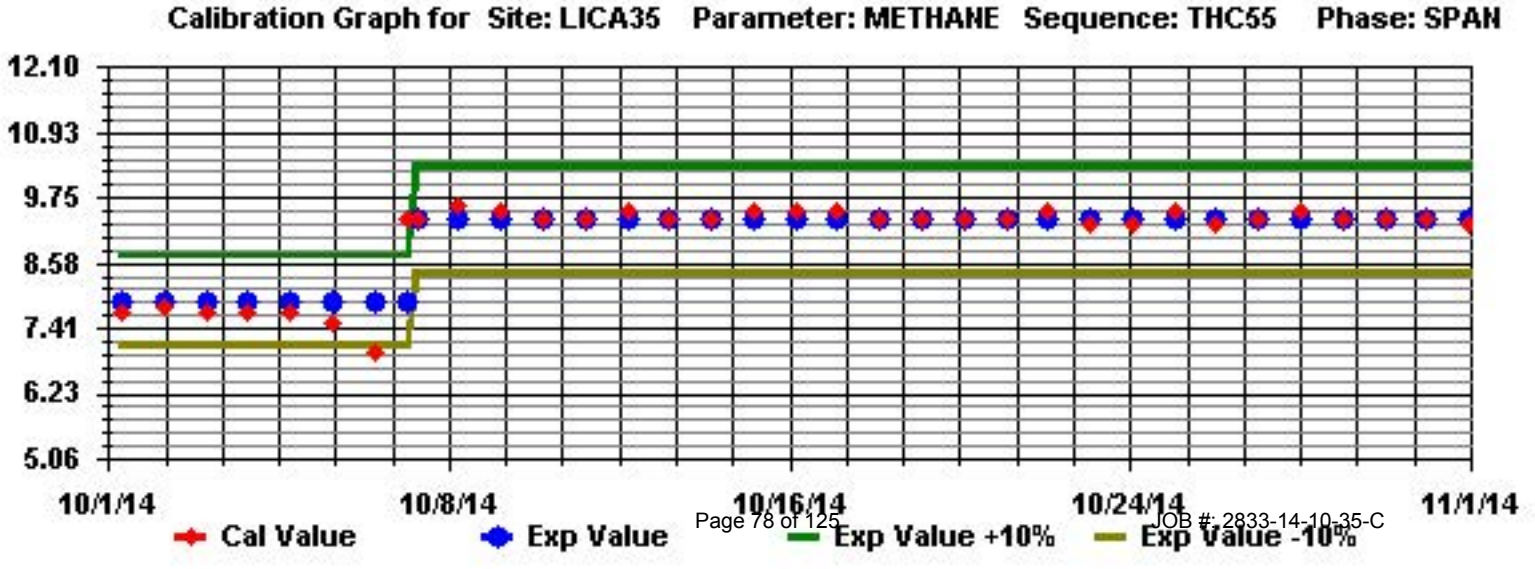
Total # Operational Hours : 704

Logger : 35 Parameter : METHANE
Class Limits (PPM)
>= 50.0
< 50.0
< 10.0
< 3.0

Site : LICA35
Period : 10/01/14-10/31/14
Level : 10



JOB #: 2833-14-10-35-C


Calibration Graph for Site: LICA35 Parameter: METHANE Sequence: THC55 Phase: SPAN
12.10
10.93
9.75
8.58
7.41
6.23
5.06
10/1/14
10/8/14
10/16/14
10/24/14
11/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Non-Methane Hydrocarbons

Lakeland Industry & Community Association - Elk Point Site

OCTOBER 2014

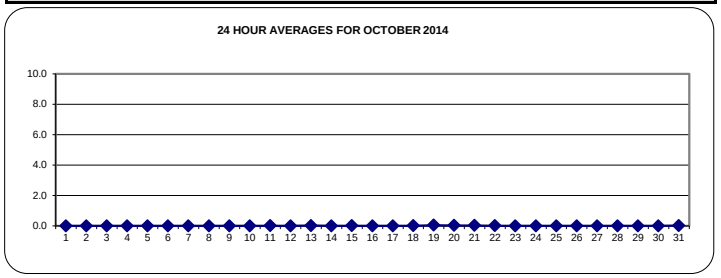
NON-METHANE HYDROCARBONS (NMHC) hourly averages in ppm

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	**R**	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0.0	23
2	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
3	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
4	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
5	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
6	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
7	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	**C**	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	0.0	24
8	**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
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0.0	24
10	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0.1	0.0	24
11	0	0	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0.1	0.0	24
12	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
13	0	0	0.1	0	0	0.1	0	0.1	0.1	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0.1	0.0	24
14	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
15	0	0.1	0	0	0	0.1	0	0.1	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0.1	0.0	24
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0.1	0	0	0	0	0	0.1	0.0	24
17	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
18	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0.1	0.1	0.1	0.0	24
19	0	0.1	0.1	***0.2***	0.1	0.1	***0.2***	0.1	0.1	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	***0.2***	***0.0***	24
20	0	0	0	0	0	0.1	0	0.1	0.1	0	0	**S**	0	0	0	0	***0.2***	0	0.1	0	0	0	0	0	***0.2***	0.0	24
21	0	0.1	0.1	0.1	0.1	***0.2***	0.1	0	0	0	**S**	0	0	0	0	0	0	0.1	0	0	0	0	0	0	***0.2***	0.0	24
22	0	0	0.1	0	0	0	0	0	0.1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.0	24
23	0	0	0	0	0	0	0	0	**S**	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.0	24
24	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
25	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
26	0	0	0	0	0	**S**	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.0	24
27	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
28	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
29	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
30	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
31	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0	0.1	0.1	0	0	**P**	0.1	0.0	23
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			

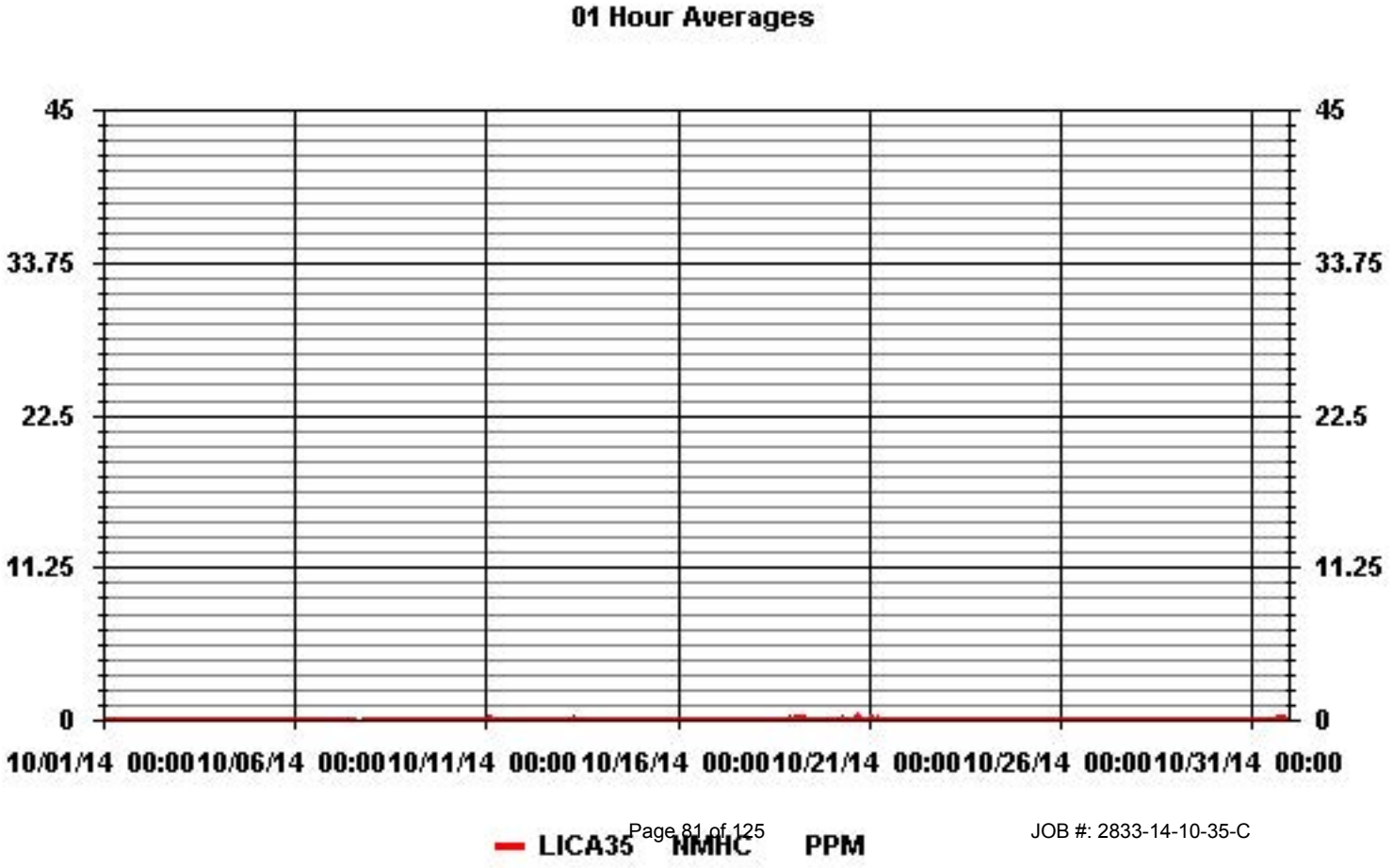
STATUS FLAG CODES

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:	42						
MAXIMUM 1-HR AVERAGE:	0.2	PPM	@ HOUR(S)	VAR	ON DAY(S)		VAR
MAXIMUM 24-HR AVERAGE:	0.0	PPM			ON DAY(S)		ALL
					VAR-VARIOUS		
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:			742	HRS
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:			99.7	%
STANDARD DEVIATION:	0.03		MONTHLY AVERAGE:			0.01	PPM



JOB #: 2833-14-10-35-C

Lakeland Industry & Community Association - Elk Point Site

OCTOBER 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	**P**	0	0	0	0	0	0	**S**	0	0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.08	0.0	23
2	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
3	0	0	0	0	0	**S**	0	0	0	0	0	0	***0.95***	0	0	0	0	0	0	0	0	0	0.08	0.11	***0.95***	0.0	24
4	0.07	0	0	0	**S**	0.15	0	0.12	0.1	0	0.29	0	0	0	0	0	0	0.14	0	0	0	0	0	0	0.29	0.0	24
5	0.18	0	0.21	**S**	0	0	0.14	0.09	0.14	0.1	0	0	0	0	0	0	0	0.05	0.12	0.12	0	0	0	0	0.21	0.1	24
6	0.07	0.09	**S**	0	0	0.09	0	0.04	0	0	0	0.11	0	0	0	0	0	0	0	0	0	0	0	0	0.11	0.0	24
7	0	**S**	0	0	0	0	0	0	0	0	0	0	0	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	0.0	24
8	**S**	0	0.12	0	0	0.09	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0.12	0.0	24
9	0.15	0.1	0	0.13	0.14	0.17	0.17	0.12	0	0.04	0	0	0	0.1	0.17	0	0	0	0	0	0.12	0	**S**	0.17	0.17	0.1	24
10	0.11	0.15	0.14	0.17	0.16	0.22	0.17	0.18	0.17	0.2	0.14	0.1	0.12	0	0.09	0	0	0.17	0.21	0.1	0.13	**S**	0.13	0.19	0.22	0.1	24
11	0.23	0.16	0.19	0.28	0.19	0.15	0.22	0	0.17	0	0.21	0	0	0	0	0	0	0.13	0	0	**S**	0.1	0	0	0.28	0.1	24
12	0.14	0.09	0	0	0	0	0	0.12	0	0	0	0	0	0	0	0	0	0.12	0	**S**	0	0	0	0	0.14	0.0	24
13	0	0	0.14	0.17	0.14	0.24	0.17	0.33	0.24	0.26	0.11	0	0	0	0	0.15	0	0.08	**S**	0	0.04	0.08	0.1	0	0.33	0.1	24
14	0.1	0.18	0.1	0.06	0.13	0.11	0.13	0.13	0.13	0.18	0.1	0	0.13	0	0	0.05	0	**S**	0.16	0.11	0.14	0.13	0	0	0.18	0.1	24
15	0	0.23	0.21	0.08	0.06	0.21	0.17	0.36	0.23	0.24	**P**	0.01	0	0.07	0.06	0.1	**S**	0.19	0.12	0	0	0	0	0.15	0.36	0.1	23
16	0	0.11	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0.38	0.13	0.07	0	0.13	0	0.38	0.0	24
17	0.1	0	0	0.09	0	0.09	0	0	0	0	0.14	0.02	0	0	**S**	0.18	0	0.12	0	0	0	0	0	0.16	0.18	0.0	24
18	0	0	0	0.14	0.19	0.15	0.19	0.26	0.17	0	0.07	0	0	**S**	0	0	0	0	0.15	0.23	0.22	0.24	0.25	0.25	0.26	0.1	24
19	0.23	0.22	0.24	0.67	0.3	0.28	0.32	0.29	0.26	0.26	0.13	0.21	**S**	0.15	0	0.12	0.07	0.13	0.21	0	0.15	0.16	0.11	0.08	0.67	***0.2***	24
20	0.15	0.19	0.13	0.15	0.31	0.2	0.22	0.22	0.21	0.14	0.07	**S**	0.14	0.07	0.16	0	0.29	0.23	0.25	0.2	0.13	0.07	0.14	0.16	0.31	0.2	24
21	0.15	0.2	0.2	0.25	0.29	0.31	0.25	0.18	0.17	0	**S**	0	0	0	0	0	0	0.21	0.26	0.16	0	0	0.07	0.24	0.31	0.1	24
22	0.18	0	0.68	0.16	0.16	0.17	0.13	0.21	0.27	**S**	0.18	0.21	0.11	0	0	0.08	0.11	0.12	0.08	0.14	0.12	0.09	0.09	0.09	0.68	0.1	24
23	0.17	0.13	0.17	0.17	0.12	0.13	0.15	0.13	**S**	0.18	0.11	0.16	0	0	0	0	0	0	0	0	0.13	0	0.13	0	0.18	0.1	24
24	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0.02	0	0	0	0	0	0.02	0.0	24
25	0	0	0	0	0	0	**S**	0	0.13	0.15	0.06	0.02	0	0	0	0	0	0	0	0	0	0	0	0	0.15	0.0	24
26	0	0	0	0	0	**S**	0.01	0	0.16	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0.16	0.0	24
27	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
28	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
29	0	0	**S**	0	0	0.13	0	0.07	0.06	0	0	0	0	0	0	0	0	0	0	0.1	0.11	0	0	0	0.13	0.0	24
30	0	**S**	0	0	0	0	0.17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.17	0.0	24
31	**S**	0.14	0	0	0	0	0.12	0.06	0.07	**S**	0.15	0.19	0.08	0.13	0.07	0.13	0.19	0.17	0.18	0.2	0.12	0.16	0.16	**P**	0.2	0.1	23
HOURLY MAX	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0			
HOURLY AVG	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	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: 267

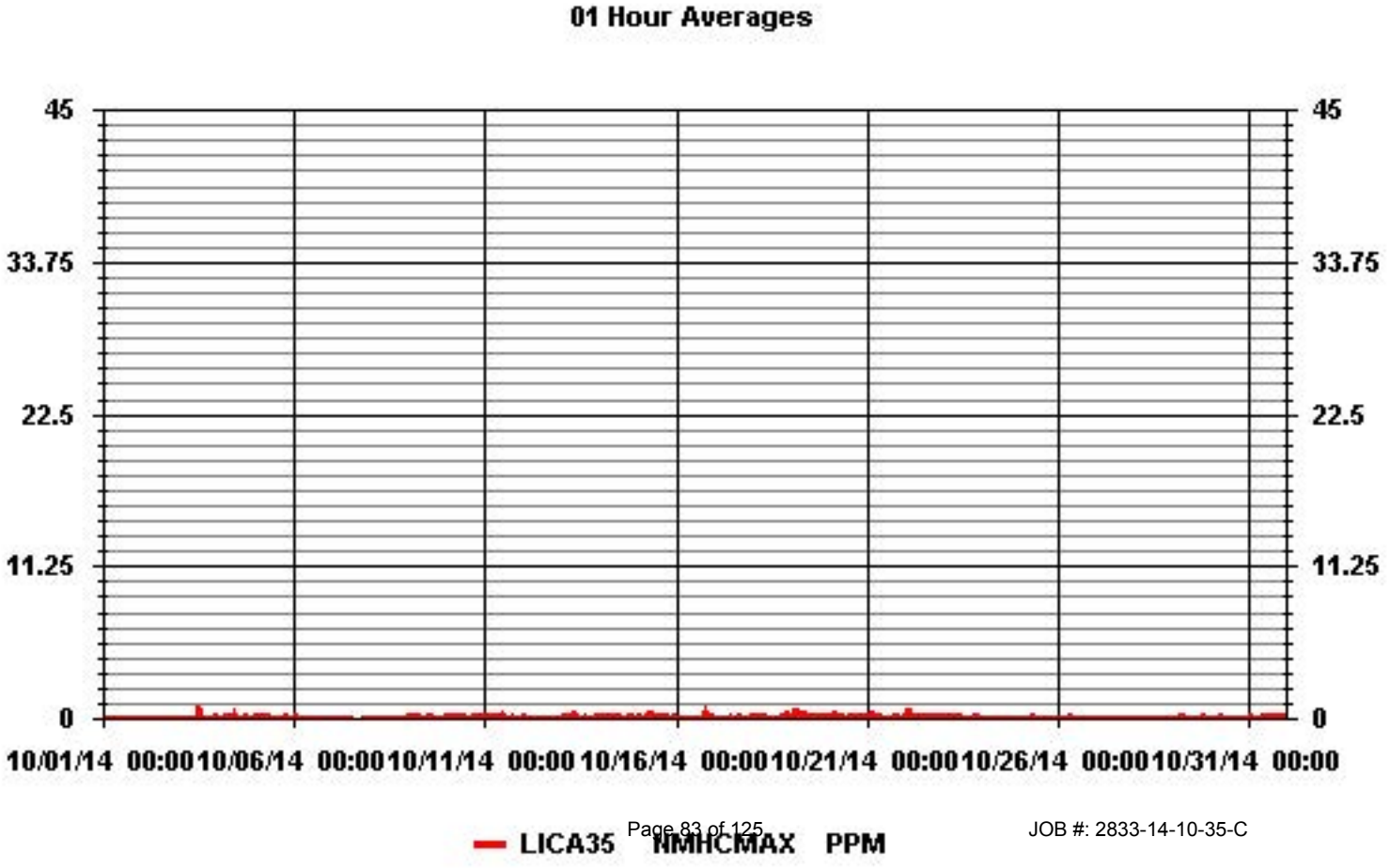
MAXIMUM INSTANTANEOUS VALUE: 0.95 PPM @ HOUR(S) 12 ON DAY(S) 3

VAR-VARIOUS

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 741 HRS

MONTHLY CALIBRATION TIME: 7 HRS

STANDARD DEVIATION: 0.10



JOB #: 2833-14-10-35-C

LICA35
NMHC / WDR Joint Frequency Distribution (Percent)

October 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	1.13	2.13	2.13	2.69	9.51	17.04	10.65	2.41	2.27	1.13	.99	7.38	13.49	13.06	11.36	2.55	100.00
<	.5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	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	1.13	2.13	2.13	2.69	9.51	17.04	10.65	2.41	2.27	1.13	.99	7.38	13.49	13.06	11.36	2.55	

Calm : .00 %

Total # Operational Hours : 704

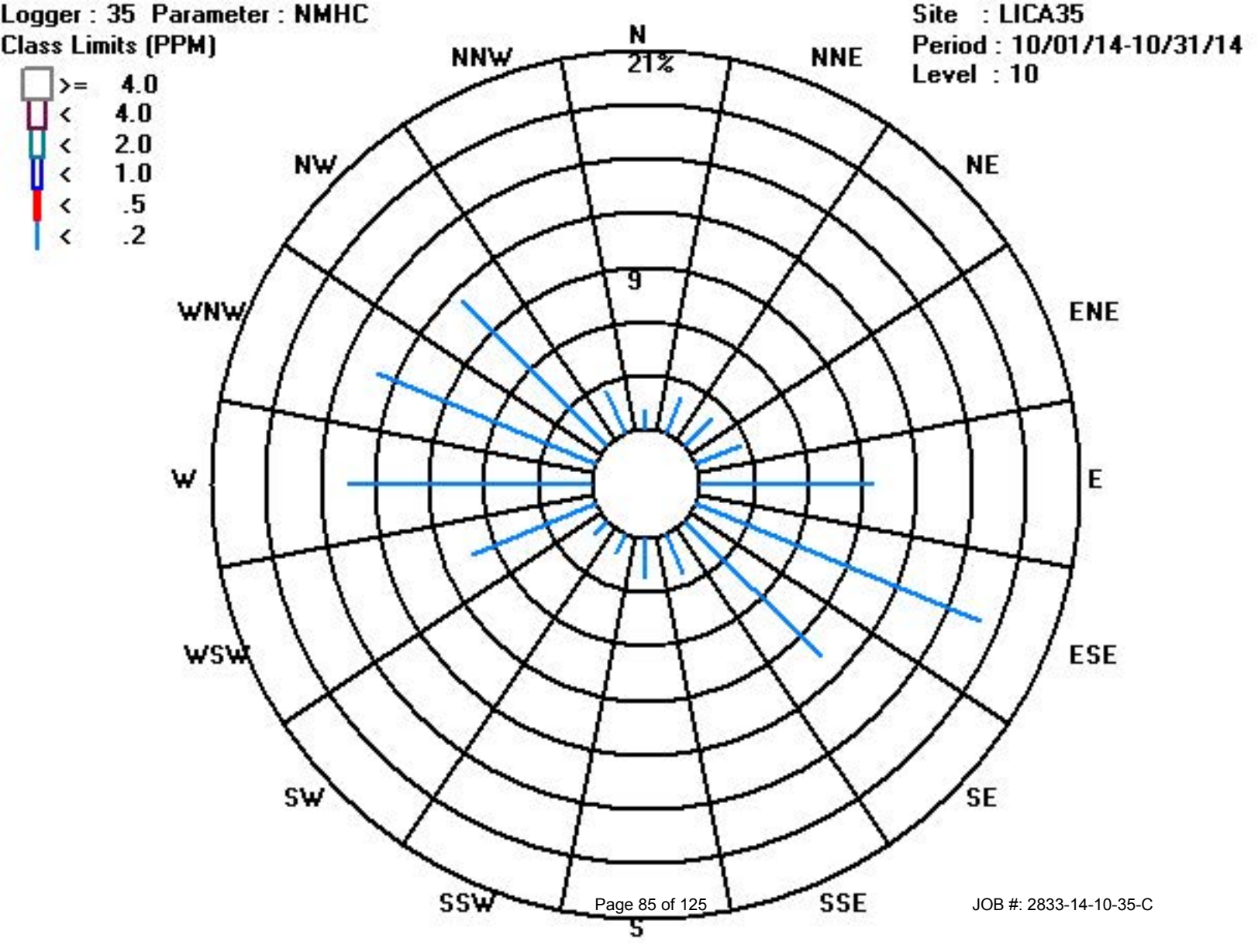
Distribution By Samples

Direction

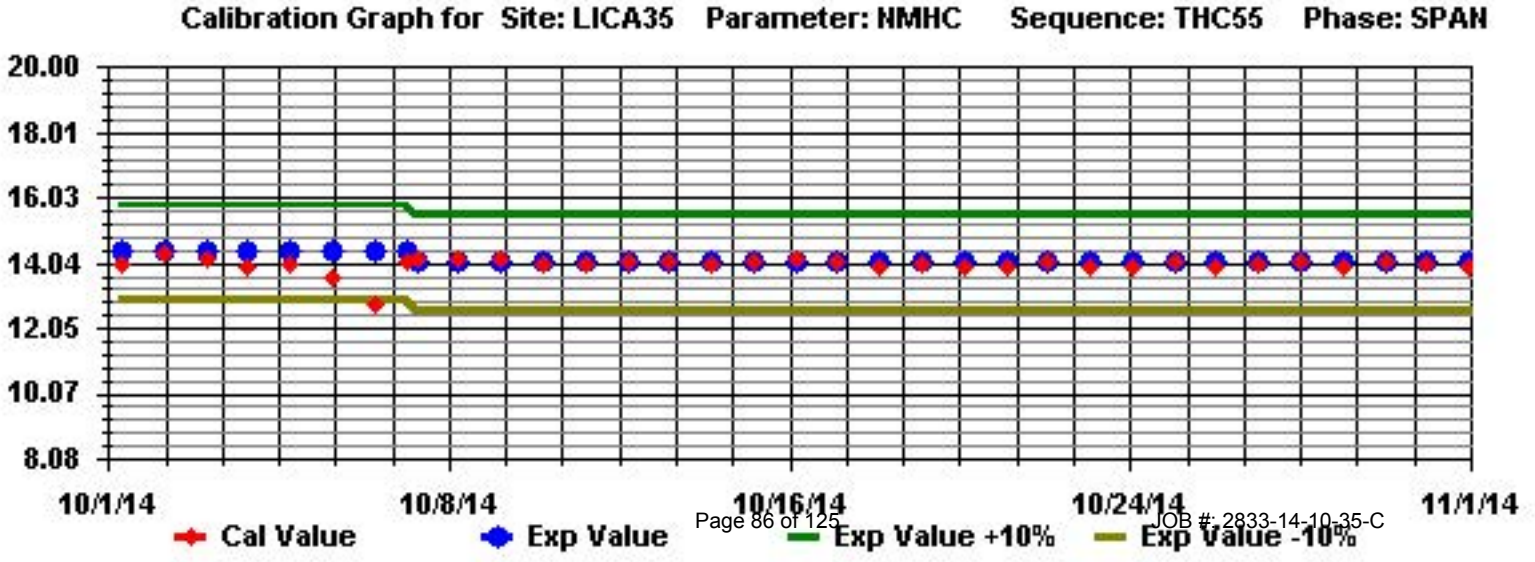
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	.2	8	15	15	19	67	120	75	17	16	8	7	52	95	92	80	18	704
<	.5																	
<	1.0																	
<	2.0																	
<	4.0																	
>=	4.0																	
	Totals	8	15	15	19	67	120	75	17	16	8	7	52	95	92	80	18	

Calm : .00 %

Total # Operational Hours : 704



JOB #: 2833-14-10-35-C


Calibration Graph for Site: LICA35 Parameter: NMHC Sequence: THC55 Phase: SPAN
20.00
18.01
16.03
14.04
12.05
10.07
8.08
10/1/14
10/8/14
10/16/14
10/24/14
11/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Vector Wind Speed

Lakeland Industry & Community Association - Elk Point Site

OCTOBER 2014

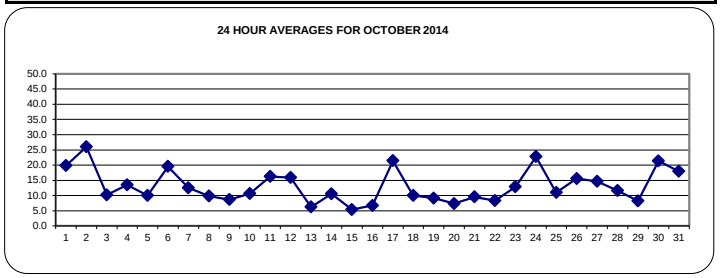
WIND SPEED (WS) hourly averages in km/hr

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	13.2	14.6	15.6	10.1	12.8	11.8	12.3	12	13.3	16.7	18.8	22.7	28.3	29.9	29.5	26.1	18.6	14	15.9	22.5	26.2	26.7	28.9	34.6	34.6	19.8	24
2	31.2	34	32.3	33.5	30	28.1	25.4	26.3	31.2	34.2	32	33.3	32.8	35	31.6	27.3	26.4	18.4	15.3	12.2	12.7	12.6	12.1	15.4	35.0	***26.0***	24
3	15	15.3	13.1	12.7	12.7	9.8	7.9	9.1	7.6	3.4	2.8	3.7	6.4	4.3	8.5	9.9	9.4	9.3	9.8	12.4	14.3	17.1	15.7	14.9	17.1	10.2	24
4	9.3	9.7	8.6	5.6	3	2.5	7.6	8.4	8.7	14.2	22.5	23.9	25.5	28.1	28.5	20.2	22.2	15.2	11.7	12.9	11.7	9.9	5.1	7.8	28.5	13.5	24
5	2.4	3.3	5.1	4.3	3.3	3.6	2.7	2.1	2.4	4.9	14.2	16.3	15.3	16.2	18	19.4	18.8	12.3	8.9	11.9	15.1	16.3	10.4	13.2	19.4	10.0	24
6	12	10.9	9.5	6.8	4.5	6.8	6.2	7	9.5	21.1	32.3	36.4	36.9	***38.7***	35.1	33.5	32.4	31.1	27.6	19.3	15.4	13.9	12.5	9.3	***38.7***	19.5	24
7	6.5	5.1	4.4	6.6	9	10.8	14.4	12.2	11.2	12.3	17.2	22	24.7	25.5	27.4	20.2	21.5	13.1	10.2	6.9	7.1	3.9	6	2.8	27.4	12.5	24
8	5.7	3.9	2.8	6.3	7	9.8	10.6	12	10.5	10.4	11	12.2	11.7	14.2	14.7	14.8	13	11.5	11.7	9	7.9	8.8	8.7	8.3	14.8	9.9	24
9	8.1	9.2	2.1	5	1.7	1.8	2.8	6.1	6.2	6.5	8.6	9.5	10.7	9.8	13.6	15.2	14.8	13.3	11.5	9.9	9.9	10.7	9.1	11.8	15.2	8.7	24
10	6.3	6.1	8.4	7.2	6.3	6.9	6.4	6.7	10.7	11	12.2	10.9	15.4	17.7	18.5	18.6	15.3	12.2	12.3	12.5	11	7.1	6.5	8.4	18.6	10.6	24
11	6.8	4.8	0.7	7.3	13.7	6.5	11.3	12.2	20.6	29.8	30.2	32.4	31.6	34	32.7	29.2	22.5	12.2	10.5	9.5	8	4.3	9.7	9.8	34.0	16.3	24
12	7.6	13.3	13.7	12.9	15.7	14.7	16.5	15	19.2	27.9	28.6	25	25.5	26.6	24.6	19.6	16.2	10	11.2	10.3	7.6	7.8	5.1	6.2	28.6	15.9	24
13	3.4	4.7	4.7	4.3	5.4	4.4	2	1.2	1.1	3.8	3.3	4.1	3.2	6.7	6.9	6.7	8.8	11.1	10.4	12	12.1	9.6	8.1	11.4	12.1	6.2	24
14	15.2	13.5	14.7	13.1	10.8	13	12.5	9.6	6.5	9.7	6.1	5.4	5.2	11.7	14.9	15.9	12.4	6.7	5.5	5.9	10.3	9.3	12.8	12.4	15.9	10.5	24
15	15.8	13	3.4	7.3	10.8	4.2	2.6	3.9	1.3	2.1	6.2	4.8	1.7	4.8	3.8	5	6.3	3.7	4	4.5	3	5	7	4	15.8	5.3	24
16	4.1	6.6	8.7	12	10.4	5.2	6.5	3.6	2.8	7.7	6.8	5	3.5	3.3	3.3	7.5	7.6	6.1	6.3	3.8	6.5	11.6	10.8	11.5	12.0	6.7	24
17	10.1	12	12.6	14.4	15.6	16.7	17.3	18	17.1	20.8	28.3	29.4	30.4	27.3	27.7	26.2	27.1	23.5	21.9	21.7	25.8	26.7	25.7	17.6	30.4	21.4	24
18	13.2	12.1	9.7	9.2	5	3.8	3.2	5.9	7.9	11.2	15.7	22.5	18	21.8	20.1	14.9	12.3	8.8	6.3	7.5	2.8	1.3	3.7	3.8	22.5	10.0	24
19	6.3	5.1	2	4.4	2.2	0.3	1.5	1.4	3.4	8.7	8.1	8.1	12.1	16.9	17.7	12.4	8.4	9.1	11.8	10.7	10.4	17.5	20.7	19.9	20.7	9.1	24
20	8.5	7.6	6.2	7.9	10.4	7.5	8	5.7	4.5	2.9	5.5	5.4	6.2	10.3	10.1	10.7	7.8	7.2	7.1	8.2	8.9	7.9	6.5	5.3	10.7	7.3	24
21	5.7	4.6	2	3.6	3.4	7.6	11.1	13	11.9	17.9	19.9	15.6	14.5	11.7	13.8	9.4	10.2	12	12.2	10.6	6.6	4.7	1.2	5.6	19.9	9.5	24
22	4.8	7.1	2.5	3.6	2.1	4.1	1.6	1.4	0.9	5.9	4.3	9.1	15	17.1	21.8	14.1	11.2	13.7	11.1	10.9	8.2	8.5	10.3	10.9	21.8	8.3	24
23	10.2	10	11.2	8.6	14.7	13.8	10.6	12.5	12	11.9	9.6	10.1	12.9	18	19.8	16.3	13.8	13.6	12.2	10.7	6.5	9.3	15.4	25.3	25.3	12.9	24
24	22.8	20.3	25.1	25.2	27.3	23.7	21	23.7	28.8	30.4	31.1	32.5	***38.7***	37.5	31.7	27.8	17.8	9.3	10	11.2	11.4	13.7	14.6	10.4	***38.7***	22.8	24
25	6.5	9.6	14.5	12.4	2.7	5.2	9.9	7.6	2.5	3.9	2.6	3.7	6.3	9.5	13.1	14.6	15.4	15.6	16.6	14.2	12.3	18	23.8	23.3	23.8	11.0	24
26	20.3	14.9	15.5	15.1	15.8	18	15.7	14.4	13.8	15.2	14.7	14.3	13.6	13.3	15.2	16.7	17.4	13.5	15.8	15.8	16.2	15.7	15.4	17.6	20.3	15.6	24
27	17.6	17.3	17.8	16	16.8	15.4	12.6	13.5	16.2	17.8	17.4	15.7	17.1	17.1	17.9	16	15.4	13.5	10.2	12.3	12.4	10.7	8.4	6.9	17.9	14.7	24
28	4.2	4.4	3.5	2.7	3.2	2.4	3.5	5	6.4	8.4	12.2	13.6	14.7	15.1	16.6	19.2	18.9	16.8	17.2	19.8	17.5	19.1	17.6	16	19.8	11.6	24
29	15	11.5	11	10	6	5.8	7.7	7.4	9.2	7.8	7.3	6.8	8.2	7.3	8.9	8.8	9	7.2	6.6	3.3	5.4	10.3	8	9.1	15.0	8.2	24
30	9.9	9	9.8	12.1	13.7	15.9	14.6	15	16.6	16.8	18.4	18.5	23.5	23.8	25.5	26.3	27.8	28.2	31.5	29.3	34	30.3	31.9	30.6	34.0	21.4	24
31	30.6	31.6	28.4	24	23.7	22.8	22.1	23.6	21.7	24	24.6	23.5	20.9	17.9	11.1	13.2	5.8	6.3	5.9	3.7	7.8	11.2	7.9	**P**	31.6	17.9	23
HOURLY MAX	31.2	34.0	32.3	33.5	30.0	28.1	25.4	26.3	31.2	34.2	32.3	36.4	38.7	38.7	35.1	33.5	32.4	31.1	31.5	29.3	34.0	30.3	31.9	34.6			
HOURLY AVG	11.2	11.1	10.3	10.5	10.3	9.8	9.9	10.2	10.8	13.5	15.2	16.0	17.1	18.4	18.8	17.3	15.6	12.9	12.2	11.8	11.8	12.2	12.2	12.8			

STATUS FLAG CODES

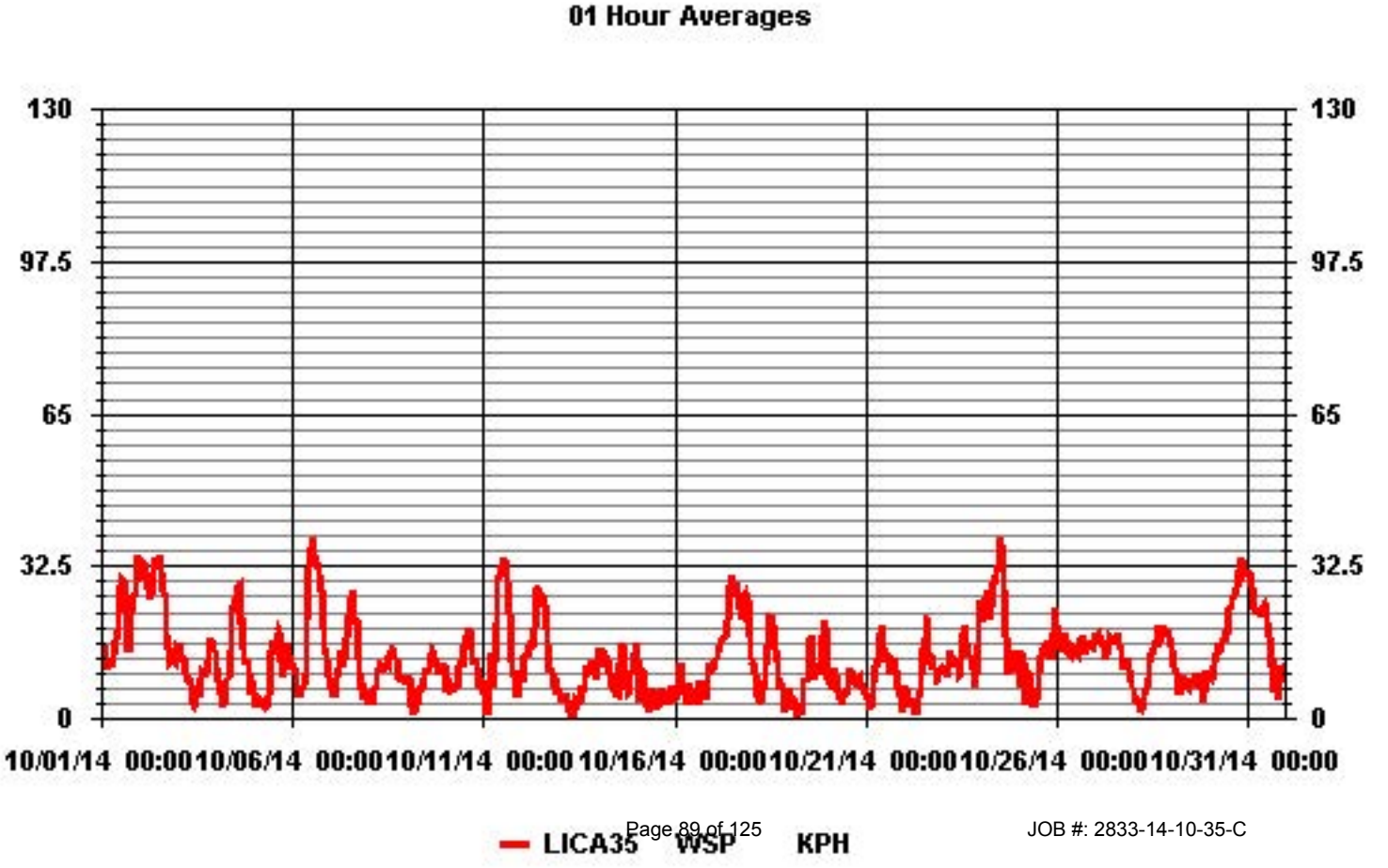
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



LAST CALIBRATION:	February 21, 2014
DECLINATION :	MAEGNETIC DECLINATION 19 DEGREES EAST

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	743						
MAXIMUM 1-HR AVERAGE:	38.7	KPH	@ HOUR(S)	13, 12	ON DAY(S)	6, 24	
MAXIMUM 24-HR AVERAGE:	26.0	KPH			ON DAY(S)	2	
					VAR-VARIOUS		
			OPERATIONAL TIME:		743	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME:		99.9	%	
STANDARD DEVIATION:	8.08		MONTHLY AVERAGE:		13.01	KPH	



JOB #: 2833-14-10-35-C

Lakeland Industry & Community Association - Elk Point Site

OCTOBER 2014

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST

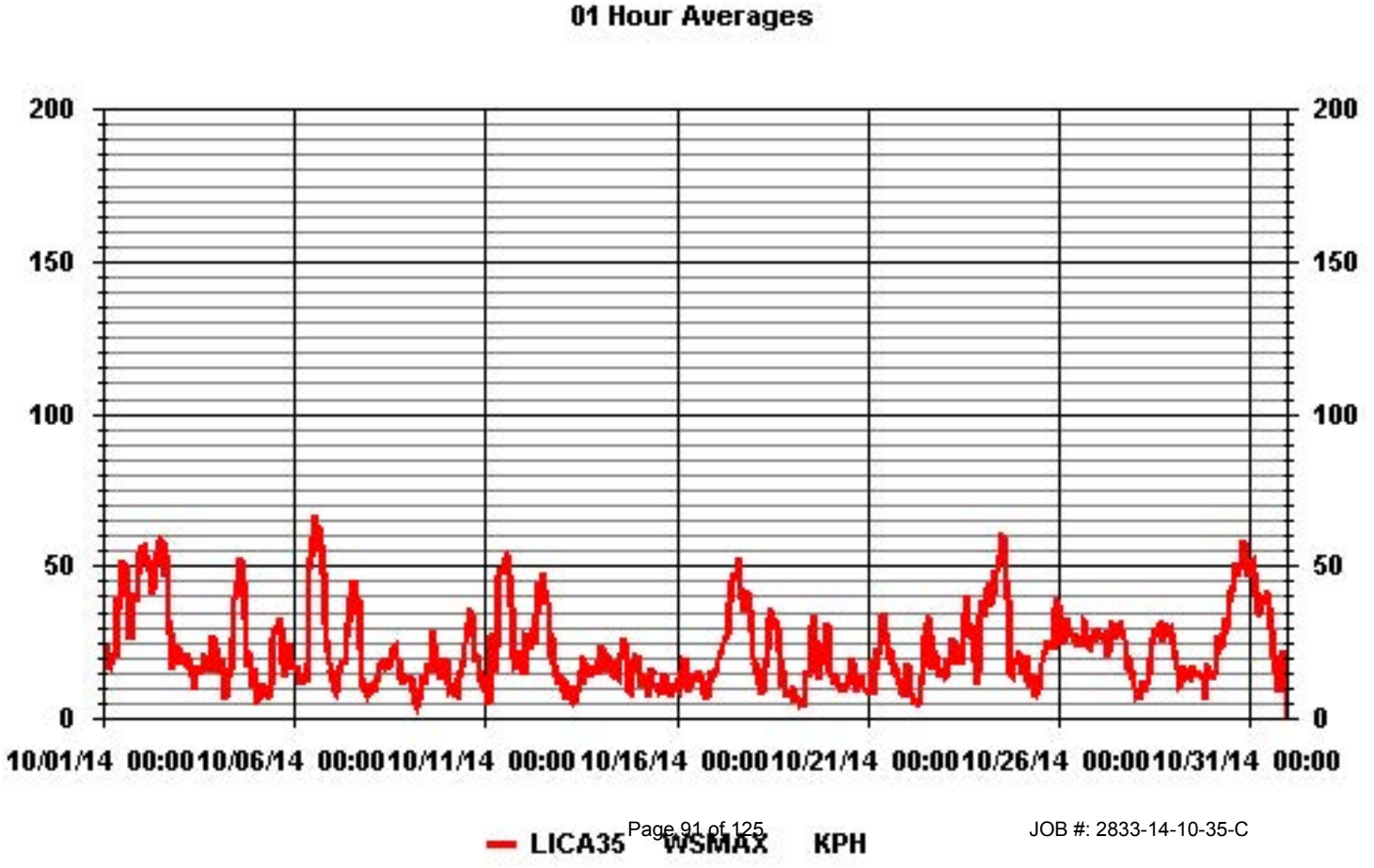
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	24.3	23.3	24.8	15.8	19	17.9	19.8	21.8	21.5	39.8	35.4	40	51.6	42.5	47.5	49.9	37	26.1	29.1	40.9	39.5	39.4	46.7	54.2	54.2	33.7	24
2	55.9	56.3	52.2	52.5	49.5	48.9	40.4	41.9	51.7	54.1	52.3	58.3	50.5	58.3	57.8	46.3	53.3	32.7	28.5	15.8	22.7	20.8	18.4	24	58.3	***43.5***	24
3	18.9	19	19.8	18.6	20.2	20.5	18.8	15.3	14.4	9.4	16.3	16.3	16.5	14.7	17.3	21.1	18.3	17.2	14.9	18.9	22.4	26.7	24	23.6	26.7	18.5	24
4	15.3	17.6	18.1	15	6.2	7.3	13.3	13.7	16.1	26.3	39.1	39.7	44.1	42.9	52.3	41.4	44.9	33.1	16.3	22.2	20.7	15.1	10.4	16.3	52.3	24.5	24
5	6.3	6.6	11.7	10.8	9.1	9.9	8.8	7.9	6.5	11.1	26.3	27.8	29	30.7	33.1	32	30.7	18.6	13.1	20.7	22.3	24.5	19.8	16.3	33.1	18.1	24
6	17.6	15.5	16.8	14.7	11	14.7	13.8	12	18.1	48.8	52.6	58.9	63.9	***66.3***	61.8	63.5	54.2	57.5	48.2	31.2	26.2	22.5	18.6	16	***66.3***	34.4	24
7	12.4	9.9	8.9	10.7	14.8	17	18.2	18.4	17.6	26.2	31.5	39.9	45.5	41.8	45.5	34.3	39.5	23.1	13.9	11.4	9.2	8	9.1	7.7	45.5	21.4	24
8	11.6	9.8	8.4	12.2	14	16.1	17.3	18.1	17.1	17.9	17.4	19.5	17.1	21.4	22.7	23.5	19.9	19.3	18.9	13.5	10.8	14.8	13.6	13.4	23.5	16.2	24
9	11.8	13.7	9.5	7.9	5.7	4.4	6	9.9	13.6	11.3	14.1	17.2	17.3	16.9	27.1	28.6	24.3	20.2	16	12.6	15.3	14.2	13.2	19.7	28.6	14.6	24
10	11.5	9.4	10.3	10.4	8.4	8.9	8.3	13.2	15.4	17.2	18.6	24.9	29.9	29.3	36.3	34.7	31.1	22.3	18.5	20.1	16.4	12.5	11.4	13.3	36.3	18.0	24
11	13	8.4	4.7	27.2	28.3	15.3	23.8	22.9	46.6	48.3	49.5	47.4	51.9	53.3	51.9	47.5	37.4	20.3	17.8	18.6	20.2	15.7	22.4	15.4	53.3	29.5	24
12	14.2	26.7	26	22.1	27.9	26.5	29.4	24.4	33.9	44.2	42.6	38.8	47.9	42.8	38.1	37.8	29.2	19.9	27.4	18.2	13.8	15.8	10.8	13.7	47.9	28.0	24
13	8.7	12.8	8.1	8.5	8.8	10.9	6.5	4.8	5.2	10.6	8.8	13.9	13.3	20.2	17.6	17.1	17	15.6	13.2	16.8	15.8	15.3	14.1	19.1	20.2	12.6	24
14	21.3	23.8	21.9	18.7	15.4	20.2	19.5	18.2	14.4	13.6	13.9	13.3	19	21.1	26.5	25.5	23.1	14.8	9.3	8.9	15.1	18.8	20.9	18.2	26.5	18.1	24
15	20.9	15.7	9.7	13	13.3	13.3	7	10.3	16.3	15.2	**P**	10.8	9.1	9.8	7.8	13	15.2	7.7	10.2	9.2	7.2	9.5	11.7	10.2	20.9	11.6	23
16	9.4	13.3	15.4	18.6	18	18.4	10.7	8.9	10.5	13.9	13.9	13.4	13.8	12.2	15.8	14	13	9.2	9.4	6.4	10.4	15.7	14.4	15.8	18.6	13.1	24
17	15.5	16	19.1	20.9	22.3	24.7	26.5	26.7	27.4	38.1	44.8	45.7	46.9	47.5	51.8	52.1	43.9	39.7	34.6	38.9	41.8	39	36.2	29.1	52.1	34.6	24
18	19.9	18.4	15.2	14.3	11.6	7.5	8.9	16.7	20	22.5	33.1	36.1	28.9	32.2	31.9	30.1	22.5	20	10	15.6	9.5	6.8	7.8	8.2	36.1	18.7	24
19	9.1	10.6	5.3	7.4	6.1	4.5	5.2	4.8	6.5	15.5	14.6	14.7	21	30.5	33.6	26.4	15.9	13	19.6	19.2	19.8	24.6	31.6	30.7	33.6	16.3	24
20	15.8	14	11	12.2	14.5	12.1	11.3	10.1	8.4	10	10.7	11.3	14	19.8	19	18.5	14	9	10.2	11.7	13.5	10.7	9.2	8.9	19.8	12.5	24
21	8.7	8.7	19.2	10.6	7.9	15.8	22.8	20.6	24.1	33.5	34.6	25.2	28.1	19.1	22.9	18.2	14.5	15.9	14.8	13.5	11.6	8.6	6.8	10.8	34.6	17.4	24
22	15.4	18	7	8.5	5.7	5.6	5.5	4.7	5.1	11.1	14	17	27.5	30.8	33.7	27.9	15.8	22.9	15.9	20.5	13.6	16.7	15.1	15.6	33.7	15.6	24
23	13.4	13.7	19.5	20	23	26.1	17.6	19	22.1	22.6	17.3	21.7	26.3	34.9	40.4	31.3	30.8	26.7	21.8	19.4	10.7	14.8	33.6	39	40.4	23.6	24
24	34.4	34.2	41.5	42.9	44.5	38.2	38.4	40.2	48.4	48.8	52.4	52	60.1	59.7	51.7	46.2	39.3	15.4	14.6	17.5	18.1	19.2	21.4	20.9	60.1	37.5	24
25	13.9	17	19.7	19.8	12.8	10.6	14.7	12.3	7.2	9.2	8.2	9.7	13.9	18	21.3	21.7	24.9	24.7	25	23.7	22.3	36.1	39.1	36	39.1	19.2	24
26	37.5	28.3	25.5	25.7	29	32.9	29.1	28.9	27.2	25.7	26.7	28.3	24.5	23.2	26.2	31.6	30.9	25.1	24.9	24.2	26.1	27.1	24.6	27.5	37.5	27.5	24
27	29.6	27.7	27.6	27.3	27.8	25.3	20.3	21.7	26.2	32.2	28	26.2	29	30.9	31.1	27.1	28.9	26.4	18.2	18.8	20.5	16.1	13.3	10.7	32.2	24.6	24
28	7.5	8.2	8.5	6.4	12.7	8.5	9.6	11.2	17.6	17	23.8	26.4	28.6	28.4	28.8	30	31.7	25.1	26.6	31.6	26.8	28.6	29.4	25.3	31.7	20.8	24
29	22.5	20.3	17.4	16.7	11.6	12.3	17	14.1	16.5	14.2	13.6	14.8	16.7	14.5	14.6	14.7	14.6	13.4	13.4	6.2	12.9	17.7	16.1	15.6	22.5	15.1	24
30	15	14.4	15.7	20.6	27.4	25	22.9	27.6	31.7	31.4	32.9	38.5	42	43.5	51.2	46.7	50.9	49.8	51.8	51.1	58.1	50.2	49.2	46.6	58.1	37.3	24
31	51	51.7	48.9	39.8	41.8	34.9	33.7	37.7	39.6	38.7	40.9	40.5	37.1	29.8	20.2	21.1	16.2	10.2	10.6	8.4	13.3	22.4	14.2	**P**	51.7	30.6	23
HOURLY MAX	56	56	52	53	50	49	40	42	52	54	53	59	64	66	62	64	54	58	52	51	58	50	49	54			
HOURLY AVG	18.8	18.8	18.3	18.4	18.3	17.9	17.6	18.0	20.9	25.1	27.6	28.7	31.1	31.8	33.5	31.4	28.5	22.4	19.9	19.5	19.6	20.3	20.2	20.7			

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

MAXIMUM INSTANTANEOUS VALUE:	66.3	KPH	@ HOUR(S)	13	ON DAY(S)	6
					VAR-VARIOUS	
OPERATIONAL TIME:					742	HRS



JOB #: 2833-14-10-35-C

LICA-ELK
WSP / WDR Joint Frequency Distribution (Percent)

October 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	.94	.53	.53	1.07	2.15	1.61	.26	.67	.80	.94	.67	1.34	2.15	2.15	2.41	.26	18.54
<	12.0	.13	1.07	.94	.53	6.18	6.98	3.09	1.07	.80	.13	.13	4.30	3.62	1.88	2.28	.26	33.46
<	20.0	.13	.40	.53	1.20	.94	6.58	3.36	.67	.53	.00	.13	2.01	3.76	4.83	3.49	2.01	30.64
<	29.0	.00	.00	.00	.00	.40	1.47	2.68	.00	.00	.00	.00	.00	2.41	2.55	1.61	.00	11.15
<	39.0	.00	.00	.00	.00	.00	.13	1.20	.00	.00	.00	.00	.00	1.34	1.61	1.88	.00	6.18
>=	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	1.20	2.01	2.01	2.82	9.67	16.80	10.61	2.41	2.15	1.07	.94	7.66	13.30	13.03	11.69	2.55	

Calm : .00 %

Total # Operational Hours : 744

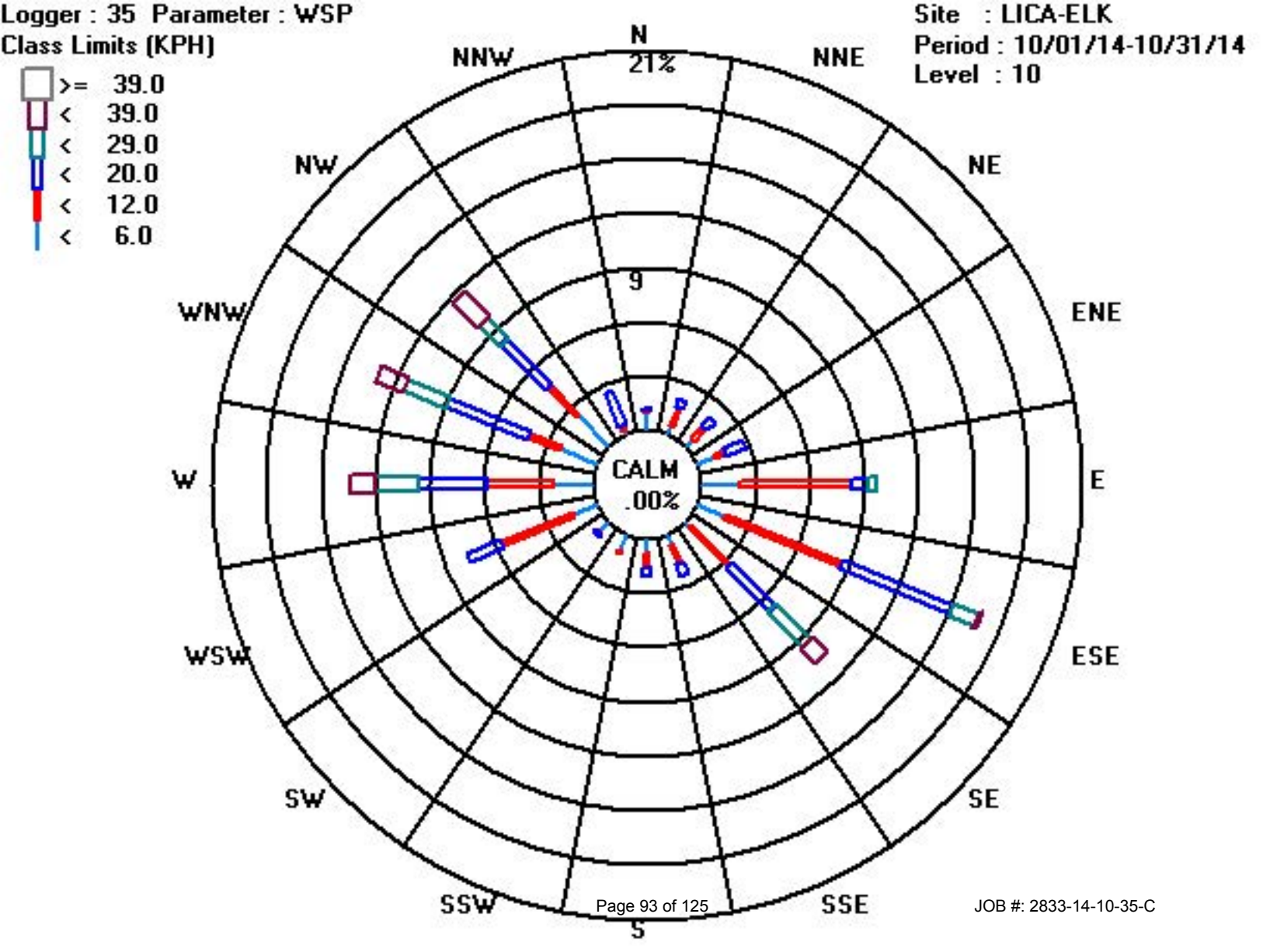
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	7	4	4	8	16	12	2	5	6	7	5	10	16	16	18	2	138
<	12.0	1	8	7	4	46	52	23	8	6	1	1	32	27	14	17	2	249
<	20.0	1	3	4	9	7	49	25	5	4		1	15	28	36	26	15	228
<	29.0					3	11	20						18	19	12		83
<	39.0						1	9						10	12	14		46
>=	39.0																	
	Totals	9	15	15	21	72	125	79	18	16	8	7	57	99	97	87	19	

Calm : .00 %

Total # Operational Hours : 744



JOB #: 2833-14-10-35-C

Vector Wind Direction

Lakeland Industry & Community Association - Elk Point Site

OCTOBER 2014

WIND DIRECTION (WD) hourly averages in degrees

MST

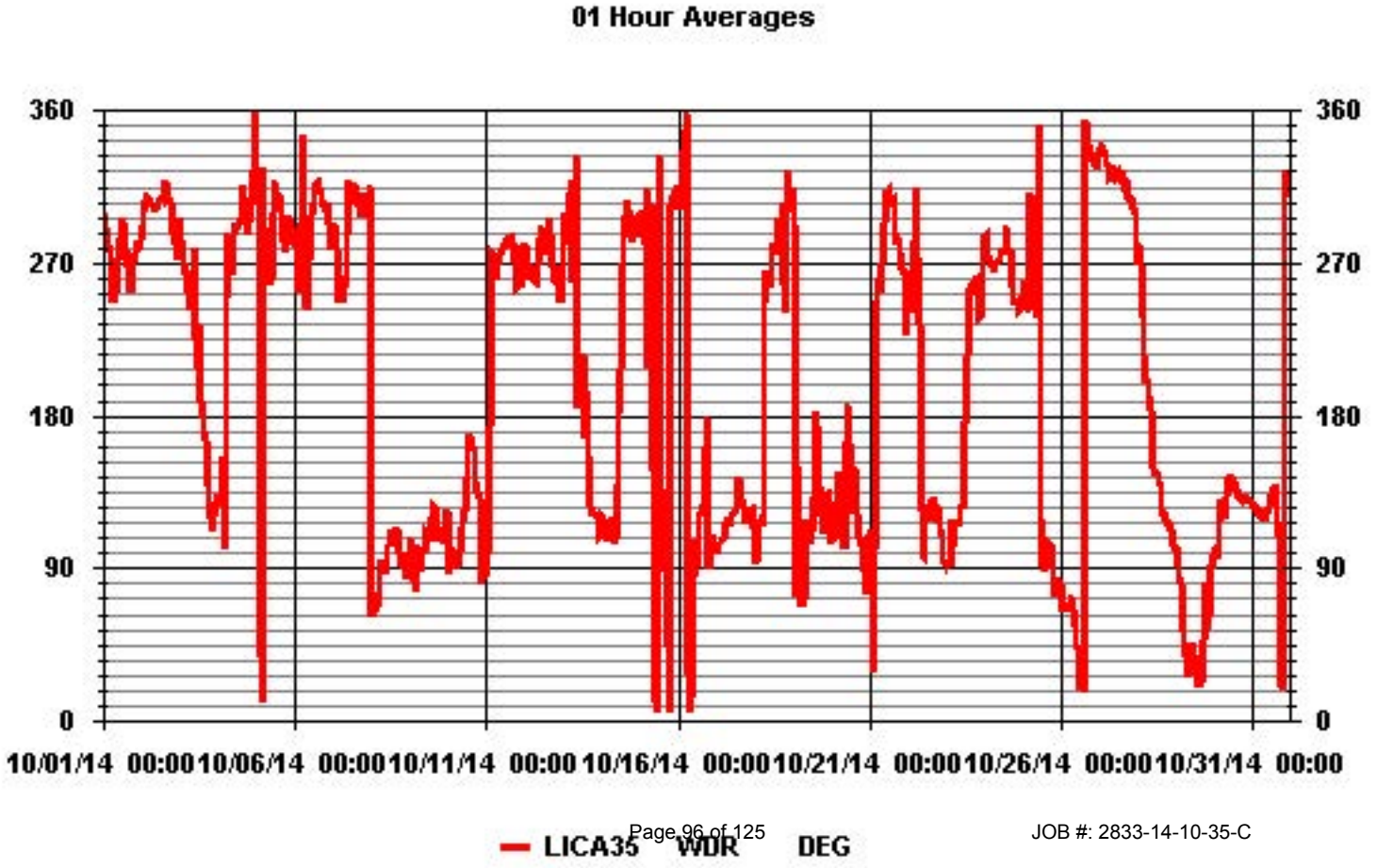
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUANDRANT	RDGS.
DAY																											
1	299	287	290	281	277	253	247	251	253	272	284	297	295	279	278	268	262	252	256	270	276	283	278	289	299	WNW	24
2	288	300	306	311	308	307	305	303	303	302	303	307	308	306	312	318	307	308	306	287	297	282	272	294	318	NW	24
3	294	284	267	268	266	254	242	254	264	279	225	208	235	189	179	171	166	139	125	120	112	121	128	131	294	WNW	24
4	130	134	155	150	101	287	249	266	263	271	286	294	289	294	294	315	301	307	287	294	308	325	312	359	359	N	24
5	319	305	38	11	326	292	279	265	257	260	300	318	310	303	311	302	297	283	276	293	298	289	292	283	326	NW	24
6	281	271	252	269	294	345	282	245	243	272	298	305	311	316	317	313	313	305	305	301	302	294	278	285	345	NNW	24
7	281	294	279	246	252	250	246	255	263	286	318	311	314	317	306	304	310	299	297	311	308	309	296	316	318	NW	24
8	61	74	66	67	75	95	88	95	87	95	104	111	111	109	103	112	112	99	95	96	91	86	83	87	112	ESE	24
9	108	101	84	77	80	104	97	87	103	99	112	111	110	120	114	127	126	115	108	107	110	113	106	125	127	SE	24
10	87	90	100	102	90	94	90	99	114	118	124	144	166	165	169	162	161	142	136	133	131	81	84	85	169	SSE	24
11	88	98	174	277	276	271	260	268	275	276	278	282	281	281	285	286	283	271	255	256	278	277	255	272	286	WNW	24
12	281	278	271	260	267	265	261	260	269	285	292	279	278	282	286	297	287	268	261	260	268	247	261	246	297	WNW	24
13	280	299	293	287	311	258	319	295	334	184	187	210	217	166	196	176	157	128	121	123	122	120	109	110	334	NNW	24
14	121	120	112	106	108	112	108	120	104	107	140	181	208	270	289	298	307	302	287	282	292	295	296	287	307	NW	24
15	287	289	301	281	315	207	276	306	148	10	91	4	333	90	91	137	127	45	4	304	301	309	312	316	333	NNW	24
16	301	312	324	337	348	359	28	5	13	72	84	106	91	122	123	127	129	162	179	89	93	110	107	102	359	N	24
17	103	98	105	107	107	108	117	120	115	120	122	123	125	136	143	137	131	126	118	118	126	123	124	114	143	SE	24
18	98	93	101	118	115	122	246	266	257	257	266	282	279	275	284	296	288	306	258	241	324	300	313	310	324	NW	24
19	314	293	73	150	91	67	119	71	119	108	107	105	111	132	183	175	139	120	130	110	133	133	134	130	314	NW	24
20	104	106	108	115	129	147	119	122	101	164	187	165	129	122	150	136	123	108	110	104	90	86	75	109	187	S	24
21	113	95	29	101	247	258	257	269	270	294	311	311	313	310	307	308	289	280	285	277	267	264	227	258	313	NW	24
22	264	263	241	248	283	315	274	234	124	98	97	118	127	125	118	130	132	118	127	117	108	113	94	93	315	NW	24
23	91	93	91	118	102	114	116	118	114	127	125	175	176	215	255	257	255	260	251	262	237	238	264	279	279	W	24
24	286	287	276	272	271	269	264	270	271	272	277	277	278	292	287	275	279	256	250	246	248	242	243	250	292	WNW	24
25	259	242	244	241	310	310	253	258	238	245	352	90	119	88	108	100	89	103	102	83	74	76	82	82	352	N	24
26	81	64	69	67	67	67	74	66	56	45	44	35	18	24	16	354	347	341	334	332	335	328	325	332	354	N	24
27	337	340	337	335	330	328	320	321	320	327	324	325	320	319	324	313	312	320	309	306	309	303	299	283	340	NNW	24
28	268	280	270	239	217	199	202	193	184	150	149	144	146	142	139	122	122	119	115	119	112	114	105	102	280	W	24
29	102	92	86	81	53	37	42	26	28	46	44	33	27	38	19	26	22	48	81	53	61	92	95	94	102	E	24
30	101	103	95	118	131	123	119	132	143	139	143	143	136	141	137	133	132	130	132	132	132	132	129	129	143	SE	24
31	125	127	126	124	126	121	120	119	119	122	126	133	138	136	140	118	110	56	21	19	325	314	312	**P**	325	NW	23

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:	743	HRS
STANDARD DEVIATION:	94.23		AMD OPERATION UPTIME:	99.9	%
			MONTHLY AVERAGE:	272	DEG



JOB #: 2833-14-10-35-C

Standard Deviation Wind Direction

Lakeland Industry & Community Association - Elk Point Site

OCTOBER 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	7	6	6	6	5	9	9	11	12	12	12	12	12	8	11	11	12	12	11	7	7	7	7	7
2	9	7	8	8	7	8	7	7	8	7	8	9	10	10	10	11	9	8	7	6	5	8	8	5
3	4	3	9	9	9	12	7	8	11	30	45	49	30	40	22	17	14	10	6	7	7	7	8	8
4	10	11	14	13	18	29	9	10	10	12	9	11	11	10	10	11	9	8	4	4	13	8	15	8
5	19	8	30	11	21	20	16	16	20	19	13	10	14	13	12	11	7	4	5	7	4	7	6	4
6	6	7	12	20	10	17	12	10	11	12	8	9	10	10	10	10	9	8	7	5	5	6	5	8
7	6	9	12	6	8	8	4	8	9	12	12	11	11	11	9	10	9	4	3	5	3	9	8	28
8	12	17	36	13	10	8	7	7	9	10	10	9	9	9	9	8	8	7	6	7	8	7	8	9
9	6	8	24	10	35	34	19	9	13	15	13	15	12	14	10	12	7	6	4	3	5	5	6	6
10	11	9	4	4	4	3	5	6	8	12	13	17	15	15	16	13	12	9	6	7	6	11	22	7
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13	30	19	8	12	18	12	15	16	22	19	37	32	50	27	29	27	15	5	3	3	5	3	6	5
14	5	6	6	8	7	7	6	12	15	10	20	39	38	18	10	8	8	7	7	7	6	7	5	4
15	3	2	21	8	4	24	24	17	56	68	14	18	40	21	29	20	27	20	11	12	13	10	10	21
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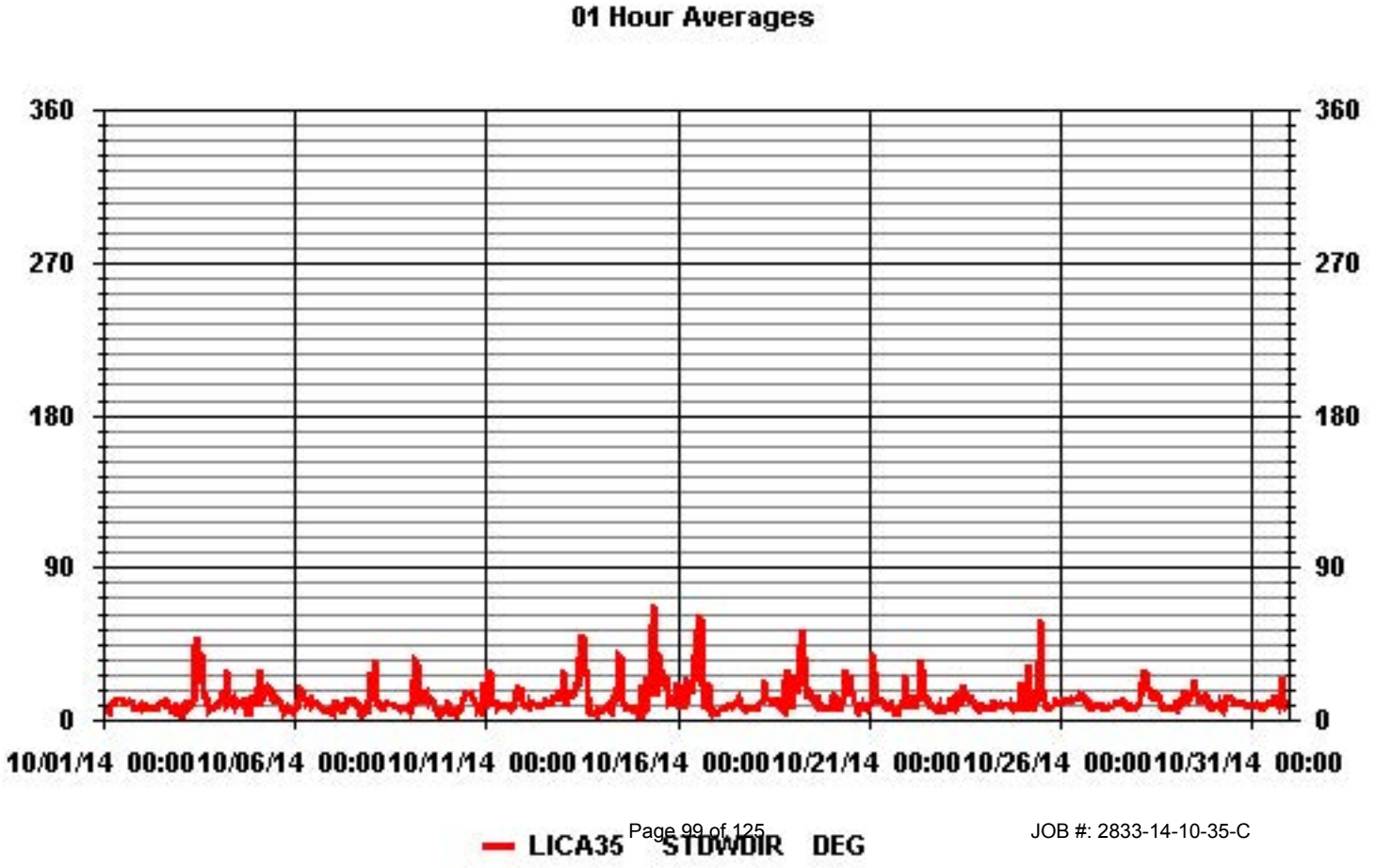
27	8	8	8	8	7	7	8	8	8	9	9	10	11	10	11	9	10	9	8	7	8	6	6	8
28	9	9	19	18	26	30	19	18	18	15	14	15	16	15	12	9	8	8	7	7	8	7	7	8
29	7	11	8	9	14	13	17	14	12	14	16	24	21	17	16	11	11	12	10	16	12	7	12	6
30	8	8	9	8	11	9	7	10	14	12	13	13	11	12	11	10	10	10	10	10	9	9	8	8
31	9	8	8	10	9	7	7	8	8	9	10	10	12	11	15	8	11	8	10	25	13	9	10	**P**

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

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 743 HRS



JOB #: 2833-14-10-35-C

Calibration Reports

Sulphur Dioxide

API 100A SO2 Analyzer Calibration

Date:	7-Oct-14	**Start/End Time (mst):**	08:35:00/12:45
Company:	LICA	**Calibration Purpose:**	Remove Calibration
Station Name/Location:	Elk Point	**Converter Make & Model:**	na
Performed by:	Limin Li	**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:	16-Sep-14	**As Found C.F.**	1.019
Previous Cal High Point C.F.:	0.999	**New C.F.:**	1.019

	As found:	As left:
SLOPE:	0.979	na
OFFSET:	24.3	na
HVPS:	755	na
DCPS:	2593	na
RCELL TEMP:	49.4	na
BOX TEMP:	29.5	na
PMT TEMP:	7.2	na
IZS TEMP:	40.2	na
STABIL:	0.0	na
PRES:	26.8	na
SAMP FL:	652	na
PMT:	63.6	na
UV LAMP:	3232(92.2%)	na
STR. LGT	11.9	na
DRK PMT:	37.8	na
DRK LMP:	-7.3	na
Internal Span:	248.1	na

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	4995	0.0	4995	0	-0.3	NA
adjusted zero	na	0.0		0		NA
as found high	4918	77.80	4996	750.6	737.0	1.019
adjusted high	4918	77.80	4996	750.6	737.0	1.019
mid	4957	37.91	4995	365.8	359.0	1.019
low	4976	17.95	4994	173.2	170.0	1.019
calibrator zero	na	0.00		0		NA
					Average C.F.=	1.019

Linear Regression/Calibration Results:

		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**1.018**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**0.03%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**-1.95%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

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

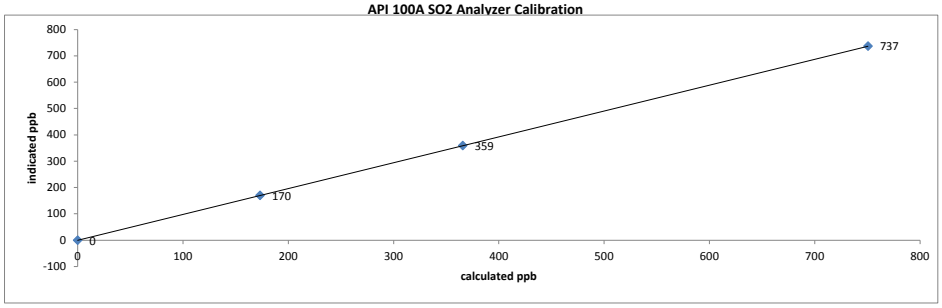
SO_2 High Point gas concentration: na Time gas run (mst): na

Zero corrrected analyzer response: na

Comments:

No zero and span adjusted.

API 100A SO2 Analyzer Calibration



API 100E SO2 Analyzer Calibration

Date:	7-Oct-14	**Start/End Time (mst):**	17:40/19:30
Company:	LICA	**Calibration Purpose:**	Install Calibration
Station Name/Location:	Elk Point	**Converter Make & Model:**	NA
Performed by:	Limin Li	**Converter Serial #:**	NA
Application H_2S/TRS/SO_2:	SO2	**Cal Gas Expiry Date:**	4-Feb-18

Analyzer:

Serial Number:	467	**Range ppb:**	1000
Last Calibration Date:	na	**As Found C.F.**	NA
Previous Cal High Point C.F.:	na	**New C.F.:**	NA

	As found:	**As left:**
SLOPE:	na	0.984
OFFSET:	na	27.2
HVPS:	na	529
RCELL TEMP:	na	50.0
BOX TEMP:	na	34.4
PMT TEMP:	na	8.1
IZS TEMP:	na	45.0
TEST:	na	NA
STABIL:	na	0.0
PRES:	na	25.6
SAMP FL:	na	425
PMT:	na	87.8
NORM PMT:	na	30.4
UV LAMP:	na	2639
LAMP RATIO:	na	99.8%
STR. LGT	na	13.4
DRK PMT:	na	61.3
DRK LMP:	na	2.8
Internal Span:	na	511

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	4922	78	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	na	0.0		0		NA
adjusted zero	4995	0.0	4995	0	0.0	NA
as found high		na				
adjusted high	4917	77.74	4995	750.2	751.0	0.999
mid		na				
low		na				
calibrator zero	na	0.00		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	**NA**	**± 15%**	**NA**

Converter Effeciency Check for H_2S/TRS application:

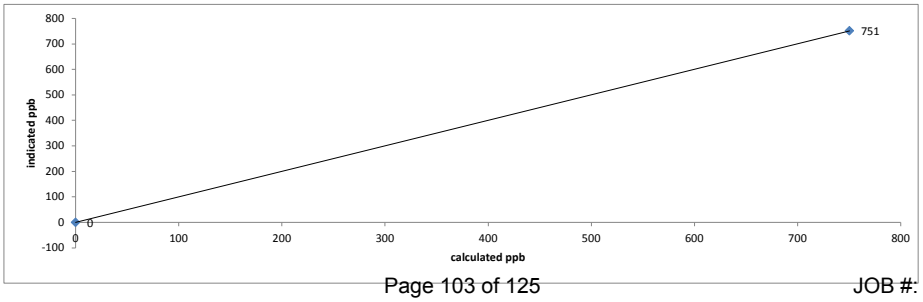
****run converter effeciency test immediately following zero adjust****

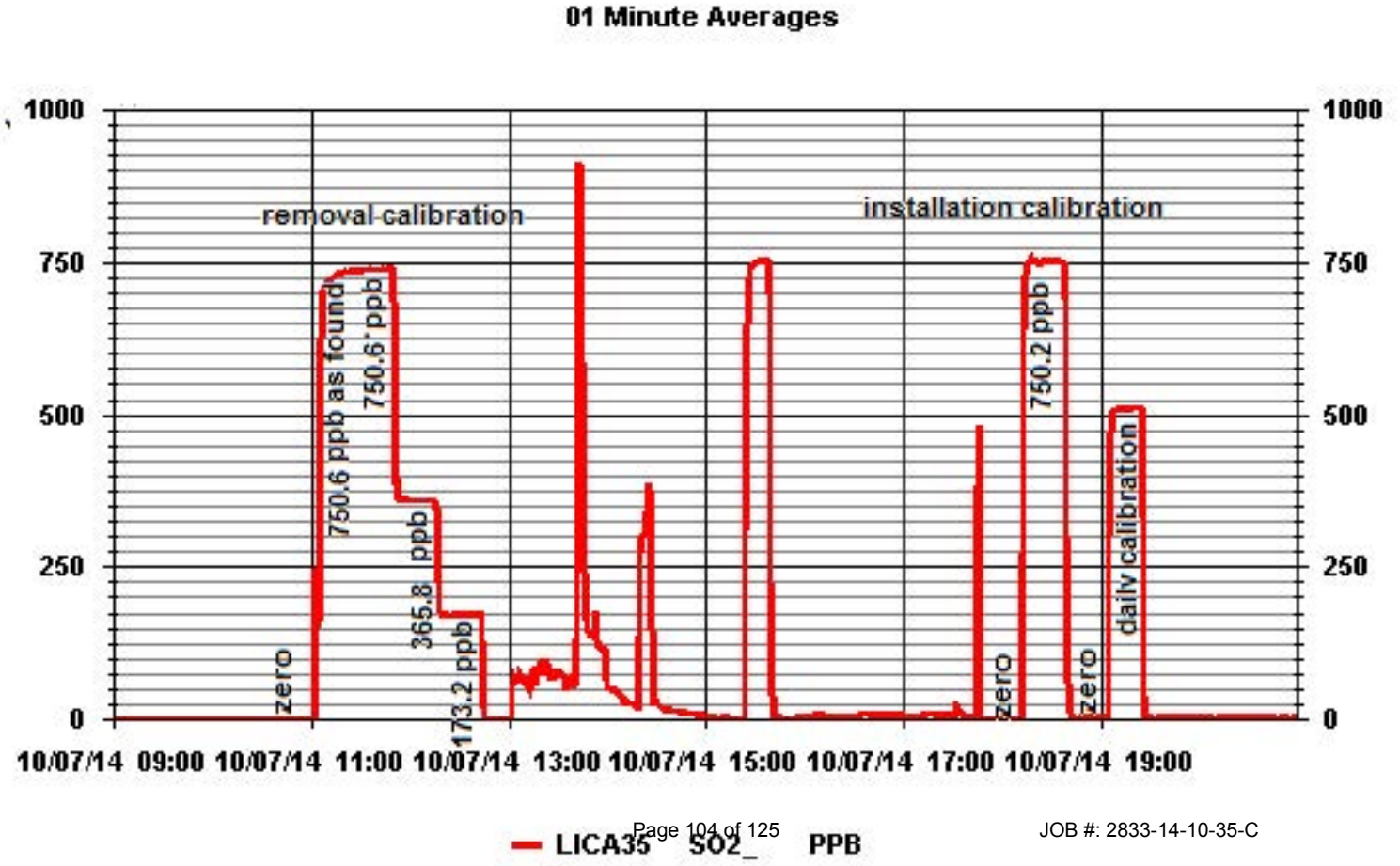
SO_2 High Point gas concentration:	na	Time gas run (mst):	na
Zero corrrected analyzer response:	na		

Comments:

Will do full calibration tomorrow.

API 100E SO2 Analyzer Calibration





JOB #: 2833-14-10-35-C

API 100E SO2 Analyzer Calibration

Date:	8-Oct-14	**Start/End Time (mst):**	0840/1330
Company:	LICA	**Calibration Purpose:**	Install Calibration
Station Name/Location:	Elk Point	**Converter Make & Model:**	NA
Performed by:	Limin Li	**Converter Serial #:**	NA
Application H_2S/TRS/SO_2:	SO2	**Cal Gas Expiry Date:**	4-Feb-18

Analyzer:

Serial Number:	467	**Range ppb:**	1000
Last Calibration Date:	7-Oct-14	**As Found C.F.**	0.992
Previous Cal High Point C.F.:	0.999	**New C.F.:**	1.004

	As found:	**As left:**
SLOPE:	0.984	0.984
OFFSET:	27.2	27.2
HVPS:	529	529
RCELL TEMP:	50.0	50.0
BOX TEMP:	35.3	35.3
PMT TEMP:	8.1	8.1
IZS TEMP:	45.0	45.0
TEST:	NA	NA
STABIL:	0.0	0.0
PRES:	25.6	25.6
SAMP FL:	410	410
PMT:	87.8	87.8
NORM PMT:	30.4	30.4
UV LAMP:	2639	2639
LAMP RATIO:	99.8%	99.8%
STR. LGT	13.4	13.4
DRK PMT:	61.3	61.3
DRK LMP:	2.8	2.8
Internal Span:	511	500.7

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	4919	81	5000
mid	4961	39	5000
low	5000	20	5020

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		0	2.0	NA
adjusted zero	4996	0.0	4996	0	0.0	NA
as found high	4915	80.90	4996	780.5	787.0	0.992
adjusted high	4915	80.90	4996	780.5	780.0	1.001
mid	4959	39.40	4998	379.9	378.0	1.005
low	4979	19.70	4999	190.0	189.0	1.005
calibrator zero	4996	0.00	4996	0	0.5	NA
					Average C.F.=	1.004

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)=	**0.07%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**0.72%**	**± 15%**	**PASS**

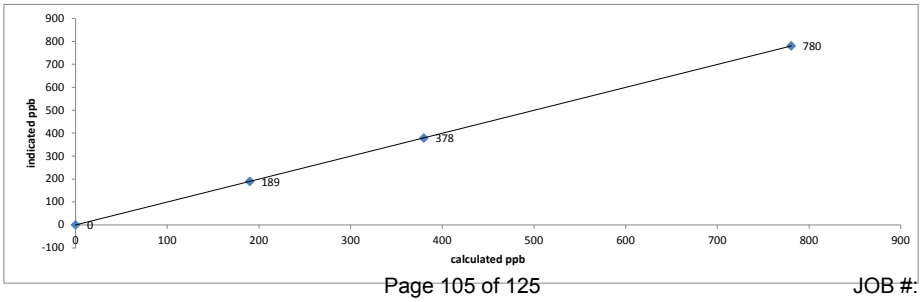
Converter Effeciency Check for H_2S/TRS application:

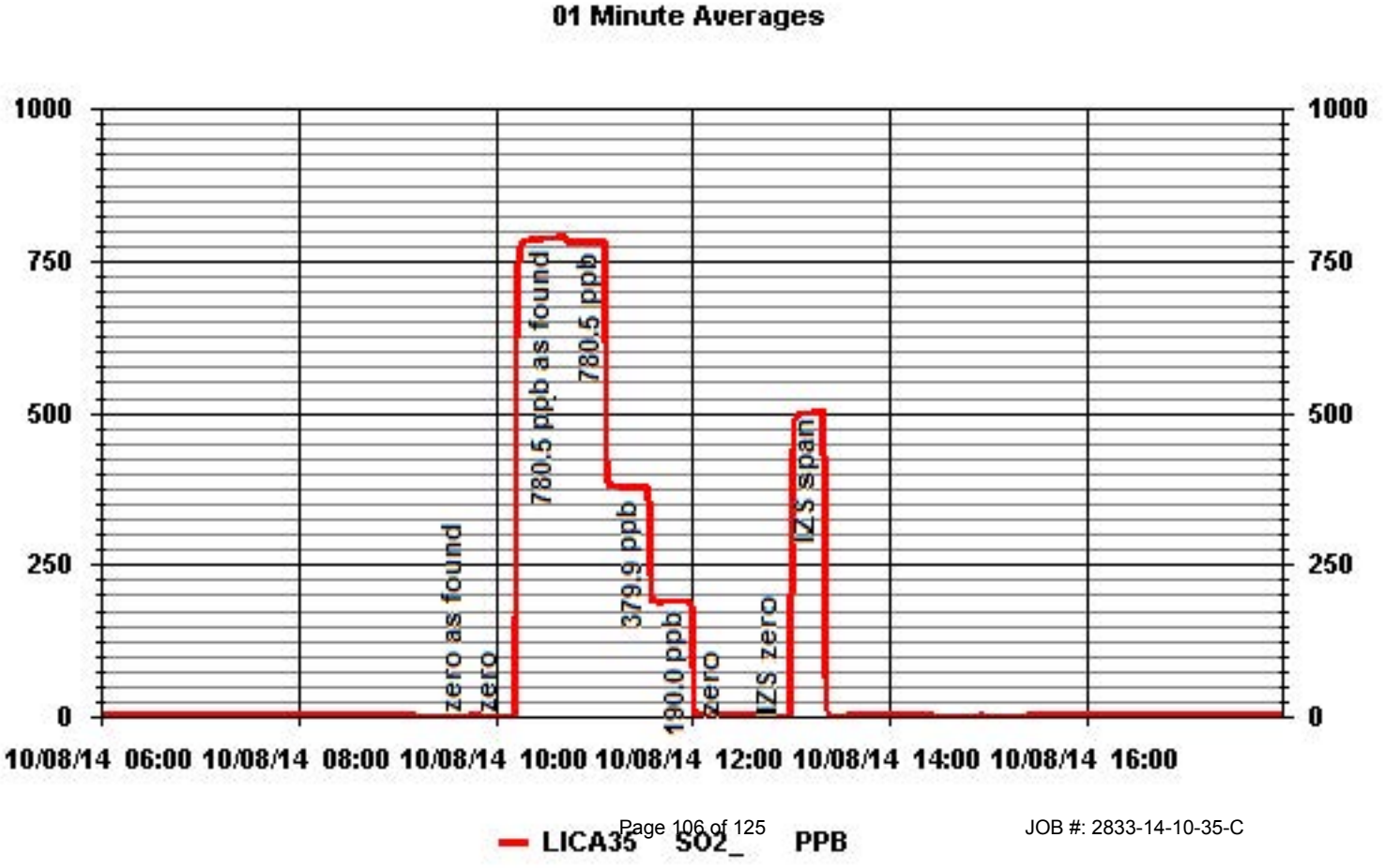
****run converter effeciency test immediately following zero adjust****

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

Comments:

API 100E SO2 Analyzer Calibration





JOB #: 2833-14-10-35-C

Hydrogen Sulphide

API 101E H2S Analyzer Calibration

Date:	7-Oct-14	**Start/End Time (mst):**	08:35/16:00
Company:	LICA	**Calibration Purpose:**	routine monthly
Station Name/Location:	Elk Point	**Converter Make & Model:**	internal
Performed by:	Limin Li	**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:	16-Sep-14	**As Found C.F.**	1.054
Previous Cal High Point C.F.:	1.000	**New C.F.:**	1.021

	As found:	As left:
SLOPE:	1.146	1.214
OFFSET:	103	105
HVPS:	536	536
RCELL TEMP:	50.0	50.0
BOX TEMP:	30.3	28.6
PMT TEMP:	7.9	8
IZS TEMP:	45.0	45.0
TEST:	NA	NA
STABIL:	.1	.1
PRES:	27.5	27.5
SAMP FL:	569	569
PMT:	106.4	106.4
NORM PMT:	105.6	105.6
UV LAMP:	3345	3345
LAMP RATIO:	94.5%	94.5%
STR. LGT	59	59
DRK PMT:	10.7	10.7
DRK LMP:	0.4	0.4
Internal Span:	60.39	61.2

Calibrator:

Flow Meter ID's:	na
Make & Model:	API 700
Serial #:	831
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	4959	39	4998
mid	4979	19	4998
low	4985	11	4996

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	4996	0.0	4996	0	0.6	NA
adjusted zero	4996	0.0	4996	0	0.0	NA
as found high	4959	38.60	4998	78.0	74.0	1.054
adjusted high	4959	38.60	4998	78.0	78.0	1.000
mid	4979	18.80	4998	38.0	37.4	1.016
low	4985	11.40	4996	23.0	22.0	1.048
calibrator zero	4996	0.00	4996	0	0.2	NA
					Average C.F.=	1.021

Linear Regression/Calibration Results:

		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**0.997**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**0.52%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**-5.42%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

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

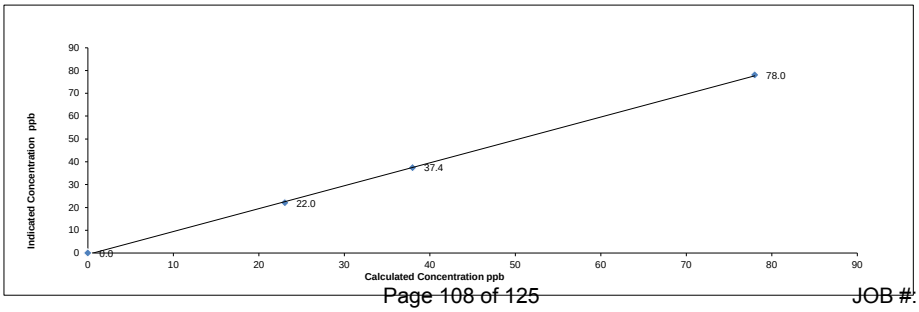
SO_2 High Point gas concentration: NA Time gas run (mst): NA

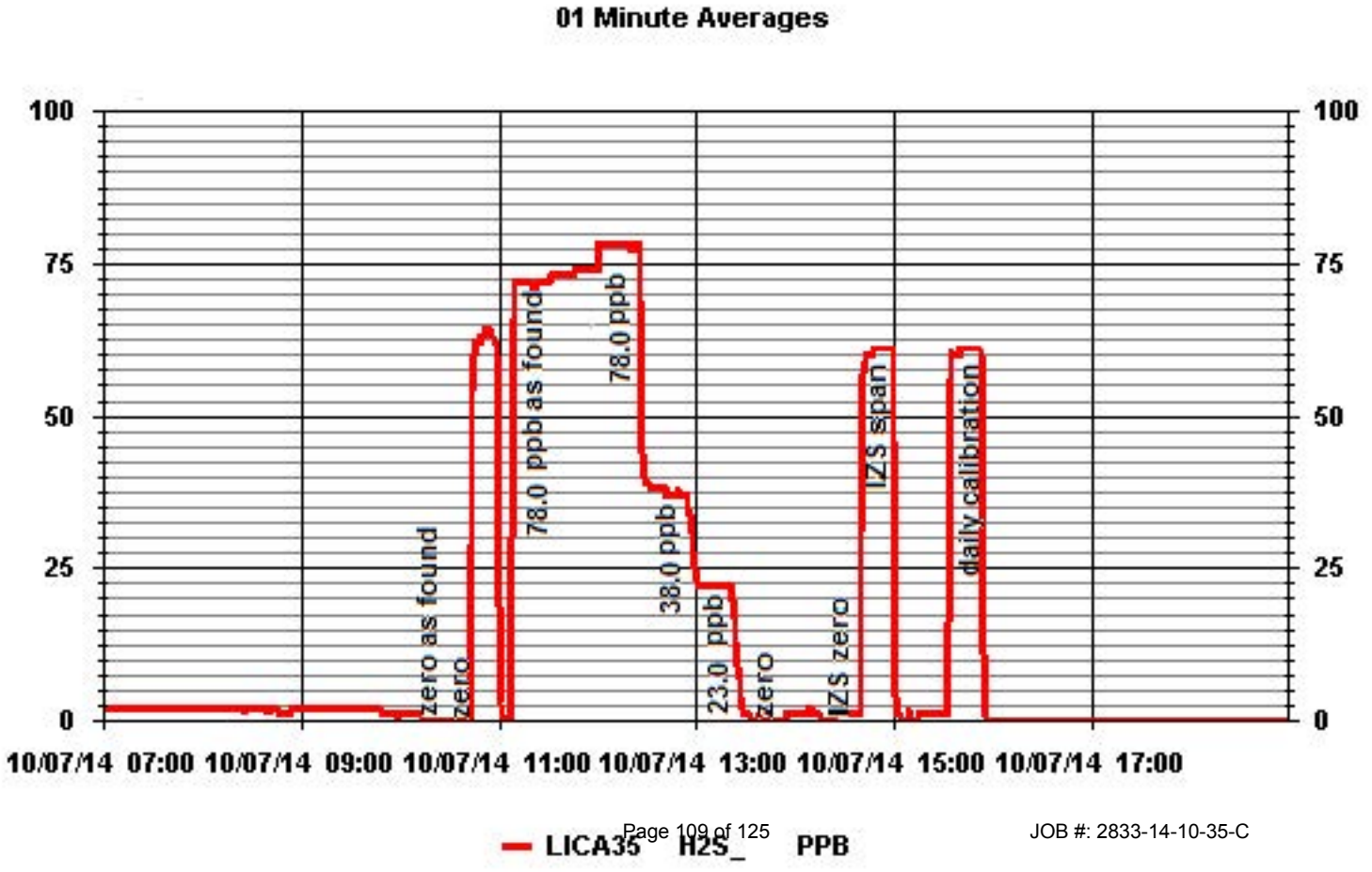
Zero corrrected analyzer response: NA

Comments:

changed filter

API 101E H2S Analyzer Calibration





JOB #: 2833-14-10-35-C

Total Hydrocarbons (55i)

Thermo 55I Methane/Non-Methane Analyzer Calibration

Date:	7-Oct-14	**Start Time (mst):**	15:40
Company:	LICA	**End Time (mst):**	19:30
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=	0.968	CH_4=	1.010	CH_4=	20
Last Calibration Date:	16-Sep-14	NMHC=	0.958	NMHC=	0.996	NMHC=	20
		THC=	0.963	THC=	0.998	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		CH_4 Baseline:	1565
	Filter:	175.1		CH_4 LOD:	40
	Column Oven:	74.9		CH_4 SD:	13
	Flame:	378.5		CH_4 CONC:	7.03
	Internal:	36.8		NM PK HT:	1468
Pressures cylinder/reg.:	Carrier:	2500 / 60		NM Peak Area:	40125
	Fuel:	1950 / 50		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:	378.5		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:	7.9
Calibration History>1:	Time:	1153		Previous NMHC	14.4
	Type:	span		Previous THC:	22.4
	Status:	good		New CH4:	9.4
	Check/Adjust:	adjust		New NMHC	14.1
	CH_4 Span Conc:	7.13		New THC:	23.6

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	0.00		0.00	0.00	0.00				NA	NA	NA
20 min as found high point	2998	36.00	3034	7.14	6.59	13.73	7.37	6.88	14.25	0.968	0.958	0.963
20 min adjusted high	2998	36.00	3034	7.14	6.59	13.73	7.12	6.61	13.73	1.002	0.997	1.000
20 min mid	2999	18.00	3017	3.59	3.31	6.90	3.62	3.40	7.02	0.991	0.975	0.983
20 min low	2998	9.00	3007	1.80	1.66	3.46	1.81	1.74	3.55	0.995	0.956	0.975
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.=	0.996	0.976	0.986

Linear Regression/Calibration Results:

	CH_4	NMHC	THC	LIMITS
Correlation Coeffecient =	**1.000**	**1.000**	**1.000**	**> or = 0.995**
Slope =	**0.998**	**1.000**	**0.999**	**0.85-1.15**
b (Intercept as % of full scale)=	**0.07%**	**0.22%**	**0.14%**	**± 3% F.S.**
% change in C.F. from last cal=	**4.32%**	**-3.97%**	**-3.60%**	**+/-15%**

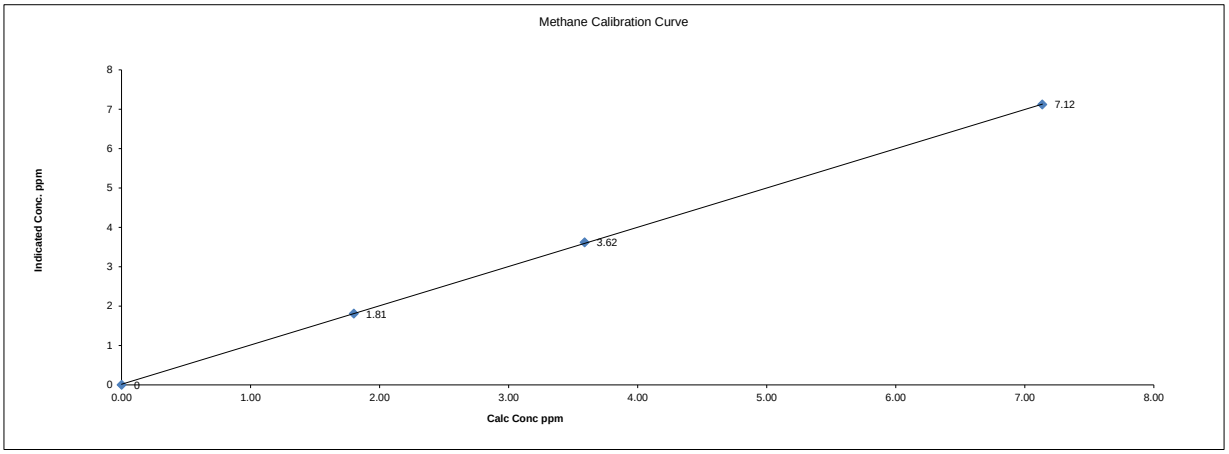
Comments:

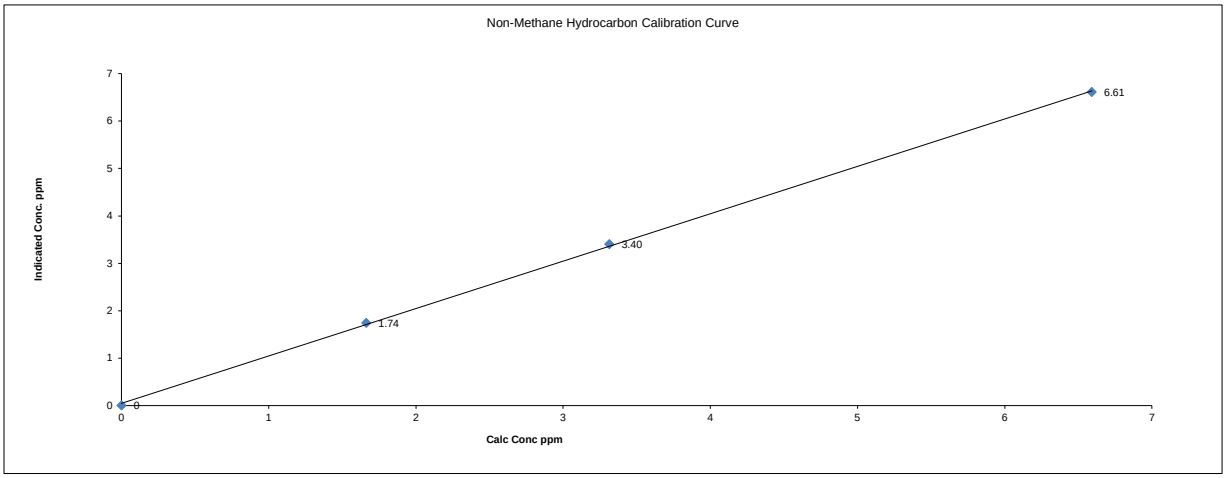
changed filter. Pressure: N2:31.1psi. FUEL:40.3psi. AIR:32.4psi.

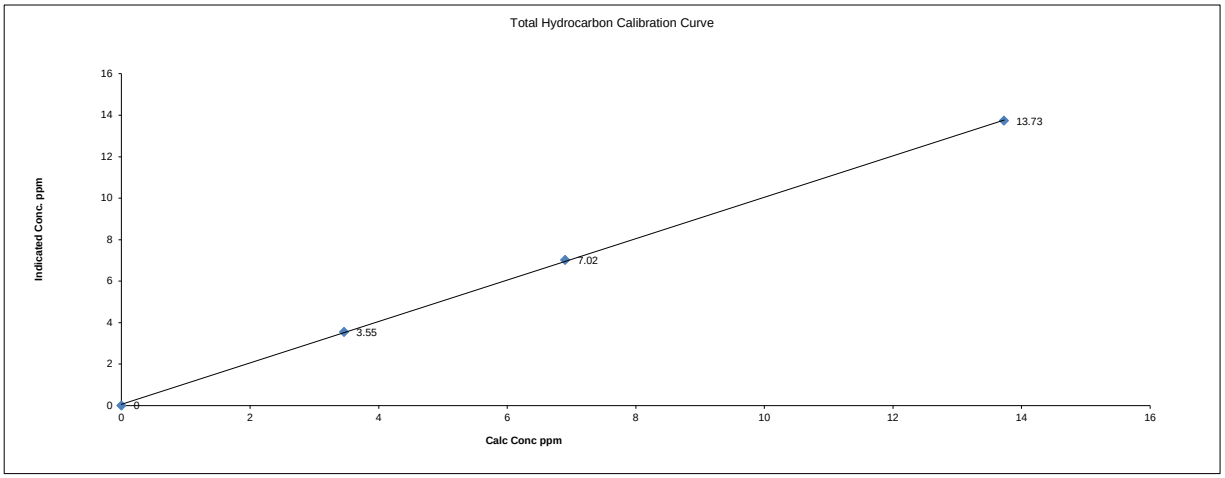
JOB #: 2833-14-10-35-C

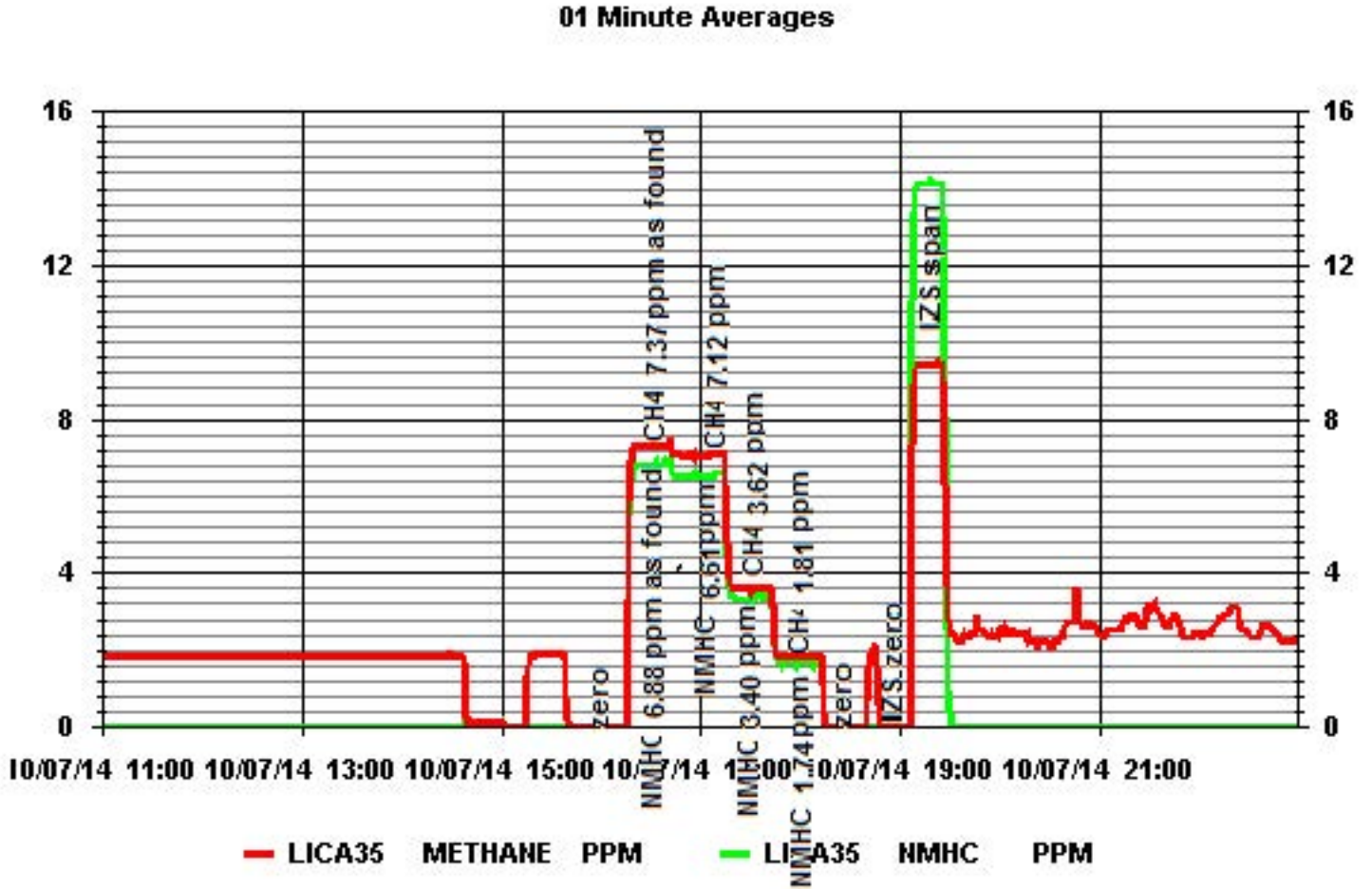
Date:	7-Oct-14	**Start Time (mst):**	15:40
Company:	LICA	**End Time (mst):**	19:30
Station Name:	Elk Point	**Calibration Purpose:**	routine monthly
Performed by:	Tom Bourque	**Cal Gas Expiry Date:**	26-Mar-17

Thermo 55C Methane/Non-Methane Analyzer Calibration








01 Minute Averages
16
12
8
4
0
10/07/14 11:00
10/07/14 13:00
10/07/14 15:00
10/07/14 19:00
10/07/14 21:00
zero
6.88 ppm as found
NMHC
CH4 7.37ppm as found
NMHC 6.51ppm
CH4 7.12 ppm
NMHC 3.40 ppm
CH4 3.62 ppm
NMHC 1.74ppm
CH4 1.81 ppm
zero
IZS.zero
IZS.span
LICA35 METHANE PPM
LICA35 NMHC PPM

Particulate Matter 2.5

R & P 1405F TEOM PM 2.5 Analyzer Calibration

Date:	3-Oct-14	**Parameter:**	PM 2.5
Company:	LICA	**Performed by:**	Limin Li
Station Name/Location:	Elk Point	**Start/End Time (mst):**	10:20/11:00
Previous Audit Date:	na	**Calibration Purpose:**	1 st Monthly Calibration

1400A Information and Status:

Serial Number:	1405A208301003	**As Found Filter Loading %:**	20.00
Ko Factor:	15634	**As Left Filter Loading %:**	20.00
Ambient Temperature °C:	3.95	**As Found Noise:**	0.006
Ambient Pressure atm:	0.941	**As Left Noise:**	0.000
Main Flow Reading lpm:	3	**Pump Vacuum:**	0.30
Aux Flow Reading lpm:	13.67	**Warnings:**	None

Reference Standards:

	Flow:	**Pressure:**	**Temperature:**
Make:	Dwyer/BIOS DryCal DC-Lite	BRUNTON	FLUKE
Model:	475 Mark III	ADC	1551A EX
Serial Number:	DC-L 1841	NA	2329070
Calibration Date:	NA	5-May-14	NA

As found leak check:

		Base	**Zero**	**Reference**	**Zero**
PM 2.5 Flow	actual	0.01	0.04	0.01	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	0.01	0.04	0.01	0.04
	limit	0.15		0.15	
Bypass Flow	actual	0.28	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:	6.0	**1405F pressure atm:**	0.941
reference temperature °C:	4.0	**reference pressure:**	0.941
difference °C:	-2.1	**difference :**	0.000

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

	tolerance +/- 2.0°C		**tolerance +/- 0.01 atm**
1405F temperature °C:	4.0	**1405F pressure atm:**	0.941
reference temperature °C:	4.0	**reference pressure:**	0.941
difference °C:	0.0	**difference :**	0.000

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:**	16.66
reference main flow lpm:	2.87	**reference total/aux flow lpm:**	15.75
difference lpm:	-0.13	**difference lpm:**	-0.91

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:**	16.66
reference main flow lpm:	2.91	**reference total/aux flow lpm:**	15.86
difference lpm:	-0.09	**difference lpm:**	-0.80

K_o Audit:

Last K_o audit date:	NA
1405F K_o factor:	15634
Measured K_o factor:	NA
% difference:	NA

Comments:

R & P 1405F TEOM PM 2.5 Analyzer Calibration

Date:	7-Oct-14	**Parameter:**	PM2.5
Company:	LICA	**Performed by:**	Limin Li
Station Name/Location:	Elk Point	**Start/End Time (mst):**	17:50/ 18:30
Previous Audit Date:	na-new install	**Calibration Purpose:**	Routine calibration

1400A Information and Status:

Serial Number:	1405A207691003	**As Found Filter Loading %:**	17.77
Ko Factor:	15634	**As Left Filter Loading %:**	19.00
Ambient Temperature °C:	7.04	**As Found Noise:**	0.005
Ambient Pressure atm:	0.931	**As Left Noise:**	0.000
Main Flow Reading lpm:	3.00	**Pump Vacuum:**	0.30
Aux Flow Reading lpm:	13.67	**Warnings:**	none

Reference Standards:

	Flow:	**Pressure:**	**Temperature:**
Make:	Dwyer	BRUNTON	FLUKE
Model:	475 Mark III	ADC	1551A EX
Serial Number:	NA	NA	2329070
Calibration Date:	NA	5-May-14	NA

As found leak check:

		Base	**Zero**	**Reference**	**Zero**
PM 2.5 Flow	actual	0.00	0.05	0.01	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	0.01	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:	6.5	**1405F pressure atm:**	0.930
reference temperature °C:	7.0	**reference pressure:**	0.931
difference °C:	0.5	**difference :**	-0.001

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:**	0.930
reference temperature °C:	7.0	**reference pressure:**	0.931
difference °C:	0.5	**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%**
1405F main flow lpm:	3.00	**1400A total/aux flow lpm:**	13.67
reference main flow lpm:	2.87	**reference total/aux flow lpm:**	13.26
difference lpm:	-0.13	**difference lpm:**	-0.41

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:**	13.67
reference main flow lpm:	3.00	**reference total/aux flow lpm:**	13.74
difference lpm:	0.00	**difference lpm:**	0.07

K_o Audit:

Last K_o audit date:	na
1405F K_o factor:	15634
Measured K_o factor:	na
% difference:	

Comments:

JOB #: 2833-14-10-35-C

R & P 1405F TEOM PM 2.5 Analyzer Calibration

Date:	24-Oct-14	**Parameter:**	PM2.5
Company:	LICA	**Performed by:**	Tom Bourque
Station Name/Location:	Elk Point	**Start/End Time (mst):**	0910-1007
Previous Audit Date:	7-Oct-14	**Calibration Purpose:**	monthly #2

1400A Information and Status:

Serial Number:	1405A207691003	**As Found Filter Loading %:**	20.42
Ko Factor:	15634	**As Left Filter Loading %:**	17.56
Ambient Temperature °C:	3.73	**As Found Noise:**	0.150
Ambient Pressure atm:	.924	**As Left Noise:**	0.000
Main Flow Reading lpm:	3.00	**Pump Vacuum:**	0.30
Aux Flow Reading lpm:	12.00	**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	0.01	0.01	0.01	0.01
	limit	0.15		0.15	
Bypass Flow	actual	0.00	-1.05	0.00	-1.05
	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	0.01	0.01	0.01	0.01
	limit	0.15		0.15	
Bypass Flow	actual	0.00	-1.05	0.00	-1.05
	limit	0.60		0.60	

As found temperature and pressure:

	tolerance +/- 2.0°C		**tolerance +/- 0.01 atm**
1405F temperature °C:	3.7	**1405F pressure atm:**	0.924
reference temperature °C:	3.5	**reference pressure:**	0.933
difference °C:	-0.2	**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:	3.7	**1405F pressure atm:**	0.924
reference temperature °C:	3.5	**reference pressure:**	0.933
difference °C:	-0.2	**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:	2.92	**reference total/aux flow lpm:**	16.66
difference lpm:	-0.08	**difference lpm:**	-0.01

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:	2.92	**reference total/aux flow lpm:**	16.66
difference lpm:	-0.08	**difference lpm:**	-0.01

K_o Audit:

Last K_o audit date:	na
1405F K_o factor:	15634
Measured K_o factor:	na
% difference:	

Comments:

JOB #: 2833-14-10-35-C

Nitrogen Dioxide

API 200E NOx Analyzer Calibration

Date:	7-Oct-14	**Start Time (mst):**	9:44
Company:	LICA	**End Time (mst):**	11:40
Station Name/Location:	Elk Point	**Calibration Purpose:**	As Found
Performed by:	Limin Li	**Cal Gas Expiry Date:**	4-Feb-18

Analyzer Serial Number:	593
Last Calibration Date:	16-Sep-14
Range ppb:	1000

Correction Factors:

	As found C.F.	Previous Cal High Point C.F.:
NO=	1.023	1.001
NOx=	1.018	0.997
NO_2=	NA	0.999

	As found:	As left:
NOx SLOPE:	1.288	1.288
NOx OFFS:	0	0.0
NO SLOPE:	1.279	1.279
NO OFFS:	-0.2	-.2
TEST:	126.0	126.0
SAMP FLW:	479	474
OZONE FL:	78	77
PMT:	7.1	6.1
NORM PMT:	4.7	0.1
AZERO:	7.3	6.9
HVPS:	630	630
RCELL TEMP:	50.0	50.0
BOX TEMP:	31	28.4
PMT TEMP:	6.8	6.7
IZS TEMP:	45.2	45.1
MOLY TEMP:	314.3	313.9
RCEL:	6.2	6.5
SAMP:	27	27.3
Internal Span:	422/6.2/416	422/6.2/416

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

Calibrator Flow Targets:

point	diluent (cc/min)	cal gas (cc/min)	O_3 setting (v or ppb)	total (cc/min)
zero	5000	0	0	5000
high	5000	78	550.00	5078
mid	5000	38	300.00	5038
low	5000	18	115.00	5018

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	1.4	1.2	NA	NA
adjusted zero	4995	0.0	4995	0	0	0.0	0.0	NA	NA
as found high	4918	77.80	4996	780.2	781.8	763	768	1.023	1.018
adjusted high		na							
mid		na							
low		na							
calibrator zero	na	0.00		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=	**-2.15%**	**-2.10%**	**NA**	**+/-15%**
NO2 converter effeciency				**>85%**

Comments:

changed filter, After as found point, adjust HVPS.

API 200E NOx Analyzer Calibration

Date:	7-Oct-14	**Start Time (mst):**	12:45
Company:	LICA	**End Time (mst):**	18:20
Station Name/Location:	Elk Point	**Calibration Purpose:**	Post Repair
Performed by:	Limin Li	**Cal Gas Expiry Date:**	4-Feb-18

Analyzer Serial Number:	593
Last Calibration Date:	16-Sep-14
Range ppb:	1000

Correction Factors:

	As found C.F.	Previous Cal High Point C.F.:
NO=	NA	1.001
NOx=	NA	0.997
NO_2=	1.000	0.999

	As found:	As left:
NOx SLOPE:	1.288	0.971
NOx OFFS:	0	1.8
NO SLOPE:	1.279	0.967
NO OFFS:	-0.2	-0.1
TEST:	126.0	130.8
SAMP FLW:	479	480
OZONE FL:	78	78
PMT:	7.1	10.8
NORM PMT:	4.7	16.7
AZERO:	7.3	8.2
HVPS:	630	654
RCELL TEMP:	50.0	50.0
BOX TEMP:	31	33.4
PMT TEMP:	6.8	6.7
IZS TEMP:	45.2	45.1
MOLY TEMP:	314.3	315.6
RCEL:	6.2	6.2
SAMP:	27	27.4
Internal Span:	422/6.2/416	422/6.2/416

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	78	420.00	5078
mid	5000	37	220.00	5037
low	5000	17	80.00	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	NA	0.0		0	0			NA	NA
adjusted zero	4995	0.0	4995	0	0	0.0	0.0	NA	NA
as found high		NA							
adjusted high	4918	77.80	4996	780.2	781.8	780	782	1.000	1.000
mid	4957	37.81	4995	379.2	380.0	380	380	0.998	1.000
low	4976	17.95	4994	180.1	180.4	181	181	0.995	0.997
calibrator zero	4995	0.00	4995	0	0	0.0	0.0	NA	NA
							Average C.F.=	0.998	0.999

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	4917	77.65	4995	0.0	781.0	781.0	0.0	0.0	0.0	
as found NO_2	4917	77.65	4995	420.0	277.0	781.0	504.0	504.0	504.0	1.000
adjusted NO_2	4917	77.65	4995	420.0	277.0	781.0	504.0	504.0	504.0	1.000
gpt mid	4917	77.65	4995	220.0	518.0	781.0	263.0	263.0	263.0	1.000
gpt low	4917	77.65	4995	80.0	688.0	782.0	94.0	93.0	94.0	0.989
									Average NO_2 C.F.=	0.996

Linear Regression/Calibration Results:

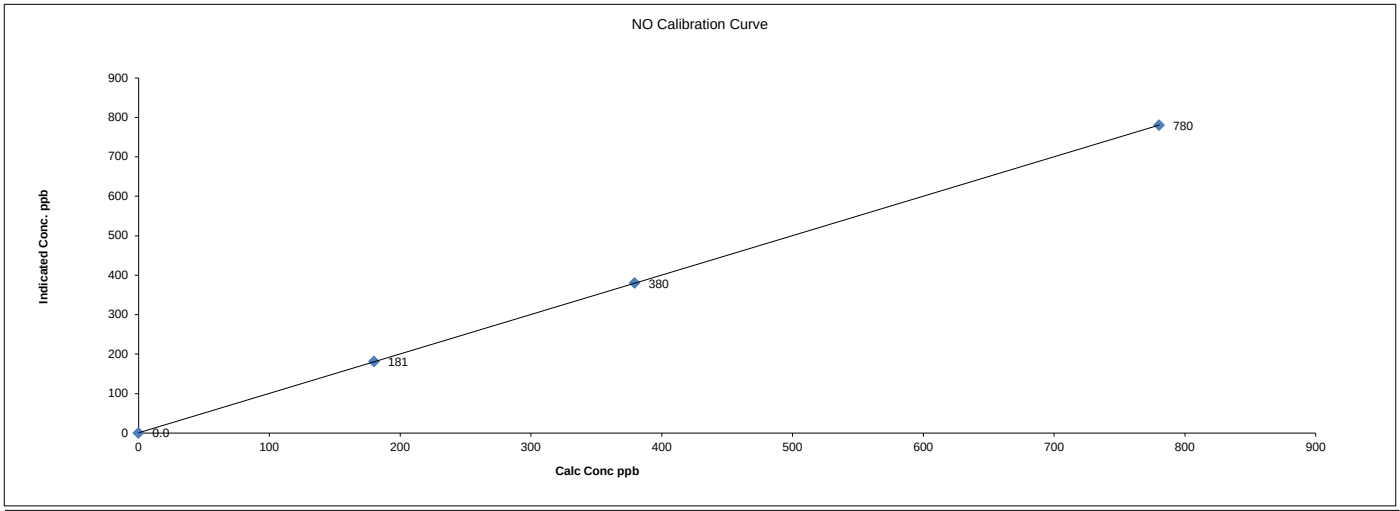
	NO	NOx	NO_2	LIMITS
Correlation Coeffecient =	**1.000**	**1.000**	**1.000**	**> or = 0.995**
Slope =	**0.999**	**1.000**	**0.999**	**0.85-1.15**
b (Intercept as % of full scale)=	**0.06%**	**0.02%**	**0.04%**	**± 3% F.S.**
% change in C.F. from last cal=	**NA**	**NA**	**-0.10%**	**+/-15%**
NO2 converter effeciency			**100.4%**	**>85%**

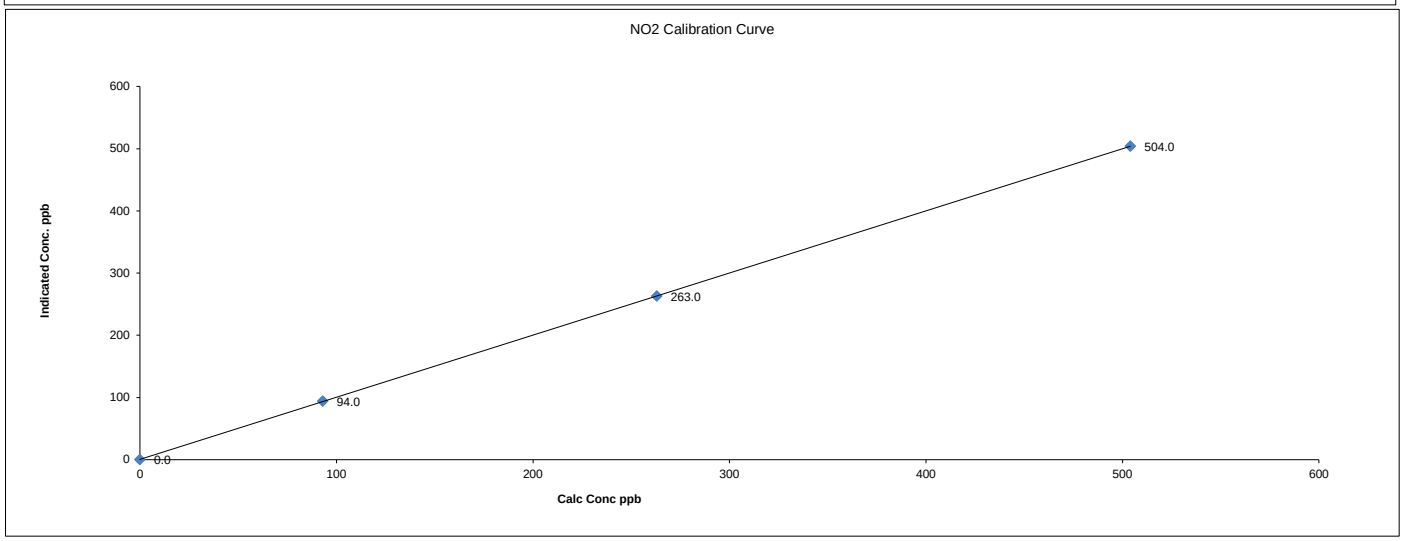
Comments:

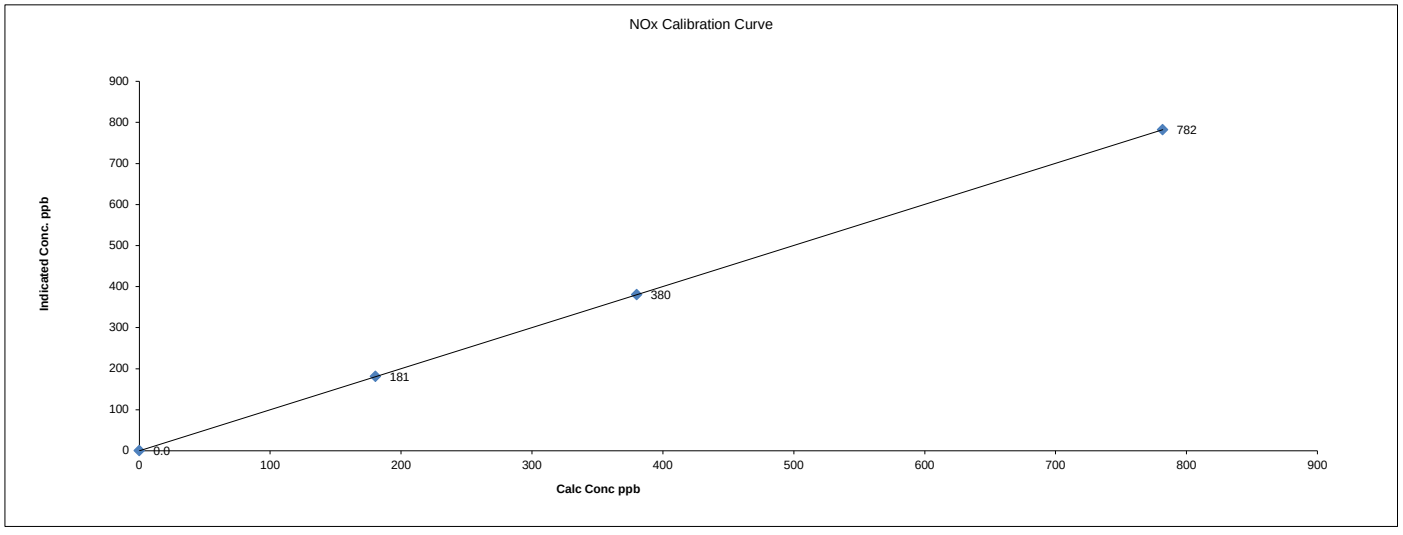
No NO2 adjusted.

Date:	7-Oct-14	**Start Time (mst):**	12:45
Company:	LICA	**End Time (mst):**	18:20
Station Name/Location:	Elk Point	**Calibration Purpose:**	Post Repair
Performed by:	Limin Li	**Cal Gas Expiry Date:**	4-Feb-18

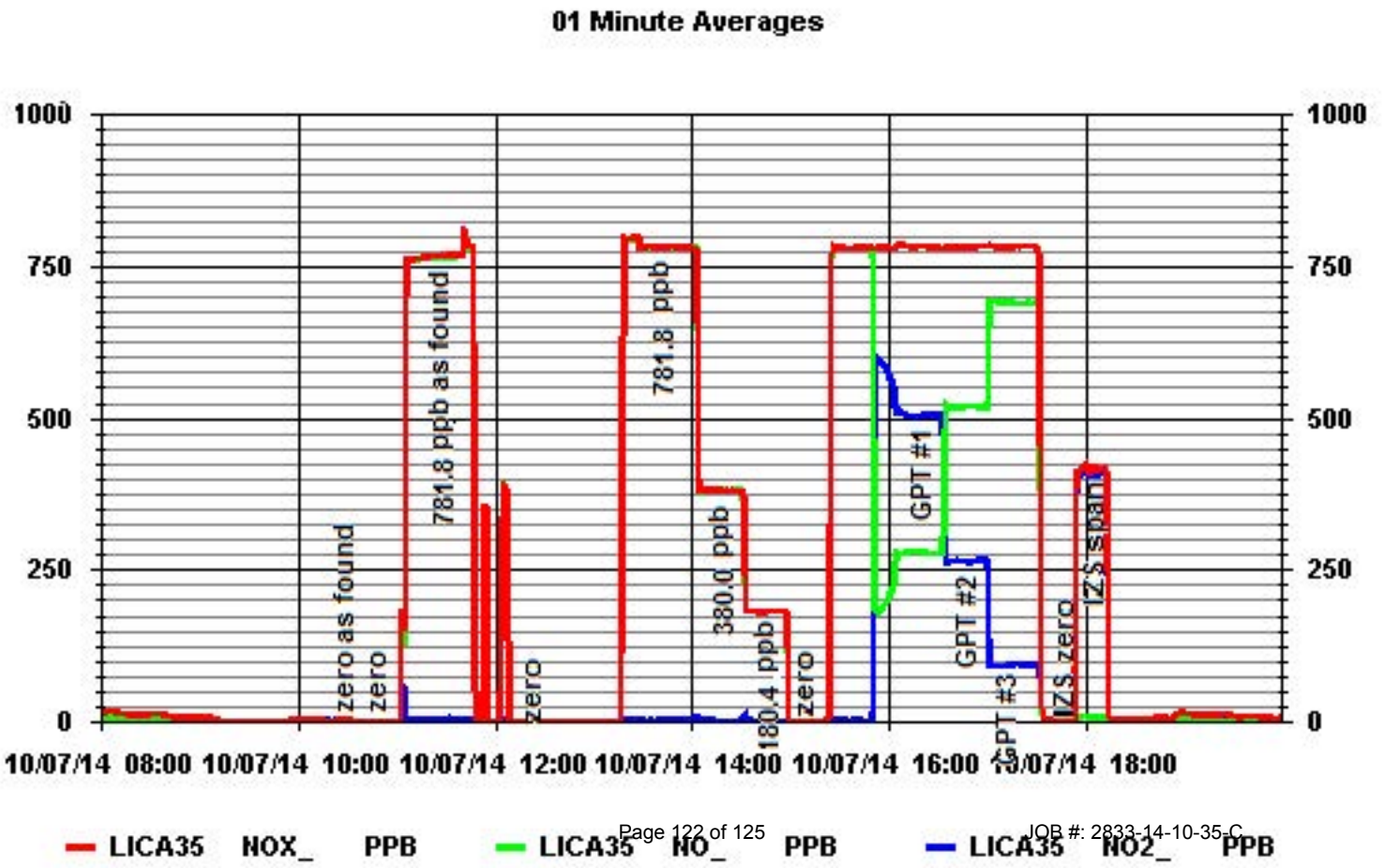
API 200E NOx Analyzer Calibration







JOB #: 2833-14-10-35-C


01 Minute Averages
1000
750
500
250
0
zero as found
zero
781.8 ppb as found
zero
781.8 ppb
380.0 ppb
180.4 ppb
zero
GPT #1
GPT #2
GPT #3
IZS zero
IZS span
10/07/14 08:00
10/07/14 10:00
10/07/14 12:00
10/07/14 14:00
10/07/14 16:00
10/07/14 18:00
LICA35 NOX_ PPB
LICA35 NO_ PPB
LICA35 NO2_ PPB

Ozone

Thermo 49i O_3 Analyzer Calibration

Date:	8-Oct-14	**Start Time (mst):**	10:10
Company:	LICA	**End Time (mst):**	14:40
Station Name/Location:	Elk Point	**Calibration Purpose:**	routine monthly
Performed by:	Limin Li	**G.P.T. Date:**	8-Oct-14

Analyzer:

Serial Number:	1002240372	**Range ppm:**	500
Last Calibration Date:	16-Sep-14	**As Found C.F.**	1.002
Previous Cal High Point C.F.:	1.001	**New C.F.:**	1.007

		As found:		As left:
	O_3 Bkg:	-.3	O_3 Bkg:	-.3
	O_3 Coef:	1.033	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	7.9	O_3 Lamp	7.9
	Bench:	29.5	Bench:	29.5
	Bench Lamp:	54.1	Bench Lamp:	54.1
	O_3 Lamp:	68.2	O_3 Lamp:	68.2
	Pressure:	700.6	Pressure:	700.6
	Cell A lpm:	0.754	Cell A lpm:	0.754
	Cell B lpm:	0.762	Cell B lpm:	0.762
	O_3 ppb:	0.3	O_3 ppb:	0.3
	Cell A ppb:	4.7	Cell A ppb:	4.7
	Cell B ppb:	-5.6	Cell B ppb:	-5.6
	Cell A int:	47678	Cell A int:	47678
	Cell B int:	48143	Cell B int:	48143
	Internal Span:	337	Internal Span:	337

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	5000	0
high	5000	320
mid	5000	150
low	5000	80

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	-0.1	NA
adjusted zero	4995	0.0	4995	0.0	-0.1	NA
as found high	4995	0.00	4995	385.0	384.3	1.002
adjusted high	4995	0.00	4995	385.0	384.3	1.002
mid	4995	0.00	4995	183.0	183.0	0.999
low	4995	0.00	4995	95.0	93.0	1.020
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.=** 1.007

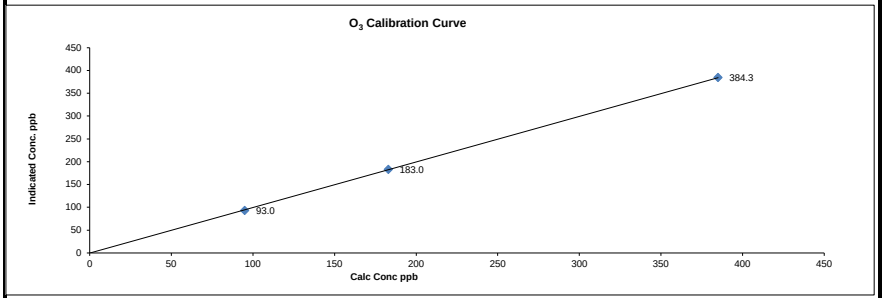
Linear Regression/Calibration Results:

		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)=	**-0.142%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**0%**	**± 15%**	**PASS**

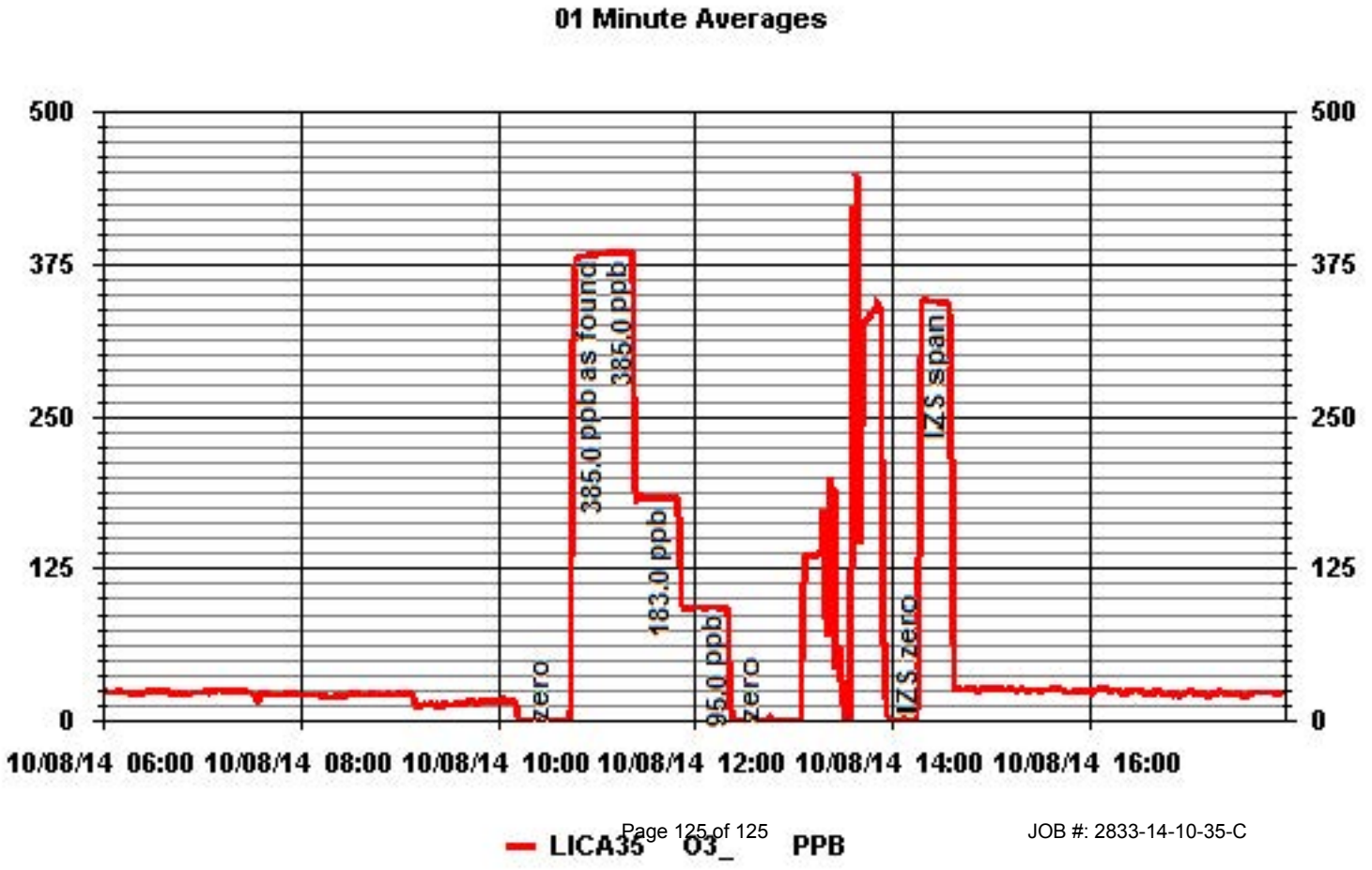
Comments:

changed sample filter, no zero and span adjust required. Change Z/S filter.

Thermo 49i O3 Analyzer Calibration



JOB #: 2833-14-10-35-C



JOB #: 2833-14-10-35-C