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

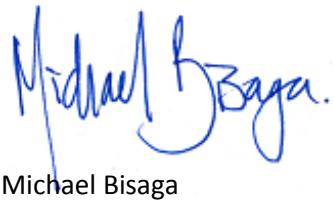
August 29, 2014

RE: July 2014 Ambient Air Monitoring Monthly Reports

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

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

Respectfully,



Michael Bisaga

Airshed Program Manager
Lakeland Industry and Community Association

cc (email): LICA Office

Lakeland Industry & Community Association

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

Prepared By:

Maxxam
A Bureau Veritas Group Company

August 29, 2014

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

Table of Contents

Introduction

The following Ambient Air Monitoring report was prepared for:

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

Monitoring Location: Cold Lake
Data Period: July 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 – July 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	0.08	2	9, 20	VAR	VAR	VAR	0.4	11	99.9
TRS (PPB)	-	-	-	-	0.59	6	VAR	VAR	VAR	VAR	1.6	8	97.8
NO_2 (PPB)	159	-	0	-	1.69	5.9	17	7	1.3	204(SSW)	2.9	16	99.9
NO (PPB)	-	-	-	-	0.34	24.8	26	7	2.5	298(WNW)	2.0	26	99.9
NOx (PPB)	-	-	-	-	2.03	28.1	26	7	2.5	298(WNW)	4.0	26	99.9
O_3 (PPB)	82	-	0	-	25.86	56	12	16	7.9	49(NE)	36.9	25	99.9
THC (PPM)	-	-	-	-	2.10	3.3	17	6	0.5	251(WSW)	2.5	16	99.7
PM 2.5 (UG/M^3)	-	30	-	5	17.55	106	12	20	1.6	240(WSW)	55.3	12	91.7
TEMPERATURE (DEG C)	-	-	-	-	18.72	29.3	9	14	7.6	177(S)	22.8	30	99.9
RELATIVE HUMIDITY (%)	-	-	-	-	71.30	100	25, 28	VAR	VAR	VAR	83.5	27	99.9
VECTOR WS (KPH)	-	-	-	-	4.86	18.0	10	13	-	263(W)	11.4	3	99.9
VECTOR WD (DEGREES)	-	-	-	-	206(SSW)	-	-	-	-	-	-	-	99.9

VAR-VARIOUS NA: NOT AVAILABLE

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

Passive Ambient Monitoring Network – July 2014

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PASSIVE NETWORK			
NETWORK MAXIMUM			NETWORK AVERAGE
PARAMETER	STATION	READING (PPB)	READING (PPB)
SO_2	#8	3.1	0.6
H_2S	#5	0.67	0.31
NO_2	#6	2.1	0.9
O_3	#32	34.10	23.75

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 was working well throughout the month. The monthly calibration was performed on July 8th. The inlet filter was changed before the monthly calibration. The monthly calibration was repeated on July 23rd to ensure the analyzer's functionality. Hourly data collected on July 26th hour 6 is missing due to a power outage. Three hours of instaneous maximum data collected on July 21st hour 15, and on July 26 hour 6 and hour 7 are missing due to power outages. 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 monthly calibration was performed on July 8th after changing the sample filter. The calibration was repeated on July 23rd to ensure the analyzer's functionality. The analyzer spanned low on July 24th. An as found points check was performed on July 25th. The result was within the acceptable range. Following the as found points check, the SO2 scrubber material was replaced. The analyzer was left on maintenance mode for stabilizing overnight. A post repair calibration was performed on July 26th. Hourly data collected on July 26th hour 6 is missing due to a power outage. Three hours of instaneous maximum data collected on July 21st hour 15, and on July 26 hour 6 and hour 7 are missing due to power outages Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA – COLD LAKE SOUTH

Total Hydrocarbon (PPM)

- Analyzer make / model - Thermo 51C, S/N: AMU1634

The analyzer was working well throughout the month. The monthly calibration was performed on July 9th. The inlet filter was changed before the monthly calibration was started. Hourly data collected on July 26th hour 6 is missing due to a power outage. Hourly data collected on July 26th hour 7 was invalidated as the analyzer was recovering from the power failure. Three hours of instaneous maximum data collected on July 21st hour 15, and on July 26 hour 6 and hour 7 are missing due to power outages. Data was corrected using daily zero information.

Particulate Matter 2.5 (UG/M3)

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

Two Teom audits were performed this month: one was completed on July 4th, and the other audit was performed on July 23th. Three hours of data collected on July 2nd between hour 6 and hour 8 were invalidated due to contamination (moisture) to be found in the filter. The filter was replaced on July 2nd. A leak was found in the Teom unit on July 4th. The dryer was replaced and the switch valve was cleaned, and the pump exhaust tubing was changed. The audit was performed after the maintenance on July 4th. Time was given to the unit to stabilize after the audit. A total of 35 hours of data was invalidated due to this event. 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. 23 hours of data were invalidated as the data were below –3 ug/m3. Hourly data collected on July 26th hour 6 is missing due to a power outage.
There were five 24-hour average exceedances recorded this month: concentration of 35.2 ug/m3 on July 7th, concentration of 44.1 ug/m3 on July 8th, concentration of 40.6 ug/m3 on July 11th, concentration of 55.3 ug/m3 on July 12th, and concentration of 31.8 ug/m3. AESRD Ref# 286422, 286424, 286610, 286645 and 286690, respectively.
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General Monthly Summary

AQM STATION – LICA – COLD LAKE SOUTH

Nitrogen Dioxide (PPB)

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

The analyzer was working well throughout the month. The monthly calibration was performed on July 8th. The inlet filter was changed before the monthly calibration.The GPT calibration was repeated on July 9th as the target points used on the calibration July 8th was incorrect. The monthly calibration was repeated on July 23rd to ensure the analyzer's functionality. Hourly data collected on July 26th hour 6 is missing due to a power outage. Three hours of instaneous maximum data collected on July 21st hour 15, and on July 26 hour 6 and hour 7 are missing due to power outages. 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 July 9th. The inlet filter was changed before the monthly calibration. Hourly data collected on July 26th hour 6 is missing due to a power outage. Three hours of instaneous maximum data collected on July 21st hour 15, and on July 26 hour 6 and hour 7 are missing due to power outages. Data was corrected using daily zero information.

Relative Humidity (PERCENT)

- System make / model - Rotronic Hygroclip-S3

No operational issues were observed during the month. Hourly data collected on July 26th hour 6 is missing due to a power outage.

Ambient Temperature (DEGC)

- System make / model - Rotronic Hygroclip-S3

No operational issues were observed during the month. Hourly data collected on July 26th hour 6 is missing due to a power outage.

General Monthly Summary

AQM STATION – LICA – COLD LAKE SOUTH

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

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

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

No operational issues were observed during the month. Hourly data collected on July 26th hour 6 is missing due to a power outage.

Trailer Temperature (DEGC)

- System make / model - R&R 61

No operational issues were observed during the month.

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 July 8th.

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

JULY 2014

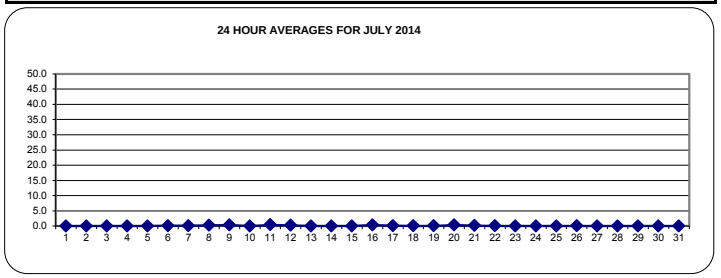
SULPHUR DIOXIDE (SO2) hourly averages in ppb

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	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	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	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	0.1	24
7	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0.1	24
8	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	C	1	1	1	1	0	S	0	0	1	0.2	24
9	0	0	0	0	0	0	0	1	1	*2*	1	1	1	0	0	0	0	1	0	0	S	0	0	0	*2*	0.3	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	1	1	0	0	0	0	0	0	0	1	0	1	S	1	1	1	1	1	1	*0.4*	24
12	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	S	1	0	0	0	0	0	1	0.2	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	1	1	S	1	1	1	0	0	0	1	1	0	0	1	0.3	24
17	0	0	0	0	0	0	0	1	1	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
18	0	0	0	0	0	0	0	0	0	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
19	0	0	0	0	0	0	0	0	0	0	S	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.0	24
20	0	0	0	0	1	1	*2*	*2*	1	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	*2*	0.3	24
21	0	0	0	0	0	0	0	0	S	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	1	0.1	24
22	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.0	24
23	0	0	0	0	0	0	S	0	C	C	C	C	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	P	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	23
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	1	0	0	0	1	1	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
HOURLY AVG	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	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

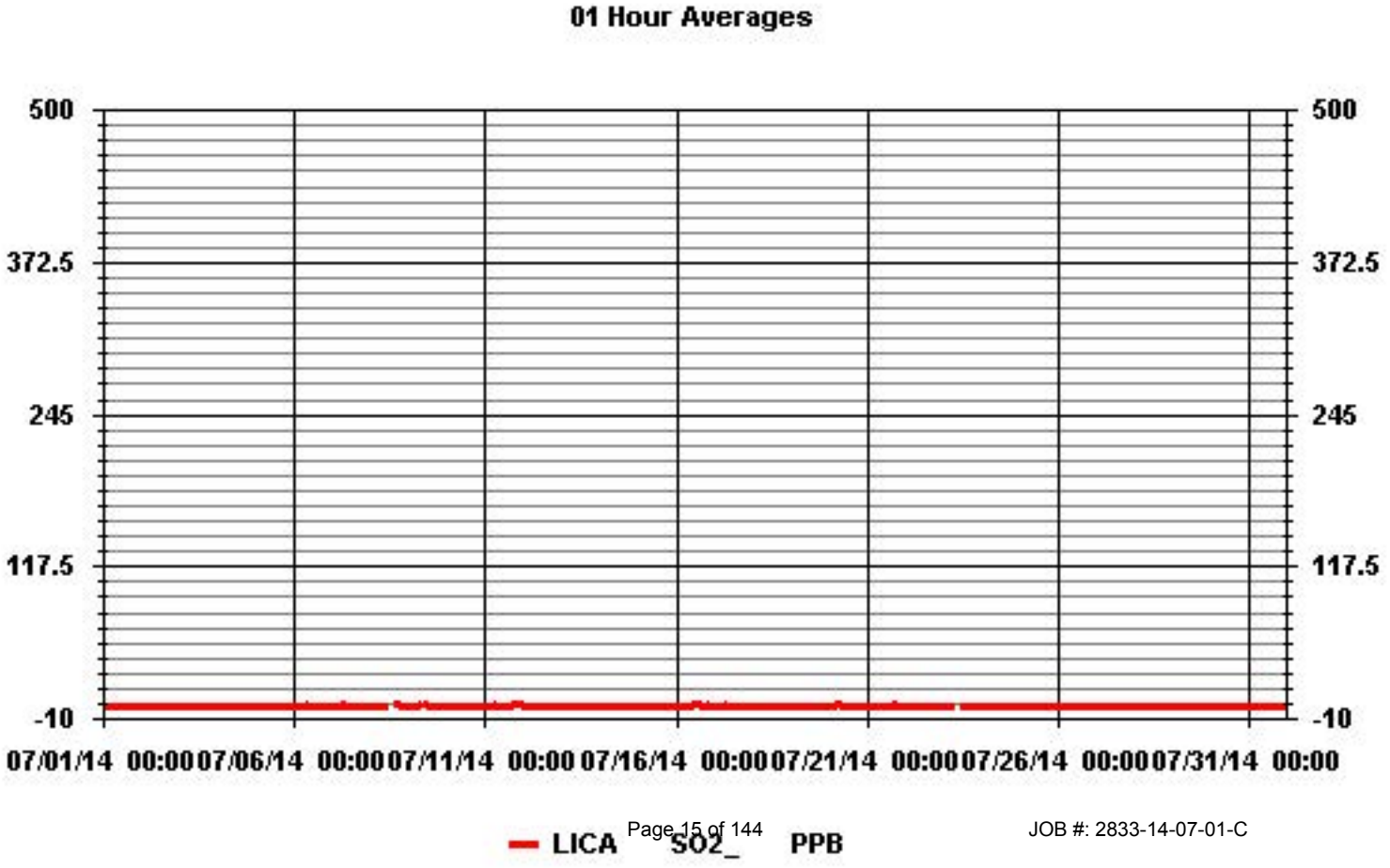


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB 24-HR 48 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	51					
MAXIMUM 1-HR AVERAGE:	2	PPB	@ HOUR(S)	VAR	ON DAY(S)	9, 20
MAXIMUM 24-HR AVERAGE:	0.4	PPB			ON DAY(S)	11
				VAR-VARIOUS		
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		743	HRS
MONTHLY CALIBRATION TIME:	9	HRS	AMD OPERATION UPTIME:		99.9	%
STANDARD DEVIATION:	0.28		MONTHLY AVERAGE:		0.08	PPB

JOB #: 2833-14-07-01-C



JOB #: 2833-14-07-01-C

Lakeland Industry & Community Association - Cold Lake South Site

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

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 543

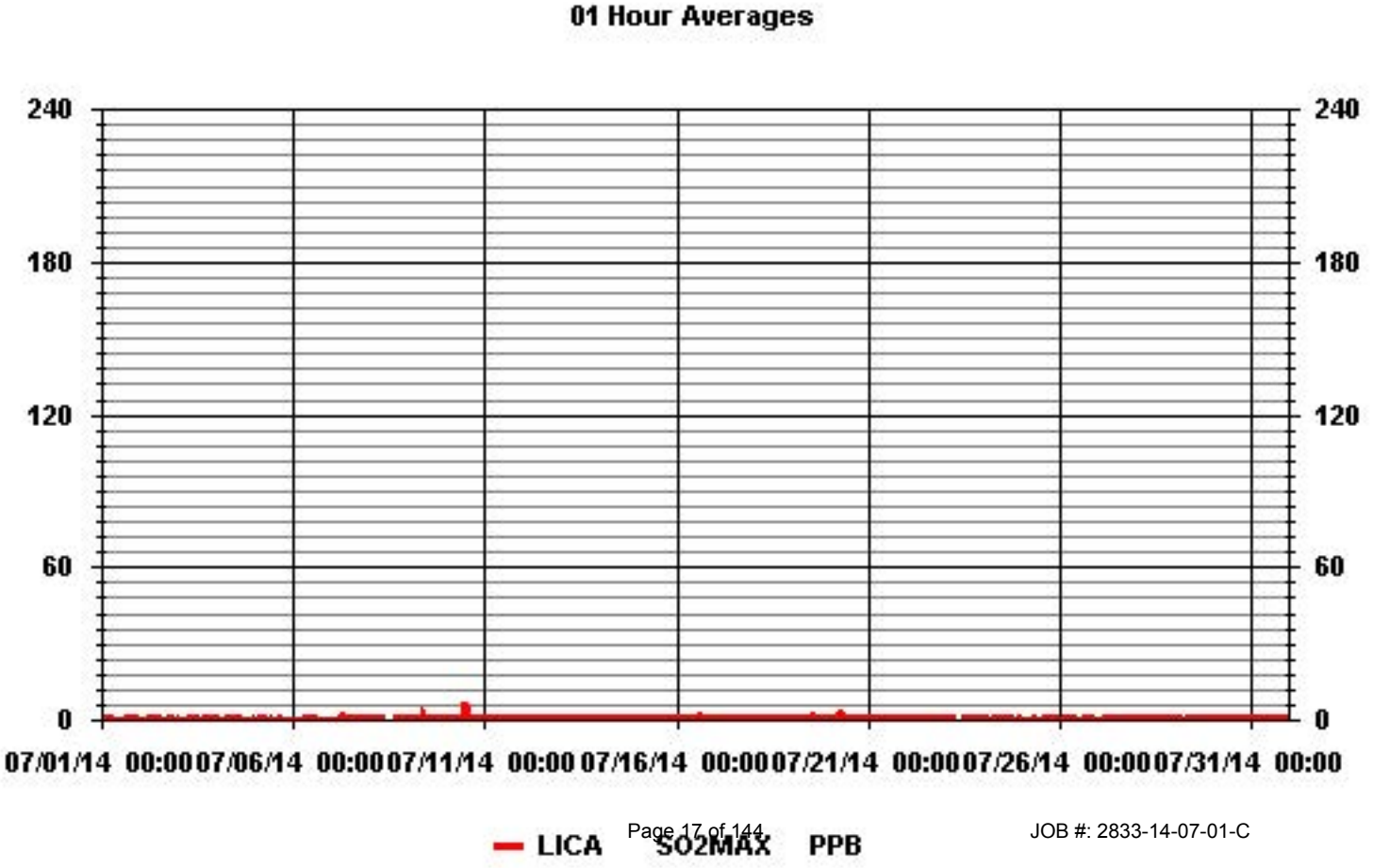
MAXIMUM INSTANTANEOUS VALUE: 7 PPB @ HOUR(S) 12 ON DAY(S) 10

VAR-VARIOUS

IZS CALIBRATION TIME: 34 HRS OPERATIONAL TIME: 741 HRS

MONTHLY CALIBRATION TIME: 9 HRS

STANDARD DEVIATION: 0.51



JOB #: 2833-14-07-01-C

LICA
SO2_ / WDR Joint Frequency Distribution (Percent)

July 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	2.42	2.71	2.56	3.42	2.71	4.42	17.40	7.70	7.13	7.27	6.13	11.41	11.84	5.84	4.27	2.71	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	2.42	2.71	2.56	3.42	2.71	4.42	17.40	7.70	7.13	7.27	6.13	11.41	11.84	5.84	4.27	2.71	

Calm : .00 %

Total # Operational Hours : 701

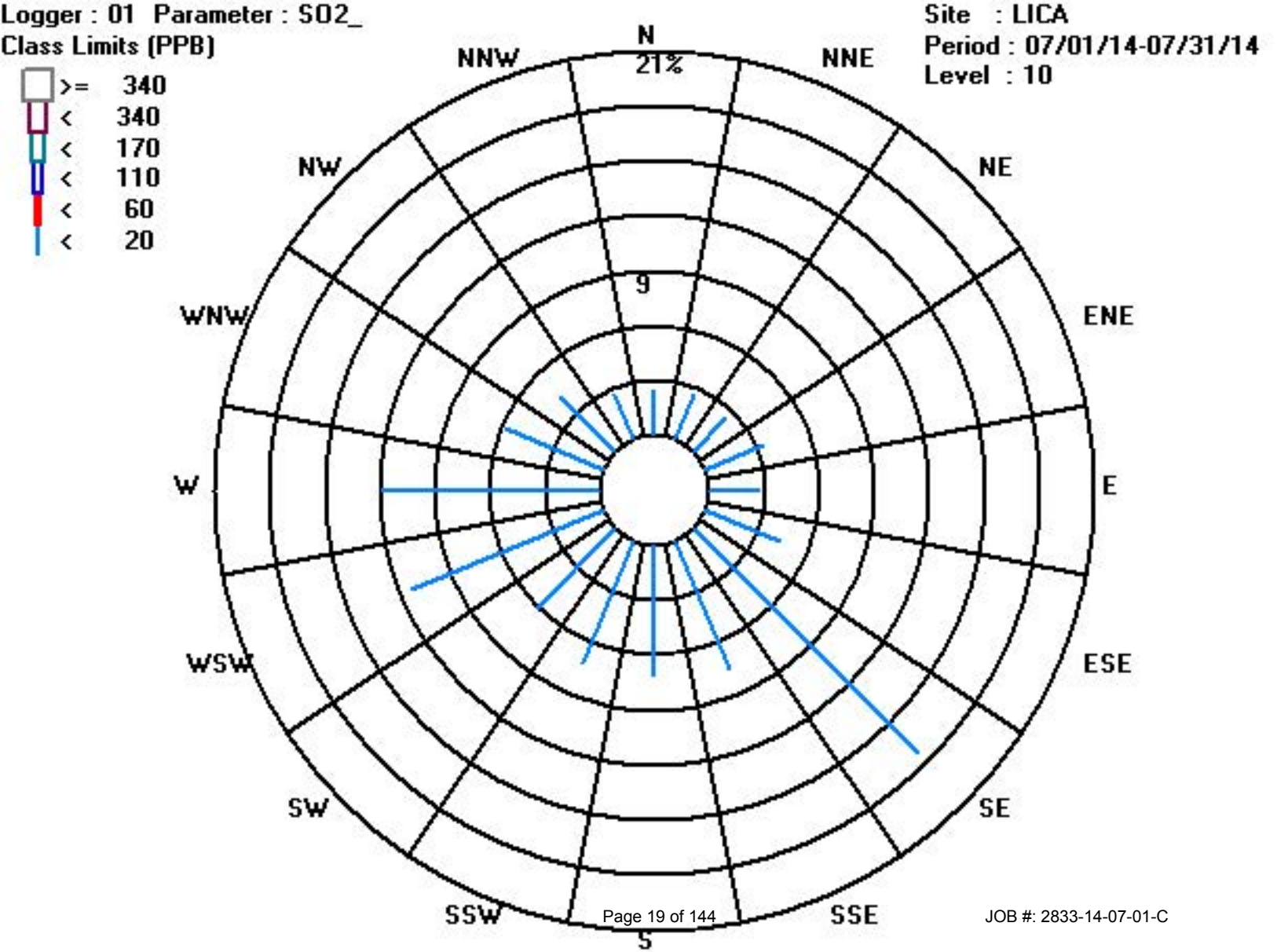
Distribution By Samples

Direction

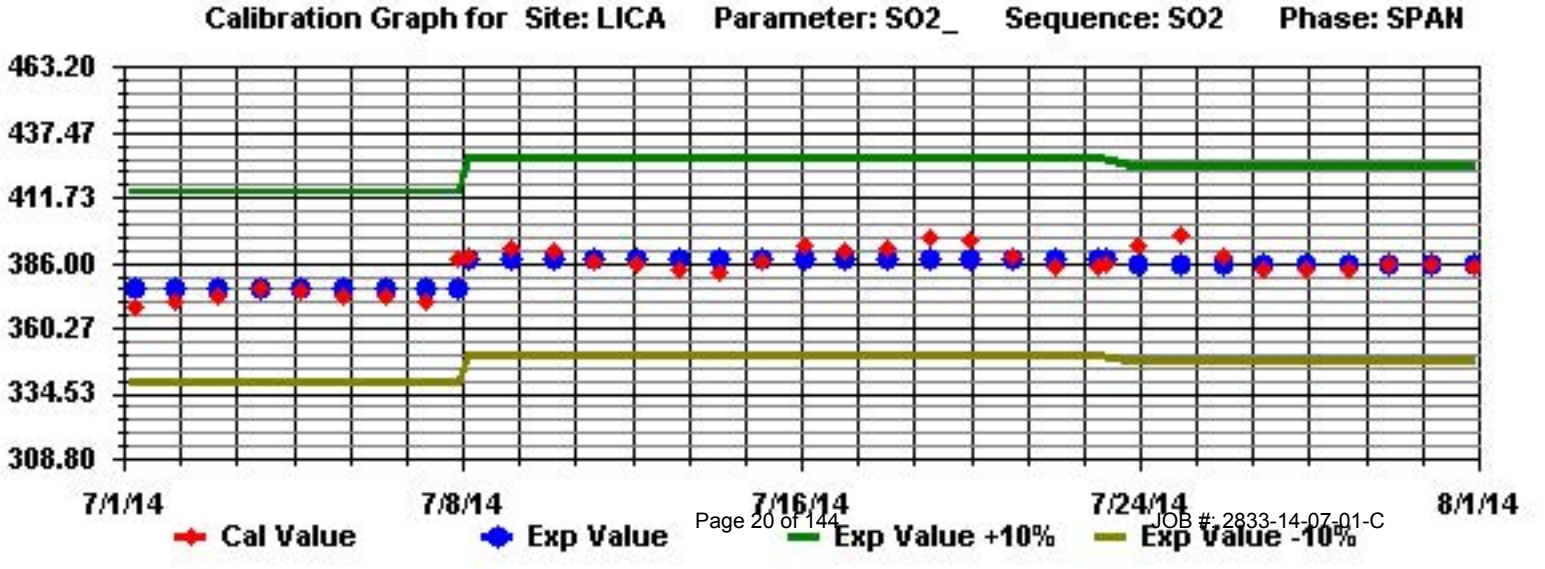
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	20	17	19	18	24	19	31	122	54	50	51	43	80	83	41	30	19	701
<	60																	
<	110																	
<	170																	
<	340																	
>=	340																	
	Totals	17	19	18	24	19	31	122	54	50	51	43	80	83	41	30	19	

Calm : .00 %

Total # Operational Hours : 701



JOB #: 2833-14-07-01-C


Calibration Graph for Site: LICA Parameter: SO2_ Sequence: SO2 Phase: SPAN
463.20
437.47
411.73
386.00
360.27
334.53
308.80
7/1/14
7/8/14
7/16/14
7/24/14
8/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Reduced Sulphur

Lakeland Industry & Community Association - Cold Lake South Site

JULY 2014

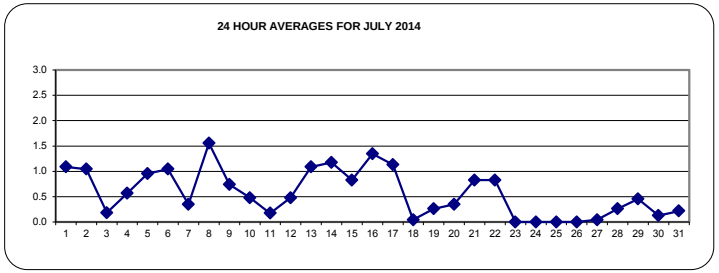
TOTAL REDUCED SULPHUR (TRS) hourly averages in ppb

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	2	3	2	5	2	**S**	3	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	3	5	1.1	24
2	3	3	4	5	**S**	***6***	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	***6***	1.0	24
3	0	0	0	**S**	1	1	1	**S**	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
4	0	0	**S**	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	***6***	***6***	0.6	24
5	5	**S**	4	3	4	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	5	1.0	24
6	**S**	***6***	2	4	4	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**S**	***6***	1.0	24
7	1	1	1	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	2	2	0.3	24
8	2	3	***6***	4	3	4	4	1	0	0	0	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	**S**	0	1	***6***	***1.6***	24
9	1	1	2	1	2	3	1	1	1	1	1	0	0	0	0	0	0	0	0	0	**S**	0	1	1	3	0.7	24
10	1	1	2	2	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	2	0.5	24
11	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	1	0	1	1	0.2	24
12	0	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	1	1	1	3	3	0.5	24
13	2	3	5	2	3	3	2	1	0	0	0	0	0	0	0	0	**S**	0	0	0	1	1	1	1	5	1.1	24
14	2	3	5	3	4	3	2	1	1	0	0	0	0	0	0	**S**	0	0	0	0	0	1	1	1	5	1.2	24
15	2	3	3	2	1	1	1	1	1	0	0	0	0	0	**S**	0	0	0	0	0	0	0	1	3	3	0.8	24
16	2	2	2	3	4	3	2	2	1	1	1	1	1	**S**	1	0	0	0	0	0	0	1	2	2	4	1.3	24
17	***6***	2	3	3	3	5	2	1	0	1	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	***6***	1.1	24
18	0	0	0	0	1	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
19	0	0	0	1	1	1	1	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0.3	24
20	2	1	1	1	0	0	1	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0.3	24
21	2	1	1	1	2	2	4	3	**S**	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	4	0.8	24
22	3	4	3	2	3	1	2	**S**	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0.8	24
23	0	0	0	0	0	0	**S**	0	**C**	**C**	**C**	**C**	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
24	0	0	0	0	0	**S**	**S**	**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	**S**	0	**S**	**S**	0	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	0	0.0	16
26	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**P**	**Y**	**C**	**C**	**C**	**C**	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	16
27	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.0	24
28	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	0.3	24
29	**S**	3	1	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	3	0.5	24
30	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	1	1	0.1	24
31	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	1	0.2	24
HOURLY MAX	6	6	6	5	4	6	4	3	1	1	1	1	1	0	1	0	0	0	0	0	1	1	3	6			
HOURLY AVG	1.3	1.5	1.8	1.7	1.6	1.6	1.2	0.6	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	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



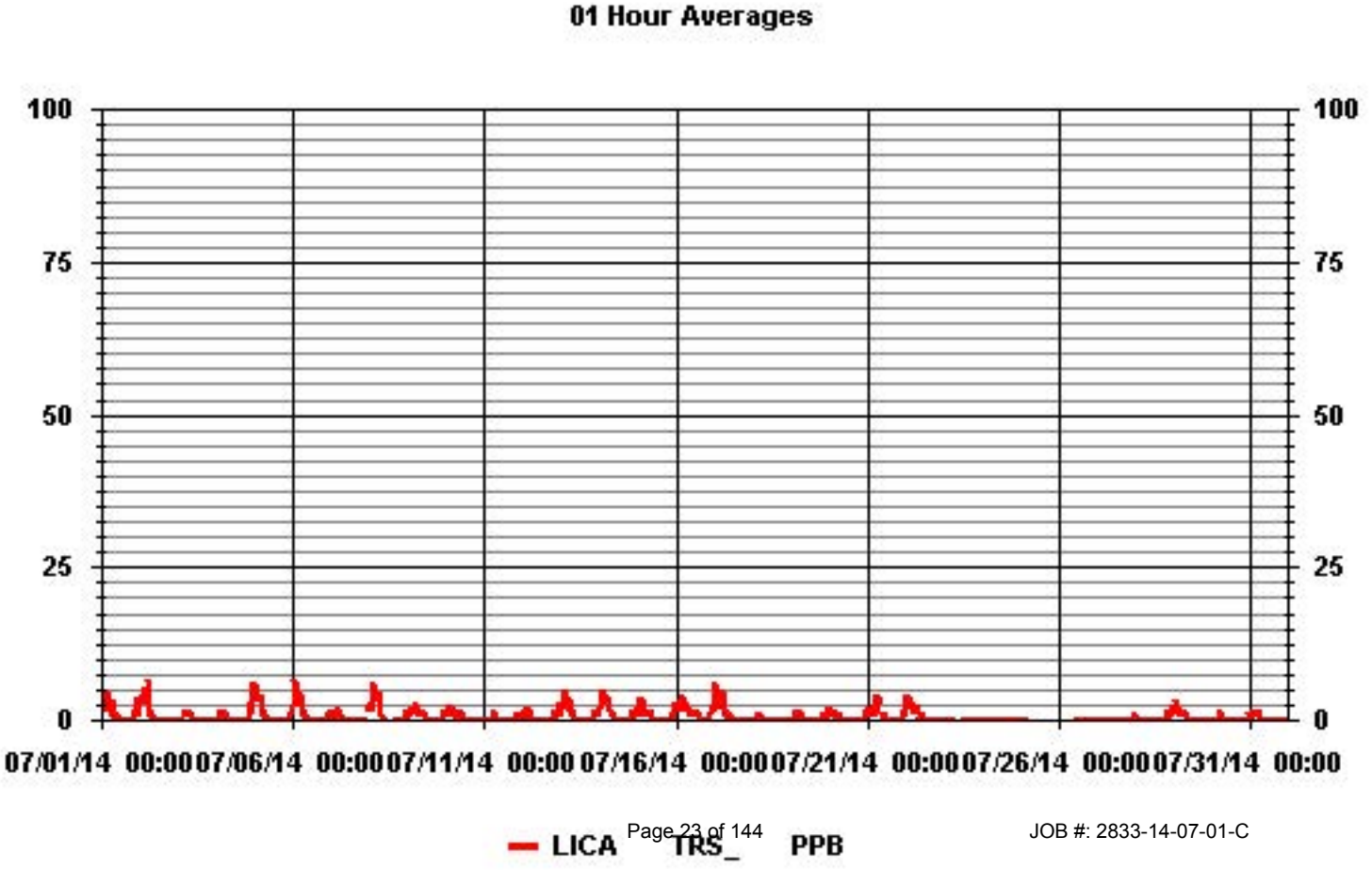
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:**

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:	208						
MAXIMUM 1-HR AVERAGE:	6	PPB	@ HOUR(S)	VAR	ON DAY(S)		VAR
MAXIMUM 24-HR AVERAGE:	1.6	PPB			ON DAY(S)		8
					VAR-VARIOUS		
IZS CALIBRATION TIME:	37	HRS	OPERATIONAL TIME:			728	HRS
MONTHLY CALIBRATION TIME:	20	HRS	AMD OPERATION UPTIME:			97.8	%
STANDARD DEVIATION:	1.12		MONTHLY AVERAGE:			0.59	PPB

JOB #: 2833-14-07-01-C



JOB #: 2833-14-07-01-C

Lakeland Industry & Community Association - Cold Lake South Site

JULY 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	10	9	5	18	10	**S**	10	2	1	1	1	1	0	1	1	1	1	1	0	1	3	4	4	8	18	4.0	24
2	7	9	12	13	**S**	22	4	1	1	1	1	1	1	1	0	1	1	0	1	0	0	1	1	1	22	3.5	24
3	1	1	1	**S**	1	1	1	**S**	**S**	1	1	1	1	1	0	1	1	1	1	1	0	0	0	1	1	0.8	24
4	0	1	**S**	3	2	2	1	1	0	1	1	0	0	1	0	0	0	0	0	1	1	7	9	11	11	1.8	24
5	15	**S**	11	10	6	12	1	1	1	1	1	0	0	0	1	0	1	0	0	0	0	1	1	2	5	15	3.0	24
6	**S**	***23***	8	10	6	4	3	1	1	1	1	0	0	1	0	1	1	0	0	1	1	2	2	**S**	***23***	3.0	24
7	6	1	1	2	3	1	1	1	1	0	1	1	1	1	1	1	0	1	0	1	1	2	**S**	5	6	1.4	24
8	6	7	13	13	8	10	8	2	1	**Y**	1	**C**	**C**	**C**	**C**	**C**	1	0	1	1	1	**S**	1	1	13	***4.4***	23
9	1	3	8	2	9	7	2	1	1	1	1	1	1	1	1	1	1	1	1	2	**S**	1	1	1	9	2.1	24
10	2	3	3	3	4	2	1	1	1	1	1	0	1	0	1	1	1	1	1	**S**	1	1	1	0	4	1.3	24
11	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0	1	1	1	**S**	1	1	1	1	1	1	0.8	24
12	1	3	3	7	3	1	1	1	1	1	1	1	1	1	1	0	1	**S**	1	1	1	1	3	10	10	2.0	24
13	4	10	9	9	7	7	3	2	1	1	0	0	1	1	0	1	**S**	1	0	1	2	3	5	4	10	3.1	24
14	4	6	10	6	9	4	5	2	2	1	1	1	1	1	1	**S**	1	1	1	1	1	1	2	3	10	2.8	24
15	3	4	5	7	1	1	1	1	1	1	1	1	1	0	**S**	1	1	1	1	1	1	1	2	14	14	2.2	24
16	5	4	4	9	9	7	3	2	2	2	1	1	1	**S**	1	1	1	1	1	1	1	4	4	3	9	3.0	24
17	12	12	6	6	7	14	3	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	14	3.3	24
18	2	1	1	1	1	1	1	0	1	1	1	**S**	0	1	1	1	0	1	1	1	1	1	1	1	2	0.9	24
19	1	1	1	1	1	2	1	1	1	1	**S**	1	1	1	0	1	1	1	0	1	1	2	1	1	2	1.0	24
20	6	5	2	1	1	1	1	1	1	**S**	1	1	1	0	1	1	1	0	1	0	1	2	3	2	6	1.5	24
21	6	2	4	4	5	3	5	5	**S**	2	1	1	1	1	1	**P**	1	1	1	1	1	2	4	3	6	2.5	23
22	8	8	7	5	6	4	4	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8	2.5	24
23	1	1	1	1	1	1	**S**	1	**C**	**C**	**C**	**C**	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
24	1	1	1	1	1	**S**	**S**	**S**	1	1	1	1	1	1	1	0	0	0	0	0	0	1	1	1	1	0.7	24
25	1	1	1	1	**S**	1	**S**	**S**	0	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	1	0.8	16
26	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**P**	**P**	**C**	**C**	**C**	**C**	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	16
27	1	1	**S**	2	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	2	2	1.0	24
28	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	2	2	4	4	4	1.3	24
29	**S**	5	3	6	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	**S**	6	1.6	24
30	2	1	1	1	4	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	**S**	2	4	1.1	24
31	1	1	9	9	5	4	1	1	1	1	1	1	1	0	0	0	0	0	0	1	0	**S**	0	0	9	1.6	24
HOURLY MAX	15	23	13	18	10	22	10	5	2	2	1	1	1	1	1	1	1	1	1	2	3	7	9	14			
HOURLY AVG	3.9	4.5	4.7	5.3	4.1	4.2	2.5	1.3	1.0	1.0	0.9	0.8	0.8	0.8	0.7	0.8	0.8	0.7	0.7	0.9	1.0	1.6	2.1	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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 587

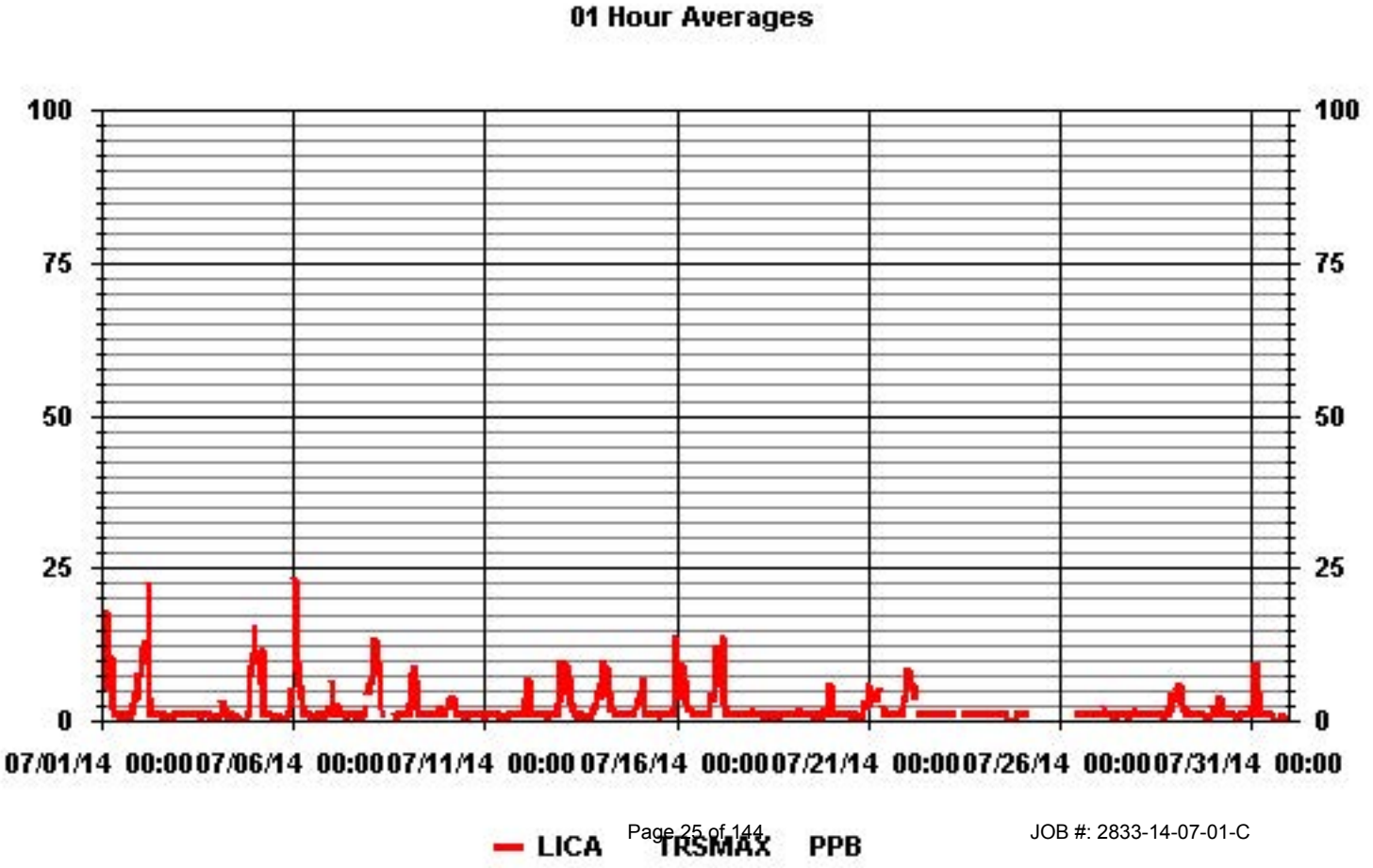
MAXIMUM INSTANTANEOUS VALUE: 23 PPB @ HOUR(S) 1 ON DAY(S) 6

VAR-VARIOUS

IZS CALIBRATION TIME: 38 HRS OPERATIONAL TIME: 726 HRS

MONTHLY CALIBRATION TIME: 20 HRS

STANDARD DEVIATION: 2.82



JOB #: 2833-14-07-01-C

LICA
TRS_ / WDR Joint Frequency Distribution (Percent)

July 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	2.08	2.08	2.38	2.68	1.93	4.02	17.58	7.60	6.70	6.25	5.51	9.98	11.02	5.81	3.87	2.38	91.95
<	10	.00	.00	.00	.59	.29	.44	.29	.44	.74	1.34	.74	1.93	.44	.14	.44	.14	8.04
<	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	2.08	2.08	2.38	3.27	2.23	4.47	17.88	8.04	7.45	7.60	6.25	11.92	11.47	5.96	4.32	2.53	

Calm : .00 %

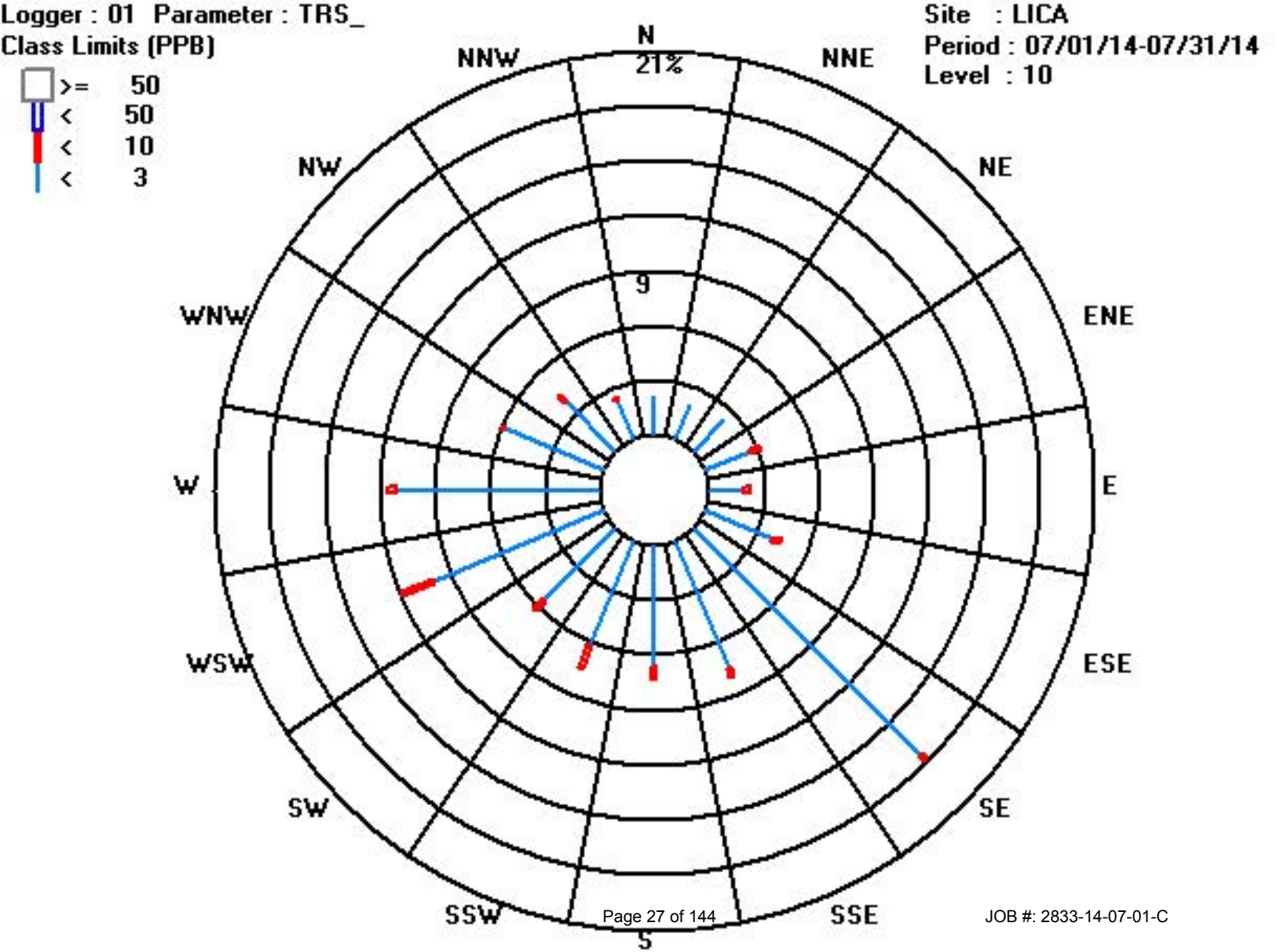
Total # Operational Hours : 671

Distribution By Samples

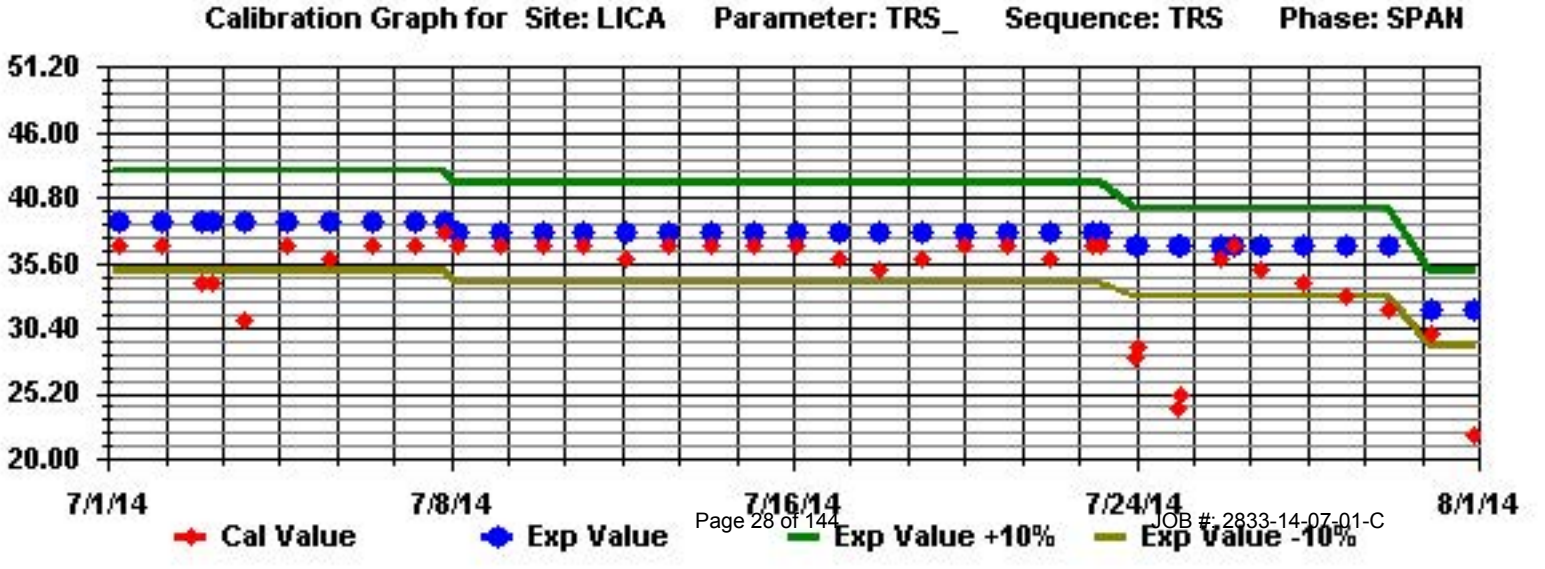
		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3	14	14	16	18	13	27	118	51	45	42	37	67	74	39	26	16	617
<	10				4	2	3	2	3	5	9	5	13	3	1	3	1	54
<	50																	
>=	50																	
	Totals	14	14	16	22	15	30	120	54	50	51	42	80	77	40	29	17	

Calm : .00 %

Total # Operational Hours : 671



JOB #: 2833-14-07-01-C


Calibration Graph for Site: LICA Parameter: TRS_ Sequence: TRS Phase: SPAN
51.20
46.00
40.80
35.60
30.40
25.20
20.00
7/1/14
7/8/14
7/16/14
7/24/14
8/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Hydrocarbons

Lakeland Industry & Community Association - Cold Lake South Site

JULY 2014

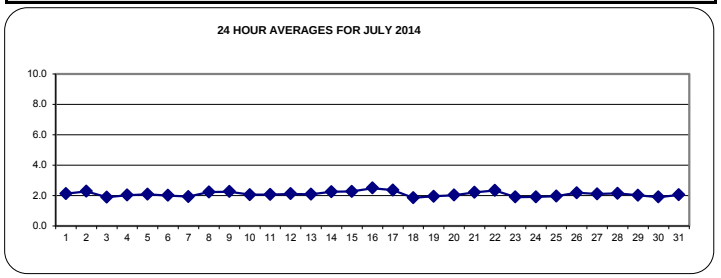
TOTAL HYDROCARBONS (THC) hourly averages in ppm

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	2.3	2.3	2.2	2.3	2.2	**S**	2.3	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.1	2.3	2.3	2.4	2.4	2.1	24
2	2.6	2.6	2.8	2.9	**S**	3.2	2.8	2.6	2.4	2.2	2.2	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	3.2	2.3	24
3	2.0	2.0	2.0	**S**	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.8	1.9	1.9	2.0	1.9	24
4	1.8	1.7	**S**	2.0	2.0	2.2	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.2	2.3	2.5	2.7	2.7	2.0	24
5	2.6	**S**	2.8	2.7	2.7	2.1	2.0	1.9	1.9	1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.3	2.3	2.8	2.8	2.1	24
6	**S**	2.6	2.4	2.6	2.5	2.3	2.1	1.9	2.0	2.0	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	1.9	**S**	2.6	2.0	24
7	2.0	2.1	2.0	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	2.0	2.0	2.1	**S**	2.3	2.3	1.9	24
8	2.3	2.4	2.5	2.6	2.5	2.7	2.9	2.5	2.2	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.1	2.1	**S**	2.2	2.3	2.9	2.2	24
9	2.4	2.4	2.5	2.7	2.9	2.6	2.5	2.3	**C**	**C**	**C**	**C**	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	**S**	1.9	1.9	2.9	2.3	24
10	2.1	2.1	2.2	2.4	2.5	2.4	2.5	2.3	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	**S**	1.9	2.0	2.0	1.9	2.5	2.1	24
11	2.0	2.0	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	**S**	2.0	2.0	2.1	2.2	2.2	2.2	2.1	24
12	2.1	2.2	2.5	2.6	2.5	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	**S**	2.0	2.0	2.2	2.2	2.1	2.1	2.6	2.1	24
13	2.2	2.3	2.4	2.4	2.5	2.6	2.5	2.0	2.0	1.9	1.9	2.0	1.9	1.9	1.9	1.9	**S**	1.8	1.8	1.9	2.0	2.1	2.0	2.0	2.6	2.1	24
14	2.2	2.2	2.4	2.5	2.6	2.5	2.4	2.3	2.2	2.0	1.9	1.9	1.9	2.0	2.1	**S**	2.0	1.9	2.0	2.0	2.4	2.8	2.8	2.7	2.8	2.2	24
15	2.7	2.6	2.6	2.6	2.4	2.5	2.4	2.4	2.1	2.0	1.9	1.9	1.9	1.9	**S**	1.9	1.9	1.9	1.9	2.0	2.2	2.6	2.8	3.2	3.2	2.3	24
16	3.0	2.9	2.7	2.9	2.7	2.9	3.2	2.8	3.0	2.9	2.6	2.4	2.3	**S**	2.2	2.3	2.1	2.0	2.0	1.9	2.0	2.1	2.2	2.3	3.2	***2.5***	24
17	2.5	2.5	2.7	2.9	2.9	3.2	***3.3***	3.0	2.4	2.3	2.1	2.0	**S**	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.3	2.1	1.8	1.8	***3.3***	2.4	24
18	1.8	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	**S**	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	2.0	2.0	2.1	2.1	2.1	1.9	24
19	2.1	2.3	2.1	2.1	2.0	2.1	2.0	2.0	2.0	1.8	**S**	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	2.1	2.1	2.1	2.3	2.0	24
20	2.3	2.4	2.3	2.1	2.0	2.1	2.0	2.0	2.0	**S**	1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.1	2.2	2.2	2.4	2.0	24
21	2.2	2.3	2.3	2.4	2.6	2.7	2.8	2.7	**S**	2.0	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	2.0	2.1	2.2	2.2	2.4	2.6	2.8	2.2	24
22	2.7	2.7	2.8	3.0	3.2	3.1	3.1	**S**	2.4	2.1	2.0	2.0	1.9	2.0	1.9	1.9	2.0	2.1	2.1	2.2	2.2	2.1	2.1	2.1	3.2	2.3	24
23	2.1	2.1	2.0	2.0	2.0	2.0	**S**	2.1	2.0	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.8	1.9	1.9	1.9	1.9	1.9	2.1	1.9	24
24	2.0	1.9	1.9	1.9	1.9	**S**	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.8	1.9	1.8	1.9	1.9	1.9	1.8	1.9	1.9	2.0	1.9	24
25	1.9	1.8	1.8	1.8	**S**	1.9	1.9	2.0	1.9	1.9	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.2	2.2	2.3	2.3	2.0	24
26	2.3	2.3	2.6	**S**	2.7	2.7	**P**	**R**	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.3	2.3	2.7	2.2	22
27	2.4	2.4	**S**	2.2	2.2	2.1	2.2	2.3	2.0	1.9	1.9	1.8	1.8	1.9	2.0	2.0	2.0	2.1	2.0	2.0	2.2	2.2	2.3	2.6	2.6	2.1	24
28	2.2	**S**	2.1	2.1	2.1	2.3	2.3	2.3	2.3	2.1	2.0	1.9	1.9	1.9	1.9	1.8	1.9	1.9	1.9	2.2	2.4	2.5	2.7	2.7	2.7	2.1	24
29	**S**	2.8	2.6	2.7	2.8	2.6	2.6	2.2	2.0	2.1	2.0	1.8	1.6	1.6	1.6	1.6	1.5	1.5	1.6	1.7	1.8	1.9	1.9	**S**	2.8	2.0	24
30	2.2	2.1	2.1	2.2	2.3	2.2	2.0	2.0	1.9	1.8	1.7	1.7	1.6	1.6	1.6	1.5	1.5	1.6	1.6	1.8	2.1	2.3	**S**	2.4	2.4	1.9	24
31	2.4	2.5	2.6	2.6	2.5	2.6	2.3	2.1	2.2	2.1	1.9	1.9	1.8	1.8	1.8	1.7	1.7	1.7	1.9	1.7	2.0	**S**	1.7	1.7	2.6	2.1	24
HOURLY MAX	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	3	3	3			
HOURLY AVG	2.3	2.3	2.3	2.4	2.4	2.4	2.3	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.1	2.2	2.2			

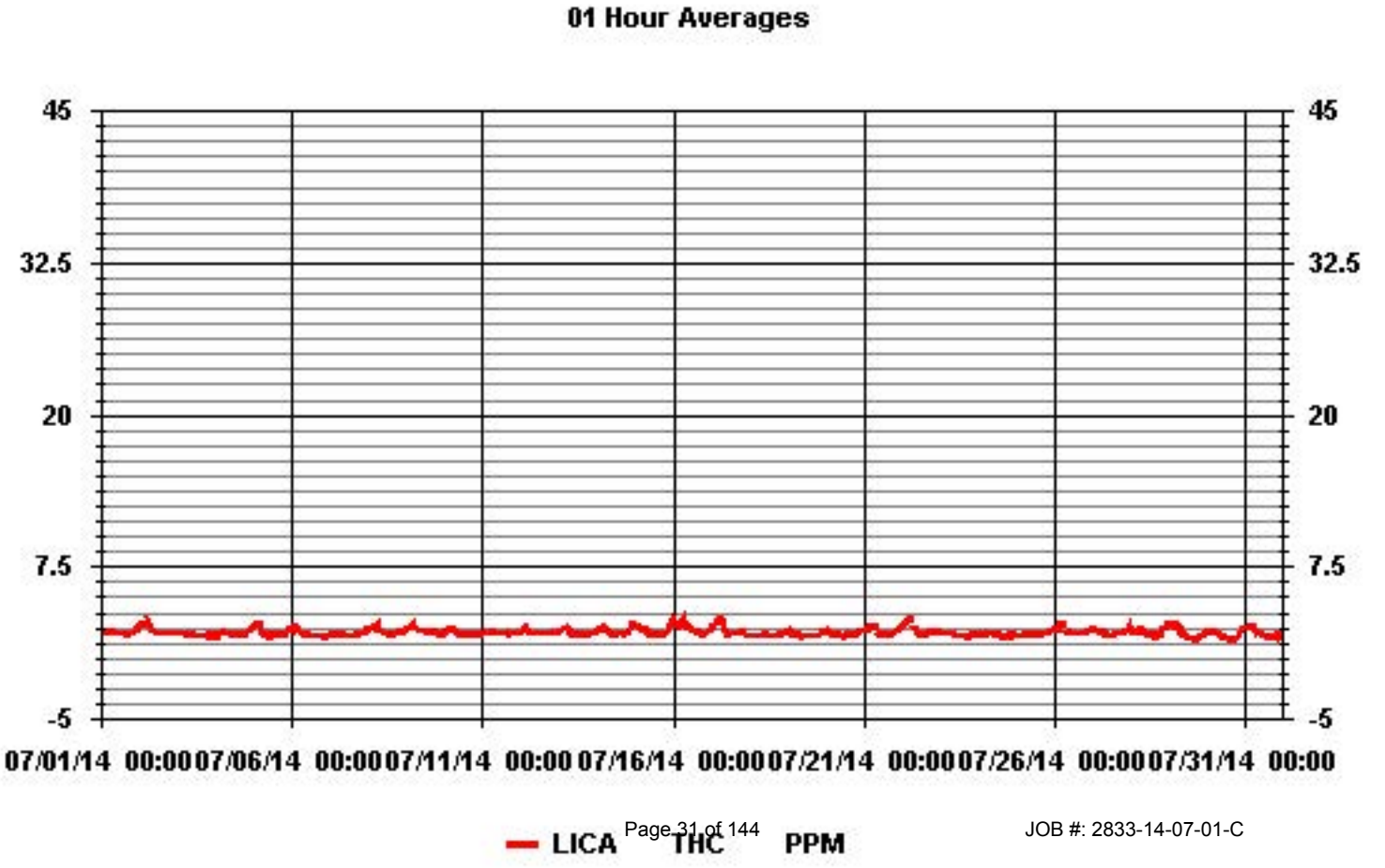
STATUS FLAG CODES

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



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	705					
MAXIMUM 1-HR AVERAGE:	3.3	PPM	@ HOUR(S)	6	ON DAY(S)	17
MAXIMUM 24-HR AVERAGE:	2.5	PPM			ON DAY(S)	16
					VAR-VARIOUS	
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		742	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:		99.7	%
STANDARD DEVIATION:	0.30		MONTHLY AVERAGE:		2.10	PPM



JOB #: 2833-14-07-01-C

Lakeland Industry & Community Association - Cold Lake South Site

JULY 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	2.8	2.7	2.3	2.6	2.4	**S**	2.5	2.3	2.2	2.2	2.1	2.1	2	2	2	2	2	2	2	2.1	2.8	2.5	2.6	3.2	3.2	2.3	24
2	3.3	2.9	3	3.1	**S**	3.4	3	2.7	2.6	2.3	2.4	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	3.4	2.4	24
3	2	2	2	**S**	2.1	2	2	2	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.9	1.9	1.9	1.9	2	2	2.1	1.9	24
4	1.9	1.7	**S**	2.1	2.1	2.3	2.2	2.1	2	2	2.3	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2.3	2.4	2.8	2.8	2.9	2.9	2.1	24
5	2.9	**S**	3	3	2.9	2.7	2	2	2	1.9	1.9	1.9	2	2	2	1.9	1.9	1.9	1.9	2	2.1	2.3	2.5	2.6	3	2.2	24
6	**S**	3	2.8	2.8	2.6	2.4	2.3	2	2	2.1	2	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	2	1.9	2.1	**S**	3	2.1	24
7	2.1	2.1	2.1	2	2.1	2.1	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2	2.3	**S**	2.4	2.4	2.0	24
8	2.5	2.7	2.9	2.8	2.8	2.9	3.2	3	2.3	**S**	2.2	2.1	2	1.9	1.9	1.9	2.2	2	2	2.1	2.3	**S**	2.4	2.6	3.2	2.4	24
9	2.4	2.9	3	***4.2***	3.5	2.8	2.6	**C**	**C**	**C**	**C**	**C**	2.3	2.2	2.2	2.1	2.1	2.2	2.2	2.2	**S**	1.9	2	2	***4.2***	2.5	24
10	2.2	2.3	2.6	2.6	2.7	2.5	2.6	2.5	2.1	2.1	2	1.9	2	1.9	2	1.9	2	1.9	2	**S**	2	2	2	2	2.7	2.2	24
11	2	2.1	2.2	2.2	2.3	2.3	2.3	2.2	2.1	2.1	2.1	2	2	2.1	2.1	2.2	2.1	2.1	**S**	2.1	2.2	2.2	2.3	2.3	2.3	2.2	24
12	2.2	2.6	2.7	2.9	2.7	2.3	2	2	2	2.2	2.1	2.1	2.1	2.1	2.1	2	2.2	**S**	2.1	2.2	2.4	2.3	2.3	2.4	2.9	2.3	24
13	2.6	2.6	2.5	2.6	2.6	2.7	2.7	2.1	2.1	2	2	2	2.1	2.2	2	2	**S**	1.9	1.9	2.1	2.3	2.4	2.2	2.3	2.7	2.3	24
14	2.5	2.4	2.6	2.6	2.8	2.8	2.6	2.4	2.3	2	1.9	1.9	2	2.1	2.1	**S**	2.1	2	2	2	3.2	3.2	3.1	3.1	3.2	2.4	24
15	2.9	2.9	3.1	3.1	2.9	2.7	2.6	2.6	2.3	2.1	2	2	1.9	1.9	**S**	2	2	2	2	2.3	2.7	2.8	3.1	3.6	3.6	2.5	24
16	3.4	3.4	3.2	3.4	3.1	3.2	3.5	3.1	3	3	2.8	2.5	2.4	**S**	2.3	2.5	2.5	2	2	2	2	2.4	2.6	2.5	3.5	***2.7***	24
17	3	2.8	3	3.1	3.3	3.4	3.4	3.3	2.8	2.4	2.2	2	**S**	2.1	2.2	2.1	2.1	2.2	2.5	2.4	3	2.6	1.9	1.8	3.4	2.6	24
18	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	1.9	**S**	2	1.9	1.8	1.8	1.8	1.9	2	2	2.1	2.1	2.3	2.2	2.3	2.0	24
19	2.2	2.4	2.2	2.2	2.1	2.4	2.2	2.1	2.1	1.9	**S**	1.9	1.9	1.9	1.9	1.8	1.9	1.8	1.8	1.9	2.1	2.4	2.2	2.3	2.4	2.1	24
20	2.5	2.6	2.4	2.2	2.1	2.1	2.1	2	2.1	**S**	1.9	1.9	1.9	2	1.9	1.9	1.9	2	2	2	2.4	2.5	2.6	2.4	2.6	2.1	24
21	2.5	2.4	2.4	2.6	3	2.9	2.9	2.8	**S**	2.2	2	2	2	2	2	**P**	2	2	2.1	2.4	2.3	2.6	2.8	2.9	3	2.4	23
22	3.1	2.9	3	3.3	3.4	3.3	3.3	**S**	2.8	2.1	2.1	2.1	2	2.1	2	1.9	2.1	2.1	2.2	2.3	2.3	2.2	2.1	2.1	3.4	2.5	24
23	2.5	2.1	2.1	2	2	2	**S**	2.1	2	2	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	2	1.9	1.9	2	2.5	2.0	24
24	2	2	2	1.9	2	**S**	2	2.1	2.1	2	2	2	1.9	1.9	1.9	1.9	2	1.9	2	2	1.9	1.9	2	2	2.1	2.0	24
25	2	1.8	1.9	1.9	**S**	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.3	2.4	2.7	2.5	2.7	2.1	24
26	2.7	2.5	2.8	**S**	2.9	3	**P**	**P**	2.3	2.2	2.5	2.4	2	2.2	2.1	2	2	2.1	2.1	2.1	2.7	2.7	2.6	2.4	3	2.4	22
27	2.5	2.5	**S**	2.5	2.3	2.2	2.4	2.4	2.1	2	1.9	1.9	1.9	2	2	2	2.1	2.2	2.1	2.2	2.5	2.5	2.7	3	3	2.3	24
28	2.8	**S**	2.1	2.1	2.2	2.4	2.4	2.4	2.3	2.2	2.1	2	2.1	2	2	1.9	1.9	2	2	2.8	3	3	3.3	3.3	3.3	2.4	24
29	**S**	3.1	2.9	3	3.1	2.9	2.8	2.3	2.1	2.1	2.2	1.9	1.7	1.6	1.6	1.6	1.7	1.7	1.7	1.7	2	2	2.2	**S**	3.1	2.2	24
30	2.9	2.2	2.5	2.6	3.2	2.3	2.1	2	1.9	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.7	1.6	1.7	2.8	2.5	3.2	**S**	2.9	3.2	2.2	24
31	2.7	3.1	3.8	3.5	3.1	3.1	2.7	2.5	2.2	2.2	2	1.9	1.9	1.9	1.9	1.8	1.8	1.8	2.8	1.9	2.7	**S**	1.8	1.8	3.8	2.4	24
HOURLY MAX	3	3	4	4	4	3	4	3	3	3	3	3	2	2	2	3	3	2	3	3	3	3	3	4			
HOURLY AVG	2.5	2.5	2.6	2.6	2.6	2.6	2.5	2.3	2.2	2.1	2.1	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.1	2.3	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: 702

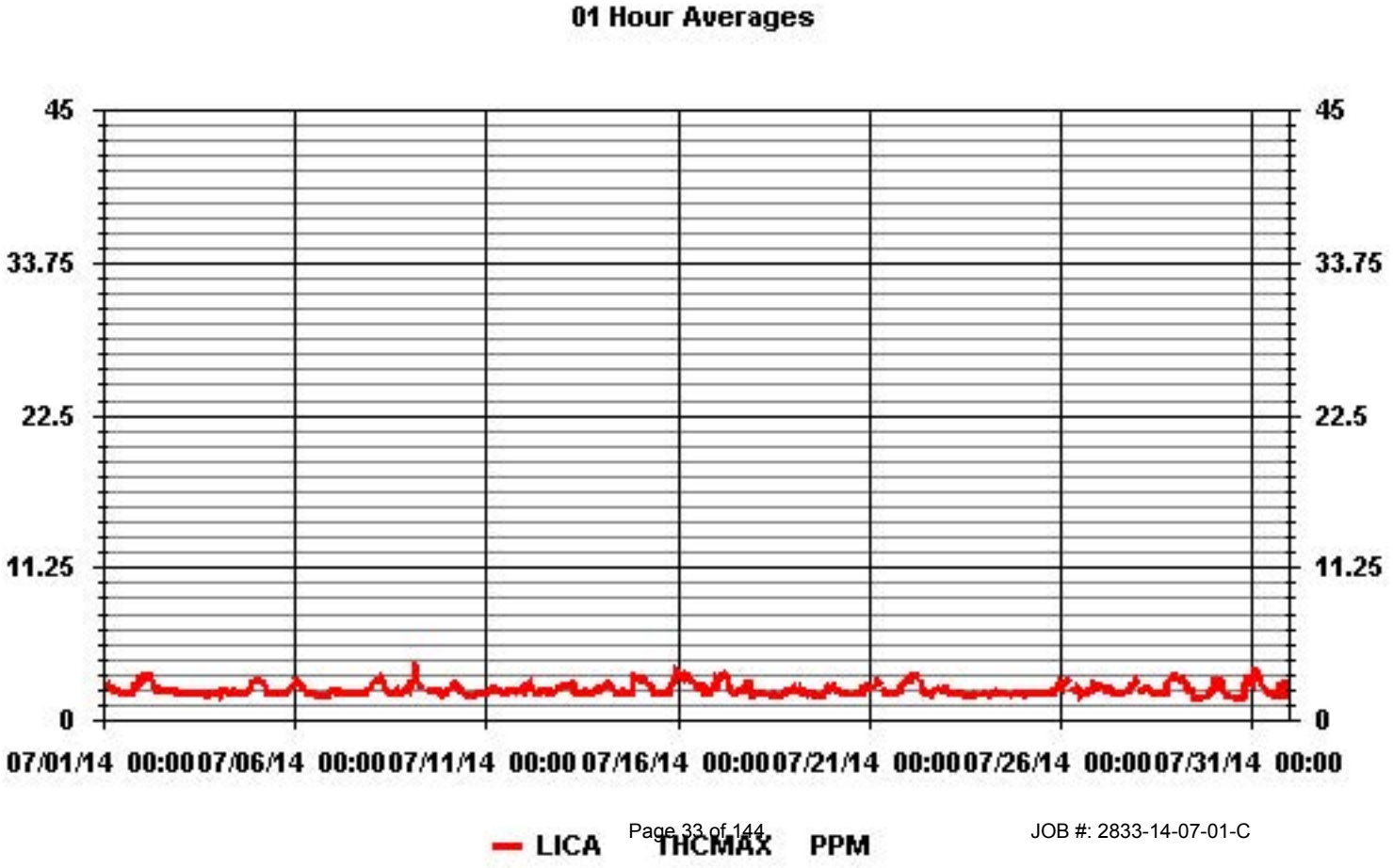
MAXIMUM INSTANTANEOUS VALUE: 4.2 PPM @ HOUR(S) 3 ON DAY(S) 9

VAR-VARIOUS

IZS CALIBRATION TIME: 34 HRS OPERATIONAL TIME: 741 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION: 0.42



JOB #: 2833-14-07-01-C

LICA
THC / WD Joint Frequency Distribution (Percent)

July 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	2.41	2.69	2.55	3.26	2.69	4.25	18.15	7.51	6.95	7.09	5.67	10.78	11.77	5.67	4.11	2.69	98.29
< 10.0	.00	.00	.00	.14	.00	.14	.00	.14	.28	.14	.14	.56	.00	.00	.14	.00	1.70
< 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	2.41	2.69	2.55	3.40	2.69	4.39	18.15	7.65	7.23	7.23	5.81	11.34	11.77	5.67	4.25	2.69	

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
< 3.0	17	19	18	23	19	30	128	53	49	50	40	76	83	40	29	19	693
< 10.0				1		1		1	2	1	1	4			1		12
< 50.0																	
>= 50.0																	
Totals	17	19	18	24	19	31	128	54	51	51	41	80	83	40	30	19	

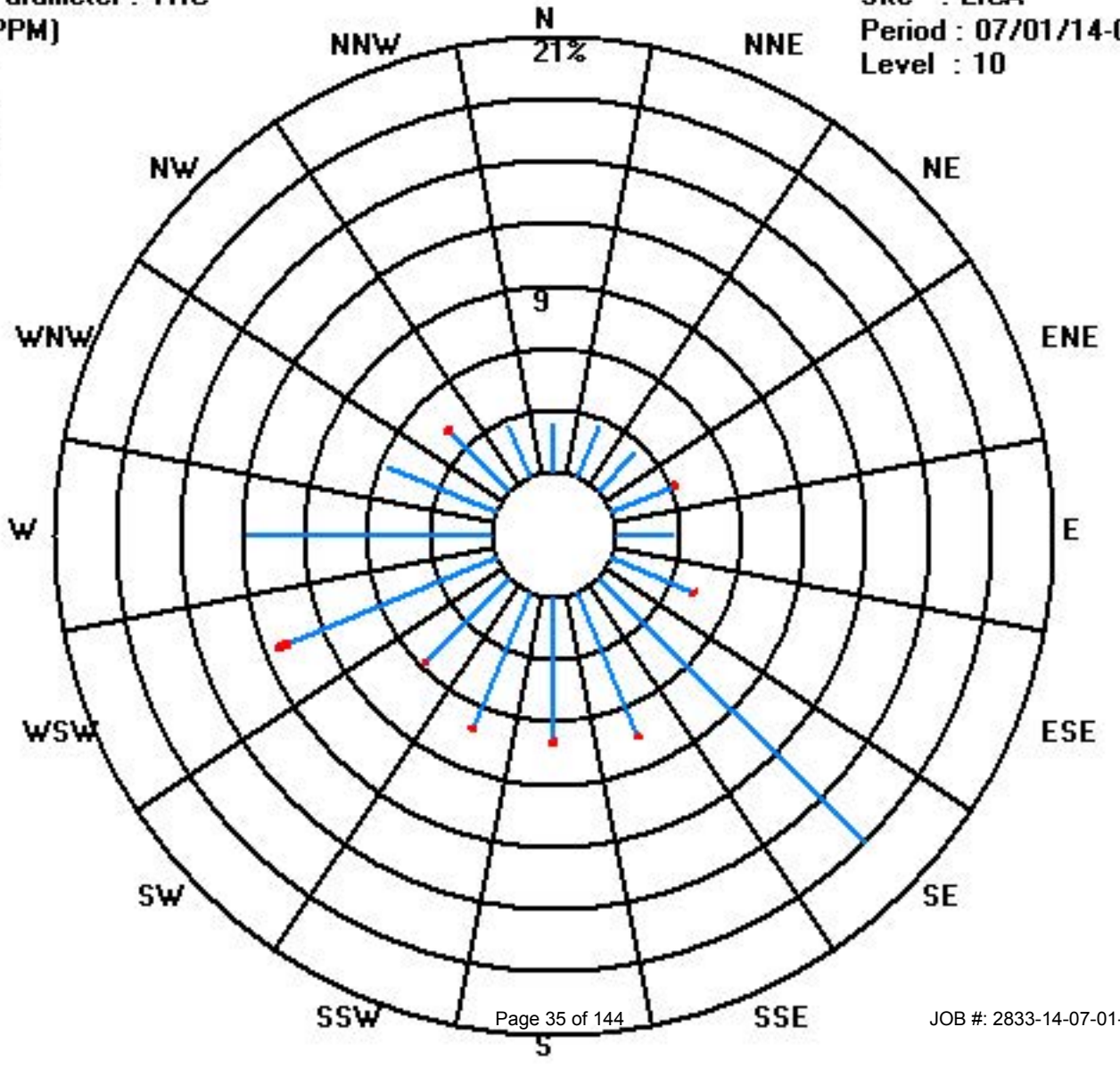
Calm : .00 %

Total # Operational Hours : 705

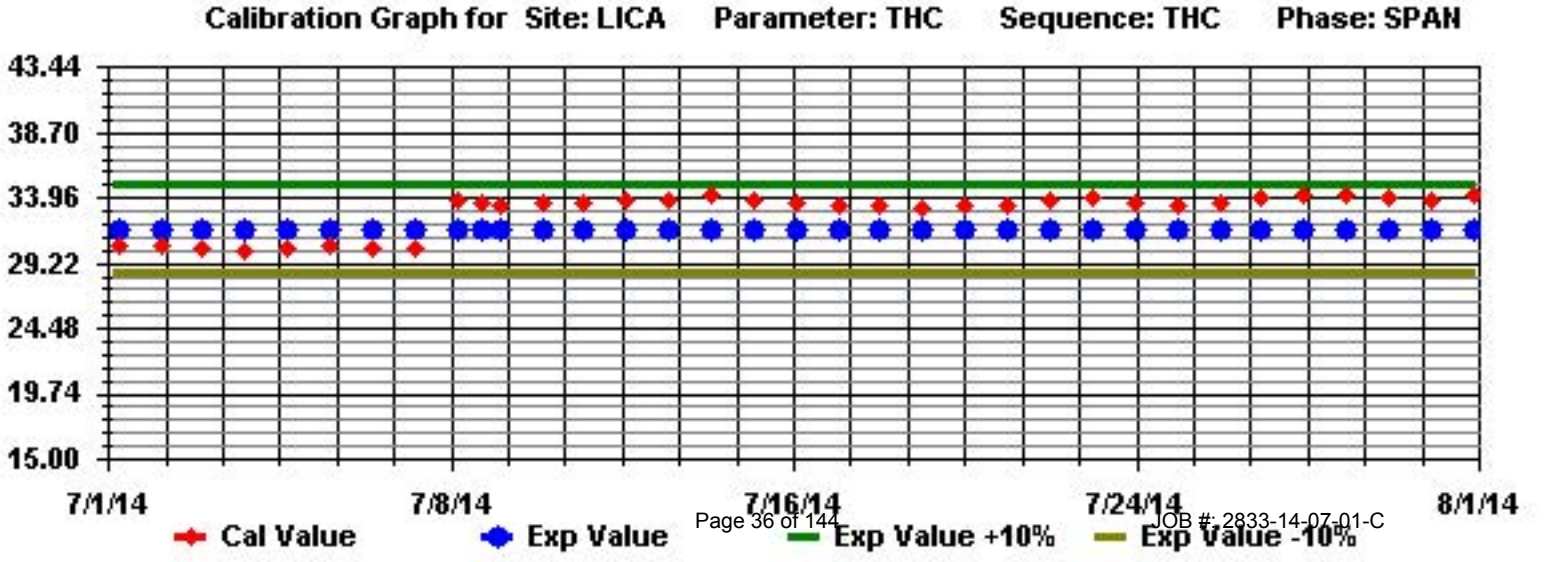
Logger : 01 Parameter : THC
Class Limits (PPM)

>= 50.0
< 50.0
< 10.0
< 3.0

Site : LICA
Period : 07/01/14-07/31/14
Level : 10



JOB #: 2833-14-07-01-C


Calibration Graph for Site: LICA Parameter: THC Sequence: THC Phase: SPAN
43.44
38.70
33.96
29.22
24.48
19.74
15.00
7/1/14
7/8/14
7/16/14
7/24/14
8/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Particulate Matter 2.5

Lakeland Industry & Community Association - Cold Lake South Site

JULY 2014

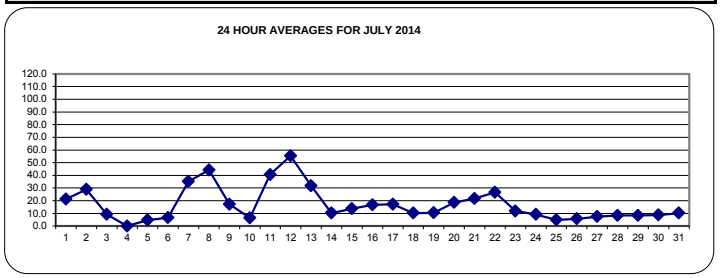
PARTICULATE MATTER 2.5 (LESS THAN 2.5 MICRONS) (PM2.5) hourly averages in ug/m3

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	23	24	74	X	X	X	X	0	X	X	X	X	10	X	3	X	X	45	33	X	18	5	7	12	74	21.2	12
2	15	9	3	7	13	21	Y	Y	Y	55	55	48	51	68	31	30	59	31	X	2	13	31	8	X	68	28.9	19
3	8	1	X	0	18	X	X	19	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	19	9.2	5
4	X	X	X	X	X	X	X	X	X	C	C	C	C	C	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			5
5	6	10	11	9	6	9	5	1	3	3	2	2	0	7	1	3	4	8	2	4	8	4	0	4	11	4.7	24
6	5	2	2	7	8	1	8	13	9	16	15	11	15	11	12	5	2	4	9	0	2	1	0	1	16	6.6	24
7	2	2	0	2	8	3	4	10	15	23	24	26	42	38	42	49	67	66	79	78	71	67	65	62	79	35.2	24
8	56	57	57	63	66	64	59	56	34	40	43	57	61	68	68	34	35	26	22	18	20	21	18	16	68	44.1	24
9	15	10	14	13	18	19	21	21	34	25	30	24	22	16	26	17	14	16	13	11	8	11	7	7	34	17.2	24
10	8	12	9	9	9	5	8	5	X	6	8	10	5	4	7	7	3	4	2	1	0	3	2	18	18	6.3	23
11	31	38	41	44	46	48	52	50	36	17	18	12	10	13	32	53	49	50	53	59	60	50	52	60	60	40.6	24
12	52	51	42	36	35	39	41	29	18	24	13	19	29	32	31	46	80	100	101	105	***106***	102	101	94	***106***	***55.3***	24
13	95	92	93	91	85	78	58	13	5	11	8	15	4	4	3	4	3	9	11	14	28	18	14	7	95	31.8	24
14	6	3	7	3	1	8	X	X	15	9	4	9	10	4	13	6	11	16	15	21	24	18	11	11	24	10.2	22
15	8	8	8	9	6	6	7	10	20	10	21	44	27	19	8	11	9	6	9	17	20	20	13	14	44	13.8	24
16	18	11	10	9	10	11	13	12	13	7	13	10	19	5	18	22	24	27	24	23	28	26	25	23	28	16.7	24
17	24	22	24	23	22	20	22	19	24	15	16	14	15	14	13	15	13	10	13	18	18	18	12	7	24	17.1	24
18	9	6	11	8	6	8	11	10	11	13	18	9	6	7	10	5	8	14	10	13	13	13	15	12	18	10.3	24
19	18	15	12	19	18	10	14	15	18	8	5	16	12	4	7	2	5	8	5	10	9	9	3	9	19	10.5	24
20	6	8	10	12	33	38	40	50	35	33	30	29	29	19	7	14	4	1	9	13	8	4	8	6	50	18.6	24
21	8	9	8	7	9	6	8	2	4	6	8	19	28	24	37	0	45	48	42	52	49	31	29	42	52	21.7	24
22	31	33	28	32	23	25	24	28	38	37	31	21	21	20	25	28	22	30	32	26	27	12	19	23	38	26.5	24
23	24	9	15	28	17	6	21	9	13	33	13	11	C	0	13	9	2	4	1	3	X	5	11	14	33	11.9	23
24	15	11	13	13	13	13	11	8	13	13	9	9	5	13	5	11	6	11	11	5	5	4	2	2	15	9.2	24
25	5	5	7	5	4	1	3	3	5	2	1	14	4	6	X	3	4	9	5	6	7	0	6	8	14	4.9	23
26	5	3	3	2	5	2	4	P	2	4	9	0	8	5	5	5	9	9	8	9	9	9	4	13	13	5.7	23
27	8	11	6	6	11	2	0	11	10	10	10	9	6	9	3	5	7	8	11	6	9	7	8	5	11	7.4	24
28	0	7	9	5	3	4	5	0	6	X	8	14	15	12	9	10	4	7	9	8	10	15	16	15	16	8.3	23
29	14	10	9	10	8	9	11	3	12	11	6	11	9	8	6	5	4	6	7	12	11	7	7	6	14	8.4	24
30	8	9	9	16	11	13	11	9	10	6	9	9	6	3	6	2	6	8	8	13	10	7	10	11	16	8.8	24
31	7	8	11	10	13	7	8	9	11	14	14	16	8	13	5	5	16	12	10	9	11	9	10	8	16	10.2	24
HOURLY MAX	95	92	93	91	85	78	59	56	38	55	55	57	61	68	68	53	80	100	101	105	106	102	101	94			
HOURLY AVG	17.7	16.5	18.8	17.2	18.1	17.0	18.0	15.4	15.9	16.7	15.8	17.4	17.0	15.9	15.9	14.5	18.4	20.4	19.8	19.9	21.5	18.2	16.7	18.2			

STATUS FLAG CODES

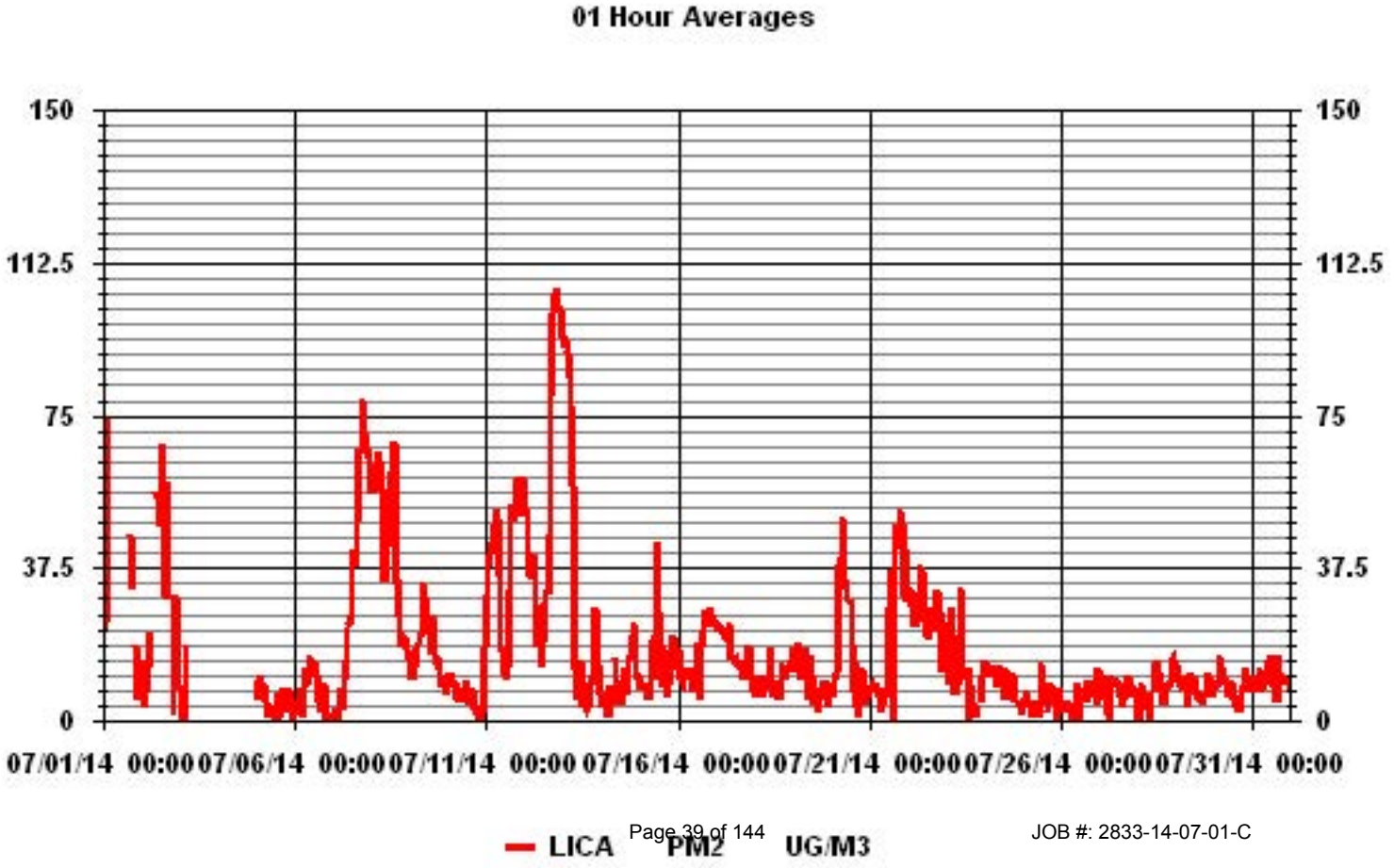
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



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

MONTHLY SUMMARY

NUMBER OF 24-HR EXCEEDENCES:	5						
NUMBER OF NON-ZERO READINGS:	661						
MAXIMUM 1-HR AVERAGE:	106	ug/m3	@ HOUR(S)	7	ON DAY(S)	2	
MAXIMUM 24-HR AVERAGE:	55.3	ug/m3			ON DAY(S)	12	
					VAR-VARIOUS		
			OPERATIONAL TIME:		682	HRS	
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:		91.7	%	
STANDARD DEVIATION:	18.77		MONTHLY AVERAGE:		17.55	ug/m3	



JOB #: 2833-14-07-01-C

LICA
PM2 / WD Joint Frequency Distribution (Percent)

July 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	2.36	2.36	2.36	2.95	2.95	4.28	14.32	6.35	5.90	5.76	5.16	10.04	9.74	3.98	2.95	1.62	83.16
<	60	.14	.29	.14	.44	.00	.14	2.21	.73	.73	1.03	1.03	.59	2.21	1.18	1.03	.14	12.11
<	80	.00	.00	.00	.00	.00	.00	.29	.00	.44	.29	.44	.44	.14	.59	.14	.00	2.80
<	120	.00	.00	.14	.29	.00	.00	.29	.14	.14	.14	.00	.73	.00	.00	.00	.00	1.92
<	240	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	240	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	2.51	2.65	2.65	3.69	2.95	4.43	17.13	7.23	7.23	7.23	6.64	11.81	12.11	5.76	4.13	1.77	

Calm : .00 %

Total # Operational Hours : 677

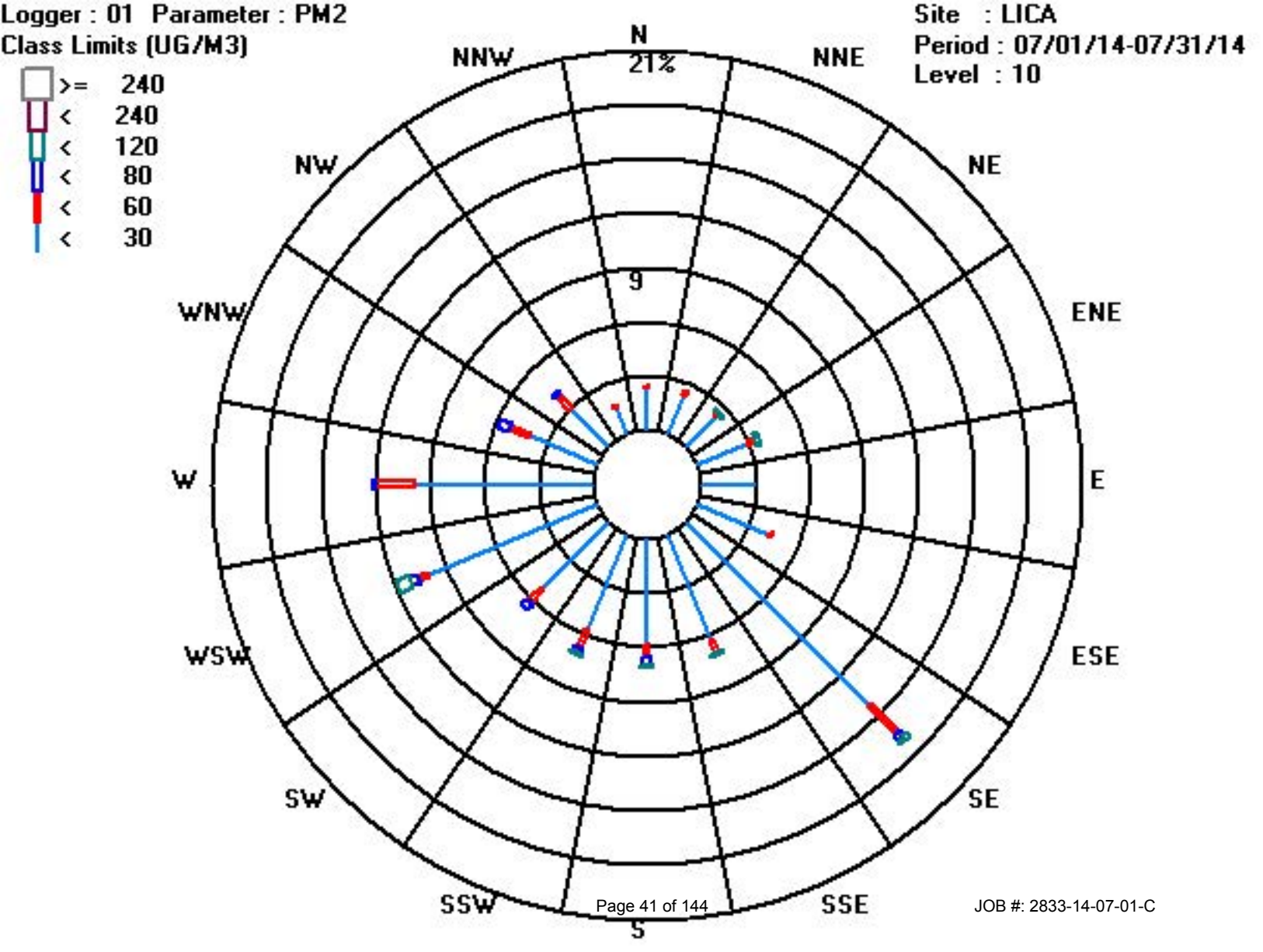
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	30	16	16	16	20	20	29	97	43	40	39	35	68	66	27	20	11	563
<	60	1	2	1	3		1	15	5	5	7	7	4	15	8	7	1	82
<	80							2		3	2	3	3	1	4	1		19
<	120			1	2			2	1	1	1		5					13
<	240																	
>=	240																	
	Totals	17	18	18	25	20	30	116	49	49	49	45	80	82	39	28	12	

Calm : .00 %

Total # Operational Hours : 677


Logger : 01 Parameter : PM2
Class Limits (UG/M3)
>= 240
< 240
< 120
< 80
< 60
< 30
Site : LICA
Period : 07/01/14-07/31/14
Level : 10
N
21%
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
9

Nitrogen Dioxide

Lakeland Industry & Community Association - Cold Lake South Site

JULY 2014

NITROGEN DIOXIDE (NO2) hourly averages in ppb

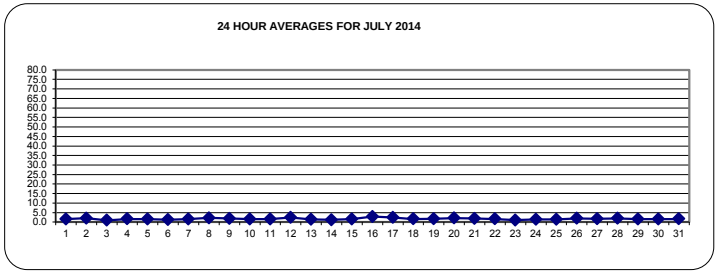
MST

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	1.5	1.3	1.2	2	**S**	2.6	2.8	0.8	0.9	0.5	0.5	0.5	0.6	0.5	0.6	0.9	1.4	1.3	0.9	1.7	2.7	3	4.2	4.2	1.5	24
2	3.8	3.9	3.9	3	**S**	2.3	5.7	3.5	2.1	1.3	1.2	0.8	0.9	0.6	0.6	0.6	1	0.9	1.1	2.1	3.5	1	1.1	0.8	5.7	2.0	24
3	0.5	0.7	0.9	**S**	1.1	1.1	1.3	1.2	1	0.6	0.6	0.9	0.7	0.6	0.8	0.6	1	1.1	1.1	1.1	1	1	1	1.4	1.4	0.9	24
4	1	2.1	**S**	1.9	2.6	2.7	3.5	2.2	1.1	2	2	1.5	1.1	0.6	0.5	0.4	0.4	0.5	0.6	1.3	2.1	2	2.2	3.1	3.5	1.6	24
5	3.7	**S**	4.1	3.3	3.5	1.5	1.3	1.6	1.6	1.9	1	0.8	0.9	0.6	0.9	0.6	0.5	0.5	0.5	0.6	1.2	2.4	2.3	1.6	4.1	1.6	24
6	**S**	2.1	1.5	1.2	1.9	1.8	2.1	2	1.9	2	1.5	1.2	1.1	0.7	0.6	1.2	0.4	0.3	0.6	0.8	1.7	0.6	1.2	**S**	2.1	1.3	24
7	2.8	2.5	1.7	1.6	1.9	1.8	1.5	2.1	1.5	1.2	1.3	1.1	1.1	0.7	0.7	0.6	0.8	1	1.3	1.4	1.6	2.5	**S**	2.1	2.8	1.5	24
8	2	2.1	1.9	1.5	1.6	1.4	2.9	5.6	1.1	1.3	1.3	**C**	**C**	**C**	**C**	**C**	**C**	1.5	1.2	1.4	3	**S**	3.7	3.6	5.6	2.2	24
9	2.5	2.6	2.6	3.5	4.1	2.9	2.6	2.1	**S**	**S**	1.8	1.4	1	0.9	0.9	0.9	0.8	1	1.3	1.9	**S**	1.4	1.4	1.3	4.1	1.9	24
10	2.8	2.1	1.5	1.7	3	3.5	4.8	2.7	1.4	0.9	0.6	0.6	0.7	0.8	0.8	1	0.6	0.7	1	**S**	1.4	1.7	0.8	0.5	4.8	1.5	24
11	0.5	0.9	2.2	2.1	2.9	2.5	1.6	0.9	0.8	0.4	0.4	0.4	0.6	0.8	1.2	1.6	1.3	1.2	**S**	1.8	2.2	2.4	2.5	3.2	3.2	1.5	24
12	3	3.2	4.3	3.5	3.7	1.5	0.9	0.8	0.8	0.7	0.8	0.8	1.1	1.2	1.4	1.9	3	**S**	4	4.2	3.9	3.8	4.2	2.7	4.3	2.4	24
13	2.4	2.3	2.3	2.1	1.8	2.1	4.8	0.7	0.6	0.5	0.4	0.2	0.4	0.3	0.3	0.3	**S**	0.5	0.6	0.8	2.4	2.8	4.1	0.8	4.8	1.5	24
14	0.9	0.8	0.8	0.7	1	1	2.2	1.4	0.9	0.7	0.4	0.4	0.6	0.8	0.9	**S**	0.9	0.7	0.6	1.6	2	2.6	2.7	2.2	2.7	1.2	24
15	1.6	1.6	1.7	1.1	2.1	3.2	2	1.3	1.1	1	0.5	0.8	0.6	1.1	**S**	1	1	1.1	1.4	2.1	1.8	3.5	3.2	2.5	3.5	1.6	24
16	2.4	2.3	2.1	1.5	2.3	3.7	3.8	3	3.6	5.2	5.1	4.5	4.2	**S**	4.1	5	3.8	1.7	1.5	0.9	0.9	1.3	1.7	1.6	5.2	***2.9***	24
17	1.4	2.2	2.3	3.1	2.6	2.2	5.4	***5.9***	2.3	1.1	1.8	0.6	**S**	1.6	2.3	1.9	2.4	3.4	2.9	3.1	3.3	2	0.8	0.5	***5.9***	2.4	24
18	0.7	3.3	1.6	1.3	1.6	2.3	3.1	2.3	2.6	1.9	1.3	**S**	0.8	0.9	1.1	1	0.7	0.6	0.8	1.4	2	2	2.4	1.7	3.3	1.6	24
19	2	2	2	1.7	1.8	2.5	3.9	3.7	2	1.3	**S**	1.3	1.2	0.8	0.8	0.8	0.8	0.6	0.4	0.5	1.3	2.6	2.2	3.1	3.9	1.7	24
20	2.5	3.2	3.6	2.8	4.3	4.9	4	2.3	1.9	**S**	0.9	0.5	0.9	0.8	0.9	0.8	0.9	1	0.8	0.8	1.1	2.2	2.6	4.7	4.9	2.1	24
21	2.4	1.8	1.2	1.5	1.8	1.4	2.6	4	**S**	1.8	1	1.2	1.6	1.4	1.5	1.4	1.6	1.5	1.8	2.5	2.7	2.7	2.1	2	4	1.9	24
22	1.7	1.4	1.9	2.5	1.9	1.8	3.4	**S**	2.8	1.7	1.4	1.3	0.8	1	1	0.8	1	1.1	1.3	2.1	3.3	1.5	1.2	0.6	3.4	1.6	24
23	0.5	0.5	0.6	0.9	1.3	1.5	**S**	1.2	**C**	**C**	**C**	**C**	**C**	**C**	1.2	1.1	1	0.7	1	1.2	1	1.3	1.3	1.2	1.5	1.0	24
24	0.8	0.9	1.1	1.5	1.3	**S**	1.8	1.3	1.5	2.6	1.2	0.9	1	1.7	1.3	1.1	1.7	1.4	2.1	1.1	1.8	1.7	1.5	1.3	2.6	1.4	24
25	1.3	1	1.1	1	**S**	1.7	2.3	2.2	1.2	1	0.9	1.2	0.9	0.9	0.6	0.8	0.7	0.5	0.8	1.3	1	3	3.6	2.6	3.6	1.4	24
26	2.4	2.5	3.4	**S**	3.3	4	**P**	3.3	3.2	3.4	3.4	0.4	0.4	0.6	0.8	0.5	0.4	0.7	0.8	1.2	1.6	2.1	2.5	1.5	4	1.9	23
27	1.9	2.7	**S**	3.3	3.8	2.7	2.7	3.3	2.8	1.5	0.7	0.5	0.5	0.8	0.9	0.9	1	1.2	1.4	0.8	1.1	1.2	1.1	1.2	3.8	1.7	24
28	0.6	**S**	1	1.5	1.2	2.4	4.6	3.6	2.3	1.7	2	1.7	1.5	1.2	1.1	0.9	1	1	1	1.7	3.8	3.5	2.8	2.5	4.6	1.9	24
29	**S**	1.3	1.1	1.1	0.9	3.5	4.9	2.3	1.8	1.5	1.4	0.8	0.5	0.6	0.6	0.7	0.7	1	1.4	1.3	2.2	2.5	2.5	**S**	4.9	1.6	24
30	1.6	1	1.2	1.2	2.6	4.6	2.3	1.2	1	1	0.9	0.7	0.9	0.7	0.7	0.7	1.1	0.7	1.1	1.7	2.5	2.7	**S**	2.9	4.6	1.5	24
31	2.4	2.3	1.8	1.3	1.8	2.3	4.4	1.3	0.9	1.2	2.8	1.7	1	0.8	0.6	1.1	0.9	1	1	1.9	3.1	**S**	0.9	1.2	4.4	1.6	24
HOURLY MAX	4	4	4	4	4	5	6	6	4	5	5	5	4	2	4	5	4	3	4	4	4	4	4	5			
HOURLY AVG	1.9	2.0	2.0	1.9	2.3	2.4	3.1	2.4	1.7	1.5	1.3	1.0	1.0	0.9	1.0	1.1	1.1	1.0	1.2	1.5	2.1	2.2	2.2	2.0			

STATUS FLAG CODES

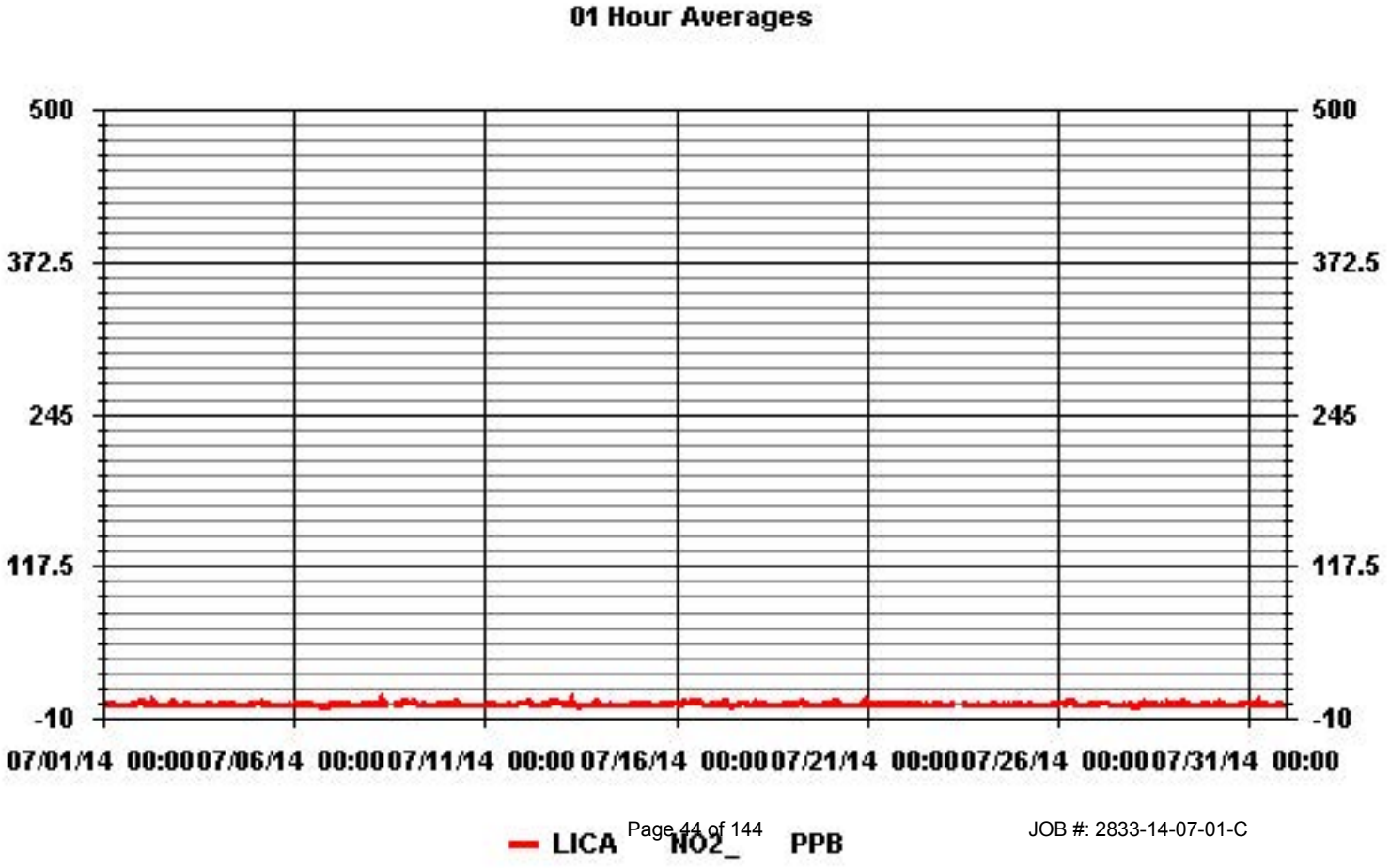
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

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



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	696					
MAXIMUM 1-HR AVERAGE:	5.9	PPB	@ HOUR(S)	7	ON DAY(S)	17
MAXIMUM 24-HR AVERAGE:	2.9	PPB			ON DAY(S)	16
					VAR-VARIOUS	
IZS CALIBRATION TIME:	35	HRS	OPERATIONAL TIME:		743	HRS
MONTHLY CALIBRATION TIME:	12	HRS	AMD OPERATION UPTIME:		99.9	%
STANDARD DEVIATION:	1.06		MONTHLY AVERAGE:		1.69	PPB



JOB #: 2833-14-07-01-C

Lakeland Industry & Community Association - Cold Lake South Site

JULY 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	3.1	2.1	1.1	1.2	3.2	**S**	4.9	4	3.9	1.9	0.9	0.9	0.9	1.4	0.9	1.9	1.4	2.4	3.9	1.9	2.5	6	3.9	4.9	6	2.6	24
2	4.4	5.5	5	4	**S**	4.5	6.9	5.4	3.4	3.4	4.4	1.4	2.9	1.4	1.9	1.4	3.4	1.9	2.4	4	5.4	1.9	1.9	0.9	6.9	3.4	24
3	0.9	0.9	3.4	**S**	1.4	1.4	1.4	2.4	2.4	0.9	6.5	6.5	1.4	1.9	5.9	0.9	2.4	1.9	1.9	1.4	1.4	1.4	1.4	1.9	6.5	2.3	24
4	1.4	3	**S**	3	3	3.5	5.5	6.5	1.4	3.5	7.5	2	2.5	1.5	1	0.5	0.5	1	1	2	3.5	5.5	3.5	4.5	7.5	2.9	24
5	5	**S**	4.5	4	4	3.5	3	2.5	2	16.5	1.5	1.5	9	2.5	2	1	1	1	1	1	2	4	3	2	16.5	3.4	24
6	**S**	3	2	2	2.5	2	3	2.4	1.9	2.5	1.9	1.4	2.9	3.4	1.4	1.9	0.9	0.9	2.4	1.9	3	1	2	**S**	3.4	2.1	24
7	4.1	3.1	2.6	2.1	2.6	2.1	2.1	2.1	2	1	1.5	1	1.5	1.6	3.6	1.1	1.1	1.1	1.6	2	2	4	**S**	3	4.1	2.1	24
8	2.5	2.5	2.5	2	2.5	2	4.5	8.5	1.9	**S**	4.9	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2	2	6.5	**S**	4.9	5.5	8.5	3.6	24
9	2.9	2.9	3.5	4.5	8.4	3.9	2.9	**S**	**S**	**S**	1.9	1.9	1.4	0.9	0.9	1.9	1.9	2.9	2.4	3.4	**S**	1.9	1.4	1.4	8.4	2.7	24
10	4.4	2.4	1.9	2.4	4.4	4.4	6.9	4.4	1.9	1.9	1.3	0.8	1.3	2.3	1.3	2.3	1.9	1.3	1.4	**S**	2	2.5	1.4	0.9	6.9	2.4	24
11	0.9	3	2.9	2.4	4	3	3.9	1.4	0.9	0.5	0.5	0.9	1.5	1.4	1.5	2	2	1.9	**S**	2	2.4	2.9	2.9	3.5	4	2.1	24
12	3.5	3.9	5	4.4	4.5	3	0.9	1.4	1.4	0.9	1.4	1.4	1.4	2.4	1.9	2.4	3.5	**S**	5.5	6.9	5	4.5	5	3.5	6.9	3.2	24
13	3.5	3	3.5	3	2.5	4	6.9	2.4	2.9	0.5	0.9	0.5	2.9	0.9	0.9	0.4	**S**	1.4	2.4	2	4.5	6	6	2	6.9	2.7	24
14	1.5	1.5	1.5	1.5	2	2	3	1.9	1.9	1.9	0.9	0.4	0.9	2.4	0.9	**S**	1.5	3.5	1	3.5	2.9	3.9	3	3.5	3.9	2.0	24
15	2	3	3	2	6	5	8.9	1.4	2.9	1.9	0.9	7.4	0.9	11	**S**	2.5	4.5	1.5	2	9.5	2	6.9	4.4	5.4	11	4.1	24
16	3.5	3.4	3.9	2.4	11	5.5	5.5	3.5	4.4	6.5	6.5	6	6	**S**	5.4	6.4	5.9	2.4	1.9	1.4	1.4	1.8	2.4	2.3	11	4.3	24
17	1.8	2.9	3.8	4.4	3.9	4.4	6.3	7.3	4.4	1.8	18.3	4.9	**S**	3.9	4.4	2.9	3.5	4.4	3.5	3.9	4.4	4.5	2	0.9	18.3	4.5	24
18	0.9	6	2.9	2	2	3	8.4	3	3	2.9	2	**S**	2	3.5	2	2.5	1.5	2	1	2	3.9	3.5	3.5	2.9	8.4	2.9	24
19	2.4	2.4	2.4	2.4	2.4	3.4	5.5	6.5	2.4	1.9	**S**	1.9	4.4	1.5	2.4	1.4	1.5	0.9	0.9	0.9	2.4	4	2.5	5	6.5	2.7	24
20	3	3.5	4.5	3.5	5	5.5	5	3.5	2.4	**S**	1.4	1.9	1.4	0.9	1.9	3.4	1.4	1.4	0.9	1.4	2	2.4	3.5	8.4	8.4	3.0	24
21	3.5	2.5	1.5	3	4	2.5	4	5	**S**	3.4	1.4	1.5	2.9	2	1.5	**P**	3	2	2.4	4.4	3.9	3.5	3	2.4	5	2.9	23
22	2.5	2	3	4.5	2.5	2.5	4.5	**S**	4.8	1.8	2.2	4.8	1.2	1.2	1.2	0.7	1.7	1.3	1.8	11.7	11.7	2.2	2.7	0.7	11.7	3.2	24
23	0.7	0.7	0.7	1.8	4.8	2.2	**S**	1.4	**C**	**C**	**C**	**C**	**C**	**C**	1.1	1.6	1.1	1.6	1.6	3.1	1.1	1.6	1.6	1.6	4.8	1.7	24
24	1	1.5	1.5	2	2.5	**S**	2.8	2.3	2.3	38.8	3.8	1.3	1.4	7.3	1.9	1.9	5.9	1.9	3.8	1.8	3.9	2.3	1.9	1.4	38.8	4.1	24
25	1.9	1.4	1.4	1.4	**S**	3.4	4.4	4.3	1.3	2.3	2.3	1.8	1.8	2.8	1.3	3.4	2.9	0.8	1.9	2.9	1.4	4.4	4.4	3.4	4.4	2.5	24
26	2.9	3.4	3.9	**S**	4.4	6.9	**P**	**P**	12.4	25.5	***43.4***	0.9	1.4	1.4	2.4	1.4	0.9	2	1.4	2.4	2.4	3.5	3.5	2	***43.4***	***6.1***	22
27	2	3	**S**	3.9	4.4	3	3.5	4	4.4	1.9	1.4	0.9	0.9	1.4	1.4	2.4	1.4	1.9	2.4	1.4	1.4	1.4	1.4	2	4.4	2.3	24
28	1.4	**S**	1.4	2.4	2	4.4	6.9	4.4	2.9	2	2.4	2.4	1.5	2.4	4.4	1.4	2.9	3.9	1.5	3	6.5	5.5	4	4	6.9	3.2	24
29	**S**	2.3	1.4	1.3	1.3	6.8	8.3	4.3	2.3	1.8	1.8	1.3	1.3	1.3	0.8	1.9	1.4	1.4	1.9	1.9	9.3	3.4	3.8	**S**	9.3	2.8	24
30	3	1.4	2	2.4	5	6.9	5	1.9	1.4	1.4	2.5	1	2.5	1.5	1	1	4.5	4.5	3	4.5	4	3.5	**S**	11.7	11.7	3.3	24
31	3.7	3.3	2.7	2.2	3.3	4.2	10.7	2.7	1.2	1.2	12.8	2.8	1.3	0.8	0.8	4.8	1.8	1.3	2.3	3.3	5.3	**S**	1.6	1.1	12.8	3.3	24
HOURLY MAX	5	6	5	5	11	7	11	9	12	39	43	7	9	11	6	6	6	5	6	12	12	7	6	12			
HOURLY AVG	2.6	2.7	2.7	2.7	3.8	3.8	5.0	3.6	2.9	4.8	4.8	2.2	2.2	2.4	2.0	2.0	2.3	1.9	2.1	3.1	3.7	3.4	3.0	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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 691

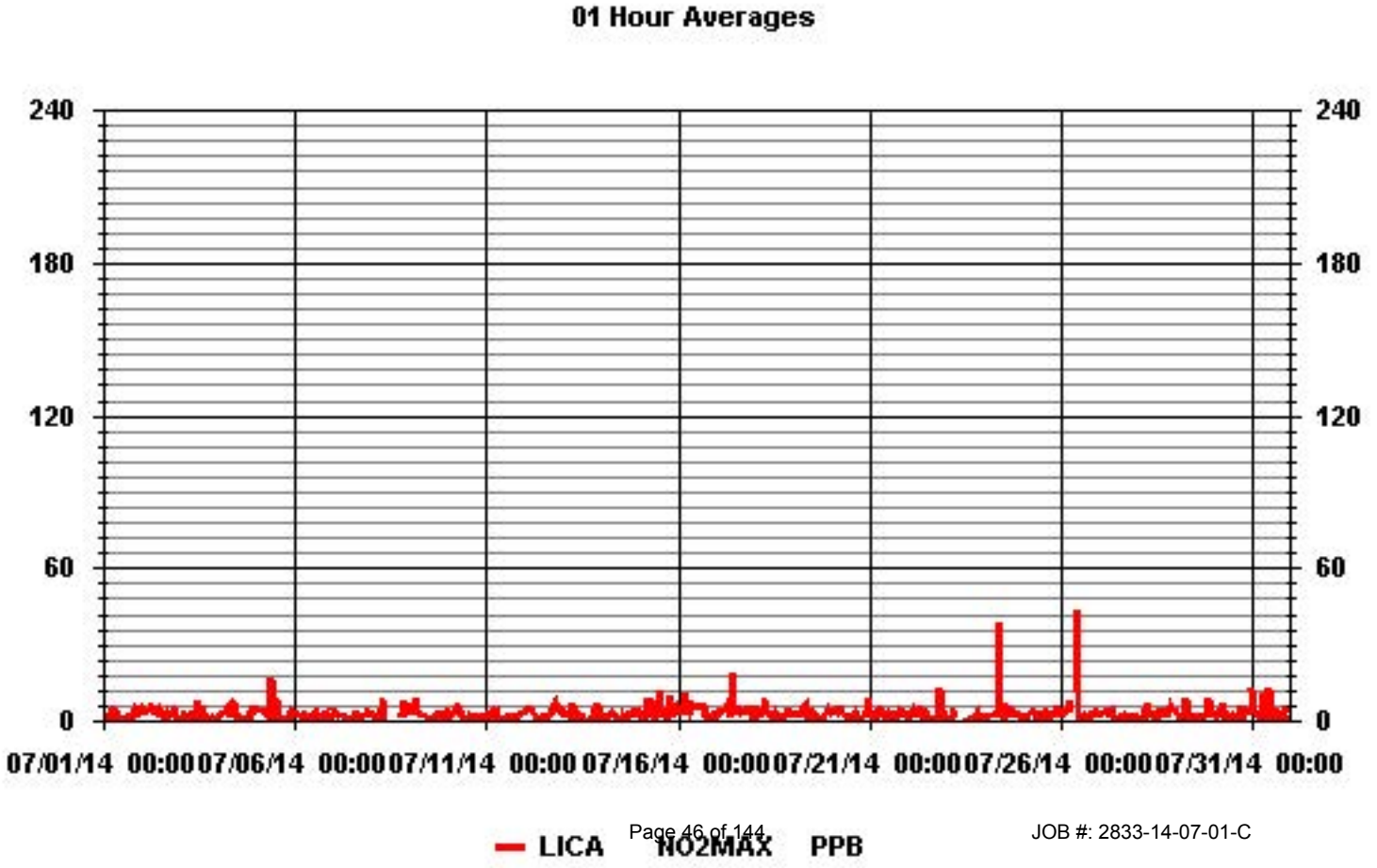
MAXIMUM INSTANTANEOUS VALUE: 43.4 PPB @ HOUR(S) 10 ON DAY(S) 26

VAR-VARIOUS

IZS CALIBRATION TIME: 37 HRS OPERATIONAL TIME: 741 HRS

MONTHLY CALIBRATION TIME: 13 HRS

STANDARD DEVIATION: 3.02



JOB #: 2833-14-07-01-C

LICA
NO2_ / WD Joint Frequency Distribution (Percent)

July 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	2.44	2.72	2.58	3.44	2.72	4.45	17.52	7.47	7.18	7.18	5.89	11.49	11.92	5.89	4.31	2.72	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	2.44	2.72	2.58	3.44	2.72	4.45	17.52	7.47	7.18	7.18	5.89	11.49	11.92	5.89	4.31	2.72	

Calm : .00 %

Total # Operational Hours : 696

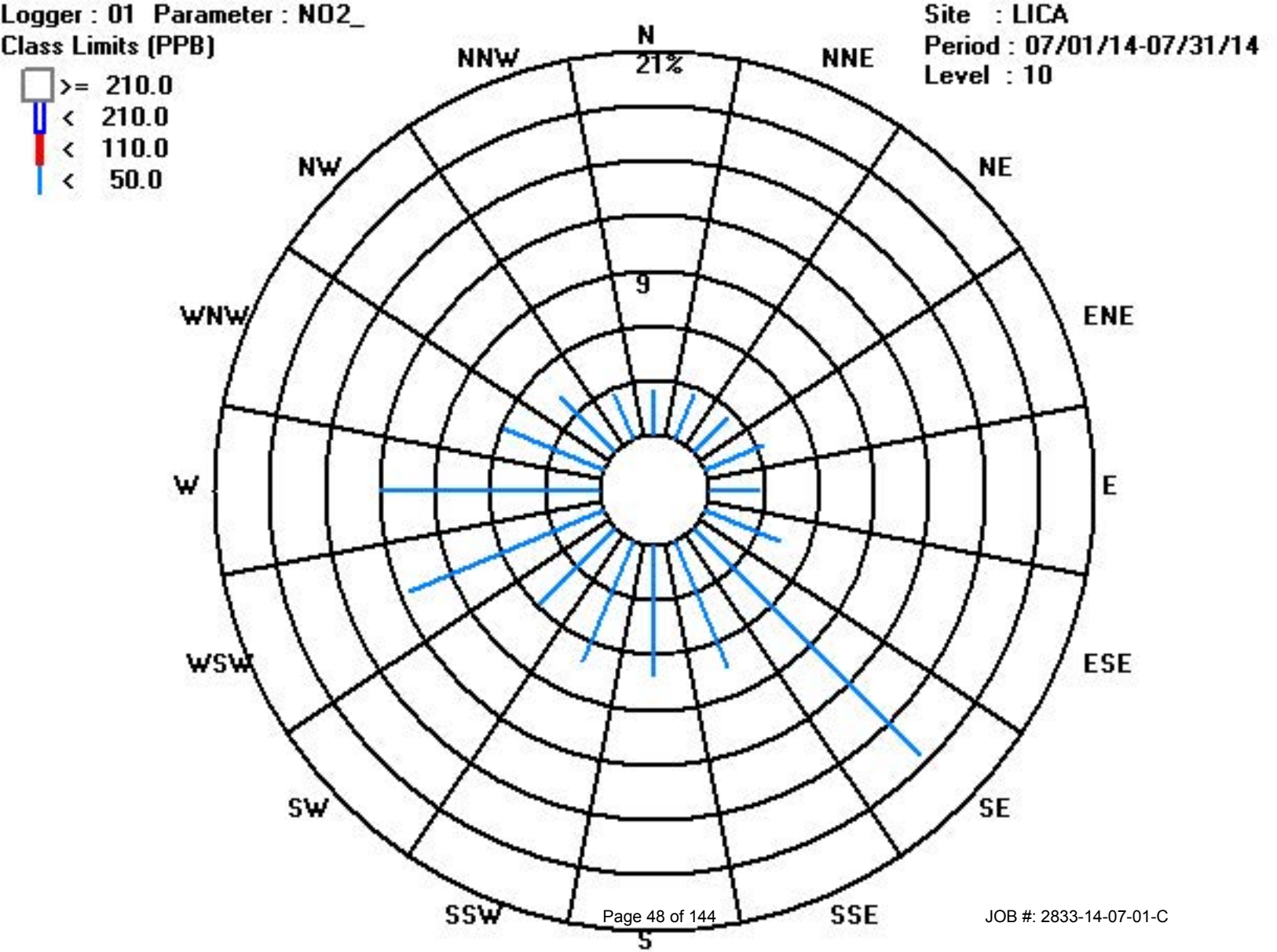
Distribution By Samples

Direction

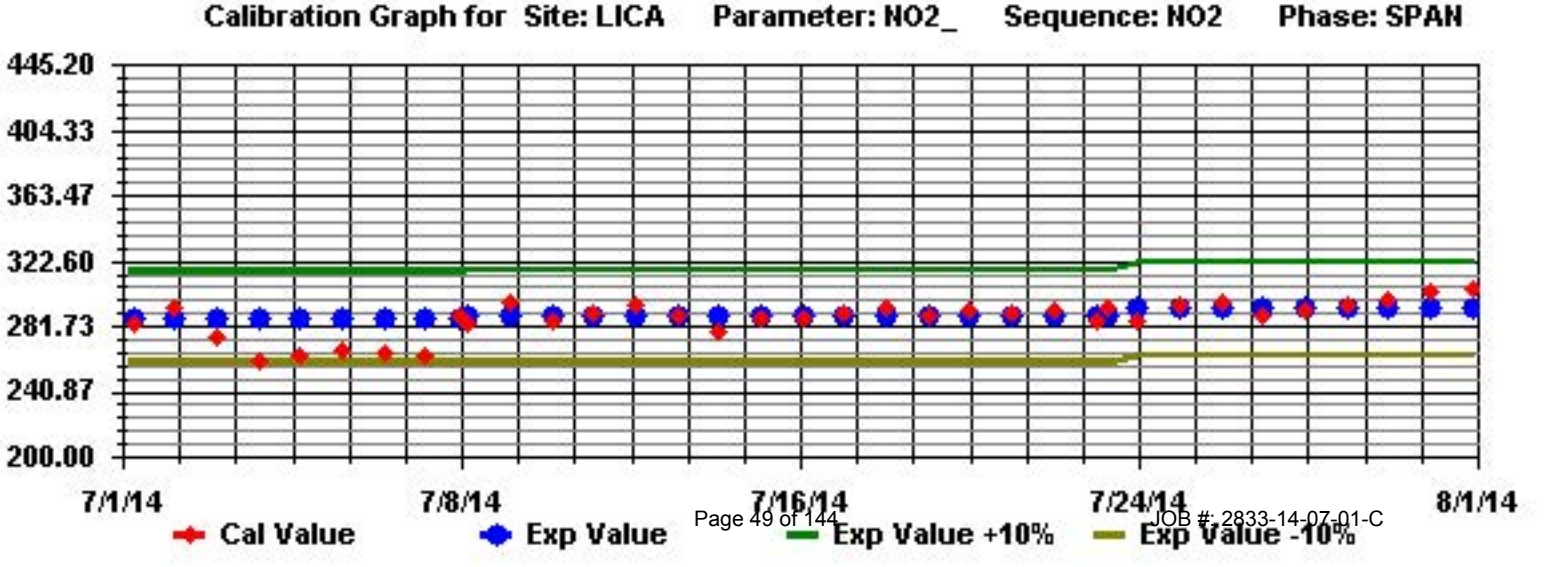
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	17	19	18	24	19	31	122	52	50	50	41	80	83	41	30	19	696
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	17	19	18	24	19	31	122	52	50	50	41	80	83	41	30	19	

Calm : .00 %

Total # Operational Hours : 696



JOB #: 2833-14-07-01-C


Calibration Graph for Site: LICA Parameter: NO2_ Sequence: NO2 Phase: SPAN
445.20
404.33
363.47
322.60
281.73
240.87
200.00
7/1/14
7/8/14
7/16/14
7/24/14
8/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitric Oxide

Lakeland Industry & Community Association - Cold Lake South Site

JULY 2014

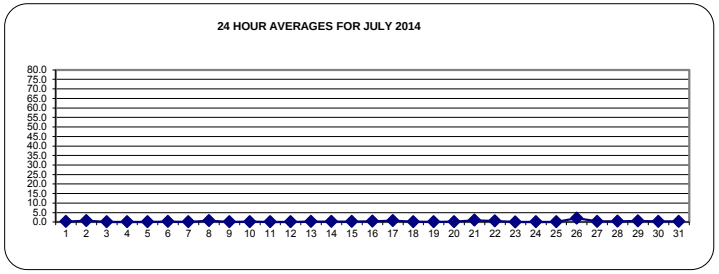
NITRIC OXIDE (NO) hourly averages in ppb

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	0.7	S	2.4	1.2	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0.3	2.4	0.2	24
2	0.3	0.5	0.7	1.4	S	4.5	4.1	1.2	1.1	0.5	0.3	0	0.1	0	0	0	0	0	0	0	0	0	0	0	4.5	0.6	24
3	0	0	0	S	0	0	0	0.3	0.1	0.4	0.4	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.1	24
4	0	0	S	0	0	0.2	0.5	0.5	0	0.3	0.3	0.1	0	0	0	0	0	0	0	0	0	0.1	0.1	0.3	0.5	0.1	24
5	0.3	S	0.5	0.2	0.2	0.1	0	0	0	0.4	0	0	0.1	0.1	0	0	0	0	0	0	0	0.1	0.2	0.3	0.5	0.1	24
6	S	0.6	0.5	0.7	0.5	0.5	0.8	0.5	0.5	0.4	0	0	0.2	0	0	0.1	0	0	0	0	0	0	0.1	S	0.8	0.2	24
7	0	0	0	0	0	0.1	0.4	0.5	0.4	0.1	0	0	0	0	0.1	0	0	0	0	0	0	0	S	0.1	0.5	0.1	24
8	0.2	0.2	0.3	0.5	1.1	1.7	3.8	4.2	0.2	0.2	0.2	C	C	C	C	C	C	0	0	0	0	S	0	0	4.2	0.7	24
9	0	0	0	0	0.7	0.5	0.4	0.3	S	S	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0.7	0.1	24
10	0	0	0	0.1	0.4	0.5	0.8	1	0.7	0.1	0.1	0	0.1	0.2	0	0.1	0.1	0.1	0.1	S	0	0	0	0	1	0.2	24
11	0	0	0	0	0.1	0.6	0.6	0.3	0	0	0	0	0	0.1	0	0	0	0	S	0	0	0	0	0	0.6	0.1	24
12	0	0	0.1	0.2	0.5	0.2	0	0	0	0.1	0	0	0	0.1	0	0	0	S	0.1	0	0.1	0	0	0.1	0.5	0.1	24
13	0.2	0.1	0.4	0.2	0.4	0.9	2	0.2	0.1	0	0	0	0.1	0	0.1	0	S	0	0	0	0	0.1	0.1	0	2	0.2	24
14	0.1	0.1	0.4	0.4	1.5	1.4	1.5	0.5	0.2	0.1	0	0	0	0.1	0	S	0	0	0	0	0	0	0	0	1.5	0.3	24
15	0	0.1	0.3	0.2	1.6	1.9	0.7	0.5	0.3	0	0	0.1	0	0.4	S	0.1	0.2	0	0	0.2	0	0	0	0.2	1.9	0.3	24
16	0	0	0	0.1	1.4	2.1	1.1	0.4	0.5	0.5	0.3	0.9	0.7	S	0.1	0.3	0.3	0.1	0	0	0	0	0.1	0.2	2.1	0.4	24
17	0.3	0.2	0.2	0.3	1.3	2.5	4.8	4	0.8	0.2	1.1	0.1	S	0	0	0	0	0	0	0	0	0	0	0	4.8	0.7	24
18	0	0	0	0	0	0.1	1.3	0.5	0.9	0.6	0.2	S	0	0.1	0	0	0	0.1	0	0	0	0	0	0	1.3	0.2	24
19	0	0	0	0	0	0	0.2	0.3	0.4	0.2	S	0.2	0.2	0.1	0.2	0.1	0	0	0	0	0	0	0	0	0.4	0.1	24
20	0	0	0	0	0.1	0.5	0.8	0.3	0.4	S	0	0	0	0	0	0.2	0.1	0	0	0	0	0	0.2	0.5	0.8	0.1	24
21	0.5	0.7	1.1	1.3	4.4	4.7	3.5	4.5	S	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3	4.7	0.9	24
22	0.4	0.6	0.5	0.7	1.7	3	3.1	S	0.8	0	0	0.1	0	0	0	0	0.1	0	0.1	0.2	0.2	0	0	0	3.1	0.5	24
23	0	0	0	0	0	0	S	0.1	C	C	C	C	C	C	0	0	0	0.2	0	0.1	0	0	0	0	0.2	0.0	24
24	0	0	0	0	0.1	S	0.5	0.3	0.3	0.2	0.3	0	0	0.1	0	0	0.1	0	0	0	0	0	0	0	0.5	0.1	24
25	0	0	0	0	S	0	0.1	0.3	0.1	0.1	0.2	0.2	0.1	0	0.1	0.1	0.1	0	0	0	0	0	0	0.2	0.3	0.1	24
26	0	0	0.1	S	0.9	2.9	P	***24.8***	3.4	5.7	6.4	0	0	0	0.1	0.2	0	0	0	0	0	0	0	0	***24.8***	***2.0***	23
27	0	0	S	0.1	0.2	0.7	1.6	2.9	1.7	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	2.9	0.3	24
28	0	S	0	0	0.1	0.7	3	2.8	1.1	0.5	0.3	0.1	0	0	0.1	0	0	0.1	0	0	0.1	0.1	0.3	0.5	3	0.4	24
29	S	0.7	0.6	0.9	1.4	4.4	2.9	0.8	0.3	0.1	0.3	0	0.1	0	0.1	0.1	0	0	0	0	0.2	0	0	S	4.4	0.6	24
30	0	0	0	0.1	1.8	3.1	0.9	0.2	0.1	0.1	0	0	0.1	0	0	0	0	0.2	0.1	0	0	0	S	0.8	3.1	0.3	24
31	0.2	0.3	0.3	0.2	0.5	1.4	3.3	0.2	0	0.1	0.5	0.1	0	0	0	0.2	0.2	0	0	0.1	0	S	0	0	3.3	0.3	24
HOURLY MAX	1	1	1	1	4	5	5	25	3	6	6	1	1	0	0	0	0	0	0	0	0	0	0	1			
HOURLY AVG	0.1	0.1	0.2	0.3	0.7	1.4	1.6	1.8	0.5	0.4	0.4	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1			

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



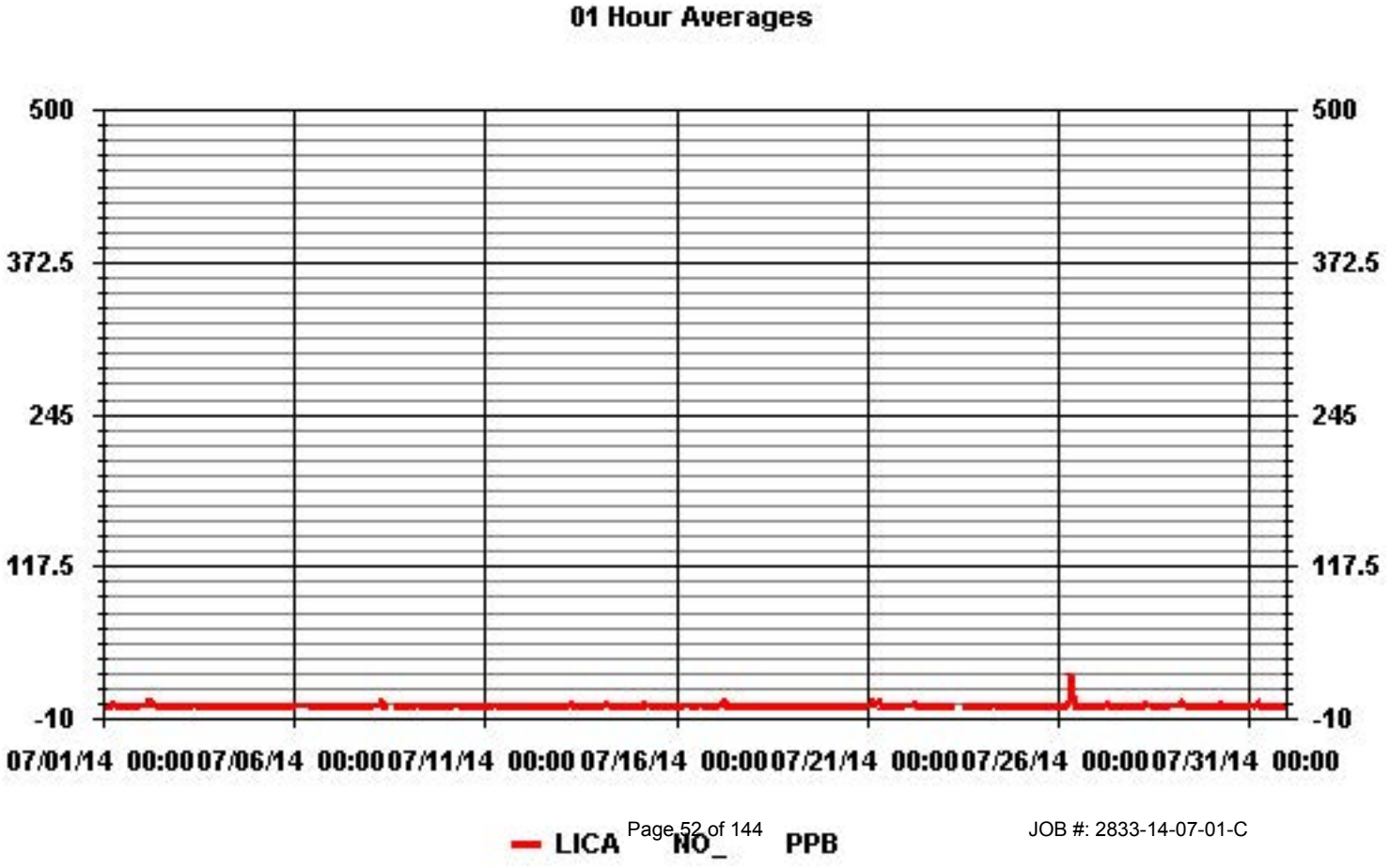
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT: 1-HR NA PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	NA					
NUMBER OF NON-ZERO READINGS:	313					
MAXIMUM 1-HR AVERAGE:	24.8	PPB	@ HOUR(S)	7	ON DAY(S)	26
MAXIMUM 24-HR AVERAGE:	2.0	PPB			ON DAY(S) VAR-VARIOUS	26

IZS CALIBRATION TIME:	35	HRS	OPERATIONAL TIME:	743	HRS
MONTHLY CALIBRATION TIME:	12	HRS	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	1.20		MONTHLY AVERAGE:	0.34	PPB



JOB #: 2833-14-07-01-C

Lakeland Industry & Community Association - Cold Lake South Site

JULY 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	0.1	0.5	0.1	0.6	6.6	**S**	4.5	2.4	2.4	1.9	0.5	0.5	0.5	0.5	0.5	1.9	0.9	0.5	0.9	0.5	0.5	1.9	0.9	1	6.6	1.3	24
2	1.9	1.4	1.9	2.5	**S**	6.5	6.5	2.4	18.5	8.4	9.9	0.5	3.9	0.5	0.5	0.5	0.5	0.5	0.5	1.4	0.5	0.5	0.5	0.5	18.5	3.1	24
3	0	0	2.5	**S**	0.5	0.5	0.5	0.9	1.4	11.5	12	6	1.4	0.9	0	0.5	1.4	1.4	0.5	0.9	0	0	0	0	12	1.9	24
4	0	0	**S**	0	0	0.5	1	2.4	0.5	1	0.5	0.5	0.5	0.5	0.5	0	0	0	0	0	0.5	2	0.5	1	2.4	0.5	24
5	1	**S**	1	1	1	1	0	0	0.5	8.5	0.5	0	1.5	1.5	1	0.5	0.5	0	0	0	0	0.5	0.5	1	8.5	0.9	24
6	**S**	2	1	1.5	1	1	1	0.9	0.9	0.5	0.5	0.5	2.9	1.4	0.5	0.5	0	0	0.5	0	0.5	0	0.5	**S**	2.9	0.8	24
7	0.5	0	0	0	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0	1	0	0	0	0	0	0	1.4	**S**	0.5	1.4	0.4	24
8	0.5	0.5	1	1.5	3	2.5	6	7.5	0.9	**S**	8.4	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0.5	0	1.4	**S**	0	0	8.4	2.2	24
9	0	0	0.4	0.4	11.5	0.9	0.4	**S**	**S**	**S**	0.5	0.5	0	0	0	0.5	0.5	0.5	0.5	0.5	**S**	0	0.5	0	11.5	0.9	24
10	0	0	0.5	0.5	0.5	1	1.5	1.5	0.9	0.9	0.9	0.5	2	1.5	0.5	1.5	0.9	0.5	0.5	**S**	0	0	0	0	2	0.7	24
11	0	0	0	0	0.5	0.9	2.4	0.5	0.5	0	0.5	0	0.5	1	0.5	0.4	0.4	0	**S**	0	0	0	0	0	2.4	0.4	24
12	0	0.4	0.5	1	1	0.5	0.5	0.5	0.9	1	1	1	0.5	0.5	0.5	0.5	0.5	**S**	0.5	0.5	0.5	0.5	0.5	0.5	1	0.6	24
13	0.5	0.5	1	1	1	2	2.5	0.9	0.9	0.5	0.9	1.4	1.4	0.5	2	0.5	**S**	0.5	0.5	0	0.9	0.9	0.5	0	2.5	0.9	24
14	0.5	0.5	1	1	7	4.5	2.5	0.9	0.5	1.9	0.5	0	0.5	1.4	0.4	**S**	0.5	1	0	0.9	0.9	0.5	0.5	0.9	7	1.2	24
15	0	0.9	1	2.5	13.9	5	4	0.9	4	0.9	0	2	0	7.5	**S**	2.5	5	0	0.5	2	0	0.4	0.5	4	13.9	2.5	24
16	0.5	0.5	0.5	0.9	13.9	23	2	0.5	0.5	0.9	0.5	3.5	8.4	**S**	0.5	1	0.5	0.5	0.5	0	0	0.5	0.5	0.5	23	2.6	24
17	0.5	0.5	0.5	1.4	9	3.5	6	5.5	1.5	0.9	10	1.4	**S**	1.4	1.4	0.9	0.5	0.5	0	0.5	0	0	0.5	0	10	2.0	24
18	0	0	0	0	0	0.5	25	0.9	1	0.9	0.5	**S**	0.5	1.5	0.5	1	0.5	1.5	0	0.5	0.9	0.9	0	0	25	1.6	24
19	0	0	0	0	0	0.4	0.5	0.9	0.5	0.5	**S**	4	1.5	2	3.5	0.9	0.5	0.5	0	0	0	0	0	0	4	0.7	24
20	0.5	0.5	0.5	0	0.5	1	1	0.9	0.5	**S**	0	0.5	0.5	0	0.4	2	0.5	0.5	0	0	0	0.5	0.5	1.5	2	0.5	24
21	1.5	2	2	11.5	15.5	10.5	5	6	**S**	1.4	0	0.5	0.5	0	0	**P**	1.5	0.5	0	0.5	0.5	0.5	0.5	1	15.5	2.8	23
22	1	1	1	1.5	3.5	4	5.5	**S**	3.5	0.5	0.5	2.5	0	0	0.9	0	3.5	0.5	0.9	4.5	3.5	0.5	0.4	0	5.5	1.7	24
23	0	0	0	0	0.9	0.5	**S**	0.5	**C**	**C**	**C**	**C**	**C**	**C**	0.5	0.5	0.5	6	0.5	4	0	0.4	0	0	6	0.8	24
24	0	0	0.5	0	1.5	**S**	0.9	3.5	3.5	2.4	1.9	0.5	0.5	1.5	0.5	0	1	0.5	0.9	0	0	0	0	0	3.5	0.9	24
25	0	0	0	0	**S**	0.5	0.9	1.4	0.9	3.5	3.4	0.5	0.9	1	2	2	1.5	0.5	1	0.5	0	0.5	0.5	0.5	3.5	1.0	24
26	0.5	0.5	0.5	**S**	2.4	7	**P**	**P**	50.5	***51.5***	45.4	0	0.4	0.5	2.4	4	0	0.5	0	0.5	0.5	0.5	0.5	0.5	***51.5***	***8.0***	22
27	0.5	0.5	**S**	0.5	0.5	0.9	3	4.5	3.5	0.5	0.5	0	0.5	0.9	0.9	0.5	0.5	0.5	0.9	0.5	0	0	0	0.5	4.5	0.9	24
28	0	**S**	0	0	0.9	5.5	7	3.5	2.4	0.5	0.5	0.5	0.5	0.5	2	0	0.9	2	0.5	0.5	0.5	1	0.9	0.9	7	1.3	24
29	**S**	1.9	1.4	2.4	6.9	7.9	8.4	3.5	0.5	0.5	1	0.9	2.5	0.4	2.4	1	0.5	1	0.5	0	6.5	0.5	0.5	**S**	8.4	2.3	24
30	0.5	0	0.5	1.5	12	7	7.9	1.5	0.9	0.9	0.5	0.5	1.5	1	0.5	0.5	0.5	4.5	1.5	0.5	0.5	0.5	**S**	15.4	15.4	2.6	24
31	0.9	1.5	0.9	0.9	7	3.5	12.5	0.9	0.5	0.9	6.5	0.5	2	0.5	0	6	6	0	0	0.5	0.5	**S**	0	0.4	12.5	2.3	24
HOURLY MAX	2	2	3	12	16	23	25	8	51	52	45	6	8	8	4	6	6	6	2	5	7	2	1	15			
HOURLY AVG	0.4	0.5	0.7	1.2	4.2	3.6	4.1	2.0	3.7	3.8	3.7	1.1	1.3	1.0	0.9	1.1	1.0	0.9	0.4	0.7	0.6	0.5	0.4	1.1			

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: 539

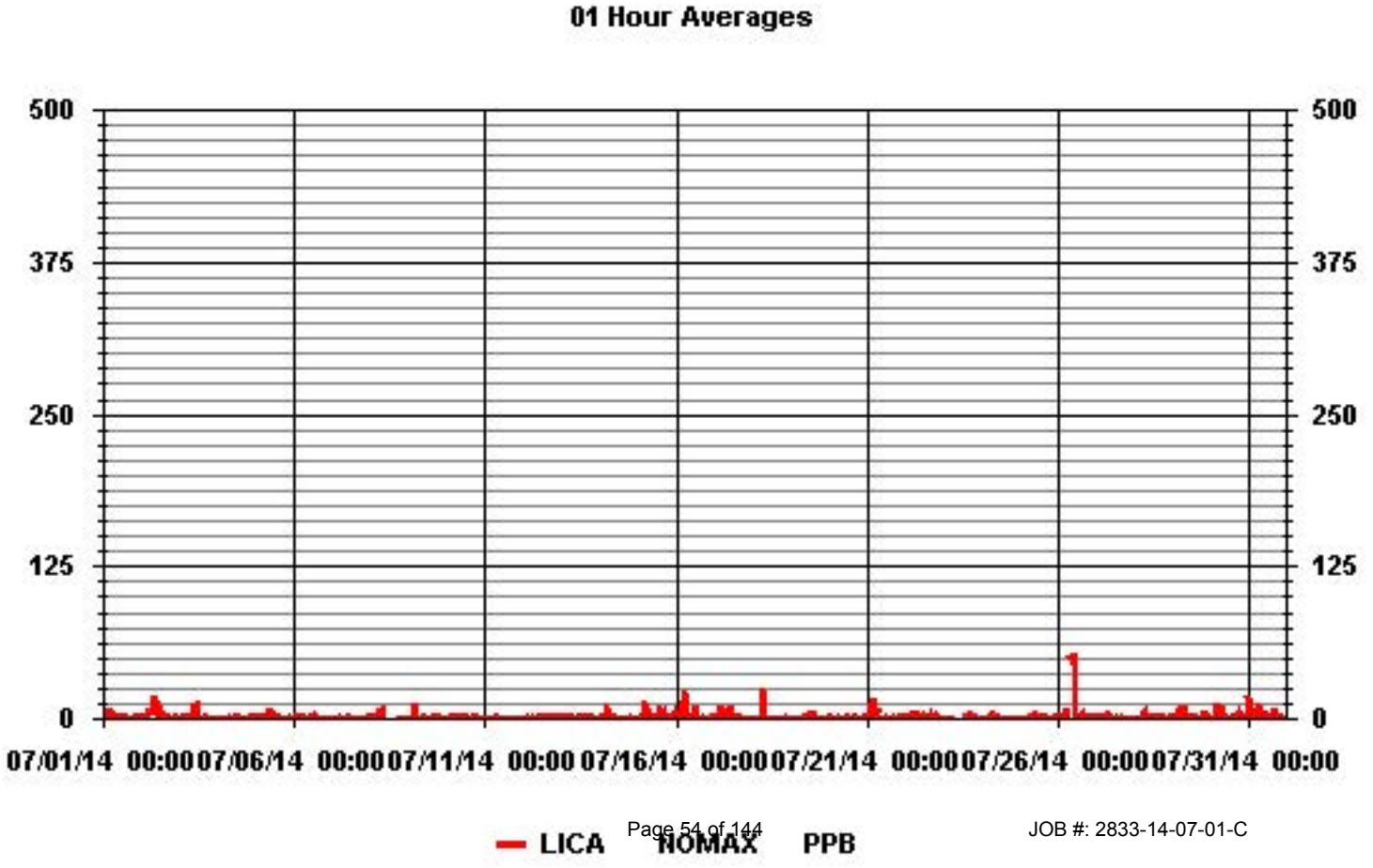
MAXIMUM INSTANTANEOUS VALUE: 51.5 PPB @ HOUR(S) 9 ON DAY(S) 26

VAR-VARIOUS

IZS CALIBRATION TIME: 37 HRS OPERATIONAL TIME: 741 HRS

MONTHLY CALIBRATION TIME: 13 HRS

STANDARD DEVIATION: 4.08



JOB #: 2833-14-07-01-C

LICA
NO_ / WD Joint Frequency Distribution (Percent)

July 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	2.44	2.72	2.58	3.44	2.72	4.45	17.52	7.47	7.18	7.18	5.89	11.49	11.92	5.89	4.31	2.72	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	2.44	2.72	2.58	3.44	2.72	4.45	17.52	7.47	7.18	7.18	5.89	11.49	11.92	5.89	4.31	2.72	

Calm : .00 %

Total # Operational Hours : 696

Distribution By Samples

Direction

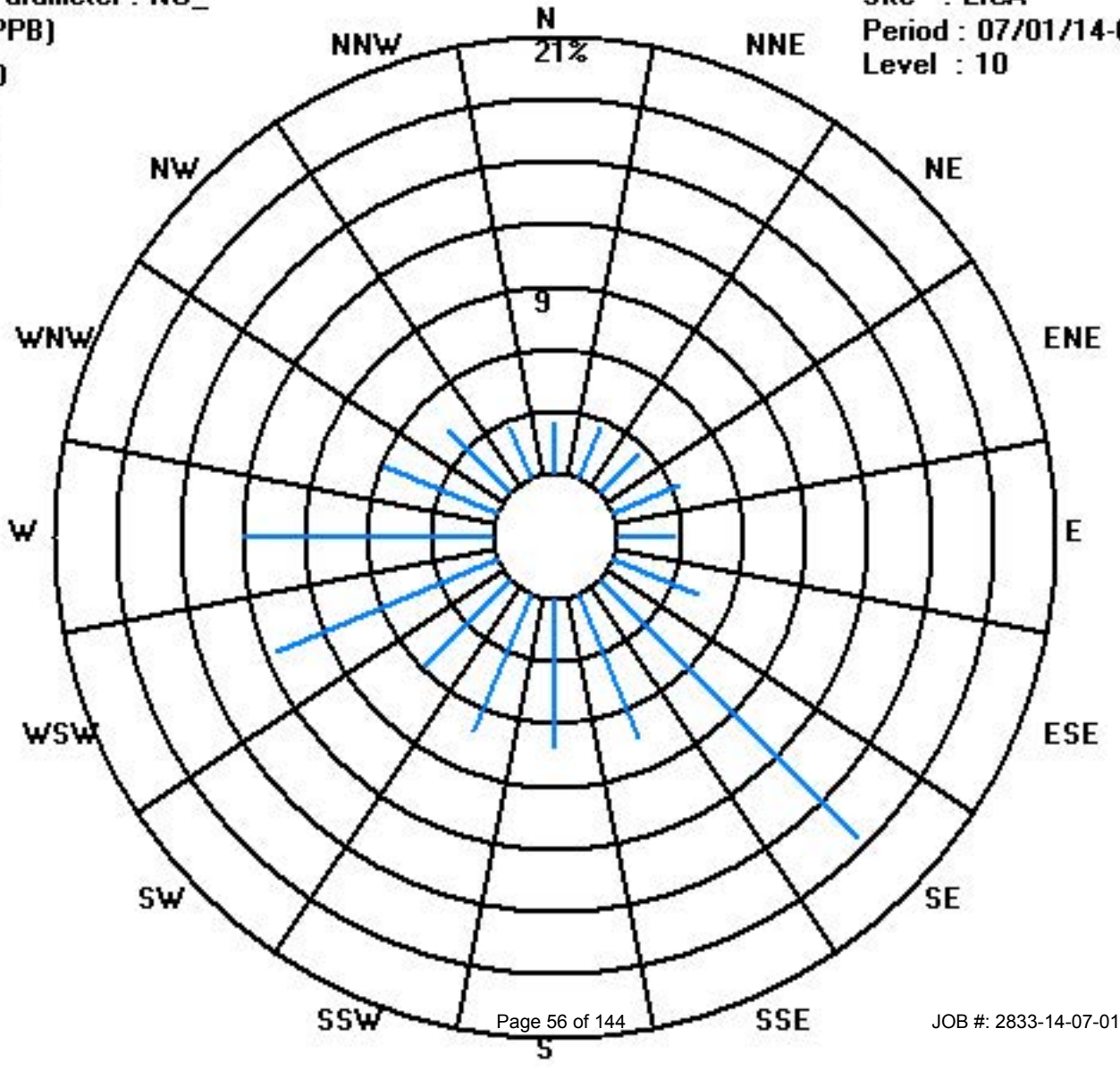
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	17	19	18	24	19	31	122	52	50	50	41	80	83	41	30	19	696
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	17	19	18	24	19	31	122	52	50	50	41	80	83	41	30	19	

Calm : .00 %

Total # Operational Hours : 696

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

Site : LICA
Period : 07/01/14-07/31/14
Level : 10



JOB #: 2833-14-07-01-C

Oxides of Nitrogen

Lakeland Industry & Community Association - Cold Lake South Site

JULY 2014

OXIDES OF NITROGEN (NOx) hourly averages in ppb

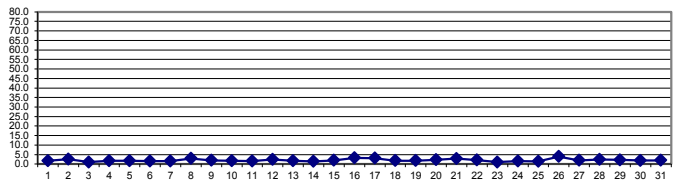
MST

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	1.5	1.3	1.2	2.7	**S**	5	4	1	0.9	0.5	0.5	0.5	0.6	0.5	0.6	0.9	1.4	1.3	0.9	1.7	2.8	3.1	4.5	5	1.7	24
2	4.1	4.4	4.6	4.4	**S**	6.8	9.8	4.7	3.2	1.8	1.5	0.8	1	0.6	0.6	0.6	1	0.9	1.1	2.1	3.5	1	1.1	0.8	9.8	2.6	24
3	0.5	0.7	0.9	**S**	1.1	1.1	1.3	1.5	1.1	1	1	1.1	0.7	0.6	0.8	0.6	1	1.1	1.1	1.1	1	1	1	1.4	1.5	1.0	24
4	1	2.1	**S**	1.9	2.6	2.9	4	2.7	1.1	2.3	2.3	1.6	1.1	0.6	0.5	0.4	0.4	0.5	0.6	1.3	2.1	2.1	2.3	3.4	4	1.7	24
5	4	**S**	4.6	3.5	3.7	1.6	1.3	1.6	1.6	2.3	1	0.8	1	0.7	0.9	0.6	0.5	0.5	0.5	0.6	1.2	2.5	2.5	1.9	4.6	1.7	24
6	**S**	2.7	2	1.9	2.4	2.3	2.9	2.5	2.4	2.4	1.5	1.2	1.3	0.7	0.6	1.3	0.4	0.3	0.6	0.8	1.7	0.6	1.3	**S**	2.9	1.5	24
7	2.8	2.5	1.7	1.6	1.9	1.9	1.9	2.6	1.9	1.3	1.3	1.1	1.1	0.7	0.8	0.6	0.8	1	1.3	1.4	1.6	2.5	**S**	2.2	2.8	1.6	24
8	2.2	2.3	2.2	2	2.7	3.1	6.7	9.8	1.3	1.5	1.5	**C**	**C**	**C**	**C**	**C**	**C**	1.5	1.2	1.4	3	**S**	3.7	3.6	9.8	2.9	24
9	2.5	2.6	2.6	3.5	4.8	3.4	3	2.4	**S**	**S**	1.8	1.4	1	0.9	0.9	0.9	0.8	1	1.3	1.9	**S**	1.4	1.4	1.3	4.8	1.9	24
10	2.8	2.1	1.5	1.8	3.4	4	5.6	3.7	2.1	1	0.7	0.6	0.8	1	0.8	1.1	0.7	0.8	1.1	**S**	1.4	1.7	0.8	0.5	5.6	1.7	24
11	0.5	0.9	2.2	2.1	3	3.1	2.2	1.2	0.8	0.4	0.4	0.4	0.6	0.9	1.2	1.6	1.3	1.2	**S**	1.8	2.2	2.4	2.5	3.2	3.2	1.6	24
12	3	3.2	4.4	3.7	4.2	1.7	0.9	0.8	0.8	0.8	0.8	0.8	1.1	1.3	1.4	1.9	3	**S**	4.1	4.2	4	3.8	4.2	2.8	4.4	2.5	24
13	2.6	2.4	2.7	2.3	2.2	3	6.8	0.9	0.7	0.5	0.4	0.2	0.5	0.3	0.4	0.3	**S**	0.5	0.6	0.8	2.4	2.9	4.2	0.8	6.8	1.7	24
14	1	0.9	1.2	1.1	2.5	2.4	3.7	1.9	1.1	0.8	0.4	0.4	0.6	0.9	0.9	**S**	0.9	0.7	0.6	1.6	2	2.6	2.7	2.2	3.7	1.4	24
15	1.6	1.7	2	1.3	3.7	5.1	2.7	1.8	1.4	1	0.5	0.9	0.6	1.5	**S**	1.1	1.2	1.1	1.4	2.3	1.8	3.5	3.2	2.7	5.1	1.9	24
16	2.4	2.3	2.1	1.6	3.7	5.8	4.9	3.4	4.1	5.7	5.4	5.4	4.9	**S**	4.2	5.3	4.1	1.8	1.5	0.9	0.9	1.3	1.8	1.8	5.8	3.3	24
17	1.7	2.4	2.5	3.4	3.9	4.7	10.2	9.9	3.1	1.3	2.9	0.7	**S**	1.6	2.3	1.9	2.4	3.4	2.9	3.1	3.3	2	0.8	0.5	10.2	3.1	24
18	0.7	3.3	1.6	1.3	1.6	2.4	4.4	2.8	3.5	2.5	1.5	**S**	0.8	1	1.1	1	0.7	0.7	0.8	1.4	2	2	2.4	1.7	4.4	1.8	24
19	2	2	2	1.7	1.8	2.5	4.1	4	2.4	1.5	**S**	1.5	1.4	0.9	1	0.9	0.8	0.6	0.4	0.5	1.3	2.6	2.2	3.1	4.1	1.8	24
20	2.5	3.2	3.6	2.8	4.4	5.4	4.8	2.6	2.3	**S**	0.9	0.5	0.9	0.8	0.9	1	1	1	0.8	0.8	1.1	2.2	2.8	5.2	5.4	2.2	24
21	2.9	2.5	2.3	2.8	6.2	6.1	6.1	8.5	**S**	2.3	1	1.2	1.6	1.4	1.5	1.4	1.6	1.5	1.8	2.5	2.7	2.7	2.3	2.3	8.5	2.8	24
22	2.1	2	2.4	3.2	3.6	4.8	6.5	**S**	3.6	1.7	1.4	1.4	0.8	1	1	0.8	1.1	1.1	1.4	2.3	3.5	1.5	1.2	0.6	6.5	2.1	24
23	0.5	0.5	0.6	0.9	1.3	1.5	**S**	1.3	**C**	**C**	**C**	**C**	**C**	**C**	1.2	1.1	1	0.9	1	1.3	1	1.3	1.3	1.2	1.5	1.1	24
24	0.8	0.9	1.1	1.5	1.4	**S**	2.3	1.6	1.8	2.8	1.5	0.9	1	1.8	1.3	1.1	1.8	1.4	2.1	1.1	1.8	1.7	1.5	1.3	2.8	1.5	24
25	1.3	1	1.1	1	**S**	1.7	2.4	2.5	1.3	1.1	1.1	1.4	1	0.9	0.7	0.9	0.8	0.5	0.8	1.3	1	3	3.6	2.8	3.6	1.4	24
26	2.4	2.5	3.5	**S**	4.2	6.9	**P**	***28.1***	6.6	9.1	9.8	0.4	0.4	0.6	0.9	0.7	0.4	0.7	0.8	1.2	1.6	2.1	2.5	1.5	***28.1***	***4.0***	23
27	1.9	2.7	**S**	3.4	4	3.4	4.3	6.2	4.5	1.7	0.7	0.5	0.5	0.8	0.9	0.9	1	1.2	1.4	0.8	1.1	1.2	1.1	1.3	6.2	2.0	24
28	0.6	**S**	1	1.5	1.3	3.1	7.6	6.4	3.4	2.2	2.3	1.8	1.5	1.2	1.2	0.9	1	1.1	1	1.7	3.9	3.6	3.1	3	7.6	2.4	24
29	**S**	2	1.7	2	2.3	7.9	7.8	3.1	2.1	1.6	1.7	0.8	0.6	0.6	0.7	0.8	0.7	1	1.4	1.3	2.4	2.5	2.5	**S**	7.9	2.2	24
30	1.6	1	1.2	1.3	4.4	7.7	3.2	1.4	1.1	1.1	0.9	0.7	1	0.7	0.7	0.7	1.1	0.9	1.2	1.7	2.5	2.7	**S**	3.7	7.7	1.8	24
31	2.6	2.6	2.1	1.5	2.3	3.7	7.7	1.5	0.9	1.3	3.3	1.8	1	0.8	0.6	1.3	1.1	1	1	2	3.1	**S**	0.9	1.2	7.7	2.0	24
HOURLY MAX	4	4	5	4	6	8	10	28	7	9	10	5	5	2	4	5	4	3	4	4	4	4	4	5			
HOURLY AVG	2.0	2.1	2.2	2.1	3.0	3.8	4.6	4.2	2.2	1.9	1.7	1.1	1.0	0.9	1.1	1.1	1.2	1.0	1.2	1.5	2.1	2.2	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

24 HOUR AVERAGES FOR JULY 2014

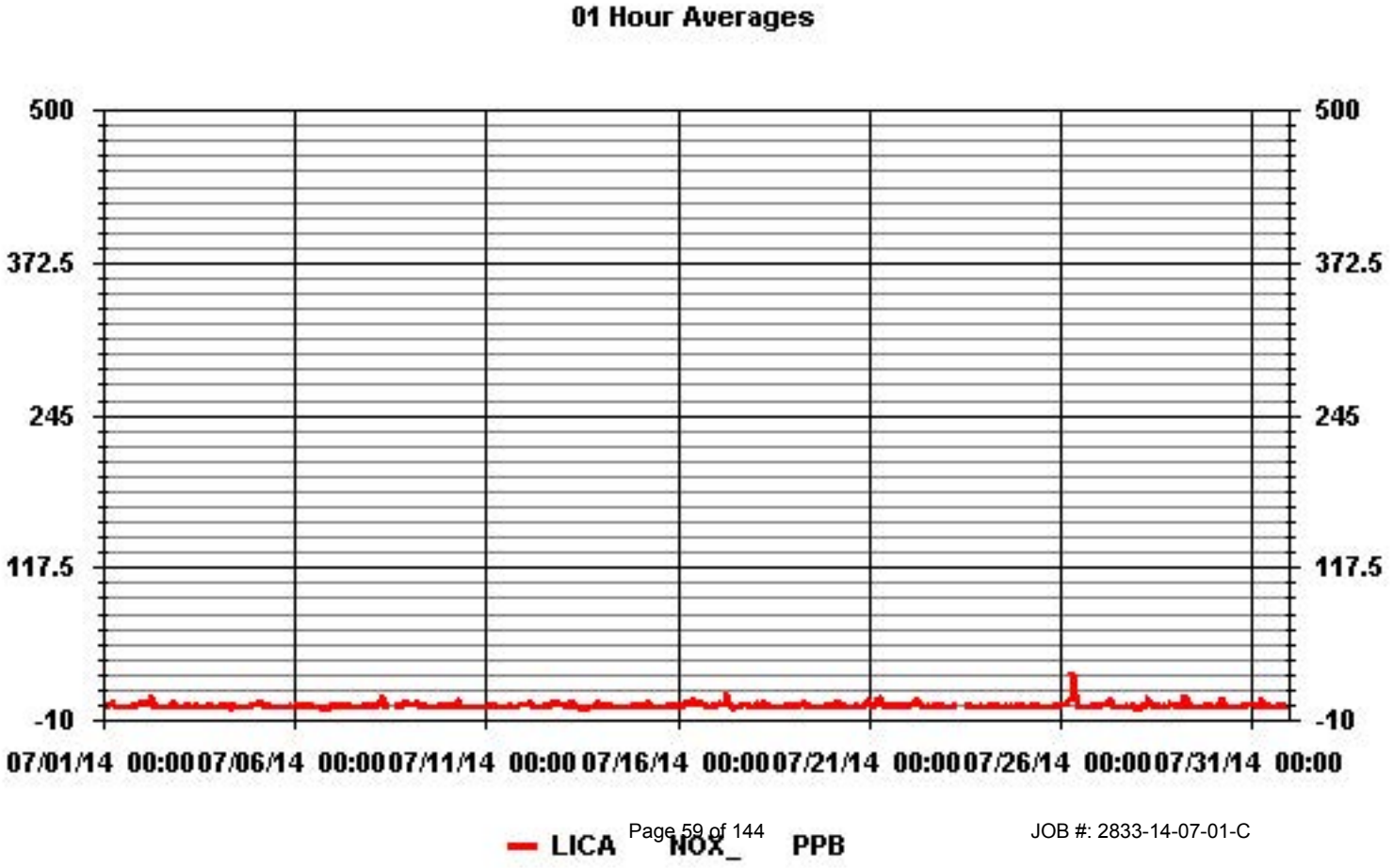


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR NA PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	NA					
NUMBER OF NON-ZERO READINGS:	696					
MAXIMUM 1-HR AVERAGE:	28.1	PPB	@ HOUR(S)	7	ON DAY(S)	26
MAXIMUM 24-HR AVERAGE:	4.0	PPB			ON DAY(S) VAR-VARIOUS	26

IZS CALIBRATION TIME:	35	HRS	OPERATIONAL TIME:	743	HRS
MONTHLY CALIBRATION TIME:	12	HRS	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	1.85		MONTHLY AVERAGE:	2.03	PPB



JOB #: 2833-14-07-01-C

Lakeland Industry & Community Association - Cold Lake South Site

JULY 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	3.4	2.9	1.9	2	10	**S**	8.9	6.5	5.5	3.4	1	1	0.5	1.4	1.4	2.4	1.9	3	4.5	2.4	2.5	7.4	4.5	5.5	10	3.6	24
2	6	5.5	6	5.5	**S**	10	13	7.9	9.4	8.4	10.4	1.4	7	1.4	2.4	1.9	4	1.4	2.9	4.5	5.5	1.9	1.9	1	13	5.2	24
3	1	1	6	**S**	1.9	1.5	1.9	3	3	10	7	12	1.9	2.5	6.5	1.4	3	2.4	2.4	1.9	1.5	1.5	1.5	1.9	12	3.3	24
4	1.9	3	**S**	3	3	3.5	6	8.4	1.5	4	8	2	2.5	2	1.5	0.5	0.5	0.5	1	2.5	3.5	7.5	4	5.5	8.4	3.3	24
5	5	**S**	5.5	4.5	4.5	4	3	2.5	2	25	1.5	1.5	11	4	3	1.5	1.5	1	1	1	2	4	3.5	3	25	4.2	24
6	**S**	4	3	3	3	2.5	4	3	2.9	3	2	2	5	4.5	1.9	2	1	0.9	3	2	3	1	2	**S**	5	2.7	24
7	4.1	3.1	2.6	2.1	2.6	2.6	2.6	3.1	2.6	1.6	1.6	1.5	1.6	1.6	4.6	1.1	1.1	1.1	1.6	2	2	5.6	**S**	3	5.6	2.4	24
8	3.5	3	3	3.5	5.5	4	9	15.5	3	**S**	8.4	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2	2.5	7.9	**S**	5	5.5	15.5	5.4	24
9	3	3	3.5	4.5	19.9	4.5	3.5	**S**	**S**	**S**	2	2	1.5	1	1.5	2.5	2.5	3.6	2.5	3.5	**S**	1.9	1.9	1.4	19.9	3.5	24
10	4.4	2.4	1.9	2.4	4.9	4.9	7.9	5.9	2.9	2.9	2.4	0.8	1.9	3.9	1.4	3.9	2.4	1.9	1.4	**S**	2	2.5	1.5	1	7.9	2.9	24
11	1	3	3	2.5	4	4	6.5	1.5	0.9	0.9	0.9	0.9	1.5	2	2	2.5	2.5	2	**S**	2	2.5	3	3	3.5	6.5	2.4	24
12	3.5	4	5	4.5	5	3.5	1.5	2	2.5	2	2.5	2	2	3.5	2	2.5	4	**S**	6	7.4	5	4.5	5	4	7.4	3.6	24
13	3.5	3	3.5	3	3	6	9.5	3.5	3.5	0.9	1.4	0.9	4	0.9	2.5	0.5	**S**	1.5	3.5	2	5.5	6	6.5	2	9.5	3.3	24
14	2	2	2.5	2.5	9	6	5.5	2.5	2	3	0.9	0.9	1.5	3	1.5	**S**	1.5	4.5	1	4	3.5	4	3.5	4.5	9	3.1	24
15	2.4	3.5	4	4	19.4	10	12.5	2.5	7	3	0.9	9	1	13	**S**	3.5	7.5	1.5	2	11.5	2.5	7.4	5	9.5	19.4	6.2	24
16	4	4	4.5	3	23	24.5	7.5	4	5	7.4	7.4	9	13.9	**S**	5.5	7.5	6.5	3	2.5	1.5	1.5	2	3.5	3.5	24.5	6.7	24
17	2.5	3.5	4.5	4.5	12.9	8	12	12.5	6	2	25.9	6.5	**S**	5.5	6	3.5	3.5	4.5	3.5	4.5	4.5	4.5	2	0.9	25.9	6.2	24
18	0.9	6	3	1.5	2	3.5	30.4	3.5	4	3.5	2.5	**S**	2.5	4.5	2.5	3	1.5	3.5	1	2.5	4.5	4	3.5	2.5	30.4	4.2	24
19	2.5	2.5	2.5	2.5	2.5	4	5.5	7.4	3	2	**S**	3.5	5.5	2	6	2	2	1.5	0.5	1	2.5	4	2.5	5	7.4	3.1	24
20	3	4	4.5	3.5	5.5	5.5	6	4	3.5	**S**	2	2	2	0.9	2.5	4.5	1.5	1.5	1.5	1.5	2	3.5	3.5	10.5	10.5	3.4	24
21	4.5	4.5	3.5	14.5	17.5	13	7.5	11.5	**S**	5	1.5	2	3.5	1.5	1.5	**P**	3	2.5	2.5	4.5	4	4	3	3.5	17.5	5.4	23
22	3	2.5	3	5	6	6	9	**S**	8	2	3	7	1.5	1.5	2	0.9	5.5	2	3	16.5	15.4	2.5	3.5	1.5	16.5	4.8	24
23	1	1	1	2	6	3	**S**	2	**C**	**C**	**C**	**C**	**C**	**C**	1.7	1.7	1.7	3.2	2.2	6.2	1.7	1.7	1.7	1.7	6.2	2.3	24
24	1.2	1.2	1.7	2.2	3.2	**S**	3.9	3.4	4.4	41.3	5.9	1.4	1.4	7.9	1.9	1.9	6.8	2.4	4.9	1.9	3.9	2.4	1.9	1.4	41.3	4.7	24
25	2.4	1.4	1.4	1.4	**S**	3.5	5	5.5	2.5	6	5.5	3	2.5	4	3	5	4	1.5	2.5	3.5	1.5	4.5	4.5	3.5	6	3.4	24
26	3	3.5	4	**S**	6.4	11.4	**P**	**P**	48.3	57.4	***87.3***	0.9	1.4	1.9	4.9	3.9	0.9	1.9	1.4	2.9	2.9	3.4	3.9	1.9	***87.3***	***12.1***	22
27	2.4	3.4	**S**	4	4.5	4	6.5	8.5	7.9	2.5	1.9	0.9	0.9	2.4	2.4	3	1.4	2	3	1.5	1.9	1.5	1.5	2.4	8.5	3.1	24
28	1.4	**S**	1.5	2.5	3	9.5	13.9	8	4.5	2.5	3	2.5	2	3	6.9	1.4	4	4.5	1.5	3	6.5	6	4	5	13.9	4.4	24
29	**S**	3.5	3	3.5	8.5	14.9	15.5	7.4	3	2.4	3	2	2.5	2	2.5	2.5	1.5	1.5	2	2	15.4	3.5	4	**S**	15.5	4.8	24
30	3.5	1.5	2	3.5	15.5	12.5	10	3	2.5	2.5	3	2	4	2.5	1.5	1.5	5	8	4.5	5	4	4	**S**	27.3	27.3	5.6	24
31	4.4	4.4	3.9	2.4	8.4	7.9	23.4	3.4	1.4	2.3	19.3	3.4	2.9	1.4	0.9	10.4	3.9	1.4	2.4	3.9	5.4	**S**	1.8	1.8	23.4	5.3	24
HOURLY MAX	6	6	6	15	23	25	30	16	48	57	87	12	14	13	7	10	8	8	6	17	15	8	7	27			
HOURLY AVG	2.9	3.1	3.3	3.6	7.6	6.8	8.7	5.4	5.5	7.7	7.7	3.0	3.2	3.1	2.9	2.8	3.0	2.4	2.5	3.7	4.2	3.8	3.2	4.3			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 691

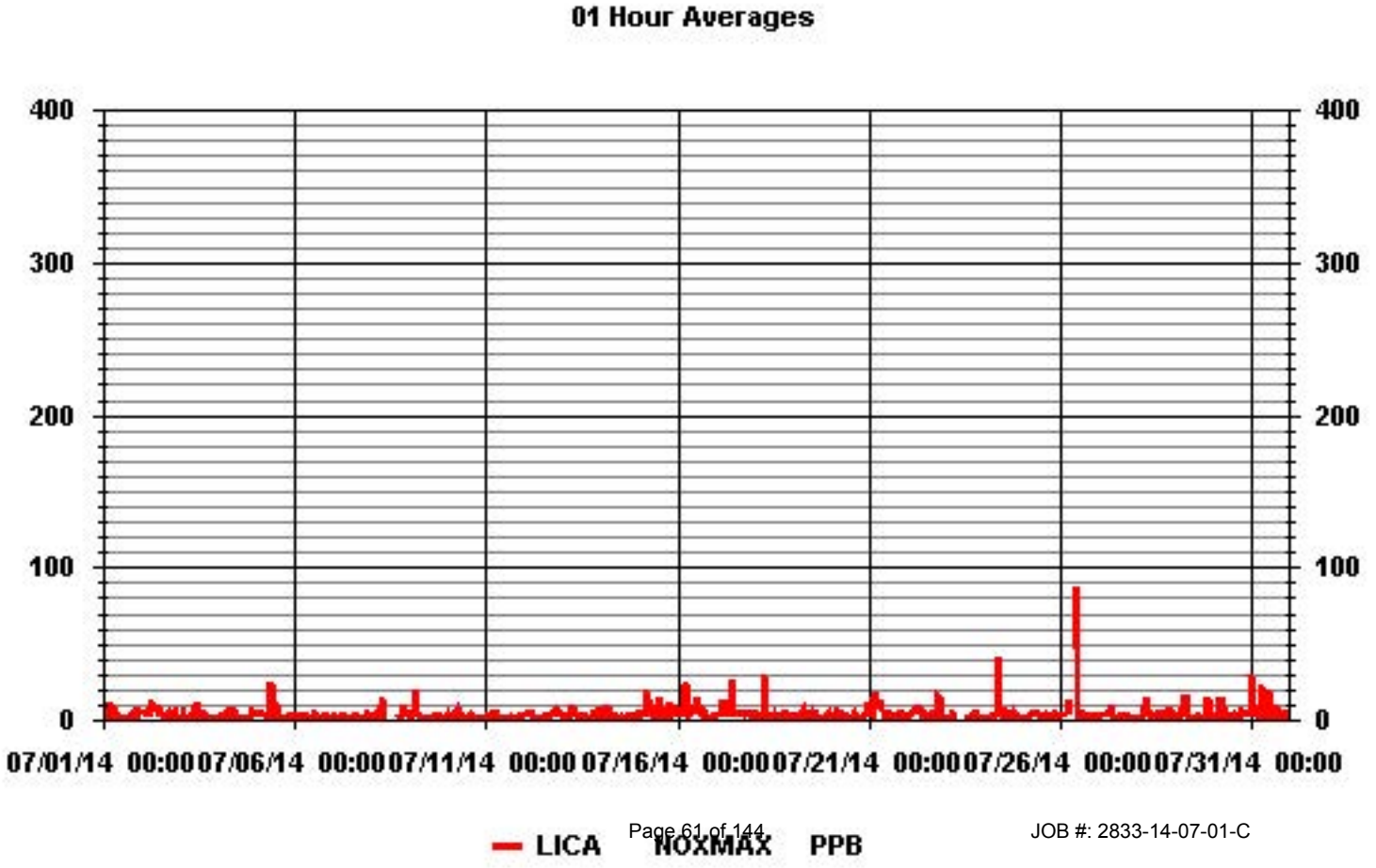
MAXIMUM INSTANTANEOUS VALUE: 87.3 PPB @ HOUR(S) 10 ON DAY(S) 26

VAR-VARIOUS

IZS CALIBRATION TIME: 37 HRS OPERATIONAL TIME: 741 HRS

MONTHLY CALIBRATION TIME: 13 HRS

STANDARD DEVIATION: 5.69



JOB #: 2833-14-07-01-C

LICA
NOX_ / WD Joint Frequency Distribution (Percent)

July 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	2.44	2.72	2.58	3.44	2.72	4.45	17.52	7.47	7.18	7.18	5.89	11.49	11.92	5.89	4.31	2.72	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	2.44	2.72	2.58	3.44	2.72	4.45	17.52	7.47	7.18	7.18	5.89	11.49	11.92	5.89	4.31	2.72	

Calm : .00 %

Total # Operational Hours : 696

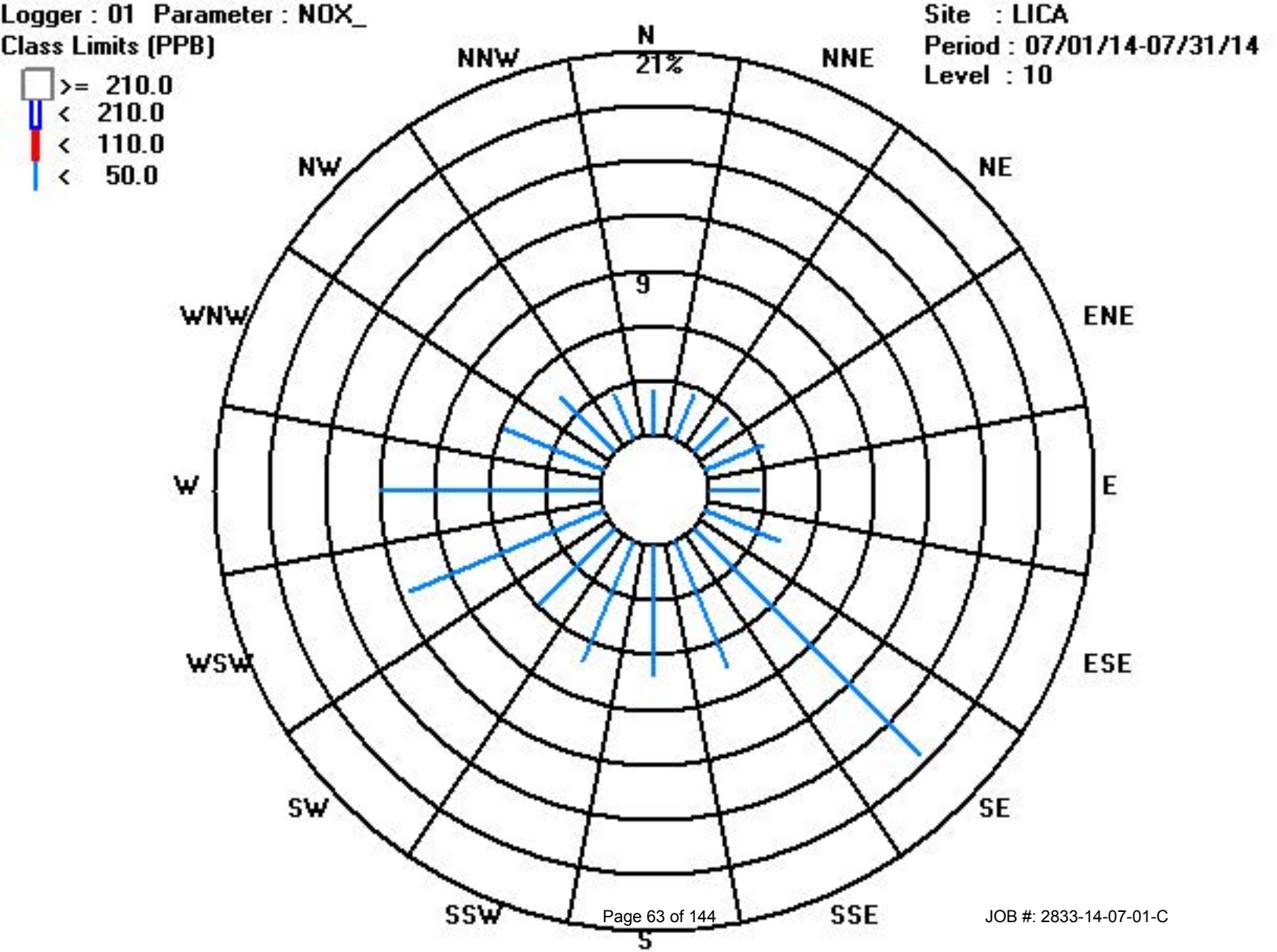
Distribution By Samples

Direction

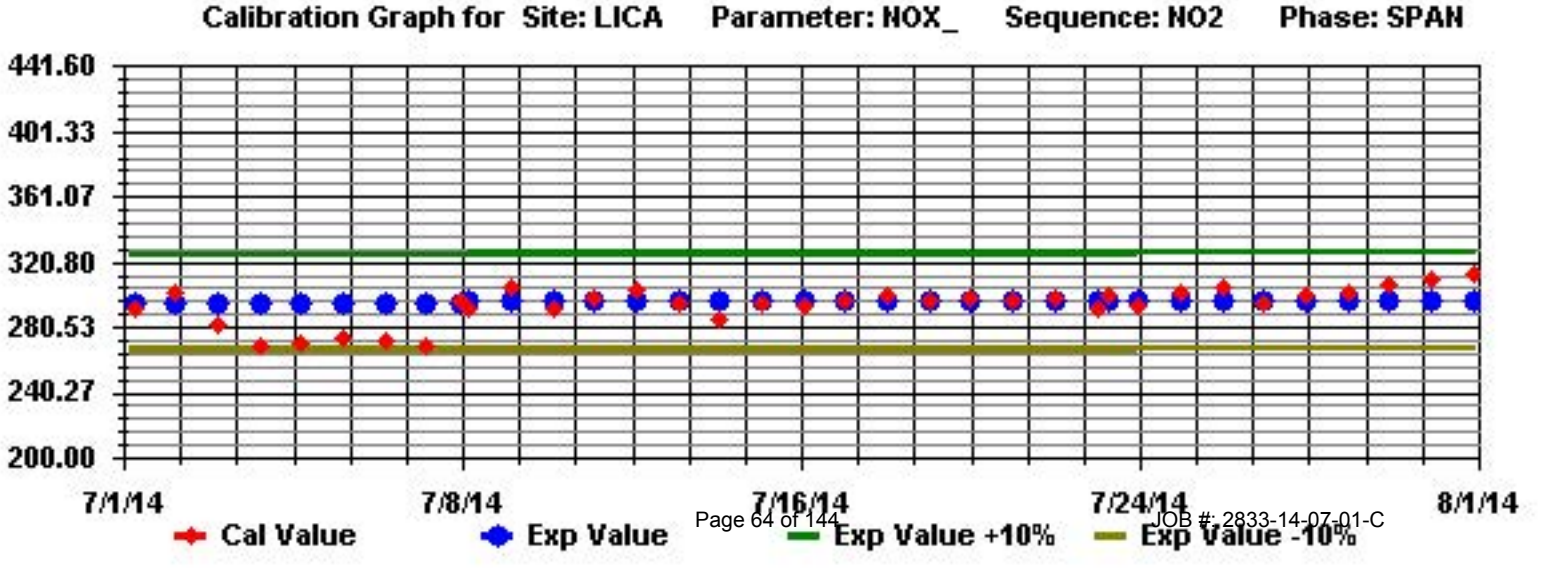
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	17	19	18	24	19	31	122	52	50	50	41	80	83	41	30	19	696
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	17	19	18	24	19	31	122	52	50	50	41	80	83	41	30	19	

Calm : .00 %

Total # Operational Hours : 696



JOB #: 2833-14-07-01-C


Calibration Graph for Site: LICA Parameter: NOX_ Sequence: NO2 Phase: SPAN
441.60
401.33
361.07
320.80
280.53
240.27
200.00
7/1/14
7/8/14
7/16/14
7/24/14
8/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ozone

Lakeland Industry & Community Association - Cold Lake South Site

JULY 2014

OZONE (O3) hourly averages in ppb

MST

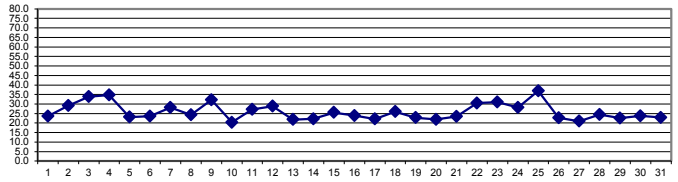
HOUR START / HOUR END	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	23:00 0:00	DAILY MAX.	24-HOUR AVG.	RDGS.
DAY																											
1	15	11	8	5	4	**S**	6	15	24	27	32	36	38	40	40	42	44	40	39	32	19	12	8	5	44	23.6	24
2	3	3	2	2	**S**	2	9	20	27	35	38	41	41	41	41	45	48	49	48	42	35	35	33	31	49	29.2	24
3	30	28	27	**S**	25	26	25	26	30	32	37	36	37	39	40	43	43	42	41	39	36	34	32	31	43	33.9	24
4	43	47	**S**	33	27	24	22	28	36	37	42	48	48	46	48	45	44	41	42	34	24	19	14	8	48	34.8	24
5	6	**S**	3	4	8	17	22	25	23	26	30	32	32	32	33	38	38	37	37	34	24	16	9	5	38	23.1	24
6	**S**	5	3	3	8	15	20	27	29	31	32	31	31	33	33	37	33	30	30	28	21	23	16	**S**	37	23.6	24
7	13	13	13	14	13	14	16	23	28	34	39	41	42	41	38	38	40	39	39	37	33	27	**S**	13	42	28.2	24
8	9	6	4	3	3	4	5	13	25	27	32	36	38	40	40	40	41	43	41	37	31	**S**	21	19	43	24.3	24
9	22	21	14	8	9	15	26	31	37	45	**C**	**C**	**C**	**C**	49	48	47	46	46	42	**S**	43	34	29	49	32.2	24
10	23	21	15	9	11	12	12	16	23	28	28	29	28	26	24	22	23	23	19	**S**	16	14	19	27	29	20.3	24
11	28	25	21	19	17	15	16	19	22	25	26	27	27	29	35	40	39	38	**S**	33	28	28	31	36	40	27.1	24
12	36	24	14	6	7	19	26	27	30	31	30	32	34	37	41	49	***56***	**S**	52	39	22	21	17	14	***56***	28.9	24
13	13	9	8	6	7	6	15	24	26	26	27	29	32	33	35	37	**S**	40	39	31	18	12	11	18	40	21.8	24
14	11	8	4	3	2	3	13	20	25	30	32	34	36	37	41	**S**	40	39	38	33	22	15	12	12	41	22.2	24
15	8	9	6	5	3	9	18	21	25	31	37	40	41	43	**S**	45	43	40	37	36	33	23	16	18	45	25.5	24
16	17	14	16	8	7	4	9	20	20	18	19	23	33	**S**	55	47	40	39	35	30	36	32	17	11	55	23.9	24
17	8	6	9	8	4	4	8	16	29	35	36	35	**S**	31	28	33	32	30	28	26	23	24	31	25	36	22.1	24
18	21	17	20	19	17	17	16	17	20	28	30	**S**	33	36	39	36	37	35	31	28	26	25	24	25	39	26.0	24
19	24	23	25	27	27	23	18	15	17	19	**S**	30	30	27	26	25	25	24	23	22	20	17	19	19	30	22.8	24
20	16	14	12	16	20	21	25	32	35	**S**	32	29	26	25	25	25	27	27	28	25	17	14	7	6	35	21.9	24
21	3	2	1	1	1	1	5	8	**S**	26	32	41	42	46	48	50	52	52	47	30	19	14	10	7	52	23.4	24
22	5	4	3	2	1	2	6	**S**	29	41	49	48	47	51	49	47	48	51	49	42	29	31	33	34	51	30.5	24
23	33	31	30	29	29	26	**S**	25	26	27	32	37	39	40	39	39	37	37	37	30	28	24	21	17	40	31.0	24
24	15	15	15	14	15	**S**	17	20	17	18	20	25	41	39	43	45	42	41	38	40	34	32	31	29	45	28.1	24
25	33	42	44	38	**S**	36	39	40	41	40	39	40	42	42	43	43	43	45	43	39	33	22	14	8	45	***36.9***	24
26	11	12	10	**S**	2	4	**P**	9	19	28	31	39	41	38	34	37	37	35	33	28	16	9	13	13	41	22.7	23
27	10	9	**S**	6	6	6	8	10	17	27	31	31	33	32	37	39	36	32	29	27	16	17	16	7	39	21.0	24
28	17	**S**	15	14	12	8	8	11	20	27	34	40	43	45	45	46	44	44	38	22	12	9	4	3	46	24.4	24
29	**S**	2	1	1	1	2	7	21	25	25	25	29	35	38	40	40	40	41	39	32	22	16	14	**S**	41	22.5	24
30	15	18	12	7	3	6	20	23	27	30	30	31	33	36	37	39	39	37	35	29	20	12	**S**	6	39	23.7	24
31	3	3	4	5	5	2	11	16	18	24	32	31	28	31	34	38	41	44	34	35	20	**S**	33	35	44	22.9	24
HOURLY MAX	43	47	44	38	29	36	39	40	41	45	49	48	48	51	55	50	56	52	52	42	36	43	34	36			
HOURLY AVG	16.9	15.2	12.4	10.9	10.1	11.8	15.4	20.6	25.7	29.3	32.2	34.5	36.2	37.0	38.7	39.9	40.0	38.7	37.2	32.7	24.4	21.4	19.3	17.6			

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 82 PPB

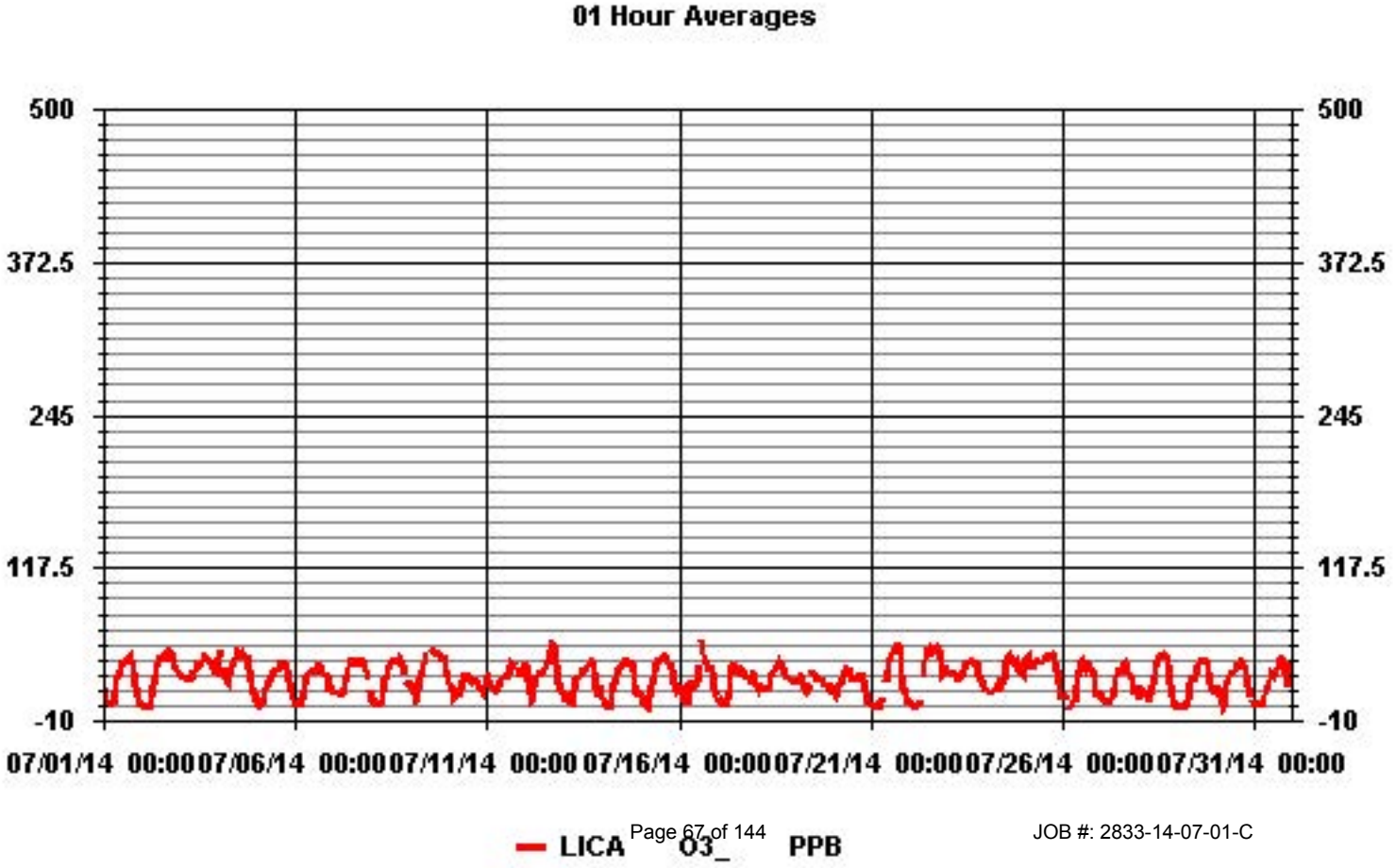
24 HOUR AVERAGES FOR JULY 2014



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	706					
MAXIMUM 1-HR AVERAGE:	56	PPB	@ HOUR(S)	16	ON DAY(S)	12
MAXIMUM 24-HR AVERAGE:	36.9	PPB			ON DAY(S)	25
					VAR-VARIOUS	

IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	743	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	13.04		MONTHLY AVERAGE:	25.86	PPB



JOB #: 2833-14-07-01-C

Lakeland Industry & Community Association - Cold Lake South Site

JULY 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	12	8	20	**S**	10	23	26	29	35	39	40	42	42	45	48	42	41	38	26	20	11	7	48	27.9	24
2	6	4	4	3	**S**	4	17	26	30	41	41	42	43	42	44	47	50	51	50	47	40	36	35	32	51	32.0	24
3	31	29	28	**S**	26	26	26	26	32	34	38	38	38	40	43	44	44	43	43	40	38	35	33	34	44	35.2	24
4	49	48	**S**	38	31	42	25	36	38	38	47	50	51	49	50	48	47	43	43	41	28	24	21	11	51	39.0	24
5	10	**S**	5	6	14	23	24	28	27	29	34	34	35	34	39	40	41	39	39	37	31	24	14	8	41	26.7	24
6	**S**	8	5	6	12	17	26	28	31	33	33	32	33	34	39	40	36	31	31	30	26	24	23	**S**	40	26.3	24
7	15	14	14	16	16	15	21	27	32	38	41	43	44	42	40	40	43	42	40	39	35	31	**S**	17	44	30.7	24
8	12	8	5	4	5	6	8	25	26	**S**	36	39	40	42	42	43	45	45	43	40	38	**S**	25	23	45	27.3	24
9	24	23	17	13	15	24	30	34	41	**C**	**C**	**C**	**C**	**C**	51	50	50	49	48	47	**S**	46	43	34	51	35.5	24
10	32	25	21	13	13	16	14	21	27	30	29	30	29	28	27	24	25	24	21	**S**	18	15	26	29	32	23.3	24
11	29	27	22	20	19	16	18	21	25	27	28	28	29	32	41	42	40	40	**S**	36	30	30	34	38	42	29.2	24
12	40	31	20	12	13	25	27	30	32	32	31	34	38	39	46	56	***59***	**S**	56	51	30	26	21	21	***59***	33.5	24
13	19	12	11	8	10	10	21	26	26	27	28	32	34	34	37	38	**S**	41	41	37	26	16	17	21	41	24.9	24
14	17	11	6	7	5	7	19	22	29	32	34	37	37	41	43	**S**	41	40	40	37	29	23	15	16	43	25.6	24
15	12	11	8	7	6	17	21	23	28	36	40	42	44	46	**S**	47	46	43	39	38	37	33	20	22	47	29.0	24
16	23	19	21	14	10	7	21	22	23	23	21	28	42	**S**	***59***	58	46	41	40	33	38	37	22	15	***59***	28.8	24
17	12	9	16	18	6	6	12	26	33	38	38	37	**S**	33	31	36	35	32	30	29	28	31	33	27	38	25.9	24
18	25	20	21	21	19	18	19	18	26	32	32	**S**	35	38	42	40	39	38	33	31	28	27	26	26	42	28.4	24
19	25	24	27	28	29	25	20	16	20	21	**S**	32	32	29	27	27	26	25	24	24	23	22	22	20	32	24.7	24
20	20	16	14	22	22	22	31	35	37	**S**	35	31	30	32	28	27	30	29	30	28	22	18	12	11	37	25.3	24
21	6	5	3	3	2	3	7	9	**S**	31	40	49	47	49	51	**P**	57	57	53	43	27	21	15	11	57	26.8	23
22	8	5	4	4	3	4	13	**S**	40	46	52	52	50	56	52	49	51	54	51	46	39	33	35	35	56	34.0	24
23	34	32	31	30	30	27	**S**	27	28	29	36	39	41	41	40	40	39	40	39	36	29	27	23	20	41	33.0	24
24	16	17	17	16	17	**S**	18	23	21	19	22	39	44	42	51	48	47	46	40	42	40	35	34	34	51	31.7	24
25	39	48	46	44	**S**	39	42	44	45	42	41	44	45	44	44	45	45	47	47	41	38	29	19	12	48	***40.4***	24
26	16	16	14	**S**	4	6	**P**	**P**	27	33	37	42	45	41	36	40	39	40	36	31	25	13	16	16	45	27.3	22
27	12	10	**S**	9	7	8	10	12	22	30	34	34	35	34	42	42	47	34	32	32	22	22	20	12	47	24.4	24
28	20	**S**	16	16	14	10	9	14	27	30	42	44	46	49	49	48	47	46	42	29	20	15	10	6	49	28.2	24
29	**S**	4	3	3	2	3	14	25	28	27	28	32	38	40	42	42	43	43	41	37	27	20	19	**S**	43	25.5	24
30	21	20	19	11	7	14	22	26	29	31	32	34	35	37	40	41	42	39	37	33	26	17	**S**	12	42	27.2	24
31	6	7	8	9	8	5	19	19	20	29	36	38	31	34	37	42	44	47	42	39	34	**S**	35	36	47	27.2	24
HOURLY MAX	49	48	46	44	31	42	42	44	45	46	52	52	51	56	59	58	59	57	56	51	40	46	43	38			
HOURLY AVG	20.6	18.0	15.1	14.1	13.3	15.3	19.4	24.6	29.2	31.7	35.2	37.8	39.0	39.4	41.8	42.4	43.1	41.0	39.7	37.1	29.9	25.9	23.4	20.9			

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: 702

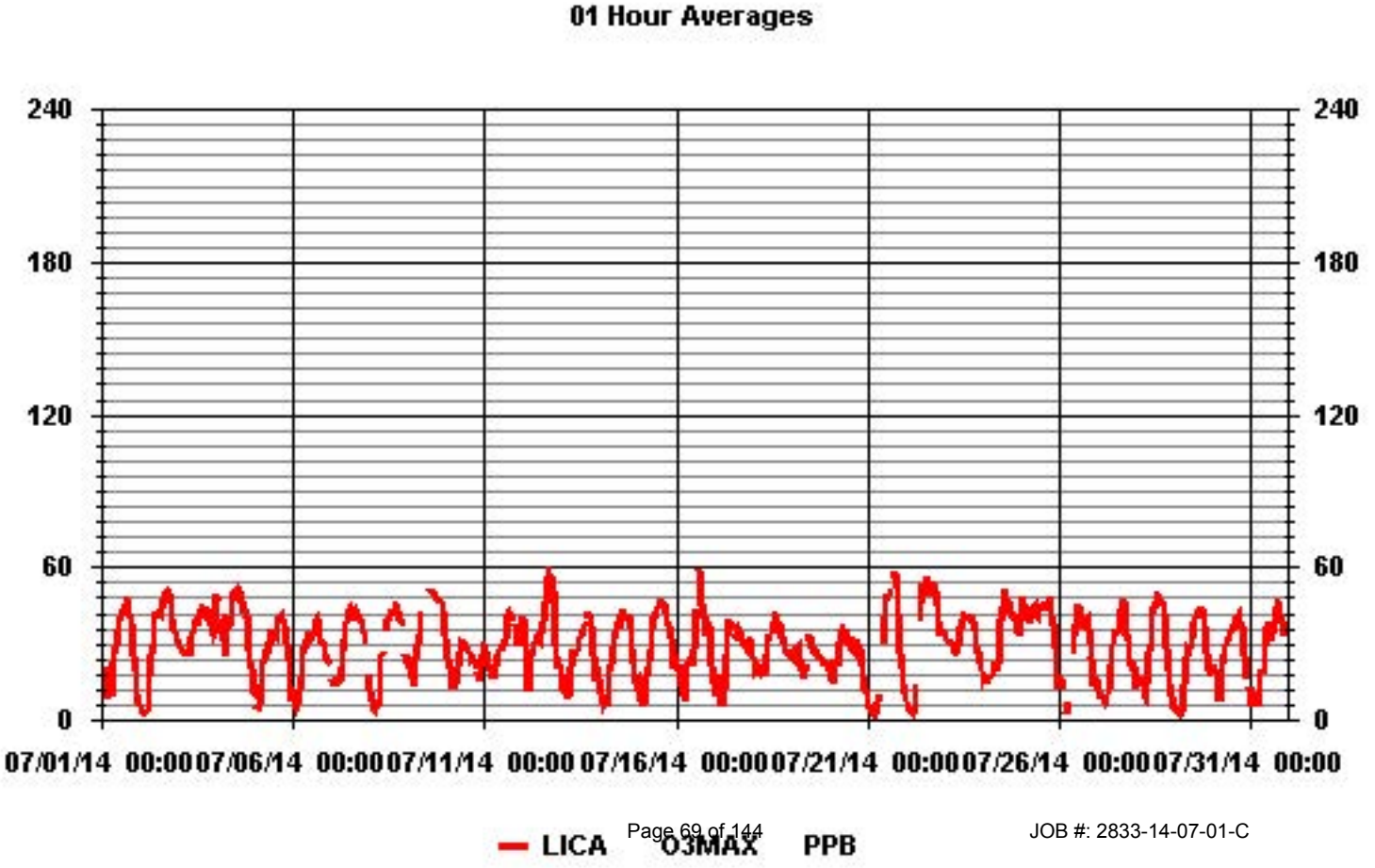
MAXIMUM INSTANTANEOUS VALUE: 59 PPB @ HOUR(S) 16, 14 ON DAY(S) 12, 16

VAR-VARIOUS

IZS CALIBRATION TIME: 34 HRS OPERATIONAL TIME: 741 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION: 12.93



JOB #: 2833-14-07-01-C

LICA
O3_ / WD Joint Frequency Distribution (Percent)

July 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	2.40	2.69	2.40	3.25	2.69	4.39	17.98	7.50	6.94	7.08	5.80	11.33	11.61	5.80	4.24	2.69	98.86
< 110	.00	.00	.14	.14	.00	.00	.14	.14	.14	.00	.28	.00	.14	.00	.00	.00	1.13
< 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	2.40	2.69	2.54	3.39	2.69	4.39	18.13	7.64	7.08	7.08	6.09	11.33	11.75	5.80	4.24	2.69	

Calm : .00 %

Total # Operational Hours : 706

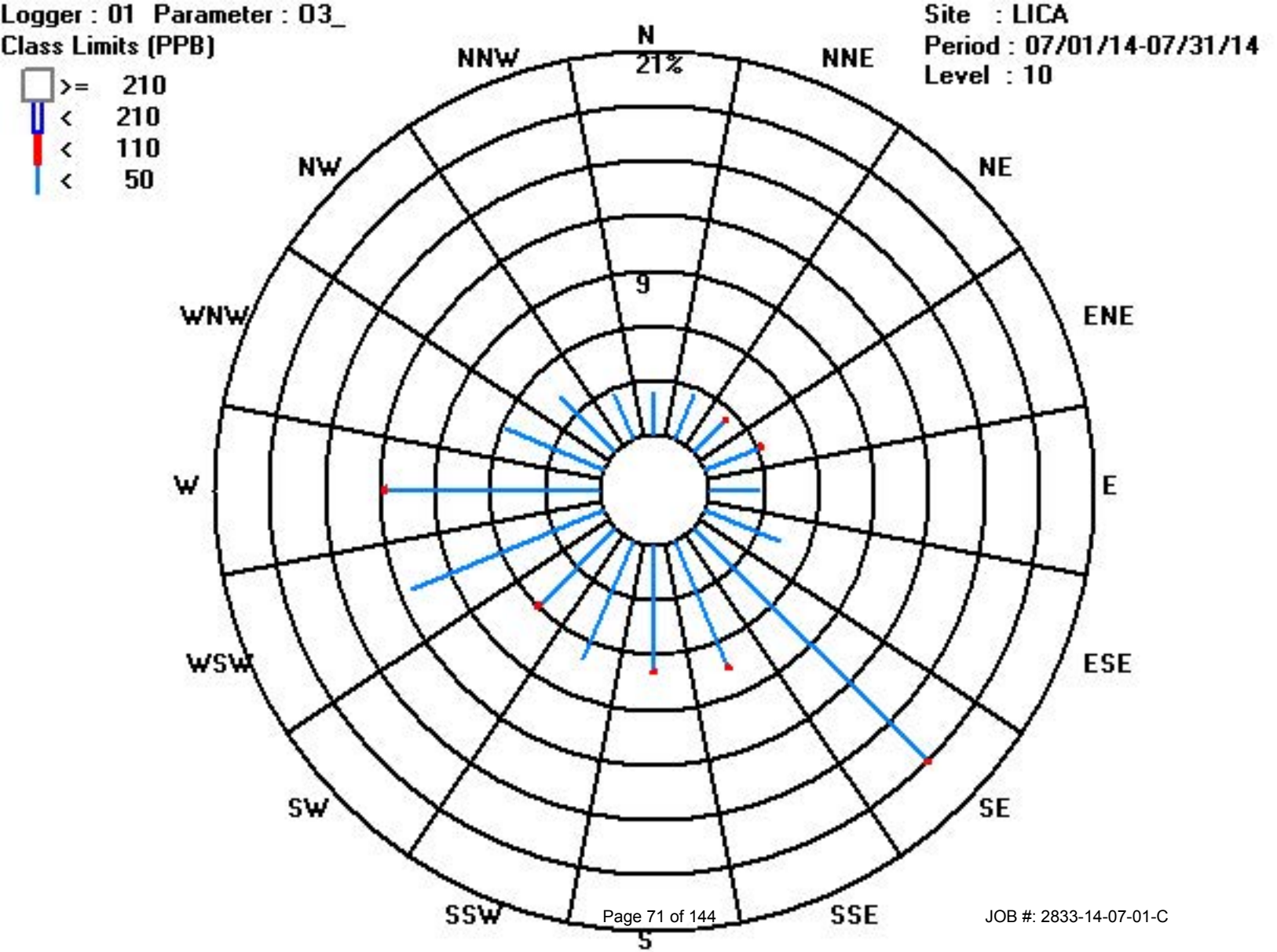
Distribution By Samples

Direction

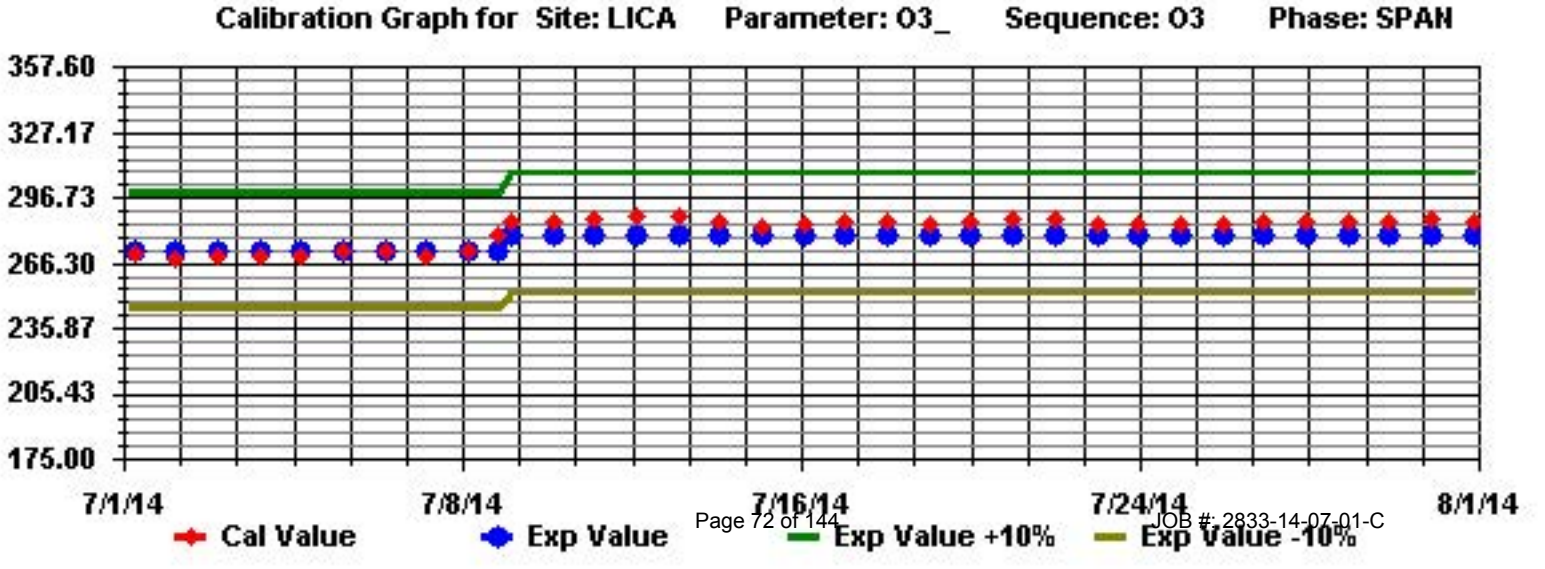
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	17	19	17	23	19	31	127	53	49	50	41	80	82	41	30	19	698
< 110			1	1			1	1	1		2		1				8
< 210																	
>= 210																	
Totals	17	19	18	24	19	31	128	54	50	50	43	80	83	41	30	19	

Calm : .00 %

Total # Operational Hours : 706



JOB #: 2833-14-07-01-C


Calibration Graph for Site: LICA Parameter: O3_ Sequence: O3 Phase: SPAN
357.60
327.17
296.73
266.30
235.87
205.43
175.00
7/1/14
7/8/14
7/16/14
7/24/14
8/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ambient Temperature

Lakeland Industry & Community Association - Cold Lake South Site

JULY 2014

AMBIENT TEMPERATURE (TPX) hourly averages in Degrees Celsius

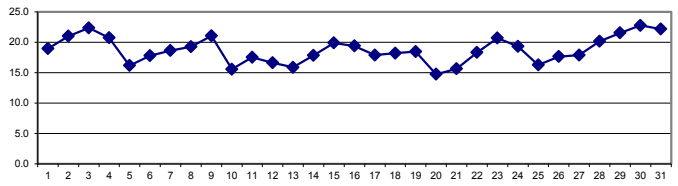
MST

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	14.6	13.2	12	11.3	11.2	11.8	15.3	18.1	19.6	21.5	23	23.8	24.3	25.2	24.8	25	24.5	22.6	23.7	23.3	19.5	16.7	15.5	14.6	25.2	19.0	24
2	14.1	13.3	12.6	11.9	11.8	14.1	17.9	19.4	21.5	23.4	25	25.8	26.1	26.5	27.2	27.2	26.5	26	25.5	24.3	22.8	21.4	20.3	19.7	27.2	21.0	24
3	19	18.3	18.1	17.8	17.5	18	18.3	19.2	21.3	23.1	23.9	23.7	24.3	26	26.9	27.5	27.1	26.8	26.5	25.4	23.6	22	21	20.9	27.5	22.3	24
4	20.8	18.8	16.9	15.7	15.2	15.4	17	18.7	20.1	20.6	22	23.5	24.5	25.5	26.4	26.9	26.9	27	26	24.8	20.3	16.6	14.9	13.5	27	20.8	24
5	12.6	12.5	12.9	13.3	14.6	15.9	15.6	14.6	14.2	14.4	15.2	15.9	16.7	17.6	20.1	20.2	20.8	21.1	20.9	20.1	17.9	15.2	13.6	12.4	21.1	16.2	24
6	11.8	11.8	10.8	10	11.5	14.1	16.8	18.3	19.7	21	21.1	21.2	22.7	23.4	22.2	20.6	22	22.3	21.3	20.7	18.1	16.8	15.1	13.7	23.4	17.8	24
7	13.4	13.2	12.9	12.5	12.2	13.3	14.9	17.6	19	20.3	21.7	22.6	23.1	24.2	23.9	24.2	24	23.6	22.7	21.5	19.7	17.5	15	13.6	24.2	18.6	24
8	12.6	11.8	11.1	10.5	10.1	11.1	13.9	17.2	18.5	20.4	22	23.2	24	25	26.1	26.2	26.2	26.3	25.8	24.6	21.6	19.1	17.8	16.7	26.3	19.2	24
9	16.5	16.2	14.7	13.5	13.4	16.6	19.7	21.2	23	24.7	26.5	27.5	28.2	28.9	***29.3***	29.2	28	28	21.9	16.8	15.8	15.3	15.3	14.8	***29.3***	21.0	24
10	14.8	14.9	14.3	13.1	12.9	12.9	12.9	14.1	16.8	18.8	20	20.4	19.2	18.5	17.6	15.7	16.6	15.4	14.1	14.7	14.3	13.7	13.6	14.3	20.4	15.6	24
11	14.1	13	11.7	11.1	10.9	11.7	13.7	15.6	17.6	19.1	20.2	20.8	21.6	21.8	22.2	22	22.2	22.1	21.7	20.9	18.7	17.1	15.9	15.1	22.2	17.5	24
12	14.7	13.6	12.6	11.4	11.6	14	15.7	15.9	17.1	17.6	17.9	18.8	20	21.1	22.2	22.7	22.2	21.5	20.8	18.9	15.6	12.5	10.9	9.3	22.7	16.6	24
13	8.2	7.5	6.9	6.6	***6.5***	9.2	13.3	16.1	17.1	17.9	18.7	19.5	20.5	21.5	22.1	22.6	23	23.3	23.4	22.1	17.9	12.9	11.7	12.5	23.4	15.9	24
14	10.3	8.7	7.8	7	6.8	10.6	15.2	17.8	20.1	21.3	22.6	23	23.6	24.1	24.7	24.8	24.9	24.8	23.9	22.6	19.2	15.9	14.4	13.8	24.9	17.8	24
15	13.2	12	11.2	10.5	10.4	13.8	16.1	18.3	20.6	22.4	24.3	25.3	26	26.8	27.1	27.2	26.4	25.3	24.7	23.3	20.9	18.5	16.6	15.8	27.2	19.9	24
16	14.8	13.9	13.3	12.2	11.5	12.5	15.1	18.2	19.7	20.3	20.6	22.6	25.1	26.9	28.4	26.2	23.3	23.9	24.1	22.9	20.3	18.5	16.3	14.5	28.4	19.4	24
17	13	11.9	11.5	11.4	10.5	12.3	15.4	19.2	21.3	22.2	23	23.7	23.3	22.3	21.7	22.5	21.7	20.5	19.4	18.3	17.6	16.9	14.9	14.7	23.7	17.9	24
18	14.2	13.8	13.6	13.5	13.4	13.3	13.7	14.5	16.7	19.1	20.3	21.4	22.3	23	23.4	23.3	22.3	20.8	19.5	18.6	17.9	17.5	17.3	23.4	18.2	24
19	17.2	16.8	17	17.2	17.2	16.3	15.9	15.9	16.2	16.8	18.9	19.2	21	21.8	22.4	22.7	22.9	22.2	22.1	20.3	18.1	15.9	14.9	13.9	22.9	18.5	24
20	12.3	11.9	12.1	12.5	11.6	11.9	13.5	15.6	17.5	18	19.3	19.5	17.2	15.1	13.1	15.1	17.7	17.3	17.6	16.8	14.2	12.5	10.8	10.4	19.5	14.7	24
21	9.5	8.6	7.6	7	***6.5***	7.4	10.2	13.8	16.7	18.9	20.2	21.3	21.4	21.1	21.8	22.4	22.5	22.7	22.2	20.2	16	13.6	12.3	11.4	22.7	15.6	24
22	10.6	9.8	9.1	8.6	8.2	9.5	14	18.1	20.5	22.2	22.9	23.8	24.4	24.5	24.8	24.6	24	24.3	23.3	21.8	19	17.6	17.3	16.8	24.8	18.3	24
23	16.3	16	16.3	17.1	17.1	16.7	17	18.7	19.8	20.9	23.1	25.1	26.3	26.2	26.4	26	24.3	22.9	21.5	20.1	20.4	19.8	19.5	19	26.4	20.7	24
24	18.5	18	17.7	17.8	17.9	18.1	18.6	19.1	18.7	19.2	21.4	24.2	26	24.7	25.3	24.5	22.8	20.6	18.2	16.3	14.3	13.9	13.7	13.5	26	19.3	24
25	13.2	12.8	12.7	12.6	12.5	12.9	13.3	14	14.5	15.3	16.2	17.4	18.2	19.3	20.6	21.1	21.6	22.1	21.6	19	17.2	15.2	14.1	12.4	22.1	16.2	24
26	12.1	11.7	11.4	11.2	10.3	11.5	**P**	16.5	17.2	18.3	20.4	21.6	22.3	23.4	23.1	24.2	24.5	21.9	19.8	19.2	17.7	16.3	15.8	15.6	24.5	17.7	23
27	14.9	14.8	14.4	13.6	13.1	13.4	15.3	17.9	19.9	21.6	22.4	23	23.8	22.9	23.4	23.5	18.2	17.7	16.8	17.7	16.5	15.6	14.9	13.7	23.8	17.9	24
28	14.6	14.6	14.5	14.1	13.6	13.3	13.7	15.8	18.9	21.7	23.6	24.7	25.1	26.1	27.1	26.9	27	26.8	26.6	25	20.1	17.9	16.6	15.8	27.1	20.2	24
29	15.2	14.5	13.8	13.3	13	15.1	17.8	21.3	21.7	22.3	23.8	25.6	26.8	27.4	27.8	28	27.7	27.6	27.2	25.5	22.8	20.9	19.8	18	28	21.5	24
30	18.4	18.6	17.7	16	15.5	17.2	20.3	20.9	22.2	24	25.8	26.8	27.6	28.5	28.9	28.9	28.8	28.4	27.6	24.7	22.1	20.3	18.8	18.1	28.9	***22.8***	24
31	17.1	16.5	16.2	16	15.9	16.7	19	20.9	22.2	23.6	24.4	25	25	26.7	28.2	28.4	28.3	28.6	28.3	25.3	20.7	19.4	20.2	19	28.6	22.2	24
HOURLY MAX	20.8	18.8	18.1	17.8	17.9	18.1	20.3	21.3	23	24.7	26.5	27.5	28.2	28.9	29.3	29.2	28.8	28.6	28.3	25.5	23.6	22	21	20.9			
HOURLY AVG	14.3	13.6	13.1	12.6	12.4	13.6	15.6	17.5	19.0	20.4	21.6	22.6	23.2	23.7	24.2	24.2	23.9	23.4	22.6	21.2	18.8	16.9	15.8	15.0			

STATUS FLAG CODES

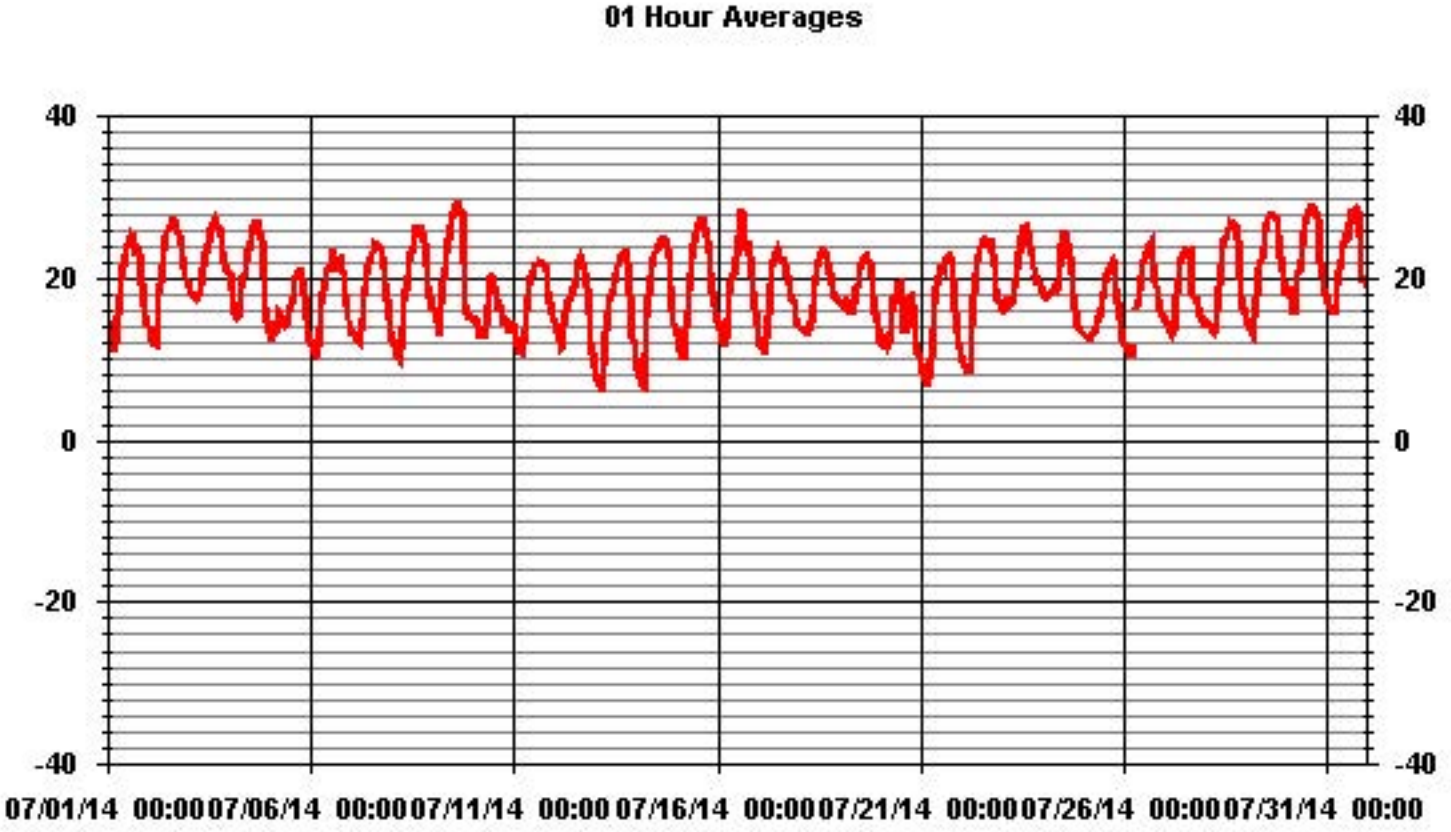
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

24 HOUR AVERAGES FOR JULY 2014



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	6.5	°C	@ HOUR(S)	4, 4	ON DAY(S)	13, 21
MAXIMUM 1-HR AVERAGE:	29.3	°C	@ HOUR(S)	14	ON DAY(S)	9
MAXIMUM 24-HR AVERAGE:	22.8	°C			ON DAY(S)	30
					VAR-VARIOUS	
OPERATIONAL TIME:					743	HRS
AMD OPERATION UPTIME:					99.9	%
STANDARD DEVIATION:	5.05		MONTHLY AVERAGE:		18.72	°C



JOB #: 2833-14-07-01-C

Relative Humidity

Lakeland Industry & Community Association - Cold Lake South Site

JULY 2014

RELATIVE HUMIDITY (RH) hourly averages in %

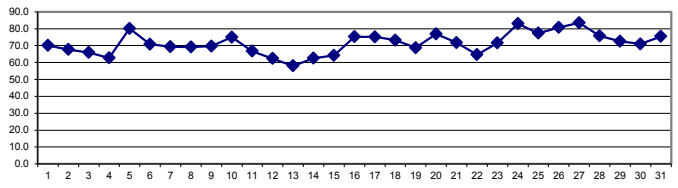
MST

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	86	92	95	95	95	94	85	75	65	60	52	49	46	44	45	45	46	51	50	60	78	89	91	94	95	70.1	24
2	95	95	95	95	94	87	80	79	71	63	56	49	47	45	43	43	45	46	48	55	64	71	78	81	95	67.7	24
3	81	83	83	82	82	78	77	74	67	61	54	57	56	52	51	47	49	52	54	58	66	71	73	74	83	65.9	24
4	62	69	81	88	92	90	85	75	63	62	57	49	46	43	39	34	34	35	37	45	65	79	84	90	92	62.7	24
5	92	92	92	93	88	80	71	82	91	92	88	83	79	76	66	59	59	59	61	65	77	89	94	95	95	80.1	24
6	96	96	96	96	96	89	80	73	69	63	60	59	56	48	49	53	51	50	51	54	69	73	84	88	96	70.8	24
7	91	92	91	92	93	90	84	71	66	60	56	52	50	47	48	49	50	53	54	57	65	75	87	91	93	69.3	24
8	93	95	95	95	95	94	89	74	61	61	58	55	53	49	45	43	43	44	48	56	68	76	82	87	95	69.1	24
9	87	88	91	93	93	81	70	65	60	53	50	46	43	40	39	41	43	45	63	91	97	96	98	99	99	69.7	24
10	99	99	99	99	98	91	88	80	67	56	44	39	43	48	53	70	68	71	85	81	82	83	81	74	99	74.9	24
11	72	78	85	89	91	89	82	75	65	56	52	49	49	49	49	49	49	50	52	59	70	77	81	85	91	66.8	24
12	85	91	92	95	96	81	64	57	50	49	50	49	46	43	38	32	30	30	35	52	75	84	87	87	96	62.4	24
13	89	92	93	94	94	86	70	56	52	48	44	41	36	33	29	28	25	***24***	25	37	60	82	80	74	94	58.0	24
14	86	92	93	94	93	79	68	62	56	47	40	38	38	40	41	40	39	39	43	51	69	80	85	88	94	62.5	24
15	87	92	93	94	92	81	74	68	62	54	44	40	38	37	38	38	43	49	54	57	65	75	83	84	94	64.3	24
16	87	91	90	93	94	90	83	73	70	70	71	66	61	58	55	62	64	61	61	67	74	81	89	94	94	75.2	24
17	95	95	96	96	96	92	85	70	59	53	51	48	53	57	61	56	63	69	74	78	81	84	94	97	97	75.1	24
18	98	97	96	97	97	96	93	90	81	71	66	59	52	49	46	47	45	50	60	68	72	75	76	76	98	73.2	24
19	76	78	75	73	73	82	91	96	96	91	75	68	60	54	51	47	44	46	44	51	61	70	72	75	96	68.7	24
20	84	86	88	86	87	84	77	68	60	60	54	54	72	81	91	84	69	67	65	69	82	88	95	96	96	77.0	24
21	96	97	96	97	97	97	96	86	77	63	56	45	48	46	44	41	39	40	44	62	81	88	92	94	97	71.8	24
22	95	95	95	96	96	94	81	68	60	49	45	45	40	38	38	40	42	42	47	56	70	73	73	74	96	64.7	24
23	76	79	78	75	74	77	78	73	71	68	61	55	51	54	56	57	61	63	70	84	85	89	89	93	93	71.5	24
24	93	93	94	93	92	92	90	88	94	90	80	70	58	65	61	59	63	67	78	83	93	97	98	99	99	82.9	24
25	99	***100***	99	99	99	99	96	89	82	78	75	66	61	57	53	50	49	45	49	66	76	85	89	94	***100***	77.3	24
26	96	97	97	98	98	98	**P**	86	86	81	74	64	59	56	59	55	56	64	77	81	89	94	96	96	98	80.7	23
27	97	97	97	97	98	97	89	80	76	68	64	60	56	64	60	58	82	88	94	90	95	99	99	99	99	***83.5***	24
28	***100***	***100***	***100***	***100***	***100***	***100***	***100***	***100***	88	71	64	58	57	51	45	42	42	41	45	61	79	88	93	95	***100***	75.8	24
29	96	97	97	97	98	91	85	73	71	71	67	60	53	49	46	45	46	49	54	62	75	82	85	92	98	72.5	24
30	90	90	91	96	96	88	77	74	69	64	57	54	52	49	47	46	45	49	54	67	78	87	91	93	96	71.0	24
31	95	96	96	98	98	96	90	84	79	73	69	70	67	60	54	53	53	50	56	63	83	87	70	71	98	75.5	24
HOURLY MAX	100	100	100	100	100	100	100	100	96	92	88	83	79	81	91	84	82	88	94	91	97	99	99	99			
HOURLY AVG	89.5	91.4	92.2	93.1	93.1	89.1	82.6	76.3	70.5	64.7	59.2	54.7	52.5	51.0	49.7	48.8	49.6	51.3	55.9	64.1	75.6	82.8	86.1	88.0			

STATUS FLAG CODES

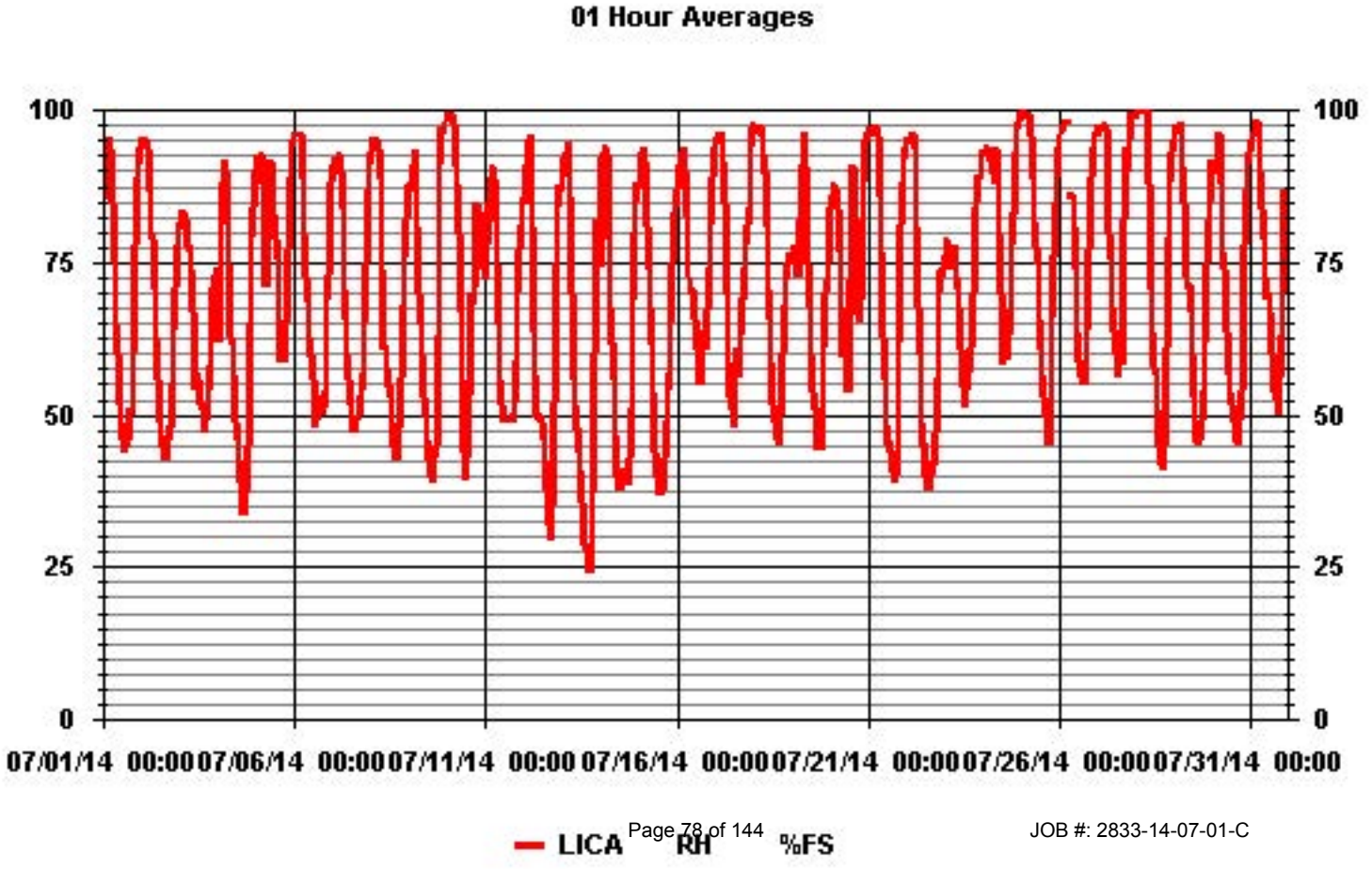
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

24 HOUR AVERAGES FOR JULY 2014



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	100	%	@ HOUR(S)	VAR	ON DAY(S)	25, 28
MAXIMUM 24-HR AVERAGE:	83.5	%			ON DAY(S)	27
				VAR-VARIOUS		
OPERATIONAL TIME:					743	HRS
AMD OPERATION UPTIME:					99.9	%
STANDARD DEVIATION:	19.40		MONTHLY AVERAGE:		71.30	%



JOB #: 2833-14-07-01-C

Vector Wind Speed

Lakeland Industry & Community Association - Cold Lake South Site

JULY 2014

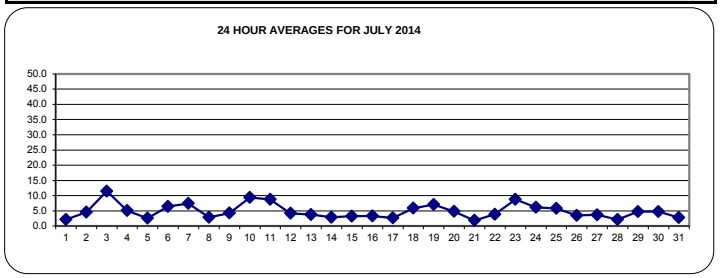
WIND SPEED (WS) hourly averages in km/hr

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	0.5	0.9	1.3	0.8	0.7	0.7	0.4	1.6	4.7	2.2	3.3	2.9	3.1	2.9	5.7	4.4	2.4	6	1.9	1.7	1.4	0.5	0.8	0.4	6.0	2.1	24
2	0.2	0.3	0.4	0.4	0.3	0.1	1.1	3.1	4	5.6	4.7	5	6.2	7.2	6.8	6.9	7.3	8.3	8.1	6.6	5.3	7	6.6	7.2	8.3	4.5	24
3	8.9	8.8	9.9	10	10.2	10.6	12.7	12.8	14.4	14.1	17.7	12.5	15.6	17.4	16	12.6	11.1	10.7	10.1	10.2	8.6	7.7	6	6.1	17.7	***11.4***	24
4	6.3	7.4	2.2	4	3.9	3.7	3.9	5.8	8.7	8.5	7.8	7.6	7.3	6	7.2	6.4	6.3	5.8	5.7	2.5	1.7	1.7	0.4	0.4	8.7	5.1	24
5	1	0.8	0.7	0.7	1	3.1	5.3	6.9	2.1	4.3	4.5	4.3	3.1	1.5	0.4	3	3.3	4	4	2.8	1.4	1.4	1.2	1.2	6.9	2.6	24
6	2.1	1.5	1	1.6	3.6	4.2	6.2	8.4	8.3	8.8	9.2	11.3	10.5	13	14.2	9.7	10.6	9.7	7.1	2.3	0.5	4.2	2	4.6	14.2	6.4	24
7	4.7	5.2	4.8	4.2	3.7	5.2	6.9	9.7	11.5	11.7	11.8	11.7	11.8	10.9	10.7	11.5	10.2	9.4	8.2	6	4.2	1.6	2.2	0.3	11.8	7.4	24
8	1	0.4	0.2	0.5	0.6	0.6	0.6	2.9	5.5	4.3	4.8	4.6	5.6	4.1	3.3	3.8	4.9	4.1	3.8	2.6	3.1	3.7	2.8	1.2	5.6	2.9	24
9	1.7	1.1	1.1	0.7	0.2	0.7	2.6	3.7	4.5	5.5	5	6.1	7.1	7.1	7.6	7.1	6.2	4.4	10.5	3.5	7.5	4.1	2	2.4	10.5	4.3	24
10	1.5	1.7	1.3	2.3	4.5	4.1	4.5	5.4	6.7	9.3	14.6	16.5	16.3	***18***	16.9	14.7	14.6	13.9	9.4	9.5	10.6	9.2	8	11.7	***18.0***	9.4	24
11	10	8.9	9.7	10.3	9.2	7.7	8.1	9.4	9.6	11.2	9.9	10.8	9.9	10.2	9.8	10.5	12.1	12.4	9.7	5.1	3.7	4.1	3.7	3.7	12.4	8.7	24
12	4.5	3	3.2	1.1	2.2	5.5	7.1	5.5	4.4	6.1	5.7	4.9	5.1	4.6	4.4	6.9	7.9	7.3	4.9	0.6	1.6	1.9	0.6	1.1	7.9	4.2	24
13	0.8	0.9	0.9	0.5	1.4	0.6	1.8	4.1	4.7	4.4	6.1	8.1	7.9	7.5	8	7.6	7.4	4.6	2.7	3.1	0.9	1	1.8	3.8	8.1	3.8	24
14	1	0.1	0.6	0.4	0.1	0.2	1.2	2.2	3.5	4.8	4.5	5.5	5.7	5.4	5.3	6.1	5.7	4.7	4.5	2.4	1.5	1.1	1	1.8	6.1	2.9	24
15	1	0.6	0.1	1	0.7	1.9	4.1	4.4	3.3	4.3	6.1	6.4	6.2	6.1	5.5	5	4.1	4.4	3.8	3.3	3	1.1	1.2	0.3	6.4	3.2	24
16	0.6	0.4	0.7	1.4	0.2	0.7	0.6	2.6	3.1	4.9	6.3	4.1	2.9	3.1	3.6	4.8	6.4	7.2	5.4	7.9	6.4	2.7	1.1	1	7.9	3.3	24
17	0.6	1.4	1.8	0.3	0.4	0.5	0.5	1.3	2.4	3.2	3.4	2.3	2.3	4.7	2.4	2.9	2.6	3.6	3.1	3.1	2.8	5.9	8	4.1	8.0	2.7	24
18	5.5	6.2	6.2	4.1	3.7	4.6	4.1	4.9	5.6	7.7	8.1	8.3	8.7	9.2	8.6	8.3	8.8	6.8	4	2.9	2	2.2	4.4	5.7	9.2	5.9	24
19	5.5	6.7	7.9	4	4.4	3.3	5.1	3	4.2	4.2	8.9	9.8	10	11.5	11.9	13.3	13.2	10	9.9	6.4	3.6	4.6	4.1	4.7	13.3	7.1	24
20	2.8	4.1	3.4	4.6	5	6.2	5.7	5.7	4.9	6.2	6.4	7.7	3.9	3.4	4.2	4.8	6.7	7.6	8.3	4.5	2.6	2.6	1.6	2	8.3	4.8	24
21	1	0.6	0.7	0.5	0.5	0.7	2.2	2.4	2.9	2.9	3.2	3.2	3	4.6	2	3.1	2.8	2.9	1.8	1.5	0.9	0.8	0.5	0.1	4.6	1.9	24
22	0.8	0.5	0.7	0.2	0.8	0.5	0.3	1.4	2.4	2.5	4.1	4.1	5.3	7.9	7.2	7.3	8.4	6.9	8.4	4.6	2.8	3.7	5.5	6.5	8.4	3.9	24
23	5.3	5.8	5.9	5	6.7	6.1	5.9	9.4	14.9	13.4	15.5	13.6	13.5	11.2	10.7	9.8	6.8	8.6	8.1	8.3	6.6	6.3	7.5	5.7	15.5	8.8	24
24	7.4	5.1	3.8	5.5	7.7	5	6.1	10.1	7.3	9.6	7.6	5.2	7.4	9.7	9.6	5.9	5	4.8	5.1	7.7	1.6	1.3	6.3	3	10.1	6.2	24
25	1.8	6	4	2.5	2.2	3	3.8	6.5	9.1	10.5	8.8	10.5	9.9	8.6	8.4	7.8	10.1	8.9	7.4	4	2.9	1.4	0.6	1.5	10.5	5.8	24
26	2	3.9	3.7	2.9	1.6	3.4	**P**	2.5	2.7	4.4	3.5	4.6	3.3	3.2	2.4	3	4.9	6.7	7.3	4.7	1.2	1.2	3.1	4	7.3	3.5	23
27	2.9	4.7	4.4	2.6	4.1	2.9	3.1	2.2	2.5	2.2	2.6	2.7	4.4	7.8	5.7	4.8	9.1	6.6	3.8	3.3	1.7	2.1	1.4	0.5	9.1	3.7	24
28	3.5	4	2.5	2.2	2.3	0.1	0.8	2.3	0.4	1.5	2.4	2.9	2.9	2.3	3	4.1	3.5	3.6	2.3	1.1	1.1	1.2	0.6	0.3	4.1	2.1	24
29	1.3	0.5	0.3	0.5	0.4	1.2	1.2	4.1	5	6	7.4	8.7	10.7	10.4	11.7	9	10	7.5	4.8	4.8	2.8	2.6	2.2	1	11.7	4.8	24
30	4.3	3.7	1.4	0.7	0.8	1.6	4.4	6.4	7.3	6.2	5.7	7.1	8.2	8.2	8.1	10.4	7.6	7.8	5.5	4.4	2.5	0.7	0.2	0.4	10.4	4.7	24
31	0.2	0.9	0.4	1.1	0.6	0.2	4.5	2.7	1.6	2.2	2.3	3.2	7.2	2.3	1.9	2.2	3.6	3.6	2	3.2	1	2.1	9.1	7.4	9.1	2.7	24
HOURLY MAX	10.0	8.9	9.9	10.3	10.2	10.6	12.7	12.8	14.9	14.1	17.7	16.5	16.3	18.0	16.9	14.7	14.6	13.9	10.5	10.2	10.6	9.2	9.1	11.7			
HOURLY AVG	2.9	3.1	2.7	2.5	2.7	2.9	3.8	4.9	5.6	6.2	6.8	7.0	7.3	7.4	7.2	7.0	7.2	6.9	5.9	4.3	3.1	3.0	3.1	3.0			

STATUS FLAG CODES

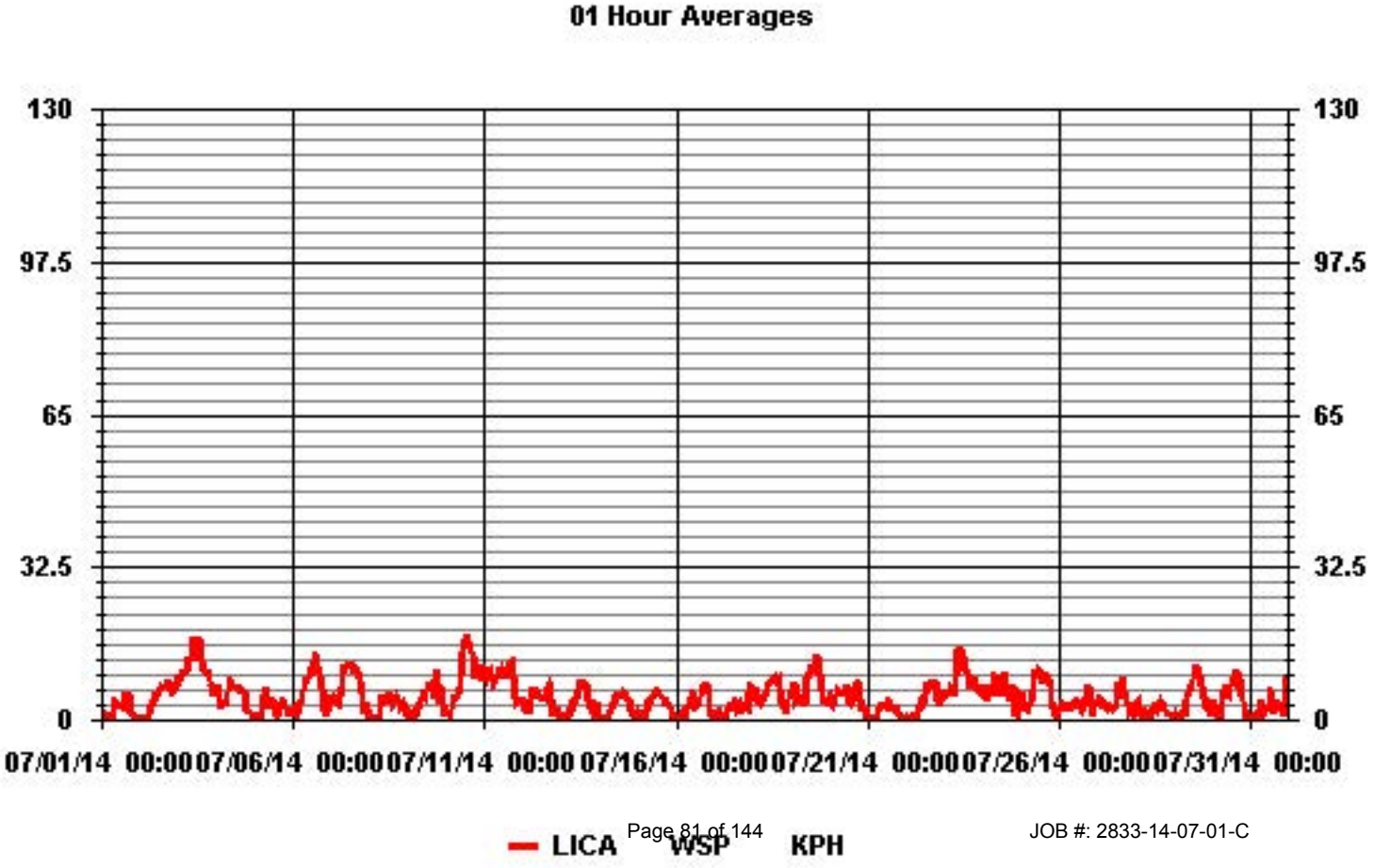
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	743						
MAXIMUM 1-HR AVERAGE:	18.0	KPH	@ HOUR(S)	13	ON DAY(S)	10	
MAXIMUM 24-HR AVERAGE:	11.4	KPH			ON DAY(S)	3	
					VAR-VARIOUS		
			OPERATIONAL TIME:		743	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME:		99.9	%	
STANDARD DEVIATION:	3.57		MONTHLY AVERAGE:		4.86	KPH	



JOB #: 2833-14-07-01-C

Lakeland Industry & Community Association - Cold Lake South Site

JULY 2014

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST

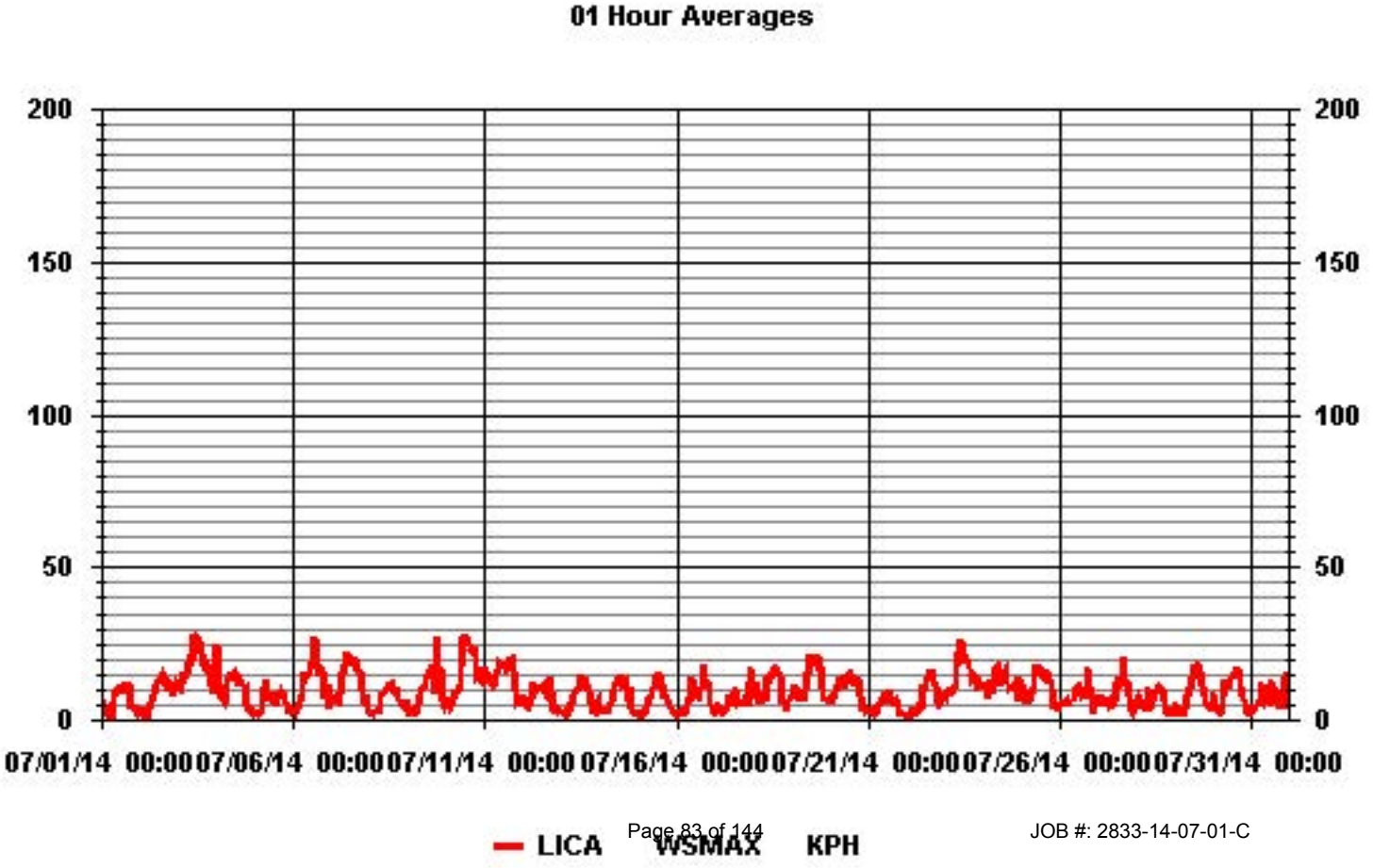
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	3.6	4.7	2.8	2.1	1.9	2.1	1.8	6	9.7	8.2	10.2	8.6	11.1	9.5	11.8	10.7	11.7	11.6	4.6	4.5	4	3.1	4.7	2.4	12	6.3	24
2	2.8	1.9	2.8	2.9	1.8	1.5	3.9	5.7	7.7	9	10.9	12.4	12.7	14	15.2	14.1	12.5	13.8	10.6	10.5	7.3	11.2	10.8	12.5	15	8.7	24
3	11.8	11.1	13.7	13	13.7	15.1	18	18.3	21.2	19.2	***27.8***	21.6	26.6	25.9	24.9	22.2	18.2	16.4	17.7	16.1	11.7	11.4	8.6	21.8	***28***	***17.8***	24
4	24.3	21.5	7.1	11.4	6.8	5.9	7.1	13.9	14.7	14.5	14.2	15.2	13.8	10.6	14.6	13.2	12.1	10.1	10.6	5.3	3.8	3.4	3.1	2	24	10.8	24
5	2.8	2.7	2	2.7	3.2	10.8	9.7	13.4	6	8.3	8.5	7	7.6	4.5	7.3	8.3	9.7	8.9	8.3	6.1	3.3	3.5	3.5	2.8	13	6.3	24
6	3.4	3.6	2.6	3.4	5.8	8.3	11.5	15.8	14.5	15.2	15.6	17.5	17.5	26.2	26.1	16.2	16.6	18.2	16.3	6.4	9.9	10.3	3.5	6.7	26	12.1	24
7	7.3	7.4	7.1	6.3	5.9	8.7	15	15.5	18.2	19.2	21.7	19	18.6	19.3	19.1	20.4	16.8	15.7	15.5	10	6.9	7.2	5.4	3.1	22	12.9	24
8	2.6	2.9	2	2.4	2.7	3.6	2.3	8.6	9	10.1	9.9	10.4	11.9	12.2	9.6	9.9	10.2	8.5	6.9	5.2	4.6	5.8	6	3.4	12	6.7	24
9	4	3.6	2.7	2.1	2.1	2.4	4.8	8.2	9.8	10.3	11.6	15	13.4	15.9	18.2	15.6	15	8.4	27.5	16.6	17.6	6.7	5.3	6.8	28	10.2	24
10	5.2	4.8	4	4.8	7.1	10	9	9.5	11.6	17.6	27.3	23.8	***27.8***	26.9	24.8	23.7	22.5	22.9	14.7	15.4	14.6	13.8	13	17.5	***28***	15.5	24
11	16.5	13.7	14.4	13.6	12.5	11.2	12.1	16.2	14.9	18.9	18.3	17.9	18	16.3	16.5	17.9	20	20.3	16.3	10.1	6.1	6.7	6	5.8	20	14.2	24
12	8.3	5.8	4.7	4.2	4.9	9.1	11.9	9.2	10.1	10.4	10.4	10.7	11.4	9.9	9	11.8	12.4	13.5	9.9	4	3.4	4	2.6	3.1	14	8.1	24
13	3.2	2.5	2.5	1.9	3.9	2.5	5.3	7.9	9.2	10	10.6	15.1	13.1	12.2	13.7	13.5	11.8	10.1	6	4.9	3.2	2.7	5.9	6.7	15	7.4	24
14	3.6	3.1	2.8	3	3.4	3.2	5.1	5.9	9.7	11.6	11.8	12.9	11	15	11.7	12.5	13	8.2	8.8	4.8	2.9	2.4	2.1	2.9	15	7.1	24
15	2.7	1.5	2.7	2.4	2.5	4.1	6.7	7.6	8.4	10.7	11.6	14.5	12.8	16	10.7	12.1	8.1	8.1	6.9	6.2	4.4	3	3.1	2.2	16	7.0	24
16	2.8	2.1	2.6	3.2	2.1	2.4	4.2	6.4	6.6	13.3	13.3	7.3	8.1	7.8	9.7	10.6	14.5	17.9	9.9	13.1	11.6	5.5	3.3	3.1	18	7.6	24
17	2.6	4	5.4	3.4	2.2	2.6	3	3.9	8.3	7.4	8.1	8.2	4.3	10.6	5.6	6.2	5.7	5.6	5.4	8	4.6	12.7	17.7	6.6	18	6.3	24
18	8.7	9.5	12.5	9.6	5.8	6.9	7.6	7.5	12.8	12.8	14.7	15.2	14	16.6	17.1	16.6	16.1	14.3	6.2	6.2	4	3.8	6.6	7.6	17	10.5	24
19	7.6	9.5	11.3	9.2	8.8	6	7.6	6.1	9.5	10.2	15.3	21	17.5	18.8	21.3	20.1	20.2	16.9	17	10.9	7.2	7.1	6.4	7	21	12.2	24
20	5.2	6.6	7.1	9	10.4	10.5	12.8	12.7	12.1	15.1	13.6	14.4	12.5	14	12.7	10.8	13	13	13.9	8.4	4.4	4.6	3.4	4.2	15	10.2	24
21	3.7	3	2.7	3.5	1.9	2.5	4.5	5.4	6.4	6.2	8.6	8.4	8.6	8.9	6.6		6	6.6	5.2	2.7	2.4	2.9	2.2	1.8	9	4.8	23
22	1.8	1.2	2	3.2	3.4	1.6	2.9	3.2	5.3	5.1	11	10.7	13.3	14.1	13.9	16.7	14.4	13	11.7	6.4	5	5.5	7.7	8.5	17	7.6	24
23	7.7	9.1	9.9	9.5	10.6	10.1	11.5	17.5	21.9	23	26.3	20.2	22	18.9	20	17.5	14	14.8	15.8	12.9	9.7	13	12.2	12	26	15.0	24
24	11.8	11	6.6	9.7	13.2	8.8	10.3	17.1	17.6	15.1	12.3	12.6	13.4	16	16.7	12.5	10.5	10.9	10.5	11.5	9.7	5.9	14.2	6.6	18	11.9	24
25	8.8	10.8	10.3	5.6	6.9	7	8.5	11	17.9	16.4	14.3	17.8	16.7	14.4	13.8	13.4	16.5	13.9	12.5	10.7	4.9	4.8	2.8	4.8	18	11.0	24
26	5.1	5.8	5.5	6.4	4.2	5.7	**P**	**P**	6.8	8.5	10.3	10.8	8.7	7.9	8.8	7	10.4	17.1	11	9.4	3.4	3.1	6.7	6	17	7.7	22
27	7.1	7.4	7.3	4.7	7.5	5.6	7.4	5.5	6.5	5.5	6.2	12.6	10.2	13.5	11.1	14.4	20.6	13.6	10.1	10.7	4	3.8	2.6	3.9	21	8.4	24
28	5.9	7.3	5.8	5.6	4.5	2.6	6.7	10.9	4.2	4.3	5.8	8.3	9.3	10.2	8.4	11.1	8	8.6	4.8	2.7	2.1	2.3	2.2	3.7	11	6.1	24
29	5.5	2.5	2	2.5	2.8	2.4	3.7	7.8	8.2	10.3	13.9	16.3	15.6	17.2	18.4	16.4	15.9	11.4	8.6	6.7	5	4.8	3.9	2.6	18	8.5	24
30	9.2	5.8	3.9	3.5	2.8	3.6	7.6	13.5	12.7	11.5	10	13.4	14.6	14.6	15.5	17.5	15.1	11.8	8.3	7.1	5.6	2.7	1.3	3.8	18	9.0	24
31	3.8	3.4	3.9	4.8	6.1	4.4	12.6	7.8	6.3	7.3	6.8	11.2	12.7	8	7.2	10.7	8	7.7	3.7	8.3	3.6	13.8	15.2	11.4	15	7.9	24
HOURLY MAX	24	22	14	14	14	15	18	18	22	23	28	24	28	27	26	24	23	23	28	17	18	14	18	22			
HOURLY AVG	6.4	6.1	5.6	5.5	5.5	5.8	7.8	9.9	10.9	11.8	13.3	13.9	13.8	14.4	14.2	14.1	13.5	12.6	10.8	8.4	6.2	6.2	6.2	6.2			

STATUS FLAG CODES

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

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS VALUE:	28	KPH	@ HOUR(S)	10, 12	ON DAY(S)	3, 10
				VAR-VARIOUS		
OPERATIONAL TIME:					741	HRS



JOB #: 2833-14-07-01-C

LICA
WSP / WD Joint Frequency Distribution (Percent)

July 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	1.74	1.34	1.48	1.88	1.74	3.49	8.20	5.11	6.05	5.78	5.65	9.82	5.92	2.01	2.01	1.21	63.52
<	12.0	.67	.94	1.07	1.34	.67	.67	7.94	2.01	.67	.80	.26	1.61	4.03	3.63	1.74	1.34	29.47
<	20.0	.00	.00	.00	.00	.00	.00	1.74	.26	.00	.00	.00	.00	1.74	.00	.13	.00	3.90
<	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	2.42	2.28	2.55	3.23	2.42	4.17	17.90	7.40	6.72	6.59	5.92	11.44	11.70	5.65	3.90	2.55	

Calm : 3.09 %

Total # Operational Hours : 743

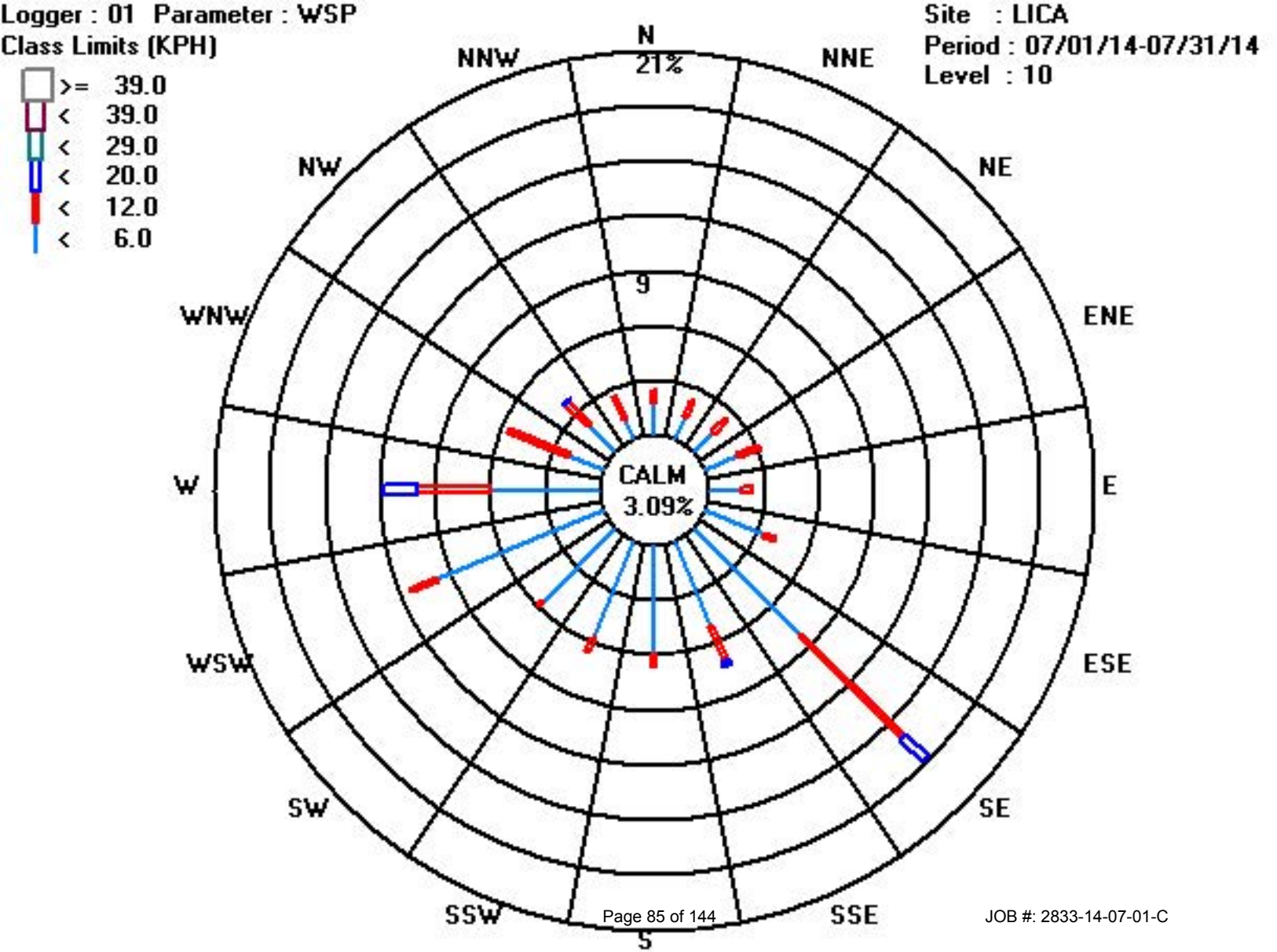
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	13	10	11	14	13	26	61	38	45	43	42	73	44	15	15	9	472
<	12.0	5	7	8	10	5	5	59	15	5	6	2	12	30	27	13	10	219
<	20.0							13	2					13		1		29
<	29.0																	
<	39.0																	
>=	39.0																	
	Totals	18	17	19	24	18	31	133	55	50	49	44	85	87	42	29	19	

Calm : 3.09 %

Total # Operational Hours : 743



JOB #: 2833-14-07-01-C

Vector Wind Direction

Lakeland Industry & Community Association - Cold Lake South Site

JULY 2014

WIND DIRECTION (WD) hourly averages in degrees

MST

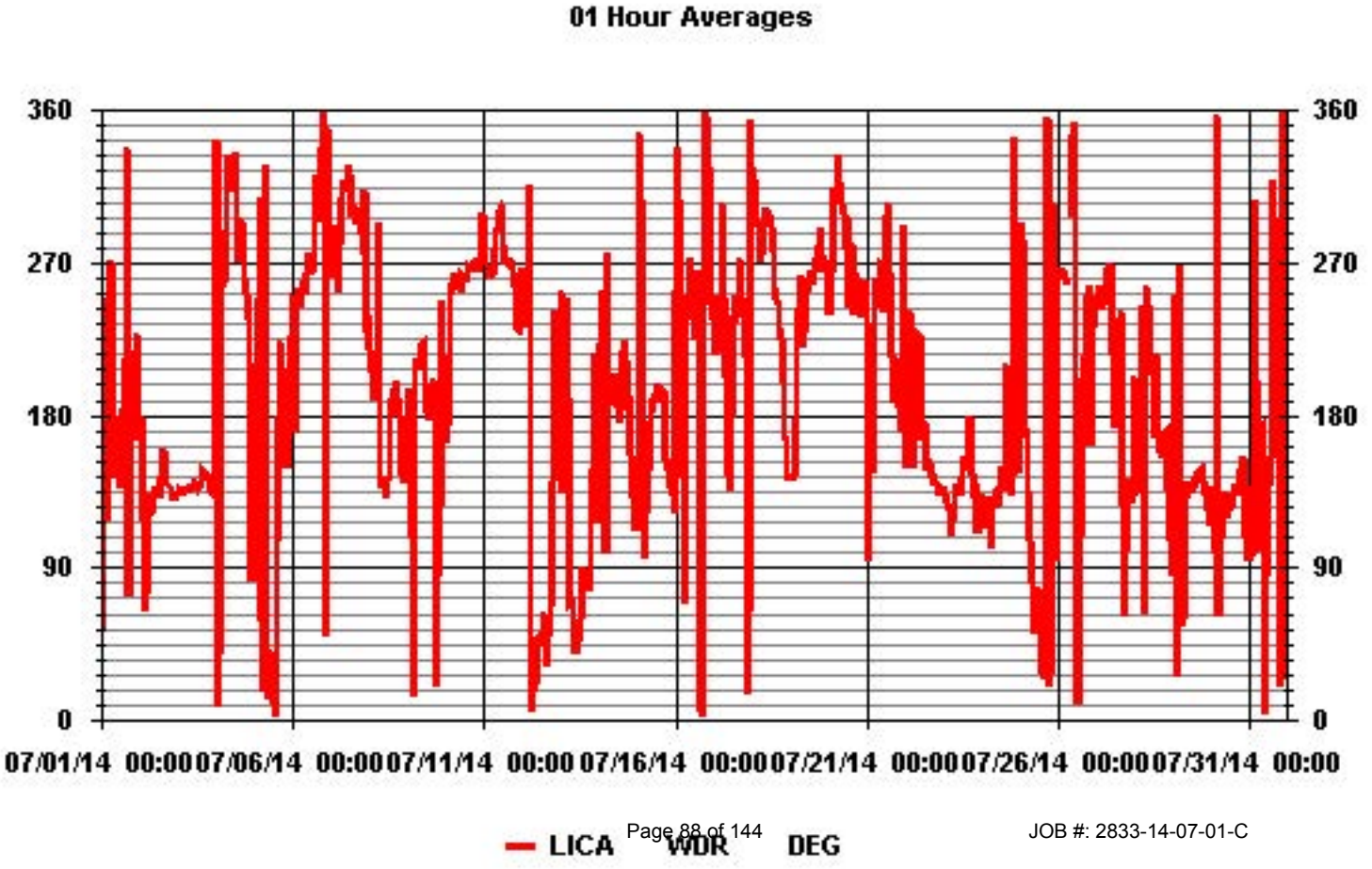
HOUR START / HOUR END	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	23:00 0:00	24-HOUR AVG.	24-HOUR AVG QUANDRANT	RDGS.
DAY																											
1	55	233	249	242	117	239	272	143	148	179	176	164	136	184	148	213	338	73	179	218	194	164	229	174	338	NNW	24
2	171	179	118	64	135	74	121	129	122	138	131	134	131	143	153	160	143	140	138	138	130	134	130	132	179	S	24
3	137	136	135	136	135	137	135	135	135	138	140	140	137	139	139	148	147	147	146	143	136	135	139	337	337	NNW	24
4	343	7	39	280	256	259	289	326	333	327	311	332	335	298	270	282	295	276	262	252	238	205	81	122	343	NNW	24
5	211	82	249	309	60	17	309	328	12	41	24	9	24	1	106	179	224	177	204	176	149	208	227	194	328	NNW	24
6	248	247	169	248	255	243	256	255	264	272	275	263	265	273	314	321	294	311	338	359	49	350	266	262	359	N	24
7	267	275	281	292	252	281	309	317	319	312	314	328	323	297	301	304	293	297	294	288	274	313	234	235	328	NNW	24
8	220	206	202	188	209	243	293	137	141	140	130	144	141	178	189	196	192	200	191	181	145	142	142	152	293	WNW	24
9	170	195	109	76	14	213	206	209	222	223	209	181	184	198	177	197	202	179	19	85	126	248	216	163	248	WSW	24
10	194	174	207	251	258	264	262	258	256	252	264	263	259	263	269	268	265	268	271	273	267	265	274	299	299	WNW	24
11	287	270	264	265	263	264	279	288	290	301	303	300	282	271	271	270	272	268	265	256	232	231	250	245	303	WNW	24
12	267	265	251	231	316	5	17	18	21	48	49	48	52	63	44	32	49	58	67	141	240	240	193	177	316	NW	24
13	253	134	247	161	249	192	69	70	53	41	41	47	59	66	90	78	80	76	87	148	139	216	116	144	253	WSW	24
14	222	196	253	218	98	276	185	199	198	187	205	196	186	175	183	218	224	213	193	158	157	132	111	129	276	W	24
15	111	347	308	122	95	122	135	147	176	181	189	192	194	199	187	193	196	154	151	152	147	138	134	122	347	NNW	24
16	254	338	309	142	206	69	182	243	250	273	246	237	224	237	265	4	48	2	359	357	344	328	246	237	359	N	24
17	220	216	251	235	241	306	251	204	196	146	135	178	239	235	251	240	273	250	239	214	243	15	64	355	355	N	24
18	328	320	318	296	292	270	274	292	303	291	301	299	292	277	257	249	246	232	226	201	166	166	142	144	328	NNW	24
19	143	143	145	178	227	243	263	219	233	229	253	260	264	264	257	269	268	280	285	291	275	264	271	260	291	WNW	24
20	239	249	264	315	307	314	333	319	305	299	278	298	245	245	282	239	260	263	262	250	238	258	241	260	333	NNW	24
21	236	93	151	150	187	256	261	244	269	268	241	298	288	305	265	215	187	215	209	188	185	172	170	292	305	WNW	24
22	148	155	153	241	223	149	175	220	228	227	165	167	176	147	155	152	145	145	138	141	132	137	138	138	241	WSW	24
23	137	134	129	125	109	119	119	132	138	138	137	144	147	156	153	158	180	155	146	135	136	111	113	119	180	S	24
24	133	125	113	124	132	118	101	130	125	136	126	138	150	135	150	211	190	151	132	144	344	289	146	151	344	NNW	24
25	278	294	284	174	167	136	107	82	72	51	62	79	72	49	29	24	349	356	20	27	306	267	94	230	356	N	24
26	261	266	262	266	262	259	**P**	298	345	341	353	24	9	68	108	201	215	161	251	257	215	161	232	242	353	N	23
27	250	257	252	242	246	257	267	245	268	268	217	172	206	237	233	241	128	61	100	140	139	140	127	203	268	W	24
28	135	136	150	173	146	244	62	256	242	242	205	204	166	216	202	158	169	154	170	171	137	106	116	84	256	WSW	24
29	250	212	25	239	269	56	60	124	131	140	134	138	140	138	140	146	142	148	149	142	134	125	115	138	269	W	24
30	134	135	98	358	62	66	107	133	135	123	119	125	126	134	132	139	133	141	148	145	155	107	140	94	358	N	24
31	103	100	98	307	202	99	120	173	174	3	84	117	138	155	319	210	256	294	297	19	215	359	24	41	359	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:	743	HRS
STANDARD DEVIATION:	81.48		AMD OPERATION UPTIME:	99.9	%
			MONTHLY AVERAGE:	206	DEG



JOB #: 2833-14-07-01-C

Standard Deviation Wind Direction

Lakeland Industry & Community Association - Cold Lake South Site

JULY 2014

STANDARD DEVIATION WIND DIRECTION (STDWD) hourly averages in degrees

MST

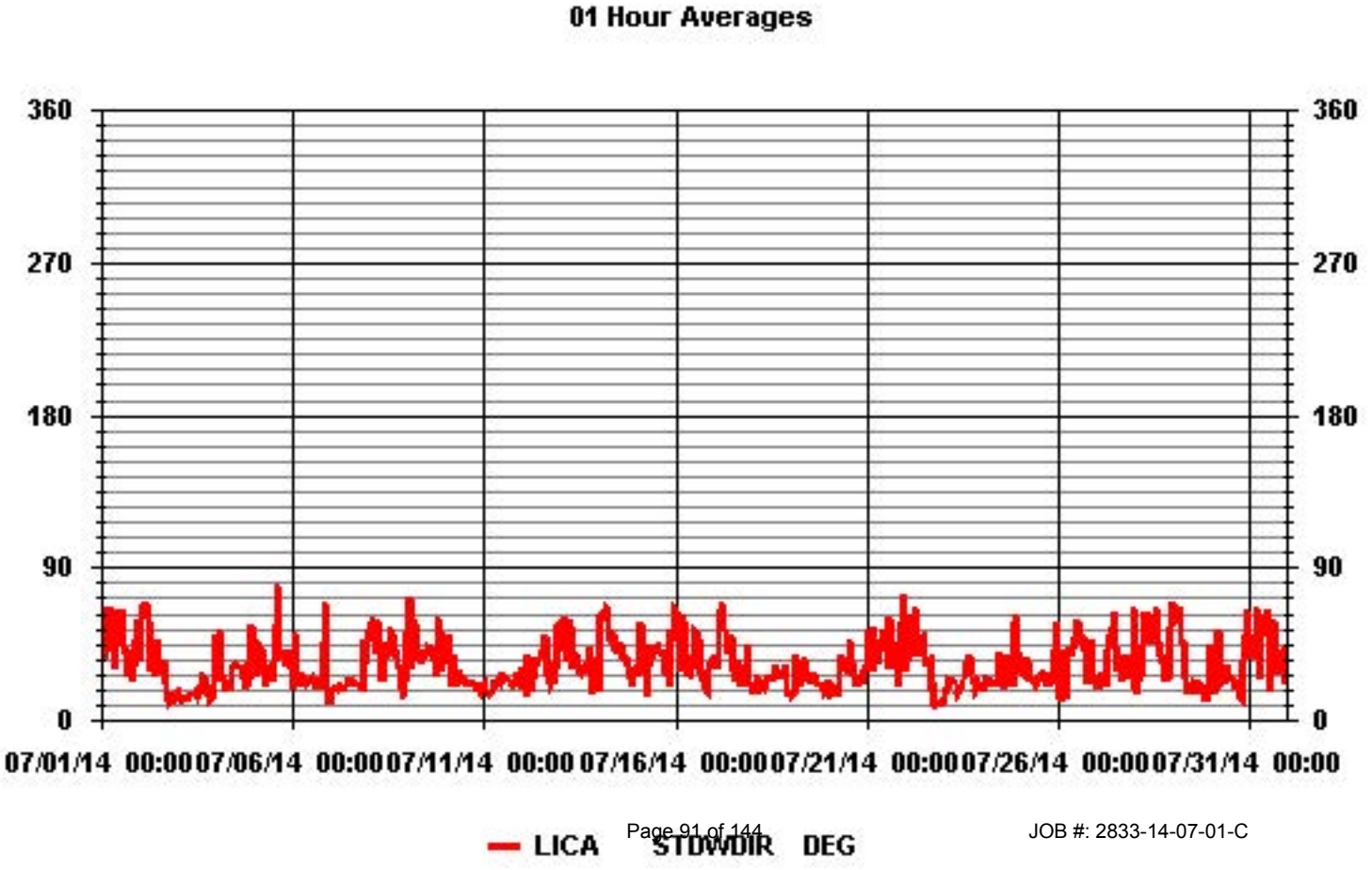
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00
DAY																								
1	49	67	36	41	46	50	66	55	30	53	44	54	64	64	41	41	41	25	42	22	32	47	57	60
2	34	64	68	60	70	66	59	29	31	25	42	47	29	27	34	36	22	13	10	11	16	14	16	17
3	13	13	12	13	13	13	13	15	15	15	15	17	14	16	17	28	26	20	20	16	12	13	14	50
4	25	26	53	27	24	17	22	22	22	21	31	32	34	33	30	33	26	26	23	19	34	24	56	53
5	25	47	29	41	34	43	29	20	33	30	25	23	34	56	80	51	41	39	38	31	42	40	33	31
6	18	52	36	30	19	26	24	26	25	22	23	23	25	23	22	18	23	18	25	46	70	25	18	10
7	15	18	19	20	19	21	21	18	18	20	23	23	24	24	22	22	22	21	21	20	17	48	33	47
8	53	58	61	55	39	60	41	33	22	38	38	46	37	55	52	45	43	38	31	31	19	13	22	52
9	54	72	30	43	60	57	35	39	34	36	41	38	43	42	43	41	41	36	25	61	41	28	46	33
10	49	48	51	26	20	39	30	28	25	27	25	23	24	23	21	21	21	22	21	19	19	17	20	20
11	22	19	16	15	16	18	22	22	24	24	27	24	26	25	25	24	22	22	21	23	28	26	23	25
12	31	20	13	38	23	17	26	26	37	31	36	40	40	47	50	27	24	21	23	34	21	30	56	57
13	50	45	40	61	34	60	56	30	36	40	35	30	28	30	29	29	29	34	43	15	35	36	35	17
14	38	62	63	59	67	66	47	53	46	41	50	40	40	44	44	38	36	39	33	26	20	29	31	26
15	33	52	58	31	46	28	13	32	45	36	42	43	44	39	41	40	42	29	28	27	20	54	46	66
16	65	58	46	29	63	51	58	28	28	27	30	39	53	52	49	27	31	24	20	17	16	31	33	37
17	39	30	37	62	61	69	54	53	39	42	47	50	30	22	28	35	33	19	24	30	25	44	20	22
18	17	17	17	26	21	19	20	19	23	27	25	25	25	27	33	30	28	26	26	27	31	31	16	16
19	14	15	16	39	33	30	20	32	31	37	26	25	28	25	28	22	24	22	22	21	18	16	17	16
20	24	20	19	19	16	16	19	29	39	34	34	31	27	47	36	26	28	22	20	25	25	21	29	33
21	52	52	41	29	55	42	33	46	45	44	53	51	51	30	61	54	47	35	31	19	44	58	61	74
22	29	38	34	62	55	37	66	46	37	43	48	49	39	31	35	36	16	24	10	9	10	11	12	11
23	13	15	19	24	23	24	24	22	15	16	18	21	24	31	30	32	39	27	22	16	17	24	23	22
24	17	21	26	23	20	24	24	21	24	20	24	40	32	18	29	35	38	33	28	19	57	63	41	27
25	31	29	31	31	37	35	25	24	24	22	25	24	24	27	28	26	22	21	21	26	25	42	37	58
26	39	14	11	27	41	14	**P**	42	38	42	47	47	59	47	45	51	42	39	23	23	37	48	28	23
27	20	18	22	28	25	19	31	42	50	54	51	64	44	29	39	37	22	31	30	39	31	24	35	67
28	20	15	23	31	25	45	63	60	64	59	45	54	47	66	60	47	39	35	33	22	31	24	55	70
29	57	59	68	59	66	46	46	25	22	15	21	20	22	20	15	23	18	22	16	11	15	14	18	45
30	18	15	35	41	54	36	23	24	22	28	32	28	26	24	22	19	23	18	14	13	36	50	65	51
31	49	36	40	43	67	61	24	49	57	62	55	65	17	47	58	58	40	29	27	39	40	33	21	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: November 28, 2012

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 743 HRS



JOB #: 2833-14-07-01-C

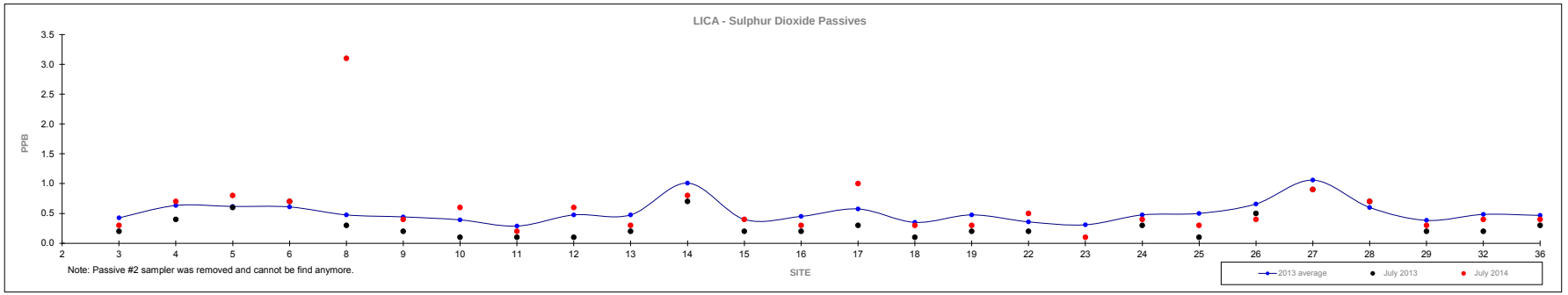
Non-Continuous Monitoring

Passive Summary Results for July 2014

Lakeland Industry & Community Association

Sulphur Dioxide
ppb

	2013																									July 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	0.6	-
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	3.1	#8



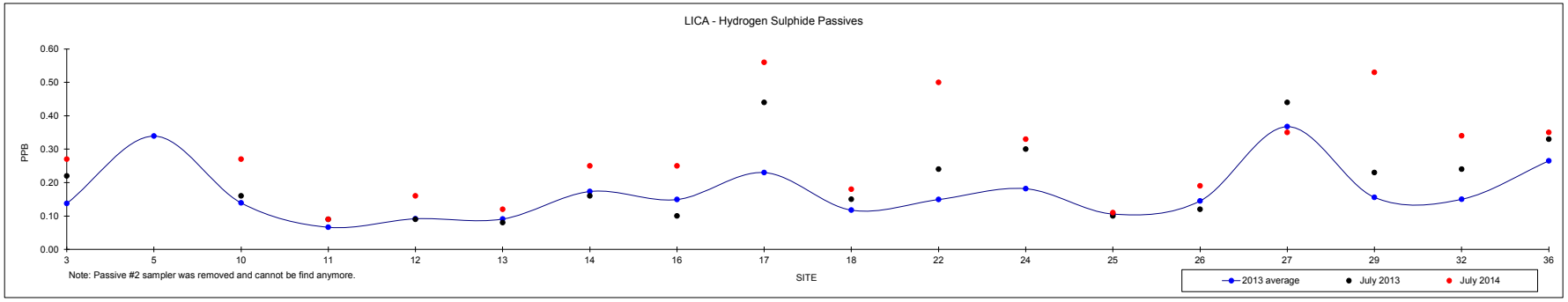
Note: Passive #2 sampler was removed and cannot be find anymore.

Passive Summary Results for July 2014

Lakeland Industry & Community Association

Hydrogen Sulphide
ppb

	2013																		July 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	0.31	-
Minimum	0.05	0.07	0.06	0.04	0.02	0.02	0.05	0.07	0.11	0.04	0.04	0.06	0.03	0.06	0.04	0.05	0.05	0.07	0.09	#11
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	0.67	#5



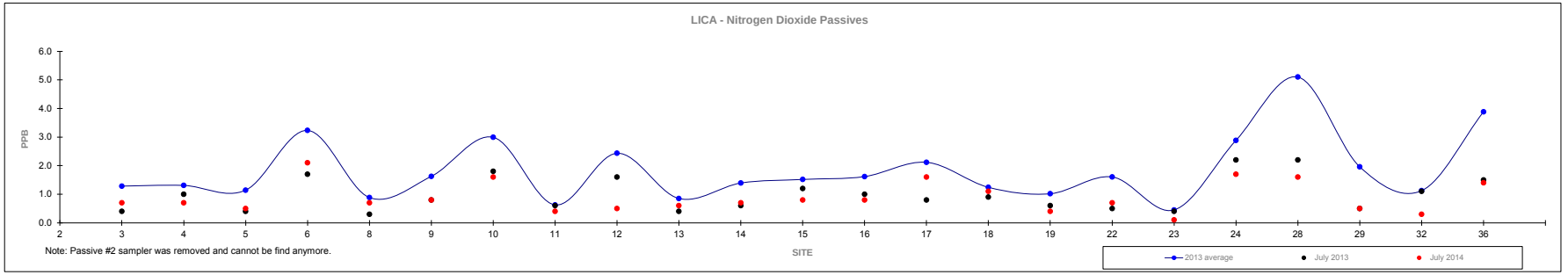
JOB #: 2833-14-07-01-C

Passive Summary Results for July 2014

Lakeland Industry & Community Association

Nitrogen Dioxide
ppb

	2013																							July 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	0.9	-
Minimum	NA	0.2	0.2	0.1	1.5	0.1	0.3	0.8	0.1	0.6	0.1	0.3	0.2	0.4	0.8	0.2	0.1	0.4	0.1	0.9	1.2	0.5	0.2	1.4	0.1	#23
Maximum	NA	3.7	2.8	3.4	7.1	2.0	4.0	6.7	1.5	4.7	1.9	3.4	4.9	3.9	4.9	2.8	3.1	4.3	1.0	5.7	11.6	4.7	2.6	8.1	2.1	#6



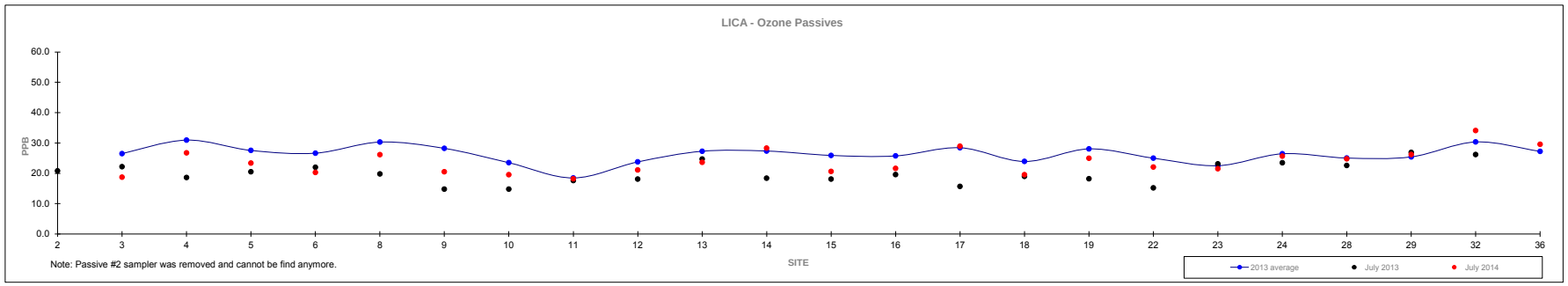
Note: Passive #2 sampler was removed and cannot be find anymore.

Passive Summary Results for July 2014

Lakeland Industry & Community Association

Ozone
ppb

	2013																							July 2014	
	2	**3**	**4**	**5**	**6**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**22**	**23**	**24**	**28**	**29**	**32**	**36**	**Reading**	**Site**
Mean	NA	26.5	31.0	27.6	26.7	30.3	28.2	23.5	18.5	23.8	27.3	27.4	25.9	25.7	28.4	23.9	28.1	25.0	22.5	26.5	25.0	25.4	30.3	27.2	23.75	-
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	18.21	#11
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	34.10	#32



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

Calibration Reports

Sulphur Dioxide

Thermo 43i SO2 Analyzer Calibration

Date:	8-Jul-14	**Start/End Time (mst):**	11:44/14:18
Company:	LICA	**Calibration Purpose:**	Monthly Calibration
Station Name/Location:	Cold Lake South	**Converter Make & Model:**	NA
Performed by:	Kevin Hope	**Converter Serial #:**	NA
Application H_2S/TRS/SO_2:	SO2	**Cal Gas Expiry Date:**	4-Feb-18

Analyzer:

Serial Number:	AMU1771	**Range ppb:**	500
Last Calibration Date:	13-Jun-14	**As Found C.F.**	1.046
Previous Cal High Point C.F.:	0.999	**New C.F.:**	0.999

		As found:		**As left:**
	BKG:	6.8	BKG:	6.7
	COEF:	1.066	COEF:	1.111
MOTHERBOARD:	3.3	3.3	3.3	3.3
	5.0	5.0	5.0	5.0
	15.0	15.0	15.0	15.0
	24.0	24.0	24.0	23.9
	-3.3	-3.2	-3.3	-3.2
INTERFACE BOARD:	PMT:	-632.3	PMT:	-632.3
	FLASH:	713	FLASH:	713
	3.3	3.3	3.3	3.3
	5.0	5.0	5.0	5.0
	15.0	14.8	15.0	14.8
	-15.0	-15.1	-15.0	-15.1
	24.0	23.7	24.0	23.7
	INTERNAL:	27.2	INTERNAL:	30.0
	CHAMBER:	45.2	CHAMBER:	45.2
	PERM OVEN GAS:	45.00	PERM OVEN GAS:	45.00
	PERM OVEN HEATER:	44.19	PERM OVEN HEATER:	44.20
	PRESSURE:	679.2	PRESSURE:	679.5
	SAMPLE FLOW:	0.449	SAMPLE FLOW:	0.450
	LAMP INTENSITY:	76	LAMP INTENSITY:	76
	CONVERTER:	NA	CONVERTER:	NA
	CONVERTER SET:	NA	CONVERTER SET:	NA
	Internal Span:	376.2	Internal Span:	387.9

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	40	5040
mid	5000	20	5020
low	5000	11	5011

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	4990	0.0	4990	0	0.2	NA
adjusted zero	4993	0.0	4993	0	0.2	NA
as found high	4994	37.85	5032	362.6	347.0	1.046
adjusted high	4994	37.85	5032	362.6	364.0	0.997
mid	4997	17.98	5015	172.8	173.0	1.000
low	4994	7.97	5002	76.8	77.0	1.000
calibrator zero	4996	0.00	4996	0	0.4	NA
					Average C.F.=	0.999

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)=	**0.00%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**-4.65%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

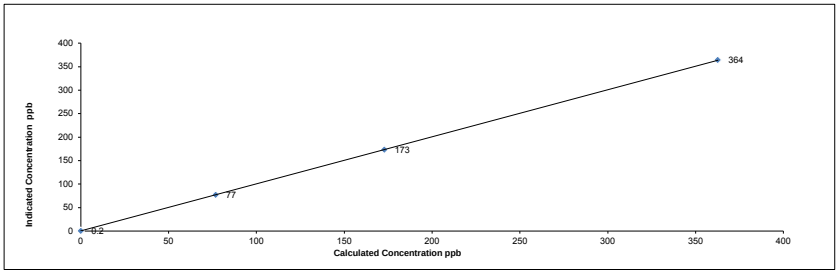
****run converter effeciency test immediately following zero adjust****

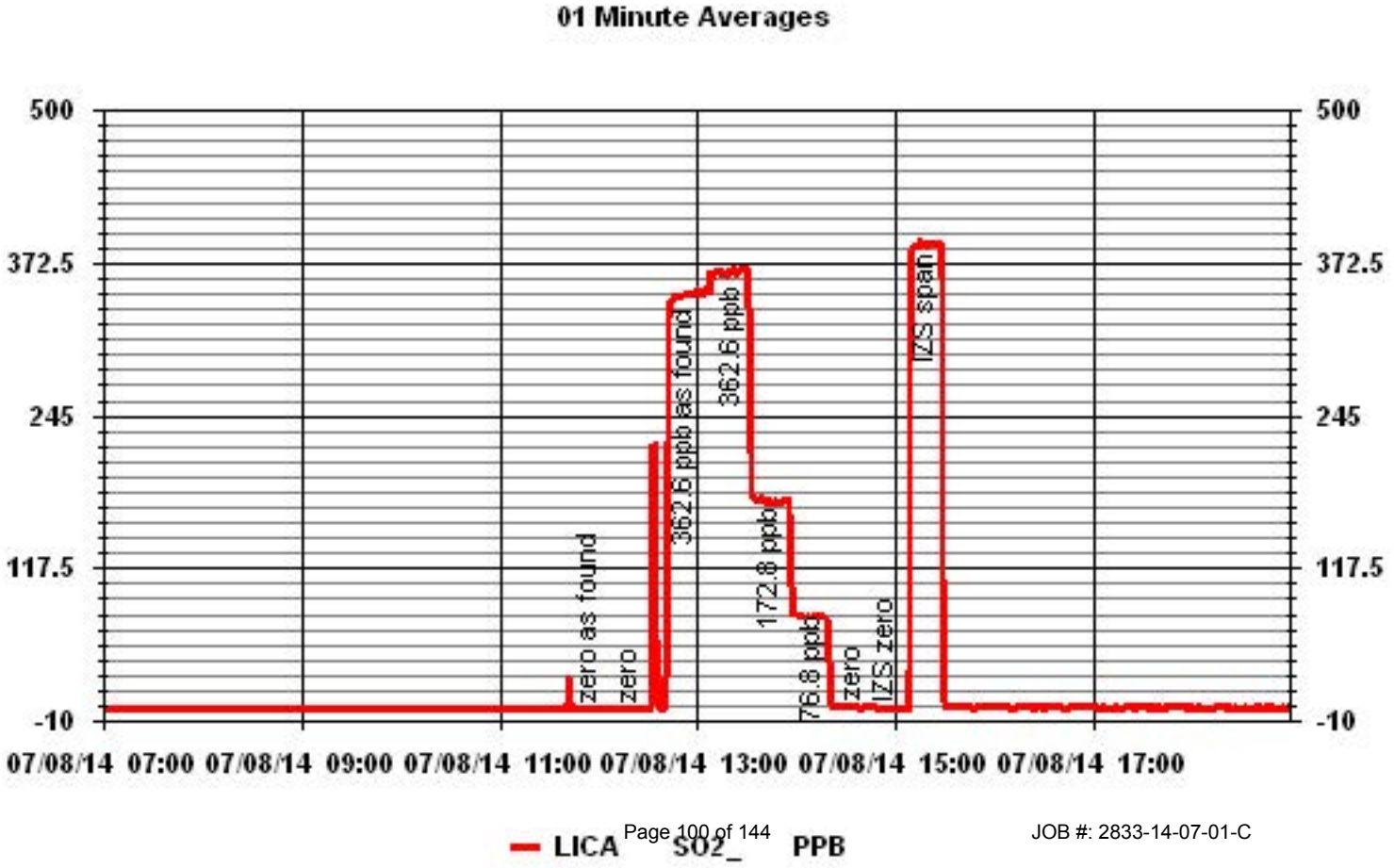
SO_2 High Point gas concentration:	NA	Time gas run (mst):	NA
Zero corrrected analyzer response:	NA		

Comments:

Sample filter changed.

Thermo 43i SO2 Analyzer Calibration





JOB #: 2833-14-07-01-C

Thermo 43i SO2 Analyzer Calibration

Date:	23-Jul-14	**Start/End Time (mst):**	8:10/10:22
Company:	LICA	**Calibration Purpose:**	Monthly Calibration
Station Name/Location:	Cold Lake South	**Converter Make & Model:**	NA
Performed by:	Kevin Hope	**Converter Serial #:**	NA
Application H_2S/TRS/SO_2:	SO2	**Cal Gas Expiry Date:**	4-Feb-18

Analyzer:

Serial Number:	AMU 1771		**Range ppb:**	500
Last Calibration Date:	8-Jul-14		**As Found C.F.**	1.005
Previous Cal High Point C.F.:	0.997		**New C.F.:**	1.002

		As found:	**As left:**
	BKG:	6.8	7.0
	COEF:	1.111	1.110
MOTHERBOARD:	3.3	3.3	3.3
	5.0	5.0	5.0
	15.0	15.0	15.0
	24.0	24.0	24.0
	-3.3	-3.2	-3.2
INTERFACE BOARD:	PMT:	-632.3	-632.3
	FLASH:	713	712
	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	23.7	23.7
	INTERNAL:	26.4	30.1
	CHAMBER:	45.0	45.3
	PERM OVEN GAS:	45.00	45.00
	PERM OVEN HEATER:	44.18	44.20
	PRESSURE:	681.9	679.5
	SAMPLE FLOW:	0.451	0.451
	LAMP INTENSITY:	76	76
	CONVERTER:	NA	NA
	CONVERTER SET:	NA	NA
	Internal Span:	387.9	385.7

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	4993	0	4993
high	4957	38	4995
mid	4975	190	5165
low	4990	95	5085

Calibration:

Calibrator Flow Rates (cc/min)				**Calculated Concentration:**	**Indicated Concentration:**	**Correction Factors:**
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	4993	0.0	4993	0	0.3	NA
adjusted zero	4995	0.0	4995	0	-0.1	NA
as found high	4957	37.80	4995	364.8	363.0	1.005
adjusted high	4957	37.80	4995	364.8	365.0	0.999
mid	4975	18.92	4994	182.6	182.0	1.003
low	4986	9.48	4995	91.5	91.0	1.004
calibrator zero	4995	0.00	4995	0	0.0	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)=	**0.08%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**-0.76%**	**± 15%**	**PASS**

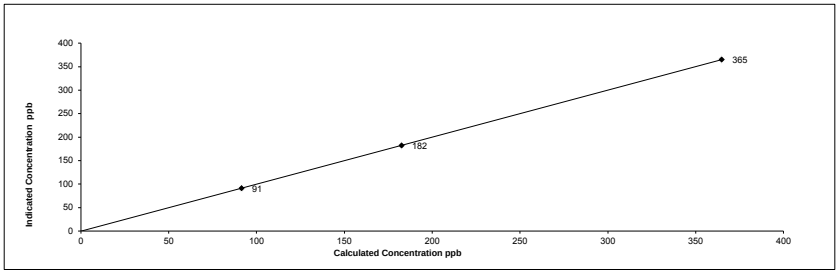
Converter Effeciency Check for H_2S/TRS application:

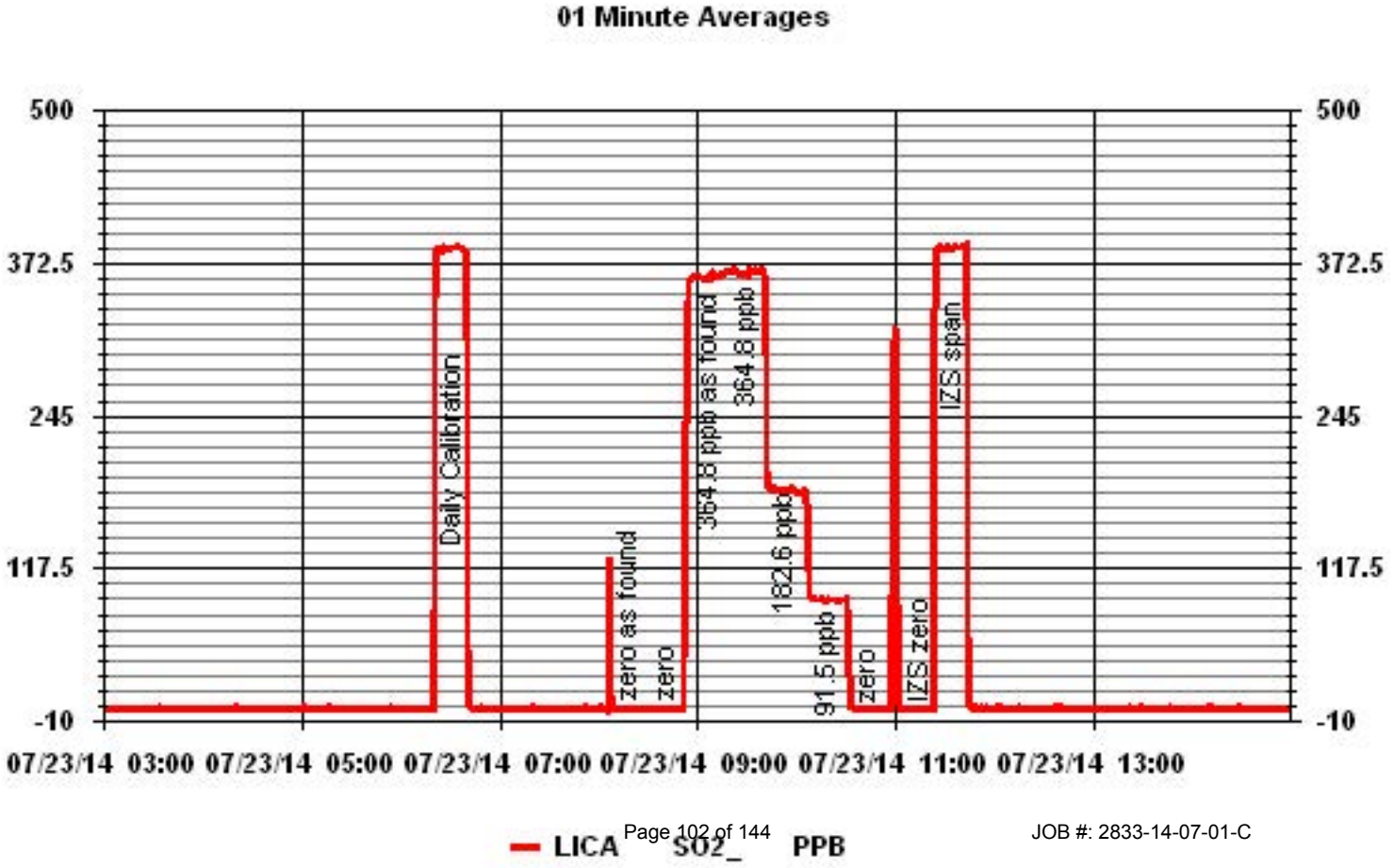
****run converter effeciency test immediately following zero adjust****

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

Comments:

Thermo 43i SO2 Analyzer Calibration





JOB #: 2833-14-07-01-C

Total Reduced Sulphur

Thermo 450i TRS Analyzer Calibration

Date:	8-Jul-14	**Start/End Time (mst):**	11:44/14:41
Company:	LICA	**Calibration Purpose:**	Monthly Calibration
Station Name/Location:	Cold Lake South	**Converter Make & Model:**	Thermo CND-101
Performed by:	Kevin Hope	**Converter Serial #:**	501
Application H_2S/TRS/SO_2:	TRS	**Cal Gas Expiry Date:**	25-Dec-15

Analyzer:

Serial Number:	812728560	**Range ppb:**	100	
Last Calibration Date:	9-Jun-14	**As Found C.F.**	1.019	
Previous Cal High Point C.F.:	0.996	**New C.F.:**	1.008	

		As found:		**As left:**
	BKG:	13.5	BKG:	13.4
	COEF:	0.973	COEF:	0.976
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:	-651.2	PMT:	-650.8
	FLASH:	740	FLASH:	743
	3.3	3.2	3.3	3.2
	5.0	5.0	5.0	5.0
	15.0	14.7	15.0	14.7
	-15.0	-15.0	-15.0	-15.0
	24.0	23.4	24.0	23.4
	INTERNAL:	31.2	INTERNAL:	33.7
	CHAMBER:	44.9	CHAMBER:	44.9
	CONVERTER TEMP:	327.3	CONVERTER TEMP:	325.7
	CONVERTER SET:	325.0	CONVERTER SET:	325.0
	PERM OVEN GAS:	45.00	PERM OVEN GAS:	45.00
	PERM OVEN HTR:	44.38	PERM OVEN HTR:	44.37
	PRESSURE:	657.5	PRESSURE:	655.7
	SAMPLE FLOW:	0.510	SAMPLE FLOW:	0.510
	LAMP INTENSITY:	92	LAMP INTENSITY:	91
	Internal Span:	38.99	Internal Span:	37.81

Calibrator:

Flow Meter ID's:	NA
Make & Model:	API 700
Serial #:	830
Cal Gas Cylinder I.D. # :	BLM005049
Cal Gas Conc. (ppm):	10.1

Calibrator Flow Targets:

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

Calibration:

Calibrator Flow Rates (cc/min)				**Calculated Concentration:**	**Indicated Concentration:**	**Correction Factors:**
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	5000	0.0	5000	0	0.0	NA
adjusted zero	5000	0.0	5000	0	0.0	NA
as found high	5000	38.60	5039	77.4	76.0	1.019
adjusted high	5000	38.60	5039	77.4	77.7	0.996
mid	5000	18.80	5019	37.8	37.5	1.010
low	5000	8.90	5009	17.9	17.7	1.016
calibrator zero	5000	0.00	5000	0	0.1	NA
					Average C.F.=	1.008

Linear Regression/Calibration Results:

		LIMITS	**Pass/Fail ?**
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**0.995**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**0.20%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**-2.27%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

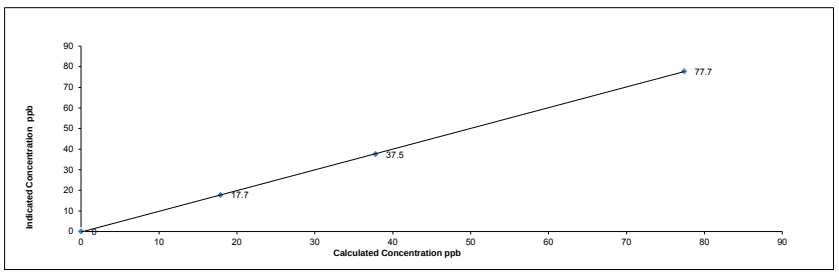
****run converter effeciency test immediately following zero adjust****

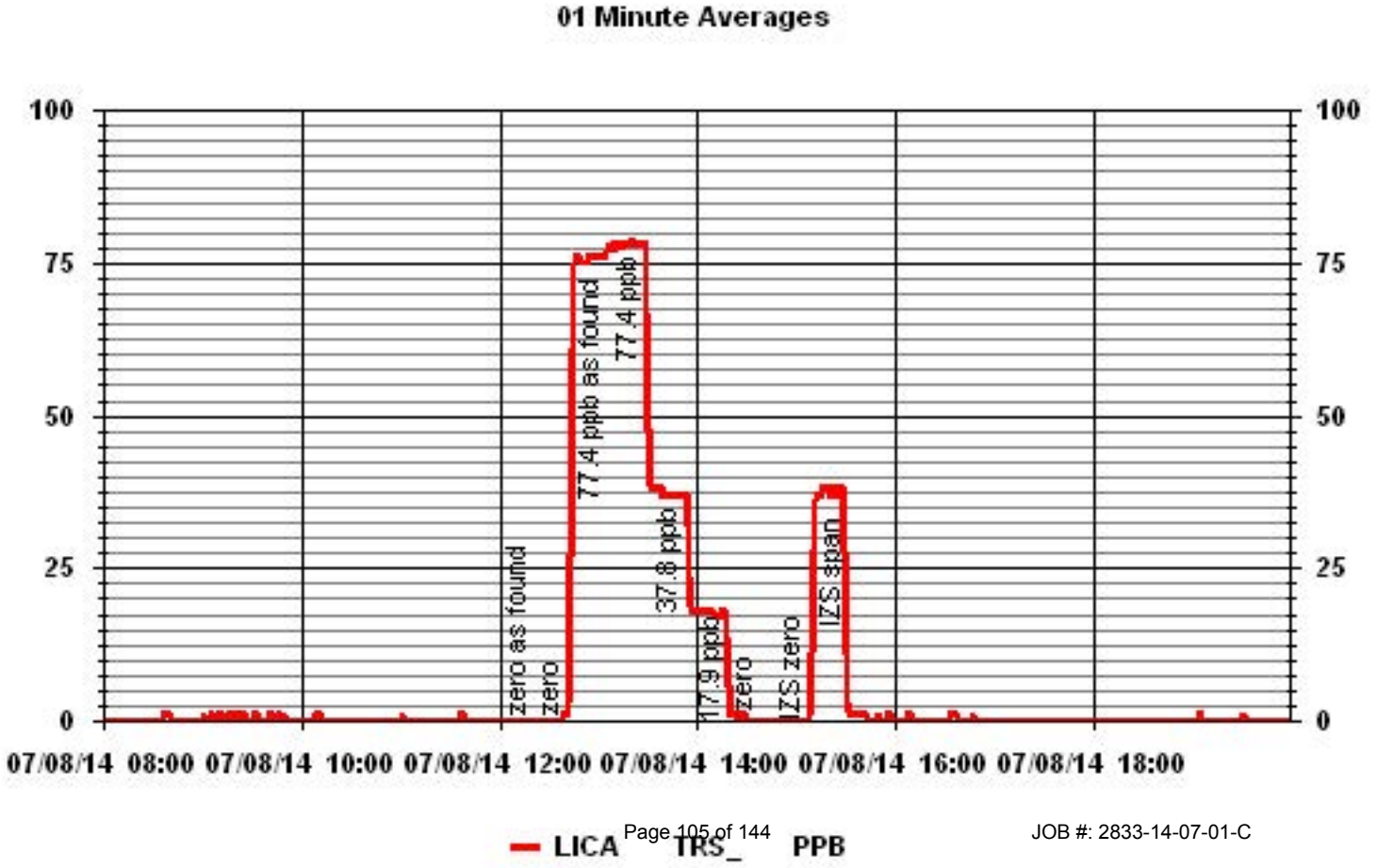
SO_2 High Point gas concentration:	NA	Time gas run (mst):	NA
Zero corrrected analyzer response:	NA		

Comments:

Sample filter changed.

Thermo 450i TRS Analyzer Calibration





JOB #: 2833-14-07-01-C

Maxxam Thermo 450i TRS Analyzer Calibration

Date:	23-Jul-14	**Start/End Time (mst):**	8:07/10:22
Company:	LICA	**Calibration Purpose:**	Monthly Calibration
Station Name/Location:	Cold Lake South	**Converter Make & Model:**	Thermo CND-101
Performed by:	Kevin Hope	**Converter Serial #:**	501
Application H_2S/TRS/SO_2:	TRS	**Cal Gas Expiry Date:**	25-Dec-15

Analyzer:

Serial Number:	812728560		**Range ppb:**	100
Last Calibration Date:	8-Jul-14		**As Found C.F.**	0.986
Previous Cal High Point C.F.:	0.996		**New C.F.:**	0.997

		As found:	**As left:**
	BKG:	13.4	12.9
	COEF:	0.976	0.938
MOTHERBOARD:	3.3	3.3	3.3
	5.0	5.0	5.0
	15.0	15.0	15.0
	24.0	23.9	24.0
	-3.3	-3.2	-3.2
INTERFACE BOARD:	PMT:	-651.2	-650.8
	FLASH:	737	742
	3.3	3.2	3.2
	5.0	5.0	5.0
	15.0	14.7	14.6
	-15.0	-15	-15.0
	24.0	23.4	23.4
	INTERNAL:	30.3	33.7
	CHAMBER:	44.9	45.2
	CONVERTER TEMP:	326.8	327.5
	CONVERTER SET:	325.0	325.0
	PERM OVEN GAS:	44.99	45.01
	PERM OVEN HTR:	44.38	44.38
	PRESSURE:	659.3	657.8
	SAMPLE FLOW:	0.512	0.511
	LAMP INTENSITY:	92	92
	Internal Span:	37.81	36.61

Calibrator:

Flow Meter ID's:	NA
Make & Model:	API 700
Serial #:	830
Cal Gas Cylinder I.D. # :	BLM005049
Cal Gas Conc. (ppm):	10.1

Calibrator Flow Targets:

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

Calibration:

Calibrator Flow Rates (cc/min)				**Calculated Concentration:**	**Indicated Concentration:**	**Correction Factors:**
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	5000	0.0	5000	0	-0.1	NA
adjusted zero	5000	0.0	5000	0	-0.1	NA
as found high	4959	38.60	4998	78.0	79.0	0.986
adjusted high	4959	38.60	4998	78.0	78.0	0.999
mid	4980	18.80	4999	38.0	38.0	0.997
low	4990	10.90	5001	22.0	22.0	0.996
calibrator zero	5000	0.00	5000	0	0.0	NA
					Average C.F.=	0.997

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)=	**0.06%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**0.98%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

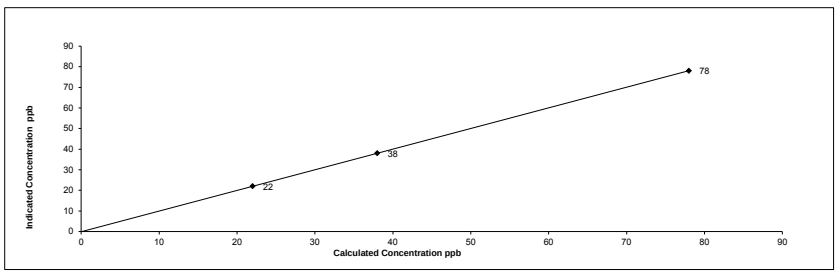
****run converter effeciency test immediately following zero adjust****

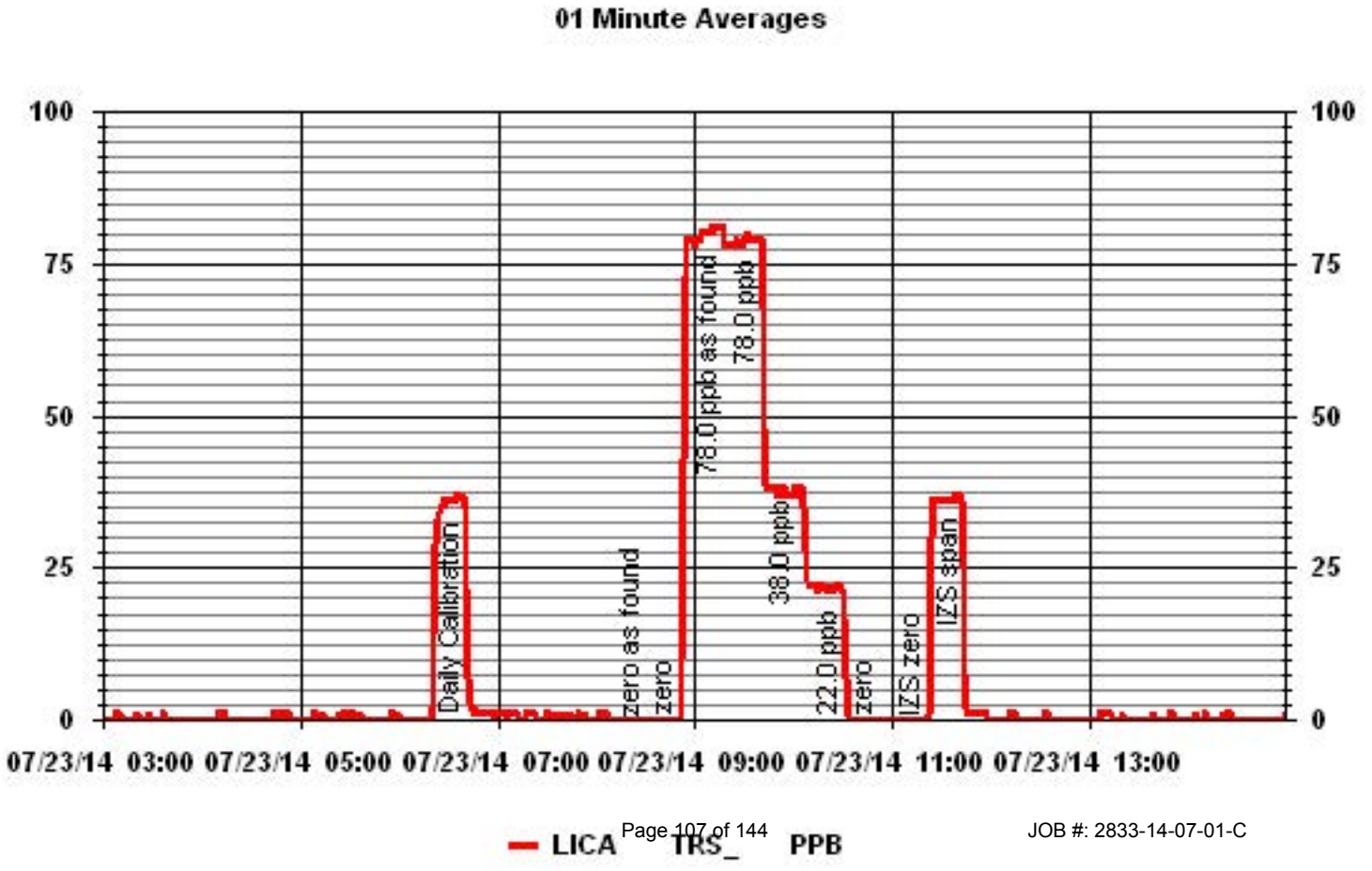
SO_2 High Point gas concentration: 200 PPB Time gas run (mst):

Zero corrrected analyzer response: 1.4

Comments:

Thermo 450i TRS Analyzer Calibration





JOB #: 2833-14-07-01-C

Thermo 450i TRS Analyzer Calibration

Date:	25-Jul-14	**Start/End Time (mst):**	9:15/12:00
Company:	LICA	**Calibration Purpose:**	As Found
Station Name/Location:	Cold Lake South	**Converter Make & Model:**	Thermo CND-101
Performed by:	Kevin Hope	**Converter Serial #:**	501
Application H_2S/TRS/SO_2:	TRS	**Cal Gas Expiry Date:**	25-Dec-15

Analyzer:

Serial Number:	812728560	**Range ppb:**	100
Last Calibration Date:	23-Jul-14	**As Found C.F.**	1.115
Previous Cal High Point C.F.:	0.999	**New C.F.:**	#VALUE!

		As found:	**As left:**
	BKG:	13.1	13.1
	COEF:	0.938	0.938
MOTHERBOARD:	3.3	3.3	3.3
	5.0	5.0	5.0
	15.0	15.0	15.0
	24.0	24.0	24.0
	-3.3	-3.2	-3.3
INTERFACE BOARD:	PMT:	-650.8	-650.8
	FLASH:	739	739
	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:	29.9	29.9
	CHAMBER:	45.0	45.0
	CONVERTER TEMP:	327.5	327.5
	CONVERTER SET:	325.0	325.0
	PERM OVEN GAS:	45.00	45.00
	PERM OVEN HTR:	44.38	44.38
	PRESSURE:	646.5	646.5
	SAMPLE FLOW:	0.505	0.505
	LAMP INTENSITY:	93	93
	Internal Span:	36.61	36.61

Calibrator:

Flow Meter ID's:	NA
Make & Model:	API 700
Serial #:	830
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	4958	39	4997
mid	NA	NA	#VALUE!
low	NA	NA	#VALUE!

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	5000	0.0	5000	0	-0.1	NA
adjusted zero	NA	0.0	######	0		NA
as found high	4958	38.60	4997	78.0	70.0	1.115
adjusted high	NA	NA	######	#VALUE!		#VALUE!
mid	NA	NA	######	#VALUE!		#VALUE!
low						
calibrator zero						NA
					Average C.F.=	#VALUE!

Linear Regression/Calibration Results:

		LIMITS	Pass/Fail ?
Correlation Coeffecient =	#DIV/0!	> or = 0.995	#DIV/0!
Slope =	#DIV/0!	0.85-1.15	#DIV/0!
b (Intercept as % of full scale)=	#DIV/0!	± 3% F.S.	#DIV/0!
% change in C.F. from last cal	-11.57%	± 15%	PASS

Converter Effeciency Check for H_2S/TRS application:

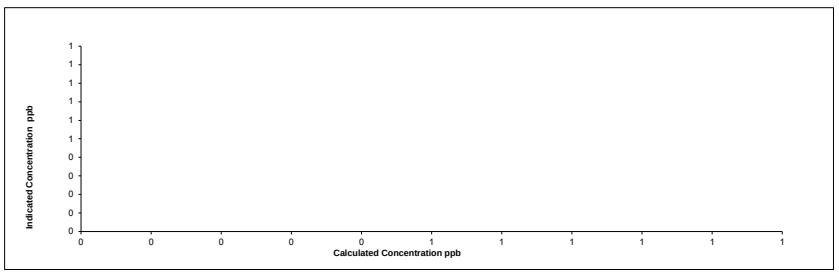
****run converter effeciency test immediately following zero adjust****

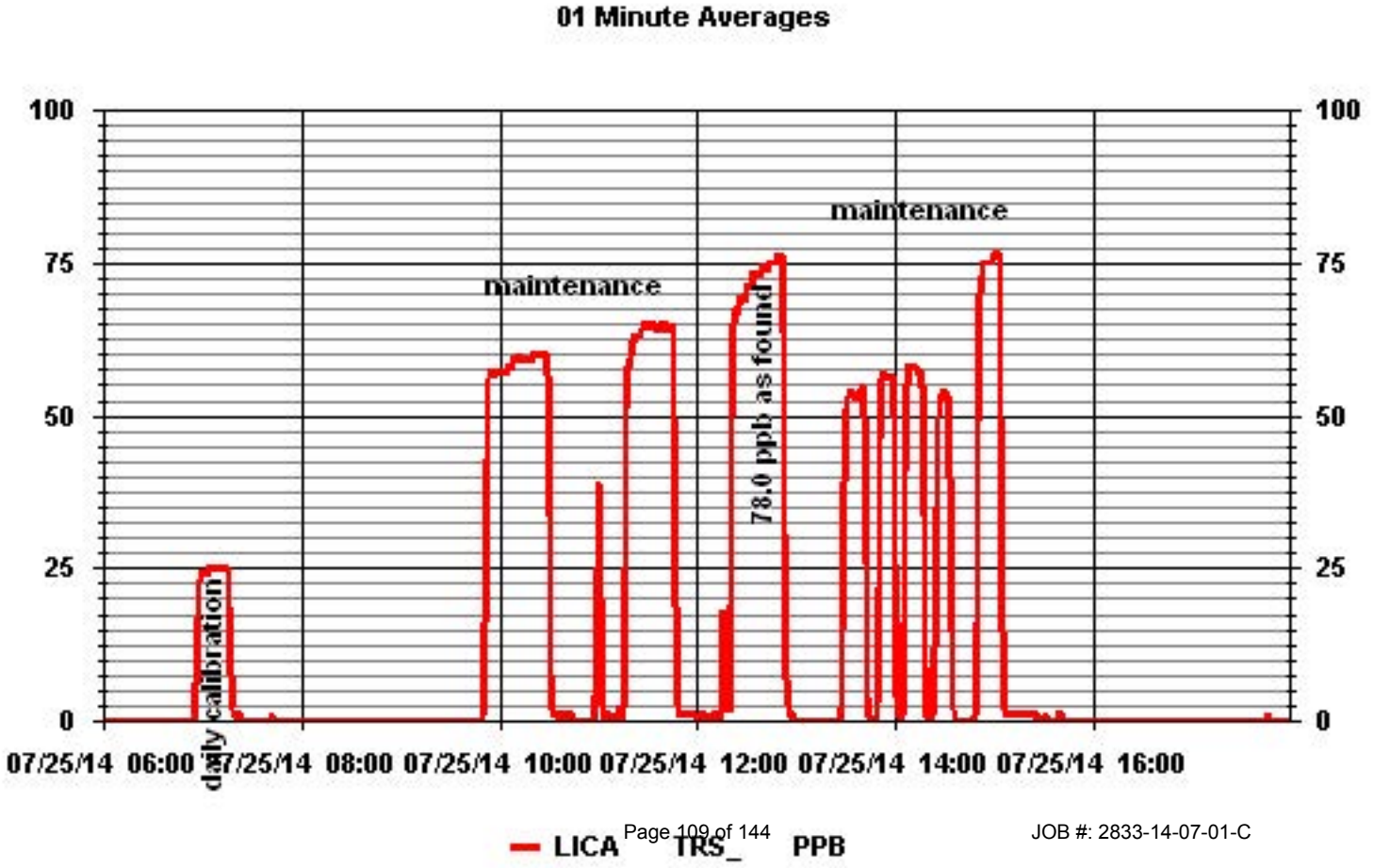
SO_2 High Point gas concentration:	NA	Time gas run (mst):	NA
Zero corrrected analyzer response:	NA		

Comments:

Found that as found high was low. Switched calibration tubing and tried 2nd as found high. Similar result. Tried bypassing scrubber and got good result. Renewed scrubber and re-installed.

Thermo 450i TRS Analyzer Calibration





JOB #: 2833-14-07-01-C

Thermo 450i TRS Analyzer Calibration

Date:	26-Jul-14	**Start/End Time (mst):**	8:09/10:29
Company:	LICA	**Calibration Purpose:**	Post Repair
Station Name/Location:	Cold Lake South	**Converter Make & Model:**	Thermo CND-101
Performed by:	Kevin Hope	**Converter Serial #:**	501
Application H_2S/TRS/SO_2:	TRS	**Cal Gas Expiry Date:**	25-Dec-15

Analyzer:

Serial Number:	812728560	**Range ppb:**	100
Last Calibration Date:	23-Jul-14	**As Found C.F.**	#VALUE!
Previous Cal High Point C.F.:	0.999	**New C.F.:**	1.005

		As found:	**As left:**
	BKG:	13.0	12.9
	COEF:	0.938	0.932
MOTHERBOARD:	3.3	3.3	3.3
	5.0	5.0	5.0
	15.0	15.0	15.0
	24.0	24.0	24.0
	-3.3	-3.2	-3.3
INTERFACE BOARD:	PMT:	-650.8	-650.8
	FLASH:	740	740
	3.3	3.2	3.2
	5.0	5.0	5.0
	15.0	14.7	15.0
	-15.0	-15.0	-15.0
	24.0	23.8	24.0
	INTERNAL:	29.9	29.9
	CHAMBER:	44.9	44.9
	CONVERTER TEMP:	327.5	327.5
	CONVERTER SET:	325.0	325.0
	PERM OVEN GAS:	45.05	45.05
	PERM OVEN HTR:	44.18	44.18
	PRESSURE:	656.9	656.9
	SAMPLE FLOW:	0.509	0.509
	LAMP INTENSITY:	91	91
	Internal Span:	36.61	36.61

Calibrator:

Flow Meter ID's:	NA
Make & Model:	API 700
Serial #:	830
Cal Gas Cylinder I.D. # :	BLM005049
Cal Gas Conc. (ppm):	10.1

Calibrator Flow Targets:

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

Calibration:

Calibrator Flow Rates (cc/min)				**Calculated Concentration:**	**Indicated Concentration:**	**Correction Factors:**
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	NA	0.0	######	0		NA
adjusted zero	5000	0.0	5000	0	0.1	NA
as found high	NA	NA	######	#VALUE!		#VALUE!
adjusted high	4959	38.60	4998	78.0	78.0	1.001
mid	4980	18.80	4999	38.0	37.8	1.008
low	4990	10.90	5001	22.0	22.0	1.005
calibrator zero	5000	0.00	5000	0	0.1	NA
					Average C.F.=	1.005

Linear Regression/Calibration Results:

		LIMITS	**Pass/Fail ?**
Correlation Coeffecient =	**#DIV/0!**	**> or = 0.995**	**#DIV/0!**
Slope =	**#DIV/0!**	**0.85-1.15**	**#DIV/0!**
b (Intercept as % of full scale)=	**#DIV/0!**	**± 3% F.S.**	**#DIV/0!**
% change in C.F. from last cal	**#VALUE!**	**± 15%**	**######**

Converter Effeciency Check for H_2S/TRS application:

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

SO_2 High Point gas concentration: NA

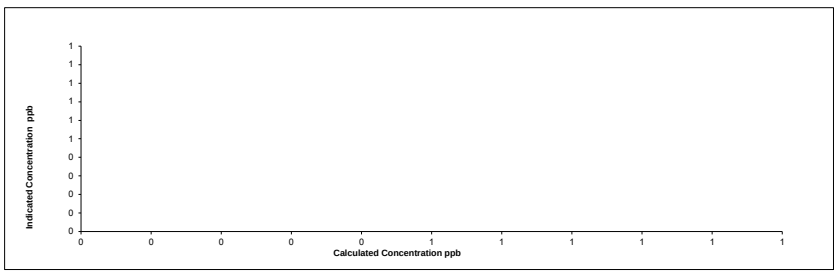
Time gas run (mst): NA

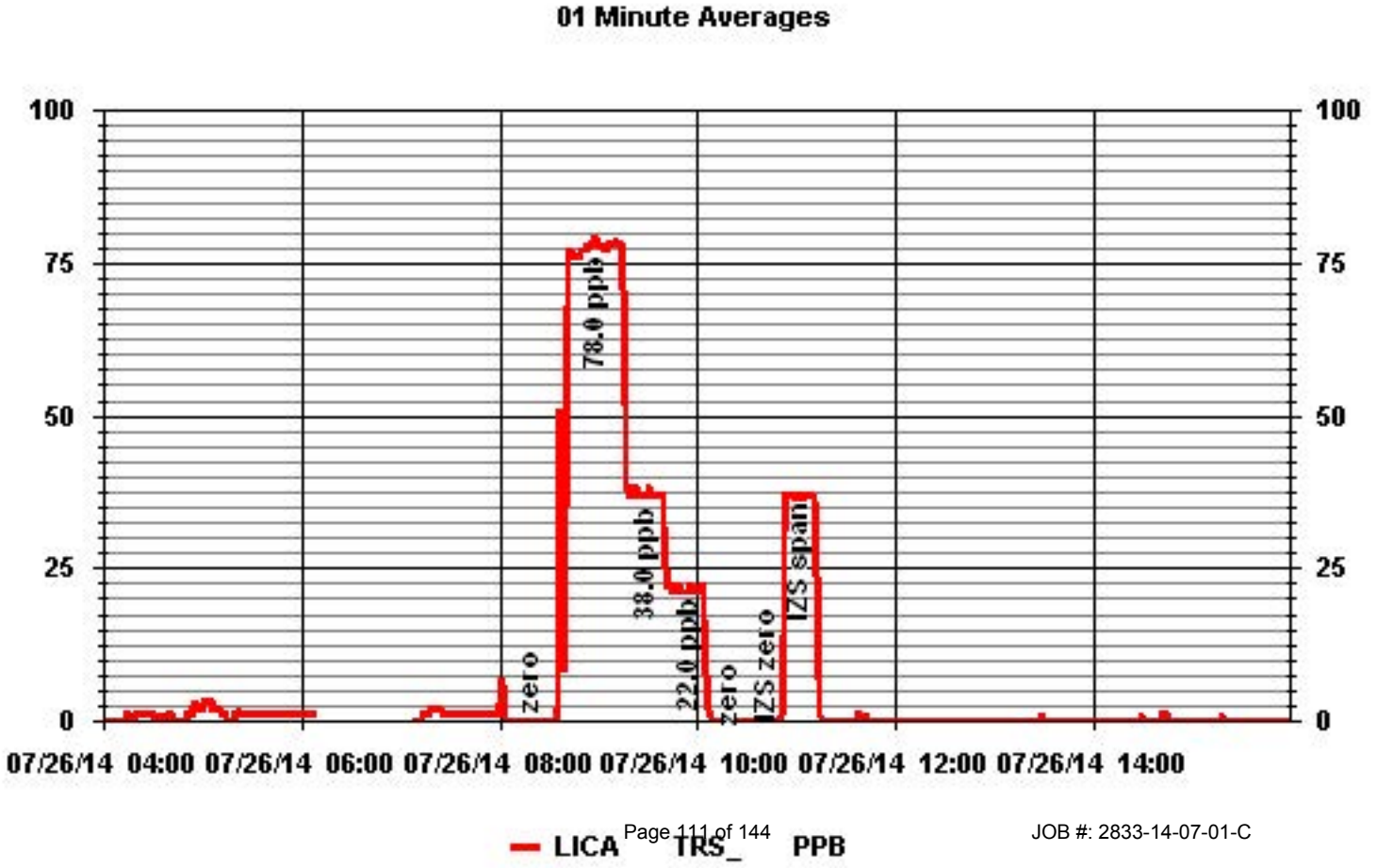
Zero corrrected analyzer response: NA

Comments:

Post repair calibration after renewing scrubber yesterday and allowing to stabilize overnight.

Thermo 450i TRS Analyzer Calibration





JOB #: 2833-14-07-01-C

Total Hydrocarbons

Thermo 51C THC Analyzer Calibration

Date:	9-Jul-14	**Start Time (mst):**	7:59
Company:	LICA	**End Time (mst):**	10:54
Station Name/Location:	Cold Lake South	**Calibration Purpose:**	Monthly Calibration
Performed by:	Kevin Hope	**Cal Gas Expiry Date:**	26-Mar-17

Analyzer:

Serial Number:	51CLT-77021-384	**Range ppm:**	50
Last Calibration Date:	13-Jun-14	**As Found C.F.**	0.992
Previous Cal High Point C.F.:	0.998	**New C.F.:**	1.029

		As found:	As left:
	H_2 cylinder (psi):	500	500
	H_2 cylinder reg set (psi):	22	22
	Span Cylinder (psi):	2000	2000
	Span Cylinder Reg Set (psi):	22	22
	Zero Air Gen Pressure:	35	35
	measurement alarms:	None	None
	service alarms:	None	None
FID status:	cnt:	3331	2982
	rng:	1	1
	try:	1	1
	flm:	194.2	191.0
	det:	125.3	125.5
Oven Readings:	Flame:	194	191
	Filter:	125	125
	Base:	125	125
	Pump:	6.89	6.90
Voltages:	+5	4.9	4.9
	+15	14.8	14.8
	-15	-14.9	-14.9
	Internal Span:	31.71	33.73

Calibrator:

Flow Meter ID's:	NA	
Make & Model:	API 700	
Serial #:	4760	
Cal Gas Cylinder I.D. # :	LL33674	
CH_4/C_3H_8 Cylinder Conc. (ppm):	601.4	202.0
CH_4 as propane/total CH_4 equivilants (ppm):	555.5	1156.9

Calibrator Flow Targets:

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

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppm)	(ppm)	
as found zero	2000	0.00	2000	0	-0.44	NA
adjusted zero	2000	0.00	2000	0	-0.01	NA
as found high	2000	65.00	2065	36.42	36.69	0.992
adjusted high	2000	65.00	2065	36.42	36.35	1.002
mid	2000	30.00	2030	17.10	16.65	1.026
low	2000	15.00	2015	8.61	8.13	1.058
calibrator zero	2000	0.00	2000	0	-0.10	NA
					Average C.F.=	1.029

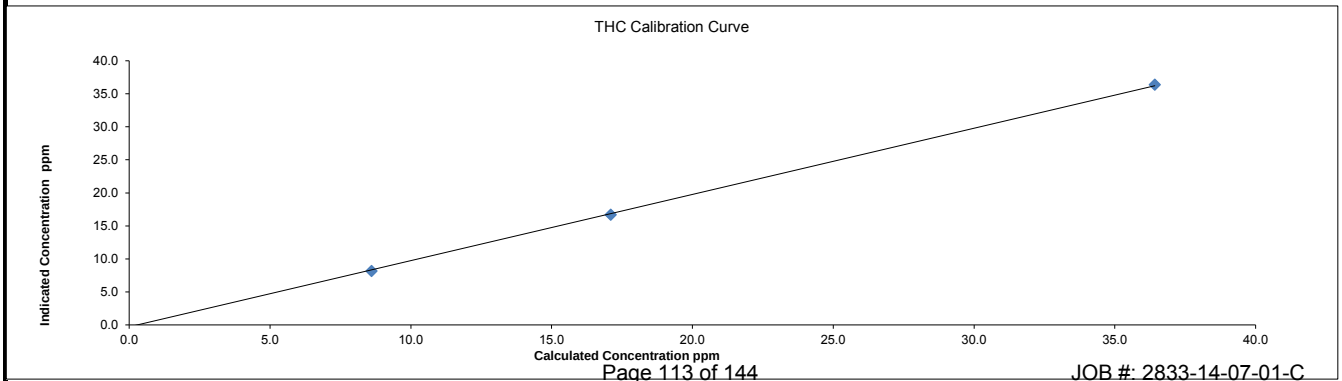
Linear Regression/Calibration Results:

		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**1.002**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**-0.561%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**0.57%**	**± 15%**	**PASS**

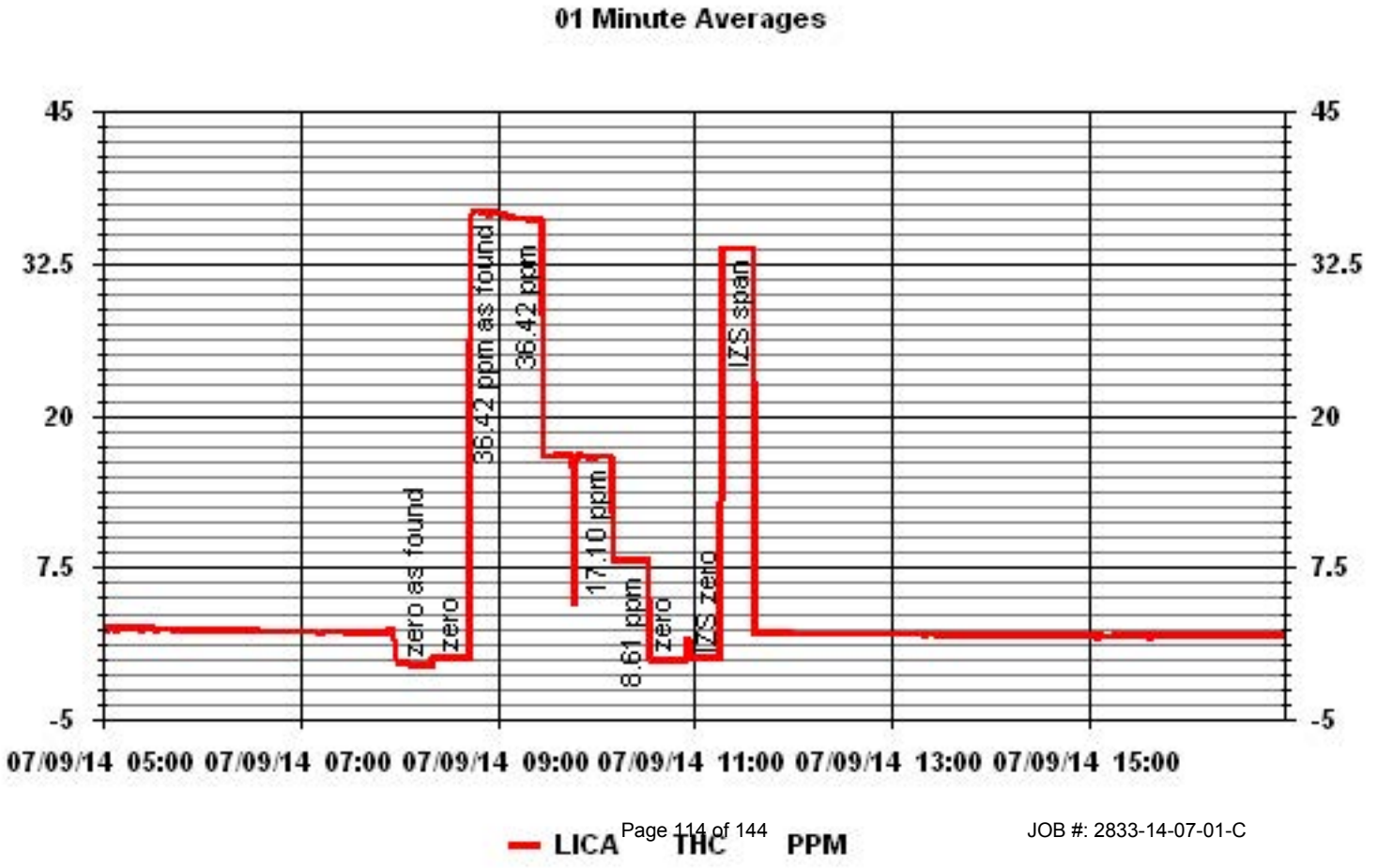
Comments:

Sample filter changed.

Thermo 51C THC Analyzer Calibration



JOB #: 2833-14-07-01-C



JOB #: 2833-14-07-01-C

Particulate Matter 2.5

R & P 1405F TEOM PM 2.5 Analyzer Calibration

Date:	4-Jul-14	**Parameter:**	PM2.5
Company:	LICA	**Performed by:**	Limin Li
Station Name/Location:	Cold Lake South	**Start/End Time (mst):**	09:00/12:30
Previous Audit Date:	26-Jun-14	**Calibration Purpose:**	Post Repair

1400A Information and Status:

Serial Number:	1405A201620804	**As Found Filter Loading %:**	na
Ko Factor:	14578.0	**As Left Filter Loading %:**	21.00
Ambient Temperature °C:	20.6	**As Found Noise:**	na
Ambient Pressure atm:	0.933	**As Left Noise:**	na
Main Flow Reading lpm:	3.00	**Pump Vacuum:**	0.28
Aux Flow Reading lpm:	13.68	**Warnings:**	na

Reference Standards:

	Flow:	Pressure:	Temperature:
Make:	Streamline FTS	BRUNTON	Station Temp. Sensor
Model:	FTS	ADC PRO	Fluke
Serial Number:	Hi 091001,Lo 091099	na	1551A EX
Calibration Date:	9-Oct-10	na	9-Oct-76

As found leak check:

		Base	Zero	Reference	Zero
PM 2.5 Flow	actual	na	na	na	na
	limit	0.15		0.15	
Bypass Flow	actual	na	na	na	na
	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	0.08	0.00	0.08
	limit	0.15		0.15	
Bypass Flow	actual	0.00	-0.20	0.00	-0.20
	limit	0.60		0.60	

As found temperature and pressure:

	tolerance +/- 2.0°C		**tolerance +/- 0.01 atm**
1405F temperature °C:	na	**1405F pressure atm:**	na
reference temperature °C:	na	**reference pressure:**	na
difference °C:	#VALUE!	**difference :**	#VALUE!

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

	tolerance +/- 2.0°C		**tolerance +/- 0.01 atm**
1405F temperature °C:	20.6	**1405F pressure atm:**	0.933
reference temperature °C:	20.6	**reference pressure:**	0.933
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:**	13.67
reference main flow lpm:	2.92	**reference total/aux flow lpm:**	12.97
difference lpm:	-0.08	**difference lpm:**	-0.70

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:	2.99	**reference total/aux flow lpm:**	13.67
difference lpm:	-0.01	**difference lpm:**	0.00

K_o Audit:

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

Comments:

JOB #: 2833-14-07-01-C

Change Dryer. Clean switch valve. Change pump exhaust tubing.

R & P 1405F TEOM PM 2.5 Analyzer Calibration

Date:	23-Jul-14	**Parameter:**	PM 2.5
Company:	LICA	**Performed by:**	Kevin Hope
Station Name/Location:	Cold Lake South	**Start/End Time (mst):**	12:43/13:10
Previous Audit Date:	4-Jul-14	**Calibration Purpose:**	Monthly Calibration

1400A Information and Status:

Serial Number:	1405A201620804	**As Found Filter Loading %:**	44.72
Ko Factor:	14578.0	**As Left Filter Loading %:**	17.15
Ambient Temperature °C:	27.90	**As Found Noise:**	0.007
Ambient Pressure atm:	0.938	**As Left Noise:**	0.000
Main Flow Reading lpm:	2.93	**Pump Vacuum:**	0.28
Aux Flow Reading lpm:	16.23	**Warnings:**	None

Reference Standards:

	Flow:	**Pressure:**	**Temperature:**
Make:	Streamline FTS	BRUNTON	Station Temp. Sensor
Model:	FTS	ADC PRO	Fluke
Serial Number:	Hi 091001,Lo 091099	na	1551A EX
Calibration Date:	9-Oct-10	na	9-Oct-76

As found leak check:

		Base	**Zero**	**Reference**	**Zero**
PM 2.5 Flow	actual	0.09	0.25	0.09	0.25
	limit	0.15		0.15	
Bypass Flow	actual	0.08	0.30	0.07	0.30
	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	0.09	0.25	0.09	0.25
	limit	0.15		0.15	
Bypass Flow	actual	0.08	0.30	0.07	0.30
	limit	0.60		0.60	

As found temperature and pressure:

	tolerance +/- 2.0°C		**tolerance +/- 0.01 atm**
1405F temperature °C:	27.6	**1405F pressure atm:**	0.940
reference temperature °C:	27.9	**reference pressure:**	0.938
difference °C:	0.3	**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:	27.6	**1405F pressure atm:**	0.940
reference temperature °C:	27.9	**reference pressure:**	0.938
difference °C:	0.3	**difference :**	-0.002

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:**	16.65
reference main flow lpm:	2.93	**reference total/aux flow lpm:**	16.23
difference lpm:	-0.07	**difference lpm:**	-0.42

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:**	16.65
reference main flow lpm:	2.93	**reference total/aux flow lpm:**	16.23
difference lpm:	-0.07	**difference lpm:**	-0.42

K_o Audit:

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

Comments:

JOB #: 2833-14-07-01-C

Leak check, flow audit, filters replaced.

Nitrogen Dioxide

Thermo 42C NOx Analyzer Calibration

Date:	8-Jul-14	**Start Time (mst):**	11:44
Company:	LICA	**End Time (mst):**	16:24
Station Name/Location:	Cold Lake South	**Calibration Purpose:**	Monthly Calibration
Performed by:	Kevin Hope	**Cal Gas Expiry Date:**	4-Feb-18

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

Correction Factors:

	As found C.F.	Previous Cal High Point C.F.:
NO=	1.093	0.999
NOx=	1.092	1.001
NO_2=	0.999	1.004

As found:		**As left:**	
NO Bkg ppb:	5.7	NO Bkg ppb:	5.8
NOx Bkg ppb:	6.7	NOx Bkg ppb:	6.1
NO Coef:	1.344	NO Coef:	1.474
NOx Coef:	1.023	NOx Coef:	1.021
NO_2 Coef:	0.997	NO_2 Coef:	0.997
PMT:	-821	PMT:	-821
+15:	15.1	+15:	15.1
+5:	5.0	+5:	5.0
+15:	15.1	+15:	15.1
-15:	-15.1	-15:	-15.1
Battery:	3.2	Battery:	3.2
Internal:	27.7	Internal:	31.1
Chamber:	49.6	Chamber:	50.0
Cooler:	-2.4	Cooler:	-2.5
Converter:	317	Converter:	317
Converter Set:	319	Converter Set:	319
Pressure:	201.9	Pressure:	202.7
Sample Flow:	0.581	Sample Flow:	0.591
Ozonator Flow:	ok	Ozonator Flow:	ok
Internal Span:	295.8/8.43/287.5	Internal Span:	295.8/8.43/287.5

Calibrator Flow Targets:

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

point	diluent (cc/min)	cal gas (cc/min)	O_3 setting (v or ppb)	total (cc/min)
zero	5000	0	0	5000
high	5000	40	325.00	5040
mid	5000	19	150.00	5019
low	5000	9	75.00	5009

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	4990	0.0	4990	0	0	-0.5	-1.0	NA	NA
adjusted zero	4993	0.0	4993	0	0	0.0	0.1	NA	NA
as found high	4994	37.85	5032	376.9	377.6	345	346	1.093	1.092
adjusted high	4994	37.85	5032	376.9	377.6	377	378	1.000	0.999
mid	4997	17.98	5015	179.6	180.0	177	177	1.016	1.017
low	4994	7.97	5002	79.8	80.0	77	78	1.036	1.029
calibrator zero	4996	0.00	4996	0	0	0.0	0.1	NA	NA
							Average C.F.=	1.017	1.015

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	4995	37.75	5033	0.0	374.0	375.0	2.7	0.0	0.1	
as found NO_2	4995	37.91	5033	325.0	32.0	378.0	345.0	342.0	342.3	0.999
adjusted NO_2	4995	37.91	5033	325.0	32.0	378.0	345.0	342.0	342.3	0.999
gpt mid	4996	37.91	5034	150.0	212.0	379.0	167.0	162.0	164.3	0.986
gpt low	4995	37.91	5033	75.0	299.0	379.0	79.5	75.0	76.8	0.977
									Average NO_2 C.F.=	0.987

Linear Regression/Calibration Results:

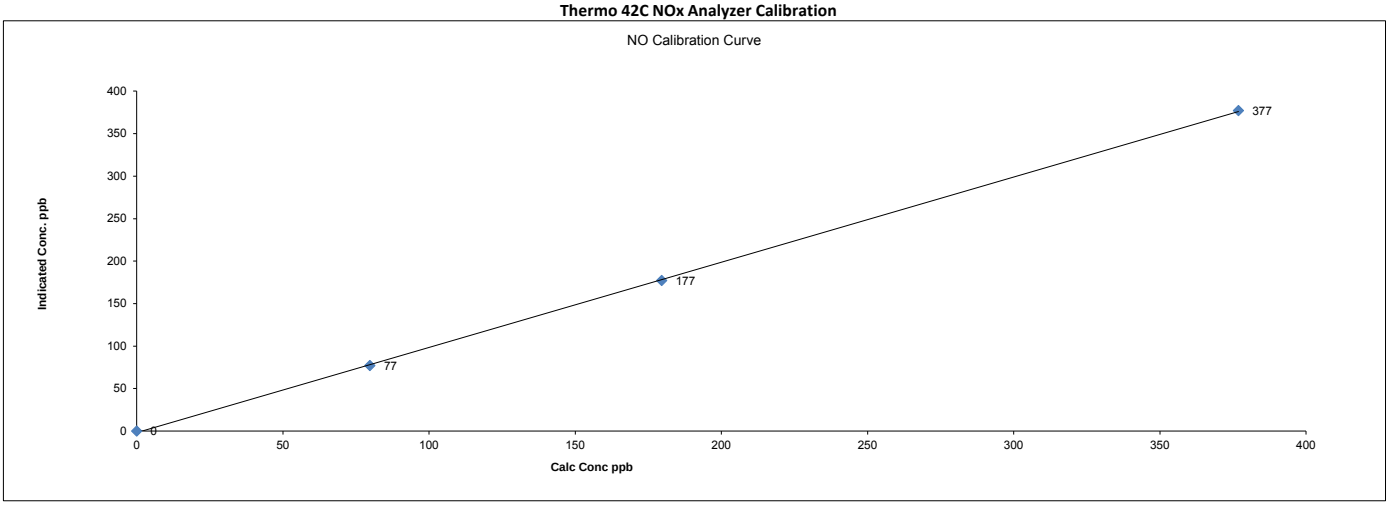
	NO	NOx	NO_2	LIMITS
Correlation Coeffecient =	**1.000**	**1.000**	**1.000**	**> or = 0.995**
Slope =	**1.002**	**1.002**	**0.999**	**0.85-1.15**
b (Intercept as % of full scale)=	**-0.34%**	**-0.29%**	**0.24%**	**± 3% F.S.**
% change in C.F. from last cal=	**-9.43%**	**-9.04%**	**0.49%**	**+/-15%**
NO2 converter effeciency			**101.3%**	**>85%**

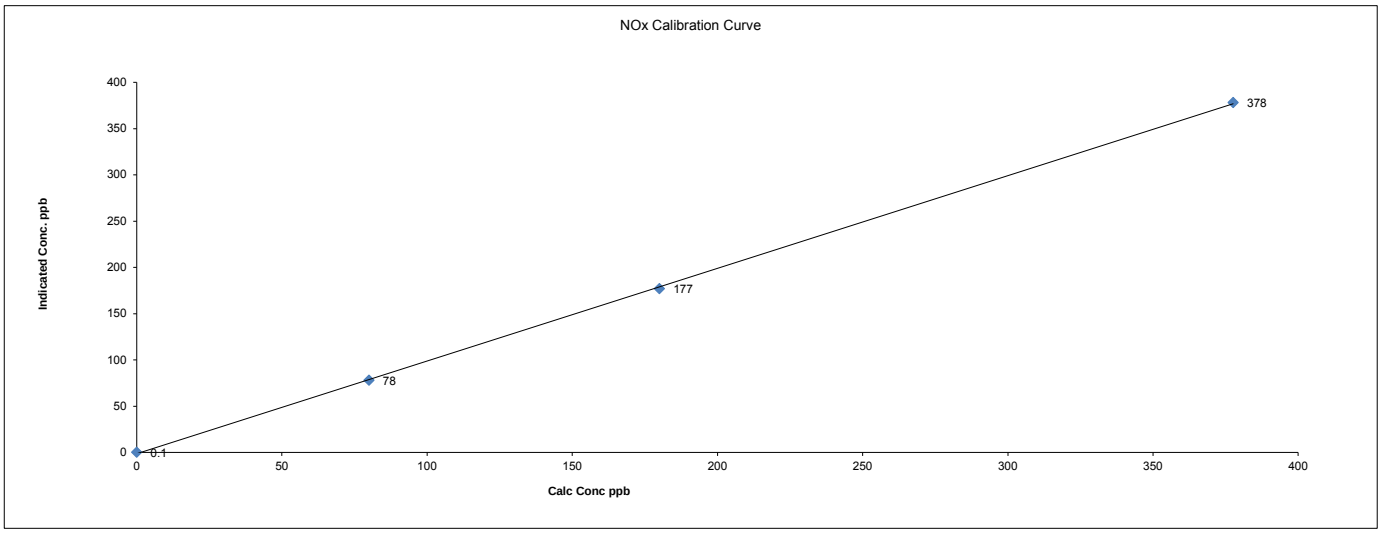
Comments:

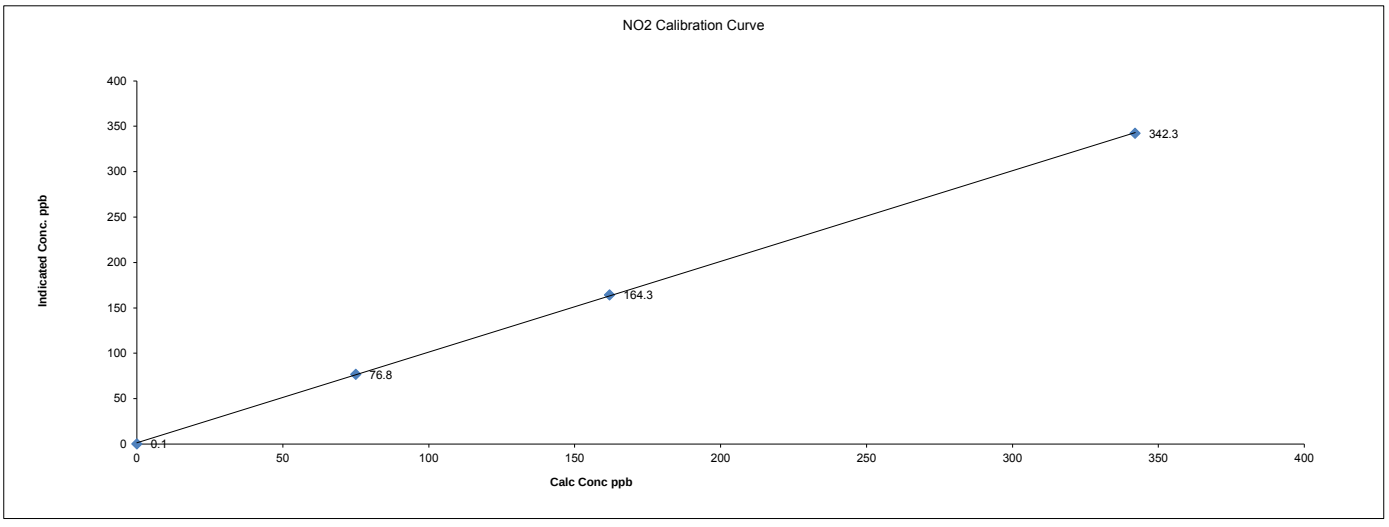
Sample filter changed. No GPT adjustment. Values for calculations only.

Date:	8-Jul-14	**Start Time (mst):**	11:44
Company:	LICA	**End Time (mst):**	16:24
Station Name/Location:	Cold Lake South	**Calibration Purpose:**	Monthly Calibration
Performed by:	Kevin Hope	**Cal Gas Expiry Date:**	4-Feb-18

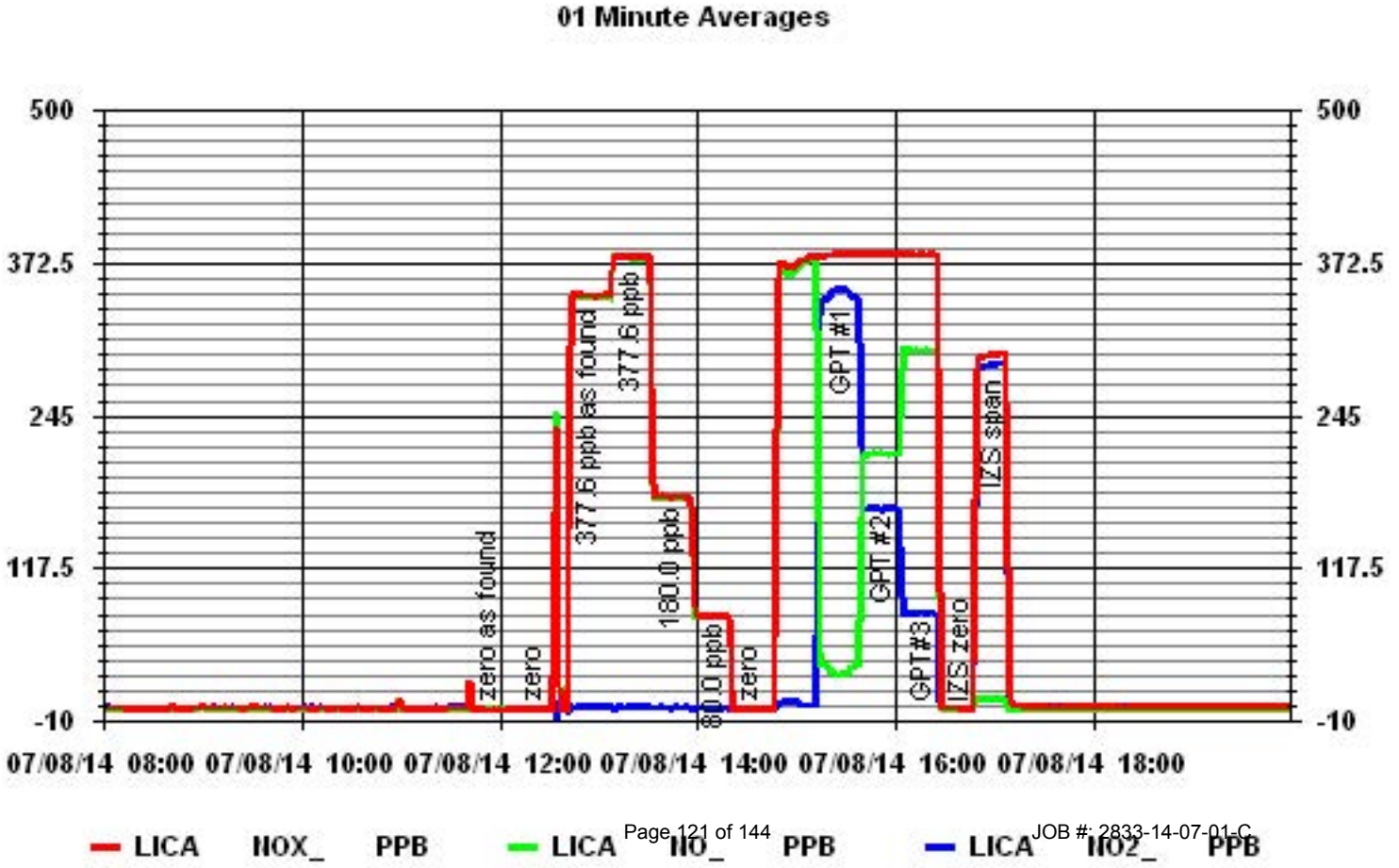
Thermo 42C NOx Analyzer Calibration







JOB #: 2833-14-07-01-C


01 Minute Averages
500
372.5
245
117.5
-10
zero as found
zero
377.6 ppb as found
377.6 ppb
180.0 ppb
80.0 ppb
zero
GPT #1
GPT #2
GPT #3
IZS zero
IZS span
07/08/14 08:00
07/08/14 10:00
07/08/14 12:00
07/08/14 14:00
07/08/14 16:00
07/08/14 18:00
LICA NOX_ PPB
LICA NO_ PPB
LICA NO2_ PPB

Thermo 42C NOx Analyzer Calibration

Date:	9-Jul-14	**Start Time (mst):**	8:11
Company:	LICA	**End Time (mst):**	9:45
Station Name/Location:	Cold Lake South	**Calibration Purpose:**	GPT Re-Calibration
Performed by:	Kevin Hope	**Cal Gas Expiry Date:**	4-Feb-18

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

Correction Factors:

	As found C.F.	Previous Cal High Point C.F.:
NO=	NA	0.999
NOx=	NA	1.001
NO_2=	1.000	1.004

	As found:	**As left:**
NO Bkg ppb:	5.8	5.8
NOx Bkg ppb:	6.1	6.1
NO Coef:	1.474	1.474
NOx Coef:	1.021	1.021
NO_2 Coef:	0.997	0.997
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:	31.1	31.1
Chamber:	50.0	50.0
Cooler:	-2.5	-2.5
Converter:	317	317
Converter Set:	319	319
Pressure:	202.7	202.7
Sample Flow:	0.591	0.591
Ozonator Flow:	ok	ok
Internal Span:	295.8/8.43/287.5	295.8/8.43/287.5

Calibrator Flow Targets:

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

point	diluent (cc/min)	cal gas (cc/min)	O_3 setting (v or ppb)	total (cc/min)
zero	5000	0	0	5000
high	5000	40	250.00	5040
mid	5000	19	125.00	5019
low	5000	10	50.00	5010

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	NA
adjusted zero								NA	NA
as found high									
adjusted high									
mid									
low									
calibrator zero								NA	NA
							Average C.F.=		

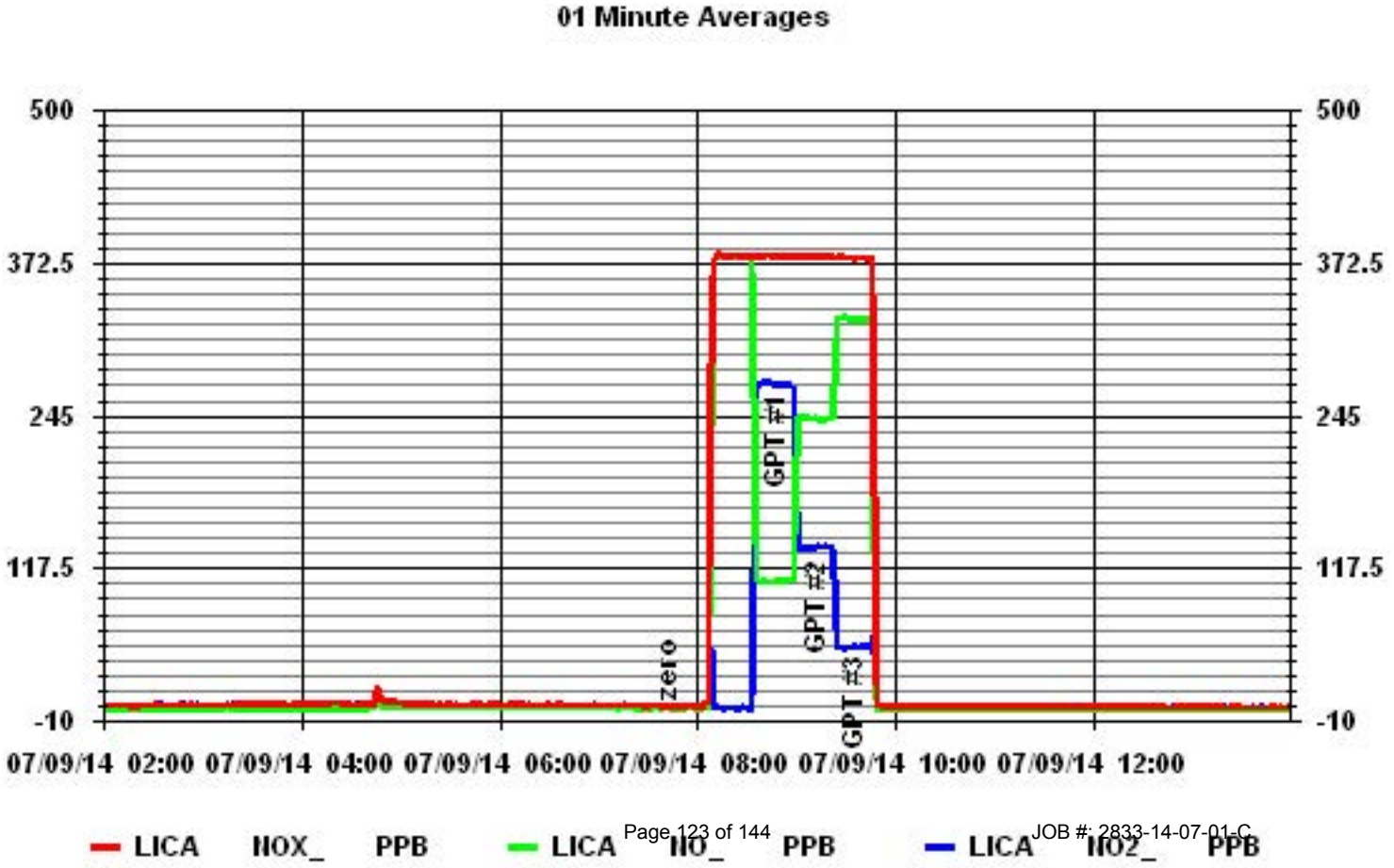
Calibrator Flow Rates (cc/min)				Calibrator Setting	Indicated NO	Indicated NOx	Indicated NO_2	NO drop	NO_2 increase	NO_2 C.F.
Point	Diluent	Cal Gas	Total Flow	volts or ppb	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
NOx reference	4956	37.80	4994	0.0	377.8	378.5	0.7	0.0	0.0	
as found NO_2	4956	37.80	4994	250.0	106.5	378.0	271.9	271.3	271.2	1.000
adjusted NO_2	4956	37.80	4994	250.0	106.5	378.0	271.9	271.3	271.2	1.000
gpt mid	4956	37.80	4994	125.0	242.1	377.8	135.1	135.7	134.4	1.010
gpt low	4956	37.80	4994	50.0	325.0	377.0	51.2	52.8	50.5	1.046
									Average NO_2 C.F.=	1.019

Linear Regression/Calibration Results:

	NO	NOx	NO_2	LIMITS
Correlation Coeffecient =			**1.000**	**> or = 0.995**
Slope =			**1.002**	**0.85-1.15**
b (Intercept as % of full scale)=			**-0.24%**	**± 3% F.S.**
% change in C.F. from last cal=	**#VALUE!**	**#VALUE!**	**0.36%**	**+/-15%**
NO2 converter effeciency			**98.2%**	**>85%**

Comments:

Re-calibrated NO2 due to using wrong targets yesterday. No NO2 adjusment made. Just for calculations.


01 Minute Averages
500
372.5
245
117.5
-10
zero
GPT #1
GPT #2
GPT #3
07/09/14 02:00
07/09/14 04:00
07/09/14 06:00
07/09/14 08:00
07/09/14 10:00
07/09/14 12:00
LICA NOX_ PPB
LICA NO_ PPB
LICA NO2_ PPB

Thermo 42C NOx Analyzer Calibration

Date:	23-Jul-14	**Start Time (mst):**	8:10
Company:	LICA	**End Time (mst):**	12:38
Station Name/Location:	Cold Lake South	**Calibration Purpose:**	Monthly Calibration
Performed by:	Kevin Hope	**Cal Gas Expiry Date:**	4-Feb-18

Analyzer Serial Number:	427408716
Last Calibration Date:	8-Jul-14
Range ppb:	500

Correction Factors:

	As found C.F.	Previous Cal High Point C.F.:
NO=	1.019	1.000
NOx=	1.019	0.999
NO_2=	0.996	1.000

	As found:	**As left:**
NO Bkg ppb:	5.7	5.9
NOx Bkg ppb:	6.1	6.1
NO Coef:	1.474	1.506
NOx Coef:	1.021	1.016
NO_2 Coef:	0.997	0.997
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:	27.1	32.0
Chamber:	49.9	49.9
Cooler:	-2.5	-2.5
Converter:	317	317
Converter Set:	319	319
Pressure:	203.7	203.0
Sample Flow:	0.582	0.586
Ozonator Flow:	ok	ok
Internal Span:	296.5/8.14/288.3	297/8.50/292.7

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	4957	38	225.00	4995
mid	4975	19	115.00	4994
low	4986	9	40.00	4995

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	4993	0.0	4993	0	0	0.1	0.1	NA	NA
adjusted zero	4995	0.0	4995	0	0	0.0	0.0	NA	NA
as found high	4957	37.80	4995	379.2	379.9	372	373	1.019	1.019
adjusted high	4957	37.80	4995	379.2	379.9	379	379	1.000	1.002
mid	4975	18.92	4994	189.8	190.2	188	189	1.010	1.006
low	4986	9.48	4995	95.1	95.3	92	92	1.033	1.035
calibrator zero	4995	0.00	4995	0	0	0.0	0.0	NA	NA
							Average C.F.=	1.014	1.015

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	4956	37.80	4994	0.0	377.0	377.0	1.0	0.0	0.0	
as found NO_2	4956	37.80	4994	225.0	123.0	379.0	256.0	254.0	255.0	0.996
adjusted NO_2	4956	37.80	4994	225.0	123.0	379.0	256.0	254.0	255.0	0.996
gpt mid	4956	37.80	4994	115.0	248.0	378.0	130.0	129.0	129.0	1.000
gpt low	4956	37.80	4994	40.0	332.0	378.0	46.0	45.0	45.0	1.000
									Average NO_2 C.F.=	0.999

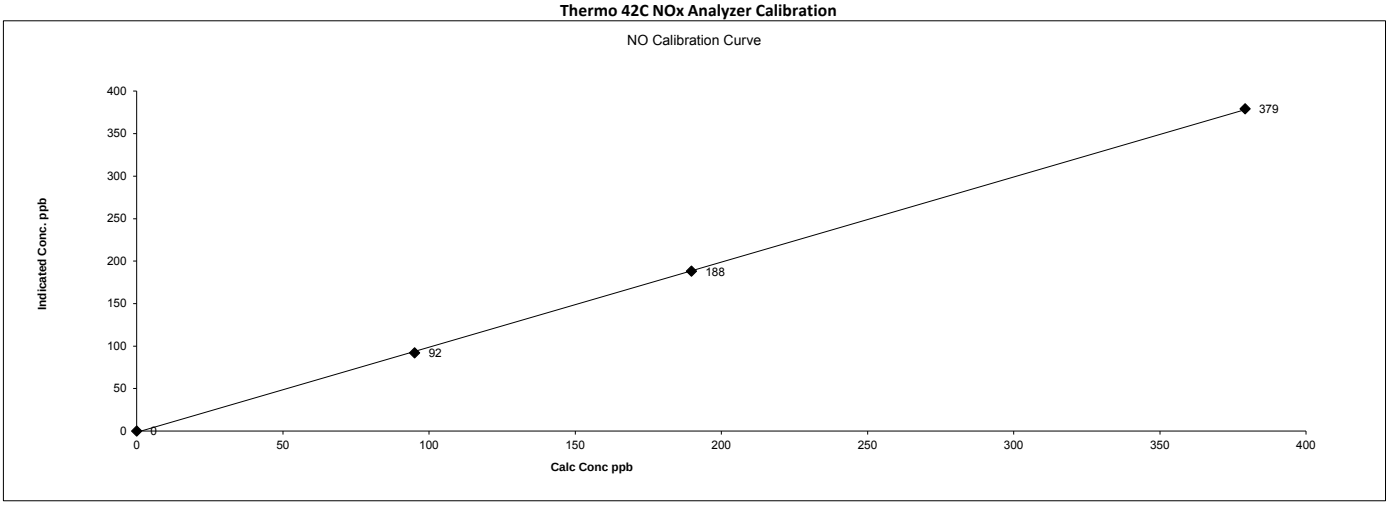
Linear Regression/Calibration Results:

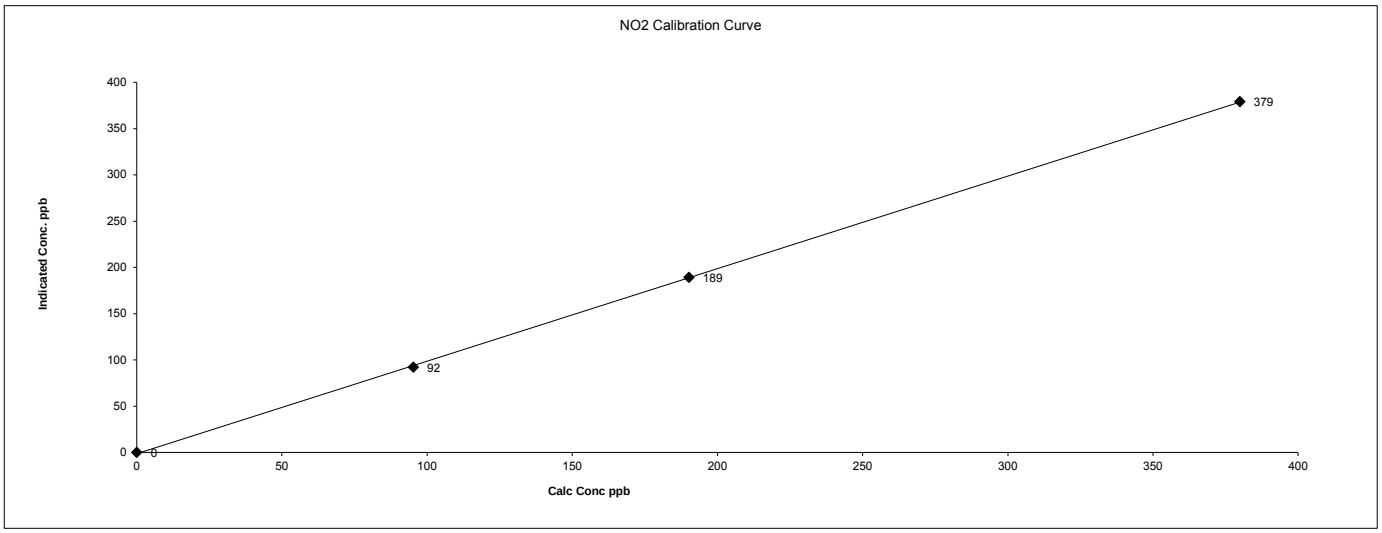
	NO	NOx	NO_2	LIMITS
Correlation Coeffecient =	**1.000**	**1.000**	**1.000**	**> or = 0.995**
Slope =	**1.002**	**1.000**	**1.004**	**0.85-1.15**
b (Intercept as % of full scale)=	**-0.31%**	**-0.28%**	**-0.03%**	**± 3% F.S.**
% change in C.F. from last cal=	**-1.92%**	**-1.95%**	**0.39%**	**+/-15%**
NO2 converter effeciency			**100.1%**	**>85%**

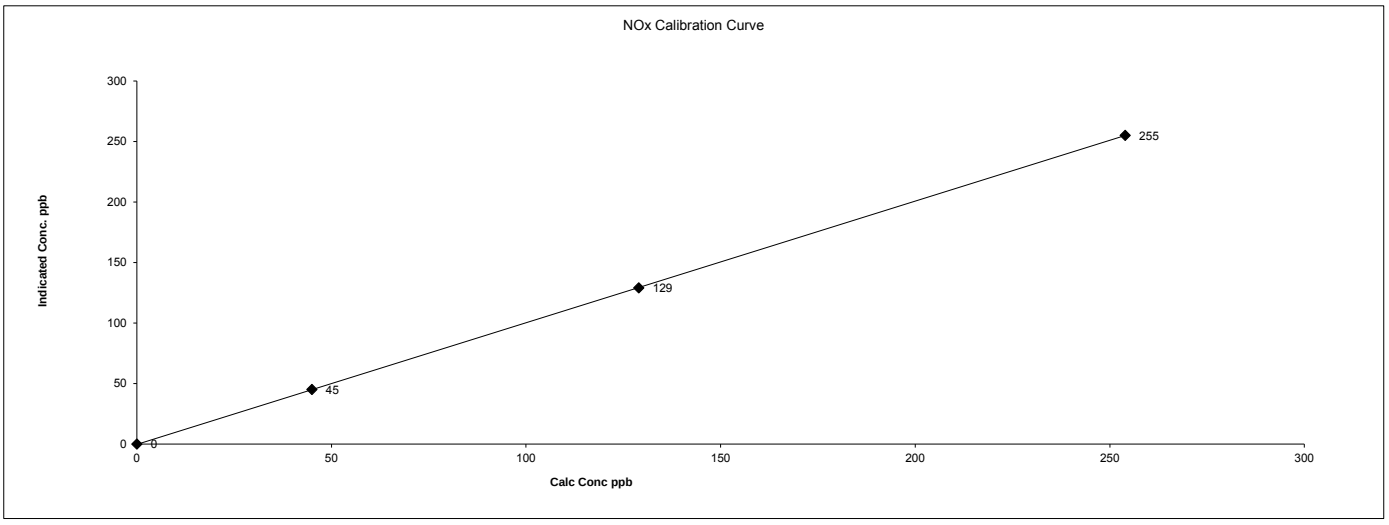
Comments:

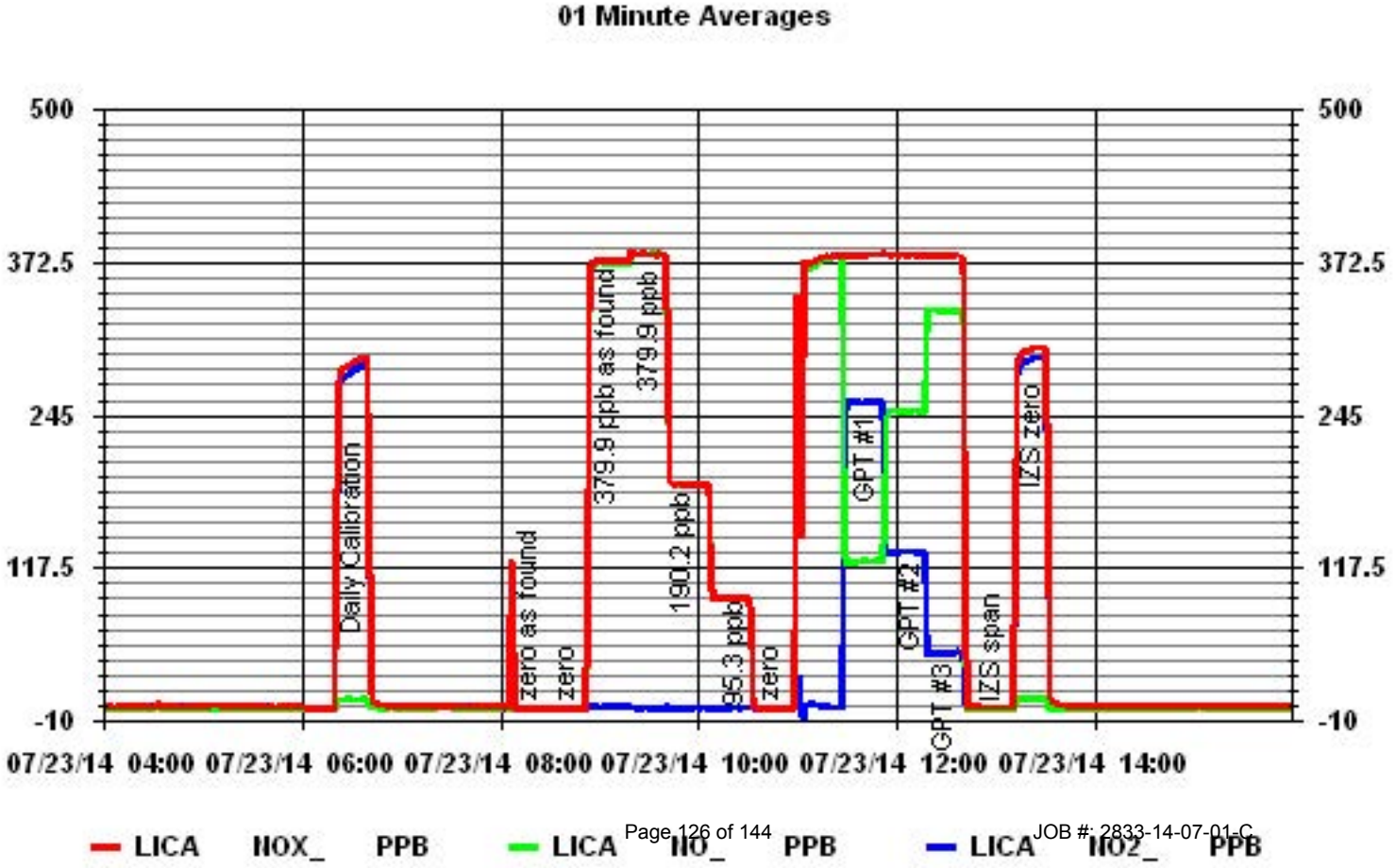
Date:	23-Jul-14	**Start Time (mst):**	8:10
Company:	LICA	**End Time (mst):**	12:38
Station Name/Location:	Cold Lake South	**Calibration Purpose:**	Monthly Calibration
Performed by:	Kevin Hope	**Cal Gas Expiry Date:**	4-Feb-18

Thermo 42C NOx Analyzer Calibration








01 Minute Averages
500
372.5
245
117.5
-10
Daily Calibration
zero as found
zero
379.9 ppb as found
379.9 ppb
190.2 ppb
95.3 ppb
zero
GPT #1
GPT #2
GPT #3
IZS span
IZS zero
07/23/14 04:00
07/23/14 06:00
07/23/14 08:00
07/23/14 10:00
07/23/14 12:00
07/23/14 14:00
LICA NOX_ PPB
LICA NO_ PPB
LICA NO2_ PPB

Ozone

Maxxam Thermo 49i O_3 Analyzer Calibration

Date:	9-Jul-14	**Start Time (mst):**	10:00
Company:	LICA	**End Time (mst):**	12:43
Station Name/Location:	Cold Lake South	**Calibration Purpose:**	Monthly Calibration
Performed by:	Kevin Hope	**G.P.T. Date:**	9-Jul-14

Analyzer:

Serial Number:	700419951	**Range ppm:**	500
Last Calibration Date:	9-Jun-14	**As Found C.F.**	1.060
Previous Cal High Point C.F.:	1.000	**New C.F.:**	0.993

		As found:		**As left:**
	O_3 Bkg:	-0.2	O_3 Bkg:	0.1
	O_3 Coef:	1.036	O_3 Coef:	1.091
Motherboard:	3.3	3.3	3.3	3.3
	15.0	5.0	15.0	5.0
	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	23.7	24.0	23.7
	O_3 Lamp	9.0	O_3 Lamp	9.0
	Bench:	29.1	Bench:	31.5
	Bench Lamp:	53.5	Bench Lamp:	53.5
	O_3 Lamp:	67.4	O_3 Lamp:	67.5
	Pressure:	700.8	Pressure:	708.9
	Cell A lpm:	0.709	Cell A lpm:	0.714
	Cell B lpm:	0.748	Cell B lpm:	0.754
	O_3 ppb:	21.0	O_3 ppb:	-0.5
	Cell A ppb:	16.8	Cell A ppb:	10.6
	Cell B ppb:	25.1	Cell B ppb:	-11.8
	Cell A int:	64685	Cell A int:	64742
	Cell B int:	60950	Cell B int:	61070
	Internal Span:	271.9	Internal Span:	279.9

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	250
mid	5000	125
low	5000	50

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	4992	0.0	4992	0.0	0.4	NA
adjusted zero	4995	0.0	4995	0.0	0.1	NA
as found high	4996	0.00	4996	271.3	256.0	1.060
adjusted high	4996	0.00	4996	271.3	273.0	0.994
mid	4995	0.00	4995	135.7	138.0	0.984
low	4996	0.00	4996	52.8	52.8	1.002
calibrator zero	4996	0.00	4996	0.0	0.0	NA

copy and paste flows and NO decrease from NOx cal in to calculated concentration **Average C.F.=** 0.993

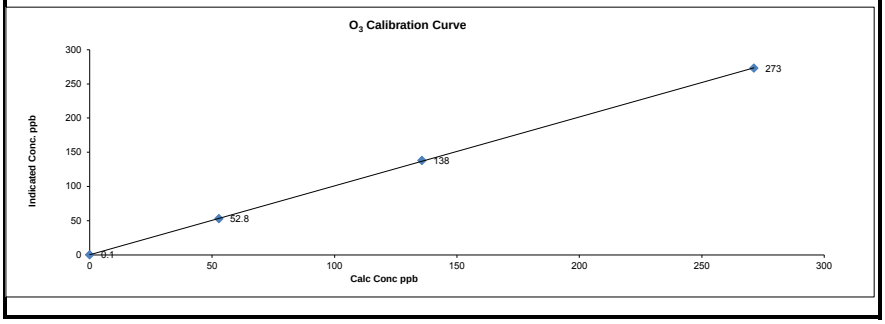
Linear Regression/Calibration Results:

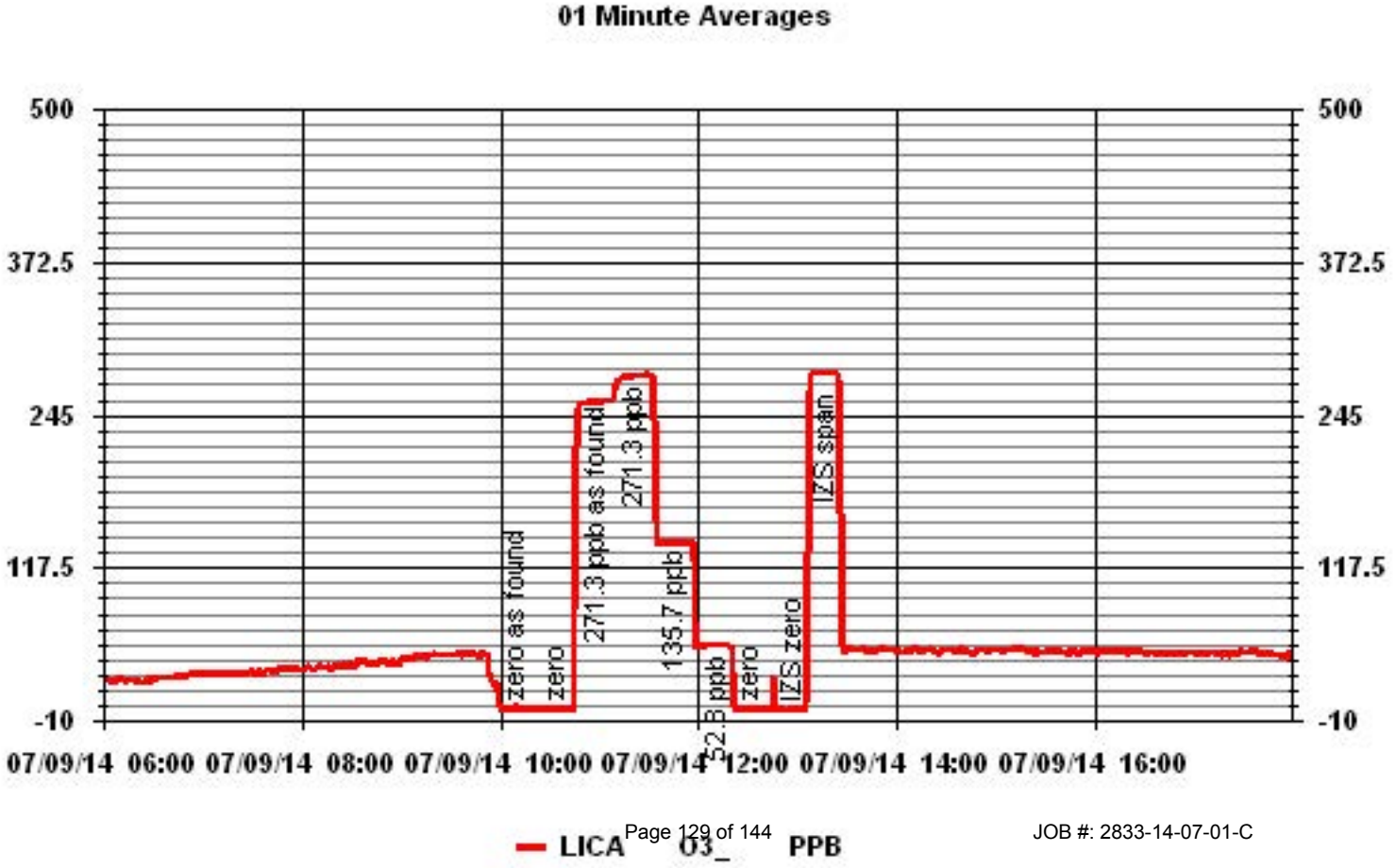
		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**1.007**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**0.039%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**-6%**	**± 15%**	**PASS**

Comments:

Sample filter changed.

Thermo 49i O3 Analyzer Calibration





JOB #: 2833-14-07-01-C

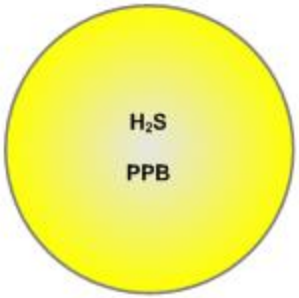
Passive Bubble Maps

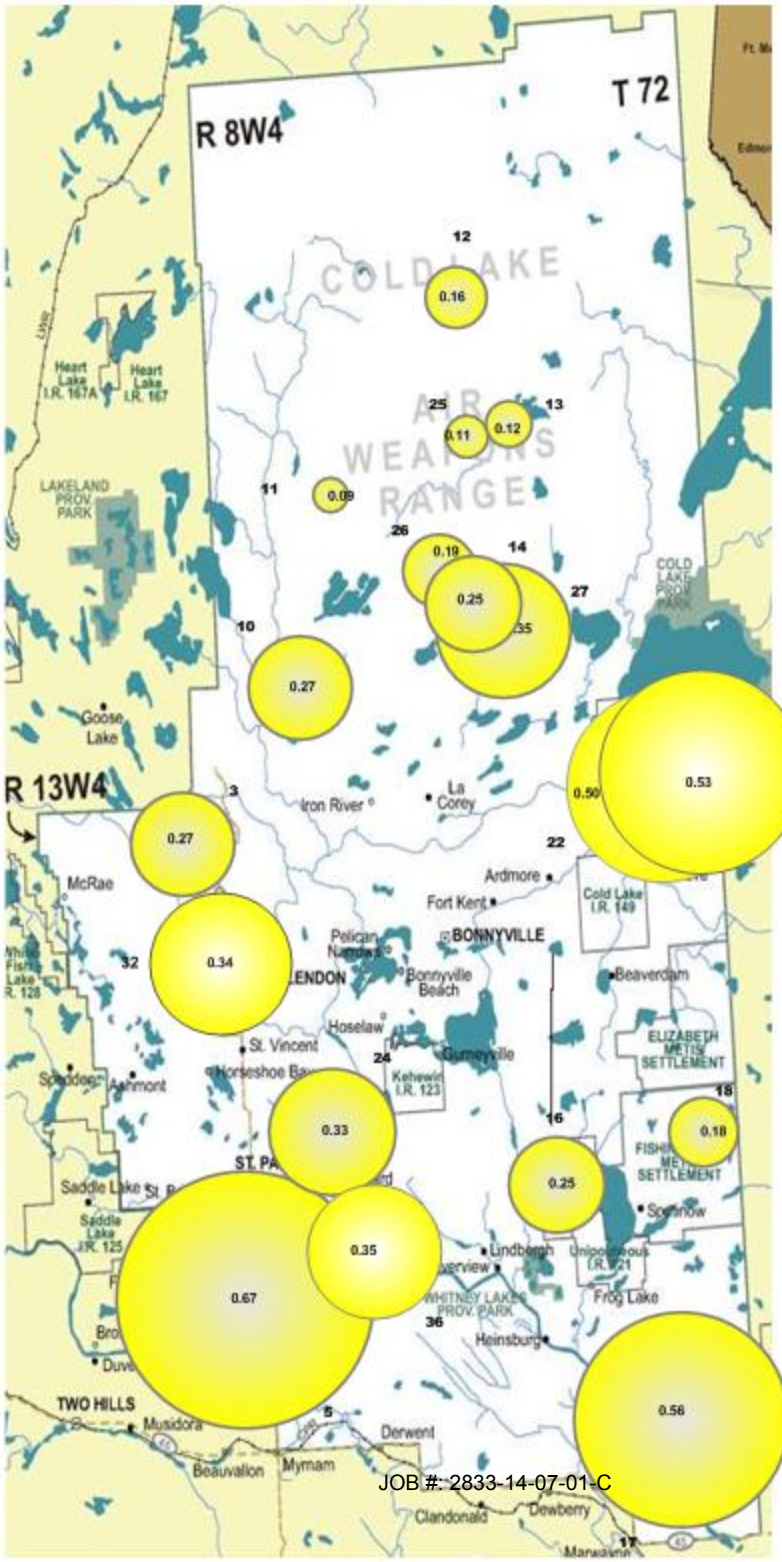
Lakeland Industry & Community Association
H_2S Passive Bubble Map

JULY 2014

PASSIVE STATIONS

		DUPLICATE
3 – Therien	0.27 PPB	NA
5 – Lake Eliza	0.67 PPB	NA
10 – La Corey	0.27 PPB	NA
11 – Wolf Lake	0.09 PPB	NA
12 – Foster Creek	0.16 PPB	NA
13 – Primrose	0.12 PPB	NA
14 – Maskwa	0.25 PPB	NA
16 – Frog Lake	0.25 PPB	0.24 PPB
17 – Clear Range	0.56 PPB	NA
18 – Fishing Lake	0.18 PPB	NA
22 – Cold Lake South	0.50 PPB	NA
24 – Fort George	0.33 PPB	NA
25 – Burnt Lake	0.11 PPB	NA
26 – Mahihkan	0.19 PPB	NA
27 – Mahkeses	0.35 PPB	NA
29 – Cold Lake South 2	0.53 PPB	NA
32 – St. Lina	0.34 PPB	NA
36 – Elk Point	0.35 PPB	NA





Summary

Minimum : 0.09 PPB – Wolf Lake
Maximum: 0.67 PPB – Lake Eliza
Average: 0.31 PPB (Includes Duplicates)

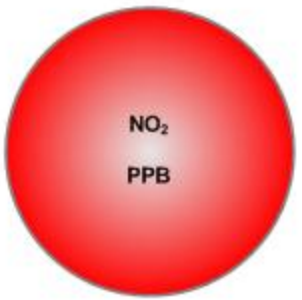
JOB #: 2833-14-07-01-C

Lakeland Industry & Community Association
NO_2 Passive Bubble Map

JULY 2014

PASSIVE STATIONS

		DUPLICATE
2 – Sand River	MISSING	NA
3 – Therien	0.7 PPB	NA
4 – Flat Lake	0.7 PPB	NA
5 – Lake Eliza	0.5 PPB	NA
6 – Telegraph Creek	2.1 PPB	NA
8 – Muriel-Kehewin	0.7 PPB	NA
9 – Dupre	0.8 PPB	NA
10 – La Corey	1.6 PPB	NA
11 – Wolf Lake	0.4 PPB	NA
12 – Foster Creek	0.5 PPB	NA
13 – Primrose	0.6 PPB	NA
14 – Maskwa	0.6 PPB	0.7 PPB
15 – Ardmore	0.8 PPB	0.7 PPB
16 – Frog Lake	0.8 PPB	NA
17 – Clear Range	1.6 PPB	NA
18 – Fishing Lake	1.1 PPB	NA
19 – Beaverdam	0.4 PPB	NA
22 – Cold Lake South	0.7 PPB	NA
23 – Medley-Martineau	0.1 PPB	NA
24 – Fort George	1.7 PPB	NA
28 – Town of Bonnyville	1.6 PPB	NA
29 – Cold Lake South 2	0.5 PPB	NA
32 – St. Lina	0.3 PPB	NA
36 – Elk Point	1.4 PPB	NA



Summary

Minimum : 0.1 PPB – Medley-Martineau
Maximum: 2.1 PPB – Telegraph Creek

Average: 0.9 PPB *Includes Duplicates

JOB #: 2833-14-07-01-C

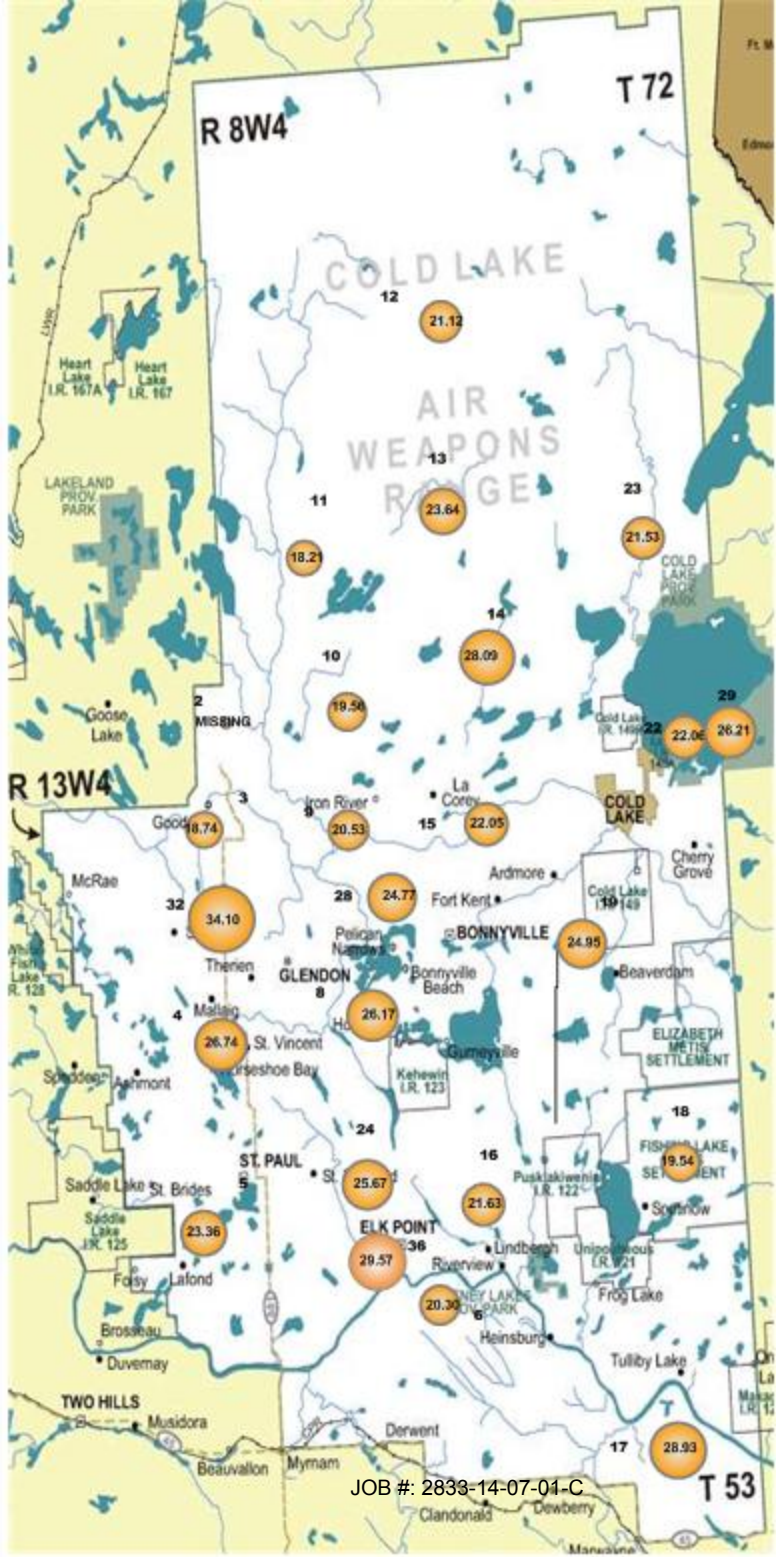
Lakeland Industry & Community Association
O_3 Passive Bubble Map

JULY 2014

PASSIVE STATIONS

		DUPLICATE
2 – Sand River	MISSING	NA
3 – Therien	18.74 PPB	NA
4 – Flat Lake	26.74 PPB	NA
5 – Lake Eliza	23.36 PPB	NA
6 – Telegraph Creek	20.30 PPB	NA
8 – Muriel-Kehewin	26.17 PPB	NA
9 – Dupre	20.53 PPB	NA
10 – La Corey	19.56 PPB	NA
11 – Wolf Lake	18.21 PPB	NA
12 – Foster Creek	21.12 PPB	NA
13 – Primrose	23.64 PPB	NA
14 – Maskwa	28.09 PPB	28.49 PPB
15 – Ardmore	22.05 PPB	19.23 PPB
16 – Frog Lake	21.63 PPB	NA
17 – Clear Range	28.93 PPB	NA
18 – Fishing Lake	19.54 PPB	NA
19 – Beaverdam	24.95 PPB	NA
22 – Cold Lake South	22.06 PPB	NA
23 – Medley-Martineau	21.53 PPB	NA
24 – Fort George	25.67 PPB	NA
28 – Town of Bonnyville	24.77 PPB	NA
29 – Cold Lake South 2	26.21PPB	NA
32 – St. Lina	34.10 PPB	NA
36 – Elk Point	29.57 PPB	NA

O_3 PPB



Summary

Minimum : 18.21 PPB – Wolf Lake
Maximum: 34.10 PPB – St. Lina
Average: 23.75 PPB *Includes Duplicates

Lakeland Industry & Community Association
SO_2 Passive Bubble Map

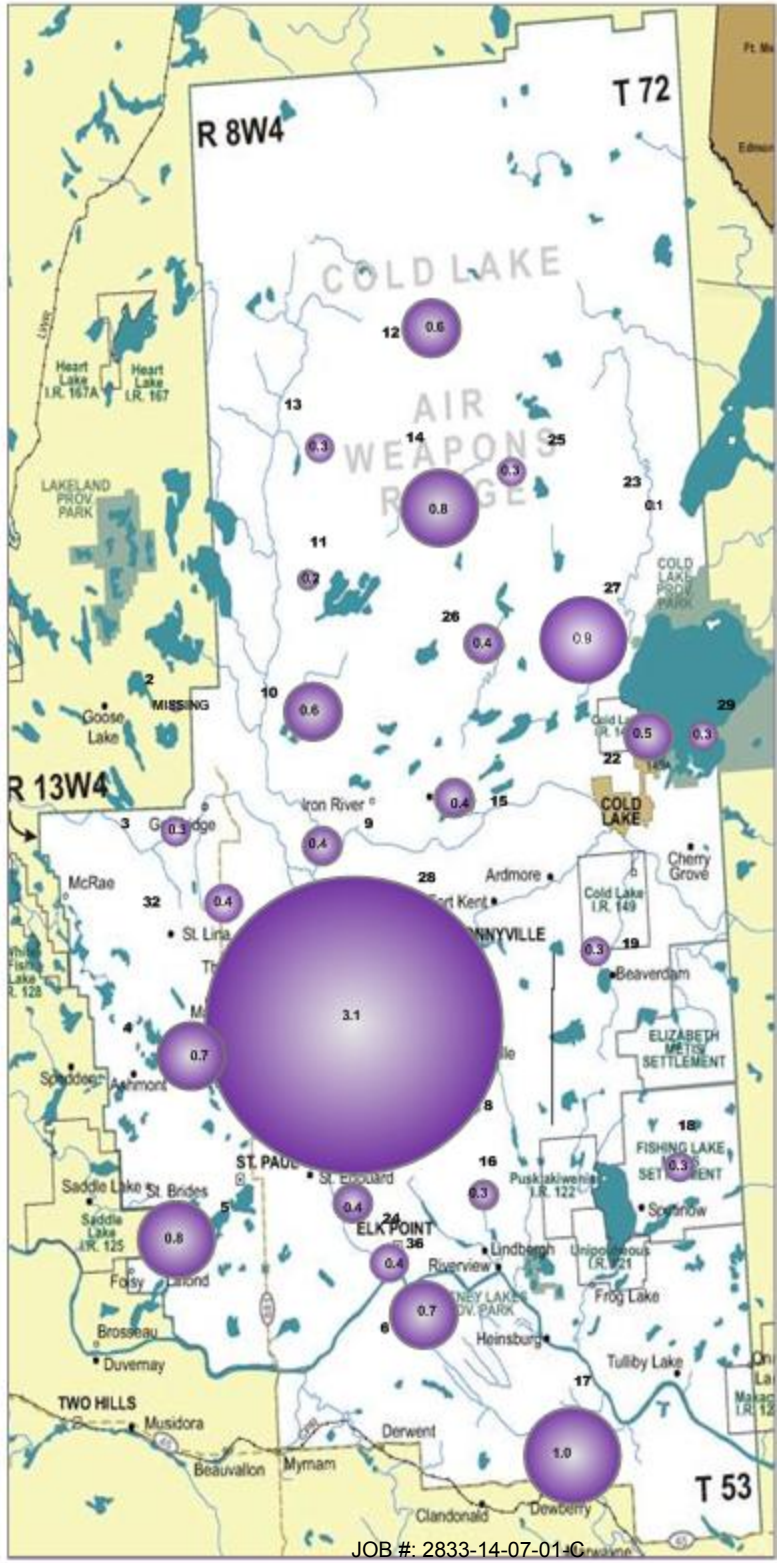
JULY 2014

PASSIVE STATIONS

		DUPLICATE
2 – Sand River	MISSING	NA
3 – Therien	0.3 PPB	NA
4 – Flat Lake	0.7 PPB	NA
5 – Lake Eliza	0.8 PPB	NA
6 – Telegraph Creek	0.7 PPB	NA
8 – Muriel-Kehewin	3.1 PPB	NA
9 – Dupre	0.4 PPB	0.4 PPB
10 – La Corey	0.8 PPB	0.4 PPB
11 – Wolf Lake	0.2 PPB	0.2 PPB
12 – Foster Creek	0.6 PPB	NA
13 – Primrose	0.3 PPB	NA
14 – Maskwa	0.8 PPB	NA
15 – Ardmore	0.4 PPB	NA
16 – Frog Lake	0.3 PPB	NA
17 – Clear Range	1.0 PPB	NA
18 – Fishing Lake	0.3 PPB	NA
19 – Beaverdam	0.3 PPB	NA
22 – Cold Lake South	0.5 PPB	NA
23 – Medley-Martineau	0.1 PPB	NA
24 – Fort George	0.4 PPB	NA
25 – Burnt Lake	0.3 PPB	NA
26 – Mahikan	0.4 PPB	NA
27 – Mahkeses	0.9 PPB	NA
28 – Town of Bonnyville	0.7 PPB	NA
29 – Cold Lake South 2	0.3 PPB	NA
32 – St. Lina	0.4 PPB	NA
36 – Elk Point	0.4 PPB	NA

Summary

Minimum : 0.1 PPB – Medley-Martineau
Maximum: 3.1 PPB – Muriel-Kehewin
Average: 0.6 PPB *Includes Duplicates



JOB #: 2833-14-07-01-C

Passive Field Data

Passive Sampler Data Sheet for LICA July 2014

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	$H_2S/SO_2/NO_2/O_3$	June 30, 2014	12:18	July 31, 2014	11:20	
4	$SO_2/NO_2/O_3$	July 2, 2014	17:38	Aug.1, 2014	15:49	
5	$H_2S/SO_2/NO_2/O_3$	July 2, 2014	17:01	Aug.1, 2014	15:15	
6	$SO_2/NO_2/O_3$	July 2, 2014	15:51	Aug.1, 2014	14:03	
8	$SO_2/NO_2/O_3$	July 2, 2014	17:59	Aug.1, 2014	16:36	
9	$SO_2/NO_2/O_3$	June 30, 2014	10:20	July 31, 2014	9:48	
10	$H_2S/SO_2/NO_2/O_3$	June 30, 2014	13:16	July 31, 2014	12:20	
11	$H_2S/SO_2/NO_2/O_3$	June 30, 2014	14:00	July 31, 2014	12:55	
12	$H_2S/SO_2/NO_2/O_3$	June 30, 2014	15:01	July 31, 2014	14:05	
13	$H_2S/SO_2/NO_2/O_3$	July 2, 2014	9:26	July 31, 2014	16:43	
14	$H_2S/SO_2/NO_2/O_3$	June 30, 2014	16:44	July 31, 2014	17:27	
15	$SO_2/NO_2/O_3$	June 30, 2014	9:33	July 31, 2014	9:08	
16	$H_2S/SO_2/NO_2/O_3$	July 2, 2014	14:19	Aug.1, 2014	12:38	
17	$H_2S/SO_2/NO_2/O_3$	July 2, 2014	15:06	Aug.1, 2014	13:20	
18	$H_2S/SO_2/NO_2/O_3$	July 2, 2014	13:33	Aug.1, 2014	11:55	
19	$SO_2/NO_2/O_3$	July 2, 2014	12:37	Aug.1, 2014	11:00	
22	$H_2S/SO_2/NO_2/O_3$	June 30, 2014	8:45	July 31, 2014	8:25	
23	$SO_2/NO_2/O_3$	June 2, 2014	11:28	Aug.1, 2014	9:48	
24	$H_2S/SO_2/NO_2/O_3$	July 2, 2014	16:21	Aug.1, 2014	14:36	
25	H_2S/SO_2	June 30, 2014	16:04	July 31, 2014	15:06	
26	H_2S/SO_2	July 2, 2014	10:01	July 31, 2014	17:07	
27	H_2S/SO_2	July 2, 2014	10:24	Aug.1, 2014	8:50	
28	$SO_2/NO_2/O_3$	June 30, 2014	10:40	July 31, 2014	10:01	
29	$H_2S/SO_2/NO_2/O_3$	June 30, 2014	8:48	July 31, 2014	8:25	
32	$H_2S/SO_2/NO_2/O_3$	June 30, 2014	11:41	July 31, 2014	10:49	
36	$H_2S/SO_2/NO_2/O_3$	July 2, 2014	16:29	Aug.1, 2014	14:40	

Passive Sampler Data Sheet for LICA July 2014

ID	SAMPLER	START		END		NOTES
		DATE	TIME	DATE	TIME	
Duplicate # 9	**SO_2**	June 30, 2014	10:20	July 31, 2014	9:48	
Duplicate # 10	**SO_2**	June 30, 2014	13:16	July 31, 2014	12:20	
Duplicate # 11	**SO_2**	June 30, 2014	14:00	July 31, 2014	12:55	
Duplicate # 15	**H_2S**	June 30, 2014	9:33	July 31, 2014	9:08	
Duplicate # 16	**H_2S**	July 2, 2014	14:19	Aug.1, 2014	12:35	
Duplicate # 14	**NO_2**	June 30, 2014	16:44	July 31, 2014	17:27	
Duplicate # 15	**NO_2**	June 30, 2014	9:33	July 31, 2014	9:08	
Duplicate # 14	**O_3**	June 30, 2014	16:44	July 31, 2014	17:27	
Duplicate # 15	**O_3**	June 30, 2014	9:33	July 31, 2014	9:08	

Passive Network Laboratory Analysis

Your Project #: 2014/07/02 - 2014/07/31
Site Location: LICA

Attention:MICHAEL BISAGA

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

Report Date: 2014/08/15
Report #: R1622372
Version: 1

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B468274
Received: 2014/08/08, 13:07

Sample Matrix: Air
Samples Received: 32

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
H2S Passive Analysis (1)	20	2014/08/14	2014/08/15	PTC SOP-00150	Tang.Passive H2S in
NO2 Passive Analysis (1)	11	2014/08/13	2014/08/15	PTC SOP-00148	Passive NO2 in ATM
NO2 Passive Analysis (1)	14	2014/08/14	2014/08/15	PTC SOP-00148	Passive NO2 in ATM
O3 Passive Analysis (1)	25	2014/08/11	2014/08/15	PTC SOP-00197	EPA 300 R2.1
SO2 Passive Analysis (1)	29	2014/08/15	2014/08/15	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 #: B468274
Report Date: 2014/08/15

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2014/07/02 - 2014/07/31
Site Location: LICA
Sampler Initials: WA

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		KH3793	KH3794	KH3795	KH3797	KH3798	KH3799		
Sampling Date		2014/06/30 12:18	2014/07/02 17:38	2014/07/02 17:01	2014/07/02 15:51	2014/07/02 17:59	2014/06/30 10:20		
	Units	3	4	5	6	8	9	RDL	QC Batch
Passive Monitoring									
Calculated H2S	ppb	0.27		0.67				0.02	7600702
Calculated NO2	ppb	0.7	0.7	0.5	2.1	0.7	0.8	0.1	7598565
Calculated O3	ppb	18.74	26.74	23.36	20.30	26.17	20.53	0.1	7595605
Calculated SO2	ppb	0.3	0.7	0.8	0.7	3.1	0.4	0.1	7601952
RDL = Reportable Detection Limit									

Maxxam ID		KH3800	KH3801	KH3802	KH3803	KH3804		KH3805		
Sampling Date		2014/06/30 13:16	2014/06/30 14:00	2014/06/30 15:01	2014/07/02 09:26	2014/06/30 16:44		2014/06/30 09:33		
	Units	10	11	12	13	14	QC Batch	15	RDL	QC Batch
Passive Monitoring										
Calculated H2S	ppb	0.27	0.09	0.16	0.12	0.25	7600702		0.02	7600702
Calculated NO2	ppb	1.6	0.4	0.5	0.6	0.6	7598565	0.8	0.1	7600297
Calculated O3	ppb	19.56	18.21	21.12	23.64	28.09	7595621	22.05	0.1	7595621
Calculated SO2	ppb	0.8	0.2	0.6	0.3	0.8	7601952	0.4	0.1	7601952
RDL = Reportable Detection Limit										

Maxxam ID		KH3806	KH3807	KH3808		KH3810	KH3812	KH3813		
Sampling Date		2014/07/02 14:19	2014/07/02 15:06	2014/07/02 13:33		2014/07/02 12:37	2014/06/30 08:45	2014/07/02 11:28		
	Units	16	17	18	QC Batch	19	22	23	RDL	QC Batch
Passive Monitoring										
Calculated H2S	ppb	0.25	0.56	0.18	7600702		0.50		0.02	7600702
Calculated NO2	ppb	0.8	1.6	1.1	7600297	0.4	0.7	0.1	0.1	7600297
Calculated O3	ppb	21.63	28.93	19.54	7595621	24.95	22.06	21.53	0.1	7595621
Calculated SO2	ppb	0.3	1.0	0.3	7601952	0.3	0.5	0.1	0.1	7601961
RDL = Reportable Detection Limit										

Maxxam ID		KH3814	KH3815	KH3816	KH3817	KH3818	KH3819	KH3820		
Sampling Date		2014/07/02 16:28	2014/06/30 16:04	2014/07/02 10:01	2014/07/02 10:24	2014/06/30 10:40	2014/06/30 08:48	2014/06/30 11:41		
	Units	24	25	26	27	28	29	32	RDL	QC Batch
Passive Monitoring										
Calculated H2S	ppb	0.33	0.11	0.19	0.35		0.53	0.34	0.02	7600702
Calculated NO2	ppb	1.7				1.6	0.5	0.3	0.1	7600297
Calculated O3	ppb	25.67				24.77	26.21	34.10	0.1	7595621
Calculated SO2	ppb	0.4	0.3	0.4	0.9	0.7	0.3	0.4	0.1	7601961
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 #: B468274
Report Date: 2014/08/15

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2014/07/02 - 2014/07/31
Site Location: LICA
Sampler Initials: WA

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		KH3821	KH3824	KH3825	KH3826	KH3827	KH3828	KH3858		
Sampling Date		2014/07/02 16:29	2014/06/30 16:44	2014/06/30 09:33	2014/06/30 10:20	2014/06/30 13:16	2014/06/30 14:00	2014/07/02 14:19		
	Units	36	14 DUP	15 DUP	9 DUP	10 DUP	11 DUP	16 DUP	RDL	QC Batch
Passive Monitoring										
Calculated H2S	ppb	0.35		0.35				0.24	0.02	7600702
Calculated NO2	ppb	1.4	0.7	0.7					0.1	7600297
Calculated O3	ppb	29.57	28.49	19.23					0.1	7595621
Calculated SO2	ppb	0.4			0.4	0.4	0.2		0.1	7601961
RDL = Reportable Detection Limit										

Maxxam Job #: B468274
Report Date: 2014/08/15

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2014/07/02 - 2014/07/31
Site Location: LICA
Sampler Initials: WA

GENERAL COMMENTS

SO2 travel blanks 1 nad 2 (KH3822 and KH3823) outside QA acceptability criteria, default blank value used in the calculation of final results. SS

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 #: B468274
Report Date: 2014/08/15

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2014/07/02 - 2014/07/31
Site Location: LICA
Sampler Initials: WA

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
7595605	OZ	Spiked Blank	Calculated O3	2014/08/11		98	%	90 - 110
7595605	OZ	Method Blank	Calculated O3	2014/08/11	<0.1		ppb	
7595621	OZ	Spiked Blank	Calculated O3	2014/08/11		98	%	90 - 110
7595621	OZ	Method Blank	Calculated O3	2014/08/11	<0.1		ppb	
7598565	SS6	Spiked Blank	Calculated NO2	2014/08/13		98	%	90 - 110
7598565	SS6	Method Blank	Calculated NO2	2014/08/13	<0.1		ppb	
7600297	SS6	Spiked Blank	Calculated NO2	2014/08/14		97	%	90 - 110
7600297	SS6	Method Blank	Calculated NO2	2014/08/14	<0.1		ppb	
7600702	JPF	Spiked Blank	Calculated H2S	2014/08/14		99	%	90 - 110
7601952	SS6	Spiked Blank	Calculated SO2	2014/08/15		101	%	90 - 110
7601952	SS6	Method Blank	Calculated SO2	2014/08/15	<0.1		ppb	
7601961	SS6	Spiked Blank	Calculated SO2	2014/08/15		102	%	90 - 110
7601961	SS6	Method Blank	Calculated SO2	2014/08/15	<0.1		ppb	

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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LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2014/07/02 - 2014/07/31
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

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

Prepared By:

Maxxam
A Bureau Veritas Group Company

August 29, 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: July 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 – July 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	0.04	8	28	22	10	148(SE)	0.7	28	98.9
H2S (PPB)	10	3	0	0	0.25	2	VAR	VAR	VAR	VAR	0.8	16	99.3
THC (PPM)	-	-	-	-	2.12	2.8	29	6	7.8	125(SE)	2.3	VAR	99.3
OZONE (PPB)	82	-	0	-	27.34	55	31	13	3.9	54(NE)	36.3	2	99.5
NO2 (PPB)	159	-	-	-	0.98	9.4	22	5	5.6	196(SSW)	1.9	13	99.3
NO (PPB)	-	-	-	-	0.05	1.8	2	7	5	218(SW)	0.2	10	99.3
NO_x (PPB)	-	-	-	-	1.03	10	22	5	5.6	196(SSW)	1.9	16	99.3
PM2.5 (ug/m3)	-	30	-	2	13.28	157	29	21	10.3	133(SE)	42.1	13	87.9
TEMPERATURE (DEGREE C)	-	-	-	-	19.17	30.9	16	14	12	250(WSW)	23.4	31	99.6
BP (MILLIBAR)	-	-	-	-	932.8	946	13	VAR	VAR	VAR	943.5	13	99.6
RH (%)	-	-	-	-	67.23	92	VAR	VAR	VAR	VAR	79.5	26	99.6
PRECIPITATION (MM)	-	-	-	-	0.10	12.4	3	23	8.7	38(NNE)	0.7	5	99.7
VECTOR WS (KPH)	-	-	-	-	8.68	39.6	10	11	-	263(W)	17.3	10	99.6
VECTOR WD (DEGREES)	-	-	-	-	233(SW)	-	-	-	-	-	-	-	99.6

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 July 10th. The inlet filter was changed before the calibration was started. The analyzer was put into the maintenance mode on July 28th between hour 12 and hour 15 for O3 analyzer maintenance performance. Three hourly data collected on July 9th hour 18, on July 21st hour 22 and on July 23rd hour 12 are missing due to power failures. Hourly data collected on July 21st hour 23 and on July 23rd hour 13 were invalidated as the analyzer was recovering from the power failures. Hourly maximum data collected on July 21st between hour 21 and hour 23, and on July 28th between hour 3 and hour 4 were invalidated due to small power outages that affected data quality. 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 July 10th. The inlet filter was changed before the calibration was started. Three hourly data collected on July 9th hour 18, on July 21st hour 22 and on July 23rd hour 12 are missing due to power failures. Hourly data collected on July 21st hour 23 and on July 23rd hour 13 were invalidated as the analyzer was recovering from the power failures. Hourly maximum data collected on July 21st between hour 21 and hour 23, and on July 28th between hour 3 and hour 4 were invalidated due to small power outages that affected data quality. Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA – St. Lina

Total Hydrocarbon (PPM)

Analyzer make / model – Thermo 51C-LT, S/N: 04366-09739

The analyzer was working well throughout the month. The monthly calibration was performed on July 11th. The inlet filter was changed before the calibration was started. Three hourly data collected on July 9th hour 18, on July 21st hour 22 and on July 23rd hour 12 are missing due to power failures. Hourly data collected on July 21st hour 23 and on July 23rd hour 13 were invalidated as the analyzer was recovering from the power failures. Hourly maximum data collected on July 21st between hour 21 and hour 23, and on July 28th between hour 3 and hour 4 were invalidated due to small power outages that affected data quality. The hydrogen cylinder was changed on July 28th. Data was corrected using daily zero information.

Nitrogen Dioxide (PPB)

Analyzer make / model - API 200A S/N: 592

The analyzer was working well throughout the month. The monthly calibration was performed on July 10th. The inlet filter was changed before the calibration was started. Hourly data collected on July 28th hour 14 was invalidated as the channel was into maintenance mode for O3 maintenance performance. Three hourly data collected on July 9th hour 18, on July 21st hour 22 and on July 23rd hour 12 are missing due to power failures. Hourly data collected on July 21st hour 23 and on July 23rd hour 13 were invalidated as the analyzer was recovering from the power failures. Hourly maximum data collected on July 21st between hour 21 and hour 23, and on July 28th between hour 3 and hour 4 were invalidated due to small power outages that affected data quality. Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA – St. Lina

Ozone (PPB)

Analyzer make / model - Thermo 49i, S/N: 1002240371

The analyzer was working well throughout the month. The monthly calibration was performed on July 11th. The inlet filter was changed and the charcoal for the zero air was replaced before the calibration was started. The analyzer spanned high on July 21st. It was found that there was water in the charcoal inside the IZS pump during the site visit on July 28th. Performed troubleshooting by replacing the charcoal and rebuilding the IZS pump. An as found points check was performed after the maintenance. The result was good. This event did not affect the data quality. No data discarded. Three hourly data collected on July 9th hour 18, on July 21st hour 22 and on July 23rd hour 12 are missing due to power failures. Hourly data collected on July 21st hour 23 and on July 23rd hour 13 were invalidated as the analyzer was recovering from the power failures. Hourly maximum data collected on July 21st between hour 21 and hour 23, and on July 28th between hour 3 and hour 4 were invalidated due to small power outages that affected data quality. Data was corrected using daily zero information.

Particulate Matter 2.5 (UG/M3)

Analyzer make / model – Thermo Teom 1400A S/N: 140AB228720001

Two Teom audits were performed this month: one was completed on July 11th, and the other was performed on July 28th. The Teom 1405F, LICA owned attempted to be installed on July 3rd. However, it was found that the unit was not operating properly. The Teom 1400a, Maxxam supplied was installed back to the site. It was found that the unit lost memory due to a power failure on July 10th. Maxxam tech attempted to install new software without success. The unit was brought back to Maxxam shop for repair. The unit was installed back to the field on July 11th. A total of 40 hours data between July 9th hour 19 and July 11th hour 10 were invalidated due to this issue. The analyzer showed some high readings on July 27th. The site was visited on July 28th. It was found that the unit 1400a had a filter overload alarm. An audit was performed on July 28th. A total of 34 hours of data invalidated due to this event. Three hourly data collected on July 9th hour 18, on July 21st hour 22 and on July 23rd hour 12 are missing due to power failures. 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. Ten hourly data were invalidated as the data were below –3 ug/m3. Two 24-Hour exceedances were recorded this month: concentration of 40.9 ug/m3 on July 11th and concentration of 42.1 ug/m3 on July 13th. AESRD Ref#289009 and 286690, respectively.

General Monthly Summary

AQM STATION – LICA – St. Lina

Temperature (Degree C)
Analyzer make / model – Met One 060
The temperature sensor was working well throughout the month. Three hourly data collected on July 9th hour 18, on July 21st hour 22 and on July 23rd hour 12 are missing due to power failures.

Barometric Pressure (Millibar)
Analyzer make / model - Met One 092
The BP sensor was working well throughout the month. Three hourly data collected on July 9th hour 18, on July 21st hour 22 and on July 23rd hour 12 are missing due to power failures.

Relative Humidity (%)
Analyzer make / model - Met One 083
The RH sensor was working well throughout the month. Three hourly data collected on July 9th hour 18, on July 21st hour 22 and on July 23rd hour 12 are missing due to power failures.

Precipitation (MM)
Analyzer make / model - Met One 387
No issue was noticed this month. Three hourly data collected on July 9th hour 18, on July 21st hour 22 and on July 23rd hour 12 are missing due to power failures.

General Monthly Summary

AQM STATION – LICA – St. Lina

Vector Wind Speed (KPH) & Vector Wind Direction (DEG)
System make / model –MetOne 50.5H Sonic, S/N: H12635
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 July 12th, 2012 by the manufacturer.
The wind system was working well throughout the month. Three hourly data collected on July 9th hour 18, on July 21st hour 22 and on July 23rd hour 12 are missing due to power failures.

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 July 11th.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Sulphur Dioxide

Lakeland Industry & Community Association - St. Lina Site

JULY 2014

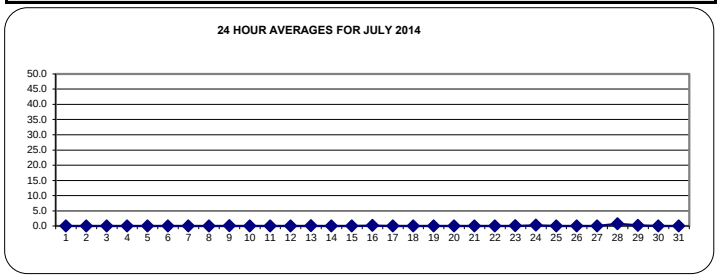
SULPHUR DIOXIDE (SO2) hourly averages in ppb

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	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	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	0	0	0	0	0	0	0	0	0	0	0.0	24
9	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	1	0	0	**P**	0	0	0	0	0	1	0.0	23
10	0	0	0	0	0	0	0	**S**	0	0	**C**	**C**	**C**	**C**	**C**	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	**S**	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	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
14	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
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	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0.2	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	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	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	**S**	0	0	**P**	**R**	0	0.0	22
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	**P**	**R**	0	0	1	**S**	0	0	0	0	0	0	1	0.0	22
24	1	1	1	1	1	1	**S**	**S**	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	1	0.3	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	**Y**	**Y**	**Y**	**Y**	**S**	0	0	0	0	0	***8***	6	***8***	***0.7***	20
29	3	1	0	0	0	0	**S**	**S**	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	3	0.2	24
30	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
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	3	1	1	1	1	1	0	1	0	1	1	0	1	1	0	1	1	0	0	0	0	0	8	6			
HOURLY AVG	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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



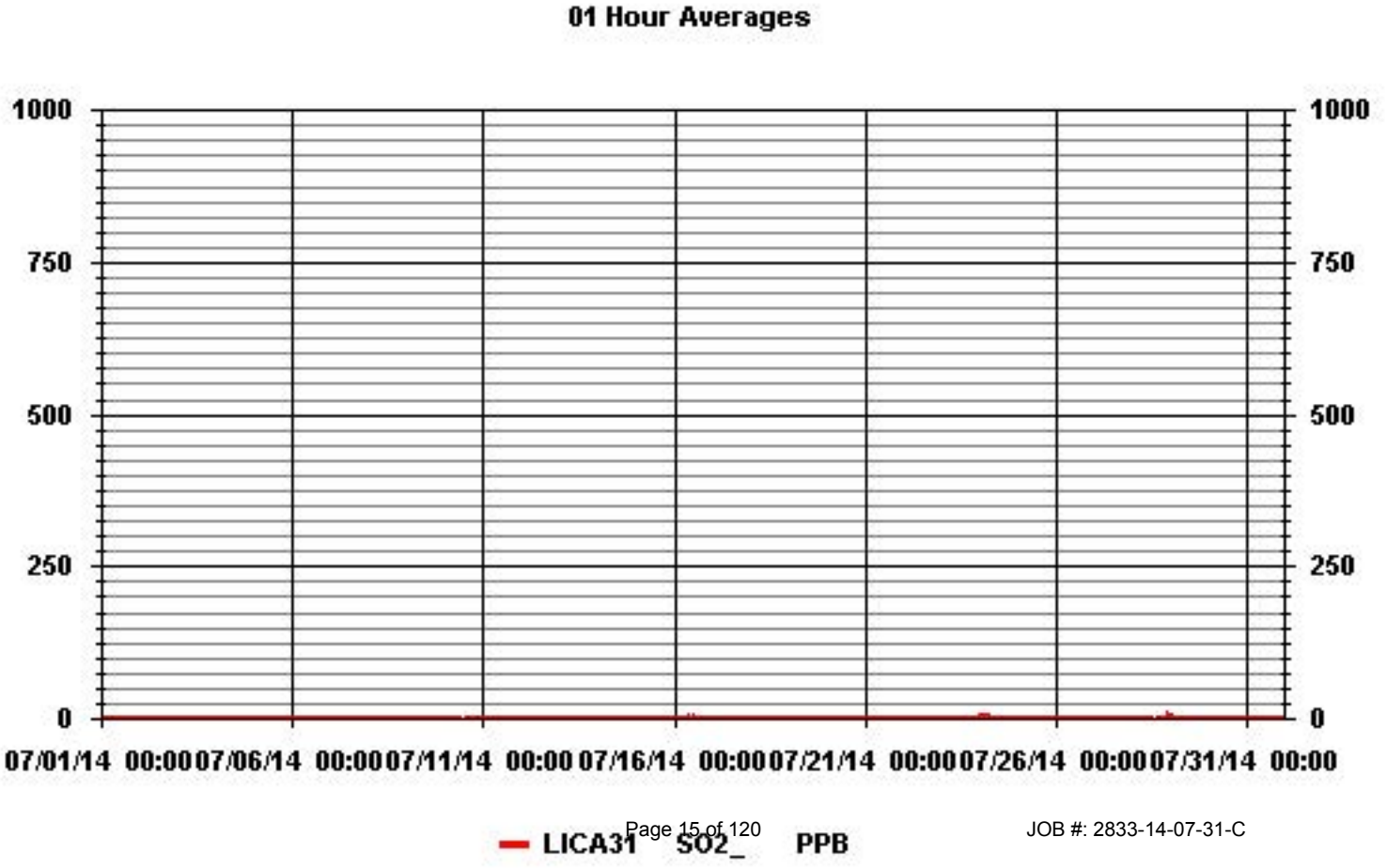
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:**

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:	17					
MAXIMUM 1-HR AVERAGE:	8	PPB	@ HOUR(S)	22	ON DAY(S)	28
MAXIMUM 24-HR AVERAGE:	0.7	PPB			ON DAY(S)	28
					VAR-VARIOUS	

IZS CALIBRATION TIME:	37	HRS	OPERATIONAL TIME:	735	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:	98.8	%
STANDARD DEVIATION:	0.42		MONTHLY AVERAGE:	0.04	PPB



JOB #: 2833-14-07-31-C

Lakeland Industry & Community Association - St. Lina Site

JULY 2014

SULPHUR DIOXIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	0	0	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	1	1	1	1	0.1	24
3	1	1	0	0	1	0	1	1	1	1	1	1	1	1	**S**	0	0	0	0	0	0	0	0	0	1	0.5	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	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	1	0	0	0	0	1	0.0	24
6	0	0	0	0	0	0	1	2	1	1	1	**S**	0	1	0	1	1	0	1	1	0	1	0	0	2	0.5	24
7	0	0	0	0	0	0	0	0	0	1	**S**	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0.1	24
8	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0.4	24
9	1	1	1	1	1	1	1	1	**S**	1	1	1	1	0	1	2	2	1	**P**	2	0	0	0	0	2	0.9	23
10	0	0	0	0	0	0	0	**S**	0	0	**C**	**C**	**C**	**C**	**C**	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	**S**	0	0	0	0	1	0	1	1	0.1	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	0	0	0	**S**	1	1	2	2	1	1	1	1	0	0	1	1	1	1	1	1	1	1	0	2	0.8	24
14	0	0	1	**S**	0	0	1	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	24
15	1	1	**S**	0	0	0	0	0	4	1	0	0	0	1	1	0	1	1	1	1	1	1	1	1	4	0.7	24
16	1	**S**	0	0	0	0	0	0	0	2	2	1	2	3	1	1	0	0	0	0	0	0	0	1	3	0.6	24
17	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	**S**	1	0.1	24
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	**S**	0	1	0.3	24
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**S**	0	0	1	0.0	24
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	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	**S**	0	**P**	**P**	**P**	0	0.0	21
22	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	1	1	1	1	0	1	0.2	24
23	1	1	1	1	1	1	1	1	1	1	1	1	**P**	**P**	0	1	1	**S**	0	1	0	0	0	1	1	0.8	22
24	0	3	1	1	1	1	**S**	**S**	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	3	0.3	24
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	1	1	1	1	1	1	1	0.3	24
26	0	1	1	0	0	0	0	0	0	0	0	0	0	0	**S**	0	1	1	0	0	1	1	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	1	0	0	0	0	0	1	0.0	24
28	0	0	0	**P**	**P**	0	0	0	0	0	0	1	**Y**	**Y**	**Y**	**Y**	**S**	1	1	1	1	1	***13***	10	***13***	***1.7***	18
29	5	3	1	1	1	1	**S**	**S**	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	5	0.6	24
30	0	1	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
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	5	3	1	1	1	1	1	2	4	2	2	1	2	3	1	2	2	1	1	2	1	1	13	10			
HOURLY AVG	0.4	0.4	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.1	0.4	0.4	0.3	0.3	0.5	0.4	0.4	0.7	0.6			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 177

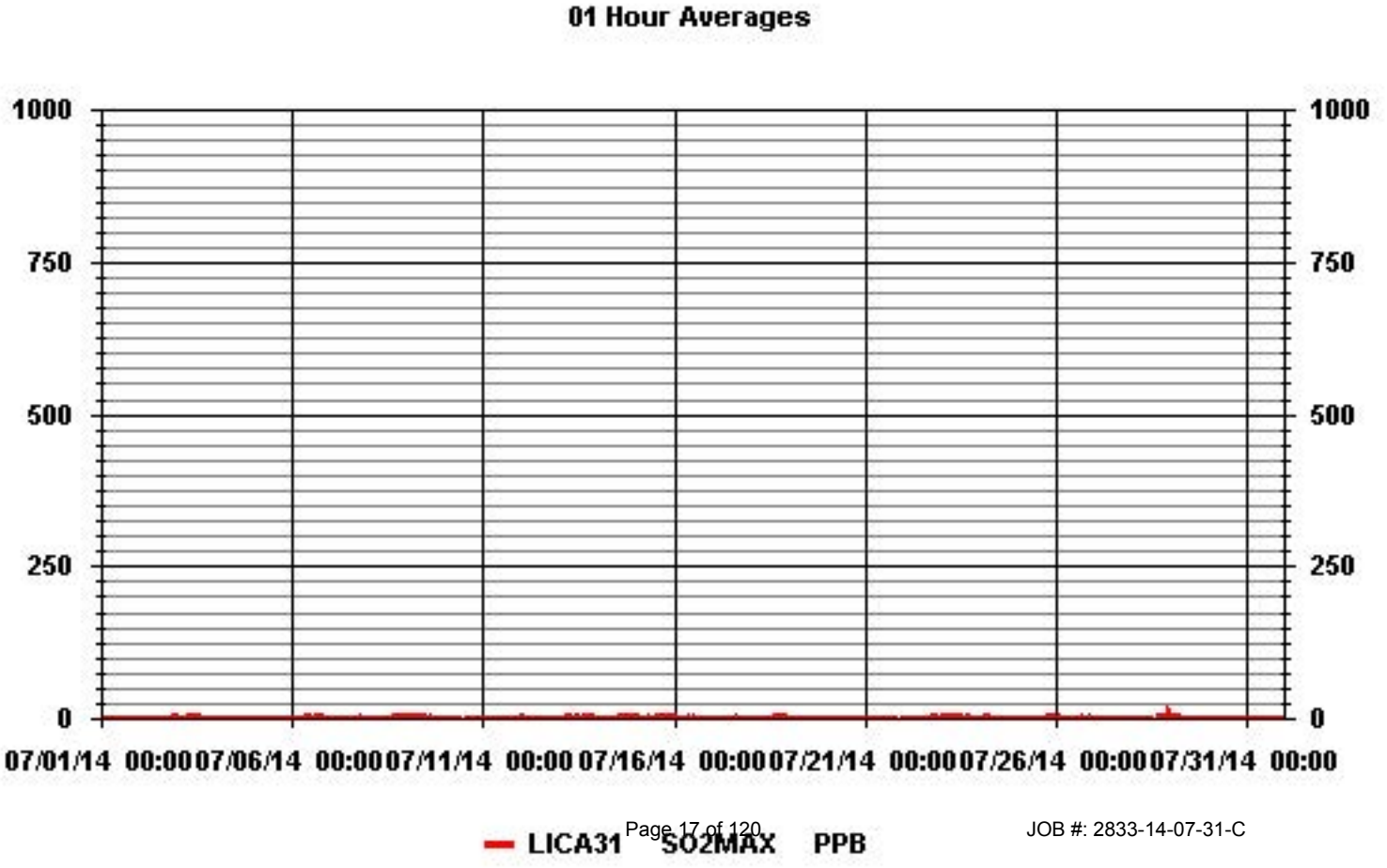
MAXIMUM INSTANTANEOUS VALUE: 13 PPB @ HOUR(S) 22 ON DAY(S) 28

VAR-VARIOUS

IZS CALIBRATION TIME: 37 HRS OPERATIONAL TIME: 732 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION: 0.82



JOB #: 2833-14-07-31-C

LICA31
SO2_ / WDR Joint Frequency Distribution (Percent)

July 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	3.60	2.02	2.16	1.73	3.17	6.78	7.21	8.65	9.95	8.94	4.32	5.77	9.23	11.54	11.39	3.46	100.00
< 60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 170	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.60	2.02	2.16	1.73	3.17	6.78	7.21	8.65	9.95	8.94	4.32	5.77	9.23	11.54	11.39	3.46	

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	25	14	15	12	22	47	50	60	69	62	30	40	64	80	79	24	693
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	25	14	15	12	22	47	50	60	69	62	30	40	64	80	79	24	

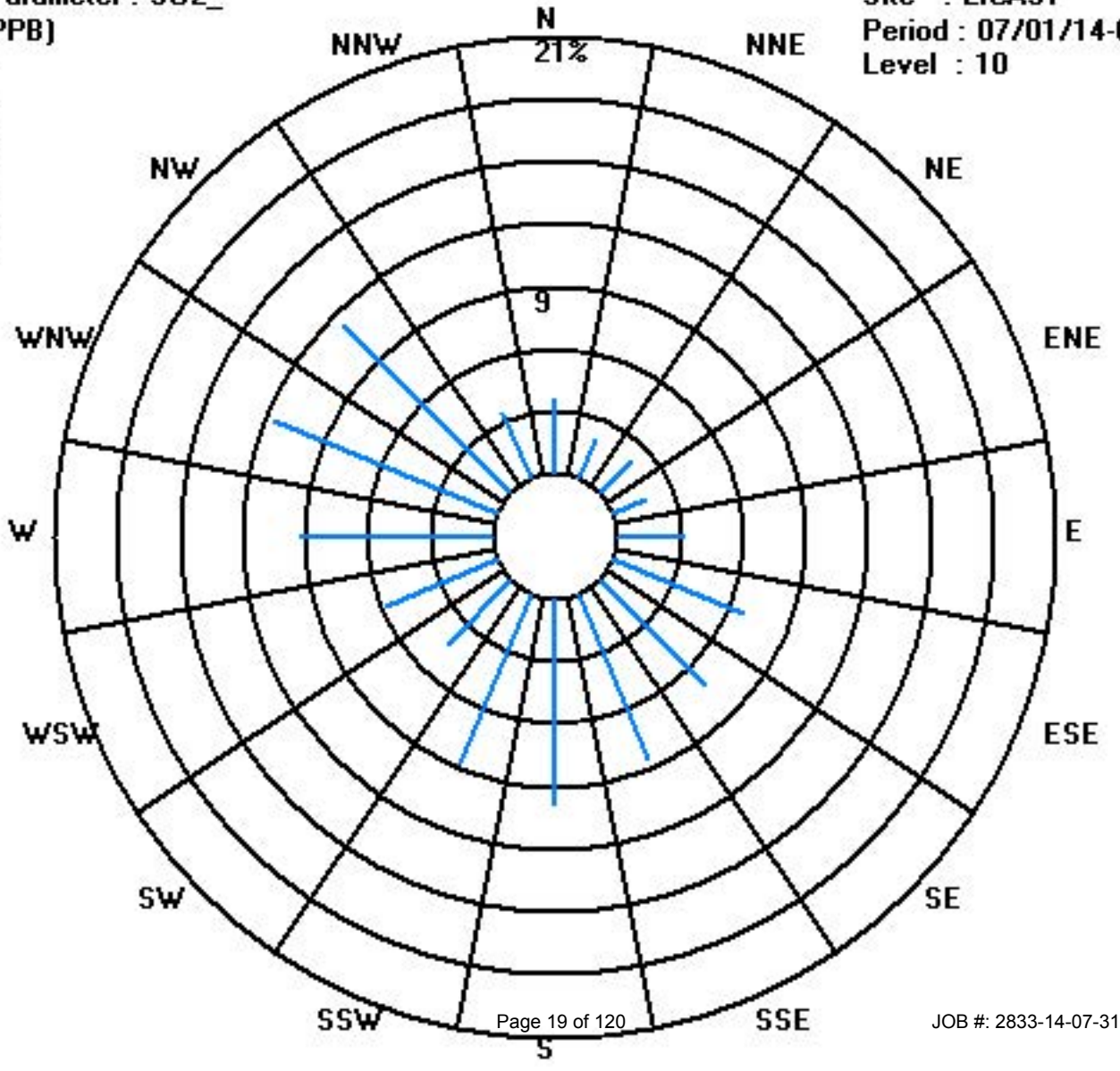
Calm : .00 %

Total # Operational Hours : 693

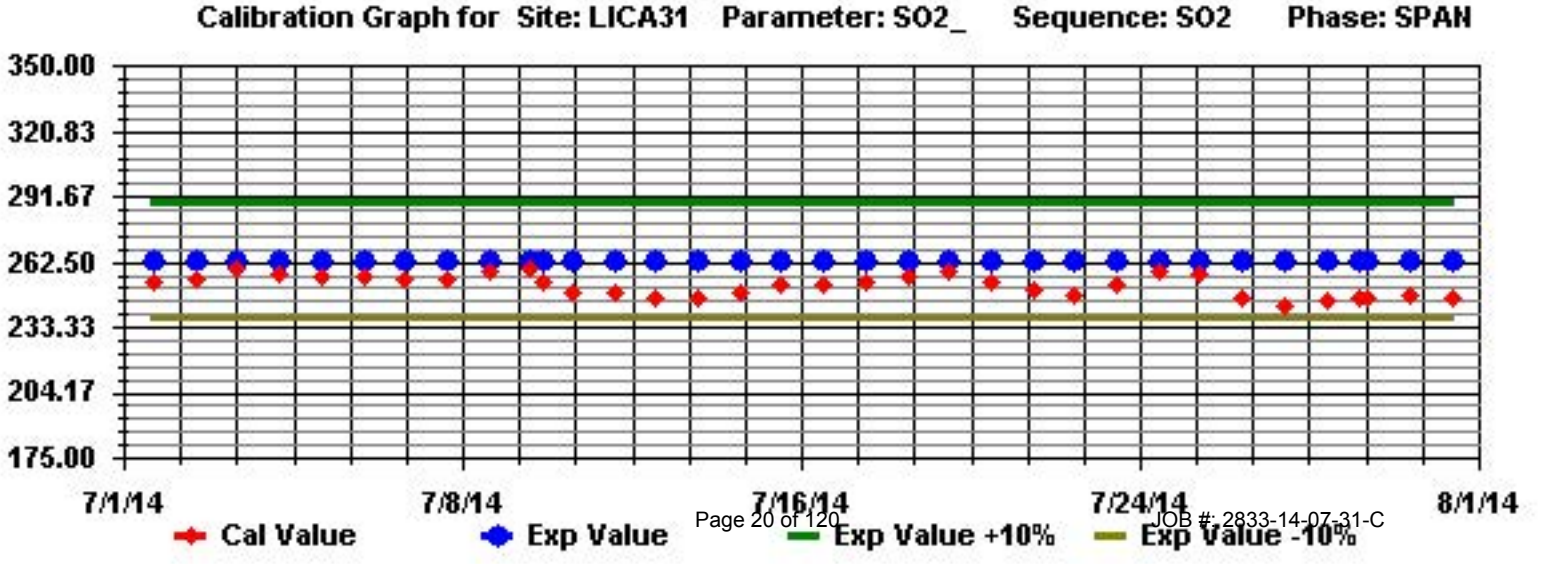
Logger : 31 Parameter : SO2_
Class Limits (PPB)

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

Site : LICA31
Period : 07/01/14-07/31/14
Level : 10



JOB #: 2833-14-07-31-C


Calibration Graph for Site: LICA31 Parameter: SO2_ Sequence: SO2 Phase: SPAN
350.00
320.83
291.67
262.50
233.33
204.17
175.00
7/1/14
7/8/14
7/16/14
7/24/14
8/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Hydrogen Sulphide

Lakeland Industry & Community Association - St. Lina Site

JULY 2014

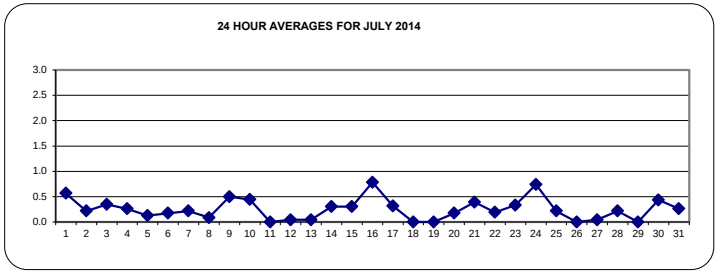
HYDROGEN SULPHIDE (H2S) hourly averages in ppb

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	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	S	0	0	0	0	0	0	0	1	0.6	24
2	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	1	0.2	24
3	0	0	0	1	1	1	1	1	1	1	0	0	0	0	S	0	0	0	0	0	0	0	0	1	1	0.3	24
4	0	0	1	1	1	1	1	1	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	1	0.3	24
5	0	0	1	0	1	1	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
6	0	0	0	1	1	1	1	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
7	0	0	1	1	1	1	1	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
8	0	0	0	0	1	1	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
9	1	1	1	1	*2*	*2*	*2*	1	S	0	0	C	C	C	C	C	0	0	0	P	0	0	0	0	*2*	0.5	23
10	1	1	1	1	1	*2*	1	S	0	0	C	C	C	C	C	0	0	0	0	0	0	0	0	0	*2*	0.4	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	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
13	0	0	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	0	1	S	1	*2*	*2*	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*2*	0.3	24
15	0	1	S	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24
16	1	S	1	1	*2*	*2*	*2*	*2*	*2*	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	*2*	***0.8***	24
17	S	1	1	0	1	1	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	S	1	0.3	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	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	1	1	0.2	24
21	1	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	S	0	0	0	0	1	0.4	24
22	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	P	R	1	0.2	22
23	0	0	0	0	0	1	1	0	0	1	1	1	P	R	0	0	0	S	0	0	0	0	1	1	1	0.3	22
24	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	0	0	0	0	0	0	1	1	0.7	24
25	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	1	0.2	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	1	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	1	0.0	24
28	0	0	1	1	1	1	1	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
29	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
30	0	0	1	1	1	1	1	1	1	1	S	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0.4	24
31	0	1	1	1	1	1	1	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24
HOURLY MAX	1	1	1	1	2	2	2	2	2	1	1	1	1	1	1	1	0	1	0	0	0	0	1	1			
HOURLY AVG	0.2	0.3	0.5	0.6	0.8	0.9	0.8	0.4	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1			

STATUS FLAG CODES

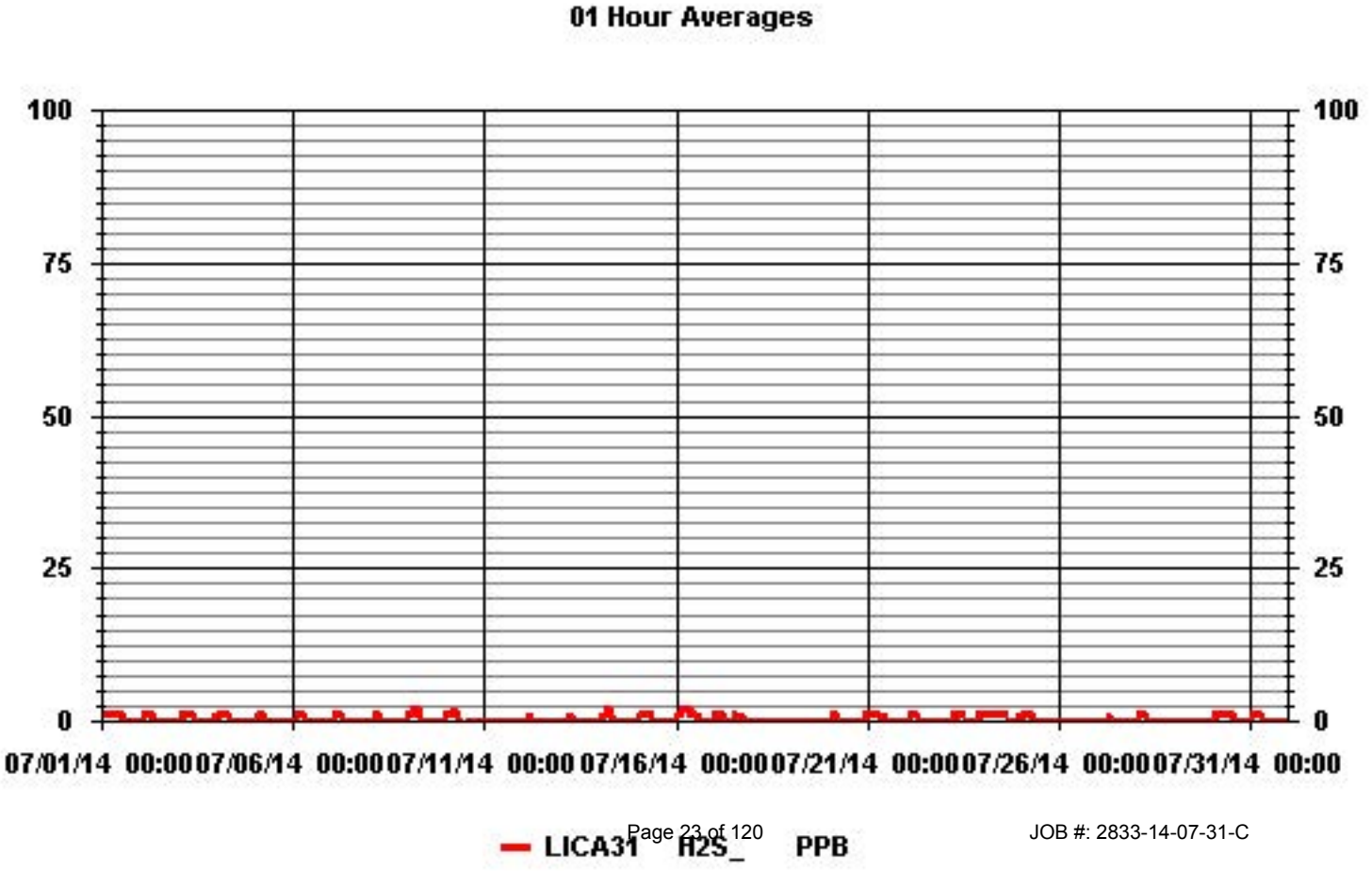
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



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

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0						
NUMBER OF 24-HR EXCEEDENCES:	0						
NUMBER OF NON-ZERO READINGS:	163						
MAXIMUM 1-HR AVERAGE:	2	PPB	@ HOUR(S)	VAR	ON DAY(S)		VAR
MAXIMUM 24-HR AVERAGE:	0.8	PPB			ON DAY(S)		16
					VAR-VARIOUS		
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:			739	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:			99.3	%
STANDARD DEVIATION:	0.47		MONTHLY AVERAGE:			0.25	PPB



JOB #: 2833-14-07-31-C

Lakeland Industry & Community Association - St. Lina Site

JULY 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	1	1	1	2	2	2	2	2	1	1	1	1	1	1	1	**S**	0	0	0	0	0	0	0	2	0.9	24
2	1	1	1	1	2	1	2	1	1	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	2	0.5	24
3	1	1	1	1	1	1	1	1	1	1	1	1	0	0	**S**	0	0	0	0	0	1	0	0	1	1	0.6	24
4	1	1	1	1	1	1	2	1	1	0	1	0	0	**S**	0	0	0	0	0	0	0	0	1	1	2	0.6	24
5	0	1	2	1	1	1	1	1	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	2	0.3	24
6	1	1	1	1	1	2	2	1	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	2	0.4	24
7	1	1	1	1	***4***	3	1	0	1	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	***4***	0.6	24
8	0	0	0	0	3	2	1	1	0	**S**	0	0	1	0	0	0	0	0	0	0	0	0	0	1	3	0.4	24
9	1	2	1	1	2	2	3	2	**S**	1	1	1	0	1	0	0	0	1	**P**	0	0	1	1	1	3	1.0	23
10	1	1	1	1	2	3	1	**S**	1	0	**C**	**C**	**C**	**C**	**C**	0	1	2	0	0	0	0	0	1	3	0.8	24
11	0	0	0	1	1	1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	1	3	0.3	24
12	1	1	0	1	2	**S**	0	0	0	0	0	0	0	0	0	0	2	3	0	0	0	0	0	0	3	0.4	24
13	0	0	0	1	**S**	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
14	0	1	1	**S**	2	2	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0.5	24
15	1	1	**S**	1	1	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0	1	2	0.6	24
16	1	**S**	2	2	***4***	2	2	2	2	2	2	1	1	1	1	1	1	0	1	1	0	1	1	1	***4***	***1.4***	24
17	**S**	2	2	1	2	2	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	**S**	2	1.2	24
18	0	0	0	0	0	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	2	0.3	24
19	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	1	1	0.2	24
20	1	1	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	1	1	1	2	0.5	24
21	2	2	1	1	2	2	2	1	1	1	1	1	1	1	1	0	1	1	0	**S**	0	**P**	**P**	**P**	2	1.1	21
22	1	0	1	1	2	2	2	0	1	0	0	0	0	1	0	0	0	0	**S**	0	0	0	0	0	2	0.5	24
23	0	0	1	1	1	1	1	1	1	1	1	1	**P**	**P**	0	0	0	**S**	0	1	1	1	1	1	1	0.7	22
24	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	**S**	0	0	0	0	0	1	1	2	0.8	24
25	1	0	1	1	1	2	2	1	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	2	0.4	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	1	1	0	2	1	0	0	0	0	**S**	0	0	0	0	0	0	0	1	1	1	2	0.3	24
28	1	1	1	**P**	**P**	1	1	1	1	1	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	1	0.4	22
29	0	0	0	0	0	0	1	0	0	0	0	**S**	1	1	1	0	0	1	1	1	1	1	1	0	1	0.4	24
30	1	1	1	1	1	1	1	1	1	1	**S**	1	1	3	1	1	1	1	1	1	1	1	1	1	3	1.1	24
31	1	1	3	1	1	1	1	1	1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.5	24
HOURLY MAX	2	2	3	2	4	3	3	2	2	2	2	1	2	3	1	1	2	3	1	1	1	3	1	1			
HOURLY AVG	0.7	0.7	0.9	0.9	1.5	1.4	1.3	0.9	0.7	0.4	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.1	0.2	0.2	0.4	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: 323

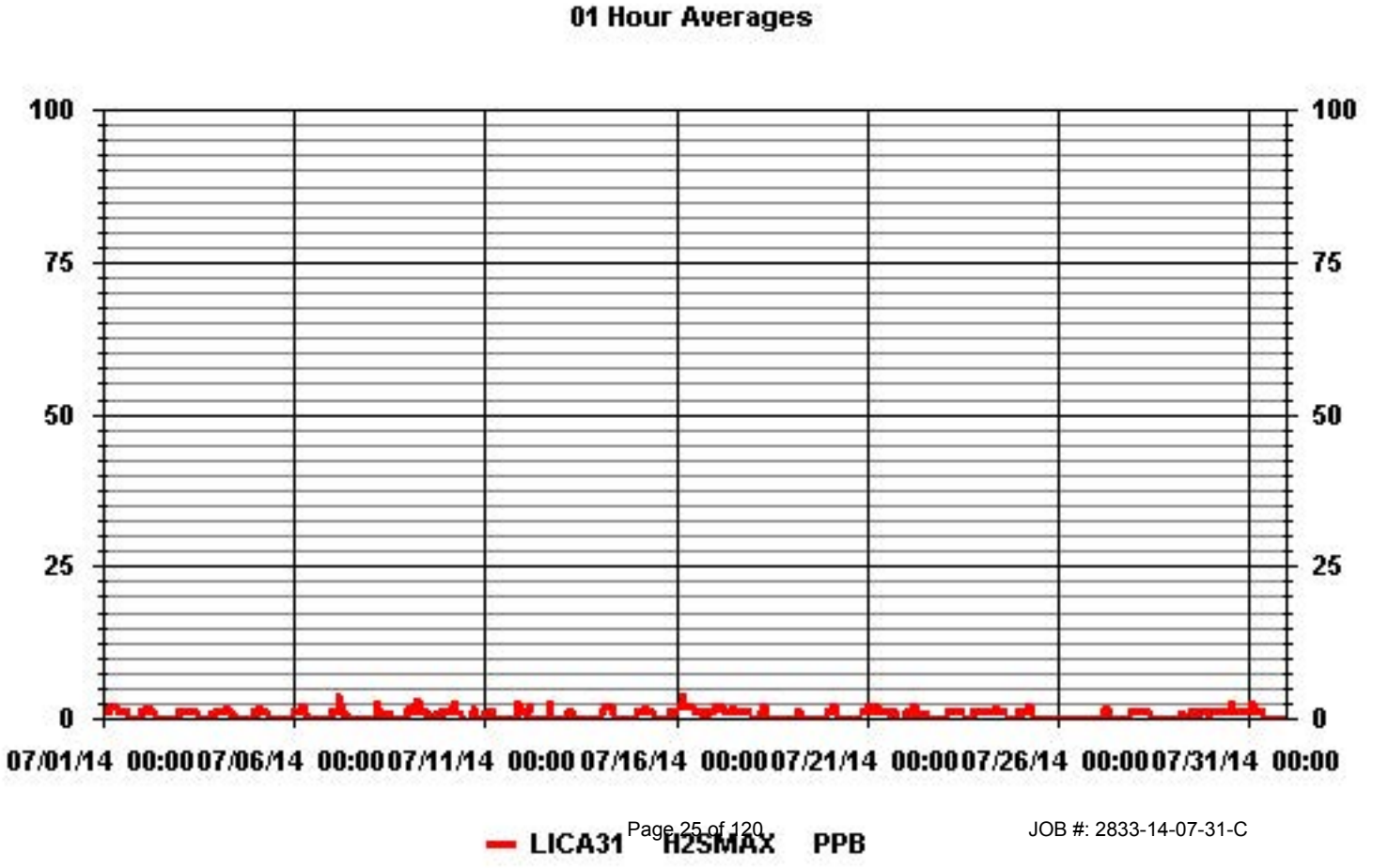
MAXIMUM INSTANTANEOUS VALUE: 4 PPB @ HOUR(S) 4, 4 ON DAY(S) 7, 16

VAR-VARIOUS

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 736 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION: 0.71



JOB #: 2833-14-07-31-C

LICA31
H2S_ / WDR Joint Frequency Distribution (Percent)

July 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	3.56	1.99	2.13	1.70	3.13	6.98	7.40	9.11	9.82	8.83	4.27	5.69	9.25	11.39	11.25	3.41	100.00
< 10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.56	1.99	2.13	1.70	3.13	6.98	7.40	9.11	9.82	8.83	4.27	5.69	9.25	11.39	11.25	3.41	

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	25	14	15	12	22	49	52	64	69	62	30	40	65	80	79	24	702
< 10																	
< 50																	
>= 50																	
Totals	25	14	15	12	22	49	52	64	69	62	30	40	65	80	79	24	

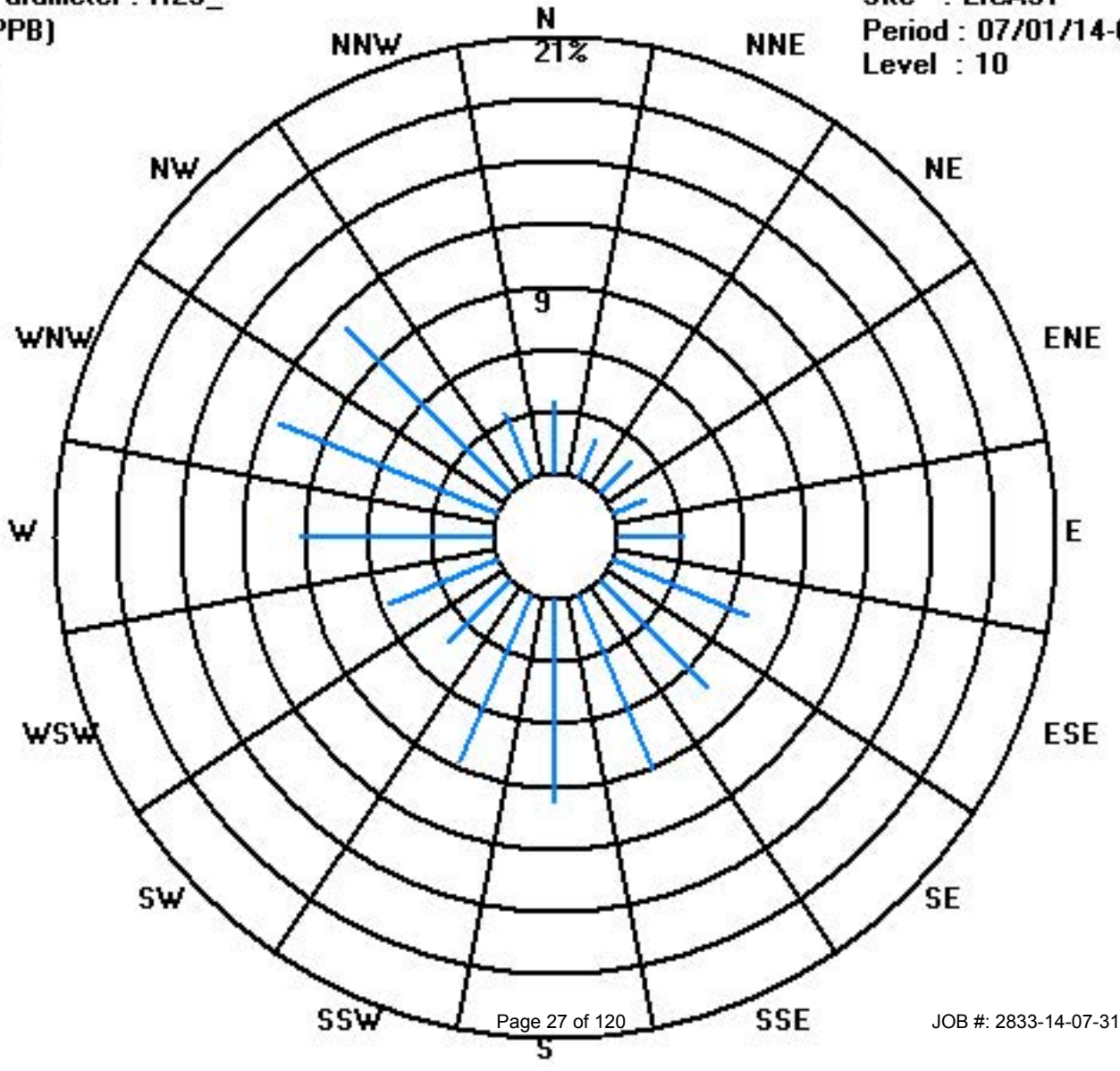
Calm : .00 %

Total # Operational Hours : 702

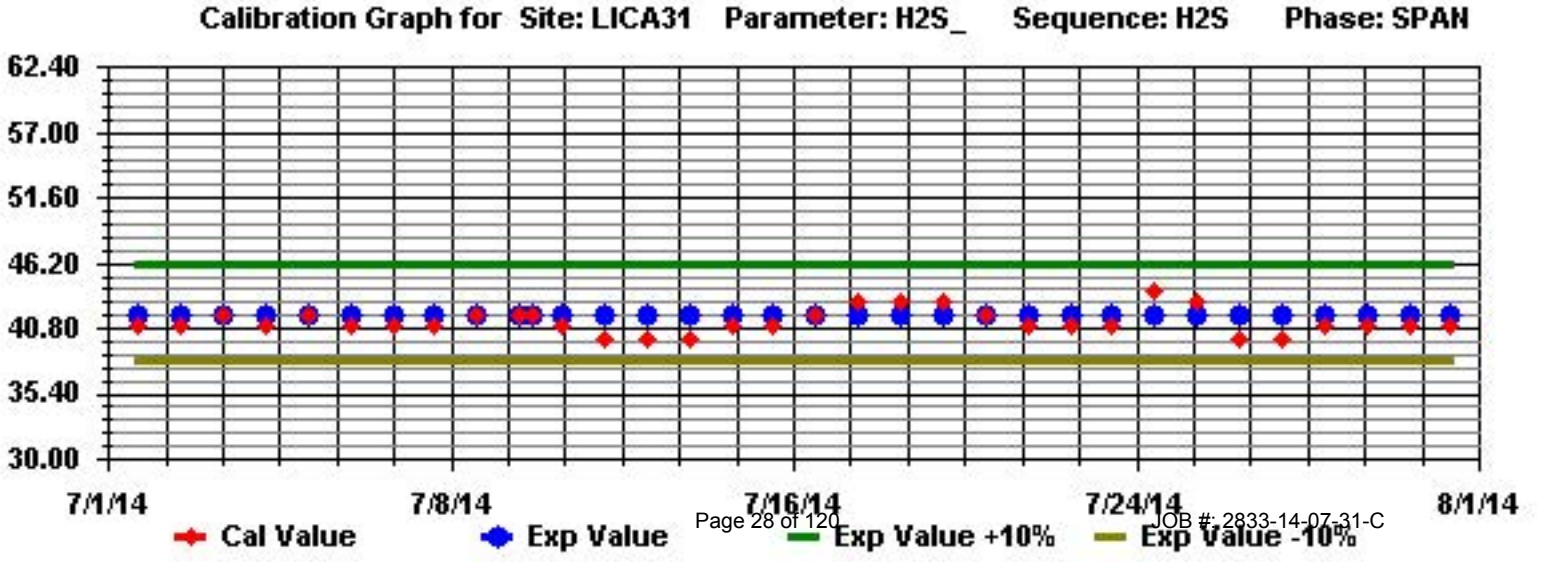
Logger : 31 Parameter : H2S_
Class Limits (PPB)

>= 50
< 50
< 10
< 3

Site : LICA31
Period : 07/01/14-07/31/14
Level : 10



JOB #: 2833-14-07-31-C


Calibration Graph for Site: LICA31 Parameter: H2S_ Sequence: H2S Phase: SPAN
62.40
57.00
51.60
46.20
40.80
35.40
30.00
7/1/14
7/8/14
7/16/14
7/24/14
8/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Hydrocarbons

Lakeland Industry & Community Association - St. Lina Site

JULY 2014

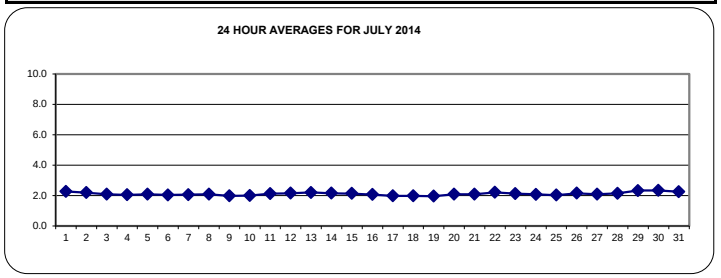
TOTAL HYDROCARBONS (THC) hourly averages in ppm

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

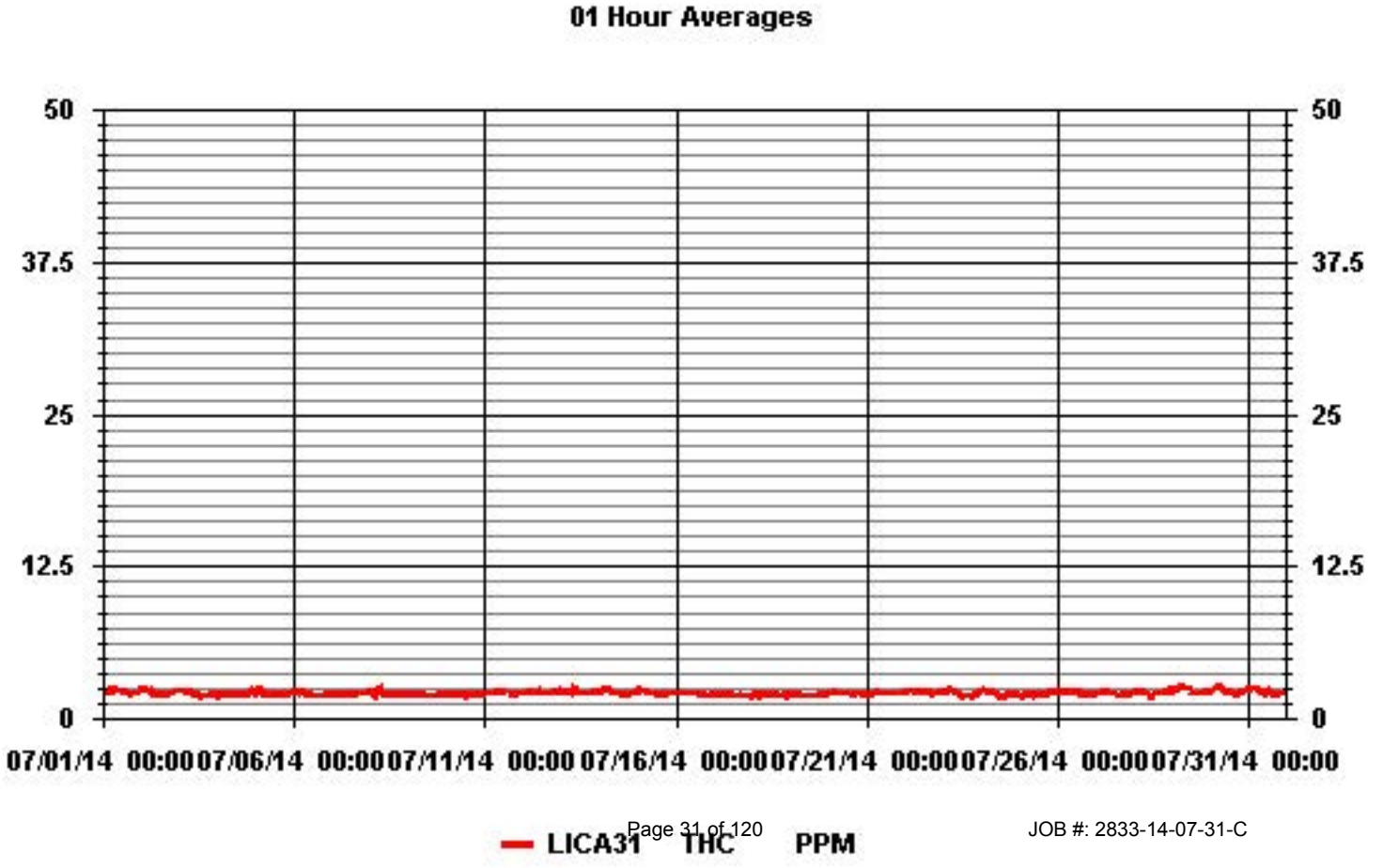
STATUS FLAG CODES

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:	703					
MAXIMUM 1-HR AVERAGE:	2.8	PPM	@ HOUR(S)	6	ON DAY(S)	29
MAXIMUM 24-HR AVERAGE:	2.3	PPM			ON DAY(S)	VAR
					VAR-VARIOUS	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		739	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:		99.3	%
STANDARD DEVIATION:	0.16		MONTHLY AVERAGE:		2.12	PPM



JOB #: 2833-14-07-31-C

Lakeland Industry & Community Association - St. Lina Site

JULY 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	2.7	2.7	2.6	2.5	2.6	2.6	2.5	2.8	3.6	2.4	2.3	2.5	2.3	2.3	2.4	2.3	**S**	2.2	2.1	2.2	2.2	2.2	2.3	2.5	3.6	2.5	24
2	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.4	3	2.1	2	2	2	2.1	2.1	**S**	2.1	2.1	2.1	2.1	2.1	2.3	2.4	2.4	3	2.3	24
3	2.4	2.4	2.4	2.3	2.3	2.3	2.2	2.2	2.2	2.1	2	2	2	2	**S**	2	2	2	2	2	2	2.3	2.2	2.4	2.4	2.2	24
4	2.2	2.3	2.3	2.1	2.4	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	**S**	2.1	2.3	2.1	2.2	2.1	2.1	2.3	3.5	2.6	2.7	3.5	2.3	24
5	2.4	2.4	2.8	2.7	2.7	2.2	2.1	2.1	2	2	2.2	2.1	**S**	2	2.1	2.3	2.2	2.1	2.2	2.3	2.1	2.1	2.1	2.2	2.8	2.2	24
6	2.3	2.3	3.7	2.2	5.4	2.3	2.3	2.3	2.2	2.2	2.1	**S**	2	2	2	2	2	2	2	2.1	2.1	2.1	2.1	2	5.4	2.3	24
7	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.1	2.2	2.1	**S**	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.2	2.3	2.3	2.2	2.8	2.8	2.2	24
8	2.5	2.9	2.7	2.2	2.7	3.4	3.2	2.3	2.1	**S**	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2	2.1	2.1	2.1	3.4	2.3	24
9	2.1	2	2	2.1	2.1	2.1	2.1	2	**S**	2	2	2	2	1.9	1.9	1.9	2.1	2.1	**P**	2.6	2.4	2.1	2.1	2.1	2.6	2.1	23
10	2.2	2.1	2.1	2.2	2.2	2.1	2.2	**S**	2	2	2	2	2	2	2	2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	24
11	2.1	2.2	2.1	2.2	2.1	2.2	**S**	2.3	2.3	2.4	2.3	2.3	**C**	**C**	**C**	**C**	**C**	2	2.1	2.1	2.1	2.2	2.3	2.2	2.4	2.2	24
12	2.1	2.2	2.2	2.4	2.4	**S**	2.1	2.1	2.8	***9.1***	2.4	2.1	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.4	2.3	2.2	2.4	2.5	***9.1***	***2.6***	24
13	2.4	2.3	2.4	2.5	**S**	2.7	2.4	2.6	2.5	2.5	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.7	2.3	24
14	2.3	2.4	2.5	**S**	2.5	2.4	2.5	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2	2.1	2.1	2.1	2.2	2.2	2.3	2.5	2.2	24
15	2.4	2.4	**S**	2.3	2.3	2.3	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2	2	2	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.4	2.2	24
16	2.2	**S**	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.6	2.2	2.2	2.1	2.1	2	2	2	2.1	2.3	2.7	2.7	2.2	24
17	**S**	2.1	2.5	2.7	2.2	2.1	2.5	2.4	2.1	2	2	2	2	2	2	2.1	2.2	2.2	2	1.9	2.1	2.1	2	**S**	2.7	2.1	24
18	2	2.5	2.1	2.1	2	2.4	2.4	2.1	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2	2	2	2	**S**	2	2.5	2.1	24
19	2	2.1	2.1	2.1	2.1	2.1	2.2	2	1.9	1.9	1.9	1.9	1.9	1.9	2	2	2	2.1	2.1	2.4	2.3	**S**	2	2.1	2.4	2.0	24
20	2.5	2.4	2.2	2.4	2.4	2.1	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.6	2.2	2.3	2.1	2.1	2.1	2.6	**S**	2.3	2.2	2.1	2.6	2.3	24
21	2.1	2.1	2.1	2.2	2.2	2.4	2.3	2.4	2.2	2.1	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.2	**S**	2.1	**P**	**P**	**P**	2.4	2.2	21
22	2.4	2.3	2.3	2.3	2.4	2.4	2.2	2.3	2.3	2.2	2.2	2.2	2.3	2.4	2.3	2.2	2.2	2.2	**S**	2.1	2.1	2.2	2.3	2.4	2.4	2.3	24
23	2.4	2.4	2.4	2.5	2.5	2.4	2.4	2.3	2.2	2.1	2.1	2	**P**	**P**	1.9	1.9	1.9	**S**	1.9	2.1	2.1	2.1	2.2	2.3	2.5	2.2	22
24	2.4	2.4	2.4	2.4	2.3	2.2	2.3	2.3	2.2	2.2	2.1	1.9	1.9	1.9	1.8	1.8	**S**	2	2.2	2.2	2.2	2.2	2.2	2.1	2.4	2.2	24
25	2.1	1.9	2	2	2	2.4	2.1	2	2	2	2	2	2	2	2	**S**	2	2	2.3	2.7	2.4	2.2	2.3	2.8	2.8	2.1	24
26	2.3	2.3	2.3	2.3	3.2	2.8	2.3	2.5	2.5	2.4	2.4	2.4	2.3	2.3	**S**	2	2	2	2	2	2.1	2.2	2.1	2.1	3.2	2.3	24
27	2.5	2.2	2.2	2.2	2.2	2.4	2.3	2.3	2.4	2.1	2.1	2.1	2.1	**S**	2	2	2.1	2	2.4	2.2	2.2	2.3	2.2	2.2	2.5	2.2	24
28	2.4	2.2	2.3	**P**	**P**	2.3	2.3	2.2	2.2	2.1	2	1.9	**S**	**Y**	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.5	2.4	2.5	2.2	21
29	2.4	2.4	2.5	2.5	2.7	2.8	2.9	2.9	2.7	2.5	2.5	**S**	2.3	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.4	2.9	2.4	24
30	2.3	2.4	2.7	2.9	2.8	2.8	2.9	2.7	2.6	2.5	**S**	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.4	2.4	2.9	2.4	24
31	2.5	2.6	2.7	2.7	3	2.6	2.6	2.5	2.3	**S**	2.2	2.4	2.5	2.5	2.5	2.2	2.1	2.1	2.1	2.2	2.1	2.2	2.2	2.2	3	2.4	24
HOURLY MAX	3	3	4	3	5	3	3	3	4	9	3	3	3	3	3	2	2	2	2	3	2	4	3	3			
HOURLY AVG	2.3	2.3	2.4	2.3	2.5	2.4	2.4	2.3	2.3	2.4	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.3			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 698

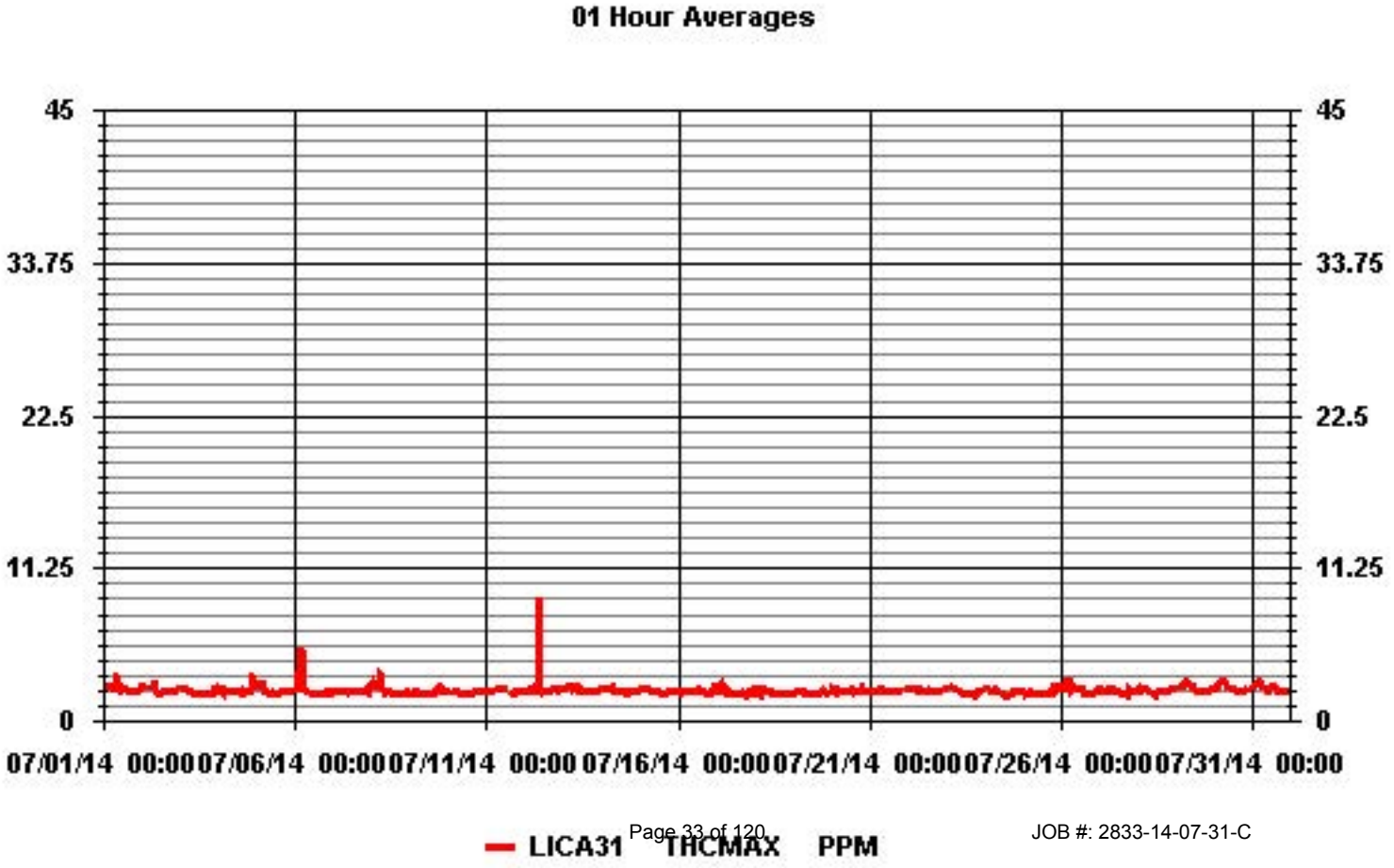
MAXIMUM INSTANTANEOUS VALUE: 9.1 PPM @ HOUR(S) 9 ON DAY(S) 12

VAR-VARIOUS

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 735 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION: 0.37



JOB #: 2833-14-07-31-C

LICA31
THC / WDR Joint Frequency Distribution (Percent)

July 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	3.55	1.99	2.13	1.70	3.12	6.97	7.39	9.10	9.81	8.81	4.26	5.68	9.38	11.37	11.23	3.41	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	3.55	1.99	2.13	1.70	3.12	6.97	7.39	9.10	9.81	8.81	4.26	5.68	9.38	11.37	11.23	3.41	

Calm : .00 %

Total # Operational Hours : 703

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	25	14	15	12	22	49	52	64	69	62	30	40	66	80	79	24	703
< 10.0																	
< 50.0																	
>= 50.0																	
Totals	25	14	15	12	22	49	52	64	69	62	30	40	66	80	79	24	

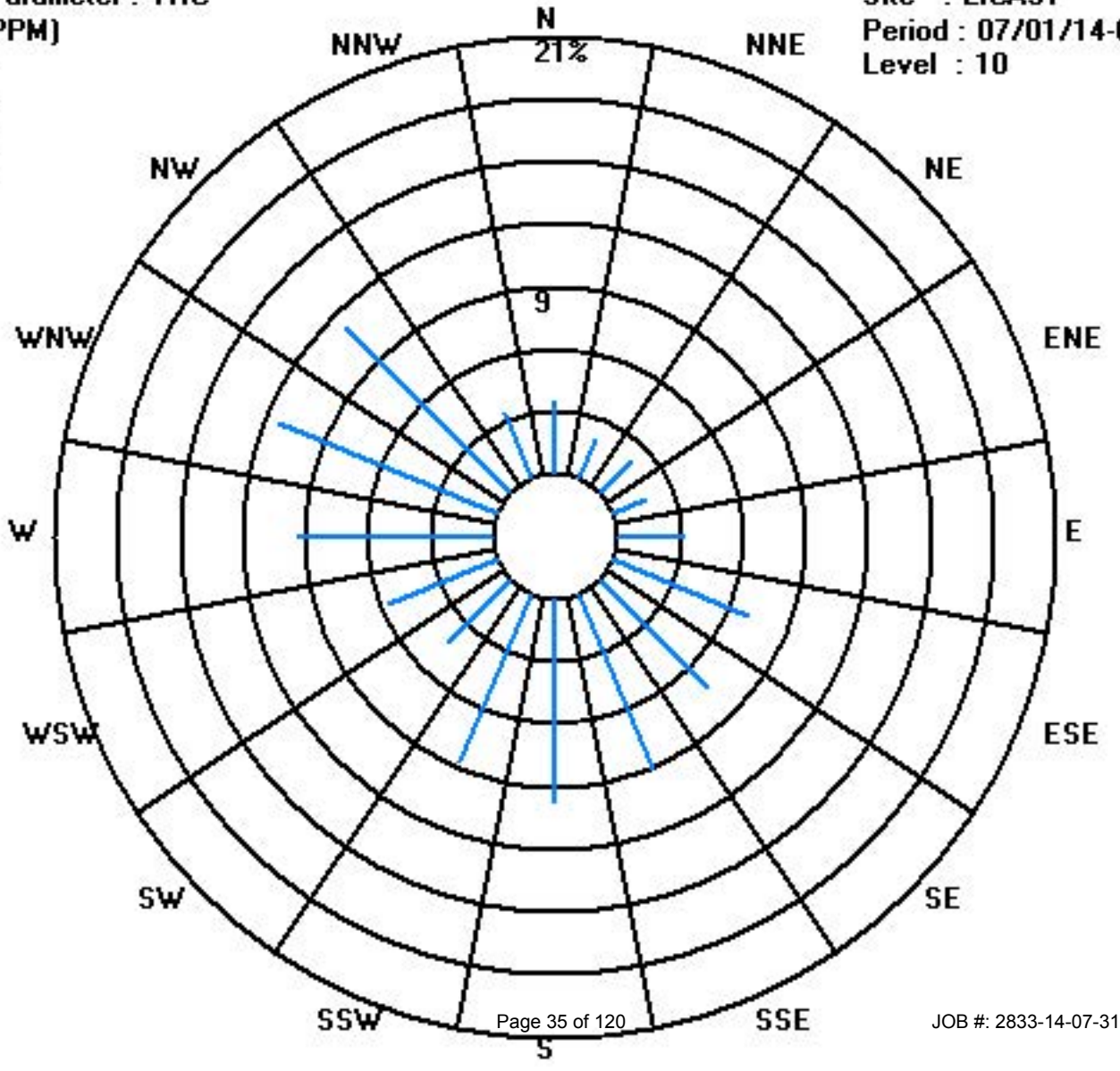
Calm : .00 %

Total # Operational Hours : 703

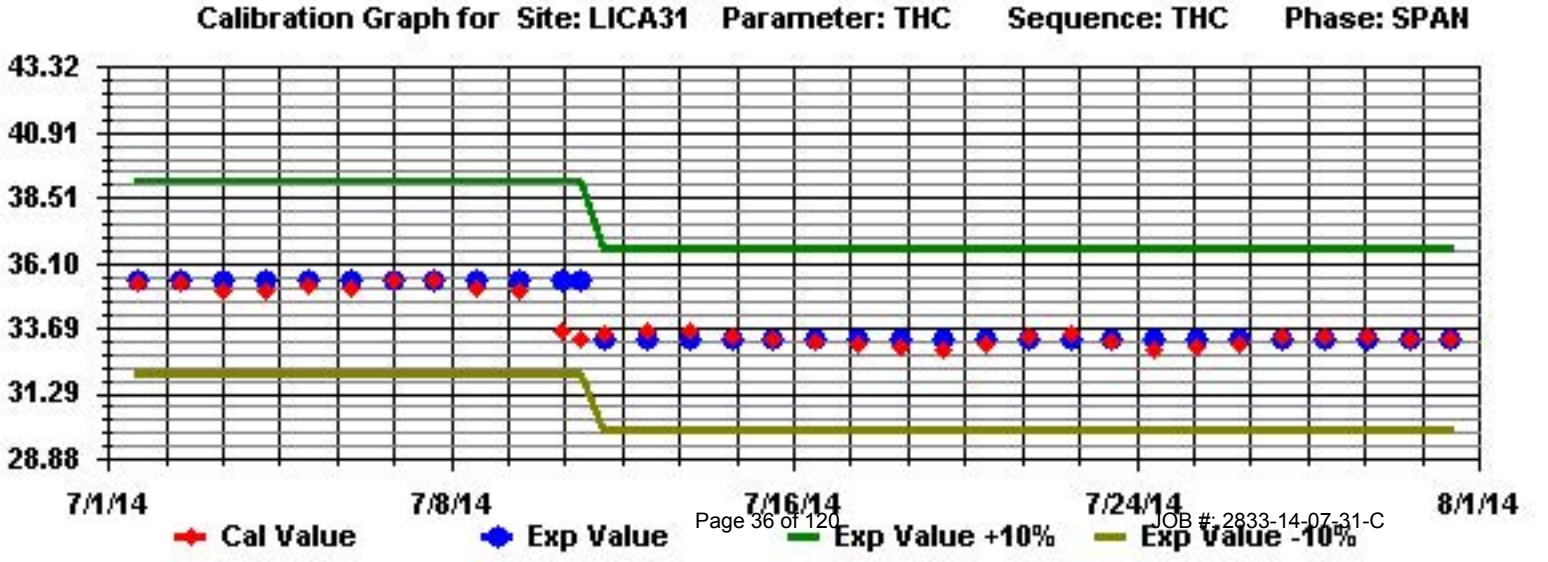
Logger : 31 Parameter : THC
Class Limits (PPM)

>= 50.0
< 50.0
< 10.0
< 3.0

Site : LICA31
Period : 07/01/14-07/31/14
Level : 10



JOB #: 2833-14-07-31-C


Calibration Graph for Site: LICA31 Parameter: THC Sequence: THC Phase: SPAN
43.32
40.91
38.51
36.10
33.69
31.29
28.88
7/1/14
7/8/14
7/16/14
7/24/14
8/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ozone

Lakeland Industry & Community Association - St. Lina Site

JULY 2014

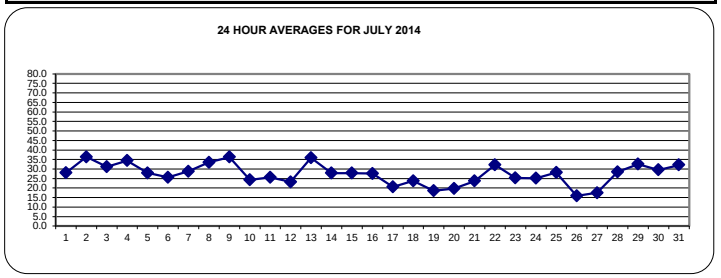
OZONE (O3) hourly averages in ppb

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	26	24	24	22	19	17	15	15	17	22	28	32	35	37	39	40	**S**	38	35	34	32	34	31	29	40	28.0	24
2	29	26	24	23	21	20	19	24	35	40	43	45	47	47	48	**S**	51	51	48	44	42	40	38	31	51	***36.3***	24
3	27	26	24	24	25	25	25	25	24	26	30	33	35	37	**S**	38	37	35	34	32	31	33	47	45	47	31.2	24
4	43	40	35	35	30	29	29	30	34	39	38	37	38	**S**	37	39	38	35	34	34	30	28	31	29	43	34.4	24
5	32	27	24	19	21	24	25	25	28	31	32	34	**S**	37	36	33	32	31	29	26	27	25	23	21	37	27.9	24
6	19	20	23	26	22	18	21	24	27	27	26	**S**	29	32	31	28	27	28	29	30	28	26	25	23	32	25.6	24
7	23	23	21	20	20	19	19	21	26	30	**S**	37	38	37	39	38	36	34	32	30	30	31	29	28	39	28.7	24
8	27	25	26	35	18	22	21	24	29	**S**	37	39	37	36	35	40	42	49	46	40	39	36	34	33	49	33.5	24
9	35	34	33	32	30	29	29	31	**S**	40	40	41	43	43	43	44	44	41	**P**	34	32	36	33	31	44	36.3	23
10	30	29	29	27	25	22	25	**S**	27	27	28	26	23	19	**S**	22	20	20	19	19	19	25	27	26	30	24.3	24
11	27	25	23	21	20	19	**S**	21	23	24	26	30	31	**C**	**C**	**C**	**C**	31	30	25	26	26	29	30	31	25.6	24
12	32	27	24	21	17	**S**	15	16	19	24	26	24	26	26	28	29	27	24	24	22	21	22	20	20	32	23.2	24
13	32	44	46	47	**S**	39	41	41	43	39	40	40	39	35	34	33	34	33	32	30	26	24	26	27	47	35.9	24
14	29	27	26	**S**	26	24	22	25	24	26	27	29	30	30	32	32	32	33	32	29	27	27	26	26	33	27.9	24
15	22	20	**S**	21	22	21	22	22	22	23	27	30	32	35	37	39	39	35	33	30	30	27	27	25	39	27.9	24
16	25	**S**	23	25	23	20	19	16	14	17	28	38	48	50	41	34	32	28	26	25	27	26	26	25	50	27.7	24
17	**S**	21	21	23	23	23	18	21	24	26	25	21	20	22	22	17	17	17	16	19	19	19	18	**S**	26	20.5	24
18	21	19	19	18	19	17	15	14	15	19	23	25	27	29	30	33	33	30	27	27	30	28	**S**	27	33	23.7	24
19	26	27	26	21	18	15	13	14	16	19	20	20	21	22	19	18	19	18	17	16	15	**S**	14	14	27	18.6	24
20	16	15	13	13	12	21	28	26	26	26	27	27	25	19	18	18	20	21	17	16	**S**	21	16	14	28	19.8	24
21	14	15	18	16	14	12	10	10	17	23	28	33	35	34	34	33	34	34	32	**S**	25	26	**P**	**R**	35	23.7	22
22	25	28	28	29	26	21	30	28	27	31	36	38	38	39	41	41	40	39	**S**	33	32	33	31	27	41	32.2	24
23	23	20	21	21	19	18	17	20	23	26	30	32	**P**	30	33	32	29	**S**	35	32	28	26	22	18	35	25.2	23
24	14	12	12	13	14	15	**S**	**S**	16	17	22	31	35	37	38	37	**S**	34	34	30	27	30	32	28	38	25.1	24
25	30	34	30	27	23	21	23	26	28	29	32	36	36	38	36	**S**	34	32	31	29	24	16	14	17	38	28.1	24
26	16	14	14	13	11	10	9	9	9	12	14	17	22	25	**S**	24	26	23	20	20	18	16	13	11	26	15.9	24
27	12	10	10	10	8	6	7	8	9	13	21	23	27	**S**	28	26	25	27	27	23	22	19	21	20	28	17.5	24
28	17	19	20	17	21	21	21	23	25	26	28	32	38	**C**	**C**	**C**	**C**	41	40	37	36	34	36	36	41	28.4	24
29	34	31	29	27	24	21	**S**	**S**	28	31	36	**S**	41	41	39	39	40	39	37	30	30	31	28	27	41	32.5	24
30	24	22	21	17	15	15	16	19	23	27	**S**	36	38	40	39	39	38	39	35	34	37	37	37	31	40	29.5	24
31	29	24	23	20	19	20	20	21	22	**S**	26	38	50	***55***	48	44	41	42	39	33	32	36	27	29	***55***	32.1	24
HOURLY MAX	43	44	46	47	30	39	41	41	43	40	43	45	50	55	48	44	51	51	48	44	42	40	47	45			
HOURLY AVG	25.3	24.3	23.7	22.8	20.2	20.1	20.5	21.4	23.3	26.2	29.1	31.9	33.9	34.5	34.8	33.0	32.9	32.7	30.7	28.8	28.1	27.9	26.9	25.8			

STATUS FLAG CODES

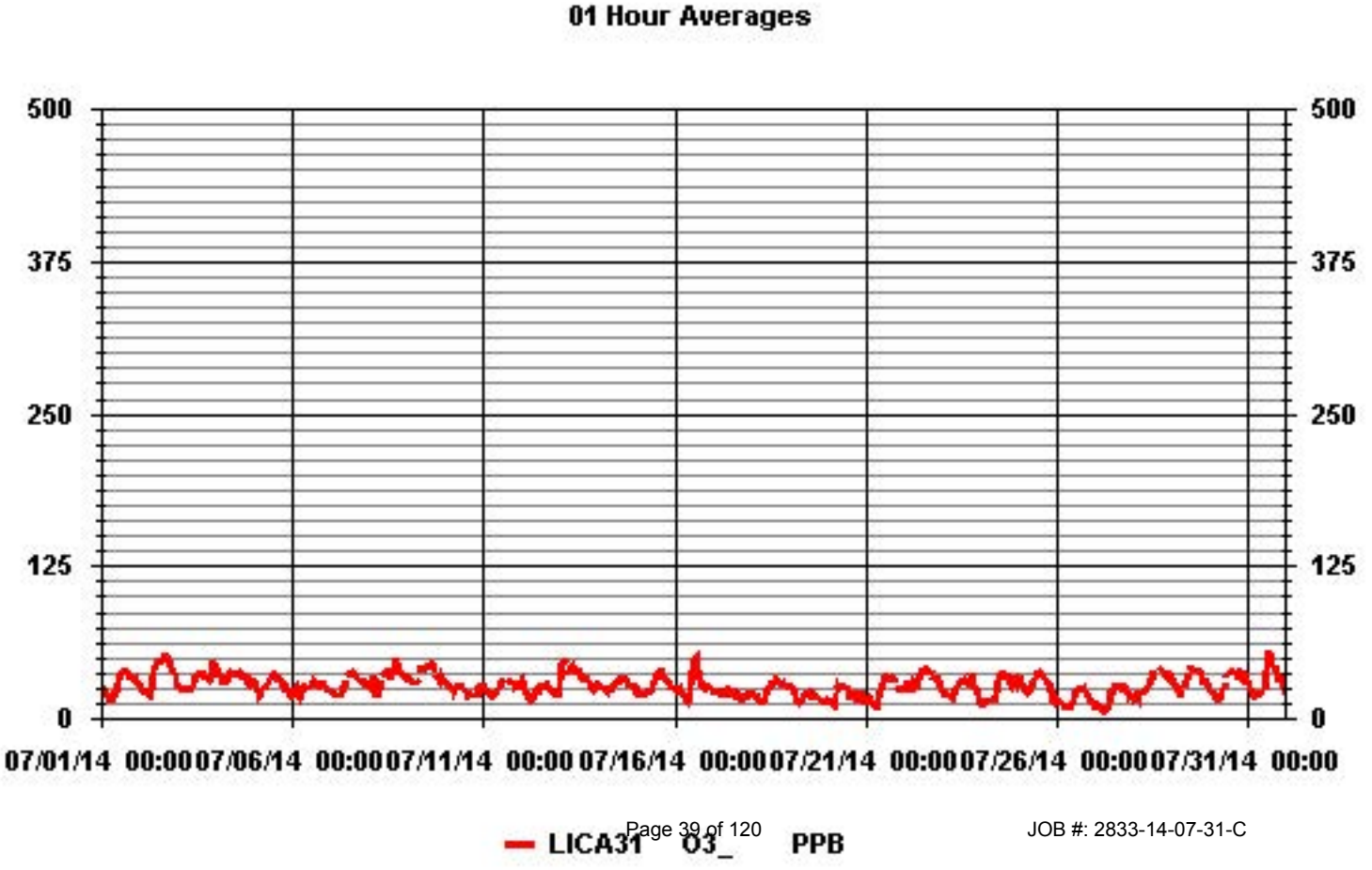
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



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

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	696					
MAXIMUM 1-HR AVERAGE:	55	PPB	@ HOUR(S)	13	ON DAY(S)	31
MAXIMUM 24-HR AVERAGE:	36.3	PPB			ON DAY(S)	2
					VAR-VARIOUS	
IZS CALIBRATION TIME:	36	HRS	OPERATIONAL TIME:		740	HRS
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:		99.5	%
STANDARD DEVIATION:	8.56		MONTHLY AVERAGE:		27.34	PPB



JOB #: 2833-14-07-31-C

Lakeland Industry & Community Association - St. Lina Site

JULY 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	27	26	25	23	20	18	17	17	21	26	33	35	38	40	42	42	**S**	40	39	36	35	35	33	30	42	30.3	24
2	29	28	25	25	24	22	23	29	41	43	48	48	50	50	50	**S**	53	53	52	46	44	40	40	35	53	39.0	24
3	29	27	26	25	26	27	26	26	26	28	34	36	39	39	**S**	40	40	40	40	39	38	39	50	48	50	34.3	24
4	45	43	38	38	35	30	32	33	36	41	41	40	41	**S**	41	42	41	38	37	36	35	33	36	34	45	37.7	24
5	35	30	29	24	26	26	27	28	30	33	35	37	**S**	40	37	37	34	32	31	29	28	27	24	23	40	30.5	24
6	20	23	28	28	27	22	24	26	29	29	27	**S**	32	34	35	29	29	30	30	30	29	27	26	25	35	27.8	24
7	23	23	22	21	20	19	21	23	29	35	**S**	39	39	40	41	41	37	35	34	33	31	32	32	30	41	30.4	24
8	29	30	33	37	38	31	25	29	35	**S**	41	42	41	38	39	43	48	52	50	43	40	39	35	35	52	38.0	24
9	37	35	34	33	31	30	30	35	**S**	43	43	44	46	45	46	47	49	49	**P**	36	38	38	35	32	49	38.9	23
10	31	30	29	28	28	24	27	**S**	28	29	29	27	26	22	**S**	24	22	22	20	20	20	29	29	27	31	26.0	24
11	27	27	24	22	21	21	**S**	23	24	26	28	31	**C**	**C**	**C**	**C**	**C**	34	34	30	29	30	32	34	34	27.6	24
12	36	31	27	24	21	**S**	16	18	24	27	29	27	29	29	31	33	30	28	26	25	24	25	24	24	36	26.4	24
13	44	47	50	50	**S**	44	44	42	46	41	43	43	43	38	37	36	37	36	36	34	29	28	28	29	50	***39.3***	24
14	30	27	27	**S**	26	26	23	26	27	29	30	31	32	33	34	35	34	35	36	33	31	30	29	28	36	30.1	24
15	25	23	**S**	23	22	22	25	24	25	27	30	34	37	39	42	43	44	41	39	35	34	30	30	29	44	31.4	24
16	28	**S**	25	27	27	23	21	20	16	23	38	50	58	59	51	47	37	36	30	30	30	30	29	32	59	33.3	24
17	**S**	25	25	25	25	27	23	25	29	29	29	26	23	26	26	25	20	19	20	21	21	21	20	**S**	29	24.1	24
18	23	22	21	20	21	20	17	17	18	23	27	29	32	33	36	36	36	36	31	31	32	32	**S**	29	36	27.0	24
19	29	29	29	25	20	19	15	16	19	21	23	23	25	25	24	22	22	22	20	19	18	**S**	19	17	29	21.8	24
20	16	17	16	16	13	28	29	28	28	29	30	30	28	23	21	22	23	23	20	19	**S**	23	20	16	30	22.5	24
21	16	44	20	18	15	17	12	14	21	28	33	37	38	37	37	36	37	37	36	**S**	29	**P**	**P**	**P**	44	28.1	21
22	28	32	30	31	30	29	32	31	31	35	41	42	41	42	44	45	43	42	**S**	37	36	37	35	31	45	35.9	24
23	27	22	24	24	22	21	21	24	29	32	36	37	**P**	36	38	38	34	**S**	40	37	35	32	26	23	40	29.9	23
24	18	15	16	16	18	18	**S**	**S**	21	22	32	38	42	44	44	42	**S**	37	38	34	31	37	38	32	44	30.1	24
25	36	37	33	29	27	24	26	29	30	34	37	40	40	41	41	**S**	39	36	33	35	34	23	20	22	41	32.4	24
26	21	20	19	19	17	14	14	13	15	19	21	26	31	33	**S**	32	34	31	27	27	24	22	20	17	34	22.4	24
27	18	16	16	15	13	10	13	13	16	22	30	31	36	**S**	37	34	34	36	35	34	29	25	27	27	37	24.7	24
28	26	25	27	**P**	**P**	26	26	29	33	39	36	48	**C**	**C**	**C**	**C**	**C**	46	46	45	42	40	41	39	48	36.1	22
29	37	34	32	29	28	23	**S**	**S**	32	39	44	**S**	46	47	47	47	48	45	45	37	36	36	35	33	48	38.1	24
30	29	27	27	23	21	20	22	26	28	35	**S**	42	44	45	44	47	45	44	40	38	41	41	41	36	47	35.0	24
31	33	29	29	26	25	25	25	26	26	**S**	33	48	56	***62***	56	52	47	47	43	39	38	42	32	34	***62***	38.0	24
HOURLY MAX	45	47	50	50	38	44	44	42	46	43	48	50	58	62	56	52	53	53	52	46	44	42	50	48			
HOURLY AVG	28.4	28.1	26.9	25.7	23.7	23.5	23.4	24.6	27.1	30.6	33.8	36.6	38.3	38.5	39.3	37.7	36.9	36.7	34.8	32.9	32.0	31.8	30.6	29.3			

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: 691

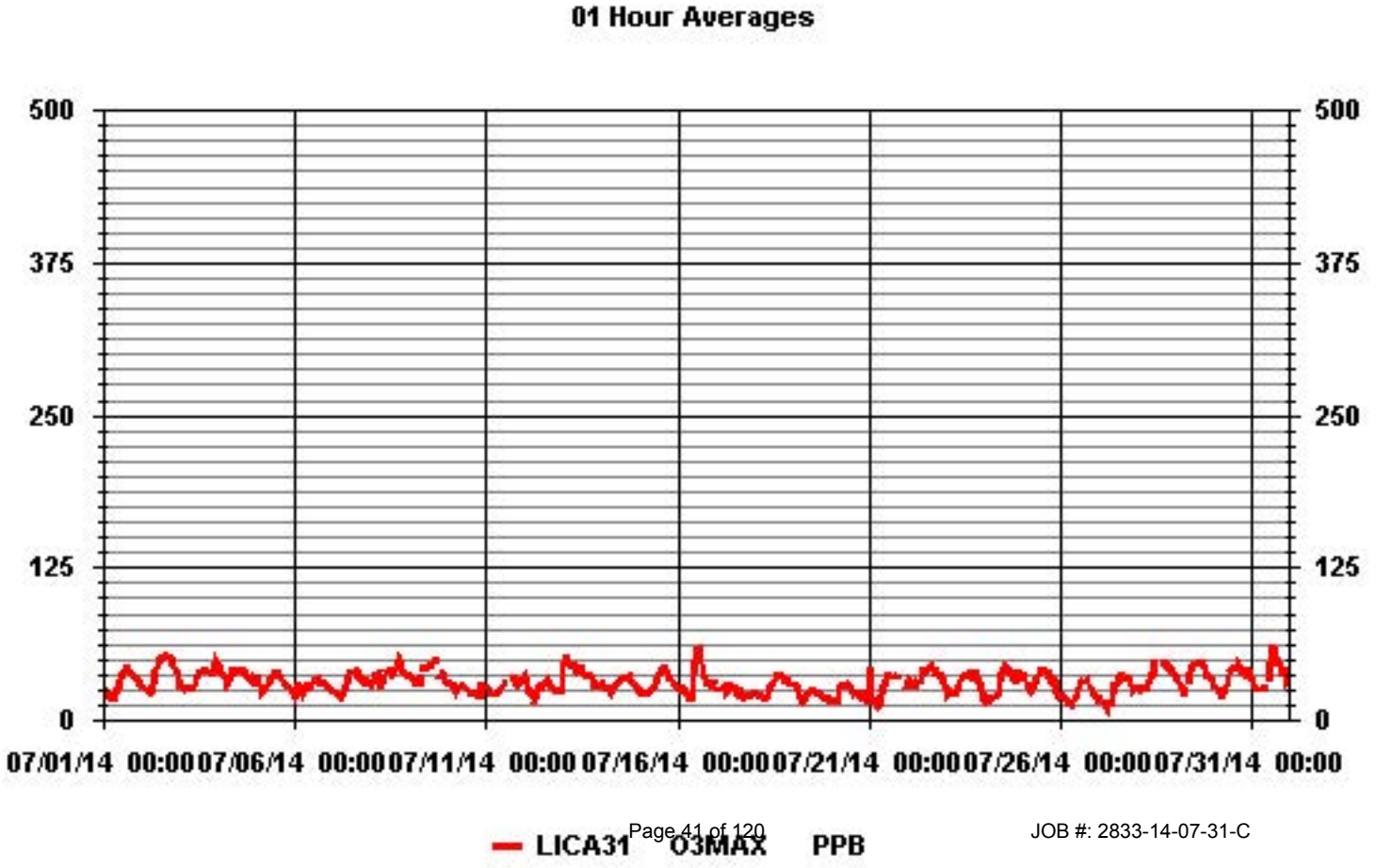
MAXIMUM INSTANTANEOUS VALUE: 62 PPB @ HOUR(S) 13 ON DAY(S) 31

VAR-VARIOUS

IZS CALIBRATION TIME: 36 HRS OPERATIONAL TIME: 737 HRS

MONTHLY CALIBRATION TIME: 10 HRS

STANDARD DEVIATION: 8.91



JOB #: 2833-14-07-31-C

LICA31
O3_ / WDR Joint Frequency Distribution (Percent)

July 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	3.59	2.01	2.01	1.58	3.16	6.75	7.04	8.47	10.20	8.90	4.16	5.74	9.33	11.49	11.35	3.44	99.28
<	110	.00	.00	.14	.14	.00	.00	.14	.14	.00	.00	.14	.00	.00	.00	.00	.00	.71
<	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	3.59	2.01	2.15	1.72	3.16	6.75	7.18	8.62	10.20	8.90	4.31	5.74	9.33	11.49	11.35	3.44	

Calm : .00 %

Total # Operational Hours : 696

Distribution By Samples

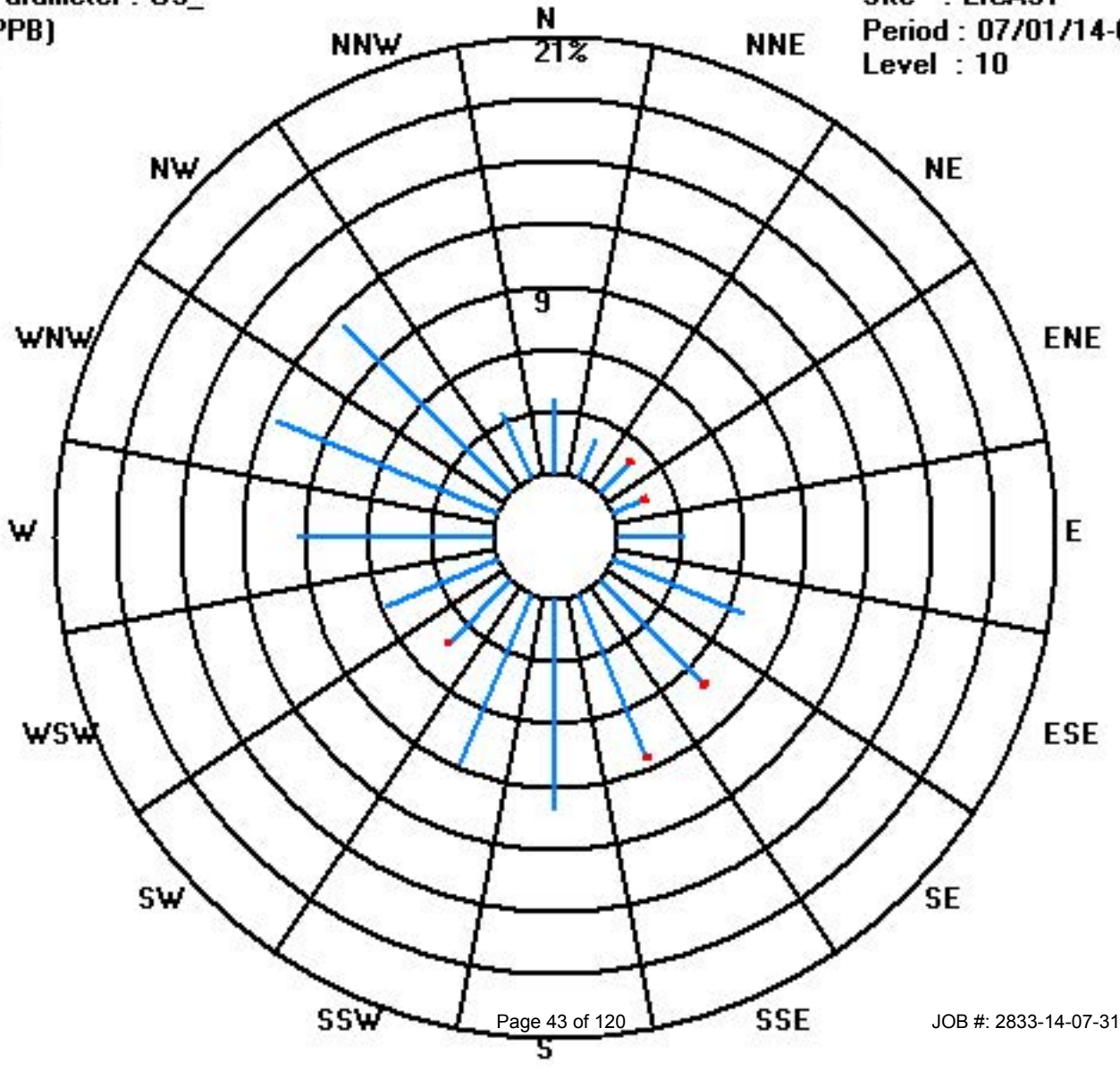
		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	25	14	14	11	22	47	49	59	71	62	29	40	65	80	79	24	691
<	110			1	1			1	1			1						5
<	210																	
>=	210																	
	Totals	25	14	15	12	22	47	50	60	71	62	30	40	65	80	79	24	

Calm : .00 %

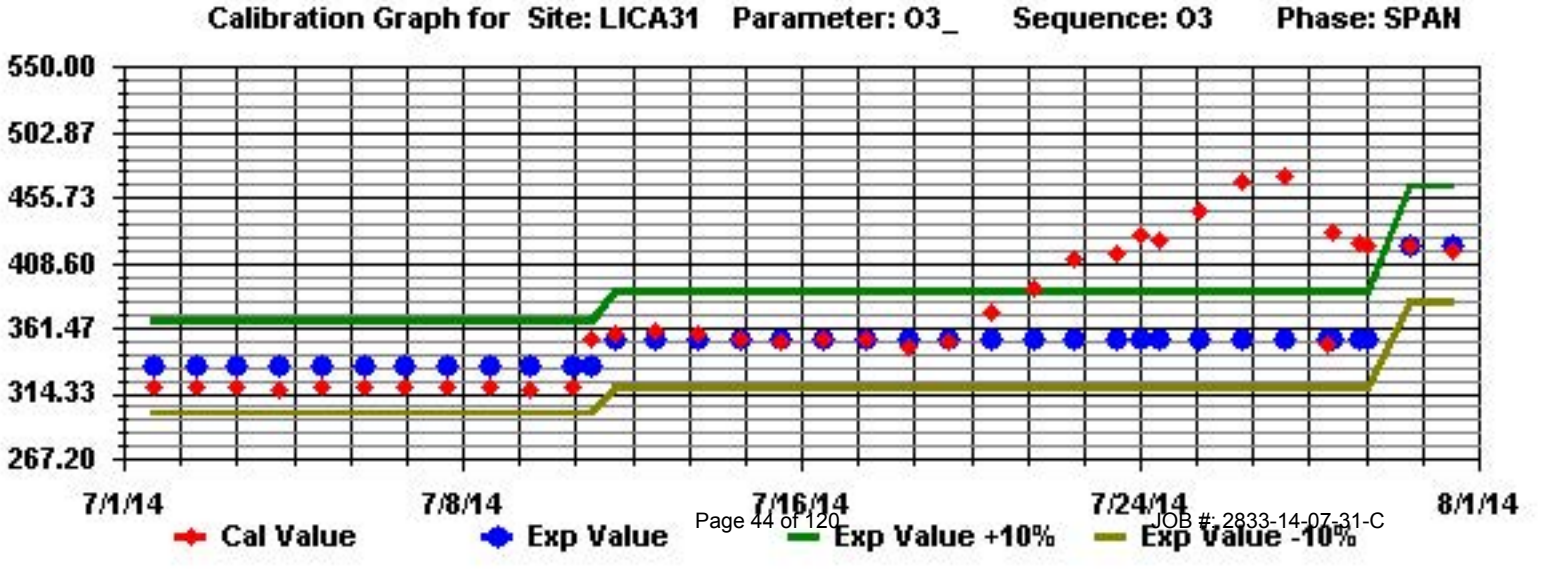
Total # Operational Hours : 696

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

Site : LICA31
Period : 07/01/14-07/31/14
Level : 10



JOB #: 2833-14-07-31-C


Calibration Graph for Site: LICA31 Parameter: O3_ Sequence: O3 Phase: SPAN
550.00
502.87
455.73
408.60
361.47
314.33
267.20
7/1/14
7/8/14
7/16/14
7/24/14
8/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitrogen Dioxide

Lakeland Industry & Community Association - St. Lina Site

JULY 2014

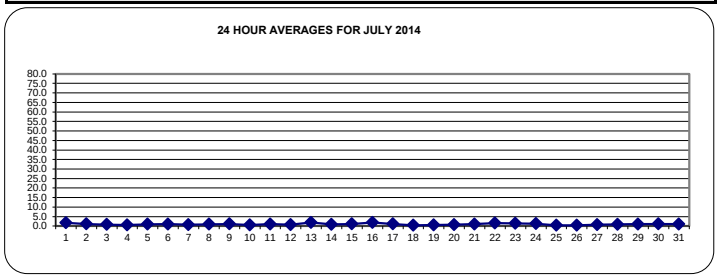
NITROGEN DIOXIDE (NO2) hourly averages in ppb

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	2.1	2	2	2.1	2.1	2.2	2.1	2.2	1.7	2	2	2.1	2	1.9	1.9	1.8	**S**	0.3	0.5	0.3	0.8	0.7	1.3	1.7	2.2	1.6	24
2	1.8	1.8	2	1.7	1.8	1.9	1.8	3	2.4	0.5	0.3	0.2	0.2	0.3	0.2	**S**	0.1	0.2	0.1	0.2	0.4	1.2	1.6	2	3	1.1	24
3	1.8	1.4	1.3	1.2	1.1	1.1	0.8	0.7	0.6	0.5	0.2	0.1	0.1	0.3	**S**	0.8	0.5	0.3	0.2	0.5	0.7	1.2	1.3	1.3	1.8	0.8	24
4	1.3	1.4	1	1	1.1	0.8	0.6	0.4	0.5	0.4	0.2	0.3	0.3	**S**	0.3	0.2	0.2	0.1	0.1	0.2	0.5	0.5	0.6	0.7	1.4	0.6	24
5	0.7	2.6	4.4	6.2	3.2	0.4	0.3	0.3	0.2	0.2	0.1	0.1	**S**	0.1	0.1	0.1	0	0.1	0.1	0.1	0	0.4	0.4	1.2	6.2	0.9	24
6	0.9	1.1	1.2	1.6	1.8	2.3	1.9	3.2	2.6	1.4	0.7	**S**	0.4	0.3	0.3	0.2	0.3	0.5	0.3	0.5	0.6	0.5	0.6	0.7	3.2	1.0	24
7	0.5	0.6	1.4	1.3	1.4	1.2	1	0.7	0.8	0.6	**S**	0.1	0	0.4	0.5	0.9	0.5	0.4	0.4	0.8	0.8	0.7	0.5	0.3	1.4	0.7	24
8	0.3	0.5	0.6	0.5	1.4	1.7	1	0.8	0.8	**S**	0.9	0.9	0.7	0.7	0.5	0.7	0.9	1	0.9	0.9	1.1	2.1	1.3	1.1	2.1	0.9	24
9	1.2	1.4	1.3	1.3	1.8	2.3	2.2	2.1	**S**	1.8	1	0.7	0.6	0.6	0.7	0.8	0.9	1.2	**P**	0.5	0.8	0.2	0.6	0.5	2.3	1.1	23
10	0.5	0.5	0.5	1	1	1	0.7	**S**	0.7	0.4	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0.4	0.1	0.1	0.1	0.4	0.3	1	0.5	24
11	0.4	0.5	0.6	0.6	0.5	0.5	**S**	0.5	0.5	0.6	0.4	0.7	0.8	0.9	1.1	0.8	1	0.9	1.2	2.1	1.7	2	2.2	2.2	2.2	1.0	24
12	2.8	2.2	1.4	1.3	0.9	**S**	0.5	0.7	0.8	1.6	0.8	0	0	0	0	0	0	0.3	0	0.5	0.4	0.1	0.5	2.2	2.8	0.7	24
13	1.9	2.1	2.8	3.6	**S**	3.1	3.2	5.8	4	2.9	1.6	1.4	1.1	1	0.9	0.8	0.8	0.9	0.7	0.6	0.7	0.7	0.9	1.2	5.8	***1.9***	24
14	1.8	1.8	2	**S**	1.6	1.3	1.4	1.2	0.9	0.5	0.3	0.2	0.3	0.2	0.3	0.3	0.6	0.4	0.4	0.5	0.6	1	1.2	1.5	2	0.9	24
15	1.9	1.6	**S**	1.3	1.3	1.1	1.3	1.3	2.4	1.9	0.5	0.3	0.7	0.7	0.4	0.5	0.4	1.8	0.7	0.7	0.7	1.2	1.4	1.3	2.4	1.1	24
16	1.3	**S**	2.3	1.6	1.7	2.3	2.2	2.7	2.8	3.6	3.5	2.7	3.1	3.4	2.8	1	0.8	0.7	0.4	0.2	0.4	0.6	0.5	1.4	3.6	1.8	24
17	**S**	1.2	1	1	1.1	1.4	1.4	0.8	0.7	0.6	0.8	0.9	1.2	1.2	1.1	1.6	1.1	1.3	1.2	1.2	1.4	1.3	0.8	**S**	1.6	1.1	24
18	0	0	0	0.1	0	0.3	0.5	0.2	0.3	0.3	0	0.3	0	0.6	0.4	0.1	0.2	0.7	1.3	1.5	0.6	0.6	**S**	1	1.5	0.4	24
19	1	1.3	1.3	2	1.9	1.2	2.4	0.5	0.5	0.4	0.1	0.2	0.1	0	0	0	0	0	0	0	0.6	**S**	0.5	0.3	2.4	0.6	24
20	0.7	1.1	0.7	0.9	0.9	1.2	1.4	1.2	1.2	0.8	0.5	0.6	0.8	0.9	0.5	0.5	0.2	0.3	0.3	0.2	**S**	0.2	0.6	0.4	1.4	0.7	24
21	0.5	0.6	0.6	0.7	0.9	1.5	2.1	2.5	1.3	0.7	0.7	0.9	0.9	0.6	0.7	0.5	0.7	0.8	0.6	**S**	2	2.3	**P**	**R**	2.5	1.1	22
22	1.2	1.5	1.4	1.3	2.9	***9.4***	1.8	1.5	0.6	0.9	0.6	0.7	0.6	0.9	0.7	0.5	0.5	0.6	**S**	1.4	1.1	1.7	1.6	2.3	***9.4***	1.6	24
23	2.5	2.4	2	1.9	2	1.9	2	1.6	1.6	1.2	1.2	0.7	**P**	**R**	0.7	0.7	0.5	**S**	0.3	0.5	1.2	1.4	1.4	1.9	2.5	1.4	22
24	1.9	1.8	1.8	1.8	1.5	1.5	1.6	1.8	1.8	1.6	1	0.7	0.7	0.8	0.9	0.7	**S**	0.7	0.6	1.1	1.3	0.8	0.6	0.7	1.9	1.2	24
25	0.6	0.4	0.4	0.3	0.6	0.2	0.5	0.2	0.5	0.3	0.4	0.5	0.4	0.1	0	**S**	0.3	0.3	0.4	0.5	0.2	0.5	0.4	0.3	0.6	0.4	24
26	0.4	0.5	0.8	0.6	0.3	0.3	0.3	0.3	0.5	0.4	0.3	0.4	0.2	0.1	**S**	0.3	0.5	0.4	0.4	0.3	0.4	0.6	1.2	1	1.2	0.5	24
27	0.7	0.7	0.8	1	1.1	1.1	0.9	0.8	0.7	0.6	0.4	0.3	0.5	**S**	0	0.2	0.2	0.6	0.6	0.2	0.7	0.6	0.8	1.1	1.1	0.6	24
28	1.2	1.6	1.4	1.3	0.9	1.7	1.2	1.3	0.7	0.5	0.2	0.2	**S**	0.3	**Y**	0.7	0.5	0.1	0.3	0.3	0.7	1	1.5	1.3	1.7	0.9	23
29	1.3	1.2	1.2	1.5	1.4	1.8	2.1	1.9	1.5	1.2	0.8	**S**	0.9	0.3	0.2	0.2	0.4	0.2	0.3	0.3	0.5	1.2	1.5	1.6	2.1	1.0	24
30	1.6	1.8	1.7	2	2	1.8	1.8	1.8	**S**	1.3	**S**	0.6	0.4	0.6	0.4	0.3	0.4	0.2	0	0.4	0.9	1.1	1.2	1.2	2	1.1	24
31	1.7	1.3	1.5	1.3	1.2	1.5	1.3	1.2	0.9	**S**	0.5	0.7	1.5	1.5	1	0.6	0.5	0.4	1	1	1.2	0.9	0.6	0.3	1.7	1.0	24
HOURLY MAX	3	3	4	6	3	9	3	6	4	4	4	3	3	3	3	2	1	2	1	2	2	2	2	2			
HOURLY AVG	1.2	1.3	1.4	1.5	1.4	1.7	1.4	1.4	1.2	1.0	0.7	0.6	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.6	0.8	0.9	1.0	1.1			

STATUS FLAG CODES

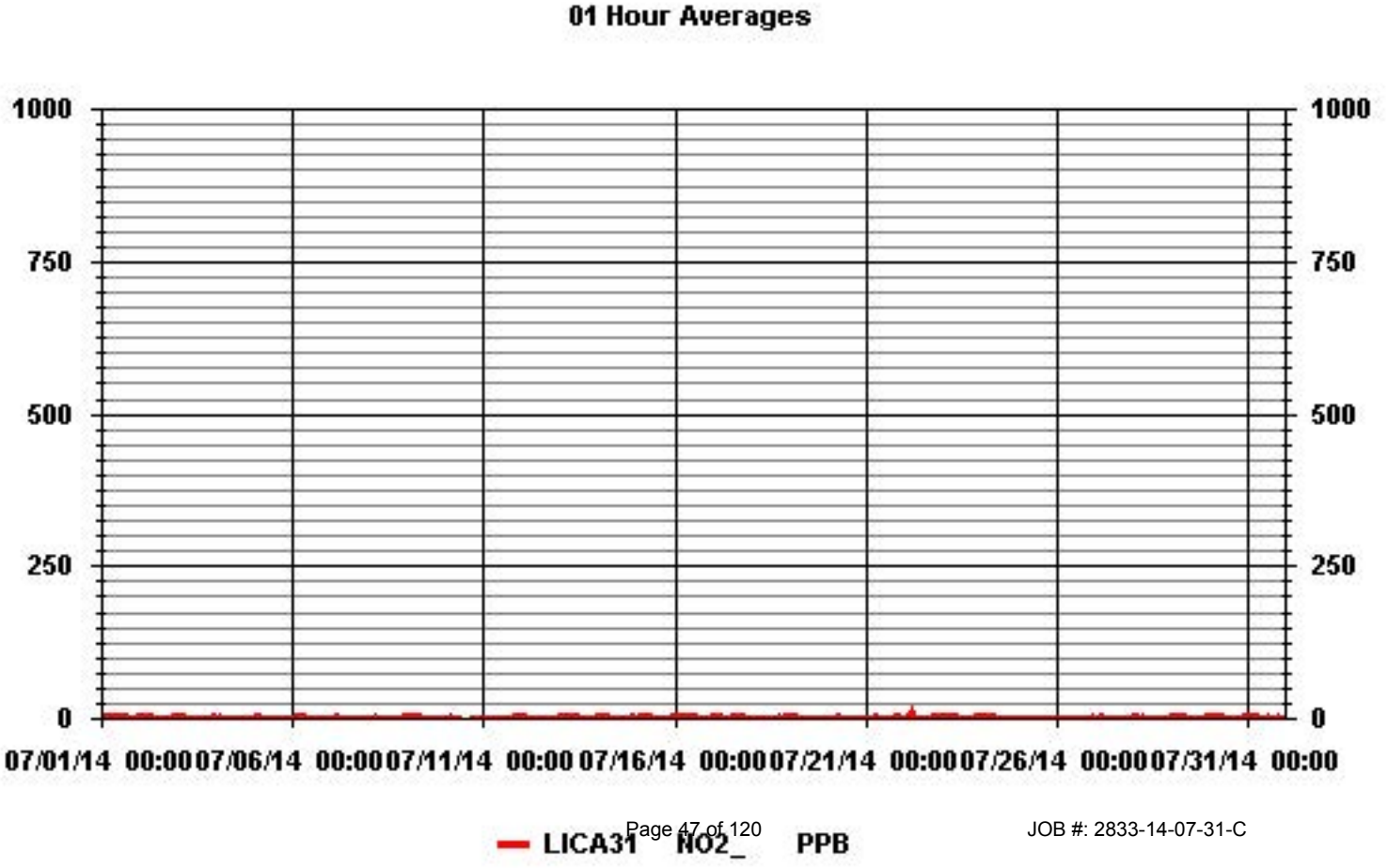
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



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

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	671					
MAXIMUM 1-HR AVERAGE:	9.4	PPB	@ HOUR(S)	5	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:	1.9	PPB			ON DAY(S)	13
					VAR-VARIOUS	
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		738	HRS
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:		99.2	%
STANDARD DEVIATION:	0.83		MONTHLY AVERAGE:		0.98	PPB



JOB #: 2833-14-07-31-C

Lakeland Industry & Community Association - St. Lina Site

JULY 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	1.3	0.8	0.8	0.9	0.9	1.1	1	2.3	0.8	1.1	1.4	1.3	0.8	1.3	0.8	0.8	**S**	1.8	1.2	1.2	1.5	1.4	2.1	2.5	2.5	1.3	24
2	2.8	2.6	2.9	2.6	2.6	2.9	3.4	5.7	5.5	0.9	1	0.7	0.8	0.9	0.8	**S**	0.5	0.7	0.7	0.9	1	2.1	2.4	2.9	5.7	2.1	24
3	3.1	2.2	2.3	1.8	1.8	1.7	1.3	1.2	1.1	0.9	0.6	0.6	0.7	0.8	**S**	1.5	1	1.1	1	1.3	1.5	2.4	2.3	2.1	3.1	1.5	24
4	***34.6***	2.1	1.7	1.6	2.2	1.4	1.2	0.9	0.9	1.2	1	1.1	1.2	**S**	1.1	0.9	0.9	0.9	1	1.1	1.3	1.2	1.4	1.4	***34.6***	2.7	24
5	1.7	5.2	6.2	8.9	6.7	1.6	1.1	0.8	1	1.2	1	0.7	**S**	0.9	0.9	0.9	0.7	0.7	0.8	1	0.8	2	1.8	1.8	8.9	2.1	24
6	2.1	2	2.3	2.8	2.6	2.8	3	4	3.9	2.1	1.4	**S**	1	1	0.8	0.7	1	1.7	1	1.2	1.3	1.2	1.5	1.6	4	1.9	24
7	1.4	1.5	2.3	2	2	1.9	1.7	1.2	1.7	1.4	**S**	0.9	0.9	2	1.5	2.2	1.9	2	2	3.6	2	2.1	2.2	1.5	3.6	1.8	24
8	1.6	1.6	1.5	1.5	3.1	3.1	2	2	1.8	**S**	1.9	1.9	1.5	2.3	0.9	1.6	14.9	2.8	1.9	2.2	2.8	3.4	2.5	2	14.9	2.6	24
9	1.9	1.9	1.9	1.9	2.5	2.8	3	2.7	**S**	6.5	1.6	1.2	1.2	1.1	1.3	1.6	1.6	2.3	**P**	1.6	1.8	0.8	1.1	1.1	6.5	2.0	23
10	1	0.9	1.2	1.7	2.1	1.7	1.9	**S**	1.1	1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0.8	0.8	0.8	1	1	2.1	1.2	24
11	1	1	1.3	1.3	1.3	1.3	**S**	1.2	1.3	11.7	1	1.5	1.3	1.5	2	1.6	1.9	1.6	2.4	5.4	3.6	3.5	3.2	3.2	11.7	2.4	24
12	3.8	3.3	2.7	2	1.9	**S**	1.4	1.3	1.5	9.3	2.8	0.8	0.7	0.7	0.7	0.5	0.7	1.2	0.7	1.5	2.2	1.3	2.2	3.5	9.3	2.0	24
13	2.7	2.8	3.9	4.8	**S**	3.8	4.2	7.2	5.8	3.7	2.4	2.2	1.8	1.9	1.6	1.9	1.6	2.2	2	1.3	1.8	1.8	2	2.3	7.2	2.9	24
14	2.6	2.7	2.7	**S**	2.3	1.9	2.7	1.8	1.5	1.3	0.9	0.8	0.8	0.8	0.9	0.9	1.9	1.1	1.1	1.2	1.3	1.9	1.9	2.3	2.7	1.6	24
15	2.5	2.5	**S**	2	1.9	1.8	2.6	2.3	4	16.8	1.1	1.3	1.9	1.5	1.2	1.3	1.2	5.4	1.7	1.7	1.8	2.2	2.1	2.6	16.8	2.8	24
16	2.5	**S**	3.1	2.3	2.6	2.9	2.8	3.8	3.7	4.7	4.1	4	4.2	4.4	12.3	3.3	2.6	1.8	1.3	0.9	1.3	1.4	1.7	3.3	12.3	***3.3***	24
17	**S**	1.7	1.5	1.3	1.7	3.1	2.7	1.7	1	1.3	1.5	1.6	1.9	1.8	1.9	4.3	1.8	2.2	1.9	1.6	2.3	1.9	1.5	**S**	4.3	1.9	24
18	1	1.3	1	1.1	0.8	1.2	2.3	1.3	1.2	1	1	1.5	0.7	2	1.4	1.2	1.4	2.6	2.8	3.6	2	2.1	**S**	1.7	3.6	1.6	24
19	1.8	2	2.3	2.6	2.6	2.2	11.1	3.7	1.7	1.6	0.7	0.7	0.7	0.8	0.8	0.6	0.7	0.5	0.6	0.9	1.8	**S**	1	1.1	11.1	1.8	24
20	1.4	1.5	1.4	1.6	1.5	1.9	1.9	2	2	1.4	1.3	1.6	2.1	1.9	1	1.6	0.9	0.8	0.9	0.8	**S**	1.4	1.9	1.5	2.1	1.5	24
21	1.4	1.8	1.6	1.7	1.6	2.4	2.6	3	4.7	4.8	1.5	1.9	1.6	1.6	1.5	1.3	1.5	1.7	1.5	**S**	6.3	**P**	**P**	**P**	6.3	2.3	21
22	3	2.3	2	2	6	16.2	4.6	3.3	1.4	1.7	1.3	1.4	1.6	1.6	1.3	1.3	1.1	1.3	**S**	1.9	1.9	2.2	2.3	3.2	16.2	2.8	24
23	3	3.1	2.9	2.6	2.5	2.7	2.6	2	2	1.7	1.5	1.3	**P**	**P**	1.6	1.6	1.3	**S**	1	1.3	2.1	2.2	2.3	2.7	3.1	2.1	22
24	2.6	2.4	2.7	2.6	2.2	2.2	2.3	2.4	2.4	2.6	1.6	1.4	1.4	1.4	1.4	1.5	**S**	1.3	1.5	1.9	2.1	2	1.8	1.6	2.7	2.0	24
25	1.4	1.2	1.1	1	1.3	1.3	1.3	1.1	1	1.1	1.2	1.2	0.9	0.9	1	**S**	0.8	1.9	1.9	3	1	1.1	1.1	1.1	3	1.3	24
26	1.2	1.3	1.2	1	0.9	0.8	0.8	0.9	1.1	1.2	1.4	1.9	0.9	0.9	**S**	0.8	1.5	1.1	0.9	1	0.8	1.7	3	1.4	3	1.2	24
27	1.3	1.3	1.4	1.8	1.6	1.6	1.3	1.3	1.6	1.5	0.9	1	1	**S**	0.7	0.7	0.8	1.6	1.8	0.9	1.4	1.2	1.4	1.6	1.8	1.3	24
28	1.7	2.5	2.2	**P**	**P**	3.5	1.6	1.6	1.2	1	0.7	0.7	**S**	1	**Y**	**Y**	0.9	1	1.2	1.3	1.7	2.4	2.4	2.4	3.5	1.6	20
29	2.2	2	2.2	2.4	2.2	2.5	2.8	2.5	2.2	1.9	1.7	**S**	3.4	1.2	1.2	1.2	1.4	1.1	1.2	1.4	1.9	2.2	2.6	2.5	3.4	2.0	24
30	2.4	2.5	2.7	2.8	2.7	2.5	2.4	2.5	**S**	**S**	**S**	1.3	1.4	1.5	1.3	1	1.3	1.1	1.2	1.4	1.8	2.4	1.9	2.1	2.8	1.9	24
31	2.7	2.4	2.3	2.1	2.2	2.7	2.4	2	1.8	**S**	1.2	1.6	2.3	2.4	2.3	1.5	1.4	1.3	3.2	3.6	3.5	2.5	1.6	0.9	3.6	2.2	24
HOURLY MAX	35	5	6	9	7	16	11	7	6	17	4	4	4	4	12	4	15	5	3	5	6	4	3	4			
HOURLY AVG	3.1	2.1	2.2	2.2	2.3	2.7	2.5	2.3	2.1	3.1	1.4	1.4	1.4	1.5	1.6	1.4	1.8	1.6	1.4	1.7	1.9	1.9	1.9	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: 691

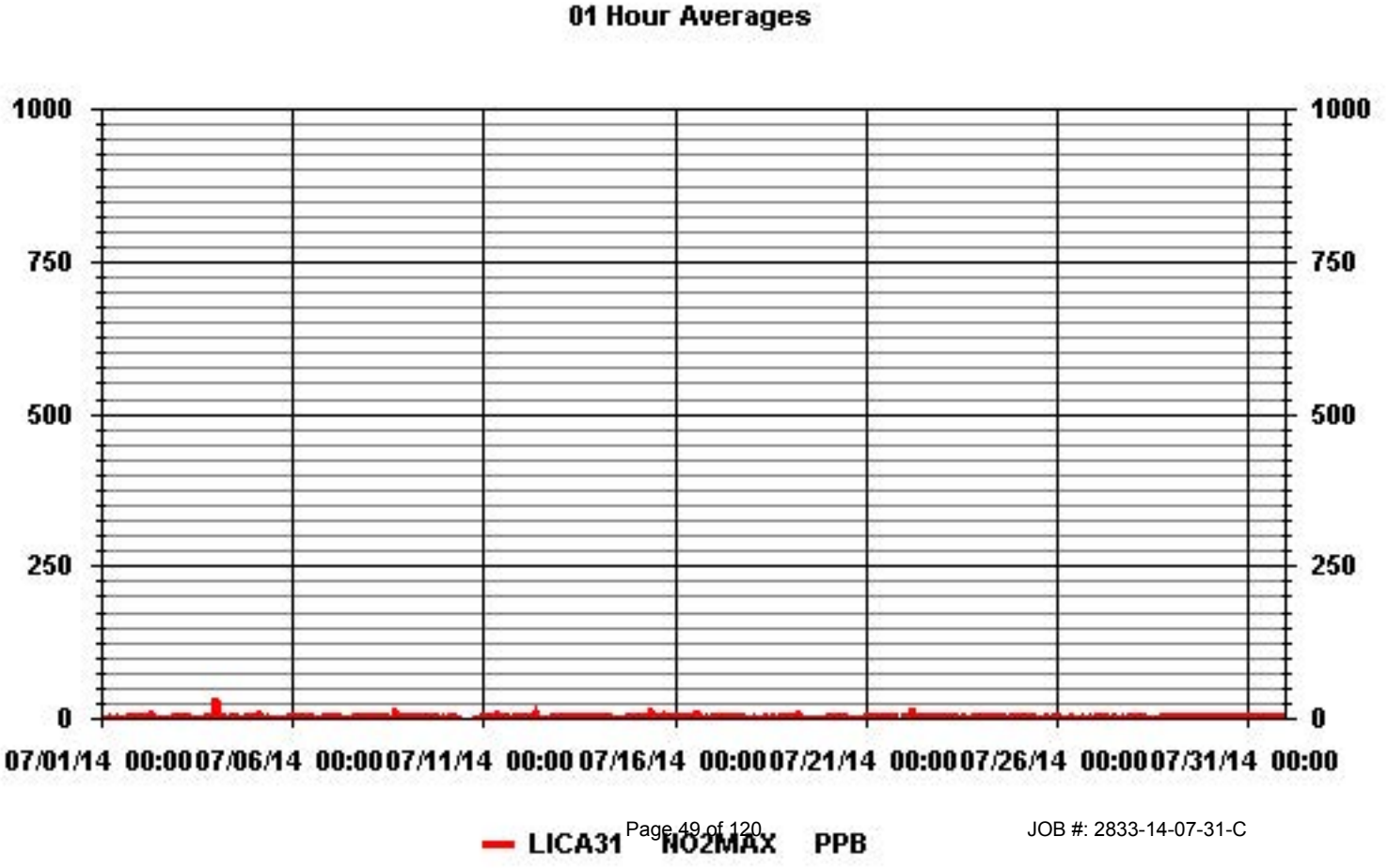
MAXIMUM INSTANTANEOUS VALUE: 34.6 PPB @ HOUR(S) 0 ON DAY(S) 4

VAR-VARIOUS

IZS CALIBRATION TIME: 34 HRS OPERATIONAL TIME: 734 HRS

MONTHLY CALIBRATION TIME: 9 HRS

STANDARD DEVIATION: 1.98



JOB #: 2833-14-07-31-C

LICA31
NO2_ / WDR Joint Frequency Distribution (Percent)

July 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	3.58	2.00	2.15	1.72	3.15	6.88	7.46	9.03	9.89	8.89	4.30	5.73	9.03	11.33	11.33	3.44	100.00
<	110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	3.58	2.00	2.15	1.72	3.15	6.88	7.46	9.03	9.89	8.89	4.30	5.73	9.03	11.33	11.33	3.44	

Calm : .00 %

Total # Operational Hours : 697

Distribution By Samples

Direction

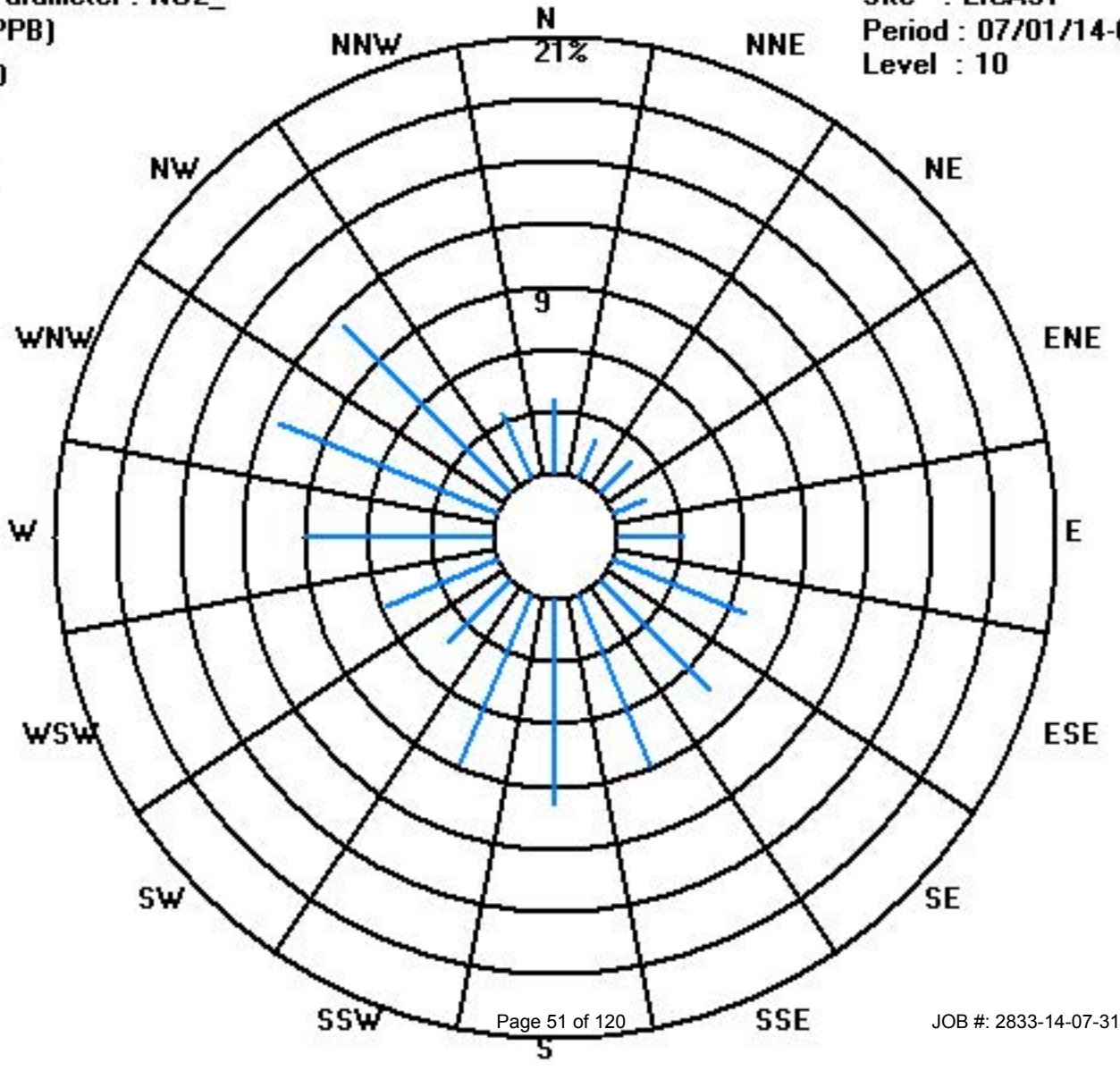
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	25	14	15	12	22	48	52	63	69	62	30	40	63	79	79	24	697
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	25	14	15	12	22	48	52	63	69	62	30	40	63	79	79	24	

Calm : .00 %

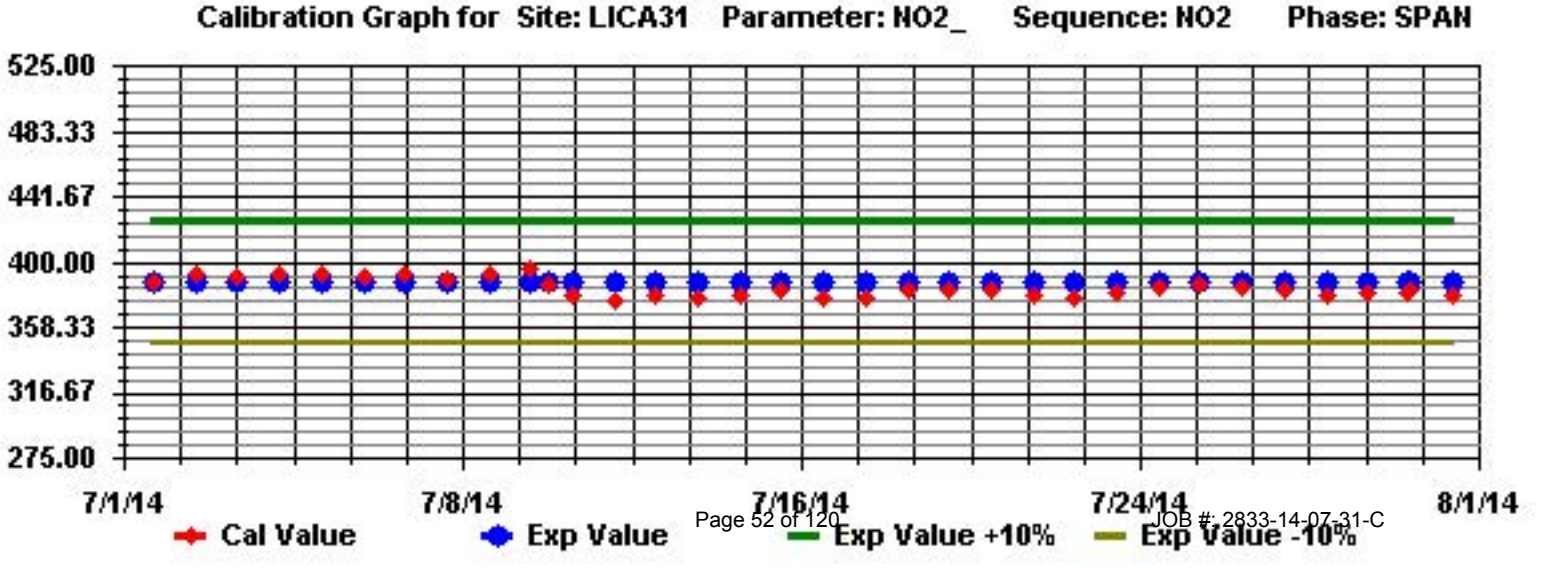
Total # Operational Hours : 697

Logger : 31 Parameter : NO2_
Class Limits (PPB)
>= 210.0
< 210.0
< 110.0
< 50.0

Site : LICA31
Period : 07/01/14-07/31/14
Level : 10



JOB #: 2833-14-07-31-C


Calibration Graph for Site: LICA31 Parameter: NO2_ Sequence: NO2 Phase: SPAN
525.00
483.33
441.67
400.00
358.33
316.67
275.00
7/1/14
7/8/14
7/16/14
7/24/14
8/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitric Oxide

Lakeland Industry & Community Association - St. Lina Site

JULY 2014

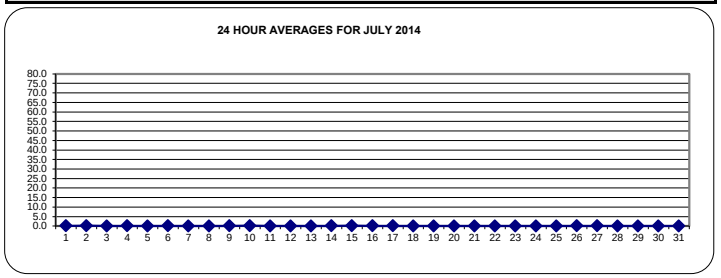
NITRIC OXIDE (NO) hourly averages in ppb

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	0.2	0	0	0	0.2	0.3	0	0	0	0.1	0	0.2	0	0.3	**S**	0	0	0	0	0	0	0	0.3	0.1	24
2	0	0	0	0	0	0	0.2	***1.8***	0.9	0	0	0	0	0	0	**S**	0.2	0.1	0	0	0	0.1	0	0	***1.8***	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	0.1	0.1	0.0	24
4	0.1	0.2	0.1	0.3	0.2	0.3	0.3	0.2	0.2	0.3	0.1	0.2	0.3	**S**	0	0	0	0	0	0	0	0	0	0	0.3	0.1	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	0.1	0	0.6	0.4	0	0	**S**	0	0	0	0	0	0.2	0.2	0	0.1	0	0	0	0.6	0.1	24
7	0	0	0	0.1	0	0	0.1	0	0.2	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.0	24
8	0	0	0	0	0	0	0	0	0	**S**	0	0.1	0	0	0	0	0.1	0	0	0	0	0	0	0	0.1	0.0	24
9	0	0	0	0	0	0.1	0.1	0.3	**S**	0.6	0	0	0.1	0	0.2	0	0	0	0	**P**	0	0	0.2	0.1	0.3	0.6	0.1	23
10	0.3	0.1	0.3	0.4	0.4	0.6	0.6	**S**	0	0	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0.1	0	0	0	0	0	0.6	***0.2***	24
11	0	0	0	0	0	0	**S**	0	0	0.2	0	0	0	0	0	0	0	0	0	0.2	0	0	0	0	0.2	0.0	24
12	0	0	0	0	0	**S**	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.0	24
13	0	0	0	0	**S**	0	0.1	0.4	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.0	24
14	0	0	0	**S**	0	0.2	0.4	0.3	0.2	0	0	0	0.1	0	0	0	0	0	0	0	0	0.1	0	0	0.4	0.1	24
15	0	0	**S**	0.1	0	0.2	0.5	0.4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
16	0	**S**	0	0	0	0	0	0.1	0.2	1.1	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	1.1	0.1	24
17	**S**	0.1	0.2	0	0	0.1	0.3	0.1	0	0	0.1	0.1	0	0.2	0.1	0.3	0.1	0.2	0.2	0.1	0.2	0	0.1	**S**	0.3	0.1	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**	0.1	0	0.1	0.0	24
20	0	0	0	0	0	0	0.1	0	0	0	0.1	0.2	0.3	0.3	0	0	0	0	0	0.1	**S**	0	0	0	0.3	0.0	24
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0.1	0	**P**	**R**	0.1	0.0	22
22	0	0	0	0	0	0.6	0	0.2	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0.6	0.0	24
23	0	0	0	0	0	0	0.1	0.1	0.1	0	0	0	**P**	**R**	0	0	0	**S**	0.1	0	0.1	0	0	0	0.1	0.0	22
24	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0	0.2	**S**	0	0	0	0	0	0	0	0.2	0.0	24
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0.1	0.2	0.1	0.3	0	0	0.1	0	0.3	0.0	24
26	0	0.1	0	0	0	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.1	**S**	0	0.1	0.2	0	0	0	0.1	0.1	0	0.3	0.1	24
27	0	0.1	0.1	0	0	0.3	0.2	0.1	0.2	0.1	0	0	0	**Y**	0	0.1	0.1	0	0	0	0	0	0	0	0.3	0.1	23
28	0	0	0	0	0	0	0.1	0.1	0	0	0	0	**S**	0	**S**	0.2	0	0	0	0	0	0	0	0	0.2	0.0	24
29	0	0	0	0	0	0	0	0.3	0.1	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.0	24
30	0	0	0	0	0	0	0.1	0.4	**S**	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4	0.0	24
31	0	0	0.1	0	0.2	0	0.3	0.1	0.2	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.0	24
HOURLY MAX	0	0	0	0	0	1	1	2	1	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	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

STATUS FLAG CODES

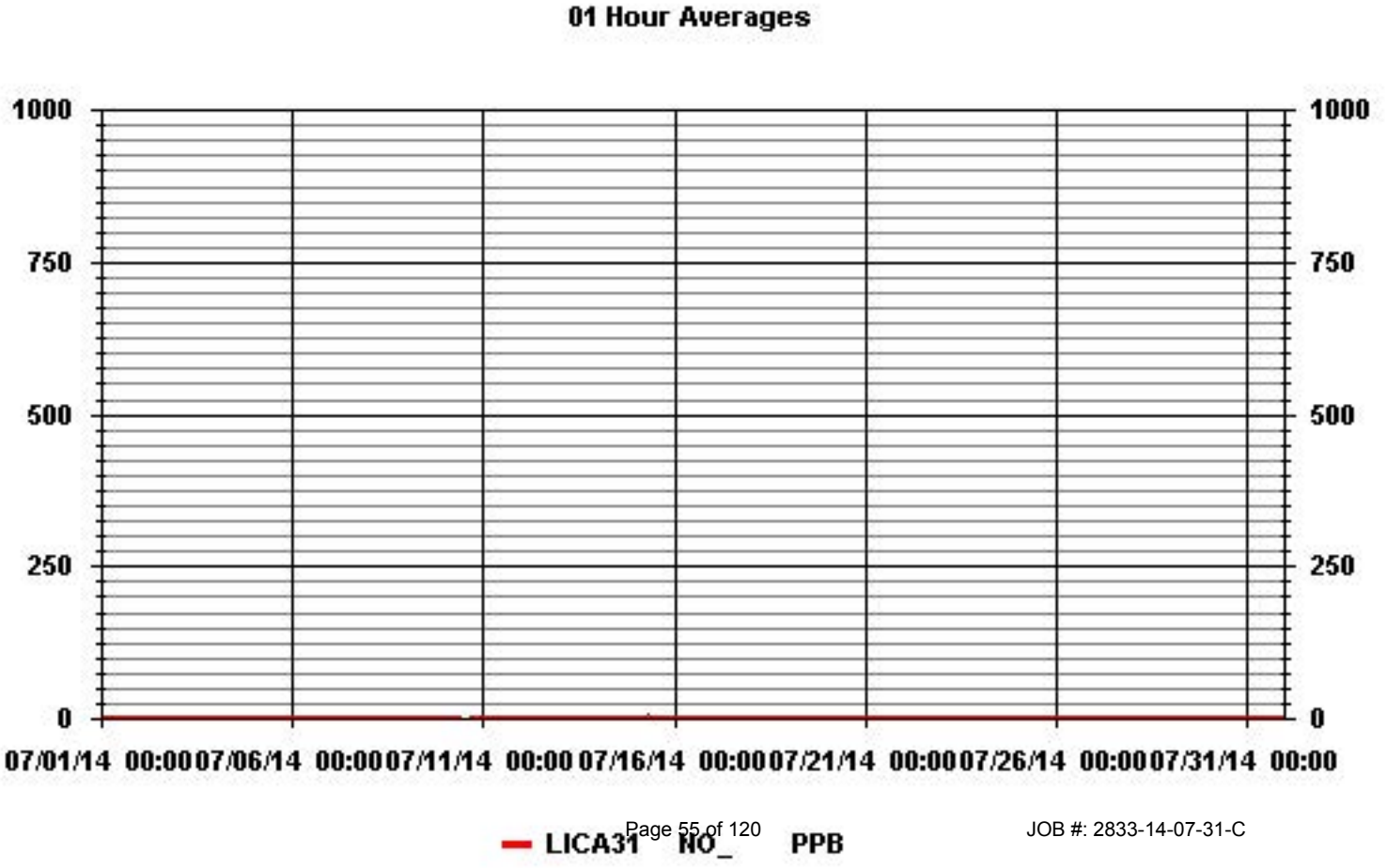
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



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

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	NA					
NUMBER OF NON-ZERO READINGS:	151					
MAXIMUM 1-HR AVERAGE:	1.8	PPB	@ HOUR(S)	7	ON DAY(S)	2
MAXIMUM 24-HR AVERAGE:	0.2	PPB			ON DAY(S)	10
					VAR-VARIOUS	
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		738	HRS
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:		99.2	%
STANDARD DEVIATION:	0.14		MONTHLY AVERAGE:		0.05	PPB



JOB #: 2833-14-07-31-C

Lakeland Industry & Community Association - St. Lina Site

JULY 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	1.1	0.6	0.8	0.6	0.6	0.8	1	2.5	0.6	1.4	1.1	1.3	0.8	1.3	0.6	1.2	**S**	0.5	0.4	0.3	0.2	0.3	0.4	0.1	2.5	0.8	24
2	0.1	0.4	0.1	0	0.3	0.6	1.7	5.9	4.8	0.3	0.6	0.4	0.4	0.6	0.5	**S**	0.9	0.6	0.5	0.6	0.6	0.7	0.5	0.5	5.9	0.9	24
3	0.5	0.6	0.5	0.4	0.6	0.7	0.8	0.6	0.8	0.7	0.8	0.6	0.6	0.7	**S**	0.7	0.4	0.3	0.1	0.4	0.2	0.5	0.5	0.8	0.8	0.6	24
4	***36.3***	0.9	0.7	0.8	1.6	1	1	0.9	0.8	1.1	0.7	0.8	1	**S**	0.4	0.3	0.2	0.2	0.4	0.4	0.6	0.1	0.2	0.1	***36.3***	***2.2***	24
5	0.2	0.2	0.4	0.4	0.1	0.4	0.1	0.4	0.2	0.3	0.2	0.5	**S**	0.7	0.6	0.6	0.4	0.7	0.6	0.7	0.5	1.2	0.6	1	1.2	0.5	24
6	0.4	0.6	0.3	0.4	0.6	0.8	0.6	1.3	1.1	1.4	0.8	**S**	0.8	0.4	1.1	0.5	0.6	2.9	0.8	1	0.7	0.5	0.5	0.5	2.9	0.8	24
7	0.5	0.5	1	1	0.6	0.5	0.8	0.6	0.9	0.6	**S**	0.3	0.3	0.9	0.3	0.6	0.1	0.1	0	1.7	0.1	0.1	0	0.1	1.7	0.5	24
8	0.1	0.1	0.3	0.3	0.1	0.4	0.3	0.3	0.5	**S**	0.6	0.8	0.8	1	0.5	0.7	9.4	0.5	0.5	0.7	0.3	0.5	0.4	0.5	9.4	0.9	24
9	0.5	0.5	0.7	0.5	0.7	0.7	0.7	1.3	**S**	3.6	0.7	0.5	0.7	0.7	1	0.5	0.7	0.8	**P**	0.8	0.7	0.8	0.8	0.9	3.6	0.9	23
10	1	0.7	1	1	1.2	1.4	2.1	**S**	1.1	0.5	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0.3	0.4	0.2	0.4	0.2	2.1	0.8	24
11	0.2	0.3	0.2	0.2	0.2	0.2	**S**	0.4	0.4	10.9	0.7	0.6	0.8	0.5	0.7	0.5	0.9	0.5	0.7	2.3	0.8	0.6	0.5	0.6	10.9	1.0	24
12	0.5	0.2	0.5	0.5	0.4	**S**	0.6	0.4	0.3	17.1	1	0.2	0.3	0.2	0.5	0.2	0.2	1.3	0.2	0.7	0.5	0.2	0	0.2	17.1	1.1	24
13	0.1	0.5	0.5	0.2	**S**	0.7	0.7	1	0.9	0.7	0.4	0.9	0.6	0.6	0.5	0.3	0.6	0.4	0.3	0.1	0.1	0.1	0.1	0.2	1	0.5	24
14	0.3	0.4	0.3	**S**	1	1	1.6	1.2	0.8	0.6	0.5	0.4	0.6	0.5	0.6	0.8	1.2	0.6	0.8	0.6	0.6	0.9	0.6	0.5	1.6	0.7	24
15	0.7	0.3	**S**	0.8	0.6	0.7	1.8	2.7	2.1	12	0.5	0.5	0.7	0.7	0.7	0.7	0.8	1.3	0.2	0.5	0	0.4	0.5	0.4	12	1.3	24
16	0.5	**S**	0.5	0.5	0.5	0.5	0.5	1.2	1.8	3.9	2.1	1	0	0.1	13	0	0	0.2	0.2	0.2	0.2	0.4	0.4	0.4	13	1.2	24
17	**S**	0.7	0.8	0.7	0.7	0.9	1	0.7	0.7	0.5	0.7	1	0.5	1	0.7	2.6	1	1	0.8	0.7	1	0.5	0.7	**S**	2.6	0.9	24
18	0.2	0	0.2	0.3	0.4	0.3	1.5	0.2	0.3	0.6	0.2	1.5	0.3	1.7	0.4	0.1	0.2	0.5	0.4	0.9	0	0.3	**S**	0.7	1.7	0.5	24
19	0.5	0.7	0.5	0.4	0.4	0.2	13.4	3.7	1.2	1.4	0.6	0.7	0.6	0.6	0.4	0.7	0.4	0.5	0.3	0.3	2	**S**	0.8	0.4	13.4	1.3	24
20	0.4	0.6	0.4	0.5	0.5	0.5	0.8	0.6	0.8	0.6	0.7	0.9	2.2	1.3	0.9	0.8	0.7	0.9	1	0.7	**S**	0.4	2	0.1	2.2	0.8	24
21	0.1	0.1	0	0.2	0.3	0.6	2.9	3.6	5.1	5.1	0.1	0.1	0.4	0.1	0.1	0.1	0.5	0.7	0.2	**S**	2	**P**	**P**	**P**	5.1	1.1	21
22	0.1	0.3	0.3	0.2	0.4	2.9	0.6	1.9	0.5	0.9	0.5	0.5	0.5	0.5	0.6	0.4	0.5	0.4	**S**	0.8	0.5	0.7	0.5	0.5	2.9	0.7	24
23	0.5	0.5	0.2	0.4	0.5	0.2	0.7	0.7	0.8	0.5	0.7	0.2	**P**	**P**	0.8	0.4	0.3	**S**	0.7	0.6	0.8	0.7	0.4	0.5	0.8	0.5	22
24	0.4	0.3	0.4	0.4	0.5	0.9	0.6	0.9	0.7	0.6	0.4	0.4	0.4	0.4	0.6	1	**S**	0.8	0.3	0.4	0.5	0.4	0.4	0.5	1	0.5	24
25	0.4	0.4	0.6	0.2	0.5	0.3	0.6	0.3	0.6	0.4	0.4	0.4	0.6	0.3	0.3	**S**	0.7	1.1	1.7	2.9	0.5	0.7	0.7	0.5	2.9	0.7	24
26	0.6	0.8	0.8	0.6	0.8	0.9	1.1	1	1.3	1.6	1.3	3	1.1	0.6	**S**	0.8	0.9	2.4	0.5	0.5	0.7	0.6	1.9	0.8	3	1.1	24
27	0.6	0.8	0.8	0.5	0.6	1.1	0.9	0.6	1	0.8	0.6	0.6	1	**S**	0.4	1	1	0.8	0.7	0.4	0.3	0.5	0.5	0.6	1.1	0.7	24
28	0.6	0.3	0.8	**P**	**P**	1.3	0.8	0.8	0.8	0.6	0.4	0.5	**S**	0.4	**Y**	**Y**	0.6	0.4	0.5	0.2	0.2	0.2	0.4	0.3	1.3	0.5	20
29	0.4	0.4	0.4	0.4	0.4	0.7	0.9	1	0.9	0.6	0.4	**S**	2.6	0.3	0.3	0.3	0.5	0.2	0.5	0.1	0	0.5	0.2	0.4	2.6	0.5	24
30	0.5	0.4	0.5	0.4	0.5	0.5	0.7	1	**S**	**S**	**S**	0.6	0.4	0.7	0.5	0.8	0.8	0.7	0.3	0.6	0.3	0.5	0.7	0.6	1	0.6	24
31	0.8	0.3	0.6	0.6	0.7	0.7	1.1	1.1	0.8	**S**	0.5	0.3	0.4	0.4	0.2	0.4	0.4	0.6	0.8	1.4	1.1	0.4	0.4	0.4	1.4	0.6	24
HOURLY MAX	36	1	1	1	2	3	13	6	5	17	2	3	3	2	13	3	9	3	2	3	2	1	2	1			
HOURLY AVG	1.6	0.4	0.5	0.5	0.6	0.7	1.4	1.3	1.1	2.5	0.7	0.7	0.7	0.6	1.0	0.6	0.9	0.8	0.5	0.7	0.5	0.5	0.6	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: 679

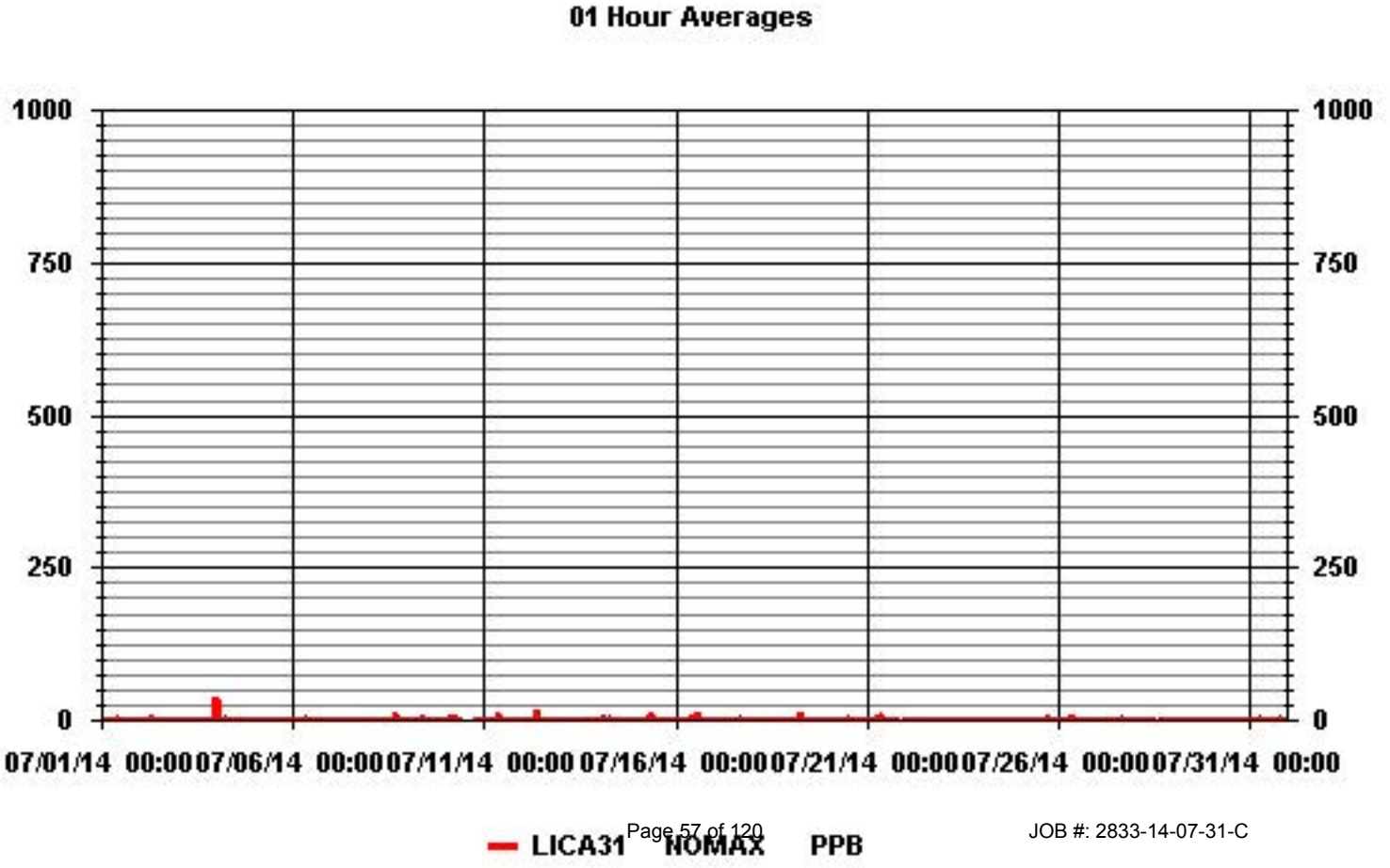
MAXIMUM INSTANTANEOUS VALUE: 36.3 PPB @ HOUR(S) 0 ON DAY(S) 4

VAR-VARIOUS

IZS CALIBRATION TIME: 34 HRS OPERATIONAL TIME: 734 HRS

MONTHLY CALIBRATION TIME: 9 HRS

STANDARD DEVIATION: 1.86



JOB #: 2833-14-07-31-C

LICA31
NO_ / WDR Joint Frequency Distribution (Percent)

July 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	3.58	2.00	2.15	1.72	3.15	6.88	7.46	9.03	9.89	8.89	4.30	5.73	9.03	11.33	11.33	3.44	100.00
<	110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	3.58	2.00	2.15	1.72	3.15	6.88	7.46	9.03	9.89	8.89	4.30	5.73	9.03	11.33	11.33	3.44	

Calm : .00 %

Total # Operational Hours : 697

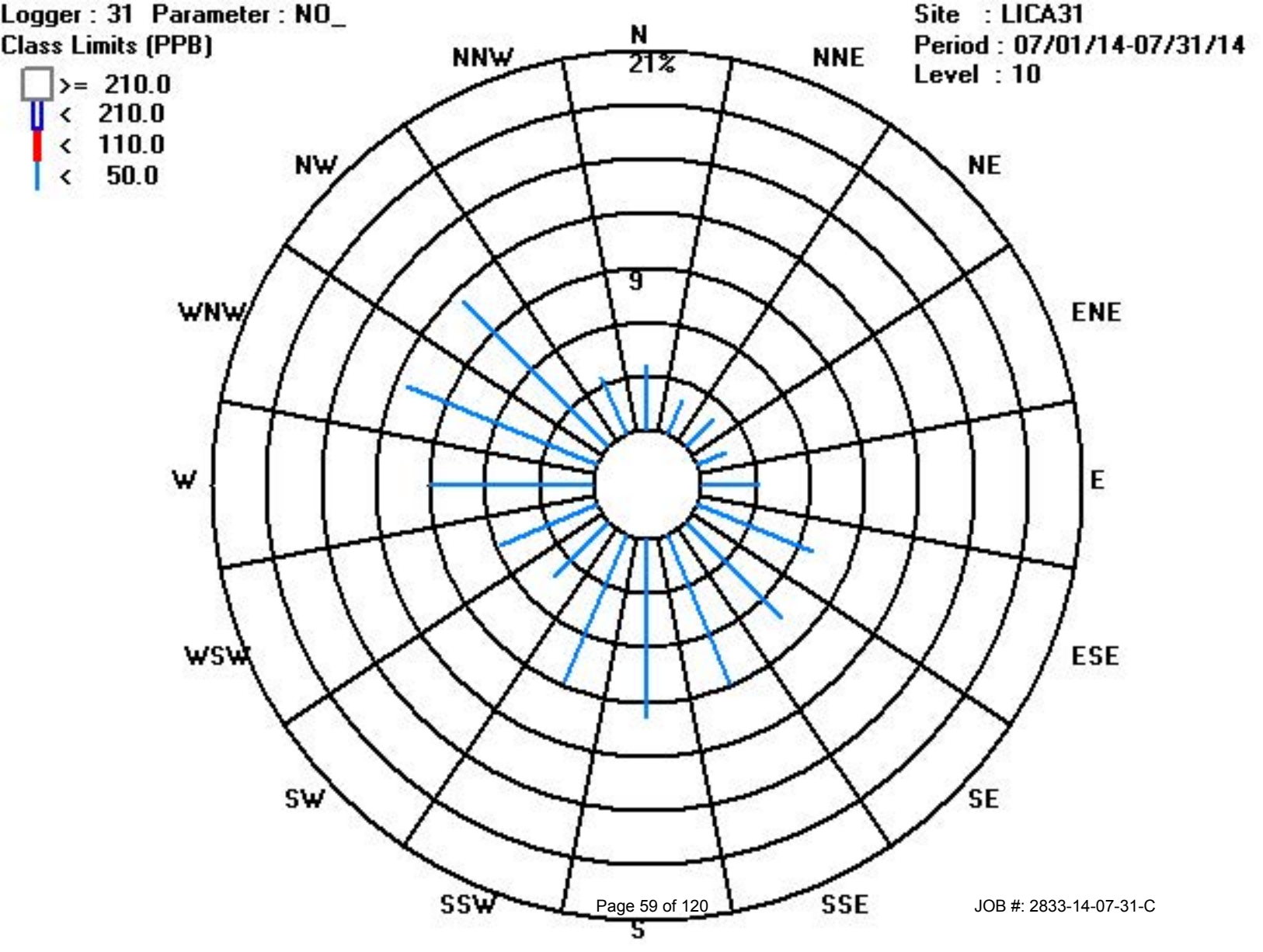
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	25	14	15	12	22	48	52	63	69	62	30	40	63	79	79	24	697
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	25	14	15	12	22	48	52	63	69	62	30	40	63	79	79	24	

Calm : .00 %

Total # Operational Hours : 697



JOB #: 2833-14-07-31-C

Oxides of Nitrogen

Lakeland Industry & Community Association - St. Lina Site

JULY 2014

OXIDES OF NITROGEN (NOx) hourly averages in ppb

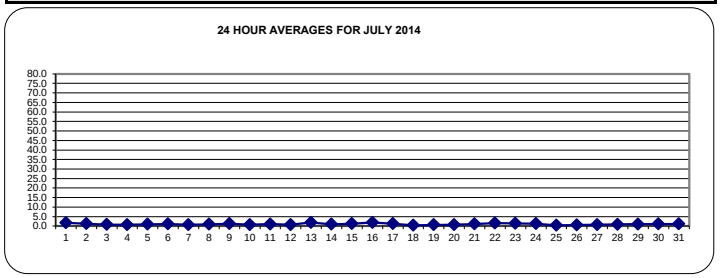
MST

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	2.1	2	2.2	2.1	2.1	2.2	2.3	2.5	1.7	2	2	2.2	2	2.1	1.9	2.1	**S**	0.3	0.5	0.3	0.8	0.7	1.3	1.7	2.5	1.7	24
2	1.8	1.8	2	1.7	1.8	1.9	2	4.8	3.3	0.5	0.3	0.2	0.2	0.3	0.2	**S**	0.3	0.3	0.1	0.2	0.4	1.3	1.6	2	4.8	1.3	24
3	1.8	1.4	1.3	1.2	1.1	1.1	0.8	0.7	0.6	0.5	0.2	0.1	0.1	0.3	**S**	0.8	0.5	0.3	0.2	0.5	0.7	1.2	1.3	1.4	1.8	0.8	24
4	1.4	1.6	1.1	1.3	1.3	1.1	0.9	0.6	0.7	0.7	0.3	0.5	0.6	**S**	0.3	0.2	0.2	0.1	0.1	0.2	0.5	0.5	0.6	0.7	1.6	0.7	24
5	0.7	2.6	4.4	6.2	3.2	0.4	0.3	0.3	0.2	0.2	0.1	0.1	**S**	0.1	0.1	0.1	0	0.1	0.1	0.1	0	0.4	0.4	1.2	6.2	0.9	24
6	0.9	1.1	1.2	1.6	1.8	2.4	1.9	3.8	3	1.4	0.7	**S**	0.4	0.3	0.3	0.2	0.3	0.7	0.5	0.5	0.7	0.5	0.6	0.7	3.8	1.1	24
7	0.5	0.6	1.4	1.4	1.4	1.2	1.1	0.7	1	0.6	**S**	0.1	0	0.4	0.5	0.9	0.5	0.4	0.4	0.8	0.8	0.7	0.5	0.3	1.4	0.7	24
8	0.3	0.5	0.6	0.5	1.4	1.7	1	0.8	0.8	**S**	0.9	1	0.7	0.7	0.5	0.7	1	1	0.9	0.9	1.1	2.1	1.3	1.1	2.1	0.9	24
9	1.2	1.4	1.3	1.3	1.8	2.4	2.3	2.4	**S**	2.4	1	0.7	0.7	0.6	0.9	0.8	0.9	1.2	**P**	0.5	0.8	0.4	0.7	0.8	2.4	1.2	23
10	0.8	0.6	0.8	1.4	1.4	1.6	1.3	**S**	0.7	0.4	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0.5	0.1	0.1	0.1	0.4	0.3	1.6	0.7	24
11	0.4	0.5	0.6	0.6	0.5	0.5	**S**	0.5	0.5	0.8	0.4	0.7	0.8	0.9	1.1	0.8	1	0.9	1.2	2.3	1.7	2	2.2	2.2	2.3	1.0	24
12	2.8	2.2	1.4	1.3	0.9	**S**	0.5	0.7	0.8	1.7	0.8	0	0	0	0	0	0	0.3	0	0.5	0.4	0.1	0.5	2.2	2.8	0.7	24
13	1.9	2.1	2.8	3.6	**S**	3.1	3.3	6.2	4.1	3	1.6	1.4	1.1	1	0.9	0.8	0.8	0.9	0.7	0.6	0.7	0.7	0.9	1.2	6.2	1.9	24
14	1.8	1.8	2	**S**	1.6	1.5	1.8	1.5	1.1	0.5	0.3	0.2	0.4	0.2	0.3	0.3	0.6	0.4	0.4	0.5	0.6	1.1	1.2	1.5	2	0.9	24
15	1.9	1.6	**S**	1.4	1.3	1.3	1.8	1.7	3.4	2.9	0.5	0.3	0.7	0.7	0.4	0.5	0.4	1.8	0.7	0.7	0.7	1.2	1.4	1.3	3.4	1.2	24
16	1.3	**S**	2.3	1.6	1.7	2.3	2.2	2.8	3	4.7	3.9	2.7	3.1	3.4	2.8	1	0.8	0.7	0.4	0.2	0.4	0.6	0.5	1.4	4.7	***1.9***	24
17	**S**	1.3	1.2	1	1.1	1.5	1.7	0.9	0.7	0.6	0.9	1	1.2	1.4	1.2	1.9	1.2	1.5	1.4	1.3	1.6	1.3	0.9	**S**	1.9	1.2	24
18	0	0	0	0.1	0	0.3	0.5	0.2	0.3	0.3	0	0.3	0	0.6	0.4	0.1	0.2	0.7	1.3	1.5	0.6	0.6	**S**	1	1.5	0.4	24
19	1	1.3	1.3	2	1.9	1.2	2.4	0.5	0.5	0.4	0.1	0.2	0.1	0	0	0	0	0	0	0	0.6	**S**	0.6	0.3	2.4	0.6	24
20	0.7	1.1	0.7	0.9	0.9	1.2	1.5	1.2	1.2	0.8	0.6	0.8	1.1	1.2	0.5	0.5	0.2	0.3	0.3	0.3	**S**	0.2	0.6	0.4	1.5	0.7	24
21	0.5	0.6	0.6	0.7	0.9	1.5	2.1	2.5	1.3	0.7	0.7	0.9	0.9	0.6	0.7	0.5	0.7	0.8	0.6	**S**	2.1	2.3	**P**	**R**	2.5	1.1	22
22	1.2	1.5	1.4	1.3	2.9	***10***	1.8	1.7	0.6	0.9	0.6	0.7	0.6	0.9	0.7	0.5	0.5	0.6	**S**	1.4	1.1	1.7	1.6	2.3	***10***	1.6	24
23	2.5	2.4	2	1.9	2	1.9	2.1	1.7	1.7	1.2	1.2	0.7	**P**	**R**	0.7	0.7	0.5	**S**	0.4	0.5	1.3	1.4	1.4	1.9	2.5	1.4	22
24	1.9	1.8	1.8	1.8	1.5	1.5	1.6	2	1.8	1.6	1	0.7	0.7	0.8	0.9	0.9	**S**	0.7	0.6	1.1	1.3	0.8	0.6	0.7	2	1.2	24
25	0.6	0.4	0.4	0.3	0.6	0.2	0.5	0.2	0.5	0.3	0.4	0.5	0.4	0.1	0	**S**	0.4	0.5	0.5	0.8	0.2	0.5	0.5	0.3	0.8	0.4	24
26	0.4	0.6	0.8	0.6	0.3	0.5	0.6	0.5	0.7	0.6	0.5	0.7	0.5	0.2	**S**	0.3	0.6	0.6	0.4	0.3	0.4	0.7	1.3	1	1.3	0.6	24
27	0.7	0.8	0.9	1	1.1	1.4	1.1	0.9	0.9	0.7	0.4	0.3	0.5	**S**	0	0.3	0.3	0.6	0.6	0.2	0.7	0.6	0.8	1.1	1.4	0.7	24
28	1.2	1.6	1.4	1.3	0.9	1.7	1.3	1.4	0.7	0.5	0.2	0.2	**S**	0.3	**Y**	0.9	0.5	0.1	0.3	0.3	0.7	1	1.5	1.3	1.7	0.9	23
29	1.3	1.2	1.2	1.5	1.4	1.8	2.1	2.2	1.6	1.2	0.8	**S**	0.9	0.3	0.2	0.2	0.4	0.2	0.3	0.3	0.5	1.2	1.5	1.6	2.2	1.0	24
30	1.6	1.8	1.7	2	2	1.8	1.9	2.2	**S**	1.3	**S**	0.6	0.4	0.6	0.4	0.3	0.4	0.2	0	0.4	0.9	1.1	1.2	1.3	2.2	1.1	24
31	1.7	1.3	1.6	1.3	1.4	1.5	1.6	1.3	1.1	**S**	0.5	0.7	1.5	1.5	1	0.6	0.5	0.4	1	1	1.2	0.9	0.6	0.3	1.7	1.1	24
HOURLY MAX	3	3	4	6	3	10	3	6	4	5	4	3	3	3	3	2	1	2	1	2	2	2	2	2			
HOURLY AVG	1.2	1.3	1.4	1.5	1.4	1.8	1.5	1.6	1.3	1.2	0.7	0.7	0.7	0.7	0.6	0.6	0.5	0.6	0.5	0.6	0.8	0.9	1.0	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

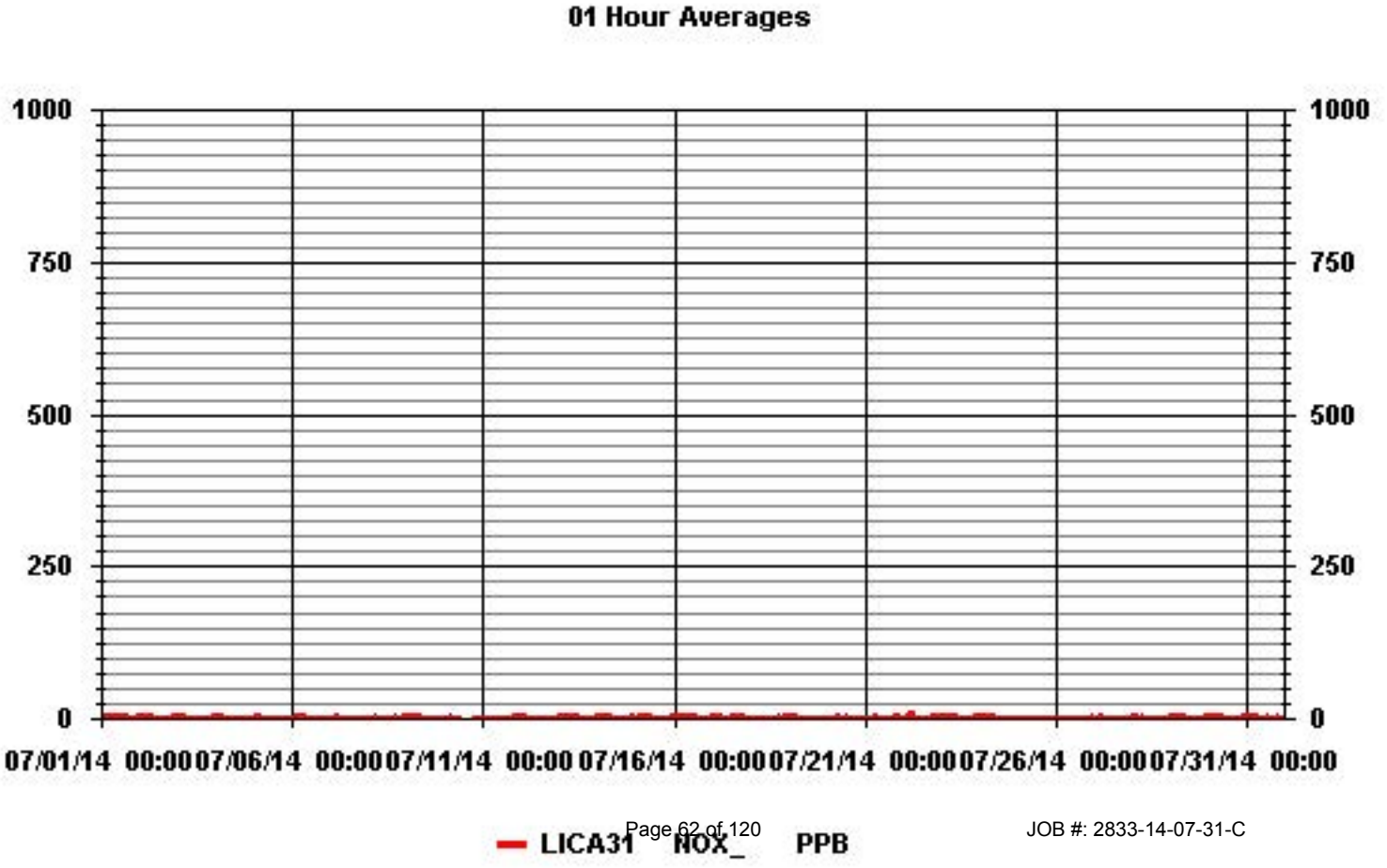
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR NA PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	NA					
NUMBER OF NON-ZERO READINGS:	671					
MAXIMUM 1-HR AVERAGE:	10	PPB	@ HOUR(S)	5	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:	1.9	PPB			ON DAY(S)	16
					VAR-VARIOUS	

IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	738	HRS
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:	99.2	%
STANDARD DEVIATION:	0.88		MONTHLY AVERAGE:	1.03	PPB



JOB #: 2833-14-07-31-C

Lakeland Industry & Community Association - St. Lina Site

JULY 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	2.6	2.9	2.7	2.7	3.4	3.5	6.1	2.6	3.9	3.6	3.9	2.9	4.2	2.7	3.1	**S**	2.2	1	1	1.5	1.6	2	2.2	6.1	2.9	24
2	2.6	2.7	2.6	2.3	2.5	3.1	4.8	11.5	10.1	1.1	1.1	0.8	0.8	0.8	0.9	**S**	0.9	0.9	0.9	0.9	1.4	2.6	2.4	3	11.5	2.6	24
3	2.5	2.1	2.2	1.7	1.7	1.8	1.6	1.3	1.3	1.3	1.1	0.8	0.7	0.9	**S**	1.7	1	0.9	0.8	1.1	1.6	2.1	2.4	2.3	2.5	1.5	24
4	***36.2***	2.4	2.2	2.1	3	1.9	1.6	1.4	1.4	1.4	1.1	1.3	1.6	**S**	1.2	1.2	0.9	0.7	1	1.1	1.2	1.3	1.2	1.3	***36.2***	3.0	24
5	1.5	5	6.3	9	6.8	1.3	0.8	1.1	0.8	0.8	0.8	0.8	**S**	0.7	1.1	1	0.7	0.6	0.9	1.1	0.8	3	1.4	1.9	9	2.1	24
6	1.8	1.8	2.2	2.4	2.7	3	3.1	4.7	4.3	3.1	1.8	**S**	1.7	1.2	1	1	1.3	4.1	1.3	1.4	1.4	1.2	1.4	1.4	4.7	2.1	24
7	1.2	1.1	2.1	2.1	2.1	1.9	1.7	1.4	2.1	1.1	**S**	0.8	0.6	2.7	1.5	2.7	1.5	1.4	1.4	4.8	1.4	1.4	2.1	0.9	4.8	1.7	24
8	0.9	1.4	1.3	1.2	2.5	2.8	1.6	1.7	1.9	**S**	2.2	2.1	1.9	3.1	1.1	1.5	24.1	3	1.7	2.4	2.7	3.3	2.4	1.9	24.1	3.0	24
9	1.7	2.1	1.9	1.9	2.5	3.2	3.1	3.8	**S**	9.8	1.7	1.3	1.4	1.4	2.1	1.7	1.7	2.5	**P**	1.4	1.9	1	1.4	1.7	9.8	2.3	23
10	1.6	1.2	1.6	2.1	3.1	2.5	3.7	**S**	2.1	1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0.8	0.8	0.8	1.1	1	3.7	1.7	24
11	1	1.1	1.3	1.4	1.2	1.2	**S**	1	1.3	21.7	1	1.5	1.8	1.6	2.1	1.6	2.5	1.7	2.9	7.3	3.7	3.8	3	3.2	21.7	3.0	24
12	3.4	3	2.3	1.9	1.8	**S**	1.2	1.4	1.5	23.5	3.6	0.9	0.7	0.5	1.1	0.7	0.4	2.3	0.6	2.3	2.5	1.3	1.5	2.8	23.5	2.7	24
13	2.7	2.7	3.7	4.5	**S**	3.9	4.4	7.5	6.4	3.8	2.3	2.3	1.7	2.1	1.5	1.5	1.4	2	2.1	1.2	1.2	1.4	1.7	2.2	7.5	2.8	24
14	2.6	2.7	2.7	**S**	2.4	2.4	4	2.6	1.9	1.4	0.9	0.9	0.9	0.9	1	1.1	2.7	0.9	1.2	1.1	1.4	1.7	1.7	2.2	4	1.8	24
15	2.5	2.3	**S**	2.1	1.9	1.9	3.8	4	5.8	25	1.2	1.1	2.5	1.7	1.1	1.6	1.3	6.4	1.4	1.6	1.4	2.1	2.2	2.5	25	3.4	24
16	2.5	**S**	3.5	2.5	2.5	3	3	5	5.4	7.3	5.8	4.9	3.6	4.2	25.1	2.9	2.1	1.6	1	1	1.3	1.4	1.9	3.6	25.1	***4.1***	24
17	**S**	2.1	2.1	1.6	1.9	3.7	3.5	2.3	1.4	1.2	2	2.2	1.9	2.3	2.2	6.7	2.2	2.9	2.2	2.2	3.2	1.9	1.9	**S**	6.7	2.4	24
18	0.7	0.7	0.4	0.7	0.8	1.2	3.6	1.3	1.1	1.3	1	2.3	0.9	3.1	1.5	0.9	1.3	2.9	2.9	4.3	1.7	1.6	**S**	1.8	4.3	1.7	24
19	1.7	2.3	2.4	2.6	2.6	1.8	21.3	7.5	2.8	2.8	0.9	1.1	0.9	0.9	0.7	1.1	0.7	0.7	0.4	0.9	3.8	**S**	1.2	1	21.3	2.7	24
20	1.4	1.7	1.5	1.5	1.7	1.9	2.2	1.9	1.9	1.5	1.4	1.9	4	2.7	1.1	1.9	1.1	1.4	1.4	0.9	**S**	1.3	3.8	1.1	4	1.8	24
21	1.1	1.3	1.4	1.4	1.5	2.8	5.3	6.5	9.7	9.9	1.5	1.8	1.7	1.4	1.4	1.2	1.2	2.4	1.2	**S**	8.3	**P**	**P**	**P**	9.9	3.2	21
22	1.9	2.4	2	2	6.3	18.8	4.9	4.9	1.3	2.5	1.1	1.4	1.4	1.6	1.6	1.3	1.3	1.3	**S**	1.9	1.7	2.6	2.5	2.8	18.8	3.0	24
23	3.2	3.1	2.8	2.5	2.6	2.5	2.8	2.4	2.5	2	1.9	1.3	**P**	**P**	2.1	1.7	1.3	**S**	1.1	1.3	2	2.2	2.1	2.6	3.2	2.2	22
24	2.6	2.4	2.6	2.3	2.3	2.3	2.5	2.7	2.3	2.6	1.8	1.5	1.5	1.6	1.6	1.8	**S**	1.6	1.2	2	2	1.7	1.5	1.5	2.7	2.0	24
25	1.3	1.3	1	0.8	1.2	1	1.2	0.9	1.2	1.1	1.4	1.2	1.2	0.9	0.8	**S**	1	2.7	3.4	5.2	1	1.3	1.2	1	5.2	1.4	24
26	1	1.4	1.5	1.4	1	1.1	1.3	1.3	2	2.2	2.3	4.6	1.3	0.9	**S**	1.6	1.8	3.4	1	1	1.1	1.9	4.8	1.6	4.8	1.8	24
27	1.3	1.5	1.8	1.8	2	2.2	1.8	1.6	2.2	2	1.3	1.2	1.8	**S**	0.5	1.5	1.5	2.4	2.3	1.1	1.6	1.4	1.6	1.8	2.4	1.7	24
28	1.8	2.4	2.1	**P**	**P**	4.5	2	2.3	1.3	1.3	0.9	0.9	**S**	1.2	**Y**	**Y**	1	0.8	1	0.9	1.3	1.8	2.3	1.9	4.5	1.7	20
29	2	1.9	2	2.1	2.1	2.5	3.1	2.9	2.3	1.9	1.5	**S**	5.4	1	0.8	1.1	1.4	0.9	1.2	0.9	1.4	1.9	2.2	2.5	5.4	2.0	24
30	2.2	2.5	2.3	2.7	2.7	2.5	2.6	3.1	**S**	**S**	**S**	1.2	1.2	1.1	1	1.1	1.1	0.9	0.9	1.3	1.6	1.9	1.9	1.9	3.1	1.8	24
31	2.4	2.2	2.2	2.2	2	2.6	2.4	2.2	2.1	**S**	1.5	1.4	2.2	2	2	1.5	1.6	1.6	3.7	4.6	4.3	2.2	1.7	0.9	4.6	2.2	24
HOURLY MAX	36	5	6	9	7	19	21	12	10	25	6	5	5	4	25	7	24	6	4	7	8	4	5	4			
HOURLY AVG	3.1	2.1	2.2	2.3	2.4	3.0	3.4	3.3	2.9	4.9	1.7	1.7	1.8	1.7	2.3	1.7	2.2	2.0	1.5	2.0	2.0	1.9	2.0	1.9			

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: 691

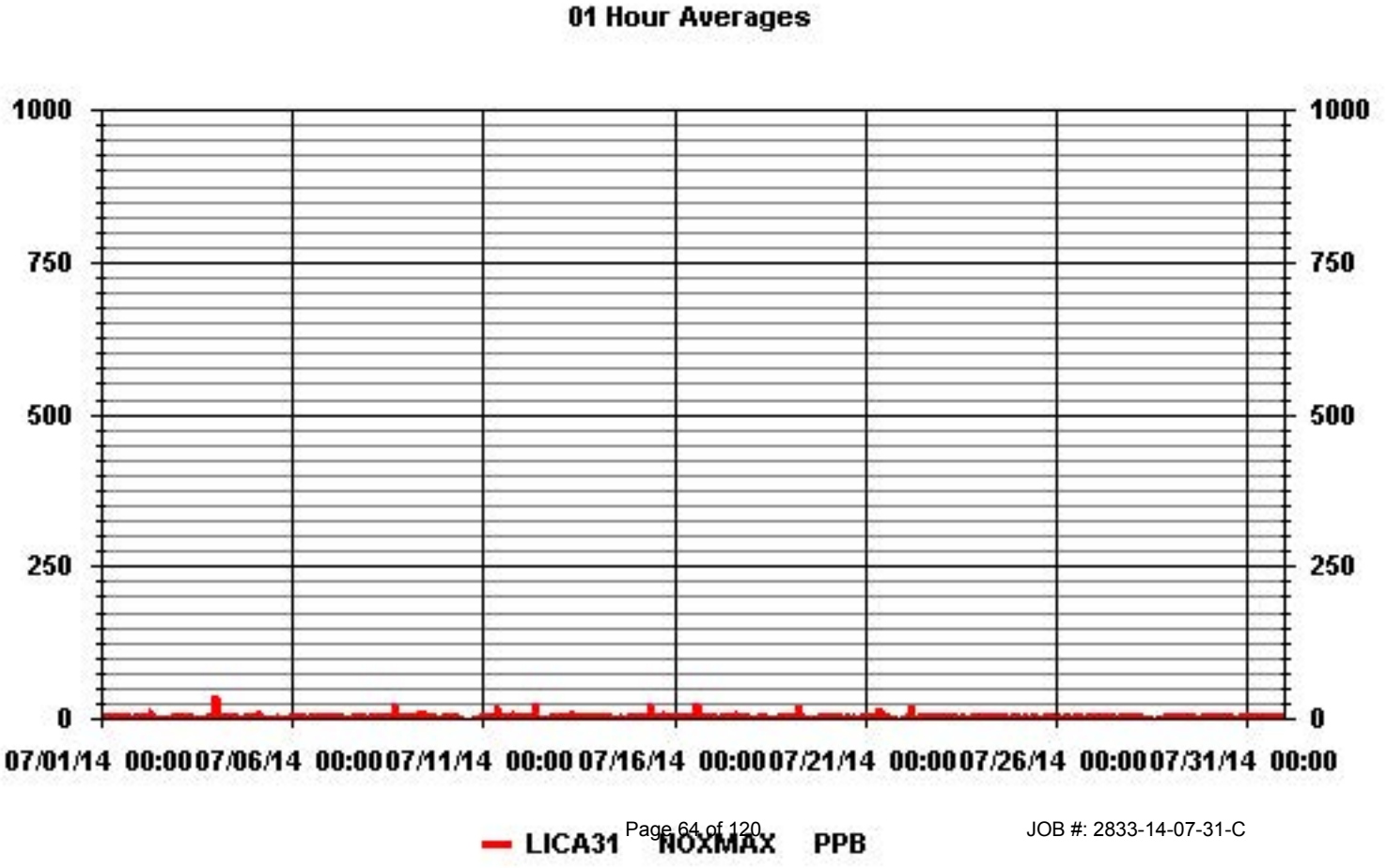
MAXIMUM INSTANTANEOUS VALUE: 36.2 PPB @ HOUR(S) 0 ON DAY(S) 4

VAR-VARIOUS

IZS CALIBRATION TIME: 34 HRS OPERATIONAL TIME: 734 HRS

MONTHLY CALIBRATION TIME: 9 HRS

STANDARD DEVIATION: 2.81



JOB #: 2833-14-07-31-C

LICA31
NOX_ / WDR Joint Frequency Distribution (Percent)

July 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	3.58	2.00	2.15	1.72	3.15	6.88	7.46	9.03	9.89	8.89	4.30	5.73	9.03	11.33	11.33	3.44	100.00
<	110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	3.58	2.00	2.15	1.72	3.15	6.88	7.46	9.03	9.89	8.89	4.30	5.73	9.03	11.33	11.33	3.44	

Calm : .00 %

Total # Operational Hours : 697

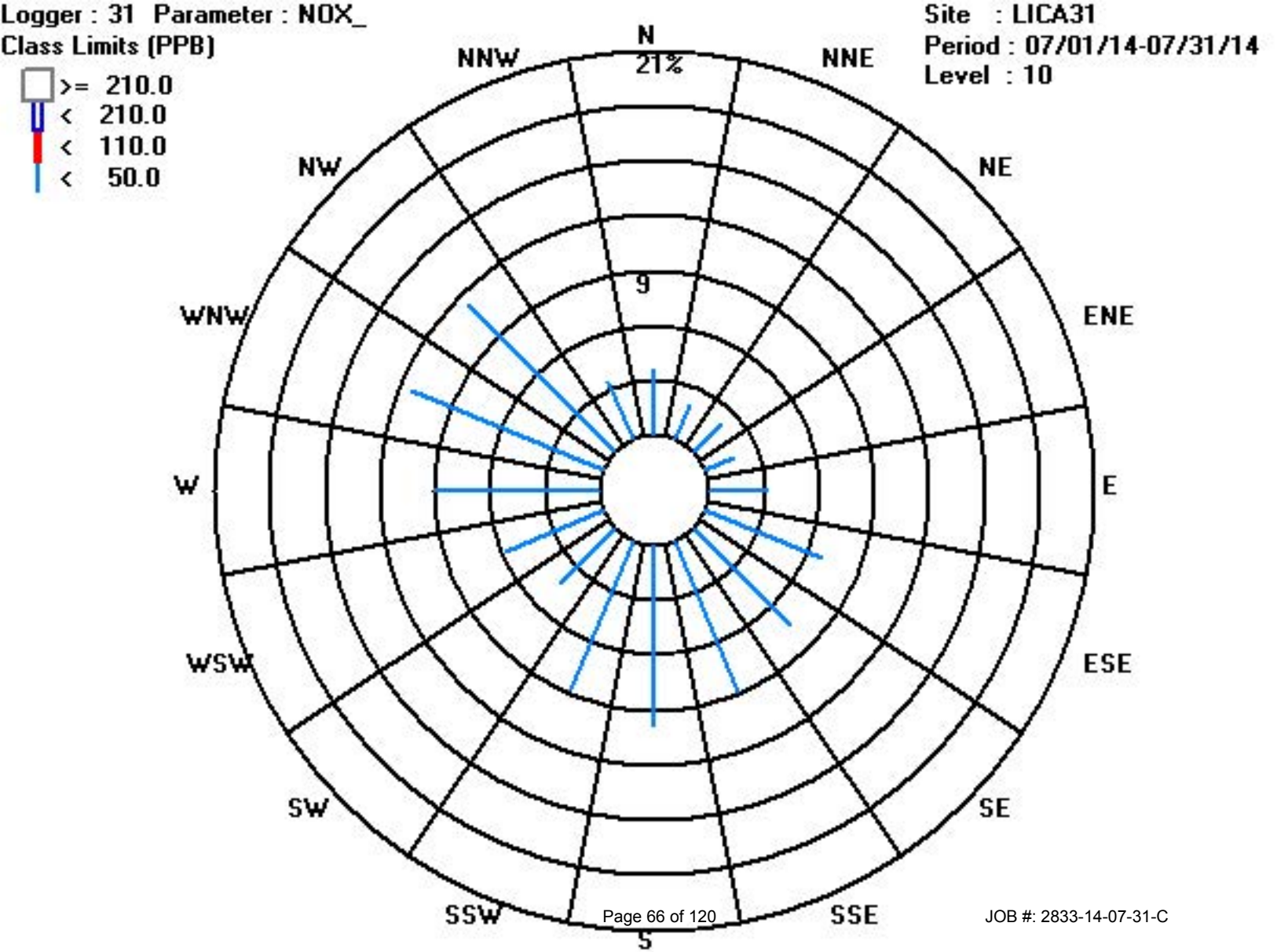
Distribution By Samples

Direction

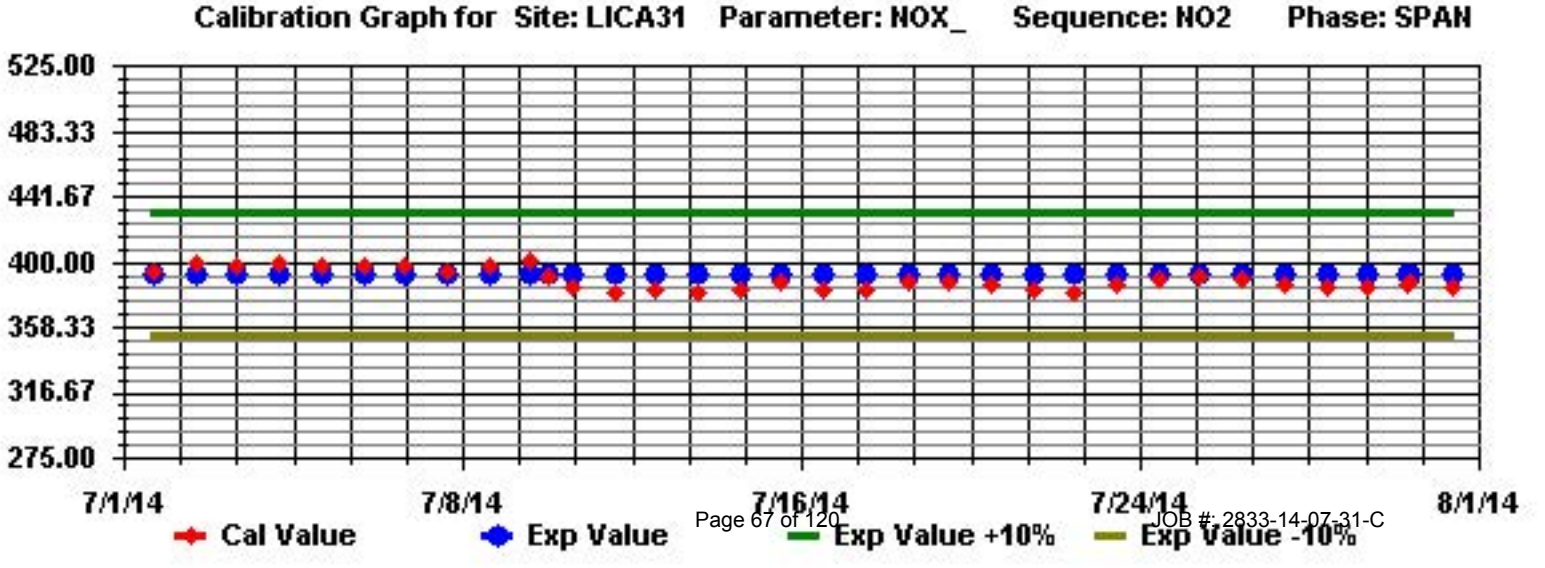
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	25	14	15	12	22	48	52	63	69	62	30	40	63	79	79	24	697
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	25	14	15	12	22	48	52	63	69	62	30	40	63	79	79	24	

Calm : .00 %

Total # Operational Hours : 697



JOB #: 2833-14-07-31-C


Calibration Graph for Site: LICA31 Parameter: NOX_ Sequence: NO2 Phase: SPAN
525.00
483.33
441.67
400.00
358.33
316.67
275.00
7/1/14
7/8/14
7/16/14
7/24/14
8/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Particulate Matter 2.5

Lakeland Industry & Community Association - St. Lina Site

JULY 2014

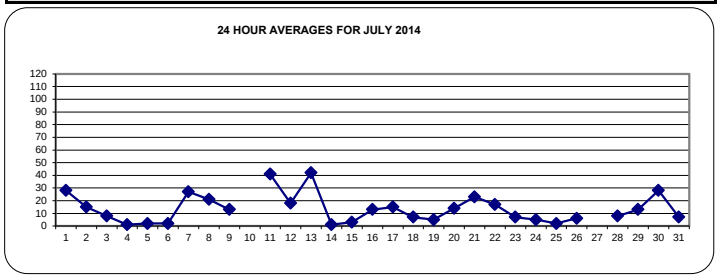
PARTICULATE MATTER 2.5 (LESS THAN 2.5 MICRONS) (PM2.5) hourly averages in ug/m3

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	23	25	27	27	23	21	20	22	20	21	25	36	39	37	36	29	33	33	32	25	27	28	30	28	39	27.8	24
2	26	25	20	19	18	14	13	8	4	5	5	9	4	10	11	13	17	21	22	18	16	19	23	25	26	15.2	24
3	18	14	14	12	12	12	12	14	13	**Y**	**Y**	**Y**	0	3	3	3	4	4	6	6	2	1	**X**	4	18	7.9	20
4	0	0	1	0	3	3	0	1	0	0	0	0	1	0	0	0	2	1	2	0	10	1	0	1	10	1.1	24
5	0	2	1	3	16	0	1	0	3	2	0	0	0	2	0	2	**X**	0	1	4	0	5	2	3	16	2.0	23
6	1	3	3	2	6	7	3	4	3	2	1	0	**X**	0	0	0	0	0	2	2	3	3	2	4	7	2.2	23
7	1	2	3	3	3	4	5	9	7	7	14	17	21	38	42	69	66	55	52	53	50	47	49	37	69	27.3	24
8	38	37	37	39	42	30	38	45	46	49	27	19	7	5	9	4	7	5	10	6	5	7	0	3	49	21.5	24
9	2	2	4	7	10	14	19	18	22	29	23	15	7	14	12	20	5	14	**P**	**X**	**X**	**X**	**X**	**X**	29	13.2	18
10	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**			0
11	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**C**	**C**	37	53	49	43	44	45	39	33	35	36	36	53	40.9	13
12	35	29	25	24	25	24	21	18	21	28	19	14	16	8	9	10	12	13	12	13	12	11	14	28	35	18.4	24
13	52	78	89	109	97	84	77	74	61	50	27	30	36	26	20	17	18	16	16	17	11	5	1	0	109	***42.1***	24
14	2	3	2	0	1	2	3	1	1	0	0	0	1	1	0	0	2	1	3	2	2	1	0	3	3	1.3	24
15	4	2	1	0	1	1	2	3	3	3	3	1	1	3	0	4	6	8	7	1	3	4	3	2	8	2.8	24
16	0	1	2	1	2	3	3	6	8	13	18	20	20	33	23	26	20	27	24	5	10	14	11	17	33	12.8	24
17	16	14	15	13	16	18	23	18	14	14	19	17	18	13	11	6	14	14	14	17	21	19	10	2	23	14.8	24
18	1	3	4	4	4	5	6	6	10	9	7	8	3	4	8	9	12	14	10	7	10	10	11	8	14	7.2	24
19	8	7	10	12	16	12	10	6	2	2	1	2	0	0	4	3	0	2	3	5	2	3	4	2	16	4.8	24
20	3	3	6	6	9	33	50	50	43	27	18	20	16	18	16	1	5	2	4	2	0	4	5	2	50	14.3	24
21	4	3	7	3	4	8	7	5	6	9	23	41	39	36	37	32	38	30	34	34	28	31	**P**	68	68	22.9	23
22	29	27	30	24	26	23	26	26	21	16	12	18	16	11	8	11	10	14	11	12	8	12	12	12	30	17.3	24
23	10	8	8	8	8	8	9	9	9	9	7	7	**P**	3	**X**	3	5	**X**	5	5	9	4	5	1	10	6.7	21
24	3	4	4	6	8	6	5	12	9	11	9	2	9	**X**	**X**	0	**X**	4	0	3	6	**X**	1	1	12	5.2	20
25	0	0	0	0	0	2	4	0	1	1	4	0	2	2	6	2	1	0	10	5	11	2	3	2	11	2.4	24
26	4	4	7	5	4	3	5	5	5	4	4	5	3	11	**X**	5	6	6	20	3	5	5	8	12	20	6.0	23
27	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**			0
28	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**C**	**C**	10	7	5	7	7	8	7	8	8	8	12	11	12	8.2	14
29	10	9	8	8	8	8	8	6	6	6	5	6	4	5	5	5	5	6	9	13	7	***157***	0	4	***157***	12.8	24
30	5	5	5	5	5	6	6	8	8	8	7	7	18	23	33	39	72	83	102	101	89	11	7	7	102	27.5	24
31	8	8	11	5	8	6	11	11	10	12	13	18	0	6	6	0	1	3	5	7	4	2	5	8	18	7.0	24
HOURLY MAX	52	78	89	109	97	84	77	74	61	50	27	41	39	38	53	69	72	83	102	101	89	157	49	68			
HOURLY AVG	11.2	11.8	12.7	12.8	13.9	13.2	14.3	14.3	13.2	13.0	11.2	12.0	11.2	12.7	13.7	12.7	15.2	15.3	16.7	14.8	14.0	16.6	9.8	11.8			

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

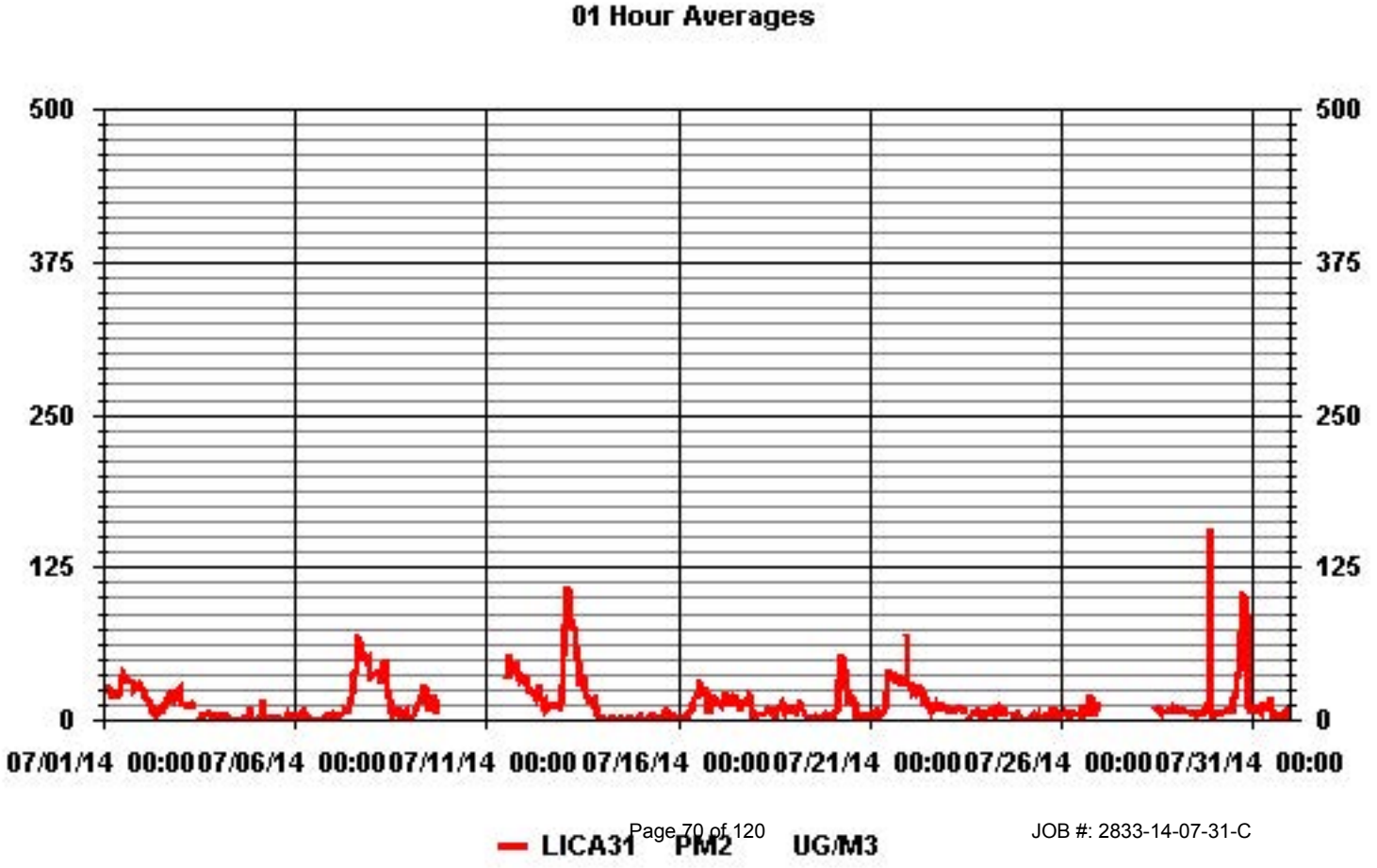


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 24-HR 30 ug/m3

MONTHLY SUMMARY

NUMBER OF 24-HR EXCEEDENCES:	2					
NUMBER OF NON-ZERO READINGS:	592					
MAXIMUM 1-HR AVERAGE:	157	ug/m3	@ HOUR(S)	21	ON DAY(S)	29
MAXIMUM 24-HR AVERAGE:	42.1	ug/m3			ON DAY(S)	13
					VAR-VARIOUS	
			OPERATIONAL TIME:		654	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:		87.9	%
STANDARD DEVIATION:	17.17		MONTHLY AVERAGE:		13.28	ug/m3

JOB #: 2833-14-07-31-C



JOB #: 2833-14-07-31-C

LICA31
PM2 / WDR Joint Frequency Distribution (Percent)

July 2014

Distribution By % Of Samples

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

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	30	3.69	2.30	2.00	1.84	2.30	5.53	7.84	8.46	10.00	8.30	4.00	4.76	5.69	8.46	9.53	3.23	88.00
<	60	.15	.15	.15	.00	.30	1.07	.15	.30	.61	.30	.46	.76	1.53	2.00	.92	.46	9.38
<	80	.00	.00	.00	.00	.46	.30	.00	.00	.00	.15	.00	.00	.00	.00	.30	.00	1.23
<	120	.00	.00	.00	.00	.15	.61	.15	.15	.15	.00	.00	.00	.00	.00	.00	.00	1.23
<	240	.00	.00	.00	.00	.00	.00	.15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.15
>=	240	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	3.84	2.46	2.15	1.84	3.23	7.53	8.30	8.92	10.76	8.76	4.46	5.53	7.23	10.46	10.76	3.69	

Calm : .00 %

Total # Operational Hours : 650

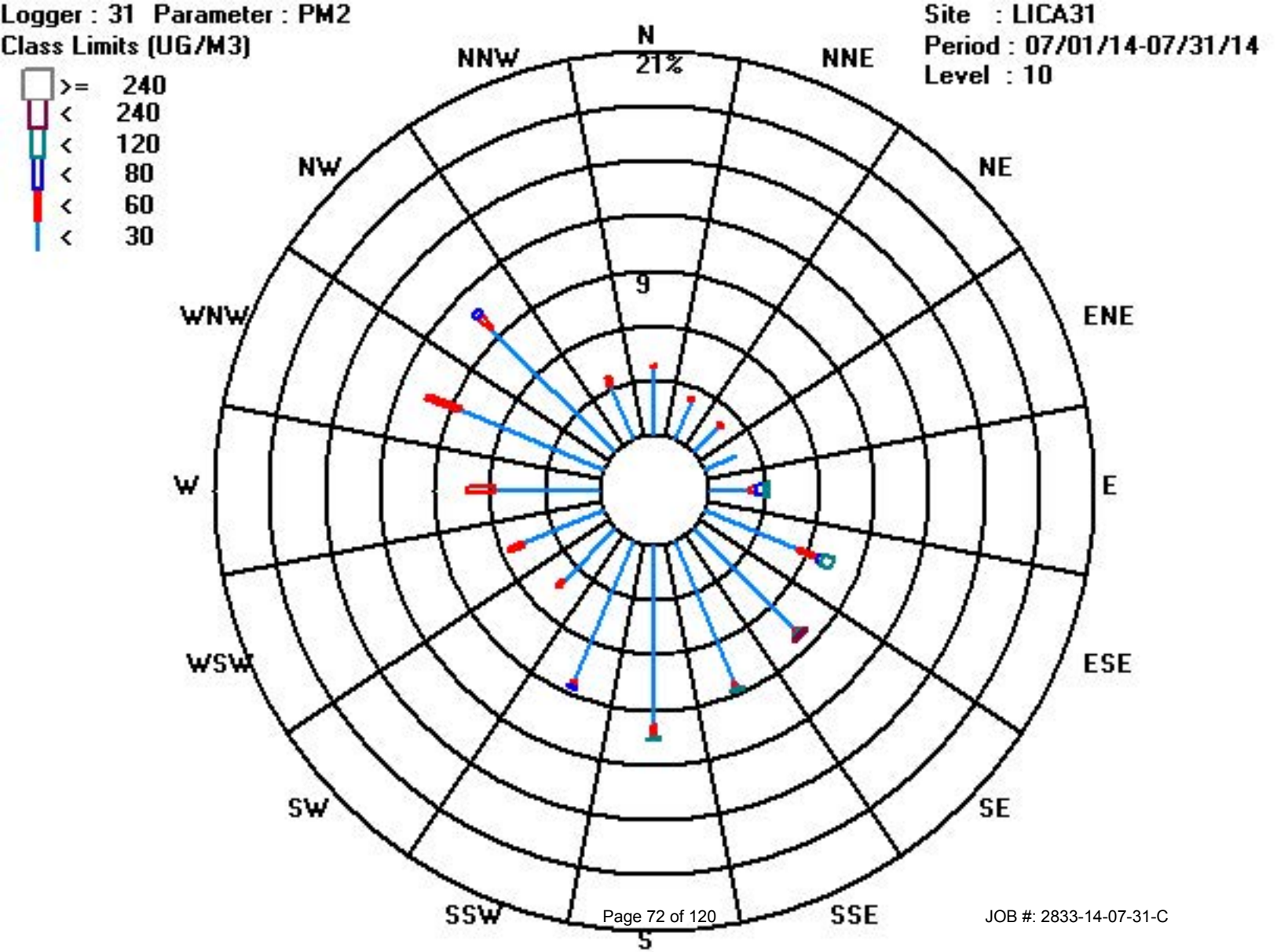
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	30	24	15	13	12	15	36	51	55	65	54	26	31	37	55	62	21	572
<	60	1	1	1		2	7	1	2	4	2	3	5	10	13	6	3	61
<	80					3	2				1					2		8
<	120					1	4	1	1	1								8
<	240							1										1
>=	240																	
	Totals	25	16	14	12	21	49	54	58	70	57	29	36	47	68	70	24	

Calm : .00 %

Total # Operational Hours : 650



JOB #: 2833-14-07-31-C

Temperature

Lakeland Industry & Community Association - St. Lina Site

JULY 2014

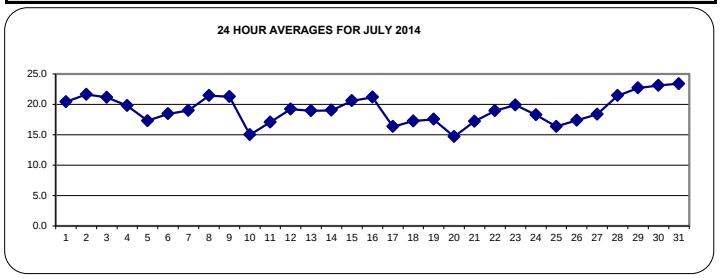
AMBIENT TEMPERATURE (TPX) hourly averages in Degrees Celsius

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	15.5	14.9	14.5	14.1	13.7	13.9	16.3	19	21	22.9	24.2	24.9	25.9	26.6	27	26.7	26.6	25.6	22.3	20	19.3	18.8	18.3	17.7	27	20.4	24
2	17.1	16.5	15.4	15.4	15.4	16.5	20.1	21.7	23.6	23.9	25.3	25.6	26	26.1	25.6	26.1	25.9	25.3	24.4	22.8	21.2	20.1	20	19.1	26.1	21.6	24
3	18.7	18.3	17.7	17.3	17.2	17.8	18.2	18.6	19.2	20.4	22.3	22.9	24.5	25.2	25.5	26.1	25.5	25.2	25.1	23.9	22.1	21.7	18.5	15.4	26.1	21.1	24
4	14.9	14.2	13.9	13.8	14.1	14.3	15.9	17.2	19	21	22.5	23.3	24.5	25	25.8	25.8	25.6	25.2	23.4	22.7	19.9	18.2	17.6	17	25.8	19.8	24
5	17.1	16.7	16.5	15.8	14.5	12.8	12.2	12.5	13.2	13.8	17.1	18.8	19.9	21.4	22.6	21.2	22.5	21.9	21.1	20.2	18.1	16.4	14.8	14.3	22.6	17.3	24
6	14	13.9	13.1	13	13	14	16.1	18.1	19.2	19.6	19.6	21.1	22.7	23	23.2	23.2	23.5	22.9	22	20.5	18.5	17.1	16	15.3	23.5	18.4	24
7	14.6	14.1	13.7	13.6	13.3	13.8	15.2	16.5	19.9	21.3	22.5	23.5	23.9	24.1	23.9	23.2	22.7	22.6	21.6	20.4	18.9	18	17.5	17	24.1	19.0	24
8	16.3	15	14.5	16.1	13.9	15	18.2	20.2	21.8	23.5	25.4	26.2	27.2	28.5	26.3	26.3	26.3	26.4	24.9	23.6	21.7	19.9	18.9	18.4	28.5	21.4	24
9	18	17	16.1	15.5	15	15.7	17.6	20.1	22.8	24.3	25.5	26.9	27.2	27.3	28.3	28.6	26.9	23.6	**P**	20.5	19.3	18.5	17.8	16.7	28.6	21.3	23
10	15.2	14.1	13.7	13.6	13.1	12.6	13.8	17.6	19.1	19.9	19.4	17.9	17.3	16	13.8	13.4	13.6	14.7	14.3	14.3	13.5	13.7	12.9	12.3	19.9	15.0	24
11	11.6	11.5	10.8	10.5	10.5	11.2	13.7	16.2	18.2	19.7	20.7	20.2	21.1	21.5	22.1	22	22.3	22	21.2	19.6	17.1	15.6	15.4	14.6	22.3	17.1	24
12	14.9	14.3	14.3	14	13.4	14.5	15.6	17.6	20.1	21.4	23.6	24	24.5	24.7	24.8	24.4	23.1	22.3	21.8	20.8	19.3	17.6	16.2	14.3	24.8	19.2	24
13	14.2	14	13.5	13.2	12.3	13.4	15.7	17.1	18.8	20.4	21.5	22.5	23.6	24.3	24.6	25	24	23.8	22.9	21	18.8	17	16.6	16	25	18.9	24
14	15.1	13.9	13.4	12.5	12.2	13	15.3	17.7	20.3	21.2	21.8	22.4	23.2	24	24.1	24.5	24.1	23.3	22.4	20.7	18.8	18	17.6	16.8	24.5	19.0	24
15	15.6	14.5	14	13.7	13.2	13.7	16.2	17.4	20.5	22.5	24	24.9	25.9	27.4	27.9	27.5	26.5	25.4	24.4	22.6	21	19.4	18.5	17.6	27.9	20.6	24
16	16.8	16.3	15.5	15.4	14.9	15.4	15.9	17.1	18	22.9	26.8	28.6	29.1	30.3	***30.9***	28.8	27.2	25.3	23.3	21.2	19.1	17.6	16.4	15.1	***30.9***	21.2	24
17	15.4	13.9	13.9	14.1	14	15.3	16.8	20.5	21.2	21.7	20.6	19.4	19.1	18.1	17	15.9	15.6	15.1	14.7	14.7	14.4	13.9	13.5	13.1	21.7	16.3	24
18	12.7	12.6	12.6	12.3	12.1	12.2	12.9	13.3	14.6	17.9	20.9	22.2	23	22.9	23.4	22.6	21.3	19.8	18.7	18.2	17.6	17	16.8	16.6	23.4	17.3	24
19	16.4	16.6	16.4	15.9	15.2	14.8	14.7	15.1	16.4	17.1	18.1	20.4	21.3	22.3	20.2	20.7	21.3	21	19.8	18.4	16.8	15.5	13.7	13	22.3	17.5	24
20	12.1	11.3	10.7	11.3	11.6	11.9	14.2	16	17.6	18.7	19.7	19.7	18.3	13.4	16.1	15.5	15.3	17.4	15.6	15.3	14	13.1	12.6	11.4	19.7	14.7	24
21	10.8	10.1	10.8	10.3	***9.8***	10.2	13.1	16	18.8	20.5	21.5	21.7	22.6	23.2	23.3	23.7	21.7	21.4	20.2	18.8	16.5	16	**P**	14.9	23.7	17.2	23
22	14.5	14	13.3	12.8	12.4	13.5	15.4	17.6	19.5	21.6	22.3	22.7	23.3	24	24	24	23.9	23.1	21.8	20.5	18.5	17.7	17.2	17	24	18.9	24
23	16	15.8	16.6	16.5	16.2	16.2	17.5	19.6	21.1	22.3	23.3	24.4	**P**	24.6	25	23.8	22.6	22.1	21.4	20.7	19.1	17.8	17.5	17	25	19.9	23
24	16.4	16.1	16.1	16.1	16.2	16.5	16.7	17.2	17.8	18.3	22.3	24.8	25.5	25.2	23.1	20.7	20	19.7	18.4	17.2	15.6	13.1	12.6	12.5	25.5	18.3	24
25	12.2	11.6	11.4	11.3	11.6	11.9	12.8	13.6	14.2	15.7	17	18.6	20.1	21.3	20.4	21.3	20.9	22	20.9	19.9	17.5	15.6	15.3	15.5	22	16.4	24
26	15.2	14.9	14.8	14.5	14.2	13.8	13.9	14.4	15.6	16.6	17.3	19.4	23.2	23.4	22.7	22.8	23.5	21.5	20	18	16	14.6	13.9	13.1	23.5	17.4	24
27	13	12.4	12.6	12.2	12	13.2	16.1	15.6	17	18.6	20.9	22.5	22.3	23.7	24.4	24.3	25	25.5	23.7	21	17.1	15.8	16.2	15.9	25.5	18.4	24
28	14.8	14.4	15.2	14.5	14.3	15.5	18.3	21	22.5	24.3	25.5	25.9	26.2	26.8	27.2	27.1	26.8	25.8	24.4	23	21.3	20.3	19.8	19.4	27.2	21.4	24
29	18.9	18.5	18	17.2	16.6	16.2	18	20.5	22.4	24.2	25.7	26.2	27.4	27.7	27.9	28	27.9	27.4	26.3	24.4	22.4	21.5	20.7	20.3	28	22.7	24
30	19	18.3	17.5	16.4	15.8	16.7	18.8	21.4	22.6	25.5	26.4	27.3	28.4	28.6	28.9	29.1	28.9	28.2	25.7	24.2	23	21.9	21.4	20.5	29.1	23.1	24
31	19.6	18.7	18.4	18.2	17.9	18.4	20.7	23.1	24.9	26	26.6	28.2	29.3	29.9	28.2	28.4	28.6	27.6	25.8	23.3	21	20.3	19.6	18.6	29.9	***23.4***	24
HOURLY MAX	19.6	18.7	18.4	18.2	17.9	18.4	20.7	23.1	24.9	26	26.8	28.6	29.3	30.3	30.9	29.1	28.9	28.2	26.3	24.4	23	21.9	21.4	20.5			
HOURLY AVG	15.4	14.8	14.5	14.2	13.9	14.3	16.0	17.7	19.4	20.9	22.3	23.1	23.9	24.2	24.1	23.9	23.5	23.0	21.8	20.4	18.6	17.5	16.8	16.0			

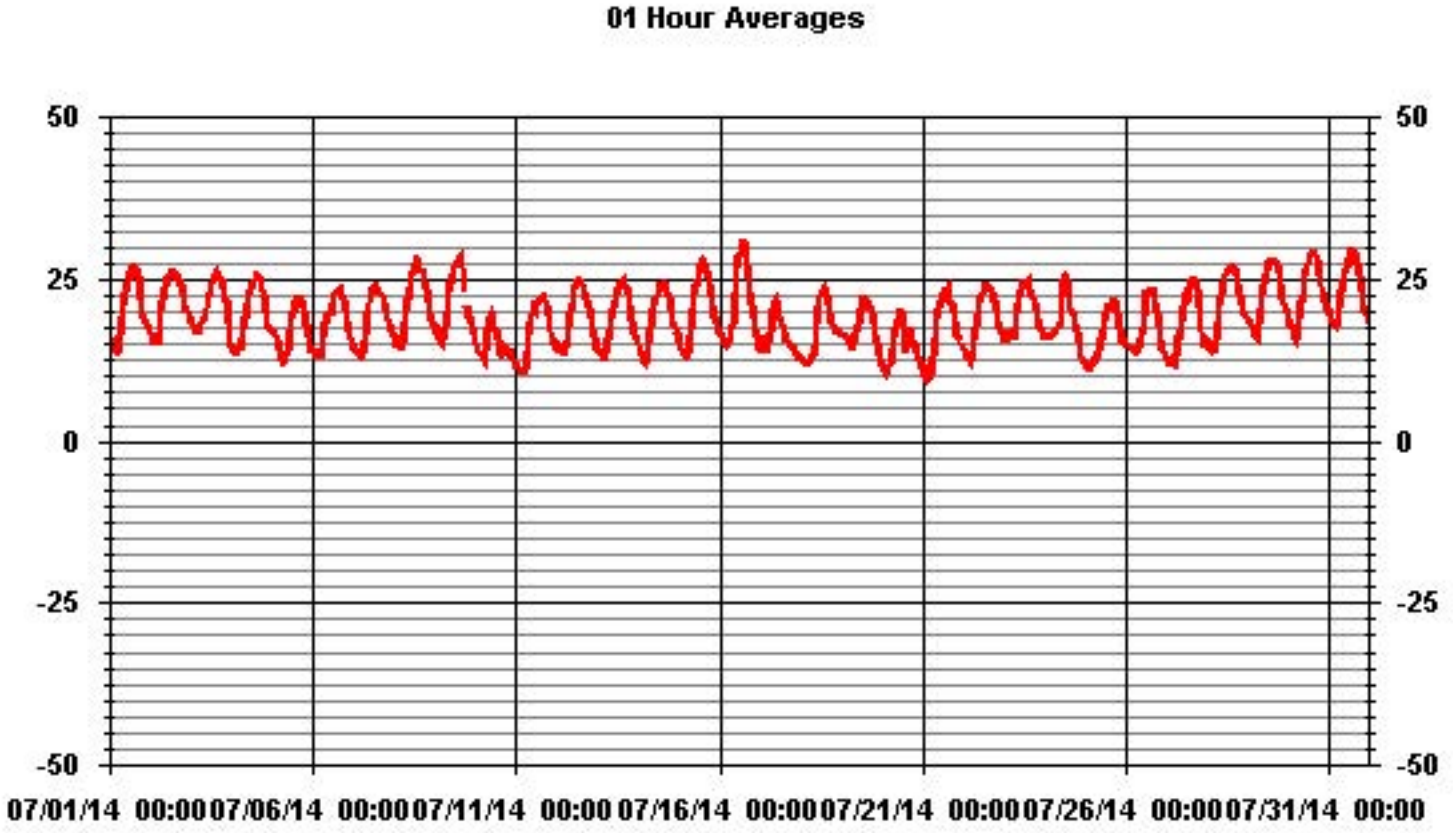
STATUS FLAG CODES

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



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	9.8	°C	@ HOUR(S)	4	ON DAY(S)	21
MAXIMUM 1-HR AVERAGE:	30.9	°C	@ HOUR(S)	14	ON DAY(S)	16
MAXIMUM 24-HR AVERAGE:	23.4	°C			ON DAY(S)	31
					VAR-VARIOUS	
			OPERATIONAL TIME:		741	HRS
			AMD OPERATION UPTIME:		99.6	%
STANDARD DEVIATION:	4.61		MONTHLY AVERAGE:		19.17	°C



JOB #: 2833-14-07-31-C

Barometric Pressure

Lakeland Industry & Community Association - St. Lina Site

JULY 2014

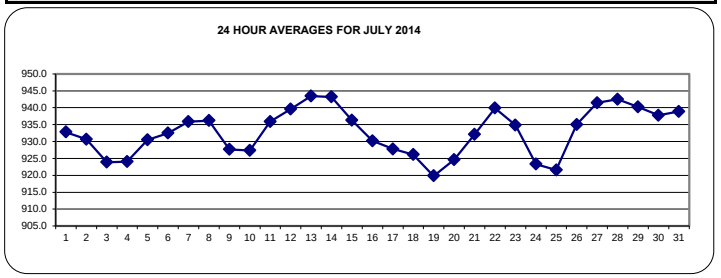
BAROMETRIC PRESSURE (BP) hourly averages in millibar

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	932	932	932	932	932	933	933	933	934	934	934	934	934	933	933	933	933	933	933	932	932	932	932	932	934	932.8	24
2	931	931	931	931	931	931	931	932	932	932	932	932	932	931	931	931	930	930	930	929	929	929	928	928	932	930.6	24
3	928	927	927	926	926	926	925	925	925	924	924	924	924	924	923	923	922	922	921	921	921	921	922	922	928	923.9	24
4	922	922	922	922	922	923	924	924	924	925	925	925	925	925	925	925	925	925	925	925	925	924	924	924	925	924.0	24
5	924	924	924	924	929	930	930	929	930	930	931	931	932	933	933	933	934	934	934	934	933	932	932	932	934	930.5	24
6	932	932	931	932	932	932	932	933	933	933	933	933	933	933	933	933	933	933	933	933	932	932	932	932	933	932.5	24
7	932	932	932	933	933	934	934	935	936	937	938	938	938	938	938	938	938	938	937	937	937	936	936	936	938	935.9	24
8	936	936	936	936	936	936	936	937	938	938	938	938	938	938	938	937	937	937	936	935	934	933	932	932	938	936.2	24
9	931	931	930	929	929	929	928	929	929	929	928	928	927	927	927	927	926	925	**P**	924	926	926	926	925	931	927.7	23
10	925	925	925	925	926	926	926	926	927	927	927	927	927	927	926	926	926	928	929	929	930	931	932	933	933	927.3	24
11	933	933	933	934	934	934	935	936	937	937	937	937	938	938	938	938	938	937	937	937	936	935	935	935	938	935.9	24
12	935	935	935	935	936	937	938	939	940	941	941	942	942	942	942	942	942	941	941	941	941	941	940	940	942	939.5	24
13	940	940	940	940	940	941	942	943	944	944	944	945	945	945	***946***	***946***	***946***	***946***	***946***	945	945	944	943	943	***946***	***943.5***	24
14	943	943	943	943	943	943	944	945	945	945	945	945	945	945	945	945	944	944	943	943	942	941	940	939	945	943.2	24
15	939	938	938	937	937	937	937	937	937	937	938	938	938	938	937	937	936	936	935	934	933	933	932	932	939	936.3	24
16	931	930	930	930	929	929	929	929	929	930	931	931	930	930	931	931	931	931	931	931	931	930	930	930	931	930.2	24
17	930	930	930	929	929	929	929	930	931	931	930	930	929	928	927	926	926	925	925	924	924	925	925	925	931	927.8	24
18	925	925	925	925	925	926	926	927	927	928	928	929	929	929	929	928	928	926	925	925	924	923	923	922	929	926.1	24
19	921	920	919	919	919	919	919	919	919	919	919	920	920	920	920	920	921	921	921	921	920	920	920	920	921	919.8	24
20	920	920	920	921	922	922	923	924	925	925	926	926	926	925	926	927	926	927	927	927	927	926	926	927	927	924.6	24
21	927	927	927	927	928	928	929	930	931	932	933	933	934	934	935	935	935	935	936	936	936	935	**P**	936	936	932.1	23
22	936	936	937	937	937	938	939	939	940	941	942	942	942	942	943	942	942	942	942	941	940	939	939	939	943	939.9	24
23	939	938	938	937	937	936	936	936	936	936	936	936	**P**	936	935	935	934	933	933	933	932	931	930	929	939	934.9	23
24	928	928	927	926	927	926	924	924	924	923	924	924	924	924	924	923	921	921	921	920	920	920	918	918	928	923.3	24
25	918	917	916	***915***	***915***	***915***	***915***	916	917	918	919	921	922	923	924	925	926	927	928	928	928	927	928	929	929	921.5	24
26	929	929	929	930	931	931	932	933	933	934	935	936	937	938	938	938	939	939	939	938	938	938	938	938	939	935.0	24
27	938	938	939	939	939	939	940	941	941	942	943	943	943	943	943	943	943	944	944	944	942	941	941	941	944	941.4	24
28	941	941	941	941	941	941	942	943	944	944	944	944	944	944	944	944	944	943	943	942	941	941	941	941	944	942.5	24
29	941	940	940	940	940	940	940	940	941	941	941	941	941	941	941	941	941	941	940	940	939	939	938	938	941	940.2	24
30	938	937	937	936	936	936	937	937	938	938	939	939	939	939	939	939	939	939	939	938	937	937	936	937	939	937.8	24
31	937	936	937	937	937	936	938	938	939	940	940	940	940	941	940	940	940	940	940	940	939	939	939	940	941	938.9	24
HOURLY MAX	943	943	943	943	943	943	944	945	945	945	945	945	945	945	946	946	946	946	946	945	945	944	943	943			
HOURLY AVG	931.7	931.4	931.3	931.2	931.5	931.7	932.0	932.5	933.1	933.4	933.7	933.9	933.9	934.0	934.0	933.9	933.7	933.6	933.8	933.1	932.7	932.3	931.9	932.1			

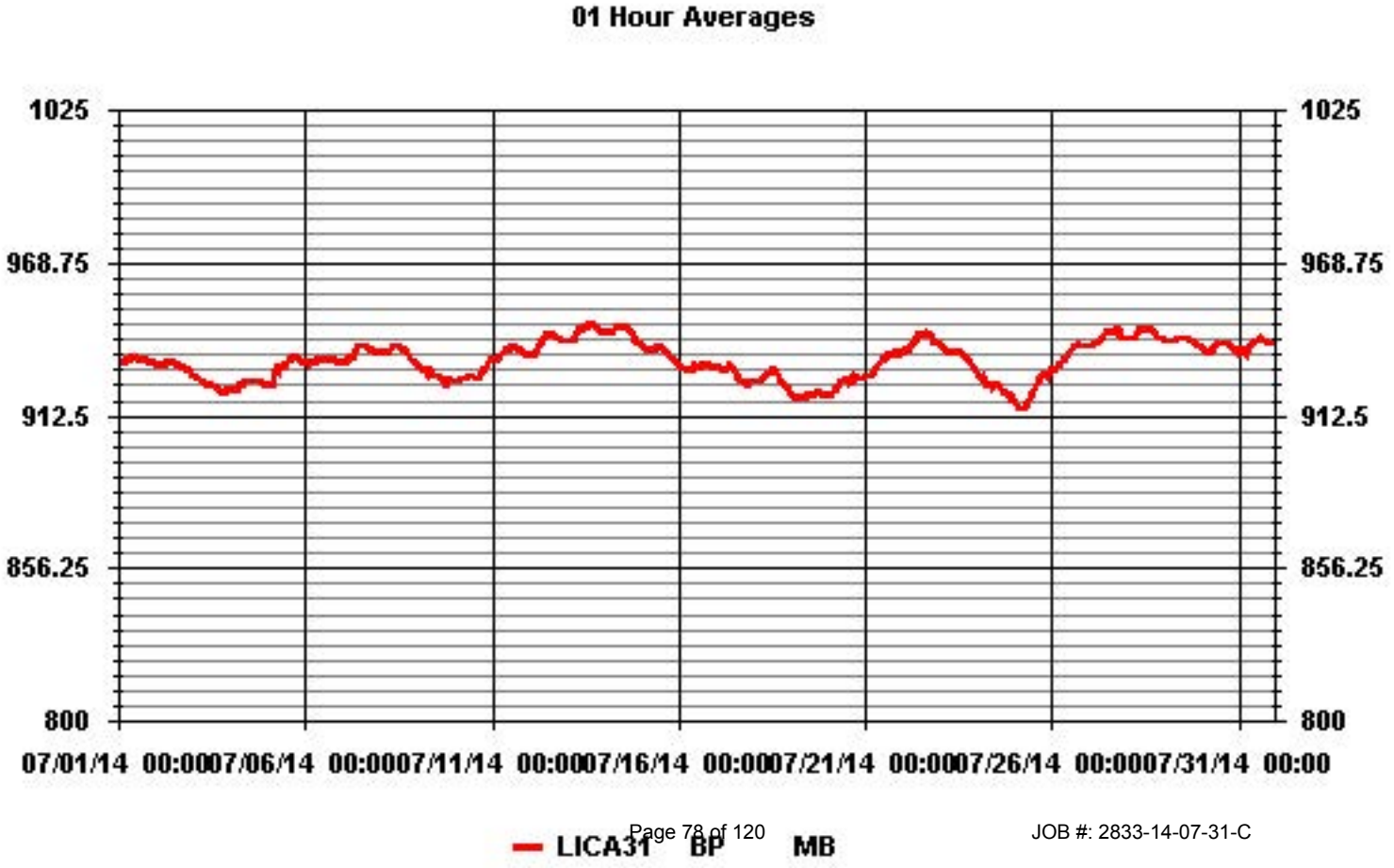
STATUS FLAG CODES

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



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	946	MB	@ HOUR(S)	VAR	ON DAY(S)	13
MAXIMUM 24-HR AVERAGE:	943.5	MB			ON DAY(S)	13
				VAR-VARIOUS		
			OPERATIONAL TIME:		741	HRS
			AMD OPERATION UPTIME:		99.6	%
STANDARD DEVIATION:	7.10		MONTHLY AVERAGE:		932.8	MB



JOB #: 2833-14-07-31-C

Relative Humidity

Lakeland Industry & Community Association - St. Lina Site

JULY 2014

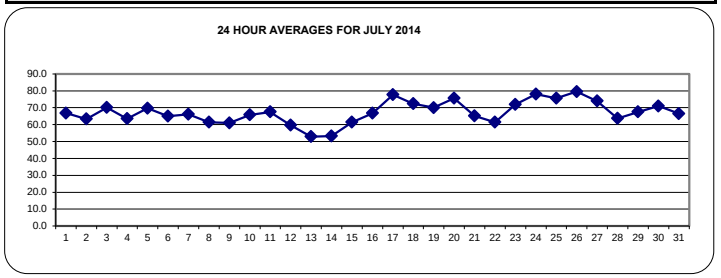
RELATIVE HUMIDITY (RH) hourly averages in %

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	80	83	85	87	89	88	80	73	67	62	57	54	50	46	43	40	43	46	62	68	73	72	76	79	89	66.8	24
2	81	83	87	87	86	81	71	65	57	55	51	49	46	46	47	46	46	48	53	59	63	68	69	76	87	63.3	24
3	79	80	81	81	80	76	75	74	73	70	64	63	60	58	58	57	60	62	64	69	73	72	68	85	85	70.1	24
4	88	89	90	90	89	88	82	76	68	59	53	47	45	41	39	37	37	40	45	47	62	71	69	72	90	63.5	24
5	69	71	70	73	83	89	90	91	89	88	78	69	62	59	56	59	46	47	49	54	59	67	75	79	91	69.7	24
6	80	81	86	88	89	88	82	74	69	66	65	59	50	48	47	47	44	43	46	50	58	62	66	71	89	65.0	24
7	74	76	78	79	81	80	77	74	62	58	53	52	50	51	51	54	55	57	61	66	71	73	76	76	81	66.0	24
8	77	82	86	72	85	82	74	69	62	57	50	45	41	39	43	41	44	44	50	56	62	69	72	72	86	61.4	24
9	71	73	74	76	79	76	71	65	58	56	54	50	47	47	46	50	51	63	**P**	75	66	49	51	55	79	61.0	23
10	60	63	63	64	70	71	65	55	50	43	44	47	53	60	75	79	81	71	73	76	82	78	79	77	82	65.8	24
11	79	81	85	88	88	85	77	71	65	59	54	55	53	53	52	50	50	53	57	64	70	77	76	78	88	67.5	24
12	77	79	77	79	82	80	78	69	61	54	43	39	39	36	***35***	***35***	43	49	52	56	61	63	70	74	82	59.6	24
13	66	60	57	54	59	61	57	55	52	51	44	40	39	40	40	41	45	46	50	58	66	69	62	57	69	52.9	24
14	57	65	65	66	67	65	62	55	49	44	41	40	40	39	38	38	41	44	48	56	62	65	65	67	67	53.3	24
15	74	78	78	77	78	75	68	65	58	54	52	49	46	42	39	40	44	50	57	62	65	72	74	76	78	61.4	24
16	77	75	77	76	77	77	75	74	75	63	56	53	53	52	52	57	56	61	64	64	67	71	73	76	77	66.7	24
17	78	86	85	82	81	74	72	63	58	56	61	68	71	74	77	79	82	86	88	87	87	88	90	90	90	77.6	24
18	90	91	91	91	90	89	89	88	84	73	61	55	50	48	48	50	55	63	68	69	70	73	76	76	91	72.4	24
19	75	74	76	79	85	89	90	88	83	76	69	63	58	52	58	56	52	49	53	59	65	71	79	81	90	70.0	24
20	83	86	89	88	89	84	74	69	65	59	52	53	60	82	77	77	76	69	77	77	77	79	84	88	89	75.6	24
21	89	90	89	90	91	89	80	73	64	54	47	47	42	40	40	39	50	50	56	64	71	73	**P**	72	91	65.2	23
22	72	72	77	77	78	73	65	64	62	56	49	47	49	48	45	44	46	50	56	63	68	69	71	73	78	61.4	24
23	78	79	77	77	79	80	77	72	69	67	64	61	**P**	60	54	57	63	61	64	71	80	86	89	90	90	72.0	23
24	91	***92***	***92***	***92***	***92***	91	90	90	89	88	74	63	62	59	59	58	57	59	62	69	80	87	88	89	***92***	78.0	24
25	89	89	90	91	91	91	90	87	85	79	74	68	61	56	59	57	57	50	55	60	75	86	87	87	91	75.6	24
26	87	88	89	91	91	***92***	91	91	87	83	80	73	61	59	62	60	59	66	71	77	82	87	89	91	***92***	***79.5***	24
27	90	91	91	91	***92***	91	81	84	81	75	67	63	61	55	55	51	49	47	53	68	82	88	85	84	***92***	74.0	24
28	88	88	85	86	84	78	69	62	59	54	49	46	45	43	40	42	47	52	58	64	69	73	74	73	88	63.7	24
29	76	78	80	83	85	86	80	71	66	62	57	56	51	50	51	51	51	55	59	70	75	74	77	76	86	67.5	24
30	80	82	84	88	90	87	80	73	71	64	61	59	58	57	56	54	57	57	66	71	74	77	78	80	90	71.0	24
31	84	87	88	90	90	87	80	70	66	63	62	56	49	46	50	42	41	43	51	65	72	68	73	73	90	66.5	24
HOURLY MAX	91	92	92	92	92	92	91	91	89	88	80	73	71	82	77	79	82	86	88	87	87	88	90	91			
HOURLY AVG	78.7	80.4	81.4	81.7	83.5	82.0	77.2	72.6	67.9	62.8	57.6	54.5	51.7	51.2	51.4	51.2	52.5	54.2	58.9	65.0	70.5	73.5	75.4	77.2			

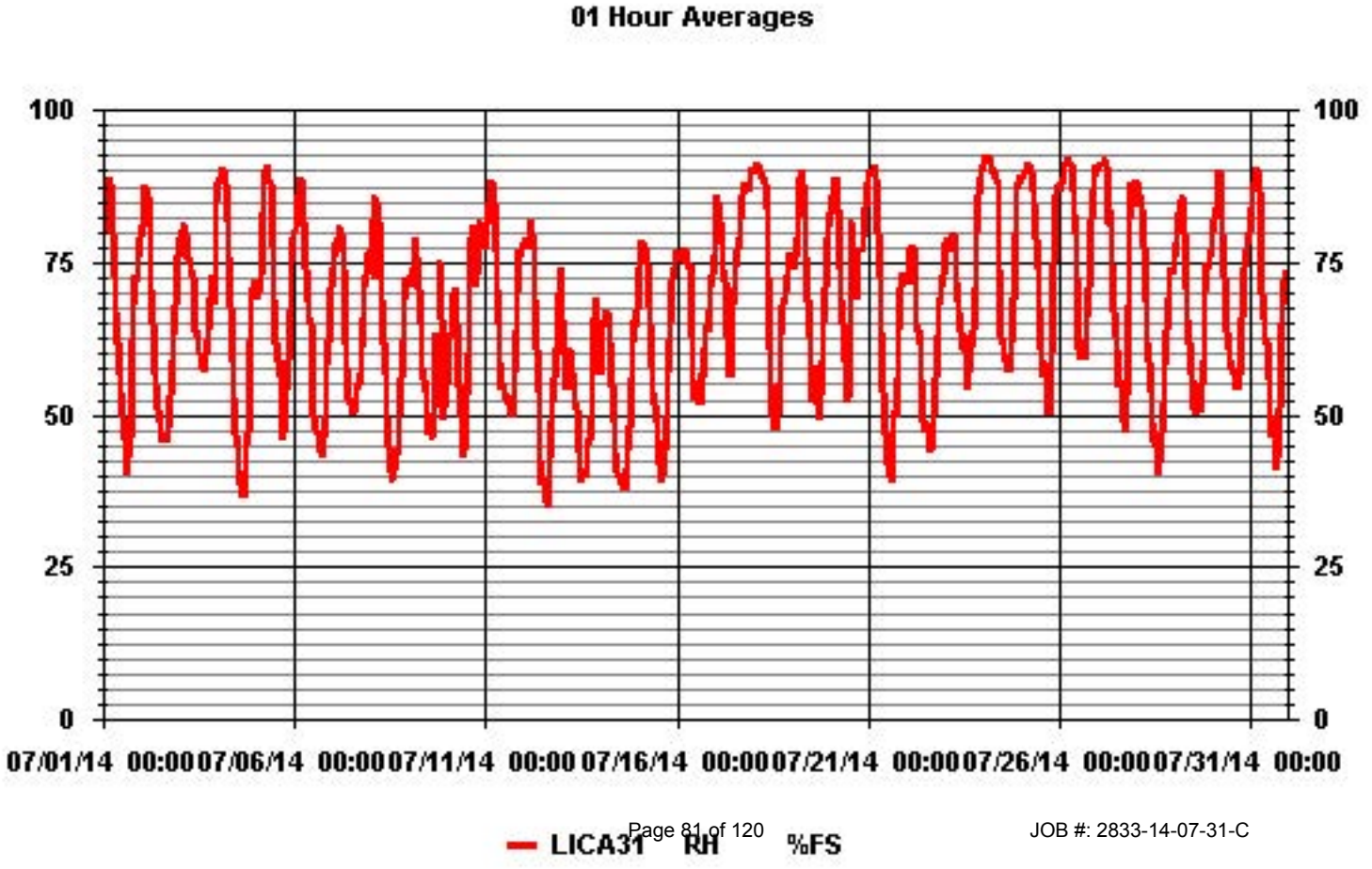
STATUS FLAG CODES

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



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	92	%	@ HOUR(S)	VAR	ON DAY(S)		VAR
MAXIMUM 24-HR AVERAGE:	79.5	%			ON DAY(S)		26
					VAR-VARIOUS		
			OPERATIONAL TIME:			741	HRS
			AMD OPERATION UPTIME:			99.6	%
STANDARD DEVIATION:	14.98		MONTHLY AVERAGE:			67.23	%



JOB #: 2833-14-07-31-C

Precipitation

Lakeland Industry & Community Association - St. Lina Site

JULY 2014

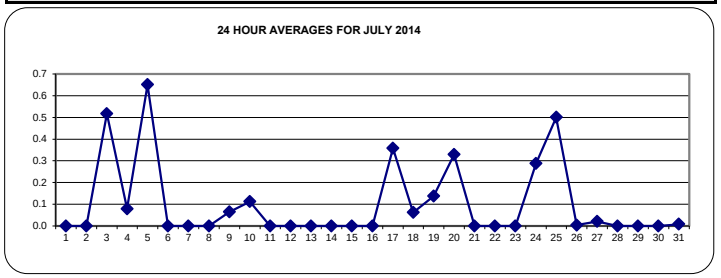
PRECIPITATION hourly averages in millimeter

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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	***12.4***	***12.4***	0.5	24
4	1.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.9	0.1	24
5	0	0	0	0.3	2.7	5.7	5.2	1.4	0.1	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.7	***0.7***	24
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
7	0	0	0	0	0	0	0	0	0	0	0	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	1.5	**P**	0	0	0	0	0	1.5	0.1	23
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.1	1.6	0	0	0	0	0	0	0	0	1.6	0.1	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	0.2	0.2	0.2	0.1	0.3	0	0	0.9	3.6	3.1	3.6	0.4	24
18	1.2	0.2	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.2	0.1	24
19	0	0	0	0	0.4	0.9	1.8	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.8	0.1	24
20	0	0	0	0.3	0	0	0	0	0	0	0	0	2	3.1	0.6	1.4	0.2	0	0.3	0	0	0	0	0	3.1	0.3	24
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**P**	0	0	0.0	23
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	**P**	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	1.9	2.3	1.6	1.1	2.3	0.3	24
25	3	3	3.4	1.4	1.1	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.4	0.5	24
26	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.0	24
27	0	0	0	0	0.1	0	0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.0	24
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
30	0	0	0	0	0	0	0	0	0	0	0	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	0.2	0.2	0.0	24
HOURLY MAX	3	3	3.4	1.4	2.7	5.7	5.2	1.4	0.1	0.2	0	0	2	3.1	1.1	1.6	0.2	1.5	0.3	0	1.9	2.3	3.6	12.4			
HOURLY AVG	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.2	0.5			

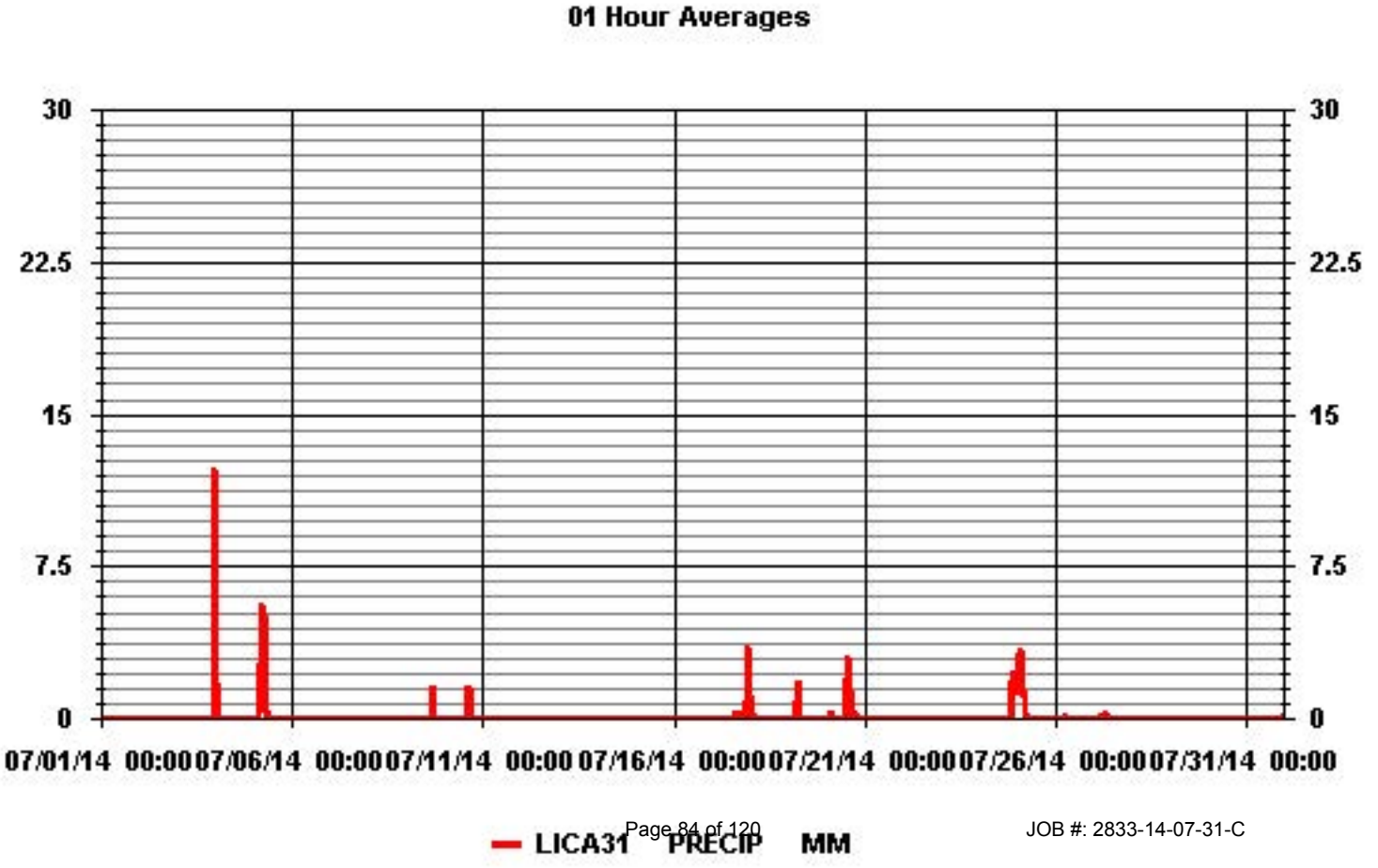
STATUS FLAG CODES

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

MAXIMUM 1-HR AVERAGE:	12.4	MM	@ HOUR(S)	23	ON DAY(S)	3
MAXIMUM 24-HR AVERAGE:	0.7	MM			ON DAY(S)	5
					VAR-VARIOUS	
			OPERATIONAL TIME:		742	HRS
			AMD OPERATION UPTIME:		99.7	%
STANDARD DEVIATION:	0.65		MONTHLY AVERAGE:		0.10	MM



JOB #: 2833-14-07-31-C

Vector Wind Speed

Lakeland Industry & Community Association - St. Lina Site

JULY 2014

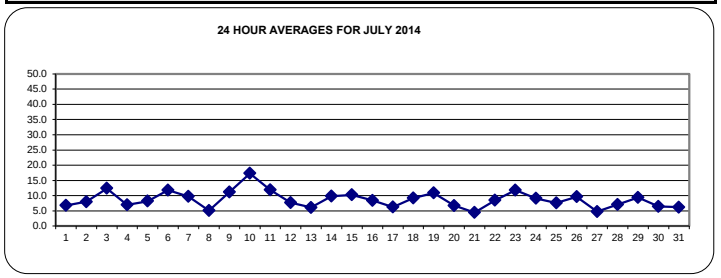
WIND SPEED (WS) hourly averages in km/hr

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	9	8.7	9.1	9.9	9.1	8.5	4.2	3.5	4	6.1	6.9	4.9	5.8	7.3	6.7	8.8	7.1	4.5	5.7	5.4	6.5	6.6	7.1	6.9	9.9	6.8	24
2	7.3	6.6	5.2	4.9	4.8	4.9	3.8	5	4.7	4.7	6.7	7.8	9.1	9	9.8	9.9	11	11.1	8.5	8.2	10.5	11.4	13.2	13.4	13.4	8.0	24
3	12.6	11.4	10.8	11.5	13.3	13.4	14.4	13.2	13.3	15.1	15.7	17.4	15.4	15.7	17	15.1	11.3	9.7	8.7	7.5	8.1	4.8	13	8.7	17.4	12.4	24
4	10.9	4.7	6.3	6.1	5.7	9.3	9.9	10.2	10.7	10.8	10.3	9.8	8	7.8	6.4	5.6	5.6	3	1.4	0.2	4.6	5.9	7.1	6.3	10.9	6.9	24
5	5.7	6.9	7.5	10.3	10.4	14.1	10.4	13.8	9.5	7.8	4.7	4.4	0.8	7.3	9.9	8.2	11.9	10.1	8.6	5.9	7.6	5.7	6.4	8.1	14.1	8.2	24
6	6.8	8.9	8.9	7.1	7.5	7.5	9.8	12.3	9.9	13.3	14.6	15.5	15.3	17.8	15.7	15	17.2	16.8	14	11.6	9.9	8.8	8.8	9.3	17.8	11.8	24
7	9.5	10.7	11.4	11.1	9.8	11.1	9.9	7.8	8.1	9.7	10.4	10.4	11.9	11.8	12.8	13.2	11.6	9.1	7.6	5.4	6.7	7.1	7.4	8	13.2	9.7	24
8	7.8	5.5	5.1	2	4.6	0.6	4.1	4.1	5.1	4.7	3.9	3.5	4.2	1.5	2.5	4.4	4.3	6.9	6.1	5.9	7.2	8.7	9.4	9.5	9.5	5.1	24
9	10.1	10.5	9.5	9.7	9.7	10.3	10.9	10.3	9.7	10.9	11.9	12.8	16.5	17.5	15.8	15.3	6.4	11	**P**	8.1	7.5	9.9	11.3	11	17.5	11.2	23
10	9.5	9.5	11.3	10.8	7.5	8.8	8.4	9.9	16.5	23.6	31.6	***39.6***	30.9	25.3	20.5	18.6	15.9	20.1	16.5	17.6	14	17.8	16.2	14.5	***39.6***	***17.3***	24
11	12.2	13	11.4	10.6	11.8	11.7	11.3	10	10.8	10.3	11.7	14.3	15.5	16.2	18	15.5	14	13.2	10.7	8	7.6	8.8	9.7	8.9	18.0	11.9	24
12	10.2	10.1	9.6	10	8.1	7.8	8.9	5.7	5.8	2.5	5.8	8.6	7.9	9.6	10.3	10.4	8.2	5.9	6.1	5.6	6.9	6.7	6.9	6.5	10.4	7.7	24
13	7.8	7.3	6.6	7.5	7.3	7.2	8.2	7.4	6.8	5.4	5.7	5.2	3.5	2.2	2.3	0.7	4.6	4.8	5.4	5.4	6.2	9.1	10.1	9.5	10.1	6.1	24
14	8.8	9.6	10.4	11.2	10.8	10.4	9	9.7	8.9	10.8	12.1	11.9	11.6	9.7	10	9	10	10.1	7.8	6.6	8.8	9.8	9.7	9.3	12.1	9.8	24
15	10.6	10.6	11.3	12.4	12.3	12	12.3	10.8	9	11.5	11.5	13.4	12.2	9.6	10.4	9.9	8	6.2	6.7	7.8	8.8	9.8	10	9.2	13.4	10.3	24
16	10	9.8	7.1	9.4	8.2	7	8.2	8.3	7	6.2	1.3	7	8.1	9.2	12	11.2	12.1	11.3	11.4	11.2	9.1	7.7	5.6	3.5	12.1	8.4	24
17	7.2	6.6	5.3	5.2	6.9	5.4	1.9	3.7	5.3	6.1	3.8	3.8	4.3	6	3.2	3.7	8.9	8	6.6	8.7	9.1	9	9.3	11.7	11.7	6.2	24
18	10.1	9.5	11.5	11	12.3	6.7	5.7	7.5	9.1	9.1	7.5	8.6	11	9.8	11.8	11.2	9.9	7.5	6.9	9	8.9	9.1	8	8.8	12.3	9.2	24
19	9.1	12	11.1	8.2	9	6.5	5.8	9.4	10.3	15	17.2	17.1	18.8	21.4	10.2	10.6	12	10.5	9.5	6.6	6.3	7.4	9.3	8.4	21.4	10.9	24
20	8.3	6.8	6.9	5.7	6.7	7.6	7	6.1	8.1	8.4	7.2	9	6.1	5.7	3.9	4.8	2.5	6	9.7	6.6	7.1	7.4	7.3	6.2	9.7	6.7	24
21	6.8	8.4	7.7	5.8	5.8	5.1	4.8	3.1	2.6	4.1	4.2	2.2	2	2.4	1.9	2.1	4.5	4	4.9	4	4.9	6.3	**P**	5.8	8.4	4.5	23
22	5.7	5.8	6.3	6.8	6.1	5.6	5.6	5.6	6.5	6	8.7	9.8	8.9	9.1	9.8	10.6	10	10.1	9.6	9.2	10.3	12.1	13	12	13.0	8.5	24
23	9.9	10.4	10.6	10.9	11	10.9	10.8	11.7	12.6	12.7	13.6	14.8	**P**	15.4	13.7	12.9	11.9	15.5	17.2	10.9	9.3	7.9	9.2	7.1	17.2	11.8	23
24	7.9	7.2	8.2	8.6	10.7	6.8	6.7	7.8	11.2	8	7.3	6.6	10.2	9.9	16.6	12.8	10	10.3	7.3	9.4	11.8	8.7	9.3	5.4	16.6	9.1	24
25	7	6	2.8	3.5	3.3	3.2	5.4	7.7	8.1	8.8	8.6	12.9	11.5	12	8.2	5.5	2.3	6.2	6.3	5.8	11.1	13.3	11.3	11.4	13.3	7.6	24
26	12.1	11.4	11	9.3	8.5	7.8	7.2	7.2	6.4	6.9	7.9	8.2	7.9	11.3	13.9	13.8	13.9	14.4	13.9	12.7	8.7	6	5.3	5	14.4	9.6	24
27	5.6	7.1	5.9	6.3	5.9	3.3	5	4.5	2.6	0.8	2.4	3.9	4.7	3.6	3.2	4.1	3.3	5.4	2.7	5.5	7.3	6.8	6.3	7.3	7.3	4.7	24
28	6.8	6.3	7.1	6.2	6.8	6.4	3.6	3.9	4.9	5	5.8	7.5	7.5	6.7	6.5	6.3	7.1	7.8	8.2	8.6	10.2	9.8	10	9.8	10.2	7.0	24
29	9.4	9.6	8.5	8.5	7	8.3	7.8	9.2	9.2	7	11	12.7	12.9	12.4	12.7	11.1	9.1	7.6	5.8	7.9	9.6	10.3	9.2	8.4	12.9	9.4	24
30	7.9	7.9	6.5	6.6	7.5	5.7	5.8	7	6.5	5.8	6.3	5.4	5.2	6.5	5.8	5.6	6.2	5	5.9	6.3	7.4	7.9	9.3	4.7	9.3	6.4	24
31	5	6.8	7.9	6.7	6.5	8.3	6.9	5.8	4.3	5.4	7	4.9	5.1	3.9	5.4	5.6	6.7	4.8	4.4	5.9	5.7	6.6	9	9.7	9.7	6.2	24
HOURLY MAX	12.6	13.0	11.5	12.4	13.3	14.1	14.4	13.8	16.5	23.6	31.6	39.6	30.9	25.3	20.5	18.6	17.2	20.1	17.2	17.6	14.0	17.8	16.2	14.5			
HOURLY AVG	8.6	8.6	8.3	8.2	8.2	7.8	7.5	7.8	8.0	8.5	9.1	10.1	9.8	10.1	9.9	9.4	9.0	8.9	8.1	7.7	8.3	8.6	9.3	8.5			

STATUS FLAG CODES

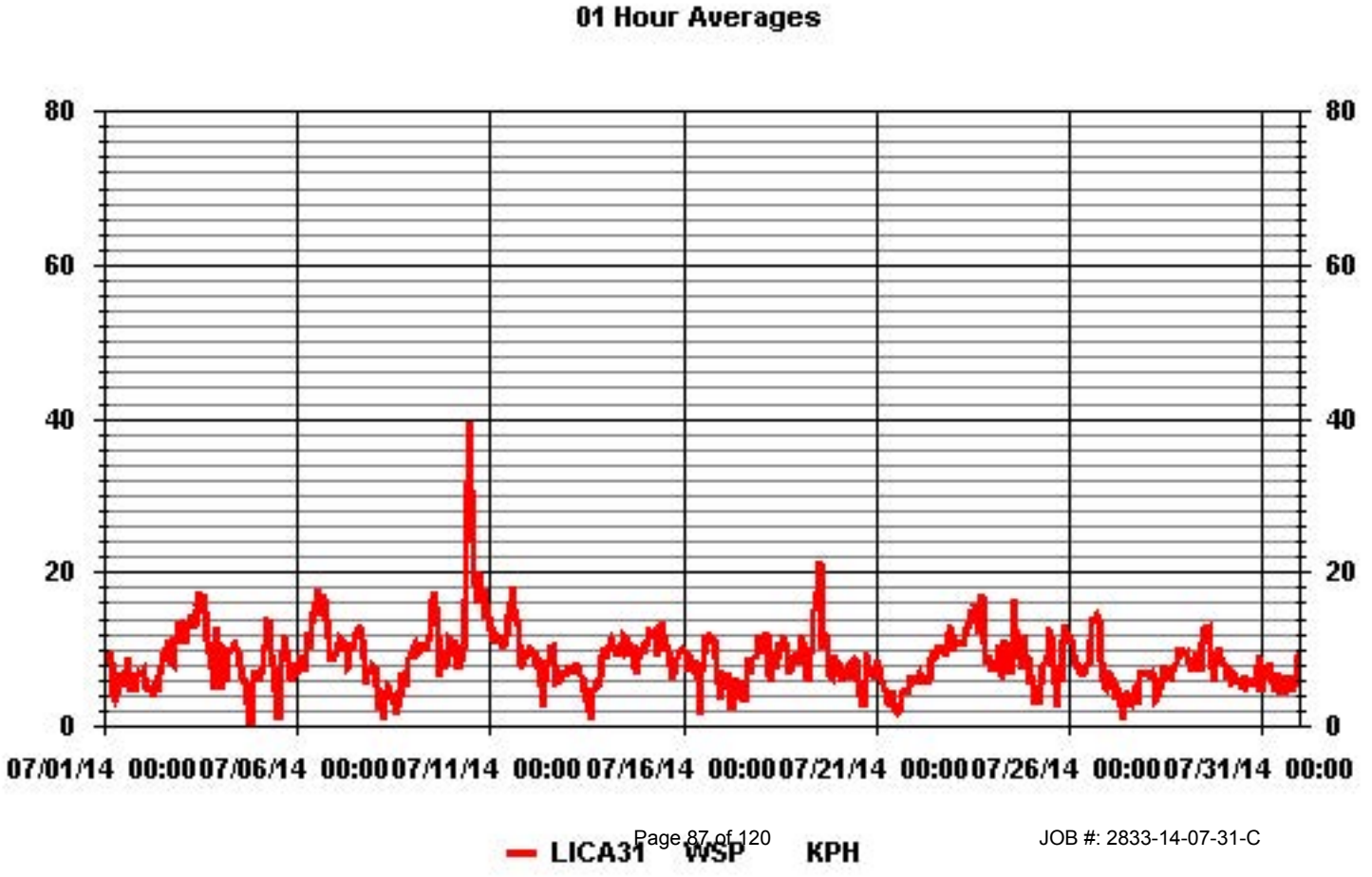
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



LAST CALIBRATION:	June 12, 2012
DECLINATION :	MAGNETIC DECLINATION 19 DEGREE EAST

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	741						
MAXIMUM 1-HR AVERAGE:	39.6	KPH	@ HOUR(S)	11	ON DAY(S)		10
MAXIMUM 24-HR AVERAGE:	17.3	KPH			ON DAY(S)		10
					VAR-VARIOUS		
			OPERATIONAL TIME:			741	HRS
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME:			99.6	%
STANDARD DEVIATION:	3.85		MONTHLY AVERAGE:			8.68	KPH



JOB #: 2833-14-07-31-C

Lakeland Industry & Community Association - St. Lina Site

JULY 2014

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST

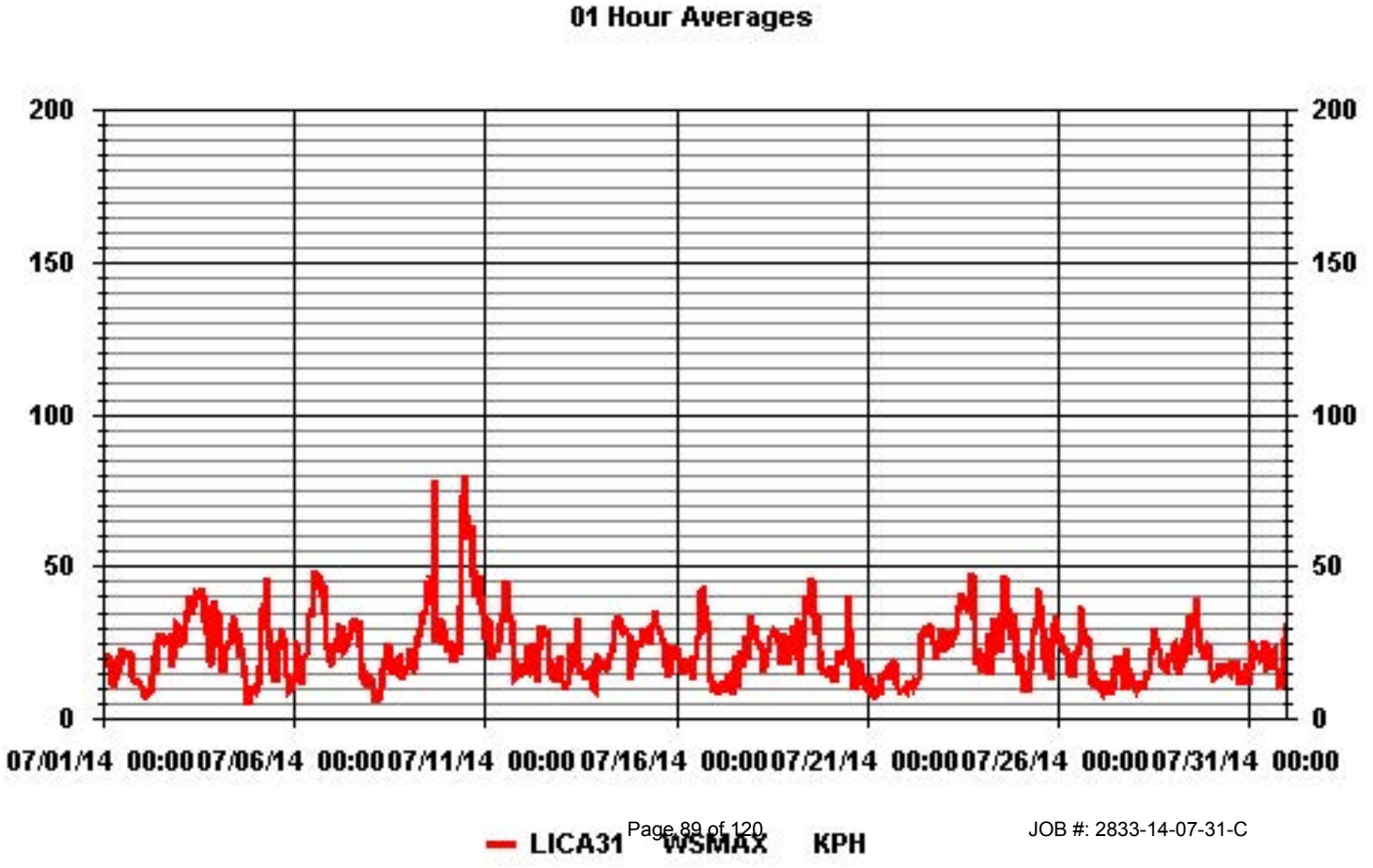
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	19.5	16.9	18.6	21.5	18.6	18.6	12.1	9.9	12.5	14.7	19.7	19.3	22.1	22.1	20.9	21.2	20.8	20.8	14	12.7	12.5	12.2	12.1	11.4	22	16.9	24
2	11	10.5	8.3	7.7	8.3	8.6	8.8	14.2	18.4	17.7	25.2	28	26.9	23.9	27.8	25.8	26.7	27.1	25.6	16.7	20.3	24.1	31.5	31.1	32	19.8	24
3	28.5	25.2	25.6	28.5	31.6	35	40.5	36.8	34.2	36.6	41.6	41.2	40.3	40.7	42.3	40.9	32.6	28.7	28.7	18.8	17.1	36.6	38.5	32.4	42	33.5	24
4	35.7	23.7	18	15	21	22.3	23.9	25	25.2	30.9	34	30.1	25.4	29.1	20.4	23.2	18.2	14	11.4	4	7	8.6	10.1	10.5	36	20.3	24
5	9.4	10.8	16.9	28.9	36.4	37.9	30.5	46	29.4	22.8	15.1	14.2	11.4	23.9	23.7	25.6	30	24.4	26.5	13.8	14.9	9	9.4	12.5	46	21.8	24
6	12.5	25.5	18.6	14	18.6	11	20.4	21	21.7	35	32.9	36.3	47.3	48.4	44.2	47.3	43.4	39.4	44.7	34.4	22.6	24.5	18.9	17.2	48	29.2	24
7	22.2	22.6	24.3	26.7	21.2	30.2	29.8	22.2	22.8	26.7	26	28.3	31.8	28.9	32.5	30.4	30.9	24.1	18.8	13.4	12.3	11.8	12.5	14.2	33	23.5	24
8	13.6	11	7.5	4.9	8.8	5.9	7.5	10.1	16.2	18.9	19.3	24.3	17.7	14.7	15.8	16.4	17.7	19.5	19.9	14.2	12.5	14.7	16.4	16.7	24	14.3	24
9	21	23.4	17.3	16.4	17.5	23.7	26.7	29.4	30.9	34.6	35.5	38.5	44.9	42.3	46.8	38.1	24.7	77.4	**P**	30.5	33.3	27	27.6	25	77	31.8	23
10	21.5	22.8	24.8	25.6	18	21.9	22.1	21.9	36.8	58.4	72.9	***79.7***	67.2	65.2	61.1	61.7	46.6	49.7	39.4	46.3	37.5	46.7	41	34.8	***80***	***42.7***	24
11	25.6	27.8	33.1	21	19.5	22.3	22.8	23.9	21.5	24.5	31.6	34.8	31.3	45.3	37.2	34.6	32.9	25.2	19.8	13.2	13.8	14.2	15.1	15.1	45	25.3	24
12	18.2	16.7	16	23.9	19.7	19.7	24.3	18.2	15.2	12.1	22.3	30	30.2	28	27.8	28.7	19.3	15.3	13.2	12.1	15.3	13.8	18	20.4	30	19.9	24
13	12.3	10.5	10.5	11.4	11.9	15.1	24.8	19.7	18.7	17.1	32.6	14.5	17.7	15.1	12.3	14.7	14.9	15.6	13.4	10.3	9.7	19.1	21.1	19.3	33	15.9	24
14	16.4	16.9	18	18.4	16.9	17.3	19.3	21.5	24.7	32.2	31.3	32.4	32.4	30	29	30.4	28.5	28.3	27.8	12.3	16.9	17.8	19.1	24.1	32	23.4	24
15	25.6	23.7	25.2	29.6	26.1	27	28.7	30.5	24.3	31.5	34.6	34.8	31	28.7	28.7	26.9	25.6	16.4	19.7	13.4	14.5	19.3	23.7	21.9	35	25.5	24
16	23.9	19.7	16.9	17.4	15.2	15.4	19.3	18.2	15.8	17.3	12.3	19.8	20.4	26.5	27.4	41.6	42	34.4	35	30.5	30.9	15.8	12.9	8.6	42	22.4	24
17	11.8	9.2	7.5	10.8	11.6	11.6	8.8	11	14	14.5	10.4	7.7	9.7	20.4	10.3	12.7	22.6	19.3	17.1	22.3	27.1	18.9	26.7	34	34	15.4	24
18	28.9	29.4	26.9	24.1	25.2	22.8	15.1	18.9	17.2	23.4	21.9	26.7	28	26.7	29.4	28.3	25.8	21	17.8	25.2	27.6	23.7	17.7	24.1	29	24.0	24
19	26.3	30	27.2	20.6	32.9	19.5	13.9	23	27.6	34.2	39.9	34	41.2	46.4	34.2	27.2	34.8	28	23.4	16.4	14.2	15.5	15.6	15.3	46	26.7	24
20	14.9	16.7	15.1	12.1	14.7	20.4	19.9	17.3	21.7	22.1	21.5	23	40.6	29.6	17.1	14.9	9.2	13.2	17.5	17.5	12.1	11.8	13.8	10.5	41	17.8	24
21	9.7	12.9	14.2	10.6	9	10.3	8.1	8.6	8.6	14.2	14.5	13.4	15.6	12.3	16.9	17.7	14.5	18.9	11.6	10.5	8.8	**P**	**P**	**P**	19	12.4	21
22	9.9	9.3	11.6	11.4	10.8	9.9	11	13	13.4	19.9	27.4	28.7	26.7	29.8	30.4	30.2	29.4	24.3	25.2	18.9	21.9	24.1	28.3	28.3	30	20.6	24
23	21.7	22.8	25.2	23.9	28.7	23.2	25.5	27.6	29.4	34.6	37	40.7	**P**	38.8	35.9	37.2	35	38.8	47.5	33.3	21	17.3	23.4	15.3	48	29.7	23
24	16.4	14.9	21	20.8	28.3	14.5	15.8	20.6	32.7	22.8	23.2	21.9	34.2	30	45.5	45.5	30.7	36.6	27.4	27.6	34.6	30.7	19.3	14.5	46	26.2	24
25	21.5	16.9	9.7	9.4	9.9	9.7	15.6	22	27.6	29.6	32.6	42.7	34.6	37.9	30.3	19.9	15.1	17.7	20.2	12.7	26.5	30.9	34	27.4	43	23.1	24
26	26.3	28.1	26.3	21.5	24.1	21.1	22.6	15.4	14.7	14.7	17.5	21.9	20.6	23.7	36.8	30.4	26.9	25.8	27.2	23.7	19.3	13.2	13.8	10.1	37	21.9	24
27	11.2	13.4	10.5	9.5	8.6	10.3	11.2	11.2	9.9	7.9	9.7	16.1	18.2	20.6	16.2	20.6	15.1	14.9	9.4	23.4	17.1	12.7	14.5	13.2	23	13.6	24
28	11	9.9	11.5	**P**	**P**	11.9	9.4	12.9	14.9	15.8	20.8	23	29.2	25.5	25.4	23.4	18.4	18.6	16.9	16.4	19.1	21.7	18.2	21.2	29	18.0	22
29	24.3	25.2	24.1	16.5	14.5	16.7	18.4	26.3	29.1	20.8	33.5	29.9	33.3	34.2	38.5	38.5	30.7	24.3	22.5	19.1	21	21	23.7	23	39	25.4	24
30	15.4	13.4	13.6	14.5	14.5	18.2	14.9	18.2	16.2	16.9	16.8	15.8	17.8	17.5	15.1	19.1	18	13.4	14	11.2	12.3	13.4	18.4	16	19	15.6	24
31	11	15.5	25.4	19.1	21.7	21.5	19.7	20.4	19.9	23.5	25.4	17.1	17.5	15.8	21.9	21.9	22.6	17.5	11.8	12.3	11.8	15.1	26.7	30.3	30	19.4	24
HOURLY MAX	36	30	33	30	36	38	41	46	37	58	73	80	67	65	61	62	47	77	48	46	38	47	41	35			
HOURLY AVG	18.6	18.6	18.4	17.9	18.8	18.5	19.1	20.5	21.5	24.1	27.1	28.0	28.8	29.7	29.1	28.9	25.9	25.6	22.2	18.9	18.9	19.5	20.7	19.9			

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

MAXIMUM INSTANTANEOUS VALUE:	80	KPH	@ HOUR(S)	11	ON DAY(S)	10
				VAR-VARIOUS		
OPERATIONAL TIME:					737	HRS



JOB #: 2833-14-07-31-C

LICA31
WSP / WDR Joint Frequency Distribution (Percent)

July 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	1.21	.80	.80	.80	1.61	1.88	.26	1.21	1.75	2.29	1.88	.94	2.69	1.88	1.48	.67	22.26
<	12.0	2.02	1.21	.94	.67	1.48	4.58	6.07	5.66	6.20	5.93	2.29	3.37	3.64	7.55	8.36	2.69	62.75
<	20.0	.40	.00	.26	.13	.00	.26	1.07	1.75	2.29	.53	.13	.80	2.83	1.61	1.07	.00	13.22
<	29.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.13	.40	.13	.00	.00	.67
<	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.26	.00	.00	.00	.26
>=	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.13	.00	.00	.00	.13
	Totals	3.64	2.02	2.02	1.61	3.10	6.74	7.42	8.63	10.25	8.77	4.31	5.26	9.98	11.20	10.93	3.37	

Calm : .67 %

Total # Operational Hours : 741

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	9	6	6	6	12	14	2	9	13	17	14	7	20	14	11	5	165
<	12.0	15	9	7	5	11	34	45	42	46	44	17	25	27	56	62	20	465
<	20.0	3		2	1		2	8	13	17	4	1	6	21	12	8		98
<	29.0												1	3	1			5
<	39.0													2				2
>=	39.0													1				1
	Totals	27	15	15	12	23	50	55	64	76	65	32	39	74	83	81	25	

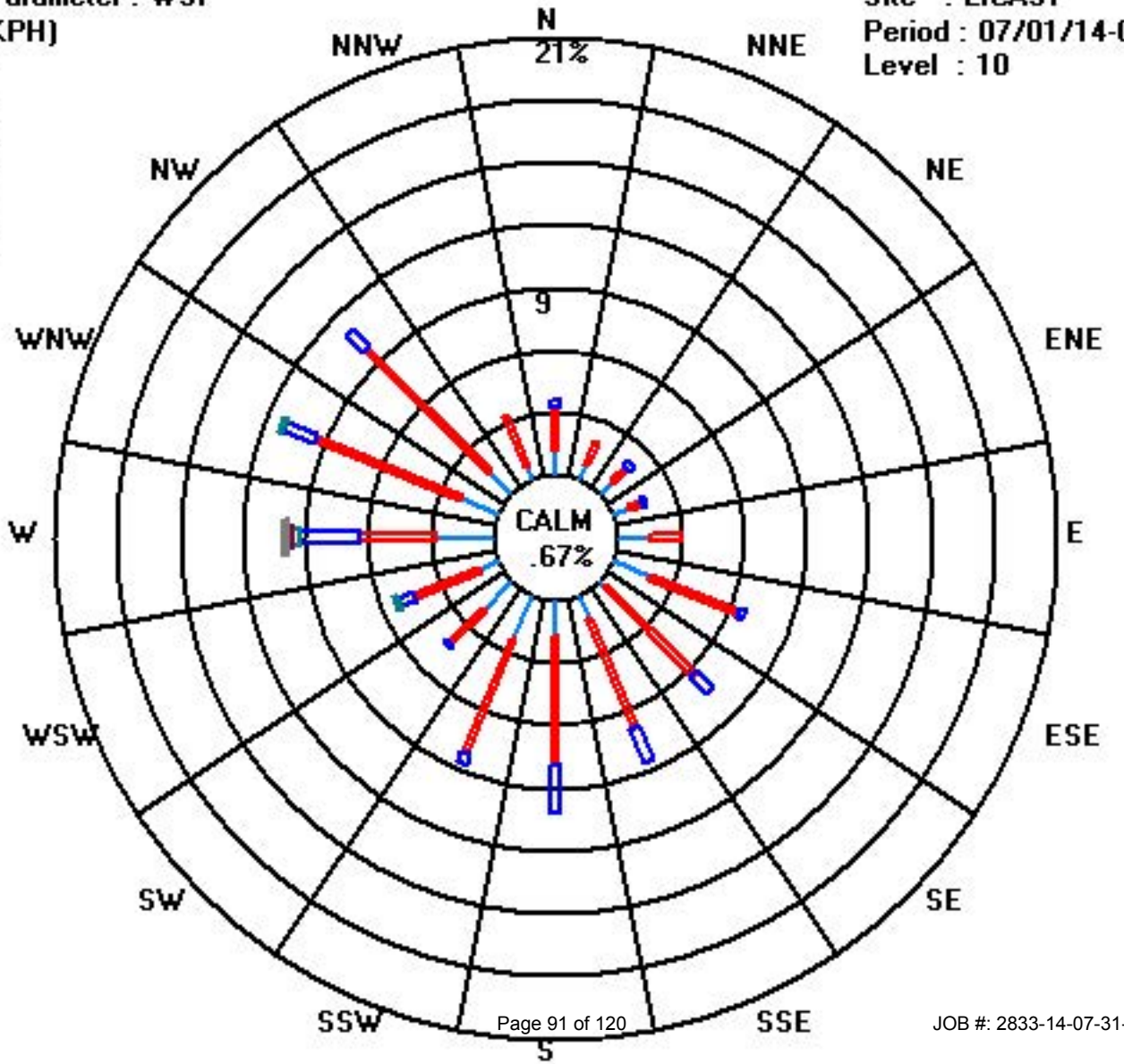
Calm : .67 %

Total # Operational Hours : 741

Logger : 31 Parameter : WSP
Class Limits (KPH)

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

Site : LICA31
Period : 07/01/14-07/31/14
Level : 10



JOB #: 2833-14-07-31-C

Vector Wind Direction

Lakeland Industry & Community Association - St. Lina Site

JULY 2014

WIND DIRECTION (WD) hourly averages in degrees

MST

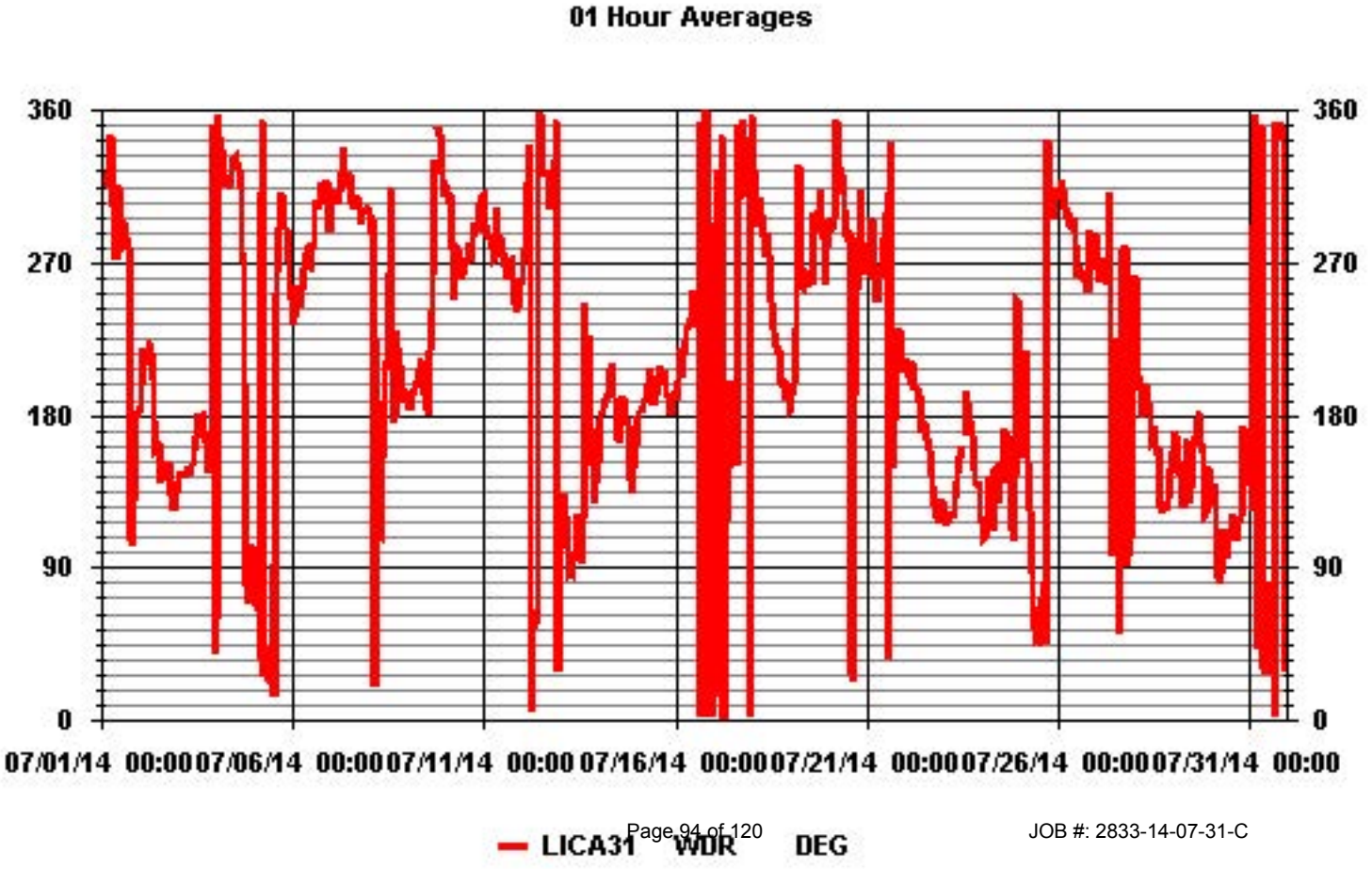
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUANDRANT	RDGS.
DAY																											
1	317	325	315	317	324	322	345	304	300	272	295	316	292	279	295	281	282	280	107	103	129	164	179	182	345	NNW	24
2	185	197	220	210	211	219	223	218	202	178	159	160	165	139	145	142	146	149	152	134	126	124	130	134	223	SW	24
3	141	147	144	145	145	148	147	149	148	150	164	163	167	181	179	180	172	163	168	146	148	162	352	38	352	N	24
4	60	357	345	338	326	321	316	316	314	321	332	333	325	330	326	315	277	271	200	80	69	89	103	93	357	N	24
5	76	68	65	36	311	355	26	43	25	24	41	92	13	252	264	291	303	311	300	292	290	271	250	250	355	N	24
6	233	238	257	252	249	244	254	266	276	280	269	268	282	278	302	306	301	305	317	314	307	318	297	288	318	NW	24
7	303	308	308	313	304	311	323	336	338	315	318	318	323	305	301	306	309	305	301	293	302	298	301	304	338	NNW	24
8	299	286	297	20	225	145	110	109	155	188	206	212	264	314	220	176	178	230	221	211	193	189	187	195	314	NW	24
9	194	184	184	192	195	197	200	207	213	206	193	187	184	180	218	241	263	329	**P**	349	346	323	308	318	349	NNW	23
10	317	307	306	311	279	247	282	278	264	261	261	263	271	271	276	281	270	286	293	290	292	305	309	310	317	NW	24
11	288	293	287	285	279	272	273	291	302	287	285	274	277	268	260	270	271	263	255	246	241	244	261	257	302	WNW	24
12	275	274	290	317	339	5	31	53	65	57	350	358	343	325	321	324	301	325	320	322	330	354	29	94	358	N	24
13	119	120	133	121	102	86	87	86	99	94	121	118	97	93	119	246	162	218	227	173	151	127	139	152	246	WSW	24
14	177	181	181	185	189	193	207	209	209	191	188	188	167	163	177	191	186	179	175	143	133	144	148	162	209	SSW	24
15	179	182	183	183	190	188	198	205	207	191	186	188	192	203	209	204	198	206	194	191	183	180	185	194	209	SSW	24
16	189	200	220	202	211	224	216	233	231	237	241	253	235	232	250	353	1	353	358	358	15	14	1	294	358	N	24
17	286	240	277	324	13	346	0	78	118	148	200	193	177	200	150	352	307	325	355	345	326	309	331	1	355	N	24
18	358	326	320	302	291	309	299	286	274	278	288	275	248	232	229	222	216	220	199	197	201	188	199	182	358	N	24
19	183	192	199	231	292	327	259	256	255	267	263	256	258	258	300	294	288	298	297	313	297	285	257	279	327	NW	24
20	288	297	289	297	331	354	346	328	323	312	302	287	282	289	28	22	191	243	254	284	313	282	281	263	354	N	24
21	265	264	284	296	272	270	246	252	268	262	284	274	299	35	311	341	149	177	191	218	231	207	**P**	211	341	NNW	23
22	211	214	203	198	212	196	196	196	188	192	169	175	175	165	167	160	146	139	128	121	116	119	123	131	214	SSW	24
23	118	115	118	118	122	119	122	130	141	146	155	160	**P**	170	194	188	172	176	169	148	140	139	139	118	194	SSW	23
24	118	107	108	115	137	144	121	112	148	149	127	147	145	151	170	170	140	167	132	113	105	144	248	247	248	WSW	24
25	197	171	155	186	218	152	124	87	55	47	48	66	53	44	72	82	45	342	324	306	303	295	312	312	342	NNW	24
26	307	314	318	314	303	295	301	293	291	292	296	282	264	263	265	263	260	256	252	261	289	284	266	288	318	NW	24
27	278	268	258	268	265	272	258	260	311	198	96	215	192	226	50	278	258	265	280	91	97	107	169	194	311	NW	24
28	263	228	204	200	178	199	195	199	179	187	163	164	173	159	156	162	126	122	127	127	123	131	148	159	263	W	24
29	164	170	168	147	145	134	125	153	166	131	129	137	153	166	167	177	182	164	159	121	122	133	149	137	182	S	24
30	126	140	130	103	85	81	86	113	105	95	101	112	105	121	112	106	111	117	120	147	174	166	147	172	174	S	24
31	139	123	292	358	41	82	316	352	32	27	71	81	63	54	29	2	353	351	342	353	346	350	28	344	358	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:	June 12, 2012
DECLINATION :	MAGNETIC DECLINATION 19 DEGREE EAST

MONTHLY CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	741	HRS
STANDARD DEVIATION:	86.11		AMD OPERATION UPTIME:	99.6	%
			MONTHLY AVERAGE:	233	DEG



JOB #: 2833-14-07-31-C

Standard Deviation Wind Direction

Lakeland Industry & Community Association - St. Lina Site

JULY 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	15	13	12	12	14	15	30	25	25	23	32	38	43	29	32	20	31	44	20	15	10	10	10	9
2	7	8	8	8	9	9	20	26	27	29	27	30	26	25	20	22	20	19	19	13	11	12	15	15
3	17	17	17	18	17	18	17	18	18	18	20	20	20	19	18	19	18	20	18	15	12	31	22	47
4	28	21	15	17	20	15	18	19	20	20	23	25	29	29	32	37	27	59	36	39	7	6	7	10
5	10	9	11	19	45	19	21	21	21	26	32	34	67	34	27	23	21	20	17	13	11	8	5	5
6	9	13	8	12	9	7	10	12	16	17	16	16	20	20	21	22	19	18	19	17	16	17	13	13
7	13	14	14	15	14	15	20	23	24	22	22	25	23	21	20	19	19	17	16	11	11	9	10	10
8	9	11	9	17	36	30	14	24	24	30	41	58	55	56	38	32	33	24	25	20	10	7	9	11
9	10	9	9	9	10	13	14	19	23	23	20	20	17	17	22	19	20	21	**P**	31	43	21	15	16
10	15	15	14	14	15	17	15	18	15	14	13	12	14	15	16	16	16	17	17	17	17	17	17	17
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12	7	6	10	14	16	18	22	24	28	62	34	28	31	25	23	24	18	17	16	13	13	13	15	13
13	8	7	8	6	8	13	17	22	26	36	32	34	43	79	65	51	29	33	24	12	10	10	11	12
14	12	9	10	9	9	11	16	20	25	22	20	20	25	25	26	27	22	17	16	12	9	11	12	14
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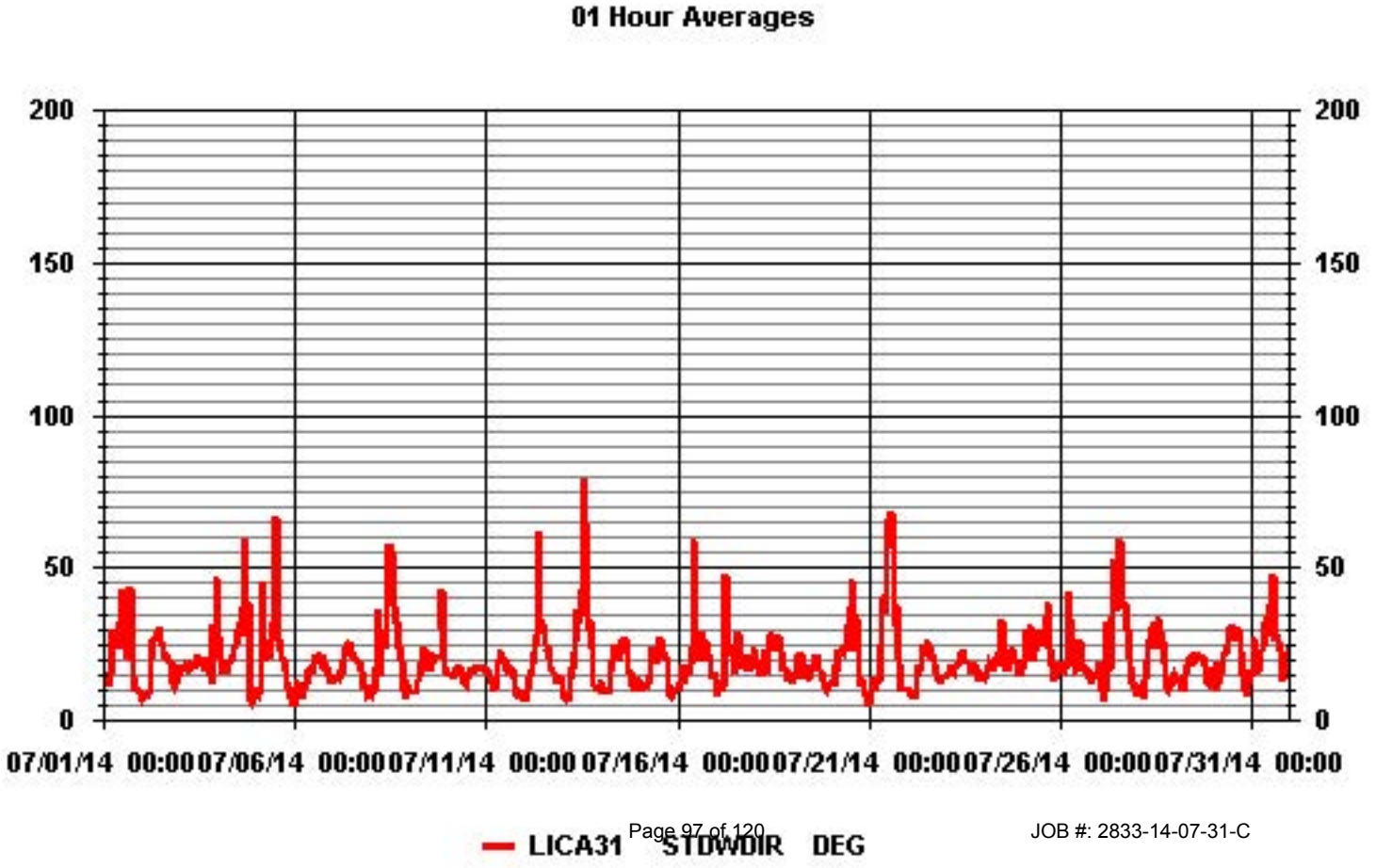
16	10	12	18	12	15	15	18	15	18	24	59	28	25	26	19	29	24	22	26	20	20	14	14	16
17	9	8	11	13	10	11	48	26	25	21	23	16	15	24	29	27	17	20	21	18	17	16	19	21
18	24	18	18	16	14	20	23	19	15	22	28	29	22	27	27	27	24	23	16	17	16	13	16	13
19	13	14	14	21	17	22	20	13	18	14	13	17	17	18	21	18	19	17	16	14	13	11	10	11
20	12	12	11	18	16	23	21	24	23	25	31	22	37	46	35	27	34	23	11	13	12	8	9	4
21	7	5	9	14	9	12	13	25	40	35	41	60	66	56	68	58	31	38	21	19	10	10	**P**	10
22	10	10	9	8	8	8	14	17	17	25	24	23	25	25	24	22	20	19	16	14	13	13	14	14
23	15	15	17	17	17	16	17	18	19	22	20	22	**P**	19	19	16	16	17	18	18	17	13	15	15
24	14	15	17	19	18	16	19	20	18	20	29	33	25	21	17	17	19	23	24	19	20	17	14	18
25	19	17	30	27	20	31	19	23	23	27	30	24	27	27	29	34	39	24	18	13	14	15	19	18
26	17	18	18	17	19	42	34	18	19	17	18	22	26	22	19	17	16	16	14	12	15	14	15	14
27	19	9	11	6	9	32	16	17	34	53	47	40	36	59	57	38	39	31	30	21	18	13	11	11
28	8	9	10	9	7	13	20	26	24	30	32	23	31	34	30	29	26	19	15	11	10	11	13	15
29	14	14	13	13	10	10	15	18	20	21	20	18	22	20	20	21	20	20	18	13	12	13	16	17
30	11	10	19	12	15	17	21	22	25	30	29	30	30	26	29	30	27	23	15	10	8	10	12	16
31	14	27	15	17	17	21	23	24	32	34	27	38	33	48	26	29	27	26	23	13	14	15	20	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: June 12, 2012

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 741 HRS



JOB #: 2833-14-07-31-C

Calibration Reports

Sulphur Dioxide

API 100E SO2 Analyzer Calibration

Date:	10-Jul-14	**Start/End Time (mst):**	10:35/13:36
Company:	LICA	**Calibration Purpose:**	Monthly Calibration
Station Name/Location:	St.Lina	**Converter Make & Model:**	NA
Performed by:	Kevin Hope	**Converter Serial #:**	NA
Application H_2S/TRS/SO_2:	SO2	**Cal Gas Expiry Date:**	4-Feb-18

Analyzer:

Serial Number:	468	**Range ppb:**	1000
Last Calibration Date:	18-Jun-14	**As Found C.F.**	0.995
Previous Cal High Point C.F.:	1.001	**New C.F.:**	1.005

	As found:	**As left:**
SLOPE:	1.039	1.028
OFFSET:	140.8	145.0
HVPS:	544	544
RCELL TEMP:	50.0	50.0
BOX TEMP:	28.5	29.0
PMT TEMP:	7.9	7.9
IZS TEMP:	40.0	40.0
TEST:	NA	NA
STABIL:	0.1	0.7
PRES:	23.8	23.5
SAMP FL:	576	570
PMT:	132.5	134.8
NORM PMT:	144.9	146.8
UV LAMP:	1743	1744
LAMP RATIO:	98.4	98.4
STR. LGT	73.1	74.5
DRK PMT:	17.5	17.8
DRK LMP:	3.5	3.4
Internal Span:	263	263

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	80	5080
mid	5000	40	5040
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	4993	0.0	4993	0	1.3	NA
adjusted zero	4995	0.0	4995	0	0.2	NA
as found high	4916	77.27	4993	745.9	750.0	0.995
adjusted high	4916	77.27	4993	745.9	745.9	1.000
mid	4957	37.82	4995	365.0	362.0	1.009
low	4978	18.92	4997	182.5	181.7	1.006
calibrator zero	4995	0.00	4995	0	-0.3	NA
					Average C.F.=	1.005

Linear Regression/Calibration Results:

		LIMITS	**Pass/Fail ?**
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**1.000**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**0.09%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**0.62%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

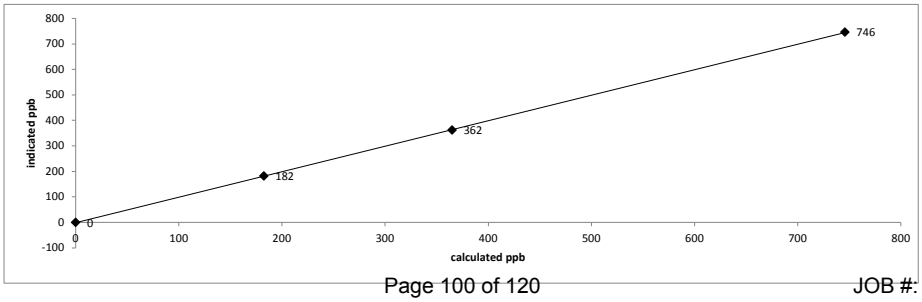
****run converter effeciency test immediately following zero adjust****

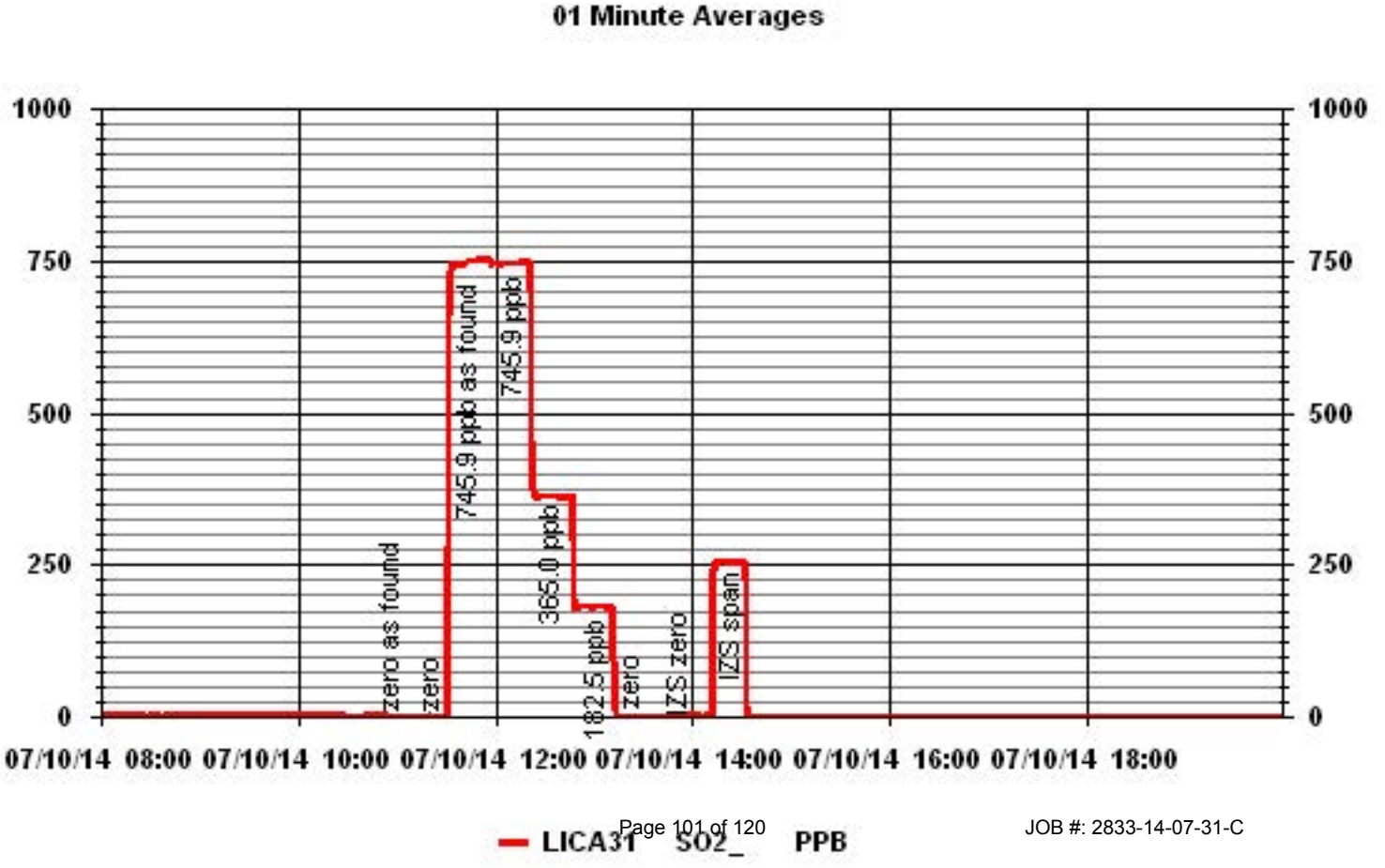
SO_2 High Point gas concentration:	NA	Time gas run (mst):	NA
Zero corrrected analyzer response:	NA		

Comments:

Changed sample filter.

API 100E SO2 Analyzer Calibration





JOB #: 2833-14-07-31-C

Hydrogen Sulphide

API 101E H2S Analyzer Calibration

Date:	10-Jul-14	**Start/End Time (mst):**	10:35/13:36
Company:	LICA	**Calibration Purpose:**	Monthly Calibration
Station Name/Location:	St.Lina	**Converter Make & Model:**	Internal
Performed by:	Kevin Hope	**Converter Serial #:**	NA
Application H_2S/TRS/SO_2:	H2S	**Cal Gas Expiry Date:**	25-Dec-15

Analyzer:

Serial Number:	722	**Range ppb:**	100
Last Calibration Date:	18-Jun-14	**As Found C.F.**	1.039
Previous Cal High Point C.F.:	1.000	**New C.F.:**	1.013

	As found:	As left:
SLOPE:	0.978	0.999
OFFSET:	56.5	58.4
HVPS:	623	623
RCELL TEMP:	50.0	50.0
BOX TEMP:	29.6	29.4
PMT TEMP:	8.1	8.1
IZS TEMP:	45.0	45.0
TEST:	3153	NA
STABIL:	0.1	1.0
PRES:	24.8	24.4
SAMP FL:	600	589
PMT:	81.0	79.5
NORM PMT:	58.7	58.7
UV LAMP:	2217	2216
LAMP RATIO:	100.7	100.7
STR. LGT	27.6	29.2
DRK PMT:	31.8	32.3
DRK LMP:	3.1	3.2
Internal Span:	41.7	41.7

Calibrator:

Flow Meter ID's:	NA
Make & Model:	API 700
Serial #:	830
Cal Gas Cylinder I.D. # :	BLM0005049
Cal Gas Conc. (ppm):	10.1

Calibrator Flow Targets:

point	diluent (cc/min)	cal gas (cc/min)	total (cc/min)
zero	5000	0	5000
high	5000	38	5038
mid	5000	19	5019
low	5000	11	5011

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	5000	0.0	5000	0	0.9	NA
adjusted zero	5001	0.0	5001	0	-0.1	NA
as found high	4959	38.60	4998	78.0	75.0	1.039
adjusted high	4959	38.60	4998	78.0	78.0	0.999
mid	4980	18.80	4999	38.0	37.7	1.005
low	4990	10.90	5001	22.0	21.2	1.035
calibrator zero	4999	0.00	4999	0	-0.1	NA
					Average C.F.=	1.013

Linear Regression/Calibration Results:

		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**0.996**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**0.43%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**-3.90%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

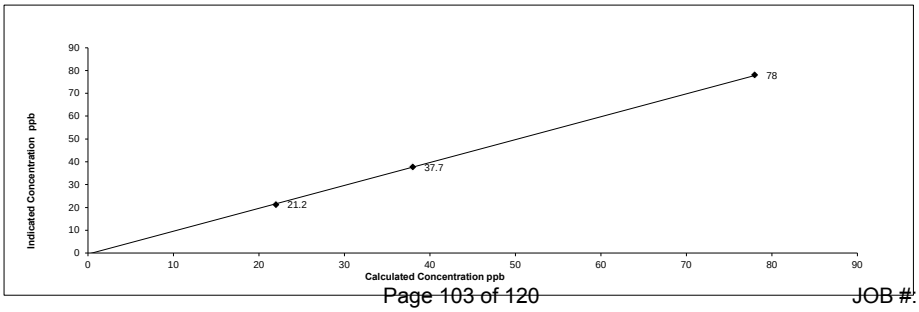
****run converter effeciency test immediately following zero adjust****

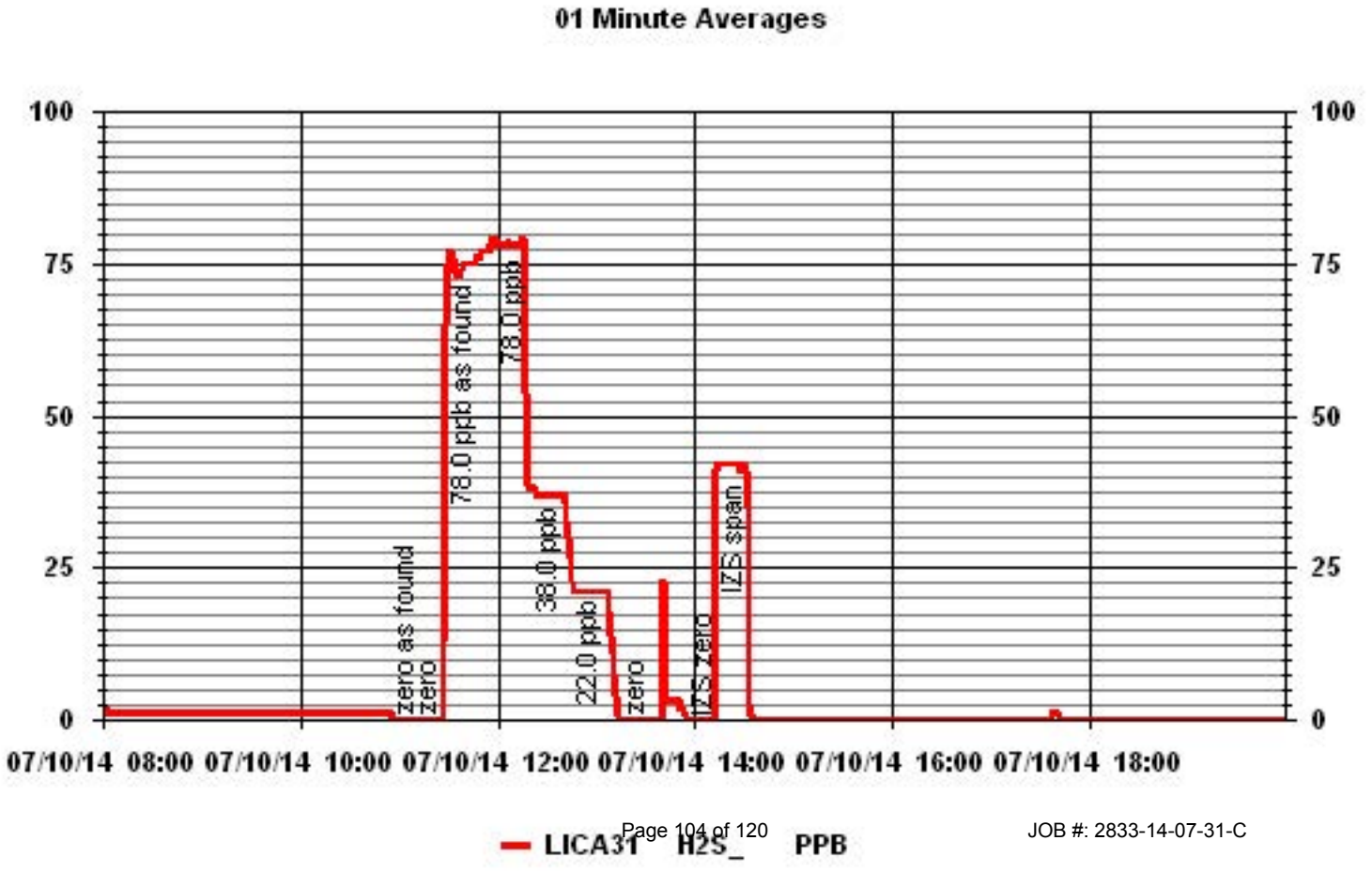
SO_2 High Point gas concentration:	200 PPB	Time gas run (mst):	13:44-13:49
Zero corrrected analyzer response:	2.8		

Comments:

Changed sample filter.

API 101E H2S Analyzer Calibration





JOB #: 2833-14-07-31-C

Total Hydrocarbons

Thermo 51C THC Analyzer Calibration

Date:	11-Jul-14	**Start Time (mst):**	13:23
Company:	LICA	**End Time (mst):**	15:56
Station Name/Location:	St.Lina	**Calibration Purpose:**	Monthly Calibration
Performed by:	Kevin Hope	**Cal Gas Expiry Date:**	26-Mar-17

Analyzer:

Serial Number:	436609739	**Range ppm:**	50
Last Calibration Date:	18-Jun-14	**As Found C.F.**	0.993
Previous Cal High Point C.F.:	1.000	**New C.F.:**	1.019

		As found:	As left:
	H_2 cylinder (psi):	750	750
	H_2 cylinder reg set (psi):	25	25
	Span Cylinder (psi):	1950	1950
	Span Cylinder Reg Set (psi):	30	30
	Zero Air Gen Pressure:	35	35
	measurement alarms:	None	None
	service alarms:	None	None
FID status:	cnt:	3521	2256
	rng:	1	1
	try:	1	1
	flm:	206.8	207.0
	det:	125.5	125.3
Oven Readings:	Flame:	206	207
	Filter:	125	125
	Base:	125	125
	Pump:	6.78	6.81
Voltages:	+5	4.9	4.9
	+15	14.9	14.9
	-15	-15.0	-15.0
	Internal Span:	35.5	35.5

Calibrator:

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

Calibrator Flow Targets:

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

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppm)	(ppm)	
as found zero	2000	0.00	2000	0	0.21	NA
adjusted zero	2000	0.00	2000	0	0.01	NA
as found high	2000	65.00	2065	36.42	36.70	0.993
adjusted high	2000	65.00	2065	36.42	36.43	1.000
mid	2000	30.00	2030	17.10	16.80	1.018
low	2000	15.00	2015	8.61	8.30	1.039
calibrator zero	2000	0.00	2000	0	0.01	NA
					Average C.F.=	1.019

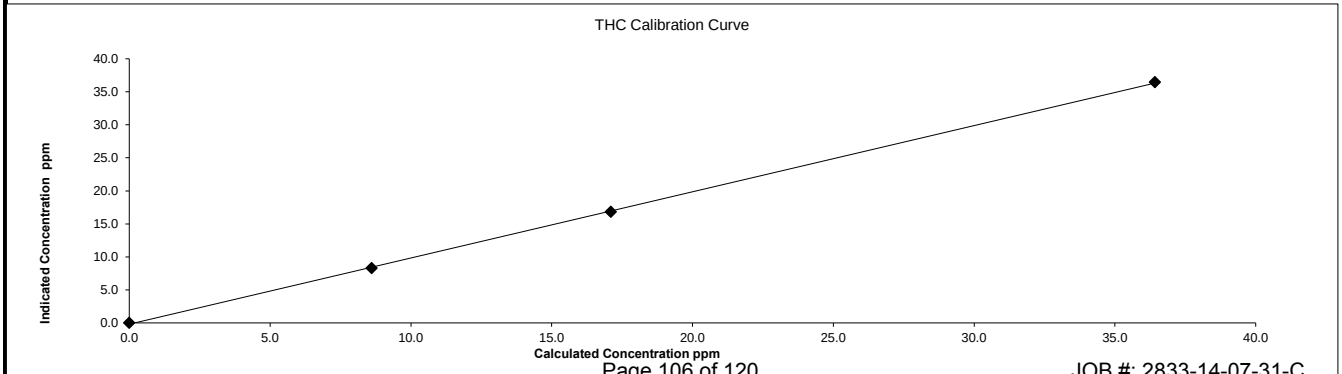
Linear Regression/Calibration Results:

		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**1.003**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**-0.380%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**0.75%**	**± 15%**	**PASS**

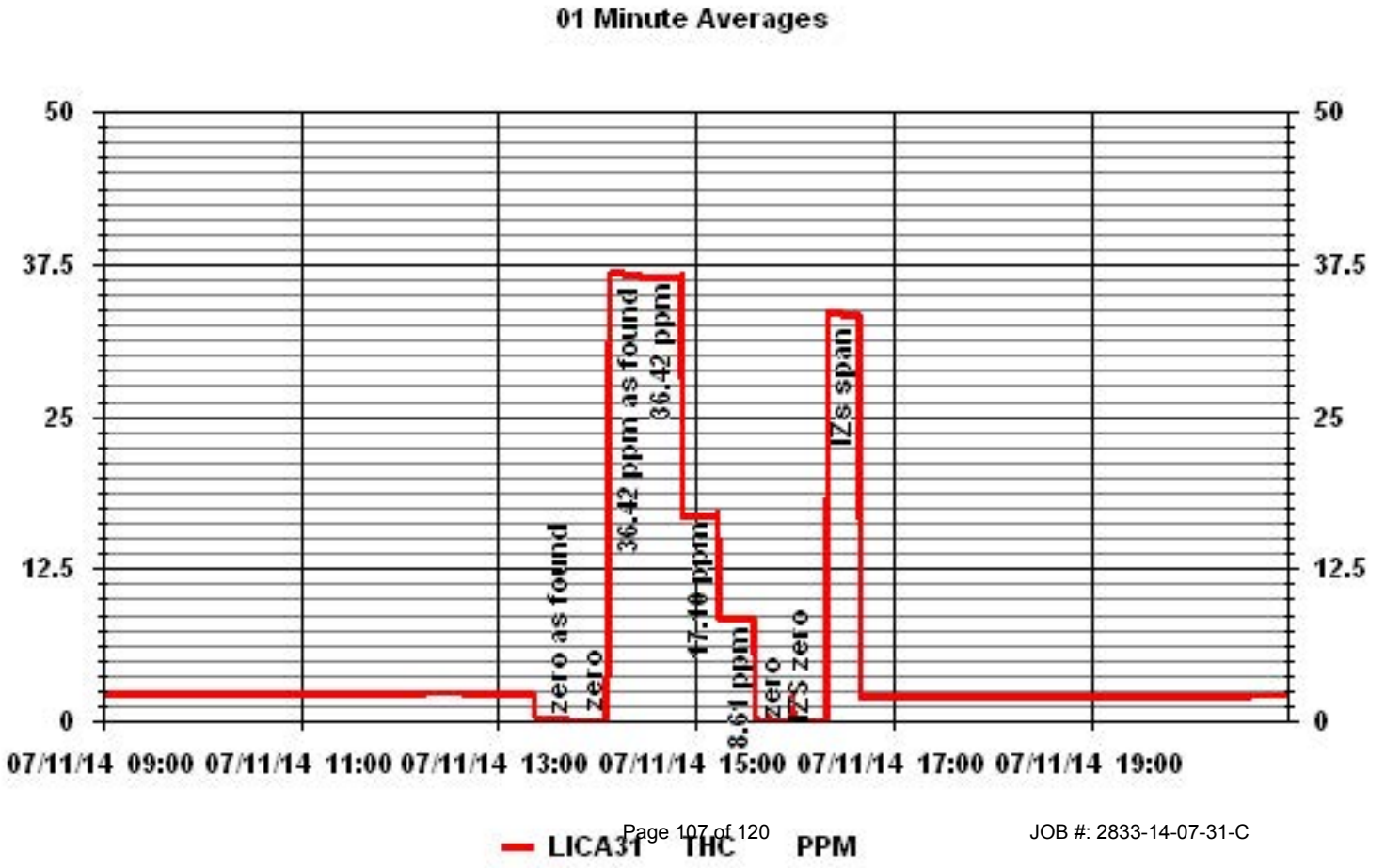
Comments:

Sample filter changed.

Thermo 51C THC Analyzer Calibration



JOB #: 2833-14-07-31-C



JOB #: 2833-14-07-31-C

Nitrogen Dioxide

API 200E NOx Analyzer Calibration

Date:	10-Jul-14	**Start Time (mst):**	10:35
Company:	LICA	**End Time (mst):**	15:31
Station Name/Location:	St.Lina	**Calibration Purpose:**	Monthly Calibration
Performed by:	Kevin Hope	**Cal Gas Expiry Date:**	4-Feb-18

Analyzer Serial Number:	592
Last Calibration Date:	18-Jun-14
Range ppb:	1000

Correction Factors:

	As found C.F.	Previous Cal High Point C.F.:
NO=	0.984	1.000
NOx=	0.979	0.999
NO_2=	0.996	0.998

	As found:	**As left:**
NOx SLOPE:	0.920	0.898
NOx OFFS:	-0.3	-0.4
NO SLOPE:	0.916	0.901
NO OFFS:	-0.9	-0.5
TEST:	130.7	130.7
SAMP FLW:	464	464
OZONE FL:	74	74
PMT:	26.8	1176
NORM PMT:	-0.6	1550
AZERO:	20.5	21.0
HVPS:	654	654
RCELL TEMP:	50.0	50.0
BOX TEMP:	28.8	28.6
PMT TEMP:	6.9	6.9
IZS TEMP:	40.3	40.0
MOLY TEMP:	316.1	316.3
RCEL:	6.3	6.4
SAMP:	26.1	26.6
Internal Span:	392.2/5.8/386.7	392.2/5.8/386.7

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	80	505.00	5080
mid	5000	40	270.00	5040
low	5000	20	95.00	5020

Calibration:

Calibrator Flow Rates (cc/min)				Calculated NO	Calculated NOx	Indicated NO	Indicated NOx	NO C.F.	NOx C.F.
Point	Diluent	Cal Gas	Total Flow	(ppb)	(ppb)	(ppb)	(ppb)		
as found zero	4993	0.0	4993	0	0	0.2	0.2	NA	NA
adjusted zero	4995	0.0	4995	0	0	0.0	0.1	NA	NA
as found high	4916	77.27	4993	775.3	776.8	788	794	0.984	0.979
adjusted high	4916	77.27	4993	775.3	776.8	777	778	0.998	0.999
mid	4957	37.82	4995	379.3	380.1	378	379	1.004	1.003
low	4978	18.92	4997	189.7	190.1	190	191	1.000	0.998
calibrator zero	4995	0.00	4995	0	0	0.1	0.2	NA	NA
							Average C.F.=	1.000	1.000

Calibrator Flow Rates (cc/min)				Calibrator Setting	Indicated NO	Indicated NOx	Indicated NO_2	NO drop	NO_2 increase	NO_2 C.F.
Point	Diluent	Cal Gas	Total Flow	volts or ppb	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
NOx reference	4914	77.68	4992	0.0	785.0	785.0	1.0	0.0	0.1	
as found NO_2	4916	77.68	4994	505.0	218.0	787.0	570.0	567.0	569.0	0.996
adjusted NO_2	4916	77.68	4994	505.0	218.0	787.0	570.0	567.0	569.0	0.996
gpt mid	4916	77.68	4994	270.0	468.0	787.0	319.0	317.0	318.0	0.997
gpt low	4916	77.68	4994	95.0	697.0	788.0	92.0	88.0	91.0	0.967
									Average NO_2 C.F.=	0.987

Linear Regression/Calibration Results:

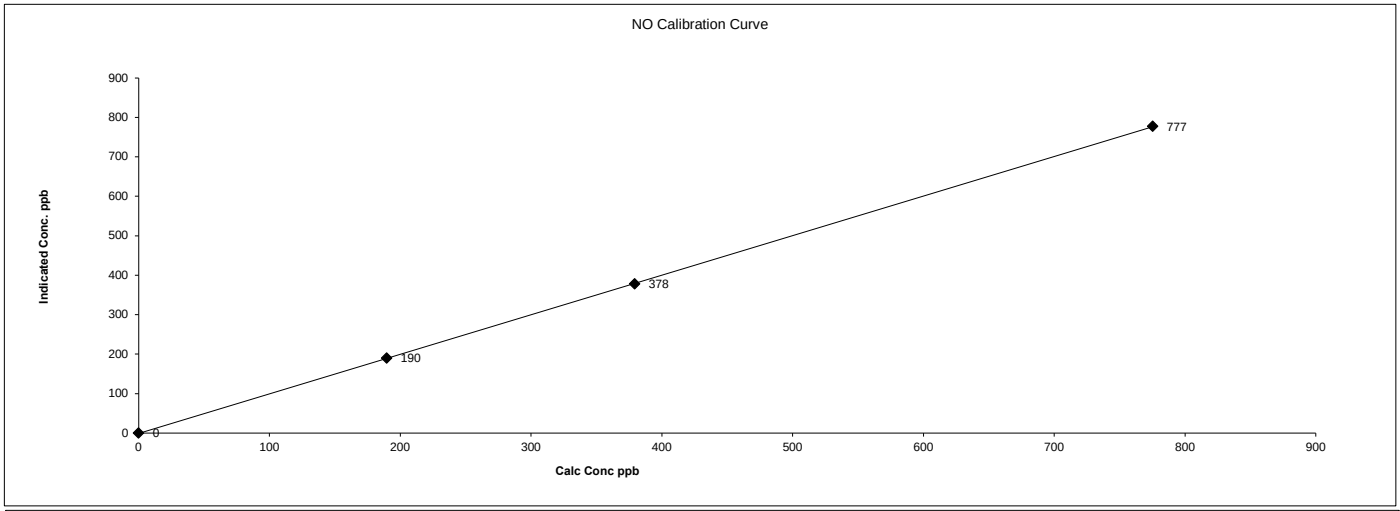
	NO	NOx	NO_2	LIMITS
Correlation Coeffecient =	**1.000**	**1.000**	**1.000**	**> or = 0.995**
Slope =	**1.002**	**1.001**	**1.001**	**0.85-1.15**
b (Intercept as % of full scale)=	**-0.05%**	**0.00%**	**0.12%**	**± 3% F.S.**
% change in C.F. from last cal=	**1.61%**	**2.05%**	**0.15%**	**+/-15%**
NO2 converter effeciency			**101.3%**	**>85%**

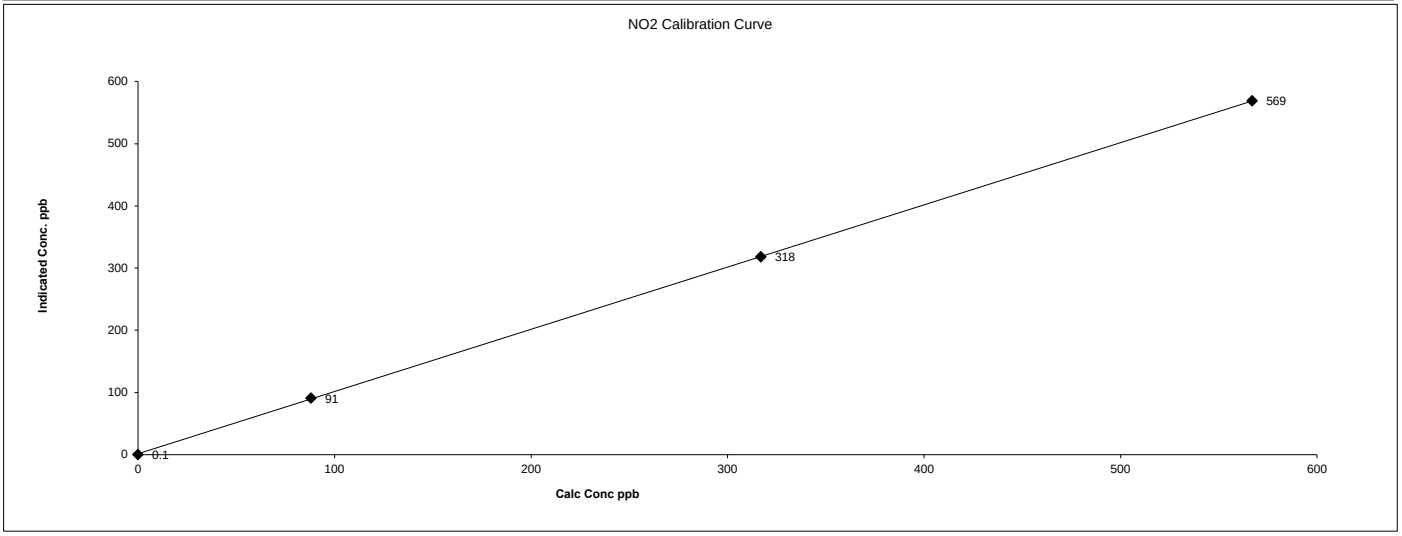
Comments:

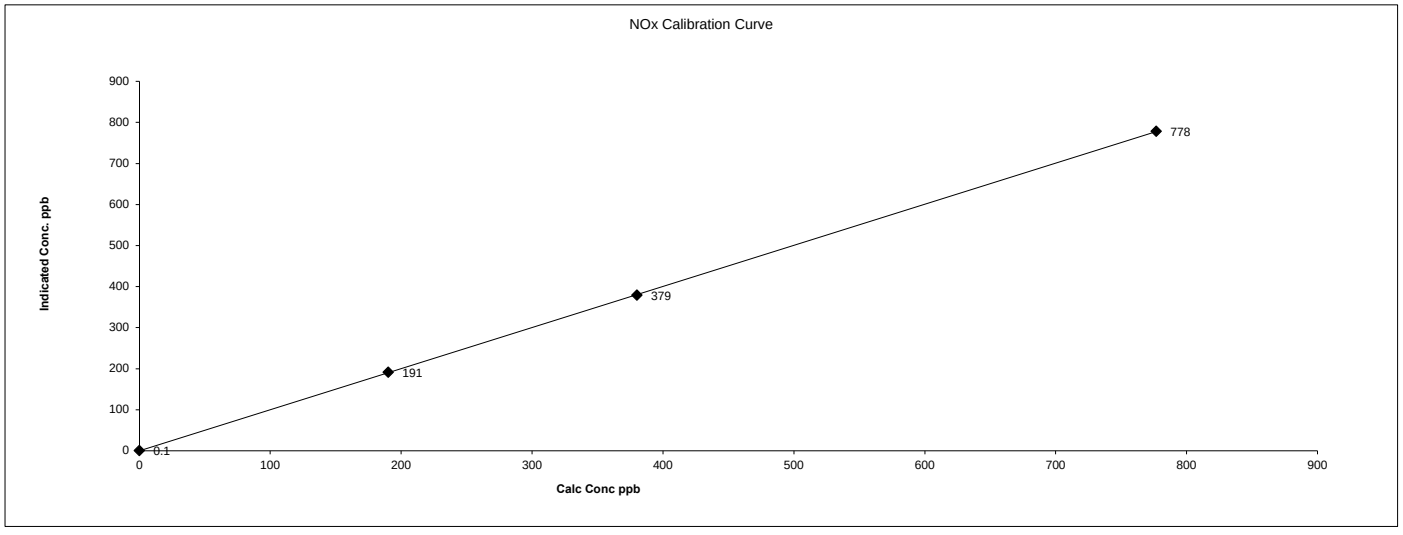
Changed sample filter. No NO2 adjustment made. Just for calculation purposes.

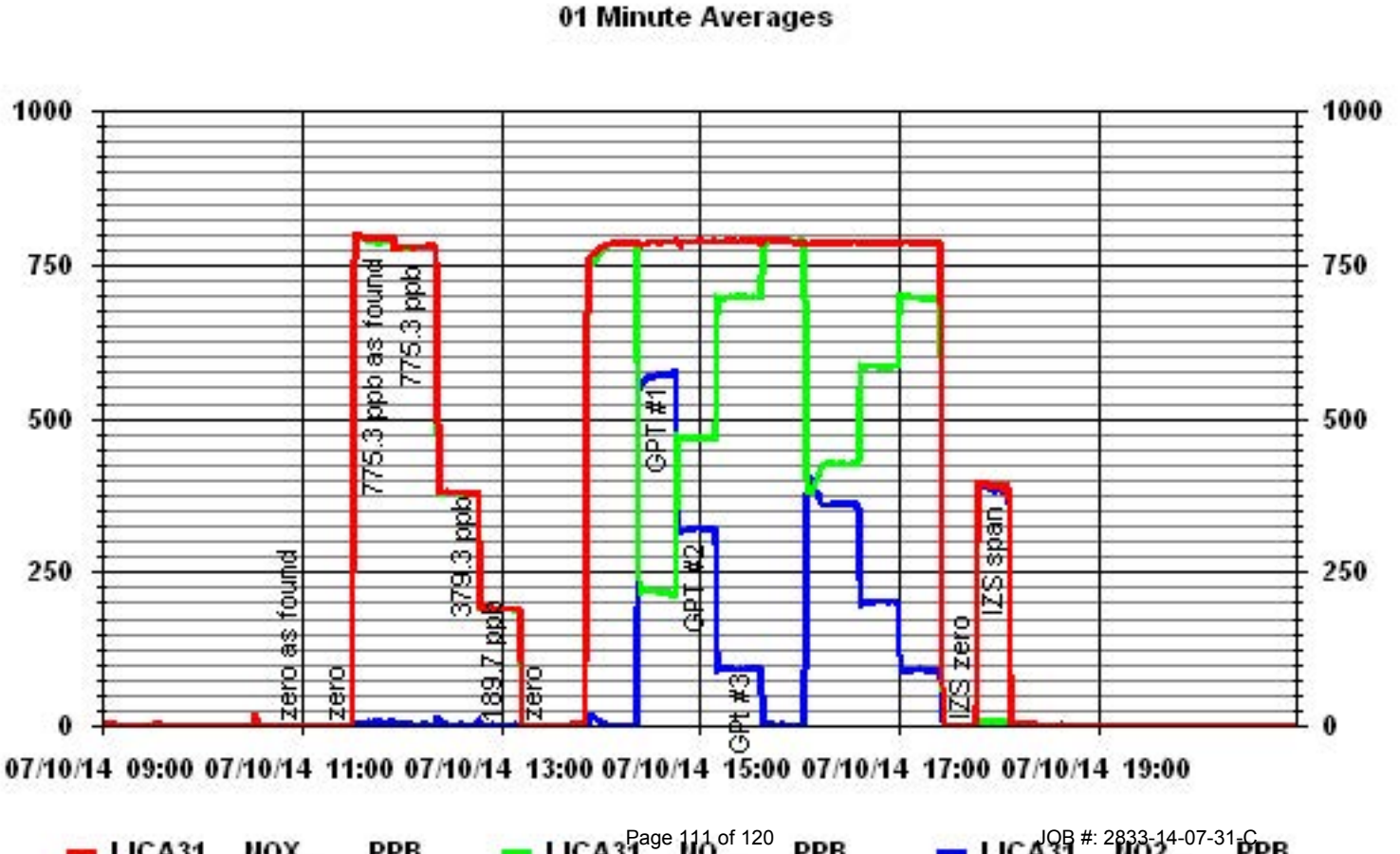
Date:	10-Jul-14	**Start Time (mst):**	10:35
Company:	LICA	**End Time (mst):**	15:31
Station Name/Location:	St.Lina	**Calibration Purpose:**	Monthly Calibration
Performed by:	Kevin Hope	**Cal Gas Expiry Date:**	4-Feb-18

API 200E NOx Analyzer Calibration








01 Minute Averages
1000
750
500
250
0
zero as foumd
zero
775.3 ppb as foumd
775.3 ppb
379.3 ppb
189.7 ppb
zero
GPT #1
GPT #2
GPT #3
IZS zero
IZS span
07/10/14 09:00
07/10/14 11:00
07/10/14 13:00
07/10/14 15:00
07/10/14 17:00
07/10/14 19:00
LICA31 NOX_ PPB
LICA31 NO_ PPB
LICA31 NO2_ PPB

Ozone

Maxxam Thermo 49i O_3 Analyzer Calibration

Date:	11-Jul-14	**Start Time (mst):**	13:27
Company:	LICA	**End Time (mst):**	16:09
Station Name/Location:	St.Lina	**Calibration Purpose:**	Monthly Calibration
Performed by:	Kevin Hope	**G.P.T. Date:**	10-Jul-14

Analyzer:

Serial Number:	1002240371	**Range ppm:**	500
Last Calibration Date:	18-Jun-14	**As Found C.F.**	1.065
Previous Cal High Point C.F.:	0.990	**New C.F.:**	1.007

		As found:		**As left:**
	O_3 Bkg:	-0.1	O_3 Bkg:	0.1
	O_3 Coef:	1.009	O_3 Coef:	1.077
Motherboard:	3.3	3.3	3.3	3.3
	15.0	14.8	15.0	14.8
	24.0	23.8	24.0	23.8
	-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	23.4	24.0	23.4
	O_3 Lamp	8.3	O_3 Lamp	8.3
	Bench:	26.9	Bench:	26.9
	Bench Lamp:	53.6	Bench Lamp:	53.6
	O_3 Lamp:	67.8	O_3 Lamp:	67.8
	Pressure:	679.4	Pressure:	685.9
	Cell A lpm:	0.738	Cell A lpm:	0.744
	Cell B lpm:	0.732	Cell B lpm:	0.736
	O_3 ppb:	31.7	O_3 ppb:	-0.4
	Cell A ppb:	34.7	Cell A ppb:	4.6
	Cell B ppb:	29.1	Cell B ppb:	-5.4
	Cell A int:	69274	Cell A int:	69344
	Cell B int:	79657	Cell B int:	79724
	Internal Span:	333.6	Internal Span:	333.6

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	310
mid	5000	175
low	5000	75

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	0.0	NA
as found high	4995	0.00	4995	358.0	336.0	1.065
adjusted high	4995	0.00	4995	358.0	358.0	1.000
mid	4995	0.00	4995	198.0	204.0	0.971
low	4995	0.00	4995	89.0	84.8	1.050
calibrator zero	4995	0.00	4995	0.0	-0.1	NA

copy and paste flows and NO decrease from NOx cal in to calculated concentration **Average C.F.=** 1.007

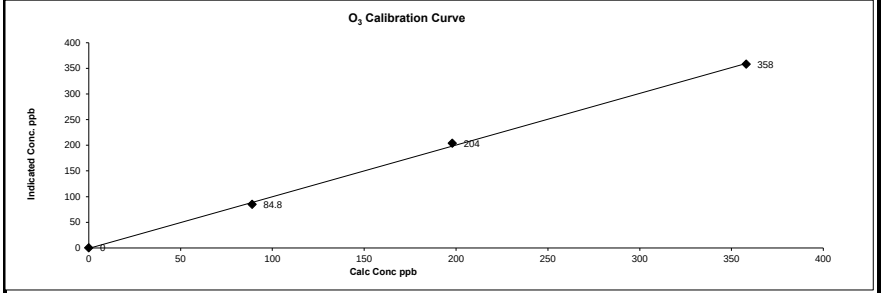
Linear Regression/Calibration Results:

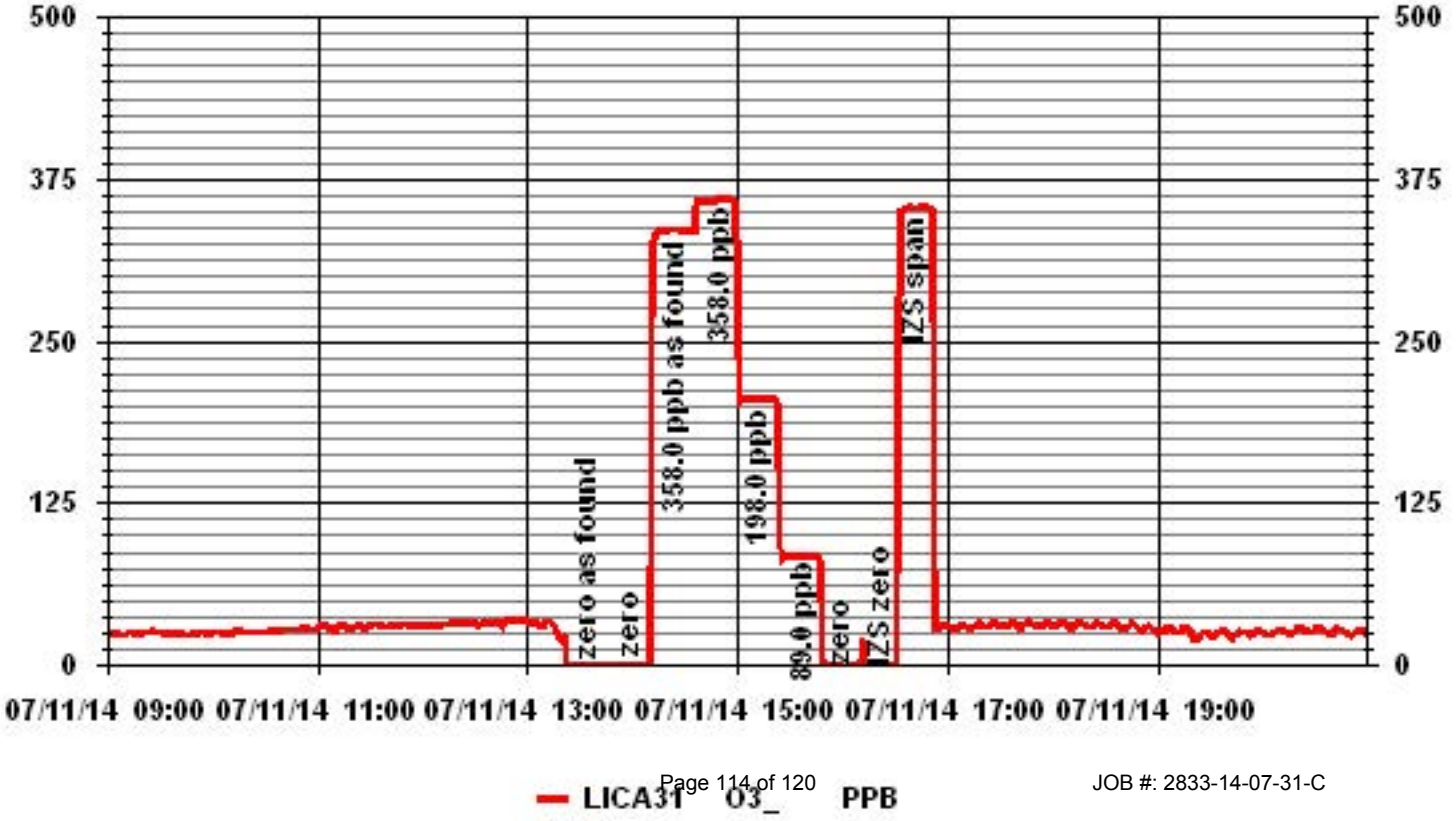
		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**1.007**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**-0.147%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**-8%**	**± 15%**	**PASS**

Comments:

Sample filter changed. Charcoal for zero air changed and zero air filter changed.

Thermo 49i O3 Analyzer Calibration





JOB #: 2833-14-07-31-C

Thermo 49i O_3 Analyzer Calibration

Date:	28-Jul-14	**Start Time (mst):**	15:03
Company:	LICA	**End Time (mst):**	15:52
Station Name/Location:	St.Lina	**Calibration Purpose:**	As Founds
Performed by:	Kevin Hope	**G.P.T. Date:**	28-Jul-14

Analyzer:

Serial Number:	1002240371	**Range ppm:**	500
Last Calibration Date:	11-Jul-14	**As Found C.F.**	0.949
Previous Cal High Point C.F.:	1.000	**New C.F.:**	

		As found:		**As left:**
	O_3 Bkg:	0.1	O_3 Bkg:	0.1
	O_3 Coef:	1.077	O_3 Coef:	1.077
Motherboard:	3.3	3.3	3.3	3.3
	15.0	14.8	15.0	14.8
	24.0	23.8	24.0	23.8
	-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	23.4	24.0	23.4
	O_3 Lamp	5.7	O_3 Lamp	5.7
	Bench:	23.0	Bench:	23.0
	Bench Lamp:	53.5	Bench Lamp:	53.5
	O_3 Lamp:	67.7	O_3 Lamp:	67.7
	Pressure:	690.6	Pressure:	690.6
	Cell A lpm:	0.744	Cell A lpm:	0.744
	Cell B lpm:	0.737	Cell B lpm:	0.737
	O_3 ppb:	32.4	O_3 ppb:	32.4
	Cell A ppb:	43.6	Cell A ppb:	43.6
	Cell B ppb:	22.3	Cell B ppb:	22.3
	Cell A int:	68330	Cell A int:	68330
	Cell B int:	78527	Cell B int:	78527
	Internal Span:	333.6	Internal Span:	333.6

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	320
mid		
low		

Calibration:

Calibrator Flow Rates (cc/min)				**Calculated Concentration:**	**Indicated Concentration:**	**Correction Factors:**
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	4995	0.0	4995	0.0	-0.1	NA
adjusted zero						NA
as found high	4995	0.00	4995	374.0	394.0	0.949
adjusted high						
mid						
low						
calibrator zero						NA

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

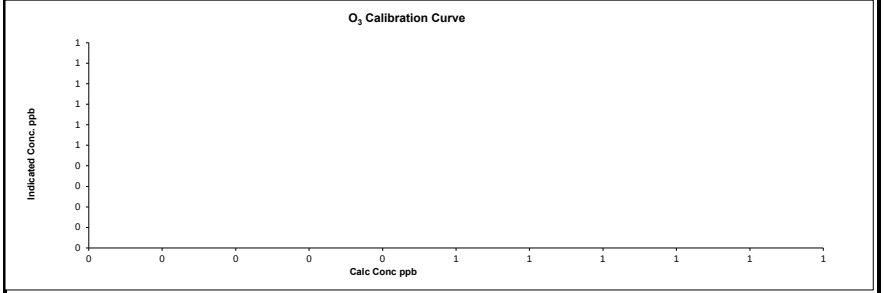
Linear Regression/Calibration Results:

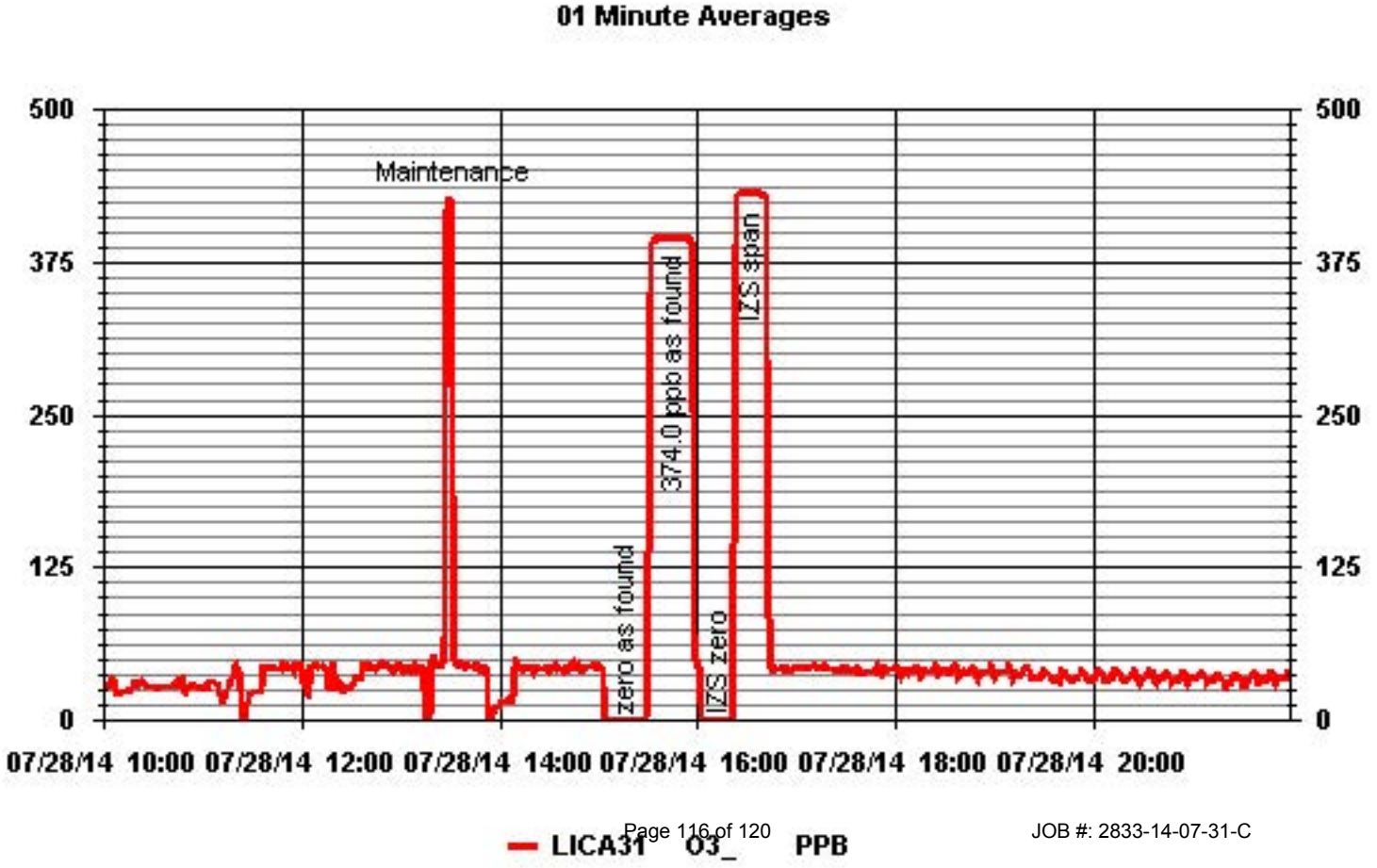
		LIMITS	**Pass/Fail ?**
Correlation Coeffecient =		**> or = 0.995**	
Slope =		**0.85-1.15**	
b (Intercept as % of full scale)=		**± 3% F.S.**	
% change in C.F. from last cal	**5%**	**± 15%**	**PASS**

Comments:

As founds performed after izs pump was rebuilt and span was still high. Looked fine so will run izs and change expected value.

Thermo 49i O3 Analyzer Calibration





JOB #: 2833-14-07-31-C

Particulate Matter 2.5

R & P 1400A TEOM PM2.5 Analyzer Calibration

Date:	3-Jul-14	**Parameter:**	PM2.5
Company:	LICA	**Performed by:**	Limin Li
Station Name/Location:	St.Lina	**Start/End Time (mst):**	09:00/12:00
Previous Audit Date:	30-May-14	**Calibration Purpose:**	Remove/install calibration

1400A Information and Status:

Serial Number:	140AB228720001	**As Found Filter Loading %:**	32.00
K_o Factor:	15003	**As Left Filter Loading %:**	na
Ambient Temperature °C:	20.7	**As Found Noise:**	0.028
Ambient Pressure atm:	0.918	**As Left Noise:**	na
Main Flow Reading lpm:	2.98	**Pump Vacuum:**	Ok
Aux Flow Reading lpm:	13.60	**Warnings:**	None

Reference Standards:

	Flow:	**Pressure:**	**Temperature:**
Make:	Dwyer	Brunton	Fluke
Model:	475 Mark III	ADC Summit	1551A Sti Thermometer
Serial Number:	na	na	4295
Calibration Date:	Unknown	2-Dec-13	Unknown

As Found Pump Off Test and Leak Check :

	main flow	**auxillary flow**	
pump unplugged zero (lpm)	0.05	0.20	
seconds to reach full flow (max. 60s)	45	55	**(maintenance required if either > 60 seconds)**
leak rate (lpm)	0.05	0.21	
0 corrected leak rate (lpm)	0.00	0.01	
limit (lpm)	0.15	.15 or (.60 with FDMS unit)	

As Left Pump Off Test and Leak Check (same as above if as found adequate):

	main flow	**auxillary flow**	
pump unplugged zero (lpm)	0.04	0.18	
seconds to reach full flow (max. 60s)	45	55	**(maintenance required if either > 60 seconds)**
leak rate (lpm)	0.12	0.21	
0 corrected leak rate (lpm)	0.08	0.03	
limit (lpm)	0.15	.15 or (.60 with FDMS unit)	

As found temperature and pressure:

	tolerance +/- 2.0°C		**tolerance +/- 0.01 atm**
1400A temperature °C:	19.8	**1400A pressure atm:**	0.921
reference temperature °C:	20.7	**reference pressure:**	0.918
difference °C:	0.9	**difference :**	-0.003

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

	tolerance +/- 2.0°C		**tolerance +/- 0.01 atm**
1400A temperature oC:	24.5	**1400A pressure atm:**	0.924
reference temperature °C:	24.7	**reference pressure:**	0.917
difference °C:	0.2	**difference :**	-0.007

As found flows:

	main flow tolerance 3.00 lpm +/- 0.20 lpm		**total/aux flow tolerance 16.67/13.67 lpm +/- 1.00 lpm/+/- 7%**
1400A main flow lpm:	2.98	**1400A total/aux flow lpm:**	16.60
reference main flow lpm:	2.97	**reference total/aux flow lpm:**	16.69
difference lpm:	-0.01	**difference lpm:**	0.09

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

	main flow tolerance 3.00 lpm +/- 0.20 lpm		**total/aux flow tolerance 16.67/13.67 lpm +/- 1.00 lpm/+/- 7%**
1400A main flow lpm:	2.98	**1400A total/aux flow lpm:**	16.60
reference main flow lpm:	2.95	**reference total/aux flow lpm:**	16.62
difference lpm:	-0.03	**difference lpm:**	0.02

K_o Audit:

Last K_o audit date:	NA
1400A Ko factor:	15003
Measured K_o factor:	NA
% difference:	NA

Comments:

Remove Calibration. But find TEOM-1405F is not good. Reinstall TEOM-1400a back and install audit.

JOB #: 2833-14-07-31 C

R & P 1400A TEOM PM2.5 Analyzer Calibration

Date:	11-Jul-14	**Parameter:**	PM2.5
Company:	LICA	**Performed by:**	Limin Li
Station Name/Location:	St.Lina	**Start/End Time (mst):**	11:00/12:40
Previous Audit Date:	3-Jul-14	**Calibration Purpose:**	Remove/install calibration

1400A Information and Status:

Serial Number:	140AB228720001	**As Found Filter Loading %:**	NA
K_o Factor:	15003	**As Left Filter Loading %:**	19.00
Ambient Temperature °C:	20.1	**As Found Noise:**	NA
Ambient Pressure atm:	0.925	**As Left Noise:**	na
Main Flow Reading lpm:	2.98	**Pump Vacuum:**	Ok
Aux Flow Reading lpm:	13.61	**Warnings:**	None

Reference Standards:

	Flow:	**Pressure:**	**Temperature:**
Make:	BIOS	Brunton	Fluke
Model:	DC-2	ADC Summit	1551A Sti Thermometer
Serial Number:	738/1625	na	4295
Calibration Date:	Unknown	2-Dec-13	Unknown

As Found Pump Off Test and Leak Check :

	main flow	**auxillary flow**	
pump unplugged zero (lpm)	NA	NA	
seconds to reach full flow (max. 60s)	NA	NA	**(maintenance required if either > 60 seconds)**
leak rate (lpm)	NA	NA	
0 corrected leak rate (lpm)	#VALUE!	#VALUE!	
limit (lpm)	0.15	.15 or (.60 with FDMS unit)	

As Left Pump Off Test and Leak Check (same as above if as found adequate):

	main flow	**auxillary flow**	
pump unplugged zero (lpm)	0.03	0.19	
seconds to reach full flow (max. 60s)	45	55	**(maintenance required if either > 60 seconds)**
leak rate (lpm)	0.11	0.22	
0 corrected leak rate (lpm)	0.08	0.03	
limit (lpm)	0.15	.15 or (.60 with FDMS unit)	

As found temperature and pressure:

tolerance +/- 2.0°C		**tolerance +/- 0.01 atm**	
1400A temperature °C:	NA	**1400A pressure atm:**	NA
reference temperature °C:	NA	**reference pressure:**	NA
difference °C:	#VALUE!	**difference :**	#VALUE!

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

tolerance +/- 2.0°C		**tolerance +/- 0.01 atm**	
1400A temperature oC:	20.1	**1400A pressure atm:**	0.925
reference temperature °C:	20.1	**reference pressure:**	0.925
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%**	
1400A main flow lpm:	NA	**1400A total/aux flow lpm:**	NA
reference main flow lpm:	NA	**reference total/aux flow lpm:**	NA
difference lpm:	#VALUE!	**difference lpm:**	#VALUE!

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

main flow tolerance 3.00 lpm +/- 0.20 lpm		**total/aux flow tolerance 16.67/13.67 lpm +/- 1.00 lpm/+/- 7%**	
1400A main flow lpm:	2.98	**1400A total/aux flow lpm:**	16.60
reference main flow lpm:	3.04	**reference total/aux flow lpm:**	16.72
difference lpm:	0.06	**difference lpm:**	0.12

K_o Audit:

Last K_o audit date:	NA
1400A Ko factor:	15003
Measured K_o factor:	NA
% difference:	NA

Comments:

R & P 1400A TEOM PM2.5 Analyzer Calibration

Date:	28-Jul-14	**Parameter:**	PM2.5
Company:	LICA	**Performed by:**	Kevin Hope
Station Name/Location:	St.Lina	**Start/End Time (mst):**	10:30/11:12
Previous Audit Date:	11-Jul-14	**Calibration Purpose:**	Monthly

1400A Information and Status:

Serial Number:	140AB228720001	**As Found Filter Loading %:**	130.00
K_o Factor:	15003	**As Left Filter Loading %:**	18.00
Ambient Temperature °C:	25.0	**As Found Noise:**	0.020
Ambient Pressure atm:	0.932	**As Left Noise:**	0.016
Main Flow Reading lpm:	2.91	**Pump Vacuum:**	Ok
Aux Flow Reading lpm:	16.50	**Warnings:**	None

Reference Standards:

	Flow:	**Pressure:**	**Temperature:**
Make:	Dwyer	Brunton	Fluke
Model:	475 Mark III	ADC Summit	1551A Sti Thermometer
Serial Number:	na	na	4295
Calibration Date:	Unknown	2-Dec-13	Unknown

As Found Pump Off Test and Leak Check :

	main flow	**auxillary flow**	
pump unplugged zero (lpm)	0.05	0.19	
seconds to reach full flow (max. 60s)	31	35	**(maintenance required if either > 60 seconds)**
leak rate (lpm)	0.10	0.21	
0 corrected leak rate (lpm)	0.05	0.02	
limit (lpm)	0.15	.15 or (.60 with FDMS unit)	

As Left Pump Off Test and Leak Check (same as above if as found adequate):

	main flow	**auxillary flow**	
pump unplugged zero (lpm)	0.05	0.19	
seconds to reach full flow (max. 60s)	31	35	**(maintenance required if either > 60 seconds)**
leak rate (lpm)	0.10	0.21	
0 corrected leak rate (lpm)	0.05	0.02	
limit (lpm)	0.15	.15 or (.60 with FDMS unit)	

As found temperature and pressure:

tolerance +/- 2.0°C		**tolerance +/- 0.01 atm**	
1400A temperature °C:	25.2	**1400A pressure atm:**	0.930
reference temperature °C:	25.0	**reference pressure:**	0.932
difference °C:	-0.2	**difference :**	0.002

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

tolerance +/- 2.0°C		**tolerance +/- 0.01 atm**	
1400A temperature oC:	25.2	**1400A pressure atm:**	0.930
reference temperature °C:	25.0	**reference pressure:**	0.932
difference °C:	-0.2	**difference :**	0.002

As found flows:

main flow tolerance 3.00 lpm +/- 0.20 lpm		**total/aux flow tolerance 16.67/13.67 lpm +/- 1.00 lpm/+/- 7%**	
1400A main flow lpm:	2.98	**1400A total/aux flow lpm:**	13.62
reference main flow lpm:	2.91	**reference total/aux flow lpm:**	13.50
difference lpm:	-0.07	**difference lpm:**	-0.12

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

main flow tolerance 3.00 lpm +/- 0.20 lpm		**total/aux flow tolerance 16.67/13.67 lpm +/- 1.00 lpm/+/- 7%**	
1400A main flow lpm:	2.98	**1400A total/aux flow lpm:**	13.62
reference main flow lpm:	2.91	**reference total/aux flow lpm:**	13.50
difference lpm:	-0.07	**difference lpm:**	-0.12

K_o Audit:

Last K_o audit date:	NA
1400A Ko factor:	15003
Measured K_o factor:	NA
% difference:	NA

Comments:

Leak check, flow audit and filter changed. All good.

JOB #: 2833-14-07-31 C

Lakeland Industry & Community Association

Maskwa Monitoring Site
Ambient Air Monitoring
Data Report
For
July 2014

Prepared By:

August 27, 2014

JOB #: 2833-14-07-30-C

Lakeland Industry & Community Association
Ambient Air Monitoring
Maskwa

Table of Contents

Introduction

The following Ambient Air Monitoring report was prepared for:

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

Monitoring Location: Maskwa
Data Period: July 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 – July 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	0.45	11	7	6	4.9	306(NW)	2.6	7	100.0
H2S (PPB)	10	3	0	0	0.35	9	24	1	4	109(ESE)	1.8	24	100.0
THC (PPM)	-	-	-	-	2.27	3.1	14, 29	VAR	VAR	VAR	2.6	16	100.0
NO2 (PPB)	159	-	0	-	2.21	16.7	11	2	6	282(W)	6.4	7	100.0
NO (PPB)	-	-	-	-	0.38	11.6	7	6	4.9	306(NW)	1.8	7	100.0
NO_x (PPB)	-	-	-	-	2.59	22.3	7	6	4.9	306(NW)	8.2	7	100.0
VECTOR WS (KPH)	-	-	-	-	4.16	13.3	25	10	13.3	29(NNE)	7.3	3	100.0
VECTOR WD (DEGREES)	-	-	-	-	192(S)	-	-	-	-	-	-	-	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	70.06	94	VAR	VAR	VAR	VAR	83.5	24	100.0
TEMPERATURE (DEG C)	-	-	-	-	18.60	30.2	30	15, 16	5.5, 4.3	121(ESE) 121(ESE)	22.6	30	100.0
BAROMETRIC PRESSURE (MILIBAR)	-	-	-	-	942.9	956	14	7, 8	4.5, 5.7	197(SSW) 197(SSW)	953.3	14	100.0
PRECIPITATION (MM)	-	-	-	-	0.10	21.9	9	18	4.2	54(NE)	0.9	9	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 July 16th. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information.

Hydrogen Sulphide (PPB)

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

No operational issues were observed during the month. The monthly calibration was performed on July 16th. The inlet filter was changed before the monthly calibration was started. 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 July 16th. The inlet filter was changed before the monthly calibration was started. The span gas was replaced on July 16th. 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 July 16th. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information.

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

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

The wind system is reported as vector wind speed and vector wind direction. The last wind system calibration was performed by manufacturer on February 5th, 2014.
No operational issues were observed this month.

Relative Humidity (PERCENT)

- System make / model - Met One 083

No operational issues were observed during the month.

Precipitation (MM)

- System make / model - Met One 387

No operational issues were observed during the month.

Barometric Pressure (MILLIBAR)

- System make / model - Met One 092

No operation issues were observed during the month.

General Monthly Summary

AQM STATION – LICA – Maskwa

Ambient Temperature (DEGC)
- System make / model - Met One 060

No operational issues were observed during the month.

Trailer Temperature (DEG C)
- System make / model – R&R 61

No operational issues were observed during the month.

Standard Deviation Wind Direction (DEG)
- System make / model –Met One 50.5H

No operational issues were observed during the month.

Datalogger
- System make / model - ESC 8832
- Software make/version - ESC v 5.51a

No operational issues were observed during the month.

Trailer
The manifold system was cleaned on July 16th.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Sulphur Dioxide

Lakeland Industry & Community Association - Maskwa Site

JULY 2014

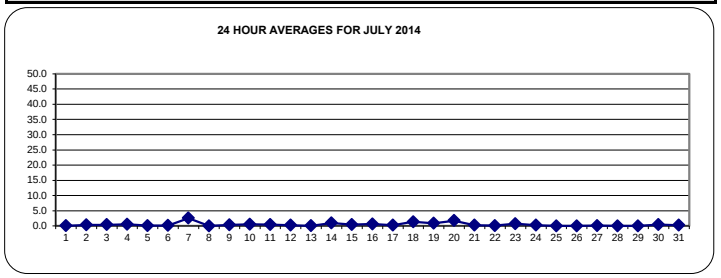
SULPHUR DIOXIDE (SO2) hourly averages in ppb

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	1	0	0	0	0	0	0	1	0.0	24
2	0	0	0	0	0	0	0	0	2	2	0	0	0	**S**	0	0	0	1	0	0	1	1	0	0	2	0.3	24
3	0	0	0	0	0	1	1	1	1	2	1	0	**S**	0	0	0	0	0	0	0	1	0	0	1	2	0.4	24
4	0	0	0	0	1	3	1	1	0	3	1	**S**	1	1	0	0	0	0	0	0	0	0	0	0	3	0.5	24
5	0	0	0	0	0	0	0	0	0	0	**S**	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0.1	24
6	0	0	0	0	0	0	0	1	0	**S**	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0.1	24
7	1	6	7	4	1	2	***11***	7	**S**	1	0	1	1	2	2	0	4	1	0	1	2	5	0	0	***11***	***2.6***	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	1	1	1	0	0	1	0	1	1	0	0	0	0	1	0.3	24
10	0	1	2	1	1	**S**	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1	3	3	0.5	24
11	1	1	1	1	**S**	0	2	3	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0.5	24
12	0	2	1	**S**	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2	24
13	0	0	**S**	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
14	0	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1.0	24
15	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	**S**	1	0.4	24
16	1	1	1	1	1	1	1	1	1	1	**C**	**C**	**C**	**C**	**C**	1	0	0	0	0	0	0	**S**	0	1	0.6	24
17	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1	0	0	1	0	0	0	**S**	0	0	1	0.2	24
18	3	2	3	1	1	1	1	2	2	3	2	2	1	0	0	1	1	0	1	1	**S**	1	1	1	3	1.3	24
19	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	2	1	**S**	0	0	0	0	2	0.9	24
20	3	6	7	0	6	7	1	0	1	2	3	0	0	0	1	0	0	0	**S**	1	1	1	0	0	7	1.7	24
21	0	0	0	0	0	0	0	2	2	1	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	2	0.2	24
22	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	2	0.1	24
23	0	0	0	0	2	2	2	1	2	2	2	1	1	0	1	**S**	0	0	0	0	1	0	0	0	2	0.7	24
24	1	0	1	1	0	0	1	1	0	0	0	0	0	0	**S**	0	0	0	0	1	0	0	0	0	1	0.3	24
25	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0.0	24
26	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0.0	24
27	0	0	0	0	0	0	0	0	2	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	2	0.1	24
28	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
29	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
30	0	0	0	0	0	0	0	0	**S**	1	1	1	1	1	1	1	1	0	0	0	1	0	0	1	1	0.5	24
31	0	0	0	0	0	0	0	**S**	0	1	1	1	0	0	0	1	1	0	0	0	0	0	0	0	1	0.2	24
HOURLY MAX	3	6	7	4	6	7	11	7	2	3	3	2	2	2	2	1	4	2	1	1	2	5	1	3			
HOURLY AVG	0.4	0.7	0.8	0.4	0.5	0.7	0.8	0.8	0.6	0.8	0.5	0.4	0.4	0.3	0.4	0.2	0.4	0.3	0.2	0.2	0.3	0.3	0.1	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

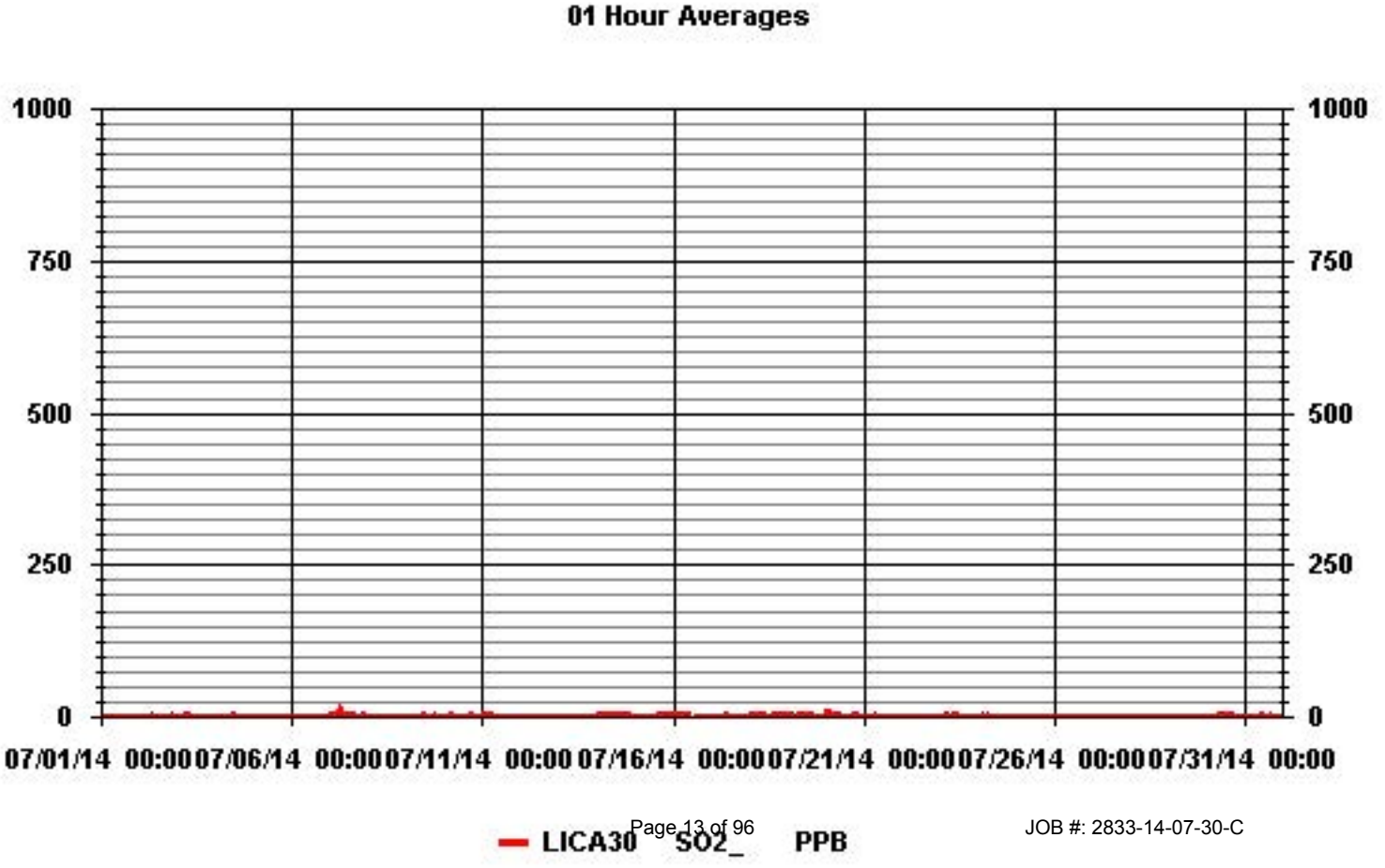


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB 24-HR 48 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	210					
MAXIMUM 1-HR AVERAGE:	11	PPB	@ HOUR(S)	6	ON DAY(S)	7
MAXIMUM 24-HR AVERAGE:	2.6	PPB			ON DAY(S)	7
					VAR-VARIOUS	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		744	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	1.00		MONTHLY AVERAGE:		0.45	PPB

JOB #: 2833-14-07-30-C



JOB #: 2833-14-07-30-C

Lakeland Industry & Community Association - Maskwa Site

JULY 2014

SULPHUR DIOXIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	**S**	1	3	4	1	1	1	0	0	0	4	0.5	24
2	0	0	0	0	1	0	0	1	4	4	1	1	1	**S**	1	2	2	4	1	1	1	1	1	1	4	1.2	24
3	1	1	1	1	1	2	2	2	2	3	2	1	**S**	0	0	1	1	1	1	1	1	0	3	7	7	1.5	24
4	1	1	1	2	4	9	7	6	1	8	11	**S**	7	3	1	1	0	0	0	0	0	0	0	0	11	2.7	24
5	0	0	0	0	0	0	0	0	0	0	**S**	3	6	2	0	0	0	0	0	0	0	0	0	0	6	0.5	24
6	0	0	0	0	0	0	1	1	1	**S**	0	0	1	0	4	1	0	0	5	3	0	1	1	1	5	0.9	24
7	7	12	***22***	10	9	4	***22***	21	**S**	10	3	5	5	7	10	2	14	3	2	2	5	12	1	0	***22***	***8.2***	24
8	0	0	0	0	0	0	0	**S**	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0.3	24
9	1	1	1	0	0	1	**S**	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1.0	24
10	1	1	4	3	1	**S**	1	1	1	1	1	1	1	1	1	1	3	3	3	1	1	1	2	9	9	1.9	24
11	2	2	2	2	**S**	2	7	8	1	5	2	7	0	2	0	0	0	0	0	0	1	2	1	1	8	2.0	24
12	2	4	3	**S**	3	1	0	0	0	4	4	5	0	0	0	0	0	0	1	1	0	0	1	0	5	1.3	24
13	0	0	**S**	0	1	1	1	1	0	1	0	3	1	2	1	1	1	0	1	1	1	1	1	0	3	0.8	24
14	0	**S**	1	1	1	1	2	2	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	1.5	24
15	**S**	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	2	1.0	24
16	1	1	1	1	1	1	1	1	2	2	**C**	**C**	**C**	**C**	**C**	2	1	1	1	1	1	1	**S**	1	2	1.2	24
17	1	1	1	1	1	1	1	1	4	3	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	4	1.2	24
18	9	5	7	2	1	4	3	10	8	7	4	5	1	1	1	1	1	1	1	1	**S**	1	1	1	10	3.3	24
19	1	2	2	2	2	2	2	2	1	2	2	1	2	2	1	2	1	7	2	**S**	0	0	0	1	7	1.7	24
20	15	16	18	1	12	17	2	1	8	7	10	2	0	8	8	1	1	1	**S**	1	1	1	1	1	18	5.8	24
21	1	1	1	1	1	1	1	5	4	3	1	1	1	1	1	1	1	**S**	1	1	1	1	1	1	5	1.4	24
22	1	0	0	0	0	0	0	6	1	0	0	0	0	0	0	0	**S**	0	1	1	1	1	1	0	6	0.6	24
23	1	0	0	1	5	6	4	3	3	4	4	4	1	1	1	**S**	1	1	1	1	1	1	1	1	6	2.0	24
24	1	1	1	1	1	0	2	2	1	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	2	1.0	24
25	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	0	0	0	0	0	0	0	0	0	0	1	0.6	24
26	0	0	0	0	0	0	1	0	0	0	0	0	**S**	1	1	1	1	1	1	1	0	1	0	0	1	0.4	24
27	0	0	0	0	0	0	0	3	7	2	1	**S**	0	1	0	0	0	0	1	1	0	0	0	0	7	0.7	24
28	0	0	0	0	0	0	0	1	1	1	**S**	1	1	4	1	1	1	1	1	0	1	1	0	0	4	0.7	24
29	0	0	0	0	0	0	0	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	24
30	1	1	1	1	1	1	1	1	**S**	3	2	2	2	2	2	1	2	1	1	1	1	1	1	1	3	1.3	24
31	1	1	1	1	1	1	1	**S**	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1	24
HOURLY MAX	15	16	22	10	12	17	22	21	8	10	11	7	7	8	10	2	14	7	5	3	5	12	3	9			
HOURLY AVG	1.6	1.8	2.3	1.1	1.6	1.9	2.1	2.9	2.0	2.7	2.1	1.8	1.4	1.6	1.5	0.9	1.4	1.2	1.1	1.0	0.9	1.2	0.9	1.1			

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: 518

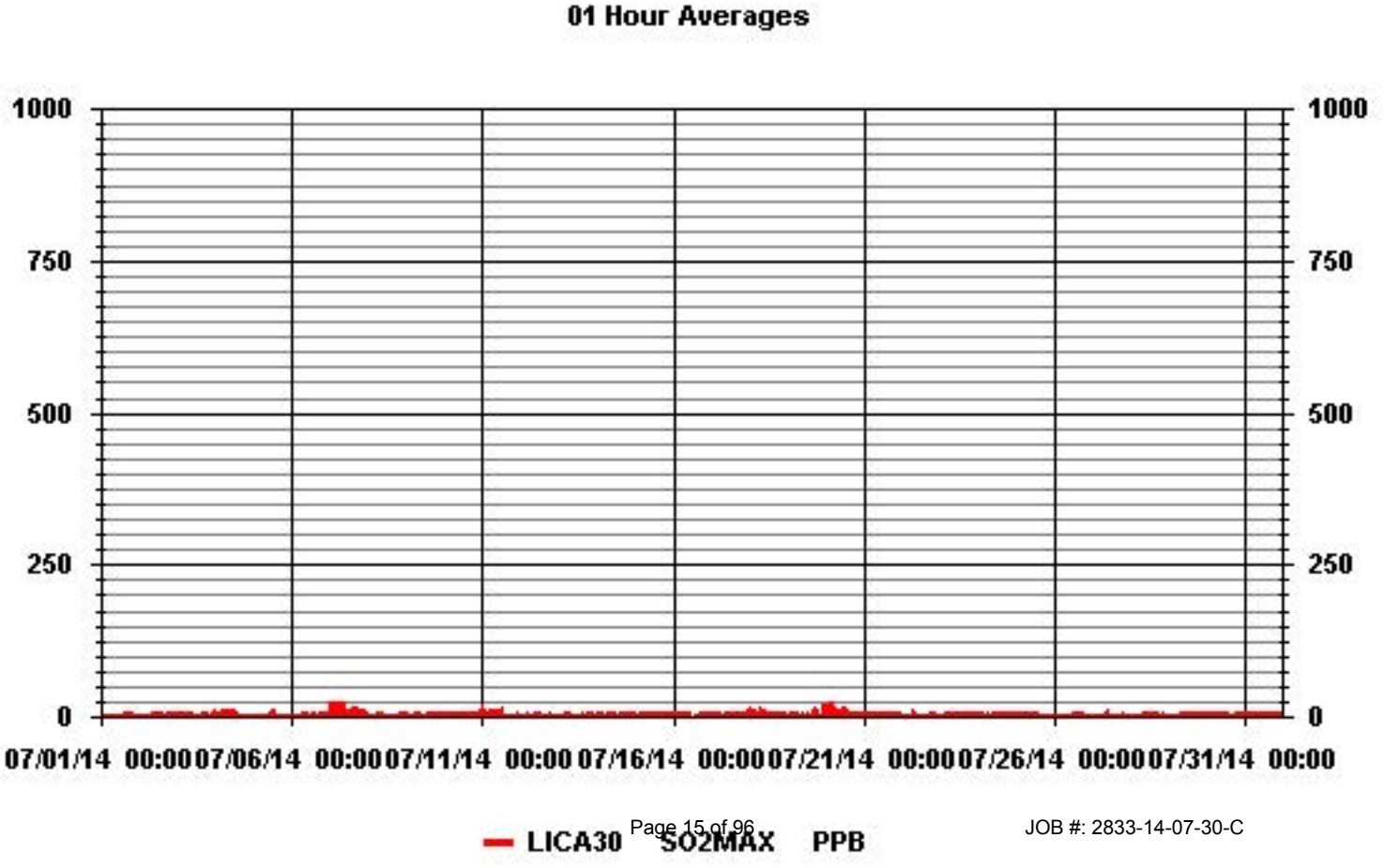
MAXIMUM INSTANTANEOUS VALUE: 22 PPB @ HOUR(S) 2, 6 ON DAY(S) 7

VAR-VARIOUS

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 744 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION: 2.61



JOB #: 2833-14-07-30-C

LICA30
SO2_ / WDR Joint Frequency Distribution (Percent)

July 2014

Distribution By % Of Samples

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

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	3.25	4.95	4.10	2.97	3.81	4.80	9.33	7.35	13.29	16.40	6.50	4.80	4.80	6.50	4.24	2.82	100.00
< 60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 170	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.25	4.95	4.10	2.97	3.81	4.80	9.33	7.35	13.29	16.40	6.50	4.80	4.80	6.50	4.24	2.82	

Calm : .00 %

Total # Operational Hours : 707

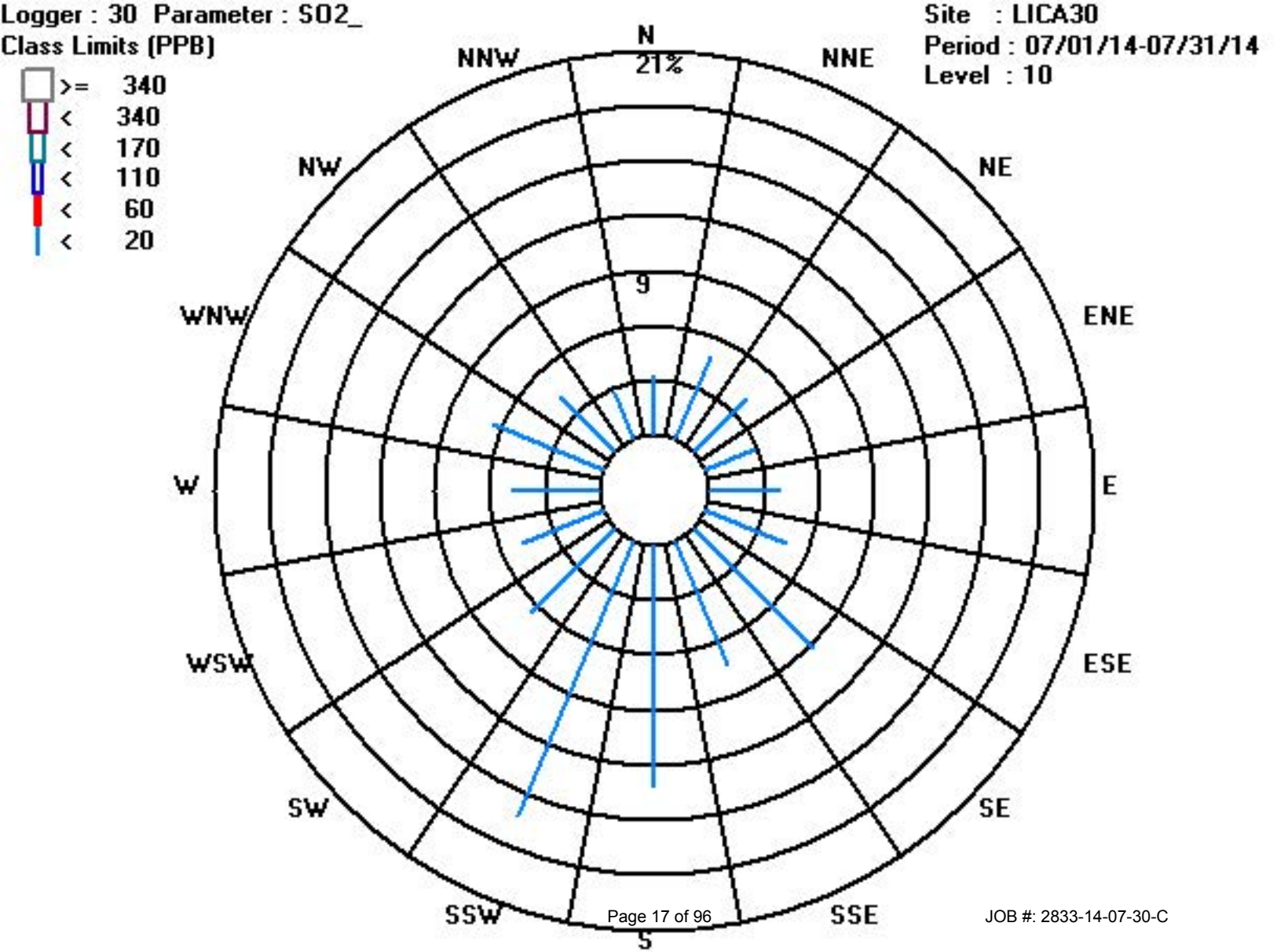
Distribution By Samples

Direction

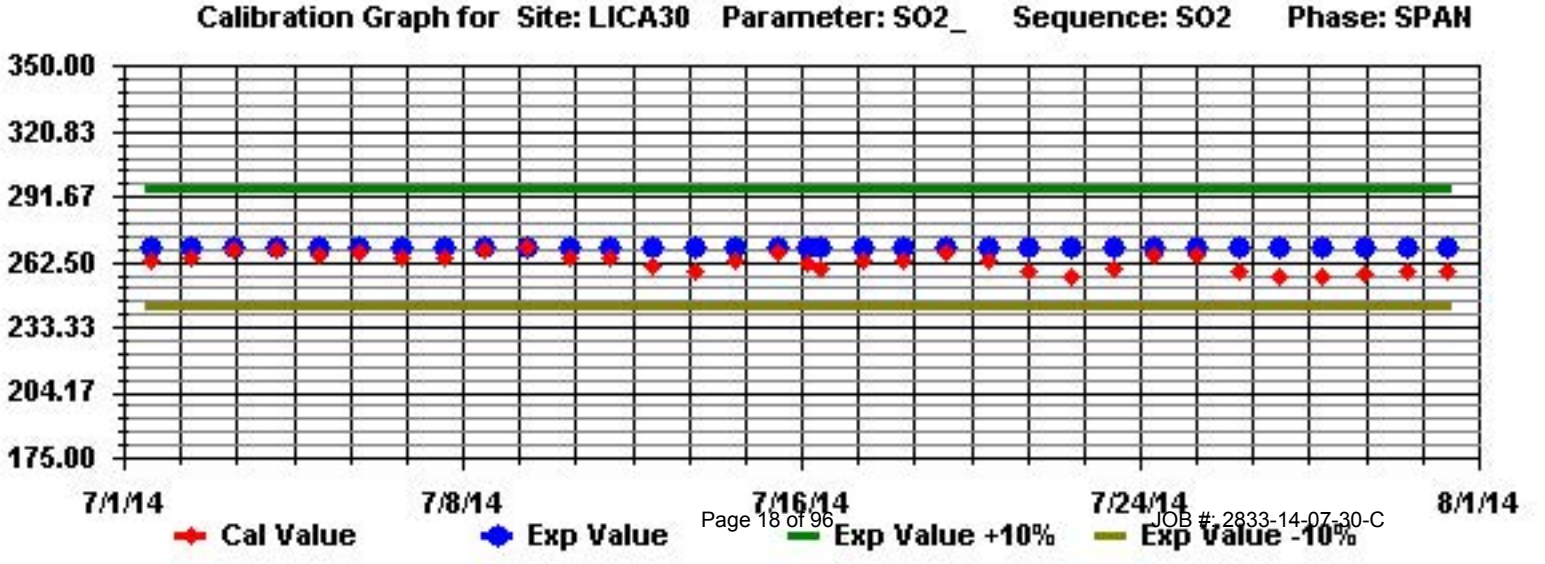
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	23	35	29	21	27	34	66	52	94	116	46	34	34	46	30	20	707
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	23	35	29	21	27	34	66	52	94	116	46	34	34	46	30	20	

Calm : .00 %

Total # Operational Hours : 707



JOB #: 2833-14-07-30-C


Calibration Graph for Site: LICA30 Parameter: SO2_ Sequence: SO2 Phase: SPAN
350.00
320.83
291.67
262.50
233.33
204.17
175.00
7/1/14
7/8/14
7/16/14
7/24/14
8/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Hydrogen Sulphide

Lakeland Industry & Community Association - Maskwa Site

JULY 2014

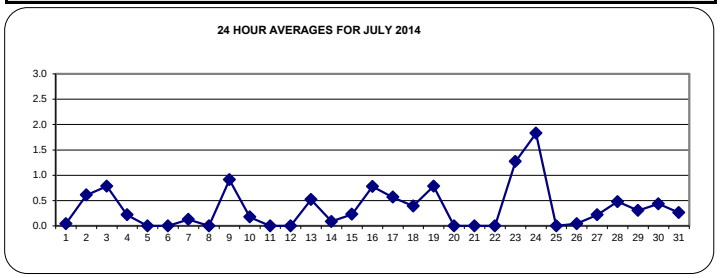
HYDROGEN SULPHIDE (H2S) hourly averages in ppb

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

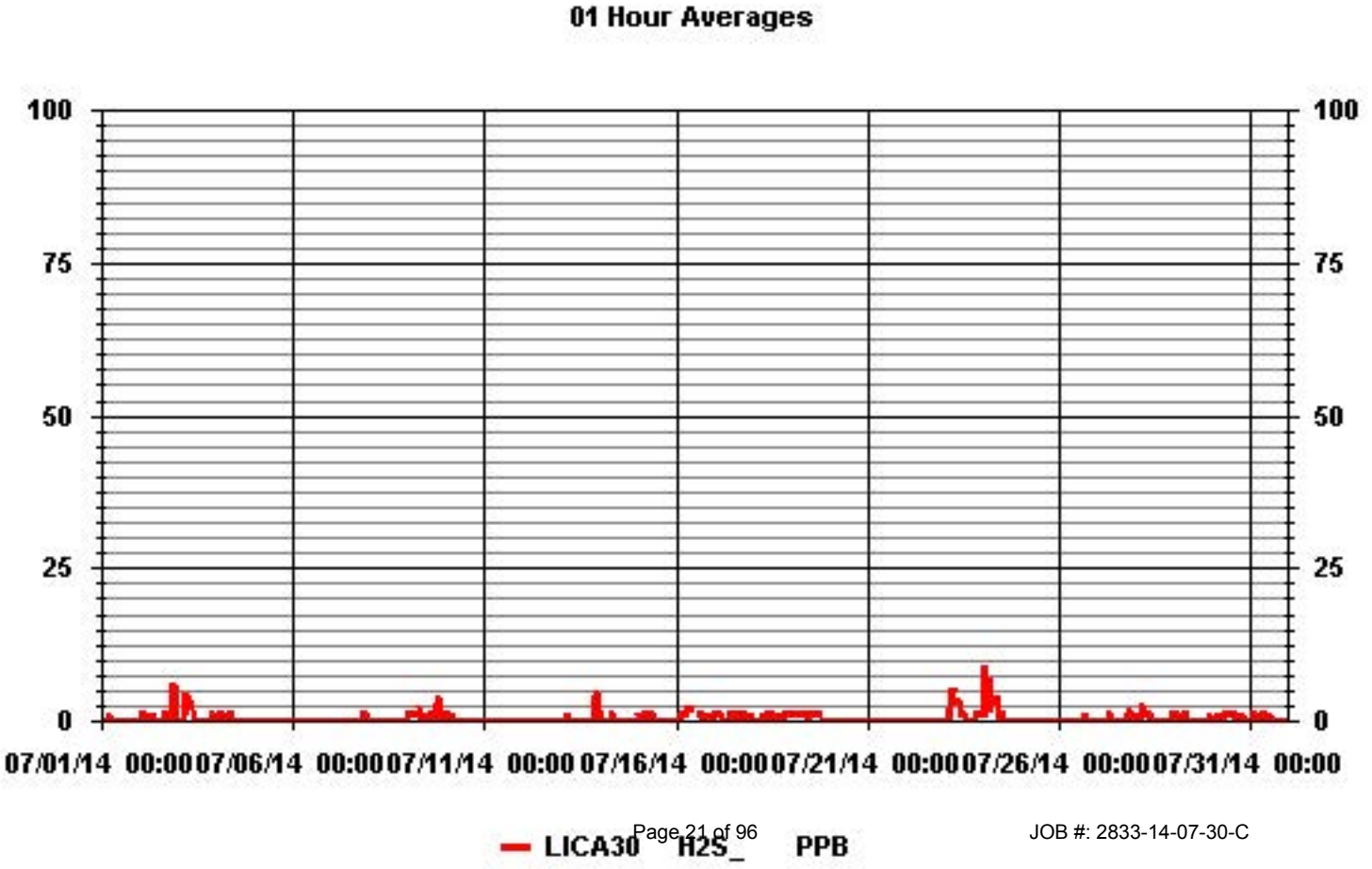


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 10 PPB 24-HR 3 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	169					
MAXIMUM 1-HR AVERAGE:	9	PPB	@ HOUR(S)	1	ON DAY(S)	24
MAXIMUM 24-HR AVERAGE:	1.8	PPB			ON DAY(S)	24
					VAR-VARIOUS	
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		744	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	0.86		MONTHLY AVERAGE:		0.35	PPB

JOB #: 2833-14-07-30-C



JOB #: 2833-14-07-30-C

Lakeland Industry & Community Association - Maskwa Site

JULY 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	1	1	1	1	1	1	1	1	1	1	0	1	0	**S**	0	0	1	1	0	0	1	0	0	1	0.6	24
2	1	1	1	2	2	0	0	1	2	2	1	0	1	**S**	1	1	2	1	1	1	6	8	1	1	8	1.6	24
3	1	1	1	1	1	6	5	4	4	3	1	0	**S**	1	1	1	1	1	1	1	1	1	1	1	6	1.7	24
4	0	1	1	1	1	1	1	1	1	1	1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4	24
5	0	1	0	0	0	0	0	0	0	0	**S**	1	0	1	0	1	1	0	1	1	1	1	1	1	1	0.5	24
6	1	0	0	0	1	1	1	1	1	**S**	2	0	1	1	0	1	1	1	1	0	1	1	1	1	2	0.8	24
7	1	1	1	1	1	1	1	0	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
8	1	1	1	1	1	0	1	**S**	1	1	0	0	0	0	0	1	0	0	1	1	1	1	1	1	1	0.7	24
9	1	1	1	1	1	2	**S**	2	2	1	1	1	1	1	1	1	1	1	***19***	16	2	1	1	1	***19***	2.6	24
10	1	1	1	1	2	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.3	24
11	0	0	0	0	**S**	0	1	1	1	1	1	1	0	1	0	0	0	1	0	1	1	0	1	1	1	0.5	24
12	1	1	1	**S**	1	0	0	1	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0.4	24
13	1	1	**S**	1	3	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2	8	7	5	8	1.3	24
14	1	**S**	1	1	1	0	1	1	1	1	1	0	0	0	1	1	0	1	1	0	0	0	1	1	1	0.7	24
15	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1.0	24
16	1	1	1	1	1	1	2	2	2	2	**C**	**C**	**C**	**C**	**C**	1	1	1	2	1	1	1	**S**	1	2	1.3	24
17	2	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	2	1.1	24
18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1	1.0	24
19	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	0	0	0	0	2	0.9	24
20	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	1	0.0	24
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	1	1	1	1	1	0	1	0.2	24
22	1	0	1	1	1	1	1	1	0	1	0	0	1	0	0	0	**S**	1	0	0	0	0	0	1	1	0.5	24
23	1	0	1	14	14	8	7	**S**	5	6	2	3	1	1	1	**S**	1	1	1	1	4	1	1	2	14	3.5	24
24	2	13	6	4	10	8	9	5	6	5	5	1	1	1	**S**	0	0	0	0	0	4	1	1	0	13	***3.6***	24
25	0	0	0	0	0	0	2	2	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	2	0.2	24
26	0	0	0	0	0	0	0	0	0	0	0	0	**S**	1	1	1	1	1	0	1	1	1	1	1	1	0.4	24
27	0	1	1	1	1	1	1	1	1	1	1	**S**	0	1	1	1	1	0	1	4	4	1	1	1	4	1.1	24
28	1	1	2	3	4	2	1	1	1	1	**S**	1	1	1	1	0	1	1	1	0	1	2	2	2	4	1.3	24
29	1	1	1	1	1	1	1	3	2	**S**	1	0	1	1	0	1	1	1	0	0	0	1	2	1	3	1.0	24
30	1	1	1	1	1	1	1	2	**S**	1	1	1	2	1	1	1	1	1	2	3	1	1	0	1	3	1.2	24
31	1	1	1	1	1	1	1	**S**	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1.0	24
HOURLY MAX	2	13	6	14	14	8	9	5	6	6	5	3	2	1	1	1	2	1	19	16	6	8	7	5			
HOURLY AVG	0.8	1.1	1.0	1.4	1.8	1.4	1.4	1.2	1.3	1.2	0.9	0.5	0.6	0.7	0.5	0.6	0.7	0.7	1.3	1.2	1.2	1.2	1.0	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: 481

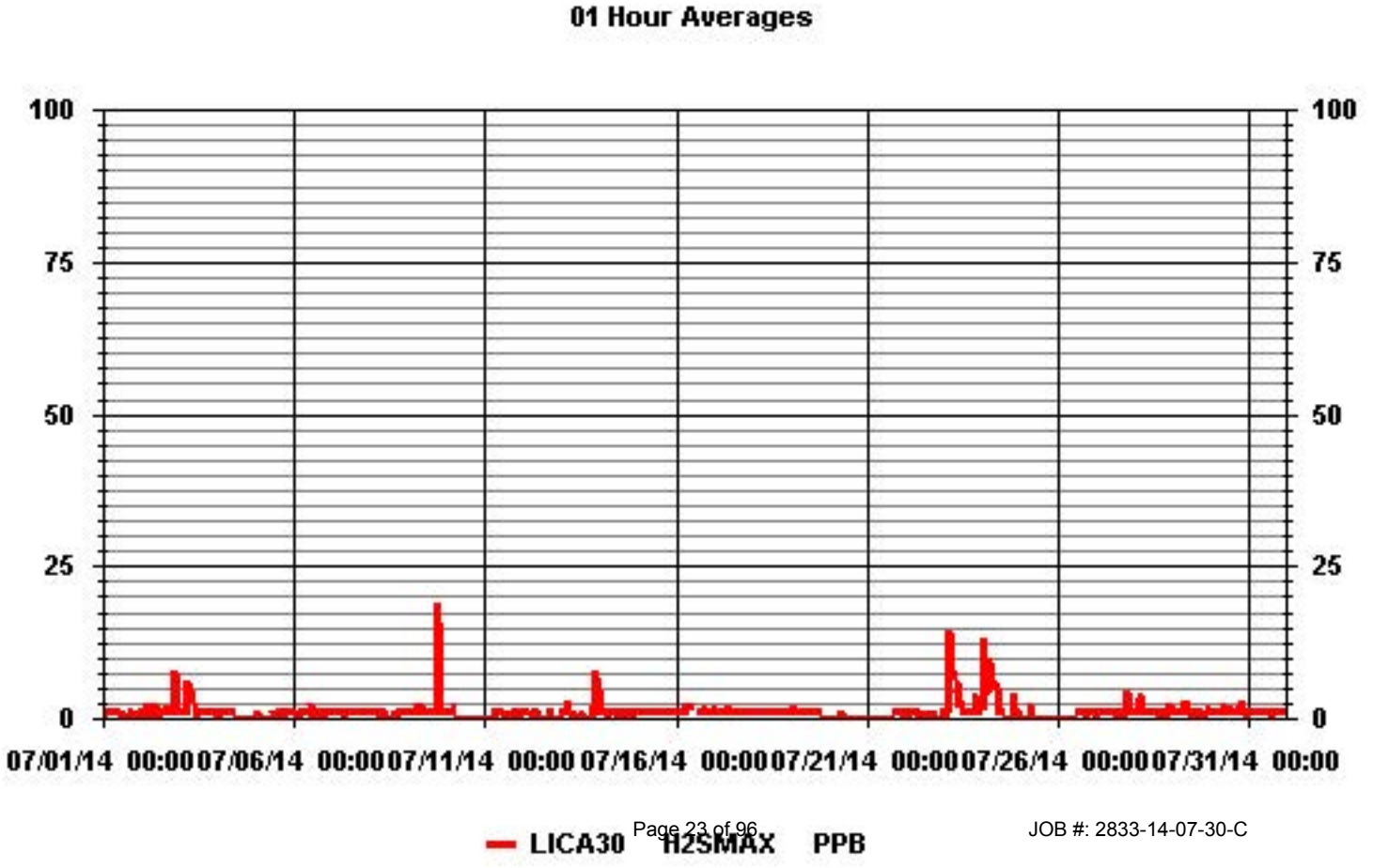
MAXIMUM INSTANTANEOUS VALUE: 19 PPB @ HOUR(S) 18 ON DAY(S) 9

VAR-VARIOUS

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 744 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION: 1.69



JOB #: 2833-14-07-30-C

LICA30
H2S_ / WDR Joint Frequency Distribution (Percent)

July 2014

Distribution By % Of Samples

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

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	3.25	4.95	3.96	2.97	3.39	2.40	9.34	7.36	13.17	16.43	6.51	4.81	4.81	6.51	4.24	2.83	97.02
< 10	.00	.00	.14	.00	.42	2.26	.00	.00	.14	.00	.00	.00	.00	.00	.00	.00	2.97
< 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.25	4.95	4.10	2.97	3.82	4.67	9.34	7.36	13.31	16.43	6.51	4.81	4.81	6.51	4.24	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
< 3	23	35	28	21	24	17	66	52	93	116	46	34	34	46	30	20	685
< 10			1		3	16			1								21
< 50																	
>= 50																	
Totals	23	35	29	21	27	33	66	52	94	116	46	34	34	46	30	20	

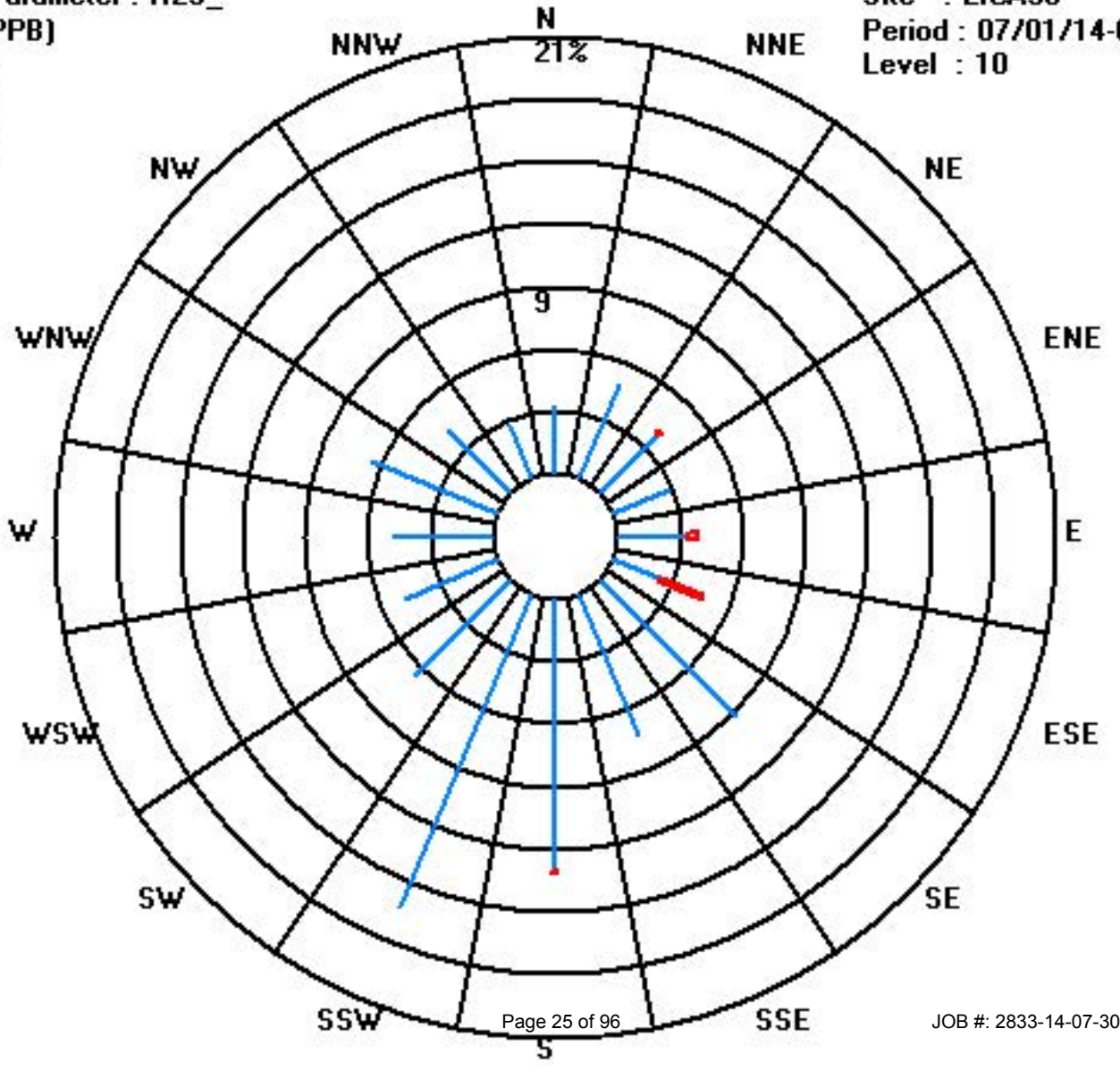
Calm : .00 %

Total # Operational Hours : 706

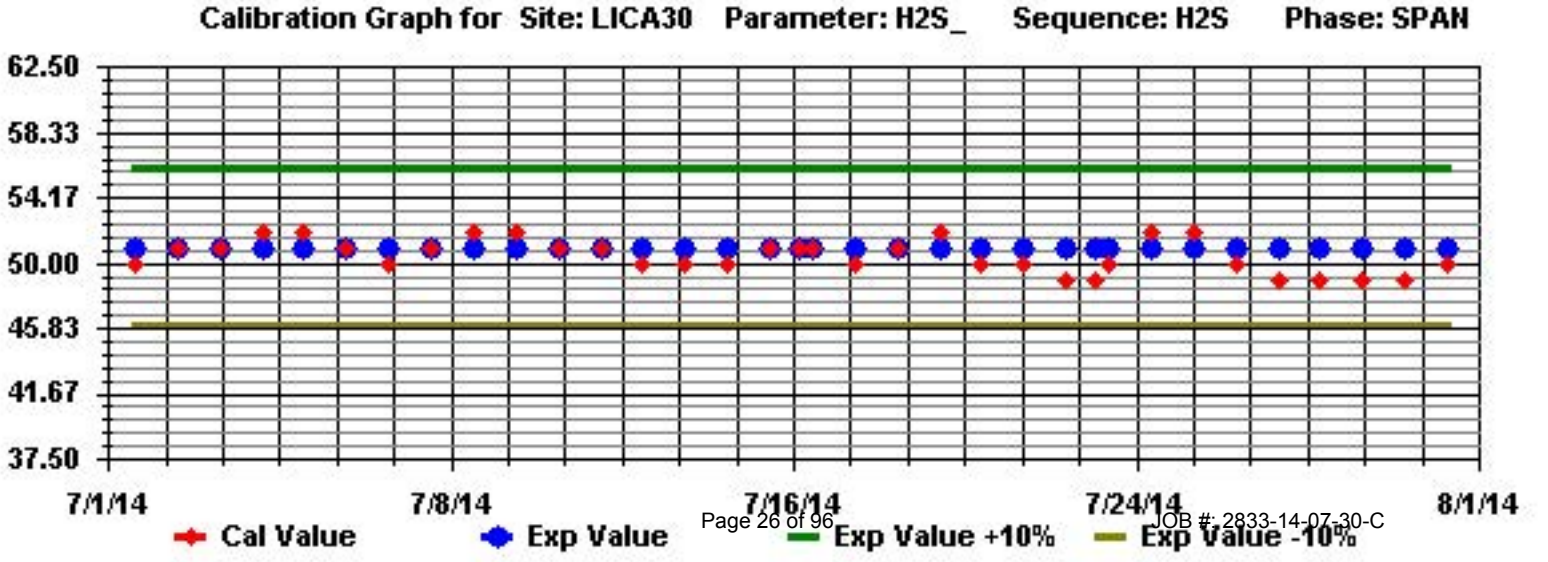
Logger : 30 Parameter : H2S_
Class Limits (PPB)

>= 50
< 50
< 10
< 3

Site : LICA30
Period : 07/01/14-07/31/14
Level : 10



JOB #: 2833-14-07-30-C


Calibration Graph for Site: LICA30 Parameter: H2S_ Sequence: H2S Phase: SPAN
62.50
58.33
54.17
50.00
45.83
41.67
37.50
7/1/14
7/8/14
7/16/14
7/24/14
8/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Hydrocarbons

Lakeland Industry & Community Association - Maskwa Site

JULY 2014

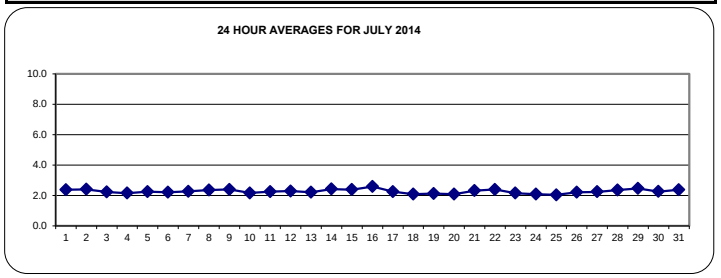
TOTAL HYDROCARBONS (THC) hourly averages in ppm

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

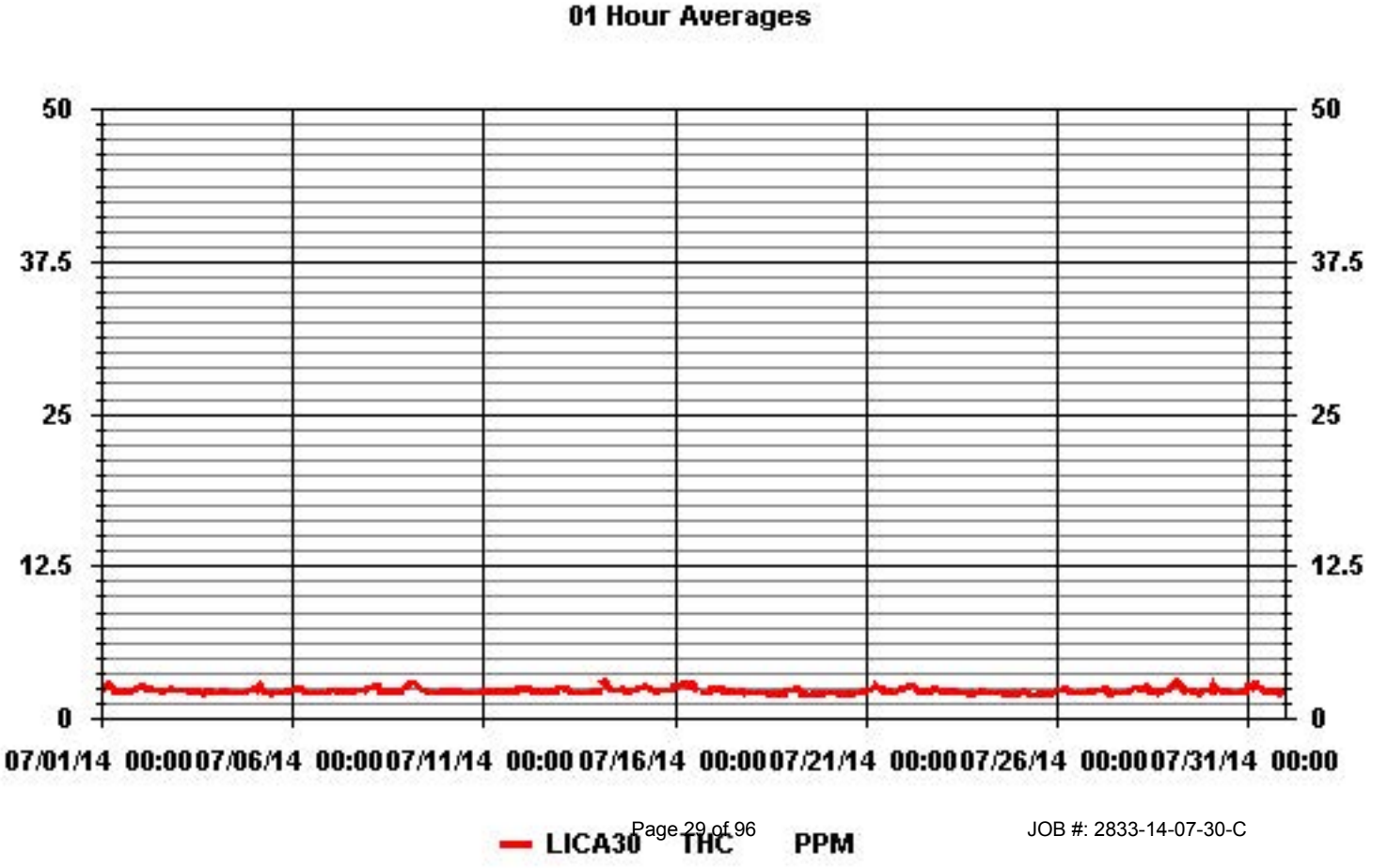
STATUS FLAG CODES

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



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	708					
MAXIMUM 1-HR AVERAGE:	3.1	PPM	@ HOUR(S)	VAR	ON DAY(S)	14, 29
MAXIMUM 24-HR AVERAGE:	2.6	PPM			ON DAY(S)	16
				VAR-VARIOUS		
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		744	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	0.21		MONTHLY AVERAGE:		2.27	PPM



JOB #: 2833-14-07-30-C

Lakeland Industry & Community Association - Maskwa Site

JULY 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	2.4	2.5	2.6	2.7	2.9	2.9	2.8	2.8	2.4	2.2	2.2	2.2	2.2	2.2	**S**	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.6	2.9	2.4	24
2	2.7	2.7	2.8	2.8	2.6	2.6	2.6	2.5	2.5	2.4	2.3	2.3	2.3	**S**	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.3	2.3	2.8	2.5	24
3	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	**S**	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.4	2.3	24
4	2.1	2.2	2.3	2.2	2.3	2.3	2.2	2.2	2.2	2.2	2.2	**S**	2.2	2.2	2.2	2.1	2.2	2.1	2.1	2.2	2.3	2.3	2.4	2.5	2.5	2.2	24
5	2.5	2.9	2.6	2.9	2.7	2.6	2.2	2.2	2.1	2.2	**S**	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.1	2.2	2.2	2.3	2.4	2.4	2.9	2.3	24
6	2.4	2.4	2.4	2.4	2.4	2.6	2.6	2.3	2.3	**S**	2.2	2.1	2.1	2.2	2.2	2.1	2.1	2.2	2.2	2.2	2.3	2.2	2.2	2.3	2.6	2.3	24
7	2.4	2.5	2.7	2.4	2.4	2.4	2.5	***4.9***	**S**	2.2	2.3	2.3	3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.5	2.5	2.4	2.5	***4.9***	2.5	24
8	2.5	2.6	2.6	2.9	2.8	2.8	2.9	**S**	2.3	2.3	2.4	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.4	2.5	2.9	2.4	24
9	2.7	2.8	3	3	3	2.9	**S**	2.7	2.7	2.5	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.2	3	2.4	24
10	2.3	2.4	2.4	2.4	2.3	**S**	2.2	2.2	2.3	2.3	2.1	2.1	2.1	2.2	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.2	2.3	2.3	2.4	2.2	24
11	2.3	2.3	2.3	2.3	**S**	2.4	2.4	2.4	2.3	2.3	2.2	2.3	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.4	2.6	2.7	2.7	2.3	24
12	2.6	2.6	2.5	**S**	2.6	2.5	2.3	2.3	2.2	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.4	2.4	2.4	2.5	2.6	2.3	24
13	2.6	2.6	**S**	2.7	2.7	2.6	2.5	2.2	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.4	2.3	2.7	2.3	24
14	2.7	**S**	3.5	3.4	3.8	3.2	3.2	2.5	2.4	2.4	2.4	2.3	2.3	2.5	2.4	2.5	2.2	2.2	2.2	2.2	2.3	2.3	2.4	2.5	3.8	2.6	24
15	**S**	2.5	2.5	2.6	2.6	2.6	2.6	2.6	2.5	2.5	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.5	**S**	2.6	2.4	24
16	2.6	2.6	2.7	2.8	2.8	2.9	2.9	2.9	2.9	2.8	2.9	3.3	2.7	2.5	**C**	**C**	**C**	**C**	**C**	2.2	2.2	2.2	**S**	2.4	3.3	***2.7***	24
17	2.5	2.5	2.5	2.5	2.5	2.6	2.5	2.3	2.4	2.3	2.3	2.3	2.2	2.2	2.2	2.1	2.2	2.2	2.3	2.3	2.2	**S**	2.1	2.2	2.6	2.3	24
18	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2	2	2.1	2.1	2	2	2.2	**S**	2.2	2.3	2.3	2.3	2.1	24
19	2.3	2.4	2.4	2.3	2.5	2.5	2.4	2.4	2.2	2.1	2.2	2.1	2	2	2	2	2	2	2.1	**S**	2	2.1	2.1	2.2	2.5	2.2	24
20	2.2	2.2	2.3	2.1	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**	2.1	2.1	2.2	2.2	2.2	2.3	2.1	24
21	2.4	2.4	2.4	2.5	2.5	3	3.1	2.9	2.6	2.6	2.4	2.5	2.2	2.2	2.2	2.2	2.2	**S**	2.2	2.2	2.2	2.3	2.4	2.5	3.1	2.4	24
22	2.6	2.6	2.7	2.8	2.8	2.8	3	2.4	2.3	2.3	2.2	2.3	2.3	2.3	2.3	2.3	**S**	2.4	2.4	2.5	2.4	2.4	2.3	2.3	3	2.5	24
23	2.3	2.3	2.3	2.3	2.4	2.4	2.3	2.3	2.2	2.3	2.2	2.2	2.1	2.2	2.2	**S**	2.1	2.1	2	2.1	2.2	2.2	2.1	2.3	2.4	2.2	24
24	2.3	2.4	2.3	2.3	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.1	2.1	2.2	**S**	2.1	2	2	2	2.1	2.1	2	2	2.1	2.4	2.2	24
25	2.1	2.2	2.2	2.3	2.2	2.2	2.2	2.1	2	2	1.9	2	2	**S**	2	2	2	2	2	2	2.1	2.1	2.2	2.3	2.3	2.1	24
26	2.3	2.4	2.4	2.4	2.4	2.5	2.5	2.3	2.2	2.2	2.1	2.1	**S**	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.5	2.5	2.2	24
27	2.5	2.5	2.4	2.4	2.4	2.5	2.5	2.6	2.7	2.2	2.3	**S**	2.2	2.1	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.3	2.4	2.6	2.7	2.3	24
28	2.8	2.6	3.1	2.6	2.4	2.5	2.6	2.7	2.7	2.5	**S**	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.4	2.4	2.5	2.5	3.1	2.4	24
29	3	3.2	3.2	3.5	3.3	3	2.8	2.8	2.4	**S**	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.5	2.3	2.6	3.5	2.6	24
30	2.5	3.3	2.8	2.5	2.7	2.5	2.4	2.3	**S**	2.3	2.2	2.3	2.2	2.3	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.3	2.9	3.3	2.4	24
31	3.2	3.8	2.7	3.1	2.9	3.2	3	**S**	2.5	2.5	2.4	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.5	2.4	2.2	2.1	3.8	2.5	24
HOURLY MAX	3	4	4	4	4	3	3	5	3	3	3	3	3	3	2	3	2	2	2	3	3	3	3	3			
HOURLY AVG	2.5	2.6	2.6	2.6	2.6	2.6	2.5	2.5	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.4			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 707

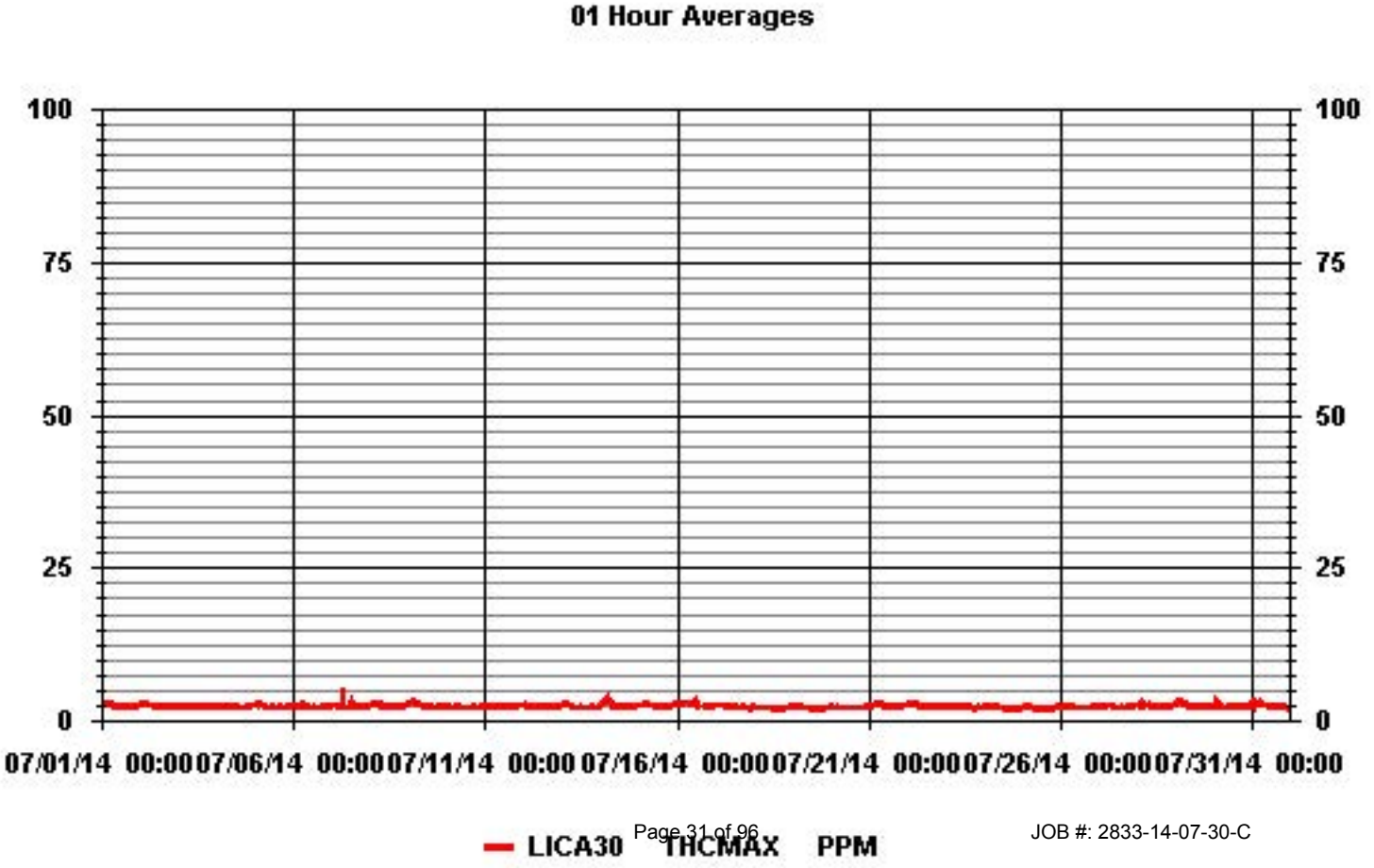
MAXIMUM INSTANTANEOUS VALUE: 4.9 PPM @ HOUR(S) 7 ON DAY(S) 7

VAR-VARIOUS

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 744 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION: 0.28



JOB #: 2833-14-07-30-C

LICA30
THC / WDR Joint Frequency Distribution (Percent)

July 2014

Distribution By % Of Samples

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

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	3.10	4.37	4.09	2.82	3.81	4.66	9.32	7.34	13.41	16.66	6.49	4.80	4.80	6.21	4.23	2.82	99.01
< 10.0	.00	.28	.00	.14	.00	.14	.00	.00	.14	.00	.00	.00	.00	.28	.00	.00	.98
< 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.10	4.66	4.09	2.96	3.81	4.80	9.32	7.34	13.55	16.66	6.49	4.80	4.80	6.49	4.23	2.82	

Calm : .00 %

Total # Operational Hours : 708

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	22	31	29	20	27	33	66	52	95	118	46	34	34	44	30	20	701
< 10.0		2		1		1			1					2			7
< 50.0																	
>= 50.0																	
Totals	22	33	29	21	27	34	66	52	96	118	46	34	34	46	30	20	

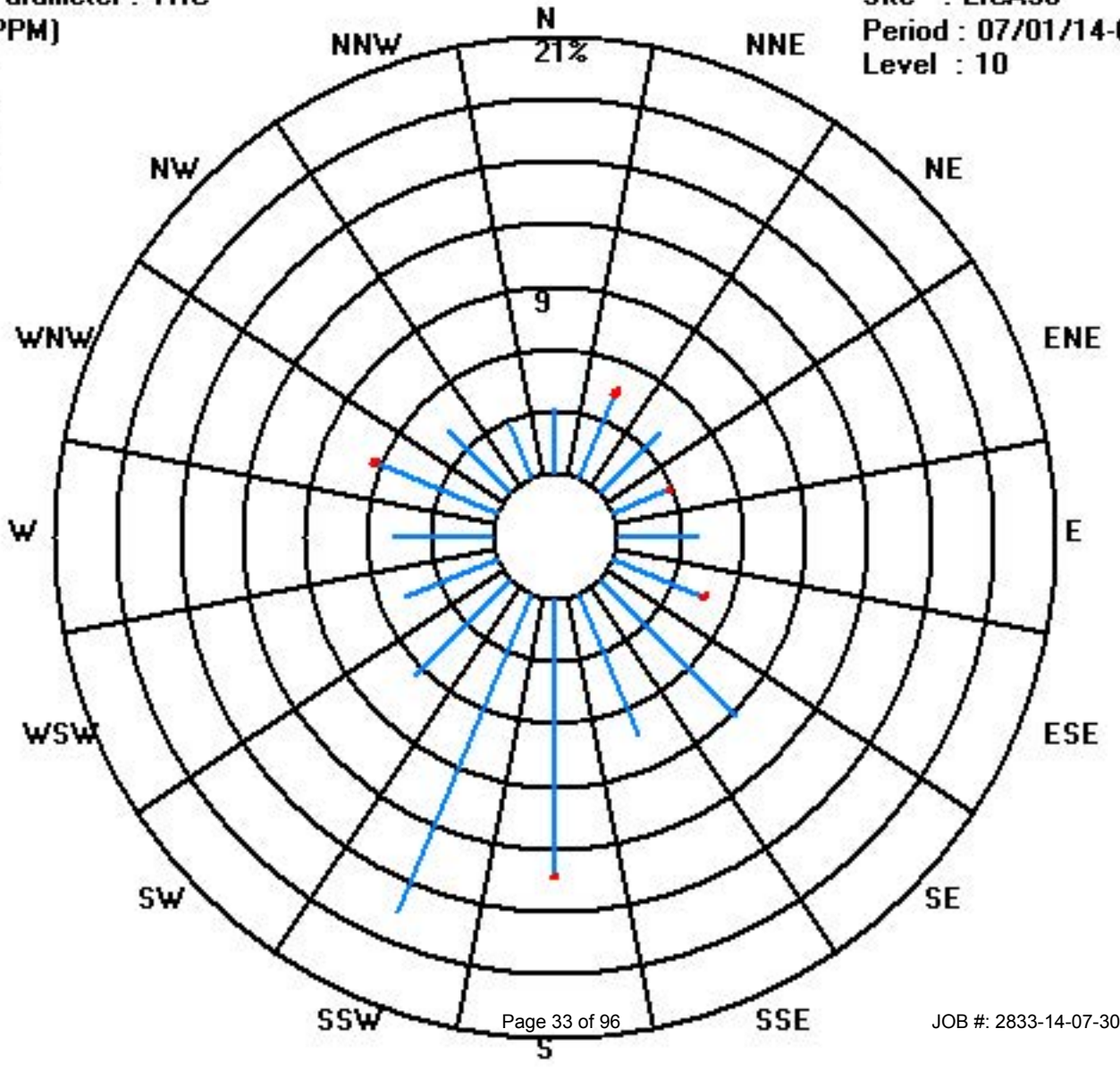
Calm : .00 %

Total # Operational Hours : 708

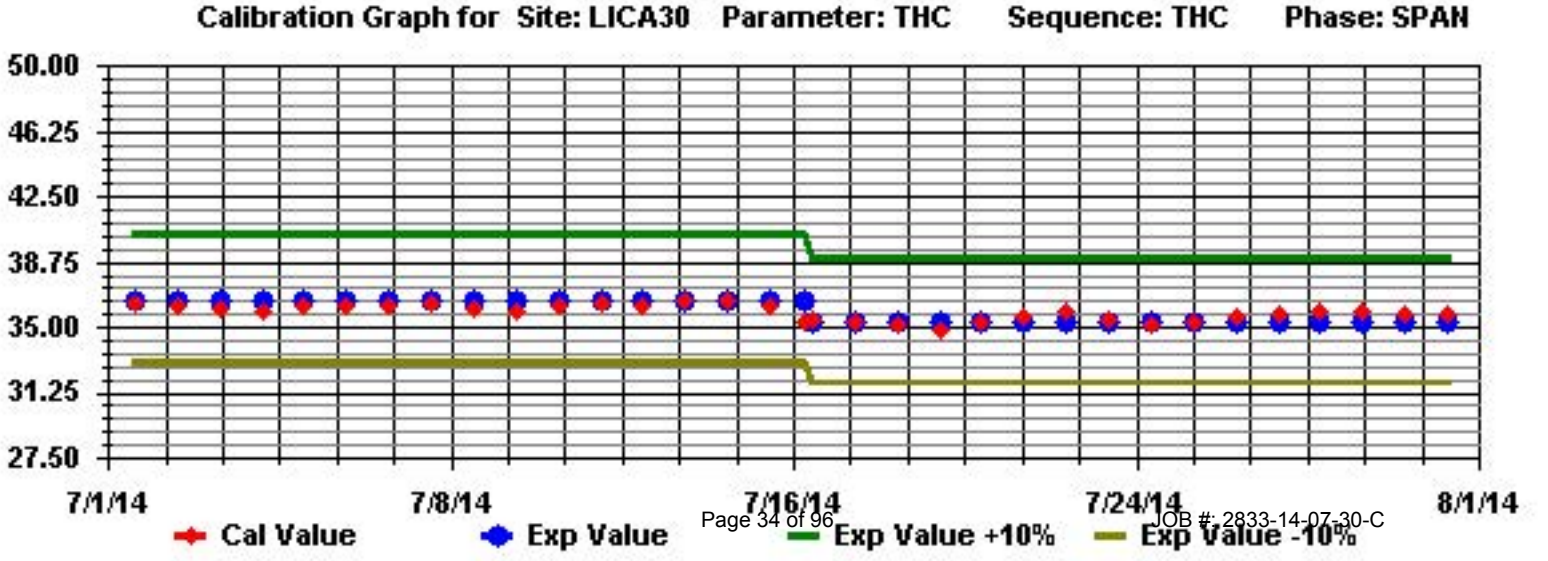
Logger : 30 Parameter : THC
Class Limits (PPM)

>= 50.0
< 50.0
< 10.0
< 3.0

Site : LICA30
Period : 07/01/14-07/31/14
Level : 10



JOB #: 2833-14-07-30-C


Calibration Graph for Site: LICA30 Parameter: THC Sequence: THC Phase: SPAN
50.00
46.25
42.50
38.75
35.00
31.25
27.50
7/1/14
7/8/14
7/16/14
7/24/14
8/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitrogen Dioxide

Lakeland Industry & Community Association - Maskwa Site

JULY 2014

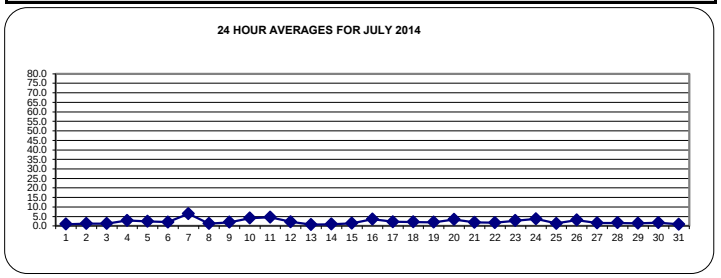
NITROGEN DIOXIDE (NO2) hourly averages in ppb

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	1	0.9	0.8	0.6	1.2	1.2	1	1	0.8	0.4	0.5	0.8	1.2	1.1	**S**	0.7	1.8	2.2	1.1	0.7	0.8	0.6	0.6	0.4	2.2	0.9	24
2	0.4	0.6	0.1	0	1.6	1	0.9	2.2	6.4	5.4	0.9	0.7	0.7	**S**	0.5	0.9	0.9	1.5	0.4	0.4	1.3	0.7	0.2	0.5	6.4	1.2	24
3	0.5	0.6	0.7	0.6	0.7	1.8	1.7	1.8	2.2	2.6	2	0.3	**S**	0.3	0.5	0.5	0.6	0.6	0.7	0.8	1.5	0.7	1.5	4.6	4.6	1.2	24
4	1.7	1.9	2.4	12.8	11.9	9.8	3.9	4.8	0.7	4.3	2.4	**S**	2.8	2.4	1.4	0.9	0	0	0	0	0	0	0.8	1.5	12.8	2.9	24
5	2.5	2.1	0.4	2.5	0.9	2.5	4.1	3.4	2.3	3.3	**S**	4.2	7.3	4.6	1.5	1.1	1.2	1.2	1.3	1.6	1.3	1.6	2.3	3.3	7.3	2.5	24
6	1.9	2.4	3.8	3.4	3.2	4.3	4.7	3.6	3	**S**	0.6	0	0.3	0	4.3	2.1	0.1	0.1	2.7	0.8	0	0.3	2.5	2.9	4.7	2.0	24
7	6.7	9.8	9.9	7.5	6.2	7	10.7	6.6	**S**	2.7	1.8	3.6	2.8	4.8	5	3.9	8.7	5.1	6.3	7.6	12	13.3	3	1.7	13.3	***6.4***	24
8	0.8	0.7	0.6	0.5	1.8	1.1	8.2	**S**	0.7	0.8	1.4	1.4	1.2	1.1	0.7	1.2	0.8	0.9	0.6	0.8	0.8	0.9	1.1	1.9	8.2	1.3	24
9	3	3.3	3.3	3.4	3	3.2	**S**	3.1	2.8	2	1.6	1	1	0.6	0.6	0.5	0.7	0.9	2.6	3.2	2.2	1.1	0.4	0.8	3.4	1.9	24
10	0.7	7.4	13.6	7.3	4	**S**	2	2	2.3	2	1.2	1.1	1.2	1.4	1.7	1.3	3.6	6.4	2.4	3	0.7	3.3	14.1	11.3	14.1	4.1	24
11	10.4	16.2	***16.7***	15	**S**	3.8	6.8	6.5	2.9	3.2	1.6	2.3	0	1.5	0.6	0.6	0.4	0.5	0.4	0.2	1.6	4	4.7	4.3	***16.7***	4.5	24
12	3.8	10.7	5.5	**S**	4.4	1.1	0.8	0.4	0.3	1.8	2.3	2.1	0.8	1	1.3	1	0.8	1.2	1.7	1.9	1.8	1.6	1.6	1.6	10.7	2.2	24
13	1.8	1.7	**S**	1.4	1.2	1	1.4	0.1	0	0	0	1.6	0.5	0.6	1.1	0.5	0	0	0	0.3	0.9	0.3	0	0.3	1.8	0.6	24
14	0.1	**S**	0.9	0.7	0.2	0.3	1.6	1.8	1.2	1.6	1.1	0.6	0.5	0.7	0.6	1	0.5	0.5	0.5	0.2	0.9	0.9	2	3.4	3.4	0.9	24
15	**S**	1.9	1.9	1.8	1.9	2.1	2.5	2.2	3	1.7	1.6	1.6	0.8	1	0.6	1.3	0.8	0.6	0.5	0.6	0.8	1.1	1.3	**S**	3	1.4	24
16	2	2	2.6	2.5	3	4.3	6	6.7	10.5	6.7	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0.7	0.3	1	0.8	0.9	**S**	7.1	10.5	3.6	24
17	3.4	1.8	3.5	4.9	2.8	2.5	2.7	1.7	3.3	3.4	2.5	0.7	2.5	5.7	2.8	0.7	0.4	1.1	1.4	2.2	0.2	**S**	0	0	5.7	2.2	24
18	9.1	8.4	7.8	0.2	1.6	1.7	0.7	2	1.7	3.2	1.9	1.7	0.5	0.1	1	0.9	0.5	0.2	0.5	0.7	**S**	0.8	1.6	1.3	9.1	2.1	24
19	1.5	2.1	2.1	1.4	2.8	8.2	5.7	8.3	1.9	0.7	1.1	0.7	0.6	0.5	0.3	0	0	2	1.1	**S**	0	0.5	0.4	2.1	8.3	1.9	24
20	14.7	9.7	8.2	1.1	12.1	9.8	1.5	1.6	1.5	1.7	3.8	1	0.4	0.9	1.8	2	1.4	1.4	**S**	0.3	0.4	1.1	1.3	0.6	14.7	3.4	24
21	2	1.3	0.3	0.1	0.4	0.7	1.3	5.9	7.5	3.3	1.1	1.6	1.7	1.6	1.6	1.1	1.1	**S**	1.2	1.3	1.5	2	2.5	2.8	7.5	1.9	24
22	3.3	2.7	2.7	2.2	1.7	0.8	3.2	10.2	3.5	1.4	1.3	0.9	0.9	0.7	0.7	0.7	**S**	0.2	0.3	0.6	0.5	0.3	0.2	0.4	10.2	1.7	24
23	0.5	0.2	0.2	0.2	10	6.7	7.2	2.6	4.2	4.1	3.1	1.9	0.1	0	0.4	**S**	1.4	1.2	1	1.2	2.4	1.7	1.5	12.3	12.3	2.8	24
24	10.4	3.6	12.2	9.8	2.8	1.4	7.3	5	3	4.6	3.8	1.4	1.1	2	**S**	1.6	1.8	1.8	2.1	3	3.5	1.4	1.1	1.3	12.2	3.7	24
25	1.5	1.4	1.8	1.8	2	2.5	2.3	0.8	0.8	0.6	0.6	0.5	0.4	**S**	0.6	0.6	0.6	0.5	0.6	0.6	2.6	1.8	2.6	3.2	3.2	1.3	24
26	8.8	11	6	9.1	5.6	4.7	5	2.7	0.7	0.4	0.6	0.6	**S**	1.6	1.7	1	0.8	1.1	2.3	1.4	1.7	1.7	1.6	1.5	11	3.1	24
27	1.9	2	1.4	2.4	2.1	2	4.1	5.7	7.5	3.7	1.8	**S**	0	0	0.2	0.3	0	0	0.4	1	0	0.4	0	0.2	7.5	1.6	24
28	0.1	0	0.2	2.1	1.4	1.3	2.7	3.2	3.9	1.7	**S**	2.1	1.7	1.7	1.4	1.1	1.3	1.2	1	1.1	1.5	3.5	1.7	1.5	3.9	1.6	24
29	1.4	1.2	0.8	2.5	0.5	0.8	1.6	3.6	2.5	**S**	1.5	1.2	1	1	0.9	0.8	0.8	0.7	0.9	1.1	2.2	1.6	1.4	0.9	3.6	1.3	24
30	1.1	0.8	0.7	0.8	0.7	0.7	1.1	2	**S**	3.4	3	3.8	2.5	2.1	1.8	1.4	2.3	0.7	0.5	0.7	2.5	2.3	1.4	1.8	3.8	1.7	24
31	2	1.4	1	1.3	1.1	1.4	1.3	**S**	1.6	4.8	0.7	0.6	0	0.3	0	0.5	0.7	0.2	0	0	0.1	0.4	0.2	0.4	4.8	0.9	24
HOURLY MAX	15	16	17	15	12	10	11	10	11	7	4	4	7	6	5	4	9	6	6	8	12	13	14	12			
HOURLY AVG	3.3	3.7	3.7	3.3	3.1	3.0	3.5	3.5	2.9	2.6	1.6	1.4	1.2	1.4	1.3	1.0	1.2	1.2	1.2	1.3	1.6	1.7	1.8	2.5			

STATUS FLAG CODES

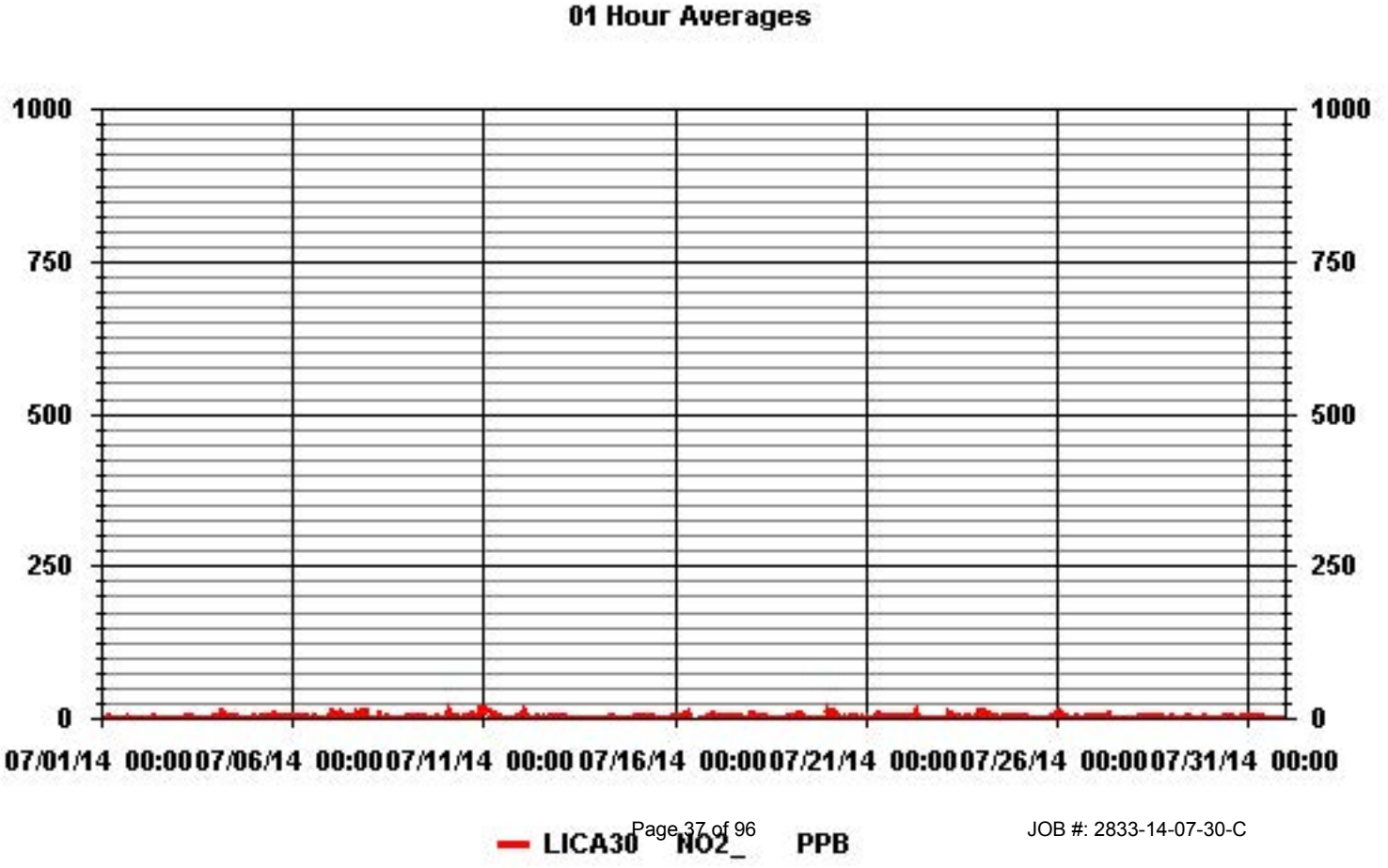
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



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

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	670					
MAXIMUM 1-HR AVERAGE:	16.7	PPB	@ HOUR(S)	2	ON DAY(S)	11
MAXIMUM 24-HR AVERAGE:	6.4	PPB			ON DAY(S) VAR-VARIOUS	7
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		744	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	2.62		MONTHLY AVERAGE:		2.21	PPB



JOB #: 2833-14-07-30-C

Lakeland Industry & Community Association - Maskwa Site

JULY 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	1.5	1.1	1.3	1.1	2	1.7	1.4	1.8	1.5	0.8	1	1.1	1.7	1.7	**S**	1.9	8	4.2	2	1.7	1.6	1.6	1.8	1.5	8	1.9	24
2	1.4	1.3	1.3	1	2.7	1.6	1.5	4.6	9.7	10	2	1.7	1.7	**S**	1.3	2.7	2.7	6.3	1.4	1.4	4.3	2	1.2	1.4	10	2.8	24
3	1.5	1.4	1.8	1.6	1.6	3.2	2.9	2.4	3.3	3.3	4.3	1.2	**S**	0.9	1.2	1.5	1.2	1.4	1.5	1.8	2.9	1.7	13.5	18.9	18.9	3.3	24
4	5.4	8.6	14.6	20.7	18.7	18.1	15.1	12.4	2.1	8.6	10.1	**S**	10	6	3.8	3	1	0.7	0.7	0.7	0.9	0.8	3.3	3.3	20.7	7.3	24
5	4.1	5.2	1.6	6.2	2.7	5.1	5.4	4.4	4.1	6.5	**S**	7.8	8.2	7.8	1.6	1.1	1.2	1.2	1.3	1.4	1.6	1.5	2.6	3.5	8.2	3.7	24
6	1.9	2.8	5.4	4.8	3.1	4.3	4.6	3.1	3.7	**S**	1.1	0.9	9.7	0.8	11.4	4.9	1.2	1.6	8.3	3.2	1	3.5	4.6	7.6	11.4	4.1	24
7	13.6	16.8	20.9	16.9	13.4	9.2	16.2	13.6	**S**	8.2	6.8	19.5	7.2	12.1	11.5	8.2	20.4	8.2	11.7	9.8	20.2	22.8	5.8	3.1	22.8	***12.9***	24
8	1.8	1.7	1.4	1.5	7.9	7.4	***37.1***	**S**	1.7	1.4	2.3	2.5	3.4	3	1.6	3.3	1.4	1.8	1.5	1.6	1.7	1.8	2.2	2.8	***37.1***	4.0	24
9	3.9	5.4	4.7	4.1	3.9	4.1	**S**	3.5	3.4	2.9	2.2	2.2	2.1	1.5	1.4	1.4	2.5	2.2	7.2	6.3	5.3	3.1	1.5	1.8	7.2	3.3	24
10	2.6	14.2	18	16.7	9.2	**S**	2	2	2	2.9	1.4	1	1.3	1.5	1.3	1.1	7.5	12.8	5.8	6.1	0.8	9.8	15.4	18.9	18.9	6.7	24
11	17.3	17.9	17.8	18.9	**S**	10	11.5	12	7	6.9	4.3	7	1.1	3.7	2.3	1.5	1.2	1.2	1.2	1.4	6.2	7.4	5.7	5.2	18.9	7.3	24
12	9.2	19	10.8	**S**	9.2	1.8	2.1	1.8	1.9	4.6	5.2	6.5	1.5	1.8	2.2	2	1.8	2.3	2.6	2.8	2.6	2.5	2.6	2.8	19	4.3	24
13	2.6	2.4	**S**	2.2	2.3	2.3	2.5	1.2	0.8	0.6	0.9	4.8	1.9	3.8	2.9	1.8	0.9	1	1	1.1	2.2	1.8	1.1	1	4.8	1.9	24
14	0.9	**S**	1.8	1.6	1.1	1.1	2.6	2.5	1.9	11.1	2	1.7	1.4	2	1.6	2.2	1.5	1.2	1.5	1.2	2.2	2	3.9	5	11.1	2.3	24
15	**S**	2.7	2.6	2.6	2.6	3.2	3.6	2.9	17.7	3.3	7.6	2.4	2	2.6	1.6	10.6	1.7	1.6	1.4	1.6	1.5	2	2.1	**S**	17.7	3.6	24
16	2.9	3.1	4.1	4	4.2	6.2	9.4	8.7	14.1	8.8	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1.3	1.2	1.6	1.7	1.8	**S**	8.8	14.1	5.1	24
17	5.7	3.5	5	5.8	4.5	4	3.8	2.3	8.4	7	3.5	1.6	7.7	11	4.4	2.5	1.4	2.5	3.7	4.1	1.7	**S**	0.4	0.7	11	4.1	24
18	22.2	17.3	17.8	1.7	3.8	7.4	5.9	10.4	6.4	7	5	6.5	2.1	1.4	2.4	2.1	1.5	1	1.6	1.6	**S**	1.8	2.3	2.2	22.2	5.7	24
19	2.3	3.6	3.2	2.4	7.9	11.1	12	14.5	3.2	2.6	2.4	1.7	1.2	1.7	1.4	0.8	0.7	8.8	5.3	**S**	1.2	1.6	1.4	10.4	14.5	4.4	24
20	17.4	18.1	16.9	2.6	21.2	22.1	3	2.3	7.7	6.4	11.2	4.3	1.6	6.9	7.1	4.7	3.2	3.1	**S**	1	1.4	2.9	2.2	1.7	22.1	7.3	24
21	7.2	3.2	1.4	1	3	2.2	3.4	7.8	9.8	10.2	2.5	2.3	2.8	2.4	2.5	2.2	1.9	**S**	1.6	1.7	1.7	2.4	3.2	3.4	10.2	3.5	24
22	4	3.7	3.4	3.5	3.4	1.6	6.8	18.7	6.4	3.4	2	1.6	1.3	1.3	1.2	1.3	**S**	1	1.2	1.6	1.3	1.4	1.2	1.5	18.7	3.2	24
23	1.4	1	1	3.3	17.2	15.9	10.2	6.6	6.4	7.9	6.8	6.1	0.9	0.9	1.2	**S**	1.3	1	0.7	1.5	4.8	2.8	4.6	13.8	17.2	5.1	24
24	14.1	10.9	12.8	12.3	4.1	1.4	7.9	7.9	6.1	6.2	6.7	1.2	1	4.5	**S**	1.4	1.8	1.5	2.4	3.5	8.7	1.5	1.2	1.6	14.1	5.2	24
25	2.2	2.1	1.6	1.6	2.1	2.4	2.8	0.9	0.6	0.5	0.6	0.5	0.5	**S**	0.4	0.5	0.5	0.3	0.4	0.4	4.3	2	3.4	5	5	1.5	24
26	11.8	13.1	8	10.6	7	5.2	7.5	4.3	0.6	0.4	0.5	0.4	**S**	1.4	1.6	1.4	0.8	1	5.6	1.4	1.4	2	3.1	1.4	13.1	3.9	24
27	2	2.4	1.4	3.3	2.5	1.8	4.9	6.9	8.7	7.6	1.7	**S**	0.7	0.9	1.2	1.1	0.9	0.6	3.2	2.5	0.9	2.5	1.1	1	8.7	2.6	24
28	1.1	0.8	1.3	4.9	2.4	2.5	6.5	5.5	4.3	3.2	**S**	11.2	1.6	1.8	1.6	1.1	1.2	1	0.9	0.9	2.8	3.9	1.6	1.3	11.2	2.8	24
29	1.2	1.1	3.1	7.5	0.6	0.9	1.4	4.7	3.2	**S**	1.2	1.1	0.9	0.8	0.6	0.6	0.5	0.7	0.6	1.4	2.6	1.7	1.6	1.2	7.5	1.7	24
30	1.3	0.8	0.9	0.7	0.5	0.7	3	3.1	**S**	5.9	4.5	4.8	2.6	2.9	4	1.9	4.2	0.8	0.6	0.6	3.3	2.5	1.5	2.6	5.9	2.3	24
31	2.4	1.3	1	1.2	1.5	1.2	3	**S**	3.1	8.4	3.3	2	1.4	1.1	0.9	1.7	1.8	1.6	0.8	0.6	3.1	3.1	1.1	1.2	8.4	2.0	24
HOURLY MAX	22	19	21	21	21	22	37	19	18	11	11	20	10	12	12	11	20	13	12	10	20	23	15	19			
HOURLY AVG	5.6	6.2	6.2	5.5	5.5	5.3	6.7	6.0	5.2	5.4	3.7	3.8	2.8	3.2	2.7	2.4	2.6	2.5	2.6	2.2	3.2	3.3	3.2	4.5			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 705

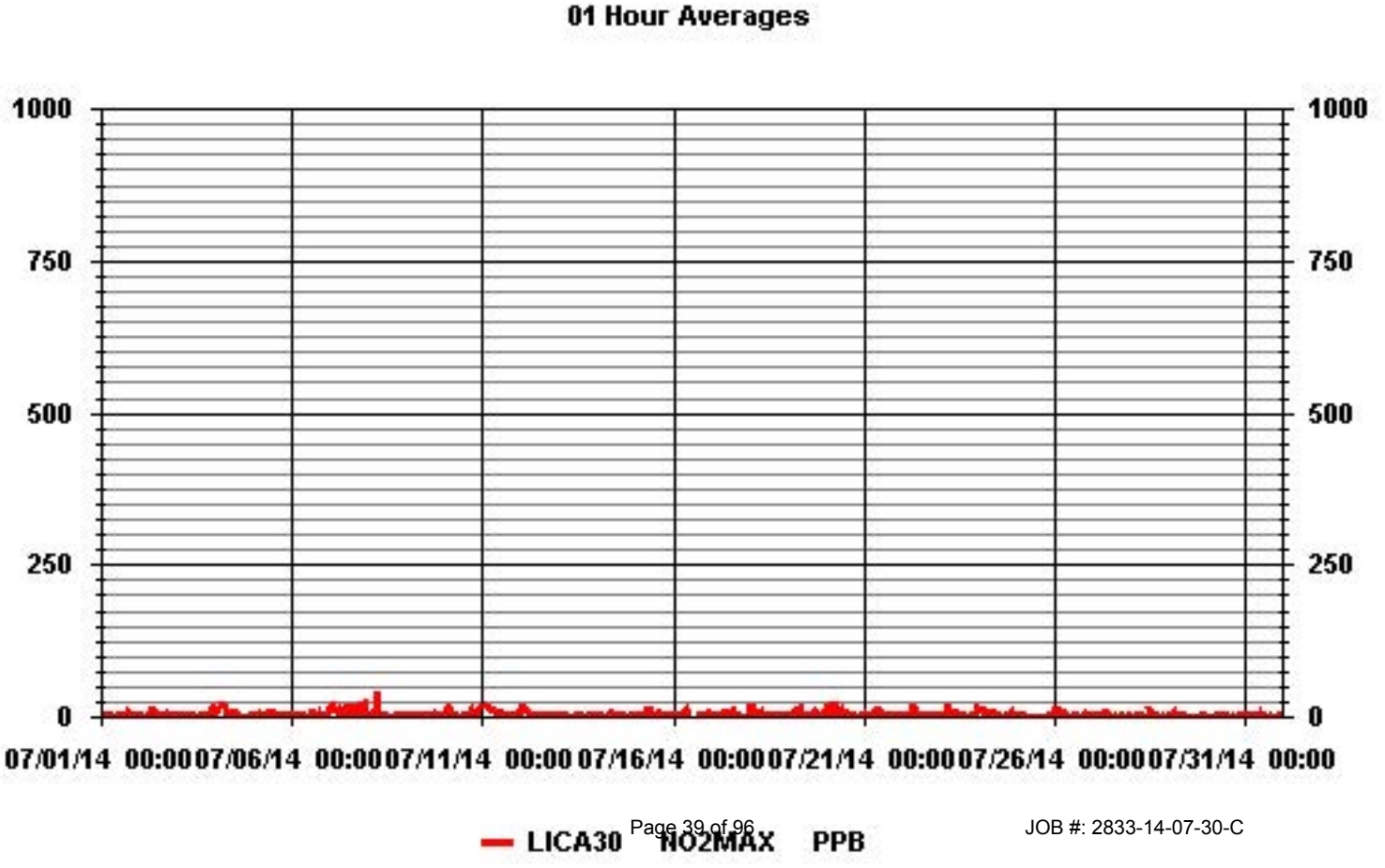
MAXIMUM INSTANTANEOUS VALUE: 37.1 PPB @ HOUR(S) 6 ON DAY(S) 8

VAR-VARIOUS

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 744 HRS

MONTHLY CALIBRATION TIME: 7 HRS

STANDARD DEVIATION: 4.57



JOB #: 2833-14-07-30-C

LICA30
NO2_ / WDR Joint Frequency Distribution (Percent)

July 2014

Distribution By % Of Samples

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

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	3.12	4.82	4.11	2.97	3.82	4.82	9.36	7.37	13.33	16.45	6.52	4.82	4.82	6.52	4.25	2.83	100.00
<	110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	3.12	4.82	4.11	2.97	3.82	4.82	9.36	7.37	13.33	16.45	6.52	4.82	4.82	6.52	4.25	2.83	

Calm : .00 %

Total # Operational Hours : 705

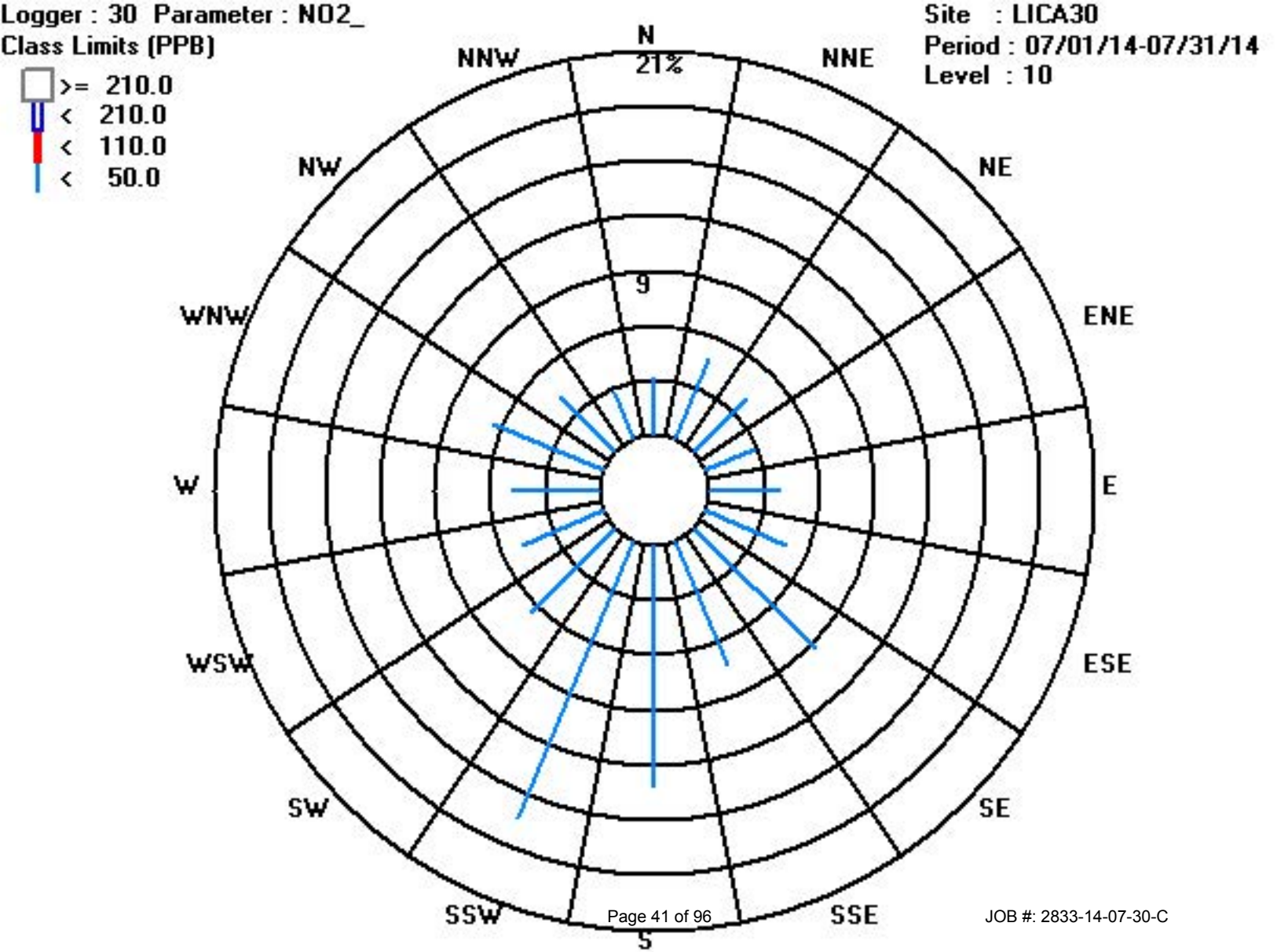
Distribution By Samples

Direction

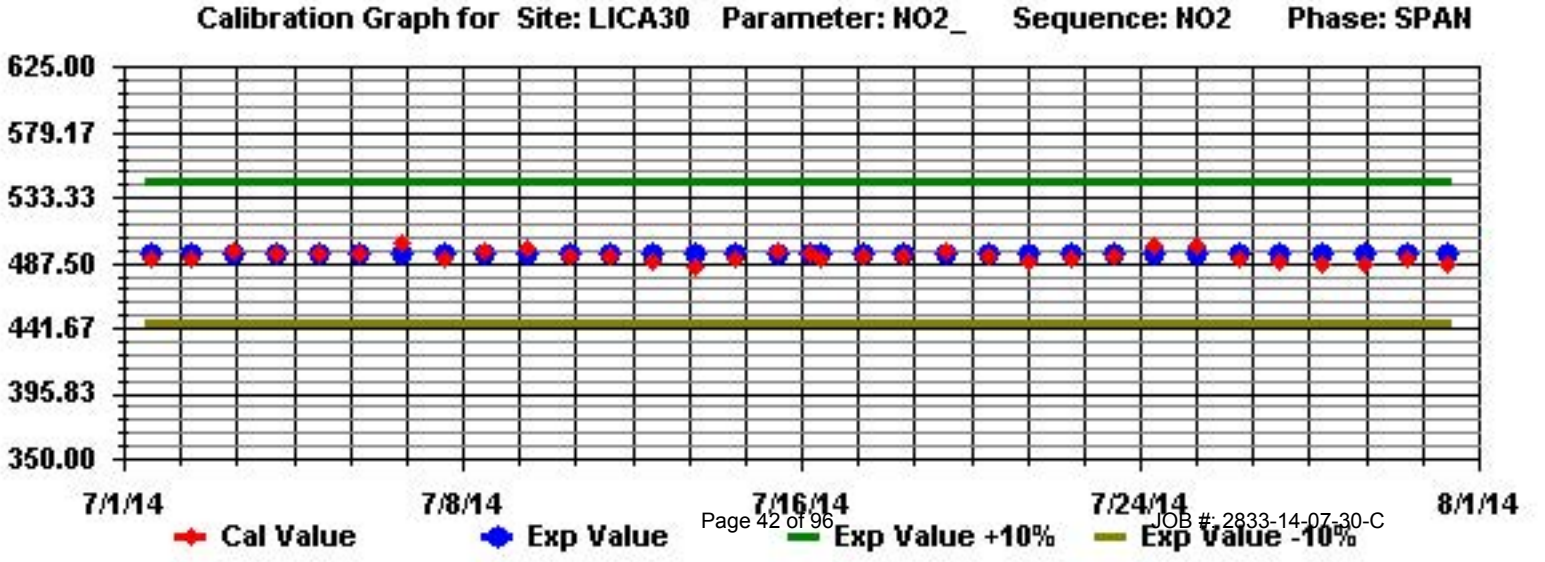
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	22	34	29	21	27	34	66	52	94	116	46	34	34	46	30	20	705
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	22	34	29	21	27	34	66	52	94	116	46	34	34	46	30	20	

Calm : .00 %

Total # Operational Hours : 705



JOB #: 2833-14-07-30-C


Calibration Graph for Site: LICA30 Parameter: NO2_ Sequence: NO2 Phase: SPAN
625.00
579.17
533.33
487.50
441.67
395.83
350.00
7/1/14
7/8/14
7/16/14
7/24/14
8/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitric Oxide

Lakeland Industry & Community Association - Maskwa Site

JULY 2014

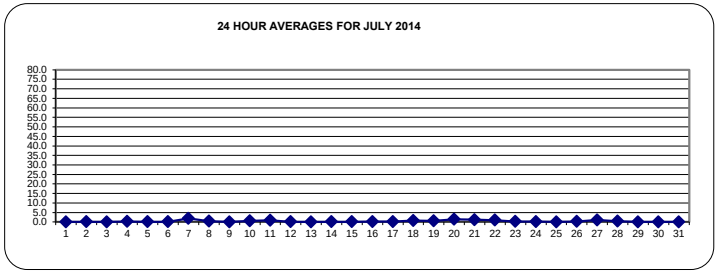
NITRIC OXIDE (NO) hourly averages in ppb

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	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	0.2	1.2	0.8	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	1.2	0.1	24
3	0	0	0	0	0	0	0	0	0	0.1	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0.1	0.0	24
4	0	0	0	0	0.7	1.7	0	1.2	0	1.6	0.5	**S**	0.6	0	0	0	0	0	0	0	0	0	0	0	1.7	0.3	24
5	0	0	0	0	0	0	0	0	0	0	**S**	0.5	1.1	0.6	0	0	0	0	0	0	0	0	0	0	1.1	0.1	24
6	0	0	0	0	0	0.4	0.9	0.3	0.1	**S**	0	0	0	0	0.7	0	0	0	0.1	0	0	0	0	0	0.9	0.1	24
7	0.6	4.9	7.5	2.4	0.9	2.3	***11.6***	4.8	**S**	0.7	0.2	1.1	0.6	1.1	1	0.2	2	0.1	0	0	0	0	0	0	***11.6***	***1.8***	24
8	0	0	0	0	0	0	9.9	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9.9	0.4	24
9	0	0	0	0	0	0	**S**	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.0	24
10	0	0.6	3.7	1	0	**S**	0	0.2	0.2	0.3	0	0	0	0	0	0	0.9	2.6	0.2	0.2	0	0	0.5	1.4	3.7	0.5	24
11	0.2	1.2	1	1.4	**S**	1.6	4.8	6	1.5	1.7	0.3	1.2	0	0	0	0	0	0	0	0	0	0	0	0	6	0.9	24
12	0	1	0	**S**	0.2	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
13	0	0	**S**	0	0	0	0	0	0	0	0	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0.6	0.0	24
14	0	**S**	0.1	0.1	0	0.1	0.4	0.3	0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.1	24
15	**S**	0	0	0	0	0	0.5	0.5	1.1	0.2	0.2	0.3	0	0	0	0	0	0	0	0	0	0	0	**S**	1.1	0.1	24
16	0	0	0	0	0	0	0.4	0.7	1.6	0.1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	**S**	0	1.6	0.2	24
17	0	0	0	0	0	0.4	0.8	0.3	1.1	0.5	0.1	0	0.1	1	0	0	0	0	0	0	0	**S**	0	0	1.1	0.2	24
18	6.1	1.9	2.1	0	0	0.2	0	1.3	0.9	1.5	0.7	0.6	0	0	0.2	0	0	0	0	0	**S**	0	0	0	6.1	0.7	24
19	0	0	0	0	0	0.3	0.9	7.6	0.5	0	0	0	0	0.3	0	0	0	1.2	0.2	**S**	0	0	0	0.1	7.6	0.5	24
20	3.1	6.2	9.6	0	3.1	4.2	0.1	0.2	0.4	0.9	2.5	0.3	0	0.4	0.8	0.7	0.5	0.3	**S**	0	0	0	0	0	9.6	1.4	24
21	0.2	0.1	0	0	0	0.4	2.5	8.1	10.2	1.7	0	0	0	0	0	0	0	**S**	0.8	0.6	0.5	0.5	0.6	0.6	10.2	1.2	24
22	0.6	0.6	0.8	1	1	1.3	3.4	5.8	1.8	0.9	0.8	0.8	0.7	0.9	0.7	0.8	**S**	0	0	0	0	0	0	0	5.8	1.0	24
23	0	0	0	0	0	0	0.9	0.4	0.9	1.3	1.2	0.5	0	0	0	**S**	0	0	0	0	0	0	0	0.6	1.3	0.3	24
24	0.5	0	0.7	0.5	0	0	1.5	0.7	0	0.1	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	1.5	0.2	24
25	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0.0	24
26	0	0.6	0	0.9	0.1	1.3	3.2	0.4	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	3.2	0.3	24
27	0	0	0	0	0	0.8	2.7	7.2	11.4	1.3	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	11.4	1.0	24
28	0	0	0	0	0	0.1	2.5	2.9	2.3	0.1	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	2.9	0.3	24
29	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
30	0	0	0	0	0	0	0	0	**S**	0.6	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0.6	0.0	24
31	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
HOURLY MAX	6	6	10	2	3	4	12	8	11	2	3	1	1	1	1	1	2	3	1	1	1	1	1	1			
HOURLY AVG	0.4	0.6	0.9	0.2	0.2	0.5	1.6	1.7	1.2	0.5	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1			

STATUS FLAG CODES

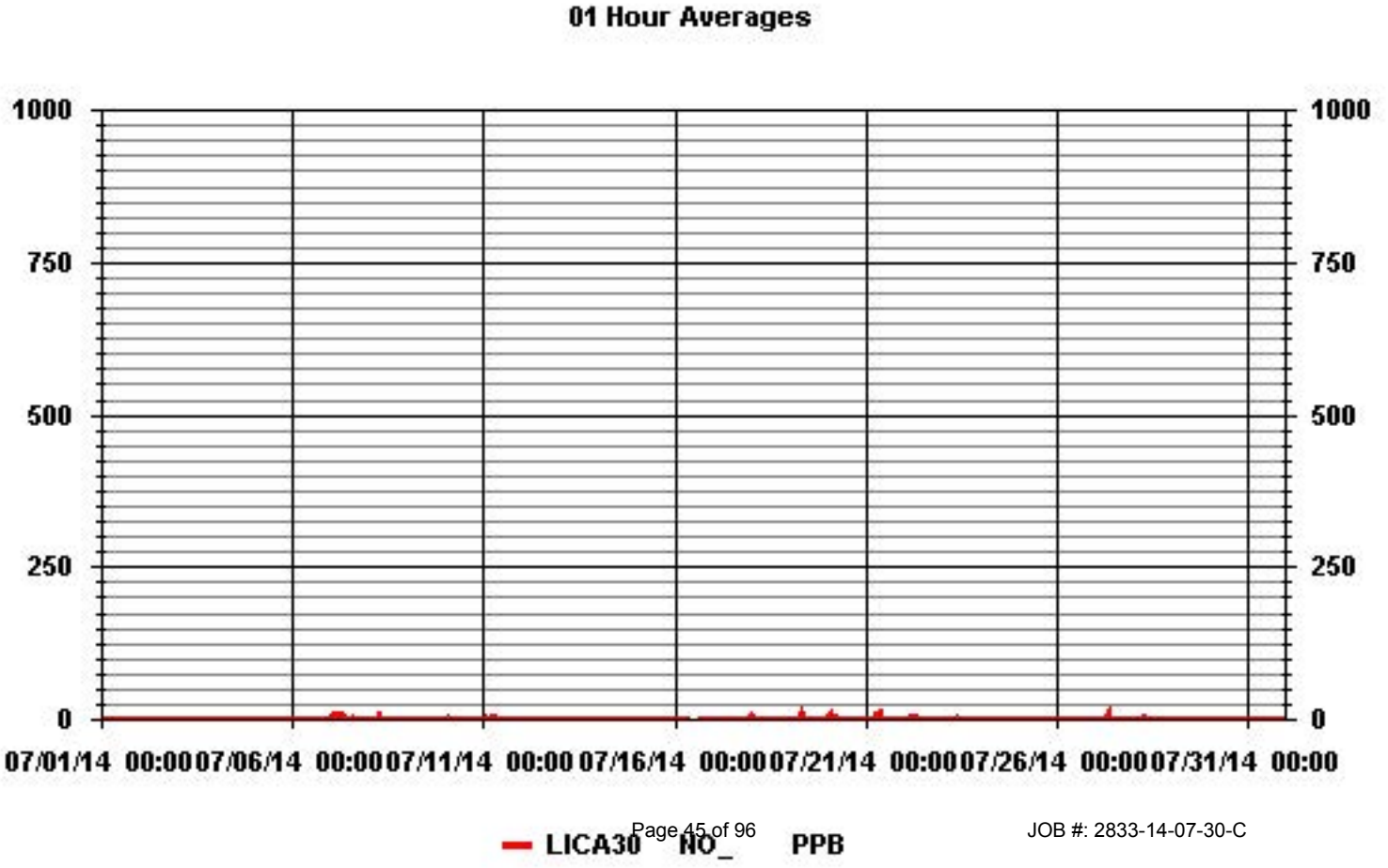
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



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

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	NA					
NUMBER OF NON-ZERO READINGS:	184					
MAXIMUM 1-HR AVERAGE:	11.6	PPB	@ HOUR(S)	6	ON DAY(S)	7
MAXIMUM 24-HR AVERAGE:	1.8	PPB			ON DAY(S)	7
					VAR-VARIOUS	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		744	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	1.27		MONTHLY AVERAGE:		0.38	PPB



JOB #: 2833-14-07-30-C

Lakeland Industry & Community Association - Maskwa Site

JULY 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	0.2	0.3	0.4	0.2	0.4	0.7	0.6	0.6	0.4	0.5	0.8	0.4	0.4	0.4	**S**	0.2	2.6	0.5	0.4	0.3	0.1	0	0	0	2.6	0.5	24
2	0.1	0.1	0	0	0.3	0.3	0.6	1.2	2.7	3	0.2	0	0.2	**S**	0.2	0.5	0.5	0.8	0.2	0.1	0.2	0	0	0	3	0.5	24
3	0	0	0	0	0	0.1	0.1	0.3	0.7	1	1.2	0	**S**	0.1	0	0.1	0.2	0	0	0	0	0	2.4	2.6	2.6	0.4	24
4	0.1	0.3	0	0.9	5	7.4	5.1	6.5	0.6	5.1	5.6	**S**	4.7	1.3	1	0.2	0	0	0.1	0	0	0	0.1	0	7.4	1.9	24
5	0.1	0.1	0	0.5	0	1.5	0.8	0.9	0.8	1.4	**S**	3.2	2.8	3.4	0.2	0.2	0	0	0.2	0.3	0.1	0	0	0.1	3.4	0.7	24
6	0.2	0.1	0.2	0.3	0.2	1.9	2	0.9	2	**S**	0.4	0.2	9	0	4.7	1.1	0.6	0.2	2.2	0.5	0	0.3	0.1	0	9	1.2	24
7	6.6	12.3	28.2	8.6	8.1	6.2	25.5	15.7	**S**	5.7	3.4	13.6	3.6	4.1	4.5	1.4	7	1.9	1.5	0.5	2.3	3.9	0.4	0.2	28.2	***7.2***	24
8	0.4	0	0.2	0.2	1.6	15.1	***59.7***	**S**	0.3	0.6	0.4	0.9	1.1	0.6	0	0.8	0.3	0.4	0.4	0.3	0	0.3	0	0.2	***59.7***	3.6	24
9	0.3	0	0.2	0.2	0	0.4	**S**	0.7	0.8	0.3	0.2	0	0.3	0	0.2	0.1	0	0.2	0.2	0.3	0	0.2	0.1	0	0.8	0.2	24
10	0	3.5	8.8	7.1	1.3	**S**	0.5	1	1.2	1.8	1	0.6	0.8	0.7	1	1	3.8	11.6	3.4	1.6	0.2	0.7	1.6	7.3	11.6	2.6	24
11	2.8	3.1	1.8	3.6	**S**	6.9	11.9	16.2	5.6	6.7	3	6.2	0.2	1.6	0.8	0.2	0.2	0.1	0.2	0	0	0.3	0.2	0.4	16.2	3.1	24
12	0.6	4.9	1.1	**S**	1.1	0.2	0.4	1.5	1.3	1.1	1.6	2.6	0.7	0.4	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.3	4.9	0.8	24
13	0.4	0.5	**S**	0.6	0.6	0.4	0.7	0.5	0.4	0	0.3	3.1	1	1.8	1.2	0.3	0.3	0.3	0.4	0.4	0.6	0.5	0.2	0.7	3.1	0.7	24
14	0.6	**S**	0.8	0.7	0.4	0.7	1.2	1.2	0.6	14.2	0.5	0.2	0.3	0.4	0.4	0.5	0.2	0.4	0.2	0.2	0.1	0	0.1	0.4	14.2	1.1	24
15	**S**	0.4	0.4	0.6	0.4	0.7	1.3	1.2	22.8	2	4.1	1.8	0.4	0.8	0.3	5.8	0.2	0.3	0.2	0.2	0.2	0.4	0.1	**S**	22.8	2.0	24
16	0.1	0	0.2	0.4	0.3	1.4	2.3	2.1	4.4	1.4	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0.7	0.4	0.3	0	0	**S**	0.6	4.4	0.9	24
17	0.2	0.1	0.4	0.4	0.4	1.5	1.6	1	4.3	3	0.7	0.4	2	3.5	0.8	0.4	0.3	0.2	0.1	0.2	0.1	**S**	0.3	0.1	4.3	1.0	24
18	24.6	8	8.6	0.4	0.4	3.9	2.9	9.6	4.8	4.8	3.2	4.2	1.1	0.8	1.1	0.6	0.5	0.4	0.5	0.3	**S**	0.5	0.5	0.2	24.6	3.6	24
19	0.2	0.2	0.3	0.2	0.6	1.1	5.2	23.9	1.8	1.3	0.5	0.7	0.8	1.8	0.8	1.1	0.8	8.2	2.6	**S**	0.4	0.4	0.3	3.3	23.9	2.5	24
20	15.8	17.7	28.3	0.4	9.3	16.1	0.8	1.6	4.2	4.1	9.8	1.8	0.8	5.6	5.8	1.9	1.2	1.2	**S**	0.5	0.2	0.2	0.6	0.6	28.3	5.6	24
21	1.2	0.7	0.5	0.6	1.2	1.1	5.2	15.4	17.2	9.6	0.7	0.5	0.8	0.4	0.4	0.3	0.3	**S**	1.3	1.3	1.1	1.1	1.4	1.2	17.2	2.8	24
22	1.4	1.2	1.4	1.6	1.7	2.2	7.5	13.2	3.5	2	1.6	1.4	1.6	1.4	1.5	1.4	**S**	0.4	0.2	0.2	0.2	0	0	0.2	13.2	2.0	24
23	0.1	0.3	0.1	0.2	1.2	1.5	3.2	1.9	2.2	3.3	4	3.6	0.3	0	0.3	**S**	0.4	0.3	0.4	0.3	0.1	0.2	0.4	1.5	4	1.1	24
24	1.8	0.8	2.1	2.7	0	0	3.3	3.1	1.7	1.6	1.2	0.3	0.1	2.2	**S**	0	0.2	0	0	0	0	0	0	0	3.3	0.9	24
25	0	0	0	0	0.1	0	0	0	0.3	0.1	0.1	0	0	**S**	0.1	0.2	0	0.2	0	0	0.2	0	0.1	0.1	0.3	0.1	24
26	0.6	2.4	1	4.2	1	3.4	11.2	2.6	0.3	0	0.1	0	**S**	0.5	0.4	0.2	0	0.2	0.5	0	0	0	0	0.2	11.2	1.3	24
27	0.2	0	0.2	0.1	0.2	6.4	8.4	13.7	27.2	7.7	0.3	**S**	0.1	0.1	0.5	0.4	0	0.2	0.3	0	0	0	0.2	0.2	27.2	2.9	24
28	0	0.2	0.4	0.3	0.1	1.1	10.5	6.7	3.4	1.6	**S**	6.8	0.2	0	0	0	0.2	0.3	0.1	0.2	0	0	0	0.3	10.5	1.4	24
29	0.5	0.2	0.5	1.4	0	0	0.5	1.9	0.8	**S**	0.3	0.2	0.2	0	0	0	0.1	0	0.2	0.1	0.1	0.1	0	0	1.9	0.3	24
30	0	0	0.2	0	0	0	0.3	0.8	**S**	4.1	1.7	1.7	0.6	0.5	1.2	0.3	0.4	0	0	0.1	0.2	0.2	0.2	0	4.1	0.5	24
31	0.1	0	0	0.2	0	1.4	0.6	**S**	1.5	2.6	0.8	0.4	0.1	0.1	0	0	0	0	0	0.1	0	0	0	0.1	2.6	0.3	24
HOURLY MAX	25	18	28	9	9	16	60	24	27	14	10	14	9	6	6	6	7	12	3	2	2	4	2	7			
HOURLY AVG	2.0	1.9	2.9	1.2	1.2	2.8	5.8	5.0	4.1	3.1	1.7	2.0	1.2	1.2	1.0	0.7	0.7	1.0	0.5	0.3	0.2	0.3	0.3	0.7			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 577

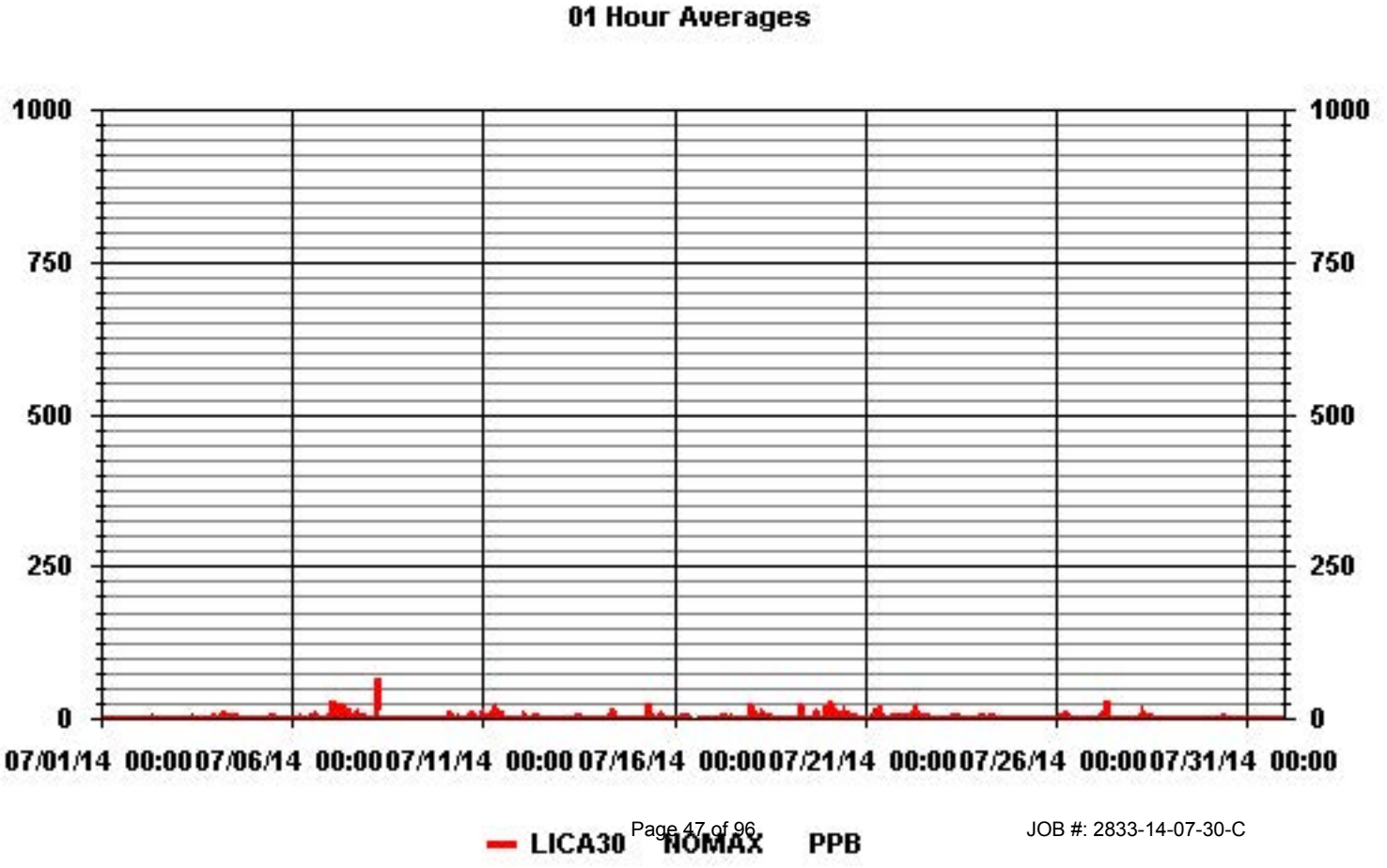
MAXIMUM INSTANTANEOUS VALUE: 59.7 PPB @ HOUR(S) 6 ON DAY(S) 8

VAR-VARIOUS

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 744 HRS

MONTHLY CALIBRATION TIME: 7 HRS

STANDARD DEVIATION: 4.23



JOB #: 2833-14-07-30-C

LICA30
NO_ / WDR Joint Frequency Distribution (Percent)

July 2014

Distribution By % Of Samples

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

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	3.12	4.82	4.11	2.97	3.82	4.82	9.36	7.37	13.33	16.45	6.52	4.82	4.82	6.52	4.25	2.83	100.00
<	110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	3.12	4.82	4.11	2.97	3.82	4.82	9.36	7.37	13.33	16.45	6.52	4.82	4.82	6.52	4.25	2.83	

Calm : .00 %

Total # Operational Hours : 705

Distribution By Samples

Direction

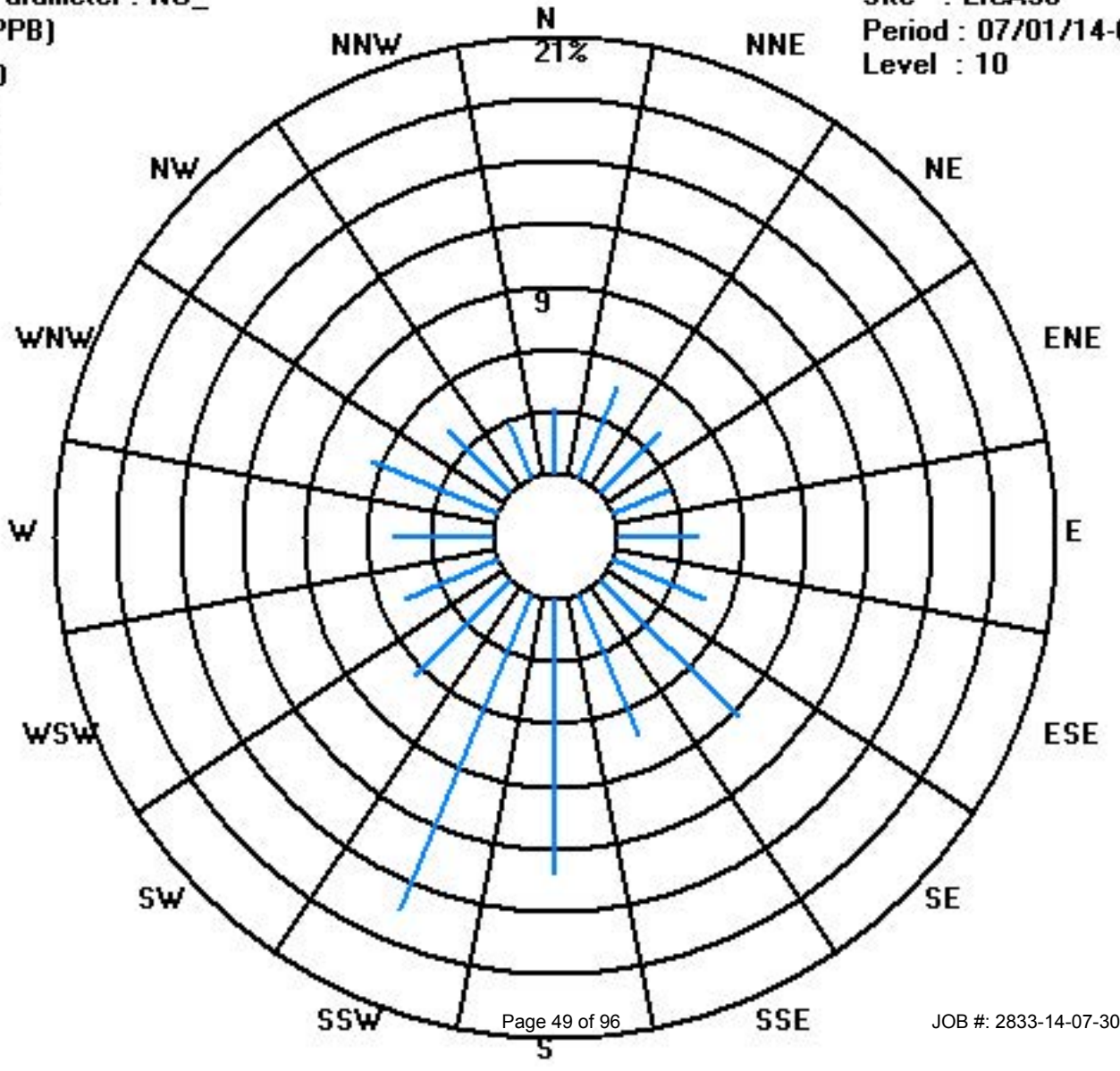
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	22	34	29	21	27	34	66	52	94	116	46	34	34	46	30	20	705
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	22	34	29	21	27	34	66	52	94	116	46	34	34	46	30	20	

Calm : .00 %

Total # Operational Hours : 705

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

Site : LICA30
Period : 07/01/14-07/31/14
Level : 10



JOB #: 2833-14-07-30-C

Oxides of Nitrogen

Lakeland Industry & Community Association - Maskwa Site

JULY 2014

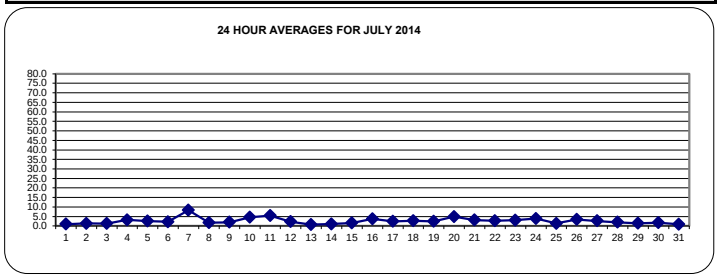
OXIDES OF NITROGEN (NOx) hourly averages in ppb

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	1	0.9	0.8	0.6	1.2	1.2	1	1	0.8	0.4	0.5	0.8	1.2	1.1	**S**	0.7	1.8	2.2	1.1	0.7	0.8	0.6	0.6	0.4	2.2	0.9	24
2	0.4	0.6	0.1	0	1.6	1	0.9	2.4	7.6	6.2	0.9	0.7	0.7	**S**	0.5	0.9	0.9	1.5	0.4	0.4	1.3	0.7	0.2	0.5	7.6	1.3	24
3	0.5	0.6	0.7	0.6	0.7	1.8	1.7	1.8	2.2	2.7	2	0.3	**S**	0.3	0.5	0.5	0.6	0.6	0.7	0.8	1.5	0.7	1.5	4.6	4.6	1.2	24
4	1.7	1.9	2.4	12.8	12.6	11.5	3.9	6	0.7	5.9	2.9	**S**	3.4	2.4	1.4	0.9	0	0	0	0	0	0	0.8	1.5	12.8	3.2	24
5	2.5	2.1	0.4	2.5	0.9	2.5	4.1	3.4	2.3	3.3	**S**	4.7	8.4	5.2	1.5	1.1	1.2	1.2	1.3	1.6	1.3	1.6	2.3	3.3	8.4	2.6	24
6	1.9	2.4	3.8	3.4	3.2	4.7	5.6	3.9	3.1	**S**	0.6	0	0.3	0	5	2.1	0.1	0.1	2.8	0.8	0	0.3	2.5	2.9	5.6	2.2	24
7	7.3	14.7	17.4	9.9	7.1	9.3	***22.3***	11.4	**S**	3.4	2	4.7	3.4	5.9	6	4.1	10.7	5.2	6.3	7.6	12	13.3	3	1.7	***22.3***	***8.2***	24
8	0.8	0.7	0.6	0.5	1.8	1.1	18.1	**S**	0.7	0.8	1.4	1.4	1.2	1.1	0.7	1.2	0.8	0.9	0.6	0.8	0.8	0.9	1.1	1.9	18.1	1.7	24
9	3	3.3	3.3	3.4	3	3.2	**S**	3.2	2.9	2	1.6	1	1	0.6	0.6	0.5	0.7	0.9	2.6	3.2	2.2	1.1	0.4	0.8	3.4	1.9	24
10	0.7	8	17.3	8.3	4	**S**	2	2.2	2.5	2.3	1.2	1.1	1.2	1.4	1.7	1.3	4.5	9	2.6	3.2	0.7	3.3	14.6	12.7	17.3	4.6	24
11	10.6	17.4	17.7	16.4	**S**	5.4	11.6	12.5	4.4	4.9	1.9	3.5	0	1.5	0.6	0.6	0.4	0.5	0.4	0.2	1.6	4	4.7	4.3	17.7	5.4	24
12	3.8	11.7	5.5	**S**	4.6	1.1	0.8	0.4	0.3	1.8	2.3	2.2	0.8	1	1.3	1	0.8	1.2	1.7	1.9	1.8	1.6	1.6	1.6	11.7	2.2	24
13	1.8	1.7	**S**	1.4	1.2	1	1.4	0.1	0	0	0	2.2	0.5	0.6	1.1	0.5	0	0	0	0.3	0.9	0.3	0	0.3	2.2	0.7	24
14	0.1	**S**	1	0.8	0.2	0.4	2	2.1	1.2	2	1.1	0.6	0.5	0.7	0.6	1	0.5	0.5	0.5	0.2	0.9	0.9	2	3.4	3.4	1.0	24
15	**S**	1.9	1.9	1.8	1.9	2.1	3	2.7	4.1	1.9	1.8	1.9	0.8	1	0.6	1.3	0.8	0.6	0.5	0.6	0.8	1.1	1.3	**S**	4.1	1.6	24
16	2	2	2.6	2.5	3	4.3	6.4	7.4	12.1	6.8	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0.7	0.3	1	0.8	0.9	**S**	7.1	12.1	3.7	24
17	3.4	1.8	3.5	4.9	2.8	2.9	3.5	2	4.4	3.9	2.6	0.7	2.6	6.7	2.8	0.7	0.4	1.1	1.4	2.2	0.2	**S**	0	0	6.7	2.4	24
18	15.2	10.3	9.9	0.2	1.6	1.9	0.7	3.3	2.6	4.7	2.6	2.3	0.5	0.1	1.2	0.9	0.5	0.2	0.5	0.7	**S**	0.8	1.6	1.3	15.2	2.8	24
19	1.5	2.1	2.1	1.4	2.8	8.5	6.6	15.9	2.4	0.7	1.1	0.7	0.6	0.8	0.3	0	0	3.2	1.3	**S**	0	0.5	0.4	2.2	15.9	2.4	24
20	17.8	15.9	17.8	1.1	15.2	14	1.6	1.8	1.9	2.6	6.3	1.3	0.4	1.3	2.6	2.7	1.9	1.7	**S**	0.3	0.4	1.1	1.3	0.6	17.8	4.9	24
21	2.2	1.4	0.3	0.1	0.4	1.1	3.8	14	17.7	5	1.1	1.6	1.7	1.6	1.6	1.1	1.1	**S**	2	1.9	2	2.5	3.1	3.4	17.7	3.1	24
22	3.9	3.3	3.5	3.2	2.7	2.1	6.6	16	5.3	2.3	2.1	1.7	1.6	1.6	1.4	1.5	**S**	0.2	0.3	0.6	0.5	0.3	0.2	0.4	16	2.7	24
23	0.5	0.2	0.2	0.2	10	6.7	8.1	3	5.1	5.4	4.3	2.4	0.1	0	0.4	**S**	1.4	1.2	1	1.2	2.4	1.7	1.5	12.9	12.9	3.0	24
24	10.9	3.6	12.9	10.3	2.8	1.4	8.8	5.7	3	4.7	3.8	1.4	1.1	2	**S**	1.6	1.8	1.8	2.1	3	3.5	1.4	1.1	1.3	12.9	3.9	24
25	1.5	1.4	1.8	1.8	2	2.5	2.3	0.8	0.8	0.6	0.6	0.5	0.4	**S**	0.6	0.6	0.6	0.5	0.6	0.6	2.6	1.8	2.6	3.2	3.2	1.3	24
26	8.8	11.6	6	10	5.7	6	8.2	3.1	0.7	0.4	0.6	0.6	**S**	1.6	1.7	1	0.8	1.1	2.3	1.4	1.7	1.7	1.6	1.5	11.6	3.4	24
27	1.9	2	1.4	2.4	2.1	2.8	6.8	12.9	18.9	5	1.8	**S**	0	0	0.2	0.3	0	0	0.4	1	0	0.4	0	0.2	18.9	2.6	24
28	0.1	0	0.2	2.1	1.4	1.4	5.2	6.1	6.2	1.8	**S**	2.1	1.7	1.7	1.4	1.1	1.3	1.2	1	1.1	1.5	3.5	1.7	1.5	6.2	2.0	24
29	1.4	1.2	0.8	2.5	0.5	0.8	1.6	3.6	2.5	**S**	1.5	1.2	1	1	0.9	0.8	0.8	0.7	0.9	1.1	2.2	1.6	1.4	0.9	3.6	1.3	24
30	1.1	0.8	0.7	0.8	0.7	0.7	1.1	2	**S**	4	3	4	2.5	2.1	1.8	1.4	2.3	0.7	0.5	0.7	2.5	2.3	1.4	1.8	4	1.7	24
31	2	1.4	1	1.3	1.1	1.4	1.3	**S**	1.6	4.8	0.7	0.6	0	0.3	0	0.5	0.7	0.2	0	0	0.1	0.4	0.2	0.4	4.8	0.9	24
HOURLY MAX	18	17	18	16	15	14	22	16	19	7	6	5	8	7	6	4	11	9	6	8	12	13	15	13			
HOURLY AVG	3.7	4.2	4.6	3.6	3.3	3.5	5.0	5.2	4.1	3.1	1.9	1.7	1.3	1.6	1.4	1.1	1.3	1.3	1.2	1.3	1.6	1.7	1.8	2.6			

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

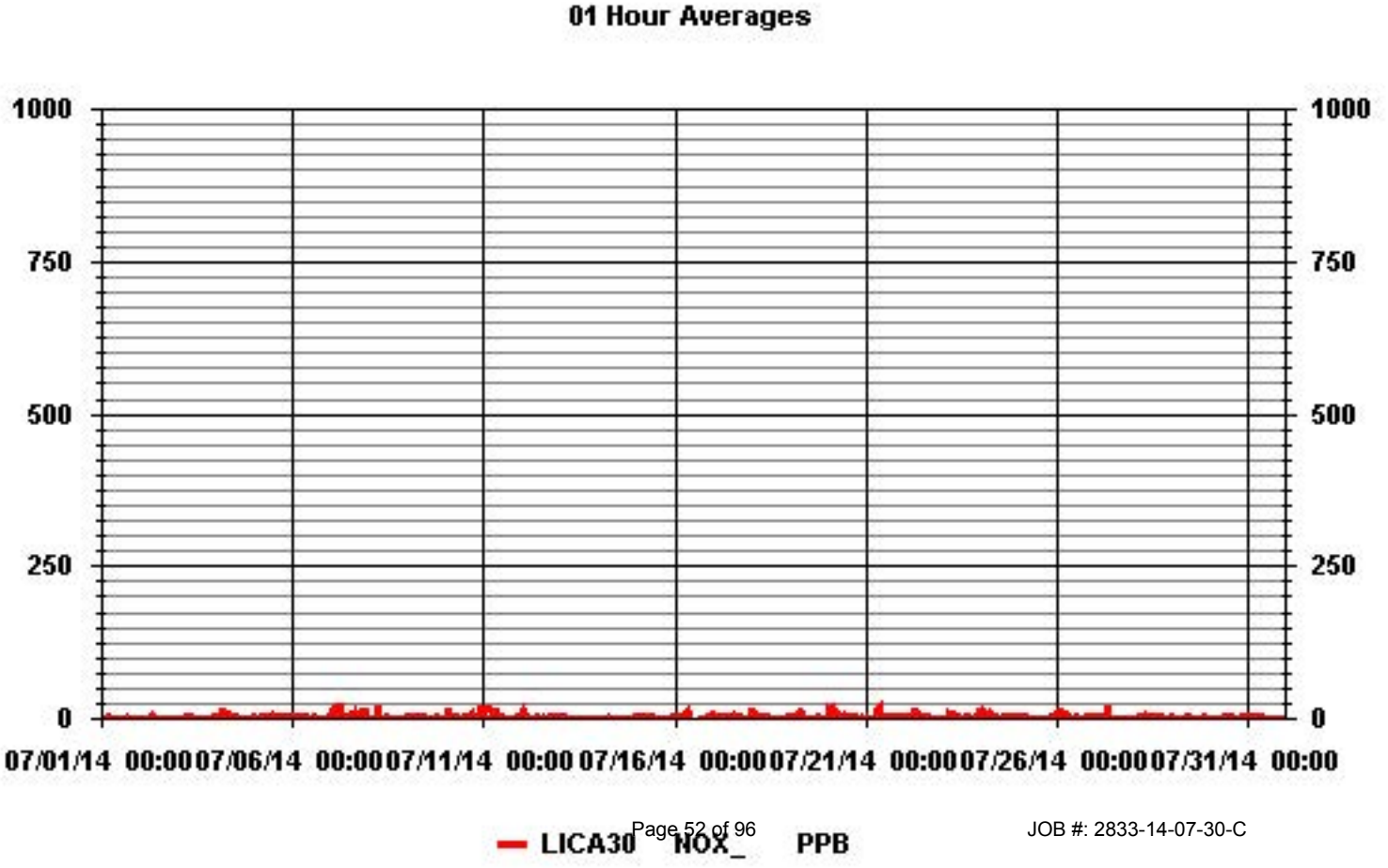


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR NA PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	NA					
NUMBER OF NON-ZERO READINGS:	670					
MAXIMUM 1-HR AVERAGE:	22.3	PPB	@ HOUR(S)	6	ON DAY(S)	7
MAXIMUM 24-HR AVERAGE:	8.2	PPB			ON DAY(S) VAR-VARIOUS	7

IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	744	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	3.45		MONTHLY AVERAGE:	2.59	PPB



JOB #: 2833-14-07-30-C

Lakeland Industry & Community Association - Maskwa Site

JULY 2014

OXIDES OF NITROGEN MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	1.6	1.6	1.6	1.2	2.1	2.1	1.8	2.7	2.4	1.8	2.2	1.5	2	2.2	**S**	1.8	10.6	4.8	2	1.4	1.4	1.6	1.4	1.1	10.6	2.3	24
2	1.2	1.2	0.6	0.6	2.8	1.6	1.9	5.2	12.4	12.8	1.9	1.4	1.4	**S**	1.2	3.2	3.3	7.4	1	1.1	4.1	1.7	0.8	1.1	12.8	3.0	24
3	1.1	1.1	1.4	1.4	1.4	3.1	2.9	2.6	3.8	4.1	5.4	0.9	**S**	1	1.1	1.2	1.2	1.4	1.3	1.6	2.8	1.5	15.7	21.6	21.6	3.5	24
4	5.8	9	14.6	21.6	24.1	25.6	20.3	19.4	2.8	13.7	15.9	**S**	14.8	7.2	4.6	3.2	0.6	0.4	0.6	0.6	0.6	0.5	3.3	2.8	25.6	9.2	24
5	4.1	4.8	1.4	6.6	2.7	6.4	5.9	5.2	5.1	7.8	**S**	11.7	11.6	12	2.5	2.4	2.1	2	2	2.3	2.2	2.2	3.4	4.4	12	4.8	24
6	3	3.6	6.2	5.8	4	7.3	7.6	4.7	6.6	**S**	1.4	0.8	16.2	0.7	16.1	6.1	1.7	1.6	10.7	3.6	0.7	3.8	4.6	7.6	16.2	5.4	24
7	20.3	28.3	48.9	25.3	21.6	14.9	41.5	29.3	**S**	14.2	10.2	33.2	10.5	16.2	15.7	9.4	27.4	10.2	13	10.2	22.5	26.9	5.4	2.9	48.9	***19.9***	24
8	1.8	1.4	1.4	0.9	9.4	22.3	***92.1***	**S**	1.6	1.8	2.4	2.8	4.2	3.2	1.4	3.8	1.6	1.8	1.2	1.6	1.5	1.4	1.9	2.9	***92.1***	7.1	24
9	4	5.3	4.9	3.9	3.7	4.4	**S**	4.1	3.7	3	2.2	2.2	2	1.5	1.4	1.2	2.5	2	7.1	6.4	5.2	3	1.2	1.5	7.1	3.3	24
10	2.3	17.9	26.7	24	9.6	**S**	3.2	3.3	3.8	5.4	3.2	2.4	2.8	3	2.8	2.8	12.4	24.9	10.1	8.6	1.6	11.3	17.4	27.1	27.1	9.9	24
11	20.9	21.6	20.3	23.2	**S**	17.1	22.9	28.2	12.9	13.8	7.4	13.4	1.2	5.1	3	1.4	1	1.2	1.2	1	6.3	7.8	5.6	5.1	28.2	10.5	24
12	9.7	23.7	11.8	**S**	10	1.8	2.3	3.2	3.1	5.8	6.9	8.9	1.6	1.8	2	1.7	1.5	2.2	2.4	2.4	2.5	2.2	2.2	2.5	23.7	4.9	24
13	2.4	2.2	**S**	2.1	1.9	2	2.5	1	0.5	0.1	0.6	7.6	2.6	5.2	3.8	1.8	0.6	0.7	0.8	1	2.2	1.6	0.8	1	7.6	2.0	24
14	0.7	**S**	2	1.6	1	1.1	3.2	2.8	1.9	24.9	2.4	2	1.3	2	1.8	2.2	1.3	1.2	1.2	0.9	1.8	1.6	3.8	4.8	24.9	2.9	24
15	**S**	2.7	2.6	2.8	2.4	3.4	4.3	3.9	37.5	4.9	10.6	3.4	2	3	1.5	14.1	1.5	1.3	1.2	1.3	1.5	1.8	2.1	**S**	37.5	5.0	24
16	2.6	2.6	4.1	3.7	4	6.2	11.4	10.4	18.8	9.4	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1.7	1	1.8	1.5	1.5	**S**	8.9	18.8	5.6	24
17	5.6	3.1	5	6	4.3	5.3	5.2	2.9	12.8	10.4	3.9	1.8	9.6	14.7	5.1	2.8	1.5	2.5	3.8	4.1	1.2	**S**	0.7	0.4	14.7	4.9	24
18	46.3	25.2	26.2	1.4	4	11.3	8.4	20.1	11.3	11.6	8	10.6	2.9	1.9	3	2.3	1.8	1	1.4	1.3	**S**	1.8	2.3	1.9	46.3	9.0	24
19	2.1	3.5	2.7	2.4	8.1	12	17.1	38	4.8	3.9	2.6	2.4	1.6	3	1.9	1.4	1.3	16.9	7.7	**S**	1.1	1.6	1.1	14	38	6.6	24
20	32.7	35.5	44	2.5	29	37.6	3	3.5	12	10.5	19.4	6	1.8	12.6	13.1	6.4	4.2	4	**S**	1.3	1.3	2.6	2.1	1.4	44	12.5	24
21	7.9	3.4	1.6	1.4	3.6	2.8	8.2	22.8	26.6	19.7	2.8	2.4	3.5	2.7	2.8	2.5	1.8	**S**	2.7	2.5	2.8	3.3	4	4.2	26.6	5.9	24
22	4.7	4.5	4.3	4.3	4.3	3	11.3	31.6	9.8	4.9	3.3	2.8	2.2	2.3	2	2.1	**S**	0.9	1	1.4	1	1	1	1.2	31.6	4.6	24
23	1.2	0.8	0.8	3.3	18.3	17.5	12.8	8.5	8.1	10.8	10.7	9.9	0.8	0.8	1.2	**S**	2.3	1.8	1.7	2.1	5.8	3.6	5.7	16.2	18.3	6.3	24
24	16.5	12.6	15.9	16.1	5.3	2	12.6	12.3	9.2	9	9.2	2.3	2	7.9	**S**	2.5	2.8	2.6	3.3	4.4	9.8	2.3	1.8	2.3	16.5	7.2	24
25	2.7	2.5	2.5	2.6	2.9	3.2	3.7	1.6	1.7	1.3	1.3	1.2	1	**S**	1.2	1.5	1.2	1.2	1.2	1.2	5.5	2.6	4.4	6.1	6.1	2.4	24
26	13.1	16.5	10	15.9	8.6	9.6	19.4	7.9	1.4	1.1	1.7	1.2	**S**	2.4	2.9	2.1	1.5	2.1	7	2.1	2.2	3	4	2.3	19.4	6.0	24
27	2.7	3.1	2.1	4.2	3.4	9.4	14.3	21.7	37.1	16.6	3	**S**	0.7	0.8	1.4	1.4	0.5	0.8	3.7	2.2	0.8	2	0.9	1	37.1	5.8	24
28	0.8	0.8	1.1	4.6	2.3	2.8	16.7	12.3	7.8	4.8	**S**	17.3	2.6	2.4	2.6	1.8	2.1	1.8	1.9	2	3.9	4.7	2.4	2.2	17.3	4.4	24
29	2.4	1.9	4.9	10	1.4	1.5	2.4	7.6	4.5	**S**	2.2	2	1.8	1.6	1.6	1.5	1.5	1.5	1.5	2.3	3.7	2.4	2.5	1.8	10	2.8	24
30	2.2	1.5	1.5	1.4	1.2	1.5	4.1	4.3	**S**	11.4	7.2	7.7	4.1	4.4	6.3	3	5.6	1.5	1.2	1.2	4.3	3.3	2.4	3.4	11.4	3.7	24
31	3.4	2.1	1.6	2.1	2.2	3.2	4.8	**S**	5	11	4.6	2.5	1.5	1	0.5	1.6	1.5	1.6	0.5	0.6	3.1	3.1	0.9	1.2	11	2.6	24
HOURLY MAX	46	36	49	25	29	38	92	38	38	25	19	33	16	16	16	14	27	25	13	10	23	27	17	27			
HOURLY AVG	7.5	8.1	9.1	6.8	6.7	8.1	12.3	11.1	9.3	8.6	5.5	5.8	3.9	4.4	3.7	3.1	3.4	3.5	3.2	2.5	3.5	3.6	3.5	5.2			

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

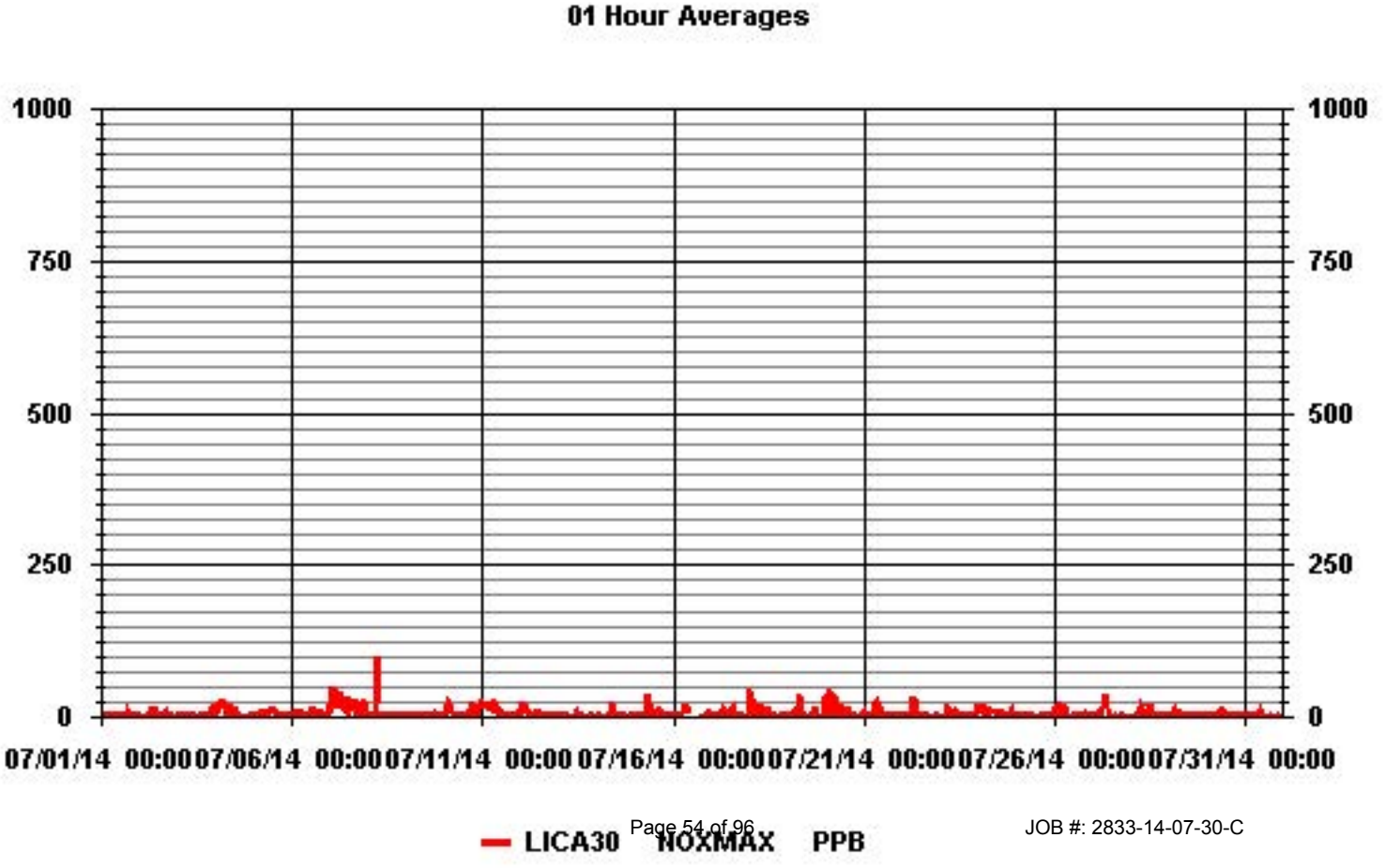
MAXIMUM INSTANTANEOUS VALUE: 92.1 PPB @ HOUR(S) 6 ON DAY(S) 8

VAR-VARIOUS

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 744 HRS

MONTHLY CALIBRATION TIME: 7 HRS

STANDARD DEVIATION: 8.00



JOB #: 2833-14-07-30-C

LICA30
NOX_ / WDR Joint Frequency Distribution (Percent)

July 2014

Distribution By % Of Samples

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

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	3.12	4.82	4.11	2.97	3.82	4.82	9.36	7.37	13.33	16.45	6.52	4.82	4.82	6.52	4.25	2.83	100.00
<	110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	3.12	4.82	4.11	2.97	3.82	4.82	9.36	7.37	13.33	16.45	6.52	4.82	4.82	6.52	4.25	2.83	

Calm : .00 %

Total # Operational Hours : 705

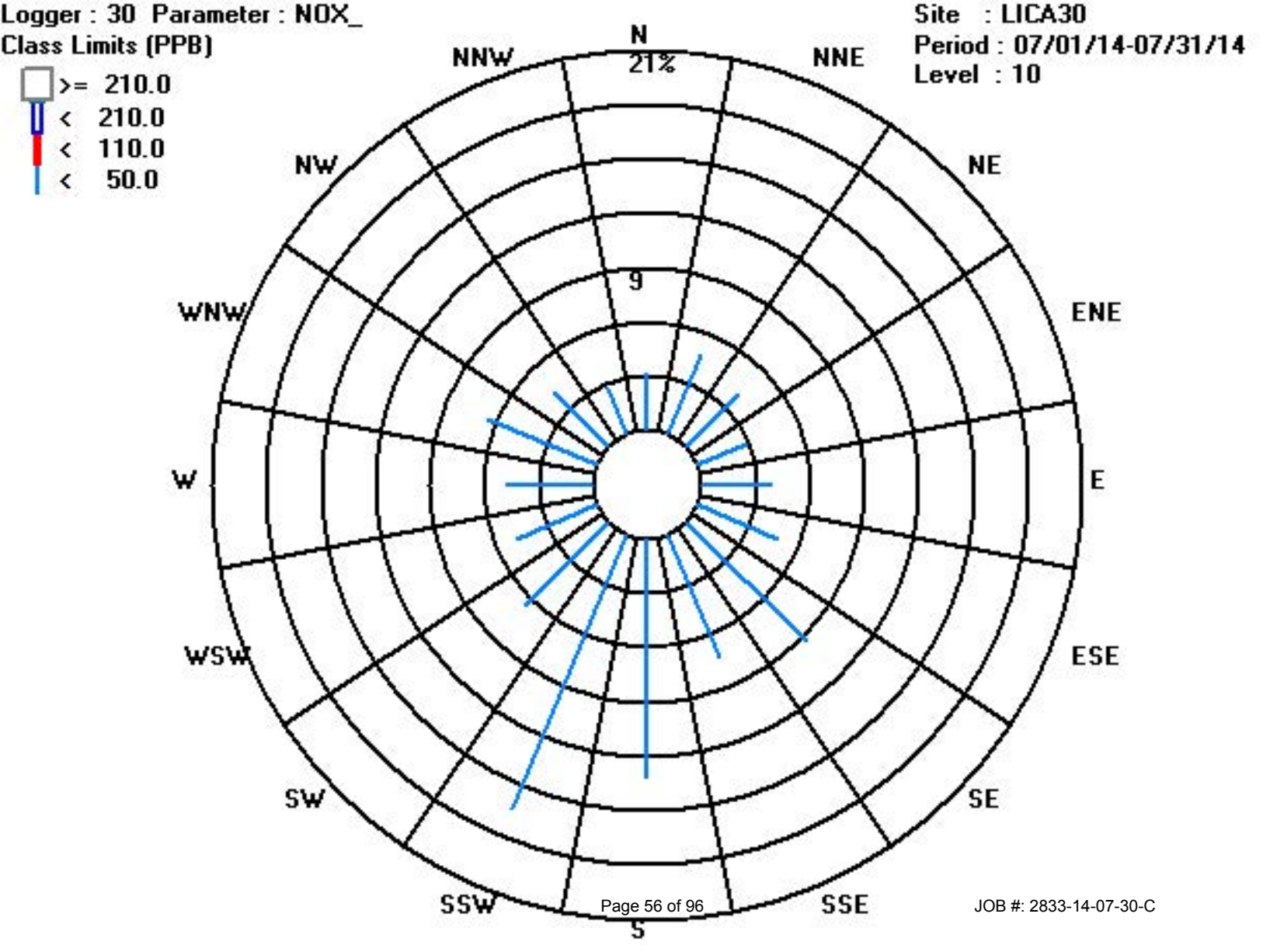
Distribution By Samples

Direction

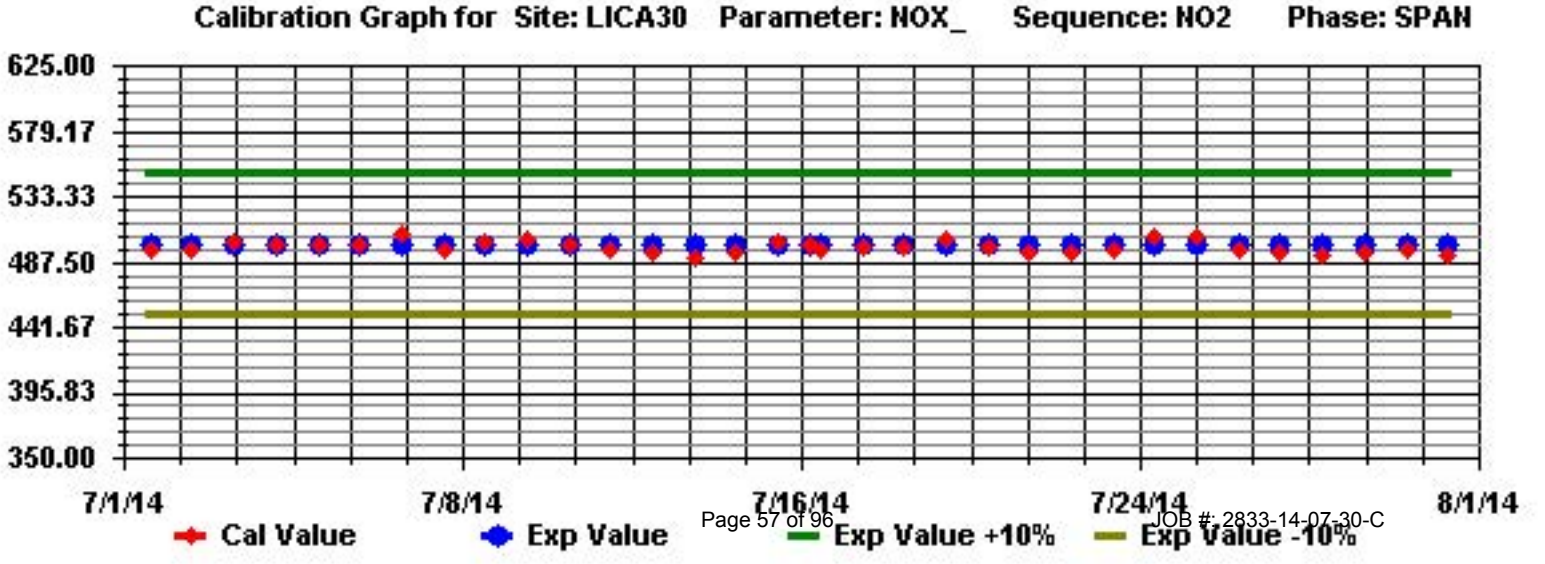
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	22	34	29	21	27	34	66	52	94	116	46	34	34	46	30	20	705
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	22	34	29	21	27	34	66	52	94	116	46	34	34	46	30	20	

Calm : .00 %

Total # Operational Hours : 705



JOB #: 2833-14-07-30-C


Calibration Graph for Site: LICA30 Parameter: NOX_ Sequence: NO2 Phase: SPAN
625.00
579.17
533.33
487.50
441.67
395.83
350.00
7/1/14
7/8/14
7/16/14
7/24/14
8/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Temperature

Lakeland Industry & Community Association - Maskwa Site

JULY 2014

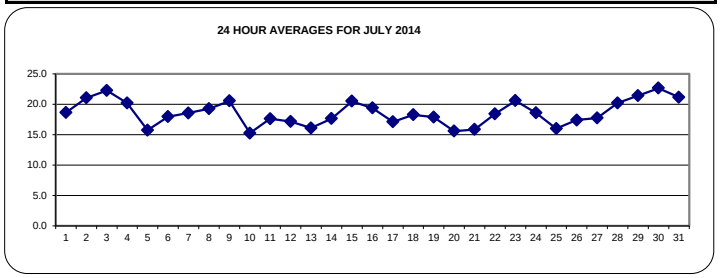
AMBIENT TEMPERATURE (TPX) hourly averages in Degrees Celsius

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	12.3	11.2	10.8	10.4	10.5	11.9	14.4	17.5	20.8	22.5	24	25.6	26.3	25.3	25.4	23.6	23	25.2	23.8	21.7	17.7	15.1	14	13.7	26.3	18.6	24
2	13.2	12.4	11.7	11.3	12	13.3	16.7	20.8	23.8	25.4	26.5	27	27.8	28	27.8	27.5	27.3	26.2	25.3	23.4	20.4	19.2	19.2	18.8	28	21.0	24
3	18.4	18.5	18.1	17.6	17.5	18.2	18.4	19.8	22.1	23.8	24.6	25.3	24.6	26.9	27.9	27.5	26.9	26.3	25.4	24.2	21.8	20.4	20.3	19.8	27.9	22.3	24
4	18.4	15.4	14.5	14.1	13.9	16	16.2	16.6	20.3	21.3	23.3	25	26.2	27.1	27.7	27.8	27.3	26.5	25.5	23.2	18.7	15	13.1	12.1	27.8	20.2	24
5	11.5	12	13	12.9	13.5	13.4	13.2	13.3	13.6	14	14.7	16.1	18.2	20	20.9	19.9	20	21.1	20.4	19.1	16.4	14.6	13.8	12.3	21.1	15.7	24
6	12.4	12	11.7	11.7	12.8	14.9	16.7	17.8	20.7	21	23.1	24	24.4	24.5	17.7	19.1	23.1	23.5	21.2	20.7	17.6	15.4	12.8	12.1	24.5	18.0	24
7	12.4	13.7	13.4	12.7	11.9	12.5	15.2	17.6	19.8	21.1	22.4	23.3	24.3	24.4	24.6	24	24.3	23.5	22.3	20.6	18.6	16.8	13.7	12.2	24.6	18.6	24
8	11.8	11.2	10.7	10	9.5	10.5	13.3	17.6	20.3	21.3	23.5	24.5	25.3	25.7	26.5	26.5	26.2	25.8	25.2	23.5	19.5	18.1	18.1	17.6	26.5	19.3	24
9	16.9	16.5	16	15.5	14.5	17	18.3	19.8	22	24.4	26.1	28	29.1	29.3	29.3	28.7	27.1	21.6	16.8	15.7	15.4	15.3	14.9	14.6	29.3	20.5	24
10	14.3	13.7	12.9	11.8	11.4	12.3	11.9	15	18.6	19.9	20.8	20.8	18.8	17.7	16.9	17.2	16	13.8	14.8	14.8	12.9	12.9	13.2	13.4	20.8	15.2	24
11	12.6	12	11.6	10.9	10.6	12.2	14.3	16.3	18.7	19.9	21.2	22.3	22	20.7	22.2	23	22.9	22.5	21.6	20.1	17.8	16.2	16	15.1	23	17.6	24
12	14	13.8	13.2	12.3	11.9	13.5	15.1	15.8	17.3	19.4	20.8	22	22.3	23.1	23.4	23.9	24	22.9	20.9	18.4	14.3	11.5	9.9	8	24	17.2	24
13	7.1	7	6.5	5.9	***5.8***	8.9	12.4	15.4	17.4	20.5	22	23.1	24	24.7	24.7	24.4	23.7	23.8	23	19.7	14.5	12.1	9.5	9.8	24.7	16.1	24
14	10.6	10.2	7.5	6.6	6.4	9.2	14.8	17.8	19.8	21.3	22.7	24.2	24.9	25.5	25.3	25.4	25.1	24.4	23.5	21	17	14.8	13.1	12.5	25.5	17.7	24
15	14.1	14.4	13.7	13.6	13.5	14.9	16.8	18.4	20.1	23	24.5	25.9	26.3	26.9	27.2	25.8	25.8	25.4	24.5	22.4	19.6	18.8	18.4	17.8	27.2	20.5	24
16	17	16.3	14.8	14.4	14.2	15.4	16.5	17.6	19	19.5	19.5	22.4	25.4	27.3	28.1	26.1	23.4	24.6	23	20.2	18.4	16.2	13.6	12.3	28.1	19.4	24
17	11.4	10.9	10.7	10.3	9.7	11.3	15.4	20.1	23.2	22.8	22.8	22.6	21.7	22.1	21.9	22.7	21.1	19	18.2	16.8	15.4	13.9	13.6	13.4	23.2	17.1	24
18	13.5	13.2	13.1	12.9	12.6	12.8	13.5	15.6	18.4	19.3	22.1	23.5	23.6	24	24.8	24.2	23.5	21.5	19.8	18.4	17.5	16.7	16.9	16.7	24.8	18.3	24
19	16.5	16.4	16.1	15.8	15.9	15.5	15.1	15.5	16.1	17.5	18.3	19.6	21.4	22.8	23.6	22.5	21.8	22.4	21.6	19.2	15.9	13.5	13.1	13.2	23.6	17.9	24
20	14	13.3	12.5	11.4	11.1	12.1	13.6	16.2	18.1	19.7	19.7	19.7	19.2	18.2	19.6	18.2	18.7	18.8	18.4	16.5	13.4	10.7	11	9.7	19.7	15.6	24
21	8.8	7.9	7.3	6.6	6.6	7.5	10.6	14.1	17	19.3	20.7	22	23.2	24.3	23.6	23	22.4	21.7	20.7	18.5	15.4	14	13.2	12	24.3	15.9	24
22	10.8	9.5	8.7	8.1	7.7	9.2	12.8	18.5	21	22.7	23.7	25.1	25	25.9	25.9	26	25.3	24.8	23.6	20.4	17.3	16.4	16.4	16.8	26	18.4	24
23	17	16.2	15.1	15.6	16.6	17	17	19.9	20.4	21.2	24.3	26	27.4	26.7	26.2	25.7	24.5	23	21.4	20.3	18.8	18.1	18	17.8	27.4	20.6	24
24	17.3	17.2	16.6	16.3	16.8	17	17.9	18.9	18.2	18.4	19.9	23.4	24	25	23.4	23	22.4	21.3	18.7	16.2	14.7	13.5	13.1	12.8	25	18.6	24
25	12.7	12.6	12.4	12.2	12.3	12.6	13.1	14.6	14.6	14.9	16.6	18.2	18.7	20.4	21	21.9	22.1	22.8	22.5	17.4	14.3	13	12	11.2	22.8	16.0	24
26	11.7	11.1	11	10.5	10.1	11.3	13.8	15.7	15.9	16.5	18.6	22.1	25.1	24.9	24.7	25	24.8	21.9	20.7	18.4	17.5	16.3	15.2	14.8	25.1	17.4	24
27	14.6	14.5	14.2	13.6	13.2	12.4	13.7	16.6	21.4	22.6	22.4	23.9	24.5	24.5	24.3	23.3	19.7	17.9	19.2	16.9	14.5	13	12.1	12.3	24.5	17.7	24
28	12.1	13.1	13.9	14.1	13.6	13.4	14.4	16.9	20.9	24.2	25.8	26.8	27.2	27.4	27.8	27.4	27.3	27.1	25.9	22.1	18.7	15.9	14.7	13.9	27.8	20.2	24
29	13.3	13.1	12.7	12.3	12.3	13.4	16.1	21.3	23.9	24.4	26.3	27.8	28	29.2	29.3	29.1	28.7	28.1	27.2	23.8	20.8	19	17.2	16.6	29.3	21.4	24
30	16.5	16.3	15.5	15.3	14.4	15.4	18.4	21.8	23.7	25	26.9	28.4	29.2	29.7	29.9	***30.2***	***30.2***	29.3	27.7	22.5	20.2	20	19.3	17.5	***30.2***	***22.6***	24
31	16.6	15.8	15.6	15.7	14.8	15.7	17.3	20	22	24.3	25	24.4	25	25.2	27.2	28.5	28.9	27.4	25.1	21.8	17.9	18.4	17.7	16.7	28.9	21.1	24
HOURLY MAX	18.4	18.5	18.1	17.6	17.5	18.2	18.4	21.8	23.9	25.4	26.9	28.4	29.2	29.7	29.9	30.2	30.2	29.3	27.7	24.2	21.8	20.4	20.3	19.8			
HOURLY AVG	13.7	13.3	12.8	12.3	12.2	13.2	15.1	17.5	19.6	21.0	22.3	23.6	24.3	24.8	24.8	24.6	24.1	23.4	22.2	19.9	17.2	15.6	14.7	14.1			

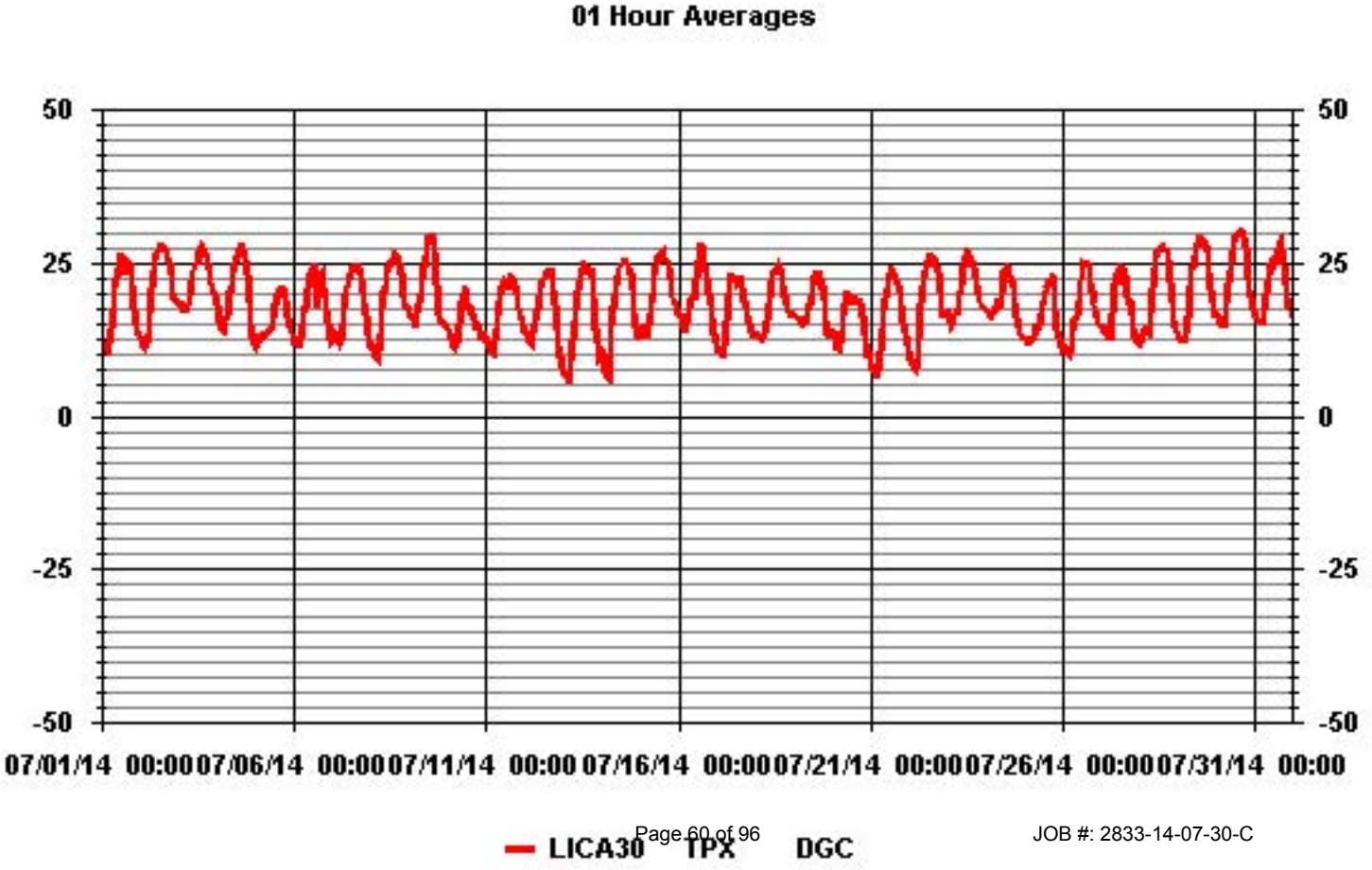
STATUS FLAG CODES

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

MINIMUM 1-HR AVERAGE:	5.8	°C	@ HOUR(S)	4	ON DAY(S)	13
MAXIMUM 1-HR AVERAGE:	30.2	°C	@ HOUR(S)	15, 16	ON DAY(S)	30
MAXIMUM 24-HR AVERAGE:	22.6	°C			ON DAY(S)	30
					VAR-VARIOUS	
OPERATIONAL TIME:					744	HRS
AMD OPERATION UPTIME:					100.0	%
STANDARD DEVIATION:	5.39		MONTHLY AVERAGE:		18.60	°C



JOB #: 2833-14-07-30-C

Precipitation

Lakeland Industry & Community Association - Maskwa Site

JULY 2014

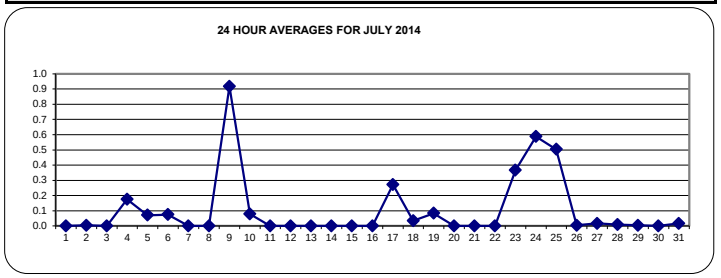
PRECIPITATION hourly averages in millimeter

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	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.0	24
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	1.8	2.1	0	0	0	0	0.2	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.1	0.2	24
5	0	0	0	0	0	0.3	0.3	0.5	0.2	0.1	0.1	0	0	0	0	0.1	0	0	0	0	0	0	0	0.1	0.5	0.1	24
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.8	0	0	0	0	0	0	0	0	0	1.8	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	***21.9***	0.1	0	0	0	0	***21.9***	***0.9***	24
10	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0.2	0.1	0	1.5	0	0	0	0	0	0	1.5	0.1	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	0.3	0.1	0.4	2	2.7	1	2.7	0.3	24
18	0.7	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	0.0	24
19	0	0	0	0	0.1	0.3	1.1	0.2	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.1	0.1	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	6	0.2	2.3	0.3	6	0.4	24
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0	0	0.2	0.4	2.3	1.8	2.6	6.6	6.6	0.6	24
25	3.3	4.1	1.6	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.6	0.1	0	0	0.1	4.1	0.5	24
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0.1	0.0	24
27	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0	0	0	0	0	0.3	0.0	24
28	0	0.1	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.0	24
29	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	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	0.1	0	0	0	0	0	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.0	24
HOURLY MAX	3.3	4.1	1.6	0.3	0.1	0.3	1.1	0.5	0.3	0.1	0.1	0.3	0	0	1.8	0.1	0	1.5	21.9	2.6	6	2	2.7	6.6			
HOURLY AVG	0.2	0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.7	0.1	0.3	0.1	0.2	0.3			

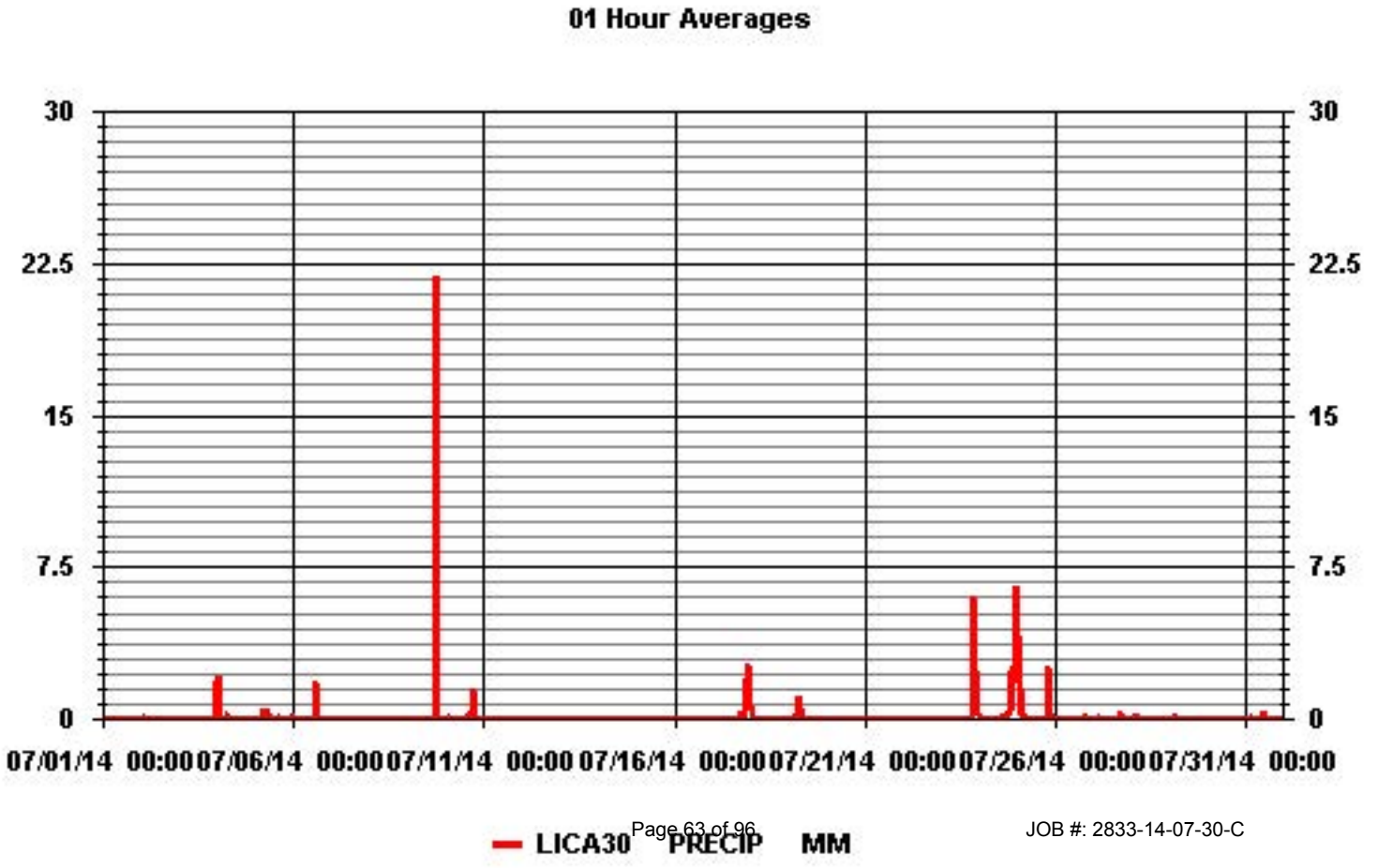
STATUS FLAG CODES

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



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:		21.9	MM	@ HOUR(S)	18	ON DAY(S)	9
MAXIMUM 24-HR AVERAGE:		0.9	MM			ON DAY(S)	9
MONTHLY TOTAL	76.8 MM					VAR-VARIOUS	
						VAR-VARIOUS	
				OPERATIONAL TIME:		744	HRS
				AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	0.93			MONTHLY AVERAGE:		0.10	MM



JOB #: 2833-14-07-30-C

Relative Humidity

Lakeland Industry & Community Association - Maskwa Site

JULY 2014

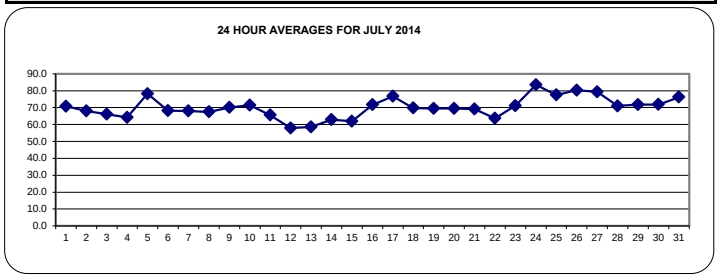
RELATIVE HUMIDITY (RH) hourly averages in %

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	89	91	92	93	93	93	89	77	60	55	50	47	44	47	47	55	56	49	54	63	79	90	92	93	93	70.8	24
2	93	93	93	93	94	93	86	73	63	56	50	47	47	43	42	46	48	50	53	61	72	78	79	81	***94***	68.1	24
3	81	79	79	80	79	76	76	71	65	62	59	54	56	53	51	50	52	55	59	63	72	77	76	62	81	66.1	24
4	68	88	90	92	92	86	85	82	67	61	53	48	44	40	39	34	32	34	39	47	64	80	87	90	92	64.3	24
5	91	91	84	87	81	80	84	88	87	87	84	78	71	63	57	63	64	61	64	70	82	88	85	88	91	78.3	24
6	87	86	87	87	85	80	75	74	65	62	55	47	45	43	69	70	52	45	51	53	66	76	86	89	89	68.1	24
7	87	83	84	85	87	87	79	70	63	60	57	53	48	48	48	52	49	51	56	62	69	74	87	92	92	68.0	24
8	93	93	93	93	93	93	90	74	59	59	55	52	50	48	44	43	45	46	46	55	70	74	75	77	93	67.5	24
9	81	82	83	83	86	77	73	69	63	56	52	47	42	42	42	43	50	64	86	91	92	93	93	93	93	70.1	24
10	93	93	89	87	84	76	80	71	59	50	41	40	47	55	63	63	69	83	80	74	81	80	80	75	93	71.4	24
11	78	80	83	85	87	83	77	71	62	56	51	47	47	51	49	48	49	51	54	61	70	77	77	80	87	65.6	24
12	83	86	88	90	90	81	68	55	51	47	46	42	38	34	***30***	***30***	32	35	41	49	61	67	69	78	90	58.0	24
13	82	81	83	87	89	77	70	59	50	43	40	40	37	36	38	37	35	35	36	48	68	71	82	82	89	58.6	24
14	78	80	91	92	92	89	68	59	52	47	44	40	38	38	38	43	43	43	46	57	74	82	88	89	92	63.0	24
15	83	81	83	82	81	75	70	65	60	54	46	41	39	37	40	46	48	50	53	61	71	73	73	73	83	61.9	24
16	75	76	81	81	81	78	75	72	70	71	74	66	61	58	58	56	58	58	65	70	75	81	89	91	91	71.7	24
17	92	93	93	93	93	93	80	62	55	61	58	58	63	61	62	57	65	76	80	88	86	90	91	92	93	76.8	24
18	92	91	90	91	90	88	86	79	71	70	60	53	50	45	42	45	47	54	61	68	74	77	75	76	92	69.8	24
19	77	77	79	80	81	86	90	90	87	81	77	69	59	50	45	47	47	44	46	54	68	78	78	77	90	69.5	24
20	76	80	83	85	85	81	75	66	58	53	52	53	54	54	49	58	56	61	64	71	82	90	90	91	91	69.5	24
21	92	93	93	93	93	93	93	86	72	58	52	47	41	39	42	44	47	49	53	62	76	78	79	85	93	69.2	24
22	90	92	93	93	93	93	90	64	55	49	43	42	41	40	38	38	40	42	47	61	71	72	70	70	93	63.6	24
23	71	76	81	79	77	76	77	69	69	68	60	56	52	54	57	59	63	63	63	72	88	92	93	92	93	71.1	24
24	93	92	93	93	92	92	90	87	89	89	85	72	71	68	74	67	66	71	75	83	88	91	91	92	93	***83.5***	24
25	92	92	92	92	93	92	91	86	83	80	75	70	65	63	56	49	49	48	48	76	90	92	93	93	93	77.5	24
26	93	93	93	93	93	94	94	91	89	88	80	68	57	56	55	52	53	66	72	84	87	90	93	93	***94***	80.3	24
27	93	94	94	94	94	94	94	91	72	66	65	58	56	57	58	60	65	81	71	80	89	92	93	93	***94***	79.3	24
28	93	94	94	94	94	94	94	89	72	61	55	50	48	44	42	41	42	45	51	64	75	86	90	92	***94***	71.0	24
29	93	93	93	93	94	94	91	76	63	61	55	52	52	50	47	46	47	51	55	69	81	85	91	91	***94***	71.8	24
30	91	89	93	93	93	94	89	75	68	63	57	52	51	50	50	49	48	50	56	74	82	82	84	91	***94***	71.8	24
31	93	93	94	94	94	94	93	87	79	71	68	74	69	67	60	53	49	54	59	73	86	76	73	75	***94***	76.2	24
HOURLY MAX	93	94	94	94	94	94	94	91	89	89	85	78	71	68	74	70	69	83	86	91	92	93	93	93			
HOURLY AVG	86.2	87.3	88.4	88.9	88.8	86.5	83.0	75.1	67.0	62.7	58.0	53.6	51.1	49.5	49.4	49.8	50.5	53.7	57.5	66.6	77.1	81.7	83.9	85.0			

STATUS FLAG CODES

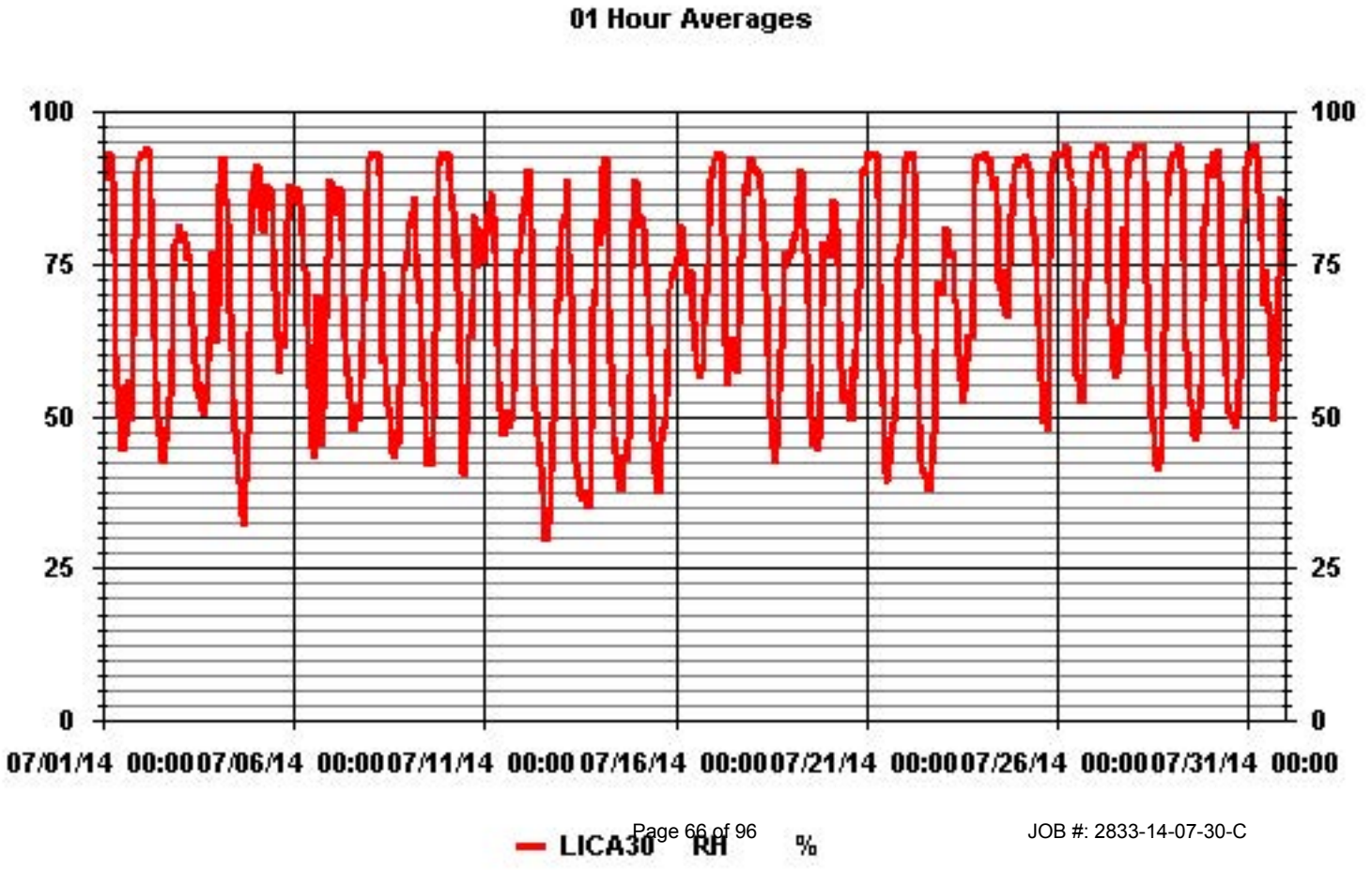
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	94	%	@ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 24-HR AVERAGE:	83.5	%			ON DAY(S)	24
					VAR-VARIOUS	
OPERATIONAL TIME:					744	HRS
AMD OPERATION UPTIME:					100.0	%
STANDARD DEVIATION:	17.83		MONTHLY AVERAGE:		70.06	%

JOB #: 2833-14-07-30-C



JOB #: 2833-14-07-30-C

Barometric Pressure

Lakeland Industry & Community Association - Maskwa Site

JULY 2014

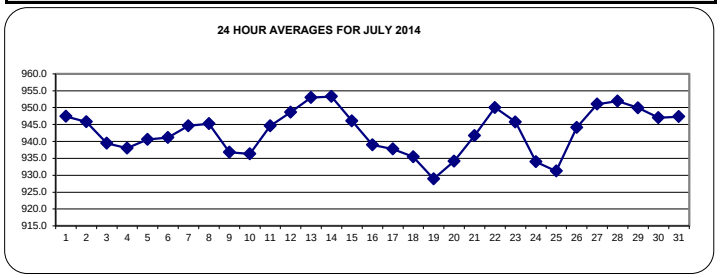
BAROMETRIC PRESSURE (BP) hourly averages in millibar

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	946	946	946	947	947	947	948	948	949	949	949	949	948	948	948	948	948	948	947	947	947	946	946	946	949	947.4	24
2	946	946	946	946	946	946	947	947	947	947	947	947	947	946	946	946	946	945	945	944	944	944	944	944	947	945.8	24
3	944	943	943	943	942	942	942	941	941	941	940	940	939	939	938	938	937	937	936	936	936	936	936	937	944	939.5	24
4	938	936	935	936	936	937	938	937	938	939	939	939	939	939	939	939	939	939	939	939	938	938	938	938	939	938.0	24
5	938	938	938	939	939	939	940	941	941	941	941	941	941	941	942	942	942	942	942	942	941	941	941	941	942	940.6	24
6	942	941	941	941	942	942	942	942	942	942	942	942	941	941	940	940	940	940	941	940	941	941	941	941	942	941.2	24
7	941	941	941	942	943	943	944	945	945	946	946	946	946	946	946	945	946	945	946	946	946	946	945	945	946	944.6	24
8	946	946	946	946	946	946	947	947	948	947	947	947	947	946	946	945	945	944	943	943	942	942	942	941	948	945.2	24
9	941	941	940	940	939	939	939	938	938	938	938	937	936	936	935	934	934	934	933	934	934	934	935	935	941	936.8	24
10	934	934	935	935	935	935	936	936	936	936	936	936	935	936	936	936	936	936	937	938	938	939	940	941	941	936.3	24
11	942	942	942	943	944	944	945	946	946	946	946	946	946	946	946	945	945	945	945	944	944	944	944	944	946	944.6	24
12	944	944	944	945	945	947	948	949	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	948.6	24
13	950	950	950	951	951	952	953	954	954	954	954	954	954	954	954	954	954	954	954	954	953	953	953	953	954	953.0	24
14	954	954	954	954	954	954	955	***956***	***956***	955	955	955	954	954	954	953	953	952	952	951	951	950	949	949	***956***	***953.3***	24
15	949	949	949	948	948	948	948	948	948	948	947	947	947	946	946	945	945	944	944	943	942	942	942	942	949	946.0	24
16	941	940	940	940	939	939	939	939	939	939	939	939	938	938	938	938	938	939	939	939	939	939	939	939	941	939.0	24
17	939	940	940	939	939	939	940	940	940	940	939	939	939	938	938	936	936	936	935	934	935	935	935	935	940	937.8	24
18	935	934	934	935	935	936	936	936	937	937	937	937	937	937	937	936	936	936	935	935	934	934	933	932	937	935.5	24
19	932	930	929	929	929	929	929	929	928	928	929	929	928	928	928	928	929	929	929	929	929	929	929	929	932	928.9	24
20	929	930	930	931	932	933	933	934	934	934	935	935	935	935	936	936	935	935	936	936	936	936	936	937	937	934.1	24
21	937	937	937	938	938	939	939	940	941	942	942	943	943	943	943	943	943	944	944	944	945	945	945	946	946	941.7	24
22	946	946	947	947	948	948	949	950	951	952	952	952	952	952	952	952	951	951	951	951	950	950	950	950	952	950.0	24
23	950	950	950	949	949	948	948	948	948	947	946	946	946	945	945	944	944	943	943	943	942	942	941	941	950	945.8	24
24	940	939	938	937	937	937	936	936	935	934	934	934	934	933	933	933	932	932	932	931	931	930	929	929	940	934.0	24
25	929	928	927	***926***	***926***	927	927	928	928	929	930	930	931	932	933	933	934	934	935	936	936	936	937	937	937	931.2	24
26	938	938	938	939	940	940	941	943	944	944	945	945	946	946	946	946	946	947	947	947	948	948	948	948	948	944.1	24
27	949	949	949	949	950	950	951	951	952	952	952	952	952	952	951	952	952	952	952	951	951	951	951	951	952	951.0	24
28	951	951	952	952	952	952	953	953	954	954	953	953	953	952	952	952	952	951	951	951	951	951	950	950	954	951.9	24
29	950	950	950	950	950	951	951	951	952	952	951	951	951	950	950	950	949	949	949	949	948	948	948	948	952	949.9	24
30	947	947	947	947	947	947	947	948	948	948	948	948	948	948	947	946	946	947	947	947	947	946	946	946	948	947.0	24
31	946	946	946	947	947	947	947	947	948	948	949	948	948	948	948	947	947	947	947	947	947	948	948	948	949	947.3	24
HOURLY MAX	954	954	954	954	954	954	955	956	956	955	955	955	954	954	954	954	954	954	954	954	953	953	953	953			
HOURLY AVG	942.4	942.1	942.1	942.3	942.4	942.7	943.2	943.5	943.8	943.8	943.8	943.8	943.6	943.4	943.3	943.0	942.9	942.8	942.8	942.6	942.4	942.4	942.3	942.4			

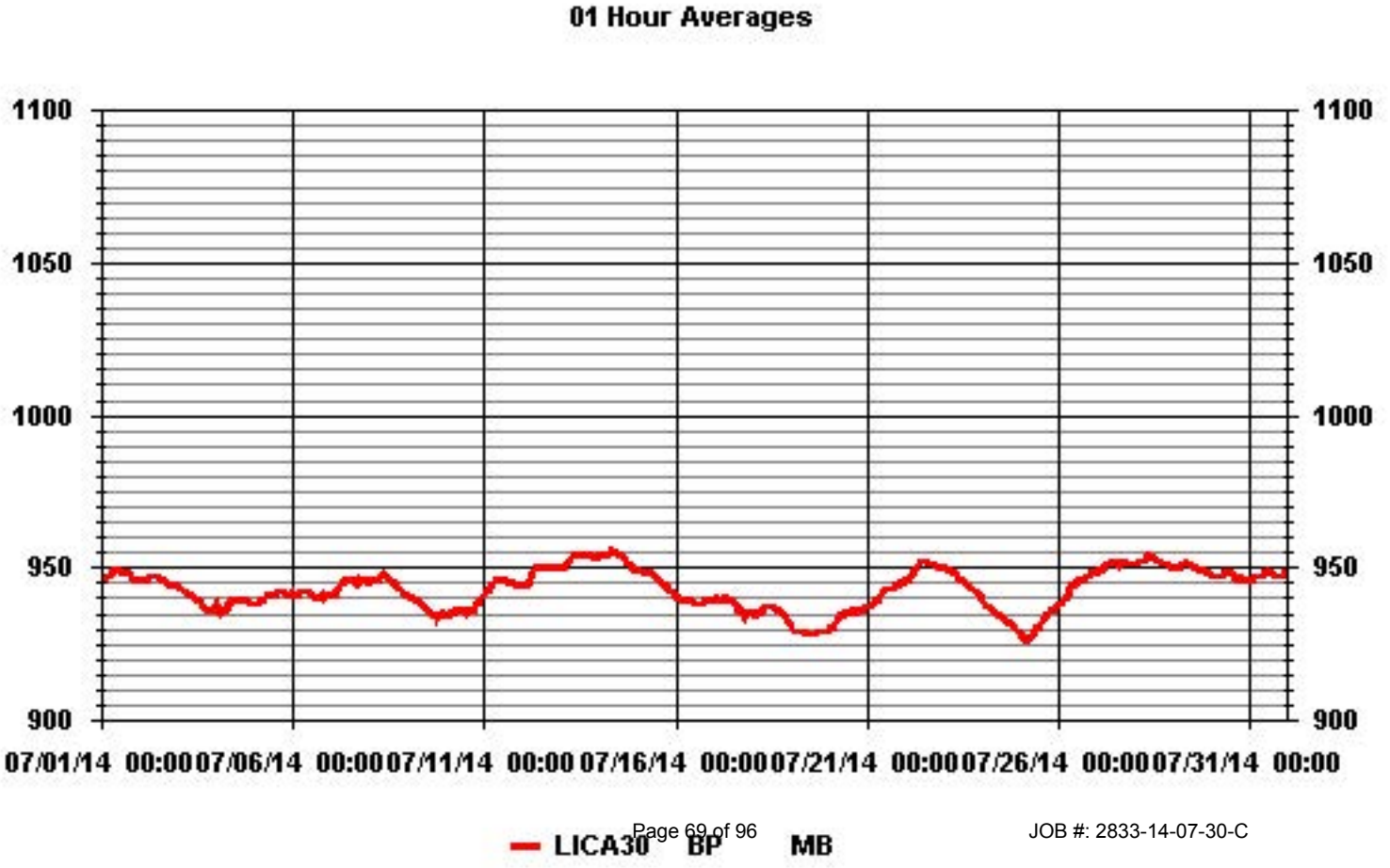
STATUS FLAG CODES

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:	956	MB	@ HOUR(S)	7, 8	ON DAY(S)	14
MAXIMUM 24-HR AVERAGE:	953.3	MB			ON DAY(S)	14
					VAR-VARIOUS	
			OPERATIONAL TIME:		744	HRS
			AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	6.75		MONTHLY AVERAGE:		942.9	MB



JOB #: 2833-14-07-30-C

Vector Wind Speed

Lakeland Industry & Community Association - Maskwa Site

JULY 2014

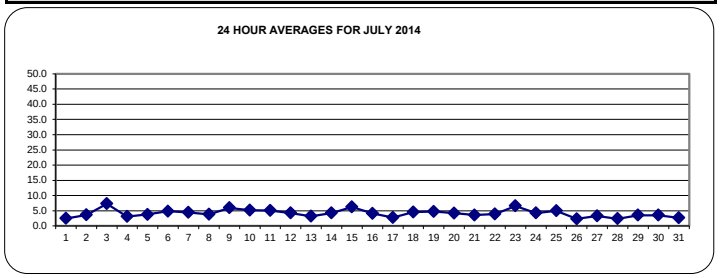
WIND SPEED (WS) hourly averages in km/hr

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	0.4	0.6	1.2	1.3	0.5	0.6	0.4	1	5.1	4.9	3.6	3.3	4.1	5.1	7.5	1.9	5.5	1.8	2.7	3.4	1.9	1.5	0.5	0.4	7.5	2.5	24
2	0.7	0.7	0.6	0.9	1.3	2	1.8	2.9	3.3	3.9	5.3	5	5.4	5.5	6.2	4.7	4.9	4.2	4.1	3.4	3.3	4.3	6.5	6.2	6.5	3.6	24
3	6.9	7.6	7.4	7.3	6.5	5.6	5.5	5.7	6.5	6.8	8.4	9.7	9.6	10.9	10.5	9.9	9.4	8.7	7.8	6.3	4.9	5.1	2.4	5.8	10.9	***7.3***	24
4	3.2	5.6	0.9	2.5	1.7	2.5	2.3	3.3	4.7	4.8	4.6	3.9	3.9	4.2	3.2	3.1	4.1	3.7	2.8	1.5	3.1	0.9	2	2.4	5.6	3.1	24
5	0.9	0.7	1.5	1.9	1.1	4.6	4.8	4.1	4	5.5	2.9	1.5	0.8	1.9	4.2	5	5.4	8	8.5	6.9	4.6	4.9	3.9	2.7	8.5	3.8	24
6	2.8	4.3	4	3.9	4.4	5.8	5.1	4.5	3.9	4.4	5.3	6.8	8.5	8.5	4.3	4.8	7.8	8	5.3	3.6	4.4	2.4	1.7	1.7	8.5	4.8	24
7	3.1	4.7	4.8	3.4	3.1	4	4.9	5.7	4.5	4.7	5.9	5.7	6.5	5.5	7.4	5.6	6.5	7	5.3	3.8	2.8	1.3	0.9	0.4	7.4	4.5	24
8	0.5	0.8	1.4	0.9	0.6	0.7	1.7	1.5	2.5	3.5	3.2	5	4.8	5.2	6.7	6.7	7.6	8.7	6.8	5	3.7	4.1	4.7	5.3	8.7	3.8	24
9	5.2	5.3	5.5	3.4	3.9	6.3	6.9	7.8	7.8	8.3	8.1	8.1	9.6	9.6	10.8	10.7	6.7	8.5	4.2	1.5	0.5	1.2	1.2	1.7	10.8	6.0	24
10	1.7	1.8	1.9	1.9	3.1	3.5	2.5	3.3	3.8	6.4	7.5	8	6.6	8.7	7	7.5	4.9	5.6	5.8	6.5	4.4	6.9	7	7.1	8.7	5.1	24
11	8	6.1	6	5.1	4.8	5.4	6.6	6.5	5.1	6.7	6.5	5.4	5.3	3.3	6.2	5.5	5.5	4.7	3.8	2.2	3.8	5	3.3	2	8.0	5.1	24
12	1.5	2.8	2.2	1.4	2.8	5.6	7.4	6.9	4.2	3.2	4.3	4.6	7.6	6.4	7.3	6.6	6	7.2	7.4	4.3	1.2	0.6	0.2	0.3	7.6	4.3	24
13	0.6	1.1	0.6	0.6	0.8	1.6	4.3	5	5.6	2.5	3.2	3.2	4	4.3	5.3	6.4	6.3	4.7	3.9	2.8	2.3	2.5	1.7	3.6	6.4	3.2	24
14	4.5	2.2	0.4	1.1	0.8	0.4	2.9	4.5	5.7	7.4	6.8	7.3	6.5	6.3	7	5.8	5.9	6.4	5.5	3.4	3	3	2.5	2.8	7.4	4.3	24
15	4	3.9	4.2	5.5	5.7	4.8	5	6.7	7.3	7.7	9.2	8.7	9.5	9.6	9.1	7	5.2	6.7	5.3	4	4.4	5.2	5.8	5.8	9.6	6.3	24
16	5.8	5.2	3.3	4.3	3.6	5.6	5.5	4.6	2.5	3.6	3.9	2.2	2.8	2.7	3.7	4.1	5.6	7	7.8	7	3.7	1.5	1.4	0.9	7.8	4.1	24
17	2.1	1.7	2.4	2.8	1.9	0.2	0.7	0.3	1	6.4	5.2	4.8	3.2	2.4	2.3	1.4	0.9	1.5	3.2	1.3	7.9	5.6	5.6	2.4	7.9	2.8	24
18	3.1	2.6	3.4	2.7	3.7	4.2	4.2	4.9	5.5	4.5	5.2	4	5	5.4	5.1	5.3	6.6	7.6	4.2	3.5	3.2	4.2	5.1	5.3	7.6	4.5	24
19	5.6	6.2	5.6	6	5	4.1	2.2	2.7	2.4	2.2	3.7	5.8	5.9	6.8	6.1	6.2	7.3	7.5	7	4	2.2	2	2.8	4.4	7.5	4.7	24
20	5	4.4	3.9	3.2	3.4	3.9	5.1	3.9	4.6	5.1	4.9	3.4	4.2	5.8	4.5	6.4	6.6	5.5	4.4	3.2	1.2	3.7	2.8	1.6	6.6	4.2	24
21	1.2	2.1	1.1	2	1	0.3	0.6	2	3.5	3.4	4.8	4.3	3.4	2.4	5.1	6.9	7.8	7.6	6.5	4.2	4.1	4.2	3.9	3.1	7.8	3.6	24
22	2.4	0.7	0.6	0.7	1	0.7	0.8	1.9	2.8	5.2	4.8	6	7.2	6	6.6	5.9	6.1	5.8	4.7	3.3	3.5	4.4	5.5	6.5	7.2	3.9	24
23	7	6	4.7	5.7	4.5	5.7	4.3	5.6	6	5.7	7.7	8.2	8.8	9.8	10.3	10.5	11.1	8.5	7.4	5.3	3.4	3.6	4.5	3.7	11.1	6.6	24
24	3.6	4	3.5	3.9	4.4	2.9	3.5	5.3	4.9	5.3	3.8	4.2	5	6.1	4.6	10.1	2.9	1.9	6.7	6	2.8	2.6	2.2	2.6	10.1	4.3	24
25	2.9	2.2	2.5	2.1	2.7	2.1	2.5	4.7	5.9	10.1	***13.3***	12.1	11.2	5	9.4	8.4	5.8	5.3	4.5	3.8	1.5	0.6	0.6	0.5	***13.3***	5.0	24
26	1.3	0.8	1.1	0.5	0.4	0.5	1.1	1.8	2.4	2.2	0.8	1.1	2.7	5.7	2.1	4	6.1	1.9	6.4	3	1.6	2.1	2.3	3.4	6.4	2.3	24
27	0.7	1.1	0.8	1.6	1.9	1.3	1.9	0.5	2.5	2.9	4.3	4.7	7.5	7.5	9.9	4.5	9.3	7.3	3.9	2.3	1	0.6	0.4	0.6	9.9	3.3	24
28	0.6	0.3	0.7	1	0.7	0.2	1	1.1	1.6	0.9	3.6	4.5	4.8	4.1	4.4	5.8	5.2	4	3.6	3.8	3	1	0.9	0.3	5.8	2.4	24
29	0.1	0.2	0.1	0.5	0.3	1	2.1	2.9	4.4	3.7	6.7	6.9	6.9	6.5	6.6	7	6.5	6.3	4.3	3.4	3.2	2.8	2.1	0.6	7.0	3.5	24
30	3.8	1.5	2.9	1.2	1.6	2.4	2.2	4.4	3.2	4.3	4.1	5.1	4.9	5.9	5.9	5.5	4.3	5.3	3.6	2.5	3.5	3.3	2.5	0.8	5.9	3.5	24
31	0.5	1.3	1.5	2.1	0.6	1.2	1.6	1.3	2.1	1	1.6	2.4	3.8	3.3	4.3	4.1	3.5	2.5	1.6	0.5	0.1	9.1	5.1	8.1	9.1	2.6	24
HOURLY MAX	8.0	7.6	7.4	7.3	6.5	6.3	7.4	7.8	7.8	10.1	13.3	12.1	11.2	10.9	10.8	10.7	11.1	8.7	8.5	7.0	7.9	9.1	7.0	8.1			
HOURLY AVG	2.9	2.9	2.6	2.6	2.5	2.9	3.3	3.8	4.2	4.7	5.3	5.4	5.8	5.8	6.2	6.0	6.0	5.8	5.1	3.7	3.0	3.2	3.0	3.0			

STATUS FLAG CODES

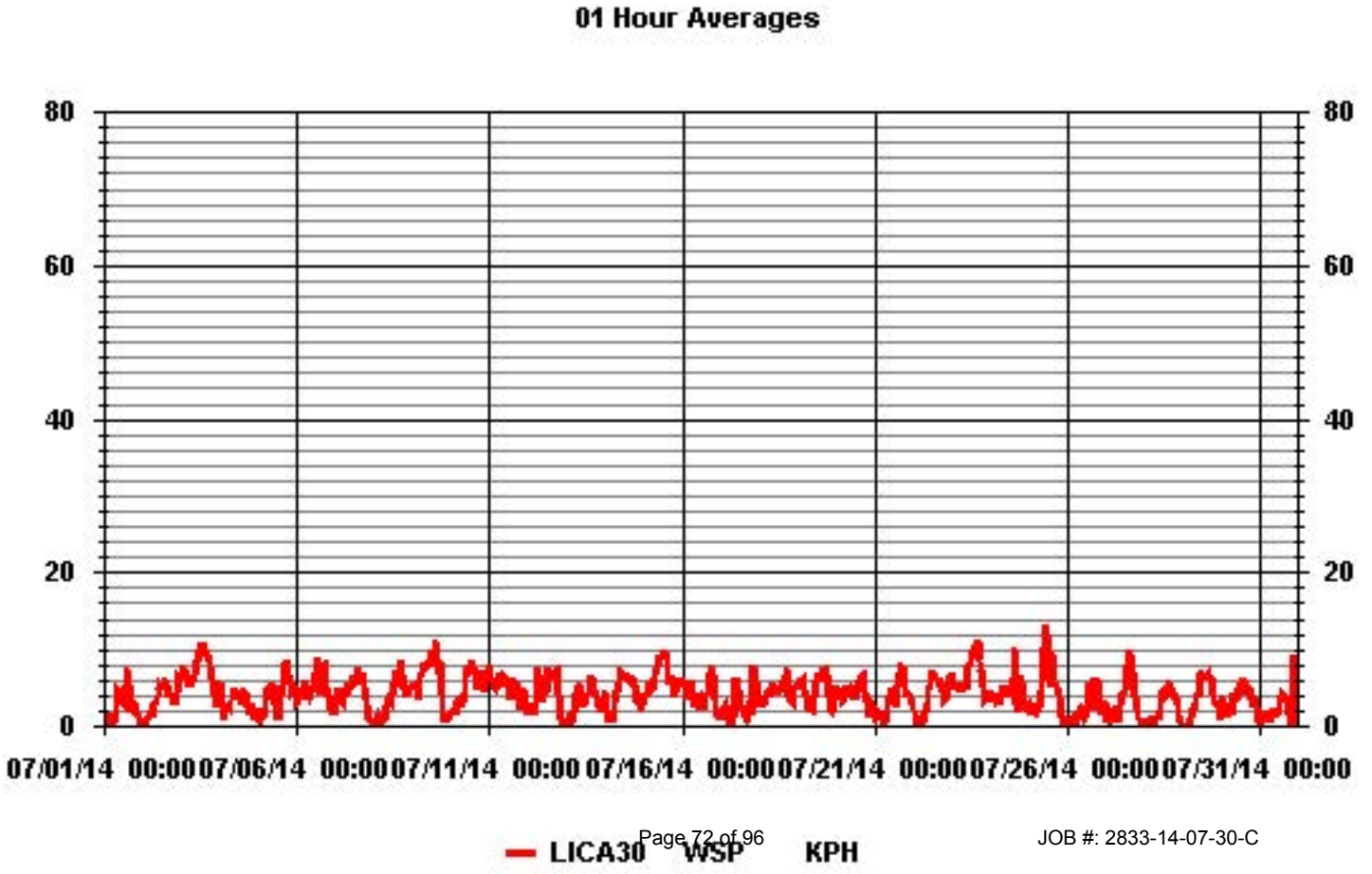
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	744						
MAXIMUM 1-HR AVERAGE:	13.3	KPH	@ HOUR(S)	10	ON DAY(S)	25	
MAXIMUM 24-HR AVERAGE:	7.3	KPH			ON DAY(S)	3	
					VAR-VARIOUS		
			OPERATIONAL TIME:		744	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME:		100.0	%	
STANDARD DEVIATION:	2.43		MONTHLY AVERAGE:		4.16	KPH	



JOB #: 2833-14-07-30-C

Lakeland Industry & Community Association - Maskwa Site

JULY 2014

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST

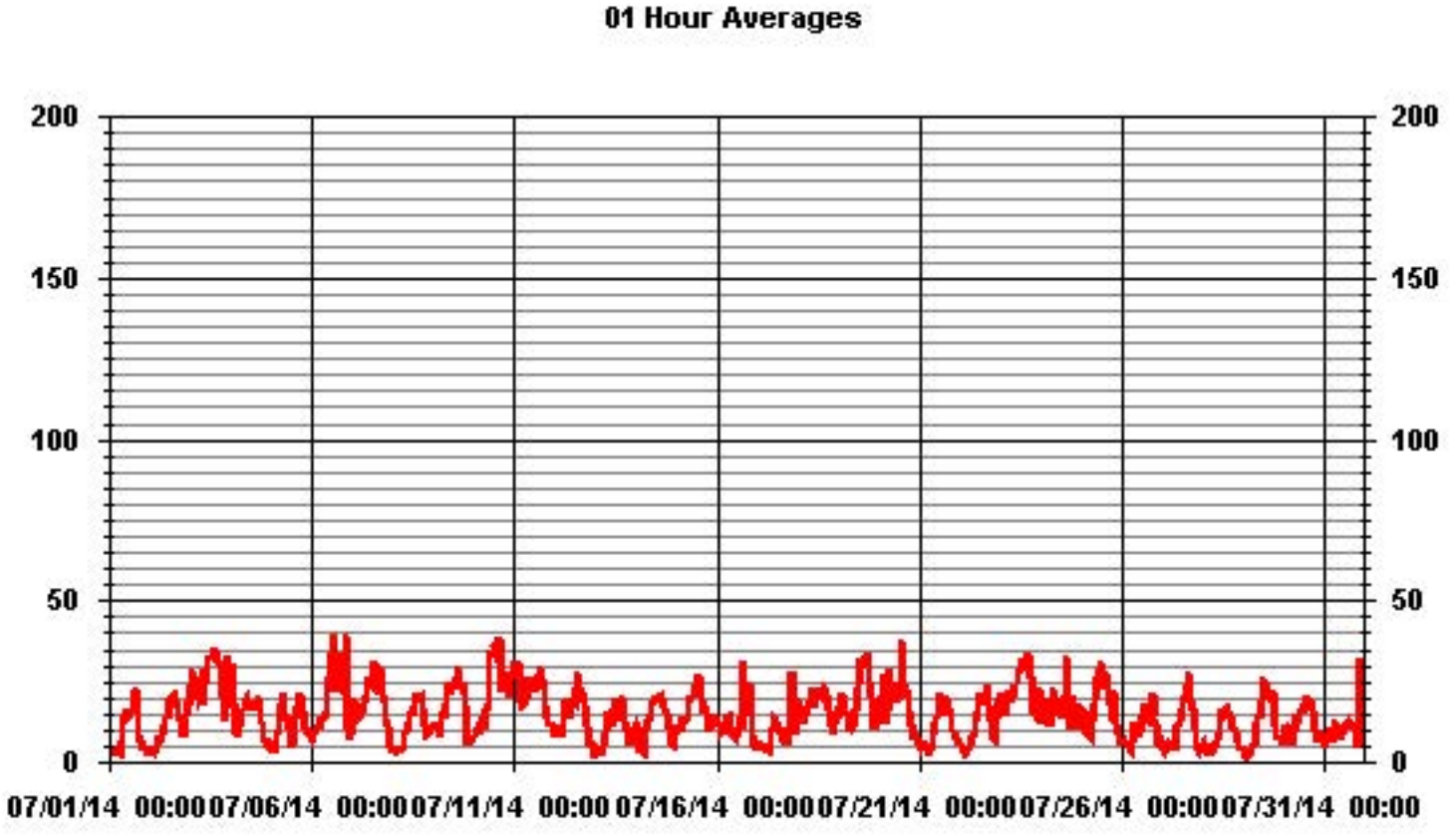
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	3.4	3	3.3	4	3.6	3.4	3	6.9	13.2	14.8	16.3	14.3	15.1	15.3	19.1	21.8	23.1	7.6	7.9	7.3	4.8	4.3	4.3	2.4	23	9.3	24
2	3.9	3.8	4.3	3.5	4.9	7.7	5.8	8.2	11.5	13.7	14.1	18.8	18.6	20.4	20.8	16.8	18.9	15.5	13.6	8.5	8.4	13.8	18.1	18.1	21	12.2	24
3	23.8	28.8	23	26.7	20.3	18.6	19.4	19.1	28.6	24.1	32.3	32.6	31.6	34.6	34.4	35.7	31.6	30.5	24.4	20.6	12.9	17	32.7	21.7	36	***26.0***	24
4	24.7	30.4	19.3	9.2	8.2	14.6	10.5	16.1	19.4	20.2	16.1	17	18.8	15.9	18.6	17.1	20.6	17.5	12.9	7.4	7.1	4.5	5.7	4.8	30	14.9	24
5	4.3	4	6.6	10.1	8.3	18.4	21.2	21	12.9	15	10.5	6.2	5	10.1	13.6	16.5	17.1	21.4	18.5	16.5	11.1	9.7	9.1	8.6	21	12.3	24
6	7.3	8.7	9.8	11.2	10	13.3	13.3	13.7	15.5	26	21.6	33.9	30.9	***39.3***	33.2	21.2	31.2	33.8	22.6	20.8	***39.3***	10.9	6.8	8.4	***39***	20.1	24
7	15	18.8	18.5	13.7	14	15.6	17.1	18.3	20.8	26.4	24.1	23.6	24.9	31	26.2	21.1	29.8	24.3	21.1	19.2	13.7	11.6	5.4	2.8	31	19.0	24
8	4.5	3.7	3.3	4	3.7	4.5	4.8	9.1	9.7	11.9	14.3	15.9	14.6	20	19.5	19.3	21.1	21.4	17.1	12	8.3	8.7	10.6	11.2	21	11.4	24
9	11.1	11.5	11.7	7.9	10	14.3	14.3	18.1	22.7	24.4	21.4	22.5	24.5	25.9	29.5	28.2	24.4	23.1	24.8	17.8	6.3	6.1	7.9	6.1	30	17.3	24
10	8.2	9.9	10.3	10	12.1	14.3	9.8	16.2	17.8	32.8	34.1	34.4	36.7	33.9	30.9	38.8	21.9	28.5	23.3	28.1	20.4	22.8	27.3	27.2	39	22.9	24
11	30	30	30	19.1	17.5	17.8	24.2	26.1	19.2	23.9	25.8	23.8	25.3	22	26.8	29.6	25.2	24.7	17.9	14	11.1	12.2	12	9.2	30	21.6	24
12	9.1	11.5	10	7.9	9.6	16	18.9	19.8	15	14.2	19.8	19	23	27.7	24.4	23.7	18.4	21.1	18.1	11.8	6	4.6	6.4	2.7	28	14.9	24
13	2.9	3.5	3.8	4.4	3.9	5	9.3	15.9	14.5	10.8	14.9	14.4	19.9	16.7	17.3	18.9	20.8	13.3	10	9.5	5.7	6.7	5.7	10.3	21	10.8	24
14	11.9	10.9	4.1	4.4	3.3	2.9	10	12.7	14.4	18.3	18.3	19.8	20.1	20.5	19.6	20.4	17.6	16.8	15.6	10.6	6.4	6.6	5.9	8.2	21	12.5	24
15	10.4	10.3	10.2	12.9	12.9	13.2	14.1	20.3	18.8	20.6	22.6	22.1	26.2	27.3	24.7	18.6	15.4	16.9	15.8	9.5	10.8	11.8	13	14.3	27	16.4	24
16	12.5	12.1	9.5	10.4	8.6	12.6	14.4	14.7	9.2	8.5	8.9	8.1	10.6	12.6	12.2	31.3	15.9	20.2	24	23.8	15.2	9.1	5.5	3.9	31	13.1	24
17	5.4	6	5.9	5.1	4.6	2.7	4.5	4	10.7	14.9	14.5	13	9.1	11.6	9.4	6.7	6.4	5.4	10.6	11.6	28.4	23.4	13.9	8.3	28	9.8	24
18	19.5	16.5	15.4	11.5	16.3	16	18.5	17.2	23.1	18.7	16.9	19.2	22.4	22.2	21.2	22.7	21.6	21.1	16.6	11.9	8.8	11.8	12.2	13.6	23	17.3	24
19	17.9	17.1	21.4	17.7	16.5	14.7	11	11.4	10.6	11.4	16.1	22.8	24.2	31.6	32.1	30.5	29.6	34	25.6	21.1	12	9.8	12.8	19.6	34	19.6	24
20	20.1	14.4	26.8	11.8	15.2	16	28.6	21	18.6	25	20.3	18.8	22.2	37.9	22.5	22.9	21	21	16.6	11.9	6.5	9.4	7.9	6.5	38	18.5	24
21	4.9	6.2	4.4	6.2	4.9	2.2	3.4	5.9	8.2	12.3	13.4	14.8	21.6	14.2	15.4	17.6	20.1	17.4	15.3	10.5	8	8.3	7.5	6.6	22	10.4	24
22	5.8	3.6	2.5	2.7	4	4.4	5.3	8.2	9.1	13	15.7	21.7	20.9	18.4	19.8	17.9	23.6	18	13.3	8.1	7.6	10.9	13.5	19.7	24	12.0	24
23	21.4	19	14.4	17.1	18.8	22.5	18.1	23.8	20	24.1	28.1	28.4	32	29.9	29.8	29.4	33.5	26.5	26.3	16	15.3	14.4	16.8	23.1	34	22.9	24
24	12	14	13.8	16.2	19.8	11.2	13.4	22.7	18.3	19.5	14.5	17.5	13.6	20.7	19.6	32.7	14.5	9.9	21	16.9	18.5	9.7	18.3	11.5	33	16.7	24
25	11.2	11.1	16.3	9.3	8.6	7.9	12.4	18.1	19	26	28.6	31	26.4	22.3	27.6	25.8	21.9	18.1	12.9	22.4	12.2	9	7.1	5.7	31	17.1	24
26	7.3	5	6.5	5.3	4.2	3.5	6	12.7	8.5	8.6	9.8	8.9	15.1	18.4	12	13.1	13.4	10.6	21.8	13.9	12	6.2	5.9	6.6	22	9.8	24
27	4.9	3.6	4.4	5.7	5	5.3	4.7	4.7	11	11.7	12.6	16.1	18.5	20.2	23.5	27.8	24.7	19.8	16.8	11	4.5	3.3	4.4	4.9	28	11.2	24
28	5.9	4	4.6	4.1	3.1	3.2	5	5.1	6.6	9	13	15.6	15.9	16.6	14.1	16.6	14.4	11.6	11.2	10	6.9	4.7	4.7	4	17	8.7	24
29	4	2.5	1.8	2.9	3.2	5	5.3	12	15.1	13.5	18.9	26	23.9	24.1	21.7	20.7	21.7	21.4	11.9	7.1	8	7.5	7.7	5.4	26	12.1	24
30	11.6	8.3	10.7	10	5.5	7.6	9.1	15.1	14.1	15.8	15.9	16.1	18.1	20.8	19.5	19	17.2	16.3	10.1	5.8	8.3	7.7	9.8	6.9	21	12.5	24
31	4	6.8	8.7	10.3	6.4	7.5	13.4	8.3	9.3	7.1	8.5	10.2	12.4	10.7	12.7	11.6	11.8	11.1	11.1	5.4	4.6	32.4	16.2	20.3	32	10.9	24
HOURLY MAX	30	30	30	27	20	23	29	26	29	33	34	34	37	39	34	39	34	34	26	28	39	32	33	27			
HOURLY AVG	10.9	10.9	10.8	9.5	9.3	10.4	11.9	14.4	15.0	17.3	18.1	19.6	20.7	22.3	21.7	22.4	20.9	19.3	17.1	13.6	11.3	10.6	10.8	10.4			

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:	39	KPH	@ HOUR(S)	13, 20	ON DAY(S)	6
				VAR-VARIOUS		
OPERATIONAL TIME:					744	HRS



JOB #: 2833-14-07-30-C

LICA30
WSP / WDR Joint Frequency Distribution (Percent)

July 2014

Distribution By % Of Samples

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

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	2.28	2.68	3.76	2.95	3.89	4.16	6.18	4.43	10.48	12.63	5.91	3.89	4.03	3.76	4.16	2.68	77.95
<	12.0	.94	1.88	.13	.13	.00	.53	2.95	3.09	3.22	3.89	.53	.80	1.07	2.41	.13	.00	21.77
<	20.0	.00	.26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.26
<	29.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	3.22	4.83	3.89	3.09	3.89	4.70	9.13	7.52	13.70	16.53	6.45	4.70	5.10	6.18	4.30	2.68	

Calm : .00 %

Total # Operational Hours : 744

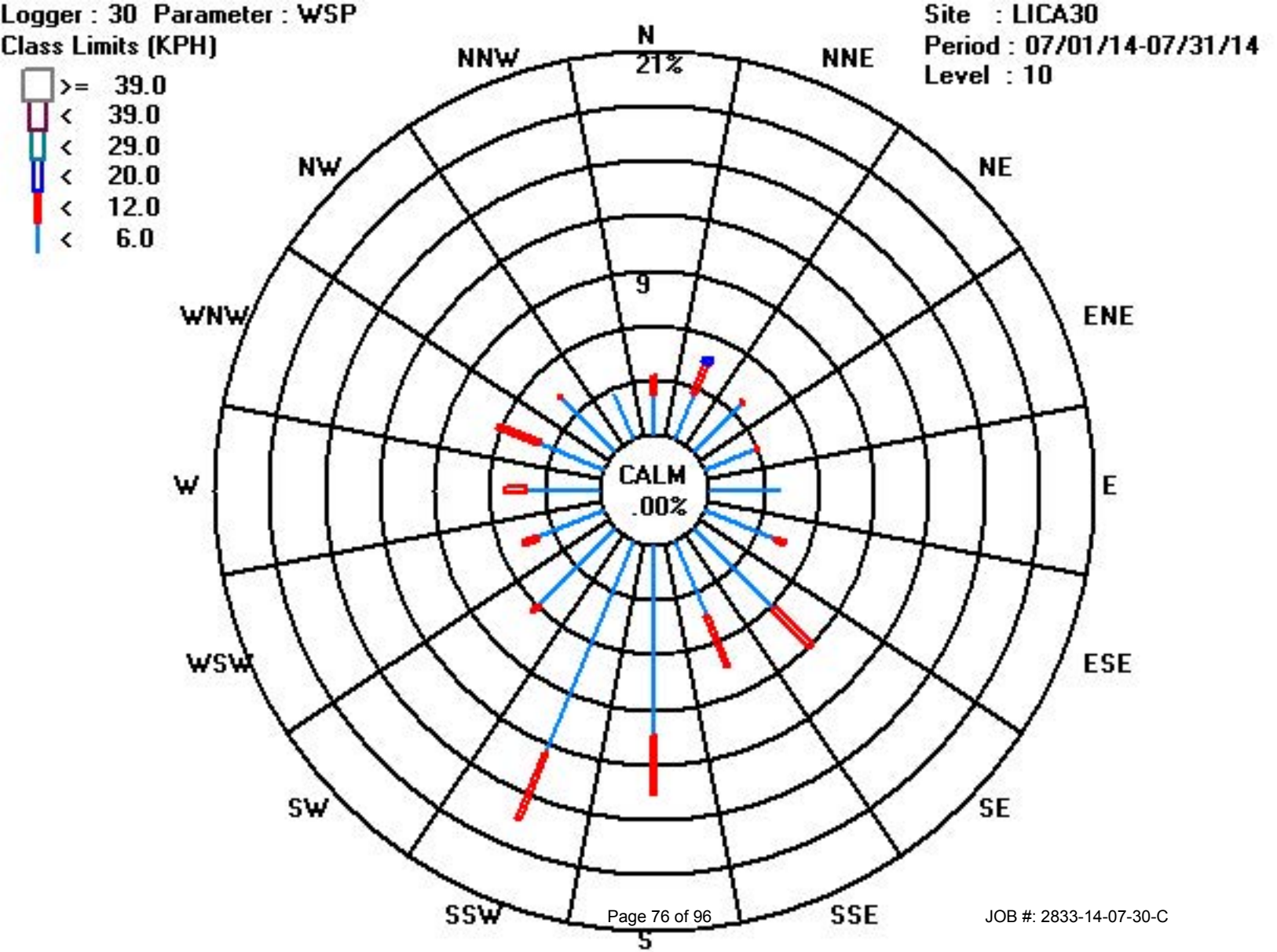
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	17	20	28	22	29	31	46	33	78	94	44	29	30	28	31	20	580
<	12.0	7	14	1	1		4	22	23	24	29	4	6	8	18	1		162
<	20.0		2															2
<	29.0																	
<	39.0																	
>=	39.0																	
	Totals	24	36	29	23	29	35	68	56	102	123	48	35	38	46	32	20	

Calm : .00 %

Total # Operational Hours : 744



JOB #: 2833-14-07-30-C

Vector Wind Direction

Lakeland Industry & Community Association - Maskwa Site

JULY 2014

WIND DIRECTION (WD) hourly averages in degrees

MST

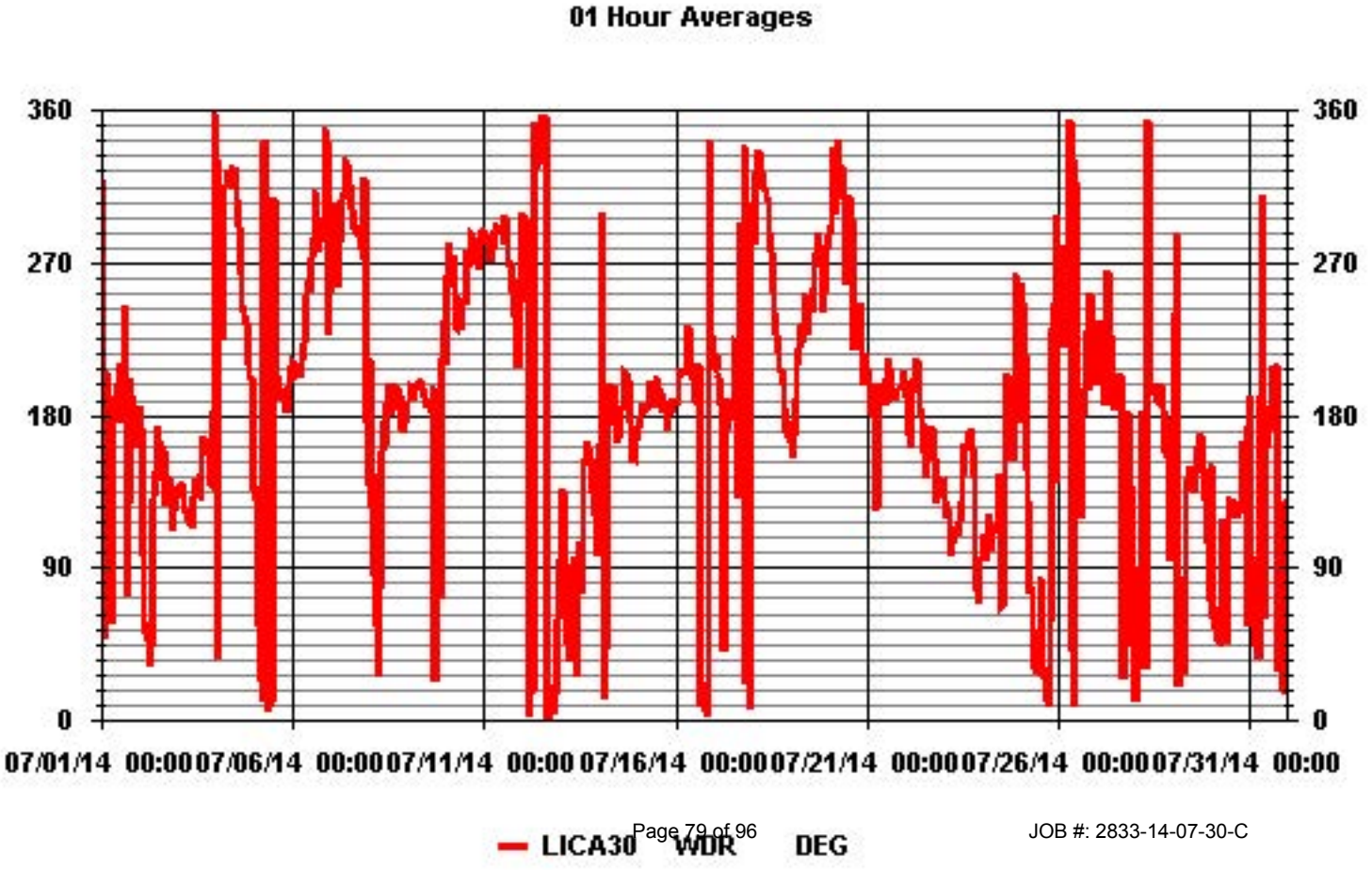
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUANDRANT	RDGS.
DAY																											
1	318	48	181	206	126	125	57	68	182	191	199	175	210	193	210	245	73	128	202	193	170	166	160	176	318	NW	24
2	185	174	98	51	58	48	32	43	130	133	147	173	141	160	162	160	126	134	143	134	112	123	138	133	185	S	24
3	133	138	140	135	126	123	120	118	117	114	132	142	134	133	145	160	167	165	161	157	140	139	183	359	359	N	24
4	332	36	309	235	224	315	322	321	324	316	328	313	326	309	292	264	241	245	240	235	211	201	203	137	332	NNW	24
5	137	131	56	22	61	10	341	343	4	14	8	11	308	265	204	194	191	191	194	196	181	197	209	213	343	NNW	24
6	212	203	204	208	209	202	212	222	251	256	259	252	273	284	313	276	282	283	296	284	350	343	227	252	350	N	24
7	276	302	303	303	255	282	306	311	308	332	329	327	317	303	291	289	291	287	285	279	271	321	176	138	332	NNW	24
8	213	125	147	86	56	46	25	77	159	177	162	187	198	181	183	197	197	193	197	193	173	170	175	183	213	SSW	24
9	188	197	196	189	193	198	199	198	201	197	192	184	189	186	182	186	197	22	54	123	72	213	236	218	236	SW	24
10	209	263	281	259	256	274	232	231	236	230	247	246	246	277	271	268	287	286	280	279	266	278	288	290	290	WNW	24
11	285	285	282	272	270	278	289	293	287	290	289	288	281	298	282	269	269	252	261	239	212	208	226	246	298	WNW	24
12	300	272	296	268	1	18	21	16	353	327	328	341	357	349	358	3	2	21	17	16	3	15	59	95	358	N	24
13	109	137	67	94	47	44	34	47	42	96	25	106	75	103	152	152	165	161	153	155	135	122	97	136	165	SSE	24
14	154	163	299	12	115	41	174	197	197	195	197	164	171	166	184	186	206	205	202	176	152	156	155	165	299	WNW	24
15	172	173	179	186	182	183	186	193	200	190	184	190	203	197	192	192	182	185	186	171	181	182	184	188	203	SSW	24
16	188	190	207	203	205	205	208	214	233	208	200	206	189	188	211	7	23	12	7	7	2	343	229	212	343	NNW	24
17	206	216	206	203	187	181	41	47	170	189	179	177	188	223	222	131	293	191	204	339	22	26	14	6	339	NNW	24
18	306	280	323	328	337	320	324	315	313	309	307	289	277	253	242	228	218	205	208	199	185	171	169	172	337	NNW	24
19	170	155	167	190	209	219	232	233	223	252	237	227	250	240	255	268	276	288	282	268	240	252	255	278	288	WNW	24
20	286	292	315	338	298	314	343	329	327	308	284	257	285	310	297	224	218	222	224	232	246	198	217	215	343	NNW	24
21	209	202	181	178	199	130	124	198	195	194	186	197	202	214	209	190	191	191	194	195	196	197	201	205	214	SSW	24
22	202	191	169	160	193	202	206	213	207	185	180	158	175	142	164	155	162	173	155	129	131	139	144	140	213	SSW	24
23	141	131	119	125	97	109	105	114	115	109	117	129	144	163	161	168	170	172	161	144	96	78	68	94	172	S	24
24	96	109	93	106	121	108	99	114	113	114	116	145	67	68	107	189	205	192	156	153	161	264	211	175	264	W	24
25	208	258	248	217	149	131	74	79	55	32	29	29	28	84	32	25	18	12	8	58	232	246	140	298	298	WNW	24
26	255	261	257	280	220	235	321	354	41	8	330	319	170	178	119	180	195	230	195	222	252	214	203	198	354	N	24
27	223	217	236	219	214	185	202	265	228	227	197	183	187	204	192	204	24	51	83	115	182	140	43	55	265	W	24
28	10	81	90	71	182	84	31	31	354	228	192	198	195	192	190	189	198	195	184	159	156	94	101	178	354	N	24
29	240	145	287	20	63	85	27	83	135	142	150	142	137	134	146	161	167	169	153	149	130	106	70	95	287	WNW	24
30	151	61	54	66	48	47	60	119	95	45	86	132	128	126	131	121	121	124	124	140	165	155	174	55	174	S	24
31	192	86	96	43	89	36	89	192	310	60	167	161	170	186	209	202	207	211	29	126	127	18	16	24	310	NW	24

STATUS FLAG CODES

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

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

MONTHLY CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	744	HRS
STANDARD DEVIATION:	84.09		AMD OPERATION UPTIME:	100.0	%
			MONTHLY AVERAGE:	192	DEG



JOB #: 2833-14-07-30-C

Standard Deviation Wind Direction

Lakeland Industry & Community Association - Maskwa Site

JULY 2014

STANDARD DEVIATION WIND DIRECTION (STDWD) hourly averages in degrees

MST

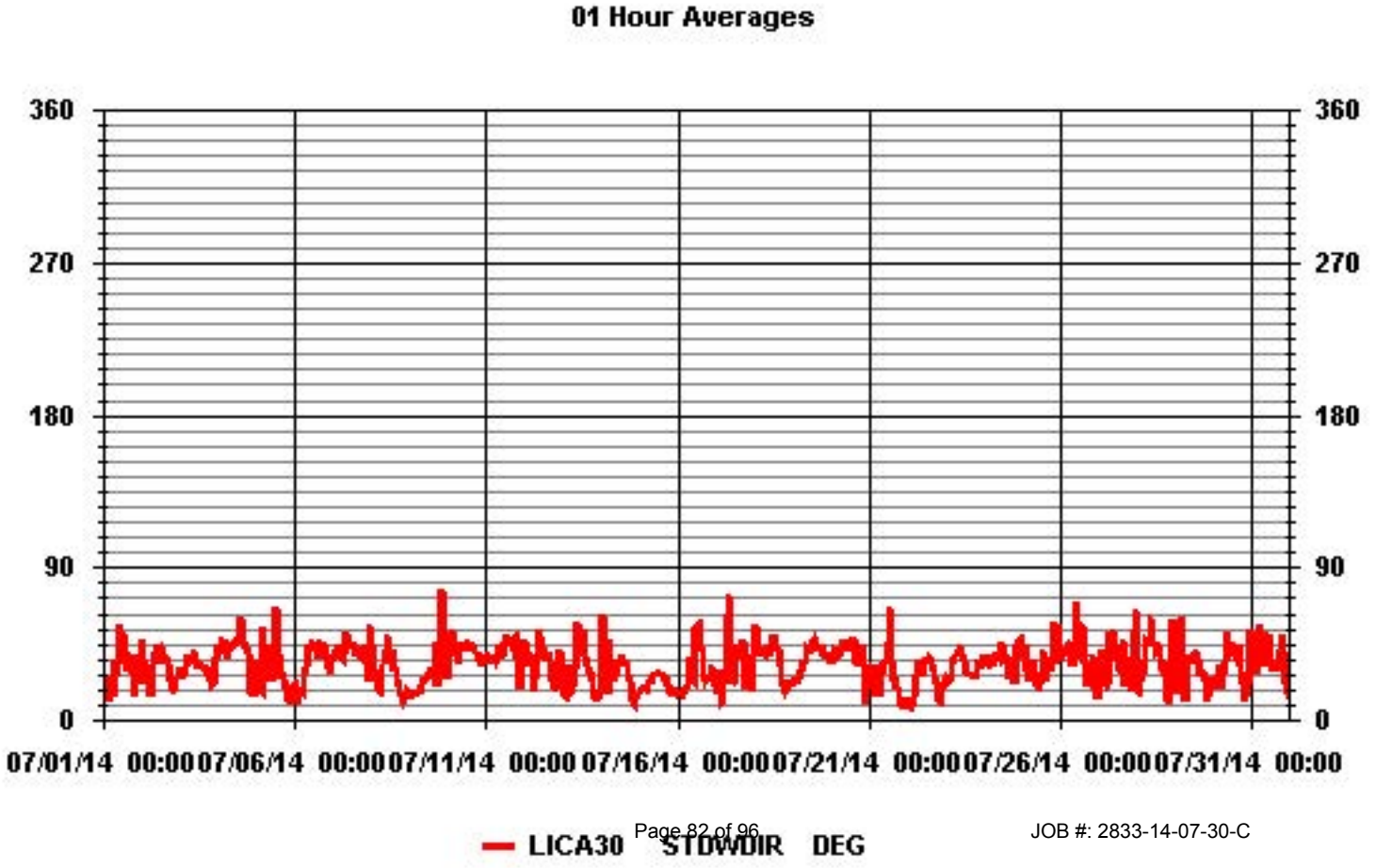
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00
DAY																								
1	24	10	25	11	25	15	15	36	25	34	56	44	52	35	29	36	38	37	29	13	39	28	23	21
2	47	36	32	22	17	16	14	33	40	44	33	41	43	41	38	34	36	34	24	18	16	22	24	26
3	29	29	27	28	32	39	37	36	38	41	37	31	33	32	32	30	30	27	25	24	20	21	36	37
4	43	44	49	39	43	36	45	44	43	45	45	47	45	50	61	57	43	45	44	40	16	20	13	25
5	25	35	18	17	55	25	42	42	33	23	38	45	67	51	40	24	27	25	20	17	13	10	13	20
6	21	10	14	18	18	17	27	31	42	41	42	45	45	44	45	36	39	41	45	41	37	32	27	39
7	34	41	38	44	39	38	36	39	50	50	46	45	42	45	37	43	42	38	37	40	39	44	22	56
8	46	36	23	29	18	17	23	33	39	38	51	40	37	38	29	31	24	22	18	15	12	14	17	15
9	16	15	16	16	16	17	17	20	23	23	24	27	27	30	27	25	46	20	38	51	77	53	44	26
10	24	42	51	53	38	40	33	40	46	40	45	46	46	40	44	44	44	41	37	37	36	32	37	36
11	34	40	38	37	34	38	35	37	44	39	37	45	46	50	43	49	46	48	49	37	20	18	33	42
12	47	32	38	38	33	17	21	24	36	53	50	45	36	41	34	40	35	24	20	19	20	29	41	24
13	16	15	22	32	14	16	20	32	30	58	50	51	50	51	39	34	32	29	24	12	17	10	18	16
14	18	63	40	35	15	48	25	25	29	26	33	33	36	38	32	35	34	27	24	13	10	9	12	16
15	18	18	19	19	18	21	24	23	21	27	27	27	28	28	27	23	27	22	21	17	16	16	17	17
16	15	16	17	16	19	18	21	29	37	24	23	54	55	56	42	42	25	23	25	25	26	32	30	21
17	15	30	17	11	12	24	29	62	74	21	25	23	24	39	45	41	36	47	18	40	23	22	17	34
18	51	56	48	37	42	41	41	39	42	42	38	50	47	48	44	42	33	24	21	18	20	17	21	22
19	22	23	25	21	24	29	36	34	35	43	42	40	45	45	48	46	41	43	37	44	38	38	40	33
20	38	33	42	41	39	42	40	42	47	44	41	48	45	43	49	34	32	38	36	35	45	9	24	30
21	32	31	18	23	14	33	13	26	27	34	36	41	46	67	35	25	25	20	19	14	10	9	10	11
22	9	8	12	8	14	26	29	34	34	25	35	37	33	38	37	34	30	26	22	13	12	16	18	22
23	25	23	24	27	35	35	38	40	40	44	40	37	35	29	28	28	27	26	26	26	34	34	31	38
24	35	38	34	33	36	38	32	38	37	35	44	44	36	37	35	24	35	34	23	23	44	38	47	48
25	40	41	42	30	22	29	36	34	29	21	20	23	23	42	28	27	37	31	29	56	56	33	41	57
26	35	41	37	42	44	42	41	32	46	41	69	56	56	36	57	34	20	32	24	34	39	20	19	12
27	17	20	41	34	22	20	21	52	45	53	35	44	29	33	27	47	19	27	36	28	17	37	54	65
28	18	17	22	36	27	47	46	48	59	58	45	40	41	45	43	28	35	27	21	12	10	31	60	50
29	15	25	41	21	61	27	11	34	35	38	33	36	39	41	37	29	30	29	24	12	14	20	20	25
30	19	23	27	32	18	20	27	34	52	39	42	37	46	40	37	39	45	30	22	11	15	17	21	54
31	32	33	39	27	54	54	42	32	46	52	43	51	32	29	32	33	35	28	42	50	41	23	17	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: February 5, 2014

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 744 HRS



JOB #: 2833-14-07-30-C

Calibration Reports

Sulphur Dioxide

API 100E SO2 Analyzer Calibration

Date:	16-Jul-14	**Start/End Time (mst):**	10:51/14:10
Company:	LICA	**Calibration Purpose:**	Monthly Calibration
Station Name/Location:	Maskwa	**Converter Make & Model:**	NA
Performed by:	Kevin Hope	**Converter Serial #:**	NA
Application H_2S/TRS/SO_2:	SO2	**Cal Gas Expiry Date:**	4-Feb-18

Analyzer:

Serial Number:	508	**Range ppb:**	1000
Last Calibration Date:	20-Jun-14	**As Found C.F.**	0.983
Previous Cal High Point C.F.:	0.999	**New C.F.:**	1.002

	As found:	**As left:**
SLOPE:	1.289	1.269
OFFSET:	83.1	87.0
HVPS:	491	491
RCELL TEMP:	50.0	50.0
BOX TEMP:	29.3	28.4
PMT TEMP:	7.7	7.7
IZS TEMP:	45.0	45.0
TEST:	NA	NA
STABIL:	0.1	0.6
PRES:	24.1	24.2
SAMP FL:	585	586
PMT:	71.5	71.3
NORM PMT:	88.1	86.6
UV LAMP:	2475	2470
LAMP RATIO:	82.4	82.2
STR. LGT	53.6	55.2
DRK PMT:	11.6	11.5
DRK LMP:	-1.8	-1.9
Internal Span:	268.5	262.2

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	4997	0	4997
high	4916	78	4994
mid	4957	38	4995
low	4977	19	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	2.4	NA
adjusted zero	4997	0.0	4997	0	0.0	NA
as found high	4916	77.68	4994	749.8	763.0	0.983
adjusted high	4916	77.68	4994	749.8	749.3	1.001
mid	4957	37.84	4995	365.2	364.0	1.003
low	4977	18.92	4996	182.5	182.0	1.003
calibrator zero	4997	0.00	4997	0	0.1	NA
					Average C.F.=	1.002

Linear Regression/Calibration Results:

		LIMITS	**Pass/Fail ?**
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**1.001**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**0.03%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**1.63%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

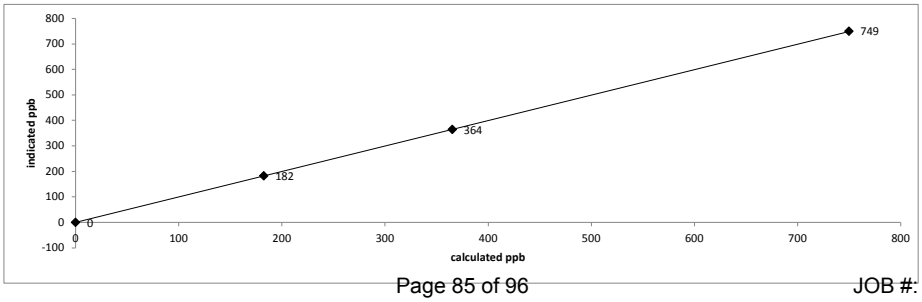
****run converter effeciency test immediately following zero adjust****

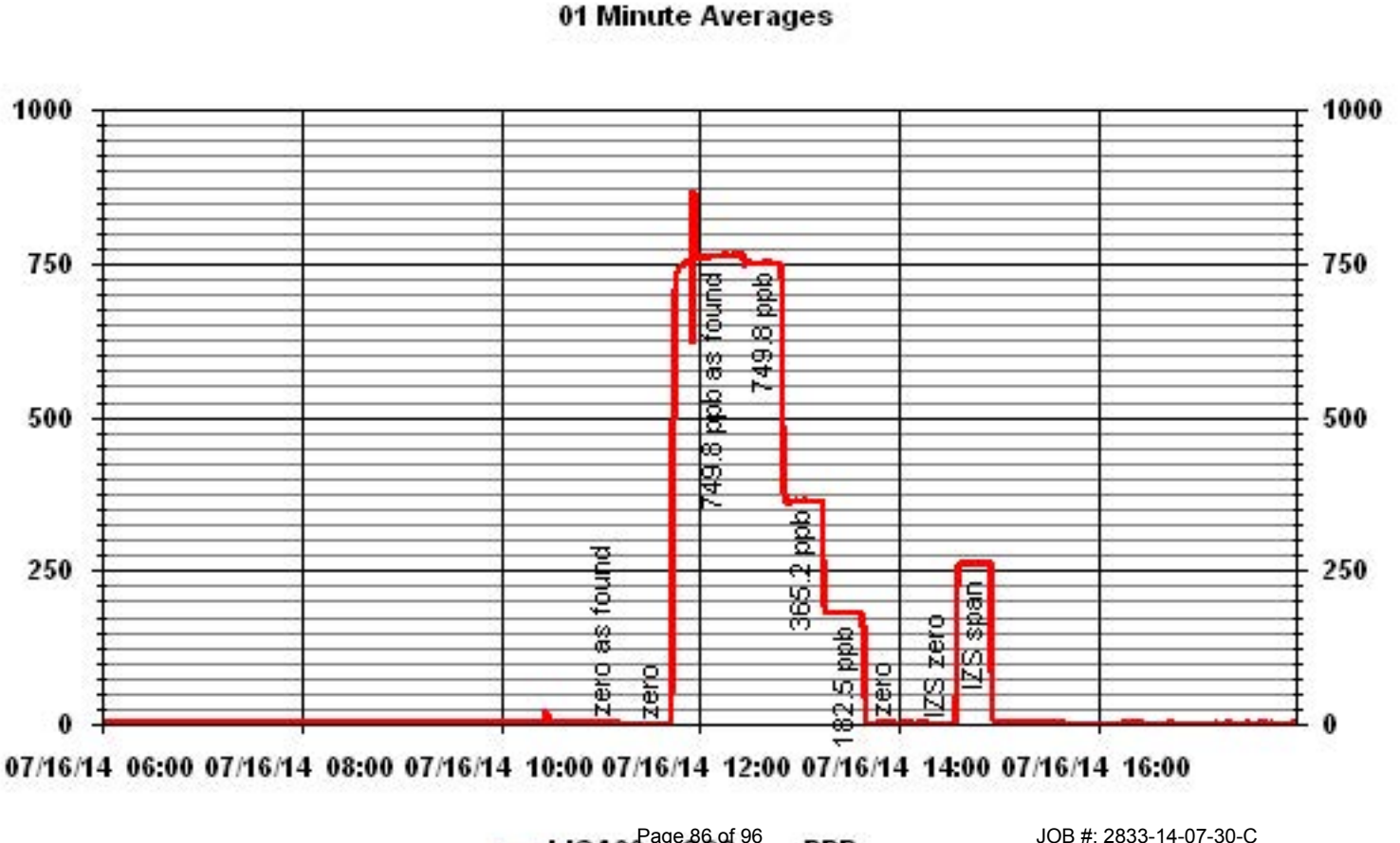
SO_2 High Point gas concentration:	NA	Time gas run (mst):	NA
Zero corrrected analyzer response:	NA		

Comments:

Sample filter changed

API 100E SO2 Analyzer Calibration





JOB #: 2833-14-07-30-C

Hydrogen Sulphide

API 101E H2S Analyzer Calibration

Date:	16-Jul-14	**Start/End Time (mst):**	10:50/14:10
Company:	LICA	**Calibration Purpose:**	Monthly Calibration
Station Name/Location:	Maskwa	**Converter Make & Model:**	NA
Performed by:	Kevin Hope	**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:	10-Jun-14	**As Found C.F.**	0.989
Previous Cal High Point C.F.:	1.005	**New C.F.:**	1.003

	As found:	**As left:**
SLOPE:	1.236	1.210
OFFSET:	32.8	32.8
HVPS:	584	584
RCELL TEMP:	50.0	50.0
BOX TEMP:	30.6	30.2
PMT TEMP:	7.9	7.9
IZS TEMP:	45.0	45.0
TEST:	NA	NA
STABIL:	0.1	0.0
PRES:	28.9	28.5
SAMP FL:	657	650
PMT:	59.1	57.2
NORM PMT:	35.0	33.7
UV LAMP:	3190	3190
LAMP RATIO:	88.5	88.6
STR. LGT	20.3	19.8
DRK PMT:	29.6	29.6
DRK LMP:	5.7	5.7
Internal Span:	50.85	50.78

Calibrator:

Flow Meter ID's:	NA
Make & Model:	API 700
Serial #:	830
Cal Gas Cylinder I.D. # :	BLM005049
Cal Gas Conc. (ppm):	10.1

Calibrator Flow Targets:

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

Calibration:

Calibrator Flow Rates (cc/min)				**Calculated Concentration:**	**Indicated Concentration:**	**Correction Factors:**
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	5000	0.0	5000	0	0.1	NA
adjusted zero	5000	0.0	5000	0	0.1	NA
as found high	4957	38.60	4996	78.0	79.0	0.989
adjusted high	4957	38.60	4996	78.0	78.4	0.997
mid	4979	18.80	4998	38.0	38.0	1.002
low	4990	10.90	5001	22.0	21.9	1.010
calibrator zero	5000	0.00	5000	0	0.1	NA
					Average C.F.=	1.003

Linear Regression/Calibration Results:

		LIMITS	**Pass/Fail ?**
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**0.995**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**0.06%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**1.58%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

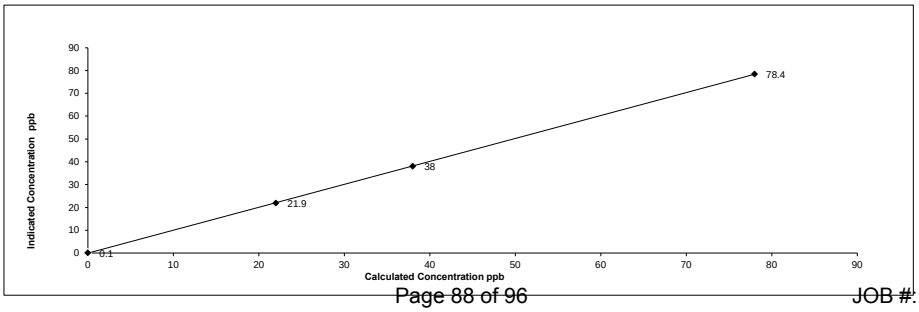
****run converter effeciency test immediately following zero adjust****

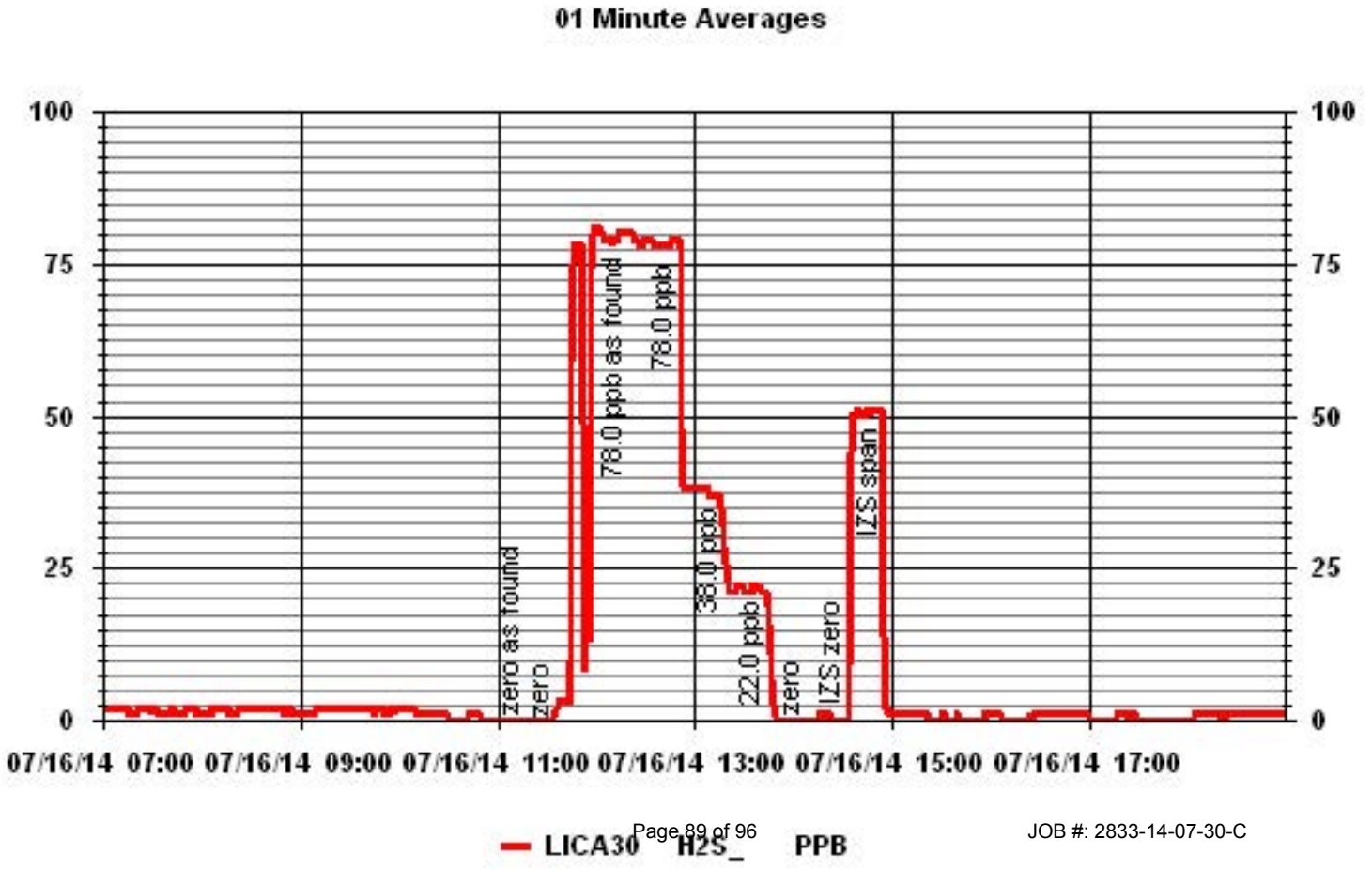
SO_2 High Point gas concentration:	200 PPB	Time gas run (mst):	11:34-11:41
Zero corrrected analyzer response:	3.1		

Comments:

Sample filter changed

API 101E H2S Analyzer Calibration





JOB #: 2833-14-07-30-C

Total Hydrocarbons

Maxxam Thermo 51C THC Analyzer Calibration

Date:	16-Jul-14	**Start Time (mst):**	14:46
Company:	LICA	**End Time (mst):**	17:20
Station Name/Location:	Maskwa	**Calibration Purpose:**	Monthly Calibration
Performed by:	Kevin Hope	**Cal Gas Expiry Date:**	26-Mar-17

Analyzer:

Serial Number:	436609738	**Range ppm:**	50
Last Calibration Date:	11-Jun-14	**As Found C.F.**	0.971
Previous Cal High Point C.F.:	1.001	**New C.F.:**	1.017

		As found:	As left:
	H_2 cylinder (psi):	1300	1300
	H_2 cylinder reg set (psi):	20	20
	Span Cylinder (psi):	500	2000
	Span Cylinder Reg Set (psi):	27	27
	Zero Air Gen Pressure:	35	35
	measurement alarms:	None	None
	service alarms:	None	None
FID status:	cnt:	2960	2960
	rng:	1	1
	try:	3	3
	flm:	178.6	178.6
	det:	125.5	125.5
Oven Readings:	Flame:	178	178
	Filter:	125	125
	Base:	125	125
	Pump:	7.50	7.50
Voltages:	+5	4.9	4.9
	+15	14.8	14.8
	-15	-15.0	-15.0
	Internal Span:	36.6	36.6

Calibrator:

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

Calibrator Flow Targets:

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

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppm)	(ppm)	
as found zero	2000	0.00	2000	0	0.02	NA
adjusted zero	2000	0.00	2000	0	0.01	NA
as found high	2000	65.00	2065	36.42	37.50	0.971
adjusted high	2000	65.00	2065	36.42	36.40	1.001
mid	2000	30.00	2030	17.10	16.90	1.012
low	2000	15.00	2015	8.61	8.30	1.039
calibrator zero	2000	0.00	2000	0	0.00	NA
					Average C.F.=	1.017

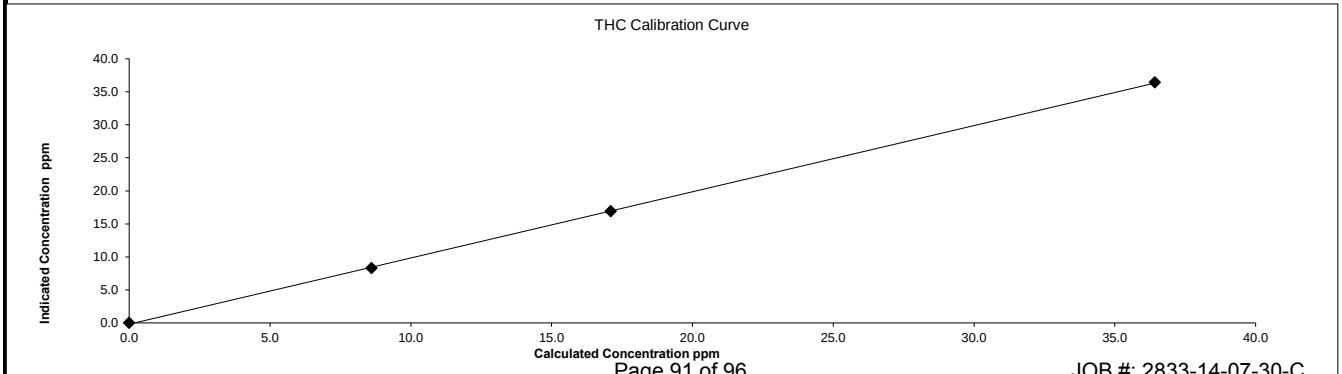
Linear Regression/Calibration Results:

		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**1.002**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**-0.325%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**2.97%**	**± 15%**	**PASS**

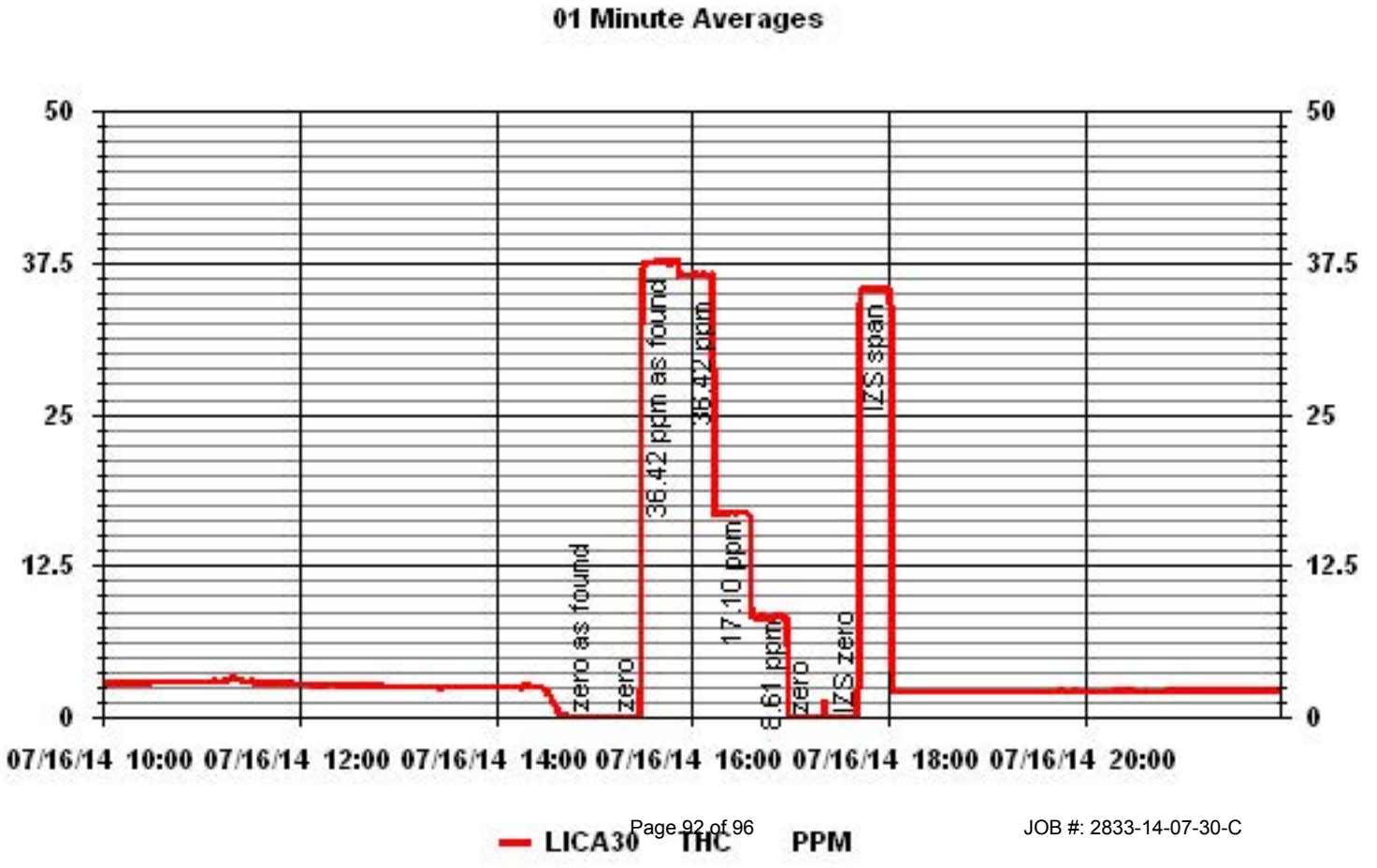
Comments:

Sample filter changed.

Thermo 51C THC Analyzer Calibration



JOB #: 2833-14-07-30-C



JOB #: 2833-14-07-30-C

Nitrogen Dioxide

API 200E NOx Analyzer Calibration

Date:	16-Jul-14	**Start Time (mst):**	10:51
Company:	LICA	**End Time (mst):**	16:05
Station Name/Location:	Maskwa	**Calibration Purpose:**	Monthly Calibration
Performed by:	Kevin Hope	**Cal Gas Expiry Date:**	4-Feb-18

Analyzer Serial Number:	594
Last Calibration Date:	20-Jun-14
Range ppb:	1000

Correction Factors:

	As found C.F.	Previous Cal High Point C.F.:
NO=	0.991	1.000
NOx=	0.992	1.000
NO_2=	0.995	0.998

As found:	
NOx SLOPE:	1.078
NOx OFFS:	0.1
NO SLOPE:	1.075
NO OFFS:	-0.1
TEST:	NA
SAMP FLW:	454
OZONE FL:	78
PMT:	12.0
NORM PMT:	0.5
AZERO:	15.3
HVPS:	750
RCELL TEMP:	50.3
BOX TEMP:	29.8
PMT TEMP:	6.6
IZS TEMP:	42.1
MOLY TEMP:	314.3
RCEL:	5.6
SAMP:	26.9
Internal Span:	500/6/494

As left:	
NOx SLOPE:	1.067
NOx OFFS:	0.6
NO SLOPE:	1.065
NO OFFS:	-0.2
TEST:	NA
SAMP FLW:	453
OZONE FL:	78
PMT:	14.0
NORM PMT:	4.0
AZERO:	15.0
HVPS:	750
RCELL TEMP:	50.3
BOX TEMP:	29.8
PMT TEMP:	6.6
IZS TEMP:	42.1
MOLY TEMP:	314.3
RCEL:	5.6
SAMP:	26.9
Internal Span:	500/6/494

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	4997	0	0	4997
high	4916	78	500.00	4994
mid	4957	38	260.00	4995
low	4977	19	94.00	4996

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	4997	0.0	4997	0	0	0.0	-0.1	NA	NA
adjusted zero	4997	0.0	4997	0	0	-0.1	-0.3	NA	NA
as found high	4916	77.68	4994	779.3	780.9	786	787	0.991	0.992
adjusted high	4916	77.68	4994	779.3	780.9	779	780	1.000	1.001
mid	4957	37.84	4995	379.5	380.3	379	380	1.001	1.000
low	4977	18.92	4996	189.7	190.1	190	190	0.998	0.999
calibrator zero	4997	0.00	4997	0	0	-0.1	-0.2	NA	NA
							Average C.F.=	1.000	1.000

Calibrator Flow Rates (cc/min)				Calibrator Setting	Indicated NO	Indicated NOx	Indicated NO_2	NO drop	NO_2 increase	NO_2 C.F.
Point	Diluent	Cal Gas	Total Flow	volts or ppb	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
NOx reference	4916	79.67	4996	0.0	779.0	780.0	1.0	-0.1	-0.2	
as found NO_2	4916	79.67	4996	500.0	234.0	787.0	549.0	545.0	548.0	0.995
adjusted NO_2	4916	79.67	4996	500.0	234.0	787.0	549.0	545.0	548.0	0.995
gpt mid	4916	79.67	4996	260.0	491.0	785.0	292.0	288.0	291.0	0.990
gpt low	4916	79.67	4996	94.0	683.0	785.0	100.0	96.0	99.0	0.970
									Average NO_2 C.F.=	0.985

Linear Regression/Calibration Results:

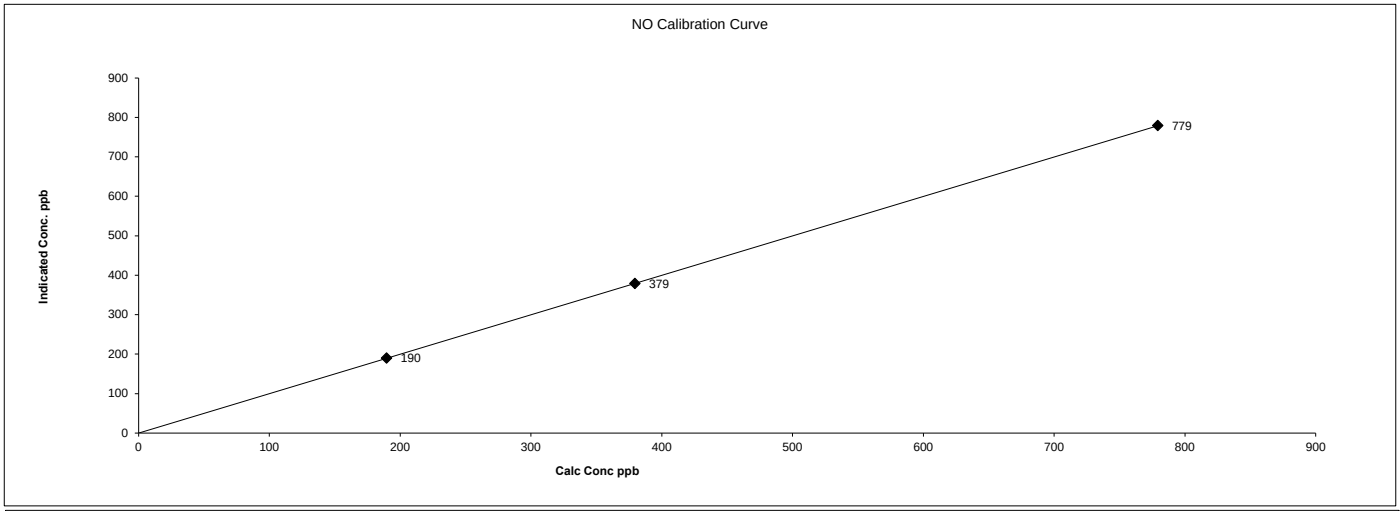
	NO	NOx	NO_2	LIMITS
Correlation Coeffecient =	**1.000**	**1.000**	**1.000**	**> or = 0.995**
Slope =	**1.000**	**0.999**	**1.004**	**0.85-1.15**
b (Intercept as % of full scale)=	**0.00%**	**-0.01%**	**0.13%**	**± 3% F.S.**
% change in C.F. from last cal=	**0.86%**	**0.81%**	**0.35%**	**+/-15%**
NO2 converter effeciency			**101.6%**	**>85%**

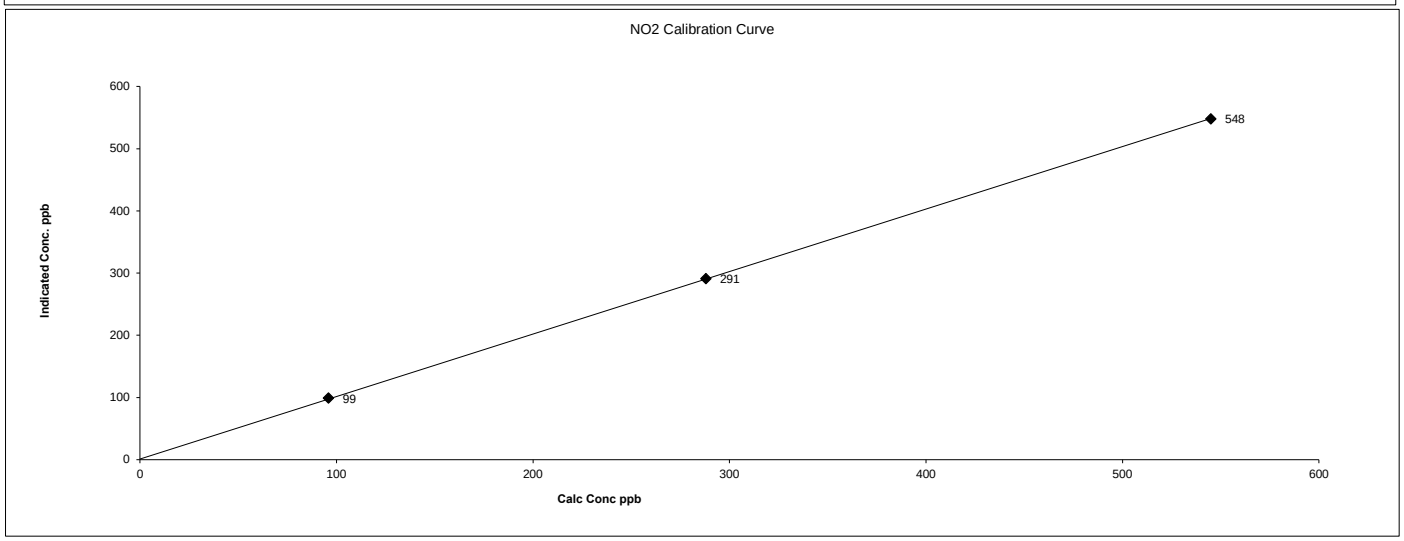
Comments:

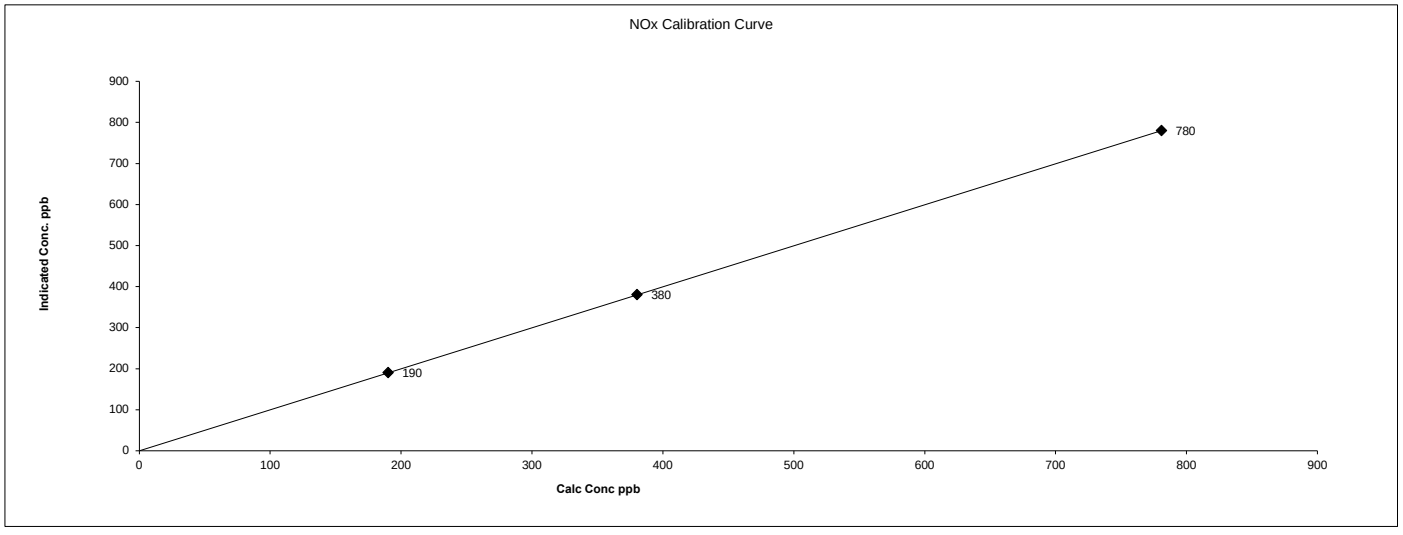
Sample filter changed

Date:	16-Jul-14	**Start Time (mst):**	10:51
Company:	LICA	**End Time (mst):**	16:05
Station Name/Location:	Maskwa	**Calibration Purpose:**	Monthly Calibration
Performed by:	Kevin Hope	**Cal Gas Expiry Date:**	4-Feb-18

API 200E NOx Analyzer Calibration







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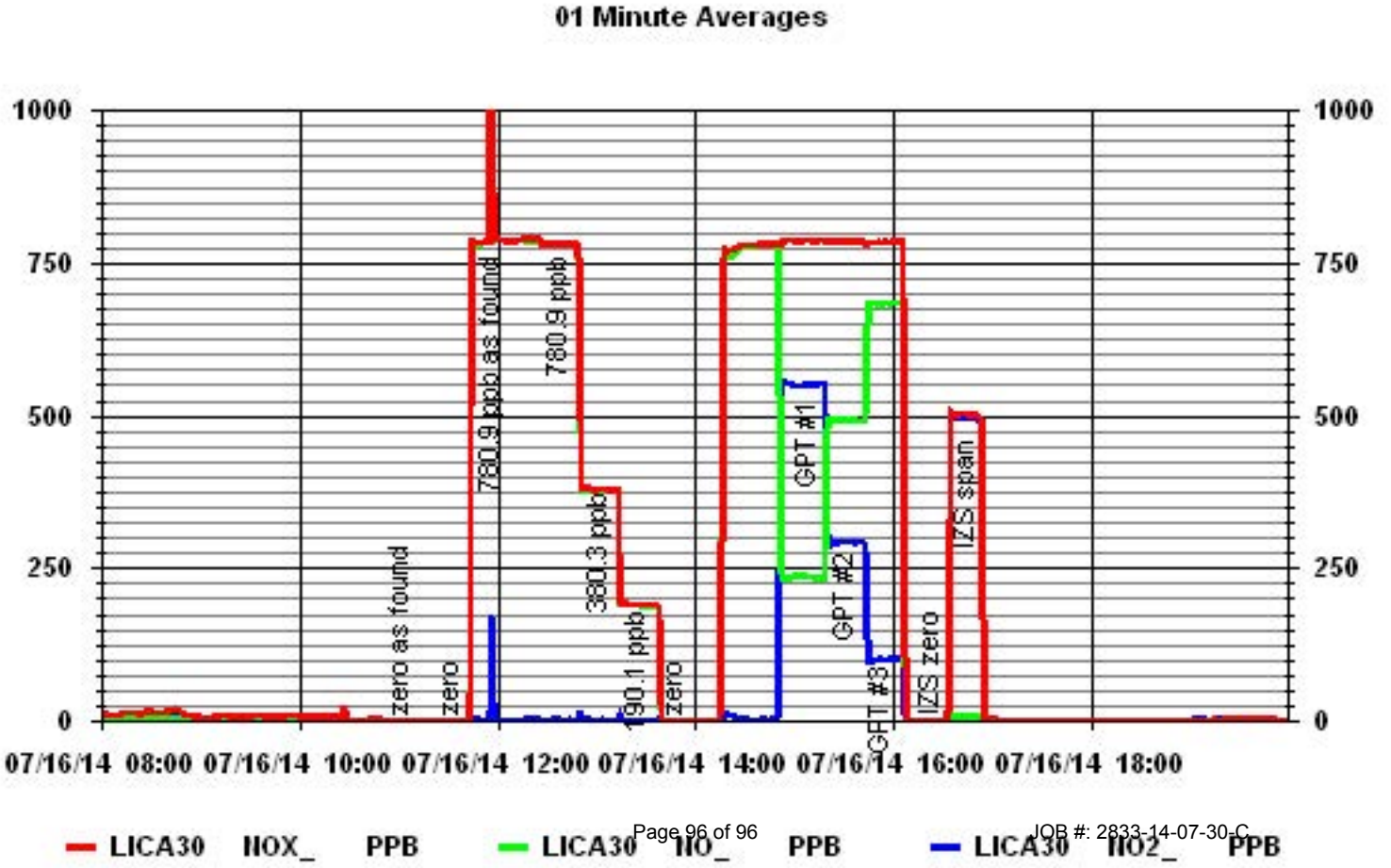


JOB #: 2833-14-07-30-C

Lakeland Industry & Community Association

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

Prepared By:

Maxxam
A Bureau Veritas Group Company

August 29, 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 ï 50 Street
Bonnyville, Alberta
T9N 2J5

Monitoring Location: Portable / Elk Point Airport
Data Period: July 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 analyzerôs 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 – July 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	0.54	5	18	14	9.6	238(SW)	2.0	18	94.9
H_2S (PPB)	10	3	0	0	0.16	2	VAR	VAR	VAR	VAR	0.9	18	97.3
THC (55i) (PPM)	-	-	-	-	2.59	7.5	22	4	0.6	169(SSE)	3.8	22	100.0
Methane (PPM)	-	-	-	-	2.55	7.3	22	4	0.6	169(SSE)	3.7	22	100.0
NMHC (PPM)	-	-	-	-	0.04	0.3	VAR	VAR	VAR	VAR	0.1	VAR	100.0
NO_2 (PPB)	159	-	0	-	4.46	22.8	13	4	2.5	289(WNW)	8.8	17	100.0
NO (PPB)	-	-	-	-	1.54	35.4	8	6	0.1	97(E)	7.4	22	100.0
NOx (PPB)	-	-	-	-	6.00	46.7	12	4	11.2	283(W)	13.7	22	100.0
O_3 (PPB)	82	-	0	-	25.39	66	11	19	8	248(WSW)	37.7	4	100.0
PM 2.5 (UG/M^3)	-	30	-	4	22.38	88	13	1	5	291(WNW)	44.3	11	93.8
VECTOR WS (KPH)	-	-	-	-	10.09	36.1	10	13	-	269(W)	20.0	10	100.0
VECTOR WD (DEGREES)	-	-	-	-	236(SW)	-	-	-	-	-	-	-	100.0

NA: NOT APPLICABLE VAR-VARIOUS

General Monthly Summary

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

AQM STATION – LICA – PORTABLE

Sulphur Dioxide (PPB)

- Analyzer make / model ï API 100E, S/N: 467 replaced with API 100A, S/N: 837

The monthly calibration was performed on July 7th. The inlet filter was changed before the calibration was started. The analyzer failed the daily span check on July 13th due to sample pump failure. A shutdown calibration was performed on July 14th. The external exhaust pump was disconnected and the internal pump was turned on. The 3-points calibration was followed after the maintenance on July 14th. Data was invalidated back to the last good calibration, which was July 12th. 38 hours of data were invalidated. Data was corrected using daily zero information.

Hydrogen Sulphide (PPB)

- Analyzer make / model ï API 101E, S/N: 509
- Converter - Internal

The monthly calibration was performed on July 7th. The inlet filter was changed before the calibration was started. The monthly calibration was repeated on July 17th to ensure the analyzerôs functionality. No issue was noticed. The analyzer showed malfunction on July 18th due to high station temperature. An as found points check was performed on July 19th. The analyzer responded well. Data was invalidated back to July 18th hour 15. A total of 20 hours of data was invalidated due to this event. Two as found points check were performed on July 26th and July 30th to ensure the analyzerôs functionality. No issues were detected. Some span results went outside the +10% limit range because the expected value was set too low when the monthly calibration was completed last month. The expected value was adjusted on July 31st. Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA – PORTABLE

Nitrogen Dioxide (PPB)

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

The analyzer was working well throughout the month. The monthly calibration was performed on July 7th. The inlet filter was changed before the calibration was started. The monthly calibration was repeated on July 17th to ensure the analyzerĜs functionality. No issue was noticed. The expected span value was set incorrectly on July 8th. The issue was corrected on July 9th. Data was corrected using daily zero information.

THC 55i (PPM)

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

The analyzer was working well throughout the month. The monthly calibration was performed on July 7th. The inlet filter was changed before the calibration was started. Data was corrected using daily zero information.

Ozone (PPB)

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

The monthly calibration was performed on July 7th. The inlet filter was changed before the calibration was started. The analyzer spanned low on July 18th. An as found points check was performed on July 19th and the result was good. No further action was taken. Data was corrected using daily zero information

General Monthly Summary

AQM STATION – LICA – PORTABLE

Particulate Matter 2.5 (ug/m^3)

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

Two Teom audits were performed this month: one was done on July 14th and the other was completed on July 26th. The sample inlet was cleaned and the filter was replaced on July 14th. Data was corrected using Alberta air quality guideline. If the data was between 0 to ï 3, the data was corrected to 0. If the data was below ï 3, the data was invalidated. 46 hours of data were invalidated as the data were below ï 3 ug/m^3. Four 24-Hour average exccdance were recorded this month: concentration of 34.2 ug/m3 on July 7th, concentration of 31.3 ug/m3 on the 8th, concentration of 44.3 ug/m3 on the 11th, and concentration of 37.1 ug/m3 on the July 13th. AESRD Ref# 289029, 286425, 286611 and 286690, respectively.

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

- System make / model ï 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

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 July 14th.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Sulphur Dioxide

Lakeland Industry & Community Association - Elk Point Site

JULY 2014

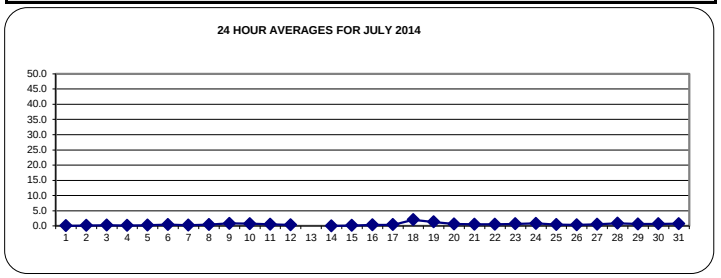
SULPHUR DIOXIDE (SO2) hourly averages in ppb

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	1	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
2	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	0.2	24
3	0	0	0	0	0	S	1	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.3	24
4	0	0	0	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.1	24
5	1	0	0	S	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.2	24
6	0	0	S	0	0	1	0	0	2	4	2	1	0	0	0	0	0	0	0	0	0	0	0	0	4	0.4	24
7	0	S	0	0	0	0	0	0	0	C	C	C	C	C	0	0	1	0	0	0	1	1	1	1	1	0.3	24
8	S	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	S	1	0.5	24
9	1	1	1	1	1	1	0	1	2	1	0	1	1	0	1	1	1	1	0	0	1	1	S	1	2	0.8	24
10	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	1	1	1	1	0	1	S	1	0	1	0.7	24
11	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	2	S	2	1	1	2	0.6	24
12	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	X	X	X	X	1	0.3	20
13	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0		
14	X	X	X	X	X	X	X	X	X	X	C	C	C	C	C	C	C	C	0	0	0	0	0	0	0	0.0	14
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	S	1	0	0	0	0	1	0	1	0.1	24
16	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	S	1	0	0	0	0	1	1	1	1	0.3	24
17	1	1	0	1	1	1	0	0	0	0	0	0	0	0	S	1	0	0	0	0	1	0	1	1	1	0.4	24
18	1	1	1	1	1	1	1	1	1	0	1	2	3	S	*5*	4	4	4	3	3	2	2	2	2	***5***	***2.0***	24
19	2	2	2	2	2	2	2	2	2	0	0	1	S	1	1	1	1	1	1	1	1	1	1	1	2	1.3	24
20	1	0	0	0	0	0	0	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	0	0	1	0.7	24
21	1	0	0	0	0	0	0	0	0	1	S	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0.5	24
22	0	0	0	0	0	0	0	0	0	S	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0.5	24
23	0	0	0	0	0	0	0	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	24
24	1	1	1	1	0	0	0	S	1	1	2	2	1	2	1	1	1	1	1	1	0	0	0	0	2	0.8	24
25	0	0	0	0	0	0	S	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	1	0.5	24
26	0	0	0	0	0	S	0	0	0	0	1	1	1	0	1	0	1	1	0	0	1	0	0	0	1	0.3	24
27	0	0	0	0	S	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0.6	24
28	0	0	0	S	0	0	0	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	2	0.9	24
29	0	0	S	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0.6	24
30	0	S	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.7	24
31	S	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	0.7	24
HOURLY MAX	2	2	2	2	2	2	2	2	2	4	2	2	3	2	5	4	4	4	3	3	2	2	2	2			
HOURLY AVG	0.4	0.4	0.3	0.4	0.4	0.4	0.2	0.4	0.6	0.6	0.6	0.7	0.7	0.5	0.8	0.8	0.8	0.8	0.6	0.6	0.6	0.6	0.6	0.4			

STATUS FLAG CODES

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

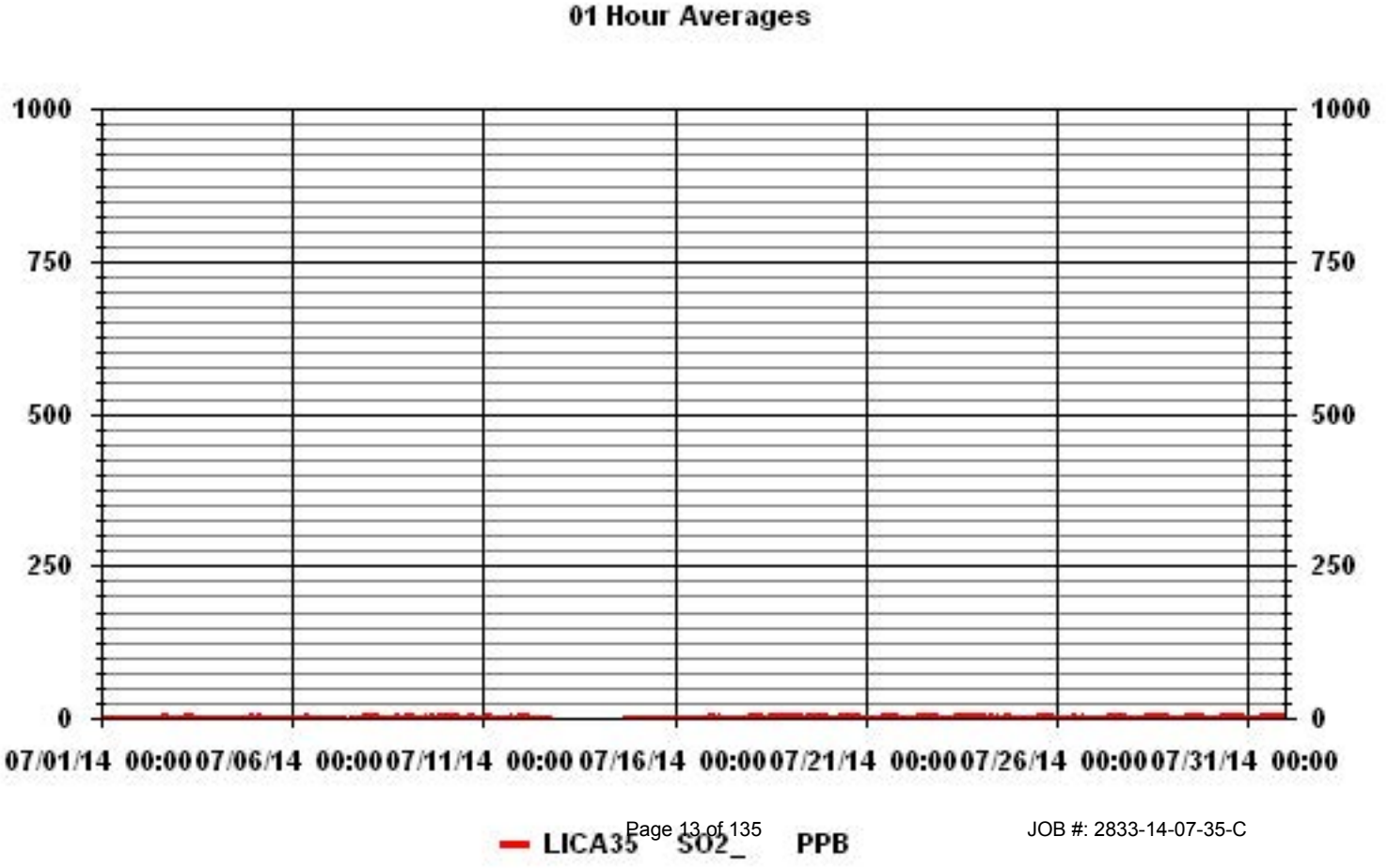


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB 24-HR 48 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	318					
MAXIMUM 1-HR AVERAGE:	5	PPB	@ HOUR(S)	14	ON DAY(S)	18
MAXIMUM 24-HR AVERAGE:	2.0	PPB			ON DAY(S) VAR-VARIOUS	18
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:		706	HRS
MONTHLY CALIBRATION TIME:	13	HRS	AMD OPERATION UPTIME:		94.9	%
STANDARD DEVIATION:	0.68		MONTHLY AVERAGE:		0.55	PPB

JOB #: 2833-14-07-35-C



JOB #: 2833-14-07-35-C

Lakeland Industry & Community Association - Elk Point Site

JULY 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	1	1	1	**S**	0	0	0	0	1	1	1	0	0	0	0	0	1	1	1	1	1	0.6	24
2	1	1	1	1	1	1	**S**	1	0	0	0	0	0	0	1	1	1	1	1	0	1	1	1	1	1	0.7	24
3	1	1	1	1	1	**S**	1	1	1	2	2	1	0	1	1	1	1	1	0	0	1	1	1	1	2	1.0	24
4	1	1	1	1	**S**	1	1	1	0	0	0	0	0	0	0	1	1	1	1	0	1	1	1	1	1	0.7	24
5	1	1	1	**S**	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1	1	1	1	1	1	1	0.8	24
6	1	1	**S**	1	1	1	1	1	5	5	3	1	1	1	0	0	0	1	0	0	1	1	1	1	5	1.2	24
7	1	**S**	1	1	1	1	1	1	1	**C**	**C**	**C**	**C**	**C**	1	1	1	1	1	1	1	1	1	1	1	1.0	24
8	**S**	1	1	1	1	1	2	1	0	1	0	0	0	0	1	1	1	1	1	1	1	1	1	**S**	2	0.8	24
9	1	1	1	1	1	1	1	2	3	2	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	3	1.2	24
10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**S**	1	1	1	1.0	24
11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	**S**	2	2	1	2	1.2	24
12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	**S**	**X**	**X**	**X**	**X**	1	0.9	20
13	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	0		
14	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1	1	1	1	1	1	1	1.0	14
15	1	1	0	1	1	1	0	0	1	0	1	1	0	0	1	1	**S**	1	1	1	1	1	1	1	1	0.7	24
16	1	1	1	1	1	1	1	1	1	1	1	0	1	1	2	**S**	3	1	1	1	1	1	1	1	3	1.1	24
17	1	1	1	1	1	1	1	1	1	0	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	1	1	3	3	**S**	***6***	4	4	4	4	3	3	3	3	3	***6***	***2.5***	24
19	3	3	3	3	3	3	3	3	3	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	3	1.8	24
20	1	1	1	0	0	0	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	24
21	1	1	0	0	0	0	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	24
22	0	0	1	0	1	0	0	0	1	**S**	1	1	1	1	1	1	1	2	2	2	1	1	1	1	2	0.8	24
23	1	1	1	1	1	1	1	1	**S**	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	2	1.1	24
24	1	1	1	1	1	1	1	**S**	1	1	3	2	2	2	2	1	1	1	1	1	1	1	0	0	3	1.2	24
25	0	0	0	0	0	0	**S**	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	24
26	1	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
27	1	1	1	1	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
28	0	1	1	**S**	1	1	1	1	1	1	2	2	2	2	2	1	1	1	1	1	1	2	1	1	2	1.2	24
29	1	0	**S**	0	0	0	0	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	2	0.8	24
30	1	**S**	1	0	0	0	1	1	1	1	1	1	1	2	2	2	2	1	2	2	1	1	1	1	2	1.1	24
31	**S**	1	1	1	0	0	1	1	1	1	1	1	1	2	2	2	2	2	1	1	1	1	1	**S**	2	1.1	24
HOURLY MAX	3	3	3	3	3	3	3	3	5	5	3	3	3	2	6	4	4	4	4	3	3	3	3	3			
HOURLY AVG	0.9	1.0	1.0	0.9	0.9	0.8	1.0	1.0	1.1	1.0	1.1	1.0	1.0	1.0	1.3	1.1	1.1	1.1	1.1	1.0	1.1	1.1	1.1	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: 576

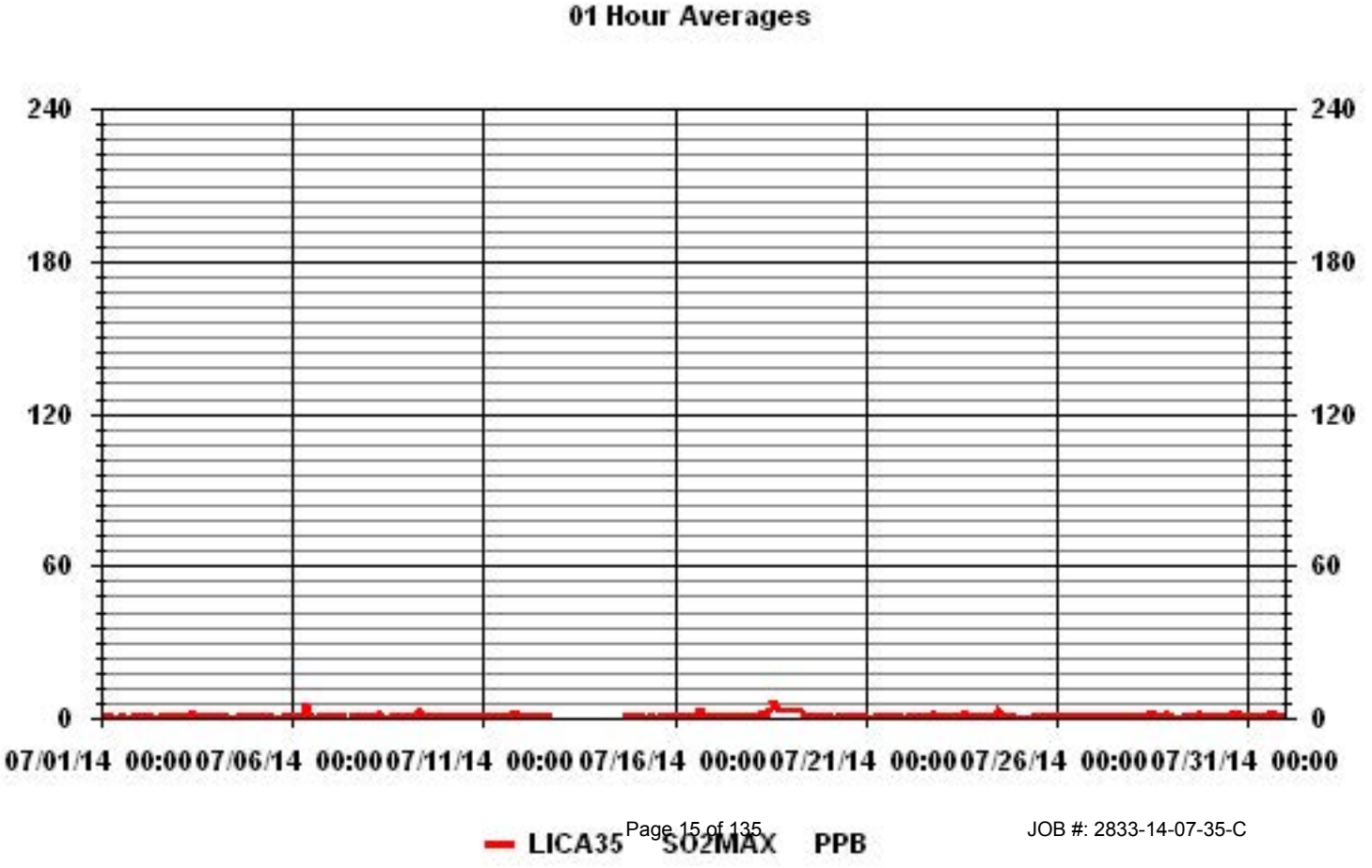
MAXIMUM INSTANTANEOUS VALUE: 6 PPB @ HOUR(S) 14 ON DAY(S) 18

VAR-VARIOUS

IZS CALIBRATION TIME: 31 HRS OPERATIONAL TIME: 706 HRS

MONTHLY CALIBRATION TIME: 13 HRS

STANDARD DEVIATION: 0.67



JOB #: 2833-14-07-35-C

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

July 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	1.66	2.41	1.20	2.41	6.94	13.89	10.57	6.79	4.68	1.20	2.26	6.34	15.86	10.57	9.96	3.17	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	1.66	2.41	1.20	2.41	6.94	13.89	10.57	6.79	4.68	1.20	2.26	6.34	15.86	10.57	9.96	3.17	

Calm : .00 %

Total # Operational Hours : 662

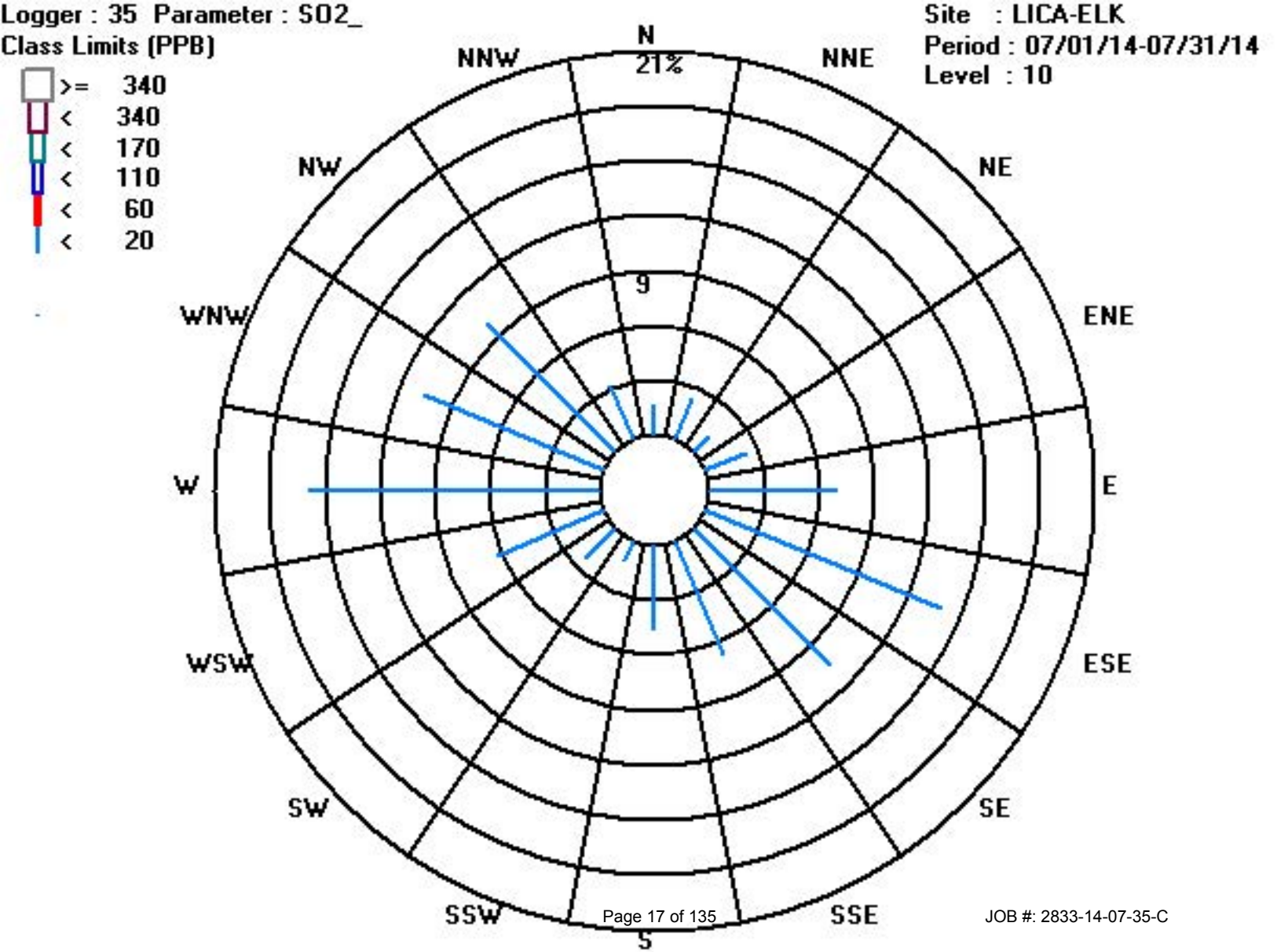
Distribution By Samples

Direction

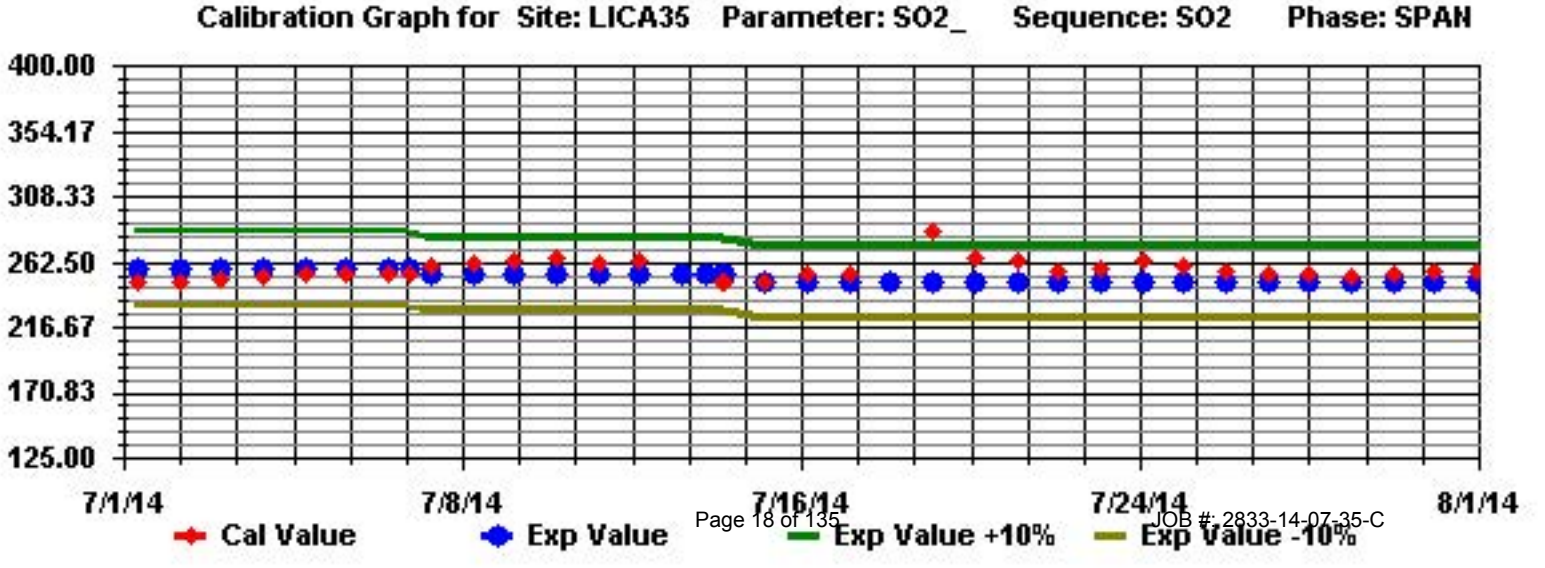
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	20	11	16	8	16	46	92	70	45	31	8	15	42	105	70	66	21	662
<	60																	
<	110																	
<	170																	
<	340																	
>=	340																	
	Totals	11	16	8	16	46	92	70	45	31	8	15	42	105	70	66	21	

Calm : .00 %

Total # Operational Hours : 662



JOB #: 2833-14-07-35-C


Calibration Graph for Site: LICA35 Parameter: SO2_ Sequence: SO2 Phase: SPAN
400.00
354.17
308.33
262.50
216.67
170.83
125.00
7/1/14
7/8/14
7/16/14
7/24/14
8/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Hydrogen Sulphide

Lakeland Industry & Community Association - Elk Point Site

JULY 2014

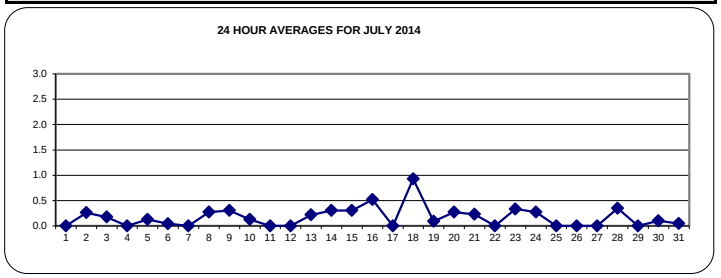
HYDROGEN SULPHIDE (H2S) hourly averages in ppb

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	1	*2*	S	*2*	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*2*	0.3	24
3	0	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
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	1	1	S	0	0	1	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	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
7	0	S	0	0	0	0	0	0	0	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0.0	24
8	S	0	0	0	1	*2*	*2*	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	*2*	0.3	24
9	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0.3	24
10	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	1	0.1	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	1	*2*	*2*	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	*2*	0.2	24
14	0	0	0	0	1	1	*2*	*2*	1	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	*2*	0.3	24
15	0	0	0	0	1	1	1	*2*	1	1	0	0	0	0	0	0	S	0	0	0	0	0	0	0	*2*	0.3	24
16	0	0	0	1	0	1	1	*2*	*2*	*2*	1	1	1	0	0	S	0	0	0	0	0	0	0	0	*2*	0.5	24
17	0	0	0	0	0	0	0	0	0	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0.0	24
18	1	1	1	1	1	1	1	1	1	0	1	1	1	S	1	X	X	X	X	X	X	X	X	X	1	*0.9*	15
19	X	X	X	X	X	X	X	X	X	X	X	1	C	C	0	0	0	0	0	0	0	0	0	0	1	0.1	13
20	1	1	0	*2*	1	1	S	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	*2*	0.3	24
21	*2*	1	0	0	0	1	1	S	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	*2*	0.2	24
22	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
23	0	0	0	0	0	0	S	S	S	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0.3	24
24	1	1	1	1	1	1	S	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	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	S	0	0	0	0	0	C	C	0	0	0	0	0	0	0	0	0	0	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	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.3	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	1	1	S	0	0	0	0	C	C	0	0	0	0	0	0	0	0	0	1	0.1	24
31	S	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	0.0	24
HOURLY MAX	2	1	1	2	2	2	2	2	2	2	1	1	1	1	1	0	0	1	1	1	1	1	1	1			
HOURLY AVG	0.2	0.2	0.2	0.3	0.4	0.6	0.5	0.6	0.3	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

STATUS FLAG CODES

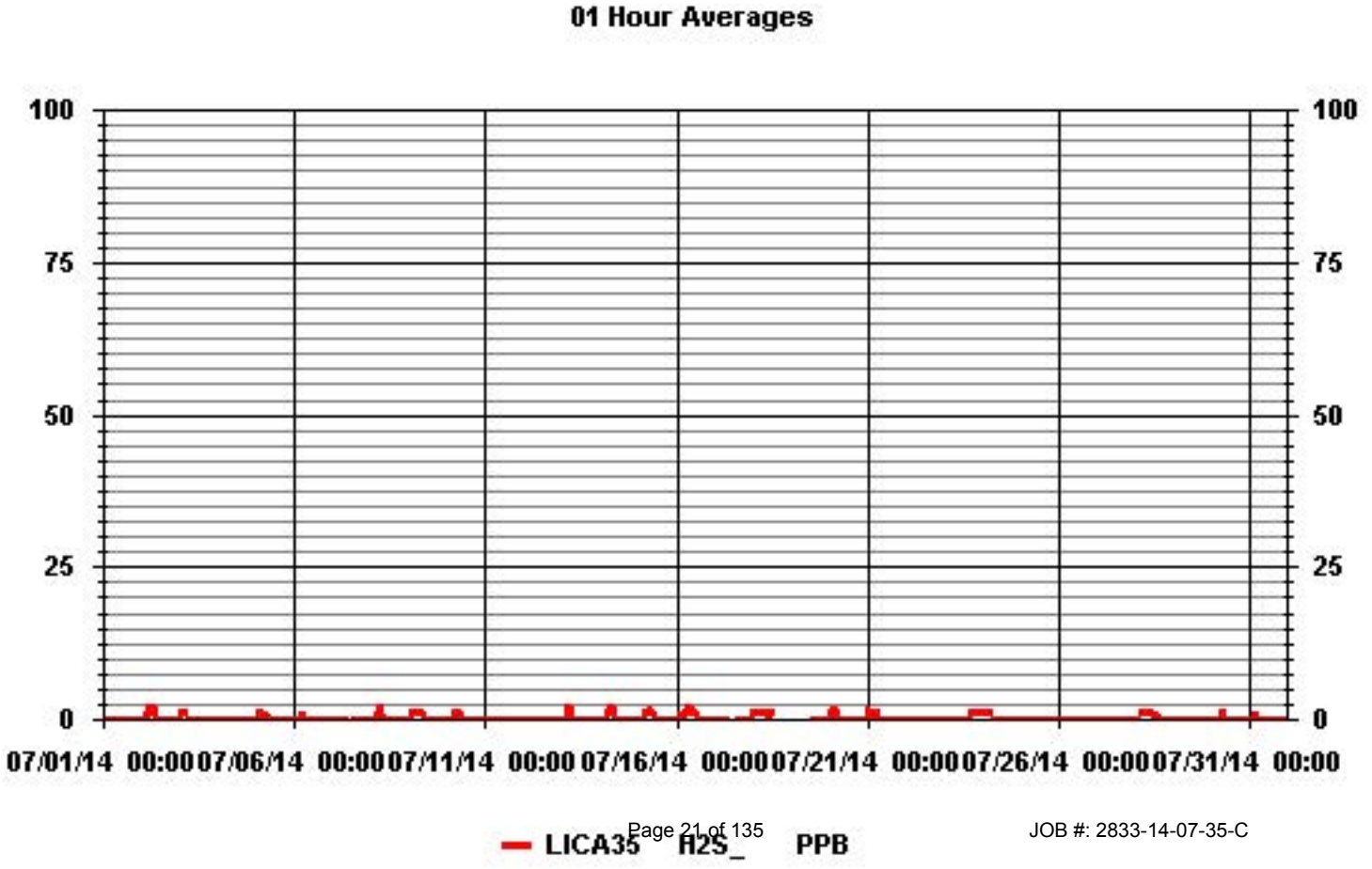
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



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:	96					
MAXIMUM 1-HR AVERAGE:	2	PPB	@ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 24-HR AVERAGE:	0.9	PPB			ON DAY(S)	18
					VAR-VARIOUS	
IZS CALIBRATION TIME:	38	HRS	OPERATIONAL TIME:		724	HRS
MONTHLY CALIBRATION TIME:	17	HRS	AMD OPERATION UPTIME:		97.3	%
STANDARD DEVIATION:	0.42		MONTHLY AVERAGE:		0.16	PPB



JOB #: 2833-14-07-35-C

Lakeland Industry & Community Association - Elk Point Site

JULY 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	1	1	1	1	3	4	**S**	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0.7	24
3	1	1	1	1	2	**S**	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	0.5	24
4	0	0	0	1	**S**	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
5	0	2	2	**S**	1	1	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.5	24
6	1	0	**S**	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
7	0	**S**	0	0	0	0	0	0	0	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	0	0	0	0	0	0	0.0	24
8	**S**	1	1	1	1	4	4	2	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	**S**	4	0.9	24
9	1	2	2	2	2	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	1	2	0.7	24
10	1	0	0	0	1	2	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	3	0.4	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	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	1	0.0	24
13	0	1	1	2	***5***	***5***	1	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	1	***5***	0.7	24
14	1	1	1	1	1	2	2	2	2	1	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	2	0.6	24
15	1	1	1	1	1	2	2	2	2	1	1	0	0	0	0	0	**S**	0	0	0	0	0	0	0	2	0.7	24
16	0	1	1	1	1	2	2	2	3	2	2	1	1	1	1	**S**	0	0	0	0	0	0	0	0	3	0.9	24
17	0	0	0	1	0	0	0	0	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	0	0	1	1	1	0.2	24
18	1	1	1	1	1	1	1	1	2	1	1	2	2	**S**	2	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	2	***1.3***	15
19	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	3	**C**	**C**	1	1	1	1	1	1	1	1	1	1	3	1.2	13
20	1	2	1	2	1	1	**S**	**S**	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	1	1	2	0.5	24
21	3	2	1	0	1	1	**S**	**S**	1	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.4	24
22	0	1	0	0	0	0	0	1	0	**S**	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0.2	24
23	0	1	1	1	1	1	**S**	**S**	**S**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
24	1	2	2	2	2	2	**S**	**S**	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.6	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	**S**	**S**	0	0	0	0	**C**	**C**	0	0	0	0	0	0	0	0	0	0	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	1	0	1	0.0	24
28	0	0	1	**S**	2	1	2	2	2	2	1	1	1	1	1	0	1	1	1	1	1	1	1	1	2	1.1	24
29	1	1	**S**	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24
30	0	**S**	0	1	1	1	1	1	**S**	**S**	1	0	0	**C**	**C**	0	0	0	0	1	0	0	0	0	1	0.4	24
31	**S**	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**S**	1	0.3	24
HOURLY MAX	3	2	2	2	5	5	4	3	3	2	2	3	2	1	2	1	1	1	1	1	1	1	3	1			
HOURLY AVG	0.5	0.8	0.7	0.8	1.1	1.3	1.1	1.0	0.7	0.5	0.3	0.3	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.2	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: 221

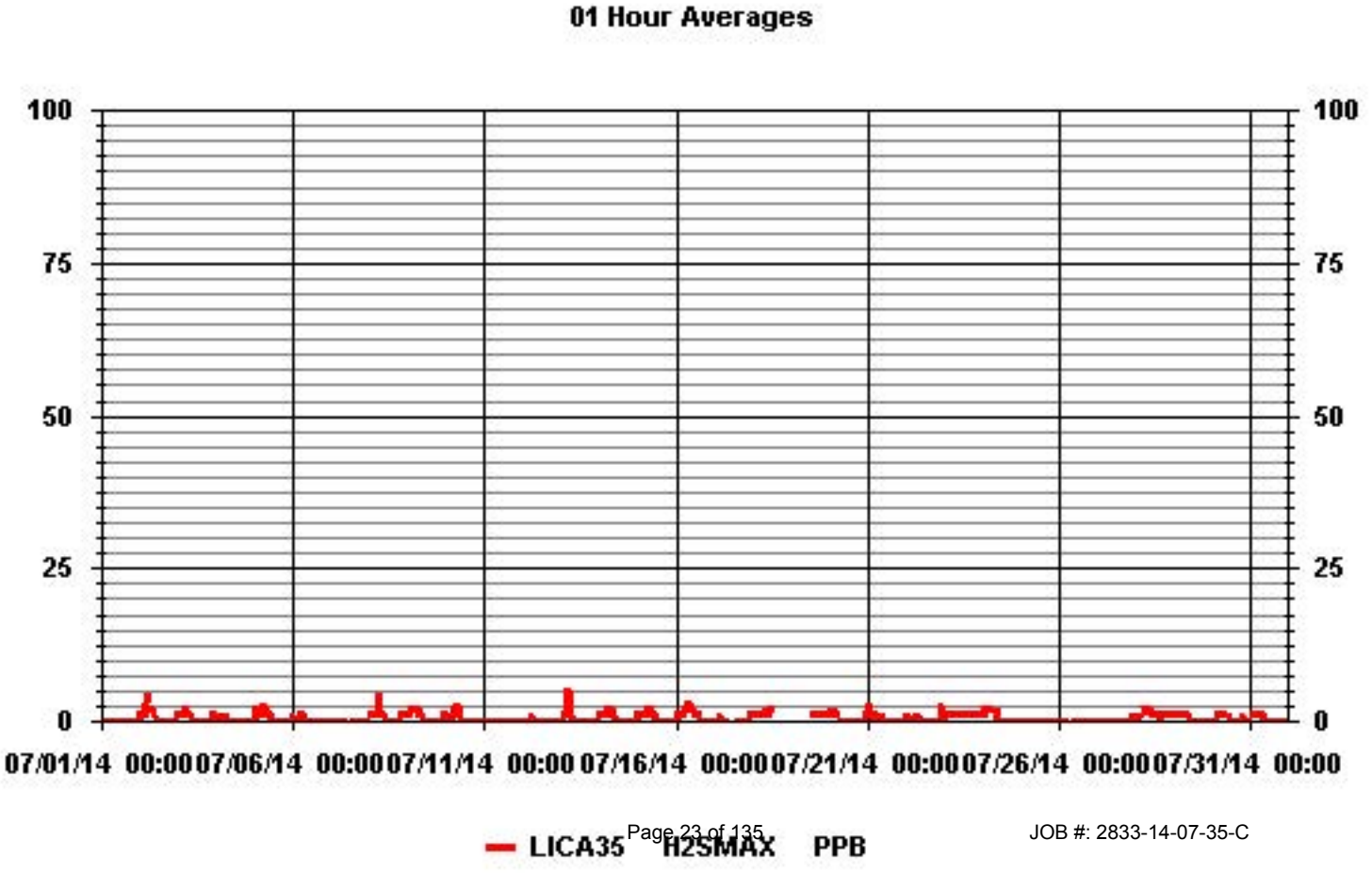
MAXIMUM INSTANTANEOUS VALUE: 5 PPB @ HOUR(S) 4, 5 ON DAY(S) 13

VAR-VARIOUS

IZS CALIBRATION TIME: 42 HRS OPERATIONAL TIME: 724 HRS

MONTHLY CALIBRATION TIME: 18 HRS

STANDARD DEVIATION: 0.75



JOB #: 2833-14-07-35-C

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

July 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	1.64	2.98	1.64	3.58	7.77	13.75	10.16	7.02	4.18	.74	1.79	5.82	15.24	10.76	9.71	3.13	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	1.64	2.98	1.64	3.58	7.77	13.75	10.16	7.02	4.18	.74	1.79	5.82	15.24	10.76	9.71	3.13	

Calm : .00 %

Total # Operational Hours : 669

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3	11	20	11	24	52	92	68	47	28	5	12	39	102	72	65	21	669
<	10																	
<	50																	
>=	50																	
	Totals	11	20	11	24	52	92	68	47	28	5	12	39	102	72	65	21	

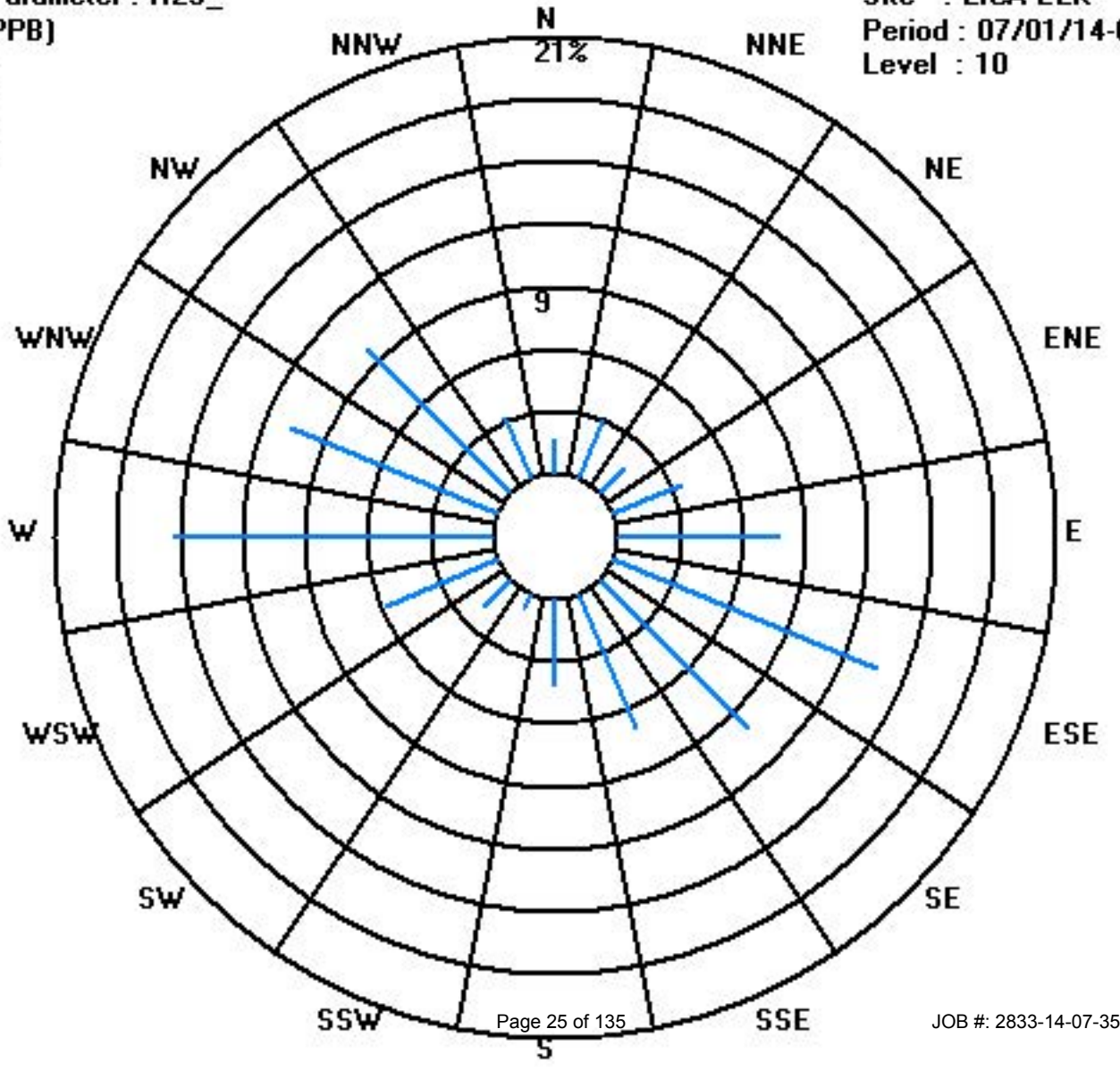
Calm : .00 %

Total # Operational Hours : 669

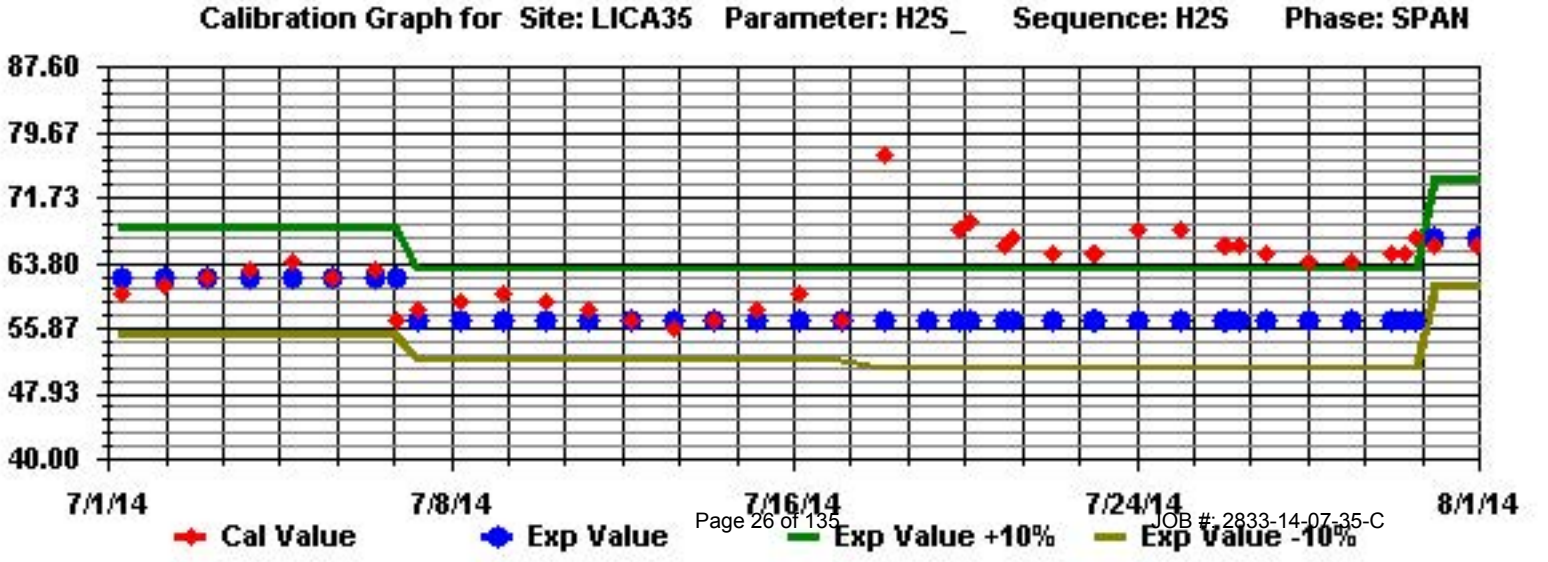
Logger : 35 Parameter : H2S_
Class Limits (PPB)

>= 50
< 50
< 10
< 3

Site : LICA-ELK
Period : 07/01/14-07/31/14
Level : 10



JOB #: 2833-14-07-35-C


Calibration Graph for Site: LICA35 Parameter: H2S_ Sequence: H2S Phase: SPAN
87.60
79.67
71.73
63.80
55.87
47.93
40.00
7/1/14
7/8/14
7/16/14
7/24/14
8/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Particulate Matter 2.5

Lakeland Industry & Community Association - Elk Point Site

JULY 2014

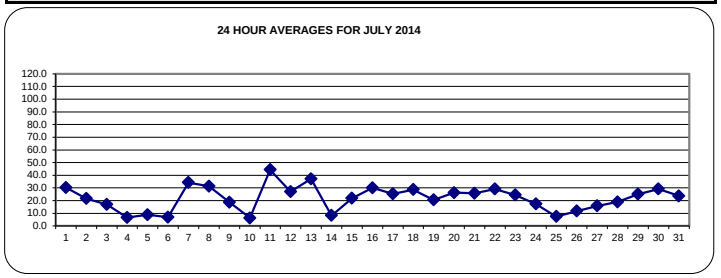
PARTICULATE MATTER 2.5 (LESS THAN 2.5 MICRONS) (PM2.5) hourly averages in ug/m3

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	31	27	28	26	17	33	30	27	28	21	21	19	42	47	37	23	35	38	32	33	31	39	29	33	47	30.3	24
2	26	25	16	25	24	22	23	26	21	9	13	26	16	23	23	19	18	21	18	26	27	29	19	23	29	21.6	24
3	21	27	20	25	17	19	21	18	25	14	17	X	3	32	6	17	3	15	12	15	22	7	19	15	32	17.0	23
4	4	13	4	1	7	11	12	8	13	13	6	0	X	0	16	10	2	1	6	10	5	3	1	X	16	6.6	22
5	X	X	X	0	0	10	7	8	7	3	3	16	11	17	10	29	1	14	6	13	11	4	X	7	29	8.9	20
6	0	X	X	5	X	1	2	11	6	4	12	4	16	X	10	5	20	7	17	7	7	0	4	0	20	6.9	20
7	X	X	X	X	X	4	12	10	17	9	12	11	15	40	17	27	47	67	70	69	68	54	58	43	70	34.2	19
8	51	46	47	33	27	30	52	57	51	64	47	47	34	24	27	23	14	11	14	19	6	12	6	9	64	31.3	24
9	14	9	9	14	14	17	23	28	34	39	37	26	22	18	15	26	19	15	12	36	5	3	11	3	39	18.7	24
10	4	7	2	X	X	X	X	X	0	14	12	8	12	9	4	0	0	X	8	X	6	X	5	9	14	6.3	16
11	18	33	49	30	40	26	39	45	38	40	13	23	41	45	57	52	61	59	54	72	66	70	63	30	72	***44.3***	24
12	35	43	23	26	19	17	0	37	53	31	36	30	16	29	34	24	4	11	23	16	18	17	52	55	55	27.0	24
13	74	***88***	71	65	82	71	73	62	39	15	17	26	31	16	17	X	8	3	5	7	6	4	X	X	***88***	37.1	21
14	0	4	X	X	X	X	16	0	9	11	1	X	0	3	8	C	C	0	14	13	14	29	8	10	29	8.2	19
15	4	X	6	3	2	12	3	27	23	36	42	31	28	20	24	25	20	35	23	21	21	42	21	33	42	21.8	23
16	15	3	29	0	15	21	18	37	30	43	56	43	44	45	39	48	53	41	15	19	35	30	21	20	56	30.0	24
17	19	22	7	15	17	18	38	19	16	34	55	60	25	28	61	34	36	30	3	19	8	17	8	16	61	25.2	24
18	15	31	25	39	34	38	53	52	66	8	21	13	15	8	47	33	29	24	24	22	21	23	30	17	66	28.7	24
19	22	29	20	21	20	26	41	9	23	5	19	22	7	X	11	27	24	23	30	28	24	21	8	11	41	20.5	23
20	0	8	8	6	3	11	33	51	63	81	26	26	33	26	29	37	20	28	29	24	20	21	37	9	81	26.2	24
21	10	9	7	8	4	6	4	10	19	10	13	28	27	18	40	24	28	43	52	53	46	43	43	73	73	25.8	24
22	39	25	24	16	21	19	26	26	31	31	18	20	25	17	20	33	22	49	52	40	32	31	40	43	52	29.2	24
23	49	27	21	19	18	17	16	16	23	42	30	34	25	19	24	38	22	12	21	18	17	11	30	36	49	24.4	24
24	32	26	20	19	20	19	20	23	30	24	15	17	21	14	25	21	17	7	10	10	10	6	6	3	32	17.3	24
25	10	3	3	4	4	6	1	14	7	4	8	8	6	1	17	9	3	0	20	14	14	11	11	2	20	7.5	24
26	0	3	7	5	10	7	11	10	10	10	5	5	X	23	C	9	10	26	23	18	19	15	22	11	26	11.8	23
27	11	13	15	13	10	12	10	31	26	10	15	X	X	X	X	X	1	0	16	36	22	21	16	22	36	15.8	19
28	9	11	X	1	X	2	6	10	10	21	11	36	X	X	X	1	35	33	31	37	45	22	38	0	45	18.9	19
29	20	18	15	18	10	18	22	14	24	19	25	21	29	24	28	29	34	37	40	39	25	31	36	X	40	25.0	23
30	16	15	11	15	13	15	16	17	17	20	21	31	34	26	42	45	46	54	61	43	47	33	39	22	61	29.1	24
31	30	16	17	16	16	17	22	25	35	21	24	9	12	8	0	10	21	45	39	71	23	28	35	28	71	23.7	24
HOURLY MAX	74	88	71	65	82	71	73	62	66	81	56	60	44	47	61	52	61	67	70	72	68	70	63	73			
HOURLY AVG	20.0	21.5	19.4	16.7	17.8	18.1	21.7	24.3	25.6	22.8	21.0	22.9	21.9	21.5	24.6	24.2	21.8	25.0	25.2	28.3	23.3	22.6	24.7	20.8			

STATUS FLAG CODES

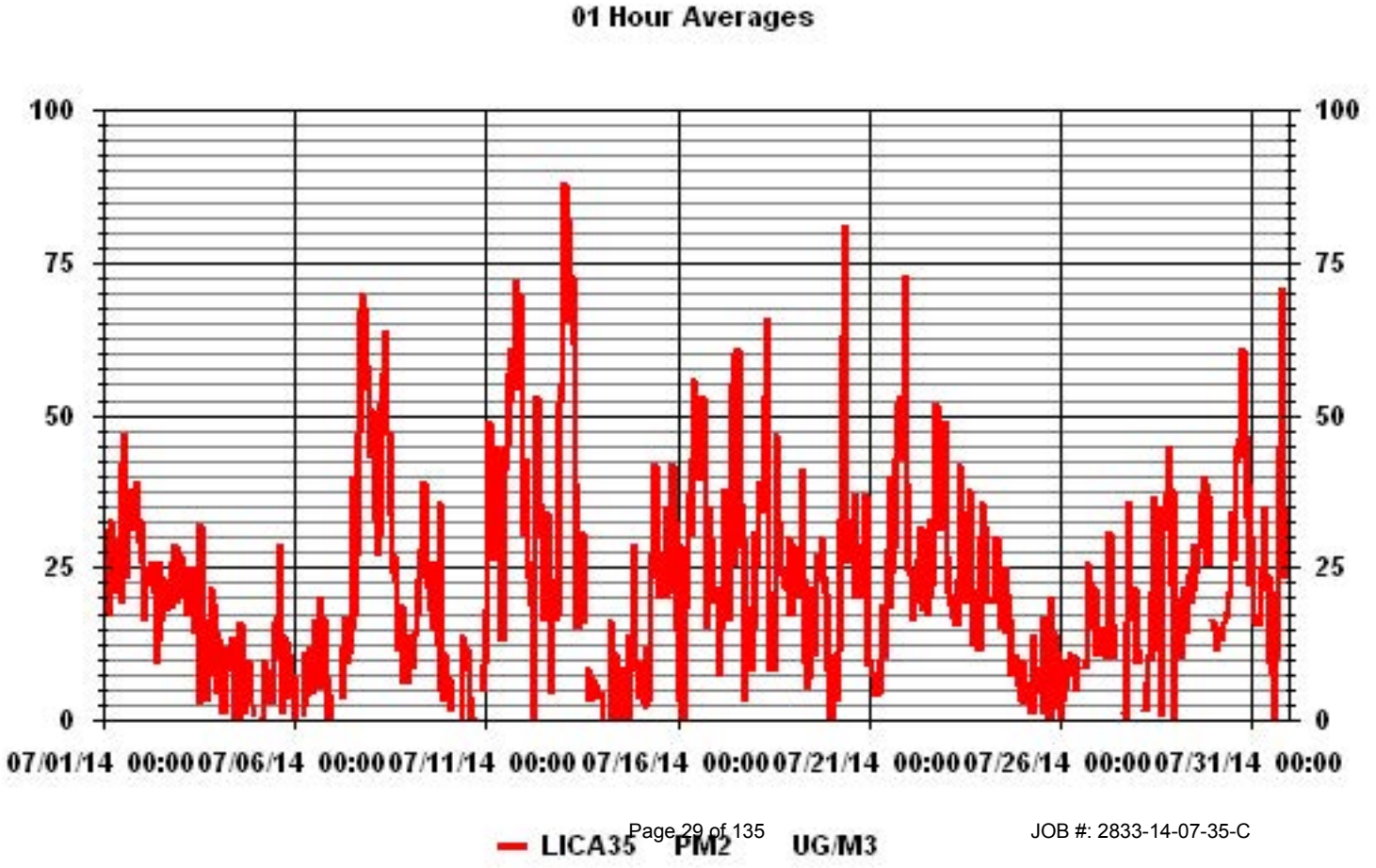
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



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

MONTHLY SUMMARY

NUMBER OF 24-HR EXCEEDENCES:	4					
NUMBER OF NON-ZERO READINGS:	673					
MAXIMUM 1-HR AVERAGE:	88	ug/m3	@ HOUR(S)	1	ON DAY(S)	13
MAXIMUM 24-HR AVERAGE:	44.3	ug/m3			ON DAY(S) VAR-VARIOUS	11
			OPERATIONAL TIME:		698	HRS
MONTHLY CALIBRATION TIME:	3	HRS	AMD OPERATION UPTIME:		93.8	%
STANDARD DEVIATION:	16.08		MONTHLY AVERAGE:		22.38	ug/m3



JOB #: 2833-14-07-35-C

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

July 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	1.43	2.15	1.29	2.44	6.61	9.92	7.05	5.61	3.16	1.15	1.00	4.46	10.07	7.33	8.05	1.58	73.38
<	60	.14	.57	.14	.28	1.58	3.74	3.45	1.29	.86	.00	.86	1.00	4.17	1.87	1.58	1.29	22.87
<	80	.00	.14	.00	.14	.00	.43	.00	.00	.00	.00	.28	.43	.71	.43	.57	.14	3.30
<	120	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.28	.14	.00	.43
<	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	1.58	2.87	1.43	2.87	8.20	14.10	10.50	6.90	4.02	1.15	2.15	5.89	14.96	9.92	10.35	3.02	

Calm : .00 %

Total # Operational Hours : 695

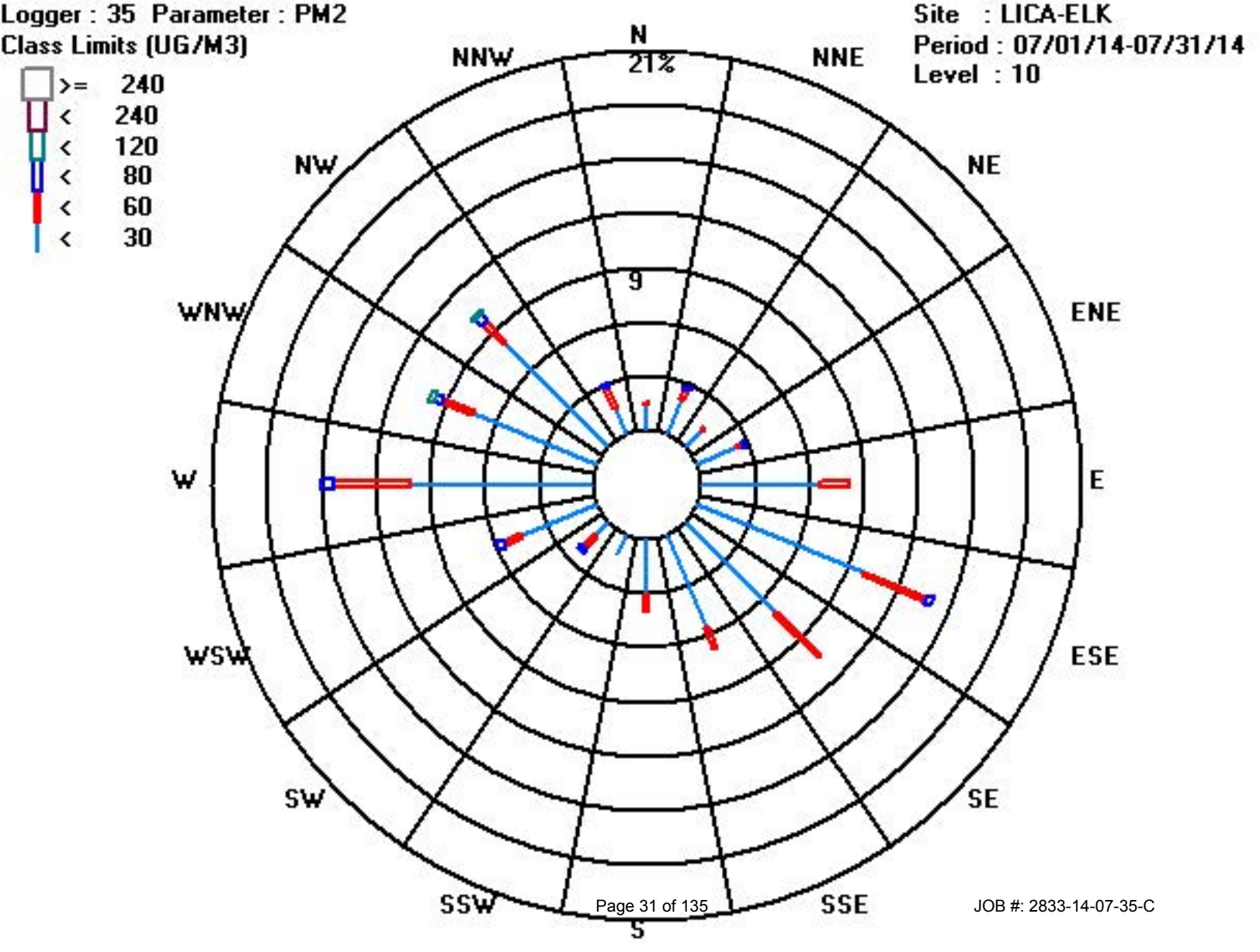
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	30	10	15	9	17	46	69	49	39	22	8	7	31	70	51	56	11	510
<	60	1	4	1	2	11	26	24	9	6		6	7	29	13	11	9	159
<	80		1		1		3					2	3	5	3	4	1	23
<	120														2	1		3
<	240																	
>=	240																	
	Totals	11	20	10	20	57	98	73	48	28	8	15	41	104	69	72	21	

Calm : .00 %

Total # Operational Hours : 695



JOB #: 2833-14-07-35-C

Nitrogen Dioxide

Lakeland Industry & Community Association - Elk Point Site

JULY 2014

NITROGEN DIOXIDE (NO2) hourly averages in ppb

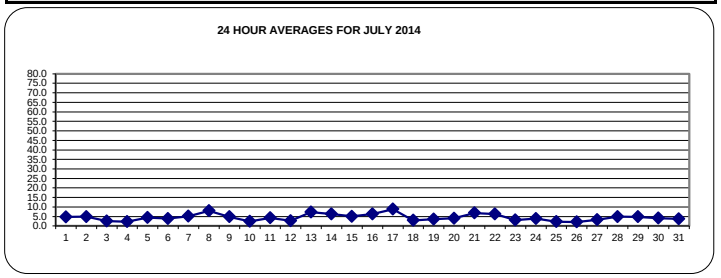
MST

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	1	2.2	1.2	1.2	6.7	6.4	4.6	**S**	5.8	5.1	3.2	1.1	1.1	2.3	4.7	2	1.3	1.6	1.7	3.8	12.6	15.1	15.8	8.7	15.8	4.7	24
2	9.4	10.9	8.9	8.8	9.1	5.5	**S**	7.1	8.3	4.1	1.9	1.5	1.1	1.4	1.6	1.7	1.6	1.5	2	3.5	6.4	6.3	5.1	3.9	10.9	4.9	24
3	3.7	3.2	3.2	3	2.7	**S**	2.5	2.1	2.4	2.3	1.8	1.5	1.2	1.2	1.3	2	1.6	1.1	2.2	3.2	3.3	2.7	5.1	4.5	5.1	2.5	24
4	1.4	1.2	1.2	1.3	**S**	1.5	1.1	**S**	0.8	0.7	0.7	0.6	1.1	1.7	0.9	0.6	0.6	0.5	**S**	1	5.8	9.1	7.4	7.9	9.1	2.2	24
5	7.4	9	4.5	**S**	5.6	2.7	2.7	1	1	0.8	0.8	0.9	0.6	0.7	0.6	0.5	0.3	0.4	0.8	1.2	7	17.9	18.7	15.5	18.7	4.4	24
6	13.1	9.4	**S**	8.9	8.8	4.9	3.5	2.2	2.7	3.7	3.1	2.4	1	0.5	0.7	0.7	1	1	0.8	0.5	0.7	6.9	5.9	6.7	13.1	3.9	24
7	7.8	**S**	2.2	3	2.1	4	1.7	**S**	0.8	**C**	**C**	**C**	**C**	**C**	**C**	1.4	1.2	1.3	1.4	6.2	7.2	16	14.9	10.6	16	5.1	24
8	**S**	11.7	10.4	12	9.9	9.2	10.7	13.2	7.7	6.1	4	2.1	1.7	1.3	1.3	1.4	1.5	2.1	2.9	12.8	14.3	17.9	20.1	**S**	20.1	7.9	24
9	10	8.2	7.8	9	7.4	9.3	7.8	5.7	4	3.1	2.1	1.4	1.5	2.7	1	1	1.3	1.5	4.5	2.2	2.6	1.6	**S**	14.6	14.6	4.8	24
10	7.1	0.7	0.7	5.1	6.9	3.9	4.8	6.9	3	1.6	0.8	0.9	0.5	0.6	0.7	1.1	1.9	2.3	1.2	2.1	1.4	**S**	1.1	0.9	7.1	2.4	24
11	0.7	1.4	8.1	10.2	7.3	5.4	2.3	1.1	2.9	0.6	0.4	0.5	1	1	1.1	1.7	2.1	2.1	3.3	5.8	**S**	9.5	12.6	16.1	16.1	4.2	24
12	9.3	5.9	3.7	6.8	7.5	3.8	1.4	1.9	2.2	1.4	0.9	0.7	0.4	0.9	0.4	0.2	0.2	0.4	1	**S**	2.5	1.9	3.1	4.5	9.3	2.7	24
13	5.8	17.6	10.6	18.1	***22.8***	9.5	3.5	4.1	1.1	0.6	0.6	0.8	0.8	0.5	0.2	0.2	0.4	0.4	**S**	1.9	14.3	14.9	18.3	18.7	***22.8***	7.2	24
14	13.2	16.1	13.8	12.1	8.7	6.8	8.1	6.8	5.1	2.3	0.8	0.8	0.6	1.4	1.6	1.3	1.5	**S**	2.9	2.4	8	9.7	9.6	11.1	16.1	6.3	24
15	7.5	5.9	5.1	7.4	9.6	8.8	5.4	5	3.1	2.4	1.6	1.1	1.2	1.4	1.8	1.7	**S**	1.8	3.7	4.7	8.5	10.2	10.4	7.5	10.4	5.0	24
16	11.4	9.3	9.6	8.9	11.6	13.5	11.2	9.3	9.7	8.8	5.8	4.9	4.1	4.2	2.6	**S**	3.6	3.6	3.9	1.2	1.7	1.6	1.8	3.4	13.5	6.3	24
17	7.1	13.6	13.3	15	11.6	12.4	10.3	9.2	7	**C**	**C**	**C**	**C**	**C**	**C**	6.6	6	4.9	3.7	8.8	9.4	10.2	6.1	3.1	15	***8.8***	24
18	0.9	0.7	0.6	0.6	0.9	1	1.5	3.3	1.9	0.6	0.9	0.8	1.1	**S**	6.4	4.2	3.6	2.8	2	10.7	4.4	5.9	8.2	4.1	10.7	2.9	24
19	2.6	2.9	2.4	3.8	4.1	6	8.9	4.1	1.4	2.4	1.9	0.3	**S**	0.8	0.7	0.4	0.8	2	1.1	3.6	8.3	10	6.8	5.8	10	3.5	24
20	7.2	5.5	6	7.5	6.1	2.5	1	1	1.1	1.1	0.4	**S**	1.2	1.1	0.2	0	0	0.1	0.9	4.4	4.8	11.2	14.6	15	15	4.0	24
21	13.4	12.5	9.2	7.9	6.5	6	6.1	5.4	4.4	2.4	**S**	1.9	1.1	0.6	0.9	0.4	0.1	0.2	1.5	9.7	22.2	16.6	16.4	11.8	22.2	6.8	24
22	12	11.9	13.4	8.6	8.4	7.9	6.2	10.2	9.6	**S**	3.2	1.4	1.7	1	1.1	1.2	0.8	1.4	1.6	2.5	6.6	10.9	13.1	9.5	13.4	6.3	24
23	9.3	6	4.6	2.6	3.3	2.3	1.9	1.7	**S**	2	2.1	1.7	1.3	1.8	1.3	3.8	2.6	3.6	2.5	3.8	4.3	3	3.4	3.3	9.3	3.1	24
24	4.5	4.8	4.2	4.8	3.1	3.7	**S**	**S**	2.4	2.4	2.2	1.9	3.7	6.4	5.9	3.9	2.3	2.5	2.4	2.3	2.6	5.8	9.2	4	9.2	3.9	24
25	2.5	3.5	4.5	5.4	8.4	6.9	**S**	2.6	0.8	0.3	0.3	0.4	0.3	0.2	0.2	0	0	0	0	0.8	7.8	0.7	5.8	1.7	8.4	2.3	24
26	2	1.4	0.9	1.6	3	**S**	1.4	0.8	0.6	0.6	0.5	0.4	0.8	0.5	0.1	1.6	3.7	3.1	4.2	4.6	3.6	5	5.8	3.1	5.8	2.1	24
27	9	6.4	4.7	4.1	**S**	6.5	3.3	3.9	2.4	1.5	1.6	1.9	1.2	1.1	1.3	0.4	0.5	0	0.3	1.5	3	5.6	6.9	8.1	9	3.3	24
28	5.1	6.3	8.6	**S**	5.6	6.4	8	5.9	6.2	5.8	3.4	1.6	0.7	0.7	0.7	0	1	0.7	0.9	4	7.2	10.8	11.8	11.6	11.8	4.9	24
29	9.6	7.9	**S**	10.1	11.2	9.2	6.6	4.6	2.5	**S**	**S**	2.6	2.2	1.7	1.4	1.3	1.4	1.6	2	3	5	3.9	6.8	6.1	11.2	4.8	24
30	3.8	**S**	6.8	9.7	7.9	8.4	4.5	2.7	1.8	1.7	1.5	1.2	2	1.8	1.2	1.1	1.4	1.7	2.6	4.7	5.6	5.8	10.3	6.4	10.3	4.1	24
31	**S**	6.4	9.5	4.4	2.9	4.5	6	5	2.3	1.8	0.9	0.8	1.2	1.1	0.6	0.9	2.1	10.1	10.8	4.1	3.3	1.8	1.4	**S**	10.8	3.7	24
HOURLY MAX	13	18	14	18	23	14	11	13	10	9	6	5	4	6	6	7	6	10	11	13	22	18	20	19			
HOURLY AVG	6.8	7.0	6.2	7.0	7.2	6.2	4.9	4.7	3.5	2.5	1.8	1.4	1.3	1.5	1.5	1.4	1.5	1.9	2.4	4.0	6.5	8.3	9.2	7.9			

STATUS FLAG CODES

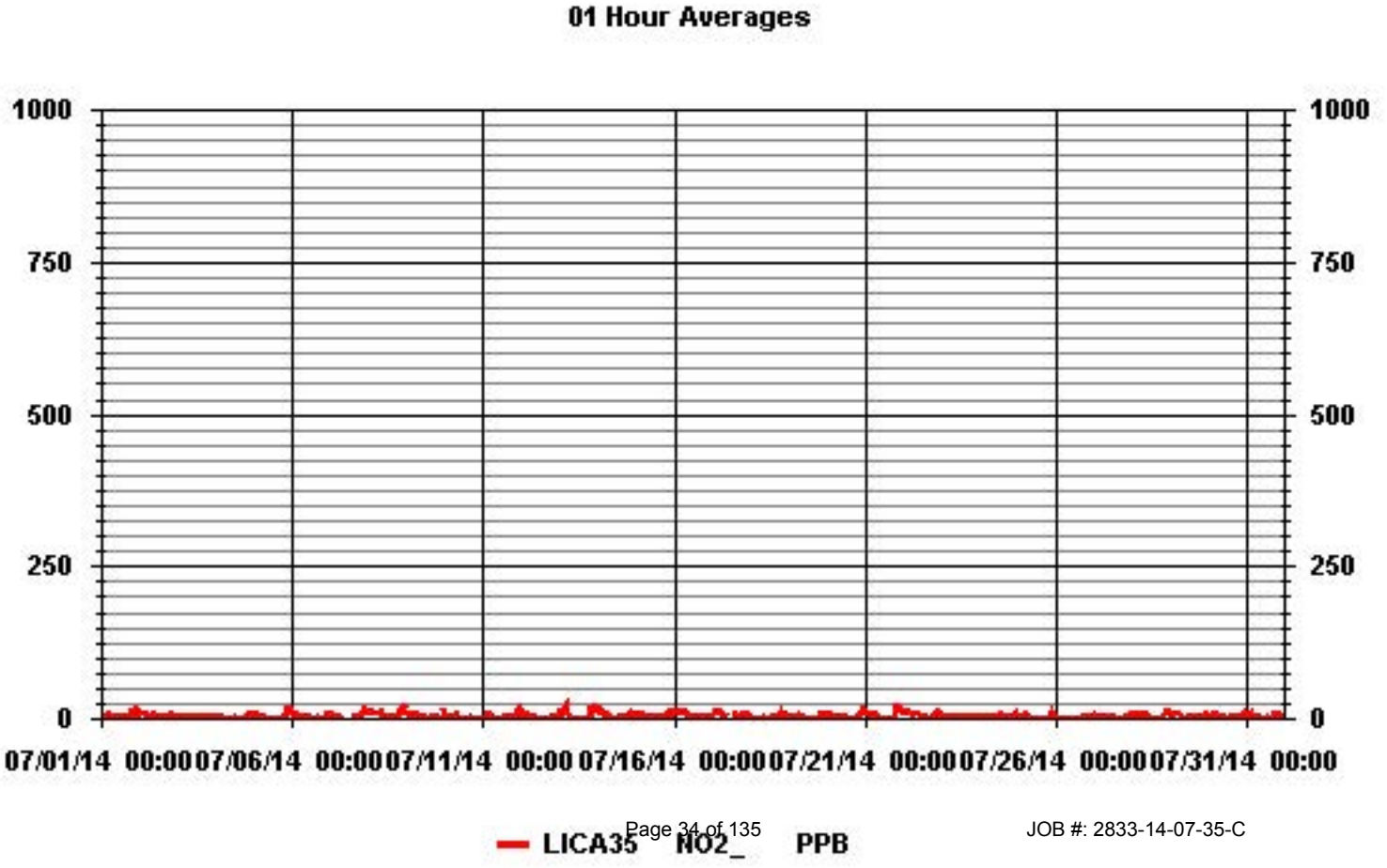
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

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



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0						
NUMBER OF NON-ZERO READINGS:	686						
MAXIMUM 1-HR AVERAGE:	22.8	PPB	@ HOUR(S)	4	ON DAY(S)	13	
MAXIMUM 24-HR AVERAGE:	8.8	PPB			ON DAY(S)	17	
					VAR-VARIOUS		
IZS CALIBRATION TIME:	38	HRS	OPERATIONAL TIME:		744	HRS	
MONTHLY CALIBRATION TIME:	12	HRS	AMD OPERATION UPTIME:		100.0	%	
STANDARD DEVIATION:	4.16		MONTHLY AVERAGE:		4.46	PPB	



JOB #: 2833-14-07-35-C

Lakeland Industry & Community Association - Elk Point Site

JULY 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	2.7	5.5	2.7	2.3	14.3	14.3	10.6	**S**	7.8	8.6	5.9	2.4	3.4	9.2	9.2	5.1	2.4	3.1	3.9	16.4	21.3	21	20.8	13.1	21.3	9.0	24
2	15.5	15.6	11.7	12.3	12.3	8.4	**S**	10.1	10.5	7.5	3.5	3	2.9	3.6	3.5	6.6	2.9	2.8	3.9	7.5	9	12.1	7.6	6.8	15.6	7.8	24
3	6.3	5.8	4.5	4.1	3.9	**S**	5.2	3.7	4	3.9	3.3	2.7	2.7	2.7	2.9	4.6	4.9	2.5	4.7	5.9	6.3	4.4	7.9	9.3	9.3	4.6	24
4	3.2	2.4	2.2	2.7	**S**	2.8	2.7	**S**	2.3	1.7	2.2	1.7	11.2	16.1	2.3	1.9	1.8	**S**	**S**	17	39.5	17.6	12.9	10.8	39.5	7.8	24
5	11.1	15.6	8.2	**S**	11.3	4.6	5.2	2.2	2.2	1.7	1.9	2.1	1.5	1.7	1.5	1.6	1.6	1.6	2.3	3.9	15	25.5	24.5	17.3	25.5	7.1	24
6	17.2	13.9	**S**	11.7	10.9	8.5	5.9	3.4	4.6	5.1	4.5	4.2	2.4	2.3	2.1	2.1	5.3	2.2	2.6	1.9	2.9	23.2	18.4	16.8	23.2	7.5	24
7	19.2	**S**	4.1	6.9	6.3	6.3	5.4	**S**	2.2	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2.4	2.6	2.6	16.3	10.1	23.6	17.2	14.7	23.6	9.3	24
8	**S**	17.3	14.7	13.5	11.7	11.8	13.1	15.2	11.4	7.7	6.4	3.5	3.3	2.9	3.7	5.8	3.9	5.5	7.8	23.3	31.3	30.8	29.6	**S**	31.3	12.5	24
9	17.4	10.6	12.1	12.9	10.8	13	11.5	7.1	5.9	7.4	4	2.9	4.7	6.1	3.1	2.2	2.9	4	9.2	9.5	9.4	3.8	**S**	19	19	8.2	24
10	15	1.9	3	9.7	13	9.2	8	10.3	4.9	3.7	2.1	2.3	1.5	1.7	2.4	2.9	5.4	5	3	6.3	4.1	**S**	4.7	1.9	15	5.3	24
11	1.7	2.7	13.4	14.7	13	8.8	5	2.3	***40.8***	1.7	1.5	1.7	2.3	2.3	2.6	3.3	4.4	3.9	6.8	8.7	**S**	12.8	17	20.6	***40.8***	8.3	24
12	20.5	9.4	5.3	11.1	9.7	7	2.7	3.1	3.3	2.7	2	1.9	1.6	11.1	1.8	1.6	1.3	1.5	2.7	**S**	4	3.3	4.4	6.3	20.5	5.1	24
13	9.7	28.3	22	24.6	31.8	21	6.5	6.6	2.9	2.1	1.7	2.1	2	1.7	1.3	1.3	1.6	1.8	**S**	5	30.8	20.4	25.6	22.9	31.8	11.9	24
14	16.9	19.4	15.7	14.9	10.9	10.9	9.7	7.9	6.9	4.6	3.3	3.3	2	3.4	3.7	3.5	4.4	**S**	7.2	9.1	14.5	14.7	11.7	16.6	19.4	9.4	24
15	10.3	9.7	6.9	12.2	13.1	12.1	7.3	6.5	4.9	4.1	3.5	2.6	3.1	3.4	3.9	4.6	**S**	5.7	7.6	8	11.3	14.5	16.4	8.8	16.4	7.8	24
16	16.8	12.9	14.9	12.1	15.7	16.1	13.2	11.5	11.7	10.4	10.3	7	6.4	6.3	4.5	**S**	7	8.5	9.1	2.5	2.9	2.8	2.9	7.2	16.8	9.2	24
17	18.6	17.9	16.1	16.6	14.3	14.2	13.2	11.9	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	8.6	8.9	7.6	13.5	18.7	20.6	10.3	8.9	20.6	***13.7***	24
18	2.6	1.9	1.8	1.9	2.5	2.6	3.6	5.5	4.9	1.4	1.4	1.6	1.2	**S**	9.8	4.2	4.4	5	5.2	17.6	9.9	10	16.2	6.9	17.6	5.3	24
19	5.1	5	5.8	7.3	10.8	10.4	10	8	4.2	5.2	5.8	1.2	**S**	1.7	1.6	1.6	2.4	4.8	2.2	9.1	14.9	13.6	10.5	10.6	14.9	6.6	24
20	10.7	7.4	15.1	12.3	11.5	8.1	2.1	1.8	1.9	2	1.5	**S**	2.2	3.2	1.5	1	1	1.4	3.1	9.8	11.3	17.3	17.8	16.8	17.8	7.0	24
21	15.1	14.2	10.5	10.2	8.2	8.4	8.5	8.1	6.9	3.8	**S**	2.9	2.4	1.7	3.7	2.3	1	1.2	5.1	33.5	38.9	24.4	20.2	17.7	38.9	10.8	24
22	13.6	18	18.3	11	16.5	11.3	8.6	14.3	11.9	**S**	5.1	3	2.9	2.2	2.2	2.8	1.9	3.3	3.9	6.7	11.5	16.6	16.8	17.9	18.3	9.6	24
23	15.7	10.2	7.4	3.6	6.2	3.6	3.1	2.8	**S**	2.8	2.9	2.7	2.4	3.7	2.1	6.4	5	6	4	6	8.8	5.7	7.9	6.2	15.7	5.4	24
24	7	8.6	6.2	7.6	5.5	6.9	**S**	**S**	3.3	3.5	3.2	2.6	6.6	15.2	13.8	8.4	3.9	4	4.5	3.9	6.2	8.9	16.3	9	16.3	7.1	24
25	3.8	7.2	10.6	8.3	11.3	9.8	**S**	4.6	2.3	1.2	1.1	1.2	1.2	1.1	1	0.8	0.8	0.8	0.9	2.7	22.2	4	12.7	4.9	22.2	5.0	24
26	4.4	4.7	1.9	4.3	6	**S**	5.9	1.8	1.3	1.2	1.3	1.6	1.9	1.8	1.1	4.7	5.5	5.2	8	8.6	5.1	7.9	10.6	5.9	10.6	4.4	24
27	10.9	10.3	6.8	7.5	**S**	8.3	5.1	5.3	3.7	2.7	2.2	2.5	2.2	1.7	2.3	1.4	1.4	1.3	1.6	5.8	7	8.5	9.4	13.3	13.3	5.3	24
28	7.2	19.4	10.5	**S**	7.2	7.7	10.4	7.1	7	7.2	5.3	2.9	2.3	1.6	2.4	1.3	5.1	2.3	2.1	10.8	14.3	15.3	16.5	15.1	19.4	7.9	24
29	11.7	11.7	**S**	14.9	15.1	11.2	10.6	6.2	3.7	**S**	**S**	**S**	2.9	2.7	2.3	2.1	2.1	2.5	3.2	6.3	8.6	7.8	10.3	12	15.1	7.4	24
30	4.7	**S**	9.2	18.6	12.9	15.4	6.9	3.8	3.1	2.8	2.7	2.1	17.7	2.8	2.4	2.2	2.7	3.6	7.8	8.9	8.6	11.1	15.1	8.5	18.6	7.5	24
31	**S**	8.4	11.4	6.3	4	8.2	8	6.8	3.9	2.5	1.9	1.9	2.1	2.2	1.8	2.5	5.5	17.5	22	12.3	5.3	3.6	2.4	**S**	22	6.4	24
HOURLY MAX	21	28	22	25	32	21	13	15	41	10	10	7	18	16	14	8	9	18	22	34	40	31	30	23			
HOURLY AVG	10.8	10.9	9.4	10.2	11.1	9.7	7.4	6.6	6.4	4.0	3.4	2.6	3.5	4.1	3.3	3.2	3.5	4.1	5.3	9.9	13.5	13.5	13.8	11.9			

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: 689

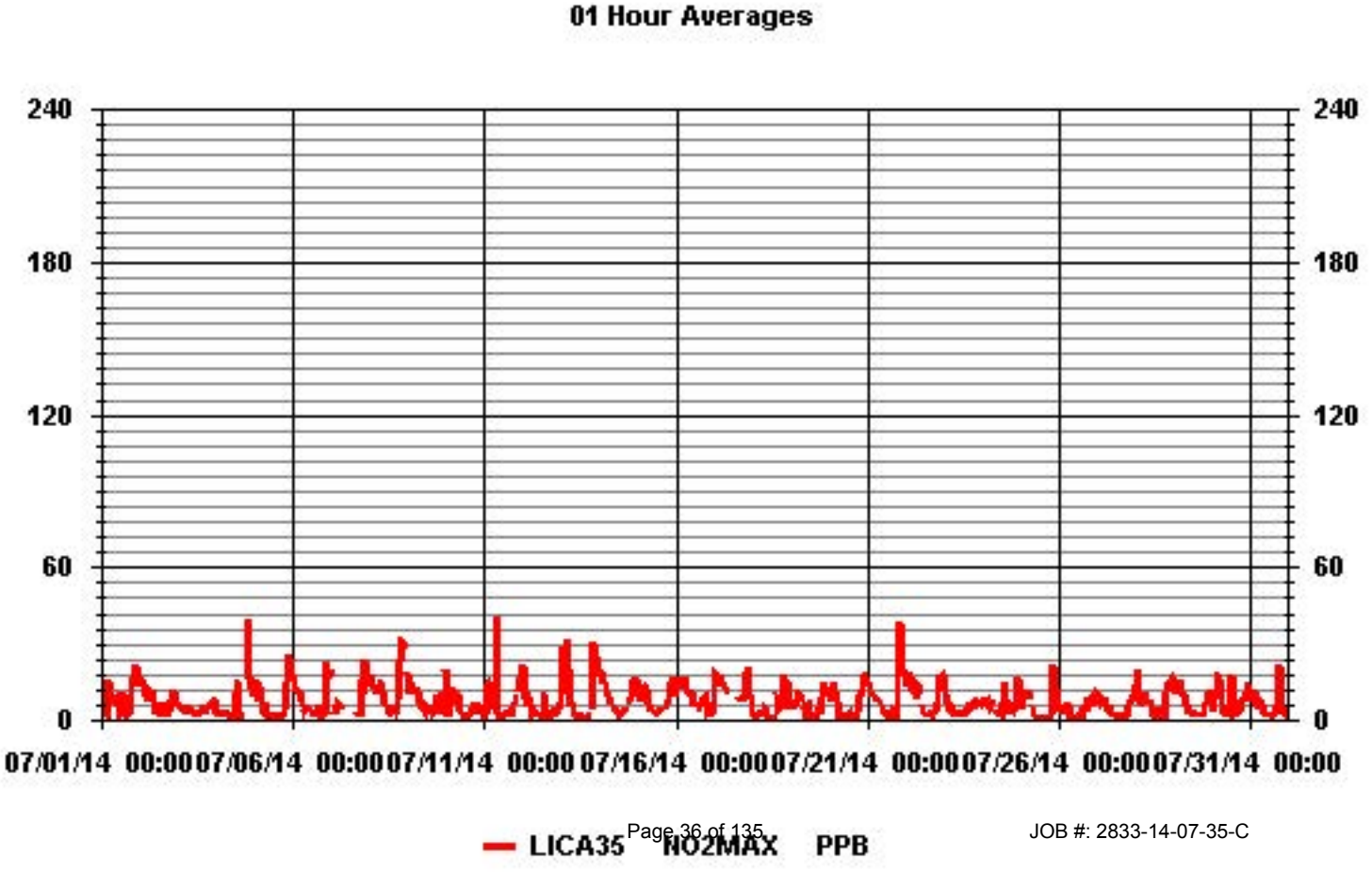
MAXIMUM INSTANTANEOUS VALUE: 40.8 PPB @ HOUR(S) 8 ON DAY(S) 11

VAR-VARIOUS

IZS CALIBRATION TIME: 40 HRS OPERATIONAL TIME: 744 HRS

MONTHLY CALIBRATION TIME: 15 HRS

STANDARD DEVIATION: 6.29



JOB #: 2833-14-07-35-C

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

July 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	1.58	2.88	1.58	3.45	7.92	13.54	9.94	7.34	4.32	1.15	2.16	5.90	15.41	10.37	9.22	3.17	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	1.58	2.88	1.58	3.45	7.92	13.54	9.94	7.34	4.32	1.15	2.16	5.90	15.41	10.37	9.22	3.17	

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	11	20	11	24	55	94	69	51	30	8	15	41	107	72	64	22	694
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	11	20	11	24	55	94	69	51	30	8	15	41	107	72	64	22	

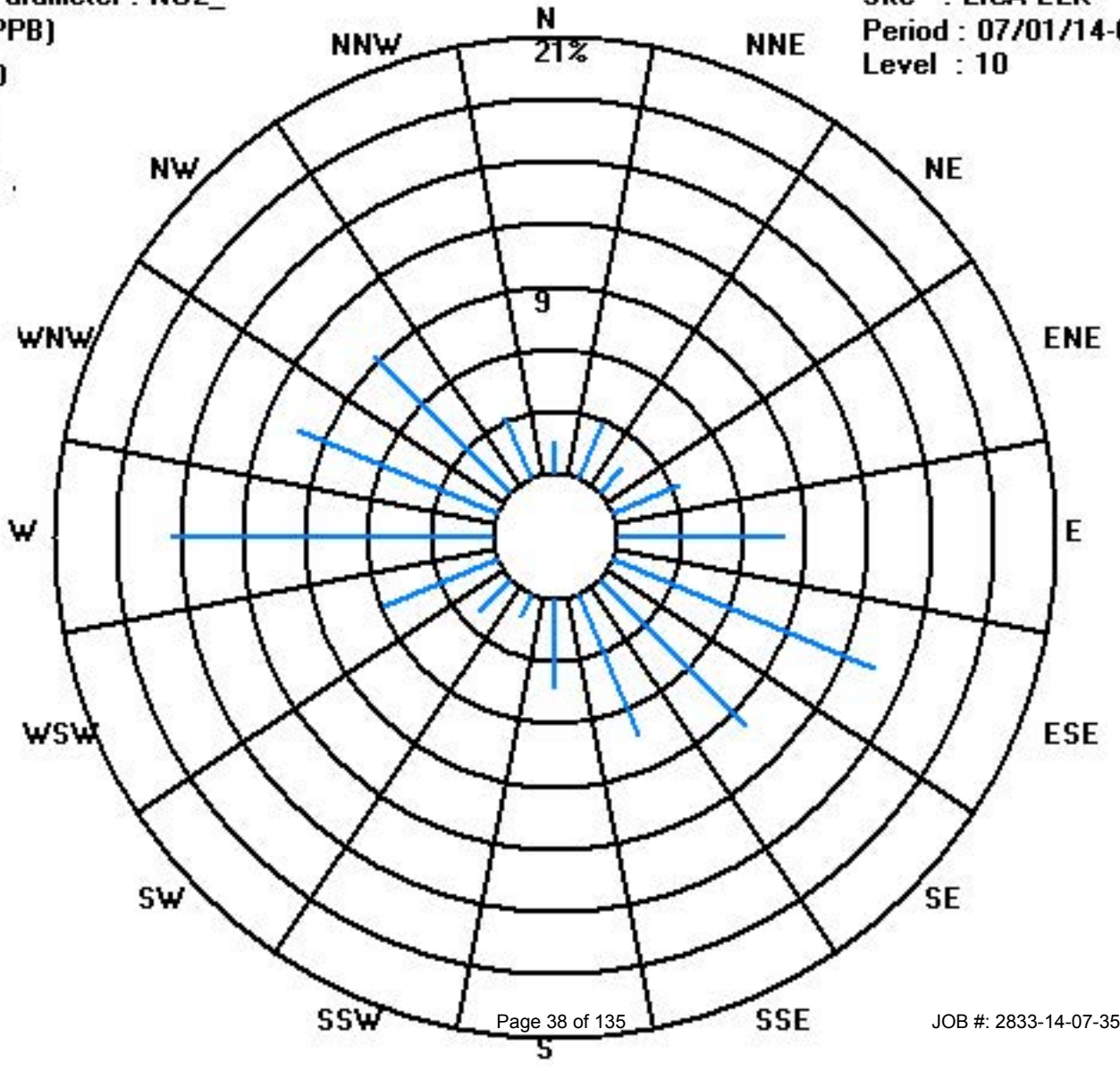
Calm : .00 %

Total # Operational Hours : 694

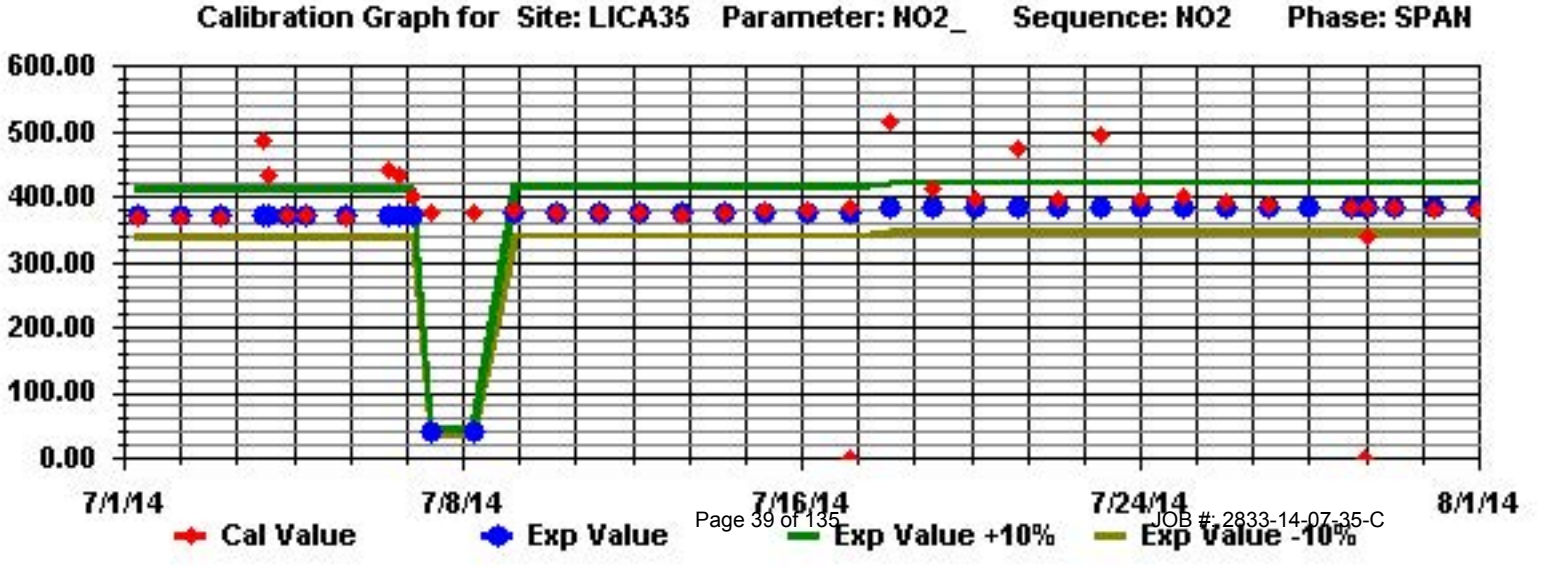
Logger : 35 Parameter : NO2_
Class Limits (PPB)

>= 210.0
< 210.0
< 110.0
< 50.0

Site : LICA-ELK
Period : 07/01/14-07/31/14
Level : 10



JOB #: 2833-14-07-35-C


Calibration Graph for Site: LICA35 Parameter: NO2_ Sequence: NO2 Phase: SPAN
600.00
500.00
400.00
300.00
200.00
100.00
0.00
7/1/14
7/8/14
7/16/14
7/24/14
8/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitric Oxide

Lakeland Industry & Community Association - Elk Point Site

JULY 2014

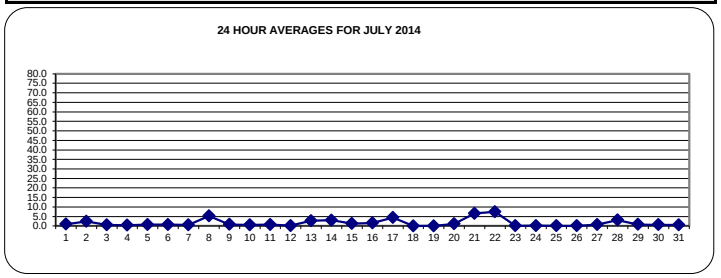
NITRIC OXIDE (NO) hourly averages in ppb

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	0.1	0.2	0.1	1.1	1.9	2.7	**S**	3.8	2.2	1	0.4	0.3	0.8	1.8	0.7	0.3	0.2	0.3	0.3	1.2	1	0.7	0.3	3.8	0.9	24
2	0.5	0.9	0.9	4.5	14.7	10.7	**S**	10.5	7.6	1.3	0.6	0.4	0.4	0.5	0.5	0.2	0.1	0.2	0.2	0.3	0.5	0.4	0.6	0.1	14.7	2.5	24
3	0.3	0.3	0	0.1	0.3	**S**	1	1	1.1	1	0.8	0.6	0.5	0.6	0.3	0.4	0.5	0.3	0.4	0.4	0.4	0.1	0.4	0.3	1.1	0.5	24
4	0.2	0.1	0	0	**S**	0.4	0.3	**S**	0.5	0.2	0.5	0.3	0.5	1.1	0.3	0.2	0.2	0.3	**S**	0.4	2.4	0.9	0.6	0.1	2.4	0.5	24
5	0.5	0.9	0.2	**S**	0.2	0.1	0.1	0	0	0.1	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.4	1.1	3.6	4.2	3.8	4.2	0.7	24
6	1.3	0.3	**S**	0.7	1.2	0.5	0.7	0.9	1.1	1.4	0.8	0.6	0.3	0.4	0.3	0.3	0.4	0.4	0.3	0.1	0.2	3	1.3	0.4	3	0.7	24
7	2.5	**S**	0.2	0	0	0.7	0.6	**S**	0.7	**C**	**C**	**C**	**C**	**C**	**C**	0.7	0.2	0.2	0.2	0.5	0.3	1.5	0.2	0.2	2.5	0.5	24
8	**S**	0.6	1.1	6.8	7.7	19.1	***35.4***	19.2	4.2	2.2	0.7	0.2	0.5	0.3	0.2	0.5	0.6	0.5	0.5	2.9	3.7	4.6	3.8	**S**	***35.4***	5.2	24
9	0.5	0.1	0.3	0.2	0.7	4.2	3.3	2	1.1	0.9	0.6	0.5	0.5	1	0.2	0.4	0.3	0.2	0.4	0.1	0	0	**S**	0.3	4.2	0.8	24
10	0.1	0	0	0.2	0.5	0.5	0.8	3.2	1.3	0.8	0.4	0.3	0.3	0.3	0.3	0.2	0.5	0.6	0.5	0.7	0.2	**S**	0	0.1	3.2	0.5	24
11	0	0.2	1.2	2.2	1.7	1.7	0.8	0.4	5.6	0.2	0.1	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.3	**S**	0.2	0	0.1	5.6	0.7	24
12	0	0	0	0	0.1	0.1	0.3	0.4	0.4	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.3	**S**	0.3	0	0	0	0.4	0.1	24
13	0.1	1	0.4	5.7	23.9	10.6	0.5	0.8	0.2	0.2	0.2	0.3	0.2	0.1	0.1	0.2	0.2	0.3	**S**	0.4	3.2	1.4	4.2	9.1	23.9	2.8	24
14	7.2	4.5	5.9	4.5	3	9.9	10.6	8.4	4.2	1.2	0.7	0.6	0.4	0.8	1.3	0.9	0.7	**S**	1	0.5	1.5	0.7	0.5	0.8	10.6	3.0	24
15	0.1	0.1	0	1.4	3.4	6.1	4.1	4.2	2.5	1.3	0.8	0.4	0.6	0.7	0.8	0.7	**S**	0.6	0.6	0.5	0.6	0.2	0	0	6.1	1.3	24
16	0	0.3	0.5	0.2	2.7	6.7	6.2	4.6	3.4	3	2.6	1.7	0.9	0.8	0.3	**S**	0.1	0.4	1	0.2	0.2	0	0	0	6.7	1.6	24
17	0.1	0.3	0.5	19	12.2	14	10.7	12.4	4.1	**C**	**C**	**C**	**C**	**C**	**C**	1.9	1.5	0.8	0.3	0.8	1.1	0.3	0	0	19	4.4	24
18	0	0	0	0	0	0	0	0.1	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0	0	0	0.1	0.0	24
19	0	0	0	0	0	0	0	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0.1	0	0	0	0.1	0.0	24
20	0	0	0.7	0.2	0.8	0.4	0	0	0	0	0	**S**	0	0	0	0	0	0	0	0.3	0	1.6	10.4	11.5	11.5	1.1	24
21	30.7	18.6	4.8	3.4	9.5	22.6	29.5	14.5	3.6	0.9	**S**	0	0	0	0	0	0	0	0	0.1	4.6	1.6	3.7	2.7	30.7	6.6	24
22	5.4	14.3	28.7	20.3	35.3	26.5	11.2	16.5	10.2	**S**	0.7	0	0	0	0	0	0	0	0	0	0	0.3	0.9	0.5	35.3	***7.4***	24
23	0	0	0	0	0	0.1	0.5	0.6	**S**	0.5	0.4	0	0	0	0	0.1	0	0	0	0	0	0	0	0.1	0.6	0.1	24
24	0.3	0.3	0	0.1	0.1	0.4	**S**	**S**	0.3	0.4	0	0	0.1	0.9	0.4	0	0	0	0	0	0	0	0	0	0.9	0.2	24
25	0	0	0	0	0.1	0.3	**S**	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0	0.7	0.1	24
26	0	0	0	0	0	**S**	0.3	0.2	0.2	0.1	0	0	0	0	0	0	0.5	0	0	0.2	0	0.1	0.1	0	0.5	0.1	24
27	0.8	0.4	0.4	0.8	**S**	6.5	2.7	3.4	0.9	0.2	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	6.5	0.7	24
28	0	2.4	9	**S**	11.2	14	13.9	9.9	7	3.3	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	14	3.1	24
29	0	0.3	**S**	1.8	2	4.3	4	2.6	1.2	**S**	**S**	0.2	0	0	0	0	0	0	0	0	0	0	0	0	4.3	0.8	24
30	0	**S**	0.2	1.3	2.8	6	2.2	1	0.7	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0.6	24
31	**S**	0.2	1.2	0	0	2	3.5	3	0.3	0	0	0	0	0	0	0	0	0.9	0.5	0	0	0	0	**S**	3.5	0.5	24
HOURLY MAX	31	19	29	20	35	27	35	19	10	3	3	2	1	1	2	2	2	1	1	3	5	5	10	12			
HOURLY AVG	1.7	1.6	1.9	2.5	4.7	5.9	5.2	4.5	2.2	0.8	0.4	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.7	0.7	1.1	1.0			

STATUS FLAG CODES

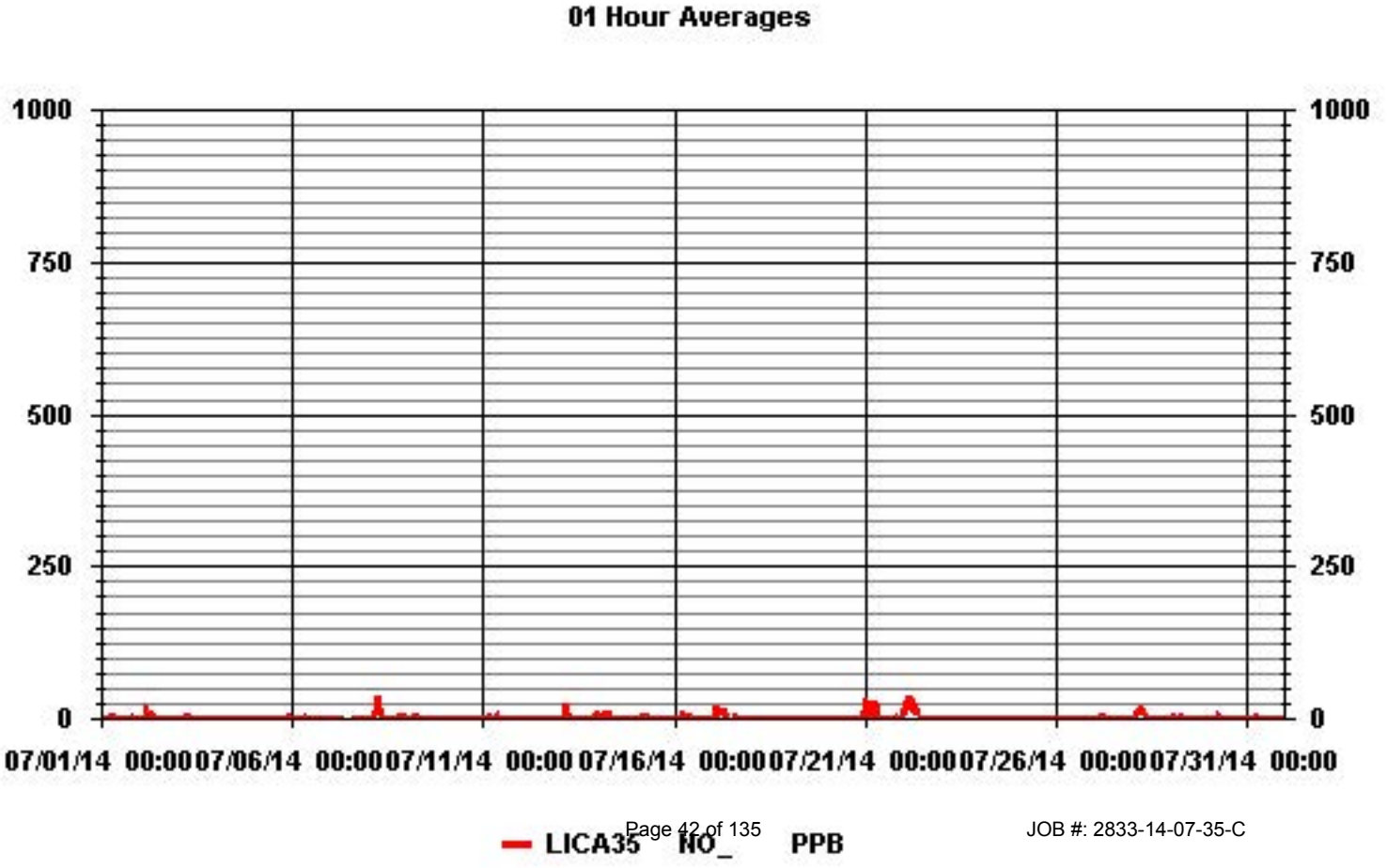
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



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

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	NA						
NUMBER OF NON-ZERO READINGS:	455						
MAXIMUM 1-HR AVERAGE:	35.4	PPB	@ HOUR(S)	6	ON DAY(S)	8	
MAXIMUM 24-HR AVERAGE:	7.4	PPB			ON DAY(S) VAR-VARIOUS	22	
IZS CALIBRATION TIME:	38	HRS	OPERATIONAL TIME:		744	HRS	
MONTHLY CALIBRATION TIME:	12	HRS	AMD OPERATION UPTIME:		100.0	%	
STANDARD DEVIATION:	4.16		MONTHLY AVERAGE:		1.54	PPB	



JOB #: 2833-14-07-35-C

Lakeland Industry & Community Association - Elk Point Site

JULY 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	0.7	0.6	0.6	0.5	4.5	6.2	9.6	**S**	4.9	4.8	2.1	0.9	0.7	3	3.8	1.9	0.8	0.8	0.9	1.8	4.2	3.6	1.5	1.4	9.6	2.6	24
2	1.6	1.7	1.6	15.4	18.8	19.3	**S**	16.2	11.5	2.9	1.6	0.9	1	2.1	1.7	0.8	0.8	0.7	1	0.8	1.3	1.2	2.1	0.6	19.3	4.6	24
3	1.2	1	0.6	0.7	1	**S**	2.3	1.6	2.1	1.8	1.6	1.3	1.5	1.2	1	2.1	2.2	0.8	1	0.9	1.3	0.9	1.5	1	2.3	1.3	24
4	0.8	0.5	0.6	0.4	**S**	0.8	0.7	**S**	1	0.7	1.7	0.9	2.9	12.3	1.2	0.8	0.8	**S**	**S**	4.7	61	5.7	3.1	0.8	61	5.1	24
5	4.3	4.7	2.6	**S**	0.7	0.6	0.6	0.4	0.4	0.7	0.7	0.8	0.7	0.7	0.7	0.6	0.7	0.8	0.7	0.8	3.9	9.7	12.8	7.1	12.8	2.4	24
6	6.1	1.3	**S**	1.6	2.4	1.4	1.3	1.7	1.9	1.9	1.7	1.5	0.9	1	1	1.1	1.6	0.9	1.3	0.6	0.6	17.5	7.7	3.6	17.5	2.6	24
7	12.1	**S**	0.8	0.6	0.5	1.6	1.9	**S**	1.9	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0.8	0.7	0.8	1.8	0.8	9.9	0.7	1.2	12.1	2.4	24
8	**S**	1.8	4.2	11.9	12.9	36.9	48.5	31.5	7.6	3.2	1.8	0.8	1.9	0.9	1.5	19.1	1.7	1.7	1.8	6.9	28.9	15.3	13.7	**S**	48.5	11.6	24
9	2.1	0.8	1.4	1.1	4.2	8.2	5.1	2.6	2.1	2.6	1.3	1.9	2.3	2.6	1	1.1	1	0.8	1.3	0.7	0.6	0.3	**S**	1	8.2	2.0	24
10	1	0.4	0.3	1.2	2.4	2.1	2.3	6.7	2.1	1.8	1	1	1	0.9	1.3	1.4	1.6	1.6	1.4	2.2	1.2	**S**	1	0.6	6.7	1.6	24
11	0.4	0.7	2.8	5.6	5.8	3.7	1.9	1	***81.9***	0.8	0.5	0.7	0.7	0.8	0.8	0.8	1	0.7	0.8	0.9	**S**	0.7	1.1	0.7	***81.9***	5.0	24
12	0.8	0.6	0.6	0.6	0.8	0.8	0.8	0.9	1	0.7	0.6	0.7	0.6	5.6	0.5	0.5	0.5	0.9	0.9	**S**	1.2	0.4	0.4	0.4	5.6	0.9	24
13	0.8	3	4.2	19.8	49.6	50.4	1.6	1.7	0.8	0.7	0.6	0.9	0.8	0.6	0.6	0.8	0.6	0.8	**S**	1.1	29.4	4.7	9.4	27	50.4	9.1	24
14	20.8	11	10.1	10.3	5.9	24.2	17.6	10	7	2.2	1.7	1.8	1.4	1.9	2.5	2.5	2.1	**S**	2.9	2.5	5.4	1.8	2.1	2.3	24.2	6.5	24
15	1	1.3	0.5	7.6	9.8	9.5	6.4	5.5	3.8	2.1	1.7	1.1	1.3	1.6	1.9	1.9	**S**	1.8	1.9	1.1	1.8	0.8	0.7	0.6	9.8	2.9	24
16	0.5	2.4	3.4	2.8	10.3	12.6	8.5	5.6	4.7	4.4	4.4	3.1	1.6	1.7	1	**S**	0.8	1.5	3.2	0.8	0.8	0.4	0.4	0.3	12.6	3.3	24
17	1.6	1.3	1.5	57.2	21	18.6	18.6	21.7	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	3.5	1.6	1.1	1.9	4.6	1.5	0.6	0.3	57.2	9.8	24
18	0	0	0	0	0	0	0	1.3	1.3	0.4	0.6	0.2	0.4	**S**	1.1	0.6	0.2	0	0	5	0	0	1.8	0	5	0.6	24
19	0	0	0	0	0	0.6	0.9	0.8	0	0.8	2.1	0	**S**	0.7	0.5	0	0.4	1.2	0.2	1.3	3.6	1.5	1.5	0.5	3.6	0.7	24
20	1.5	0.4	5.5	1.6	3.5	2.7	0.3	0.3	0.3	0.5	0.4	**S**	0.3	0.6	0	0	0	0	0.6	3	2.8	7.6	25.1	39.6	39.6	4.2	24
21	44.9	41.5	11.7	9.9	15.3	32.4	37.8	27.4	9.1	2.2	**S**	0.9	0.1	0	12.9	0	0	0	0	12	27.6	10.2	7.3	7	44.9	***13.5***	24
22	9.6	26.5	37.6	33.1	75.7	43.9	17.9	18.2	16.7	**S**	1.7	0.8	0.6	0.4	0.2	0.4	0	0	0.4	0	0.1	2.9	4.3	4.2	75.7	12.8	24
23	1.7	0.8	0.9	0.4	1	1.2	1.3	1.4	**S**	1.3	1	0.4	0.4	0.8	0.1	2.2	0.7	0.9	1	1	0.4	0.7	0.7	1.3	2.2	0.9	24
24	2	1.5	0.9	0.9	0.8	1.2	**S**	**S**	1	1.2	0.7	0.3	1.4	5.2	4.3	1.5	0.7	0.3	0.3	0.4	0.6	0.2	1.1	0.8	5.2	1.2	24
25	0.4	0.6	0.5	0.6	0.9	0.8	**S**	1.4	0.4	0.9	0.9	0.4	0.4	0.4	0.3	0.2	0.1	0	0	0	4.5	0.2	0.8	0.3	4.5	0.7	24
26	0.4	0.4	0.4	0.4	0.6	**S**	1.7	0.8	0.7	0.8	0.4	0.4	0.4	0.6	0.2	0.8	1.7	0.6	1.5	1.4	0.4	2.9	1	0.4	2.9	0.8	24
27	4.3	1.7	1.2	3.5	**S**	10.2	4.4	6.2	2	1.1	0.8	0.6	0.2	0.2	0.2	0	0	0	0	0	0	0	1.6	0.7	10.2	1.7	24
28	0.6	38.3	41.4	**S**	17.6	21.4	18.9	14.1	8.8	5.8	2.1	0.6	0.2	0	0	0	0.6	0	0	2	1.9	1.9	0.6	0.7	41.4	7.7	24
29	0.9	1	**S**	5.8	5.8	7	8.1	3.8	1.9	**C**	**C**	**C**	0.6	0.4	0.6	0.2	0.3	0.2	0.6	0.1	0.6	0	0.5	0.5	8.1	1.9	24
30	0.3	**S**	0.9	26.8	8.6	23.1	3.9	1.9	1.2	0.8	0.6	0.5	7.8	0.4	0.2	0	0	0	0.4	0.3	0.6	0.5	0.9	0.2	26.8	3.5	24
31	**S**	2.1	4.9	0.4	0.5	6.2	6	5.2	1.7	0.3	0	0	0	0	0.1	0	0.4	3.3	3.5	0.3	0	0	0	**S**	6.2	1.6	24
HOURLY MAX	45	42	41	57	76	50	49	32	82	6	4	3	8	12	13	19	4	3	4	12	61	18	25	40			
HOURLY AVG	4.2	5.1	4.9	7.6	9.7	12.0	8.2	7.0	6.2	1.8	1.3	0.9	1.1	1.7	1.4	1.5	0.9	0.8	1.0	1.9	6.3	3.4	3.5	3.6			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 630

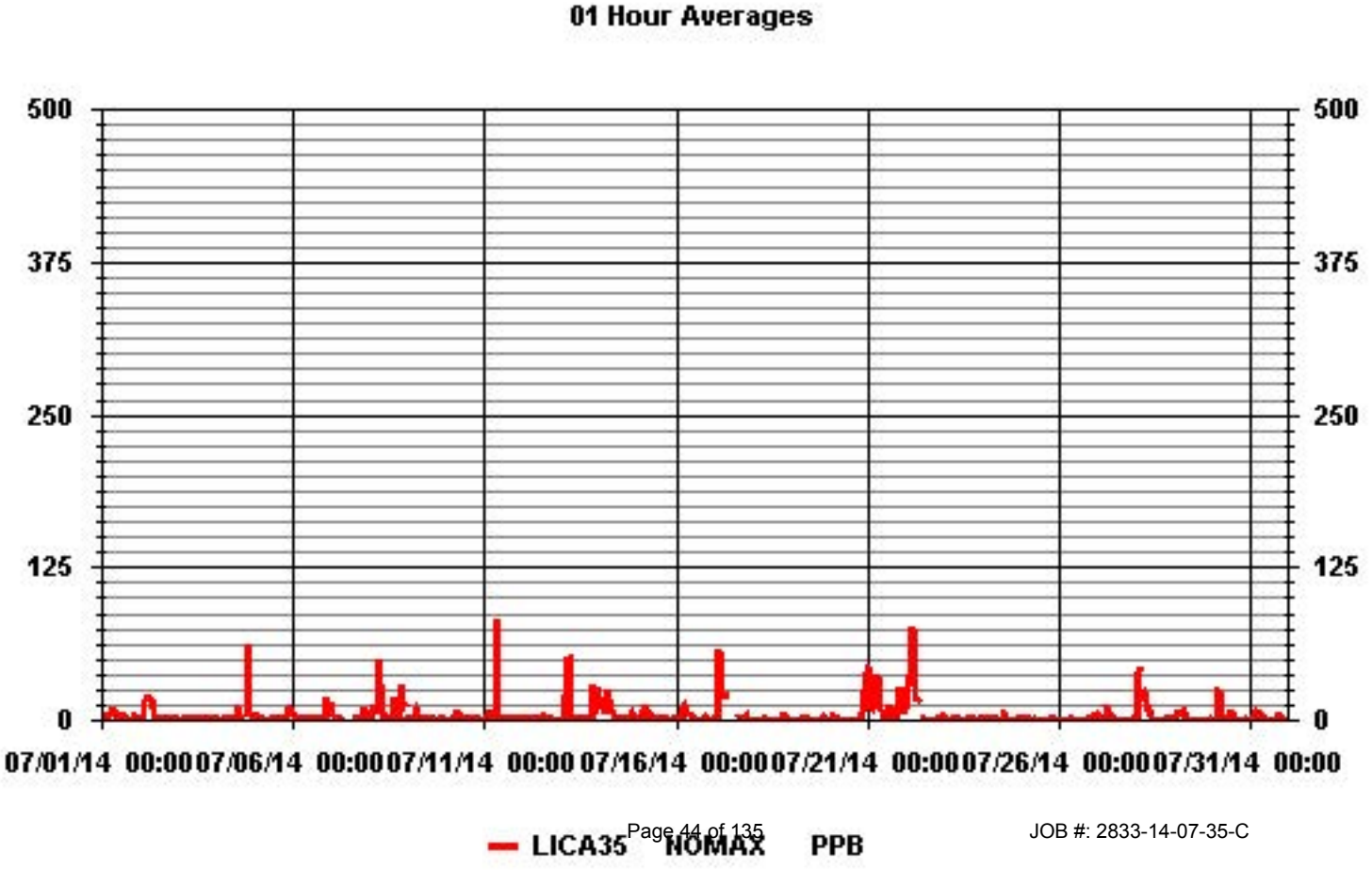
MAXIMUM INSTANTANEOUS VALUE: 81.9 PPB @ HOUR(S) 8 ON DAY(S) 11

VAR-VARIOUS

IZS CALIBRATION TIME: 37 HRS OPERATIONAL TIME: 744 HRS

MONTHLY CALIBRATION TIME: 18 HRS

STANDARD DEVIATION: 8.88



JOB #: 2833-14-07-35-C

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

July 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	1.58	2.88	1.58	3.45	7.92	13.54	9.94	7.34	4.32	1.15	2.16	5.90	15.41	10.37	9.22	3.17	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	1.58	2.88	1.58	3.45	7.92	13.54	9.94	7.34	4.32	1.15	2.16	5.90	15.41	10.37	9.22	3.17	

Calm : .00 %

Total # Operational Hours : 694

Distribution By Samples

Direction

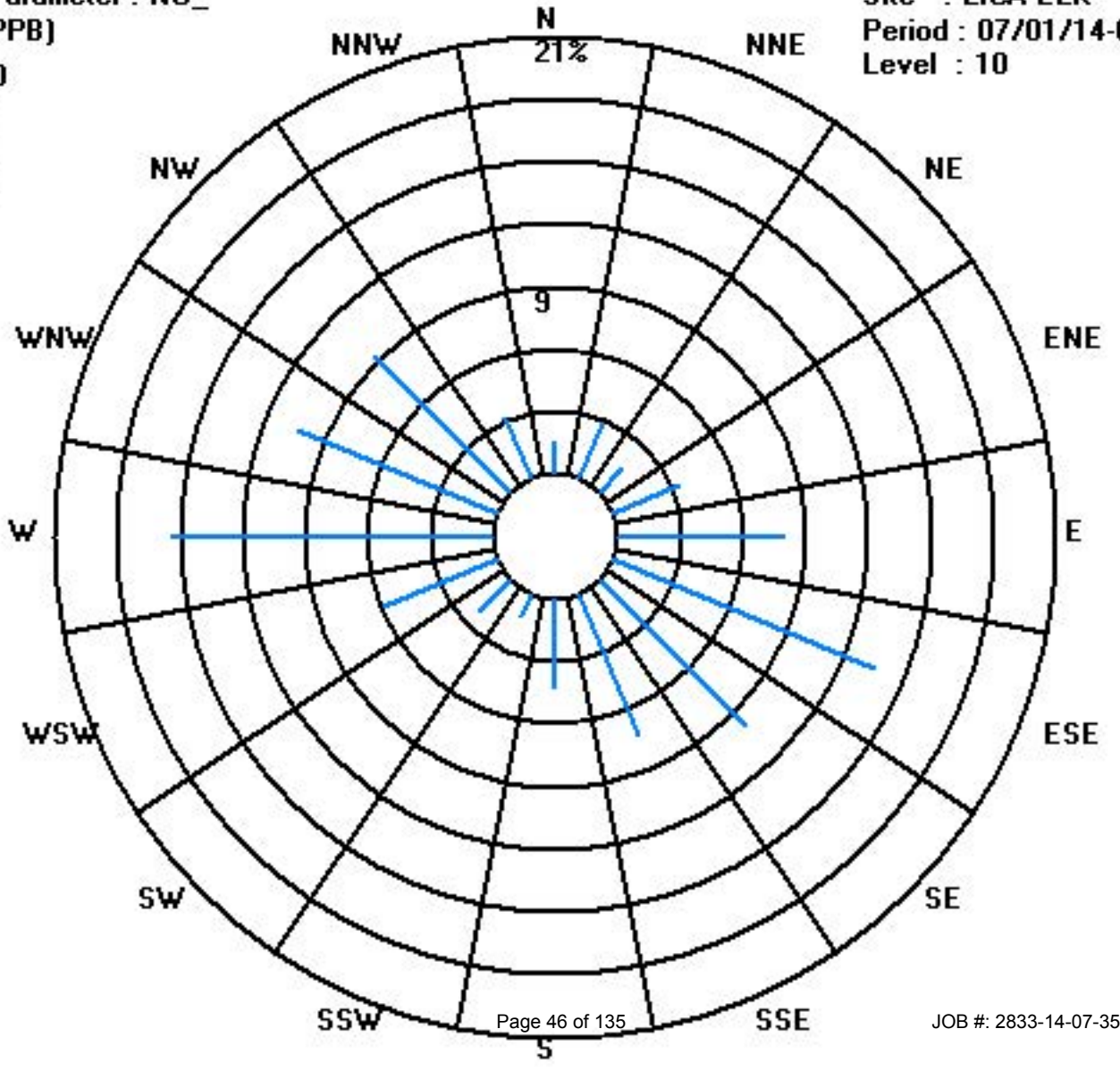
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50.0	11	20	11	24	55	94	69	51	30	8	15	41	107	72	64	22	694
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	11	20	11	24	55	94	69	51	30	8	15	41	107	72	64	22	

Calm : .00 %

Total # Operational Hours : 694

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

Site : LICA-ELK
Period : 07/01/14-07/31/14
Level : 10



JOB #: 2833-14-07-35-C

Oxides of Nitrogen

Lakeland Industry & Community Association - Elk Point Site

JULY 2014

OXIDES OF NITROGEN (NOx) hourly averages in ppb

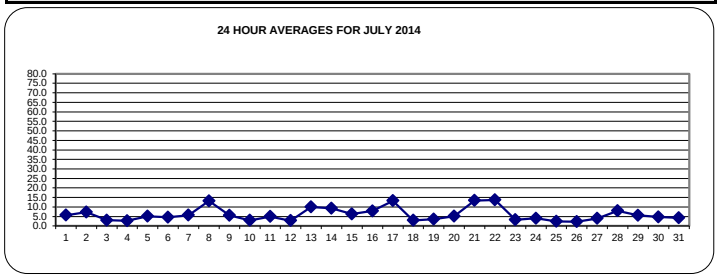
MST

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	1	2.3	1.4	1.3	7.8	8.3	7.3	**S**	9.6	7.3	4.2	1.5	1.4	3.1	6.5	2.7	1.6	1.8	2	4.1	13.8	16.1	16.5	9	16.5	5.7	24
2	9.9	11.8	9.8	13.3	23.8	16.2	**S**	17.6	15.9	5.4	2.5	1.9	1.5	1.9	2.1	1.9	1.7	1.7	2.2	3.8	6.9	6.7	5.7	4	23.8	7.3	24
3	4	3.5	3.2	3.1	3	**S**	3.5	3.1	3.5	3.3	2.6	2.1	1.7	1.8	1.6	2.4	2.1	1.4	2.6	3.6	3.7	2.8	5.5	4.8	5.5	3.0	24
4	1.6	1.3	1.2	1.3	**S**	1.9	1.4	**S**	1.3	0.9	1.2	0.9	1.6	2.8	1.2	0.8	0.8	0.8	**S**	1.4	8.2	10	8	8	10	2.7	24
5	7.9	9.9	4.7	**S**	5.8	2.8	2.8	1	1	0.9	1	1.2	0.8	0.9	0.8	0.7	0.6	0.6	1	1.6	8.1	21.5	22.9	19.3	22.9	5.1	24
6	14.4	9.7	**S**	9.6	10	5.4	4.2	3.1	3.8	5.1	3.9	3	1.3	0.9	1	1	1.4	1.4	1.1	0.6	0.9	9.9	7.2	7.1	14.4	4.6	24
7	10.3	**S**	2.4	3	2.1	4.7	2.3	**S**	1.5	**C**	**C**	**C**	**C**	**C**	**C**	2.1	1.4	1.5	1.6	6.7	7.5	17.5	15.1	10.8	17.5	5.7	24
8	**S**	12.3	11.5	18.8	17.6	28.3	46.1	32.4	11.9	8.3	4.7	2.3	2.2	1.6	1.5	1.9	2.1	2.6	3.4	15.7	18	22.5	23.9	**S**	46.1	13.2	24
9	10.5	8.3	8.1	9.2	8.1	13.5	11.1	7.7	5.1	4	2.7	1.9	2	3.7	1.2	1.4	1.6	1.7	4.9	2.3	2.6	1.6	**S**	14.9	14.9	5.6	24
10	7.2	0.7	0.7	5.3	7.4	4.4	5.6	10.1	4.3	2.4	1.2	1.2	0.8	0.9	1	1.3	2.4	2.9	1.7	2.8	1.6	**S**	1.1	1	10.1	3.0	24
11	0.7	1.6	9.3	12.4	9	7.1	3.1	1.5	8.5	0.8	0.5	0.7	1.2	1.3	1.3	1.9	2.4	2.3	3.5	6.1	**S**	9.7	12.6	16.2	16.2	4.9	24
12	9.3	5.9	3.7	6.8	7.6	3.9	1.7	2.3	2.6	1.6	1	0.9	0.5	1.1	0.5	0.3	0.3	0.6	1.3	**S**	2.8	1.9	3.1	4.5	9.3	2.8	24
13	5.9	18.6	11	23.8	***46.7***	20.1	4	4.9	1.3	0.8	0.8	1.1	1	0.6	0.3	0.4	0.6	0.7	**S**	2.3	17.5	16.3	22.5	27.8	***46.7***	10.0	24
14	20.4	20.6	19.7	16.6	11.7	16.7	18.7	15.2	9.3	3.5	1.5	1.4	1	2.2	2.9	2.2	2.2	**S**	3.9	2.9	9.5	10.4	10.1	11.9	20.6	9.3	24
15	7.6	6	5.1	8.8	13	14.9	9.5	9.2	5.6	3.7	2.4	1.5	1.8	2.1	2.6	2.4	**S**	2.4	4.3	5.2	9.1	10.4	10.4	7.5	14.9	6.3	24
16	11.4	9.6	10.1	9.1	14.3	20.2	17.4	13.9	13.1	11.8	8.4	6.6	5	5	2.9	**S**	3.7	4	4.9	1.4	1.9	1.6	1.8	3.4	20.2	7.9	24
17	7.2	13.9	13.8	34	23.8	26.4	21	21.6	11.1	**C**	**C**	**C**	**C**	**C**	**C**	8.5	7.5	5.7	4	9.6	10.5	10.5	6.1	3.1	34	13.2	24
18	0.9	0.7	0.6	0.6	0.9	1	1.5	3.4	1.9	0.6	0.9	0.8	1.1	**S**	6.4	4.2	3.6	2.8	2	10.7	4.4	5.9	8.2	4.1	10.7	2.9	24
19	2.6	2.9	2.4	3.8	4.1	6	8.9	4.1	1.4	2.4	1.9	0.3	**S**	0.8	0.7	0.4	0.8	2	1.1	3.6	8.4	10	6.8	5.8	10	3.5	24
20	7.2	5.5	6.7	7.7	6.9	2.9	1	1	1.1	1.1	0.4	**S**	1.2	1.1	0.2	0	0	0.1	0.9	4.7	4.8	12.8	25	26.5	26.5	5.2	24
21	44.1	31.1	14	11.3	16	28.6	35.6	19.9	8	3.3	**S**	1.9	1.1	0.6	0.9	0.4	0.1	0.2	1.5	9.8	26.8	18.2	20.1	14.5	44.1	13.4	24
22	17.4	26.2	42.1	28.9	43.7	34.4	17.4	26.7	19.8	**S**	3.9	1.4	1.7	1	1.1	1.2	0.8	1.4	1.6	2.5	6.6	11.2	14	10	43.7	***13.7***	24
23	9.3	6	4.6	2.6	3.3	2.4	2.4	2.3	**S**	2.5	2.5	1.7	1.3	1.8	1.3	3.9	2.6	3.6	2.5	3.8	4.3	3	3.4	3.4	9.3	3.2	24
24	4.8	5.1	4.2	4.9	3.2	4.1	**S**	**S**	2.7	2.8	2.2	1.9	3.8	7.3	6.3	3.9	2.3	2.5	2.4	2.3	2.6	5.8	9.2	4	9.2	4.0	24
25	2.5	3.5	4.5	5.4	8.5	7.2	**S**	3.3	0.8	0.3	0.3	0.4	0.3	0.2	0.2	0	0	0	0	0.8	8	0.7	5.8	1.7	8.5	2.4	24
26	2	1.4	0.9	1.6	3	**S**	1.7	1	0.8	0.7	0.5	0.4	0.8	0.5	0.1	1.6	4.2	3.1	4.2	4.8	3.6	5.1	5.9	3.1	5.9	2.2	24
27	9.8	6.8	5.1	4.9	**S**	13	6	7.3	3.3	1.7	1.7	1.9	1.2	1.1	1.3	0.4	0.5	0	0.3	1.5	3	5.6	6.9	8.1	13	4.0	24
28	5.1	8.7	17.6	**S**	16.8	20.4	21.9	15.8	13.2	9.1	4	1.6	0.7	0.7	0.7	0	1	0.7	0.9	4	7.2	10.8	11.8	11.6	21.9	8.0	24
29	9.6	8.2	**S**	11.9	13.2	13.5	10.6	7.2	3.7	**S**	**S**	2.8	2.2	1.7	1.4	1.3	1.4	1.6	2	3	5	3.9	6.8	6.1	13.5	5.6	24
30	3.8	**S**	7	11	10.7	14.4	6.7	3.7	2.5	2	1.5	1.2	2	1.8	1.2	1.1	1.4	1.7	2.6	4.7	5.6	5.8	10.3	6.4	14.4	4.7	24
31	**S**	6.6	10.7	4.4	2.9	6.5	9.5	8	2.6	1.8	0.9	0.8	1.2	1.1	0.6	0.9	2.1	11	11.3	4.1	3.3	1.8	1.4	**S**	11.3	4.3	24
HOURLY MAX	44	31	42	34	47	34	46	32	20	12	8	7	5	7	7	9	8	11	11	16	27	23	25	28			
HOURLY AVG	8.6	8.6	8.1	9.5	11.9	12.0	10.1	9.2	5.7	3.3	2.2	1.6	1.5	1.8	1.7	1.7	1.8	2.1	2.6	4.3	7.2	9.0	10.3	8.9			

STATUS FLAG CODES

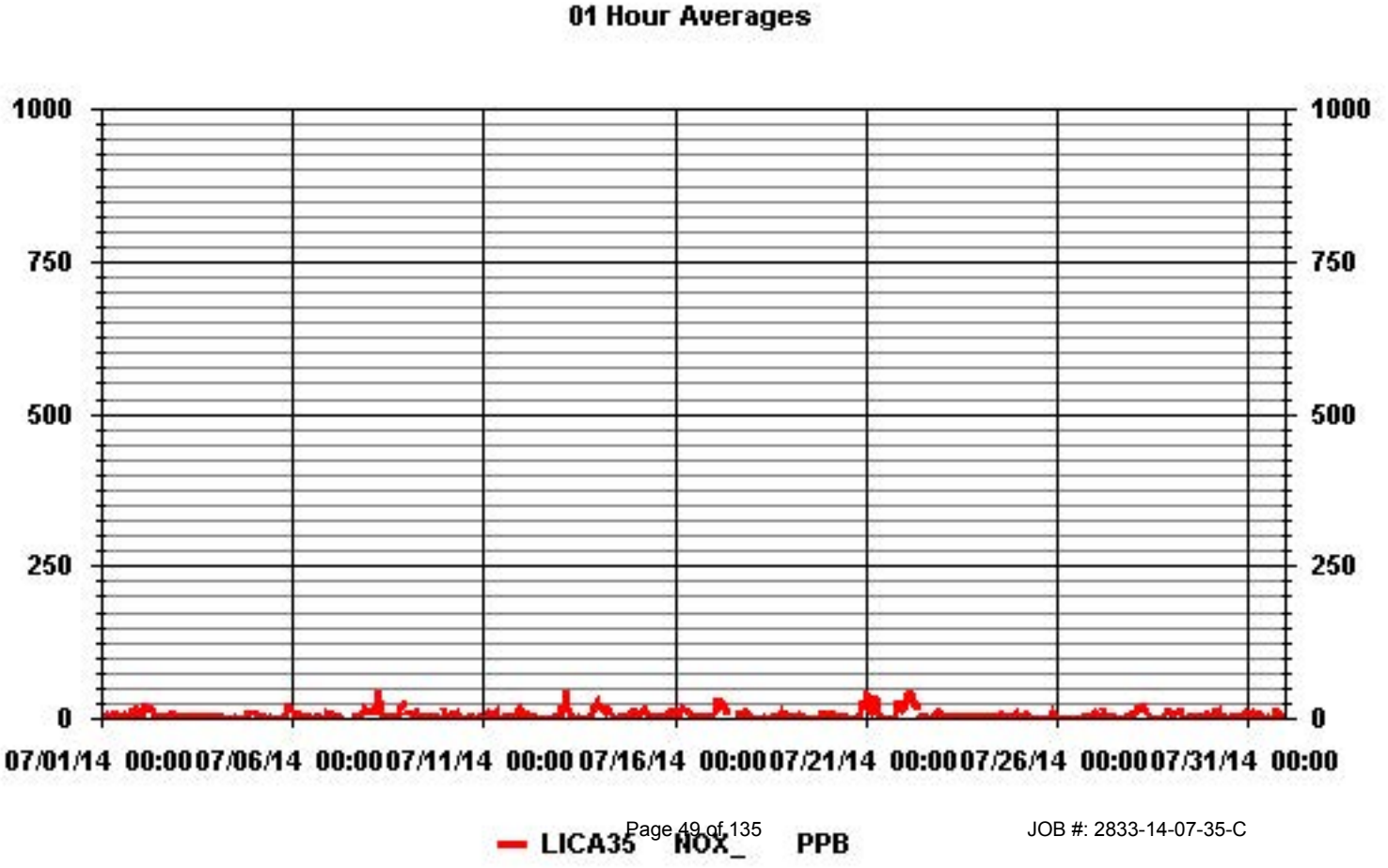
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

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



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	NA					
NUMBER OF NON-ZERO READINGS:	686					
MAXIMUM 1-HR AVERAGE:	46.7	PPB	@ HOUR(S)	4	ON DAY(S)	12
MAXIMUM 24-HR AVERAGE:	13.7	PPB			ON DAY(S) VAR-VARIOUS	22
IZS CALIBRATION TIME:	38	HRS	OPERATIONAL TIME:		744	HRS
MONTHLY CALIBRATION TIME:	12	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	7.04		MONTHLY AVERAGE:		6.00	PPB



JOB #: 2833-14-07-35-C

Lakeland Industry & Community Association - Elk Point Site

JULY 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	2.3	5.2	2	1.9	18.2	20.2	19.6	**S**	11.3	12.5	6.9	2.3	3.3	11	11.9	5.8	2	2.9	3.9	17.4	24.9	22	20.8	13.5	24.9	10.5	24
2	16.1	16.1	11.9	27.3	29.6	26.5	**S**	24.4	20.6	9.5	3.7	2.8	3	4.7	4.2	6.4	2.9	2.7	3.9	7.5	9.3	12.3	8.8	6.4	29.6	11.3	24
3	6.5	6.1	3.9	3.9	3.8	**S**	6.7	4.3	5.1	4.9	3.7	3.1	2.9	2.8	3.3	5.9	6.4	2.3	4.9	5.6	6.3	4.6	8.5	9.6	9.6	5.0	24
4	2.8	2	1.8	2.3	**S**	2.8	2.6	**S**	2.2	1.4	2.9	1.6	13.4	27.1	2.5	1.7	1.7	**S**	**S**	21	98.4	22.9	14.5	10.1	98.4	11.8	24
5	14.5	19.7	10.3	**S**	11.1	4.1	4.8	1.6	1.7	1.5	1.7	1.9	1.3	1.7	1.3	1.3	1.2	1.2	2.2	3.9	17	34.4	36.9	23.6	36.9	8.6	24
6	23	14.7	**S**	12.7	12.6	8.8	6.6	3.9	5.4	6.1	5.1	4.9	2.4	2.5	2.1	2	6.1	2.2	3.1	1.5	2.5	40.1	25.6	19.6	40.1	9.3	24
7	30.8	**S**	3.8	6.8	6.2	6.6	6.8	**S**	3.1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2.4	2.1	2.3	17.2	9.7	33	17.2	14.9	33	10.9	24
8	**S**	18.6	18.2	22.2	22.9	48	59.5	43.7	18.8	10.2	7.3	3.5	4.3	2.7	4.4	20.4	4.5	6.3	8.6	29.4	58.9	45.2	42.3	**S**	59.5	22.7	24
9	18.8	10.3	12.7	13.5	14.6	20.8	16	9	7.1	9.2	4.4	2.8	6	8	3.3	2.5	2.8	3.7	9.5	9.2	9.2	2.9	**S**	19	20.8	9.4	24
10	15.4	1.6	2.5	9.7	14.9	10.5	9.3	16.3	6.3	4.5	2.3	2.3	1.4	1.8	2.8	3.3	5.9	5.7	3.7	7.9	4.8	**S**	5.1	1.4	16.3	6.1	24
11	1.1	2.3	15.5	19.8	18.4	11.7	6.1	2.1	***115.5***	1.4	1.1	1.4	2.3	2.3	2.5	3.3	4.4	3.4	6.6	8.5	**S**	12.7	17.4	20.9	***115.5***	12.2	24
12	20.9	8.7	4.9	10.7	9.7	7	2.3	3	3.1	2.4	1.6	1.5	1	15.7	1.3	1.2	0.7	1.4	2.5	**S**	4.3	2.7	3.8	5.9	20.9	5.1	24
13	9.7	30.7	25.9	41.3	69.6	70.6	7.3	7.5	2.7	1.9	1.5	1.6	1.6	1.2	0.9	1	1	1.5	**S**	4.9	57	24.5	32.3	49.3	70.6	19.4	24
14	36.4	29.8	24.2	24.2	15.8	34.6	27.2	17.1	12.9	5.9	4	3.7	2.7	4.3	5.1	4.9	5.7	**S**	9.2	11	19.4	15.2	12.9	18.2	36.4	15.0	24
15	10.3	10.1	6.6	19.3	22.2	21.2	13.3	10.9	7.8	5	4	2.8	3.3	3.7	4.7	5.2	**S**	6.8	8.7	8	12.1	14.1	16.3	8.3	22.2	9.8	24
16	16.6	14.8	17.5	14.5	25.5	26.5	21	15.9	15.1	13.9	14.1	9.4	7.2	6.9	4.6	**S**	7.4	9.2	11.5	2	2.6	2.2	2.4	6.6	26.5	11.6	24
17	19.5	18.6	16.4	73.1	32.2	31	30.8	31.1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	11.5	9.9	8	14.9	22.8	21.4	10.2	8.8	73.1	22.5	24
18	2.1	1.5	1.4	1.4	2	2	3.6	6.4	6.4	1.5	1.5	1.8	1.9	**S**	11.8	5.3	5.1	5.1	5.3	23.9	9.1	10.1	18.8	6.1	23.9	5.8	24
19	4.9	4.9	6.6	8.1	10.6	11.4	11.7	9	3.5	6.5	8.1	1	**S**	2.1	1.5	1.5	2.6	6	2	10.5	18.6	15	10.7	10.7	18.6	7.3	24
20	11.5	7.4	20.1	13.4	14.7	10.2	1.5	1.5	1.7	1.7	1.2	**S**	2.2	3.5	1.1	0.4	0.6	1.3	3.5	12.5	13.1	25.1	42.7	54.4	54.4	10.7	24
21	59.3	54.4	21.8	19.6	21.4	39.2	44.1	34.9	15.1	5.5	**S**	3.7	2.1	1.3	8.5	2.2	0.6	0.8	5.1	44.4	66.4	26.7	25.4	22	66.4	***22.8***	24
22	22.2	37.9	53.6	41.8	91.3	54.2	24.7	30.1	25	**S**	6.5	2.9	3.1	2.3	2.2	2.8	1.7	3.2	3.8	6.6	11.2	18.2	20.8	22	91.3	21.2	24
23	17.1	10	7.6	3.3	7	3.7	3.7	3.3	**S**	3.8	3.4	2.6	2.5	4.6	2.1	8.5	5.6	6.8	4.8	6.4	8.4	5.4	8.4	7	17.1	5.9	24
24	8.8	9.9	6.9	7.8	5.5	7.4	**S**	**S**	3.7	4.7	3.4	2.7	7.6	20.5	18.3	9.9	4.1	4.1	4.3	3.9	5.7	8.3	16.5	9.3	20.5	7.9	24
25	3.5	6.9	10.5	8.3	11.6	9.6	**S**	5.3	2.3	1.4	1.4	1	0.9	0.8	0.8	0.6	0.4	0.2	0.5	2.4	26.9	3.5	13.2	4.6	26.9	5.1	24
26	4.4	4.7	1.5	3.9	6.1	**S**	7.3	1.8	1.4	1.2	1.2	1.8	1.7	1.9	0.7	5.1	7.1	5	8.8	9.5	4.9	10.4	11.2	5.5	11.2	4.7	24
27	15	10.6	7.4	10.3	**S**	17.7	8.9	10.9	5.4	3.5	2.6	2.7	2.3	1.7	2.6	1.2	1.1	0.9	1.1	5.7	6.7	8	10.6	13.5	17.7	6.5	24
28	7	57.1	49.2	**S**	23.8	28	26.3	20.9	14.9	12.5	7.3	3.2	2.7	1.5	2.5	0.8	6.3	2.1	1.9	12.7	14.2	17.2	16.6	15	57.1	14.9	24
29	11.7	11.9	**S**	20	20.2	17.5	18	9.2	5.1	**S**	**S**	**S**	3.3	2.8	2.6	2.3	2.4	2.5	3.5	6.4	9	7.7	10.5	12.1	20.2	8.9	24
30	4.5	**S**	9.7	45	18.2	36.3	10.2	5.2	3.6	2.9	2.6	1.9	24.8	2.9	2.3	1.9	2.9	3.4	8.3	9.2	9.5	11.5	15.7	8	45	10.5	24
31	**S**	9.7	15.3	6.3	3.8	14	13.5	11.3	5.2	2.4	1.7	1.5	1.9	2	1.8	2.3	6.4	19.6	26.1	12.7	5	2.6	2.2	**S**	26.1	7.6	24
HOURLY MAX	59	57	54	73	91	71	60	44	116	14	14	9	25	27	18	20	12	20	26	44	98	45	43	54			
HOURLY AVG	14.4	15.0	13.4	17.0	19.4	20.8	14.8	12.6	11.4	5.1	3.9	2.7	4.0	5.2	3.9	3.9	3.8	4.2	5.8	11.2	18.9	16.0	16.6	14.7			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 689

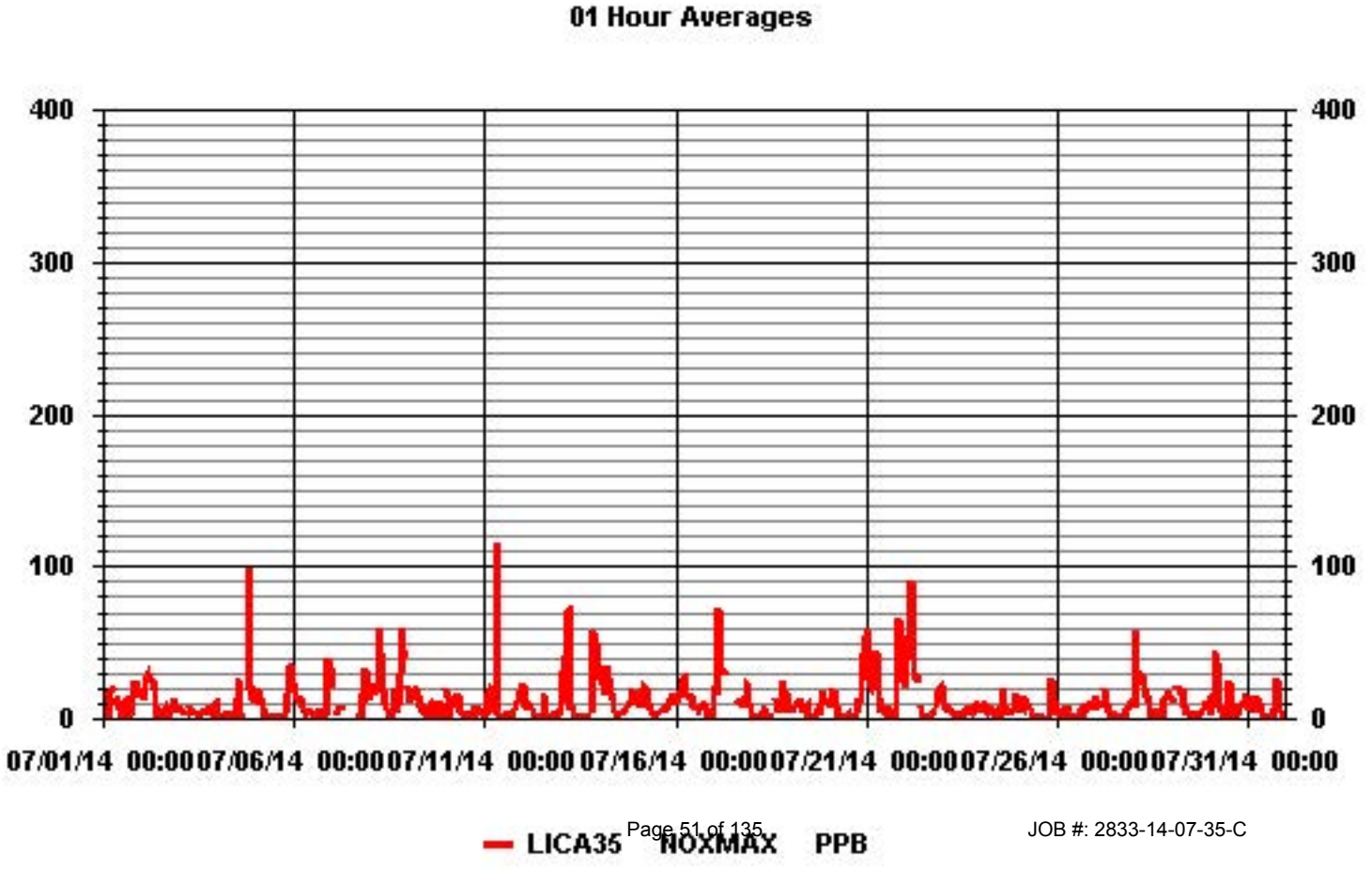
MAXIMUM INSTANTANEOUS VALUE: 115.5 PPB @ HOUR(S) 8 ON DAY(S) 11

VAR-VARIOUS

IZS CALIBRATION TIME: 40 HRS OPERATIONAL TIME: 744 HRS

MONTHLY CALIBRATION TIME: 15 HRS

STANDARD DEVIATION: 13.02



JOB #: 2833-14-07-35-C

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

July 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	1.58	2.88	1.58	3.45	7.92	13.54	9.94	7.34	4.32	1.15	2.16	5.90	15.41	10.37	9.22	3.17	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	1.58	2.88	1.58	3.45	7.92	13.54	9.94	7.34	4.32	1.15	2.16	5.90	15.41	10.37	9.22	3.17	

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	11	20	11	24	55	94	69	51	30	8	15	41	107	72	64	22	694
<	110.0																	
<	210.0																	
>=	210.0																	
	Totals	11	20	11	24	55	94	69	51	30	8	15	41	107	72	64	22	

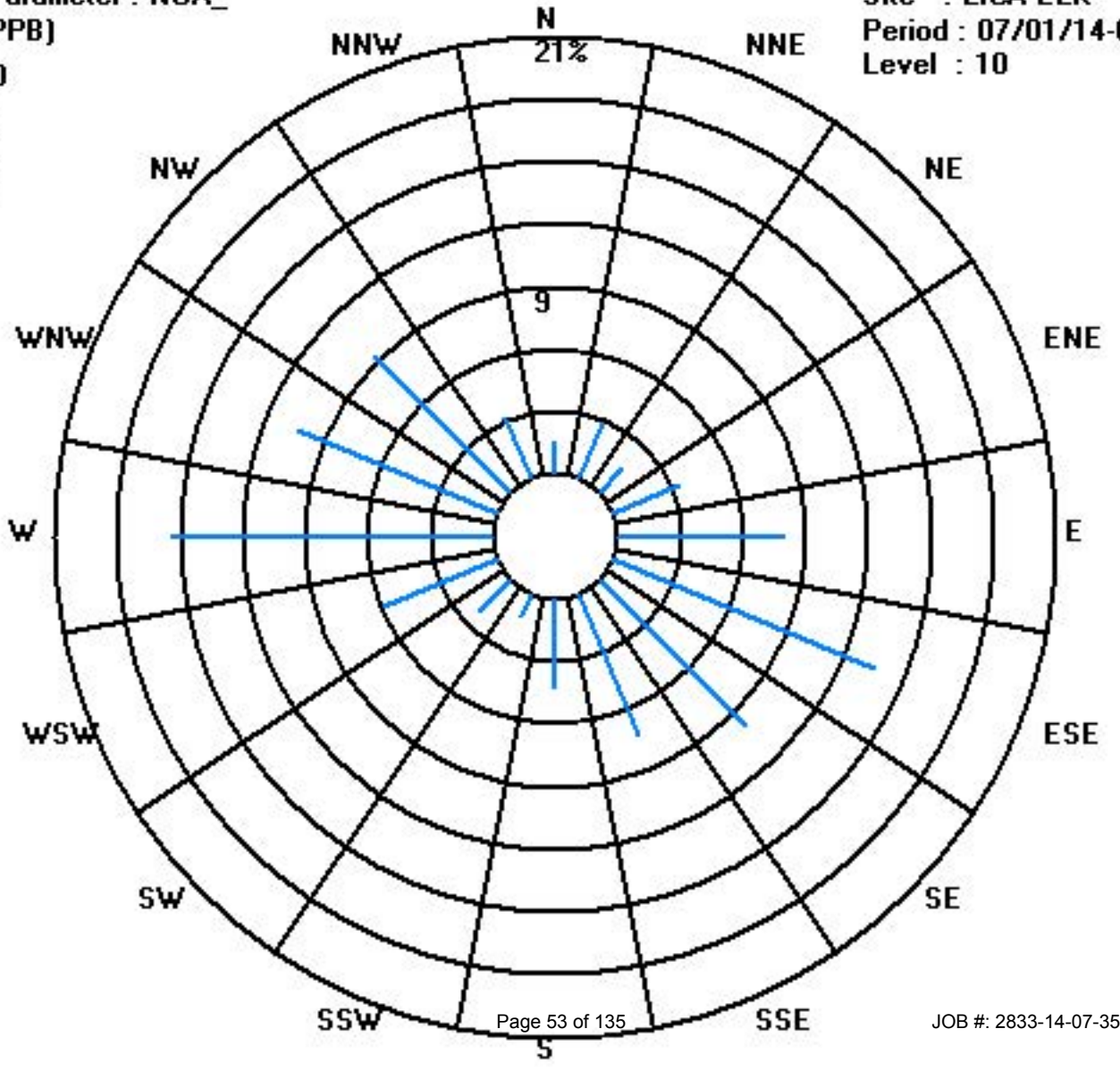
Calm : .00 %

Total # Operational Hours : 694

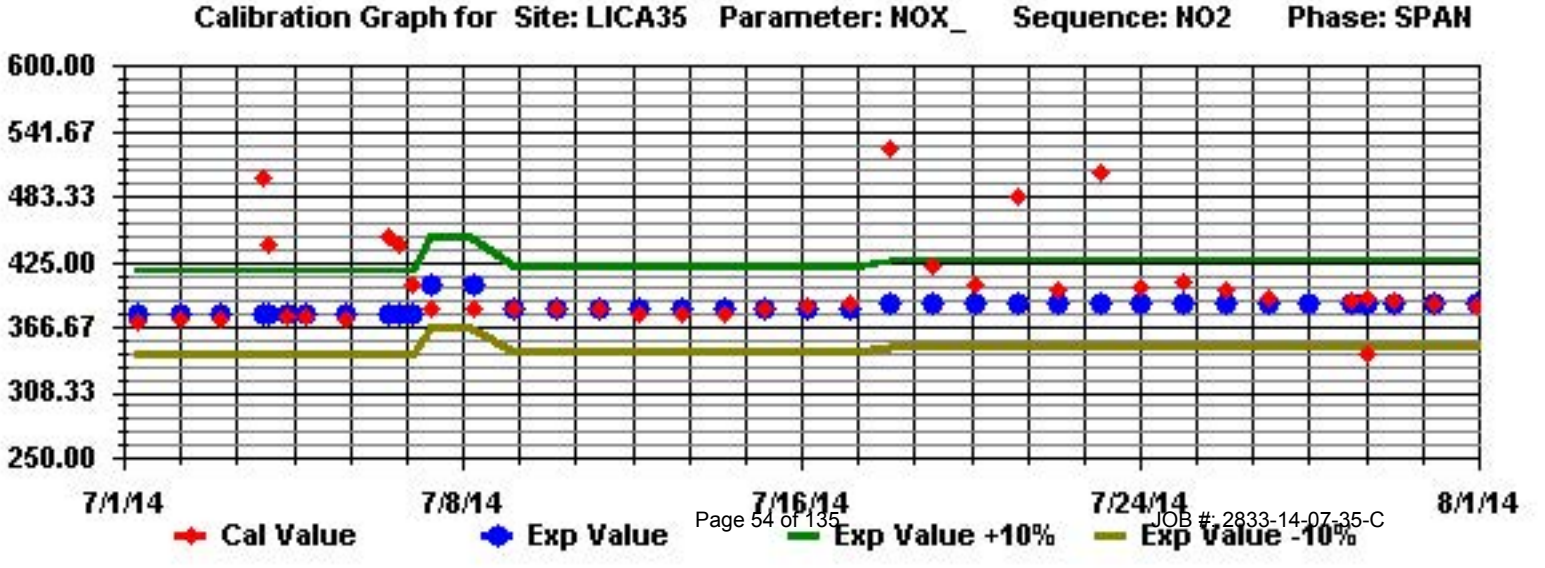
Logger : 35 Parameter : NOX_
Class Limits (PPB)

>= 210.0
< 210.0
< 110.0
< 50.0

Site : LICA-ELK
Period : 07/01/14-07/31/14
Level : 10



JOB #: 2833-14-07-35-C


Calibration Graph for Site: LICA35 Parameter: NOX_ Sequence: NO2 Phase: SPAN
600.00
541.67
483.33
425.00
366.67
308.33
250.00
7/1/14
7/8/14
7/16/14
7/24/14
8/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ozone

Lakeland Industry & Community Association - St. Lina Site

JULY 2014

OZONE (O3) hourly averages in ppb

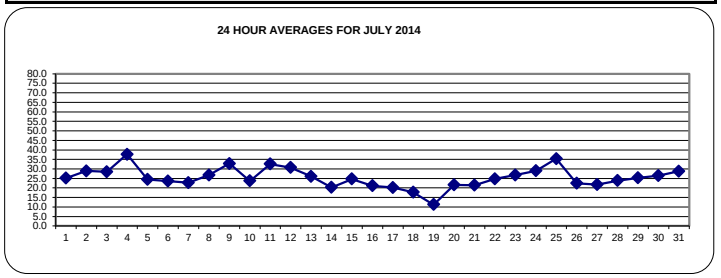
MST

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	22	20	20	18	11	11	12	**S**	17	28	34	36	38	33	37	39	40	39	38	34	21	13	8	10	40	25.2	24
2	5	2	2	1	0	2	**S**	7	19	39	48	50	50	50	50	51	52	50	48	40	29	26	23	21	52	28.9	24
3	19	20	20	20	21	**S**	22	23	23	25	29	34	37	38	40	40	40	40	36	28	27	28	22	22	40	28.4	24
4	38	50	47	42	**S**	34	37	35	35	36	39	43	47	48	49	49	46	44	42	39	26	17	13	10	50	***37.7***	24
5	7	6	11	**S**	19	26	21	24	27	29	31	33	36	37	38	38	39	37	35	32	20	8	5	2	39	24.4	24
6	7	11	**S**	7	8	18	21	25	31	31	32	27	33	32	34	35	30	27	27	27	26	19	17	16	35	23.5	24
7	14	**S**	18	16	17	14	17	20	23	29	34	35	38	38	**C**	**C**	**C**	**C**	36	28	20	10	11	14	38	22.7	24
8	**S**	9	6	0	1	1	2	7	22	33	47	48	48	48	44	45	46	48	47	28	23	19	16	**S**	48	26.7	24
9	14	11	10	9	9	8	16	22	36	42	44	45	47	47	48	48	48	45	37	49	49	51	**S**	19	51	32.8	24
10	23	24	22	16	16	20	21	19	27	32	32	34	28	24	24	24	28	24	22	18	18	**S**	23	25	34	23.7	24
11	26	25	16	12	13	14	19	22	23	25	27	29	32	37	39	48	51	56	59	***66***	**S**	51	35	23	***66***	32.5	24
12	25	22	25	21	20	21	21	27	33	35	35	37	37	42	37	36	36	35	32	**S**	24	29	38	39	42	30.7	24
13	26	14	15	4	1	13	29	36	33	32	39	42	48	42	41	39	39	38	**S**	32	15	12	6	3	48	26.0	24
14	2	1	1	1	2	4	7	11	20	31	33	34	35	36	36	37	37	**S**	36	32	23	20	15	11	37	20.2	24
15	9	11	11	7	4	5	11	14	19	27	34	42	43	43	44	45	**S**	44	38	34	27	23	16	16	45	24.7	24
16	10	8	9	5	4	2	3	4	4	10	21	29	35	41	44	**S**	43	36	29	29	24	33	35	28	44	21.1	24
17	20	11	6	2	2	3	7	8	23	34	42	36	28	22	**S**	23	24	26	24	17	16	26	31	33	42	20.2	24
18	34	30	28	26	24	23	24	20	22	26	28	31	35	**S**	36	5	2	2	2	2	2	2	2	2	36	17.7	24
19	2	2	2	2	2	2	2	2	2	2	2	18	**S**	**S**	30	29	28	27	25	19	12	11	14	12	30	11.2	24
20	9	12	12	8	9	12	**S**	34	37	38	36	**S**	35	34	32	29	30	30	28	21	19	9	2	0	38	21.6	24
21	0	1	1	1	0	1	2	7	19	26	**S**	43	47	48	51	48	47	46	44	32	13	11	2	4	51	21.5	24
22	1	0	0	0	0	1	4	6	14	**S**	43	47	46	46	46	47	49	48	46	41	29	20	18	18	49	24.8	24
23	15	17	20	22	20	21	22	24	**S**	30	32	38	38	39	38	32	33	31	28	27	25	24	20	19	39	26.7	24
24	16	15	14	14	17	16	16	**S**	22	27	38	46	47	42	37	37	42	39	36	37	34	27	21	27	47	29.0	24
25	35	37	37	31	26	27	**S**	36	42	38	35	40	39	41	43	44	44	43	43	37	24	30	19	21	44	35.3	24
26	16	19	22	21	18	**S**	19	18	20	26	29	33	34	35	32	29	25	29	24	19	16	13	10	10	35	22.5	24
27	4	6	7	8	**S**	2	9	12	19	24	28	30	34	36	36	38	39	38	36	30	23	19	13	9	39	21.7	24
28	8	4	0	**S**	0	1	4	7	12	23	38	43	42	43	44	46	45	43	40	32	26	19	14	14	46	23.8	24
29	9	4	**S**	5	4	5	13	18	24	31	37	41	42	42	42	41	40	39	37	32	23	22	16	16	42	25.3	24
30	18	**S**	8	7	5	6	13	17	22	29	35	38	42	45	46	45	46	44	40	30	25	21	13	13	46	26.4	24
31	**S**	6	3	9	8	7	10	16	28	36	40	47	52	55	52	51	50	31	27	34	29	21	21	**S**	55	28.8	24
HOURLY MAX	38	50	47	42	26	34	37	36	42	42	48	50	52	55	52	51	52	56	59	66	49	51	38	39			
HOURLY AVG	15.0	13.7	13.6	11.6	9.7	11.0	14.4	18.0	23.3	29.1	34.1	37.6	39.8	40.1	40.3	38.6	38.6	37.2	34.7	30.9	22.9	21.1	16.6	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

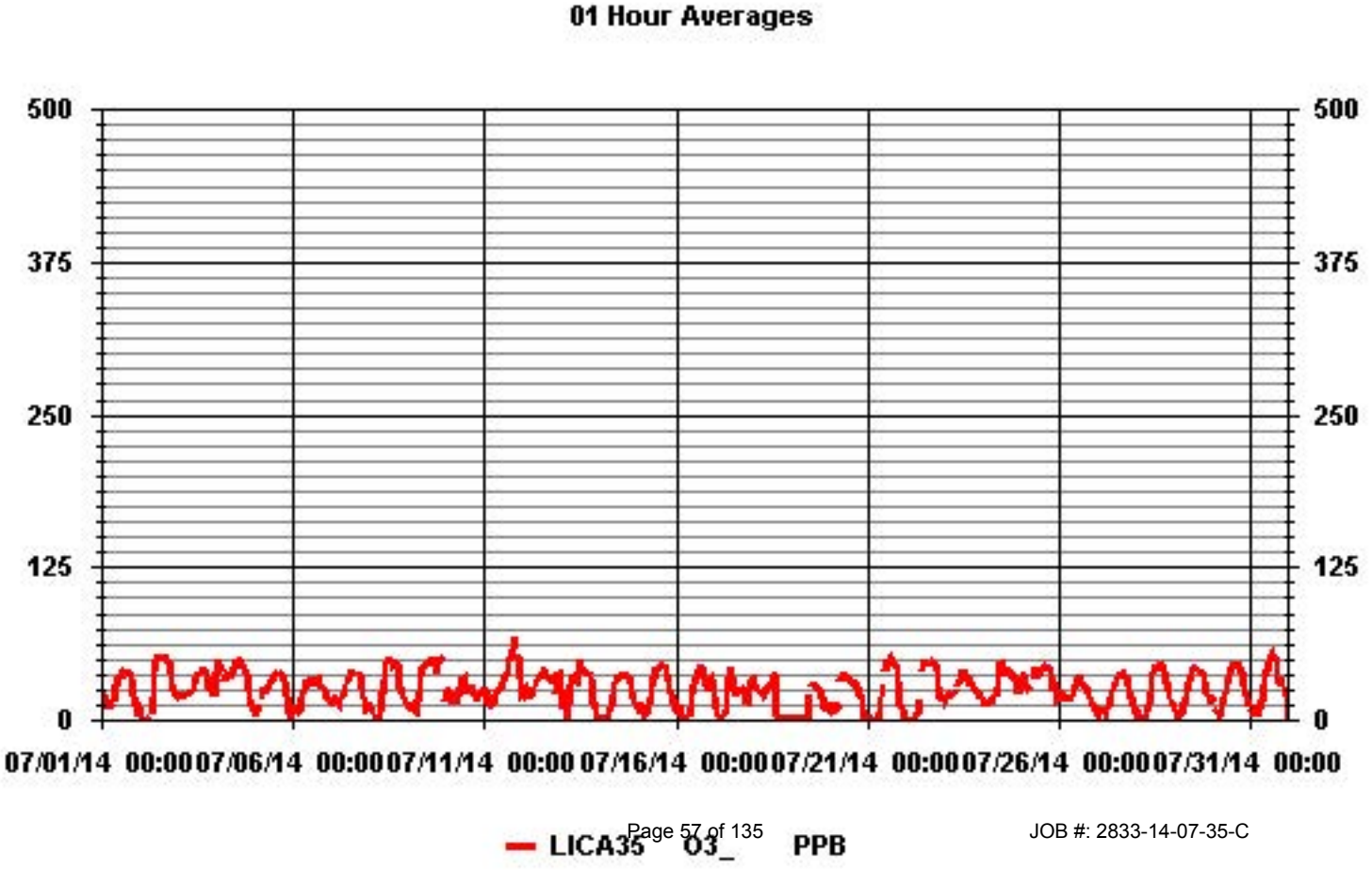
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 82 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	694					
MAXIMUM 1-HR AVERAGE:	66	PPB	@ HOUR(S)	19	ON DAY(S)	11
MAXIMUM 24-HR AVERAGE:	37.7	PPB			ON DAY(S) VAR-VARIOUS	4

IZS CALIBRATION TIME:	35	HRS	OPERATIONAL TIME:	744	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	14.36		MONTHLY AVERAGE:	25.39	PPB



JOB #: 2833-14-07-35-C

Lakeland Industry & Community Association - Elk Point Site

JULY 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	24	22	21	21	18	16	15	**S**	20	32	36	39	40	39	40	41	41	42	41	40	29	21	16	19	42	29.3	24
2	11	5	5	3	1	3	**S**	10	38	45	50	51	51	51	53	54	53	53	50	47	32	30	27	23	54	32.4	24
3	21	21	21	21	22	**S**	23	24	24	26	32	38	38	40	42	42	41	41	39	34	29	30	27	26	42	30.5	24
4	51	51	50	45	**S**	37	39	37	36	38	42	46	49	51	54	52	49	45	44	41	37	26	16	14	54	***41.3***	24
5	12	11	18	**S**	26	28	24	26	30	32	32	37	38	39	40	40	40	38	37	34	29	18	10	7	40	28.1	24
6	10	15	**S**	9	16	19	25	30	34	34	35	30	35	33	35	36	34	29	29	29	29	26	23	18	36	26.7	24
7	22	**S**	20	19	19	17	19	20	26	34	35	37	39	39	**C**	**C**	**C**	**C**	38	36	24	15	14	18	39	25.8	24
8	**S**	15	11	1	2	2	3	19	30	40	51	51	50	50	47	47	49	51	52	45	39	32	31	**S**	52	32.6	24
9	22	16	14	14	11	11	19	30	41	44	46	48	49	49	50	50	50	48	42	55	57	57	**S**	26	57	36.9	24
10	28	26	24	21	23	24	24	27	31	34	33	37	29	26	25	27	40	30	25	21	19	**S**	27	27	40	27.3	24
11	28	27	25	19	19	18	21	23	25	27	28	30	35	38	42	52	54	60	68	***70***	**S**	56	46	33	***70***	36.7	24
12	30	25	26	24	24	23	23	30	35	36	37	39	40	44	43	36	37	37	35	**S**	30	32	44	44	44	33.7	24
13	37	27	31	8	2	28	36	38	36	34	42	47	51	47	44	41	41	39	**S**	37	23	21	12	11	51	31.9	24
14	6	3	2	3	5	5	9	15	26	34	34	36	36	38	37	39	39	**S**	39	36	29	26	20	16	39	23.2	24
15	11	13	13	11	9	7	14	16	24	31	38	44	44	45	46	47	**S**	47	43	38	30	29	21	20	47	27.9	24
16	15	13	16	7	9	5	6	6	7	15	24	34	38	46	48	**S**	51	42	32	32	29	36	37	34	51	25.3	24
17	24	21	10	4	5	5	13	15	29	39	45	44	34	27	**S**	29	28	30	26	25	24	38	40	37	45	25.7	24
18	36	33	30	28	27	25	25	23	25	29	30	34	37	**S**	37	36	2	2	2	3	2	2	3	2	37	20.6	24
19	4	2	2	2	2	2	2	2	3	2	41	36	**C**	**C**	31	**S**	30	30	27	23	17	16	17	15	41	14.6	24
20	11	16	17	13	13	18	**S**	**S**	39	39	38	**S**	37	36	35	30	31	31	30	25	24	14	8	1	39	24.1	24
21	1	3	3	3	1	2	3	13	22	30	**S**	46	49	51	55	51	48	47	48	41	30	20	5	13	55	25.4	24
22	5	1	1	0	1	2	6	11	26	**S**	47	48	48	48	48	49	51	50	49	46	36	29	23	23	51	28.2	24
23	20	20	23	22	22	22	24	25	**S**	30	37	39	40	41	40	35	37	34	34	32	31	26	23	21	41	29.5	24
24	20	20	16	16	20	18	21	**S**	24	33	43	50	51	50	42	40	45	43	38	40	42	31	32	31	51	33.3	24
25	44	43	42	39	33	39	**S**	39	46	44	37	43	42	43	45	46	45	45	44	41	33	35	28	29	46	40.2	24
26	19	21	26	25	21	**S**	21	19	22	29	31	36	37	37	37	33	27	33	28	23	19	17	13	13	37	25.5	24
27	7	9	9	11	**S**	7	12	15	23	28	31	32	39	38	38	40	40	40	38	35	29	25	26	14	40	25.5	24
28	12	8	1	**S**	1	3	7	11	17	29	43	45	44	44	47	47	47	46	43	38	31	25	21	20	47	27.4	24
29	13	7	**S**	9	8	9	17	21	28	35	40	42	43	44	43	42	41	41	39	35	31	25	19	19	44	28.3	24
30	20	**S**	13	12	14	13	16	19	26	34	37	40	46	47	47	48	48	46	43	35	30	26	22	17	48	30.4	24
31	**S**	14	8	15	13	12	13	24	33	40	43	52	55	57	54	53	54	44	35	41	38	25	26	**S**	57	34.0	24
HOURLY MAX	51	51	50	45	33	39	39	39	46	45	51	52	55	57	55	54	54	60	68	70	57	57	46	44			
HOURLY AVG	19.4	17.5	17.2	14.7	13.3	14.5	17.1	21.0	27.5	32.6	37.9	41.0	42.1	42.7	42.9	42.3	41.1	40.1	37.9	35.9	29.4	27.0	22.6	20.4			

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: 702

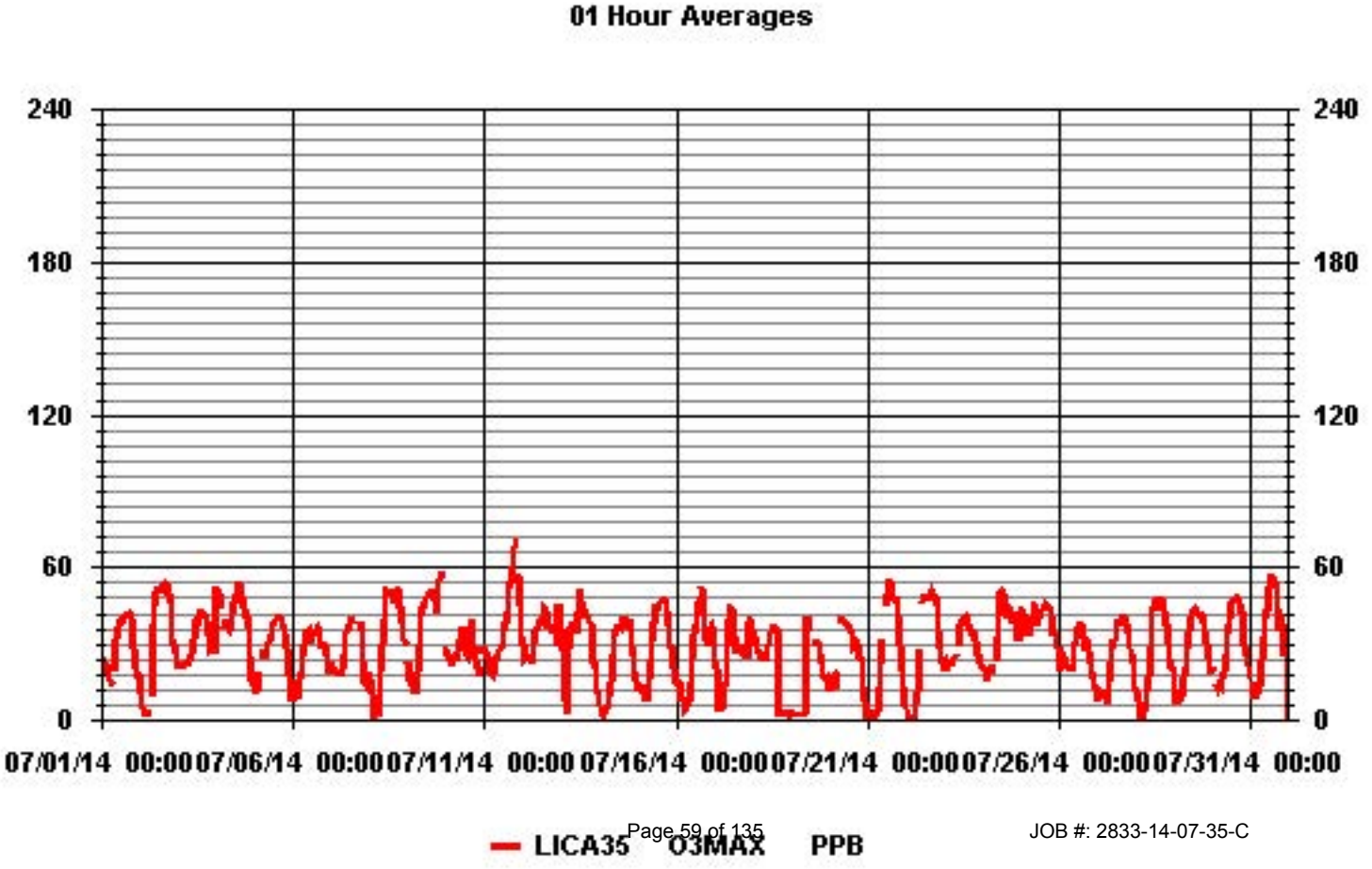
MAXIMUM INSTANTANEOUS VALUE: 70 PPB @ HOUR(S) 19 ON DAY(S) 11

VAR-VARIOUS

IZS CALIBRATION TIME: 35 HRS OPERATIONAL TIME: 744 HRS

MONTHLY CALIBRATION TIME: 6 HRS

STANDARD DEVIATION: 14.27



JOB #: 2833-14-07-35-C

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

July 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	1.27	2.83	1.56	3.40	7.80	13.04	9.50	6.95	4.39	1.13	1.98	5.81	14.46	9.92	10.07	2.97	97.16
< 110	.28	.00	.00	.00	.14	.28	.70	.42	.14	.00	.14	.14	.56	.00	.00	.00	2.83
< 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	2.83	1.56	3.40	7.94	13.33	10.21	7.37	4.53	1.13	2.12	5.95	15.03	9.92	10.07	2.97	

Calm : .00 %

Total # Operational Hours : 705

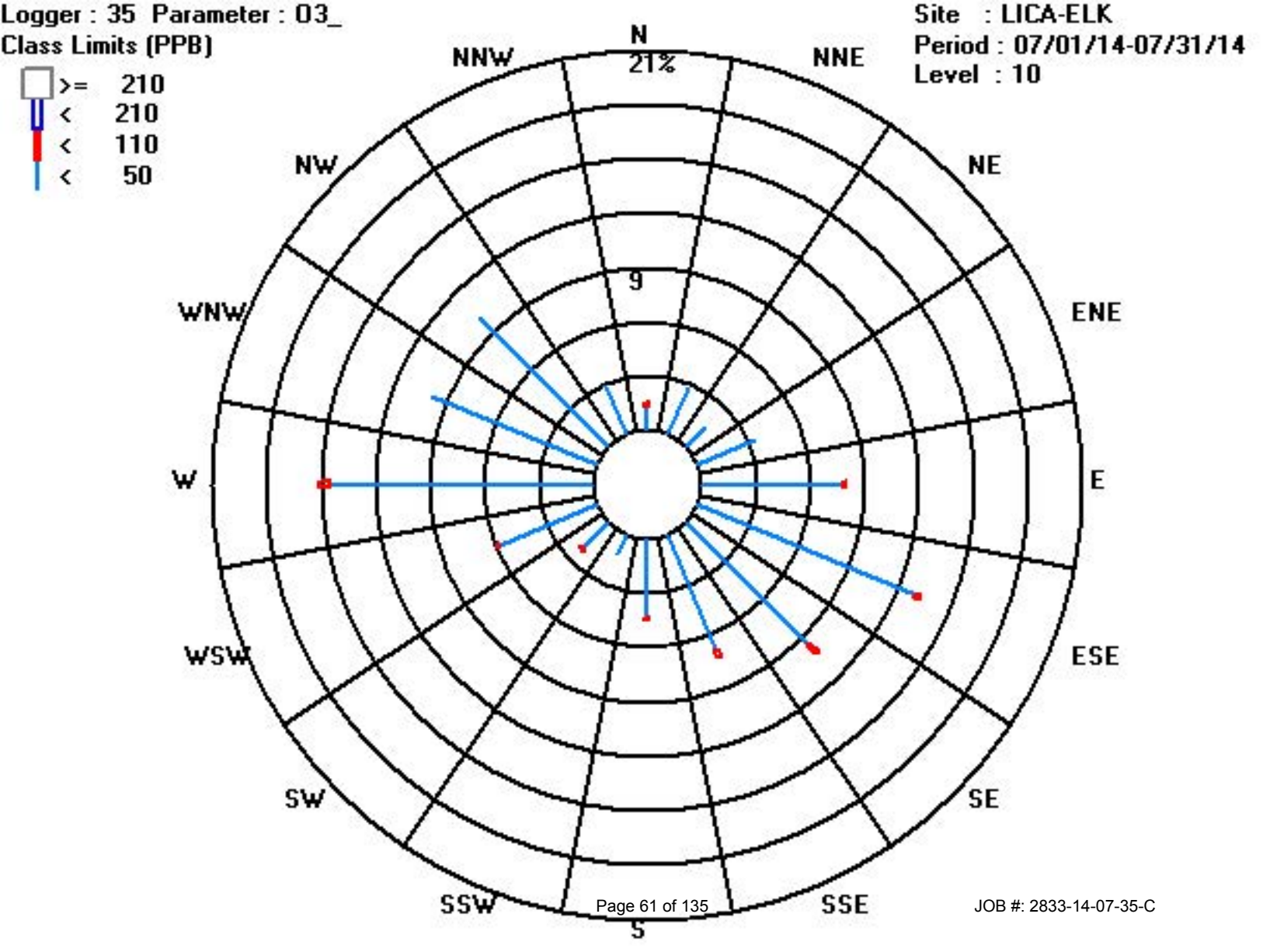
Distribution By Samples

Direction

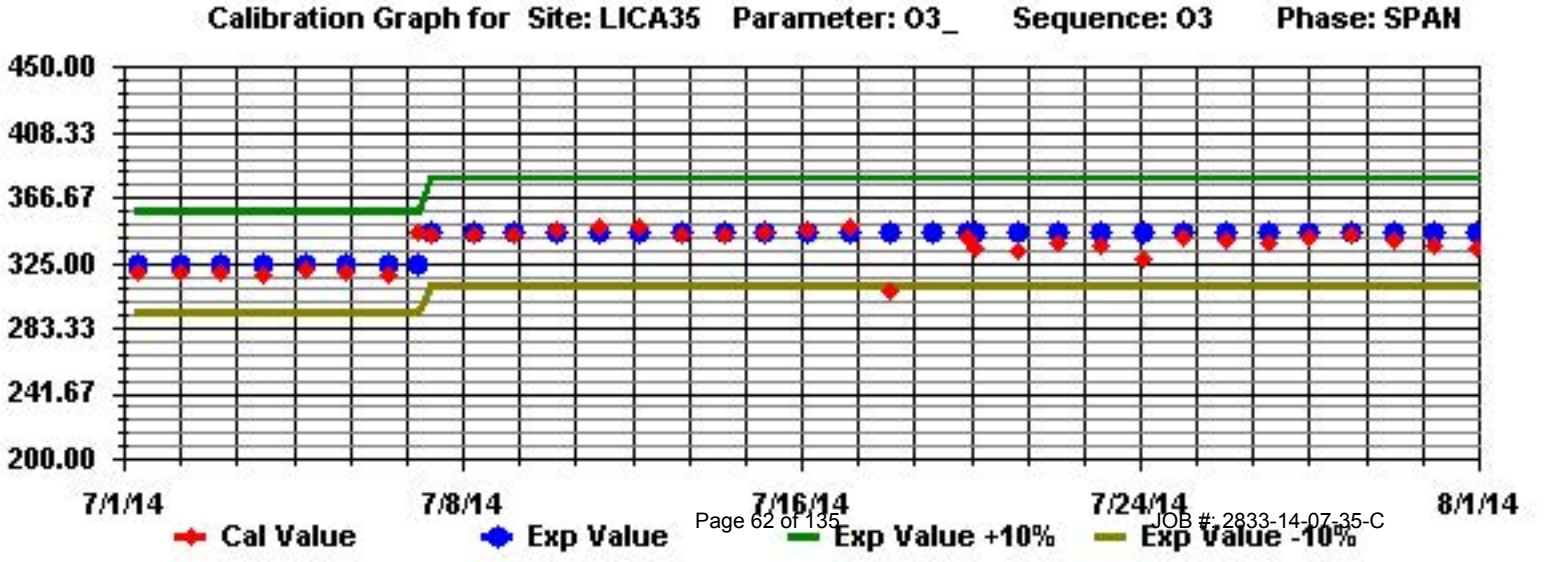
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	9	20	11	24	55	92	67	49	31	8	14	41	102	70	71	21	685
< 110	2				1	2	5	3	1		1	1	4				20
< 210																	
>= 210																	
Totals	11	20	11	24	56	94	72	52	32	8	15	42	106	70	71	21	

Calm : .00 %

Total # Operational Hours : 705



JOB #: 2833-14-07-35-C


Calibration Graph for Site: LICA35 Parameter: O3_ Sequence: O3 Phase: SPAN
450.00
408.33
366.67
325.00
283.33
241.67
200.00
7/1/14
7/8/14
7/16/14
7/24/14
8/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Hydrocarbons (55i)

Lakeland Industry & Community Association - Elk Point Site

JULY 2014

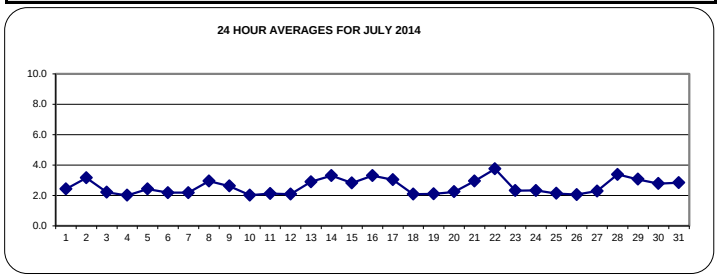
TOTAL HYDROCARBONS (THC) hourly averages in ppm

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	2.1	2.0	2.1	2.9	2.9	2.6	**S**	2.9	2.5	2.2	2.0	1.9	2.0	2.1	2.0	2.0	2.1	2.1	2.3	2.8	3.8	3.7	2.9	3.8	2.4	24
2	3.7	4.2	4.3	5.0	5.3	5.7	**S**	5.4	4.8	2.8	2.4	2.1	2.0	2.0	2.0	2.0	1.9	1.9	2.0	2.5	2.7	2.8	2.6	2.7	5.7	3.2	24
3	2.6	2.4	2.5	2.3	2.2	**S**	2.3	**S**	**S**	**S**	2.1	2.0	2.0	2.0	**S**	1.9	1.9	1.9	2.0	2.3	2.4	2.4	2.6	2.4	2.6	2.2	24
4	2.0	1.9	1.9	1.9	**S**	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.9	1.9	1.8	1.9	1.9	1.9	1.9	2.2	2.8	3.4	3.4	2.0	24
5	3.7	3.7	3.0	**S**	2.7	2.2	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	2.3	3.5	4.0	4.0	4.0	2.4	24
6	3.5	2.9	**S**	2.7	2.5	2.2	2.1	2.0	2.0	2.0	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.4	2.4	2.3	3.5	2.2	24
7	2.4	**S**	2.2	2.2	2.1	2.2	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	**C**	**C**	**C**	**C**	2.0	2.2	2.5	3.0	2.9	2.5	3.0	2.2	24
8	**S**	3.0	2.9	3.4	3.7	4.9	5.8	4.8	3.7	3.2	2.6	2.2	2.1	2.1	2.1	2.0	1.9	1.9	1.9	2.2	2.4	2.7	3.4	**S**	5.8	3.0	24
9	4.2	3.7	3.4	3.3	3.6	3.7	3.4	3.1	2.6	2.3	2.2	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.3	2.0	1.9	2.0	**S**	3.1	4.2	2.6	24
10	2.5	1.9	1.9	2.3	2.4	2.2	2.2	2.5	2.0	1.9	1.9	1.9	1.8	1.8	1.9	1.9	1.9	1.9	1.9	2.0	1.9	**S**	1.9	1.9	2.5	2.0	24
11	1.9	2.0	2.2	2.3	2.3	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	2.0	1.9	**S**	2.7	3.2	3.2	3.2	2.1	24
12	2.6	2.1	2.1	2.2	2.4	2.4	2.1	2.0	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	**S**	2.1	2.1	2.2	2.3	2.6	2.1	24
13	2.8	3.0	4.6	5.2	6.5	5.7	2.6	2.6	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	**S**	2.0	2.3	2.7	3.7	3.5	6.5	2.9	24
14	4.4	4.3	5.5	5.0	4.4	4.8	4.5	4.7	3.6	2.5	2.1	2.0	2.0	2.0	2.0	1.9	1.9	**S**	2.0	2.2	2.7	3.5	3.4	4.5	5.5	3.3	24
15	3.4	3.1	3.1	3.3	3.2	4.4	3.5	3.4	2.9	2.4	2.2	2.0	2.0	2.0	2.0	2.0	**S**	2.0	2.1	2.6	3.0	3.3	3.7	3.2	4.4	2.8	24
16	4.2	4.1	3.7	4.5	5.1	5.1	5.0	4.8	5.2	4.3	3.2	2.8	2.5	2.3	2.1	**S**	2.2	2.1	2.5	2.0	2.1	2.0	2.0	2.4	5.2	3.3	24
17	3.0	3.2	3.1	5.5	4.9	4.3	3.3	4.3	2.9	2.6	2.6	2.5	2.4	2.9	**S**	2.7	2.6	2.4	2.3	2.8	2.6	2.6	2.2	2.1	5.5	3.0	24
18	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.8	**S**	1.8	1.8	1.9	1.8	2.0	2.8	2.7	2.7	3.1	2.6	3.1	2.1	24
19	2.4	2.2	2.1	2.2	2.4	2.2	2.3	2.1	1.9	2.0	1.9	1.9	**S**	1.8	1.8	1.8	1.8	1.9	1.9	2.1	2.6	2.5	2.3	2.2	2.6	2.1	24
20	2.2	2.4	2.3	2.7	2.4	2.4	1.9	1.9	1.9	1.9	1.8	**S**	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.2	3.0	3.6	3.7	3.7	2.2	24
21	5.5	3.8	3.1	3.1	3.4	3.8	4.6	3.8	2.5	2.0	**S**	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	3.0	3.6	4.0	4.3	5.5	2.9	24
22	4.9	6.0	6.2	6.2	***7.5***	6.0	5.3	6.2	5.3	**S**	2.5	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.1	2.4	3.0	3.4	3.4	***7.5***	***3.8***	24
23	3.4	3.0	2.6	2.6	2.4	2.2	2.2	2.1	**S**	2.1	2.1	2.0	2.0	2.0	1.9	2.1	2.1	2.3	2.2	2.3	2.2	2.2	2.6	2.7	3.4	2.3	24
24	2.9	2.8	2.5	2.7	2.4	2.5	2.7	**S**	2.2	2.2	2.1	2.0	2.0	2.1	2.2	2.1	2.1	2.1	2.0	2.1	2.1	2.4	3.1	2.3	3.1	2.3	24
25	2.2	2.3	2.2	2.2	3.4	2.9	**S**	2.3	2.0	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	2.0	2.5	2.0	2.5	2.1	3.4	2.1	24
26	2.1	2.0	2.0	2.0	2.1	**S**	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.4	2.2	2.2	2.4	2.0	2.3	2.3	2.1	2.4	2.1	24
27	2.6	2.3	2.3	2.2	**S**	3.0	2.3	2.4	2.1	2.0	2.0	2.1	2.0	2.0	1.9	1.9	1.9	1.8	1.9	2.1	2.2	2.8	3.4	3.5	3.5	2.3	24
28	3.4	3.3	4.9	**S**	5.8	5.4	5.2	5.1	4.1	3.8	2.7	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.8	3.4	3.6	4.3	4.5	5.8	3.4	24
29	4.4	4.4	**S**	4.7	5.9	5.0	4.6	3.7	2.9	2.6	2.3	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.5	2.7	3.1	3.1	5.9	3.1	24
30	2.8	**S**	3.6	4.3	4.1	4.0	3.4	2.5	2.3	2.3	2.3	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.1	2.7	3.4	3.1	3.4	3.4	4.3	2.8	24
31	**S**	4.1	4.8	3.3	3.4	3.6	4.0	3.7	2.6	2.4	2.1	2.1	2.2	2.2	2.0	1.9	2.0	2.4	3.2	2.6	2.9	2.7	2.4	**S**	4.8	2.8	24
HOURLY MAX	6	6	6	6	8	6	6	6	5	4	3	3	3	3	2	3	3	2	3	3	3	4	4	5			
HOURLY AVG	3.1	3.0	3.1	3.2	3.6	3.5	3.1	3.1	2.7	2.3	2.2	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.1	2.2	2.5	2.7	3.0	3.0			

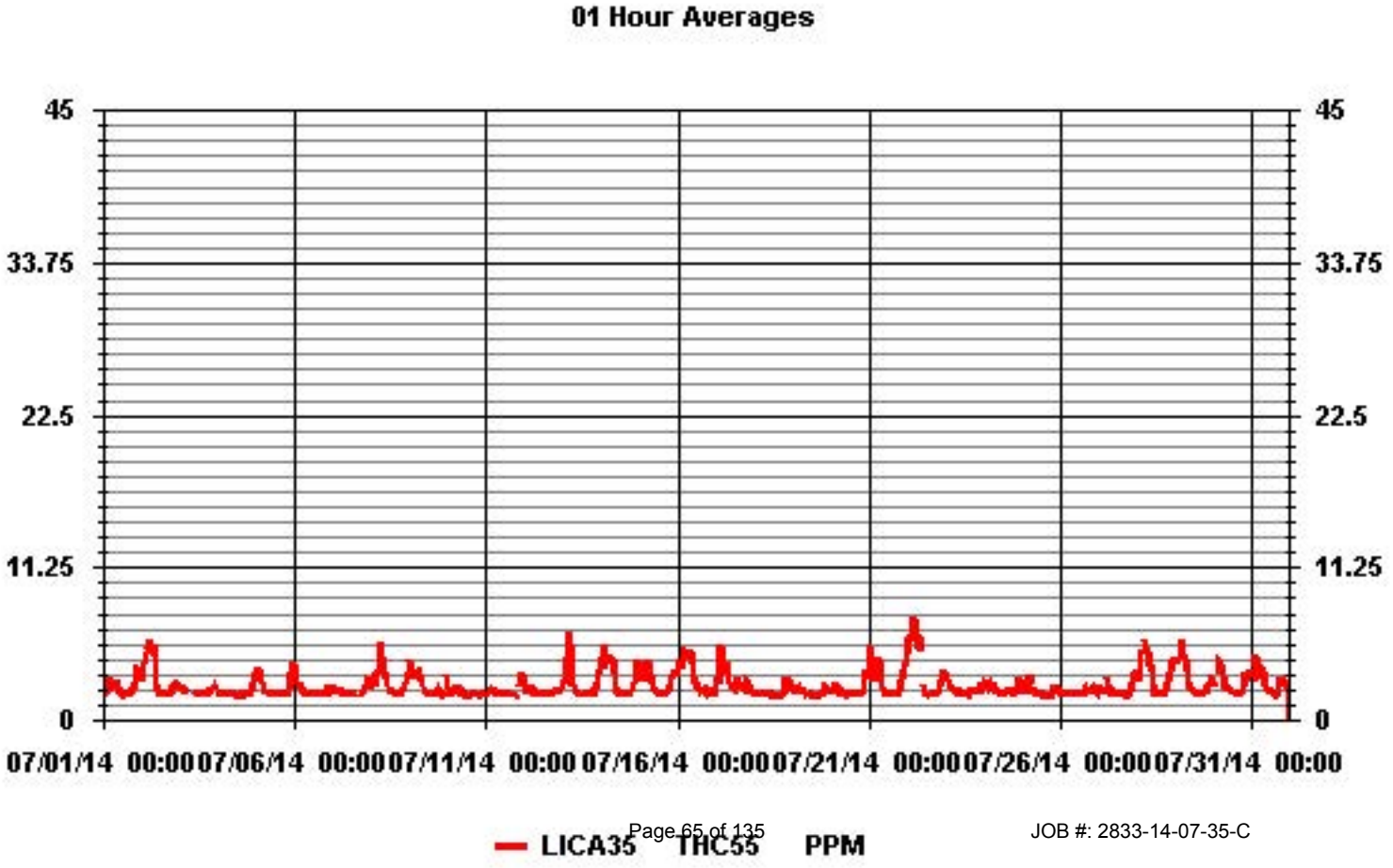
STATUS FLAG CODES

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



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	703					
MAXIMUM 1-HR AVERAGE:	7.5	PPM	@ HOUR(S)	4	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:	3.8	PPM			ON DAY(S)	22
					VAR-VARIOUS	
IZS CALIBRATION TIME:	37	HRS	OPERATIONAL TIME:		744	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	0.95		MONTHLY AVERAGE:		2.59	PPM



JOB #: 2833-14-07-35-C

Lakeland Industry & Community Association - Elk Point Site

JULY 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	2.25	2.37	2.2	2.36	3.78	4.38	3.59	**S**	3.26	3.08	2.5	2.12	2.13	2.28	2.8	2.25	2.2	2.41	3.58	3.21	4.34	6.5	4.78	3.81	6.5	3.1	24
2	4.85	5.62	5.63	6.07	6.16	9.03	**S**	6.54	5.99	3.35	2.91	2.53	2.21	2.17	2.16	2.2	2.1	2.2	2.28	3.37	3.49	4.98	3.1	3.05	9.03	4.0	24
3	3.2	2.85	2.74	2.67	2.51	**S**	2.59	**S**	**S**	**S**	2.41	2.3	2.15	**S**	**S**	**S**	2.24	2.12	2.3	2.51	2.83	2.75	2.95	3.02	3.2	2.6	24
4	2.38	2.13	2.01	2.08	**S**	2.24	2.21	2.09	2.1	2.07	1.92	2.03	2.1	2.1	2.43	2.17	2.18	2.53	3.83	2.27	2.09	2.61	3.64	3.89	3.89	2.4	24
5	5.03	4.76	3.29	**S**	3.36	2.53	2.55	2.05	2	2.13	2.11	2.19	2.16	1.99	1.95	2.11	1.96	1.98	2	2.22	2.99	5.05	5.31	4.65	5.31	2.9	24
6	4.64	3.6	**S**	3.28	3.07	2.63	2.44	2.18	2.24	2.19	2.51	2.12	2.08	2.06	1.98	2.1	2.18	2.13	2.39	2.15	2.2	4.82	3.88	2.73	4.82	2.7	24
7	3.58	**S**	2.44	2.4	2.27	2.38	2.36	2.12	2	2	2.08	2.03	**S**	2.08	**C**	**C**	**C**	**C**	2.2	2.93	2.81	3.81	3.37	2.95	3.81	2.5	24
8	**S**	3.43	3.47	4.44	4.75	7.15	7.14	6.17	4.9	3.67	3.24	2.56	2.4	2.74	2.35	2.24	2.2	2.18	2.14	2.57	3.71	3.28	4.31	**S**	7.15	3.7	24
9	9.34	5.06	4.42	4.13	5.08	4.36	3.75	3.53	3.11	2.57	2.3	2.3	2.22	2.09	2.01	2.1	2.01	2.15	3.18	2.56	2.28	2.22	**S**	3.59	9.34	3.3	24
10	3.23	2.09	2.17	2.66	3.44	2.62	2.84	3.15	2.13	2.1	2	1.92	2.07	1.96	2.1	2.22	2.18	2.18	2.11	2.26	2.22	**S**	2.17	2	3.44	2.3	24
11	2.16	2.16	2.67	2.79	2.99	2.57	2.24	2.02	2.17	2.02	1.94	2.06	2.02	2.12	2.08	2.18	2.18	2.14	2.21	2.28	**S**	3.18	3.6	3.71	3.71	2.4	24
12	3.55	2.42	2.22	2.52	2.82	2.72	2.26	2.29	2.66	2.25	2.42	2.42	2.02	2	1.97	2.04	1.92	1.97	3.32	**S**	2.62	2.33	2.5	2.54	3.55	2.4	24
13	3.76	3.85	8.21	7.42	13.36	12	3.05	2.97	2.62	2.21	2.18	2.13	2.08	1.96	2.04	1.96	2.08	2.4	**S**	2.45	2.72	3.51	4.49	5.08	13.36	4.1	24
14	5.69	4.84	6.45	5.69	5.19	6.6	5.02	6.28	4.5	3.04	2.28	2.11	2.16	2.27	2.09	2.08	2.09	**S**	2.18	2.38	3.04	5.17	3.93	6.33	6.6	4.0	24
15	4.15	3.75	4.07	6.68	3.52	6.07	4.06	3.93	3.5	2.77	2.6	2.27	2.92	2.29	2.48	2.29	**S**	2.08	2.58	3.03	3.4	4.75	4.29	4.21	6.68	3.6	24
16	9.47	5.23	4.5	5.22	8.33	6.49	6.19	5.8	6.71	5.45	3.55	3.19	3.03	2.75	2.29	**S**	2.52	2.44	3.09	2.3	2.45	2.18	2.19	3.34	9.47	4.3	24
17	3.95	4.05	3.51	7.39	6.18	6.85	4.7	5.33	4	3.18	2.97	2.96	2.93	4	**S**	3.03	3.4	3.7	2.93	3.94	3.51	3.95	2.95	2.65	7.39	4.0	24
18	2.35	2.09	2.14	2.17	2.08	2.48	2.22	2.31	**S**	2.17	2	2.11	2.08	**S**	2.04	2.02	2.26	2.04	2.63	3.6	2.98	3.07	3.79	3.03	3.79	2.4	24
19	2.56	2.54	2.56	3.39	4.07	3.02	2.88	2.64	2.2	2.43	2.45	2.11	**S**	2.05	2	1.97	1.96	2.14	2.25	2.44	3.75	2.93	3.85	2.65	4.07	2.6	24
20	2.75	3.1	3.02	4.21	2.94	2.64	2.07	2.08	2.14	2.11	2.09	**S**	2.04	2.06	2.03	1.92	2.1	2.1	2.22	2.68	3.2	3.64	4.58	6.15	6.15	2.8	24
21	7.05	4.95	4.24	3.95	3.99	4.57	5.14	5.37	3.89	2.31	**S**	2.14	2.11	2.11	1.96	2.14	2.15	2.13	2.23	3.87	4.42	6.57	5.19	5.68	7.05	3.8	24
22	5.87	10.76	7.88	8.07	11.01	8.06	8.6	8.03	6.05	**S**	3.31	2.12	2.24	2.14	2.25	2.29	2.22	2.27	2.31	2.38	2.94	4.05	4.05	4.25	11.01	4.9	24
23	4.72	3.47	2.82	2.95	2.66	2.44	2.45	2.4	**S**	2.34	2.52	2.34	2.28	2.32	2.25	2.72	2.47	2.72	2.65	2.79	2.64	2.65	3.17	3.29	4.72	2.7	24
24	3.69	3.98	3.22	3.92	3.14	4.24	5	**S**	2.55	2.51	2.39	2.33	2.45	2.55	3.28	2.43	2.51	2.44	2.24	2.41	2.6	2.78	4.48	2.91	5	3.0	24
25	2.43	2.76	2.63	2.49	4.61	3.51	**S**	2.5	2.24	2.23	2.12	2.02	2.16	1.92	2.08	2.02	2.09	2.01	2.12	2.41	3.75	2.54	3.29	2.29	4.61	2.5	24
26	2.48	2.38	2.28	2.4	2.53	**S**	2.49	2.12	2.08	2.1	2.07	2.16	2.12	2.09	2.15	3.7	3.15	2.65	2.62	2.78	2.34	2.67	2.95	2.34	3.7	2.5	24
27	3.5	2.91	2.75	2.79	**S**	3.98	2.7	2.7	2.47	2.24	2.32	2.35	2.26	2.28	2.21	2.22	2.14	2.15	2.31	3.25	3.01	3.34	4.49	4.49	4.49	2.8	24
28	4.13	4.51	7.69	**S**	***14.91***	10.64	6.86	6.93	4.44	4.22	3.44	2.28	2.21	2.2	2.19	2.16	2.28	2.09	2.67	3.85	6.17	6.17	6.28	6.28	***14.91***	***5.0***	24
29	6.32	5.66	**S**	6.23	9.39	6.46	5.54	4.25	3.56	2.84	2.68	2.51	2.28	2.25	2.3	2.23	2.3	2.4	2.68	2.62	3.01	4.19	5.47	5.21	9.39	4.0	24
30	3.01	**S**	4.29	6.28	5.89	4.91	4.15	2.97	2.55	2.78	2.57	2.51	2.51	2.38	2.31	2.37	2.33	2.37	2.61	3.43	7.33	4.88	4.29	6.56	7.33	3.7	24
31	**S**	6.62	5.66	3.82	4	4.81	5.88	4.46	3.03	2.77	2.38	2.41	2.54	2.52	2.94	2.14	2.49	3.81	5.94	3.27	3.78	3.19	2.95	**S**	6.62	3.7	24
HOURLY MAX	9	11	8	8	15	12	9	8	7	5	4	3	3	4	3	4	3	4	6	4	7	7	6	7			
HOURLY AVG	4.2	3.9	3.8	4.2	5.1	4.9	3.9	3.8	3.3	2.7	2.5	2.3	2.3	2.3	2.2	2.3	2.3	2.3	2.7	2.8	3.3	3.8	3.9	3.9			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 699

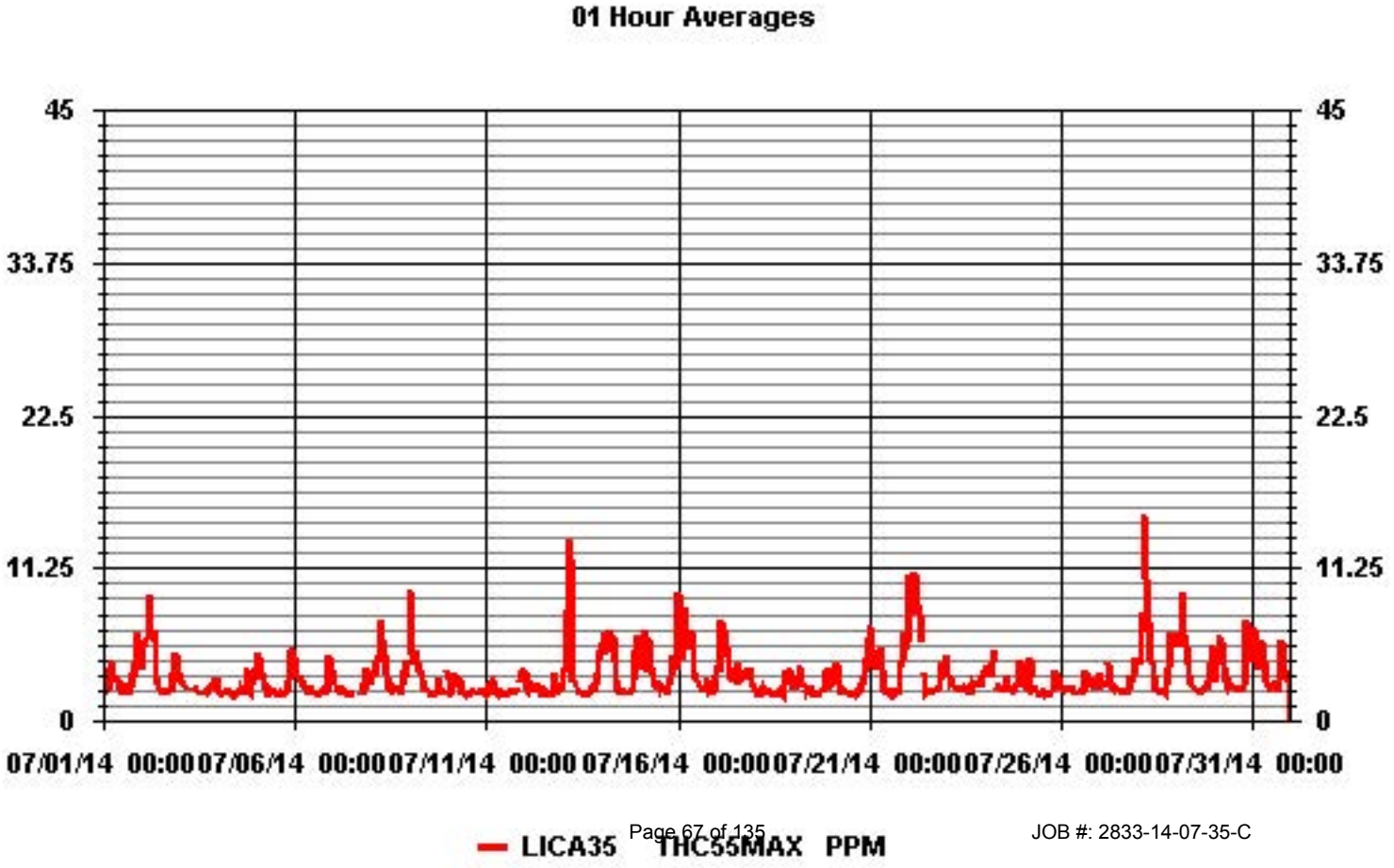
MAXIMUM INSTANTANEOUS VALUE: 14.91 PPM @ HOUR(S) 4 ON DAY(S) 28

VAR-VARIOUS

IZS CALIBRATION TIME: 41 HRS OPERATIONAL TIME: 744 HRS

MONTHLY CALIBRATION TIME: 4 HRS

STANDARD DEVIATION: 1.64



JOB #: 2833-14-07-35-C

LICA35
THC55 / WDR Joint Frequency Distribution (Percent)

July 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	1.28	2.70	1.13	1.42	2.41	7.25	8.53	7.11	4.12	1.13	1.84	4.12	12.80	8.67	9.24	2.98	76.81
<	10.0	.28	.14	.42	1.99	5.54	5.83	1.56	.14	.42	.00	.28	1.84	2.41	1.28	.85	.14	23.18
<	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	1.56	2.84	1.56	3.41	7.96	13.08	10.09	7.25	4.55	1.13	2.13	5.97	15.22	9.95	10.09	3.12	

Calm : .00 %

Total # Operational Hours : 703

Distribution By Samples

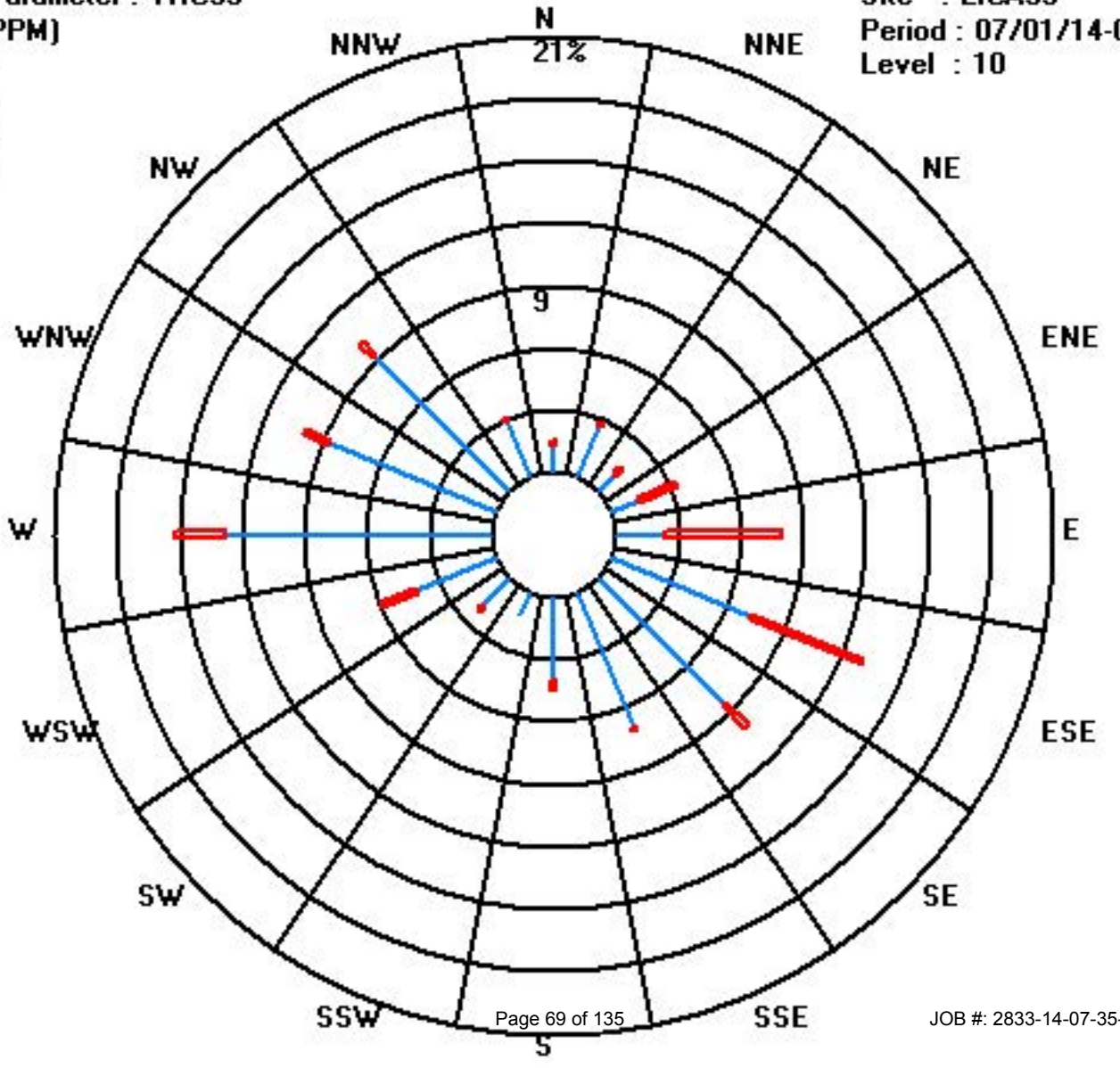
		Direction																
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3.0	9	19	8	10	17	51	60	50	29	8	13	29	90	61	65	21	540
<	10.0	2	1	3	14	39	41	11	1	3		2	13	17	9	6	1	163
<	50.0																	
>=	50.0																	
	Totals	11	20	11	24	56	92	71	51	32	8	15	42	107	70	71	22	

Calm : .00 %

Total # Operational Hours : 703

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

Site : LICA35
Period : 07/01/14-07/31/14
Level : 10



JOB #: 2833-14-07-35-C

Methane

Lakeland Industry & Community Association - Elk Point Site

JULY 2014

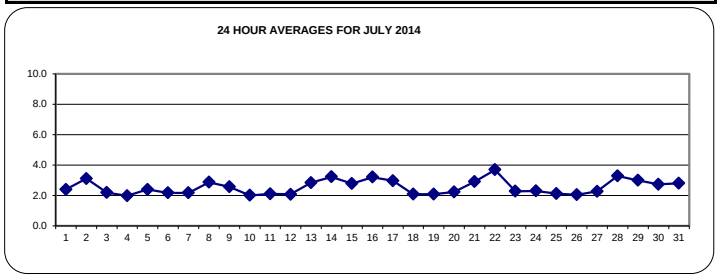
METHANE (CH4) hourly averages in ppm

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	2.0	2.1	2.0	2.1	2.8	2.8	2.6	**S**	2.8	2.5	2.2	2.0	1.9	2.0	2.1	2.0	2.0	2.1	2.1	2.2	2.8	3.7	3.5	2.8	3.7	2.4	24
2	3.6	4.0	4.1	4.9	5.2	5.5	**S**	5.2	4.6	2.8	2.4	2.1	2.0	2.0	2.0	2.0	1.9	1.9	2.0	2.5	2.7	2.8	2.6	2.7	5.5	3.1	24
3	2.5	2.4	2.5	2.3	2.2	**S**	2.2	**S**	**S**	**S**	2.1	2.0	2.0	2.0	**S**	1.9	1.9	1.9	2.0	2.2	2.3	2.3	2.5	2.4	2.5	2.2	24
4	2.0	1.9	1.9	1.9	**S**	2.0	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	2.1	2.7	3.3	3.3	2.0	24
5	3.5	3.6	3.0	**S**	2.7	2.2	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	2.3	3.3	3.9	3.8	3.9	2.4	24
6	3.4	2.9	**S**	2.7	2.5	2.2	2.1	2.0	2.0	2.0	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.4	2.4	2.3	3.4	2.2	24
7	2.4	**S**	2.2	2.2	2.1	2.2	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	**C**	**C**	**C**	**C**	2.0	2.2	2.5	2.9	2.8	2.5	2.9	2.2	24
8	**S**	2.9	2.9	3.3	3.5	4.6	5.5	4.6	3.6	3.1	2.6	2.2	2.1	2.1	2.1	2.0	1.9	1.9	1.9	2.2	2.3	2.6	3.3	**S**	5.5	2.9	24
9	4.0	3.6	3.3	3.3	3.5	3.6	3.3	3.0	2.6	2.3	2.2	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.2	2.0	1.9	2.0	**S**	3.0	4.0	2.6	24
10	2.5	1.9	1.9	2.2	2.4	2.2	2.2	2.5	2.0	1.9	1.9	1.9	1.8	1.8	1.9	1.9	1.9	1.9	1.9	2.0	1.9	**S**	1.9	1.9	2.5	2.0	24
11	1.9	2.0	2.2	2.3	2.3	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	2.0	1.9	**S**	2.6	3.1	3.1	3.1	2.1	24
12	2.5	2.1	2.1	2.2	2.4	2.4	2.1	2.0	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	**S**	2.1	2.1	2.2	2.3	2.5	2.1	24
13	2.7	2.9	4.5	5.0	6.2	5.5	2.6	2.6	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	**S**	2.0	2.3	2.6	3.5	3.4	6.2	2.8	24
14	4.3	4.1	5.3	4.8	4.3	4.7	4.4	4.6	3.5	2.5	2.1	2.0	2.0	2.0	2.0	1.9	1.9	**S**	2.0	2.2	2.6	3.4	3.3	4.4	5.3	3.2	24
15	3.3	3.0	3.1	3.3	3.2	4.3	3.5	3.4	2.9	2.4	2.2	2.0	2.0	2.0	2.0	2.0	**S**	2.0	2.1	2.5	2.9	3.2	3.5	3.1	4.3	2.8	24
16	4.1	4.0	3.6	4.4	4.9	5.0	4.7	4.6	5.0	4.2	3.1	2.7	2.5	2.3	2.0	**S**	2.0	2.1	2.4	2.0	2.0	1.9	1.9	2.4	5.0	3.2	24
17	2.9	3.1	3.0	5.2	4.7	4.1	3.2	4.1	2.9	2.6	2.6	2.4	2.4	2.9	**S**	2.6	2.6	2.4	2.3	2.7	2.6	2.6	2.2	2.1	5.2	3.0	24
18	2.0	1.9	1.9	1.9	1.9	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.8	**S**	1.8	1.8	1.9	1.8	2.0	2.8	2.7	2.7	3.1	2.6	3.1	2.1	24
19	2.4	2.2	2.1	2.2	2.3	2.2	2.3	2.1	1.9	1.9	1.9	1.8	**S**	1.8	1.8	1.8	1.8	1.9	1.9	2.1	2.6	2.5	2.3	2.1	2.6	2.1	24
20	2.2	2.4	2.2	2.7	2.4	2.4	1.9	1.9	1.9	1.9	1.8	**S**	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.2	3.0	3.5	3.6	3.6	2.2	24
21	5.3	3.7	3.1	3.1	3.4	3.8	4.5	3.7	2.5	2.0	**S**	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.9	3.5	3.8	4.2	5.3	2.9	24
22	4.7	5.8	6.0	6.1	***7.3***	5.9	5.2	6.1	5.2	**S**	2.5	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.1	2.4	3.0	3.4	3.4	***7.3***	***3.7***	24
23	3.4	2.9	2.6	2.6	2.4	2.2	2.2	2.1	**S**	2.1	2.1	2.0	1.9	1.9	1.9	2.1	2.0	2.2	2.1	2.3	2.2	2.2	2.6	2.6	3.4	2.3	24
24	2.8	2.7	2.5	2.6	2.4	2.5	2.7	**S**	2.2	2.2	2.1	1.9	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.4	3.0	2.3	3.0	2.3	24
25	2.2	2.3	2.2	2.2	3.4	2.9	**S**	2.3	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	2.0	2.5	2.0	2.5	2.1	3.4	2.1	24
26	2.1	2.0	1.9	2.0	2.1	**S**	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.4	2.2	2.2	2.3	2.0	2.3	2.3	2.1	2.4	2.4	2.0	24
27	2.6	2.3	2.3	2.2	**S**	2.9	2.2	2.4	2.1	2.0	2.0	2.1	2.0	2.0	1.9	1.9	1.9	1.8	1.9	2.1	2.2	2.8	3.3	3.4	3.4	2.3	24
28	3.3	3.3	4.8	**S**	5.7	5.3	5.1	4.9	3.9	3.6	2.6	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.7	3.3	3.5	4.1	4.3	5.7	3.3	24
29	4.3	4.3	**S**	4.6	5.8	4.9	4.5	3.6	2.9	2.5	2.3	2.1	2.0	2.0	2.0	1.9	2.0	2.0	2.1	2.2	2.4	2.6	3.0	3.0	5.8	3.0	24
30	2.7	**S**	3.6	4.2	4.0	3.9	3.3	2.5	2.3	2.3	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.5	3.3	3.1	3.3	3.3	4.2	2.7	24
31	**S**	4.0	4.7	3.3	3.4	3.6	3.9	3.6	2.6	2.4	2.1	2.1	2.2	2.1	2.0	1.9	1.9	2.3	3.1	2.5	2.8	2.7	2.3	**S**	4.7	2.8	24
HOURLY MAX	5	6	6	6	7	6	6	6	5	4	3	3	3	3	2	3	3	2	3	3	3	4	4	4			
HOURLY AVG	3.0	3.0	3.0	3.2	3.5	3.4	3.0	3.0	2.7	2.3	2.1	2.0	2.0	2.0	1.9	1.9	2.0	2.0	2.0	2.2	2.4	2.7	2.9	2.9			

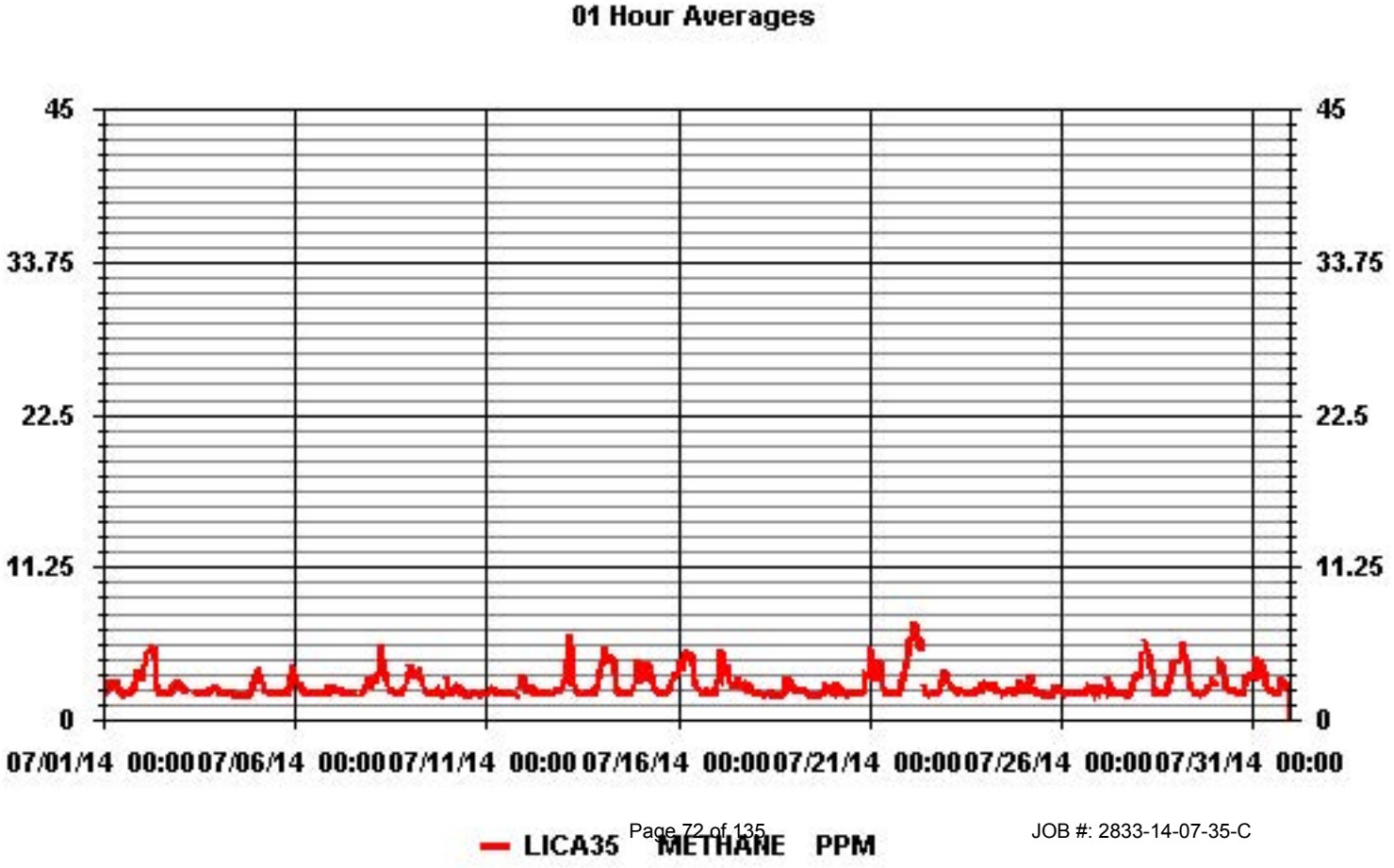
STATUS FLAG CODES

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:	703					
MAXIMUM 1-HR AVERAGE:	7.3	PPM	@ HOUR(S)	4	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:	3.7	PPM			ON DAY(S)	22
					VAR-VARIOUS	
IZS CALIBRATION TIME:	37	HRS	OPERATIONAL TIME:		744	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	0.91		MONTHLY AVERAGE:		2.55	PPM



JOB #: 2833-14-07-35-C

Lakeland Industry & Community Association - Elk Point Site

JULY 2014

METHANE MAX instantaneous maximum in ppm

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2.25	2.31	2.08	2.28	3.69	4.22	3.47	**S**	3.13	2.91	2.49	2.04	2.08	2.28	2.81	2.13	2.09	2.22	3.57	3.09	4.16	6.31	4.63	3.61	6.31	3.0	24
2	4.63	5.41	5.45	5.88	6	8.91	**S**	6.28	5.77	3.25	2.91	2.53	2.06	2.06	2.1	2.19	2.11	2.1	2.19	3.18	3.32	4.96	3.11	2.97	8.91	3.9	24
3	3.02	2.85	2.61	2.54	2.39	**S**	2.6	**S**	**S**	**S**	2.2	2.28	2.15	**S**	**S**	**S**	2.05	2.09	2.18	2.41	2.63	2.61	2.79	2.97	3.02	2.5	24
4	2.19	1.96	2.01	2.1	**S**	2.25	2.11	1.97	1.95	1.94	1.92	1.91	1.91	1.92	1.96	1.92	1.92	1.98	2.13	1.93	2.09	2.49	3.51	3.74	3.74	2.2	24
5	4.82	4.75	3.17	**S**	3.21	2.36	2.35	2	2	2	1.93	1.94	1.94	1.96	1.95	1.94	1.96	1.98	2	2.08	2.86	4.74	5.03	4.4	5.03	2.8	24
6	4.39	3.44	**S**	3.15	3.07	2.53	2.31	2.09	2.14	2.06	2.44	2.11	2.09	2.06	1.98	1.96	2.18	2.04	2.29	1.96	2.1	4.76	3.74	2.73	4.76	2.6	24
7	3.42	**S**	2.44	2.4	2.28	2.3	2.27	2.03	1.99	2.01	1.94	1.91	**S**	1.93	**C**	**C**	**C**	**C**	2.09	2.76	2.75	3.66	3.21	2.8	3.66	2.5	24
8	**S**	3.28	3.31	4.25	4.5	6.87	6.86	5.88	4.69	3.47	3.11	2.37	2.22	2.22	2.15	2.07	2	2.18	2.11	2.46	3.43	3.09	4.17	**S**	6.87	3.5	24
9	9.25	4.9	4.24	3.97	4.94	4.21	3.71	3.38	2.89	2.48	2.3	2.16	2.13	2.1	2.01	2	2	2.15	3.01	2.56	2.11	2.12	**S**	3.33	9.25	3.2	24
10	3.09	2.1	2.08	2.52	3.44	2.63	2.84	3.15	2.15	2.01	1.99	1.92	1.94	1.96	2.05	2.22	2.18	2.15	2.12	2.27	2.1	**S**	2.04	2.01	3.44	2.3	24
11	1.98	2.12	2.55	2.7	2.99	2.57	2.25	2.02	2.02	2.02	1.94	2.03	2.01	2.06	1.95	2.1	2.14	2.02	2.1	2.29	**S**	2.99	3.44	3.51	3.51	2.3	24
12	3.42	2.41	2.22	2.43	2.63	2.62	2.27	2.1	2.18	2.09	1.99	1.98	1.95	2	1.98	1.92	1.92	1.98	2.2	**S**	2.39	2.19	2.32	2.43	3.42	2.2	24
13	3.68	3.81	7.84	7.09	12.71	11.82	2.86	2.86	2.63	2.12	2.15	2.14	1.99	1.96	2.02	1.96	1.95	2.39	**S**	2.45	2.72	3.44	4.28	4.9	12.71	4.0	24
14	5.5	4.65	6.26	5.48	5.02	6.46	4.78	6.12	4.34	2.97	2.28	2.12	2.16	2.13	2.1	2.08	2.06	**S**	2.18	2.38	2.92	5	3.71	6.12	6.46	3.9	24
15	3.97	3.54	4.07	6.62	3.52	6	3.89	3.83	3.35	2.59	2.45	2.2	2.92	2.3	2.37	2.3	**S**	2.08	2.52	2.87	3.27	4.52	4.19	4.06	6.62	3.5	24
16	9.37	5.23	4.49	5.14	8.15	6.42	5.98	5.68	6.49	5.22	3.4	3.09	2.86	2.6	2.09	**S**	2.2	2.24	3.04	2.08	2.21	2.05	2.03	3.2	9.37	4.1	24
17	3.74	3.82	3.35	7.09	5.85	6.59	4.47	5.13	3.84	3.06	2.82	2.86	2.79	3.73	**S**	2.92	3.41	3.59	2.83	3.83	3.38	3.78	2.82	2.56	7.09	3.8	24
18	2.12	1.99	1.98	1.97	2.08	2.23	2.1	2.13	**S**	1.98	1.99	1.99	1.92	**S**	1.89	1.92	2.25	1.92	2.63	3.59	2.98	3.04	3.61	3.04	3.61	2.3	24
19	2.53	2.54	2.55	3.39	4.07	3.02	2.88	2.56	2.12	2.31	2.31	1.92	**S**	1.9	1.88	1.9	1.92	2.13	2.05	2.39	3.6	2.88	3.67	2.65	4.07	2.6	24
20	2.75	3.11	3.03	4.19	2.75	2.63	2.08	1.94	1.94	1.97	1.91	**S**	1.92	2.05	2.04	1.92	1.91	1.98	2.13	2.67	3.08	3.47	4.4	5.87	5.87	2.7	24
21	6.74	4.8	4.07	3.95	3.85	4.35	4.94	5.12	3.75	2.2	**S**	1.98	1.99	1.98	1.97	2.02	1.93	1.93	2.04	3.64	4.27	6.36	5.06	5.54	6.74	3.7	24
22	5.62	10.07	7.51	7.72	10.49	7.82	8.5	7.86	5.95	**S**	3.2	2.13	2.25	2.05	2.17	2.11	2.12	2.27	2.15	2.32	2.69	3.89	3.89	4.09	10.49	4.7	24
23	4.6	3.33	2.71	2.73	2.65	2.3	2.33	2.36	**S**	2.18	2.53	2.15	2.05	2.26	2.07	2.63	2.39	2.64	2.62	2.57	2.41	2.42	2.98	3.13	4.6	2.6	24
24	3.47	3.72	3.23	3.78	2.96	4.07	4.88	**S**	2.33	2.33	2.18	2.15	2.28	2.52	3.28	2.32	2.51	2.36	2.22	2.21	2.61	2.73	4.35	2.7	4.88	2.9	24
25	2.37	2.55	2.56	2.48	4.39	3.51	**S**	2.51	2.19	1.99	1.93	1.92	1.94	1.92	1.9	1.89	1.89	1.89	1.89	2.31	3.57	2.54	3.29	2.29	4.39	2.4	24
26	2.32	2.38	2.1	2.39	2.42	**S**	2.49	2.04	2.01	2.04	1.97	2.01	2.03	2.05	1.99	3.7	2.96	2.6	2.6	2.7	2.33	2.52	2.85	2.34	3.7	2.4	24
27	3.4	2.81	2.6	2.7	**S**	3.77	2.55	2.55	2.38	2.19	2.13	2.18	2.11	2.09	2.07	1.97	1.96	1.94	2.03	3.25	2.76	3.17	4.48	4.48	4.48	2.7	24
28	4	4.35	7.62	**S**	***14.76***	10.53	6.67	6.72	4.26	4.01	3.44	2.19	2.02	2	1.99	1.99	2.1	2.1	2.47	3.85	5.93	5.93	6.02	6.02	***14.76***	***4.8***	24
29	6.18	5.45	**S**	6.12	9.3	6.3	5.38	4.1	3.41	2.77	2.59	2.27	2.26	2.19	2.11	2.08	2.21	2.27	2.52	2.45	2.89	4.06	5.28	5.02	9.3	3.9	24
30	2.89	**S**	4.28	6.06	5.77	4.77	4.04	2.84	2.56	2.61	2.36	2.29	2.21	2.21	2.14	2.05	2.09	2.2	2.4	3.2	7.04	4.76	4.12	6.41	7.04	3.5	24
31	**S**	6.57	5.53	3.75	3.84	4.75	5.79	4.26	2.91	2.59	2.25	2.2	2.38	2.26	2.22	2.08	2.34	3.6	5.79	3.08	3.62	2.97	2.64	**S**	6.57	3.5	24
HOURLY MAX	9	10	8	8	15	12	9	8	6	5	3	3	3	4	3	4	3	4	6	4	7	6	6	6			
HOURLY AVG	4.1	3.8	3.7	4.0	5.0	4.8	3.8	3.6	3.1	2.5	2.4	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.5	2.7	3.1	3.6	3.7	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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 699

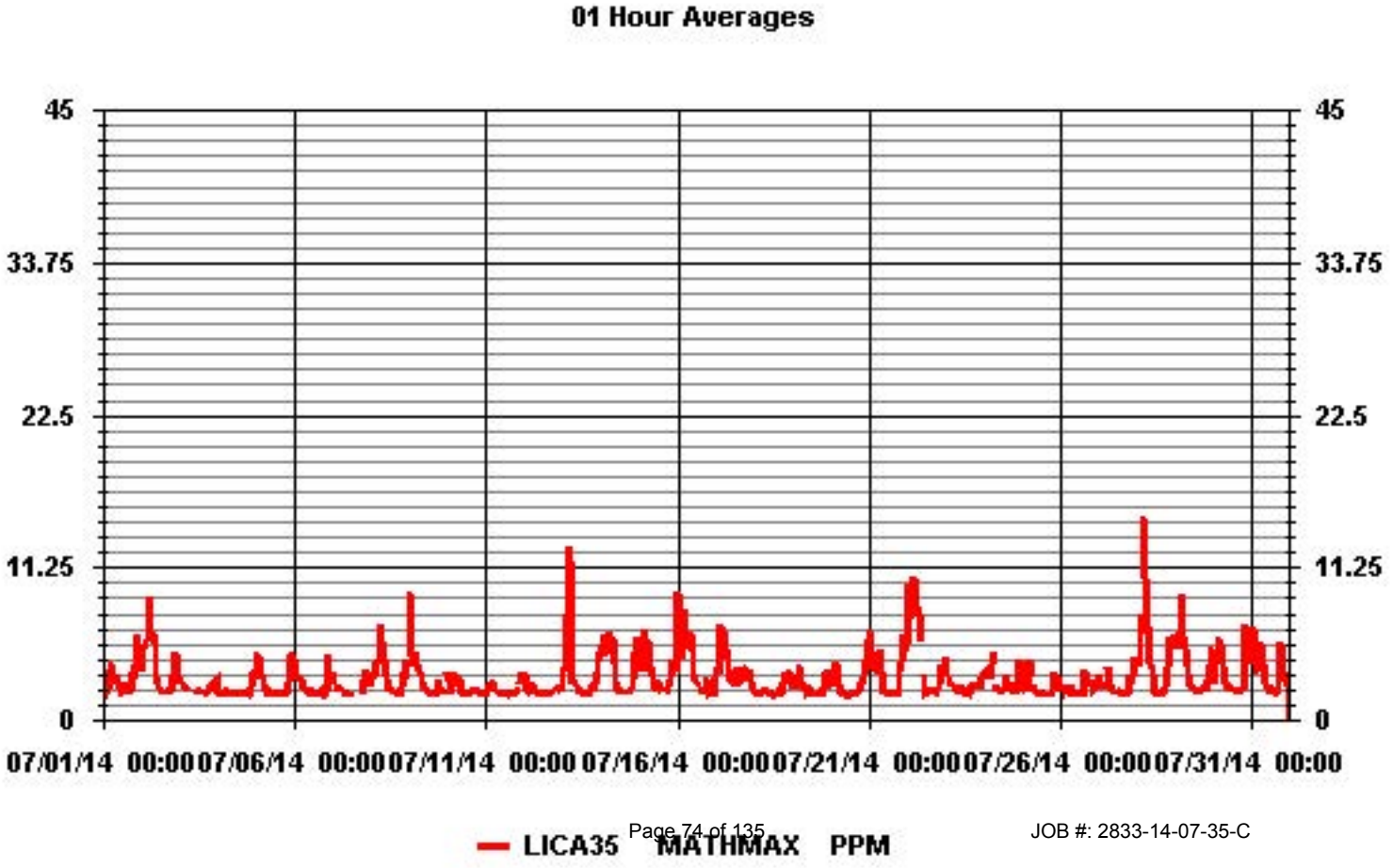
MAXIMUM INSTANTANEOUS VALUE: 14.76 PPM @ HOUR(S) 4 ON DAY(S) 28

VAR-VARIOUS

IZS CALIBRATION TIME: 41 HRS OPERATIONAL TIME: 744 HRS

MONTHLY CALIBRATION TIME: 4 HRS

STANDARD DEVIATION: 1.61



JOB #: 2833-14-07-35-C

LICA35
METHANE / WDR Joint Frequency Distribution (Percent)

July 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	1.28	2.70	1.13	1.42	2.41	7.39	8.53	7.25	4.12	1.13	1.84	4.26	13.22	8.96	9.24	2.98	77.95
< 10.0	.28	.14	.42	1.99	5.54	5.68	1.56	.00	.42	.00	.28	1.70	1.99	.99	.85	.14	22.04
< 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	1.56	2.84	1.56	3.41	7.96	13.08	10.09	7.25	4.55	1.13	2.13	5.97	15.22	9.95	10.09	3.12	

Calm : .00 %

Total # Operational Hours : 703

Distribution By Samples

Direction

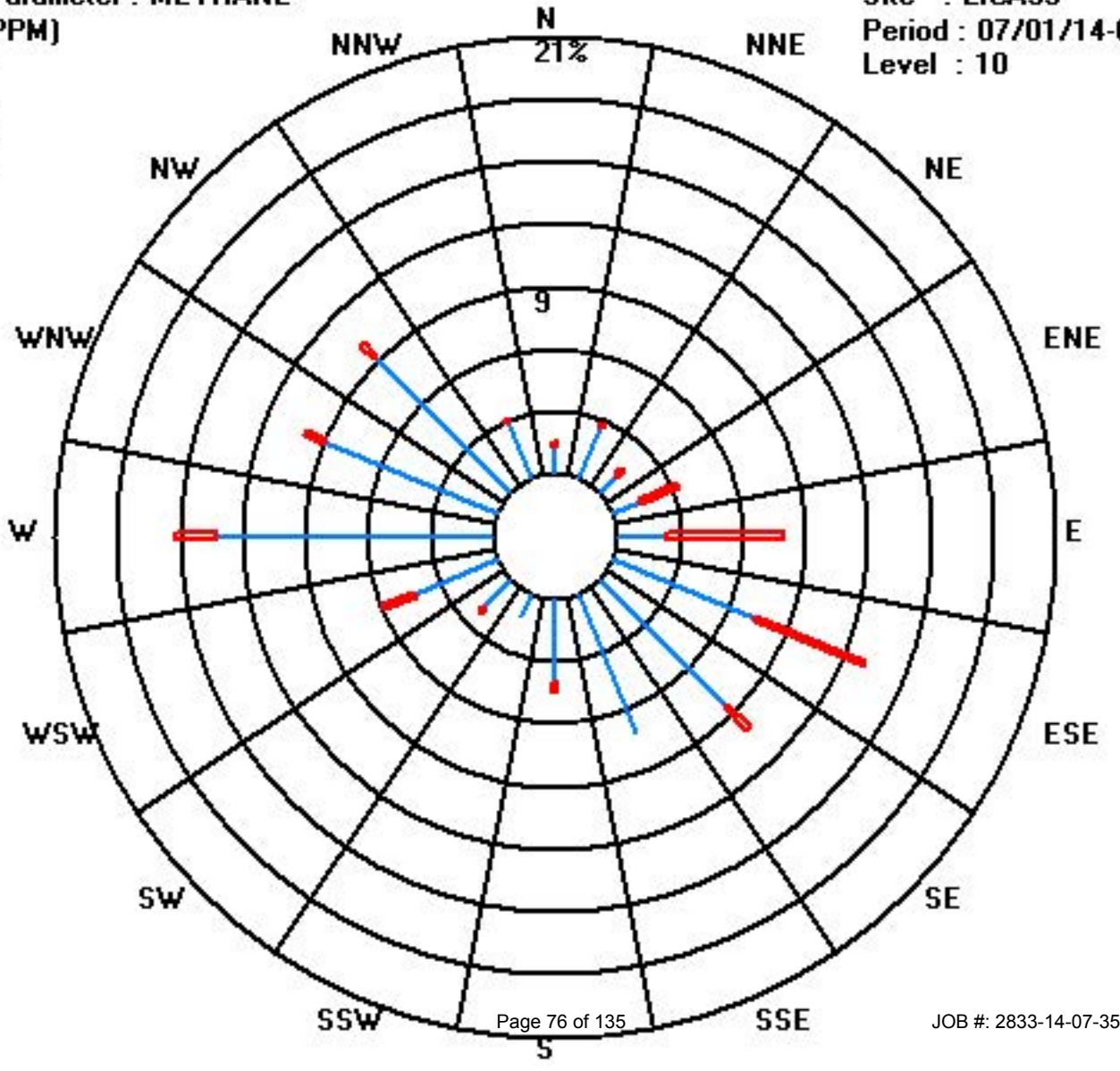
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	9	19	8	10	17	52	60	51	29	8	13	30	93	63	65	21	548
< 10.0	2	1	3	14	39	40	11		3		2	12	14	7	6	1	155
< 50.0																	
>= 50.0																	
Totals	11	20	11	24	56	92	71	51	32	8	15	42	107	70	71	22	

Calm : .00 %

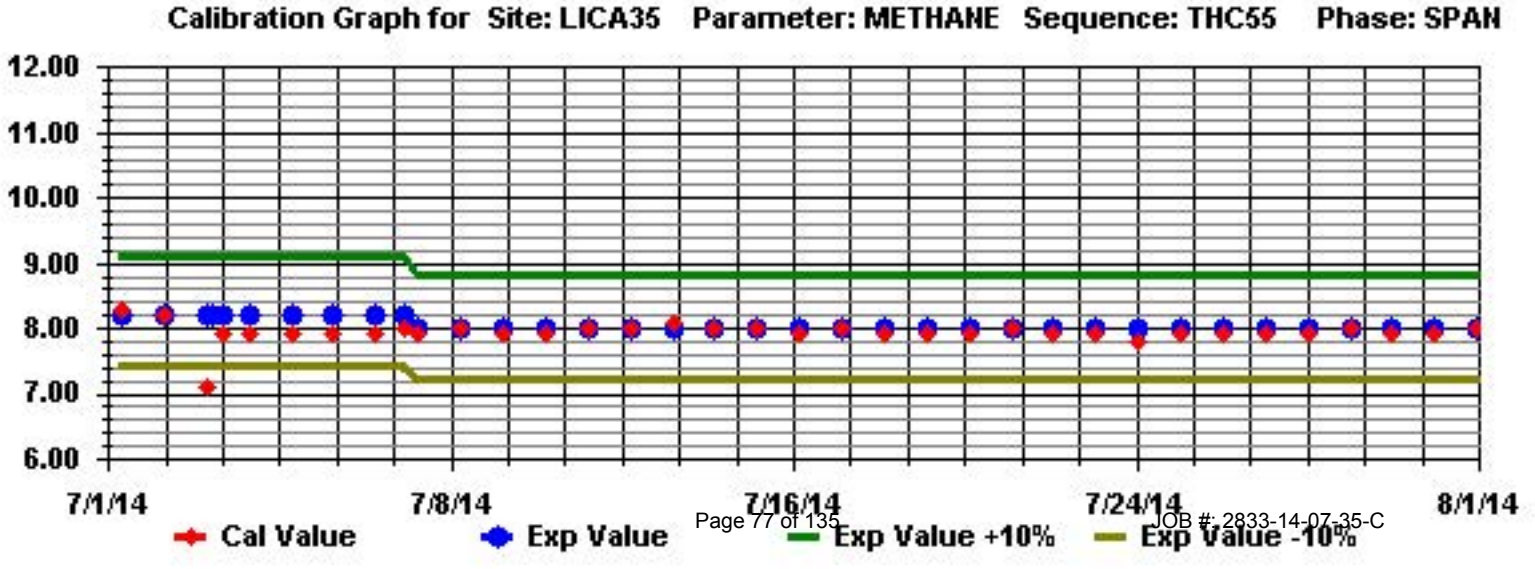
Total # Operational Hours : 703

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

Site : LICA35
Period : 07/01/14-07/31/14
Level : 10



JOB #: 2833-14-07-35-C


Calibration Graph for Site: LICA35 Parameter: METHANE Sequence: THC55 Phase: SPAN
12.00
11.00
10.00
9.00
8.00
7.00
6.00
7/1/14
7/8/14
7/16/14
7/24/14
8/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Non-Methane Hydrocarbons

Lakeland Industry & Community Association - Elk Point Site

JULY 2014

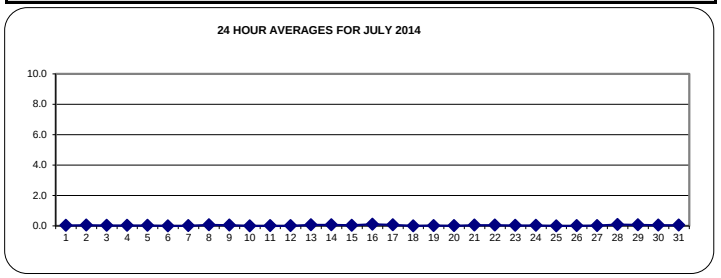
NON-METHANE HYDROCARBONS (NMHC) hourly averages in ppm

MST

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

STATUS FLAG CODES

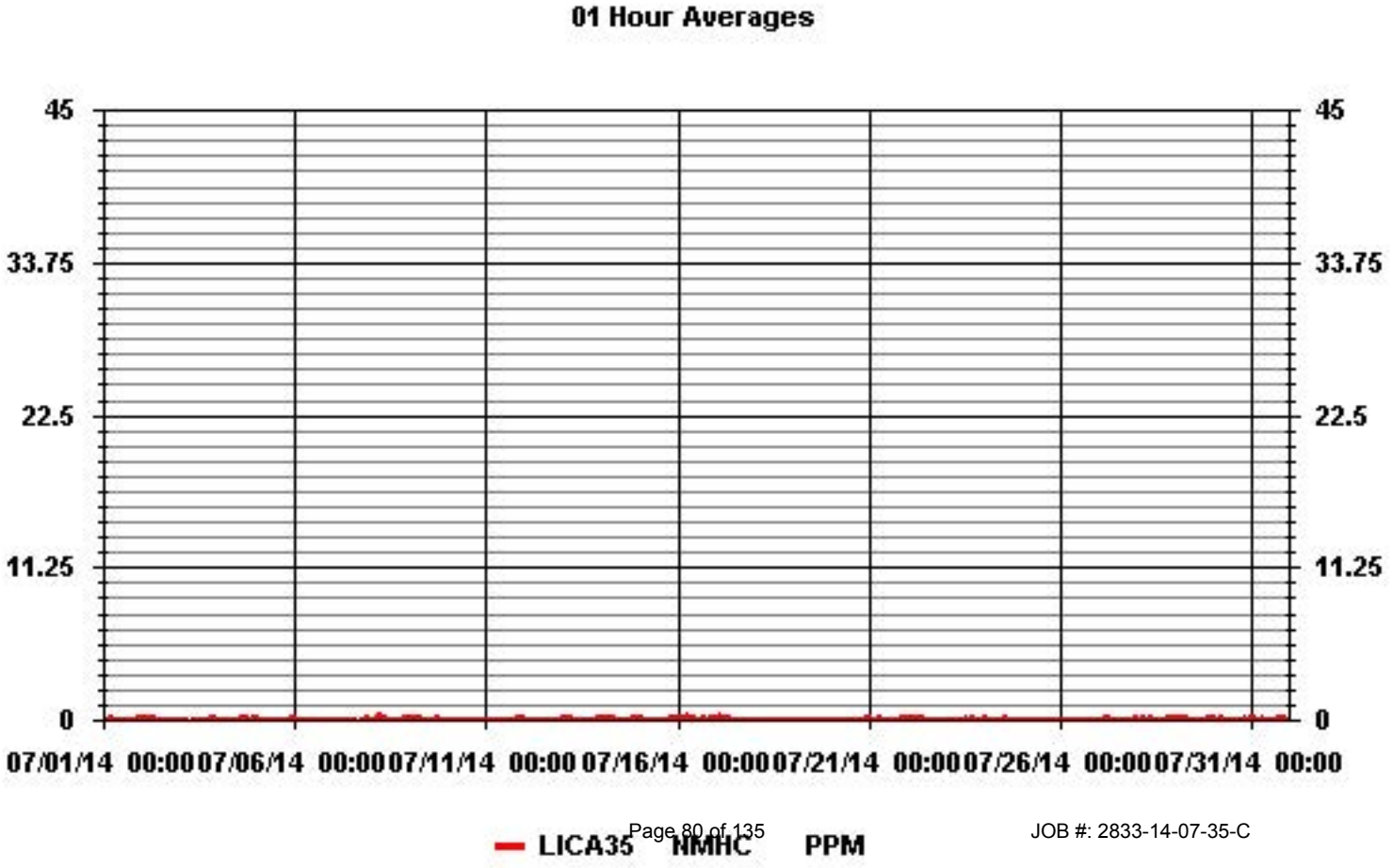
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	223					
MAXIMUM 1-HR AVERAGE:	0.3	PPM	@ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 24-HR AVERAGE:	0.1	PPM			ON DAY(S)	VAR
					VAR-VARIOUS	

IZS CALIBRATION TIME:	37	HRS	OPERATIONAL TIME:	744	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	0.06		MONTHLY AVERAGE:	0.04	PPM



JOB #: 2833-14-07-35-C

Lakeland Industry & Community Association - Elk Point Site

JULY 2014

NON-METHANE HYDROCARBONS MAX instantaneous maximum in ppm

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0.2	0.2	0.13	0.18	0.28	0.24	0.16	**S**	0.28	0.22	0.19	0.13	0.18	0.13	0.11	0.15	0.18	0.19	0.24	0.22	0.19	0.25	0.29	0.32	0.32	0.2	24
2	0.31	0.37	0.26	0.23	0.27	0.31	**S**	0.46	0.34	0.29	0.17	0.1	0.19	0.17	0.15	0.17	0.15	0.25	0.1	0.23	0.2	0.27	0.26	0.2	0.46	0.2	24
3	0.17	0.11	0.14	0.21	0.25	**S**	0.15	**S**	**S**	**S**	0.21	0.27	0.14	**S**	**S**	**S**	0.29	0.16	0.2	0.25	0.34	0.23	0.24	0.22	0.34	0.2	24
4	0.25	0.19	0.07	0	**S**	0.17	0.24	0.15	0.18	0.15	0	0.14	0.21	0.2	0.47	0.25	0.25	0.55	***1.69***	0.38	0.17	0.24	0.19	0.34	***1.69***	0.3	24
5	0.27	0.37	0.3	**S**	0.35	0.23	0.24	0.1	0	0.14	0.2	0.27	0.25	0.03	0	0.2	0	0	0	0.28	0.16	0.3	0.33	0.24	0.37	0.2	24
6	0.24	0.24	**S**	0.23	0.21	0.14	0.24	0.18	0.2	0.17	0.2	0.11	0.12	0	0	0.22	0.15	0.18	0.1	0.21	0.16	0.12	0.13	0.17	0.24	0.2	24
7	0.15	**S**	0.19	0.19	0.1	0.14	0.14	0.13	0	0	0.16	0.13	0.21	0.17	**C**	**C**	**C**	**C**	0.23	0.2	0.23	0.22	0.29	0.19	0.29	0.2	24
8	**S**	0.21	0.25	0.23	0.26	0.55	0.33	0.34	0.26	0.26	0.22	0.25	0.19	0.6	0.25	0.22	0.21	0	0.2	0.27	0.3	0.25	0.24	**S**	0.6	0.3	24
9	0.38	0.3	0.23	0.23	0.25	0.25	0.25	0.18	0.25	0.23	0.17	0.17	0.2	0.12	0	0.12	0.07	0.15	0.19	0.26	0.22	0.22	**S**	0.31	0.38	0.2	24
10	0.22	0	0.16	0.21	0.21	0.1	0.1	0.2	0	0.22	0	0	0.17	0	0.17	0	0.15	0.15	0	0	0.19	**S**	0.18	0	0.22	0.1	24
11	0.21	0.21	0.23	0.14	0.12	0.11	0.19	0.01	0.18	0	0	0.12	0	0.2	0.15	0.18	0.18	0.13	0.12	0.18	**S**	0.21	0.2	0.32	0.32	0.1	24
12	0.19	0.19	0	0.18	0.23	0.17	0	0.21	0.49	0.19	0.44	0.44	0.07	0	0	0.13	0	0	1.21	**S**	0.48	0.23	0.26	0.17	1.21	0.2	24
13	0.2	0.21	0.39	0.35	0.65	0.38	0.34	0.28	0.21	0.18	0.19	0.14	0.13	0	0.1	0	0.16	0	**S**	0.19	0.2	0.2	0.22	0.3	0.65	0.2	24
14	0.23	0.24	0.25	0.24	0.23	0.21	0.27	0.23	0.22	0.13	0	0	0	0.17	0	0	0.11	**S**	0	0.16	0.21	0.22	0.27	0.34	0.34	0.2	24
15	0.23	0.2	0.21	0.21	0.19	0.21	0.21	0.23	0.25	0.21	0.26	0.19	0	0.03	0.27	0.14	**S**	0	0.14	0.19	0.21	0.29	0.36	0.26	0.36	0.2	24
16	0.25	0.22	0.22	0.26	0.3	0.29	0.81	0.34	0.31	0.27	0.29	0.25	0.25	0.22	0.25	**S**	0.36	0.3	0.32	0.28	0.28	0.19	0.16	0.21	0.81	0.3	24
17	0.24	0.24	0.27	0.38	0.34	0.32	0.28	0.38	0.25	0.16	0.19	0.18	0.29	0.25	**S**	0.18	0.25	0.17	0.15	0.25	0.22	0.17	0.23	0.14	0.38	0.2	24
18	0.28	0.18	0.21	0.21	0	0.31	0.23	0.25	**S**	0.27	0.08	0.19	0.19	**S**	0.19	0.16	0	0.15	0	0	0	0.1	0.18	0.12	0.31	0.2	24
19	0.16	0.06	0.17	0.18	0.14	0.09	0.16	0.18	0.2	0.2	0.15	0.2	**S**	0.18	0.18	0.12	0.12	0.14	0.24	0.26	0.21	0.31	0.31	0.22	0.31	0.2	24
20	0.13	0.14	0.13	0.19	0.19	0.13	0	0.16	0.24	0.18	0.21	**S**	0.15	0.1	0	0	0.21	0.2	0.14	0.13	0.24	0.23	0.23	0.29	0.29	0.2	24
21	0.33	0.23	0.16	0.21	0.18	0.28	0.31	0.3	0.39	0.16	**S**	0.18	0.18	0.18	0	0.23	0.25	0.22	0.26	0.25	0.23	0.23	0.25	0.27	0.39	0.2	24
22	0.37	0.7	0.42	0.38	0.53	0.29	0.2	0.33	0.28	**S**	0.14	0	0.15	0.18	0.25	0.28	0.19	0.2	0.22	0.26	0.3	0.24	0.25	0.22	0.7	0.3	24
23	0.24	0.22	0.24	0.23	0.21	0.2	0.15	0.2	**S**	0.19	0.25	0.25	0.28	0.31	0.31	0.21	0.23	0.24	0.25	0.26	0.27	0.24	0.29	0.27	0.31	0.2	24
24	0.28	0.24	0.23	0.25	0.23	0.22	0.18	**S**	0.25	0.33	0.28	0.3	0.3	0.25	0.23	0.21	0.26	0.19	0.17	0.21	0.08	0.14	0.22	0.21	0.33	0.2	24
25	0.19	0.22	0.1	0.09	0.25	0.15	**S**	0.16	0.19	0.25	0.23	0.12	0.25	0	0.19	0.14	0.24	0.15	0.25	0.2	0.24	0.25	0.26	0	0.26	0.2	24
26	0.18	0.16	0.27	0.18	0.24	**S**	0.13	0.17	0.12	0.17	0.13	0.21	0.19	0.18	0.23	0.21	0.27	0.19	0.28	0.26	0.31	0.27	0.29	0.23	0.31	0.2	24
27	0.19	0.17	0.23	0.18	**S**	0.23	0.15	0.25	0.19	0.23	0.26	0.28	0.25	0.28	0.27	0.27	0.21	0.23	0.32	0.23	0.26	0.24	0.21	0.25	0.32	0.2	24
28	0.24	0.21	0.24	**S**	0.25	0.23	0.23	0.27	0.23	0.29	0.31	0.28	0.25	0.24	0.25	0.22	0.27	0.12	0.28	0.34	0.29	0.28	0.27	0.31	0.34	0.3	24
29	0.24	0.23	**S**	0.26	0.27	0.27	0.28	0.25	0.21	0.27	0.22	0.32	0.23	0.26	0.28	0.23	0.25	0.26	0.27	0.29	0.36	0.26	0.31	0.28	0.36	0.3	24
30	0.2	**S**	0.25	0.22	0.21	0.3	0.17	0.24	0.16	0.29	0.34	0.27	0.32	0.26	0.22	0.33	0.31	0.23	0.3	0.36	0.3	0.25	0.32	0.31	0.36	0.3	24
31	**S**	0.21	0.27	0.23	0.22	0.39	0.25	0.29	0.26	0.36	0.24	0.26	0.27	0.28	0.72	0.19	0.24	0.26	0.31	0.34	0.32	0.35	0.32	**S**	0.72	***0.3***	24
HOURLY MAX	0	1	0	0	1	1	1	0	0	0	0	0	0	1	1	0	0	1	2	0	0	0	0	0			
HOURLY AVG	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 646

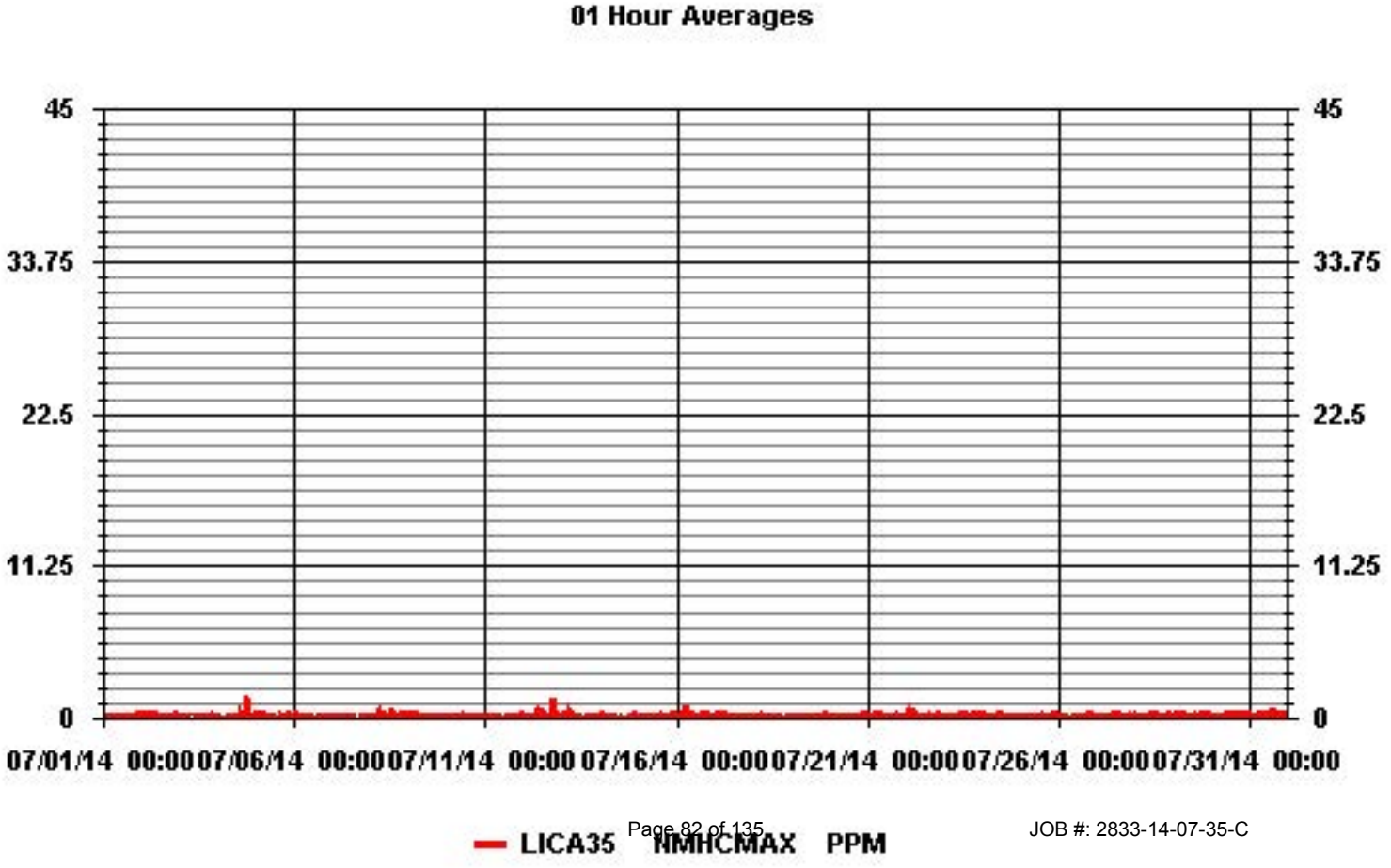
MAXIMUM INSTANTANEOUS VALUE: 1.69 PPM @ HOUR(S) 18 ON DAY(S) 4

VAR-VARIOUS

IZS CALIBRATION TIME: 40 HRS OPERATIONAL TIME: 744 HRS

MONTHLY CALIBRATION TIME: 4 HRS

STANDARD DEVIATION: 0.12



JOB #: 2833-14-07-35-C

LICA35
NMHC / WDR Joint Frequency Distribution (Percent)

July 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	1.56	2.84	1.56	3.41	7.68	13.08	10.09	7.25	4.55	1.13	2.13	5.97	15.22	9.67	9.95	3.12	99.28
< .5	.00	.00	.00	.00	.28	.00	.00	.00	.00	.00	.00	.00	.00	.28	.14	.00	.71
< 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	1.56	2.84	1.56	3.41	7.96	13.08	10.09	7.25	4.55	1.13	2.13	5.97	15.22	9.95	10.09	3.12	

Calm : .00 %

Total # Operational Hours : 703

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< .2	11	20	11	24	54	92	71	51	32	8	15	42	107	68	70	22	698
< .5					2									2	1		5
< 1.0																	
< 2.0																	
< 4.0																	
>= 4.0																	
Totals	11	20	11	24	56	92	71	51	32	8	15	42	107	70	71	22	

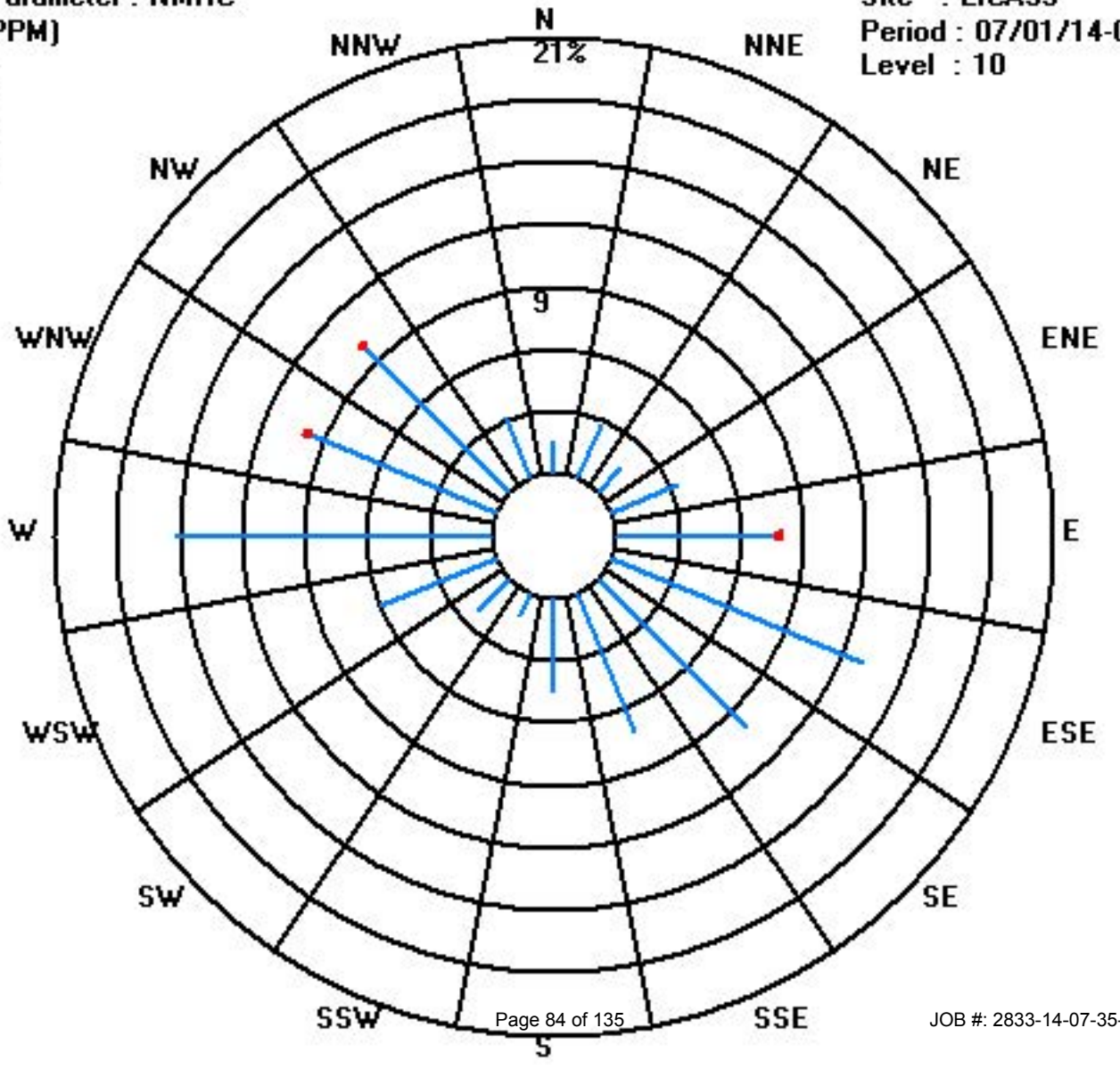
Calm : .00 %

Total # Operational Hours : 703

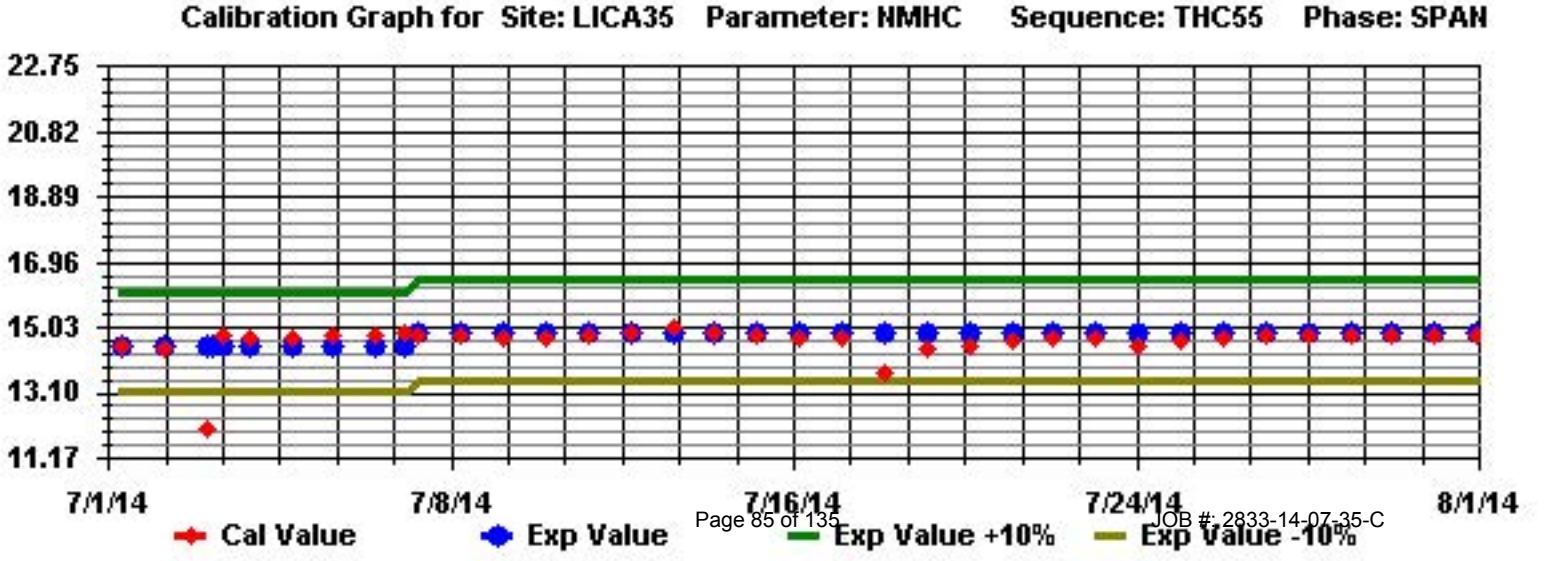
Logger : 35 Parameter : NMHC
Class Limits (PPM)

>= 4.0
< 4.0
< 2.0
< 1.0
< .5
< .2

Site : LICA35
Period : 07/01/14-07/31/14
Level : 10



JOB #: 2833-14-07-35-C


Calibration Graph for Site: LICA35 Parameter: NMHC Sequence: THC55 Phase: SPAN
22.75
20.82
18.89
16.96
15.03
13.10
11.17
7/1/14
7/8/14
7/16/14
7/24/14
8/1/14
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Vector Wind Speed

Lakeland Industry & Community Association - Elk Point Site

JULY 2014

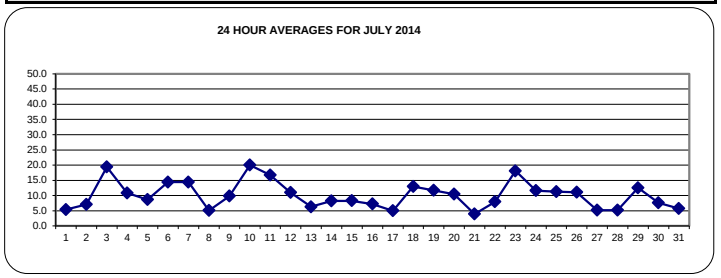
WIND SPEED (WS) hourly averages in km/hr

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	12.2	12.4	11.7	7.2	5.6	4.3	3.9	1.1	1	1.3	4.6	6	3.2	9.7	7.1	8.8	8	4.1	5.9	5.1	3.7	1.4	0.5	0.3	12.4	5.4	24
2	0.6	1.1	0.5	2.3	1.8	1.4	2.3	2.1	0.6	4.2	5.6	8	10.2	10.3	11.2	12.9	12.7	12.9	11.8	8.8	9.9	13.2	12.2	12.8	13.2	7.1	24
3	13.3	15.9	16.1	18.1	20	20	23.2	23.1	21.7	21.2	28	28.5	30.4	25.6	22.9	24.3	19.5	17.9	10.7	11.3	16.8	17.9	14	4.1	30.4	19.4	24
4	17.3	15.3	6	11	14.3	9.6	17.2	17.6	17.1	17.6	18.1	14.9	14.3	11.3	9.9	8.9	8	8.7	5.9	3.4	1.8	4.4	4.4	2.7	18.1	10.8	24
5	1.8	2.7	2.1	5.1	6.2	9.5	21.2	16.8	21.4	11.9	12.3	11.9	11.7	8.4	6.2	5.2	6.1	5.2	6.8	7.9	7.3	7.8	9.7	1.8	21.4	8.6	24
6	8.1	9.8	3.7	3.7	6.9	7.2	9	12.7	15.4	14.7	17.6	11.4	19.7	26.3	30.8	27.5	21.5	19.5	18	18.5	12.2	11.7	10.8	8.9	30.8	14.4	24
7	13	13.1	12.1	10.7	11.9	6.5	13.9	15.1	14.5	16.5	20	20.2	20.6	20.2	21.2	21.8	23	20	13.3	6.2	6.5	8.3	7.5	9.3	23.0	14.4	24
8	8.4	9.2	6	3.1	0.8	0.9	0.1	2	6.5	6.4	4.2	5.8	4.3	3	4.6	4	6.8	6.7	6.5	7.6	7.4	8.7	5.6	3.7	9.2	5.1	24
9	4.3	4.7	4.6	5.1	5.7	6.7	7.6	5.7	7.4	10.1	11.9	14.9	17.6	21.8	18.8	18.4	15.6	11.5	8.3	18.9	2.9	3.7	8.1	2.3	21.8	9.9	24
10	7.9	12.5	7.7	8	10.7	15	9.8	9.7	13.1	19.8	22	27.1	32.6	***36.1***	32.1	25.9	19.4	18	29.5	23.8	23.9	24.4	26.5	25.3	***36.1***	***20.0***	24
11	25	17.5	17.3	16.8	15.9	16.4	18.2	18.2	18	19.5	20.5	18.8	20.7	20.3	19.8	20.3	19.9	17.2	12.1	8	8.9	9.1	10.4	12.4	25.0	16.7	24
12	10.5	7.2	10.4	10.5	11.2	12.1	11.9	8.1	6	5.8	12.7	16.6	16.9	15	16.9	17.1	16	14.2	13.3	8.6	4.2	6.3	8.4	3.8	17.1	11.0	24
13	0.8	5	6.7	3.2	2.5	3.1	2.9	9.2	8.9	6.9	4.4	6.2	11.4	11.7	11.9	9.7	7.8	9.3	7.5	7.1	4.7	3.3	2.1	4.6	11.9	6.3	24
14	6	3.9	5.1	2.4	2.1	3.4	3.7	4.6	4.4	8	12.9	13.7	13.3	13.9	14.1	15.3	12.8	11.6	9.9	6.4	6.6	7.9	8.2	7.5	15.3	8.2	24
15	4.6	5.4	5.8	5	4.8	5.5	8.5	7.1	7.1	8.9	12.8	14.7	13.9	13.1	13.4	13.3	12.4	10.4	7.6	7.6	7.4	4.5	3	1.6	14.7	8.3	24
16	3.4	4.3	4.2	3.3	5.1	4.7	4.1	3.7	3.3	2.8	4.7	3.5	3.8	6.9	10.2	16.2	13.7	11.3	10.3	10	12	14.7	7.6	9.2	16.2	7.2	24
17	7.7	4.3	2.9	4.2	2.9	3.7	1.4	2.5	2.6	7.2	5.8	5.8	4.9	4.9	5	5.2	7.6	6.2	5.9	2.1	5	10.9	7.9	3	10.9	5.0	24
18	13.9	21.5	17.2	15.6	14.9	17.1	13.8	14.2	16.7	17.3	15.2	14.8	12.2	10	9.6	12.3	11.6	10.7	9.6	8.9	7.4	7.4	8.6	9.6	21.5	12.9	24
19	10.8	8.6	15.7	6.3	5	5	5.4	3.2	6.7	9	14.8	14.4	18.2	20.6	18.6	21.4	17.8	18	12.1	8.8	8.5	11.9	10.9	10	21.4	11.7	24
20	9.8	13	9.1	8.4	9.4	8.1	11	14.8	12.6	11.3	10.1	10.3	11.4	14.3	23	12.9	11.5	7.7	11.8	9.2	7.3	5.8	3.7	3.5	23.0	10.4	24
21	5.9	7.3	6.3	5.9	1.3	0.4	0.8	2.2	2.1	3.3	4.6	5.2	5.8	5.3	3.4	5.1	4.4	3.4	4.3	5.1	3.3	5.1	2.3	1.9	7.3	3.9	24
22	1.1	1.3	0.2	0	0.6	2.3	2.5	3.4	4.9	7.5	10.6	10.6	11.7	11.2	13.8	15.4	14.9	15.8	15.1	12.8	10.8	9.4	6.8	7.2	15.8	7.9	24
23	7.6	12.4	15.7	16.7	16.3	17.8	21	24.1	27.6	28.8	21.6	22.4	22.9	23.6	21.5	21.1	16.4	13.8	14.8	15.4	10.5	14.9	12.7	13.9	28.8	18.1	24
24	12	10.7	9.3	8.2	11.2	8.2	9.6	14.8	14.1	13.2	13.9	15.3	17.8	14.8	10.1	6.9	10.6	18	23.3	17.3	3.4	3.9	6	5	23.3	11.6	24
25	5.4	6.4	2	2.3	2.8	6.1	8.3	4.3	13.6	15.7	19.8	21.1	21.4	17.2	13.6	17.9	14.9	14.1	12.4	9.2	8.4	6.4	11.9	15.7	21.4	11.3	24
26	16.7	17.3	16.9	16.1	12.8	13.9	11.8	12.1	12	9.5	10.7	10.8	12.8	15.1	11.8	5.8	8.2	5.3	7.3	7.5	7.2	8	8.2	8	17.3	11.1	24
27	6.1	9.9	6.3	7.6	1.6	2.3	4.4	4.3	3.8	4.5	2.2	4.5	6.3	5.7	6.5	4.9	2.4	7.4	8.6	5.9	8.5	1.8	3.9	4.3	9.9	5.2	24
28	1.3	1.1	1.1	2.5	2.7	2	2.5	4.6	4.3	3.3	7.1	7	6.7	5.9	7.9	6.4	8.3	10.1	9.8	8.3	6.2	6.2	4.7	4	10.1	5.2	24
29	4.4	8.1	7.5	7.5	7.4	4	9.1	11.2	12.4	16.6	20.4	24	21.9	20.4	19.9	17.8	17.5	18	14.4	11.5	7.5	7.2	5.3	6.2	24.0	12.5	24
30	5.7	4.4	6.5	5.4	6	2.9	8.3	8.9	8.6	10.9	10.8	9.1	6.7	8.1	10.3	10.6	11.6	13	9.6	6.8	9.9	4.3	1.4	3.1	13.0	7.6	24
31	4.2	5.9	1.2	5.8	5	3.7	6.1	0.3	5.8	5.6	6.2	5.3	5.4	5.7	7.3	6.7	9	5.9	2.3	6.4	8	9.5	8.4	6.3	9.5	5.7	24
HOURLY MAX	25.0	21.5	17.3	18.1	20.0	20.0	23.2	24.1	27.6	28.8	28.0	28.5	32.6	36.1	32.1	27.5	23.0	20.0	29.5	23.8	23.9	24.4	26.5	25.3			
HOURLY AVG	8.1	8.8	7.7	7.4	7.3	7.2	8.8	9.1	10.1	10.9	12.5	13.0	13.9	14.1	14.0	13.5	12.6	11.8	10.9	9.5	8.0	8.4	7.8	6.8			

STATUS FLAG CODES

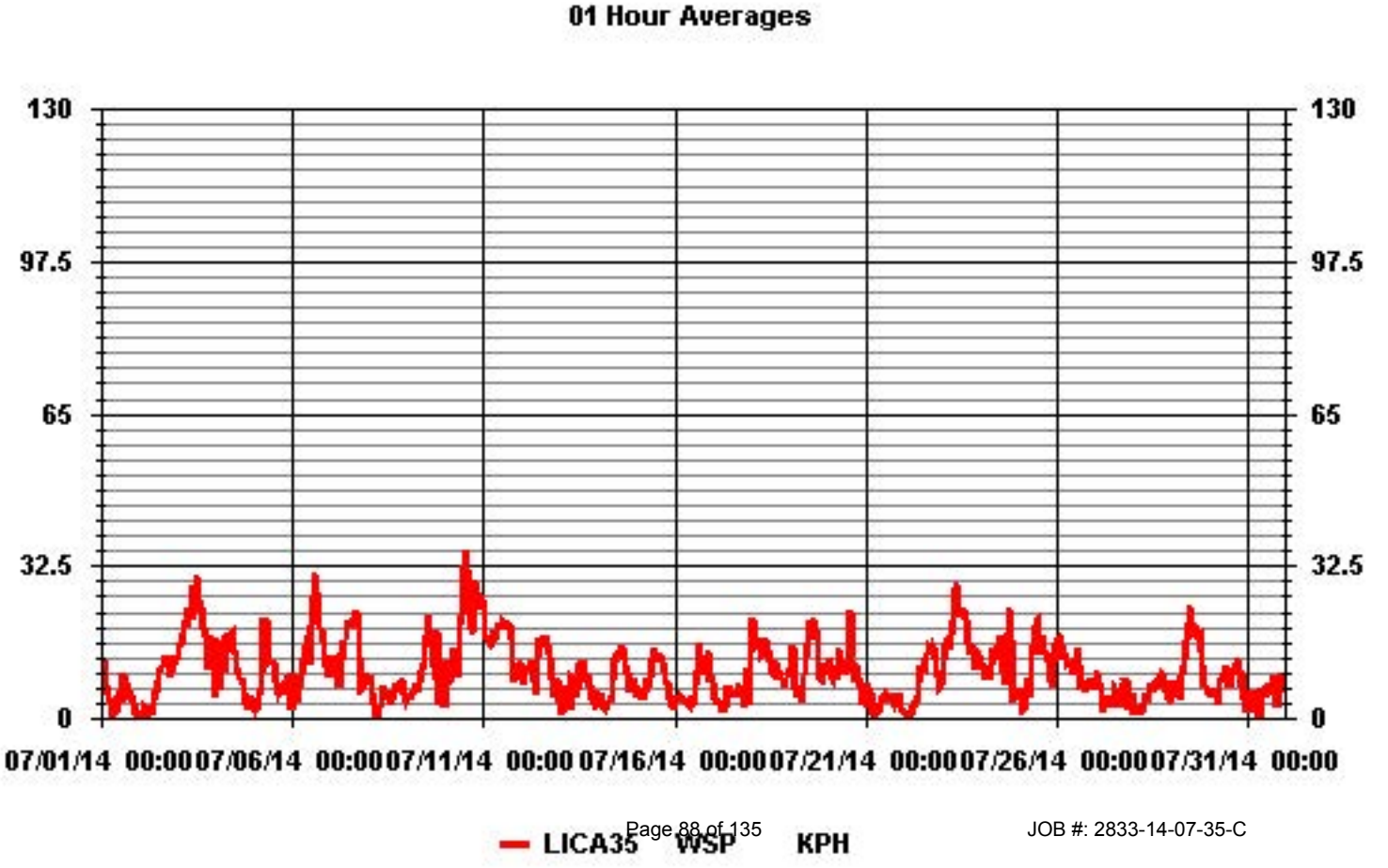
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	743						
MAXIMUM 1-HR AVERAGE:	36.1	KPH	@ HOUR(S)	13	ON DAY(S)	10	
MAXIMUM 24-HR AVERAGE:	20.0	KPH			ON DAY(S)	10	
					VAR-VARIOUS		
			OPERATIONAL TIME:		744	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME:		100.0	%	
STANDARD DEVIATION:	6.35		MONTHLY AVERAGE:		10.09	KPH	



JOB #: 2833-14-07-35-C

Lakeland Industry & Community Association - Elk Point Site

JULY 2014

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST

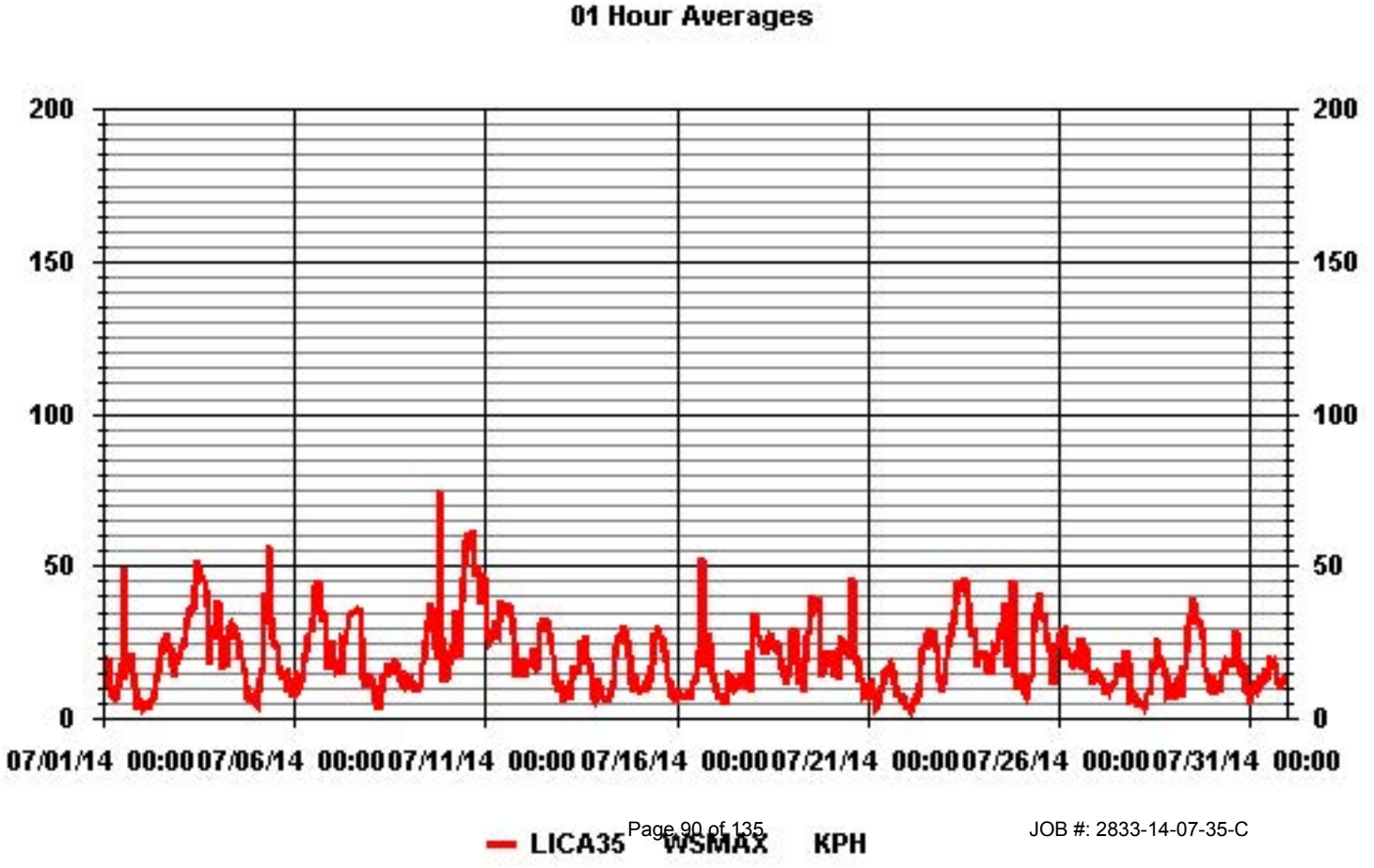
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	17.2	18.5	17.1	17.7	11.1	8.2	7.2	6.2	6.5	10.4	14.6	17.8	12.6	49.6	17.4	15.2	17.7	15	21.4	16	10.9	5	5.4	5.4	50	14.3	24
2	3.4	4.2	3.7	4	4	5.3	5.8	6.6	8.7	11.9	14.9	19.3	24.6	21.7	21.9	26	27.4	25.3	23.5	17.2	13.6	21.4	17.5	19.6	27	14.6	24
3	20.3	23.3	23.9	26.6	29.8	33.2	35.5	36.1	36.1	36.3	43.7	51.8	50.1	46	46.4	45.8	39.1	39.8	30.7	17.8	28.6	30.3	25.4	33	52	34.6	24
4	38.4	32	15.4	23.5	26.1	16.9	27.3	29.9	31	29.1	30.9	25.5	27.6	26.2	20.5	19.6	16.2	16	11.8	7.1	5.2	6.6	7.4	5.5	38	20.7	24
5	4.8	8.2	12.7	15.6	16.3	30.7	40.4	40.6	57.1	33.8	26.9	25.6	24.4	23.4	18	14.3	15.7	12.8	14.3	14.9	9.8	9.9	12.4	7	57	20.4	24
6	13.4	15.4	8.5	9.2	12.4	12.8	18	21.5	27	28	31.4	30.8	33.7	43.4	44.4	44.3	41.9	32	34.3	33.3	25.2	15.9	19.6	16.1	44	25.5	24
7	25.4	19.5	16.4	17.2	17	14.1	26.1	25.6	24.6	28.6	34.1	34.2	34.5	34.7	35.1	35.9	35.3	35.6	26.8	13.6	9.9	11.9	10.4	13.5	36	24.2	24
8	13.5	13.4	11.2	6.4	4.4	4.8	2.9	8.2	14	14.8	13.4	18.3	17.2	18.1	14.1	19.4	18.5	15	12.5	11.2	10.6	15.2	11.6	9	19	12.4	24
9	13	13.6	10.4	9	9	9.2	11.1	11.6	18.2	19.1	25.1	28	32.4	38	35.1	35	30.6	23.5	18.8	***74.8***	27	11.9	14.5	12.2	***75***	22.1	24
10	22.6	21.6	18.7	19.2	24.2	35.5	22.6	20.2	23.7	37.7	46.4	49.2	58.7	61.1	55.9	57.5	61.8	48.7	46.8	50.5	37.3	38.2	48.1	44.4	62	***39.6***	24
11	46.2	26.5	24.9	25.6	26.3	28.6	31.9	28.3	27.5	31.7	38.8	36.1	34	35.5	34	38.2	33.6	28.5	25.1	15	14.6	14.4	15	19.8	46	28.3	24
12	18.9	13.5	17	18.4	18.2	17.9	23.3	20.3	16.8	17.4	31.5	30.8	32.5	28.6	32.1	32.1	28.5	24.7	21.2	13	13.5	10.2	9.9	12.1	33	20.9	24
13	5.7	7.1	8.9	7.8	7.7	5.9	12.5	16.7	16.5	16.5	14.6	17.1	24.3	24.3	26.3	26.5	20.6	18.6	14.7	10.8	7	5.9	7.2	13.5	27	14.0	24
14	11.4	7.4	7.2	6.1	6	6.2	7.3	9.8	12	19.8	23.5	26.1	26.1	27.6	30.6	29.5	24.7	26.2	21.1	11.4	8.3	12.4	15	9.8	31	16.1	24
15	9.4	10.8	8.2	10.2	9.3	9.5	14.2	12	16.8	17.8	28.3	25.9	30.6	28	25.6	27.5	22.6	19.4	12.9	11.6	13.5	7.7	7.1	8.1	31	16.1	24
16	9.3	7.3	8.2	6.2	7.4	7.6	8.4	7.3	6	9.1	11.4	12.9	11.6	16.9	21.8	27.9	52.7	26.1	18.6	16.7	27.7	25.1	15.4	12.7	53	15.6	24
17	12.1	9.7	7.1	7.3	6.8	7.9	4.8	6.4	8.2	14.6	14.2	11.2	9.4	9.8	10.6	13.1	14.9	12.8	13.3	9.3	14.8	22.6	13.9	8.7	23	11.0	24
18	29	34.9	27.2	27.1	24.2	24.1	22.1	21	25.1	26.7	25.6	26.3	23.8	23.2	24.8	24.5	23.7	20.6	16.8	14.5	12.3	12.1	13.5	17.3	35	22.5	24
19	29	21.1	29.4	25.8	12.1	12.1	11.8	8.3	19.9	18.1	27.4	28.8	33.5	40.2	34.5	38.9	37.7	38.1	21.7	14.8	15.1	20.8	20.8	20.7	40	24.2	24
20	16.7	22.2	13.5	15.1	14	12.4	22.8	26.8	24.7	23.4	22.1	21.4	25.1	29.6	46.4	24.7	21.2	18.6	18.7	13.2	12.7	7.8	8.4	7.6	46	19.5	24
21	10.4	11.2	11.8	9.8	7	3.8	4.6	7.3	8.7	10.9	15.5	14.6	16.3	16.9	18.1	17.1	16.4	11.4	8	8	6.7	7.3	5.8	7.2	18	10.6	24
22	4.8	4.3	4	3	4.3	6.7	6	7.1	11.1	17.6	23.1	24	23.8	27.5	29.8	28.3	27.5	27.9	24.5	22.6	14.2	12.7	8.7	10.8	30	15.6	24
23	12.7	19.8	25.6	25.2	26.6	31	35	37.4	44.1	45.3	43	41.9	45.1	45.1	40.5	38.9	29.9	28.4	28.2	30	16.3	22.3	20.1	21.6	45	31.4	24
24	21.7	20.1	15	16.1	21.6	14.2	16.3	23.7	23	23.9	25.6	29.7	31.2	26.5	37.7	16.6	29.2	32.8	44.4	45.5	14.5	9	14.2	10.1	46	23.4	24
25	12.4	14.5	8.5	7	8	11.4	13.9	14.4	27.9	34.3	37.9	41.3	39.9	33.3	32.8	34.4	28.9	25.1	22.4	15.3	10.8	14.8	23.6	24.8	41	22.4	24
26	27.5	28.5	28.4	29	20.8	21	21.8	20.3	17.8	16.3	19.4	22	25.6	25.7	25.9	15.8	19.7	24.2	16.2	15.8	13.7	11.3	13.3	14.3	29	20.6	24
27	12.2	15.1	13.5	11.8	9.8	7.6	10.3	9.2	10.9	11.2	11.2	11.7	16.3	18	16.4	18.4	13.5	21.3	21.5	15.8	19.3	6.4	6.9	9.1	22	13.2	24
28	7.1	3.6	5.1	5.5	5.3	3.8	5.2	7.7	8.9	9	18.6	17.1	18.5	26	18.7	20	16.8	18.4	17.3	14.5	8	8.7	6.6	7.8	26	11.6	24
29	7.6	10.9	11.9	10.6	10.5	6.6	16.9	17.3	21.5	30.3	33.9	39.8	37.1	37.3	33.2	31.8	31.8	30.6	26.3	17.4	13.5	13.8	10.9	11.4	40	21.4	24
30	12	7.9	8.8	11.1	12.5	8.8	14.9	15	18.5	19.9	19.4	19.1	16.7	18.9	21.8	29.1	21.4	19.8	15.2	13.4	18.4	9.4	8.2	5.9	29	15.3	24
31	6.3	11	7.6	11.8	11.7	9.3	10.2	13.5	12.2	16.3	13.9	14.8	20.7	17.6	18.4	16.3	18.3	12	12.1	9.2	11.4	13	12.7	14	21	13.1	24
HOURLY MAX	46	35	29	29	30	36	40	41	57	45	46	52	59	61	56	58	62	49	47	75	37	38	48	44			
HOURLY AVG	15.9	15.4	13.9	14.2	13.7	13.8	16.5	17.3	20.2	21.9	25.2	26.2	27.7	29.6	28.7	27.8	27.0	24.2	21.3	19.2	15.0	14.0	13.9	14.0			

STATUS FLAG CODES

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

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS VALUE:	75	KPH	@ HOUR(S)	19	ON DAY(S) 9
					VAR-VARIOUS
OPERATIONAL TIME:					744 HRS



JOB #: 2833-14-07-35-C

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

July 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	.40	.80	.67	2.28	5.37	4.30	1.61	.53	1.61	.13	1.20	1.34	4.03	2.82	2.15	.94	30.24
<	12.0	.40	1.07	.53	1.07	2.95	4.83	3.36	3.49	1.61	.94	.80	4.03	4.43	2.95	3.22	.53	36.29
<	20.0	.67	.53	.13	.00	.00	2.95	3.36	2.55	.67	.00	.13	.53	4.56	3.36	3.76	1.34	24.59
<	29.0	.00	.26	.13	.00	.00	1.20	1.47	.67	.26	.00	.00	.00	1.61	1.20	.94	.13	7.93
<	39.0	.00	.00	.00	.00	.00	.00	.13	.00	.00	.00	.00	.00	.67	.00	.00	.00	.80
>=	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	1.47	2.68	1.47	3.36	8.33	13.30	9.94	7.25	4.16	1.07	2.15	5.91	15.32	10.34	10.08	2.95	

Calm : .13 %

Total # Operational Hours : 744

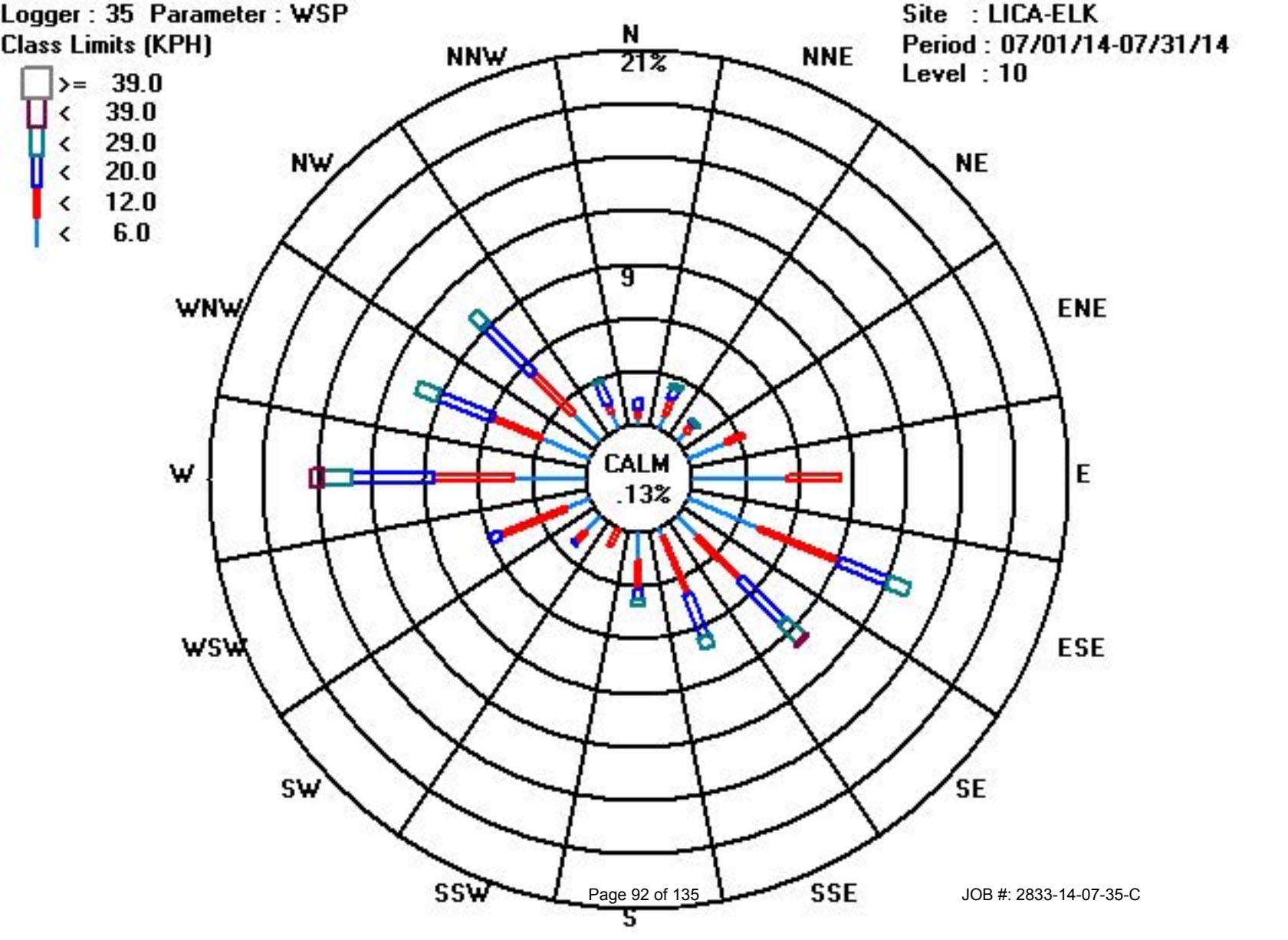
Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	3	6	5	17	40	32	12	4	12	1	9	10	30	21	16	7	225
<	12.0	3	8	4	8	22	36	25	26	12	7	6	30	33	22	24	4	270
<	20.0	5	4	1			22	25	19	5		1	4	34	25	28	10	183
<	29.0		2	1			9	11	5	2				12	9	7	1	59
<	39.0							1						5				6
>=	39.0																	
	Totals	11	20	11	25	62	99	74	54	31	8	16	44	114	77	75	22	

Calm : .13 %

Total # Operational Hours : 744



JOB #: 2833-14-07-35-C

Vector Wind Direction

Lakeland Industry & Community Association - Elk Point Site

JULY 2014

WIND DIRECTION (WD) hourly averages in degrees

MST

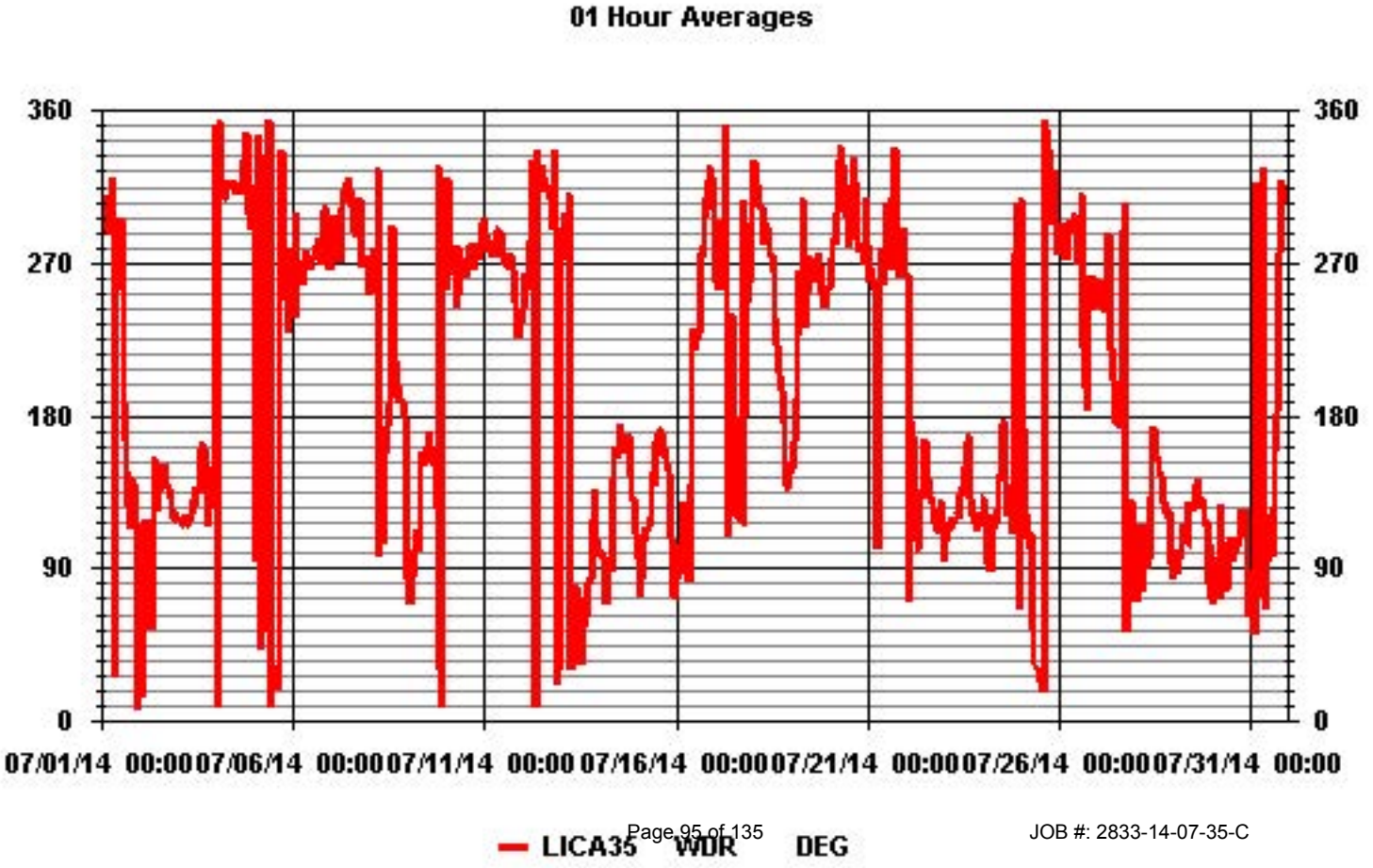
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUANDRANT	RDGS.
DAY																											
1	307	306	310	308	287	289	293	320	26	285	274	292	296	255	188	166	148	127	113	144	140	115	6	21	320	NW	24
2	116	54	14	118	110	76	118	54	98	156	141	123	141	140	151	137	151	140	138	132	121	120	124	121	156	SSE	24
3	120	119	117	119	118	121	117	118	122	131	127	136	136	136	160	165	159	159	151	114	125	136	125	344	344	NNW	24
4	351	8	355	308	311	309	310	318	314	316	314	318	311	313	310	317	331	310	316	347	300	289	295	301	355	N	24
5	94	316	345	62	42	325	324	334	52	355	8	19	22	21	18	32	329	337	277	267	249	229	240	279	355	N	24
6	250	238	299	271	270	267	256	269	277	275	270	266	273	274	279	279	285	269	285	300	304	280	291	266	304	WNW	24
7	291	289	298	287	294	270	302	313	306	308	317	320	314	304	290	285	297	306	306	267	272	268	274	251	320	NW	24
8	258	252	264	278	258	326	97	108	104	112	157	173	187	264	292	227	213	194	195	188	190	189	180	83	326	NW	24
9	102	68	81	85	92	104	113	99	151	158	150	155	161	170	151	159	161	152	124	328	32	7	259	258	328	NNW	24
10	302	320	313	262	271	277	243	280	250	267	273	263	263	269	273	280	282	265	276	282	272	275	291	293	320	NW	24
11	297	287	278	278	275	275	283	287	286	290	289	275	275	271	269	270	275	268	266	248	231	226	237	237	297	WNW	24
12	243	264	259	254	283	299	330	18	7	336	327	313	328	316	317	312	316	308	294	289	337	21	30	42	337	NNW	24
13	272	291	299	275	289	312	30	61	77	80	66	74	33	49	65	56	61	81	83	84	118	136	96	106	312	NW	24
14	97	101	97	73	69	87	93	92	142	162	159	155	158	175	164	158	162	167	169	146	132	129	132	111	175	S	24
15	96	73	83	105	106	113	113	115	120	147	138	164	156	168	171	170	162	156	152	149	147	108	75	71	171	S	24
16	83	104	87	96	129	114	97	93	82	139	231	218	231	224	229	276	278	277	297	308	319	327	322	303	327	NW	24
17	284	260	254	295	268	254	279	351	108	130	160	240	177	181	122	120	120	119	307	179	279	247	258	293	351	N	24
18	315	330	328	317	305	301	304	280	289	291	289	277	275	266	238	222	206	204	196	176	148	140	136	145	330	NNW	24
19	151	151	165	190	227	265	266	309	275	232	252	263	274	268	258	269	265	275	269	252	250	244	252	254	309	NW	24
20	256	273	281	284	280	299	331	339	329	304	313	298	279	283	316	332	318	305	281	278	276	281	268	308	339	NNW	24
21	281	258	268	261	255	249	101	256	278	256	269	276	306	303	266	308	317	338	271	261	276	285	287	291	338	NNW	24
22	261	264	70	178	169	108	108	102	103	131	137	158	166	153	143	133	130	126	117	114	111	120	130	113	264	W	24
23	94	106	111	117	119	115	116	120	124	123	133	138	149	161	160	169	132	122	116	123	112	115	122	123	169	SSE	24
24	131	130	92	106	122	88	93	114	116	124	141	146	174	177	173	141	121	130	110	132	276	305	114	66	305	WNW	24
25	308	284	173	123	109	101	111	55	34	31	31	23	30	24	17	354	349	338	326	298	292	324	285	274	354	N	24
26	283	289	293	283	271	276	293	295	289	300	289	282	269	275	312	221	198	182	261	263	250	242	249	260	312	NW	24
27	259	244	256	244	241	259	268	287	219	221	202	177	176	180	188	224	289	305	52	89	103	131	79	99	305	WNW	24
28	70	116	92	93	76	115	104	89	95	132	156	174	162	156	154	148	145	130	129	124	119	124	94	84	174	S	24
29	88	91	90	101	95	111	115	107	106	127	127	124	128	139	135	142	133	125	130	114	118	80	105	73	142	SE	24
30	69	86	91	96	72	128	103	103	79	77	87	95	108	94	98	108	103	125	109	125	120	121	90	61	128	SE	24
31	81	87	50	315	315	73	106	139	326	66	94	101	121	97	126	159	181	183	276	319	307	315	310	307	326	NW	24

STATUS FLAG CODES

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

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

MONTHLY CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	744	HRS
STANDARD DEVIATION:	91.59		AMD OPERATION UPTIME:	100.0	%
			MONTHLY AVERAGE:	236	DEG



JOB #: 2833-14-07-35-C

Standard Deviation Wind Direction

Lakeland Industry & Community Association - Elk Point Site

JULY 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	6	5	6	7	8	11	12	32	58	54	38	38	45	16	21	18	18	46	23	41	28	35	30	38
2	29	38	15	22	42	54	29	31	66	36	33	34	21	23	22	18	18	14	11	7	4	6	6	6
3	6	6	6	6	7	7	8	9	9	11	10	11	12	13	14	14	15	13	13	7	7	9	7	50
4	15	16	20	23	8	7	8	9	10	11	12	15	15	20	19	21	19	17	10	13	12	8	5	16
5	43	24	60	29	41	16	14	15	16	21	18	19	19	25	30	43	24	21	18	9	7	5	3	32
6	9	10	17	11	11	13	14	11	10	13	14	16	10	11	9	10	8	9	10	7	6	7	9	9
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8	7	6	12	8	15	25	44	57	21	25	51	39	58	59	20	46	22	24	14	6	6	7	26	24
9	43	32	31	18	7	5	7	19	19	17	17	16	16	14	15	15	14	13	16	49	43	22	12	41
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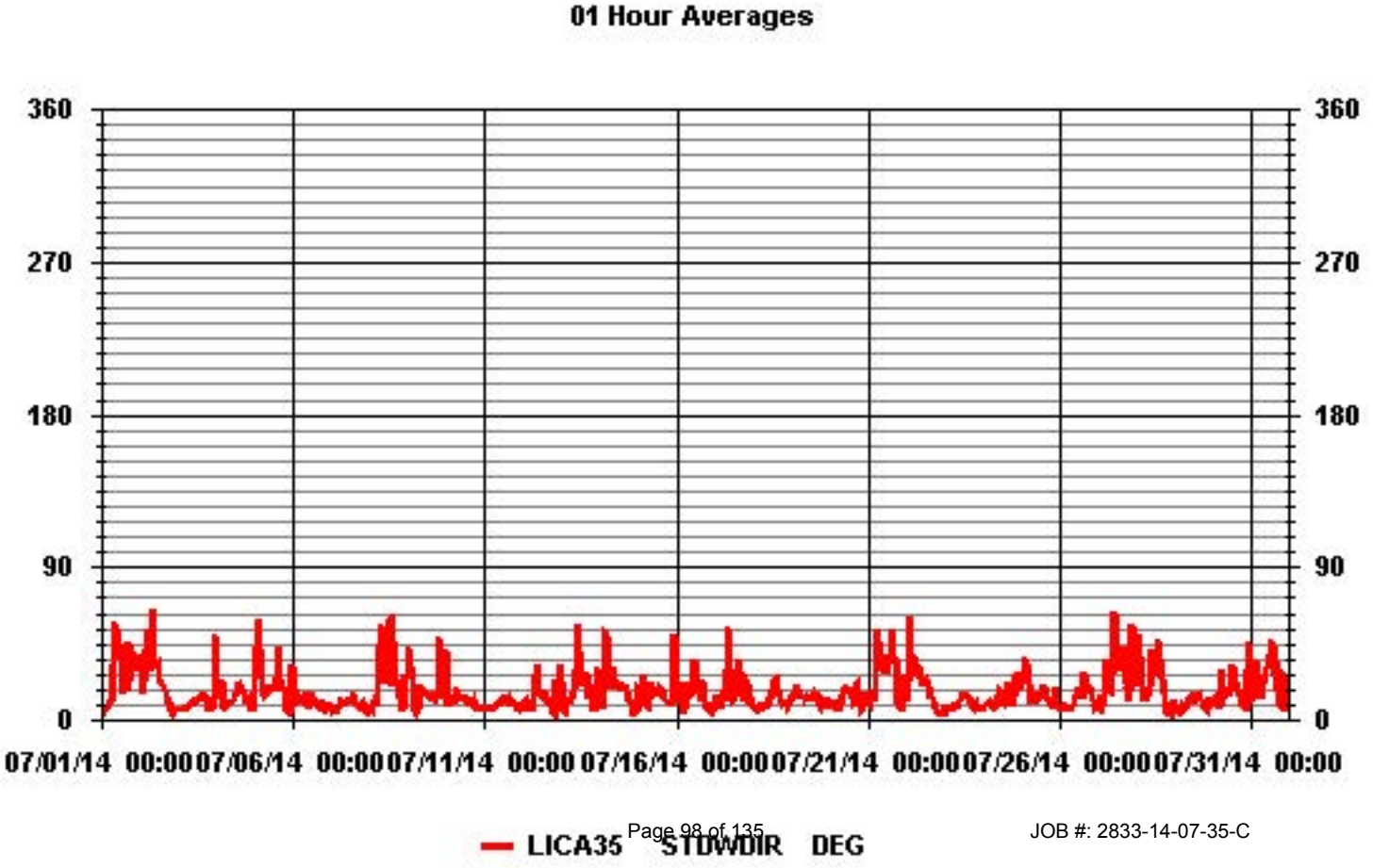
12	9	11	8	9	8	5	11	18	27	33	15	15	14	17	14	11	12	10	6	5	23	14	4	33
13	24	7	6	10	13	10	14	14	18	29	56	42	22	22	20	26	26	15	14	10	5	20	31	14
14	24	15	7	51	50	18	20	21	31	25	18	20	19	20	18	18	19	17	13	10	3	3	5	6
15	19	18	9	27	16	10	9	13	22	20	16	16	19	17	19	18	16	13	11	9	9	10	48	48
16	24	17	9	12	4	7	22	13	14	22	23	35	32	23	17	11	23	15	8	7	7	6	10	5
17	11	15	13	7	11	18	10	29	55	20	30	12	13	14	27	36	20	28	11	24	22	12	11	13
18	9	8	7	9	8	7	8	8	8	9	12	13	18	23	24	18	16	11	9	10	10	7	8	11
19	14	15	13	21	17	16	15	14	12	14	13	14	13	13	16	14	14	9	7	9	13	7	12	12
20	11	10	9	12	6	6	11	9	15	18	20	15	19	14	10	11	21	22	10	7	9	7	16	11
21	10	9	17	13	13	54	47	29	37	39	29	29	39	34	36	53	35	35	11	9	7	7	12	27
22	11	22	61	37	37	25	30	30	24	27	20	23	20	23	21	15	14	11	8	6	4	4	4	4
23	7	7	7	7	7	8	8	8	9	11	14	14	15	14	14	11	11	8	7	9	6	6	7	7
24	8	9	9	11	9	10	9	8	9	14	18	17	13	11	14	20	20	10	8	13	26	17	28	18
25	21	28	37	25	33	22	9	15	13	15	15	13	14	18	21	17	14	13	10	7	10	19	8	7
26	7	7	7	8	8	7	7	8	9	13	14	19	17	15	12	28	20	20	16	19	12	7	8	11
27	8	7	15	8	36	27	19	18	34	34	64	37	31	32	29	38	43	22	19	10	17	56	30	19
28	36	50	39	32	15	11	18	14	19	41	30	27	32	48	25	37	25	17	11	6	5	4	8	12
29	9	4	9	5	6	9	8	9	13	14	11	11	12	14	14	15	12	10	9	7	6	11	10	10
30	13	14	8	11	7	29	13	16	15	15	19	24	32	26	23	19	16	11	10	8	5	29	46	13
31	12	13	35	14	19	26	12	24	21	31	33	38	47	44	30	31	18	8	30	8	6	6	6	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: November 20, 2012

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 744 HRS



JOB #: 2833-14-07-35-C

Calibration Reports

Sulphur Dioxide

API 100A SO2 Analyzer Calibration

Date:	7-Jul-14	**Start/End Time (mst):**	9:29/12:20
Company:	LICA	**Calibration Purpose:**	Monthly Calibration
Station Name/Location:	Elk Point	**Converter Make & Model:**	Internal
Performed by:	Kevin Hope	**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:	4-Jun-14	**As Found C.F.**	1.024
Previous Cal High Point C.F.:	1.001	**New C.F.:**	1.000

	As found:	As left:
SLOPE:	0.962	0.982
OFFSET:	23.9	23.3
HVPS:	755	755
DCPS:	2592	2586
RCELL TEMP:	50.2	50.3
BOX TEMP:	27.6	27.8
PMT TEMP:	7.3	7.2
IZS TEMP:	40.2	40.1
STABIL:	0.0	655.6
PRES:	27.0	27.2
SAMP FL:	653	655
PMT:	66.9	66.6
UV LAMP:	3334	3299
STR. LGT	11.5	11.4
DRK PMT:	39.2	39.3
DRK LMP:	-6.5	-6.6
Internal Span:	258.2	254.1

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	80	5080
mid	5000	40	5040
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	5000	0.0	5000	0	-0.1	NA
adjusted zero	5000	0.0	5000	0	0.3	NA
as found high	4996	79.74	5076	757.2	740.0	1.024
adjusted high	4996	79.74	5076	757.2	758.0	0.999
mid	4996	39.88	5036	381.7	382.0	1.000
low	4996	19.93	5016	191.5	191.6	1.001
calibrator zero	4996	0.00	4996	0	0.7	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	**-2.27%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

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

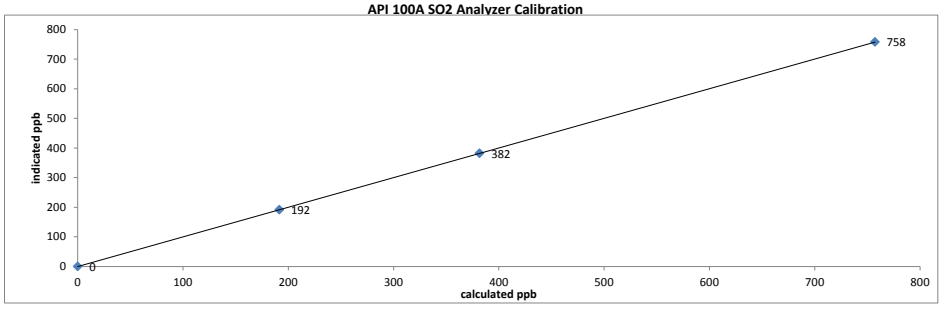
SO_2 High Point gas concentration: NA Time gas run (mst): NA

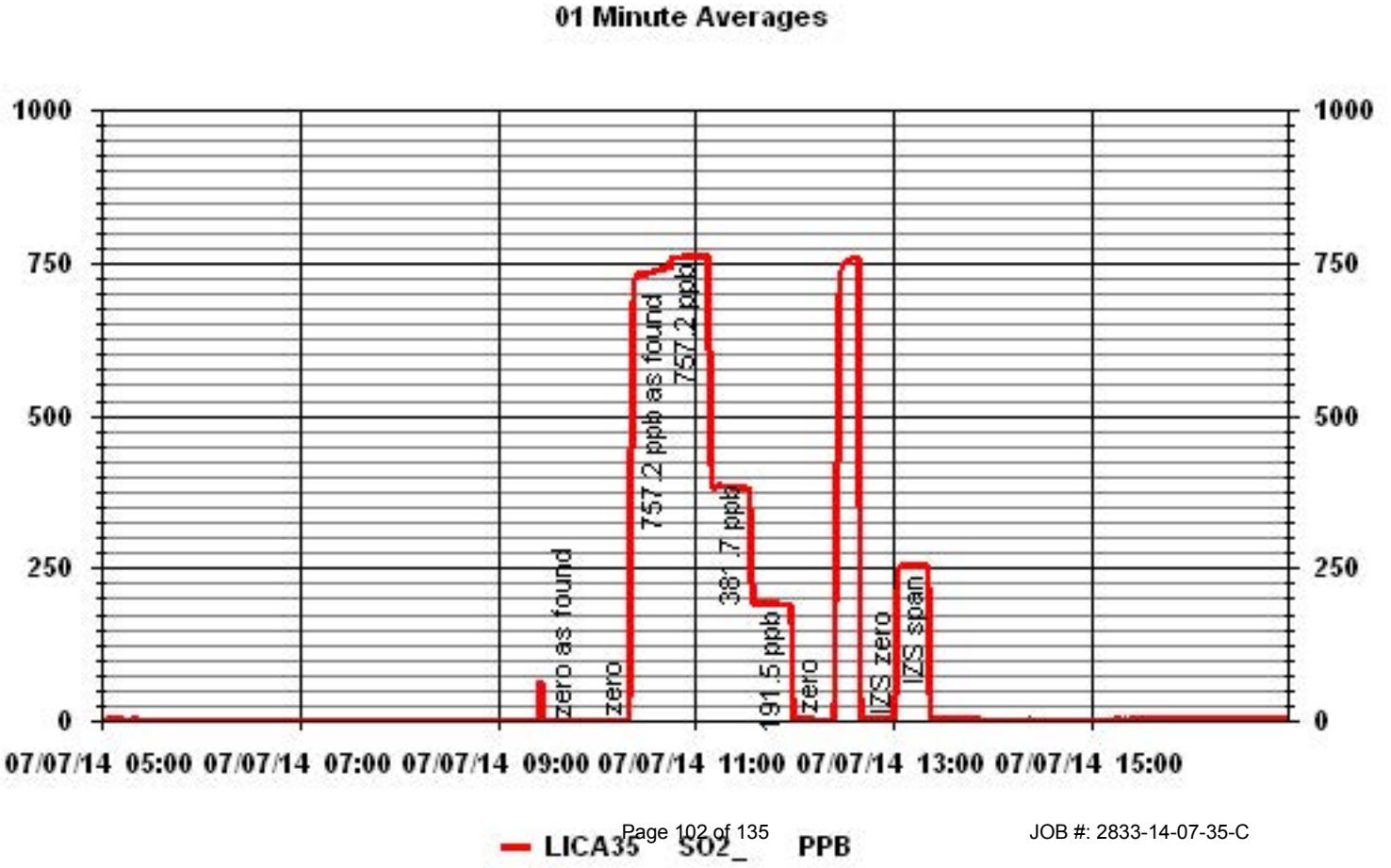
Zero corrrected analyzer response: NA

Comments:

Sample filter changed.

API 100A SO2 Analyzer Calibration





JOB #: 2833-14-07-35-C

API 100A SO2 Analyzer Calibration

Date:	14-Jul-14	**Start/End Time (mst):**	11:04/13:22
Company:	LICA	**Calibration Purpose:**	Shut Down
Station Name/Location:	Elk Point	**Converter Make & Model:**	Internal
Performed by:	Kevin Hope	**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:	7-Jul-14	**As Found C.F.**	1.009
Previous Cal High Point C.F.:	0.999	**New C.F.:**	1.008

	As found:	As left:
SLOPE:	0.982	0.982
OFFSET:	23.3	23.3
HVPS:	755	755
DCPS:	2592	2592
RCELL TEMP:	49.4	49.4
BOX TEMP:	26.2	26.2
PMT TEMP:	7.3	7.3
IZS TEMP:	40.0	40.0
STABIL:	0.0	0.0
PRES:	28.8	28.8
SAMP FL:	401	401
PMT:	66.4	66.4
UV LAMP:	3378	3378
STR. LGT	11.4	11.4
DRK PMT:	38.6	38.6
DRK LMP:	-6.4	-6.4
Internal Span:	254.1	254.1

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	4993	0	4993
high	4912	81	4993
mid	4955	39	4994
low	4976	20	4996

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	4993	0.0	4993	0	-0.1	NA
adjusted zero	na	0.0	######	0		NA
as found high	4912	80.67	4993	778.8	772.0	1.009
adjusted high		na				
mid	4955	39.34	4994	379.7	378.0	1.004
low	4976	19.70	4996	190.1	188.0	1.011
calibrator zero	4994	0.00	4994	0	0.0	NA
					Average C.F.=	1.008

Linear Regression/Calibration Results:

		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**#DIV/0!**	**> or = 0.995**	**#DIV/0!**
Slope =	**#DIV/0!**	**0.85-1.15**	**#DIV/0!**
b (Intercept as % of full scale)=	**#DIV/0!**	**± 3% F.S.**	**#DIV/0!**
% change in C.F. from last cal	**-0.98%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

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

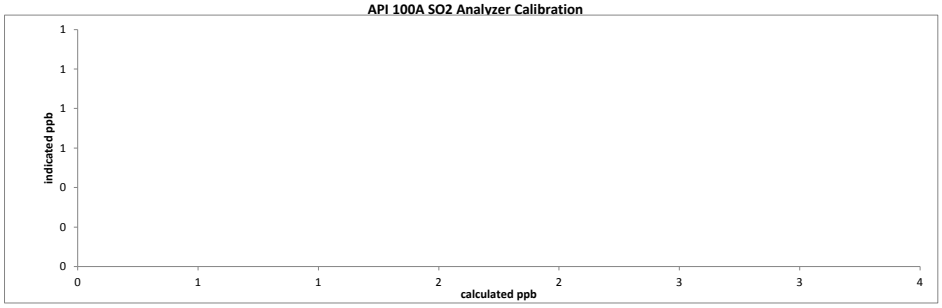
SO_2 High Point gas concentration: NA Time gas run (mst): NA

Zero corrrected analyzer response: NA

Comments:

Shut down calibration before maintenance. Sample flow low and and found low pump vacuum pressure so will switch to internal pump.

API 100A SO2 Analyzer Calibration



API 100A SO2 Analyzer Calibration

Date:	14-Jul-14	**Start/End Time (mst):**	13:34/16:25
Company:	LICA	**Calibration Purpose:**	Post Repair
Station Name/Location:	Elk Point	**Converter Make & Model:**	Internal
Performed by:	Kevin Hope	**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:	7-Jul-14	**As Found C.F.**	NA
Previous Cal High Point C.F.:	0.999	**New C.F.:**	1.000

	As found:	**As left:**
SLOPE:	0.982	0.977
OFFSET:	23.3	23.9
HVPS:	755	755
DCPS:	2592	2592
RCELL TEMP:	49.4	49.4
BOX TEMP:	26.2	26.2
PMT TEMP:	7.3	7.3
IZS TEMP:	40.0	40.0
STABIL:	0.0	0.0
PRES:	28.8	28.8
SAMP FL:	672	672
PMT:	66.4	66.4
UV LAMP:	3378	3378
STR. LGT	11.4	11.4
DRK PMT:	38.6	38.6
DRK LMP:	-6.4	-6.4
Internal Span:	254.1	254.1

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	4993	0	4993
high	4915	81	4996
mid	4955	39	4994
low	4974	20	4994

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	4993	0.0	4993	0	0.0	NA
as found high		NA				
adjusted high	4915	80.69	4996	778.5	778.5	1.000
mid	4955	39.34	4994	379.7	379.0	1.002
low	4974	19.67	4994	189.9	190.0	0.999
calibrator zero	4994	0.00	4994	0	0.0	NA
					Average C.F.=	1.000

Linear Regression/Calibration Results:

		LIMITS	**Pass/Fail ?**
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**1.000**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**0.01%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**#VALUE!**	**± 15%**	**######**

Converter Effeciency Check for H_2S/TRS application:

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

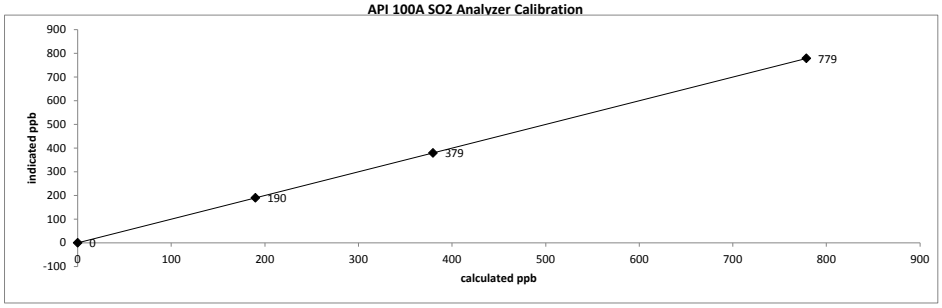
SO_2 High Point gas concentration: NA Time gas run (mst): NA

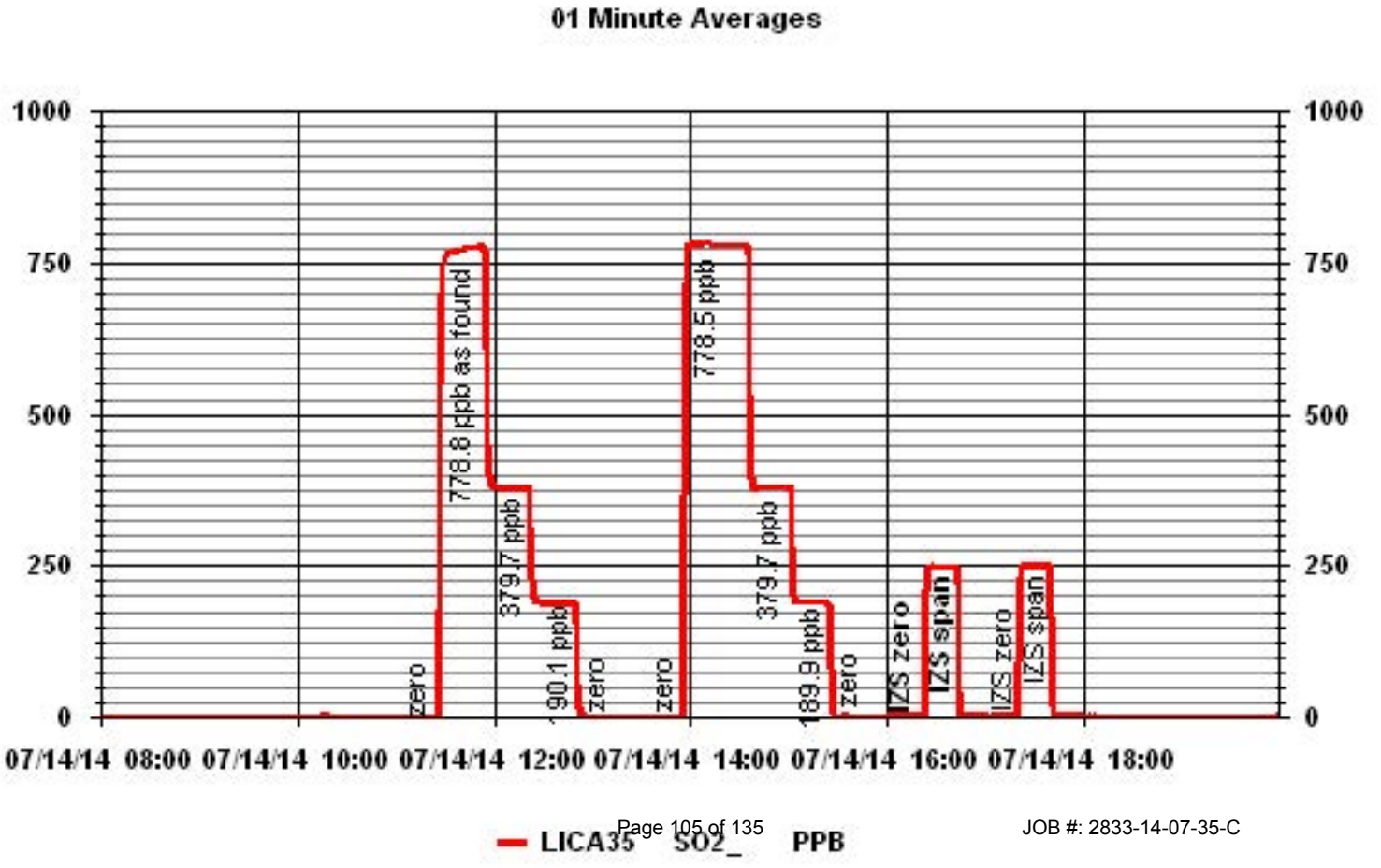
Zero corrrected analyzer response: NA

Comments:

Post repair calibration after switching to internal pump.

API 100A SO2 Analyzer Calibration





JOB #: 2833-14-07-35-C

Hydrogen Sulphide

API 101E H2S Analyzer Calibration

Date:	7-Jul-14	**Start/End Time (mst):**	9:29/12:14
Company:	LICA	**Calibration Purpose:**	Monthly Calibration
Station Name/Location:	Elk Point	**Converter Make & Model:**	Internal
Performed by:	Kevin Hope	**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:	3-Jun-14	**As Found C.F.**	0.943
Previous Cal High Point C.F.:	0.995	**New C.F.:**	1.011

	As found:	**As left:**
SLOPE:	1.294	1.217
OFFSET:	95.0	95.8
HVPS:	536	536
RCELL TEMP:	50.0	50.0
BOX TEMP:	29.0	30.6
PMT TEMP:	8.0	8.0
IZS TEMP:	45.0	45.0
TEST:	NA	314.1
STABIL:	0.2	0.0
PRES:	27.8	27.8
SAMP FL:	575	574
PMT:	99.8	100.8
NORM PMT:	96.7	96.8
UV LAMP:	3621.5	3616
LAMP RATIO:	102.3	102.2
STR. LGT	61.4	58.3
DRK PMT:	10.3	10.2
DRK LMP:	0.6	0.7
Internal Span:	61.59	57.27

Calibrator:

Flow Meter ID's:	NA
Make & Model:	API 700
Serial #:	830
Cal Gas Cylinder I.D. # :	BLM005049
Cal Gas Conc. (ppm):	10.1

Calibrator Flow Targets:

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

Calibration:

Calibrator Flow Rates (cc/min)				**Calculated Concentration:**	**Indicated Concentration:**	**Correction Factors:**
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	5000	0.0	5000	0	0.5	NA
adjusted zero	5000	0.0	5000	0	0.1	NA
as found high	5000	39.00	5039	78.2	83.0	0.943
adjusted high	5000	39.00	5039	78.2	78.6	0.996
mid	5000	19.00	5019	38.2	37.9	1.012
low	5000	11.00	5011	22.2	21.7	1.026
calibrator zero	5000	0.00	5000	0	0.2	NA
					Average C.F.=	1.011

Linear Regression/Calibration Results:

		LIMITS	**Pass/Fail ?**
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**0.994**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**0.28%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**5.24%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

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

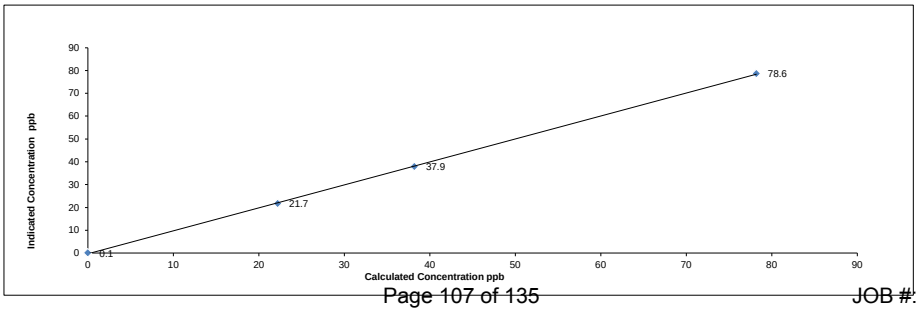
SO_2 High Point gas concentration: NA Time gas run (mst): NA

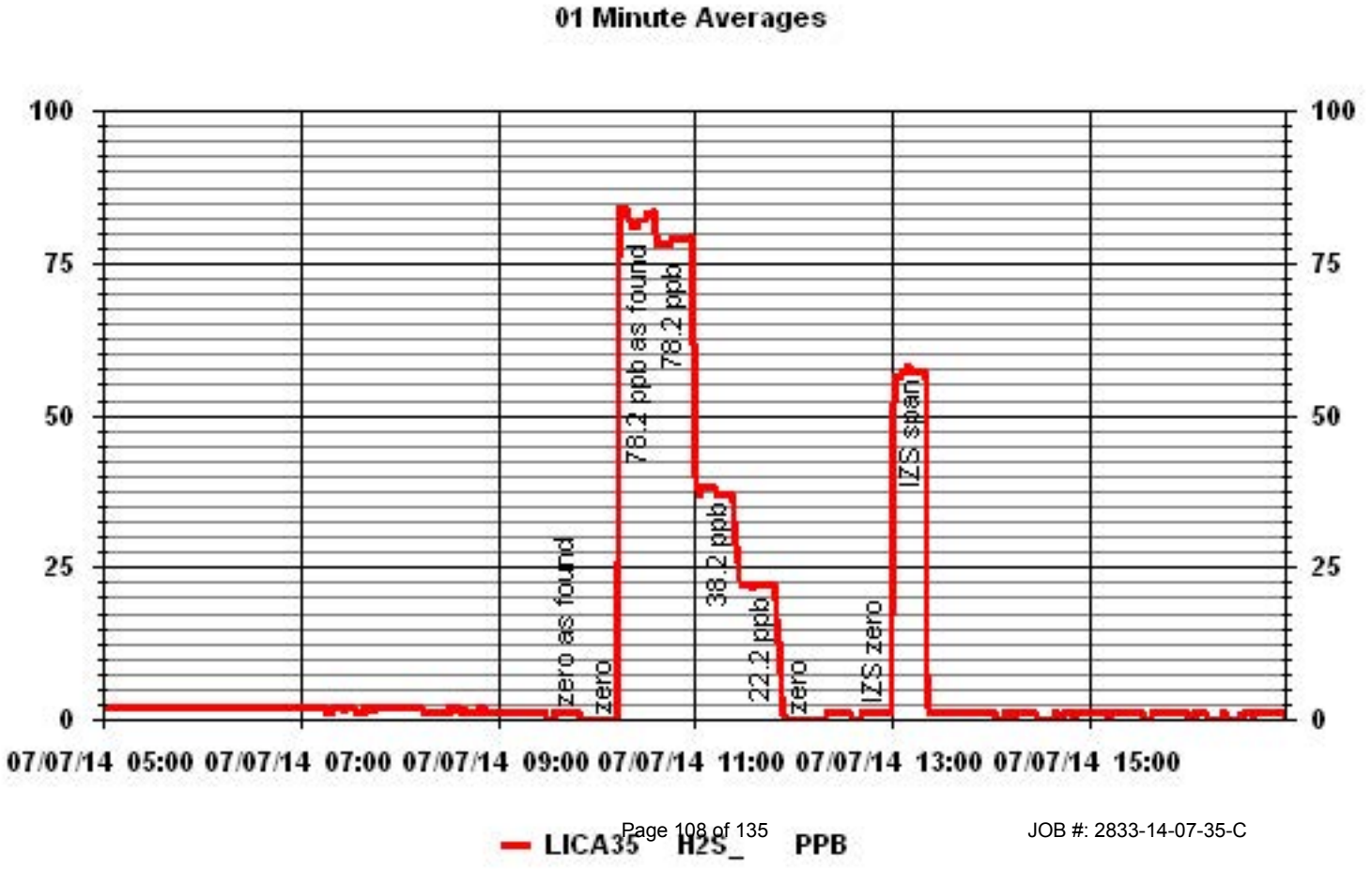
Zero corrrected analyzer response: NA

Comments:

Sample filter changed.

API 101E H2S Analyzer Calibration





JOB #: 2833-14-07-35-C

API 101E H2S Analyzer Calibration

Date:	17-Jul-14	**Start/End Time (mst):**	9:01
Company:	LICA	**Calibration Purpose:**	Monthly Re-Cal
Station Name/Location:	Elk Point	**Converter Make & Model:**	Internal
Performed by:	Kevin Hope	**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:	7-Jul-14	**As Found C.F.**	0.970
Previous Cal High Point C.F.:	0.995	**New C.F.:**	1.010

	As found:	As left:
SLOPE:	1.217	1.183
OFFSET:	95.8	97.6
HVPS:	536	536
RCELL TEMP:	50.0	50.0
BOX TEMP:	29.1	30.1
PMT TEMP:	8.0	8.0
IZS TEMP:	45.0	45.0
TEST:	NA	NA
STABIL:	0.1	0.2
PRES:	27.5	27.1
SAMP FL:	571	565
PMT:	103.2	104.8
NORM PMT:	99.1	99.5
UV LAMP:	3602	3606
LAMP RATIO:	101.8	101.8
STR. LGT	58.3	57.7
DRK PMT:	10.2	10.2
DRK LMP:	0.7	0.5
Internal Span:	57.27	57.27

Calibrator:

Flow Meter ID's:	NA
Make & Model:	API 700
Serial #:	830
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	4960	39	4999
mid	4980	19	4999
low	4990	11	5001

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	5000	0.0	5000	0	0.8	NA
adjusted zero	5000	0.0	5000	0	0.1	NA
as found high	4960	38.60	4999	78.0	80.5	0.970
adjusted high	4960	38.60	4999	78.0	78.2	0.999
mid	4980	18.80	4999	38.0	37.6	1.013
low	4990	10.90	5001	22.0	21.7	1.019
calibrator zero	5000	0.00	5000	0	0.3	NA
					Average C.F.=	1.010

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)=	**0.18%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**2.50%**	**± 15%**	**PASS**

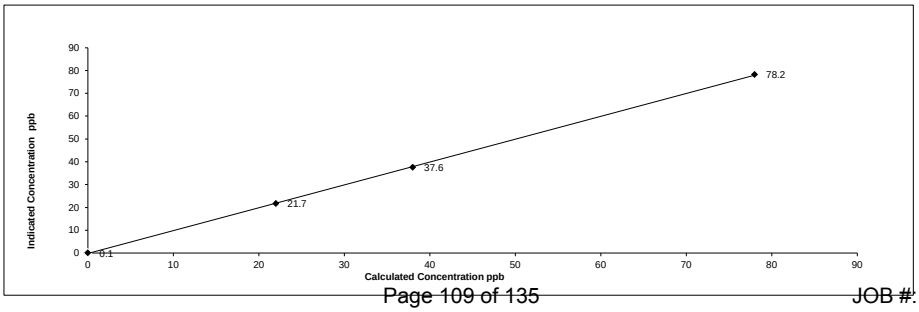
Converter Effeciency Check for H_2S/TRS application:

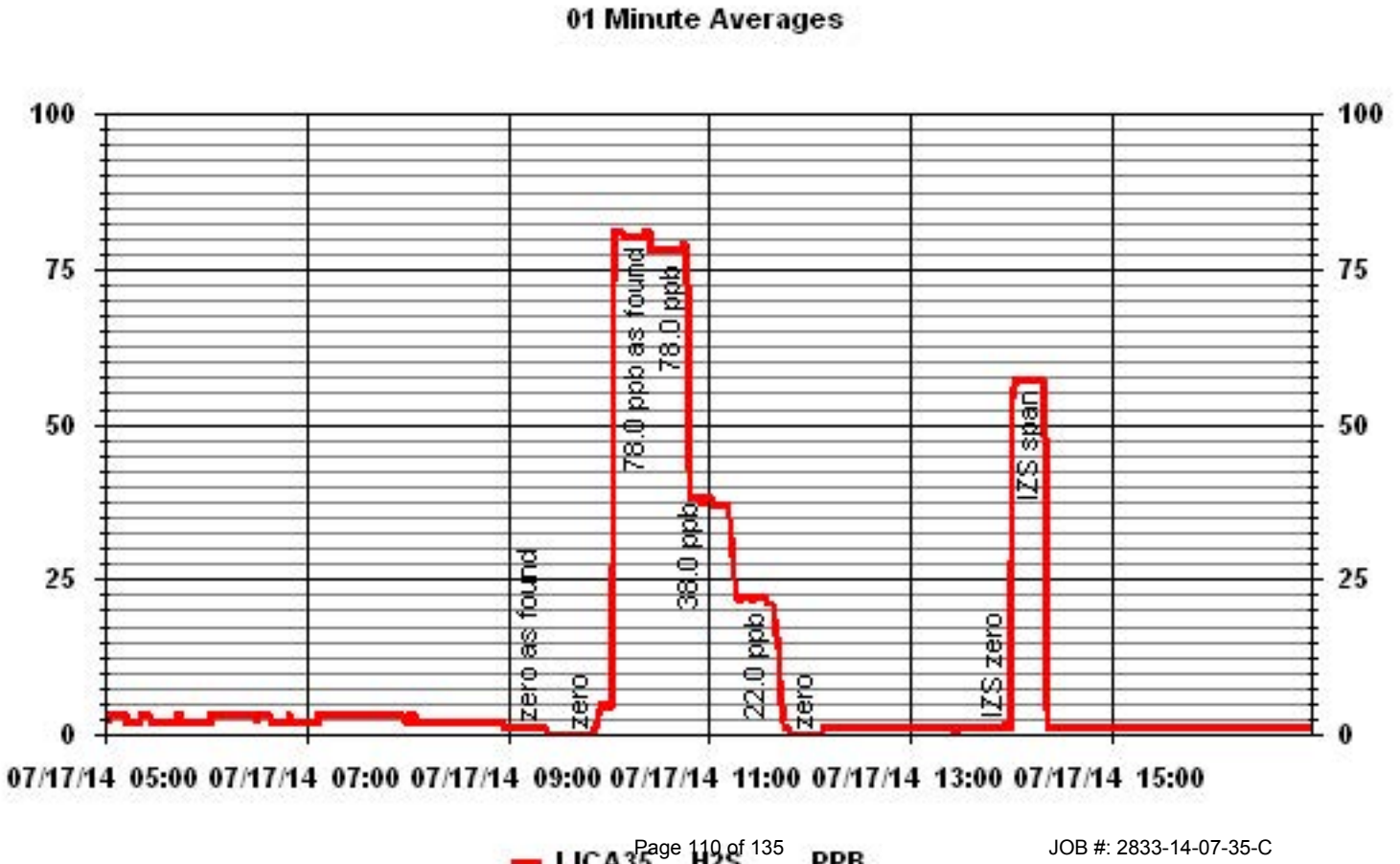
****run converter effeciency test immediately following zero adjust****

SO_2 High Point gas concentration:	200 PPB	Time gas run (mst):	9:50-9:58
Zero corrrected analyzer response:	4.8		

Comments:

API 101E H2S Analyzer Calibration





JOB #: 2833-14-07-35-C

API 101E H2S Analyzer Calibration

Date:	19-Jul-14	**Start/End Time (mst):**	
Company:	LICA	**Calibration Purpose:**	As found
Station Name/Location:	Elk Point	**Converter Make & Model:**	Internal
Performed by:	Kevin Hope	**Converter Serial #:**	NA
Application H_2S/TRS/SO_2:	H2S	**Cal Gas Expiry Date:**	25-Dec-14

Analyzer:

Serial Number:	509	**Range ppb:**	100
Last Calibration Date:	17-Jul-14	**As Found C.F.**	0.999
Previous Cal High Point C.F.:	0.999	**New C.F.:**	NA

	As found:	As left:
SLOPE:	1.183	1.183
OFFSET:	97.6	97.6
HVPS:	536	536
RCELL TEMP:	50.0	50.0
BOX TEMP:	36.0	36.0
PMT TEMP:	8.0	8.0
IZS TEMP:	45.0	45.0
TEST:	NA	NA
STABIL:	41.2	41.2
PRES:	26.6	26.6
SAMP FL:	557	557
PMT:	214	214
NORM PMT:	219.2	219.2
UV LAMP:	3588	3588
LAMP RATIO:	101.3	101.3
STR. LGT	57.7	57.7
DRK PMT:	15.4	15.4
DRK LMP:	1.7	1.7
Internal Span:	56.94	56.94

Calibrator:

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

Calibrator Flow Targets:

point	diluent (cc/min)	cal gas (cc/min)	total (cc/min)
zero	5000	0	5000
high	5000	350	5350
mid	5000	175	5175
low	5000	90	5090

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	1.4	NA
adjusted zero		NA				NA
as found high	4960	38.60	4999	78.0	78.0	1.000
adjusted high						
mid						
low						
calibrator zero						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	**0.00%**	**± 15%**	**PASS**

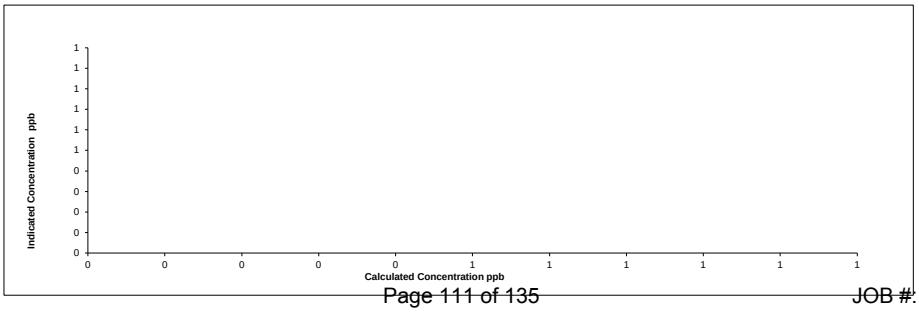
Converter Effeciency Check for H_2S/TRS application:

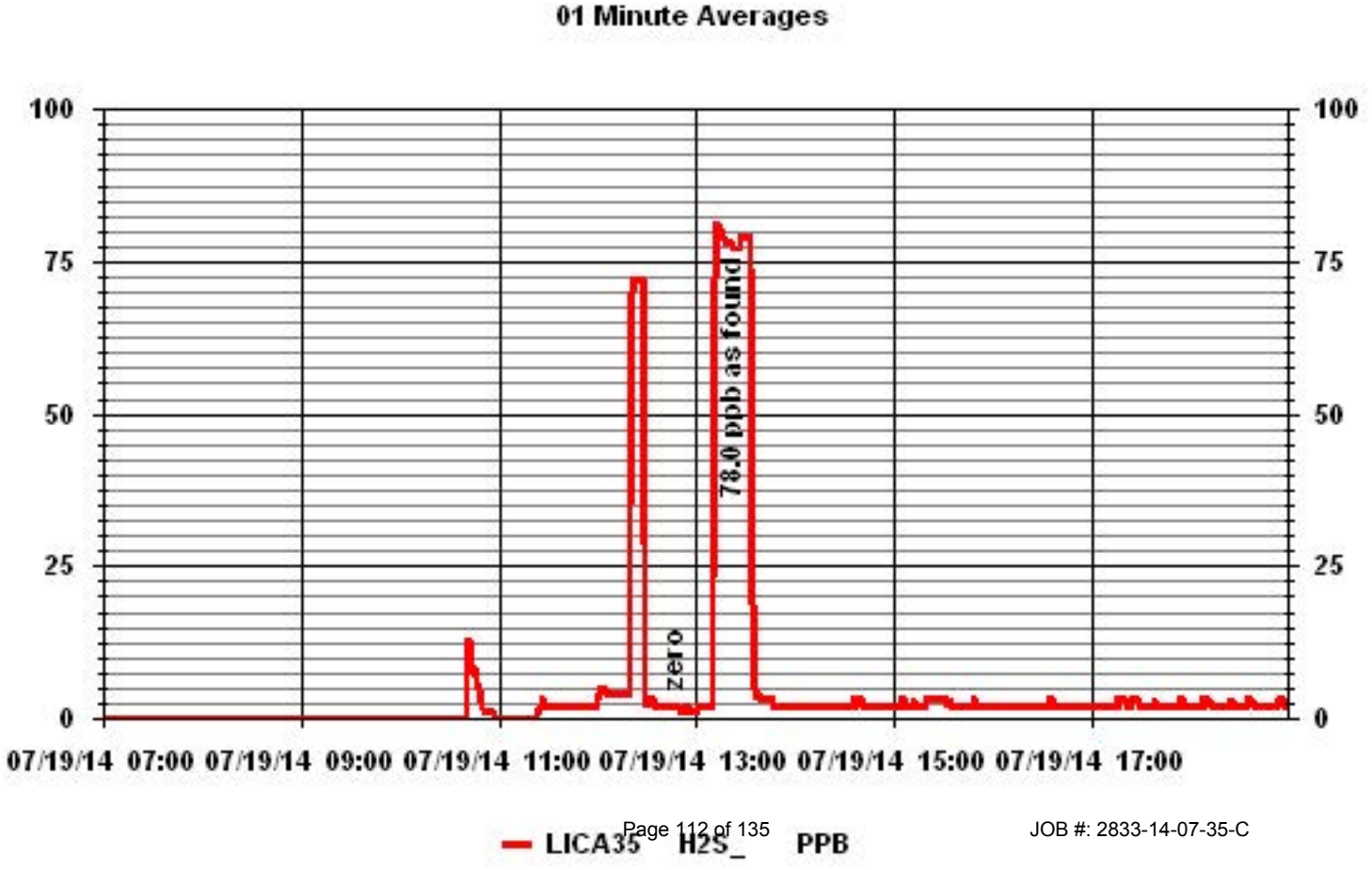
****run converter effeciency test immediately following zero adjust****

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

Comments:

API 101E H2S Analyzer Calibration





JOB #: 2833-14-07-35-C

API 101E H2S Analyzer Calibration

Date:	26-Jul-14	**Start/End Time (mst):**	13:11/14:00
Company:	LICA	**Calibration Purpose:**	As Founds
Station Name/Location:	Elk Point	**Converter Make & Model:**	Internal
Performed by:	Kevin Hope	**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:	17-Jul-14	**As Found C.F.**	0.975
Previous Cal High Point C.F.:	0.999	**New C.F.:**	NA

	As found:	As left:
SLOPE:	1.183	1.183
OFFSET:	97.6	97.6
HVPS:	536	536
RCELL TEMP:	50.0	50.0
BOX TEMP:	35.8	38.7
PMT TEMP:	8.0	8.0
IZS TEMP:	45.0	45.0
TEST:	NA	NA
STABIL:	0.1	32.0
PRES:	27.7	27.7
SAMP FL:	564	561
PMT:	102.7	108.8
NORM PMT:	99.4	100.6
UV LAMP:	3559	3547
LAMP RATIO:	100.5	100.2
STR. LGT	57.7	57.7
DRK PMT:	11.3	11.5
DRK LMP:	0.7	0.7
Internal Span:	56.94	56.94

Calibrator:

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

Calibrator Flow Targets:

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

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	5000	0.0	5000	0	0.6	NA
adjusted zero	NA	0.0		0		NA
as found high	4959	38.60	4998	78.0	80.0	0.975
adjusted high	NA	NA	######	#VALUE!		#VALUE!
mid						
low						
calibrator zero						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	**2.39%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

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

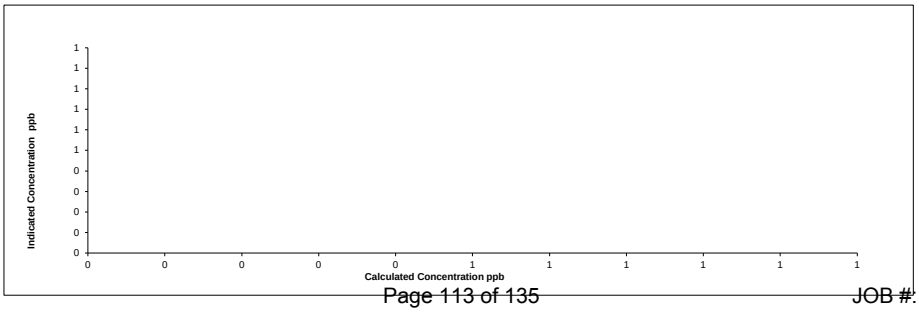
SO_2 High Point gas concentration: NA Time gas run (mst): NA

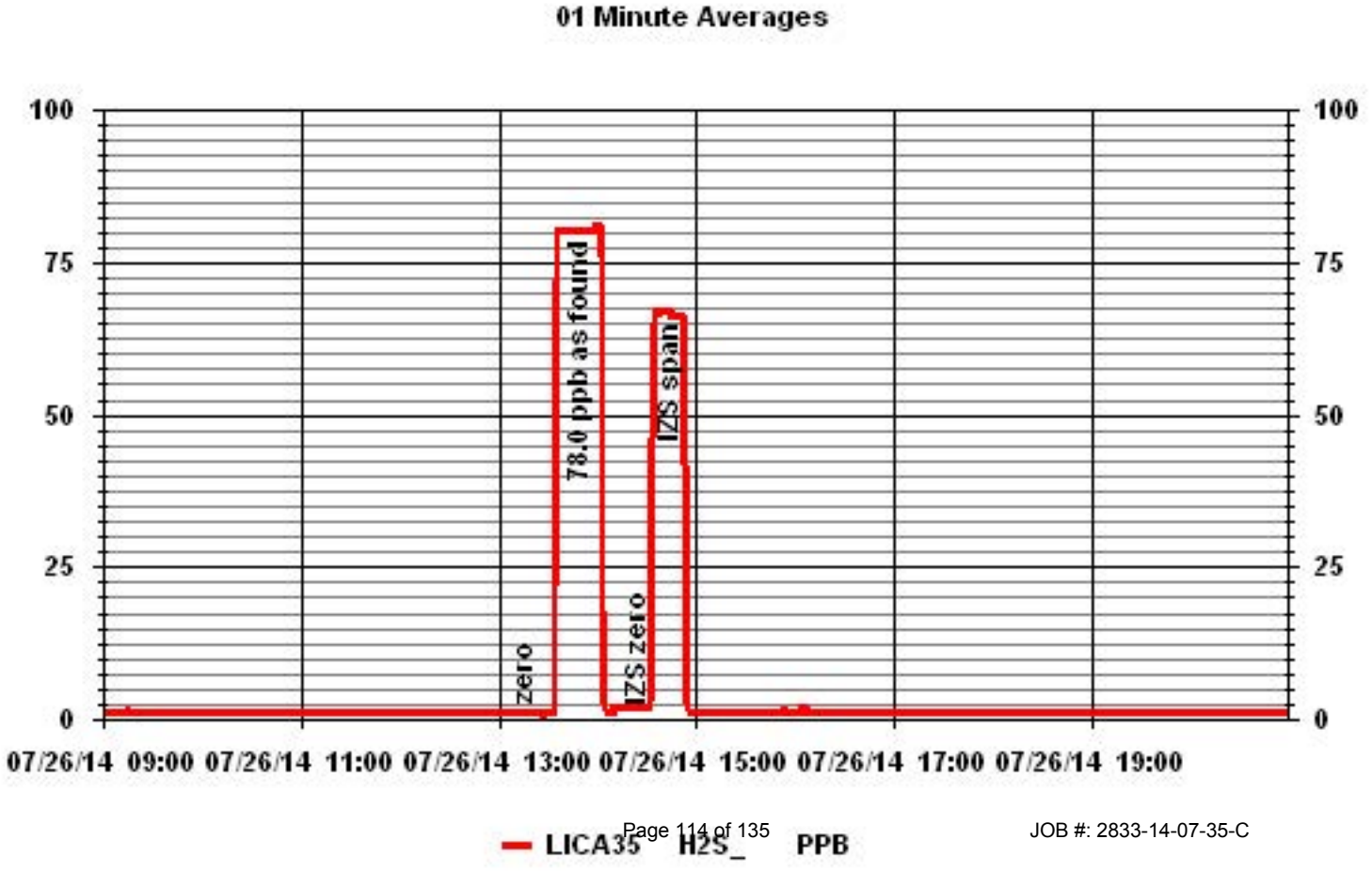
Zero corrrected analyzer response: NA

Comments:

As founds due to high span over last two days.

API 101E H2S Analyzer Calibration





JOB #: 2833-14-07-35-C

API 101E H2S Analyzer Calibration

Date:	30-Jul-14	**Start/End Time (mst):**	13:23/14:06
Company:	LICA	**Calibration Purpose:**	As Founds
Station Name/Location:	Elk Point	**Converter Make & Model:**	Internal
Performed by:	Kevin Hope	**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:	26-Jul-14	**As Found C.F.**	1.000
Previous Cal High Point C.F.:	0.975	**New C.F.:**	NA

	As found:	As left:
SLOPE:	1.183	1.183
OFFSET:	97.6	97.6
HVPS:	536	536
RCELL TEMP:	50.0	50.0
BOX TEMP:	37.0	37.0
PMT TEMP:	8.0	8.0
IZS TEMP:	45.0	45.0
TEST:	314.8	314.8
STABIL:	0.0	0.0
PRES:	27.7	27.7
SAMP FL:	564	564
PMT:	102.4	102.4
NORM PMT:	100.5	100.5
UV LAMP:	3538	3538
LAMP RATIO:	99.9	99.9
STR. LGT	57.7	57.7
DRK PMT:	11.5	11.5
DRK LMP:	0.8	0.8
Internal Span:	56.94	56.94

Calibrator:

Flow Meter ID's:	NA
Make & Model:	API 700
Serial #:	830
Cal Gas Cylinder I.D. # :	BLM005049
Cal Gas Conc. (ppm):	10.1

Calibrator Flow Targets:

point	diluent (cc/min)	cal gas (cc/min)	total (cc/min)
zero	5000	0	5000
high	4959	39	4998
mid			
low			

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	5000	0.0	5000	0	1.1	NA
adjusted zero		NA				NA
as found high	4959	38.60	4998	78.0	78.0	1.000
adjusted high						
mid						
low						
calibrator zero						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	**-2.56%**	**± 15%**	**PASS**

Converter Effeciency Check for H_2S/TRS application:

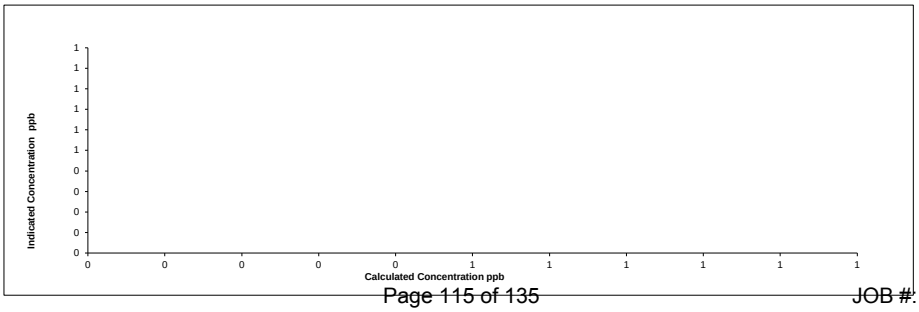
****run converter effeciency test immediately following zero adjust****

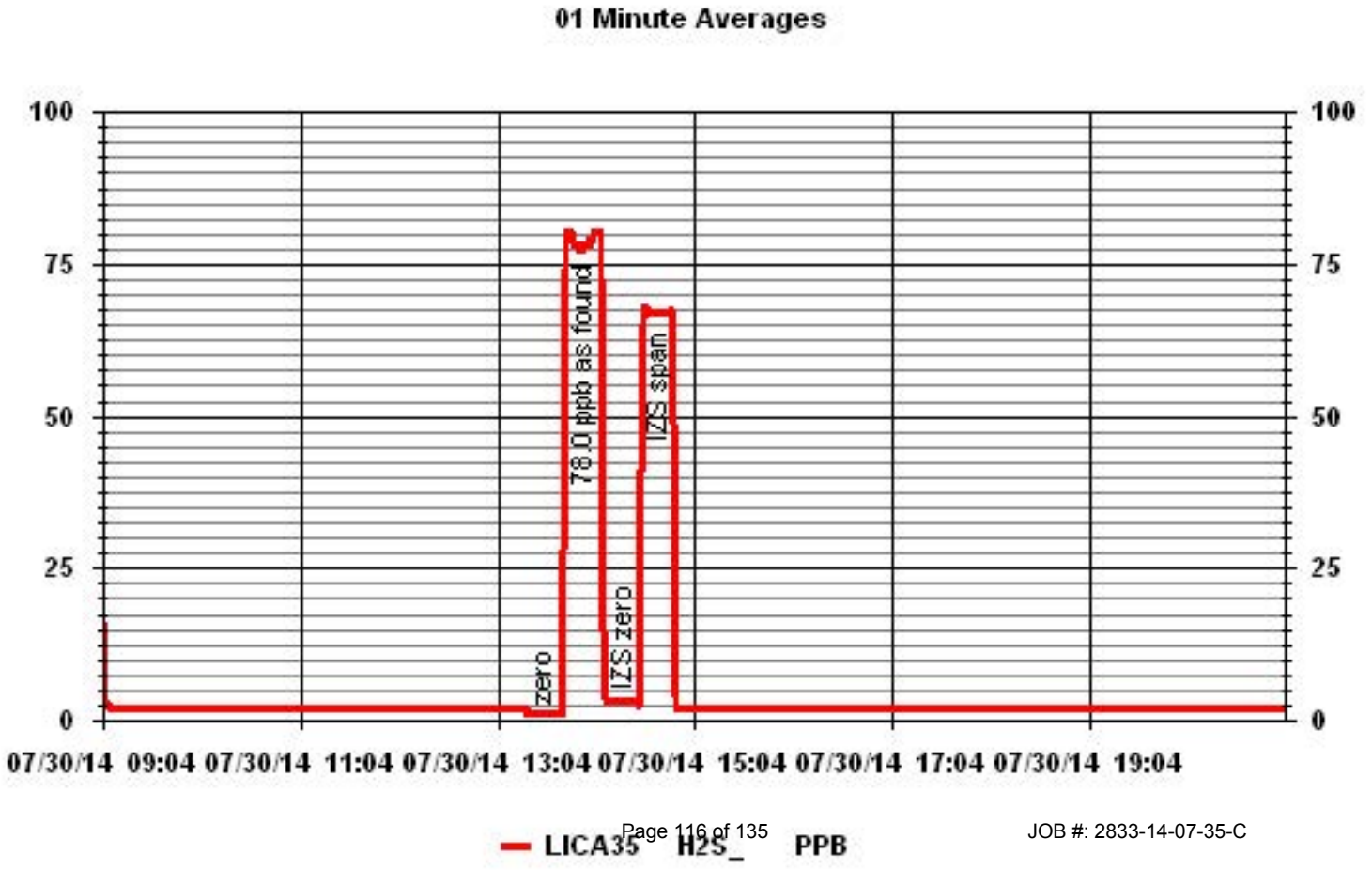
SO_2 High Point gas concentration: _____ Time gas run (mst): _____

Zero corrrected analyzer response: _____

Comments:

API 101E H2S Analyzer Calibration





JOB #: 2833-14-07-35-C

Total Hydrocarbons (55i)

Thermo 55C Methane/Non-Methane Analyzer Calibration

Date:	7-Jul-14	**Start Time (mst):**	14:32
Company:	LICA	**End Time (mst):**	16:31
Station Name:	Elk Point	**Calibration Purpose:**	Monthly Calibration
Performed by:	Kevin Hope	**Cal Gas Expiry Date:**	26-Mar-17

Analyzer & Diagnostics:

		As found C.F.		Previous Cal High Point C.F.		Analyzer Range	
Serial Number:	1236656107	CH_4=	1.007	CH_4=	1.017	CH_4=	20
Last Calibration Date:	5-Jun-14	NMHC=	0.998	NMHC=	1.000	NMHC=	20
		THC=	0.998	THC=	1.008	THC=	40

Mother Board Voltages:	3.3:	3.3	Calibration History cnt'd>1:	CH_4 SP Ratio:	0.000723
	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:	9866
	-3.3:	-3.2		NM Span Conc:	6.59
Interface Board Voltages:	3.3:	3.3		NM SP Ratio:	0.000161
	5.0:	5.0		NM Peak Area:	40874
	15.0:	15.0	Run History>1:	Date:	07JUL2014
	24.0:	23.5		Time:	14:28
	-15.0:	-15.1		CH_4 PK HT:	2638
	Bias Supply:	-293.5		CH_4 RT:	12.2
Temperatures:	Detector Oven:	175.0		CH_4 Baseline:	2196
	Filter:	175.0		CH_4 LOD:	58
	Column Oven:	74.9		CH_4 SD:	19
	Flame:	381.1		CH_4 CONC:	1.90
	Internal:	39.5		NM PK HT:	0
Pressures cylinder/reg.:	Carrier:	600 / 50		NM Peak Area:	0
	Fuel:	1000 / 49		NM CONC:	0.00
	Air:	2000 / 36		NM Base Start:	2275
FID Status:	Status:	LIT		NM Base End:	2304
	Counts:	27159		NM LOD:	9
	Flame:	378.2		NM Start IDX:	11
	Det Base:	175.1		NM End IDX:	60
Flame and Power Stats:	Last Power On:	30APR2014		NM Max Slope:	1.3e+00
	Flameouts:	17		NM Min Slope:	-1.0e+00
	Det Oven at Start:	169.0		NM PT Count:	0
	Col Oven at Start:	74.6	Daily Zero/Span Values:	Previous CH4:	8.29
Calibration History>1:	Time:	05JUN2014 17:56		Previous NMHC	14.56
	Type:	Span		Previous THC:	22.89
	Status:	Good		New CH4:	8.29
	Check/Adjust:	Adjust		New NMHC	14.56
	CH_4 Span Conc:	7.13		New THC:	22.89

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	NA	0.00	#VALUE!	0.00	0.00	0.00				NA	NA	NA
20 min as found high point	3000	36.00	3036	7.13	6.59	13.72	7.08	6.60	13.74	1.007	0.998	0.998
20 min adjusted high	3000	36.00	3036	7.13	6.59	13.72	7.08	6.60	13.74	1.007	0.998	0.998
20 min mid	3000	18.00	3018	3.59	3.31	6.90	3.53	3.33	6.86	1.016	0.995	1.006
20 min low	3000	10.00	3010	2.00	1.85	3.84	2.00	1.90	3.90	0.999	0.971	0.986
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.=	1.007	0.988	0.997

Linear Regression/Calibration Results:

	CH_4	NMHC	THC	LIMITS
Correlation Coeffecient =	**1.000**	**1.000**	**1.000**	**> or = 0.995**
Slope =	**0.992**	**1.000**	**1.000**	**0.85-1.15**
b (Intercept as % of full scale)=	**-0.01%**	**0.11%**	**0.03%**	**± 3% F.S.**
% change in C.F. from last cal=	**0.97%**	**-0.20%**	**-0.96%**	**+/-15%**

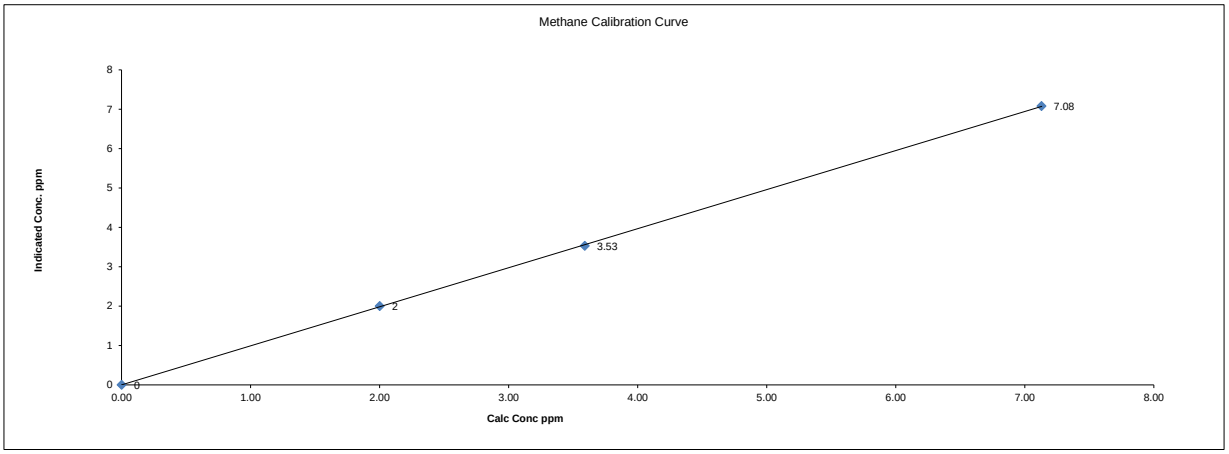
Comments:

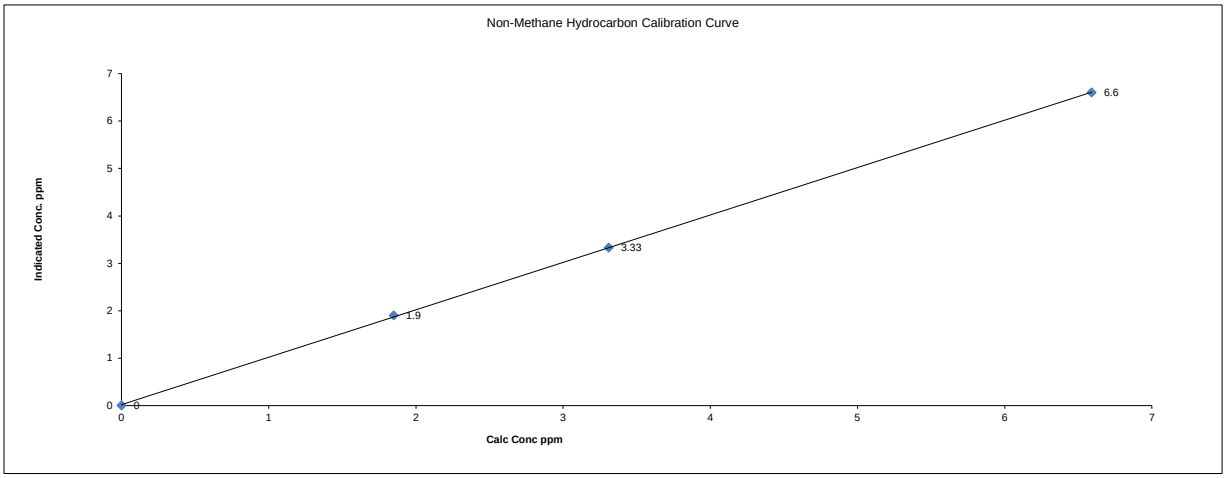
Sample filter changed. No zero or high adjustments made as indicated values were weighted to calculated values.

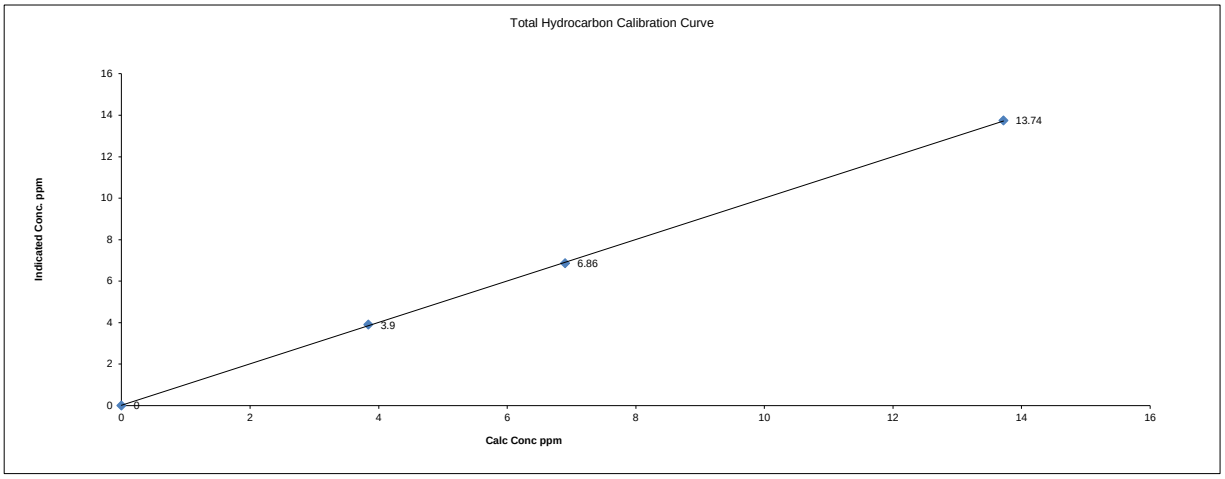
JOB #: 2833-14-07-35-C

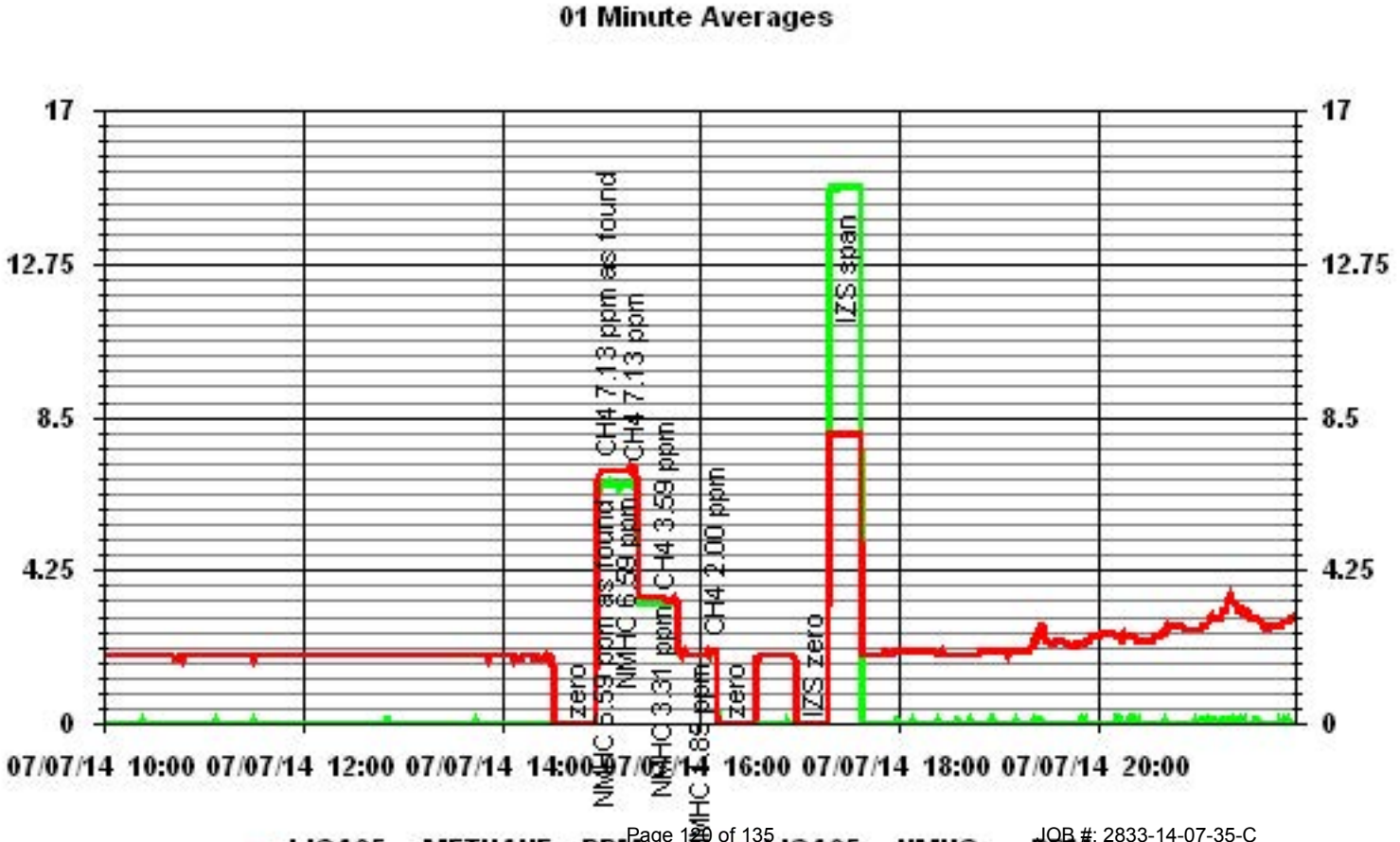
Date:	7-Jul-14	**Start Time (mst):**	14:32
Company:	LICA	**End Time (mst):**	16:31
Station Name:	Elk Point	**Calibration Purpose:**	Monthly Calibration
Performed by:	Kevin Hope	**Cal Gas Expiry Date:**	26-Mar-17

Thermo 55C Methane/Non-Methane Analyzer Calibration








01 Minute Averages
17
12.75
8.5
4.25
0
07/07/14 10:00
07/07/14 12:00
07/07/14 14:00
07/07/14 16:00
07/07/14 18:00
07/07/14 20:00
zero
NMHC 0.59 ppm as found
CH4 7.13 ppm as found
NMHC 6.58 ppm
CH4 7.13 ppm
NMHC 3.31 ppm
CH4 3.59 ppm
NMHC 1.85 ppm
CH4 2.00 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:	14-Jul-14	**Parameter:**	PM2.5
Company:	LICA	**Performed by:**	Kevin Hope
Station Name/Location:	Elk Point	**Start/End Time (mst):**	15:11
Previous Audit Date:	27-Jun-14	**Calibration Purpose:**	Monthly Calibration

1400A Information and Status:

Serial Number:	1405A208301003	**As Found Filter Loading %:**	26.30
Ko Factor:	NA	**As Left Filter Loading %:**	22.87
Ambient Temperature °C:	24.3	**As Found Noise:**	0.007
Ambient Pressure atm:	0.940	**As Left Noise:**	0.000
Main Flow Reading lpm:	2.99	**Pump Vacuum:**	0.38
Aux Flow Reading lpm:	13.73	**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:	unknown	11-Apr-14	11-Apr-14

As found leak check:

		Base	**Zero**	**Reference**	**Zero**
PM 2.5 Flow	actual	-0.01	0.18	0.00	0.17
	limit	0.15		0.15	
Bypass Flow	actual	0.00	0.01	0.00	0.01
	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	0.18	0.00	0.17
	limit	0.15		0.15	
Bypass Flow	actual	0.00	0.01	0.00	0.01
	limit	0.60		0.60	

As found temperature and pressure:

	tolerance +/- 2.0°C		**tolerance +/- 0.01 atm**
1405F temperature °C:	23.9	**1405F pressure atm:**	0.942
reference temperature °C:	24.3	**reference pressure:**	0.940
difference °C:	0.4	**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:	23.9	**1405F pressure atm:**	0.942
reference temperature °C:	24.3	**reference pressure:**	0.940
difference °C:	0.4	**difference :**	-0.002

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:	2.99	**1400A total/aux flow lpm:**	13.73
reference main flow lpm:	3.00	**reference total/aux flow lpm:**	14.00
difference lpm:	0.01	**difference lpm:**	0.27

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:	2.99	**1400A total/aux flow lpm:**	13.37
reference main flow lpm:	3.00	**reference total/aux flow lpm:**	14.00
difference lpm:	0.01	**difference lpm:**	0.63

K_o Audit:

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

Comments:

JOB #: 2833-14-07-35-C

Leak check, flow audit, inlet cleaned

R & P 1405F TEOM PM 2.5 Analyzer Calibration

Date:	26-Jul-14	**Parameter:**	PM 2.5
Company:	LICA	**Performed by:**	Kevin Hope
Station Name/Location:	Elk Point	**Start/End Time (mst):**	14:11/14:36
Previous Audit Date:	14-Jul-14	**Calibration Purpose:**	Monthly Calibration

1400A Information and Status:

Serial Number:	1405A208301003	**As Found Filter Loading %:**	25.53
Ko Factor:	NA	**As Left Filter Loading %:**	18.58
Ambient Temperature °C:	20.0	**As Found Noise:**	0.014
Ambient Pressure atm:	0.938	**As Left Noise:**	0.000
Main Flow Reading lpm:	3.03	**Pump Vacuum:**	0.24
Aux Flow Reading lpm:	16.65	**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:	unknown	11-Apr-14	11-Apr-14

As found leak check:

		Base	**Zero**	**Reference**	**Zero**
PM 2.5 Flow	actual	0.01	0.16	0.02	0.16
	limit	0.15		0.15	
Bypass Flow	actual	0.10	13.87	-0.02	13.86
	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	0.16	0.02	0.16
	limit	0.15		0.15	
Bypass Flow	actual	0.10	13.87	-0.02	13.86
	limit	0.60		0.60	

As found temperature and pressure:

	tolerance +/- 2.0°C		**tolerance +/- 0.01 atm**
1405F temperature °C:	21.2	**1405F pressure atm:**	0.940
reference temperature °C:	21.0	**reference pressure:**	0.938
difference °C:	-0.2	**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:	21.2	**1405F pressure atm:**	0.940
reference temperature °C:	21.0	**reference pressure:**	0.938
difference °C:	-0.2	**difference :**	-0.002

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:**	16.87
reference main flow lpm:	3.03	**reference total/aux flow lpm:**	16.65
difference lpm:	0.03	**difference lpm:**	-0.22

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:**	16.87
reference main flow lpm:	3.03	**reference total/aux flow lpm:**	16.65
difference lpm:	0.03	**difference lpm:**	-0.22

K_o Audit:

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

Comments:

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

JOB #: 2833-14-07-35-C

Nitrogen Dioxide

API 200E NOx Analyzer Calibration

Date:	7-Jul-14	**Start Time (mst):**	9:29
Company:	LICA	**End Time (mst):**	14:20
Station Name/Location:	Elk Point	**Calibration Purpose:**	Monthly Calibration
Performed by:	Kevin Hope	**Cal Gas Expiry Date:**	4-Feb-18

Analyzer Serial Number:	593
Last Calibration Date:	5-Jun-14
Range ppb:	1000

Correction Factors:

	As found C.F.	Previous Cal High Point C.F.:
NO=	1.032	0.999
NOx=	1.031	0.998
NO_2=	0.997	0.999

	As found:	**As left:**
NOx SLOPE:	1.199	1.233
NOx OFFS:	0.5	0.7
NO SLOPE:	1.185	1.223
NO OFFS:	0.1	0.2
TEST:	126.0	126.0
SAMP FLW:	480	471
OZONE FL:	78	78
PMT:	6.1	6.2
NORM PMT:	0.2	1.2
AZERO:	6.8	7.0
HVPS:	630	630
RCELL TEMP:	50.0	50.1
BOX TEMP:	30.1	30.9
PMT TEMP:	6.7	6.7
IZS TEMP:	45.0	45.2
MOLY TEMP:	314.7	314.5
RCEL:	6.4	6.4
SAMP:	27.1	26.9
Internal Span:	379.2/5.2/373.6	406.1/7.16/39.2

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	80	350.00	5080
mid	5000	40	175.00	5040
low	5000	20	90.00	5020

Calibration:

Calibrator Flow Rates (cc/min)				Calculated NO	Calculated NOx	Indicated NO	Indicated NOx	NO C.F.	NOx C.F.
Point	Diluent	Cal Gas	Total Flow	(ppb)	(ppb)	(ppb)	(ppb)		
as found zero	5000	0.0	5000	0	0	0.1	0.0	NA	NA
adjusted zero	5000	0.0	5000	0	0	0.0	-0.1	NA	NA
as found high	4996	79.74	5076	787.1	788.6	763	765	1.032	1.031
adjusted high	4996	79.74	5076	787.1	788.6	788	788	0.999	1.001
mid	4996	39.88	5036	396.8	397.5	397	398	0.999	0.999
low	4996	19.93	5016	199.1	199.5	199	199	1.001	1.001
calibrator zero	4996	0.00	4996	0	0	0.1	0.0	NA	NA
							Average C.F.=	1.000	1.000

Calibrator Flow Rates (cc/min)				Calibrator Setting	Indicated NO	Indicated NOx	Indicated NO_2	NO drop	NO_2 increase	NO_2 C.F.
Point	Diluent	Cal Gas	Total Flow	volts or ppb	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
NOx reference	4996	79.77	5076	0.0	791.0	793.0	2.8	0.0	-0.1	
as found NO_2	4996	79.77	5076	350.0	417.0	797.0	378.0	374.0	375.2	0.997
adjusted NO_2	4996	79.77	5076	350.0	417.0	797.0	378.0	374.0	375.2	0.997
gpt mid	4996	79.77	5076	175.0	604.0	797.0	194.0	187.0	191.2	0.978
gpt low	4996	79.77	5076	90.0	700.0	798.0	97.8	91.0	95.0	0.958
									Average NO_2 C.F.=	0.978

Linear Regression/Calibration Results:

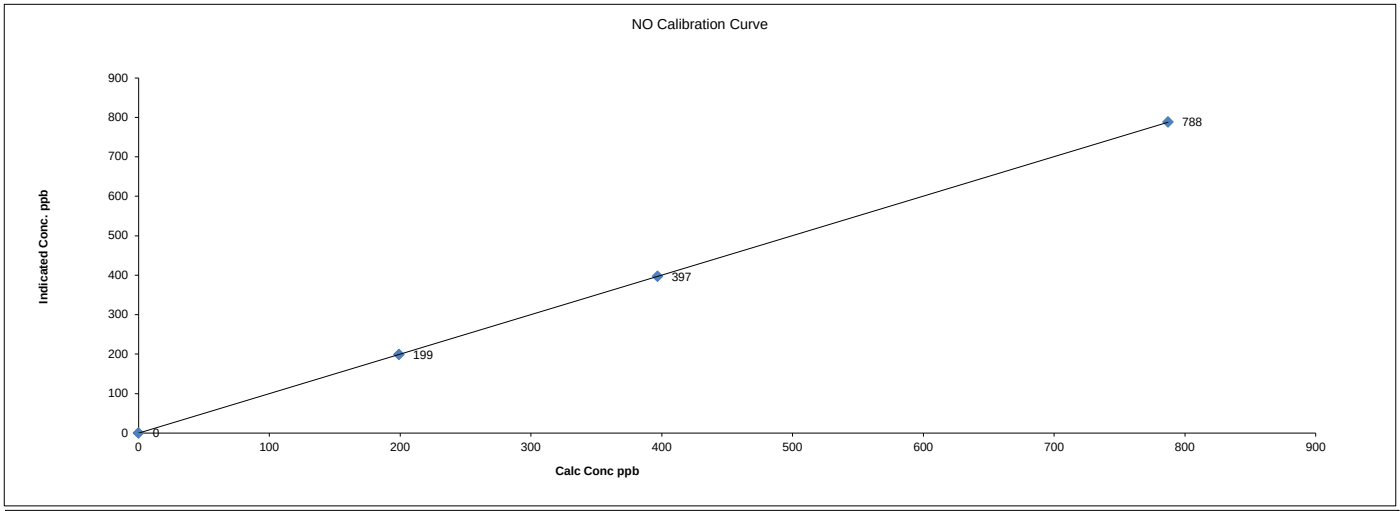
	NO	NOx	NO_2	LIMITS
Correlation Coeffecient =	**1.000**	**1.000**	**1.000**	**> or = 0.995**
Slope =	**1.001**	**1.000**	**1.001**	**0.85-1.15**
b (Intercept as % of full scale)=	**-0.02%**	**0.00%**	**0.22%**	**± 3% F.S.**
% change in C.F. from last cal=	**-3.26%**	**-3.28%**	**0.22%**	**+/-15%**
NO2 converter effeciency			**102.3%**	**>85%**

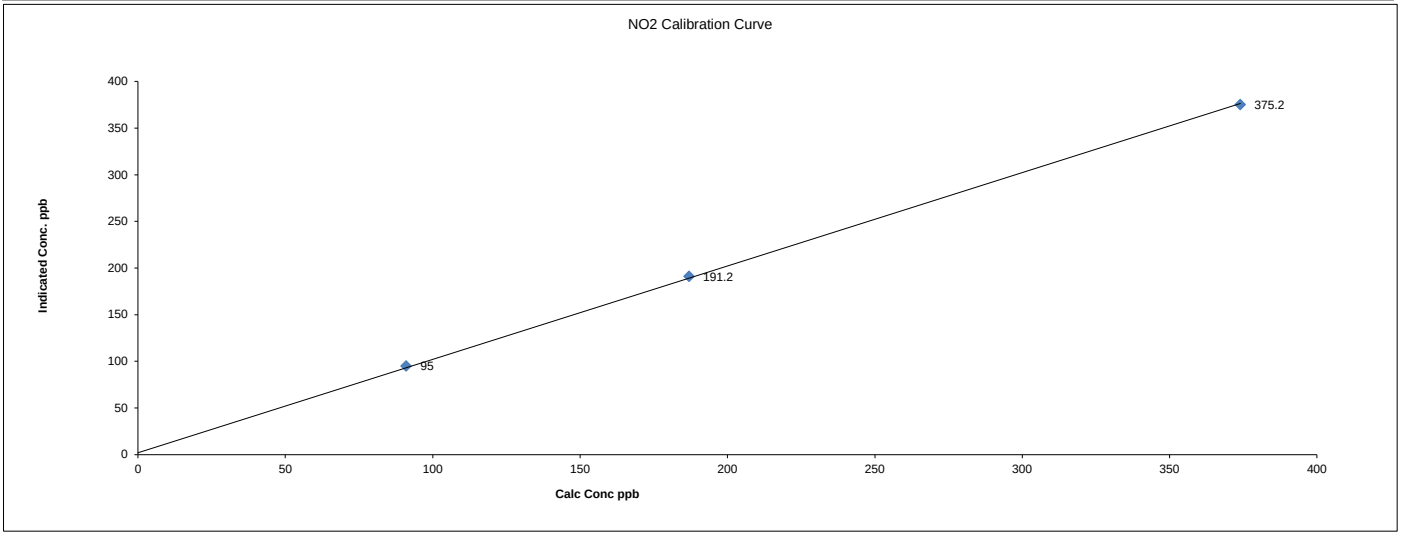
Comments:

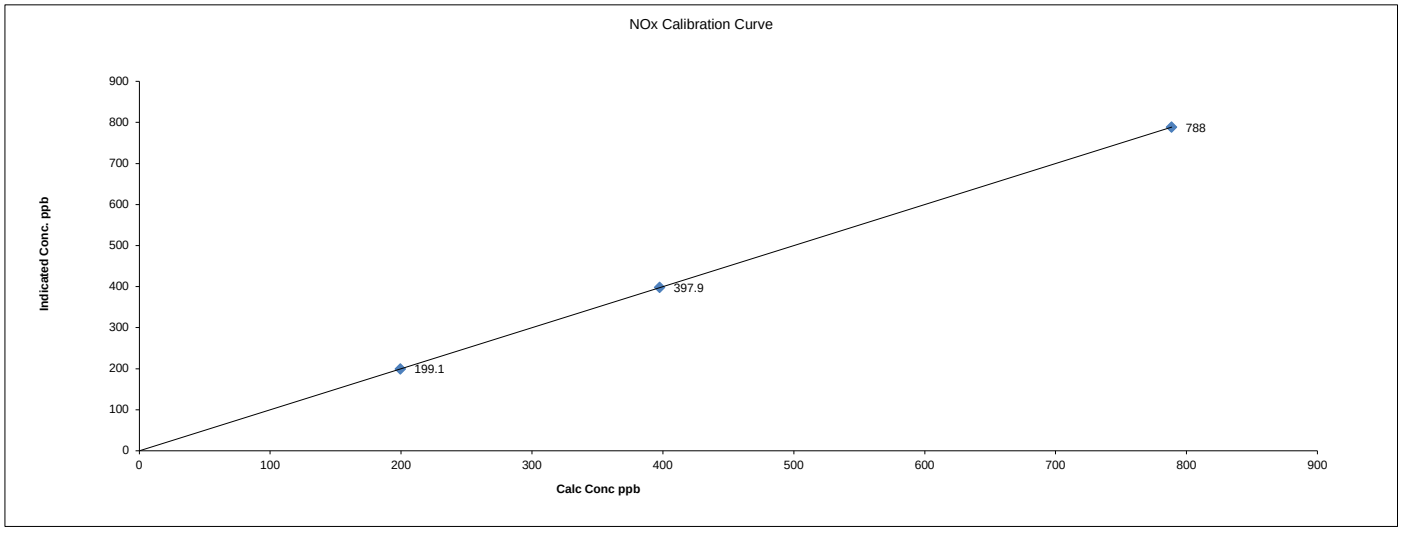
Sample filter changed. No GPT adjustment made. Values for calulations only.

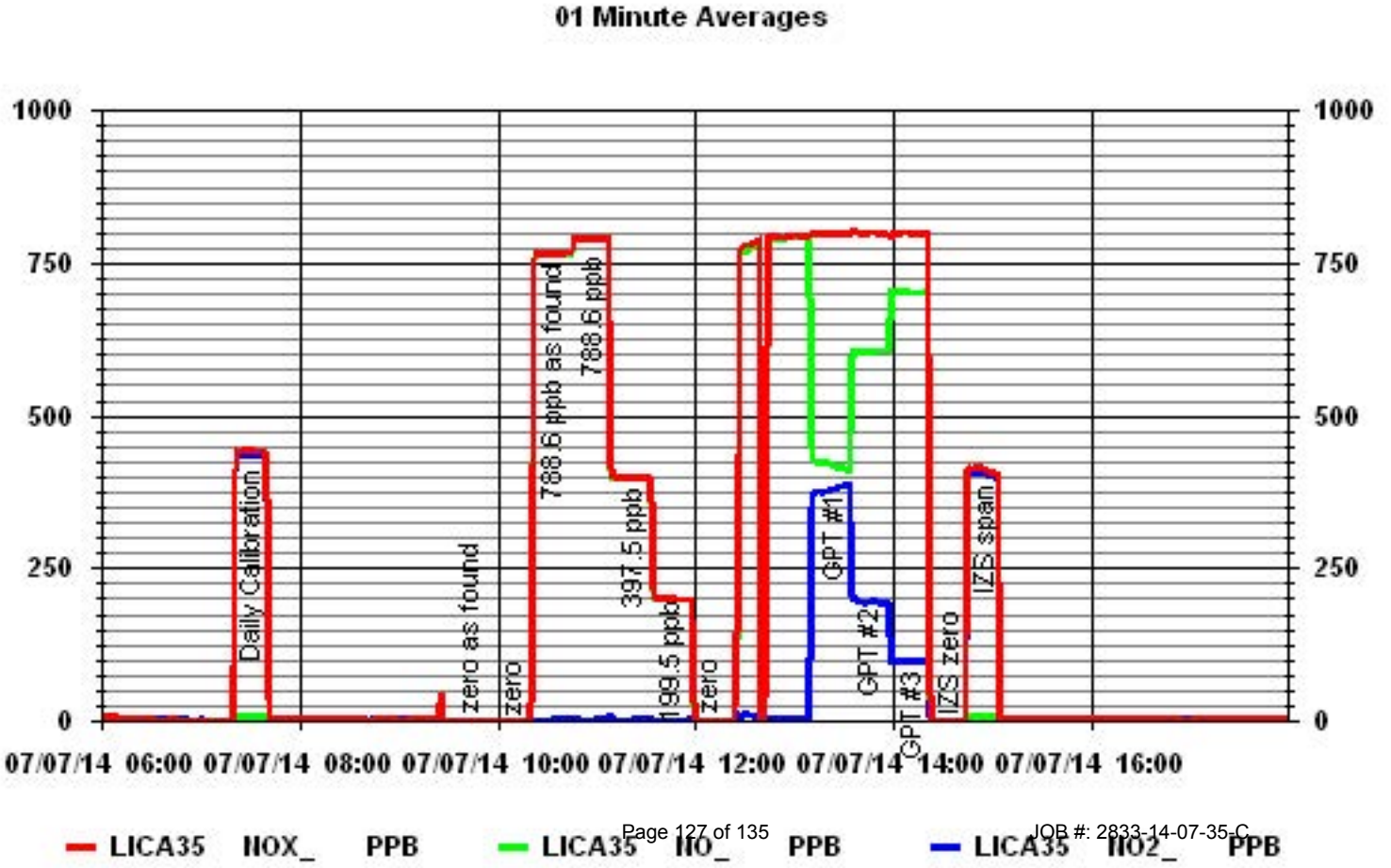
Date:	7-Jul-14	**Start Time (mst):**	9:29
Company:	LICA	**End Time (mst):**	14:20
Station Name/Location:	Elk Point	**Calibration Purpose:**	Monthly Calibration
Performed by:	Kevin Hope	**Cal Gas Expiry Date:**	4-Feb-18

API 200E NOx Analyzer Calibration








01 Minute Averages
1000
750
500
250
0
Daily Calibration
zero as found
zero
788.6 ppb as found
788.6 ppb
397.5 ppb
199.5 ppb
zero
GPT #1
GPT #2
GPT #3
IZS zero
IZS span
07/07/14 06:00
07/07/14 08:00
07/07/14 10:00
07/07/14 12:00
07/07/14 14:00
07/07/14 16:00
LICA35 NOX_ PPB
LICA35 NO_ PPB
LICA35 NO2_ PPB

API 200E NOx Analyzer Calibration

Date:	17-Jul-14	**Start Time (mst):**	9:01
Company:	LICA	**End Time (mst):**	13:34
Station Name/Location:	Elk Point	**Calibration Purpose:**	Monthly Re-Cal
Performed by:	Kevin Hope	**Cal Gas Expiry Date:**	4-Feb-18

Analyzer Serial Number:	593
Last Calibration Date:	7-Jul-14
Range ppb:	1000

Correction Factors:

As found C.F.		Previous Cal High Point C.F.:	
NO=	1.001	NO=	0.999
NOx=	1.002	NOx=	1.001
NO_2=	0.996	NO_2=	0.997

As found:		**As left:**	
NOx SLOPE:	1.233	NOx SLOPE:	1.233
NOx OFFS:	0.7	NOx OFFS:	0.3
NO SLOPE:	1.223	NO SLOPE:	1.223
NO OFFS:	0.2	NO OFFS:	-0.1
TEST:	126	TEST:	126
SAMP FLW:	472	SAMP FLW:	472
OZONE FL:	78	OZONE FL:	78
PMT:	15.2	PMT:	15.2
NORM PMT:	14.9	NORM PMT:	14.9
AZERO:	7.0	AZERO:	7.0
HVPS:	630	HVPS:	630
RCELL TEMP:	50.2	RCELL TEMP:	50.2
BOX TEMP:	30.1	BOX TEMP:	30.1
PMT TEMP:	6.7	PMT TEMP:	6.7
IZS TEMP:	45.0	IZS TEMP:	45.0
MOLY TEMP:	314	MOLY TEMP:	314
RCEL:	6.4	RCEL:	6.4
SAMP:	27.21	SAMP:	27.21
Internal Span:	406.1/7.16/39.2	Internal Span:	406.1/7.16/39.2

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	4993	0	0	4993
high	4916	78	500.00	4994
mid	4957	38	250.00	4995
low	4976	19	80.00	4995

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	4993	0.0	4993	0	0	0.1	0.1	NA	NA
adjusted zero	4994	0.0	4994	0	0	0.0	0.0	NA	NA
as found high	4916	77.62	4994	778.7	780.3	778	779	1.001	1.002
adjusted high	4916	77.62	4994	778.7	780.3	779	780	1.000	1.000
mid	4957	37.80	4995	379.2	379.9	379	380	1.000	1.000
low	4976	18.90	4995	189.6	189.9	189	190	1.003	1.000
calibrator zero	4995	0.00	4995	0	0	0.3	0.0	NA	NA
							Average C.F.=	1.001	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	4917	77.62	4995	0.0	779.0	780.0	3.0	0.0	0.0	
as found NO_2	4917	77.62	4995	500.0	219.0	785.0	565.0	560.0	562.0	0.996
adjusted NO_2	4917	77.62	4995	500.0	219.0	785.0	565.0	560.0	562.0	0.996
gpt mid	4917	77.62	4995	250.0	496.0	785.0	288.0	283.0	285.0	0.993
gpt low	4917	77.62	4995	80.0	694.0	786.0	91.0	85.0	88.0	0.966
									Average NO_2 C.F.=	0.985

Linear Regression/Calibration Results:

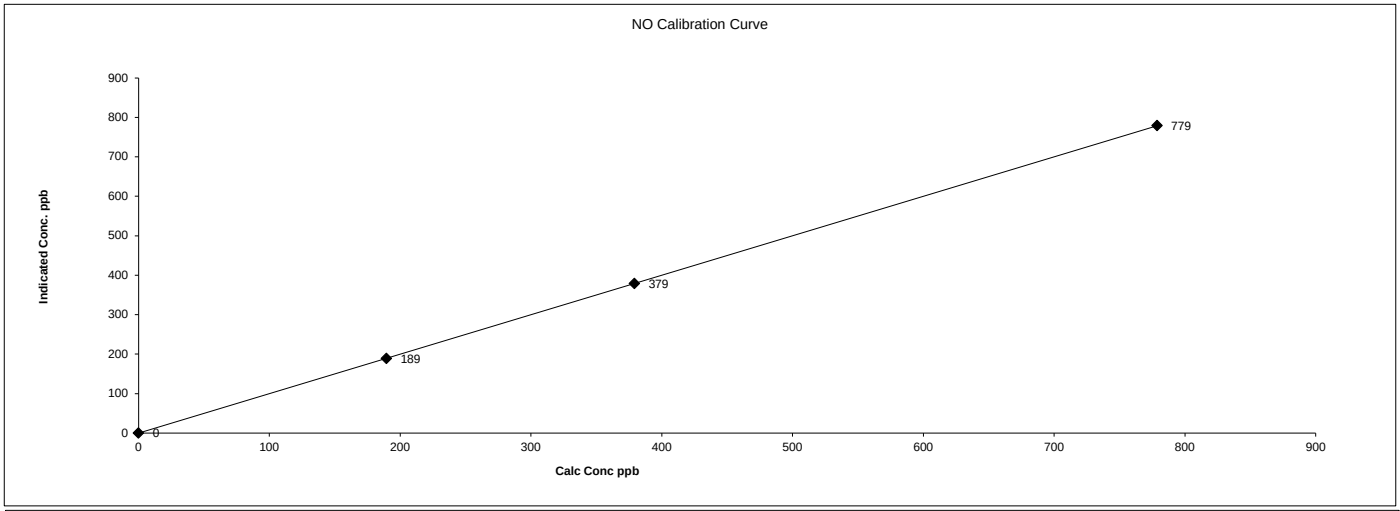
	NO	NOx	NO_2	LIMITS
Correlation Coeffecient =	**1.000**	**1.000**	**1.000**	**> or = 0.995**
Slope =	**1.001**	**1.000**	**1.002**	**0.85-1.15**
b (Intercept as % of full scale)=	**-0.03%**	**0.01%**	**0.14%**	**± 3% F.S.**
% change in C.F. from last cal=	**-0.20%**	**-0.07%**	**0.06%**	**+/-15%**
NO2 converter effeciency			**101.5%**	**>85%**

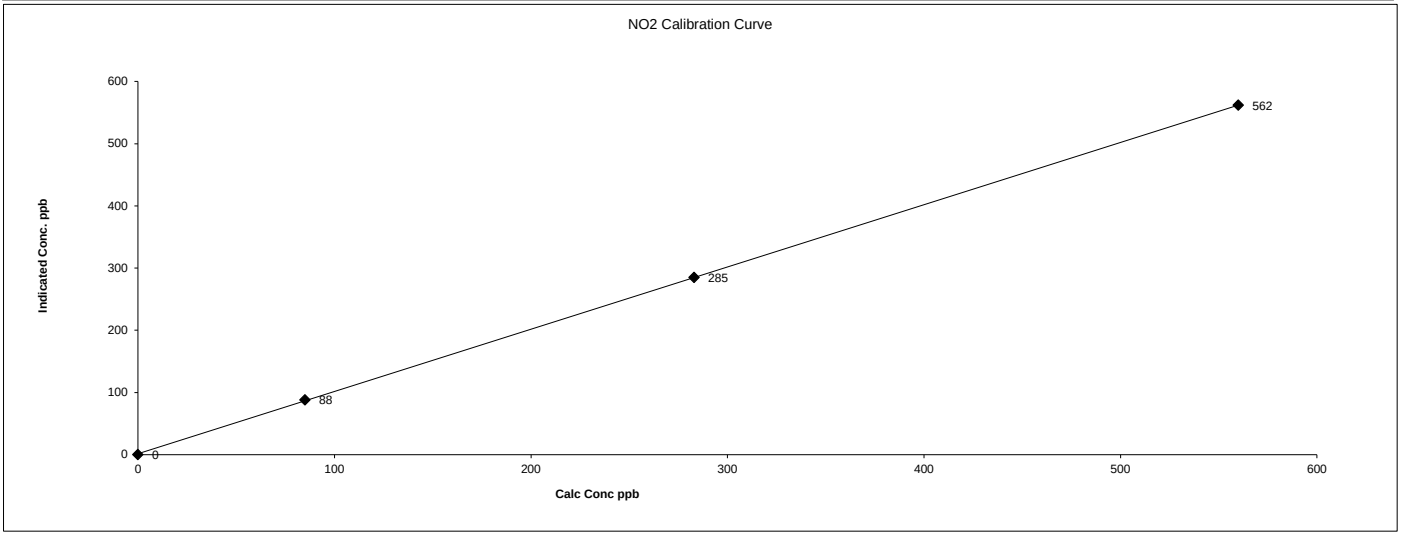
Comments:

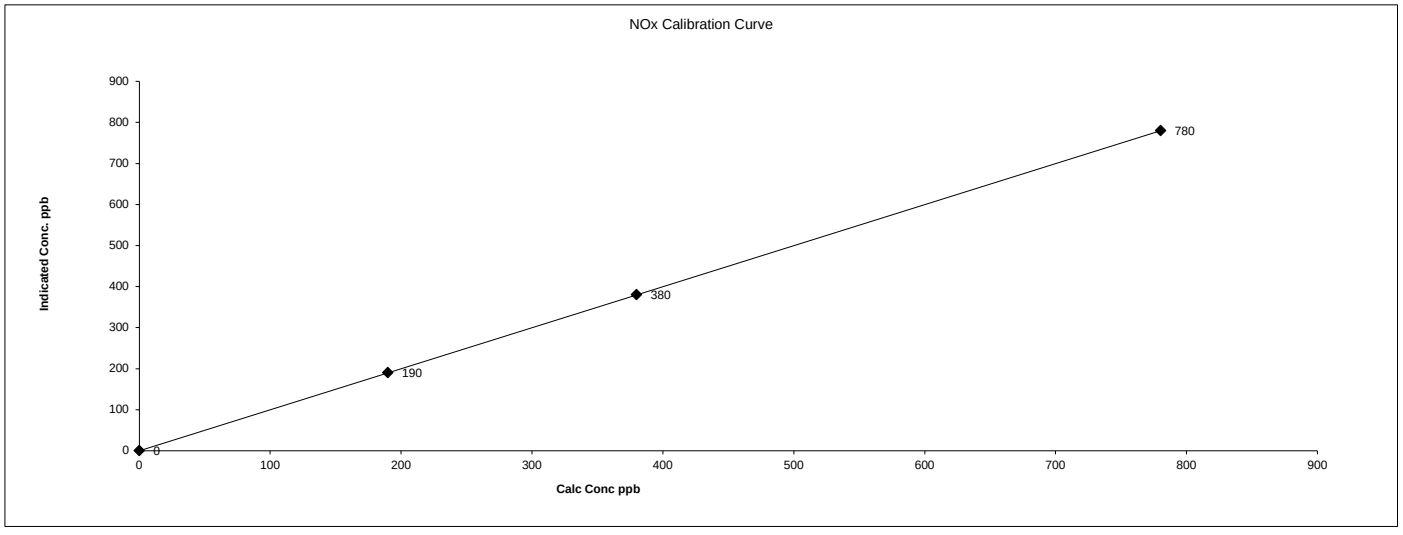
No NO2 adjustment made. Just for calculation purposes.

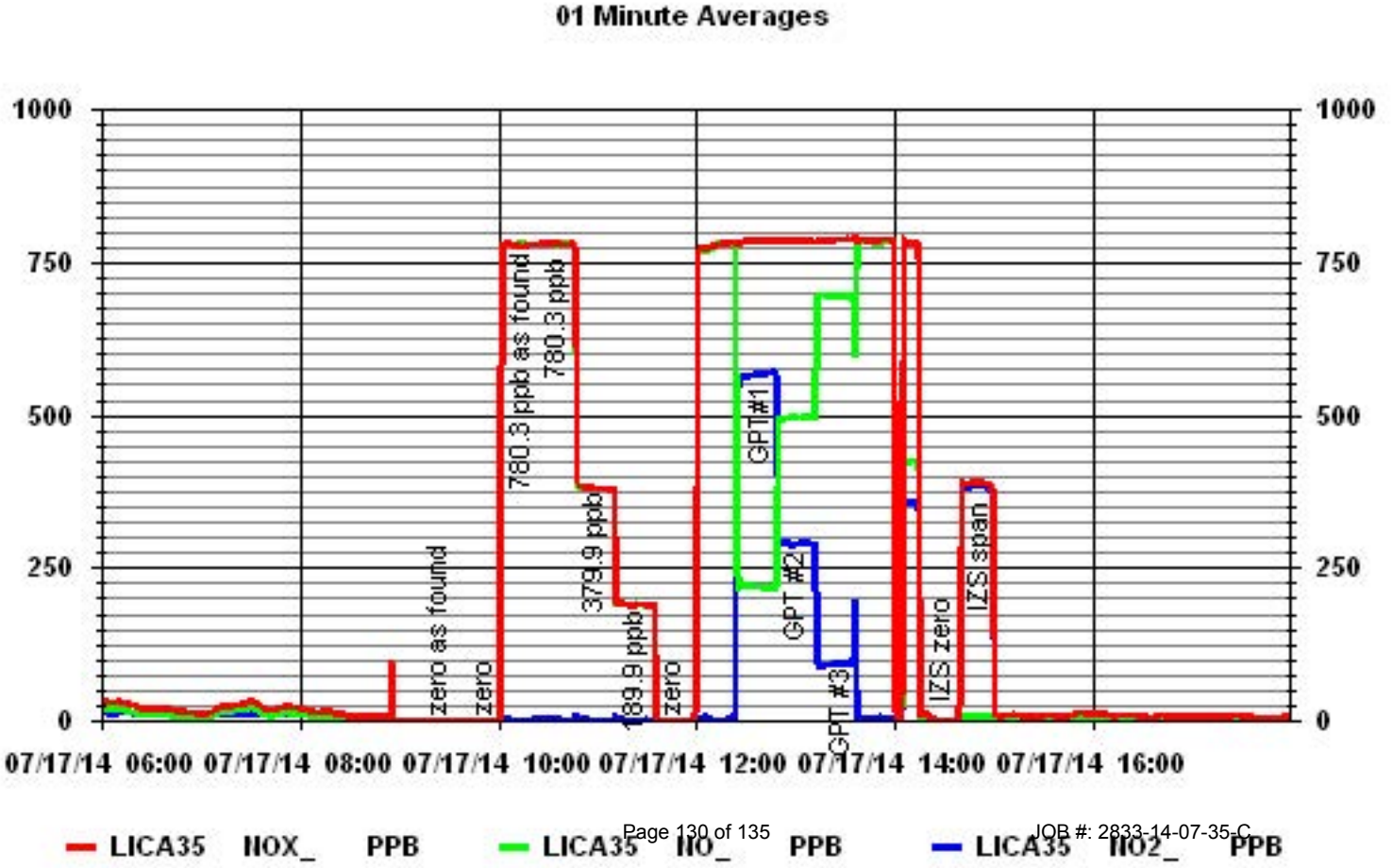
Date:	17-Jul-14	**Start Time (mst):**	9:01
Company:	LICA	**End Time (mst):**	13:34
Station Name/Location:	Elk Point	**Calibration Purpose:**	Monthly Re-Cal
Performed by:	Kevin Hope	**Cal Gas Expiry Date:**	4-Feb-18

API 200E NOx Analyzer Calibration








01 Minute Averages
1000
750
500
250
0
zero as found
zero
780.3 ppb as found
780.3 ppb
379.9 ppb
189.8 ppb
zero
GPT#1
GPT #2
GPT #3
IZS zero
IZS span
07/17/14 06:00
07/17/14 08:00
07/17/14 10:00
07/17/14 12:00
07/17/14 14:00
07/17/14 16:00
LICA35 NOX_ PPB
LICA35 NO_ PPB
LICA35 NO2_ PPB

Ozone

Maxxam Thermo 49i O_3 Analyzer Calibration

Date:	7-Jul-14	**Start Time (mst):**	14:33
Company:	LICA	**End Time (mst):**	16:54
Station Name/Location:	Elk Point	**Calibration Purpose:**	Monthly Calibration
Performed by:	Kevin Hope	**G.P.T. Date:**	7-Jul-14

Analyzer:

Serial Number:	1002240372	**Range ppm:**	500
Last Calibration Date:	5-Jun-14	**As Found C.F.**	1.056
Previous Cal High Point C.F.:	0.999	**New C.F.:**	0.994

		As found:		As left:
	O_3 Bkg:	0.0	O_3 Bkg:	0.0
	O_3 Coef:	1.007	O_3 Coef:	1.078
Motherboard:	3.3	3.3	3.3	3.3
	15.0	5.0	15.0	5.0
	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	5.0	5.0	5.0
	15.0	14.9	15.0	14.9
	-15.0	-15.1	-15.0	-15.1
	Photo Lamp	9.8	Photo Lamp	9.8
	24.0	23.5	24.0	23.5
	O_3 Lamp	9.3	O_3 Lamp	9.3
	Bench:	31.3	Bench:	31.3
	Bench Lamp:	54.1	Bench Lamp:	54.1
	O_3 Lamp:	68.2	O_3 Lamp:	68.2
	Pressure:	700.9	Pressure:	700.9
	Cell A lpm:	0.754	Cell A lpm:	0.754
	Cell B lpm:	0.763	Cell B lpm:	0.763
	O_3 ppb:	38.1	O_3 ppb:	38.1
	Cell A ppb:	41.5	Cell A ppb:	41.5
	Cell B ppb:	34.7	Cell B ppb:	34.7
	Cell A int:	50359	Cell A int:	50359
	Cell B int:	50369	Cell B int:	50369
	Internal Span:	325.1	Internal Span:	325.1

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	5075	0
high	5075	350
mid	5075	175
low	5075	90

Calibration:

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors:
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	5070	0.0	5070	0.0	0.0	NA
adjusted zero	NA	0.0	######	0.0		NA
as found high	5070	0.00	5070	374.0	354.0	1.056
adjusted high	5070	0.00	5070	374.0	374.0	1.000
mid	5070	0.00	5070	187.0	188.5	0.992
low	5070	0.00	5070	91.0	92.0	0.989
calibrator zero	5070	0.00	5070	0.0	-0.1	NA

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

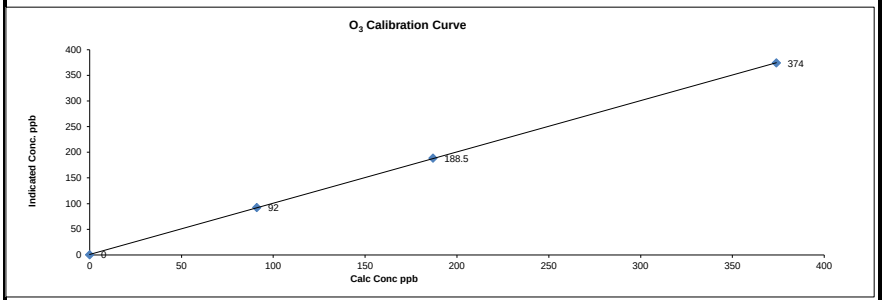
Linear Regression/Calibration Results:

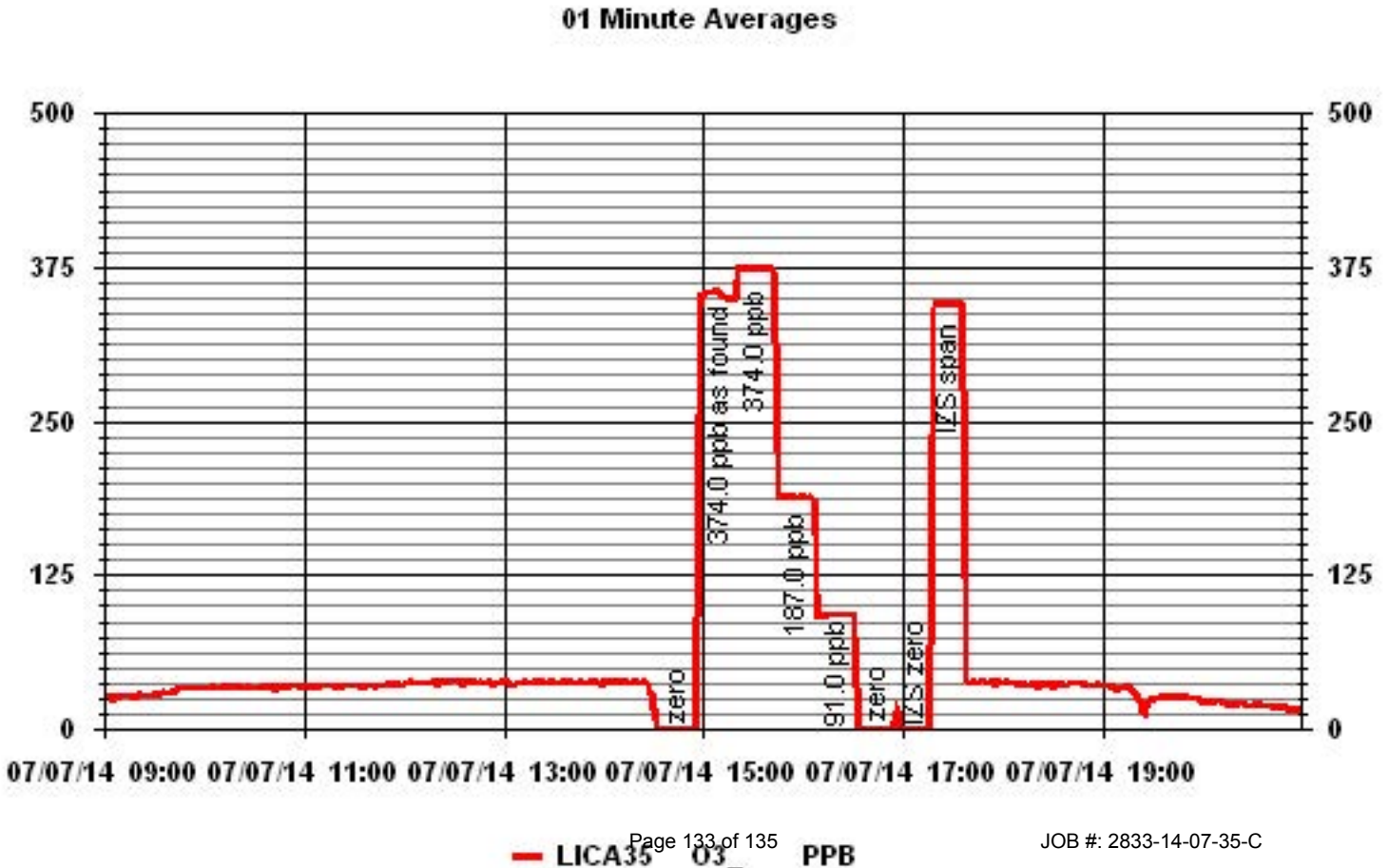
		LIMITS	Pass/Fail ?
Correlation Coeffecient =	**1.000**	**> or = 0.995**	**PASS**
Slope =	**1.000**	**0.85-1.15**	**PASS**
b (Intercept as % of full scale)=	**0.140%**	**± 3% F.S.**	**PASS**
% change in C.F. from last cal	**-6%**	**± 15%**	**PASS**

Comments:

Sample filter changed. No zero adjustment made.

Thermo 49i O3 Analyzer Calibration





JOB #: 2833-14-07-35-C

Maxxam Thermo 49i O_3 Analyzer Calibration

Date:	19-Jul-14	**Start Time (mst):**	12:14
Company:	LICA	**End Time (mst):**	13:58
Station Name/Location:	Elk Point	**Calibration Purpose:**	As found
Performed by:	Kevin Hope	**G.P.T. Date:**	NA

Analyzer:

Serial Number:	1002240372	**Range ppm:**	500
Last Calibration Date:	7-Jul-14	**As Found C.F.**	0.959
Previous Cal High Point C.F.:	1.000	**New C.F.:**	0.959

		As found:		As left:
	O_3 Bkg:	0.0	O_3 Bkg:	0.0
	O_3 Coef:	1.078	O_3 Coef:	1.078
Motherboard:	3.3	3.3	3.3	3.3
	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:	3.3	3.3	3.3	3.3
	5.0	5.0	5.0	5.0
	15.0	15.0	15.0	15.0
	-15.0	-15.0	-15.0	-15.0
	Photo Lamp	9.8	Photo Lamp	9.8
	24.0	23.5	24.0	23.5
	O_3 Lamp	9.3	O_3 Lamp	9.3
	Bench:	36.9	Bench:	36.9
	Bench Lamp:	54.2	Bench Lamp:	54.2
	O_3 Lamp:	68.3	O_3 Lamp:	68.3
	Pressure:	688.8	Pressure:	688.8
	Cell A lpm:	0.744	Cell A lpm:	0.744
	Cell B lpm:	0.752	Cell B lpm:	0.752
	O_3 ppb:	27.6	O_3 ppb:	27.6
	Cell A ppb:	26.7	Cell A ppb:	26.7
	Cell B ppb:	27.6	Cell B ppb:	27.6
	Cell A int:	49118	Cell A int:	49118
	Cell B int:	49029	Cell B int:	49029
	Internal Span:	325.1	Internal Span:	325.1

Calibrator:

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

Calibrator Flow Targets:

point	total flow (cc/min)	O_3 setting (v or ppb)
zero	5000	0
high	5000	310
mid	5000	250
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	4994	0.0	4994	0.0	0.2	NA
adjusted zero		NA				NA
as found high	4994	0.00	4994	375.0	391.0	0.959
adjusted high						
mid						
low						
calibrator zero						NA

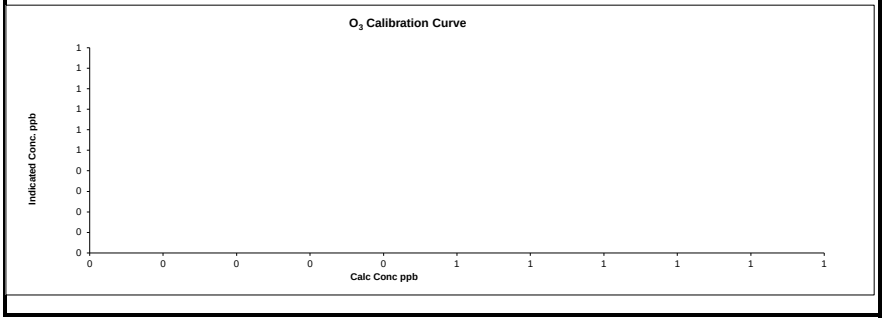
copy and paste flows and NO decrease from NOx cal in to calculated concentration **Average C.F.=** 0.959

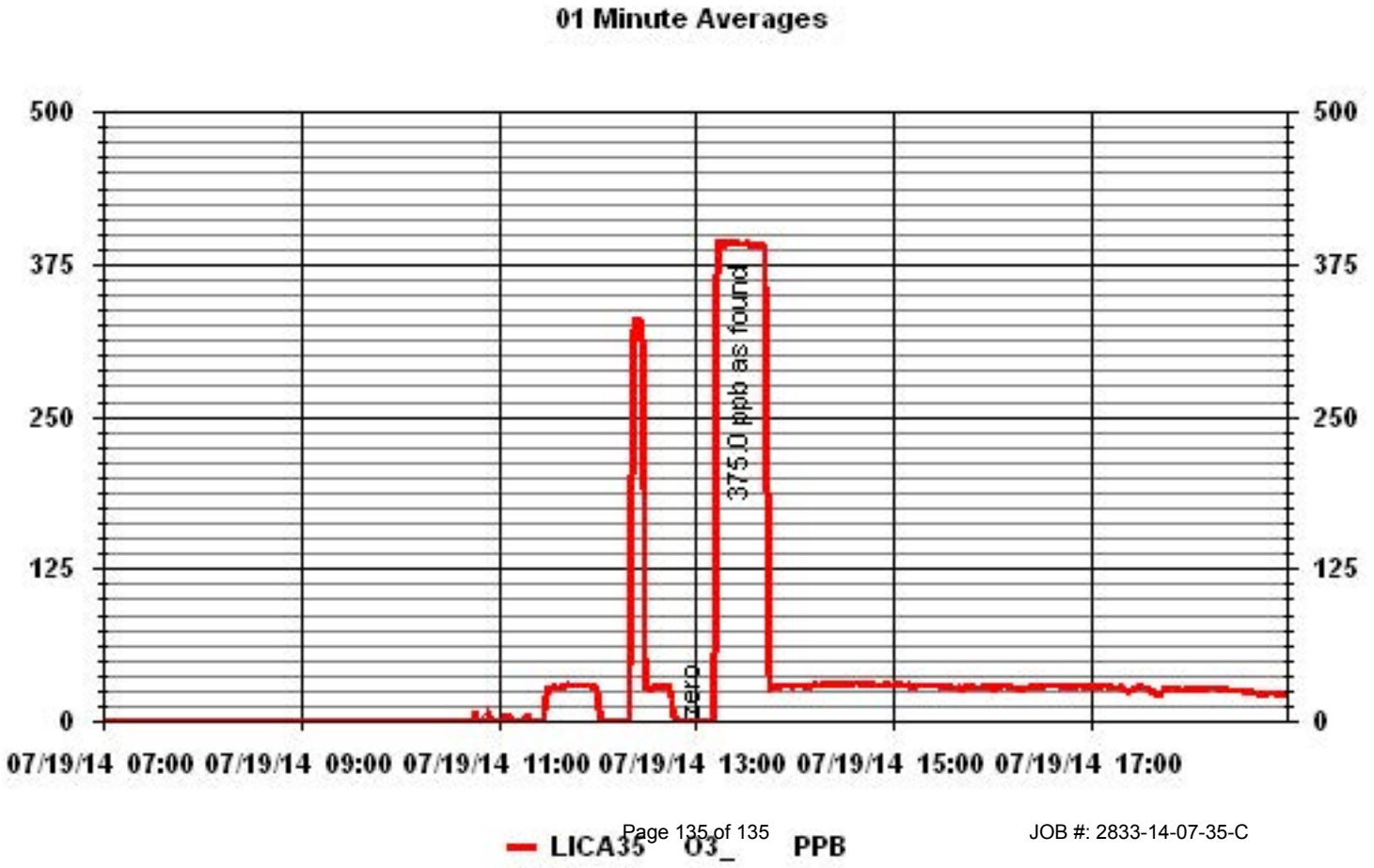
Linear Regression/Calibration Results:

		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%	± 15%	PASS

Comments:

Thermo 49i O3 Analyzer Calibration





JOB #: 2833-14-07-35-C