



Box 8237  
5107W-50th Street  
Bonnyville, AB T9N 2J5  
Phone: (780) 812-2182  
Fax: (780) 812-2186  
Toll Free: 1-877-737-2182  
E-Mail: [lica2@lica.ca](mailto:lica2@lica.ca)  
Website: <http://www.lica.ca>

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

August 13, 2013

**RE: June 2013 Ambient Air Monitoring Monthly Reports**

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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,

A handwritten signature in blue ink that reads "Michael Bisaga".

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

June 2013

Prepared By:



July 30, 2013

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

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# Introduction

The following Ambient Air Monitoring report was prepared for:

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

Monitoring Location: Cold Lake  
Data Period: June 2013

The monthly ambient data report:

- Prepared by Lily Lin
- Reviewed by Lili Zhou

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 – June 2013

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION COLD LAKE SITE						MAXIMUM VALUES							OPERATIONAL TIME (PERCENT)	
						OBJECTIVES					EXCEEDENCES			MONTHLY AVERAGE
PARAMETER	1-HR	24-HR	1-HR	24-HR		READING	DAY	HOUR	WIND SPEED (KPH)	WIND DIRECTION (DEGREES)	READING	DAY		
SO <sub>2</sub> (PPB)	172	48	0	0	0.08	2	28	7	3.1	262(W)	0.5	11	99.7	
TRS (PPB)	-	-	-	-	0.15	1	VAR	VAR	VAR	VAR	0.6	5	99.7	
NO <sub>2</sub> (PPB)	159	-	0	-	1.86	7.4	28	22	0.7	159(SSE)	3.2	7	99.7	
NO (PPB)	-	-	-	-	0.32	4.5	28	7	3.1	262(W)	0.9	28	99.7	
NO <sub>x</sub> (PPB)	-	-	-	-	2.19	11.5	14	8	3.4	268(W)	3.7	7	99.7	
O <sub>3</sub> (PPB)	82	-	0	-	25.92	68	4	VAR	VAR	VAR	49.1	5	100.0	
THC (PPM)	-	-	-	-	2.12	3.4	24	4, 5	3.3, 2	257(WSW), 260(WSW)	2.4	VAR	100.0	
PM 2.5 (UG/M <sup>3</sup> )	-	30	-	0	10.42	49	17	11	6.5	232(SW)	24.3	17	99.7	
TEMPERATURE (DEG C)	-	-	-	-	15.46	27.4	28	VAR	VAR	VAR	20.8	29	100.0	
RELATIVE HUMIDITY (%)	-	-	-	-	72.21	100	13	5	1.1	145(SE)	92.0	15	100.0	
VECTOR WS (KPH)	-	-	-	-	5.61	16.5	9	20	-	266(W)	12.3	9	100.0	
VECTOR WD (DEGREES)	-	-	-	-	230(SW)	-	-	-	-	-	-	-	100.0	

VAR-VARIOUS    NA: NOT AVAILABLE

# Monthly Non-Continuous Data Summary

## LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

### Passive Ambient Monitoring Network – June 2013

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PASSIVE NETWORK			
NETWORK MAXIMUM			NETWORK AVERAGE
PARAMETER	STATION	READING (PPB)	READING (PPB)
SO <sub>2</sub>	#14	1.0	0.39
H <sub>2</sub> S	#17	0.26	0.12
NO <sub>2</sub>	#24	1.5	0.8
O <sub>3</sub>	#32	31.0	23.5

# 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

No operational issues were observed during the month. The monthly calibration attempted to be performed on June 4<sup>th</sup>. However, the calibration was aborted as the field tech went to the St. Lina station for troubleshooting. The monthly calibration was performed on June 5<sup>th</sup>. The inlet filter was changed before the monthly calibration was started. 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: 250

No operational issues were observed during the month. The monthly calibration attempted to be performed on June 4<sup>th</sup>. However, the calibration was aborted as the field tech went to the St. Lina station for troubleshooting. The monthly calibration was performed on June 5<sup>th</sup>. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information.

#### Ozone (PPB)

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

No operational issues were observed during the month. The monthly calibration was performed on June 5<sup>th</sup>. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information.

# General Monthly Summary

## AQM STATION – LICA – COLD LAKE SOUTH

### Total Hydrocarbon (PPM)

- Analyzer make / model -TECO 51C-LT, S/N: 427408718

No operational issues were observed during the month. The monthly calibration was performed on June 5<sup>th</sup>. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information.

### Nitrogen Dioxide (PPB)

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

No operational issues were observed during the month. The monthly calibration attempted to be performed on June 4<sup>th</sup>. However, the calibration was aborted as the field tech went to the St. Lina station for troubleshooting. The monthly calibration was performed on June 5<sup>th</sup>. The inlet filter was changed before the monthly calibration was started. 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 in June: one was on June 5<sup>th</sup> and the other one was on June 28<sup>th</sup>. Both audits passed the manufacturer requirements. The sample inlet was cleaned and the sample filter was changed on June 5<sup>th</sup>. 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. Two hours of data were invalidated as the data were below –3 ug/m3.

### Relative Humidity (PERCENT)

- System make / model - Rotronic Hygroclip-S3

No operational issues were observed during the month.

# 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.

No operational issues were observed during the month. The last wind system calibration was performed on December 18<sup>th</sup>, 2012.

### Ambient Temperature (DEGC)

- System make / model - Rotronic Hygroclip-S3

No operational issues were observed during the month.

### 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 manifold was cleaned on June 5<sup>th</sup>. The sample tubing between the glass manifold and the sample filter holder were cleaned.

The filter for the Brad AC unit was changed on June 5<sup>th</sup>.

### Passive Network

The samplers installed at site #2 had been removed and all samples were missing.

# Continuous Monitoring

# Monthly Summaries, Graphs & Wind Roses



# Sulphur Dioxide

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2013

## SULPHUR DIOXIDE (SO<sub>2</sub>) 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 MAX.	24-HOUR AVG.	RDGS.	
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	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
DAY 2	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
DAY 3	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
DAY 4	0	0	0	0	0	S	0	Y	Y	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	0.4	22
DAY 5	0	0	0	0	S	1	1	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
DAY 6	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
DAY 7	0	0	S	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
DAY 8	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	1	0.1	24
DAY 9	S	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	0.0	24	
DAY 10	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	S	0	1	0.1	24	
DAY 11	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	S	0	0	1	0.5	24	
DAY 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0.0	24
DAY 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	S	0	0	0	0	1	0.2	24	
DAY 14	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	S	0	0	0	0	0	1	1	0.1	24	
DAY 15	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	1	0.1	24	
DAY 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0.0	24
DAY 17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	S	0	0	0	0	0	0	0	0	1	0.0	24	
DAY 18	0	0	0	0	0	0	0	0	1	0	0	0	1	0	S	0	0	0	0	0	0	0	0	0	1	0.1	24	
DAY 19	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	0.0	24
DAY 20	0	0	0	0	0	0	1	1	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
DAY 21	0	0	0	0	0	0	0	0	0	0	0	S	1	1	1	0	0	0	0	0	0	0	0	0	1	0.1	24	
DAY 22	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
DAY 23	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
DAY 24	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
DAY 25	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
DAY 26	0	0	0	0	0	0	S	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	
DAY 27	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
DAY 28	0	0	0	0	S	0	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2	24	
DAY 29	0	0	0	S	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
DAY 30	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
HOURLY MAX	0	0	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	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	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0				

### STATUS FLAG CODES

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

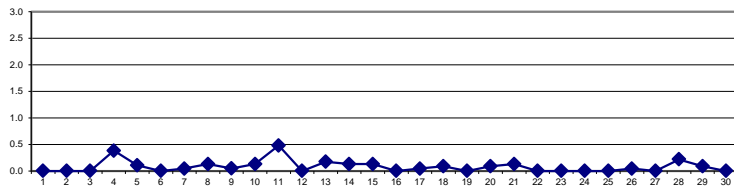
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT:	1-HR	172	PPB	24-HR	48	PPB
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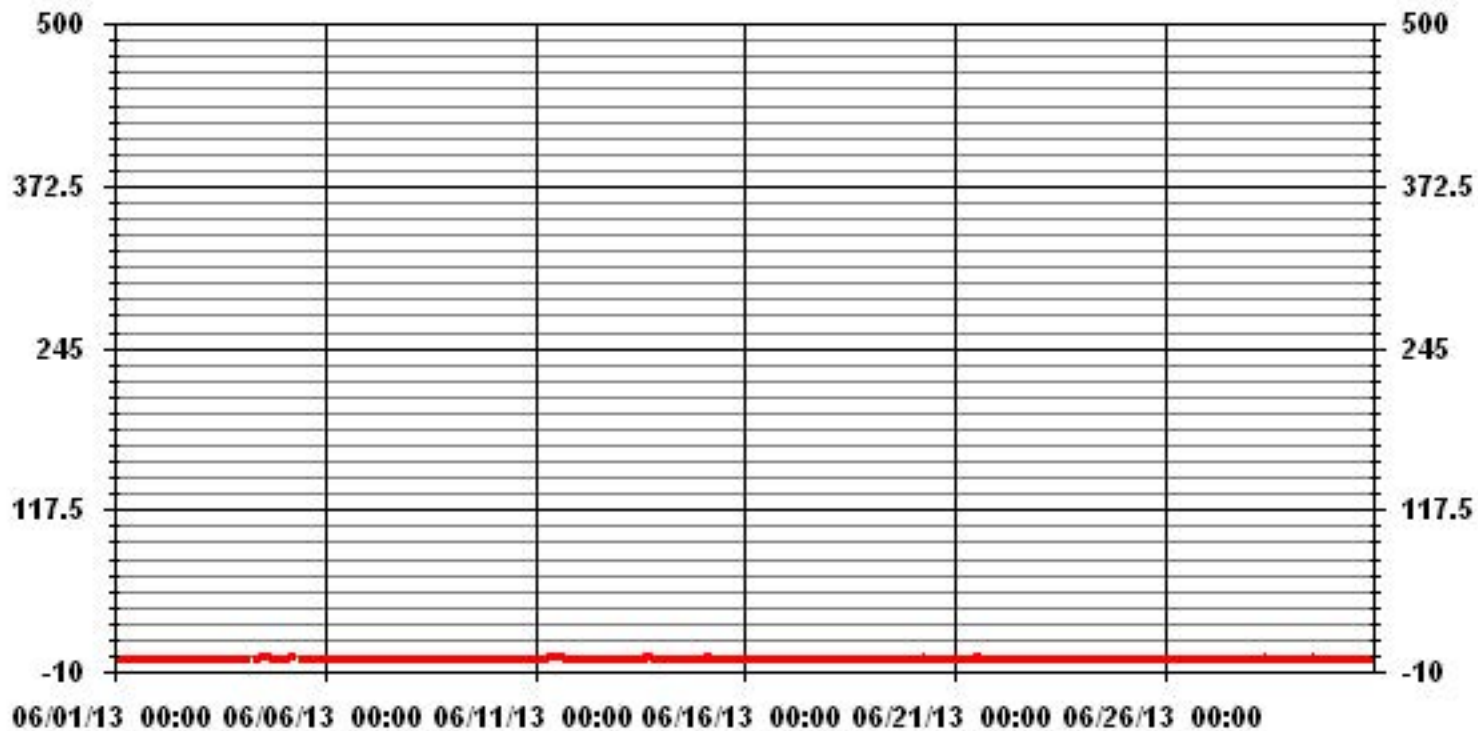
### MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	54					
MAXIMUM 1-HR AVERAGE:	2	PPB	@ HOUR(S)	7	ON DAY(S)	28
MAXIMUM 24-HR AVERAGE:	0.5	PPB			ON DAY(S)	11
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	718	HRS	
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	99.7	%	
STANDARD DEVIATION:	0.28		MONTHLY AVERAGE:	0.08	PPB	

24 HOUR AVERAGES FOR JUNE 2013



### 01 Hour Averages



— LICA SO2\_ PPB

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2013

## SULPHUR DIOXIDE MAX instantaneous maximum in ppb

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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23		1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24	24		1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24	25		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	26		1	1	1	1	1	1	S	1	X	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1.0	23	27		1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24	28		1	1	1	1	S	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1	24	29		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	1.0	24	30		1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24	HOURLY MAX		1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			HOURLY AVG		1.0	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.0	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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26		1	1	1	1	1	1	S	1	X	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1.0	23	27		1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24	28		1	1	1	1	S	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1	24	29		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	1.0	24	30		1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24	HOURLY MAX		1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			HOURLY AVG		1.0	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.0	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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HOURLY MAX		1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			HOURLY AVG		1.0	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.0	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
HOURLY AVG		1.0	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.0	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												

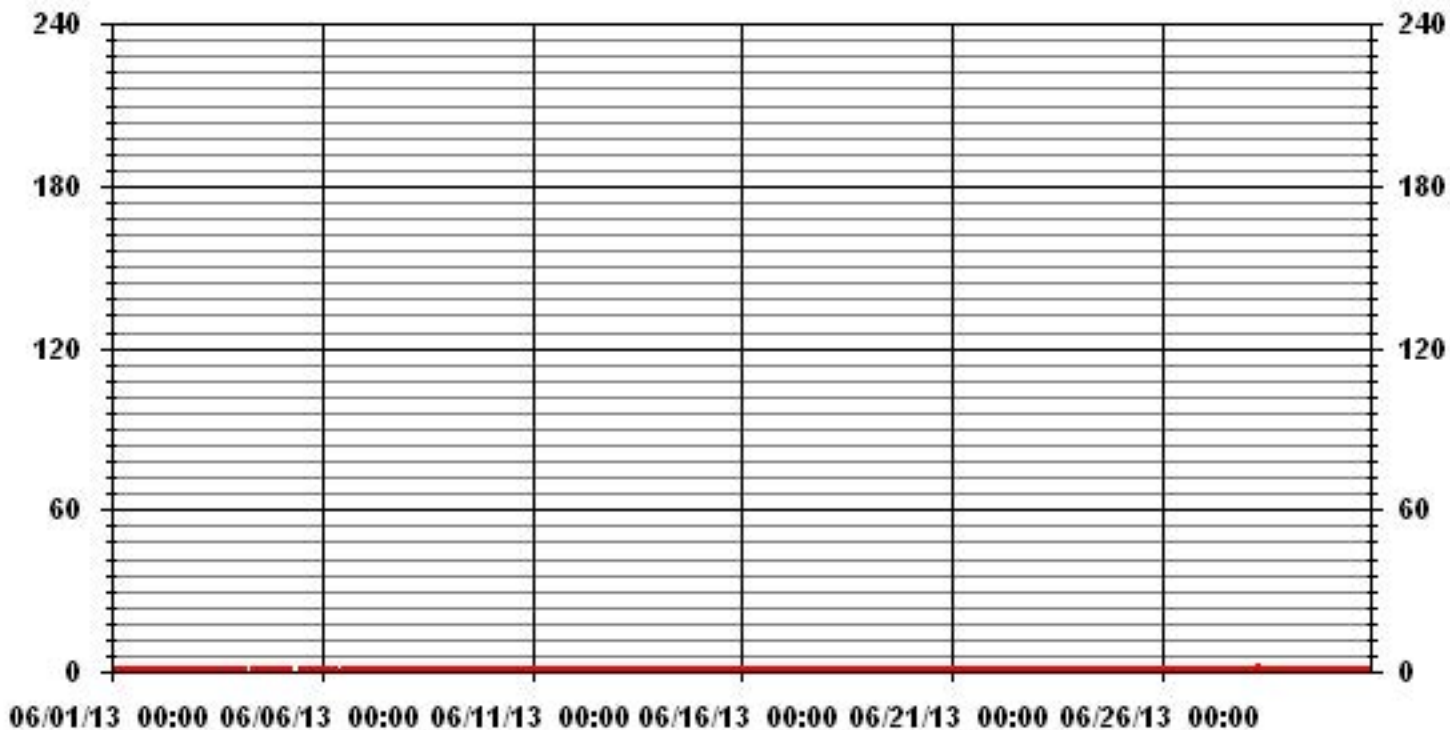
### STATUS FLAG CODES

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:	668					
MAXIMUM INSTANTANEOUS VALUE:	2	PPB	@ HOUR(S)	7, 8	ON DAY(S)	28
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	716 HRS		
MONTHLY CALIBRATION TIME:	5 HRS					
STANDARD DEVIATION:	0.14					

### 01 Hour Averages



LICA  
 SO2\_ / WDR Joint Frequency Distribution (Percent)

June 2013

Distribution By % Of Samples

Logger Id : 01  
 Site Name : LICA  
 Parameter : SO2\_  
 Units : PPB

Wind Parameter : WDR  
 Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 20	2.34	2.48	3.07	5.71	7.02	8.93	14.64	7.32	3.51	2.48	4.09	7.90	12.73	10.54	5.27	1.90	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	2.34	2.48	3.07	5.71	7.02	8.93	14.64	7.32	3.51	2.48	4.09	7.90	12.73	10.54	5.27	1.90	

Calm : .00 %

Total # Operational Hours : 683

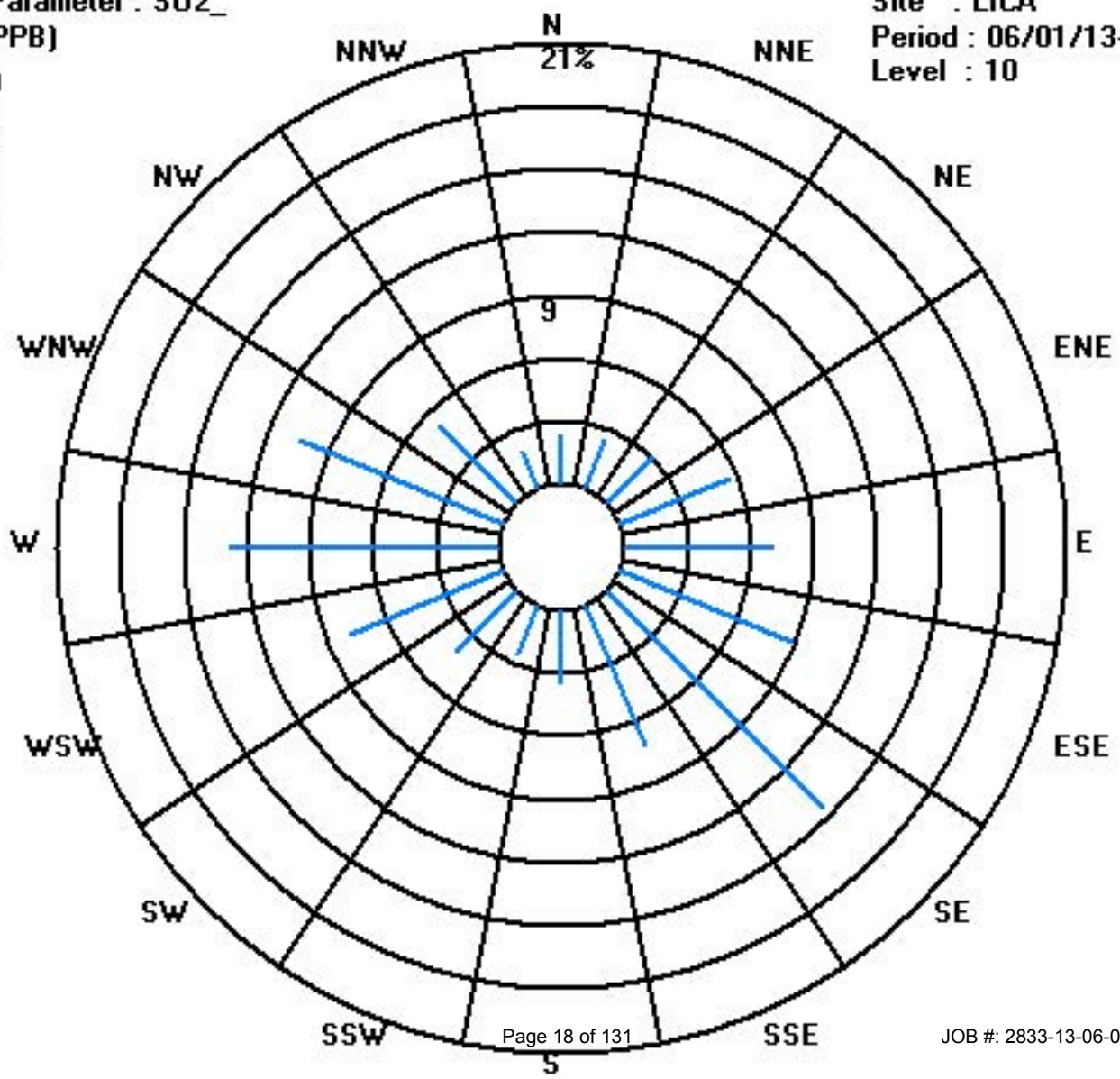
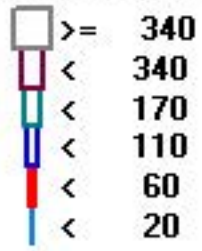
Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 20	16	17	21	39	48	61	100	50	24	17	28	54	87	72	36	13	683
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	16	17	21	39	48	61	100	50	24	17	28	54	87	72	36	13	

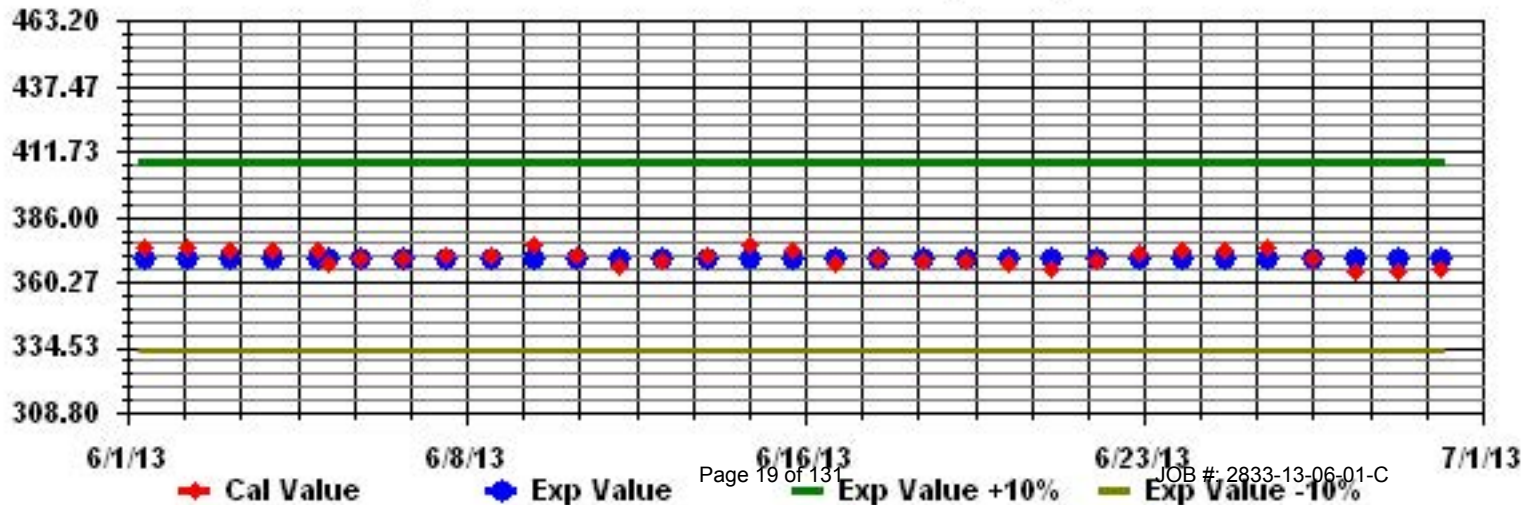
Calm : .00 %

Total # Operational Hours : 683

Class Limits (PPB)



Calibration Graph for Site: LICA Parameter: SO2\_ Sequence: SO2 Phase: SPAN





# Total Reduced Sulphur

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2013

## TOTAL REDUCED SULPHUR (TRS) hourly averages in ppb

MST

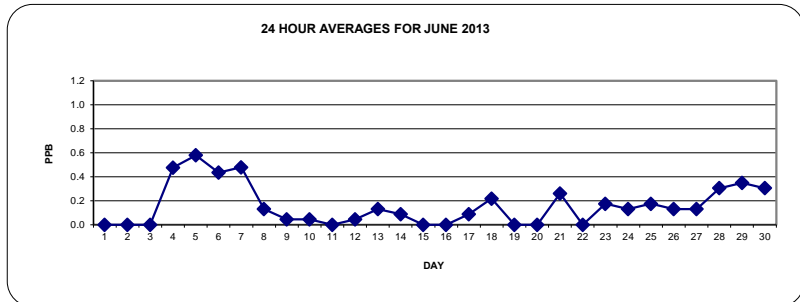
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00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

### STATUS FLAG CODES

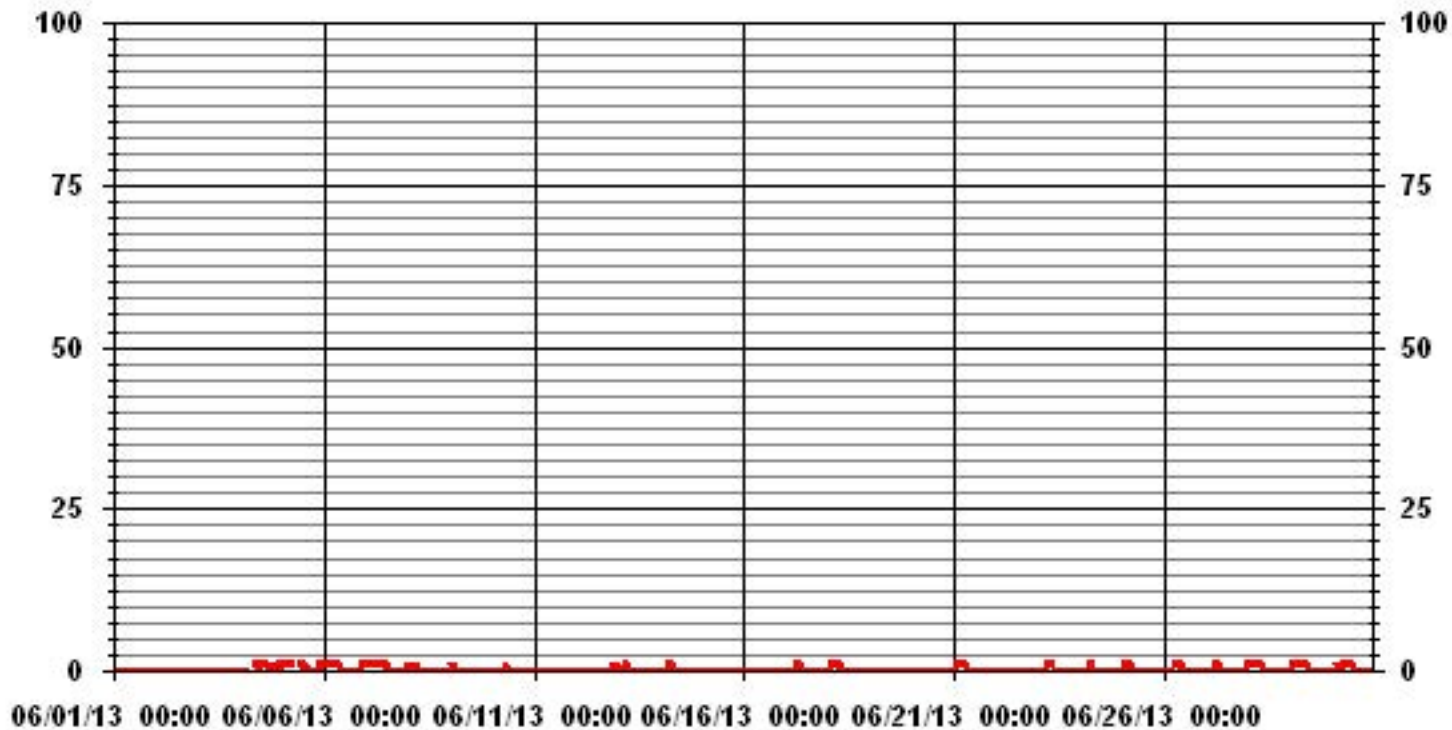
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

### MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	105
MAXIMUM 1-HR AVERAGE:	1 PPB @ HOUR(S) VAR ON DAY(S) VAR
MAXIMUM 24-HR AVERAGE:	0.6 PPB ON DAY(S) 5 VAR-VARIOUS
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	4 HRS
OPERATIONAL TIME:	718 HRS
AMD OPERATION UPTIME:	99.7 %
STANDARD DEVIATION:	0.36
MONTHLY AVERAGE:	0.15 PPB



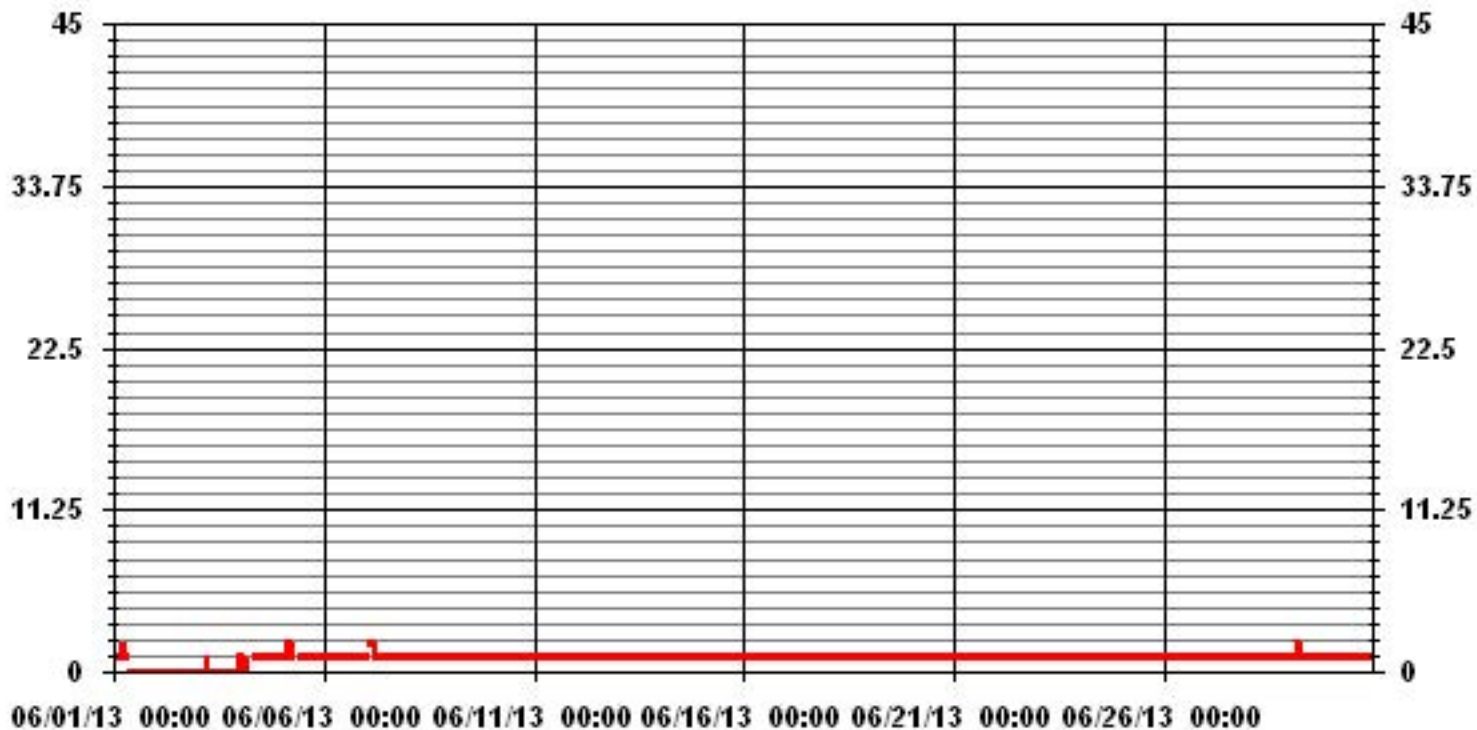
# 01 Hour Averages



— LICA TRS\_ PPB



### 01 Hour Averages



LICA  
 TRS\_ / WDR Joint Frequency Distribution (Percent)

June 2013

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	2.34	2.48	3.07	5.71	7.02	8.93	14.64	7.32	3.51	2.48	4.09	7.90	12.73	10.54	5.27	1.90	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	2.34	2.48	3.07	5.71	7.02	8.93	14.64	7.32	3.51	2.48	4.09	7.90	12.73	10.54	5.27	1.90	

Calm : .00 %

Total # Operational Hours : 683

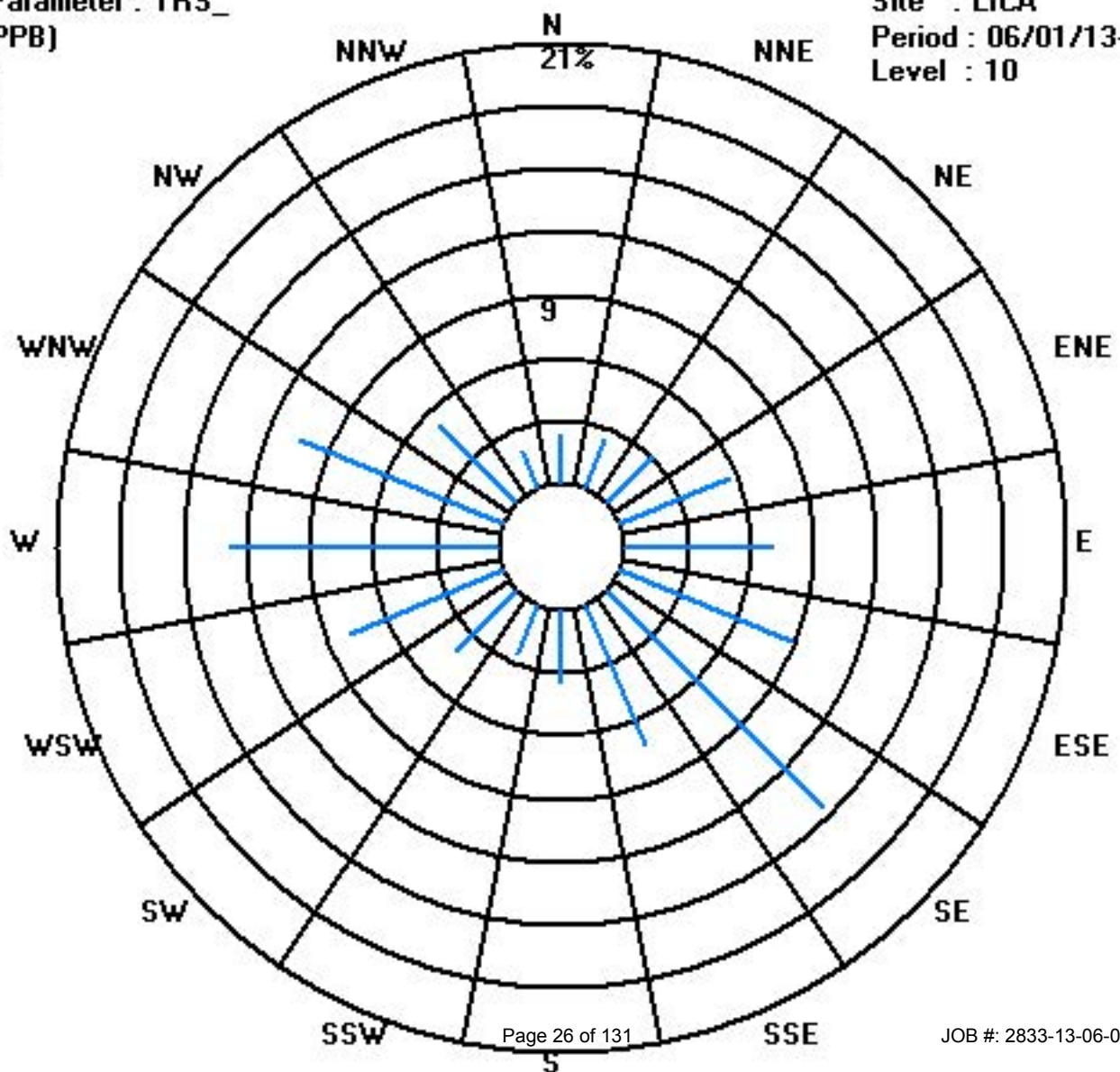
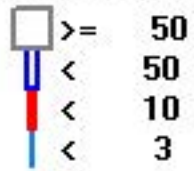
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	16	17	21	39	48	61	100	50	24	17	28	54	87	72	36	13	683
< 10																	
< 50																	
>= 50																	
Totals	16	17	21	39	48	61	100	50	24	17	28	54	87	72	36	13	

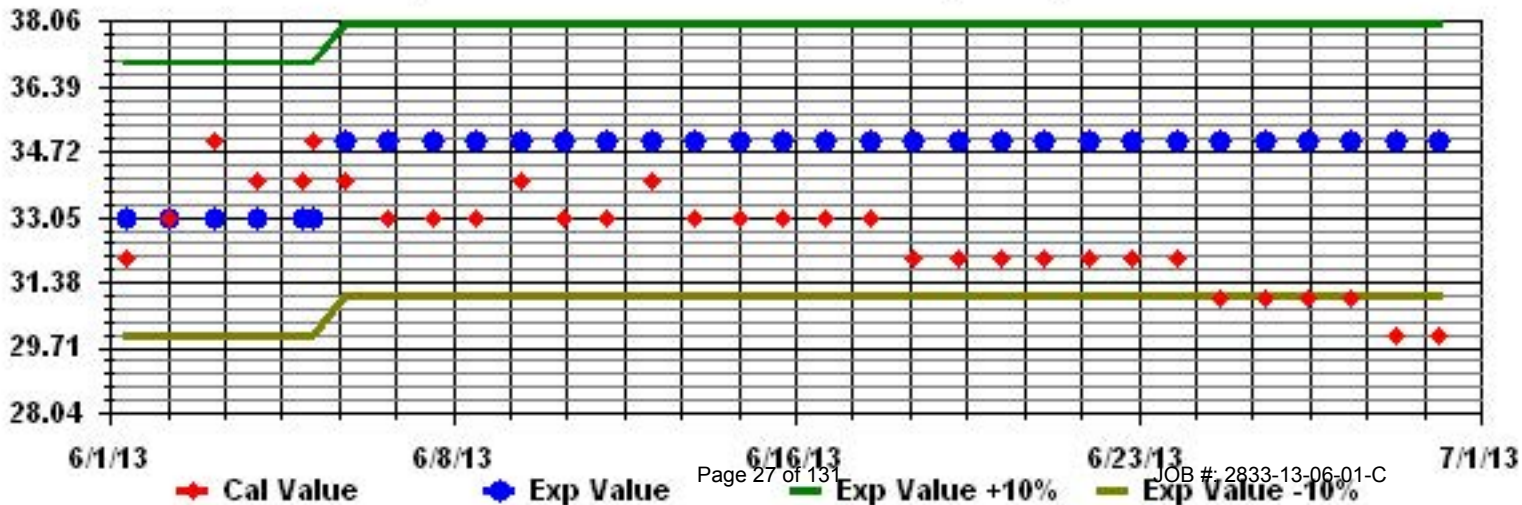
Calm : .00 %

Total # Operational Hours : 683

Class Limits (PPB)



Calibration Graph for Site: LICA Parameter: TRS\_ Sequence: TRS Phase: SPAN





# Total Hydrocarbons

## LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2013

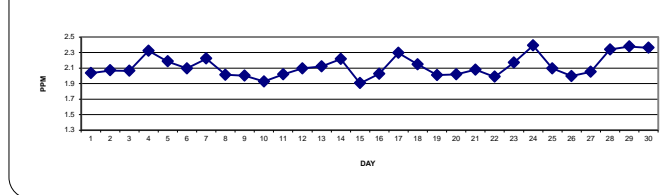
### TOTAL HYDROCARBONS (THC) hourly averages in ppm

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

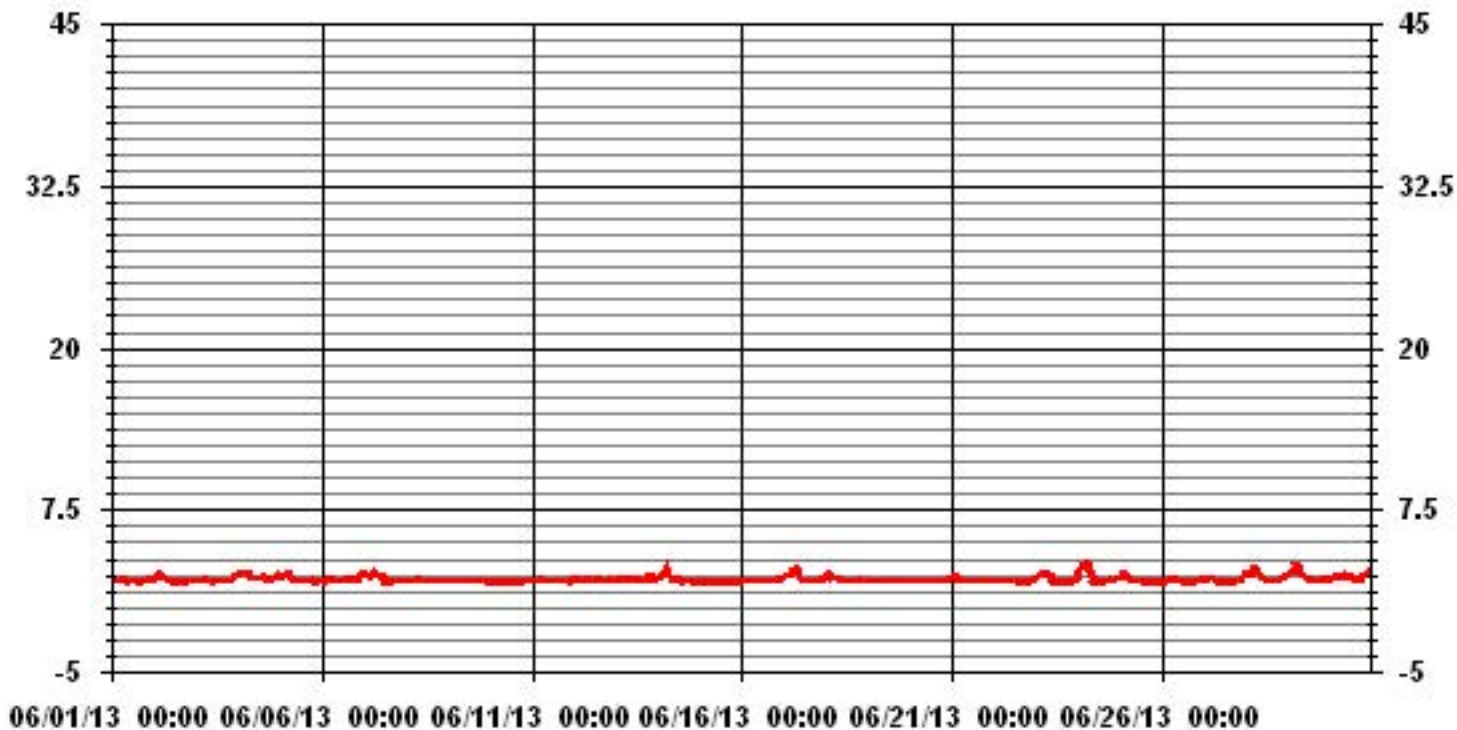
24 AVERAGES FOR JUNE 2013



#### MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	686					
MAXIMUM 1-HR AVERAGE:	3.4	PPM	@ HOUR(S)	4, 5	ON DAY(S)	24
MAXIMUM 24-HR AVERAGE:	2.4	PPM			ON DAY(S)	VAR
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:		720	HRS
MONTHLY CALIBRATION TIME:	3	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	0.24		MONTHLY AVERAGE:		2.12	PPM

### 01 Hour Averages



— LICA THC PPM

## LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2013

### TOTAL HYDROCARBONS MAX      instantaneous maximum in ppm

MST																									DAILY	24-HOUR		
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	MAX.	AVG.	RDGS.	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00				
DAY																												
1	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.1	S	2.3	2.3	2.1	2	2	2	2	2.1	2	2	2	2.2	2.3	2.3	2.3	2.3	2.1	24	
2	2.3	2.5	2.6	2.7	2.7	2.4	2.3	S	2	2	2.1	2.1	2	2	2	2	2	2	2	2.1	2.1	2.1	2.2	2	2.7	2.2	24	
3	2.1	2.1	2	2.4	2.3	2.3	S	2	2	2	2	2	2	2	2	2	2	2	2	2.1	2.3	2.4	2.4	2.4	2.4	2.1	24	
4	2.7	2.7	2.7	2.7	2.7	S	3.3	2.5	2.4	2.4	2.3	2.2	2.3	2.3	2.3	2.4	2.3	2.1	2.2	2.1	2.5	2.4	2.6	2.7	3.3	2.5	24	
5	2.6	2.5	2.5	2.8	S	2.9	2.4	2.4	2.2	C	C	C	C	2	2	2	Y	2	2.2	2.2	2.2	2	2	2.1	2.9	2.3	23	
6	2.1	2	2	S	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.2	2.3	2.9	2.8	2.9	2.2	24	
7	2.6	2.7	S	2.4	2.5	3	3.1	2.7	2.8	2.6	2.6	2.5	2.3	2	2.4	2	2	2	2	2	2.1	2	2	2	3.1	2.4	24	
8	2	S	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	2.1	2	2	2.1	2	2.2	2.1	24	
9	S	2	2	2	2	2.1	2.1	2.1	2.1	2	2.1	2	2	2.1	2.1	2.1	2	2	2	2.1	2.1	2.1	2.1	2.1	S	2.1	2.1	24
10	1.9	1.9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.3	2.4	2	2	S	2.1	2.4	2.0	24
11	2	2	2.1	2	2.1	2.1	2.1	2.1	2	2	2.1	2.1	2.1	2	2.1	2.1	2.1	2.1	2.1	2.1	2	2.1	S	2	2.2	2.2	2.1	24
12	2.2	2.4	2.3	2.2	2.4	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.7	2.2	2.2	2.1	2.2	2.1	2.1	2.1	S	2.1	2.2	2.2	2.7	2.2	24	
13	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.3	2.2	2.1	2.1	2.2	2.3	S	2.8	2.3	2.5	2.6	2.8	2.3	24	
14	2.3	2.4	2.5	2.8	3.2	4	2.6	2.5	2.4	2.3	2.3	2.2	2.1	2.2	2.2	2	2	S	2	2	2	2	2	4	2.4	2.4	24	
15	2	2	1.9	2	2	1.9	1.9	2.5	2.1	2.1	2.2	2.5	2.2	2	2	2	1.9	S	2	2.2	2.1	2	2	2	2.5	2.1	24	
16	2.3	2	2	2	2	2.1	2.1	2	2	2	2	2.1	2.1	2.1	2.2	2	S	2	2	2.1	2.1	2.1	2.2	2.4	2.4	2.1	24	
17	2.4	2.5	2.5	2.7	2.8	3.1	3	3.1	3	2.6	2.1	2.1	2	2	2	S	2.1	2	2	2	2.1	2.2	2.3	2.9	3.1	2.4	24	
18	2.5	2.7	2.6	2.5	2.5	2.4	2.3	2.3	2.2	2.1	2	2.1	2	2	S	2	2	2.1	2.3	2.4	2.2	2.1	2	2.1	2.7	2.2	24	
19	2.2	2.3	2	2	2.1	2.1	2.1	2	2.1	2.2	2	2	2	S	2.1	2	2	2	2.2	2.1	2.9	2.1	2	2	2.9	2.1	24	
20	2	2	2	2	2	2	2	2.1	2	2.1	2	2	S	2.1	2.2	2.1	2	2	2.1	2.1	2.2	2.2	2.4	2.4	2.1	2.4	24	
21	2.5	2.6	2.3	2.5	2.5	2.3	2.2	2.1	2.2	2.1	2.1	S	2	2	2.1	2.1	2.1	2	2	2	2	2.3	2	2.1	2.6	2.2	24	
22	2	2.1	2.1	2	2	2	2.1	2.2	2.1	2.1	S	2.1	2	2	2	2	2	2	2	2	2.2	2.1	2.1	2.4	2.4	2.1	24	
23	2.4	2.5	2.5	2.9	2.8	2.7	2.6	2.7	2.6	S	2	2	2	2.1	2	2	2	2	2	2	1.9	2	2.1	2.2	2.5	2.9	2.3	24
24	3	3.1	3.2	3.4	3.5	3.5	3.5	2.7	S	2.2	2.2	2	2	2	2	2	2	2.1	2	2.1	2.2	2.2	2.3	2.3	3.5	2.5	24	
25	2.5	2.8	2.7	2.5	2.7	2.6	2.2	S	2.1	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2	2	2	2	2	2	2.8	2.2	24
26	2	2	2	2.1	2.1	2.2	S	2.2	X	2.1	2	2.1	3	2	2	2	2	2	2	2	2.1	2.1	2.1	2.1	2.1	3	2.1	23
27	2.2	2.2	2.2	2.3	2.4	S	2.4	2.2	2	2	2	2	2.1	2	2	2	2	2	2	2	2	2.3	2.5	2.5	2.5	2.1	24	
28	2.5	2.6	2.8	2.7	S	3.2	3.2	2.9	2.7	2.4	2.4	2.3	2.3	2.1	2	2.1	2	2	2.1	2.2	2.3	2.4	2.5	2.7	3.2	2.5	24	
29	2.9	2.9	3.2	S	3.6	3.1	2.8	3.1	2.9	2.7	2.5	2.2	2.2	2.4	2.3	2.2	2.2	2.1	2.5	2.1	2.1	2.2	2.2	2.2	3.6	2.5	24	
30	2.2	2.3	S	2.4	2.3	2.6	2.9	2.5	3	2.6	2.5	2.4	2.3	2.4	2.3	2.2	2.2	2.3	2.3	2.6	2.6	2.6	3.4	3.1	3.4	2.5	24	
HOURLY MAX	3.0	3.1	3.2	3.4	3.6	4.0	3.5	3.1	3.0	2.7	2.6	2.5	3.0	2.4	2.4	2.4	2.3	2.3	2.5	2.6	2.9	2.6	3.4	3.1				
HOURLY AVG	2.3	2.3	2.3	2.4	2.4	2.5	2.4	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.2	2.2	2.3	2.3				

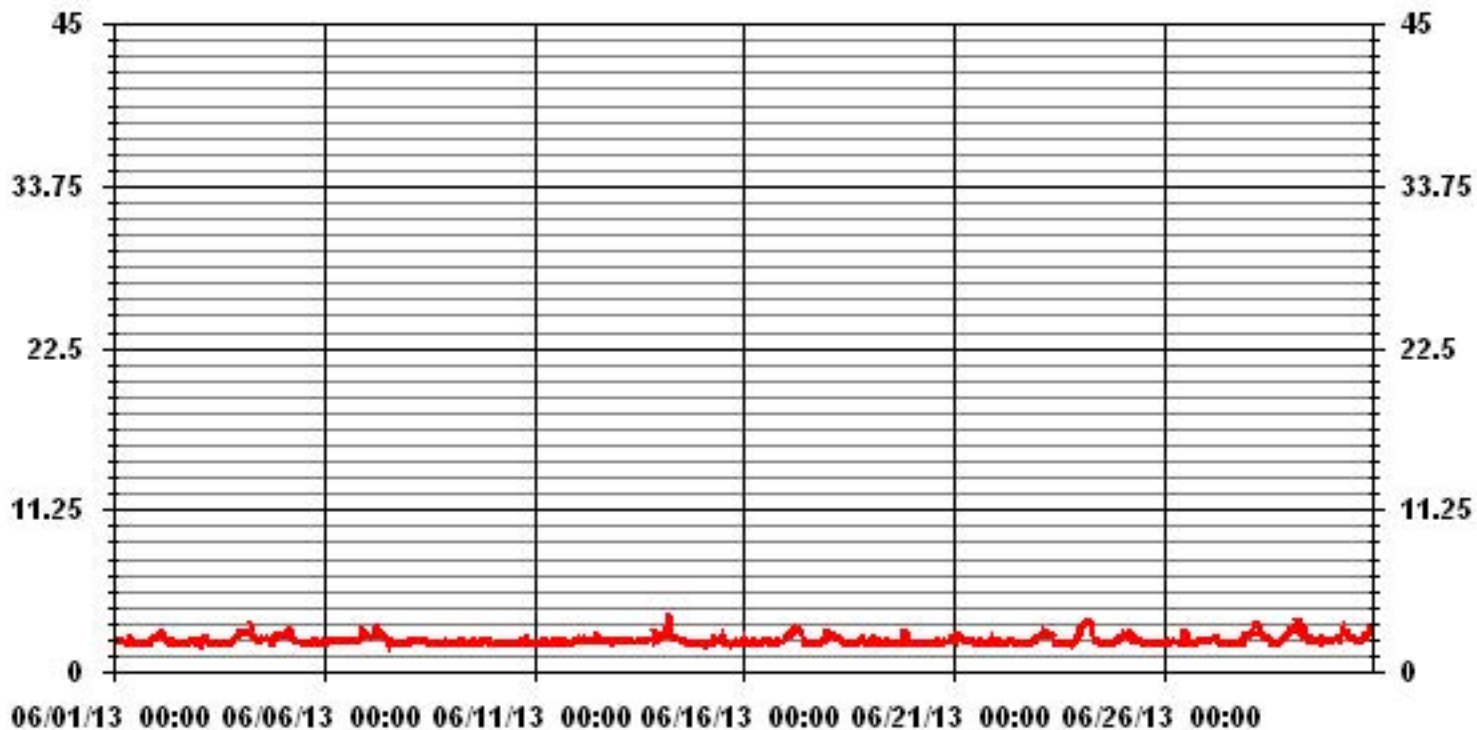
**STATUS FLAG CODES**

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:	683					
MAXIMUM INSTANTANEOUS VALUE:	4.0	PPM	@ HOUR(S)	5	ON DAY(S)	14
S CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	718 HRS		
MONTHLY CALIBRATION TIME:	4	HRS				
STANDARD DEVIATION:	0.30					

### 01 Hour Averages



— LICA THCMAX PPM

LICA  
 THC / WD Joint Frequency Distribution (Percent)

June 2013

Distribution By % Of Samples

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

Wind Parameter : WD  
 Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 3.0	2.18	2.47	3.06	5.68	6.99	8.89	14.86	7.28	3.49	2.62	4.08	6.99	12.24	10.49	5.24	1.89	98.54
< 10.0	.14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.87	.43	.00	.00	.00	1.45
< 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	2.33	2.47	3.06	5.68	6.99	8.89	14.86	7.28	3.49	2.62	4.08	7.87	12.68	10.49	5.24	1.89	

Calm : .00 %

Total # Operational Hours : 686

Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 3.0	15	17	21	39	48	61	102	50	24	18	28	48	84	72	36	13	676
< 10.0	1											6	3				10
< 50.0																	
>= 50.0																	
Totals	16	17	21	39	48	61	102	50	24	18	28	54	87	72	36	13	

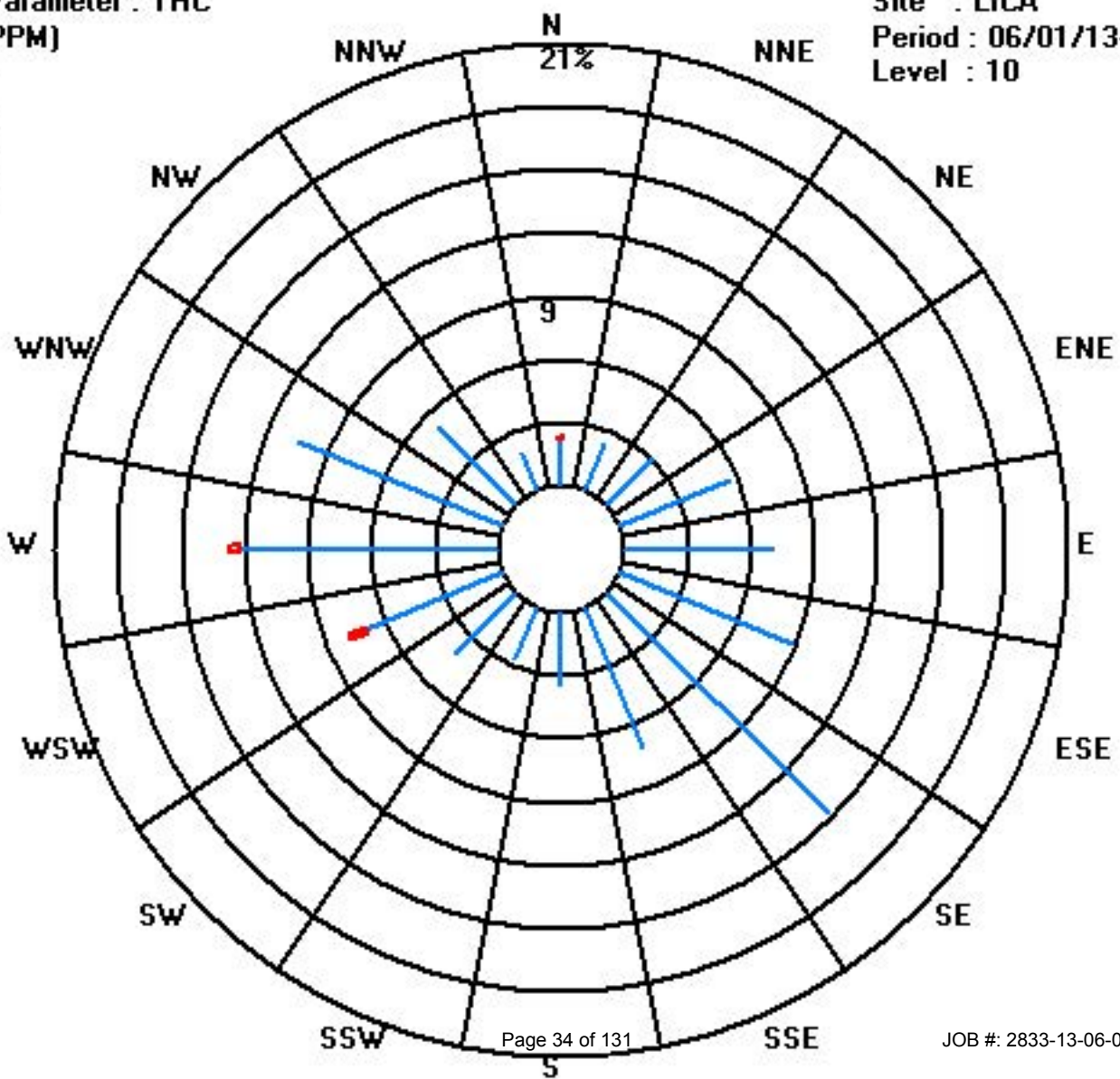
Calm : .00 %

Total # Operational Hours : 686

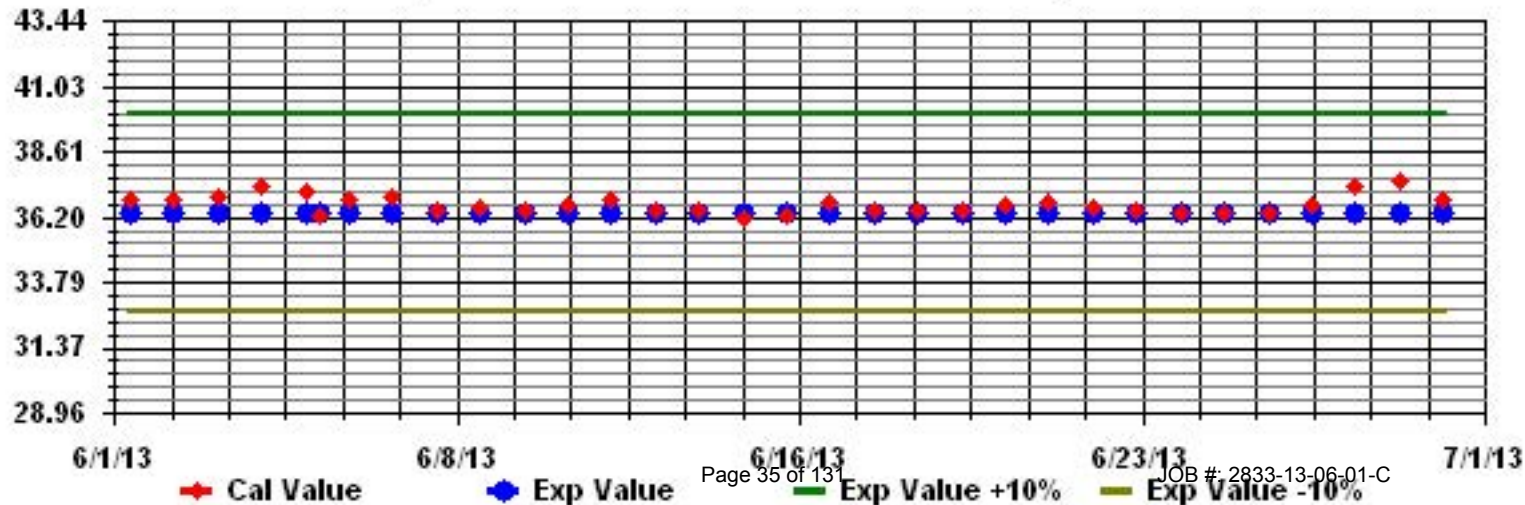
Class Limits (PPM)

Period : 06/01/13-06/30/13

Level : 10



Calibration Graph for Site: LICA Parameter: THC Sequence: THC Phase: SPAN





# Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2013

PARTICULATE MATTER 2.5 (PM2.5) hourly averages in ug/m<sup>3</sup>

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOURLY START	HOURLY END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																													
1		15	7	15	12	9	11	15	12	11	13	13	11	9	4	6	9	9	7	8	11	7	13	17	15	17	10.8	24	
2		17	15	19	18	19	15	15	17	16	11	11	9	11	6	8	40	8	9	7	6	7	10	8	0	40	12.6	24	
3		6	1	6	6	7	11	12	19	6	5	9	8	8	13	6	8	14	12	6	10	4	3	13	8	19	8.4	24	
4		9	6	8	7	13	8	20	6	X	10	3	15	2	10	9	9	13	5	9	5	9	16	12	3	20	9.0	23	
5		9	10	6	6	6	8	10	6	X	0	C	21	18	5	15	20	8	4	8	10	17	8	2	9	21	9.4	23	
6		9	5	3	10	5	2	4	8	5	5	4	9	2	13	6	4	4	7	8	5	9	11	0	3	13	0.0	24	
7		4	1	7	11	8	12	9	3	7	4	11	7	18	11	8	9	5	7	7	5	5	7	6	8	18	7.5	24	
8		8	12	10	11	8	6	9	5	8	7	9	6	8	5	9	8	4	10	9	7	4	1	4	3	12	7.1	24	
9		4	4	4	1	4	0	2	5	3	0	6	0	2	0	1	1	0	0	1	1	1	2	4	0	6	1.9	24	
10		0	1	0	4	3	0	1	1	2	1	0	0	0	4	4	4	7	5	0	4	11	16	15	14	16	4.0	24	
11		14	10	16	17	18	18	16	16	21	27	8	16	22	18	3	11	13	10	5	11	8	17	9	4	27	13.7	24	
12		8	10	9	11	10	10	20	14	15	9	15	15	10	10	17	14	18	11	14	15	15	16	12	10	20	12.8	24	
13		17	12	16	16	12	14	22	16	11	17	12	8	20	14	16	20	6	8	11	15	16	14	9	9	22	13.8	24	
14		9	10	9	11	16	22	15	14	21	5	3	8	10	6	8	11	6	4	8	4	4	3	1	4	22	8.8	24	
15		4	4	5	7	10	3	0	2	5	4	6	5	4	5	1	8	13	16	14	16	19	11	10	9	19	7.5	24	
16		10	11	10	14	16	15	8	17	29	40	38	33	28	24	33	25	34	23	25	19	21	21	22	19	40	22.3	24	
17		24	19	22	20	22	24	27	34	36	36	47	49	37	21	17	27	19	20	21	9	10	13	14	14	49	24.3	24	
18		22	14	11	5	17	15	11	17	15	26	32	21	25	14	15	16	26	17	6	13	14	17	14	6	32	16.2	24	
19		18	5	9	7	7	15	9	11	4	10	10	21	15	14	7	16	16	10	12	11	9	8	9	10	21	11.0	24	
20		9	10	10	10	10	8	12	21	9	12	14	14	15	14	12	30	9	22	14	16	13	15	17	12	30	13.7	24	
21		13	16	21	12	22	13	15	14	20	4	8	14	12	5	9	14	1	5	3	5	9	4	10	6	22	10.6	24	
22		10	11	17	20	16	15	9	10	8	11	11	9	7	8	8	8	10	8	10	6	3	4	3	12	20	9.8	24	
23		12	12	12	12	15	8	9	8	14	15	8	8	8	6	3	3	6	6	5	2	2	8	2	4	15	7.8	24	
24		5	7	6	3	5	8	12	8	15	11	11	0	6	0	10	11	22	18	15	4	20	8	13	12	22	9.6	24	
25		12	7	7	13	10	7	9	10	4	2	18	2	9	8	3	0	4	6	4	8	8	12	10	5	18	7.4	24	
26		10	2	3	3	2	3	8	7	8	6	5	11	8	9	7	3	5	10	5	5	5	8	11	5	11	6.2	24	
27		8	11	10	9	10	9	15	9	0	8	8	8	11	10	9	6	5	0	5	16	4	0	8	4	16	7.6	24	
28		5	13	9	7	9	13	5	11	0	0	0	C	11	4	2	0	8	6	0	2	0	9	5	8	13	5.5	24	
29		9	8	12	22	14	5	11	19	11	8	13	4	1	8	9	6	12	13	12	14	13	20	14	11	22	11.2	24	
30		8	13	9	14	7	15	15	15	20	22	20	16	17	18	21	14	15	17	21	21	11	16	20	16	22	15.9	24	
HOURLY MAX		24	19	22	22	22	24	27	34	36	40	47	49	37	24	33	40	34	23	25	21	21	21	22	19				
HOURLY AVG		10.3	8.9	10.0	10.6	11.0	10.4	11.5	11.8	11.6	11.0	12.2	12.0	11.8	9.6	9.4	11.8	10.7	9.9	9.1	9.2	9.3	10.4	9.8	8.1				

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

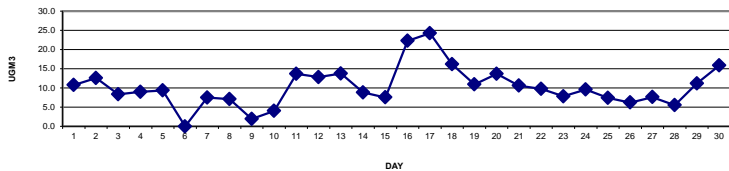
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT: 1-HR - ug/m<sup>3</sup> 24-HR 30 ug/m<sup>3</sup>

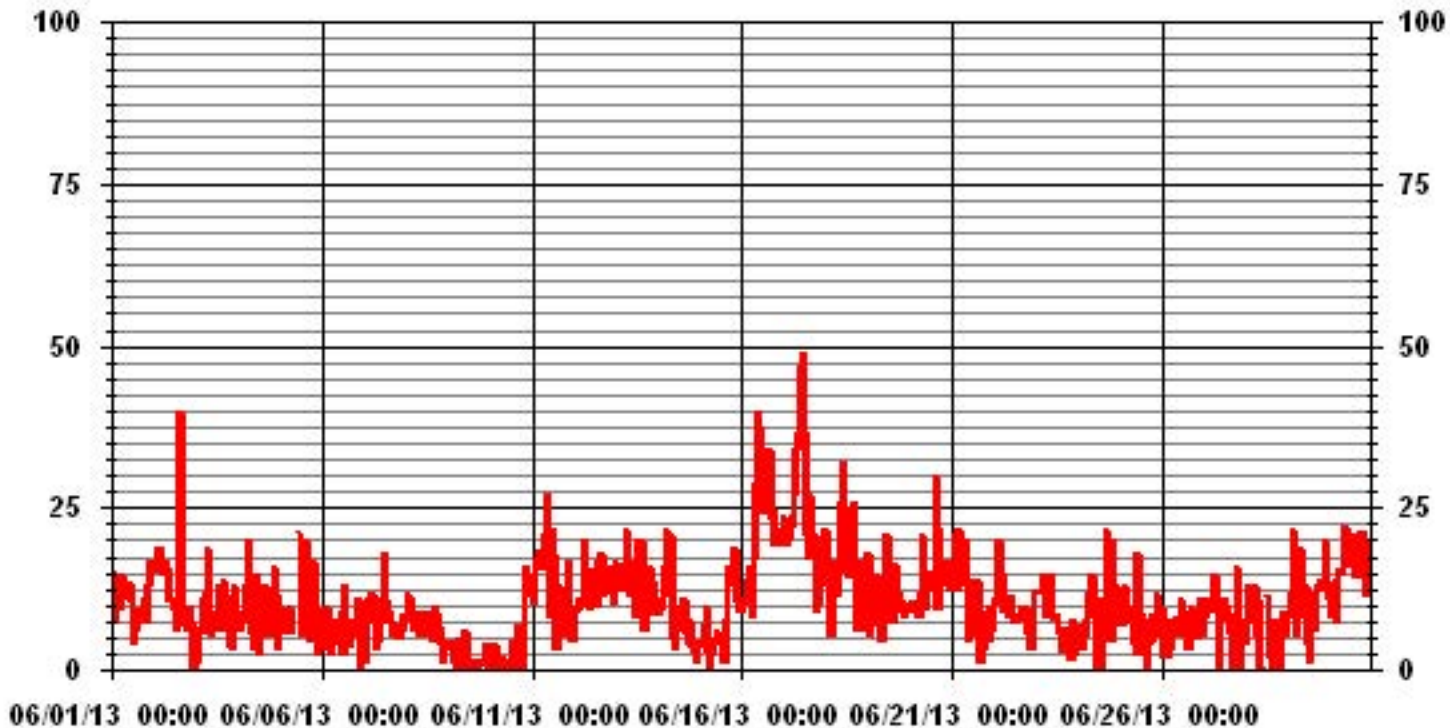
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	-
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	686
MAXIMUM 1-HR AVERAGE:	49 UG/M <sup>3</sup> @ HOUR(S) 11 ON DAY(S) 17
MAXIMUM 24-HR AVERAGE:	24.3 UG/M <sup>3</sup> ON DAY(S) 17
IZS CALIBRATION TIME:	0 HRS
MONTHLY CALIBRATION TIME:	1 HRS
STANDARD DEVIATION:	6.94
OPERATIONAL TIME:	718 HRS
AMD OPERATION UPTIME:	99.7 %
MONTHLY AVERAGE:	10.42 UG/M <sup>3</sup>

24 HOUR AVERAGES FOR JUNE 2013



# 01 Hour Averages



— LICA PM2 UG/M3

LICA  
PM2 / WD Joint Frequency Distribution (Percent)

June 2013

Distribution By % Of Samples

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

Wind Parameter : WD  
Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 30	2.23	2.37	2.93	5.72	7.12	8.51	14.38	6.98	3.77	2.37	3.91	7.68	12.70	10.19	5.16	1.95	98.04
< 60	.00	.13	.13	.13	.00	.13	.41	.13	.00	.00	.27	.55	.00	.00	.00	.00	1.95
< 80	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 120	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 240	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 240	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.23	2.51	3.07	5.86	7.12	8.65	14.80	7.12	3.77	2.37	4.18	8.24	12.70	10.19	5.16	1.95	

Calm : .00 %

Total # Operational Hours : 716

Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 30	16	17	21	41	51	61	103	50	27	17	28	55	91	73	37	14	702
< 60		1	1	1		1	3	1			2	4					14
< 80																	
< 120																	
< 240																	
>= 240																	
Totals	16	18	22	42	51	62	106	51	27	17	30	59	91	73	37	14	

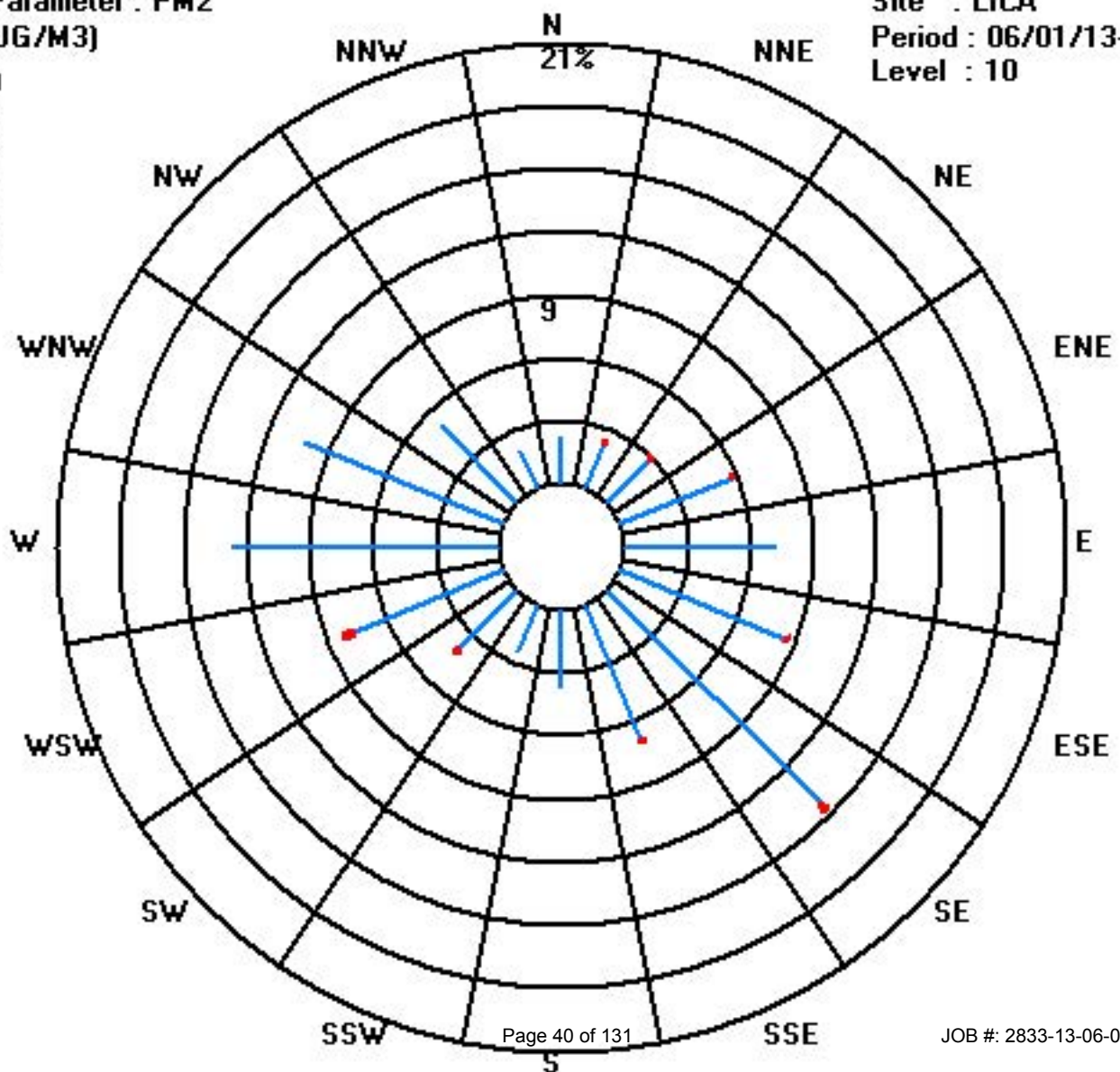
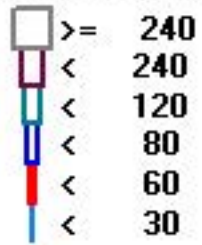
Calm : .00 %

Total # Operational Hours : 716

Class Limits (UG/M3)

Period : 06/01/13-06/30/13

Level : 10



# Nitrogen Dioxide

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2013

## NITROGEN DIOXIDE hourly averages in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	3.8	1.9	1.6	1.8	2.2	2.3	2.6	2.5	S	1.8	1.3	1.6	1.4	1.7	1.7	1.4	1.5	1.9	2.1	1.7	2.3	3.6	5.8	4.6	5.8	2.3	24
2	3.9	4.5	4.2	5.4	5.6	2.9	2	S	1.7	1.5	1.6	1.6	1.4	1.3	1.3	1.2	1.4	1.4	1.9	3.7	3.6	4.1	3.3	2	5.6	2.7	24
3	1.9	1.9	2.8	2.4	2.8	3	S	2.4	1.9	2.9	1.2	1.2	1.1	1	1.1	1.7	2.1	1.5	0.8	1.7	3.8	6.4	5.3	5.7	6.4	2.5	24
4	5	3.3	3.2	5	3.8	S	6.4	Y	Y	1.7	1.7	1.9	1.4	1.9	2	2.1	2.1	1.7	1.4	1.6	3.3	3.7	2.8	2.6	6.4	2.8	22
5	2.1	2.5	2.8	3.4	S	3.8	3.5	C	C	C	C	C	C	1.3	1.2	1.3	1.1	1.4	1.8	1.7	1.4	1.4	2.1	2.3	3.8	2.1	24
6	2	1.5	1.7	S	2.7	2.3	1.9	1.6	1.8	1.1	1	0.8	1.1	1	1	1.1	1	1	1.1	2	4.3	3.7	3	2.9	4.3	1.8	24
7	3.7	3.1	S	3.2	3.7	3.9	5.7	5.6	6.7	4.6	2.7	2.2	1.2	0.9	1.8	3.6	2.5	2.9	1.5	1.9	2.9	3.2	3.2	3.3	6.7	3.2	24
8	2.2	S	2.4	1.7	1.5	1.2	2.2	1.9	1.8	1.5	1.3	1.5	1.3	1.2	1.4	1.2	1.7	1.6	1.8	1.3	1.5	2.7	2.2	1.7	2.7	1.7	24
9	S	1.4	1.2	1.2	1.1	1.2	1.4	1.4	0.9	0.8	0.6	0.5	0.7	0.5	0.6	0.6	0.3	0.4	0.9	0.9	0.9	0.8	0.8	S	1.4	0.9	24
10	0.8	0.8	0.8	1.2	1.4	1.4	1.2	1.3	1.5	1.4	1.5	1.2	1.6	0.8	0.9	1.5	1	1.1	0.9	1	1	1	S	1.9	1.9	1.2	24
11	1.4	1.3	1.7	1.3	1.7	2.4	2.6	2.4	2.1	1.6	3	2	1.6	1.4	2.1	1.2	1.2	1.4	1.3	1	1.4	S	2.1	2	3	1.7	24
12	1.8	1.6	1.4	2.8	3.4	2.9	3	1.5	1.1	1	1.2	1.1	1.7	1.4	1.2	1.3	2.1	2.3	3.3	2.4	S	3.1	4.1	4.1	4.1	2.2	24
13	3.5	2.3	2.7	2.3	4.4	6.2	2.4	2	2	1.9	1.9	2.4	2.6	2.4	3.7	2.4	6.5	2.8	3.8	S	3.7	2.9	2	1.8	6.5	3.0	24
14	2.1	2.1	1.5	1.8	1.6	3.8	3.8	4.3	7.1	2.5	2.1	1.7	1.6	3.5	2.5	2	1.7	1.9	S	2.5	2.6	0.9	0.9	2.5	7.1	2.5	24
15	1.2	1	1.2	1.3	1.1	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.8	0.7	0.7	0.9	0.5	S	0.8	0.9	0.8	0.8	0.6	0.4	1.3	0.8	24
16	0.3	0.5	0.3	0.4	0.6	0.8	0.8	0.7	1	1.4	1.4	1.6	1.3	0.8	0.9	0.8	S	0.9	1	1.4	1.5	1.8	1.6	1.6	1.8	1.0	24
17	2.1	1.8	1.3	1.6	2.4	2.6	3.4	4.8	5.4	2.4	2	1.7	1.7	1.3	1.5	S	1.1	1	0.9	1.2	2.9	3.3	2.1	3.6	5.4	2.3	24
18	2.7	2.1	2.1	1.6	3.5	5.1	2.9	2.8	2.3	1.3	1.2	1.1	1.2	0.9	S	1.2	1.3	0.9	1.6	3.1	2.3	2.2	0.9	0.6	5.1	2.0	24
19	0.5	0.9	0.5	0.6	1.2	0.9	0.8	1.3	0.9	0.9	0.6	0.6	0.4	S	1.4	1.5	1.2	1.2	1.7	1.7	2.8	1.2	0.9	0.6	2.8	1.1	24
20	1	0.5	0.6	0.7	0.9	1	0.6	1.5	1.5	1	1	0.8	S	1.2	1	0.5	0.6	0.5	0.6	0.9	1.1	2.2	1.6	2	2.2	1.0	24
21	1.8	1.2	1.6	1.2	1.4	1.6	2.2	1.2	0.7	0.6	0.6	S	0.7	0.6	0.9	1.8	1	1.2	1.3	1.4	1.5	1	0.9	0.8	2.2	1.2	24
22	0.5	0.7	0.6	0.9	1.5	0.9	0.9	1	0.9	1.1	S	0.9	0.8	1.3	1	0.6	0.6	0.8	0.5	0.5	0.9	1.8	1.7	2.6	2.6	1.0	24
23	2.5	2.4	3.1	3.8	4.4	3.1	3.2	4.2	2.6	S	0.7	0.7	0.6	0.8	0.5	1.5	1	1.2	1.1	0.9	1.2	2.2	2.4	1.8	4.4	2.0	24
24	3.7	4.5	6.2	6.6	7.1	5	4.2	3.4	S	1.2	1	1.1	0.6	0.5	0.7	0.8	1.1	0.9	0.7	1.7	3.2	4.6	4.9	2.3	7.1	2.9	24
25	2	2	2.1	2.4	4.1	3.3	2.9	S	1.6	2.2	2.5	2	2.1	1.4	2.6	1.6	1.9	1.8	1.9	2.4	1.5	1.4	2.2	1.1	4.1	2.1	24
26	0.9	1.1	1.6	1.9	1.7	1.2	S	1.7	2	1.5	1.4	1.6	1.8	1.2	1.5	1.3	1.1	1.1	0.9	1.5	1.5	2	1.4	2.1	2.1	1.5	24
27	2.2	2	2.7	3.3	2.5	S	2.3	1.6	0.7	0.7	0.8	0.7	0.7	0.9	0.8	0.7	0.5	0.7	0.7	1	1.9	2.5	3.2	2.9	3.3	1.6	24
28	4.1	3.4	2.9	2.2	S	4.2	5.4	6.4	4.3	1.6	1.4	1	0.6	0.3	0.2	0.1	0.1	0.3	0.5	1	2.5	3.2	7.4	2.3	7.4	2.4	24
29	2.2	1.8	1.9	S	1.9	2.1	2	2.1	1.7	1.5	1	0.7	0.6	0.8	0.7	0.7	0.6	0.6	0.7	1.2	2	1.9	0.9	0.6	2.2	1.3	24
30	0.8	2.3	S	2.3	2.3	1.7	2	2	1.8	1.3	1.5	1.6	1.2	1.3	0.8	0.8	0.7	0.8	0.8	1	1.9	2.7	2.2	1.8	2.7	1.5	24
HOURLY MAX	5.0	4.5	6.2	6.6	7.1	6.2	6.4	6.4	7.1	4.6	3.0	2.4	2.6	3.5	3.7	3.6	6.5	2.9	3.8	3.7	4.3	6.4	7.4	5.7			
HOURLY AVG	2.2	1.9	2.0	2.3	2.6	2.6	2.6	2.4	2.2	1.6	1.4	1.3	1.2	1.2	1.3	1.3	1.4	1.3	1.3	1.6	2.1	2.5	2.5	2.2			

### STATUS FLAG CODES

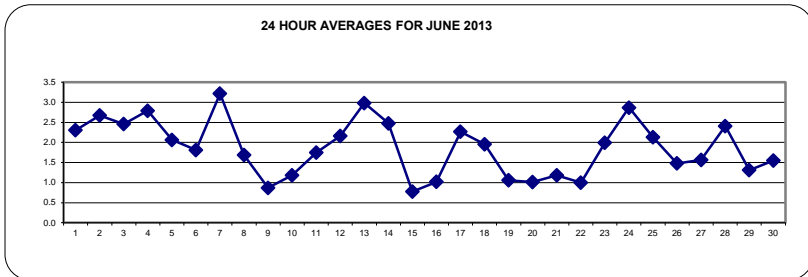
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT:

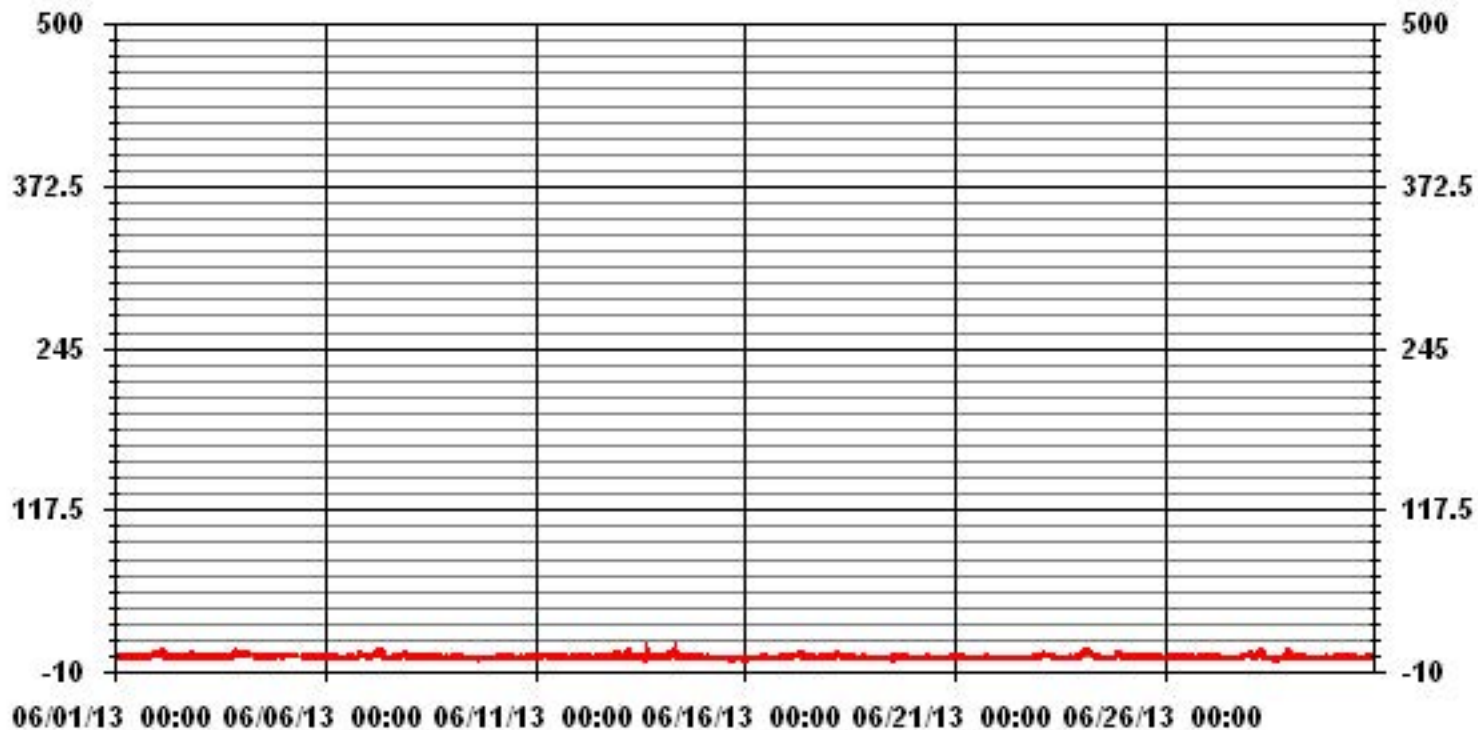
ALBERTA ENVIRONMENT: 1-HR 159 PPB

### MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	681					
MAXIMUM 1-HR AVERAGE:	7.4	PPB	@ HOUR(S)	22	ON DAY(S)	28
MAXIMUM 24-HR AVERAGE:	3.2	PPB			ON DAY(S)	7
S CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	718	HRS	
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:	99.7	%	
STANDARD DEVIATION:	1.23		MONTHLY AVERAGE:	1.86	PPB	



### 01 Hour Averages



— LICA NO2\_ PPB



# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2013

## NITROGEN DIOXIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	5.5	2.5	2	3	3	3.5	3.5	3.5	S	7.3	7.3	2.3	1.9	2.4	1.9	1.9	4.9	2.9	2.9	1.9	3.4	6.3	10.4	6.4	10.4	3.9	24
2	5.4	5.4	5.4	9.9	8.4	8.4	2.4	S	2.1	1.6	4.5	2.5	3.6	2.1	3.1	2.5	5.1	3.1	3.6	12.5	4.6	5.6	5.1	2.3	12.5	4.7	24
3	2.6	2.6	4.6	3.6	7.6	9.6	S	9.6	2.6	31.6	3.1	1.6	2.1	2.1	2.6	15	23.1	12.5	2.1	4.1	8.1	14	7.1	6.6	31.6	7.8	24
4	7.6	6.1	4.1	8.6	4.6	S	11	Y	Y	5.5	3	7.4	4	4.5	2.5	4.5	9	4.5	2.9	2.4	6.9	5	4	5.5	11	5.4	22
5	2.5	4	3.5	4	S	4.5	5.9	C	C	C	C	C	C	5.5	2	1.9	Y	2.5	4.5	2.5	2	2	3	2.5	5.9	3.3	23
6	2.5	2	2	S	3	3	2	2	2.5	1.5	1.5	0.9	2.5	2	2	3	2	1.5	1.5	3	8.5	4.5	4	3.5	8.5	2.6	24
7	6.5	4	S	7	5	5	24	8.5	12.9	16.9	6.4	4.5	3.5	1.5	6	5	4	6.4	4	4	7	5	6	5	24	6.9	24
8	3	S	4.4	3.9	6.9	1.4	2.9	2.9	4.9	1.9	1.9	2.4	1.4	1.4	1.9	1.4	2.9	2.4	2.3	1.9	3.4	3.4	3.4	2.4	6.9	2.8	24
9	S	1.8	1.3	1.3	1.3	1.3	1.3	1.8	1.3	0.8	0.8	0.8	1.3	0.8	0.8	0.8	0.3	0.8	1.3	1.3	1.3	0.8	0.8	S	1.8	1.1	24
10	1.6	1.1	1.1	2.1	2.1	2.6	2.1	2.1	2.1	2.1	2.1	2.6	2.1	1.6	1.6	2.1	1.6	1.6	1.6	1.6	1.6	1.6	S	2.9	2.9	1.9	24
11	1.9	2.9	2.9	1.9	2.9	3.9	1.9	2.9	2.4	2.4	15.9	2.4	2.9	2.4	2.9	2.3	2.3	1.9	2.4	1.4	2.9	S	2.5	2.5	15.9	3.1	24
12	2	2.5	2	8	7	4	5.5	2.4	2	3.5	7.9	2.4	12.9	6.4	2	6	6.9	3.5	4	12	S	4	6	5	12.9	5.1	24
13	5	3	5	3.5	14.5	12.4	4.5	2.5	2.5	2	4	3.5	5.5	6.4	13.9	3	134.9	3.5	4	S	5.4	4.9	2.9	2.4	134.9	10.8	24
14	2.9	3.4	2.4	3.4	2.9	6.4	4.9	8.4	10.9	3.9	2.9	2.9	3.4	5.4	4.4	2.9	3.4	2.9	S	3.2	3.2	1.7	1.7	3.7	10.9	4.0	24
15	1.7	1.2	1.7	1.7	1.7	0.7	0.7	1.2	0.7	0.7	0.7	0.7	1.2	1.2	1.2	1.7	2.7	S	1.4	1.9	3.9	1.4	1.4	0.9	3.9	1.4	24
16	0.9	0.9	0.4	1.1	0.9	0.9	0.9	1.4	1.9	1.9	1.9	3.9	3.9	1.4	1.9	0.8	S	0.8	1.4	1.9	1.9	2.4	2.9	2.4	3.9	1.7	24
17	2.4	2.4	1.9	2.4	5.8	4.4	4.9	6.8	8.9	2.9	4.4	3.9	4.4	1.9	2.4	S	1.3	1.3	1.3	2.3	5.3	4.3	3.8	4.8	8.9	3.7	24
18	3.8	2.8	2.8	3.8	5.8	13.8	4.3	4.3	5.8	2.8	2.8	2.8	2.3	1.3	S	5.2	5.2	1.7	8.2	8.2	5.2	3.7	1.7	1.2	13.8	4.3	24
19	0.7	4.7	1.2	1.7	2.2	1.7	1.7	3.2	2.2	2.7	2.7	3.2	1.2	S	7.9	5.9	2.9	3.9	5.9	2.9	4.9	2.9	1.4	1.4	7.9	3.0	24
20	1.9	1.4	1.4	0.9	1.4	2.4	4.4	8.9	7.3	3.9	2.4	1.9	S	9.9	3.9	1.9	1.4	0.9	1.4	3.4	2.4	5.4	3.4	2.9	9.9	3.3	24
21	2.4	2.4	2.4	1.9	2.4	2.9	3.4	3.4	2.4	2.4	4.9	S	1.4	2.4	2.4	26.9	2.4	3.4	3.9	2.9	2.4	1.9	2.9	0.9	26.9	3.7	24
22	0.9	1.4	1.4	1.9	2.4	1.9	1.9	2.4	2.9	4.4	S	2.8	3.3	4.3	7.8	1.3	1.8	3.3	1.8	1.8	5.8	3.3	4.3	3.8	7.8	2.9	24
23	3.8	3.8	4.3	4.8	9.3	3.8	4.3	5.3	5.3	S	2	1.5	1.5	2.5	1.5	4	2	2	1.5	1.5	2.5	3	3.5	3	9.3	3.3	24
24	6.5	9	8.5	9.5	9.5	6.5	6	5.5	S	2.4	1.9	1.4	1.4	1.4	1.9	2.9	1.9	1.4	2.4	8.4	12.4	14.9	13.3	4.4	14.9	5.8	24
25	5.4	3.4	2.9	3.4	7.9	5.4	5.9	S	3.9	10.9	17.9	5.4	4.9	4.9	7.9	2.4	4.9	5.4	3.9	3.4	3.9	2.4	2.9	2.4	17.9	5.3	24
26	1.4	2.4	2.9	2.4	3.4	1.9	S	2.4	X	2.9	2.9	3.9	2.9	1.9	4.9	1.9	1.4	1.4	1.4	2.4	2.4	3.9	1.9	3.4	4.9	2.6	23
27	3.4	2.9	3.9	4.4	3.4	S	3.4	2.4	1.4	1.4	1.4	0.9	0.9	5.9	1.9	0.9	0.9	1.4	1.9	1.9	2.9	3.9	3.9	3.4	5.9	2.6	24
28	5.4	3.9	3.9	2.9	S	7.3	6.3	7.8	6.8	2.8	2.3	1.8	1.8	1.3	0.8	0.8	1.3	0.8	0.8	3.3	5.3	5.3	19.2	3.8	19.2	4.2	24
29	3.3	2.8	3.3	S	2.9	4.9	5.4	2.9	2.4	1.9	1.9	1.4	1.4	1.4	1.9	2.9	2.4	1.4	2.4	4.4	3.4	2.9	2.9	0.9	5.4	2.7	24
30	1.4	8.4	S	3.7	5.2	2.7	2.7	4.7	5.2	2.7	3.2	2.2	2.7	3.7	1.7	3.2	1.2	2.7	1.2	1.2	4.2	4.2	3.2	2.7	8.4	3.2	24
HOURLY MAX	7.6	9.0	8.5	9.9	14.5	13.8	24.0	9.6	12.9	31.6	17.9	7.4	12.9	9.9	13.9	26.9	134.9	12.5	8.2	12.5	12.4	14.9	19.2	6.6			
HOURLY AVG	3.3	3.3	3.0	3.8	4.8	4.5	4.6	4.2	4.1	4.6	4.1	2.6	2.9	3.1	3.4	4.0	8.4	2.8	2.7	3.6	4.4	4.3	4.5	3.2			

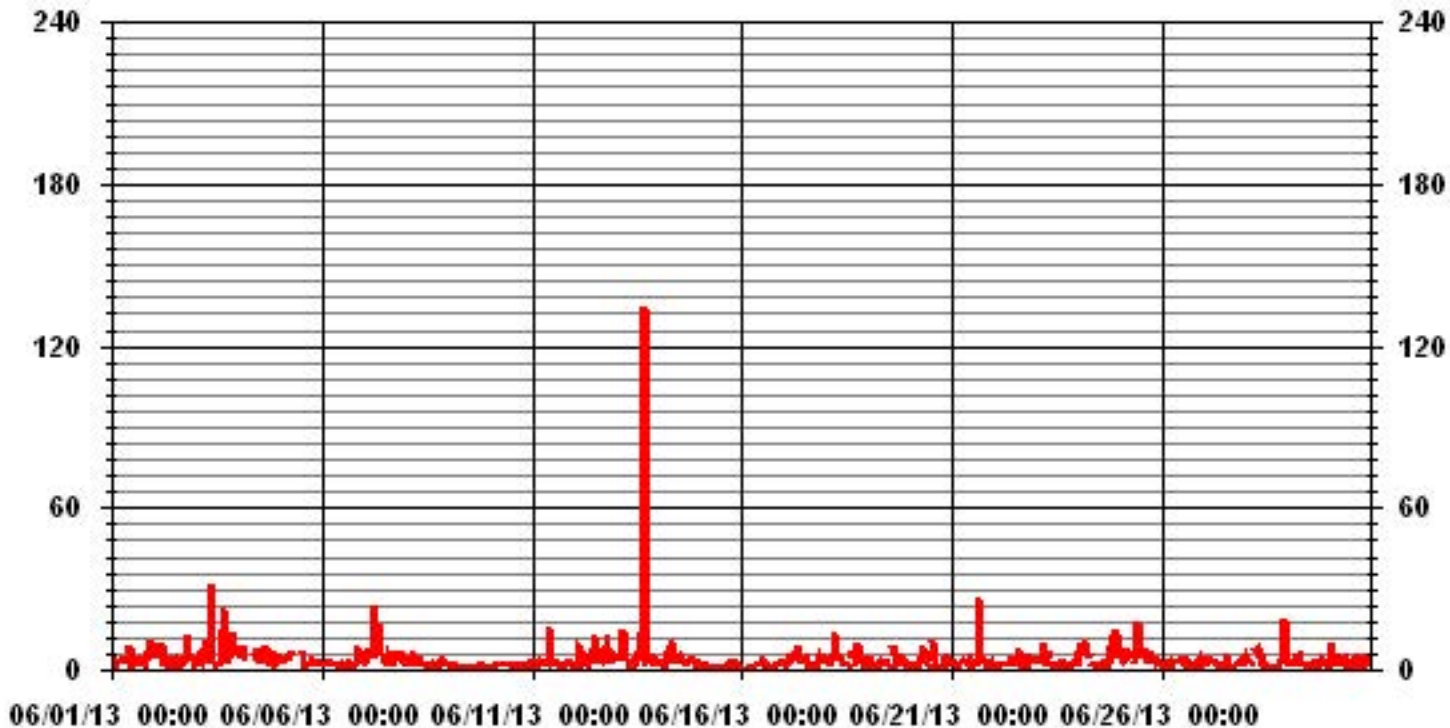
### STATUS FLAG CODES

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

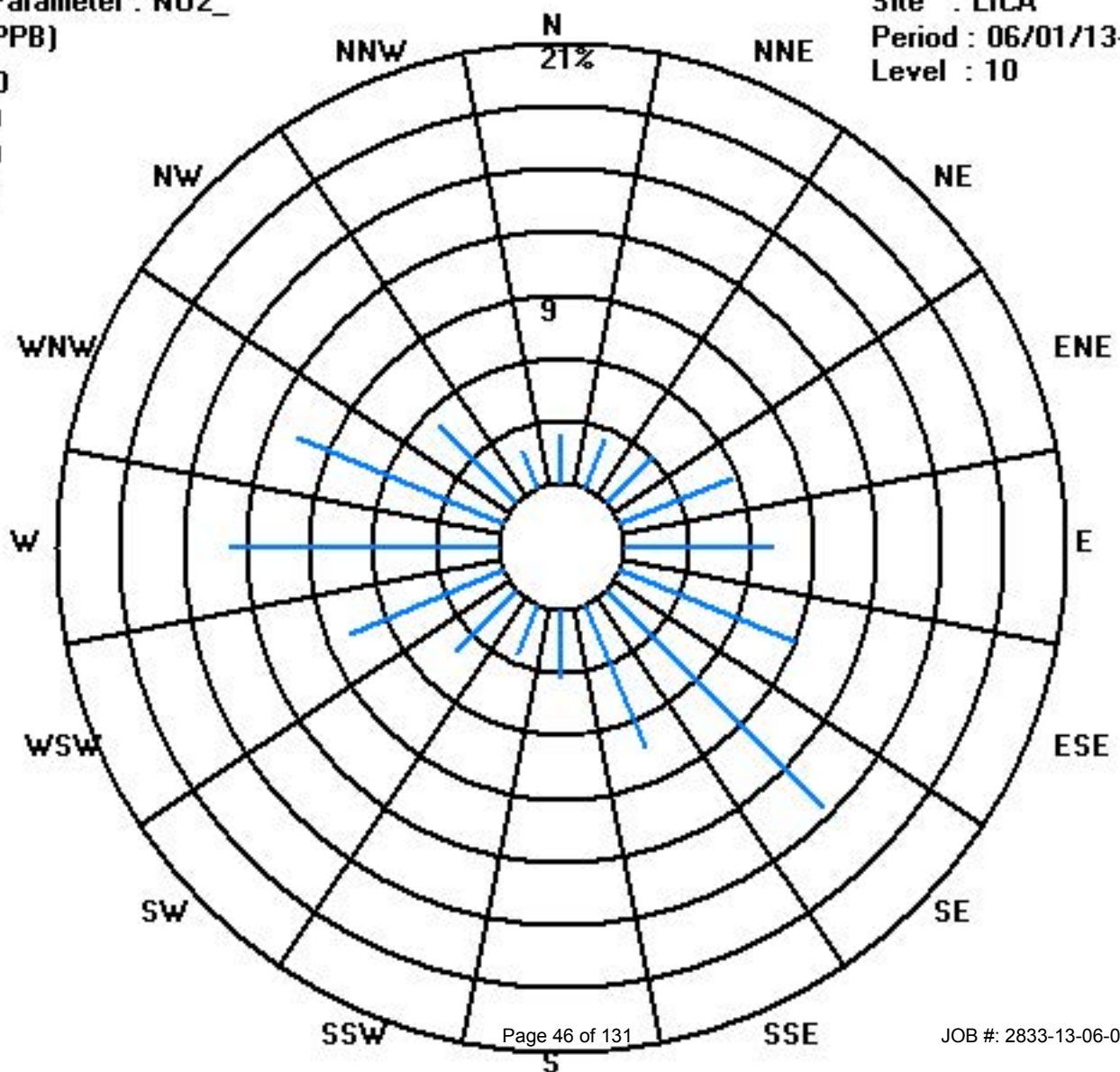
### MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	679				
MAXIMUM INSTANTANEOUS VALUE:	134.9	PPB	@ HOUR(S)	16	ON DAY(S) 13
IJS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	716	HRS
MONTHLY CALIBRATION TIME:	6	HRS			
STANDARD DEVIATION:	5.96				

### 01 Hour Averages



Class Limits (PPB)



LICA  
 NO2\_ / WD Joint Frequency Distribution (Percent)

June 2013

Distribution By % Of Samples

Logger Id : 01  
 Site Name : LICA  
 Parameter : NO2\_  
 Units : PPB

Wind Parameter : WD  
 Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 50.0	2.34	2.49	3.08	5.72	7.04	8.95	14.68	7.34	3.23	2.49	4.11	7.92	12.77	10.57	5.28	1.90	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	2.34	2.49	3.08	5.72	7.04	8.95	14.68	7.34	3.23	2.49	4.11	7.92	12.77	10.57	5.28	1.90	

Calm : .00 %

Total # Operational Hours : 681

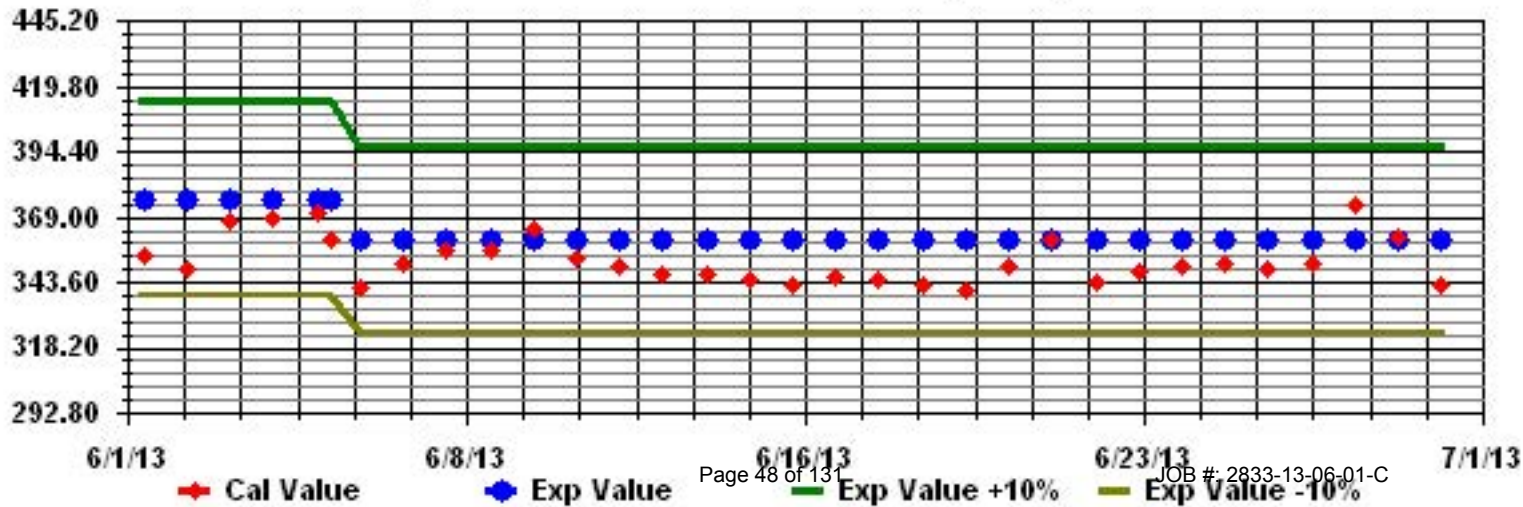
Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 50.0	16	17	21	39	48	61	100	50	22	17	28	54	87	72	36	13	681
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	16	17	21	39	48	61	100	50	22	17	28	54	87	72	36	13	

Calm : .00 %

Total # Operational Hours : 681

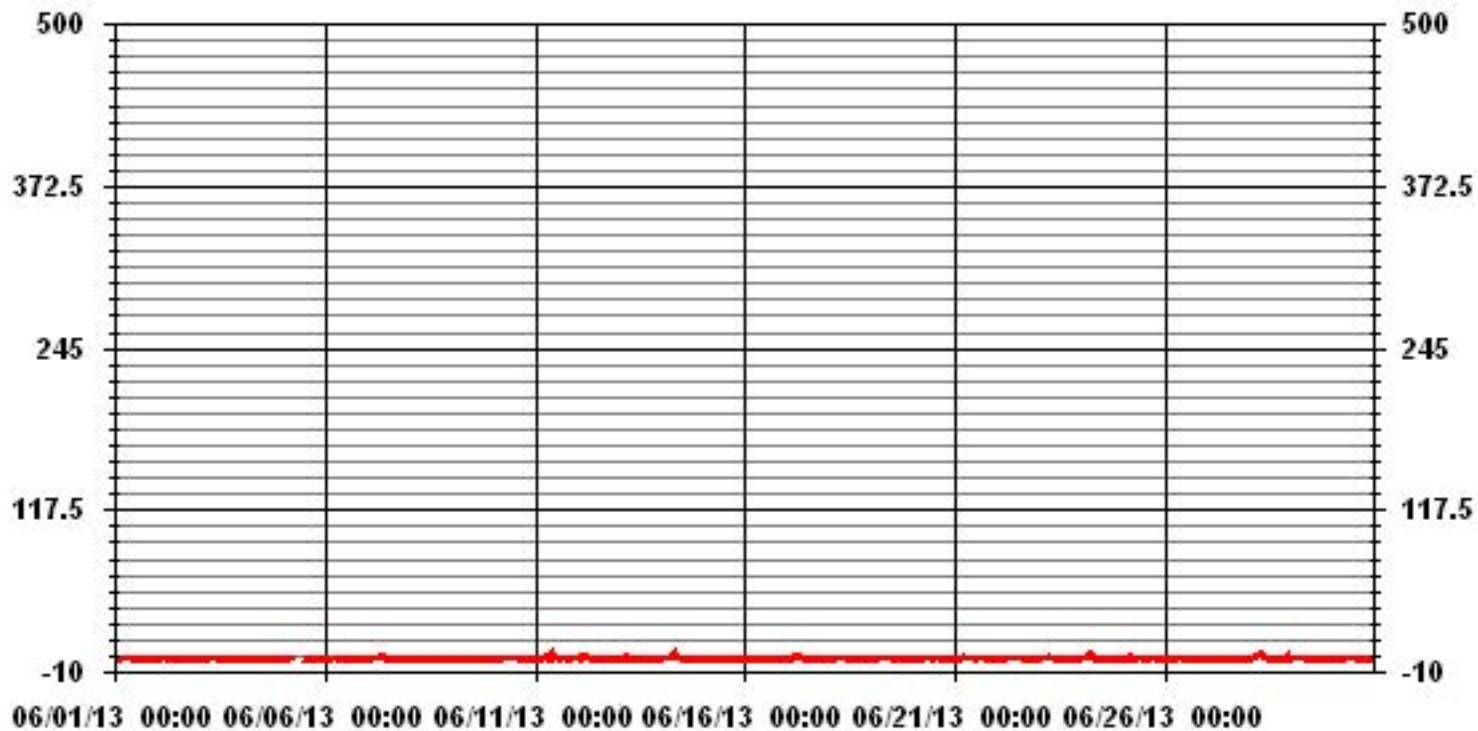
Calibration Graph for Site: LICA Parameter: NO2\_ Sequence: NO2 Phase: SPAN



# Nitric Oxide



### 01 Hour Averages





# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2013

## NITRIC OXIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	2.5	0	0	0.5	0.5	1	1	1	S	8.5	21.5	3.5	1	0.5	0.5	0.5	3	0.5	0.5	0	0	4	8	0.5	21.5	2.6	24	
2	1	0.5	0.5	1	0.5	4.5	0.5	S	0.5	0.5	5	0.5	4.5	0.5	0.5	5.5	5.5	0.5	2.5	6	0	0	0	0.5	6	1.8	24	
3	0.5	0.5	0.5	0	0.5	3	S	7	1	7.5	6.5	1	1	2.5	1.5	3	8.5	11	1	0.5	5.5	12.5	0.5	0.5	12.5	3.3	24	
4	0.5	1	1.5	16	3	S	12.5	Y	Y	13	1.5	2.5	2.5	3	0.5	7.5	1	1.5	0.5	0	0.5	0	0.5	0	16	3.3	22	
5	0	0	0.5	0	S	0.5	2	C	C	C	C	C	C	7	2	2.5	Y	0.5	2.5	0	0	0	0	0.4	7	1.1	23	
6	0	0	0	S	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0	0.5	1	0.5	1	0.5	0	0.5	0	3.5	0.5	0.5	0.5	3.5	0.5	24	
7	0.5	0.5	S	8.5	1.5	3	11	3	5.5	25.5	3	1.5	2	1	4.5	1	1	4	2	1.5	0.5	1	3.5	0.5	25.5	3.7	24	
8	0	S	0.5	5	7	0	0.5	0.5	2.5	0.5	1	0.5	0.5	0.5	1	0	0.5	0.5	0	0	0	0	0	0	7	0.9	24	
9	S	0	0	0	0	0	0.5	0.5	0.5	0	0.5	0	0.5	2.5	0.5	0.5	0	0	0.5	0.5	1	0	0	S	2.5	0.4	24	
10	0	0	0	0	0	1	0.5	1	1.5	1	1.5	1	1.5	1	0.5	1	0.5	0.5	0.5	0	0	1.5	S	1	1.5	0.7	24	
11	1.5	2.5	1.5	1.5	2	2	2.5	2	2	2	17	1.5	2	1	1	1	2.5	0.5	1.3	0.5	0.5	S	0.5	0.5	17	2.1	24	
12	1	1	1	14.5	9	10.5	6.5	3	5	3	8.5	1.5	10.5	1	2	3	4.5	1	0.5	3	S	0.5	0.5	0	14.5	4.0	24	
13	0	0	1	2	9.5	9	1	2	0.5	0.5	2	0.5	1	2.5	6	0.5	33.5	0.5	0.5	S	0.5	0.5	0	0.5	33.5	3.2	24	
14	0.5	1	1	1	4.5	4.5	2	4	7.5	1.5	1	6	1	1.5	1	1.5	0.5	0.5	S	1	0	0	0	0	7.5	1.8	24	
15	0	0	0	0	0	0	0	0	0	0.5	0.5	0.5	0.5	0.5	0.5	0.8	2	S	0.5	1	4	1	1	0	4	0.6	24	
16	0.5	0	0	0	0.5	0	0.5	0.5	0.5	0.5	0.5	1.5	1	2.5	0.5	0.5	S	0	0	0.5	0	0.5	1	0.5	2.5	0.5	24	
17	0.5	0.5	0.5	1	7	13.5	3.5	4.5	5.5	1	1.5	1	1	0.5	0.5	S	0.5	0	0	0	0.5	0.5	0.5	1	13.5	2.0	24	
18	0.5	0.5	0.5	1	2	5.5	0.6	1	3	1	1.5	1.5	0.5	0.5	S	2.5	2.5	2.5	7	2	2	0	1	0.4	7	1.7	24	
19	0	2.5	0	1	1	2	1.1	2.5	2.5	2	3	3	3	S	3.5	1	1	11.5	3	1	7	0.5	1	0.5	11.5	2.3	24	
20	0.5	0.5	0.5	0	0.5	1	26	6.5	1.5	2.5	4	1	S	13	5.5	4.5	0.5	0.5	0.5	5	0.5	1.5	2.5	0.5	26	3.4	24	
21	0.5	0.5	0.5	1.5	2	2.5	2	1.5	1.5	6	6.5	S	3	9.5	3.5	5.5	2.5	3.5	1	1	2.5	0.5	2	0.5	9.5	2.6	24	
22	0	0	0.5	1	1.5	1	6	3.5	4.5	5.5	S	4.5	5.5	2.5	5.5	0.5	2.6	1	1.5	3	8	0.5	2	1	8	2.7	24	
23	0.5	0.5	1.5	4	4	1.5	2	2	3	S	0.5	0.5	0.5	2	0.5	1.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	4	1.2	24	
24	1	1.5	0.5	4	2.5	5.5	5	4.5	S	1	0.5	0.5	0.5	1.5	1	1	0.5	0.5	4.5	1.5	3.5	11	9.5	0.5	11	2.7	24	
25	1.5	1	1.5	1.5	7.5	4.5	2	S	1	3	6	4.5	1.5	16.5	2	0.5	2.5	5.5	9.5	1	3.5	1	0.5	0.5	16.5	3.4	24	
26	0.5	0.5	1	0	0.5	1.5	S	3.5	X	0.5	1	1	0.5	0.5	1	0.5	0.5	0.5	0	0	0	0	0	0	3.5	0.6	23	
27	0	0	0	0	0.5	S	1.5	1	0.5	0.5	0.5	0.5	0.5	2.5	0.5	0.5	0.5	0.5	0.5	0	0	1.5	0.5	0	2.5	0.5	24	
28	0.5	0.5	1	1	S	5	5.5	5.5	4	0.5	0.5	0.5	0	1	0.5	0.5	0.5	0	0	0.5	0.5	0.5	26.5	0.5	26.5	2.4	24	
29	2	1	1	S	3	2.5	3	1	1.5	0.5	0.5	0	0.5	0.5	3	2	0.5	0.5	1	1.5	1.5	0	3.5	0	3.5	1.3	24	
30	0	2	S	0.5	2	2.5	0.5	3.5	2.5	2	1.5	4	8	0.5	2	0.5	0.5	2	0	0.5	1	1	1.5	1.5	8	1.8	24	
HOURLY MAX	2.5	2.5	1.5	16.0	9.5	13.5	26.0	7.0	7.5	25.5	21.5	6.0	10.5	16.5	6.0	7.5	33.5	11.5	9.5	6.0	8.0	12.5	26.5	1.5				
HOURLY AVG	0.6	0.6	0.6	2.4	2.6	3.1	3.6	2.5	2.3	3.3	3.5	1.5	1.8	3.0	1.7	1.8	2.8	1.7	1.5	1.1	1.6	1.4	2.3	0.4				

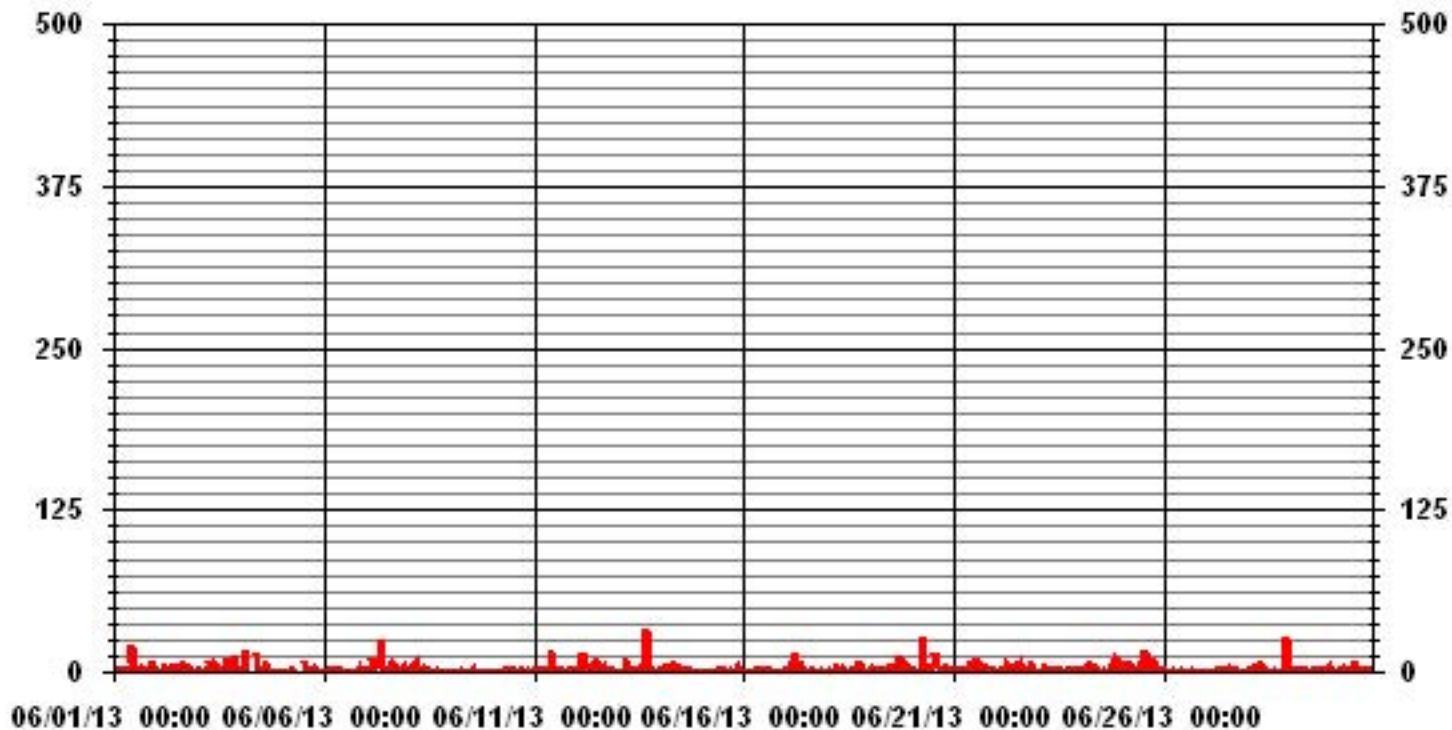
**STATUS FLAG CODES**

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

**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	572				
MAXIMUM INSTANTANEOUS VALUE:	33.5	PPB	@ HOUR(S)	16	ON DAY(S) 13
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	716	HRS
MONTHLY CALIBRATION TIME:	6	HRS			
STANDARD DEVIATION:	3.32				

### 01 Hour Averages



LICA  
 NO\_ / WD Joint Frequency Distribution (Percent)

June 2013

Distribution By % Of Samples

Logger Id : 01  
 Site Name : LICA  
 Parameter : NO\_  
 Units : PPB

Wind Parameter : WD  
 Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 50.0	2.34	2.49	3.08	5.72	7.04	8.95	14.68	7.34	3.23	2.49	4.11	7.92	12.77	10.57	5.28	1.90	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	2.34	2.49	3.08	5.72	7.04	8.95	14.68	7.34	3.23	2.49	4.11	7.92	12.77	10.57	5.28	1.90	

Calm : .00 %

Total # Operational Hours : 681

Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 50.0	16	17	21	39	48	61	100	50	22	17	28	54	87	72	36	13	681
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	16	17	21	39	48	61	100	50	22	17	28	54	87	72	36	13	

Calm : .00 %

Total # Operational Hours : 681



# Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

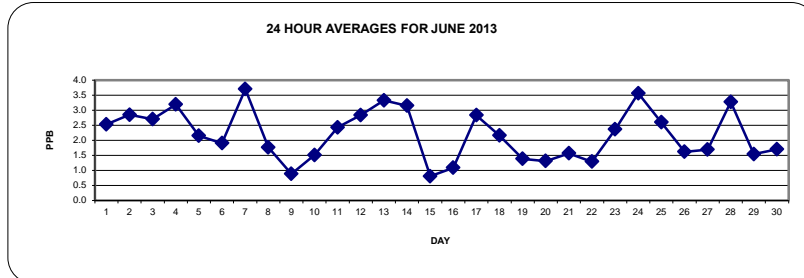
JUNE 2013

OXIDES OF NITROGEN hourly averages in ppb

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
DAY	DAY	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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.	
1	1	3.9	1.9	1.6	1.8	2.4	2.7	3.1	3.1	S	2.6	2.3	1.8	1.6	1.7	1.7	1.4	1.6	2	2.1	1.7	2.3	3.8	6.3	4.8	6.3	2.5	24	
2	2	4.1	4.5	4.3	5.6	5.9	3.4	2.3	S	1.9	1.6	1.9	1.7	1.7	1.4	1.3	1.6	1.8	1.5	2	4	3.6	4.1	3.3	2	5.9	2.8	24	
3	3	1.9	1.9	2.8	2.4	3	3.6	S	3.3	2.4	3.4	1.5	1.2	1.1	1.1	1.2	1.8	3	1.9	0.9	1.7	4.1	6.9	5.3	5.7	6.9	2.7	24	
4	4	5.1	3.4	3.4	6.5	4.7	S	10.1	Y	Y	2.8	1.8	2	1.5	2.1	2	2.4	2.2	1.7	1.4	1.6	3.3	3.7	2.8	2.6	10.1	3.2	22	
5	5	2.1	2.5	2.8	3.4	S	4.3	4	C	C	C	C	C	C	C	1.6	1.2	1.3	1.1	1.4	1.9	1.7	1.4	1.4	2.1	2.3	4.3	2.1	24
6	6	2	1.5	1.7	S	2.7	2.8	2.4	1.9	2	1.2	1.1	0.8	1.2	1.1	1.1	1.1	1	1	1.1	2	4.5	3.7	3	2.9	4.5	1.9	24	
7	7	3.7	3.2	S	3.7	4.1	4.6	7.1	6.5	8.6	7.1	3.5	2.6	1.3	0.9	2.1	4	2.7	3.3	1.6	1.9	2.9	3.2	3.4	3.3	8.6	3.7	24	
8	8	2.2	S	2.4	1.9	1.7	1.2	2.2	2.3	2.4	1.7	1.4	1.5	1.3	1.2	1.4	1.2	1.7	1.7	1.8	1.3	1.5	2.7	2.2	1.7	2.7	1.8	24	
9	9	S	1.4	1.2	1.2	1.1	1.2	1.4	1.6	0.9	0.8	0.6	0.5	0.7	0.6	0.6	0.6	0.3	0.4	0.9	0.9	0.9	0.8	0.8	S	1.6	0.9	24	
10	10	0.8	0.8	0.8	1.2	1.4	1.5	1.7	1.8	2.5	2.1	2.7	1.8	2.6	1.2	1.3	2	1.2	1.3	0.9	1	1	1.1	S	2	2.7	1.5	24	
11	11	1.5	1.5	1.8	1.4	2.1	3.3	3.8	3.9	3.8	2.5	6.8	3	2.3	1.8	2.9	1.5	1.6	1.7	1.5	1	1.4	S	2.5	2.3	6.8	2.4	24	
12	12	2.1	2.2	1.8	4.4	6	5.8	5.6	2.3	1.5	1.3	1.8	1.2	2.4	1.5	1.4	1.6	2.6	2.5	3.4	2.6	S	3.1	4.1	4.1	6	2.8	24	
13	13	3.5	2.3	2.7	2.3	5.8	7.9	2.7	2.1	2.1	2.1	2.3	2.8	2.8	2.6	4.5	2.7	8.1	3	3.8	S	3.7	2.9	2	1.8	8.1	3.3	24	
14	14	2.2	2.4	1.9	2.2	2.7	5.7	5.3	6.4	11.5	3.2	2.6	2.2	1.7	4.2	3	2.2	1.7	1.9	S	2.5	2.6	0.9	0.9	2.5	11.5	3.1	24	
15	15	1.2	1	1.2	1.3	1.1	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.8	0.7	1	0.6	S	0.9	0.9	0.9	0.8	0.7	0.4	1.3	0.8	24		
16	16	0.3	0.5	0.3	0.4	0.6	0.8	0.8	0.7	1.2	1.5	1.4	2	1.5	0.9	0.9	0.8	S	0.9	1	1.4	1.5	1.8	1.9	1.9	2	1.1	24	
17	17	2.1	1.9	1.5	2	4.1	4.3	5.4	7.8	8	2.9	2.4	1.9	1.8	1.3	1.5	S	1.1	1	0.9	1.2	2.9	3.3	2.1	3.7	8	2.8	24	
18	18	2.7	2.3	2.2	1.7	3.5	5.5	3.3	3.5	3	1.7	1.5	1.3	1.2	0.9	S	1.5	1.4	1	1.9	3.3	2.4	2.2	1	0.6	5.5	2.2	24	
19	19	0.5	1	0.5	0.6	1.3	1.2	1.3	2.1	1.6	1.4	1	1	0.6	S	2.1	1.9	1.5	1.9	2.2	1.9	3.2	1.3	1	0.6	3.2	1.4	24	
20	20	1	0.5	0.6	0.7	0.9	1	1.7	2.5	2	1.4	1.6	1.2	S	2.3	1.7	0.8	0.6	0.6	0.7	1.2	1.2	2.2	1.7	2	2.5	1.3	24	
21	21	1.8	1.2	1.6	1.3	2.2	3	3.4	1.9	1.1	1	1	S	1.1	1.2	1.5	2.4	1.4	1.5	1.3	1.5	1.7	1.1	1	0.8	3.4	1.6	24	
22	22	0.5	0.7	0.6	0.9	1.6	1	1.3	1.7	1.6	1.7	S	1.6	1.6	1.9	1.6	0.8	0.9	0.8	0.6	0.6	1.1	1.8	1.9	2.8	2.8	1.3	24	
23	23	2.7	2.5	3.5	4.5	5.1	4	4.4	5.8	4	S	0.7	0.7	0.6	1	0.5	1.6	1.2	1.3	1.1	0.9	1.3	2.2	2.5	2.2	5.8	2.4	24	
24	24	4	5.1	6.6	7.4	9.1	8.5	8	5.8	S	1.6	1.2	1.1	0.6	0.6	0.7	0.8	1.1	0.9	0.9	1.8	3.4	4.9	5.5	2.3	9.1	3.6	24	
25	25	2	2.2	2.2	2.6	5.4	4.6	3.8	S	1.9	2.5	3.1	2.5	2.2	2.8	3.2	1.8	2.4	2.5	2.6	2.7	1.9	1.5	2.2	1.1	5.4	2.6	24	
26	26	0.9	1.1	1.7	1.9	1.8	1.5	S	2.3	2.5	1.9	1.7	1.8	2	1.3	1.8	1.3	1.1	1.1	0.9	1.5	1.5	2	1.4	2.1	2.5	1.6	24	
27	27	2.2	2	2.7	3.3	2.7	S	3.3	2.5	1.1	0.8	0.9	0.7	0.7	1	0.8	0.7	0.5	0.7	0.7	1	1.9	2.6	3.2	2.9	3.3	1.7	24	
28	28	4.2	3.5	3.2	2.6	S	8	9.7	10.9	6.4	2.1	1.7	1	0.6	0.4	0.2	0.1	0.1	0.3	0.5	1	2.6	3.3	10.5	2.4	10.9	3.3	24	
29	29	2.4	2.2	2.3	S	2.8	3.3	2.7	2.6	2	1.5	1	0.7	0.6	0.8	0.8	0.8	0.6	0.7	0.8	1.3	2	1.9	1	0.6	3.3	1.5	24	
30	30	0.8	2.5	S	2.3	2.5	1.8	2	2.4	2.3	1.6	1.8	1.9	1.5	1.6	0.8	0.9	0.7	0.8	0.8	1	2	2.8	2.3	2.1	2.8	1.7	24	
HOURLY MAX		5.1	5.1	6.6	7.4	9.1	8.5	10.1	10.9	11.5	7.1	6.8	3.0	2.8	4.2	4.5	4.0	8.1	3.3	3.8	4.0	4.5	6.9	10.5	5.7				
HOURLY AVG		2.2	2.1	2.1	2.6	3.2	3.5	3.7	3.4	3.0	2.0	1.9	1.5	1.4	1.4	1.5	1.5	1.6	1.4	1.4	1.6	2.2	2.6	2.7	2.3				

STATUS FLAG CODES

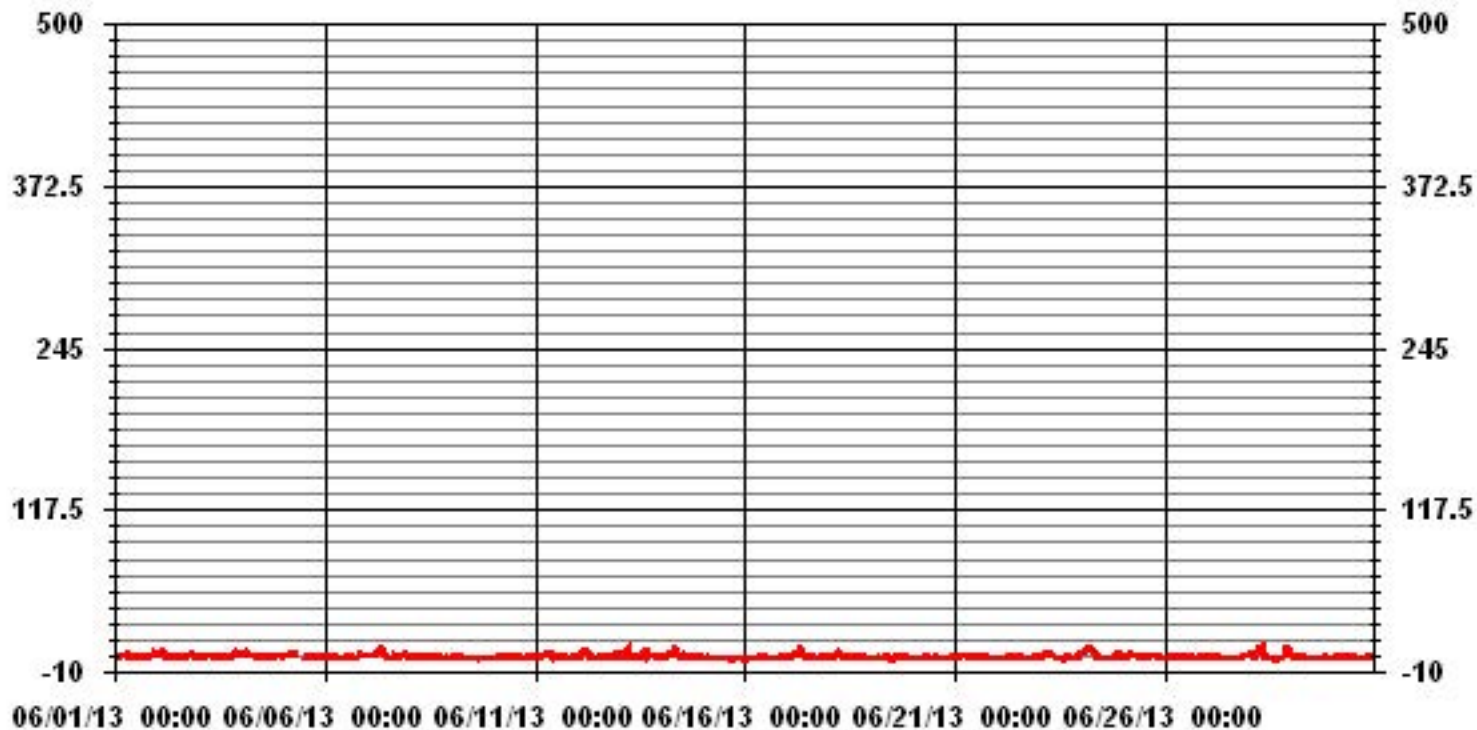
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	681
MAXIMUM 1-HR AVERAGE:	11.5 PPB @ HOUR(S) 8 ON DAY(S) 14
MAXIMUM 24-HR AVERAGE:	3.7 PPB ON DAY(S) 7
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	6 HRS
STANDARD DEVIATION:	1.63
OPERATIONAL TIME:	718 HRS
AMD OPERATION UPTIME:	99.7 %
MONTHLY AVERAGE:	2.19 PPB

### 01 Hour Averages



— LICA NOX\_ PPB

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2013

## 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 MAX.	24-HOUR AVG.	RDGS.
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	8	2.5	2	3.5	3.5	4	4.5	4	S	12.8	20.9	4.9	1.9	2.4	2.4	1.9	7.4	2.9	2.9	1.9	3.4	7.9	15.9	6.9	20.9	5.6	24
2	5.4	5.4	5.4	10.4	9.4	12.4	2.9	S	2.5	2	5.5	3	7	3	3.5	5	6.5	3.5	5.5	18.5	4.5	5.5	5	2.5	18.5	5.8	24
3	2.5	2.5	4.5	3.5	8	12	S	13.5	3.5	38.9	7	2	2.5	3.5	3	16.5	25.9	22.5	3	4	11	26.5	7	7	38.9	10.0	24
4	8	6	5.5	23.5	6	S	22.9	Y	Y	7.9	2.9	9.4	6.4	4.9	2.9	9.4	9.9	5.9	3.4	2.4	7.4	4.9	4.4	5.4	23.5	7.6	22
5	2.4	3.9	3.9	3.9	S	4.9	7.4	C	C	C	C	C	C	10.9	2.4	1.9	Y	2.9	6.4	2.4	1.9	1.9	2.9	2.9	10.9	3.9	23
6	2.4	1.9	1.9	S	3.5	3.5	2.5	2.5	3	2	2	1	3	3	2.5	4	2.5	1.5	1.5	3	12.5	5	4.5	4	12.5	3.2	24
7	6.5	4.5	S	14.3	5.8	7.3	34.3	11.3	17.8	41.7	8.3	5.3	4.8	1.8	9.3	5.8	4.3	9.8	5.3	4.8	6.8	4.9	8.3	4.8	41.7	9.9	24
8	2.8	S	4.3	7.3	12.3	1.8	2.8	3.3	7.3	2.3	2.3	2.8	1.8	1.8	2.8	1.3	3.3	2.8	2.3	1.8	3.3	3.3	3.3	2.3	12.3	3.5	24
9	S	1.8	1.3	1.3	1.3	1.3	1.8	1.8	1.8	0.8	1.3	0.8	1.8	1.3	1.3	0.8	0.8	0.8	1.3	1.3	1.8	1.3	0.8	S	1.8	1.3	24
10	1.3	0.8	0.8	1.8	1.8	3.3	1.8	2.3	3.3	2.8	3.3	3.3	3.3	2.8	1.8	2.3	1.8	1.3	1.3	1.8	1.3	2.3	S	3.3	3.3	2.2	24
11	2.8	3.8	4.3	2.3	3.8	5.3	5.8	4.8	4.3	3.8	31.7	3.3	3.8	2.8	3.8	2.8	4.3	2.3	3.3	1.8	3.3	S	3	3	31.7	4.8	24
12	3	3	3	21.5	15	13	10.5	4.5	4.5	4.5	9	3.5	22.5	7.5	3	8.5	11	4	4	15	S	4.5	6.5	5.1	22.5	8.1	24
13	5	3	5.5	5.5	24	21	5	4	2.5	2.5	6	4.5	6.5	8	18	3.5	155.4	3.5	4	S	5.6	5.1	2.6	2.1	155.4	13.2	24
14	3.1	3.6	2.6	3.6	7.1	10.1	6.6	12.1	17.6	5.1	3.1	7.6	3.6	6.6	5.1	4.1	3.1	2.6	S	3.1	3.1	1.6	1.6	3.6	17.6	5.2	24
15	1.6	1.1	1.6	1.6	1.6	1.1	0.6	1.1	1.1	0.6	1.1	0.6	1.1	1.1	1.1	2.1	4.6	S	1.8	2.3	7.3	1.8	2.3	0.8	7.3	1.7	24
16	1.3	1.3	0.8	0.8	1.3	0.8	1.3	1.3	1.8	2.3	2.3	4.8	4.8	2.8	1.8	1.3	S	1.4	1.4	1.9	2.4	2.4	3.4	2.9	4.8	2.0	24
17	2.4	2.9	1.9	3.4	12.9	15.9	8.4	10.9	14.4	3.4	5.9	4.9	5.4	2.4	2.9	S	1.6	1.6	1.1	2.1	5.1	4.6	4.1	5.6	15.9	5.4	24
18	3.6	3.1	3.1	4.1	7.6	19.1	4.6	5.1	8.6	3.1	4.1	3.6	2.6	1.6	S	6	7.5	2.5	13.5	9.5	5	3.5	2	1.5	19.1	5.4	24
19	0.5	7	1	2.5	3	3	2	5	3.5	4	4	4.5	1.5	S	10.3	6.8	3.8	9.3	8.8	3.3	8.8	2.8	2.3	1.8	10.3	4.3	24
20	1.8	1.8	1.3	1.3	1.8	3.3	15.8	12.3	7.8	6.3	2.8	2.8	S	17.7	5.2	3.7	1.7	1.2	1.2	7.2	2.7	6.2	5.7	2.7	17.7	5.0	24
21	2.7	2.7	2.2	2.7	3.7	4.7	5.2	4.7	3.7	6.2	11.2	S	3.3	5.8	3.8	27.3	2.8	6.8	4.8	3.8	3.8	2.3	4.8	1.3	27.3	5.2	24
22	0.8	1.3	1.8	2.3	3.3	2.3	3.3	5.8	5.3	9.3	S	3.6	6.1	5.6	11.6	1.6	3.1	4.1	2.6	3.6	12.6	3.1	6.1	3.6	12.6	4.5	24
23	4.6	3.6	5.1	7.1	13.1	4.6	5.6	6.6	7.1	S	1.6	1.6	2.1	3.6	1.1	4.1	2.1	2.1	1.6	1.6	2.1	3.1	3.1	3.1	13.1	3.9	24
24	6.1	9.1	8.1	10.1	11.1	11.1	11.1	9.1	S	3.1	1.6	1.6	1.1	1.6	2.1	3.6	1.6	1.1	3.1	9.6	15.6	25.6	22.6	4.1	25.6	7.6	24
25	6.6	3.6	3.6	4.6	14.6	9.6	7.6	S	4.8	13.3	24.3	9.3	6.3	14.3	10.3	2.8	7.3	9.8	8.8	3.8	6.3	2.8	3.3	2.8	24.3	7.8	24
26	1.8	2.8	3.8	2.3	3.8	2.8	S	5.7	X	3.2	3.2	4.2	3.2	2.2	5.2	2.2	1.2	1.7	1.2	2.2	2.2	3.7	1.7	3.2	5.7	2.9	23
27	3.2	2.7	3.7	4.2	3.7	S	4.2	3.4	2.2	1.2	1.7	1.2	1.2	8.2	1.7	1.2	1.2	1.7	1.7	2.2	2.7	5.2	4.2	3.2	8.2	2.9	24
28	5.2	4.2	3.7	3.7	S	11.5	11.5	13.5	10.5	3	2.5	1.5	1.5	1.5	0.5	0.5	1.5	0.5	1	3	5	5.5	44.5	3.5	44.5	6.1	24
29	5	3	4	S	5.1	6.6	7.6	3.1	3.1	2.1	1.6	1.1	1.6	1.1	4.1	4.6	2.6	1.6	2.1	5.6	4.6	2.6	3.6	1.1	7.6	3.4	24
30	1.1	9.6	S	3.7	6.7	2.7	3.2	8.2	7.7	5.2	4.7	3.2	4.7	10.2	2.2	5.2	1.7	3.2	2.2	1.2	4.7	5.2	3.7	3.7	10.2	4.5	24
HOURLY MAX	8.0	9.6	8.1	23.5	24.0	21.0	34.3	13.5	17.8	41.7	31.7	9.4	22.5	17.7	18.0	27.3	155.4	22.5	13.5	18.5	15.6	26.5	44.5	7.0			
HOURLY AVG	3.5	3.5	3.2	5.6	7.0	7.1	7.2	6.2	6.0	6.9	6.3	3.6	4.1	4.8	4.3	4.9	10.0	4.0	3.5	4.3	5.4	5.3	6.3	3.4			

**STATUS FLAG CODES**

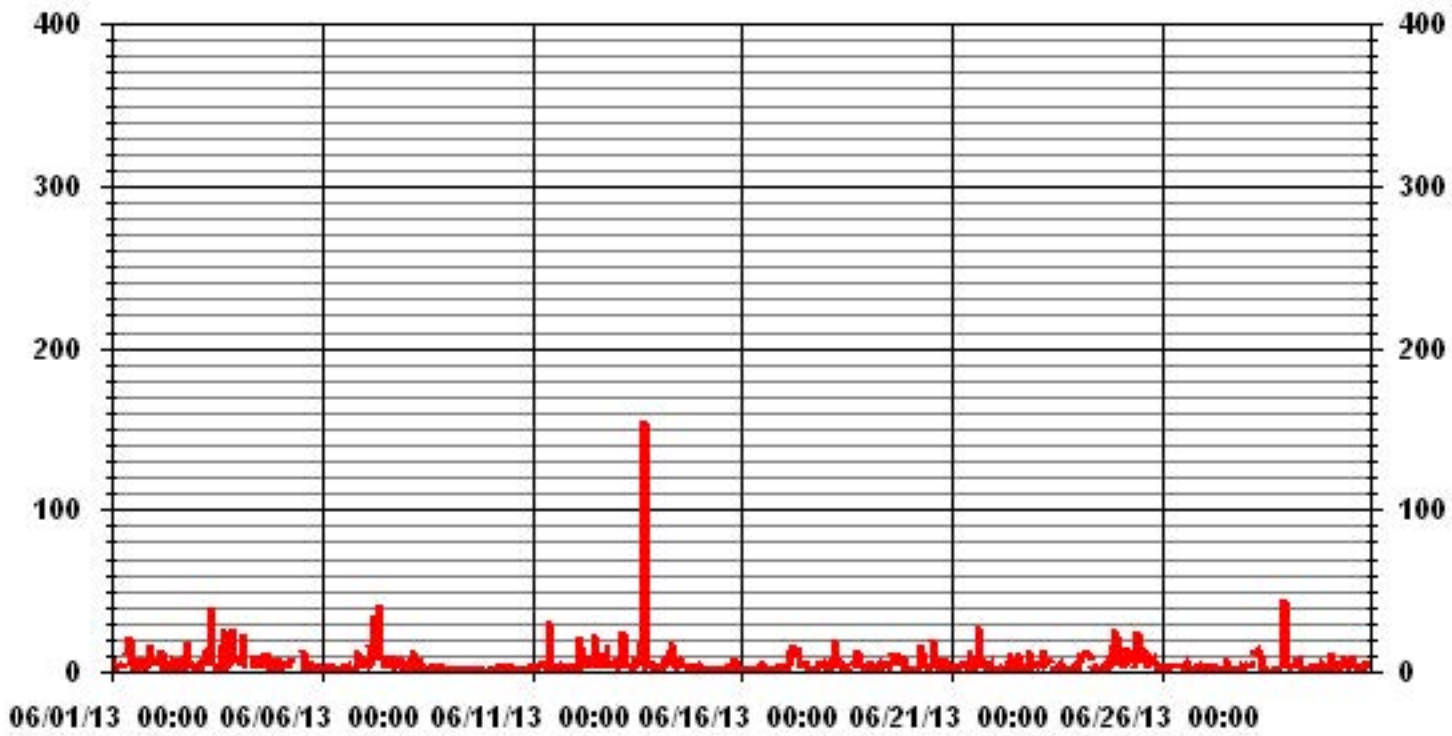
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	679					
MAXIMUM INSTANTANEOUS VALUE:	155.4	PPB	@ HOUR(S)	16	ON DAY(S)	13
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	716	HRS	
MONTHLY CALIBRATION TIME:	6	HRS				
STANDARD DEVIATION:	7.75					



### 01 Hour Averages



LICA  
NOX\_ / WD Joint Frequency Distribution (Percent)

June 2013

Distribution By % Of Samples

Logger Id : 01  
Site Name : LICA  
Parameter : NOX\_  
Units : PPB

Wind Parameter : WD  
Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 50.0	2.34	2.49	3.08	5.72	7.04	8.95	14.68	7.34	3.23	2.49	4.11	7.92	12.77	10.57	5.28	1.90	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	2.34	2.49	3.08	5.72	7.04	8.95	14.68	7.34	3.23	2.49	4.11	7.92	12.77	10.57	5.28	1.90	

Calm : .00 %

Total # Operational Hours : 681

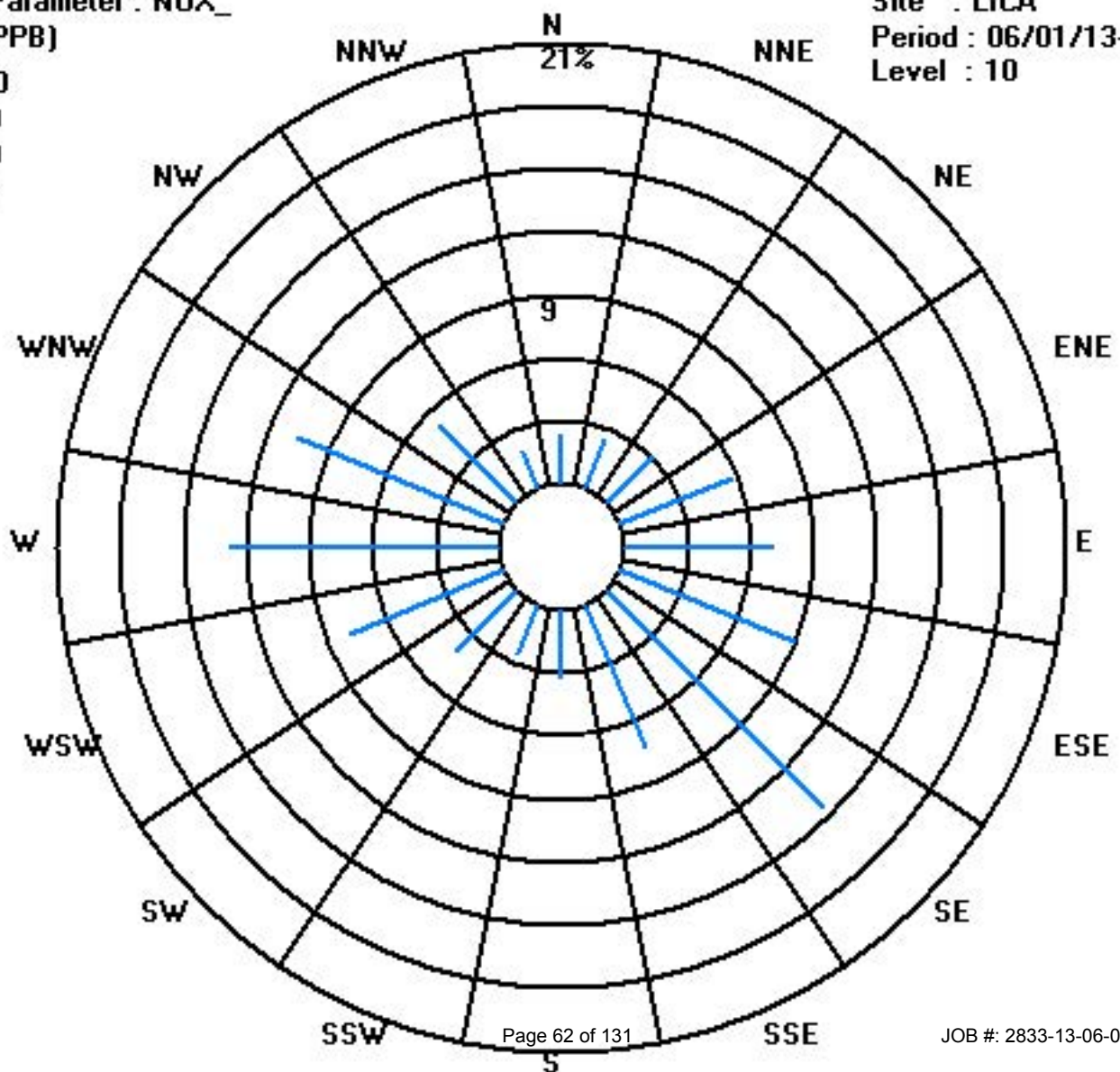
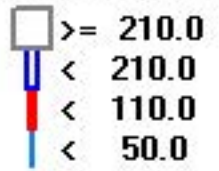
Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 50.0	16	17	21	39	48	61	100	50	22	17	28	54	87	72	36	13	681
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	16	17	21	39	48	61	100	50	22	17	28	54	87	72	36	13	

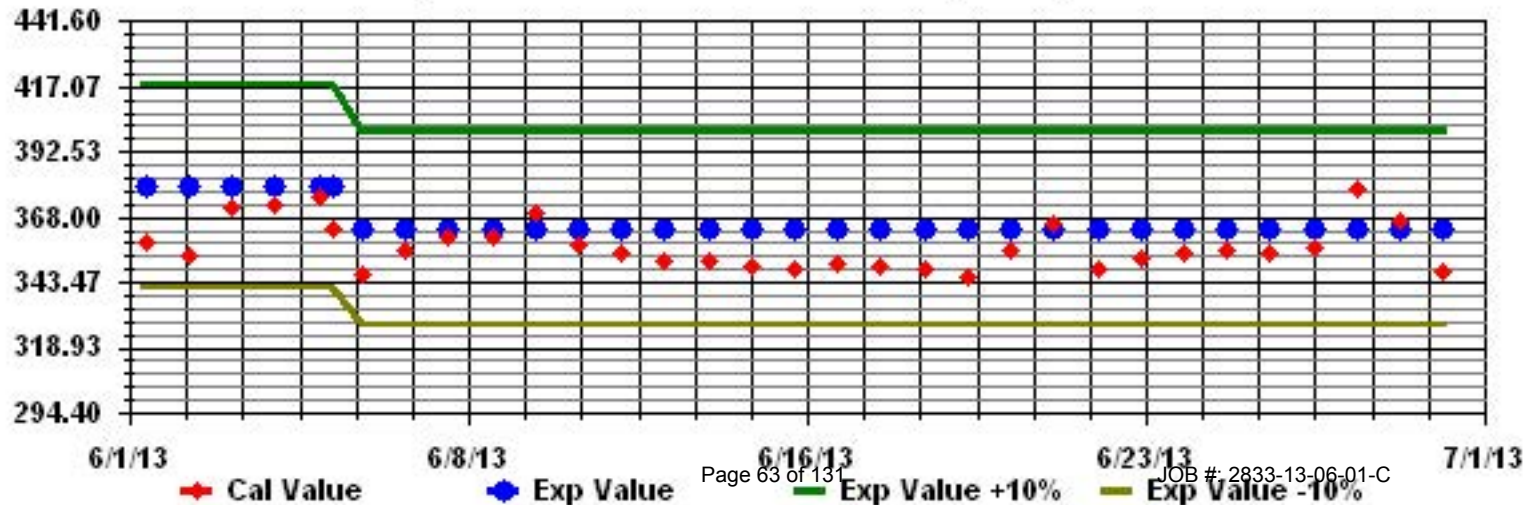
Calm : .00 %

Total # Operational Hours : 681

Class Limits (PPB)



Calibration Graph for Site: LICA Parameter: NOX\_ Sequence: NO2 Phase: SPAN



# Ozone

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2013

OZONE (O<sub>3</sub>) hourly averages in ppb

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
DAY	DAY	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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.
1	1	15	22	29	22	11	17	25	25	S	26	26	33	45	44	45	45	43	40	37	34	28	18	11	6	45	28.1	24
2	2	7	9	7	11	14	19	20	S	35	37	39	40	46	42	44	44	46	49	49	43	42	31	36	44	49	32.8	24
3	3	42	40	40	31	20	20	S	41	44	50	54	54	54	56	57	56	54	53	45	29	20	18	15	57	41.2	24	
4	4	12	8	5	4	5	S	21	35	42	47	56	61	61	62	65	68	68	67	63	50	41	44	44	68	43.3	24	
5	5	44	40	34	29	S	38	39	44	55	59	64	67	C	C	C	65	64	63	61	58	52	43	33	29	67	49.1	24
6	6	28	27	23	S	19	20	24	25	25	27	29	31	33	34	36	38	40	41	40	36	20	14	17	14	41	27.9	24
7	7	12	12	S	12	7	12	17	16	21	30	32	39	48	49	44	39	38	36	38	33	32	31	30	29	49	28.6	24
8	8	29	S	22	33	35	29	20	21	22	25	28	31	31	33	31	32	30	31	29	33	30	26	22	21	35	28.0	24
9	9	S	17	17	17	16	15	12	13	14	16	20	22	22	22	19	18	15	14	13	13	14	15	16	S	22	16.4	24
10	10	17	18	18	17	14	13	11	10	10	10	11	12	11	14	14	14	13	13	12	11	9	8	S	7	18	12.5	24
11	11	7	5	5	5	5	5	6	8	8	13	12	15	20	23	23	26	27	26	23	20	13	S	2	2	27	13.0	24
12	12	2	1	2	4	2	5	12	20	21	23	25	25	24	27	30	32	32	33	32	S	23	17	16	33	19.2	24	
13	13	16	11	16	13	7	11	22	26	31	36	39	44	40	36	37	40	44	42	35	S	23	29	16	14	44	27.3	24
14	14	9	4	3	3	2	9	13	19	22	28	33	36	33	31	33	36	35	26	S	26	22	25	28	25	36	21.8	24
15	15	26	28	30	29	29	30	28	26	25	24	24	22	21	21	20	21	23	S	21	19	19	18	18	18	30	23.5	24
16	16	18	18	17	21	21	17	16	20	25	32	31	33	33	32	33	31	S	30	29	21	16	8	5	5	33	22.3	24
17	17	7	7	4	4	2	8	12	15	23	29	35	40	41	42	45	S	44	43	43	39	24	14	10	10	45	23.5	24
18	18	6	5	5	8	17	21	24	27	31	35	37	43	48	41	S	39	37	33	30	23	31	31	30	24	48	27.2	24
19	19	21	20	24	24	23	23	24	25	27	29	33	35	34	S	34	35	36	36	36	34	32	34	33	32	36	29.7	24
20	20	32	32	31	30	29	28	28	28	30	32	34	37	S	34	33	31	32	32	30	29	26	17	19	15	37	29.1	24
21	21	11	12	11	6	3	5	16	23	25	28	29	S	30	29	29	33	38	46	42	38	30	26	24	24	46	24.3	24
22	22	23	20	22	21	20	20	21	19	18	22	S	22	22	24	24	32	32	35	35	33	29	17	10	6	35	22.9	24
23	23	4	4	3	2	4	5	7	9	13	S	27	27	28	30	32	28	29	30	28	28	14	13	8	4	32	16.4	24
24	24	5	3	3	2	3	5	9	12	S	30	35	37	39	40	40	42	48	47	46	43	28	16	12	12	48	24.2	24
25	25	9	6	8	8	10	11	26	S	32	36	33	30	30	31	33	35	31	28	23	21	29	27	21	22	36	23.5	24
26	26	23	21	17	12	8	11	S	21	25	26	33	34	29	27	25	29	30	33	33	31	28	21	26	23	34	24.6	24
27	27	21	20	18	15	14	S	17	22	25	29	32	36	37	38	38	38	35	34	33	31	26	19	18	19	38	26.7	24
28	28	13	8	4	3	S	5	11	17	27	34	37	41	39	37	38	38	38	38	38	31	18	13	5	6	41	23.4	24
29	29	5	4	3	S	2	7	17	25	32	38	40	42	42	42	41	36	35	38	37	32	23	23	27	27	42	26.9	24
30	30	27	19	S	21	19	17	19	20	23	24	21	23	25	25	33	34	36	36	33	31	20	10	8	5	36	23.0	24
HOURLY MAX		44	40	40	33	35	38	39	44	55	59	64	67	61	62	65	68	68	68	67	63	52	43	44	44			
HOURLY AVG		16.9	15.2	15.0	14.5	12.9	15.2	18.5	21.9	26.1	30.2	32.7	34.9	34.5	34.4	34.8	36.4	37.1	37.1	35.4	32.1	26.1	21.8	19.4	17.9			

STATUS FLAG CODES

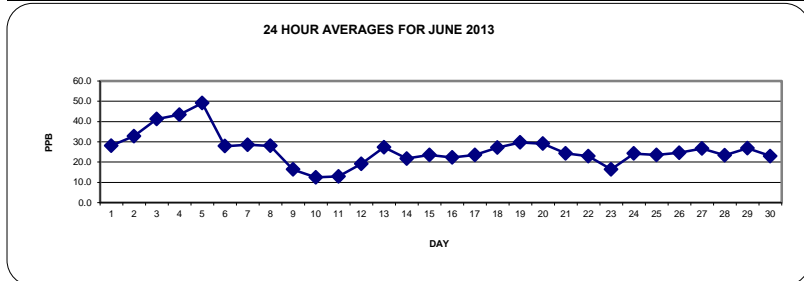
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT:

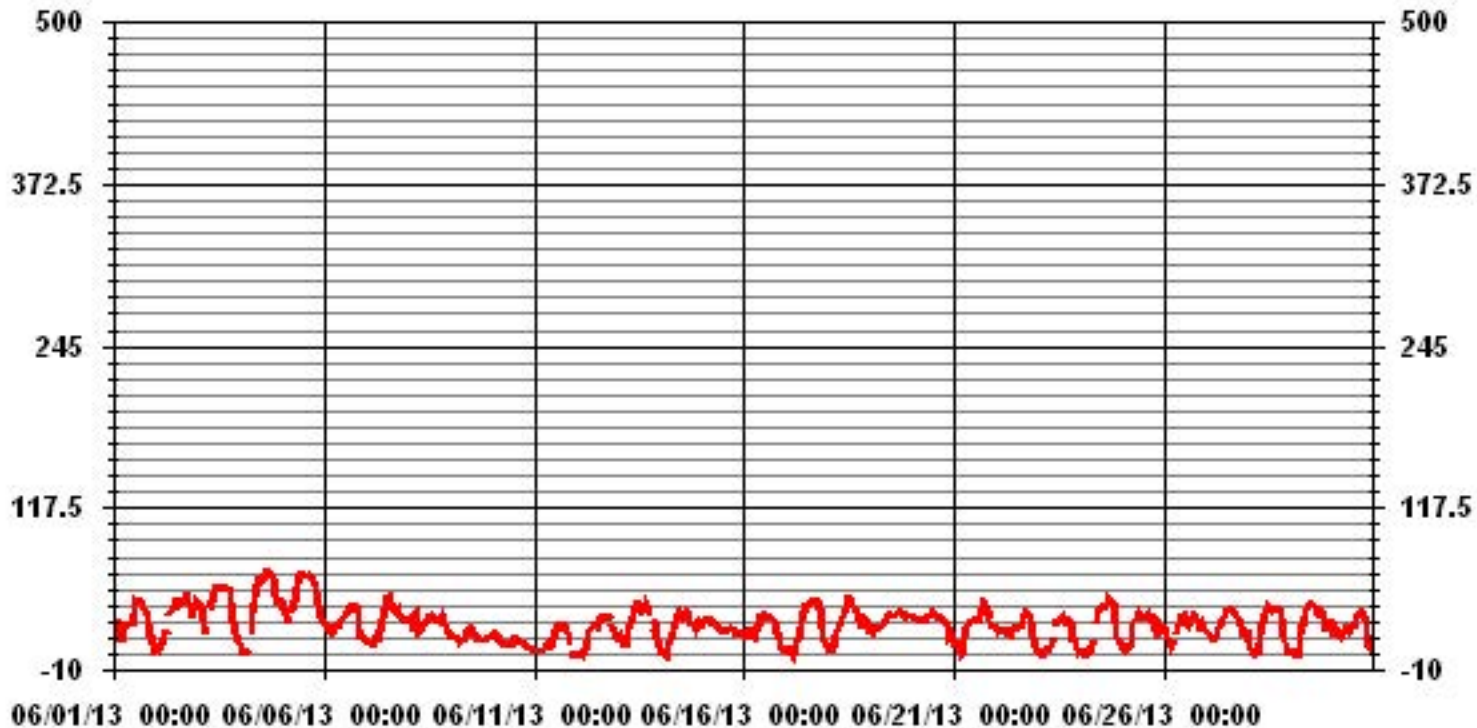
ALBERTA ENVIRONMENT: 1-HR 82 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0				
NUMBER OF NON-ZERO READINGS:	686				
MAXIMUM 1-HR AVERAGE:	68	PPB	@ HOUR(S)	VAR	ON DAY(S)
MAXIMUM 24-HR AVERAGE:	49.1	PPB			ON DAY(S)
					VAR-VARIOUS
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS
MONTHLY CALIBRATION TIME:	3	HRS	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	13.55		MONTHLY AVERAGE:	25.92	PPB



### 01 Hour Averages



# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2013

## 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	21	27	33	31	17	26	26	26	S	28	28	43	49	47	47	47	46	44	40	36	33	27	16	9	49	32.5	24	
2	11	12	13	15	18	21	22	S	38	40	42	44	48	45	46	47	49	52	51	47	45	38	45	45	52	36.3	24	
3	43	42	41	39	27	39	S	43	47	55	57	56	56	56	58	59	58	57	55	53	35	27	23	18	59	45.4	24	
4	15	10	7	6	8	S	32	40	47	53	62	62	63	65	68	70	70	70	70	66	60	48	50	47	70	47.3	24	
5	48	43	43	36	S	39	41	52	59	62	67	C	C	C	C	66	Y	65	63	59	57	47	38	33	67	51.0	23	
6	30	29	25	S	22	22	25	27	26	28	30	33	35	37	37	40	41	42	41	40	30	17	23	18	42	30.3	24	
7	16	20	S	17	10	16	20	19	27	35	35	48	50	51	49	43	41	39	40	38	39	33	33	31	51	32.6	24	
8	32	S	26	38	38	35	23	23	24	27	31	33	34	36	32	34	33	33	31	35	33	27	24	23	38	30.7	24	
9	S	18	18	18	17	16	14	15	16	18	23	24	23	23	22	19	17	14	14	14	15	17	17	S	24	17.8	24	
10	18	18	18	18	16	14	12	11	11	11	12	13	13	15	15	15	14	13	13	13	10	9	S	7	18	13.4	24	
11	7	6	6	6	6	6	7	9	10	16	16	18	26	26	25	28	29	28	24	22	18	S	5	4	29	15.1	24	
12	2	3	3	5	4	7	19	22	22	26	28	27	27	30	32	33	34	34	33	35	S	27	21	18	35	21.4	24	
13	18	13	30	18	11	22	26	31	35	40	42	46	44	41	41	45	48	46	39	S	31	36	24	21	48	32.5	24	
14	13	6	5	8	3	13	15	24	27	31	36	38	35	34	35	39	38	35	S	31	25	27	28	27	39	24.9	24	
15	28	30	31	30	30	31	30	28	26	25	25	23	22	21	21	26	25	S	22	20	20	19	19	19	31	24.8	24	
16	20	23	21	23	23	19	18	22	32	34	34	35	35	34	35	35	S	33	32	28	22	13	7	8	35	25.5	24	
17	11	10	7	8	6	11	14	19	28	34	39	44	43	45	47	S	45	44	44	43	33	20	15	17	47	27.3	24	
18	10	7	9	16	25	29	29	32	S	38	40	47	51	46	S	42	40	37	34	29	34	33	32	29	51	31.3	23	
19	25	25	26	25	25	24	25	26	29	32	36	36	36	S	36	38	39	38	37	36	34	35	34	33	39	31.7	24	
20	33	33	32	31	30	29	30	29	32	33	37	38	S	35	34	32	34	33	31	31	29	23	23	19	38	30.9	24	
21	16	16	15	8	4	13	23	25	27	29	30	S	31	35	32	40	49	50	45	42	35	27	25	25	50	27.9	24	
22	25	21	24	22	21	22	23	20	21	23	S	24	24	29	26	38	37	38	38	36	32	25	13	11	38	25.8	24	
23	6	6	5	2	7	6	10	12	17	S	30	31	32	33	37	31	33	34	32	31	S	19	13	8	37	19.8	23	
24	10	5	6	3	6	6	13	14	S	34	38	41	41	42	42	45	50	50	48	47	37	23	18	21	50	27.8	24	
25	17	9	10	14	16	25	29	S	34	38	36	32	32	34	36	37	33	31	26	28	32	28	24	24	38	27.2	24	
26	25	23	19	16	12	13	S	28	X	31	37	37	32	31	27	32	32	35	35	33	29	28	28	25	37	27.6	23	
27	23	21	20	16	15	S	20	24	28	32	34	38	38	39	40	39	37	35	35	33	29	25	20	21	40	28.8	24	
28	19	12	8	5	S	9	14	20	33	36	40	43	27	39	40	40	40	39	40	38	21	16	9	8	43	25.9	24	
29	7	7	4	S	6	17	23	29	36	41	42	44	45	44	44	39	37	39	38	35	28	25	28	28	45	29.8	24	
30	28	26	S	28	28	22	21	23	25	25	24	25	28	28	37	37	38	38	35	33	28	17	12	9	38	26.7	24	
HOURLY MAX	48	43	43	39	38	39	41	52	59	62	67	62	63	65	68	70	70	70	70	70	66	60	48	50	47			
HOURLY AVG	19.9	18.0	18.0	17.9	16.1	19.7	21.6	24.8	29.1	32.9	35.6	36.5	36.4	37.2	37.2	39.2	38.8	39.5	37.4	35.6	31.2	26.1	23.0	20.9				

**STATUS FLAG CODES**

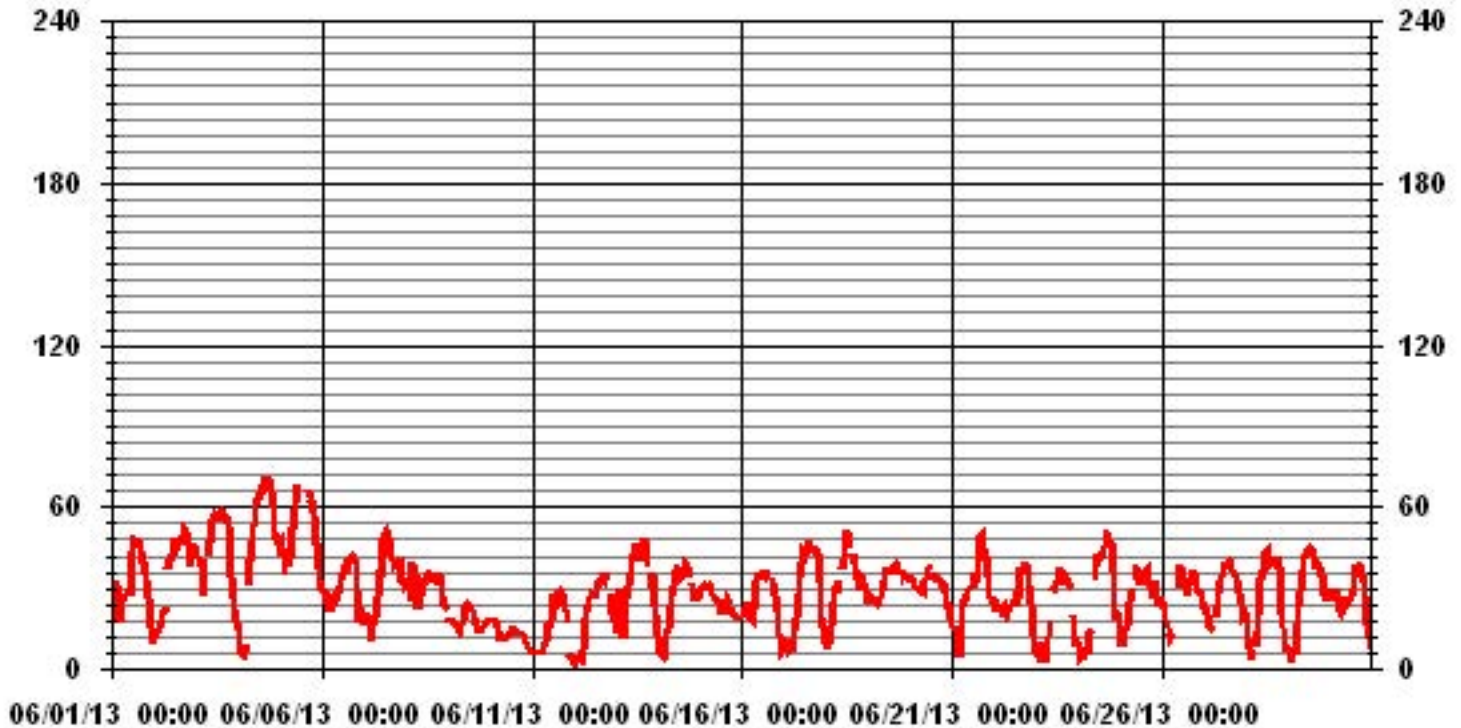
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	681				
MAXIMUM INSTANTANEOUS VALUE:	70	PPB	@ HOUR(S)	VAR	ON DAY(S) 4
S CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	716	HRS
MONTHLY CALIBRATION TIME:	4	HRS			
STANDARD DEVIATION:	13.46				



# 01 Hour Averages



— LICA O3MAX PPB

LICA  
O3\_ / WD Joint Frequency Distribution (Percent)

June 2013

Distribution By % Of Samples

Logger Id : 01  
Site Name : LICA  
Parameter : O3\_  
Units : PPB

Wind Parameter : WD  
Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 50	2.33	2.47	3.06	5.68	6.70	8.89	13.26	6.41	2.76	1.89	3.93	7.87	12.68	10.34	5.24	1.89	95.48
< 110	.00	.00	.00	.00	.29	.00	1.60	.87	.72	.72	.14	.00	.00	.14	.00	.00	4.51
< 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	2.33	2.47	3.06	5.68	6.99	8.89	14.86	7.28	3.49	2.62	4.08	7.87	12.68	10.49	5.24	1.89	

Calm : .00 %

Total # Operational Hours : 686

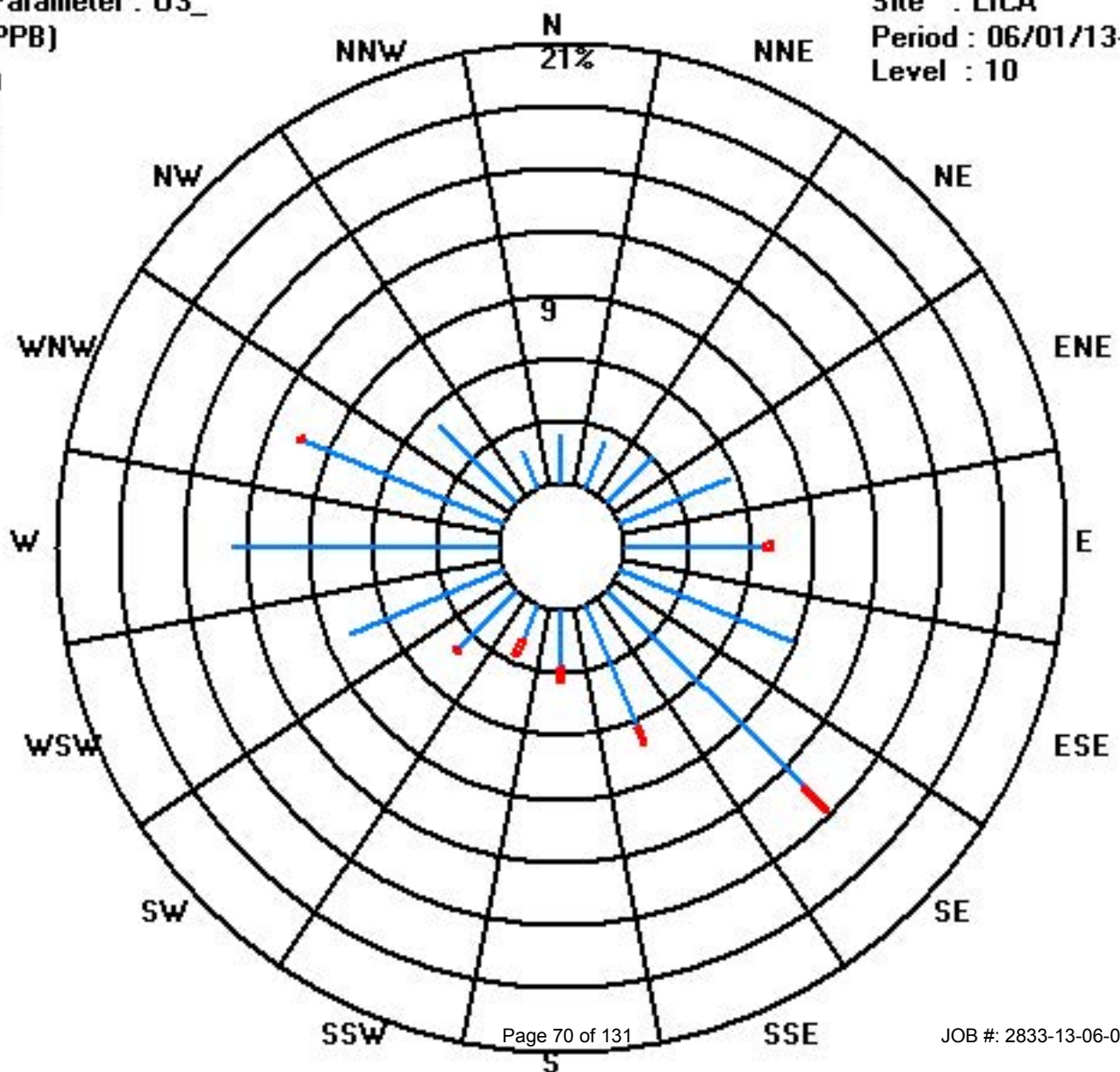
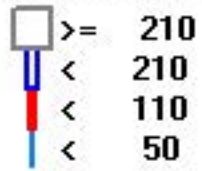
Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 50	16	17	21	39	46	61	91	44	19	13	27	54	87	71	36	13	655
< 110					2		11	6	5	5	1			1			31
< 210																	
>= 210																	
Totals	16	17	21	39	48	61	102	50	24	18	28	54	87	72	36	13	

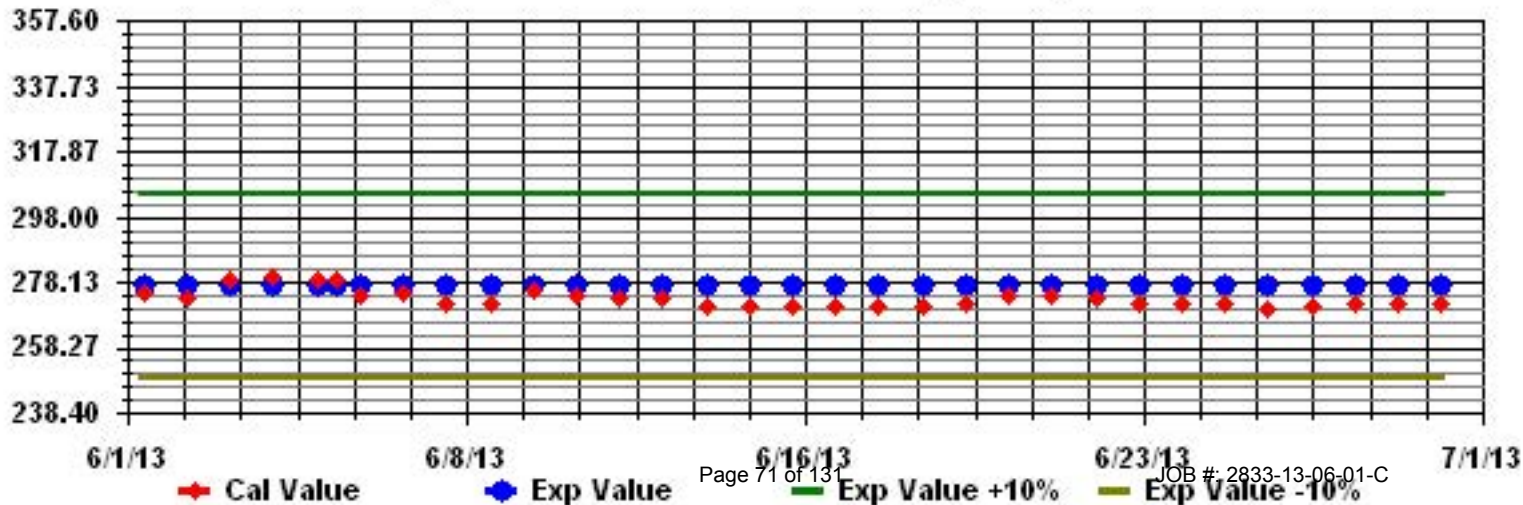
Calm : .00 %

Total # Operational Hours : 686

Class Limits (PPB)



Calibration Graph for Site: LICA Parameter: 03\_ Sequence: 03 Phase: SPAll



# Ambient Temperature

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2013

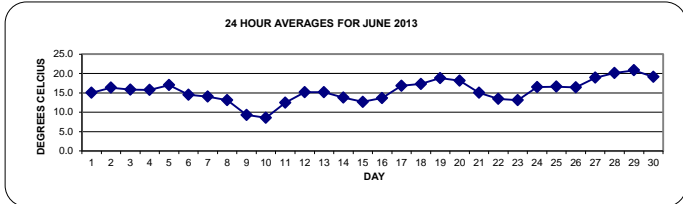
AMBIENT TEMPERATURE hourly averages (Degrees C)

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
DAY	DAY	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	MAX.	AVG.	RDGS.	
1	1	15.2	15.1	14.7	12.8	11.7	12.2	13.3	14.2	15.4	16.8	18	17.2	15.4	14.1	15.8	16.6	17.3	17.4	17.4	16.3	15	14.1	12.9	12	18.0	15.0	24	
2	2	12	12.5	12.5	12.2	12.4	12.7	13.3	14.1	15.9	16.9	18.4	19.2	20.2	20.3	21.1	21.6	21.6	21.4	20.4	18.6	16.8	13	12.3	13.4	21.6	16.4	24	
3	3	12.7	11.8	11.2	8.9	6.7	10.5	13.7	15	16.3	18.1	19.1	19.8	20.5	21.3	21.6	21.9	22.1	21.8	20.9	16.1	11.8	9	7.7	22.1	15.9	24		
4	4	6.7	5.7	4.8	4.1	4.2	8.5	13	15.6	17.6	19.5	21.2	21.8	22.5	23	22.7	22.4	22.9	22.6	22.1	20.8	17.3	14.1	13	12	23.0	15.8	24	
5	5	11.2	9.8	8.5	7.3	8.2	10.7	13	16.4	18.8	20.2	21.6	22.1	22.7	23.3	23.7	23.5	23.5	22.7	22.3	21.1	18.5	14.4	12.5	12.1	23.7	17.0	24	
6	6	12	11.3	10.5	9.8	9.2	10.1	11.3	11.3	11.3	12.6	15	17.1	18.1	19.2	19.7	20.3	20.5	20.6	19.7	18.2	14.4	11.9	12.2	12.2	20.6	14.5	24	
7	7	11.9	11.4	11.6	11.1	10.8	11.7	13	13.5	14.9	16.2	17.7	19.9	19.8	18.2	16.1	15.4	14.6	14.1	13.3	12.8	12.5	12.4	12.1	11.9	19.9	14.0	24	
8	8	11.7	11.6	11.3	11	11	11.1	11.4	12	12.5	13.3	14.3	14.8	14.6	15.4	15.3	16.4	15.4	16.2	14.6	13.9	13	11.9	11.1	10.8	16.4	13.1	24	
9	9	10.6	10.3	9.7	9.1	8.9	9	9.3	9.4	9.8	10.5	10.6	10.8	11.8	11.8	12.1	11.9	10.3	8.7	7.6	6.9	6.3	6	5.9	5.7	12.1	9.3	24	
10	10	5.7	5.9	6	6.3	6.7	7.1	7.4	7.7	8.6	8.9	9.6	9.6	9.7	10.3	10.4	10.6	10.1	9.8	9.7	9.8	9.2	9	8.9	8.8	10.6	8.6	24	
11	11	8.7	8.7	8.8	8.9	9.1	9.3	9.5	10.2	11.3	12.2	12.9	13.7	14.1	14.6	15.4	16.7	17.4	16.6	16.1	15.5	14.2	12.1	11.6	11.3	17.4	12.5	24	
12	12	11.2	11	10.7	10.4	9.8	10.3	13.4	15.1	16.1	17.3	18	18	18.7	18.6	19.2	19.4	19.2	19.2	18.8	17.6	14	13.1	12.7	12.6	19.4	15.2	24	
13	13	12.6	12	12	11.3	11.5	12.6	13.7	14.1	15	16.2	17.6	18.6	17.8	17.1	17.1	18	18.7	18.4	17.4	16.6	15.6	14.3	12.9	12.4	18.7	15.1	24	
14	14	11.2	9.6	8.5	8.2	8.4	10.8	11.5	13.4	16	17.9	18.7	19.2	18.1	17.6	18.4	18.2	15.5	13.4	12.9	12.9	12.8	12.5	12.4	12.4	19.2	13.8	24	
15	15	12.5	12.7	12.9	12.6	12.4	12.4	12.3	12.3	12.5	12.7	12.9	13.2	13.3	14	14.2	14.2	12.9	12.6	12.6	12.3	12.1	11.7	11.3	11.5	14.2	12.7	24	
16	16	11.5	11.6	11.5	11.3	11.2	11.4	11.7	12.2	12.5	12.9	13.1	14	14.6	15.8	16.6	16.5	16.6	16.4	15.8	14.8	13.7	13	12.7	16.6	13.7	24		
17	17	12.5	11.7	10.1	9.1	8.7	10.6	13	15.5	17.6	18.9	19.7	20.4	21.1	21.6	22.3	22.6	22.3	22	22.5	21.3	18.7	15.5	13.3	12.6	22.6	16.8	24	
18	18	11.4	10.4	10.2	10.9	12.7	13	13.8	15	16.7	18.6	19.7	21.1	21.8	22.6	22.9	22.2	22	21.3	20.6	19.6	19.2	17.9	17	14.8	22.9	17.3	24	
19	19	13	12.6	12.8	12.4	12.8	13.9	15	16.6	18.7	20.1	21.3	22.1	22.7	23.2	23.2	23.2	23.5	23.3	23	22.1	20.4	19.2	18.4	17.7	23.5	18.8	24	
20	20	17.2	16.8	16.2	15.8	15.7	15.7	16.3	17.8	19.5	20.2	21.2	21.9	22.3	21.9	22.1	19.9	19.5	18.9	18.9	18.2	16.9	15.1	14.2	13.3	22.3	18.1	24	
21	21	12.9	12.3	11.9	10.2	9.7	11.9	15.6	16	17.6	17.7	18.5	19.2	19.4	19.4	19.7	18.5	17.3	15.9	14.7	13.9	12.6	12.3	12.1	12.1	19.7	15.1	24	
22	22	11.9	11.3	11.7	11.9	12	12.2	12.5	13	13.3	13.6	14.3	13.9	14.2	14	14.6	16.3	17.4	17.1	15.9	14.7	14.2	12	10.9	10.6	17.4	13.5	24	
23	23	9.5	9.5	9.2	9	9.8	10.7	11.6	12.4	13.7	15	15.2	15.3	15.9	18.2	14.7	13.6	14.9	15.6	15.9	16.1	14.8	12.9	11.5	10.2	18.2	13.1	24	
24	24	9.8	9.1	9.1	8.5	8.7	9.1	11.3	12.5	15.2	18.7	20.1	21.2	21.7	22.4	22.6	23.1	23.4	23.6	22.8	21.7	18.8	15.8	14.2	13.2	23.6	16.5	24	
25	25	12.6	11.8	11.5	11.2	12.4	14.1	17.4	19.2	19.8	20.3	20.4	19.6	17.1	16.7	17.4	17.9	17.9	18.2	18.3	18.1	17.6	16.8	16.4	15.6	20.4	16.6	24	
26	26	15.1	15	15.2	15.4	15.5	15.6	16.1	16.8	17.2	17.8	18.7	18.9	17.7	17.9	15.9	16	17.2	17.5	18.1	17.5	16.3	14.7	14.6	13.9	18.9	16.4	24	
27	27	13.2	12.7	12.1	11.6	11.7	11.9	13.9	17.1	19.1	21	22.1	23.2	23.3	24	24.6	24.4	24.5	24.8	24.4	23.7	20.9	17.2	16.5	16.2	24.8	18.9	24	
28	28	13.9	12.1	10.9	9.9	10.1	13.4	16.6	19.3	21.7	23.3	24.9	25.8	26	26.9	27.4	27.4	27.4	27	26.3	24.3	21.3	17.7	15.7	14.4	27.4	20.2	24	
29	29	13.5	12.6	11.9	11.4	11.6	15.9	18.4	19.8	22.5	24.2	25.2	25.9	26.4	26.3	26.2	25.4	25.9	26.2	25.6	24.1	21.5	20.2	19.9	19.3	26.4	20.8	24	
30	30	18.8	17.4	16.2	17.2	16.6	16.2	16.4	17.1	18.2	18.9	19	19.8	20.2	21.2	22.2	22.6	23.5	23.8	22.9	22.6	20.7	17.6	15.9	15	23.8	19.2	24	
HOURLY MAX		18.8	17.4	16.2	17.2	16.6	16.2	18.4	19.8	22.5	24.2	25.2	25.9	26.4	26.9	27.4	27.4	27.4	27.0	26.3	24.3	21.5	20.2	19.9	19.3				
HOURLY AVG		12.1	11.5	11.1	10.7	10.7	11.8	13.3	14.5	15.8	17.0	18.0	18.6	18.7	19.0	19.2	19.2	19.2	18.9	18.4	17.6	15.9	14.0	13.1	12.6				

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

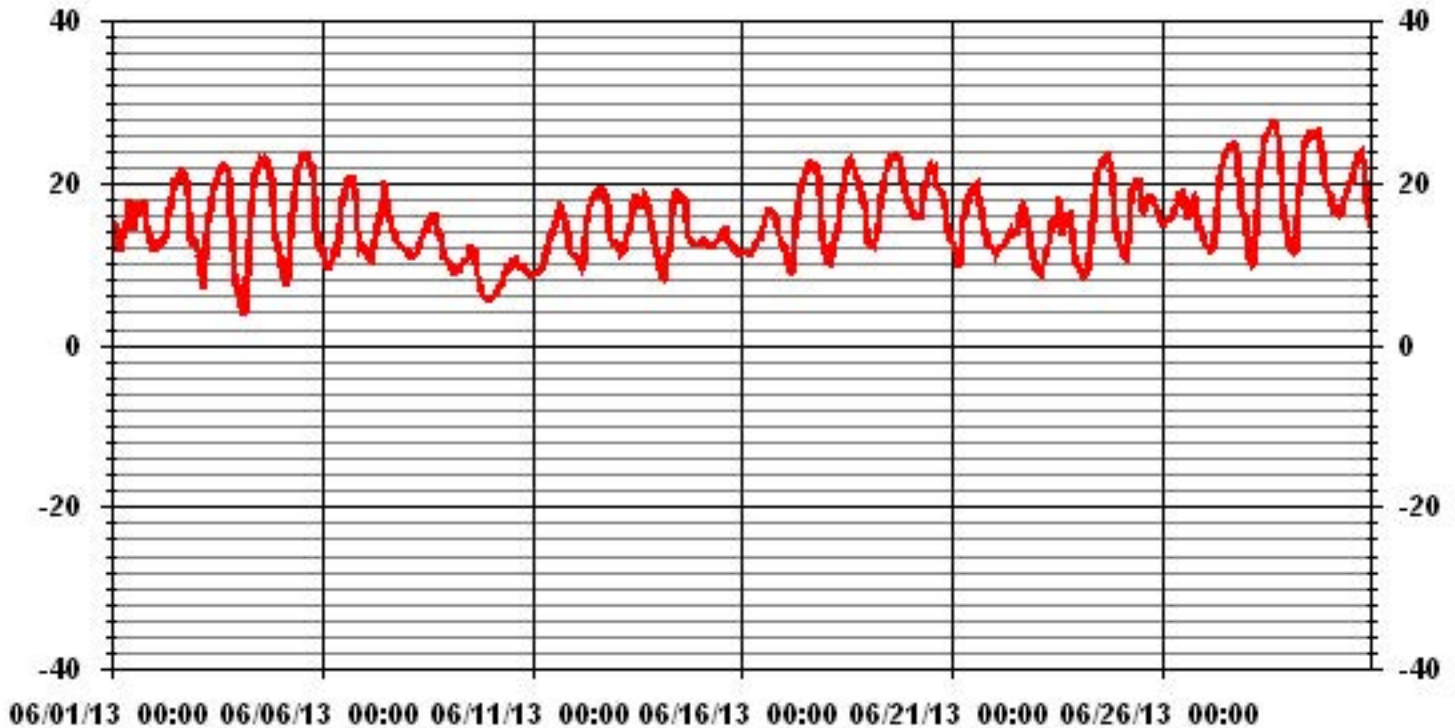
24 HOUR AVERAGES FOR JUNE 2013



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	4.1 °C	@ HOUR(S)	3	ON DAY(S)	4
MAXIMUM 1-HR AVERAGE:	27.4 °C	@ HOUR(S)	VAR	ON DAY(S)	28
MAXIMUM 24-HR AVERAGE:	20.8 °C			ON DAY(S)	29
				VAR-VARIOUS	
CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	720 HRS		
		AMD OPERATION UPTIME:	100.0 %		
STANDARD DEVIATION:	4.66	MONTHLY AVERAGE:	15.46 °C		

# 01 Hour Averages



# Relative Humidity



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2013

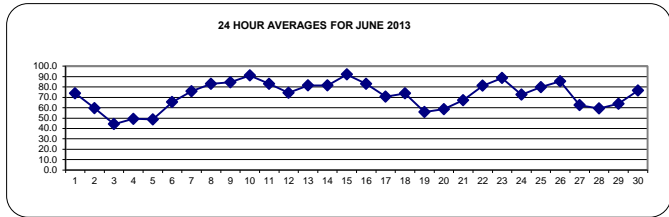
RELATIVE HUMIDITY hourly averages (%)

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOURLY MAX	HOURLY AVG	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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		93	87	68	77	87	79	69	67	65	63	62	64	69	76	68	65	63	65	68	73	79	85	89	93	93	73.9	24
2		94	94	95	97	97	94	88	76	61	55	51	50	41	39	35	32	30	27	29	36	42	59	57	51	97	59.6	24
3		53	55	55	65	78	64	47	45	43	36	31	26	26	25	23	22	22	21	21	29	52	65	77	80	80	44.2	24
4		85	88	88	89	88	74	64	51	45	37	30	27	23	24	24	22	27	26	26	31	44	54	54	56	89	49.3	24
5		59	65	72	78	71	64	59	51	39	33	28	25	22	21	22	24	24	27	29	34	49	80	95	98	98	48.7	24
6		98	94	96	95	93	86	78	78	82	74	63	50	44	40	36	33	31	30	33	41	64	76	74	80	98	65.4	24
7		81	83	78	82	86	80	75	74	66	56	56	50	46	51	68	76	82	85	86	90	91	92	94	94	94	75.9	24
8		95	96	98	98	99	99	98	94	90	84	77	71	73	68	69	65	69	67	74	72	78	83	87	85	99	82.9	24
9		84	85	89	93	95	93	91	88	86	80	81	76	71	69	68	68	78	83	89	90	91	92	93	93	95	84.4	24
10		93	94	94	95	96	95	95	94	92	92	89	88	90	81	82	81	85	88	90	93	95	96	94	95	96	91.1	24
11		97	98	98	97	97	97	98	96	90	83	81	77	75	72	69	60	57	60	63	69	80	91	93	95	98	83.0	24
12		96	97	97	97	97	95	83	76	71	63	59	58	55	56	51	47	49	50	52	59	88	94	97	98	98	74.4	24
13		97	98	99	99	99	100	97	93	85	78	70	65	69	72	72	62	52	59	70	77	82	80	89	92	100	81.5	24
14		95	96	96	97	97	93	89	80	71	64	58	54	60	66	61	59	71	92	93	93	95	92	91	93	97	81.5	24
15		91	88	87	89	91	90	93	94	93	94	93	93	94	92	91	92	96	93	93	92	91	92	94	93	96	92.0	24
16		94	94	96	96	95	95	93	88	85	78	78	74	72	69	67	68	68	69	71	78	84	91	94	95	96	83.0	24
17		96	96	97	98	97	97	87	79	70	66	58	53	51	49	46	44	44	45	44	50	67	81	89	89	98	70.5	24
18		92	95	95	96	95	97	94	87	77	72	67	57	54	54	52	55	57	63	67	73	67	64	64	75	97	73.7	24
19		83	83	81	82	81	77	72	66	60	55	51	46	44	41	40	37	35	35	36	40	45	47	50	51	83	55.8	24
20		51	53	57	60	62	65	65	61	52	50	45	40	40	43	45	56	57	60	62	65	70	80	81	85	85	58.5	24
21		88	90	90	93	93	86	76	72	61	50	47	45	44	42	41	46	49	49	58	66	77	81	84	84	93	67.2	24
22		86	89	87	87	87	87	85	85	84	82	78	83	83	84	83	70	65	61	66	72	76	87	91	91	91	81.2	24
23		94	96	96	96	96	96	94	94	91	84	82	83	80	71	83	92	87	81	80	78	87	93	95	97	97	88.6	24
24		98	98	98	98	99	99	97	93	84	66	60	56	50	46	45	45	42	43	46	53	68	82	87	89	99	72.6	24
25		90	91	92	92	88	84	71	64	63	58	61	68	83	85	78	74	74	76	80	84	84	89	93	94	94	79.8	24
26		95	97	98	98	99	99	99	89	82	78	70	69	76	76	93	91	81	77	72	75	81	87	84	86	99	85.5	24
27		89	90	93	96	95	91	81	70	64	56	50	48	46	42	40	37	35	34	35	39	51	68	73	76	96	62.5	24
28		84	91	93	95	93	82	74	67	57	49	41	32	31	27	26	27	27	30	32	46	65	79	85	89	95	59.3	24
29		91	92	94	93	91	78	71	65	57	53	48	42	41	42	41	47	44	44	49	59	72	74	70	73	94	63.8	24
30		74	81	87	81	84	87	89	85	77	75	80	77	75	72	61	60	57	57	62	65	77	88	93	94	94	76.6	24
HOURLY MAX		98	98	99	99	99	100	99	96	93	94	93	93	94	92	93	92	96	93	93	93	95	96	97	98			
HOURLY AVG		87.2	88.5	88.8	90.3	90.9	87.4	82.4	77.4	71.4	65.5	61.5	58.2	57.6	56.5	56.0	55.4	55.3	56.6	59.2	64.1	73.1	80.7	83.7	85.5			

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

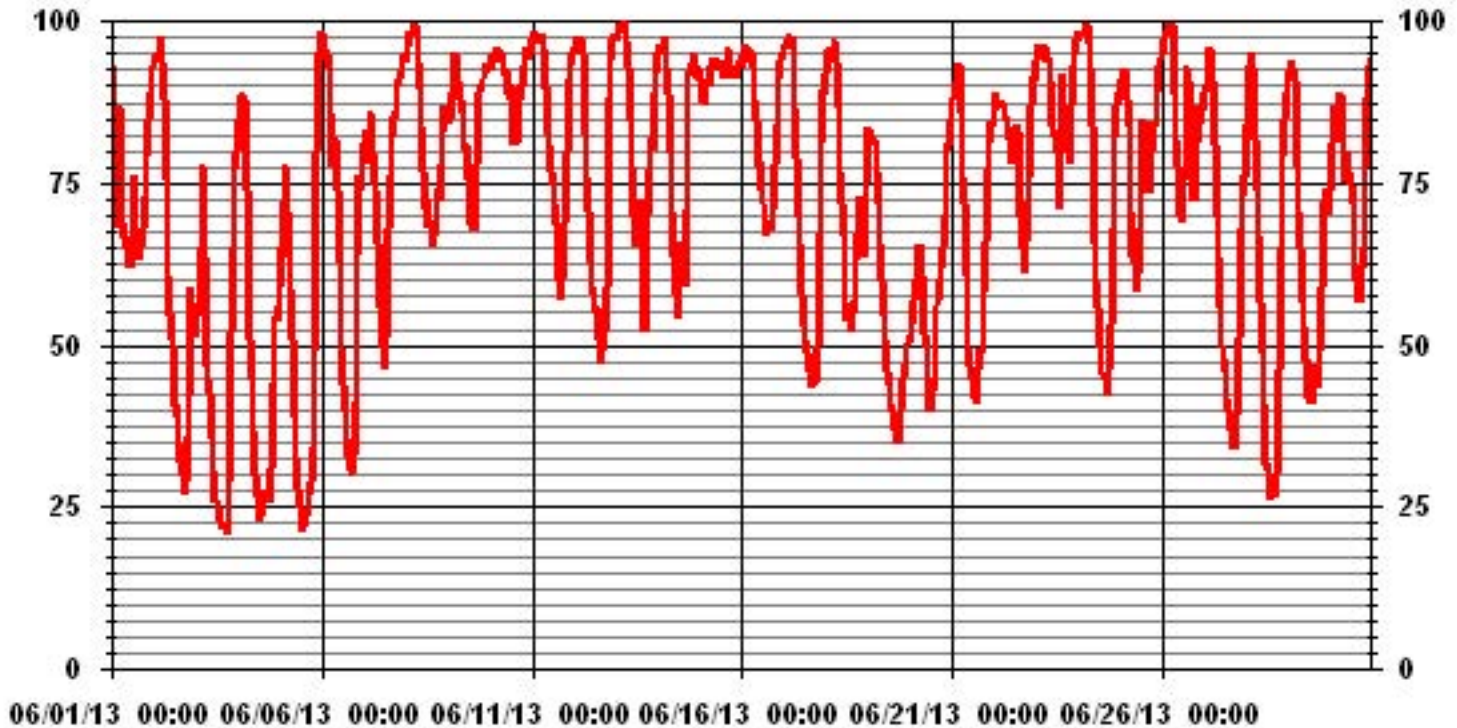
24 HOUR AVERAGES FOR JUNE 2013



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	100	%	@ HOUR(S)	5	ON DAY(S)	13
MAXIMUM 24-HR AVERAGE:	92.0	%			ON DAY(S)	15
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS	
STANDARD DEVIATION:	21.01		AMD OPERATION UPTIME:	100.0	%	
			MONTHLY AVERAGE:	72.21	%	

### 01 Hour Averages



# Vector Wind Speed

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2013

## VECTOR WIND SPEED (WS) hourly averages (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	1.2	1.7	3.4	0.5	0.8	2.8	5.2	6.1	6.3	7.5	4	5.9	10.4	8	7.4	5.1	2	2.7	2.2	2.6	1.4	0.6	0.1	1.4	10.4	1.2	24	
2	1.5	0.7	0.4	1.4	3.1	3.7	5	6.8	8.6	8.4	7.3	8.1	11.6	8.3	9.9	10.7	9.8	9.9	7.7	4.5	4.1	2	3.2	4.1	11.6	5.5	24	
3	3.7	3.9	3.6	1.5	1.2	1.3	5	5.4	6.6	5.7	6	5.9	5.2	3.8	4.6	7.5	4.1	6.6	5.3	2.1	0.6	0.8	0.8	0.9	7.5	3.5	24	
4	0.7	0.2	0.7	0.9	0.6	0.8	1.6	3.7	5.1	7.6	5.1	6.4	6.5	6	6.4	4.9	4.3	6.2	5.6	4.3	2.9	3.4	2.2	2.7	7.6	3.1	24	
5	1.7	1.8	0.9	0.3	4.1	6.6	5.4	4.6	6	8.3	9.2	10.2	10.1	10.3	8.9	7.7	8.8	6.8	6.1	7.1	7.8	8	4.6	3.5	10.3	6.2	24	
6	7.4	9.1	5.4	6.2	4.7	8.2	10.7	10.6	10	11.2	11.6	14.6	14.2	13.8	13.1	13.3	11.9	9.7	6.9	3.8	1.2	1	1	1.9	14.6	8.4	24	
7	0.6	0.6	0.9	0.6	1.4	2.9	3.9	2.7	3.4	6.3	7.5	8.5	6.6	7.5	5.5	4.3	5	5.6	5.6	3.8	2.2	2.7	4.4	3.1	8.5	4.0	24	
8	2.2	0.6	3.4	6.5	6.5	3.6	5.1	5.4	6.6	6	5.4	7.1	7.6	8.7	6.1	6.4	7.4	7.4	6.3	6	5.4	5.9	3.6	6.5	8.7	5.7	24	
9	8.6	8.7	8.7	9.6	8.8	9.4	9.6	11.5	11.1	12.7	11.9	13.1	13.4	13.2	14.5	14.3	14	12.6	13.3	14.7	<b>16.5</b>	16	13.9	14.3	<b>16.5</b>	<b>12.3</b>	24	
10	14.2	14.4	14.7	13.1	12.4	11.6	10.9	9.7	8.9	9.6	10.4	10.7	8.6	12.7	11	8.7	7.1	8.2	7.3	6.9	10	8.5	8	7.7	14.7	10.2	24	
11	5.9	4.5	5.2	5.5	5.6	4.7	5.6	9.5	9.5	6.8	5.8	6	8.5	7.1	5.2	3.6	5.4	4.1	3.9	2.9	1.1	0.9	0.4	0.4	9.5	4.9	24	
12	0.8	0.3	0.4	1.3	1	2.2	4	6.6	7.8	8.3	8.5	6.1	4.8	5.2	8.5	11.4	9.6	7.1	9	4.3	5.2	1.6	1.9	0.9	11.4	4.9	24	
13	1.9	0.2	0.4	0.7	1	1.1	3.7	3.3	0.7	0.9	2.6	4.6	5	5.7	1.9	3.8	4.1	5.3	3.1	2.4	1.5	0.5	1	1.5	5.7	2.4	24	
14	1.3	0.9	0.6	0.9	0.7	3.1	7.3	4.9	3.4	3.3	0.9	4.4	1.3	5.7	4.4	2	2.5	2.1	3.9	3.3	3.7	5.9	6.6	6.7	7.3	3.3	24	
15	8.2	8.7	12.2	12.8	12.4	12.6	14	14.1	14.8	15.3	15.6	14.5	13	12.7	10.4	8.2	7.4	6	7.4	6.6	6.9	6.2	6.1	4.4	15.6	10.4	24	
16	4.9	3.3	4.6	4.9	3.5	3.4	3.8	6.4	6.9	5.7	3.5	4.5	5.6	5.8	4.6	2.5	2.5	1.6	1.8	1.4	1.3	1	1.3	1.3	6.9	3.6	24	
17	1.3	1.1	0.8	0.3	0.9	1.3	3.1	3.9	5.1	4.8	6.1	6.5	7.2	7.2	7.7	7.7	8	6.6	6	3.6	1	0.8	0.5	1.2	8.0	3.9	24	
18	0.7	0.3	1	2.8	1.4	3.2	1.4	4.3	3.1	4.9	5.7	5.5	4.6	6.6	5.4	5.9	3.6	2.4	2	1.2	6	4	5.5	0.6	6.6	3.4	24	
19	4	2.7	2.9	3.2	3.2	5.4	7.5	8.5	9.6	10.7	10.1	12.7	11.4	11.1	8.8	10	10.8	9.7	8.4	7.4	5.5	8.8	7.9	7.4	12.7	7.8	24	
20	8.7	8.9	8.8	8.2	9.3	11.1	11.5	11.9	13.7	16.3	16	15.3	13.7	12.6	13	14.4	9.4	9	7.9	6.6	2.2	1	3.8	0.6	16.3	9.7	24	
21	0.2	1.6	0.8	0.4	0.5	0.4	2.7	5.9	5.7	8.1	8.5	8.5	9.4	10.6	11.2	13	12.3	12.4	12.5	9	8.4	6.4	3.9	5.7	13.0	6.6	24	
22	5.2	3.6	5.3	3.4	4	5.1	5.7	5.8	4.6	6.2	8.1	10	9.1	5.7	4.5	6.7	6.8	8.9	7.8	4.4	1.3	0.9	0.3	0.4	10.0	5.2	24	
23	0.8	1.6	0.8	0.6	1.4	2.1	1.4	1.6	1.5	2.5	2.5	2.2	4	5.1	8.4	2.6	4.7	3.4	3.5	3.1	2	2.7	1.9	1.1	8.4	2.6	24	
24	1.4	2.7	1.3	2.3	3.3	2	4.7	5.3	5.1	6.3	5.6	4.3	6.1	5.6	5.6	5	4.4	3.6	4.3	3.9	2.6	1.3	1	1.8	6.3	3.7	24	
25	1	0.5	1.3	1.3	1.6	0.9	3.8	5.5	4.8	7.7	7.8	8.7	7.9	8.7	10.3	11.6	10.7	10	8	7.9	8.7	9.7	7.8	6.7	11.6	6.4	24	
26	4.5	4.4	3	1.2	0.7	4.4	2.9	4.6	5.4	5.6	8.7	7.9	5.7	7.2	8.6	11.1	10.8	10.5	10.1	8.1	3.8	2.6	7.4	7.1	11.1	6.1	24	
27	9	9.5	6.6	5.8	6.7	5.1	6.6	8	7.3	9	11.1	10.2	10.1	10.3	11.3	13.5	13.8	10.6	9.3	5.8	3.7	2.9	4.1	4.4	13.8	8.1	24	
28	1.4	1.3	0.2	0.8	0.8	2.6	2.7	3.1	4.2	6.8	8.1	8.9	8.6	6.8	8.2	5.9	7.1	7.3	6.6	1.9	0.8	0.8	0.7	0.6	8.9	4.0	24	
29	0.8	0.5	0.2	1	0.2	1.4	3	3.8	3.2	3.3	4.4	6.1	4.4	5.8	7.9	8.3	5.2	8	10.4	7	3.2	4.1	7.6	8	10.4	4.5	24	
30	2.2	1	1.8	2.9	0.6	2	3.5	4.5	5.3	7.2	3.2	2.8	3.5	1.1	2.8	5.7	5.6	5.2	5.5	3.8	1.5	0.2	0.3	0	7.2	3.0	24	
HOURLY MAX	14.2	14.4	14.7	13.1	12.4	12.6	14.0	14.1	14.8	16.3	16.0	15.3	14.2	13.8	14.5	14.4	14.0	12.6	13.3	14.7	16.5	16.0	13.9	14.3				
HOURLY AVG	3.5	3.3	3.3	3.4	3.4	4.2	5.4	6.3	6.5	7.4	7.4	8.0	7.9	8.0	7.9	7.9	7.3	7.0	6.6	5.0	4.1	3.7	3.7	3.6				

### STATUS FLAG CODES

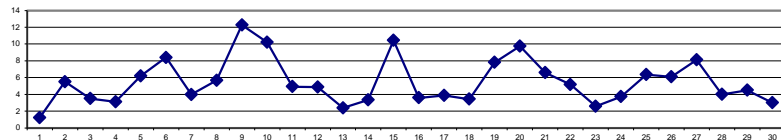
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

LAST CALIBRATION: November 28, 2012

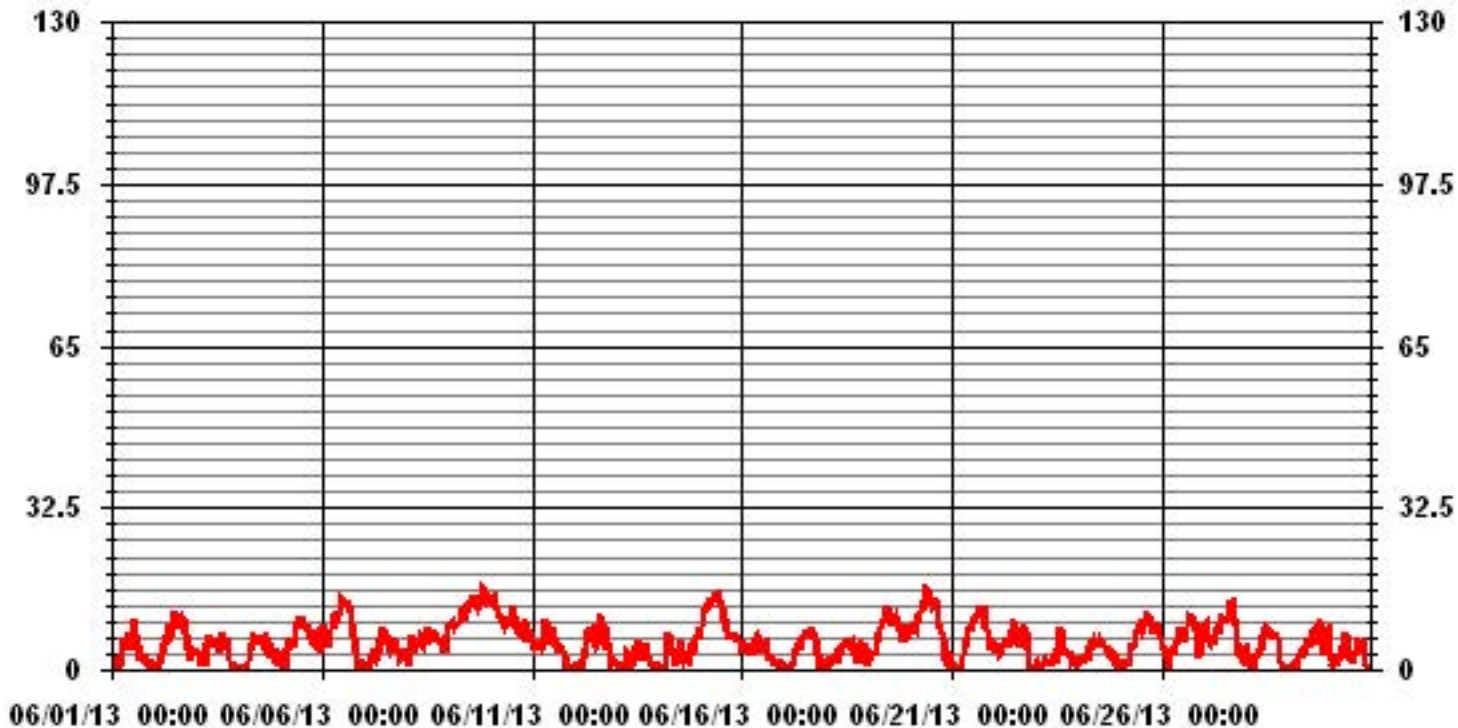
### MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	16.5	KPH	@ HOUR(S)	20	ON DAY(S)	9
MAXIMUM 24-HR AVERAGE:	12.3	KPH			ON DAY(S)	9
CALMS (≤ 0 KPH)	2.02	%	OPERATIONAL TIME:		720	HRS
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	3.78		MONTHLY AVERAGE:		5.61	KPH

24 HOUR AVERAGES FOR JUNE 2013



### 01 Hour Averages



## LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2013

### VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST																										DAILY	
HOUR START	HOUR END	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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.
DAY																											
1		6.2	7.8	7.4	5.6	2.5	7.5	9.3	10.4	11.4	12.4	10.1	20.3	17.3	17.6	12.4	9.7	4.8	5.4	4.5	5	3.3	2.7	2.2	4.8	20.3	
2		5	3.8	4.7	6.4	7.8	6.4	8.1	13.9	13.3	17.2	15.3	15.8	19.5	16.7	18.5	17.9	15.8	16.9	12.9	9.9	7.6	3.2	6.6	6.7	19.5	
3		5.6	5.9	5.5	3.1	3.2	8.2	10.9	8.3	13.1	11.8	14	13.7	16.8	10.9	13.5	14.9	12.7	13.3	10.8	4.3	2.5	2.7	3.3	2.7	16.8	
4		2.5	1.3	2	3.1	3.1	2.1	6.3	8.8	9.9	15.9	15.4	16.5	17.8	14.6	13.5	12.8	9.8	11.7	11.6	6.5	6.1	5.5	3.8	4.2	17.8	
5		4.1	3.6	2.3	3.9	7.6	8.8	8.9	9.7	12.7	14.5	16.6	17.2	18.8	21.8	18.2	19.2	16.4	13.6	8.8	9.2	22.7	18.6	8.7	7.5	22.7	
6		16.8	15.1	10.5	10.9	8.7	13.7	17.4	17.4	17.4	16.8	17.3	24	22.3	22.8	20.8	24	18.3	16.8	12.3	7.2	2.1	3.2	4.6	3.4	24	
7		3.1	3.4	5.2	6.5	5.1	4.6	5.7	5.2	6.7	13	13.9	15.5	12.3	13.7	11.8	6.7	8.9	10.1	8.5	6.3	6.4	4.9	6.4	4.9	15.5	
8		5.7	2.1	6.6	8.4	8.6	7.6	9.8	10.5	11.4	10.4	13	13.2	13.3	14.9	11.4	12.4	11.5	12.4	13.8	10.9	9.5	9.1	7.9	16.9	16.9	
9		15.2	13.6	13.8	14	14.2	15.3	16.3	17	19.1	21.6	20.5	21.9	21.7	19.3	22.6	23.3	22.2	20.5	21.4	24.7	21.5	22.5	18.8	21.7	24.7	
10		21.5	20.2	20.6	19.6	17.9	17.1	15.9	14.3	13.2	15.9	15.9	16.9	13.7	19.1	18.1	16.5	13.2	13	10.5	14	17.4	12.4	11.1	11.5	21.5	
11		9.8	7.3	7.5	8	8.9	7.7	9.2	14.3	14.7	12.8	11.2	11	15.3	12.5	10.3	10.6	11.6	10.6	10.4	5.9	2.8	2.9	2.5	2.2	15.3	
12		2.5	1.7	2.5	2.4	2.7	4	9.5	11.3	14.2	13.9	14.6	12.6	12	11.2	17.4	18.2	17.2	11.6	15.8	16.6	14.2	10.2	5.8	9.6	18.2	
13		6.4	4	5.1	3.8	3.3	2.7	7.2	6.1	4.9	4.5	7.5	11.1	9.2	11.5	5.2	7.3	8.3	9	5.7	3.8	6.1	5.7	4	4.6	11.5	
14		3.6	2.6	3.8	4.8	3	7.2	10.8	9.5	8.5	9.3	8.6	8.6	11.4	8.1	8.8	10.4	11.1	5.4	8.5	9.1	6.7	10.5	10.1	10.9	11.4	
15		12.8	14.8	18.6	19.3	17.8	18.2	21.8	18.8	27.7	22.2	25.1	23.1	19.3	18	13.7	14	11.8	9.9	11.5	9.8	11.5	9.9	10	9.4	27.7	
16		6.8	5.9	7.4	7.5	5.4	5.2	7.3	10.5	11.3	9.6	7.2	10.9	10	12.6	10.6	5.8	5.4	4.9	3.9	3	3.5	2	3.5	2.8	12.6	
17		4.7	3	5.8	3	3.1	5.8	6.4	7.2	9.2	11	12.5	11.4	13.8	13.6	14.8	13.4	13.9	14.1	11.2	7.2	3.2	1.7	2.4	7.6	14.8	
18		2.8	3	4.5	8.6	9.2	9.1	7.6	9.3	7.1	11.9	11.2	9.9	9.7	12.6	15.1	10	6.9	5.1	3.5	5	11.9	6.8	8.9	5.2	15.1	
19		9.8	5.5	5.8	5.1	6.8	9.2	11.9	13.6	14.7	16.4	16.3	19.6	17.4	19	15.9	19.3	16.3	15.5	14	13	8.6	12.1	12.7	10.3	19.6	
20		15.5	13	12.9	14.3	14.7	16.8	16.3	16.6	23.7	26.4	24.3	22.4	23	20.7	22.4	23.8	16.6	13.7	13.8	13.6	5.5	4.6	6.2	3.6	26.4	
21		2.1	3.5	2.2	2.3	2.2	2.1	8.2	10.2	10.3	13.9	14.1	15.1	15.5	18.6	17.5	21.7	20.7	20.3	19.5	16.2	15.7	11.9	8.3	9.3	21.7	
22		11.3	9.1	11.2	7.5	6.4	10	12.2	11.7	11	11	14.6	13.8	14.7	10.4	8.6	12.7	15	16	11.2	9.4	5.2	4	3.2	5.1	16	
23		2.9	3.9	4.5	3.3	4.8	4.3	4	3.4	5	5.6	4.5	5.5	7.1	8.5	21.4	7.2	7.9	6.1	6.7	6.3	3.7	5.6	4.2	4.6	21.4	
24		4.3	4.4	3.2	3.9	6	5.9	7.6	9.7	7.9	10.6	10.8	11.8	11.9	11	11.6	11.9	10.2	10	12	7.4	3.7	2.9	1.8	3.8	12	
25		3.7	3	2.8	4.6	4.6	7.4	6.9	9.8	10.5	13.3	13.9	17.9	14	12.5	20.3	21.2	19.8	18.2	13	11.8	13.5	16	13.1	12.3	21.2	
26		8.8	7.7	7.3	4.7	2.2	9.4	6.7	9.1	10.2	10.7	16.7	16.6	12.5	15.5	15.4	20.3	17.5	18.2	17.9	13.5	6	5.6	12.1	10.4	20.3	
27		11.8	12.2	9.2	9.2	10.6	9.3	11.7	12.2	13.1	17.2	16.7	16.4	16.9	17	17.7	22.5	22.6	19.1	18	10.9	6.1	5.2	6.2	7.3	22.6	
28		12.9	4.6	3.5	3.7	3.3	5.2	5.4	7.9	9	11.7	13.3	14.2	14.6	14.5	14.3	14.7	13.6	12	10.8	5.8	1.6	2.9	1.3	2.5	14.7	
29		2.6	2.5	3	2.9	3.5	4.2	6.5	7.1	8.5	10.2	12.4	13.2	11.2	11.7	15.1	11.8	9.9	12.8	13.5	12.6	4.7	5.9	9.8	10.9	15.1	
30		8.4	4.5	4.8	5.9	2.4	6.4	6.6	7.3	11.8	11.6	6.7	5.4	5.8	5.6	7.5	10.5	11.7	11.5	10.3	6.8	3.4	2.1	2.4	1.4	11.8	
PEAK		21.5	20.2	20.6	19.6	17.9	18.2	21.8	18.8	27.7	26.4	25.1	24.0	23.0	22.8	22.6	24.0	22.6	20.5	21.4	24.7	22.7	22.5	18.8	21.7		

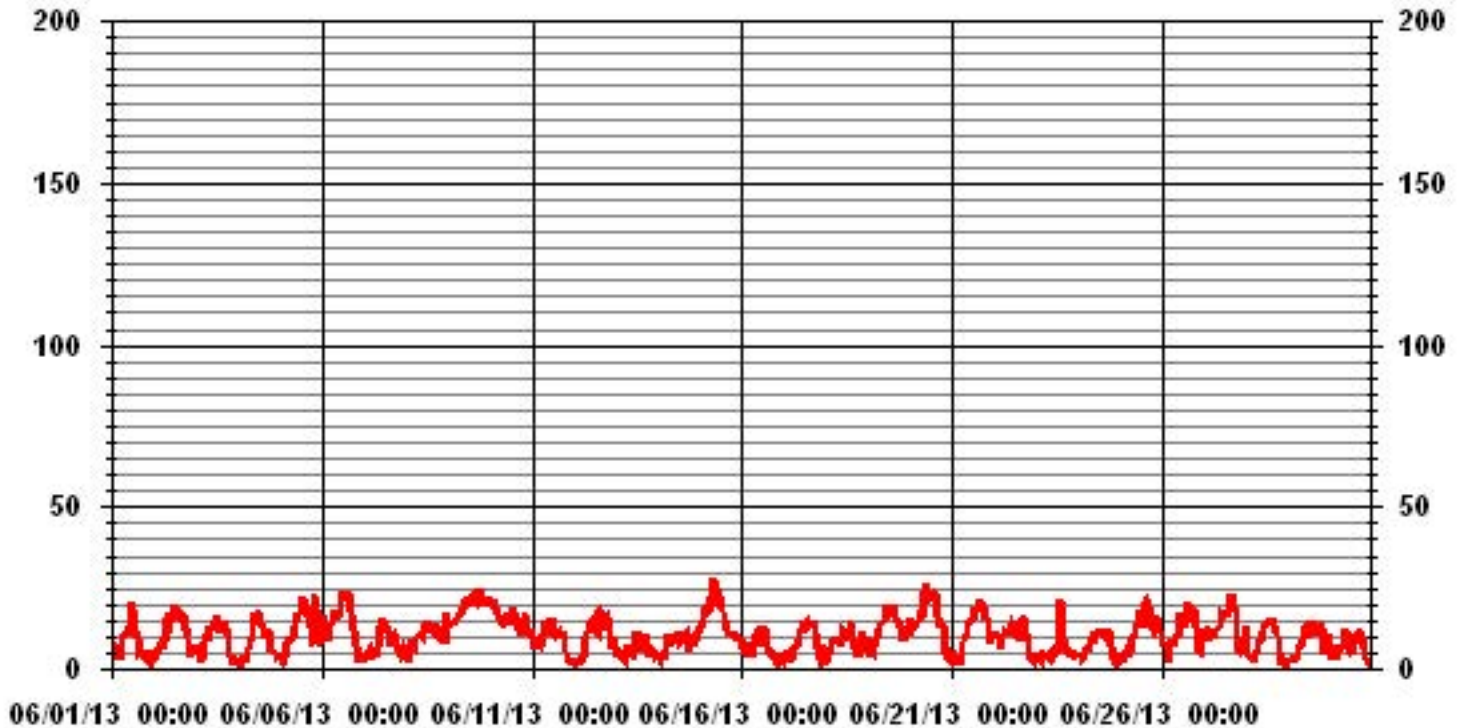
**STATUS FLAG CODES**

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

**MONTHLY SUMMARY**

MAXIMUM INSTANTANEOUS READING	27.7	KPH	@ HOUR(S)	8
			ON DAY(S)	15

# 01 Hour Averages



— LICA WSMAX KPH

LICA  
WSP / WD Joint Frequency Distribution (Percent)

June 2013

Distribution By % Of Samples

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

Wind Parameter : WD  
Instrument Height : 10 Meters

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 6.0	1.80	1.11	2.77	3.61	3.19	5.00	8.19	5.83	2.36	1.94	3.33	5.83	5.27	2.63	1.25	1.52	55.69
< 12.0	.27	1.11	.27	2.08	3.33	2.77	6.11	.97	1.25	.55	.83	1.80	5.83	5.13	2.50	.13	35.00
< 20.0	.00	.00	.00	.13	.41	.83	.41	.00	.00	.00	.00	.13	1.38	2.50	1.38	.00	7.22
< 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	2.08	2.22	3.05	5.83	6.94	8.61	14.72	6.80	3.61	2.50	4.16	7.77	12.50	10.27	5.13	1.66	

Calm : 2.08 %

Total # Operational Hours : 720

Distribution By Samples

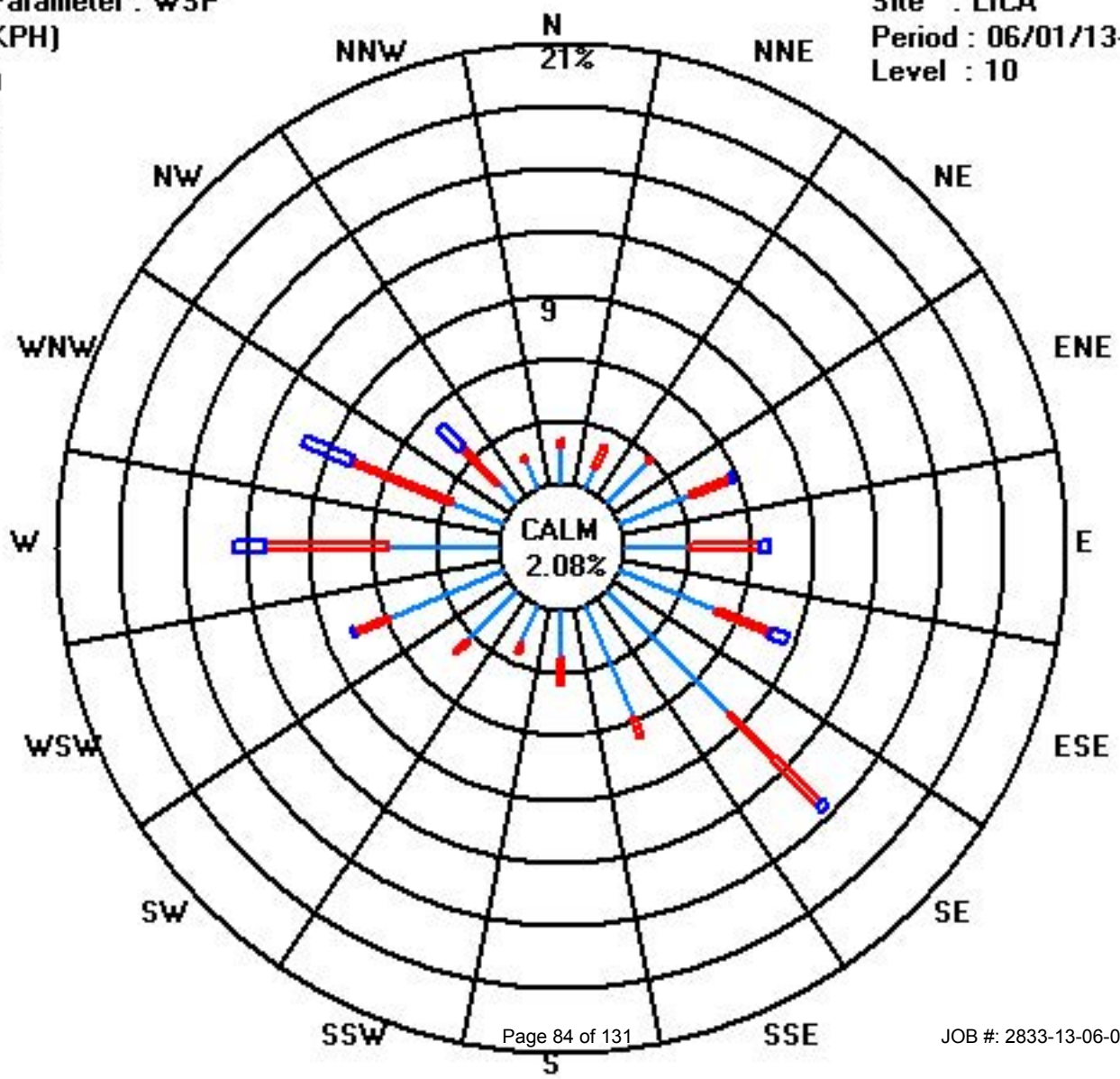
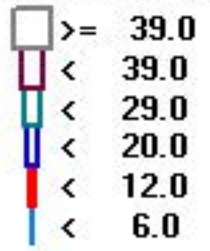
Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 6.0	13	8	20	26	23	36	59	42	17	14	24	42	38	19	9	11	401
< 12.0	2	8	2	15	24	20	44	7	9	4	6	13	42	37	18	1	252
< 20.0				1	3	6	3					1	10	18	10		52
< 29.0																	
< 39.0																	
>= 39.0																	
Totals	15	16	22	42	50	62	106	49	26	18	30	56	90	74	37	12	

Calm : 2.08 %

Total # Operational Hours : 720



Class Limits (KPH)



# Vector Wind Direction

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2013

## VECTOR WIND DIRECTION (WD) hourly averages in degrees

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG			
HOURLY AVG	HOURLY AVG	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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.	QUADRANT	RDGS.		
DAY																														
1		125	107	133	234	88	93	115	135	134	141	151	256	270	281	309	282	265	263	233	224	244	70	243	242	215	SSW	24		
2		236	267	318	6	100	108	125	124	141	133	115	114	127	113	126	104	111	99	100	105	96	83	119	113	115	ESE	24		
3		111	120	117	81	264	73	99	116	129	139	130	124	130	84	101	133	149	137	146	162	156	132	207	102	126	SE	24		
4		273	17	108	114	213	75	136	129	142	148	166	207	200	211	227	191	200	160	165	142	142	149	153	149	171	S	24		
5		159	142	172	191	141	138	142	173	195	177	176	173	184	183	184	176	157	155	143	136	294	275	263	218	178	S	24		
6		244	258	246	252	253	262	273	280	278	286	289	304	291	285	289	285	276	282	277	267	197	164	182	246	277	W	24		
7		118	194	340	13	136	136	136	138	109	136	131	148	181	174	143	122	125	131	148	139	110	102	96	78	136	SE	24		
8		118	214	139	137	139	164	224	248	262	280	292	289	285	288	276	294	253	266	298	295	272	264	300	305	269	W	24		
9		288	285	288	285	286	304	302	310	308	305	291	295	284	292	282	288	298	287	270	268	266	266	260	260	285	WNW	24		
10		257	260	264	265	271	274	280	314	305	305	305	313	303	323	321	322	292	275	271	284	276	271	269	276	286	WNW	24		
11		272	267	270	277	266	260	285	311	309	322	282	291	321	314	300	323	334	8	17	5	345	230	186	289	302	WNW	24		
12		271	84	319	63	49	57	93	115	130	134	135	165	178	158	139	141	133	107	98	131	321	333	45	274	128	SE	24		
13		72	329	200	67	120	145	150	155	200	354	330	299	324	325	68	314	327	319	307	274	43	59	235	252	322	NW	24		
14		274	155	229	250	127	267	266	257	268	271	279	252	136	130	102	337	1	264	293	282	290	295	300	291	276	W	24		
15		292	299	299	300	300	302	304	301	306	309	311	311	311	306	306	338	7	12	12	14	17	25	24	10	318	NW	24		
16		356	346	338	5	353	332	327	15	23	41	28	67	96	132	137	146	152	219	166	194	233	204	169	175	39	NE	24		
17		170	216	161	237	144	175	244	239	247	221	251	232	240	230	234	237	236	238	237	233	180	146	112	34	233	SW	24		
18		152	346	75	257	268	113	107	48	64	113	127	81	56	137	145	142	152	174	154	66	71	55	52	18	104	ESE	24		
19		354	36	43	42	42	31	42	56	62	69	100	108	105	87	75	90	84	66	77	71	69	62	66	69	72	ENE	24		
20		86	81	74	81	87	87	82	70	86	73	92	98	102	115	126	139	146	142	145	147	160	156	143	133	102	E	24		
21		161	12	54	75	101	245	7	46	58	62	79	78	76	79	115	132	119	113	104	97	104	107	94	73	92	E	24		
22		116	94	58	62	67	52	88	115	110	135	134	140	132	125	81	113	110	125	143	148	166	184	189	147	115	ESE	24		
23		257	279	219	238	168	258	352	302	353	44	14	170	242	253	349	26	282	302	265	293	262	250	246	224	290	WNW	24		
24		263	248	247	243	257	260	251	250	247	277	289	276	223	205	221	223	215	208	162	144	137	118	92	128	230	SW	24		
25		100	39	71	68	72	101	72	78	96	98	100	111	123	96	84	91	92	93	99	102	119	102	111	110	98	E	24		
26		109	118	109	54	123	142	176	231	238	236	243	253	269	247	249	269	268	273	273	266	300	256	261	261	253	WSW	24		
27		262	264	263	264	261	272	272	286	290	297	276	274	291	281	275	282	282	287	284	273	253	255	244	256	276	W	24		
28		254	245	274	209	251	259	247	262	277	291	294	296	292	284	296	296	280	268	262	212	163	223	159	148	278	W	24		
29		105	220	159	90	355	130	140	150	166	176	168	143	169	151	143	139	146	142	137	137	136	132	138	138	144	SE	24		
30		152	46	241	249	157	138	134	136	134	135	139	123	137	113	194	146	152	152	146	147	139	128	248	29	147	SE	24		
HOURLY AVG		356	346	340	300	355	332	352	314	353	354	330	313	324	325	349	338	334	319	307	295	345	333	300	305					

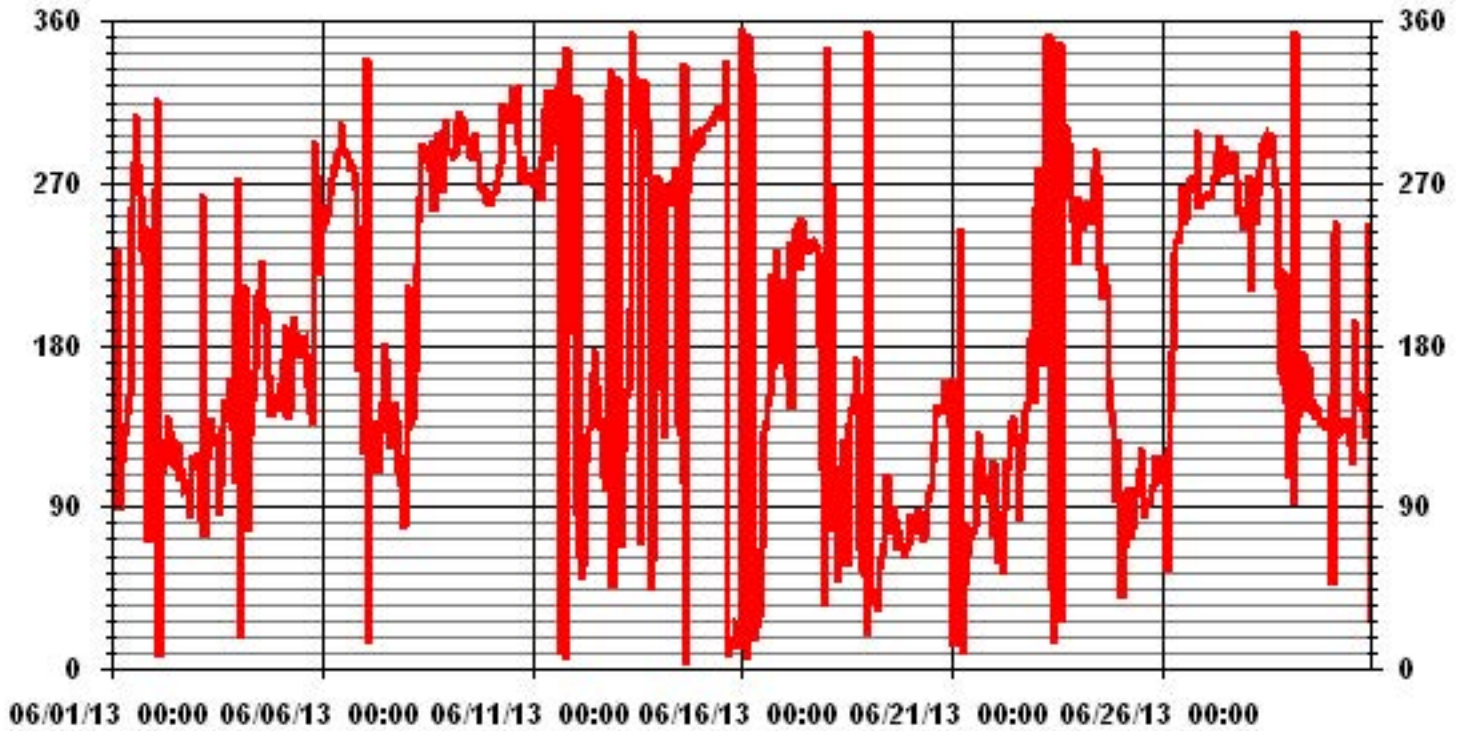
**STATUS FLAG CODES**

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- 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 :	19 DEGREES FROM MAGNETIC NORTH

MONTHLY CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	720 HRS
STANDARD DEVIATION:	89.52	AMD OPERATION UPTIME:	100.0 %
		MONTHLY AVERAGE:	230 DEG

# 01 Hour Averages



# Standard Deviation Wind Direction

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2013

## STANDARD DEVIATION WIND DIRECTION (STDWDIR) 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	56	57	30	75	58	50	22	19	21	19	39	45	24	24	21	25	47	29	27	22	32	59	64	54
2	47	73	52	44	25	26	23	23	20	24	31	27	24	26	22	24	27	25	21	20	20	19	22	18
3	21	18	18	28	47	55	25	26	27	37	40	53	58	62	44	34	45	25	14	26	36	46	46	47
4	47	65	41	52	70	52	62	33	27	32	50	43	37	44	43	43	51	34	35	19	20	14	34	26
5	48	49	48	74	15	12	21	42	44	40	39	41	39	43	42	42	31	29	21	12	32	26	27	29
6	24	21	24	23	23	20	22	22	23	24	24	23	24	25	25	24	24	25	22	16	15	41	62	26
7	57	70	58	63	45	25	13	23	27	21	22	27	40	34	20	24	31	18	17	14	27	23	17	21
8	23	33	13	12	13	32	28	27	23	24	28	25	23	24	24	25	24	25	22	23	18	15	18	20
9	22	22	23	22	22	21	21	18	19	21	23	21	24	22	23	22	22	22	20	20	19	20	19	20
10	20	20	19	18	20	20	21	18	20	19	19	17	20	17	18	18	20	21	20	23	20	19	19	20
11	20	20	20	20	18	22	20	15	17	20	26	26	21	24	35	51	40	24	22	22	28	40	47	45
12	59	49	34	23	28	21	23	26	23	24	23	35	48	39	23	16	20	20	18	39	52	52	48	42
13	57	48	34	52	50	43	24	29	38	64	56	31	30	26	43	30	33	20	17	22	55	58	56	50
14	31	48	60	58	50	32	16	27	44	50	62	38	29	19	29	45	41	51	30	34	20	20	20	19
15	21	22	19	18	19	19	18	20	19	17	18	17	16	18	17	19	20	21	20	21	21	22	22	19
16	16	17	18	18	15	14	16	20	23	23	28	28	28	35	46	51	36	30	22	27	27	24	31	23
17	57	58	39	62	37	57	30	32	35	35	34	33	36	34	34	31	28	28	23	50	25	40	68	
18	50	61	51	47	70	41	39	32	38	35	28	38	39	30	36	16	29	37	25	62	20	23	19	43
19	14	27	23	23	30	24	23	20	21	22	26	25	27	27	30	26	23	22	22	21	18	14	16	18
20	20	21	19	22	21	21	20	20	22	22	22	23	24	24	21	14	21	18	16	23	23	51	8	61
21	58	28	30	68	51	36	31	28	31	26	25	28	29	25	24	20	22	24	22	26	25	22	27	21
22	20	31	20	24	20	23	22	26	28	20	20	14	20	26	29	27	30	22	17	47	57	60	51	65
23	34	30	32	63	52	32	41	33	53	38	32	36	22	38	37	24	23	27	22	24	17	16	24	38
24	34	17	34	23	24	33	25	27	25	30	36	44	37	42	40	46	46	41	31	12	9	24	33	22
25	32	54	45	43	56	53	24	25	31	23	25	24	21	21	21	22	22	22	21	21	22	22	23	21
26	24	23	29	63	50	14	29	30	30	29	29	28	30	32	42	21	21	24	21	18	19	26	20	20
27	17	17	17	17	19	22	22	24	24	27	24	28	25	28	24	24	23	23	23	19	18	19	15	24
28	46	51	56	53	61	27	35	39	35	25	28	28	27	38	29	40	26	23	19	24	49	53	32	45
29	36	46	28	45	50	64	26	32	47	50	43	32	40	34	22	13	25	19	12	13	9	12	12	13
30	39	40	46	28	62	44	18	16	17	15	24	29	23	50	51	33	34	31	18	17	21	70	57	52

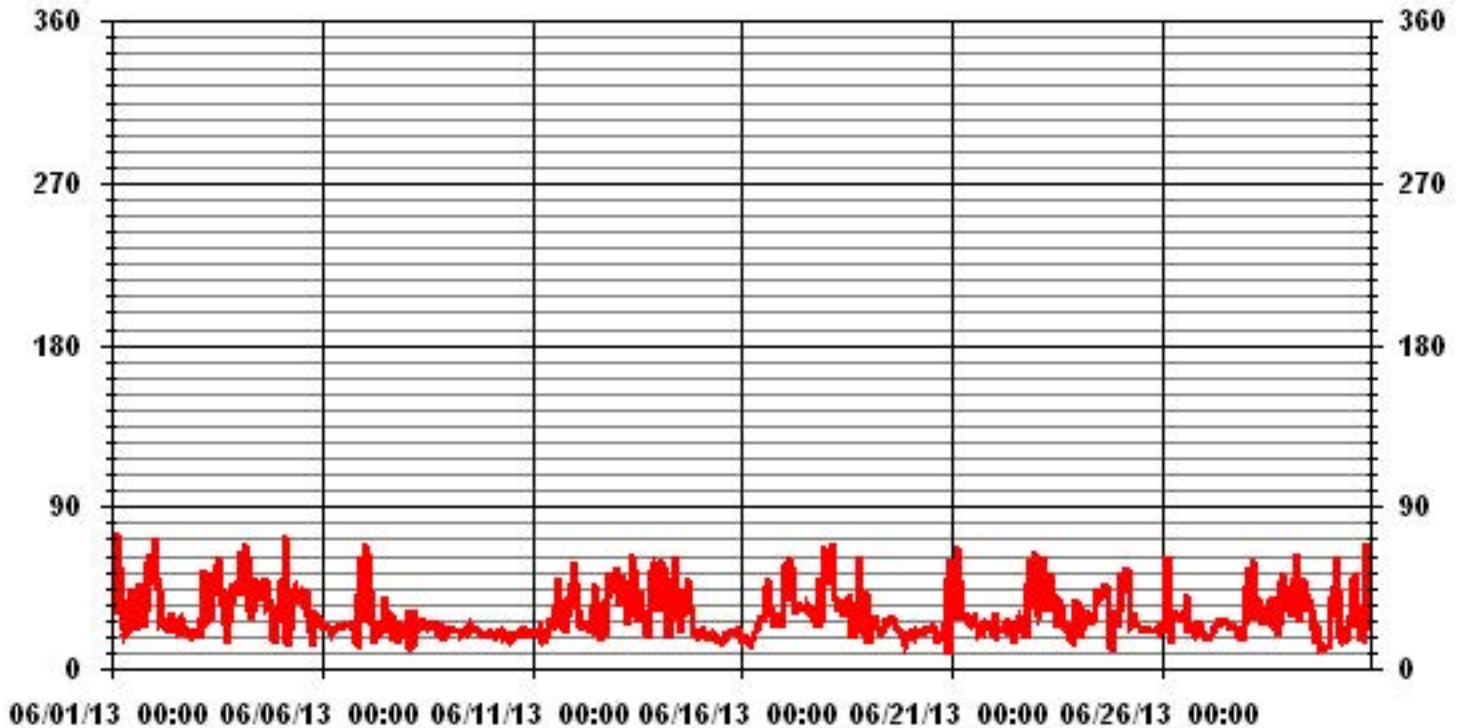
### STATUS FLAG CODES

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

LAST CALIBRATION: November 28, 2012

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 720 HRS

# 01 Hour Averages



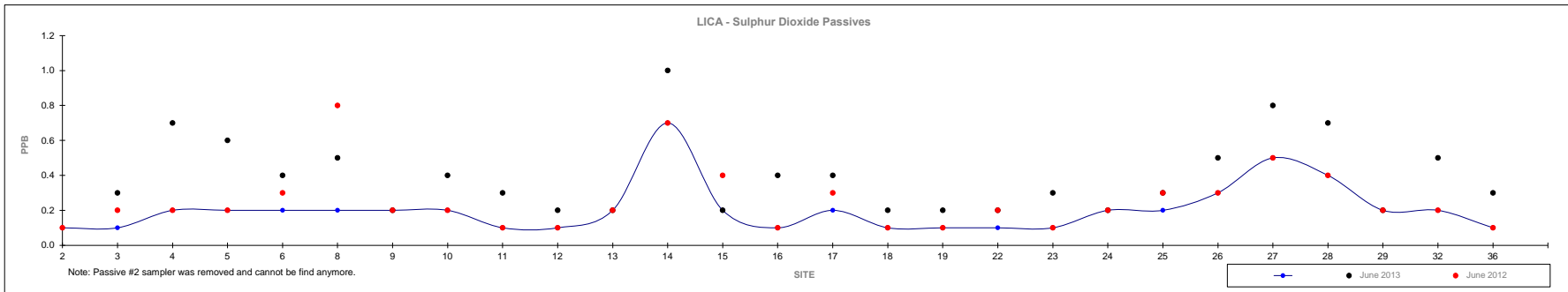
# Non-Continuous Monitoring



### Passive Summary Results for June 2013

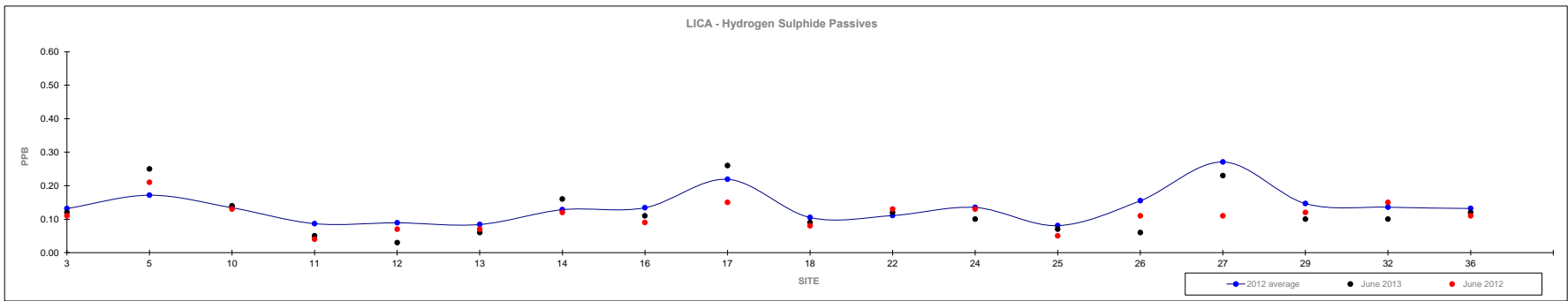
Lakeland Industry & Community Association

	Sulphur Dioxide ppb																																June2013	Site
	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						
Mean	0.2	0.3	0.5	0.4	0.5	0.5	0.4	0.4	0.3	0.4	0.5	1.0	0.4	0.4	0.5	0.3	0.3	0.3	0.2	0.3	0.6	0.7	1.0	0.6	0.4	0.5	0.3	0.39	-					
Minimum	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.7	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.5	0.4	0.2	0.2	0.1	0.2	VAR					
Maximum	0.3	0.6	0.8	0.7	0.7	1.2	0.7	0.7	0.5	0.9	1.1	1.6	0.7	0.7	1.0	0.6	0.7	0.6	0.4	0.7	0.9	1.1	1.8	1.0	0.6	0.8	0.8	1.0	#14					



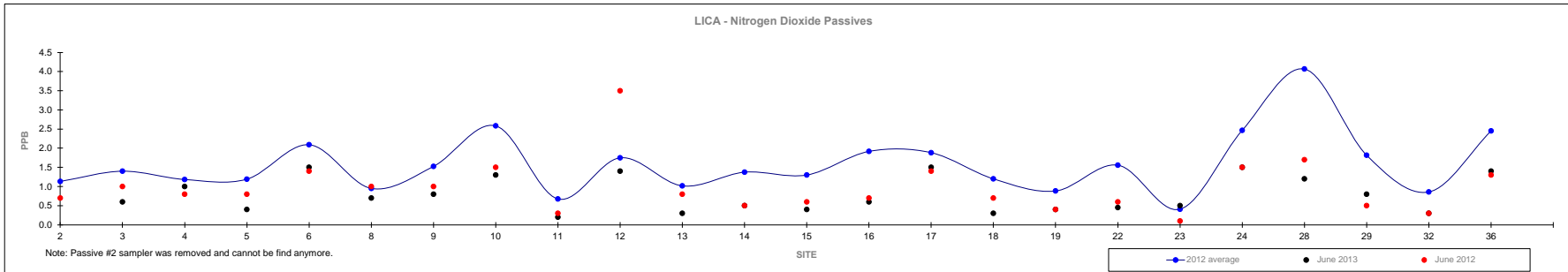
### Passive Summary Results for June 2013 Lakeland Industry & Community Association

	Hydrogen Sulphide ppb																Reading	June2013	Site	
	3	5	10	11	12	13	14	2012 16	17	18	22	24	25	26	27	29	32	36	0.12	-
Mean	0.13	0.17	0.13	0.09	0.09	0.08	0.13	0.13	0.22	0.11	0.11	0.14	0.08	0.16	0.27	0.15	0.14	0.13		
Minimum	0.09	0.06	0.08	0.04	0.02	0.02	0.06	0.09	0.09	0.06	0.06	0.07	0.03	0.07	0.02	0.06	0.09	0.07	0.03	#12
Maximum	0.21	0.38	0.35	0.15	0.16	0.16	0.20	0.23	0.55	0.16	0.18	0.24	0.17	0.28	0.74	0.49	0.23	0.23	0.26	#17



### Passive Summary Results for June 2013 Lakeland Industry & Community Association

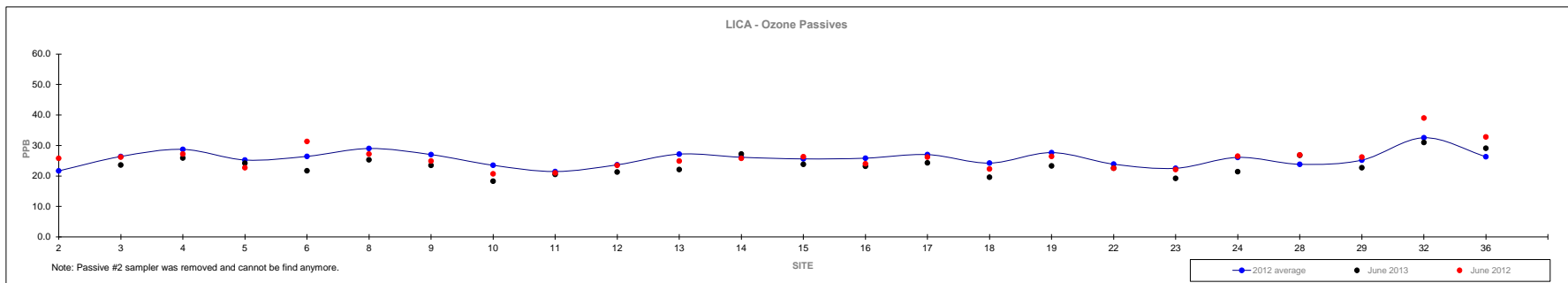
	2012																												June 2013	
	2	3	4	5	6	8	9	10	11	12	13	14	15	16	17	18	19	22	23	24	28	29	32	36	Reading	Site				
Mean	1.1	1.4	1.2	1.2	2.1	1.0	1.5	2.6	0.7	1.8	1.0	1.4	1.3	1.9	1.9	1.2	0.9	1.6	0.4	2.5	4.1	1.8	0.9	2.5	0.8	-				
Minimum	0.4	0.5	0.4	0.3	0.9	0.3	0.7	1.3	0.2	0.4	0.3	0.5	0.3	0.6	0.8	0.4	0.3	0.4	0.1	1.1	1.2	0.4	0.2	1.0	0.2	#11				
Maximum	3.6	3.6	3.6	3.2	4.7	2.1	3.6	5.2	1.8	4.4	2.5	3.2	2.9	4.9	3.9	2.7	2.0	3.2	1.2	6.0	8.6	4.8	2.4	6.6	1.5	#24				



### Passive Summary Results for June 2013

Lakeland Industry & Community Association

	Ozone ppb																																Reading	June2013	Site
	2	3	4	5	6	8	9	10	11	12	2012 13	14	15	16	17	18	19	22	23	24	28	29	32	36	23.5	-									
Mean	21.7	26.4	28.7	25.2	26.4	29.0	27.0	23.5	21.5	23.7	27.2	26.1	25.6	25.8	27.0	24.2	27.7	23.9	22.5	26.1	23.8	25.2	32.5	26.3											
Minimum	12.8	18.4	18.8	19.0	17.5	21.6	17.6	15.1	12.3	13.9	15.9	17.8	16.8	18.4	16.4	15.8	18.3	15.2	11.8	17.5	17.1	17.5	24.4	20.4	18.3	#10									
Maximum	32.2	41.2	42.3	34.7	37.0	38.8	40.2	35.4	32.1	33.1	38.9	37.4	36.6	38.1	38.7	33.8	35.6	35.2	36.1	37.9	30.2	33.2	40.8	33.1	31.0	#32									



# Calibration Reports

# Sulphur Dioxide

### SO2 Calibration Report

#### Station Information

Calibration Date	June 5, 2013	Previous Calibration	May 8, 2013
Company	Lakeland Industry & Community Association		
Plant / Location	Cold Lake South		
Start Time (MST)	8:40	End Time (MST)	11:10
Reason:	Monthly Calibration		
Barometric Pressure	28.13 in HG	Station Temperature	23 Deg C
Cal Gas	49.6 ppm	Gas Cyl. #	BAL3031
DAS Output Voltage	0-10 Volts	Cal Gas Expiry date	December 29, 2016
		Chart Rec. Output	N/A Volts

#### Equipment Information

Analyzer Make / Model:	Thermo 43i	S/N :	806528242	Method:	Fluorescent
Converter Make / Model:	N/A	S/N :	N/A		
Calibrator Make / Model:	EnviroNics 6100	S/N :	4760	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	3485		
Chart Recorder Make / Model:	N/A	S/N:	N/A		
Flow Meter:	EnviroNics 6100	S/N :	4760		

#### Analyzer Settings

Before Calibration			After Calibration		
Concentration Range	0-500		ppb		
Sample Flow / Box Temp	451 ccm	27.5 Deg C	449 ccm	28.7 Deg C	
HVPS / Lamp Setting	-632	729	-632	726	
PMT / RxCell Temp	OK Deg C	45.2 Deg C	OK Deg C	44.9 Deg C	
Converter / IZS Temp	N/A Deg C	45 Deg C	N/A Deg C	45 Deg C	
Offset / Slope	6.2	1.061	6.1	1.042	

#### Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4995	0	0	0	NA
	No Zero Adj			
4955	39.9	396	401	0.9881
4955	39.9	396	396	1.0000
4975	19.8	197	199	0.9900
4985	9.9	98	101	0.9733
4995	0	0	0	NA
Sum of Least Squares				0.9972
New Correction Factor				1.0000

#### IZS Calibration Data

Before Calibration		After Calibration	
Auto Zero	0.0	Auto Zero	0.0
Auto Span	370.4	Auto Span	370.4
Sample Lines Connected		Sample Lines Connected	Yes

#### Percent Change

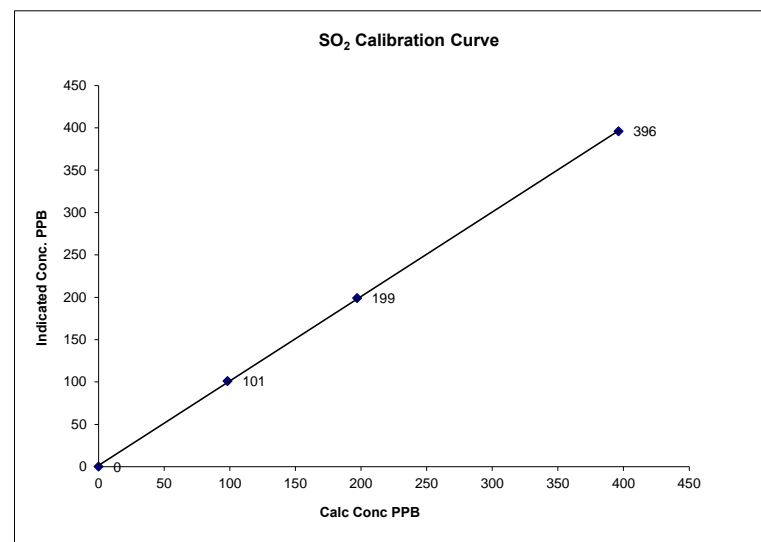
Previous Month's Calibration Correction Factor:	0.9881
Current Correction Factor Before Span Adjust:	0.9881
Percent Change:	0.0%

Notes: **NA : Not Applicable**

### SO2 Calibration Curve

Calibration Date	June 5, 2013
Company	Lakeland Industry & Community Association
Plant / Location	Cold Lake South
Start Time (MST)	8:40
End Time (MST)	11:10

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope Intercept	(≥ 0.995) (0.85 to 1.15) (± 3% F.S.)
0	0	NA		0.999932
98	101	0.9733		0.997669
197	199	0.9900		
396	396	1.0000		1.518833



Notes:

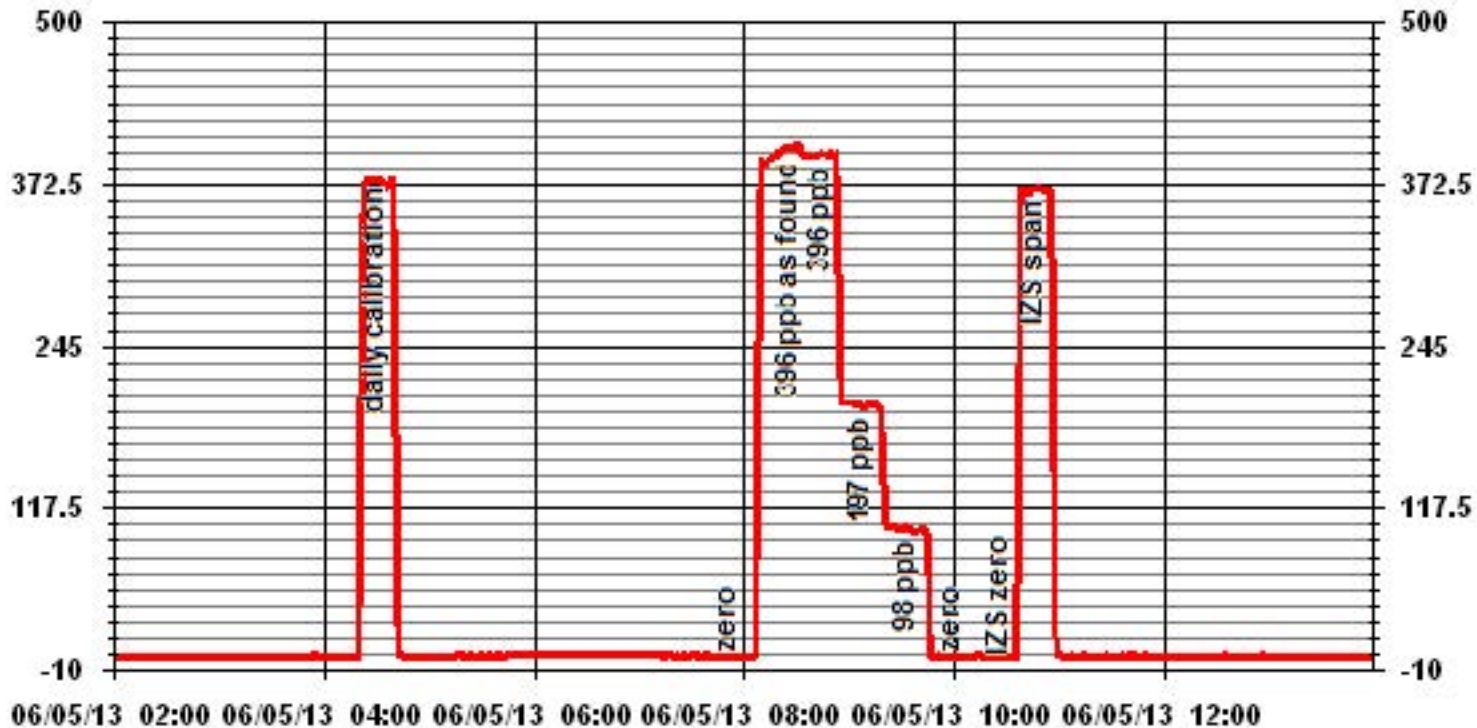
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Calibration Performed by: Waseem Ahmed

### 01 Minute Averages





# Total Reduced Sulphur

### TRS Calibration Report

#### Station Information

Calibration Date	June 5, 2013	Previous Calibration	May 8, 2013
Company	Lakeland Industry & Community Association		
Plant / Location	Cold Lake South		
Start Time (MST)	8:40	End Time (MST)	10:45
Reason:	Monthly calibration		
Barometric Pressure	28.13 in HG	Station Temperature	23 Deg C
Cal Gas	10.1 ppm	Gas Cyl. #	BLM005049
DAS Output Voltage	0-10 Volts	Cal Gas Expiry date	December 25, 2015
		Chart Rec. Output	N/A Volts

#### Equipment Information

Analyzer Make / Model:	Thermo 450i	S/N :	812728560	Method:	Fluorescent
Converter Make / Model:	CND 101	S/N :	501		
Calibrator Make / Model:	API 700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	3485		
Chart Recorder Make / Model:	N/A	S/N:	N/A		
Flow Meter:	API 700	S/N :	831		

#### Analyzer Settings

Before Calibration		After Calibration	
Concentration Range	0-100		
Sample Flow / Box Temp	478 ccm, 30.5 Deg C	479 ccm, 31.6 Deg C	
HVPS / Lamp Setting	-650.5, 746	-650.5, 745	
PMT / RxCell Temp	OK, 45 Deg C	OK, 45.1 Deg C	
Converter / IZS Temp	810, 45 Deg C	810, 45.0 Deg C	
Offset / Slope	12.2, 0.885	12.2, 0.885	

#### Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4994	0	0	0	0.0000
4960	No Zero Adj 40.0	81	80	1.0100
4980	No span adj. 20.0	40	40	1.0000
4990	11.5	23	23	1.0000
5000	0.0	0	1	0.0000
Sum of Least Squares				1.0100
New Correction Factor				1.0100

#### IZS Calibration Data

Before Calibration		After Calibration	
Auto Zero	0.0		0.0
Auto Span	33.38		34.75
Sample Lines Connected			

#### Percent Change

Previous Month's Calibration Correction Factor:	1.0000
Current Correction Factor Before Span Adjust:	1.0100
Percent Change:	-1.0%

Notes:

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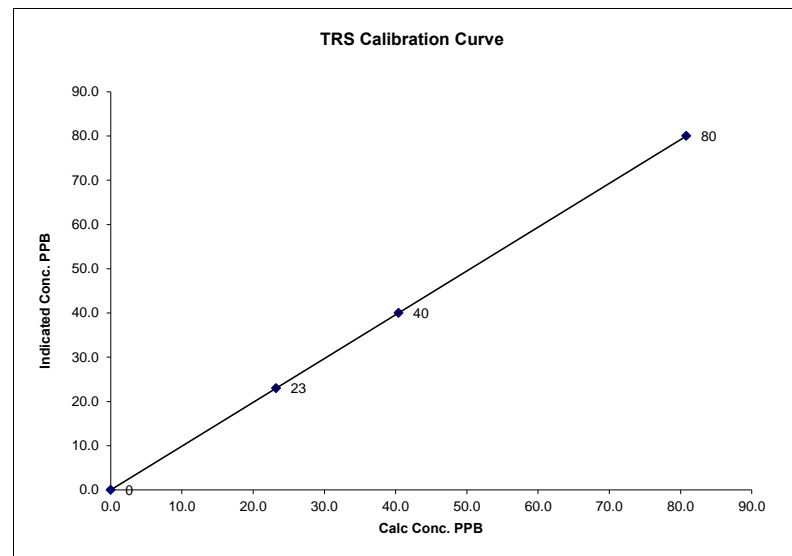
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Calibration Performed by: Waseem Ahmed

### TRS Calibration Curve

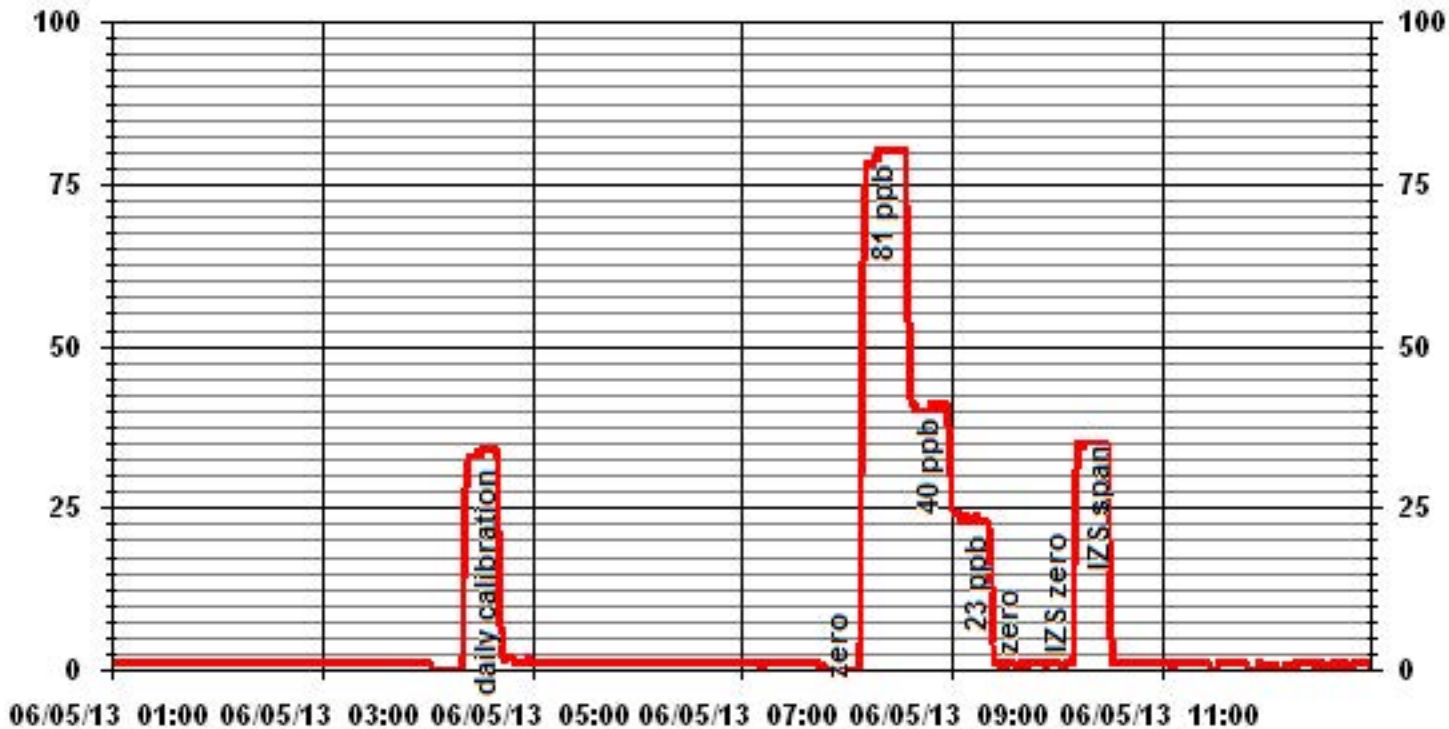
Calibration Date	June 5, 2013
Company	Lakeland Industry & Community Association
Plant / Location	Cold Lake South
Start Time (MST)	8:40
End Time (MST)	10:45

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient	(≥ 0.995)	
0	0	0.0000	Slope	(0.85 to 1.15)	1.000000
23	23	1.0000	Intercept	(± 3% F.S.)	0.990074
40	40	1.0000			0.002645
81	80	1.0100			



Notes:

### 01 Minute Averages



# Total Hydrocarbons

### THC Calibration Report

Station Information			
Calibration Date:	June 5, 2013	Previous Calibration	May 8, 2013
Company:	Lakeland Industry & Community Association		
Plant / Location:	Cold Lake South		
Start Time (MST)	10:50	End Time (MST)	13:08
Reason:	Monthly calibration		
Barometric Pressure:	28.1 in HG	Station Temperature:	23 Deg C
Calibrator:	API 700	S/N:	831
Cal Gas Concentration:	CH4 600 PPM	C3H8 204 PPM	
	TOTAL CH4 1161.0 PPM	Gas Cyl. #	LL155310
		Cal Gas Expiry Date:	September 9, 2013
DAS make & Model:	ESC 8832	S/N :	3485
Chart Recorder:	N/A	S/N:	N/A
Output Voltage Range:	0-1 VDC	Chart Speed:	N/A mm/hr

### Analyzer Information

Make / Model	Thermo 51C-LT	S/N :	427408718	Method	Flame Ionization
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### Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0-50	ppm	0-50	ppm
Sample Pressure	6.5	psi	6.5	psi
Hydrogen Pressure	8	psi	8	psi
Air Pressure	20	psi	20	psi

### Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2000	0.0	0.0	-0.1	0.0000
2000	0.0	0.0	0.0	0.0000
2000	74.0	41.4	41.6	0.9958
	No span adj.			
2000	37.0	21.1	20.8	1.0139
2000	20.0	11.5	11.3	1.0173
2000	0.0	0.0	0.0	0.0000
New Correction Factor:				0.9958

### Percent Change

Previous Calibration Correction Factor:	0.9982
Current Correction Factor Before Span Adjust:	0.9958
Percent Change:	0.2%

### IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	36.35	36.35
Sample Lines Connected		

Cylinder Pressures			
Span	1600 psi	Hydrogen	1100 psi
		Zero Air	34 psi

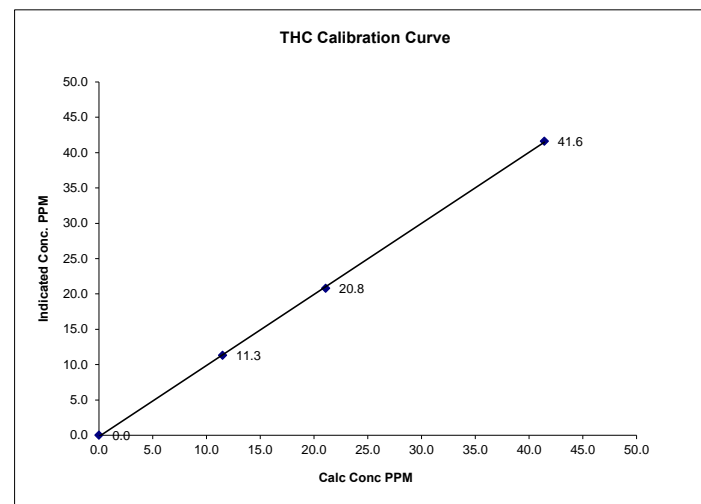
Notes:	<b>Change sample filter</b>
	10:38 to 10:42, Span not started due to calibrator malfunction.
	Calibrator reset.

Calibration Performed by: Waseem Ahmed

### THC Calibration Curve

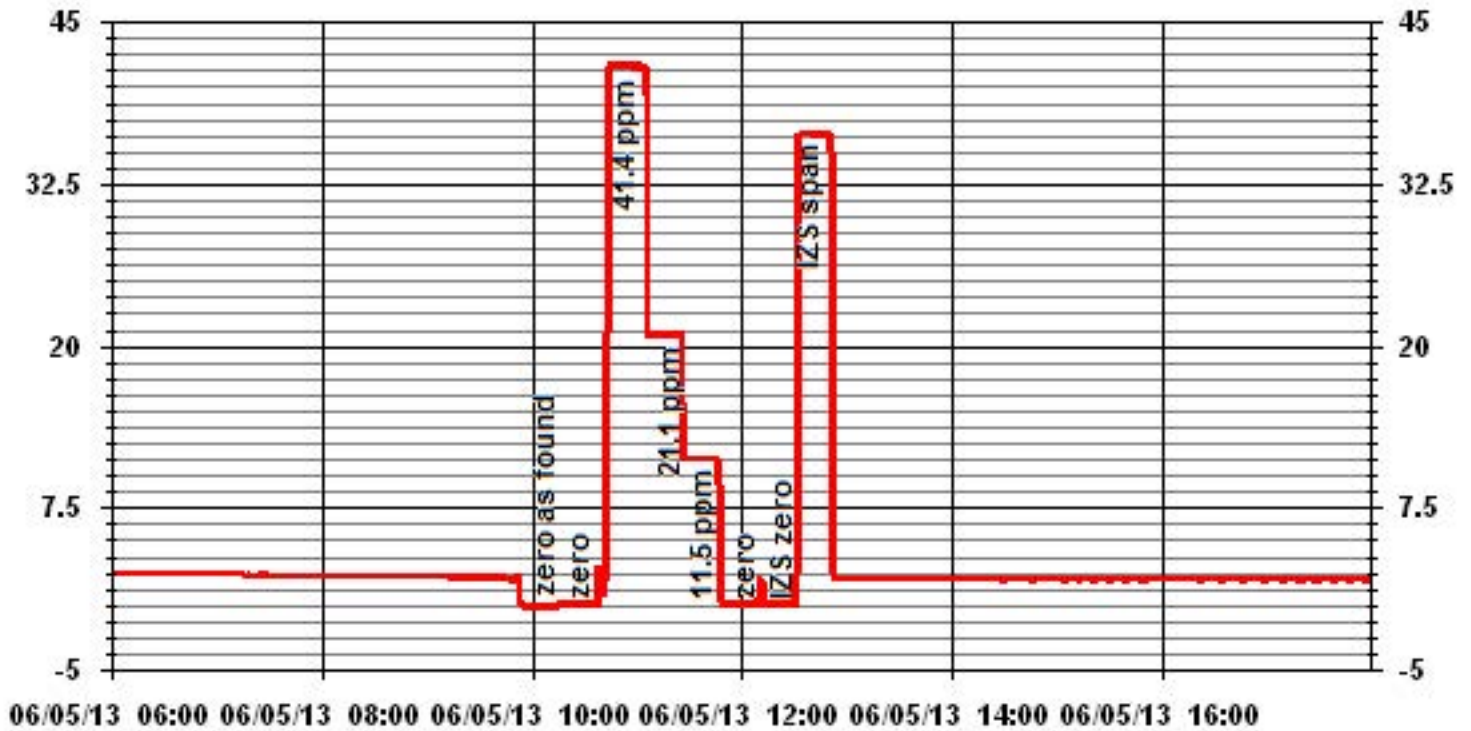
Calibration Date	June 5, 2013
Company	Lakeland Industry & Community Association
Plant / Location	Cold Lake South
Start Time (MST)	10:50
End Time (MST)	13:08

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient (≥ 0.995)	Slope (0.85 to 1.15)	Intercept (± 3% F.S.)
0.0	0.0	0.0000	0.999887	1.005033	-0.17005
11.5	11.3	1.0173			
21.1	20.8	1.0139			
41.4	41.6	0.9958			



Notes:

### 01 Minute Averages



# Particulate Matter 2.5

**TEOM 1405F Audit**

	<b><u>Station</u></b>		<b><u>Audit Transfer Standard</u></b>
Date:	June 5, 2013	Make/Model:	Streamline FTS
Station Name:	LICA 1	Serial Number:	LO 091099, HI 091001
Location:	Cold Lake South	Cell s/n:	N/A
Operator:	LICA	Thermometer s/n:	Station Temp. Sensor
	<b><u>Sampler</u></b>		<b><u>Set-up and current Sampler readings</u></b>
Make/Model	Thermo TEOM Series 1405F	F-Main Set Pt (l/min)	3.00
Unit #	AMU 1775	F-Aux Set Pt (l/min)	13.67
Unit s/n	1405A201620804	Filter Load (%)	26.3%
Firmware Ver.	1.52	K <sub>o</sub> Factor	14578.0
Parameter	PM 2.5 (with FDMS)	Temp (°C)	20.1
		Press (ATM)	0.940

**Conversion from mmHg or "Hg to ATM (Atmospheres)**

ATM = (mmHg) X (1.316 X 10<sup>-3</sup>) or ATM = ("Hg) X (3.34207 X 10<sup>-2</sup>)

Note: Tolerances are noted as **BOLD** in Brackets

**Audit**

<b>Status</b>			
Noise <0.10ug	0.008	Warnings	None
Pump Vacuum <0.40atm	0.37	Pump Gauge (inHg)	N/A
<b>Temperature/Pressure</b>		<b>D °C</b>	
Measured Temp (± 2 °C)	20.69		0.6
Measured Press (± 0.01atm)	0.942	<b>DATM</b>	0.002
<b>Flow Audit</b>		<b>Main Flow Drift (±10.0%)</b>	
Indicated Main Flow (l/min)	3.00		0.58%
Measured Main Flow (l/min)	2.94	Flow Adjusted to Measured?	Yes
Indicated Bypass Flow (l/min)	13.67	<b>Bypass Flow Drift (±10.0%)</b>	0.42%
Measured Bypass Flow (l/min)	13.49	Flow Adjusted to Measured?	Yes
<b>Leak Check</b>		<b>Instrument Setup</b>	
Main (< 0.15 l/min)	Base= 0.01 Ref = 0.01	Flow Control=Active	
Aux (< 0.6 l/min)	Base= 0.00 Ref = 0.00	Report Conditions=Actual	
<b>K<sub>o</sub> Factor</b>			
Measured	N/A		
K <sub>o</sub> Difference (± 2.5%)	N/A		

**Start Time:** 10:20      **Finish Time:** 11:55

**Sample Inlet Cleaned:** Yes      **New Filters Installed:** Yes

**New Filter Loading %:** 15.9%

**Comments:**

**Auditor/s:** Waseem Ahmed



**TEOM 1405F Audit**

	<b><u>Station</u></b>		<b><u>Audit Transfer Standard</u></b>
Date:	June 28, 2013	Make/Model:	Streamline FTS
Station Name:	LICA 1	Serial Number:	LO 091099, HI 091001
Location:	Cold Lake South	Cell s/n:	N/A
Operator:	LICA	Thermometer s/n:	Station Temp. Sensor
	<b><u>Sampler</u></b>		<b><u>Set-up and current Sampler readings</u></b>
Make/Model	Thermo TEOM Series 1405F	F-Main Set Pt (l/min)	3.00
Unit #	AMU 1775	F-Aux Set Pt (l/min)	13.67
Unit s/n	1405A201620804	Filter Load (%)	23.5%
Firmware Ver.	1.52	K <sub>o</sub> Factor	14578.0
Parameter	PM 2.5 (with FDMS)	Temp (°C)	23.5
		Press (ATM)	0.945

**Conversion from mmHg or "Hg to ATM (Atmospheres)**

ATM = (mmHg) X (1.316 X 10<sup>-3</sup>) or ATM = ("Hg) X (3.34207 X 10<sup>-2</sup>)

**Note: Tolerances are noted as BOLD in Brackets**

**Audit**

<b>Status</b>			
Noise <0.10ug	0.008	Warnings	None
Pump Vacuum <0.40atm	0.36	Pump Gauge (inHg)	N/A
<b>Temperature/Pressure</b>		<b>D °C</b>	
Measured Temp (± 2 °C)	23.83		0.3
Measured Press (± 0.01atm)	0.942	<b>DATM</b>	-0.003
<b>Flow Audit</b>			
Indicated Main Flow (l/min)	3.00	Main Flow Drift (±10.0%)	1.20%
Measured Main Flow (l/min)	3.02	Flow Adjusted to Measured?	Yes
Indicated Bypass Flow (l/min)	13.67	Bypass Flow Drift (±10.0%)	1.10%
Measured Bypass Flow (l/min)	13.57	Flow Adjusted to Measured?	Yes
<b>Leak Check</b>		<b>Instrument Setup</b>	
Main (< 0.15 l/min)	Base= NA Ref = NA	Flow Control=Active	
Aux (< 0.6 l/min)	Base= NA Ref = NA	Report Conditions=Actual	
<b>K<sub>o</sub> Factor</b>			
Measured	N/A		
K <sub>o</sub> Difference (± 2.5%)	N/A		

**Start Time:** 10:00      **Finish Time:** 11:00

**Sample Inlet Cleaned:** No      **New Filters Installed:** No  
**New Filter Loading %:** NA

**Comments:**

**Auditor/s:** Waseem Ahmed

# Nitrogen Dioxide

**NOx - NO- NO2 Calibration Report**

**Station Information**

Calibration Date	June 5, 2013	Previous Calibration	May 8, 2013
Company	LICA	Plant/Location	Cold Lake South
Start Time (MST)	8:40	End Time (MST)	12:50
Reason:	Monthly Calibration		
Barometric Pressure	28.13 in HG	Station Temperature	23 Deg C
Cal Gas Concentration	NOx 49.3 ppm	NO	49.2 ppm
Cal Gas Cylinder #	BAL3031	Cal Gas Expiry date	December 29, 2016
DAS Output Voltage	0-10 Volts	Chart Rec. Output	N/A Volts

**Equipment Information**

Analyzer Make / Model:	Thermo 42C	S/N :	427408716	Method:	Chemiluminescent
Calibrator Make / Model:	EnviroNics 6100	S/N:	4760		
DAS Make / Model:	ESC 8832	S/N :	3485		
Chart Recorder Make / Model:	N/A	S/N:	N/A		
Flow Meter:	EnviroNics 6100	S/N :	4760		

**Analyzer Settings**

Before Calibration				After Calibration			
Concentration Range	0-500			ppb			
Sample Flow/Conv. Temp	729 ccm	318 Deg C		727 ccm	317 Deg C		
Ozone Flow / Vacuum	OK ccm	180.9 *Hg-A		OK ccm	179.9 *Hg-A		
HVPS / A ZERO	-821 Volts	N/A MV		-821 Volts	N/A MV		
Rx/ Temp / PMT Temp	49.7 Deg C	-2.5 Deg C		49.8 Deg C	-2.5 Deg C		
Box Temp / IZS Temp	27.0 Deg C	OK Deg C		28.5 Deg C	OK Deg C		
Offset	4.1 NOx	3.5 NO		4.1 NOx	3.5 NO		
Slope	1.006 NOx	0.937 NO		1.006 NOx	0.937 NO		
NO2 COEF / Conv Efficiency	0.998 NO2	N/A		0.998 NO2	N/A		

**Dilution Calibration Data**

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			Correction Factor	
			NOx	NO	NO2	NOx	NO	NO2	NOx	NO
4995	0.0	0	0	0	0	0	0	0	0	0
	No zero adj.									
4955	39.9	0	394	393	0	391	389	2	1.0065	1.0096
	No span adj.									
4975	19.8	0	196	195	0	197	196	1	0.9940	0.9971
4985	9.9	0	97	97	0	100	100	0	0.9732	0.9712
5000	0.0	0	0	0	0	0	0	0	0.0000	0.0000

**Gas Phase Titration Calibration Data**

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			NO2 Correction Factor	NO2 Conv Efficiency
			NOx	NO	NO2	NOx	NO	NO2		
4955	39.9	0	394	393	0	390	388	2	0	0.00%
4955	39.9	350	394	0.0	310	390	80	310	1.0000	100.00%
	No adj.									
4955	39.9	150	394	0.0	134	390	256	134	1.0000	100.00%
4955	39.9	75	394	0.0	65	390	325	65	1.0000	100.00%

Linearity	Sum of Least Squares		NOx= 1.002	NO= 1.005	NO2= 1.000
OK?	Yes	No	Correction Factors: NOx= 1.0065	NO= 1.0096	NO2= 1.0000
			Average Converter Efficiency= 100.00%		

**IZS Calibration Data**

Before Calibration				After Calibration			
Auto Zero	0.0 NOx	0.0 NO2		0.0 NOx	0.0 NO2		
Auto Span	379.7 NOx	376.1 NO2		364 NOx	360 NO2		
	Sample Lines Connected:			YES			

**Percent Change**

	NOx	NO	NO2
Previous Month's Calibration Correction Factor	0.996	1.000	1.000
Current Correction Factor Before Span Adjust	1.006	1.010	1.000
Percent Change	-1.0%	-0.9%	0.0%

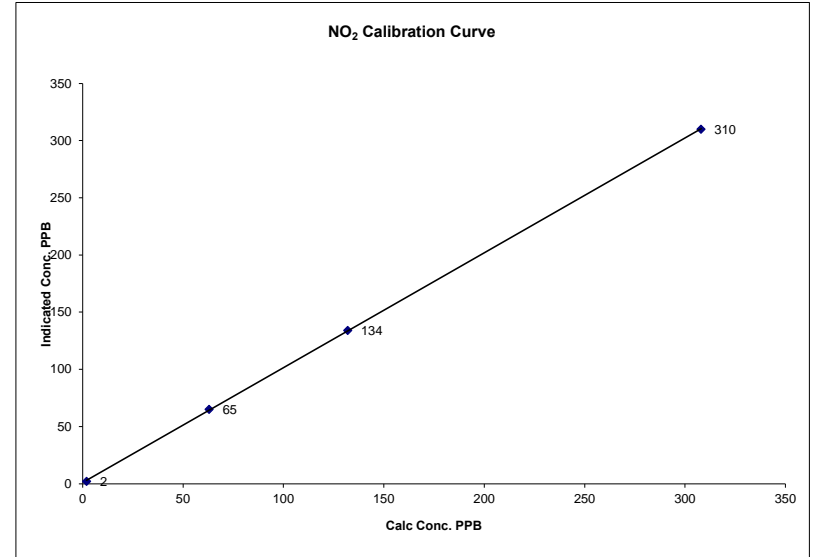
Notes


Calibration Performed by: Waseem Ahmed

**NO2 Calibration Curve**

Calibration Date	June 5, 2013
Company	LICA
Plant / Location	Cold Lake South
Start Time (MST)	8:40
End Time (MST)	12:50

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999966
2	2	0.0000	Intercept	(± 3% F.S.)	1.004733
63	65	0.9692			0.90247
132	134	0.9851			
308	310	0.9935			

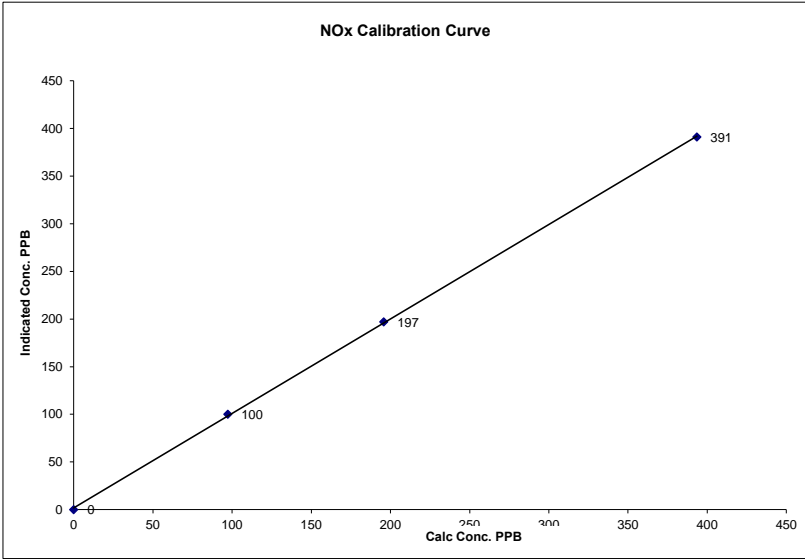


Notes:

**NOx Calibration Curve**

Calibration Date	June 5, 2013	
Company	LICA	
Plant / Location	Cold Lake South	
Start Time (MST)	8:40	End Time (MST) 12:50

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999902
0	0	0.0000	Slope (0.85 to 1.15)	0.991387
97	100	0.9732	Intercept (± 3% F.S.)	1.81205
196	197	0.9940		
394	391	1.0065		

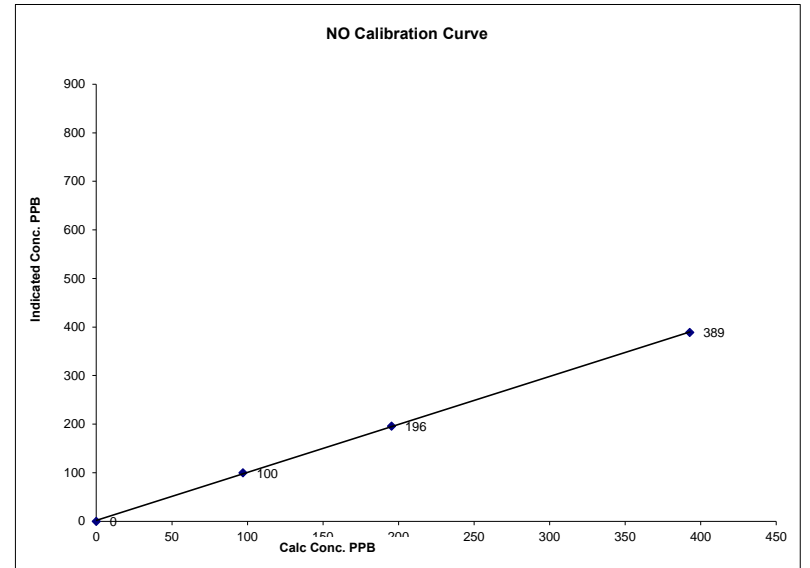


Notes:

**NO Calibration Curve**

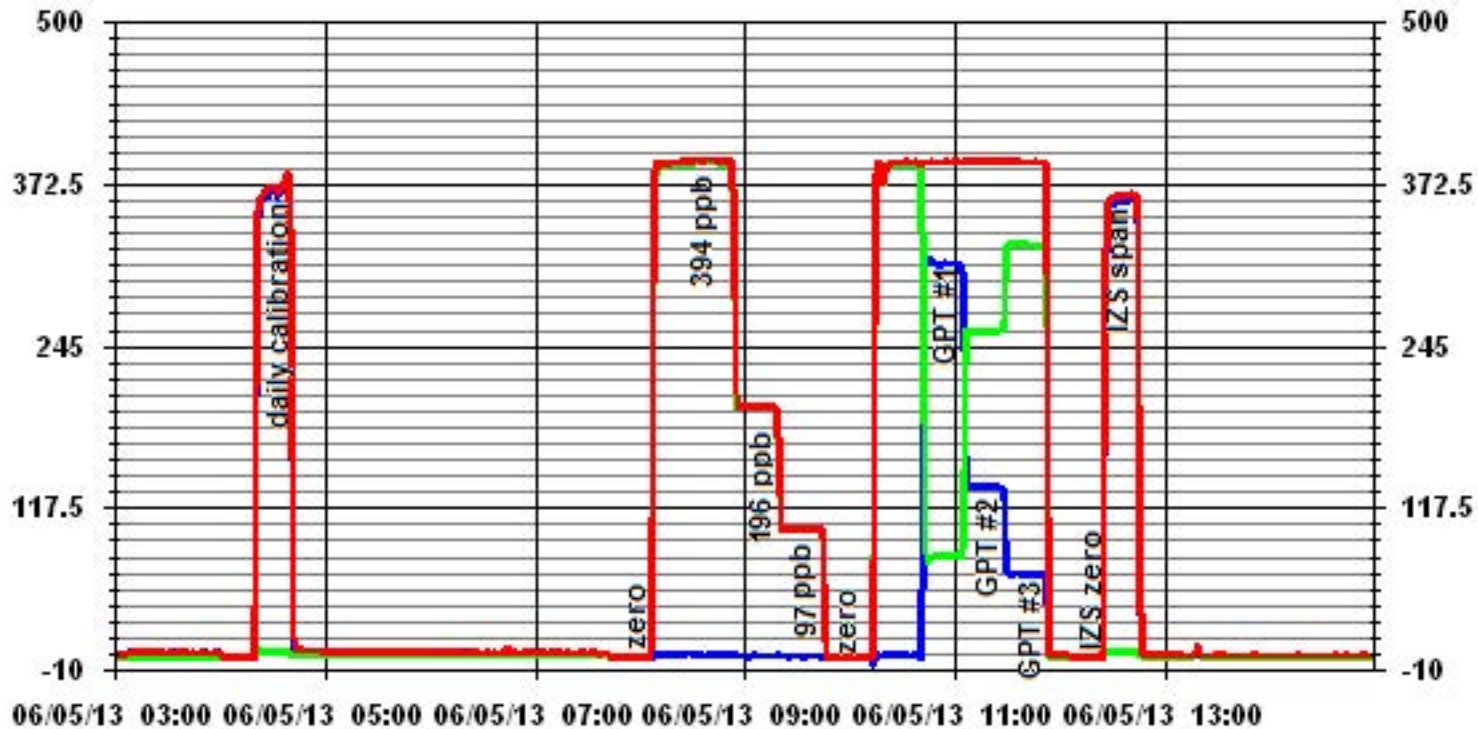
Calibration Date	June 5, 2013	
Company	LICA	
Plant / Location	Cold Lake South	
Start Time (MST)	8:40	End Time (MST) 12:50

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999878
0	0	0.0000	Slope (0.85 to 1.15)	0.987873
97	100	0.9712	Intercept (± 3% F.S.)	2.00918
195	196	0.9971		
393	389	1.0096		



Notes:

### 01 Minute Averages



— LICA NOx\_ PPB

— LICA NO\_ PPB

— LICA NO2\_ PPB

# Ozone

### O<sub>3</sub> Calibration Report

#### Station Information

Calibration Date	June 5, 2013	Previous Calibration	May 8, 2013
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	13:00	End Time (MST)	15:06
Reason:	Monthly Calibration		
Barometric Pressure	28.07 inHg	Station Temperature	22 Deg C
DAS Output Voltage	0 - 10 Volts		

#### Equipment Information

Analyzer Make / Model:	Thermo 49i	S/N :	700419951	Method:	Photometric
Calibrator Make / Model:	Envionics 6100	S/N :	4760	Method:	GPT
DAS Make / Model:	ESC 8832	S/N :	3485		

#### Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range	0 - 500 ppb							
Cell A Flow / Cell B Flow	700 LPM	740 LPM	710 LPM	750 LPM				
O <sub>3</sub> Set Level	686 mmHg		701 mmHg					
Bench Lamp	29 Deg C		28.5 Deg C					
O <sub>3</sub> Lamp / Box Temp	53.5 Deg	67.5 Deg C	53.6 Deg C	67.6 Deg C				
Offset / Slope	-0.1	1.046	-0.1	1.046				

#### Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4995	0	0	0	NA
	No Zero Adj			
4995	350	308	313	0.9840
	No Span Adj.			
4995	150	132	133	0.9925
4995	75	63	65	0.9692
4995	0	0	0	NA
Sum of Least Squares				0.9848
New Correction Factor				0.9840

#### IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	277	277
Sample Lines Connected		YES
Previous Calibration Correction Factor:		1.0000
Current Correctio Factor Before Span Adjust:		0.9840
Percent Change:		1.6%

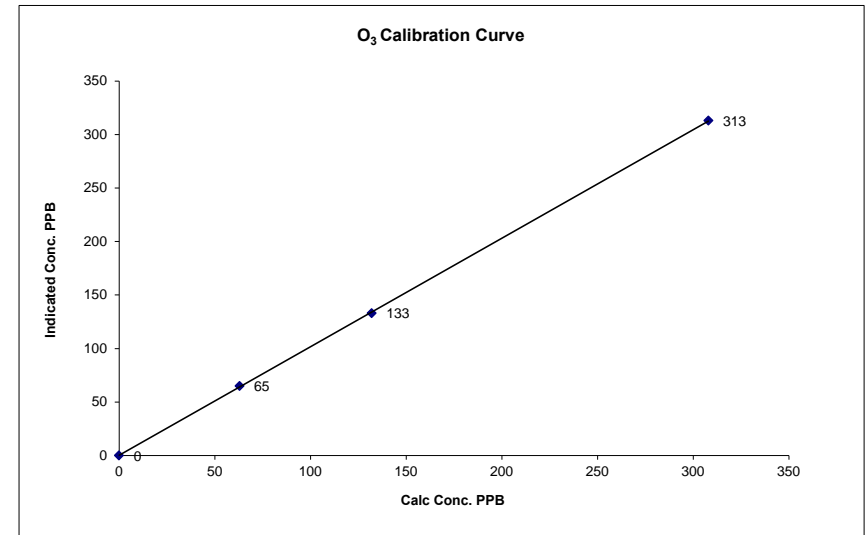
Note: **NA : Not Applicable**

Calibration Performed by: Waseem Ahmed

### O<sub>3</sub> Calibration Curve

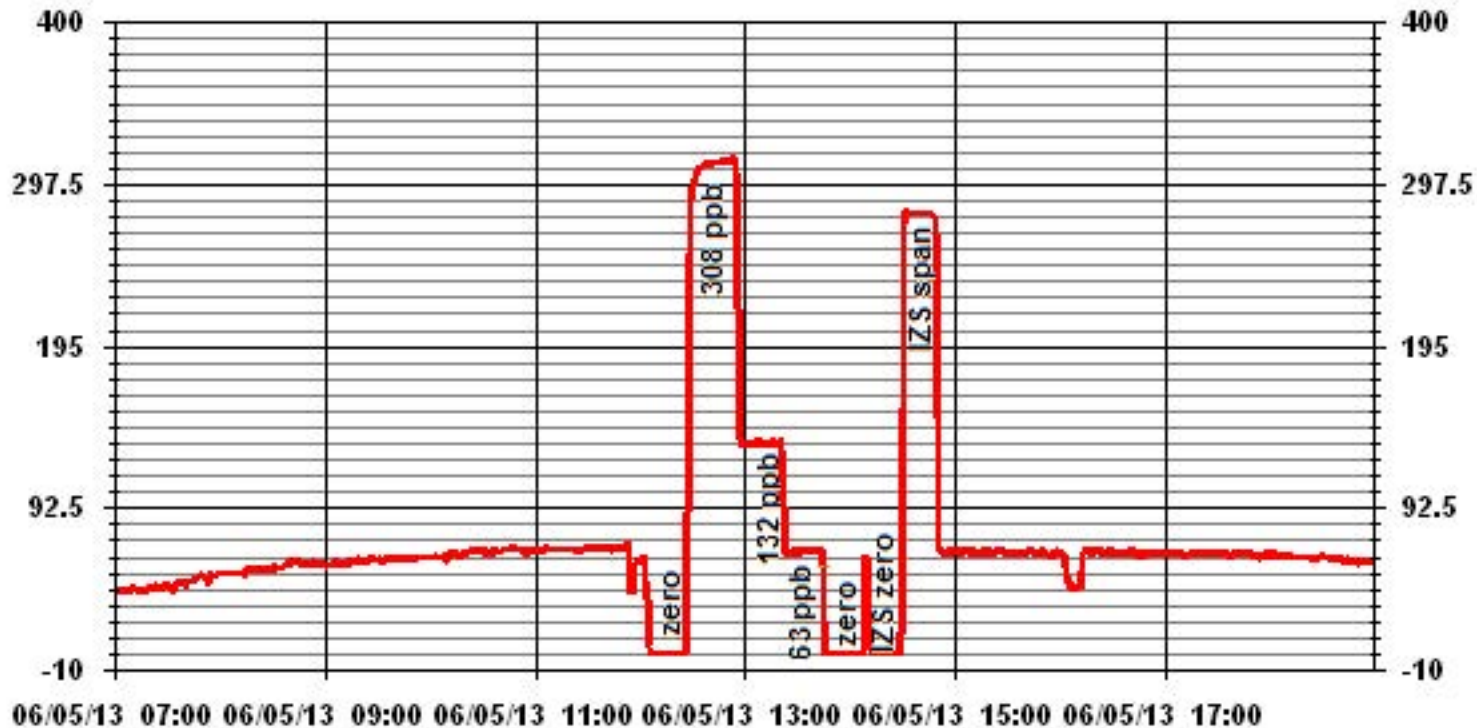
Calibration Date	June 5, 2013
Company	Lakeland Industry & Community Association
Plant / Location	LICA 1 - Cold Lake South
Start Time (MST)	13:00
End Time (MST)	15:06

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	Slope (0.85 to 1.15)	Intercept (± 3% F.S.)
0	0	n/a	0.999960	1.014942	0.121036
63	65	0.9692			
132	133	0.9925			
308	313	0.9840			



Notes:

# 01 Minute Averages





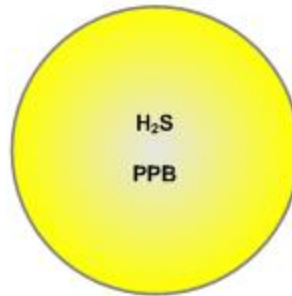
# Passive Bubble Maps

# Lakeland Industry & Community Association H<sub>2</sub>S Passive Bubble Map

JUNE 2013

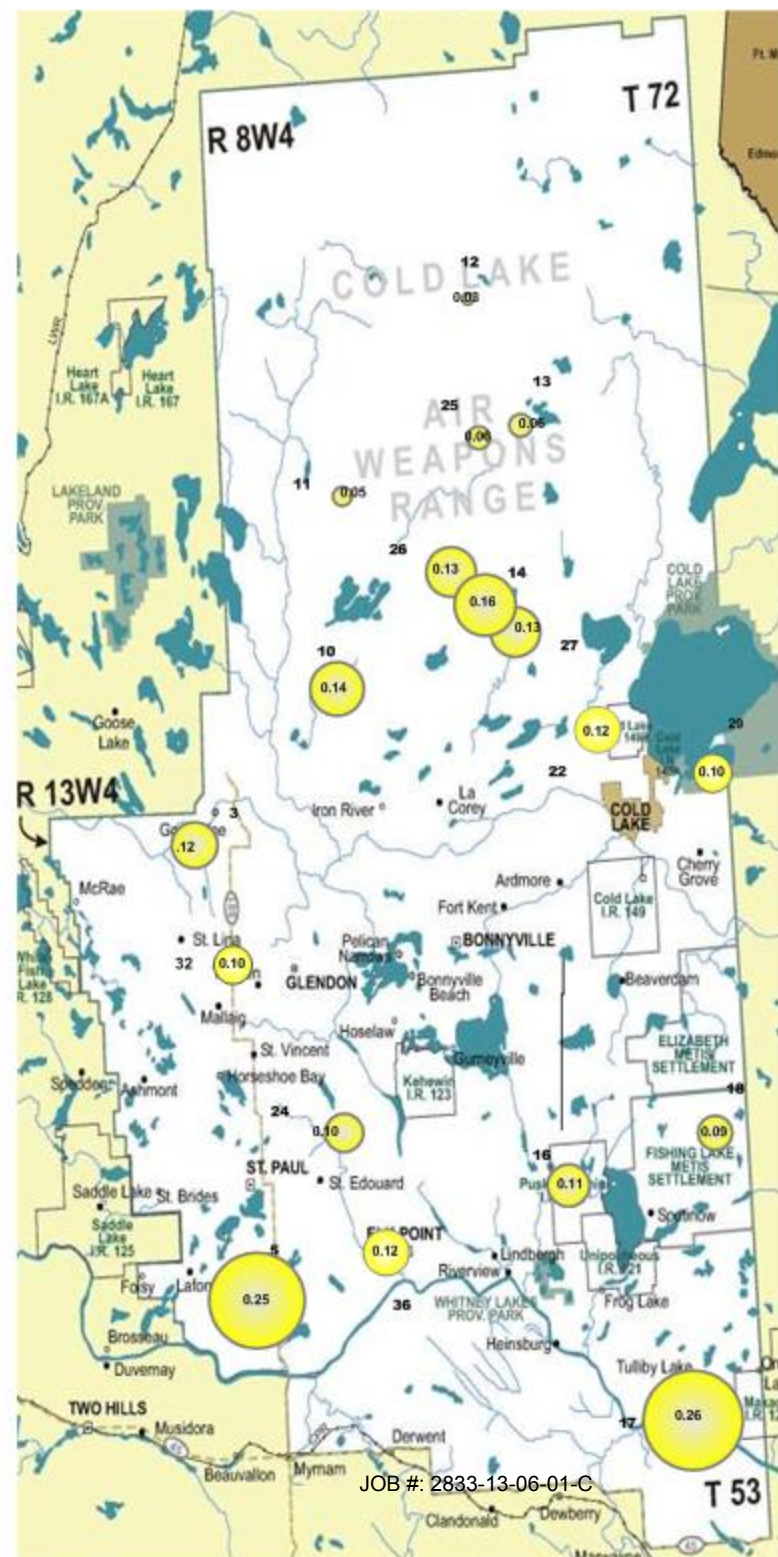
## PASSIVE STATIONS

		DUPLICATE
3 – Therien	0.12 PPB	NA
5 – Lake Eliza	0.25 PPB	NA
10 – La Corey	0.14 PPB	0.13 PPB
11 – Wolf Lake	0.05 PPB	0.05 PPB
12 – Foster Creek	0.03 PPB	NA
13 – Primrose	0.06 PPB	NA
14 – Maskwa	0.16 PPB	NA
16 – Frog Lake	0.11 PPB	NA
17 – Clear Range	0.26 PPB	NA
18 – Fishing Lake	0.09 PPB	NA
22 – Cold Lake South	0.12 PPB	NA
24 – Fort George	0.10 PPB	NA
25 – Burnt Lake	0.07 PPB	NA
26 – Mahihkan	0.06 PPB	NA
27 – Mahkeses	0.23 PPB	NA
29 – Cold Lake South 2	0.10 PPB	NA
32 – St. Lina	0.10 PPB	NA
36 – Elk Point	0.12 PPB	NA



## Summary

Minimum : 0.03 PPB – Foster Creek  
 Maximum: 0.26 PPB – Clear Range  
 Average: 0.12 PPB (Includes Duplicates)

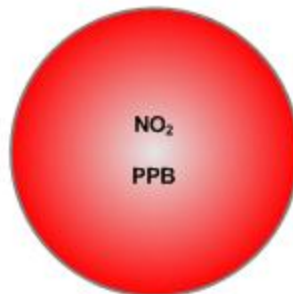


# Lakeland Industry & Community Association NO<sub>2</sub> Passive Bubble Map

JUNE 2013

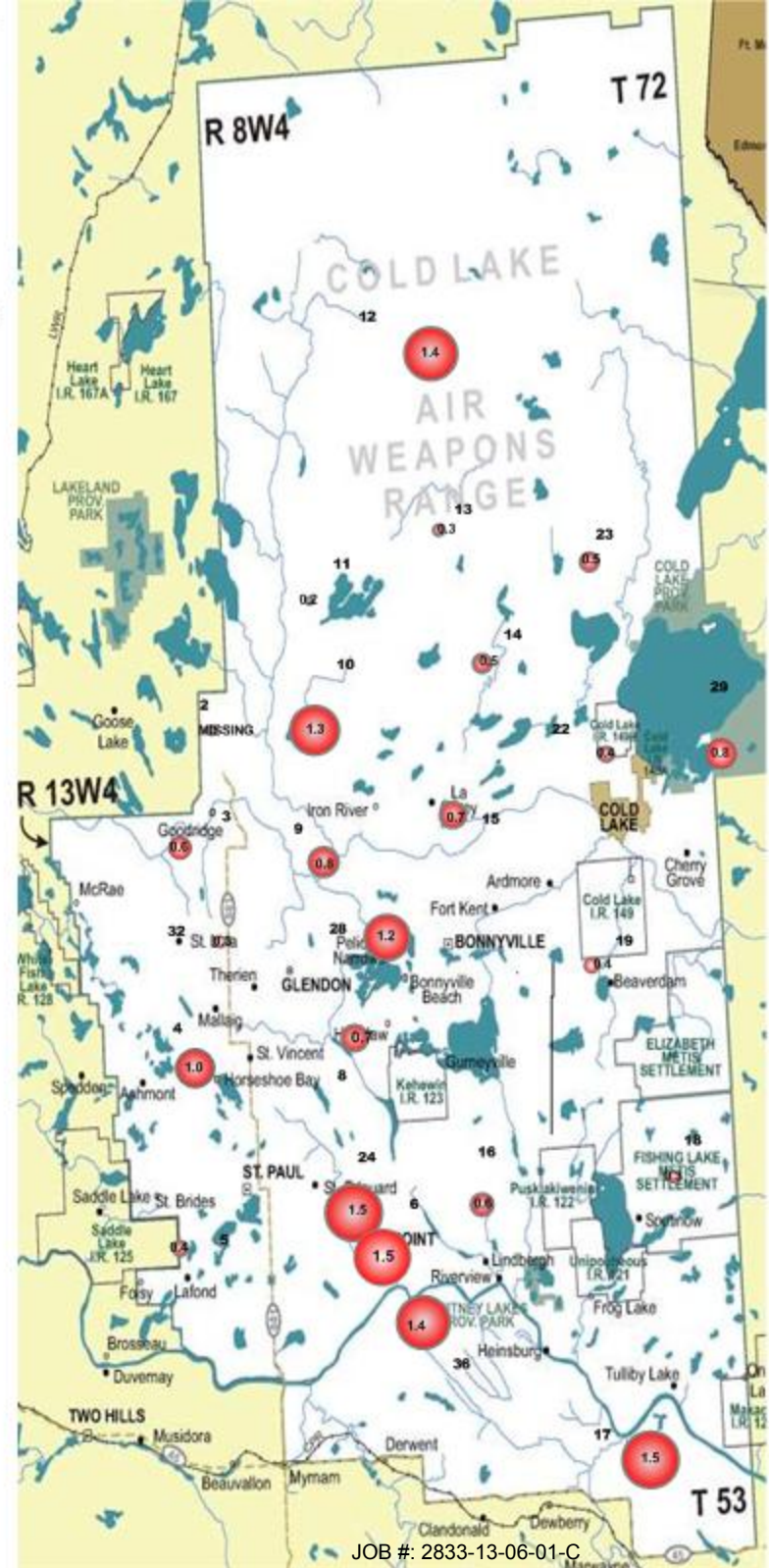
## PASSIVE STATIONS

		DUPLICATE
2 – Sand River	MISSING	NA
3 – Therien	0.6 PPB	NA
4 – Flat Lake	1.0 PPB	NA
5 – Lake Eliza	0.4 PPB	NA
6 – Telegraph Creek	1.5 PPB	NA
8 – Muriel-Kehewin	0.7 PPB	NA
9 – Dupre	0.8 PPB	NA
10 – La Corey	1.3 PPB	NA
11 – Wolf Lake	0.2 PPB	NA
12 – Foster Creek	1.4 PPB	NA
13 – Primrose	0.3 PPB	NA
14 – Maskwa	0.5 PPB	NA
15 – Ardmore	0.4 PPB	NA
16 – Frog Lake	0.7 PPB	0.5 PPB
17 – Clear Range	1.8 PPB	1.2 PPB
18 – Fishing Lake	0.3 PPB	NA
19 – Beaverdam	0.4 PPB	NA
22 – Cold Lake South	0.4 PPB	NA
23 – Medley-Martineau	0.5 PPB	NA
24 – Fort George	1.5 PPB	NA
28 – Town of Bonnyville	1.2 PPB	NA
29 – Cold Lake South 2	0.8 PPB	NA
32 – St. Lina	0.3 PPB	NA
36 – Elk Point	1.4 PPB	NA



## Summary

Minimum : 0.2 PPB – Wolf Lake  
Maximum: 1.5 PPB – Fort George  
Average: 0.8 PPB \*Includes Duplicates



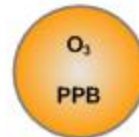


# Lakeland Industry & Community Association O<sub>3</sub> Passive Bubble Map

JUNE 2013

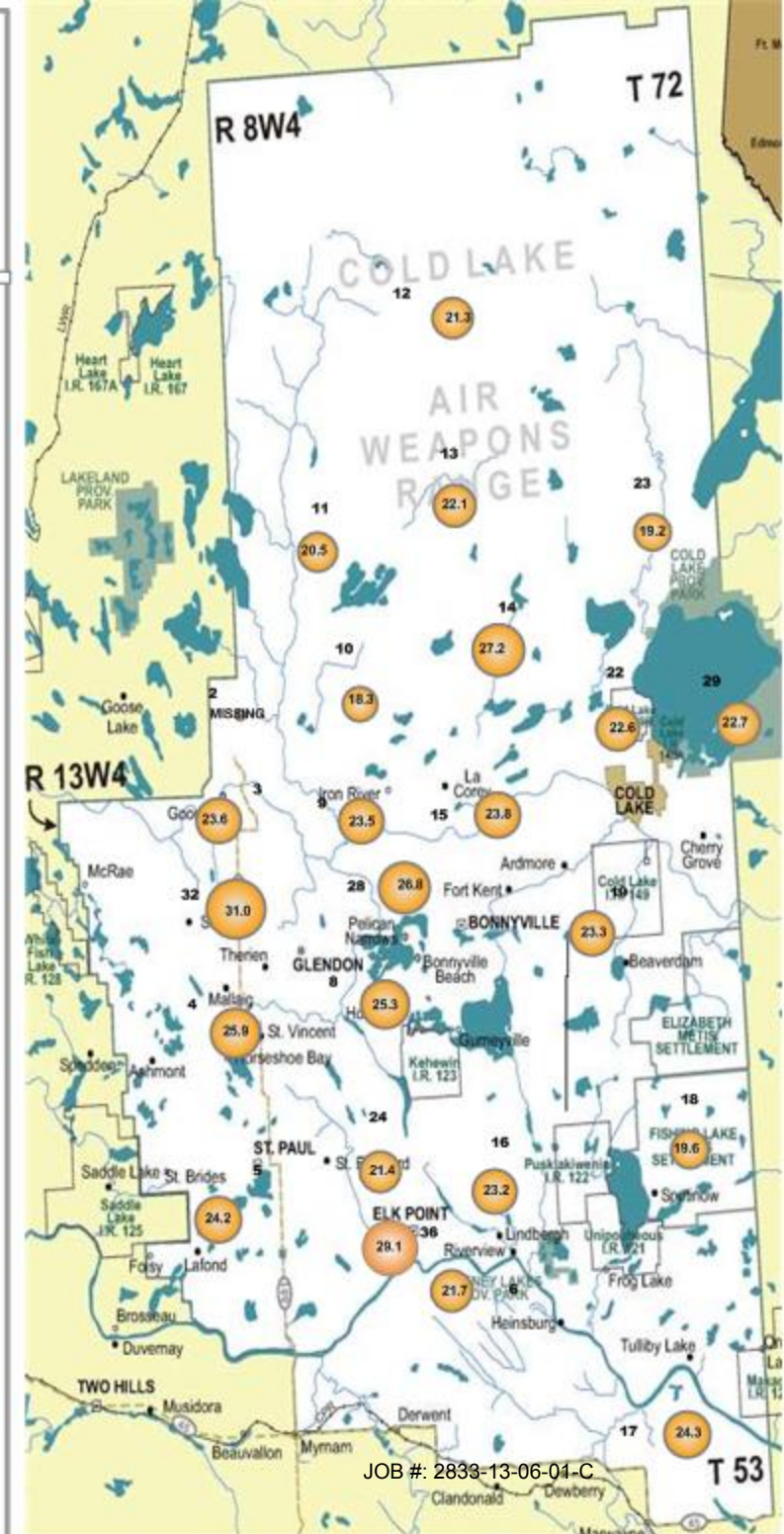
## PASSIVE STATIONS

		DUPLICATE
2 – Sand River	MISSING	NA
3 – Therien	23.6 PPB	NA
4 – Flat Lake	25.9 PPB	NA
5 – Lake Eliza	24.2 PPB	NA
6 – Telegraph Creek	21.7 PPB	NA
8 – Muriel-Kehewin	25.3 PPB	NA
9 – Dupre	23.5 PPB	NA
10 – La Corey	18.3 PPB	NA
11 – Wolf Lake	20.5 PPB	NA
12 – Foster Creek	21.3 PPB	NA
13 – Primrose	22.1 PPB	NA
14 – Maskwa	27.2 PPB	NA
15 – Ardmore	23.8 PPB	NA
16 – Frog Lake	23.3 PPB	NA
17 – Clear Range	25.8 PPB	NA
18 – Fishing Lake	19.6 PPB	NA
19 – Beaverdam	23.3 PPB	NA
22 – Cold Lake South	22.6 PPB	NA
23 – Medley-Martineau	19.2 PPB	NA
24 – Fort George	21.4 PPB	NA
28 – Town of Bonnyville	26.8 PPB	NA
29 – Cold Lake South 2	22.7 PPB	NA
32 – St. Lina	31.0 PPB	NA
36 – Elk Point	29.1 PPB	NA



## Summary

Minimum : 18.3 PPB – La Corey  
 Maximum: 31.0 PPB – St. Lina  
 Average: 23.5 PPB \*Includes Duplicates



# Lakeland Industry & Community Association SO<sub>2</sub> Passive Bubble Map

JUNE 2013

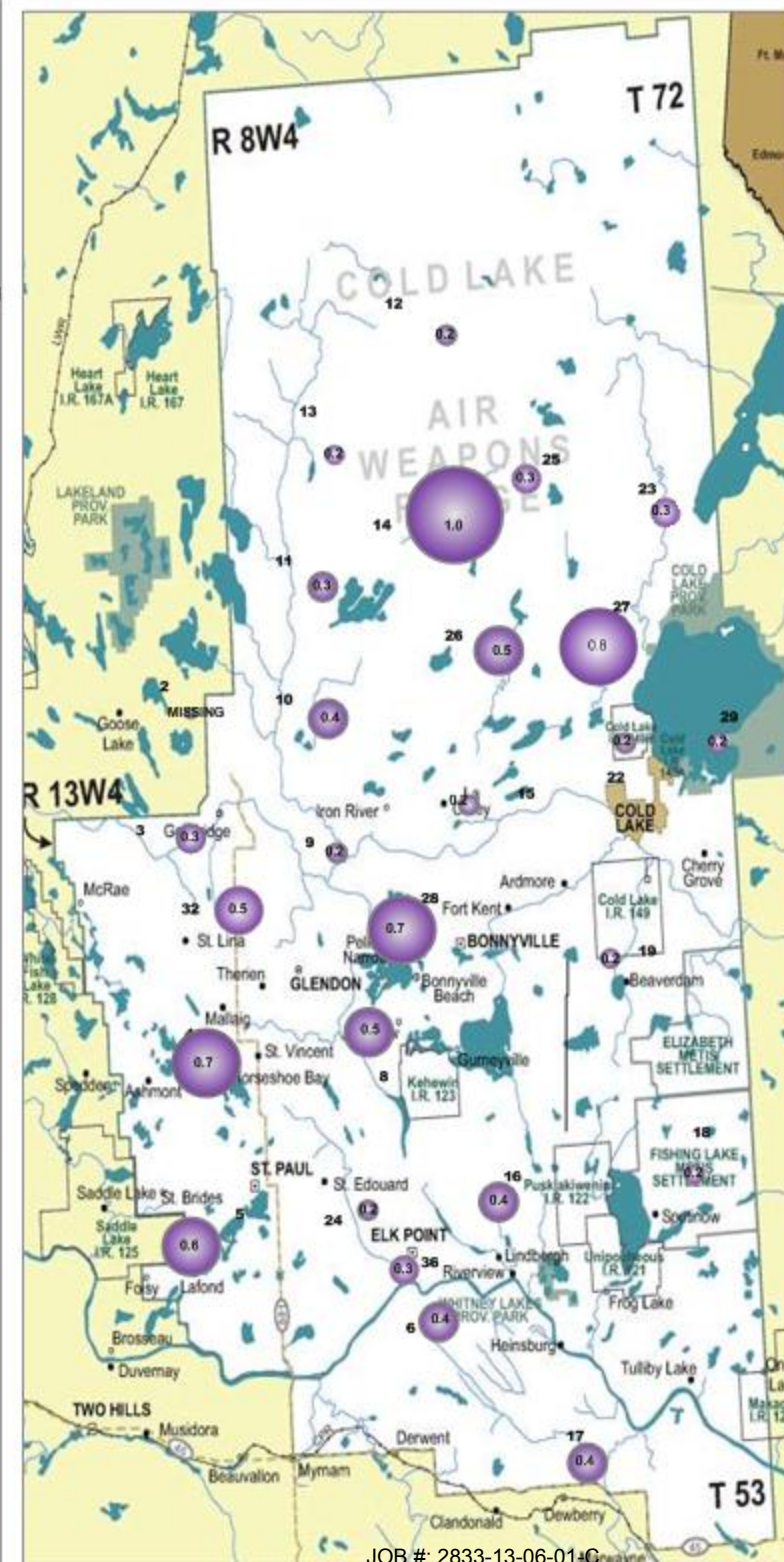
## PASSIVE STATIONS

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



## Summary

Minimum : 0.2 PPB –Various stations  
Maximum: 1.0 PPB –Maskwa  
Average: 0.39 PPB \*Includes Duplicates



# Passive Field Data

# Field Notes

ID	SAMPLER	START		END		NOTES
		DATE	TIME	DATE	TIME	
2	SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	NA	NA	NA	NA	All samplers had been removed and samples are missing.
3	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	06/03/2013	16:27	07/02/2013	16:00	
4	SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	06/03/2013	14:52	07/02/2013	15:20	
5	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	06/03/2013	14:15	07/02/2013	14:40	
6	SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	06/03/2013	12:37	07/02/2013	12:30	
8	SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	05/30/2013	11:38	06/28/2013	13:05	
9	SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	05/30/2013	10:40	07/02/2013	16:40	
10	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	05/31/2013	08:55	07/03/2013	10:17	
11	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	05/31/2013	09:37	07/03/2013	11:05	
12	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	05/31/2013	11:30	07/03/2013	13:05	
13	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	05/31/2013	15:03	06/26/2013	15:35	
14	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	05/31/2013	14:05	06/26/2013	16:15	
15	SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	05/31/2013	16:23	06/26/2013	17:05	
16	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	06/03/2013	09:53	07/02/2013	09:45	
17	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	06/03/2013	11:49	07/02/2013	11:40	
18	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	06/03/2013	10:35	07/02/2013	10:28	
19	SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	06/03/2013	09:15	07/02/2013	09:00	
22	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	05/30/2013	09:34	06/28/2013	11:15	
23	SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	05/31/2013	17:15	06/26/2013	14:25	
24	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	05/30/2013	12:55	06/28/2013	13:48	
25	H <sub>2</sub> S/SO <sub>2</sub>	05/31/2013	12:35	07/03/2013	14:25	
26	H <sub>2</sub> S/SO <sub>2</sub>	05/31/2013	15:35	06/26/2013	1:05	
27	H <sub>2</sub> S/SO <sub>2</sub>	05/31/2013	15:55	06/26/2013	16:35	
28	SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	05/30/2013	10:58	07/02/2013	17:00	
29	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	05/30/2013	09:25	06/28/2013	11:20	
32	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	06/03/2013	15:29	06/28/2013	17:05	
36	H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	05/30/2013	12:25	06/28/2013	14:00	

ID	SAMPLER	START		END		NOTES
		DATE	TIME	DATE	TIME	
Duplicate # 03	SO <sub>2</sub>	06/03/2013	16:27	07/02/2013	16:00	
Duplicate # 32	SO <sub>2</sub>	06/03/2013	15:29	06/28/2013	17:05	
Duplicate # 36	SO <sub>2</sub>	05/30/2013	12:25	06/28/2013	14:00	
Duplicate # 10	H <sub>2</sub> S	05/31/2013	08:55	07/03/2013	10:17	
Duplicate # 11	H <sub>2</sub> S	05/31/2013	09:37	07/03/2013	11:05	
Duplicate # 16	NO <sub>2</sub>	06/03/2013	09:53	07/02/2013	09:45	
Duplicate # 17	NO <sub>2</sub>	06/03/2013	11:49	07/02/2013	11:40	
Duplicate # 16	O <sub>3</sub>	06/03/2013	09:53	07/02/2013	09:45	
Duplicate # 17	O <sub>3</sub>	06/03/2013	11:49	07/02/2013	11:40	



# Passive Network Laboratory Analysis



Your Project #: 2013/05/30 - 2013/07/02  
Site Location: LICA

**Attention: MICHAEL BISAGA**

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

**Report Date: 2013/07/16**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B358700**

**Received: 2013/07/05, 14:56**

Sample Matrix: Air  
# Samples Received: 33

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
H2S Passive Analysis (1)	20	2013/07/15	2013/07/16	EINDSOP-00150	Tang.Passive H2S in
NO2 Passive Analysis (1)	25	2013/07/15	2013/07/16	EINDSOP-00148	Tang Passive NO2 in
O3 Passive Analysis (1)	25	2013/07/11	2013/07/16	EINDSOP-00197	EPA 300 R2.1
SO2 Passive Analysis (1)	29	2013/07/16	2013/07/16	EINDSOP-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.

Total cover pages: 1

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



Maxxam Job #: B358700  
 Report Date: 2013/07/16

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION  
 Client Project #: 2013/05/30 - 2013/07/02  
 Site Location: LICA  
 Sampler Initials: SB

**RESULTS OF CHEMICAL ANALYSES OF AIR**

Maxxam ID		GW5059	GW5060	GW5061	GW5062	GW5063		
Sampling Date		2013/06/03 16:27	2013/06/03 14:52	2013/06/03 14:15	2013/06/03 12:37	2013/05/30 11:38		
	<b>UNITS</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>8</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Passive Monitoring</b>								
Calculated H2S	ppb	0.12		0.25			0.02	6984052
Calculated NO2	ppb	0.6	1.0	0.4	1.5	0.7	0.1	6983814
Calculated O3	ppb	23.6	25.9	24.2	21.7	25.3	0.1	6976633
Calculated SO2	ppb	0.3	0.7	0.6	0.4	0.5	0.1	6986464

RDL = Reportable Detection Limit

Maxxam ID		GW5064	GW5065		GW5066	GW5067		
Sampling Date		2013/05/30 10:40	2013/05/31 08:55		2013/05/31 09:37	2013/05/31 11:30		
	<b>UNITS</b>	<b>9</b>	<b>10</b>	<b>QC Batch</b>	<b>11</b>	<b>12</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Passive Monitoring</b>								
Calculated H2S	ppb		0.14	6984052	0.05	0.03	0.02	6984052
Calculated NO2	ppb	0.8	1.3	6983814	0.2	1.4	0.1	6983817
Calculated O3	ppb	23.5	18.3	6976633	20.5	21.3	0.1	6976633
Calculated SO2	ppb	0.2	0.4	6986464	0.3	0.2	0.1	6986464

RDL = Reportable Detection Limit

Maxxam ID		GW5068	GW5069	GW5070	GW5071	GW5072		
Sampling Date		2013/05/31 15:03	2013/05/31 14:05	2013/05/31 16:23	2013/06/03 09:53	2013/06/03 11:49		
	<b>UNITS</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Passive Monitoring</b>								
Calculated H2S	ppb	0.06	0.16		0.11	0.26	0.02	6984052
Calculated NO2	ppb	0.3	0.5	0.4	0.7	1.8	0.1	6983817
Calculated O3	ppb	22.1	27.2	23.8	23.3	25.8	0.1	6976633
Calculated SO2	ppb	0.2	1.0	0.2	0.4	0.4	0.1	6986464

RDL = Reportable Detection Limit



Maxxam Job #: B358700  
 Report Date: 2013/07/16

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION  
 Client Project #: 2013/05/30 - 2013/07/02  
 Site Location: LICA  
 Sampler Initials: SB

**RESULTS OF CHEMICAL ANALYSES OF AIR**

Maxxam ID		GW5073		GW5074		GW5075	GW5076		
Sampling Date		2013/06/03 10:35		2013/06/03 09:15		2013/05/30 09:34	2013/05/31 17:15		
	<b>UNITS</b>	<b>18</b>	<b>QC Batch</b>	<b>19</b>	<b>QC Batch</b>	<b>22</b>	<b>23</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Passive Monitoring</b>									
Calculated H2S	ppb	0.09	6984052			0.12		0.02	6984052
Calculated NO2	ppb	0.3	6983817	0.4	6983817	0.4	0.5	0.1	6983817
Calculated O3	ppb	19.6	6976633	23.3	6976636	22.6	19.2	0.1	6976636
Calculated SO2	ppb	0.2	6986464	0.2	6986464	0.2	0.3	0.1	6986472

RDL = Reportable Detection Limit

Maxxam ID		GW5077	GW5078	GW5081	GW5082	GW5083		
Sampling Date		2013/05/30 12:55	2013/05/31 12:35	2013/05/31 15:35	2013/06/03 16:27	2013/05/30 10:58		
	<b>UNITS</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Passive Monitoring</b>								
Calculated H2S	ppb	0.10	0.07	0.06	0.23		0.02	6984052
Calculated NO2	ppb	1.5				1.2	0.1	6983817
Calculated O3	ppb	21.4				26.8	0.1	6976636
Calculated SO2	ppb	0.2	0.3	0.5	0.8	0.7	0.1	6986472

RDL = Reportable Detection Limit

Maxxam ID		GW5084	GW5085	GW5086	GW5089	GW5090		
Sampling Date		2013/05/30 09:25	2013/06/03 15:29	2013/05/30 12:25	2013/06/03 09:53	2013/06/03 11:49		
	<b>UNITS</b>	<b>29</b>	<b>32</b>	<b>36</b>	<b>16 DUP</b>	<b>17 DUP</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Passive Monitoring</b>								
Calculated H2S	ppb	0.10	0.10	0.12			0.02	6984052
Calculated NO2	ppb	0.8	0.3	1.4	0.5	1.2	0.1	6983817
Calculated O3	ppb	22.7	31.0	29.1	23.0	22.8	0.1	6976636
Calculated SO2	ppb	0.2	0.5	0.3			0.1	6986472

RDL = Reportable Detection Limit



Maxxam Job #: B358700  
 Report Date: 2013/07/16

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION  
 Client Project #: 2013/05/30 - 2013/07/02  
 Site Location: LICA  
 Sampler Initials: SB

**RESULTS OF CHEMICAL ANALYSES OF AIR**

Maxxam ID		GW5091	GW5092	GW5093	GW5094	GW5095		
Sampling Date		2013/06/03 16:27	2013/06/03 15:29	2013/05/30 12:25	2013/05/31 08:55	2013/05/31 09:37		
	<b>UNITS</b>	<b>03 DUP</b>	<b>32 DUP</b>	<b>36 DUP</b>	<b>10 DUP</b>	<b>11 DUP</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Passive Monitoring</b>								
Calculated H2S	ppb				0.13	0.05	0.02	6984052
Calculated SO2	ppb	0.3	0.4	0.3			0.1	6986472

RDL = Reportable Detection Limit



Maxxam Job #: B358700  
Report Date: 2013/07/16

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION  
Client Project #: 2013/05/30 - 2013/07/02  
Site Location: LICA  
Sampler Initials: SB

**General Comments**

**Results relate only to the items tested.**



LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION  
 Attention: MICHAEL BISAGA  
 Client Project #: 2013/05/30 - 2013/07/02  
 P.O. #:  
 Site Location: LICA

Quality Assurance Report  
 Maxxam Job Number: PB358700

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
6976633 OZ	Calibration Check	Calculated O3	2013/07/11		101	%	91 - 107
	Spiked Blank	Calculated O3	2013/07/11		98	%	N/A
	Method Blank	Calculated O3	2013/07/11	<0.1		ppb	
6976636 OZ	Calibration Check	Calculated O3	2013/07/11		100	%	91 - 107
	Spiked Blank	Calculated O3	2013/07/11		99	%	N/A
	Method Blank	Calculated O3	2013/07/11	<0.1		ppb	
6983814 DF4	Calibration Check	Calculated NO2	2013/07/15		100	%	76 - 118
	Spiked Blank	Calculated NO2	2013/07/15		99	%	N/A
	Method Blank	Calculated NO2	2013/07/15	<0.1		ppb	
6983817 DF4	Calibration Check	Calculated NO2	2013/07/15		100	%	76 - 118
	Spiked Blank	Calculated NO2	2013/07/15		97	%	N/A
	Method Blank	Calculated NO2	2013/07/15	<0.1		ppb	
6984052 WC6	Calibration Check	Calculated H2S	2013/07/15		96	%	80 - 120
	Spiked Blank	Calculated H2S	2013/07/15		98	%	N/A
6986464 DF4	Calibration Check	Calculated SO2	2013/07/16		100	%	95 - 105
	Spiked Blank	Calculated SO2	2013/07/16		101	%	N/A
	Method Blank	Calculated SO2	2013/07/16	<0.1		ppb	
6986472 DF4	Calibration Check	Calculated SO2	2013/07/16		100	%	95 - 105
	Spiked Blank	Calculated SO2	2013/07/16		100	%	N/A
	Method Blank	Calculated SO2	2013/07/16	<0.1		ppb	

Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.  
 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.

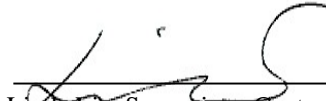


**Validation Signature Page**

**Maxxam Job #: B358700**

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



---

Linda Lin, Supervisor, Centre for Passive Sampling Technology

=====

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



# Lakeland Industry & Community Association

Maskwa Monitoring Site  
Ambient Air Monitoring  
Data Report  
For  
June 2013

Prepared By:



July 30, 2013

# Lakeland Industry & Community Association Ambient Air Monitoring Maskwa

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## Introduction

The following Ambient Air Monitoring report was prepared for:

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

Monitoring Location: Maskwa  
Data Period: June 2013

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:

- CAL SOP-00211
- CAL SOP-00209
- CAL SOP-00213
- CAL SOP-00214
- CAL 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 – June 2013

LICA MASKWA SITE						MAXIMUM VALUES							OPERATIONAL TIME (PERCENT)
						OBJECTIVES					1-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	0.61	13	15	5	10.8	307(NW)	4.6	15	100.0
H2S (PPB)	10	3	0	0	0.17	9	4	0	1	1769S)	1.3	4	100.0
THC (PPM)	-	-	-	-	2.15	3.9	4	3	0.9	136(SE)	2.4	4, 29	100.0
NOx (PPB)	-	-	-	-	2.79	30.9	14	23	6.5	303(WNW)	10.5	15	100.0
NO (PPB)	-	-	-	-	0.64	17.0	9	6	8.5	310(NW)	3.6	15	100.0
NO <sub>2</sub> (PPB)	159	-	0	-	2.15	20.1	14	23	6.5	303(WNW)	6.9	15	100.0
VECTOR WS (KPH)	-	-	-	-	4.84	13.7	5	12	-	185(S)	8.8	9	100.0
VECTOR WD (DEGREES)	-	-	-	-	197(SSW)	-	-	-	-	-	-	-	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	70.61	93	VAR	VAR	VAR	VAR	88.3	15	100.0
TEMPERATURE (DEG C)	-	-	-	-	15.27	28.5	28	14	5.6	243(WSW)	21.1	29	100.0
BAROMETRIC PRESSURE (MILIBAR)	-	-	-	-	942	951	28, 29	VAR	VAR	VAR	949.7	29	100.0
PRECIPITATION (MM)	-	-	-	-	0.13	8.6	12	19	2.1	277(W)	22.9	12	100.0

NA-NOT APPLICABLE 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 June 19<sup>th</sup>. 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 101A, S/N: 324 changed to API 101E, S/N: 511

No operational issues were observed during the month. The monthly calibration was performed on June 19<sup>th</sup>. 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 June 19<sup>th</sup>. The inlet filter was changed before the monthly calibration was started. 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 June 19<sup>th</sup>. 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

The wind system is reported as vector wind speed and vector wind direction. The last wind system calibration was performed by manufacturer on December 20<sup>th</sup>, 2011.

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.

# General Monthly Summary

## **AQM STATION – LICA – Maskwa**

### **Barometric Pressure (MILLIBAR)**

- System make / model - Met One 092

No operation issues were observed during the month.

### **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.



# General Monthly Summary

## AQM STATION – LICA – Maskwa

### Datalogger

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

No operational issues were observed during the month.

### Trailer

The manifold was cleaned on June 19<sup>th</sup>.

# Continuous Monitoring

# Monthly Summaries, Graphs & Wind Roses

# Sulphur Dioxide

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2013

## SULPHUR DIOXIDE (SO<sub>2</sub>) 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	23:00	DAILY MAX.	24-HOUR AVG.	RDGS.
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	0	0	0	0	0	0	0	2	3	5	1	0	0	0	2	2	6	S	1	1	0	0	0	0	6	1.0	24	
2	0	0	0	0	0	0	1	2	2	2	2	2	2	1	2	1	S	1	0	1	5	1	0	0	5	1.1	24	
3	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	S	0	0	0	0	0	0	0	0	1	0.1	24	
4	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	
5	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	4	1	3	0	0	4	0.3	24	
6	0	0	0	0	0	0	0	0	0	0	1	1	S	1	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
7	0	0	0	0	0	0	0	0	0	1	0	S	0	0	0	0	0	1	0	0	0	0	0	0	1	0.1	24	
8	0	0	0	0	0	0	0	1	1	1	0	S	0	0	0	0	0	0	0	0	0	3	2	0	3	0.3	24	
9	1	2	1	1	3	5	8	6	7	S	3	0	0	0	0	3	1	0	0	0	0	0	0	0	8	1.8	24	
10	0	0	0	0	0	0	2	1	S	3	1	0	0	0	0	2	2	3	2	2	1	0	0	2	3	0.9	24	
11	1	4	1	0	2	6	3	S	0	2	4	3	2	0	0	0	1	0	0	0	0	0	0	0	6	1.3	24	
12	0	0	0	0	0	0	S	2	1	0	1	0	0	0	0	0	1	0	0	0	1	0	0	1	2	0.3	24	
13	0	0	0	0	0	S	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0.1	24	
14	0	0	0	0	S	0	0	4	5	1	2	1	2	1	0	0	0	0	0	1	1	3	8	8	1.3	24		
15	7	4	11	S	12	13	12	11	6	5	3	7	6	7	1	0	0	0	0	0	0	0	0	0	13	4.6	24	
16	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	
17	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	
18	S	0	0	0	0	0	0	0	2	1	1	0	0	1	2	0	1	0	0	0	0	0	0	0	S	2	0.4	24
19	3	3	3	3	3	3	3	3	3	3	3	C	C	C	C	C	0	0	0	0	0	0	S	0	3	1.8	24	
20	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	S	0	0	1	0.1	24	
21	0	0	0	0	0	0	0	0	0	0	0	1	1	2	1	2	1	1	1	4	S	0	0	0	4	0.6	24	
22	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	S	0	0	0	0	0	1	0.0	24	
23	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	1	S	1	0	0	0	0	2	0.2	24	
24	0	0	0	0	0	0	1	2	3	2	1	0	0	0	0	0	S	0	0	0	0	0	0	0	3	0.4	24	
25	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	S	0	0	0	0	0	1	1	2	0.3	24	
26	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	2	0.1	24	
27	0	0	0	0	0	0	0	2	1	6	2	0	0	0	S	0	0	0	0	0	0	0	0	1	6	0.5	24	
28	1	0	0	0	0	0	1	8	0	0	1	1	2	S	0	0	0	0	0	0	0	0	0	0	8	0.6	24	
29	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	
30	0	0	0	0	0	0	S	S	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
HOURLY MAX	7	4	11	3	12	13	12	11	7	6	4	7	6	7	2	3	6	3	2	4	5	3	3	8				
HOURLY AVG	0.5	0.5	0.6	0.1	0.7	0.9	1.1	1.6	1.2	1.1	1.0	0.7	0.6	0.6	0.3	0.4	0.5	0.3	0.1	0.4	0.3	0.3	0.2	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

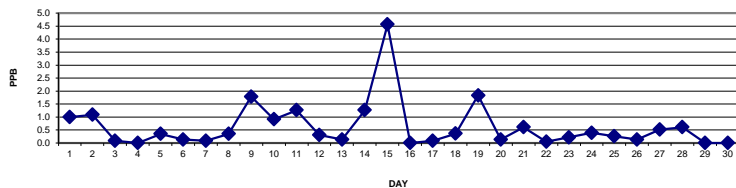
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT: 1-HR 172 PPB | 24-HR 48 PPB

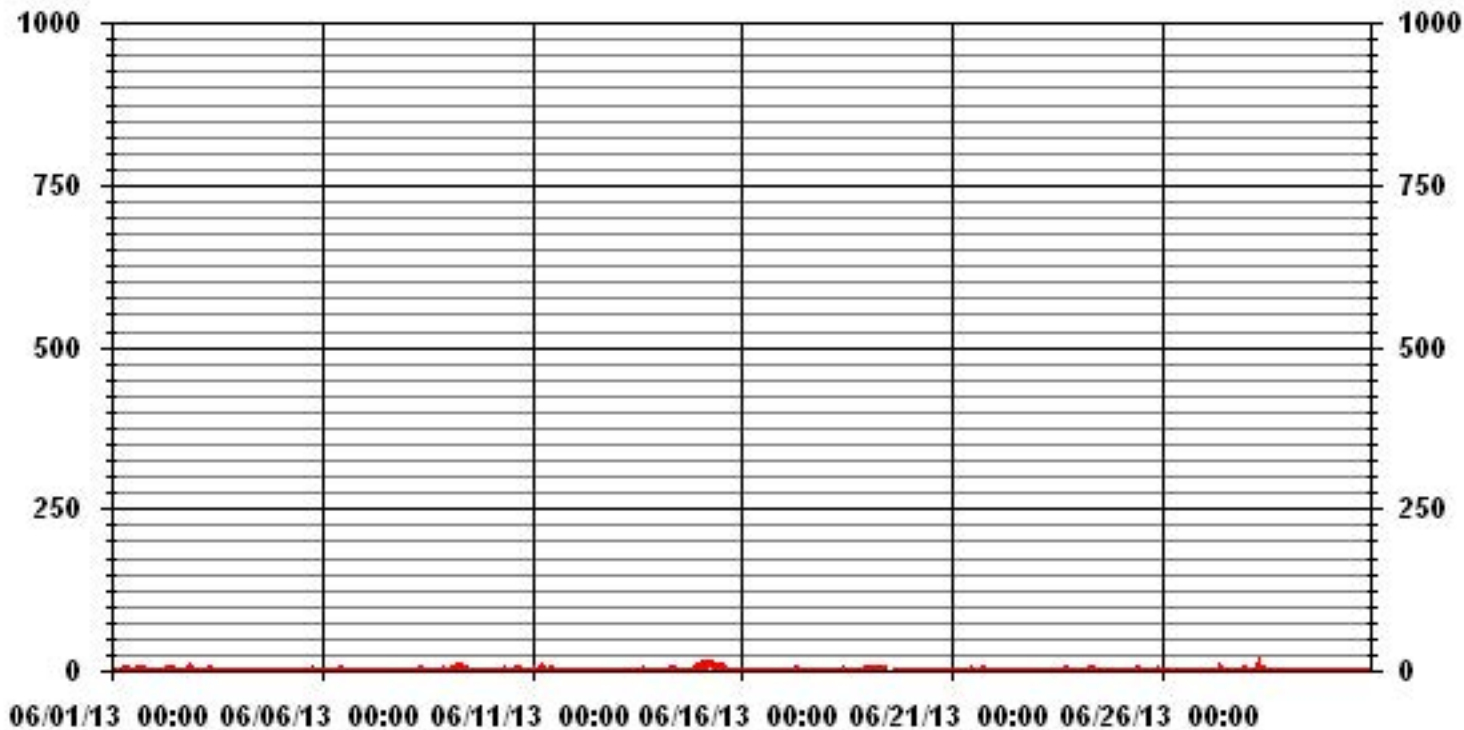
### MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	164
MAXIMUM 1-HR AVERAGE:	13 PPB @ HOUR(S) 5 ON DAY(S) 15
MAXIMUM 24-HR AVERAGE:	4.6 PPB ON DAY(S) 15
Izs CALIBRATION TIME:	33 HRS
MONTHLY CALIBRATION TIME:	5 HRS
STANDARD DEVIATION:	1.58
OPERATIONAL TIME:	720 HRS
AMD OPERATION UPTIME:	100.0 %
MONTHLY AVERAGE:	0.61 PPB

24 HOUR AVERAGES FOR JUNE 2013



### 01 Hour Averages



— LICA30 SO2\_ PPB

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2013

## SULPHUR DIOXIDE MAX instantaneous maximum in ppb

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR START	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	0	0	0	0	0	6	6	12	3	1	1	0	6	6	8	S	2	1	1	1	1	1	1	12	2.5	24
2		1	1	1	1	1	2	2	3	3	3	3	3	4	4	6	5	S	6	1	13	13	4	1	0	13	3.5	24	
3		0	0	0	0	0	0	0	2	3	4	1	3	3	4	3	S	0	0	0	0	0	0	0	0	0	4	1.0	24
4		0	0	0	0	0	0	0	1	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	1	0.0	24
5		0	0	0	0	0	0	0	1	0	0	0	0	0	S	0	0	0	0	0	18	4	5	1	0	18	1.3	24	
6		0	0	0	0	0	0	1	1	0	1	9	8	S	5	0	0	0	0	0	0	1	1	0	0	9	1.2	24	
7		0	0	1	1	1	1	1	1	1	2	1	S	1	1	0	0	1	2	1	0	1	0	2	1	2	0.9	24	
8		1	1	1	1	1	1	1	4	3	1	S	0	0	0	4	0	2	2	3	1	9	7	1	9	1.9	24		
9		7	6	2	2	8	9	12	10	14	S	9	3	4	2	2	11	5	0	0	0	0	0	0	14	4.6	24		
10		0	0	0	0	0	1	5	5	S	9	3	2	0	0	1	11	8	6	8	7	8	0	6	8	11	3.8	24	
11		4	8	4	1	6	8	7	S	3	11	12	9	9	0	6	0	7	0	0	0	0	0	0	0	12	4.1	24	
12		0	0	0	0	0	0	S	7	3	1	3	1	1	0	1	2	7	5	0	4	4	1	1	1	7	1.8	24	
13		1	1	1	1	1	S	0	0	0	2	3	1	1	1	1	4	3	1	0	0	0	0	0	0	4	1.0	24	
14		0	0	0	0	S	0	2	7	9	6	8	4	9	3	3	1	0	0	0	1	2	7	8	12	12	3.6	24	
15		15	10	16	S	15	18	16	16	12	9	7	10	12	13	5	1	0	0	0	0	0	0	0	0	18	7.6	24	
16		0	0	S	0	0	0	0	0	0	0	0	0	2	3	0	0	0	0	0	0	0	0	0	0	3	0.2	24	
17		0	S	0	0	0	0	1	3	3	1	0	0	0	0	1	1	1	1	0	1	0	0	0	0	3	0.6	24	
18		S	0	0	1	0	1	1	1	5	3	2	0	0	3	7	0	3	2	1	1	3	0	0	S	7	1.5	24	
19		3	3	3	3	3	3	3	3	3	3	C	C	C	C	C	1	1	1	1	1	1	1	S	0	3	2.2	24	
20		0	1	1	1	1	1	1	1	0	1	1	1	1	3	2	2	4	1	2	1	1	1	S	1	1	4	1.3	24
21		1	1	1	1	1	1	1	1	1	1	1	4	2	6	3	5	4	3	4	8	S	2	2	0	8	2.3	24	
22		0	0	0	1	0	0	0	1	1	2	1	1	1	2	1	0	4	2	2	S	0	0	0	0	4	0.8	24	
23		0	0	0	0	1	1	0	1	1	1	0	0	26	27	0	1	1	2	S	2	1	1	1	1	27	3.0	24	
24		1	1	2	1	1	1	4	3	5	5	1	2	1	1	1	1	1	S	0	0	0	0	0	0	5	1.4	24	
25		0	0	0	0	0	0	0	0	1	4	5	8	3	0	2	0	S	0	0	0	1	2	2	2	8	1.3	24	
26		3	3	1	0	0	0	0	0	1	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	3	0.3	24	
27		0	0	0	0	0	0	0	9	2	16	9	0	0	3	S	1	0	0	0	1	0	1	1	2	16	2.0	24	
28		1	1	1	1	1	2	3	16	1	1	8	4	9	S	0	0	0	0	0	0	0	0	0	0	16	2.1	24	
29		0	0	0	0	0	0	1	1	0	1	0	1	S	0	22	0	0	0	0	0	0	0	0	0	22	1.1	24	
30		0	0	0	0	0	0	S	S	1	0	1	S	1	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
HOURLY MAX		15	10	16	3	15	18	16	16	14	16	12	10	26	27	22	11	8	6	8	18	13	9	8	12				
HOURLY AVG		1.3	1.3	1.2	0.6	1.4	1.7	2.2	3.7	2.8	3.4	3.2	2.4	3.4	3.0	2.7	2.1	2.0	1.3	0.8	2.1	1.4	1.2	1.2	1.0				

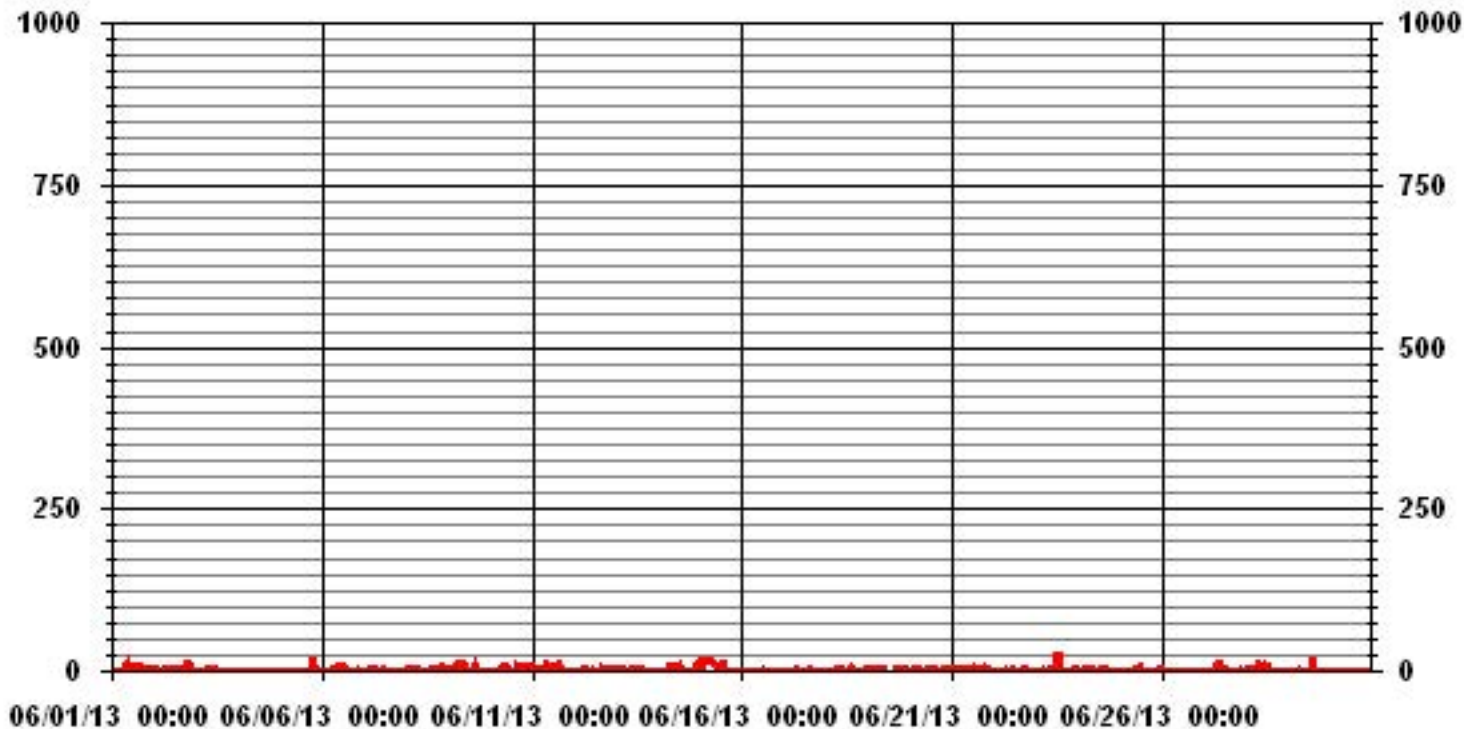
### STATUS FLAG CODES

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:	373					
MAXIMUM INSTANTANEOUS VALUE:	27	PPB	@ HOUR(S)	13	ON DAY(S)	23
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION:	3.48					

### 01 Hour Averages





LICA30  
 SO2\_ / WDR Joint Frequency Distribution (Percent)

June 2013

Distribution By % Of Samples

Logger Id : 30  
 Site Name : LICA30  
 Parameter : SO2\_  
 Units : PPB

Wind Parameter : WDR  
 Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 20	2.19	3.51	10.26	8.21	5.57	5.71	6.74	6.45	7.18	12.02	5.13	3.95	6.89	9.82	4.25	2.05	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	2.19	3.51	10.26	8.21	5.57	5.71	6.74	6.45	7.18	12.02	5.13	3.95	6.89	9.82	4.25	2.05	

Calm : .00 %

Total # Operational Hours : 682

Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 20	15	24	70	56	38	39	46	44	49	82	35	27	47	67	29	14	682
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	15	24	70	56	38	39	46	44	49	82	35	27	47	67	29	14	

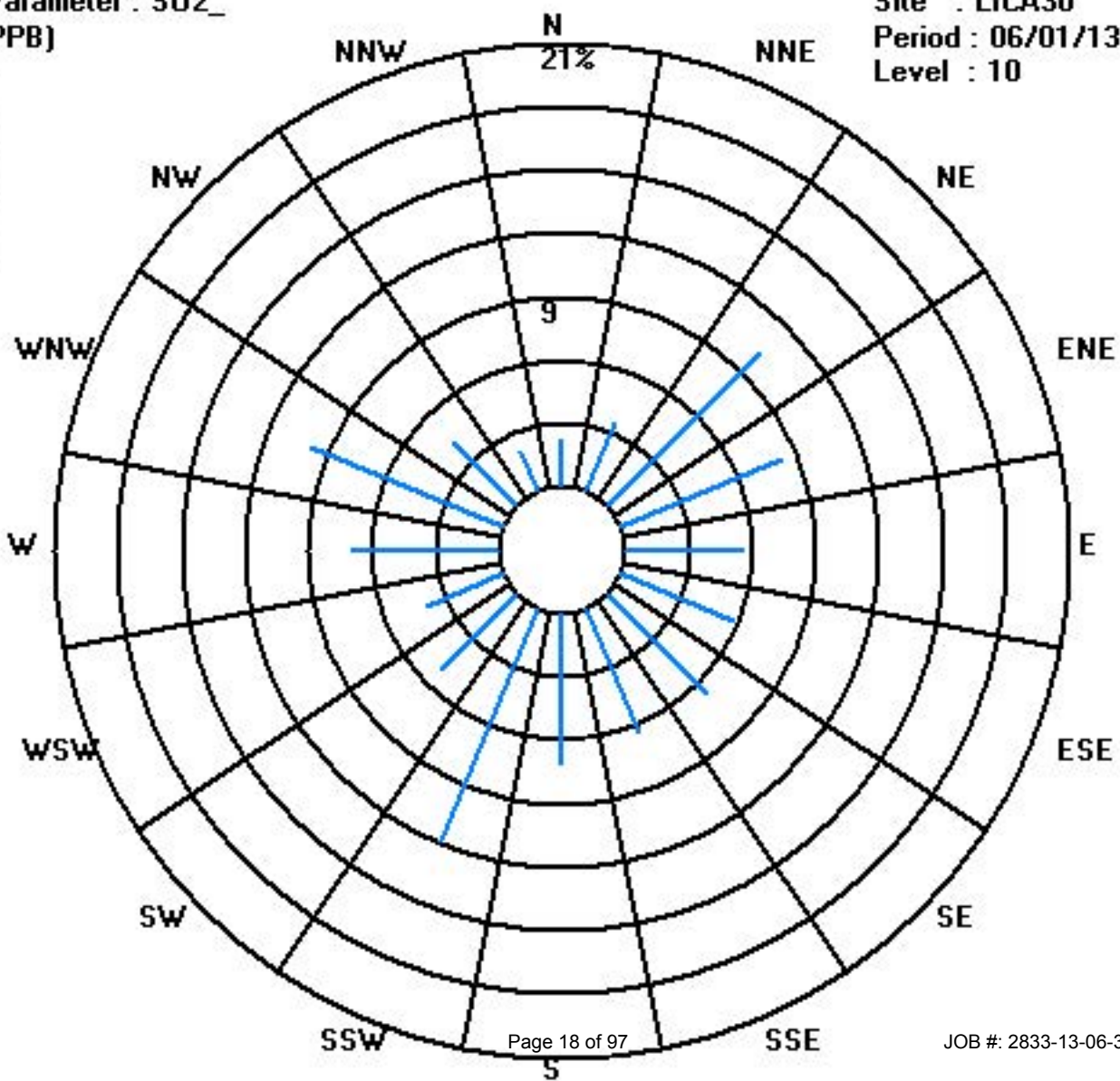
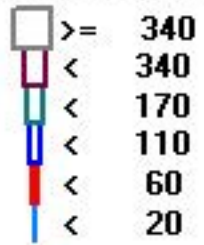
Calm : .00 %

Total # Operational Hours : 682

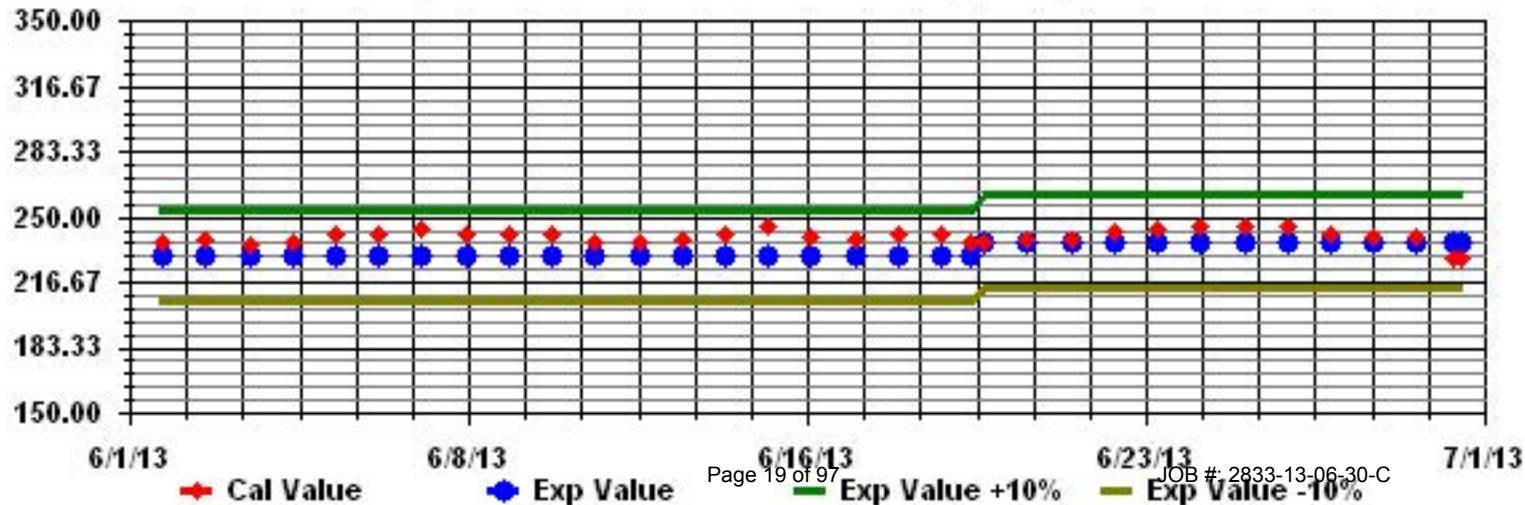
Class Limits (PPB)

Period : 06/01/13-06/30/13

Level : 10



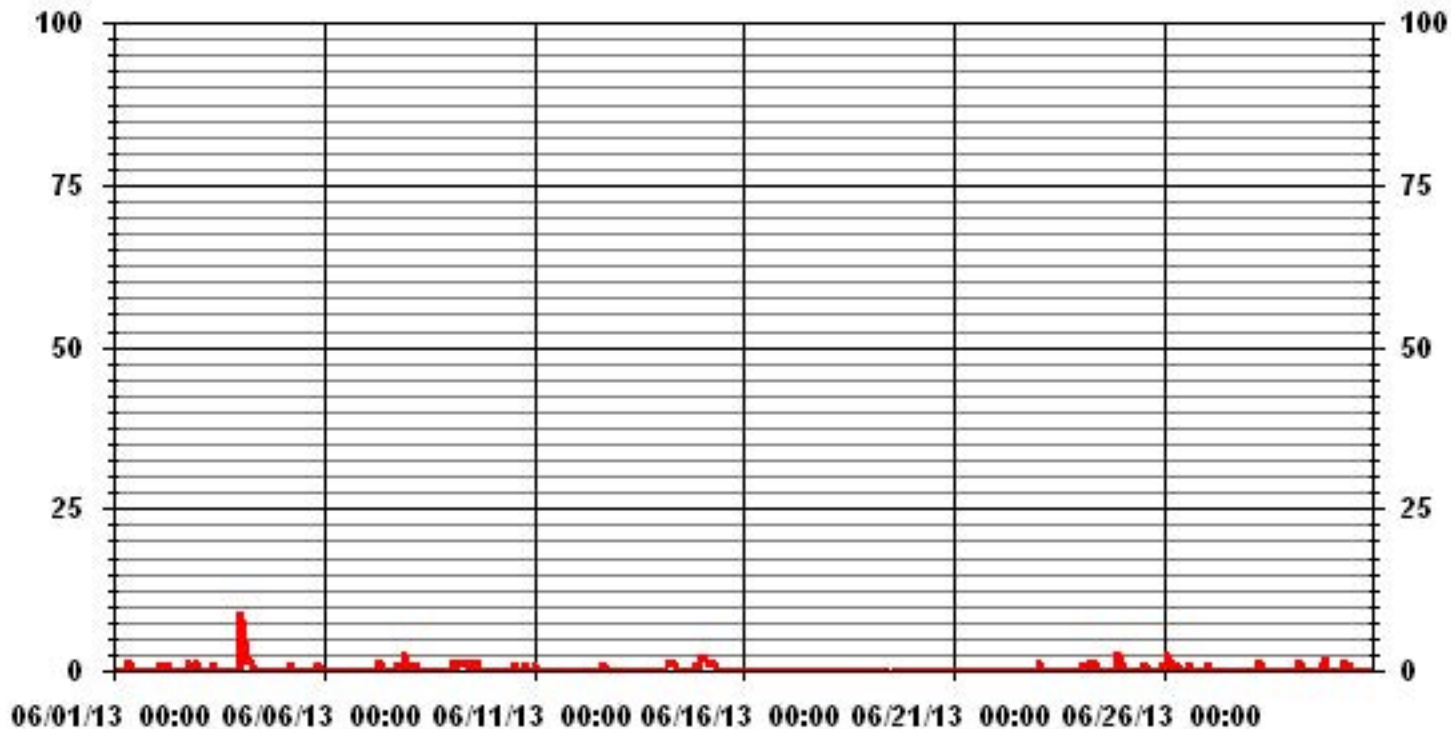
Calibration Graph for Site: LICA30 Parameter: S02\_ Sequence: S02 Phase: SPAN



# Hydrogen Sulphide



# 01 Hour Averages



# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2013

## HYDROGEN SULPHIDE MAX instantaneous maximum in ppb

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR START	HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																													
1		0	0	0	0	1	0	0	2	2	2	1	0	0	0	1	0	0	S	0	1	1	0	0	0	2	0.5	24	
2		0	1	2	1	1	1	1	1	1	1	1	1	1	1	1	S	1	2	3	0	1	0	1	3	1.0	24		
3		2	0	0	0	0	1	1	1	1	2	1	1	1	0	0	S	1	0	1	0	0	0	0	7	7	0.9	24	
4		12	10	5	5	2	2	6	1	2	0	0	0	0	0	S	0	0	0	0	0	0	0	0	2	12	2.0	24	
5		0	0	1	1	1	1	1	1	0	0	1	1	0	S	0	0	0	0	0	1	1	1	1	1	1	0.6	24	
6		0	0	1	0	0	0	0	0	0	0	1	1	S	1	0	0	0	0	0	1	0	0	0	0	1	0.2	24	
7		1	1	1	1	1	0	0	2	2	3	1	S	0	0	0	0	1	3	4	1	0	0	5	0	5	1.1	24	
8		0	4	3	0	0	2	0	0	0	0	S	0	1	1	1	1	0	1	0	0	1	1	1	1	4	0.8	24	
9		1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	0	1	0	0	1	0	1	1	1	0.8	24	
10		1	1	1	1	1	0	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	0.9	24	
11		1	1	0	1	1	0	0	S	0	0	1	1	0	1	0	0	1	1	0	0	0	0	0	0	1	0.4	24	
12		0	0	0	0	0	0	S	1	1	1	1	0	0	0	0	0	2	1	0	1	1	0	0	1	2	0.4	24	
13		1	0	0	1	1	S	1	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0.3	24	
14		1	0	0	0	S	1	1	3	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	3	3	1.0	24	
15		3	3	3	S	3	2	2	2	1	0	0	1	1	1	1	1	1	1	0	1	0	0	0	0	3	1.2	24	
16		0	1	S	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.2	24	
17		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	
18		S	0	0	1	0	0	1	0	1	1	0	0	0	1	1	0	0	0	1	0	1	0	0	S	1	0.4	24	
19		1	0	0	0	0	0	0	1	1	0	0	C	C	C	C	0	0	0	0	0	0	0	S	0	1	0.2	24	
20		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	S	0	0	1	0.0	24
21		0	1	1	1	1	1	0	0	0	0	0	0	0	1	1	0	1	1	0	0	S	1	1	1	1	0.5	24	
22		0	0	1	1	0	0	1	1	0	0	1	0	0	1	1	0	0	0	0	S	0	0	1	1	1	0.4	24	
23		1	1	1	0	1	1	0	1	1	0	0	1	1	0	1	1	1	1	S	1	0	0	1	1	1	0.7	24	
24		1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	S	0	0	1	1	4	2	4	1.0	24	
25		1	0	0	0	0	0	0	0	1	1	1	1	1	2	1	1	S	0	1	1	1	1	1	1	2	0.7	24	
26		1	3	4	1	1	1	0	1	1	1	1	1	1	1	S	1	0	1	0	1	0	0	0	4	1.0	24		
27		1	1	1	0	1	1	0	1	1	1	0	0	0	0	S	0	0	0	0	0	0	0	0	1	1	0.4	24	
28		1	0	0	0	1	2	2	2	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	2	0.3	24	
29		0	0	0	1	2	1	1	1	0	1	1	0	S	1	0	0	1	0	0	2	3	0	0	0	3	0.7	24	
30		0	1	0	0	1	0	0	2	2	0	1	S	1	0	0	0	1	1	1	0	0	0	0	2	0.5	24		
HOURLY MAX		12	10	5	5	3	2	6	3	2	3	1	1	1	2	1	1	2	3	4	3	3	1	5	7				
HOURLY AVG		1.0	1.1	0.9	0.6	0.8	0.7	0.8	1.0	0.7	0.6	0.5	0.4	0.6	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.3	0.6	0.9				

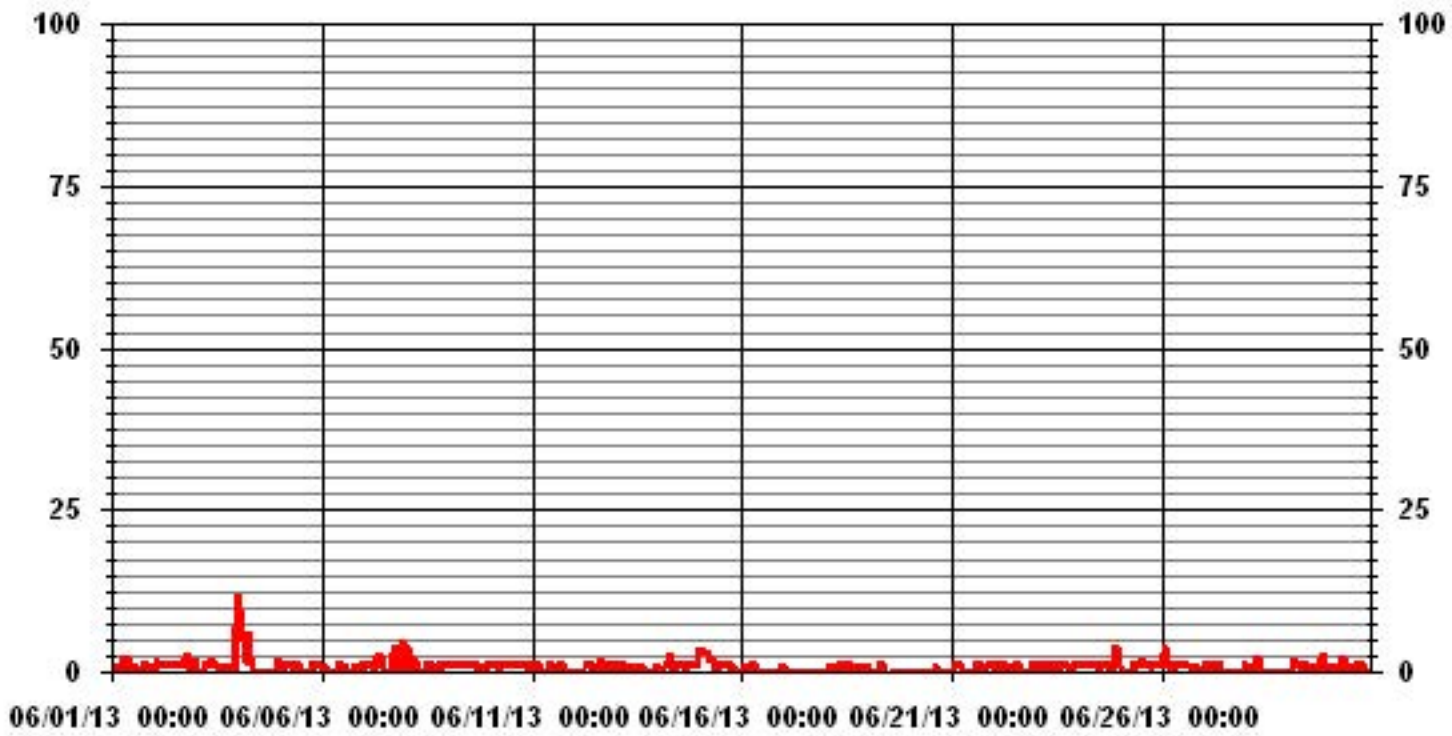
### STATUS FLAG CODES

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:	330
MAXIMUM INSTANTANEOUS VALUE:	12 PPB @ HOUR(S) 0 ON DAY(S) 4
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	4 HRS
STANDARD DEVIATION:	1.00
OPERATIONAL TIME:	720 HRS

### 01 Hour Averages





LICA30  
H2S\_ / WDR Joint Frequency Distribution (Percent)

June 2013

Distribution By % Of Samples

Logger Id : 30  
Site Name : LICA30  
Parameter : H2S\_  
Units : PPB

Wind Parameter : WDR  
Instrument Height : 10 Meters

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 3	2.18	3.50	10.36	8.17	5.40	5.69	6.56	6.42	6.86	11.82	5.10	3.94	6.86	9.78	4.23	2.04	98.97
< 10	.00	.00	.00	.00	.29	.14	.14	.00	.29	.14	.00	.00	.00	.00	.00	.00	1.02
< 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	2.18	3.50	10.36	8.17	5.69	5.83	6.71	6.42	7.15	11.97	5.10	3.94	6.86	9.78	4.23	2.04	

Calm : .00 %

Total # Operational Hours : 685

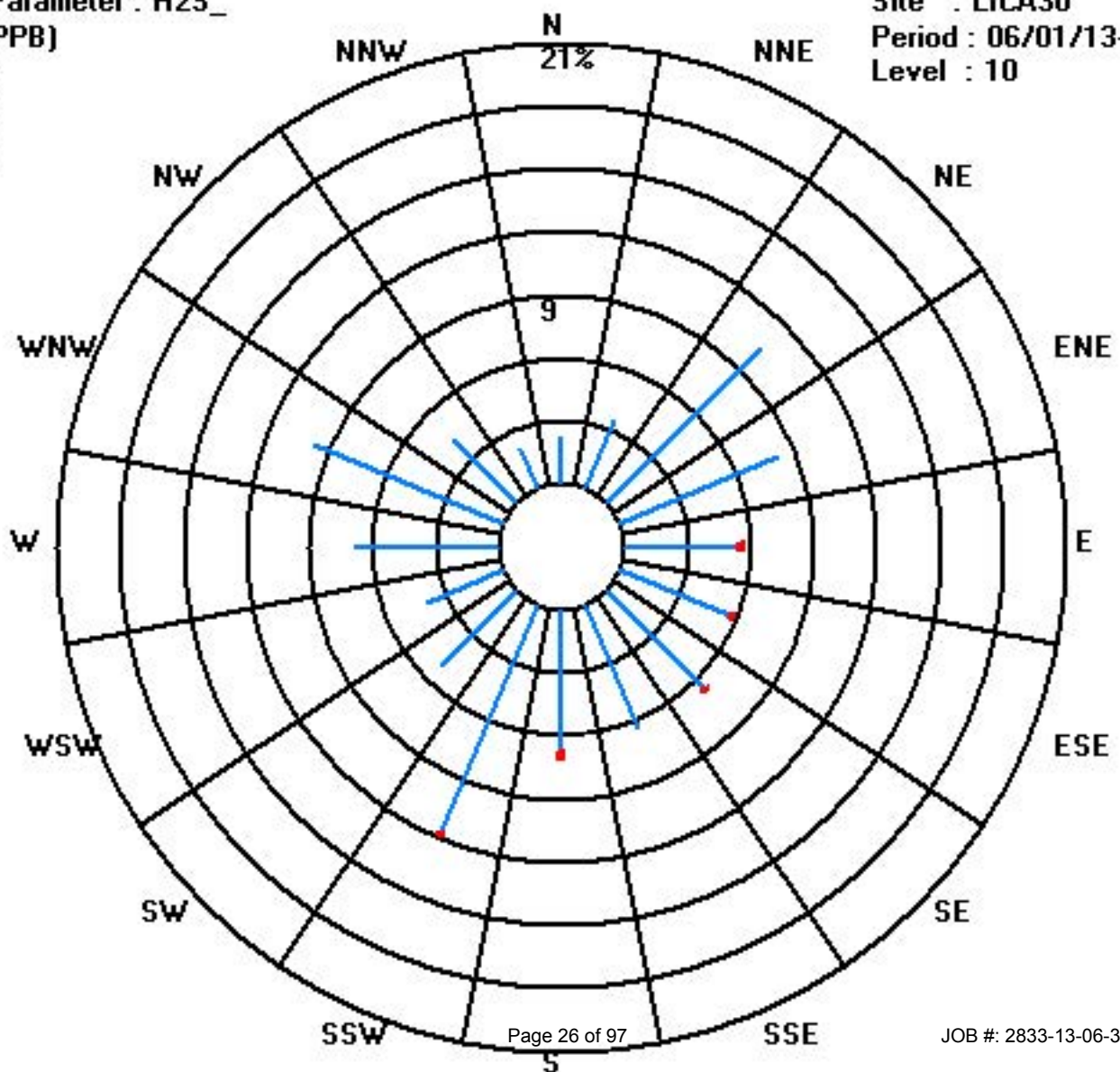
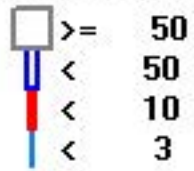
Distribution By Samples

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 3	15	24	71	56	37	39	45	44	47	81	35	27	47	67	29	14	678
< 10					2	1	1		2	1							7
< 50																	
>= 50																	
Totals	15	24	71	56	39	40	46	44	49	82	35	27	47	67	29	14	

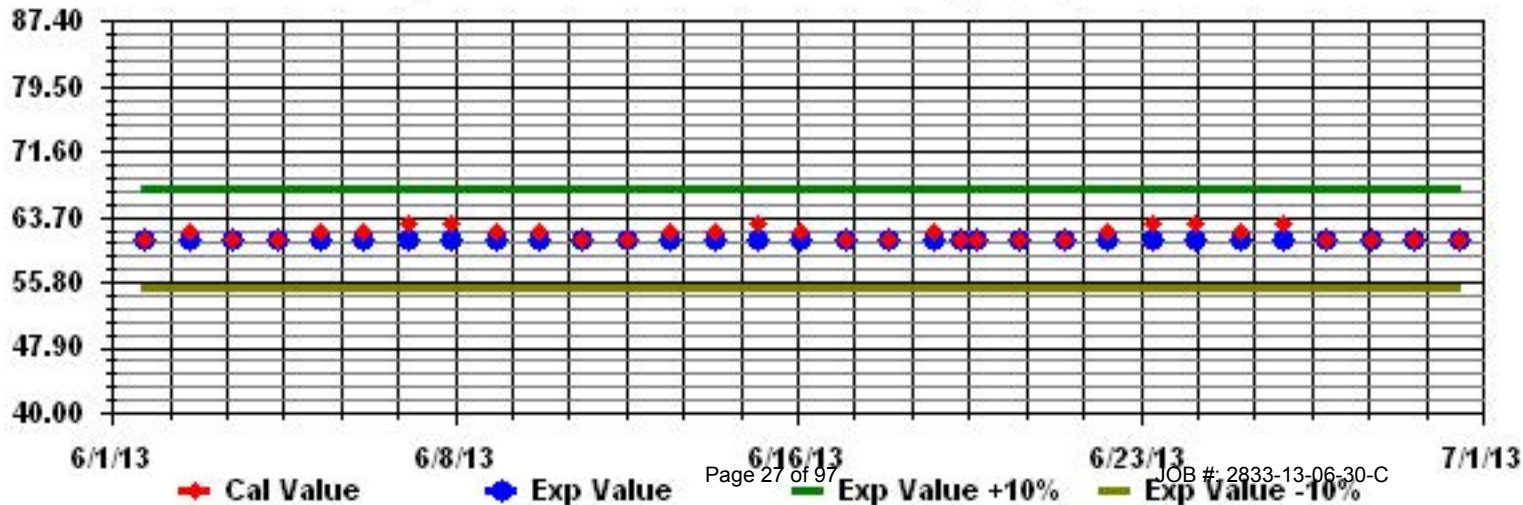
Calm : .00 %

Total # Operational Hours : 685

Class Limits (PPB)



Calibration Graph for Site: LICA30 Parameter: H2S\_ Sequence: H2S Phase: SPAll



# Total Hydrocarbons

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -MASKWA

JUNE 2013

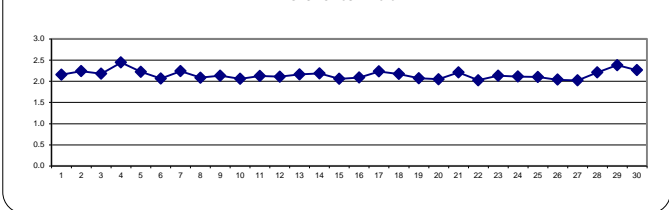
## TOTAL HYDROCARBONS hourly averages in ppm

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	23:00	DAILY	24-HOUR		
DAY	DAY	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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.		
1		2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.2	2.2	2.2	2.1	2.3	2.1	2.1	2.1	2.1	2.2	S	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.2	2.3	2.2	24
2		2.3	2.5	2.5	2.4	2.5	2.5	2.4	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	S	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.5	2.2	24	
3		2.4	2.2	2.2	2.3	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	S	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.4	2.2	24	
4		2.6	2.9	3.7	3.9	2.8	2.8	2.7	2.4	2.2	2.2	2.2	2.2	2.2	2.2	S	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	3.9	2.4	2.4	24	
5		2.4	2.5	2.5	2.4	2.4	2.5	2.6	2.5	2.3	2.2	2.1	2.1	2.1	S	2.1	2.1	2	2	2	2.1	2.1	2.1	2	2	2.6	2.2	2.4	24	
6		2	2	2.1	2.2	2.2	2.1	2	2	2	2.1	2.1	2.1	S	2.1	2.1	2	2	2	2	2	2	2	2.1	2.1	2.2	2.2	2.1	24	
7		2.3	2.5	2.5	2.5	2.5	2.4	2.4	2.6	2.4	2.4	2.3	S	2.3	2	2	2	2	2	2	2	2	2	2.1	2.1	2.1	2.6	2.2	24	
8		2.2	2.1	2	2	2	2	2.1	2.3	2.1	2	S	2	2.1	2.2	2	2	2	2	2	2.1	2.1	2.1	2.2	2.3	2.1	2.3	2.1	24	
9		2.3	2.4	2.4	2.3	2.3	2.2	2.2	2.1	2.1	S	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2	2	2.4	2.1	24	
10		2	2	2	2	2	2.1	2.1	2	S	2	2	2	2	2	2	2	2.1	2.2	2.1	2.3	2.2	2	2.1	2.2	2.3	2.1	2.1	24	
11		2.2	2.3	2.2	2.3	2.3	2.1	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	2.1	2.1	2.1	2.1	2.2	2.3	2.1	24
12		2.1	2.1	2.1	2.1	2.1	2.1	S	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	24
13		2.1	2.1	2.1	2.2	2.2	S	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.2	2.3	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.1	2.1	2.1	2.1	2.3	2.2	24
14		2.3	2.3	2.3	2.4	S	2.9	2.8	2.4	2.2	2	2	2	2.1	2	2	2	2	2	2	2	2	2.1	2.1	2	2.4	2.9	2.2	2.4	24
15		2.4	2.4	2.2	S	2.2	2.1	2.1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.4	2.1	2.4	24
16		2.1	2	S	2.1	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.1	2.1	2.4	24
17		2.4	S	2.5	2.6	2.7	2.7	2.7	2.4	2.1	2.1	2.1	2.1	2.1	2	2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.7	2.2	24
18		S	2.2	2.1	2.2	2.3	2.4	2.3	2.3	2.1	2.1	2.1	2	2	2.1	2.2	2	2.3	2.1	2.1	2.1	2.2	2.1	2.1	S	2.4	2.2	2.4	24	
19		2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2	2	2.2	C	C	C	C	C	C	2	2	2	2	S	2.1	2.2	2.1	24	
20		2.1	2.1	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2	2.1	2	2.1	2.1	2	2	2	2	2	S	2.1	2.1	2.1	2.0	24	
21		2.3	2.5	2.6	2.9	2.8	2.5	2.2	2.1	2	2	2.1	2.1	2.1	2.1	2.1	2.1	2	2	2	2.2	S	2	2.1	2	2.9	2.2	2.4	24	
22		2	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	S	2	2	2.1	2.1	2.1	2.0	24	
23		2.5	2.7	2.5	2.4	2.3	2.4	2.3	2.1	2	2	2	1.9	1.9	1.9	1.9	1.9	2	2	2.1	S	2	2	2	2.1	2.1	2.7	2.1	24	
24		2.2	2.3	2.4	2.4	2.4	2.2	2.2	2.1	2.1	2	1.9	2	2	2	2	2	2	2	S	2	2	2	2.1	2.1	2.2	2.4	2.1	24	
25		2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.2	2.2	2	2	2	1.9	S	1.9	1.9	2	2.1	2.1	2.2	2.2	2.2	2.1	2.4	24	
26		2.3	2.1	2	2	2.1	2	2	2.1	2.1	2.1	2.2	2	2	2	2	S	2	2	2	2	2	2	2	2	2	2.3	2.0	24	
27		2	2	2	2	2	2	2	2.1	2	2.1	2	2	2	2	S	2	2	2	2	2	2	2	2	2.1	2.2	2.2	2.0	24	
28		2.2	2.3	2.5	2.4	2.4	2.4	2.3	3.2	2	2.1	2.1	2.1	2.1	S	2	2	2	2	2	2.1	2.1	2.1	2.2	2.3	3.2	2.2	2.4	24	
29		2.3	2.4	2.5	2.8	2.9	3	2.9	2.3	2.3	2.4	2.4	2.4	S	2.2	2.3	2.3	2.2	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	3.0	2.4	24	
30		2.2	2.2	2.2	2.4	2.4	2.3	2.3	2.4	2.3	2.2	2.3	S	2.3	2.3	2.2	2.2	2.1	2.1	2.2	2.3	2.3	2.3	2.3	2.3	2.4	2.3	2.4	24	
HOURLY MAX		2.6	2.9	3.7	3.9	2.9	3.0	2.9	3.2	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.3	2.3	2.3	2.3	2.4	2.4	2.3	2.4	24	
HOURLY AVG		2.2	2.3	2.3	2.3	2.3	2.3	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	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	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

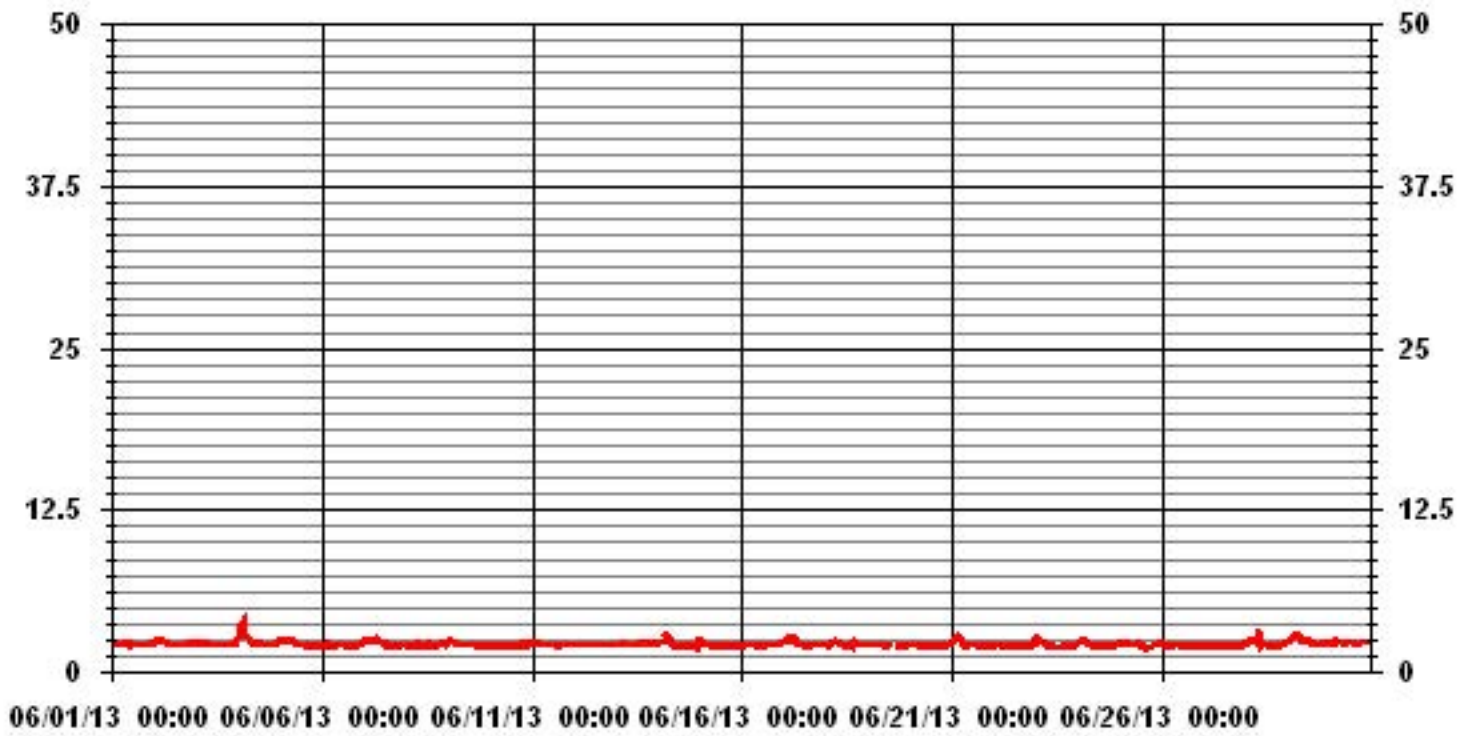
24 AVERAGES FOR JUNE 2013



**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	684		
MAXIMUM 1-HR AVERAGE:	3.9 PPM	@ HOUR(S)	3 ON DAY(S)
MAXIMUM 24-HR AVERAGE:	2.4 PPM		4 ON DAY(S)
			VAR- VARIOUS
IZS CALIBRATION TIME:	31 HRS	OPERATIONAL TIME:	720 HRS
MONTHLY CALIBRATION TIME:	5 HRS	AMD OPERATION UPTIME:	100.0 %
STANDARD DEVIATION:	0.20	MONTHLY AVERAGE:	2.15 PPM

### 01 Hour Averages



— LICA30 THC PPM

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2013

## TOTAL HYDROCARBONS MAX      instantaneous maximum in ppm

MST																										DAILY		24-HOUR	
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	MAX.	AVG.	RDGS.		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00					
DAY																													
1	2.3	2.3	2.2	2.3	2.3	2.1	2.1	2.3	2.6	2.7	2.2	2.5	2.2	2.1	2.3	2.2	2.4	S	2.1	2.1	2.1	2.2	2.2	2.3	2.7	2.3	24		
2	2.5	2.6	2.6	2.7	2.6	2.6	2.6	2.4	2.3	2.3	2.3	2.2	2.2	2.1	2.2	2.2	S	2.3	2.1	2.4	2.4	2.4	2.3	2.6	2.7	2.4	24		
3	2.7	2.4	2.4	2.4	2.4	2.5	2.3	2.4	2.4	2.2	2.2	2.2	2.2	2.2	2.2	S	2.1	2.1	2.1	2.1	2.1	2.3	2.3	2.4	2.7	2.3	24		
4	2.9	3.1	4.5	4.5	3.2	3.1	3	2.7	2.6	2.2	2.3	2.3	2.2	S	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.4	2.4	4.5	2.6	24			
5	2.4	2.5	2.5	2.5	2.5	2.5	2.6	2.6	2.4	2.2	2.2	2.2	2.1	S	2.1	2.1	2.1	2	2.1	2.3	2.3	2.3	2	2	2.6	2.3	24		
6	2.1	2.1	2.2	2.2	2.2	2.2	2.1	2.2	2.2	2.6	2.5	2.2	S	2.4	2.3	2.2	2.2	2.2	2	2	2.1	2.1	2.1	2.2	2.6	2.2	24		
7	2.4	3.4	2.8	2.6	2.5	2.6	2.7	2.7	2.9	2.7	2.4	S	2.4	2	2	2	2.2	2.2	2	2	2.1	2.2	2.2	2.2	3.4	2.4	24		
8	2.2	2.2	2	2	2	2.1	2.4	2.6	2.6	2.1	S	2.3	2.4	2.7	2.2	2.2	2.3	2.3	2.2	2.2	2.4	2.5	2.5	2.5	2.7	2.3	24		
9	2.5	2.5	2.5	2.5	2.5	2.5	2.3	2.4	2.4	S	2.5	2.4	2.3	2.3	2.3	2.3	2.2	2	2	2	2	2	2	2	2.5	2.3	24		
10	2	2	2	2	2	2.3	2.5	2.1	S	2.1	2.1	2	2	2	2	2.2	2.3	2.4	2.3	2.7	2.5	2.1	2.4	2.5	2.7	2.2	24		
11	2.6	2.5	2.3	2.5	2.7	2.3	2.3	S	2.1	2.1	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	2.7	2.2	24	
12	2.1	2.1	2.1	2.1	2.1	2.1	S	2.7	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.3	2.2	2.1	2.5	2.3	2.1	2.1	2.2	2.7	2.2	24		
13	2.3	2.1	2.1	2.2	2.3	S	2.2	2.1	2.1	2.2	2.2	2.1	2.2	2.4	2.4	2.4	2.2	2.2	2.3	2.3	2.6	2.5	2.2	2.2	2.6	2.3	24		
14	2.4	2.4	2.4	2.5	S	3	3	2.9	2.3	2.1	2.1	2	2.3	2.2	2.3	2.3	2	2.1	2.1	2	2.5	2.4	2.1	2.6	3	2.3	24		
15	2.5	2.5	2.4	S	2.3	2.3	2.2	2.3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.1	2.1	2.5	2.1	24	
16	2.1	2.1	S	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.4	2.4	2.1	24		
17	2.4	S	2.7	2.7	2.7	2.7	2.6	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.7	2.3	24		
18	S	2.5	2.2	2.5	2.4	2.4	2.4	2.3	2.9	2.4	2.3	2.1	2.1	2.2	2.7	2.1	3	2.5	2.3	2.2	3.9	2.1	2.1	S	3.9	2.4	24		
19	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	3.1	C	C	C	C	C	2.1	2.1	2	2.1	S	2.1	3.1	2.2	24		
20	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2	2	2	2.2	2.1	2.3	2.1	2.2	2.6	2.1	2.1	2.1	2.1	2.1	2.1	S	2.1	2.2	2.6	2.1	24	
21	2.3	2.7	2.7	3	3	2.6	2.3	2.1	2.1	2.1	2.2	2.2	2.3	2.4	2.2	2.3	2.1	2.1	2.2	2.4	S	2.2	2.2	2.1	3	2.3	24		
22	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.4	2.2	2.2	2.1	2	2	2.1	2	2	2.2	2.1	2	S	2	2	2.1	2.2	2.4	2.1	24		
23	3.6	3.1	2.6	2.5	2.4	2.4	2.5	2.2	2.1	2	2	1.9	2	2.2	1.9	2.1	2.1	2.3	S	2.1	2	2	2.2	2.2	3.6	2.3	24		
24	2.3	2.3	2.7	2.6	2.5	2.4	2.6	2.4	2.1	2.1	2	2	2	2	2	2	S	2	2	2	2	2.1	2.1	2.2	2.7	2.2	24		
25	2.3	2.2	2.3	2.3	2.3	2.2	2.3	2.1	2.3	2.4	2.6	2.4	2.2	2	2.3	2	S	2	2	2	2.6	2.6	2.7	2.6	2.7	2.3	24		
26	2.8	2.4	2.3	2	2.6	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2	2	2	S	2	2	2	2	2	2	2	2	2.8	2.1	24		
27	2	2	2	2.1	2	2	2.2	2.3	2.2	2.2	2.2	2.1	2.2	2.1	S	2.2	2.1	2.2	2	2	2	2.1	2.1	2.4	2.4	2.1	24		
28	2.3	2.5	2.6	2.6	2.4	2.5	3.2	4.7	2.1	2.2	2.2	2.3	2.3	S	2.1	2.2	2.2	2	2.1	2.1	2.2	2.2	2.3	2.3	4.7	2.4	24		
29	2.4	2.6	2.8	3.2	3.9	3.3	3.1	2.5	2.3	2.5	2.5	2.5	S	2.3	2.4	2.3	2.3	2.2	2.1	2.3	2.2	2.2	2.2	2.2	3.9	2.5	24		
30	2.2	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.5	S	2.3	2.3	2.3	2.2	2.1	2.2	2.2	2.3	2.3	2.4	2.4	2.4	2.5	2.3	24		
HOURLY MAX	3.6	3.4	4.5	4.5	3.9	3.3	3.2	4.7	2.9	2.7	2.6	2.5	3.1	2.7	2.7	2.6	3.0	2.5	2.3	2.7	3.9	2.6	2.7	2.6					
HOURLY AVG	2.4	2.4	2.4	2.5	2.4	2.4	2.4	2.4	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.2	2.3	2.2	2.3					

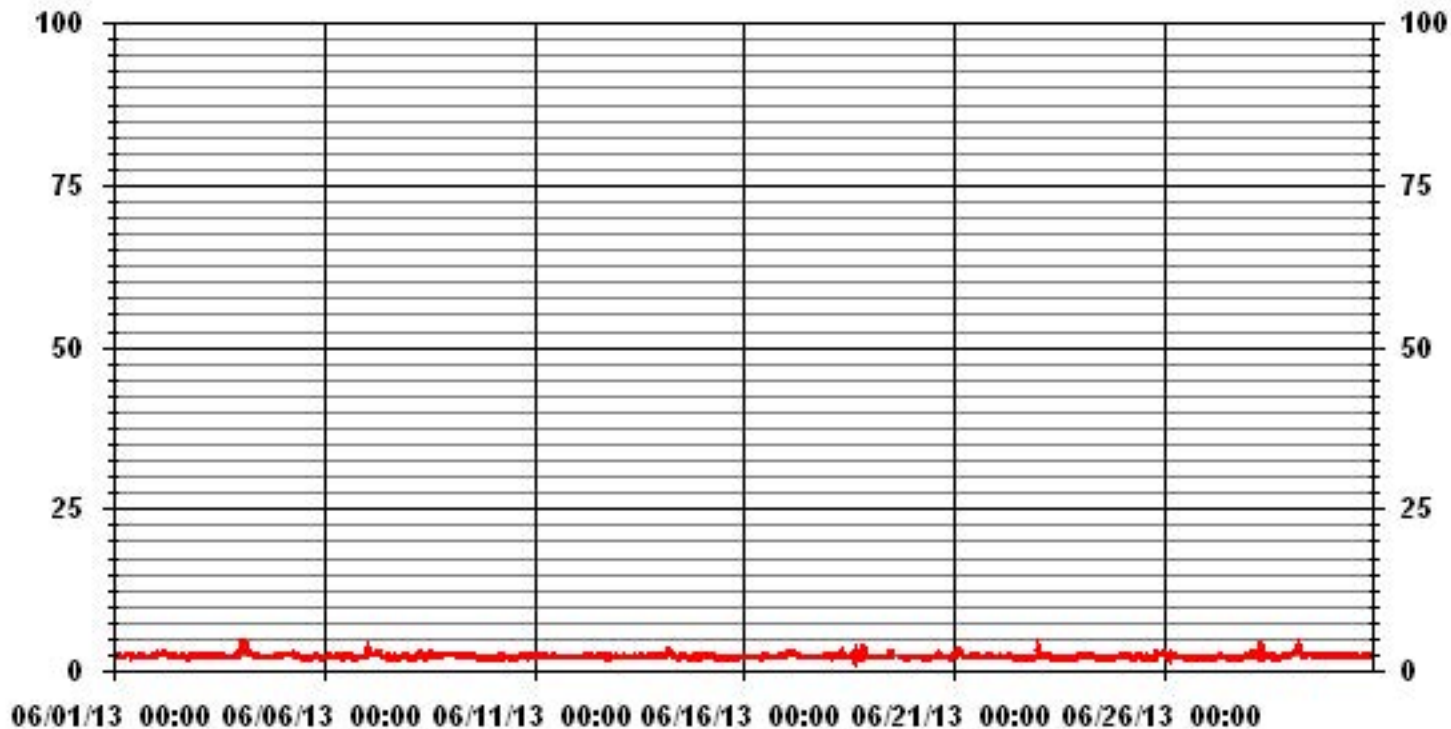
**STATUS FLAG CODES**

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:	684					
MAXIMUM INSTANTANEOUS VALUE:	4.7	PPM	@ HOUR(S)	7	ON DAY(S)	28
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720 HRS		
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION:	0.30					

### 01 Hour Averages





LICA30  
 THC / WDR Joint Frequency Distribution (Percent)

June 2013

Distribution By % Of Samples

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

Wind Parameter : WDR  
 Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 3.0	2.19	3.50	10.08	8.18	5.70	5.84	6.57	6.43	7.01	11.98	5.11	3.94	6.87	9.64	4.23	2.04	99.41
< 10.0	.00	.00	.00	.00	.14	.00	.14	.00	.14	.00	.00	.00	.00	.14	.00	.00	.58
< 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	2.19	3.50	10.08	8.18	5.84	5.84	6.72	6.43	7.16	11.98	5.11	3.94	6.87	9.79	4.23	2.04	

Calm : .00 %

Total # Operational Hours : 684

Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 3.0	15	24	69	56	39	40	45	44	48	82	35	27	47	66	29	14	680
< 10.0					1		1		1					1			4
< 50.0																	
>= 50.0																	
Totals	15	24	69	56	40	40	46	44	49	82	35	27	47	67	29	14	

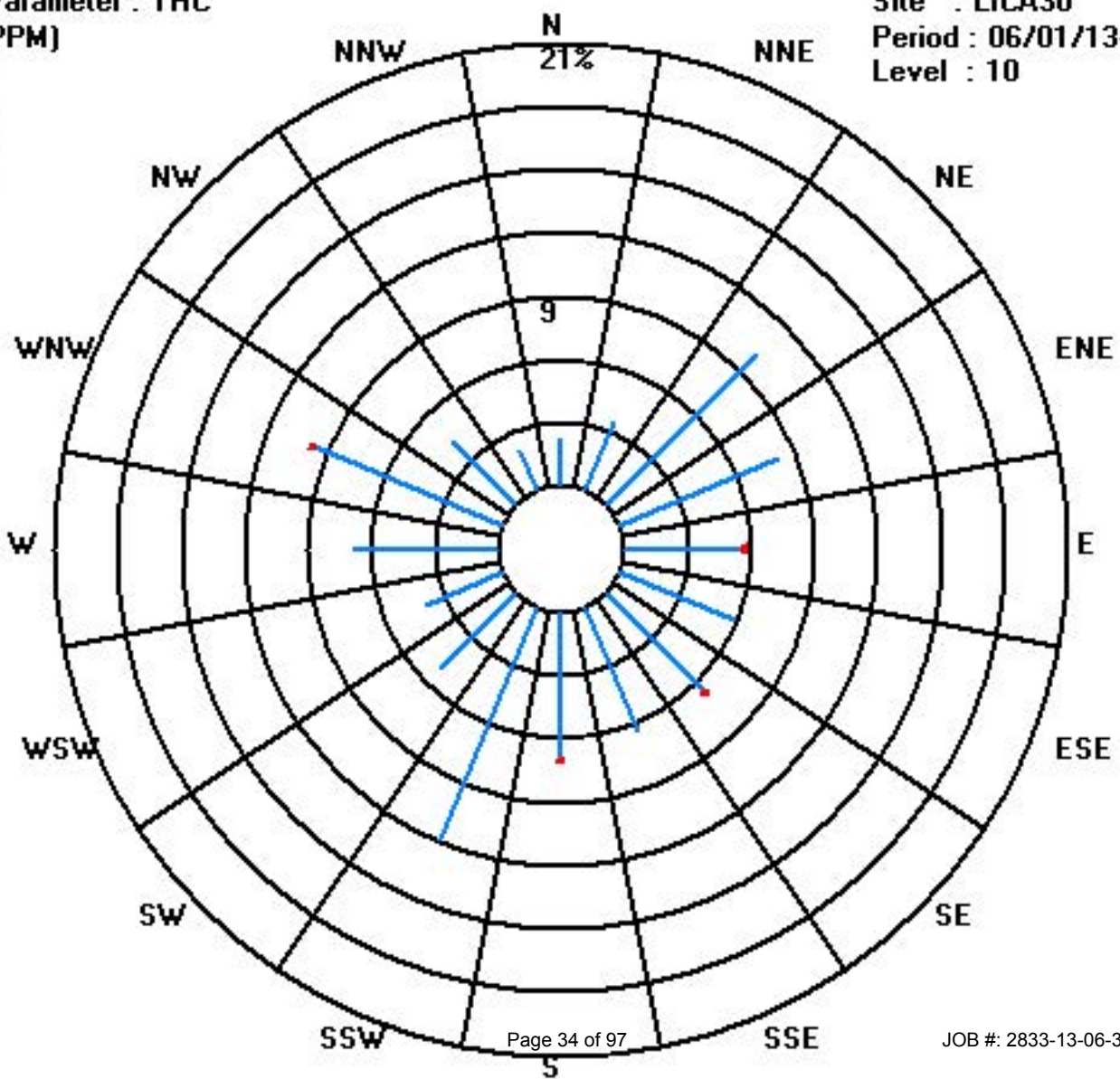
Calm : .00 %

Total # Operational Hours : 684

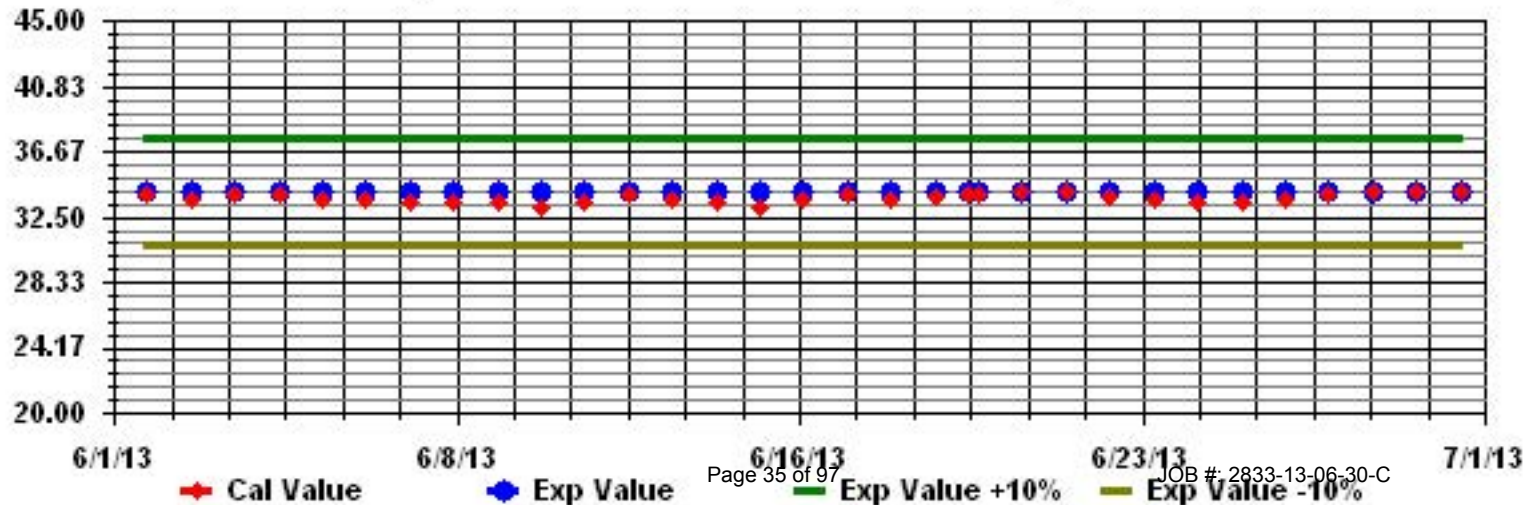
Class Limits (PPM)

Period : 06/01/13-06/30/13

Level : 10



Calibration Graph for Site: LICA30 Parameter: THC Sequence: THC Phase: SPAN



# Nitrogen Dioxide

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2013

## NITROGEN DIOXIDE hourly averages in ppb

MST

DAY	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY MAX.	24-HOUR AVG.	RDGS.
1	0.6	0.4	0.9	0.5	0.6	0	0	3.2	3.2	6.2	1	1.5	1.5	0.9	6.2	3.6	10.3	S	3.9	1.5	1.1	1.1	1	1	10.3	2.2	24
2	1.3	1.5	2	1.3	1.1	1.9	4.4	3.4	2.9	2.3	3.6	3.1	2.7	2	2.5	2	S	3.9	1.1	3.3	9.2	4	1.4	1.1	9.2	2.7	24
3	1.4	1	0.6	0.5	0.2	0.4	0.6	1.7	3.2	4.7	2.4	2.8	2.8	2.3	2.4	S	1.1	0.6	0.6	0.5	0.7	1	1	0.9	4.7	1.5	24
4	1.1	1.5	1.4	1.3	1.2	1.2	1.9	2.3	2	1.7	1.6	1.4	1	0.9	S	1.6	1.4	1.1	1.2	1.2	1.4	1.6	2.2	2.3	1.5	24	
5	2.9	3.2	3.1	2.7	2.8	2.9	3.6	3	2.3	1.7	1.5	1.2	1	S	1.1	1.2	1	0.9	1.1	9	6.3	13.1	3.8	1.3	13.1	3.1	24
6	1.5	1	2.7	2.7	2	1.5	1	1.4	1.7	2.1	2.4	2.6	S	1.9	0.5	0.6	0.3	0.2	0.2	0.1	0.2	1.6	1.3	2.6	2.7	1.4	24
7	3.4	4	4.8	5.9	4	3.5	3.2	3.8	2.6	3.5	2.1	S	2	1.2	1	0.9	1.5	2.4	1.8	1.1	1.6	1.2	2.3	0.7	5.9	2.5	24
8	0.6	1.5	0.8	0.6	0.5	1	1.4	6	2.9	0.5	S	1.1	1.1	1.7	1.1	3.3	1.2	1.9	6.7	4.5	5.8	10.1	6.8	7.3	10.1	3.0	24
9	8.4	8.1	5	6.2	10.3	9.6	9.5	7.1	6.2	S	5.8	2.3	2.5	2.2	1.7	3.8	3.3	0.8	0.9	0.7	0.8	0.7	1	0.7	10.3	4.2	24
10	0.8	0.7	0.7	0.8	1.2	6	5.3	2.6	S	4.5	2.2	2	1.3	1.2	2.1	3.9	4.4	5.5	5.1	7.7	5.2	0.8	2.5	6.3	7.7	3.2	24
11	8.7	8.4	6.5	6.2	7.8	9.1	5.6	S	1.5	2.3	4.3	4.4	3.1	1.4	1.5	1.3	2.6	0.2	0.4	0.3	0.2	0.3	0.3	0.5	9.1	3.3	24
12	0.9	1.2	0.6	0.5	0.6	0.5	S	3	1.8	0.6	2.2	0.9	0.9	0.8	0.7	1.1	2.1	0.8	0.6	2	3.6	1.3	1.3	5.5	5.5	1.5	24
13	2.1	1.4	1	1	1.2	S	2.6	2.3	2.4	3.9	5.3	2.8	2.3	1.8	3.3	4.7	4.1	2.3	2.1	1.9	1.6	0.9	0.5	0.7	5.3	2.3	24
14	1.1	1	0.8	1.8	S	4.6	6.6	7.5	8.6	2.1	4.1	3.4	3.7	3	1.2	0.9	0.9	1.1	0.9	3.5	8.1	7.1	7.1	20.1	20.1	4.3	24
15	15.6	10.2	19	S	18.6	19.1	18	13.9	7.6	6	3.9	6.6	6	6.7	1.8	1	0.7	0.5	0.8	0.7	0.4	0.6	0.5	0.4	19.1	6.9	24
16	0.4	0.6	S	0.7	0.5	0.7	0.9	1.2	1.3	0.9	0.5	0.5	1.2	2	0.7	1.1	0.7	0.8	1.2	1.2	1.1	1.5	1.2	1.7	2.0	1.0	24
17	1.9	S	2.2	4.2	5.1	4.2	3.5	3.8	3.1	1.7	1.2	1	1.3	1.2	1.2	1.1	1	1	0.8	1.1	1.2	0.9	0.9	0.6	5.1	1.9	24
18	S	1	0.8	1.3	2.7	2.8	2.6	3	4.2	3.8	3.3	0.9	0.7	2.1	3.5	0.6	2.2	1	0.5	0.6	1.5	0.5	0.6	S	4.2	1.8	24
19	0.4	0.3	0.3	0.3	0.1	0.3	0.3	0.3	0.1	0.2	0.3	C	C	C	C	C	C	C	0.3	0.3	0.2	0.3	S	0.3	0.4	0.3	24
20	0.3	0.3	0.2	0.3	0.4	0.4	0.2	0.2	0	0	0	0	0.8	0	0.3	1.8	0	0.8	0.5	0.6	0.1	S	0.1	0.3	1.8	0.3	24
21	0.3	0.3	0.2	0.2	0.2	1.2	0.8	0.1	0.1	0	0.2	0.9	0.6	1.2	1.4	2.5	1	0.9	1.8	8.7	S	1	1.1	0.3	8.7	1.1	24
22	0.6	0.5	0.5	1.6	0.5	0.4	0.2	0.3	1.4	0.7	1.4	1.2	0.6	3.1	1.5	0.3	2.1	1.5	0.3	S	0.8	1.2	1	0.8	3.1	1.0	24
23	0.6	0.5	0.4	0.6	1.4	1	1	1	0.8	1.2	0.3	0.1	0.7	2.1	0.2	0.3	2.9	2.2	S	2	2	2.1	1.6	1.7	2.9	1.2	24
24	3.2	3.7	4.4	3.4	3.3	2.8	7	7.9	8.9	4.8	1.3	0.8	0.9	0.3	0.4	0.6	0.6	S	0.5	0.7	1.1	1	1	0.8	8.9	2.6	24
25	0.5	0.9	0.8	0.6	0.8	0.7	0.9	0.5	0.9	1.8	4.3	5.2	1.6	1.4	2.1	0	S	0.1	0.1	0.2	2.5	4.1	6.7	5	6.7	1.8	24
26	11.6	8.5	3.1	0.2	0.6	0.5	0.8	1.4	1.8	1.5	1.9	1.2	1.1	1	1.5	S	0.4	0.4	0.3	0.4	0.2	0.4	0.4	0.6	11.6	1.7	24
27	0.4	0.3	0.3	0.5	0.3	0.7	1.5	5.2	2.7	6.5	3.2	0	0.1	0.7	S	0.6	0	0	0	0	0.1	0.4	0.2	2.1	6.5	1.1	24
28	3.7	3	1.8	1.9	3	5	5.1	9.7	0.9	0.4	1.6	1.6	1.8	S	0.7	0.4	0.2	0.1	0.2	0.2	0.2	0.6	1.4	1.8	9.7	2.0	24
29	2.3	2.2	1.8	1.1	1.4	4.2	2.7	2.3	1.6	1.7	1.1	1.3	S	0.7	0.8	0.6	0.7	0.3	0.5	4.8	0.8	0.9	0.6	0.8	4.8	1.5	24
30	1.1	0.9	1	2.7	2.1	3.6	1.7	1.7	2.8	0.8	1.5	S	1.2	0.9	0.7	0.5	0.3	0.4	0.4	0.5	0.5	0.6	0.9	2	3.6	1.3	24
HOURLY MAX	15.6	10.2	19.0	6.2	18.6	19.1	18.0	13.9	8.9	6.5	5.8	6.6	6.0	6.7	6.2	4.7	10.3	5.5	6.7	9.0	9.2	13.1	7.1	20.1			
HOURLY AVG	2.7	2.3	2.3	1.8	2.6	3.1	3.2	3.4	2.7	2.3	2.2	1.9	1.6	1.7	1.6	1.5	1.7	1.2	1.2	2.0	2.0	2.1	1.7	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

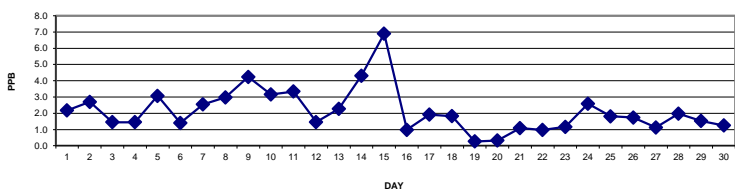
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT: 1-HR 159 PPB

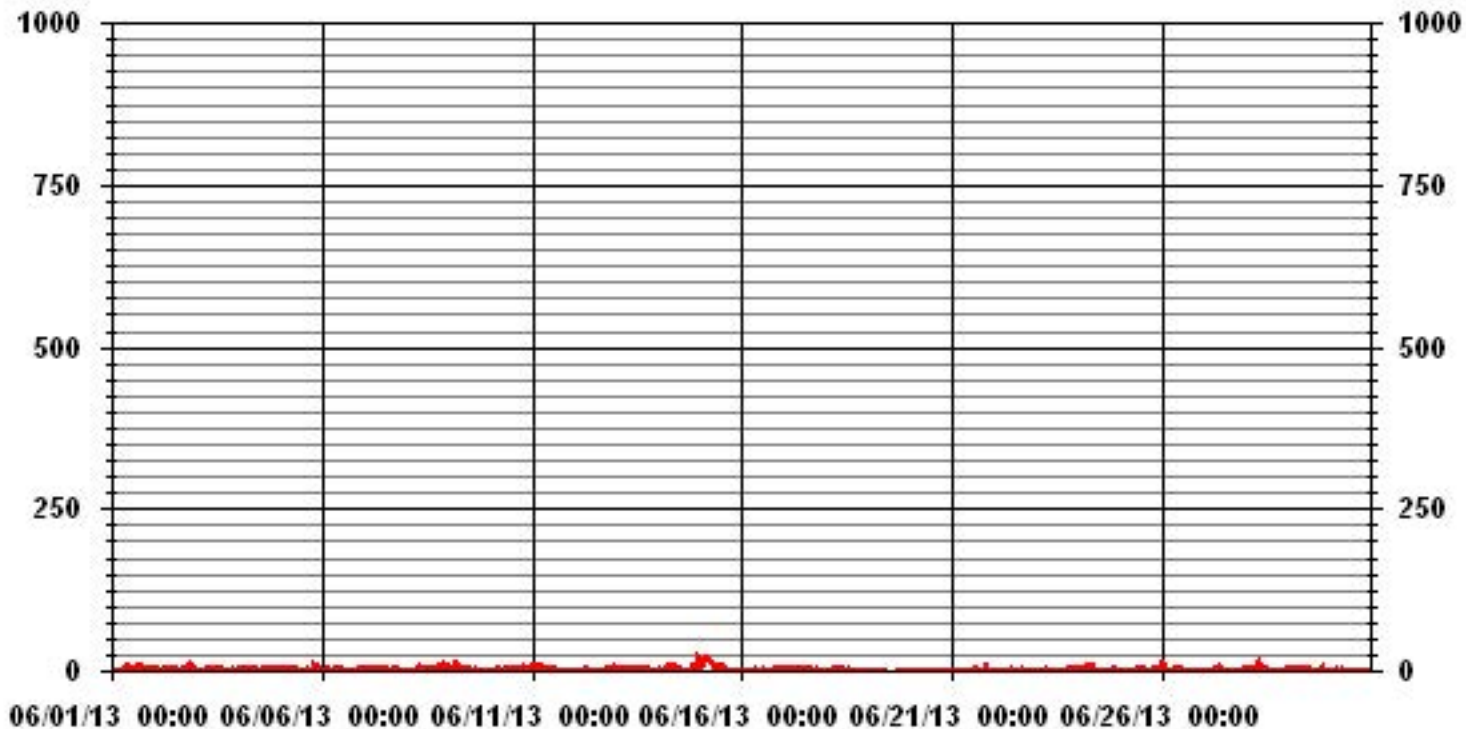
### MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	667					
MAXIMUM 1-HR AVERAGE:	20.1	PPB	@ HOUR(S)	23	ON DAY(S)	14
MAXIMUM 24-HR AVERAGE:	6.9	PPB			ON DAY(S)	15
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	2.64		MONTHLY AVERAGE:	2.15	PPB	

24 HOUR AVERAGES FOR JUNE 2013



### 01 Hour Averages



# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2013

## 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	1	1.4	1.2	1.5	0.6	0.6	9.7	7.5	13.4	2.4	3.3	5.6	1.7	12.7	10.7	11.9	S	5.9	2.2	1.8	1.4	1.4	1.3	13.4	4.4	24	
2	2	2	2.7	2.1	2	6	6.3	4.7	5.1	5	5.9	4.9	5.3	4	6.4	4.2	S	8.1	2.5	17.6	20.1	11.6	5.1	2.2	20.1	5.9	24	
3	2	1.8	1.2	1.2	1.2	1.4	1.4	4.8	6.8	7.1	3.9	5.3	4.8	4.7	4.8	S	2.2	0.9	0.8	0.8	1.3	1.3	1.3	1.5	7.1	2.7	24	
4	2	2.1	2.4	2.4	2.1	1.9	2.9	4.6	4.3	2.3	2.4	1.7	1.8	1.3	S	2	1.4	1.3	1.3	1.3	1.3	1.6	1.9	2.6	4.6	2.1	24	
5	3.2	3.5	3.6	3.4	3.6	3.8	4.9	3.8	3	3.1	2.6	1.5	1.3	S	1.2	2.2	1.5	1.2	1.5	25.9	14.3	23.4	8.2	1.7	25.9	5.3	24	
6	2.3	1.6	4.4	3.2	2.2	2	1.7	2.1	4	3.6	9.2	8.6	S	5.8	1.4	1.4	0.7	0.6	0.6	0.5	1.2	2.4	1.8	3.2	9.2	2.8	24	
7	4.2	4.6	5.3	6.7	5.2	5.6	5.3	5.2	3.5	5	2.3	S	2	1	1.4	1	2.6	4.5	4.5	1.2	2	1.5	5	1.4	6.7	3.5	24	
8	1	2.2	1.1	0.9	0.8	1.6	4	9.5	8.5	1.2	S	1	1.5	2.8	1.3	8.2	2.5	8.1	9.6	7.7	11.1	18.4	12.8	12.1	18.4	5.6	24	
9	13.7	13.4	7.6	7.3	14.3	13.4	11.3	9.5	9.9	S	7.8	6.4	5.6	2.9	3	7.5	5	0.4	0.4	0.5	0.5	0.5	6	0.6	14.3	6.4	24	
10	0.5	0.6	0.4	0.6	1.5	8	13.1	6.1	S	6.3	2.5	1.8	0.7	0.4	0.9	7.7	6.2	6.3	7.3	9.9	10.5	0.3	9.1	10.6	13.1	4.8	24	
11	8.2	10.8	7.4	6	8.9	9.8	8	S	2.5	4.6	6.8	7.4	5.5	1	3.4	0.8	4.5	0	-0.2	-0.1	-0.1	0	0	0.1	10.8	4.1	24	
12	0.7	1.2	0.5	0.4	0.4	0.3	S	5.2	3.8	0.7	3.5	1.1	1.5	1.1	0.8	2.6	7.8	6.6	0.9	9.3	11.8	1.6	2.9	7.4	11.8	3.1	24	
13	2.7	1.5	1.2	1.6	1.3	S	3.8	1.9	2.4	4.6	5.3	3.8	4.2	2.2	4.2	6.8	5.2	3	2.2	2.4	1.6	1.3	0.6	0.8	6.8	2.8	24	
14	1.6	1.1	0.9	2.2	S	4.9	8.3	7.9	10.7	5.3	7	4.7	10	6.4	3.4	2.6	2	1.4	2.9	12.2	12.7	19.1	19.5	24.5	24.5	7.4	24	
15	25	18.5	22.5	S	22.8	22.8	21	18.5	14.3	10.1	7	9	11.7	10.6	4.1	1.4	1.2	0.8	1	1.1	0.9	1.1	0.8	0.4	25	9.9	24	
16	0.7	0.7	S	0.5	0.5	0.6	0.7	1.4	1	1	0.7	0.4	2.7	3.8	0.7	2.2	0.9	1	1.2	1.1	1.3	1.5	1.3	1.8	3.8	1.2	24	
17	2.1	S	4	4.8	6.1	4.7	3.8	5.2	4.9	2	1.4	1.3	1.3	1.5	1.8	1.5	1.1	1.2	0.9	1.7	1.3	1.1	1.1	1	6.1	2.4	24	
18	S	0.9	1	2	3	3.3	3	3	7.2	6	5.4	1	0.8	4	8.7	0.9	4.2	1.5	0.7	0.8	7.5	0.7	0.8	S	8.7	3.0	24	
19	0.5	0.5	0.7	0.5	0.5	0.5	0.4	0.6	0.7	0.5	0.5	C	C	C	C	C	C	C	0.5	0.5	0.5	0.8	S	0.4	0.8	0.5	24	
20	0.6	0.6	0.5	0.5	0.7	0.6	0.7	0.4	0.3	0.2	0.3	0.5	4.1	2.4	1.9	5.5	0.6	2.3	1.3	1.4	0.6	S	0.8	1.5	5.5	1.2	24	
21	1.3	1	1	1.1	1	2.5	1.9	0.8	0.7	0.7	1.5	3.6	2.3	4.4	2.8	6.1	4.6	3.1	5.3	14.5	S	7.4	6	1.2	14.5	3.3	24	
22	1.4	1.1	1.6	4.6	0.8	0.7	0.4	1.3	5.2	1.9	2.7	2.1	3.1	4.2	2.3	1.4	5.5	4.1	3.1	S	1.3	2.3	1.7	1.5	5.5	2.4	24	
23	1.3	1.3	1.3	1.9	2.6	1.9	2.1	2	1.6	2.3	1.3	0.8	6.4	10.7	0.7	2.8	5.6	3.7	S	3.3	2.9	2.9	2.4	2.4	10.7	2.8	24	
24	4.3	4.7	8.4	7	5.8	5.7	12.5	12.4	10.2	9.9	2.9	2	2	1.1	1	1.9	1.2	S	0.9	1	1.5	1.5	1.6	1.5	12.5	4.4	24	
25	1.1	1.5	1.3	1.1	1.3	1.4	1.6	1.1	2.6	5.3	8.9	10.6	4.9	2.5	11	0.7	S	0.4	0.7	0.8	8.6	10	10.7	9.6	11	4.2	24	
26	14.6	13	4.6	1.2	2	1.2	1.2	2.4	2.4	1.7	2.5	1.9	2	2.2	2.4	S	1	1	1	0.9	1	1.5	1.1	1.3	14.6	2.8	24	
27	0.9	0.9	0.8	2.2	0.9	2.4	4.2	8.8	5.7	13.6	9.6	0.8	0.7	4.6	S	1.7	0.5	0.4	1.1	0.7	0.6	1.5	1.1	6.2	13.6	3.0	24	
28	5.3	4.8	2.4	2.6	4.1	7.8	11	15.5	1.6	1.5	4.4	4.1	7.1	S	2	1.1	1.5	0.6	1.5	0.6	0.7	1.2	2.6	2.9	15.5	3.8	24	
29	3.9	2.7	2.4	1.8	2.4	10.1	3.2	3.2	2.5	2.2	1.6	3	S	1.1	1.2	0.9	1.1	1	1.1	13	1.5	1.3	1	1.6	13	2.8	24	
30	1.5	1.3	3	3.8	2.5	9.5	2.4	2.9	4	1.5	3.5	S	1.3	1.1	0.9	1	0.7	1	0.8	1	1	1	1.4	7.7	9.5	2.4	24	
HOURLY MAX	25.0	18.5	22.5	7.3	22.8	22.8	21.0	18.5	14.3	13.6	9.6	10.6	11.7	10.7	12.7	10.7	11.9	8.1	9.6	25.9	20.1	23.4	19.5	24.5				
HOURLY AVG	3.8	3.5	3.3	2.6	3.5	4.7	4.9	5.3	4.7	4.2	4.0	3.4	3.7	3.3	3.2	3.2	3.1	2.4	2.1	4.6	4.2	4.1	3.8	3.8				

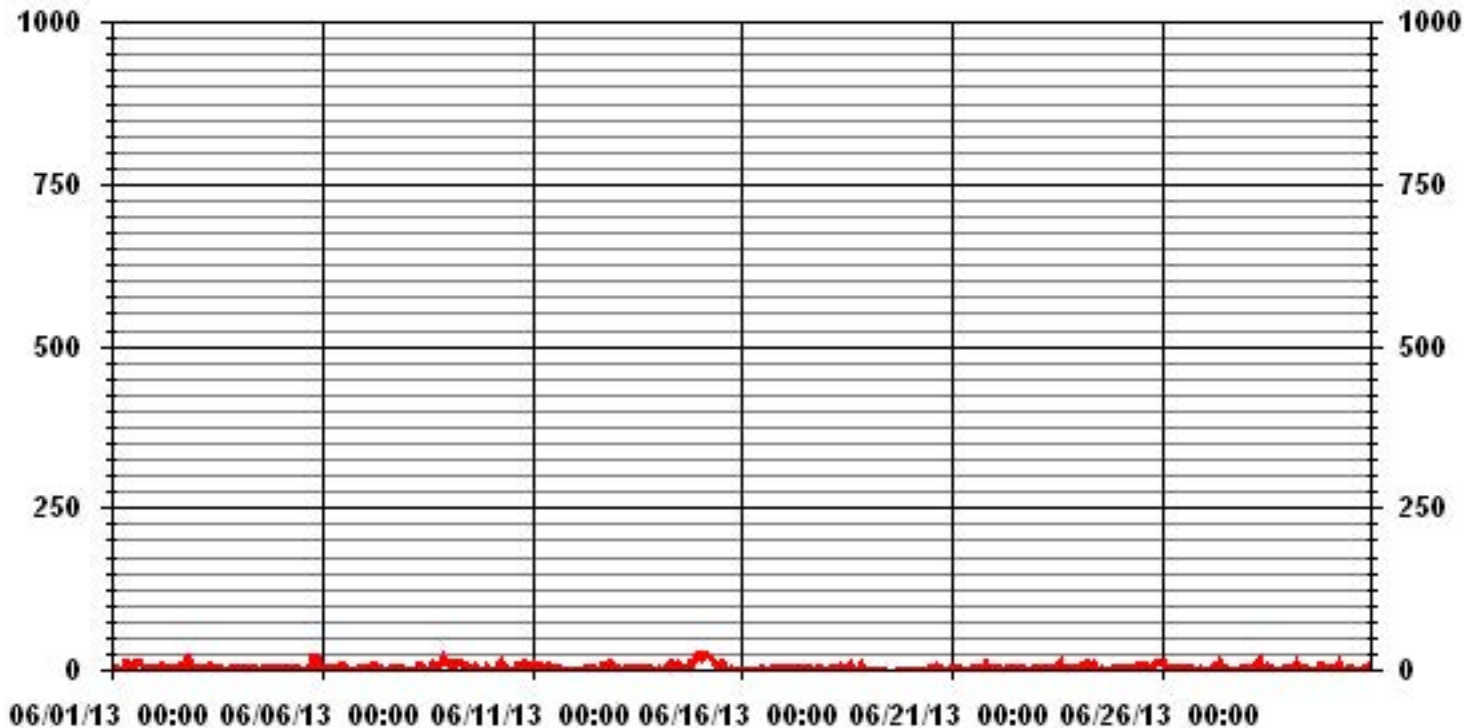
**STATUS FLAG CODES**

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:	676
MAXIMUM INSTANTANEOUS VALUE:	25.9 PPB @ HOUR(S) 19 ON DAY(S) 5
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	7 HRS
STANDARD DEVIATION:	4.17
OPERATIONAL TIME:	720 HRS

### 01 Hour Averages



— LICA30 NO2MAX PPB



LICA30  
 NO2\_ / WDR Joint Frequency Distribution (Percent)

June 2013

Distribution By % Of Samples

Logger Id : 30  
 Site Name : LICA30  
 Parameter : NO2\_  
 Units : PPB

Wind Parameter : WDR  
 Instrument Height : 10 Meters

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 50.0	2.19	3.51	10.11	8.06	5.71	5.86	6.74	6.45	7.18	12.02	5.13	3.95	6.89	9.82	4.25	2.05	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	2.19	3.51	10.11	8.06	5.71	5.86	6.74	6.45	7.18	12.02	5.13	3.95	6.89	9.82	4.25	2.05	

Calm : .00 %

Total # Operational Hours : 682

Distribution By Samples

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 50.0	15	24	69	55	39	40	46	44	49	82	35	27	47	67	29	14	682
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	15	24	69	55	39	40	46	44	49	82	35	27	47	67	29	14	

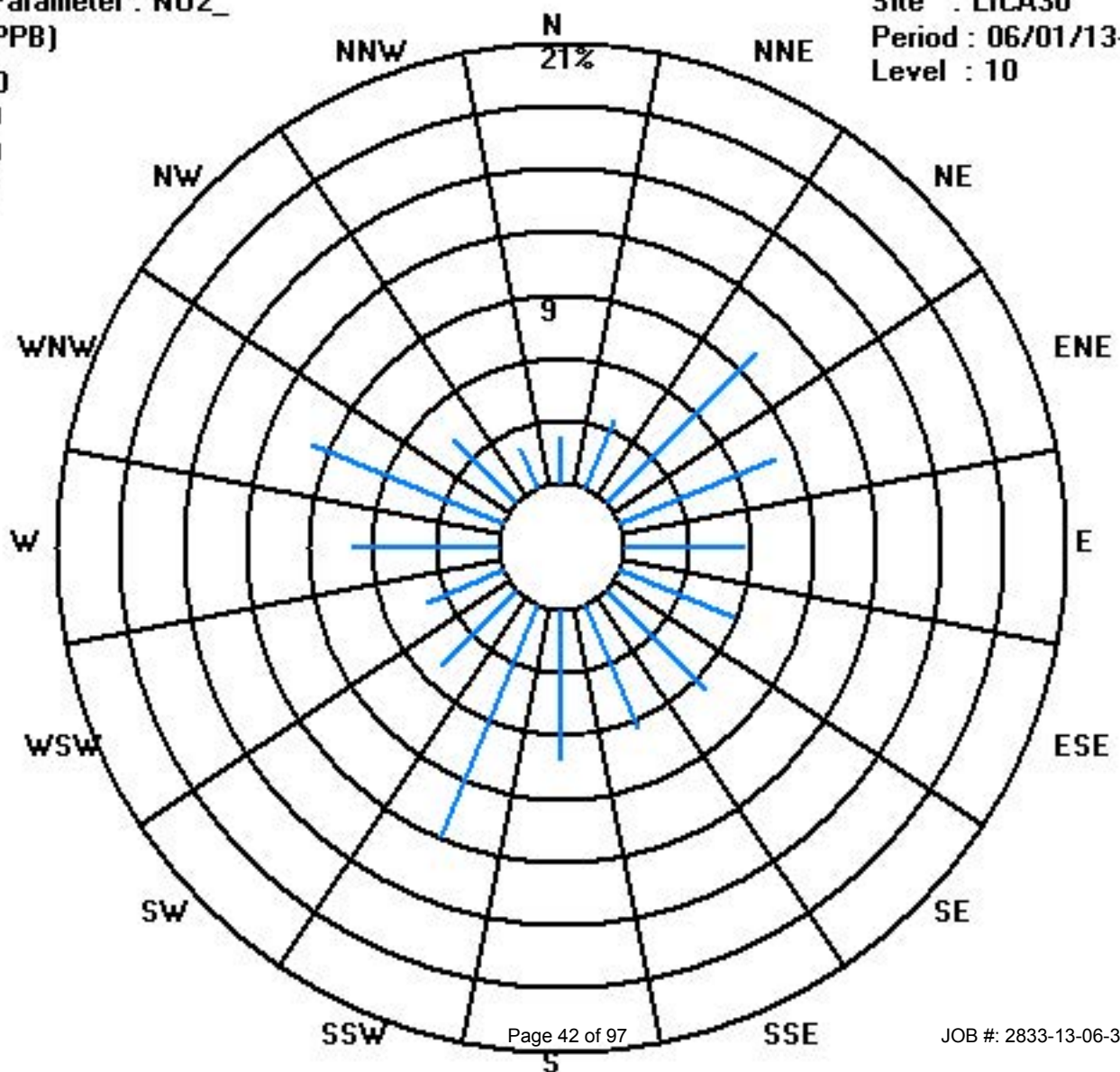
Calm : .00 %

Total # Operational Hours : 682

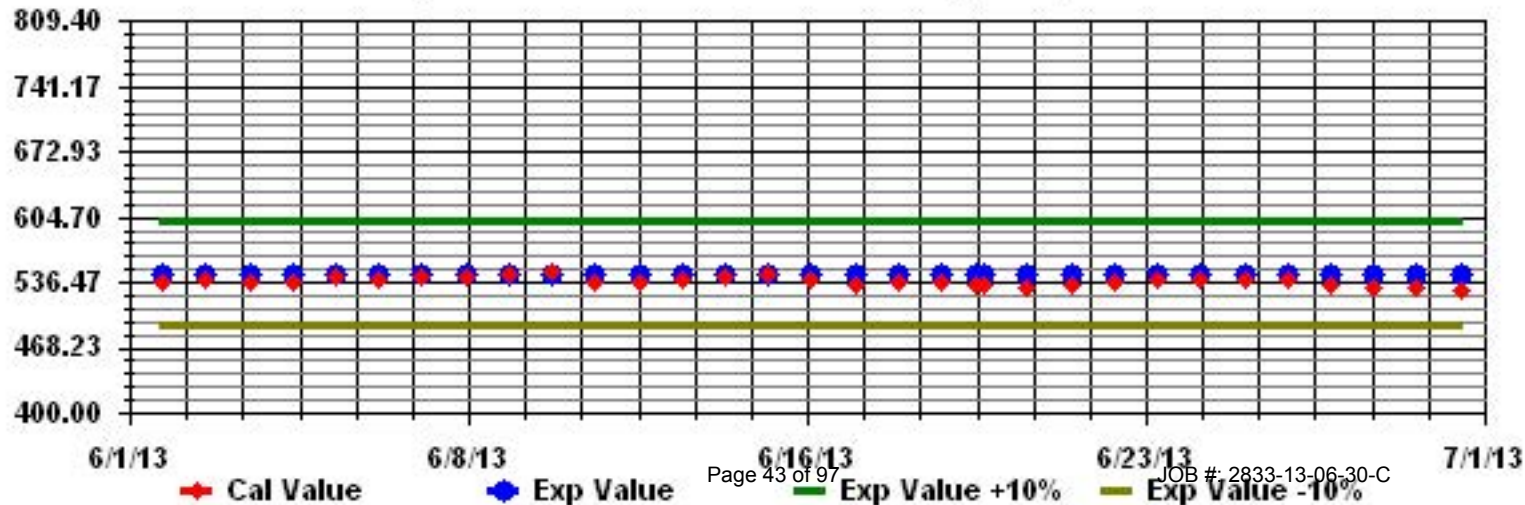
Class Limits (PPB)

Period : 06/01/13-06/30/13

Level : 10



Calibration Graph for Site: LICA30 Parameter: NO2\_ Sequence: NO2 Phase: SPAN



# Nitric Oxide

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2013

## NITRIC OXIDE hourly averages in ppb

MST

DAY	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	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			
1	0	0	0	0	0.1	0	0	1.1	1.6	2.6	0	0	0	0	1.5	0.5	1.4	S	0.1	0	0.1	0.1	0.2	0.2	2.6	0.4	24	
2	0.3	0.3	0.4	0.3	0.5	0.9	1.2	1.2	1	1.1	1.2	0.8	0.7	0.5	0.6	0.5	S	0.3	0	0	0	0	0	0	1.2	0.5	24	
3	0.2	0.3	0.4	0.7	0.9	0.7	0.8	0.9	1.2	1.1	0.2	0	0	0	0.1	S	0	0	0	0	0	0	0	0	1.2	0.3	24	
4	0	0.2	0.5	0.7	0.4	0.6	1.2	1	0.2	0	0	0	0	0	S	0.1	0	0.1	0	0	0	0	0.1	0.3	1.2	0.2	24	
5	0.2	0.2	0.3	0.5	0.7	1.1	1.5	1.2	0.8	0.2	0	0	0	S	0	0	0	0	0	0	0	1	0	0	1.5	0.3	24	
6	0	0	0	0	0	0.3	0.3	0.4	0.5	1	1.3	1	S	0.5	0	0	0	0	0	0	0	0	0	0	1.3	0.2	24	
7	0	0	0	0.1	0.4	0.5	0.7	1	0.4	0.7	0	S	0	0	0	0	0.1	0.1	0	0	0.2	0	0.1	0.1	1.0	0.2	24	
8	0.2	0.2	0.3	0.3	0.3	0.4	0.5	2.4	1.3	0.5	S	0	0	0	0	0.1	0	0	0	0	0	2.3	1.1	0	2.4	0.4	24	
9	2.7	5.4	1.8	1.1	10.5	12.3	17	9.5	7.3	S	3.8	0.5	0.4	0.6	0	4.3	2.2	0	0	0	0	0	0.1	0	17.0	3.5	24	
10	0	0	0	0	0	2.6	6.3	1.8	S	5	0.7	0.4	0	0	0	3.3	2.5	2.9	1.9	5.8	3.3	0	0.9	3.3	6.3	1.8	24	
11	3.7	8.2	0.8	0.7	3.8	10.1	5	S	2.2	3.4	5.2	4	2.8	0.1	0.2	0	0.5	0	0	0	0	0	0	0	10.1	2.2	24	
12	0	0	0	0.1	0.2	0.2	S	1.6	0.3	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	1.6	0.1	24	
13	0	0	0	0	0	S	0	0	0	0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.0	24	
14	0	0	0	0	S	1.8	3.9	6.2	5.4	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0.8	10.8	10.8	1.3	24
15	6.4	1.7	8.4	S	10.1	11.2	12.3	9.9	4	3	1.7	5.1	4.3	4.5	0.2	0	0	0	0	0	0	0	0	0	12.3	3.6	24	
16	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
17	0	S	0	0.1	0.6	1.4	1.9	2	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.0	0.3	24	
18	S	0	0	0	0	0.2	0.6	0.6	0.6	0.5	0.3	0	0	0	0.4	0	0	0	0	0	0	0	0	S	0.6	0.1	24	
19	0	0	0.1	0.2	0.3	0.2	0.1	0.1	0.3	0.2	0.2	C	C	C	C	C	C	C	C	0	0	0	S	0	0.3	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	S	0	0.0	0.0	24	
21	0	0.2	0.2	0.4	0.4	1.1	0.6	0.1	0	0	0	0.2	0.2	0.6	0.7	1.3	0.2	0.1	0	0.6	S	0	0	0	1.3	0.3	24	
22	0	0	0	0	0	0	0	0	0.2	0	0.1	0	0	0.1	0	0	0	0	0	S	0	0	0	0	0.2	0.0	24	
23	0	0.2	0.3	0.2	0.4	0.5	0.5	0.5	0.3	0.2	0	0	0	0.7	0	0	0.6	0.5	S	0	0	0	0	0	0.7	0.2	24	
24	0	0	0.2	0.2	0.6	0.9	7.4	7.7	6.5	1.8	0	0	0	0	0	0	S	0	0	0	0	0	0	0	7.7	1.1	24	
25	0	0	0	0	0	0	0.2	0	0	0.2	0.7	1.2	0	0	0	S	0	0	0	0	0	0.1	0.7	0	1.2	0.1	24	
26	0.7	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0.1	0.1	0	0	0	0	0	0	0.7	0.1	24	
27	0	0	0	0	0	0.3	1	4	1.6	4.7	1.9	0	0.1	0.3	S	0	0	0	0	0	0	0	0	0	4.7	0.6	24	
28	0	0	0	0	0.5	2.7	3	5.4	0	0	0	0	0.4	S	0	0	0	0	0	0	0	0	0	0	5.4	0.5	24	
29	0	0	0	0	0	5.3	0.5	0	0	0	0	0	S	0	0.1	0	0	0	0	0	0.2	0.1	0.1	0.1	5.3	0.3	24	
30	0	0	0	0	0	0.8	0.2	0.2	0.4	0.1	0.3	S	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8	0.1	24	
HOURLY MAX	6.4	8.2	8.4	1.1	10.5	12.3	17.0	9.9	7.3	5.0	5.2	5.1	4.3	4.5	1.5	4.3	2.5	2.9	1.9	5.8	3.3	2.3	1.1	10.8				
HOURLY AVG	0.5	0.6	0.5	0.2	1.1	1.9	2.3	2.0	1.3	0.9	0.6	0.5	0.3	0.3	0.1	0.4	0.3	0.2	0.1	0.2	0.1	0.1	0.1	0.5				

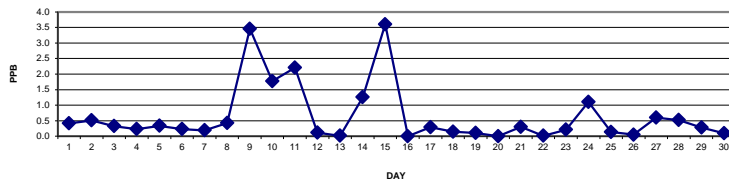
### STATUS FLAG CODES

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

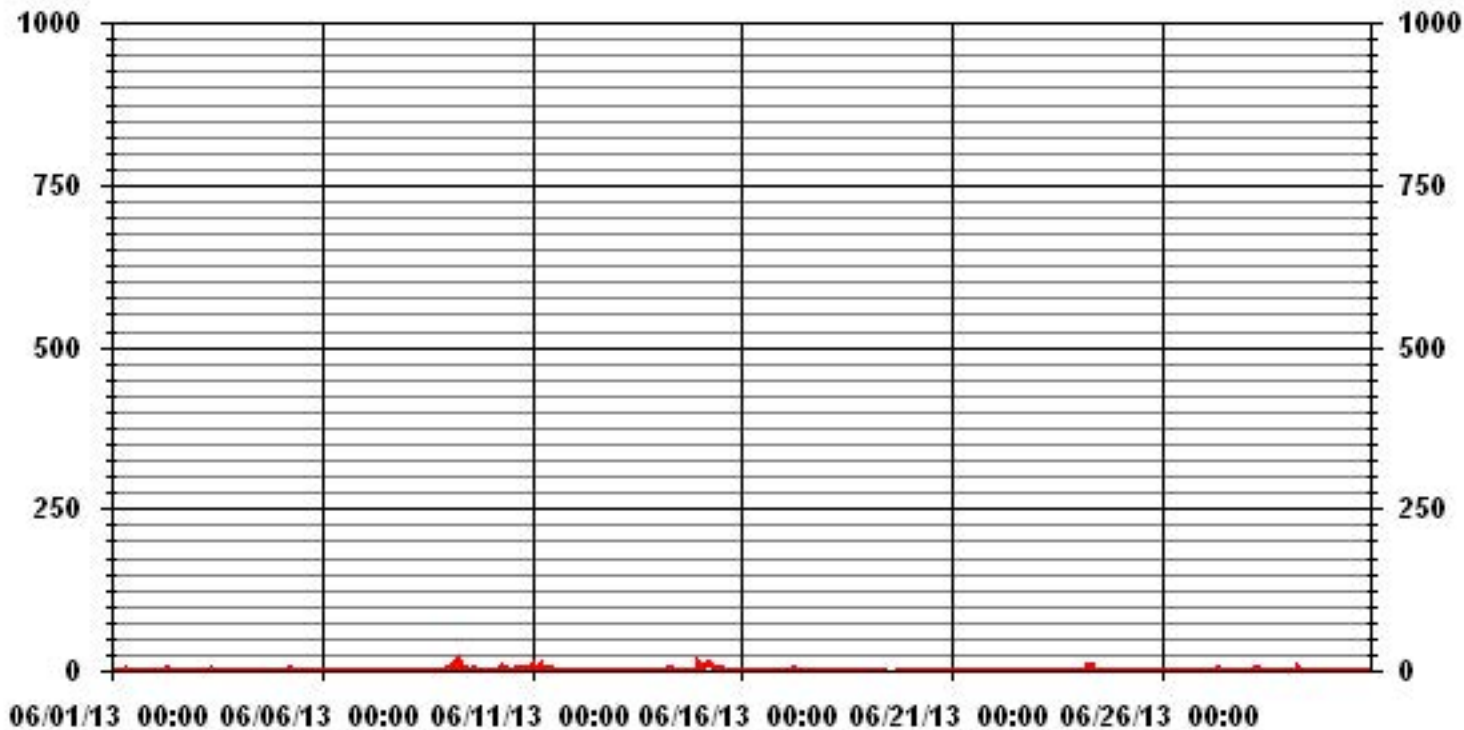
### MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	267					
MAXIMUM 1-HR AVERAGE:	17.0	PPB	@ HOUR(S)	6	ON DAY(S)	9
MAXIMUM 24-HR AVERAGE:	3.6	PPB			ON DAY(S)	15
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	1.80		MONTHLY AVERAGE:	0.64	PPB	

24 HOUR AVERAGES FOR JUNE 2013



# 01 Hour Averages



# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2013

## 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	0.5	0.5	0.4	0.6	0.6	0.7	3.4	4.5	9.1	1.2	0.6	0.7	0.6	4.6	3	2.4	S	0.8	1.3	0.9	0.6	0.7	0.9	9.1	1.7	24	
2	0.9	0.7	0.9	0.7	1	2	2.1	1.9	2.6	2.8	2.3	1.8	1.9	1.7	2.5	1.3	S	1.5	0.4	0.7	1	0.2	0.2	0.5	2.8	1.4	24	
3	0.7	0.8	1	1.3	1.4	1.3	1.4	2.1	3	2.6	1.4	1.6	1	1.2	1.5	S	0.5	0.3	0.1	0	0	0.1	0	0.2	3.0	1.0	24	
4	0.3	0.9	1	1.2	0.9	1.1	1.9	1.8	1.5	0.6	0.5	0	0	0	S	0.6	0.6	0.6	0.5	0.4	0.4	0.5	0.7	1	1.9	0.7	24	
5	0.8	0.8	0.9	1.1	1.4	1.8	2	1.7	1.6	1	0.9	0.4	0.6	S	0.3	0.4	0.4	0	0	2.2	0.9	4.7	0.2	0	4.7	1.0	24	
6	0	0.3	0.3	0.4	0.5	1	1.2	1.2	1.2	3	9.1	8.3	S	4	0.5	0.4	0.5	0.3	0.4	0.2	0.1	0.3	0.3	0.4	9.1	1.5	24	
7	0.4	0.4	0.5	0.5	0.9	1	1.6	2.3	1	1.4	0.7	S	0.5	0.5	0.7	0.4	0.6	0.7	0.5	0.5	0.6	0.8	0.7	0.7	2.3	0.8	24	
8	0.7	0.8	1.1	0.9	1.1	0.9	1.4	5.7	4.4	1	S	0.4	0.3	0.7	0	2.9	0.3	0.9	0.9	1.7	0.5	9.3	4.8	0.7	9.3	1.8	24	
9	15.1	13.5	4.7	2.9	22.4	21.9	25.1	16.4	17.5	S	9.2	3.9	4.2	3.3	2.7	15.1	7.6	0.5	0.6	0.6	0.5	0.5	12.7	0.4	25.1	8.8	24	
10	0.5	0.5	0.3	0.2	0.4	4.6	24.2	11.1	S	13.3	3.7	2.8	0.4	0.2	0.6	13.7	10.2	5.2	5.9	20.3	21	0	13	16.2	24.2	7.3	24	
11	8.8	16.3	8.1	2.3	11.9	14.4	14.1	S	4.2	10.6	11.4	10.3	10.5	0.8	2.5	0.4	3.9	0	0	0	0	0.2	0.2	0.3	16.3	5.7	24	
12	0.3	0.4	0.5	0.7	0.7	0.7	S	4.3	2.1	0.4	2.1	0.2	0.5	0.1	0	0.1	0.7	0.6	0	1.7	2.1	0	0	0.1	4.3	0.8	24	
13	0.2	0.3	0.3	0.2	0.4	S	2.4	0.3	0.1	0.7	1.3	0.3	1.2	0.1	0.7	0.7	0.1	0	0	0	0	0	0	0	2.4	0.4	24	
14	0	0	0	0.2	S	3.3	7.6	10.3	9.3	1.9	1.7	1.3	1.7	1.9	0	0	0	0	0	0	0.5	5.3	6.4	18.1	18.1	3.0	24	
15	18.3	9.3	14.7	S	14.9	16.1	17.9	16.4	11	6	4.1	8.6	11.5	9.3	2	0.5	0.3	0.3	0.6	0.3	0.4	0.4	0.5	0.5	18.3	7.1	24	
16	0.6	0.6	S	0.2	0.1	0.2	0.4	0.4	0.4	0.1	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0.6	0.1	24	
17	0	S	0.4	0.6	3.3	3.6	3.3	3.4	2.5	0	0	0	0	0	0.1	0.2	0	0.3	0.1	0.1	0	0	0	0	3.6	0.8	24	
18	S	0.7	0.5	0.5	0.7	0.7	1.3	1.4	1.9	2.2	1.7	0.2	0.3	1	2.7	0.5	0.8	0.5	0.3	0.1	0.4	0.2	0.3	S	2.7	0.9	24	
19	0.3	0.5	0.6	0.7	0.8	0.8	0.6	0.7	0.8	0.8	0.7	C	C	C	C	C	C	C	0.3	0.2	0	0.2	S	0	0.8	0.5	24	
20	0.1	0	0.2	0.1	0.1	0.1	0	0	0	0	0	1.1	0	0.2	1.9	0	0.1	0	0	0	S	0.4	0.6	1.9	0.2	24		
21	0.2	0.8	0.7	0.8	1.1	2.2	1.7	0.7	0.6	0.4	0.7	2.4	1.3	2.5	1.8	4.9	2.4	1	0.7	1.8	S	0.3	0.2	0.2	4.9	1.3	24	
22	0.1	0.1	0.1	0.2	0.3	0.6	0.6	0.6	2.8	0.8	1.4	1	1	1.3	0.4	0	2.6	1.1	0.5	S	0.6	0.4	0.4	0.4	2.8	0.8	24	
23	0.7	0.7	1	0.8	1.1	1.3	1.1	1.3	0.9	0.8	0.5	0.5	4.1	6.5	0.5	0.8	1.4	1.3	S	0.9	0.3	0.3	0.2	0.3	6.5	1.2	24	
24	0.5	0.8	1.9	1.4	1.9	2.9	20	20.1	9.9	6.3	0.9	0.3	0.5	0	0.3	0.2	0.2	S	0.5	0.3	0.3	0.3	0.3	0.3	20.1	3.0	24	
25	0.4	0.4	0.5	0.5	0.5	0.6	0.8	0.7	0.9	1.7	2.6	4	0.7	0.8	2.5	0.2	S	0.3	0.1	0.3	1.7	1.7	2.2	0.6	4.0	1.1	24	
26	2.1	1.9	0.3	0.1	0.1	0.1	0.1	0.5	0.5	0.3	0.7	0.3	0.2	1.1	1.2	S	0.7	0.8	0.6	0.5	0.4	0.7	0.5	0.6	2.1	0.6	24	
27	0.5	0.5	0.6	0.6	0.6	2.1	2.9	8.2	4	13	7.4	0.4	0.5	2.7	S	0.7	0.1	0	0.3	0	0.2	0.3	0	0.1	13.0	2.0	24	
28	0.1	0.2	0.2	0.4	2	5.9	10.5	11.1	0.3	0.4	2.1	1.7	3.4	S	0.9	0.5	0.1	0.1	0.3	0.1	0	0.1	0.1	0.2	11.1	1.8	24	
29	0.5	0.5	0.3	0.1	0.3	28.7	1.5	0.7	0.4	0.1	0.1	1.1	S	0.6	0.5	0.5	0.5	0.4	0.4	1.5	0.5	0.6	0.7	0.5	28.7	1.8	24	
30	0.5	0.4	0.5	0.5	0.6	3.7	0.7	1.2	0.5	1.2	S	0.4	0.5	0.2	0.2	0.1	0.1	0	0.1	0	0.2	0.1	6.7	6.7	0.8	0.8	24	
HOURLY MAX	18.3	16.3	14.7	2.9	22.4	28.7	25.1	20.1	17.5	13.3	11.4	10.3	11.5	9.3	4.6	15.1	10.2	5.2	5.9	20.3	21.0	9.3	13.0	18.1				
HOURLY AVG	1.9	1.8	1.5	0.7	2.5	4.3	5.1	4.5	3.1	2.8	2.4	1.9	1.8	1.5	1.1	1.9	1.4	0.6	0.5	1.2	1.1	1.0	1.6	1.7				

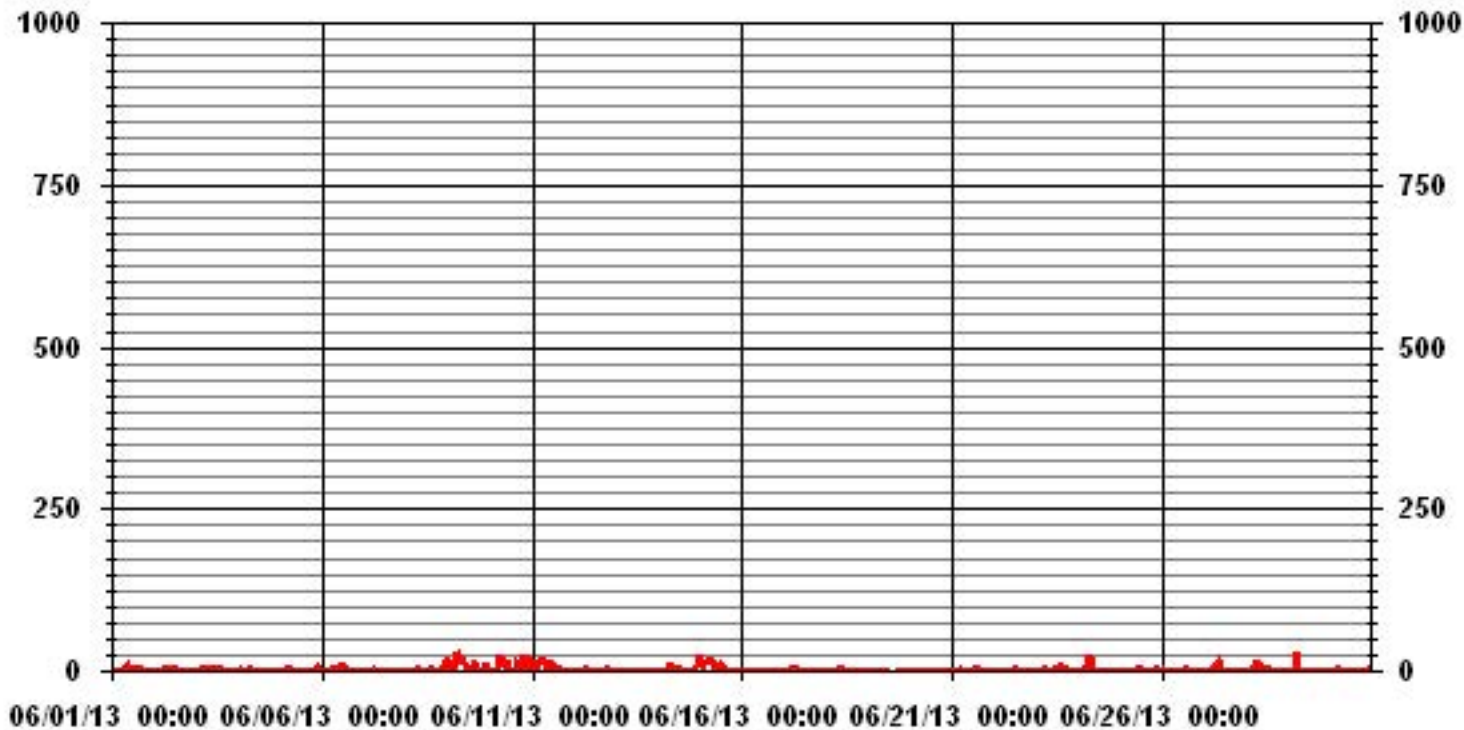
**STATUS FLAG CODES**

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:	600
MAXIMUM INSTANTANEOUS VALUE:	28.7 PPB @ HOUR(S) 5 ON DAY(S) 29
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	7 HRS
STANDARD DEVIATION:	4.00
OPERATIONAL TIME:	720 HRS

### 01 Hour Averages





LICA30  
 NO\_ / WDR Joint Frequency Distribution (Percent)

June 2013

Distribution By % Of Samples

Logger Id : 30  
 Site Name : LICA30  
 Parameter : NO\_  
 Units : PPB

Wind Parameter : WDR  
 Instrument Height : 10 Meters

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 50.0	2.19	3.51	10.11	8.06	5.71	5.86	6.74	6.45	7.18	12.02	5.13	3.95	6.89	9.82	4.25	2.05	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	2.19	3.51	10.11	8.06	5.71	5.86	6.74	6.45	7.18	12.02	5.13	3.95	6.89	9.82	4.25	2.05	

Calm : .00 %

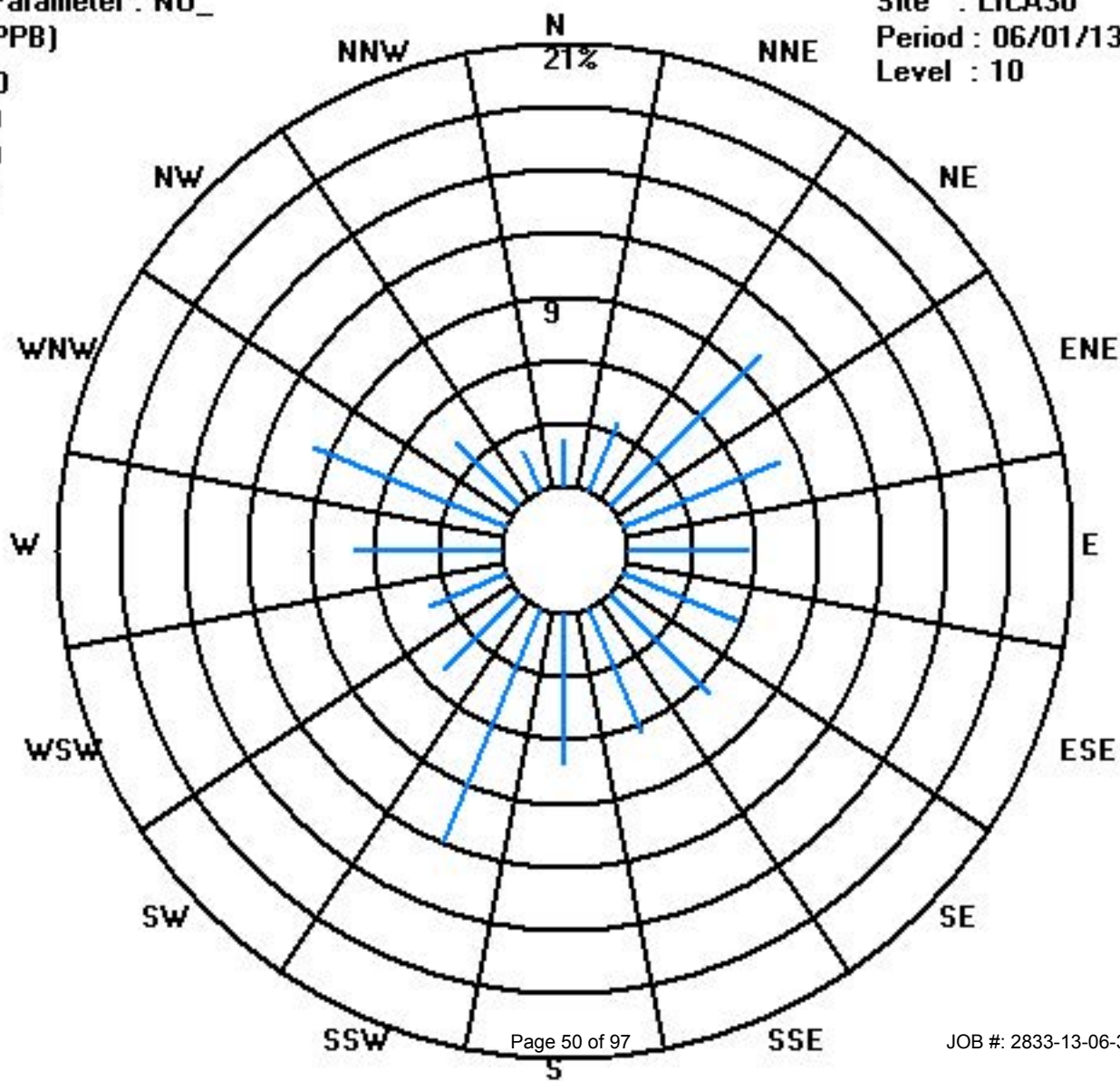
Total # Operational Hours : 682

Distribution By Samples

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 50.0	15	24	69	55	39	40	46	44	49	82	35	27	47	67	29	14	682
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	15	24	69	55	39	40	46	44	49	82	35	27	47	67	29	14	

Calm : .00 %

Total # Operational Hours : 682



# Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2013

OXIDES OF NITROGEN hourly averages in ppb

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	0.6	0.4	0.9	0.5	0.7	0	0	4.3	4.8	8.8	1	1.5	1.5	0.9	7.7	4.1	11.7	S	4	1.5	1.2	1.2	1.2	1.2	1.2	11.7	2.6	24
2	1.6	1.8	2.4	1.6	1.6	2.8	5.6	4.6	3.9	3.4	4.8	3.9	3.4	2.5	3.1	2.5	S	4.2	1.1	3.3	9.2	4	1.4	1.1	9.2	3.2	24	
3	1.6	1.3	1	1.2	1.1	1.1	1.4	2.6	4.4	5.8	2.6	2.8	2.3	2.5	S	1.1	0.6	0.6	0.5	0.7	1	1	0.9	5.8	1.8	24		
4	1.1	1.7	1.9	2	1.6	1.8	3.1	3.3	2.2	1.7	1.6	1.4	1	0.9	S	1.7	1.4	1.2	1.2	1.2	1.4	1.7	2.5	3.3	1.7	24		
5	3.1	3.4	3.4	3.2	3.5	4	5.1	4.2	3.1	1.9	1.5	1.2	1	S	1.1	1.2	1	0.9	1.1	9	6.3	14.1	3.8	1.3	14.1	3.4	24	
6	1.5	1	2.7	2.7	2	1.8	1.3	1.8	2.2	3.1	3.7	3.6	S	2.4	0.5	0.6	0.3	0.2	0.2	0.1	0.2	1.6	1.3	2.6	3.7	1.6	24	
7	3.4	4	4.8	6	4.4	4	3.9	4.8	3	4.2	2.1	S	2	1.2	1	0.9	1.6	2.5	1.8	1.1	1.8	1.2	2.4	0.8	6	2.7	24	
8	0.8	1.7	1.1	0.9	0.8	1.4	1.9	8.4	4.2	1	S	1.1	1.1	1.7	1.1	3.4	1.2	1.9	6.7	4.5	5.8	12.4	7.9	7.3	12.4	3.4	24	
9	11.1	13.5	6.8	7.3	20.8	21.9	26.5	16.6	13.5	S	9.6	2.8	2.9	2.8	1.7	8.1	5.5	0.8	0.9	0.7	0.8	0.7	1.1	0.7	26.5	7.7	24	
10	0.8	0.7	0.7	0.8	1.2	8.6	11.6	4.4	S	9.5	2.9	2.4	1.3	1.2	2.1	7.2	6.9	8.4	7	13.5	8.5	0.8	3.4	9.6	13.5	4.9	24	
11	12.4	16.6	7.3	6.9	11.6	19.2	10.6	S	3.7	5.7	9.5	8.4	5.9	1.5	1.7	1.3	3.1	0.2	0.4	0.3	0.2	0.3	0.3	0.5	19.2	5.5	24	
12	0.9	1.2	0.6	0.6	0.8	0.7	S	4.6	2.1	0.6	2.4	0.9	0.9	0.8	0.7	1.1	2.1	0.8	0.6	2	3.6	1.3	1.3	5.5	5.5	1.6	24	
13	2.1	1.4	1	1	1.2	S	2.6	2.3	2.4	3.9	5.7	2.8	2.3	1.8	3.3	4.7	4.1	2.3	2.1	1.9	1.6	0.9	0.5	0.7	5.7	2.3	24	
14	1.1	1	0.8	1.8	S	6.4	10.5	13.7	14	2.1	4.2	3.4	3.7	3	1.2	0.9	0.9	1.1	0.9	3.5	8.1	7.1	7.9	30.9	30.9	5.6	24	
15	2.2	11.9	27.4	S	28.7	30.3	30.3	23.8	11.6	9	5.6	11.7	10.3	11.2	2	1	0.7	0.5	0.8	0.7	0.4	0.6	0.5	0.4	30.3	10.5	24	
16	0.4	0.6	S	0.7	0.5	0.7	0.9	1.2	1.3	0.9	0.5	0.5	1.2	2	0.7	1.1	0.7	0.8	1.2	1.2	1.1	1.5	1.2	1.7	2	1.0	24	
17	1.9	S	2.2	4.3	5.7	5.6	5.4	5.8	3.8	1.7	1.2	1	1.3	1.2	1.2	1.1	1	1	0.8	1.1	1.2	0.9	0.9	0.6	5.8	2.2	24	
18	S	1	0.8	1.3	2.7	3	3.2	3.6	4.8	4.3	3.6	0.9	0.7	2.1	3.9	0.6	2.2	1	0.5	0.6	1.5	0.5	0.6	S	4.8	2.0	24	
19	0.4	0.3	0.4	0.5	0.4	0.5	0.4	0.4	0.4	0.4	0.5	C	C	C	C	C	C	C	0.3	0.3	0.2	0.3	S	0.3	0.5	0.4	24	
20	0.3	0.3	0.2	0.3	0.4	0.4	0.2	0.2	0	0	0	0	0.8	0	0.3	1.8	0	0.8	0.5	0.6	0.1	S	0.1	0.3	1.8	0.3	24	
21	0.3	0.5	0.4	0.6	0.6	2.3	1.4	0.2	0.1	0	0.2	1.1	0.8	1.8	2.1	3.8	1.2	1	1.8	9.3	S	1	1.1	0.3	9.3	1.4	24	
22	0.6	0.5	0.5	1.6	0.5	0.4	0.2	0.3	1.6	0.7	1.5	1.2	0.6	3.2	1.5	0.3	2.1	1.5	0.3	S	0.8	1.2	1	0.8	3.2	1.0	24	
23	0.6	0.7	0.7	0.8	1.8	1.5	1.5	1.5	1.1	1.4	0.3	0.1	0.7	2.8	0.2	0.3	3.5	2.7	S	2	2	2	2.1	1.6	1.7	3.5	1.4	24
24	3.2	3.7	4.6	3.6	3.9	3.7	14.4	15.6	15.4	6.6	1.3	0.8	0.9	0.3	0.4	0.6	0.6	S	0.5	0.7	1.1	1	1	0.8	15.6	3.7	24	
25	0.5	0.9	0.8	0.6	0.8	0.7	1.1	0.5	0.9	2	5	6.4	1.6	1.4	2.1	0	S	0.1	0.1	0.2	2.5	4.2	7.4	5	7.4	1.9	24	
26	12.3	8.8	3.1	0.2	0.6	0.5	0.8	1.4	1.8	1.5	1.9	1.2	1.1	1	1.5	S	0.5	0.3	0.4	0.2	0.4	0.4	0.6	12.3	1.8	24		
27	0.4	0.3	0.3	0.5	0.3	1	2.5	9.2	4.3	11.2	5.1	0	0.2	1	S	0.6	0	0	0	0	0.1	0.4	0.2	2.1	11.2	1.7	24	
28	3.7	3	1.8	1.9	3.5	7.7	8.1	15.1	0.9	0.4	1.6	1.6	2.2	S	0.7	0.4	0.2	0.1	0.2	0.2	0.2	0.6	1.4	1.8	15.1	2.5	24	
29	2.3	2.2	1.8	1.1	1.4	9.5	3.2	2.3	1.6	1.7	1.1	1.3	S	0.7	0.9	0.6	0.7	0.3	0.5	5	0.9	1	0.7	0.8	9.5	1.8	24	
30	1.1	0.9	1	2.7	2.1	4.4	1.9	1.9	3.2	0.9	1.8	S	1.2	0.9	0.7	0.5	0.3	0.4	0.4	0.5	0.5	0.6	0.9	2.3	4.4	1.4	24	
HOURLY MAX	22.0	16.6	27.4	7.3	28.7	30.3	30.3	23.8	15.4	11.2	9.6	11.7	10.3	11.2	7.7	8.1	11.7	8.4	7.0	13.5	9.2	14.1	7.9	30.9				
HOURLY AVG	3.2	2.9	2.8	2.0	3.6	5.0	5.5	5.5	4.0	3.3	2.9	2.4	2.0	1.9	1.7	1.9	2.0	1.3	1.3	2.3	2.1	2.2	1.9	2.9				

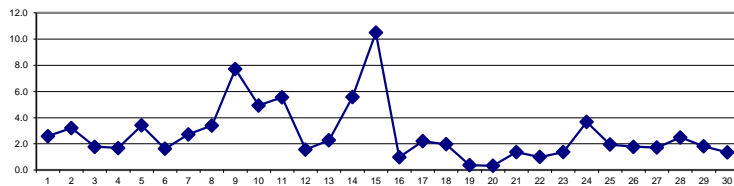
STATUS FLAG CODES

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

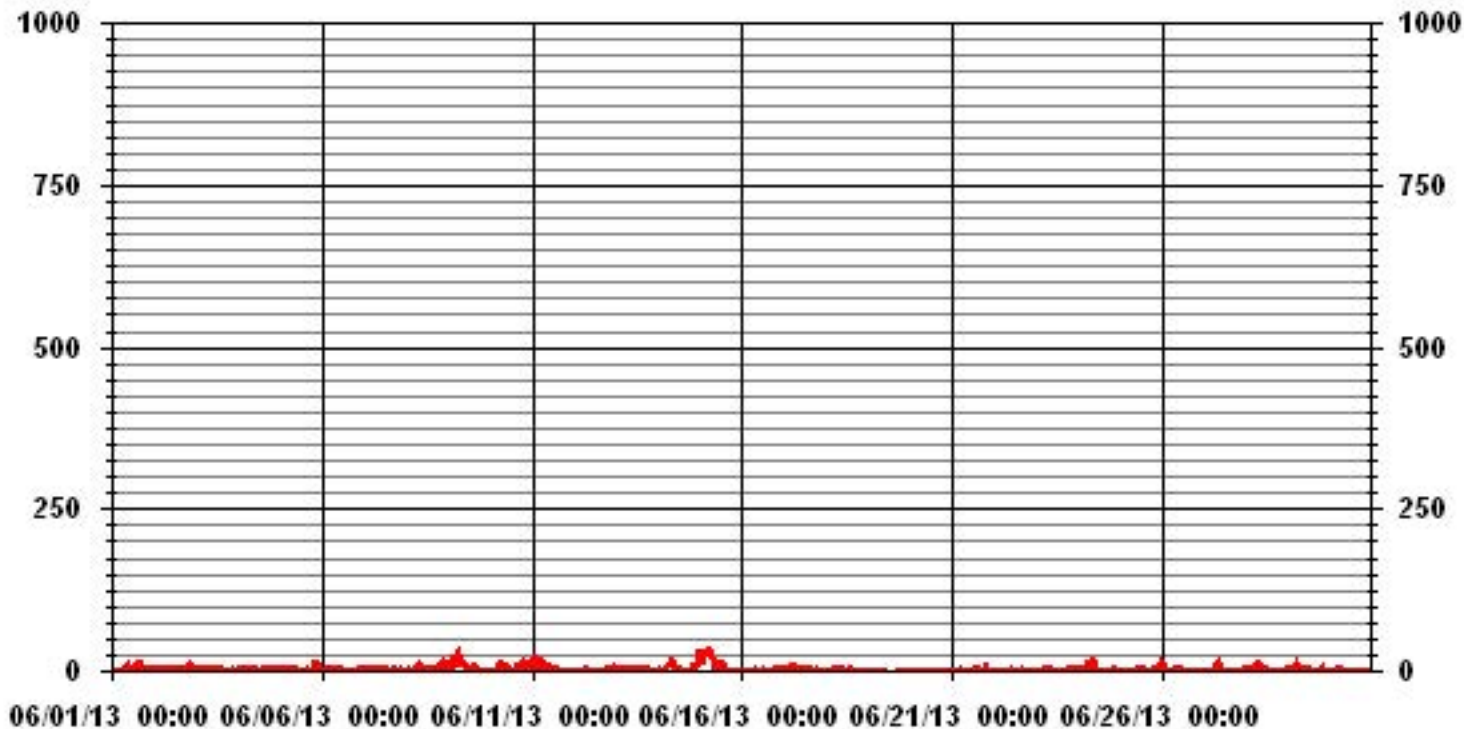
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	667					
MAXIMUM 1-HR AVERAGE:	30.9	PPB	@ HOUR(S)	23	ON DAY(S)	14
MAXIMUM 24-HR AVERAGE:	10.5	PPB			ON DAY(S)	15
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	4.16		MONTHLY AVERAGE:	2.79	PPB	

24 HOUR AVERAGES FOR JUNE 2013



### 01 Hour Averages



— LICA30 HIOX\_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2013

OXIDES OF NITROGEN MAX 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	1.2	1.6	1.4	1.7	0.6	0.8	12.8	11.9	22.6	3.6	3.8	6.2	1.9	17.2	13.8	13.6	S	7	3.3	2	1.8	1.9	1.7	22.6	5.8	24	
2	2.3	2.5	3	2.3	2.2	7.8	7.4	6.3	7.3	7.5	8.2	6.7	7.1	5.8	9	5.5	S	10.1	3.1	19.1	21.7	12	5.5	2.6	21.7	7.2	24	
3	2.5	2.2	1.6	1.7	1.6	1.7	2.1	6.5	9.6	9.8	5.5	7.6	6.2	6.4	6.6	S	2.9	1	1.2	1.2	1.2	1.7	1.5	1.5	9.8	3.6	24	
4	2.2	2.5	3	2.6	2.4	2.4	3.9	6.2	5.6	2.4	3.1	2.3	2.5	1.5	S	2.9	2	1.8	1.9	1.7	1.8	1.9	2.5	3.2	6.2	2.7	24	
5	3.5	4.1	4	3.9	4.1	4.8	6.3	4.8	4.4	4	4	2.3	1.9	S	1.8	2.9	2.2	1.5	1.6	28.5	15.8	28.7	8.5	2.2	28.7	6.3	24	
6	2.5	2	4.8	3.7	2.6	2.7	2.5	2.9	4.8	6.4	18.5	16.9	S	10.2	1.8	1.8	1	0.8	0.8	0.6	1	2.4	2	3.7	18.5	4.2	24	
7	4.4	4.9	5.5	6.8	5.5	6	6	7	4.2	6.6	2.6	S	2.7	1.8	2.2	1.6	3.4	5.5	5.3	1.7	2.4	2.5	5.5	1.6	7.0	4.2	24	
8	1.6	2.7	1.6	1.6	1.6	2.2	5.2	14.7	13	1.8	S	1.8	2.4	4	2	12	3.6	9.5	11.3	10.1	12.1	28.3	18.2	13	28.3	7.6	24	
9	29.2	27.3	13.1	10.4	36.8	34.9	36.2	25.7	27.3	S	17.7	11.4	10.6	7.2	6.6	23.6	13.5	1.4	1.5	1.5	1.3	1.3	18.3	1.3	36.8	15.6	24	
10	1.3	1.5	1.2	1.4	2.4	12.9	37.8	17.6	S	20.9	7.6	5.8	2.2	2.1	2.9	22.8	18.1	12.6	14.7	32	32.9	1.6	23.7	28.2	37.8	13.2	24	
11	17.6	28.4	16.9	8.8	21.6	25.4	23.4	S	7.2	15.6	18.7	18.3	16.5	2.5	6.6	2.2	10.1	0.8	1	0.8	0.8	0.8	0.9	1.1	28.4	10.7	24	
12	1.6	2	1.4	1.2	1.4	1	S	10	6.3	1.5	6.2	1.8	2.6	1.8	1.4	3.3	9.3	8	1.2	12	14.8	2.1	3	8	14.8	4.4	24	
13	3.3	2.1	1.8	2.1	1.8	S	6.8	2.7	3.3	6.5	7.2	5.5	6.8	3.8	6.3	9.1	6.5	3.8	2.7	2.6	2.3	1.8	1.4	1.3	9.1	4.0	24	
14	2.2	1.7	1.3	2.9	S	8.6	16.6	19	20	8.4	10.3	6.9	13.2	9.6	4.2	3.2	2.5	2	3.3	13.5	14.4	25.7	26.4	43.7	43.7	11.3	24	
15	44.2	28.9	38	S	38	39	38.7	35.1	25.7	16.2	11.4	17.9	23.6	20.1	6.6	2	1.6	1.1	1.8	1.8	1.3	1.5	1	1	44.2	17.2	24	
16	1	1.2	S	1.4	1.2	1.2	1.6	2	1.9	1.6	1.1	1.2	3.8	5.5	1.2	3	1.2	1.5	1.8	1.7	1.5	2.2	2.1	2.3	5.5	1.9	24	
17	2.7	S	4.5	5.6	9.8	8.5	7.4	8.9	8	2.8	1.8	1.6	1.8	1.8	2.3	2.4	1.4	1.8	1.5	1.9	1.8	1.6	1.6	1.3	9.8	3.6	24	
18	S	1.6	1.4	2.5	3.2	4.3	4.2	4.5	9.6	8.7	7.8	1.4	1.2	5.4	11.9	1.3	5.4	2.5	1.1	1.1	8.5	1.2	1.2	S	11.9	4.1	24	
19	0.9	1	1	1.1	1	0.9	0.9	0.8	1	0.9	0.9	C	C	C	C	C	C	C	C	1	0.9	0.7	1	S	0.9	1.1	0.9	24
20	0.9	0.8	0.8	1.1	1	0.9	0.8	0.9	0.5	0.6	0.4	0.5	6.1	3.2	2.8	8.4	0.6	3.2	1.7	1.4	0.6	S	0.9	1.2	8.4	1.7	24	
21	1.1	1.1	1	1.1	1.3	4	2.8	0.6	0.8	0.5	2	5.8	3.5	6.8	4.4	10.8	6.8	3.9	5.6	15.9	S	7.9	6.5	1.4	15.9	4.2	24	
22	1.6	1.3	1.5	4.8	1.1	0.9	1	2.3	8.6	2.8	4.2	3.3	4.7	6.1	2.9	1.8	8.5	5.6	4.3	S	1.5	2.3	1.6	1.3	8.6	3.2	24	
23	1.5	1.4	1.4	2	2.6	2.2	2.4	2.4	1.9	2.6	1.3	0.7	10.2	17	0.7	3.1	6.7	4.5	S	4.2	2.9	2.6	2.5	2.5	17.0	3.4	24	
24	4.6	5.4	10.4	8	7.7	7.3	32.3	32.5	20.2	16	3.5	2.4	2.7	1.4	1.3	2.4	1.1	S	1.1	1.2	1.7	1.6	1.5	1.5	32.5	7.3	24	
25	1.2	1.4	1.4	1.2	1.5	1.2	2.1	1.6	3.4	7.2	11.8	14.8	5.7	3.1	13.8	0.7	S	0.7	0.7	1.1	10.6	12	12.8	10.3	14.8	5.2	24	
26	16.9	15	4.9	1.2	2	1.1	1.4	3	3.2	2	3.4	2	2.5	3.3	3.8	S	1.1	1.3	1	1	0.8	2.1	1	1.2	16.9	3.3	24	
27	0.9	0.9	0.7	2.1	0.9	4	6.7	16.6	9.6	26.4	16.9	0.8	0.9	6.9	S	2.2	0.6	0.2	1.4	0.6	0.6	1.2	1	6	26.4	4.7	24	
28	5.3	4.8	2.5	2.9	5.8	13.9	21.6	26.6	2.4	2.4	7	5.8	10.8	S	3	1.6	1.7	0.7	2	0.8	0.6	1.2	2.3	2.5	26.6	5.6	24	
29	4.2	2.7	2.6	1.8	2.5	38.3	4	3.7	3.1	2.3	1.8	4.4	S	1.2	1.4	1.2	1.3	1	0.9	14	1.7	1.6	1.2	1.6	38.3	4.3	24	
30	1.7	1.4	2.9	4	2.6	12.8	2.5	3.6	5	1.7	4.4	S	1.9	1.5	1.3	1.2	0.8	1	0.9	1.1	1.1	1.4	1.6	14.4	14.4	3.1	24	
HOURLY MAX	44.2	28.9	38.0	10.4	38.0	39.0	38.7	35.1	27.3	26.4	18.7	18.3	23.6	20.1	17.2	23.6	18.1	12.6	14.7	32.0	32.9	28.7	26.4	43.7				
HOURLY AVG	5.7	5.3	4.7	3.2	5.8	8.7	9.8	9.7	7.9	7.2	6.7	5.7	5.9	5.3	4.7	5.4	4.7	3.3	2.9	6.1	5.5	5.3	5.5	5.6				

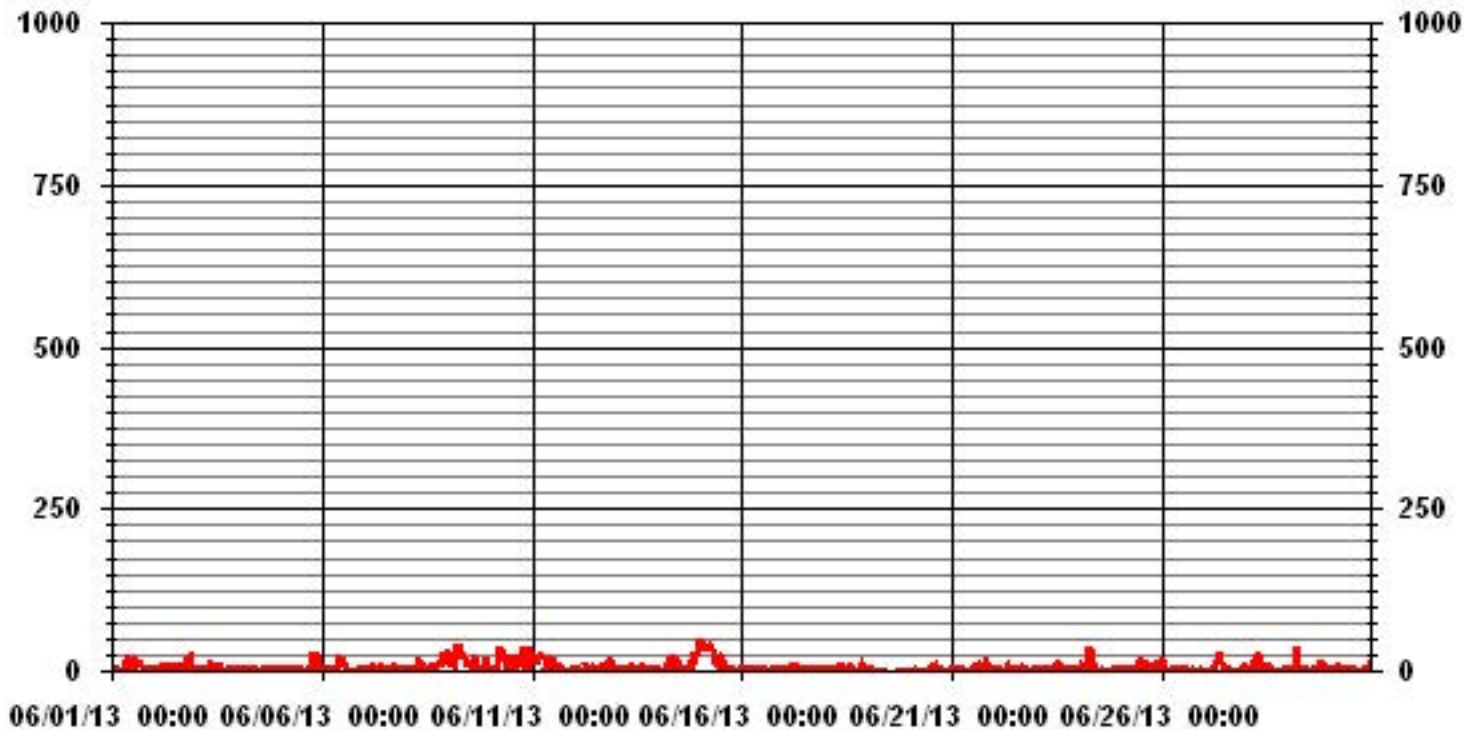
STATUS FLAG CODES

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:	682
MAXIMUM INSTANTANEOUS VALUE:	44.2 PPB @ HOUR(S) 0 ON DAY(S) 15
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	7 HRS
STANDARD DEVIATION:	7.61
OPERATIONAL TIME:	720 HRS

### 01 Hour Averages



— LICA30 NOXMAX PPB

LICA30  
NOX\_ / WDR Joint Frequency Distribution (Percent)

June 2013

Distribution By % Of Samples

Logger Id : 30  
Site Name : LICA30  
Parameter : NOX\_  
Units : PPB

Wind Parameter : WDR  
Instrument Height : 10 Meters

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 50.0	2.19	3.51	10.11	8.06	5.71	5.86	6.74	6.45	7.18	12.02	5.13	3.95	6.89	9.82	4.25	2.05	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	2.19	3.51	10.11	8.06	5.71	5.86	6.74	6.45	7.18	12.02	5.13	3.95	6.89	9.82	4.25	2.05	

Calm : .00 %

Total # Operational Hours : 682

Distribution By Samples

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 50.0	15	24	69	55	39	40	46	44	49	82	35	27	47	67	29	14	682
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	15	24	69	55	39	40	46	44	49	82	35	27	47	67	29	14	

Calm : .00 %

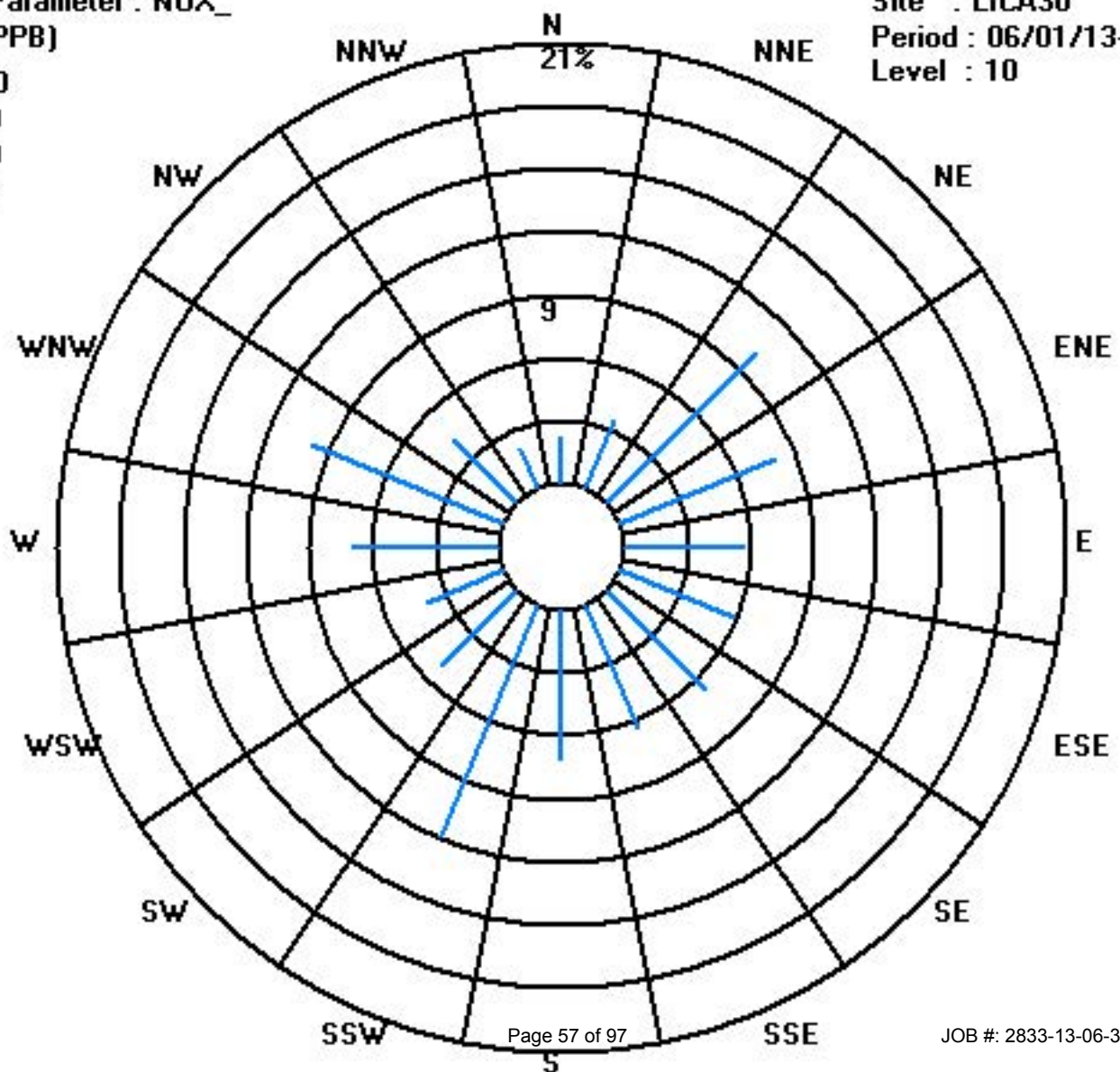
Total # Operational Hours : 682



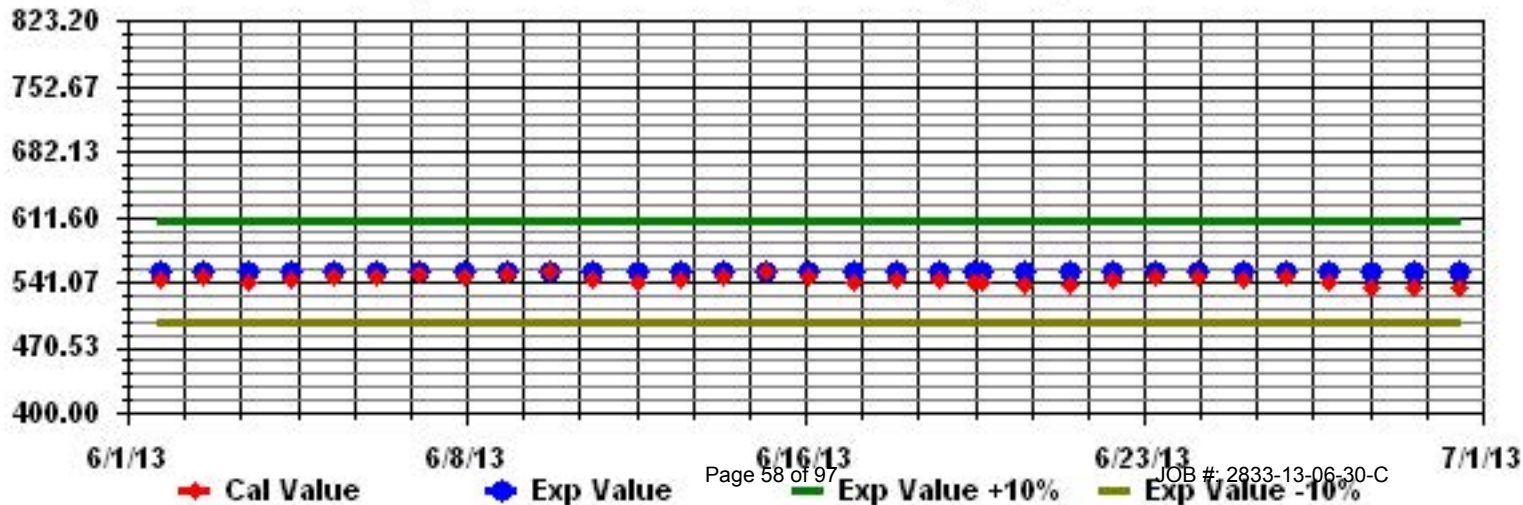
Class Limits (PPB)

Period : 06/01/13-06/30/13

Level : 10



Calibration Graph for Site: LICA30 Parameter: NOX\_ Sequence: NO2 Phase: SPAN



# Temperature

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2013

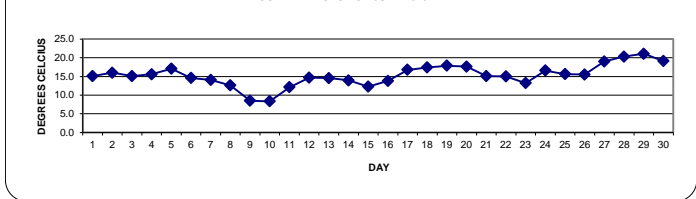
AMBIENT TEMPERATURE hourly averages (Degrees C)

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY 24-HOUR		
DAY	DAY	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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.
1	1	13.6	13.3	13.4	11.9	11.5	12.1	13.6	15.7	17.8	18.8	19.9	18.3	15.8	14.4	16.1	17.7	17.9	17.7	17	15.6	14.2	12.4	11.8	11.2	19.9	15.1	24
2	2	11.4	11.2	11.7	11.5	11	11.7	13.1	14.6	16.5	18	20.3	21.2	22.1	22.7	22.6	22.7	23.1	21.9	18.8	16.6	14.6	11.7	8.1	6.6	23.1	16.0	24
3	3	6.9	6.1	5	3.4	3.2	8.3	12.5	16.2	18.7	20.7	21.4	22	22.8	23.3	23.5	23.8	23.4	23.1	22	19	13.3	9.5	7.3	5.7	23.8	15.0	24
4	4	4.9	4	3.3	2.7	2.6	6.8	12.1	17.6	20.2	21	22	22.6	22.4	24.2	24	23.8	23.2	22.5	21.9	20.5	15.2	12.5	11.9	12	24.2	15.6	24
5	5	11.6	9.8	8.4	8.4	9.4	12.9	13.8	16.1	19.1	21	22.3	22.7	23.4	24.4	24.2	24.2	23.4	22.2	21.3	18.9	15.4	12.8	11.6	11.4	24.4	17.0	24
6	6	11.3	10.4	9.8	9	8.5	10.2	10.6	10.5	10.9	13.2	16	18.4	18.7	20.7	20.9	21.1	21.4	20.8	19.6	16.8	13.8	12.5	11.9	12.7	21.4	14.6	24
7	7	13	11.4	10.7	10.3	10.1	11.9	13.7	14.5	15.4	18.5	20.3	20.9	20	17.7	15.8	14.4	14.4	13.8	13.1	12.5	11.7	11.1	11.1	10.8	20.9	14.0	24
8	8	10.7	10.6	10.5	10.4	10.5	10.6	10.8	11.7	12	13.2	14.4	15.6	14.5	15.2	14.6	16.9	16.9	13.9	13.2	13.4	11.9	10.7	10.3	9.5	16.9	12.6	24
9	9	9.2	9	8.7	8.6	8.5	8.6	8.8	8.8	9.3	10	10.3	10.8	11.3	11.8	11.4	10.2	8.4	7.3	6.6	6	5.4	5.1	5.1	4.9	11.8	8.5	24
10	10	5.2	5.4	5.9	6.1	6.4	6.7	7	7.5	8.2	8.8	9.4	9.3	10.3	9.9	10.5	10.2	10.6	10.3	9.6	9.3	9	8.5	8.4	8.2	10.6	8.4	24
11	11	8.4	8.6	8.8	8.9	9	9.1	9.1	9.7	11.4	12.2	13.7	13.2	14.3	14.9	15.7	15.8	18.6	16.4	14.9	14.1	12.8	10.9	10.2	10.2	18.6	12.1	24
12	12	10.4	10.4	10.3	10.1	9.9	10.8	14.4	16	17.2	18.8	17.9	16.6	17.9	18.9	20.6	20	18	16.8	15.6	13.6	12.1	12.2	11.8	11.5	20.6	14.7	24
13	13	11	11	10.7	10.1	10.6	11.5	13.5	15.1	15.6	16.2	18.1	18.6	16.3	17.6	19.1	18.8	18.5	16.8	16.2	15.2	13.8	13	11.3	10.5	19.1	14.5	24
14	14	10.1	8.7	7.8	8.7	7.8	10.4	11.9	15.7	18.8	18.2	19.8	20	20.4	20.8	19.8	16.7	13.1	12.7	12.7	12.3	12.1	11.8	12	12.1	20.8	13.9	24
15	15	12.1	12.1	12.3	12.4	12.1	12.1	12	12	12.1	12.3	12.4	13.1	13.5	13.8	13.8	13.5	12.9	12.7	12	11.8	11.3	10.9	10.7	10.8	13.8	12.3	24
16	16	10.9	10.9	10.7	10.5	10.6	11	11.7	12.2	13	14.4	15.9	17.4	18.6	18.6	15.6	15	16.1	16.2	15.7	15.4	14.5	13.4	12.1	10.7	18.6	13.8	24
17	17	10.2	9	8.3	9.8	10.8	11.4	13	16.9	19	20	21.1	21.2	21.5	20.3	22.3	22.6	22.4	22.7	22.7	21.1	17.7	14	12.4	11.7	22.7	16.8	24
18	18	10.4	9.5	9.2	10.4	12.1	12.7	14.3	17.2	18.9	21.6	23	23.7	24.8	23.6	22.3	22.9	22.6	21.9	20.1	18	16.6	15.2	13	13	24.8	17.4	24
19	19	11.4	10.8	10.6	9.7	10.9	13.2	15.2	17.7	19.8	21	22.4	22	23.3	24.5	24.5	22.9	22.7	23	22.4	20.1	17.7	15.2	13.8	13.6	24.5	17.9	24
20	20	12.8	11.3	11.4	11.3	11.3	13.5	15.1	17.3	19.7	20.9	22.2	23.1	23.7	24	24.4	24.4	23	22	20.2	18.6	16.7	14.1	11.7	10.3	24.4	17.6	24
21	21	9.6	8.5	7.7	7.2	7.1	9.7	13.6	17	19.1	19.7	20.5	21.3	21.8	21.8	22.4	21	19.3	17.7	15.8	14.1	13	11.8	11.2	10.6	22.4	15.1	24
22	22	10.3	10.5	10.6	10.7	10.5	11.9	13.1	14.7	17.1	18.4	19.1	19.5	19.4	17.4	17.4	17.9	19.3	19.3	19.3	17.5	14.6	12.3	9.7	8.7	19.5	15.0	24
23	23	8.6	8.1	7.8	7.8	8.8	9.3	11.1	13.5	16.6	17.7	16.9	17.7	19.6	16.4	12.7	12.7	14.8	15.9	16.6	15.7	13.5	12.4	12.1	10.7	19.6	13.2	24
24	24	9.9	9.3	8.9	8.2	8.4	9.9	11.9	14.3	17.9	20	21.3	21.1	21.8	23.1	23.5	23.5	23.2	23.2	22.7	20.9	16.7	14.3	12.3	11.3	23.5	16.6	24
25	25	10.3	10.2	9.5	9.6	10.1	12.6	17.4	19.5	20.7	21	20.6	21.1	18	16.2	15.7	15.8	16.3	16.5	16.2	15.7	15.8	15.5	15.4	14.5	21.1	15.6	24
26	26	14.1	14.1	14.3	14.3	14.5	15	15.4	16	16.9	17.7	16.8	16.9	16	16.6	15.9	15.7	15.7	15.5	15.9	15.5	15.1	14.9	14.6	14.2	17.7	15.5	24
27	27	13.4	13.1	12.8	12.2	12	12.3	15.2	18.3	20.5	22	23.2	23.8	23.9	24.5	24.6	25.4	24.8	24.9	24.3	22.5	18.2	16.1	14.9	13.2	25.4	19.0	24
28	28	11.1	10.2	9.2	8.8	8.7	12.7	17.7	21.5	23.5	25.6	26.6	27.4	27.7	28.2	28.5	28.2	28.3	27.3	25.9	22.5	19.1	16.6	16	15.3	28.5	20.3	24
29	29	13.3	11.8	10.9	10.3	10.6	15.7	19.7	22.7	24.2	25.8	25.7	27.3	26.7	26.3	27.1	27.1	27	26.6	25	21.5	20.3	19.7	20	19.9	27.3	21.1	24
30	30	19	17.7	17.4	16.7	15.8	15.7	16	17.2	17.9	18.1	19	19.9	20.9	21.8	23.2	23.6	24.2	23.9	22.8	22.2	18.5	16	15.6	14.7	24.2	19.1	24
HOURLY MAX		19.0	17.7	17.4	16.7	15.8	15.7	19.7	22.7	24.2	25.8	26.6	27.4	27.7	28.2	28.5	28.2	28.3	27.3	25.9	22.5	20.3	19.7	20.0	19.9			
HOURLY AVG		10.8	10.2	9.9	9.7	9.8	11.3	13.2	15.3	16.9	18.2	19.1	19.6	19.7	19.8	19.8	19.6	19.5	18.9	18.0	16.6	14.5	12.9	11.9	11.4			

STATUS FLAG CODES

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

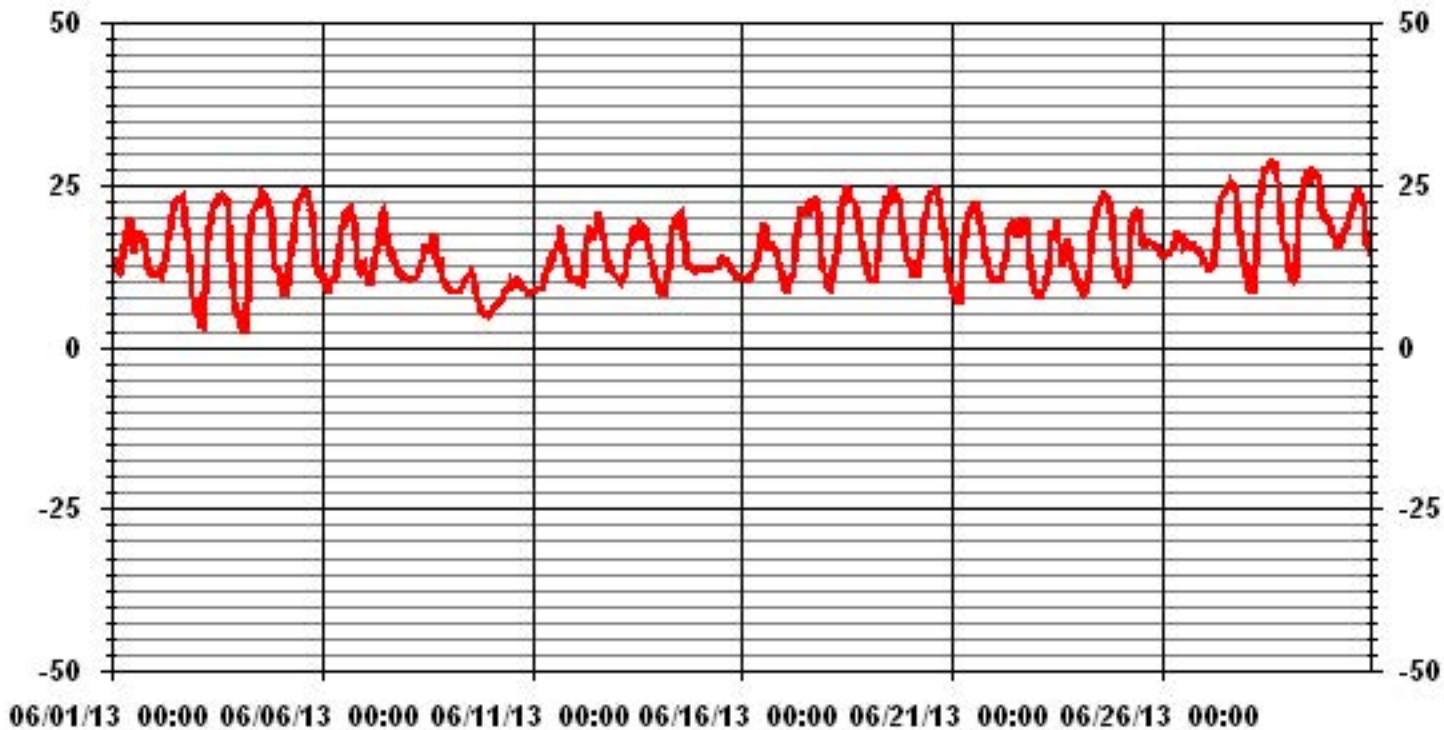
24 HOUR AVERAGES FOR JUNE 2013



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	2.6 °C	@ HOUR(S)	4	ON DAY(S)	4
MAXIMUM 1-HR AVERAGE:	28.5 °C	@ HOUR(S)	14	ON DAY(S)	28
MAXIMUM 24-HR AVERAGE:	21.1 °C			ON DAY(S)	29
CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	720 HRS		
STANDARD DEVIATION:	5.30	AMD OPERATION UPTIME:	100.0 %		
		MONTHLY AVERAGE:	15.27 °C		

### 01 Hour Averages



# Precipitation

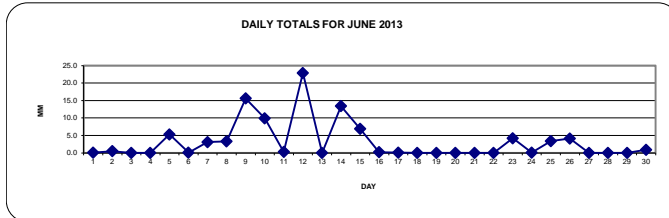
**LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA**  
**JUNE 2013**  
**PRECIPITATION hourly averages (mm)**

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	DAILY MAX.	DAILY TOTAL	RDGS.	
DAY																														
1		0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	24
2		0	0	0	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.5	24
3		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
4		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
5		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.1	4.1	0.1	4.1	5.3	24
6		0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	24
7		0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	1.1	0.7	0.2	0.2	0	0.1	0	0	0.2	0.3	1.1	3.1	24	
8		0.3	0.2	0.4	0.6	0.5	0.8	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.8	3.3	24
9		0	0.1	0	0	1.1	0.1	0	0	0	0	0	0	0	0	0	0.1	0.8	1.2	1.9	1.6	2.7	2	2.8	1.2	2.8	1.2	2.8	15.6	24
10		1.3	0.2	0.3	0.5	0.5	1	1.1	0.5	0.1	0.3	0.4	0.5	0.1	0.5	0.1	0.2	0.2	0.1	0.3	0.8	0.2	0.2	0.5	0	1.3	9.9	24		
11		0	0	0	0	0	0.2	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3	24	
12		0	0	0	0	0	0	0	0	0	0	0.1	0.6	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	8.6	22.9	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	0.0	0.0	24
14		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.6	4.4	4.1	1	0	0	0	0.2	0.1	4.4	13.4	24		
15		0	0	0	0.2	0.2	0.4	0.3	0.5	0.3	0.2	1	0.9	0.6	0.1	0	0.1	1.2	0	0.9	0	0	0	0	0	0	1.2	6.9	24	
16		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	0.1	0.2	24	
17		0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	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	0	0	0	0.0	0.0	24	
19		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
20		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	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	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	0.0	0.0	24
23		0	0	0	0	0	0	0	0	0	0	0	0	0	0.8	2.3	1.1	0	0	0	0	0	0	0	0	0	2.3	4.2	24	
24		0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	24	
25		0	0	0	0	0	0	0	0	0	0	0	0	1	0.6	0.2	0	0	0	0	0.5	0	0	0.4	0.7	1.0	3.4	24		
26		0.3	0.7	1.9	0.9	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	1.9	4.1	24	
27		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	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	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	0.0	24	
30		0	0	0.2	0	0	0	0.1	0	0.1	0.4	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.9	24	
HOURLY MAX		1.3	0.7	1.9	0.9	1.1	1.0	1.1	0.5	0.3	0.4	1.0	0.9	1.0	0.8	2.3	3.6	4.4	4.1	1.9	8.6	2.7	5.9	4.1	4.8					

**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

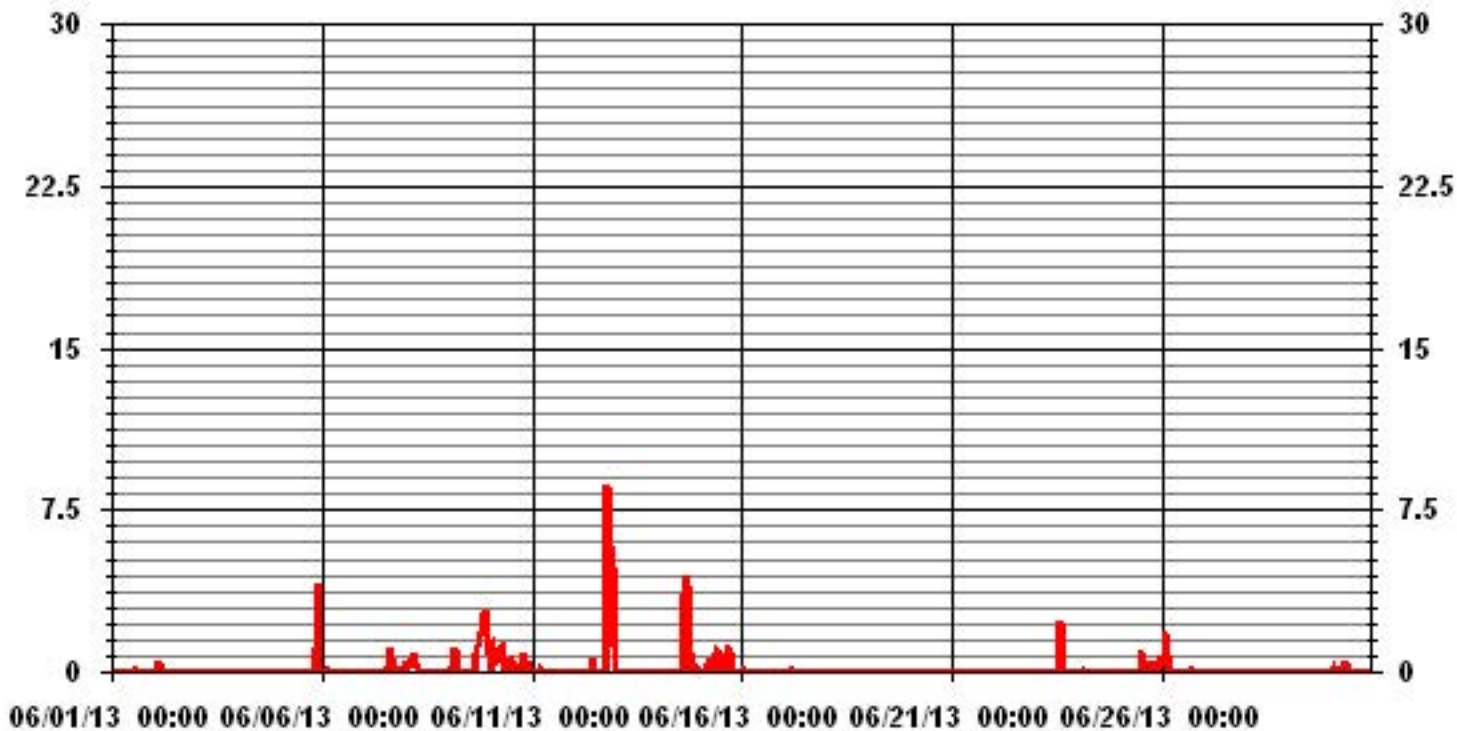
**DAILY TOTALS FOR JUNE 2013**



**MONTHLY SUMMARY**

MAXIMUM 1-HR AVERAGE:	8.6	MM	19	HOUR(S)	ON DAY(S)	12
MAXIMUM DAILY TOTAL	22.9	MM			ON DAY(S)	12
MONTHLY TOTAL	94.4	MM				
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS	
STANDARD DEVIATION:	0.59		AMD OPERATION UPTIME:	100.0	%	
			MONTHLY AVERAGE:	0.13	MM	

### 01 Hour Averages





# Relative Humidity

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2013

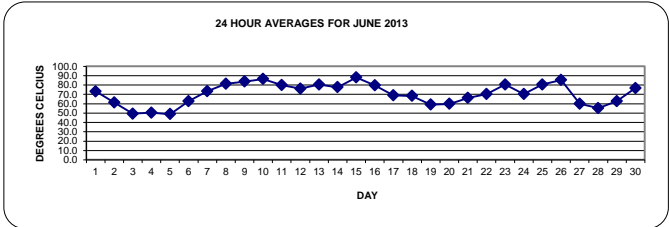
## RELATIVE HUMIDITY hourly averages (%)

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
DAY	DAY	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	MAX.	AVG.	RDGS.	
1	1	84	85	85	90	86	76	71	63	58	56	56	63	64	72	69	62	62	64	67	77	81	87	89	91	91	73.3	24
2	2	91	91	90	90	92	92	87	80	69	61	52	47	43	37	35	33	30	31	36	41	48	56	69	75	92	61.5	24
3	3	74	78	83	88	88	70	60	48	41	35	31	25	22	20	21	20	20	21	23	33	51	68	79	85	88	49.3	24
4	4	87	89	91	91	91	86	65	54	39	33	29	27	24	23	24	24	25	25	27	31	50	58	59	56	91	50.3	24
5	5	56	62	70	70	64	55	54	51	43	33	29	25	21	22	24	24	26	30	33	48	69	84	90	91	91	48.9	24
6	6	90	90	91	91	90	84	82	83	81	72	59	49	44	38	36	33	31	30	34	44	57	63	70	66	91	62.8	24
7	7	66	75	80	81	83	75	73	72	68	53	45	47	50	54	63	79	84	84	86	87	88	90	91	91	91	73.5	24
8	8	91	92	92	92	92	92	92	89	87	82	76	71	74	70	74	64	62	74	77	76	80	82	83	87	92	81.3	24
9	9	88	88	89	88	90	89	88	86	83	81	77	75	73	70	72	76	82	86	88	88	88	88	89	88	90	83.8	24
10	10	88	90	90	90	91	90	90	89	86	86	83	83	79	80	78	82	81	83	85	89	90	91	91	91	91	86.5	24
11	11	91	91	90	90	91	91	90	84	79	74	77	72	68	65	66	55	61	69	75	81	88	91	91	91	91	80.0	24
12	12	92	91	91	92	92	91	78	71	67	61	62	75	67	59	52	53	59	63	68	80	91	92	92	90	92	76.2	24
13	13	92	92	92	92	93	92	91	82	79	76	68	65	74	67	62	65	62	73	77	83	88	86	89	91	93	80.5	24
14	14	92	92	92	93	93	93	89	73	61	60	53	51	48	46	52	66	88	89	89	89	89	89	89	89	93	77.7	24
15	15	88	87	86	85	87	87	89	89	89	88	89	88	87	86	86	87	89	89	91	90	89	91	91	91	91	88.3	24
16	16	92	91	91	90	91	89	87	82	79	73	67	63	61	63	73	76	71	70	75	77	81	87	89	92	92	79.6	24
17	17	92	92	93	93	93	93	91	75	65	58	54	54	53	56	49	47	45	44	43	50	64	80	85	86	93	69.0	24
18	18	90	91	92	92	88	88	81	70	64	56	48	47	42	47	55	47	48	50	56	71	73	80	86	79	92	68.4	24
19	19	83	86	84	86	84	78	72	63	56	52	48	48	44	41	38	41	41	39	40	47	53	61	65	69	86	59.1	24
20	20	73	78	76	76	77	73	70	63	52	46	38	35	34	32	32	34	47	52	57	63	70	80	88	91	91	59.9	24
21	21	92	92	92	93	92	92	83	67	60	54	50	46	42	40	39	40	47	50	53	60	65	74	80	85	93	66.2	24
22	22	86	86	85	86	87	83	78	71	62	58	59	59	59	61	64	59	53	52	53	60	69	79	88	91	91	70.3	24
23	23	91	92	92	92	93	92	91	80	67	61	64	58	52	70	86	88	80	76	75	77	86	89	90	92	93	80.6	24
24	24	92	93	93	93	93	93	86	72	61	56	58	54	45	44	44	45	44	46	55	72	82	88	90	93	93	70.5	24
25	25	92	92	92	92	92	87	72	64	59	57	60	58	75	84	84	82	81	81	83	89	90	90	90	90	92	80.7	24
26	26	91	92	92	92	92	92	89	81	77	79	79	83	81	87	87	85	86	81	82	81	81	83	85	92	92	85.4	24
27	27	87	88	89	91	90	86	76	66	58	52	47	45	43	40	36	36	34	34	40	56	64	69	74	91	60.0	24	
28	28	83	87	91	92	92	88	69	56	50	41	31	25	26	25	25	26	27	30	34	49	65	71	71	75	92	55.4	24
29	29	84	90	92	92	92	82	68	53	50	49	49	45	45	43	44	42	44	43	51	65	71	74	69	69	92	62.8	24
30	30	72	79	79	87	90	89	90	87	81	81	80	74	69	67	62	58	55	56	63	67	82	90	91	92	92	76.7	24
HOURLY MAX		92	93	93	93	93	93	93	90	89	88	89	88	87	86	87	88	89	89	91	90	91	92	92	92	92		
HOURLY AVG		85.7	87.4	88.2	89.0	88.9	85.6	80.4	73.1	66.4	61.1	57.1	55.4	54.1	53.6	54.5	54.7	55.4	57.0	59.8	66.1	73.9	79.8	83.1	84.4			

### STATUS FLAG CODES

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

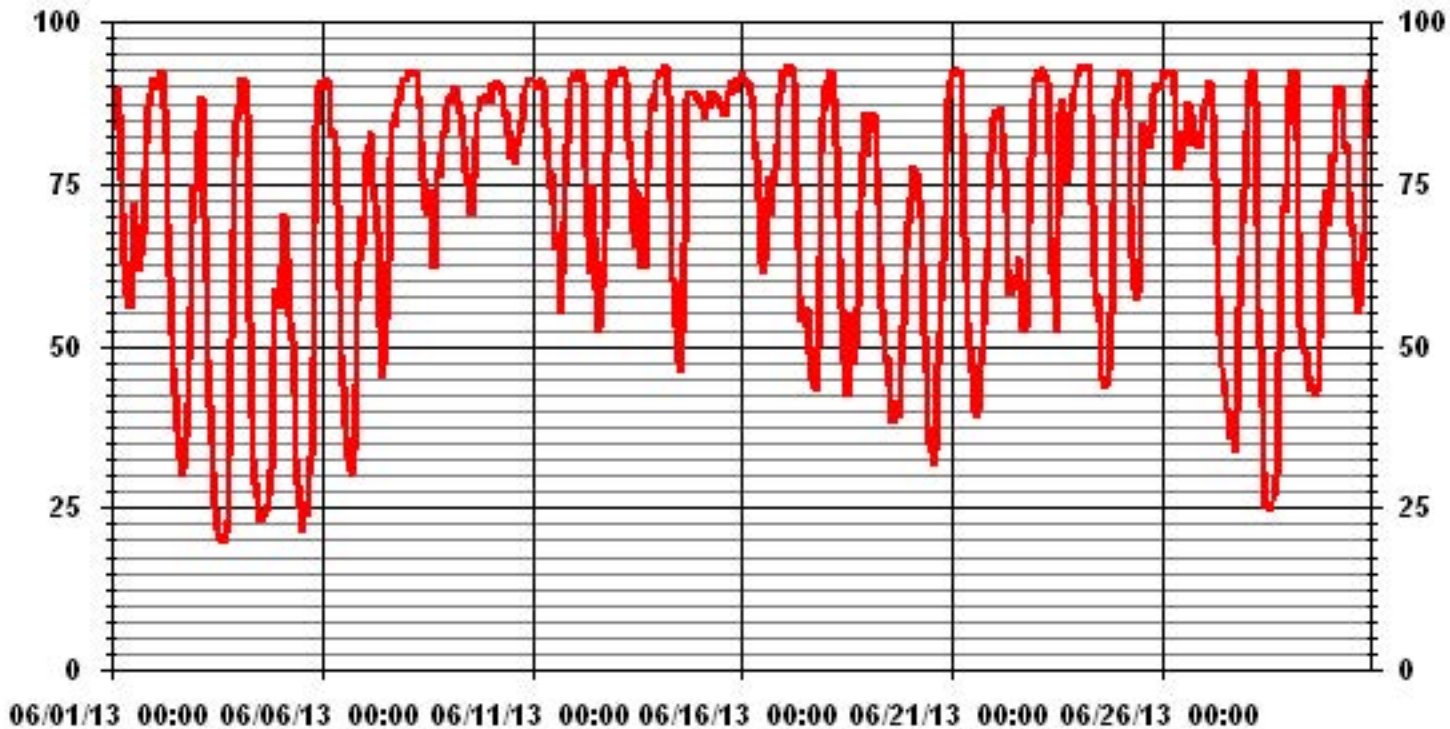
24 HOUR AVERAGES FOR JUNE 2013



### MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	93	%	@ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 24-HR AVERAGE:	88.3	%			ON DAY(S)	15
					VAR-VARIOUS	
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:		720	HRS
STANDARD DEVIATION:	20.05		AMD OPERATION UPTIME:		100.0	%
			MONTHLY AVERAGE:		70.61	%

### 01 Hour Averages



# Barometric Pressure

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2013

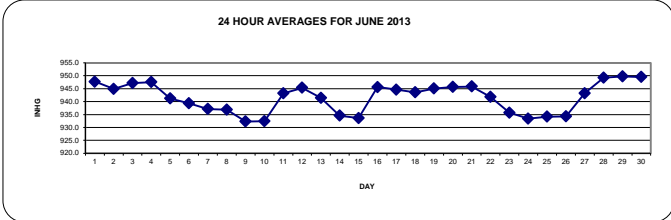
## BAROMETRIC PRESSURE hourly averages (millibar)

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
DAY	DAY	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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.
1	1	948	948	948	948	948	948	948	948	949	949	949	949	949	949	949	948	948	947	947	946	946	946	945	945	949	947.7	24	
2	2	945	945	945	945	945	945	945	945	946	946	946	946	946	945	945	944	944	944	944	944	944	945	945	944	944	946	944.9	24
3	3	944	944	944	944	945	946	947	947	948	948	949	949	949	949	948	948	948	948	948	948	948	948	947	947	947	949	947.1	24
4	4	947	947	947	947	947	948	949	949	950	950	950	949	949	948	948	948	947	947	947	946	946	945	945	945	950	947.5	24	
5	5	945	945	944	944	944	944	944	944	944	944	943	942	942	941	940	939	939	938	937	937	937	937	938	938	945	941.3	24	
6	6	938	938	938	938	937	938	938	938	939	940	940	940	941	941	941	941	941	941	941	940	940	940	939	939	941	939.4	24	
7	7	939	939	939	938	938	938	938	938	938	937	937	937	936	936	937	937	936	937	936	935	935	936	937	937	939	937.1	24	
8	8	937	937	937	937	937	937	937	937	937	937	937	937	937	937	937	937	937	937	937	937	937	936	936	936	937	936.8	24	
9	9	935	935	935	935	934	934	933	934	934	933	933	933	933	932	932	932	932	931	931	930	929	929	929	928	935	932.3	24	
10	10	928	926	927	927	927	928	929	929	930	931	932	932	933	934	935	935	935	936	937	936	937	938	938	938	938	932.4	24	
11	11	939	939	939	940	940	941	941	942	942	942	944	944	945	945	945	945	945	945	945	945	946	946	946	946	946	946	943.2	24
12	12	946	946	946	946	946	946	947	947	947	947	947	946	946	946	946	945	945	944	943	943	943	944	943	943	947	945.3	24	
13	13	943	942	942	942	942	941	942	942	943	943	943	942	942	942	942	941	941	940	940	940	939	939	939	943	941.4	24		
14	14	938	937	937	936	936	937	936	937	936	936	936	935	935	934	934	933	933	933	932	931	932	932	931	931	938	934.5	24	
15	15	930	930	930	930	930	930	930	931	931	931	932	932	933	934	933	935	935	936	937	938	939	940	940	941	941	933.6	24	
16	16	941	941	942	943	943	944	944	945	946	946	946	947	947	947	947	947	948	948	948	947	947	947	947	947	948	945.6	24	
17	17	946	946	946	946	946	946	946	946	946	946	946	945	945	944	944	944	943	943	943	943	943	943	942	943	943	946	944.6	24
18	18	943	942	942	943	943	943	944	945	945	945	945	944	944	944	944	944	944	943	943	943	944	944	944	944	945	943.6	24	
19	19	944	944	944	944	944	945	945	945	945	946	946	946	946	946	946	945	945	945	945	945	945	945	945	945	946	945.0	24	
20	20	945	945	945	945	945	946	945	945	946	946	946	946	946	946	946	946	946	946	946	946	946	946	946	946	946	946	945.7	24
21	21	946	945	945	944	944	945	946	947	947	947	947	947	946	946	946	946	946	946	946	946	946	945	945	945	947	945.8	24	
22	22	944	944	944	944	943	943	943	943	943	943	943	943	942	942	941	941	941	940	940	940	939	939	938	944	941.8	24		
23	23	938	938	937	937	937	937	937	937	937	937	937	936	936	935	935	935	934	935	935	934	934	933	933	933	938	935.7	24	
24	24	933	933	932	932	932	932	933	933	933	934	934	934	934	934	934	934	934	934	934	934	934	934	934	934	934	934	933.4	24
25	25	934	934	934	934	934	935	935	935	935	935	935	935	935	936	935	935	935	934	934	933	933	933	933	933	933	936	934.2	24
26	26	933	932	932	932	932	932	932	933	933	933	933	934	934	934	935	935	935	936	936	936	937	937	938	938	938	934.3	24	
27	27	938	939	939	940	940	941	942	942	943	943	944	944	944	944	944	945	945	945	945	946	946	946	946	947	947	947	943.3	24
28	28	946	947	947	947	948	948	950	950	950	951	951	951	951	950	950	950	950	950	950	950	949	949	949	949	949	951	949.3	24
29	29	949	949	949	949	949	950	951	951	951	951	951	951	951	951	951	950	950	950	949	949	948	948	949	948	949	951	949.7	24
30	30	949	949	950	950	949	949	949	950	950	950	950	950	950	950	950	950	950	950	949	949	949	949	949	949	950	949.5	24	
HOURLY MAX		949	949	950	950	949	950	951	951	951	951	951	951	951	951	950	950	950	950	950	950	949	949	949	949	949			
HOURLY AVG		941.03	940.87	940.87	940.9	940.83	941.23	941.53	941.73	942.13	942.17	942.4	942.23	942.3	942	941.97	941.87	941.7	941.6	941.43	941.2	941.3	941.27	941.2	941.23				

### 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

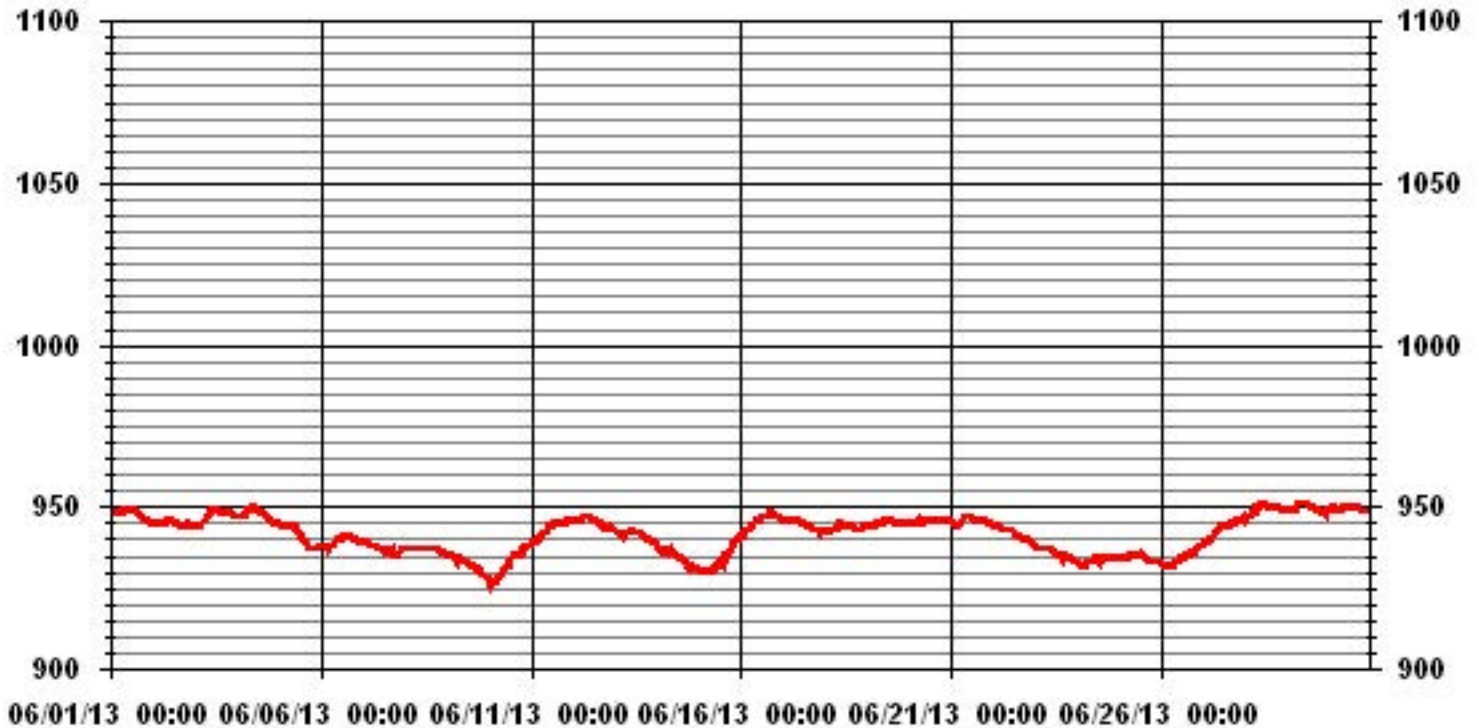
24 HOUR AVERAGES FOR JUNE 2013



### MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	951 MB	@ HOUR(S)	VAR	ON DAY(S)	28, 29
MAXIMUM 24-HR AVERAGE:	949.7 MB			ON DAY(S)	29
				VAR-VARIOUS	
CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	720 HRS		
		AMD OPERATION UPTIME:	100.0 %		
STANDARD DEVIATION:	5.88	MONTHLY AVERAGE:	942 MB		

### 01 Hour Averages



# Vector Wind Speed

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2013

## WIND SPEED hourly averages (km/hr)

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
DAY	HR	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	MAX.	AVG.	RDGS.	
1		0.3	1.7	1.3	1.5	2.3	3.2	3.7	2.8	3.6	3	5.6	5.2	6.6	4.8	3.9	2.2	0.8	1.7	2.8	5.2	2.6	0.4	0.5	1.4	6.6	0.7	24
2		1.3	2.3	3	0.2	1.6	2	1.3	3.1	4.5	5.3	4.5	6.1	7.2	8.4	8.1	9.2	8.3	7	5.6	4.7	4.9	2.8	3.4	2.4	9.2	4.1	24
3		2.8	4.4	2.7	2.5	3	4.5	4.6	4.4	3.7	4.2	6.9	5	5.7	6	5.5	5.9	6.8	6.4	5.4	4	3.1	2	1	1.3	6.9	3	24
4		1	0.7	0.8	0.9	0.4	1.1	3.2	2.2	4.9	6.7	8.9	9.2	8.8	7.2	8.1	9	9.4	7.5	7	5.2	3.8	4.7	4.6	5	9.4	4.3	24
5		4.8	4	4.4	4.4	4.9	4.8	6.2	8.2	9.3	11.3	13	13.5	<b>13.7</b>	12.7	11.9	11.1	11.8	7.5	7.4	4	7.7	6.1	3.3	4.5	<b>13.7</b>	6.8	24
6		5.1	4.9	4.5	4.7	3.8	5.1	7.2	7.1	7.6	8.4	10	10.9	9	8.5	8.5	7.8	7.4	6.6	4.9	4.2	5.5	4.9	4.6	6.2	10.9	5.6	24
7		5.9	1.5	1.3	1.9	2.4	1.8	1.3	2.9	4.1	3.7	6.3	7.7	10.2	10.2	8.5	3.2	3	4.5	4.1	4.1	2.2	1.9	2.4	2.3	10.2	2.9	24
8		2.2	2.6	3.3	3	3	4.4	0.9	4.2	3.7	4.7	4.6	6.4	6.6	5.5	4.1	4.7	5.5	4.1	3.9	4.1	4.2	5	6.8	6.3	6.8	2.7	24
9		7.6	7.3	7.4	8.4	7.7	8.2	8.5	8.7	8.8	9.3	11.1	10.1	11	10.8	11.6	11.4	9.7	9.3	8.6	9.1	8	8	7.7	8.5	11.6	<b>8.8</b>	24
10		7.5	7.3	7.7	7.2	8.4	9	8	5.7	7.1	6.1	6.5	5.9	8.1	7	5.4	5.2	4.7	4.5	4.2	6.4	4.2	4.7	4	3.4	9	5.4	24
11		3.2	3.6	3.4	4.4	4.8	5.5	5.9	4.4	4.9	5.3	3.9	4.4	5	4.4	4.1	5.3	4.4	2.6	5.5	2.8	0.5	0.4	0.2	1.1	5.9	3.3	24
12		2.3	2.5	2.8	2.8	2.2	4.1	5.4	5.3	5.3	6.8	5.3	4.4	2.5	6.4	7.1	6.8	4.5	3.8	5.4	2.1	2.3	3.3	1.8	3.2	7.1	2.7	24
13		3.5	2.8	0.7	1.5	1.7	2	2.9	2.9	2.6	2.3	3	2.6	2.5	2.5	1.9	2.2	1.6	3.2	2.1	1.1	0.6	2.8	0.8	1.3	3.5	0.7	24
14		1.7	2	1.1	3.5	1.6	1.4	2.4	2.8	2.2	2.9	2.4	2.5	4.3	3.6	4	4.1	2.9	5.9	1.3	3.2	5.1	5.4	6.5	6.5	6.5	1.6	24
15		7.1	7.6	9.2	8.2	10.3	10.8	10	10.9	10.3	9.6	8.8	9.8	8.5	6.9	6.1	6.8	7.3	6	7.6	8.6	9.1	5.9	5.5	4.1	10.9	6.9	24
16		3.7	5	7	2.5	2.2	3.1	6.4	9.8	9.4	10.1	7.3	6.2	4.9	3.4	2.8	2.8	4.3	3.2	2.3	2.9	2.8	3.3	2.9	3	10.1	1.7	24
17		3.4	1.9	3.2	3.2	3.6	3.4	3.6	4.4	5.2	6.1	7.9	9.4	9.1	6.3	9.3	7.8	6.6	7.2	4.3	4.4	3.1	1.8	2.6	2.7	9.4	4.6	24
18		2.3	2.5	0.4	2.8	1.7	0.7	5.5	3.9	2.2	2.9	3.5	5.4	4.9	3.3	1.3	3.9	2.7	1.7	1.8	0.9	3.6	3.6	3	4.1	5.5	2.2	24
19		2.3	4	3.3	4	5.1	6.1	11.2	9.9	10.6	10.3	10.5	8.7	8.1	8.2	8.8	8.9	7.9	6.5	5.8	4.4	4.5	4.5	4.6	5.3	11.2	6.5	24
20		4.3	3.9	5.3	5.3	6.5	6.2	7.2	8.7	11.4	12.5	12	11	10	9.8	8.1	7.7	7.7	6	5.5	5.2	4.2	1.9	1.5	1.1	12.5	5.1	24
21		1.4	0.8	0.5	0.8	1.8	3	4.5	6.1	6	5.9	6	6.9	7.5	7.3	7.8	7.3	10.5	8.5	7	6.3	4.3	4.6	3.4	2.7	10.5	4.5	24
22		0.4	4.4	2.5	2.5	2	5.8	3.7	5	3.6	3.8	6.9	9.9	8	1.7	4.5	3.2	6.3	3.9	5.5	4.2	3.6	2.6	1.5	1.2	9.9	2.8	24
23		1.2	0.8	0.1	0.6	1.1	1.2	1.4	2.9	3.1	3.5	5.9	5.8	4.6	3.2	6.4	1.4	1.9	1.1	1.2	3.6	2.3	2	1.4	1.9	6.4	0.8	24
24		2.2	2.4	1.1	1.8	2.4	2.6	1.4	2.4	2.6	3.4	3.2	4.7	4.8	7.8	8.5	8.1	8.3	6.7	5.2	4.4	3	2.8	2.3	1.7	8.5	3.2	24
25		1.8	2.2	3.4	3.5	3.5	2.8	3.2	6	5.4	6.2	6.3	7.7	7.1	7.2	6.8	8	7.4	6.3	5.1	5.2	6	7.7	6.7	4.5	8	4.8	24
26		4.8	4.7	3	2.4	2.3	2.7	4	5.6	6.2	6.4	6.4	6.1	5.2	7.6	5.9	6.1	6	5.9	6	4.7	4.7	4.8	5	4	7.6	3.3	24
27		3.4	5.1	4.4	4.4	3.9	4.8	6.5	7	8.1	8.7	8.4	8.4	7.2	7.9	7.4	7.6	8	8.3	6.8	3.8	2.7	3.5	3.6	0.6	8.7	5.6	24
28		1.2	0.4	2.6	2.8	3.1	2.9	2.8	2.4	4.6	6	6.9	6	4.4	3.8	5.6	4	4.8	5.2	4	2.7	3.3	4.1	4.3	3.7	6.9	3.1	24
29		2.5	1	0.4	1.2	1.9	0.2	0.2	2.1	3.8	4.8	5.3	5.8	6.9	8.1	6.4	8	7.6	6.5	5.1	3.4	4.2	5.1	8.1	4.3	8.1	3.9	24
30		1	1.3	4.4	2.3	1.9	1.9	1.3	2.4	2.3	2.4	2.2	4	5.2	4.8	6.6	6.7	6.4	4.6	3.3	3.2	2.3	2.6	2.7	1	6.7	2.7	24
HOURLY MAX		7.6	7.6	9.2	8.4	10.3	10.8	11.2	10.9	11.4	12.5	13.0	13.5	13.7	12.7	11.9	11.4	11.8	9.3	8.6	9.1	9.1	8.0	8.1	8.5			
HOURLY AVG		3.1	3.2	3.2	3.2	3.4	3.8	4.5	5.1	5.6	6.1	6.7	7.0	6.9	6.5	6.5	6.2	6.2	5.4	4.8	4.3	3.9	3.8	3.6	3.3			

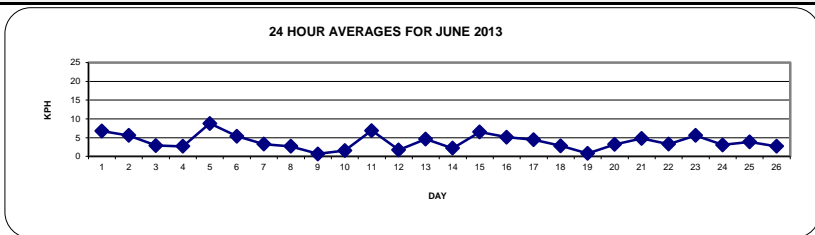
### STATUS FLAG CODES

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

LAST CALIBRATION: December 20, 2011

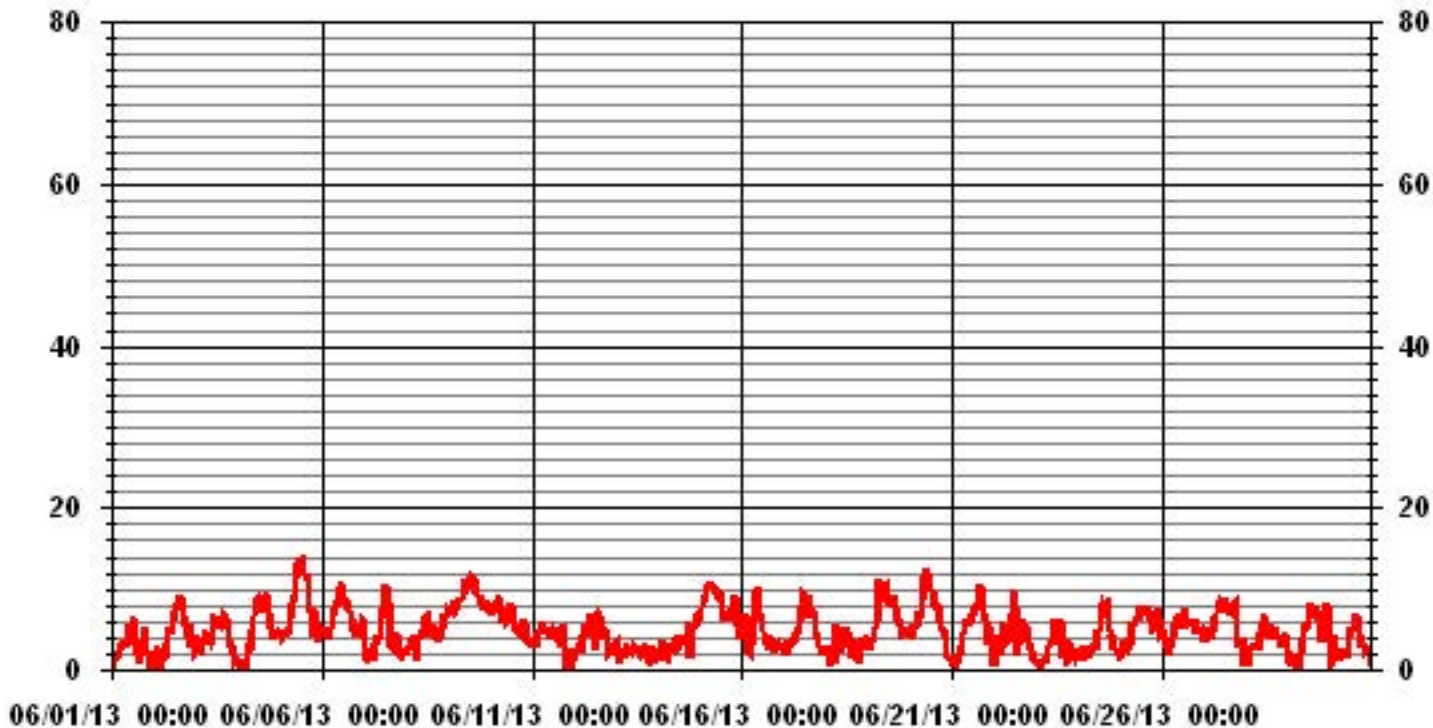
### MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	13.7 KPH	@ HOUR(S)	12	ON DAY(S)	5
MAXIMUM 24-HR AVERAGE:	8.8 KPH			ON DAY(S)	9
CALMS (≤ 1 KPH)	3.76 %	OPERATIONAL TIME:		720	HRS
MONTHLY CALIBRATION TIME:	0 HRS	AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	2.70	MONTHLY AVERAGE:		4.84	KPH





### 01 Hour Averages



— LICA30 WSP KPH

## LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2013

### VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	
HOUR START	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.	
DAY																											
1		2.3	7.8	9.6	5.2	8.7	10.4	11.8	12	19	16.3	15.9	29.5	24.7	17.9	13.4	10.5	6.1	5.9	8.3	11	7.9	5	4.5	3.9	29.5	
2		5.9	8.1	8.5	5.6	6.7	12.4	5.4	13.1	15.5	21.1	27.3	31.2	32.3	33.2	33.3	32.2	34.6	30.1	20.4	15.1	17.5	10.4	6.9	9.8	34.6	
3		11.5	9.3	7.1	6.7	7.2	9.6	11.8	13.7	16.8	22	23.7	22.8	29.3	26.6	27.4	26.2	28	28.6	19	12.9	5.8	4.1	3.4	5.2	29.3	
4		6.1	4.1	2.6	3.6	3.2	5.4	7.8	10.7	16.8	22	27.3	31.2	27.7	31.2	30	30.4	28.6	28	19.5	16.9	8.3	10.7	10.5	13.1	31.2	
5		12.6	12.4	9.8	10.9	11.5	15.2	17.7	24.2	32.5	34.3	40.4	40.2	45.4	<b>48.9</b>	35.6	37.8	40.4	26.8	20.5	27	35.8	26	17	17	<b>48.9</b>	
6		25.5	19.9	15.9	19.4	19.6	26.6	37.4	31.7	28	33.7	37.7	47	35.8	37.8	42.6	33.9	36.5	27	24.5	20.4	10.5	7.9	8.3	13.5	47	
7		14.8	9.1	5.6	5	6.7	10.4	7.4	7.6	10	17.2	24.6	24	33.9	35.8	33.2	14.4	13.1	21.1	14.1	13.5	7.8	8	10.9	5.4	35.8	
8		6.2	10.5	11.6	17.4	13.3	18.8	13.7	18.1	16.8	19.2	20.5	23.3	27.9	25.3	18.8	22.7	29.9	17.9	13.5	18.3	19.2	21.2	29.3	26.2	29.9	
9		31.5	27.3	32.3	28.8	29.3	33.4	29.4	32.9	33	37.8	40.9	43.7	42.8	41.7	46.8	45.9	44.4	44	39.1	46.2	38.7	35.9	43.5	41.5	46.8	
10		42.4	37.3	37.9	25.8	33.7	34.1	29.1	27.9	26.2	33.7	26.6	24.4	35	28.8	30.2	22	21	21	26.9	27.3	23.6	26.5	21.9	15.9	42.4	
11		13.9	17.9	16.6	19.9	21.4	26.9	21.4	18.3	20.3	19.4	18.3	19.9	24.7	17	17.4	15.7	15.2	13.3	16.4	8.9	5.4	3.4	2.8	5.2	26.9	
12		5.7	6.6	6.6	6.3	6.9	12.8	25.8	25.3	24.9	25.4	24.2	19	15.2	22.9	24.2	28.1	20.5	15.1	17.2	29.7	15.5	18.6	24	15.9	29.7	
13		14.6	9.3	5.4	5.6	5.6	6.9	10.9	8.9	8.7	9.1	13.9	13.3	13.7	21	12.7	17.6	10.7	9.7	5.9	5.3	6.5	12.9	5.4	4.5	21	
14		6.5	5.4	4.7	8.9	5.8	7.8	8.9	9.1	18.5	17.4	15.9	18.5	22.9	18.3	19.2	15.9	12.6	18.1	22.7	13.3	23.8	20.7	22.5	24.2	24.2	
15		31.5	37.6	32.6	33.1	34.4	36.6	35.5	37.8	41.1	41.5	36.9	33.2	29	29.9	26.4	27.9	24	14.6	19.4	19.6	22.9	15.9	13.7	12.6	41.5	
16		10.4	14.8	15.7	11.3	6.7	10.4	22	23.4	25.2	28.3	21.7	26.7	22.6	18.2	16.2	8.2	11.3	9.3	7.8	7.6	6.5	7.1	6.1	7.6	28.3	
17		8.9	5.8	6.7	8.9	9.8	11.5	10	13.3	19.6	21.6	22.9	25.3	39.3	20.3	28.4	22.9	23.8	30.1	20.5	15.7	8.9	4.1	11.1	9.1	39.3	
18		8.3	8.2	5.4	18.4	6.8	6.8	23.3	12.2	11.1	19.6	19.6	24.6	24	23.5	14.6	19.4	9.8	8.7	5.6	6.5	12.4	11.1	8.9	9.3	24.6	
19		6.9	12.4	9.8	9.8	11.3	16.8	29	35	30.4	35.4	32.5	32.5	32.1	36.7	35.1	37.5	27.3	27.3	25.3	14.6	13.7	11.5	11.1	13.5	37.5	
20		12.4	11.2	11.6	12.9	18.1	14.1	23.1	41.5	40.4	41.3	42.6	38.6	38.7	45.7	36	31.6	23.1	20.1	17	16.8	13.7	4.7	4.7	3.9	45.7	
21		3.9	5	3	3.9	7.6	8	12.8	22.5	24.7	29.3	26.2	27.3	28.4	35.8	37.1	32.1	39.1	33.2	28.4	31.7	18.4	17.3	10.7	9.6	39.1	
22		8.2	12.6	11.5	13.7	6.3	12.2	12.6	18.1	15.9	19.9	28.1	29.7	31.7	20.1	18.8	19	20.5	17.9	22.9	11.7	10.2	5.8	5	4.1	31.7	
23		4.7	3.2	3.2	5.4	5	4.8	6.4	7.4	10.5	14.1	16.1	19.9	24.7	26.6	23.1	9.8	7.8	5.4	6.1	10	7.1	9.1	5.8	4.7	26.6	
24		5.4	6.9	7.8	5.6	7.8	8.5	9.6	8.9	12.6	16.6	15.9	14.8	16.1	24.4	23.1	23.8	26.6	19.6	16.1	13.1	7.9	6.8	7	9.7	26.6	
25		7.4	10.9	9.6	8.5	9.3	8.7	9.6	17	24.6	25.3	24	30.8	23.8	27.5	30.6	35	32.3	19.6	13.9	17.4	29.3	28.6	31.5	24	35	
26		21.8	17.2	12.2	7.4	8.2	13.1	13.7	12.8	15.7	17.9	15.9	20.5	15.9	22.1	15.9	21.2	23.4	28.5	30.9	24	22.9	20.7	20.3	19	30.9	
27		14.1	20.5	17.7	19.6	18.1	18.5	30.4	30.8	32.8	30.3	37.3	32.8	33	34.1	36.9	35.4	43.7	34.7	30.1	20.3	10.6	10	9.8	15.2	43.7	
28		6.3	5.2	5.8	5.6	7.5	7.1	8.8	11.2	16	25.4	33.5	24.6	21.2	24.5	25.6	21.4	23	23.4	16.7	7.2	6.5	10.2	8	9.5	33.5	
29		7.1	4.3	5.4	6.3	6.9	2.5	3.9	9.8	13.7	14.6	16.5	19.2	20.7	24.9	20	24.4	21.6	19.6	17.2	11.3	11.3	12	23.1	27.5	27.5	
30		7.4	7.1	20.9	16.8	5.4	4.7	5.2	9.6	8.7	8.7	11.1	12	13.3	14.1	21.6	19.8	19.6	17.6	10.6	9.3	7.3	6.3	9.4	4.8	21.6	
PEAK		42.4	37.6	37.9	33.1	34.4	36.6	37.4	41.5	41.1	41.5	42.6	47.0	45.4	<b>48.9</b>	46.8	45.9	44.4	44.0	39.1	46.2	38.7	35.9	43.5	41.5		

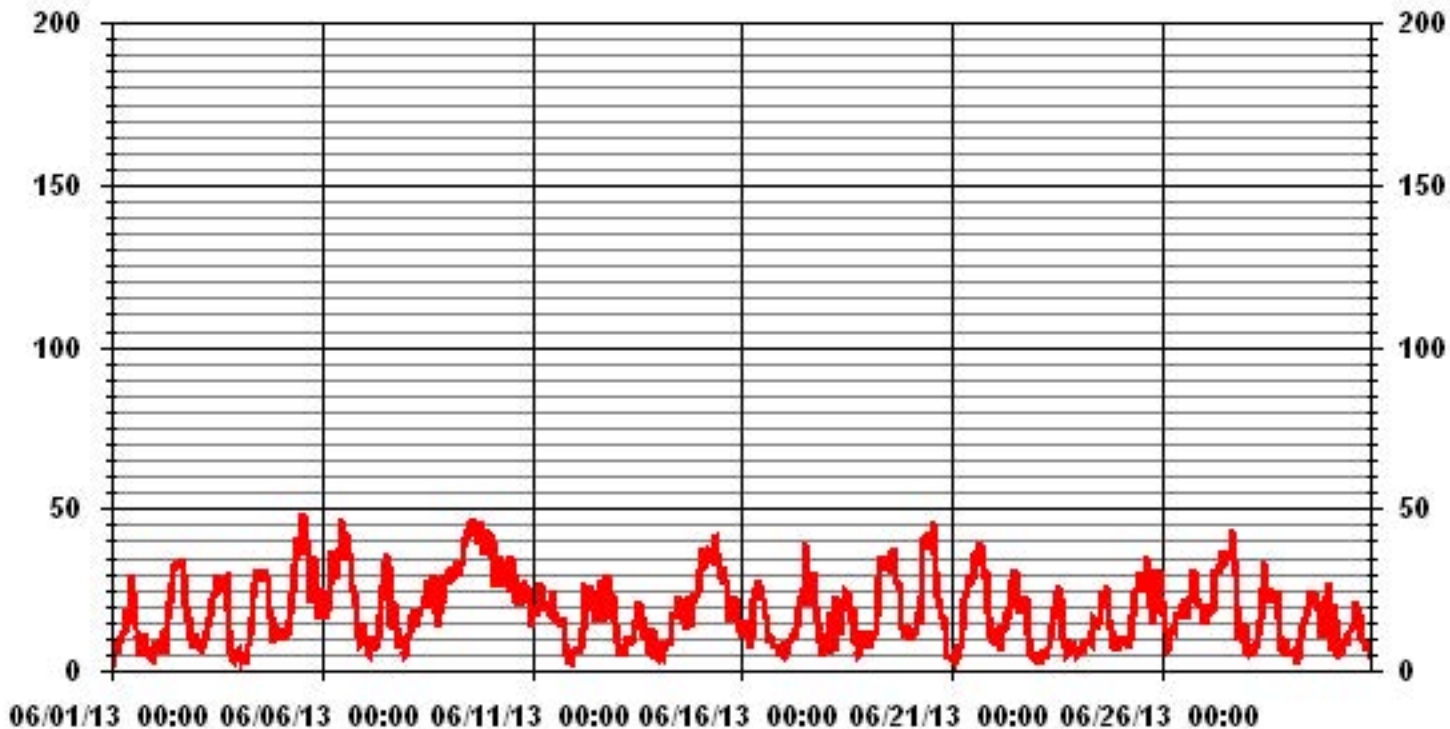
**STATUS FLAG CODES**

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

**MONTHLY SUMMARY**

MAXIMUM INSTANTANEOUS READING	48.9	KPH	@ HOUR(S) ON DAY(S)	13 15
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# 01 Hour Averages



— LICA30 WSMAX KPH

LICA30  
WSP / WDR Joint Frequency Distribution (Percent)

June 2013

Distribution By % Of Samples

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

Wind Parameter : WDR  
Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 6.0	1.80	2.08	7.91	6.52	3.88	4.44	3.88	4.72	4.58	8.61	4.72	3.47	3.88	3.75	1.38	1.66	67.36
< 12.0	.27	1.38	2.22	1.52	1.94	1.52	2.63	1.94	1.94	3.33	.55	.27	2.77	6.11	2.91	.41	31.80
< 20.0	.00	.00	.00	.27	.00	.00	.00	.00	.55	.00	.00	.00	.00	.00	.00	.00	.83
< 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	2.08	3.47	10.13	8.33	5.83	5.97	6.52	6.66	7.08	11.94	5.27	3.75	6.66	9.86	4.30	2.08	

Calm : .00 %

Total # Operational Hours : 720

Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 6.0	13	15	57	47	28	32	28	34	33	62	34	25	28	27	10	12	485
< 12.0	2	10	16	11	14	11	19	14	14	24	4	2	20	44	21	3	229
< 20.0				2					4								6
< 29.0																	
< 39.0																	
>= 39.0																	
Totals	15	25	73	60	42	43	47	48	51	86	38	27	48	71	31	15	

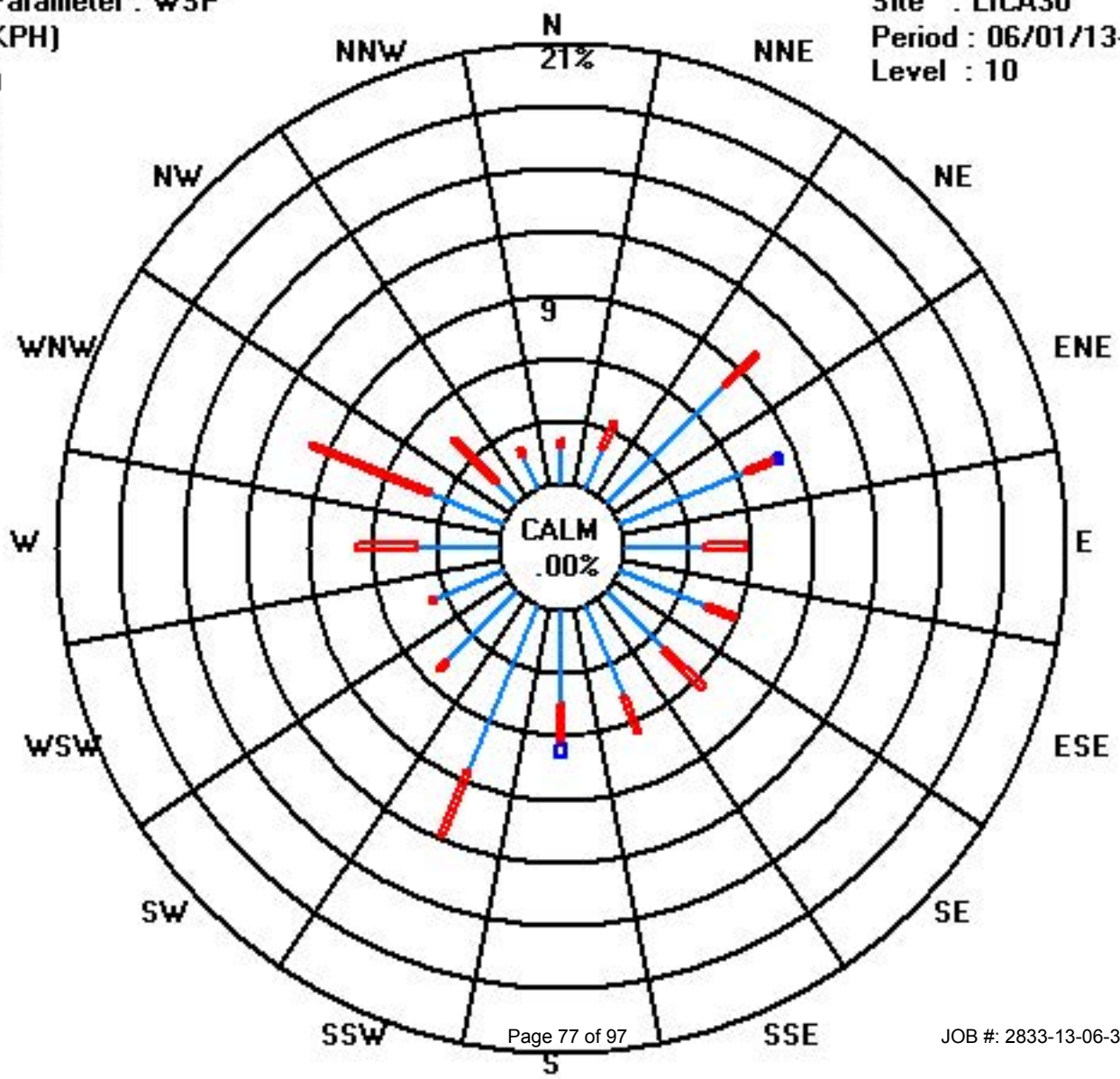
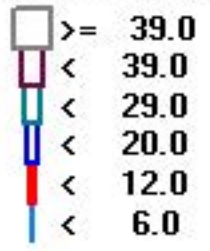
Calm : .00 %

Total # Operational Hours : 720

Class Limits (KPH)

Period : 06/01/13-06/30/13

Level : 10



# Vector Wind Direction

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2013

## WIND DIRECTION 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	24:00	24-HOUR	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	AVG.	QUADRANT	RDGS.	
DAY																												
1	338	65	41	81	75	59	61	125	122	130	206	230	283	254	325	335	267	173	175	202	200	358	169	164	191	S	24	
2	170	124	181	76	75	105	66	81	95	126	122	109	130	122	110	122	125	112	129	118	119	97	36	67	115	ESE	24	
3	102	40	44	40	34	40	48	43	60	117	143	116	109	113	138	105	143	146	166	166	158	161	207	136	111	ESE	24	
4	176	210	183	136	136	34	30	49	160	169	164	183	195	214	204	200	203	197	194	200	161	161	164	176	184	S	24	
5	184	187	193	181	178	166	181	177	180	191	183	182	185	178	178	176	176	161	145	287	286	294	211	211	186	S	24	
6	237	234	233	235	242	255	278	283	285	288	291	289	291	291	290	271	271	267	260	234	206	190	192	200	264	W	24	
7	197	245	172	157	186	190	143	20	46	123	144	161	174	200	190	148	84	118	121	153	134	96	95	55	156	SSE	24	
8	66	126	123	123	122	101	53	295	280	280	271	286	291	290	269	287	288	331	271	282	281	300	294	280	286	WNW	24	
9	293	296	294	293	302	309	310	310	312	300	296	288	290	288	290	295	288	276	277	271	271	264	267	263	289	WNW	24	
10	258	263	273	276	282	291	314	333	321	322	338	338	360	353	335	324	299	309	300	295	278	269	294	289	305	WNW	24	
11	298	305	294	289	297	318	322	342	339	315	321	302	335	11	356	5	327	2	21	6	335	156	224	45	331	NNW	24	
12	62	55	67	56	58	57	96	102	119	137	141	131	172	188	146	126	117	62	50	277	24	353	34	44	102	E	24	
13	88	38	81	61	18	117	207	202	159	165	215	245	269	285	250	101	132	170	209	217	44	70	213	205	173	S	24	
14	213	142	212	203	194	206	228	298	289	307	292	261	276	306	62	48	164	51	302	261	279	287	320	303	289	WNW	24	
15	299	300	308	307	305	307	309	313	317	320	322	315	319	316	330	346	12	21	30	27	27	19	18	11	331	NNW	24	
16	8	24	24	10	353	0	23	28	31	33	49	69	79	148	244	216	208	220	218	203	210	208	197	208	36	NE	24	
17	207	214	186	207	204	202	207	220	233	212	210	200	202	210	209	208	219	223	236	216	211	177	62	88	208	SSW	24	
18	58	58	92	219	211	91	41	52	58	128	103	63	69	98	297	61	86	71	110	65	57	51	46	53	69	ENE	24	
19	42	49	56	44	42	41	36	47	46	49	55	60	84	104	64	53	54	72	77	54	55	44	45	40	55	NE	24	
20	48	43	40	43	36	40	55	55	63	57	73	73	81	79	82	94	148	163	164	175	179	203	183	168	78	ENE	24	
21	158	146	158	157	68	45	48	55	76	93	93	93	93	92	109	115	130	129	124	95	94	67	46	61	95	E	24	
22	56	41	137	95	37	28	56	61	80	88	147	142	138	256	38	117	140	98	137	150	152	179	134	132	112	ESE	24	
23	248	131	65	195	183	63	75	33	27	31	36	33	327	20	38	97	218	302	225	200	214	239	223	207	24	NNE	24	
24	210	220	263	220	219	227	254	233	274	270	249	197	219	195	192	191	201	198	184	160	144	115	114	75	200	SSW	24	
25	57	75	46	43	49	41	49	52	73	89	106	118	135	126	72	60	59	58	57	61	85	94	95	108	80	E	24	
26	105	115	99	62	66	119	164	195	200	199	204	209	203	200	211	229	241	269	273	259	255	242	247	253	213	SSW	24	
27	258	272	272	279	259	273	283	293	296	302	292	283	284	292	283	267	285	281	277	261	235	223	216	227	278	W	24	
28	205	208	199	202	198	227	261	284	240	280	306	294	286	289	243	258	257	238	245	217	206	203	207	201	247	WSW	24	
29	201	212	351	134	65	85	13	197	179	177	153	163	156	181	162	163	162	157	134	115	132	137	143	161	158	SSE	24	
30	199	197	205	249	156	157	85	115	66	73	112	157	192	172	164	161	168	184	170	169	155	182	194	211	168	SSE	24	
HOURLY AVG	338	305	351	307	353	318	322	342	339	322	338	338	360	353	356	346	327	331	302	295	335	358	320	303				

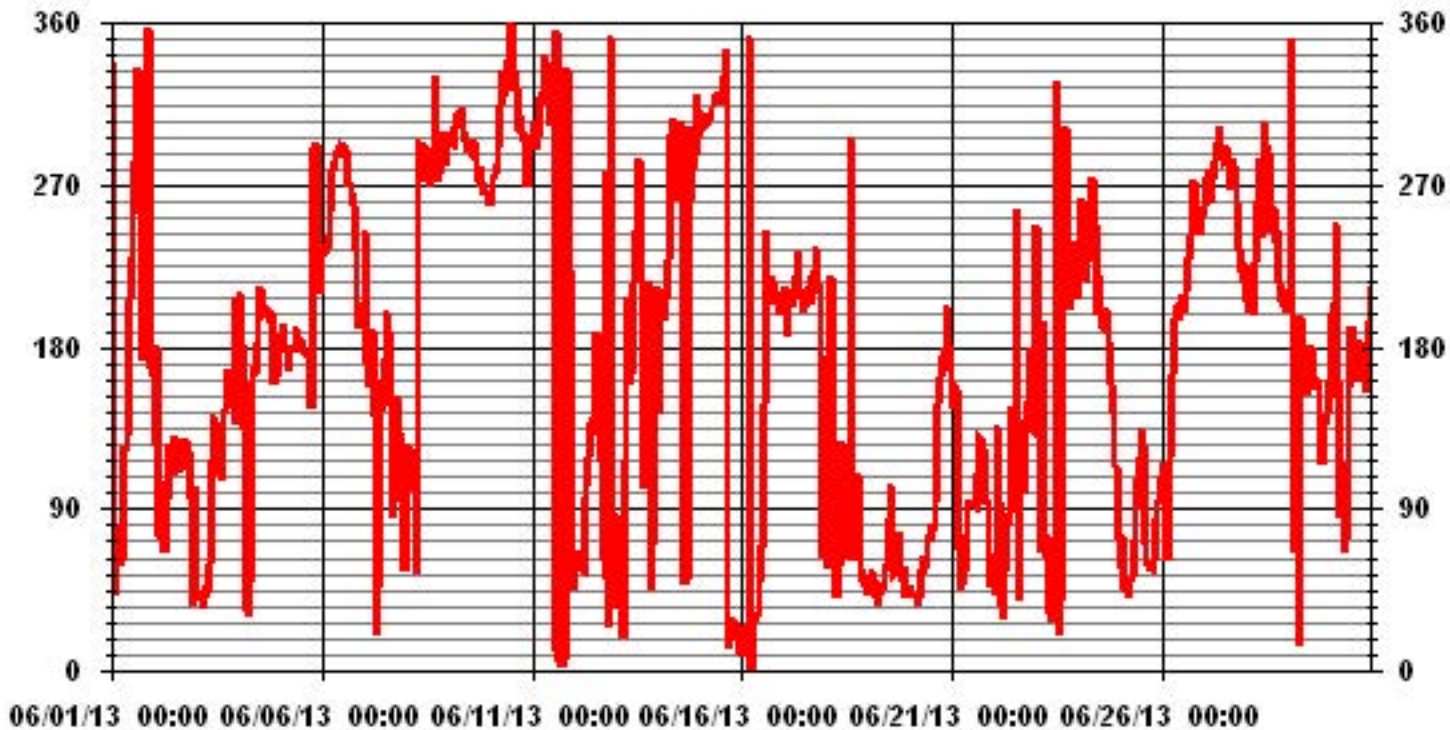
### STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- 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:	December 20, 2011
DECLINATION:	19 DEGREES FROM MAGNETIC NORTH

MONTHLY CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	720 HRS
STANDARD DEVIATION:	92.96	AMD OPERATION UPTIME:	100.0 %
		MONTHLY AVERAGE:	197 DEG

### 01 Hour Averages





# Standard Deviation Wind Direction

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

JUNE 2013

## STANDARD DEVIATION WIND DIRECTION (STDWDIR) 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	61	32	41	33	34	24	25	46	44	49	35	39	39	40	44	58	52	34	26	16	32	47	53	51
2	43	29	17	45	44	51	48	38	39	36	53	44	42	37	41	36	38	42	29	23	25	20	15	23
3	26	19	21	19	28	14	22	33	51	48	44	58	50	42	56	48	44	34	27	19	14	25	32	41
4	52	42	42	48	47	53	13	40	36	37	31	31	33	43	32	30	26	31	21	17	10	10	13	17
5	16	15	13	15	17	24	27	26	27	25	26	26	27	29	28	27	27	25	23	49	38	44	38	21
6	40	38	34	37	41	44	41	40	41	43	38	40	41	44	44	46	46	47	49	33	13	14	8	12
7	13	47	33	11	22	33	56	19	25	34	33	32	26	22	23	27	31	33	33	24	20	24	29	17
8	23	32	27	31	38	41	50	44	42	42	46	40	40	46	44	50	48	47	40	42	44	42	37	38
9	37	35	39	33	37	37	39	40	39	38	35	36	39	37	38	37	37	36	40	40	43	44	45	41
10	44	45	40	41	36	36	38	41	39	51	40	41	35	36	42	40	43	44	44	40	40	44	47	43
11	45	47	45	40	43	42	38	38	41	42	50	46	44	43	42	32	38	52	20	30	41	59	64	48
12	20	18	18	19	22	23	31	41	42	38	41	33	48	29	35	36	31	26	21	45	54	47	37	45
13	26	24	32	27	44	39	36	44	34	43	53	47	54	73	60	63	49	23	30	49	43	30	52	53
14	47	25	32	29	55	59	40	43	57	47	56	55	45	50	43	42	39	25	40	39	37	40	40	34
15	38	38	36	44	35	37	37	37	41	42	42	37	39	44	40	36	24	19	16	15	16	19	18	21
16	22	22	16	27	32	27	19	16	17	23	30	35	45	44	54	26	24	31	31	19	17	11	11	19
17	29	27	12	23	19	37	25	31	36	35	29	28	31	31	29	33	36	34	44	25	16	19	44	28
18	28	20	51	35	47	32	21	32	51	63	55	52	46	56	61	40	36	34	22	50	25	22	16	19
19	27	20	21	18	16	18	17	23	26	30	33	33	41	41	34	30	30	34	32	24	19	15	15	15
20	19	21	17	18	14	19	27	27	32	30	34	36	38	40	42	41	31	31	30	26	23	25	45	37
21	33	75	68	51	30	19	26	28	41	41	38	40	37	41	42	41	30	34	37	39	36	34	29	25
22	43	26	43	35	23	17	34	36	50	53	38	33	39	35	49	37	38	51	38	30	21	17	36	48
23	32	54	69	65	40	63	40	32	46	43	26	36	53	49	19	44	64	32	50	16	27	41	38	25
24	25	24	54	39	24	29	54	44	44	44	44	27	38	30	30	29	29	27	29	18	17	17	20	27
25	27	50	20	17	25	25	30	25	37	35	35	38	28	34	33	26	26	27	26	28	34	36	38	47
26	40	35	30	23	29	28	26	22	24	23	21	29	26	22	23	33	41	43	44	44	45	43	44	46
27	42	44	38	39	42	36	36	41	38	38	41	42	45	38	43	45	46	42	41	48	33	27	21	74
28	45	68	11	12	15	34	31	55	41	43	44	51	56	54	51	57	48	41	41	24	13	11	9	10
29	15	38	56	45	34	66	69	46	32	37	33	36	26	24	31	27	27	25	26	26	16	17	21	33
30	55	58	24	54	28	18	25	26	32	31	39	33	28	34	33	30	30	34	25	21	21	17	19	38

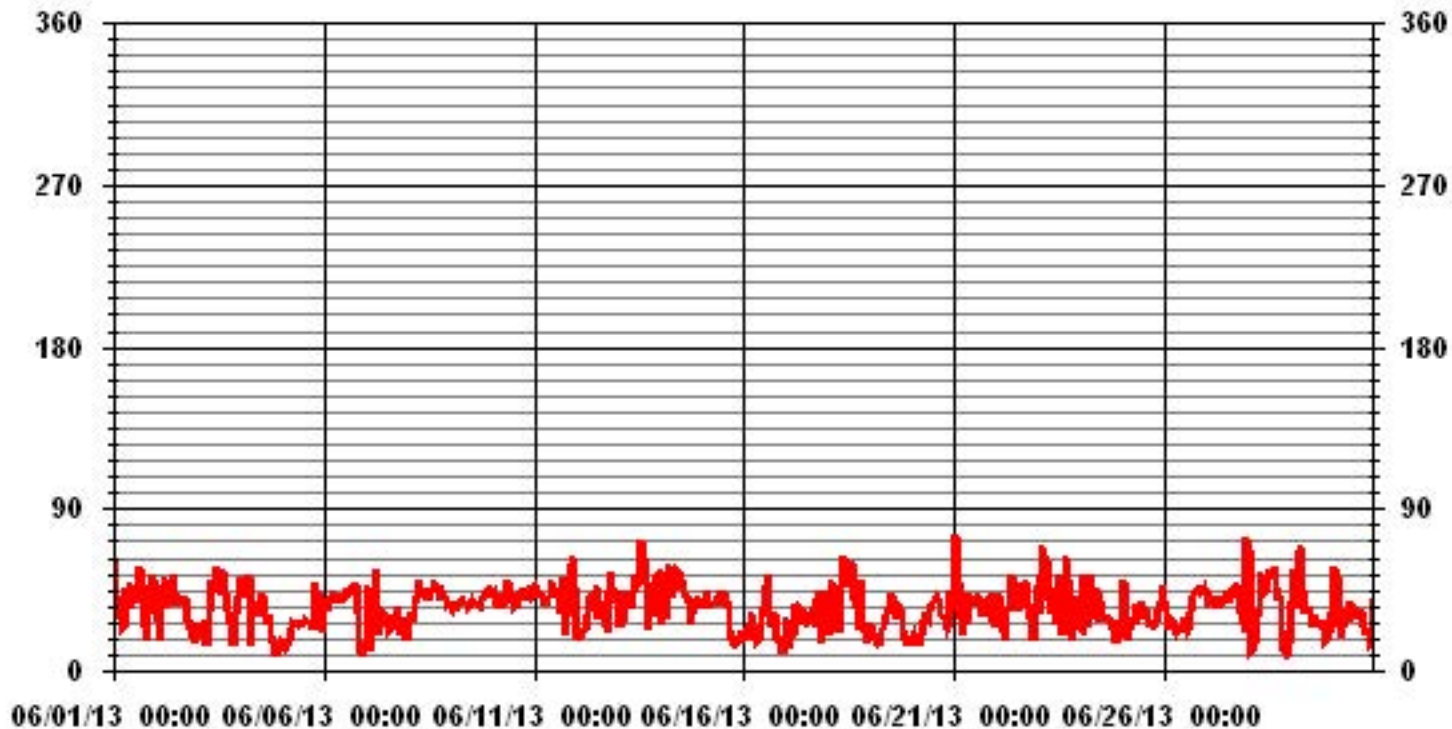
### STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- 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: December 20, 2011

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 720 HRS

### 01 Hour Averages



# Calibration Reports

# Sulphur Dioxide

## SO2 Calibration Report

### Station Information

Calibration Date	June 19, 2013	Previous Calibration	May 9, 2013
Company	Lakeland Industry & Community Association		
Plant / Location	LICA MASKWA		
Start Time (MST)	11:30	End Time (MST)	15:30
Reason:	Monthly calibration		
Barometric Pressure	27.88 in HG	Station Temperature	20 Deg C
Cal Gas	49.6 ppm	Gas Cyl. #	BAL3031
DAS Output Voltage	0-1 Volts	Cal Gas Expiry date	December 29, 2016
		Chart Rec. Output	N/A Volts

### Equipment Information

Analyzer Make / Model:	API 100E	S/N :	508	Method:	Fluorescent
Converter Make / Model:	N/A	S/N :	N/A		
Calibrator Make / Model:	EnviroNics 6100	S/N :	4760	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO791		
Chart Recorder Make / Model:	N/A	S/N :	N/A		
Flow Meter:	EnviroNics 6100	S/N :	4760		

### Analyzer Settings

Before Calibration			After Calibration		
Concentration Range	0-1000 ppb				
Sample Flow / Box Temp	593 ccm	29.3 Deg C	594 ccm	28.4 Deg C	
HVPS / Lamp Setting	491	3576	491	3576(88.6%)	
PMT / RxCell Temp	7.7 Deg C	50 Deg C	7.7 Deg C	50 Deg C	
Converter / IZS Temp	N/A Deg C	45 Deg C	N/A Deg C	45.0 Deg C	
Offset / Slope	76.5	0.95	80.4	0.953	

### Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	3	0.0000
5000	0	0	1	0.0000
4919	81.3	806	799	1.0093
No span adj.				
4959	40.6	403	396	1.0171
4980	20.3	201	200	1.0068
5000	0	0	1	0.0000
Sum of Least Squares				1.0107
New Correction Factor				1.0093

### IZS Calibration Data

Before Calibration		After Calibration	
Auto Zero	0.0	Auto Zero	0.0
Auto Span	230.0	Auto Span	237.0
Sample Lines Connected		Sample Lines Connected	Yes

### Percent Change

Previous Month's Calibration Correction Factor:	1.0031
Current Correction Factor Before Span Adjust:	1.0093
Percent Change:	-0.6%

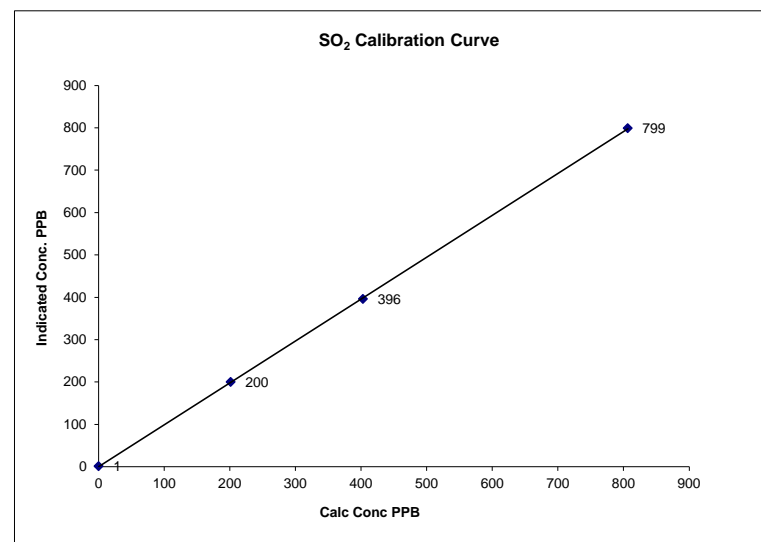
Notes: Change sample filter.

Calibration Performed by: Limin Li

## SO<sub>2</sub> Calibration Curve

Calibration Date	June 19, 2013
Company	Lakeland Industry & Community Association
Plant / Location	LICA MASKWA
Start Time (MST)	11:30
End Time (MST)	15:30

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope Intercept	(≥ 0.995) (0.85 to 1.15) (± 3% F.S.)
0	1	0.0000		0.999974
201	200	1.0068		0.989131
403	396	1.0171		0.184105
806	799	1.0093		

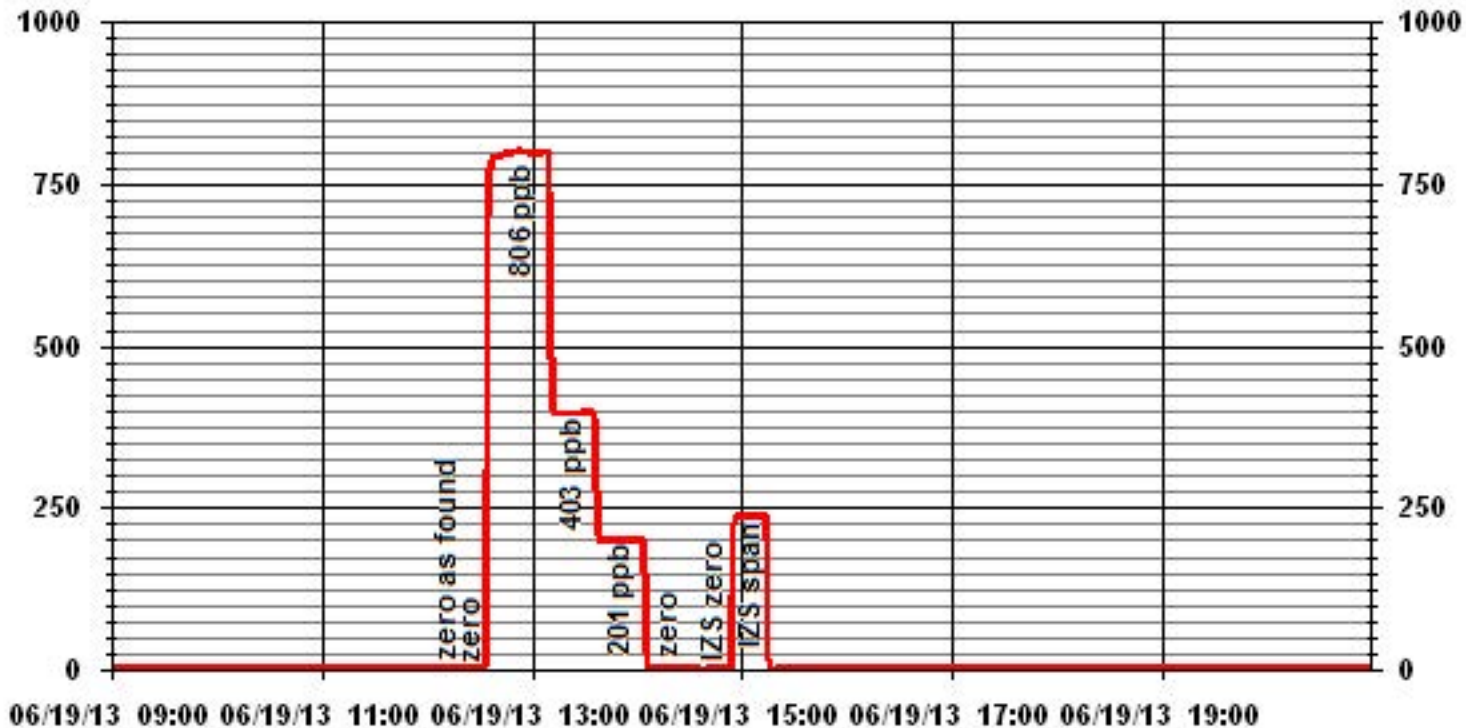


Notes:

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### 01 Minute Averages



# Hydrogen Sulphide



## H2S Calibration Report

### Station Information

Calibration Date	June 19, 2013	Previous Calibration	May 9, 2013
Company	Lakeland Industry and Community Association		
Plant / Location	LICA MASKWA		
Start Time (MST)	11:30	End Time (MST)	15:00
Reason:	Monthly calibration		
Barometric Pressure	27.88 in HG	Station Temperature	20 Deg C
Cal Gas	10.1 ppm	Gas Cyl. #	BLM00504 Cal Gas Expiry date
DAS Output Voltage	0-1 Volts	Chart Rec. Output	N/A Volts
		December 25, 2015	

### Equipment Information

Analyzer Make / Model:	API 101E	S/N :	511	Method:	Fluorescent
Converter Make / Model:	NA	S/N :	NA		
Calibrator Make / Model:	API 700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO701		
Chart Recorder Make / Model:	NA	S/N:	S/N:	NA	
Flow Meter:	API 700	S/N :	831		

### Analyzer Settings

		Before Calibration		After Calibration	
Concentration Range		0-100 ppb			
Sample Flow / Box Temp	459 ccm	32 Deg C	459 ccm	31.6 Deg C	
HVPS / Lamp Setting	548	2315	548	2314(103.4%)	
PMT / RxCell Temp	7.8 Deg C	50 Deg C	7.9 Deg C	50 Deg C	
Converter / IZS Temp	315 Deg C	45 Deg C	315.2 Deg C	45.0 Deg C	
Offset / Slope	29.2	1.043	29.2	1.043	

### Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	0	NA
	No zero adj.			
4960	39.6	80	80	1.0000
	No Span Adj.			
4980	19.8	40	40	1.0000
4988	12.0	24	24	1.0000
5000	0	0	0	NA
Sum of Least Squares				1.0007
New Correction Factor				1.0000

### IZS Calibration Data

		Before Calibration	After Calibration
Auto Zero		0.0	0.0
Auto Span		60.6	60.6
Sample Lines Connected			Yes

### Percent Change

Previous Month's Calibration Correction Factor:	0.9854
Current Correction Factor Before Span Adjust:	1.0000
Percent Change:	-1.5%

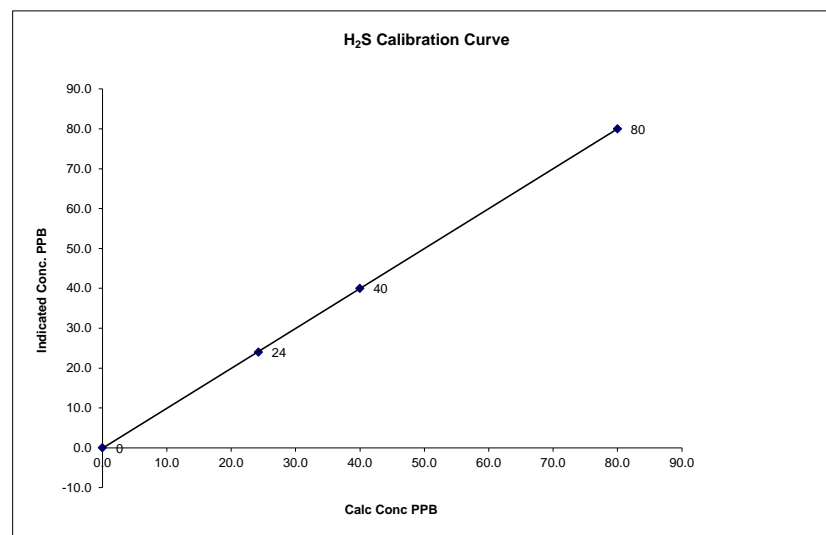
Notes:	<b>NA : Not Applicable</b>
	Change sample filter.

Calibration Performed by: Limin Li

## H<sub>2</sub>S Calibration Curve

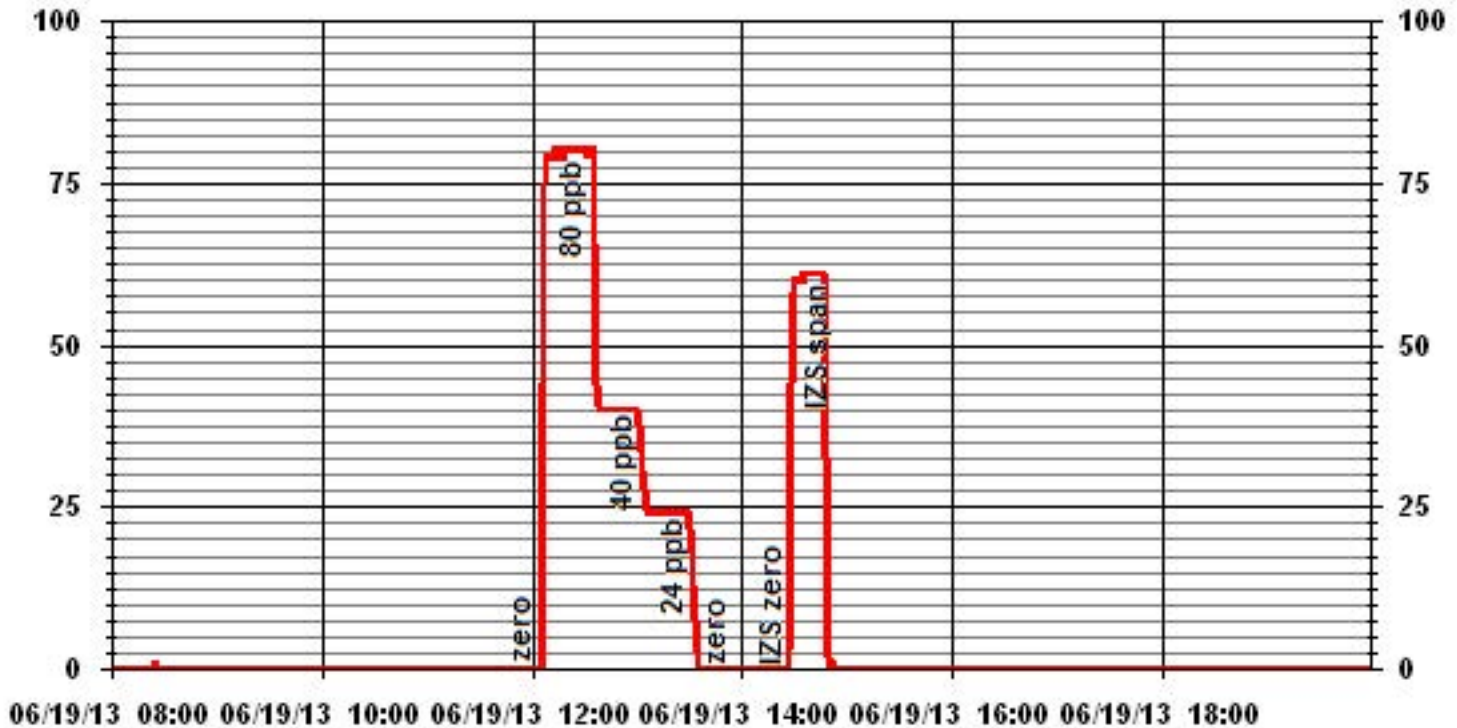
Calibration Date	June 19, 2013
Company	Lakeland Industry and Community Association
Plant / Location	LICA MASKWA
Start Time (MST)	11:30
End Time (MST)	15:00

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995)	0.999988
0	0	NA	Intercept	(0.85 to 1.15)	1.000861
24	24	1.0100		(± 3% F.S.)	-0.090056
40	40	0.9999			
80	80	1.0000			



**Notes:**

# 01 Minute Averages



# Total Hydrocarbons

### THC Calibration Report

Station Information			
Calibration Date:	June 19, 2013	Previous Calibration	May 9, 2013
Company:	Lakeland Industry & Community Association		
Plant / Location:	LICA MASKWA		
Start Time (MST)	14:05	End Time (MST)	17:40
Reason:	Monthly calibration		
Barometric Pressure:	27.88 atm	Station Temperature:	20 Deg C
Calibrator:	Envionics 6100	S/N:	4760
Cal Gas Concentration:	CH4 600 PPM	C3H8 204 PPM	
	TOTAL CH4 1161.0 PPM	Gas Cyl. #	LL155310
		Cal Gas Expiry Date:	September 9, 2013
DAS make & Model:	ESC 8832	S/N :	AO791
Chart Recorder:	N/A	S/N:	N/A
Output Voltage Range:	0-10 VDC	Chart Speed:	N/A mm/hr

### Analyzer Information

Make / Model	Thermo 51C-LT	S/N :	436609738	Method	Flame Ionization
--------------	---------------	-------	-----------	--------	------------------

	Before Calibration		After Calibration	
Concentration Range	0-50	ppm	0-50	ppm
Sample Pressure	7.5	psi	7.5	psi
Hydrogen Pressure	8	psi	8	psi
Air Pressure	20	psi	20	psi

### Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2000	0.0	0.0	0.2	0.0000
2000	0.0	0.0	0.0	0.0000
2000	73.8	41.3	41.3	1.0000
	No Span Adj.			
2000	36.8	21.0	20.9	1.0037
2000	20.0	11.5	11.5	1.0000
2000	0.0	0.0	0.0	0.0000
New Correction Factor:				1.0000

### Percent Change

Previous Calibration Correction Factor:	0.9908
Current Correction Factor Before Span Adjust:	1.0000
Percent Change:	-0.9%

### IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	34.06	34.06
Sample Lines Connected		yes

Cylinder Pressures			
Span	1000 psi	Hydrogen	2100 psi
		Zero Air	32 psi

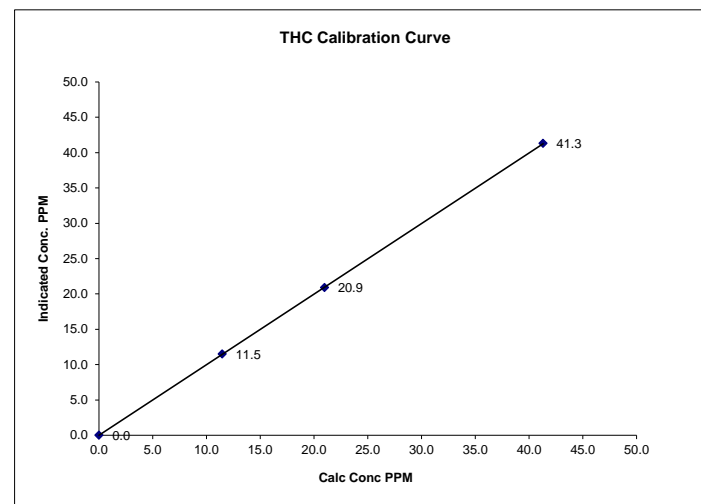
Notes: **Change sample filter.** Change H2 gas.  
 Spare H2: 1  
 When doing first point, cal gas pressure is lower and calibrator stops.  
 Increase cal gas pressure and redo first point.

Calibration Performed by: Limin Li

### THC Calibration Curve

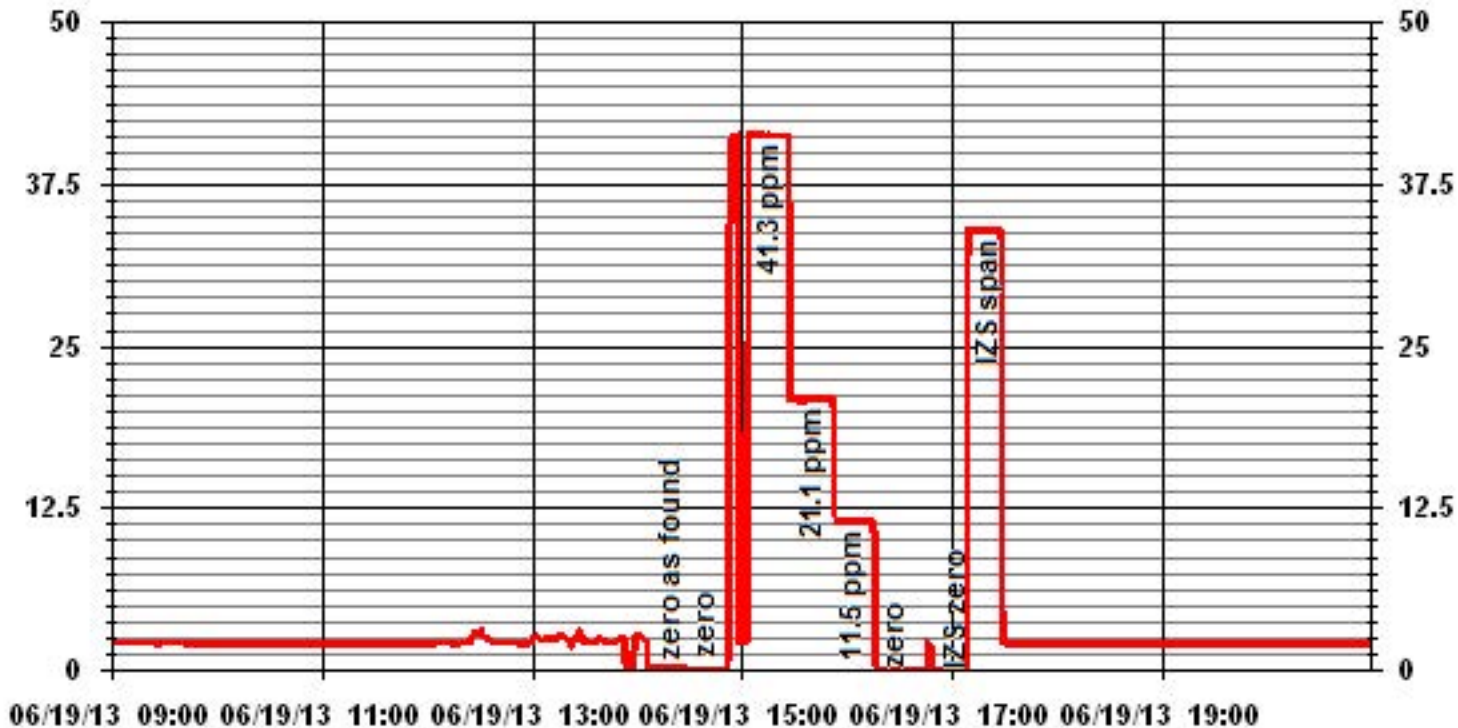
Calibration Date	June 19, 2013
Company	Lakeland Industry & Community Association
Plant / Location	LICA MASKWA
Start Time (MST)	14:05
End Time (MST)	17:40

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient (≥ 0.995)	Slope (0.85 to 1.15)	Intercept (± 3% F.S.)
0.0	0.0	0.0000	0.999993	0.999531	-0.00215
11.5	11.5	1.0000			
21.0	20.9	1.0037			
41.3	41.3	1.0000			



Notes:

# 01 Minute Averages



# Nitrogen Dioxide

**NOx - NO- NO2 Calibration Report**  
Station Information

Calibration Date	June 19, 2013	Previous Calibration	May 9, 2013
Company	LICA	Plant/Location	LICA Maskwa
Start Time (MST)	11:30	End Time (MST)	17:40
Reason:	Monthly calibration		
Barometric Pressure	27.88 in HG	Station Temperature	20 Deg C
Cal Gas Concentration	NOx 49.3 ppm	NO	49.2 ppm
Cal Gas Cylinder #	BAL3031	Cal Gas Expiry date	December 29, 2016
DAS Output Voltage	0-1 Volts	Chart Rec. Output	N/A Volts

**Equipment Information**

Analyzer Make / Model:	TAPI 200E	S/N :	594	Method:	Chemiluminescent
Calibrator Make / Model:	Envionics 6100	S/N:	4760		
DAS Make / Model:	ESC 8832	S/N :	A0791		
Chart Recorder Make / Model:	N/A	S/N:	N/A		
Flow Meter:	Envionics 6100	S/N :	4760		

**Analyzer Settings**

Before Calibration				After Calibration			
Concentration Range	0-1000			ppb			
Sample Flow/Conv. Temp	457 ccm	315 Deg C		457 ccm	315.7 Deg C		
Ozone Flow / Vacuum	79 ccm	4.5 *Hg-A		79 ccm	4.5 *Hg-A		
HVPS / A ZERO	751 Volts	15.1 MV		751 Volts	15.1 MV		
Rx/ Temp / PMT Temp	50.0 Deg C	6.6 Deg C		50.0 Deg C	6.6 Deg C		
Box Temp / IZS Temp	30.0 Deg C	42.3 Deg C		30.5 Deg C	42.0 Deg C		
Offset	0.4 NOx	0.0 NO		0.4 NOx	0.0 NO		
Slope	1.120 NOx	1.117 NO		1.120 NOx	1.117 NO		
NO2 COEF / Conv Efficiency	na NO2	0.994		na NO2	0.994		

**Dilution Calibration Data**

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			Correction Factor	
			NOx	NO	NO2	NOx	NO	NO2	NOx	NO
5000	0.0	0	0	0	0	0	0	0	0	0
	No Zero Adj.									
4919	81.3	0	801	800	0	796	797	-1	1.0068	1.0035
	No span adj.									
4959	40.6	0	400	400	0	396	396	0	1.0110	1.0089
4980	20.3	0	200	200	0	200	200	0	1.0000	1.0000
5000	0.0	0	0	0	0	0	0	0	0.0000	0.0000

**Gas Phase Titration Calibration Data**

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			NO2 Correction Factor	NO2 Conv Efficiency
			NOx	NO	NO2	NOx	NO	NO2		
4919	81.3	0	801	800	0	797	797	0	0.00%	
4919	81.3	600	801	0.0	528	799	269	530	0.9962	100.38%
	No adj									
4919	81.3	300	801	0.0	261	802	536	266	0.9812	101.92%
4919	81.3	120	801	0.0	100	803	697	106	0.9434	106.00%

Linearity	Sum of Least Squares		NOx=	1.007	NO=	1.004	NO2=	0.992	
OK?	Yes	No	Correction Factors:	NOx=	1.0068	NO=	1.0035	NO2=	0.9962
				Average Converter Efficiency= 102.76%					

**IZS Calibration Data**

Before Calibration				After Calibration			
Auto Zero	0.0 NOx	0.0 NO2		0.0 NOx	0.0 NO2		
Auto Span	552 NOx	545 NO2		551.9 NOx	545.1 NO2		
	Sample Lines Connected			Yes			

**Percent Change**

	NOx	NO	NO2
Previous Month's Calibration Correction Factor	0.991	0.991	0.993
Current Correction Factor Before Span Adjust	1.007	1.003	0.996
Percent Change	-1.6%	-1.2%	-0.3%

Notes

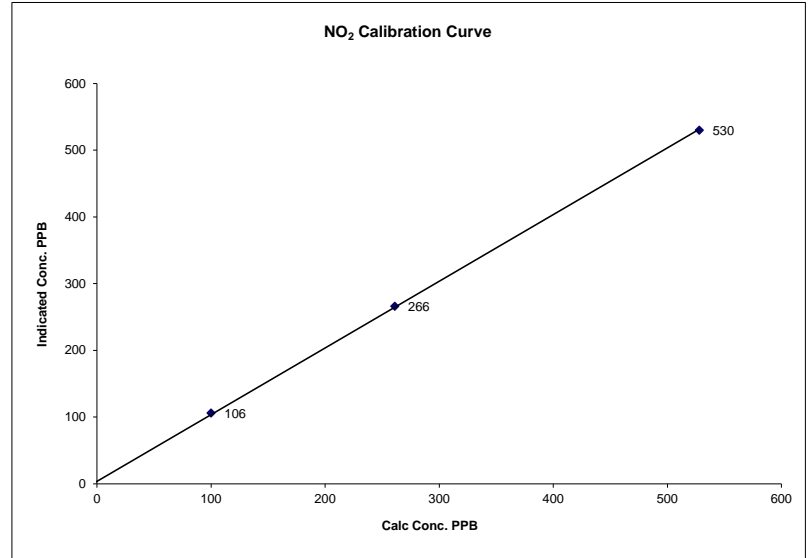
Change sample filter.

Calibration Performed by: Limin Li

**NO2 Calibration Curve**

Calibration Date	June 19, 2013
Company	LICA
Plant / Location	LICA Maskwa
Start Time (MST)	11:30
End Time (MST)	17:40

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) Intercept	(0.85 to 1.15) (± 3% F.S.)
-1	0	0.0000			0.999894
100	106	0.9434			0.999074
261	266	0.9812			3.70565
528	530	0.9962			

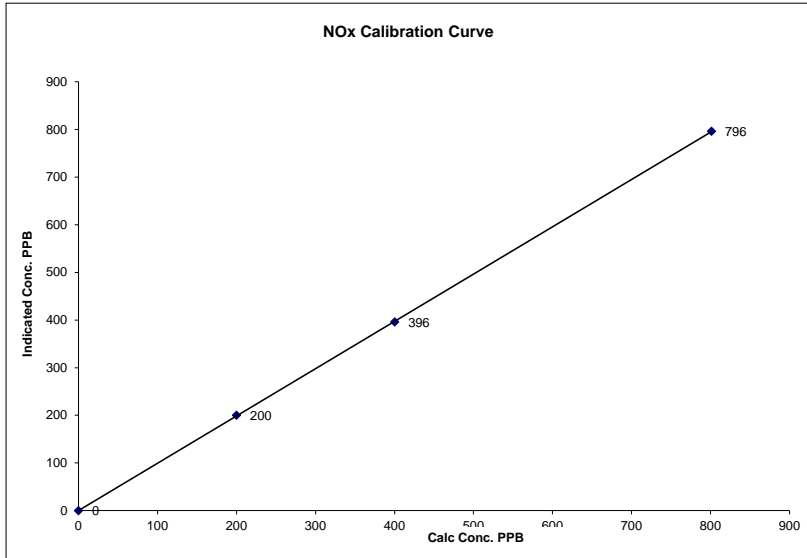


Notes:

**NOx Calibration Curve**

Calibration Date	June 19, 2013	
Company	LICA	
Plant / Location	LICA Maskwa	
Start Time (MST)	11:30	End Time (MST) 17:40

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999989
0	0	0.0000	Slope (0.85 to 1.15)	0.992543
200	200	1.0000	Intercept (± 3% F.S.)	0.14581
400	396	1.0110		
801	796	1.0068		

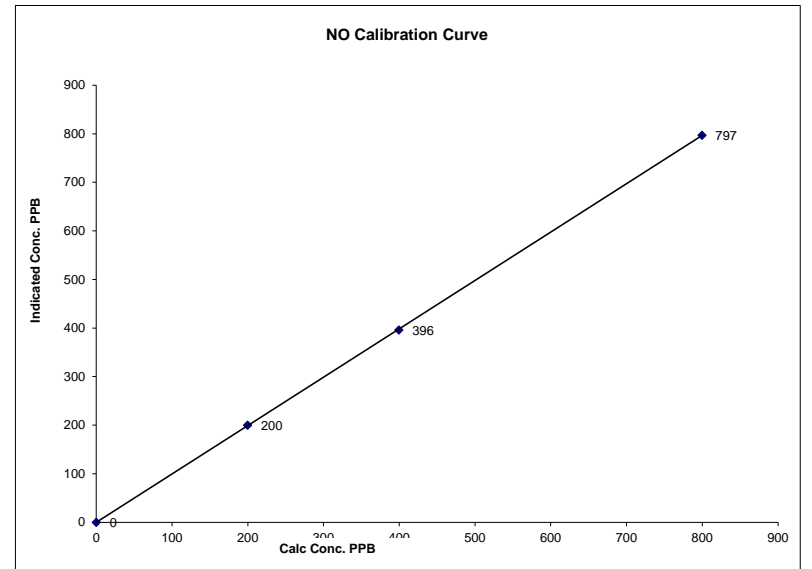


Notes:

**NO Calibration Curve**

Calibration Date	June 19, 2013	
Company	LICA	
Plant / Location	LICA Maskwa	
Start Time (MST)	11:30	End Time (MST) 17:40

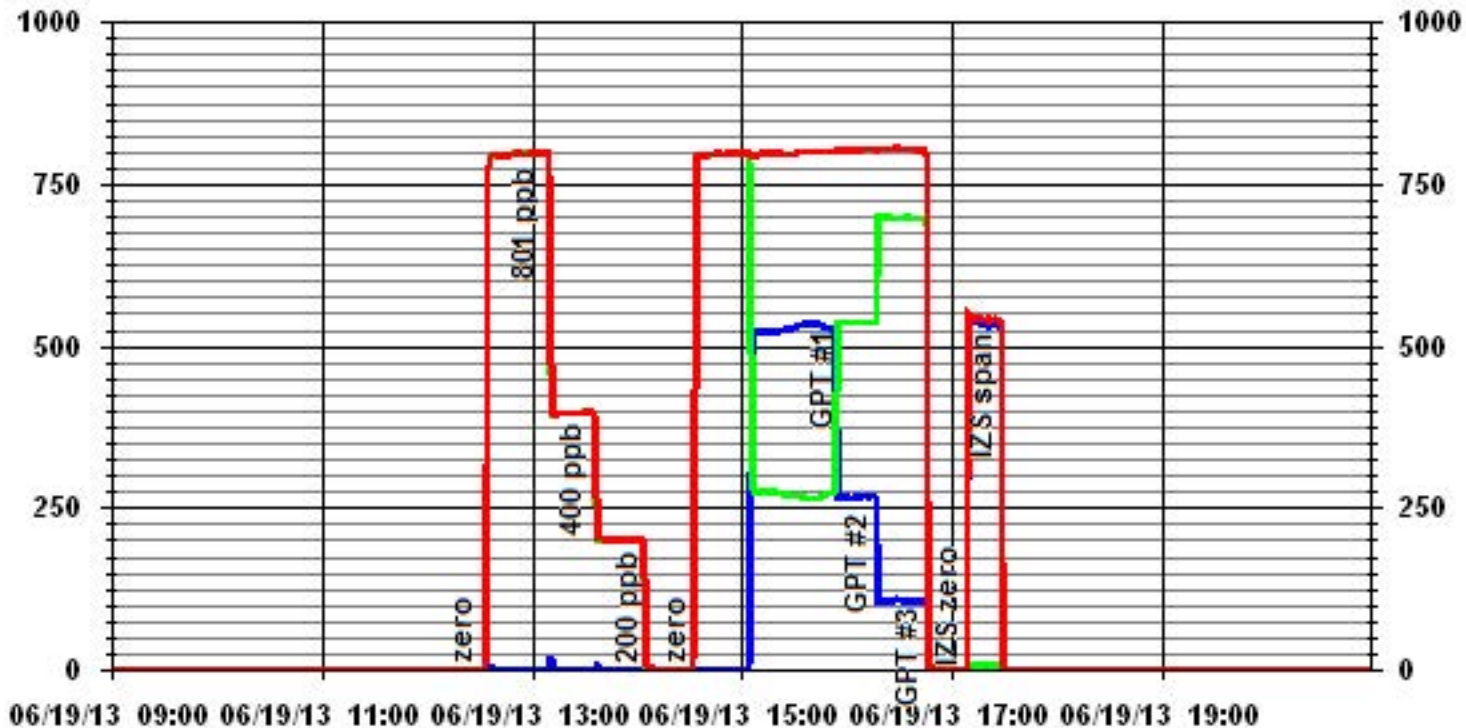
Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999986
0	0	0.0000	Slope (0.85 to 1.15)	0.995847
200	200	1.0000	Intercept (± 3% F.S.)	-0.05412
400	396	1.0089		
800	797	1.0035		



Notes:



### 01 Minute Averages



# Lakeland Industry & Community Association

St. Lina Monitoring Site  
Ambient Air Monitoring  
Data Report  
For  
June 2013

Prepared By:



July 30, 2013

# Lakeland Industry & Community Association

## St. Lina

### Ambient Air Monitoring

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## Introduction

The following Ambient Air Monitoring report was prepared for:

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

Monitoring Location: St. Lina  
Data Period: June 2013

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:

- CAL SOP-00211
- CAL SOP-00209
- CAL SOP-00213
- CAL SOP-00214
- CAL SOP-00208
- CAL 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 – June 2013

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	0.79	5	17, 18	9, 1	10.1, 8.5	242(WSW), 246(WSW)	1.9	17	99.3
H2S (PPB)	10	3	0	0	1.46	4	VAR	VAR	VAR	VAR	2.9	18	99.3
THC (PPM)	-	-	-	-	2.03	3.2	7, 12	8, 5	6.9, 7	94(E), 93(E)	2.2	VAR	99.3
OZONE (PPB)	82	-	0	-	30.6	65	4	18	10.8	206(SSW)	54.8	4	99.4
NOx (PPB)	-	-	-	-	1.28	8.2	12	4	6.8	81(E)	2.5	4	99.3
NO (PPB)	-	-	-	-	0.18	1.6	4	8, 9	6.1, 8.8	266(W), 256(WSW)	0.8	4	99.3
NO <sub>2</sub> (PPB)	159	-	0	-	1.10	7.9	12	4	6.8	81(E)	2.4	7	99.3
PM2.5 (ug/m3)	-	30	-	0	7.06	53	16	13, 14	2.8, 2.1	64(ENE), 177(S)	27.5	16	97.5
TEMPERATURE (DEGREE C)	-	-	-	-	15.33	27.7	28	14	4.8	272(W)	21.9	28	99.4
BP (MILLIBAR)	-	-	-	-	927	936	28	VAR	VAR	VAR	934.7	28	99.4
RH (%)	-	-	-	-	68.63	91	VAR	VAR	VAR	VAR	86.5	15	99.4
PRECIPITATION (MM)	-	-	-	-	0.11	7.3	23	20	8.1	329(NNW)	14.4	12	99.7
VECTOR WS (KPH)	-	-	-	-	9.43	22.7	10	0	-	277(W)	17.5	10	99.4
VECTOR WD (DEGREES)	-	-	-	-	290(WNW)	-	-	-	-	-	-	-	99.4

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

No operational issue was observed this month. Four hours of data are missing on June 13<sup>th</sup> between hour 9 and hour 12 due to a power failure. The monthly calibration was performed on June 20<sup>th</sup>. 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: 510

The analyzer spanned low on June 4<sup>th</sup>. An as found points check was performed on June 4<sup>th</sup>. The result was within the acceptable range. No data was discarded due to this event. Four hours of data are missing on June 13<sup>th</sup> between hour 9 and hour 12 due to a power failure. The monthly calibration was performed on June 20<sup>th</sup>. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information.

#### Ozone (PPB)

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

No operational issue was observed this month. Four hours of data are missing on June 13<sup>th</sup> between hour 9 and hour 12 due to a power failure. The monthly calibration was performed on June 20<sup>th</sup>. The inlet filter was changed before the monthly calibration was started. 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

No operational issue was observed this month. Four hours of data are missing on June 13<sup>th</sup> between hour 9 and hour 12 due to a power failure. The monthly calibration was performed on June 20<sup>th</sup>. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information.

### Nitrogen Dioxide (PPB)

Analyzer make / model - API 200E, S/N: 592

No operational issue was observed this month. Four hours of data are missing on June 13<sup>th</sup> between hour 9 and hour 12 due to a power failure. The monthly calibration was performed on June 20<sup>th</sup>. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information.

### Particulate Matter 2.5 (UG/M3)

Analyzer make / model –Thermo Scientific Series 1405F, S/N: 1405A207691003

Two hours of data are missing on June 13<sup>th</sup> between hour 9 and hour 12 due to a power failure. Two routine Teom audits were performed on June 20<sup>th</sup> and June 28<sup>th</sup>. 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. A total of 16 hours of PM 2.5 data was invalidated as the data were below –3 ug/m3.

### Temperature (Degree C)

Analyzer make / model – Met One 060

The temperature sensor was working well throughout the month. Four hours of data are missing on June 13<sup>th</sup> between hour 9 and hour 12 due to a power failure.



# General Monthly Summary

## AQM STATION – LICA – St. Lina

### Barometric Pressure (Millibar)

Analyzer make / model - Met One 092

The BP sensor was working well throughout the month. Four hours of data are missing on June 13<sup>th</sup> between hour 9 and hour 12 due to a power failure.

### Relative Humidity (%)

Analyzer make / model - Met One 083

The RH sensor was working well throughout the month. Four hours of data are missing on June 13<sup>th</sup> between hour 9 and hour 12 due to a power failure.

### Precipitation (MM)

Analyzer make / model - Met One 387

No issues were recorded this month. Two hours of data are missing on June 13<sup>th</sup> between hour 9 and hour 12 due to a power failure.

### 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 last wind system calibration was performed on June 12<sup>th</sup>, 2012 by the manufacturer.

No issues were recorded this month. Four hours of data are missing on June 13<sup>th</sup> between hour 9 and hour 12 due to a power failure.

### Datalogger

System make / model - ESC 8832, S/N: AO717

Software make/version - ESC v 5.51a

The station is connected to a modem to allow for daily polling of the station.

### Trailer

The glass manifold was cleaned on June 20<sup>th</sup>.

# Continuous Monitoring

# Monthly Summaries, Graphs & Wind Roses

# Sulphur Dioxide

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2013

## SULPHUR DIOXIDE (SO<sub>2</sub>) 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	23:00	DAILY MAX.	24-HOUR AVG.	RDGS.
DAY 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	1	1.0	24
2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	0	0	0	0	0	1	0.8	24
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	S	1	1	1	1	1	1	1	1	0.3	24
4	1	1	1	1	1	1	1	1	1	3	4	2	1	1	1	1	1	S	2	2	2	2	2	2	2	4	1.6	24
5	2	2	2	2	2	2	2	2	2	2	2	2	3	2	2	S	1	1	1	0	0	0	0	0	0	3	1.5	24
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0.0	24
7	0	1	0	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	0.9	24
8	1	0	0	0	0	0	0	0	0	0	0	1	S	0	0	0	1	1	1	1	0	1	0	0	1	0.3	24	
9	0	1	0	0	1	1	1	1	1	0	0	0	S	1	1	1	1	0	0	0	0	0	1	1	1	1	0.5	24
10	1	1	1	1	1	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
11	0	0	0	0	0	0	0	0	0	0	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	24
12	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	2	1.1	24
13	1	1	1	1	1	1	1	S	P	P	P	P	P	1	0	0	0	1	1	1	1	1	1	1	1	1	0.8	20
14	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	1.3	24
15	2	2	2	2	2	S	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.5	24
16	0	0	0	0	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	24
17	1	1	1	S	1	1	1	1	1	3	5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	5	1.9	24
18	2	5	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	1.2	24
19	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	0.8	24
20	S	2	1	1	1	1	1	1	2	C	C	C	C	0	0	0	0	1	Y	1	1	1	1	S	2	0.9	23	
21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1.0	24
22	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	2	1	S	0	1	2	1.1	24	
23	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1.0	24
24	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	S	0	0	0	0	2	0.9	24	
25	0	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	S	0	1	0	0	0	1	0.2	24	
26	1	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	S	1	1	1	1	1	1	1	0.5	24	
27	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	S	0	1	1	0	0	0	0	1	0.7	24	
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.0	24
29	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	0.7	24
30	0	0	0	0	1	1	1	1	1	1	1	1	1	S	0	0	1	1	1	1	1	0	0	0	1	0.6	24	
HOURLY MAX	2	5	2	2	2	2	2	2	3	5	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2		
HOURLY AVG	0.8	0.9	0.7	0.7	0.8	0.8	0.8	0.8	0.9	1.0	0.9	0.8	0.9	0.7	0.7	0.7	0.8	0.9	1.0	0.8	0.7	0.7	0.7	0.7	0.7			

### STATUS FLAG CODES

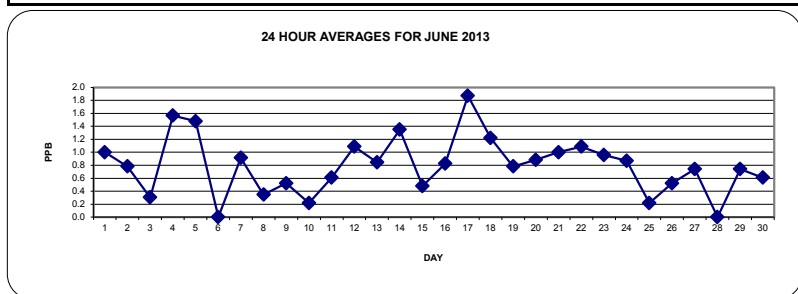
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT:

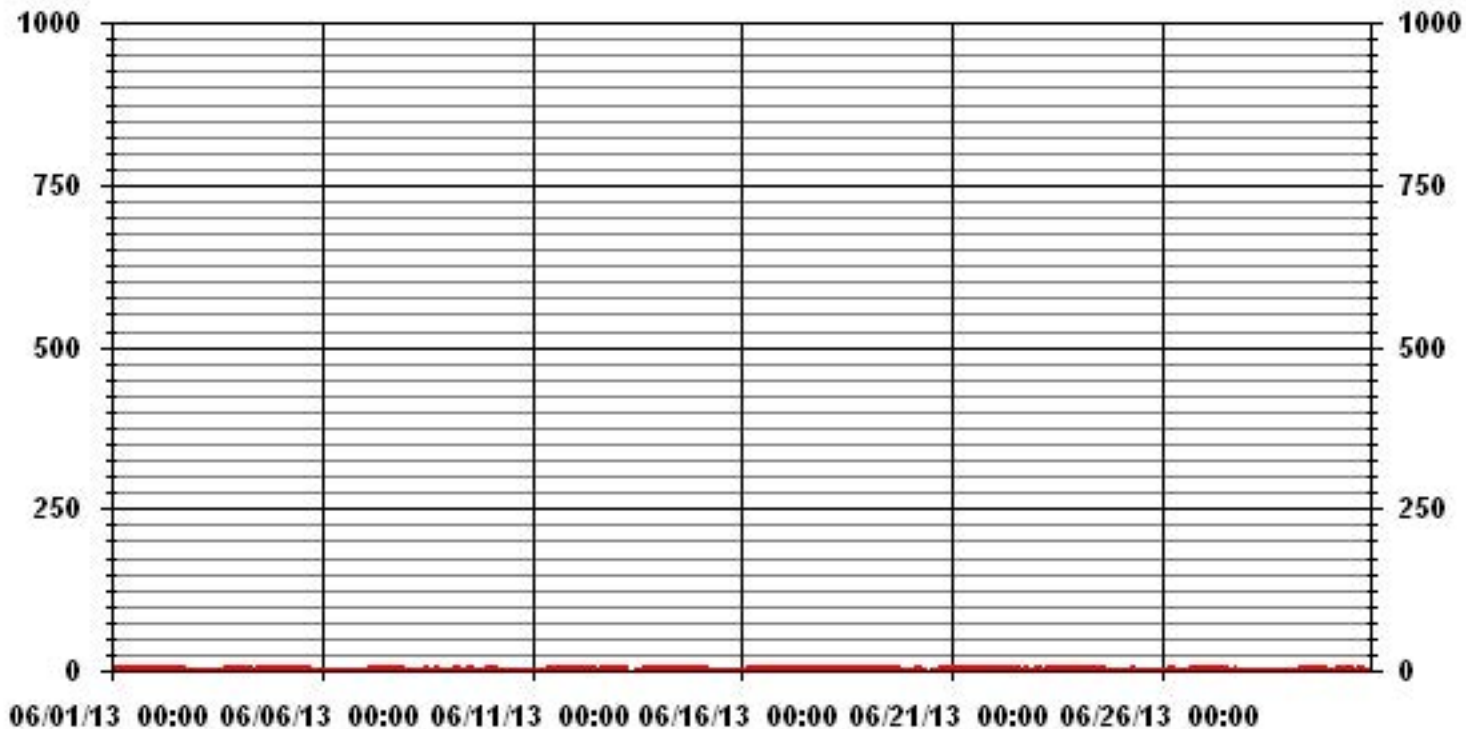
ALBERTA ENVIRONMENT: 1-HR 172 PPB | 24-HR 48 PPB

### MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	464
MAXIMUM 1-HR AVERAGE:	5 PPB @ HOUR(S) 9, 1 ON DAY(S) 17, 18
MAXIMUM 24-HR AVERAGE:	1.9 PPB ON DAY(S) 17
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	4 HRS
STANDARD DEVIATION:	0.66
OPERATIONAL TIME:	715 HRS
AMD OPERATION UPTIME:	99.3 %
MONTHLY AVERAGE:	0.79 PPB



### 01 Hour Averages



— LICA31 SO2\_ PPB

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2013

## SULPHUR DIOXIDE MAX instantaneous maximum in ppb

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOURLY MAX	HOURLY AVG	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																													
1		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	S	2	2	2	2	2	2	2.0	24
2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	S	1	1	1	1	1	2	1.8	24
3		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	S	2	2	2	2	2	2	2	2	1.3	24
4		2	2	2	2	3	2	2	2	4	5	4	3	2	2	2	2	S	2	3	3	3	3	3	3	3	5	2.7	24
5		3	3	3	3	3	3	3	3	4	3	3	3	4	3	3	S	2	2	1	1	1	1	1	1	1	4	2.5	24
6		1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1.0	24
7		1	1	1	2	2	2	2	2	2	2	2	2	2	S	2	2	2	2	2	2	2	2	2	2	2	2	1.9	24
8		2	1	1	1	1	1	1	1	1	1	2	2	S	1	1	2	1	1	2	2	2	2	1	1	2	1.3	24	
9		1	1	1	1	2	2	2	2	1	1	1	S	2	1	1	2	1	1	1	1	1	1	1	2	1	2	1.3	24
10		1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
11		1	1	1	1	1	0	0	0	1	S	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.4	24
12		2	2	2	2	2	2	2	2	S	2	3	2	2	2	3	2	2	2	2	2	2	2	2	2	2	3	2.1	24
13		2	2	2	2	2	2	2	S	P	P	P	P	4	1	1	1	2	2	2	2	2	2	2	2	2	4	1.9	20
14		2	2	2	2	2	2	S	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	2.4	24
15		3	3	3	3	3	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1.4	24
16		1	1	1	1	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.8	24
17		2	2	2	S	2	2	2	2	6	9	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	9	3.0	24
18		3	P	S	2	2	2	1	2	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	1.9	23
19		2	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	2	1.8	24
20		S	3	2	2	2	2	2	2	3	C	C	C	C	0	0	0	0	Y	Y	2	2	2	2	2	S	3	1.6	22
21		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	S	2	2.0	24
22		2	2	2	2	2	2	2	2	2	2	2	2	3	2	2	2	2	2	3	3	2	S	1	2	3	2.1	24	
23		2	2	2	2	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	S	2	2	2	2	1.9	24
24		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	S	1	1	1	1	3	1.9	24	
25		1	2	2	1	1	1	1	1	2	1	1	1	1	1	1	1	2	2	S	2	2	1	1	1	2	1.3	24	
26		2	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	S	2	2	2	2	2	2	2	2	1.5	24
27		2	2	2	1	1	1	1	2	2	2	2	2	2	2	1	1	S	1	1	2	1	1	2	1	2	1	1.5	24
28		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1.0	24
29		1	1	1	1	1	1	2	2	2	2	2	2	2	2	S	2	2	2	2	2	2	2	2	2	2	2	1.7	24
30		1	1	2	1	2	2	2	2	2	2	2	2	2	S	2	1	2	1	2	1	2	1	1	1	2	1.6	24	
HOURLY MAX		3	3	3	3	3	3	3	3	6	9	4	3	4	3	3	3	3	3	3	3	3	3	3	3	3			
HOURLY AVG		1.7	1.7	1.7	1.6	1.7	1.7	1.7	1.7	2.0	2.1	1.9	1.9	2.0	1.6	1.6	1.8	1.7	1.8	1.9	1.8	1.7	1.7	1.7	1.7				

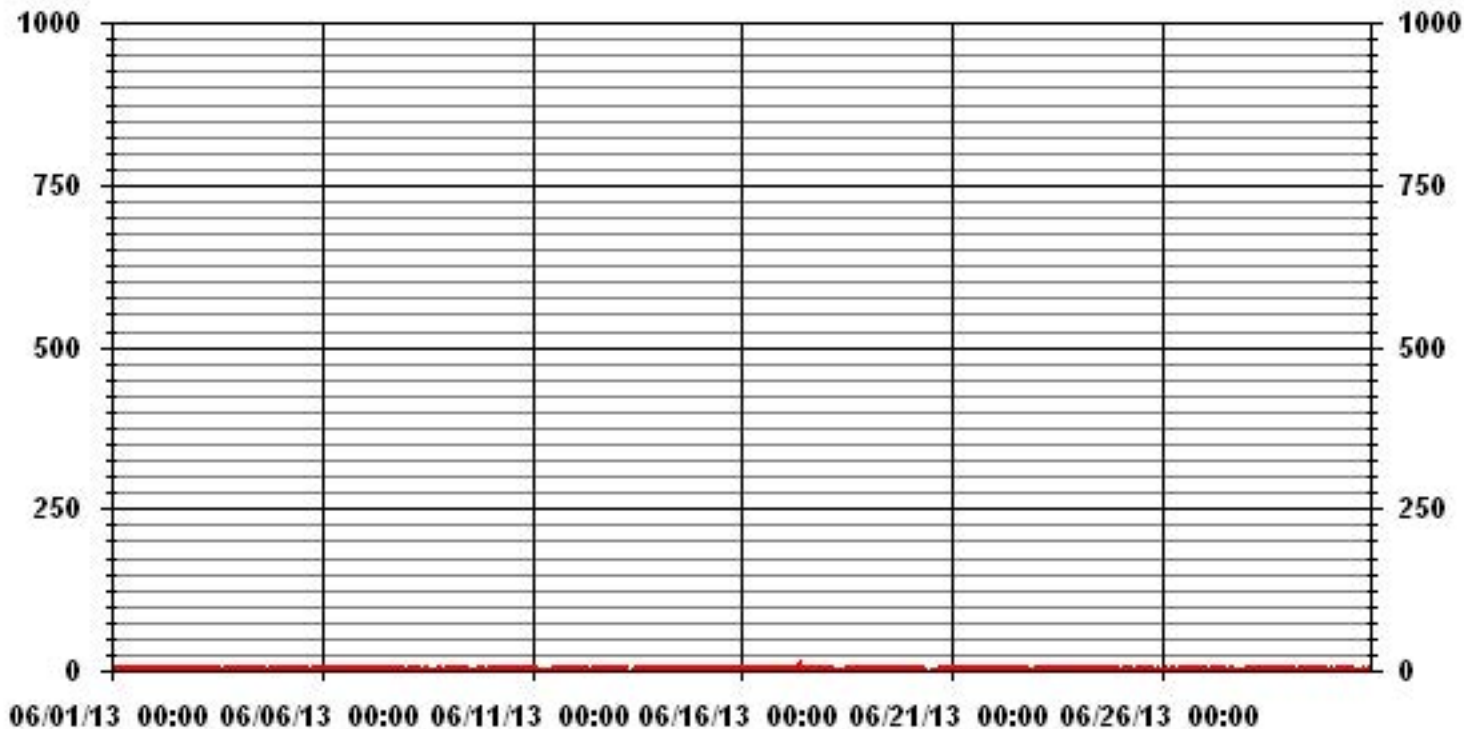
**STATUS FLAG CODES**

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:	671
MAXIMUM INSTANTANEOUS VALUE:	9 PPB @ HOUR(S) 9 ON DAY(S) 17
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	4 HRS
STANDARD DEVIATION:	0.74
OPERATIONAL TIME:	713 HRS

### 01 Hour Averages





LICA31  
 SO2\_ / WDR Joint Frequency Distribution (Percent)

June 2013

Distribution By % Of Samples

Logger Id : 31  
 Site Name : LICA31  
 Parameter : SO2\_  
 Units : PPB

Wind Parameter : WDR  
 Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 20	1.91	3.52	2.50	9.41	9.41	6.32	4.55	4.41	6.76	5.14	3.38	5.58	7.94	15.00	12.35	1.76	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	1.91	3.52	2.50	9.41	9.41	6.32	4.55	4.41	6.76	5.14	3.38	5.58	7.94	15.00	12.35	1.76	

Calm : .00 %

Total # Operational Hours : 680

Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 20	13	24	17	64	64	43	31	30	46	35	23	38	54	102	84	12	680
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	13	24	17	64	64	43	31	30	46	35	23	38	54	102	84	12	

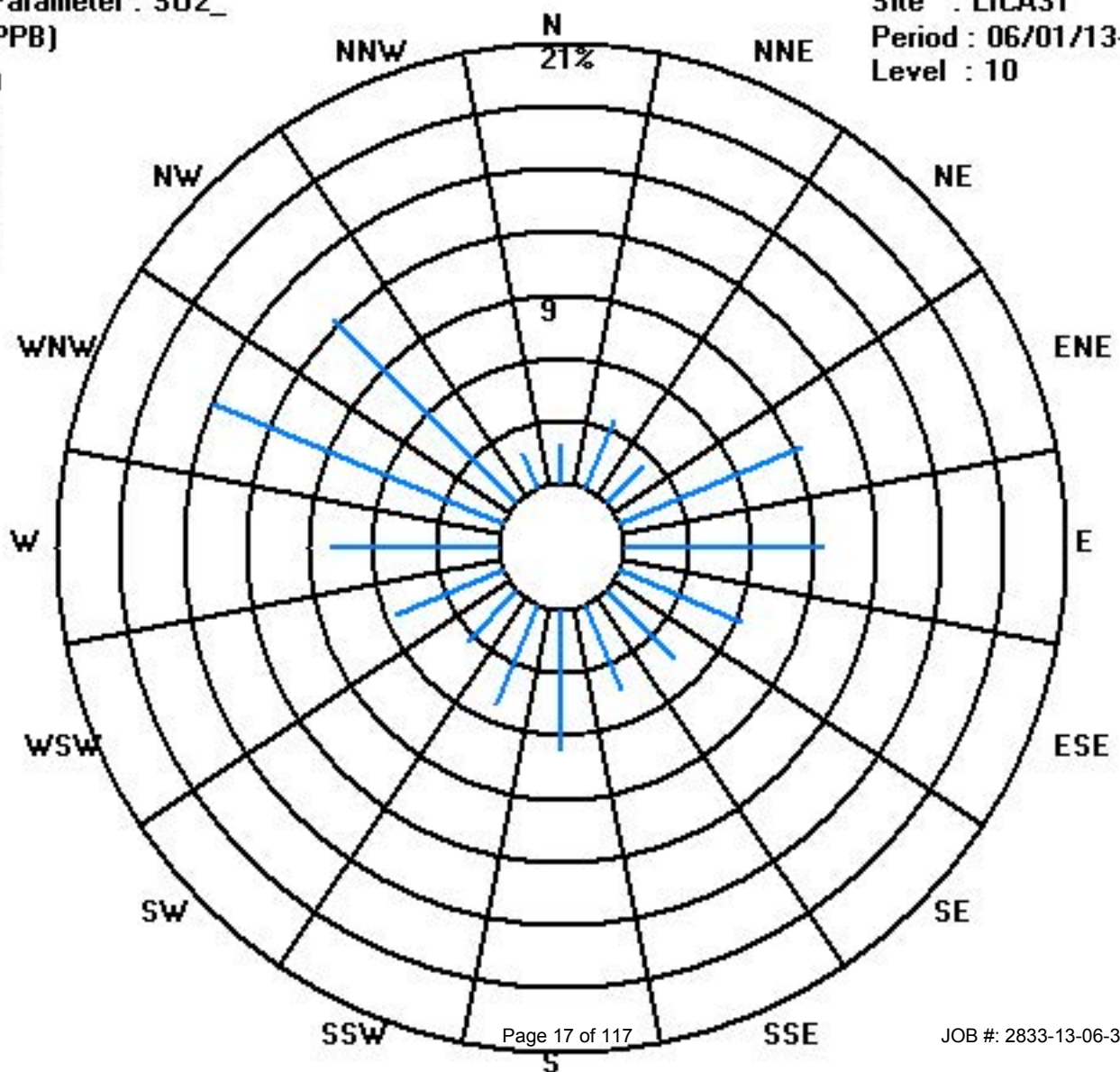
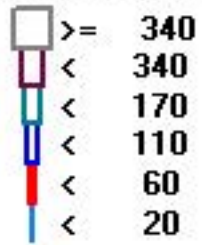
Calm : .00 %

Total # Operational Hours : 680

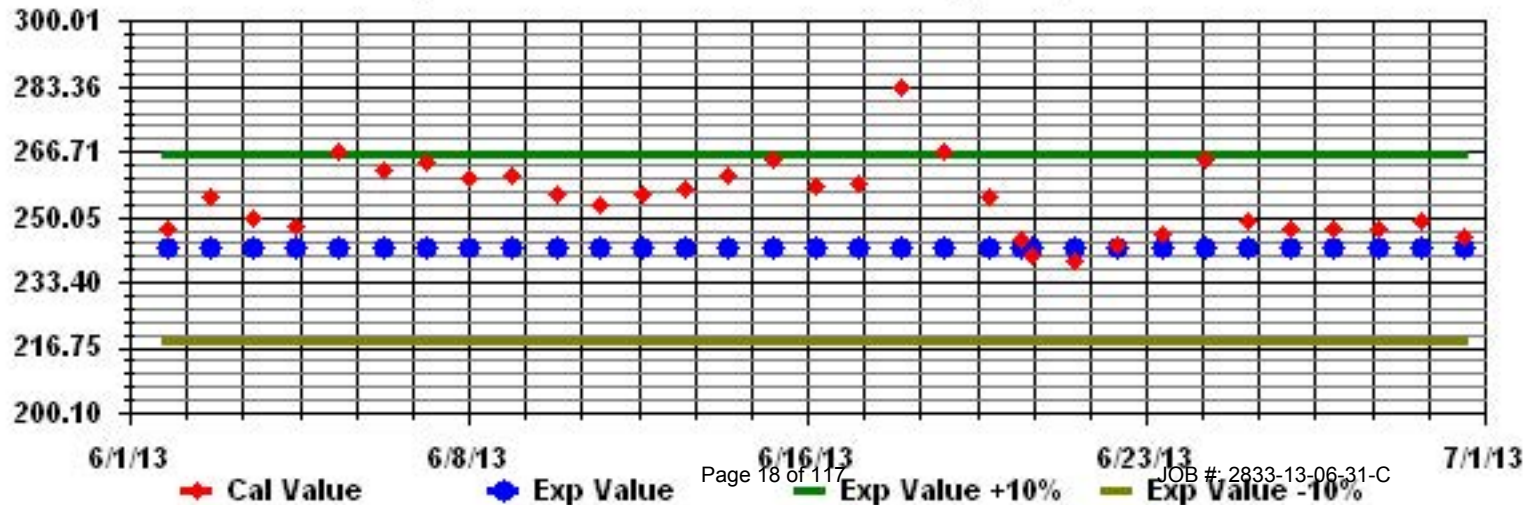
Class Limits (PPB)

Period : 06/01/13-06/30/13

Level : 10



Calibration Graph for Site: LICA31 Parameter: S02\_ Sequence: S02 Phase: SPAN



# Hydrogen Sulphide

## LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2013

### HYDROGEN SULPHIDE (H<sub>2</sub>S) hourly averages in ppb

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	DAILY 24-HOUR		
DAY	HOURLY MAX	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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.	
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1.0	24
2	1	1	1	1	1	2	3	2	2	1	1	1	1	1	1	1	1	1	2	S	1	1	1	1	0	3	1.2	24	
3	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	0	S	3	4	4	4	4	4	4	4	1.6	24
4	4	4	4	4	4	4	0	S	1	C	C	C	1	1	1	1	1	S	2	2	2	2	2	2	2	2	2	2.3	24
5	2	2	2	2	2	2	2	2	3	2	2	2	2	2	3	3	S	1	1	1	1	1	1	1	1	1	3	1.8	24
6	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	S	2	2	2	1	1	1	1	1	1	1	2	1.2	24
7	1	2	2	2	1	2	2	2	2	2	2	2	2	2	S	1	1	1	1	0	0	1	1	1	1	1	2	1.4	24
8	1	1	1	1	1	1	0	1	1	1	1	1	1	S	2	2	2	2	2	2	2	2	2	2	2	2	2	1.4	24
9	2	1	1	2	2	2	2	2	2	2	2	2	S	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.4	24
10	1	1	1	1	1	1	1	1	1	1	1	S	2	2	2	2	2	1	2	2	1	1	1	1	1	1	2	1.3	24
11	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
12	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	2	2	1	1	1	2	2	1	1	1	2	2	1.2	24
13	2	2	2	1	2	1	2	S	P	P	P	P	1	0	0	0	0	1	1	1	1	1	1	1	1	1	2	1.1	20
14	1	1	1	1	1	1	S	1	1	1	1	1	1	1	2	2	1	2	2	2	1	2	1	2	1	2	1	1.3	24
15	2	2	1	2	1	S	1	1	0	1	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	2	0.7	24
16	0	0	0	0	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.6	24
17	2	2	2	S	3	3	3	2	2	3	3	2	3	3	3	4	3	2	3	3	2	3	2	3	3	4	2.7	24	
18	2	2	S	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2.9	24
19	3	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	0	1	1	2	3	1.8	24	
20	S	3	3	3	3	3	3	3	3	C	C	C	C	0	0	0	0	1	Y	1	1	1	1	1	S	3	1.7	23	
21	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	1	2	1	1	1	1	1	1	S	1	2	1.7	24
22	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	S	2	2	2	1.9	24	
23	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	2	S	1	1	1	3	1.9	24		
24	1	1	2	1	2	2	2	2	2	1	2	2	2	2	2	2	2	3	2	S	1	1	1	1	1	3	1.7	24	
25	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	S	1	1	1	1	1	1	1	0.9	24
26	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1	S	1	1	1	1	1	1	1	1	0.8	24
27	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1.0	24
28	1	1	1	1	0	0	1	1	1	0	1	1	1	0	1	1	S	2	2	2	2	1	1	2	1	2	1	1.0	24
29	1	1	2	2	2	2	2	3	2	2	2	2	2	2	2	S	1	1	1	1	1	0	0	1	1	3	1.5	24	
30	1	1	0	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
HOURLY MAX		4	4	4	4	4	4	3	3	3	3	3	3	3	3	4	3	3	3	3	3	4	4	4	4	4	4		
HOURLY AVG		1.4	1.4	1.4	1.5	1.6	1.7	1.6	1.6	1.6	1.5	1.5	1.4	1.3	1.5	1.5	1.3	1.4	1.6	1.5	1.4	1.3	1.2	1.4	1.4				

#### STATUS FLAG CODES

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

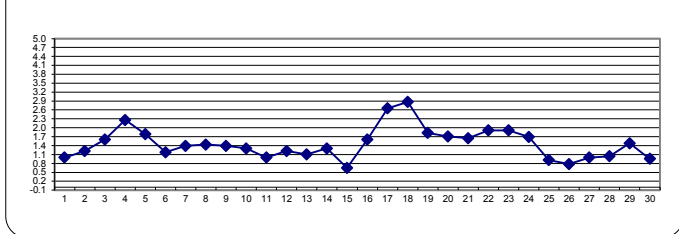
#### OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT:	1-HR	10	PPB	24-HR	3	PPB
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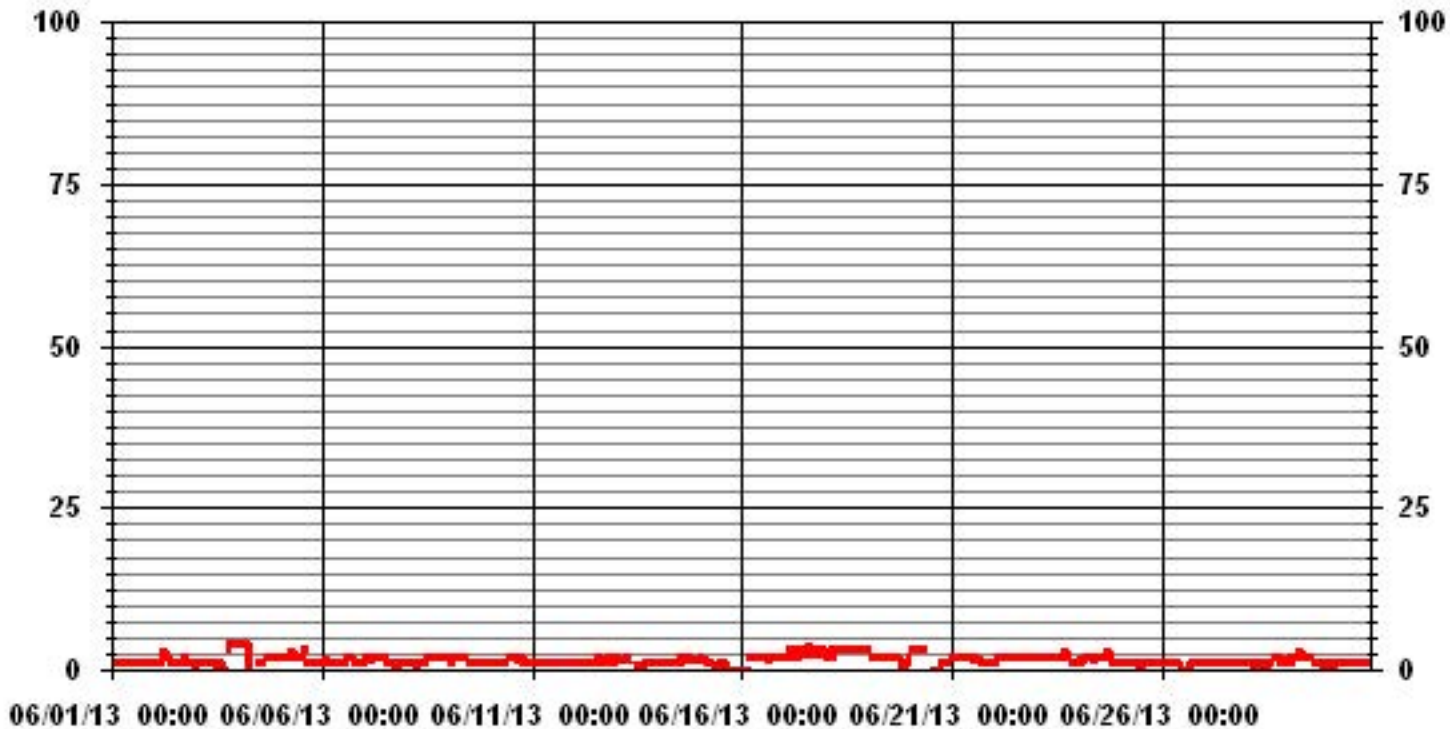
#### MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	631					
MAXIMUM 1-HR AVERAGE:	4	PPB	@ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 24-HR AVERAGE:	2.9	PPB			ON DAY(S)	18
					VAR-VARIOUS	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	715 HRS		
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	99.3 %		
STANDARD DEVIATION:	0.80		MONTHLY AVERAGE:	1.46 PPB		

24 HOUR AVERAGES FOR JUNE 2013



# 01 Hour Averages



# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2013

## HYDROGEN SULPHIDE MAX instantaneous maximum in ppb

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR START	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	2	1	1	1	1	1	1	1	1	1	1	1	S	1	2	1	2	2	2	1.1	24	
2		2	1	2	2	2	3	3	2	2	2	2	2	2	1	2	1	2	2	S	1	1	1	1	1	3	1.7	24	
3		1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	S	4	4	5	5	4	4	5	2.0	24	
4		4	4	4	4	4	4	S	S	1	S	S	S	1	1	1	2	S	2	3	2	2	2	2	2	4	2.5	19	
5		2	2	2	2	2	2	3	4	3	3	2	3	3	3	S	2	2	2	2	1	2	2	2	2	4	2.3	24	
6		2	2	2	2	2	1	1	1	2	1	1	2	1	2	S	2	2	2	2	2	1	1	2	2	2	1.7	24	
7		2	4	2	2	2	2	2	2	2	2	2	2	2	S	2	1	1	1	1	1	1	1	1	1	4	1.7	24	
8		1	1	1	1	1	1	1	1	1	1	1	1	S	2	2	2	2	2	2	2	2	2	2	2	2	1.5	24	
9		2	2	2	2	2	2	2	2	2	2	2	S	1	1	1	1	1	1	1	1	1	1	1	1	2	1.5	24	
10		1	1	1	1	1	1	1	1	1	1	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.6	24	
11		2	1	1	2	1	2	1	1	2	S	1	1	1	1	1	2	2	2	2	2	1	2	1	1	1	2	1.4	24
12		1	1	1	2	2	2	2	2	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	1.9	24	
13		2	3	2	2	3	2	2	S	P	P	P	P	5	0	0	1	1	1	1	1	1	1	1	1	5	1.6	20	
14		1	1	1	1	2	2	S	2	2	2	2	2	2	2	5	5	2	2	2	2	2	2	2	2	5	2.1	24	
15		3	3	2	2	2	S	1	1	1	1	1	1	1	1	5	1	1	1	1	1	1	0	0	0	5	1.3	24	
16		0	0	0	0	S	2	2	2	2	2	2	3	3	3	2	2	3	2	3	2	2	3	2	2	3	1.9	24	
17		2	3	3	S	3	3	3	3	3	3	3	3	3	3	5	4	3	3	3	3	3	3	3	3	5	3.1	24	
18		3	P	S	3	3	3	3	3	3	4	4	4	3	4	4	3	3	3	3	3	3	3	3	3	4	3.2	23	
19		3	S	2	2	3	2	2	2	2	2	3	3	3	2	3	2	2	2	3	2	1	2	2	2	3	2.3	24	
20		S	3	3	3	3	3	3	3	3	C	C	C	C	0	1	0	0	Y	Y	2	1	1	1	S	3	1.9	22	
21		2	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	S	2	3	2.0	24
22		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	2	3	3	S	2	2	3	2.1	24	
23		2	3	2	3	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	S	2	2	2	3	2.7	24	
24		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	S	2	1	1	2	3	2.0	24	
25		1	1	1	1	1	2	2	2	2	2	2	2	1	1	1	1	2	2	S	1	1	1	1	1	2	1.4	24	
26		1	2	2	1	2	2	1	2	1	1	1	1	1	1	1	1	1	S	2	2	2	2	2	2	2	1.5	24	
27		1	2	2	2	2	1	2	2	2	1	1	1	1	1	1	1	S	2	1	1	1	1	1	1	2	1.3	24	
28		1	1	1	2	1	1	1	1	1	1	1	2	1	1	1	S	2	3	2	2	2	2	2	2	3	1.5	24	
29		2	2	2	3	3	2	3	3	3	2	2	2	2	3	S	2	1	2	2	2	2	1	1	1	3	2.0	24	
30		1	1	1	1	1	1	1	2	1	1	1	1	2	S	2	2	2	2	2	2	2	1	1	1	2	1.3	24	
HOURLY MAX		4	4	4	4	4	4	3	4	3	4	4	4	5	4	5	5	3	3	4	4	5	5	4	4				
HOURLY AVG		1.7	1.9	1.8	1.9	2.0	2.0	2.0	2.0	1.9	1.8	1.8	2.0	1.9	1.7	1.9	2.0	1.9	2.0	2.1	1.9	1.8	1.7	1.7	1.8				

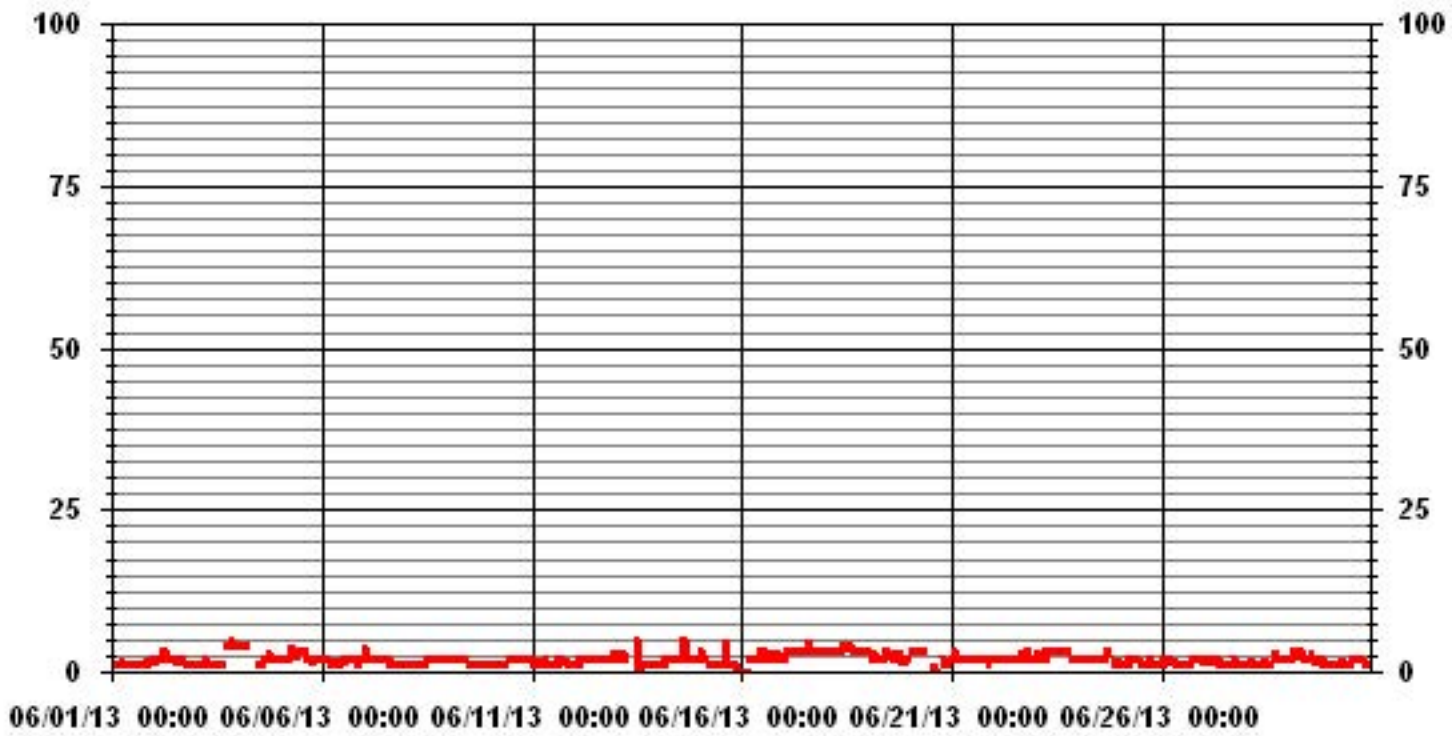
### STATUS FLAG CODES

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:	661					
MAXIMUM INSTANTANEOUS VALUE:	5	PPB	@ HOUR(S)	VAR	ON DAY(S)	VAR
IZS CALIBRATION TIME:	36	HRS	OPERATIONAL TIME:	708	HRS	
MONTHLY CALIBRATION TIME:	4	HRS				
STANDARD DEVIATION:	0.86					

# 01 Hour Averages



— LICA31 H2S MAX PPB



LICA31  
H2S\_ / WDR Joint Frequency Distribution (Percent)

June 2013

Distribution By % Of Samples

Logger Id : 31  
Site Name : LICA31  
Parameter : H2S\_  
Units : PPB

Wind Parameter : WDR  
Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 3	1.92	3.55	2.36	7.10	8.57	5.17	4.58	3.99	5.47	4.73	2.66	4.28	7.69	14.79	12.13	1.77	90.82
< 10	.00	.00	.14	2.36	.88	1.18	.00	.44	1.33	.29	.73	1.03	.29	.14	.29	.00	9.17
< 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	1.92	3.55	2.51	9.46	9.46	6.36	4.58	4.43	6.80	5.02	3.40	5.32	7.98	14.94	12.42	1.77	

Calm : .00 %

Total # Operational Hours : 676

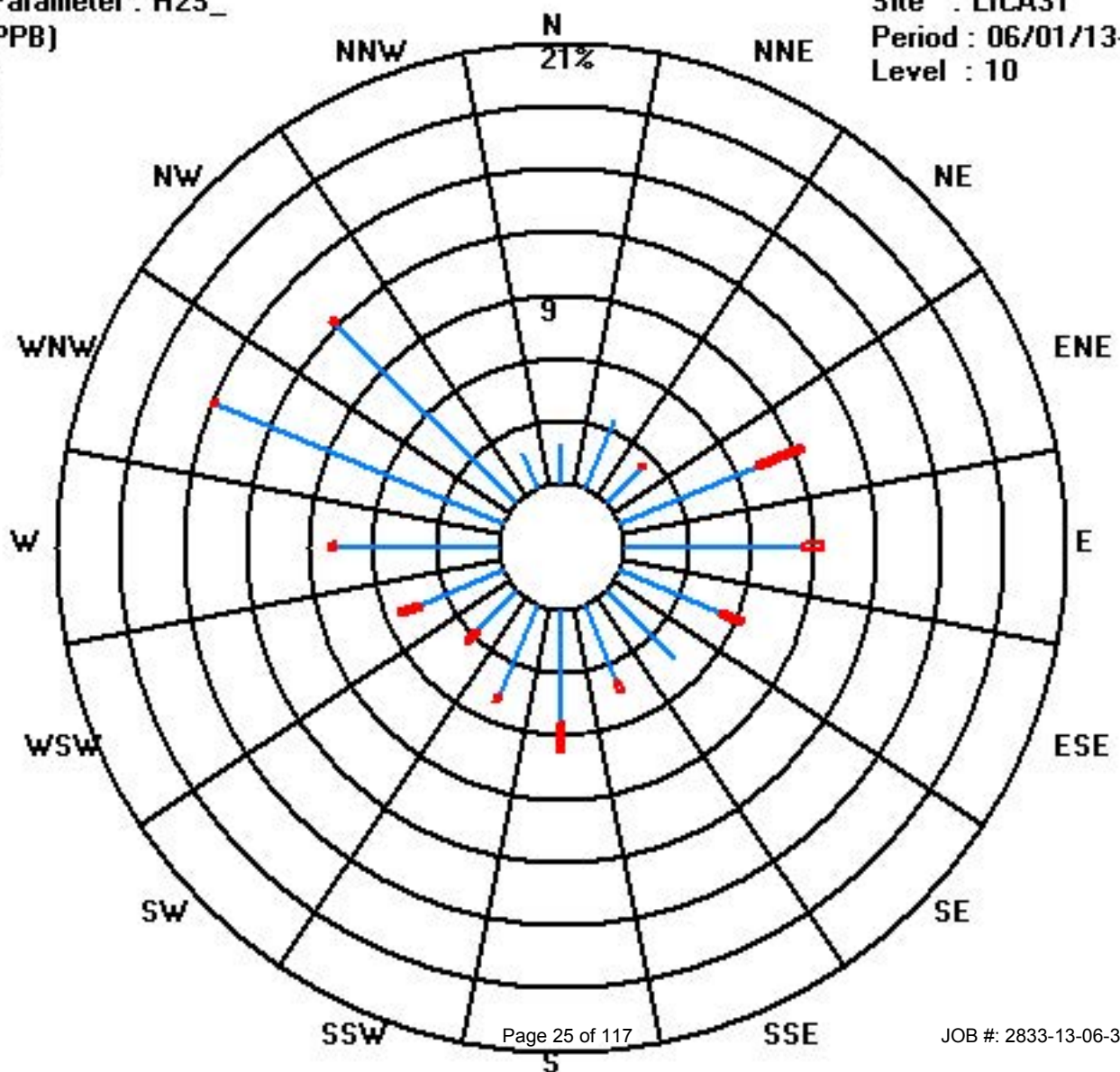
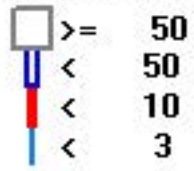
Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 3	13	24	16	48	58	35	31	27	37	32	18	29	52	100	82	12	614
< 10			1	16	6	8		3	9	2	5	7	2	1	2		62
< 50																	
>= 50																	
Totals	13	24	17	64	64	43	31	30	46	34	23	36	54	101	84	12	

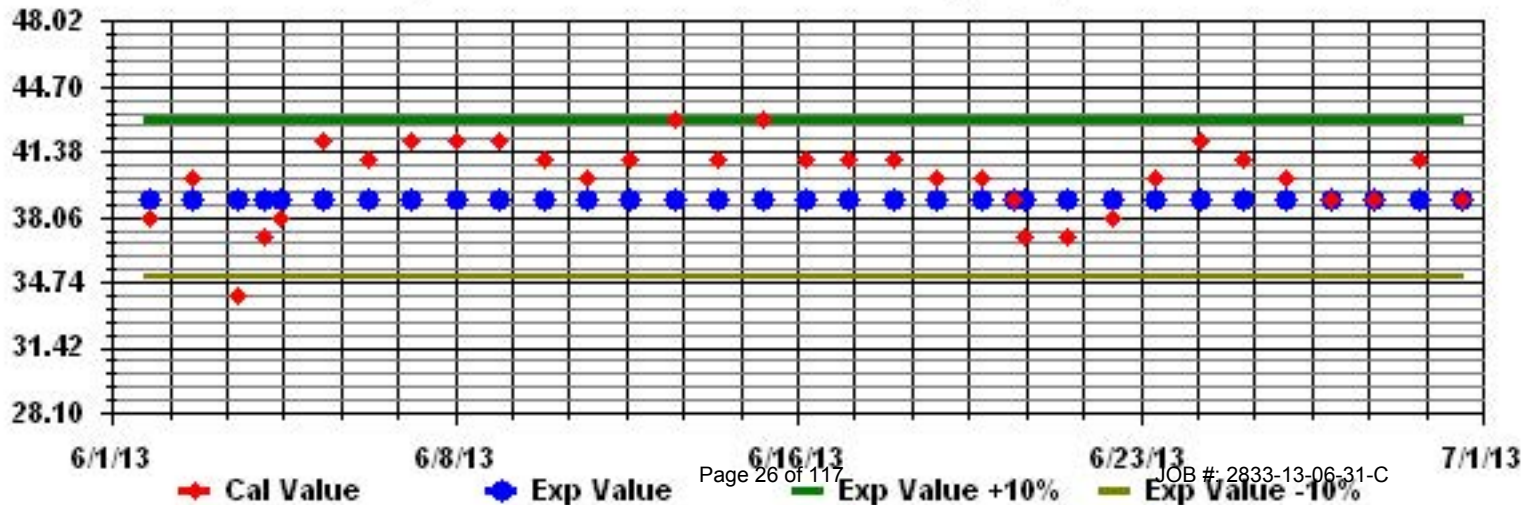
Calm : .00 %

Total # Operational Hours : 676

Class Limits (PPB)



Calibration Graph for Site: LICA31 Parameter: H2S\_ Sequence: H2S Phase: SPAll



# Total Hydrocarbons

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2013

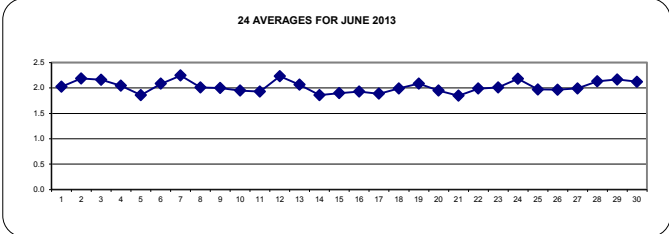
## TOTAL HYDROCARBONS hourly averages in ppm

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
DAY	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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.	
1	2	2	2	2.1	2.1	2.2	2.1	2	2	1.9	1.9	1.9	2	2	2	1.9	2	1.9	2	S	2.4	2	2.1	2	2.4	2.0	24	
2	2	2	2.3	2.3	2.1	2.2	2.6	2.4	2.5	2.6	2.7	2.4	2.2	2	2	2	2	2	S	2	2	2	2	2	2	2.7	2.2	24
3	2.1	2.2	2.5	2.3	2.3	2.3	2.6	2.4	2.2	2.2	2	2	1.9	1.9	1.9	1.9	2	S	2.2	2.3	2.2	2.1	2.1	2	2	2.6	2.2	24
4	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	S	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.2	2.0	24
5	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.6	S	2	2	2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.9	24
6	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	S	1.9	1.9	1.9	1.9	2	2	2	2	2	2.1	2.2	2.1	24
7	2.1	2.1	2.1	2.1	2.1	2.3	2.6	2.7	3.2	2.9	2.5	2.3	1.9	S	1.9	2	2	2	2.1	2.1	2.1	2.2	2.2	2.1	3.2	2.2	24	
8	2	2	2	2	2.1	2.1	2.1	2	2	2	2	2	S	1.9	2	2	2	2	2	2	2	2	2	2	2	2.1	2.0	24
9	2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2	2	S	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2	2	2	2.1	2.0	24
10	2	2	2	2	2	2	2	2	2	S	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2.0	1.9	24
11	2	2	2	2	2	2	2	2	2	S	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	24
12	1.9	1.9	2	2.3	2.8	3.2	2.8	2.1	S	2.1	2.3	2.2	2.2	2.2	2.3	2.2	2.2	2.1	2	2.1	2	2.1	2.2	2.1	3.2	2.2	24	
13	2.2	2.2	2.1	2.1	2.1	2.2	2.1	S	P	P	P	P	2	2	2	2	2	2	2.1	2	2	2	2	2	2	2.2	2.1	20
14	2	2	2	2	2.1	2.1	S	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8	2.1	1.9	24
15	1.8	1.8	1.8	1.8	1.8	S	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2	2	2	2	2	2.0	1.9	24
16	2	2	2	2	S	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	24
17	2	2	2.1	S	2.1	2.1	2.1	2	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	24
18	1.9	1.8	S	2.2	2	2.1	2	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2	1.9	2	2.2	2.2	2.3	2.3	2.0	24		
19	2.3	S	2.2	2.3	2.4	2.2	2.2	2.1	2	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2.1	2.1	2.2	2.3	2.4	2.4	2.1	24	
20	S	2.1	2.1	2.1	2.1	2.1	2.1	2	1.9	1.9	1.8	1.8	C	C	C	1.9	1.9	1.7	Y	1.8	1.9	1.9	2	S	2.1	2.0	23	
21	1.9	2	2	1.9	2	2	1.9	1.8	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.9	1.9	S	2.1	2.1	1.8	24	
22	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2	2	1.8	1.8	1.9	2	1.9	1.8	1.8	1.8	1.9	1.9	S	2	2	2.2	2.0	24	
23	2	2.1	2.1	2.2	2.1	2.1	2	2	1.9	1.9	2	1.9	1.9	2	1.9	1.8	1.8	1.8	1.8	S	2.3	2.3	2.4	2.4	2.4	2.0	24	
24	2.4	2.3	2.4	2.5	2.5	2.5	2.4	2.4	2.3	2.2	2.2	2.2	2.1	2.1	2	2	2	2	S	1.8	2.1	1.9	1.9	1.9	2.5	2.2	24	
25	1.9	1.9	2	2	2.1	2.1	2.1	2.1	2	1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.9	S	2	2	2	2	2	2.1	2.1	2.0	24	
26	2.1	2.1	2.1	2.1	2	2.1	2	2	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	S	1.8	1.9	1.9	1.9	2	2	2	2.1	2.0	24	
27	2	2	2	2.1	2.1	2.1	2	2	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	S	1.9	1.9	2	2.1	2.1	2.1	2.1	2.1	2.0	24	
28	2.2	2.1	2.2	2.4	2.3	2.4	2.3	2.2	2.2	2.1	2.1	2	2	2	2	S	1.9	2	2	2	2.1	2.2	2.1	2.2	2.4	2.1	24	
29	2.2	2.3	2.3	2.4	2.4	2.3	2.4	2.3	2.2	2.2	2.2	2.2	2	2	S	1.9	1.9	1.9	2	2.1	2.1	2.2	2.2	2.1	2.4	2.2	24	
30	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.4	2.3	2.2	2.2	2.4	2.5	S	2.1	2	1.9	1.9	1.9	1.9	1.9	2	2	2.1	2.5	2.1	24	
HOURLY MAX	2.4	2.3	2.5	2.5	2.8	3.2	2.8	2.7	3.2	2.9	2.7	2.4	2.5	2.2	2.3	2.2	2.2	2.1	2.2	2.3	2.4	2.3	2.3	2.4				
HOURLY AVG	2.0	2.0	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0				

### STATUS FLAG CODES

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

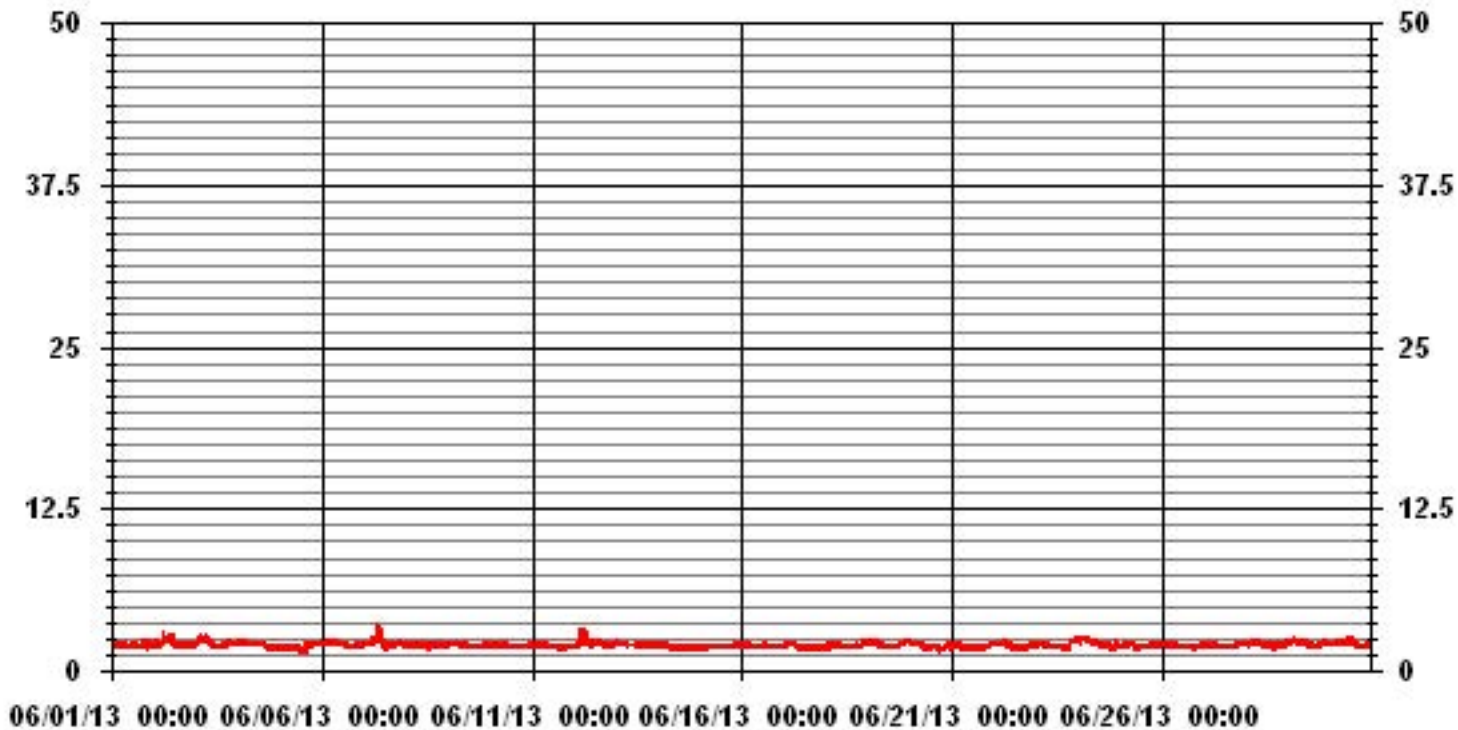
24 AVERAGES FOR JUNE 2013



### MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	681					
MAXIMUM 1-HR AVERAGE:	3.2	PPM	@ HOUR(S)	8, 5	ON DAY(S)	7, 12
MAXIMUM 24-HR AVERAGE:	2.2	PPM			ON DAY(S)	VAR
					VAR- VARIOUS	
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	715	HRS	
MONTHLY CALIBRATION TIME:	3	HRS	AMD OPERATION UPTIME:	99.3	%	
STANDARD DEVIATION:	0.19		MONTHLY AVERAGE:	2.03	PPM	

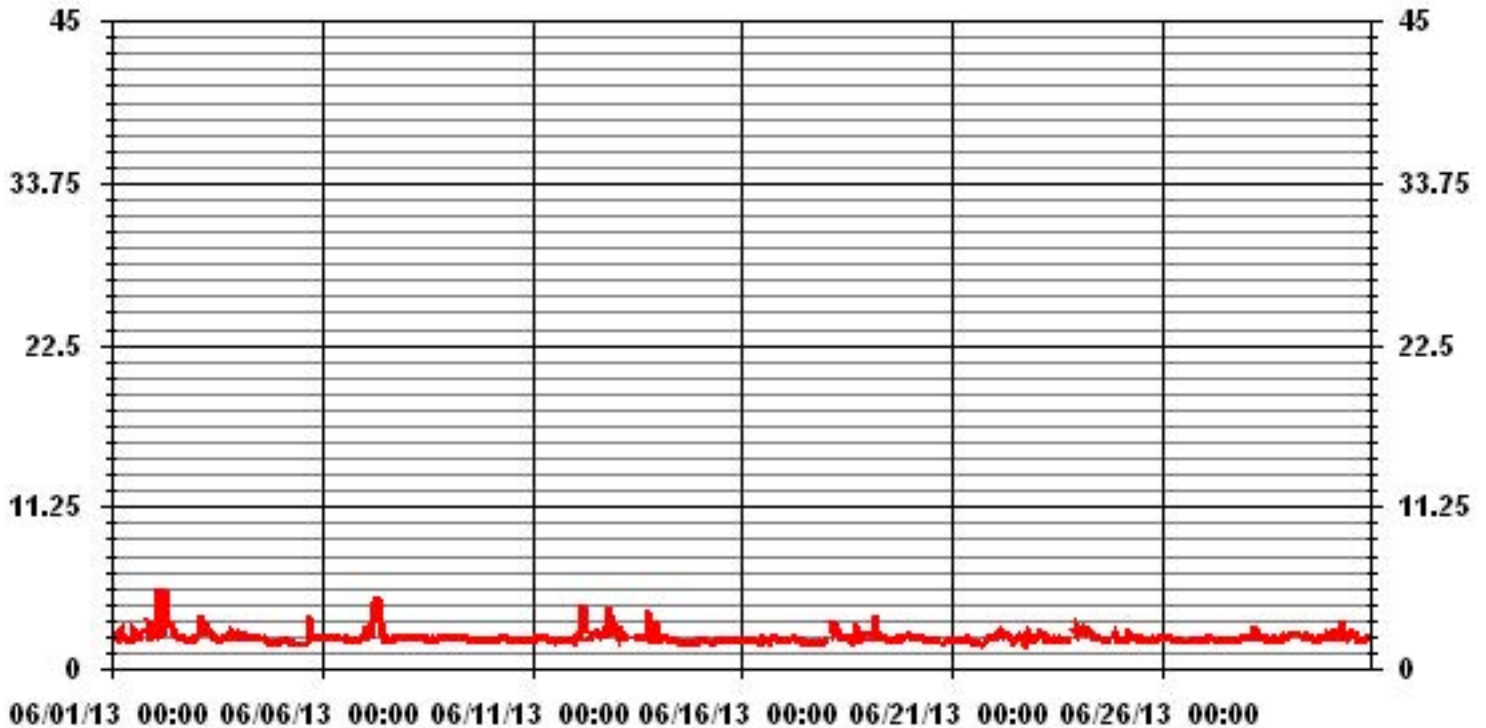
### 01 Hour Averages



— LICA31 THC PPM



### 01 Hour Averages





LICA31  
 THC / WDR Joint Frequency Distribution (Percent)

June 2013

Distribution By % Of Samples

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

Wind Parameter : WDR  
 Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 3.0	1.90	3.52	2.49	9.39	9.39	6.31	4.40	4.40	6.75	5.13	3.37	5.58	7.92	14.97	12.33	1.76	99.70
< 10.0	.00	.00	.00	.00	.29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.29
< 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	1.90	3.52	2.49	9.39	9.69	6.31	4.40	4.40	6.75	5.13	3.37	5.58	7.92	14.97	12.33	1.76	

Calm : .00 %

Total # Operational Hours : 681

Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 3.0	13	24	17	64	64	43	30	30	46	35	23	38	54	102	84	12	679
< 10.0					2												2
< 50.0																	
>= 50.0																	
Totals	13	24	17	64	66	43	30	30	46	35	23	38	54	102	84	12	

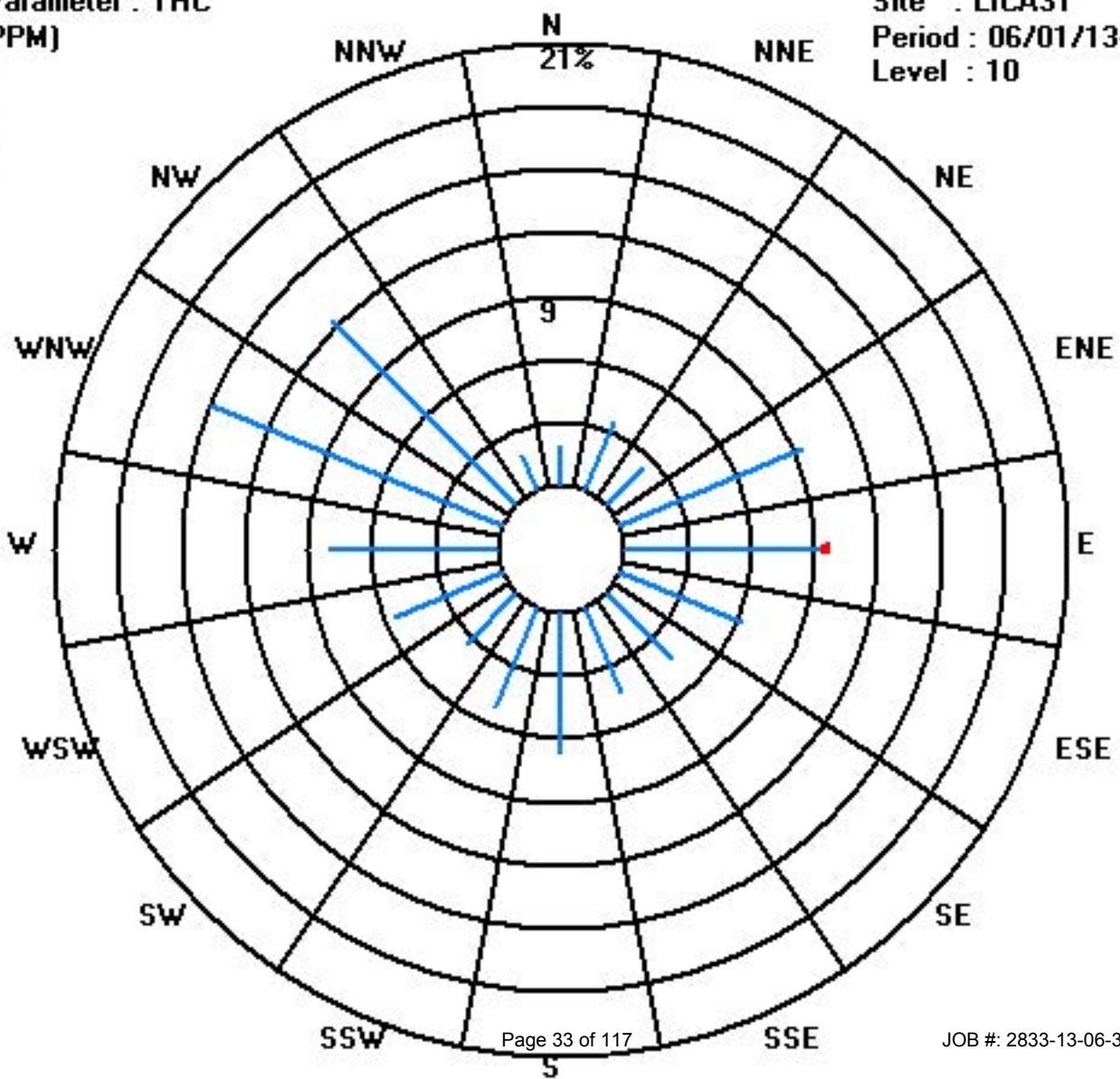
Calm : .00 %

Total # Operational Hours : 681

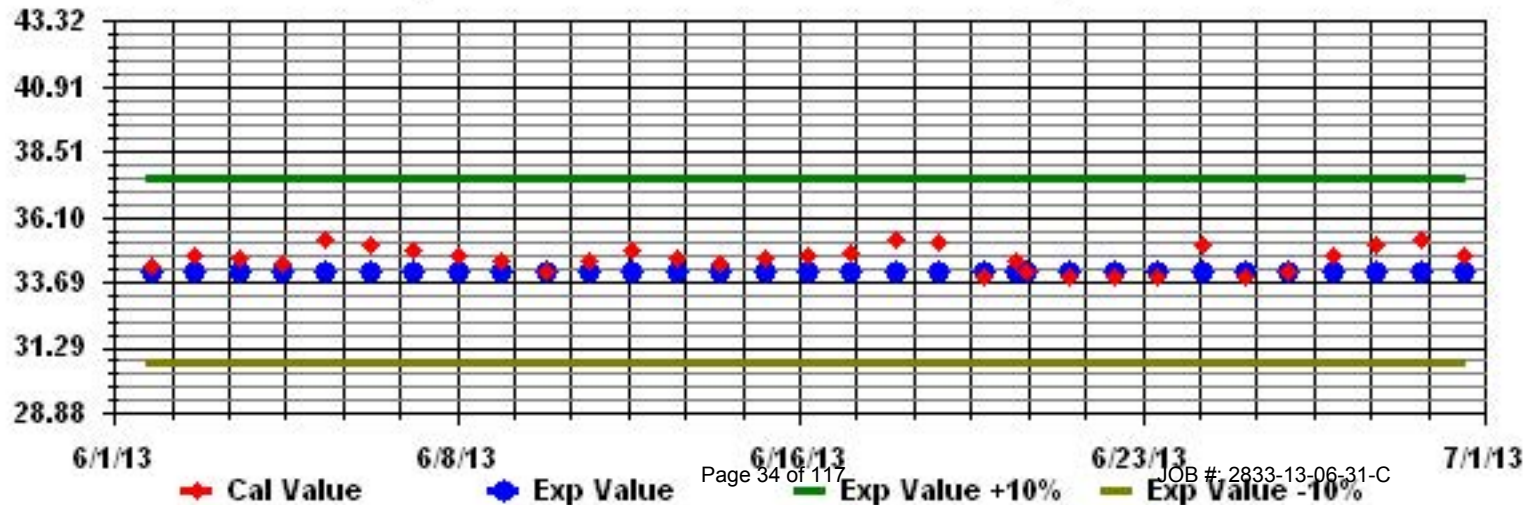
Class Limits (PPM)

Period : 06/01/13-06/30/13

Level : 10



Calibration Graph for Site: LICA31 Parameter: THC Sequence: THC Phase: SPAN



# Ozone

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2013

## OZONE (O<sub>3</sub>) 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	36	36	35	28	28	24	19	20	22	24	33	31	33	32	35	38	41	45	38	S	33	32	30	35	45	31.7	24	
2	39	38	26	22	25	18	14	19	22	24	24	31	35	41	41	45	45	41	S	40	35	33	33	31	45	31.4	24	
3	34	32	35	34	31	25	28	33	35	40	49	56	58	59	59	58	57	S	57	55	52	54	56	58	59	45.9	24	
4	48	55	45	47	52	49	48	48	46	49	56	59	60	61	63	63	S	64	65	64	60	56	53	50	65	54.8	24	
5	47	46	49	51	51	47	44	45	51	55	57	58	60	58	57	S	55	51	47	37	35	34	32	26	60	47.5	24	
6	24	24	22	22	24	26	28	30	33	34	36	35	35	35	S	39	40	41	42	40	42	37	33	34	42	32.9	24	
7	35	36	31	36	39	32	30	30	29	29	30	39	46	S	41	40	38	37	38	37	37	33	30	27	46	34.8	24	
8	25	26	26	25	21	19	21	24	28	29	30	29	S	29	27	26	30	31	31	31	31	30	31	31	31	27.4	24	
9	28	28	28	27	24	21	21	22	24	24	25	S	23	24	22	19	19	17	16	16	16	16	17	17	19	28	21.6	24
10	20	21	22	21	20	18	17	16	17	16	S	15	14	14	13	14	14	14	14	13	12	11	11	10	22	15.5	24	
11	9	9	8	8	7	7	7	7	8	S	11	12	13	16	20	24	25	24	21	18	15	18	17	16	25	13.9	24	
12	17	15	14	9	4	7	10	14	S	21	22	22	25	29	32	35	30	27	35	33	37	36	35	35	37	23.7	24	
13	34	33	39	31	25	25	28	S	P	P	P	P	28	33	32	35	39	39	28	27	28	25	22	23	39	30.2	20	
14	24	27	24	21	16	14	S	20	24	29	33	34	35	34	33	33	33	32	33	32	29	28	25	22	35	27.6	24	
15	22	23	24	25	25	S	26	24	25	26	26	26	27	24	22	20	20	20	20	22	21	20	17	17	27	22.7	24	
16	16	16	16	18	S	21	23	20	22	26	30	32	31	31	30	28	28	25	24	22	22	23	21	21	32	23.7	24	
17	22	16	17	S	9	10	15	20	29	34	33	34	35	37	39	39	38	39	39	39	39	38	43	38	43	30.5	24	
18	34	30	S	27	28	33	33	33	35	35	37	39	42	42	41	40	36	33	31	29	26	28	29	25	42	33.3	24	
19	22	S	21	19	19	19	22	23	28	31	33	34	34	34	34	34	34	34	36	35	32	30	29	28	36	28.9	24	
20	S	25	25	25	25	24	24	25	29	32	34	32	28	29	C	C	C	C	C	34	31	28	28	S	34	28.1	24	
21	25	22	23	22	22	22	24	26	28	29	30	31	32	31	30	32	31	34	46	46	44	43	S	33	46	30.7	24	
22	27	22	21	21	20	18	17	18	18	20	23	28	31	31	32	33	35	34	34	34	34	31	S	34	32	35	26.7	24
23	29	25	29	22	24	23	29	31	34	35	35	36	35	33	35	35	38	38	36	32	S	35	36	34	38	32.1	24	
24	31	30	25	21	21	22	23	25	28	33	35	36	38	39	42	45	46	46	47	S	41	37	33	36	47	33.9	24	
25	36	34	35	35	30	27	24	25	26	29	29	28	32	30	33	34	31	29	S	21	25	35	33	31	36	30.1	24	
26	30	26	20	18	20	19	21	25	23	25	25	25	24	29	32	32	33	S	33	30	30	28	26	26	33	26.1	24	
27	25	25	24	23	32	35	31	28	34	40	38	36	34	34	33	31	S	31	32	30	28	26	29	29	40	30.8	24	
28	28	28	25	18	25	21	20	24	27	31	34	35	37	36	36	S	36	37	37	33	32	35	35	38	38	30.8	24	
29	39	38	37	34	32	32	31	32	37	38	38	41	42	44	S	47	48	48	46	42	39	35	33	35	48	38.6	24	
30	35	31	30	30	30	31	27	21	24	25	26	28	32	S	35	37	36	37	36	34	33	33	32	31	37	31.0	24	
HOURLY MAX	48	55	49	51	52	49	48	48	51	55	57	59	60	61	63	63	57	64	65	64	60	56	56	58				
HOURLY AVG	29.0	28.2	26.8	25.5	25.1	23.8	24.3	25.1	28.1	30.8	32.6	33.6	34.4	34.6	35.1	35.4	35.4	35.1	35.6	33.1	32.3	31.7	30.4	30.0				

### STATUS FLAG CODES

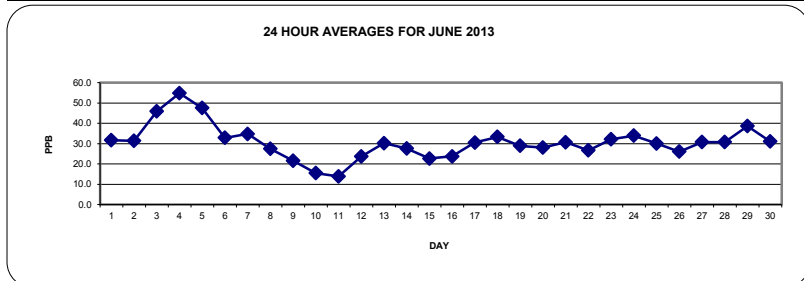
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT:

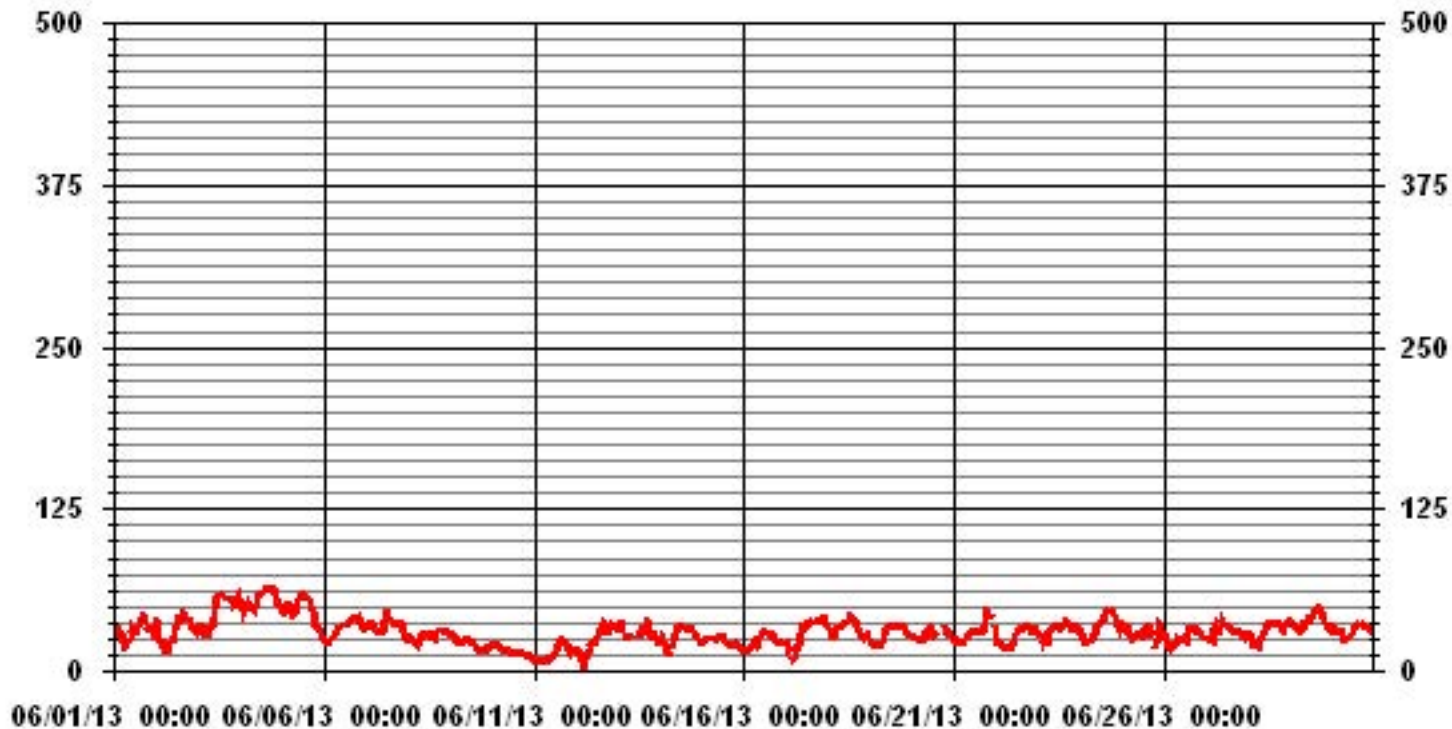
ALBERTA ENVIRONMENT: 1-HR 82 PPB

### MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	680					
MAXIMUM 1-HR AVERAGE:	65	PPB	@ HOUR(S)	18	ON DAY(S)	4
MAXIMUM 24-HR AVERAGE:	54.8	PPB			ON DAY(S)	4
					VAR-VARIOUS	
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	716	HRS	
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:	99.4	%	
STANDARD DEVIATION:	10.49		MONTHLY AVERAGE:	30.6	PPB	



### 01 Hour Averages



# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2013

## 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	38	38	37	31	35	31	23	22	25	27	41	37	37	38	37	43	45	48	45	<b>S</b>	35	36	33	40	48	35.7	24	
2	43	43	30	25	29	26	18	24	24	28	31	37	40	44	45	48	49	43	<b>S</b>	42	39	35	35	34	49	35.3	24	
3	35	34	39	38	34	28	33	35	38	45	54	58	60	61	61	60	59	<b>S</b>	60	58	57	58	59	61	61	48.9	24	
4	60	60	54	55	56	51	51	52	50	55	60	61	62	63	64	65	<b>S</b>	66	<b>67</b>	66	62	58	56	52	<b>67</b>	58.5	24	
5	49	48	52	53	53	50	45	49	55	57	58	62	62	61	59	<b>S</b>	57	52	50	39	37	36	34	30	62	49.9	24	
6	26	26	25	24	26	28	29	33	34	35	37	37	37	<b>S</b>	42	44	43	43	43	43	47	39	36	35	47	35.0	24	
7	37	38	35	42	46	46	33	32	32	31	37	49	49	<b>S</b>	43	42	40	39	40	39	38	36	34	31	49	38.7	24	
8	26	28	27	27	23	20	24	27	32	32	32	31	<b>S</b>	30	30	30	33	33	33	33	33	33	33	33	33	33	29.7	24
9	31	30	29	29	26	23	22	25	26	26	27	<b>S</b>	26	26	24	21	21	20	19	16	17	18	19	20	31	23.5	24	
10	21	23	23	23	21	20	18	17	18	17	<b>S</b>	16	16	15	15	15	14	15	14	14	14	13	12	10	23	16.7	24	
11	10	9	9	9	9	8	8	8	9	<b>S</b>	13	13	15	21	24	28	27	27	23	22	19	20	20	18	28	16.0	24	
12	18	17	15	12	5	9	13	18	<b>S</b>	23	24	27	29	31	35	37	34	31	39	36	40	40	42	39	42	26.7	24	
13	38	39	41	40	34	28	32	<b>S</b>	<b>P</b>	<b>P</b>	<b>P</b>	<b>P</b>	<b>P</b>	34	37	35	41	42	42	32	29	31	27	25	26	42	34.4	20
14	31	30	28	23	18	16	<b>S</b>	22	28	32	36	37	39	37	37	36	36	35	36	34	31	29	28	24	39	30.6	24	
15	24	24	25	27	27	<b>S</b>	29	25	27	27	28	28	28	26	23	22	22	23	22	23	23	22	20	18	29	24.5	24	
16	17	18	18	20	<b>S</b>	25	25	23	24	31	34	35	35	35	31	30	29	28	24	24	24	23	24	35	26.6	24		
17	24	19	21	<b>S</b>	11	14	19	24	34	37	37	36	38	39	41	42	41	41	42	42	42	43	44	42	44	33.6	24	
18	36	<b>P</b>	<b>S</b>	34	34	37	37	38	39	39	41	43	45	44	44	43	42	36	34	31	29	30	32	30	45	37.2	23	
19	23	<b>S</b>	23	21	20	21	24	27	31	33	36	35	37	37	37	37	36	37	38	37	35	32	31	30	38	31.2	24	
20	<b>S</b>	27	28	27	27	25	26	28	34	34	36	40	31	32	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	35	33	30	29	<b>S</b>	40	30.7	24
21	28	24	24	24	24	24	25	27	31	31	33	35	35	32	32	33	32	41	52	49	46	46	<b>S</b>	36	52	33.2	24	
22	32	25	23	23	22	20	19	20	21	23	28	33	35	35	34	36	38	38	38	37	34	<b>S</b>	40	35	40	30.0	24	
23	32	31	32	27	28	30	33	35	38	39	38	40	38	37	38	38	41	40	37	35	<b>S</b>	38	38	37	41	35.7	24	
24	33	31	30	28	26	24	26	27	33	37	37	40	41	41	46	48	48	49	48	<b>S</b>	45	39	35	38	49	37.0	24	
25	38	35	36	35	35	29	26	27	28	31	33	32	35	35	36	36	33	31	<b>S</b>	23	36	36	35	32	38	32.7	24	
26	31	28	25	20	21	20	25	28	26	27	27	27	27	30	35	35	35	<b>S</b>	34	32	32	30	27	27	35	28.2	24	
27	27	26	26	29	38	37	35	31	41	43	40	38	36	35	35	33	<b>S</b>	34	33	33	29	28	29	30	43	33.3	24	
28	29	29	28	29	29	28	26	29	30	33	37	37	39	37	38	<b>S</b>	38	40	39	36	34	38	38	39	40	33.9	24	
29	40	39	38	35	33	34	34	35	40	40	41	43	45	46	<b>S</b>	49	51	50	49	45	41	38	35	37	51	40.8	24	
30	37	34	33	33	32	33	30	24	27	27	29	30	37	<b>S</b>	39	39	39	39	39	39	37	34	35	33	33	39	33.6	24
HOURLY MAX	60	60	54	55	56	51	51	52	55	57	60	62	62	63	64	65	59	66	67	66	62	58	59	61				
HOURLY AVG	31.5	30.5	29.4	29.1	28.3	27.1	27.2	28.0	31.3	33.6	35.9	37.0	37.5	37.2	37.9	38.1	38.0	37.9	38.3	35.4	35.1	34.0	32.9	32.4				

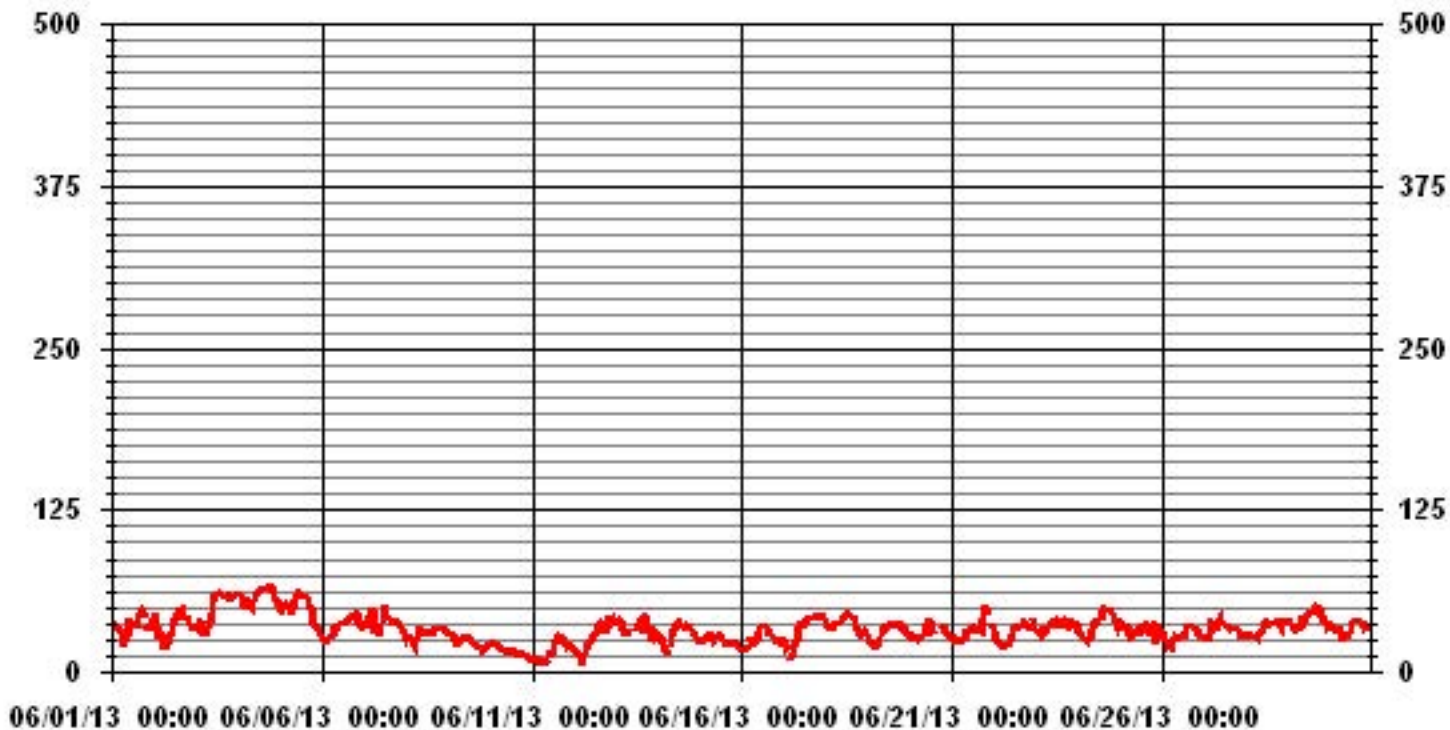
**STATUS FLAG CODES**

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:	679					
MAXIMUM INSTANTANEOUS VALUE:	67	PPB	@ HOUR(S)	18	ON DAY(S)	4
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	715	HRS	
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION:	10.81					

### 01 Hour Averages



— LICA31 O3MAX PPB



LICA31  
O3\_ / WDR Joint Frequency Distribution (Percent)

June 2013

Distribution By % Of Samples

Logger Id : 31  
Site Name : LICA31  
Parameter : O3\_  
Units : PPB

Wind Parameter : WDR  
Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 50	1.91	3.52	2.50	9.41	9.85	5.88	3.67	3.82	5.00	3.38	3.38	5.44	7.79	14.70	12.35	1.76	94.41
< 110	.00	.00	.00	.00	.14	.29	.44	.58	1.76	1.76	.00	.14	.14	.29	.00	.00	5.58
< 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	1.91	3.52	2.50	9.41	10.00	6.17	4.11	4.41	6.76	5.14	3.38	5.58	7.94	15.00	12.35	1.76	

Calm : .00 %

Total # Operational Hours : 680

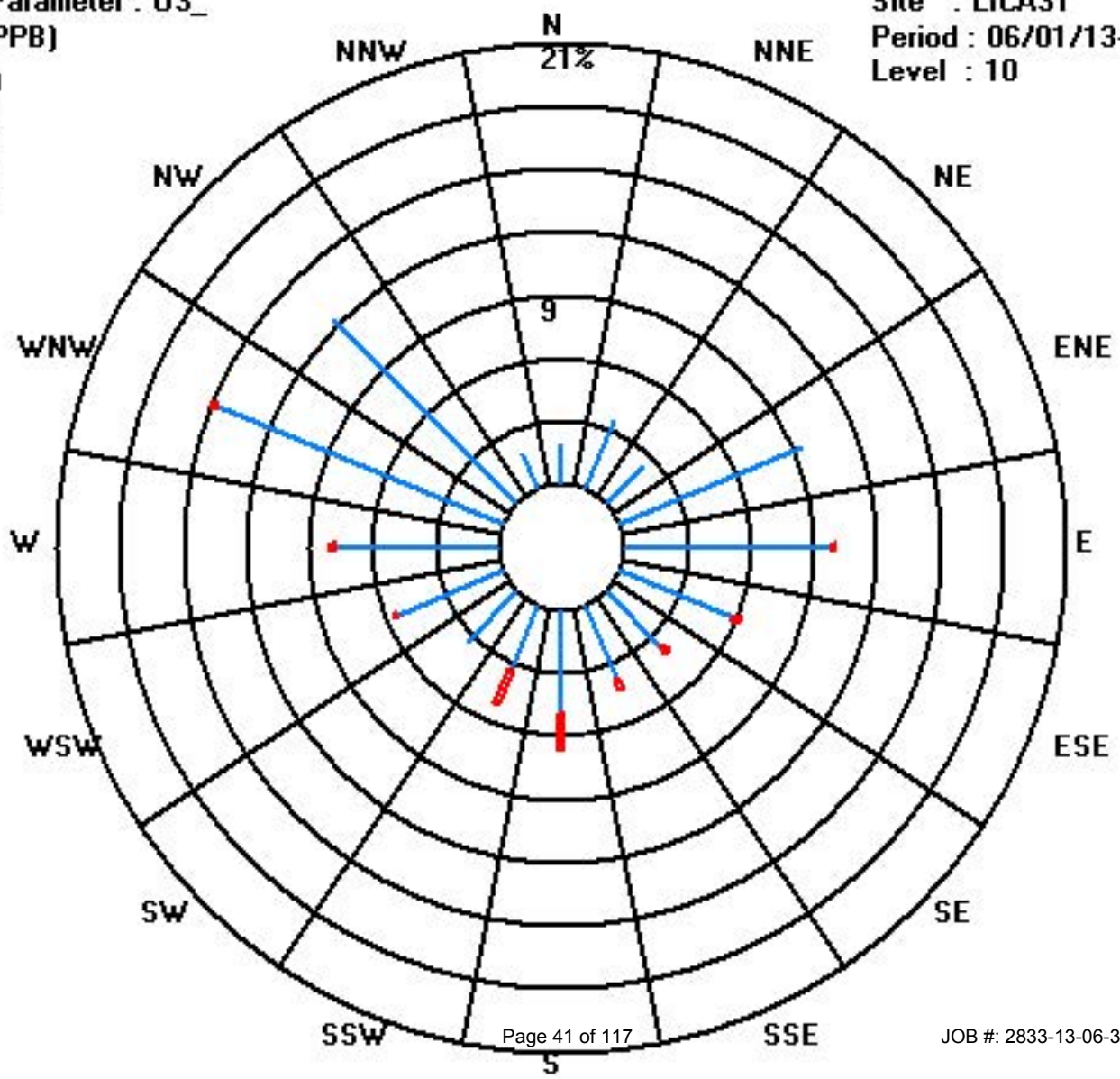
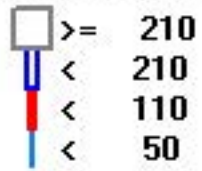
Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 50	13	24	17	64	67	40	25	26	34	23	23	37	53	100	84	12	642
< 110					1	2	3	4	12	12		1	1	2			38
< 210																	
>= 210																	
Totals	13	24	17	64	68	42	28	30	46	35	23	38	54	102	84	12	

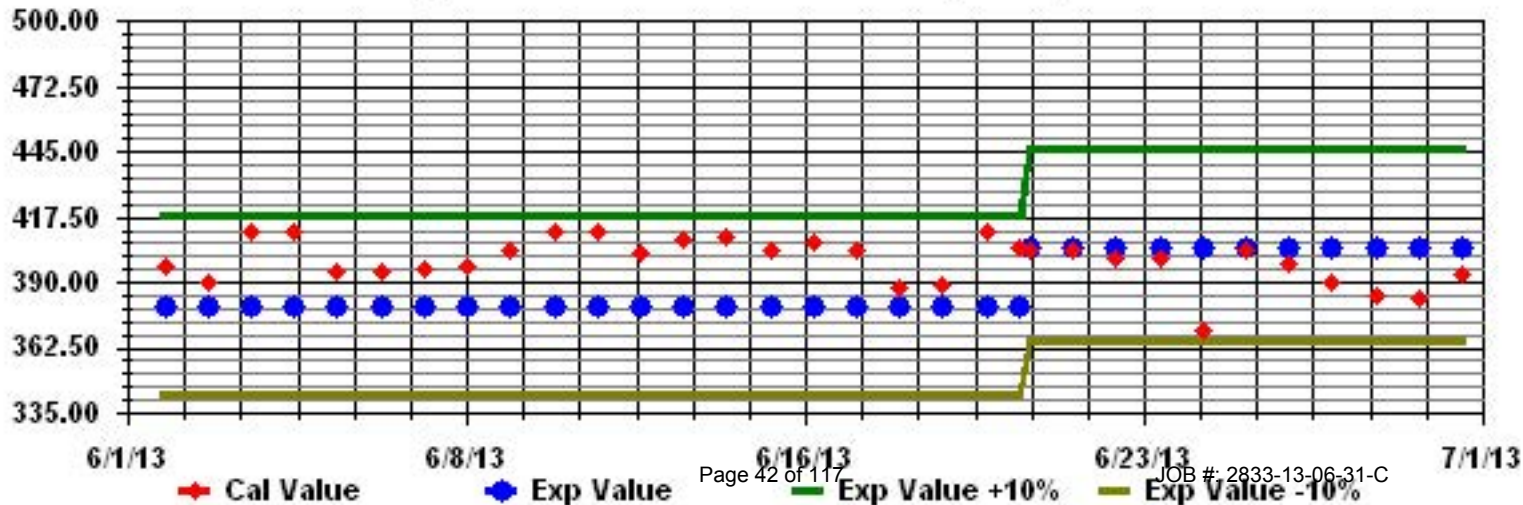
Calm : .00 %

Total # Operational Hours : 680

Class Limits (PPB)



Calibration Graph for Site: LICA31 Parameter: 03\_ Sequence: 03 Phase: SPAN



# Nitrogen Dioxide

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2013

## NITROGEN DIOXIDE hourly averages in ppb

MST

DAY	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY MAX.	24-HOUR AVG.	RDGS.
1	0.5	0.7	1.0	1.7	1.4	1.7	4.2	2.9	1.8	1.5	1.1	1.0	1.4	1.1	0.8	0.7	0.8	0.9	1.4	S	1.7	2.0	1.9	1.5	4.2	1.5	24
2	1.3	1.5	1.5	2.5	3.1	2.7	4.5	3.2	2.2	2.2	3.2	2.2	1.6	1.0	0.9	0.9	1.3	1.6	S	1.6	1.4	1.3	1.1	1.2	4.5	1.9	24
3	1.9	2.5	2.0	2.2	2.6	3.6	2.9	2.5	2.8	2.4	1.9	1.6	1.1	0.8	1.0	0.8	0.5	S	0.2	0.2	0.5	1.0	0.8	0.8	3.6	1.6	24
4	1.5	1.1	2.0	2.2	2.3	3.7	2.6	2.3	2.7	3.0	1.6	0.8	0.7	0.6	0.6	0.7	S	1.2	1.1	0.9	1.6	1.5	1.7	1.7	3.7	1.7	24
5	2.3	2.4	1.9	1.7	1.8	1.6	2.1	1.9	1.2	0.3	0.4	0.4	0.5	0.3	0.4	S	1.6	1.7	1.1	1.6	1.3	0.6	0.7	0.9	2.4	1.2	24
6	1.2	1.9	1.9	1.8	1.2	0.9	0.5	0.4	0.4	0.5	0.4	0.5	0.5	0.4	S	0.8	0.4	0.1	0.3	1.3	0.6	1.7	2.1	2.6	2.6	1.0	24
7	3.4	3.0	3.1	2.6	3.1	2.1	2.1	3.3	5.1	3.7	3.8	2.6	0.3	S	1.1	1.5	1.4	1.7	1.8	1.6	1.6	2.2	2.4	1.7	5.1	2.4	24
8	0.6	0.3	0.5	0.4	0.7	0.7	0.5	0.5	0.5	0.4	0.5	0.4	S	0.4	0.3	0.5	0.6	0.7	0.6	0.3	0.3	0.4	0.3	0.4	0.7	0.5	24
9	0.4	0.3	0.3	0.4	0.4	0.4	0.3	0.0	0.0	0.1	0.2	S	0.1	0.2	0.3	0.2	0.2	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.4	0.2	24
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.1	0.3	0.5	0.4	0.6	0.6	0.4	0.5	0.7	0.5	0.7	0.5	0.6	0.7	0.3	24
11	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.5	S	0.0	0.4	0.6	0.3	0.0	0.0	0.1	0.1	0.0	0.1	1.2	0.3	0.2	0.0	1.2	0.4	24
12	0.2	0.4	0.9	3.9	7.9	5.7	4.0	2.8	S	1.4	1.8	1.4	1.4	1.1	1.5	1.2	1.5	1.5	1.0	0.9	0.9	0.9	1.1	1.3	7.9	1.9	24
13	1.4	1.6	1.5	1.4	1.2	1.3	1.1	S	P	P	P	P	1.5	1.2	1.1	1.1	1.2	1.4	1.5	1.5	1.7	2.0	2.4	3.4	3.4	1.6	20
14	2.2	1.6	1.6	1.9	2.0	1.9	S	0.6	0.6	0.4	0.6	0.7	0.4	0.6	0.6	0.7	0.5	0.4	0.6	0.2	0.6	0.3	0.6	0.4	2.2	0.9	24
15	0.4	0.9	0.8	0.3	0.5	S	0.1	0.2	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	0.1	0.2	0.9	0.2	24	
16	0.1	0.0	0.1	0.0	S	0.6	0.8	0.8	0.7	0.8	1.3	1.3	1.4	1.5	1.9	2.4	2.0	1.2	1.4	1.5	1.1	1.0	1.0	1.0	2.4	1.0	24
17	1.4	1.3	1.5	S	2.4	2.8	2.6	1.9	1.9	2.4	1.2	1.0	0.7	0.8	0.7	1.0	0.9	1.0	1.2	2.7	1.2	1.5	1.0	1.6	2.8	1.5	24
18	1.8	2.0	S	1.6	1.4	1.2	0.9	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.6	0.7	0.8	0.8	1.1	1.3	1.7	1.9	2.5	2.6	2.6	1.2	24
19	2.5	S	2.4	3.6	3.3	2.6	1.6	1.4	0.9	0.2	0.4	0.3	0.1	0.2	0.3	0.2	0.2	0.0	0.4	0.0	0.5	0.7	1.0	1.5	3.6	1.1	24
20	S	2.0	1.7	1.7	1.1	0.9	0.8	0.5	0.4	C	C	C	C	C	C	0.3	0.3	0.5	Y	0.3	0.4	0.6	0.7	S	2.0	0.8	23
21	1.0	0.8	0.7	1.1	1.6	1.1	0.7	0.4	0.4	0.6	0.3	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.3	S	1.2	1.6	0.5	24
22	1.7	1.9	1.5	1.3	0.8	1.1	1.9	2.0	1.9	1.4	1.4	0.8	0.6	0.7	0.6	0.5	0.5	0.5	0.5	0.6	0.8	S	0.6	0.7	2.0	1.1	24
23	1.0	1.4	1.3	1.0	0.7	0.7	0.6	0.9	0.9	0.5	0.6	0.5	0.3	0.2	0.3	0.6	0.6	0.5	0.5	0.7	S	0.2	0.3	0.3	1.4	0.6	24
24	0.5	0.4	0.7	1.0	1.7	1.4	0.9	0.7	0.4	0.5	0.3	0.6	0.2	0.7	0.6	0.7	1.2	0.9	0.5	S	1.6	1.9	2.3	1.9	2.3	0.9	24
25	2.0	2.1	1.8	1.7	1.9	1.8	2.1	1.8	1.5	1.3	1.3	0.9	0.3	0.3	0.0	0.0	0.1	0.1	S	0.9	1.2	1.3	1.3	1.5	2.1	1.2	24
26	1.6	1.8	2.1	2.6	2.9	3.3	2.3	1.7	2.0	1.5	1.2	1.3	1.2	0.6	0.6	0.6	0.7	S	0.5	0.8	0.4	0.5	0.2	0.8	3.3	1.4	24
27	0.7	0.9	0.7	1.4	1.9	1.7	1.2	1.2	1.7	1.7	1.1	0.8	0.8	0.6	0.8	0.9	S	0.9	1.0	1.5	1.2	1.8	1.9	1.6	1.9	1.2	24
28	1.9	1.7	2.2	3.5	2.3	1.6	1.3	1.2	1.2	1.1	1.2	0.5	0.6	0.5	0.5	S	0.8	1.1	0.8	1.7	3.2	2.3	2.2	1.6	3.5	1.5	24
29	2.0	1.8	1.9	1.9	2.0	2.0	2.2	1.7	1.3	0.9	1.1	0.8	0.6	0.5	S	0.5	0.7	0.6	0.9	0.6	0.8	1.2	1.0	1.3	2.2	1.2	24
30	1.1	1.0	1.0	0.8	0.6	0.6	0.6	0.7	0.5	0.3	0.4	1.0	1.1	S	0.3	0.2	0.2	0.1	0.0	0.4	0.3	0.6	0.3	0.7	1.1	0.6	24
HOURLY MAX	3.4	3.0	3.1	3.9	7.9	5.7	4.5	3.3	5.1	3.7	3.8	2.6	1.6	1.5	1.9	2.4	2.0	1.7	1.8	2.7	3.2	2.3	2.5	3.4			
HOURLY AVG	1.3	1.3	1.4	1.6	1.8	1.7	1.6	1.3	1.2	1.1	1.0	0.8	0.7	0.6	0.6	0.7	0.7	0.7	0.7	0.9	1.0	1.1	1.1	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

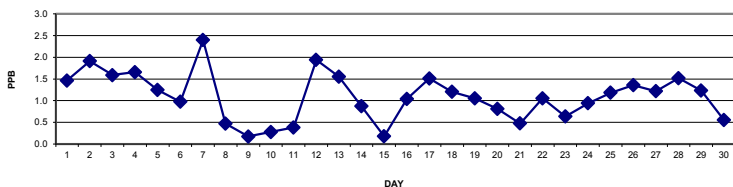
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT: 1-HR 159 PPB

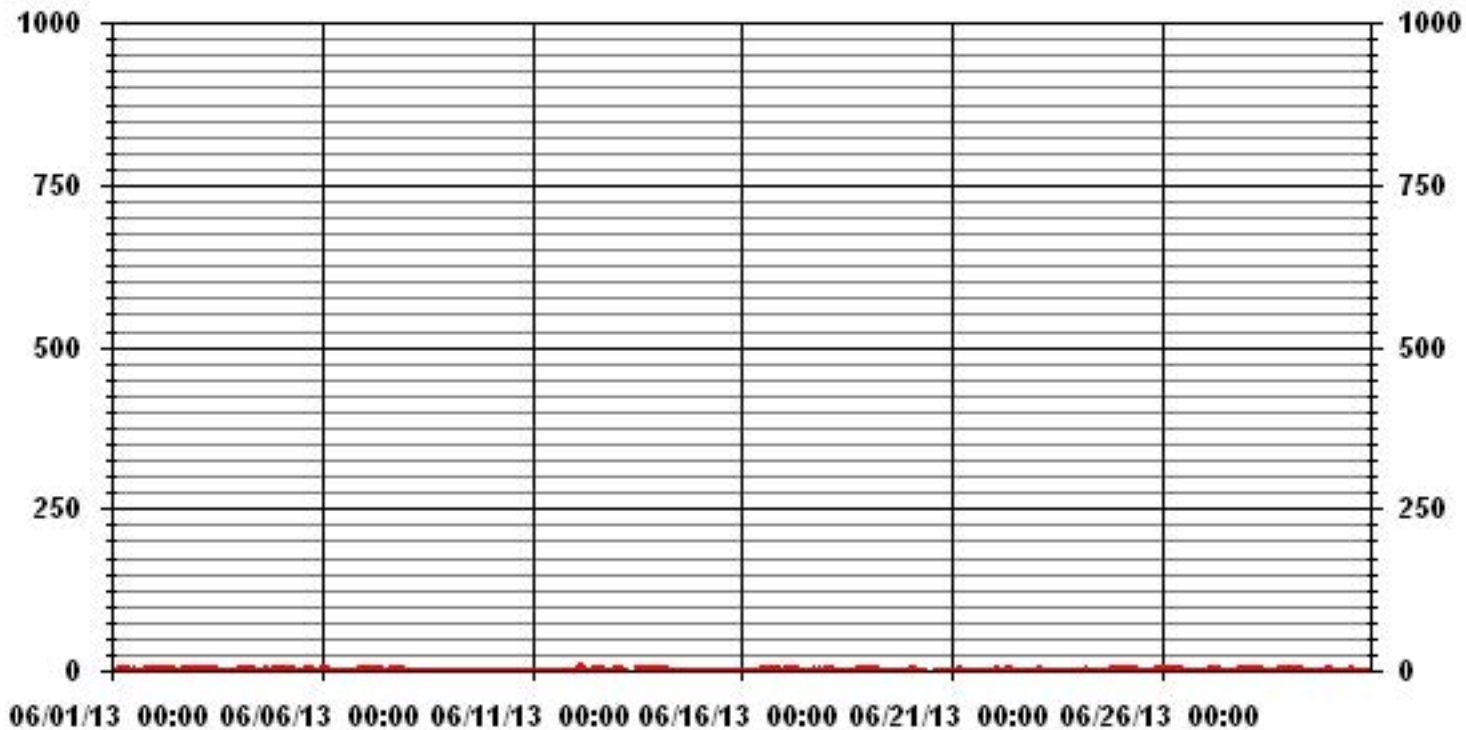
### MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	636					
MAXIMUM 1-HR AVERAGE:	7.9	PPB	@ HOUR(S)	4	ON DAY(S)	12
MAXIMUM 24-HR AVERAGE:	2.4	PPB			ON DAY(S)	7
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	715	HRS	
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:	99.3	%	
STANDARD DEVIATION:	0.90		MONTHLY AVERAGE:	1.10	PPB	

24 HOUR AVERAGES FOR JUNE 2013



# 01 Hour Averages



— LICA31 NO2\_ PPB

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST.LINA

JUNE 2013

## 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	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	1.4	1.6	1.8	2.8	1.9	3.6	5.2	4.5	3.1	2.6	2.4	2.0	2.6	2.1	1.6	1.5	1.6	1.6	2.6	<b>S</b>	2.5	2.4	2.9	2.7	5.2	2.5	24	
2	2.2	2.2	3.2	3.8	4.0	4.5	5.4	4.0	3.3	3.0	3.4	2.6	2.4	2.0	1.9	1.8	2.1	2.8	<b>S</b>	2.4	2.5	2.2	2.2	2.4	5.4	2.9	24	
3	2.7	3.1	2.9	3.3	3.9	4.3	3.9	3.1	3.3	3.2	2.6	1.9	1.5	1.3	1.6	1.3	1.1	<b>S</b>	1.1	1.3	1.5	2.1	1.8	1.6	4.3	2.4	24	
4	2.9	2.2	3.2	4.0	5.9	5.2	4.6	4.8	17.1	6.3	3.6	2.5	2.2	1.8	1.9	2.1	<b>S</b>	2.7	1.6	1.9	3.4	2.5	2.4	2.6	17.1	3.8	24	
5	3.3	3.5	3.1	2.6	2.8	2.8	2.9	2.8	2.8	1.5	1.4	1.5	1.2	1.1	1.2	<b>S</b>	1.4	1.9	1.8	2.1	2.5	1.2	1.3	1.5	3.5	2.1	24	
6	1.9	2.4	2.3	2.3	1.8	1.4	5.4	1.0	0.9	0.9	0.7	1.0	1.3	0.9	<b>S</b>	1.3	1.0	0.8	1.4	4.8	2.4	2.7	3.0	3.7	5.4	2.0	24	
7	5.7	4.8	3.8	3.8	4.1	3.1	2.9	4.7	6.7	4.6	5.0	3.9	1.5	<b>S</b>	1.5	2.0	2.4	2.2	2.2	2.1	2.0	2.6	4.9	3.1	6.7	3.5	24	
8	1.6	1.2	1.2	1.3	1.4	1.5	1.4	1.3	1.3	1.5	1.3	1.0	<b>S</b>	1.2	1.4	1.7	1.7	1.5	1.6	1.2	1.7	1.3	1.6	1.3	1.7	1.4	24	
9	1.4	1.5	1.4	1.4	1.4	1.5	1.5	1.0	1.0	1.2	1.5	<b>S</b>	1.4	1.6	1.6	1.6	1.4	1.3	1.1	1.4	1.1	1.0	1.2	1.3	1.6	1.3	24	
10	1.4	1.4	1.3	1.4	1.4	1.4	1.5	1.5	1.5	1.4	<b>S</b>	1.0	0.7	1.2	0.9	1.1	1.1	0.9	0.9	<b>18.3</b>	5.6	5.7	1.1	1.0	<b>18.3</b>	2.3	24	
11	1.1	1.0	1.2	1.2	1.3	1.3	1.3	1.3	1.0	<b>S</b>	1.2	1.3	1.3	1.6	1.1	0.7	1.4	1.1	0.8	1.3	4.6	1.3	1.3	1.4	4.6	1.4	24	
12	1.1	1.3	2.0	7.4	8.8	7.7	5.1	4.3	<b>S</b>	2.6	2.9	2.7	2.8	2.5	2.7	2.7	3.0	3.4	3.0	2.3	2.4	2.5	2.6	2.9	8.8	3.4	24	
13	2.9	2.8	2.7	3.6	2.9	2.3	2.3	<b>S</b>	<b>P</b>	<b>P</b>	<b>P</b>	<b>P</b>	<b>P</b>	3.4	2.4	2.2	2.3	2.9	2.1	1.9	1.9	2.3	2.7	3.4	7.9	7.9	20	
14	2.7	2.0	2.2	2.5	2.6	2.9	<b>S</b>	1.9	1.4	1.3	1.3	1.5	1.0	1.2	1.6	1.7	1.2	1.1	1.7	1.1	1.1	1.1	1.3	1.2	2.9	1.6	24	
15	1.3	1.6	1.6	1.2	1.2	<b>S</b>	0.8	1.0	0.9	0.9	1.0	0.9	1.0	0.8	1.0	1.0	1.0	0.9	1.0	0.8	0.9	1.1	1.2	1.1	1.6	1.1	24	
16	1.0	1.0	1.1	1.0	<b>S</b>	1.5	1.6	1.5	1.5	1.7	1.9	2.0	2.0	2.3	3.0	4.7	3.1	2.4	3.2	2.6	2.3	2.2	1.8	1.8	4.7	2.1	24	
17	2.5	2.1	2.4	<b>S</b>	3.3	3.5	3.4	2.8	2.8	3.9	2.2	2.6	1.8	2.0	2.0	2.1	2.4	2.7	2.9	8.5	2.6	2.9	2.2	2.8	8.5	2.9	24	
18	3.0	<b>P</b>	<b>S</b>	2.2	2.0	2.0	1.5	1.2	1.2	1.2	1.2	1.1	1.1	1.0	0.9	0.9	0.9	0.9	1.5	1.7	2.3	2.7	2.8	3.4	3.4	1.7	23	
19	3.0	<b>S</b>	3.5	4.2	4.1	3.8	2.4	2.2	1.9	1.2	1.1	1.1	0.8	0.8	1.1	1.0	0.9	0.8	0.9	1.1	1.5	2.7	2.4	4.4	4.4	2.0	24	
20	<b>S</b>	3.1	2.6	2.7	2.2	2.0	2.0	1.3	1.5	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	1.6	1.7	<b>Y</b>	<b>Y</b>	1.1	1.3	1.6	1.7	<b>S</b>	3.1	1.9	22	
21	2.1	1.9	1.8	2.8	3.0	2.8	2.1	1.5	1.4	1.7	1.3	1.2	0.9	0.9	0.8	0.9	0.9	0.7	0.5	0.9	1.0	1.4	<b>S</b>	1.5	3.0	1.5	24	
22	1.8	2.4	2.5	1.7	1.3	1.5	2.4	2.4	2.4	1.7	1.6	1.1	1.1	1.4	1.1	1.0	0.9	0.9	0.9	1.0	1.0	<b>S</b>	1.6	1.7	2.5	1.5	24	
23	2.5	2.5	2.6	2.5	1.9	1.9	1.6	2.0	2.0	1.8	1.7	1.8	1.5	1.7	1.8	1.8	1.8	1.5	2.0	2.3	<b>S</b>	1.5	1.5	1.5	2.6	1.9	24	
24	1.6	1.6	1.8	2.1	4.5	11.3	2.1	2.0	1.5	1.4	1.3	1.4	1.3	1.5	1.5	1.6	2.3	2.0	1.4	<b>S</b>	2.8	2.7	3.2	2.8	11.3	2.4	24	
25	2.9	2.9	2.8	2.6	3.0	2.6	3.2	3.1	2.9	2.3	2.4	2.2	1.7	1.8	1.4	1.6	1.8	1.7	<b>S</b>	1.7	2.3	2.2	2.1	2.6	3.2	2.3	24	
26	2.7	2.7	3.1	3.7	4.3	4.9	4.4	2.7	3.7	3.7	10.2	2.3	2.9	1.6	1.8	2.1	1.4	<b>S</b>	1.6	2.2	2.4	1.5	1.6	2.0	10.2	3.0	24	
27	1.8	2.2	1.8	2.7	2.9	3.2	2.6	2.4	10.1	3.0	2.1	2.0	2.3	1.8	2.1	2.2	<b>S</b>	1.8	2.5	4.0	3.3	3.4	2.8	3.2	10.1	2.9	24	
28	3.0	2.7	3.4	5.2	5.2	2.9	2.8	3.9	2.5	2.1	2.3	1.4	1.6	1.6	1.4	<b>S</b>	2.9	4.4	3.6	5.2	7.0	7.7	4.8	3.7	7.7	3.5	24	
29	4.0	4.1	4.2	4.1	4.3	4.5	5.4	4.3	3.6	3.2	3.2	3.1	2.7	2.7	<b>S</b>	1.7	1.5	1.5	1.8	1.8	2.1	2.4	2.3	2.5	5.4	3.1	24	
30	2.3	2.3	2.5	2.2	2.4	2.0	2.1	2.4	2.2	1.8	1.8	2.5	2.6	<b>S</b>	1.6	1.3	1.7	1.2	1.2	1.7	1.7	1.9	1.7	1.7	2.6	1.9	24	
HOURLY MAX	5.7	4.8	4.2	7.4	8.8	11.3	5.4	4.8	17.1	6.3	10.2	3.9	3.4	2.7	3.0	4.7	3.1	4.4	3.6	18.3	7.0	7.7	4.9	7.9				
HOURLY AVG	2.3	2.3	2.4	2.8	3.1	3.2	2.9	2.5	3.1	2.3	2.3	1.8	1.7	1.6	1.6	1.7	1.7	1.7	1.7	2.8	2.4	2.4	2.2	2.5				

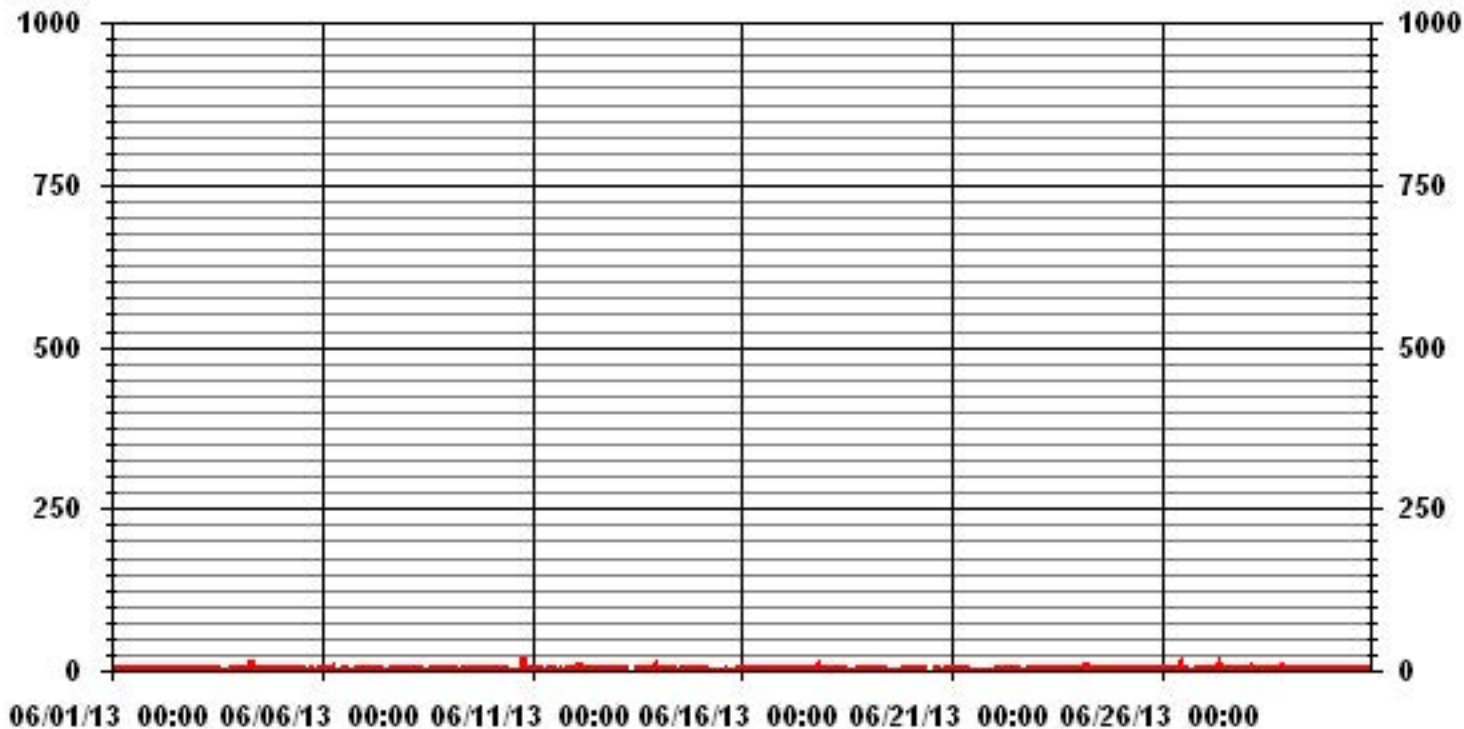
**STATUS FLAG CODES**

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:	676					
MAXIMUM INSTANTANEOUS VALUE:	18.3	PPB	@ HOUR(S)	19	ON DAY(S)	10
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	713	HRS	
MONTHLY CALIBRATION TIME:	6	HRS				
STANDARD DEVIATION:	1.56					

### 01 Hour Averages



— LICA31 NO2MAX PPB



LICA31  
 NO2\_ / WDR Joint Frequency Distribution (Percent)

June 2013

Distribution By % Of Samples

Logger Id : 31  
 Site Name : LICA31  
 Parameter : NO2\_  
 Units : PPB

Wind Parameter : WDR  
 Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 50.0	1.91	3.53	2.50	9.43	9.29	6.34	4.42	4.42	6.78	5.16	3.39	5.60	7.96	15.04	12.38	1.76	100.00
< 110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	1.91	3.53	2.50	9.43	9.29	6.34	4.42	4.42	6.78	5.16	3.39	5.60	7.96	15.04	12.38	1.76	

Calm : .00 %

Total # Operational Hours : 678

Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 50.0	13	24	17	64	63	43	30	30	46	35	23	38	54	102	84	12	678
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	13	24	17	64	63	43	30	30	46	35	23	38	54	102	84	12	

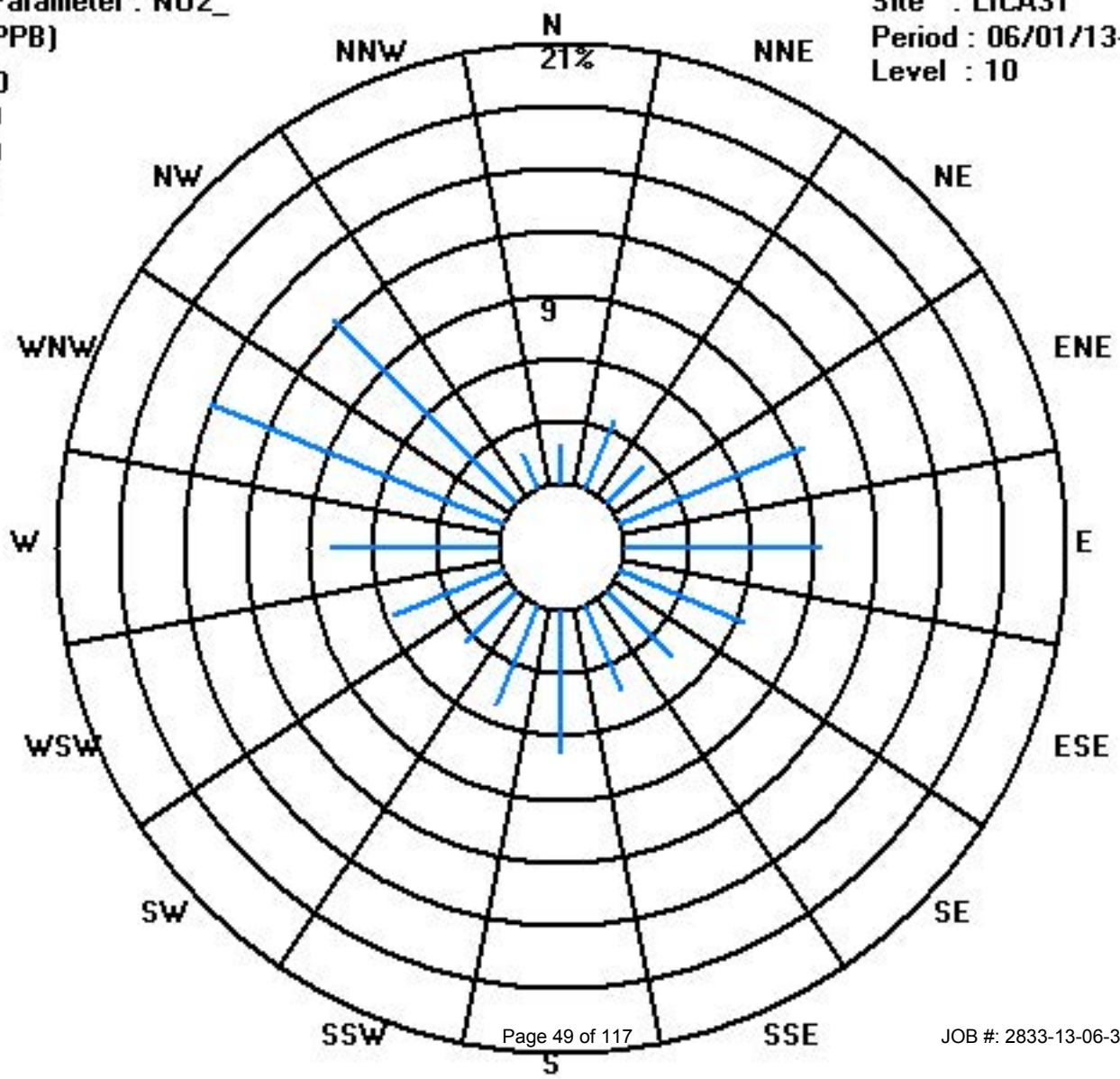
Calm : .00 %

Total # Operational Hours : 678

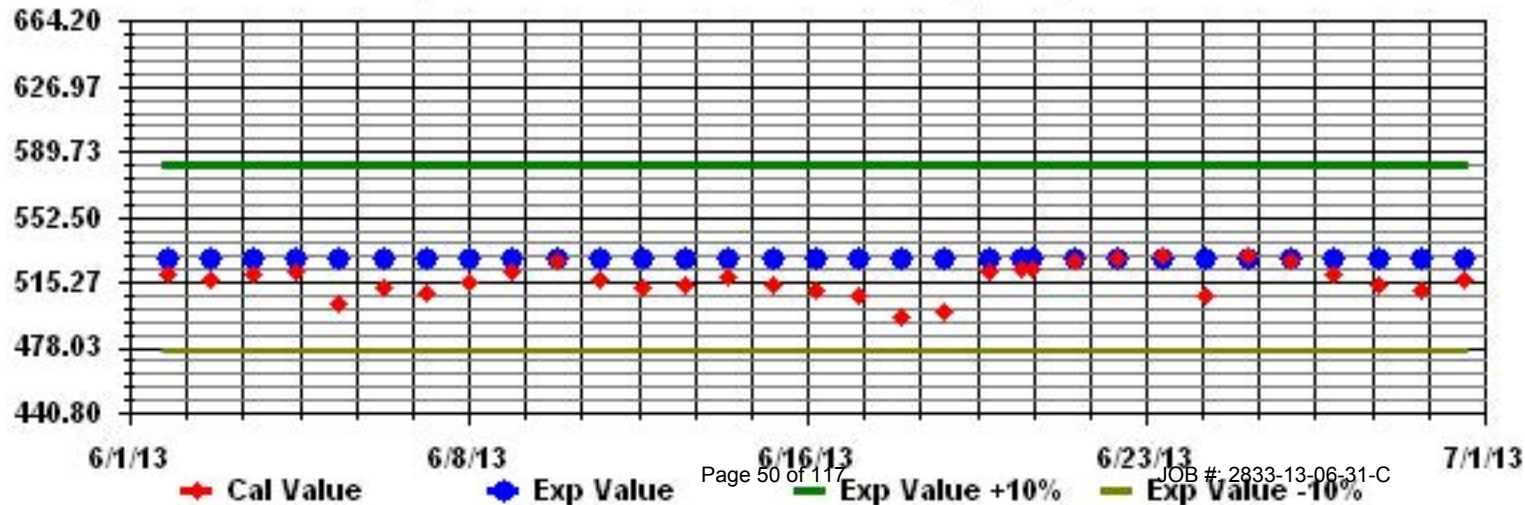
Class Limits (PPB)

Period : 06/01/13-06/30/13

Level : 10



Calibration Graph for Site: LICA31 Parameter: NO2\_ Sequence: NO2 Phase: SPAN



# Nitric Oxide

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2013

## NITRIC OXIDE 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	0.1	0.7	0.6	0.4	0.4	0.4	0.1	0.3	0.4	0.4	0.1	0.0	0.2	0.4	S	0.0	0.0	0.0	0.0	0.0	0.7	0.2	24
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	24
3	0.0	0.0	0.0	0.0	0.1	0.5	0.6	0.8	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	S	1.2	1.2	1.1	1.0	1.0	0.9	1.2	0.4	1.2	0.4	24
4	1.0	0.8	0.9	0.8	1.1	1.4	1.3	1.3	1.6	1.6	1.2	1.1	1.0	1.2	1.1	1.3	S	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.8	24	
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
6	0.0	0.0	0.0	0.1	0.2	0.1	0.5	0.4	0.4	0.4	0.6	0.3	0.3	0.3	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.2	24
7	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.3	0.1	0.0	0.3	0.0	0.0	S	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.1	24	
8	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.3	S	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.1	24	
9	0.0	0.0	0.0	0.2	0.0	0.6	0.6	0.5	0.4	0.3	0.4	S	0.5	0.2	0.1	0.1	0.2	0.1	0.3	0.3	0.1	0.3	0.4	0.2	0.6	0.3	24	
10	0.4	0.4	0.3	0.4	0.5	0.6	0.4	0.4	0.8	0.8	S	0.7	0.2	0.4	0.3	0.5	0.3	0.3	0.4	0.5	0.3	0.3	0.1	0.4	0.8	0.4	24	
11	0.3	0.2	0.2	0.3	0.2	0.7	0.6	0.4	0.6	S	0.4	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	0.7	0.2	24	
12	0.0	0.0	0.0	0.0	0.3	1.4	1.3	0.5	S	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	1.4	0.2	24	
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	P	P	P	P	P	0.0	0.6	0.6	0.5	0.6	0.5	0.4	0.4	0.3	0.1	0.4	0.5	0.6	0.3	20
14	0.5	0.6	0.6	0.6	1.0	1.4	S	1.0	0.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.3	24	
15	0.0	0.0	0.0	0.0	0.1	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	
16	0.0	0.1	0.1	0.1	S	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	24	
17	0.0	0.0	0.0	S	0.0	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	24	
18	0.0	0.0	S	0.4	0.3	0.3	0.6	0.6	0.5	0.5	0.2	0.2	0.1	0.0	0.1	0.1	0.4	0.0	0.0	0.1	0.2	0.3	0.2	0.5	0.6	0.2	24	
19	0.4	S	0.3	0.2	0.3	0.4	0.5	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6	1.0	0.9	1.0	0.2	24	
20	S	0.6	0.3	0.4	0.4	0.5	0.2	0.2	0.0	C	C	C	C	C	C	0.0	0.0	0.0	Y	0.1	0.1	0.0	0.1	S	0.6	0.2	23	
21	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	S	0.1	0.3	0.0	24	
22	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.1	0.1	0.1	0.0	24	
23	0.0	0.0	0.0	0.1	0.2	0.1	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.2	0.0	0.1	0.2	0.0	0.1	24	
24	0.1	0.0	0.1	0.1	0.6	0.8	0.4	0.2	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	0.3	0.8	0.1	24		
25	0.3	0.5	0.4	0.3	0.3	0.2	0.5	0.7	0.6	0.4	0.3	0.1	0.3	0.7	0.5	1.0	0.9	1.0	S	0.1	0.0	0.0	0.1	0.2	1.0	0.4	24	
26	0.2	0.4	0.2	0.4	0.5	0.9	0.9	0.5	0.7	0.5	0.4	1.0	0.6	0.4	0.4	0.2	0.0	S	0.2	0.0	0.0	0.0	0.0	0.1	1.0	0.4	24	
27	0.2	0.0	0.1	0.0	0.3	0.2	0.5	0.3	0.3	0.4	0.1	0.0	0.0	0.0	0.0	0.0	S	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.1	24	
28	0.0	0.0	0.0	0.0	0.6	0.5	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	S	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.6	0.1	24	
29	0.2	0.2	0.4	0.4	0.2	0.6	0.7	0.5	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	0.0	0.0	0.7	0.1	24	
30	0.0	0.2	0.0	0.1	0.0	0.3	0.2	0.1	0.2	0.5	0.1	0.1	0.3	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.1	24	
HOURLY MAX	1.0	0.8	0.9	0.8	1.1	1.4	1.3	1.3	1.6	1.6	1.2	1.1	1.0	1.2	1.1	1.3	0.9	1.0	1.2	1.2	1.1	1.0	1.0	0.9				
HOURLY AVG	0.1	0.1	0.1	0.2	0.3	0.4	0.4	0.4	0.3	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2				

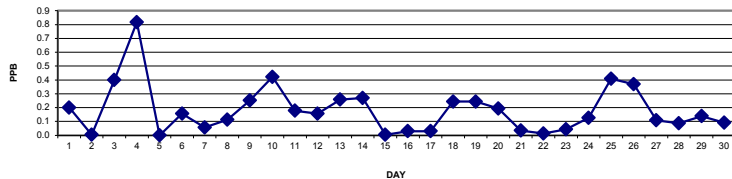
### STATUS FLAG CODES

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

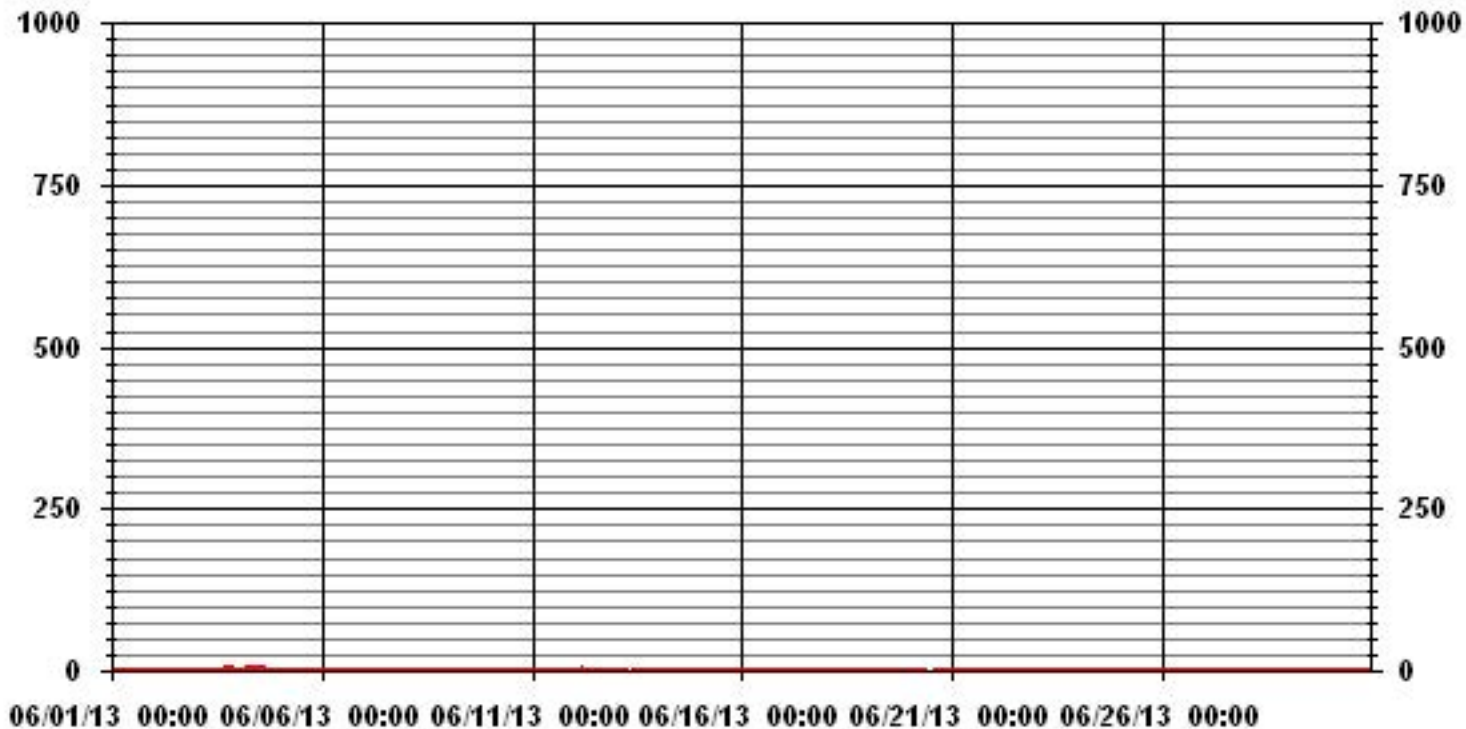
### MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	301					
MAXIMUM 1-HR AVERAGE:	1.6	PPB	@ HOUR(S)	8, 9	ON DAY(S)	4
MAXIMUM 24-HR AVERAGE:	0.8	PPB			ON DAY(S)	4
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	715	HRS	
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:	99.3	%	
STANDARD DEVIATION:	0.29		MONTHLY AVERAGE:	0.18	PPB	

24 HOUR AVERAGES FOR JUNE 2013



### 01 Hour Averages



# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2013

## 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	0.8	0.6	0.9	0.5	1.0	0.9	1.5	1.2	1.5	1.5	1.1	0.9	1.0	1.2	1.0	1.0	0.7	1.0	1.2	S	0.7	0.8	0.3	0.7	1.5	1.0	24	
2	0.4	0.6	0.2	0.3	0.2	0.3	0.8	0.8	0.0	0.4	0.9	0.9	0.6	0.4	0.4	0.4	0.8	0.4	S	0.7	1.0	0.3	0.1	0.4	1.0	0.5	24	
3	0.4	0.5	0.6	0.6	0.8	1.4	1.4	1.4	1.4	0.9	0.6	0.7	0.6	0.5	0.4	0.2	0.4	S	1.8	1.8	1.9	1.7	1.5	1.5	1.9	1.0	24	
4	1.7	1.8	1.8	1.6	2.5	2.2	2.2	3.0	19.4	3.4	2.7	2.0	1.8	2.0	1.8	2.4	S	1.2	0.4	0.0	0.0	0.0	0.0	0.0	19.4	2.3	24	
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.7	0.7	0.2	0.2	0.0	0.1	0.5	0.4	0.7	0.1	24	
6	0.4	0.4	0.8	0.8	0.9	1.0	19.5	1.2	1.4	1.3	1.0	1.8	1.0	1.1	S	1.8	1.3	0.2	0.1	0.9	0.3	0.7	0.6	0.7	19.5	1.7	24	
7	0.4	0.3	0.5	0.2	1.2	1.0	0.5	1.0	1.0	0.9	1.1	0.9	0.0	S	1.7	0.7	0.6	0.8	0.9	0.7	0.8	0.7	1.5	0.7	1.7	0.8	24	
8	0.6	0.7	1.1	0.7	1.0	1.1	0.9	1.2	0.8	1.2	0.8	1.1	S	1.3	0.5	0.5	0.6	1.1	0.8	0.6	0.7	0.8	0.5	0.9	1.3	0.8	24	
9	0.9	0.7	0.6	1.0	0.8	1.7	1.4	1.3	1.1	1.4	1.6	S	1.6	1.2	1.0	1.0	1.0	0.9	1.1	0.9	1.2	1.1	1.3	1.0	1.7	1.1	24	
10	1.3	1.4	1.4	1.3	1.3	1.4	1.5	1.3	1.5	2.8	S	1.7	0.9	1.6	1.1	1.7	0.8	1.0	1.0	16.2	19.6	18.0	1.0	1.2	19.6	3.5	24	
11	1.2	1.2	0.9	1.0	1.0	1.8	2.0	1.2	1.2	S	1.6	1.6	1.2	0.7	0.3	0.3	0.3	0.5	0.0	0.0	0.5	0.1	0.0	0.0	2.0	0.8	24	
12	0.1	0.1	0.0	0.0	2.1	2.4	2.3	1.8	S	1.5	0.7	1.0	0.4	0.4	0.2	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.2	0.1	2.4	0.6	24	
13	0.2	0.3	0.3	0.5	0.6	1.1	0.5	S	P	P	P	P	P	5.7	1.9	1.3	1.5	2.0	1.4	1.2	1.1	1.0	0.9	1.5	3.3	5.7	1.4	20
14	1.1	1.3	1.1	1.3	1.9	2.2	S	3.1	1.4	0.8	0.8	0.9	0.6	0.6	0.8	1.3	0.4	0.5	0.9	0.1	0.9	0.2	0.9	0.5	3.1	1.0	24	
15	0.6	0.6	0.4	0.5	1.0	S	1.1	0.7	0.6	0.5	0.7	0.7	0.7	1.0	0.5	0.5	0.5	0.7	0.5	0.6	0.7	0.6	0.7	0.5	1.1	0.6	24	
16	0.8	1.0	0.9	0.9	S	1.3	0.8	0.8	0.8	0.4	0.8	0.6	0.7	0.5	0.8	1.0	1.0	0.2	1.1	0.6	0.6	0.2	0.3	0.2	1.3	0.7	24	
17	0.8	0.7	0.6	S	0.9	1.8	1.7	2.2	1.1	0.8	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.6	0.0	0.0	0.0	0.0	2.2	0.5	24	
18	0.0	P	S	1.3	1.0	0.9	1.2	1.2	1.2	1.1	0.9	0.9	0.8	0.9	0.7	1.0	1.1	0.7	0.9	1.0	0.9	1.0	0.8	1.2	1.3	0.9	23	
19	1.0	S	1.2	1.0	1.1	0.9	1.2	1.3	1.1	0.5	0.8	0.7	0.4	0.5	0.3	0.2	0.5	0.2	0.7	0.5	0.9	1.3	1.6	1.5	1.6	0.8	24	
20	S	1.4	1.1	1.0	1.2	1.0	1.0	0.7	0.5	C	C	C	C	C	C	0.9	0.4	Y	Y	0.7	0.7	0.7	0.9	S	1.4	0.9	22	
21	0.6	0.6	0.7	0.5	0.7	1.0	1.1	0.8	0.5	0.4	0.7	0.5	0.8	0.7	0.4	0.6	0.5	0.6	0.8	0.6	1.0	0.6	S	0.9	1.1	0.7	24	
22	0.6	0.8	0.5	0.7	0.2	0.5	0.8	1.0	1.0	0.3	0.7	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.6	0.9	1.0	0.4	24
23	0.6	0.7	0.6	1.0	1.1	0.9	0.7	0.7	0.9	0.4	0.9	0.8	0.3	0.8	0.8	1.1	0.6	0.6	0.6	0.7	S	1.0	0.7	1.1	1.1	0.8	24	
24	0.8	0.7	0.7	1.2	4.5	15.6	1.2	1.3	0.9	0.6	0.5	0.7	0.4	0.5	0.5	0.1	0.1	0.2	0.0	S	1.3	0.8	1.0	0.9	15.6	1.5	24	
25	0.9	1.5	0.9	1.1	1.2	1.2	1.3	1.5	1.2	1.1	0.9	0.7	0.9	1.5	1.4	1.7	1.6	1.4	S	1.2	0.5	0.7	1.0	1.0	1.7	1.1	24	
26	0.8	1.0	0.9	1.2	1.3	2.2	2.6	1.3	2.5	2.2	18.3	2.4	2.0	1.8	1.4	1.0	0.8	S	1.4	0.7	0.5	0.7	0.3	1.0	18.3	2.1	24	
27	0.9	0.6	0.9	0.7	1.2	1.0	1.7	1.7	6.1	1.7	1.0	1.5	0.9	1.2	1.3	1.1	S	1.8	1.1	1.9	0.2	0.3	0.3	0.4	6.1	1.3	24	
28	0.2	0.3	0.6	0.9	2.7	1.3	1.3	1.8	1.5	1.3	1.3	0.5	0.5	0.1	0.3	S	1.3	1.1	0.5	1.3	0.9	0.9	0.5	0.9	2.7	1.0	24	
29	0.9	1.0	1.0	1.3	0.9	1.5	1.4	1.2	0.8	0.8	0.8	0.7	0.6	0.2	S	0.6	0.5	0.4	0.0	0.1	0.6	0.4	0.1	0.7	1.5	0.7	24	
30	0.7	1.0	0.5	1.0	0.7	0.9	0.9	0.7	0.9	1.1	0.8	0.9	0.9	S	0.4	0.1	0.3	0.1	0.0	0.1	0.0	0.2	0.2	0.5	1.1	0.6	24	
HOURLY MAX	1.7	1.8	1.8	1.6	4.5	15.6	19.5	3.1	19.4	3.4	18.3	2.4	5.7	2.0	1.8	2.4	2.0	1.8	1.8	16.2	19.6	18.0	1.6	3.3				
HOURLY AVG	0.7	0.8	0.7	0.8	1.2	1.7	1.9	1.3	1.9	1.1	1.6	0.9	0.9	0.8	0.7	0.8	0.7	0.7	0.6	1.2	1.3	1.2	0.7	0.8				

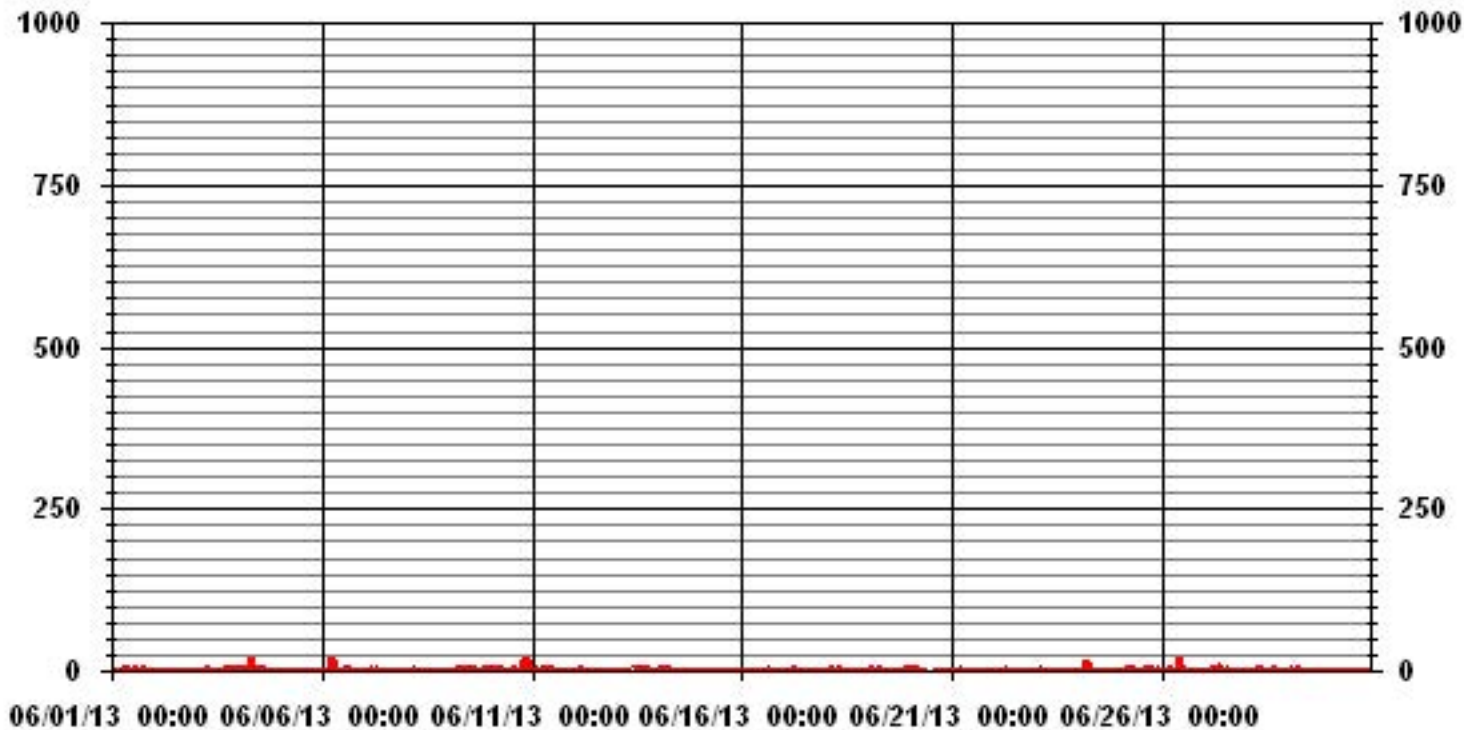
**STATUS FLAG CODES**

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:	620					
MAXIMUM INSTANTANEOUS VALUE:	19.6	PPB	@ HOUR(S)	20	ON DAY(S)	10
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	713	HRS	
MONTHLY CALIBRATION TIME:	6	HRS				
STANDARD DEVIATION:	1.86					

### 01 Hour Averages





LICA31  
 NO\_ / WDR Joint Frequency Distribution (Percent)

June 2013

Distribution By % Of Samples

Logger Id : 31  
 Site Name : LICA31  
 Parameter : NO\_  
 Units : PPB

Wind Parameter : WDR  
 Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 50.0	1.91	3.53	2.50	9.43	9.29	6.34	4.42	4.42	6.78	5.16	3.39	5.60	7.96	15.04	12.38	1.76	100.00
< 110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	1.91	3.53	2.50	9.43	9.29	6.34	4.42	4.42	6.78	5.16	3.39	5.60	7.96	15.04	12.38	1.76	

Calm : .00 %

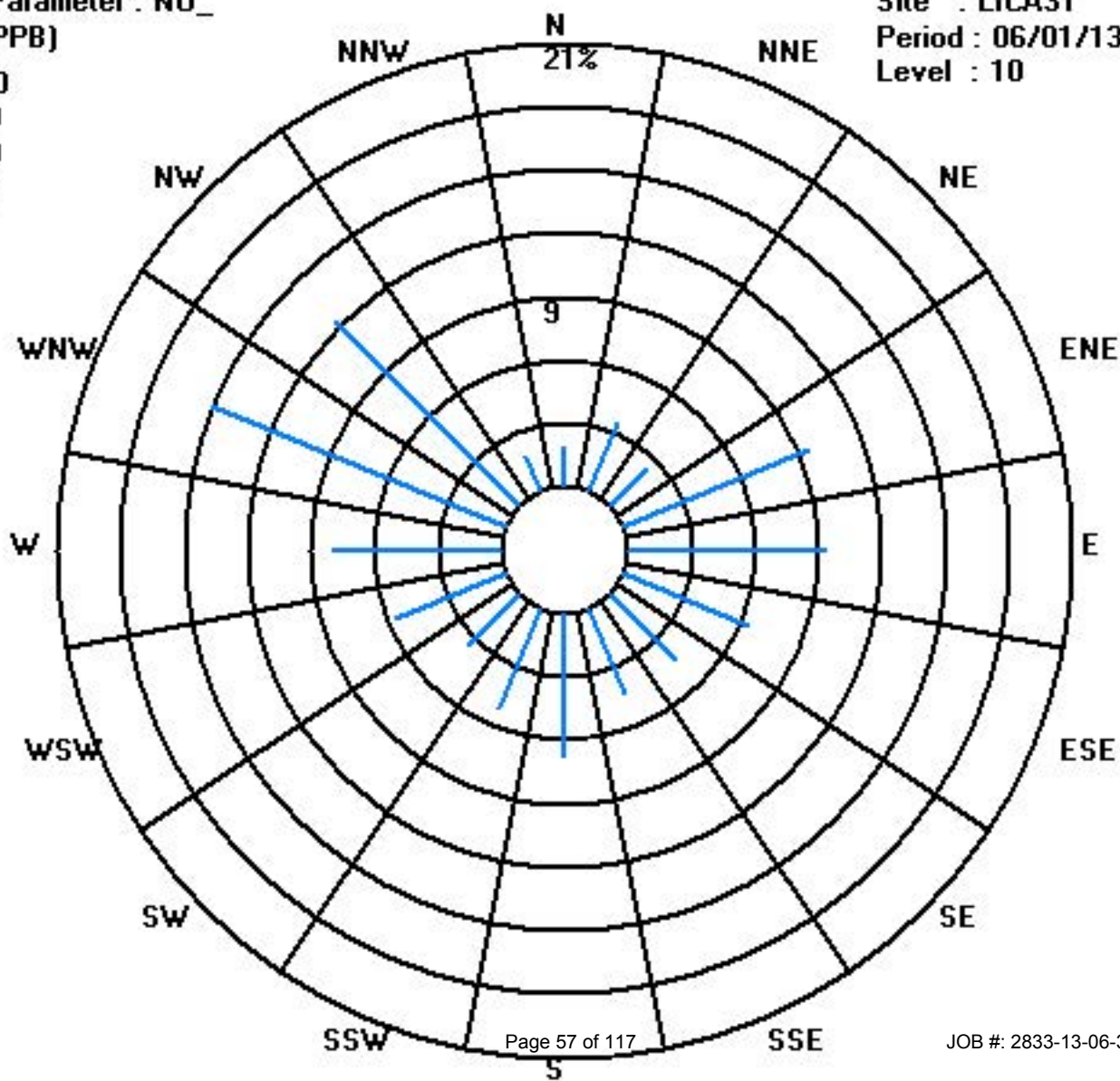
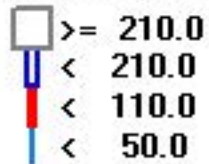
Total # Operational Hours : 678

Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 50.0	13	24	17	64	63	43	30	30	46	35	23	38	54	102	84	12	678
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	13	24	17	64	63	43	30	30	46	35	23	38	54	102	84	12	

Calm : .00 %

Total # Operational Hours : 678



# Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2013

OXIDES OF NITROGEN hourly averages in ppb

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	0.7	1.1	1.7	1.4	1.8	4.9	3.5	2.2	1.9	1.5	1.1	1.7	1.5	1.2	0.8	0.8	1.1	1.8	S	1.7	2.0	1.9	1.5	4.9	1.7	24	
2	1.3	1.5	1.5	2.5	3.1	2.7	4.5	3.2	2.2	2.2	3.2	2.2	1.6	1.0	0.9	0.9	1.3	1.6	S	1.7	1.4	1.3	1.1	1.2	4.5	1.9	24	
3	1.9	2.5	2.0	2.2	2.7	4.1	3.5	3.3	3.4	2.6	1.9	1.6	1.1	0.8	1.0	0.8	0.5	S	1.4	1.4	1.6	2.0	1.8	1.7	4.1	2.0	24	
4	2.5	1.9	2.9	3.0	3.4	5.1	3.9	3.6	4.3	4.6	2.8	1.9	1.7	1.8	1.7	2.0	S	1.3	1.1	0.9	1.6	1.5	1.7	1.7	5.1	2.5	24	
5	2.3	2.4	1.9	1.7	1.8	1.6	2.1	1.9	1.2	0.3	0.4	0.4	0.5	0.3	0.4	S	1.6	1.7	1.1	1.6	1.3	0.6	0.7	0.9	2.4	1.2	24	
6	1.2	1.9	1.9	1.9	1.4	1.0	1.0	0.8	0.8	0.9	1.0	0.8	0.8	0.7	S	0.8	0.4	0.1	0.3	1.3	0.6	1.7	2.1	2.6	2.6	1.1	24	
7	3.4	3.0	3.1	2.6	3.1	2.3	2.1	3.6	5.2	3.7	4.1	2.6	0.3	S	1.3	1.6	1.4	1.7	1.8	1.6	1.6	2.2	2.5	1.7	5.2	2.5	24	
8	0.6	0.3	0.5	0.4	1.0	1.0	0.8	0.8	0.7	0.7	0.7	0.7	S	0.5	0.3	0.5	0.6	0.7	0.6	0.3	0.3	0.4	0.3	0.7	1.0	0.6	24	
9	0.4	0.3	0.3	0.6	0.4	1.0	0.9	0.5	0.4	0.4	0.6	S	0.6	0.4	0.4	0.3	0.4	0.1	0.3	0.4	0.2	0.3	0.4	0.2	1.0	0.4	24	
10	0.4	0.4	0.3	0.4	0.5	0.6	0.4	0.4	0.8	0.8	S	0.8	0.5	0.9	0.7	1.1	0.9	0.7	0.9	1.2	0.8	1.0	0.6	1.0	1.2	0.7	24	
11	0.9	0.8	0.8	0.9	0.9	1.3	1.2	1.0	1.1	S	0.4	0.5	0.7	0.3	0.0	0.0	0.1	0.1	0.0	0.1	1.2	0.3	0.2	0.0	1.3	0.6	24	
12	0.2	0.4	0.9	3.9	8.2	7.1	5.3	3.3	S	1.5	1.8	1.4	1.4	1.1	1.5	1.2	1.5	1.5	1.0	0.9	0.9	0.9	1.1	1.3	8.2	2.1	24	
13	1.4	1.6	1.5	1.4	1.2	1.3	1.1	S	P	P	P	P	1.5	1.8	1.7	1.6	1.8	1.9	1.9	1.9	2.0	2.1	2.8	3.9	3.9	1.8	20	
14	2.7	2.2	2.2	2.5	3.0	3.3	S	1.6	1.0	0.4	0.7	0.7	0.4	0.6	0.6	0.7	0.5	0.4	0.6	0.2	0.6	0.3	0.6	0.4	3.3	1.1	24	
15	0.4	0.9	0.8	0.3	0.6	S	0.1	0.2	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	0.1	0.2	0.9	0.2	24	
16	0.1	0.1	0.2	0.1	S	0.8	0.8	0.9	0.7	0.8	1.3	1.3	1.4	1.5	1.9	2.5	2.0	1.2	1.4	1.5	1.1	1.0	1.0	1.0	2.5	1.1	24	
17	1.4	1.3	1.5	S	2.4	3.0	2.8	2.2	1.9	2.4	1.2	1.0	0.7	0.8	0.7	1.0	0.9	1.0	1.2	2.7	1.2	1.5	1.0	1.6	3.0	1.5	24	
18	1.8	2.0	S	2.0	1.7	1.5	1.5	1.2	1.1	1.2	0.9	0.9	0.8	0.8	0.7	0.8	1.2	0.8	1.1	1.4	1.9	2.2	2.7	3.1	3.1	1.4	24	
19	2.9	S	2.7	3.8	3.6	3.0	2.1	2.0	1.2	0.2	0.4	0.3	0.1	0.2	0.3	0.2	0.2	0.0	0.4	0.0	0.6	1.3	2.0	2.4	3.8	1.3	24	
20	S	2.6	2.0	2.1	1.5	1.4	1.0	0.7	0.4	C	C	C	C	C	C	C	0.3	0.3	0.5	Y	0.4	0.5	0.6	0.8	S	2.6	1.0	23
21	1.0	0.8	0.7	1.1	1.6	1.4	0.9	0.4	0.4	0.6	0.3	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.4	0.3	S	1.3	1.6	0.5	24	
22	1.7	2.0	1.5	1.3	0.8	1.1	1.9	2.0	1.9	1.4	1.4	0.8	0.6	0.7	0.6	0.5	0.5	0.5	0.5	0.6	0.8	S	0.7	0.8	2.0	1.1	24	
23	1.0	1.4	1.3	1.1	0.9	0.8	0.8	0.9	1.0	0.5	0.6	0.5	0.3	0.2	0.3	0.6	0.6	0.5	0.5	0.7	S	0.4	0.3	0.4	1.4	0.7	24	
24	0.6	0.4	0.8	1.1	2.3	2.2	1.3	0.9	0.4	0.5	0.3	0.6	0.2	0.7	0.6	0.7	1.2	0.9	0.5	S	1.7	2.0	2.4	2.2	2.4	1.1	24	
25	2.3	2.6	2.2	2.0	2.2	2.0	2.6	2.5	2.1	1.7	1.6	1.0	0.6	1.0	0.5	1.0	1.0	1.1	S	1.0	1.2	1.3	1.4	1.7	2.6	1.6	24	
26	1.8	2.2	2.3	3.0	3.4	4.2	3.2	2.2	2.7	2.0	1.6	2.3	1.8	1.0	1.0	0.8	0.7	S	0.7	0.8	0.4	0.5	0.2	0.9	4.2	1.7	24	
27	0.9	0.9	0.8	1.4	2.2	1.9	1.7	1.5	2.0	2.1	1.2	0.8	0.8	0.6	0.8	0.9	S	1.0	1.0	1.5	1.2	1.8	1.9	1.6	2.2	1.3	24	
28	1.9	1.7	2.2	3.5	2.9	2.1	1.6	1.3	1.3	1.1	1.2	0.5	0.6	0.5	0.5	S	1.0	1.1	0.8	1.8	3.2	2.3	2.2	1.7	3.5	1.6	24	
29	2.2	2.0	2.3	2.3	2.2	2.6	2.9	2.2	1.3	0.9	1.1	0.8	0.6	0.5	S	0.5	0.7	0.6	0.9	0.6	0.8	1.2	1.0	1.3	2.9	1.4	24	
30	1.1	1.2	1.0	0.9	0.6	0.9	0.8	0.8	0.7	0.8	0.5	1.1	1.4	S	0.3	0.2	0.2	0.1	0.0	0.4	0.3	0.6	0.3	0.7	1.4	0.6	24	
HOURLY MAX	3.4	3.0	3.1	3.9	8.2	7.1	5.3	3.6	5.2	4.6	4.1	2.6	1.8	1.8	1.9	2.5	2.0	1.9	1.9	2.7	3.2	2.3	2.8	3.9				
HOURLY AVG	1.4	1.4	1.5	1.8	2.1	2.2	2.0	1.7	1.5	1.3	1.2	1.0	0.8	0.8	0.7	0.8	0.8	0.8	0.8	1.0	1.1	1.2	1.2	1.4				

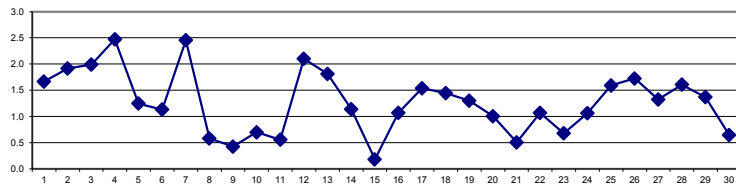
STATUS FLAG CODES

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

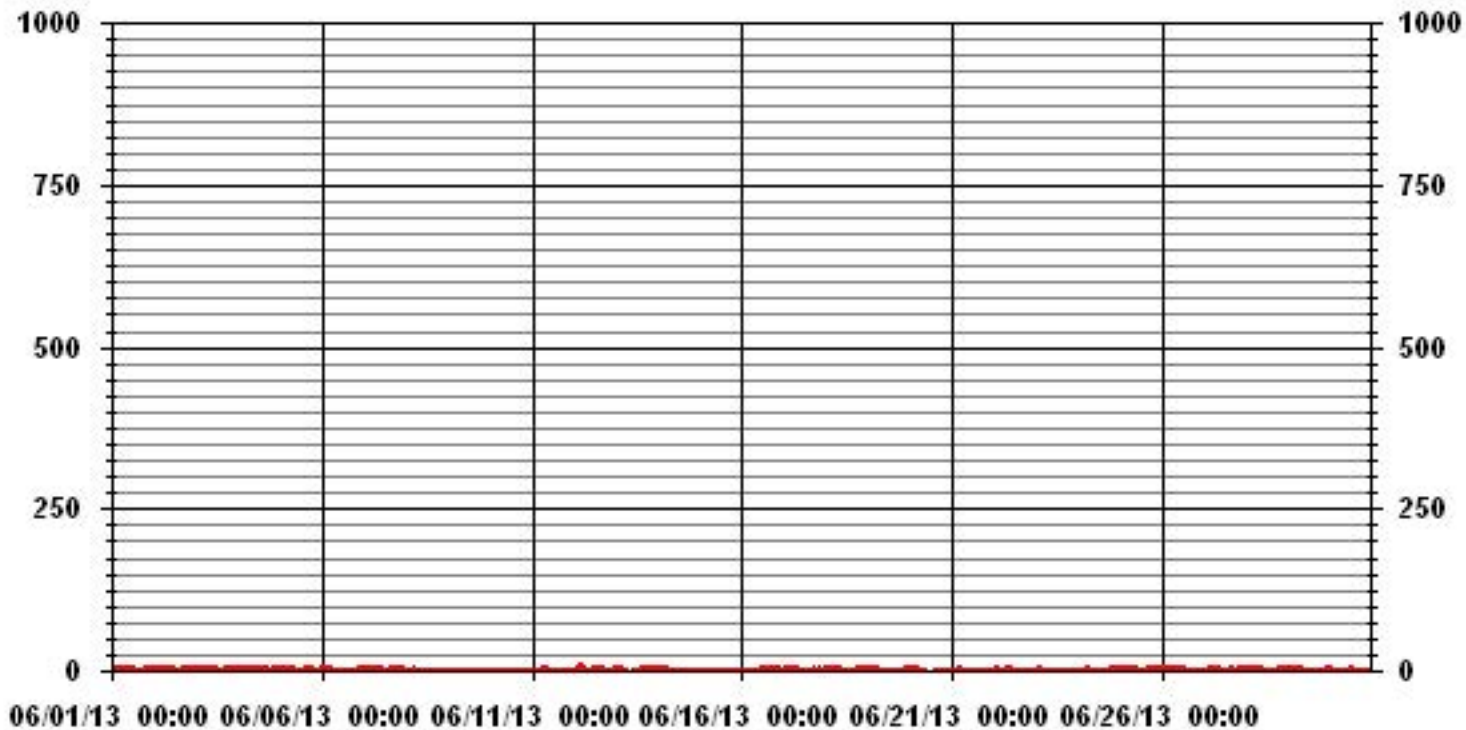
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	658					
MAXIMUM 1-HR AVERAGE:	8.2	PPB	@ HOUR(S)	4	ON DAY(S)	12
MAXIMUM 24-HR AVERAGE:	2.5	PPB			ON DAY(S)	4
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	715	HRS	
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:	99.3	%	
STANDARD DEVIATION:	1.00		MONTHLY AVERAGE:	1.28	PPB	

24 HOUR AVERAGES FOR JUNE 2013



### 01 Hour Averages



— LICA31 NOX\_ PPB

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2013

## 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	1.3	1.5	1.8	2.8	2.5	3.6	6.1	4.9	3.3	2.9	3.0	2.0	2.8	2.8	2.0	1.4	1.5	2.0	2.6	S	2.5	2.6	2.6	2.5	6.1	2.7	24	
2	2.0	2.3	2.9	4.1	4.0	3.9	5.9	4.9	3.1	3.3	3.9	3.0	2.6	2.0	1.6	1.7	2.6	3.3	S	2.7	3.1	2.0	1.8	2.0	5.9	3.0	24	
3	2.8	3.2	2.5	3.0	3.9	5.2	4.7	3.9	4.1	4.0	2.9	2.4	2.0	1.6	1.8	1.7	1.5	S	2.0	2.2	2.5	3.0	2.5	2.4	5.2	2.9	24	
4	3.9	3.1	4.2	4.5	7.5	6.1	5.9	6.9	36.1	8.8	5.5	3.4	2.9	2.4	2.9	3.5	S	3.2	1.9	1.8	3.2	2.2	2.4	2.6	36.1	5.4	24	
5	3.4	3.4	3.1	2.4	2.5	2.4	3.1	3.2	2.9	1.2	1.1	1.1	1.2	1.0	1.2	S	2.3	2.6	2.0	2.4	2.4	1.8	1.5	1.6	3.4	2.2	24	
6	2.2	2.6	2.5	2.6	2.2	2.0	20.1	1.7	1.8	2.0	1.7	2.4	2.1	1.9	S	2.2	2.0	0.8	1.6	6.0	2.7	2.9	3.1	3.8	20.1	3.2	24	
7	5.1	4.6	4.0	3.5	4.2	3.4	2.8	4.7	6.9	5.0	5.5	4.2	0.9	S	2.4	2.7	2.4	2.5	2.5	2.5	2.3	3.1	6.2	3.6	6.9	3.7	24	
8	1.8	1.3	1.7	1.5	2.2	2.5	1.5	1.9	1.4	2.1	1.6	1.6	S	1.9	1.6	1.4	1.4	1.9	2.2	1.1	1.9	1.1	1.1	1.6	2.5	1.7	24	
9	1.2	1.3	1.1	1.3	1.2	2.2	1.8	1.2	1.2	1.6	2.2	S	1.7	1.5	1.1	1.1	1.3	1.3	1.2	1.1	1.1	1.0	1.0	0.9	2.2	1.3	24	
10	1.1	1.1	1.1	1.2	1.1	1.2	1.2	1.3	1.5	2.6	S	1.7	1.2	2.4	1.6	2.7	1.4	1.3	1.7	34.5	25.1	23.5	1.4	2.0	34.5	5.0	24	
11	1.9	2.0	1.5	1.6	1.5	2.7	2.4	2.0	1.7	S	2.0	2.0	2.1	2.2	1.2	0.6	1.1	1.4	0.5	0.9	5.4	0.9	1.2	1.1	5.4	1.7	24	
12	1.0	1.2	1.7	7.2	9.7	9.4	7.4	5.9	S	2.6	2.6	2.8	2.3	1.9	2.3	2.0	2.1	2.8	2.2	1.7	1.8	1.6	2.0	2.3	9.7	3.3	24	
13	2.1	2.3	2.4	3.4	2.6	2.8	2.1	S	P	P	P	P	8.5	3.7	3.0	3.5	4.8	3.0	2.7	2.5	2.7	2.9	4.9	11.0	11.0	3.7	20	
14	3.5	3.0	2.8	3.2	4.0	4.6	S	4.3	1.8	1.5	1.4	1.8	1.2	1.4	2.0	2.9	1.4	1.1	2.3	1.3	2.0	1.0	2.1	1.2	4.6	2.3	24	
15	1.4	1.5	1.5	1.0	1.7	S	1.3	1.1	0.8	0.8	0.9	0.7	0.9	1.3	0.7	0.8	0.7	0.6	0.6	0.9	0.6	0.9	1.0	1.1	1.7	1.0	24	
16	0.7	0.8	0.8	1.1	S	1.7	1.8	1.7	1.6	1.5	2.1	2.0	2.1	2.4	3.6	5.6	3.8	2.3	3.9	3.2	2.4	2.3	1.6	1.7	5.6	2.2	24	
17	3.2	2.3	2.6	S	3.3	5.0	4.5	4.4	3.5	4.4	2.0	2.7	1.7	1.7	1.7	2.1	2.7	3.3	2.8	9.1	2.0	2.3	1.8	2.4	9.1	3.1	24	
18	2.7	P	S	2.9	2.3	2.4	2.2	1.7	1.9	1.9	1.8	1.8	1.7	1.8	1.5	1.6	2.0	1.6	2.0	2.1	2.9	3.3	3.3	3.8	3.8	2.2	23	
19	3.8	S	3.9	4.5	4.7	3.9	2.8	2.5	2.4	1.1	1.3	1.2	0.9	0.9	1.1	1.1	0.7	0.9	1.2	0.7	1.3	3.0	2.9	4.4	4.7	2.2	24	
20	S	3.7	2.7	2.7	2.2	2.2	1.6	1.4	1.2	C	C	C	C	C	C	1.6	1.0	Y	Y	1.0	1.1	1.4	1.6	S	3.7	1.8	22	
21	1.7	1.6	1.3	2.2	2.6	2.4	2.1	1.0	1.3	1.3	1.4	0.9	0.8	1.0	0.7	0.7	0.8	1.0	0.8	1.0	1.2	0.9	S	2.3	2.6	1.3	24	
22	2.7	2.7	2.5	2.0	1.4	1.7	2.7	3.0	2.9	2.1	2.0	1.6	1.4	1.6	1.2	1.4	1.0	1.2	1.2	1.5	1.5	S	1.2	1.6	3.0	1.8	24	
23	1.8	2.2	2.3	1.8	1.6	1.5	1.4	1.6	1.7	1.5	1.7	1.8	1.0	1.2	1.7	1.6	1.6	1.4	2.1	2.6	S	1.3	1.1	1.0	2.6	1.6	24	
24	1.4	1.1	1.6	2.1	8.1	23.0	1.9	2.4	1.5	1.5	0.9	1.5	1.3	1.7	1.3	1.6	2.6	2.0	1.2	S	2.8	2.7	3.4	3.2	23.0	3.1	24	
25	3.2	3.5	2.9	2.6	2.9	2.7	3.8	3.2	2.9	2.6	2.4	2.0	1.5	2.0	1.3	1.9	1.6	1.7	S	1.7	2.0	2.0	2.2	2.5	3.8	2.4	24	
26	2.6	2.8	3.0	3.6	4.7	5.6	6.1	3.1	5.3	5.3	21.1	4.2	4.0	2.7	2.4	2.5	1.3	S	1.7	2.3	2.2	1.3	0.9	1.7	21.1	3.9	24	
27	1.5	1.5	1.6	2.8	3.1	3.5	3.0	3.0	13.2	3.6	2.2	2.4	2.6	2.1	3.1	3.0	S	2.9	3.0	5.7	3.3	3.3	2.7	3.2	13.2	3.3	24	
28	2.8	2.4	3.0	5.0	7.3	3.1	3.3	4.8	3.2	3.1	3.2	1.7	1.5	1.5	1.5	S	2.5	4.3	2.8	5.1	6.0	7.1	3.5	2.5	7.3	3.5	24	
29	2.9	2.7	3.0	3.0	2.9	3.3	4.9	3.1	1.9	1.8	1.8	1.6	1.3	1.3	S	1.3	1.6	1.3	1.4	1.3	2.0	2.1	1.9	2.4	4.9	2.2	24	
30	1.9	1.9	1.9	1.7	1.5	1.5	1.4	1.7	1.5	1.4	1.1	2.0	2.5	S	1.0	1.1	1.8	0.7	1.0	1.4	1.0	1.3	1.2	1.5	2.5	1.5	24	
HOURLY MAX	5.1	4.6	4.2	7.2	9.7	23.0	20.1	6.9	36.1	8.8	21.1	4.2	8.5	3.7	3.6	5.6	4.8	4.3	3.9	34.5	25.1	23.5	6.2	11.0				
HOURLY AVG	2.3	2.3	2.3	2.8	3.4	4.0	3.8	3.0	4.0	2.6	2.9	2.1	2.0	1.8	1.8	2.0	1.8	1.9	1.9	3.6	3.1	2.9	2.2	2.5				

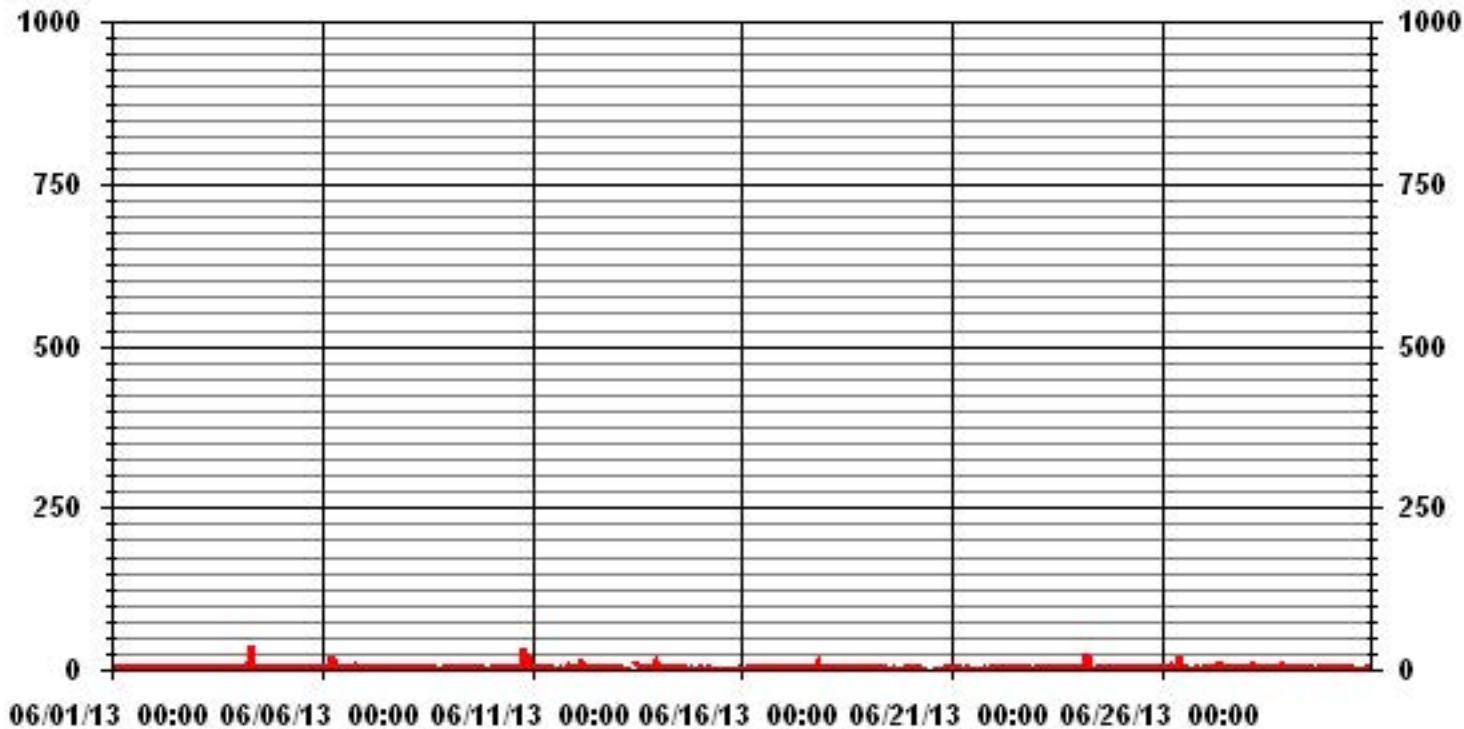
**STATUS FLAG CODES**

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:	676
MAXIMUM INSTANTANEOUS VALUE:	36.1 PPB @ HOUR(S) 8 ON DAY(S) 4
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	6 HRS
STANDARD DEVIATION:	2.88
OPERATIONAL TIME:	713 HRS

### 01 Hour Averages



LICA31  
NOX\_ / WDR Joint Frequency Distribution (Percent)

June 2013

Distribution By % Of Samples

Logger Id : 31  
Site Name : LICA31  
Parameter : NOX\_  
Units : PPB

Wind Parameter : WDR  
Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 50.0	1.91	3.53	2.50	9.43	9.29	6.34	4.42	4.42	6.78	5.16	3.39	5.60	7.96	15.04	12.38	1.76	100.00
< 110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	1.91	3.53	2.50	9.43	9.29	6.34	4.42	4.42	6.78	5.16	3.39	5.60	7.96	15.04	12.38	1.76	

Calm : .00 %

Total # Operational Hours : 678

Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 50.0	13	24	17	64	63	43	30	30	46	35	23	38	54	102	84	12	678
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	13	24	17	64	63	43	30	30	46	35	23	38	54	102	84	12	

Calm : .00 %

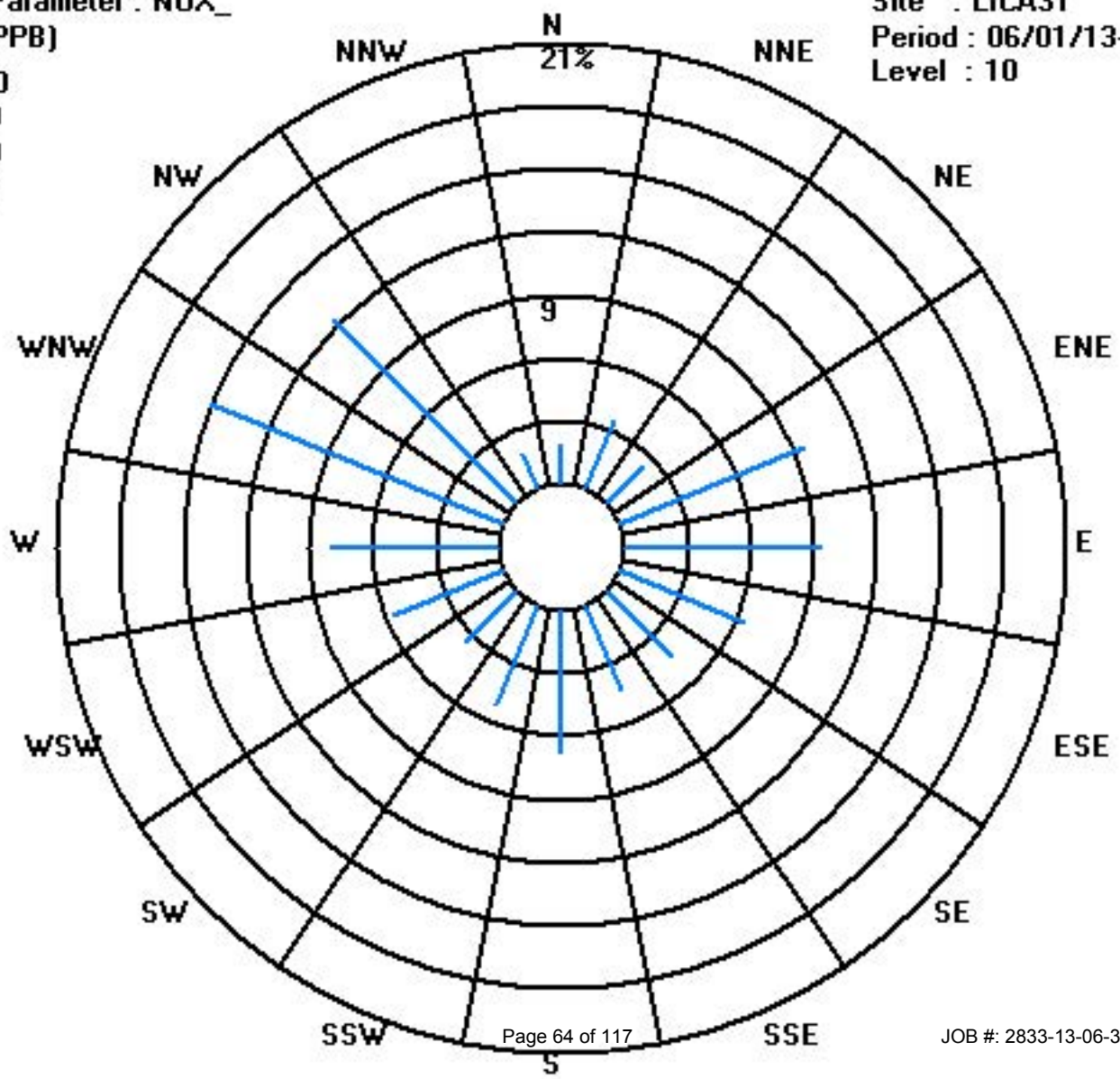
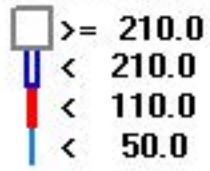
Total # Operational Hours : 678



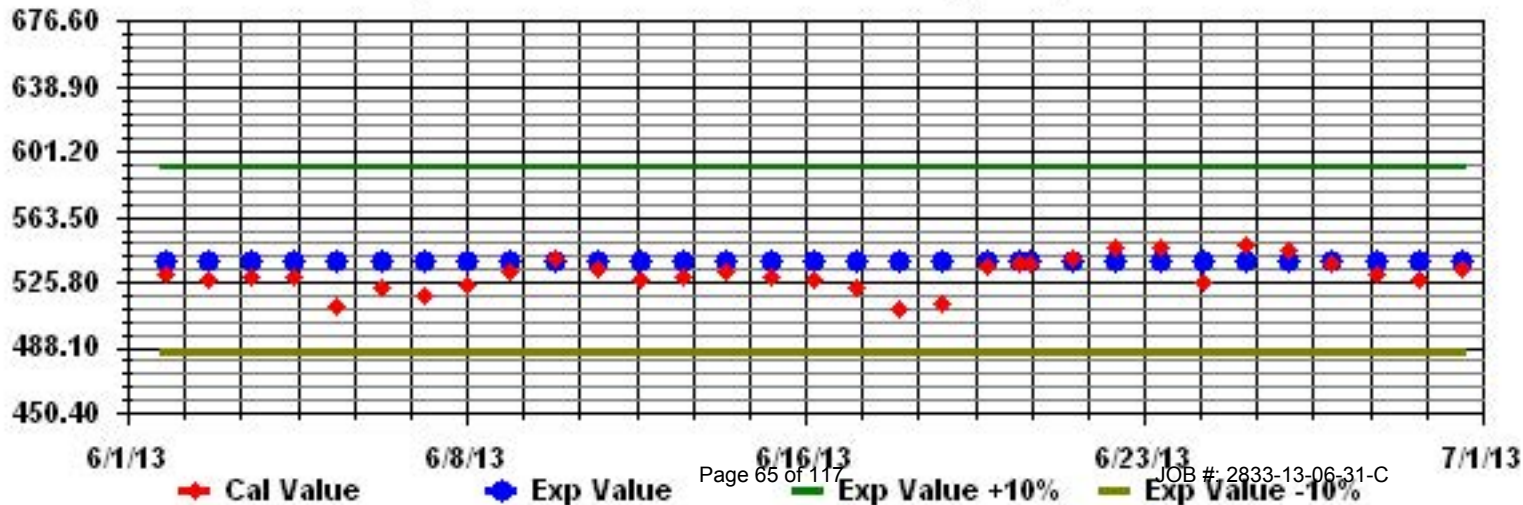
Class Limits (PPB)

Period : 06/01/13-06/30/13

Level : 10



Calibration Graph for Site: LICA31 Parameter: NOX\_ Sequence: NO2 Phase: SPAN



# Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2013

PARTICULATE MATTER 2.5 (PM2.5) hourly averages in ug/m<sup>3</sup>

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOURLY MAX	HOURLY AVG	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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	7	8	11	6	13	21	16	11	4	2	1	1	3	4	4	5	1	5	0	6	4	13	2	21	6.5	24	
2		7	7	8	13	15	14	18	16	19	15	15	11	13	14	4	3	5	0	14	8	11	16	16	17	19	11.6	24	
3		14	6	8	9	10	7	7	5	5	14	16	16	13	8	14	12	5	36	12	4	5	X	5	3	36	10.2	23	
4		4	7	9	5	5	5	8	7	10	9	11	0	3	3	0	3	7	4	0	9	14	11	11	10	14	6.5	24	
5		9	11	9	9	11	10	10	11	11	11	8	8	9	10	10	7	7	10	5	12	10	17	12	11	17	9.9	24	
6		13	9	15	13	13	11	3	0	1	3	10	11	6	10	8	9	8	10	9	9	11	10	11	12	15	0.0	24	
7		11	11	16	10	12	15	14	10	11	13	11	12	7	7	11	8	10	10	11	10	10	12	11	13	16	11.1	24	
8		10	11	12	11	13	13	6	5	1	5	12	9	11	10	11	10	15	13	11	10	9	8	8	8	15	9.7	24	
9		7	9	8	2	0	1	1	1	4	2	7	3	4	6	9	10	6	0	3	4	2	3	0	0	10	3.8	24	
10		2	4	2	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	4	0.5	24	
11		0	0	0	0	0	1	3	0	0	1	4	3	3	2	0	6	8	9	11	10	10	10	11	10	11	4.3	24	
12		11	13	12	14	12	15	10	8	10	11	11	9	11	11	7	11	13	8	5	11	15	10	12	10	15	10.8	24	
13		12	15	13	15	1	6	5	3	1	P	P	1	5	3	7	12	13	7	7	7	10	11	12	8	15	7.9	22	
14		10	12	11	15	10	13	10	9	12	9	6	6	8	12	7	6	10	12	8	7	9	8	11	10	15	9.6	24	
15		9	11	12	9	10	9	9	9	8	8	9	7	5	7	7	7	6	6	6	6	8	11	14	14	14	8.6	24	
16		13	10	11	11	12	4	5	6	11	23	33	36	45	53	53	52	50	45	38	29	30	30	29	32	53	27.5	24	
17		31	32	31	31	33	32	30	27	25	20	13	13	12	15	9	13	14	11	13	11	10	11	12	10	33	19.1	24	
18		12	1	9	16	14	9	11	6	9	6	5	13	7	15	12	11	9	11	11	10	12	14	14	13	16	10.4	24	
19		16	12	12	15	13	13	13	11	14	12	10	14	10	13	13	15	14	13	7	3	0	0	X	X	16	11.0	22	
20		0	0	0	5	4	1	1	3	0	1	C	4	2	1	1	0	4	0	6	2	0	0	0	2	6	1.6	24	
21		3	0	1	0	1	X	2	4	1	0	0	2	2	0	1	0	0	0	1	5	6	0	0	0	6	1.3	23	
22		3	2	2	2	0	0	0	0	4	0	0	1	0	1	4	4	2	2	0	3	0	2	0	1	4	1.4	24	
23		0	0	0	0	0	3	3	3	0	3	1	0	2	4	4	0	0	X	2	2	0	0	2	0	4	1.3	23	
24		1	5	1	0	2	0	1	4	1	0	2	X	0	0	1	0	0	0	6	11	11	11	10	10	11	3.3	23	
25		10	8	11	8	10	10	11	9	9	12	10	6	1	X	0	2	2	1	1	0	1	0	5	0	12	5.5	23	
26		1	2	1	0	0	1	4	2	3	3	X	3	0	1	0	1	0	5	0	2	1	2	0	1	5	1.4	23	
27		1	X	1	1	3	0	0	3	4	2	3	2	2	3	0	0	3	0	1	2	0	8	0	0	8	1.7	23	
28		1	0	0	2	3	4	0	1	4	1	0	1	0	X	0	C	0	0	0	1	0	0	1	0	4	0.9	23	
29		X	X	0	0	0	0	0	1	2	1	3	5	4	0	0	4	0	2	1	0	0	0	2	0	5	1.1	22	
30		X	X	2	0	0	2	0	0	1	0	0	0	3	3	1	0	0	5	1	X	2	2	2	X	5	1.2	20	
HOURLY MAX		31	32	31	31	33	32	30	27	25	23	33	36	45	53	53	52	50	45	38	29	30	30	29	32				
HOURLY AVG		7.9	7.6	7.5	7.6	7.1	7.4	6.9	6.0	6.4	6.5	7.5	6.8	6.3	7.7	6.6	7.2	7.2	7.6	6.5	6.5	6.8	7.3	7.7	7.0				

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

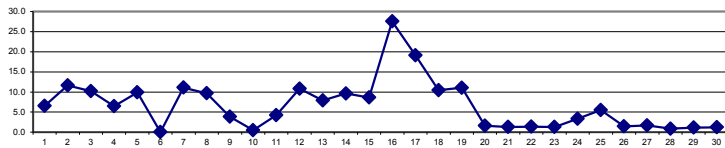
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT: 1-HR - ug/m<sup>3</sup> 24-HR 30 ug/m<sup>3</sup>

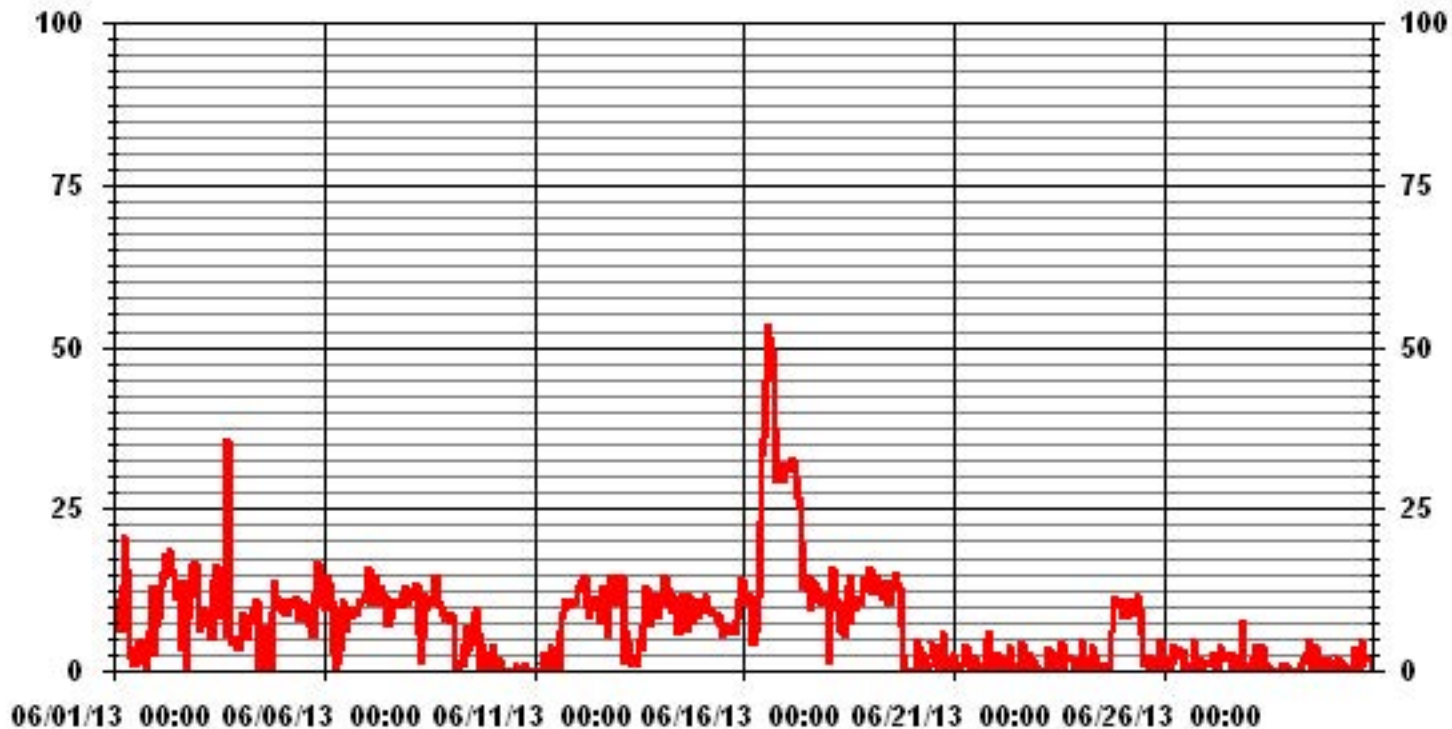
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	-
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	560
MAXIMUM 1-HR AVERAGE:	53 UG/M <sup>3</sup> @ HOUR(S) 13, 14 ON DAY(S) 16
MAXIMUM 24-HR AVERAGE:	27.5 UG/M <sup>3</sup> ON DAY(S) 16
MONTHLY CALIBRATION TIME:	2 HRS
STANDARD DEVIATION:	7.58
OPERATIONAL TIME:	702 HRS
AMD OPERATION UPTIME:	97.5 %
MONTHLY AVERAGE:	7.06 UG/M <sup>3</sup>

24 HOUR AVERAGES FOR JUNE 2013



### 01 Hour Averages



— LICA31 PM2 UG/M3

LICA31  
 PM2 / WDR Joint Frequency Distribution (Percent)

June 2013

Distribution By % Of Samples

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

Wind Parameter : WDR  
 Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 30	1.71	3.29	2.43	8.73	9.74	6.59	4.87	4.44	6.30	4.72	3.43	4.15	7.73	14.18	12.89	1.86	97.13
< 60	.00	.14	.14	.28	.00	.00	.14	.00	.14	.00	.14	1.14	.14	.57	.00	.00	2.86
< 80	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 120	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 240	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 240	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	1.71	3.43	2.57	9.02	9.74	6.59	5.01	4.44	6.44	4.72	3.58	5.30	7.87	14.75	12.89	1.86	

Calm : .00 %

Total # Operational Hours : 698

Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 30	12	23	17	61	68	46	34	31	44	33	24	29	54	99	90	13	678
< 60		1	1	2			1		1		1	8	1	4			20
< 80																	
< 120																	
< 240																	
>= 240																	
Totals	12	24	18	63	68	46	35	31	45	33	25	37	55	103	90	13	

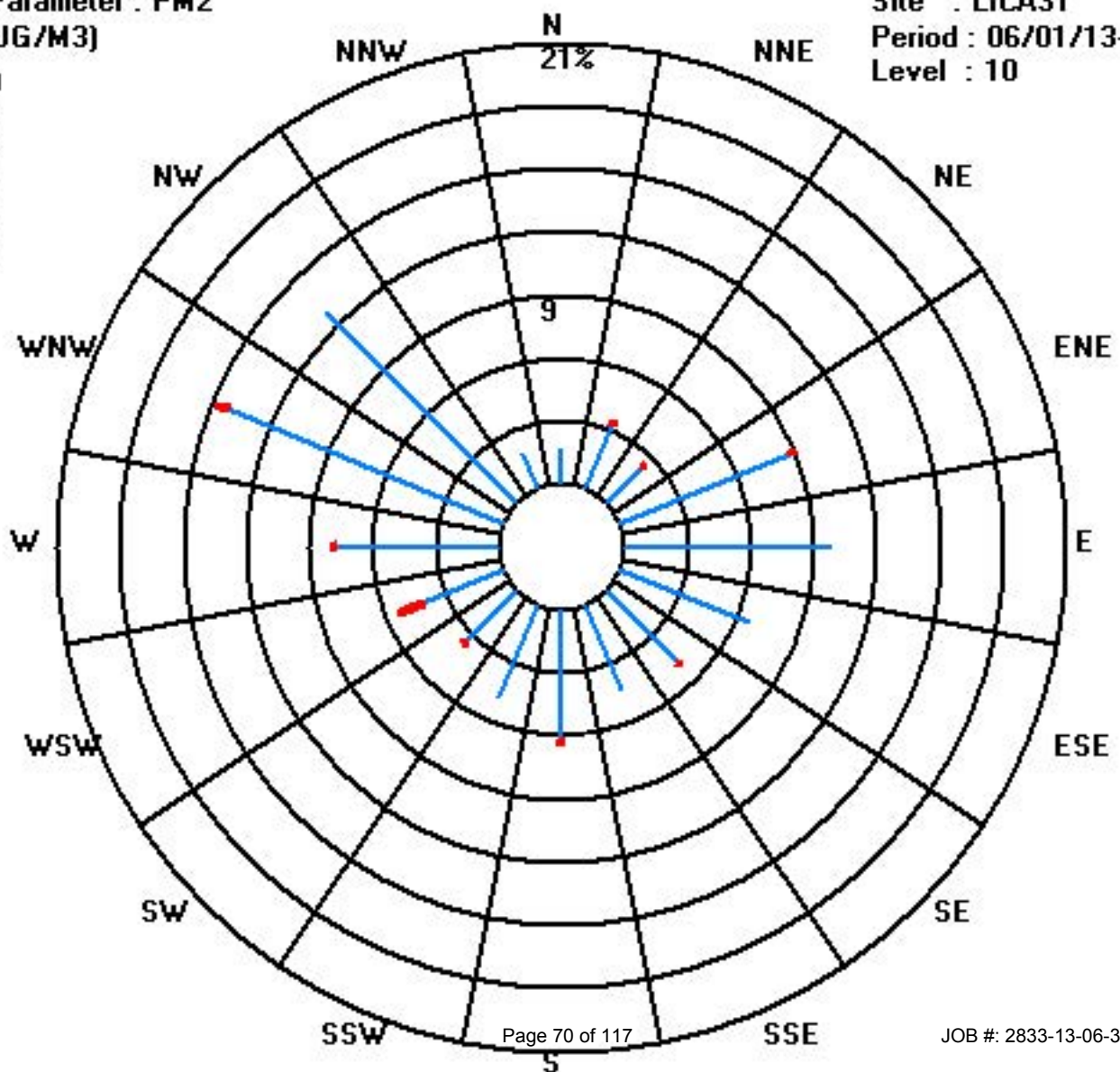
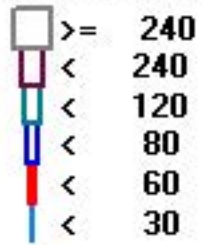
Calm : .00 %

Total # Operational Hours : 698

Class Limits (UG/M3)

Period : 06/01/13-06/30/13

Level : 10



# Temperature



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2013

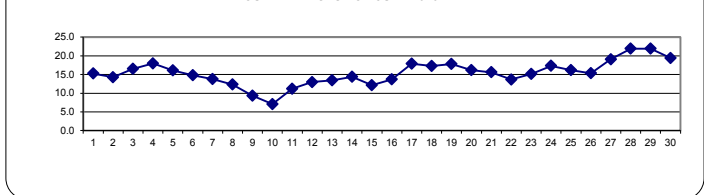
AMBIENT TEMPERATURE hourly averages (Degrees C)

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR START	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		15.3	15.7	15.4	14.3	13.9	13.8	14.2	14.3	14.6	14.8	16.3	15.8	15.7	15.4	16.1	19	19	18.8	16.8	14.9	13.7	13	13	12	19.0	15.2	24
2		11.7	11.7	11.3	10.6	10.6	11.6	12.1	12.6	13	13.2	14.9	16.4	17.2	18.4	18.5	18.6	19.2	17.7	16.8	16.2	14.5	12.8	11.9	10.6	19.2	14.3	24
3		10	9.7	10.7	9.5	8.6	10.2	12.9	15.5	17.4	18.9	19.4	20.3	21	21.5	22	22.2	21.7	21	19.9	18.8	16.8	16.3	16.1	15.8	22.2	16.5	24
4		12.2	12.7	10.8	10.6	12.2	14.7	16.6	18.6	19.6	21	22.3	22.5	21.9	22.3	22.4	22.9	22.6	21.9	20.9	19.8	17.7	15.8	14.7	13.9	22.9	17.9	24
5		12.9	12.2	11.8	11.7	11.4	12.5	14.4	16.6	18.5	20.1	20.3	21.6	22.6	22.9	22.4	22.8	22.2	18.4	16.1	12.2	11.4	11	10.2	9.4	22.9	16.1	24
6		9.3	8.7	7.7	7.6	8.3	9.6	11.2	11.3	14.1	15.8	17.2	18.5	19.3	19.7	20.3	20.5	20.4	20.3	18.8	17	16.2	14.9	14.3	14.1	20.5	14.8	24
7		14	13.8	13	13.5	13.6	13.6	13.6	15.1	14.5	14.9	16.4	18.2	15.9	15.5	15.1	13.6	12.8	12.7	12.5	12.1	11.8	11.5	11.4	11.2	18.2	13.8	24
8		10.6	10.3	10.2	10	9.9	10.3	10.8	11.3	13.5	14.5	15.1	14.6	14.6	16.5	12.3	13.7	14.3	14.6	14.2	13	12	10.1	9.8	9.8	16.5	12.3	24
9		9.2	9	8.8	8.6	8.4	8	9.2	11	12.2	11.8	12.6	12.6	12.9	12.3	11.7	11.1	9.6	9.1	7.8	6.4	5.7	5.5	5.3	5.1	12.9	9.3	24
10		4.9	5.2	5.1	5.2	5.5	5.7	5.8	5.9	6.5	6.8	7.9	8.1	7.9	8.3	8.4	8.3	8.8	8.8	8.6	8.2	7.9	7.6	7.1	7.2	8.8	7.1	24
11		7.1	7.1	7	6.9	6.8	7	7.5	8.5	9.1	10.3	11.7	12.3	12.9	14.2	14.9	16.5	17	16.6	14.5	13.5	12.5	12.1	11.6	10.8	17.0	11.2	24
12		10.7	10.6	9.7	9.3	9.5	10.6	12.1	13.6	14.6	15.3	15.2	15.1	16.7	17.2	18.3	17.5	14.5	12.9	11.9	12.2	11.8	11.5	10.7	9.9	18.3	13.0	24
13		9.4	9	8.9	8.2	7.9	8.3	10.3	13.3	P	P	P	17.1	16.9	17.5	19.5	19.9	19.2	16.1	15.4	14.5	13.4	11.9	12	19.9	13.4	20	
14		11.1	10.5	9.4	8.6	7.5	8.6	12.1	12.7	15.6	17.6	19.5	18.2	18	18.1	16.5	19.2	18.2	17.7	16.5	15.7	14.5	13.5	12.9	12.7	19.5	14.4	24
15		12.3	12	11.8	12	11.9	12	11.6	11.3	11.4	11.8	12.2	12.4	13.8	13.4	12.8	12.8	12.7	12.5	12.5	12.3	12.1	11.7	11.3	10.9	13.8	12.1	24
16		10.9	10.9	10.9	10.9	10.8	10.7	10.9	12.3	13.4	14.4	15.6	16	16	15.4	15	15.5	16.5	16.5	16.2	15.2	14.2	13.8	13.3	13.1	16.5	13.7	24
17		13	12	11.7	11.4	11.1	11.7	15.9	18.3	18.3	19	20.5	21.6	22	22	22.9	22	22.5	22.4	21.1	19.5	18.4	17.3	17.4	16.7	22.9	17.9	24
18		16.3	15.2	13.9	13.5	13.3	13.3	13.8	15.3	17.3	19.3	21.3	21.8	22	22.1	21.3	20.2	19.3	18.9	18.1	17.3	15.7	15.1	15.3	14.6	22.1	17.3	24
19		14.5	13.5	12.8	12	11.9	12.5	14.7	16.5	18.4	19.6	21.1	21.5	21.7	22.1	22.4	22.6	21.6	21.8	21.2	20.3	18.1	16.2	15.5	14.6	22.6	17.8	24
20		13.4	12.8	12.2	12	12.1	12.4	14	16.7	18.5	20.1	20.8	20.7	21	19.3	18.6	17.7	17.8	18.3	17.3	16.2	15.2	14.3	13.6	13.1	21.0	16.2	24
21		12.2	11.1	10.6	10.2	10.6	13.7	16.5	17.8	18.6	18.8	19.7	19.9	20.5	20.8	20.5	20.6	20	17.9	16.4	14.5	13	11.4	10	9.1	20.8	15.6	24
22		8.5	9.4	10.1	10.2	10.3	10.6	10.8	12	14.1	14.4	16.6	18.3	18.7	15.8	14.3	16.7	17.8	16.8	16.6	15.7	13.8	12.3	12	11.8	18.7	13.7	24
23		11.5	10.6	10.4	9.2	9.2	13	17	18.4	19.6	19.4	18.1	20.1	19.3	15.1	15.5	17.1	18.9	19.2	17.3	16.6	13.2	11.8	11.5	11.6	20.1	15.2	24
24		11.1	11.1	10.4	9.6	9.4	11.9	15.2	17.2	18.7	20.1	21.3	21.6	21	21.4	21.7	22.2	22.6	21.8	21.4	20	17.8	16.7	15.5	15.6	22.6	17.3	24
25		16.1	16.1	16.4	16.3	15.7	16	16.9	17.3	17.7	18.2	18.4	16.8	15	15	16	16.8	17.1	16.5	16	15.8	15.7	14.5	14	13.9	18.4	16.2	24
26		13.9	13.8	13.8	13.3	13.2	13.4	14.5	14.9	15.6	14.7	15.2	14.7	15	16.3	17.4	18.4	19.2	18.7	18.2	17.6	15.9	14.2	13	12.6	19.2	15.3	24
27		12.5	12.3	11.9	11.5	12	14.4	17.3	19.4	20.8	21.8	22.7	23.3	23.9	24.1	24.7	23.9	23.8	23.5	23.1	21.1	18.6	16.7	17.3	17	24.7	19.1	24
28		15.7	15.6	13.7	12.4	14.6	16.4	19.9	22.5	23.4	24.8	26.2	26.3	26.8	27.5	27.7	27.2	27.4	26.8	25.3	24.1	21.4	20.1	19.8	19.6	27.7	21.9	24
29		18.6	17.9	17.3	16.2	16	17.2	19	20.8	22.6	22.9	23.5	25.4	25.8	25.7	26.9	26.8	26.6	26.1	24.9	23.4	22	20.7	20.1	19.6	26.9	21.9	24
30		17.6	16.2	15.5	15.2	15.2	15.5	15.7	16.1	16.8	17.6	18.9	19.4	22	23.5	23.2	24.7	24.6	24	23.4	22.5	21	19.6	18.9	18	24.7	19.4	24
HOURLY MAX		18.6	17.9	17.3	16.3	16.0	17.2	19.9	22.5	23.4	24.8	26.2	26.3	26.8	27.5	27.7	27.2	27.4	26.8	25.3	24.1	22.0	20.7	20.1	19.6			
HOURLY AVG		12.2	11.9	11.4	11.0	11.0	12.0	13.6	14.9	16.2	17.0	18.0	18.4	18.6	18.6	18.6	19.0	19.0	18.4	17.3	16.3	14.9	13.8	13.3	12.9			

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

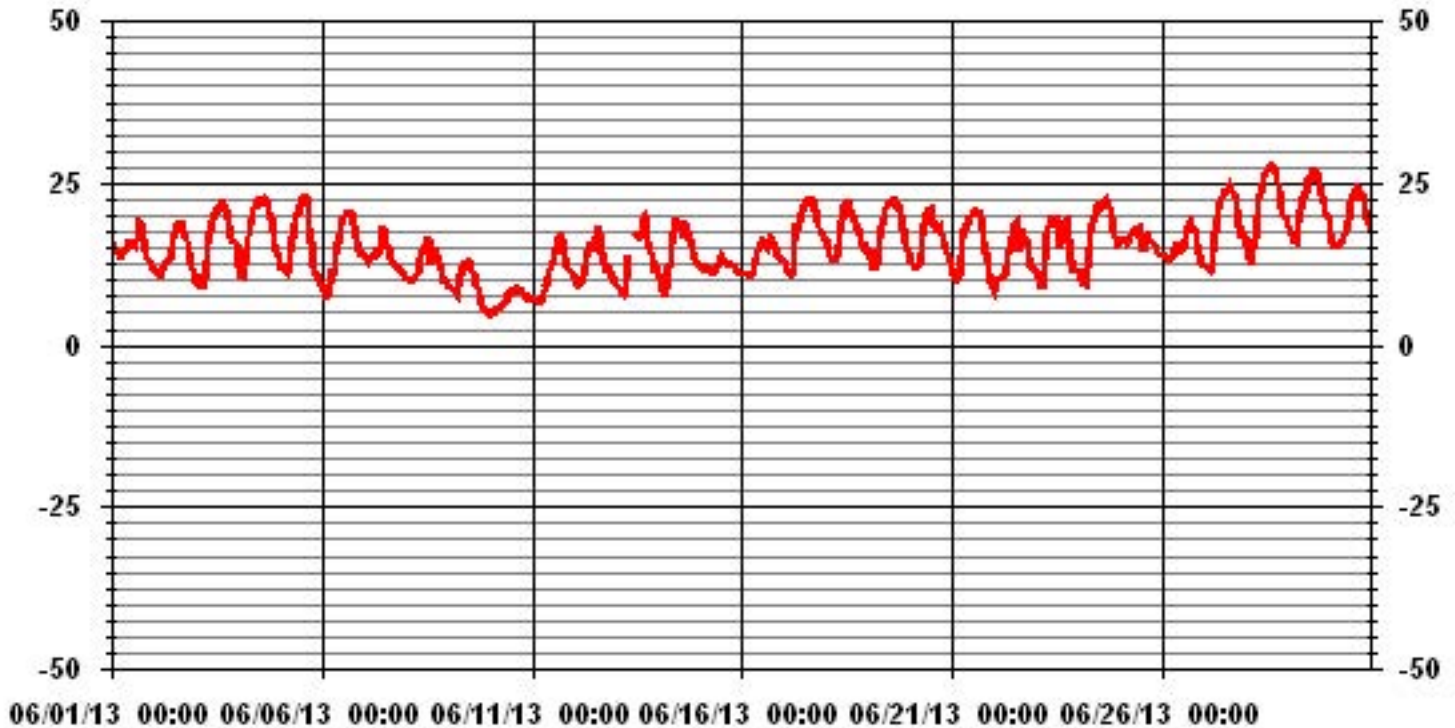
24 HOUR AVERAGES FOR JUNE 2013



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	4.9 °C	@ HOUR(S)	0	ON DAY(S)	10
MAXIMUM 1-HR AVERAGE:	27.7 °C	@ HOUR(S)	14	ON DAY(S)	28
MAXIMUM 24-HR AVERAGE:	21.9 °C			ON DAY(S)	28
CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	716 HRS		
STANDARD DEVIATION:	4.64	AMD OPERATION UPTIME:	99.4 %		
		MONTHLY AVERAGE:	15.33 °C		

# 01 Hour Averages



# Barometric Pressure

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2013

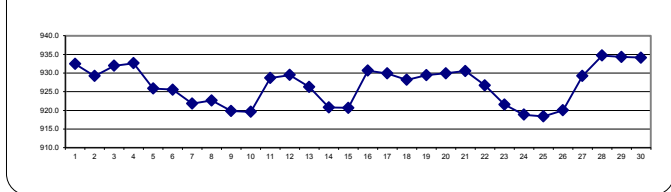
## BAROMETRIC PRESSURE hourly averages (millibar)

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOURLY MAX	HOURLY AVG	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																													
1		933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	932	932	931	931	931	930	930	933	932.4	24	
2		930	930	930	929	929	929	929	929	929	929	929	930	930	929	929	929	929	929	929	929	929	929	929	929	929	930	929.2	24
3		929	929	929	929	929	930	930	931	932	932	933	933	933	933	933	934	934	934	934	934	934	933	933	933	934	934	932.0	24
4		933	933	933	933	933	933	934	934	934	934	934	934	933	933	933	933	932	932	932	931	931	931	930	930	934	932.6	24	
5		930	929	929	929	928	928	928	928	928	927	927	926	926	925	924	924	923	923	922	923	923	923	924	924	930	925.9	24	
6		924	924	924	923	924	924	925	925	926	926	927	927	927	927	927	927	927	927	926	926	925	925	925	925	927	925.5	24	
7		924	924	924	924	923	923	923	922	922	921	921	921	921	921	921	921	921	921	921	921	921	921	921	921	924	921.8	24	
8		922	922	922	922	922	922	922	923	923	923	923	923	923	923	923	923	923	923	923	923	923	923	922	922	923	922.6	24	
9		922	922	922	922	921	921	921	921	921	920	920	920	920	919	919	919	919	919	919	919	918	918	918	917	917	922	919.8	24
10		916	916	915	915	915	916	916	917	917	918	919	919	920	921	921	922	922	923	923	923	924	924	924	924	924	924	919.6	24
11		925	925	925	926	926	926	927	927	928	928	929	929	930	930	931	931	931	930	930	931	931	931	931	931	931	931	928.7	24
12		931	931	931	930	930	930	930	931	931	931	931	931	930	930	930	929	928	929	928	928	927	927	927	927	927	931	929.5	24
13		927	927	927	927	927	926	927	926	P	P	P	P	928	927	927	927	926	926	926	926	925	925	924	924	928	926.3	20	
14		923	923	923	922	922	922	922	922	922	921	922	921	921	921	920	920	920	920	919	919	919	919	919	918	918	923	920.8	24
15		918	918	918	918	918	918	918	918	919	919	919	920	920	921	921	921	922	922	923	923	924	924	925	926	926	926	920.7	24
16		927	927	927	928	928	929	929	930	931	931	931	932	932	932	932	932	933	932	932	932	932	932	932	932	932	933	930.6	24
17		932	931	931	931	931	930	931	931	931	931	931	930	930	930	929	929	929	929	929	929	928	928	928	928	928	932	929.9	24
18		928	928	928	928	927	927	928	928	928	929	929	929	929	929	929	929	929	928	928	927	927	928	928	928	929	928.2	24	
19		929	929	929	928	929	929	929	929	929	929	930	930	930	930	930	930	930	930	930	930	930	930	929	929	929	929	929.4	24
20		929	929	929	929	929	929	929	929	929	929	930	930	930	930	930	930	931	931	931	931	931	931	931	931	931	931	929.9	24
21		931	930	930	930	930	930	930	931	931	931	932	931	931	931	931	931	931	931	931	931	931	930	929	929	932	930.5	24	
22		928	928	928	928	928	928	928	928	928	928	928	927	927	926	926	926	926	926	926	926	925	924	924	924	928	926.7	24	
23		923	923	923	922	922	922	923	923	923	923	922	922	922	921	921	921	921	921	921	921	921	920	919	919	919	923	921.5	24
24		919	918	918	918	918	918	919	919	919	919	919	919	919	919	919	919	919	919	919	919	920	919	919	919	920	918.8	24	
25		919	919	919	919	919	919	919	920	919	919	919	920	920	919	918	918	917	917	917	917	917	917	917	917	917	920	918.4	24
26		917	917	917	917	917	918	918	918	918	918	918	919	919	920	921	922	922	923	923	923	924	924	924	924	924	924	920.0	24
27		925	925	926	926	926	926	927	928	929	929	930	930	930	931	931	931	931	931	931	932	932	932	932	932	932	932	929.3	24
28		932	932	933	933	933	934	934	935	936	936	936	936	936	936	936	936	935	935	935	935	935	935	935	935	935	936	934.7	24
29		935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	934	934	934	933	933	933	933	933	933	935	934.3	24
30		934	934	934	934	933	933	933	934	934	934	934	935	935	935	935	935	935	935	934	934	934	934	934	934	934	935	934.1	24
HOURLY MAX		935	935	935	935	935	935	935	935	936	936	936	936	936	936	936	935	935	935	935	935	935	935	935	935	935	935		
HOURLY AVG		927	926	926	926	926	926	927	927	927	927	927	927	927	927	927	927	927	927	927	927	927	927	927	927	927	927		

### STATUS FLAG CODES

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

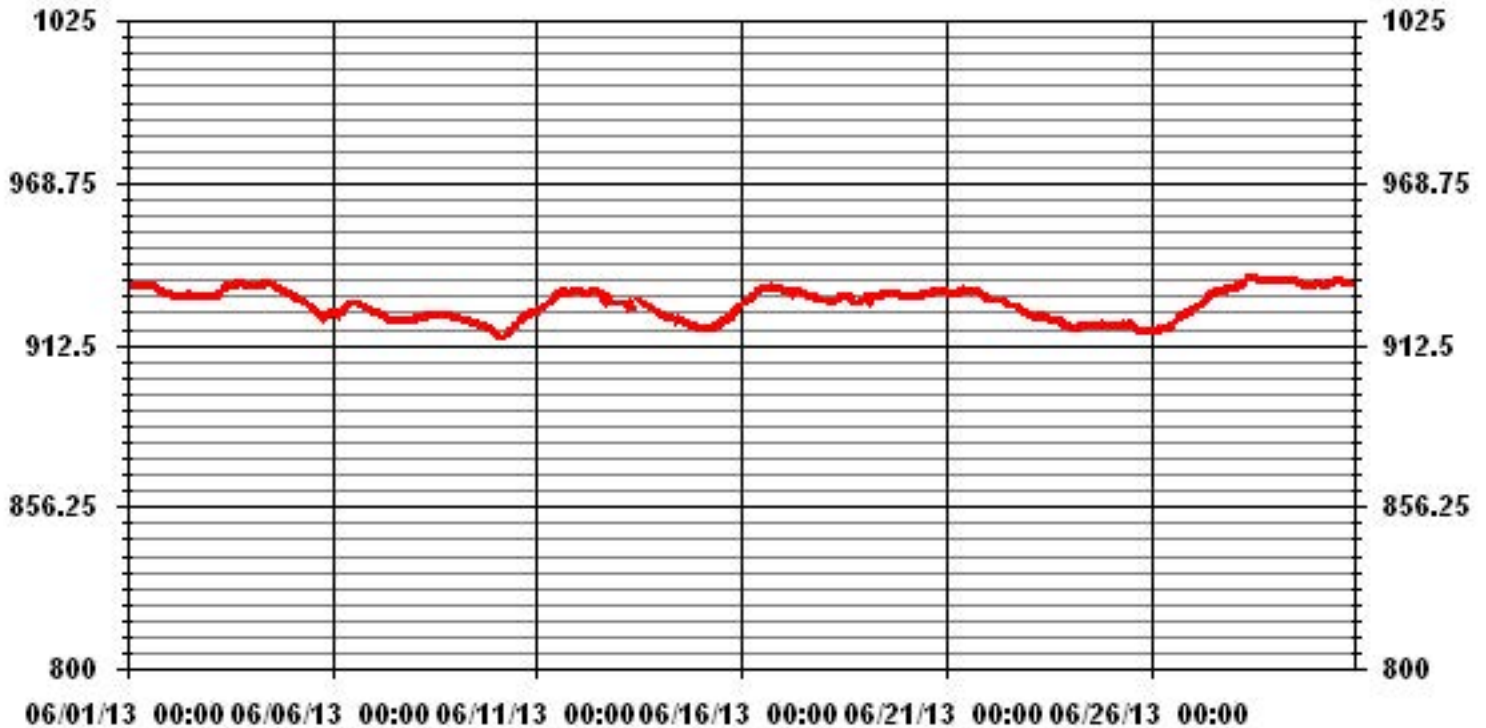
24 HOUR AVERAGES FOR JUNE 2013



### MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	936 MB	@ HOUR(S)	VAR	ON DAY(S)	28
MAXIMUM 24-HR AVERAGE:	934.7 MB			ON DAY(S)	28
				VAR-VARIOUS	
CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:		716 HRS	
STANDARD DEVIATION:	5.32	AMD OPERATION UPTIME:		99.4 %	
		MONTHLY AVERAGE:		927 MB	

### 01 Hour Averages



# Relative Humidity

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2013

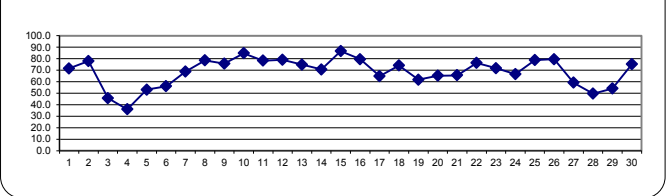
## RELATIVE HUMIDITY hourly averages (%)

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
DAY	HR	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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.
1		70	68	70	78	78	79	77	75	73	73	65	67	65	71	70	59	57	53	67	75	80	81	81	84	84	84	71.5	24
2		85	84	88	90	91	90	90	89	88	87	82	75	70	64	60	55	54	65	67	67	76	84	85	85	91	91	78.0	24
3		80	77	70	73	76	73	66	59	55	52	43	33	28	25	24	24	24	23	25	29	38	35	32	31	80	45.6	24	
4		50	40	55	54	46	44	43	40	40	36	30	27	27	25	24	23	22	24	24	28	35	39	44	46	55	36.1	24	
5		49	52	53	52	54	54	53	49	40	35	34	32	30	31	32	33	35	49	62	87	90	88	89	91	91	53.1	24	
6		91	90	90	88	83	76	72	71	59	51	44	40	35	34	33	32	32	33	37	45	43	52	60	56	91	56.1	24	
7		52	52	60	56	52	62	64	60	62	63	61	56	61	68	69	74	82	83	82	83	83	85	89	91	91	68.8	24	
8		91	90	91	91	91	89	87	84	75	69	66	68	68	64	83	79	73	69	69	72	75	81	81	81	91	78.6	24	
9		83	81	81	81	83	85	80	72	67	69	66	64	64	66	68	74	72	75	81	84	84	86	87	87	87	75.7	24	
10		88	88	87	89	90	90	90	89	88	87	82	82	81	81	80	81	78	79	80	82	82	84	88	89	90	84.8	24	
11		90	90	90	90	91	91	90	87	84	80	76	74	72	68	64	58	57	60	68	74	80	80	82	85	91	78.4	24	
12		86	87	90	91	91	89	84	77	71	67	67	67	63	60	58	59	75	86	89	88	88	89	88	89	91	79.1	24	
13		90	91	91	91	91	90	87	79	<b>P</b>	<b>P</b>	<b>P</b>	<b>P</b>	66	58	59	51	48	51	69	71	72	78	83	81	91	74.9	20	
14		84	82	84	86	89	88	78	78	70	62	53	56	57	57	64	55	56	58	61	66	71	76	81	83	89	70.6	24	
15		85	87	86	85	85	82	84	87	87	86	86	85	81	82	86	87	88	89	89	90	90	90	90	90	90	86.5	24	
16		90	90	90	90	90	90	86	81	76	70	68	69	70	73	72	70	70	72	77	79	81	83	82	90	90	79.5	24	
17		81	87	87	89	90	89	75	68	67	61	57	52	49	48	46	49	48	48	52	56	61	66	63	67	90	64.8	24	
18		68	78	87	89	89	86	86	83	77	73	67	64	58	57	56	59	65	70	72	75	80	80	78	82	89	74.1	24	
19		80	79	79	80	82	80	74	71	65	59	55	54	54	51	48	47	47	45	44	47	55	60	62	64	82	61.8	24	
20		68	70	72	73	74	75	72	68	62	55	50	50	51	54	59	60	61	60	60	66	71	76	78	82	82	65.3	24	
21		85	88	89	89	89	80	71	67	65	62	55	50	47	48	48	44	45	49	51	56	63	72	78	83	89	65.6	24	
22		86	87	88	89	89	89	89	86	79	78	71	64	61	72	74	66	61	63	63	67	75	82	76	79	89	76.4	24	
23		83	87	86	89	91	80	66	62	58	57	61	54	56	75	72	67	58	56	62	69	81	84	84	85	91	71.8	24	
24		88	89	90	91	91	85	76	72	66	58	53	51	49	48	46	47	49	51	57	66	71	76	73	91	66.5	24		
25		70	70	69	68	73	74	74	73	74	72	73	80	84	86	81	78	80	83	86	87	87	89	90	90	90	78.8	24	
26		90	90	91	91	90	90	86	82	80	83	81	85	86	78	72	68	64	65	64	67	70	76	80	81	91	79.6	24	
27		81	81	81	83	80	71	64	62	56	52	52	49	46	41	38	40	43	44	47	54	60	67	64	64	83	59.2	24	
28		70	70	78	84	68	65	60	51	47	41	36	33	30	31	30	31	32	33	38	47	53	53	55	54	84	49.6	24	
29		57	59	61	65	65	61	59	58	55	52	53	45	45	46	42	41	40	42	48	53	58	62	64	65	65	54.0	24	
30		76	85	88	88	89	86	87	88	86	82	77	74	65	64	64	59	60	62	66	71	75	77	79	89	89	75.3	24	
HOURLY MAX		91	91	91	91	91	91	90	89	88	87	86	85	86	86	86	87	88	89	89	90	90	90	90	91	91			
HOURLY AVG		78.2	79.0	80.7	81.8	81.4	79.4	75.8	72.4	68.2	64.8	60.9	58.7	57.3	57.4	57.4	55.5	55.8	57.7	61.2	66.1	70.6	74.0	75.6	76.6				

### 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

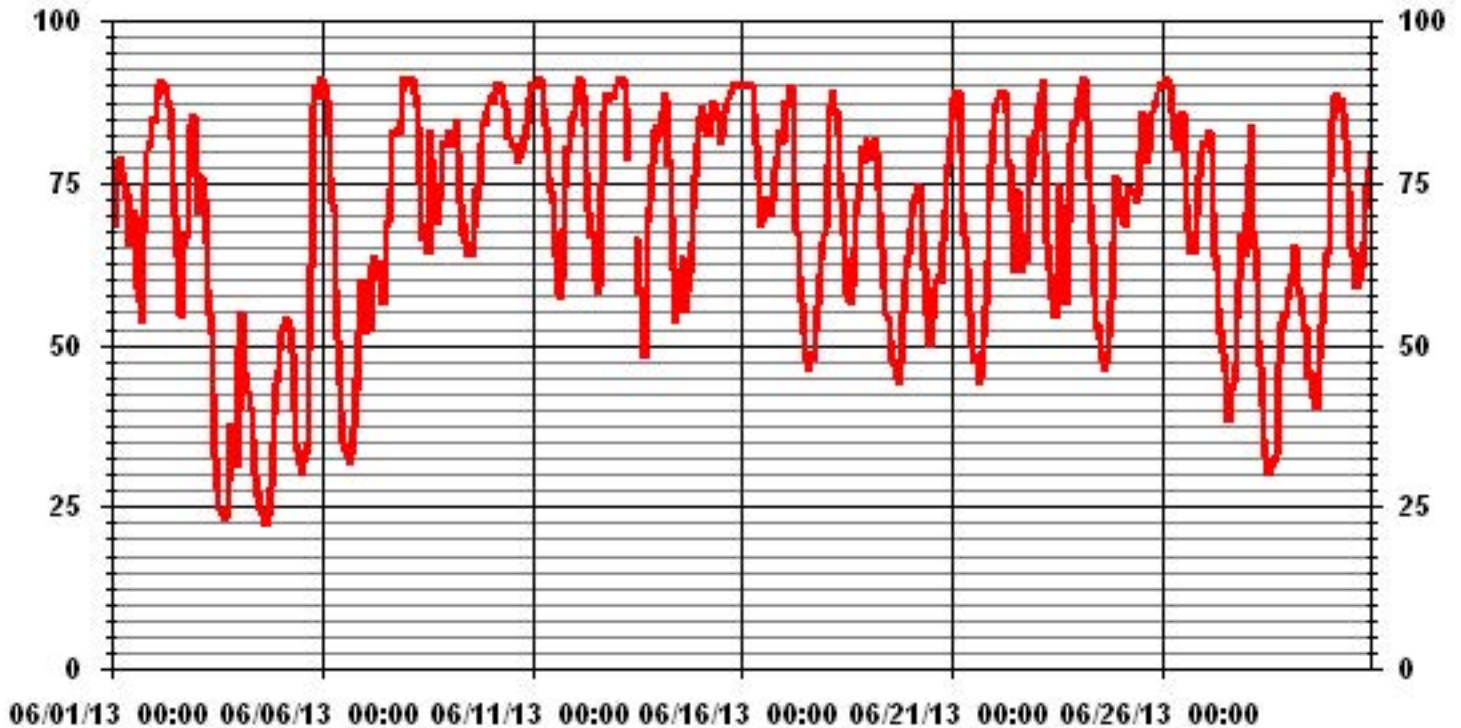
24 HOUR AVERAGES FOR JUNE 2013



### MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	91	%	@ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 24-HR AVERAGE:	86.5	%			ON DAY(S)	15
					VAR-VARIOUS	
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	716	HRS	
STANDARD DEVIATION:	17.33		AMD OPERATION UPTIME:	99.4	%	
			MONTHLY AVERAGE:	68.63	%	

### 01 Hour Averages





# Precipitation

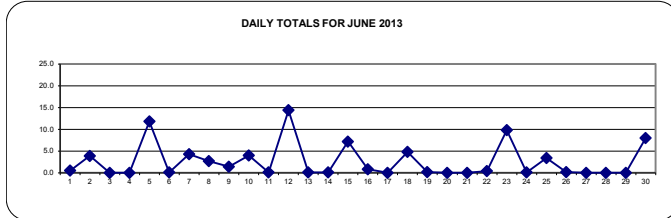
**LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA**  
**JUNE 2013**  
**PRECIPITATION hourly averages (mm)**

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	DAILY MAX.	DAILY TOTAL	RDGS.	
DAY																														
1		0	0	0	0	0	0	0	0	0	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.5	24
2		0	0	0	0	0	0	0.6	0.6	0.9	1.5	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.5	3.9	24
3		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
4		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
5		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.8	2.6	7	0.4	0	0	7.0	11.8	24	
6		0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	24	
7		0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4	0.2	0.7	0.9	0.3	0	0	0	0	0	0.8	0.9	0.9	4.3	24	
8		0.9	0.2	0	0	0	0	0	0	0	0	0	0	0	0.1	1.2	0.3	0	0	0	0	0	0	0	0	0	0	1.2	2.7	24
9		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	0.5	0.6	0.6	1.4	24	
10		0.7	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	4.0	24	
11		0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	24	
12		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.1	5.2	2.2	2.6	2.7	0	0.1	5.2	14.4	24		
13		0	0	0	0	0.1	0	0	0	0	P	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	22	
14		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0.1	0.1	24	
15		0	0	0	0	0	0	0.1	0.4	0.6	0.4	0.4	0.4	0.4	0.2	0.3	0.3	0.3	0.4	0.3	0.3	0.4	0.5	0.7	0.8	0.8	0.8	7.2	24	
16		0.5	0.1	0	0	0	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.8	24	
17		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
18		0	0.5	0.7	0.6	0.4	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0	0.1	0.1	0	0.1	0	0	0.1	0.7	4.8	24		
19		0	0	0.1	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	0.2	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	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	0.0	24	
22		0	0	0	0	0	0	0.1	0	0	0	0	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4	24	
23		0	0	0	0	0	0	0	0	0	0	0	0	0	1.2	0	0	0	0	0	0	0.5	7.3	0.8	0	7.3	9.8	24		
24		0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	24	
25		0	0	0	0	0	0	0	0	0	0	0	0.7	1.1	0	0	0	0	0.2	0.8	0	0.1	0.5	0	0	1.1	3.4	24		
26		0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	24	
27		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	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	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	0.0	24	
30		0.4	2.1	1.7	3	0.4	0.3	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.0	8.0	24	
HOURLY MAX		0.9	2.1	1.7	3.0	0.4	0.3	0.6	0.6	0.9	1.5	0.4	0.7	1.1	1.2	1.2	0.7	0.9	1.1	5.2	2.6	7.3	2.7	0.8	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

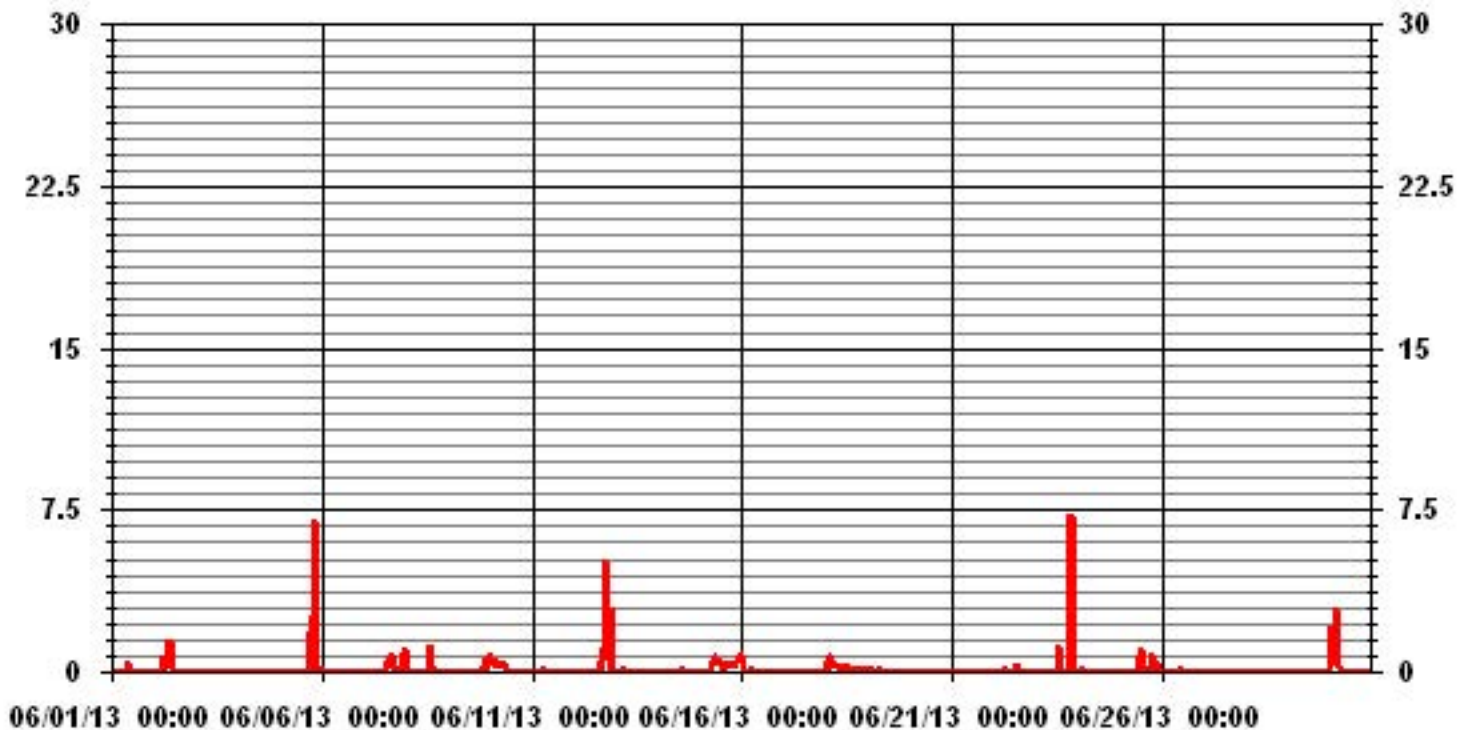
**DAILY TOTALS FOR JUNE 2013**



**MONTHLY SUMMARY**

MAXIMUM 1-HR AVERAGE:	7.3	MM	20	ON DAY(S)	23
MAXIMUM DAILY TOTAL	14.4	MM		ON DAY(S)	12
MONTHLY TOTAL	78.3	MM			
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	718	HRS
STANDARD DEVIATION:	0.52		AMD OPERATION UPTIME:	99.7	%
			MONTHLY AVERAGE:	0.11	MM

### 01 Hour Averages



# Vector Wind Speed

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2013

## WIND SPEED hourly averages (km/hr)

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
DAY	HR	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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.
1	1	1.9	3.4	3.4	6.7	1.5	3.7	9.4	10	8.6	6.7	4.8	6	3.2	8.7	7.4	2.8	7	3.8	8.2	7.7	6.6	7	7	3.8	10	1.8	24
2	2	2.2	2.8	4.2	4.4	4.3	4.2	4.4	5.8	5.4	8.2	7.9	6.7	8.8	10.3	8.6	9.4	6.9	8.7	10.7	8.2	7.8	10.3	9.4	8.3	10.7	2.8	24
3	3	8.4	9.1	9.1	6.8	7.4	6.2	6	5.5	6.5	7.7	7.8	8.3	6.6	6.6	5.4	4.5	5.4	4.5	3.8	3.4	4.1	4.5	4.7	3.6	9.1	5.2	24
4	4	6.5	7.7	4.9	6.7	8.3	8.4	6.2	4.2	6.1	8.8	7.2	9.5	10.4	11.1	12.1	12.8	12.7	10.5	10.8	8.9	7.9	8.9	9.5	10.9	12.8	6.9	24
5	5	10.2	11.7	12.4	13.2	12.4	11.4	11.9	13.7	17.2	16.6	17	18.1	17.9	18.1	17.4	17.6	13.6	11.4	13.5	16.8	10.9	7.2	12.1	9.1	18.1	10.1	24
6	6	11.4	12	9.4	11.5	14.6	16.4	15.3	17.3	18.7	18.1	17.6	15.5	15.5	17	15.8	14.4	14	11.1	8.8	5.2	3.4	5.9	6.5	6	18.7	11.2	24
7	7	7	7.2	4.5	1.9	1.9	5.9	5.8	6.8	6.9	6.3	10.1	11.6	13.2	10	10.5	8.8	11	11	11.3	8	7.7	5.9	4.2	5.6	13.2	5.6	24
8	8	8.9	7.7	8.8	8.8	9.7	9.6	9.5	9.2	10.3	10.2	11.8	10.7	10.5	10.8	10	10.7	10.6	12.1	11.4	9.8	10.5	10.4	13	12.3	13	10.1	24
9	9	13.3	14.9	15.1	14.7	14.1	13.7	15.4	16.5	15.7	16.2	17.1	16.6	17	18.6	18.6	20.1	18.5	19.7	21.1	20.8	19.3	21.7	18.8	21.1	21.7	17.2	24
10	10	22.7	20.5	21.3	18.6	18.2	18.8	19.8	20	20.5	19	20.1	19.6	19.3	18.4	15.7	17.4	17.2	16.3	14.6	13.1	12.6	12.7	13.5	14.2	22.7	17.5	24
11	11	14.7	14.2	13	12.1	10.8	9.2	10	11.7	11.2	10.3	7.2	6.5	5.8	6.3	5	3.1	3.5	3.9	5.3	4.6	4.3	4.4	3.2	5.7	14.7	6.6	24
12	12	5.3	5.5	6.8	7	6.8	7	7.8	7.1	9.1	11.7	10.9	9.5	11.5	12.2	12.2	13.6	9.1	3.5	7.8	12.7	3.1	9.4	2.5	4.3	13.6	6.4	24
13	13	3.9	5.2	4.3	6.8	9.2	10.3	5.4	4.6	P	P	P	P	6.7	8.7	6.6	5.2	5.8	2	5.1	5	4.9	5.9	6.7	4.9	10.3	3	20
14	14	7.1	8.6	8.3	10	10.1	5.4	8.8	10.4	7.1	9	7.3	6.6	7.1	10	9.4	12.5	13.9	11.6	11.3	9.6	9.6	10.2	12.4	13.5	13.9	9.1	24
15	15	14.7	14.1	15.8	15.1	16.7	17.9	18	18.6	19.1	19.5	17.7	18.3	20.8	18.6	15.8	14.7	15.2	15.2	11.2	10.3	10.6	9.3	9.1	7.8	20.8	14.3	24
16	16	6.4	7.2	7.5	8.6	10	6.9	4.7	6.6	8	9.2	8.5	6.8	4.9	2.8	2.1	2.8	3.5	3.3	3.1	4.3	5.9	6.2	4	6.5	10	3.5	24
17	17	4.8	5	4.2	5.9	5.7	5.8	4	7.5	7.7	10.1	10.5	10.4	10.6	9.7	10.4	7.9	8.6	8.4	5.6	3.6	5.4	5.4	6	6.7	10.6	6.4	24
18	18	7.1	8.5	4.9	4	9	7.7	6.3	5.3	7	6.9	7.8	9.6	11.4	10.8	9.1	8.7	6.5	5.7	5.6	5.3	6.3	7.7	7.6	8.3	11.4	5.7	24
19	19	8.4	9	9.6	10.3	9.8	10	10.7	11.5	15.4	17.6	16.1	17.5	16.8	16.6	16.6	15.5	14.3	14.1	13.5	11	8.1	9.6	9.8	9.8	17.6	12.3	24
20	20	10.2	10.2	10.2	11	11	10.7	13.1	14.7	18.5	20.8	21.8	20.8	18.7	15.3	13.5	13.5	11.9	12.2	13.4	9	5.7	5.6	4.7	2.1	21.8	10.9	24
21	21	4.3	6.7	7.5	7.4	7.1	4.9	6	5.6	7.2	9.5	8.6	11.3	10.8	11	11.2	14	14.5	15.5	15.7	11.9	9.8	9.8	8.5	7.4	15.7	8	24
22	22	7	7.8	6.9	6.6	6.4	7	7.7	6.5	6.4	6.4	6.9	7.6	6	7.7	8.7	9	9	5.7	5.9	3.9	4.7	5.7	5	4.6	9	6.2	24
23	23	4.5	4.9	5.7	5.4	5	3.6	4	5.5	4.3	6.3	6.1	6	7	8.2	4.1	7.6	5.6	5.1	6.1	3	8.1	5.4	5.7	5.5	8.2	2.7	24
24	24	5.3	5.9	6.7	5.5	6.8	6.3	4.5	5.4	5.7	4.5	3.4	2.6	6.5	7.5	7.3	9	7.2	7.2	6.7	7.9	9.2	9.4	10.9	13.5	13.5	2.4	24
25	25	11.5	10.6	10.2	9.2	8.4	8.6	9	9	8.2	8.1	8.9	10.6	12.8	16.3	17.1	19.9	18.9	17.5	13.4	12.4	9.6	8.2	8.7	8.6	19.9	10.4	24
26	26	7.3	6.4	5.2	6.3	6.7	8	7.9	11.3	10.8	14.7	16.9	19.3	18.8	19.8	19.3	18.8	15.1	13.2	13.1	10.2	11.3	10.8	10.7	9.9	19.8	10.5	24
27	27	10.6	10.1	11.3	14.5	10.1	10.6	7.5	10	11.1	12.8	11.9	10.9	12.4	12.7	12.7	11	9.3	11.7	8.9	8.8	7.9	8.2	8.9	8.5	14.5	10	24
28	28	8.1	8.4	7.3	7.8	7.5	3.5	1.6	4.3	6.8	6.3	6.7	8.5	8.3	6.6	4.8	6.1	5.2	6.2	5.8	4.7	5.1	4.4	5.5	5.4	8.5	5.1	24
29	29	6.3	7.1	8.7	8.4	8.1	7.8	6.9	7.6	8.5	9.9	9	11.5	12.2	11.4	11.9	12.7	12.8	13.6	10.9	10.1	9.4	10.7	2.2	3.7	13.6	8.5	24
30	30	7.2	6.1	3.7	8.8	10.8	7.5	3.5	4.2	6.7	6.7	5.9	5.6	3.6	2	3.6	4.2	4.8	4.1	2.7	4.6	5.2	6.5	5.5	6.4	10.8	3.4	24
HOURLY MAX		22.7	20.5	21.3	18.6	18.2	18.8	19.8	20.0	20.5	20.8	21.8	20.8	20.8	19.8	19.3	20.1	18.9	19.7	21.1	20.8	19.3	21.7	18.8	21.1			
HOURLY AVG		8.2	8.6	8.4	8.8	8.9	8.6	8.4	9.2	10.2	11.0	10.8	11.1	11.2	11.5	10.8	10.9	10.4	9.6	9.5	8.5	7.8	8.2	7.9	7.9			

### STATUS FLAG CODES

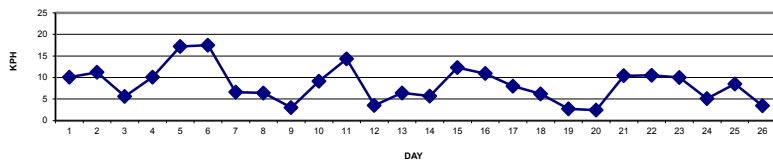
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

LAST CALIBRATION: June 12, 2012

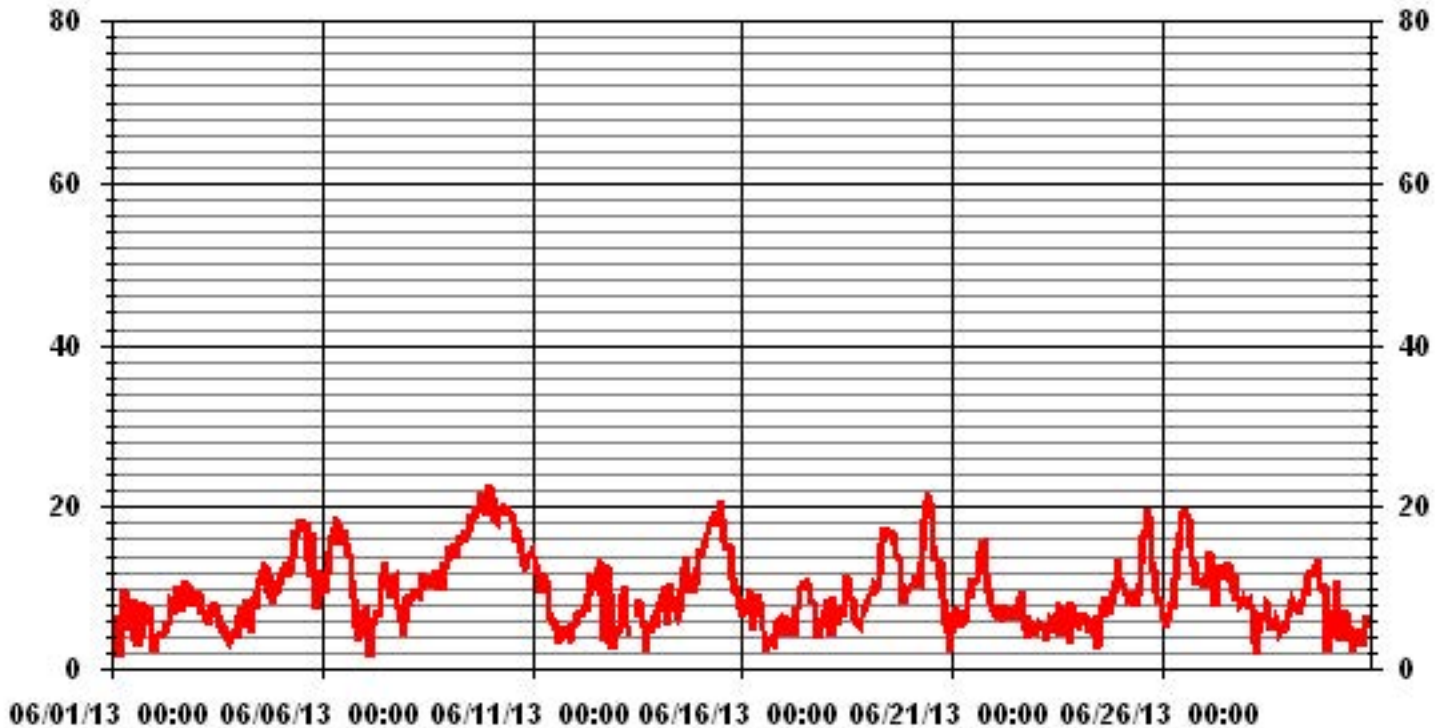
### MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	22.7	KPH	@ HOUR(S)	0	ON DAY(S)	10
MAXIMUM 24-HR AVERAGE:	17.5	KPH			ON DAY(S)	10
CALMS (≤ 0 KPH)	0.00	%	OPERATIONAL TIME:		716	HRS
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME:		99.4	%
STANDARD DEVIATION:	4.46		MONTHLY AVERAGE:		9.43	KPH

24 HOUR AVERAGES FOR JUNE 2013



### 01 Hour Averages



— LICA31 WSP KPH

## LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

JUNE 2013

### VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	
HOUR START	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.	
DAY																											
1		5.7	5.9	10.1	11.4	10.7	15.4	18	19.5	17.5	18.6	19.9	22.1	16.2	26.3	20.8	14.5	19.7	16.2	21.7	17.3	13.4	12.8	14.2	11.6	26.3	
2		5.7	6.8	9.9	8.8	8.1	9	10.3	19.9	18.8	19.3	18.7	19.3	28.7	25.4	25.6	28.5	32.4	18.6	23.9	23.2	18.8	30	19.7	19.1	32.4	
3		15.6	16	19.9	20.6	13.2	12.9	14.9	13.6	17.4	20.6	23.6	24.7	24.7	24.3	21.2	20.8	21.3	20.1	13.4	7.7	7.7	7.5	7.7	6.8	24.7	
4		13.4	17.3	10.1	14	16.7	18	15.3	11.9	15.1	20.6	28.7	32.2	31.5	33.1	34.4	33.1	35	33.3	31.5	23.6	17.7	16.2	16.9	22.1	35	
5		22.1	24.3	25.8	30	25.6	28.5	32	31.5	40.3	38.5	43.3	46.4	44.4	47.9	44.2	43.8	40.7	47.9	58.2	41.4	25.8	23.2	25	14.9	58.2	
6		24.1	21.5	17.6	19.8	30.7	34.4	35.5	46.9	47.1	44.4	49	39.2	49.9	49	51	38.3	31.3	31.5	20.2	12.9	10.7	9.9	13.1	10.3	51	
7		11.7	13.1	15.8	8.8	8.3	12.1	11.8	15.3	16.5	14.7	29.1	41.2	41.4	26.7	22.6	23.9	24.1	25.4	32.9	18.6	15.6	14.2	12.7	23	41.4	
8		24.7	20.6	19.9	21.2	23	23.3	21.5	26.3	23.4	24.7	28.7	31.3	23.9	32.9	28	25.2	32.2	30.7	35.9	27.6	29	28	30.2	30.7	35.9	
9		30.2	42	37.9	35.9	32.6	35	37	41.4	40.1	39.7	36.3	39.2	43.3	47.7	46.6	48.8	48.4	52.8	49.9	53.4	51.7	49.7	55.8	53.2	55.8	
10		58	50.1	52.8	51	48	42.9	48.4	46.2	51.4	49.9	48.2	45.1	46.6	44.9	39.6	40.5	45.5	39	33.5	34.8	29.1	29.4	34.6	34.2	58	
11		35.9	31.8	29.6	25.6	27.8	19.7	24.6	28.3	25.8	27.1	21.9	16.4	15.3	19.8	14	16	14.5	18	14.7	12.5	11.5	10.1	7.5	11.4	35.9	
12		8.6	12.9	11.2	10.8	13.8	16.7	16.4	17.5	21.7	31.5	27	22.1	27.6	29.8	39	32.9	22.6	28.3	26.9	39	23.6	28.1	19.9	11.6	39	
13		11.4	11.2	7.5	11	29.4	22.3	13.4	13.6	<b>P</b>	<b>P</b>	<b>P</b>	<b>P</b>	17.1	16.3	15.8	17.7	16.7	12.5	12.9	13.4	10.1	12.1	14.7	8.3	29.4	
14		13.6	15.5	15.1	17.7	16.2	9.6	19.1	24.7	19.7	28.9	24.5	22.3	20.6	28.7	35.5	34.2	33.7	37.4	29.2	26.3	22.8	23.4	25.6	34.2	37.4	
15		33.5	34.2	35.9	45.8	41.6	46.4	41.8	46.2	48	45.5	46.4	45.8	48.4	48.8	37.4	33.8	37	40.7	30.7	27.6	30.7	30.4	25	19.7	48.8	
16		19.1	17.3	20.6	24.1	23.4	23.9	15.3	23.6	23.4	25	25	21	18	12.5	6.8	6.8	9.2	7	9	7.5	11	9.9	8.6	11.4	25	
17		8.1	8.8	17.7	7.7	9	8.6	8.6	16.4	21.2	22.8	27.8	23.2	31.5	28.5	29.1	26.5	27.8	24.7	17.4	7.5	9.2	10.1	9.4	11	31.5	
18		19.9	<b>P</b>	50.8	14.2	21	18.2	19.1	14.2	17.3	18.6	21.2	27.3	29.8	30.4	27.4	21.4	14.4	11.8	11.4	11.8	14.5	15.6	17.1	22.3	50.8	
19		19.5	19.9	21.2	28.7	22.8	21.5	28.7	32.6	46.6	57.3	46.8	47.1	51.5	48.6	43.5	44.4	46.4	42	39.4	37.9	19.5	25.2	21.2	21.9	57.3	
20		25.2	22.6	21.7	27.2	26.7	24.7	34	39.6	53.2	63.2	<b>70.5</b>	61.3	53.8	44.2	30	32.4	28.2	28.5	31.4	22.5	14.9	13.1	12.7	4.2	<b>70.5</b>	
21		11	12.9	19.1	15.8	16	14.3	16.4	17.5	22.8	24.3	23.2	34.2	28	30.4	32.2	44.6	33.6	40.7	41.8	30.2	24.5	24.3	20.4	16.5	44.6	
22		20.2	19.5	20.4	17.5	21.5	21.1	19.8	18.4	17.5	19.1	22.6	24.3	20.8	27.6	22.1	24.1	22.8	15.1	16.2	10.5	10.8	9.1	7.5	7	27.6	
23		7	9.4	9.7	8.6	9.3	8.8	11	14.5	14.5	23.9	17.3	19.5	18	26.9	24.1	21.5	17.3	19.1	12.1	11.2	29.8	9.9	9.2	9.2	29.8	
24		9.2	10.3	14.7	9.4	10.1	11.2	13.8	13.4	13	13.4	12.7	18	21.2	29.6	27.6	29.8	25.2	25.9	21.7	18.8	17.5	16.9	20.2	27.6	29.8	
25		26.3	23.9	25.2	21.9	19.7	18.4	20.6	23	20.2	19.5	25.6	35.2	31.8	40.9	48.8	49.5	49.5	51.4	35	30.7	22.3	19.1	18	20.6	51.4	
26		15.3	14	11.6	16.4	16.9	20.2	22.8	27.6	26.9	32.2	39.4	44.2	44.7	52.3	54.7	48.8	48.8	38.1	35.9	29.4	28.9	22.4	17.3	21.2	54.7	
27		19.9	20.4	28.7	24	21.9	22.3	20.8	19.9	24.7	26	26.9	23.6	37.7	32.8	37.2	26.7	22.1	33.9	20.4	19.7	12.7	14.5	19.1	14.7	37.7	
28		13.6	14	10.8	11.4	12.5	12.5	12.1	12.3	16.2	15.6	26.5	32.2	25.8	23.6	18	20.4	19.3	16.6	14.7	8.1	8.1	7	9	8.1	32.2	
29		9.6	12.1	16	12.9	12.5	13.8	23.9	22.1	24.5	25.7	28.7	32.2	32.6	31.7	37.6	33.3	33.5	35.3	36.3	26.9	26.3	21.7	21.7	17.1	37.6	
30		20	23.4	19.1	24.1	30.4	28.3	10.1	9.4	14.5	15.8	13.4	14	17.1	12.3	23.6	20.2	16.4	20.1	14.9	14.7	10.3	9.9	9.2	10.1	30.4	
PEAK		58.0	50.1	52.8	51.0	48.0	46.4	48.4	46.9	53.2	63.2	70.5	61.3	53.8	52.3	54.7	49.5	49.5	52.8	58.2	53.4	51.7	49.7	55.8	53.2		

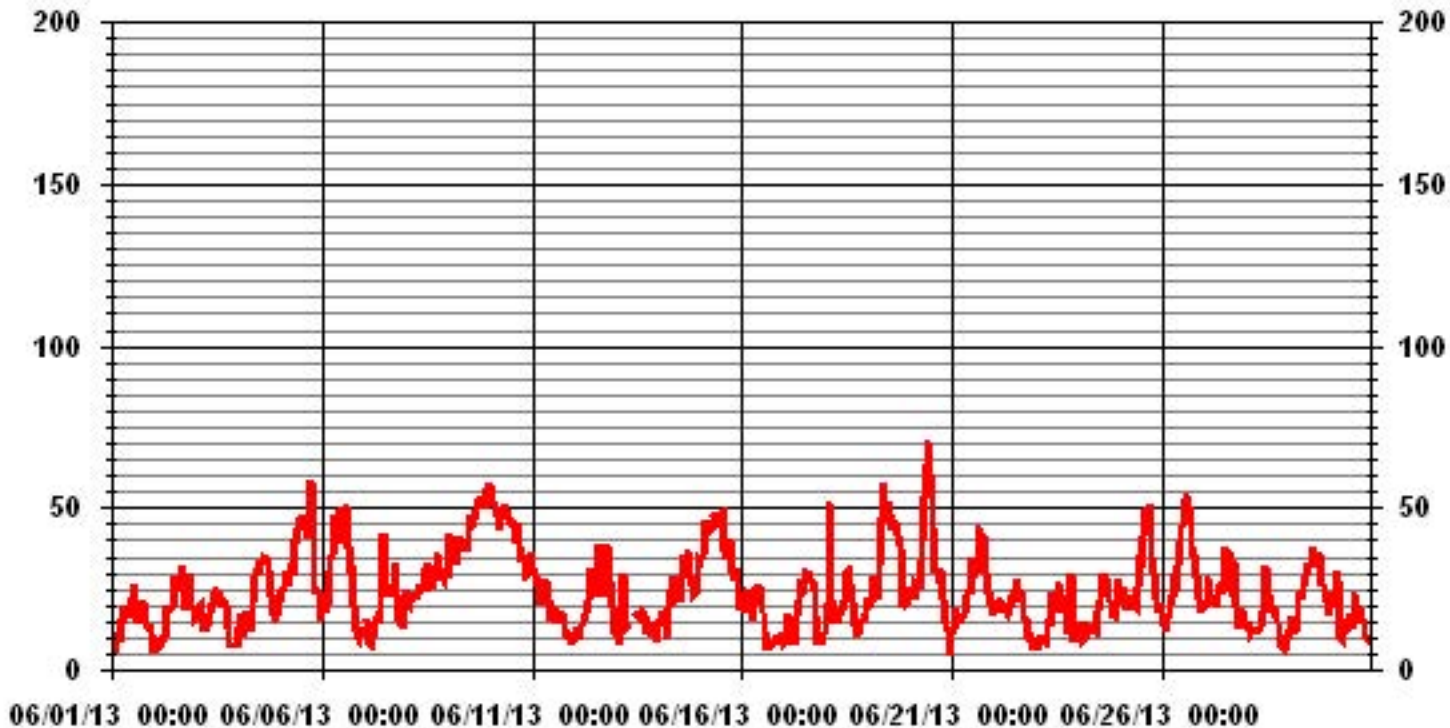
**STATUS FLAG CODES**

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 READING	70.5	KPH	@ HOUR(S)	10
			ON DAY(S)	20

### 01 Hour Averages





LICA31  
WSP / WDR Joint Frequency Distribution (Percent)

June 2013

Distribution By % Of Samples

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

Wind Parameter : WDR  
Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 6.0	.83	.97	1.39	2.37	1.11	1.53	1.25	1.53	1.11	1.39	1.81	1.81	1.67	2.93	.97	.97	23.74
< 12.0	.97	2.51	1.11	6.14	5.30	3.91	2.93	2.79	3.49	2.79	1.53	3.07	4.88	6.42	3.63	.97	52.51
< 20.0	.00	.00	.00	.69	2.79	.97	.69	.13	1.95	.69	.13	.55	.97	4.74	7.26	.00	21.64
< 29.0	.00	.00	.00	.00	.41	.00	.00	.00	.00	.00	.00	.00	.13	.69	.83	.00	2.09
< 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	1.81	3.49	2.51	9.21	9.63	6.42	4.88	4.46	6.56	4.88	3.49	5.44	7.68	14.80	12.70	1.95	

Calm : .00 %

Total # Operational Hours : 716

Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 6.0	6	7	10	17	8	11	9	11	8	10	13	13	12	21	7	7	170
< 12.0	7	18	8	44	38	28	21	20	25	20	11	22	35	46	26	7	376
< 20.0				5	20	7	5	1	14	5	1	4	7	34	52		155
< 29.0					3								1	5	6		15
< 39.0																	
>= 39.0																	
Totals	13	25	18	66	69	46	35	32	47	35	25	39	55	106	91	14	

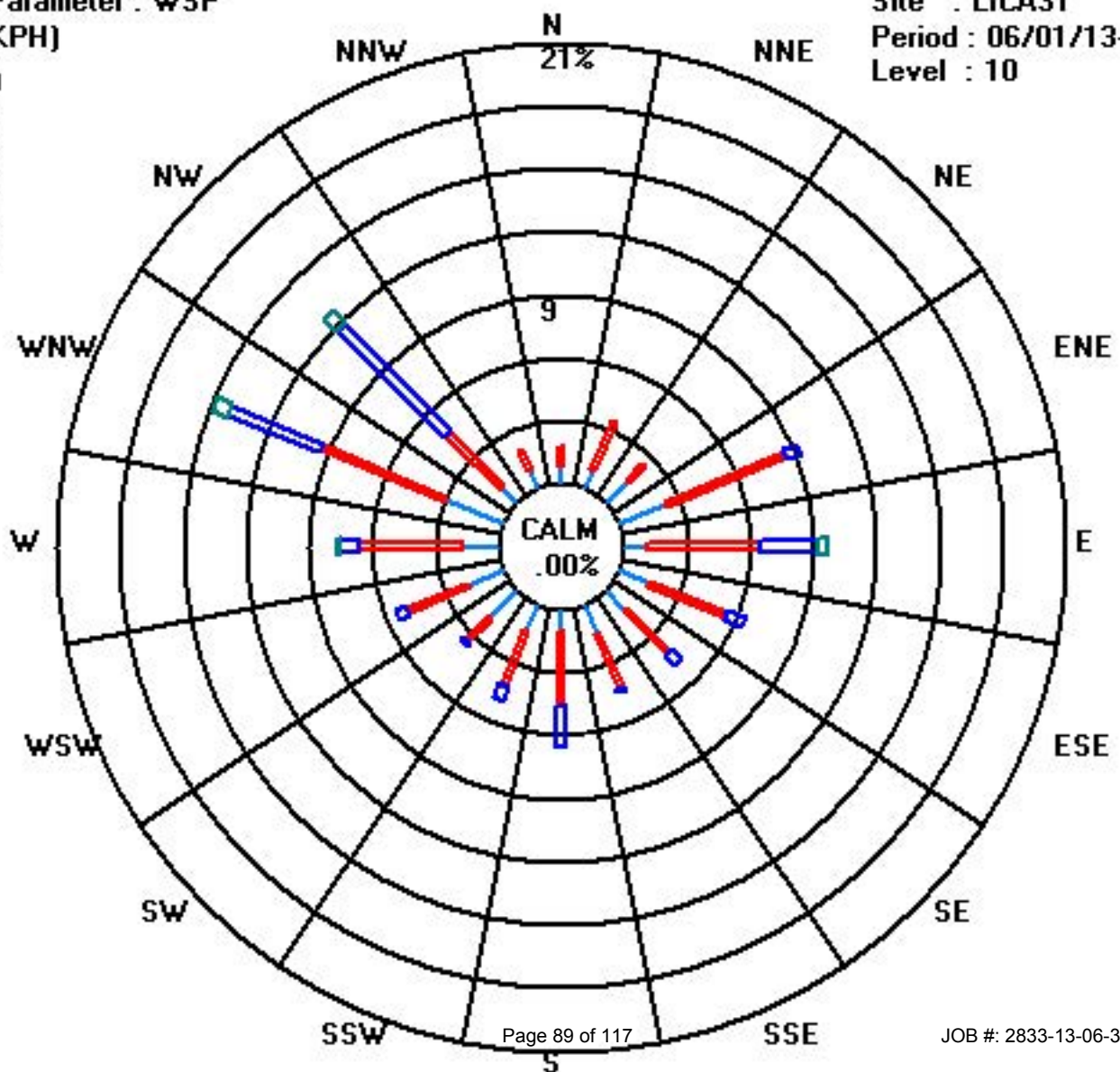
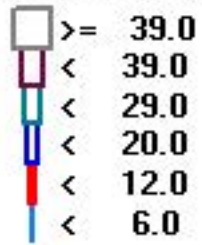
Calm : .00 %

Total # Operational Hours : 716

Class Limits (KPH)

Period : 06/01/13-06/30/13

Level : 10



# Vector Wind Direction

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -ST. LINA

JUNE 2013

## WIND DIRECTION 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	24:00	24-HOUR	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	AVG.	QUADRANT	RDGS.	
DAY																												
1	259	163	211	265	272	245	265	269	266	253	265	276	292	107	97	122	112	133	113	119	103	127	184	240	196	SSW	24	
2	285	271	75	76	74	71	74	109	105	108	105	99	106	117	137	155	188	283	306	331	352	20	22	34	75	ENE	24	
3	64	83	111	95	66	63	88	95	101	93	135	148	137	132	124	120	102	145	171	161	101	160	173	159	113	ESE	24	
4	243	270	211	277	303	310	327	301	266	256	250	212	203	205	203	213	217	202	206	202	194	189	186	199	225	SW	24	
5	206	197	195	194	187	189	191	189	185	192	188	181	191	189	189	182	184	284	291	302	319	323	276	253	207	SSW	24	
6	251	256	248	261	271	275	289	297	303	307	305	300	302	293	290	288	293	276	280	273	224	195	199	196	282	W	24	
7	185	181	326	229	70	71	89	105	94	93	118	167	183	146	132	133	125	133	149	151	157	179	216	289	143	SE	24	
8	319	308	302	290	283	288	299	299	312	303	293	290	291	308	288	295	317	313	320	312	319	305	312	306	303	WNW	24	
9	303	319	305	311	316	302	309	314	313	305	303	308	312	312	312	306	314	309	305	303	294	291	289	284	305	WNW	24	
10	277	288	290	289	293	301	305	306	305	305	308	308	311	306	311	308	305	304	298	296	296	295	299	308	300	WNW	24	
11	309	302	308	303	299	303	307	312	301	305	335	355	9	17	346	302	286	15	21	20	26	354	22	49	324	NW	24	
12	62	62	70	70	81	93	98	141	152	165	169	140	127	129	117	123	73	219	37	82	161	116	73	49	111	ESE	24	
13	354	67	47	276	283	302	307	341	P	P	P	P	248	272	293	291	290	278	127	143	165	210	231	225	274	W	20	
14	266	278	267	274	263	253	264	295	282	299	318	297	304	304	312	317	302	309	301	296	298	293	299	310	294	WNW	24	
15	309	302	309	315	311	313	310	310	309	307	308	311	316	319	315	317	316	321	335	344	352	20	32	24	319	NW	24	
16	8	350	349	12	27	33	43	26	27	26	27	40	57	64	177	217	244	249	289	294	291	283	261	281	2	N	24	
17	288	258	258	252	245	253	246	252	239	242	233	241	242	235	236	217	236	227	226	209	178	178	172	171	232	SW	24	
18	176	246	319	88	83	103	116	116	105	73	68	79	80	95	103	123	113	103	73	59	45	65	69	66	89	E	24	
19	67	66	63	61	70	65	69	69	74	85	80	85	85	89	87	90	102	95	92	84	69	58	62	58	78	ENE	24	
20	56	60	60	62	65	61	68	79	78	87	86	87	92	97	132	126	120	127	133	136	137	153	157	217	94	E	24	
21	359	13	18	23	20	18	31	53	92	81	74	82	91	98	84	89	106	119	108	111	86	78	66	71	79	ENE	24	
22	48	65	78	70	63	50	59	59	70	66	88	78	73	66	88	94	84	74	86	82	89	111	128	165	78	ENE	24	
23	215	282	325	36	37	45	54	42	70	45	71	111	98	85	342	306	300	310	302	287	329	332	348	332	4	N	24	
24	298	323	289	274	260	266	330	282	285	284	276	253	195	189	204	196	198	181	161	133	111	101	106	120	200	SSW	24	
25	123	132	143	142	105	90	87	91	89	92	86	100	82	67	74	87	82	89	100	97	136	154	145	150	101	E	24	
26	169	191	229	230	228	229	226	238	241	251	248	255	262	274	294	289	301	309	306	290	287	275	270	278	266	W	24	
27	281	286	274	265	279	326	303	253	273	265	268	306	285	293	305	297	294	273	262	258	243	255	294	277	280	W	24	
28	278	284	251	251	266	354	320	283	294	297	302	305	314	296	272	283	263	286	283	259	239	232	202	184	277	W	24	
29	184	190	188	184	188	193	198	197	187	185	167	167	172	165	164	171	170	165	163	156	145	147	10	13	172	S	24	
30	5	328	140	170	155	167	114	98	106	122	119	145	148	122	155	214	221	206	202	210	194	182	186	206	161	SSE	24	
HOURLY AVG	359	350	349	315	316	354	330	341	313	307	335	355	316	319	346	317	317	321	335	344	352	354	348	332				

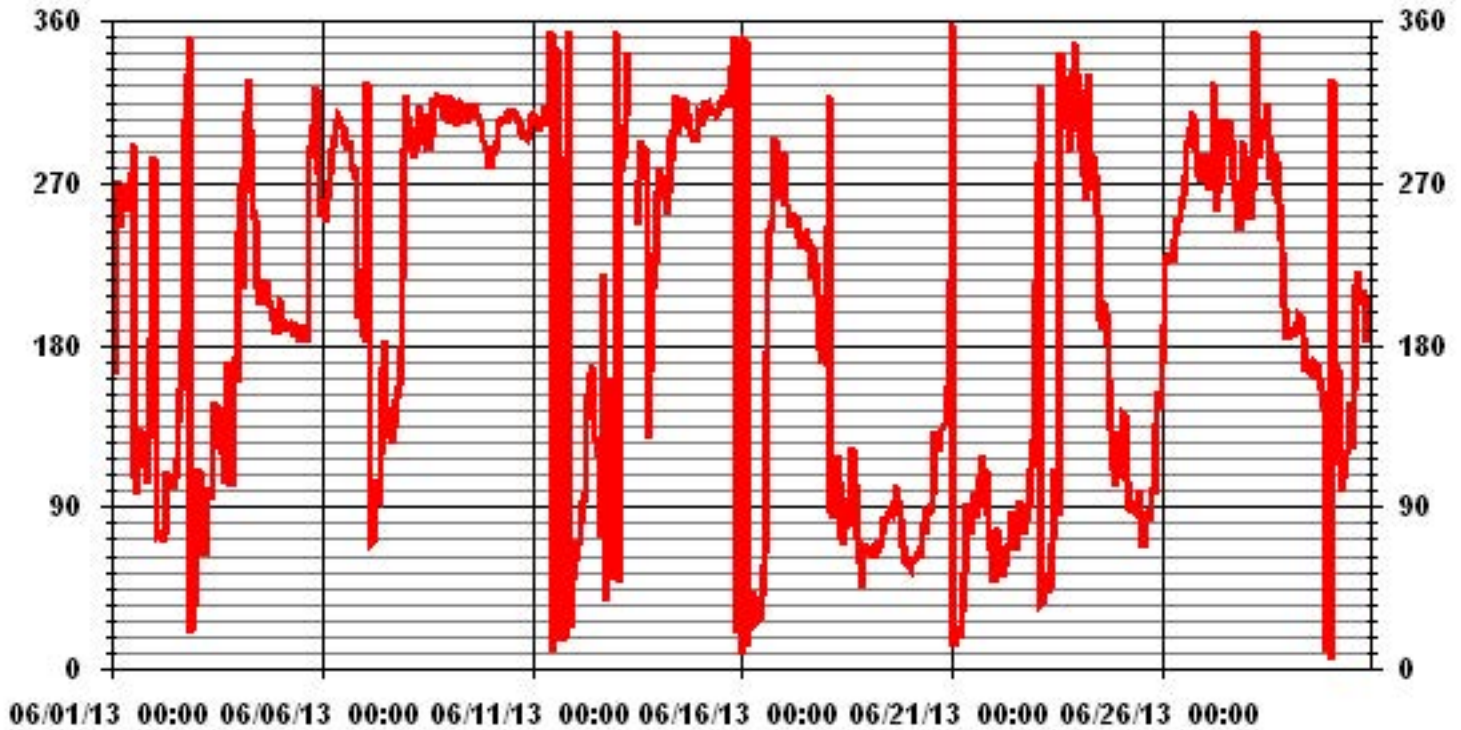
### STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- 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:	May 15, 2012
DECLINATION:	19 DEGREES FROM MAGNETIC NORTH

MONTHLY CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	716 HRS
STANDARD DEVIATION:	97.88	AMD OPERATION UPTIME:	99.4 %
		MONTHLY AVERAGE:	290 DEG

# 01 Hour Averages



# Standard Deviation Wind Direction

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST.LINA

JUNE 2013

## STANDARD DEVIATION WIND DIRECTION (STDWDIR) hourly averages in degrees

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00
DAY																								
1	28	16	15	6	53	44	13	14	16	15	32	29	35	23	24	44	29	53	20	15	18	12	14	17
2	29	28	14	12	14	18	19	22	25	18	22	27	24	21	26	29	27	18	18	19	16	17	15	14
3	8	11	14	13	11	14	19	24	24	25	28	32	37	42	51	41	39	44	33	12	15	8	8	20
4	18	13	21	10	13	14	20	33	24	19	39	30	26	28	26	24	26	21	16	11	10	9	13	
5	14	12	13	12	11	13	16	16	16	17	18	19	21	18	17	17	27	31	28	16	19	22	13	8
6	12	9	10	9	11	13	17	18	19	21	22	24	24	23	23	24	21	19	16	8	34	9	10	8
7	9	10	31	35	29	11	15	19	17	18	17	18	16	16	15	12	14	14	17	15	15	16	23	24
8	17	18	17	16	15	18	18	20	21	21	22	20	20	23	16	19	20	21	21	19	19	17	17	18
9	16	18	17	17	16	17	18	19	19	20	19	19	21	19	18	20	19	19	18	18	17	16	17	16
10	15	16	16	17	17	17	17	18	18	18	18	19	18	18	18	18	17	17	19	18	17	17	17	18
11	18	17	17	16	20	18	17	18	19	20	24	26	32	31	30	69	59	47	19	17	17	14	15	10
12	8	10	8	7	12	16	19	21	20	18	18	22	21	22	17	17	38	25	18	24	41	57	33	
13	22	11	18	7	13	16	18	22	<b>P</b>	<b>P</b>	<b>P</b>	<b>P</b>	29	14	17	44	27	64	18	15	11	10	11	10
14	9	11	8	9	8	10	14	19	28	25	39	30	25	29	19	23	20	20	17	16	16	15	15	16
15	16	17	17	18	18	18	17	17	17	18	18	17	18	18	17	18	18	18	20	21	20	27	22	18
16	20	19	20	19	18	22	33	24	23	23	26	30	26	38	31	24	25	21	20	13	11	9	6	8
17	10	4	23	6	10	5	20	17	22	22	22	22	23	26	25	38	24	24	22	12	7	7	5	8
18	10	27	44	50	17	24	26	24	23	26	26	26	22	23	22	17	17	17	14	14	14	13	14	14
19	16	16	15	16	16	17	19	20	20	19	22	21	21	21	20	22	20	20	20	17	15	16	17	16
20	15	16	15	17	16	18	18	21	20	20	20	20	20	19	17	16	17	18	17	17	14	11	10	9
21	26	13	15	14	15	24	23	29	26	24	25	23	26	24	23	22	20	18	19	18	20	16	16	16
22	15	18	19	20	21	21	21	23	28	28	27	29	33	21	21	22	23	27	24	21	12	6	9	10
23	10	10	10	8	11	19	31	28	49	28	24	40	28	21	22	21	27	36	18	54	19	13	10	11
24	11	17	15	26	10	12	23	22	23	42	50	53	33	30	29	26	31	24	20	13	11	12	12	12
25	15	14	16	15	17	15	18	19	20	20	19	19	18	18	19	17	19	18	20	19	18	18	16	16
26	15	14	17	19	22	23	25	18	17	12	12	12	12	15	18	18	19	19	18	17	15	12	9	9
27	10	11	14	9	12	13	20	14	19	19	21	26	24	23	23	20	20	17	15	8	7	9	12	10
28	7	8	7	6	6	24	28	19	24	26	31	31	<b>30</b>	<b>49</b>	57	52	29	22	15	6	7	14	10	8
29	6	8	8	7	7	9	16	19	18	16	20	20	18	20	20	20	18	18	17	15	13	14	50	65
30	29	23	31	14	16	16	21	23	17	19	24	25	48	71	36	42	33	37	35	21	12	7	7	8

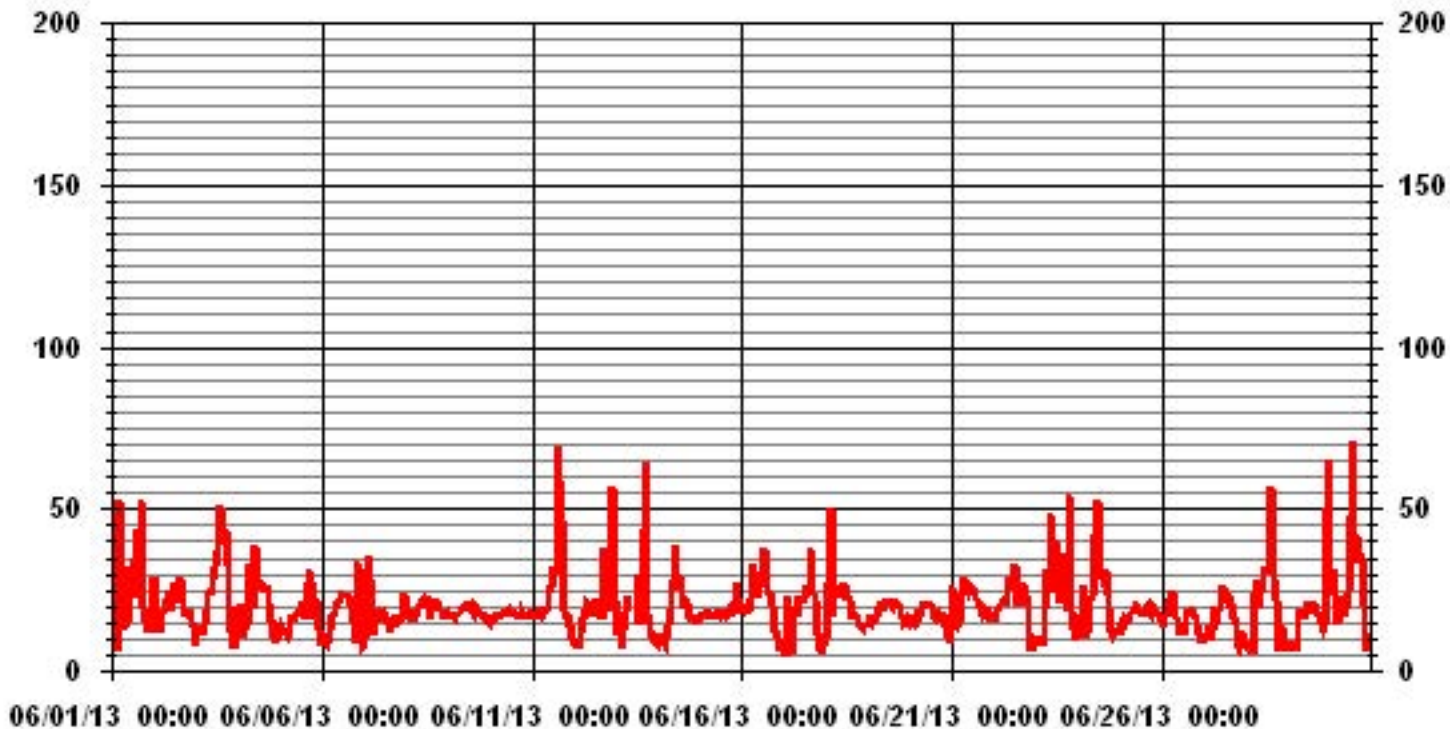
### STATUS FLAG CODES

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: June 12, 2012

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 716 HRS

### 01 Hour Averages





# Calibration Reports

# Sulphur Dioxide

### SO2 Calibration Report

#### Station Information

Calibration Date	June 20, 2013	Previous Calibration	May 3, 2013
Company	Lakeland Industry & Community Association		
Plant / Location	ST. LINA		
Start Time (MST)	9:15	End Time (MST)	12:30
Reason:	Monthly Calibration		
Barometric Pressure	27.59 atm	Station Temperature	22 Deg C
Cal Gas	49.6 ppm	Gas Cyl. #	BAL3031
DAS Output Voltage	0 - 1 Volts	Cal Gas Expiry date	29/12/2016
		Chart Rec. Output	NA Volts

#### Equipment Information

Analyzer Make / Model:	API 100E	S/N :	468	Method:	Fluorescent
Converter Make / Model:	NA	S/N :	NA		
Calibrator Make / Model:	Envionics 6100	S/N :	4760	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO717		
Chart Recorder Make / Model:	NA	S/N :	NA		
Flow Meter:	Envionics 6100	S/N :	4760		

#### Analyzer Settings

Before Calibration			After Calibration		
Concentration Range	0 - 1000 ppb				
Sample Flow / Box Temp	563 ccm	33.3 Deg C	562 ccm	36 Deg C	
HVPS / Lamp Setting	540	2112	540	2108	
PMT / RxCell Temp	7.8 Deg C	50 Deg C	7.8 Deg C	50 Deg C	
Converter / IZS Temp	NA Deg C	40 Deg C	NA Deg C	40.0 Deg C	
Offset / Slope	101.6	1.018	109.4	0.985	

#### Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	4	0.0000
5000	0	0	0	0.0000
4919	81.3	806	835	0.9656
4919	81.3	806	806	1.0000
4959	40.6	403	401	1.0044
4980	20.3	201	202	0.9969
5000	0	0	0	0.0000
Sum of Least Squares				1.0009
New Correction Factor				1.0000

#### IZS alibration Data

Before Calibration		After Calibration	
Auto Zero	0.0	Auto Zero	0.0
Auto Span	241.8	Auto Span	241.8
Sample Lines Connected		Sample Lines Connected	YES

#### Percent Change

Previous Month's Calibration Correction Factor:	0.9982
Current Correction Factor Before Span Adjust:	0.9656
Percent Change:	3.4%

#### Notes:

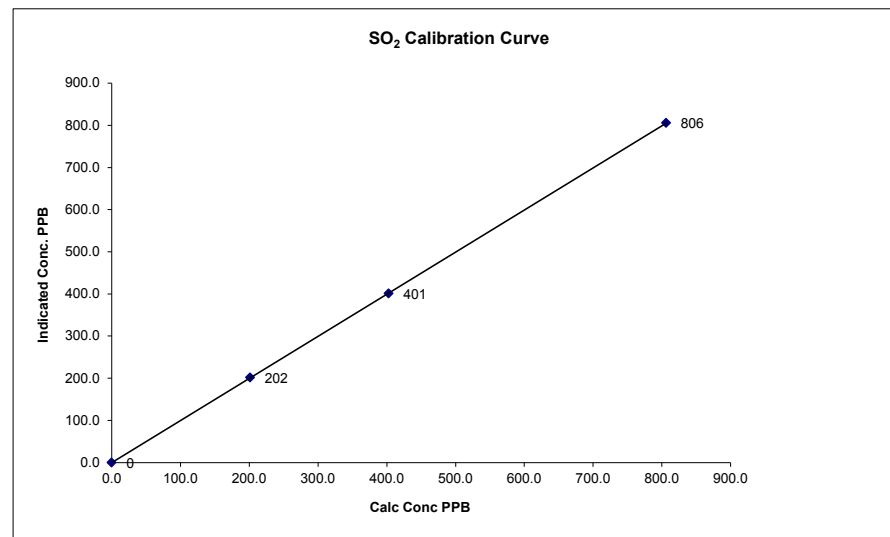
Change sample filter.

Calibration Performed by: Limin Li

### SO2 Calibration Curve

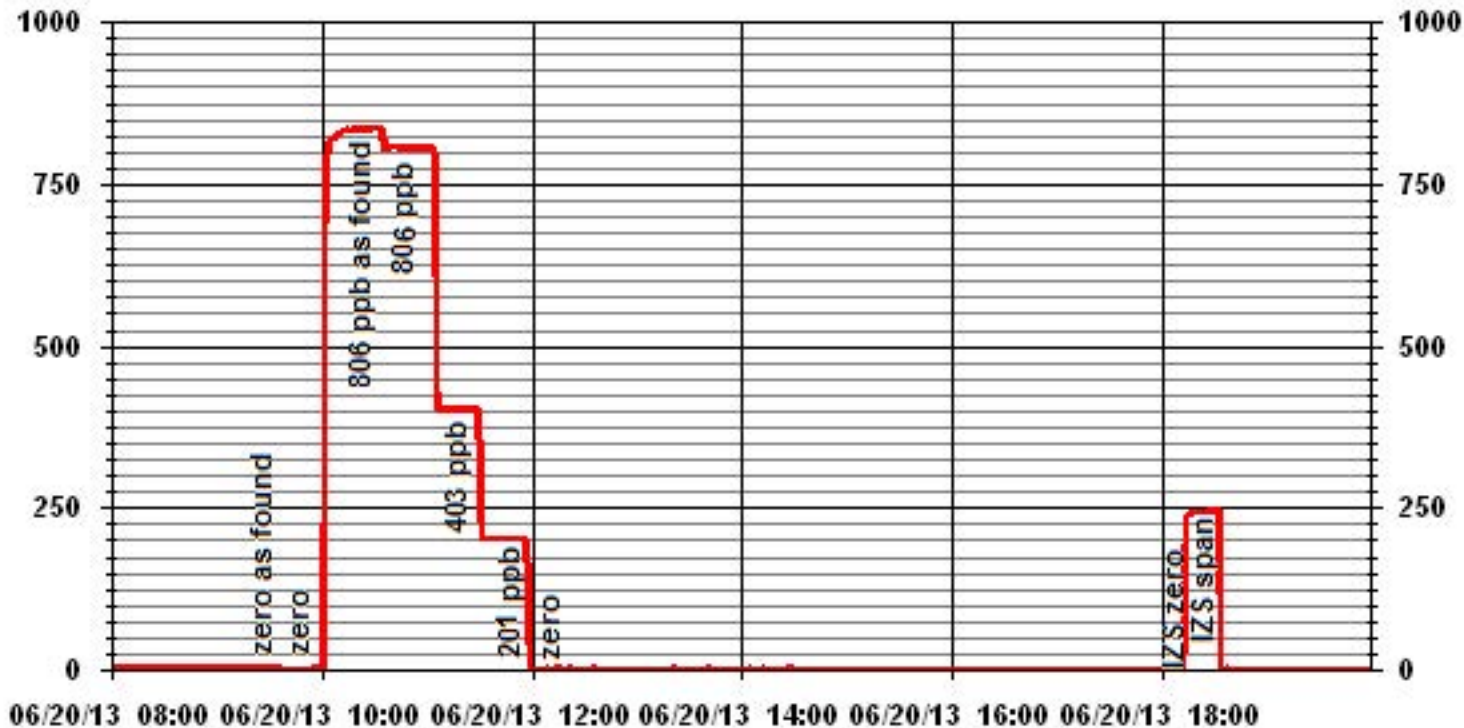
Calibration Date	June 20, 2013
Company	Lakeland Industry & Community Association
Plant / Location	ST. LINA
Start Time (MST)	9:15
End Time (MST)	12:30

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope Intercept	(≥ 0.995) (0.85 to 1.15) (± 3% F.S.)
0	0	n/a		0.999992
201	202	0.9969		0.999155
403	401	1.0044		-0.052349
806	806	1.0000		



#### Notes:

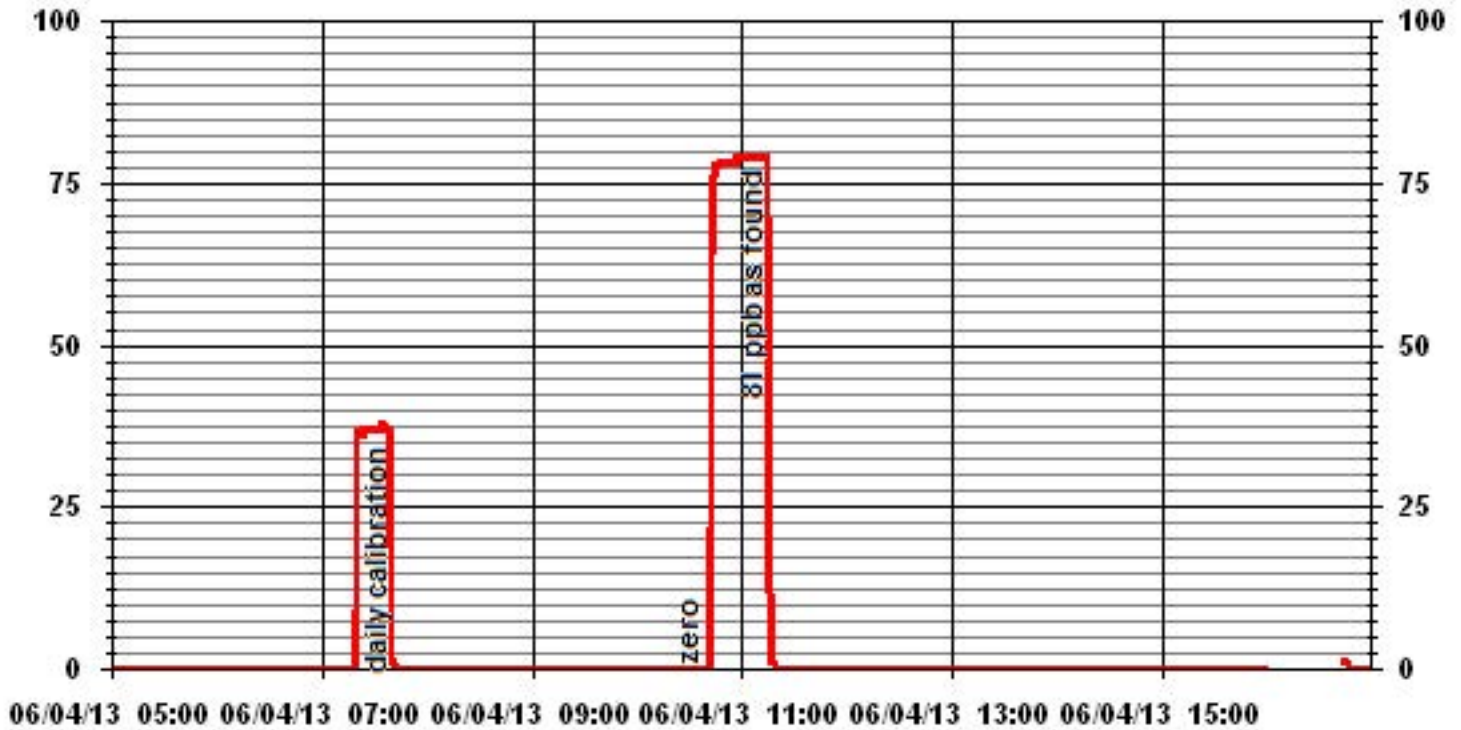
# 01 Minute Averages



# Hydrogen Sulphide



# 01 Minute Averages



## H2S Calibration Report

### Station Information

Calibration Date	June 20, 2013	Previous Calibration	May 14, 2013
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location	ST.LINA		
Start Time (MST)	9:15	End Time (MST)	12:20
Reason:	Monthly Calibration		
Barometric Pressure	27.59 inHG	Station Temperature	23 Deg C
Cal Gas	10.1 ppm	Gas Cyl. #	BLM00504
DAS Output Voltage	0 - 1 Volts	Cal Gas Expiry date	December 25, 2015
		Chart Rec. Output	NA Volts

### Equipment Information

Analyzer Make / Model:	API 101E	S/N :	510	Method:	Fluorescent
Converter Make / Model:	NA	S/N :	NA		
Calibrator Make / Model:	API 700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO717		
Chart Recorder Make / Model:	NA	S/N :	NA		
Flow Meter:	API 700	S/N :	831		

### Analyzer Settings

Before Calibration		After Calibration	
Concentration Range	0 - 100		
Sample Flow / Box Temp	529 ccm 37.2 Deg C	521 ccm 40.4 Deg C	
HVPS / Lamp Setting	526 2012(98.7%)	526 2009(98.6%)	
PMT / RxCell Temp	8.4 Deg C 50 Deg C	8.5 Deg C 50 Deg C	
Converter / IZS Temp	315.3 Deg C 45 Deg C	315.3 Deg C 45.0 Deg C	
Offset / Slope	107.4 1.078	112.8 1.07	

### Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	2	0.0000
5000	0	0	0	1.0000
4960	39.8	80	82	0.9805
4960	39.8	80	80	1.0000
4980	19.9	40	41	0.9805
4988	11.9	24	25	0.9615
5000	0	0	0	0.0000
Sum of Least Squares				0.9973
New Correction Factor				1.0000

### IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	38.5	38.5
Sample Lines Connected		YES

### Percent Change

Previous Month's Calibration Correction Factor:	1.0000
Current Correction Factor Before Span Adjust:	0.9805
Percent Change:	2.0%

#### Notes:

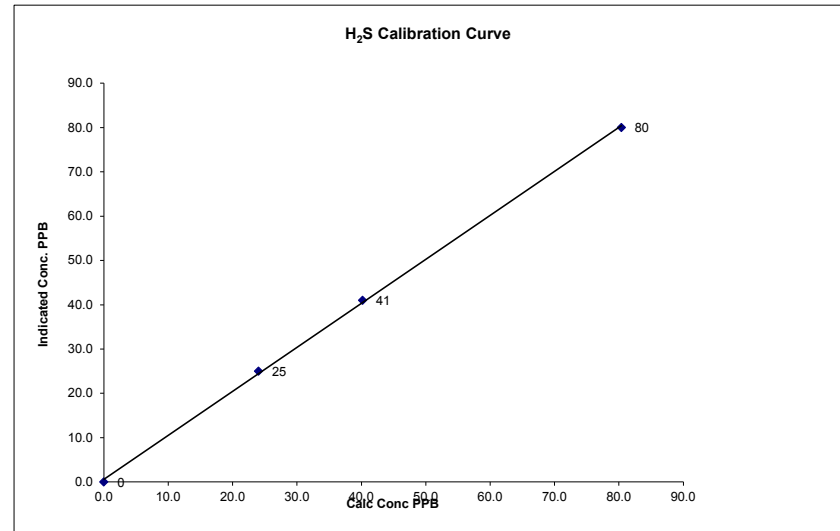
Change Sample filter.

Calibration Performed by: Limin Li

## H<sub>2</sub>S Calibration Curve

Calibration Date	June 20, 2013
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION
Plant / Location	ST.LINA
Start Time (MST)	9:15
End Time (MST)	12:20

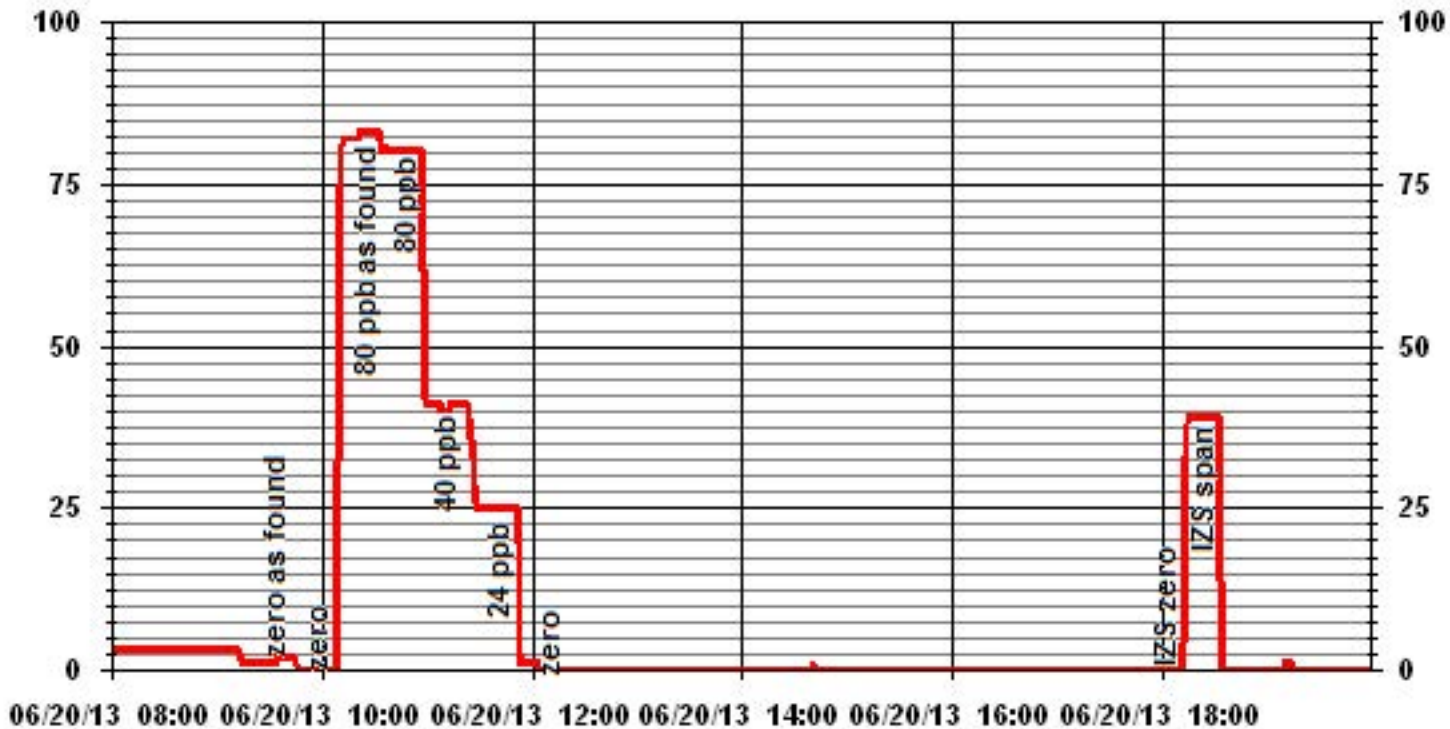
Calculated Conc. (ppb)	Indicated Response (ppb)	Correction Factor	Correlation Coefficient (Slope Intercept)	(≥ 0.995) (0.85 to 1.15) (± 3% F.S.)
0	0			0.999685
24	25	0.9615		0.992392
40	41	0.9805		0.615969
80	80	1.0050		



#### Notes:



# 01 Minute Averages



# Total Hydrocarbons

### THC Calibration Report

Station Information			
Calibration Date:	June 20, 2013	Previous Calibration	May 14, 2013
Company:	Lakeland Industry & Community Association		
Plant / Location:	ST. LINA		
Start Time (MST)	12:25	End Time (MST)	14:35
Reason:	Monthly calibration		
Barometric Pressure:	27.59 inHG	Station Temperature:	25 Deg C
Calibrator:	API 700	S/N:	831
Cal Gas Concentration:	CH4 600 PPM	C3H8 204 PPM	
	TOTAL CH4 1161.0 PPM	Gas Cyl. # LL155310	Cal Gas Expiry Date: Sep 9,2013
DAS make & Model:	ESC 8832	S/N :	AO 717
Chart Recorder:	NA	S/N:	NA
Output Voltage Range:	0 - 10 VDC	Chart Speed:	NA mm/hr

#### Analyzer Information

Make / Model	Thermo 51C-LT	S/N :	043669739	Method	Flame Ionization
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#### Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0 - 50	ppm	0 - 50	ppm
Sample Pressure	6.8	psi	6.8	psi
Hydrogen Pressure	9	psi	9	psi
Air Pressure	21	psi	21	psi

#### Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2000	0.0	0.0	-0.1	0.0000
	No Zero Adj.			
2000	73.8	41.3	41.4	0.9980
	No Span Adj.			
2000	36.8	21.0	20.7	1.0134
2000	20.0	11.5	11.4	1.0083
2000	0.0	0.0	0.0	0.0000
New Correction Factor:				0.9980

#### Percent Change

Previous Calibration Correction Factor:	1.0000
Current Correction Factor Before Span Adjust:	0.9980
Percent Change:	0.2%

#### IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	34.2	34.1
Sample Lines Connected		yes

Cylinder Pressures			
Span	850 psi	Hydrogen 800 psi	Zero Air 34 psi

Notes: **Change sample filter**

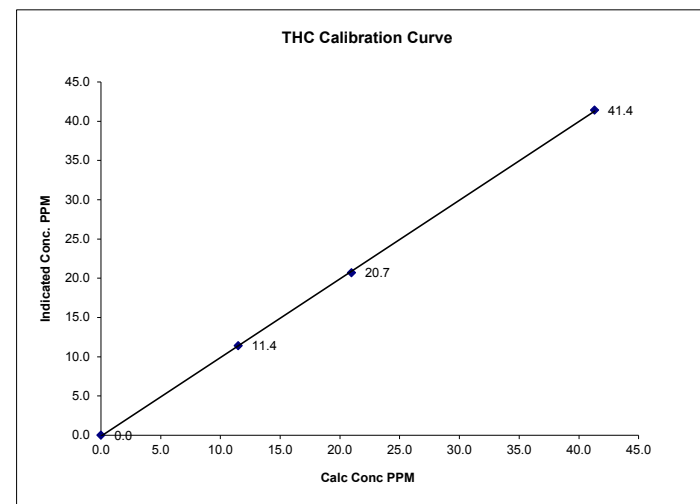
Spare	2 of H2	2 of Span
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Calibration Performed by: Limin Li

### THC Calibration Curve

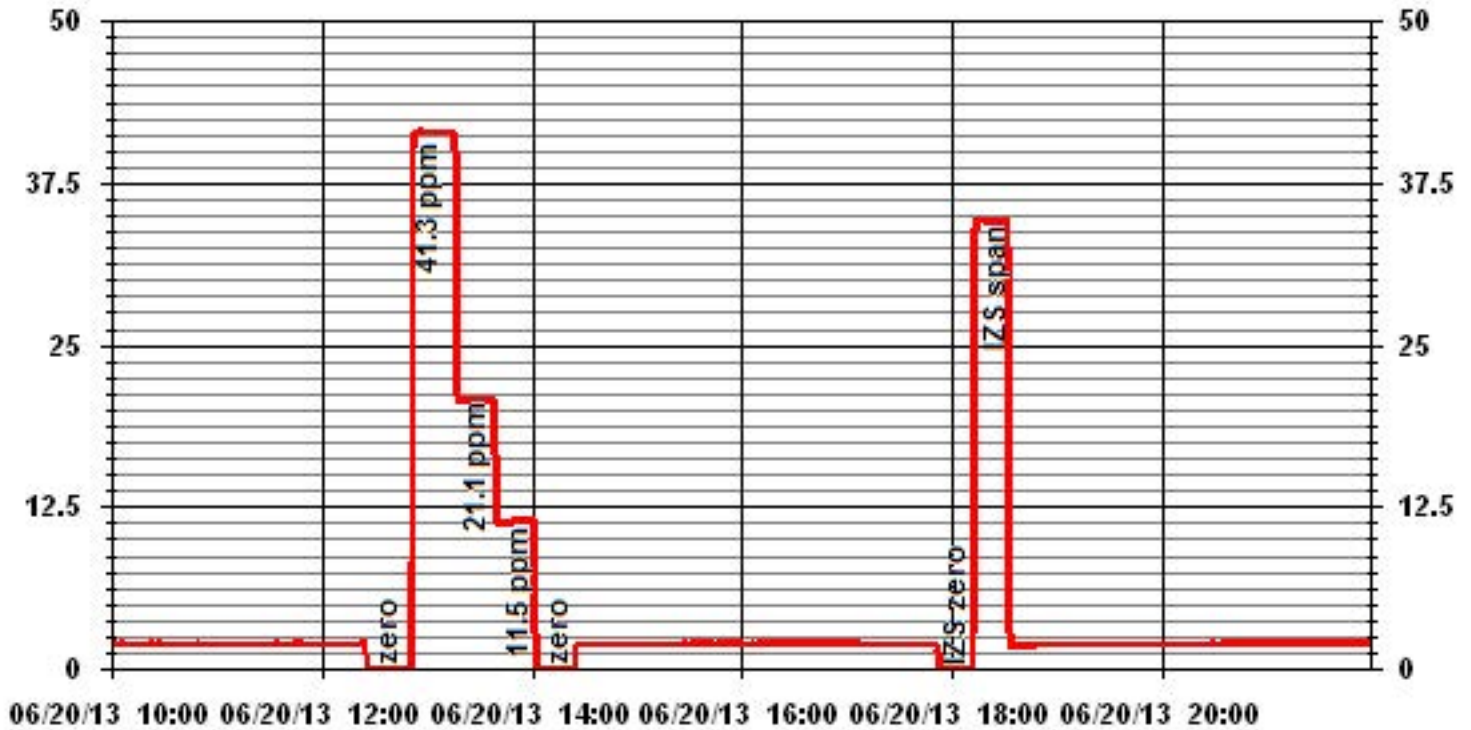
Calibration Date	June 20, 2013
Company	Lakeland Industry & Community Association
Plant / Location	ST. LINA
Start Time (MST)	12:25
End Time (MST)	14:35

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient (≥ 0.995)	Slope (0.85 to 1.15)	Intercept (± 3% F.S.)
0.0	0.0	0.0000	0.999926	1.002043	-0.10963
11.5	11.4	1.0083			
21.0	20.7	1.0134			
41.3	41.4	0.9980			



Notes:

# 01 Minute Averages



# Nitrogen Dioxide

**NOx - NO- NO2 Calibration Report**  
Station Information

Calibration Date	June 20, 2013	Previous Calibration	May 3, 2013
Company	LICA	Plant/Location	St. Lina
Start Time (MST)	9:15	End Time (MST)	14:50
Reason:	Monthly calibration		
Barometric Pressure	27.59 atm	Station Temperature	22 Deg C
Cal Gas Concentration	NOx 49.3 ppm	NO	49.2 ppm
Cal Gas Cylinder #	BAL3031	Cal Gas Expiry date	29/12/2016
DAS Output Voltage	0-1 Volts	Chart Rec. Output	N/A Volts

**Equipment Information**

Analyzer Make / Model:	API 200E	S/N :	592	Method:	Chemiluminescent
Calibrator Make / Model:	Enviro-nics 6100	S/N:	4760		
DAS Make / Model:	ESC 8832	S/N :	AO717		
Chart Recorder Make / Model:	N/A	S/N:	N/A		
Flow Meter:	Enviro-nics 6100	S/N :	4760		

**Analyzer Settings**

Before Calibration			After Calibration		
Concentration Range	0-1000		ppb		
Sample Flow/Conv. Temp	478 ccm	314 Deg C	473 ccm	315 Deg C	
Ozone Flow / Vacuum	74 ccm	6.3 "Hg-A	74 ccm	6.3 "Hg-A	
HVPS / A ZERO	637 Volts	18.1 MV	637 Volts	22.8 MV	
Rx/ Temp / PMT Temp	50.0 Deg C	6.9 Deg C	50.0 Deg C	6.9 Deg C	
Box Temp / IZS Temp	31.6 Deg C	45.1 Deg C	33.9 Deg C	45.2 Deg C	
Offset	0.8 NOx	-0.9 NO	-0.6 NOx	-1.0 NO	
Slope	1.223 NOx	1.215 NO	1.240 NOx	1.235 NO	
NO2 COEF / Conv Efficiency	N/A NO2	0.993	N/A NO2	0.993	

**Dilution Calibration Data**

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			Correction Factor	
			NOx	NO	NO2	NOx	NO	NO2	NOx	NO
5000	0.0	0	0	0	0	-1	-1	0	0	0
5000	0.0	0	0	0	0	0	0	0	0	0
4919	81.3	0	801	800	0	787	783	4	1.0170	1.0201
4919	81.3	0	801	800	0	801	800	1	1.0000	1.0000
4959	40.6	0	400	400	0	398	398	0	1.0034	1.0013
4980	20.3	0	200	200	0	201	201	0	0.9908	0.9888
5000	0.0	0	0	0	0	0	0	0	0.0000	0.0000

**Gas Phase Titration Calibration Data**

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			NO2 Correction Factor	NO2 Conv Efficiency
			NOx	NO	NO2	NOx	NO	NO2		
4919	81.3	0	801	800	0	798	797	1	0	0.00%
4919	81.3	600	801	0.0	509	799	289	510	0.9980	100.20%
4919	81.3	300	802	0.0	257	798	541	257	1.0000	100.00%
4919	81.3	120	801	0.0	103	799	695	104	0.9904	100.98%
4919	81.3	450	801	0.0	387	801	411	390	0.9923	100.78%

Linearity	Sum of Least Squares		NOx= 1.001	NO= 1.000	NO2= 0.994
OK?	Yes	No	Correction Factors: NOx= 1.0000	NO= 1.0000	NO2= 1.0000
			Average Converter Efficiency= 100.59%		

**IZS Calibration Data**

Before Calibration			After Calibration		
Auto Zero	0.0 NOx	0.0 NO2	0.0 NOx	0.0 NO2	
Auto Span	534.4 NOx	525.4 NO2	534.4 NOx	525.4 NO2	
	Sample Lines Connected		YES		

**Percent Change**

	NOx	NO	NO2
Previous Month's Calibration Correction Factor	1.000	0.998	1.002
Current Correction Factor Before Span Adjust	1.017	1.020	0.998
Percent Change	-1.7%	-2.2%	0.4%

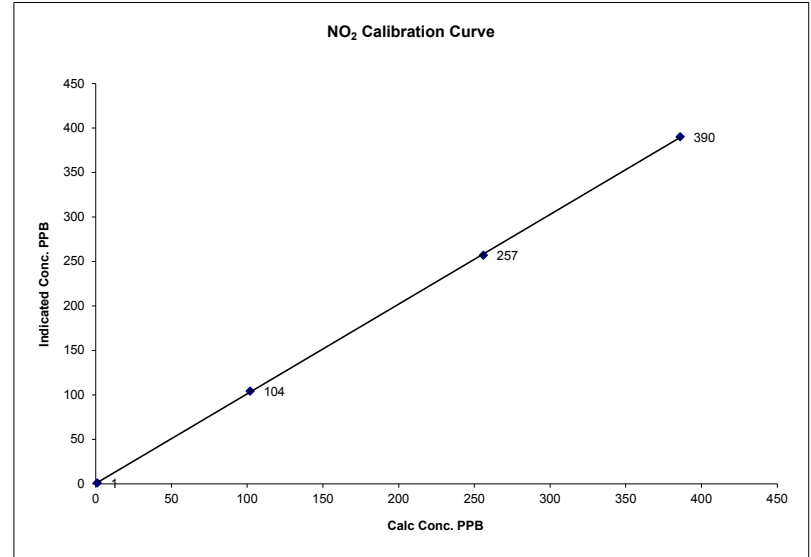
Notes: **Change sample filter.**

Calibration Performed by: Limin Li

**NO2 Calibration Curve**

Calibration Date	June 20, 2013
Company	LICA
Plant / Location	St. Lina
Start Time (MST)	9:15
End Time (MST)	14:50

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999965
1	1	0.0000	Intercept	(± 3% F.S.)	1.008125
386	390	0.9897			0.23665
102	104	0.9808			
256	257	0.9961			

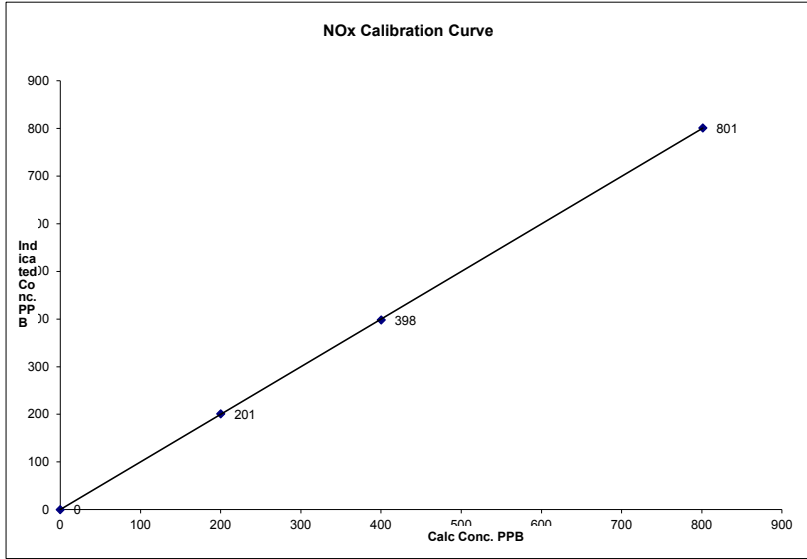


Notes:

**NOx Calibration Curve**

Calibration Date	June 20, 2013	
Company	LICA	
Plant / Location	St. Lina	
Start Time (MST)	9:15	End Time (MST) 14:50

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999986
0	0	0.0000	Slope (0.85 to 1.15)	0.998818
200	201	0.9908	Intercept (± 3% F.S.)	-0.05338
400	398	1.0034		
801	801	1.0000		

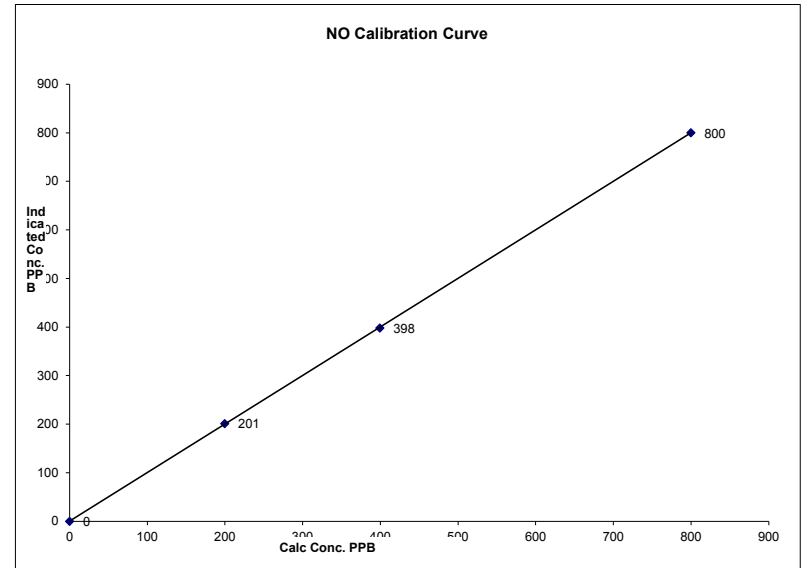


Notes:

**NO Calibration Curve**

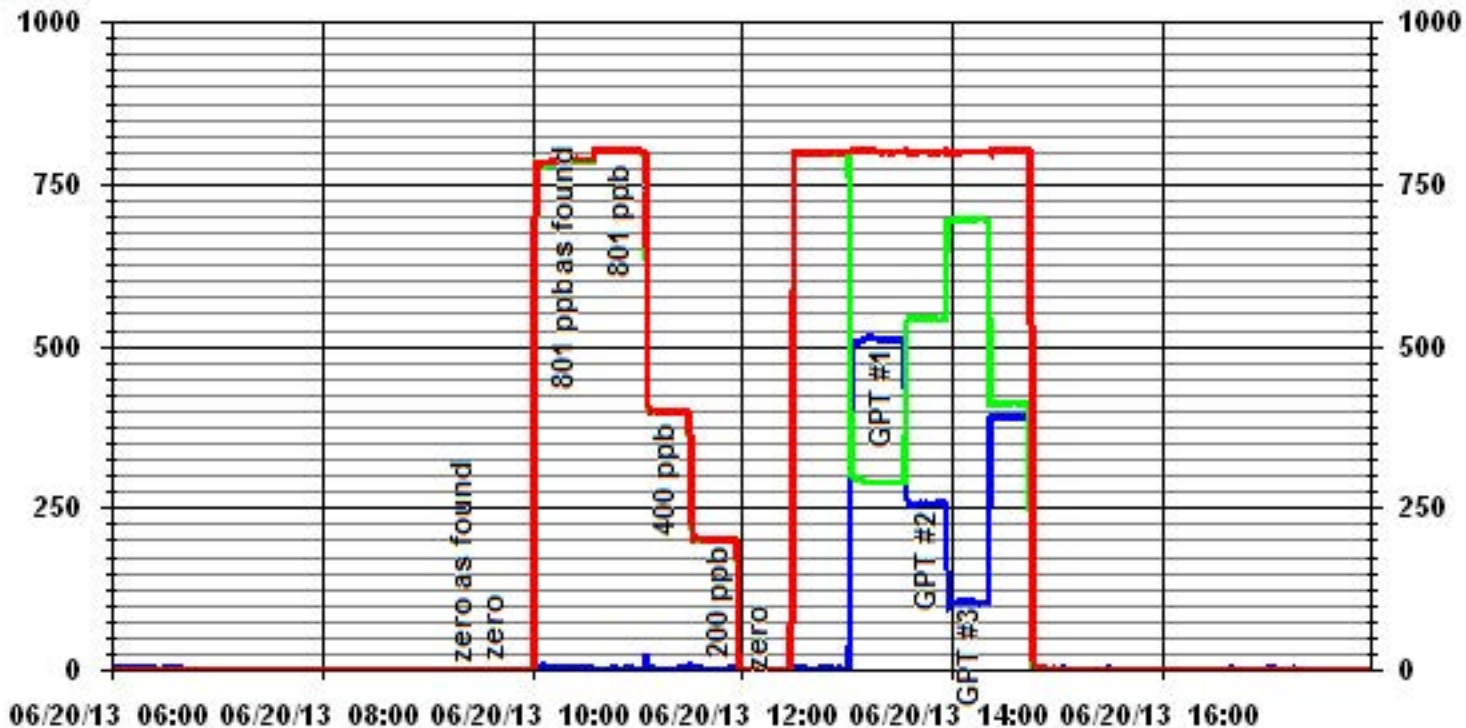
Calibration Date	June 20, 2013	
Company	LICA	
Plant / Location	St. Lina	
Start Time (MST)	9:15	End Time (MST) 14:50

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999989
0	0	0.0000	Slope (0.85 to 1.15)	0.999562
200	201	0.9888	Intercept (± 3% F.S.)	0.14655
400	398	1.0013		
800	800	1.0000		



Notes:

### 01 Minute Averages





# Ozone

**O<sub>3</sub> Calibration Report**  
**Station Information**

Calibration Date	June 20, 2013	Previous Calibration	May 14, 2013
Company	Lakeland Industry & Community Association		
Plant / Location	St. Lina		
Start Time (MST)	15:35	End Time (MST)	18:40
Reason:	Monthly Calibration		
Barometric Pressure	27.59 atm	Station Temperature	24 Deg C
DAS Output Voltage	0-10 Volts		

**Equipment Information**

Analyzer Make / Model:	Thermo 49i	S/N :	1002240371	Method:	Photometric
Calibrator Make / Model:	Envionics 6100	S/N :	4760	Method:	GPT
DAS Make / Model:	ESC 8832	S/N :	AO 717		

**Analyzer Settings**

Before Calibration				After Calibration			
Concentration Range	0-500			ppb			
Cell A Flow / Cell B Flow	724 LPM	706 LPM		735 LPM	712 LPM		
O <sub>3</sub> Set Level	663 mmHg			680 mmHg			
Bench Lamp	53.8 Deg C			53.6 Deg C			
O <sub>3</sub> Lamp / Box Temp	67.9 Deg	31 Deg C		67.7 Deg C	30.3 Deg C		
Offset / Slope	-1	0.986		-0.2	0.986		

**Calibration Data**

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4994	0	0	0	N/A
	No Zero Adj.			
4994	450	389	388	1.0026
	No Span Adj.			
4994	300	256	259	0.9884
4994	120	103	102	1.0098
4994	0	0	0	N/A
Sum of Least Squares				0.9988
New Correction Factor				1.0026

**IZS Calibration Data**

Before Calibration		After Calibration	
Auto Zero	0.0	Auto Zero	0.0
Auto Span	380	Auto Span	405
Sample Lines Connected		Yes	
Previous Calibration Correction Factor:		1.0000	
Current Correctio Factor Before Span Adjust:		1.0026	
Percent Change:		-0.3%	

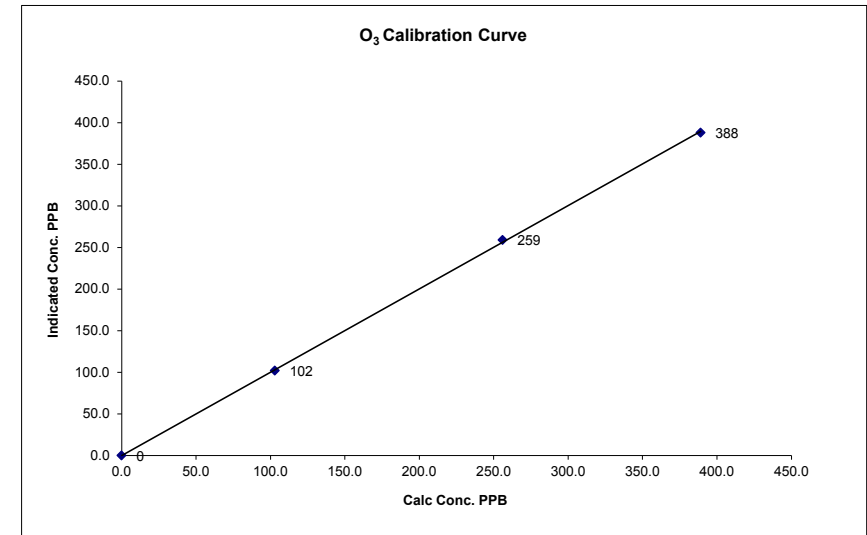
Note: N/A : Not Applicable  
Change sample filter.

Calibration Performed by: Limin Li

**O<sub>3</sub> Calibration Curve**

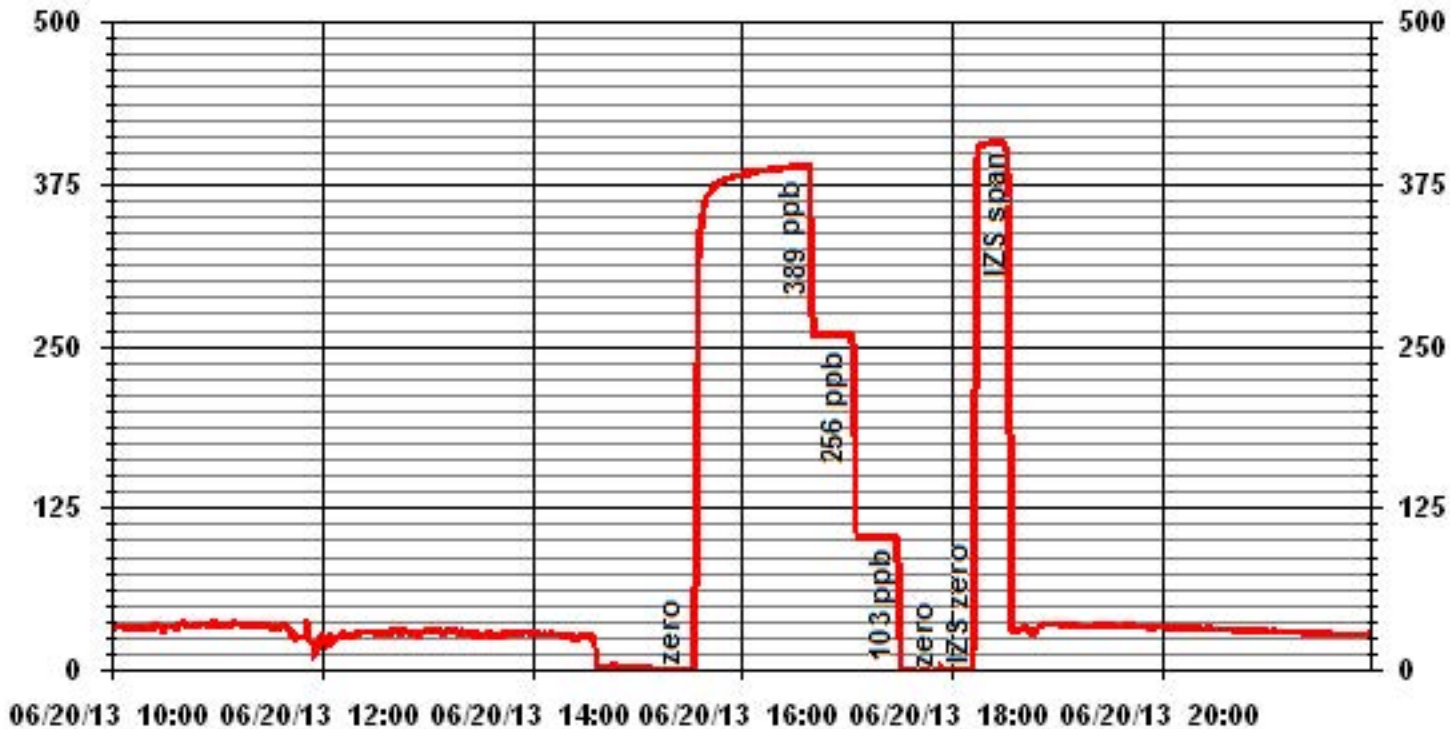
Calibration Date	June 20, 2013
Company	Lakeland Industry & Community Association
Plant / Location	St. Lina
Start Time (MST)	15:35
End Time (MST)	18:40

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	
0	0	N/A	Slope (0.85 to 1.15)	0.999879
103	102	1.0098	Intercept (± 3% F.S.)	1.001016
256	259	0.9884		0.059990
389	388	1.0026		



Notes:

# 01 Minute Averages



# Particulate Matter 2.5

**TEOMÒ 1405F Audit**

	<b><u>Station</u></b>		<b><u>Audit Transfer Standard</u></b>
Date:	June 20, 2013	Make/Model:	Streamline FTS
Station Name:	Lica St. Lina (CASA # 31)	Serial Number:	Hi 091001,Lo 091099
Location:	St. Lina Station	Cell s/n:	na
Operator:	LICA	Thermometer s/	Trailer weather station
	<b><u>Sampler</u></b>		<b><u>Set-up and current Sampler readings</u></b>
Make/Model	Thermo Scientific Series 1405F	F-Main Set Pt (l/min)	3.00
Unit #	NA	F-Aux Set Pt (l/min)	13.67
Unit s/n	1405A207691003	Filter Load (%)	41.3%
Firmware Ver.	1.55	K <sub>o</sub> Factor	15634.0
Parameter	PM 2.5 (with FDMS)	Temp (°C)	20.5
		Press (ATM)	0.929

**Conversion from mmHg or "Hg to ATM (Atmospheres)**

ATM = (mmHg) X (1.316 X 10<sup>-3</sup>) or ATM = ("Hg) X (3.34207 X 10<sup>-2</sup>)

**Note: Tolerances are noted as BOLD in Brackets**

**Audit**

<b>Status</b>			
Noise <0.10ug	0.004	Warnings	None
Pump Vacuum <0.4atm	0.29	Pump Gauge (inHg)	-19
<b>Temperature/Pressure</b>			
Measured Temp (± 2 °C)	20.96	D °C	-0.5
Measured Press (± 0.01atm)	0.926	DATM	0.003
<b>Flow Audit</b>			
Indicated Main Flow (l/min)	3.00	Main Flow Drift (±10.0%)	4.24%
Measured Main Flow (l/min)	3.13	Flow Adjusted to Measured?	YES
Indicated Bypass Flow (l/min)	13.67	Bypass Flow Drift (±10.0%)	0.59%
Measured Bypass Flow (l/min)	13.87	Flow Adjusted to Measured?	YES
<b>Leak Check</b>		<b>Instrument Setup</b>	
Main (< 0.15 l/min)	Base=-0.01 Ref=0.00	Flow Control = Active	
Aux (< 0.6 l/min)	Base=-0.00 Ref=0.00	Report Conditions = Actual	
<b>K<sub>o</sub> Factor</b>			
Measured	NA		
K <sub>o</sub> Difference (± 2.5%)	NA		

**Start Time:** 10:15      **Finish Time:** 10:50

**Sample Inlet Cleaned:** yes      **New Filters Installed:** yes

**New Filter Loading %:** 28.2%

**Comments:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Auditor/s:** Limin Li \_\_\_\_\_

**TEOMÒ 1405F Audit**

<b><u>Station</u></b>		<b><u>Audit Transfer Standard</u></b>	
Date:	June 28, 2013	Make/Model:	Streamline FTS
Station Name:	Lica St. Lina (CASA # 31)	Serial Number:	Hi 091001,Lo 091099
Location:	St. Lina Station	Cell s/n:	na
Operator:	LICA	Thermometer s/	Trailer weather station
<b><u>Sampler</u></b>		<b><u>Set-up and current Sampler readings</u></b>	
Make/Model	Thermo Scientific Series 1405F	F-Main Set Pt (l/min)	3.00
Unit #	NA	F-Aux Set Pt (l/min)	13.67
Unit s/n	1405A207691003	Filter Load (%)	22.7%
Firmware Ver.	1.55	K <sub>o</sub> Factor	15634.0
Parameter	PM 2.5 (with FDMS)	Temp (°C)	27.88
		Press (ATM)	0.934

**Conversion from mmHg or "Hg to ATM (Atmospheres)**

ATM = (mmHg) X (1.316 X 10<sup>-3</sup>) or ATM = ("Hg) X (3.34207 X 10<sup>-2</sup>)

**Note: Tolerances are noted as BOLD in Brackets**

**Audit**

<b>Status</b>			
Noise <0.10ug	0.004	Warnings	Inlet Temp differ>0.5C
Pump Vacuum <0.4atm	0.30	Pump Gauge (inHg)	-19
<b>Temperature/Pressure</b>		<b>D °C</b>	
Measured Temp (± 2 °C)	27.72		0.2
Measured Press (± 0.01atm)	0.932	<b>DATM</b>	0.002
<b>Flow Audit</b>			
Indicated Main Flow (l/min)	3.00	Main Flow Drift (±10.0%)	11.19%
Measured Main Flow (l/min)	3.10	Flow Adjusted to Measured?	YES
Indicated Bypass Flow (l/min)	13.67	Bypass Flow Drift (±10.0%)	0.15%
Measured Bypass Flow (l/min)	13.72	Flow Adjusted to Measured?	YES
<b>Leak Check</b>		<b>Instrument Setup</b>	
Main (< 0.15 l/min)	Base=NA Ref=NA	Flow Control = Active	
Aux (< 0.6 l/min)	Base=NA Ref=NA	Report Conditions = Actual	
<b>K<sub>o</sub> Factor</b>			
Measured	NA		
K <sub>o</sub> Difference (± 2.5%)	NA		

**Start Time:** 16:50      **Finish Time:** 17:15

**Sample Inlet Cleaned:** No      **New Filters Installed:** No  
**New Filter Loading %:** NA

**Comments:** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Auditor/s:** Waseem Ahmed

# Lakeland Industry & Community Association

Portable / Elk Point Airport Monitoring Site

Ambient Air Monitoring Data Report

For

June 2013

Prepared By:



July 31, 2013

# Lakeland Industry & Community Association Portable / Elk Point Airport Ambient Air Monitoring

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# Introduction

The following Ambient Air Monitoring report was prepared for:

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

Monitoring Location: Portable / Elk Point Airport  
Data Period: June 2013

The monthly ambient data report:

- Prepared by Lily Lin
- Reviewed by Lili Zhou

## Calibration Procedure

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

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

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

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

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

# MONTHLY CONTINUOUS DATA SUMMARY

## LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

### – PORTABLE – ELK POINT AIRPORT –

### Continuous Ambient Monitoring – June 2013

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PORTABLE / ELK POINT AIRPORT SITE						MAXIMUM VALUES							OPERATIONAL TIME (PERCENT)
						OBJECTIVES				EXCEEDENCES		MONTHLY AVERAGE	
PARAMETER	1-HR	24-HR	1-HR	24-HR	READING	DAY	HOUR	WIND SPEED (KPH)	WIND DIRECTION (DEGREES)	READING	DAY		
SO <sub>2</sub> (PPB)	172	48	0	0	0.02	2	1	VAR	VAR	VAR	0.6	1	97.1
H <sub>2</sub> S (PPB)	10	3	0	0	0.09	2	29, 30	7, 9	7.7, 8.4	119(ESE), 125(SE)	0.4	VAR	96.9
THC (PPM)	-	-	-	-	2.93	12.4	29	1	0.3	281(W)	4.6	29	100.0
THC (55i) (PPM)	-	-	-	-	2.69	10.83	13	3	1	193(S)	4.19	29	100.0
Methane (PPM)	-	-	-	-	2.64	10.38	13	3	1	193(S)	4.06	29	100.0
NMHC (PPM)	-	-	-	-	0.05	0.55	12	4	2.8	161(SSE)	0.13	29	100.0
NO <sub>2</sub> (PPB)	159	-	0	-	4.19	22.3	28	21	3.8	192(S)	7.8	28	100.0
NO (PPB)	-	-	-	-	1.12	18.4	12	5	2.5	83(E)	3.5	12	100.0
NO <sub>x</sub> (PPB)	-	-	-	-	5.30	34.2	28	2	6.6	297(WNW)	10.6	4	100.0
O <sub>3</sub> (PPB)	82	-	0	-	25.54	65	4	16, 17	14, 13.2	181(S), 179(S)	43.2	5	97.2
PM 2.5 (UG/M <sup>3</sup> )	-	30	-	0	9.13	50	24	9	3	230(SW)	24.5	27	85.4
VECTOR WS (KPH)	-	-	-	-	12.12	37.0	15	9	-	300(WNW)	28.9	9	100.0
VECTOR WD (DEGREES)	-	-	-	-	300(WNW)	-	-	-	-	-	-	-	100.0

VAR-VARIOUS

# General Monthly Summary

## Equipment Operation

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

### AQM STATION – LICA – PORTABLE

#### Sulphur Dioxide (PPB)

- Analyzer make / model – API 100E, S/N: 467

The monthly calibration was performed on June 14<sup>th</sup>. The inlet filter was changed before the month calibration was started. The AC unit failed causing the shelter temperature to go high on June 26<sup>th</sup>. It led the analyzer to malfunction on June 26<sup>th</sup> at hour 17. The AC unit was reset and time was allowed for the shelter temperature to go back to normal on June 27<sup>th</sup>. An as found points check was performed on June 27<sup>th</sup> at hour 13. The result was within the acceptable range. The sample pump was rebuilt following the as found points check. A daily zero/span check was run following the pump rebuilt. Twenty one hours of data were invalidated due to this event. Data was corrected using daily zero information.

#### Hydrogen Sulphide (PPB)

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

The monthly calibration was performed on June 7<sup>th</sup>. The inlet filter was changed before the month calibration was started. The AC unit failed causing the shelter temperature to go high on June 26<sup>th</sup>. It led the analyzer to malfunction on June 26<sup>th</sup> at hour 17. The AC unit was reset and time was allowed for the shelter temperature to go back to normal on June 27<sup>th</sup>. An as found points check was performed on June 27<sup>th</sup> at hour 13. The result was within the acceptable range. Nineteen hours of data were invalidated due to this event. Data was corrected using daily zero information.

# General Monthly Summary

## AQM STATION – LICA – PORTABLE

### Nitrogen Dioxide (PPB)

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

The analyzer was working well throughout the month. Following the as found points check on June 7<sup>th</sup>, the scrubber inline exhaust disp was replaced. A 3-point calibration was performed following the part replacement. The inlet filter was changed before the as found points check was started. An as found points check was performed on June 27<sup>th</sup> at hour 13 to verify the analyzer's functionality. The result was within the acceptable range. Data was corrected using daily zero information.

### Ozone (PPB)

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

The monthly calibration was performed on June 10<sup>th</sup>. The inlet filter was changed before the month calibration was started. The analyzer spanned high on June 13<sup>th</sup>. The as found points check was performed on June 18<sup>th</sup>. The result was within the acceptable range. Following the as found points check, the zero/span pump was rebuilt. A daily zero/span check was run following the pump rebuilt. No data was invalidated due to this event. The AC unit failed causing the shelter temperature to go high on June 26<sup>th</sup>. It led the analyzer to malfunction on June 26<sup>th</sup> at hour 17. The AC unit was reset and time was allowed for the shelter temperature to go back to normal on June 27<sup>th</sup>. An as found points check was performed on June 27<sup>th</sup> at hour 13. The result was within the acceptable range. Twenty hours of data were invalidated due to this event. Data was corrected using daily zero information.

### THC (PPM)

- Analyzer make / model –Thermo 51C, S/N: 77021-384

No operational issues were observed during the month. Following the as found points check on June 10<sup>th</sup>, the H2 gas cylinder was replaced. A 3- point calibration was performed following the cylinder replacement. The inlet filter was changed before the as found points check. The maximum data collected on June 29<sup>th</sup> at hour 1 went above the full scale. The real reading for the hour was likely higher than indicated. Data was corrected using daily zero information.

# General Monthly Summary

## AQM STATION – LICA – PORTABLE

### THC 55i (PPM)

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

No operational issues were observed during the month. Following the as found points check on June 10<sup>th</sup>, both the N2 and CH4 gas cylinders were replaced. The inlet filter was changed before the as found points check was started. The 3-point calibration was performed following the cylinder replacement. The calibration passed the AESRD requirements. However, it appeared the analyzer had a linearity issue during the third span point. The calibration was repeated using a different calibration on June 14<sup>th</sup>. The analyzer responded well with no issue. The maximum hourly data collected on June 24<sup>th</sup> at hour 10 was invalidated as not 100% of the data for the hour was collected: reason unknown. Data was corrected using daily zero information.

Below are the canister events occurring in June; a total of nine canisters were collected.

Date	Time	Concentration	Date	Time	Concentration
06/03/2013	23:05	0.19	06/16/2013	20:20	0.21
06/04/2013	19:55	0.20	06/18/2013	21:45	0.17
06/06/2013	21:00	0.15	06/26/2013	02:35	0.20
06/07/2013	20:50	0.15	06/30/2013	00:25	0.18
06/11/2013	20:15	0.32			

### Particulate Matter 2.5 (ug/m<sup>3</sup>)

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

Routine Teom audits were performed on June 7<sup>th</sup> and June 27<sup>th</sup>. After the maintenance performed on June 27<sup>th</sup>, the Teom unit appeared a warning of “Temp/RH sensor not detected”. Troubleshooting was performed on June 27<sup>th</sup>. However, as the spare Temp/RH sensor was not available, the PM2.5 channel was put into the Maintenance mode. 82 hours of data were invalidated due to this event. Data was corrected using Alberta air quality guideline for PM2.5 analyzer. If the data was between 0 to -3, the data was corrected to 0. If the data was below -3, the data was invalidated. Twenty-three hours of data were invalidated as the data were below -3 ug/m3. The total operational uptime was 85.4% this month.

# General Monthly Summary

## AQM STATION – LICA – PORTABLE

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

- System make / model –RM Young 5103VK, S/N: 43708

The wind system is reported as vector wind speed and vector wind direction. The most recent wind system calibration was done on November 24, 2011.

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 June 18<sup>th</sup>.

# Continuous Monitoring



# Monthly Summaries, Graphs & Wind Roses

# Sulphur Dioxide

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

JUNE 2013

## SULPHUR DIOXIDE (SO<sub>2</sub>) 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	2	2	2	1	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.6	24																					
2	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24																					
3	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24																					
4	0	0	0	0	0	0	0	0	S	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24																					
5	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24																					
6	0	0	0	0	0	0	S	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	S	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	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																					
9	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24																					
10	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24																					
11	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24																					
12	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0.0	24																					
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0.0	24																					
14	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	C	0	0	0	0	0	S	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	S	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	S	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	S	0	0	0	0	0	0	0	0.0	24																					
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0.0	24																					
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.0	24																					
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	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	S	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	S	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	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24																					
24	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24																					
25	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24																					
26	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	1	X	X	X	X	X	X	X	X	1	0.1	17																						
27	X	X	X	X	X	X	X	X	X	X	X	X	X	C	C	Y	S	S	0	0	0	0	0	0	0	0	0.0	10																					
28	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24																					
29	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24																					
30	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24																					
HOURLY MAX	1	1	1	1	1	1	2	2	2	1	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	0.0	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	0.0	0.0	0.0	0.0																							

### STATUS FLAG CODES

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

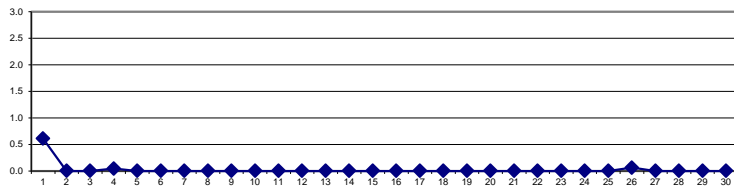
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT:	1-HR	172	PPB	24-HR	48	PPB
----------------------	------	-----	-----	-------	----	-----

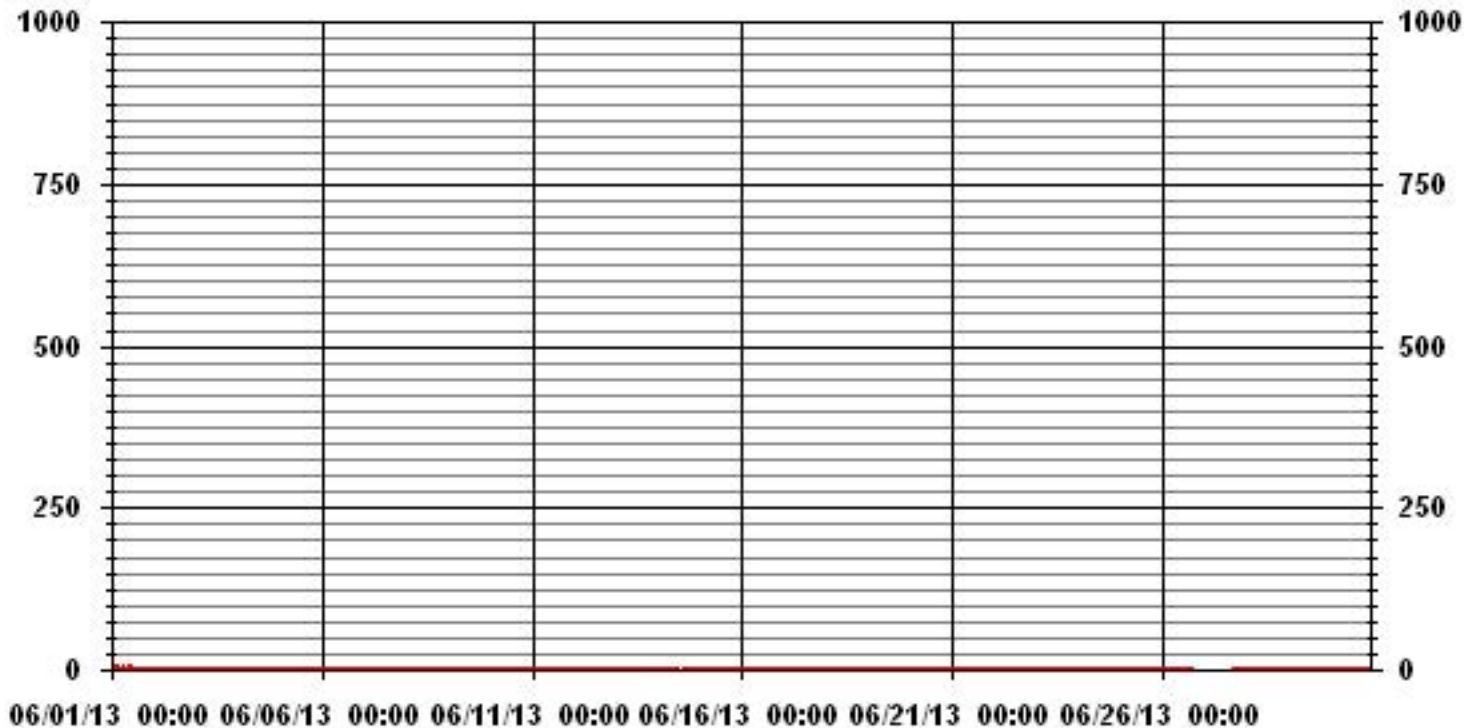
### MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	13					
MAXIMUM 1-HR AVERAGE:	2	PPB	@ HOUR(S)	VAR	ON DAY(S)	1
MAXIMUM 24-HR AVERAGE:	0.6	PPB			ON DAY(S)	1
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	699	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	97.1	%	
STANDARD DEVIATION:	0.18		MONTHLY AVERAGE:	0.02	PPB	

24 HOUR AVERAGES FOR JUNE 2013



### 01 Hour Averages



# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE - Elk Point Airport

JUNE 2013

## SULPHUR DIOXIDE MAX instantaneous maximum in ppb

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR START	HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																													
1		3	3	3	3	2	3	4	3	3	2	2	S	0	0	1	0	0	1	1	1	1	1	1	1	1	4	1.7	24
2		1	1	1	1	1	1	1	1	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4	24
3		0	0	0	0	0	0	0	0	0	0	S	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0.5	24
4		1	1	1	1	1	1	1	1	S	0	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.0	24
5		1	1	1	1	1	1	2	S	0	1	0	0	0	1	1	1	0	1	1	1	1	1	1	1	1	2	0.8	24
6		1	1	1	1	1	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24
7		0	0	0	0	0	S	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
8		0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.0	24
9		0	0	0	S	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.1	24
10		1	1	S	1	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24
11		0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
12		S	0	1	0	1	1	1	2	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	S	2	1.0	24
13		0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	S	1	1	0.2	24
14		1	0	1	1	1	1	1	1	1	1	1	C	C	C	C	C	0	0	0	0	0	0	S	0	0	1	0.6	24
15		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	1	1	0.1	24
16		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	S	1	1	1	1	1	1.0	24
17		1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	S	0	0	1	0	1	2	0.9	24	
18		0	0	0	0	1	1	0	0	0	0	Y	Y	0	0	3	1	0	S	0	0	1	1	1	0	3	0.4	22	
19		0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	S	0	0	0	2	1	1	0	2	0.3	24	
20		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	S	0	0	0	0	0	0	0	0	1	0.0	24	
21		0	0	1	0	0	0	0	0	0	0	0	0	1	1	S	0	0	0	0	0	0	0	0	0	1	0.1	24	
22		1	0	0	1	1	0	0	1	1	1	1	1	1	S	0	0	0	0	0	0	0	0	0	0	1	0.4	24	
23		0	1	0	0	0	1	0	0	1	0	0	1	S	0	0	0	0	1	1	1	0	1	1	1	1	1	0.4	24
24		1	1	1	1	1	1	1	1	1	1	1	S	0	0	0	0	0	0	0	0	0	0	0	0	1	0.5	24	
25		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	
26		0	0	0	0	0	1	1	1	S	0	0	0	0	0	1	2	X	X	X	X	X	X	X	X	2	0.4	17	
27		X	X	X	X	X	X	X	X	X	X	X	X	C	C	Y	S	S	0	0	0	0	0	0	0	0	0	0.0	10
28		0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
29		0	0	1	0	1	0	S	0	0	0	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0.5	24
30		1	0	0	0	0	S	0	1	1	0	1	1	1	2	1	1	1	0	1	1	1	1	0	2	0.7	24		
HOURLY MAX		3	3	3	3	2	3	4	3	3	2	2	2	1	2	3	1	2	1	1	1	2	1	1	1	1	2		
HOURLY AVG		0.5	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.5	0.4	0.4	0.4	0.3	0.3	0.5	0.4	0.3	0.4	0.3	0.3	0.4	0.5	0.4	0.4	0.4			

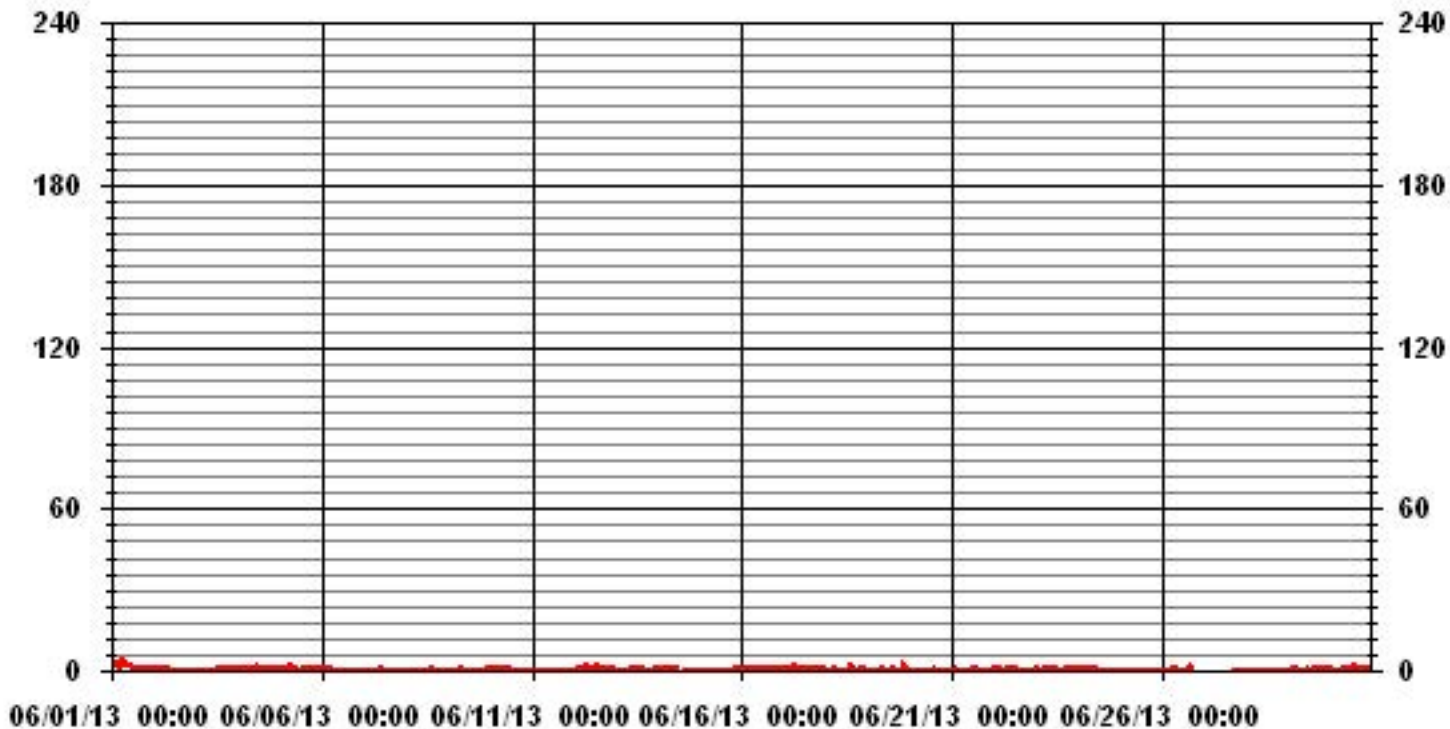
### STATUS FLAG CODES

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

### MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	254					
MAXIMUM INSTANTANEOUS VALUE:	4	PPB	@ HOUR(S)	6	ON DAY(S)	1
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	697	HRS	
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION:	0.61					

### 01 Hour Averages



LICA-ELK  
 SO2\_ / WDR Joint Frequency Distribution (Percent)

June 2013

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	2.57	2.26	4.99	9.07	11.34	9.98	4.68	3.02	4.84	2.72	2.26	5.90	7.86	17.09	8.77	2.57	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	2.57	2.26	4.99	9.07	11.34	9.98	4.68	3.02	4.84	2.72	2.26	5.90	7.86	17.09	8.77	2.57	

Calm : .00 %

Total # Operational Hours : 661

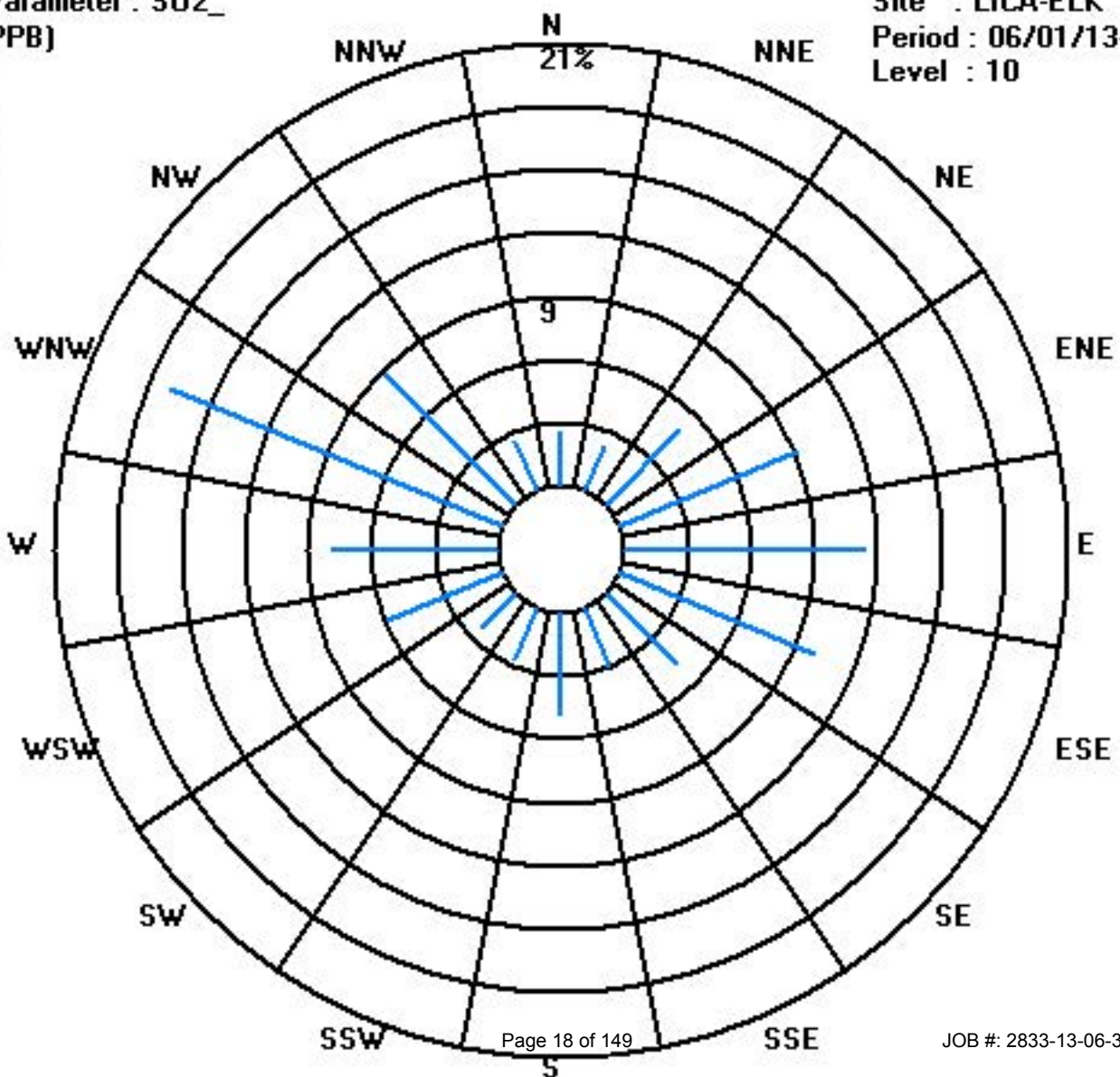
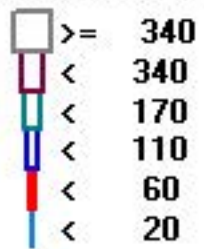
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	17	15	33	60	75	66	31	20	32	18	15	39	52	113	58	17	661
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	17	15	33	60	75	66	31	20	32	18	15	39	52	113	58	17	

Calm : .00 %

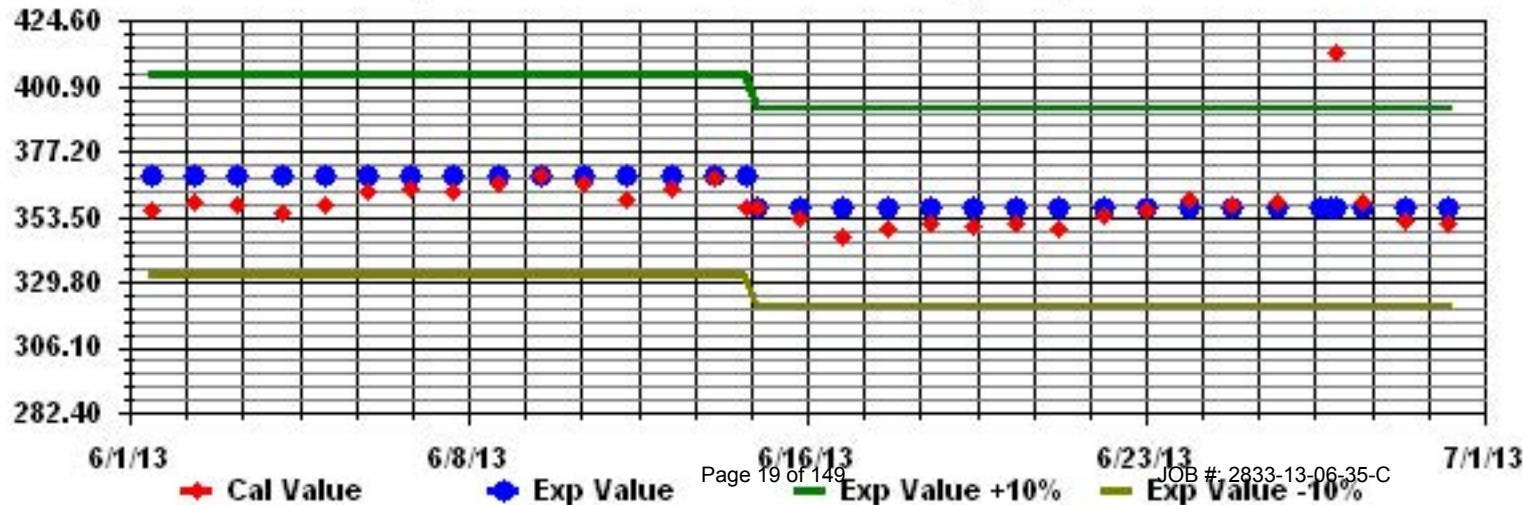
Total # Operational Hours : 661

Class Limits (PPB)





Calibration Graph for Site: LICA35 Parameter: S02\_ Sequence: S02 Phase: SPAN



# Hydrogen Sulphide

## LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE - Elk Point Airport

JUNE 2013

### HYDROGEN SULPHIDE (H<sub>2</sub>S) hourly averages in ppb

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

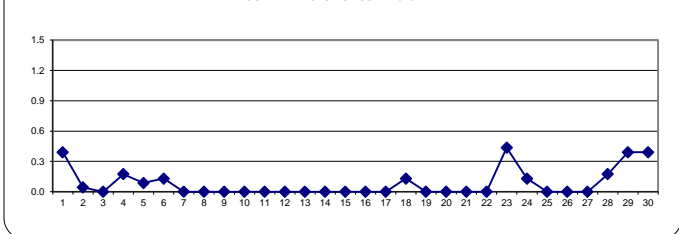
#### OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT:	1-HR	10	PPB	24-HR	3	PPB
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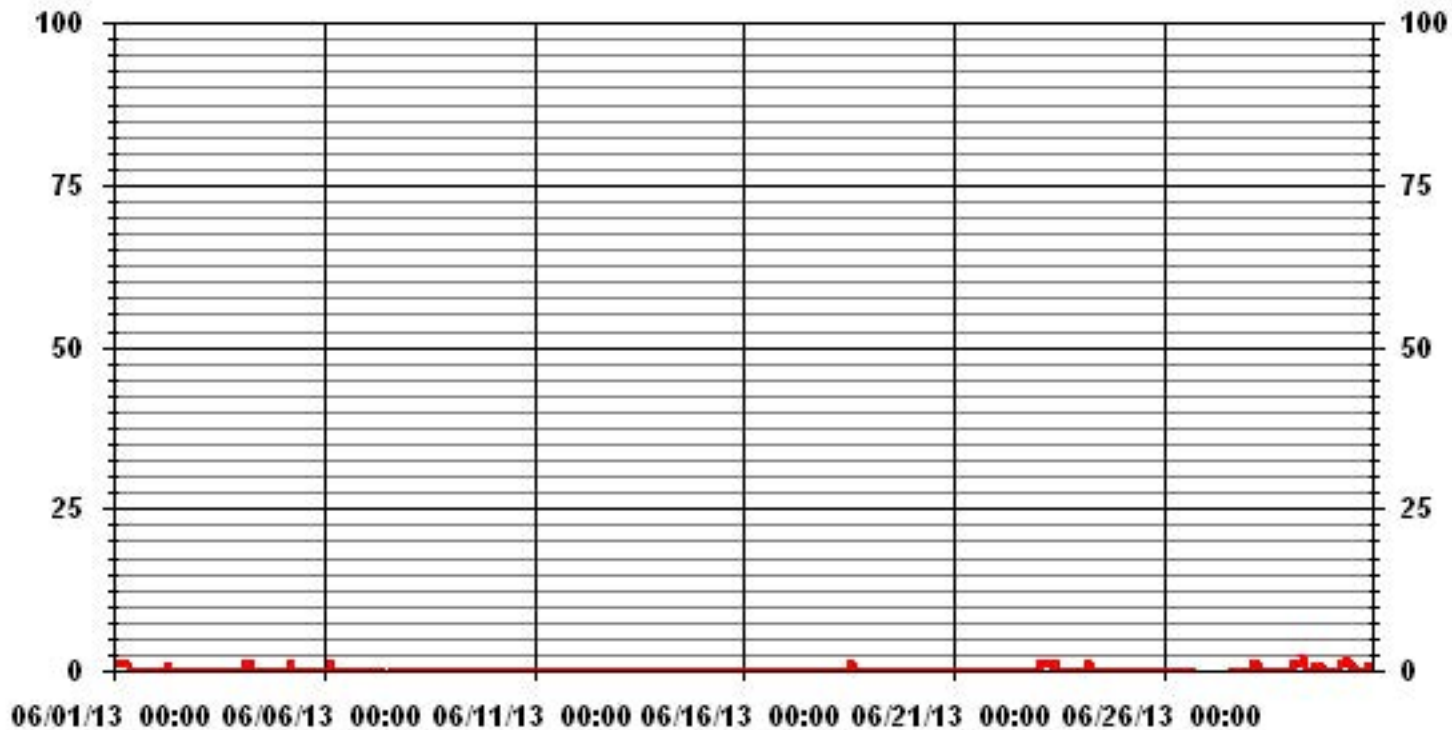
#### MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	55					
MAXIMUM 1-HR AVERAGE:	2	PPB	@ HOUR(S)	7, 9	ON DAY(S)	29, 30
MAXIMUM 24-HR AVERAGE:	0.4	PPB			ON DAY(S)	VAR
					VAR-VARIOUS	
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	701 HRS		
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	97.4 %		
STANDARD DEVIATION:	0.29		MONTHLY AVERAGE:	0.09 PPB		

24 HOUR AVERAGES FOR JUNE 2013



### 01 Hour Averages



# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE - Elk Point Airport

JUNE 2013

## HYDROGEN SULPHIDE MAX      instantaneous maximum in ppb

MST

DAY	HOUR START																								DAILY 24-HOUR			
	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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.
1	1	1	2	1	2	2	2	1	1	1	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.7	24
2	0	0	0	1	1	1	1	1	1	1	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24
3	0	0	0	0	0	0	0	1	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
4	0	1	0	2	2	1	1	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.3	24
5	0	0	0	1	1	1	1	S	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0.6	24
6	1	1	1	1	1	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24
7	0	0	0	0	0	S	0	1	1	1	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
8	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
9	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
10	1	0	S	0	0	1	0	0	0	Y	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	23
11	0	S	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.1	24
12	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0.0	24
13	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0.0	24
14	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0	1	1	1	1	1	1	S	0	0	1	0.3	24
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0.0	24
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0.0	24
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0.0	24
18	0	0	0	1	1	1	0	0	0	0	Y	Y	1	1	1	1	0	S	0	0	0	0	0	0	0	1	0.3	22
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0.0	24
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.0	24
21	0	0	1	0	0	1	3	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	3	0.2	24
22	0	0	0	0	0	1	0	1	0	0	0	1	1	S	1	1	1	1	1	0	1	1	1	1	1	1	0.6	24
23	1	1	1	1	1	1	1	1	1	1	1	1	S	0	0	0	0	0	0	0	0	0	0	0	0	1	0.5	24
24	1	1	1	1	2	2	2	1	0	0	0	S	0	0	0	0	1	0	0	0	1	0	1	1	1	2	0.7	24
25	1	1	1	1	1	1	1	0	0	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24
26	0	0	0	0	1	1	0	0	0	S	0	0	0	0	0	0	0	X	X	X	X	X	X	X	X	1	0.1	17
27	X	X	X	X	X	X	X	X	X	X	X	X	X	C	C	0	0	0	0	0	0	0	1	0	1	0.1	11	
28	1	1	2	2	2	3	1	S	5	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	5	0.8	24
29	1	1	1	1	1	3	S	2	2	2	1	1	0	0	1	1	0	1	1	0	0	0	0	1	3	0.8	24	
30	1	1	1	1	1	S	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	0	1	1	2	2	1.2	24
HOURLY MAX	1	1	2	2	2	3	3	2	5	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2		
HOURLY AVG	0.3	0.3	0.4	0.5	0.6	0.8	0.6	0.6	0.5	0.3	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2		

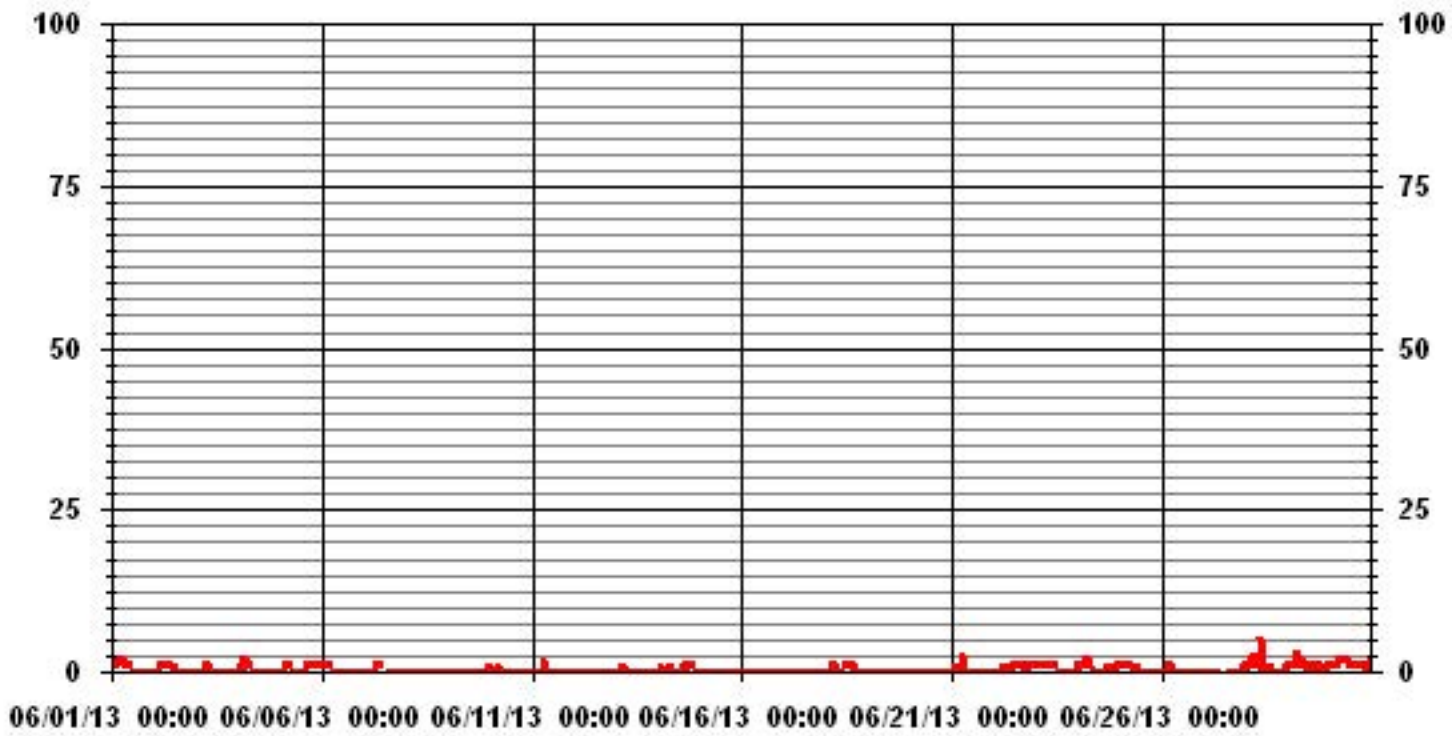
**STATUS FLAG CODES**

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

**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	166					
MAXIMUM INSTANTANEOUS VALUE:	5	PPB	@ HOUR(S)	8	ON DAY(S)	28
	VAR - VARIOUS					
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	697	HRS	
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION:	0.57					

# 01 Hour Averages



— LICA35 H2S MAX PPB

LICA-ELK  
H2S\_ / WDR Joint Frequency Distribution (Percent)

June 2013

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	2.56	2.26	4.97	9.04	11.31	9.95	4.37	2.86	4.52	2.71	2.26	5.88	8.29	17.64	8.74	2.56	100.00
< 10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.56	2.26	4.97	9.04	11.31	9.95	4.37	2.86	4.52	2.71	2.26	5.88	8.29	17.64	8.74	2.56	

Calm : .00 %

Total # Operational Hours : 663

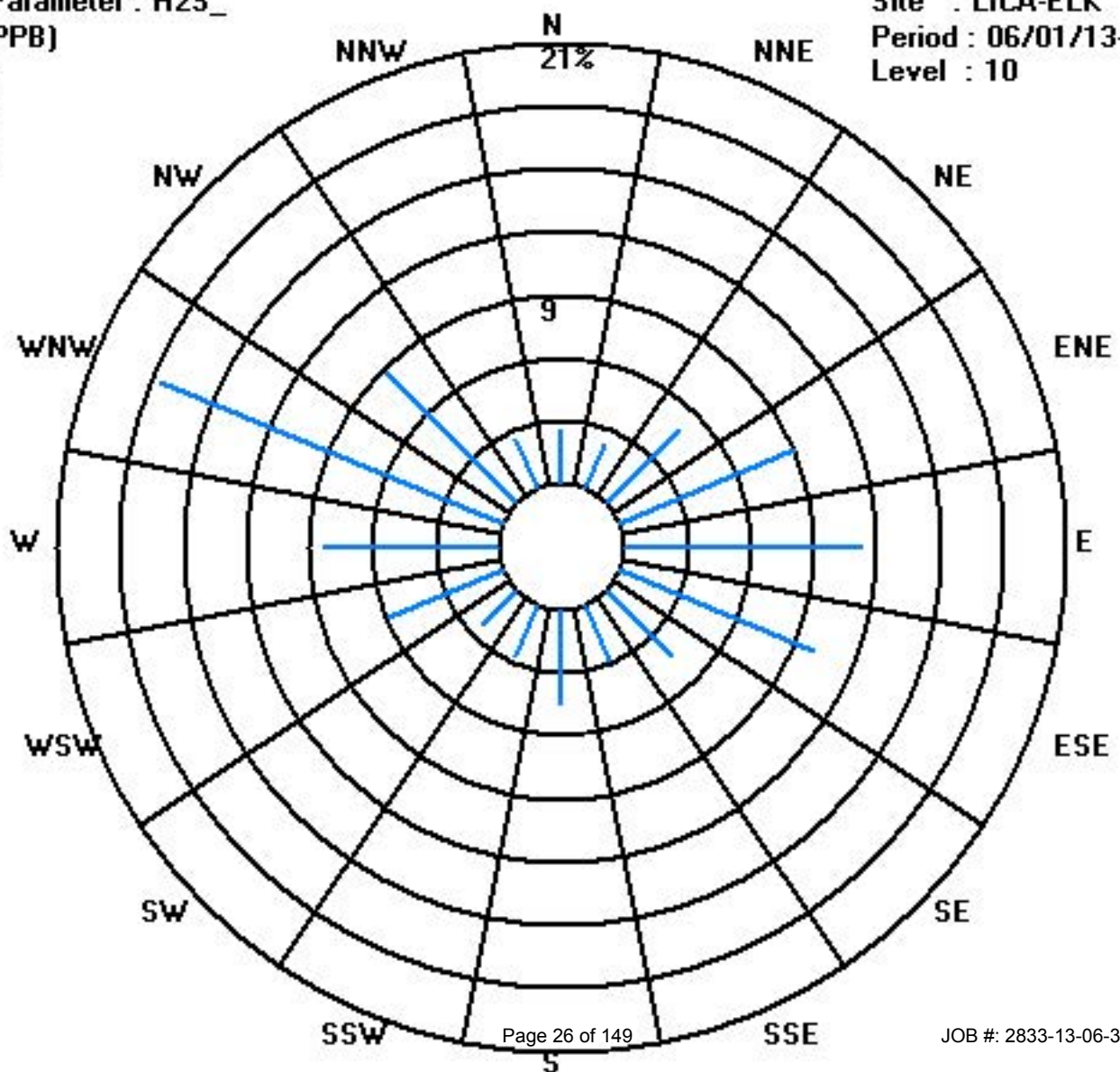
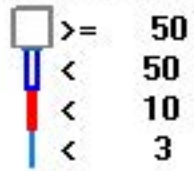
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	17	15	33	60	75	66	29	19	30	18	15	39	55	117	58	17	663
< 10																	
< 50																	
>= 50																	
Totals	17	15	33	60	75	66	29	19	30	18	15	39	55	117	58	17	

Calm : .00 %

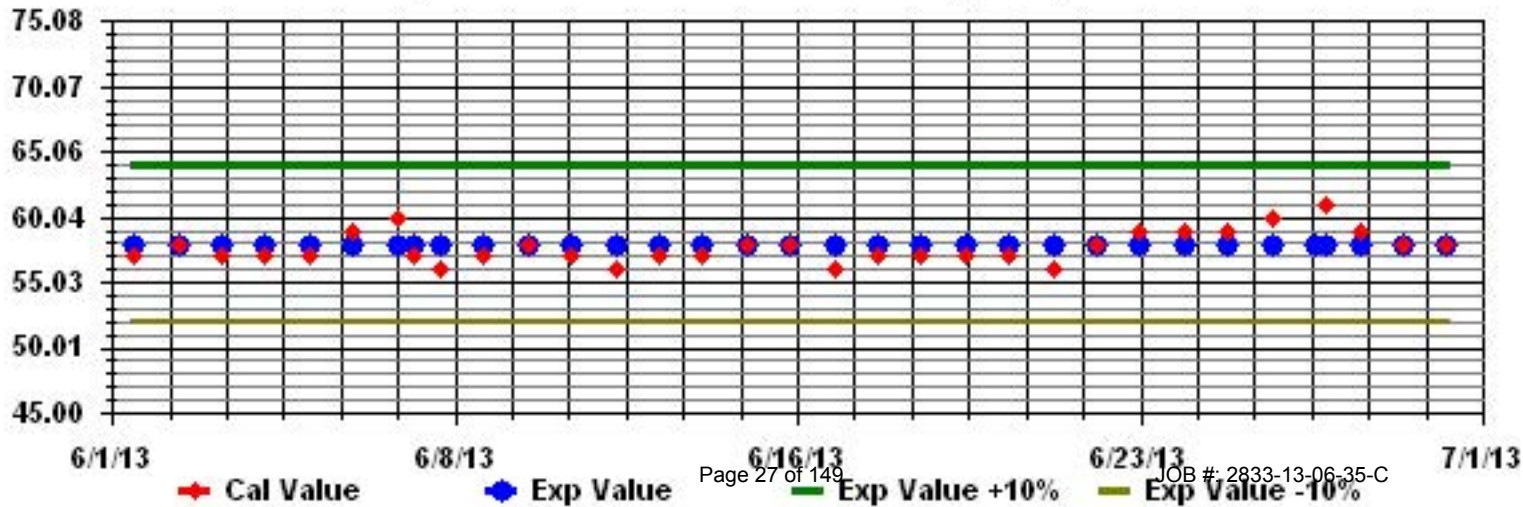
Total # Operational Hours : 663

Class Limits (PPB)





Calibration Graph for Site: LICA35 Parameter: H2S\_ Sequence: H2S Phase: SPAll



# Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE - Elk Point Airport

JUNE 2013

PARTICULATE MATTER 2.5 (PM2.5) hourly averages in ug/m<sup>3</sup>

MST	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
DAY	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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.	
1	17	12	21	19	15	20	22	21	17	2	13	14	6	2	12	12	13	5	5	11	6	10	14	6	22	12.3	24	
2	14	13	25	24	16	25	17	14	15	15	3	16	9	15	7	8	5	9	7	3	3	20	5	12	25	12.5	24	
3	10	13	12	11	12	9	8	9	15	10	16	16	0	0	7	7	7	5	5	3	18	5	18	12	18	9.5	24	
4	10	13	13	13	19	15	7	8	8	28	13	0	21	9	5	0	11	5	3	3	6	17	19	10	28	10.7	24	
5	7	15	6	14	12	13	10	5	12	5	8	7	4	10	1	16	9	1	8	6	4	0	8	11	16	8.0	24	
6	2	9	8	11	6	5	9	4	X	10	19	8	3	0	12	9	0	0	3	5	3	12	6	9	19	0.0	23	
7	14	7	11	7	9	14	17	3	12	4	4	4	1	C	0	0	10	2	7	9	7	10	8	11	17	7.4	24	
8	15	15	8	8	9	10	11	14	27	7	0	9	12	5	22	X	0	21	13	8	4	4	4	4	5	27	10.0	23
9	8	7	2	6	7	9	2	10	X	X	10	25	25	7	2	4	8	3	3	8	3	0	0	5	25	7.0	22	
10	2	2	3	2	0	5	3	5	0	6	3	8	15	7	4	11	0	0	4	3	5	1	2	3	15	3.9	24	
11	4	1	4	3	3	1	3	3	1	6	3	1	6	19	4	3	0	X	0	1	9	6	7	10	19	4.3	23	
12	7	4	7	4	7	6	8	9	X	1	5	17	5	8	X	2	7	4	17	5	15	6	7	8	17	7.2	22	
13	4	5	7	6	7	10	7	15	12	7	7	0	5	0	4	1	4	1	5	2	8	9	12	7	15	6.0	24	
14	2	8	5	9	9	8	10	8	0	26	10	X	16	0	10	12	0	0	18	5	6	4	10	0	26	7.7	23	
15	10	X	16	19	6	5	9	5	8	4	4	6	X	X	0	16	28	23	6	X	6	8	7	7	28	9.7	20	
16	11	7	12	9	9	7	12	12	9	16	10	31	29	33	29	21	21	18	30	21	24	19	27	20	33	18.2	24	
17	22	27	19	19	18	21	17	23	22	26	27	23	X	3	X	7	0	2	7	1	11	10	8	12	27	14.8	22	
18	15	10	17	14	11	9	8	12	6	4	0	2	4	8	5	6	3	X	4	5	7	2	9	9	17	7.4	23	
19	4	11	9	12	16	8	11	5	9	3	8	8	0	1	X	4	5	11	29	18	5	11	7	16	29	9.2	23	
20	6	10	9	5	7	14	1	9	8	19	10	10	13	15	14	17	16	15	7	14	15	17	5	9	19	11.0	24	
21	7	14	16	14	16	17	10	1	16	7	15	10	X	12	3	3	2	6	9	4	9	5	5	17	8.9	23		
22	5	6	7	5	15	6	13	5	4	2	21	3	0	X	14	1	3	X	8	0	3	0	9	3	21	6.0	22	
23	5	4	2	3	5	4	3	5	0	X	7	3	0	5	0	6	4	7	4	1	8	0	8	5	8	3.9	23	
24	10	8	6	4	2	5	14	6	23	50	41	4	0	16	14	12	7	5	4	6	6	8	6	6	50	11.0	24	
25	12	13	9	8	9	4	7	0	10	1	6	8	12	13	9	4	6	4	13	8	14	3	7	6	14	7.8	24	
26	9	6	6	7	11	8	14	8	3	14	7	5	6	2	3	5	7	1	13	0	9	27	25	27	27	9.3	24	
27	38	40	45	40	36	29	10	5	2	X	0	X	X	C	X	X	X	X	X	X	X	X	X	X	45	24.5	11	
28	X	X	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	
29	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0	
30	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0	
HOURLY MAX	38	40	45	40	36	29	22	23	27	50	41	31	29	33	29	21	28	23	30	21	24	27	27	27				
HOURLY AVG	10.0	10.8	11.3	11.0	10.8	10.6	9.7	8.3	10.0	11.4	10.0	9.5	8.3	8.3	7.9	7.5	6.8	6.3	8.8	6.2	8.0	8.4	9.3	9.0				

STATUS FLAG CODES

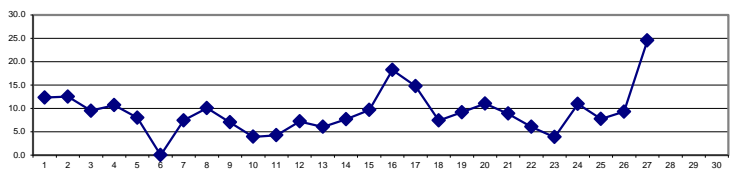
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT: ALBERTA ENVIRONMENT: 1-HR - PPB 24-HR 30 PPB

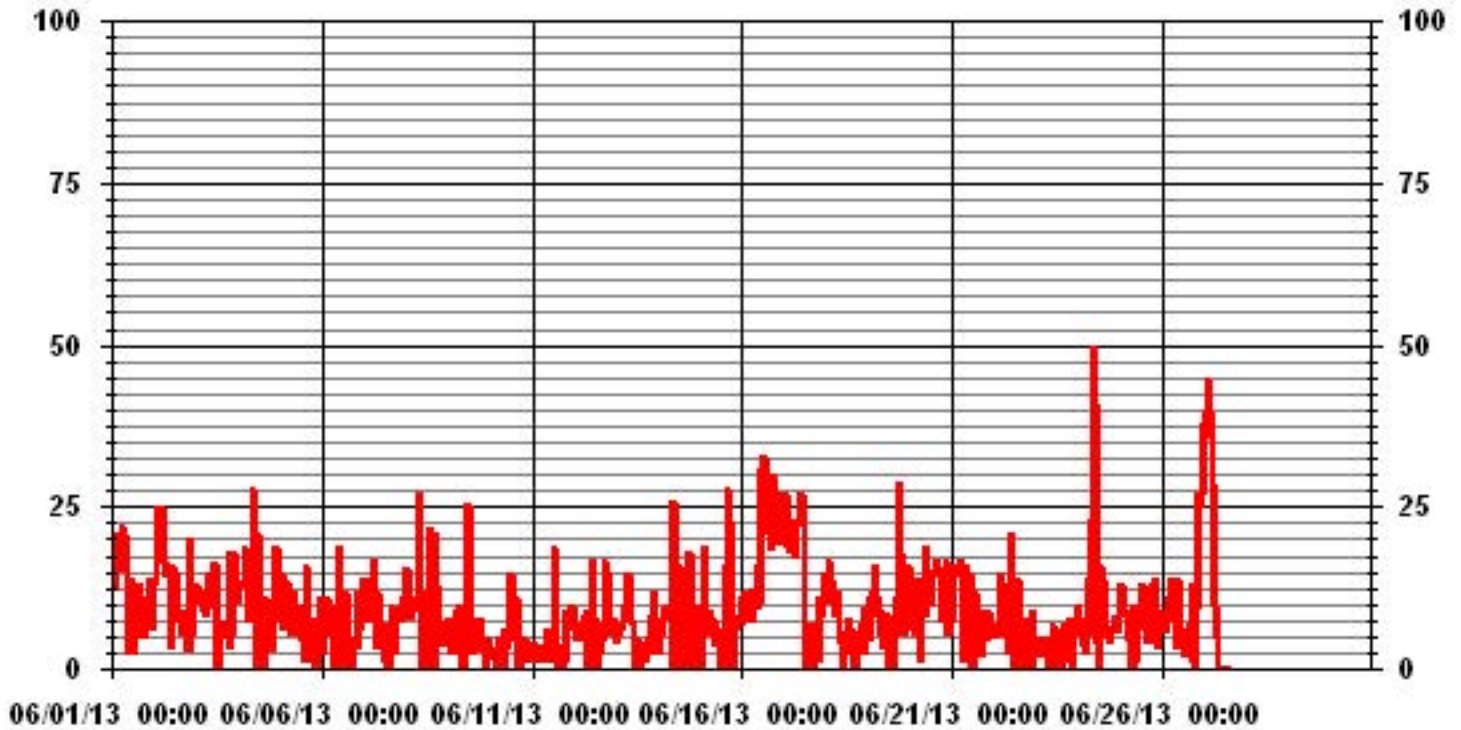
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	-
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	571
MAXIMUM 1-HR AVERAGE:	50 UG/M <sup>3</sup> @ HOUR(S) 9 ON DAY(S) 24
MAXIMUM 24-HR AVERAGE:	24.5 UG/M <sup>3</sup> ON DAY(S) 27
IZS CALIBRATION TIME:	0 HRS
MONTHLY CALIBRATION TIME:	2 HRS
STANDARD DEVIATION:	7.35
OPERATIONAL TIME:	615 HRS
AMD OPERATION UPTIME:	85.4 %
MONTHLY AVERAGE:	9.13 UG/M <sup>3</sup>

24 HOUR AVERAGES FOR JUNE 2013



# 01 Hour Averages



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

June 2013

Distribution By % Of Samples

Logger Id : 35  
 Site Name : LICA-ELK  
 Parameter : PM2  
 Units : UG/M3

Wind Parameter : WDR  
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 30	2.60	2.27	5.36	9.59	12.52	9.91	3.08	.97	4.71	2.43	1.95	5.36	9.75	17.88	7.64	2.27	98.37
< 60	.00	.16	.16	.16	.00	.00	.00	.00	.00	.16	.16	.16	.65	.00	.00	.00	1.62
< 80	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 120	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 240	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 240	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.60	2.43	5.52	9.75	12.52	9.91	3.08	.97	4.71	2.60	2.11	5.52	10.40	17.88	7.64	2.27	

Calm : .00 %

Total # Operational Hours : 615

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 30	16	14	33	59	77	61	19	6	29	15	12	33	60	110	47	14	605
< 60		1	1	1						1	1	1	4				10
< 80																	
< 120																	
< 240																	
>= 240																	
Totals	16	15	34	60	77	61	19	6	29	16	13	34	64	110	47	14	

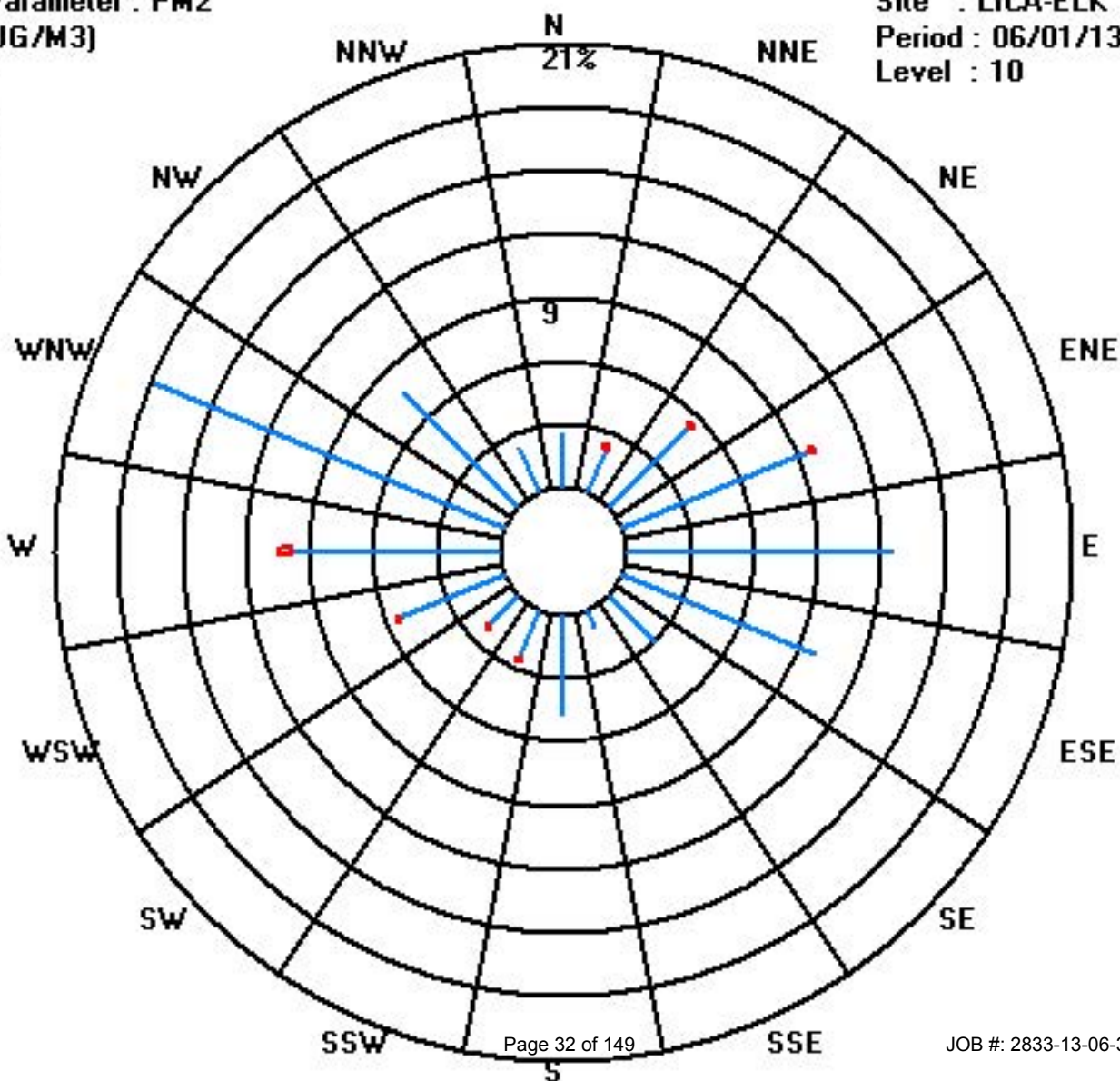
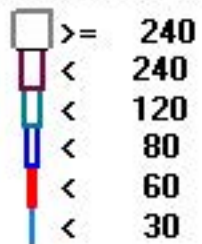
Calm : .00 %

Total # Operational Hours : 615

Class Limits (UG/M3)

Period : 06/01/13-06/30/13

Level : 10



# Nitrogen Dioxide

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE - Elk Point Airport

JUNE 2013

## NITROGEN DIOXIDE hourly averages in ppb

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY MAX.	24-HOUR AVG.	RDGS.
DAY	HOURLY MAX	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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.
1	9.3	12.1	22.0	13.7	15.6	11.6	9.7	6.7	5.5	2.9	1.6	S	2.1	1.2	2.5	2.1	1.8	1.9	1.5	2.3	7.6	10.5	9.0	5.7	22.0	6.9	24	
2	6.5	7.8	9.4	18.4	12.7	7.7	5.9	4.6	3.3	3.1	S	1.7	1.4	1.4	1.5	1.2	1.1	0.7	1.6	2.5	2.6	3.9	6.6	8.4	18.4	5.0	24	
3	6.3	6.9	9.5	12.3	13.7	8.2	3.8	4.7	2.8	S	1.2	0.9	0.9	0.7	0.6	0.5	0.7	0.7	0.8	4.0	8.9	3.4	3.5	17.1	17.1	4.9	24	
4	15.3	11.1	10.0	15.1	16.4	13.8	9.3	9.1	S	7.5	5.1	1.8	1.4	1.5	1.4	1.5	1.6	2.0	4.4	10.6	11.9	14.0	10.4	16.4	7.7	24		
5	4.7	7.5	8.2	8.4	12.7	9.9	7.9	S	2.3	1.9	1.7	1.7	1.6	1.5	1.7	2.0	1.5	2.1	2.5	2.7	2.7	4.3	4.0	4.3	12.7	4.3	24	
6	2.0	1.6	2.1	3.6	4.8	3.1	S	1.0	1.0	1.3	0.8	1.0	0.9	0.6	0.8	0.8	0.8	0.9	1.4	4.8	10.5	15.2	19.5	15.6	19.5	4.1	24	
7	10.3	14.0	11.9	13.8	12.2	S	9.2	7.7	6.6	5.0	C	C	C	C	C	3.0	2.4	2.9	2.9	2.8	4.5	6.5	6.2	8.1	14.0	7.2	24	
8	8.6	6.5	7.1	6.9	S	3.7	1.8	2.7	0.9	0.6	0.5	0.8	1.2	1.1	0.3	0.7	3.3	S	1.6	2.2	1.7	4.8	3.6	1.9	8.6	2.8	24	
9	3.3	2.2	1.5	S	1.8	0.8	2.1	1.2	1.1	0.7	1.5	1.3	0.7	1.4	0.9	0.8	1.0	0.6	1.1	1.0	1.0	1.2	0.6	0.8	3.3	1.2	24	
10	0.8	0.8	S	0.6	0.5	0.7	0.7	1.1	1.2	C	C	C	C	1.4	1.4	0.8	0.6	0.6	1.4	1.5	2.5	1.4	2.6	3.5	3.5	1.3	24	
11	2.7	S	2.5	1.6	3.0	2.1	1.4	1.2	1.2	1.0	0.4	0.5	0.5	0.5	0.5	0.5	0.9	0.9	1.3	1.7	3.2	9.1	12.6	9.3	12.6	2.5	24	
12	S	9.1	8.3	6.8	7.5	8.5	5.6	6.5	4.1	3.0	2.2	2.5	2.0	2.1	1.9	1.8	2.2	2.7	2.5	1.3	1.4	2.4	2.3	S	9.1	3.9	24	
13	4.2	6.1	12.8	14.2	15.4	16.0	12.9	12.8	5.6	5.6	2.3	0.5	0.6	1.2	0.6	0.7	1.1	0.8	0.8	5.6	3.5	14.6	S	15.5	16.0	6.7	24	
14	10.6	12.7	16.3	8.5	5.1	3.6	4.1	2.6	2.1	1.0	0.6	1.0	0.6	0.8	1.0	0.9	0.7	0.6	1.2	1.4	0.6	S	5.9	2.3	16.3	3.7	24	
15	5.5	3.4	3.9	3.0	3.1	2.6	2.9	2.0	2.0	1.9	1.7	2.0	1.5	1.4	0.5	0.6	0.3	0.3	0.3	0.4	S	0.7	0.7	0.5	5.5	1.8	24	
16	1.0	1.1	1.1	3.0	1.4	1.1	0.7	0.6	1.1	1.1	0.9	0.9	1.2	1.0	1.1	0.8	0.8	0.8	S	7.3	4.7	8.5	11.8	11.8	2.3	24		
17	11.3	11.1	8.3	6.9	7.6	7.2	9.9	5.9	2.8	1.6	1.7	1.4	1.3	1.5	1.5	1.3	1.3	1.5	S	14.2	6.7	19.7	18.9	13.6	19.7	6.8	24	
18	11.4	11.2	11.7	10.5	4.3	2.2	2.0	2.7	1.3	1.3	1.0	0.7	1.1	0.7	0.6	0.7	0.8	S	3.8	2.5	4.1	6.6	4.3	2.7	11.7	3.8	24	
19	5.1	3.1	1.6	1.1	0.4	0.6	0.4	0.3	0.4	0.1	0.0	0.0	0.1	0.0	0.1	0.5	S	0.8	0.5	1.3	1.3	0.5	1.2	1.4	5.1	0.9	24	
20	1.3	1.2	1.1	1.0	0.8	0.9	0.7	0.6	0.5	0.4	0.3	0.5	1.6	2.4	2.0	S	0.7	1.6	2.7	2.6	2.0	3.4	0.9	1.4	3.4	1.3	24	
21	2.6	3.1	6.4	0.8	3.5	2.7	1.8	0.6	0.2	0.0	0.0	0.0	0.0	0.0	S	0.2	0.3	0.4	0.6	0.5	0.5	0.8	1.0	0.9	6.4	1.2	24	
22	1.0	0.8	1.6	1.2	0.9	1.7	1.3	0.6	0.7	0.4	0.5	0.5	0.4	S	0.5	0.5	0.7	0.8	0.7	1.1	1.3	2.6	3.0	4.1	4.1	1.2	24	
23	4.8	2.6	4.8	5.2	5.7	12.1	1.6	1.2	0.7	0.9	1.0	0.8	S	0.3	0.4	0.6	0.5	0.7	0.6	1.3	1.9	7.3	10.1	12.9	12.9	3.4	24	
24	19.4	14.6	11.3	11.0	10.0	8.8	9.5	6.4	3.2	2.0	1.4	S	0.8	1.2	1.6	1.8	2.1	1.4	2.1	4.0	8.2	12.1	13.9	14.1	19.4	7.0	24	
25	14.0	8.6	11.2	10.9	10.6	4.4	3.6	2.6	2.1	2.1	S	3.5	0.8	0.5	0.6	0.5	0.8	1.9	2.7	2.7	3.9	4.7	7.1	7.2	14.0	4.7	24	
26	5.1	6.9	9.0	17.8	10.9	8.6	5.5	3.0	2.7	S	2.1	1.9	1.7	1.4	1.4	1.7	2.2	2.6	4.3	4.8	12.4	10.7	4.1	3.6	17.8	5.4	24	
27	3.9	6.0	8.0	5.0	3.6	6.2	5.9	3.9	S	0.0	0.1	0.5	0.3	C	C	0.2	0.2	2.6	2.6	6.0	10.3	17.2	21.7	7.0	21.7	5.3	24	
28	14.4	12.9	20.2	18.4	14.0	11.6	9.5	S	2.0	0.6	0.2	0.2	0.3	0.2	0.2	0.1	0.2	0.5	0.4	1.6	13.9	22.3	19.8	15.6	22.3	7.8	24	
29	15.4	16.4	14.7	14.2	10.2	7.2	S	5.9	4.0	2.2	1.6	1.5	0.9	1.6	1.2	1.0	0.9	1.1	1.1	1.9	4.1	5.7	5.5	5.1	16.4	5.4	24	
30	3.9	4.2	5.7	7.8	3.3	S	8.5	8.8	9.0	6.0	3.0	2.4	2.5	1.8	1.6	1.1	1.4	1.3	1.6	2.4	9.2	11.8	17.6	9.3	17.6	5.4	24	
HOURLY MAX	19.4	16.4	22.0	18.4	16.4	16.0	12.9	12.8	9.0	7.5	5.1	3.5	2.5	2.4	2.5	3.0	3.3	2.9	4.3	14.2	13.9	22.3	21.7	17.1				
HOURLY AVG	7.1	7.1	8.4	8.3	7.3	6.0	4.9	3.8	2.5	2.0	1.3	1.2	1.1	1.1	1.1	1.0	1.1	1.3	1.6	2.9	5.1	7.6	7.9	7.4				

### STATUS FLAG CODES

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

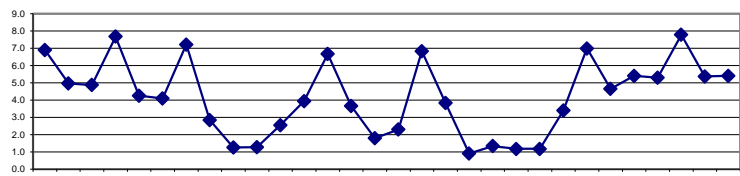
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT: 1-HR 159 PPB

### MONTHLY SUMMARY

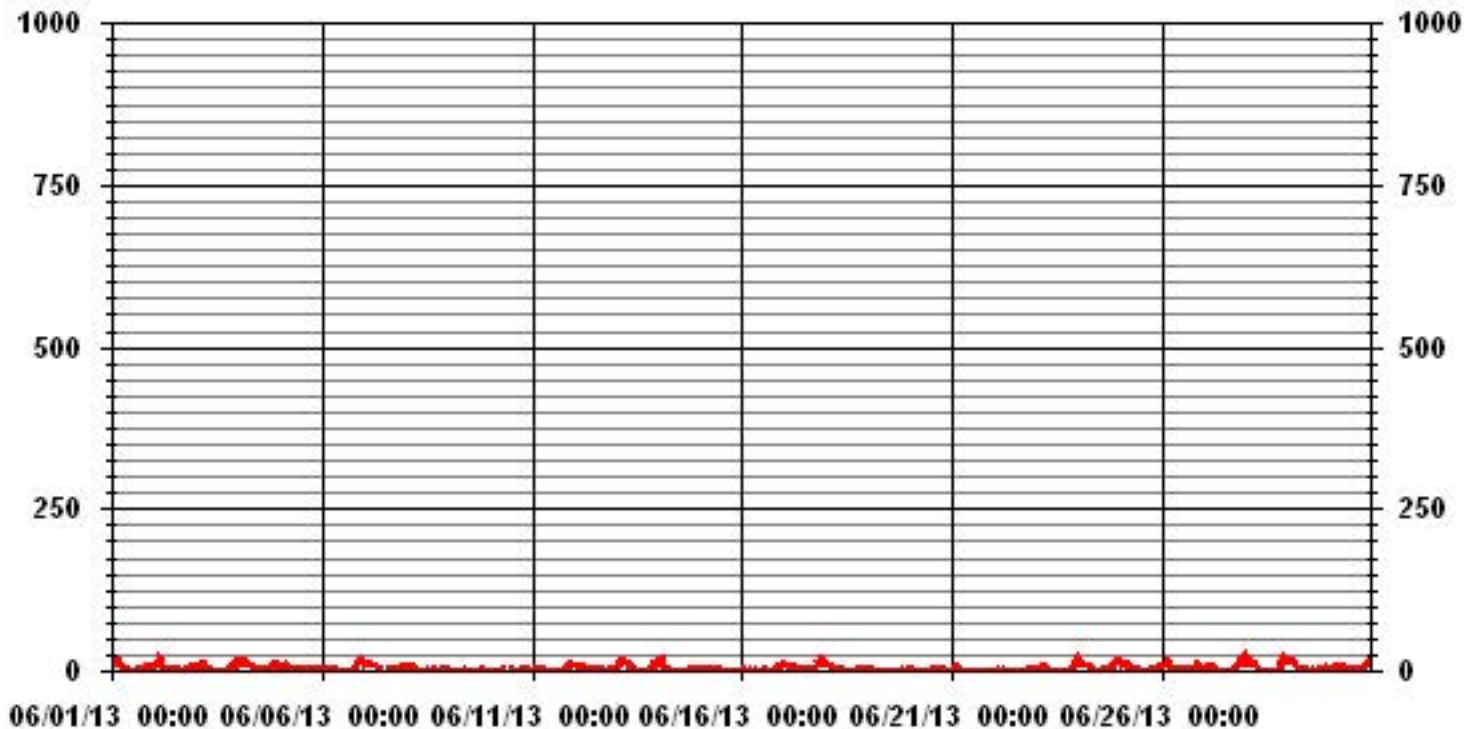
NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	668					
MAXIMUM 1-HR AVERAGE:	22.3	PPB	@ HOUR(S)	21	ON DAY(S)	28
MAXIMUM 24-HR AVERAGE:	7.8	PPB			ON DAY(S)	28
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	11	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	4.63		MONTHLY AVERAGE:	4.19	PPB	

24 HOUR AVERAGES FOR JUNE 2013





### 01 Hour Averages



— LICA35 IIO2\_ PPB

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE - Elk Point Airport

JUNE 2013

## 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	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	15.1	20.2	24.8	21.9	20.4	15.6	13.5	7.6	7.4	7.3	2.6	S	5.5	3.7	3.9	3.5	2.6	3.5	2.9	5.4	16.8	12.7	13.3	8.4	24.8	10.4	24	
2	7.5	10.7	12.2	21.1	19.4	11.5	7.2	5.8	5.0	3.9	S	2.6	2.1	2.5	2.5	2.3	1.5	2.5	4.7	7.7	5.3	14.1	11.2	21.1	7.2	24		
3	8.6	13.3	13.3	16.3	22.5	14.0	5.4	6.0	4.1	S	2.2	1.8	1.8	1.5	1.3	1.5	1.7	1.9	1.9	36.3	19.4	4.7	4.8	25.7	36.3	9.1	24	
4	20.1	16.7	13.1	30.0	23.9	18.6	15.1	11.1	S	9.2	7.2	3.3	2.6	2.6	3.3	2.7	2.4	2.9	3.7	11.2	17.0	23.5	22.5	14.1	30.0	12.0	24	
5	8.6	10.9	10.3	17.6	18.6	12.9	10.9	S	3.3	3.1	3.4	3.0	3.1	2.5	3.0	4.3	3.2	3.1	4.1	5.6	4.4	12.2	6.6	7.5	18.6	7.1	24	
6	3.7	2.6	3.8	5.1	28.4	4.7	S	2.3	2.1	2.8	1.8	2.3	1.9	2.9	3.0	1.7	1.3	2.1	2.5	14.3	18.8	25.8	24.9	20.9	28.4	7.8	24	
7	12.1	17.7	15.0	20.8	16.5	S	10.9	8.8	8.9	6.4	C	C	C	C	C	5.8	4.0	4.9	4.8	5.2	10.0	10.8	11.5	12.6	20.8	10.4	24	
8	10.8	10.5	16.8	12.9	S	8.5	7.2	7.0	3.7	2.8	2.3	2.3	4.5	3.5	1.6	3.7	9.3	1.4	6.5	6.8	7.8	13.1	10.3	8.2	16.8	7.0	24	
9	8.5	4.9	3.9	S	3.9	2.7	3.4	2.1	2.3	2.2	3.1	3.3	1.9	3.8	2.9	1.7	2.1	1.6	2.6	2.4	2.7	2.5	1.9	1.5	8.5	3.0	24	
10	1.5	1.5	S	1.3	1.2	1.6	2.1	2.7	2.8	C	C	C	C	3.0	2.8	1.5	1.2	1.2	1.8	3.0	4.1	2.9	4.9	4.5	4.9	2.4	24	
11	3.8	S	3.8	3.3	4.3	3.6	2.7	3.1	2.5	2.3	0.8	1.2	1.0	1.3	1.3	1.1	1.6	1.8	3.2	3.7	15.4	12.8	18.6	12.9	18.6	4.6	24	
12	S	11.0	9.8	9.0	9.5	10.6	7.2	7.5	5.0	4.3	3.5	3.3	2.9	3.5	2.9	3.0	4.0	4.8	4.6	1.9	2.1	5.3	5.7	S	11.0	5.5	24	
13	8.3	15.9	16.3	20.7	19.8	19.4	18.3	15.5	9.9	9.7	4.5	1.3	1.4	3.5	1.4	1.8	1.8	1.6	12.0	8.5	22.2	S	19.0	22.2	10.2	24		
14	16.9	18.5	19.8	12.9	7.8	5.5	5.5	3.7	3.2	1.8	1.9	2.7	1.8	1.6	2.3	1.9	1.7	1.7	2.9	4.8	1.3	S	15.7	6.6	19.8	6.2	24	
15	8.5	6.6	5.6	5.8	5.2	5.1	4.9	3.6	3.8	3.6	2.7	3.6	2.8	2.9	2.1	1.9	0.8	1.0	0.8	1.0	S	1.3	1.3	1.3	8.5	3.3	24	
16	1.8	1.5	1.5	8.2	1.9	1.6	1.0	1.2	1.5	1.6	1.3	1.4	1.6	1.4	2.1	1.4	1.2	1.3	1.3	S	12.8	6.6	16.3	13.7	16.3	3.7	24	
17	13.2	13.1	10.3	8.9	9.9	8.4	11.5	10.4	3.8	2.7	2.0	1.9	2.1	2.9	2.0	1.9	2.8	S	24.1	15.9	26.6	22.3	19.1	26.6	9.5	24		
18	14.7	13.7	13.8	15.6	12.6	2.9	5.0	4.9	2.3	1.9	Y	Y	9.0	1.5	1.2	1.5	1.7	S	6.4	5.4	12.1	11.4	6.1	5.4	15.6	7.1	22	
19	15.0	8.3	3.3	2.5	1.9	1.9	1.4	1.3	1.4	1.0	0.8	1.1	0.9	0.9	1.2	1.4	S	1.6	1.4	2.0	2.4	1.3	1.9	1.9	15.0	2.5	24	
20	2.1	1.9	1.9	1.6	1.4	1.4	1.3	1.2	1.1	0.8	1.0	1.2	3.3	3.8	3.7	S	1.4	4.9	5.4	5.2	5.1	5.5	2.4	2.5	5.5	2.6	24	
21	8.0	10.3	11.7	1.8	7.2	4.8	3.4	1.7	1.3	0.8	0.9	0.9	0.9	S	0.8	0.9	1.1	1.2	1.3	1.3	3.2	2.8	1.7	11.7	3.0	24		
22	2.1	2.0	2.2	2.3	1.9	2.5	2.5	1.4	1.4	1.0	1.1	1.1	1.1	S	0.8	0.9	1.3	1.4	1.3	2.1	2.4	7.0	5.1	6.3	7.0	2.2	24	
23	8.6	3.8	9.6	12.4	9.5	18.1	8.6	1.7	1.3	1.7	2.2	2.2	S	0.8	0.9	1.7	1.2	7.0	1.3	2.7	5.4	15.3	13.3	21.4	21.4	6.6	24	
24	23.5	17.8	17.0	15.0	17.6	10.7	11.8	11.4	4.6	3.5	2.8	S	1.9	2.5	3.2	3.2	3.7	2.9	4.1	11.1	30.8	16.0	21.6	19.6	30.8	11.1	24	
25	25.7	14.3	14.9	15.4	17.0	9.3	6.3	4.2	3.3	3.3	S	7.3	1.5	1.4	1.2	1.1	1.3	4.2	4.0	4.6	6.4	6.9	28.0	15.9	28.0	8.6	24	
26	8.3	9.3	13.8	38.7	19.5	13.2	11.9	4.0	3.6	S	3.3	2.7	3.8	2.8	3.3	3.2	2.8	4.1	7.1	9.4	23.8	15.7	6.2	10.7	38.7	9.6	24	
27	23.7	10.5	9.9	9.1	4.6	9.6	7.1	4.5	S	2.5	2.2	2.3	2.2	C	C	1.9	1.0	7.8	5.2	10.3	20.4	22.6	27.4	15.3	27.4	9.5	24	
28	32.8	22.2	26.2	20.3	20.3	15.6	15.2	S	3.9	1.6	0.6	0.7	0.9	0.8	0.7	0.9	2.1	1.5	0.9	5.9	39.7	30.8	26.8	24.3	39.7	12.8	24	
29	17.4	19.4	17.0	17.0	12.3	9.6	S	7.2	6.6	3.3	2.3	3.0	1.8	3.9	3.3	1.7	2.0	2.1	1.7	4.1	9.6	9.9	7.4	6.5	19.4	7.4	24	
30	5.4	6.8	23.6	21.2	6.4	S	14.3	13.6	11.7	8.9	5.9	3.0	4.4	2.7	2.8	1.7	2.3	1.8	4.1	4.6	30.4	28.0	27.7	14.3	30.4	10.7	24	
HOURLY MAX	32.8	22.2	26.2	38.7	28.4	19.4	18.3	15.5	11.7	9.7	7.2	7.3	9.0	3.9	3.9	5.8	9.3	7.8	7.1	36.3	39.7	30.8	28.0	25.7				
HOURLY AVG	11.6	10.9	11.9	13.4	11.9	8.7	7.7	5.6	4.0	3.5	2.5	2.4	2.5	2.4	2.3	2.1	2.2	2.7	3.2	7.3	12.2	12.5	12.8	11.5				

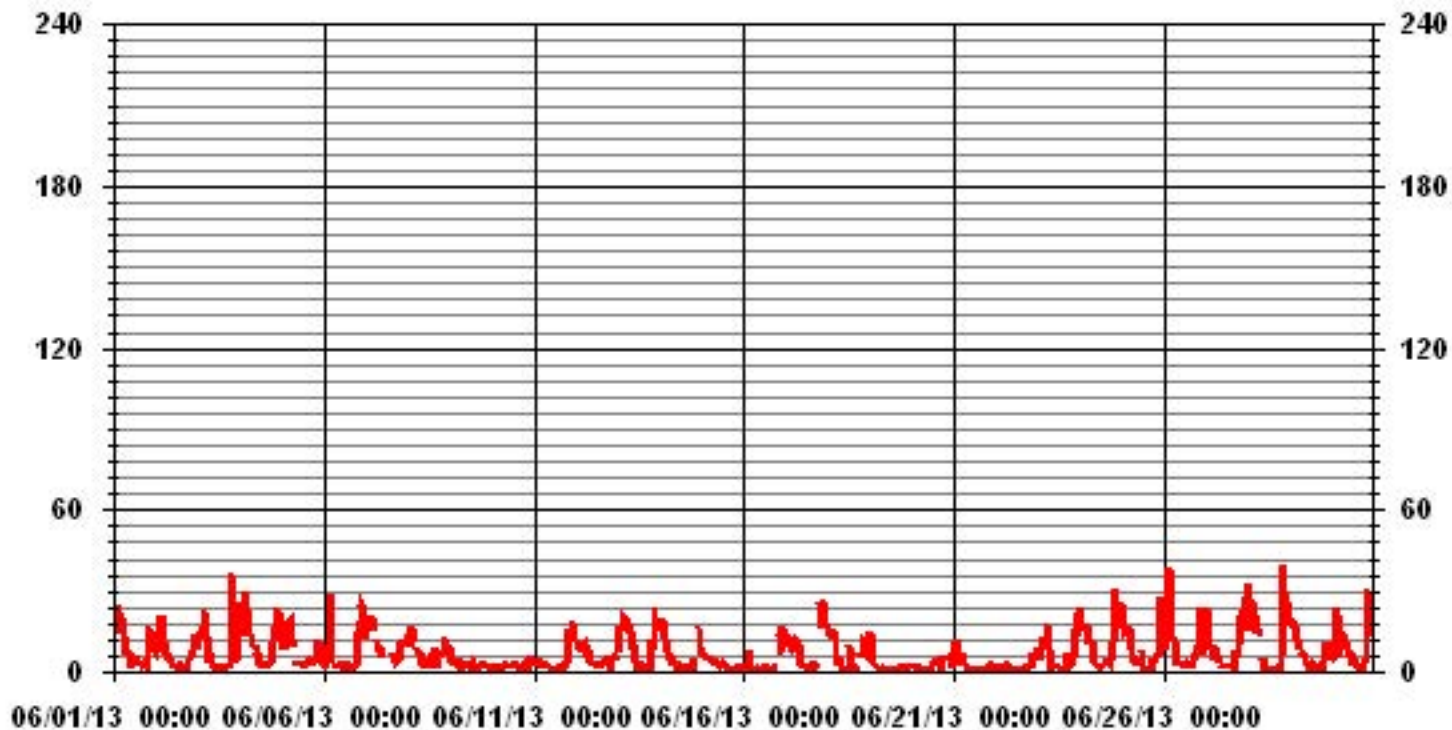
**STATUS FLAG CODES**

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:	676					
MAXIMUM INSTANTANEOUS VALUE:	39.7	PPB	@ HOUR(S)	20	ON DAY(S)	28
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	718	HRS	
MONTHLY CALIBRATION TIME:	11	HRS				
STANDARD DEVIATION:	7.08					

# 01 Hour Averages



— LICA35 NO2MAX PPB

LICA-ELK  
 NO2\_ / WDR Joint Frequency Distribution (Percent)

June 2013

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	2.51	2.21	4.87	8.86	11.07	9.74	4.28	2.80	4.43	2.65	2.21	5.90	10.04	17.42	8.41	2.51	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	2.51	2.21	4.87	8.86	11.07	9.74	4.28	2.80	4.43	2.65	2.21	5.90	10.04	17.42	8.41	2.51	

Calm : .00 %

Total # Operational Hours : 677

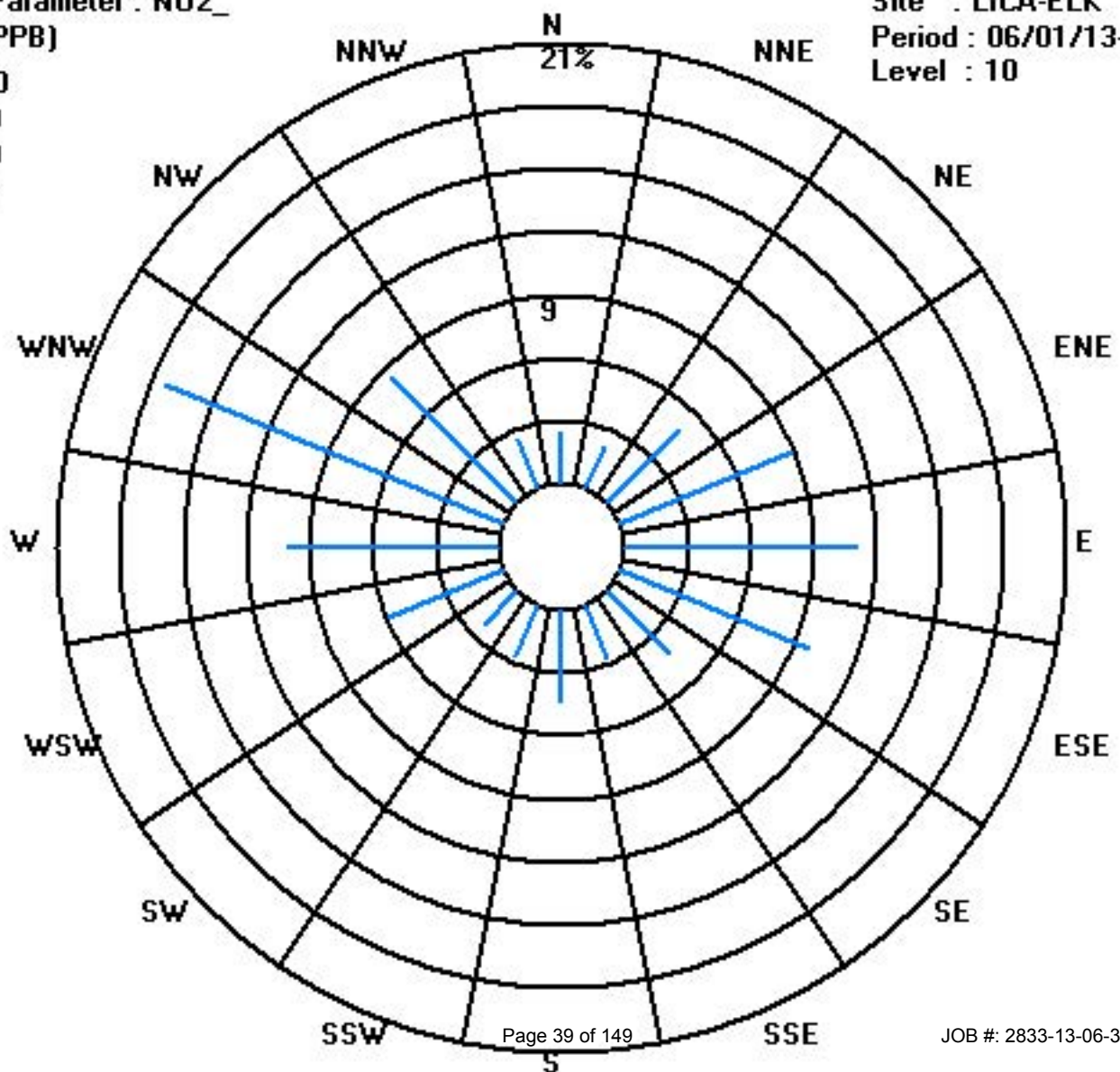
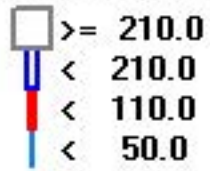
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50.0	17	15	33	60	75	66	29	19	30	18	15	40	68	118	57	17	677
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	17	15	33	60	75	66	29	19	30	18	15	40	68	118	57	17	

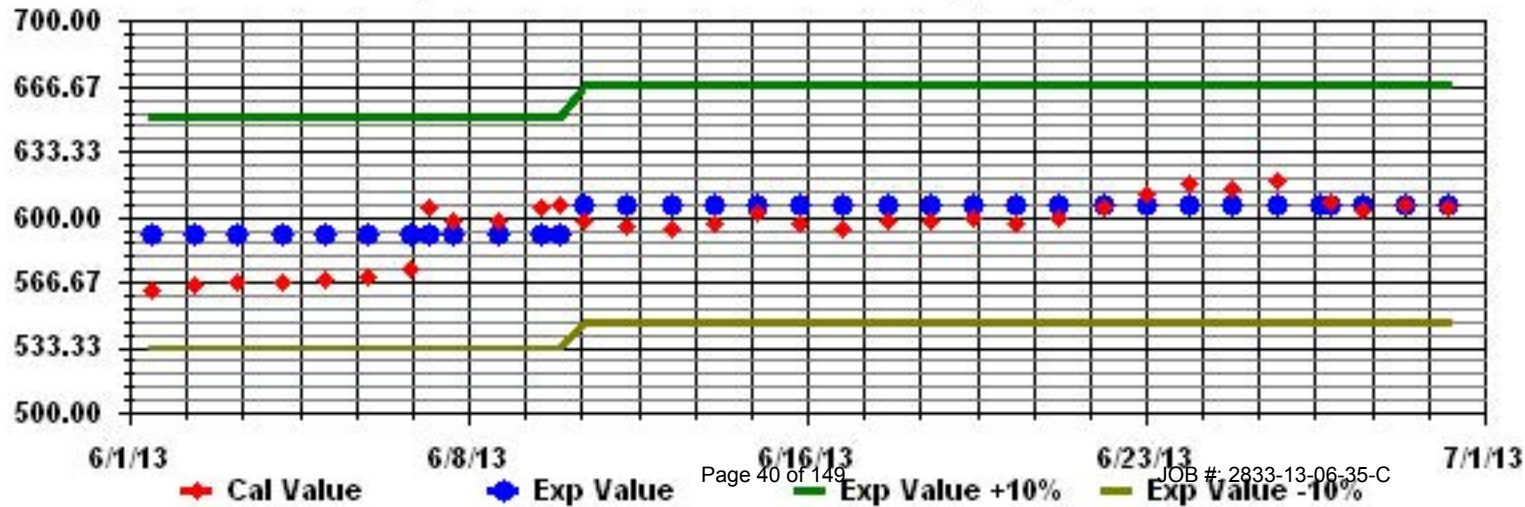
Calm : .00 %

Total # Operational Hours : 677

Class Limits (PPB)



Calibration Graph for Site: LICA35 Parameter: NO2\_ Sequence: NO2 Phase: SPAN



# Nitric Oxide

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE - Elk Point Airport

JUNE 2013

## NITRIC OXIDE 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	6.5	1.8	5.6	3.1	4.7	1.6	1.1	0.9	0.1	S	0.4	0.2	0.3	0.3	0.3	0.3	0.1	0.1	0.4	0.5	0.1	0.0	0.0	6.5	1.2	24
2	0.0	0.1	0.1	3.5	3.4	2.1	1.2	1.2	0.7	1.0	S	0.9	0.3	0.3	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.7	24
3	0.0	0.2	0.2	0.3	1.8	2.1	0.7	1.5	0.8	S	0.6	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.4	0.3	0.0	0.0	0.5	2.1	0.4	24	
4	0.6	0.9	0.2	17.4	15.7	15.3	6.6	5.6	S	3.3	1.6	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.2	0.1	0.2	0.0	0.0	17.4	3.0	24	
5	0.0	0.0	0.0	0.2	0.8	2.0	2.4	S	0.7	0.5	0.4	0.3	0.2	0.1	0.4	0.4	0.1	0.0	0.3	0.1	0.0	0.0	0.0	0.0	2.4	0.4	24	
6	0.0	0.0	0.0	0.0	0.1	0.7	S	0.7	0.4	0.6	0.3	0.3	0.4	0.2	0.3	0.3	0.1	0.0	0.1	0.6	0.6	1.1	1.1	0.4	1.1	0.4	24	
7	0.2	1.0	0.2	1.6	1.0	S	2.4	2.8	2.9	2.0	C	C	C	C	C	1.3	0.5	0.6	0.4	0.4	0.2	0.1	0.2	0.2	2.9	1.0	24	
8	0.3	0.3	0.2	0.2	S	1.6	1.6	2.0	1.2	0.9	0.9	1.1	1.2	1.2	1.0	0.8	1.6	S	1.5	1.5	1.2	1.9	1.6	0.8	2.0	1.1	24	
9	0.9	1.1	1.2	S	0.9	0.3	1.4	0.7	0.6	0.3	0.9	0.8	0.2	0.6	0.5	0.4	0.4	C	0.3	0.7	0.7	0.2	0.1	0.0	0.0	1.4	0.6	24
10	0.0	0.0	S	0.2	0.1	0.1	0.1	0.5	0.4	C	C	C	C	0.9	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.9	0.1	24	
11	0.0	S	1.5	0.9	1.9	1.4	1.1	1.2	1.3	1.0	0.2	0.3	0.1	0.0	0.3	0.1	0.1	0.0	0.3	0.3	0.0	3.0	8.0	7.5	8.0	1.3	24	
12	S	4.4	8.8	6.5	10.9	18.4	7.8	6.4	4.1	2.5	1.5	1.6	0.9	0.9	0.4	0.5	0.4	0.5	0.3	0.0	0.1	0.1	0.1	S	18.4	3.5	24	
13	0.8	0.9	0.7	2.0	11.6	15.7	14.6	8.7	2.5	3.6	1.0	0.4	0.5	0.6	0.4	0.4	0.3	0.4	0.5	0.8	0.5	2.3	S	3.6	15.7	3.2	24	
14	2.4	1.2	8.4	0.5	0.4	0.8	2.1	1.6	1.2	0.3	0.1	0.3	0.3	0.1	0.0	0.2	0.1	0.2	0.2	0.1	0.0	S	1.4	0.9	8.4	1.0	24	
15	2.2	1.5	1.5	1.2	1.2	1.2	1.4	1.0	1.0	1.3	1.2	1.4	1.1	0.9	0.2	0.3	0.2	0.2	0.2	0.1	S	0.3	0.1	0.0	2.2	0.9	24	
16	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	S	2.7	0.3	0.6	2.9	2.9	0.3	24	
17	2.0	2.9	2.2	3.2	4.1	7.2	12.3	5.4	1.2	0.3	0.2	0.0	0.0	0.1	0.2	0.2	0.1	0.0	S	2.7	0.7	2.5	0.9	1.7	12.3	2.2	24	
18	0.7	1.0	1.5	0.6	0.0	0.0	0.0	0.4	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.5	0.2	0.3	0.1	0.0	0.0	1.5	0.2	24	
19	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.6	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	0.1	0.4	0.2	S	0.5	0.5	0.6	0.4	0.2	0.0	0.0	0.0	0.6	0.1	24	
21	0.0	0.0	0.0	0.0	0.5	0.5	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	S	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.1	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	S	0.4	0.2	0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.4	0.0	24	
23	0.2	0.0	0.3	1.1	2.0	8.6	0.2	0.1	0.0	0.0	0.0	0.0	S	0.5	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.3	0.4	0.8	8.6	0.6	24	
24	2.4	1.0	1.0	3.2	10.6	10.2	11.0	3.9	1.3	0.6	0.2	S	0.9	0.6	0.6	0.7	0.7	0.3	0.5	0.8	1.7	1.0	1.3	1.0	11.0	2.4	24	
25	1.7	0.4	0.4	0.8	1.7	0.6	0.7	0.6	0.5	0.5	S	0.8	0.1	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.3	0.1	1.0	0.0	1.7	0.5	24	
26	0.1	0.2	0.7	4.0	1.7	3.5	2.3	1.0	1.1	S	0.9	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	4.0	0.7	24	
27	0.0	0.0	0.0	0.0	0.0	0.4	0.0	S	0.0	0.0	0.2	0.3	C	C	0.3	0.1	0.5	0.4	1.2	1.3	2.0	2.6	0.3	2.6	0.5	24		
28	4.3	0.8	14.0	9.8	3.8	7.6	7.2	S	1.1	0.2	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.2	3.9	4.1	2.5	1.8	14.0	2.7	24		
29	2.9	10.1	9.6	10.1	16.9	10.4	S	3.5	1.7	0.6	0.6	0.5	0.4	0.7	0.6	0.4	0.3	0.3	0.1	0.2	0.4	0.5	0.5	0.3	16.9	3.1	24	
30	0.2	0.1	1.8	1.5	0.1	S	2.3	2.3	3.0	2.0	0.6	0.4	0.6	0.3	0.1	0.0	0.2	0.0	0.0	0.1	1.6	1.2	3.3	2.2	3.3	1.0	24	
HOURLY MAX	4.3	10.1	14.0	17.4	16.9	18.4	14.6	8.7	4.1	3.6	1.6	1.6	1.2	1.2	1.0	1.3	1.6	0.6	1.5	2.7	3.9	4.1	8.0	7.5				
HOURLY AVG	0.8	1.0	2.1	2.5	3.3	4.1	3.0	1.9	1.0	0.8	0.4	0.4	0.3	0.3	0.2	0.3	0.2	0.2	0.3	0.4	0.6	0.7	0.9	0.9				

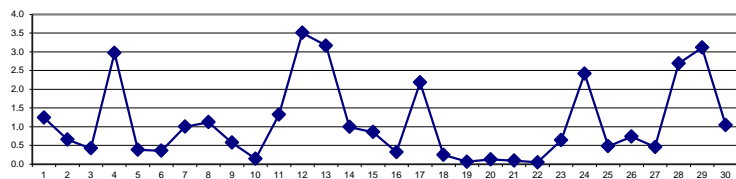
### STATUS FLAG CODES

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

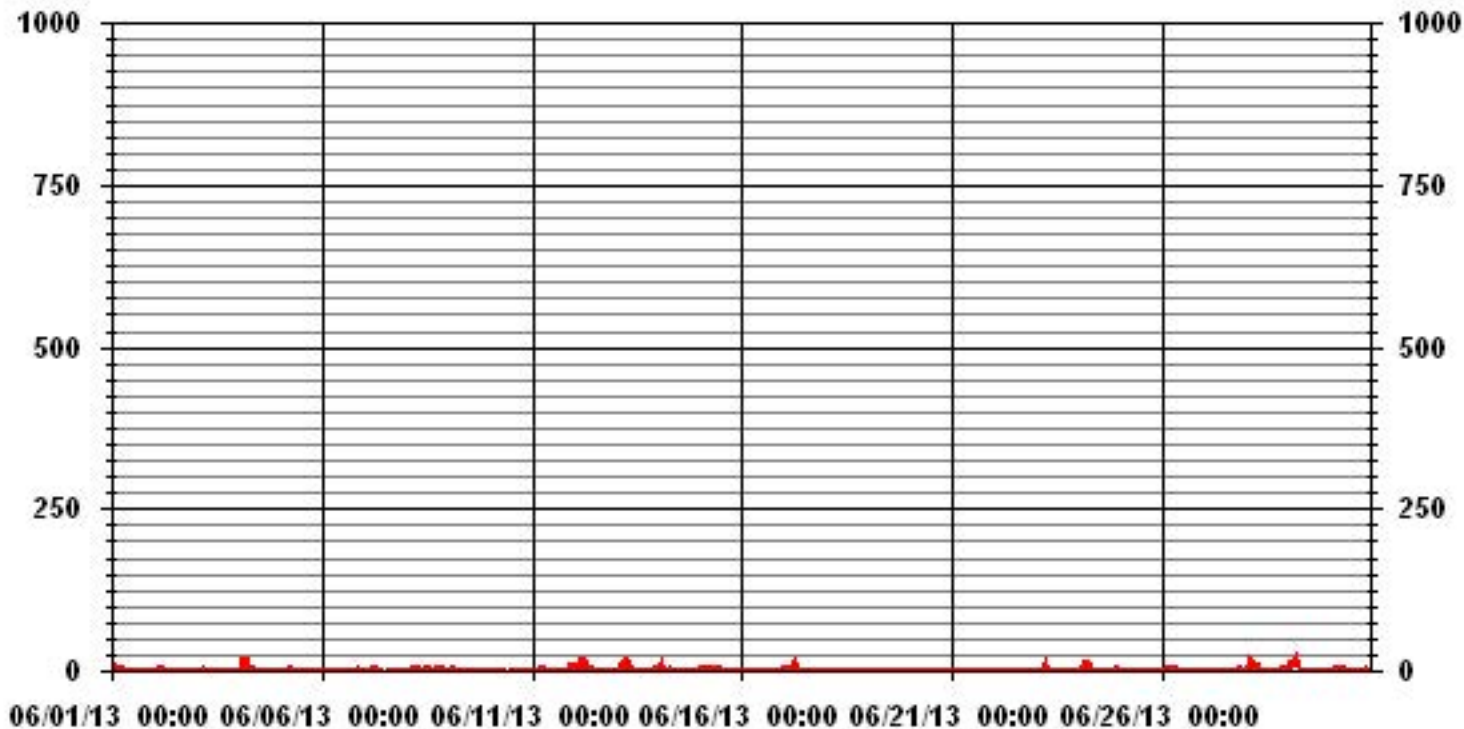
NUMBER OF NON-ZERO READINGS:	481					
MAXIMUM 1-HR AVERAGE:	18.4	PPB	@ HOUR(S)	5	ON DAY(S)	12
MAXIMUM 24-HR AVERAGE:	3.5	PPB			ON DAY(S)	12
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	11	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	2.46		MONTHLY AVERAGE:	1.12	PPB	

24 HOUR AVERAGES FOR JUNE 2013





### 01 Hour Averages



# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE - Elk Point Airport

JUNE 2013

## 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	0.6	1.0	19.2	5.9	18.7	5.0	10.6	2.3	2.1	5.2	0.6	S	1.5	0.8	1.1	0.8	0.8	0.6	0.6	2.7	2.3	0.7	0.5	19.2	3.7	24		
2	0.5	0.8	0.5	10.2	8.7	4.0	2.0	2.2	1.2	1.5	S	1.9	0.8	0.8	0.6	0.5	0.7	0.6	0.6	0.5	0.7	0.2	0.5	0.5	10.2	1.8	24	
3	0.6	2.4	2.5	2.9	4.4	4.0	2.1	2.3	1.3	S	1.1	0.8	0.5	0.4	0.4	0.5	0.5	0.3	0.4	12.6	2.2	0.4	0.4	2.0	12.6	2.0	24	
4	6.7	6.3	1.4	59.2	22.6	22.6	11.3	8.1	S	4.7	2.6	1.0	0.6	0.6	1.0	0.5	0.5	0.7	0.7	0.7	0.8	0.8	0.7	0.5	59.2	6.7	24	
5	0.5	0.5	0.5	1.1	1.6	2.8	4.1	S	1.6	1.4	0.9	0.9	1.2	1.0	1.3	1.6	0.8	0.7	0.7	0.9	0.5	0.4	0.5	0.4	4.1	1.1	24	
6	0.4	0.4	0.4	0.4	1.2	1.9	S	1.5	1.1	1.7	0.8	1.1	1.6	1.2	1.4	0.8	0.8	0.6	0.6	7.2	2.6	2.7	4.0	1.3	7.2	1.6	24	
7	1.1	2.8	1.8	7.1	5.9	S	3.2	3.6	4.7	2.5	C	C	C	C	C	3.2	1.2	1.4	0.9	1.1	0.7	0.6	0.6	0.9	7.1	2.4	24	
8	0.7	0.8	0.7	1.1	S	2.7	3.5	4.2	2.7	1.8	2.2	2.1	2.6	2.2	1.8	1.3	3.9	1.4	3.5	3.4	4.1	8.2	5.2	1.3	8.2	2.7	24	
9	1.4	2.1	2.1	S	2.3	1.7	2.7	1.5	1.5	1.5	2.6	2.2	1.2	1.9	1.9	1.3	1.6	1.1	2.3	2.4	1.0	0.8	0.5	0.5	2.7	1.7	24	
10	0.5	0.4	S	1.0	0.8	0.6	0.8	1.0	1.3	C	C	C	C	4.4	1.9	1.0	0.5	0.3	1.4	0.3	0.8	0.5	1.1	0.8	4.4	1.0	24	
11	0.8	S	2.9	2.2	3.2	2.7	2.8	3.4	5.2	2.7	0.7	1.2	0.5	0.5	0.7	0.7	0.7	0.5	2.4	2.7	2.0	9.8	56.8	15.8	56.8	5.3	24	
12	S	9.9	12.7	9.8	29.3	26.3	14.3	8.6	5.8	3.4	2.8	2.2	1.9	2.1	1.0	1.1	1.3	1.7	1.0	0.6	0.6	0.6	S	29.3	6.3	24		
13	1.3	3.3	1.4	6.1	42.9	25.8	37.3	14.7	5.5	5.6	2.4	0.9	0.9	1.5	1.0	0.9	0.8	0.9	1.0	4.9	1.4	6.1	S	9.0	42.9	7.6	24	
14	14.0	7.1	14.6	2.2	1.3	2.2	3.0	2.2	2.2	0.8	0.8	1.5	0.8	0.6	0.7	0.8	0.9	0.9	1.1	0.9	0.5	S	4.7	3.4	14.6	2.9	24	
15	4.5	3.1	3.0	3.1	2.3	2.4	2.3	1.9	2.3	2.3	1.8	2.1	2.1	2.0	1.5	1.2	0.8	0.7	0.6	0.7	S	1.0	0.7	0.3	4.5	1.9	24	
16	0.5	0.5	0.5	2.5	0.4	0.5	0.5	0.3	0.6	0.5	0.6	0.5	0.6	0.6	0.6	0.6	0.7	0.6	0.3	S	13.3	1.0	1.8	5.1	13.3	1.4	24	
17	4.7	7.2	3.7	5.8	7.1	12.9	14.4	14.3	2.0	0.8	0.9	0.5	0.5	0.5	0.7	0.8	0.7	0.5	S	6.0	2.1	10.3	2.6	11.9	14.4	4.8	24	
18	3.0	6.9	3.8	3.7	1.1	0.5	0.7	1.2	0.5	0.8	Y	Y	8.2	0.1	0.2	0.3	0.2	S	1.4	0.7	1.6	1.3	0.5	0.3	8.2	1.8	22	
19	4.0	1.8	0.4	0.5	0.2	0.4	0.4	0.5	0.6	0.5	0.4	0.2	0.5	0.3	0.3	0.5	S	0.9	0.6	0.6	0.3	0.2	0.2	0.5	4.0	0.6	24	
20	0.4	0.4	0.3	0.5	0.4	0.5	0.3	0.6	0.4	0.5	0.4	0.5	0.9	1.5	0.9	S	1.2	1.8	1.8	1.3	1.2	0.9	0.2	0.5	1.8	0.8	24	
21	0.8	0.4	0.6	0.4	1.8	1.2	1.6	0.6	0.5	0.3	0.3	0.3	0.2	S	0.8	0.6	0.6	0.6	0.6	0.2	0.2	0.3	0.5	0.3	1.8	0.6	24	
22	0.5	0.2	0.4	0.3	0.6	0.5	0.7	0.4	0.7	0.5	0.5	0.6	0.5	S	1.0	0.9	0.8	0.8	0.4	0.5	0.5	0.7	0.5	0.7	1.0	0.6	24	
23	2.0	0.4	1.4	4.2	7.7	20.5	4.7	0.7	0.6	0.6	0.5	0.5	S	1.0	0.6	0.3	0.5	11.6	0.5	0.2	0.5	2.9	1.7	4.9	20.5	3.0	24	
24	5.4	2.3	2.4	16.2	31.4	22.7	16.0	12.2	2.6	1.5	0.8	S	2.0	1.4	1.2	1.5	1.2	1.0	1.3	2.6	34.3	3.1	7.1	7.1	34.3	7.7	24	
25	7.9	0.9	0.9	2.4	5.6	2.0	1.4	1.2	1.0	1.2	S	2.1	0.7	0.5	0.6	0.5	1.2	0.8	1.6	0.9	1.1	32.7	3.8	32.7	3.1	24		
26	0.5	1.0	2.8	8.6	5.7	9.1	6.1	1.6	1.9	S	1.5	1.0	0.9	0.7	0.2	0.4	0.0	0.4	0.8	1.4	5.8	3.2	0.0	0.7	9.1	2.4	24	
27	24.0	0.3	0.2	0.0	0.0	1.5	1.6	0.5	S	0.5	0.5	0.9	0.9	C	C	1.1	0.4	1.9	1.4	2.3	2.5	5.1	8.6	0.7	24.0	2.6	24	
28	92.7	3.6	90.1	16.8	7.6	13.0	15.7	S	2.2	0.7	0.7	0.8	0.7	0.5	0.5	0.4	1.1	0.9	0.5	1.2	78.5	28.3	7.8	5.7	92.7	16.1	24	
29	7.5	53.5	20.0	17.8	30.8	22.9	S	5.5	4.2	1.3	1.4	1.1	0.9	1.6	1.3	0.9	1.0	0.8	0.6	1.4	1.2	1.6	1.6	1.3	53.5	7.8	24	
30	0.7	0.6	37.4	8.6	0.8	S	17.3	8.8	4.8	3.7	2.3	1.2	1.7	1.1	1.1	0.5	0.7	0.4	1.3	1.3	32.2	31.0	12.6	13.2	37.4	8.0	24	
HOURLY MAX	92.7	53.5	90.1	59.2	42.9	26.3	37.3	14.7	5.8	5.6	2.8	2.2	8.2	4.4	1.9	3.2	3.9	11.6	3.5	12.6	78.5	31.0	56.8	15.8				
HOURLY AVG	6.5	4.2	7.9	6.9	8.5	7.6	6.5	3.8	2.2	1.8	1.2	1.1	1.3	1.1	0.9	0.9	0.9	1.2	1.0	2.1	6.7	4.3	5.4	3.2				

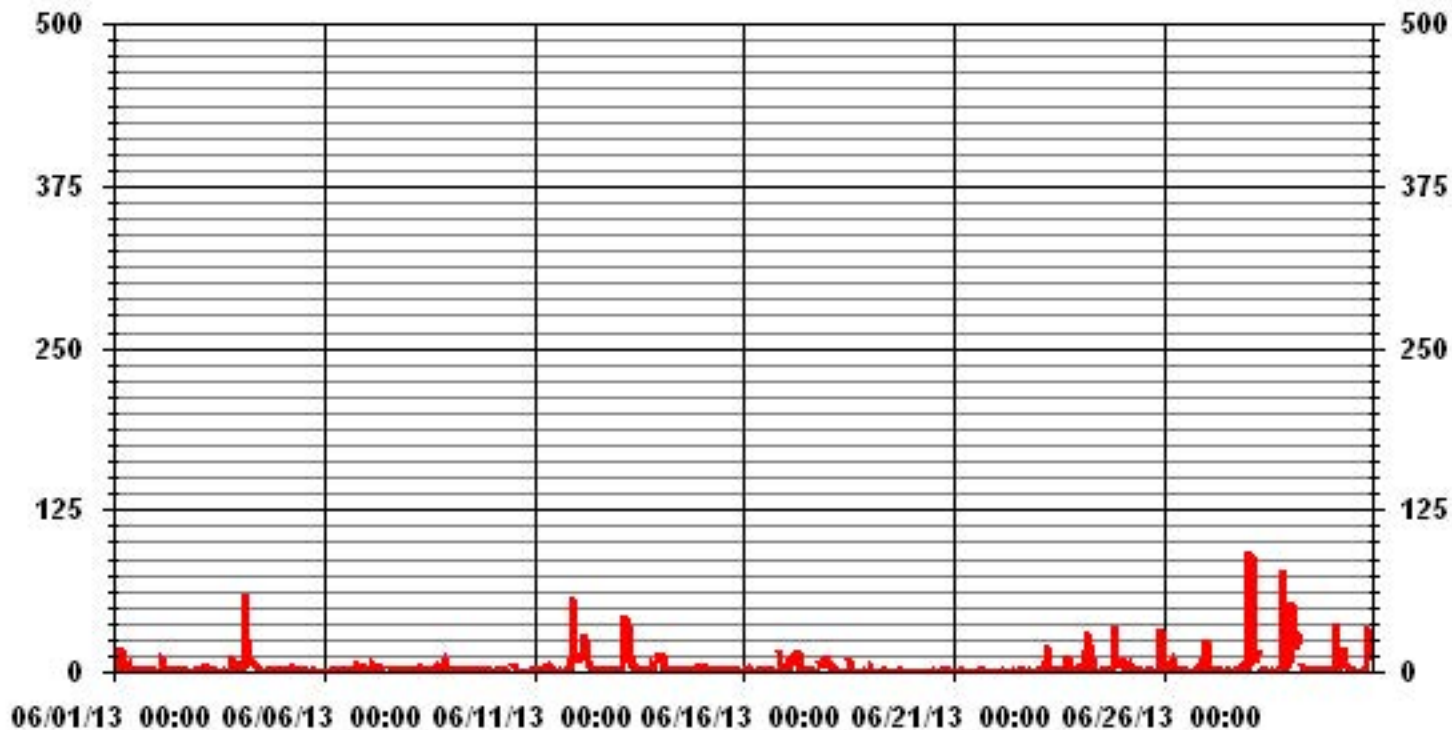
**STATUS FLAG CODES**

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:	672
MAXIMUM INSTANTANEOUS VALUE:	92.7 PPB @ HOUR(S) 0 ON DAY(S) 28
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	11 HRS
STANDARD DEVIATION:	8.65
OPERATIONAL TIME:	718 HRS

# 01 Hour Averages



LICA-ELK  
 NO\_ / WDR Joint Frequency Distribution (Percent)

June 2013

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	2.51	2.21	4.87	8.86	11.07	9.74	4.28	2.80	4.43	2.65	2.21	5.90	10.04	17.42	8.41	2.51	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	2.51	2.21	4.87	8.86	11.07	9.74	4.28	2.80	4.43	2.65	2.21	5.90	10.04	17.42	8.41	2.51	

Calm : .00 %

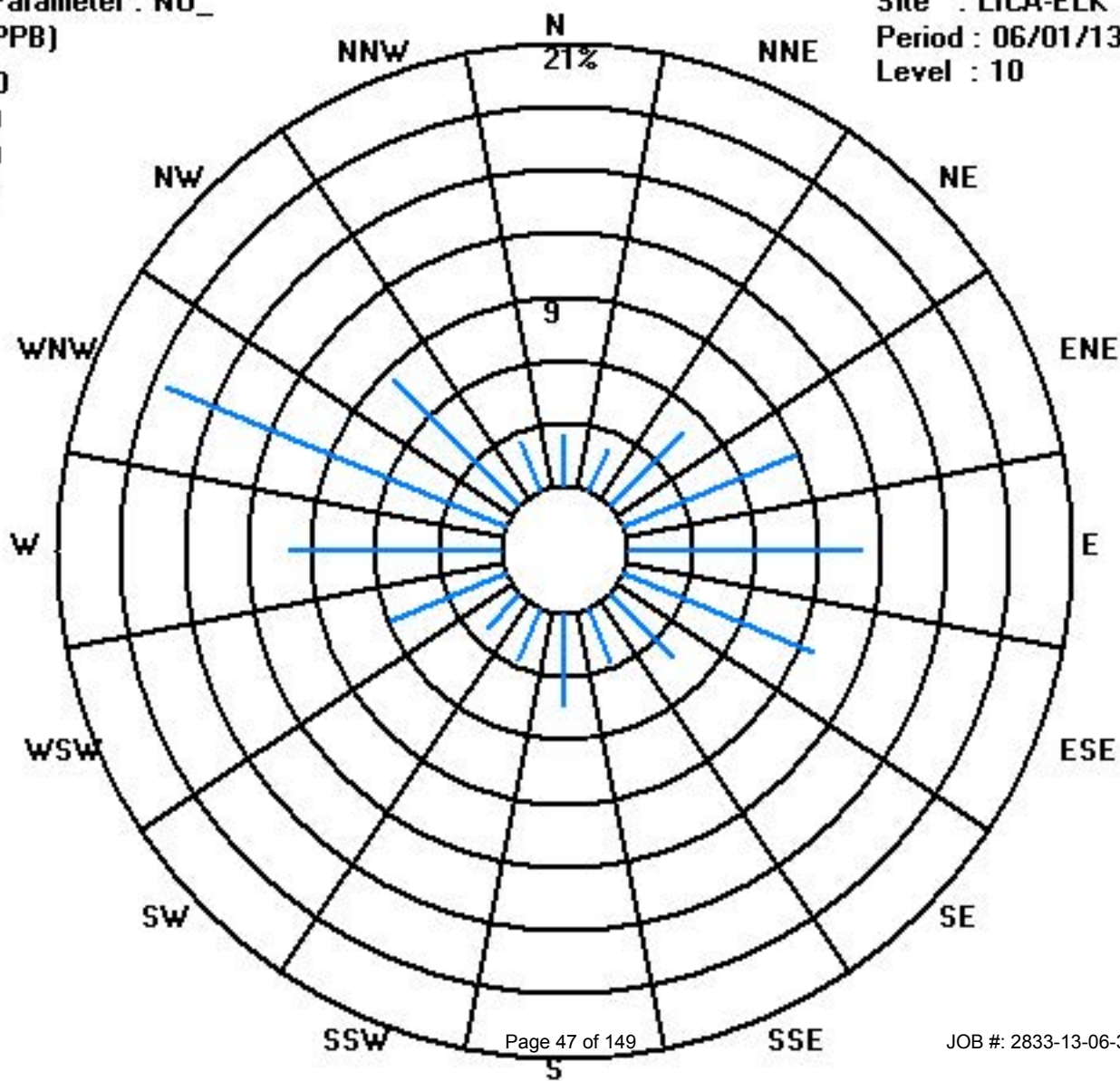
Total # Operational Hours : 677

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50.0	17	15	33	60	75	66	29	19	30	18	15	40	68	118	57	17	677
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	17	15	33	60	75	66	29	19	30	18	15	40	68	118	57	17	

Calm : .00 %

Total # Operational Hours : 677



# Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE - Elk Point Airport

JUNE 2013

OXIDES OF NITROGEN hourly averages in ppb

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	9.3	12.3	28.5	15.5	21.2	14.7	14.4	8.3	6.6	3.8	1.7	S	2.5	1.4	2.8	2.4	2.1	2.2	1.6	2.4	8	11	9.1	5.7	28.5	8.2	24
2	6.5	7.9	9.5	21.9	16.1	9.8	7.1	5.8	4	4.1	S	2.6	1.7	1.7	1.5	1.2	1.2	0.8	1.7	2.5	2.6	3.9	6.6	8.4	21.9	5.6	24
3	6.3	7.1	9.7	12.6	15.5	10.3	4.5	6.2	3.6	S	1.8	1.1	0.9	0.7	0.6	0.5	0.8	0.7	0.8	4.4	9.2	3.4	3.5	17.6	17.6	5.3	24
4	15.9	12	10.2	32.5	32.1	29.1	15.9	14.7	S	10.8	6.7	2.1	1.4	1.5	1.4	1.5	1.5	1.6	2	4.6	10.8	12	14.2	10.4	32.5	10.6	24
5	4.7	7.5	8.2	8.6	13.5	11.9	10.3	S	3	2.4	2.1	2	1.8	1.6	2.1	2.4	1.6	2.1	2.8	2.8	2.7	4.3	4	4.3	13.5	4.6	24
6	2	1.6	2.1	3.6	4.9	3.8	S	1.7	1.4	1.9	1.1	1.3	1.3	0.8	1.1	1.1	0.9	0.9	1.5	5.4	11.1	16.3	20.6	16	20.6	4.5	24
7	10.5	15	12.1	15.4	13.2	S	11.6	10.5	9.5	7	C	C	C	C	C	4.3	2.9	3.5	3.3	3.2	4.7	6.6	6.4	8.3	15.4	8.2	24
8	8.9	6.8	7.3	7.1	S	5.3	3.4	4.7	2.1	1.5	1.4	1.9	2.4	2.3	1.3	1.5	4.9	S	3.1	3.7	2.9	6.7	5.2	2.7	8.9	4.0	24
9	4.2	3.3	2.7	S	2.7	1.1	3.5	1.9	1.7	1	2.4	2.1	0.9	2	1.4	1.2	1.4	0.9	1.8	1.7	1.2	1.3	0.6	0.8	4.2	1.8	24
10	0.8	0.8	S	0.8	0.6	0.8	0.8	1.6	1.6	C	C	C	C	2.3	1.7	0.8	0.6	0.6	1.4	1.5	2.5	1.4	2.6	3.6	3.6	1.4	24
11	2.7	S	4	2.5	4.9	3.5	2.5	2.4	2.5	2	0.6	0.8	0.6	0.5	0.8	0.6	1	0.9	1.6	2	3.2	12.1	20.6	16.8	20.6	3.9	24
12	S	13.5	17.1	13.3	18.4	26.9	13.4	12.9	8.2	5.5	3.7	4.1	2.9	3	2.3	2.3	2.6	3.2	2.8	1.3	1.5	2.5	2.4	S	26.9	7.4	24
13	5	7	13.5	16.2	27	31.7	27.5	21.5	8.1	9.2	3.3	0.9	1.1	1.8	1	1.1	1.4	1.2	1.3	6.4	4	16.9	S	19.1	31.7	9.8	24
14	13	13.9	24.7	9	5.5	4.4	6.2	4.2	3.3	1.3	0.7	1.3	0.9	0.9	1	1.1	0.8	0.8	1.4	1.5	0.6	S	7.3	3.2	24.7	4.7	24
15	7.7	4.9	5.4	4.2	4.3	3.8	4.3	3	3	3.2	2.9	3.4	2.6	2.3	0.7	0.9	0.5	0.5	0.5	0.5	S	1	0.8	0.5	7.7	2.6	24
16	1	1.1	1.1	3.5	1.4	1.1	0.7	0.6	1.1	1.2	0.9	0.9	1.2	1	1.2	0.9	0.9	0.8	0.8	S	10	5	9.1	14.7	14.7	2.6	24
17	13.3	14	10.5	10.1	11.7	14.4	22.2	11.3	4	1.9	1.9	1.4	1.3	1.6	1.7	1.5	1.4	1.5	S	16.9	7.4	22.2	19.8	15.3	22.2	9.0	24
18	12.1	12.2	13.2	11.1	4.3	2.2	2	3.1	1.5	1.5	1	0.7	1.1	0.7	0.6	0.7	0.8	S	4.3	2.7	4.4	6.7	4.3	2.7	13.2	4.1	24
19	5.7	3.4	1.6	1.1	0.4	0.6	0.4	0.3	0.4	0.1	0	0	0.1	0	0.1	0.5	S	1.1	0.7	1.4	1.3	0.5	1.2	1.4	5.7	1.0	24
20	1.3	1.2	1.1	1	0.8	0.9	0.7	0.6	0.5	0.4	0.3	0.5	1.7	2.8	2.2	S	1.2	2.1	3.3	3	2.2	3.4	0.9	1.4	3.4	1.5	24
21	2.6	3.1	6.4	0.8	4	3.2	2.4	0.7	0.2	0	0	0	0	0	S	0.5	0.4	0.5	0.6	0.5	0.5	0.8	1	0.9	6.4	1.3	24
22	1	0.8	1.6	1.2	0.9	1.7	1.3	0.6	0.7	0.4	0.5	0.5	0.4	S	0.9	0.7	0.9	0.9	0.7	1.1	1.3	2.7	3	4.2	4.2	1.2	24
23	5	2.6	5.1	6.3	7.7	20.7	1.8	1.3	0.7	0.9	1	0.8	S	0.8	0.5	0.6	0.5	0.9	0.6	1.3	1.9	7.6	10.5	13.7	20.7	4.0	24
24	21.8	15.6	12.3	14.2	20.6	19	20.5	10.3	4.5	2.6	1.6	S	1.7	1.8	2.2	2.5	2.8	1.7	2.6	4.8	9.9	13.1	15.2	15.1	21.8	9.4	24
25	15.7	9	11.6	11.7	12.3	5	4.3	3.2	2.6	2.6	S	4.3	0.9	0.5	0.6	0.5	0.8	2.2	3	2.9	4.2	4.8	8.1	7.2	15.7	5.1	24
26	5.2	7.1	9.7	21.8	12.6	12.1	7.8	4	3.8	S	3	2.2	1.9	1.4	1.4	1.7	2.2	2.6	4.3	4.8	13.3	10.7	4.1	3.6	21.8	6.1	24
27	3.9	6	8	5	3.6	6.2	6.3	3.9	S	0	0.1	0.7	0.6	C	C	0.5	0.3	3.1	3	7.2	11.6	19.2	24.3	7.3	24.3	5.8	24
28	18.7	13.7	34.2	28.2	17.8	19.2	16.7	S	3.1	0.8	0.3	0.4	0.5	0.3	0.2	0.1	0.2	0.5	0.4	1.8	17.8	26.4	22.3	17.4	34.2	10.5	24
29	18.3	26.5	24.3	24.3	27.1	17.6	S	9.4	5.7	2.8	2.2	2	1.3	2.3	1.8	1.4	1.2	1.4	1.2	2.1	4.5	6.2	6	5.4	27.1	8.5	24
30	4.1	4.3	7.5	9.3	3.4	S	10.8	11.1	12	8	3.6	2.8	3.1	2.1	1.7	1.1	1.6	1.3	1.6	2.5	10.8	13	20.9	11.5	20.9	6.4	24
HOURLY MAX	21.8	26.5	34.2	32.5	32.1	31.7	27.5	21.5	12.0	10.8	6.7	4.3	3.1	3.0	2.8	4.3	4.9	3.5	4.3	16.9	17.8	26.4	24.3	19.1			
HOURLY AVG	7.8	8.1	10.5	10.8	10.6	10.0	8.0	5.7	3.6	2.8	1.7	1.6	1.4	1.4	1.3	1.2	1.4	1.4	1.9	3.3	5.7	8.3	8.8	8.2			

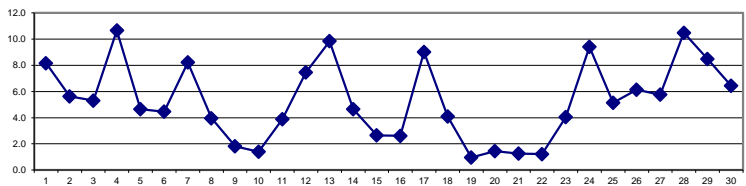
STATUS FLAG CODES

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

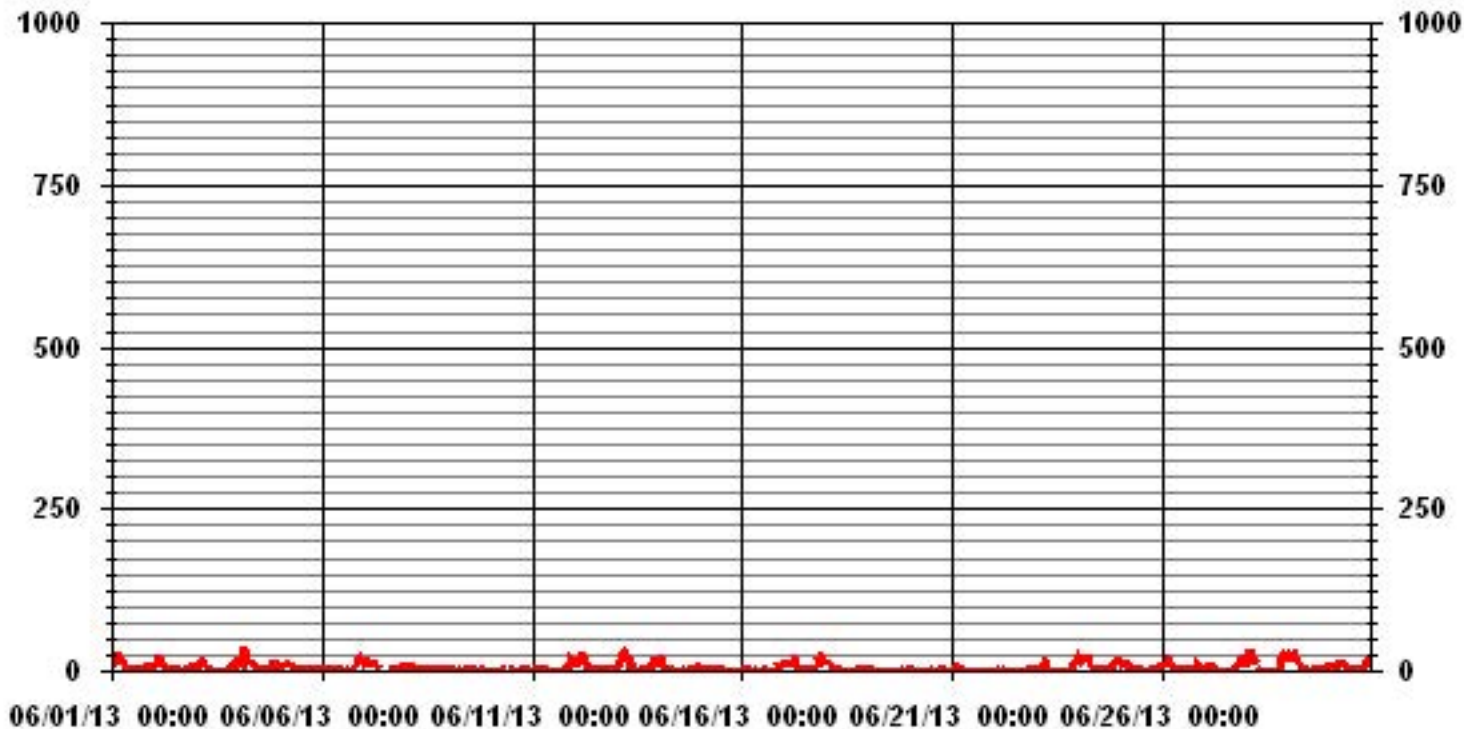
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	668					
MAXIMUM 1-HR AVERAGE:	34.2	PPB	@ HOUR(S)	2	ON DAY(S)	28
MAXIMUM 24-HR AVERAGE:	10.6	PPB			ON DAY(S)	4
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	11	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	6.30		MONTHLY AVERAGE:	5.30	PPB	

24 HOUR AVERAGES FOR JUNE 2013



### 01 Hour Averages



— LICA35 NOX\_ PPB



# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE - Elk Point Airport

JUNE 2013

## 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	15.8	21.0	43.2	27.7	39.1	19.7	24.3	9.6	9.2	12.3	2.8	S	6.6	3.9	4.0	3.5	2.8	3.4	2.8	5.3	19.0	14.2	13.4	8.2	43.2	13.6	24	
2	7.3	11.0	12.2	31.0	27.4	14.9	8.6	7.2	5.5	4.9	S	4.0	2.2	2.6	2.6	2.6	1.6	2.4	4.6	7.9	5.2	14.3	10.8	31.0	8.4	24		
3	8.4	15.6	15.5	18.7	26.7	17.7	7.2	8.0	5.2	S	2.6	1.8	1.7	1.2	1.1	1.0	1.5	1.8	47.5	21.2	4.5	4.5	26.3	47.5	10.5	24		
4	22.7	22.8	13.5	83.5	46.6	40.7	26.3	18.9	S	13.4	9.3	3.5	2.7	2.7	3.7	2.6	2.1	2.8	3.9	11.5	17.4	23.7	22.5	14.1	83.5	17.9	24	
5	8.7	10.5	10.0	18.4	19.7	14.5	14.7	S	4.0	3.8	3.7	3.4	3.4	2.6	3.5	5.4	3.1	3.3	4.4	5.4	4.3	11.9	6.5	7.4	19.7	7.5	24	
6	3.3	2.3	3.4	5.0	29.0	6.0	S	3.1	2.7	4.1	2.2	3.0	3.0	3.6	4.0	2.0	1.7	2.1	2.6	21.4	21.0	27.1	28.3	21.8	29.0	8.8	24	
7	12.6	20.2	16.4	27.6	19.4	S	13.2	11.5	13.0	8.0	C	C	C	C	C	8.4	4.1	5.3	4.8	5.5	10.0	10.3	11.5	12.7	27.6	11.9	24	
8	10.8	10.2	16.6	13.2	S	10.5	10.2	10.4	5.6	4.1	3.7	3.5	6.7	4.9	2.8	4.2	12.9	2.1	9.4	9.5	11.2	20.8	14.9	8.8	20.8	9.0	24	
9	9.4	5.6	5.3	S	6.0	3.7	5.4	3.1	3.4	3.6	5.5	5.1	2.6	5.2	4.2	2.6	3.2	2.3	4.6	4.3	3.6	2.9	2.0	1.3	9.4	4.1	24	
10	1.5	1.6	S	1.5	1.1	1.3	2.4	3.1	3.5	C	C	C	C	7.5	4.6	3.2	1.7	1.7	3.7	3.6	5.0	3.8	6.6	5.6	7.5	3.3	24	
11	5.0	S	6.5	5.3	7.0	6.0	5.2	6.3	6.0	4.8	1.1	1.7	1.0	1.6	1.7	1.2	1.9	1.6	5.2	5.9	17.0	21.1	66.6	28.6	66.6	9.1	24	
12	S	20.4	21.0	15.7	38.6	35.1	20.8	15.8	10.3	7.1	5.8	5.1	4.6	5.3	3.5	3.5	4.8	6.2	5.1	1.9	2.2	5.3	5.8	S	38.6	11.1	24	
13	9.3	18.7	17.0	26.1	62.2	44.5	55.0	29.9	14.8	14.7	6.4	1.4	1.4	4.4	1.6	1.9	1.9	2.0	2.0	12.9	9.5	27.7	S	26.8	62.2	17.0	24	
14	30.6	21.2	30.7	15.0	8.9	7.3	7.7	5.2	4.9	2.1	2.0	3.7	1.9	1.7	2.5	2.3	1.8	2.1	3.3	5.1	1.2	S	17.9	9.7	30.7	8.2	24	
15	12.4	9.4	8.3	8.0	6.9	7.2	6.8	5.3	5.8	5.4	4.1	5.2	4.5	4.5	3.3	2.7	0.9	1.1	0.8	1.2	S	1.7	1.6	1.1	12.4	4.7	24	
16	1.9	1.6	1.7	10.5	2.0	1.7	1.3	1.1	1.9	1.8	1.5	1.6	1.7	1.6	2.3	1.5	1.4	1.4	1.4	S	26.2	6.8	17.8	18.7	26.2	4.8	24	
17	15.4	17.9	13.6	12.4	15.5	20.5	24.5	24.5	5.5	3.2	3.0	2.1	2.4	2.5	3.4	2.4	2.4	3.1	S	28.8	17.9	36.2	23.6	29.5	36.2	13.5	24	
18	17.2	19.2	15.7	18.4	13.2	2.9	5.5	5.9	2.4	2.2	Y	Y	13.6	1.4	1.1	1.5	1.7	S	6.8	5.3	13.0	11.7	6.0	5.1	19.2	8.1	22	
19	18.5	9.5	2.7	2.0	1.5	1.5	1.0	0.8	1.1	0.7	0.5	0.5	0.5	0.5	0.7	1.2	S	1.8	1.6	1.9	2.1	1.1	1.8	1.8	18.5	2.4	24	
20	1.8	1.9	1.6	1.6	1.3	1.3	1.3	1.1	1.0	1.0	0.8	1.1	3.5	4.3	4.2	S	2.0	5.9	6.5	5.7	5.5	5.3	2.1	2.2	6.5	2.7	24	
21	8.5	10.3	11.7	1.7	8.6	5.4	4.5	1.7	1.0	0.5	0.3	0.5	0.4	0.4	S	1.0	1.0	1.3	1.2	1.2	1.2	3.1	2.7	1.5	11.7	3.0	24	
22	1.9	1.8	2.0	2.2	1.7	2.3	2.3	1.2	1.4	1.0	1.0	1.0	0.9	S	1.5	1.2	1.4	1.6	1.5	2.4	2.4	7.4	5.2	6.4	7.4	2.2	24	
23	9.1	3.7	11.0	16.5	17.1	38.6	13.5	2.0	1.5	1.7	2.1	2.3	S	1.5	0.8	1.6	1.1	18.6	1.3	2.4	5.8	17.3	14.8	26.4	38.6	9.2	24	
24	29.0	20.0	19.2	30.7	46.7	33.4	26.7	23.6	6.8	4.9	3.0	S	3.5	3.3	3.9	4.1	4.6	3.6	5.1	13.4	63.3	17.7	26.8	26.6	63.3	18.3	24	
25	33.5	14.7	15.4	17.5	21.9	11.2	7.4	4.9	3.4	4.0	S	8.9	1.7	1.2	1.2	1.0	1.4	5.1	4.4	5.5	6.8	7.2	56.1	19.6	56.1	11.0	24	
26	8.5	9.7	16.2	46.1	24.9	22.1	17.6	4.8	5.1	S	4.3	3.1	4.4	3.5	3.8	3.7	3.1	4.9	8.7	11.9	30.7	19.9	5.8	10.9	46.1	11.9	24	
27	47.6	11.2	10.5	9.5	4.6	11.9	8.7	5.1	S	1.4	1.3	1.7	1.2	C	C	2.3	1.1	9.4	6.3	12.0	22.0	26.7	35.1	15.4	47.6	11.7	24	
28	119.4	25.7	110.4	35.8	27.4	26.9	30.7	S	5.7	1.9	0.8	0.8	1.3	1.0	0.7	1.0	2.6	2.0	1.0	6.7	109.5	57.6	34.3	29.9	119.4	27.5	24	
29	23.6	70.7	36.3	35.0	40.4	32.4	S	12.4	10.7	4.4	3.3	3.7	2.0	5.2	4.3	2.2	2.4	2.7	2.0	5.3	10.1	11.3	8.4	7.5	70.7	14.6	24	
30	5.8	7.3	58.8	29.6	6.9	S	29.6	20.2	16.6	12.7	8.4	3.9	5.8	3.6	3.5	2.1	3.1	2.2	5.4	5.3	60.3	56.8	40.4	27.7	60.3	18.1	24	
HOURLY MAX	119.4	70.7	110.4	83.5	62.2	44.5	55.0	29.9	16.6	14.7	9.3	8.9	13.6	7.5	4.6	8.4	12.9	18.6	9.4	47.5	109.5	57.6	66.6	29.9				
HOURLY AVG	17.2	14.3	18.8	19.5	19.7	15.8	13.7	8.8	5.6	4.8	3.2	2.9	3.2	3.0	2.8	2.5	2.6	3.5	3.8	8.7	18.2	16.1	17.1	14.2				

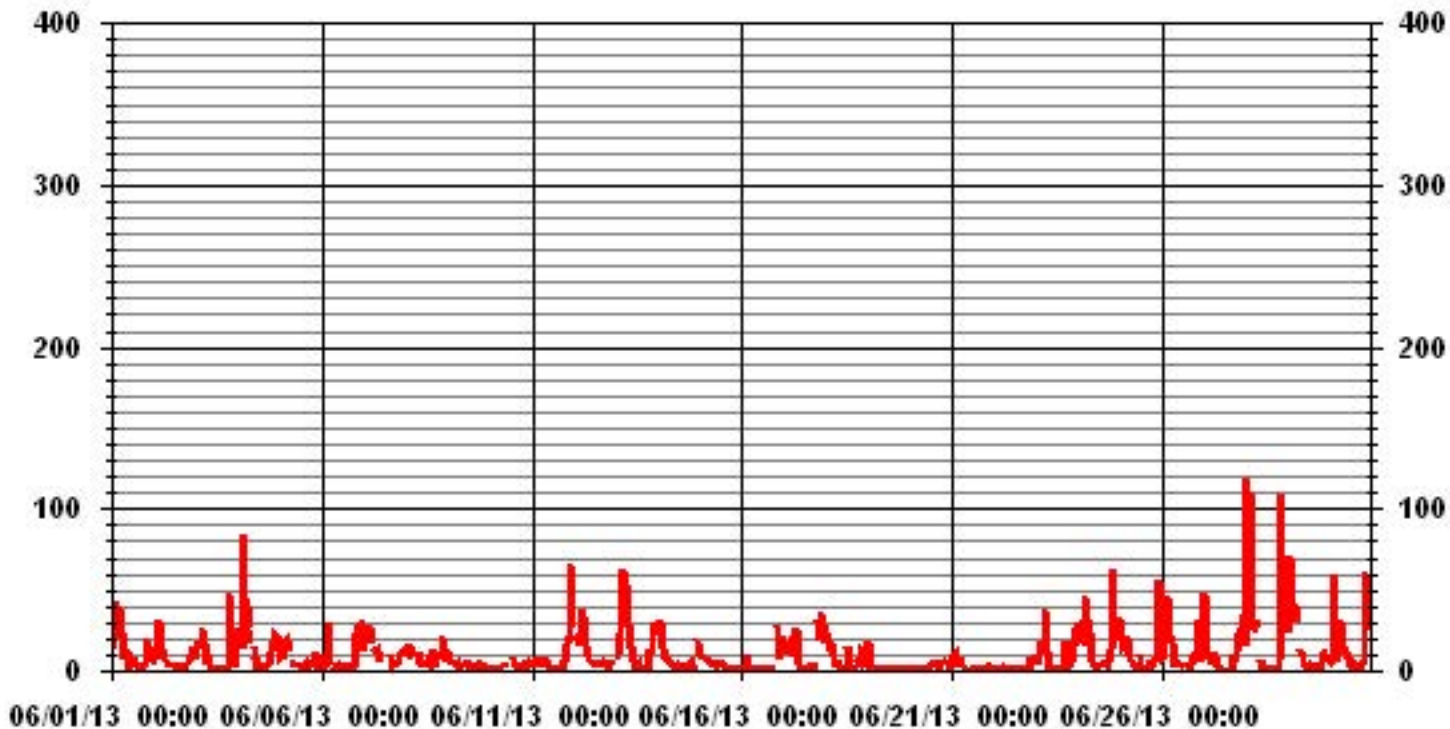
**STATUS FLAG CODES**

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

**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	676
MAXIMUM INSTANTANEOUS VALUE:	119.4 PPB @ HOUR(S) 0 ON DAY(S) 28
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	11 HRS
STANDARD DEVIATION:	13.57
OPERATIONAL TIME:	718 HRS

### 01 Hour Averages



LICA-ELK  
 NOX\_ / WDR Joint Frequency Distribution (Percent)

June 2013

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	2.51	2.21	4.87	8.86	11.07	9.74	4.28	2.80	4.43	2.65	2.21	5.90	10.04	17.42	8.41	2.51	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	2.51	2.21	4.87	8.86	11.07	9.74	4.28	2.80	4.43	2.65	2.21	5.90	10.04	17.42	8.41	2.51	

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
< 50.0	17	15	33	60	75	66	29	19	30	18	15	40	68	118	57	17	677
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	17	15	33	60	75	66	29	19	30	18	15	40	68	118	57	17	

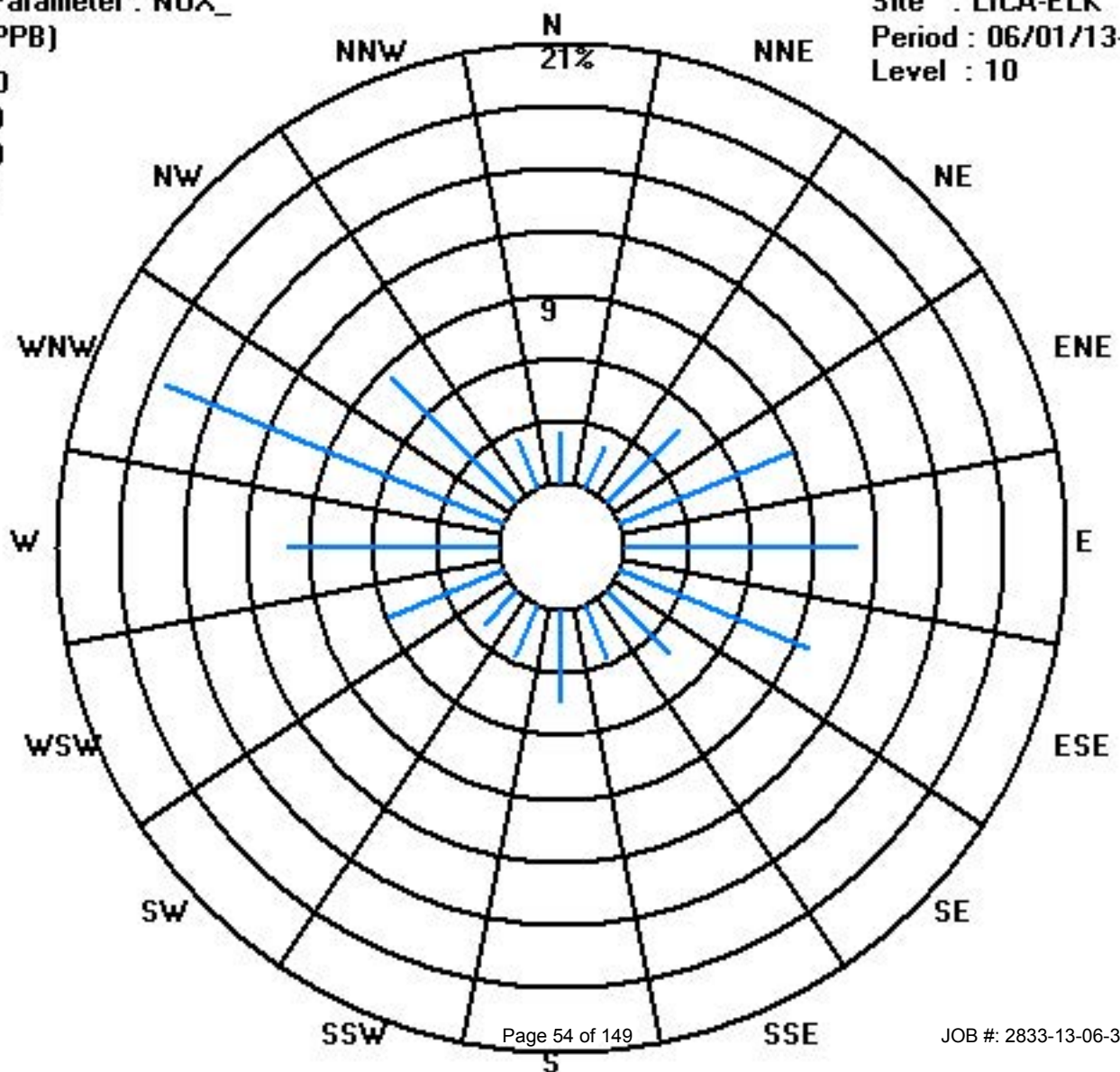
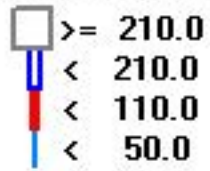
Calm : .00 %

Total # Operational Hours : 677

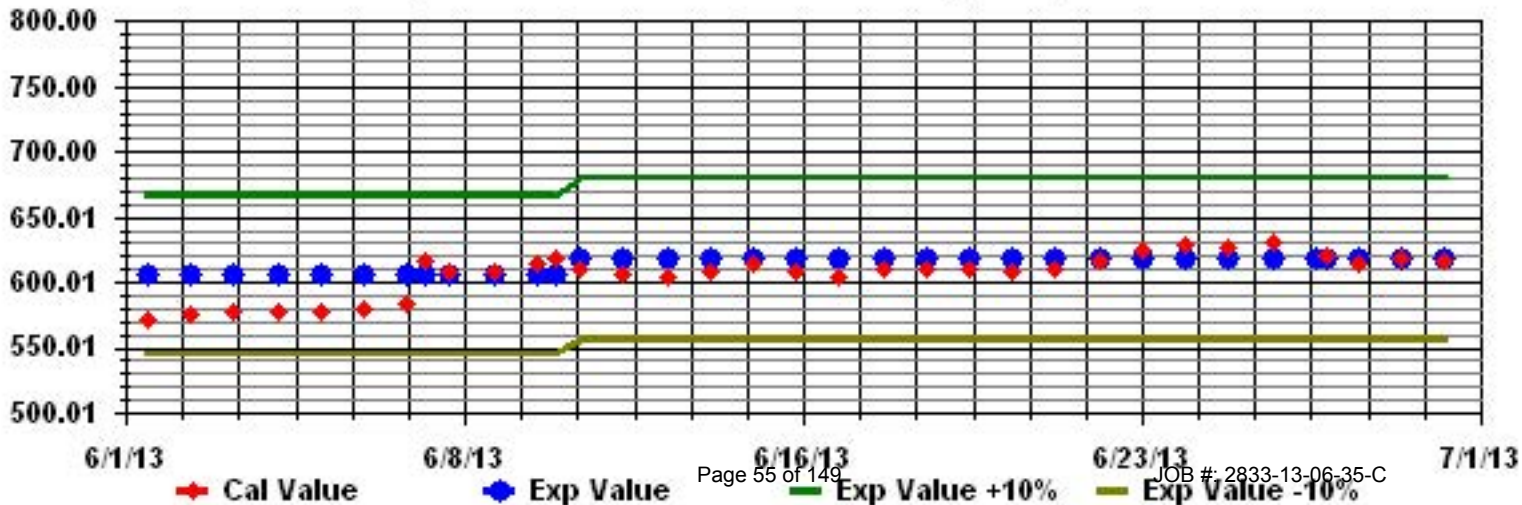
Class Limits (PPB)

Period : 06/01/13-06/30/13

Level : 10



Calibration Graph for Site: LICA35 Parameter: NOX\_ Sequence: NO2 Phase: SPAN



# Ozone

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE - Elk Point Airport

JUNE 2013

OZONE (O<sub>3</sub>) hourly averages in ppb

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
DAY	DAY	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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.
1	1	19	11	2	6	3	7	13	19	19	24	31	S	33	35	32	33	36	36	36	30	22	18	24	27	36	22.4	24
2	2	18	13	13	3	6	9	18	18	23	25	S	33	40	45	47	47	42	40	41	38	38	38	33	25	47	28.4	24
3	3	28	25	23	17	15	21	32	33	38	S	50	53	55	55	55	54	53	52	48	36	32	26	12	55	37.7	24	
4	4	10	11	10	7	2	5	13	20	S	35	49	60	61	61	63	64	65	65	63	55	45	40	36	34	65	38.0	24
5	5	41	32	24	23	20	22	28	S	52	57	61	61	61	59	58	57	55	52	48	38	31	27	25	61	43.2	24	
6	6	26	23	23	19	18	19	S	28	28	31	33	35	34	35	37	41	44	45	44	39	25	15	11	9	45	28.8	24
7	7	11	6	8	7	9	S	13	20	25	30	41	45	47	45	43	41	39	38	35	35	29	24	23	19	47	27.5	24
8	8	18	22	28	27	S	21	23	22	27	29	31	31	28	30	31	33	28	28	30	28	24	21	23	25	33	26.4	24
9	9	25	26	26	S	24	22	22	25	23	26	25	26	27	24	26	24	20	18	18	16	15	15	16	16	27	22.0	24
10	10	17	19	S	21	22	21	18	15	15	16	15	14	C	C	C	2	14	14	13	12	11	11	10	8	22	14.4	24
11	11	8	S	6	7	5	6	7	8	8	9	10	10	13	21	24	25	26	27	26	25	20	7	3	2	27	13.2	24
12	12	S	1	1	1	1	2	7	8	11	14	17	19	27	33	35	38	37	37	37	33	28	23	21	S	38	19.6	24
13	13	25	20	10	5	4	3	6	10	19	21	37	41	36	36	37	38	37	35	29	22	20	7	S	6	41	21.9	24
14	14	7	6	1	12	16	15	14	17	24	29	31	31	33	34	35	34	35	33	30	31	32	S	19	22	35	23.5	24
15	15	17	21	19	21	23	22	23	25	24	25	26	25	26	24	23	22	21	20	21	22	S	19	19	18	26	22.0	24
16	16	16	16	17	13	15	20	23	25	25	23	27	30	30	33	32	34	33	32	31	S	12	13	9	2	34	22.2	24
17	17	1	1	1	1	2	4	6	15	26	36	39	43	42	42	43	42	42	40	S	24	24	9	7	8	43	21.7	24
18	18	5	6	4	14	20	30	31	30	31	C	Y	S	42	41	39	37	35	S	40	37	30	24	20	21	42	26.9	23
19	19	19	20	22	24	24	23	24	25	27	29	31	32	33	33	32	31	S	30	31	29	29	30	31	31	33	27.8	24
20	20	31	29	29	28	27	26	26	27	29	31	32	30	29	29	31	S	33	30	27	26	26	23	28	26	33	28.4	24
21	21	23	20	17	24	17	18	23	26	29	30	29	28	30	32	S	38	46	52	47	39	29	24	24	22	52	29.0	24
22	22	21	20	18	15	15	13	15	17	17	19	24	27	30	S	35	35	34	32	33	32	31	26	25	18	35	24.0	24
23	23	13	15	14	13	7	7	22	24	29	33	32	32	S	34	35	35	35	36	36	34	27	19	18	13	36	24.5	24
24	24	4	4	7	7	4	5	10	23	30	36	40	S	42	42	45	47	46	45	42	37	29	22	19	17	47	26.2	24
25	25	15	18	15	13	10	22	24	27	27	29	S	26	32	31	31	29	27	25	29	34	31	27	22	17	34	24.4	24
26	26	16	9	8	1	9	11	21	25	29	S	32	33	32	33	35	38	36	16	X	X	X	X	X	X	38	22.6	18
27	27	X	X	X	X	X	X	X	X	X	X	X	X	X	C	C	C	35	31	30	24	18	13	9	20	35	22.5	11
28	28	10	14	3	1	7	9	13	S	31	33	34	36	39	40	39	38	37	37	37	33	20	7	6	5	40	23.0	24
29	29	2	1	1	1	1	4	S	21	31	39	40	42	40	39	42	44	43	42	40	36	29	23	20	18	44	26.0	24
30	30	21	21	19	17	21	S	10	10	12	18	24	27	29	35	38	39	38	39	39	36	24	16	7	6	39	23.7	24
HOURLY MAX		41	32	29	28	27	30	32	33	52	57	61	61	61	61	63	64	65	65	63	55	45	40	36	34			
HOURLY AVG		16.7	15.4	13.2	12.4	12.4	14.3	18.0	20.9	25.3	28.0	32.3	33.5	36.0	37.1	37.9	37.2	37.1	35.6	35.3	32.3	26.5	20.6	19.1	16.9			

STATUS FLAG CODES

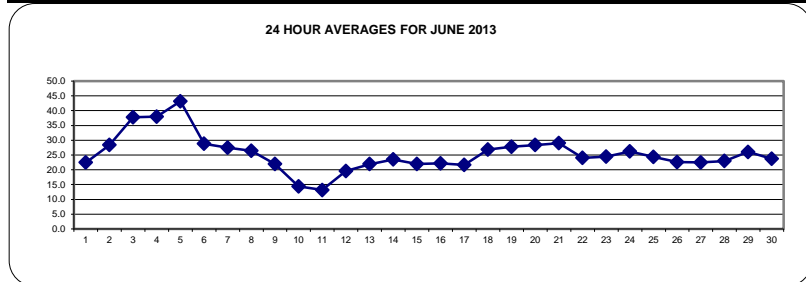
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT:

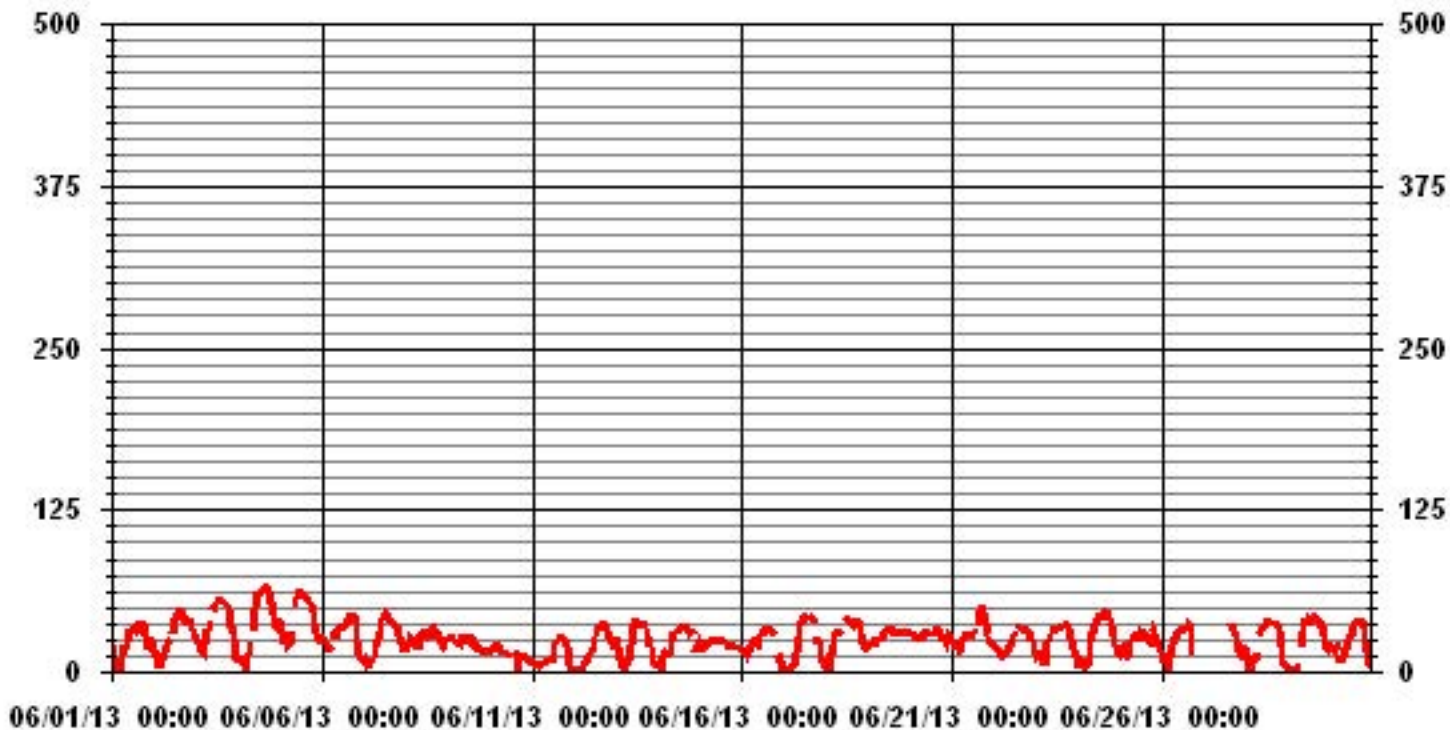
ALBERTA ENVIRONMENT: 1-HR 82 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	662					
MAXIMUM 1-HR AVERAGE:	65	PPB	@ HOUR(S)	16, 17	ON DAY(S)	4
MAXIMUM 24-HR AVERAGE:	43.2	PPB			ON DAY(S)	5
					VAR-VARIOUS	
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	700	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	97.2	%	
STANDARD DEVIATION:	13.16		MONTHLY AVERAGE:	25.54	PPB	



### 01 Hour Averages





# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE - Elk Point Airport

JUNE 2013

## 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	29	20	5	12	6	11	21	22	22	31	32	S	37	41	34	36	38	38	39	34	33	28	30	33	41	27.5	24	
2	25	18	16	7	10	13	21	21	26	27	S	37	44	47	49	50	45	42	44	43	40	40	40	33	50	32.1	24	
3	33	32	31	28	22	32	34	36	41	S	52	55	56	57	56	56	55	55	54	54	51	34	31	26	57	42.7	24	
4	19	17	19	19	3	10	21	23	S	41	58	62	63	63	65	65	66	66	66	61	52	52	44	41	66	43.3	24	
5	42	41	30	30	25	28	32	S	57	60	63	63	63	62	61	60	59	57	55	53	43	35	32	30	63	47.0	24	
6	27	25	25	21	20	21	S	29	31	32	35	36	36	36	39	43	46	46	46	44	35	25	18	19	46	32.0	24	
7	17	9	10	13	13	S	17	23	29	32	47	47	48	49	46	44	42	40	38	37	36	27	26	24	49	31.0	24	
8	21	28	34	33	S	25	25	25	32	32	34	33	30	32	32	37	32	29	33	31	29	26	27	28	37	29.9	24	
9	30	30	28	S	27	24	24	26	25	29	27	29	29	27	30	25	22	20	20	17	16	17	17	18	30	24.2	24	
10	18	20	S	21	22	22	20	17	16	16	17	16	C	C	C	C	14	14	15	14	13	13	12	10	22	16.3	24	
11	10	S	8	8	7	7	8	10	9	11	11	12	15	24	26	26	28	28	28	27	25	15	8	4	28	15.4	24	
12	S	3	1	2	2	5	11	10	13	17	19	23	31	35	36	40	40	38	39	36	31	26	23	S	40	21.9	24	
13	31	26	15	9	10	6	9	18	23	28	48	47	40	39	40	40	39	37	33	33	26	17	S	12	48	27.2	24	
14	12	9	9	16	18	17	16	21	28	30	33	33	35	36	36	36	37	37	33	34	34	S	26	25	37	26.6	24	
15	21	27	22	25	25	24	27	27	26	28	28	27	27	26	24	24	23	21	22	23	S	20	21	19	28	24.2	24	
16	18	17	18	17	18	23	25	28	28	25	31	34	34	34	34	35	35	33	33	S	19	22	17	6	35	25.4	24	
17	3	1	1	2	4	6	7	21	31	39	42	45	44	44	44	45	43	42	S	35	35	14	13	12	45	24.9	24	
18	9	8	8	23	25	32	34	33	33	C	Y	S	43	43	41	39	38	S	45	41	37	30	26	22	45	30.5	23	
19	24	24	23	25	25	24	26	27	28	31	32	33	34	34	33	32	S	32	32	31	30	32	32	32	34	29.4	24	
20	31	30	29	29	28	27	27	28	30	31	35	32	31	31	34	S	35	34	29	29	30	27	30	29	35	30.3	24	
21	25	24	23	26	24	20	26	27	31	31	30	30	32	38	S	47	53	54	50	45	33	27	25	23	54	32.3	24	
22	22	22	19	17	16	14	17	19	18	21	31	29	33	S	38	37	36	35	36	33	33	33	29	28	38	26.8	24	
23	18	20	20	23	11	19	27	27	34	35	34	34	S	38	36	36	37	41	38	36	32	27	24	22	41	29.1	24	
24	9	8	11	11	9	8	15	29	33	40	42	S	43	45	48	48	48	48	47	43	37	26	21	48	30.2	24		
25	25	22	18	22	15	25	28	29	30	31	S	29	35	34	33	31	28	28	31	37	36	32	29	21	37	28.2	24	
26	21	15	11	4	14	17	26	27	34	S	35	35	34	35	38	40	38	36	X	X	X	X	X	X	40	27.1	18	
27	X	X	X	X	X	X	X	X	X	X	X	X	X	C	C	C	37	35	32	30	26	17	18	24	37	27.4	11	
28	17	21	12	7	10	15	18	S	32	34	35	39	41	41	41	39	38	40	39	38	33	18	14	8	41	27.4	24	
29	5	1	1	1	2	8	S	25	36	41	42	44	42	42	44	47	44	44	42	38	34	29	23	20	47	28.5	24	
30	22	23	22	22	24	S	12	12	19	22	29	29	33	39	40	40	40	41	41	40	34	23	16	10	41	27.5	24	
HOURLY MAX	42	41	34	33	28	32	34	36	57	60	63	63	63	63	65	65	66	66	66	61	52	52	44	41				
HOURLY AVG	20.9	19.3	16.8	16.9	15.5	17.9	21.3	23.7	28.4	30.6	35.5	35.9	38.3	39.7	39.9	40.7	39.2	38.3	37.9	36.3	32.6	26.1	24.2	21.4				

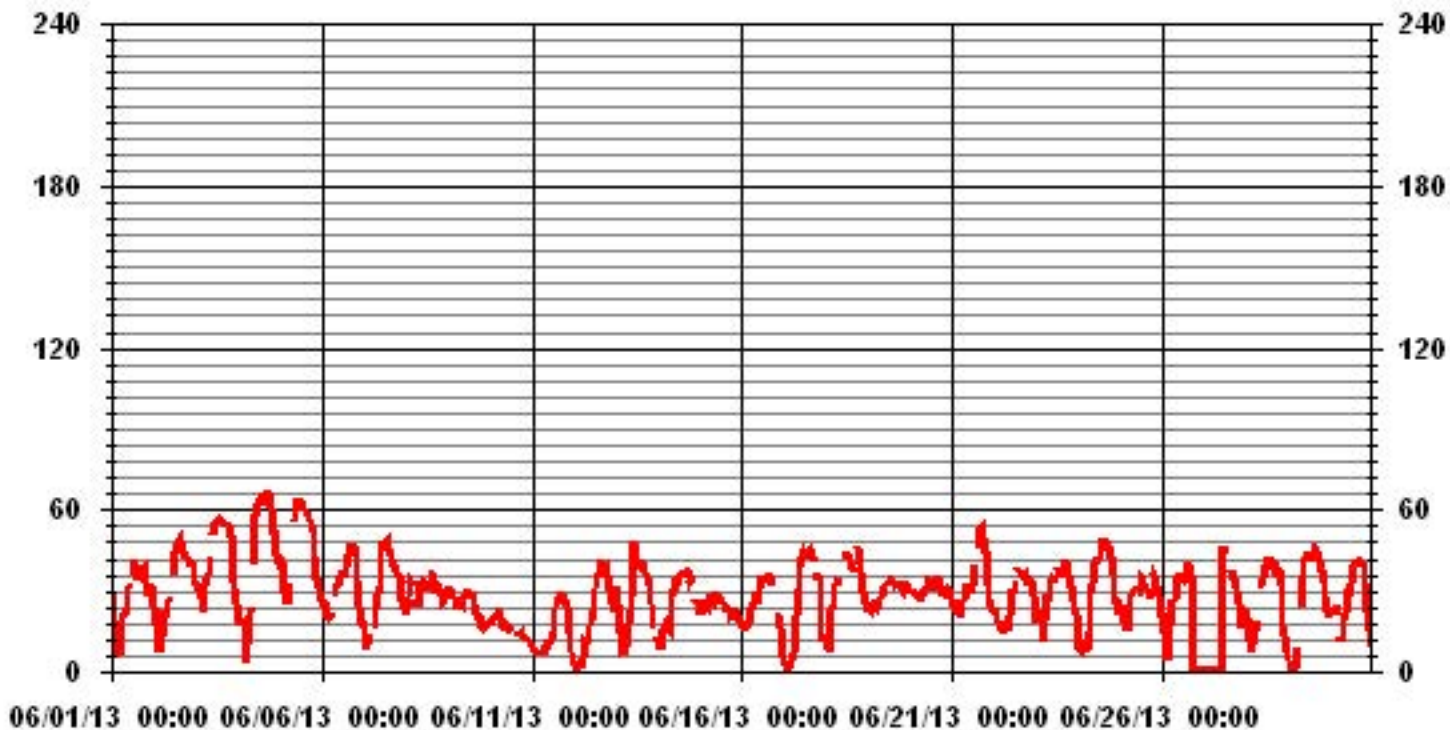
**STATUS FLAG CODES**

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:	661				
MAXIMUM INSTANTANEOUS VALUE:	66	PPB	@ HOUR(S)	VAR	ON DAY(S) 4
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	700	HRS
MONTHLY CALIBRATION TIME:	8	HRS			
STANDARD DEVIATION:	12.83				

### 01 Hour Averages



— LICA35 O3MAX PPB

LICA-ELK  
 O3\_ / WDR Joint Frequency Distribution (Percent)

June 2013

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	2.56	2.26	4.98	8.76	10.42	9.51	4.38	3.02	2.26	2.41	2.11	5.89	8.15	17.37	8.76	2.56	95.46
< 110	.00	.00	.00	.15	.75	.30	.30	.00	2.56	.30	.15	.00	.00	.00	.00	.00	4.53
< 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	2.56	2.26	4.98	8.91	11.17	9.81	4.68	3.02	4.83	2.71	2.26	5.89	8.15	17.37	8.76	2.56	

Calm : .00 %

Total # Operational Hours : 662

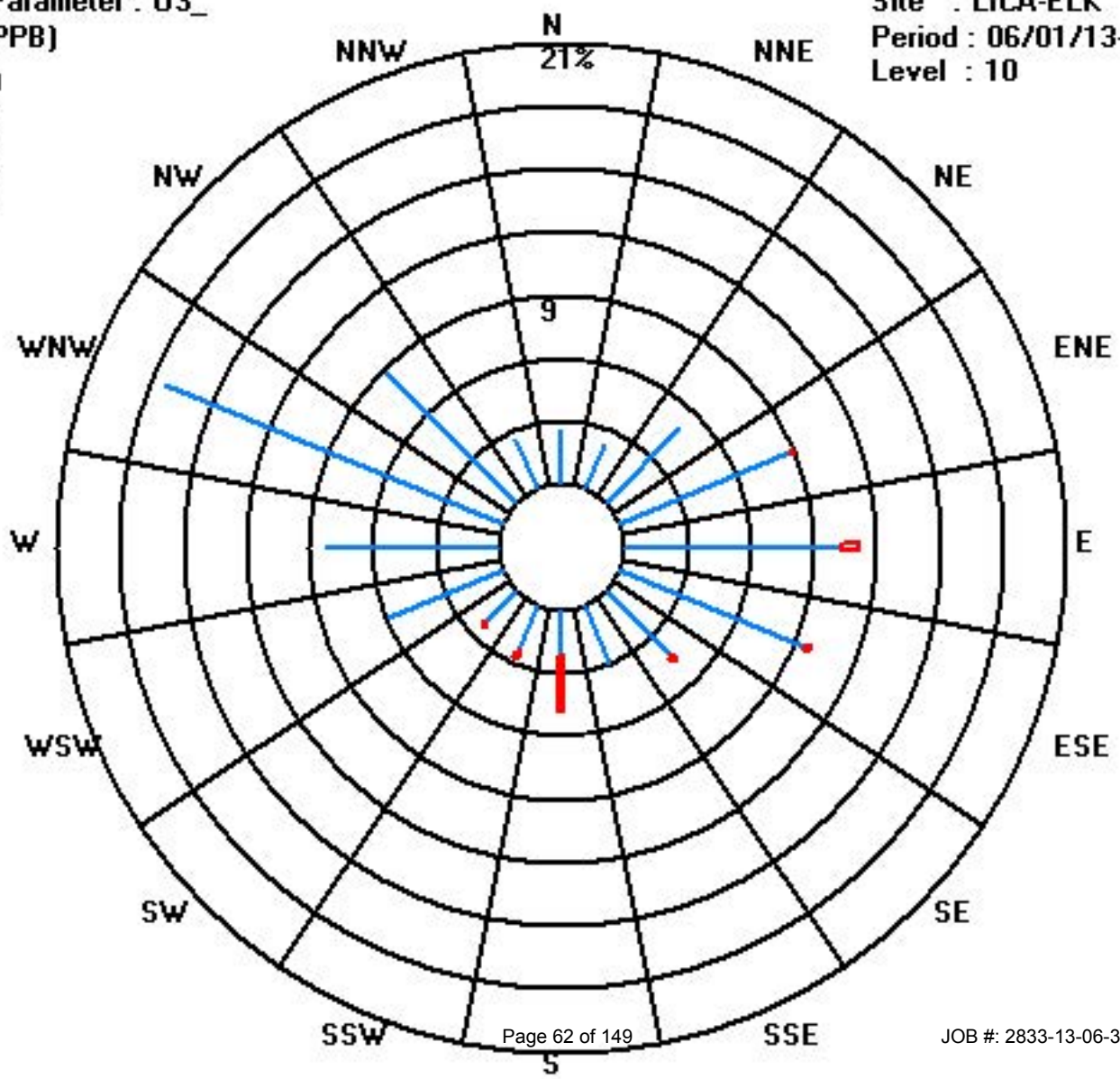
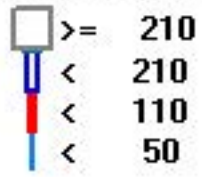
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	17	15	33	58	69	63	29	20	15	16	14	39	54	115	58	17	632
< 110				1	5	2	2		17	2	1						30
< 210																	
>= 210																	
Totals	17	15	33	59	74	65	31	20	32	18	15	39	54	115	58	17	

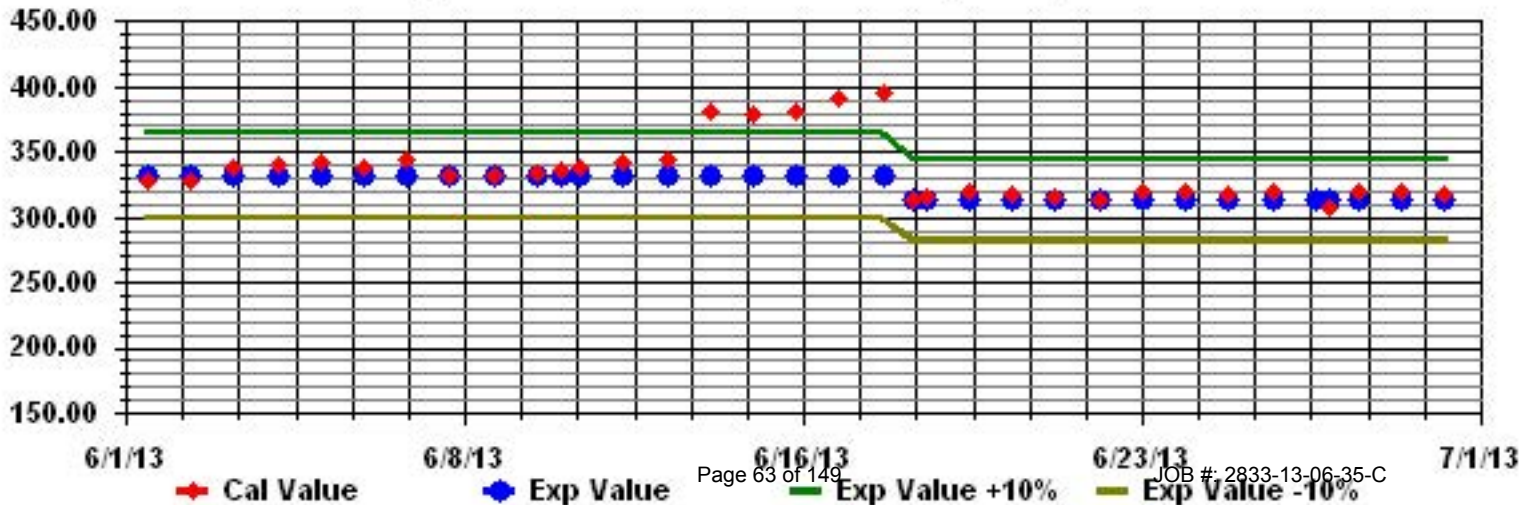
Calm : .00 %

Total # Operational Hours : 662

Class Limits (PPB)



Calibration Graph for Site: LICA35 Parameter: 03\_ Sequence: 03 Phase: SPAN



# Total Hydrocarbons

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE - Elk Point Airport

JUNE 2013

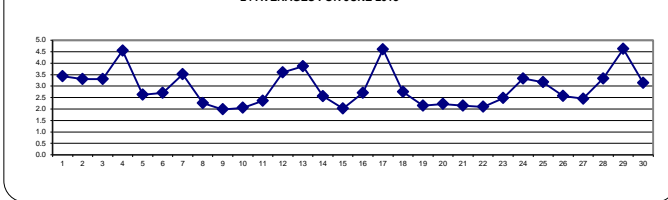
## TOTAL HYDROCARBONS (THC) hourly averages in ppm

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24:00	DAILY MAX.	24-HOUR AVG.	RDGS.
DAY		1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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				
1		4.2	4.4	5.9	4.5	5.2	4.1	4.2	2.3	2.2	2.1	2	S	2.3	2.2	2.5	2.4	2.2	2.3	2.2	2.6	5.4	7.4	3.5	2.7	7.4	3.4	24	
2		4.8	5.1	6.6	6	5.1	4.6	3.4	3	2.4	2.4	S	2.2	2.1	2	2	2	2	2	2.2	2.8	2.6	2.6	3.8	4.4	6.6	3.3	24	
3		3.6	4	5.4	5.9	6.3	4.6	2.7	2.6	2.4	S	2.2	2.2	2.1	2.2	2.2	2.1	2.1	2.1	2.2	2.3	2.4	2.9	3.3	8.2	8.2	3.3	24	
4		7.5	6.1	8.9	6.2	10.3	8.7	6.2	6	S	4.1	2.9	2.1	2.1	2.2	2	2.3	2.2	2.2	2.4	4	3.6	5.3	3.7	3.6	10.3	4.5	24	
5		2.6	3.2	3.8	4.1	4.6	3.9	3	S	2.3	2.3	2.1	2.3	2.2	2.2	2.2	2.1	2.4	2.5	2.1	1.9	1.9	2.1	2.3	4.6	2.6	24		
6		2	2	2	2.2	2.2	2.1	S	2.1	2	2	2	2	2	2	2	2	2	2	2.1	2.2	2.9	7.1	8.2	5.1	8.2	2.7	24	
7		5	7.4	4.6	5.9	5	S	4.6	4.4	4	3.3	2.6	2.5	2	2.2	2.2	2.2	2.4	2.4	2.5	3.4	3.4	3.3	3.4	7.4	3.5	24		
8		3.6	3.1	3.6	2.8	S	2.2	2	2.1	2	2	2	2	2	2	2	2	2.1	2	2	2	2.2	2.1	2.1	3.6	2.3	24		
9		2.1	2	2	S	2	2	2	2	2	1.9	1.9	2	2	1.9	1.9	1.9	1.9	2	2	2	2	2	2	2	2.1	2.0	24	
10		2	2	S	2	2	2.1	2.1	2.1	2.1	C	C	C	C	C	2	1.9	2	2	2	2.1	2.1	2.1	2.2	2.2	2.2	2.1	24	
11		2.2	S	2.2	2.1	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.2	2.4	2.7	4	4.3	4.3	2.4	24	
12		S	4.4	5.1	5	10.9	8.4	5	4.6	3.5	2.8	2.5	2.6	2.5	2.3	2.2	2.2	2.1	2.3	2.3	2.1	2.1	2.2	2.1	S	10.9	3.6	24	
13		3.9	3.7	4.3	12	6.3	7.1	5.9	4.9	3.2	2.9	2.3	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.5	2.4	5	S	5.4	12.0	3.9	24	
14		4.3	5.6	5.6	3.5	2.6	2.2	2.3	2.2	2.1	2	2	2	2	2	2	2	2	2	2	2	2.1	2	S	2.4	2	5.6	2.6	24
15		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.1	S	2.1	2.1	2.1	2.1	2.0	24	
16		2.1	2.2	2.1	2.2	2.2	2.2	2.1	2.1	2.2	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	S	3.4	4.8	5.1	7.6	7.6	2.7	24	
17		7.9	8.4	9.1	6.6	6.7	6.2	7.7	3.7	2.3	2.1	2	2.1	2	2.1	2	2	2	S	3.5	4.8	8.9	6	5.6	9.1	4.6	24		
18		7.7	4.3	4.5	3.7	2.8	2.2	2.3	2.3	2.1	2.1	1.9	1.9	1.9	1.9	1.9	2	2.1	S	2.4	2.3	2.5	3	2.9	2.5	7.7	2.7	24	
19		2.6	2.8	2.3	2.1	2.1	2.2	2.1	2	2	2	2	2	2	2	2	2.1	S	2.1	2.1	2.2	2.2	2.1	2.2	2.2	2.8	2.1	24	
20		2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	S	2.2	2.2	2.2	2.4	2.4	2.9	2.2	2.2	2.9	2.2	24	
21		2.3	2.5	2.4	2.2	2.4	2.4	2.4	2.1	2.1	2	2	2	2	2	S	2	2	2	2	2	2	2	2.2	2.2	2.2	2.5	2.1	24
22		2.1	2.1	2.1	2.2	2.2	2.3	2.2	2.1	2.1	2	2	2	2	S	1.9	1.9	2	2	2	2	2.1	2.1	2	2.3	2.5	2.5	2.1	24
23		3	2.7	2.7	2.7	3.4	4.5	2.2	2.1	2	1.9	2	2	2	S	2	2	2	2	2	2	2.1	2.1	2.9	3.3	3.3	4.5	2.5	24
24		4	5.3	4.4	3.8	4	3.7	3.5	2.6	2.2	2.1	2.3	S	2.1	2	2.1	2.1	2.2	2	2.2	2.3	4.4	6	5.9	5.3	6.0	3.3	24	
25		5.1	4.7	6.9	5.8	5.3	3.4	3	2.6	2.5	2.6	S	2.5	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.6	2.5	2.9	3.5	6.9	3.2	24	
26		2.9	2.7	5.2	6.3	4.3	3.3	2.7	2.2	2.1	S	2	2	1.9	1.9	1.8	1.8	1.8	1.8	1.7	1.7	2.6	2.3	2.1	1.9	6.3	2.6	24	
27		2	2.3	2.6	2.5	1.9	2.1	2.1	1.9	S	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.4	2.6	3.2	4.4	4	3.2	4.4	2.4	24	
28		4.1	3.6	5.6	5.6	5	4.2	3.6	S	2.1	2	2	2	2	1.9	1.9	1.9	2	2	2	3.5	5.7	5.5	6.3	6.3	6.3	3.3	24	
29		5.7	12.4	11.2	10.1	11.7	7.6	S	4.3	3.2	2.7	2.4	2.2	2	2.1	2.1	2	2	2	2	2.2	3.2	4.2	3.6	5.4	12.4	4.6	24	
30		3.3	3.1	3.2	2.7	2.5	S	3.8	5.3	5.7	3	2.5	2.4	2.4	2.4	2.2	2.1	2.1	2.1	2.1	2.2	2.6	4.5	3.6	3.8	4.7	5.7	3.1	24
HOURLY MAX		7.9	12.4	11.2	12.0	11.7	8.7	7.7	6.0	5.7	4.1	2.9	2.6	2.5	2.4	2.5	2.4	2.2	2.4	2.5	4.0	5.4	8.9	8.2	8.2				
HOURLY AVG		3.7	4.0	4.4	4.3	4.3	3.7	3.2	2.9	2.5	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.9	3.7	3.4	3.7				

### STATUS FLAG CODES

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

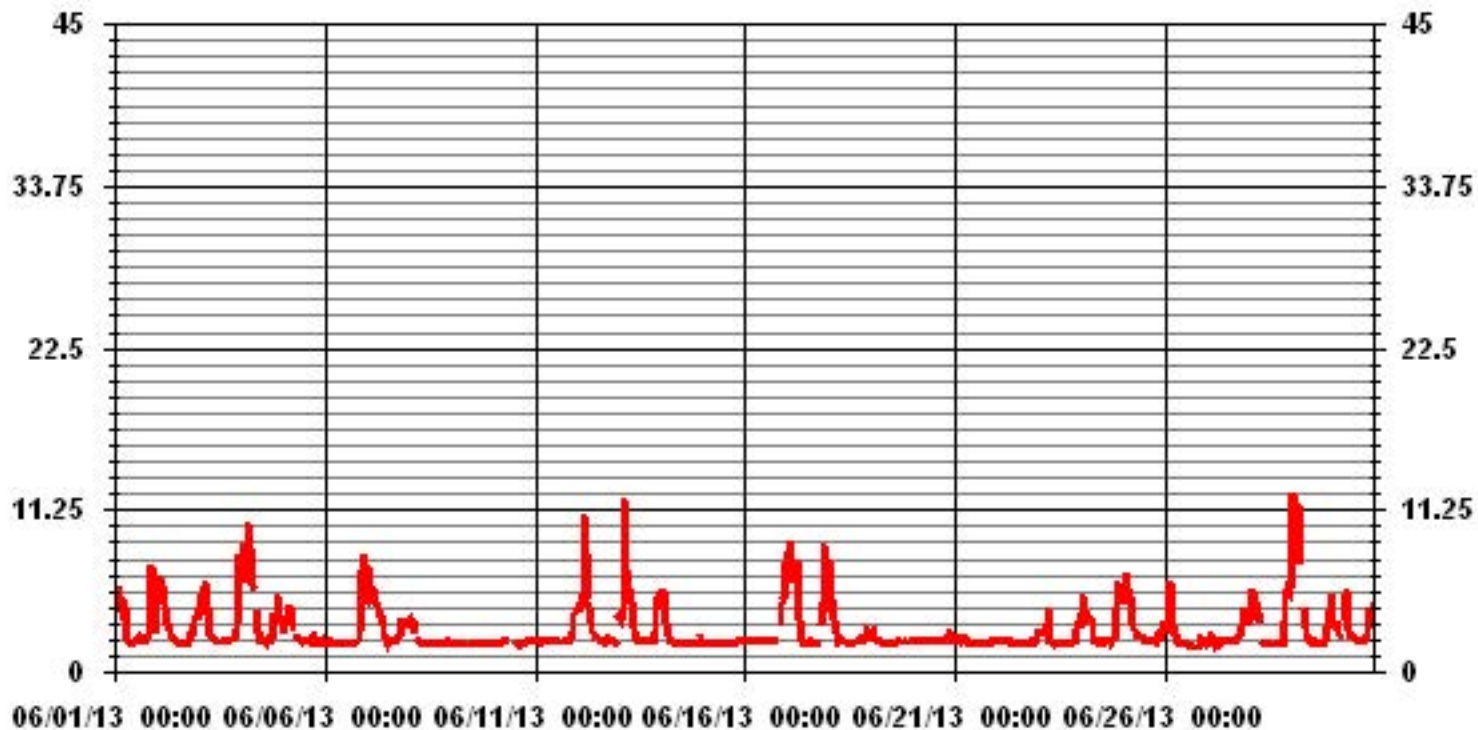
24 AVERAGES FOR JUNE 2013



### MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	684					
MAXIMUM 1-HR AVERAGE:	12.4	PPM	@ HOUR(S)	1	ON DAY(S)	29
MAXIMUM 24-HR AVERAGE:	4.6	PPM			ON DAY(S)	29
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	1.62		MONTHLY AVERAGE:	2.93	PPM	

### 01 Hour Averages



— LICA35 THC PPM



**LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE - Elk Point Airport**

JUNE 2013

**TOTAL HYDROCARBONS MAX**      instantaneous maximum in ppm

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR START	HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																													
1		10.3	5.6	7.7	5.7	6.9	5.1	7	2.4	2.3	2.4	2.1	S	5	3.9	3.9	2.9	2.3	3.3	3.8	4.6	9.4	17.2	4.2	3.4	17.2	5.3	24	
2		12	9	11.3	6.9	6.5	5.1	4.7	4.3	2.7	3	S	2.4	2.4	2.2	2.4	2.3	2.5	2.4	2.9	8.1	5.7	2.9	11.5	6	12	5.2	24	
3		4.9	7	7	9.2	9.6	7.7	3.2	3	2.6	S	2.4	2.5	2.3	2.2	2.4	2.2	2.2	2.3	2.6	3.8	3.8	3.1	3.6	14.5	14.5	4.5	24	
4		10.7	13.8	21.1	8.6	18.1	12	7	7.2	S	4.6	3.7	2.7	4.2	5.2	3.4	5.8	3.6	3.5	6.7	15.1	10.2	22.7	6.7	5.5	22.7	8.8	24	
5		2.8	3.9	4.1	9.2	9.1	5.2	3.6	S	3.5	4.5	4.4	3.6	3.3	3.8	5.2	3.5	4.1	4	6.9	6	2	2	4.1	2.8	9.2	4.4	24	
6		2.1	2.2	2.3	2.3	2.4	2.2	S	2.4	2.2	2.1	2.1	2.1	2.2	2.2	2.1	2.2	2.2	2.3	2.1	2.4	3.8	25.7	23.4	6.1	25.7	4.4	24	
7		9.4	10.7	7.2	15.3	6.4	S	5	4.8	5	3.9	4.3	5	3.7	3.6	3.2	3.7	2.9	3.5	3.5	3	5.4	5.7	4.3	4.3	15.3	5.4	24	
8		3.9	3.5	8.7	3.1	S	2.5	2.2	2.4	2.1	2.1	2.1	2.1	2.2	2.2	2	2.1	2.4	2	2.1	2.1	2.2	3	2.5	2.5	8.7	2.7	24	
9		2.6	2.3	2	S	2.1	2	2.1	2	2	2	2	2	2	2	2	2	2	2	2	2.1	2.2	2.2	2.1	2.1	2.6	2.1	24	
10		2	2	S	2.1	2.1	2.1	2.2	2.2	2.3	C	C	C	C	C	C	2	2.3	2.1	2.1	2.3	2.3	2.3	2.4	2.4	2.4	2.2	24	
11		2.3	S	2.3	2.4	2.4	2.4	2.3	2.4	2.4	2.3	2.1	2.3	2.1	2.2	2.3	2.2	2.3	2.3	2.2	2.3	3.2	3.9	6.3	5.6	6.3	2.7	24	
12		S	7.8	9.6	7.9	35.2	18.8	6.8	5.5	5.5	3.5	3.4	3.2	3	3	2.6	4	2.4	4	4.5	2.1	2.1	2.5	2.3	S	35.2	6.4	24	
13		11.8	4.5	6.7	25.6	11.3	11.8	8.6	5.8	3.6	3.4	2.6	2.2	2.2	2.3	2.1	2.3	2.2	2.2	5.3	5.1	5.6	21.8	S	6.6	25.6	6.8	24	
14		5.1	17.8	6.6	4.2	3	2.4	2.5	2.3	2.3	2.1	2.1	2.5	2.1	2.2	2.3	2.2	2	2.2	2.5	2.7	2.1	S	4.3	2.1	17.8	3.5	24	
15		2.1	2.1	2.2	2.1	2	2	2.1	2	2.1	2	2.1	2	2	2	2	2	2	2	2	2.1	S	2.2	2.2	2.2	2.2	2.2	2.1	24
16		2.3	2.3	2.2	2.3	2.4	2.3	2.2	2.2	2.5	2.2	2.2	2.2	2.3	2.3	2.7	2.2	2.2	2.2	2.3	S	10.5	24.8	8	14.7	24.8	4.4	24	
17		12.5	9.9	23.8	8.2	7.9	7.9	9.7	7.4	2.4	2.3	2.1	3.7	2.3	4.1	4.3	2.2	2.4	3.3	S	9.2	19.4	36.7	7.3	8.8	36.7	8.6	24	
18		17.7	4.8	5.6	5.1	3.5	2.4	3.2	3.3	2.3	2.4	Y	Y	2.1	2	2.1	2.7	2.7	S	3.6	2.4	2.7	4.3	4.2	3.6	17.7	3.9	22	
19		3.5	4.8	2.6	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.4	2.2	2.1	2.1	2.4	2.5	S	2.4	2.2	2.3	2.2	2.2	2.3	2.3	4.8	2.4	24	
20		2.3	2.3	2.2	2.2	2.4	2.2	2.2	2.3	2.1	2.1	2.3	2.4	2.4	2.4	S	2.8	2.5	2.5	4	3.2	3.9	2.5	2.3	4	2.5	2.4	24	
21		2.7	2.7	2.7	2.3	2.7	2.6	2.5	2.4	2.3	2.1	2.1	2.1	2	2.2	S	2	2	2.3	2.3	2.1	2.2	2.8	2.7	2.3	2.8	2.4	24	
22		2.3	2.2	2.3	2.3	2.4	2.4	2.4	2.1	2.2	2.1	2.1	2	2.2	S	2.2	2	2.2	2.2	2.3	2.8	2.2	2.2	2.5	2.9	2.9	2.3	24	
23		4.6	3	3.3	3.1	4.4	6.7	2.8	2.2	2.2	2	2	5.1	S	2.1	2	2	2.1	2.1	2.1	2.3	2.5	4.2	5.1	4.3	6.7	3.1	24	
24		4.6	12.8	6.3	4.9	5.6	4.7	4.2	3.5	2.4	2.3	8.3	S	3.6	2.1	3.5	4.8	4	2.1	3	2.7	10.7	8.8	9.7	12.8	5.4	24		
25		13.6	11.6	11.8	8.6	7	4.5	3.7	3.1	3	3.2	S	4.5	2.2	2.3	2.4	2.2	2.5	2.6	2.4	3.2	4.3	3.9	3.7	6.6	13.6	4.9	24	
26		3.7	3	11.5	8.2	8.1	3.9	2.5	2.3	S	2.2	2.1	2.1	2.1	2	1.9	1.9	1.9	1.9	1.8	1.9	4.5	2.8	2.2	2.7	11.5	3.4	24	
27		2.8	2.6	4	4.9	2.3	2.5	2.6	2.1	S	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.7	2.7	3	4.5	5.5	4.5	4	5.5	3.0	24		
28		5.8	5.5	8.5	6.8	6.8	6.9	4.7	S	2.2	2.2	2	2	2	2	2	2	2	2	2	2.1	16.3	21.5	8.4	14.3	21.5	5.7	24	
29		12.2	51.9	18.6	19.6	13.6	11.4	S	5.1	3.9	4.4	3.1	3.8	2.1	3.2	2.9	3	4.4	2.2	2.1	2.3	7	12.3	6.6	9.8	51.9	8.9	24	
30		7.5	4.3	4.6	3	3	S	4.6	10.1	11.7	3.6	3.9	3.2	2.6	2.8	2.7	2.7	3.1	3.2	3.5	7.5	10.2	12.9	5	20.5	20.5	5.9	24	
HOURLY MAX		17.7	51.9	23.8	25.6	35.2	18.8	9.7	10.1	11.7	4.6	8.3	5.1	5.0	5.2	5.2	5.8	4.4	4.0	6.9	15.1	19.4	36.7	23.4	20.5				
HOURLY AVG		6.2	7.4	7.2	6.5	6.6	5.1	3.9	3.5	3.0	2.7	2.8	2.8	2.5	2.6	2.6	2.6	2.5	2.5	3.0	3.8	5.6	9.2	5.3	6.0				

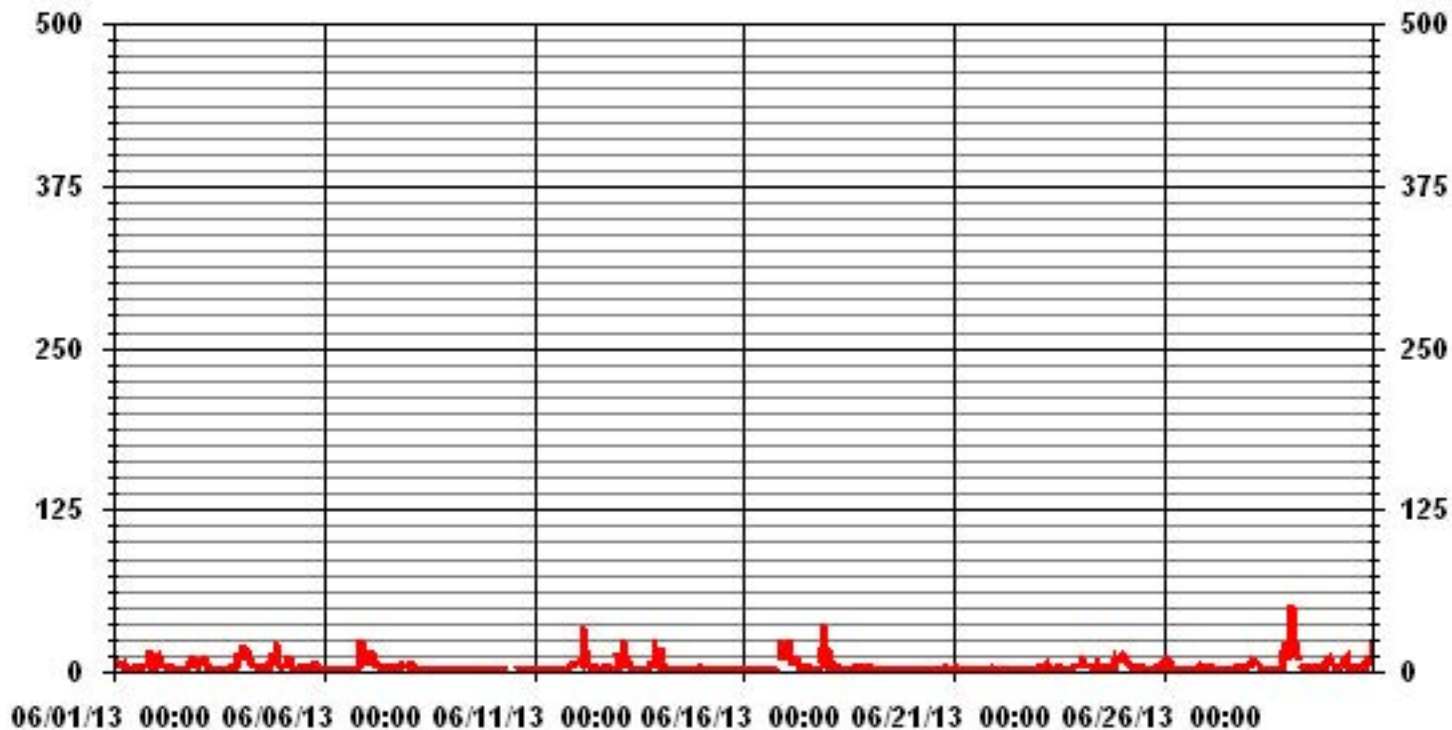
**STATUS FLAG CODES**

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:	681				
MAXIMUM INSTANTANEOUS VALUE:	51.9	PPM	@ HOUR(S)	1	ON DAY(S) 29
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	718	HRS
MONTHLY CALIBRATION TIME:	6	HRS			
STANDARD DEVIATION:	4.58				

# 01 Hour Averages



— LICA35 THCMAX PPM

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

June 2013

Distribution By % Of Samples

Logger Id : 35  
 Site Name : LICA-ELK  
 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	2.33	2.04	4.09	7.60	7.60	4.97	2.33	2.63	3.07	1.60	1.46	2.33	7.30	14.61	7.60	2.04	73.68
< 10.0	.14	.14	.73	1.16	3.36	4.53	2.04	.14	1.46	.87	.73	3.50	2.33	2.77	.87	.43	25.29
< 50.0	.00	.00	.00	.00	.00	.14	.14	.14	.14	.14	.00	.00	.29	.00	.00	.00	1.02
>= 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.48	2.19	4.82	8.77	10.96	9.64	4.53	2.92	4.67	2.63	2.19	5.84	9.94	17.39	8.47	2.48	

Calm : .00 %

Total # Operational Hours : 684

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	16	14	28	52	52	34	16	18	21	11	10	16	50	100	52	14	504
< 10.0	1	1	5	8	23	31	14	1	10	6	5	24	16	19	6	3	173
< 50.0						1	1	1	1	1			2				7
>= 50.0																	
Totals	17	15	33	60	75	66	31	20	32	18	15	40	68	119	58	17	

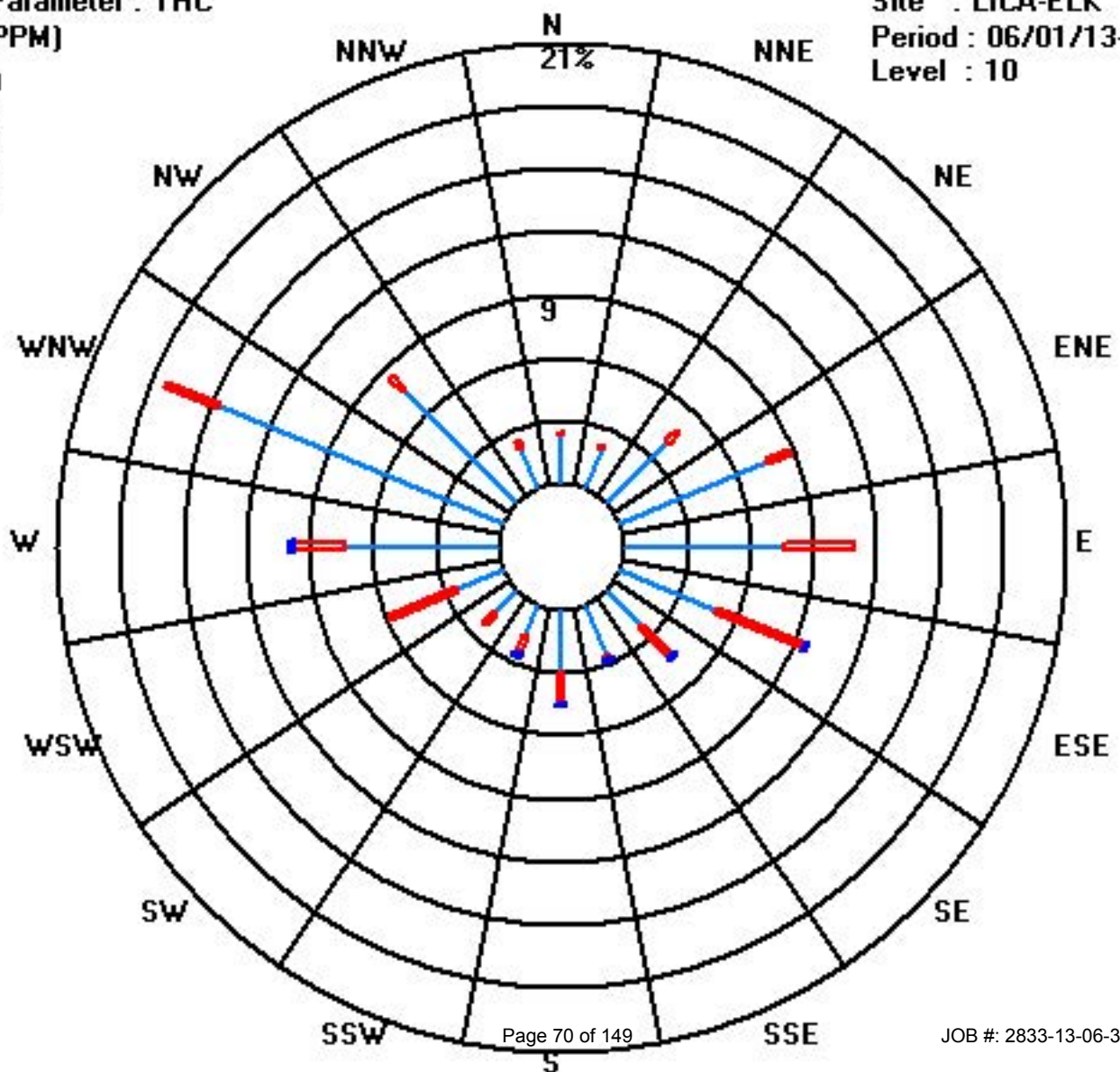
Calm : .00 %

Total # Operational Hours : 684

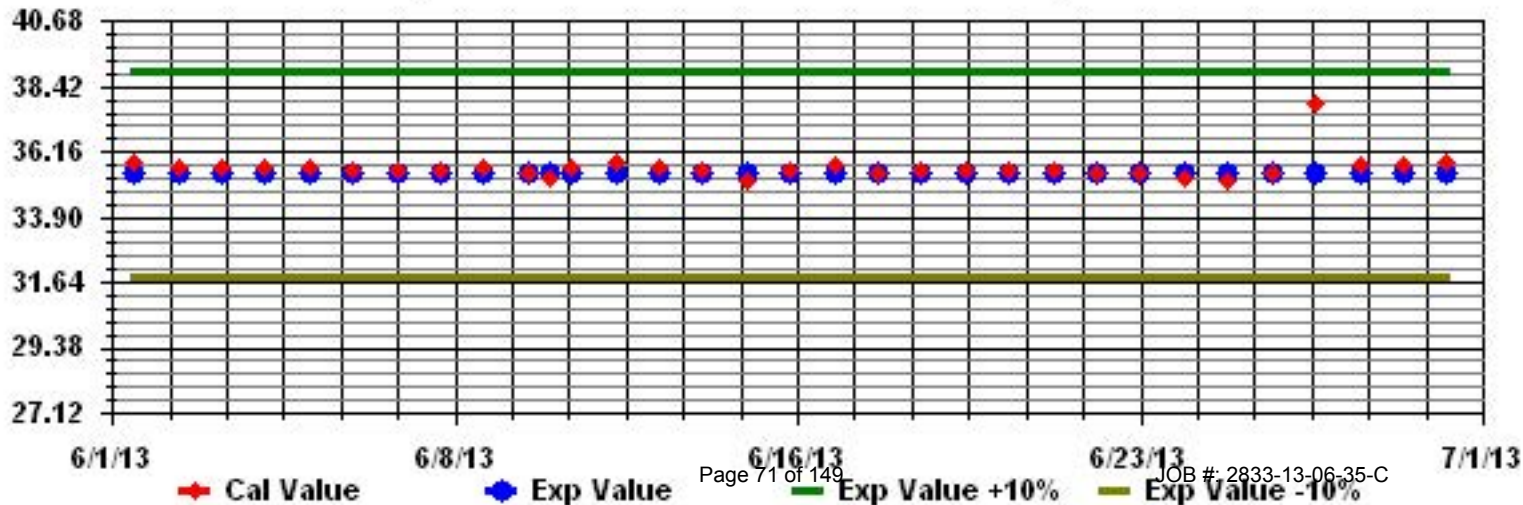
Class Limits (PPM)

Period : 06/01/13-06/30/13

Level : 10



Calibration Graph for Site: LICA35 Parameter: THC Sequence: THC Phase: SPAN



# Total Hydrocarbons (55i)

## LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

JUNE 2013

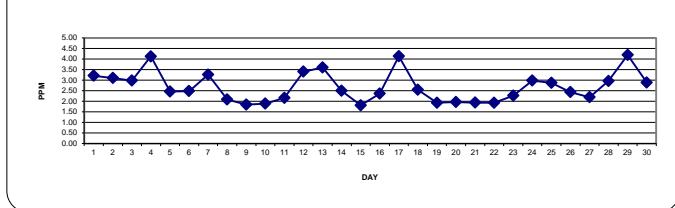
### TOTAL HYDROCARBONS (55i) hourly averages in ppm

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	23:00	DAILY	24-HOUR	RDGS.
DAY	DAY	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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.		
1	1	3.96	4.17	5.44	4.22	4.89	3.82	4.00	2.15	2.04	1.96	1.90	S	2.17	2.04	2.34	2.27	2.04	2.13	2.10	2.49	4.96	6.83	3.38	2.58	6.83	3.21	24	
2	2	4.31	4.83	6.06	5.64	4.83	4.37	3.28	2.85	2.25	2.26	S	2.07	2.00	1.93	1.94	1.92	1.92	1.93	2.06	2.57	2.49	2.41	3.49	4.00	6.06	3.10	24	
3	3	3.38	3.76	4.99	5.36	5.78	4.31	2.49	2.45	2.19	S	1.93	1.90	1.89	1.89	1.90	1.87	1.86	1.88	1.92	2.05	2.11	2.58	2.95	7.15	7.15	2.98	24	
4	4	6.75	5.59	7.93	5.61	9.17	7.90	5.62	5.41	S	3.75	2.69	1.88	1.94	1.95	1.92	2.11	2.06	2.07	2.17	3.51	3.43	4.75	3.39	3.34	9.17	4.13	24	
5	5	2.40	2.92	3.48	3.69	4.32	3.66	2.76	S	2.19	2.18	2.00	2.09	2.03	1.99	2.08	2.05	2.07	2.19	2.35	1.99	1.89	1.90	2.09	2.21	4.32	2.46	24	
6	6	1.90	1.96	1.97	2.07	2.12	1.96	S	1.87	1.86	1.82	1.81	1.81	1.82	1.82	1.81	1.82	1.83	1.82	1.86	1.99	2.60	6.34	7.53	4.69	7.53	2.48	24	
7	7	4.57	6.70	4.30	5.31	4.57	S	4.30	4.10	3.74	3.12	2.43	2.33	1.94	2.00	2.03	2.08	2.09	2.29	2.27	2.36	3.09	3.18	3.10	3.18	6.70	3.26	24	
8	8	3.34	2.89	3.29	2.60	S	2.06	1.86	1.86	1.84	1.85	1.83	1.84	1.88	1.83	1.81	1.84	1.92	1.83	1.85	1.86	1.90	2.08	1.95	1.92	3.34	2.08	24	
9	9	1.99	1.91	1.84	S	1.84	1.84	1.84	1.83	1.83	1.83	1.83	1.82	1.83	1.83	1.82	1.82	1.83	1.83	1.83	1.83	1.85	1.89	1.86	1.86	1.99	1.85	24	
10	10	1.86	1.86	S	1.86	1.85	1.86	1.87	1.90	1.90	1.83	1.83	1.84	1.84	C	C	C	C	C	1.88	1.88	1.94	1.96	1.95	2.02	2.01	2.02	1.89	24
11	11	2.00	S	2.04	1.97	2.09	2.00	1.91	1.93	1.92	1.91	1.91	1.92	1.92	1.92	1.93	1.93	1.97	1.97	1.98	2.00	2.16	2.44	3.71	4.06	4.06	2.16	24	
12	12	S	4.18	4.81	4.64	10.09	7.78	4.75	4.36	3.37	2.63	2.32	2.48	2.35	2.20	2.09	2.13	2.06	2.20	2.25	1.99	2.02	2.13	2.06	S	10.09	3.40	24	
13	13	3.76	3.53	4.02	10.83	6.01	6.62	5.46	4.59	2.97	2.67	2.09	1.97	2.00	1.98	1.92	1.95	2.01	1.98	2.08	2.35	2.22	4.58	S	5.12	10.83	3.60	24	
14	14	4.10	5.24	5.33	3.37	2.41	2.05	2.17	2.06	2.02	1.92	1.91	C	C	C	C	1.80	1.78	1.79	1.81	1.89	1.84	S	2.20	1.81	5.33	2.50	24	
15	15	1.84	1.83	1.83	1.83	1.82	1.81	1.81	1.79	1.79	1.79	1.78	1.79	1.78	1.79	1.79	1.79	1.79	1.79	1.78	1.83	S	1.85	1.87	1.86	1.87	1.81	24	
16	16	1.86	1.92	1.90	1.93	1.96	1.94	1.86	1.85	1.87	1.86	1.84	1.85	1.89	1.86	1.86	1.85	1.84	1.88	1.87	S	3.01	4.42	4.58	6.59	6.59	2.36	24	
17	17	7.14	7.33	8.06	5.95	6.01	5.66	6.90	3.49	2.08	1.86	1.84	1.85	1.82	1.91	1.92	1.81	1.81	1.81	S	3.29	3.98	8.06	5.43	5.16	8.06	4.14	24	
18	18	6.98	3.99	4.13	3.46	2.62	2.05	2.12	2.11	1.92	1.92	1.81	1.81	1.80	1.80	1.81	1.85	1.91	S	2.24	2.11	2.26	2.72	2.70	2.32	6.98	2.54	24	
19	19	2.31	2.61	2.08	1.95	1.93	1.96	1.91	1.87	1.85	1.83	1.81	1.81	1.79	1.80	1.84	1.91	S	1.88	1.83	1.89	1.89	1.82	1.87	1.91	2.61	1.93	24	
20	20	1.90	1.88	1.86	1.87	1.88	1.86	1.87	1.85	1.83	1.81	1.81	1.83	1.92	1.94	1.92	S	1.99	2.01	2.02	2.16	2.22	2.62	1.97	2.03	2.62	1.96	24	
21	21	2.07	2.23	2.20	1.99	2.18	2.12	2.13	1.93	1.86	1.81	1.82	1.79	1.79	1.80	S	1.79	1.79	1.81	1.84	1.85	1.86	2.02	1.99	1.97	2.23	1.94	24	
22	22	1.92	1.95	1.97	2.00	2.00	2.16	2.04	1.88	1.91	1.88	1.85	1.84	1.82	S	1.80	1.77	1.81	1.84	1.85	1.92	1.92	1.90	2.12	2.30	2.30	1.93	24	
23	23	2.75	2.47	2.48	2.48	3.09	4.19	2.12	1.99	1.87	1.81	1.84	1.84	S	1.81	1.78	1.79	1.79	1.80	1.80	1.86	1.90	2.63	3.03	2.92	4.19	2.26	24	
24	24	3.63	4.76	4.01	3.39	3.56	3.39	3.12	2.31	1.97	1.86	2.00	S	1.89	1.82	1.86	1.97	2.01	1.84	1.98	2.04	3.93	5.22	5.34	4.68	5.34	2.98	24	
25	25	4.67	4.14	6.17	5.19	4.87	3.08	2.76	2.37	2.28	2.32	S	2.31	1.90	1.87	1.89	1.88	1.93	1.99	1.99	1.91	2.40	2.24	2.63	3.23	6.17	2.87	24	
26	26	2.68	2.49	4.62	5.62	4.01	2.95	2.47	2.00	1.95	S	1.83	1.84	1.82	1.85	1.85	1.86	1.84	1.81	1.82	1.81	2.58	2.33	2.12	1.93	5.62	2.44	24	
27	27	2.01	2.26	2.49	2.35	1.91	2.09	2.07	1.92	S	1.87	1.78	1.77	1.78	1.76	1.77	1.77	1.78	1.95	1.98	2.13	2.72	3.86	3.53	2.79	3.86	2.19	24	
28	28	3.57	3.15	4.88	4.91	4.35	3.71	3.14	S	1.88	1.80	1.77	1.76	1.77	1.76	1.76	1.76	1.76	1.77	1.78	1.79	3.19	5.19	5.06	5.64	5.64	2.96	24	
29	29	5.39	10.77	10.13	9.07	10.42	6.89	S	3.96	2.99	2.40	2.17	1.99	1.85	1.91	1.88	1.88	1.87	1.83	1.87	1.99	2.96	3.86	3.29	4.97	10.77	4.19	24	
30	30	2.97	2.85	2.90	2.42	2.28	S	3.57	4.75	5.26	2.76	2.32	2.15	2.21	2.17	2.04	1.96	1.99	1.98	2.00	2.31	4.24	3.31	3.54	4.34	5.26	2.88	24	
HOURLY MAX		7.14	10.77	10.13	10.83	10.42	7.90	6.90	5.41	5.26	3.75	2.69	2.48	2.35	2.20	2.34	2.27	2.09	2.29	2.35	3.51	4.96	8.06	7.53	7.15				
HOURLY AVG		3.4	3.7	4.0	3.9	4.0	3.4	2.9	2.6	2.3	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.6	3.3	3.1	3.4					

#### STATUS FLAG CODES

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

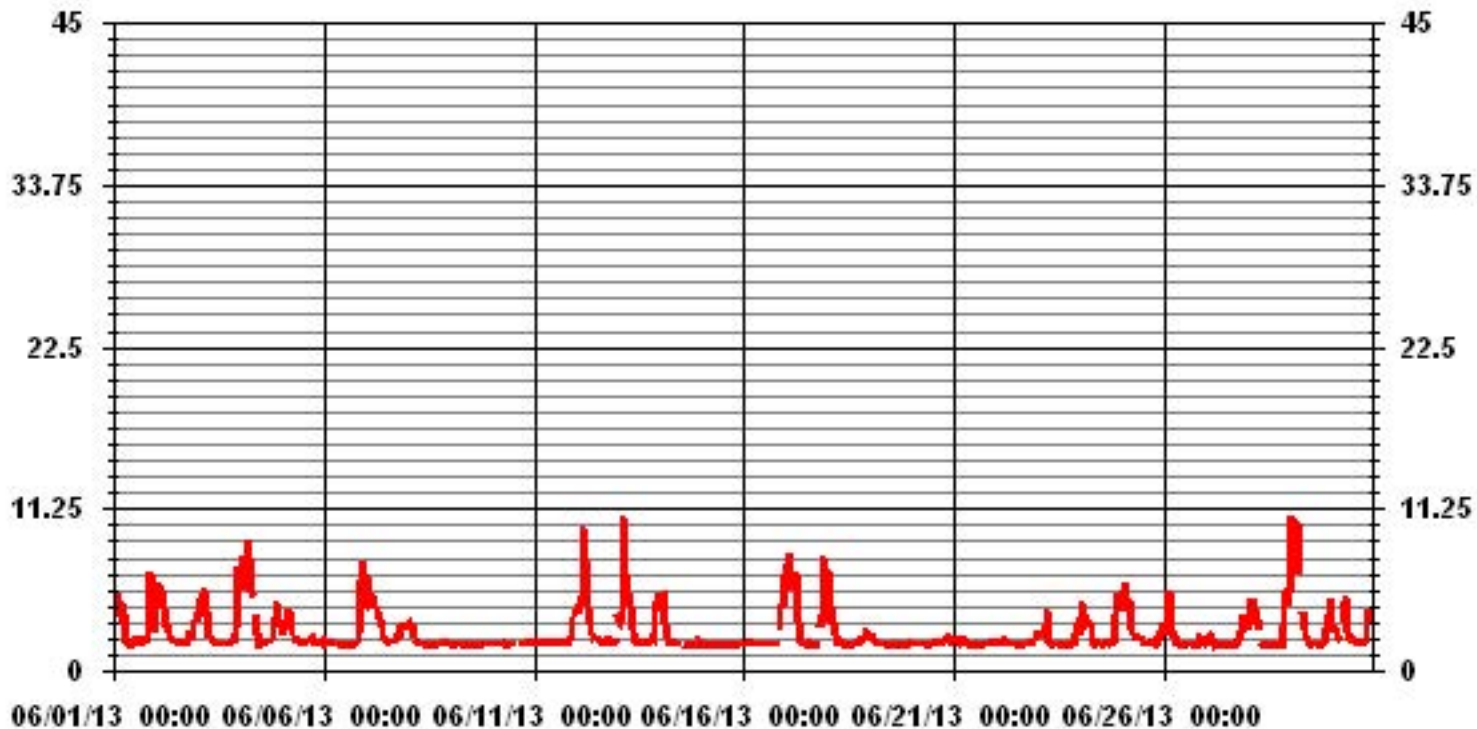
24 AVERAGES FOR JUNE 2013



#### MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	681					
MAXIMUM 1-HR AVERAGE:	10.83	PPM	@ HOUR(S)	3	ON DAY(S)	13
MAXIMUM 24-HR AVERAGE:	4.19	PPM			ON DAY(S)	29
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	1.47		MONTHLY AVERAGE:	2.69	PPM	

### 01 Hour Averages



— LICA35 THC55 PPM



# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE - Elk Point Airport

JUNE 2013

## TOTAL HYDROCARBONS MAX      instantaneous maximum in ppm

MST																									DAILY	24-HOUR		
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	24:00	MAX.	AVG.	RDGS.
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	10.3	5.6	7.7	5.7	6.9	5.1	7	2.4	2.3	2.4	2.1	S	5	3.9	3.9	2.9	2.3	3.3	3.8	4.6	9.4	17.2	4.2	3.4	17.2	5.3	24	
2	12	9	11.3	6.9	6.5	5.1	4.7	4.3	2.7	3	S	2.4	2.4	2.2	2.4	2.3	2.5	2.4	2.9	8.1	5.7	2.9	11.5	6	12	5.2	24	
3	4.9	7	7	9.2	9.6	7.7	3.2	3	2.6	S	2.4	2.5	2.3	2.2	2.4	2.2	2.2	2.3	2.6	3.8	3.8	3.1	3.6	14.5	14.5	4.5	24	
4	10.7	13.8	21.1	8.6	18.1	12	7	7.2	S	4.6	3.7	2.7	4.2	5.2	3.4	5.8	3.6	3.5	6.7	15.1	10.2	22.7	6.7	5.5	22.7	8.8	24	
5	2.8	3.9	4.1	9.2	9.1	5.2	3.6	S	3.5	4.5	4.4	3.6	3.3	3.8	5.2	3.5	4.1	4	6.9	6	2	2	4.1	2.8	9.2	4.4	24	
6	2.1	2.2	2.3	2.3	2.4	2.2	S	2.4	2.2	2.1	2.1	2.1	2.2	2.2	2.1	2.2	2.2	2.3	2.1	2.4	3.8	25.7	23.4	6.1	25.7	4.4	24	
7	9.4	10.7	7.2	15.3	6.4	S	5	4.8	5	3.9	4.3	5	3.7	3.6	3.2	3.7	2.9	3.5	3.5	3	5.4	5.7	4.3	4.3	15.3	5.4	24	
8	3.9	3.5	8.7	3.1	S	2.5	2.2	2.4	2.1	2.1	2.1	2.1	2.2	2.2	2	2.1	2.4	2	2.1	2.1	2.2	3	2.5	2.5	8.7	2.7	24	
9	2.6	2.3	2	S	2.1	2	2.1	2	2	2	2	2	2	2	2	2	2	2	2	2.1	2.2	2.2	2.1	2.1	2.6	2.1	24	
10	2	2	S	2.1	2.1	2.1	2.2	2.2	2.3	C	C	C	C	C	C	2	2.3	2.1	2.1	2.3	2.3	2.3	2.4	2.4	2.4	2.2	24	
11	2.3	S	2.3	2.4	2.4	2.4	2.3	2.4	2.4	2.3	2.1	2.3	2.1	2.2	2.3	2.2	2.3	2.3	2.2	2.3	3.2	3.9	6.3	5.6	6.3	2.7	24	
12	S	7.8	9.6	7.9	35.2	18.8	6.8	5.5	5.5	3.5	3.4	3.2	3	3	2.6	4	2.4	4	4.5	2.1	2.1	2.5	2.3	S	35.2	6.4	24	
13	11.8	4.5	6.7	25.6	11.3	11.8	8.6	5.8	3.6	3.4	2.6	2.2	2.2	2.3	2.1	2.3	2.2	2.2	5.3	5.1	5.6	21.8	S	6.6	25.6	6.8	24	
14	5.1	17.8	6.6	4.2	3	2.4	2.5	2.3	2.3	2.1	2.1	2.5	2.1	2.2	2.3	2.2	2	2.2	2.5	2.7	2.1	S	4.3	2.1	17.8	3.5	24	
15	2.1	2.1	2.2	2.1	2	2	2.1	2	2.1	2	2.1	2	2	2	2	2	2	2	2	2.1	S	2.2	2.2	2.2	2.2	2.2	2.1	24
16	2.3	2.3	2.2	2.3	2.4	2.3	2.2	2.2	2.5	2.2	2.2	2.2	2.2	2.3	2.3	2.7	2.2	2.2	2.2	2.3	S	10.5	24.8	8	14.7	24.8	4.4	24
17	12.5	9.9	23.8	8.2	7.9	7.9	9.7	7.4	2.4	2.3	2.1	3.7	2.3	4.1	4.3	2.2	2.4	3.3	S	9.2	19.4	36.7	7.3	8.8	36.7	8.6	24	
18	17.7	4.8	5.6	5.1	3.5	2.4	3.2	3.3	2.3	2.4	Y	Y	2.1	2	2.1	2.7	2.7	S	3.6	2.4	2.7	4.3	4.2	3.6	17.7	3.9	22	
19	3.5	4.8	2.6	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.4	2.2	2.1	2.1	2.4	2.5	S	2.4	2.2	2.3	2.2	2.2	2.3	2.3	4.8	2.4	24	
20	2.3	2.3	2.2	2.2	2.4	2.2	2.2	2.3	2.1	2.1	2.3	2.4	2.4	2.4	S	2.8	2.5	2.5	4	3.2	3.9	2.5	2.3	4	2.5	2.4	24	
21	2.7	2.7	2.7	2.3	2.7	2.6	2.5	2.4	2.3	2.1	2.1	2.1	2	2.2	S	2	2	2.3	2.3	2.1	2.2	2.8	2.7	2.3	2.8	2.4	24	
22	2.3	2.2	2.3	2.3	2.4	2.4	2.4	2.1	2.2	2.1	2.1	2	2.2	S	2.2	2	2.2	2.2	2.3	2.8	2.2	2.2	2.5	2.9	2.9	2.3	24	
23	4.6	3	3.3	3.1	4.4	6.7	2.8	2.2	2.2	2	2	5.1	S	2.1	2	2	2.1	2.1	2.1	2.3	2.5	4.2	5.1	4.3	6.7	3.1	24	
24	4.6	12.8	6.3	4.9	5.6	4.7	4.2	3.5	2.4	2.3	8.3	S	3.6	2.1	3.5	4.8	4	2.1	3	2.7	10.7	8.8	9.7	12.8	5.4	24		
25	13.6	11.6	11.8	8.6	7	4.5	3.7	3.1	3	3.2	S	4.5	2.2	2.3	2.4	2.2	2.5	2.6	2.4	3.2	4.3	3.9	3.7	6.6	13.6	4.9	24	
26	3.7	3	11.5	8.2	8.1	3.9	2.5	2.3	S	2.2	2.1	2.1	2.1	2	1.9	1.9	1.9	1.9	1.8	1.9	4.5	2.8	2.2	2.7	11.5	3.4	24	
27	2.8	2.6	4	4.9	2.3	2.5	2.6	2.1	S	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.7	2.7	3	4.5	5.5	4.5	4	5.5	3.0	24		
28	5.8	5.5	8.5	6.8	6.8	6.9	4.7	S	2.2	2.2	2	2	2	2	2	2	2	2	2	2.1	16.3	21.5	8.4	14.3	21.5	5.7	24	
29	12.2	51.9	18.6	19.6	13.6	11.4	S	5.1	3.9	4.4	3.1	3.8	2.1	3.2	2.9	3	4.4	2.2	2.1	2.3	7	12.3	6.6	9.8	51.9	8.9	24	
30	7.5	4.3	4.6	3	3	S	4.6	10.1	11.7	3.6	3.9	3.2	2.6	2.8	2.7	2.7	3.1	3.2	3.5	7.5	10.2	12.9	5	20.5	20.5	5.9	24	
HOURLY MAX	17.7	51.9	23.8	25.6	35.2	18.8	9.7	10.1	11.7	4.6	8.3	5.1	5.0	5.2	5.2	5.8	4.4	4.0	6.9	15.1	19.4	36.7	23.4	20.5				
HOURLY AVG	6.2	7.4	7.2	6.5	6.6	5.1	3.9	3.5	3.0	2.7	2.8	2.8	2.5	2.6	2.6	2.6	2.5	2.5	3.0	3.8	5.6	9.2	5.3	6.0				

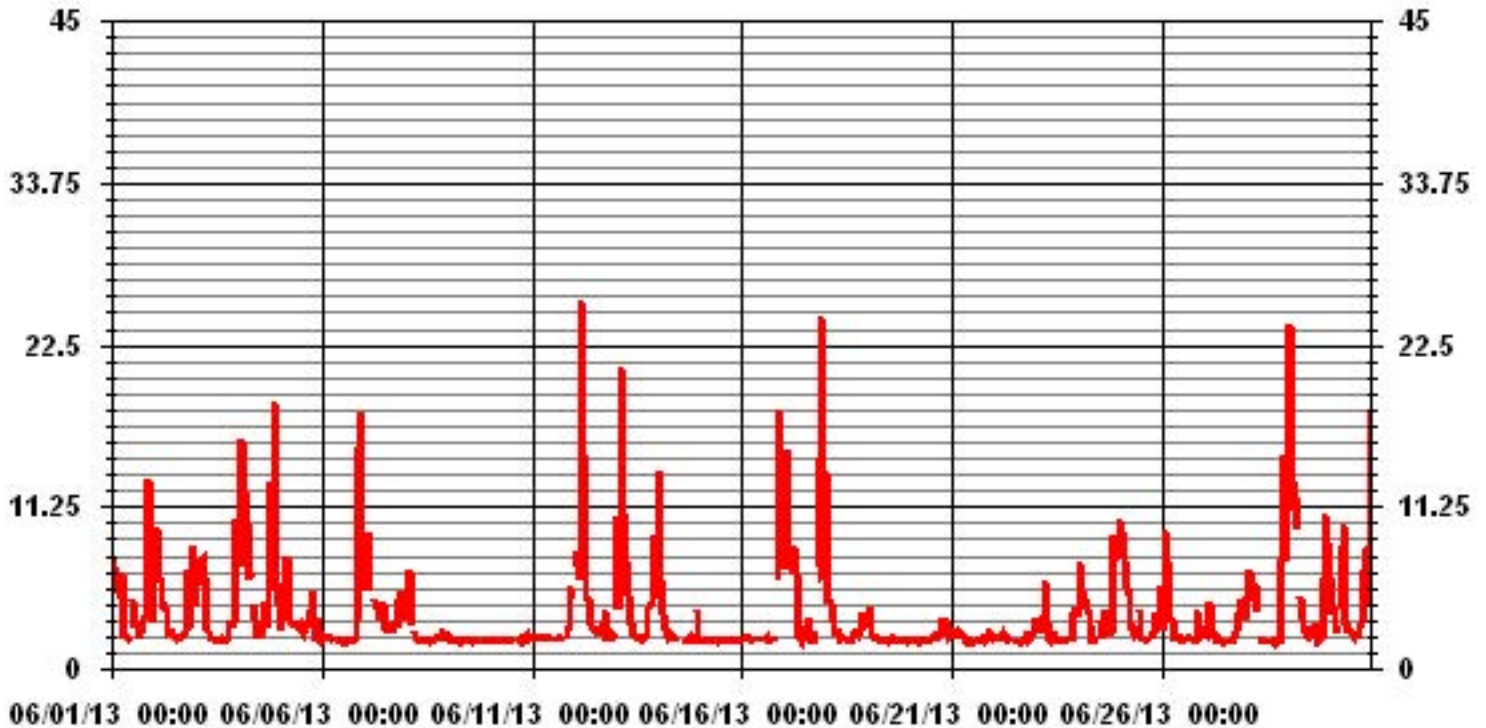
**STATUS FLAG CODES**

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:	681					
MAXIMUM INSTANTANEOUS VALUE:	51.9	PPM	@ HOUR(S)	1	ON DAY(S)	29
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	718	HRS	
MONTHLY CALIBRATION TIME:	6	HRS				
STANDARD DEVIATION:	4.58					

### 01 Hour Averages



— LICA35 THC55MAX PPM

LICA35  
 THC55 / WDR Joint Frequency Distribution (Percent)

June 2013

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
< 3.00	2.34	2.05	4.11	7.78	7.78	5.58	2.79	2.64	3.08	1.61	1.61	2.93	7.34	14.83	7.78	2.05	76.35
< 10.00	.14	.14	.73	1.02	3.23	3.96	1.61	.14	1.61	.88	.58	2.93	2.20	2.49	.73	.44	22.90
< 50.00	.00	.00	.00	.00	.00	.14	.14	.14	.00	.14	.00	.00	.14	.00	.00	.00	.73
>= 50.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.49	2.20	4.84	8.81	11.01	9.69	4.55	2.93	4.69	2.64	2.20	5.87	9.69	17.32	8.51	2.49	

Calm : .00 %

Total # Operational Hours : 681

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.00	16	14	28	53	53	38	19	18	21	11	11	20	50	101	53	14	520
< 10.00	1	1	5	7	22	27	11	1	11	6	4	20	15	17	5	3	156
< 50.00						1	1	1		1			1				5
>= 50.00																	
Totals	17	15	33	60	75	66	31	20	32	18	15	40	66	118	58	17	

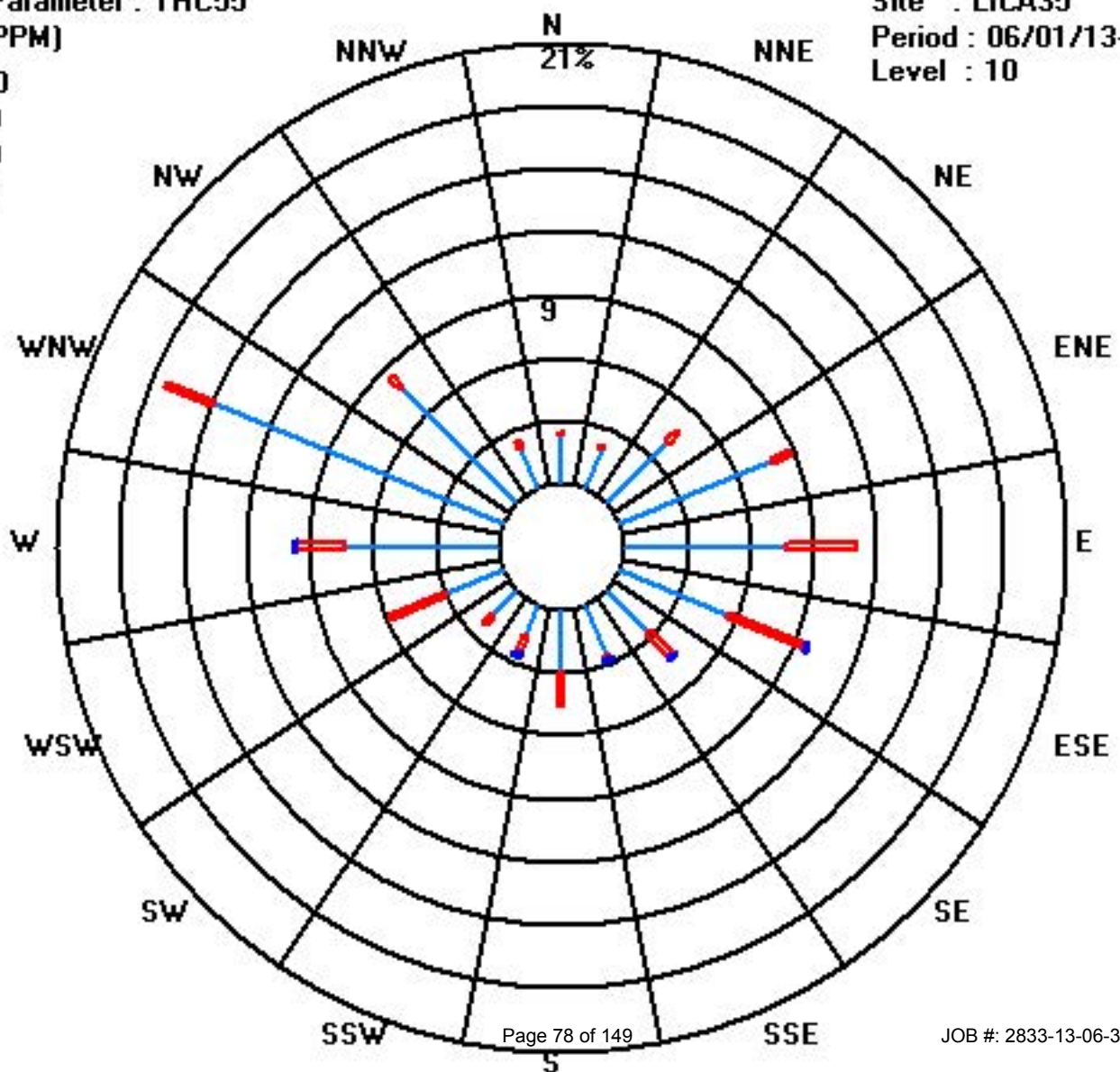
Calm : .00 %

Total # Operational Hours : 681

Class Limits (PPM)

Period : 06/01/13-06/30/13

Level : 10



# Methane

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

JUNE 2013

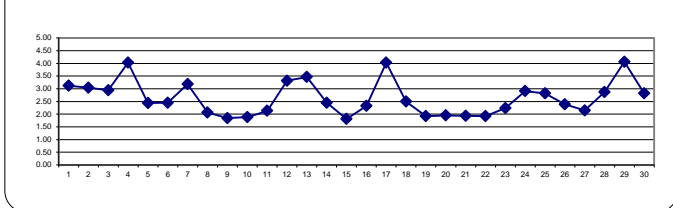
METHANE hourly averages in ppm

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	RDGS.
DAY	HR	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	MAX.	AVG.	
1		3.83	3.95	5.16	4.01	4.63	3.62	3.85	2.12	2.01	1.93	1.88	S	2.15	2.01	2.32	2.25	2.04	2.13	2.10	2.45	4.84	6.65	3.25	2.52	6.65	3.12	24
2		4.23	4.68	5.87	5.38	4.61	4.18	3.19	2.82	2.22	2.25	S	2.07	2.00	1.93	1.93	1.92	1.90	1.92	2.05	2.57	2.47	2.40	3.44	3.92	5.87	3.04	24
3		3.30	3.68	4.85	5.26	5.70	4.25	2.48	2.43	2.19	S	1.92	1.90	1.89	1.89	1.87	1.86	1.88	1.92	2.05	2.10	2.56	2.93	6.92	6.92	2.94	24	
4		6.55	5.34	7.60	5.38	8.84	7.62	5.43	5.24	S	3.66	2.66	1.88	1.93	1.94	1.92	2.11	2.05	2.07	2.16	3.47	3.40	4.68	3.35	3.30	8.84	4.03	24
5		2.39	2.89	3.39	3.63	4.23	3.58	2.73	S	2.19	2.18	2.00	2.08	2.03	1.99	2.08	2.05	2.06	2.19	2.34	1.98	1.87	1.89	2.05	2.20	4.23	2.44	24
6		1.90	1.94	1.96	2.06	2.11	1.95	S	1.86	1.85	1.81	1.81	1.81	1.81	1.82	1.81	1.81	1.82	1.82	1.85	1.99	2.57	6.12	7.31	4.51	7.31	2.45	24
7		4.40	6.53	4.14	5.15	4.39	S	4.15	3.97	3.62	3.02	2.40	2.30	1.93	2.00	2.02	2.06	2.07	2.25	2.27	2.31	3.03	3.11	3.02	3.15	6.53	3.19	24
8		3.22	2.82	3.23	2.58	S	2.03	1.85	1.85	1.83	1.83	1.82	1.83	1.87	1.82	1.81	1.83	1.90	1.83	1.84	1.85	1.88	2.06	1.94	1.92	3.23	2.06	24
9		1.98	1.90	1.84	S	1.84	1.84	1.84	1.83	1.83	1.82	1.82	1.82	1.83	1.83	1.82	1.82	1.82	1.83	1.83	1.83	1.85	1.89	1.85	1.86	1.98	1.84	24
10		1.86	1.86	S	1.85	1.85	1.85	1.87	1.90	1.89	1.82	1.82	1.83	1.83	C	C	C	C	C	1.88	1.88	1.93	1.96	1.94	2.00	2.01	1.89	24
11		1.99	S	2.04	1.97	2.08	2.00	1.90	1.91	1.91	1.91	1.90	1.91	1.91	1.91	1.91	1.92	1.96	1.96	1.96	1.97	2.12	2.35	3.54	3.93	3.93	2.13	24
12		S	4.00	4.63	4.47	9.54	7.52	4.58	4.20	3.30	2.61	2.32	2.44	2.34	2.19	2.08	2.12	2.05	2.20	2.23	1.99	2.00	2.12	2.05	S	9.54	3.32	24
13		3.66	3.41	3.81	10.38	5.74	6.33	5.15	4.32	2.85	2.61	2.08	1.95	1.98	1.97	1.91	1.94	1.99	1.96	1.96	2.27	2.19	4.35	S	4.88	10.38	3.46	24
14		3.94	5.02	5.08	3.24	2.37	2.03	2.15	2.04	2.00	1.91	1.90	C	C	C	C	1.79	1.78	1.79	1.81	1.88	1.83	S	2.19	1.81	5.08	2.45	24
15		1.84	1.83	1.83	1.83	1.82	1.81	1.81	1.79	1.79	1.79	1.78	1.79	1.78	1.79	1.79	1.79	1.79	1.79	1.78	1.83	S	1.84	1.86	1.86	1.86	1.81	24
16		1.85	1.91	1.88	1.91	1.95	1.92	1.85	1.84	1.86	1.85	1.83	1.84	1.88	1.84	1.86	1.84	1.84	1.86	1.86	S	2.92	4.29	4.38	6.42	6.42	2.33	24
17		6.95	7.17	7.86	5.75	5.80	5.45	6.68	3.39	2.07	1.85	1.83	1.85	1.82	1.90	1.91	1.81	1.81	1.81	S	3.23	3.85	7.61	5.25	4.97	7.86	4.03	24
18		6.77	3.82	3.96	3.33	2.56	2.05	2.09	2.09	1.91	1.91	1.81	1.80	1.79	1.79	1.79	1.83	1.91	S	2.22	2.10	2.24	2.67	2.63	2.29	6.77	2.49	24
19		2.29	2.55	2.08	1.94	1.92	1.95	1.91	1.87	1.84	1.82	1.81	1.80	1.79	1.79	1.84	1.90	S	1.87	1.82	1.88	1.87	1.82	1.87	1.90	2.55	1.92	24
20		1.89	1.88	1.86	1.86	1.87	1.86	1.85	1.84	1.82	1.81	1.81	1.83	1.91	1.93	1.91	S	1.98	2.00	2.01	2.14	2.20	2.59	1.95	2.02	2.59	1.95	24
21		2.07	2.22	2.18	1.97	2.16	2.12	2.11	1.93	1.86	1.81	1.81	1.79	1.79	1.80	S	1.79	1.79	1.81	1.84	1.85	1.86	2.01	1.99	1.96	2.22	1.94	24
22		1.91	1.94	1.96	1.99	1.99	2.14	2.03	1.88	1.90	1.86	1.85	1.83	1.82	S	1.80	1.77	1.80	1.84	1.85	1.92	1.92	1.90	2.11	2.28	2.28	1.93	24
23		2.72	2.44	2.46	2.46	3.02	4.03	2.10	1.99	1.87	1.81	1.83	1.82	S	1.80	1.77	1.78	1.79	1.80	1.80	1.85	1.90	2.57	2.92	2.85	4.03	2.23	24
24		3.51	4.55	3.87	3.27	3.46	3.31	3.04	2.30	1.97	1.85	1.84	S	1.88	1.81	1.86	1.95	1.98	1.84	1.97	2.02	3.82	5.08	5.20	4.52	5.20	2.91	24
25		4.51	4.01	6.03	5.07	4.69	3.03	2.73	2.35	2.27	2.30	S	2.28	1.88	1.86	1.88	1.88	1.92	1.98	1.98	1.91	2.36	2.23	2.59	3.14	6.03	2.82	24
26		2.63	2.44	4.47	5.40	3.86	2.88	2.42	1.99	1.93	S	1.81	1.82	1.82	1.84	1.83	1.82	1.80	1.77	1.77	1.79	2.54	2.31	2.10	1.91	5.40	2.39	24
27		1.98	2.24	2.47	2.33	1.89	2.07	2.05	1.91	S	1.82	1.76	1.77	1.77	1.76	1.77	1.76	1.77	1.91	1.97	2.10	2.61	3.65	3.33	2.70	3.65	2.15	24
28		3.40	3.03	4.65	4.70	4.14	3.54	3.04	S	1.87	1.79	1.76	1.76	1.76	1.76	1.75	1.75	1.76	1.77	1.77	1.78	3.09	5.00	4.84	5.36	5.36	2.87	24
29		5.09	10.26	9.67	8.69	10.10	6.65	S	3.82	2.92	2.38	2.16	1.98	1.85	1.89	1.88	1.87	1.86	1.82	1.86	1.97	2.89	3.77	3.19	4.82	10.26	4.06	24
30		2.90	2.76	2.84	2.40	2.24	S	3.42	4.62	5.11	2.72	2.29	2.15	2.18	2.14	2.03	1.96	1.97	1.97	1.98	2.29	4.11	3.21	3.40	4.17	5.11	2.82	24
HOURLY MAX		6.95	10.26	9.67	10.38	10.10	7.62	6.68	5.24	5.11	3.66	2.66	2.44	2.34	2.19	2.32	2.25	2.07	2.25	2.34	3.47	4.84	7.61	7.31	6.92			
HOURLY AVG		3.30	3.55	3.92	3.80	3.84	3.34	2.87	2.58	2.24	2.10	1.94	1.92	1.90	1.89	1.90	1.89	1.90	1.92	1.95	2.11	2.56	3.26	3.05	3.31			

STATUS FLAG CODES

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

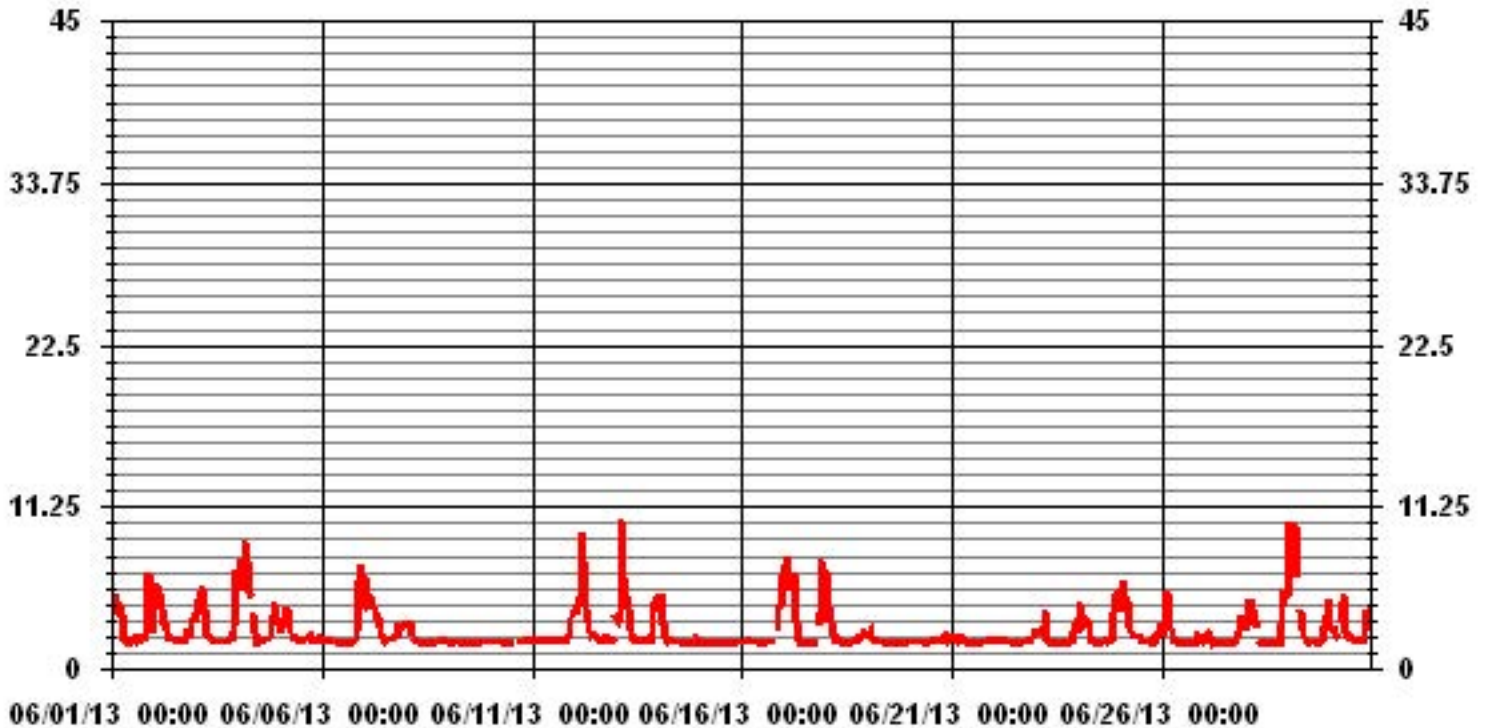
24 AVERAGES FOR JUNE 2013



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	681
MAXIMUM 1-HR AVERAGE:	10.38 PPM @ HOUR(S) 3 ON DAY(S) 13
MAXIMUM 24-HR AVERAGE:	4.06 PPM ON DAY(S) 29
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	8 HRS
STANDARD DEVIATION:	1.39
OPERATIONAL TIME:	720 HRS
AMD OPERATION UPTIME:	100.0 %
MONTHLY AVERAGE:	2.64 PPM

### 01 Hour Averages



— LICA35 METHANE PPM

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

JUNE 2013

METHANE MAX instantaneous maximum in ppm

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
DAY	DAY	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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.
1		7.41	4.80	6.70	5.10	5.95	4.49	6.28	2.25	2.08	2.23	1.90	S	4.40	2.77	3.34	2.69	2.12	2.56	3.37	3.78	7.94	13.02	3.76	3.07	13.02	4.44	24
2		9.37	7.88	9.83	5.96	5.75	4.58	4.14	3.90	2.51	2.71	S	2.23	2.17	2.10	2.11	2.12	2.23	2.16	2.66	6.84	5.05	2.64	8.39	5.38	9.83	4.47	24
3		4.24	6.29	6.16	7.44	7.54	6.36	2.89	2.65	2.39	S	2.16	2.10	1.95	1.93	1.95	1.94	1.90	2.00	2.21	3.02	3.22	2.71	3.13	10.03	10.03	3.75	24
4		9.25	10.63	15.42	6.77	12.10	9.75	6.02	6.24	S	4.16	3.33	2.11	2.42	2.38	2.58	4.45	2.92	3.06	5.47	12.63	7.99	18.06	5.94	4.46	18.06	6.88	24
5		2.62	3.48	3.51	6.71	7.59	4.58	3.23	S	3.11	3.14	2.93	3.21	2.74	2.55	3.12	2.86	3.15	3.19	3.85	5.20	1.94	1.94	3.25	2.63	7.59	3.50	24
6		2.07	2.10	2.15	2.20	2.29	2.05	S	2.13	2.04	1.89	1.85	1.86	1.86	1.96	1.86	1.92	1.96	1.94	1.90	2.14	3.28	14.94	17.36	5.29	17.36	3.44	24
7		6.43	9.02	6.36	9.37	5.41	S	4.47	4.25	4.33	3.47	3.25	4.53	2.91	2.84	2.41	3.04	2.35	3.06	3.12	2.67	4.76	5.11	3.70	3.63	9.37	4.37	24
8		3.47	3.20	6.80	3.07	S	2.31	1.89	1.90	1.85	1.92	1.91	1.88	1.96	1.88	1.85	1.91	2.20	1.84	1.93	1.91	1.99	2.70	2.28	2.24	6.80	2.39	24
9		2.37	2.09	1.88	S	1.88	1.85	1.89	1.85	1.86	1.89	1.85	1.86	1.89	1.87	1.87	1.85	1.85	1.86	1.87	1.88	2.00	2.00	1.92	1.94	2.37	1.92	24
10		1.89	1.89	S	1.91	1.88	1.88	1.99	2.00	2.00	1.85	1.83	1.88	1.88	C	C	C	C	1.91	1.91	2.08	2.05	2.07	2.20	2.15	2.20	1.96	24
11		2.12	S	2.15	2.13	2.18	2.15	1.95	1.94	2.02	1.95	1.91	1.93	1.93	1.93	1.92	1.95	2.10	2.12	2.02	2.03	2.21	2.62	5.47	4.97	5.47	2.33	24
12		S	6.99	8.00	6.09	20.28	14.80	6.12	4.77	4.74	3.09	2.96	2.77	2.76	2.56	2.26	3.04	2.23	3.18	4.04	2.02	2.05	2.32	2.21	S	20.28	4.97	23
13		10.00	3.91	5.88	20.04	10.13	10.38	6.97	4.93	3.18	2.98	2.33	1.98	2.06	2.12	1.94	2.07	2.05	2.00	2.05	4.33	4.26	8.59	S	5.95	20.04	5.22	24
14		4.54	13.47	5.96	3.76	2.67	2.29	2.30	2.09	2.12	1.97	1.95	C	C	C	C	C	1.79	1.92	2.13	2.30	1.86	S	3.85	1.88	13.47	3.27	24
15		1.88	1.88	1.90	1.87	1.88	1.85	1.86	1.84	1.84	1.82	1.82	1.84	1.81	1.89	1.81	1.81	1.81	1.81	1.79	1.91	S	1.89	1.90	1.94	1.94	1.85	24
16		1.98	2.01	1.93	2.02	2.06	1.99	1.90	1.87	1.93	1.89	1.89	1.89	1.91	1.90	2.27	1.86	1.86	1.89	1.89	S	6.26	17.25	6.56	9.77	17.25	3.34	24
17		9.65	8.52	14.89	6.90	6.80	6.78	8.20	6.44	2.15	2.05	1.86	2.65	1.96	2.82	3.33	1.93	1.91	2.41	S	7.24	14.07	20.28	6.38	6.48	20.28	6.33	24
18		13.41	4.40	4.81	4.49	3.17	2.29	2.66	2.45	2.00	2.21	Y	Y	1.90	1.89	1.84	2.42	2.30	S	2.74	2.20	2.43	3.88	3.37	3.22	13.41	3.34	22
19		3.15	4.14	2.29	2.02	1.96	1.98	1.95	1.89	1.87	1.86	1.93	1.84	1.89	1.84	2.16	2.19	S	2.04	1.90	1.95	1.90	1.85	1.91	1.92	4.14	2.11	24
20		1.93	1.92	1.88	1.88	2.06	1.88	1.88	1.91	1.85	1.83	1.88	2.02	2.06	2.05	2.05	S	2.38	2.23	2.23	3.36	2.86	3.37	2.18	2.09	3.37	2.16	24
21		2.34	2.43	2.39	2.03	2.38	2.28	2.14	2.06	2.02	1.83	1.82	1.81	1.81	1.87	S	1.81	1.82	2.05	2.09	1.91	1.95	2.52	2.43	2.08	2.52	2.08	24
22		2.06	1.95	2.03	2.11	2.12	2.16	2.24	1.91	1.98	1.90	1.90	1.84	1.94	S	1.96	1.79	1.88	2.01	2.07	2.47	2.03	2.04	2.25	2.59	2.59	2.05	24
23		3.53	2.73	2.80	2.81	3.50	5.81	3.20	2.05	2.03	1.86	1.87	1.88	S	1.83	1.79	1.80	1.82	1.82	1.83	2.06	2.12	3.63	4.06	3.52	5.81	2.62	24
24		3.99	7.26	5.29	4.18	4.77	4.08	3.64	3.06	2.11	1.94	X	S	3.08	1.87	2.63	3.94	3.47	2.40	2.63	2.28	9.07	7.32	7.67	7.66	9.07	4.29	23
25		10.21	8.52	9.14	7.43	5.65	5.19	3.24	2.75	2.44	2.71	S	3.83	2.00	2.01	2.06	1.99	2.13	2.27	2.14	2.50	3.82	2.98	3.28	5.63	10.21	4.08	24
26		3.27	2.62	9.17	6.92	6.92	3.13	3.42	2.22	2.10	S	1.99	1.94	1.99	2.01	1.95	1.95	1.88	1.88	1.89	1.94	3.90	2.72	2.26	2.62	9.17	3.07	24
27		2.66	2.47	3.53	4.29	2.08	2.38	2.39	2.07	S	1.90	1.81	1.80	1.80	1.86	1.83	1.80	1.84	2.23	2.19	2.46	3.63	4.57	3.77	3.29	4.57	2.55	24
28		4.69	4.36	6.61	5.71	5.38	5.64	3.87	S	1.96	1.84	1.78	1.76	1.78	1.76	1.79	1.77	1.77	1.79	1.78	1.81	7.32	14.33	7.20	11.65	14.33	4.28	24
29		10.54	20.28	15.09	12.63	11.63	9.86	S	4.52	3.49	2.98	2.68	2.25	1.87	2.80	2.53	2.29	3.03	1.90	1.95	2.11	6.11	10.74	5.33	8.49	20.28	6.31	24
30		6.45	3.74	3.98	2.57	2.55	S	4.07	8.39	9.73	3.09	2.53	2.71	2.32	2.39	2.26	2.48	2.39	3.03	3.07	6.60	7.90	8.12	4.18	16.77	16.77	4.84	24
HOURLY MAX		13.41	20.28	15.42	20.04	20.28	14.80	8.20	8.39	9.73	4.16	3.33	4.53	4.40	2.84	3.34	4.45	3.47	3.19	5.47	12.63	14.07	20.28	17.36	16.77			
HOURLY AVG		5.09	5.34	5.81	5.19	5.19	4.46	3.46	3.08	2.63	2.32	2.15	2.25	2.18	2.14	2.20	2.28	2.18	2.23	2.44	3.30	4.34	6.42	4.42	4.94			

STATUS FLAG CODES

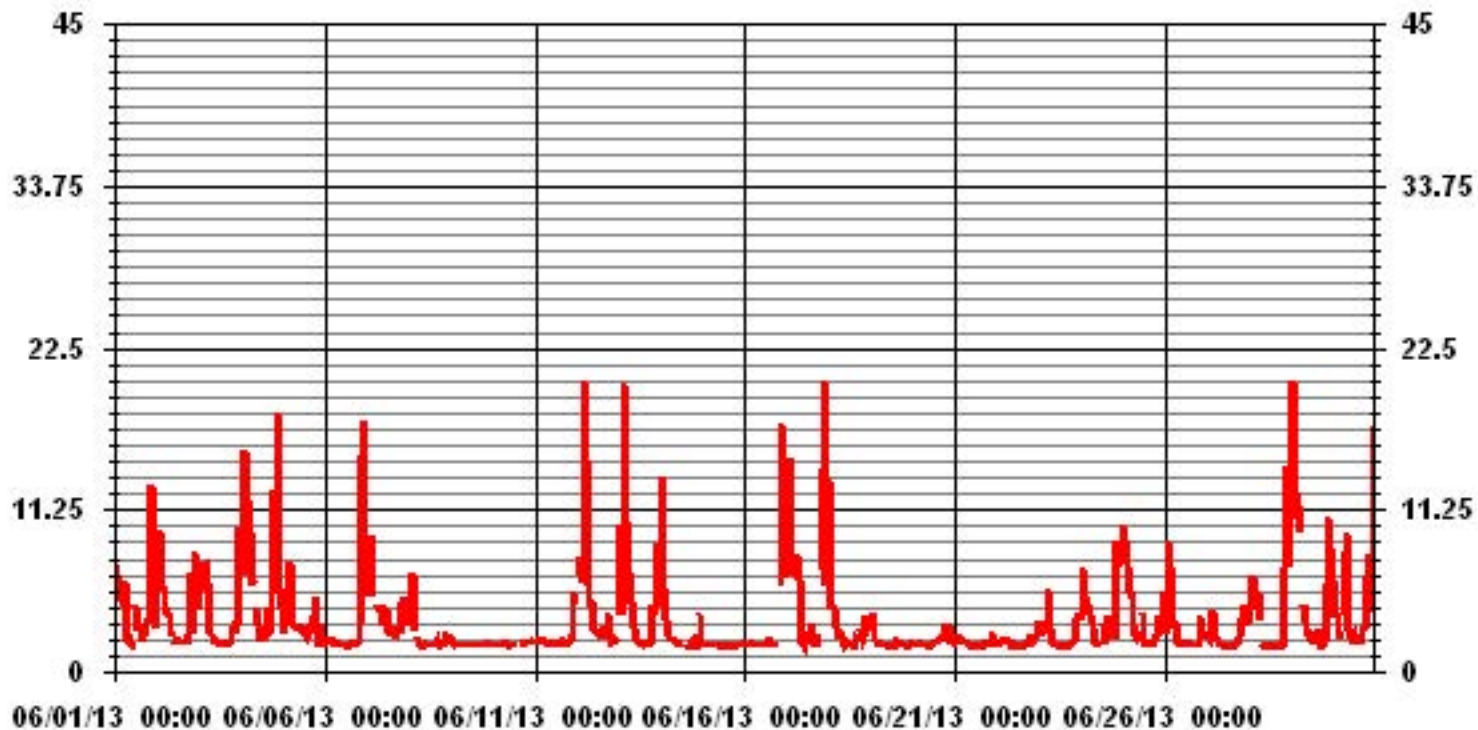
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	677					
MAXIMUM INSTANTANEOUS VALUE:	20.28	PPM	@ HOUR(S)	4, 1	ON DAY(S)	12, 29
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	716 HRS		
MONTHLY CALIBRATION TIME:	9	HRS				
STANDARD DEVIATION:	2.99					



### 01 Hour Averages



LICA35  
METHANE / WDR Joint Frequency Distribution (Percent)

June 2013

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
< 3.00	2.34	2.05	4.11	7.78	7.78	5.58	2.79	2.64	3.08	1.61	1.76	3.08	7.34	14.83	7.78	2.05	76.65
< 10.00	.14	.14	.73	1.02	3.23	3.96	1.76	.29	1.61	.88	.44	2.79	2.20	2.49	.73	.44	22.90
< 50.00	.00	.00	.00	.00	.00	.14	.00	.00	.00	.14	.00	.00	.14	.00	.00	.00	.44
>= 50.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.49	2.20	4.84	8.81	11.01	9.69	4.55	2.93	4.69	2.64	2.20	5.87	9.69	17.32	8.51	2.49	

Calm : .00 %

Total # Operational Hours : 681

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.00	16	14	28	53	53	38	19	18	21	11	12	21	50	101	53	14	522
< 10.00	1	1	5	7	22	27	12	2	11	6	3	19	15	17	5	3	156
< 50.00						1				1			1				3
>= 50.00																	
Totals	17	15	33	60	75	66	31	20	32	18	15	40	66	118	58	17	

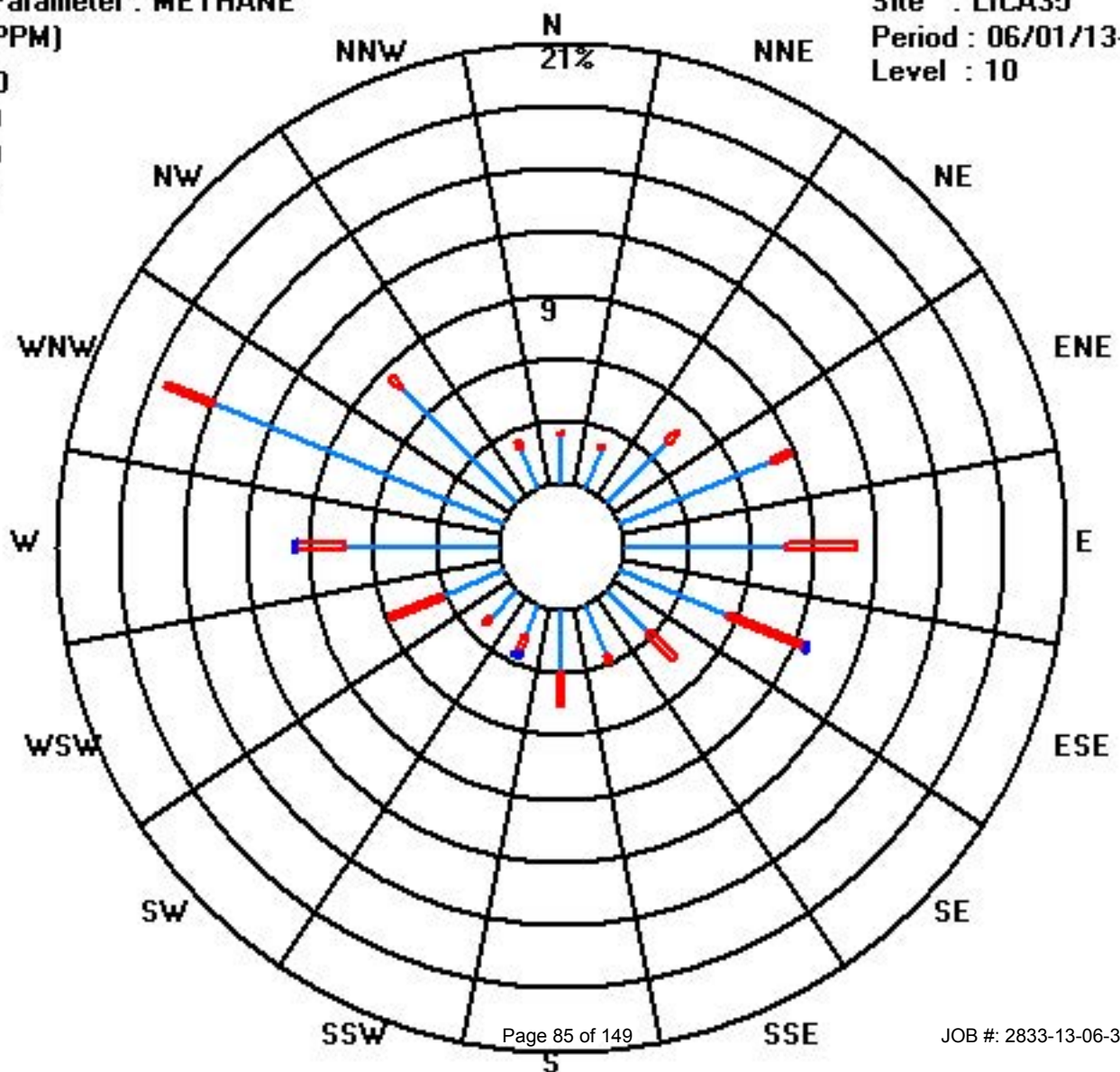
Calm : .00 %

Total # Operational Hours : 681

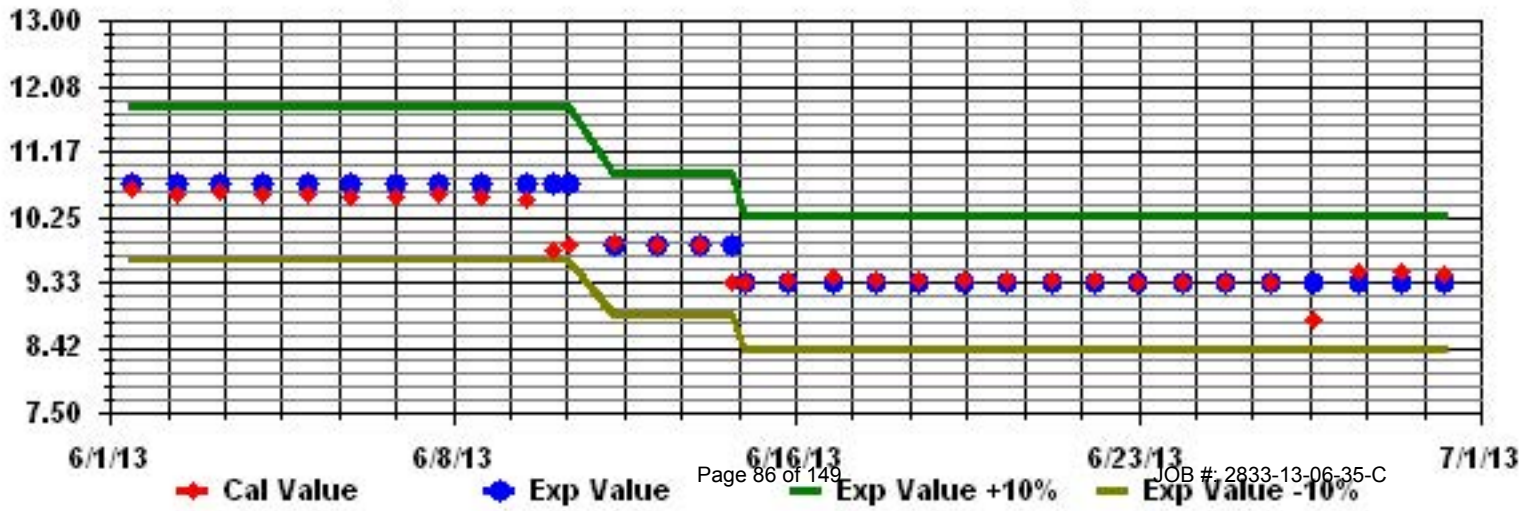
Class Limits (PPM)

Period : 06/01/13-06/30/13

Level : 10



Calibration Graph for Site: LICA35 Parameter: METHANE Sequence: THC55 Phase: SPAN



# Non-Methane Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

JUNE 2013

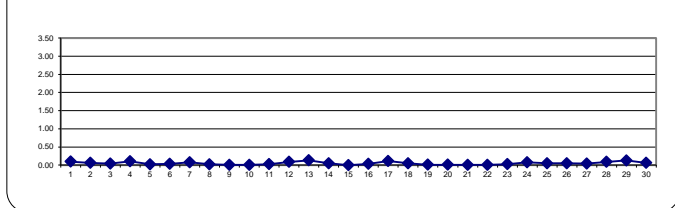
NON-METHANE HYDROCARBONS hourly averages in ppm

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
DAY	DAY	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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.	
1	1	0.13	0.22	0.28	0.21	0.26	0.2	0.15	0.03	0.03	0.03	0.02	S	0.02	0.03	0.02	0.02	0	0	0	0.04	0.12	0.18	0.13	0.06	0.28	0.09	24	
2	2	0.08	0.15	0.19	0.26	0.22	0.19	0.09	0.03	0.03	0.01	S	0	0	0	0.01	0	0.02	0.01	0.01	0	0.02	0.01	0.05	0.08	0.26	0.06	24	
3	3	0.08	0.08	0.14	0.1	0.08	0.06	0.01	0.02	0	S	0.01	0	0	0	0.01	0	0	0	0	0	0.01	0.02	0.02	0.23	0.23	0.04	24	
4	4	0.2	0.25	0.33	0.23	0.33	0.28	0.19	0.17	S	0.09	0.03	0	0.01	0.01	0	0	0.01	0	0.01	0.04	0.03	0.07	0.04	0.04	0.33	0.10	24	
5	5	0.01	0.03	0.09	0.06	0.09	0.08	0.03	S	0	0	0	0.01	0	0	0	0.01	0	0.01	0.01	0.01	0.04	0.03	0.01	0.04	0.01	0.09	0.02	24
6	6	0	0.02	0.01	0.01	0.01	0.01	S	0.01	0.01	0.01	0	0	0.01	0	0	0.01	0.01	0	0.01	0	0.03	0.22	0.22	0.18	0.22	0.03	24	
7	7	0.17	0.17	0.16	0.16	0.18	S	0.15	0.13	0.12	0.1	0.03	0.03	0.01	0	0.01	0.02	0.02	0.04	0	0.05	0.06	0.07	0.08	0.03	0.18	0.08	24	
8	8	0.12	0.07	0.06	0.02	S	0.03	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0	0.01	0.02	0	0.01	0.02	0.02	0.01	0	0.12	0.02	0.02	0.02	24	
9	9	0.01	0.01	0	S	0	0	0	0	0	0.01	0.01	0	0	0	0	0.01	0	0	0	0	0	0	0.01	0	0.01	0.00	24	
10	10	0	0	S	0.01	0	0.01	0	0	0.01	0.01	0.01	0.01	0.01	C	C	C	C	C	0	0	0.01	0	0.01	0.02	0	0.02	0.01	24
11	11	0.01	S	0	0	0.01	0	0.01	0.02	0.01	0	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.02	0.03	0.04	0.09	0.17	0.13	0.17	0.03	24
12	12	S	0.18	0.18	0.17	0.55	0.26	0.17	0.16	0.07	0.02	0	0.04	0.01	0.01	0.01	0.01	0.01	0	0.02	0	0.02	0.01	0.01	S	0.55	0.09	24	
13	13	0.1	0.12	0.21	0.45	0.27	0.29	0.31	0.27	0.12	0.06	0.01	0.02	0.02	0.01	0.01	0.01	0.02	0.02	0.12	0.08	0.03	0.23	S	0.24	0.45	0.13	24	
14	14	0.16	0.22	0.25	0.13	0.04	0.02	0.02	0.02	0.02	0.01	0.01	C	C	C	C	C	0.01	0	0	0.01	0.01	S	0.01	0	0.25	0.05	24	
15	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0.01	0.01	0	0.01	0.00	24	
16	16	0.01	0.01	0.02	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0	0.01	0	0.02	0.01	S	0.09	0.13	0.2	0.17	0.2	0.04	24	
17	17	0.19	0.16	0.2	0.2	0.21	0.21	0.22	0.1	0.01	0.01	0.01	0	0	0.01	0.01	0	0	0	S	0.06	0.13	0.45	0.18	0.19	0.45	0.11	24	
18	18	0.21	0.17	0.17	0.13	0.06	0	0.03	0.02	0.01	0.01	0	0.01	0.01	0.01	0.02	0.02	0	S	0.02	0.01	0.02	0.05	0.07	0.03	0.21	0.05	24	
19	19	0.02	0.06	0	0.01	0.01	0	0	0.01	0.01	0	0.01	0	0.01	0	0.01	S	0.01	0.01	0.01	0.02	0	0	0.01	0.06	0.01	0.01	24	
20	20	0.01	0	0	0.01	0.01	0	0.02	0.01	0.01	0	0	0	0.01	0.01	0.01	S	0.01	0.01	0.01	0.02	0.02	0.03	0.02	0.01	0.03	0.01	24	
21	21	0	0.01	0.02	0.02	0.02	0	0.02	0	0	0	0.01	0	0	0	S	0	0	0	0	0	0	0.01	0	0.01	0.02	0.01	24	
22	22	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0	0.01	0.02	0	0.01	0	S	0	0	0.01	0	0	0	0	0	0	0.01	0.02	0.02	0.01	24
23	23	0.03	0.03	0.02	0.02	0.07	0.16	0.02	0	0	0	0.01	0.02	S	0.01	0.01	0.01	0	0	0	0.01	0	0.06	0.11	0.07	0.16	0.03	24	
24	24	0.12	0.21	0.14	0.12	0.1	0.08	0.08	0.01	0	0.01	0.16	S	0.01	0.01	0	0.02	0.03	0	0.01	0.02	0.11	0.14	0.14	0.16	0.21	0.07	24	
25	25	0.16	0.13	0.14	0.12	0.18	0.05	0.03	0.02	0.01	0.02	S	0.03	0.02	0.01	0.01	0	0.01	0.01	0.01	0	0.04	0.01	0.04	0.09	0.18	0.05	24	
26	26	0.05	0.05	0.15	0.22	0.15	0.07	0.05	0.01	0.02	S	0.02	0.02	0	0.01	0.02	0.04	0.04	0.04	0.05	0.02	0.04	0.02	0.02	0.02	0.22	0.05	24	
27	27	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.01	S	0.05	0.02	0	0.01	0	0	0.01	0.01	0.04	0.01	0.03	0.11	0.21	0.2	0.09	0.21	0.04	24	
28	28	0.17	0.12	0.23	0.21	0.21	0.17	0.1	S	0.01	0.01	0.01	0	0.01	0	0.01	0.01	0	0	0.01	0.01	0.1	0.19	0.22	0.28	0.28	0.09	24	
29	29	0.3	0.51	0.46	0.38	0.32	0.24	S	0.14	0.07	0.02	0.01	0.01	0	0.02	0	0.01	0.01	0.01	0.01	0.02	0.07	0.09	0.1	0.15	0.51	0.13	24	
30	30	0.07	0.09	0.06	0.02	0.04	S	0.15	0.13	0.15	0.04	0.03	0	0.03	0.03	0.01	0	0.02	0.01	0.02	0.02	0.13	0.1	0.14	0.17	0.17	0.06	24	
HOURLY MAX		0.3	0.51	0.46	0.45	0.55	0.29	0.31	0.27	0.15	0.1	0.16	0.04	0.03	0.03	0.02	0.04	0.04	0.04	0.12	0.08	0.13	0.45	0.22	0.28				
HOURLY AVG		0.08	0.11	0.12	0.11	0.12	0.09	0.07	0.05	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.04	0.08	0.08	0.09				

STATUS FLAG CODES

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

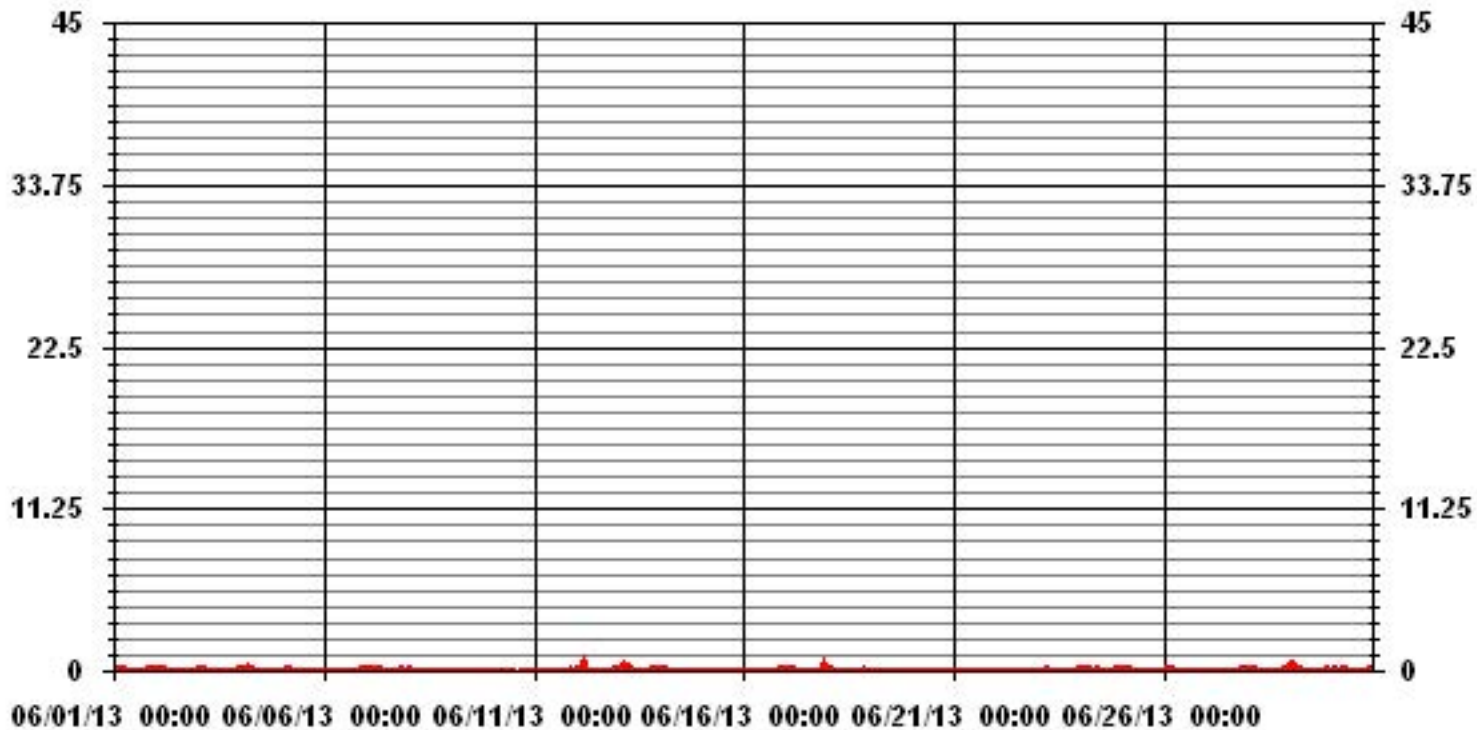
24 AVERAGES FOR JUNE 2013



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	509					
MAXIMUM 1-HR AVERAGE:	0.55	PPM	@ HOUR(S)	4	ON DAY(S)	12
MAXIMUM 24-HR AVERAGE:	0.13	PPM			ON DAY(S)	29
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	0.08		MONTHLY AVERAGE:	0.05	PPM	

### 01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

JUNE 2013

NON-METHANE HYDROCARBONS MAX instantaneous maximum in ppm

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
DAY	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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.	
1	0.27	0.35	0.36	0.31	0.34	0.33	0.37	0.22	0.23	0.16	0.18	S	0.18	0.27	0.16	0.24	0.09	0.26	0.23	0.24	0.24	0.44	0.25	0.27	0.44	0.26	24	
2	0.24	0.29	0.3	0.35	0.35	0.25	0.23	0.25	0.25	0.26	S	0.18	0.19	0.13	0.26	0.15	0.23	0.17	0.17	0.15	0.15	0.15	0.24	0.21	0.35	0.22	24	
3	0.25	0.21	0.25	0.22	0.23	0.21	0.14	0.22	0	S	0.17	0.17	0	0	0.24	0	0	0.1	0.15	0.13	0.2	0.21	0.19	0.37	0.37	0.16	24	
4	0.35	0.65	0.58	0.43	0.57	0.44	0.31	0.26	S	0.18	0.24	0.13	0.16	0.17	0.08	0.12	0.19	0.09	0.13	0.27	0.25	0.49	0.21	0.17	0.65	0.28	24	
5	0.22	0.14	0.19	0.23	0.21	0.2	0.21	S	0.18	0.12	0.14	0.18	0.16	0.21	0.1	0.11	0.19	0.12	0.14	0.17	0.22	0.17	0.23	0.17	0.23	0.17	24	
6	0.14	0.2	0.21	0.19	0.15	0.22	S	0.19	0.18	0.21	0.1	0.11	0.21	0	0	0.19	0.17	0.17	0.12	0	0.19	0.57	0.4	0.25	0.57	0.18	24	
7	0.27	0.31	0.3	0.35	0.33	S	0.21	0.24	0.23	0.23	0.23	0.24	0.17	0.16	0.19	0.26	0.28	0.19	0.19	0.18	0.22	0.21	0.18	0.35	0.23	24		
8	0.19	0.27	0.25	0.28	S	0.24	0.23	0.17	0.19	0.23	0.26	0.21	0.17	0.24	0	0.14	0.24	0.19	0.21	0.26	0.21	0.29	0.27	0.16	0.29	0.21	24	
9	0.13	0.23	0.1	S	0.2	0.22	0.16	0.07	0.21	0.19	0.17	0.14	0.17	0.19	0	0.17	0.17	0.13	0	0	0	0.17	0.21	0.23	0.13	24		
10	0.12	0.13	S	0.19	0.12	0.17	0.14	0	0.2	0.1	0.17	0.18	0.19	C	C	C	C	0.22	0.06	0.19	0.15	0.11	0.21	0.17	0.22	0.15	24	
11	0.21	S	0.16	0.2	0.18	0.13	0.23	0.24	0.14	0.16	0.21	0.19	0.15	0.15	0.22	0.17	0.15	0.21	0.24	0.3	0.65	0.32	0.32	0.26	0.65	0.23	24	
12	S	0.31	0.36	0.29	0.63	0.43	0.28	0.28	0.26	0.23	0.09	0.24	0.13	0.19	0.18	0.22	0.16	0.15	0.2	0	0.24	0.2	0.24	S	0.63	0.24	24	
13	0.33	0.31	0.34	0.8	0.39	0.45	0.56	0.4	0.29	0.26	0.23	0.24	0.24	0.16	0.18	0.25	0.18	0.24	2.28	0.3	0.24	0.5	S	0.34	2.28	0.41	24	
14	0.28	0.44	0.33	0.26	0.22	0.17	0.28	0.22	0.19	0.18	0.21	C	C	C	C	0.12	0.14	0.26	0.24	0.24	S	0.25	0.25	0.44	0.24	24		
15	0.27	0.14	0.14	0.23	0.22	0.22	0.23	0.16	0.15	0.24	0.13	0.25	0.21	0.16	0.22	0.2	0.15	0.18	0.22	0.14	S	0.29	0.25	0.16	0.29	0.20	24	
16	0.25	0.23	0.24	0.21	0.18	0.22	0.17	0.25	0.16	0.21	0.22	0.27	0.18	0.23	0.18	0.19	0.12	0.22	0.24	S	0.34	0.63	0.38	0.28	0.63	0.24	24	
17	0.44	0.37	0.33	0.3	0.32	0.38	0.33	0.33	0.15	0.24	0.21	0.15	0.17	0.18	0.19	0.17	0.15	0.14	S	0.26	0.6	0.77	0.26	0.37	0.77	0.30	24	
18	0.34	0.35	0.3	0.31	0.29	0	0.2	0.23	0.19	0.17	S	S	0.18	0.25	0.22	0.24	0.17	S	0.25	0.25	0.23	0.25	0.21	0.26	0.35	0.23	22	
19	0.31	0.29	0.21	0.2	0.2	0.23	0.26	0.26	0.13	0.25	0.13	0.24	0	0.19	0.16	0.17	S	0.24	0.2	0.28	0.25	0.15	0.01	0.25	0.31	0.20	24	
20	0.17	0.23	0.23	0.12	0.18	0	0.22	0.23	0.24	0.21	0.25	0.09	0.18	0.21	0.15	S	0.24	0.19	0.29	0.19	0.21	0.22	0.21	0.23	0.29	0.20	24	
21	0.15	0.17	0.22	0.23	0.2	0.19	0.22	0.23	0.24	0.1	0.26	0.17	0	0	S	0.16	0.14	0.23	0.21	0	0.19	0.22	0.11	0.25	0.26	0.17	24	
22	0.24	0.23	0.18	0.15	0.22	0.35	0.21	0.15	0.2	0.27	0.22	0.23	0.15	S	0.17	0.09	0.23	0.08	0.1	0.12	0.13	0.13	0.19	0.21	0.35	0.18	24	
23	0.25	0.24	0.21	0.26	0.21	0.31	0.22	0.14	0	0	0.18	0.61	S	0.19	0.16	0.17	0.17	0.18	0.21	0.21	0.19	0.29	0.3	0.26	0.61	0.22	24	
24	0.26	0.32	0.29	0.26	0.31	0.21	0.22	0.22	0.14	0.14	X	S	0.19	0.22	0.08	0.21	0.23	0.24	0.25	0.21	0.23	0.25	0.25	0.28	0.32	0.23	23	
25	0.28	0.26	0.36	0.28	0.29	0.22	0.29	0.25	0.17	0.23	S	0.21	0.19	0.16	0.25	0.1	0.25	0.19	0.18	0.21	0.23	0.24	0.28	0.24	0.36	0.23	24	
26	0.3	0.24	0.49	0.35	0.35	0.22	0.24	0.24	0.24	S	0.27	0.27	0.2	0.28	0.23	0.31	0.27	0.23	0.23	0.17	0.2	0.18	0.19	0.17	0.49	0.26	24	
27	0.21	0.19	0.2	0.25	0.23	0.19	0.16	0.13	S	0.25	0.22	0.06	0.21	0.12	0.13	0.21	0.2	0.28	0.18	0.2	0.28	0.3	0.3	0.26	0.3	0.21	24	
28	0.3	0.36	0.41	0.29	0.32	0.38	0.36	S	0.21	0.22	0.18	0.15	0.2	0.14	0.17	0.28	0	0.16	0.18	0.14	0.31	0.57	0.33	0.57	0.27	24		
29	0.43	0.89	0.68	0.56	0.47	0.37	S	0.24	0.23	0.25	0.21	0.2	0.19	0.24	0	0.21	0.26	0.18	0.21	0.2	0.26	0.29	0.23	0.29	0.89	0.31	24	
30	0.23	0.3	0.23	0.28	0.26	S	0.27	0.29	0.27	0.2	0.2	0.12	0.26	0.22	0.17	0.16	0.23	0.16	0.26	0.22	0.27	0.38	0.22	0.69	0.69	0.26	24	
HOURLY MAX	0.44	0.89	0.68	0.8	0.63	0.45	0.56	0.4	0.29	0.27	0.27	0.61	0.26	0.28	0.26	0.31	0.27	0.28	2.28	0.3	0.65	0.77	0.4	0.69				
HOURLY AVG	0.26	0.30	0.29	0.29	0.28	0.25	0.25	0.22	0.19	0.20	0.20	0.20	0.17	0.17	0.15	0.18	0.18	0.19	0.26	0.18	0.24	0.30	0.24	0.27				

STATUS FLAG CODES

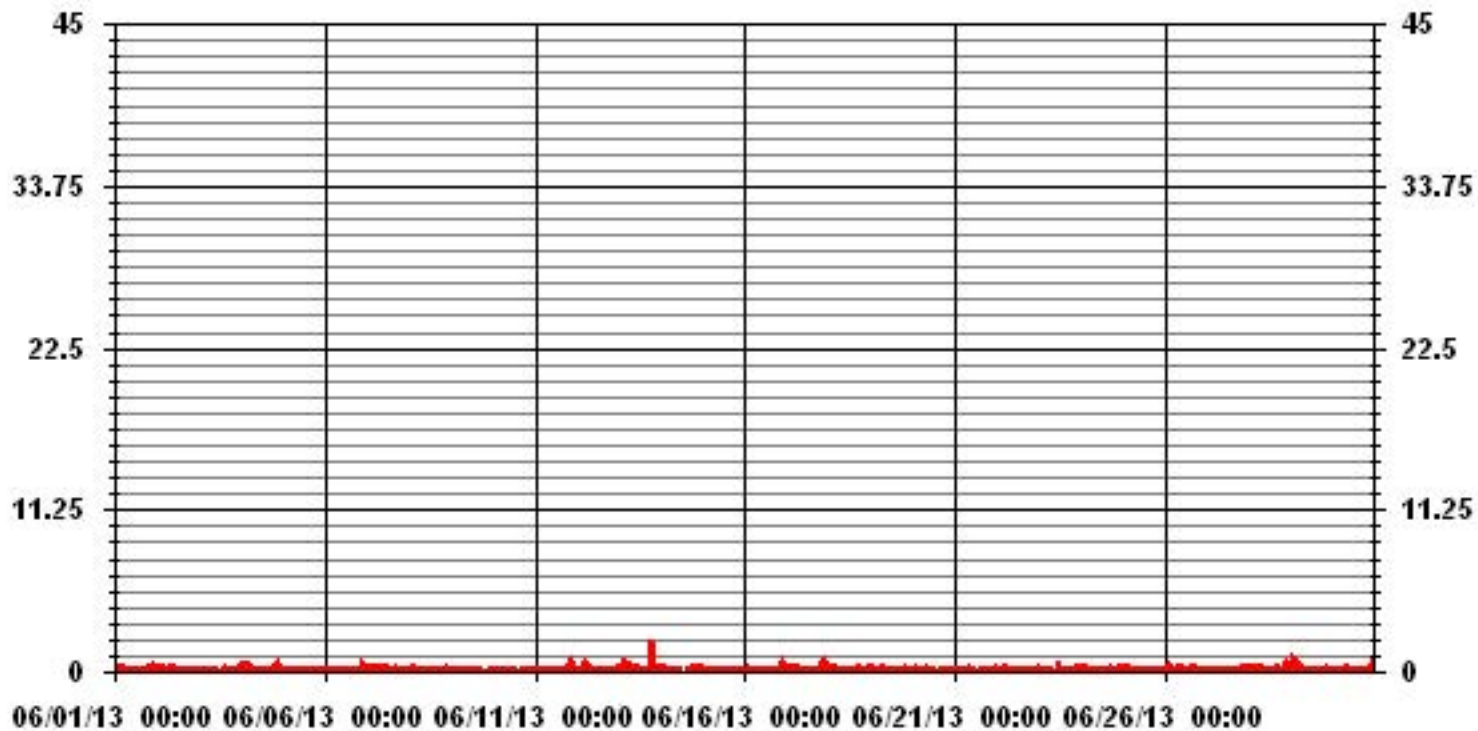
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	651
MAXIMUM INSTANTANEOUS VALUE:	2.28 PPM @ HOUR(S) 18 ON DAY(S) 13
IZS CALIBRATION TIME:	33 HRS
MONTHLY CALIBRATION TIME:	9 HRS
OPERATIONAL TIME:	717 HRS
STANDARD DEVIATION:	0.13



### 01 Hour Averages



— LICA35 IMHCMAX PPM

LICA35  
 NMHC / WDR Joint Frequency Distribution (Percent)

June 2013

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
< .25	2.49	2.05	4.84	8.81	10.86	9.54	4.11	2.79	4.40	2.49	2.20	5.87	8.81	16.59	8.37	2.49	96.76
< .50	.00	.14	.00	.00	.14	.14	.44	.00	.29	.14	.00	.00	.73	.73	.14	.00	2.93
< 1.00	.00	.00	.00	.00	.00	.00	.00	.14	.00	.00	.00	.00	.14	.00	.00	.00	.29
< 2.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 4.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 4.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.49	2.20	4.84	8.81	11.01	9.69	4.55	2.93	4.69	2.64	2.20	5.87	9.69	17.32	8.51	2.49	

Calm : .00 %

Total # Operational Hours : 681

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< .25	17	14	33	60	74	65	28	19	30	17	15	40	60	113	57	17	659
< .50		1			1	1	3		2	1			5	5	1		20
< 1.00								1					1				2
< 2.00																	
< 4.00																	
>= 4.00																	
Totals	17	15	33	60	75	66	31	20	32	18	15	40	66	118	58	17	

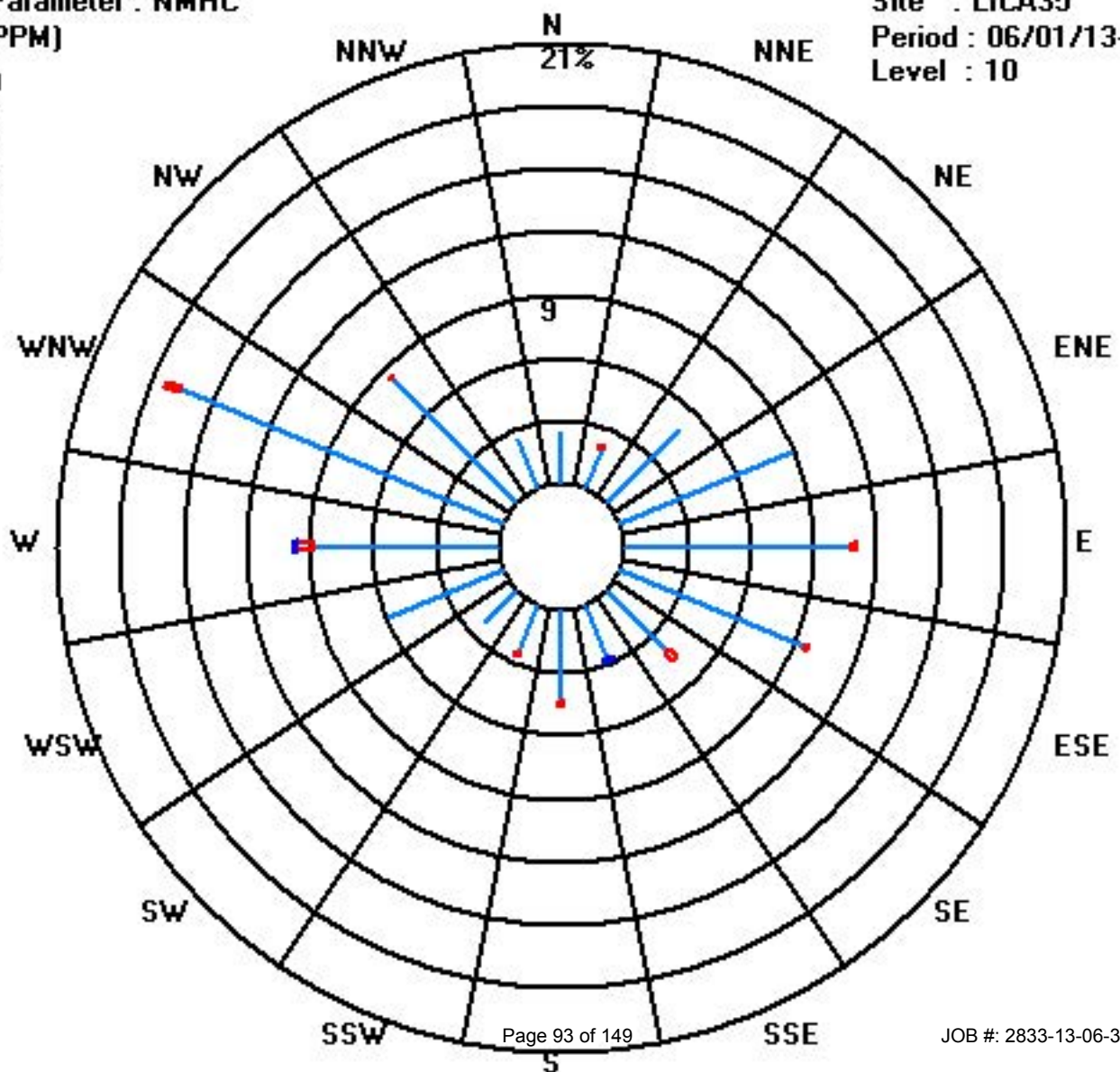
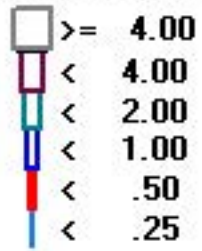
Calm : .00 %

Total # Operational Hours : 681

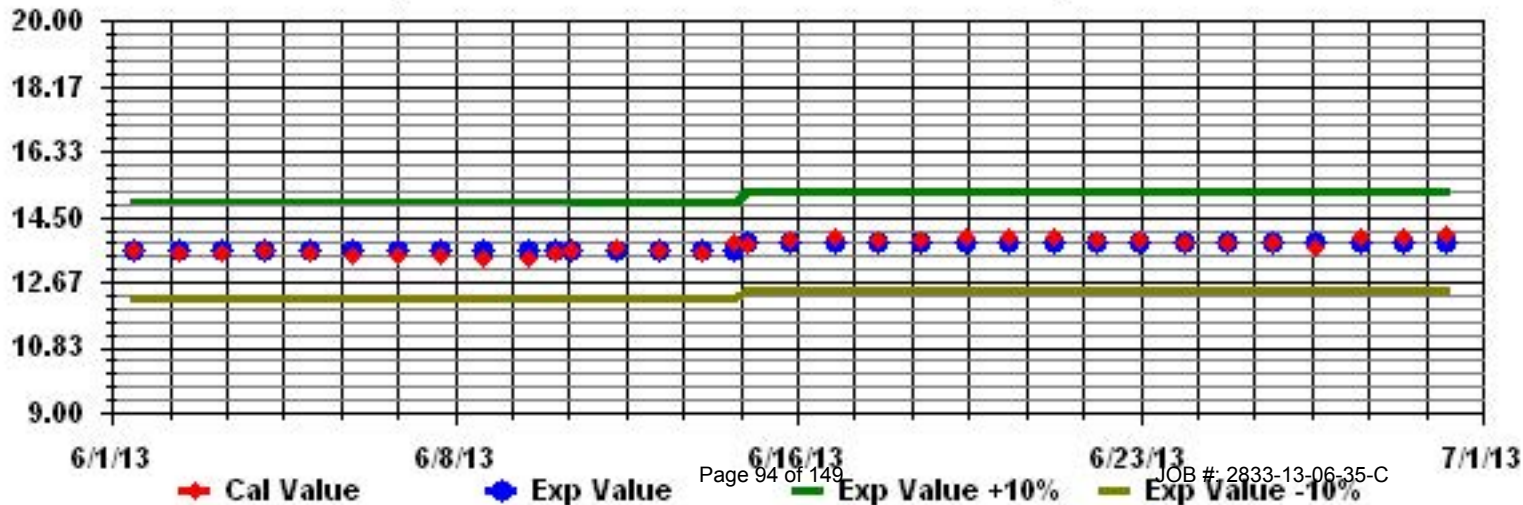
Class Limits (PPM)

Period : 06/01/13-06/30/13

Level : 10



Calibration Graph for Site: LICA35 Parameter: NMHC Sequence: THC55 Phase: SPAN



# Vector Wind Speed

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

JUNE 2013

## VECTOR WIND SPEED (WS) hourly averages (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	RDGS.
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.	
DAY																											
1	2.1	4.5	3.5	3	6.5	0.7	4.6	11.5	16.6	15.1	15.9	5.6	5	4.6	6.8	4.9	5.3	6.9	9.3	6.2	1.6	2.9	5.4	3.8	16.6	1.6	24
2	2.5	5.1	4.3	5.1	1.5	6.1	11	10.6	13.7	6.9	9.3	12.1	15	20	18.6	16.8	16.3	12.8	13.5	10.8	8.9	10.4	6.1	3.2	20	8.8	24
3	2.7	2.2	4.3	4.1	4.9	3.6	8.4	11.7	10.3	12.5	11.9	12.2	11.5	10.2	9.4	5.7	3.9	4.8	5.9	3.1	1.7	6.5	6.2	3.5	12.5	5.2	24
4	0.6	2.5	0.1	5	2.7	1.8	3.2	1.2	2.3	1.7	3.5	6.4	10.9	10.8	9.2	12.1	14	13.2	13	11.5	8.7	9.1	9.2	4.8	14	5.4	24
5	10.8	3.9	1.9	3.8	7.1	8.2	8.8	8.1	23.3	27.4	27.7	24.2	24.6	25.9	23.7	24.9	24.1	23.8	23	10.3	19.8	5.6	4.3	11.3	27.7	15.7	24
6	9.4	12.3	11	11.7	11.3	13.7	23.5	29.6	30.8	30.8	30.8	29.1	27.7	27.3	25.2	22.6	22.8	17.5	13.1	8.5	3.1	2.3	1.8	0.5	30.8	17.4	24
7	1.9	4.2	4.5	1.7	3.8	3	5.5	6.1	11.4	13.6	20.2	22.4	20.7	19.7	18.5	18.7	18.6	16.1	10.6	11.2	9.1	6.1	3.1	4	22.4	10.6	24
8	3.1	2.6	2.1	4.4	9.4	12	15.7	14.4	17.1	15	14.5	17.8	16.5	16.1	16.4	20.6	15.1	15.5	17.7	17.4	11.4	11.3	16.5	17.1	20.6	13.3	24
9	19.2	22.5	26.8	27.3	25.6	24.7	27.4	32.5	29.4	27.6	29.1	28.7	28.7	29.6	30	31.7	34.4	28.6	35.4	34.7	30.7	30.5	30.7	27	35.4	<b>28.9</b>	24
10	27	26.2	25.7	28.6	30.4	29.7	30.1	30.2	29.6	31.3	33.3	30.8	31.1	29.9	31.2	30.9	31.6	28.3	28.3	23.2	22	19.3	19.1	15.5	33.3	27.6	24
11	17	18.5	18.8	17.8	16.8	17.8	18.3	17.6	18.6	15.8	14	12.5	11.5	9.3	10.2	3.8	4.4	0.9	4.7	5.1	4.1	2.8	4.9	5.6	18.8	11.3	24
12	2.2	3	0.7	0.3	2.8	2.5	6.1	9.3	11.1	9.8	14.1	13.2	14.8	19.5	22.3	26.6	25.8	27.7	7.7	10.7	9.4	5.7	6.9	6	27.7	10.8	24
13	11.3	0.5	3.3	1	6.4	2.9	4	2.1	3.3	5.2	12.7	13.4	9.7	18.2	13	6.2	7.2	4.5	2	1.6	3	6.3	2.2	6.6	18.2	6.1	24
14	5.4	4.8	6.6	10.7	8.7	12.3	12.8	11	12	15.3	11.8	11.4	16	19.3	21.7	24.9	22.2	25.3	23	7.4	6.2	9	14.9	21.2	25.3	13.9	24
15	19.7	24.9	24.5	27.7	29.2	30.5	32.7	34.9	34.7	<b>37</b>	35.8	33.7	34.3	32.1	28.4	29.4	25.1	20.3	20.1	12	9.1	9.3	11.1	8.8	<b>37.0</b>	25.2	24
16	8.8	8.5	6.5	4.6	8.2	8.2	8.4	10.4	9.2	8.4	9.5	7.6	5.9	7.2	4.2	4.7	4.3	3.9	4.7	0.8	2.3	4.9	0.8	4.1	10.4	6.1	24
17	1.6	1.6	3.2	1.2	1.2	0.9	1.4	5.3	6.4	10.6	10.3	11.3	11.3	11.6	11.1	6.8	10.3	7.6	6.1	5.4	5.4	2.4	1.4	0.9	11.6	5.6	24
18	5.1	2	0.8	8.1	6.7	6.8	8.1	5.2	10.1	12.5	10.4	9.9	11.2	11.8	11.9	10.1	7.4	7.6	3.2	1.2	0.9	3.3	3.1	6.9	12.5	6.8	24
19	5.2	9.2	10.6	10.3	7.6	10	11.9	12.9	14.8	23	25.2	25.2	26.2	22.7	22.4	16.5	19.7	16	15.7	12.6	12	13.6	14.7	13.1	26.2	15.5	24
20	15.4	15.5	14.5	18.6	18.5	16.8	18.4	23	25.9	27.8	30.7	22.1	23.3	21.5	23.3	24	17.4	14	12.8	13.9	14.7	7.7	9.1	6.2	30.7	18.1	24
21	2.4	3	3.2	7.7	4.9	3.7	4.7	11.2	13.4	17.9	18.3	20.1	20.8	20.7	20.5	20.1	23.2	24.1	20.3	15.8	11.4	9.1	9.3	8.4	24.1	13.1	24
22	8.3	7.3	7.9	5.2	5.7	7.5	9.2	10.9	11.3	11.8	10.5	13.5	16.1	16	18.8	13.2	14.9	15.4	13.9	10	5.9	2.6	1.8	3.4	18.8	10.0	24
23	4.1	4.8	2.8	6	6.6	5.5	8	6.7	10.5	13.1	12.3	9.8	13.6	12.7	9.1	10.6	10.7	6.8	6.7	2	6	7.4	7.8	5.5	13.6	7.9	24
24	7.7	3.7	6	7.5	6.6	4.3	3.1	6.4	4.2	3	4.4	7	6.2	6.6	6.5	7.8	8.9	9	11.1	11.4	10.7	8.6	6.9	5.1	11.4	6.8	24
25	4.7	3.8	2.2	3.1	3.6	7.5	8	9.3	8.6	14	14	13.2	20.8	22.1	24.9	21	22.9	17.9	21.9	15.6	12.7	7.8	3.9	0.7	24.9	11.8	24
26	1.9	0.1	1.8	2.3	7.3	5.5	10.1	10.8	12.8	14.1	15	16.9	21.6	25.3	25.4	27.3	32.9	25.5	20.9	14.3	7.6	11.6	13.4	14.6	32.9	14.1	24
27	11	8.9	8.2	9.3	7.8	9.5	9.8	13.1	12.9	17.9	18.8	16.8	16.3	19	18.1	21.9	20.6	18.4	12.8	7.5	9.7	11.1	11.2	7.5	21.9	13.3	24
28	7.6	9.1	6.6	8.3	11.9	8.3	6.2	8	7.4	8.5	11.7	14.9	13.5	15	12.2	10.4	8.1	5.9	2.8	0.1	3.4	3.8	1.3	1.9	15.0	7.8	24
29	2.3	0.3	0.3	0.7	1.7	6.6	8.4	7.7	7.5	11	11.5	14.2	17.8	15	16	15.7	16.4	14.7	17.4	13.6	11.4	10.4	10.2	11.3	17.8	10.1	24
30	13.3	2.9	5.6	4.8	2.7	2.4	2.9	5.9	9.6	8.4	5.9	9.7	9	8.9	8.9	10	9.4	7.2	5.6	4.2	4.8	2.2	1.7	3.7	13.3	6.2	24
HOURLY MAX	27.0	26.2	26.8	28.6	30.4	30.5	32.7	34.9	34.7	37.0	35.8	33.7	34.3	32.1	31.2	31.7	34.4	28.6	35.4	34.7	30.7	30.5	30.7	27.0			
HOURLY AVG	7.8	7.3	7.3	8.3	8.9	9.1	11.0	12.6	14.3	15.6	16.4	16.2	17.1	17.6	17.3	16.7	16.6	14.7	13.4	10.1	8.9	8.1	8.0	7.7			

**STATUS FLAG CODES**

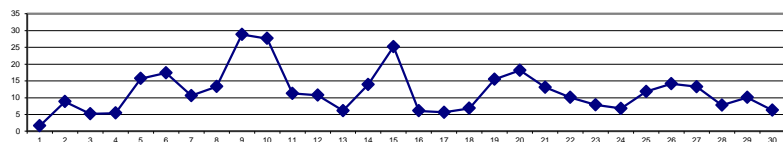
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

LAST CALIBRATION: November 24, 2011

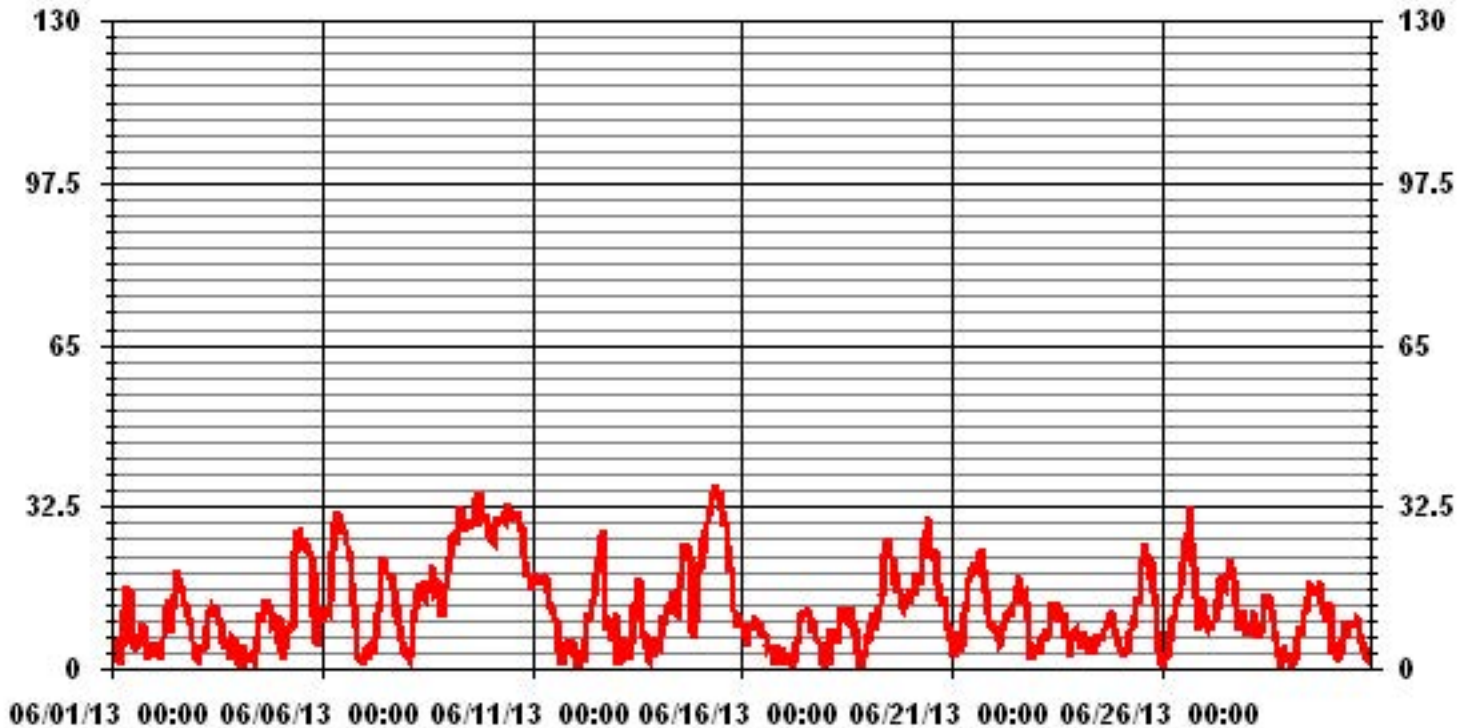
**MONTHLY SUMMARY**

MAXIMUM 1-HR AVERAGE:	37.0	KPH	@ HOUR(S)	9	ON DAY(S)	15
MAXIMUM 24-HR AVERAGE:	28.9	KPH			ON DAY(S)	9
CALMS ( $\leq 1$ KPH)	0.81	%	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	8.50		MONTHLY AVERAGE:	12.12	KPH	

24 HOUR AVERAGES FOR JUNE 2013



# 01 Hour Averages



— LICA35 WSP KPH

## LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE - Elk Point Airport

JUNE 2013

### VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY MAX.	
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	0:00	
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	6.4	8.6	6.3	5.8	12.9	13.4	13.7	22.5	26.9	27.6	23.6	18.9	18.8	20.1	13.2	12.7	11.1	13.7	15	10.6	5	18.2	13.1	11.6	27.6	
2	8.6	10.4	11.8	13.2	6.1	16.9	20.6	21.4	25	19.3	18.4	21.9	32.3	35.5	31	30.7	29.7	26.5	22.7	19.7	13.5	15.8	17	8.5	35.5	
3	10.6	6.4	7	6	8.3	8.2	16.1	19.1	20.4	27.7	26.9	30.7	25.9	28.3	30.6	23.9	21	14	13.5	7	8.2	8.7	9.6	20.1	30.7	
4	3.9	5	2.8	9.2	6.7	5.2	8.1	6.2	11.5	11.7	20.3	24.8	25.2	29	26.7	26.2	32.5	27.2	25.9	20.3	16.1	14.3	13.9	21.1	32.5	
5	19.7	18.1	5.3	10.5	10.8	13	13.9	28	46.7	46.3	48.6	44.7	46.1	50	42.2	44.5	45.4	38.5	41.5	57	44.2	29.6	9.6	27.7	57	
6	19.5	21.8	23.5	24	26.9	24.7	44.2	49	50.2	48.7	47.3	47.1	45.6	45.7	47.2	43	38.9	29.6	25.7	14.8	8.3	7.4	7.1	4.4	50.2	
7	6.5	11.5	7.9	7.9	9.3	7.8	9.2	14.1	18.3	21.2	44.9	42.2	45.9	40.2	31.2	33.5	29.4	31	15.7	19.5	14	10.8	7.7	10.6	45.9	
8	7.8	6.9	7	12.8	16.5	18.2	27.4	21.5	29.2	25.4	26.6	30.3	26.7	27.3	30.5	<b>60.1</b>	26.2	29.6	27.4	30.1	18.3	21	26.9	28.6	<b>60.1</b>	
9	35.9	36.5	45.8	44.2	42.7	39.5	46	47.6	44.8	46.9	45.9	48.4	46.4	48.5	49.5	50.3	56.5	45.2	54.7	55.2	50.2	51.9	47.6	45.8	56.5	
10	46.5	45.8	55.4	51.3	55.5	47.2	48.6	46.6	44.9	48.1	53.2	49.2	47.1	47.3	48	46.4	46.7	45.4	44.3	38.3	37.7	30.3	29.4	25.3	55.5	
11	28.7	29.3	29.7	28.2	25.9	27.4	28.2	27.1	25.7	25.1	23.6	24.2	19.4	20.4	29.8	23	11.4	12	11.3	11.8	8.2	4.5	8.7	8.6	29.8	
12	7.9	6.2	4.4	6.3	4.8	5.4	16.8	16.6	19.4	23.2	26.2	29.3	31.1	34.3	37.4	42.4	43.6	45.2	31.8	22.1	30.4	21.5	18.3	12.6	45.2	
13	18.9	12.3	8.4	6	10.7	10.7	8.5	9.7	10.7	12.6	26	22.7	19.2	30.4	23.4	16.9	15	10.1	4.6	5.6	8.2	9.9	5.9	13.7	30.4	
14	10.1	9.6	9.5	16.4	15.7	19.9	18.7	17.7	25.1	24.7	21.6	23.5	35.8	34.4	36.4	42.9	38.4	38.3	36.8	25.5	14.7	20.4	29.3	36.3	42.9	
15	39.3	40.4	40	46.8	49.8	47.6	54.2	53.2	52.4	58.9	56.8	51.1	56.2	50.6	47.5	48.4	41.9	44.2	39.3	26.3	19.4	18.7	23.9	15.3	58.9	
16	14.1	12.5	11	8.6	13.5	14	15.4	24.1	18.9	17.4	18.6	18.6	20.2	15.8	15	15.9	14.7	12.4	10.1	6.8	5.1	7.6	4.9	6.2	24.1	
17	5.8	5	5.7	5.1	4.7	6.6	5.2	12.1	16.7	20.8	22.5	23.1	26.5	22.7	28.7	22.6	37.3	20.1	14.2	8.8	8.1	5.2	5.1	4.8	37.3	
18	7.9	6.9	7.7	40.1	16.6	15.6	15.6	14	19.1	22.9	20.6	19.9	25.5	21.3	21.4	15.9	13.4	23.2	21.3	6.3	7.2	7.8	9.2	11.4	40.1	
19	15.9	16.7	17.6	18.4	13.8	16.9	26.2	26.8	29	39.7	41.5	46.3	45.4	44.4	36	34.4	34.8	27.1	30.1	23.6	20.7	30.3	26.3	26.3	46.3	
20	27.4	30.8	29.6	35.4	36.7	33.9	35.3	41.6	43.5	51.8	57.8	38.2	40.7	36.7	44.2	43.5	30.7	23.5	23	35.1	31.8	16.1	18.7	13.2	57.8	
21	9	14.9	12.7	20.2	12	9.1	15.9	21.4	26.9	31.6	34.9	40.6	38.6	37.7	38.4	40.2	42.5	44	38.8	31.2	21.9	16.7	16.2	14.9	44	
22	14.3	15.6	16	10.7	12.9	15.3	16.6	20	18.7	24.7	21	24.6	30.9	30.5	32.1	28	27	26.1	24.2	15.7	12.1	9.8	8.7	9.1	32.1	
23	7.3	8.2	7.3	10.1	10.6	12.8	16.2	12.5	22.2	23.6	21	21	25.3	27	22	24.3	26.3	16.1	18.3	6.9	9.1	12.4	11.3	12.3	27	
24	14.1	9.3	13.4	15	11.1	11.2	8.5	13.9	15.4	14.3	19	24	19.1	21.3	22	22	17.9	20.6	17.2	19.5	14.7	11	10.3	8	24	
25	8.5	10.1	9.2	8.8	8.5	13.3	12.8	17.3	16.9	24.5	30.4	26.1	41.7	37.3	44.4	37.3	38.1	30.2	41.7	44.2	23.5	16	12.4	7	44.4	
26	5.9	3.2	4.7	10.6	13.2	11.3	19.2	20.4	26.3	27.5	35.2	38.9	37.7	43.9	43.5	45.4	56.5	38.9	34.5	28.1	12.5	19.1	17.6	25.6	56.5	
27	18.1	15.1	13.2	16.9	13.3	19.1	17.5	23.5	20.7	33.2	31.9	32.3	29.9	33.6	0	42.6	34	33.8	23.6	11.7	14.2	15.7	14.5	12.9	42.6	
28	14.4	14.8	10.8	11.1	15.8	14.6	12.4	16.3	14	17.3	24	29.2	27.1	25.9	27.7	24.4	18.2	15.3	9.6	2.5	7	7.5	6	5.9	29.2	
29	5.7	3	4.3	4.8	4.2	11.8	13.6	13.7	15.3	22.2	22.4	31.9	32.2	30.6	29.6	30.3	33.6	27.7	33.9	29.2	19.2	13.9	17.9	18.4	33.9	
30	20.8	13.8	18.2	10.4	6.3	9.3	8.4	13.3	18.1	15.3	17.5	19.2	18.3	22.6	21.7	21.7	22.3	16.3	13.7	7.6	7.4	5.8	5	6.8	22.6	
PEAK	46.5	45.8	55.4	51.3	55.5	47.6	54.2	53.2	52.4	58.9	57.8	51.1	56.2	50.6	49.5	60.1	56.5	45.4	54.7	57.0	50.2	51.9	47.6	45.8		

**STATUS FLAG CODES**

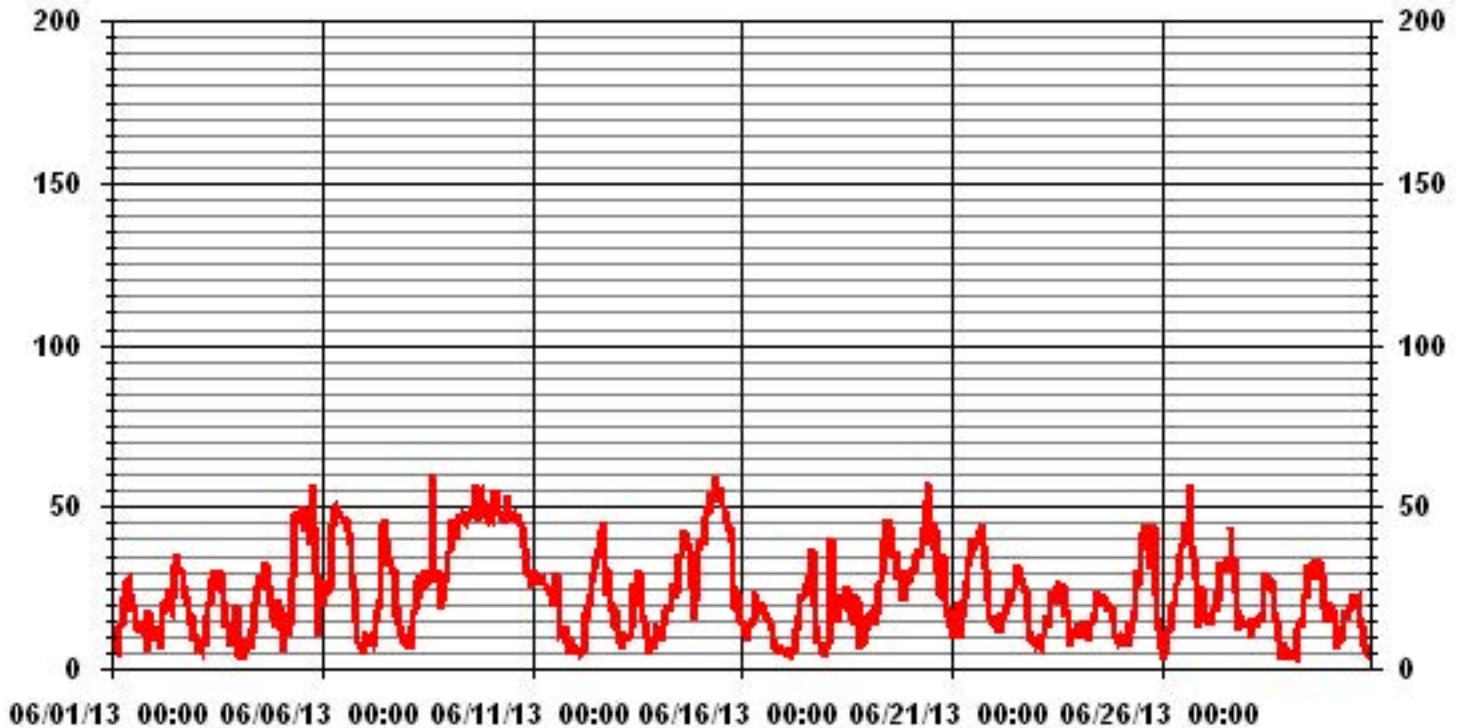
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

**MONTHLY SUMMARY**

MAXIMUM INSTANTANEOUS READING	60.1	KPH	@ HOUR(S) ON DAY(S)	15 8
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# 01 Hour Averages



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

June 2013

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	.83	1.11	1.94	2.22	3.19	2.77	1.38	.55	1.11	1.25	1.11	2.08	2.22	2.50	1.94	1.11	27.36
< 12.0	1.52	.69	1.80	2.36	4.44	2.77	2.08	1.25	1.11	1.38	.97	3.05	3.33	1.66	2.77	.97	32.22
< 20.0	.13	.27	.97	2.36	2.08	3.05	.69	1.11	.41	.13	.00	.55	2.50	4.72	2.08	.27	21.38
< 29.0	.00	.00	.13	1.80	1.38	1.11	.13	.13	1.80	.00	.00	.00	1.80	3.75	.97	.00	13.05
< 39.0	.00	.00	.00	.00	.13	.00	.00	.00	.00	.00	.00	.00	.55	4.86	.41	.00	5.97
>= 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.50	2.08	4.86	8.75	11.25	9.72	4.30	3.05	4.44	2.77	2.08	5.69	10.41	17.50	8.19	2.36	

Calm : .00 %

Total # Operational Hours : 720

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 6.0	6	8	14	16	23	20	10	4	8	9	8	15	16	18	14	8	197
< 12.0	11	5	13	17	32	20	15	9	8	10	7	22	24	12	20	7	232
< 20.0	1	2	7	17	15	22	5	8	3	1		4	18	34	15	2	154
< 29.0			1	13	10	8	1	1	13				13	27	7		94
< 39.0					1								4	35	3		43
>= 39.0																	
Totals	18	15	35	63	81	70	31	22	32	20	15	41	75	126	59	17	

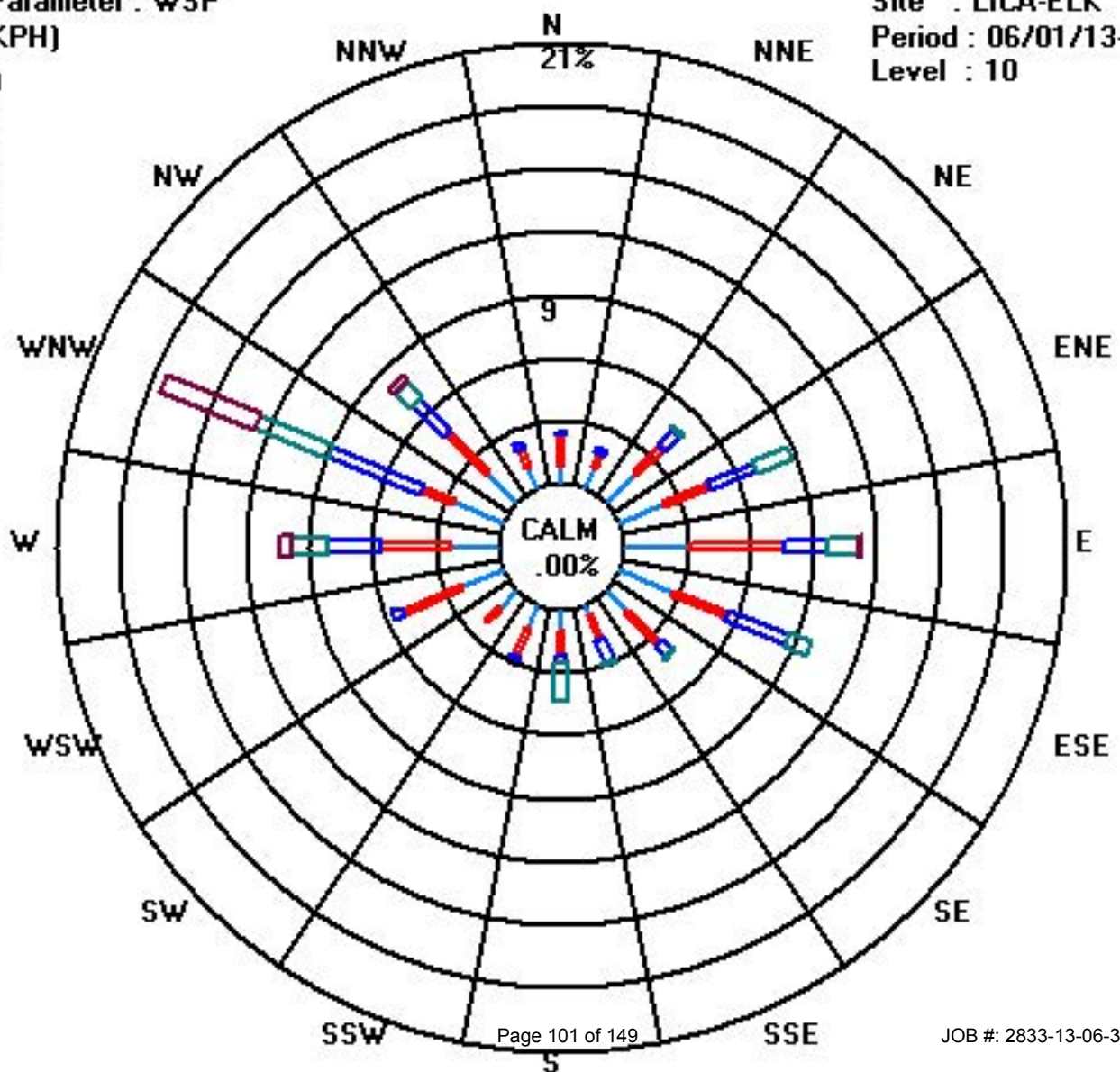
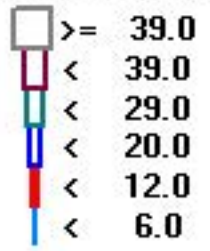
Calm : .00 %

Total # Operational Hours : 720

Class Limits (KPH)

Period : 06/01/13-06/30/13

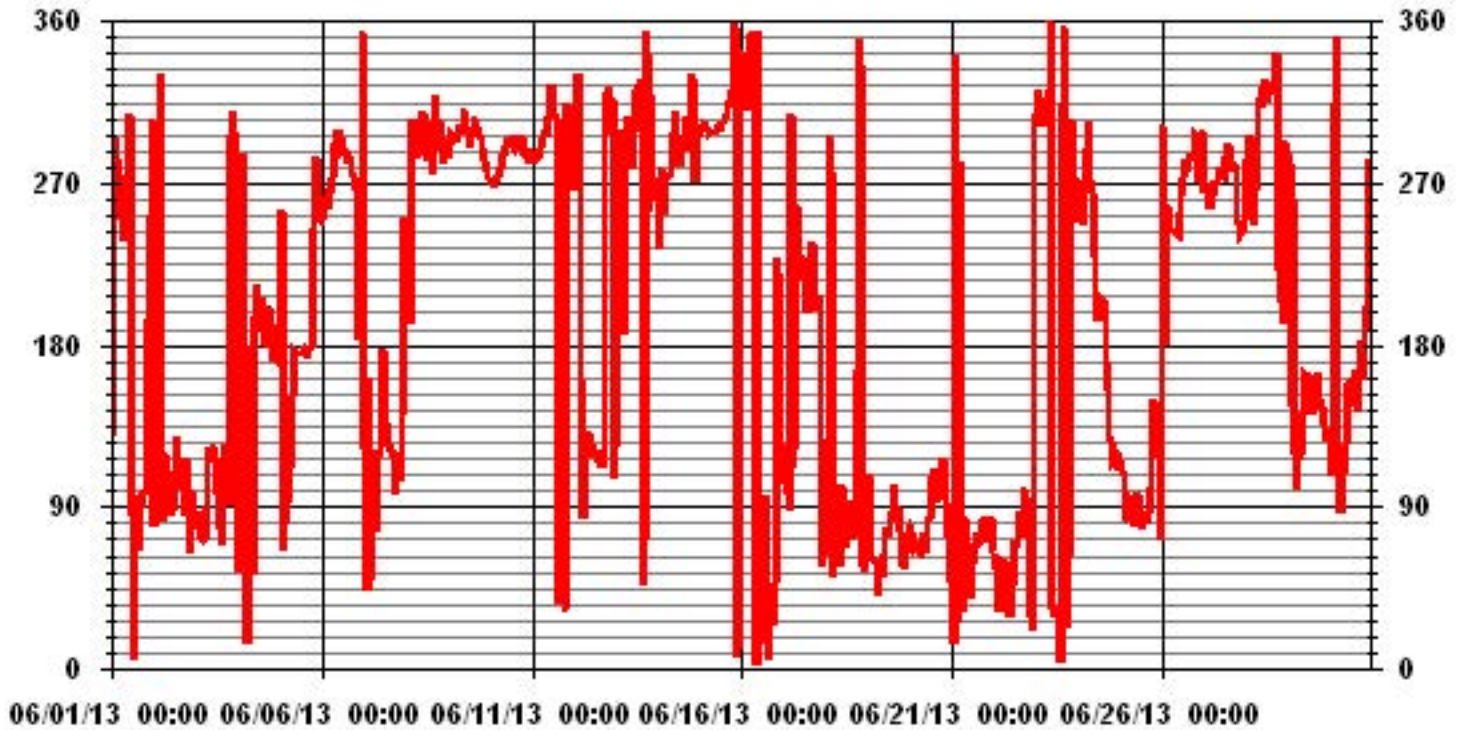
Level : 10



# Vector Wind Direction



# 01 Hour Averages

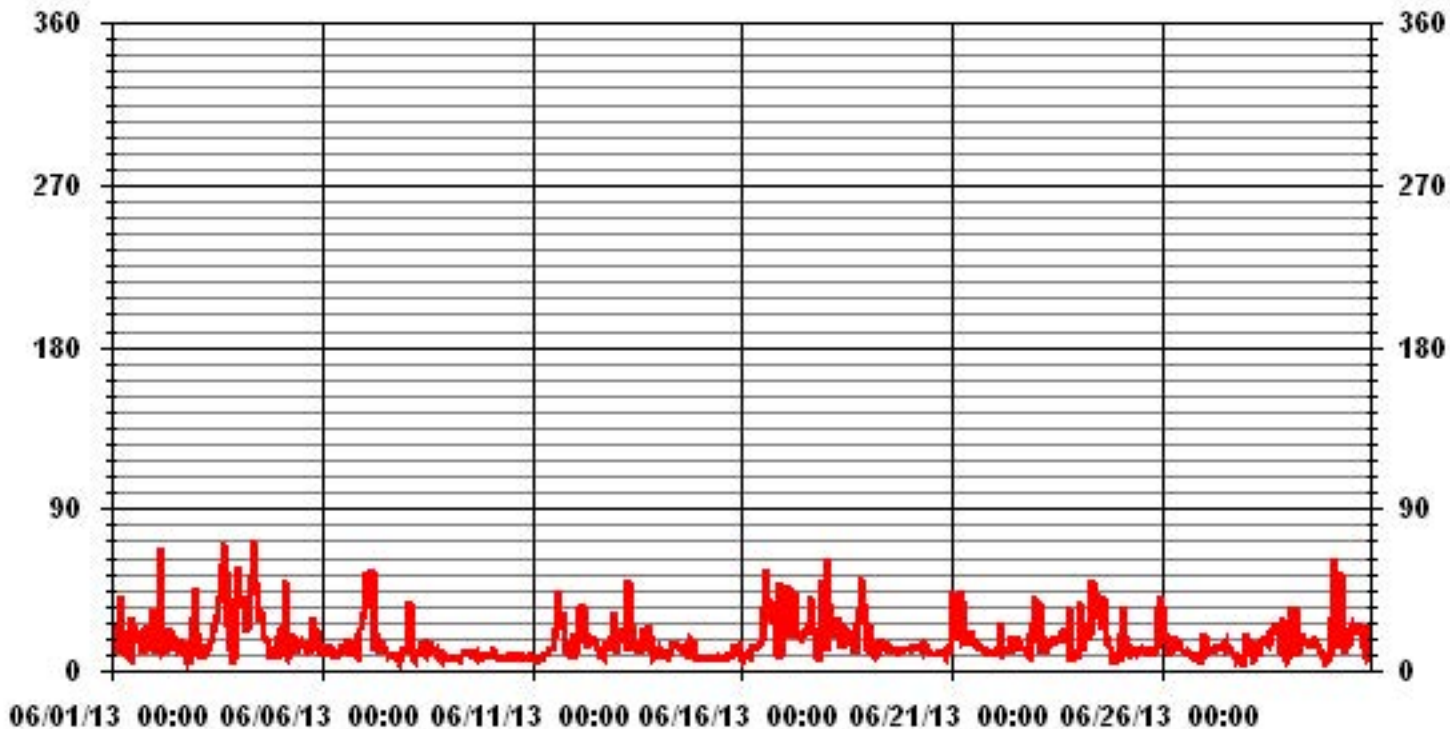


# Standard Deviation Wind Direction





# 01 Hour Averages



# Calibration Reports

# Sulphur Dioxide

### SO2 Calibration Report

#### Station Information

Calibration Date	June 14, 2013	Previous Calibration	May 6, 2013
Company	LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION		
Plant / Location	ELK POINT AIRPORT		
Start Time (MST)	11:20	End Time (MST)	15:26
Reason:	MONTHLY		
Barometric Pressure	27.67 in Hg	Station Temperature	22 Deg C
Cal Gas	49.8 ppm	Gas Cyl. #	BAL3187
DAS Output Voltage	0-10 Volts	Cal Gas Expiry date	Dec 29 2016
		Chart Rec. Output	0-10 Volts

#### Equipment Information

Analyzer Make / Model:	API 100E	S/N :	467	Method:	Fluorescent
Converter Make / Model:	N/A	S/N :	N/A		
Calibrator Make / Model:	Envionics 6100	S/N :	5212	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO717		
Chart Recorder Make / Model:	N/A	S/N :	N/A		
Flow Meter:	Envionics 6100	S/N :	5212		

#### Analyzer Settings

Before Calibration			After Calibration		
Concentration Range	0-1000 ppb				
Sample Flow / Box Temp	623 ccm	31.3 Deg C	620 ccm	32.7 Deg C	
HPVS / Lamp Setting	612	1493	612	1491	
PMT / RxCell Temp	8.1 Deg C	50 Deg C	8.1 Deg C	50 Deg C	
Converter / IZS Temp	N/A Deg C	45 Deg C	N/A Deg C	45.0 Deg C	
Offset / Slope	111.9	"1.226"	119.1	1.195	

#### Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	4	0.0000
5000	0	0	0	0.0000
4920	80.3	800	822	0.9729
4920	80.3	800	800	1.0000
4950	40.1	400	399	1.0030
4977	20.1	200	200	1.0000
5000	0	0	1	0.0000
Sum of Least Squares				1.0004
New Correction Factor				1.0000

#### IZS Calibration Data

Before Calibration		After Calibration	
Auto Zero	0.0	Auto Zero	0.0
Auto Span	368.5	Auto Span	356.9
Sample Lines Connected		Sample Lines Connected	YES

#### Percent Change

Previous Month's Calibration Correction Factor:	0.9943
Current Correction Factor Before Span Adjust:	0.9729
Percent Change:	2.2%

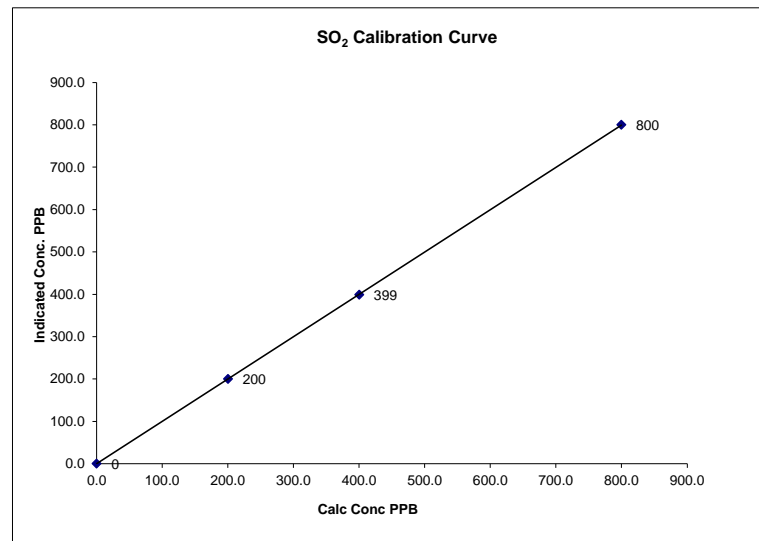
Notes: Changed filter

Calibration Performed by: Chris Wesson

### SO2 Calibration Curve

Calibration Date	June 14, 2013
Company	LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Plant / Location	ELK POINT AIRPORT
Start Time (MST)	11:20
End Time (MST)	15:26

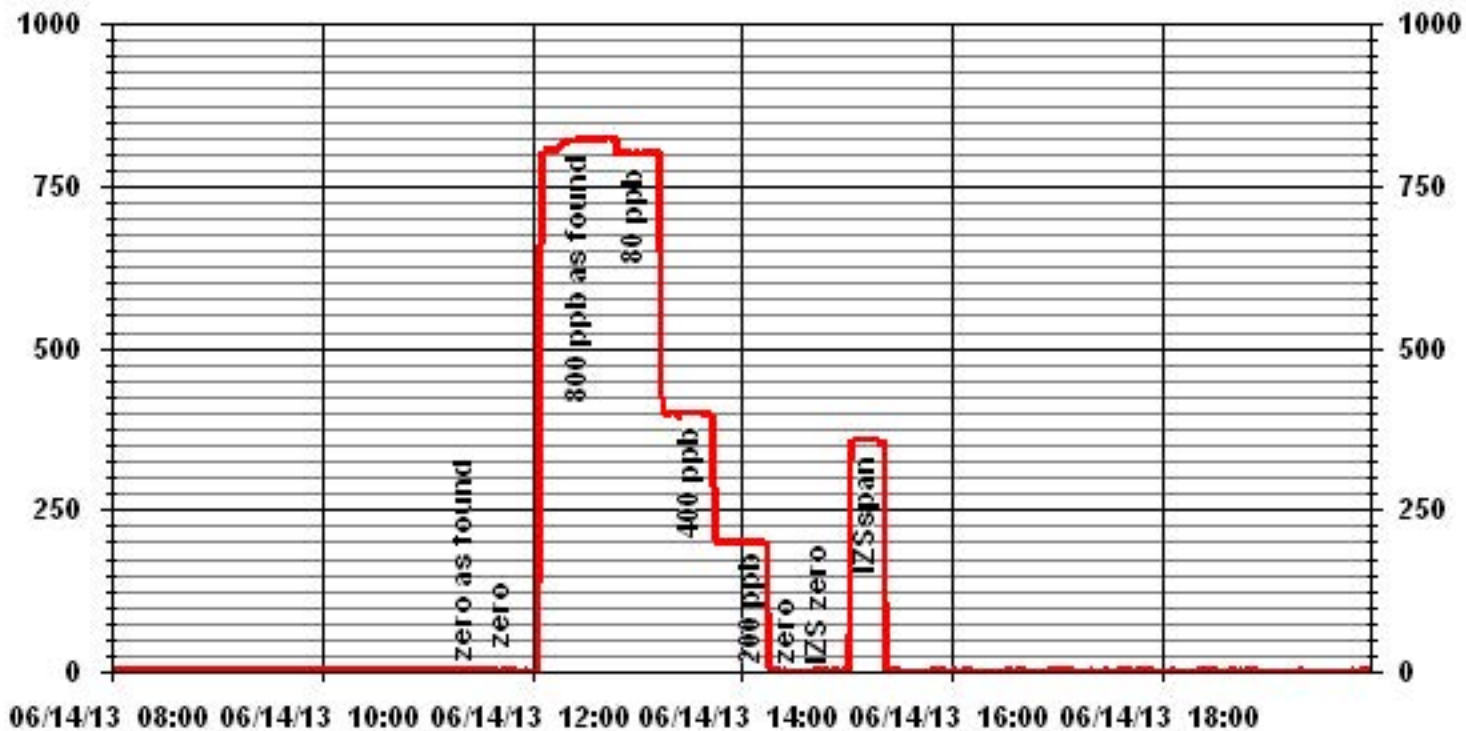
Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope Intercept	(≥ 0.995) (0.85 to 1.15) (± 3% F.S.)
0	0	0.0000		0.999997
200	200	1.0000		1.000298
400	399	1.0030		-0.414339
800	800	1.0000		



Notes:

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### SO2 Calibration Report

#### Station Information

Calibration Date	June 27, 2013	Previous Calibration	June 14, 2013
Company	LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION		
Plant / Location	ELK POINT AIRPORT		
Start Time (MST)	14:05	End Time (MST)	14:50
Reason:	As found		
Barometric Pressure	27.93 atm	Station Temperature	25 Deg C
Cal Gas	49.6 ppm	Gas Cyl. #	BAL3031
DAS Output Voltage	0-1 Volts	Cal Gas Expiry date	Dec 29 2016
		Chart Rec. Output	NA Volts

#### Equipment Information

Analyzer Make / Model:	API 100E	S/N :	467	Method:	Fluorescent
Converter Make / Model:	N/A	S/N :	N/A		
Calibrator Make / Model:	EnviroNics 6100	S/N :	4760	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO717		
Chart Recorder Make / Model:	NA	S/N:	NA		
Flow Meter:	EnviroNics 6100	S/N :	4760		

#### Analyzer Settings

Before Calibration				After Calibration			
Concentration Range			ppb				
Sample Flow / Box Temp	622 ccm	34.5 Deg C		621 ccm	34.5 Deg C		
HVPS / Lamp Setting	612	1482		612	1481		
PMT / RxCell Temp	8.2 Deg C	50 Deg C		8.2 Deg C	50 Deg C		
Converter / IZS Temp	N/A Deg C	45 Deg C		N/A Deg C	45.0 Deg C		
Offset / Slope	119.1	1.195		119.1	1.195		

#### Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4994	0	0	0	N/A
	No Zero Adj.			
4915	79.8	792	805	0.9844
Sum of Least Squares				
New Correction Factor				0.9844

#### IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	356.9	356.9
Sample Lines Connected		

#### Percent Change

Previous Month's Calibration Correction Factor:	1.0000
Current Correction Factor Before Span Adjust:	0.9844
Percent Change:	1.6%

Notes: **N/A : Not applicable**

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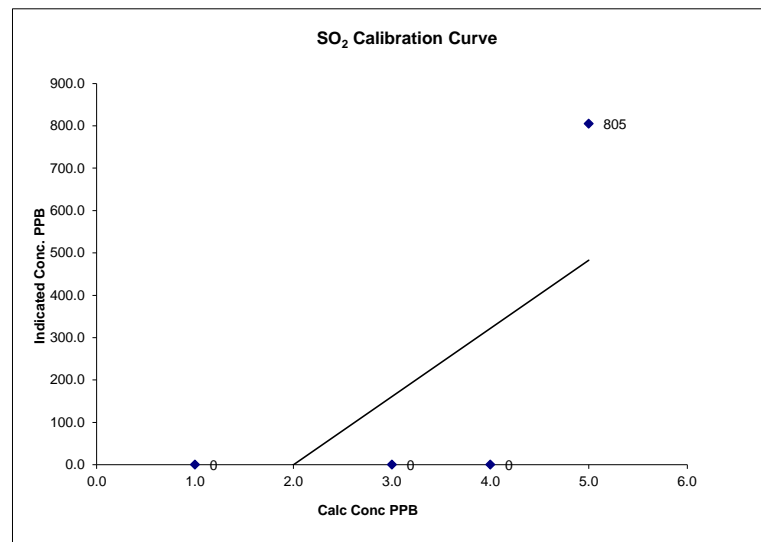
Calibration Performed by: Waseem Ahmed

### SO2 Calibration Curve

Calibration Date	June 27, 2013		
Company	LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION		
Plant / Location	ELK POINT AIRPORT		
Start Time (MST)	14:05	End Time (MST)	14:50

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope Intercept
0		N/A	(≥ 0.995) (0.85 to 1.15) (± 3% F.S.)
792	805	0.9844	



Notes:

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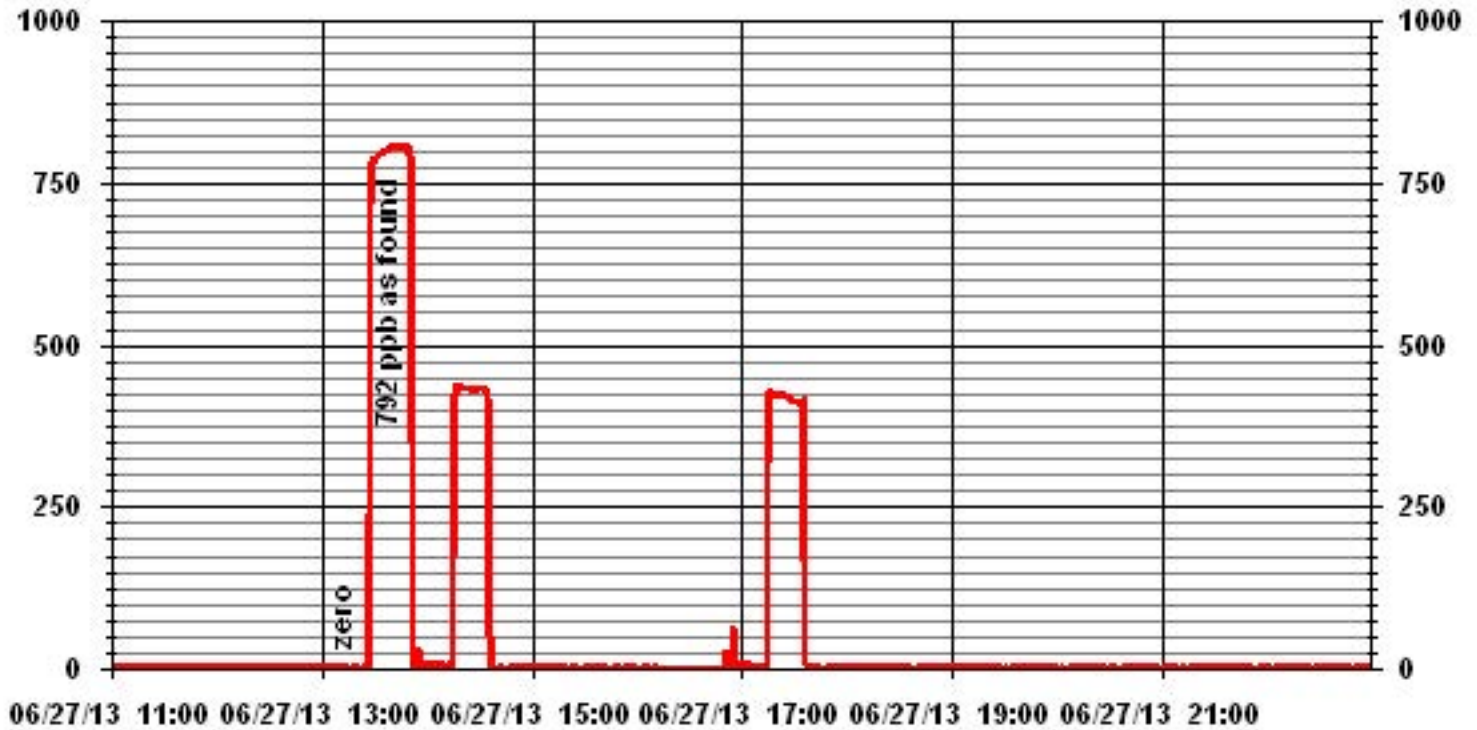


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# 01 Minute Averages



# Hydrogen Sulphide



## H2S Calibration Report

### Station Information

Calibration Date	June 7, 2013	Previous Calibration	May 6, 2013
Company	<b>LAKELAND INDUSTRY &amp; COMMUNITY ASSOCIATION</b>		
Plant / Location	<b>Portable / ELK Point Airport</b>		
Start Time (MST)	11:40	End Time (MST)	14:30
Reason:	Monthly calibration		
Barometric Pressure	27.69 in HG	Station Temperature	23 Deg C
Cal Gas	10.1 ppm	Gas Cyl. #	BLM00594 Cal Gas Expiry date
DAS Output Voltage	0-1 Volts	Chart Rec. Output	N/A Volts
			December 25, 2015

### Equipment Information

Analyzer Make / Model:	API 101E	S/N :	509	Method:	Fluorescent
Converter Make / Model:	Internal	S/N :	N/A		
Calibrator Make / Model:	API 700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC8832	S/N :	AO717		
Chart Recorder Make / Model:	N/A	S/N:	S/N:	N/A	
Flow Meter:	API 700	S/N :	831		

### Analyzer Settings

		Before Calibration		After Calibration	
Concentration Range		0-100 ppb			
Sample Flow / Box Temp	509 ccm	31.2 Deg C	508 ccm	31.4 Deg C	
HVPS / Lamp Setting	540	1745	540	1744	
PMT / RxCell Temp	7.9 Deg C	50 Deg C	7.9 Deg C	50 Deg C	
Converter / IZS Temp	315 Deg C	45 Deg C	315 Deg C	45.0 Deg C	
Offset / Slope	106.4	0.996	110.7	0.983	

### Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	2	NA
5000	0	0	0	NA
4960	40.0	81	84	0.9619
4960	40.0	81	81	1.0000
4977	20.0	40	41	0.9860
4988	12.0	24	25	0.9696
5000	0	0	0	NA
Sum of Least Squares				0.9934
New Correction Factor				1.0000

### IZS Calibration Data

		Before Calibration	After Calibration
Auto Zero		0.0	0.0
Auto Span		57.97	57.97
Sample Lines Connected			Yes

### Percent Change

Previous Month's Calibration Correction Factor:	0.9854
Current Correction Factor Before Span Adjust:	0.9619
Percent Change:	2.4%

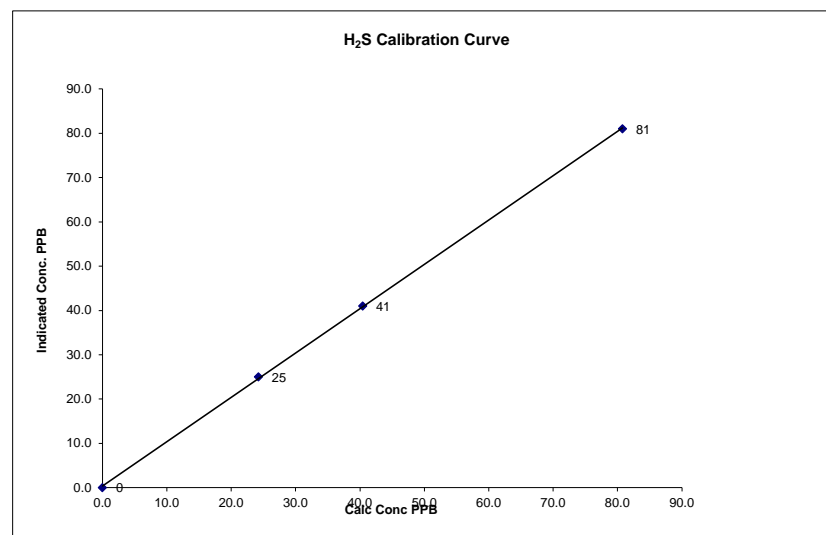
Notes:	<b>NA : Not Applicable</b>
	Change sample filter

Calibration Performed by: Waseem Ahmed

## H<sub>2</sub>S Calibration Curve

Calibration Date	June 7, 2013
Company	<b>LAKELAND INDUSTRY &amp; COMMUNITY ASSOCIATION</b>
Plant / Location	<b>Portable / ELK Point Airport</b>
Start Time (MST)	11:40
End Time (MST)	14:30

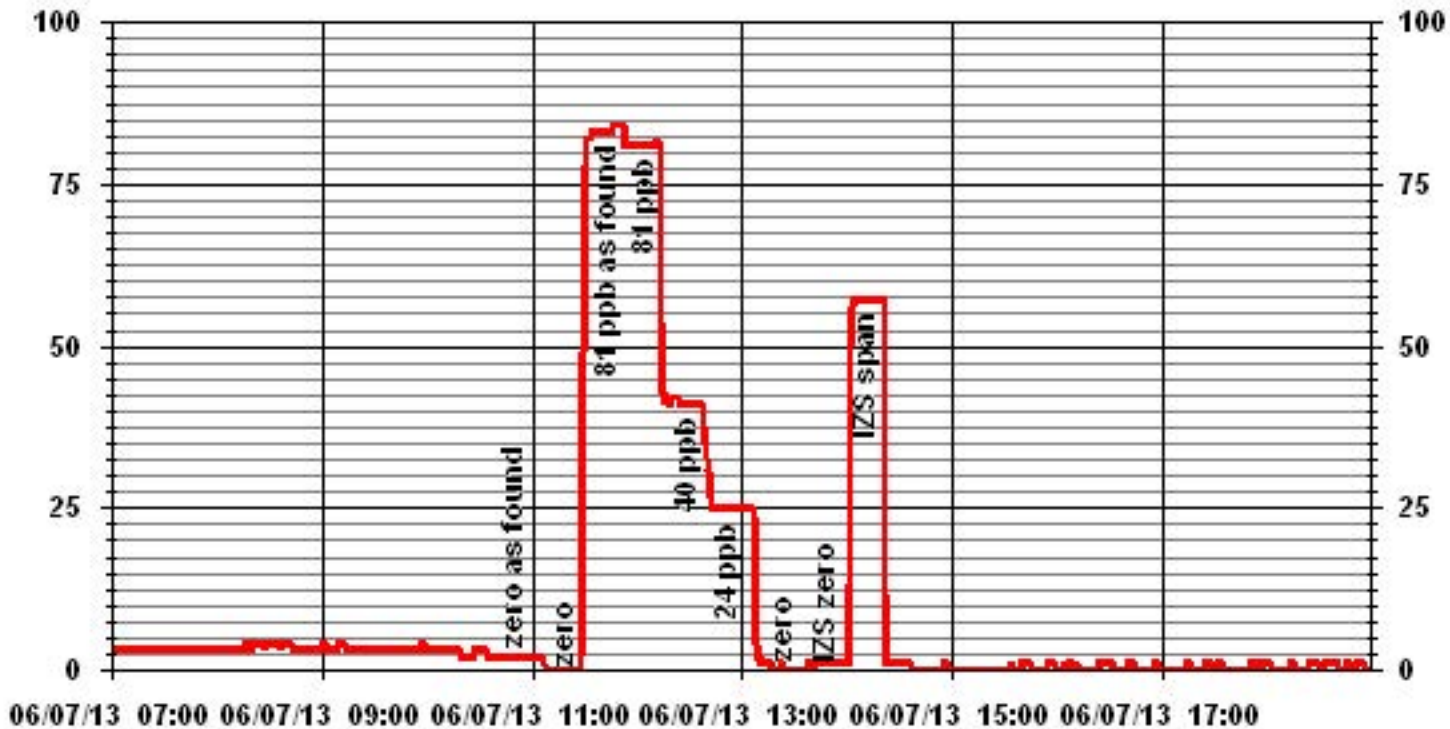
Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999897
0	0	NA	Intercept	(± 3% F.S.)	0.362839
24	25	0.9696			
40	41	0.9860			
81	81	0.9975			



**Notes:**

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### 01 Minute Averages



## H2S Calibration Report

### Station Information

Calibration Date	June 27, 2013	Previous Calibration	June 7, 2013			
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION					
Plant / Location	Portable / ELK Point Airport					
Start Time (MST)	14:05	End Time (MST)	15:00			
Reason:	As found					
Barometric Pressure	27.92	in HG	Station Temperature	25	Deg C	
Cal Gas	10.1	ppm	Gas Cyl. #	BLM00594	Cal Gas Expiry date	December 25, 2015
DAS Output Voltage	0-1	Volts	Chart Rec. Output	N/A	Volts	

### Equipment Information

Analyzer Make / Model:	API 101E	S/N :	509	Method:	Fluorescent
Converter Make / Model:	Internal	S/N :	N/A		
Calibrator Make / Model:	API 700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC8832	S/N :	AO717		
Chart Recorder Make / Model:	N/A	S/N:	S/N:	N/A	
Flow Meter:	API 700	S/N :	831		

### Analyzer Settings

Before Calibration		After Calibration	
Concentration Range	0-100	ppb	
Sample Flow / Box Temp	509 ccm	35.7	Deg C
HVPS / Lamp Setting	540	1725	
PMT / RxCell Temp	8	50	Deg C
Converter / IZS Temp	315	45	Deg C
Offset / Slope	110.7	0.983	

### Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	1	NA
	No zero adj.			
4960	40.0	81	83	0.9735
Sum of Least Squares New Correction Factor				0.9735

### IZS Calibration Data

Before Calibration		After Calibration	
Auto Zero	0.0	0.0	
Auto Span	57.97	57.97	
Sample Lines Connected		Yes	

### Percent Change

Previous Month's Calibration Correction Factor:	1.0000
Current Correction Factor Before Span Adjust:	0.9735
Percent Change:	2.7%

Notes: **NA : Not Applicable**

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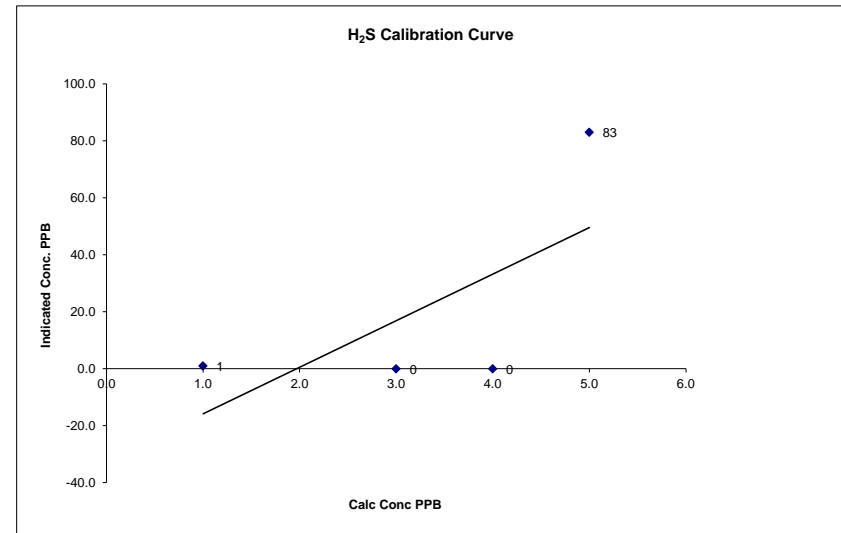
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Calibration Performed by: Waseem Ahmed

## H<sub>2</sub>S Calibration Curve

Calibration Date	June 27, 2013
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION
Plant / Location	Portable / ELK Point Airport
Start Time (MST)	14:05
End Time (MST)	15:00

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope Intercept	( $\geq 0.995$ ) (0.85 to 1.15) ( $\pm 3\%$ F.S.)
0	1	NA		
81	83	0.9735		



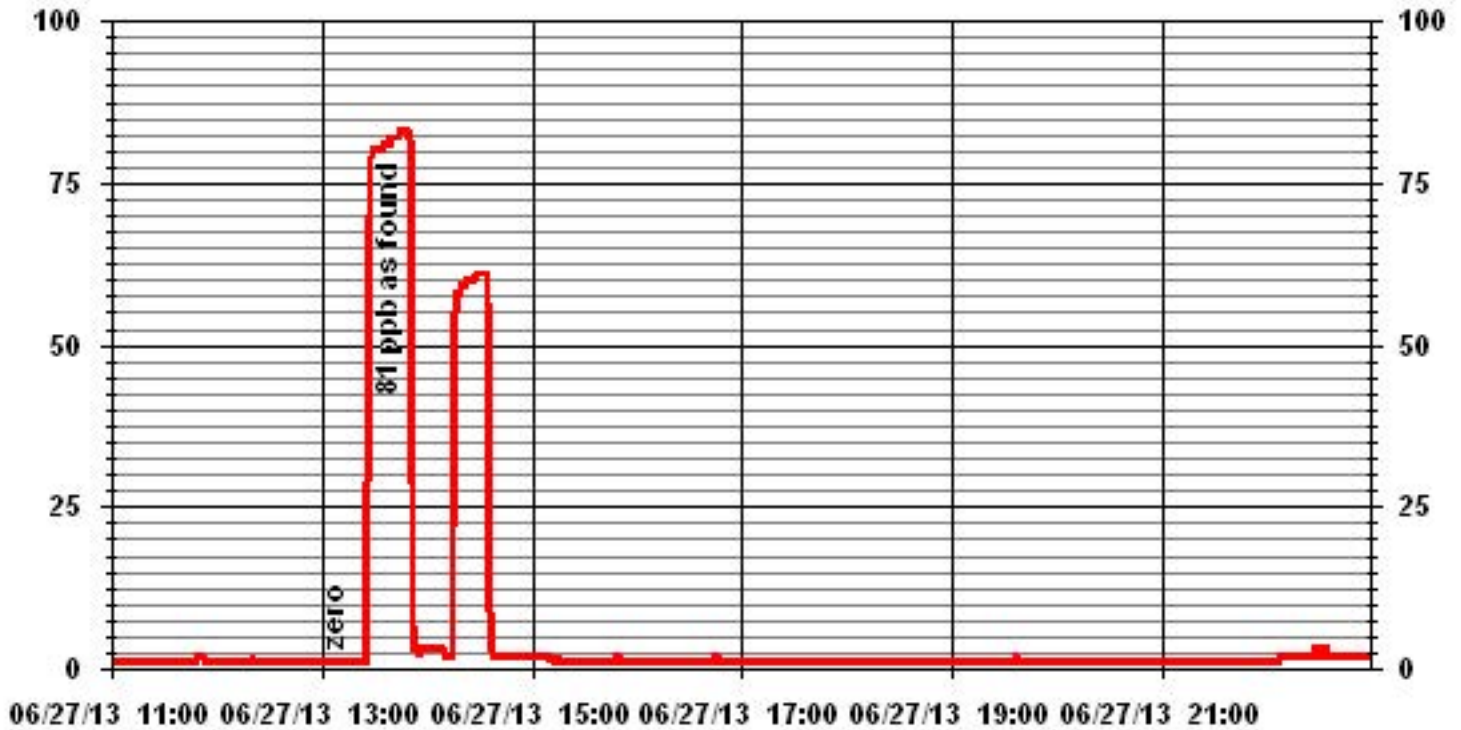
Notes:

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# 01 Minute Averages



# Total Hydrocarbons

### THC Calibration Report

Station Information			
Calibration Date:	June 10, 2013	Previous Calibration	May 6, 2013
Company:	Lakeland Industry & Community Association		
Plant / Location:	ELK Point Airport		
Start Time (MST)	10:20	End Time (MST)	11:00
Reason:	As found		
Barometric Pressure:	27.61 atm	Station Temperature:	22 Deg C
Calibrator:	API700	S/N:	831
Cal Gas Concentration:	CH4 600 PPM	C3H8 204 PPM	
	TOTAL CH4 1161.0 PPM	Gas Cyl. # LL155310	Cal Gas Expiry Date: September 9, 2013
DAS make & Model:	ESC8832	S/N :	AO717
Chart Recorder:	NA	S/N:	NA
Output Voltage Range:	0-10 VDC	Chart Speed:	NA mm/hr

#### Analyzer Information

Make / Model	TECO 51C-LT	S/N :	77021-384	Method	Flame Ionization
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#### Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0-50	ppm	0-50	ppm
Sample Pressure	6.9	psi	6.9	psi
Hydrogen Pressure	11	psi	11	psi
Air Pressure	20	psi	20	psi

#### Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2000	0.0	0.0	-0.4	N/A
	No zero adj.			
2000	74.0	41.4	41.5	0.9982
	No span adj.			
New Correction Factor:				0.9982

#### Percent Change

Previous Calibration Correction Factor:	1.0054
Current Correction Factor Before Span Adjust:	0.9982
Percent Change:	0.7%

#### IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	35.36	35.36
Sample Lines Connected	Yes	

Cylinder Pressures  
 Span 1050 psi Hydrogen 200 psi Zero Air 33 psi

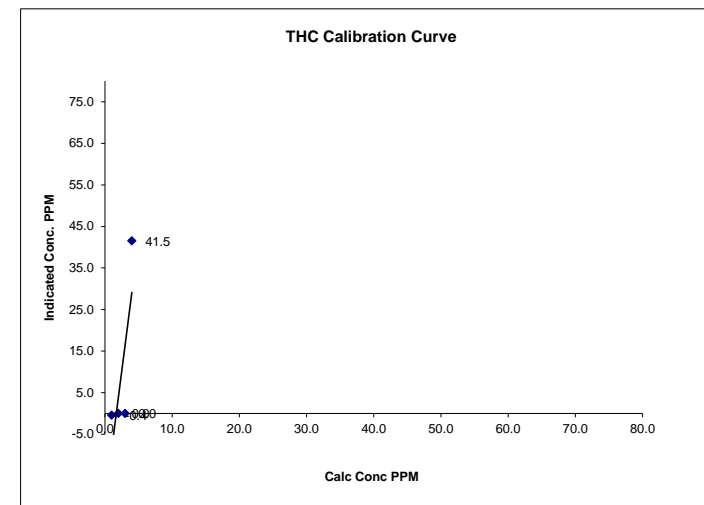
Notes: N/A : Not Applicable

Calibration Performed by: Waseem Ahmed

### THC Calibration Curve

Calibration Date	June 10, 2013		
Company	Lakeland Industry & Community Association		
Plant / Location	ELK Point Airport		
Start Time (MST)	10:20	End Time (MST)	11:00

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient (≥ 0.995)
0.0	-0.4	N/A	Slope (0.85 to 1.15)
			Intercept (± 3% F.S.)
41.4	41.5	0.9982	



Notes:

### THC Calibration Report

Station Information			
Calibration Date:	June 10, 2013	Previous Calibration	May 6, 2013
Company:	Lakeland Industry & Community Association		
Plant / Location:	ELK Point Airport		
Start Time (MST)	11:45	End Time (MST)	14:25
Reason:	Monthly calibration		
Barometric Pressure:	27.61 atm	Station Temperature:	22 Deg C
Calibrator:	API700	S/N:	831
Cal Gas Concentration:	CH4 600 PPM TOTAL CH4 1161.0 PPM	C3H8 204 PPM Gas Cyl. # LL155310	Cal Gas Expiry Date: September 9, 2013
DAS make & Model:	ESC8832	S/N :	AO717
Chart Recorder:	NA	S/N:	NA
Output Voltage Range:	0-10 VDC	Chart Speed:	NA mm/hr

#### Analyzer Information

Make / Model	TECO 51CLT	S/N :	77021-384	Method	Flame Ionization
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#### Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0-50	ppm	0-50	ppm
Sample Pressure	6.9	psi	6.9	psi
Hydrogen Pressure	11	psi	11	psi
Air Pressure	20	psi	20	psi

#### Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2000	0.0	0.0	-0.3	N/A
2000	0.0	0.0	0.0	N/A
2000	74.0	41.4	42.1	0.9849
2000	74.0	41.4	41.4	1.0000
2000	37.0	21.1	20.9	1.0100
2000	20.0	11.5	11.4	1.0057
2000	0.0	0.0	0.0	N/A
New Correction Factor:				1.0000

#### Percent Change

Previous Calibration Correction Factor:	1.0054
Current Correction Factor Before Span Adjust:	0.9849
Percent Change:	2.1%

#### IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	35.36	35.36
Sample Lines Connected	Yes	

Cylinder Pressures			
Span	1050 psi	Hydrogen	2000 psi
		Zero Air	33 psi

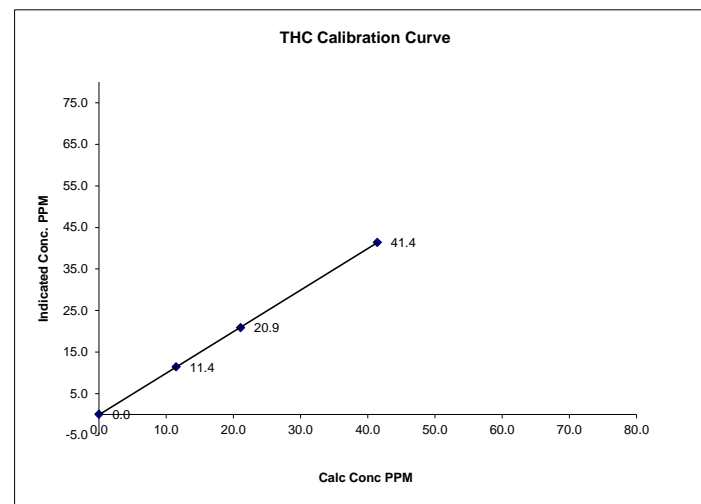
Notes:	<b>N/A : Not Applicable</b>
	Change sample filter
	Change Hydrogen cylinder after as found point

Calibration Performed by: Waseem Ahmed

### THC Calibration Curve

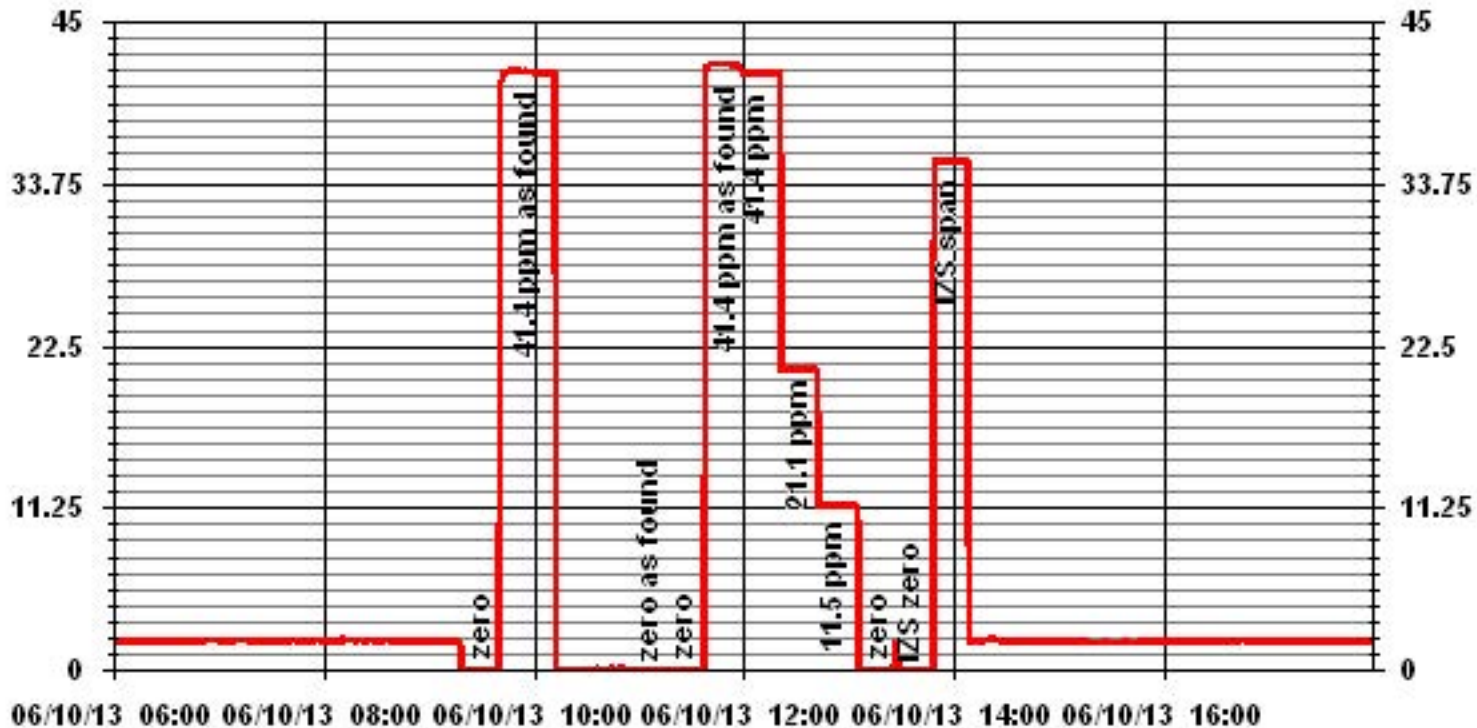
Calibration Date	June 10, 2013
Company	Lakeland Industry & Community Association
Plant / Location	ELK Point Airport
Start Time (MST)	11:45
End Time (MST)	14:25

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient (≥ 0.995)	Slope (0.85 to 1.15)	Intercept (± 3% F.S.)
0.0	0.0	N/A	0.999969	0.998906	-0.04919
11.5	11.4	1.0057			
21.1	20.9	1.0100			
41.4	41.4	1.0000			



Notes:

### 01 Minute Averages





# Total Hydrocarbons (55i)

### Methane - Non Methane Hydrocarbon Calibration Report

#### Station Information

Calibration Date:	June 10, 2013	Previous Calibration	May 7, 2013
Company:	<b>Lakeland Industry and Community Association</b>		
Plant / Location:	<b>ELK Point Airport</b>		
Start Time (MST)	14:35	End Time (MST)	15:00
Reason:	As Found		
Barometric Pressure:	27.69 inHg	Station Temperature:	22.0 Deg C
Calibrator:	API700	S/N:	831
Cal Gas Concentration:	CH4 600 PPM	C3H8 204 PPM	561 CH4
	Cyl. # LL155310	Cal Gas Expiry Date:	September 9, 2013
DAS make & Model:	ESC8832	S/N :	AO717
Chart Recorder:	N/A	S/N:	N/A
Output Voltage Range:	0-10	Chart Speed:	N/A cm/hr

#### Analyzer Information

Make / Model	Thermo 55i	S/N :	1236656107	Method:	GC FID
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#### Analyzer Settings

	CH4= 0-20		NMHC= 0-20		THC = 0-40	
	Before Calibration		After Calibration			
Hydrogen Pressure	40.3	psi	40.3	psi		
Air Pressure	32.4	psi	32.4	psi		
Carrier Pressure	31.1	psi	31.1	psi		
Detector Oven	175.1	Deg C	175.1	Deg C		
Filter Temp	175	Deg C	175	Deg C		
Column Oven Temp	75.3	Deg C	75.2	Deg C		
Flame Temp	374	Deg C	373	Deg C		
Box Temp	35.5	Deg C	35.5	Deg C		

#### Calibration Data

Gas Flows (sccm)		Calculated Concentration		Actual Concentration		Correction factors	
Dilution Flow	Cal Gas Flow	CH4	NMHC	CH4	NMHC	CH4	NMHC
3000	0.00	0.00	0.00	0.00	0.00	0.000	0.000
	No Zero Adj.						
2982	18.00	3.60	3.37	3.50	3.26	1.0286	1.0325
						<b>Correction Factors:</b>	
						1.0286	1.0325

#### Percent Change from Previous Calibration

	CH4	NMHC
Previous Calibration Correction Factor:	1.0028	1.0078
Current Correction Factor Before Span Adjust:	0.9863	0.9757
Percent Change:	1.7%	3.3%

#### IZS Calibration Data

	Before Calibration				After Calibration			
	CH4	NMHC	CH4	NMHC	CH4	NMHC	CH4	NMHC
Auto Zero (ppm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Auto Span (ppm)	10.72	13.56	10.72	13.56	10.72	13.56	10.72	13.56
Sample Lines Connected					YES			

**Notes:** Cylinder Pressures

Span	400	psi
Hydrogen	1000	psi
Zero Air	45	psi
Nitrogen	200	psi

**Notes:**

Calibration Performed by: Waseem ahmed

### Methane - Non Methane Hydrocarbon Calibration Report

#### Station Information

Calibration Date:	June 10, 2013	Previous Calibration	May 7, 2013
Company:	<b>Lakeland Industry and Community Association</b>		
Plant / Location:	<b>ELK Point Airport</b>		
Start Time (MST)	15:10	End Time (MST)	16:40
Reason:	Monthly calibration		
Barometric Pressure:	27.69 inHg	Station Temperature:	22.0 Deg C
Calibrator:	API700	S/N:	831
Cal Gas Concentration:	CH4 600 PPM	C3H8 204 PPM=	561 CH4
	Cyl. # LL155310	Cal Gas Expiry Date:	September 9, 2013
DAS make & Model:	ESC8832	S/N :	AO717
Chart Recorder:	N/A	S/N:	N/A
Output Voltage Range:	0-10	Chart Speed:	N/A cm/hr

#### Analyzer Information

Make / Model	Thermo 55i	S/N :	1236656107	Method:	GC FID
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#### Analyzer Settings

Concentration Range (PPM)	CH4= 0-20		NMHC= 0-20		THC = 0-40	
	Befor Calibration		After Calibration			
Hydrogen Pressure	40.3	psi	40.3	psi		
Air Pressure	32.4	psi	32.4	psi		
Carrier Pressure	31.1	psi	31.1	psi		
Detector Oven	175.1	Deg C	175.1	Deg C		
Filter Temp	175	Deg C	175	Deg C		
Column Oven Temp	75.3	Deg C	75.2	Deg C		
Flame Temp	374	Deg C	373	Deg C		
Box Temp	35.5	Deg C	35.5	Deg C		

#### Calibration Data

Gas Flows (sccm)		Calculated Concentration		Actual Concentration		Correction factors	
Dilution Flow	Cal Gas Flow	CH4	NMHC	CH4	NMHC	CH4	NMHC
3000	0.00	0.00	0.00	0.00	0.00	0.000	0.000
	No Zero Adj.						
2982	18.00	3.60	3.37	3.50	3.28	1.0286	1.0262
2982	18.00	3.60	3.37	3.59	3.36	1.0028	1.0018
2964	36.00	7.20	6.73	7.12	6.54	1.0112	1.0294
2991	9.00	1.80	1.68	1.86	1.82	0.9677	0.9247
3000	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000
Correction Factors:						1.0028	1.0018

#### Percent Change from Previous Calibration

	CH4	NMHC
Previous Calibration Correction Factor:	1.0028	1.0078
Current Correction Factor Before Span Adjust:	0.9863	0.9757
Percent Change:	1.7%	3.3%

#### IZS Calibration Data

		Before Calibration		After Calibration	
Auto Zero (ppm)		CH4 0.00	NMHC 0.00	CH4 0.00	NMHC 0.00
Auto Span (ppm)	CH4 10.72	NMHC 13.56	CH4 9.87	NMHC 13.55	
Sample Lines Connected		YES			

Notes: Cylinder Pressures  
 Span 2000 psi  
 Hydrogen 1000 psi  
 Zero Air 45 psi  
 Nitrogen 2650 psi

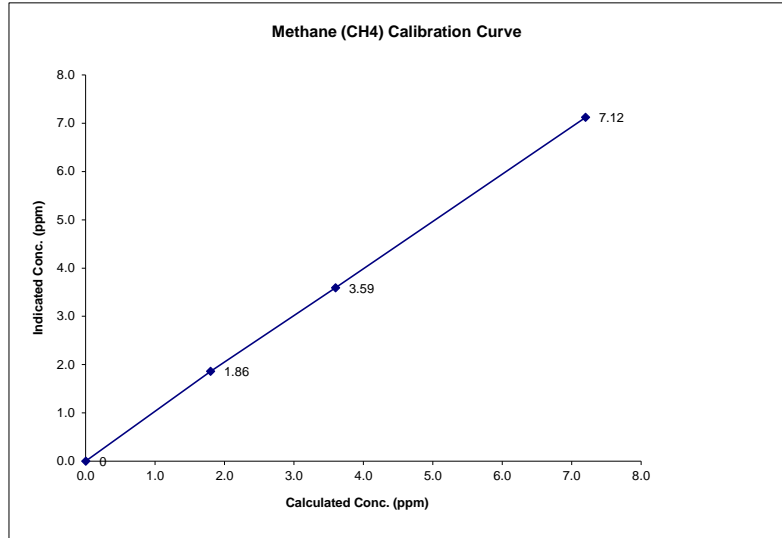
Notes: Change sample filter  
 Change Nitrogen and span gas cylinder after as found point.  
 Span adjusted on jun 11, 2013 @13:00  
 IZS Span: First 10 min no span.  
 Action taken: Increase span gas pressure.

Calibration Performed by: Waseem ahmed

**Methane (CH4) Calibration Curve**

Calibration Date	June 10, 2013		
Company	Lakeland Industry and Community Association		
Plant / Location	ELK Point Airport		
Start Time (MST)	15:10	End Time (MST)	16:40

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999856
0	0	0.0000	Slope	(0.85 to 1.15)	0.985556
1.80	1.86	0.9677	Intercept	(± 3% F.S.)	0.038000
3.60	3.59	1.0286			
7.20	7.12	1.0112			

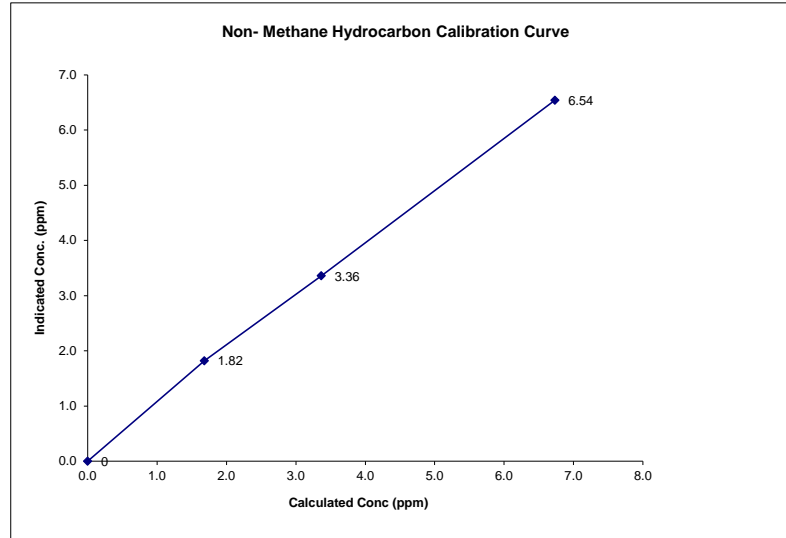


Notes:

**Non-Methane Hydrocarbon Calibration Curve**

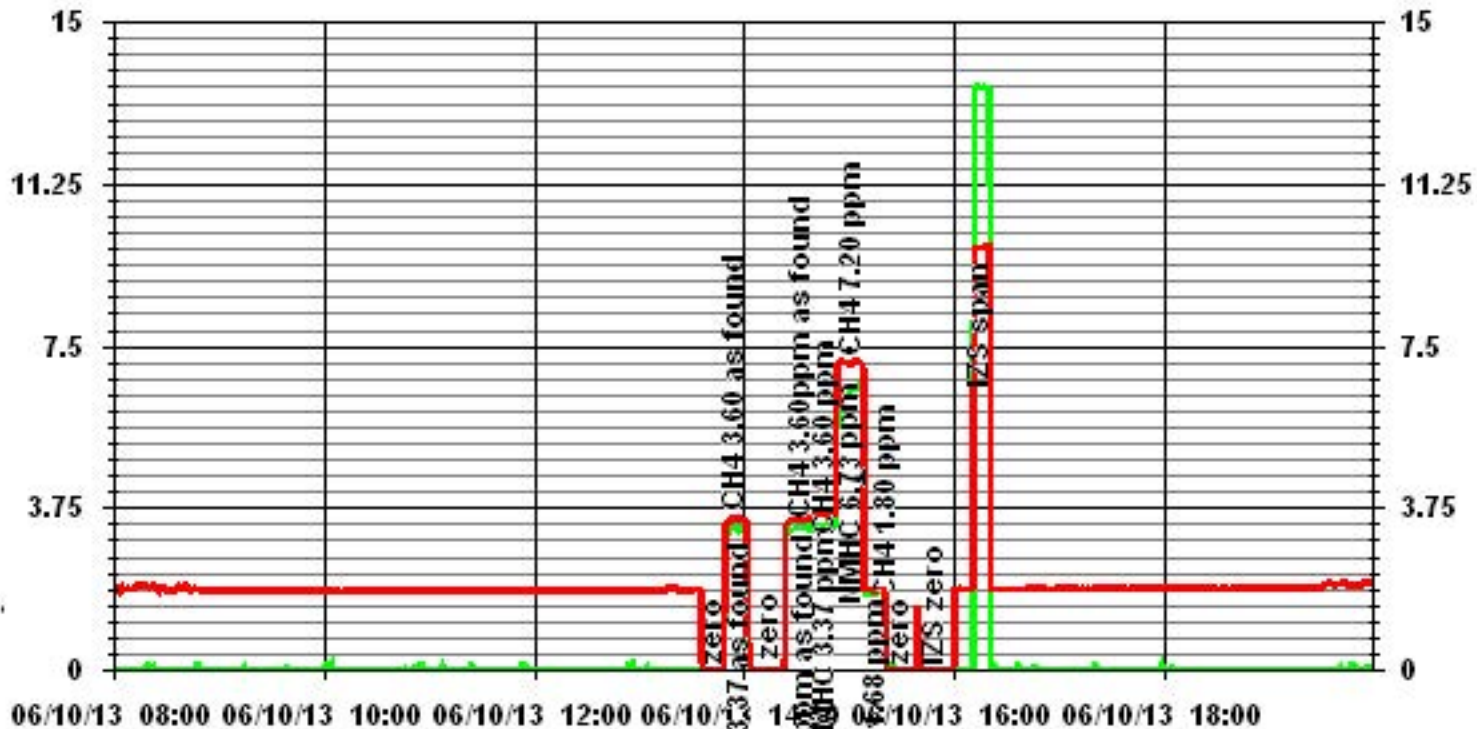
Calibration Date	June 10, 2013		
Company	Lakeland Industry and Community Association		
Plant / Location	ELK Point Airport		
Start Time (MST)	15:10	End Time (MST)	16:40

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999050
0	0	0.0000	Slope	(0.85 to 1.15)	0.963585
1.68	1.82	0.9247	Intercept	(± 3% F.S.)	0.092000
3.37	3.36	1.0262			
6.73	6.54	1.0294			



Notes:

### 01 Minute Averages



— LICA35

METHANE PPM

— IMHC

**Methane - Non Methane Hydrocarbon Calibration Report**

Station Information

Calibration Date:	June 14, 2013	Previous Calibration	June 10, 2013
Company:	Lakeland Industry and Community Association		
Plant / Location:	ELK Point Airport		
Start Time (MST)	12:21	End Time (MST)	15:08
Reason:	Repeat Monthly calibration		
Barometric Pressure:	27.66 inHg	Station Temperature:	22.0 Deg C
Calibrator:	API700	S/N:	690
Cal Gas Concentration:	CH4 980 PPM	C3H8 304 PPM=	836 CH4
	Cyl. # LL84144	Cal Gas Expiry Date:	December 13, 2013
DAS make & Model:	ESC8832	S/N :	AO717
Chart Recorder:	N/A	S/N:	N/A
Output Voltage Range:	0-10	Chart Speed:	N/A cm/hr

Analyzer Information

Make / Model	Thermo 55i	S/N :	1236656107	Method:	GC FID
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Analyzer Settings

Concentration Range (PPM)	CH4= 0-20		NMHC= 0-20		THC = 0-40	
	Before Calibration		After Calibration			
Hydrogen Pressure	40.3	psi	40.3	psi		
Air Pressure	32.4	psi	32.4	psi		
Carrier Pressure	31.1	psi	31.1	psi		
Detector Oven	175	Deg C	175.1	Deg C		
Filter Temp	175	Deg C	175	Deg C		
Column Oven Temp	75.3	Deg C	75.2	Deg C		
Flame Temp	373.3	Deg C	373.6	Deg C		
Box Temp	36	Deg C	37.9	Deg C		

Calibration Data

Gas Flows (sccm)		Calculated Concentration		Actual Concentration		Correction factors	
Dilution Flow	Cal Gas Flow	CH4	NMHC	CH4	NMHC	CH4	NMHC
7000	0.00	0.00	0.00	0.23	0.00	0.000	0.000
	No Zero Adj.						
7000	28.00	3.90	3.33	4.11	3.27	0.9500	1.0186
7000	28.00	3.90	3.33	3.90	3.33	1.0000	1.0002
7000	55.00	7.64	6.52	7.43	6.38	1.0283	1.0215
7000	11.00	1.54	1.31	1.68	1.41	0.9152	0.9303
7000	0.00	0.00	0.00	0.22	0.00	0.0000	0.0000
Correction Factors:						1.0000	1.0002

Percent Change from Previous Calibration

Previous Calibration Correction Factor:	CH4	NMHC
	1.0028	1.0078
Current Correction Factor Before Span Adjust:	0.9500	1.1086
Percent Change:	5.6%	-9.1%

IZS Calibration Data

		Before Calibration		After Calibration	
Auto Zero (ppm)	CH4	0.00	NMHC 0.00	CH4 0.00	NMHC 0.00
Auto Span (ppm)	CH4	9.87	NMHC 13.55	CH4 9.32	NMHC 13.79
Sample Lines Connected		YES			

Notes: Cylinder Pressures  
 Span 2000 psi  
 Hydrogen 900 psi  
 Zero Air 45 psi  
 Nitrogen 2650 psi

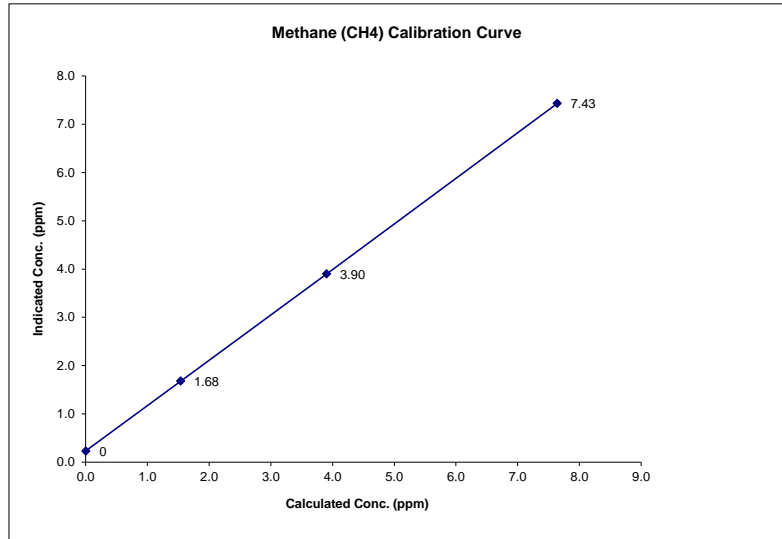
Notes: Sample Filter changed

Calibration Performed by: Chris Wesson

### Methane (CH4) Calibration Curve

Calibration Date	June 14, 2013		
Company	Lakeland Industry and Community Association		
Plant / Location	ELK Point Airport		
Start Time (MST)	12:21	End Time (MST)	15:08

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999998
0	0	0.0000	Slope	(0.85 to 1.15)	0.942179
1.54	1.68	0.9152	Intercept	(± 3% F.S.)	0.228617
3.90	3.90	0.9500			
7.64	7.43	1.0283			

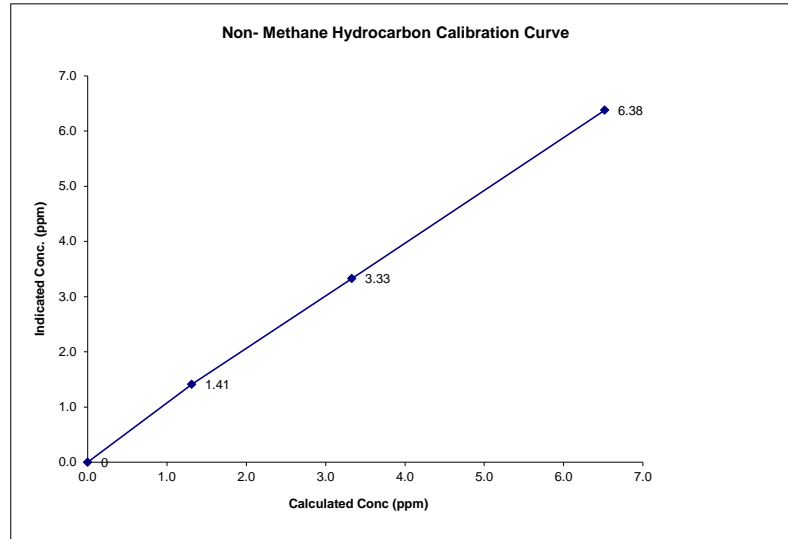


Notes:

### Non-Methane Hydrocarbon Calibration Curve

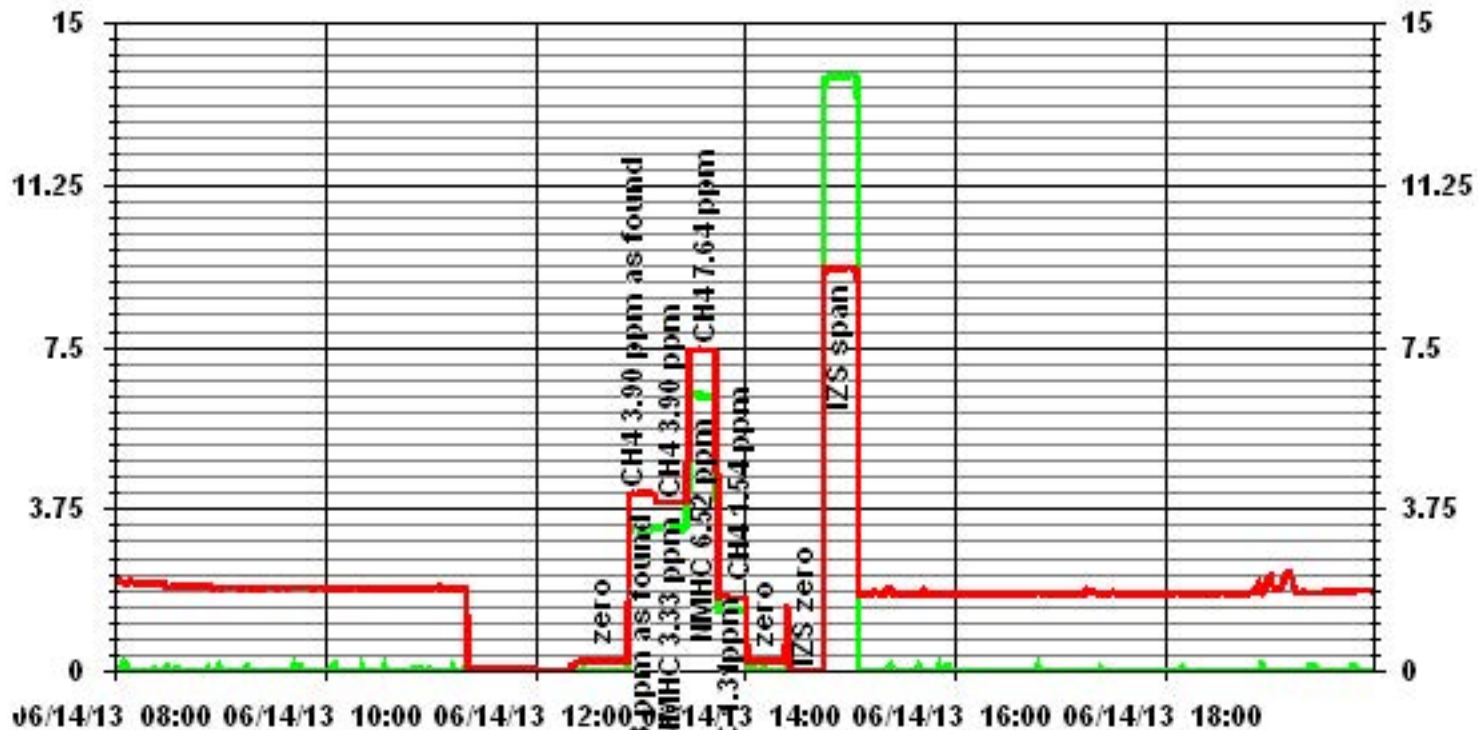
Calibration Date	June 14, 2013		
Company	Lakeland Industry and Community Association		
Plant / Location	ELK Point Airport		
Start Time (MST)	12:21	End Time (MST)	15:08

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999552
0	0	0.0000	Slope	(0.85 to 1.15)	0.972769
1.31	1.41	0.9303	Intercept	(± 3% F.S.)	0.066048
3.33	3.33	1.0186			
6.52	6.38	1.0215			



Notes:

### 01 Minute Averages



— LICA35

METHANE

HMHC

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— LICA35

JOB #: 2833-13-06-35-C

PPM



# Particulate Matter 2.5

**TEOM 1405F Audit**

	<b><u>Station</u></b>		<b><u>Audit Transfer Standard</u></b>
Date:	June 7, 2013	Make/Model:	Fisher Brand
Station Name:	Lica Portable (CASA # 35)	Serial Number:	15-021B
Location:	ELK Point Airport	Cell s/n:	NA
Operator:	LICA	Thermometer s/n:	NA
	<b><u>Sampler</u></b>		<b><u>Set-up and current Sampler readings</u></b>
Make/Model	Thermo Scientific Series 1405F	F-Main Set Pt (l/min)	3.00
Unit #	NA	F-Aux Set Pt (l/min)	13.67
Unit s/n	1405A208301003	Filter Load (%)	25.9%
Firmware Ver.	1.52	K <sub>o</sub> Factor	13125.0
Parameter	PM 2.5 (with FDMS)	Temp (°C)	16.0
		Press (ATM)	0.925

**Conversion from mmHg or "Hg to ATM (Atmospheres)**

ATM = (mmHg) X (1.316 X 10<sup>-3</sup>) or ATM = ("Hg) X (3.34207 X 10<sup>-2</sup>)

**Note: Tolerances are noted as BOLD in Brackets**

**Audit**

<b>Status</b>			
Noise <0.10ug	0.004	Warnings	None
Pump Vacuum <0.40atm	0.33	Pump Gauge (inHg)	-18
<b>Temperature/Pressure</b>		<b>D °C</b>	
Measured Temp (± 2 °C)	17.4		-1.4
Measured Press (± 0.01atm)	0.926	<b>DATM</b>	-0.001
<b>Flow Audit</b>		<b>Main Flow Drift (±10.0%)</b>	
Indicated Main Flow (l/min)	3.00		1.00%
Measured Main Flow (l/min)	2.98	Flow Adjusted to Measured?	Yes
Indicated Bypass Flow (l/min)	13.67	<b>Bypass Flow Drift (±10.0%)</b>	2.67%
Measured Bypass Flow (l/min)	13.53	Flow Adjusted to Measured?	Yes
<b>Leak Check</b>		<b>Instrument Setup</b>	
Main (< 0.15 l/min)	Base=NA Ref=NA	Flow Control = Active	
Aux (< 0.6 l/min)	Base=NA Ref=NA	Report Conditions = Actual	
<b>K<sub>o</sub> Factor</b>			
Measured	NA		
K <sub>o</sub> Difference (± 2.5%)	NA		

**Start Time:** 14:40      **Finish Time:** 15:30

**Sample Inlet Cleaned:** NA      **New Filters Installed:** NA

**Comments:**      **New Filter Loading %:** NA

**Auditor/s:** Waseem Ahmed

**TEOM 1405F Audit**

<b><u>Station</u></b>		<b><u>Audit Transfer Standard</u></b>	
Date:	<u>June 27, 2013</u>	Make/Model:	<u>Fisher Brand</u>
Station Name:	<u>Lica Portable (CASA # 35)</u>	Serial Number:	<u>15-021B</u>
Location:	<u>ELK Point Airport</u>	Cell s/n:	<u>NA</u>
Operator:	<u>LICA</u>	Thermometer s/n:	<u>NA</u>
<b><u>Sampler</u></b>		<b><u>Set-up and current Sampler readings</u></b>	
Make/Model	<u>Thermo Scientific Series 1405F</u>	F-Main Set Pt (l/min)	<u>3.00</u>
Unit #	<u>NA</u>	F-Aux Set Pt (l/min)	<u>13.67</u>
Unit s/n	<u>1405A208301003</u>	Filter Load (%)	<u>27.4%</u>
Firmware Ver.	<u>1.52</u>	K <sub>o</sub> Factor	<u>13125.0</u>
Parameter	<u>PM 2.5 (with FDMS)</u>	Temp (°C)	<u>23.0</u>
		Press (ATM)	<u>0.934</u>

**Conversion from mmHg or "Hg to ATM (Atmospheres)**

ATM = (mmHg) X (1.316 X 10<sup>-3</sup>) or ATM = ("Hg) X (3.34207 X 10<sup>-2</sup>)

**Note: Tolerances are noted as BOLD in Brackets**

**Audit**

<b>Status</b>			
Noise <b>&lt;0.10ug</b>	<u>0.006</u>	Warnings	<u>None</u>
Pump Vacuum <b>&lt;0.40atm</b>	<u>0.34</u>	Pump Gauge (inHg)	<u>-22</u>
<b>Temperature/Pressure</b>		<b>D °C</b>	
Measured Temp (± 2 °C)	<u>24.1</u>		<u>-1.1</u>
Measured Press (± 0.01atm)	<u>0.936</u>	<b>DATM</b>	<u>-0.002</u>
<b>Flow Audit</b>		<b>Main Flow Drift (±10.0%)</b>	
Indicated Main Flow (l/min)	<u>3.00</u>		<u>0.49%</u>
Measured Main Flow (l/min)	<u>3.04</u>	Flow Adjusted to Measured?	<u>Yes</u>
Indicated Bypass Flow (l/min)	<u>13.67</u>	Bypass Flow Drift (±10.0%)	<u>2.34%</u>
Measured Bypass Flow (l/min)	<u>13.71</u>	Flow Adjusted to Measured?	<u>Yes</u>
<b>Leak Check</b>		<b>Instrument Setup</b>	
Main ( <b>&lt; 0.15 l/min</b> )	<u>Base=NA Ref=NA</u>	Flow Control = Active	
Aux ( <b>&lt; 0.6 l/min</b> )	<u>Base=NA Ref=NA</u>	Report Conditions = Actual	
<b>K<sub>o</sub> Factor</b>			
Measured	<u>NA</u>		
K <sub>o</sub> Difference (± 2.5%)	<u>NA</u>		

**Start Time:** 15:00      **Finish Time:** 16:00

**Sample Inlet Cleaned:** NA      **New Filters Installed:** NA

**Comments:**      **New Filter Loading %:** NA

**Auditor/s:** Waseem Ahmed

# Nitrogen Dioxide

**NOx - NO- NO2 Calibration Report**

**Station Information**

Calibration Date	June 7, 2013	Previous Calibration	May 6, 2013
Company	LICA	Plant/Location	ELK Point Airport
Start Time (MST)	11:40	End Time (MST)	12:32
Reason:	As Found		
Barometric Pressure	27.69 inHG	Station Temperature	22 Deg C
Cal Gas Concentration	NOx 49.3 ppm	NO	49.2 ppm
Cal Gas Cylinder #	BAL3031	Cal Gas Expiry date	December 29, 2016
DAS Output Voltage	0-1 Volts	Chart Rec. Output	N/A Volts

**Equipment Information**

Analyzer Make / Model:	API 200E	S/N :	593	Method:	Chemiluminescent
Calibrator Make / Model:	EnviroNics 6100	S/N:	4760		
DAS Make / Model:	ESC 8832	S/N :	AO717		
Chart Recorder Make / Model:	N/A	S/N:	N/A		
Flow Meter:	EnviroNics 6100	S/N :	4760		

**Analyzer Settings**

Before Calibration			After Calibration		
Concentration Range	0-1000		ppb		
Sample Flow/Conv. Temp	473 ccm	315 Deg C	472 ccm	315 Deg C	
Ozone Flow / Vacuum	77 ccm	4.9 *Hg-A	77 ccm	4.9 *Hg-A	
HVPS / A ZERO	638 Volts	6.4 MV	638 Volts	6.4 MV	
Rx/ Temp / PMT Temp	50.0 Deg C	6.7 Deg C	50.0 Deg C	6.8 Deg C	
Box Temp / IZS Temp	31.0 Deg C	45.2 Deg C	31.2 Deg C	45.2 Deg C	
Offset	0.5 NOx	0.2 NO	0.5 NOx	0.2 NO	
Slope	1.320 NOx	1.298 NO	1.320 NOx	1.298 NO	
NO2 COEF / Conv Efficiency	NA NO2	0.996	NA NO2	0.996	

**Dilution Calibration Data**

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			Correction Factor	
			NOx	NO	NO2	NOx	NO	NO2	NOx	NO
4994	0.0	NA	0	0	NA	0	0	0	NA	NA
	No adj									
4915	79.8	NA	788	786	NA	753	752	-1	1.0460	1.0453

**Gas Phase Titration Calibration Data**

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			NO2 Correction Factor	NO2 Conv Efficiency
			NOx	NO	NO2	NOx	NO	NO2		

Linearity OK?	Yes	No	Sum of Least Squares Correction Factors:	NOx= 1.0460	NO= 1.0453	NO2=
			Average Converter Efficiency=			

**IZS Calibration Data**

		Before Calibration			After Calibration		
Auto Zero	0.0 NOx	0.0 NO2		0.0 NOx	0.0 NO2		
Auto Span	605.5 NOx	591.7 NO2		605.5 NOx	591.7 NO2		
	Sample Lines Connected:			YES			

**Percent Change**

	NOx	NO	NO2
Previous Month's Calibration Correction Factor	1.000	1.004	0.992
Current Correction Factor Before Span Adjust	1.046	1.045	
Percent Change	-4.4%	-4.0%	

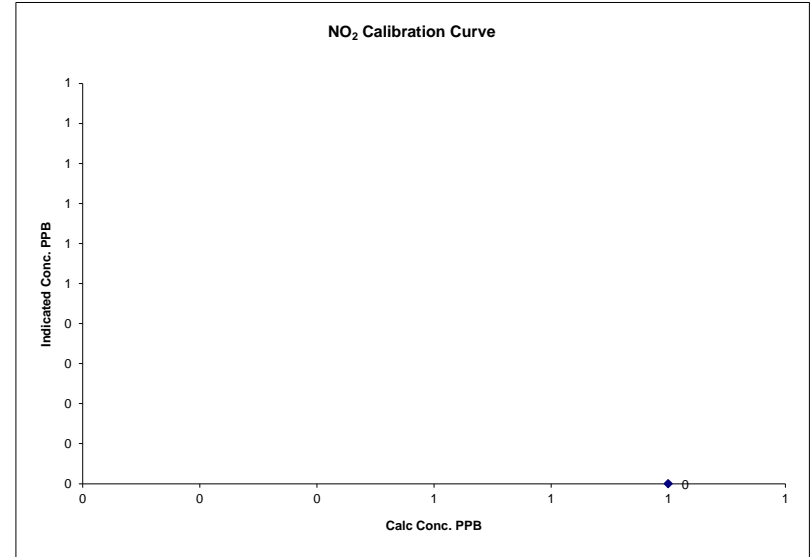
Notes: **NA : Not Applicable**

Calibration Performed by: Waseem Ahmed

**NO2 Calibration Curve**

Calibration Date	June 7, 2013
Company	LICA
Plant / Location	ELK Point Airport
Start Time (MST)	11:40
End Time (MST)	12:32

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)
-1			Slope (0.85 to 1.15)
			Intercept (± 3% F.S.)



Notes:

**NOx - NO- NO2 Calibration Report**

**Station Information**

Calibration Date	June 7, 2013	Previous Calibration	May 6, 2013
Company	LICA	Plant/Location	ELK Point Airport
Start Time (MST)	12:45	End Time (MST)	15:05
Reason:	Monthly calibration		
Barometric Pressure	27.69 inHG	Station Temperature	22 Deg C
Cal Gas Concentration	NOx 49.3 ppm	NO	49.2 ppm
Cal Gas Cylinder #	BAL3031	Cal Gas Expiry date	December 29, 2016
DAS Output Voltage	0-1 Volts	Chart Rec. Output	N/A Volts

**Equipment Information**

Analyzer Make / Model:	API 200E	S/N :	593	Method:	Chemiluminescent
Calibrator Make / Model:	EnviroNics 6100	S/N:	4760		
DAS Make / Model:	ESC 8832	S/N :	AO717		
Chart Recorder Make / Model:	N/A	S/N:	N/A		
Flow Meter:	EnviroNics 6100	S/N :	4760		

**Analyzer Settings**

Before Calibration			After Calibration		
Concentration Range	0-1000		ppb		
Sample Flow/Conv. Temp	472 ccm	315 Deg C	478 ccm	315	Deg C
Ozone Flow / Vacuum	78 ccm	4.9 *Hg-A	77 ccm	4.9	*Hg-A
HVPS / A ZERO	638 Volts	6.4 MV	638 Volts	6.9	MV
Rx/ Temp / PMT Temp	50.0 Deg C	6.7 Deg C	50.0 Deg C	6.8	Deg C
Box Temp / IZS Temp	31.0 Deg C	45.2 Deg C	31.6 Deg C	45.2	Deg C
Offset	0.5 NOx	0.2 NO	0.5 NOx	0.2	NO
Slope	1.320 NOx	1.298 NO	1.362 NOx	1.343	NO
NO2 COEF / Conv Efficiency	NA NO2	0.996	NA NO2	0.996	

**Dilution Calibration Data**

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			Correction Factor	
			NOx	NO	NO2	NOx	NO	NO2	NOx	NO
4994	0.0	NA	0	0	NA	0	0	0	NA	NA
	No adj									
4915	79.8	NA	788	786	NA	765	761	4	1.0296	1.0329
4915	79.8	NA	788	786	NA	790	789	1	0.9970	0.9963
4955	39.9	NA	394	393	NA	393	392	3	1.0021	1.0026
4975	19.8	NA	195	195	NA	198	197	0	0.9870	0.9900
5000	0.0	NA	0	0	NA	0	0	0	NA	NA

**Gas Phase Titration Calibration Data**

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			NO2 Correction Factor	NO2 Conv Efficiency
			NOx	NO	NO2	NOx	NO	NO2		

Linearity OK?	Yes	No	Sum of Least Squares Correction Factors:	NOx= 0.998	NO= 0.997	NO2=
				NOx= 0.9970	NO= 0.9963	NO2=
				Average Converter Efficiency=		

**IZS Calibration Data**

Before Calibration				After Calibration			
Auto Zero	0.0 NOx	0.0 NO2		0.0 NOx	0.0 NO2		
Auto Span	605.5 NOx	591.7 NO2		605.5 NOx	591.7 NO2		
	Sample Lines Connected:			YES			

**Percent Change**

	NOx	NO	NO2
Previous Month's Calibration Correction Factor	1.000	1.004	0.992
Current Correction Factor Before Span Adjust	1.030	1.033	
Percent Change	-2.9%	-2.8%	

**Notes**

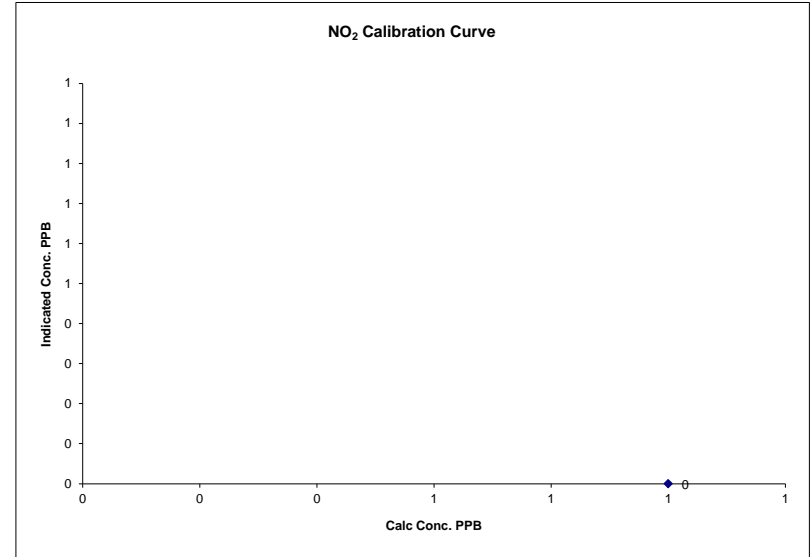
**NA : Not Applicable**  
 Change sample filter  
 After as found change ASSY SCRUBBER INLINE EXHAUST DISP ASSM#051990000

Calibration Performed by: Waseem Ahmed

**NO2 Calibration Curve**

Calibration Date	June 7, 2013
Company	LICA
Plant / Location	ELK Point Airport
Start Time (MST)	12:45
End Time (MST)	15:05

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)
1			Slope (0.85 to 1.15)
			Intercept (± 3% F.S.)

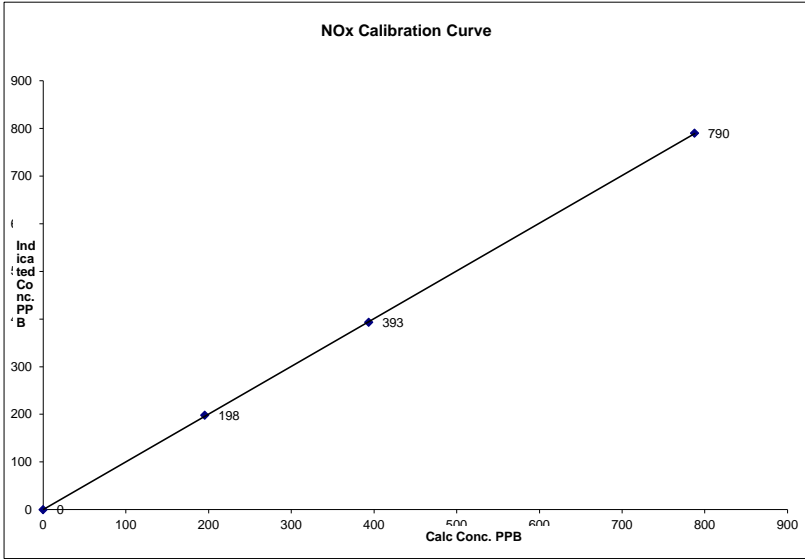


Notes:

**NOx Calibration Curve**

Calibration Date	June 7, 2013	
Company	LICA	
Plant / Location	ELK Point Airport	
Start Time (MST)	12:45	End Time (MST) 15:05

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999978
0	0	NA	Slope (0.85 to 1.15)	1.001827
195	198	0.9870	Intercept (± 3% F.S.)	0.39759
394	393	1.0021		
788	790	0.9970		

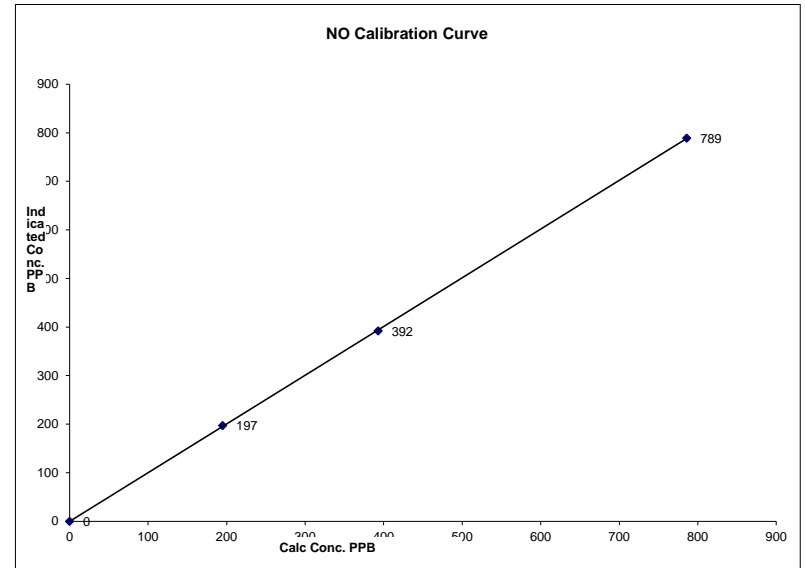


Notes:

**NO Calibration Curve**

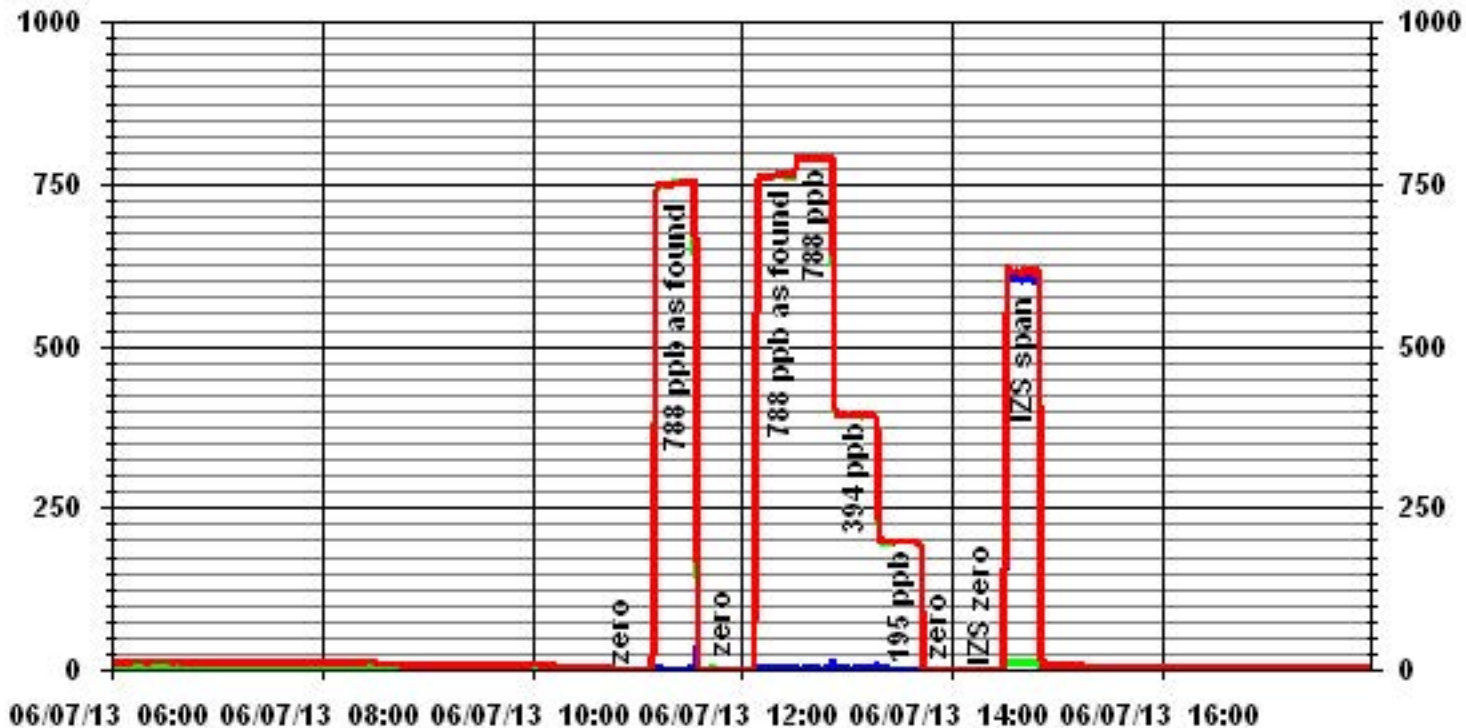
Calibration Date	June 7, 2013	
Company	LICA	
Plant / Location	ELK Point Airport	
Start Time (MST)	12:45	End Time (MST) 15:05

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999979
0	0	NA	Slope (0.85 to 1.15)	1.002848
195	197	0.9900	Intercept (± 3% F.S.)	-0.00362
393	392	1.0026		
786	789	0.9963		



Notes:

### 01 Minute Averages



— LICA35 IIOX\_ PPB

— LICA35 IIO\_ PPB

— LICA35 IIO2\_ PPB



**NOx - NO- NO2 Calibration Report**

**Station Information**

Calibration Date	June 10, 2013	Previous Calibration	May 6, 2013
Company	LICA	Plant/Location	ELK Point Airport
Start Time (MST)	10:20	End Time (MST)	13:00
Reason:	Monthly calibration		
Barometric Pressure	27.61 inHG	Station Temperature	22 Deg C
Cal Gas Concentration	NOx 49.3 ppm	NO	49.2 ppm
Cal Gas Cylinder #	BAL3031	Cal Gas Expiry date	December 29, 2016
DAS Output Voltage	0-1 Volts	Chart Rec. Output	N/A Volts

**Equipment Information**

Analyzer Make / Model:	API 200E	S/N :	593	Method:	Chemiluminescent
Calibrator Make / Model:	Enviro-nics 6100	S/N:	4760		
DAS Make / Model:	ESC 8832	S/N :	AO717		
Chart Recorder Make / Model:	N/A	S/N:	N/A		
Flow Meter:	Enviro-nics 6100	S/N :	4760		

**Analyzer Settings**

Before Calibration			After Calibration			
Concentration Range	0-1000			ppb		
Sample Flow/Conv. Temp	475 ccm	314 Deg C	477 ccm	315 Deg C		
Ozone Flow / Vacuum	77 ccm	5.0 *Hg-A	77 ccm	4.9 *Hg-A		
HVPS / A ZERO	638 Volts	6.6 MV	638 Volts	6.7 MV		
Rx/ Temp / PMT Temp	50.0 Deg C	6.7 Deg C	50.0 Deg C	6.7 Deg C		
Box Temp / IZS Temp	31.0 Deg C	45.1 Deg C	31.2 Deg C	45.2 Deg C		
Offset	0.5 NOx	0.2 NO	0.5 NOx	0.2 NO		
Slope	1.362 NOx	1.343 NO	1.362 NOx	1.343 NO		
NO2 COEF / Conv Efficiency	NA NO2	0.996	NA NO2	0.996		

**Dilution Calibration Data**

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			Correction Factor	
			NOx	NO	NO2	NOx	NO	NO2	NOx	NO
4994	0.0	NA	0	0	NA	0	0	0	NA	NA
	No adj									

**Gas Phase Titration Calibration Data**

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			NO2 Correction Factor	NO2 Conv Efficiency
			NOx	NO	NO2	NOx	NO	NO2		
4915	79.8	NA	788	786	NA	781	780	2	NA	NA
4915	79.8	600	788	NA	518	782	264	519	0.9981	100.19%
	No adj									
4915	79.8	300	788	NA	258	784	524	260	0.9923	100.78%
4915	79.8	120	788	NA	102	785	680	105	0.9714	103.00%

Linearity OK?	Yes	No	Sum of Least Squares Correction Factors:	NOx=	NO=	NO2=	0.996
				NOx=	NO=	NO2=	0.9981
				Average Converter Efficiency= 101.33%			

**IZS Calibration Data**

Before Calibration				After Calibration			
Auto Zero	0.0 NOx	0.0 NO2		0.0 NOx	0.0 NO2		
Auto Span	605.5 NOx	591.7 NO2		618 NOx	606 NO2		
	Sample Lines Connected:			YES			

**Percent Change**

	NOx	NO	NO2
Previous Month's Calibration Correction Factor			0.992
Current Correction Factor Before Span Adjust			0.998
Percent Change			-0.6%

**Notes**

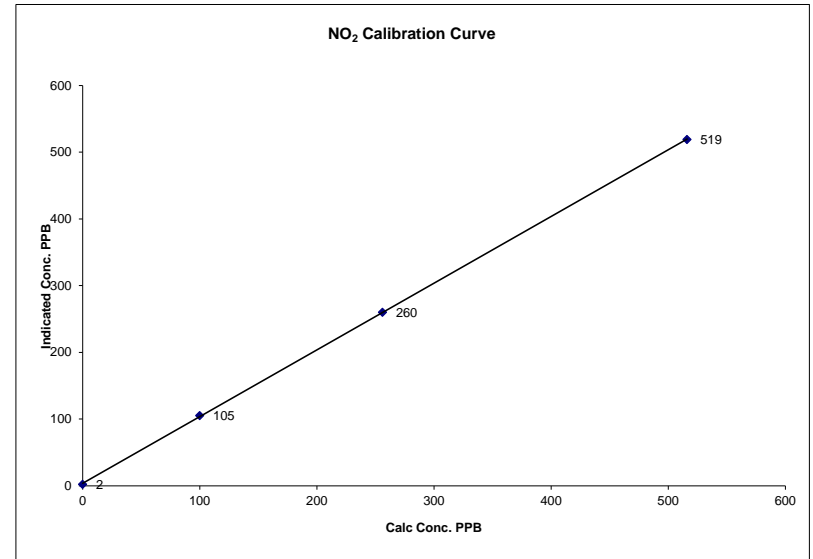
**NA : Not Applicable**  
 Additional O3 Point at 450ppb  
 NOx=787 NO=396 NO2=391

Calibration Performed by: Waseem Ahmed

**NO2 Calibration Curve**

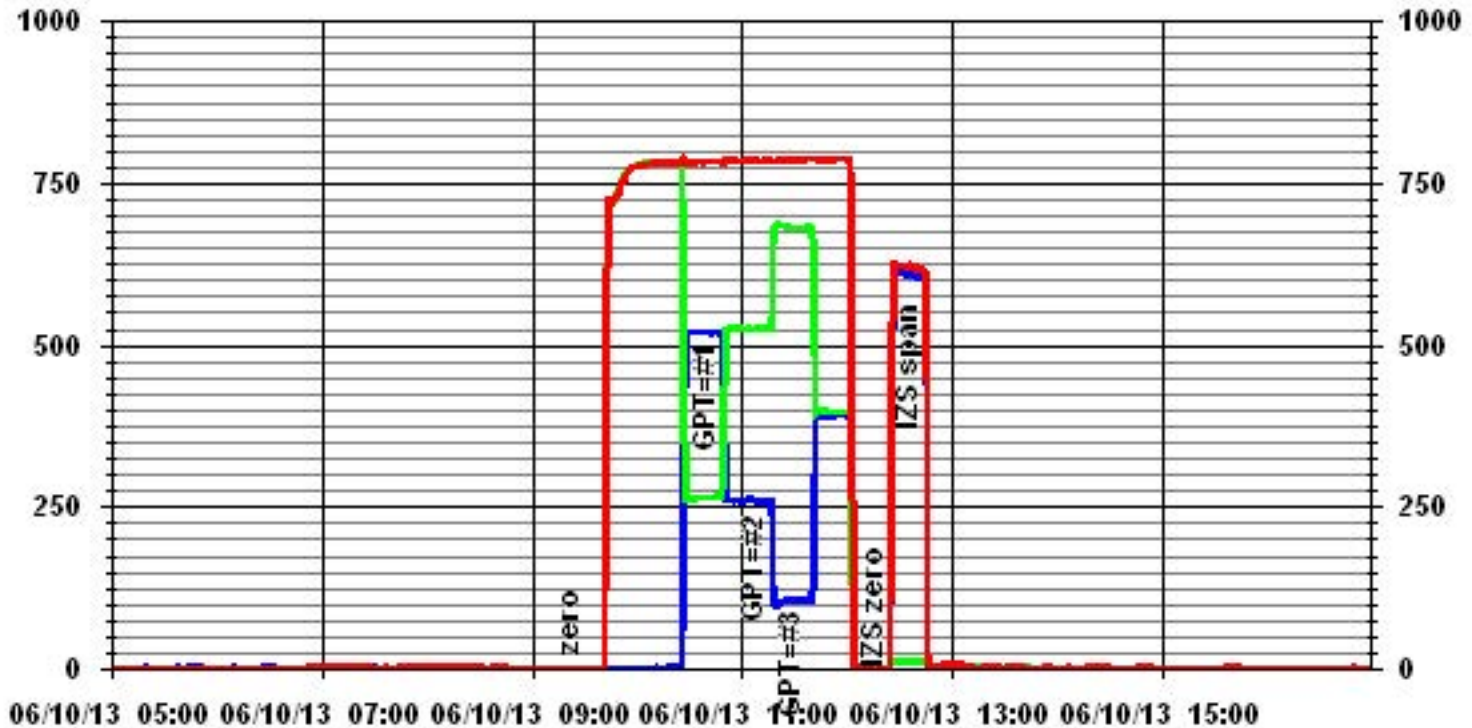
Calibration Date	June 10, 2013
Company	LICA
Plant / Location	ELK Point Airport
Start Time (MST)	10:20
End Time (MST)	13:00

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999967
0	2	NA	Intercept	(± 3% F.S.)	3.47126
100	105	0.9524			
260	260	0.9846			
516	519	0.9942			



Notes:

# 01 Minute Averages



— LICA35 IIOX\_PPB

— LICA35 IIO\_PPB

— LICA35 IIO2\_PPB

**NOx - NO- NO2 Calibration Report**

**Station Information**

Calibration Date	June 27, 2013	Previous Calibration	June 7, 2013
Company	LICA	Plant/Location	ELK Point Airport
Start Time (MST)	14:05	End Time (MST)	14:50
Reason:	As found		
Barometric Pressure	27.92 inHG	Station Temperature	25 Deg C
Cal Gas Concentration	NOx 49.3 ppm	NO	49.2 ppm
Cal Gas Cylinder #	BAL3031	Cal Gas Expiry date	December 29, 2016
DAS Output Voltage	0-1 Volts	Chart Rec. Output	N/A Volts

**Equipment Information**

Analyzer Make / Model:	API 200E	S/N :	593	Method:	Chemiluminescent
Calibrator Make / Model:	Enviro-nics 6100	S/N:	4760		
DAS Make / Model:	ESC 8832	S/N :	AO717		
Chart Recorder Make / Model:	N/A	S/N:	N/A		
Flow Meter:	Enviro-nics 6100	S/N :	4760		

**Analyzer Settings**

Before Calibration				After Calibration			
Concentration Range	0-1000			ppb			
Sample Flow/Conv. Temp	476 ccm	315 Deg C		476 ccm	315 Deg C		
Ozone Flow / Vacuum	78 ccm	5.3 *Hg-A		78 ccm	5.3 *Hg-A		
HVPS / A ZERO	638 Volts	7.7 MV		638 Volts	7.7 MV		
Rx/ Temp / PMT Temp	50.0 Deg C	6.8 Deg C		50.0 Deg C	6.8 Deg C		
Box Temp / IZS Temp	34.9 Deg C	45.2 Deg C		34.8 Deg C	45.2 Deg C		
Offset	0.5 NOx	0.2 NO		0.5 NOx	0.2 NO		
Slope	1.362 NOx	1.343 NO		1.362 NOx	1.343 NO		
NO2 COEF / Conv Efficiency	NA NO2	0.996		NA NO2	0.996		

**Dilution Calibration Data**

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			Correction Factor	
			NOx	NO	NO2	NOx	NO	NO2	NOx	NO
4994	0.0	NA	0	0	NA	1	1	0	NA	NA
	No adj									
4915	79.8	NA	788	786	NA	766	770	-4	1.0296	1.0222

**Gas Phase Titration Calibration Data**

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			NO2 Correction Factor	NO2 Conv Efficiency
			NOx	NO	NO2	NOx	NO	NO2		

Linearity OK?	Yes	No	Sum of Least Squares Correction Factors:	NOx= 1.0296	NO= 1.0222	NO2=
				Average Converter Efficiency=		

**IZS Calibration Data**

Before Calibration				After Calibration			
Auto Zero	0.0 NOx	0.0 NO2		0.0 NOx	0.0 NO2		
Auto Span	618 NOx	606 NO2		618 NOx	606 NO2		
Sample Lines Connected:				YES			

**Percent Change**

	NOx	NO	NO2
Previous Month's Calibration Correction Factor	0.997	0.996	NA
Current Correction Factor Before Span Adjust	1.030	1.022	
Percent Change	-3.2%	-2.5%	

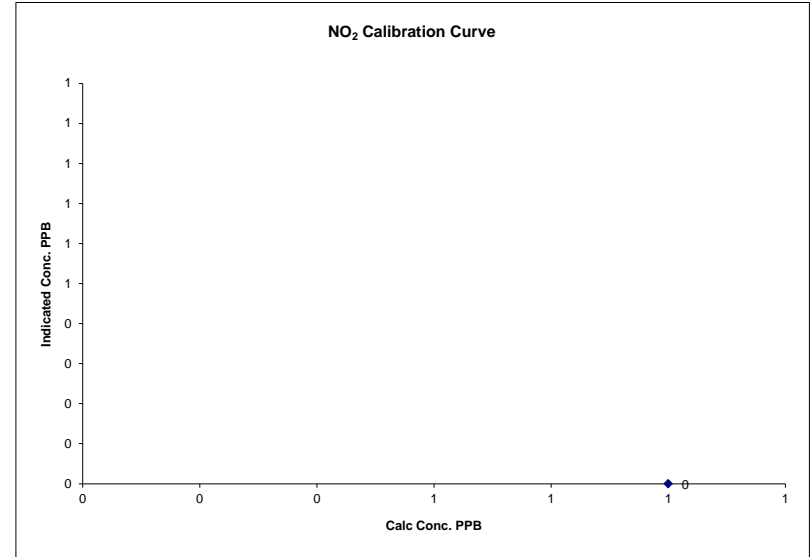
Notes: **NA : Not Applicable**

Calibration Performed by: Waseem Ahmed

**NO2 Calibration Curve**

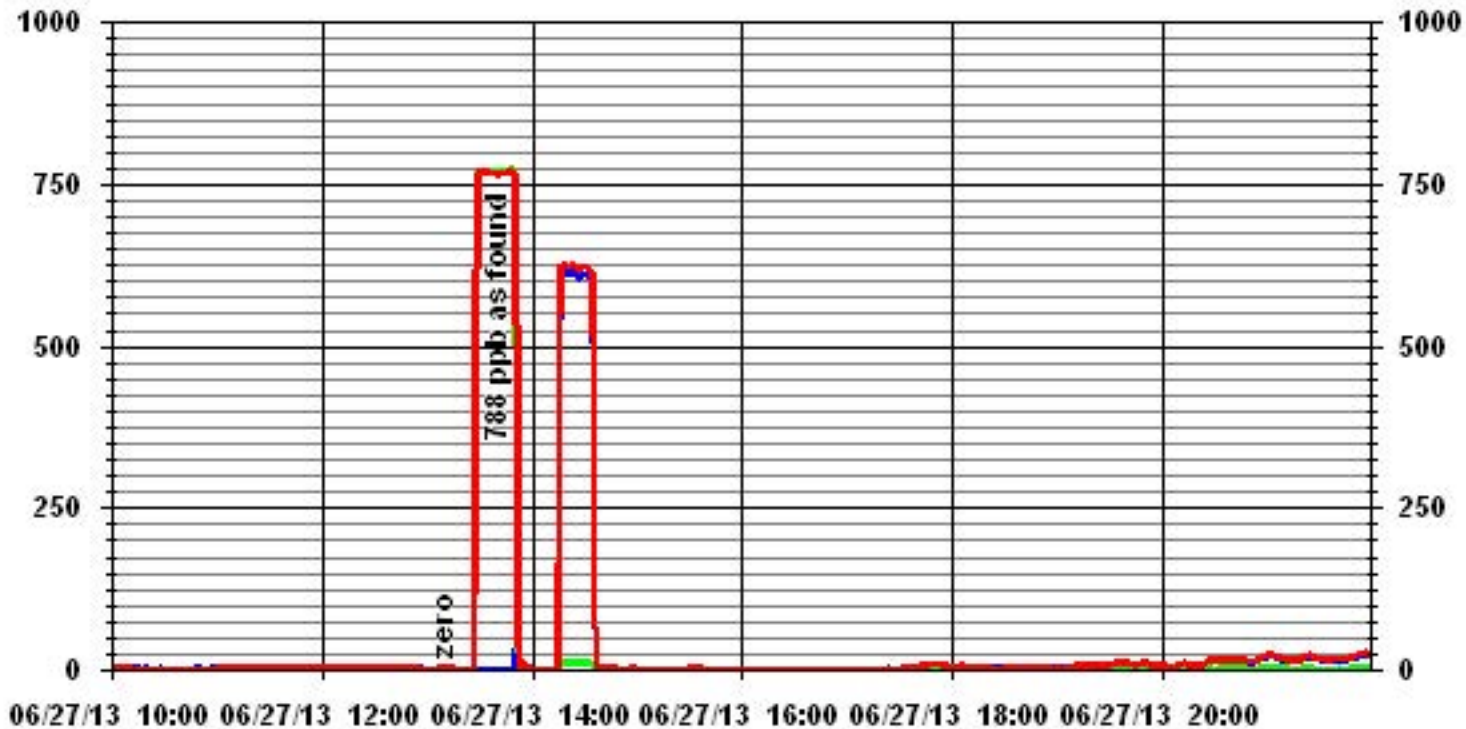
Calibration Date	June 27, 2013
Company	LICA
Plant / Location	ELK Point Airport
Start Time (MST)	14:05
End Time (MST)	14:50

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)
-4			Slope (0.85 to 1.15)
			Intercept (± 3% F.S.)



Notes:

# 01 Minute Averages



# Ozone

### O<sub>3</sub> Calibration Report

#### Station Information

Calibration Date	June 10, 2013	Previous Calibration	May 7, 2013
Company	Lakeland Industry & Community Association		
Plant / Location	EIK Point Airport		
Start Time (MST)	13:05	End Time (MST)	15:30
Reason:	Monthly Calibration		
Barometric Pressure	27.67 atm	Station Temperature	22 Deg C
DAS Output Voltage	0-10 Volts		

#### Equipment Information

Analyzer Make / Model:	Thermo 49i	S/N :	1002240372	Method:	Photometric
Calibrator Make / Model:	EnviroNics 6100	S/N :	4760	Method:	GPT
DAS Make / Model:	ESC 8832	S/N :	AO717		

#### Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range	0-500 ppb							
Cell A Flow / Cell B Flow	750 LPM	757 LPM	759 LPM	762 LPM				
O <sub>3</sub> Set Level	690 mmHg		699 mmHg					
Bench Lamp	54.1 Deg C		54 Deg C					
O <sub>3</sub> Lamp / Box Temp	68.2 Deg	30.5 Deg C	68.2 Deg C	31.4 Deg C				
Offset / Slope	-0.2	0.976	-0.2	0.976				

#### Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4994	0	0	0	N/A
	No zero adj.			
4994	450	384	374	1.0267
	No span adj.			
4994	300	256	250	1.0240
4994	120	100	99	1.0101
4994	0	0	0	N/A
Sum of Least Squares				1.0252
New Correction Factor				1.0267

#### IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	332	332
Sample Lines Connected		Yes
Previous Calibration Correction Factor:		1.0000
Current Correctio Factor Before Span Adjust:		1.0267
Percent Change:		-2.6%

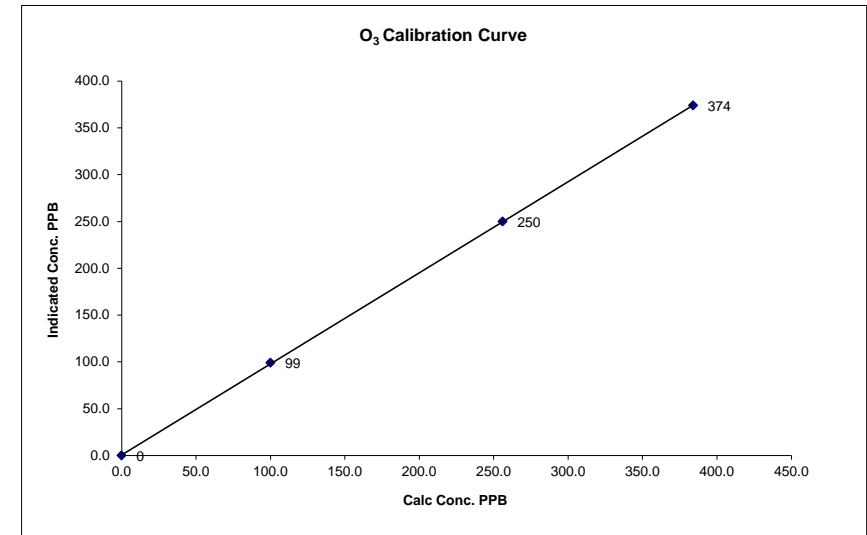
Note: N/A : Not Applicable  
Change sample filter

Calibration Performed by: Waseem Ahmed

### O<sub>3</sub> Calibration Curve

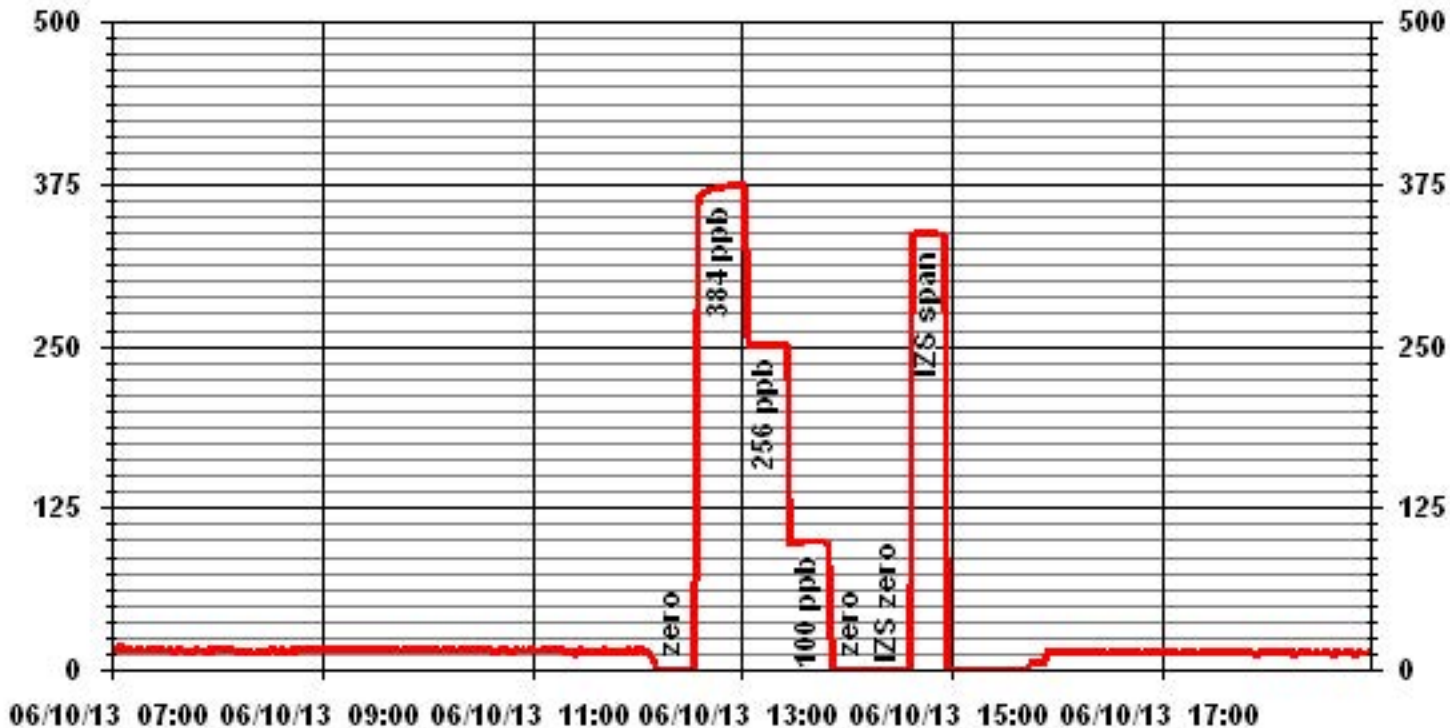
Calibration Date	June 10, 2013
Company	Lakeland Industry & Community Association
Plant / Location	EIK Point Airport
Start Time (MST)	13:05
End Time (MST)	15:30

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	
0	0	N/A	Slope (0.85 to 1.15)	0.999980
100	99	1.0101	Intercept (± 3% F.S.)	0.972924
256	250	1.0240		0.759002
384	374	1.0267		



Notes:

### 01 Minute Averages



### O<sub>3</sub> Calibration Report Station Information

Calibration Date	June 18, 2013	Previous Calibration	June 10, 2013
Company	Lakeland Industry & Community Association		
Plant / Location	EIK Point Airport		
Start Time (MST)	9:20	End Time (MST)	11:30
Reason:	As found		
Barometric Pressure	27.86 atm	Station Temperature	22 Deg C
DAS Output Voltage	0-10 Volts		

### Equipment Information

Analyzer Make / Model:	Thermo 49i	S/N :	1002240372	Method:	Photometric
Calibrator Make / Model:	EnviroNics 6100	S/N :	4760	Method:	GPT
DAS Make / Model:	ESC 8832	S/N :	AO717		

### Analyzer Settings

Before Calibration			After Calibration		
Concentration Range	0-500 ppb				
Cell A Flow / Cell B Flow	753 LPM	761 LPM	753 LPM	759 LPM	
O <sub>3</sub> Set Level	696 mmHg		694 mmHg		
Bench Lamp	54.1 Deg C		54 Deg C		
O3 Lamp / Box Temp	68.2 Deg	30.6 Deg C	68.2 Deg C	31.4 Deg C	
Offset / Slope	-0.2	0.976	-0.2	0.976	

### Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4994	0	0	0	N/A
4994	450	384	373	1.0295
		Sum of Least Squares		
		New Correction Factor		1.0295

### IZS Calibration Data

Before Calibration		After Calibration	
Auto Zero	0.0	Auto Zero	0.0
Auto Span	332	Auto Span	313
Sample Lines Connected		Yes	
Previous Calibration Correction Factor:		1.0000	
Current Correctio Factor Before Span Adjust:		1.0295	
Percent Change:		-2.9%	

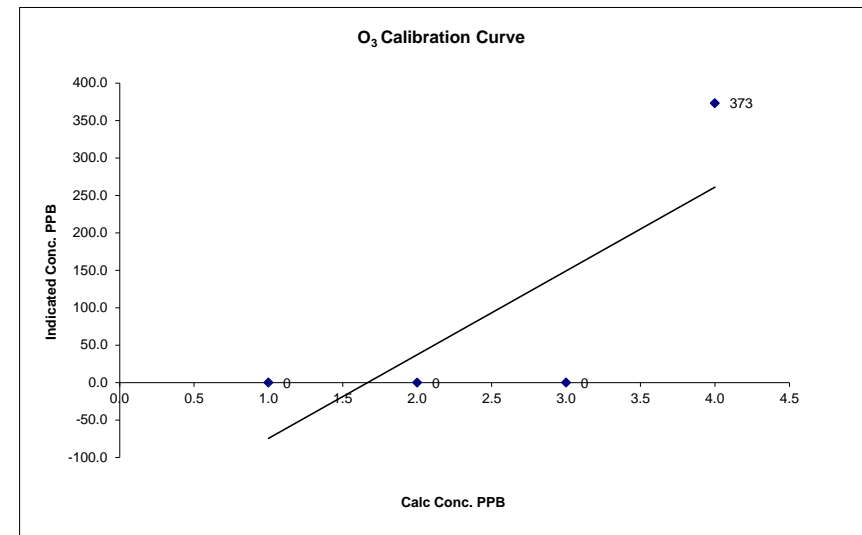
Note: **N/A : Not Applicable**  
Rebuilt zero/span pump.

Calibration Performed by: Limin Li

### O<sub>3</sub> Calibration Curve

Calibration Date	June 18, 2013
Company	Lakeland Industry & Community Association
Plant / Location	EIK Point Airport
Start Time (MST)	9:20
End Time (MST)	11:30

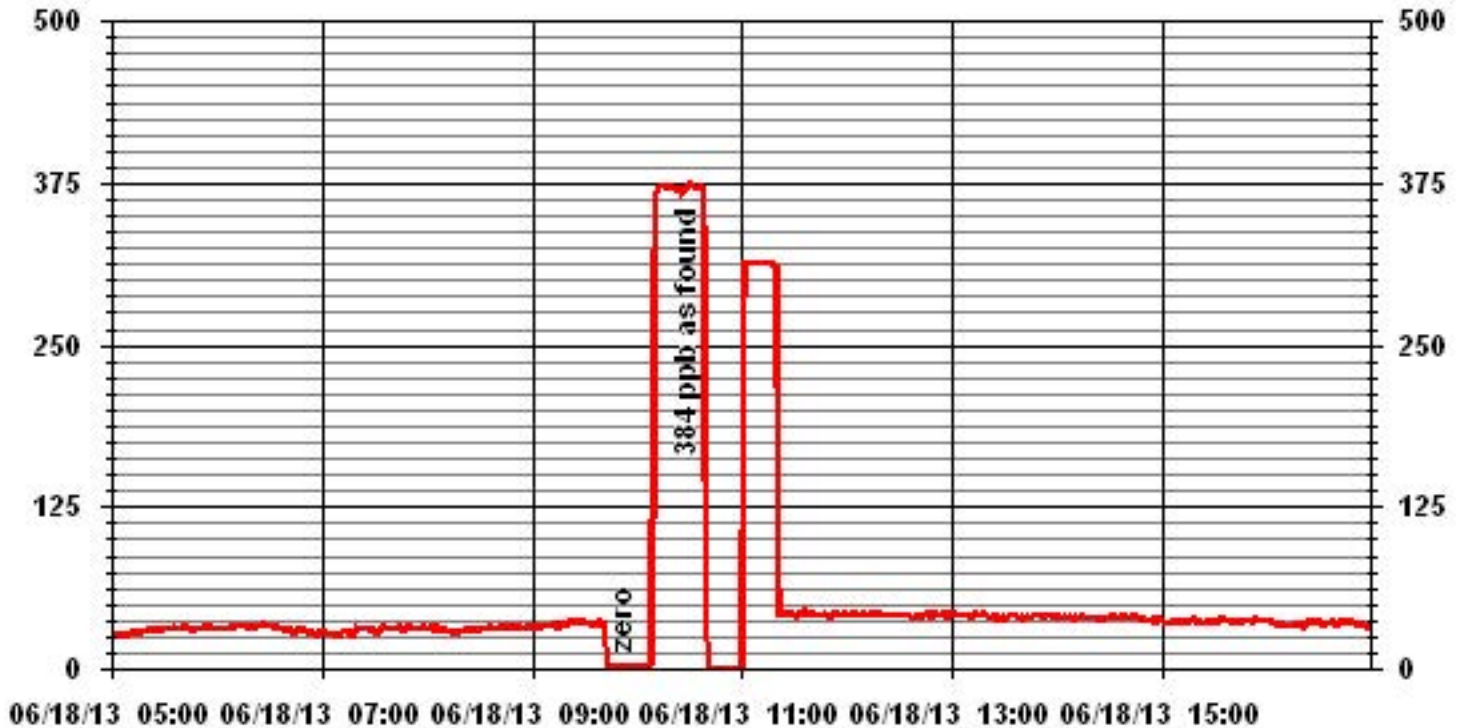
Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)
0	0	N/A	Slope (0.85 to 1.15)
384	373	1.0295	Intercept (± 3% F.S.)



Notes:



# 01 Minute Averages



**O<sub>3</sub> Calibration Report  
Station Information**

Calibration Date	June 27, 2013	Previous Calibration	June 10, 2013
Company	Lakeland Industry & Community Association		
Plant / Location	EIK Point Airport		
Start Time (MST)	15:05	End Time (MST)	15:50
Reason:	As found		
Barometric Pressure	27.93 atm	Station Temperature	26 Deg C
DAS Output Voltage	0-10 Volts		

**Equipment Information**

Analyzer Make / Model:	Thermo 49i	S/N :	1002240372	Method:	Photometric
Calibrator Make / Model:	Envionics 6100	S/N :	4760	Method:	GPT
DAS Make / Model:	ESC 8832	S/N :	AO717		

**Analyzer Settings**

	Before Calibration				After Calibration			
Concentration Range	0-500 ppb							
Cell A Flow / Cell B Flow	754 LPM	761 LPM	755 LPM	762 LPM				
O <sub>3</sub> Set Level	698 mmHg	698 mmHg	698 mmHg	698 mmHg				
Bench Lamp	54.1 Deg C	54.1 Deg C	54.2 Deg C	54.2 Deg C				
O3 Lamp / Box Temp	68.2 Deg	35.5 Deg C	68.3 Deg C	35.5 Deg C				
Offset / Slope	-0.2	0.976	-0.2	0.976				

**Calibration Data**

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4994	0	0	2	N/A
	No zero adj			
4994	450	384	364	1.0549
Sum of Least Squares				
New Correction Factor				1.0549

**IZS Calibration Data**

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	313	313
Sample Lines Connected		Yes
Previous Calibration Correction Factor:		1.0267
Current Correctio Factor Before Span Adjust:		1.0549
Percent Change:		-2.7%

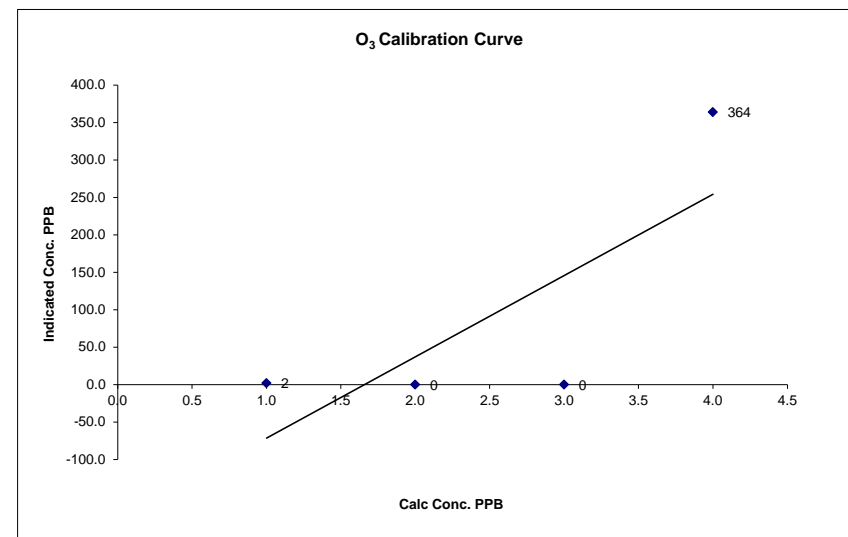
Note: **N/A : Not Applicable**

Calibration Performed by: Waseem Ahmed

**O<sub>3</sub> Calibration Curve**

Calibration Date	June 27, 2013		
Company	Lakeland Industry & Community Association		
Plant / Location	EIK Point Airport		
Start Time (MST)	15:05	End Time (MST)	15:50

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)
0	2	N/A	Slope (0.85 to 1.15)
384	364	1.0549	Intercept (± 3% F.S.)



Notes:

# 01 Minute Averages

