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June 4, 2013

RE: April 2013 Ambient Air Monitoring Monthly Reports

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

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

Respectfully,

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

April 2013

Prepared By:



May 31, 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: April 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 – April 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 ₂ (PPB)	172	48	0	0	0.30	4	2, 30	VAR	VAR	VAR	1.5	2	100.0
TRS (PPB)	-	-	-	-	0.00	0	ALL	ALL	VAR	VAR	0.0	ALL	100.0
NO ₂ (PPB)	159	-	0	-	3.45	21.6	23	4	1.4	282(W)	5.4	4	100.0
NO (PPB)	-	-	-	-	0.32	16.1	25	4	0.5	185(S)	1.0	25	100.0
NO _x (PPB)	-	-	-	-	3.77	25.1	25	4	0.5	185(S)	5.7	4, 23	100.0
O ₃ (PPB)	82	-	0	-	42.07	66	2	16, 17	8.3, 4.9	228(SW), 192(S)	58.2	2	99.6
THC (PPM)	-	-	-	-	2.04	3.0	23, 26	VAR	VAR	VAR	2.2	VAR	84.2
PM 2.5 (UG/M ³)	-	30	-	0	5.65	23	2, 30	21, 2	2.3, 8	261(W), 102(E)	8.6	22	96.3
TEMPERATURE (DEG C)	-	-	-	-	0.07	17.4	26	17	3.4	240(WSW)	10.0	26	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	61.69	97	20	17	17.4	342(NNW)	84.7	11	100.0
VECTOR WS (KPH)	-	-	-	-	7.24	23.5	20	19	-	343(NNW)	11.5	20	100.0
VECTOR WD (DEGREES)	-	-	-	-	1(N)	-	-	-	-	-	-	-	100.0

VAR-VARIOUS NA: NOT AVAILABLE

Monthly Non-Continuous Data Summary

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

Passive Ambient Monitoring Network – April 2013

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PASSIVE NETWORK			
NETWORK MAXIMUM			NETWORK AVERAGE
PARAMETER	STATION	READING (PPB)	READING (PPB)
SO ₂	#14	0.6	0.29
H ₂ S	#17	0.11	0.05
NO ₂	#28	3.5	0.8
O ₃	#4	48.1	37.5

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 inlet filter was changed before the monthly calibration was started on April 10th. 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 inlet filter was changed before the monthly calibration was started on April 10th. Following the as found points check on April 12th, the flash lamp was checked (747 Volts). 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. It was noticed that the one-minute data showed an up-down trend (within 5 ppb range) on April 10th around hour 15. No issue could be identified and the analyzer passed the 3-points calibration requirement on April 11th. The inlet filter was changed before the monthly calibration was started on April 11th. Following an as found points check on April 12th, further investigation was performed: checked the blower to ensure the air sample was getting from the ambient air not inside the trailer; checked tubing between the glass manifold and filter holder; checked the lamp; checked the solenoid valve operation; performed a leak check on solenoid. All checking results were OK. No issue could be found. After the checking, the data went back to normal. No data was discarded due to this issue. 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

The expected span value was not adjusted after the Hydrogen gas replacement on March 30th. The expected span value should set at 33.2ppm. The analyzer spanned outside -10% of the limited range on April 5th. The analyzer failed the as found points check on April 9th due to the sample pump failure. Performed troubleshooting by rebuilding the pump and cleaning the stainless tubing and orifice inside the oven on April 9th. Another as found point check was performed following the troubleshooting. The analyzer passed the second as found points check. A post repair calibration was performed on April 11th. Due to this issue, data was invalidated back to the last good calibration, which was April 4th. A total of 113 hours of data was invalidated. Another as found points check was performed on April 23rd to verify the analyzer's functionality. The analyzer responded well on the check. 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 inlet filter was changed before the monthly calibration was started on April 10th. 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 April: one was on April 10th and the other one was on April 23rd. Both audits passed the manufacturer requirements. 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. Twenty-seven 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 –RM Young, S/N: 46553

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 November 28th, 2018.

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 April 10th.

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

APRIL 2013

SULPHUR DIOXIDE (SO₂) hourly averages in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY 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	1	0	1	1	1	2	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	S	0	2	1.0	24
2	0	1	1	1	1	0	0	0	0	0	0	3	2	3	2	2	2	3	4	4	3	S	2	1	4	1.5	24
3	1	0	0	0	0	0	0	1	1	1	1	0	1	0	1	1	1	1	1	1	S	0	0	0	1	0.5	24
4	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	S	0	1	0	0	1	0.1	24
5	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	1	0.1	24
6	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
7	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
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	S	1	1	1	1	1	0	0	0	1	0.3	24
9	0	0	0	0	0	0	0	0	0	0	1	1	1	1	S	0	0	0	0	0	1	1	1	1	1	0.4	24
10	0	0	0	0	0	1	1	1	1	C	C	C	C	C	0	S	0	0	0	0	0	0	0	0	1	0.2	24
11	0	0	0	0	0	0	0	0	0	0	0	1	S	1	1	1	1	1	1	1	1	0	0	0	1	0.4	24
12	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
13	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
14	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
15	0	0	0	0	0	0	0	0	S	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0.3	24
16	0	0	0	0	0	0	0	S	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	1	0.1	24
17	0	0	0	0	0	0	S	0	1	1	1	0	0	0	0	1	1	1	1	1	1	1	1	0	1	0.4	24
18	0	0	0	0	0	S	0	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
19	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.0	24
20	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0.0	24
21	0	0	S	0	0	2	3	2	2	2	2	2	2	1	1	1	1	0	0	0	0	0	0	0	3	0.9	24
22	0	S	0	0	0	0	0	0	1	1	1	0	0	0	0	1	1	1	1	1	1	0	0	0	1	0.3	24
23	S	0	0	0	0	0	0	1	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	S	2	0.3	24
24	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	1	S	0	1	0.5	24
25	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0.2	24
26	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	1	0.1	24
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	S	0	0	0	0	1	0.0	24
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0.0	24
29	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	1	0.0	24
30	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	S	1	1	1	2	3	4	3	4	0.9	24
HOURLY MAX	1	1	1	1	1	2	3	2	2	2	2	3	2	3	2	2	2	3	4	4	3	3	4	3			
HOURLY AVG	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.4	0.5	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.3	0.3	0.2			

STATUS FLAG CODES

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

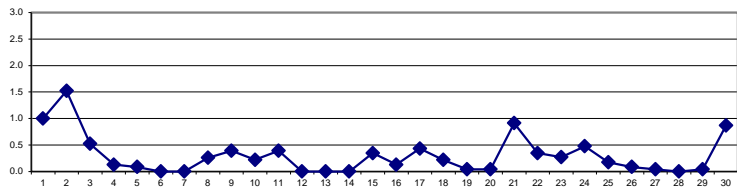
OBJECTIVE LIMIT:

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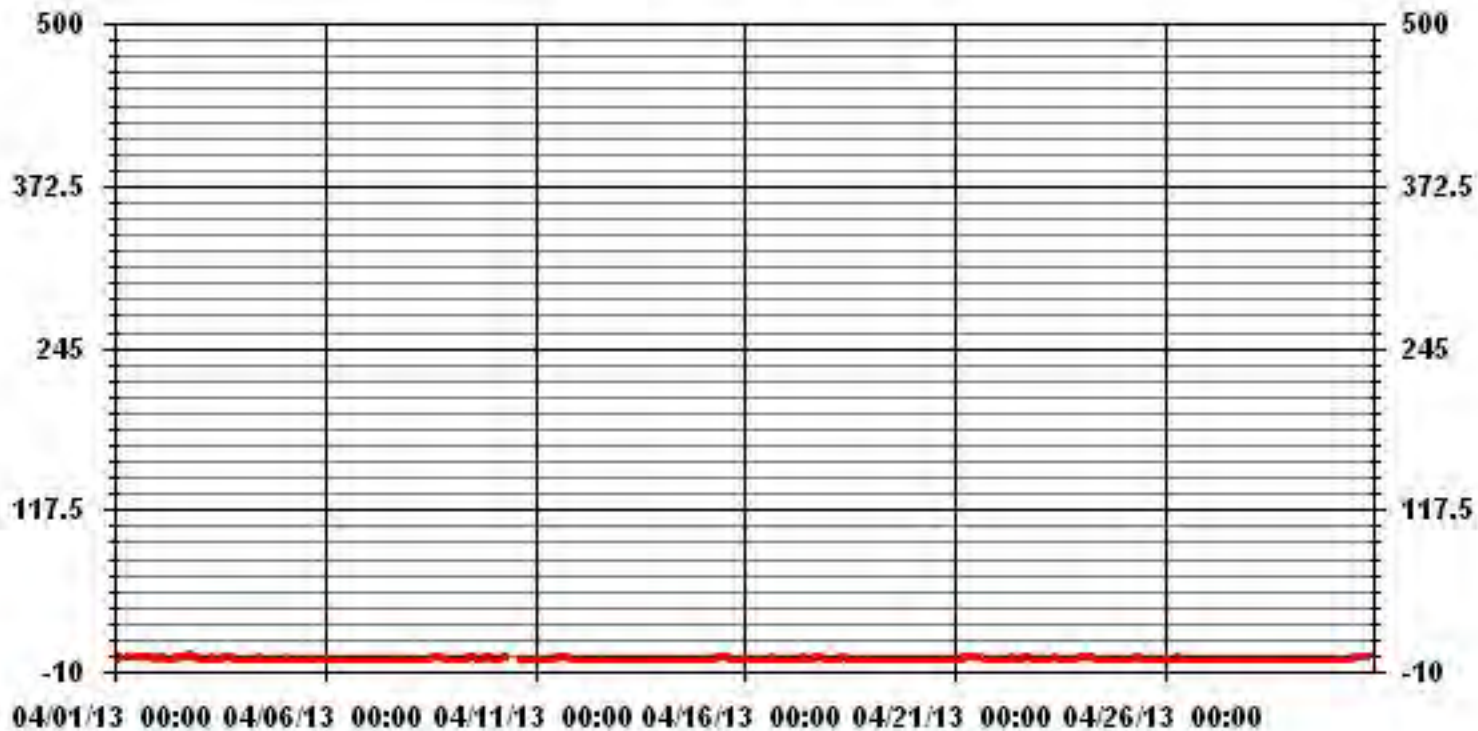
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	166					
MAXIMUM 1-HR AVERAGE:	4	PPB	@ HOUR(S)	VAR	ON DAY(S)	2, 30
MAXIMUM 24-HR AVERAGE:	1.5	PPB			ON DAY(S)	2
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	0.61		MONTHLY AVERAGE:	0.30	PPB	

24 HOUR AVERAGES FOR APRIL 2013



01 Hour Averages



— LICA SO2_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 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		
		1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	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	2	1	3	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	S	1	3	1.6	24	
2		1	1	1	1	1	1	1	1	1	1	1	7	3	3	3	2	3	3	4	5	4	S	2	1	7	2.2	24	
3		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1.0	24	
4		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1.0	24	
5		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	
6		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	0	1	1	1	1	1.0	24	
7		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	
8		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	1.0	24	
9		1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	2	1	1	1	2	1.0	24	
10		1	1	1	1	1	1	1	1	1	C	C	C	C	C	S	1	1	1	1	1	1	1	1	1	1	1.0	24	
11		1	1	1	1	1	1	1	1	1	1	1	1	S	2	2	1	2	1	1	1	1	1	1	1	2	1.1	24	
12		1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24	
13		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	1.0	24	
14		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	
15		1	1	1	1	1	1	1	1	S	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1	24
16		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	
17		1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	2	1.1	24	
18		1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1.0	24	
19		1	1	1	0	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24	
20		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	
21		1	1	S	1	1	4	4	3	2	3	3	3	3	2	2	1	1	1	1	1	1	1	1	1	4	1.8	24	
22		1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24	
23		S	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	2	1.1	24	
24		1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	2	1.1	24	
25		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1.0	24	
26		1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	S	1	1	1	1	1	0.9	24	
27		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	0	1	1	1	1	1.0	24	
28		1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	1	0	S	1	1	0	1	1	1	0.8	24	
29		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1.0	24	
30		1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	S	2	1	1	3	4	4	4	4	4	1.6	24	
HOURLY MAX		1	1	2	2	1	4	4	3	2	3	3	7	3	3	3	2	3	3	4	5	4	4	4	4	4			
HOURLY AVG		1.0	1.0	1.0	1.0	1.0	1.2	1.1	1.1	1.1	1.1	1.1	1.3	1.2	1.2	1.1	1.1	1.1	1.0	1.1	1.2	1.2	1.1	1.1	1.1				

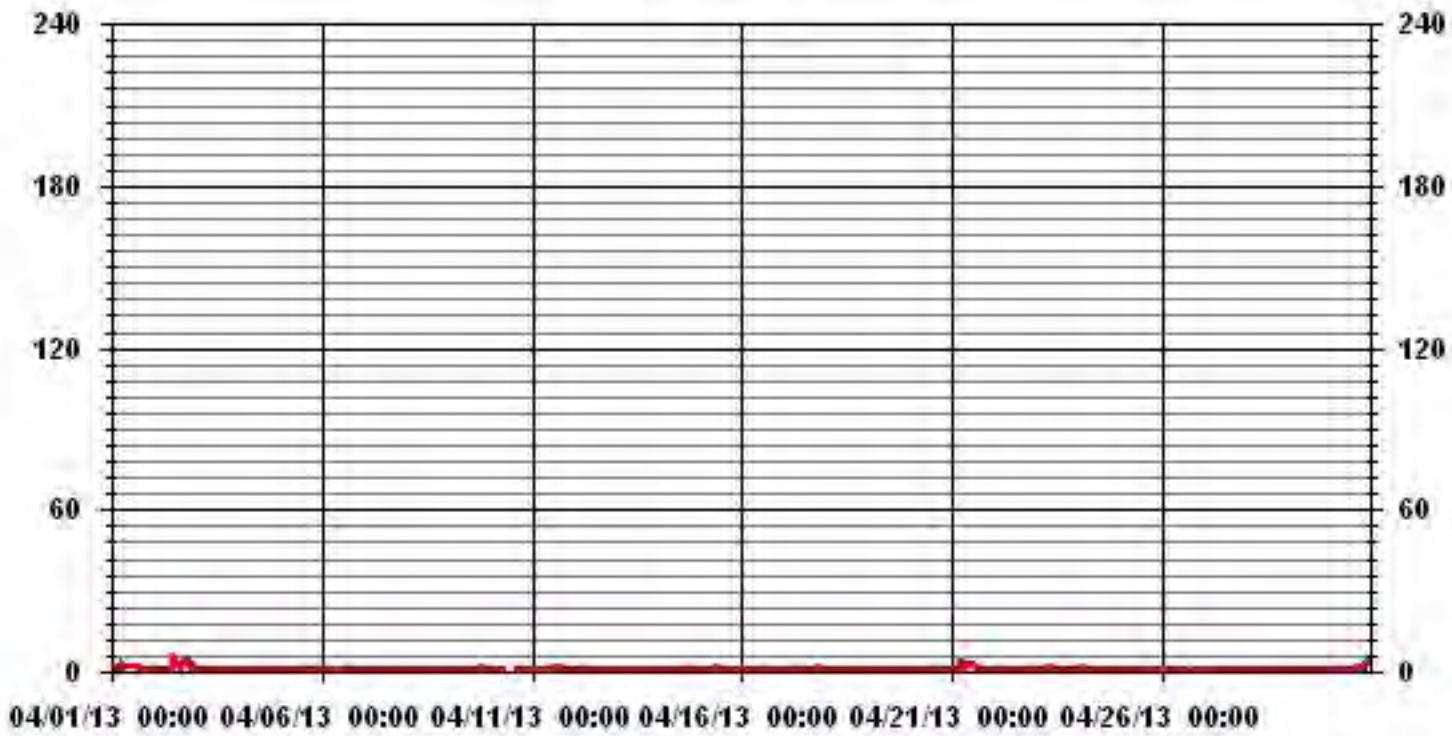
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	671					
MAXIMUM INSTANTANEOUS VALUE:	7	PPB	@ HOUR(S)	11	ON DAY(S)	2
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	6	HRS				
STANDARD DEVIATION:	0.54					

01 Hour Averages



— LICA SO2MAX PPB

LICA
 SO2_ / WDR Joint Frequency Distribution (Percent)

April 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	2.33	7.16	10.52	5.40	7.89	4.23	13.59	2.19	1.31	1.60	3.21	13.01	8.04	5.40	7.60	6.43	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	2.33	7.16	10.52	5.40	7.89	4.23	13.59	2.19	1.31	1.60	3.21	13.01	8.04	5.40	7.60	6.43	

Calm : .00 %

Total # Operational Hours : 684

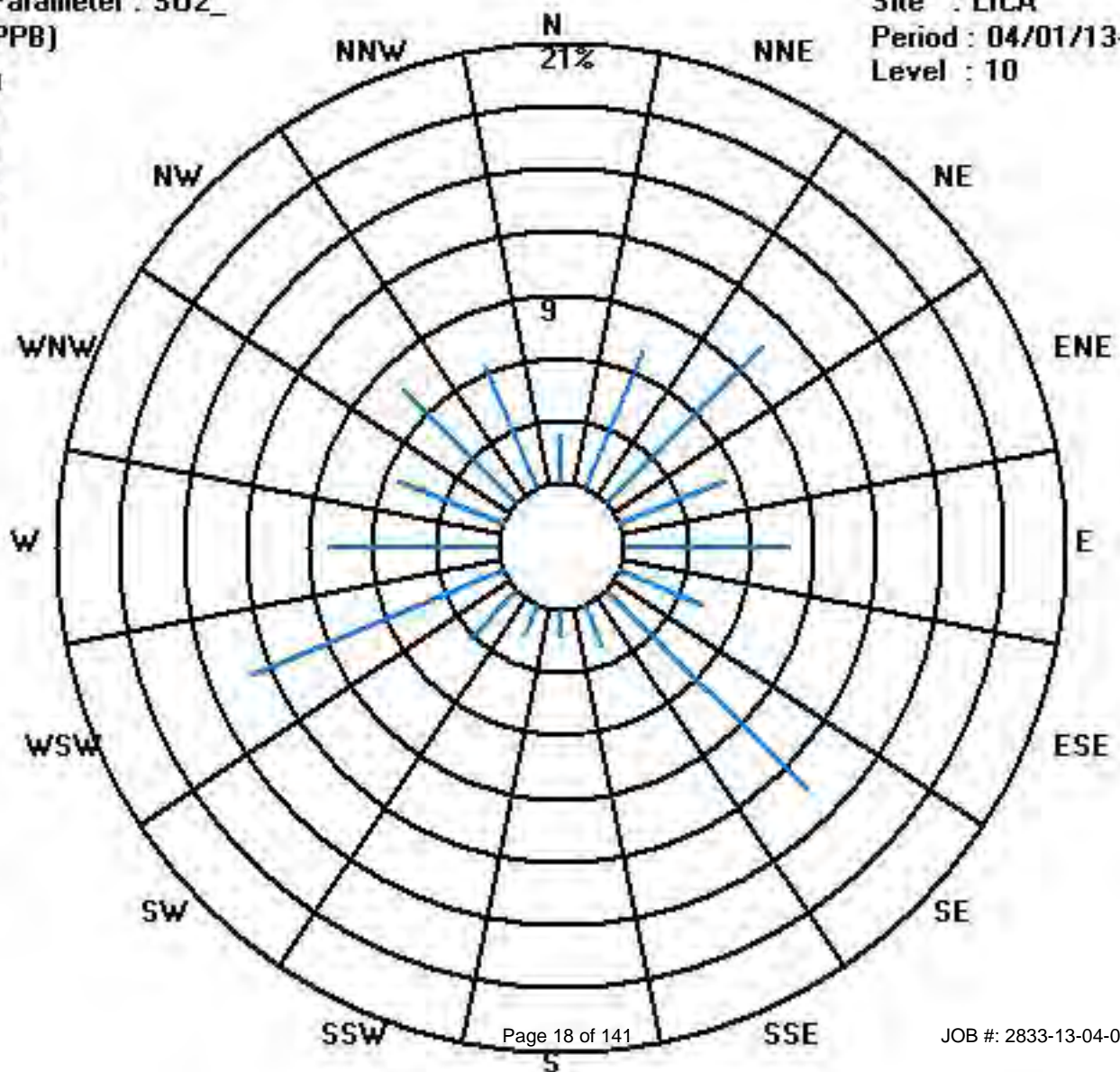
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	16	49	72	37	54	29	93	15	9	11	22	89	55	37	52	44	684
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	16	49	72	37	54	29	93	15	9	11	22	89	55	37	52	44	

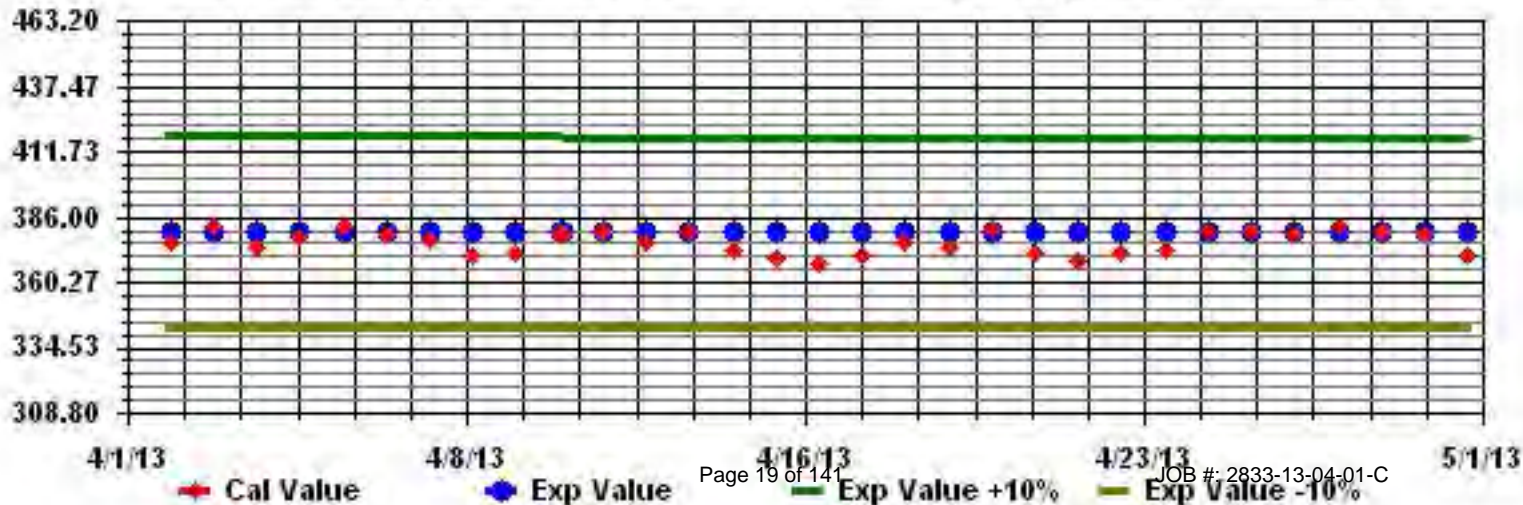
Calm : .00 %

Total # Operational Hours : 684

Class Limits (PPB)



Calibration Graph for Site: LICA Parameter: SO2_ Sequence: SO2 Phase: SPAll



Total Reduced Sulphur

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 2013

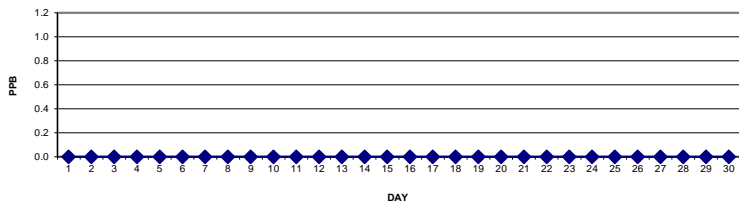
TOTAL REDUCED SULPHUR (TRS) hourly averages in ppb

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

STATUS FLAG CODES

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

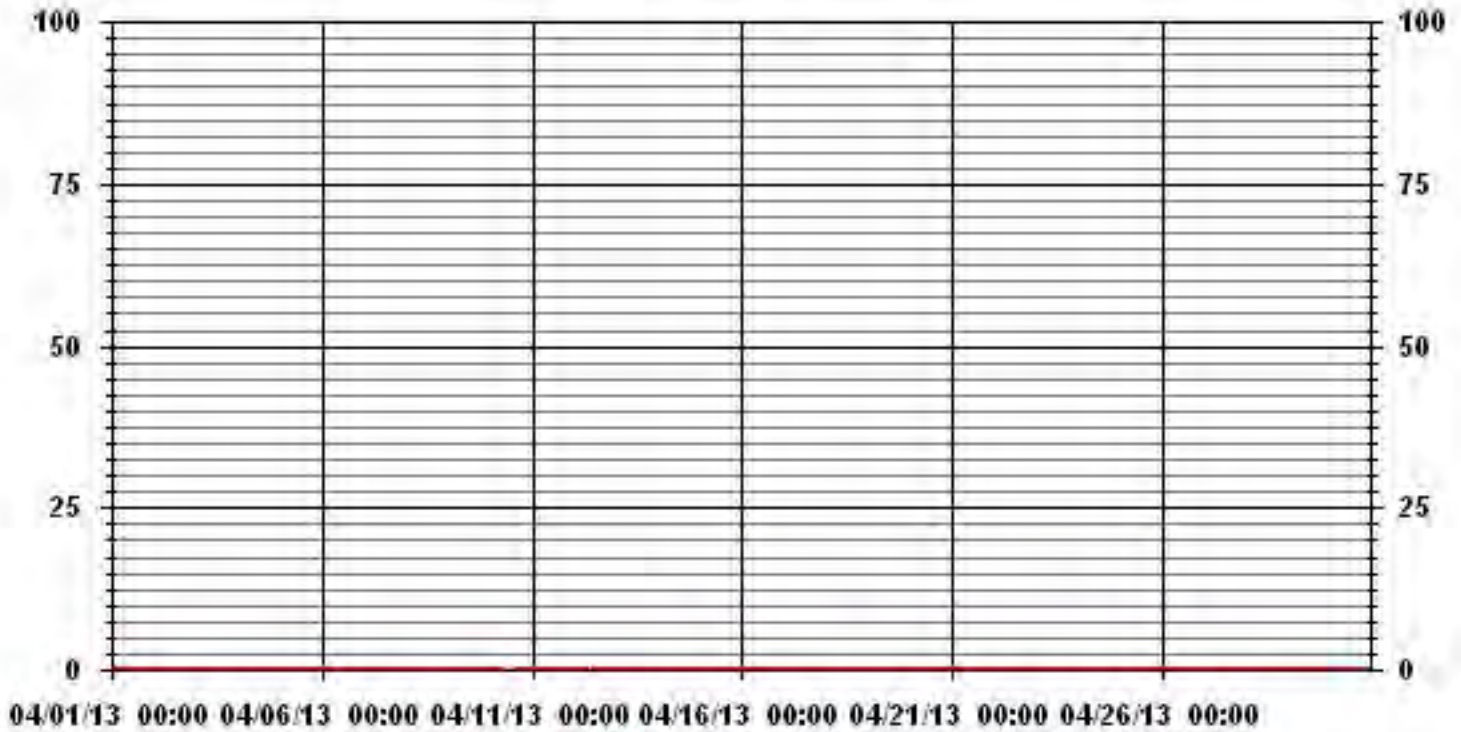
24 HOUR AVERAGES FOR APRIL 2013



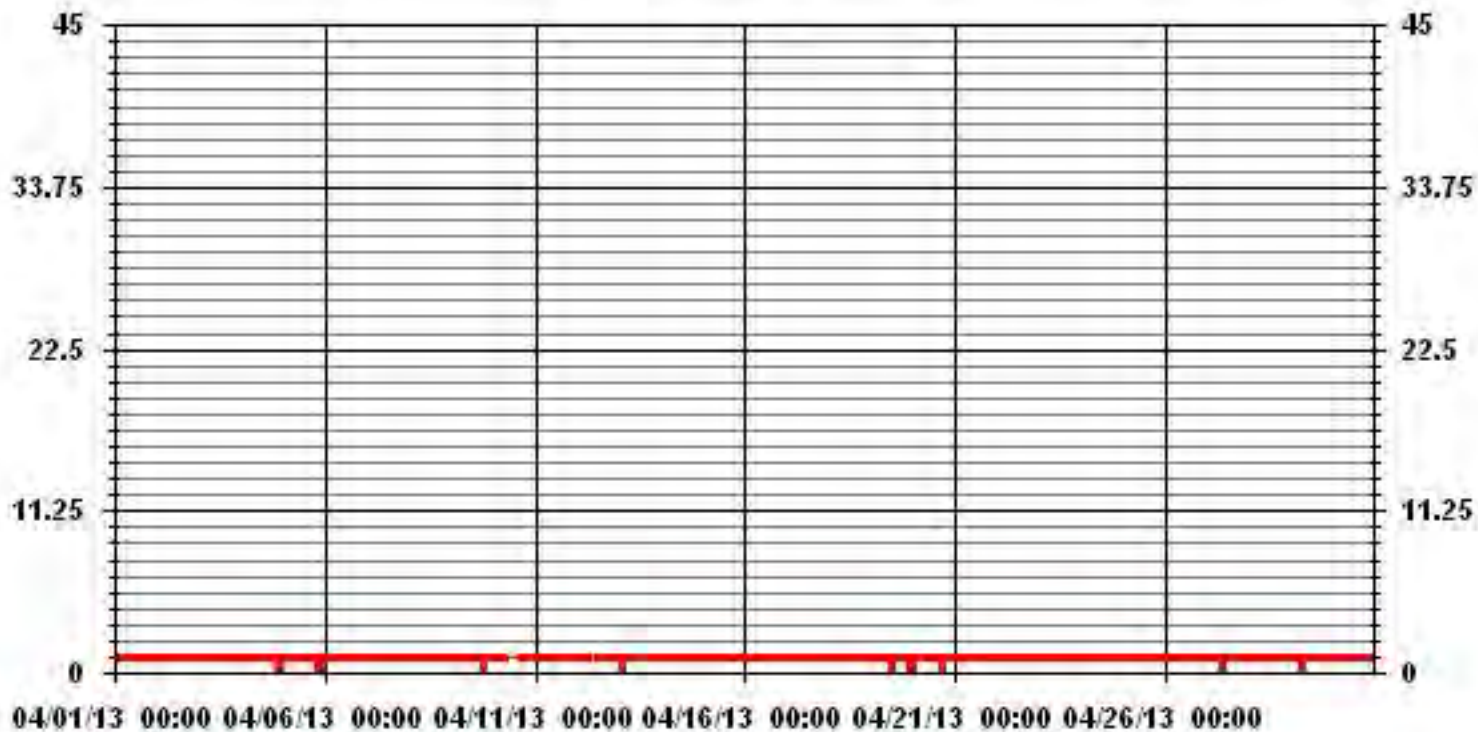
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	0
MAXIMUM 1-HR AVERAGE:	0 PPB @ HOUR(S) ALL ON DAY(S) ALL
MAXIMUM 24-HR AVERAGE:	0.0 PPB VAR-VARIOUS ON DAY(S) ALL
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	8 HRS
OPERATIONAL TIME:	720 HRS
AMD OPERATION UPTIME:	100.0 %
STANDARD DEVIATION:	0.00
MONTHLY AVERAGE:	0.00 PPB

01 Hour Averages



01 Hour Averages



LICA
 TRS_ / WDR Joint Frequency Distribution (Percent)

April 2013

Distribution By % Of Samples

Logger Id : 01
 Site Name : LICA
 Parameter : TRS_
 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	2.05	7.04	10.57	5.43	7.92	4.25	13.65	2.20	1.32	1.61	3.23	13.06	8.07	5.43	7.63	6.46	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	2.05	7.04	10.57	5.43	7.92	4.25	13.65	2.20	1.32	1.61	3.23	13.06	8.07	5.43	7.63	6.46	

Calm : .00 %

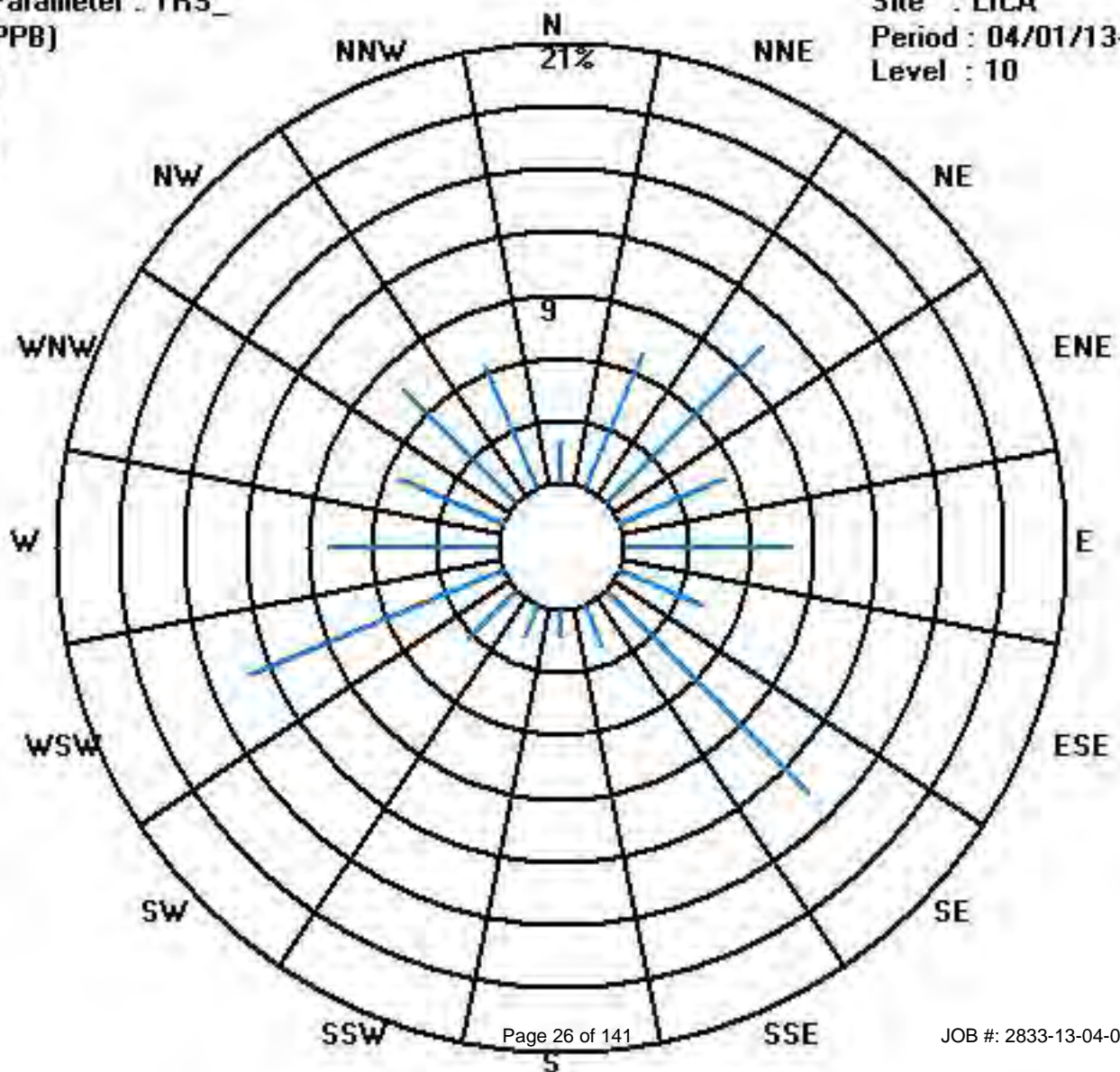
Total # Operational Hours : 681

Distribution By Samples

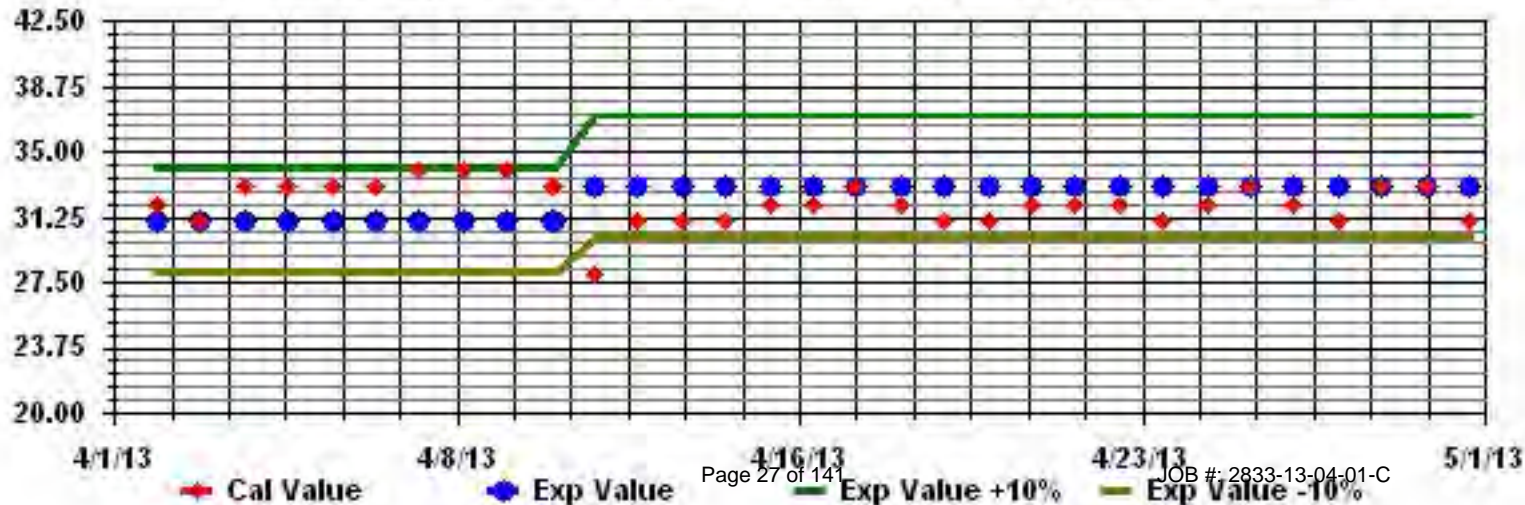
Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 3	14	48	72	37	54	29	93	15	9	11	22	89	55	37	52	44	681
< 10																	
< 50																	
>= 50																	
Totals	14	48	72	37	54	29	93	15	9	11	22	89	55	37	52	44	

Calm : .00 %

Total # Operational Hours : 681



Calibration Graph for Site: LICA Parameter: TRS_ Sequence: TRS Phase: SPAN



Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 2013

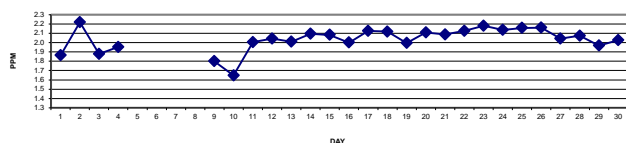
TOTAL HYDROCARBONS (THC) hourly averages in ppm

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	0:00	DAILY MAX.	24-HOUR AVG.	RDGS.			
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							
DAY																																
1		2.2	2.2	1.8	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.9	1.9	1.8	S	2.2	2.2	1.9	2.4					
2		2.5	2.6	2.7	2.5	2.4	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2	2	2	2.1	2.1	2.1	2.1	2.2	S	2.3	2.3	2.7	2.2	2.4				
3		2.4	2.4	2.6	2.3	1.9	1.9	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	S	1.9	1.9	2	2.6	1.9	2.4				
4		2	2.1	2.1	2.1	2	2	2	1.9	1.9	2	2	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	S	X	X	X	X	2.1	2.0	2.0				
5		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				
6		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				
7		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				
8		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				
9		X	X	X	X	X	X	X	X	X	X	X	X	C	C	Y	S	S	1.7	1.7	1.8	2	1.8	1.8	2.0	1.8	1.0					
10		1.9	1.9	1.9	1.8	1.8	1.8	1.7	1.7	1.7	1.8	1.7	1.6	1.6	S	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6	2.4				
11		1.5	1.5	1.7	1.6	1.8	1.9	1.8	2	C	C	C	C	S	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.3	2.0	2.4				
12		2.2	2.2	2.2	2.1	2.1	2	2.1	2.1	2	2	2	S	2	2	2	2	2	2	2	2	2	2	2	2	2.2	2.0	2.4				
13		2	2	2	2	2	2	2	2	2	2	S	2	2	2	2	2	2	2	2	2	2	2	2	2.1	2.1	2.0	2.4				
14		2.2	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2	S	2	2	2	2	2	2	2	2	2	2	2	2.1	2.2	2.3	2.4	2.1	2.4				
15		2.5	2.6	2.3	2.1	2.1	2.1	2.1	2.1	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.6	2.1	2.4			
16		2	2	2	2	2	2	2	S	2	2	1.9	2	2	2	2	2	2	2	2	2	2	2	2	2	2.1	2.1	2.0	2.4			
17		2.1	2.2	2.1	2.2	2.2	2.2	S	2.6	2.4	2.3	2.2	2	2	1.9	2	1.9	2	1.9	2	2	2	2	2.1	2.2	2.3	2.6	2.1	2.4			
18		2.4	2.2	2.2	2.3	2.3	S	2.2	2.2	2.2	2.3	2.3	2.2	2.1	2	1.9	1.9	1.9	1.9	1.9	1.9	2	2	2	2.1	2.2	2.4	2.1	2.4			
19		2.2	2.3	2.3	2.4	S	2.1	2	2	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	2.4	2.0	2.4				
20		2	2	2	S	2.2	2.2	2.3	2.4	2.4	2.5	2.3	2.1	2	2.1	2	2	2	2	2	2	2	2	2	2	2.5	2.1	2.4				
21		2	2.1	S	2	2	2.1	2.1	2.1	2.1	2.1	2.1	2	2.1	2	2	2	2	2	2.1	2.1	2.1	2.1	2.2	2.5	2.5	2.1	2.4				
22		2.7	S	2.3	2.2	2.1	2.2	2.3	2.2	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2	2	2	2	2.1	2.2	2.2	2.7	2.1	2.4			
23		S	2.2	2.2	2.5	2.6	2.5	2.6	3	2.4	1.9	1.9	S	S	2	2	2	2	2	1.9	1.9	1.9	1.9	2	S	3.0	2.2	2.4				
24		2.1	2.1	2.1	2.1	2.2	2.3	2.5	2.3	2.1	2.1	2.1	2	2	2	2	2	2	2.1	2.1	2.1	2.2	2.2	S	2.3	2.5	2.1	2.4				
25		2.5	2.5	2.6	2.7	2.7	2.7	C	C	2.1	2	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2	S	2.2	2.1	2.7	2.2	2.4				
26		2.1	2.2	2.2	2.5	3	3	2.6	2.2	2.1	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2.1	S	2.1	2.2	2.1	3.0	2.2	2.4				
27		2.3	2.2	2.2	2.1	2.1	2.2	2.2	2	2	1.9	1.9	1.9	2	2	2.1	2	1.9	1.9	1.9	S	2	2	2.1	2.1	2.3	2.0	2.4				
28		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	S	2	2	2	2	2	2.1	2.1	2.4			
29		2	2	2	2	2	2	2	2	S	1.9	1.9	1.9	1.9	1.9	2	1.9	S	1.9	2	2	2	2	2	2	2.0	2.0	2.4				
30		2	2	2	2	2	2	2	2	2	2	2.1	2.1	2.1	2.1	2.1	2.1	S	2	2	2	2	2	2	2	2.1	2.0	2.4				
HOURLY MAX		2.7	2.6	2.7	2.7	3.0	3.0	2.6	3.0	2.4	2.5	2.3	2.2	2.1	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.3	2.5							
HOURLY AVG		2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	1.9	2.0	2.0	2.0	2.0	2.1								

STATUS FLAG CODES

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

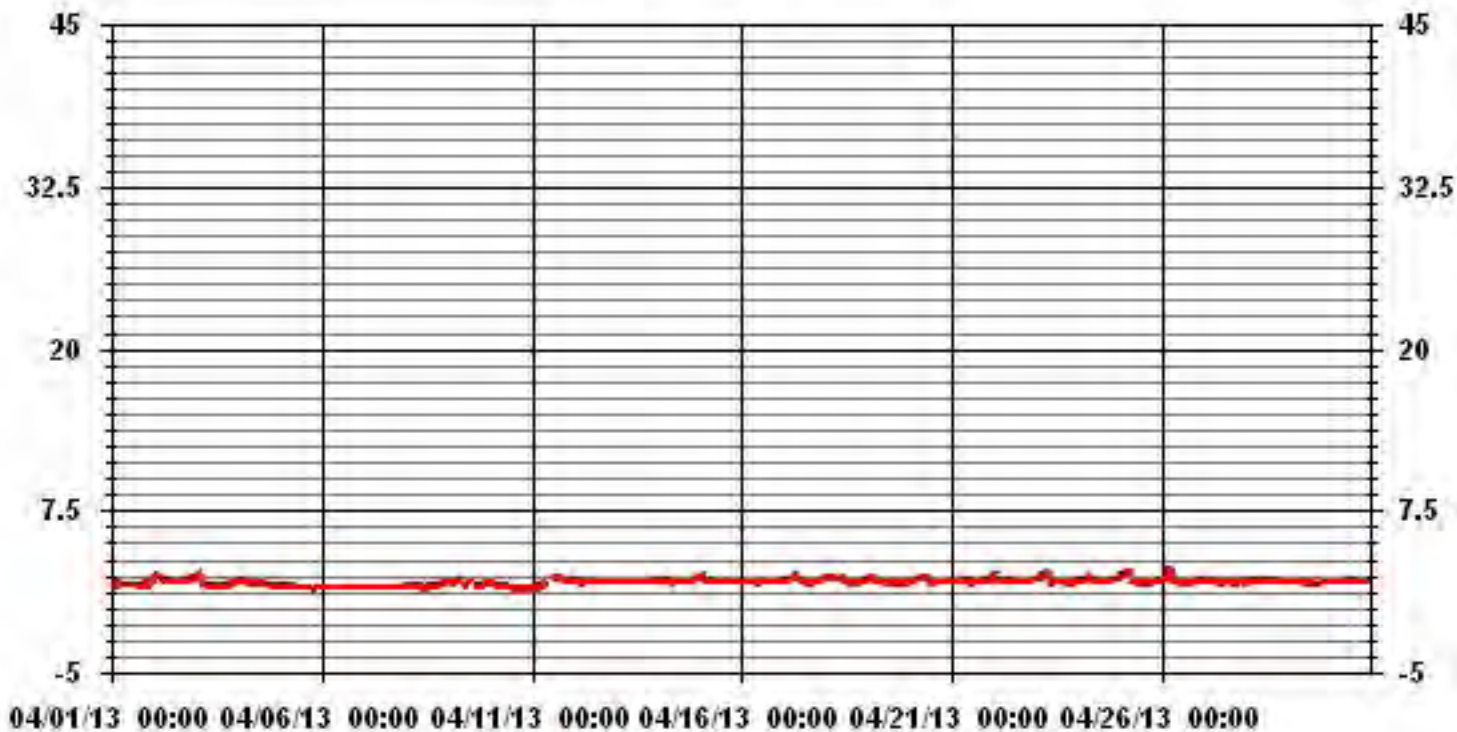
24 AVERAGES FOR APRIL 2013



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	566					
MAXIMUM 1-HR AVERAGE:	3.0	PPM	@ HOUR(S)	VAR	ON DAY(S)	23, 26
MAXIMUM 24-HR AVERAGE:	2.2	PPM			ON DAY(S)	VAR
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	606	HRS	
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:	84.2	%	
STANDARD DEVIATION:	0.21		MONTHLY AVERAGE:	2.04	PPM	

01 Hour Averages



— LICA — THC — PPM

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 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	2.2	2.1	2	2	2	2	1.8	1.9	1.9	1.8	1.8	1.9	1.8	1.8	1.8	1.8	1.8	1.8	2.2	2	1.9	S	2.4	2.4	2.0	24	
2	2.6	2.7	2.8	2.7	2.5	2.4	2.3	2.2	2.2	2.1	2.1	2.1	2.2	2.1	2	2.1	2.2	2.1	2.2	2.2	2.3	S	2.3	2.4	2.8	2.3	24	
3	2.5	2.6	2.7	2.6	2	1.9	1.9	1.8	1.8	1.8	1.8	1.7	1.8	1.8	1.7	1.8	1.7	1.7	1.8	1.8	S	1.9	1.9	2.1	2.7	2.0	24	
4	2.3	2.5	2.2	2.2	2.2	2.2	2.2	2	2	2	2	1.9	1.9	2	1.9	2	1.9	1.9	2	S	X	X	X	X	2.5	2.1	20	
5	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
6	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
7	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
8	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
9	X	X	X	X	X	X	X	X	X	X	X	X	X	C	C	Y	S	S	1.8	1.8	2	2.1	1.9	1.9	2.1	1.9	10	
10	2	2	2	1.9	2.1	1.9	1.8	1.8	1.9	1.8	1.7	1.7	S	Y	Y	1.6	1.5	1.5	1.6	1.5	1.5	1.6	1.5	1.6	1.5	1.7	22	
11	1.7	1.6	1.8	1.7	2	2.1	2.1	C	C	C	C	C	S	2.4	2.4	2.4	2.4	2.3	2.3	2.2	2.2	2.2	2.2	2.1	2.1	2.1	24	
12	2.3	2.3	2.3	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	S	2.1	2.1	2.1	2.6	2	2	2	2.1	2.1	2.1	2.1	2.1	2.1	2.6	2.1	24
13	2.1	2.1	2	2	2	2	2	2	2.1	2	S	2	2	2	2	2	2	2	2	2	2	2.1	2.2	2.1	2.2	2.0	24	
14	2.2	2.4	2.3	2.1	3.1	2.1	2.2	2.1	2.1	S	2	2.1	2	2	2.1	2	2	2.1	2.1	2.1	2.2	2.3	2.3	2.5	3.1	2.2	24	
15	2.6	2.7	2.5	2.1	2.7	2.1	2.2	2.1	S	2.1	2	2.1	2	2	2	2	2	2.1	2.1	2.1	2.1	2	2	2	2.7	2.2	24	
16	2	2	2	2	2	2	2.1	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.2	2.1	2.2	2.0	24	
17	2.2	2.2	2.3	2.3	2.2	2.3	S	2.9	2.6	2.5	2.3	2.1	2.1	2.1	2	2	2	2	2	2.1	2.2	2.4	2.4	2.9	2.2	2.4	24	
18	2.6	2.3	2.4	2.3	2.4	S	2.3	2.3	2.3	2.3	2.4	2.3	2.2	2	2	2	2	2	2	2	2.1	2.1	2.2	2.3	2.6	2.2	24	
19	2.3	2.4	2.4	2.6	S	2.5	2	2	2	2	2	2	2	1.9	1.9	2	2	1.9	1.9	2	2	2	2	2	2.6	2.1	24	
20	2	2.1	2.1	S	2.5	2.3	2.4	2.5	2.6	2.6	2.5	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2	2	2.1	2.2	2.1	24	
21	2.1	2.1	S	2	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	2.1	2.1	2.1	2.1	2.2	2.4	2.6	2.6	2.1	24	
22	2.7	S	2.4	2.4	2.2	2.2	2.3	2.3	2.2	2.1	2.1	2.1	2.2	2	2	2	2	2	2	2	2	2.1	2.5	2.2	2.7	2.2	24	
23	S	2.3	2.3	2.8	S	2.6	2.8	3.2	2.9	2	1.9	C	C	C	2	2	2.1	2.2	2	2	2	2	S	5	2.4	24		
24	2.2	2.2	2.2	2.1	2.3	2.4	2.6	2.5	2.4	2.1	2.2	2.1	2.1	2	2	2.1	2.1	2.1	2.1	2.1	2.4	2.2	S	2.6	2.6	2.2	24	
25	2.6	2.6	2.8	2.8	2.8	2.8	S	S	2.5	2	2.1	2	2	2	2	2	2	2	2	2.1	2.1	S	2.7	2.3	2.8	2.3	24	
26	2.3	2.3	2.5	3.6	3.6	3.7	3.1	2.6	2.1	2.2	2	2	1.9	1.9	1.9	2	2	2	2.1	2.5	S	2.8	2.7	2.2	3.7	2.4	24	
27	3.2	2.6	2.3	2.2	2.4	2.4	2.8	2.5	2.1	2	2	1.9	2.1	2.1	2.1	2	2	1.9	S	2.1	2.1	2.1	2.1	3.2	2.2	24		
28	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.2	2.3	2.2	2.2	2.2	2.1	2.1	2.1	S	2	2	2.1	2.5	2	2.5	2.1	24	
29	2	2	2	2	2	2	2	2	S	2.1	2	2	2	2	2.1	2	2.1	S	2	2	2	2	2	2.1	2.1	2.0	24	
30	2.1	2	2	2	2.1	2.1	2.1	2.1	2.1	2	2.2	2.2	2.2	2.1	2.1	2.1	S	2	2	2	2	2	2	2.2	2.1	2.1	24	
HOURLY MAX	3	3	3	4	5	4	3	3	3	3	3	2	2	2	2	3	2	2	2	2	3	2	3	3	3			
HOURLY AVG	2.3	2.3	2.3	2.3	2.4	2.3	2.2	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.2				

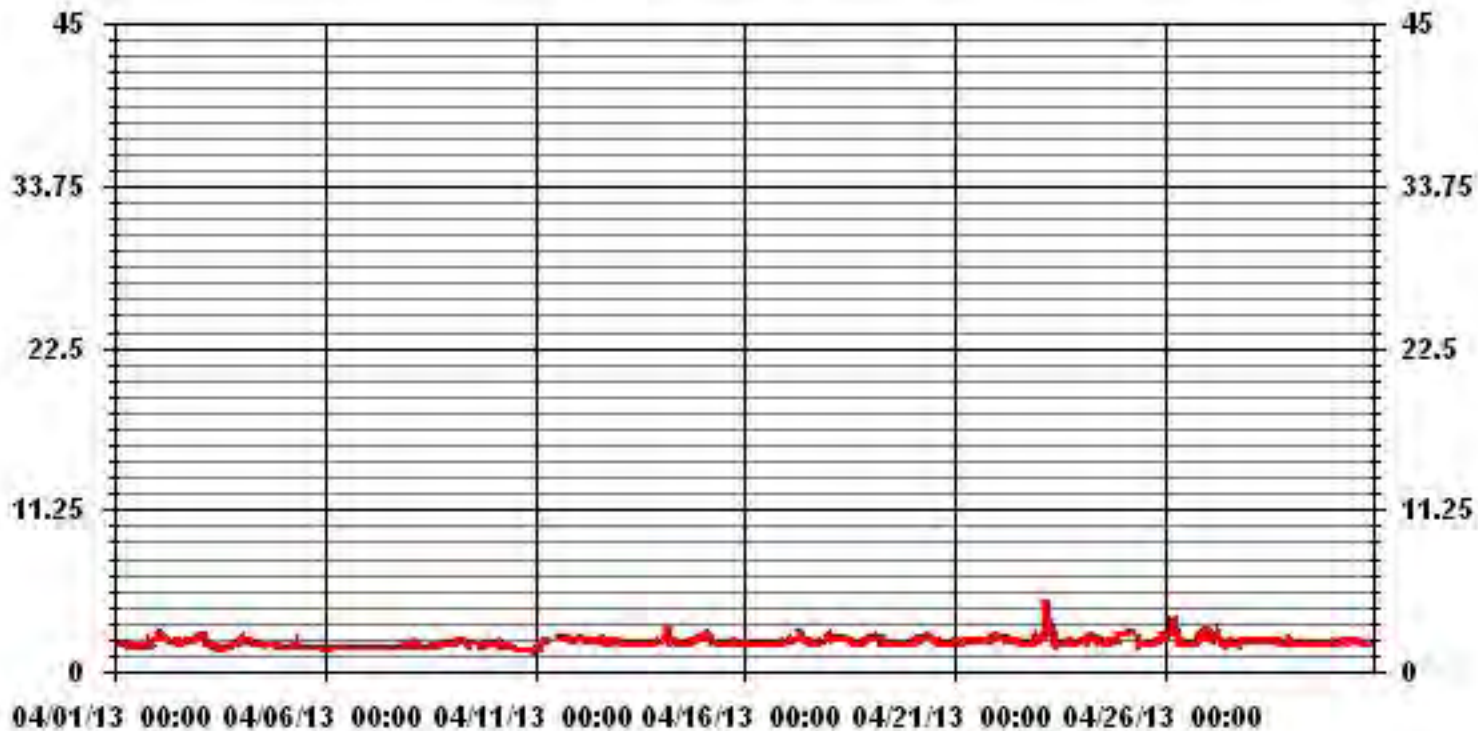
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	563					
MAXIMUM INSTANTANEOUS VALUE:	5.0	PPM	@ HOUR(S)	4	ON DAY(S)	23
S CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	604 HRS		
MONTHLY CALIBRATION TIME:	10 HRS					
STANDARD DEVIATION:	0.29					

01 Hour Averages



— LICA THCMAX PPM

LICA
 THC / WD Joint Frequency Distribution (Percent)

April 2013

Distribution By % Of Samples

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

Wind Parameter : WD
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	2.37	7.25	10.66	5.48	7.85	4.29	14.51	1.77	1.18	1.62	3.11	12.74	7.70	5.33	7.11	6.51	99.55
< 10.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14	.00	.14	.14	.00	.44
< 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	2.37	7.25	10.66	5.48	7.85	4.29	14.51	1.77	1.18	1.62	3.11	12.88	7.70	5.48	7.25	6.51	

Calm : .00 %

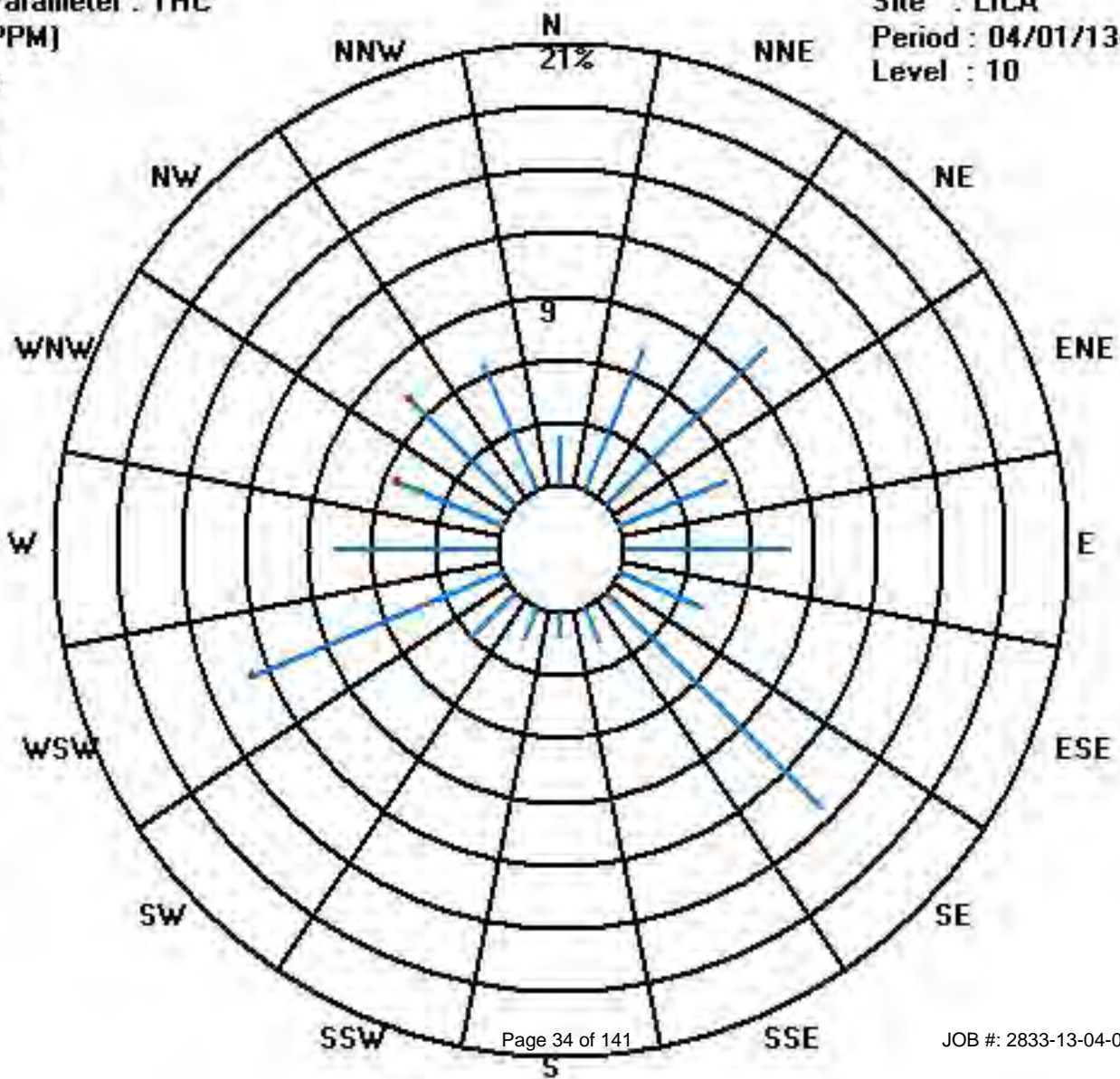
Total # Operational Hours : 675

Distribution By Samples

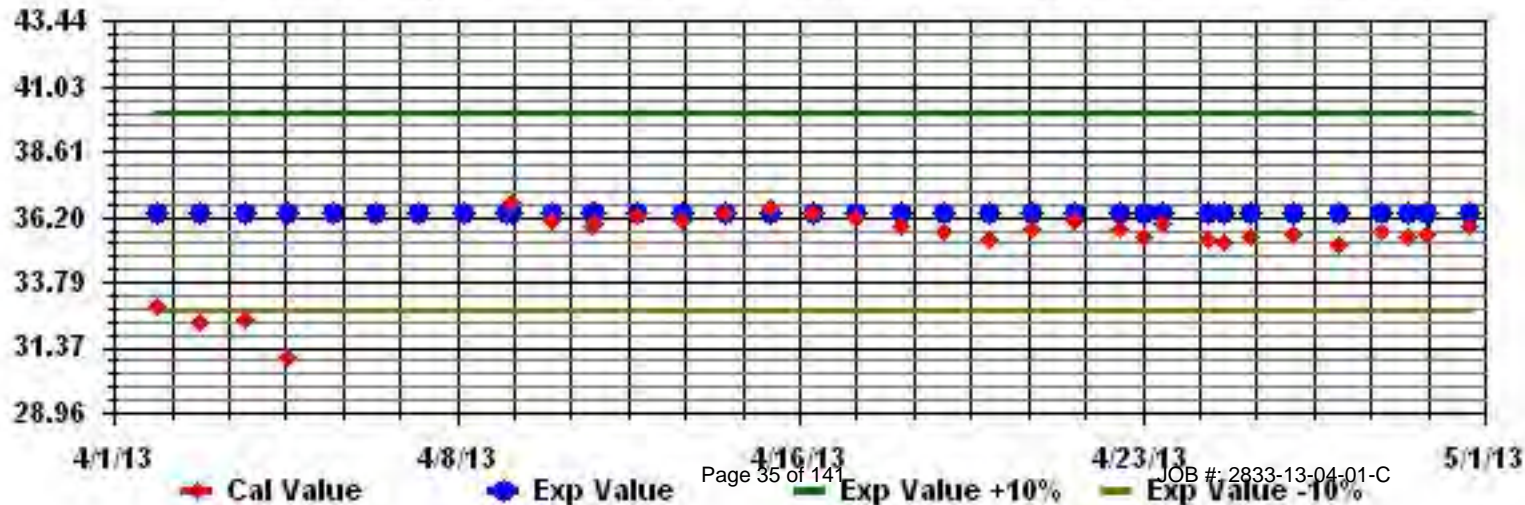
	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	16	49	72	37	53	29	98	12	8	11	21	86	52	36	48	44	672
< 10.0												1		1	1		3
< 50.0																	
>= 50.0																	
Totals	16	49	72	37	53	29	98	12	8	11	21	87	52	37	49	44	

Calm : .00 %

Total # Operational Hours : 675



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



Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 2013

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

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	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	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	8	10	0	0	9	7	4	4	0	X	5	2	9	9	6	12	5	6	7	6	12	11	8	6	12	6.3	23	
2	7	11	9	7	0	6	9	X	8	0	X	3	8	7	6	13	12	10	9	14	12	23	5	7	23	8.5	22	
3	14	12	11	5	0	10	0	0	6	X	0	5	12	1	3	X	1	3	3	3	6	4	4	7	14	5.0	22	
4	10	6	11	0	1	5	2	0	0	6	6	5	0	6	X	2	2	9	7	8	2	7	0	3	11	4.3	23	
5	9	7	0	0	7	16	7	5	X	X	X	5	X	10	0	4	12	17	2	4	8	2	1	12	17	6.4	20	
6	2	7	12	1	3	1	2	4	X	1	0	10	3	17	9	7	X	0	10	5	X	11	11	4	17	5.7	21	
7	13	0	X	6	20	16	4	16	13	10	1	0	9	X	X	4	3	4	11	9	X	5	2	0	20	7.3	20	
8	3	1	2	6	0	2	2	3	X	4	0	5	13	0	6	5	4	4	4	7	10	1	3	17	17	4.4	23	
9	0	4	7	6	2	2	14	9	10	5	8	3	3	0	9	5	3	2	6	9	6	1	4	12	14	5.4	24	
10	6	0	3	5	4	X	0	X	2	6	12	0	C	C	C	6	6	0	5	0	6	9	4	0	12	3.9	22	
11	6	8	0	3	0	4	17	0	7	9	6	0	8	10	10	15	11	11	13	19	17	6	0	4	19	7.7	24	
12	0	1	5	5	4	7	4	3	0	1	0	8	7	4	17	0	12	5	4	6	9	11	14	11	17	5.8	24	
13	8	9	8	7	3	7	0	0	2	0	12	8	0	7	7	1	6	2	3	0	4	4	5	3	12	4.4	24	
14	3	3	2	5	5	11	0	4	2	4	5	4	5	10	7	7	8	5	7	7	8	8	8	4	11	5.5	24	
15	9	4	8	9	3	0	2	16	10	4	2	5	3	7	4	1	4	0	2	3	3	3	0	3	16	4.4	24	
16	7	7	6	5	0	6	0	5	1	5	1	2	3	2	4	2	3	2	3	1	3	6	8	8	8	3.8	24	
17	11	9	8	0	9	7	4	9	10	15	11	0	5	12	8	7	14	11	3	8	8	8	13	13	15	8.5	24	
18	12	7	7	10	11	4	10	1	9	9	10	9	5	1	10	5	6	3	2	3	3	6	17	14	17	7.3	24	
19	1	7	6	11	9	7	2	5	7	3	3	0	2	1	6	7	6	4	5	4	6	8	4	7	11	5.0	24	
20	7	6	3	6	9	14	10	12	14	6	12	5	6	8	5	3	1	X	0	0	2	2	0	0	14	5.7	23	
21	4	7	0	0	2	4	4	6	4	1	4	3	6	7	8	4	12	7	5	2	7	8	6	1	12	4.7	24	
22	7	3	7	0	6	4	12	12	11	12	10	9	5	9	15	12	15	11	9	10	6	10	5	7	15	8.6	24	
23	7	11	11	2	8	13	5	12	7	0	6	C	C	0	3	7	7	16	10	4	6	8	5	4	16	6.9	24	
24	11	8	9	5	5	2	7	1	10	9	8	6	6	3	3	4	6	2	5	5	6	9	X	6	11	5.9	23	
25	4	3	7	6	4	7	6	6	5	7	5	2	4	3	0	2	1	8	5	4	2	4	5	5	8	4.4	24	
26	5	6	0	0	0	2	5	6	5	4	6	X	3	11	X	0	0	3	X	7	2	0	7	6	11	3.7	21	
27	0	5	0	0	8	9	2	5	3	2	X	0	5	2	0	5	2	14	1	4	7	1	10	7	14	4.0	23	
28	1	3	0	2	3	8	5	7	7	3	8	3	3	4	2	2	2	6	2	7	8	7	0	5	8	4.1	24	
29	4	4	10	6	5	10	1	4	9	3	1	2	7	8	2	8	8	3	1	6	0	4	9	4	10	5.0	24	
30	17	8	23	17	4	X	14	14	11	0	13	0	2	2	3	1	0	0	3	2	0	3	16	11	23	7.1	23	
HOURLY MAX	17	12	23	17	20	16	17	16	14	15	13	10	13	17	17	15	15	17	13	19	17	23	17	17				
HOURLY AVG	6.5	5.9	6.0	4.5	4.8	6.8	5.1	6.0	6.4	4.8	5.7	3.7	5.3	5.8	5.9	5.2	5.9	5.8	5.1	5.6	6.0	6.3	6.0	6.4				

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

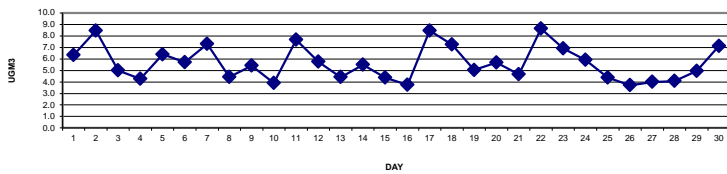
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT: 1-HR - ug/m³ 24-HR 30 ug/m³

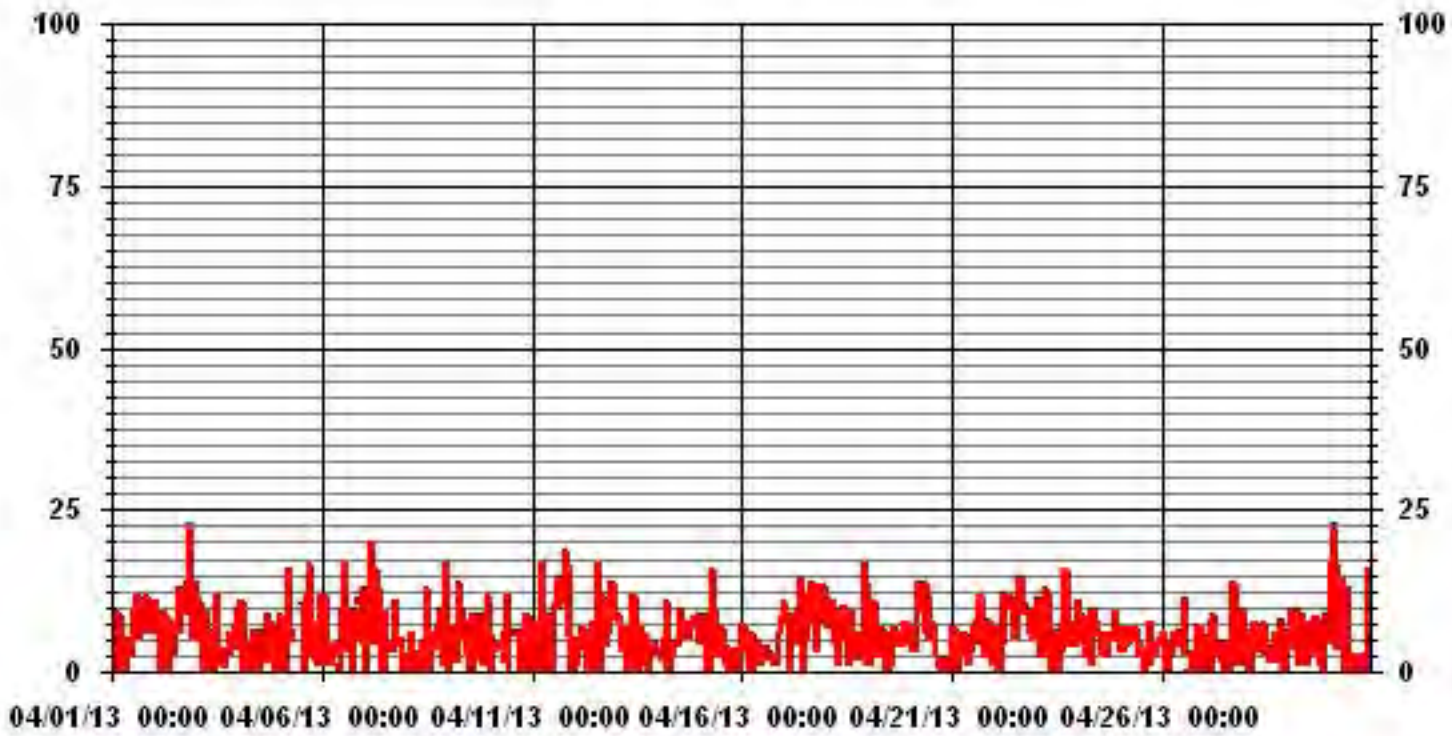
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	-
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	603
MAXIMUM 1-HR AVERAGE:	23 UG/M ³ @ HOUR(S) 21, 2 ON DAY(S) 2, 30
MAXIMUM 24-HR AVERAGE:	8.6 UG/M ³ ON DAY(S) 22
IZS CALIBRATION TIME:	0 HRS
MONTHLY CALIBRATION TIME:	5 HRS
STANDARD DEVIATION:	4.21
OPERATIONAL TIME:	693 HRS
AMD OPERATION UPTIME:	96.3 %
MONTHLY AVERAGE:	5.65 UG/M ³

24 HOUR AVERAGES FOR APRIL 2013



01 Hour Averages



— LICA PM2 UG/M3

LICA
PM2 / WD Joint Frequency Distribution (Percent)

April 2013

Distribution By % Of Samples

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

Wind Parameter : WD
Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 30	2.32	7.41	10.75	4.79	7.70	4.06	13.80	2.32	1.30	1.59	3.05	13.37	8.43	5.37	7.26	6.39	100.00
< 60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 80	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 120	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 240	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 240	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.32	7.41	10.75	4.79	7.70	4.06	13.80	2.32	1.30	1.59	3.05	13.37	8.43	5.37	7.26	6.39	

Calm : .00 %

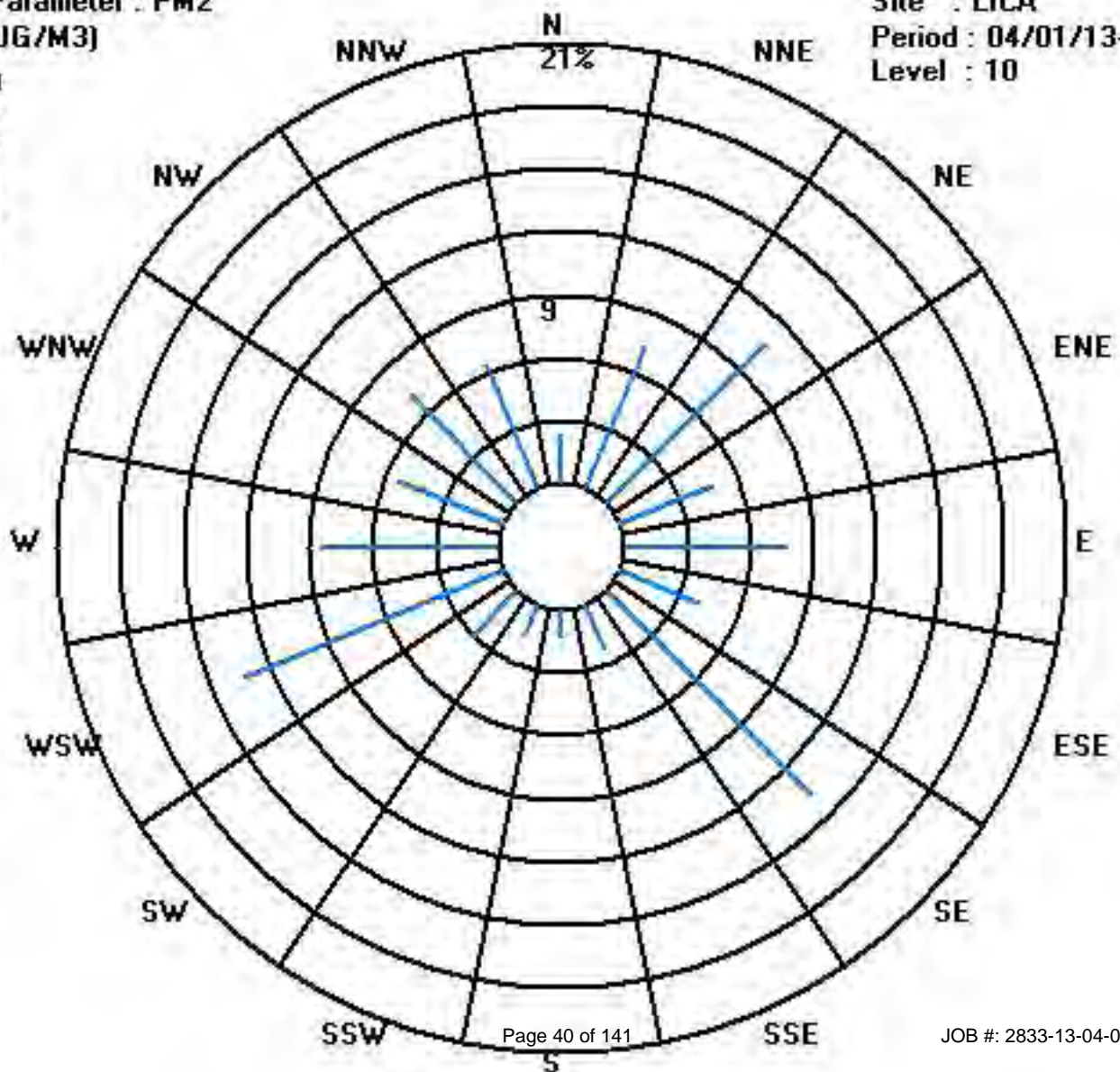
Total # Operational Hours : 688

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 30	16	51	74	33	53	28	95	16	9	11	21	92	58	37	50	44	688
< 60																	
< 80																	
< 120																	
< 240																	
>= 240																	
Totals	16	51	74	33	53	28	95	16	9	11	21	92	58	37	50	44	

Calm : .00 %

Total # Operational Hours : 688



Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 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	6.9	8.1	4	7.4	5.9	7.9	7	3.2	2.8	2.8	3.8	3	2.9	2.9	2.6	3.1	3.2	2.7	2.8	9.6	15.9	10.4	S	2.9	15.9	5.3	24	
2	3.4	4.4	3.5	3.2	4.1	3.2	2.9	2.5	2.6	2.7	2.8	2.9	3	2.9	2.9	3.3	3.5	3.5	3.6	3.8	4.3	S	6.3	5.7	6.3	3.5	24	
3	6.2	7.1	7.3	7.4	4.8	4	3	1.8	1.6	1.5	1.7	1.5	1.9	1.6	1.7	3.1	2	1.5	1.9	2	S	4.4	5.2	9.3	9.3	3.6	24	
4	10.7	16.5	15.7	13.4	8.9	14.3	9.6	5.7	3.2	2.7	2.5	1.9	2	1.5	1.5	1.6	1.6	1.5	1.8	S	2	1.7	2.2	2.1	16.5	5.4	24	
5	1.8	2.2	2.4	3.2	4.4	4.5	4.2	3.3	3.3	2.8	2.4	2.4	2.1	2.7	2.7	2.5	2.7	2.7	S	1.9	1.8	1.6	1.4	1.3	4.5	2.6	24	
6	1.2	1.3	1.3	1.3	1.8	1.7	1.9	1.8	1.6	1.6	1.5	1.8	1.6	1.5	1.6	2.2	2.4	S	4	5.1	5	4.5	3.4	1.5	5.1	2.2	24	
7	1.4	1.5	1.5	1.3	1.4	1.8	1.9	1.7	1.6	0.9	0.8	0.7	0.9	1	1.1	1	S	1.4	1.8	2.4	2.6	4.5	2.3	5	5	1.8	24	
8	6.5	5.7	4.1	14.1	13	12.7	7.7	4.4	2.7	1.4	1	0.8	1.6	1.7	2.6	S	2.5	3.2	3	3.6	4.1	4.6	4	3.4	14.1	4.7	24	
9	4	3.7	3.8	3.6	4.2	4.6	8.5	5.3	3.6	3.4	1.9	1.9	2.4	2.6	S	1.8	1.8	1.4	1.3	1.9	2.3	2.1	2	2	8.5	3.0	24	
10	1.8	1.7	1.8	2.1	2.2	2.8	3.4	2.9	2.6	C	C	C	C	C	C	S	2.6	2.6	2.8	3.1	4.9	5.6	5.6	4.7	5.6	3.1	24	
11	4.2	3.6	3.3	2.8	3.6	3.8	4.2	4.8	6	5.2	6.4	4.7	S	7.1	7.2	6.1	6.5	6.3	6.1	4.8	5.4	4.6	4.9	5.4	7.2	5.1	24	
12	6.5	4.6	4.8	2.4	2.1	2.3	2.5	2.5	3.1	8	3.9	S	3.4	1.9	2.1	2.7	3.1	3.4	4.3	4.3	3.3	4.4	3.3	3.6	8	3.6	24	
13	3.3	3.4	3.7	4	4	3.1	3	2.9	3.5	2.7	S	2.9	2.5	2.4	2.7	2.5	3	3.2	2.9	5.1	4.1	6.8	10.8	7.8	10.8	3.9	24	
14	13.3	14.6	9.5	7.6	8.7	10.3	9.1	4.8	1.9	S	1.4	1	1.2	1.2	1.1	1.1	1.2	1.5	3.1	3.8	4.7	5.2	4.5	6.8	14.6	5.1	24	
15	7.2	9.4	7.2	6.8	5.9	9.9	8.3	3	S	1.3	1.3	1	1.1	0.9	1.1	1.1	1.1	1.6	1.8	2.1	2.5	2.6	2.7	2.7	9.9	3.6	24	
16	2.1	2.3	1.9	2.9	6.2	7.8	7.7	S	2.1	1.9	1.1	1.2	1.1	0.9	1.3	1.2	1.2	1.9	3.1	2.8	2.8	8	10.5	10.4	10.5	3.6	24	
17	12.4	12.3	9	11.5	7.2	11.1	S	8.7	5	4.5	2.7	1.3	1.6	1.6	1.5	1.7	1.7	1.7	1.8	2	1.9	2	2.3	2.6	2.3	12.4	4.7	24
18	2.6	2.2	2.1	2.9	2.5	S	4.1	3.7	3	3.4	3.1	2.2	1.7	1.6	1.8	1.8	1.9	1.5	2	3.1	6.6	8.3	9.9	14.3	14.3	3.8	24	
19	14.2	13.9	12.3	13.4	S	8.5	2.5	2.1	2.1	1.6	1.5	1.1	1	1.2	1.2	1.3	1.7	1.4	1.4	1.6	2.3	1.6	1.6	1.6	14.2	4.0	24	
20	1.6	1.6	1.7	S	2.1	2.3	2.4	2.9	3.5	4.2	3.2	2	1.7	1.8	1.8	2.6	1.8	1.5	1.3	1	1	1.1	0.9	4.2	2.0	2.0	24	
21	1.7	1.8	S	1.5	1.7	3.5	4	2.3	1.8	1.9	1.6	1.7	1.5	1.5	1.3	1.3	1.3	1.3	1.3	1.3	3.2	4	2.9	4.9	4.9	2.1	24	
22	6.8	S	5.1	4	4	5.3	5.5	5.2	4.8	4.4	3.4	3	2.2	1.8	1.8	1.9	2.1	2.7	3.5	3	4.5	4.2	6.8	5.5	6.8	4.0	24	
23	S	4.4	6.2	16.5	21.6	10.6	9.4	14.7	7.9	1.7	1.5	1.3	1.3	1.1	1.4	1.7	1.1	1.2	1.1	1.1	1.6	1.3	1.5	S	21.6	5.0	24	
24	2.6	3.3	4.7	6.3	10.7	5.5	6.8	3.3	2	1.8	5.6	1.8	1.5	1.3	1.4	1.2	1.3	1.5	1.7	1.7	4.9	3.8	S	2.5	10.7	3.4	24	
25	2.7	2.9	3.2	3.5	9	7.5	5.4	4.7	4.3	3.5	2.7	1.8	1.6	1.5	1.4	1.2	1.1	1.2	1.4	2.9	3.5	S	3.5	2.4	9	3.2	24	
26	2.7	3.5	4	4.2	4.1	7.5	8.2	5.2	4.3	3.9	2.7	1.8	1	1.1	1.1	0.8	0.9	1	2.1	7.9	S	5	3.8	3.1	8.2	3.5	24	
27	2.9	2.2	2.5	2	3.4	3.2	2.4	2.3	2.3	1.5	1.1	1	1.4	1.2	1.3	1.4	2	1.5	1.2	S	2.3	1.7	1.7	1.3	3.4	1.9	24	
28	0.8	0.7	0.8	1	1.2	1.1	1	0.9	1.7	1.3	1	1.7	1.1	1.1	1.1	0.9	1.1	1.1	S	4.6	4.5	3.7	2.6	1.3	4.6	1.6	24	
29	1.3	1.2	1.5	1.7	2.4	2.7	2.2	2.6	1.4	1.4	1.2	1	0.9	1	1.1	0.9	0.9	S	1.6	1.8	2.9	5.5	2.8	3	5.5	1.9	24	
30	3.3	1.9	1.5	1.8	2.5	2.7	2.2	1.9	1.5	1.5	1.8	2	1.6	1.8	2.3	2.9	S	3.1	3.4	3.2	3	2.3	2.1	2.5	3.4	2.3	24	
HOURLY MAX	14	17	16	17	22	14	10	15	8	8	6	5	3	7	7	6	7	6	6	10	16	10	11	14				
HOURLY AVG	4.7	4.9	4.5	5.3	5.3	5.7	4.9	3.8	3.0	2.7	2.3	1.8	1.7	1.8	1.9	2.0	2.0	2.1	2.4	3.3	3.9	4.1	4.0	4.1				

STATUS FLAG CODES

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

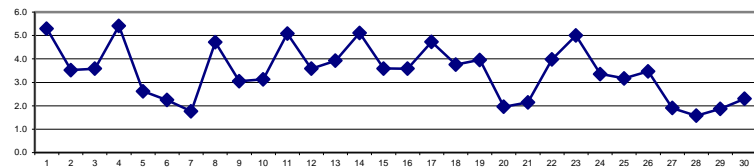
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT: 1-HR 159 PPB

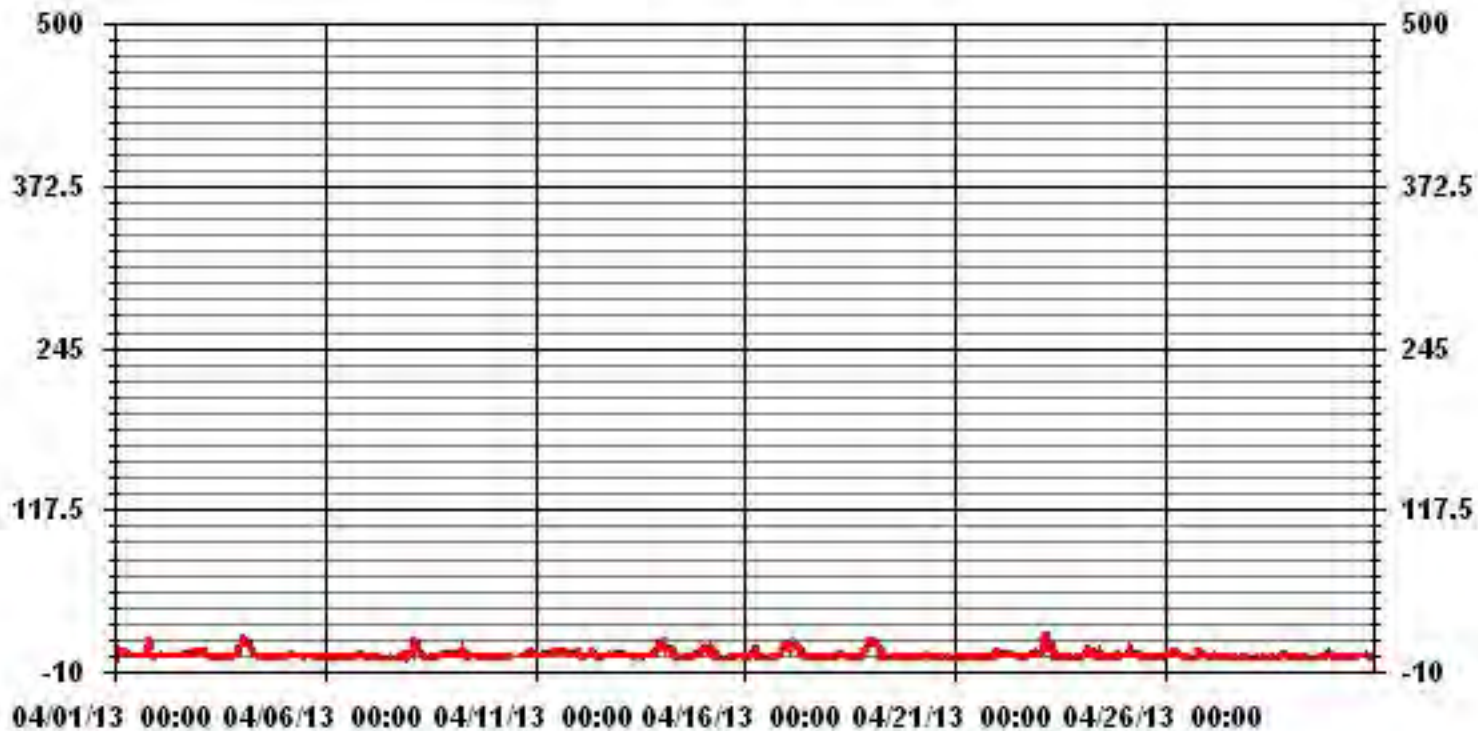
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	683					
MAXIMUM 1-HR AVERAGE:	21.6	PPB	@ HOUR(S)	4	ON DAY(S)	23
MAXIMUM 24-HR AVERAGE:	5.4	PPB			ON DAY(S)	4
S CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	2.87		MONTHLY AVERAGE:	3.45	PPB	

24 HOUR AVERAGES FOR APRIL 2013



01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 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	14.9	10.4	6.5	9.9	7.9	9.9	9.9	3.5	4.4	3.5	4.4	3.5	3.5	5	3.9	6.5	12.5	5.5	3.5	22.4	23.4	15.9	S	3.5	23.4	8.4	24	
2	4.4	6	4	4	16.9	5	5	3	2.9	3	3.5	5	4	4	3.5	4.4	4.4	4	4	5	S	9.4	7.9	16.9	5.1	24		
3	7.9	8.9	8.9	11.5	7	5	4.4	1.9	1.9	2	1.9	5	2.5	2	7	6	2	2.5	3.5	S	10.4	8.9	18.4	18.4	5.7	24		
4	16.9	22.9	20	19.5	16.4	20.9	12.9	11	5.5	4.4	4	2.4	9.9	4.9	1.4	2.9	2.9	2.4	4.9	S	2.5	2.4	3	3	22.9	8.6	24	
5	2.9	3.5	3	4.4	6.4	7	7.4	4.4	5	4.4	3.5	3	2.9	4	5.5	5	13	3.5	S	3.9	1.9	1.9	1.7	2.1	13.0	4.4	24	
6	1.4	1.9	1.4	1.9	2.4	1.9	2.4	1.9	1.9	2.4	2.9	2.4	2.5	2.5	2	3	4	S	7	7	8.9	6	5.5	2.4	8.9	3.3	24	
7	2.9	2.4	2.4	1.9	1.9	2	2.9	6	3.9	1.4	1.3	1.4	2.9	1.4	1.9	1.4	S	1.9	4.9	3.4	3.9	8.4	6	7.9	8.4	3.2	24	
8	10.5	8.9	10.9	23.9	26.9	26.9	11.5	8.4	4.4	2.4	1.9	1.4	2.4	2.4	6	S	4	4	3.5	5.5	5	5	5.5	4.4	26.9	8.1	24	
9	5.9	4.4	5	4.4	5.9	7.9	13.5	7.5	4.4	7.4	3.5	2.4	2.9	3.5	S	4.5	7	3.5	5	3.4	4	2.9	2.5	2.5	13.5	5.0	24	
10	2	2.5	2.5	4	5.5	5.5	6	6.9	C	C	C	C	C	C	C	S	3.6	3.6	4.6	4.1	7	9.1	7.1	5.6	9.1	5.0	24	
11	5.6	5.6	4.5	3.6	4.1	4.6	5.6	5.6	7	6.5	8	6	S	9.5	9.6	7.5	7.5	8.5	8	6	6.5	7	7.1	7	9.6	6.6	24	
12	10.1	6	5.6	4.6	3	3.1	3.1	3.1	6.5	10.6	10.1	S	10.6	3	4.5	8	6.5	9.6	5.1	6	5	6	4.6	4.6	10.6	6.1	24	
13	4.6	4.6	5.1	5.1	8.6	8	4.1	6	12.5	4.1	S	4.6	5.6	3	14.5	4.6	5	5	5.1	12.5	6.5	13	17	14	17.0	7.5	24	
14	17.6	19.5	11.1	10.6	14	15	15	7.5	2.6	S	2	2	1.5	1.5	1.5	2.6	3	2.6	9	7.5	8	7	5.6	9	19.5	7.6	24	
15	11.6	14.5	9.6	21.5	10.1	17.6	18.1	5	S	2.1	3.6	2	1.5	1.5	1.6	1.5	1.5	3.6	2.1	2.6	3.6	4.6	5	6.5	21.5	6.6	24	
16	3.6	3.6	3.1	7	11.1	10.1	12.5	S	3.5	3	1.5	3	5.5	1.5	6	2.1	2.1	4.1	4.6	6	6.5	12	12.5	16.5	16.5	6.1	24	
17	16.5	15.5	17	19	9.6	19.5	S	13.5	8	8	6	2.1	3.1	4.6	4.1	3.6	3	4.1	2.6	2.1	3.5	3.6	5.1	3.1	19.5	7.7	24	
18	3.6	2.6	2.6	4.1	4.6	S	7.5	5.1	4.6	6.5	5.1	3.1	2.6	2.1	2.6	3.1	5.6	3.1	7.1	6.5	14	14	13	19.5	19.5	6.2	24	
19	19.5	17	15.5	16.5	S	21.5	3.6	3	22	4.6	2.6	1.5	1.5	1.5	2.1	2.6	3	2.1	4.1	2.1	7.5	2.1	2.1	2.1	22.0	7.0	24	
20	2.1	2.1	2.1	S	4.6	2.6	3.1	4.1	5.6	5.1	4.6	2.6	2.1	2.6	2.1	3.6	3.1	2.1	1.6	1	1.5	1.5	1	5.6	2.7	24		
21	2.5	2.1	S	2.1	2.5	5.1	5.6	2.5	2.1	2.5	2.1	2.1	2	2	2	1.5	1.5	1.5	2.2	2.1	6	6	4.5	6	6.0	3.0	24	
22	8.5	S	6	6	5.5	7	6.5	7.5	8.5	6.5	4.1	5	3.6	2.6	2.1	3.6	3.5	5.6	6.5	7	8	8	12.5	7	12.5	6.1	24	
23	S	8.5	9.1	28.1	30	15.5	14	17	14.5	3	2.6	1.5	1.5	1	3.5	3	1.5	1.5	1.5	1.1	2.1	1.6	2.1	S	30.0	7.5	24	
24	4.1	4.6	6	10.1	17	10.1	8	6	4.1	3.5	35	2.6	2.1	2.6	2.6	2.6	2.6	3.1	2.6	2.1	15.5	12	S	3.6	35.0	7.1	24	
25	3.6	4.1	4.6	5.5	61	12	7	5.5	5.5	3.6	3.6	2.6	2.6	3.5	2.1	1.5	1.6	2.6	5.1	5.1	S	4.1	3.1	61.0	6.6	24		
26	6.5	7	6	9.6	7.5	15	23.1	6.5	6	5.5	3.6	2.6	1.5	1.5	2	1.1	1.1	1.1	5.1	15.5	S	7.5	5.5	5.5	23.1	6.4	24	
27	4.6	3.1	4.1	2.6	6	4.1	2.6	5	6	1.6	1.1	1.5	2.6	1.6	3	2.1	2.6	3.1	1.5	S	3	2.1	2.1	1.6	6.0	2.9	24	
28	1.1	1.1	1.1	1.1	2.1	1.6	1.5	1.1	6.5	4.6	2.6	6.5	1.5	1.1	1.5	1.1	1.1	1.1	S	7.5	8	6	3.6	2.1	8.0	2.8	24	
29	2	2.1	2.6	2.6	3.6	4.6	3.6	5.5	4.1	7.5	2.1	2.6	2	1.6	2.6	1.6	3.6	S	2.6	7	7.5	9	4.5	4.5	9.0	3.9	24	
30	5.5	3	2.5	3	3.5	8.5	3.5	5.6	3	4.5	3	2.5	2.5	2.1	3	3.5	S	3.6	3.6	3	3	3	2.6	3.6	8.5	3.5	24	
HOURLY MAX	19.5	22.9	20.0	28.1	61.0	26.9	23.1	17.0	22.0	10.6	35.0	6.5	10.6	9.5	14.5	8.0	13.0	9.6	9.0	22.4	23.4	15.9	17.0	19.5				
HOURLY AVG	7.0	6.8	6.3	8.6	10.5	9.6	7.7	5.8	6.0	4.4	4.7	2.9	3.3	2.7	3.6	3.4	4.2	3.5	4.2	5.7	6.5	6.7	5.9	6.1				

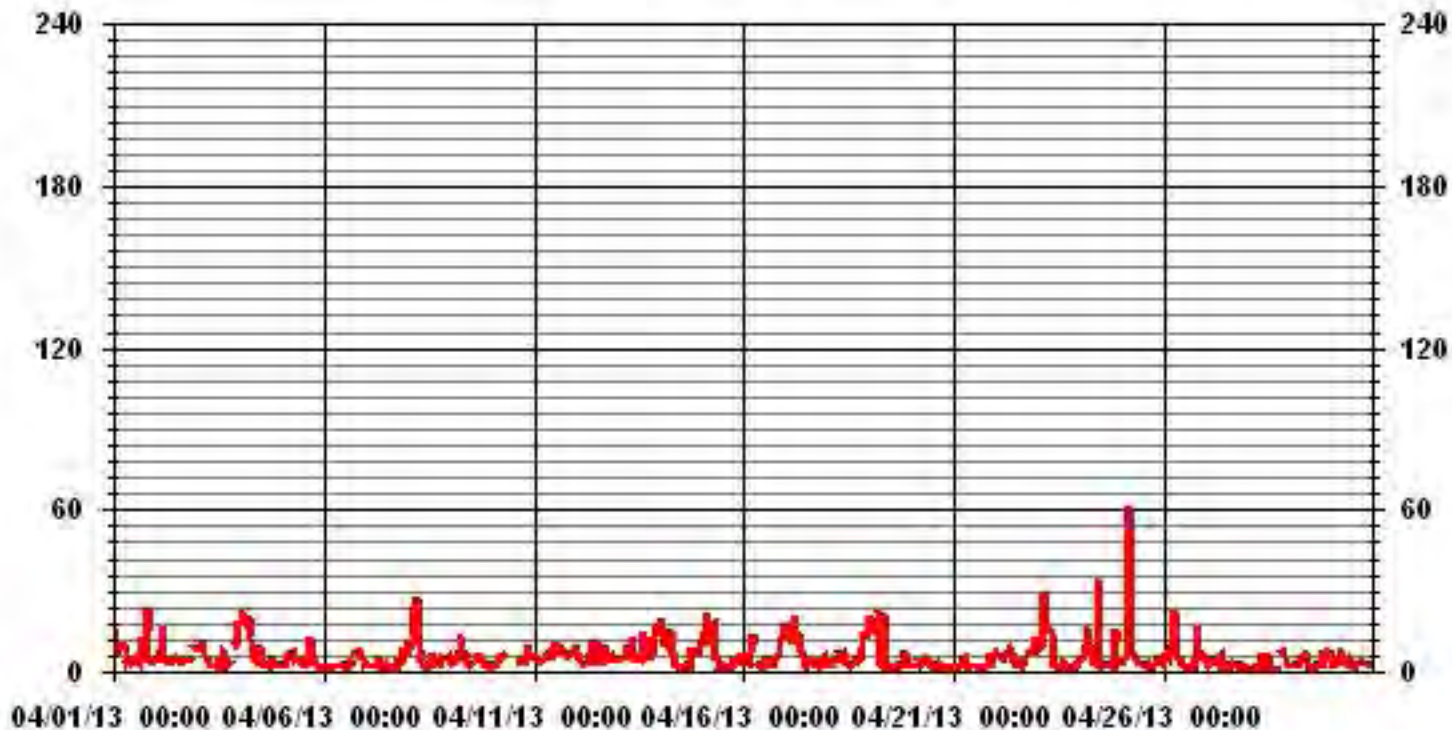
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	682
MAXIMUM INSTANTANEOUS VALUE:	61.0 PPB @ HOUR(S) 4 ON DAY(S) 25
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	7 HRS
STANDARD DEVIATION:	5.23
OPERATIONAL TIME:	720 HRS

01 Hour Averages



— LICA NO2MAX PPB

LICA
 NO2_ / WD Joint Frequency Distribution (Percent)

April 2013

Distribution By % Of Samples

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

Wind Parameter : WD
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50.0	2.34	7.17	10.54	5.41	7.90	4.24	13.46	2.19	1.31	1.61	3.22	13.03	8.05	5.41	7.61	6.44	100.00
< 110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.34	7.17	10.54	5.41	7.90	4.24	13.46	2.19	1.31	1.61	3.22	13.03	8.05	5.41	7.61	6.44	

Calm : .00 %

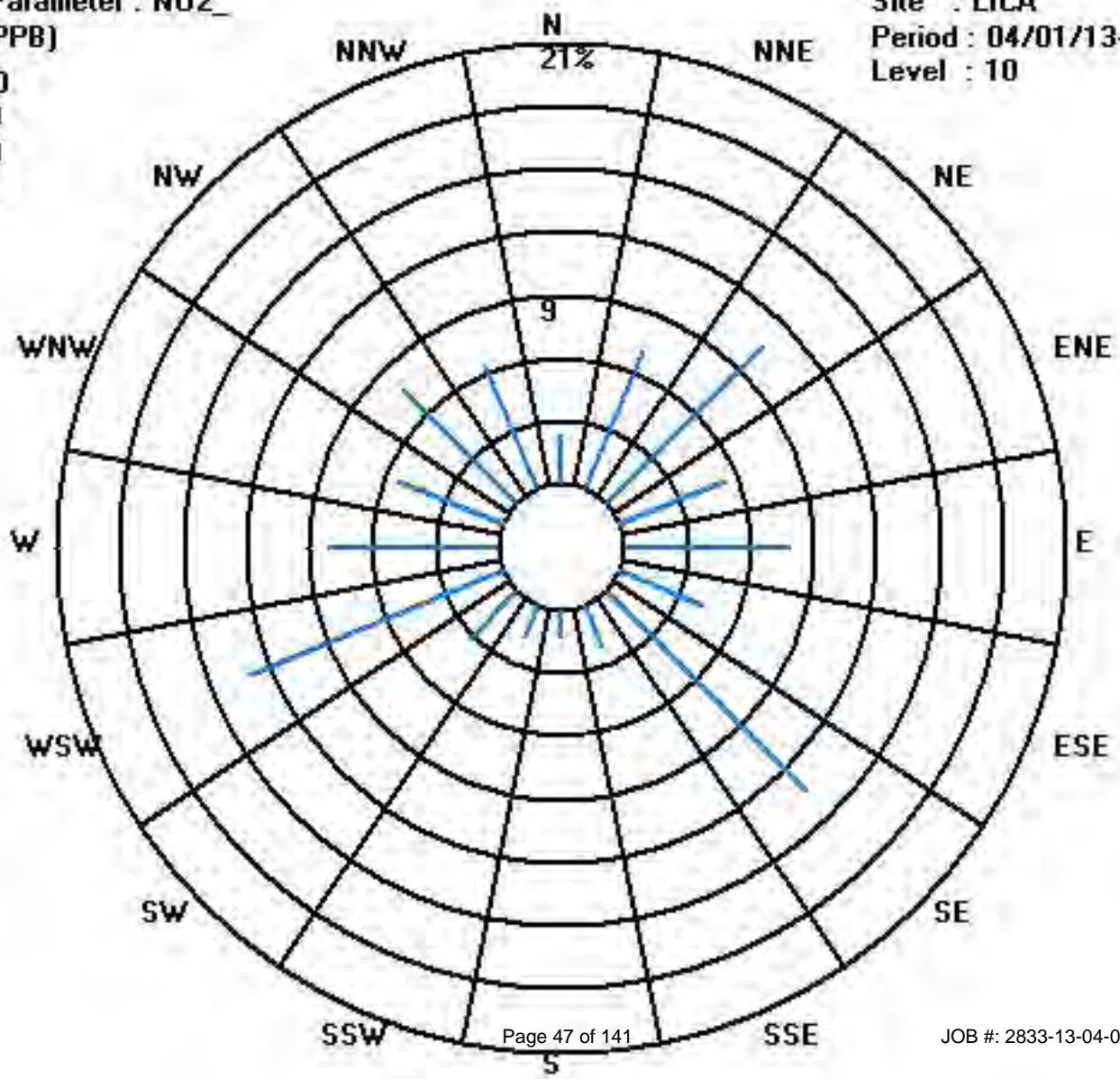
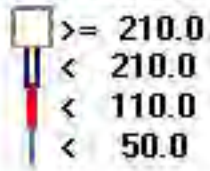
Total # Operational Hours : 683

Distribution By Samples

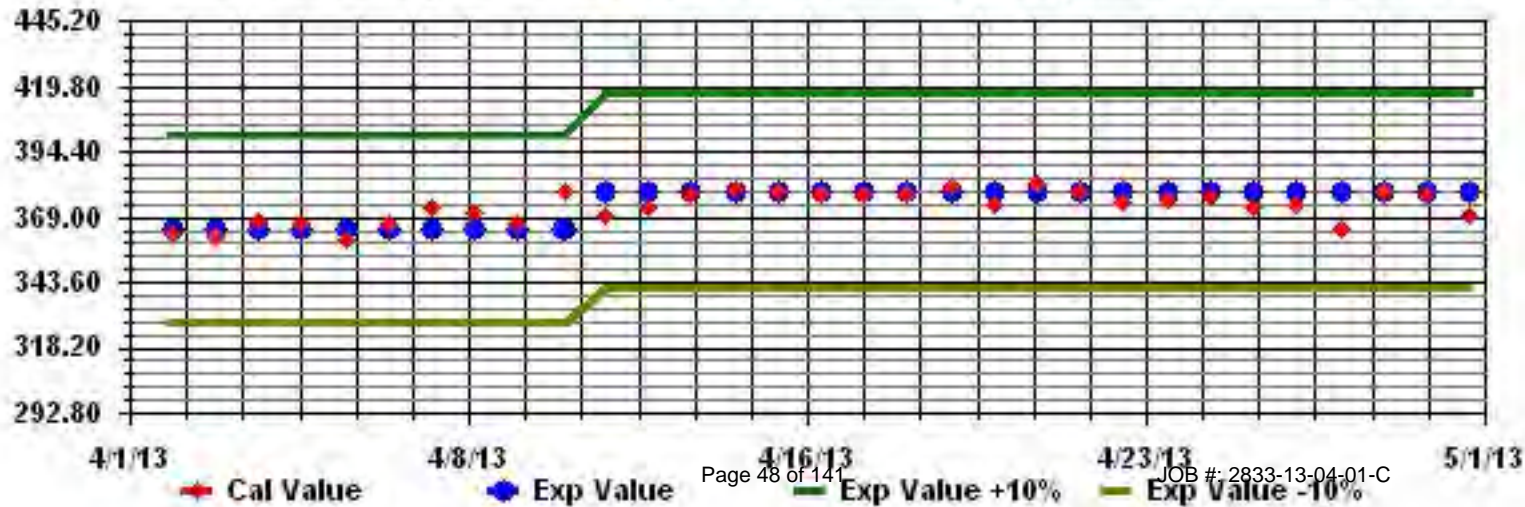
	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50.0	16	49	72	37	54	29	92	15	9	11	22	89	55	37	52	44	683
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	16	49	72	37	54	29	92	15	9	11	22	89	55	37	52	44	

Calm : .00 %

Total # Operational Hours : 683



Calibration Graph for Site: LICA Parameter: NO2_ Sequence: NO2 Phase: SPAll



Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 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 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	0.3	0.1	0	0.1	0	0.1	0.2	0.1	0.5	0.6	1.2	0.7	0.6	0.5	0.3	0.5	0.2	0	0	0.3	0	0	S	0	1.2	0.3	24	
2	0	0	0	0	1.1	0	0	0	0	0.2	0.3	0.2	0.3	0.1	0	0	0	0	0	0	0	0	S	0	0.1	1.1	0.1	24
3	0.1	0	0.1	0	0.1	0.1	0	0	0.1	0.4	0.4	0	0.6	0.3	0.2	1.2	0.3	0	0	0	S	0	0	0.1	1.2	0.2	24	
4	0	0.2	0	0	0.4	0.6	1.1	1	0.6	0.7	0.6	0.3	0.4	0.1	0	0	0	0	S	0	0	0	0	0	1.1	0.3	24	
5	0	0	0	0	0.2	0.2	0.4	0.3	0.5	0.7	0.5	0.4	0.2	0.4	0.7	0.4	0.7	0	S	0	0	0	0	0	0	0.7	0.2	24
6	0	0	0	0.1	0	0.1	0.2	0.2	0.4	0.6	0.5	0.5	0.3	0.4	0.3	0.4	0.5	S	0.2	0.1	0.1	0.1	0.1	0	0.1	0.6	0.2	24
7	0.1	0	0	0	0	0	0.2	0.5	0.4	0.1	0.1	0	0.2	0.4	0.2	0.1	S	0.1	0.1	0.2	0.3	0.2	0	0	0.5	0.1	24	
8	0	0	0.1	0.4	0.8	0.7	1.9	1.7	1.4	0.6	0.4	0.2	0.8	0.8	1.1	S	0.8	0.5	0.1	0	0	0	0.1	0.2	1.9	0.5	24	
9	0.2	0	0.2	0	0	0	1.6	1.5	1.3	1.2	0.5	0.5	0.6	0.6	S	0.1	0.2	0	0	0	0	0	0	0	1.6	0.4	24	
10	0	0	0	0	0.1	0	0.1	0.2	0.3	C	C	C	C	C	C	S	0	0	0	0	0.1	0.1	0.1	0	0.3	0.1	24	
11	0	0	0	0	0	0	0.1	0.5	0.6	0.5	0.6	0.9	S	1.9	1.5	0.7	0.9	0.3	0.2	0	0.1	0.1	0.1	0.2	1.9	0.4	24	
12	0.2	0	0	0	0	0	0	0.1	0.5	0.9	0.2	S	0.3	0.2	0.4	0.7	0.6	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.9	0.2	24	
13	0	0.1	0.1	0.1	0.2	0.2	0.2	0.4	0.5	0.4	S	0.4	0.3	0.5	0.3	0.3	0.3	0.2	0.3	0.2	0	0	0	0	0.5	0.2	24	
14	0	0.6	0.2	0.1	0.3	0.7	1.4	1.1	0.5	S	0.2	0.4	0	0.2	0.1	0	0.2	0	0.1	0	0	0	0	0	1.4	0.3	24	
15	0	0.1	0.3	0.5	0.1	0.6	1.4	0.8	S	0.4	0.3	0.3	0	0.1	0.1	0	0	0.1	0	0	0	0	0	0	1.4	0.2	24	
16	0	0	0	0.2	0.4	0.5	1	S	0.5	0.6	0.4	0.4	0.3	0.1	0.7	0.2	0.2	0.4	0.1	0	0	0	0	0.2	1	0.3	24	
17	0.1	0.1	0.2	0.4	0	2.8	S	5.1	1.9	1.6	0.9	0.2	0.2	0.3	0.2	0.3	0.2	0	0	0	0	0	0	0	5.1	0.6	24	
18	0	0	0	0	0	S	0.3	0.3	0.5	0.6	0.6	0.4	0.2	0.1	0.2	0.1	0.3	0	0.1	0.3	0.2	0	0	0.4	0.6	0.2	24	
19	0.4	1.2	1.2	2.4	S	0.9	0.4	0.3	0.8	0.3	0.1	0.1	0.1	0	0.1	0	0.1	0	0	0.1	0.2	0	0	0	2.4	0.4	24	
20	0	0	0	S	0	0	0	0.2	0.4	0.9	0.8	0.1	0	0.2	0.2	0.4	0	0	0	0	0	0	0	0	0.9	0.1	24	
21	0	0	S	0	0	0.1	0.5	0.7	0.8	0.9	0.7	0.5	0.5	0.5	0.4	0.1	0	0	0	0	0	0	0	0	0.9	0.2	24	
22	0.1	S	0.1	0	0	0.3	0.8	1.6	1.8	1.8	1.3	1	0.5	0.4	0.3	0.2	0.1	0.2	0	0.1	0.3	0.3	0	0	1.8	0.5	24	
23	S	0	0	0.6	0.9	1.1	2.9	6	3.6	0.3	0.1	0.1	0	0	0	0.2	0	0	0	0	0	0	0	0	6	0.7	24	
24	0	0	0.1	0.3	0.2	0.1	0.9	0.7	0.5	0.5	5	0.4	0.2	0.1	0.2	0	0.1	0	0	0	0	1.6	0.6	S	0	5	0.5	24
25	0	0	0	0	16.1	0.8	0.5	0.9	1.3	1	0.8	0.5	0.4	0.2	0.1	0.1	0	0	0	0	0	0	0	0	16.1	1.0	24	
26	0	0	0	0.2	0	1.6	3.7	1	1.9	1.3	0.9	0.4	0	0	0	0	0	0	0	0	0	0	0	0	3.7	0.5	24	
27	0	0	0	0	0	0	0	0.2	0.3	0	0	0.1	0	0	0	0	0	0	0	0	S	0	0	0	0.3	0.0	24	
28	0	0	0	0	0	0	0.1	0	1.7	0.8	0.4	1.1	0.2	0.1	0	0	0	0	S	0.4	0.5	0.2	0	0	1.7	0.2	24	
29	0	0.1	0.1	0.1	0.2	0.4	0.5	1	0.5	0.6	0.4	0.2	0.1	0.1	0.4	0.3	0.3	S	0.2	0.2	0.6	0.2	0.2	0.1	1	0.3	24	
30	0	0.1	0.1	0.1	0.2	0.5	0.3	0.5	0.7	0.3	0.4	0.5	0.6	0.5	0.6	0.7	S	0.2	0	0	0	0	0	0	0.7	0.3	24	
HOURLY MAX	0	1	1	2	16	3	4	6	4	2	5	1	1	2	2	1	1	1	0	0	2	1	0	0				
HOURLY AVG	0.1	0.1	0.1	0.2	0.7	0.4	0.7	0.9	0.9	0.7	0.7	0.4	0.3	0.3	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.1				

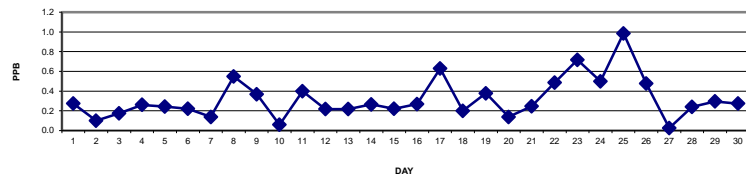
STATUS FLAG CODES

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

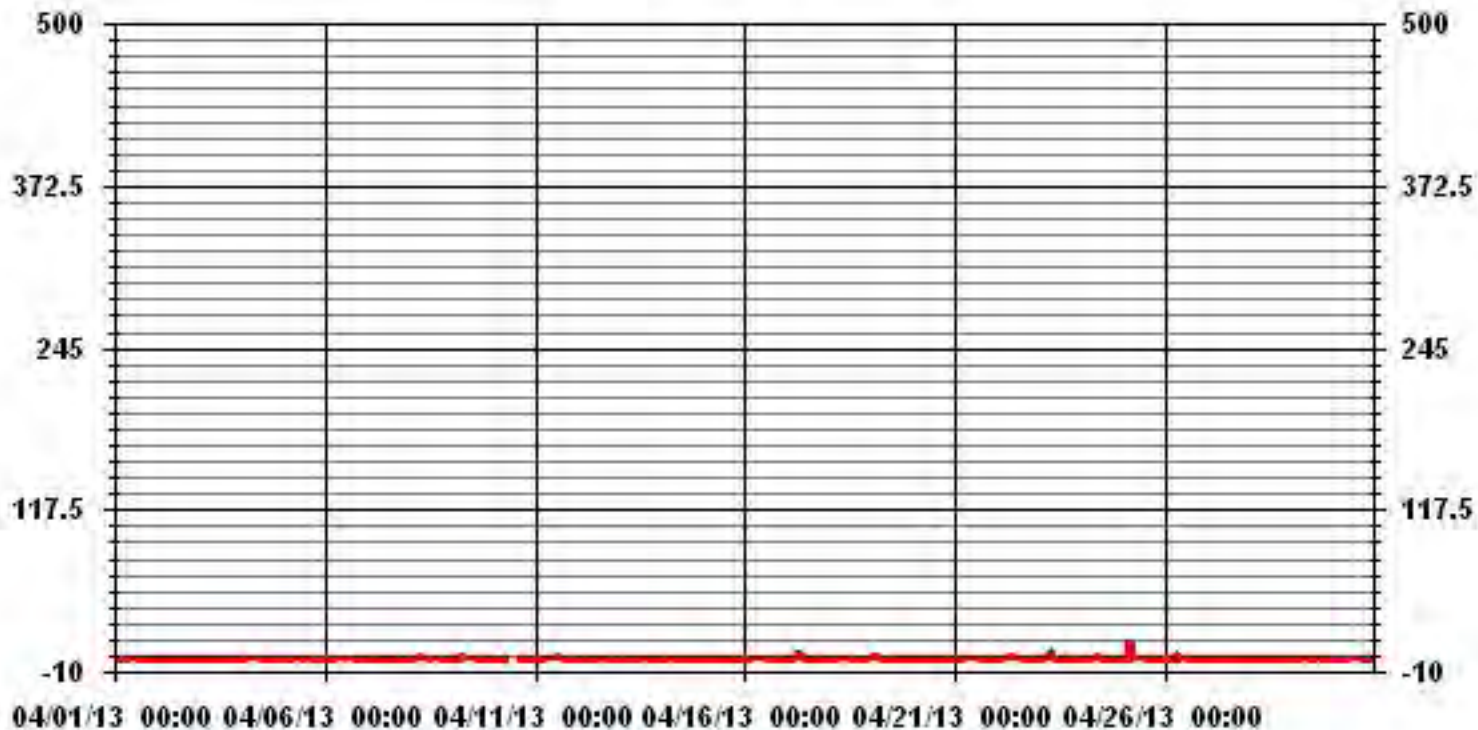
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	403
MAXIMUM 1-HR AVERAGE:	16.1 PPB @ HOUR(S) 4 ON DAY(S) 25
MAXIMUM 24-HR AVERAGE:	1.0 PPB ON DAY(S) 25
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	6 HRS
STANDARD DEVIATION:	0.82
OPERATIONAL TIME:	720 HRS
AMD OPERATION UPTIME:	100.0 %
MONTHLY AVERAGE:	0.32 PPB

24 HOUR AVERAGES FOR APRIL 2013



01 Hour Averages



— LICA NO PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 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	3	2.5	1.5	1.5	1	2.1	0.5	0.5	1	1.5	2	1.5	1	2.5	3	3	2	0.5	0	4.5	0.9	0.5	S	0	4.5	1.6	24	
2	0.5	0	0	0	12.4	1	1	0.5	0.5	1	0.5	1	1	1	0.5	0	1	0	0	0	0	S	1	0.5	12.4	1.0	24	
3	1.5	1	1	1	1.5	0.9	0.5	0.5	0.5	0.5	0.5	0.5	3.5	1.5	0.5	3.5	4	0	0	0	S	1	0	1	4	1.1	24	
4	0.5	1.5	0.9	0.5	3.5	3.5	2	2.5	1.5	2	3	1	4.5	6	1.5	2	0.9	0	2	S	0	0.5	0	1	6	1.8	24	
5	0.5	0.5	0.5	1	1	1	5.4	1	3	2	1.5	1	0.5	1	6.9	1.5	6.9	0.5	S	0.5	0.5	0	0	0.5	6.9	1.6	24	
6	0.5	0.5	0.5	1	0.5	1	0.5	0.5	1.5	1.5	1	1	1	5.5	1	1	2.5	S	2	1.5	1	2	1	0.5	5.5	1.3	24	
7	1	1	0.5	0.5	0	0.9	0.5	5.5	1	0.5	2.5	0.9	0.9	2.5	1	0.5	S	0.5	2	0.5	0.9	1	0.5	0.5	5.5	1.1	24	
8	0	1	4	1.5	6.5	6.5	4	3.5	3	2	1.5	1.5	1.5	3.5	S	7.5	1	0.5	0.5	0.9	0.5	1	1	7.5	2.4	24		
9	1.5	0.5	1	0.9	0.5	2	4	3	2.6	3.5	1	1	1	1.5	S	1	2.5	0.5	1	1.5	0.5	0	0.1	0	4	1.4	24	
10	0	0	0.5	0.5	3	3	0.5	1	C	C	C	C	C	C	C	S	0.5	0.5	1.5	0.5	1	1.5	1	0.5	3	1.0	24	
11	0.5	0.5	0.5	1	0.5	0.5	1	2	1.5	1.5	1.5	2.5	S	3.5	3.5	1.5	1.5	1	0.5	0.5	5	1	1	1.5	5	1.5	24	
12	3	0.5	0	0.5	0.5	0	0	0.5	2.5	3.5	1	S	4	3	1	4.5	2.5	2	0.5	1	1	0.5	0.5	1	4.5	1.5	24	
13	0.5	1.5	1	1	1.5	2	1	1.5	1	1	S	1	2	2	2	1	2.5	1	2.5	2	1	0.5	0.5	0.5	2.5	1.3	24	
14	1	2.5	1	1.5	1.5	2	3	2	1	S	1	7.5	0.5	2.5	1	1.5	2.5	1	2.5	0.5	1	0.5	0	1.5	7.5	1.7	24	
15	0	1.5	2.5	3	3	4	6.9	1.5	S	1	3.5	5.4	0.5	0.5	0.5	1	2	1	0.5	0.5	0.5	1.5	0.5	1	6.9	1.8	24	
16	0.5	0.5	0.5	1	4	2	2.5	S	1.5	1.5	1	2.5	2.5	1	8	1	1	1.5	1	0.5	0	0	0	2	8	1.6	24	
17	1.5	2	4	4	0.5	10	S	11	3.5	3	2.5	0.5	1	2	1	1	0.5	0.5	0	0	1	0.5	1	0	11	2.2	24	
18	0.5	0.5	0.5	0.5	1	S	2.5	0.5	1.5	2	2	1	0.5	0.5	1	1	4	0.5	1.5	8.5	2.5	0.5	0	1.5	8.5	1.5	24	
19	2.5	3	9.5	4.5	S	5.5	2	0.5	13.5	4.5	2.5	1	2	0.7	1.5	0.5	1	1	1	4	3	0	1.5	1	13.5	2.9	24	
20	0	0	0.5	S	0.5	0.5	0.5	1	1.5	2	2	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0	0	0	0.5	0.3	0	2	0.6	24	
21	0	0.4	S	0.5	0	0.5	1	1	1	1	1	1	0.5	0.5	0.5	0.5	0.5	0	0.5	1	1	1	0.5	0.5	1	0.6	24	
22	1	S	1	0.5	0.5	1	1.5	3.5	4	3	2	2.5	1	1.5	0.5	0.5	0.5	0.5	1	0.5	2	2	1.5	0.7	0.5	4	1.4	24
23	S	0	1	3	4.5	3.5	5.5	8	8	1	1.5	0.5	0.5	0	0.5	1.5	0.5	0	0.5	0	0	0	0	0	S	8	1.8	24
24	0.5	0	1	2	1.5	1.5	1.5	1	2.5	1.5	28	0.5	0.5	1	1	0.5	0.5	0.5	0	0	11	5.5	S	0	28	2.7	24	
25	0.5	0	1	0.5	207.5	7.5	1.5	1.5	2.5	1.5	1.5	0.5	1	1	1.5	1	0	0.5	0.5	0	0	S	0	0	207.5	10.1	24	
26	0	1	1	1.5	0.5	11.9	22	2	18.5	2.5	1.5	1	0.5	0.5	0.5	0	0	0	0.5	0.5	S	0	0.5	0	22	2.9	24	
27	0	0.5	0.5	0.5	0	0.5	0.5	2.5	1.5	0.5	0	2.5	0.5	0.5	0.5	0.5	0	0	0	S	0	0	0	0.5	2.5	0.5	24	
28	0	0	0	0	0	0	0.5	0.5	9.5	5.4	5	8	1	0.9	0.5	0.5	0.5	0.5	S	1.5	2.5	1	0.5	1	9.5	1.7	24	
29	0.5	0.5	1	0.5	1	1.5	3	2.5	1	3.5	1	1.5	0.5	0.5	1.5	1	3.5	S	0.5	1	13.4	1	1.5	1	13.4	1.9	24	
30	0.9	2	1	1	1	3	0.5	2.5	6.5	2	1	1	1.5	1	1	1	S	0.5	0.5	0.5	0	0.5	0	0	6.5	1.3	24	
HOURLY MAX	3	3	10	5	208	12	22	11	19	5	28	8	5	6	8	5	8	2	3	9	13	6	2	2				
HOURLY AVG	0.8	0.9	1.3	1.2	8.9	2.7	2.6	2.2	3.5	2.0	2.6	1.8	1.3	1.6	1.6	1.2	1.9	0.6	0.8	1.2	1.8	0.8	0.5	0.7				

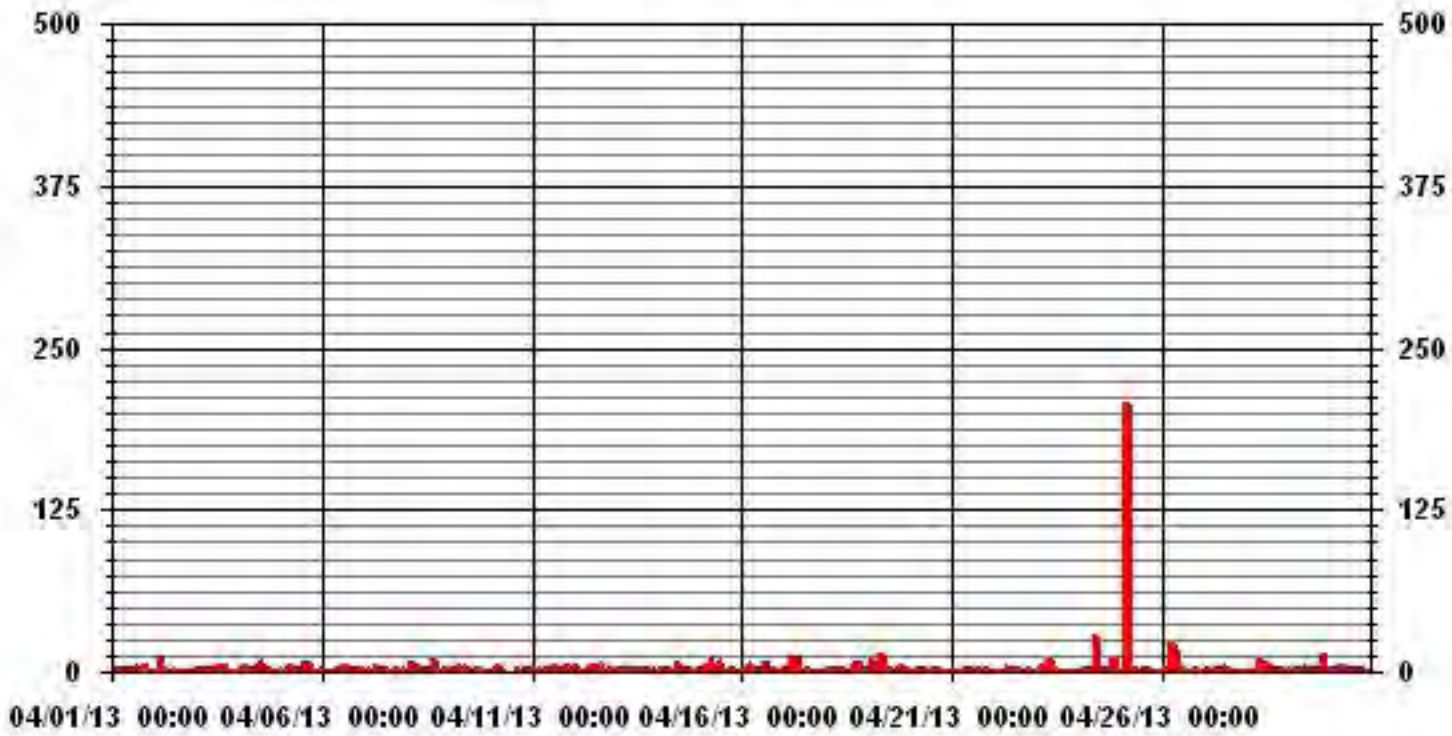
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	594					
MAXIMUM INSTANTANEOUS VALUE:	207.5	PPB	@ HOUR(S)	4	ON DAY(S)	25
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION:	8.22					

01 Hour Averages



LICA
NO_ / WD Joint Frequency Distribution (Percent)

April 2013

Distribution By % Of Samples

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

Wind Parameter : WD
Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50.0	2.34	7.17	10.54	5.41	7.90	4.24	13.46	2.19	1.31	1.61	3.22	13.03	8.05	5.41	7.61	6.44	100.00
< 110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.34	7.17	10.54	5.41	7.90	4.24	13.46	2.19	1.31	1.61	3.22	13.03	8.05	5.41	7.61	6.44	

Calm : .00 %

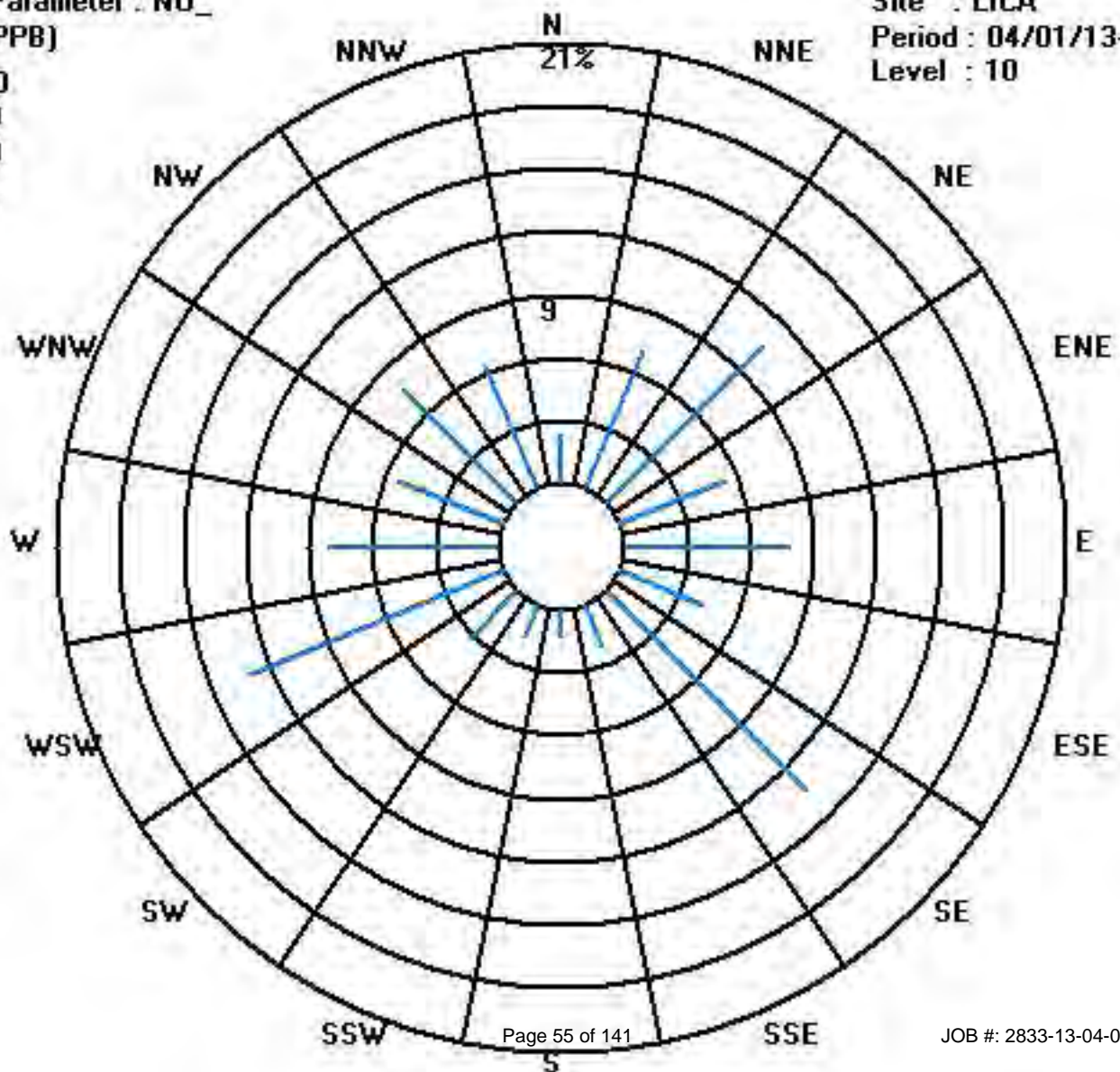
Total # Operational Hours : 683

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50.0	16	49	72	37	54	29	92	15	9	11	22	89	55	37	52	44	683
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	16	49	72	37	54	29	92	15	9	11	22	89	55	37	52	44	

Calm : .00 %

Total # Operational Hours : 683



Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

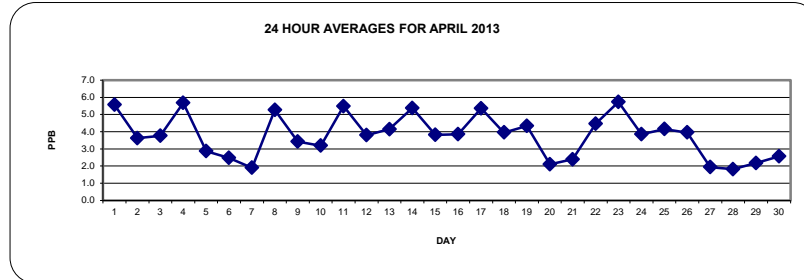
APRIL 2013

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	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		7.2	8.2	4	7.5	5.9	8	7.2	3.3	3.3	3.4	5	3.7	3.5	3.4	2.9	3.6	3.4	2.7	2.8	9.9	15.9	10.4	S	2.9	15.9	5.6	24
2		3.4	4.4	3.5	3.2	5.2	3.2	2.9	2.5	2.6	2.9	3.1	3.1	3.3	3	2.9	3.3	3.5	3.5	3.6	3.8	4.3	S	6.3	5.8	6.3	3.6	24
3		6.3	7.1	7.4	7.4	4.9	4.1	3	1.8	1.7	1.9	2.1	1.5	2.5	1.9	1.9	4.3	2.3	1.5	1.9	2	S	4.4	5.2	9.4	9.4	3.8	24
4		10.7	16.7	15.7	13.4	9.3	14.9	10.7	6.7	3.8	3.4	3.1	2.2	2.4	1.6	1.5	1.6	1.6	1.5	1.8	S	2	1.7	2.2	2.1	16.7	5.7	24
5		1.8	2.2	2.4	3.2	4.6	4.7	4.6	3.6	3.8	3.5	2.9	2.8	2.3	3.1	3.4	2.9	3.4	2.7	S	1.9	1.8	1.6	1.4	1.3	4.7	2.9	24
6		1.2	1.3	1.3	1.4	1.8	1.8	2.1	2	2	2.2	2	2.3	1.9	1.9	1.9	2.6	2.9	S	4.2	5.2	5.1	4.6	3.4	1.6	5.2	2.5	24
7		1.5	1.5	1.5	1.3	1.4	1.8	2.1	2.2	2	1	0.9	0.7	1.1	1.4	1.3	1.1	S	1.5	1.9	2.6	2.9	4.7	2.3	5	5	1.9	24
8		6.5	5.7	4.2	14.5	13.8	13.4	9.6	6.1	4.1	2	1.4	1	2.4	2.5	3.7	S	3.3	3.7	3.1	3.6	4.1	4.6	4.1	3.6	14.5	5.3	24
9		4.2	3.7	4	3.6	4.2	4.6	10.1	6.8	4.9	4.6	2.4	2.4	3	3.2	S	1.9	2	1.4	1.3	1.9	2.3	2.1	2	2	10.1	3.4	24
10		1.8	1.7	1.8	2.1	2.3	2.8	3.5	3.1	2.9	C	C	C	C	C	C	S	2.6	2.6	2.8	3.1	5	5.7	5.7	4.7	5.7	3.2	24
11		4.2	3.6	3.3	2.8	3.6	3.8	4.3	5.3	6.6	5.7	7	5.6	S	9	8.7	6.8	7.4	6.6	6.3	4.8	5.5	4.7	5	5.6	9	5.5	24
12		6.7	4.6	4.8	2.4	2.1	2.3	2.5	2.6	3.6	8.9	4.1	S	3.7	2.1	2.5	3.4	3.7	3.8	4.4	4.4	3.4	4.4	3.4	3.7	8.9	3.8	24
13		3.3	3.5	3.8	4.1	4.2	3.3	3.2	3.3	4	3.1	S	3.3	2.8	2.9	3	2.8	3.3	3.4	3.2	5.3	4.1	6.8	10.8	7.8	10.8	4.1	24
14		13.3	15.2	9.7	7.7	9	11	10.5	5.9	2.4	S	1.6	1.4	1.2	1.4	1.2	1.1	1.4	1.5	3.2	3.8	4.7	5.2	4.5	6.8	15.2	5.4	24
15		7.2	9.5	7.5	7.3	6	10.5	9.7	3.8	S	1.7	1.6	1.3	1.1	1	1.2	1.1	1.1	1.1	1.7	1.8	2.1	2.5	2.6	2.7	10.5	3.8	24
16		2.1	2.3	1.9	3.1	6.6	8.3	8.7	S	2.6	2.5	1.5	1.6	1.4	1	2	1.4	1.4	2.3	3.2	2.8	2.8	8	10.5	10.6	10.6	3.9	24
17		12.5	12.4	9.2	11.9	7.2	13.9	S	13.8	6.9	6.1	3.6	1.5	1.8	1.9	1.7	2	1.9	1.8	2	1.9	2	2.3	2.6	2.3	13.9	5.4	24
18		2.6	2.2	2.1	2.9	2.5	S	4.4	4	3.5	4	3.7	2.6	1.9	1.7	2	1.9	2.2	1.5	2.1	3.4	6.8	8.3	9.9	14.7	4.0	24	
19		14.6	15.1	13.5	15.8	S	9.4	2.9	2.4	2.9	1.9	1.6	1.2	1.1	1.2	1.3	1.3	1.8	1.4	1.4	1.7	2.5	1.6	1.6	1.6	15.8	4.3	24
20		1.6	1.6	1.7	S	2.1	2.3	2.4	3.1	3.9	5.1	4	2.1	1.7	2	3	1.8	1.5	1.3	1	1	1.1	1.1	0.9	5.1	2.1	24	
21		1.7	1.8	S	1.5	1.7	3.6	4.5	3	2.6	2.8	2.3	2.2	2	2	1.7	1.4	1.3	1.3	1.3	1.3	3.2	4	2.9	4.9	4.9	2.4	24
22		6.9	S	5.2	4	4	5.6	6.3	6.8	6.6	6.2	4.7	4	2.7	2.2	2.1	2.1	2.2	2.9	3.5	3.1	4.8	4.5	6.8	5.5	6.9	4.5	24
23		S	4.4	6.2	17.1	22.5	11.7	12.3	20.7	11.5	2	1.6	1.4	1.3	1.1	1.4	1.9	1.1	1.2	1.1	1.1	1.6	1.3	1.5	S	22.5	5.7	24
24		2.6	3.3	4.8	6.6	10.9	5.6	7.7	4	2.5	2.3	10.6	2.2	1.7	1.4	1.6	1.2	1.4	1.5	1.7	1.7	6.5	4.4	S	2.5	10.9	3.9	24
25		2.7	2.9	3.2	3.5	25.1	8.3	5.9	5.6	5.6	4.5	3.5	2.3	2	1.7	1.5	1.3	1.1	1.2	1.4	2.9	3.5	S	3.5	2.4	25.1	4.2	24
26		2.7	3.5	4	4.4	4.1	9.1	11.9	6.2	6.2	5.2	3.6	2.2	1	1.1	1.1	0.8	0.9	1	2.1	7.9	S	5	3.8	3.1	11.9	4.0	24
27		2.9	2.2	2.5	2	3.4	3.2	2.4	2.5	2.6	1.5	1.1	1.1	1.4	1.2	1.3	1.4	2	1.5	1.2	S	2.3	1.7	1.7	1.3	3.4	1.9	24
28		0.8	0.7	0.8	1	1.2	1.1	1.1	0.9	3.4	2.1	1.4	2.8	1.3	1.2	1.1	0.9	1.1	1.1	S	5	5	3.9	2.6	1.3	5	1.8	24
29		1.3	1.3	1.6	1.8	2.6	3.1	2.7	3.6	1.9	2	1.6	1.2	1	1.1	1.5	1.2	1.2	S	1.8	2	3.5	5.7	3	3.1	5.7	2.2	24
30		3.3	2	1.6	1.9	2.7	3.2	2.5	2.4	2.2	1.8	2.2	2.5	2.2	2.3	2.9	3.6	S	3.3	3.4	3.2	3	2.3	2.1	2.5	3.6	2.6	24
HOURLY MAX		15	17	16	17	25	15	12	21	12	9	11	6	4	9	9	7	7	7	6	10	16	10	11	15			
HOURLY AVG		4.7	5.0	4.6	5.5	6.0	6.2	5.6	4.8	3.9	3.4	3.0	2.2	2.0	2.1	2.2	2.2	2.3	2.2	2.5	3.3	4.0	4.2	4.0	4.2			

STATUS FLAG CODES

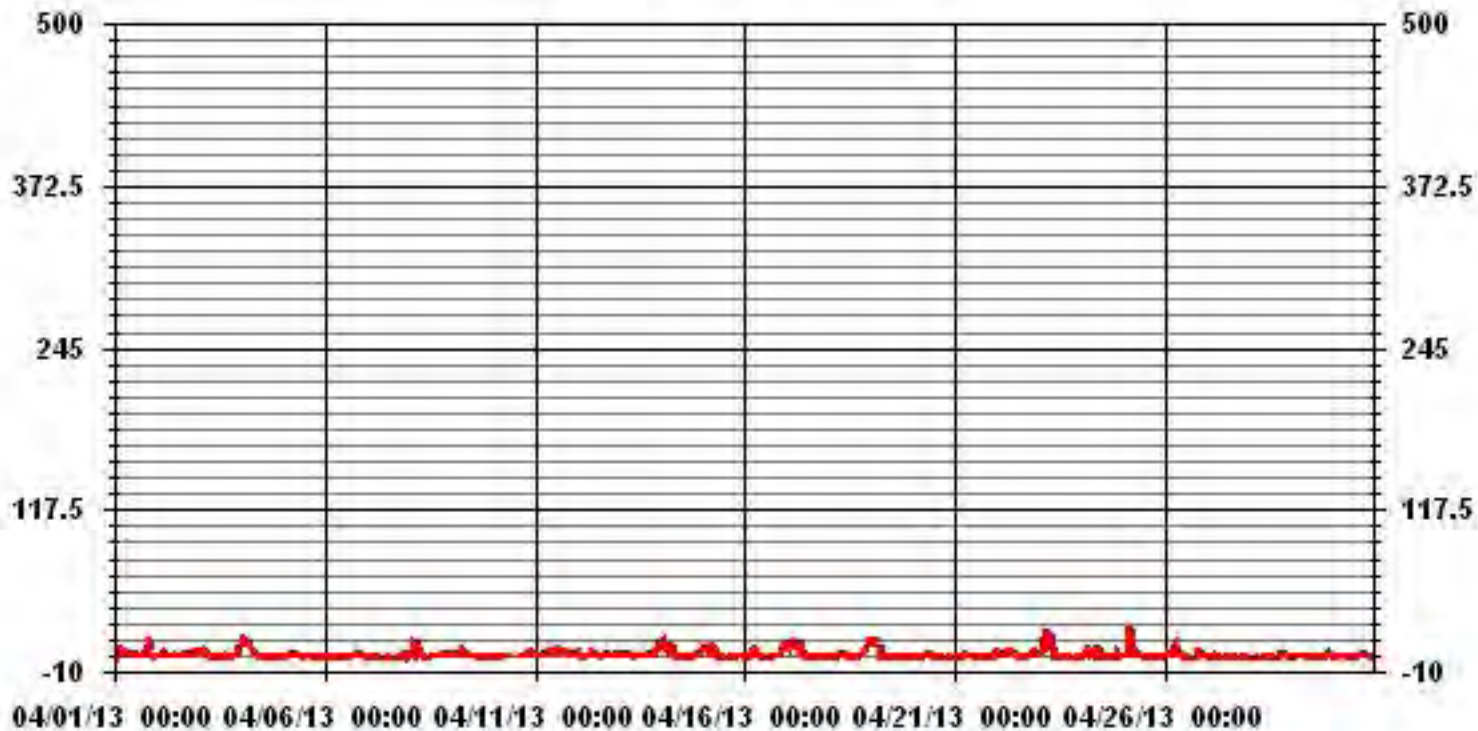
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	683
MAXIMUM 1-HR AVERAGE:	25.1 PPB @ HOUR(S) 4 ON DAY(S) 25
MAXIMUM 24-HR AVERAGE:	5.7 PPB ON DAY(S) 4, 23
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	6 HRS
STANDARD DEVIATION:	3.19
OPERATIONAL TIME:	720 HRS
AMD OPERATION UPTIME:	100.0 %
MONTHLY AVERAGE:	3.77 PPB

01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 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	17.9	11	7	10	8.9	11	10.5	4	5.5	4.5	6.5	5.5	4.5	6	5	9.5	14.4	6	3.5	25.5	24.4	16.5	S	4	25.5	9.6	24
2	4.5	6	4	4	26.9	6	5.5	3.5	3.1	4	3.5	5.5	4.5	5	4.5	3.5	5	4.5	4	4	5	S	10.5	7.9	26.9	5.9	24
3	8.5	8.9	10	12	8	6	4.5	2	2	2.5	3	2	8	3.5	2.5	10.5	10	2	2.5	3.5	S	11.5	9	18.5	18.5	6.6	24
4	16.9	24	20.9	19.5	19.5	24.4	13.9	13.5	7	6	6.5	3	13.4	8.5	2	4	4	2.5	6.5	S	2.5	2.5	3	3	24.4	9.9	24
5	3.5	4	4	5	7.4	8	13	5	7	5.5	5	4	3.5	4.5	7	5.5	13.9	3.5	S	4.6	2.6	2.1	1.6	2.1	13.9	5.3	24
6	2	2.1	1.5	3	2.6	3.1	3.1	2.6	3.1	3.6	4.1	3.6	3.6	4.6	2.6	4.1	5.6	S	8.9	8	9.5	7	6	3	9.5	4.2	24
7	3.5	3	2.5	2.5	2	2.9	3.5	11.5	4.5	2	2	1.4	4	2.5	2.5	2	S	2	7	4	4.5	8.5	6.5	7.9	11.5	4.0	24
8	10.5	9.5	14.4	25.5	33.4	33	14.9	12	7	3.5	2.5	2.5	3.5	3.5	9.4	S	10	4.5	4	5.5	5.5	5.5	6	5	33.4	10.0	24
9	7.5	4.5	6	5	6	10	17.5	10	7	11	5	3	4	4.5	S	5.5	8.5	3.5	5.5	4	4.5	3	2.5	2.5	17.5	6.1	24
10	2	2.5	2.5	4.5	8.5	8.5	6.5	7.9	C	C	C	C	C	C	C	S	3.6	4.1	6.1	4.6	7.6	10.1	7.6	6.1	10.1	5.8	24
11	6.1	6	4.6	4.1	4.1	4.6	6.1	6.6	8.1	6.6	8.6	7.1	S	10.6	12.1	7.6	8.6	9.1	8.6	6.6	11.1	7.5	8.1	8.1	12.1	7.4	24
12	12.5	6.1	6.1	5.1	3.1	3.1	3.1	3.6	9.1	11.6	11.1	S	14	6	5.6	12.1	9.1	11.6	6	7.1	5.5	6.1	5.6	5.1	14.0	7.3	24
13	5.1	6.1	5.6	6.1	9.6	9.6	5.1	7.1	13.6	4.6	S	5.1	7.1	4.1	16.6	5.1	6.6	5.5	7.6	13.5	7.1	13	17.1	14.1	17.1	8.5	24
14	18.1	21.1	11.6	11.6	15.6	16.6	18.1	9.6	3.6	S	3.1	5.6	1.6	3.1	2.6	3.6	5.5	3.6	11.6	7.5	8	7.1	5.6	10.1	21.1	8.9	24
15	12.1	16.1	11.1	24.6	13	21.1	24.6	6.5	S	3.1	7.1	3.6	1.6	1.6	2.1	2.6	2.1	4.6	2.6	3.1	4.1	5.5	5.5	7.6	24.6	8.1	24
16	4.1	4.1	3.6	8	15.1	12.1	14.5	S	4.5	4.5	2.5	5.4	8	2	11.5	3	2	5.4	5	6.4	6.4	11.9	12.9	17	17.0	7.4	24
17	17.5	16	20.9	21	9.5	29.5	S	24.1	11.6	10.6	8.6	2.6	4.1	6.6	4.6	4.6	3.6	4.6	2.6	2.1	3.6	4.1	6.1	3.1	29.5	9.6	24
18	3.6	3.1	2.6	4.6	5.1	S	10	5.9	5.5	8.5	6	4	3	2.5	3.5	3.5	9	3.5	8.5	6.5	17	14	13	20.9	20.9	7.1	24
19	20.4	19.9	24.5	20.4	S	26.5	4.1	3.6	23.6	7.6	4.6	2.6	2.1	2.1	3.1	3.1	3.6	2.6	4.6	2.1	10.6	2.1	2.6	3.1	26.5	8.7	24
20	2.1	2.1	2.6	S	5	3	3.5	5	6.5	6.5	6.5	2.5	2.5	2.5	2.5	4	3.5	2	1.5	1	1.5	1.5	1.5	1.5	6.5	3.1	24
21	2	2	S	2	2.5	5.5	6	3.5	3	3.5	2.5	2.5	2.5	2.5	2	1.5	1.5	2	3	5.9	5.9	4.5	6.5	6.5	3.2	24	
22	9.5	S	6.6	6	5.6	7.5	7.6	11.1	12.1	10.1	5.6	7.1	4.6	3.6	2.6	4.1	4.1	6.1	6.6	9.1	9.1	8.6	13.1	7.1	13.1	7.3	24
23	S	8.6	9.1	30.1	34	19	19.5	24.1	22.6	3.6	3.6	2.1	1.6	1.6	3.6	3.6	1.6	1.6	1.6	1.1	2.1	1.6	2.1	S	34.0	9.0	24
24	4	4.5	7	11.5	17.5	10	9	7	6.4	4.5	59.9	3	3	3.5	3	3	2.5	3.5	3	2	18.4	16.5	S	3.6	59.9	9.0	24
25	3.6	4.1	4.6	6.1	263	17.1	9.1	7.1	7.6	5.1	4.6	3.1	3.6	3.1	5.1	2.1	1.6	1.6	3.1	5.1	5.1	S	4	3	263.0	16.2	24
26	7	7.9	6.5	10.5	7.4	26.4	44.4	8.5	12.4	8	5	3.5	2	2	2.5	1	1	1.5	5.5	16	S	7.6	5.6	5.6	44.4	8.6	24
27	4.6	3.6	4.1	2.6	6.1	4.6	3.1	7.5	7.5	2.1	1.6	2.6	3.1	2.1	3.6	2.1	2.6	3.1	1.6	S	3.1	2.1	2.1	1.6	7.5	3.4	24
28	1.1	1.1	1.1	1.1	2.1	1.6	1.6	1.6	13.5	10.1	4.1	12.5	2.6	2.1	2.1	1.6	1.6	1.6	S	8.5	10	6.5	4	2	13.5	4.1	24
29	2	2.5	3	3	4	5.5	6	8	5	8.5	2.5	4	2	2	4	2	6	S	3.1	7.1	16	9.6	6	5.6	16.0	5.1	24
30	6.5	4.1	3.1	3.6	4.1	11.1	4.1	6.6	5.1	6.1	4.1	3.1	3.6	3.1	3.6	4.1	S	3.6	3.6	3.6	3.1	3.1	2.6	3.6	11.1	4.3	24
HOURLY MAX	20	24	25	30	263	33	44	24	24	12	60	13	14	11	17	12	14	12	12	26	24	17	17	21			
HOURLY AVG	7.5	7.4	7.3	9.4	19.0	12.0	10.1	7.9	8.1	6.0	6.8	4.0	4.3	3.8	4.7	4.2	5.4	3.9	4.9	6.3	7.6	7.2	6.2	6.5			

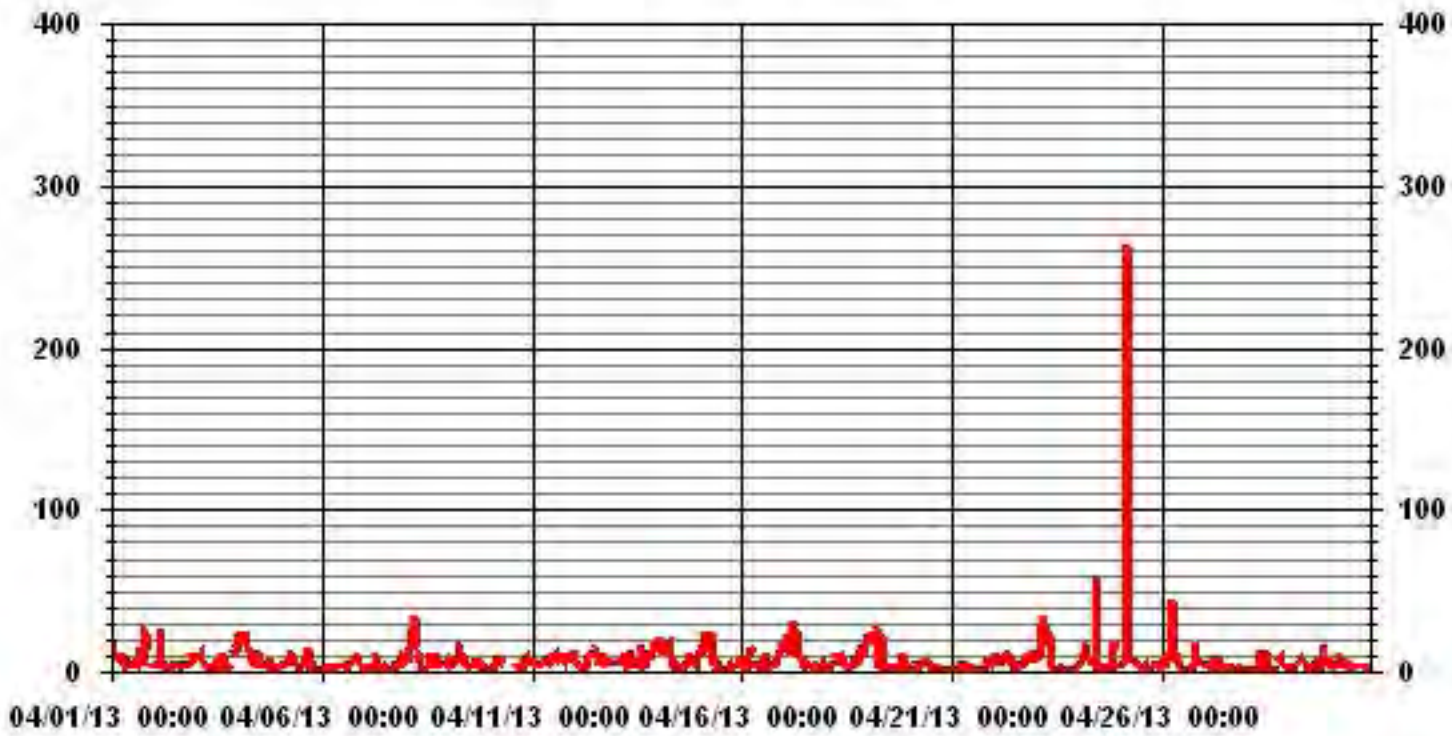
STATUS FLAG CODES

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:	682					
MAXIMUM INSTANTANEOUS VALUE:	263.0	PPB	@ HOUR(S)	4	ON DAY(S)	25
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION:	11.49					

01 Hour Averages



LICA
 NOX_ / WD Joint Frequency Distribution (Percent)

April 2013

Distribution By % Of Samples

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

Wind Parameter : WD
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50.0	2.34	7.17	10.54	5.41	7.90	4.24	13.46	2.19	1.31	1.61	3.22	13.03	8.05	5.41	7.61	6.44	100.00
< 110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.34	7.17	10.54	5.41	7.90	4.24	13.46	2.19	1.31	1.61	3.22	13.03	8.05	5.41	7.61	6.44	

Calm : .00 %

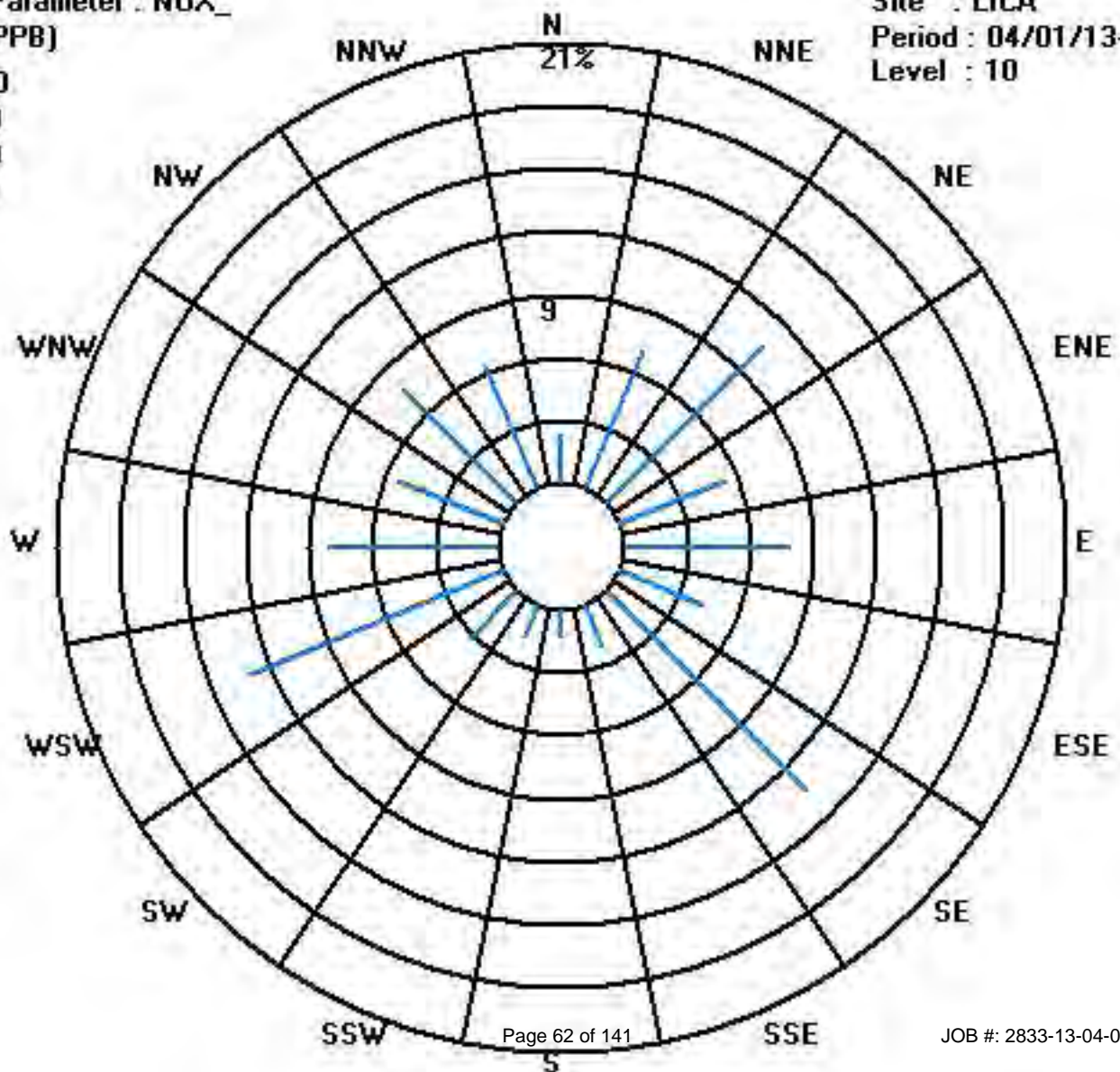
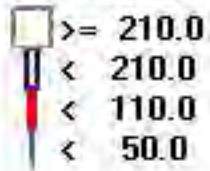
Total # Operational Hours : 683

Distribution By Samples

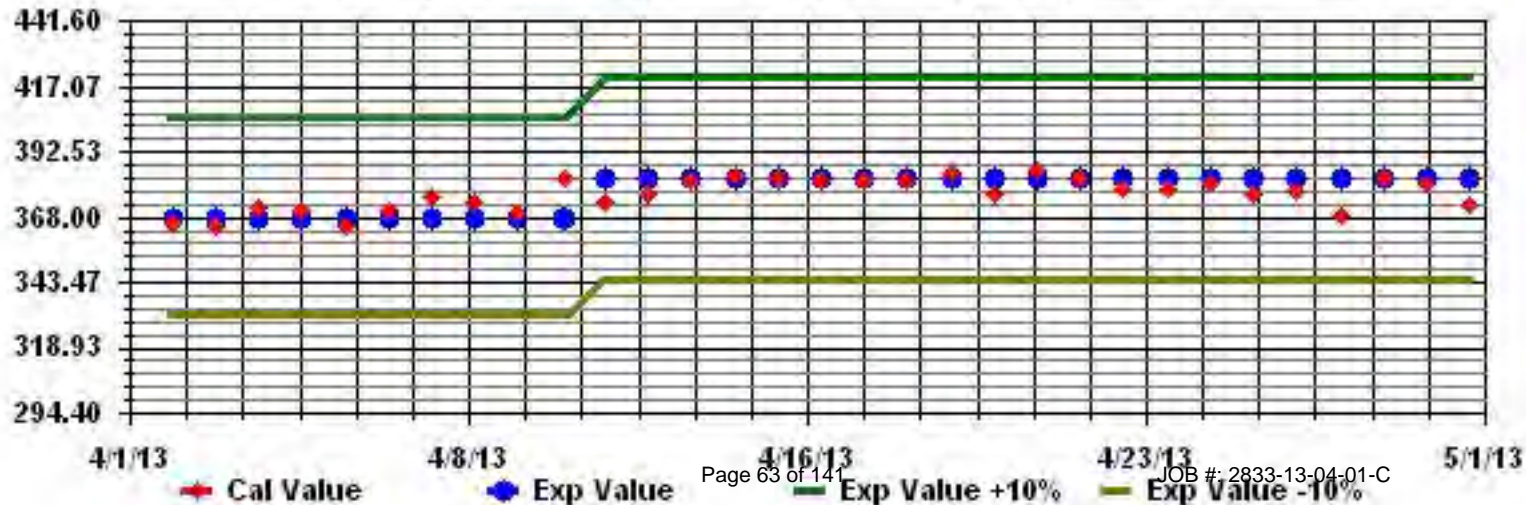
	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50.0	16	49	72	37	54	29	92	15	9	11	22	89	55	37	52	44	683
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	16	49	72	37	54	29	92	15	9	11	22	89	55	37	52	44	

Calm : .00 %

Total # Operational Hours : 683



Calibration Graph for Site: LICA Parameter: IIOX_ Sequence: IIO2 Phase: SPAll



Ozone

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 2013

OZONE (O₃) hourly averages in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	39	32	42	37	37	34	35	44	45	46	46	48	50	51	53	54	54	55	53	38	28	33	S	54	55	43.8	24	
2	56	55	56	55	52	54	54	54	55	55	56	56	57	60	62	64	66	66	65	64	63	S	56	58	66	58.2	24	
3	56	51	47	44	47	46	46	45	44	45	45	46	46	48	49	49	52	52	51	50	S	44	36	28	56	46.4	24	
4	22	17	13	16	28	23	27	43	48	48	49	51	53	54	55	55	56	55	56	S	55	55	54	53	56	42.9	24	
5	52	51	50	49	48	47	47	47	47	47	47	48	48	48	48	48	48	47	S	42	41	39	37	35	52	46.1	24	
6	36	36	36	35	34	34	34	34	34	34	35	36	37	38	38	39	39	S	39	38	39	39	40	40	40	36.7	24	
7	38	38	40	43	44	45	47	49	48	48	49	52	51	50	50	49	S	49	47	45	44	40	39	34	52	45.2	24	
8	27	27	29	19	20	23	26	36	37	36	36	38	40	41	42	S	44	44	46	47	46	46	47	47	47	36.7	24	
9	45	45	45	43	39	31	S	S	44	47	51	52	53	54	S	55	56	56	55	54	55	57	57	55	57	50.0	24	
10	53	52	51	50	50	49	47	46	46	46	47	48	49	S	52	37	42	44	44	42	40	38	37	37	53	45.5	24	
11	34	28	32	34	34	35	35	35	C	C	C	C	S	36	39	42	42	41	42	39	35	36	36	34	42	36.3	24	
12	31	27	21	30	35	31	34	36	38	C	C	C	40	Y	Y	Y	45	43	41	41	42	41	43	44	45	36.8	21	
13	45	44	43	43	44	46	47	49	49	50	S	49	48	49	51	53	51	51	50	46	40	30	23	21	53	44.4	24	
14	15	12	24	32	30	29	30	37	42	S	44	45	45	46	47	47	47	48	46	43	41	39	34	32	48	37.2	24	
15	28	26	33	36	36	32	35	41	S	43	44	45	45	45	45	45	46	45	45	44	44	43	43	43	43	46	40.5	24
16	44	44	45	44	41	38	39	S	45	45	47	49	49	49	49	48	47	46	44	40	36	26	22	18	49	41.5	24	
17	14	13	12	9	13	7	S	27	43	49	52	54	53	53	52	54	56	55	53	55	53	50	49	48	56	40.2	24	
18	48	49	49	49	48	S	44	44	45	45	45	48	51	51	50	50	50	51	50	45	33	27	19	10	51	43.5	24	
19	6	8	6	5	S	29	39	44	48	53	55	54	54	54	54	55	57	56	55	55	55	55	54	54	57	43.7	24	
20	53	51	50	S	48	46	44	41	39	34	31	35	40	41	44	45	45	42	42	48	49	48	49	49	53	44.1	24	
21	46	46	S	47	47	44	43	45	45	46	47	49	50	51	52	51	51	51	51	49	46	37	35	36	52	46.3	24	
22	36	S	38	39	38	37	38	39	42	43	45	48	53	55	56	58	59	58	55	53	46	45	38	35	59	45.8	24	
23	S	27	23	16	8	14	20	25	38	52	54	54	54	53	52	52	53	53	55	54	54	54	54	S	55	41.8	24	
24	51	50	47	44	39	41	43	50	53	52	50	54	57	57	57	57	57	58	58	56	52	53	S	48	58	51.5	24	
25	47	43	37	36	25	25	35	37	39	38	42	46	47	47	47	47	46	46	44	40	38	S	35	37	47	40.2	24	
26	36	29	28	21	15	12	16	25	27	31	36	39	41	47	49	49	49	49	46	35	S	37	35	39	49	34.4	24	
27	29	37	38	36	27	30	38	39	41	48	50	49	49	50	51	49	43	47	48	S	40	42	43	43	51	42.0	24	
28	34	26	28	29	26	24	25	25	26	29	30	33	35	39	41	41	41	41	S	36	36	36	37	35	41	32.2	24	
29	34	36	36	35	34	34	36	37	38	40	40	40	39	39	39	39	41	S	45	44	41	36	37	36	45	38.1	24	
30	32	36	36	33	31	31	30	30	30	30	28	25	24	23	23	23	S	27	27	27	27	29	30	28	36	28.7	24	
HOURLY MAX	56	55	56	55	52	54	54	54	55	55	56	56	57	60	62	64	66	66	65	64	63	57	57	58				
HOURLY AVG	37.5	35.7	35.7	34.8	35.1	33.5	36.9	39.4	42.0	43.7	44.4	46.0	46.8	47.3	48.0	48.4	49.4	49.1	48.3	45.4	43.5	41.3	40.0	39.0				

STATUS FLAG CODES

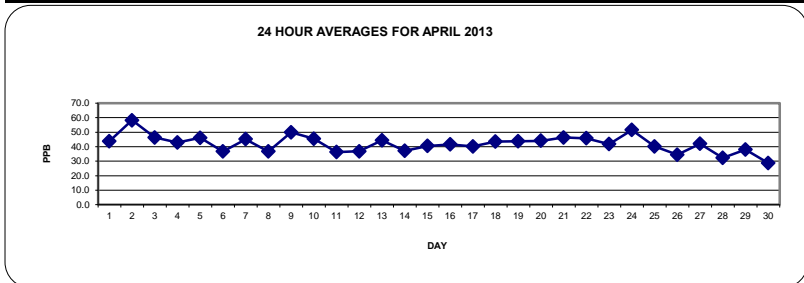
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT:

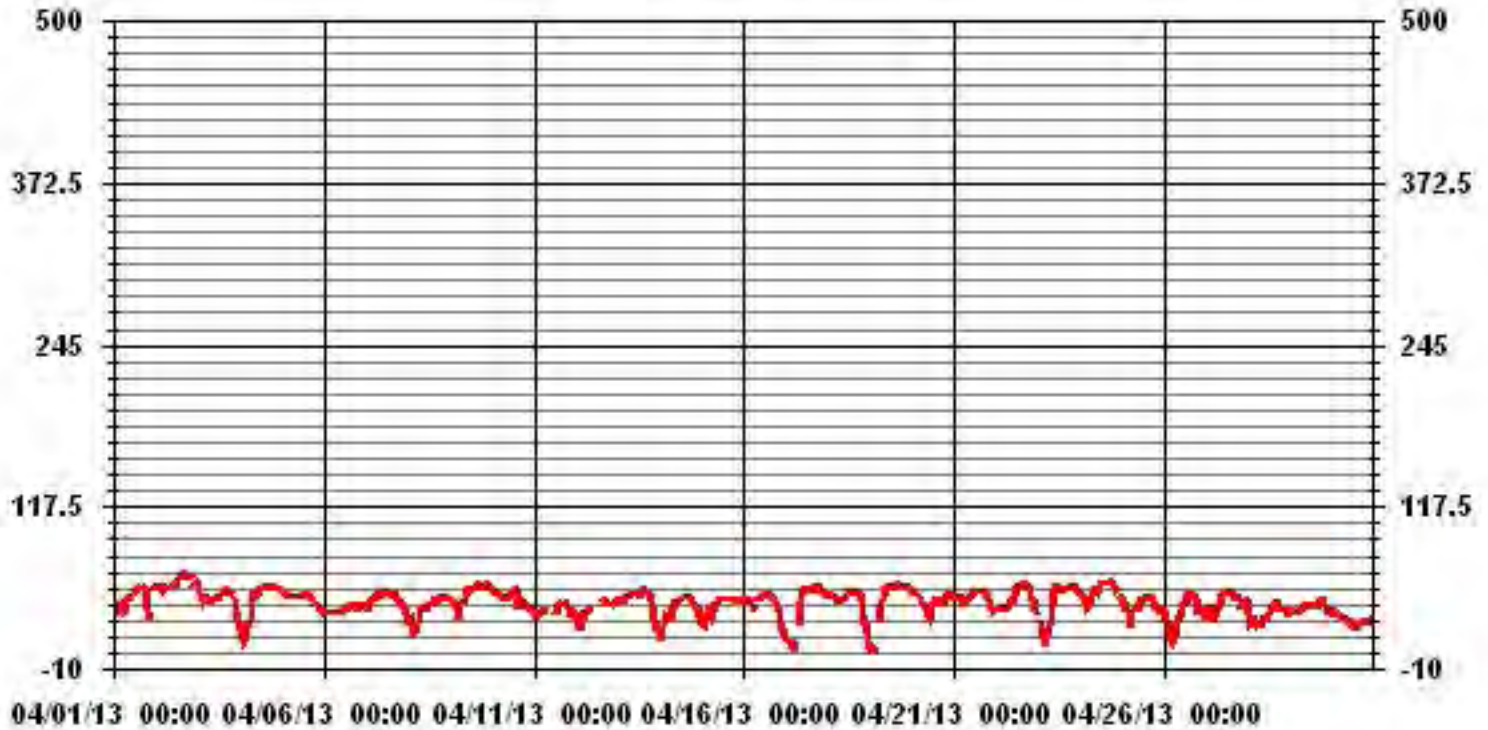
ALBERTA ENVIRONMENT: 1-HR 82 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	678					
MAXIMUM 1-HR AVERAGE:	66	PPB	@ HOUR(S)	16, 17	ON DAY(S)	2
MAXIMUM 24-HR AVERAGE:	58.2	PPB			ON DAY(S)	2
					VAR-VARIOUS	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	717	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	99.6	%	
STANDARD DEVIATION:	10.60		MONTHLY AVERAGE:	42.07	PPB	



01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 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	42	39	45	40	39	37	43	45	45	47	49	50	51	53	54	55	55	56	55	51	36	47	S	56	56	47.4	24
2	57	56	56	56	54	54	55	55	55	56	56	57	58	62	63	66	67	67	66	65	64	S	59	59	67	59.3	24
3	57	55	50	47	48	48	46	46	45	45	46	46	47	49	50	52	53	52	51	51	S	49	45	40	57	48.6	24
4	28	22	15	24	38	32	32	46	50	49	51	52	54	55	56	56	56	56	58	S	55	56	56	54	58	45.7	24
5	53	52	51	50	49	49	48	49	48	48	48	49	49	49	49	49	49	48	S	44	42	40	39	37	53	47.3	24
6	37	37	36	36	35	35	34	34	34	35	38	37	38	39	39	40	40	S	40	40	40	41	42	41	42	37.7	24
7	39	39	41	44	45	47	48	50	50	49	51	53	53	51	51	S	50	48	46	46	43	42	39	53	46.8	24	
8	30	32	33	25	30	29	29	38	38	38	37	40	41	43	44	S	45	45	48	49	47	47	48	48	49	39.3	24
9	47	46	46	45	43	39	S	S	47	52	52	52	54	55	S	56	57	57	55	55	56	57	57	56	57	51.6	24
10	55	52	52	51	51	50	48	47	46	47	48	49	50	S	Y	S	50	50	49	48	44	43	41	40	55	48.1	23
11	39	38	39	39	42	42	40	C	C	C	C	C	S	41	47	49	46	47	44	43	40	41	40	38	49	41.9	24
12	37	32	26	40	38	36	38	42	C	C	C	C	Y	Y	Y	47	46	43	43	43	43	44	46	47	40.1	20	
13	46	45	46	44	46	48	49	50	51	51	S	50	50	50	54	54	53	52	52	49	47	42	32	28	54	47.3	24
14	18	21	28	37	33	32	34	43	43	S	45	46	46	47	48	48	48	49	48	46	43	45	40	36	49	40.2	24
15	34	33	38	39	39	35	41	42	S	44	45	46	46	45	46	46	46	46	46	45	44	44	44	44	46	42.5	24
16	44	46	46	46	44	40	43	S	46	46	48	50	50	50	51	49	48	48	47	44	43	33	26	23	51	44.0	24
17	19	17	17	15	15	13	S	37	46	52	55	56	54	54	53	56	58	56	55	56	55	52	50	49	58	43.0	24
18	50	50	50	50	50	S	47	46	46	46	46	50	52	52	51	51	51	51	52	50	42	33	24	21	52	46.1	24
19	9	14	10	9	S	38	42	47	51	55	56	55	55	55	55	56	59	58	56	56	56	56	55	55	59	46.0	24
20	54	52	51	S	49	48	46	43	42	38	35	37	43	43	46	46	47	45	44	49	50	49	50	50	54	46.0	24
21	48	47	S	48	48	46	44	45	46	47	48	50	51	52	53	52	52	52	51	49	43	39	38	53	47.9	24	
22	38	S	40	40	39	38	39	41	44	44	47	51	55	56	57	59	60	59	58	56	50	44	41	60	48.1	24	
23	S	36	31	29	14	18	23	28	50	54	55	54	54	54	54	53	53	55	56	56	55	56	55	S	56	45.1	24
24	53	51	49	46	45	44	46	53	54	54	53	56	58	58	58	58	58	59	60	57	55	55	S	52	60	53.6	24
25	48	46	42	40	33	32	37	39	40	39	45	48	48	48	49	47	47	47	45	43	39	S	37	39	49	42.5	24
26	39	33	35	28	22	19	23	26	29	34	38	42	43	49	50	50	50	50	50	43	S	46	43	43	50	38.5	24
27	36	41	40	39	35	37	41	42	45	51	52	50	51	51	52	51	47	52	51	S	42	43	45	45	52	45.2	24
28	41	27	30	30	28	25	26	27	28	30	31	33	35	37	40	44	42	42	S	39	38	37	39	38	44	34.2	24
29	36	36	36	36	36	35	37	39	40	41	42	40	40	40	41	43	S	47	46	43	38	39	38	47	39.5	24	
30	36	38	37	35	32	32	31	31	31	32	31	26	26	25	25	26	S	28	28	27	28	30	30	30	38	30.2	24
HOURLY MAX	57	56	56	56	54	54	55	55	55	56	56	57	58	62	63	66	67	67	66	65	64	57	59	59			
HOURLY AVG	40.3	39.1	38.5	38.2	38.6	37.2	39.6	41.7	44.0	45.3	46.2	47.3	48.3	48.7	49.4	50.4	51.0	50.8	50.1	48.1	46.1	45.0	43.0	42.2			

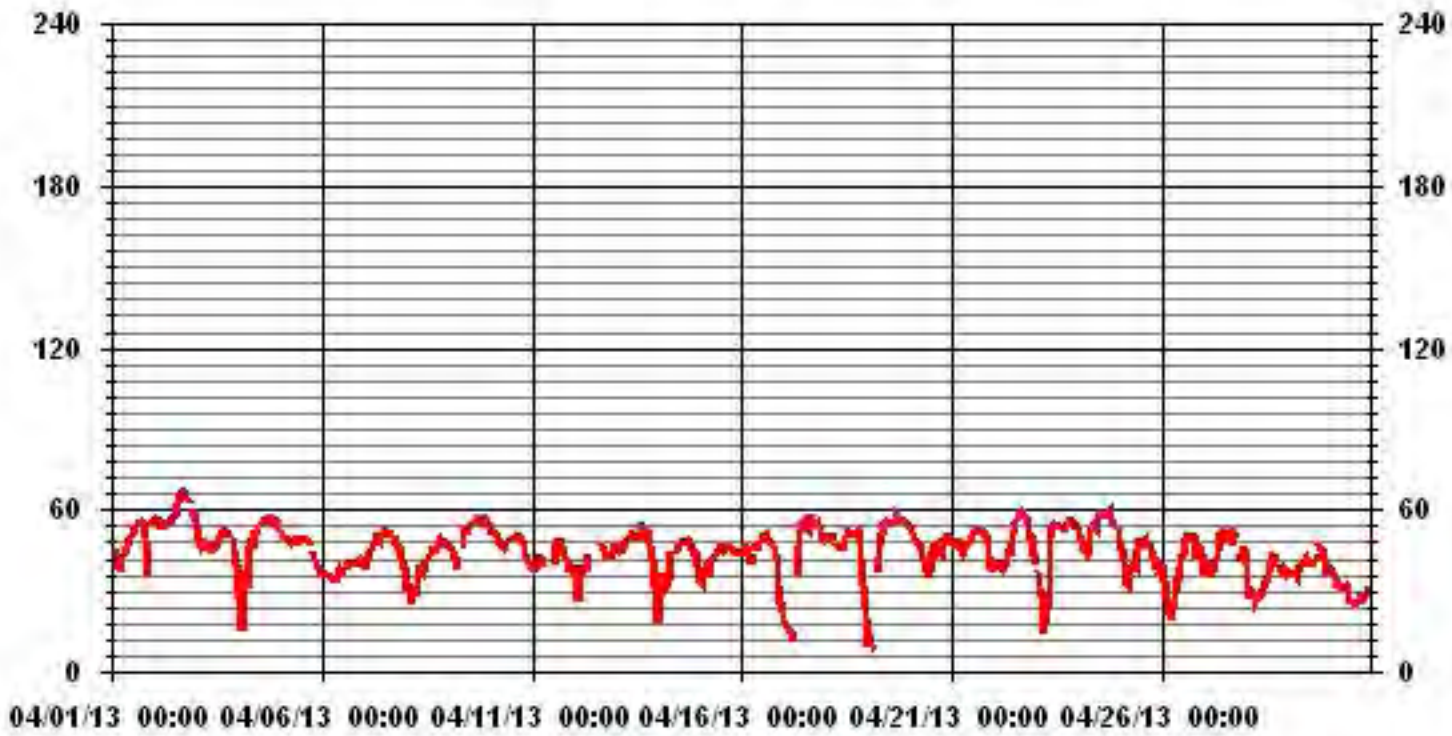
STATUS FLAG CODES

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:	674					
MAXIMUM INSTANTANEOUS VALUE:	67	PPB	@ HOUR(S)	16, 17	ON DAY(S)	2
S CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	715	HRS	
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION:	9.55					

01 Hour Averages



— LICA O3MAX PPB

LICA
O3_ / WD Joint Frequency Distribution (Percent)

April 2013

Distribution By % Of Samples

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

Wind Parameter : WD
Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	2.21	6.19	9.73	5.01	7.37	3.83	5.75	.73	.58	.88	1.47	9.29	6.78	5.16	5.75	4.57	75.36
< 110	.00	.73	.73	.29	.58	.44	8.70	1.47	.73	.73	1.76	3.39	1.03	.29	1.76	1.91	24.63
< 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	2.21	6.93	10.47	5.30	7.96	4.27	14.45	2.21	1.32	1.62	3.24	12.68	7.81	5.45	7.52	6.48	

Calm : .00 %

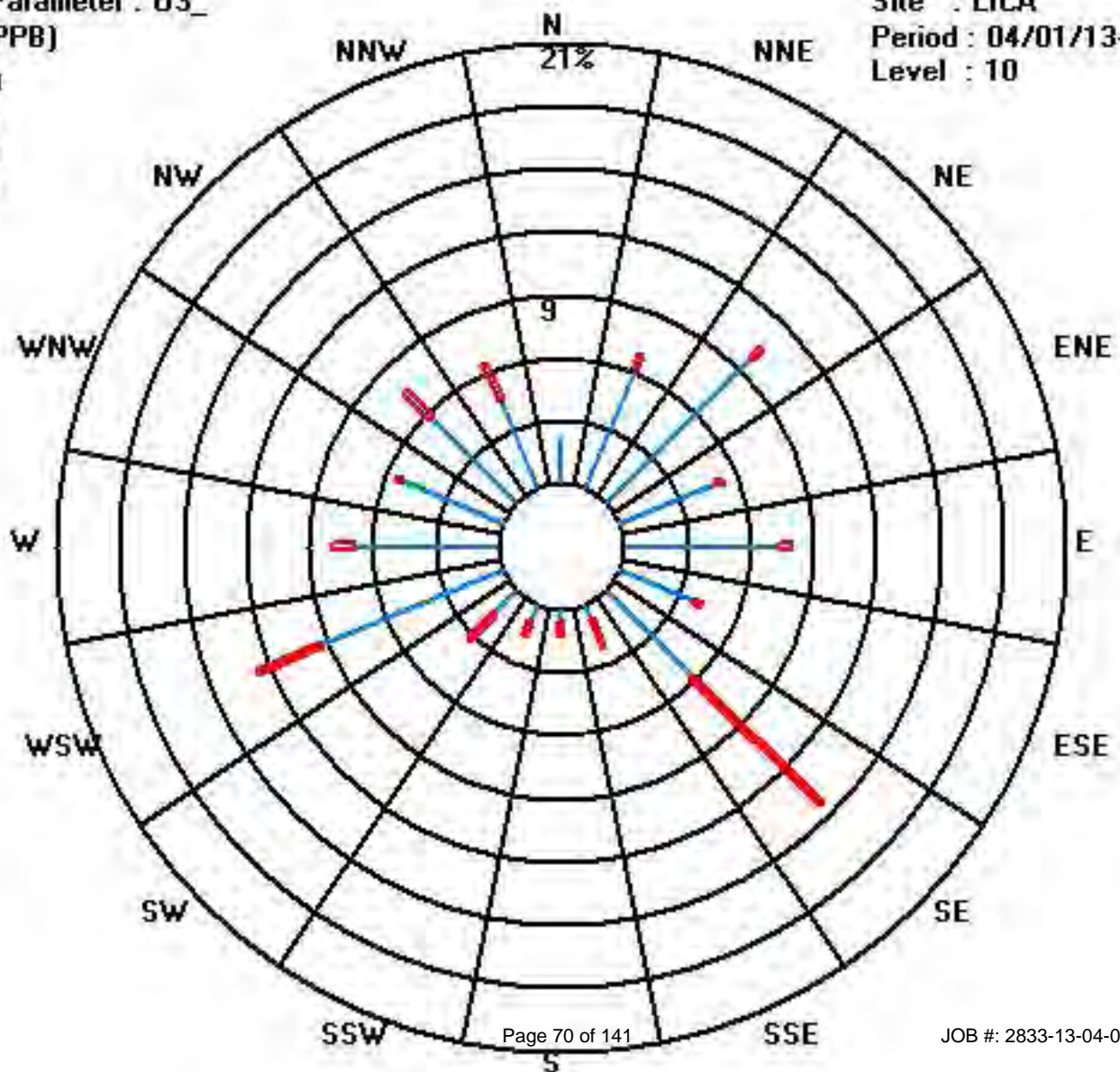
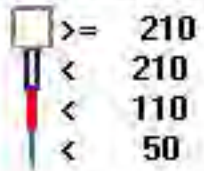
Total # Operational Hours : 678

Distribution By Samples

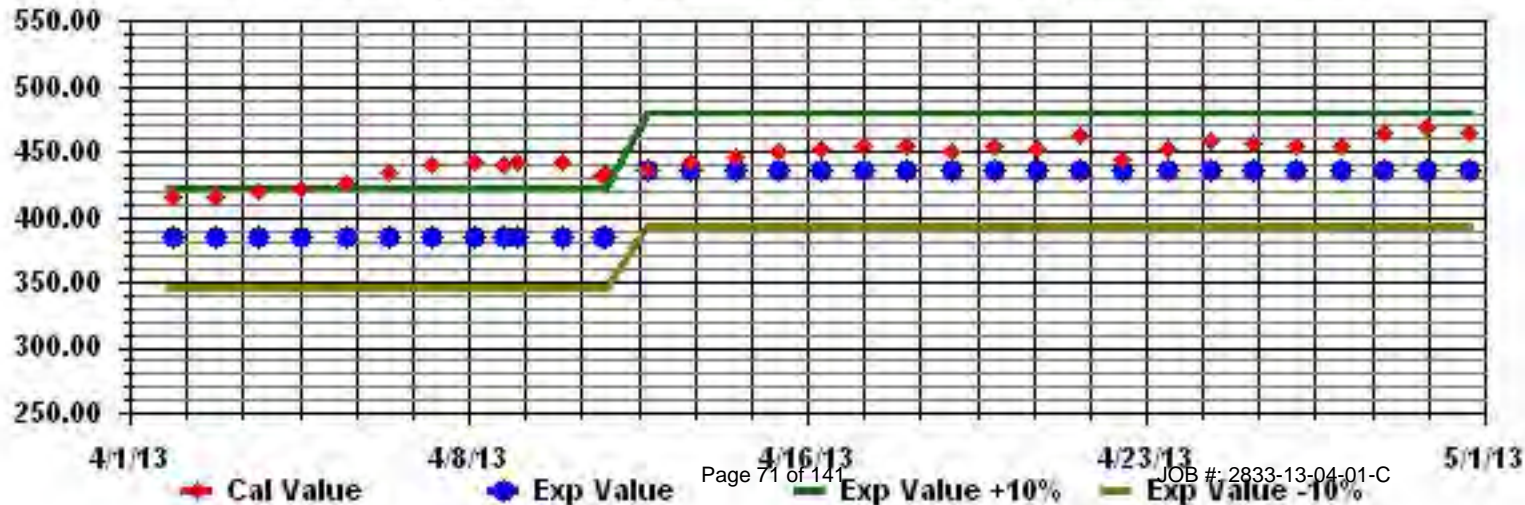
	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	15	42	66	34	50	26	39	5	4	6	10	63	46	35	39	31	511
< 110		5	5	2	4	3	59	10	5	5	12	23	7	2	12	13	167
< 210																	
>= 210																	
Totals	15	47	71	36	54	29	98	15	9	11	22	86	53	37	51	44	

Calm : .00 %

Total # Operational Hours : 678



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



Ambient Temperature

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 2013

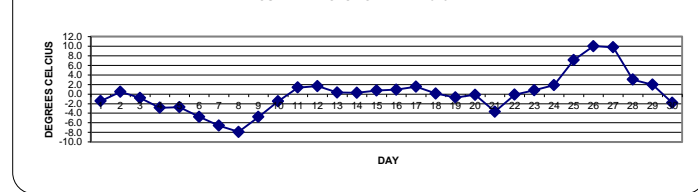
AMBIENT TEMPERATURE hourly averages (Degrees C)

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	-4.1	-5.3	-4.5	-4.8	-6.2	-6.5	-6.1	-4.5	-2.8	-1	0.3	0.5	1.5	2	2.3	2.9	2.9	3.7	2.4	-0.2	-1.7	-2.4	-1.5	-1.8	3.7	-1.5	24
2	2	-2.2	-2.8	-2.9	-2.8	-2.5	-2.2	-1.8	-1.3	-0.8	0	0.6	1.9	2.7	4.2	4.8	4.5	4.2	3.6	2.2	1.1	0.6	0.2	0.2	0.5	4.8	0.5	24
3	3	0.2	-0.8	-1.1	-1.4	-1	-1	-1.1	-2.1	-2.7	-1.8	-1	-0.2	0.6	1.4	2	2.3	2	1.8	1.1	-0.5	-1.8	-2.6	-4.8	-6.3	2.3	-0.8	24
4	4	-7.1	-8.1	-9.2	-10.2	-9	-9.1	-8.8	-5.5	-4	-2.6	-0.5	1.3	2	2.3	2.6	2.1	1.2	0.4	-0.2	-0.7	-1	-1.2	-1.5	-1.5	2.6	-2.8	24
5	5	-1.6	-1.7	-2.1	-2.7	-3.4	-3.6	-3.7	-3.7	-3.4	-3	-2.6	-2.1	-1.8	-1.3	-1.4	-1.4	-1.3	-1.3	-1.8	-2.8	-3.5	-4.2	-5	-5.9	-1.3	-2.7	24
6	6	-6.7	-7.1	-7.7	-8.2	-8.7	-9	-9	-8.5	-7.8	-6.8	-5.8	-4.3	-3.1	-2	-1.7	-1.2	-0.9	-1	-1.2	-1.6	-2.1	-2.4	-2.8	-4.4	-0.9	-4.8	24
7	7	-4.8	-5.5	-6.1	-6.8	-7.6	-8.2	-8.6	-8.3	-8.1	-7.3	-6.7	-6	-5.2	-4.5	-3.8	-3.4	-3.2	-3.8	-4.9	-6.5	-7.1	-8.1	-11.4	-12.5	-3.2	-6.6	24
8	8	-13.8	-15.1	-16.1	-15.9	-16.8	-16.9	-16.4	-11.6	-9.5	-7.5	-5.8	-3.8	-2.6	-1.4	-1	-0.6	-0.6	-1.2	-2.2	-3.7	-4.9	-6.3	-7.3	-8.3	-0.6	-7.9	24
9	9	-9.1	-9.9	-10.5	-11.5	-13.1	-14.9	-13.1	-9.4	-7.1	-4.3	-2.8	-1	0.6	1.5	1.8	2.3	2	1.9	0.9	-1.4	-2.9	-4.4	-4.8	-5.6	2.3	-4.8	24
10	10	-5.8	-5.5	-5.2	-4.5	-4.7	-4.2	-3.7	-2.6	-1.5	0.1	0.9	1.6	1.9	1.6	1.2	1.2	0.3	-1.3	-1.3	-1.2	-1	-0.9	-0.9	-0.9	1.9	-1.5	24
11	11	-0.9	-1.1	-1.1	-1.1	-1.3	-1.9	-1.7	-1.6	-1.2	-0.8	0	1.2	3.2	4.2	5	5.8	5.7	6.1	4.2	3.4	2.3	1.7	1.5	1.2	6.1	1.4	24
12	12	1	0.6	0.6	0.6	0.5	0.4	0.4	0.6	1.3	2.4	2.6	3	2.8	2.7	3.4	3.7	3.3	2.8	2.5	1.9	1.3	0.8	0.4	0.4	3.7	1.7	24
13	13	0.3	0.2	0.1	-0.1	-0.8	-1	-0.9	-0.9	-0.5	-0.2	0.3	0.4	0.7	1.3	1.8	2.4	2.7	3.1	3	1.5	-0.3	-1.2	-1.5	-2.6	3.1	0.3	24
14	14	-2.6	-3.1	-3.1	-3	-3.2	-3.4	-3.1	-0.9	0	0.3	1.7	2.5	3.2	3.7	4.2	4.1	4	3.8	3.2	1.7	0.6	-0.4	-1.5	-2	4.2	0.3	24
15	15	-2.6	-3	-3.1	-3.5	-4	-4.4	-3.2	-1.7	-0.5	1.4	3.1	4.1	4.5	4.7	4.9	4.9	5	4.4	3.3	2.4	1.4	0.7	-0.3	-0.9	5.0	0.7	24
16	16	-1	-1.4	-1.9	-2.4	-3.1	-3.8	-3	-2	-1	0.1	2.3	3.7	4.4	5.2	5.9	6.1	5.9	5.9	5.2	3	0	-1.4	-2.2	-2.6	6.1	0.9	24
17	17	-2.9	-3.1	-3.9	-4.7	-5.6	-6.3	-5	-0.8	1.7	4.1	5	5.9	6.5	6.6	6.7	6.6	6.2	5.5	4.8	3.5	2.4	1.5	1.2	0.6	6.7	1.5	24
18	18	0.2	0	-0.2	-0.1	-0.2	-0.5	-1.5	-1.6	-1.2	-0.8	-0.4	-0.2	0.8	2	2.6	2.4	3.3	3.9	3.3	1.4	-1	-2.3	-3.1	-3.9	3.9	0.1	24
19	19	-4.8	-5.4	-6.1	-6.6	-6.8	-5.2	-3.7	-2.2	-0.7	1	2.6	3.6	3.7	3.9	3.8	3.2	3	2.3	1.4	-0.1	-0.8	-0.9	-1	-1	3.9	-0.7	24
20	20	-0.8	-0.8	-0.6	-0.5	-0.5	-0.5	0	0.4	1	1.5	2.6	3	3.5	2.8	2.7	2.3	0.2	-0.4	-1.4	-2.7	-3.4	-3.4	-4	-4.4	3.5	-0.1	24
21	21	-5.1	-5.6	-6.4	-7.2	-8	-8.6	-7.8	-6.7	-5.6	-4.6	-3.6	-2.4	-1.5	-0.8	-0.1	0.3	0.4	0.4	-0.1	-1	-1.9	-3.4	-4.4	-5	0.4	-3.7	24
22	22	-5.2	-5.7	-6	-6.7	-7.2	-7.2	-5.7	-3.1	-1.4	0.3	1.6	3.1	4.2	4.7	5.1	5.5	5.7	5.6	5	4.2	1.1	0.7	0.1	-1.4	5.7	-0.1	24
23	23	-2.7	-3.3	-3.7	-3.9	-4.1	-4.8	-3.3	-0.8	2.4	4.9	5.5	5.8	5.8	5.6	4.7	4.5	4.5	4.7	2.9	0	-0.6	-1.1	-1.4	-2.1	5.8	0.8	24
24	24	-2.8	-3.5	-4	-4.6	-4.7	-4.1	-2.9	-0.7	0.8	1.9	3.2	3.9	5.3	6	7.2	7.6	8.1	8.2	7.4	5	3.5	2.6	1.1	0.1	8.2	1.9	24
25	25	-0.1	-0.7	-1.4	-1.2	-2	-1.1	1	3.4	6.2	8.3	10.3	11.5	12.2	12.7	13.4	13.5	13.6	13.5	12.5	10.9	9.8	8.7	8.1	7.4	13.6	7.1	24
26	26	6.2	3.4	2.8	1.5	0.5	0.5	4.1	7.5	9.6	11.9	14.1	15.7	15.4	15.8	16.3	16.2	16.3	17.4	15.6	12.1	11	9.2	7.8	8.9	17.4	10.0	24
27	27	5.3	7.4	8.2	6.6	3.2	3.9	7.6	9.6	11.9	14.1	14.6	15.8	16.6	16.8	16.9	15.3	13	10.6	7.6	6.7	6.3	6.5	5.7	4.6	16.9	9.8	24
28	28	3	0.8	-0.3	-1.2	-1.2	-1.9	-1.8	-1.2	-0.7	0.6	2.2	3.5	4.8	6	7.1	7.6	8	8.3	7.3	5.7	4.7	4.4	4	2.9	8.3	3.0	24
29	29	1.4	0.2	-0.4	-0.7	-1	-1.2	-1	-0.4	0.5	1.6	3.1	4.4	5.1	5.1	5.6	6.2	5.2	4.6	3.2	2.5	1.6	1	0.6	0.1	6.2	2.0	24
30	30	-0.7	-0.9	-1.3	-1.6	-2	-2.6	-2.9	-3.7	-3.5	-2.6	-2.1	-1.8	-1.6	-1.1	-0.5	-0.5	-0.3	-0.5	-1	-1.5	-2.1	-2.5	-2.8	-3.6	-0.3	-1.8	24
HOURLY MAX		6.2	7.4	8.2	6.6	3.2	3.9	7.6	9.6	11.9	14.1	14.6	15.8	16.6	16.8	16.9	16.2	16.3	17.4	15.6	12.1	11.0	9.2	8.1	8.9			
HOURLY AVG		-2.3	-2.9	-3.2	-3.6	-4.2	-4.3	-3.6	-2.1	-1.0	0.4	1.5	2.5	3.2	3.7	4.1	4.2	4.0	3.8	2.8	1.4	0.4	-0.4	-1.1	-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

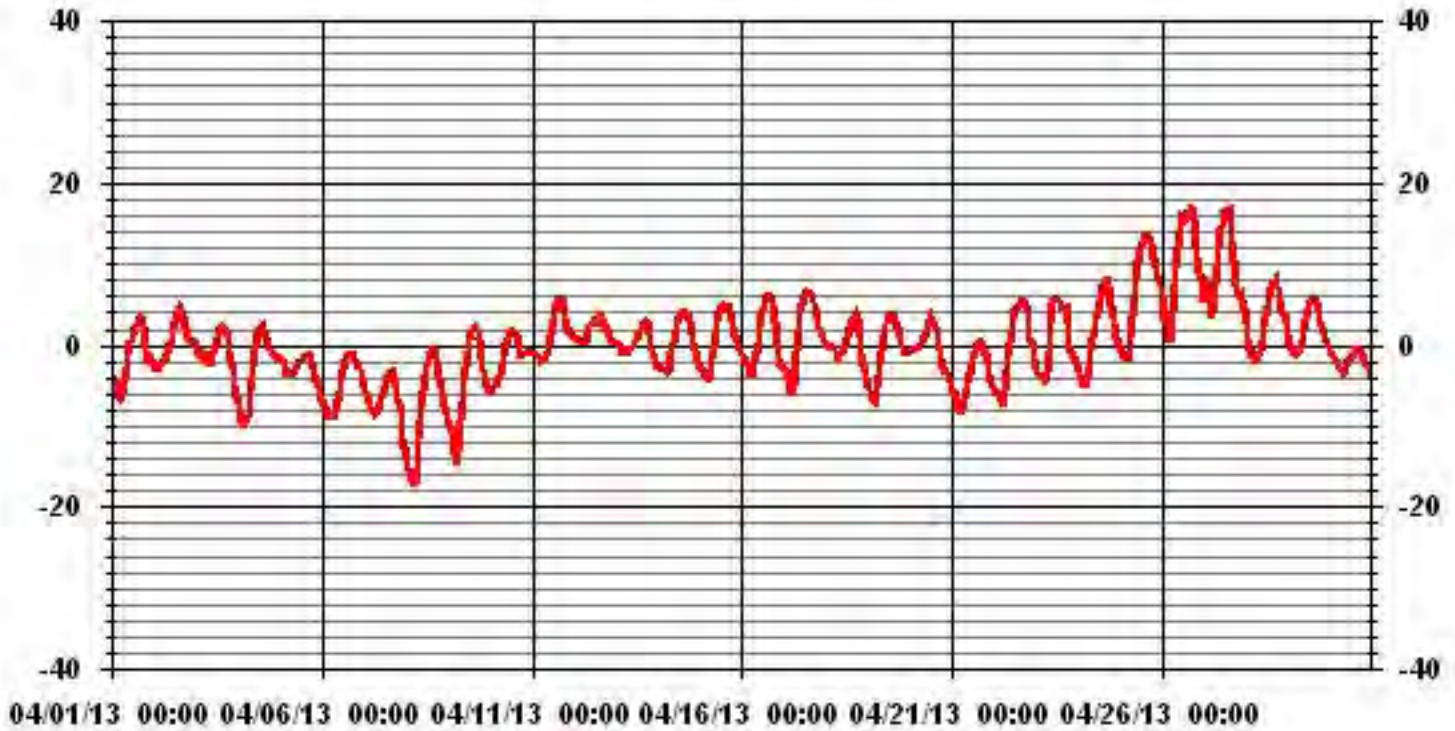
24 HOUR AVERAGES FOR APRIL 2013



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-16.9 °C	@ HOUR(S)	5	ON DAY(S)	8
MAXIMUM 1-HR AVERAGE:	17.4 °C	@ HOUR(S)	17	ON DAY(S)	26
MAXIMUM 24-HR AVERAGE:	10.0 °C			ON DAY(S)	26
				VAR-VARIOUS	
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS
			AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	5.26		MONTHLY AVERAGE:	0.07	°C

01 Hour Averages



Relative Humidity

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 2013

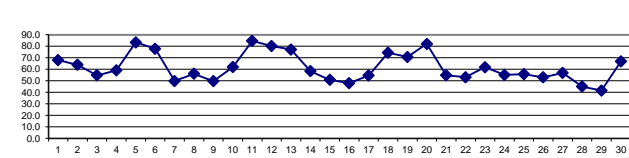
RELATIVE HUMIDITY hourly averages (%)

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	0:00	DAILY MAX	24-HOUR AVG.	RDGS.
DAY	HOURLY MAX																												
1	91	90	90	88	88	90	90	87	79	68	62	57	50	49	48	46	45	41	45	60	68	69	64	69	91	68.1	24		
2	72	75	74	73	72	71	67	61	58	56	55	53	53	49	48	52	53	57	63	69	72	76	77	78	78	63.9	24		
3	81	83	82	76	67	65	65	53	52	50	49	47	45	43	40	38	35	35	37	42	46	50	63	71	83	54.8	24		
4	77	78	82	83	75	75	74	61	56	52	47	43	40	39	39	42	47	52	55	60	62	60	60	62	83	59.2	24		
5	63	65	71	78	82	85	85	84	83	82	81	84	83	84	92	90	87	90	92	90	90	88	87	86	92	83.4	24		
6	85	84	82	81	81	81	81	80	79	77	76	73	72	71	72	71	71	74	76	78	81	83	81	74	85	77.7	24		
7	72	70	65	60	60	59	57	44	41	35	31	25	29	35	40	41	42	46	47	51	51	56	68	72	72	49.9	24		
8	75	78	80	79	79	80	76	67	60	55	51	46	42	38	39	39	37	39	40	41	45	48	53	61	80	56.2	24		
9	66	68	69	71	76	79	73	64	56	47	44	38	35	35	33	26	25	25	26	34	39	54	56	56	79	49.8	24		
10	51	47	50	53	54	55	53	50	48	43	40	39	40	41	46	49	66	90	94	95	96	96	96	96	96	62.0	24		
11	96	96	96	95	95	96	96	94	89	87	84	79	72	71	68	64	66	65	74	80	92	94	91	92	96	84.7	24		
12	93	95	96	96	95	95	90	87	82	75	73	71	69	70	62	56	64	67	70	75	80	85	88	90	96	80.2	24		
13	90	89	88	89	87	85	83	81	78	76	74	73	73	69	64	60	60	58	63	71	80	85	86	89	90	77.1	24		
14	89	90	84	76	75	73	71	59	53	52	45	44	43	41	38	37	36	38	39	46	58	66	73	75	90	58.4	24		
15	78	78	66	59	60	62	55	49	47	44	41	39	39	39	39	39	38	41	45	47	50	52	56	59	78	50.9	24		
16	57	57	57	58	61	64	60	55	52	49	42	35	30	27	26	29	30	31	33	42	53	64	68	73	73	48.0	24		
17	75	76	81	83	85	87	80	57	46	40	35	32	33	33	33	36	38	42	44	50	52	55	59	62	87	54.8	24		
18	62	62	62	63	65	69	90	89	84	81	79	78	75	71	71	73	67	63	64	72	82	87	89	90	90	74.5	24		
19	90	91	90	90	89	91	88	85	75	60	48	37	40	39	39	44	49	55	62	82	88	88	89	89	91	70.8	24		
20	88	88	88	89	91	94	93	94	93	93	85	77	71	74	70	71	95	97	93	82	70	61	57	56	97	82.1	24		
21	62	64	65	68	71	72	68	63	58	53	49	45	43	41	38	36	36	37	42	48	53	65	69	69	72	54.8	24		
22	68	69	69	70	71	71	66	59	52	48	44	41	36	35	35	34	35	38	40	43	56	61	64	72	72	53.2	24		
23	77	81	82	82	84	86	79	68	54	39	32	32	31	36	47	54	47	41	51	80	83	77	71	71	86	61.9	24		
24	74	72	73	77	79	78	71	59	57	58	53	49	41	36	33	31	31	31	35	44	51	57	64	70	79	55.2	24		
25	75	79	84	84	87	86	81	72	62	55	45	42	37	36	34	33	34	36	41	45	49	52	56	87	55.8	24			
26	61	72	73	78	81	82	72	63	57	53	47	40	38	35	33	33	32	31	35	45	47	53	58	54	82	53.0	24		
27	67	60	59	65	78	75	64	59	52	41	38	37	36	35	34	43	59	62	74	78	76	65	56	52	78	56.9	24		
28	56	58	58	60	62	62	59	56	51	45	43	40	36	33	30	31	31	30	33	38	41	42	43	44	62	45.1	24		
29	50	55	55	55	57	54	49	43	41	36	34	33	33	33	32	32	35	35	36	35	39	43	41	44	57	41.7	24		
30	53	46	49	53	55	56	60	75	80	78	78	80	80	79	77	75	68	68	67	69	68	63	61	66	80	66.8	24		
HOURLY MAX	96	96	96	96	95	96	96	94	93	93	85	84	83	84	92	90	95	97	94	95	96	96	96	96	96				
HOURLY AVG	73	74	74	74	75	76	73	67	63	58	54	50	48	47	47	47	49	50	54	60	64	66	68	70					

STATUS FLAG CODES

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

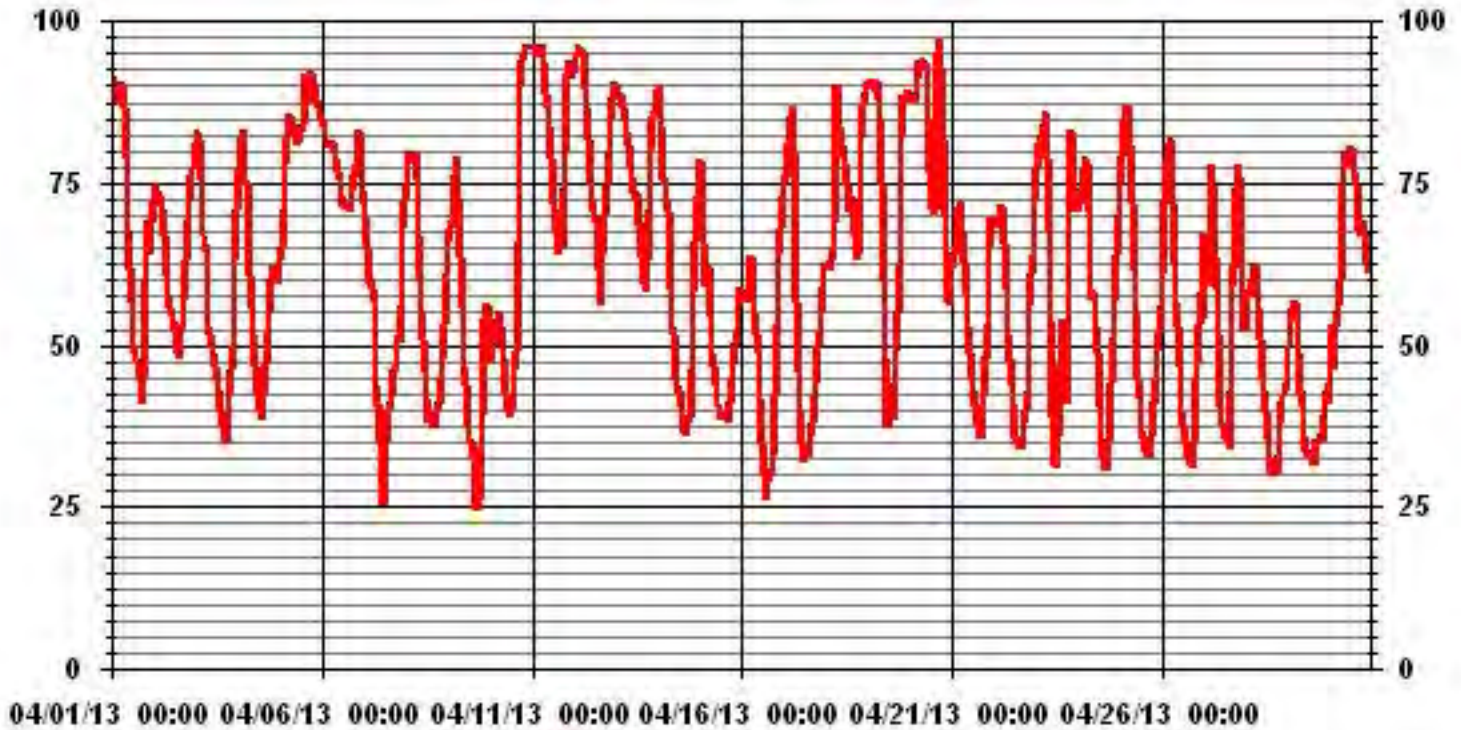
24 HOUR AVERAGES FOR APRIL 2012



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	97	%	@ HOUR(S)	17	ON DAY(S)	20
MAXIMUM 24-HR AVERAGE:	84.7	%			ON DAY(S)	11
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS	
STANDARD DEVIATION:	18.84		AMD OPERATION UPTIME:	100.0	%	
			MONTHLY AVERAGE:	61.69	%	

01 Hour Averages



Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 2013

VECTOR WIND SPEED (WS) hourly averages (km/hr)

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	4.1	2.2	3.9	4.5	3.8	2.9	3.8	7.1	3.1	4.1	3.4	5.9	3.5	5.4	5.7	5	6.1	1.7	1.6	1.1	1.4	2.3	4.2	7.9	7.9	0.3	24
2	5.4	4.7	7.2	7.6	7.3	8.9	10	11.8	12.3	10.7	10.9	10.4	9.2	6.6	7.5	8.7	8.3	4.9	4.9	4.8	5.7	2.3	4.9	6.3	12.3	5.9	24
3	5.4	5.4	4.8	6.4	8.9	10.3	15.4	21.3	19.4	17.4	15.5	14.8	14.3	14.3	12.7	10.3	11.9	11.3	8.8	7.3	4.1	2.6	1.3	0.6	21.3	9.3	24
4	0.5	1.2	0.9	0.6	3.3	2.1	1.2	4.2	5.1	5.6	5.2	6.8	9.9	14	14.4	16	15.6	13.8	14.4	12.9	12.3	12.8	12.3	10.8	16	7.8	24
5	9.4	5.9	6.5	6.7	6.7	7.2	7.1	9.4	9.4	8.8	10.3	8.6	7.9	6	7.1	10.3	12	8.7	8.6	11.2	9.8	10	9.9	9	12.0	8.6	24
6	9.1	9.7	9.7	8	8.3	7.2	6.4	6.5	7.1	6.4	7.3	5.9	7.1	9	8.7	8.5	7	4.6	5	5.5	6.2	5.4	5	8	9.7	7.2	24
7	6.8	6.2	6	7.7	7.4	7.5	7.9	8.2	8.8	10	11.5	11.7	11.8	12.4	12.5	12.6	11.7	11	8.4	9.1	9.7	3.3	2.2	1.1	12.6	8.6	24
8	1.1	0.5	1	1.9	1.5	1.2	1.6	2.9	3	5.2	5	4.7	5.1	6	8.6	7.9	7.3	8	7	4.8	4.7	5.7	6.5	6.9	8.6	4.5	24
9	6.1	5.9	5.8	4.8	2.4	0.7	0.7	4.2	6.3	5.2	7.4	8.1	7.3	8	5.9	5.7	7.3	8.2	5.6	3.1	5.5	9.8	7.3	7.8	9.8	5.8	24
10	10	11.3	9.2	7.2	11.2	6.7	9.2	9.4	11.9	13.1	15.2	15.6	15.1	16.1	16.4	16.7	14.8	9.2	6.6	5	4.5	3.7	3.3	2.2	16.7	10.2	24
11	0.5	0.5	0.6	1.6	3.1	3.1	2.2	3.9	3.4	3.3	2.4	3.1	2.6	3.7	5.2	4.9	5	1.7	5.4	3.2	2.9	6.3	6.6	5.8	6.6	3.4	24
12	4.8	4.2	5.3	7.3	5.7	7.1	7.8	6.7	7	5.8	4.9	5.5	6.3	5.9	6	5.7	6.1	5.5	5.5	7.9	6.7	6.2	7	7.3	7.9	6.2	24
13	8.9	7.8	6.4	6.4	8.5	9.2	10.4	11.5	10.8	12.2	11.1	9.5	9.7	9	10.8	10.3	7	6.2	4.8	2.7	0.9	0.9	1.3	0.6	12.2	7.4	24
14	0.6	1	1.6	2.4	1.9	2.5	2.6	2.7	5	6	5.5	7.8	7.6	8.4	6.7	5.1	4.7	3.4	3	1.7	3	3.2	1.2	0.4	8.4	3.7	24
15	1.2	0.6	2.3	3.1	1.9	1.7	2.8	5.5	7.2	7.4	9.9	10	11.1	11.6	11.4	10.5	11.5	9.8	8.2	5.8	4.8	3.8	3.2	3	11.6	6.2	24
16	4.4	4.5	4.8	4.3	2.8	2.2	3.1	5.4	6.2	7	7	7.9	10.1	8	7.3	6.5	8.2	5.4	3.2	1	0.3	0.4	0.9	0.9	10.1	4.7	24
17	0.4	0.7	0.9	0.8	0.9	0.9	0.9	2.4	3.7	3.9	6.8	7.2	8.3	10.4	9.2	10.2	8.7	7.7	4	4	2.7	3.1	4.4	2.8	10.4	4.4	24
18	4.6	7	6	7.3	7.4	5.9	1.4	5.5	5.4	3.8	4.4	7.4	8.3	8.6	7.6	6.7	4.6	2.8	1.9	2.5	0.1	0.7	0.5	0.9	8.6	4.6	24
19	0.8	1.7	0.9	1.5	1.3	4.4	5.8	6	11.6	14	14.1	16	15.1	13.4	15.7	12.8	11	14.9	10.3	9.4	10.1	10	10.4	9	16.0	9.2	24
20	7.6	7.5	7.3	5.8	5	4.6	1.7	2.9	4	8.1	9.4	9	12.3	15.3	15.1	13.2	11.8	17.4	20.1	23.5	19.8	18.5	18.1	17.1	23.5	11.5	24
21	16.2	14.3	12	12	10.1	9.2	10.3	10.6	11	11.9	12.1	11.8	12.4	12.6	12	12.4	12.6	11.5	8.6	5.4	3.4	3.3	4.1	4.4	16.2	10.2	24
22	4.5	4.6	5.1	5.4	5.9	5.2	5.4	5	6.7	7.8	9.5	9.8	10.9	12.4	13	13	11.4	9.3	5.1	5.1	4.3	4.5	1.2	0.3	13.0	6.9	24
23	1	1	0.3	1.3	1.4	1.2	1.8	3.3	4.9	13.1	15.6	15	15.9	13.5	12.8	11.9	16.2	21.7	22.8	17.7	13.9	12.8	9.9	7.7	22.8	9.9	24
24	6.2	5.8	4.8	3.8	4.7	3.8	2.7	4.4	5.1	7.5	7.9	8.5	8.4	9.6	8.9	8.7	8.3	8.2	3.7	2.6	4.8	7.5	5.1	3.6	9.6	6.0	24
25	2.4	1	0.9	1.7	0.5	1.4	2.3	3	8.1	8.7	12	13	16.6	16.3	16.5	16.8	14.8	13.1	9.1	6.7	5.6	4.5	5.2	4.8	16.8	7.7	24
26	3.5	1.5	2.8	0.6	1	0.5	2.9	6.8	8.2	7.2	8.5	10.8	14.5	17.1	11.5	10	4.2	3.4	1.9	1.2	4.8	0.8	4.5	3.6	17.1	5.5	24
27	1.2	6.9	5.1	4.1	1.1	4.8	5.5	4.2	3	4	5.6	6.8	7.5	8.5	8.3	3.8	3.2	17.6	12.8	9.9	12.4	13.7	15.2	15	17.6	7.5	24
28	19.1	18.4	19.9	15.4	10.6	10.8	12.9	11.1	10.3	8.9	9.7	10.1	10.6	9.1	10.1	9.8	6.9	3.6	2.4	4.8	5.1	4.7	4.6	9.9	19.9	10.0	24
29	9	10	9	7.7	7.6	9	9.4	10.5	11.1	12.9	13.7	12.6	13.4	12.4	9.8	8.3	11.8	11.3	9.5	10.6	5.7	3.2	4.7	3.7	13.7	9.5	24
30	1.8	6.7	8	6.3	6.4	7.6	8.4	6.8	4.9	1.8	5.4	8.2	8.5	9.1	9.9	12.2	13.4	12.4	13.9	11.7	12.4	11.1	10.9	6.5	13.9	8.5	24
HOURLY MAX	19.1	18.4	19.9	15.4	11.2	10.8	15.4	21.3	19.4	17.4	15.6	16.0	16.6	17.1	16.5	16.8	16.2	21.7	22.8	23.5	19.8	18.5	18.1	17.1			
HOURLY AVG	5.2	5.3	5.3	5.1	5.0	5.0	5.5	6.8	7.5	8.1	8.9	9.4	10.0	10.4	10.2	9.8	9.4	8.9	7.6	6.7	6.3	5.9	5.9	5.6			

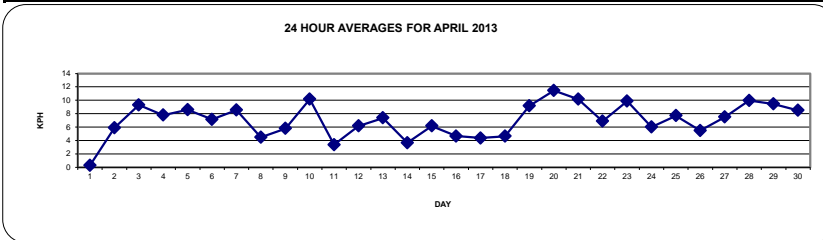
STATUS FLAG CODES

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

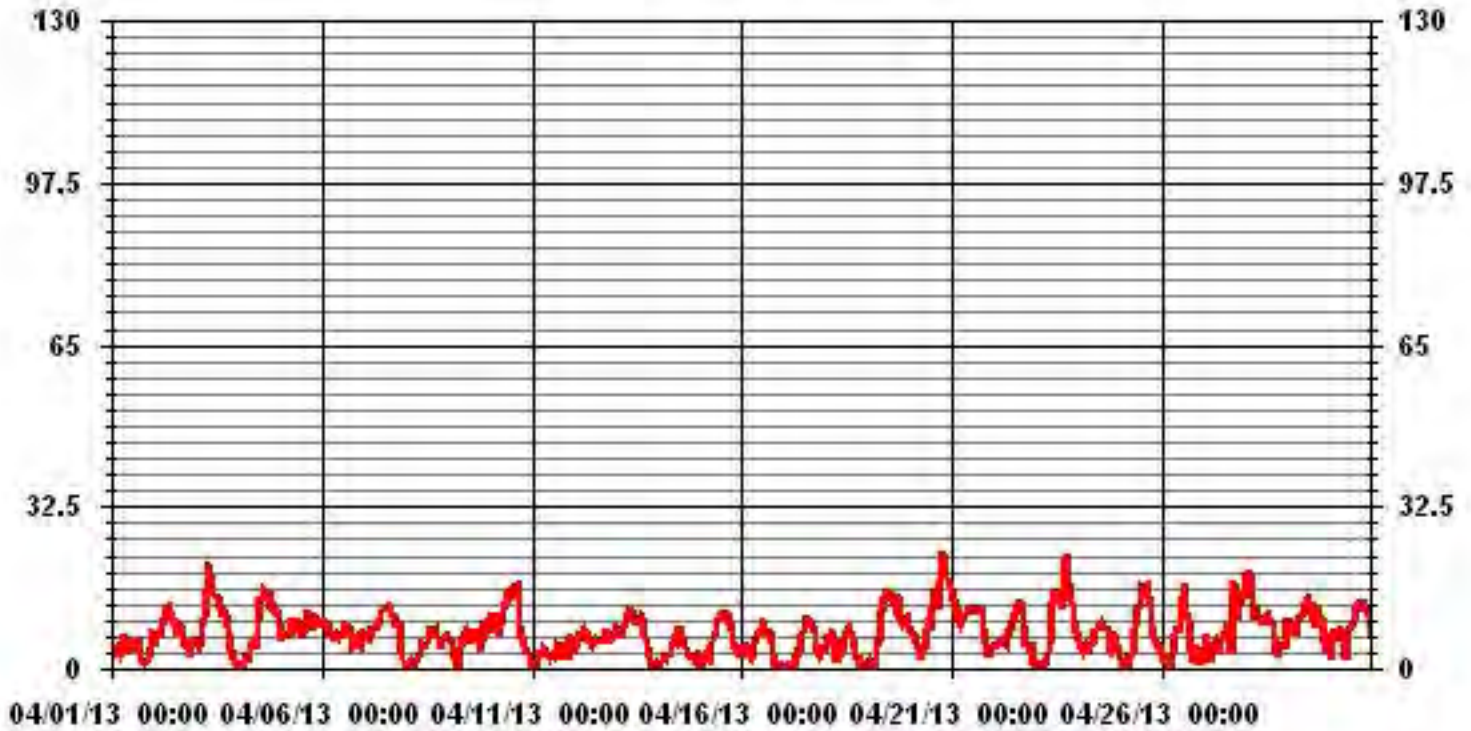
LAST CALIBRATION: November 28, 2012

MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	23.5	KPH	@ HOUR(S)	19	ON DAY(S)	20
MAXIMUM 24-HR AVERAGE:	11.5	KPH			ON DAY(S)	20
CALMS (≤ 0 KPH)	0.54	%	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	4.40		MONTHLY AVERAGE:	7.24	KPH	



01 Hour Averages



— LICA WSP KPH

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 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	MAX.
DAY																										
1	2	6.8	9.2	6.2	5.5	4.6	9.2	10.6	8	10	9.9	11.9	8.2	10.3	9.8	9.3	10	7.4	4.3	4.5	3.6	5.8	7.1	10.6	11.9	
2	3	7.8	9.6	10.8	10.7	12.1	15.8	15.7	16.4	15.1	13.9	15.8	14.8	15.3	18.8	15.8	14.3	9.3	9.5	7.5	10.2	5.8	8.3	12	18.8	
3	4	8.8	8.7	9.7	12.7	15.2	28.8	35.2	32.8	24.5	26.3	27.3	20.7	19.5	19.3	18.8	17.8	15.8	14.9	10	7.1	5.1	3.1	5.2	35.2	
4	5	3.7	0.9	3.1	5.9	4.1	3.5	8.8	9.6	9.3	9.7	12.4	16.3	19.3	23.7	22.4	20.9	18.5	20.6	18.4	16.7	17.7	18.8	14.8	23.7	
5	6	11.5	10.5	12.5	11.3	11.3	12.1	14	13.5	15.3	14	13.1	13.9	11.7	12.3	15.4	18.6	14	14.1	18.3	14.4	15.9	15.4	13.5	18.6	
6	7	14.6	16	13.8	12.6	11.9	10.9	9.5	10.5	11.4	11.2	11.4	8.7	11.1	14.6	13.1	13.3	11.8	7.6	9	9.6	10	9.6	11.3	12.2	16
7	8	8.9	10.1	12.2	11.4	11.7	12.4	12.2	16.7	14.1	16.6	16.2	18	19.7	19.1	18.4	17.2	18.8	13.4	13	14.7	8.7	4.8	2.7	19.7	
8	9	3.7	3.7	5.6	3	2.8	3.1	6	5.6	11.3	11.7	10.4	11.7	12.3	12.6	13	12	11	10.2	6.4	7.9	9.1	9.2	9.1	13	
9	10	7.7	7.7	7	4.5	1.6	4.8	7.8	10.5	10.9	11.5	13.4	13.9	14	15.5	12	13.2	14.6	11.7	8	9.2	15.2	10.8	10.5	15.5	
10	11	15.7	13.1	13.3	18.8	13.8	14.7	16.2	15.9	17.7	21	24.1	21.8	23.7	23.5	25.2	22.8	14.8	11	10.4	6.9	6.5	5.9	5.4	25.2	
11	12	0.8	4.8	4.7	5.7	6.5	5.8	8.4	5.9	8.1	6.8	8.5	8.3	7	9.2	8.9	8.5	9	8.9	5.8	6.3	9.4	9	9.3	9.4	
12	13	9.7	8.9	11.1	9.1	10.9	11.9	11.2	11.5	10.1	8.5	11.6	11.1	9.9	11.2	11.2	11.5	8.8	11.6	13.4	12.3	9.6	10.6	11.4	13.4	
13	14	13.2	9.9	10.3	13.3	15.6	16	16.1	18.4	18	19.3	15.6	16	15.1	16.4	18.4	11.8	12.4	10.5	5.9	4.1	3.3	3.5	3.2	19.3	
14	15	3.1	3.2	3.6	2.9	8	4.7	9	10.4	8.7	14.8	14.7	14.9	13.9	12.3	11.7	10.5	8.4	6	4	4.3	5.6	2.8	3.5	14.9	
15	16	4	3.7	5.4	3.4	3.3	7.6	9.8	11.8	14.7	15.3	15.9	21.1	19.8	17.4	15.3	16.8	15.2	12.3	10.1	6.7	5.8	5.9	6	21.1	
16	17	7.6	7.6	6.6	4.7	3.4	7.1	8.6	10.3	9.9	13	12.9	15.7	13.2	13	14.5	12.9	11.4	7.6	2.5	3.4	3	1.8	4.5	15.7	
17	18	3	2.9	3.2	0.9	2	1.8	5.7	7.4	7.8	11.1	13.7	14.2	17.1	15.1	15	12.9	13.8	7.8	8.3	5.6	5.1	6.5	5.7	17.1	
18	19	10.3	9.1	12	12.3	12	5.7	8.8	9.7	6.2	8.3	13	14.8	15.1	13.8	11.1	8.8	8	6	5.6	2.5	2.6	2.7	2.1	15.1	
19	20	4.8	2.2	3.4	2.9	7.3	9.1	8.6	17.6	19.2	20.3	24.4	24.7	21.2	24.8	23.8	19.2	24.5	17.8	13.9	17.3	13.6	13.6	12.8	24.8	
20	21	9.9	9.9	8.1	7.6	7.3	6.7	5.4	8.6	15.2	16.3	14.6	23.2	23.6	23.3	21.5	20.4	27.2	31.4	34.7	28.2	29.6	28.1	24.4	34.7	
21	22	21.7	16.7	16.9	15.7	15	15.7	18.6	17.5	20.6	18.8	19.8	21.1	20.9	20.4	21.1	19.6	18	14.7	9.9	4.5	5.3	5.1	5.4	22.6	
22	23	6	7.4	8.1	9.6	8	8.7	8.5	10.7	12.3	15.9	15.2	18.6	21.1	20.6	19.5	18.3	14.5	13.1	11	6.3	5.8	6.1	3.6	21.1	
23	24	3.8	4.9	5.8	4	3.6	4.1	6.7	16.9	23.2	23.1	24.6	26.2	26.9	32.4	19.8	26.6	36.7	34	31.9	23.5	21.1	14.2	14.2	36.7	
24	25	7.6	7.1	5.2	6.4	5.3	5.3	9.7	12.1	12	13.9	13.8	14.8	16.9	16.3	15.3	12.3	12.9	8.8	5.9	8.5	10.8	6.9	6.1	16.9	
25	26	3.2	4.5	4.1	2.3	3.7	4.1	9.2	14.7	13.5	20	22.7	23.4	24.2	25.8	23.8	21.4	21.5	15.1	10.1	10.1	6.3	8.6	7.8	25.8	
26	27	4.4	5.7	3.8	3.6	3.1	4.3	12.2	14	12.8	13.4	22.4	23	27.6	20.9	18.7	9.1	9.2	6.3	4.2	11	3.4	10.2	6.5	27.6	
27	28	11.1	8.5	8.4	3.8	8.6	8.6	9	9.2	9.1	12.2	13.8	17.5	16.2	16.8	11.4	10.7	41.1	33.1	15.3	20.6	22.2	23.2	22.1	41.1	
28	29	32.3	31.2	27.3	19.8	17.8	18.4	19.1	16.2	13.8	15.9	16.3	19.8	14.2	16.2	17.4	14.1	9.1	6.7	7.6	8.1	7.2	8.6	16.2	37	
29	30	14.8	14.3	14	12.7	14.3	15.8	15.6	17.4	22.6	22.2	21.5	21.5	22.6	17.5	16.8	16.9	15.8	14.4	16.8	11.9	5.3	7.2	5.8	22.6	
30	PEAK	12.6	14.6	11.7	11.3	12.5	13.5	13	10	5.7	10.6	13.2	13	14	16.5	20.3	22.5	17.9	19.6	17.6	18.1	18.1	18	9.5	22.5	
PEAK		37.0	32.3	31.2	27.3	19.8	17.8	28.8	35.2	32.8	24.5	26.3	27.3	26.2	27.6	32.4	25.2	26.6	41.1	34.0	34.7	28.2	29.6	28.1	24.4	

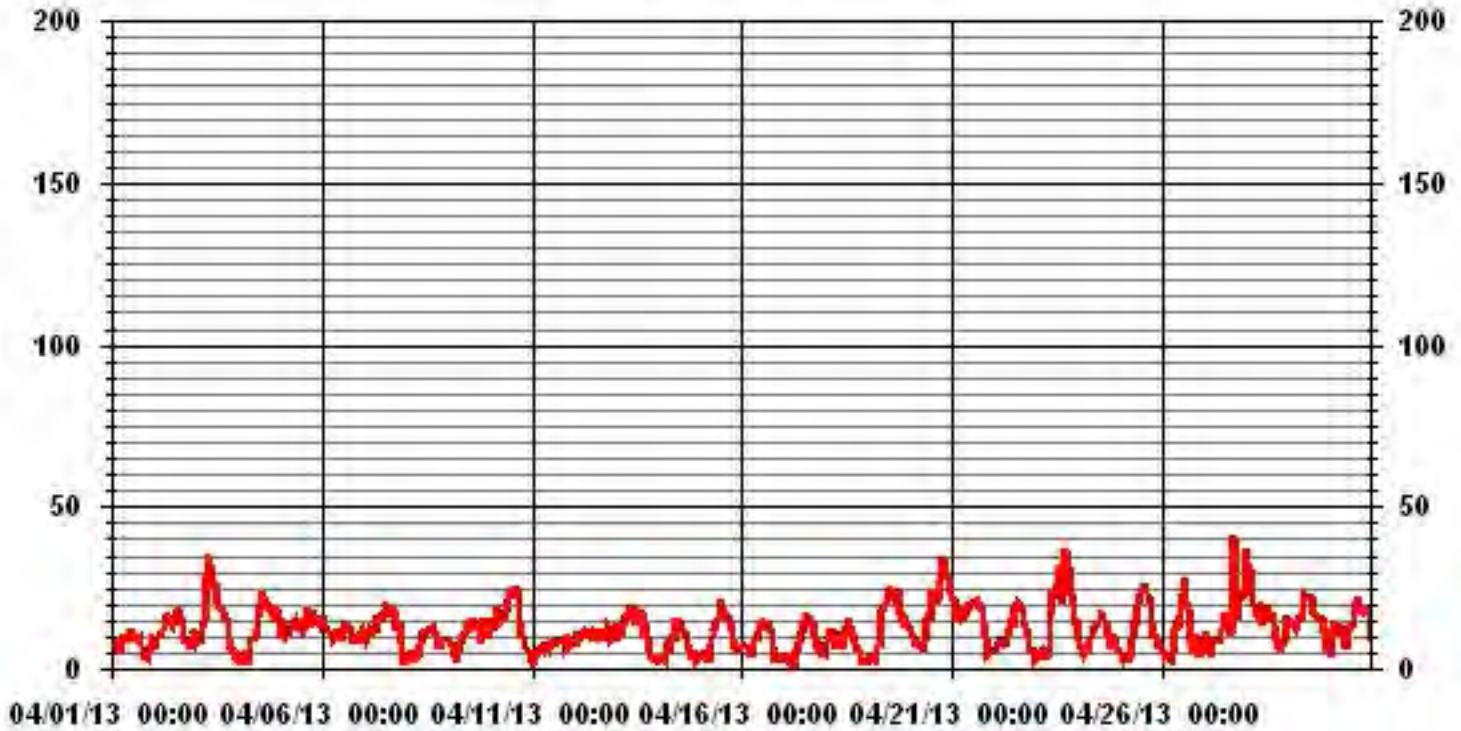
STATUS FLAG CODES

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

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS READING	41.1	KPH	@ HOUR(S)	17
			ON DAY(S)	27

01 Hour Averages



— LICA WSMAX KPH

LICA
WSP / WD Joint Frequency Distribution (Percent)

April 2013

Distribution By % Of Samples

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

Wind Parameter : WD
Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 6.0	1.80	2.63	5.00	2.77	2.77	1.38	4.58	1.38	.97	.97	2.08	7.36	4.02	2.22	2.22	.97	43.19
< 12.0	.27	4.30	5.55	2.50	4.30	2.22	6.25	.55	.27	.41	.55	5.41	2.63	1.80	1.52	2.63	41.25
< 20.0	.13	.00	.41	.13	.41	.27	3.61	.27	.00	.00	.41	.13	1.52	1.25	3.19	2.50	14.30
< 29.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.27	.41	.69
< 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	2.22	6.94	10.97	5.41	7.50	3.88	14.44	2.22	1.25	1.38	3.05	12.91	8.19	5.27	7.22	6.52	

Calm : .55 %

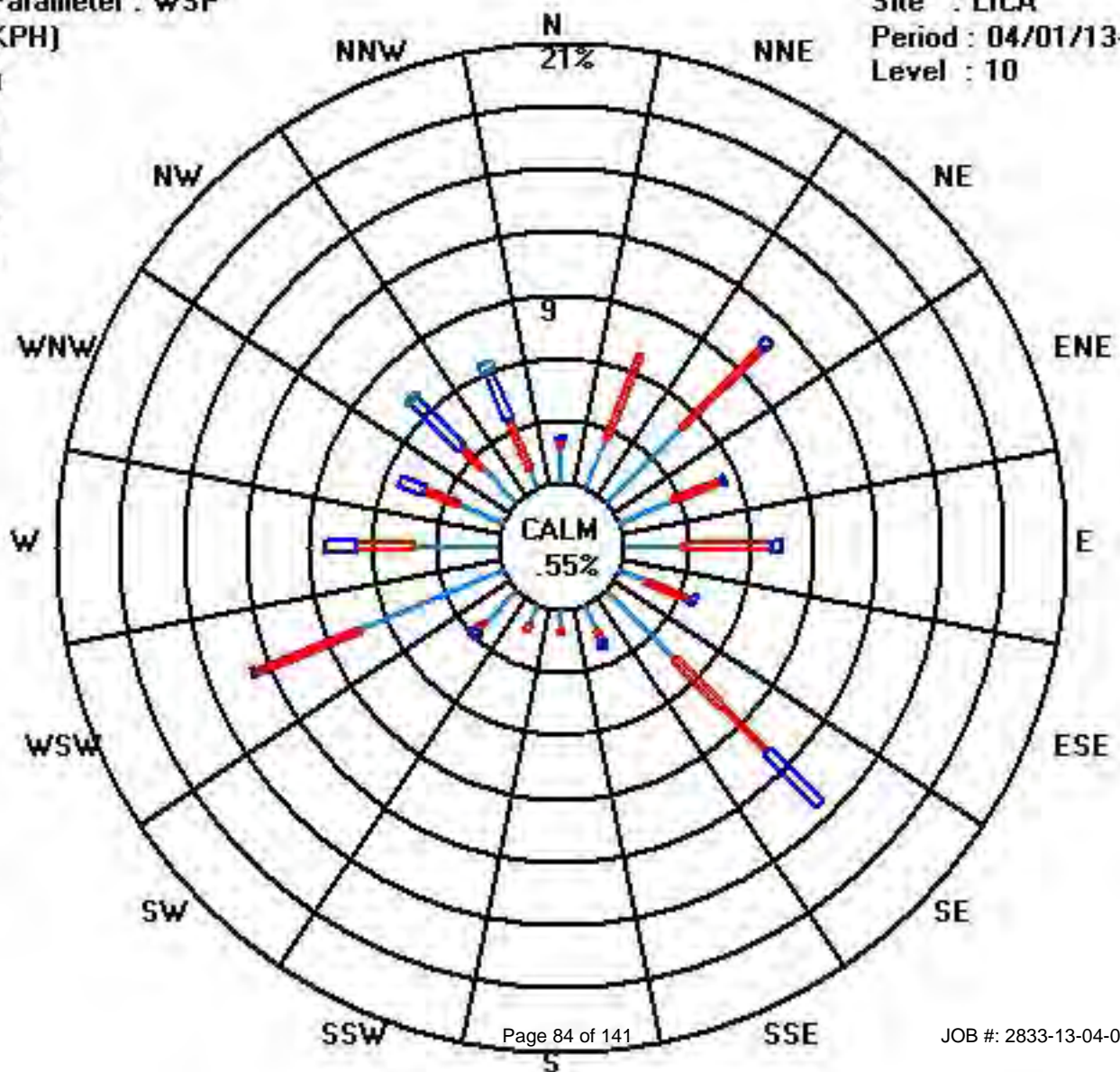
Total # Operational Hours : 720

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 6.0	13	19	36	20	20	10	33	10	7	7	15	53	29	16	16	7	311
< 12.0	2	31	40	18	31	16	45	4	2	3	4	39	19	13	11	19	297
< 20.0	1		3	1	3	2	26	2			3	1	11	9	23	18	103
< 29.0															2	3	5
< 39.0																	
>= 39.0																	
Totals	16	50	79	39	54	28	104	16	9	10	22	93	59	38	52	47	

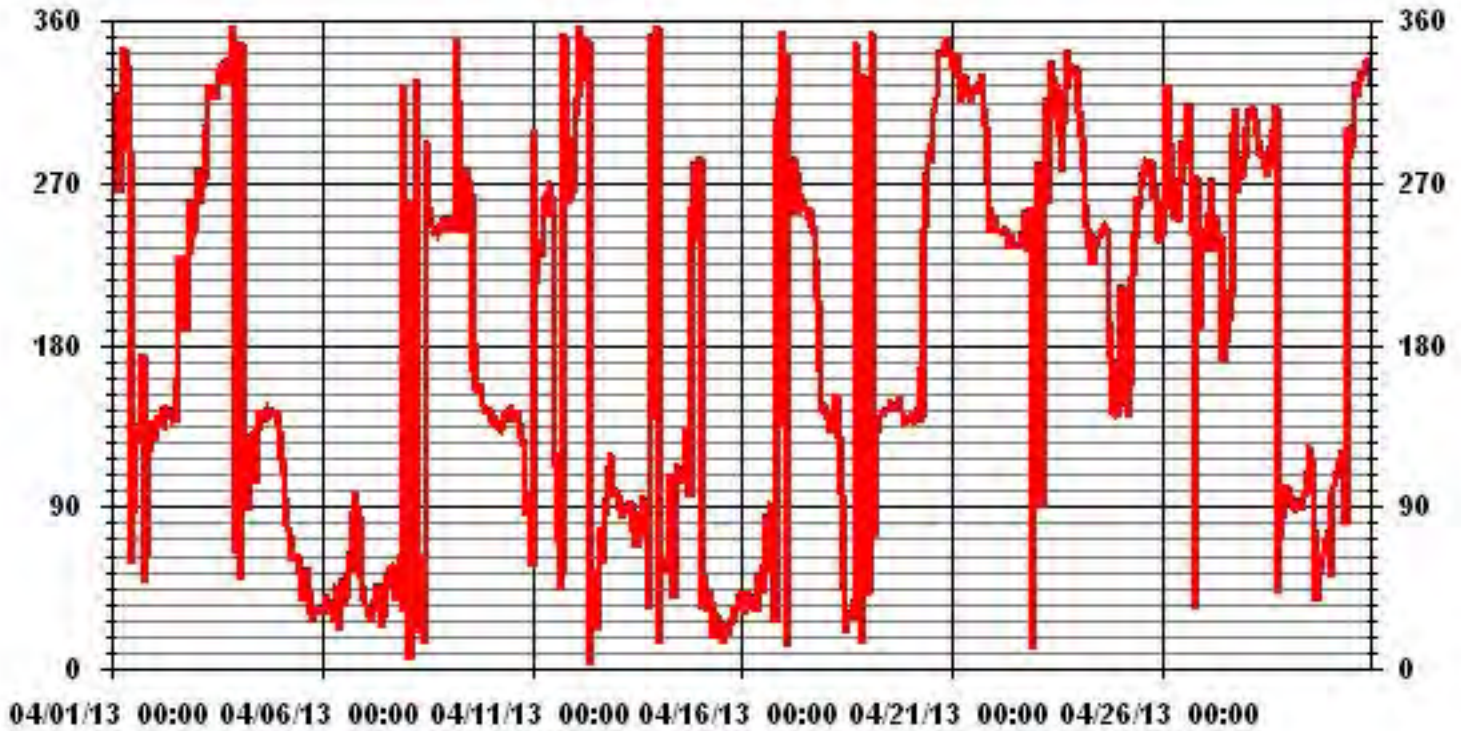
Calm : .55 %

Total # Operational Hours : 720



Vector Wind Direction

01 Hour Averages



— LICA WDR DEG

Standard Deviation Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

APRIL 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	9	25	28	17	12	16	14	20	41	33	44	27	39	34	32	30	22	50	30	38	25	19	19	14
2	15	21	15	16	14	15	17	18	16	19	15	20	17	35	35	27	25	38	36	30	21	26	18	20
3	16	15	13	13	15	16	17	17	16	17	20	20	19	19	20	23	19	15	13	10	9	10	21	54
4	21	23	6	35	24	34	51	21	20	23	27	27	21	17	18	15	14	16	15	15	15	15	17	16
5	18	24	24	21	22	19	20	15	16	19	18	19	21	21	20	20	18	20	20	20	21	22	22	24
6	21	20	21	22	21	20	20	20	20	21	21	22	21	21	21	19	19	21	21	18	18	19	19	18
7	21	20	21	19	19	20	20	20	22	21	20	21	22	21	20	19	21	21	21	17	15	29	14	11
8	11	36	34	16	16	17	9	24	28	24	33	39	40	31	22	24	22	19	18	16	15	15	17	14
9	14	14	14	14	16	38	35	24	22	31	21	20	35	27	37	41	33	29	36	37	31	17	18	18
10	14	14	14	20	14	20	16	16	13	15	16	17	17	18	16	15	17	18	21	25	18	20	20	24
11	23	23	65	28	22	24	33	28	28	35	35	49	46	38	25	29	26	57	14	15	31	16	15	14
12	14	14	11	15	16	13	13	16	25	29	26	23	22	24	26	21	18	20	19	24	24	20	20	20
13	18	21	18	19	18	19	18	19	19	19	21	21	19	23	21	22	22	24	20	20	53	27	36	30
14	21	24	17	15	15	14	14	29	25	22	27	28	28	28	28	39	31	39	26	25	12	12	11	38
15	26	44	15	17	19	17	19	21	19	23	21	22	21	20	19	20	19	19	20	18	21	17	20	18
16	17	16	20	18	18	16	18	20	22	20	23	22	19	25	27	30	21	25	18	8	33	35	15	49
17	33	24	18	26	0	6	0	37	46	48	26	24	25	20	23	20	22	19	24	38	38	27	20	35
18	22	14	28	21	23	31	43	22	25	24	23	19	22	23	24	22	31	55	41	21	40	36	24	12
19	20	15	19	14	22	25	16	19	16	16	16	19	22	25	21	25	22	20	29	18	17	15	15	15
20	15	14	14	16	15	19	36	37	37	19	20	19	21	17	18	17	16	16	16	16	18	18	16	16
21	14	14	16	14	13	12	16	17	18	20	24	23	21	21	25	21	19	18	17	13	11	9	9	11
22	12	11	14	16	18	16	19	22	22	23	23	23	22	22	22	21	21	22	27	19	14	19	52	48
23	36	44	43	33	20	34	28	19	23	20	18	20	20	23	23	20	19	16	18	16	17	14	15	14
24	14	12	13	11	10	13	23	32	35	24	24	23	28	25	26	25	23	21	38	44	20	15	16	24
25	50	61	65	35	49	45	43	48	21	22	21	22	20	21	21	20	20	19	19	14	14	14	15	19
26	22	35	26	50	5	52	17	19	20	24	23	26	20	22	21	20	27	39	31	16	27	50	27	20
27	31	18	20	20	21	21	20	32	47	41	35	40	40	39	41	54	30	23	22	15	18	18	19	19
28	20	17	16	16	16	16	19	21	23	27	28	28	25	32	25	26	34	46	40	18	20	19	21	22
29	22	22	22	21	20	19	23	21	22	23	24	25	25	27	28	28	20	20	19	17	17	17	17	19
30	19	23	21	25	24	24	24	24	33	40	28	22	20	24	20	17	18	16	15	15	15	16	15	12

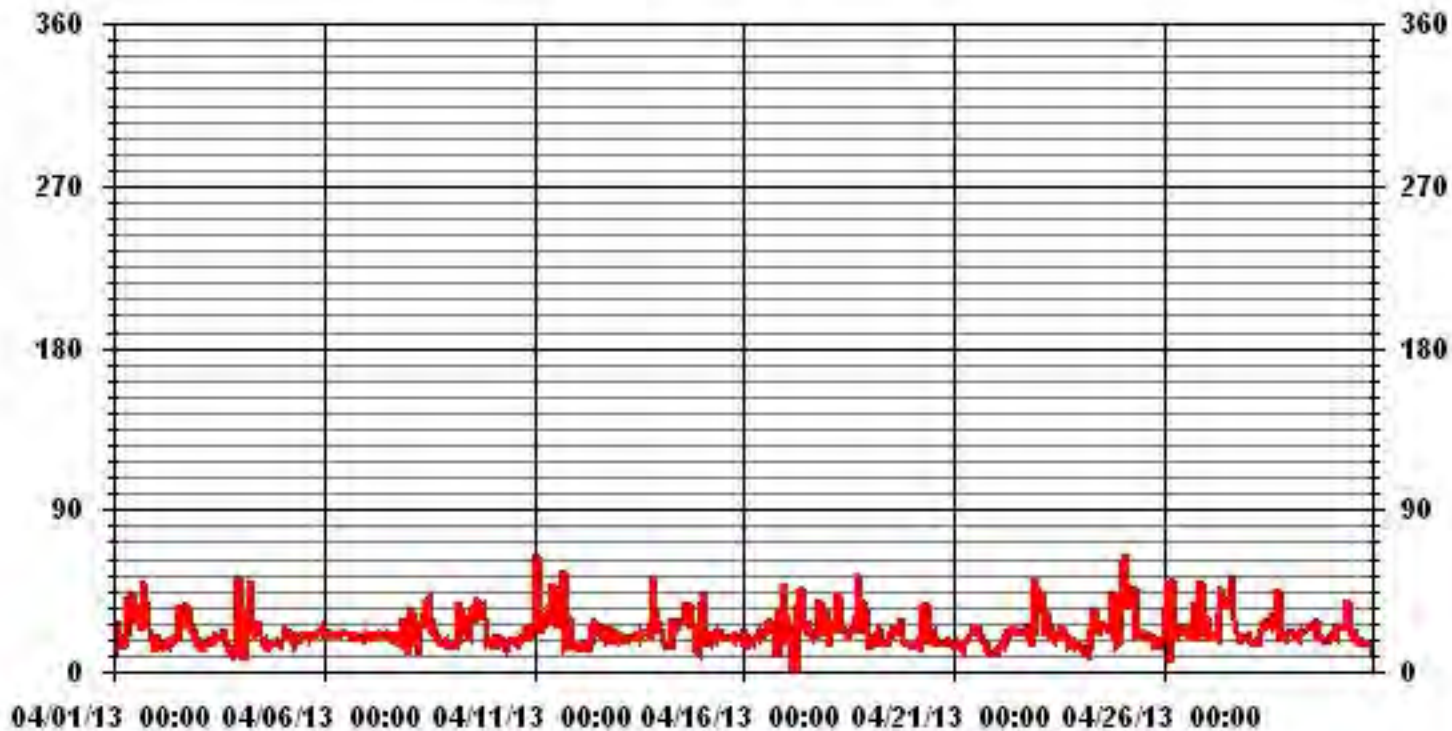
STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- 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

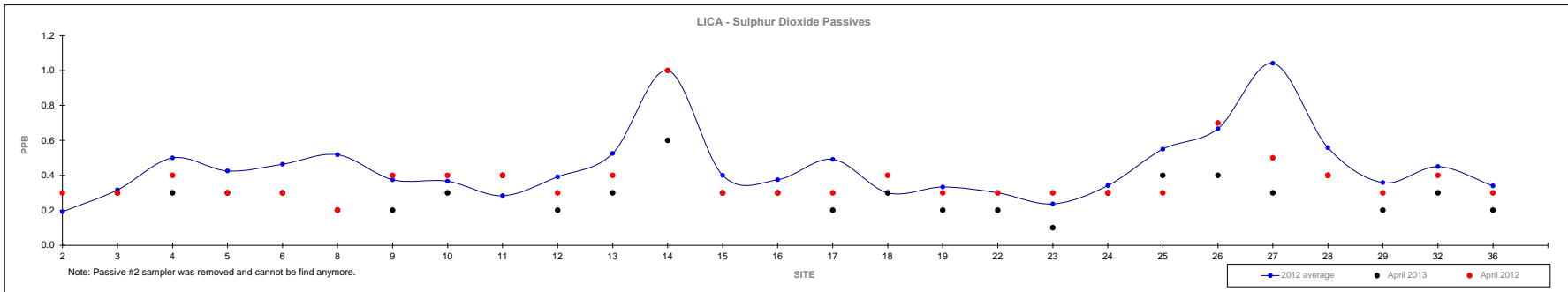


Non-Continuous Monitoring

Passive Summary Results for April 2013

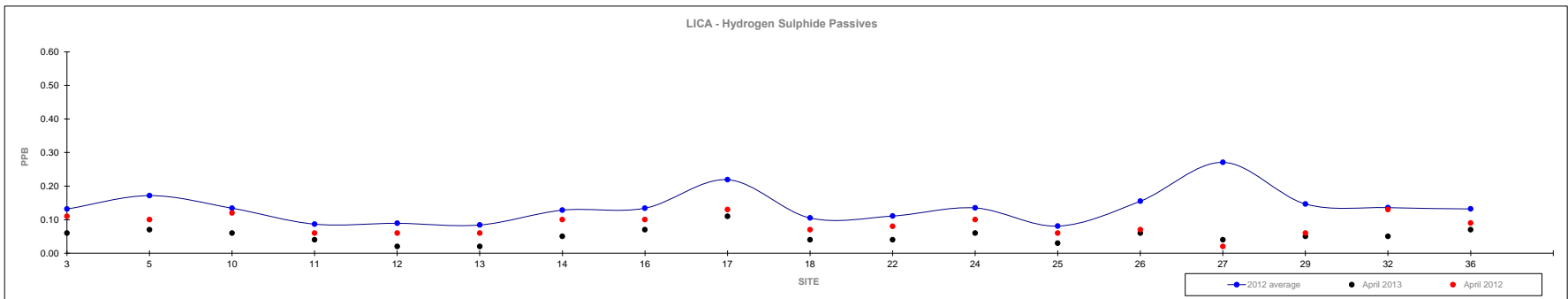
Lakeland Industry & Community Association

	Sulphur Dioxide ppb																																April 2013	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	0.29	-					
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	0.1	#23					
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	0.6	#14					



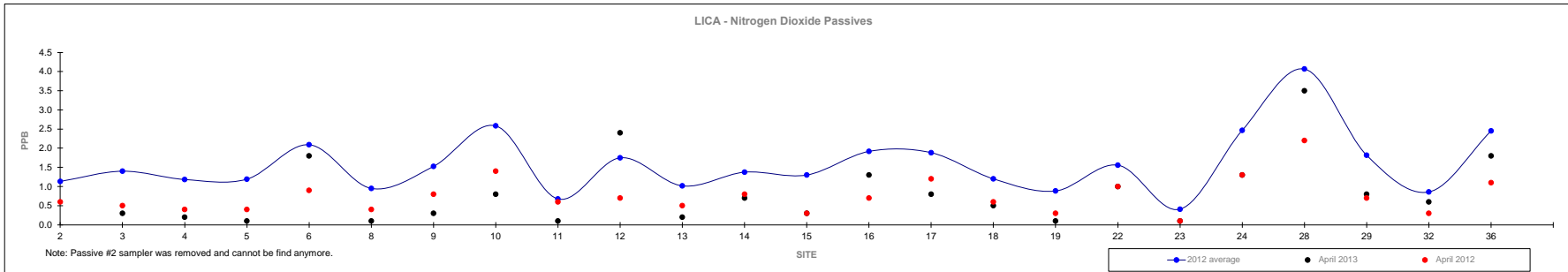
Passive Summary Results for April 2013 Lakeland Industry & Community Association

	Hydrogen Sulphide ppb																Reading	April 2013	Site	
	3	5	10	11	12	13	14	2012 16	17	18	22	24	25	26	27	29	32	36		
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	0.05	-
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	<0.02	#13
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	0.11	#17



Passive Summary Results for April 2013 Lakeland Industry & Community Association

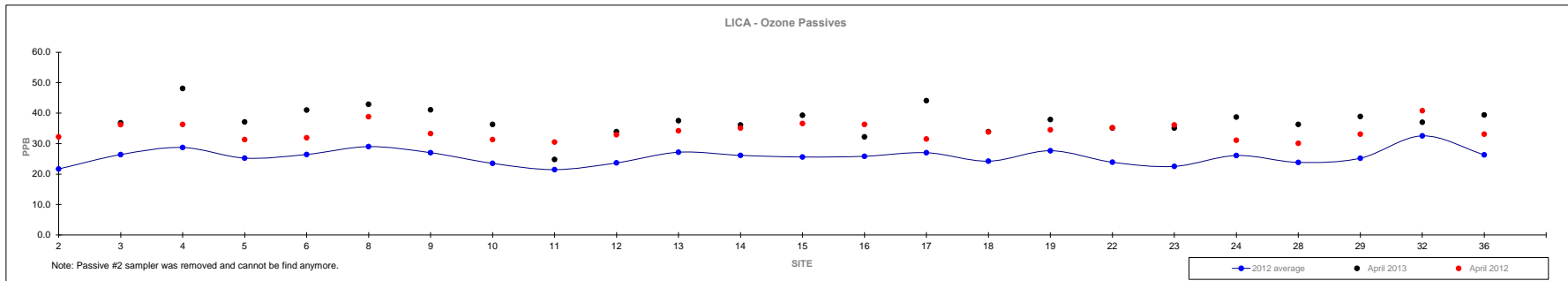
	Nitrogen Dioxide ppb																														April 2013	
	2	3	4	5	6	8	9	10	11	12	13	14	15	16	17	18	19	22	23	24	28	29	32	36	Reading	Site						
Mean	1.1	1.4	1.2	1.2	2.1	1.0	1.5	2.6	0.7	1.8	1.0	1.4	1.3	1.9	1.9	1.2	0.9	1.6	0.4	2.5	4.1	1.8	0.9	2.5	0.8	-						
Minimum	0.4	0.5	0.4	0.3	0.9	0.3	0.7	1.3	0.2	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	<0.1	#19, #23						
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	3.5	#28						



Passive Summary Results for April 2013

Lakeland Industry & Community Association

	Ozone ppb																												Reading	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	April 2013					
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	37.5	-				
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	24.8	#11				
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	48.1	#4				



Calibration Reports

Sulphur Dioxide

SO2 Calibration Report

Station Information

Calibration Date	April 10, 2013	Previous Calibration	March 8, 2013
Company	Lakeland Community and Industry Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	10:15	End Time (MST)	13:30
Reason:	Monthly Calibration		
Barometric Pressure	28.05 inHg	Station Temperature	23.5 Deg C
Cal Gas	49.6 ppm	Gas Cyl. #	BAL3031
DAS Output Voltage	49.6 Volts	Cal Gas Expiry date	December 29, 2016
		Chart Rec. Output	NA Volts

Equipment Information

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

Analyzer Settings

Before Calibration				After Calibration			
Concentration Range	0 - 500 ppb						
Sample Flow / Box Temp	447 ccm	28.7 Deg C		448 ccm	28.7 Deg C		
HVPS / Lamp Setting	-631.6	734		-631.6	737		
PMT / RxCell Temp	OK Deg C	45.2 Deg C		OK Deg C	45.4 Deg C		
Converter / IZS Temp	NA Deg C	45 Deg C		NA Deg C	45.0 Deg C		
Offset / Slope	6.3	1.067		6.2	1.061		

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4995	0	0	0	N/A
	No Zero Adj			
4955	39.9	396	400	0.9905
4955	39.9	396	399	0.9930
4975	19.8	197	202	0.9734
4984	9.9	98	102	0.9640
4995	0	0	1	N/A
Sum of Least Squares				0.9879
New Correction Factor				0.9930

IZS Calibration Data

Before Calibration		After Calibration	
Auto Zero	0.0	0.0	
Auto Span	380.2	379.5	
Sample Lines Connected		YES	

Percent Change

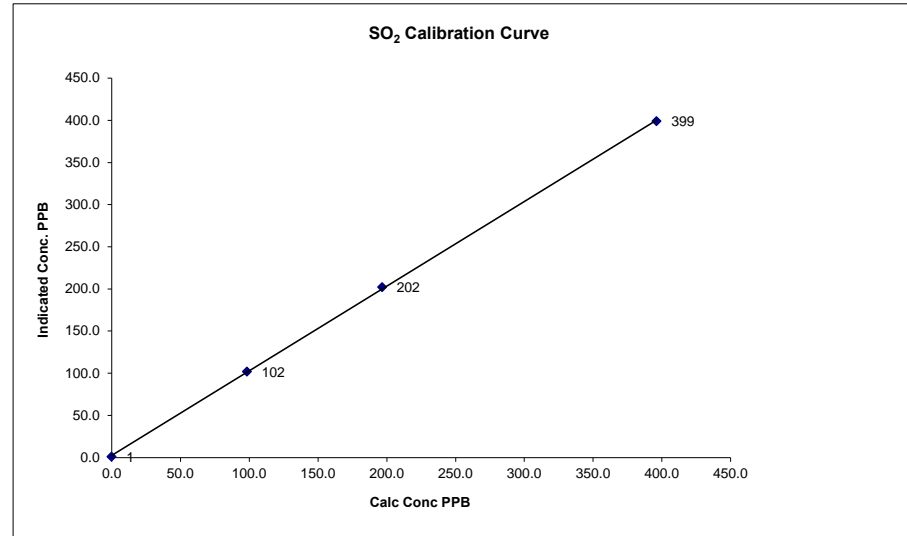
Previous Month's Calibration Correction Factor:	1.0000
Current Correction Factor Before Span Adjust:	0.9905
Percent Change:	1.0%

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

SO2 Calibration Curve

Calibration Date	April 10, 2013
Company	Lakeland Community and Industry Association
Plant / Location	LICA 1 - Cold Lake South
Start Time (MST)	10:15
End Time (MST)	13:30

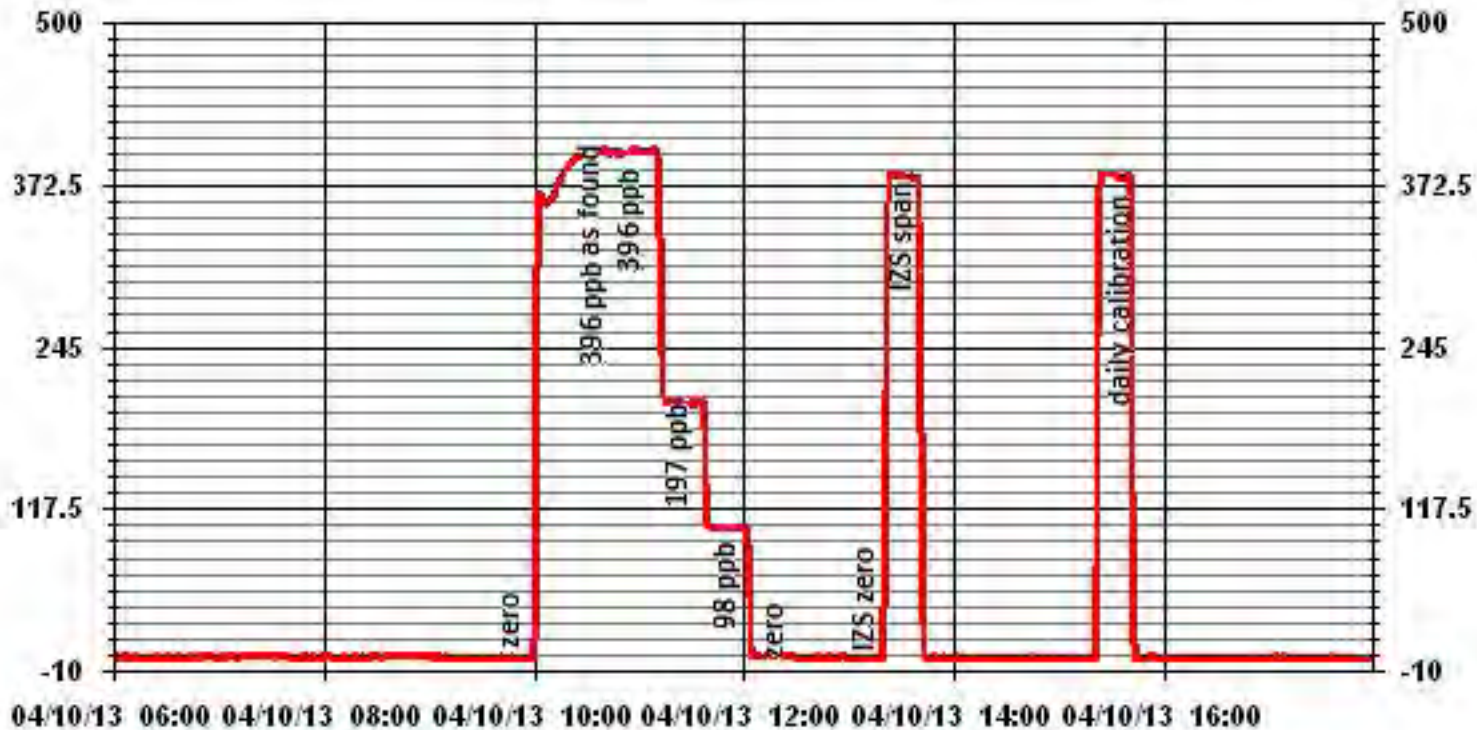
Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope Intercept	(≥ 0.995) (0.85 to 1.15) (± 3% F.S.)
0	1	n/a		0.999897
98	102	0.9640		1.003549
197	202	0.9734		2.596548
396	399	0.9930		



Notes:

Calibration Performed by: Waseem Ahmed/Limin Li

01 Minute Averages



Total Reduced Sulphur

TRS Calibration Report

Station Information

Calibration Date	April 10, 2013	Previous Calibration	March 8, 2013
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	10:15	End Time (MST)	13:45
Reason:	Monthly Calibration		
Barometric Pressure	28.05 inHg	Station Temperature	23.5 Deg C
Cal Gas	10.1 ppm	Gas Cyl. #	3LM00504
DAS Output Voltage	0 - 10 Volts	Cal Gas Expiry date	December 25, 2015
		Chart Rec. Output	NA Volts

Equipment Information

Analyzer Make / Model:	Thermo 450i	S/N :	812728560	Method:	Fluorescent
Converter Make / Model:	CDN 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:	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	497 ccm 31.4 Deg C	498 ccm 31.4 Deg C	
HVPS / Lamp Setting	-650.1 747	-650.1 750	
PMT / RxCell Temp	OK Deg C 45.2 Deg C	OK Deg C 44.9 Deg C	
Converter / IZS Temp	810 Deg C 44.99 Deg C	810 Deg C 45.0 Deg C	
Offset / Slope	13 0.953	12.4 0.908	

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.			
4960	40.0	81	85	0.9506
4960	40.0	81	82	0.9854
4980	20.0	40	41	0.9854
4990	11.5	23	24	0.9676
5000	0.0	0	0	N/A
		Sum of Least Squares		0.9842
		New Correction Factor		0.9854

IZS Calibration Data

Before Calibration		After Calibration	
Auto Zero	0.0		0.0
Auto Span	31.0		33.4
Sample Lines Connected			YES

Percent Change

Previous Month's Calibration Correction Factor:	0.9877
Current Correction Factor Before Span Adjust:	0.9506
Percent Change:	3.9%

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

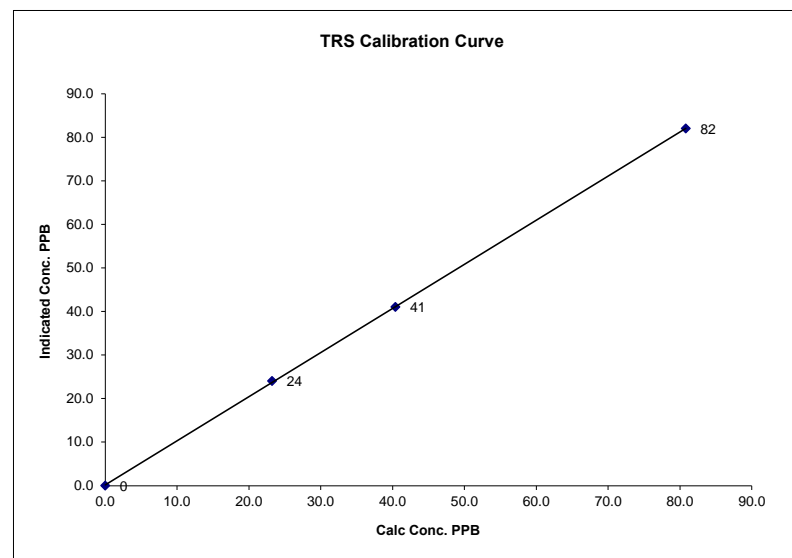
Utilizing API zero air.

Calibration Performed by: Waseem Ahmed

TRS Calibration Curve

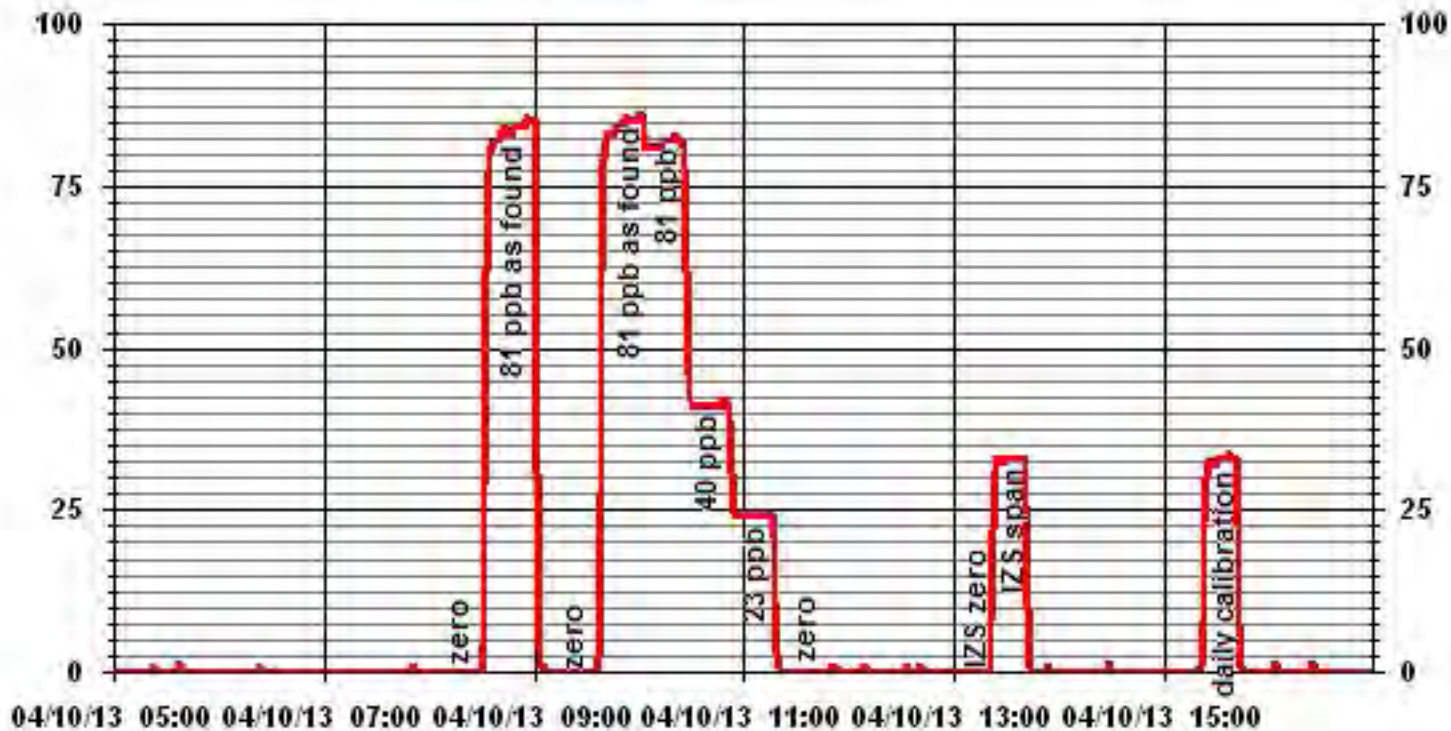
Calibration Date	April 10, 2013
Company	Lakeland Industry & Community Association
Plant / Location	LICA 1 - Cold Lake South
Start Time (MST)	10:15
End Time (MST)	13:45

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		0.999963
23	24	0.0000		1.013255
40	41	0.5664		0.165676
81	82	0.4927		

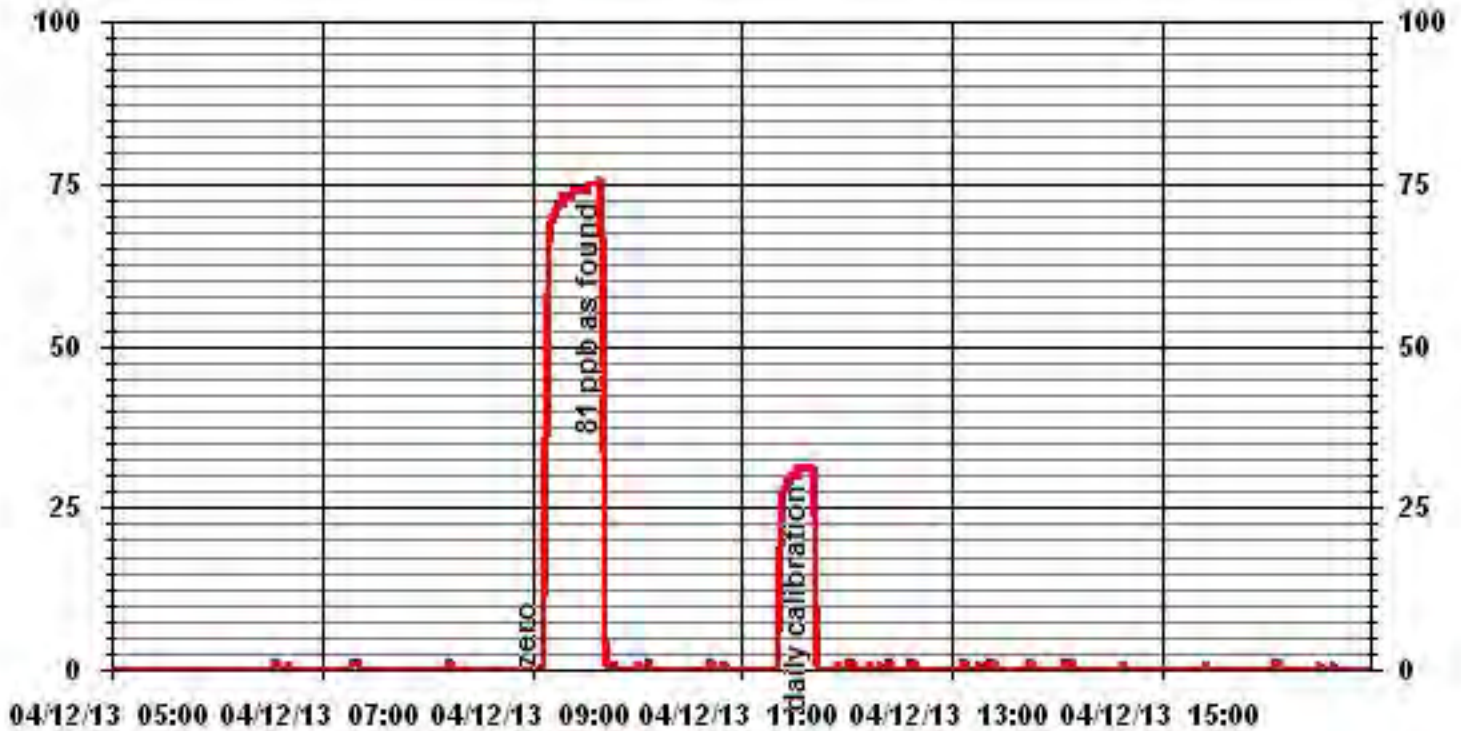


Notes:

01 Minute Averages

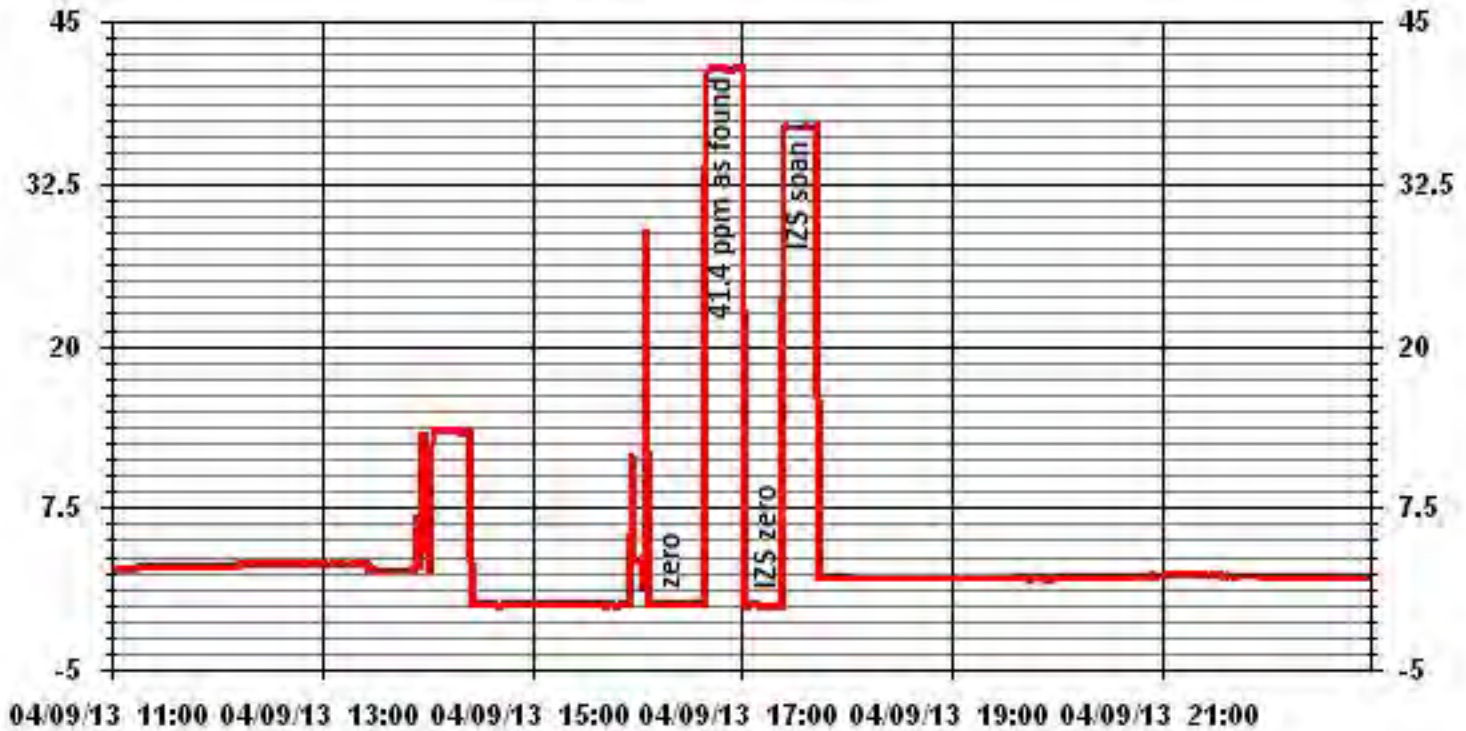


01 Minute Averages



Total Hydrocarbons

01 Minute Averages



THC Calibration Report

Station Information			
Calibration Date:	April 11, 2013	Previous Calibration	April 9, 2013
Company:	Lakeland Industry and Community Association		
Plant / Location:	LICA1/Cold Lake		
Start Time (MST)	9:20	End Time (MST)	11:40
Reason:	Post-Repair Calibration		
Barometric Pressure:	27.91 inHg	Station Temperature:	23 Deg C
Calibrator:	API 700	S/N:	831
Cal Gas Concentration:	CH4 600 PPM TOTAL CH4 1161.0 PPM	C3H8 204 PPM Gas Cyl. # LL55310	Cal Gas Expiry Date: September 9, 2013
DAS make & Model:	ESC 8832	S/N :	3485
Chart Recorder:	NA	S/N:	NA
Output Voltage Range:	0 - 10 VDC	Chart Speed:	NA mm/hr

Analyzer Information

Make / Model	TEI 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	-0.2	NA
2000	0.0	0.0	0.0	NA
2000	74.0	41.4	41.1	1.0079
	No Span Adj.			
2000	37.0	21.1	20.6	1.0237
2000	20.0	11.5	11.2	1.0263
2000	0.0	0.0	0.0	NA
New Correction Factor:				1.0079

Percent Change

Previous Calibration Correction Factor:	1.0000
Current Correction Factor Before Span Adjust:	1.0079
Percent Change:	-0.8%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	36.4	36.4
Sample Lines Connected	YES	

Cylinder Pressures			
Span	300 psi	Hydrogen 125 psi	Zero Air 32 psi

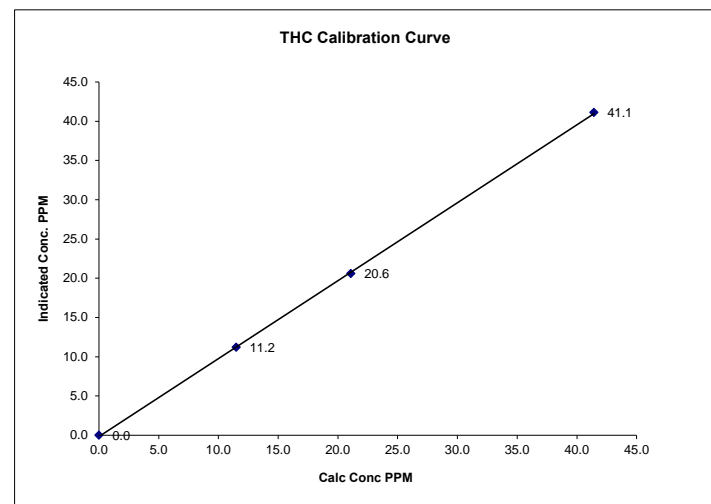
Notes: **NA : Not Applicable**

Calibration Performed by: Waseem Ahmed

THC Calibration Curve

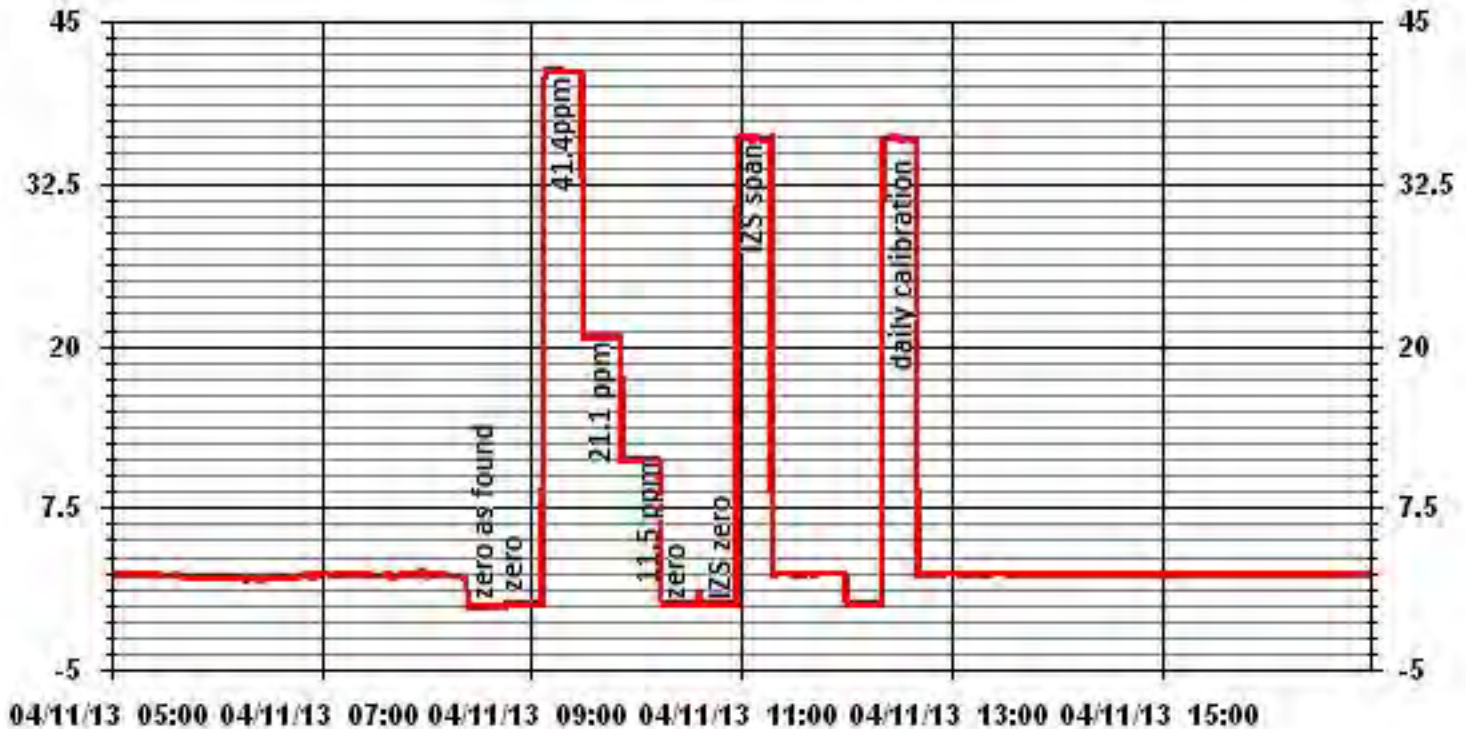
Calibration Date	April 11, 2013		
Company	Lakeland Industry and Community Association		
Plant / Location	LICA1/Cold Lake		
Start Time (MST)	9:20	End Time (MST)	11:40

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	NA	0.999916	0.992822	-0.14412
11.5	11.2	1.0263			
21.1	20.6	1.0237			
41.4	41.1	1.0079			

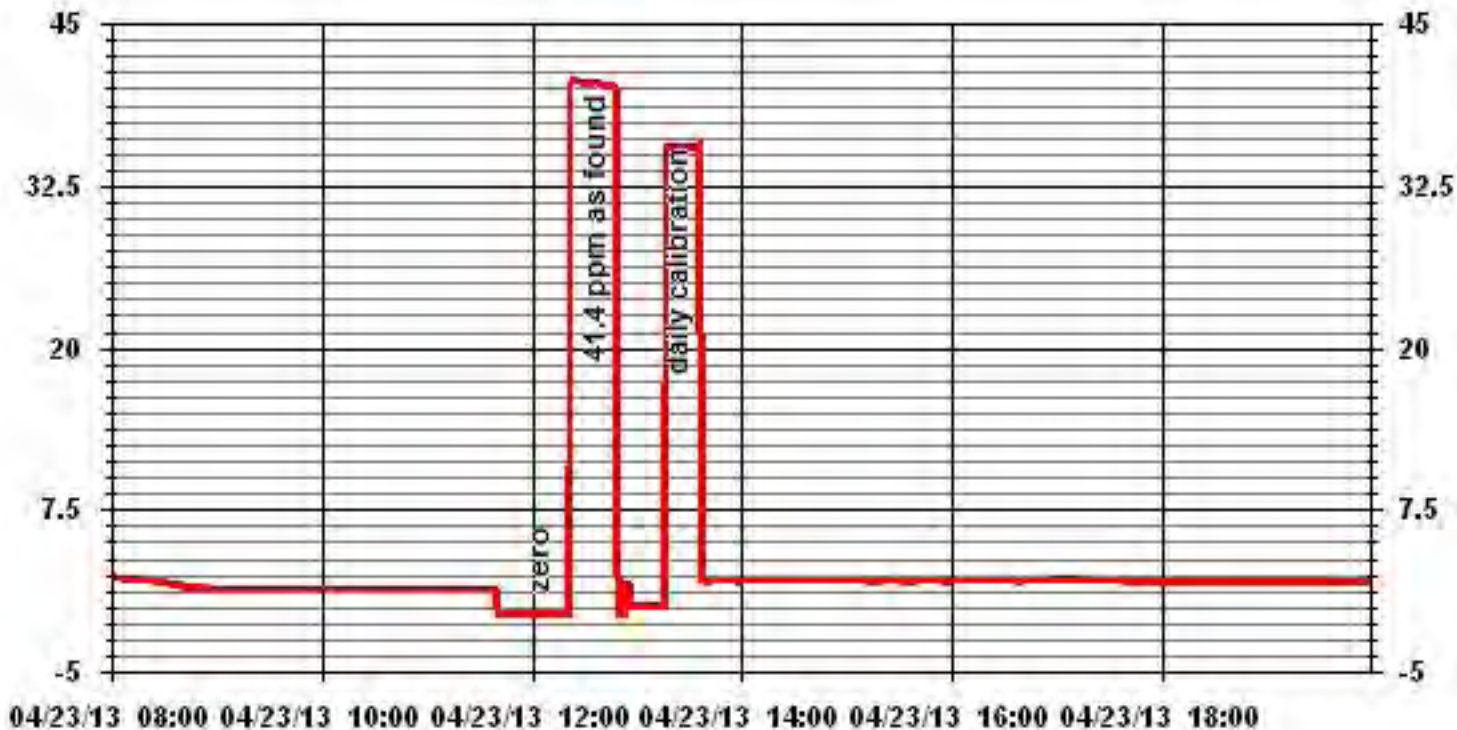


Notes:

01 Minute Averages



01 Minute Averages



Particulate Matter 2.5

TEOM 1405F Audit

	<u>Station</u>		<u>Audit Transfer Standard</u>
Date:	April 10, 2013	Make/Model:	Streamline FTS
Station Name:	LICA 1	Serial Number:	Hi 091001, Lo 091099
Location:	Cold Lake South	Cell s/n:	NA
Operator:	LICA	Thermometer s/n:	Station Temp Sensor

	<u>Sampler</u>		<u>Set-up and current Sampler readings</u>
Make/Model	Thermo Scientific 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 (%)	30.4%
Firmware Ver.	1.52	K _o Factor	14578.0
Parameter	PM 2.5 (with FDMS)	Temp (°C)	1.9
		Press (ATM)	0.933

Conversion from mmHg or "Hg to ATM (Atmospheres)

ATM = (mmHg) X (1.316 X 10⁻³) or ATM = ("Hg) X (3.34207 X 10⁻²)

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

Audit

Status			
Noise <0.10ug	0.027	Warnings	None
Pump Vacuum < 0.40 atm	0.37	Pump Guage (in Hg)	NA
Temperature/Pressure			
Measured Temp (± 2 °C)	2.20	Δ °C	-0.3
Measured Press (± 0.01atm)	0.930	DATM	0.003
Flow Audit			
Indicated Main Flow (l/min)	3.00	Main Flow Drift (±10.0%)	0.20%
Measured Main Flow (l/min)	2.94	Flow Adjusted to Measured?	YES
Indicated Bypass Flow (l/min)	13.67	Bypass Flow Drift (±10.0%)	0.41%
Measured Bypass Flow (l/min)	13.40	Flow Adjusted to Measured?	YES
Leak Check		Instrument Setup	
Main (< 0.15 l/min)	Base=0.01 Ref=0.07	Flow Control = Active	
Aux (< 0.6 l/min)	Base=0.00 Ref=0.28	Report Conditions = Actual	
K_o Factor			
Measured	NA		
K _o Difference (± 2.5%)	NA		

Start Time: 14:00 **Finish Time:** 16:00

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

New Filter Loading %: 19.2%

Comments:

TEOM 1405F Audit

	<u>Station</u>		<u>Audit Transfer Standard</u>
Date:	April 23, 2013	Make/Model:	Streamline FTS
Station Name:	LICA 1	Serial Number:	Hi 091001, Lo 091099
Location:	Cold Lake South	Cell s/n:	NA
Operator:	LICA	Thermometer s/n:	Station Temp Sensor

	<u>Sampler</u>		<u>Set-up and current Sampler readings</u>
Make/Model	Thermo Scientific 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 (%)	22.1%
Firmware Ver.	1.52	K _o Factor	14578.0
Parameter	PM 2.5 (with FDMS)	Temp (°C)	5.7
		Press (ATM)	0.941

Conversion from mmHg or "Hg to ATM (Atmospheres)

ATM = (mmHg) X (1.316 X 10⁻³) or ATM = ("Hg) X (3.34207 X 10⁻²)

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

Audit

Status			
Noise <0.10ug	0.009	Warnings	None
Pump Vacuum < 0.40 atm	0.37	Pump Guage (in Hg)	NA
Temperature/Pressure			
Measured Temp (± 2 °C)	5.74	Δ °C	-0.04
Measured Press (± 0.01atm)	0.941	DATM	0.000
Flow Audit			
Indicated Main Flow (l/min)	3.00	Main Flow Drift (± 10.0%)	2.96%
Measured Main Flow (l/min)	3.08	Flow Adjusted to Measured?	YES
Indicated Bypass Flow (l/min)	13.67	Bypass Flow Drift (± 10.0%)	1.61%
Measured Bypass Flow (l/min)	13.96	Flow Adjusted to Measured?	YES
Leak Check		Instrument Setup	
Main (< 0.15 l/min)	NA	Flow Control = Active	
Aux (< 0.6 l/min)	NA	Report Conditions = Actual	
K_o Factor			
Measured	NA		
K _o Difference (± 2.5%)	NA		

Start Time: 12:40 Finish Time: 15:00

Sample Inlet Cleaned: NO New Filters Installed: NO
 New Filter Loading %: NA

Comments:

Nitrogen Dioxide

NOx - NO- NO2 Calibration Report

Station Information

Calibration Date	April 10, 2013		Previous Calibration		March 11, 2013	
Company	LICA		Plant/Location		Cold Lake South	
Start Time (MST)	10:15		End Time (MST)		16:15	
Reason:	Monthly Calibration					
Barometric Pressure	28.05 inHg	Station Temperature	24 Deg C	MFCF	0	
Cal Gas Concentration	NOx 49.3 ppm	NO	49.2 ppm	Cal Gas Expiry date	December 29, 2016	
Cal Gas Cylinder #	BAL3031					
DAS Output Voltage	0 - 1 Volts		Chart Rec. Output	NA Volts		

Equipment Information

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

Analyzer Settings

Before Calibration				After Calibration				
Concentration Range	0 - 500			ppb				
Sample Flow/Conv. Temp	726 ccm	317	Deg C	737	ccm	318	Deg C	
Ozone Flow / Vacuum	OK	178.4	*Hg-A	OK	ccm	179	*Hg-A	
HVPS / A ZERO	-821	Volts	MV	-821	Volts	NA	MV	
Rx/ Temp / PMT Temp	49.9	Deg C	-2.5	Deg C	49.5	Deg C	-2.4	Deg C
Box Temp / IZS Temp	24.7	Deg C	OK	Deg C	28.2	Deg C	OK	Deg C
Offset	5.8	NOx	3.6	NO	4.1	NOx	3.5	NO
Slope	1.002	NOx	0.920	NO	1.006	NOx	0.937	NO
NO2 COEF / Conv Efficiency	0.998	NO2	NA		0.998	NO2	NA	

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	NA	0	0	NA	-2	0	-2	NA	NA
4995	0.0	NA	0	0	NA	0	0	0	NA	NA
4955	39.9	NA	394	393	NA	386	385	1	1.0150	1.0208
4955	39.9	NA	394	393	NA	394	392	2	1.0000	1.0026
4975	19.8	NA	195	195	NA	199	197	2	0.9723	0.9900
4985	9.9	NA	98	98	NA	102	101	1	0.9396	0.9655
5000	0.0	NA	0	0	NA	1	0	1	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		
4955	39.9	NA	394	393	NA	394	392	2	NA	NA
4955	39.9	350	394	NA	318	395	76	319	0.9969	100.32%
		No Adj.								
4955	39.9	150	394	NA	138	395	256	139	0.9928	100.74%
4955	39.9	75	394	NA	68	395	326	69	0.9855	101.52%

Linearity OK?	Yes	No	Sum of Least Squares Correction Factors:	NOx= 1.010	NO= 1.012	NO2= 0.996
				NOx= 1.0000	NO= 1.0026	NO2= 0.9969
				Average Converter Efficiency= 100.86%		

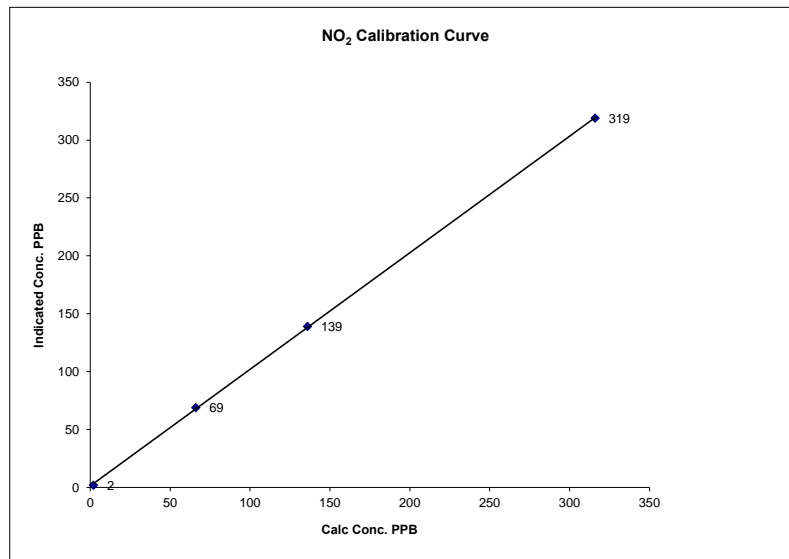
IZS Calibration Data

Before Calibration				After Calibration					
Auto Zero	-1.9	NOx	-1.8	NO2	0.0	NOx	0.0	NO2	
Auto Span	368	NOx	365	NO2	382	NOx	379	NO2	
				Sample Lines Connected: YES					
Percent Change from Previous Calibration				NOx	-1.5%	NO	-2.0%	NO2	0.3%
Notes	NA : Not Applicable								
Calibration Performed by: Waseem Ahmed									

NO2 Calibration Curve

Calibration Date	April 10, 2013	
Company	LICA	
Plant / Location	Cold Lake South	
Start Time (MST)	10:15	End Time (MST) 16:15

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999927
2	2	N/A	Intercept	(± 3% F.S.)	1.006968
66	69	0.9565			
136	139	0.9784			
316	319	0.9906			

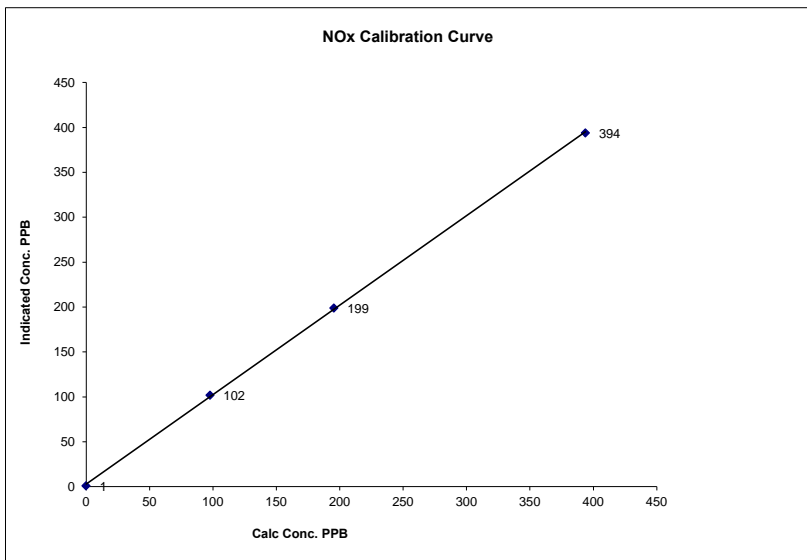


Notes:

NOx Calibration Curve

Calibration Date	April 10, 2013	
Company	LICA	
Plant / Location	Cold Lake South	
Start Time (MST)	10:15	End Time (MST) 16:15

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999879
0	1	N/A	Slope (0.85 to 1.15)	0.995715
98	102	0.9580	Intercept (± 3% F.S.)	2.99569
195	199	0.9821		
394	394	0.9995		

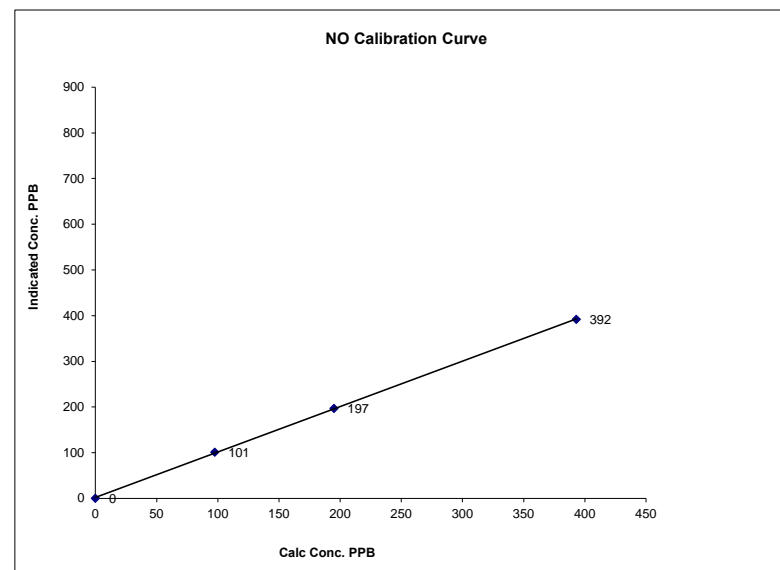


Notes:

NO Calibration Curve

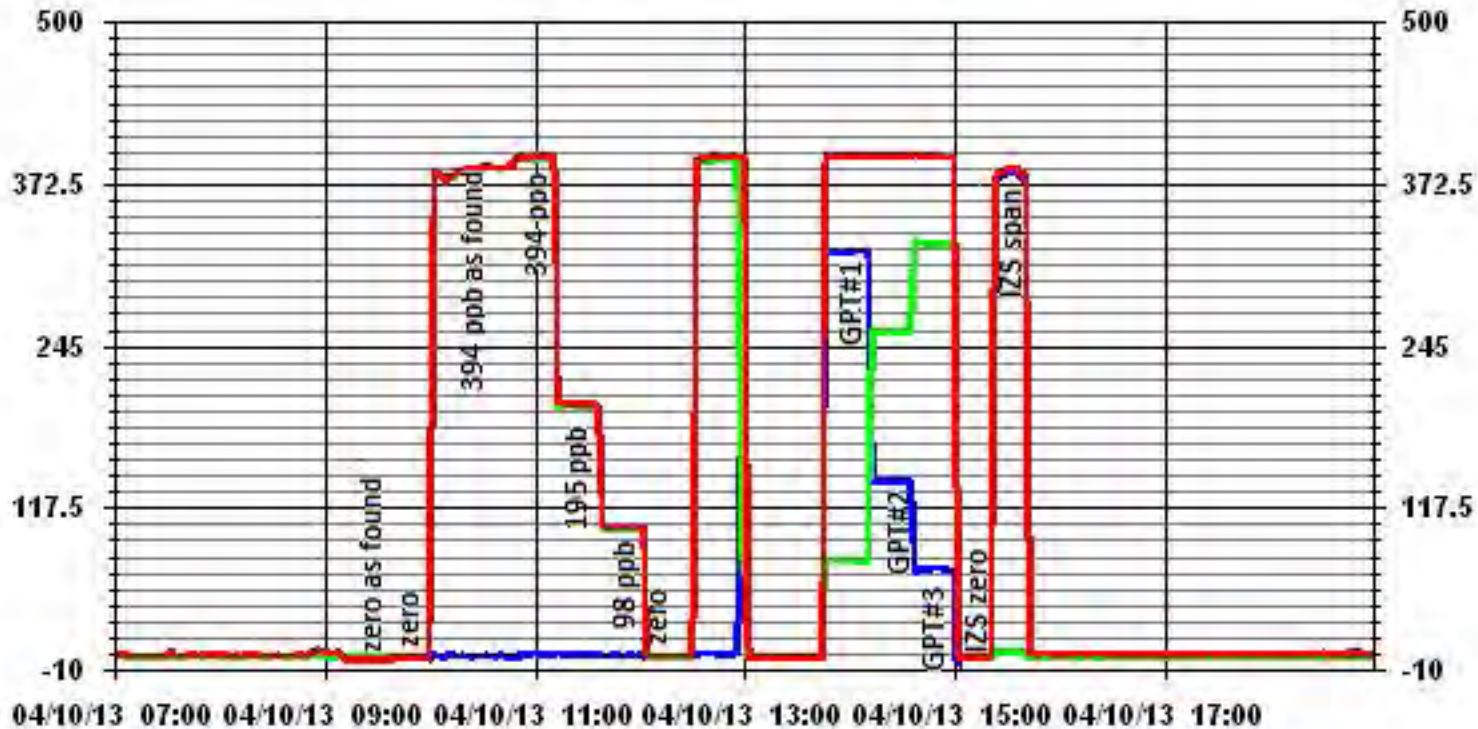
Calibration Date	April 10, 2013	
Company	LICA	
Plant / Location	Cold Lake South	
Start Time (MST)	10:15	End Time (MST) 16:15

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999882
0	0	N/A	Slope (0.85 to 1.15)	0.984792
98	101	0.9655	Intercept (± 3% F.S.)	4.9028
195	197	0.9900		
393	392	1.0026		



Notes:

01 Minute Averages



Ozone

O₃ Calibration Report

Station Information

Calibration Date	April 11, 2013	Previous Calibration	March 11, 2013
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	9:20	End Time (MST)	11:40
Reason:	Monthly Calibration		
Barometric Pressure	27.91 inHg	Station Temperature	23 Deg C
DAS Output Voltage	0 - 10 Volts		

Equipment Information

Analyzer Make / Model:	Thermo 49i	S/N :	700419951	Method:	Photometric
Calibrator Make / Model:	Enviroics 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	704 LPM	744 LPM		705 LPM	744 LPM		
O ₃ Set Level	693 mmHg			694 mmHg			
Bench Lamp	28.2 Deg C			28.2 Deg C			
O ₃ Lamp / Box Temp	53.5 Deg	67.6 Deg C		53.6 Deg C	67.7 Deg C		
Offset / Slope	-0.2	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	316	311	1.0161
	No Span Adj.			
4995	150	136	134	1.0149
4995	75	66	65	1.0154
4995	0	0	0	NA
Sum of Least Squares				1.0159
New Correction Factor				1.0161

IZS Calibration Data

Before Calibration		After Calibration	
Auto Zero	0.0	Auto Zero	0.0
Auto Span	384	Auto Span	436
Sample Lines Connected		YES	
Previous Calibration Correction Factor:		0.9938	
Current Correctio Factor Before Span Adjust:		1.0161	
Percent Change:		-2.2%	

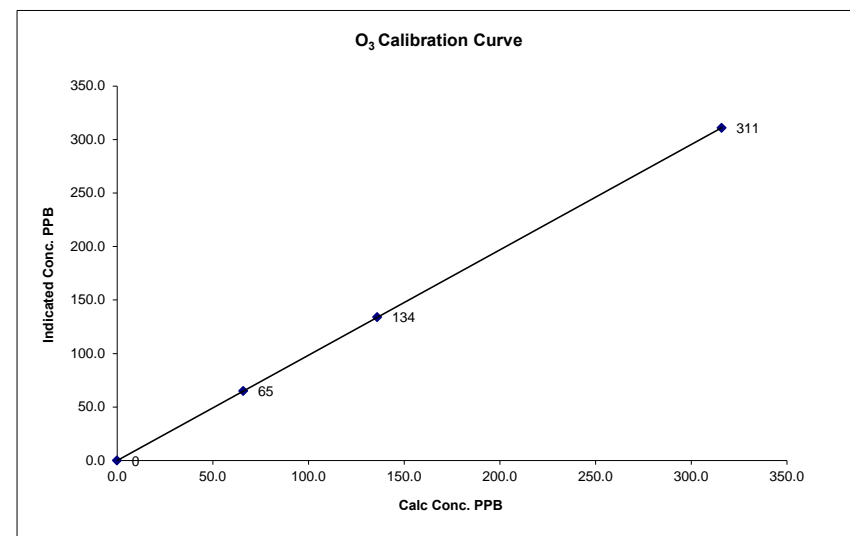
Note: **NA : Not Applicable**

Calibration Performed by: Waseem Ahmed

O₃ Calibration Curve

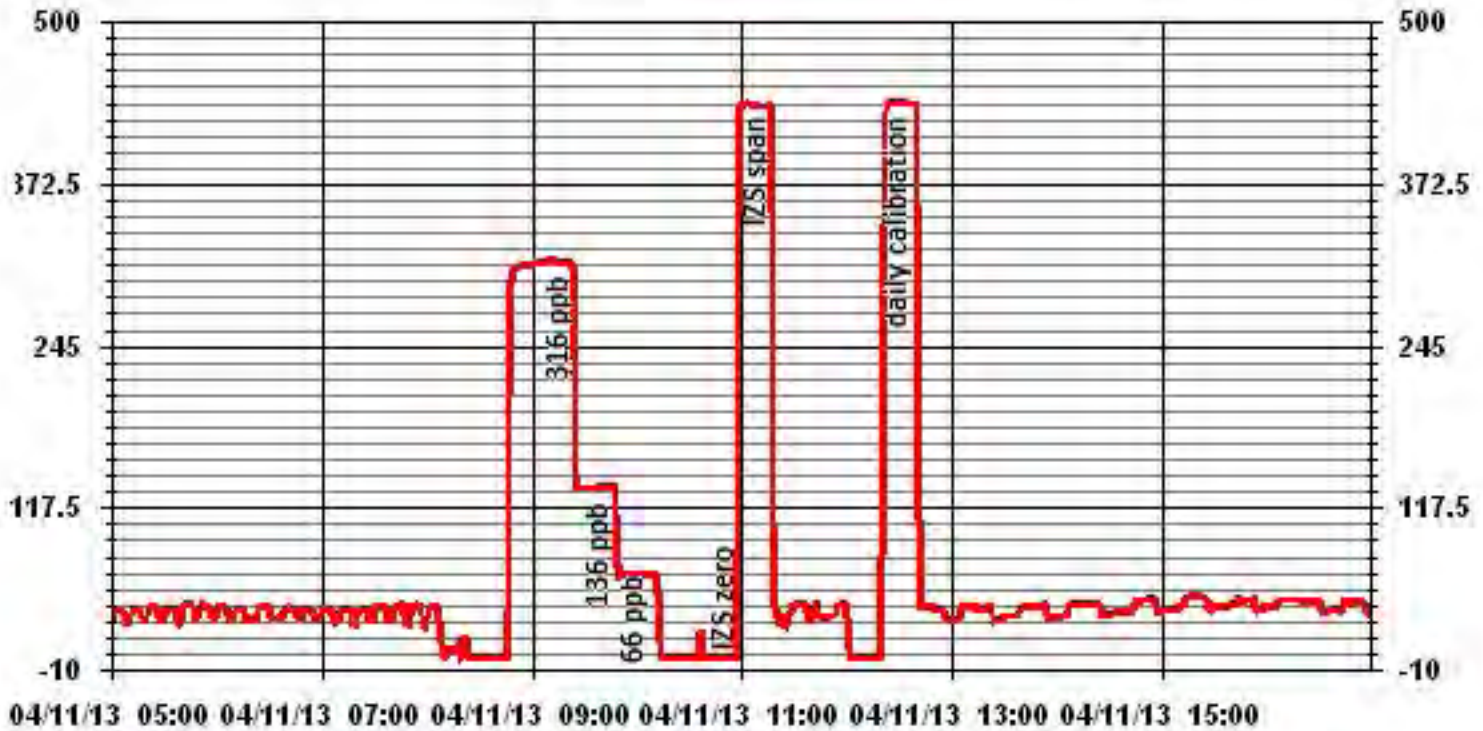
Calibration Date	April 11, 2013		
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	9:20	End Time (MST)	11:40

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	
0	0	n/a	Slope	(0.85 to 1.15) 1.000000
66	65	1.0154	Intercept	(± 3% F.S.) 0.984144
136	134	1.0149		0.053301
316	311	1.0161		

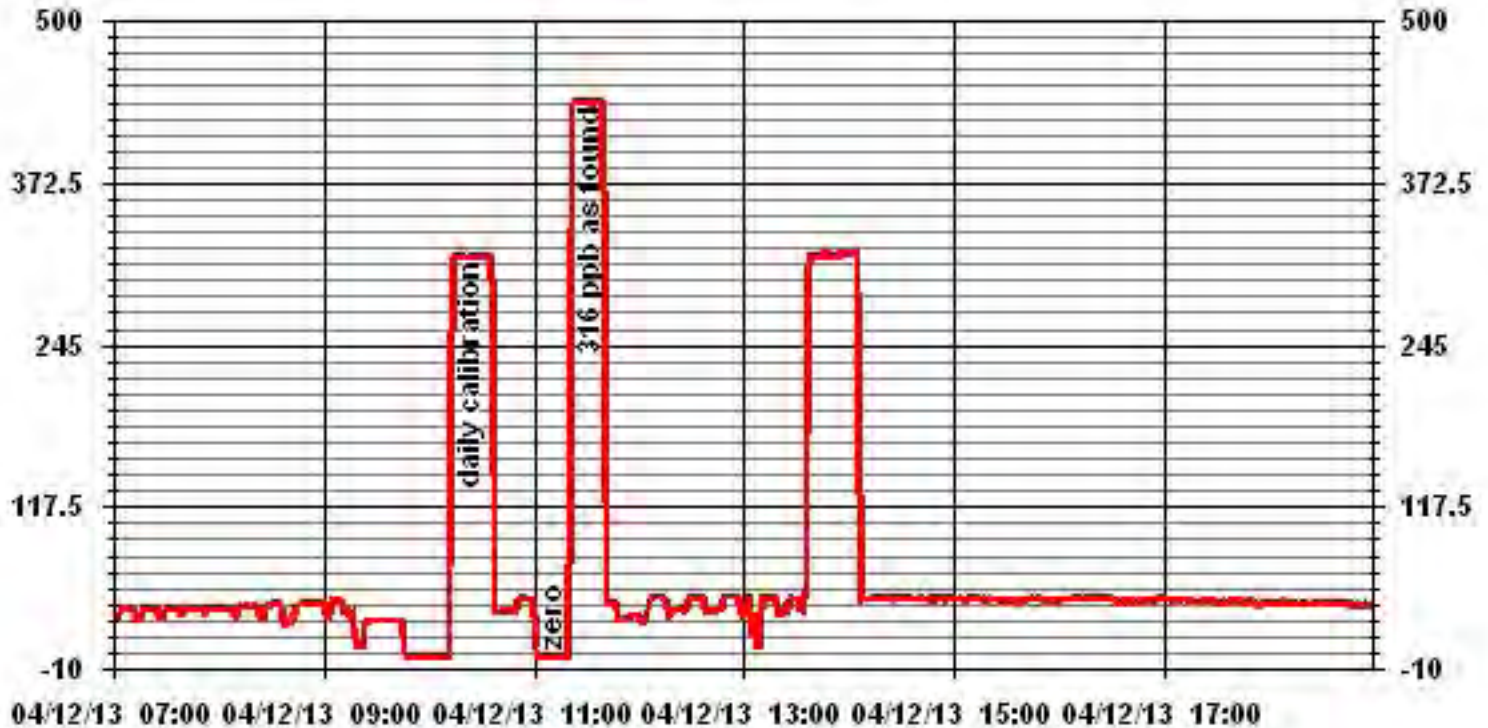


Notes:

01 Minute Averages



01 Minute Averages



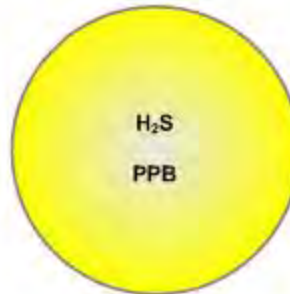
Passive Bubble Maps

Lakeland Industry & Community Association H₂S Passive Bubble Map

APRIL 2013

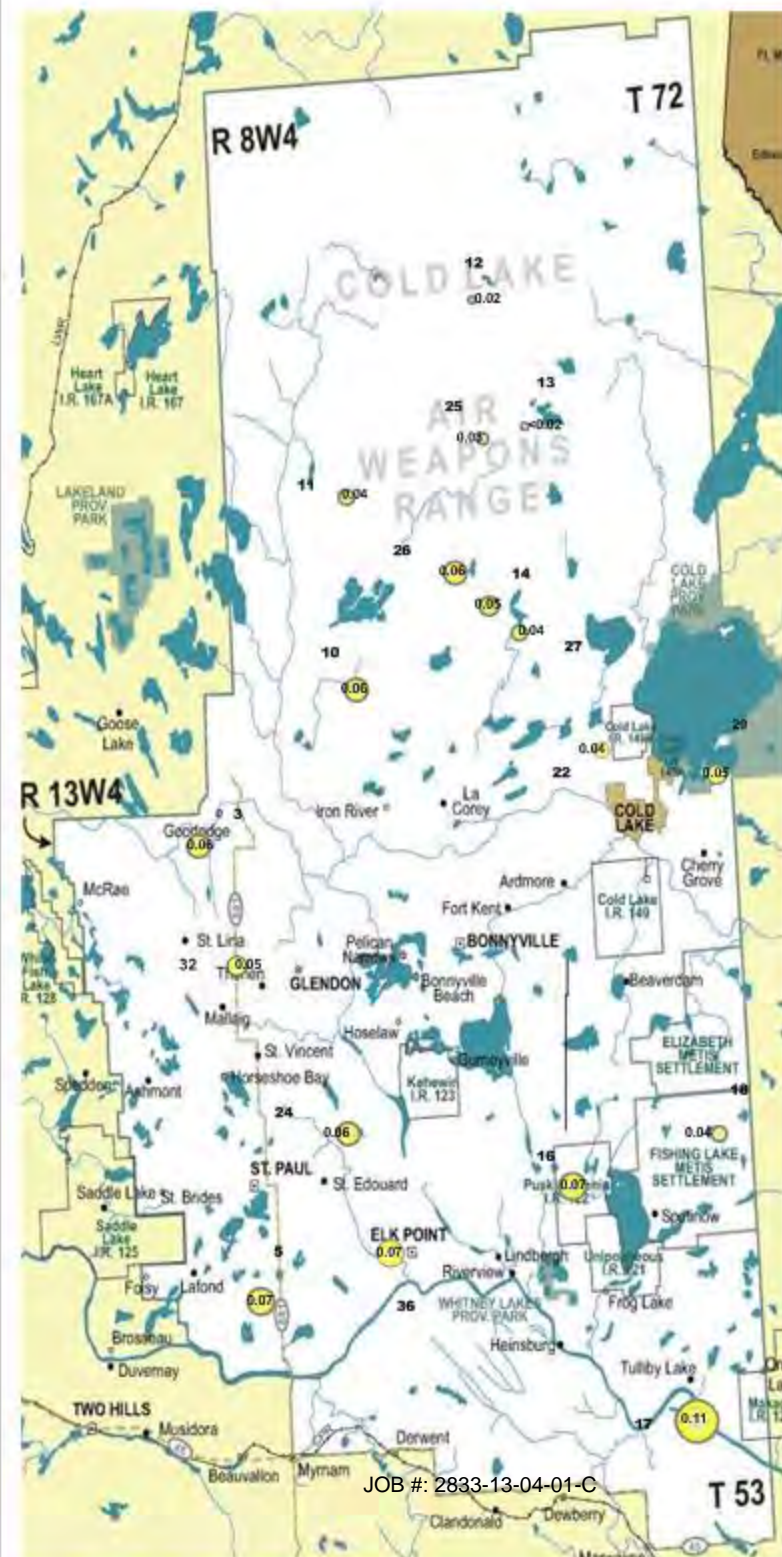
PASSIVE STATIONS

		DUPLICATE
3 - Therien	0.06 PPB	NA
5 - Lake Eliza	0.07 PPB	NA
10 - La Corey	0.06 PPB	NA
11 - Wolf Lake	0.04 PPB	NA
12 - Foster Creek	0.02 PPB	NA
13 - Primrose	< 0.02 PPB	NA
14 - Maskwa	0.05 PPB	NA
16 - Frog Lake	0.07 PPB	NA
17 - Clear Range	0.11 PPB	NA
18 - Fishing Lake	0.04 PPB	NA
22 - Cold Lake South	0.04 PPB	NA
24 - Fort George	0.06 PPB	NA
25 - Burnt Lake	0.03 PPB	NA
26 - Mahihkan	0.06 PPB	NA
27 - Mahkeses	0.04 PPB	NA
29 - Cold Lake South 2	0.05 PPB	NA
32 - St. Lina	0.05 PPB	0.04 PPB
36 - Elk Point	0.06 PPB	0.07 PPB



Summary

Minimum : <0.02 PPB - Primrose
Maximum: 0.11 PPB - Clear Range
Average: 0.05 PPB (Includes Duplicates)



Lakeland Industry & Community Association NO₂ Passive Bubble Map

APRIL 2013

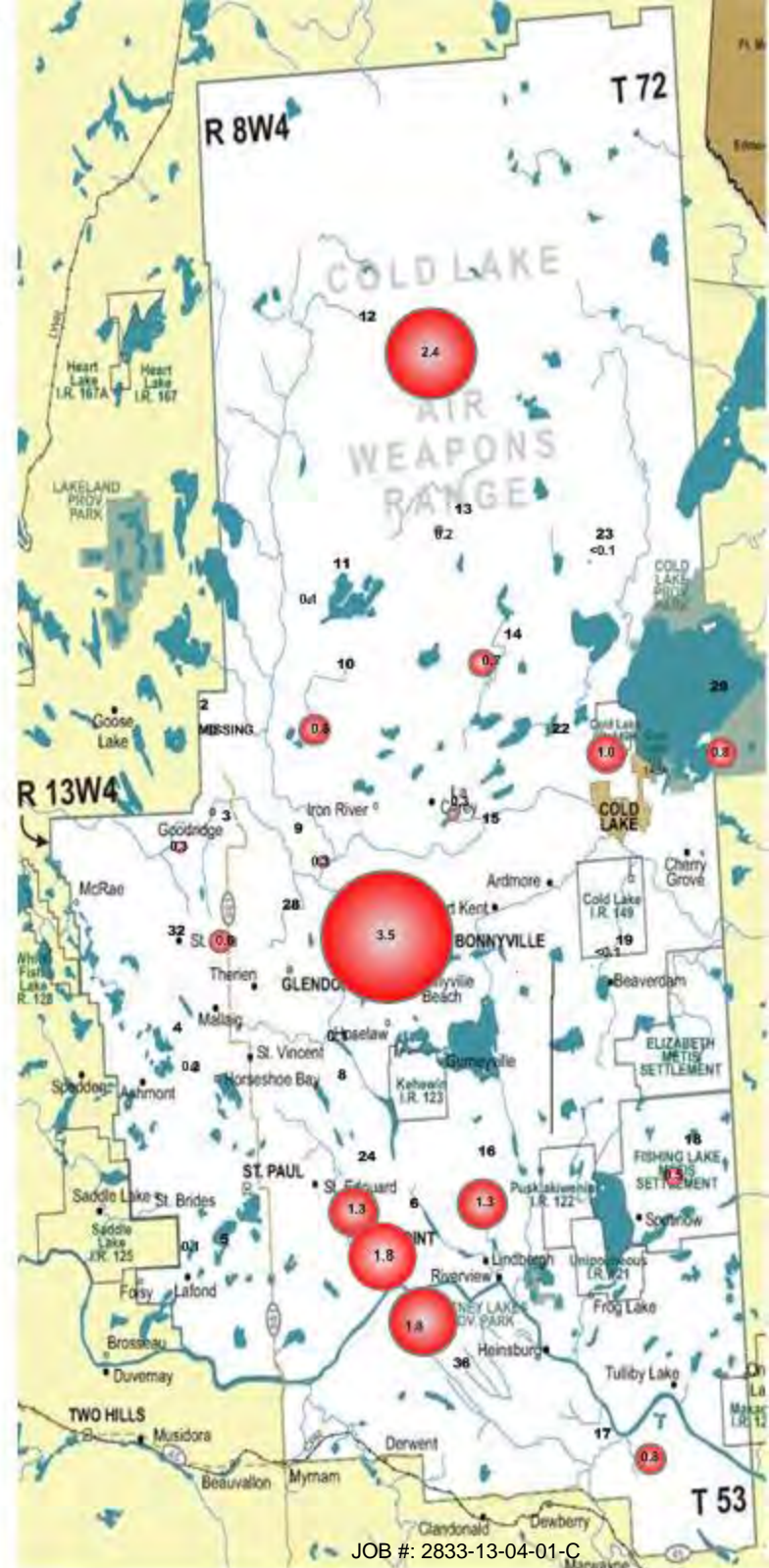
PASSIVE STATIONS

		DUPLICATE
2 – Sand River	MISSING	NA
3 – Therien	0.3 PPB	NA
4 – Flat Lake	0.2 PPB	NA
5 – Lake Eliza	0.1 PPB	NA
6 – Telegraph Creek	1.8PPB	NA
8 – Muriel-Kehewin	0.1 PPB	NA
9 – Dupre	0.3 PPB	NA
10 – La Corey	0.8 PPB	NA
11 – Wolf Lake	0.1 PPB	NA
12 – Foster Creek	2.1 PPB	2.6 PPB
13 – Primrose	0.2 PPB	0.1 PPB
14 – Maskwa	0.7 PPB	NA
15 – Ardmore	0.3 PPB	NA
16 – Frog Lake	1.3 PPB	NA
17 – Clear Range	0.8 PPB	NA
18 – Fishing Lake	0.5 PPB	NA
19 – Beaverdam	< 0.1 PPB	NA
22 – Cold Lake South	1.0 PPB	NA
23 – Medley-Martineau	< 0.1 PPB	NA
24 – Fort George	1.3 PPB	NA
28 – Town of Bonnyville	3.5 PPB	NA
29 – Cold Lake South 2	0.8 PPB	NA
32 – St. Lina	0.6 PPB	NA
36 – Elk Point	1.8 PPB	NA



Summary

Minimum : <0.1 PPB – Beaverdam and Medley-Martineau
 Maximum: 3.5 PPB – Town of Bonnyville
 Average: 0.8 PPB *Includes Duplicates

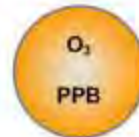


Lakeland Industry & Community Association O₃ Passive Bubble Map

APRIL 2013

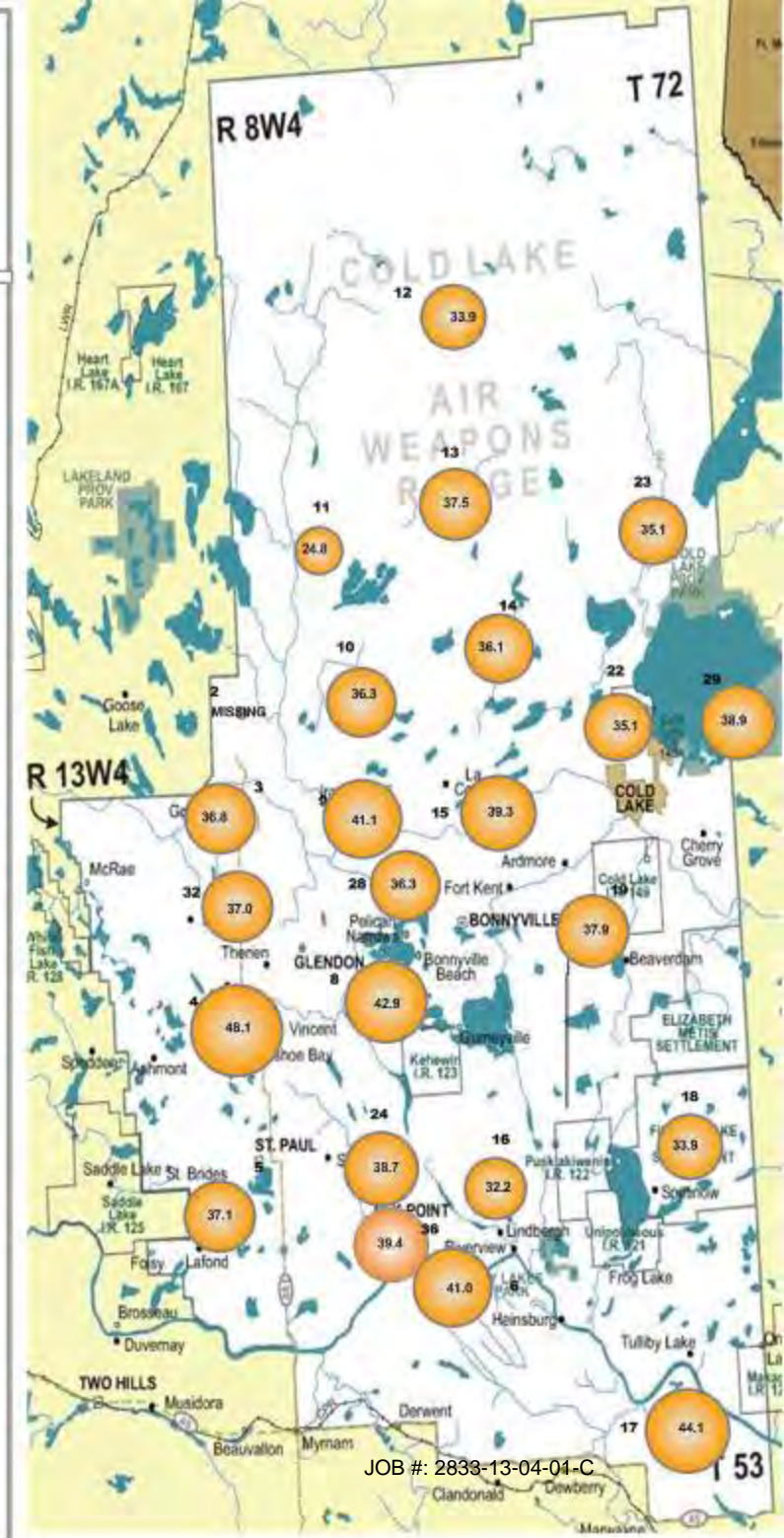
PASSIVE STATIONS

		DUPLICATE
2 – Sand River	MISSING	NA
3 – Therien	36.8 PPB	NA
4 – Flat Lake	48.1 PPB	NA
5 – Lake Eliza	37.1 PPB	NA
6 – Telegraph Creek	41.0 PPB	NA
8 – Muriel-Kehewin	42.9 PPB	NA
9 – Dupre	41.1 PPB	NA
10 – La Corey	36.3 PPB	NA
11 – Wolf Lake	24.8 PPB	NA
12 – Foster Creek	34.3 PPB	33.5 PPB
13 – Primrose	36.0 PPB	38.9 PPB
14 – Maskwa	36.1 PPB	NA
15 – Ardmore	39.3 PPB	NA
16 – Frog Lake	32.2 PPB	NA
17 – Clear Range	44.1 PPB	NA
18 – Fishing Lake	33.9 PPB	NA
19 – Beaverdam	37.9 PPB	NA
22 – Cold Lake South	35.1 PPB	NA
23 – Medley-Martineau	35.1 PPB	NA
24 – Fort George	38.7 PPB	NA
28 – Town of Bonnyville	36.3 PPB	NA
29 – Cold Lake South 2	38.9 PPB	NA
32 – St. Lina	37.0 PPB	NA
36 – Elk Point	39.4 PPB	NA



Summary

Minimum : 24.8 PPB – Wolf Lake
 Maximum: 48.1 PPB – Flat Lake
 Average: 37.5 PPB *Includes Duplicates



Lakeland Industry & Community Association SO₂ Passive Bubble Map

APRIL 2013

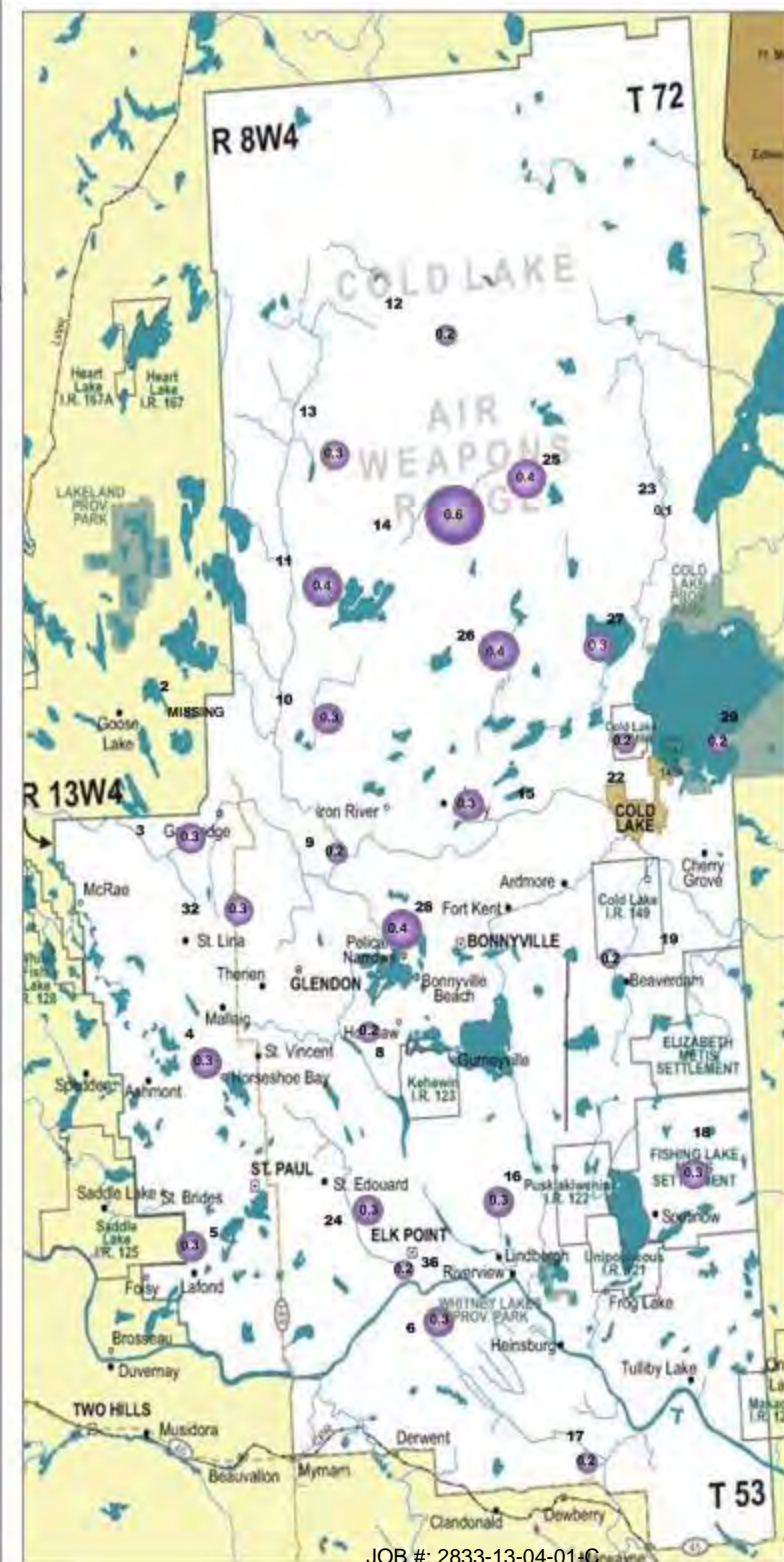
PASSIVE STATIONS

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



Summary

Minimum : 0.1 PPB – Medley-Martineau
 Maximum: 0.6 PPB – Maskwa
 Average: 0.29 PPB *Includes Duplicates



Passive Field Data

Field Notes

ID	SAMPLER	START		END		NOTES
		DATE	TIME	DATE	TIME	
2	SO ₂ /NO ₂ /O ₃	NA	NA	NA	NA	All samplers had been removed and samples are missing.
3	H ₂ S/SO ₂ /NO ₂ /O ₃	04/05/2013	15:11	05/01/2013	15:50	
4	SO ₂ /NO ₂ /O ₃	04/04/2013	16:00	05/01/2013	14:17	
5	H ₂ S/SO ₂ /NO ₂ /O ₃	04/04/2013	15:17	05/01/2013	13:35	
6	SO ₂ /NO ₂ /O ₃	04/04/2013	13:06	05/01/2013	12:40	
8	SO ₂ /NO ₂ /O ₃	04/04/2013	17:01	04/29/2013	13:45	
9	SO ₂ /NO ₂ /O ₃	04/05/2013	10:50	04/29/2013	10:57	
10	H ₂ S/SO ₂ /NO ₂ /O ₃	04/03/2013	11:30	04/30/2013	10:04	
11	H ₂ S/SO ₂ /NO ₂ /O ₃	12/31/2012	13:10	04/30/2013	10:45	
12	H ₂ S/SO ₂ /NO ₂ /O ₃	04/03/2013	14:30	04/30/2013	12:12	
13	H ₂ S/SO ₂ /NO ₂ /O ₃	04/03/2013	17:48	04/30/2013	15:55	
14	H ₂ S/SO ₂ /NO ₂ /O ₃	04/03/2013	18:58	04/30/2013	16:50	
15	SO ₂ /NO ₂ /O ₃	04/03/2013	09:33	04/30/2013	15:05	
16	H ₂ S/SO ₂ /NO ₂ /O ₃	04/04/2013	09:50	05/01/2013	09:55	
17	H ₂ S/SO ₂ /NO ₂ /O ₃	04/04/2013	12:09	05/01/2013	11:45	
18	H ₂ S/SO ₂ /NO ₂ /O ₃	04/04/2013	10:48	05/01/2013	10:35	
19	SO ₂ /NO ₂ /O ₃	04/04/2013	09:04	05/01/2013	09:15	
22	H ₂ S/SO ₂ /NO ₂ /O ₃	04/05/2013	09:10	04/29/2013	15:35	
23	SO ₂ /NO ₂ /O ₃	04/03/2013	20:38	04/30/2013	18:40	
24	H ₂ S/SO ₂ /NO ₂ /O ₃	04/04/2013	13:43	04/29/2013	12:00	
25	H ₂ S/SO ₂	04/03/2013	15:45	04/30/2013	13:25	
26	H ₂ S/SO ₂	04/03/2013	18:36	04/30/2013	16:30	
27	H ₂ S/SO ₂	04/03/2013	19:32	04/30/2013	1715	
28	SO ₂ /NO ₂ /O ₃	04/05/2013	10:25	04/29/2013	14:20	
29	H ₂ S/SO ₂ /NO ₂ /O ₃	04/05/2013	08:55	04/29/2013	15:40	
32	H ₂ S/SO ₂ /NO ₂ /O ₃	04/05/2013	14:45	05/01/2013	14:55	
36	H ₂ S/SO ₂ /NO ₂ /O ₃	04/04/2013	14:01	04/29/2013	12:20	

ID	SAMPLER	START		END		NOTES
		DATE	TIME	DATE	TIME	
Duplicate # 24	SO ₂	04/04/2013	13:43	04/29/2013	12:00	
Duplicate # 25	SO ₂	04/03/2013	15:45	04/30/2013	13:25	
Duplicate # 26	SO ₂	04/03/2013	18:36	04/30/2013	16:30	
Duplicate #32	H ₂ S	04/05/2013	14:45	05/01/2013	14:55	
Duplicate # 36	H ₂ S	04/04/2013	14:01	04/29/2013	12:20	
Duplicate # 12	NO ₂	04/03/2013	14:30	04/30/2013	12:12	
Duplicate # 13	NO ₂	04/03/2013	17:48	04/30/2013	15:55	
Duplicate # 12	O ₃	04/03/2013	14:30	04/30/2013	12:12	
Duplicate # 13	O ₃	04/03/2013	17:48	04/30/2013	15:55	

Passive Network Laboratory Analysis



Your Project #: 2013/04/03 - 2013/05/01
Site Location: LICA

Attention: MICHAEL BISAGA

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

Report Date: 2013/05/13

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B335230

Received: 2013/05/06, 10:30

Sample Matrix: Air
Samples Received: 33

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
H2S Passive Analysis (1)	20	2013/05/08	2013/05/13	EINDSOP-00150	Tang.Passive H2S in
NO2 Passive Analysis (1)	25	2013/05/10	2013/05/13	EINDSOP-00148	Tang Passive NO2 in
O3 Passive Analysis (1)	25	2013/05/09	2013/05/13	EINDSOP-00197	EPA 300 R2.1
SO2 Passive Analysis (1)	29	2013/05/10	2013/05/13	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 #: B335230
 Report Date: 2013/05/13

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
 Client Project #: 2013/04/03 - 2013/05/01
 Site Location: LICA
 Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		GH7309	GH7310	GH7311	GH7312	GH7313		
Sampling Date		2013/04/05 15:11	2013/04/04 16:00	2013/04/04 15:17	2013/04/04 13:06	2013/04/04 17:01		
	UNITS	3	4	5	6	8	RDL	QC Batch

Passive Monitoring								
Calculated H2S	ppb	0.06		0.07			0.02	6800665
Calculated NO2	ppb	0.3	0.2	0.1	1.8	0.1	0.1	6805557
Calculated O3	ppb	36.8	48.1	37.1	41.0	42.9	0.1	6801395
Calculated SO2	ppb	0.3	0.3	0.3	0.3	0.2	0.1	6805567
RDL = Reportable Detection Limit								

Maxxam ID		GH7314	GH7315	GH7316	GH7317	GH7318		
Sampling Date		2013/04/05 10:50	2013/04/03 11:30	2012/12/31 13:10	2013/04/03 14:30	2013/04/03 17:48		
	UNITS	9	10	11	12	13	RDL	QC Batch

Passive Monitoring								
Calculated H2S	ppb		0.06	0.04	0.02	<0.02	0.02	6800665
Calculated NO2	ppb	0.3	0.8	0.1	2.1	0.2	0.1	6805557
Calculated O3	ppb	41.1	36.3	24.8	34.3	36.0	0.1	6801395
Calculated SO2	ppb	0.2	0.3	0.4	0.2	0.3	0.1	6805567
RDL = Reportable Detection Limit								

Maxxam ID		GH7319	GH7320	GH7321	GH7322		
Sampling Date		2013/04/03 18:58	2013/04/03 09:33	2013/04/04 09:50	2013/04/04 12:09		
	UNITS	14	15	16	17	RDL	QC Batch

Passive Monitoring								
Calculated H2S	ppb	0.05		0.07	0.11	0.02	6800665	
Calculated NO2	ppb	0.7	0.3	1.3	0.8	0.1	6805557	
Calculated O3	ppb	36.1	39.3	32.2	44.1	0.1	6801395	
Calculated SO2	ppb	0.6	0.3	0.3	0.2	0.1	6805567	
RDL = Reportable Detection Limit								



Maxxam Job #: B335230
 Report Date: 2013/05/13

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
 Client Project #: 2013/04/03 - 2013/05/01
 Site Location: LICA
 Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		GH7323		GH7324		GH7325		GH7326			
Sampling Date		2013/04/04 10:48		2013/04/04 09:04		2013/04/05 09:10		2013/04/03 20:38			
	UNITS	18		QC Batch		19		22		23	
			QC Batch							RDL	QC Batch

Passive Monitoring											
Calculated H2S	ppb	0.04	6800665			0.04			0.02	6800665	
Calculated NO2	ppb	0.5	6805557	<0.1		1.0	<0.1		0.1	6805558	
Calculated O3	ppb	33.9	6801421	37.9		35.1	35.1		0.1	6801421	
Calculated SO2	ppb	0.3	6805567	0.2		0.2	0.1		0.1	6805567	
RDL = Reportable Detection Limit											

Maxxam ID		GH7327		GH7328		GH7329		GH7330		GH7331			
Sampling Date		2013/04/04 13:43		2013/04/03 15:45		2013/04/03 18:36		2013/04/03 19:32		2013/04/05 10:25			
	UNITS	24		25		26		27		28		RDL	QC Batch

Passive Monitoring											
Calculated H2S	ppb	0.06	0.03	0.06		0.04			0.02	6800665	
Calculated NO2	ppb	1.3					3.5		0.1	6805558	
Calculated O3	ppb	38.7					36.3		0.1	6801421	
Calculated SO2	ppb	0.3	0.3	0.4		0.3	0.4		0.1	6805575	
RDL = Reportable Detection Limit											

Maxxam ID		GH7332		GH7333		GH7334		GH7337			
Sampling Date		2013/04/05 08:55		2013/04/05 14:45		2013/04/04 14:01		2013/04/03 14:30			
	UNITS	29		32		36		QC Batch	12 DUP	RDL	QC Batch

Passive Monitoring											
Calculated H2S	ppb	0.05	0.05	0.06	6800665				0.02		
Calculated NO2	ppb	0.8	0.6	1.8	6805558	2.6			0.1	6805557	
Calculated O3	ppb	38.9	37.0	39.4	6801421	33.5			0.1	6801421	
Calculated SO2	ppb	0.2	0.3	0.2	6805575				0.1		
RDL = Reportable Detection Limit											



Maxxam Job #: B335230
 Report Date: 2013/05/13

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
 Client Project #: 2013/04/03 - 2013/05/01
 Site Location: LICA
 Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		GH7338	GH7339	GH7340	GH7341	GH7342		
Sampling Date		2013/04/03 17:48	2013/04/04 13:43	2013/04/03 15:45	2013/04/03 18:36	2013/04/05 14:45		
	UNITS	13 DUP	24 DUP	25 DUP	26 DUP	32 DUP	RDL	QC Batch

Passive Monitoring								
Calculated H2S	ppb					0.04	0.02	6800665
Calculated NO2	ppb	0.1					0.1	6805557
Calculated O3	ppb	38.9					0.1	6801421
Calculated SO2	ppb		0.2	0.4	0.3		0.1	6805575

RDL = Reportable Detection Limit

Maxxam ID		GH7343		
Sampling Date		2013/04/04 14:01		
	UNITS	36 DUP	RDL	QC Batch

Passive Monitoring				
Calculated H2S	ppb	0.07	0.02	6800665

RDL = Reportable Detection Limit



Maxxam Job #: B335230
Report Date: 2013/05/13

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2013/04/03 - 2013/05/01
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 #: 2013/04/03 - 2013/05/01
 P.O. #:
 Site Location: LICA

Quality Assurance Report
 Maxxam Job Number: PB335230

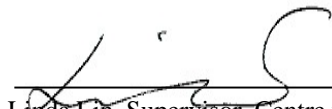
QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
6800665 SS6	Calibration Check	Calculated H2S	2013/05/08		101	%	80 - 120
	Spiked Blank	Calculated H2S	2013/05/08		96	%	N/A
6801395 OZ	Calibration Check	Calculated O3	2013/05/09		99	%	91 - 107
	Spiked Blank	Calculated O3	2013/05/09		99	%	N/A
	Method Blank	Calculated O3	2013/05/09	<0.1		ppb	
6801421 OZ	Calibration Check	Calculated O3	2013/05/09		99	%	91 - 107
	Spiked Blank	Calculated O3	2013/05/09		100	%	N/A
	Method Blank	Calculated O3	2013/05/09	<0.1		ppb	
6805557 DF4	Calibration Check	Calculated NO2	2013/05/10		99	%	76 - 118
	Spiked Blank	Calculated NO2	2013/05/10		96	%	N/A
	Method Blank	Calculated NO2	2013/05/10	<0.1		ppb	
6805558 DF4	Calibration Check	Calculated NO2	2013/05/10		99	%	76 - 118
	Spiked Blank	Calculated NO2	2013/05/10		96	%	N/A
	Method Blank	Calculated NO2	2013/05/10	<0.1		ppb	
6805567 DF4	Calibration Check	Calculated SO2	2013/05/10		100	%	95 - 105
	Spiked Blank	Calculated SO2	2013/05/10		99	%	N/A
	Method Blank	Calculated SO2	2013/05/10	<0.1		ppb	
6805575 DF4	Calibration Check	Calculated SO2	2013/05/10		99	%	95 - 105
	Spiked Blank	Calculated SO2	2013/05/10		100	%	N/A
	Method Blank	Calculated SO2	2013/05/10	<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 #: B335230

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

A handwritten signature in black ink, appearing to be "Linda Lin", written over a horizontal line.

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
April 2013

Prepared By:



May 31, 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: April 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.

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 – April 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	0.53	12	28	0	17.4	305(WNW)	1.9	28	96.0
H2S (PPB)	10	3	0	0	0.07	1	VAR	VAR	VAR	VAR	0.5	10, 11	99.7
THC (PPM)	-	-	-	-	2.13	5.1	17	6	0.4	8(N)	2.4	VAR	100.0
NOx (PPB)	-	-	-	-	2.29	27.6	28	0	17.4	305(WNW)	6.1	9	100.0
NO (PPB)	-	-	-	-	0.40	12.8	28	0	17.4	305(WNW)	1.9	28	100.0
NO ₂ (PPB)	159	-	0	-	1.89	14.8	28	0	17.4	305(WNW)	5.0	9	100.0
VECTOR WS (KPH)	-	-	-	-	6.73	17.4	28	0	-	305(WNW)	9.2	29	100.0
VECTOR WD (DEGREES)	-	-	-	-	55(NE)	-	-	-	-	-	-	-	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	58.58	89	11, 12	VAR	VAR	VAR	79.0	11	100.0
TEMPERATURE (DEG C)	-	-	-	-	0.21	16.6	26	13	11.2	283(W)	10.9	26	100.0
BAROMETRIC PRESSURE (MILIBAR)	-	-	-	-	942	958	16	VAR	VAR	VAR	956.1	16	100.0
PRECIPITATION (MM)	-	-	-	-	0.03	1.1	5	14	12.3	35(NE)	5.4	5	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

The analyzer was working well throughout the month. Following the as found points check on April 9th, the UV lamp was replaced. A post-repair calibration was then performed. The last zero point of the calibration was off (-12ppb). Suspected that the issue was due to a bad relay board and a power supply. The analyzer was left in the Maintenance mode overnight.

Both the relay board and power supplies (+5v and +/- 15V) were replaced on April 10th. A post-repair calibration was performed after the part replacements. Another 3-point calibration was performed on April 11th to ensure the analyzer's functionality after the major repair/maintenance. The inlet filter was changed before the as found points check on April 9th. The analyzer spanned low on April 24th due to the permeation tube depleting. The perm tube was changed on May 16th. This issue did not affect the data quality. 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. A removal calibration was performed on API 101A H2S analyzer, on April 9th. Following the removal calibration, the API 101E H2S analyzer, LICA owned, was installed, and an installation calibration was performed. Issues were noticed on the zero/span system after the installation calibration and were fixed on April 10th. The inlet filter was changed before the installation calibration was started. Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA – Maskwa

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 April 15th. 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: 594

No operational issues were observed during the month. The monthly calibration was performed on April 9th. 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 20th, 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.

General Monthly Summary

AQM STATION – LICA – Maskwa

Precipitation (MM)

- System make / model - Met One 387
- No operational issues were observed during the month.

Barometric Pressure (MILLIBAR)

- System make / model - Met One 092
- No operation issues were observed during the month.

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 April 9th.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

APRIL 2013

SULPHUR DIOXIDE (SO₂) hourly averages in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	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	1	1	1	1	0	1	4	S	1	2	1	3	1	0	0	1	1	1	0	1	0	0	4	0.9	24	
2	0	0	0	1	1	0	0	1	S	0	0	0	0	4	3	2	1	1	1	2	1	0	1	0	4	0.8	24	
3	0	3	7	0	0	0	10	S	3	0	0	2	1	2	1	0	0	0	0	0	0	0	0	0	10	1.3	24	
4	0	0	0	0	0	0	S	0	0	0	0	1	1	1	1	1	1	1	1	2	1	1	2	2	2	0.7	24	
5	2	7	7	1	0	S	0	2	2	2	2	2	2	2	2	2	2	1	1	1	1	0	0	0	7	1.8	24	
6	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	1	0.3	24	
7	0	0	1	S	1	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	1	0.3	24	
8	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	
9	0	S	0	0	0	0	0	0	C	C	C	Y	C	C	C	C	Y	Y	Y	Y	Y	Y	Y	Y	0	0.0	15	
10	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	Y	C	C	C	C	0	3	0	S	3	1.0	10	
11	0	0	0	0	0	0	0	Y	Y	Y	Y	Y	Y	C	C	C	0	0	0	1	0	0	S	3	3	0.3	18	
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	S	3	0	3	0.3	24	
13	0	0	4	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	4	0.4	24
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	S	0	0	0	0	1	0.1	24	
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0.0	24	
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0.0	24	
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	1	1	1	0	0	0	1	0.2	24	
18	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	S	0	0	0	0	0	0	0	0	1	0.2	24	
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	1	0	0	0	0	0	1	0.0	24
20	0	0	1	1	0	1	0	0	1	0	0	0	4	S	3	1	0	0	0	0	0	0	0	1	4	0.6	24	
21	0	0	0	0	1	1	2	2	2	1	2	1	S	2	2	3	3	5	0	0	0	0	0	0	5	1.2	24	
22	0	0	0	0	0	0	0	0	0	0	0	S	1	1	0	0	0	1	2	1	0	0	0	2	0.3	24		
23	0	0	0	0	0	0	2	1	1	0	S	2	3	4	1	5	6	1	1	0	0	0	1	0	6	1.2	24	
24	4	2	1	0	0	0	S	S	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0.3	24	
25	0	0	0	0	0	0	S	S	S	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.0	24	
26	0	0	0	0	0	0	1	S	1	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	2	0.2	24	
27	0	0	0	0	0	1	S	0	0	0	0	0	0	0	1	0	1	5	3	0	0	0	0	1	5	0.5	24	
28	12	8	8	3	3	S	2	4	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	12	1.9	24	
29	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	
30	0	0	0	S	0	1	1	0	0	0	0	0	3	3	1	1	0	0	2	1	1	0	0	3	0.6	24		
HOURLY MAX	12	8	8	4	3	1	10	4	4	2	2	2	4	4	3	5	6	5	3	2	2	3	3	3				
HOURLY AVG	0.6	0.8	1.1	0.4	0.3	0.2	0.7	0.5	0.6	0.2	0.2	0.4	0.5	0.9	0.8	0.8	0.6	0.7	0.5	0.4	0.3	0.2	0.3	0.3				

STATUS FLAG CODES

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

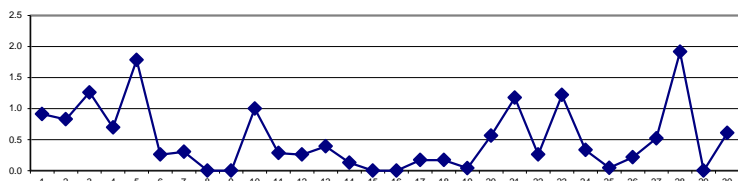
OBJECTIVE LIMIT:

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

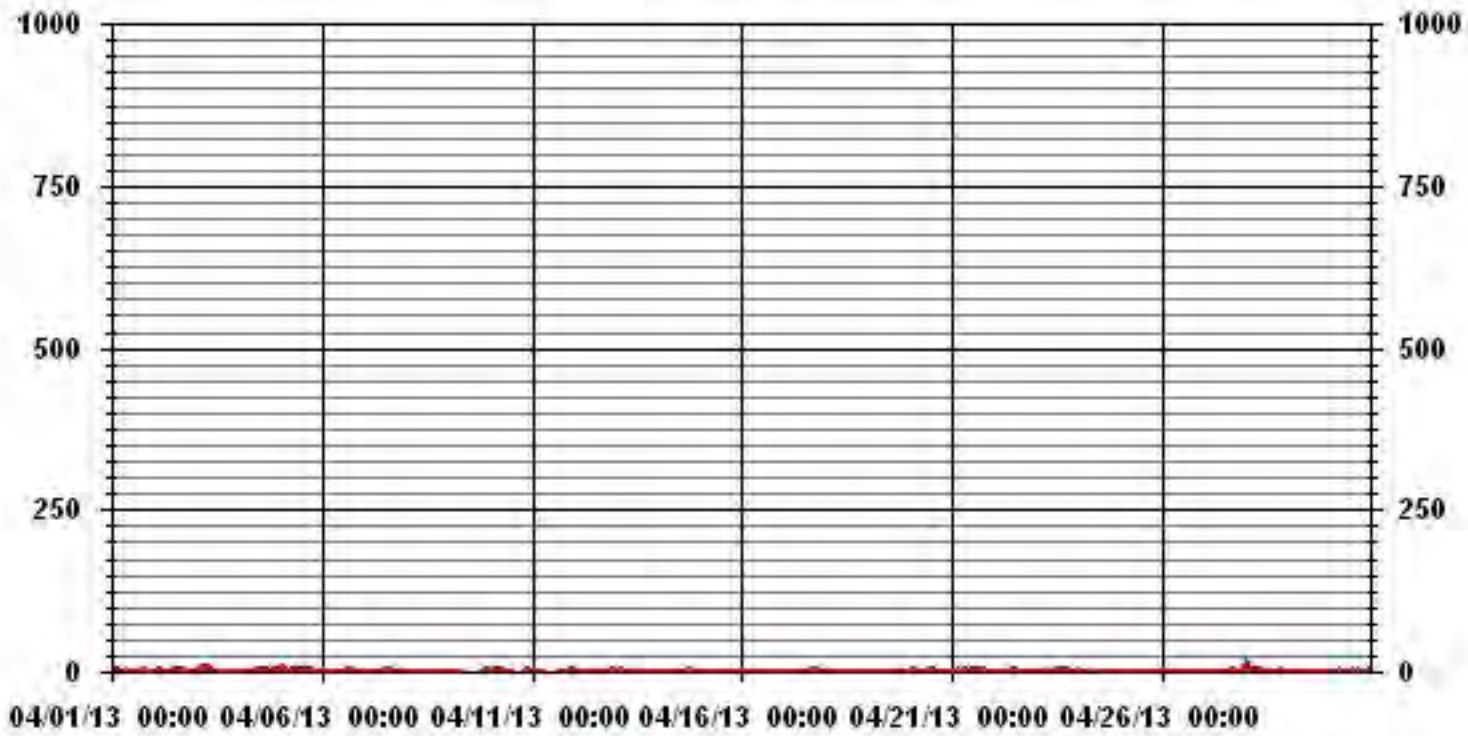
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	172
MAXIMUM 1-HR AVERAGE:	12 PPB @ HOUR(S) 0 ON DAY(S) 28
MAXIMUM 24-HR AVERAGE:	1.9 PPB ON DAY(S) 28
I/ZS CALIBRATION TIME:	34 HRS
MONTHLY CALIBRATION TIME:	16 HRS
STANDARD DEVIATION:	1.23
OPERATIONAL TIME:	691 HRS
AMD OPERATION UPTIME:	96.0 %
MONTHLY AVERAGE:	0.51 PPB

24 HOUR AVERAGES FOR APRIL 2013



01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

APRIL 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	
		1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	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	5	2	2	3	14	S	8	4	4	9	4	1	1	2	2	1	1	3	1	1	14	3.3	24
2		1	1	1	1	1	1	1	2	S	0	0	0	1	7	5	2	2	2	2	2	3	2	2	1	7	1.7	24
3		2	18	31	1	0	1	27	S	17	5	0	7	25	9	4	1	1	1	0	0	1	1	0	1	31	6.7	24
4		0	0	0	0	0	0	S	0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.2	24
5		4	13	10	4	0	S	2	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2	0	0	13	2.8	24
6		0	0	0	0	S	2	0	0	0	0	0	0	2	2	2	2	2	2	2	2	2	0	0	0	2	0.8	24
7		0	2	2	S	2	2	0	0	0	0	0	2	2	2	2	2	2	2	0	0	0	0	0	0	2	1.0	24
8		0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0.1	24
9		0	S	0	0	0	0	0	0	C	C	C	Y	C	C	C	C	Y	Y	Y	Y	Y	Y	Y	Y	0	0.0	15
10		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	Y	C	C	C	C	C	6	2	S	6	4.0	10
11		0	0	0	0	0	0	1	Y	Y	Y	Y	Y	Y	C	C	C	1	1	4	6	1	1	S	13	13	2.0	18
12		1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	4	3	1	5	S	8	1	8	1.1	24
13		2	1	6	8	3	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	S	0	0	0	8	1.1	24
14		0	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	3	4	3	S	0	0	1	1	5	1.2	24
15		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
16		0	0	0	0	0	0	0	0	0	0	0	2	1	3	2	0	0	S	0	0	0	0	0	0	3	0.3	24
17		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	2	2	2	2	1	1	0	0	2	0.3	24
18		0	1	1	6	8	1	1	2	9	10	0	0	0	0	S	0	0	0	0	0	0	0	0	0	10	1.7	24
19		0	0	0	0	0	0	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	0.7	24
20		1	1	1	1	1	1	1	1	1	1	1	1	18	S	9	4	1	1	1	0	0	1	0	1	18	2.1	24
21		1	1	1	1	2	2	3	3	3	5	7	3	S	9	7	10	16	17	0	0	2	0	0	0	17	4.0	24
22		0	0	0	0	1	1	1	1	0	0	5	S	6	6	1	1	1	2	12	7	1	1	0	0	12	2.0	24
23		1	0	1	0	1	1	7	3	2	2	S	7	11	13	6	8	13	9	8	1	2	1	2	1	13	4.3	24
24		10	10	3	1	1	1	S	S	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	1.3	24
25		0	0	0	0	0	0	S	S	S	1	1	0	2	2	0	0	0	0	0	0	0	0	2	2	2	0.5	24
26		0	0	0	0	0	2	2	S	4	1	0	0	3	3	7	10	0	0	0	1	0	1	0	10	1.5	24	
27		0	2	0	2	1	3	S	1	1	1	1	0	0	1	1	1	4	14	10	1	0	0	0	9	14	2.3	24
28		16	15	15	14	12	S	12	13	10	3	2	0	2	2	2	4	0	0	0	3	3	2	0	0	16	5.7	24
29		1	0	0	1	S	0	0	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0.3	24
30		0	0	0	S	1	3	5	0	3	0	1	1	3	6	9	7	10	3	3	1	3	2	1	1	10	2.7	24
HOURLY MAX		16	18	31	14	12	3	27	13	17	10	8	7	25	13	9	10	16	17	12	7	5	6	8	13			
HOURLY AVG		1.4	2.4	2.6	1.6	1.4	0.9	2.7	1.4	2.8	1.3	1.3	1.3	3.3	3.2	2.7	2.4	2.3	2.6	2.1	1.2	1.1	0.9	0.9	1.3			

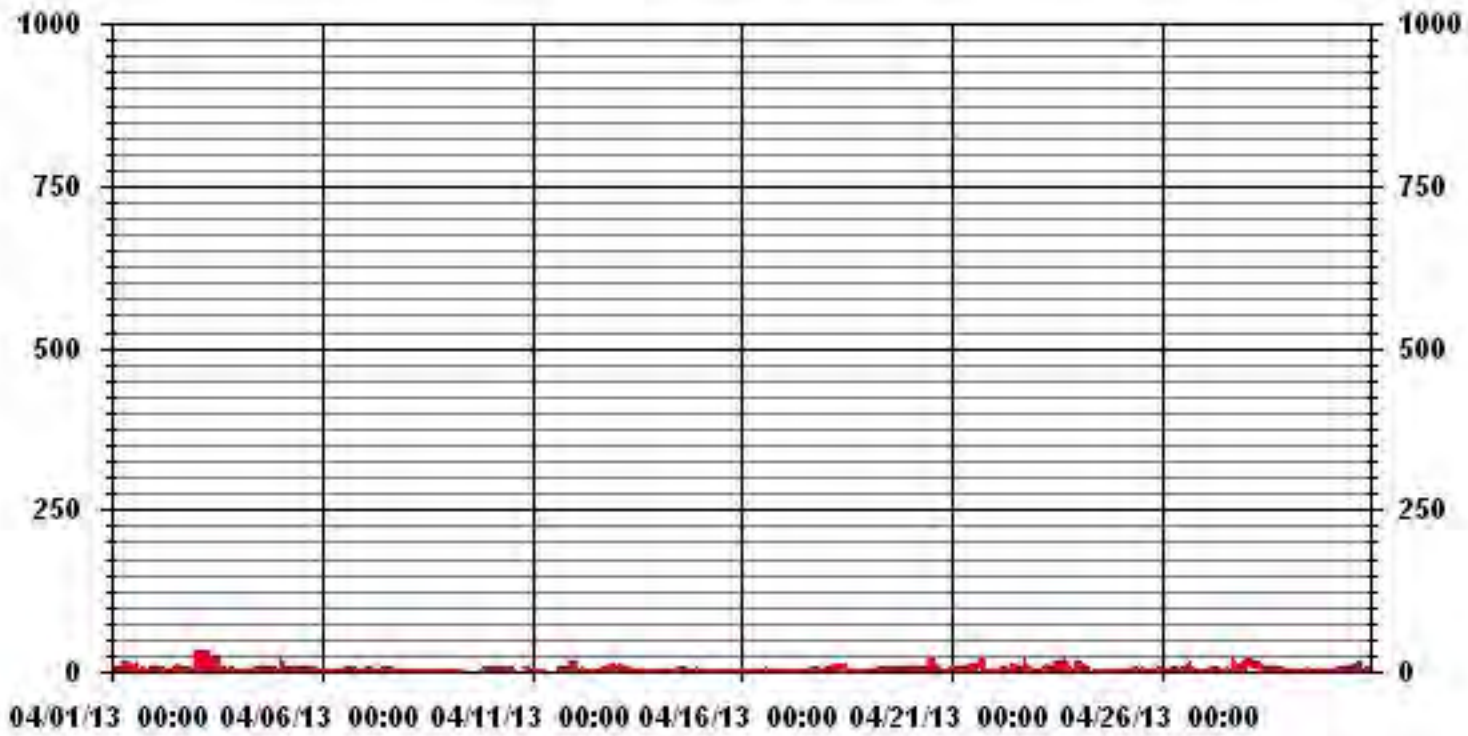
STATUS FLAG CODES

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:	344
MAXIMUM INSTANTANEOUS VALUE:	31 PPB @ HOUR(S) 2 ON DAY(S) 3
IZS CALIBRATION TIME:	34 HRS
MONTHLY CALIBRATION TIME:	17 HRS
STANDARD DEVIATION:	3.56
OPERATIONAL TIME:	691 HRS

01 Hour Averages



— LICA30 SO2MAX PPB

LICA30
SO2_ / WDR Joint Frequency Distribution (Percent)

April 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	4.41	5.32	17.80	7.61	4.10	3.95	7.30	6.08	4.26	8.67	6.54	1.97	3.95	5.17	5.93	6.84	100.00
< 60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 170	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	4.41	5.32	17.80	7.61	4.10	3.95	7.30	6.08	4.26	8.67	6.54	1.97	3.95	5.17	5.93	6.84	

Calm : .00 %

Total # Operational Hours : 657

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	29	35	117	50	27	26	48	40	28	57	43	13	26	34	39	45	657
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	29	35	117	50	27	26	48	40	28	57	43	13	26	34	39	45	

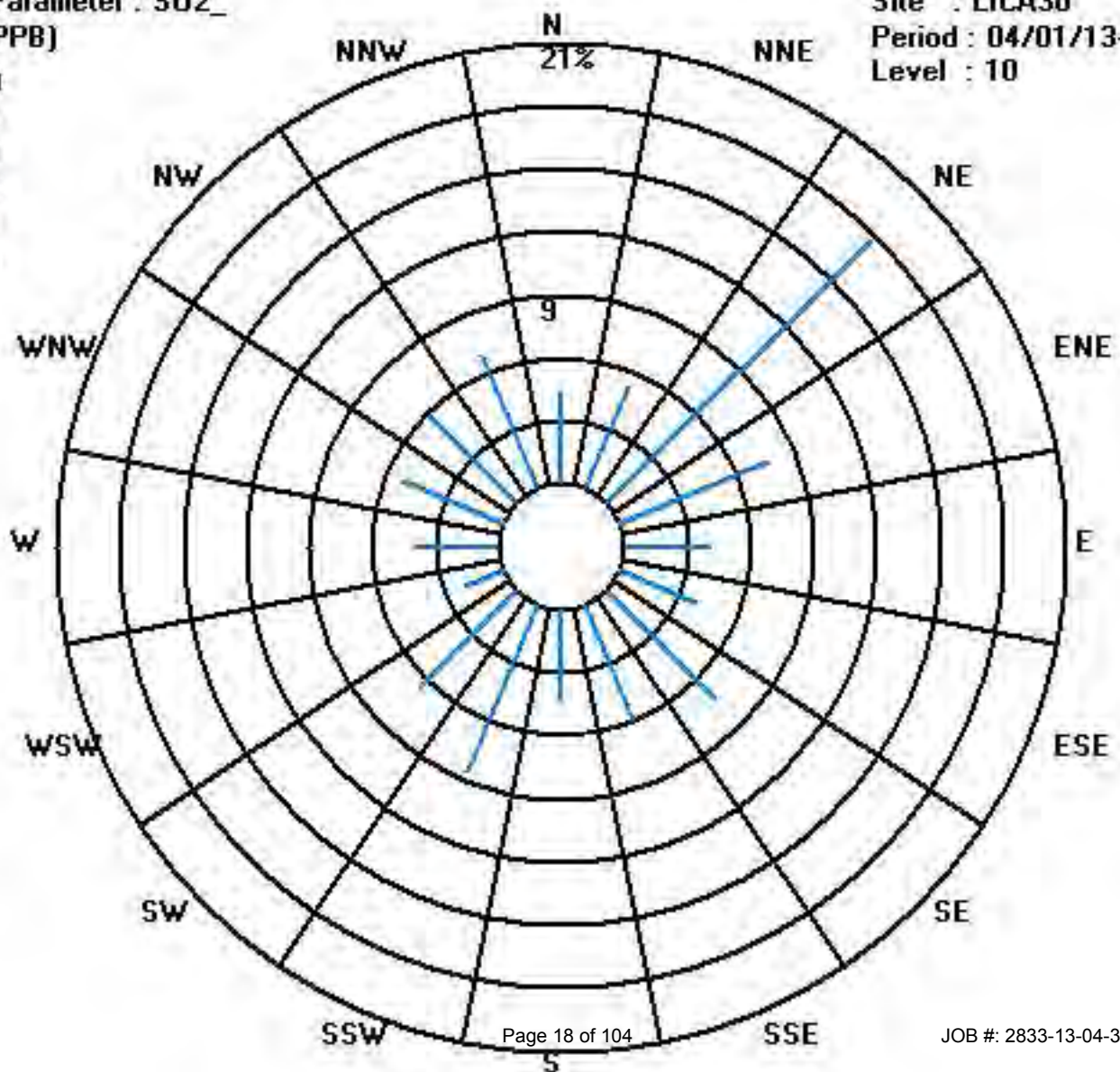
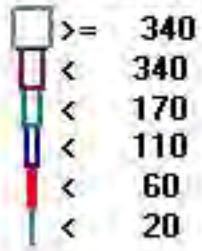
Calm : .00 %

Total # Operational Hours : 657

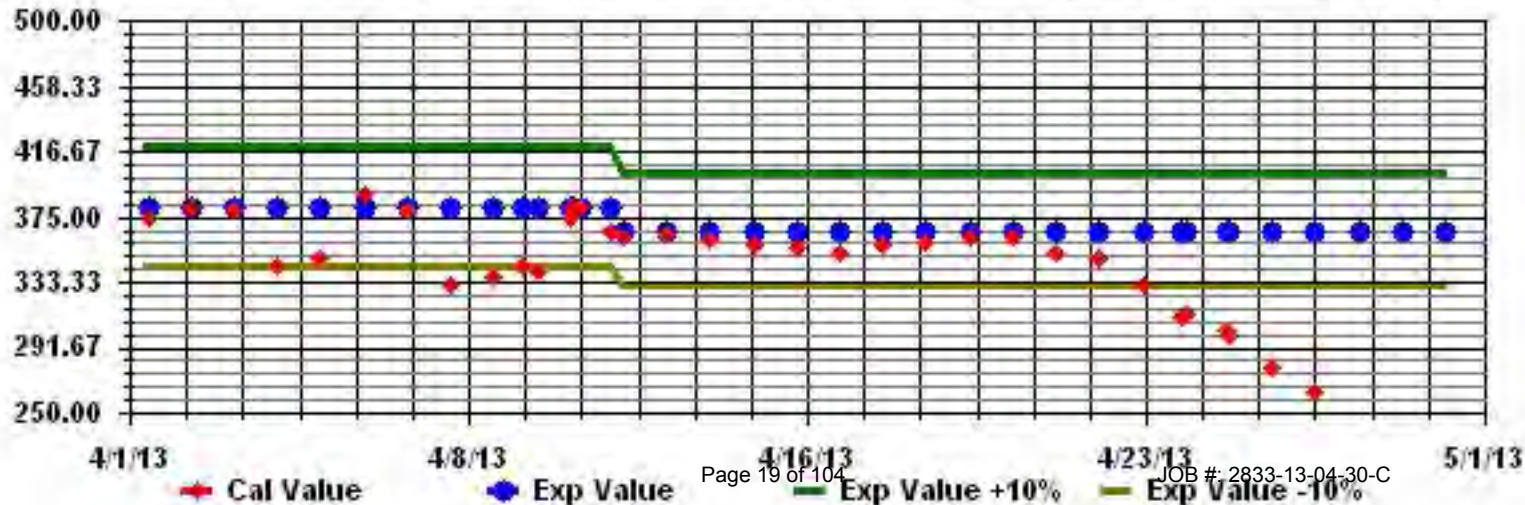
Class Limits (PPB)

Period : 04/01/13-04/30/13

Level : 10



Calibration Graph for Site: LICA30 Parameter: SO2_ Sequence: S02 Phase: SPAll



Hydrogen Sulphide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

APRIL 2013

HYDROGEN SULPHIDE (H₂S) hourly averages in ppb

MST																										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	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	1	0	0	1	1	0	0	0	0	1	0.1	24																						
3		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																						
4		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																						
5		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	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																							
7		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																							
8		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																							
9		S	0	0	0	0	0	C	C	C	C	Y	C	C	C	C	C	C	C	0	0	0	0	0	0	0	0.0	23																							
10		S	0	0	0	0	1	0	0	0	1	1	1	1	Y	S	0	1	1	1	1	0	1	0	S	1	0.5	23																							
11		0	0	1	0	0	1	1	1	0	1	1	1	1	1	0	0	0	0	0	0	0	S	1	1	0.5	24																								
12		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	0	1	0.1	24																							
13		0	1	1	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	1	0.2	24																							
14		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0.0	24																							
15		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	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	S	0	S	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	S	0	0	0	0	0	0	0	0	0	1	0.1	24																							
18		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																							
19		0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24																							
20		0	0	0	0	0	0	0	0	0	1	0	1	S	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24																							
21		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																							
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	24																							
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	24																							
24		0	0	0	0	0	S	S	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24																							
25		0	0	0	0	0	0	0	S	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24																							
26		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																							
27		0	0	0	0	0	1	S	0	0	0	0	1	1	0	1	1	1	0	1	0	0	0	1	1	1	0.4	24																							
28		1	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24																							
29		0	0	0	0	S	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	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																							
HOURLY MAX		1	1	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																									
HOURLY AVG		0.0	0.0	0.1	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.1																										

STATUS FLAG CODES

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

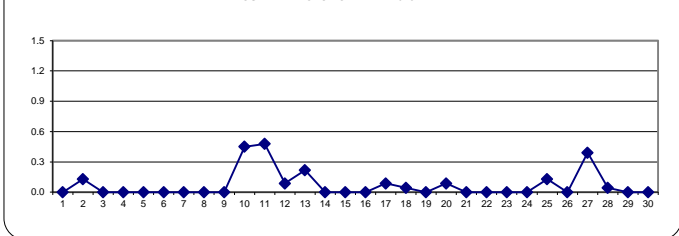
OBJECTIVE LIMIT:

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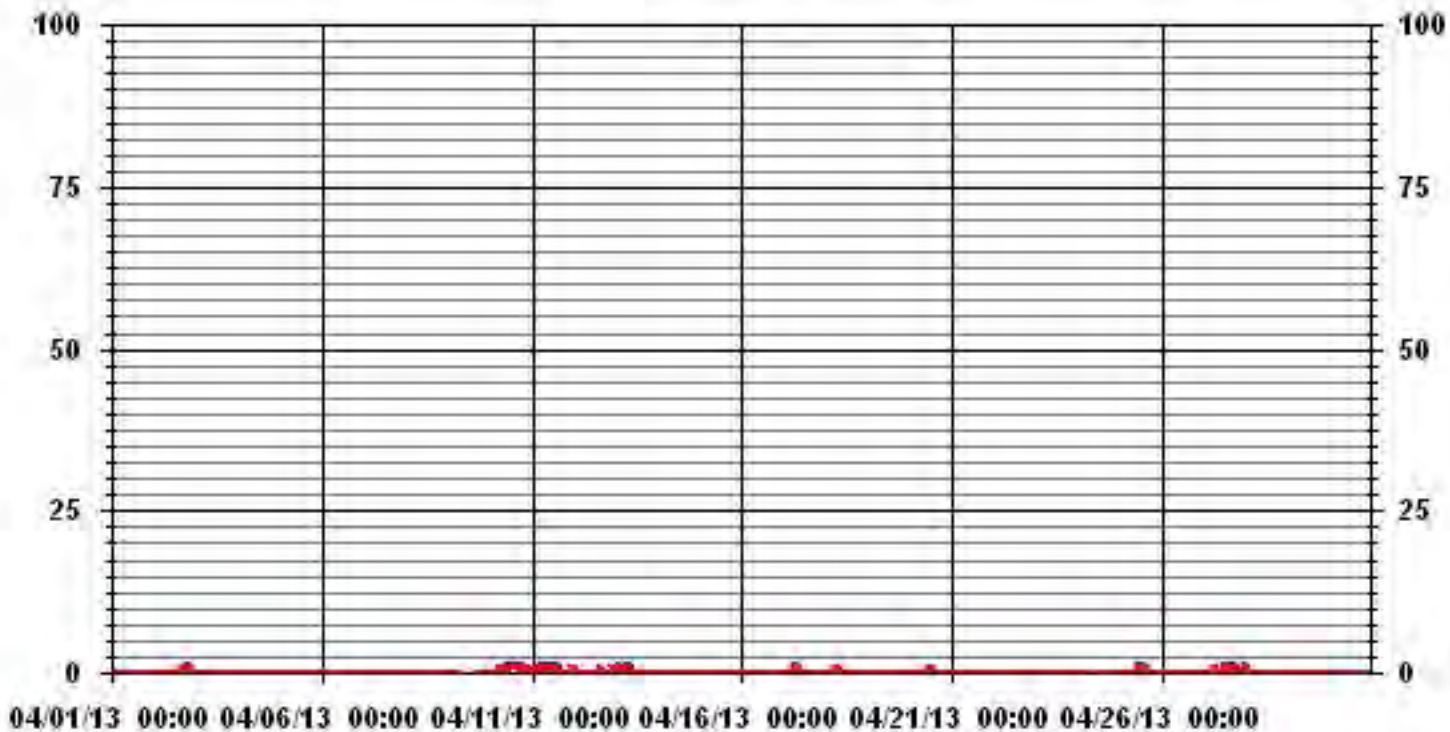
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	48					
MAXIMUM 1-HR AVERAGE:	1	PPB	@ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 24-HR AVERAGE:	0.5	PPB			ON DAY(S)	10, 11
					VAR-VARIOUS	
IZS CALIBRATION TIME:	34	HRS	OPERATIONAL TIME:	718 HRS		
MONTHLY CALIBRATION TIME:	9	HRS	AMD OPERATION UPTIME:	99.7 %		
STANDARD DEVIATION:	0.26		MONTHLY AVERAGE:	0.07 PPB		

24 HOUR AVERAGES FOR APRIL 2013



01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

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

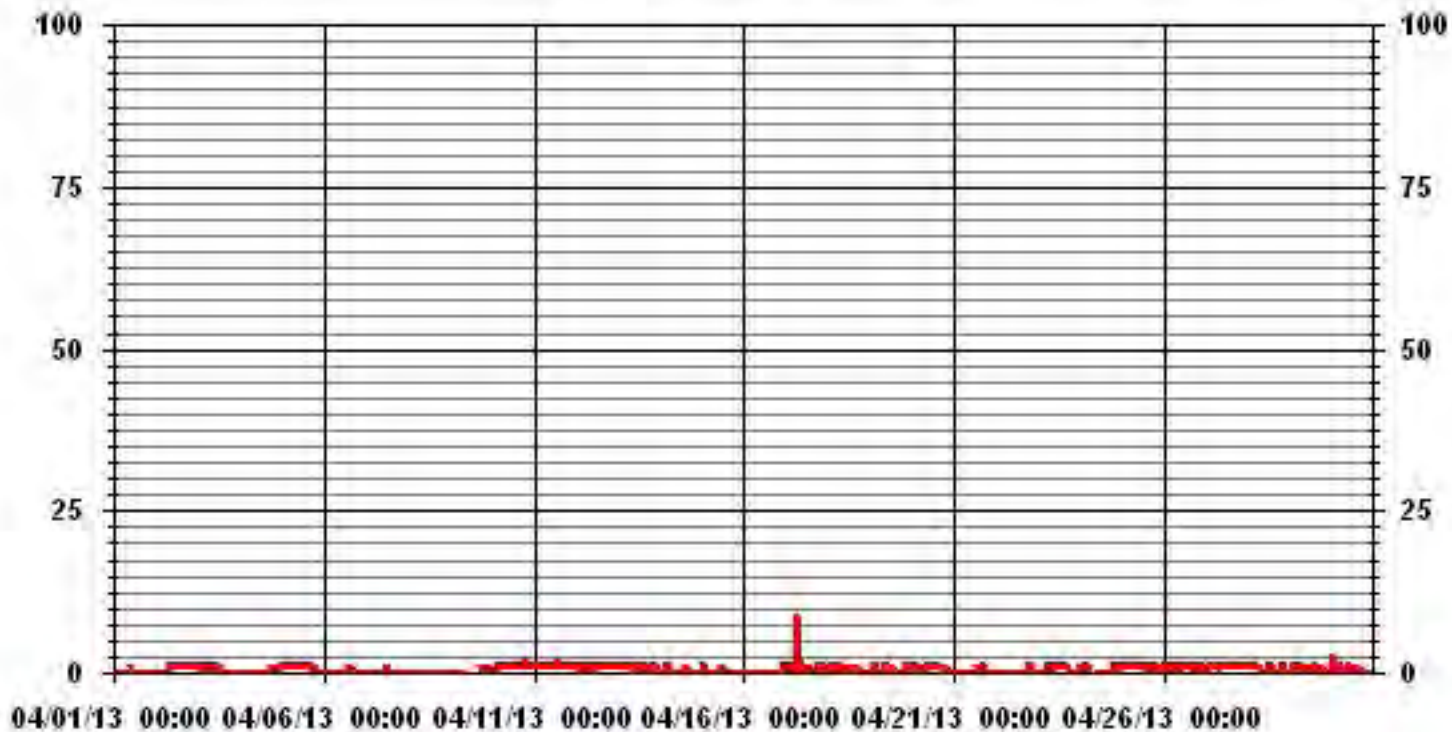
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	272
MAXIMUM INSTANTANEOUS VALUE:	9 PPB @ HOUR(S) 6 ON DAY(S) 17
IZS CALIBRATION TIME:	34 HRS
MONTHLY CALIBRATION TIME:	9 HRS
OPERATIONAL TIME:	718 HRS
STANDARD DEVIATION:	0.61

01 Hour Averages



— LICA30 H2S MAX PPB

LICA30
H2S_ / WDR Joint Frequency Distribution (Percent)

April 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	4.29	5.33	17.48	7.40	4.14	4.00	7.40	6.07	4.44	8.59	6.81	2.07	3.85	5.18	5.92	6.96	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	4.29	5.33	17.48	7.40	4.14	4.00	7.40	6.07	4.44	8.59	6.81	2.07	3.85	5.18	5.92	6.96	

Calm : .00 %

Total # Operational Hours : 675

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	29	36	118	50	28	27	50	41	30	58	46	14	26	35	40	47	675
< 10																	
< 50																	
>= 50																	
Totals	29	36	118	50	28	27	50	41	30	58	46	14	26	35	40	47	

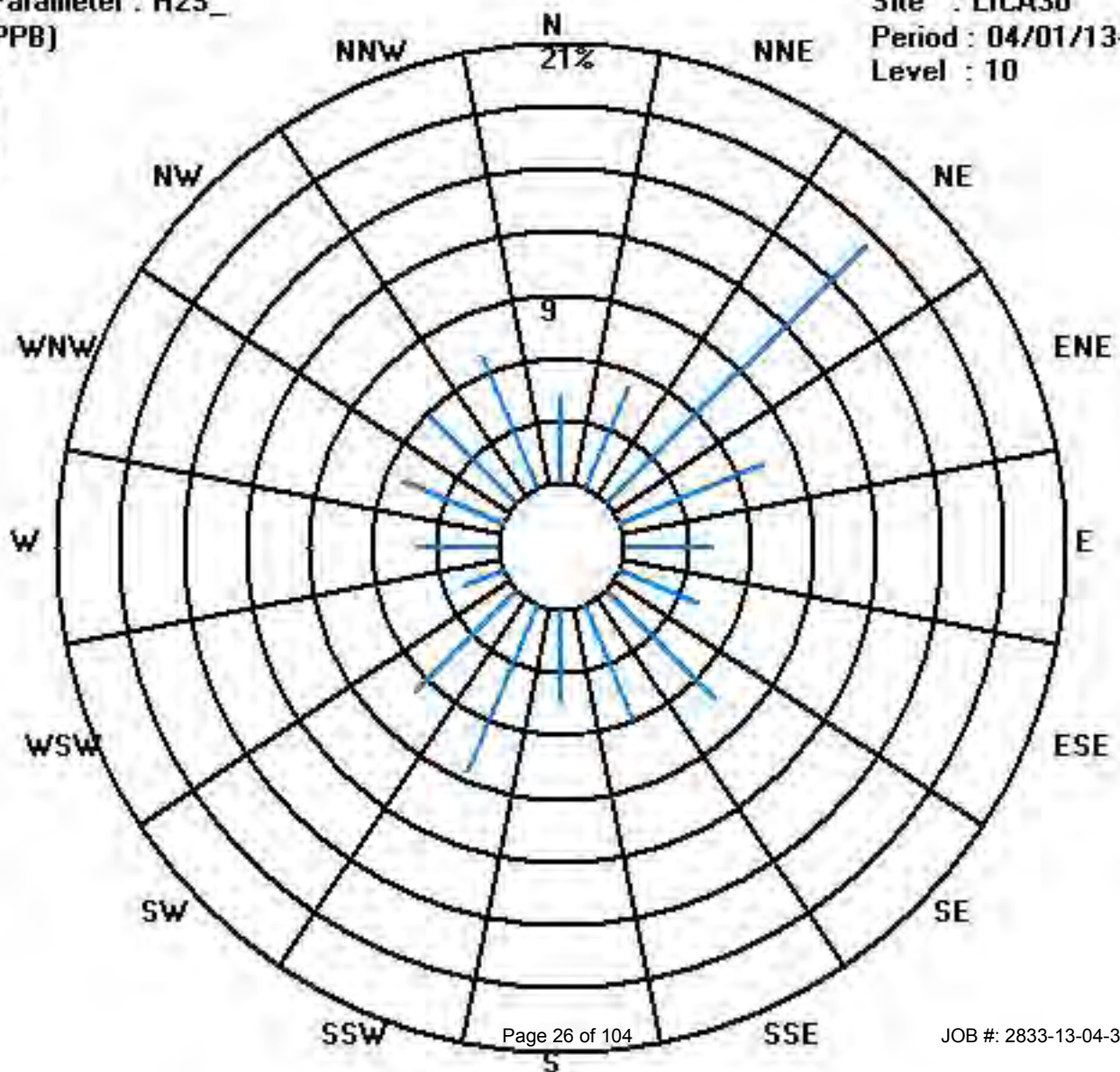
Calm : .00 %

Total # Operational Hours : 675

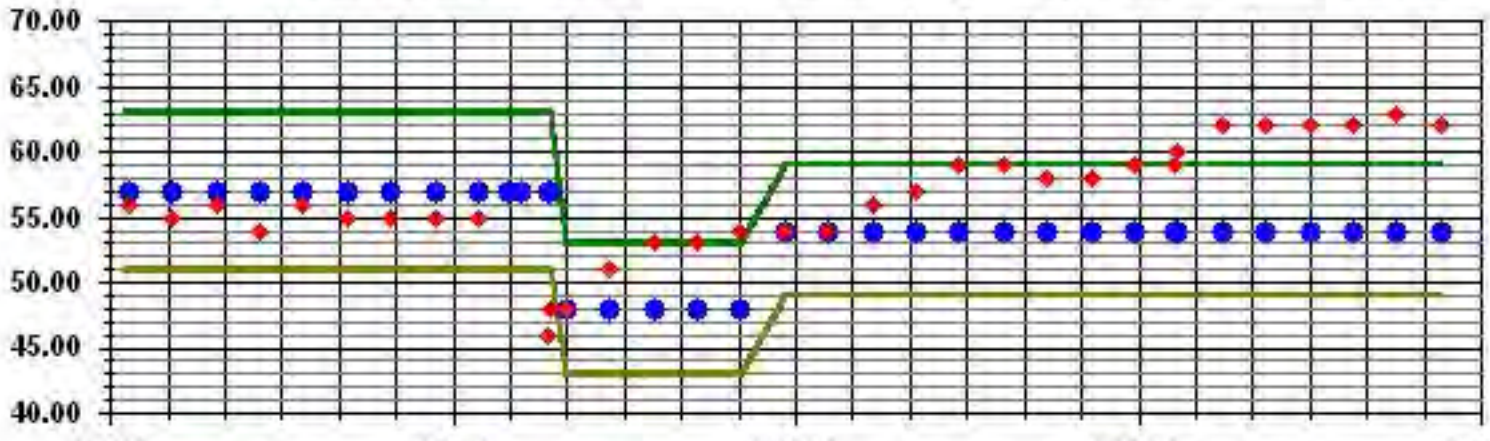
Class Limits (PPB)

Period : 04/01/13-04/30/13

Level : 10



Calibration Graph for Site: LICA30 Parameter: H2S_ Sequence: H2S Phase: SPAll



4/1/13

4/8/13

4/16/13

4/23/13

5/1/13

◆ Cal Value

● Exp Value

— Exp Value +10%

— Exp Value -10%

Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -MASKWA

APRIL 2013

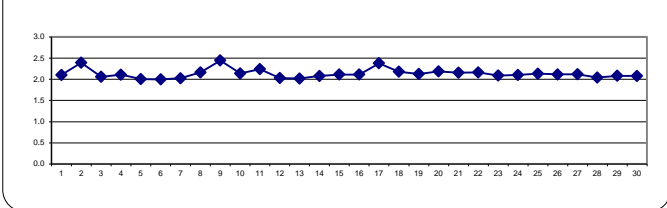
TOTAL HYDROCARBONS hourly averages in ppm

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	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		2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	S	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	24		
2		2.4	2.6	2.7	2.7	2.6	2.5	2.4	2.4	S	2.3	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.4	2.4	2.5	2.5	2.4	2.7	2.4	2.4	24		
3		2.3	2.1	2.1	2	2	2	2	S	2	2	2.1	2.1	2.1	2	2	2	2	2	2	2.1	2.1	2.1	2.1	2.1	2.3	2.1	24		
4		2.2	2.3	2.2	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	2.1	2.1	2.1	2.1	2.1	2	2	2	2.3	2.1	24		
5		2	2.1	2.1	2	2	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.1	2.0	24	
6		2	2	2	2	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.0	2.0	24	
7		2	2	2	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	24	
8		2.1	2.1	S	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.3	2.4	2.4	2.2	2.4	2.2	24	
9		2.6	S	2.8	2.8	2.9	2.7	2.8	2.8	2.4	2.3	2.2	2.2	2.2	2.3	2.4	S	S	2.2	2.2	2.3	2.3	2.2	2.4	2.4	2.9	2.4	2.4	24	
10		S	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2	2	2	2	2.1	2	2	2	2	S	2.3	2.1	24		
11		2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.4	2.4	2.4	2.3	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	2.1	S	2.1	2.4	2.2	24		
12		2.1	2.1	2.1	2	2	2.1	2.1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.1	S	2.1	2	2.1	2.0	24	
13		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	2	2.2	2.0	24	
14		2	2	2	2	2.1	2	2	2.1	2.1	2	2	2	2	2	2.1	2.1	2	2.1	2.1	S	2.1	2.2	2.4	2.4	2.4	2.1	2.4	24	
15		2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	C	C	C	2.1	2.1	2.1	2.1	S	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.1	24		
16		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	S	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.1	24		
17		2.2	2.2	2.2	2.2	2.2	2.2	5.1	3.9	2.2	2.3	2.3	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	5.1	2.4	24		
18		2.3	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.1	2	S	2	2	2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.2	24	
19		2.2	2.3	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	S	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.3	2.1	24	
20		2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.4	2.4	2.3	2.2	2.2	2.3	S	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.4	2.2	24	
21		2.2	2.2	2.2	2.2	2.2	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	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	24	
22		2.2	2.2	2.2	2.2	2.3	2.3	2.5	2.2	2.1	2.1	S	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.1	2.1	2.1	2.1	2.1	2.5	2.2	24	
23		2.1	2.2	2.1	2.3	2.2	2.3	2.2	2.1	2	S	2	2.1	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2	2	2	2.1	2.3	2.1	24
24		2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	S	2.3	2.2	2.1	2	2	2	2	2	2	2	2	2	2.1	2.1	2.2	2.2	2.3	2.1	24	
25		2.3	2.4	2.4	2.4	2.3	2.3	2.1	2.1	S	2.2	2	2	2.1	2	2	2	2	2	2	2	2	2	2	2.1	2.3	2.4	2.1	24	
26		2.4	2.3	2.2	2.3	2.3	2.3	S	2.2	2	2	2.1	2	2.1	2	2	2	2	2	2	2	2	2	2	2	2.1	2.1	2.4	2.1	24
27		2.1	2.2	2.3	2.4	2.4	2.3	S	2.2	2.2	2.1	2	2	2.1	2.1	2.1	2	2	2.1	2	2	2	2	2	2	2.2	2.4	2.1	24	
28		2.1	2.1	2.2	2.1	2.1	S	2.1	2	2.1	2	2	2	2	2	2	2	2	2	2	2.1	2.1	2	2	2	2	2.2	2.0	24	
29		2	2	2	2	S	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	24	
30		2.1	2.1	2.1	S	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	2.1	2.1	2.1	2.1	2.2	2.1	2.4	24	
HOURLY MAX		2.6	2.6	2.8	2.8	2.9	2.7	5.1	3.9	2.4	2.4	2.4	2.3	2.4	2.3	2.4	2.3	2.3	2.3	2.3	2.4	2.4	2.5	2.5	2.4					
HOURLY AVG		2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2				

STATUS FLAG CODES

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

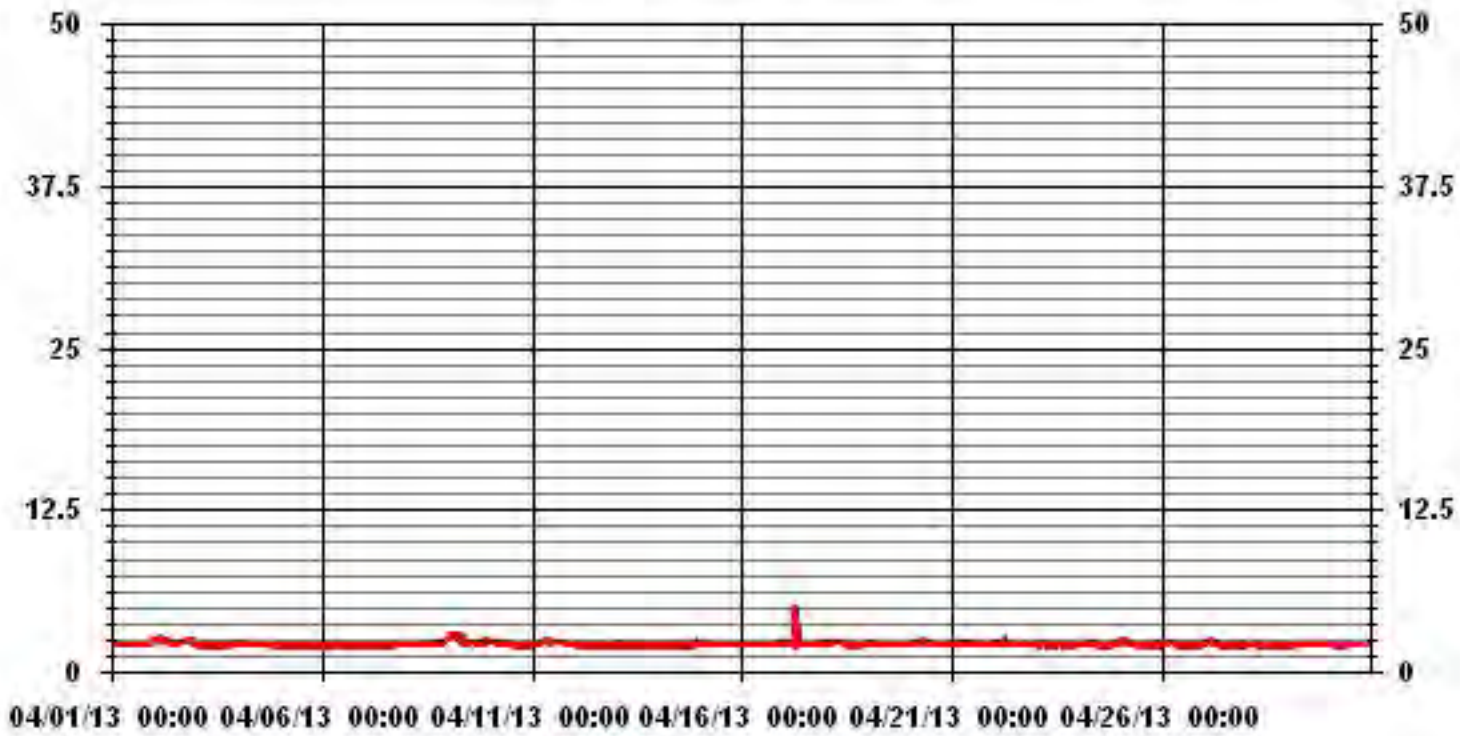
24 AVERAGES FOR APRIL 2013



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	684
MAXIMUM 1-HR AVERAGE:	5.1 PPM @ HOUR(S) 6 ON DAY(S) 17
MAXIMUM 24-HR AVERAGE:	2.4 PPM ON DAY(S) VAR
	VAR- VARIOUS
IZS CALIBRATION TIME:	33 HRS
MONTHLY CALIBRATION TIME:	3 HRS
STANDARD DEVIATION:	0.19
OPERATIONAL TIME:	720 HRS
AMD OPERATION UPTIME:	100.0 %
MONTHLY AVERAGE:	2.13 PPM

01 Hour Averages



— LICA30 THC PPM

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

APRIL 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	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	S	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	3.1	2.3	2.1	2.3	3.1	2.2	24	
2	2.6	2.7	2.7	2.7	2.6	2.5	2.4	2.4	S	2.3	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.4	2.4	2.5	2.5	2.5	2.5	2.7	2.4	24	
3	2.4	2.6	2.7	2	2	2.2	2.2	S	2.1	2.1	2.3	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.7	2.2	24	
4	3.1	2.9	2.9	2.1	2.1	2.3	S	2.4	2.2	2.2	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	2.1	3.1	2.3	24	
5	2.1	2.2	2.2	2.1	2	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.2	2.0	24	
6	2	2	2	2.1	S	2	2.1	2.1	2.1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.1	2.1	24	
7	2	2.1	2.1	S	2.1	2.1	2.1	2.1	2	2.1	2	2	2	2	2.1	2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	24	
8	2.1	2.1	S	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.2	2.3	2.4	2.5	2.5	2.2	24	
9	2.6	S	2.8	2.8	3.8	2.8	3.1	3.1	2.6	2.4	2.3	2.2	2.3	2.4	2.5	S	S	2.3	2.3	2.8	2.4	2.3	2.4	2.4	3.8	2.6	24	
10	S	2.4	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2	2	2.1	2.1	2.1	2.1	2.1	2.1	S	2.4	2.2	24	
11	2.1	2.7	2.1	2.1	2.2	2.2	2.4	2.5	2.5	2.5	2.5	2.6	2.5	2.4	3.1	2.3	2.3	2.4	2.5	2.2	2.1	S	2.5	3.1	2.4	24		
12	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2	2.1	2	2.1	2.2	2	2.3	S	2.2	2.1	2.3	24	
13	2.2	2.1	2.3	2.3	2.1	2	2	2	2	2	2	2	2	2	2	2	2	2	2.1	2	S	2	2	2	2.3	2.0	24	
14	2	2.2	2.1	2.6	2.5	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.2	2.1	2.2	2.1	2.2	2.1	S	2.2	2.2	3	2.5	3	24	
15	2.4	2.4	2.2	2.1	2.3	2.1	2.1	2.1	2.1	2.1	C	C	C	C	2.1	2.1	2.1	2.1	S	2.1	2.1	2.1	2.1	2.1	2.4	2.1	24	
16	2.2	2.2	2.1	2.1	2.2	2.3	2.4	2.2	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.1	2.1	S	2.1	2.1	2.1	2.2	2.2	2.4	2.4	2.2	24	
17	2.3	2.4	2.3	2.4	2.4	2.3	20.8	6.6	2.5	2.3	2.4	2.2	2.1	2.1	2.1	S	S	2.1	2.1	2.1	2.2	2.2	2.3	2.3	20.8	3.2	24	
18	2.3	2.3	2.3	2.4	2.4	2.3	2.3	2.3	2.4	2.3	2.3	2.2	2.1	2.1	S	2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.4	2.2	24	
19	2.2	3.1	2.7	2.2	2.4	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	S	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.2	24	
20	2.1	2.2	2.2	2.2	2.2	2.3	2.3	2.4	2.5	2.5	2.2	2.2	2.5	S	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.5	2.2	24	
21	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.4	S	2.3	2.4	3	2.7	2.3	2.1	2.1	2.3	2.1	2.1	2.2	3	2.3	24	
22	2.2	2.2	2.2	2.2	2.3	2.5	2.6	2.4	2.2	2.1	2.2	S	2.3	2.2	2.2	2.2	2.2	2.3	2.1	2.3	2.7	2.1	2.3	2.2	2.1	2.7	24	
23	2.1	2.2	2.5	3.1	2.4	2.8	2.4	2.1	2.1	2	S	2.1	2.4	2.4	2.3	2.3	2.3	2	2	2	2	2	2	2	3.1	2.2	24	
24	2.8	2.4	2.2	2.1	2.1	2.1	2.4	2.3	S	2.3	2.3	2.3	2.2	2.1	2	2	2	2	2	2.1	2.1	2.2	2.2	2.2	2.8	2.2	24	
25	2.3	2.5	2.4	2.5	2.4	2.5	2.2	2.1	S	2.2	2.1	2.1	2.3	2.3	2	2.1	2.1	2.2	2	2	2	2.1	2.1	2.5	2.5	2.2	24	
26	2.5	2.4	2.2	2.3	2.3	2.3	2.4	S	2.3	2.1	2	2.2	2.3	2.2	2.4	2.1	2.2	2	2	2	2	2	2.1	2.1	2.5	2.2	24	
27	2.2	2.2	2.4	2.5	2.5	2.4	S	2.3	2.2	2.1	2.1	2	2.2	2.1	2.2	2.2	2.5	2.3	2.4	2	2	2	2.1	2.6	2.6	2.2	24	
28	2.4	2.3	2.4	2.3	2.4	S	2.4	2.2	2.3	2.1	2.2	2.1	2.1	2	2.1	2.1	2	2	2	2.4	2.3	2.2	2	2	2.4	2.2	24	
29	2	2	2	2	S	2.1	2.1	2.1	2.1	2.1	2.2	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	2.2	2.1	24	
30	2.1	2.1	2.1	S	2.1	2.2	2	2.1	2.1	2.1	2.3	2.2	2.3	2.4	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.4	2.1	24	
HOURLY MAX	3	3	3	3	4	3	21	7	3	3	3	3	3	3	3	3	3	3	2	2	3	3	3	3	3			
HOURLY AVG	2.3	2.3	2.3	2.3	2.3	2.3	2.9	2.4	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.2	2.2	2.1	2.2	2.2			

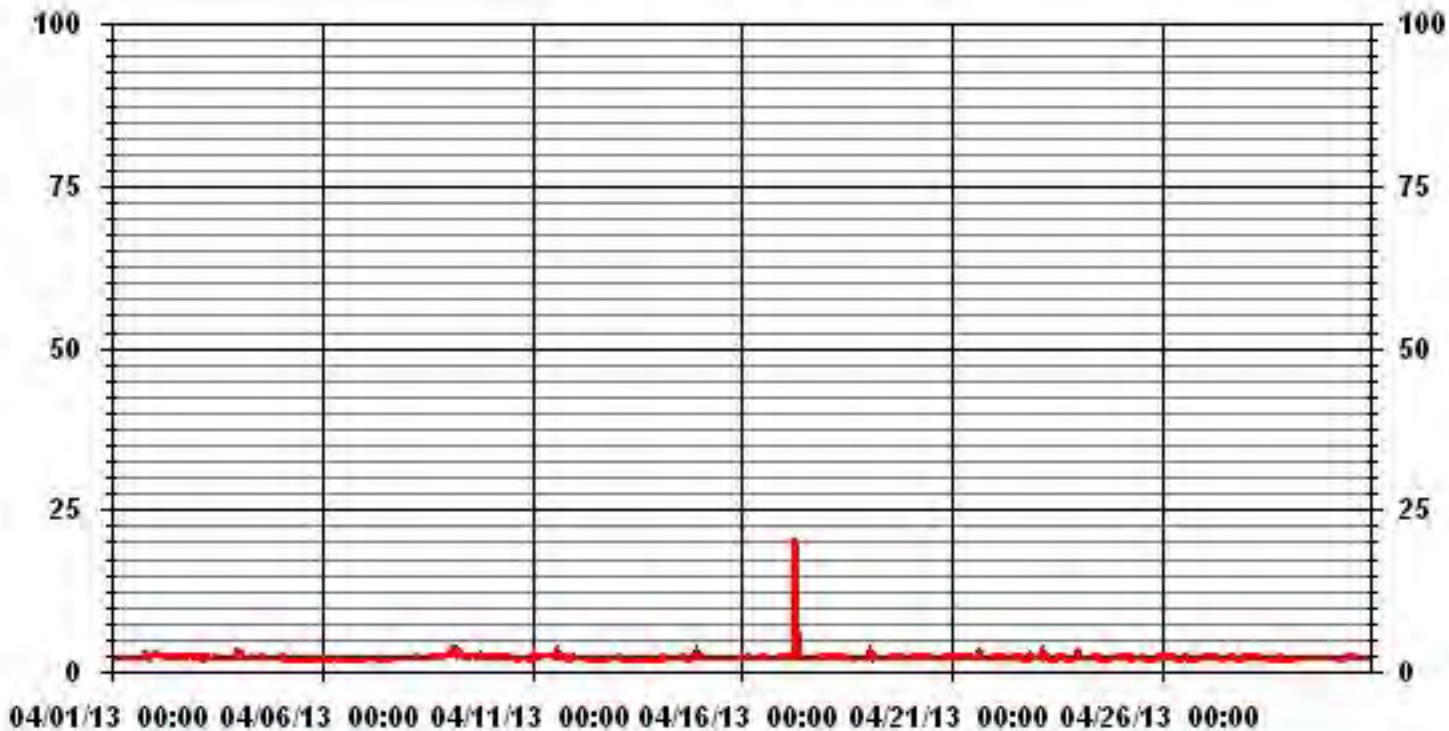
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	683					
MAXIMUM INSTANTANEOUS VALUE:	20.8	PPM	@ HOUR(S)	6	ON DAY(S)	17
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	720 HRS		
MONTHLY CALIBRATION TIME:	4	HRS				
STANDARD DEVIATION:	0.76					

01 Hour Averages



LICA30
 THC / WDR Joint Frequency Distribution (Percent)

April 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	4.09	5.11	16.81	7.30	4.09	3.94	7.45	6.28	4.67	9.50	6.72	2.04	3.80	5.11	5.84	6.87	99.70
< 10.0	.14	.14	.00	.00	.00	.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	4.23	5.26	16.81	7.30	4.09	3.94	7.45	6.28	4.67	9.50	6.72	2.04	3.80	5.11	5.84	6.87	

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	28	35	115	50	28	27	51	43	32	65	46	14	26	35	40	47	682
< 10.0	1	1															2
< 50.0																	
>= 50.0																	
Totals	29	36	115	50	28	27	51	43	32	65	46	14	26	35	40	47	

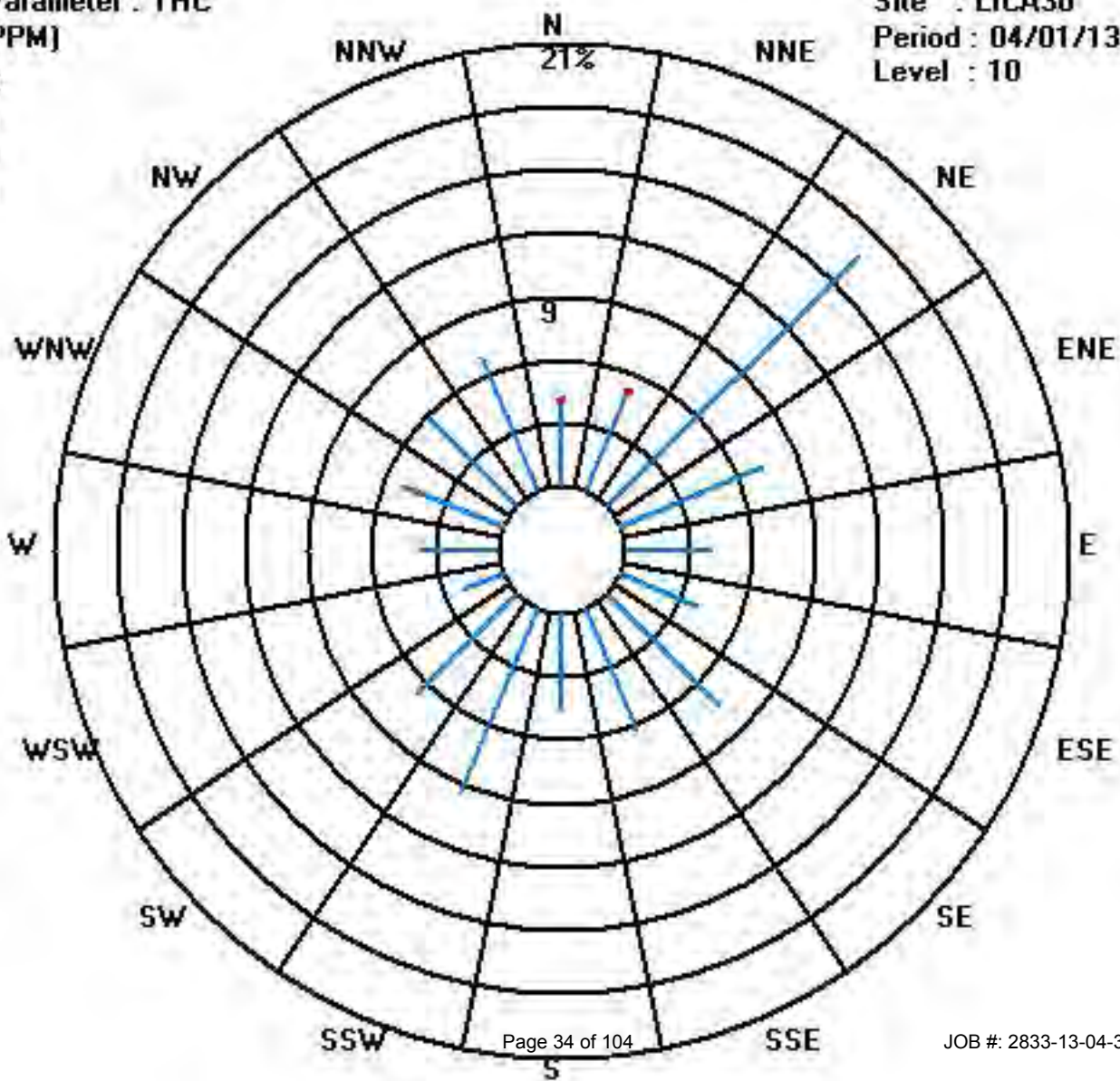
Calm : .00 %

Total # Operational Hours : 684

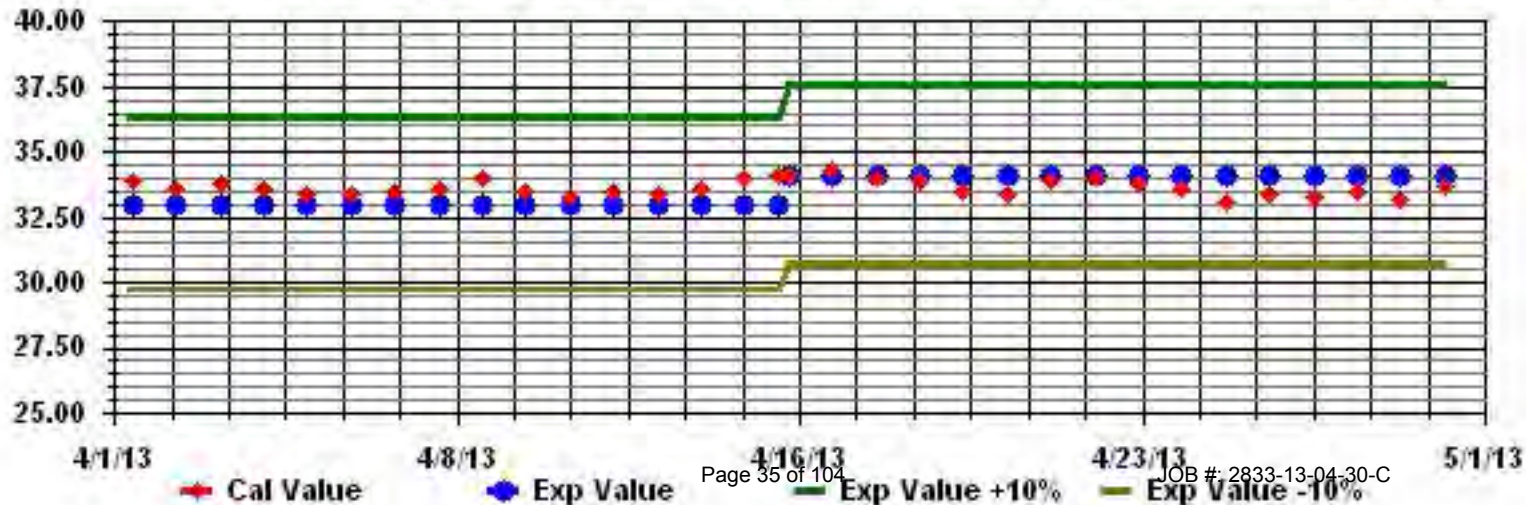
Class Limits (PPM)

Period : 04/01/13-04/30/13

Level : 10



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



Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

APRIL 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	0:00	DAILY MAX.	24-HOUR AVG.	RDGS.
1	1.5	2.5	3.7	3	3	4.4	3.7	2.9	4.5	S	2.1	2.7	2	3.5	2.1	2.5	1.9	2.8	2.5	1.9	1.5	2.1	0.9	0.8	4.5	2.5	24	
2	1.1	1.8	1.8	1.8	1.9	1.7	3.2	4	S	2.3	1.9	1.9	2.6	3.1	3.2	3.5	2.6	2.6	2.9	3.2	3.2	4	5	4.1	5.0	2.8	24	
3	4	6.5	12.7	0.8	0.3	2.2	11.6	S	3.2	1.7	1.4	2.9	2	2.5	1.5	1.5	0.6	0.4	0	0	0.5	0.5	0.6	1.2	12.7	2.5	24	
4	1.7	2.4	2.4	1.3	0.5	0.3	S	2.2	2.5	2.6	2.2	1.6	1	0.9	1.2	1.2	0.7	0.6	0.6	1.1	0.7	0.7	0.7	0.9	2.6	1.3	24	
5	1.5	7.6	9.1	0.8	0.3	S	0.4	0.2	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.2	0.3	0.2	0	0.2	0.3	0	0	0	9.1	1.0	24	
6	0	0.2	0	0	S	0.1	0	0	0	0	0.1	0.2	0	0.2	0.1	0.2	0.1	0	0.1	0.1	0	0.1	0.1	0	0	0.2	0.1	24
7	0.2	0	0.2	S	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	24
8	0	0.7	S	1.6	2.2	2.3	2.9	3.1	0.7	0.9	0.6	1	3.4	4	3.5	3.5	2.5	2.5	1.5	1.6	1.5	2.2	3.7	4.8	4.8	2.2	24	
9	6.2	S	7.2	6.8	6	8.8	13.4	8.7	5.1	2.7	1.8	C	C	C	C	C	C	C	1	2.3	2	2.4	2.6	3	13.4	5.0	24	
10	S	2.7	1	1.1	0.9	1	1.6	2.6	3.7	3.4	4	2.6	1.9	1.2	1.9	1	1.7	1.6	1.7	6.4	2.3	5.9	0.7	S	6.4	2.3	24	
11	2.9	2.3	1.2	1.2	2.1	3.2	4	5.8	6.5	9.9	8.2	5.2	6.3	5.3	4.6	4.1	5.1	3	3.4	3.4	1.1	0.8	S	6.4	9.9	4.2	24	
12	2.3	2.5	1.2	0.9	1	1.5	2.8	1.4	0.8	1.1	0.8	0.6	0.7	0.2	0.1	0.2	0	0.6	1.3	0.1	3	S	5.3	0.7	5.3	1.3	24	
13	1.3	0.8	8	9.1	1.4	0.5	0.5	0.3	0.4	0.4	0.5	0.4	0.2	0.4	0.3	0.4	0.3	0	0.1	3.7	S	0.8	0.6	0	9.1	1.3	24	
14	0	0	0	0	0	0	0	0.1	0	0	0	0.1	0.8	1.3	1	1.9	0.8	2.9	1.6	S	2.6	1.1	1.7	3.6	3.6	0.8	24	
15	2.3	1.7	1.4	0.9	0.3	0.1	0.2	0.1	0.1	0.2	0.1	0	0	0	0	0	0	0	S	0.2	0.2	0.3	0.2	0.1	2.3	0.4	24	
16	0	0	0.1	0.5	0.1	0	1.5	2.1	0.6	0.1	0.1	0.4	0.6	0.6	0.8	0.3	0.4	0	S	0.8	0.6	1	0.8	0.6	0.6	2.1	0.5	24
17	3.7	1.9	4.1	4	3.1	2.5	5.2	8.3	2.8	2.9	1.9	0.8	0.3	0.6	0.6	0.9	S	0.9	1.2	1.6	2.3	2.4	1.5	1.5	8.3	2.4	24	
18	1.3	1.6	2	5.8	6.5	4.1	4.5	4.3	4	2.3	1.4	1.5	1.4	0.4	0.4	S	0.2	0.2	0.3	0.7	0.5	0.5	1.2	1.1	6.5	2.0	24	
19	2.2	1.9	1.4	0.7	0.9	1.2	3.3	2.4	1.5	1.9	1.8	0.7	0.7	0.5	S	1.3	1	1.2	1	1.6	1	1.1	1	1.1	3.3	1.4	24	
20	1.4	1.6	1.7	1.9	2.1	2.7	3.7	3.2	5.2	3.4	2.7	1.5	8.1	S	4.4	2.2	0.7	0.6	0.7	0.6	0.6	0.6	0.5	1.9	8.1	2.3	24	
21	1.8	1.5	1.1	1.1	2.3	1.9	2.5	2.6	1.7	1.3	1.6	1.1	S	2.5	2.9	4.1	4.1	7.4	0.1	0.2	1.3	1.7	1.2	1.7	7.4	2.1	24	
22	2.1	1.5	2.2	2.8	3.3	4.9	7.3	3	0.5	0.6	1.2	S	1.9	1.7	0.4	0.7	1	1.7	4.6	3.3	2	1.5	0.9	0.7	7.3	2.2	24	
23	1.3	2	1.7	1.7	1.9	3.5	6.9	7.4	4	1.5	S	3.7	6.3	8.1	3	8.5	9.2	2.2	1.5	0.9	1.3	1.6	1.9	1.3	9.2	3.5	24	
24	7.7	5.3	4.7	2.4	2.2	3.1	3.8	2.8	2.6	S	3.1	1.9	1.6	1.2	1	0.8	0.9	0.5	0.5	1.1	2	1.5	2.1	2.8	7.7	2.4	24	
25	2.8	2.5	3.3	3.9	3.9	4.2	5.1	5	S	2.8	1.2	0.2	1.1	0.3	0	0	0	0	0	0	0	0	0	1.6	3.8	5.1	1.8	24
26	2.8	2.3	1.5	2.1	1.9	3.4	6.2	S	7.2	1.3	0.5	0	1.3	0.2	3.3	3.2	0	0	0	0	0	0	0.6	0	7.2	1.6	24	
27	0.7	2.4	2.8	4.5	4	4.3	S	2.8	3.6	0.9	0.8	0	0.1	0	0.3	0.1	0.7	12.6	9.6	0.4	0	0.1	0	3.6	12.6	2.4	24	
28	14.8	9.8	11.7	4.1	4.7	S	2.8	4.5	2.2	2.4	2	0	0.1	0.5	0.7	2.2	0	0	0.1	2.1	3	0.5	0	0	14.8	3.0	24	
29	0	0	0	0	S	0.4	0.2	0.2	0	0.2	0.4	0.2	0	0	0	0	0.1	0	0	0	0	0.1	0	0.2	0.4	0.1	24	
30	0.1	0	0.1	S	1	2.7	2.9	1.2	1.8	0.8	1.8	3.3	3.1	4.9	4.7	3	2.6	2	2.8	2.3	2.9	1.6	2.2	3	4.9	2.2	24	
HOURLY MAX	14.8	9.8	12.7	9.1	6.5	8.8	13.4	8.7	7.2	9.9	8.2	5.2	8.1	8.1	4.7	8.5	9.2	12.6	9.6	6.4	3.2	5.9	5.3	6.4				
HOURLY AVG	2.3	2.3	3.0	2.3	2.1	2.3	3.6	2.9	2.3	1.7	1.5	1.2	1.7	1.6	1.5	1.7	1.3	1.7	1.4	1.4	1.3	1.2	1.3	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

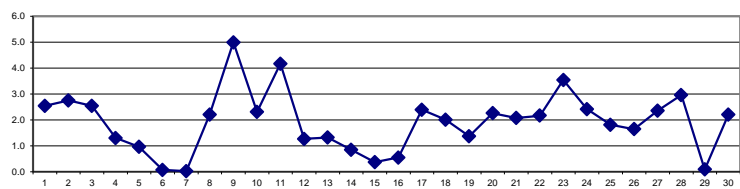
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT: 1-HR 159 PPB

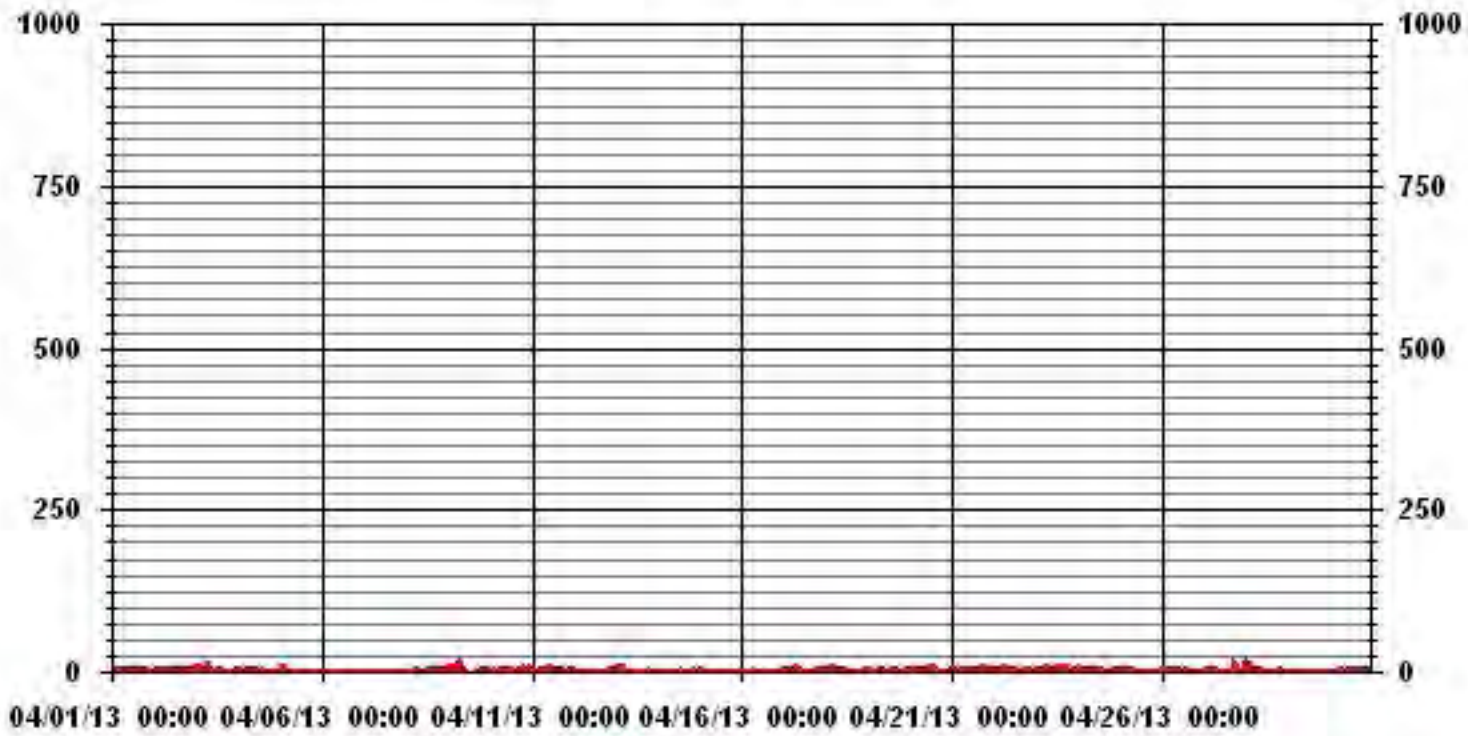
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	580					
MAXIMUM 1-HR AVERAGE:	14.8	PPB	@ HOUR(S)	0	ON DAY(S)	28
MAXIMUM 24-HR AVERAGE:	5.0	PPB			ON DAY(S)	9
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	2.17		MONTHLY AVERAGE:	1.89	PPB	

24 HOUR AVERAGES FOR APRIL 2013



01 Hour Averages



— LICA30 I102_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

APRIL 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	2.7	3.8	4.8	5.9	6.4	6.1	6.8	4.3	11.2	S	5.5	5.1	3.9	15.6	4.7	11.5	2.6	3.5	3.5	2.8	2.8	5.5	1.8	1.7	15.6	5.3	24	
2	2.3	2.6	2.6	3.1	3	2.9	5.6	5.4	S	2.8	2.5	3.1	3.7	4.5	4.7	5	3.5	3.4	3.4	4.1	4	6.2	7.3	9.3	9.3	4.1	24	
3	7.7	23.8	29.5	4.8	0.9	12.7	27.7	S	12.7	4.6	5.1	8.2	8.2	12.5	3.7	13.8	1.5	1.5	1	0.8	2	1.4	1.7	5.4	29.5	8.3	24	
4	4	4.4	4.1	2.3	2.1	1.4	S	2.3	2.6	2.2	1.4	0.8	0.4	1.1	1.2	2	0.6	0.3	0.5	0.8	0.6	0.4	0.5	0.9	4.4	1.6	24	
5	2.9	12.8	11.4	2.5	0.3	S	0.7	0.7	0.5	0.5	0.8	0.6	0.7	0.7	0.9	0.7	0.9	0.7	0.6	1.2	1	0.7	0.4	0.8	12.8	1.9	24	
6	0.6	0.7	0.4	0.1	S	0.2	0	0	0.1	0	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.4	0.8	0.5	0.3	0.3	0.2	0.2	0.8	0.3	24	
7	0.3	0.3	0.3	S	0.1	0.1	0.4	1	0.3	0.3	0.3	0.2	0.2	0.6	0.5	0.5	0.2	0.2	0.1	0.4	0.5	0.1	0.1	0.2	1	0.3	24	
8	1.7	2.3	S	1.7	2.1	5.8	3.7	4	0.8	3.1	1.7	1.8	8	3.2	13.5	10.4	1.5	1.8	1.4	1.2	1.4	2.2	4.2	4.4	13.5	3.6	24	
9	7.3	S	8.2	7.8	7.2	16.3	21	14.7	29.6	10.9	C	C	C	C	C	C	C	C	0.8	23.4	2.4	3.3	3.6	3.8	29.6	10.7	24	
10	S	3.6	2.4	2	2	2.2	2.7	4	5.4	5.1	4.7	3.3	3.2	2.6	3.2	3	4.7	4.6	8.9	9.5	6.9	9.2	4.5	S	9.5	4.4	24	
11	6.1	4.5	1.8	1.9	4.5	6.2	7	8.5	8.8	14.1	10	7	10.4	6.1	7	4.7	9.3	5.7	7.8	10.6	1.8	1.3	S	19.4	19.4	7.2	24	
12	3.1	3.1	2.3	1.5	1.5	2.8	3.9	3.1	2.1	2.3	1.9	1.2	1.5	0.7	0.5	0.6	4	3.7	0.8	7.8	S	10.3	2.2	10.3	2.7	24		
13	4.5	1.9	12.5	14.6	6.4	1.4	1.4	0.9	0.9	0.9	0.9	0.9	0.9	1.1	1.1	0.8	0.8	0.5	0.7	22.9	S	3.1	1.2	0.6	22.9	3.5	24	
14	0.4	0.4	0.2	0.5	0.4	0.3	0.7	0.7	0.7	0.5	0.5	1.6	2.4	2.6	2.4	4.5	3.7	4.2	3.7	S	7.8	1.9	4.3	4.8	7.8	2.1	24	
15	3.3	2.6	2.2	1.7	1.2	0.9	0.9	0.9	0.8	0.9	0.9	0.6	0.4	0.3	0.4	0.5	0.5	0.6	S	0.4	0.5	0.9	0.8	0.8	3.3	1.0	24	
16	0.6	0.6	0.6	1.4	0.7	0.7	3.2	4	1.2	0.6	0.4	1.6	2.2	3	3.2	0.8	0.8	S	1.6	2	2.6	1.6	1.5	1.4	4	1.6	24	
17	7.9	3.9	36.2	33.4	4.2	4.6	12.3	10.5	5.7	4.2	3.2	1.6	1.1	1.4	1.4	2.2	S	1.8	2	2.5	4.9	5	2.3	2.1	36.2	6.7	24	
18	1.9	2.6	4.1	15.7	17.9	8.5	32	6.7	8.4	8.7	1.9	1.9	2.3	1.1	1.1	S	0.7	0.6	0.6	1.7	1.6	1	2.1	2	32	5.4	24	
19	3	2.4	2.1	1.4	1.7	2.4	5.8	3.8	2.6	3.4	2.9	1.3	1.4	0.8	S	2.1	1.5	1.7	1.8	2.4	2.1	1.5	1.6	1.8	5.8	2.2	24	
20	2	2.1	2.2	2.3	2.8	3.9	4.4	4.6	9.5	8.7	13.7	5	23.3	S	9.4	5	1.2	1	1.1	0.9	0.9	0.9	0.9	2.5	23.3	4.7	24	
21	2.8	2	1.6	1.8	3.5	2.8	3.9	16.5	3.1	4.3	5.6	3.8	S	10.5	8.5	11.4	15.5	22.1	0.4	0.8	4.8	2.9	2.7	3.1	22.1	5.8	24	
22	3.6	2.4	4.5	4	4.7	7.7	9.4	5.9	1.7	2.1	17.3	S	6	7.8	1.3	2	2.4	3.6	20.3	12.9	3.8	2.3	2	1.2	20.3	5.6	24	
23	2.3	3	2.8	2.3	3.6	5.2	13.2	10.2	9	8.1	S	8.6	15	25.7	11.1	15.1	18.2	14.1	14.1	2.4	3.8	2.2	2.9	1.8	25.7	8.5	24	
24	19.1	18.5	10.2	3.9	3.6	6.4	6.3	3.7	3.2	S	3.5	3.3	2.6	1.7	2.1	1.3	1.3	1	1.2	3.3	2.9	2.5	3.3	3.7	19.1	4.7	24	
25	4.4	3.2	4	4.5	4.4	5	6.5	6.5	S	4.3	2.3	0.8	2.4	2.8	0.7	1.4	0	0	0	0	0.1	0.6	4.9	5.2	6.5	2.8	24	
26	3.7	3.4	2.4	3	2.6	6.7	7.1	S	13	3.1	1.3	0.8	6.6	3.1	7.5	11.9	2.5	0.1	0.2	1.3	1.1	0.3	2.7	1.2	13	3.7	24	
27	2.5	5.4	4.1	9	5.8	7.5	S	4.2	7.6	1.4	1.6	0.7	0.9	0.8	1.2	1.3	5.8	35.5	24.3	4.5	0.6	0.7	0.6	12.1	35.5	6.0	24	
28	19.3	15.7	18.9	16.5	12.9	S	8.3	17.5	7.4	4.3	3.9	1.1	2.8	2.9	3.6	5.6	0.5	1.4	1.5	8.3	9.4	4.7	1.1	0.5	19.3	7.3	24	
29	0.6	0.7	0.7	0.7	S	0.7	0.6	0.6	0.6	0.8	2.3	0.6	0.7	0.6	0.4	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.8	0.6	0.5	2.3	0.7	24
30	0.6	0.6	0.6	S	2	5.7	11.7	2.2	4	1.4	5.7	5.4	8.7	7.5	9.2	6.5	11	4.3	4.6	3.1	4.1	2.4	3.2	4.2	11.7	4.7	24	
HOURLY MAX	19.3	23.8	36.2	33.4	17.9	16.3	32.0	17.5	29.6	14.1	17.3	8.6	23.3	25.7	13.5	15.1	18.2	35.5	24.3	23.4	9.4	9.2	10.3	19.4				
HOURLY AVG	4.2	4.6	6.1	5.4	3.9	4.5	7.4	5.3	5.5	3.7	3.6	2.5	4.3	4.3	3.7	4.5	3.3	4.3	3.8	4.3	2.9	2.3	2.5	3.4				

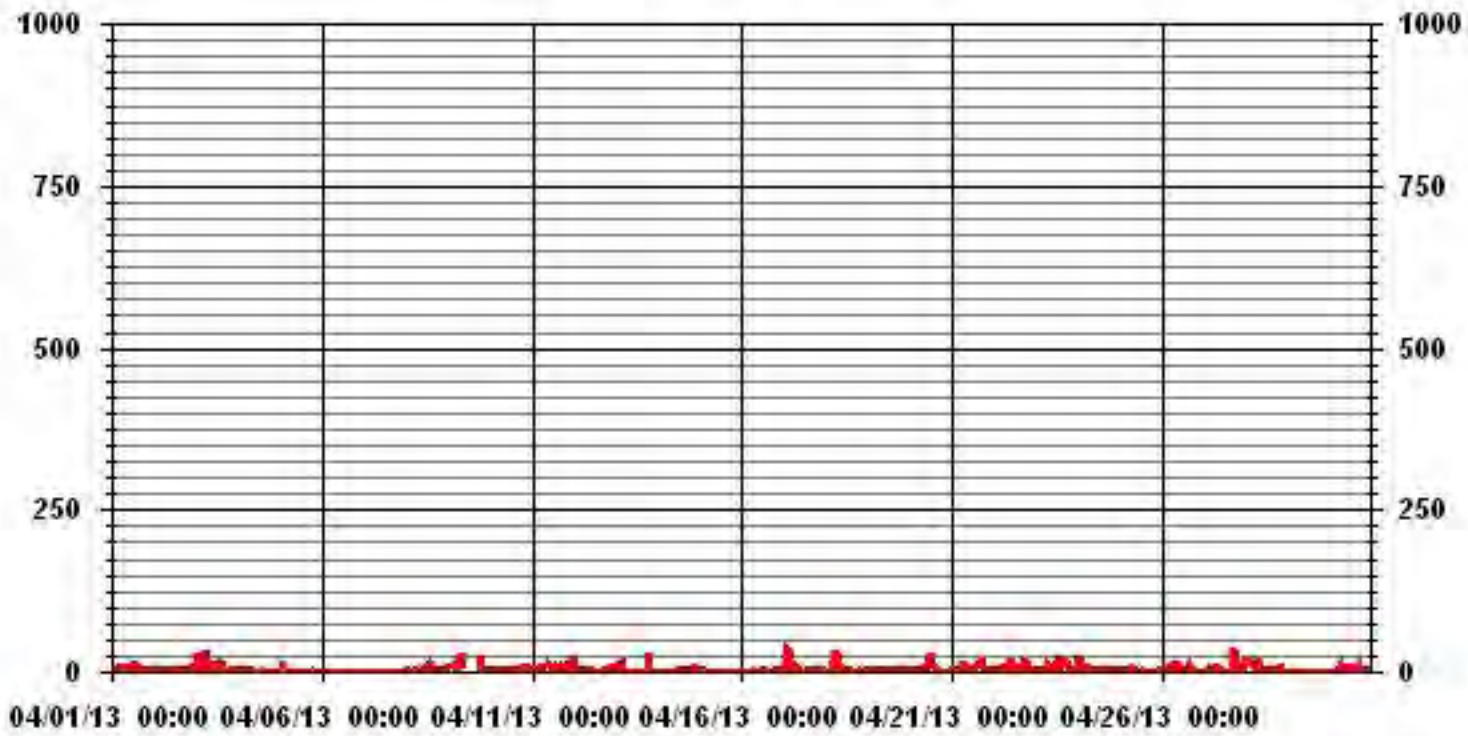
STATUS FLAG CODES

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:	674					
MAXIMUM INSTANTANEOUS VALUE:	36.2	PPB	@ HOUR(S)	2	ON DAY(S)	17
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION:	5.24					

01 Hour Averages



— LICA30 NO2MAX PPB

LICA30
 NO2_ / WDR Joint Frequency Distribution (Percent)

April 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50.0	4.25	5.27	17.30	7.33	4.10	3.95	7.47	6.15	4.54	9.09	6.74	2.05	3.81	5.13	5.86	6.89	100.00
< 110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	4.25	5.27	17.30	7.33	4.10	3.95	7.47	6.15	4.54	9.09	6.74	2.05	3.81	5.13	5.86	6.89	

Calm : .00 %

Total # Operational Hours : 682

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50.0	29	36	118	50	28	27	51	42	31	62	46	14	26	35	40	47	682
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	29	36	118	50	28	27	51	42	31	62	46	14	26	35	40	47	

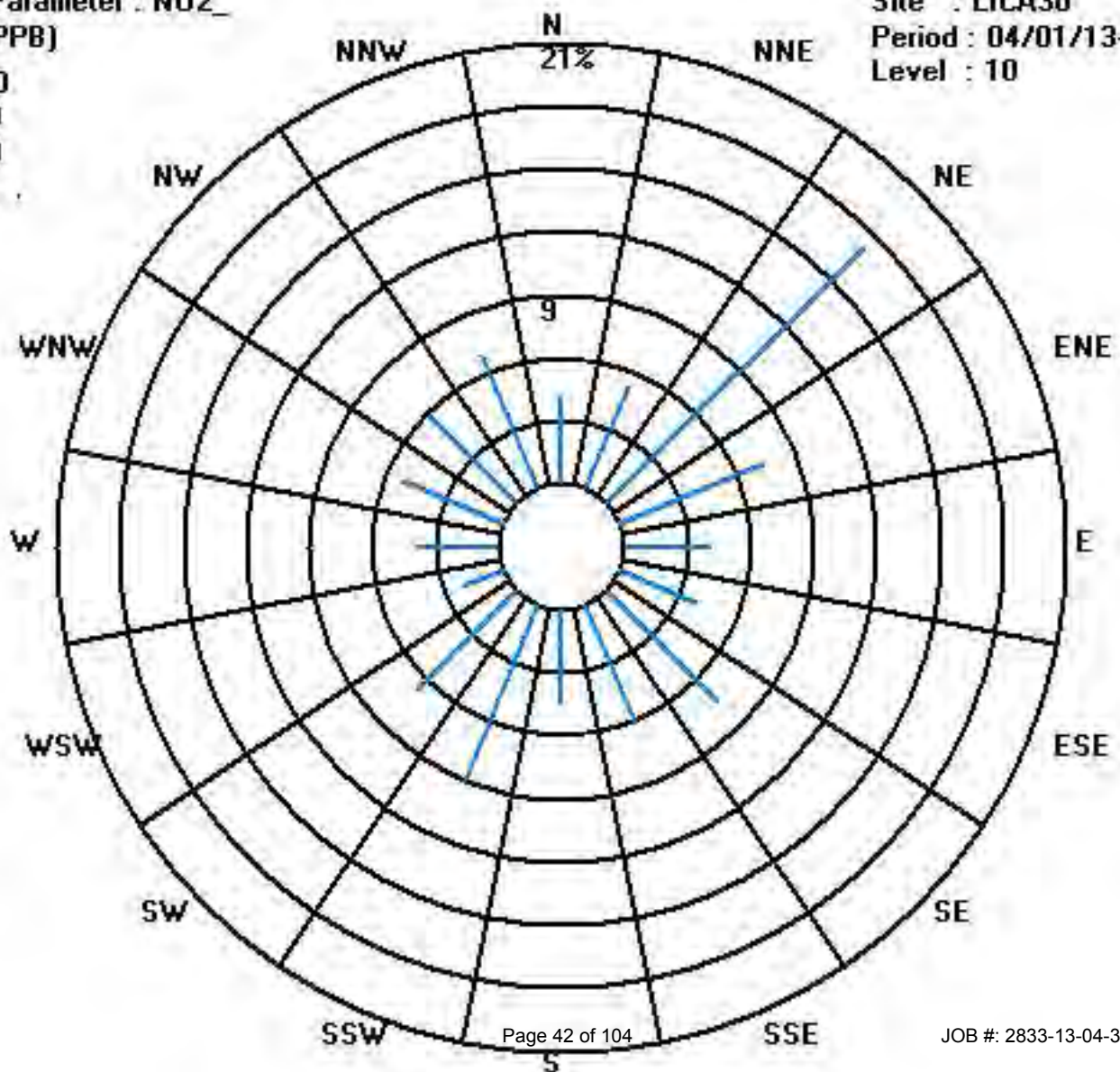
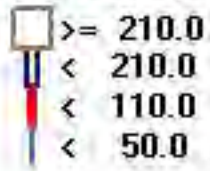
Calm : .00 %

Total # Operational Hours : 682

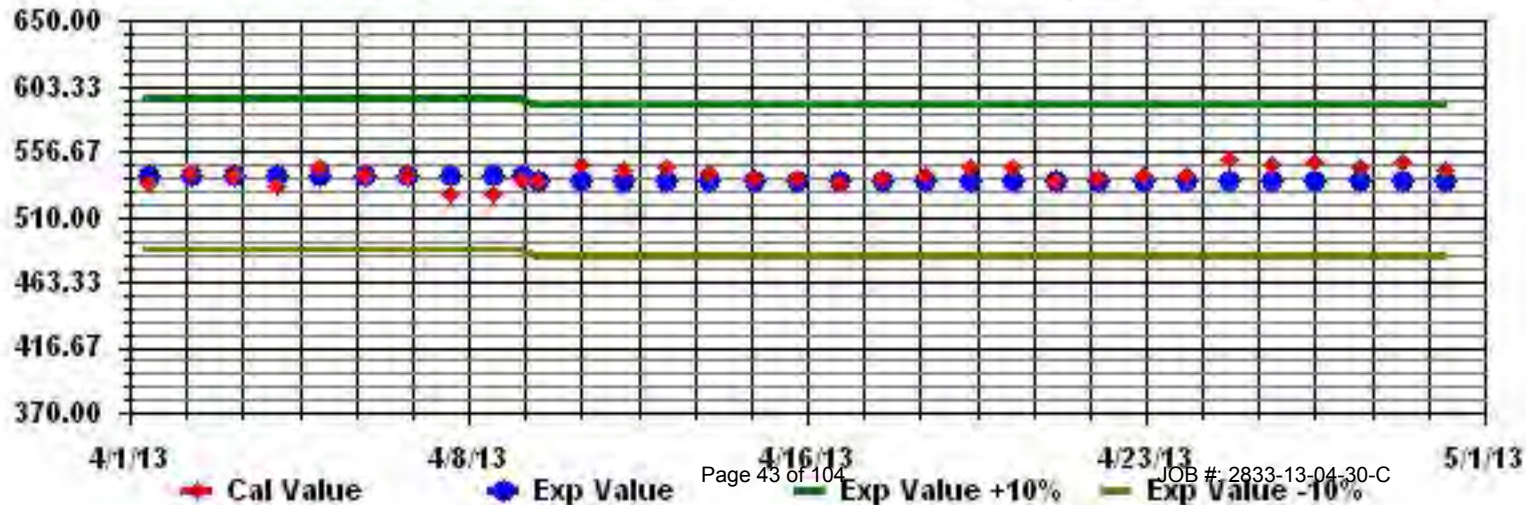
Class Limits (PPB)

Period : 04/01/13-04/30/13

Level : 10



Calibration Graph for Site: LICA30 Parameter: H02_ Sequence: H02 Phase: SPAll



Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOICATION - MASKWA

APRIL 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	0:00	DAILY 24-HOUR	RDGS.		
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MAX.	AVG.	RDGS.		
1	0	0	0	0.1	0.2	0.2	0.4	0.7	1.5	S	0.8	0.8	0.4	1.1	0	0	0	0	0	0	0	0	0	0	1.5	0.3	24		
2	0	0	0	0	0	0	0	0	S	0.2	0	0	0.4	0.5	0.5	0.6	0	0	0	0	0	0	0	0	0.6	0.1	24		
3	0	0	0	0	0	0	3.4	S	2.1	0.9	0.7	2.2	1.2	1.6	0.3	0.5	0	0	0	0	0	0	0	0	3.4	0.6	24		
4	0	0.1	0.2	0.2	0.3	0.4	S	0.5	0.5	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.1	24		
5	0	0	0	0	0	S	0.1	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.0	24	
6	0	0.1	0.1	0.1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.0	24	
7	0	0	0	S	0.7	0.8	0.8	1.1	1	1	0.8	0.6	0.5	0.3	0.4	0.3	0.3	0.2	0.1	0.4	0.5	0.7	0.8	1	1.1	0.5	24		
8	1.1	1.3	S	0.2	0.4	0.7	1.3	2.4	1.3	1.6	0.7	0.5	2.2	2	0.9	0.3	0	0	0	0	0	0	0	0	2.4	0.7	24		
9	0	S	0	0	0.1	0.6	4.3	4.4	3.7	2.2	0.5	C	C	C	C	C	C	C	C	0	0.9	0.6	0.4	0.3	0.3	4.4	1.1	24	
10	S	0	0	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0.2	0.0	24	
11	0	0	0	0	0	0	0	0.9	1.5	4.3	4.5	3.3	4.1	1.5	0	0.1	0.2	0	0	0	0	0	0	S	1.3	4.5	0.9	24	
12	0	0	0	0	0	0.1	0.5	0.3	0.1	0.4	0	0	0.1	0	0	0	0	0	0	0	0	S	0.5	0.3	0.5	0.1	24		
13	0.3	0.2	0.7	0.5	0.1	0.1	0.3	0.2	0.2	0.2	0	0	0.1	0.2	0.2	0.1	0	0	0	0	0.7	S	0	0	0	0.7	0.2	24	
14	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	0.3	0.3	0.0	24	
15	0	0	0.1	0.1	0.2	0.1	0.3	0.2	0.1	0	0	0	0	0	0	0	0	0	S	0.1	0	0.2	0.3	0.2	0.3	0.2	0.3	0.1	24
16	0.3	0.3	0.2	0.1	0.3	0.5	0.6	1.1	0.4	0.3	0.2	0.2	0.1	0.5	0.3	0	0	S	0	0	0	0	0	0	0	1.1	0.2	24	
17	0	0	3.3	1.9	0	0.1	2.1	4.2	1.3	1	0.3	0.1	0	0	0.1	0	S	0	0	0	0	0	0	0	0	4.2	0.6	24	
18	0	0	0	0	0	0	0.4	0.1	0.1	0	0.2	0	0	0	0	S	0	0	0	0	0	0	0	0	0.1	0.4	0.0	24	
19	0	0.1	0.1	0.3	0.2	0.4	0.9	0.7	0.5	0.4	0.5	0.1	0.1	0	S	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.9	0.2	24	
20	0.1	0	0	0	0	0.1	0.3	0.5	1.5	1.5	1.1	0.8	4.3	S	2	0.4	0	0	0	0	0	0	0	0	0	4.3	0.5	24	
21	0	0.1	0.3	0.4	0.5	0.7	1.2	2.1	1.9	1.7	1.4	0.9	S	1.3	1.4	2.1	1.8	2.4	0	0	0	0	0	0.1	2.4	0.9	24		
22	0	0.1	0.2	0.4	0.5	0.8	2.2	1.7	0.7	0.5	0.7	S	0.4	0.2	0	0	0	0	0	0	0	0	0	0	2.2	0.4	24		
23	0	0	0	0	0	0.1	0.8	2.2	1.3	0.2	S	1.7	3.3	4	1.2	3.4	3.8	0.7	0.1	0	0	0	0	0	4.0	1.0	24		
24	0.3	0.3	0.1	0.1	0.2	0.4	0.8	0.8	1	S	1.3	0.4	0.3	0	0	0	0	0	0	0	0	0	0	0	1.3	0.3	24		
25	0	0	0	0	0	0	0.5	1.1	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.1	0.1	24		
26	0	0	0	0	0	0	0.2	S	2.9	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.9	0.1	24		
27	0	0	0	0	0	0	S	0.3	0.7	0	0	0	0	0	0	0	0	2	0.5	0	0	0	0	0.2	2.0	0.2	24		
28	12.8	8.7	7.7	2.1	3.3	S	1.7	3.9	1.1	1.4	0.8	0	0	0	0	0.1	0	0	0	0	0	0	0	0	12.8	1.9	24		
29	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		
30	0	0	0	S	0.2	0.4	0.5	0.3	0.6	0.3	0.6	1.6	2.7	5.4	5.5	1.9	1.4	0.3	0.3	0.1	0	0.1	0.1	0.1	5.5	1.0	24		
HOURLY MAX	12.8	8.7	7.7	2.1	3.3	0.8	4.3	4.4	3.7	4.3	4.5	3.3	4.3	5.4	5.5	3.4	3.8	2.4	0.5	0.9	0.6	0.7	0.8	1.3					
HOURLY AVG	0.5	0.4	0.4	0.2	0.3	0.2	0.8	1.1	0.9	0.7	0.5	0.5	0.7	0.7	0.5	0.4	0.3	0.2	0.0	0.1	0.0	0.1	0.1	0.1					

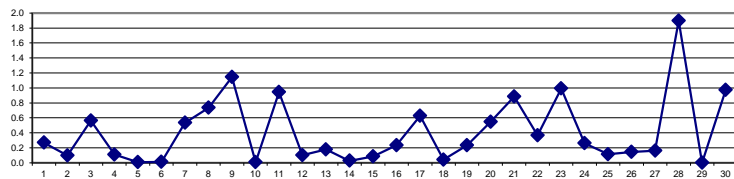
STATUS FLAG CODES

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

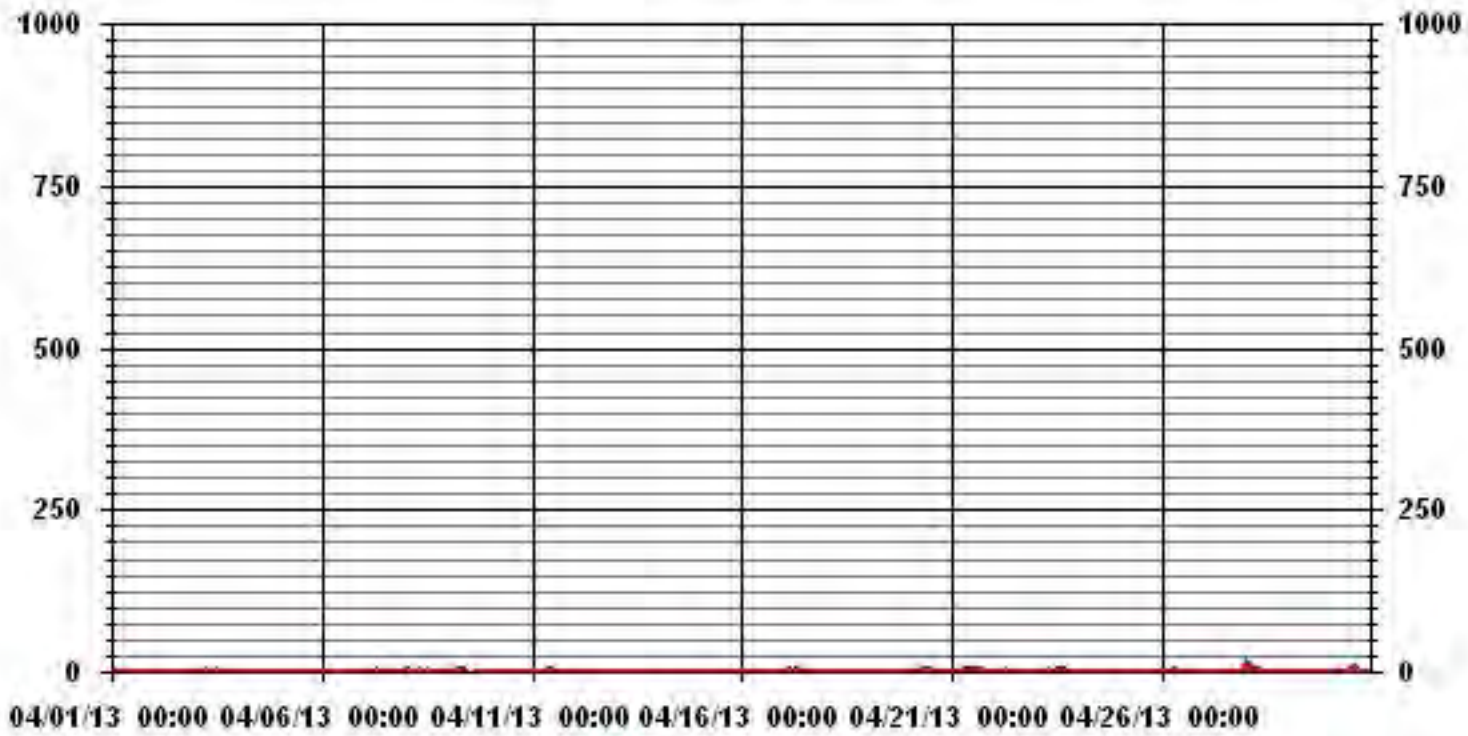
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	289		
MAXIMUM 1-HR AVERAGE:	12.8	PPB	@ HOUR(S) 0 ON DAY(S) 28
MAXIMUM 24-HR AVERAGE:	1.9	PPB	ON DAY(S) 28
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME: 720 HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME: 100.0 %
STANDARD DEVIATION:	1.02		MONTHLY AVERAGE: 0.40 PPB

24 HOUR AVERAGES FOR APRIL 2013



01 Hour Averages



— LICA30 NO_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

APRIL 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	0.3	0.5	0.5	0.7	0.8	0.7	1.5	1.6	4.2	S	3.8	2.8	2.6	12.1	3.1	2.7	0.3	0.4	0.1	0.1	0	0	0.1	0	12.1	1.7	24	
2	0	0	0	0	0	0	0.2	0.5	S	1.1	0.5	0.8	2.5	2.2	2.2	2.5	0.3	0.3	0.4	0.1	0.1	0	0.3	0.3	2.5	0.6	24	
3	1.1	1.3	2.9	0.3	0.3	10.5	13.4	S	10.3	3.6	3.4	8.3	7.3	23.4	2	4.9	0.1	0.3	0.2	0.3	0.2	0.4	0.2	0.1	23.4	4.1	24	
4	0.4	0.7	0.8	0.8	0.9	0.9	S	1.2	1.8	0.8	0.8	0.1	0	0.1	0	0	0	0	0	0	0	0	0	0	1.8	0.4	24	
5	0	0	0	0	0	S	0.8	0.5	0.4	0.4	0.6	0.3	0.5	0.2	0.3	0.5	0.3	0.6	0.3	0.5	0.2	0.4	0.5	0.4	0.8	0.3	24	
6	0.4	0.5	0.7	0.5	S	0.6	0.3	0.4	0.3	0.4	0.6	0.3	0.5	0.3	0.3	0	0	0	0	0	0	0	0	0	0.7	0.3	24	
7	0	0	0.3	S	1.3	1.3	1.3	1.6	1.5	1.5	1.4	1.3	0.9	0.9	1	0.8	1.1	0.7	0.7	0.9	1	1.2	1.3	1.4	1.6	1.0	24	
8	1.7	1.9	S	0.7	1.1	1.2	2.2	2.8	2.1	10.2	3.4	2.5	13.2	3.5	3.5	4.8	0	0	0	0	0	0	0	0	13.2	2.4	24	
9	0	S	0.4	0.5	0.6	3.4	11.8	6.3	18.8	11.6	C	C	C	C	C	C	C	C	0.4	8	1.1	0.9	0.6	0.9	18.8	4.4	24	
10	S	0.4	0.3	0.1	0	0	0	0.2	0.6	0.6	1.1	0.3	0.3	0	0	0	0	0	0	0	0	0	0	S	1.1	0.2	24	
11	0.3	0.3	0.4	0.1	0.4	1.9	0.9	2.5	3.7	8.3	7.7	5.4	9.1	3.5	1.3	0.7	1.7	0.4	0.5	0.5	0.2	0.4	S	5.9	9.1	2.4	24	
12	0.6	0.6	0.3	0.3	0.4	0.8	1.2	1	0.8	1.5	0.9	0.6	0.7	0.3	0.4	0.4	0.2	0.6	0.5	0.3	0.6	S	1.5	0.8	1.5	0.7	24	
13	0.6	0.9	1.5	1.1	0.6	0.6	0.8	0.7	0.9	0.9	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.9	4.1	S	0.4	0.3	0.3	4.1	0.8	24	
14	0.2	0.2	0.2	0.4	0.2	0.4	0.2	0.2	0.2	0.2	0.2	0.3	1.4	1.3	0.8	2.4	0.9	1	0	S	0.7	0.7	0.6	0.8	2.4	0.6	24	
15	0.5	0.5	0.6	0.6	0.6	0.7	0.9	0.6	0.6	0.5	0.5	0.3	0	0	0	0	0	0	S	0.6	0.5	0.7	0.9	1	1	0.5	24	
16	1	0.9	0.7	0.7	0.9	1	1.5	1.8	0.8	0.8	0.8	1.1	1.4	2.1	1.9	0.6	0.5	S	0.5	0.4	0.5	0.2	0.5	0.3	2.1	0.9	24	
17	0.5	0.4	56	41.4	0.6	0.8	6.7	5.9	3.9	2	1	0.5	0.4	0.6	0.8	0.6	S	0.6	0.4	0.3	0.4	0.5	0.5	0.3	56	5.4	24	
18	0.2	0.3	0.6	0.5	0.6	0.4	22.2	0.5	0.8	1	0.7	0.6	0.5	0.4	0.3	S	0.5	0.3	0.5	0.3	0.4	0.6	0.7	0.7	22.2	1.5	24	
19	0.6	0.5	0.5	1	0.8	0.9	1.6	1.2	1.1	1.1	1.2	0.8	0.9	0.4	S	0.8	0.7	0.5	0.8	0.6	0.4	0.5	0.8	0.7	1.6	0.8	24	
20	0.5	0.5	0.5	0.4	0.6	0.5	1.2	1.3	4.7	17.2	12.9	16.9	17.6	S	5.1	2.3	0.6	0.6	0.6	0.7	0.5	0.4	0.4	0.8	17.6	3.8	24	
21	0.6	0.7	0.8	1.1	1.7	1.2	1.8	15.2	3.6	3.8	4.8	3.2	S	6.7	4.9	6.5	10.8	9.7	0.4	0.6	0.6	0.5	0.5	0.5	15.2	3.5	24	
22	0.5	0.6	0.7	0.9	0.9	1.5	3	2.9	1.3	1.2	13.2	S	3.8	4.1	0.2	0.4	0.4	0.6	2.3	0.7	0.1	0.1	0.2	0.2	13.2	1.7	24	
23	0.3	0.1	0.3	0.2	0.5	0.5	2.4	5	3.5	6.8	S	4.6	9.4	18.8	5.5	6.8	9.1	5.2	4.9	0.4	0.5	0.5	0.5	0.5	18.8	3.8	24	
24	1.1	1.1	0.6	0.6	0.6	1.3	1.3	1.4	1.7	S	1.9	1.5	1.2	0.6	0.8	0.5	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1.9	0.8	24	
25	0.5	0.6	0.3	0.3	0.2	0.6	3.7	3.8	S	2.4	1.3	0.2	8.5	0.9	0	0.5	0	0	0	0	0	0	0	0	8.5	1.0	24	
26	0	0	0	0	0	0.7	1.4	S	6.2	1.6	0.6	0	3.2	0.8	1.9	3.1	0	0	0	0	0	0	0	0	6.2	0.8	24	
27	0	0	0	0	0	1.1	S	1	2.2	0.5	0.3	0	0	0	0	0	0.4	16.8	5.4	0	0.2	0.3	0	5.7	16.8	1.5	24	
28	17.6	17.1	15.8	10.4	13.4	S	8.9	23.8	8.3	4.4	3.2	0.3	1.4	1.7	1.5	3.1	0	0	0	0	0	0	0	0	23.8	5.7	24	
29	0	0	0	0.2	S	0.8	0.4	0.3	0.4	0.4	1.4	0.3	0.3	0.1	0	0.2	0.3	0.2	0.1	0.2	0.1	0.2	0.3	0.4	1.4	0.3	24	
30	0.4	0.3	0.3	S	0.8	1.4	2.7	0.9	1.5	0.9	2	2.9	15.1	11.9	14.6	5.7	8.5	1.2	1.3	0.8	0.4	0.6	0.5	0.7	15.1	3.3	24	
HOURLY MAX	17.6	17.1	56.0	41.4	13.4	10.5	22.2	23.8	18.8	17.2	13.2	16.9	17.6	23.4	14.6	6.8	10.8	16.8	5.4	8.0	1.1	1.2	1.5	5.9				
HOURLY AVG	1.0	1.1	3.0	2.3	1.0	1.3	3.4	3.0	3.1	3.1	2.5	2.0	3.7	3.5	1.9	1.8	1.3	1.5	0.7	0.7	0.3	0.3	0.4	0.8				

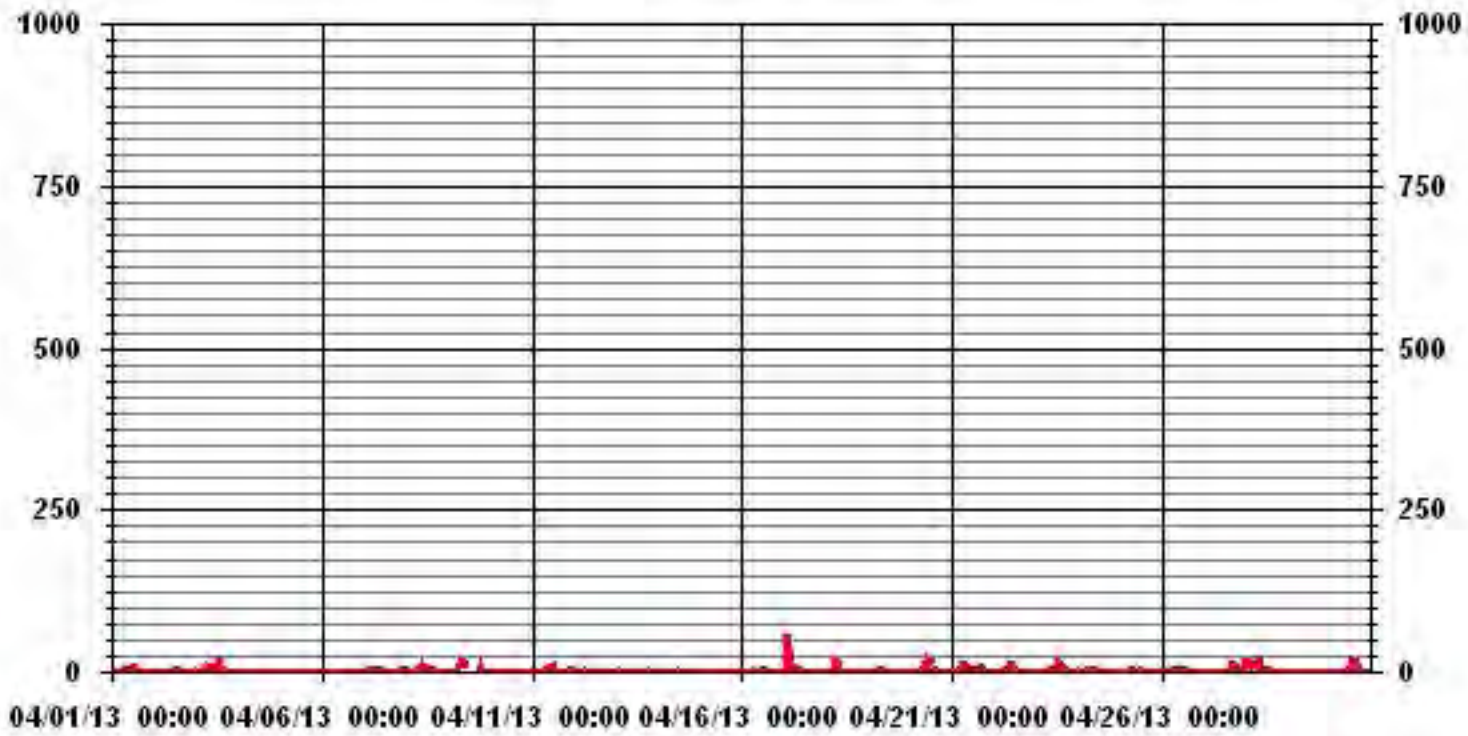
STATUS FLAG CODES

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:	568				
MAXIMUM INSTANTANEOUS VALUE:	56.0	PPB	@ HOUR(S)	2	ON DAY(S) 17
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS
MONTHLY CALIBRATION TIME:	8	HRS			
STANDARD DEVIATION:	4.22				

01 Hour Averages



LICA30
 NO_ / WDR Joint Frequency Distribution (Percent)

April 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50.0	4.25	5.27	17.30	7.33	4.10	3.95	7.47	6.15	4.54	9.09	6.74	2.05	3.81	5.13	5.86	6.89	100.00
< 110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	4.25	5.27	17.30	7.33	4.10	3.95	7.47	6.15	4.54	9.09	6.74	2.05	3.81	5.13	5.86	6.89	

Calm : .00 %

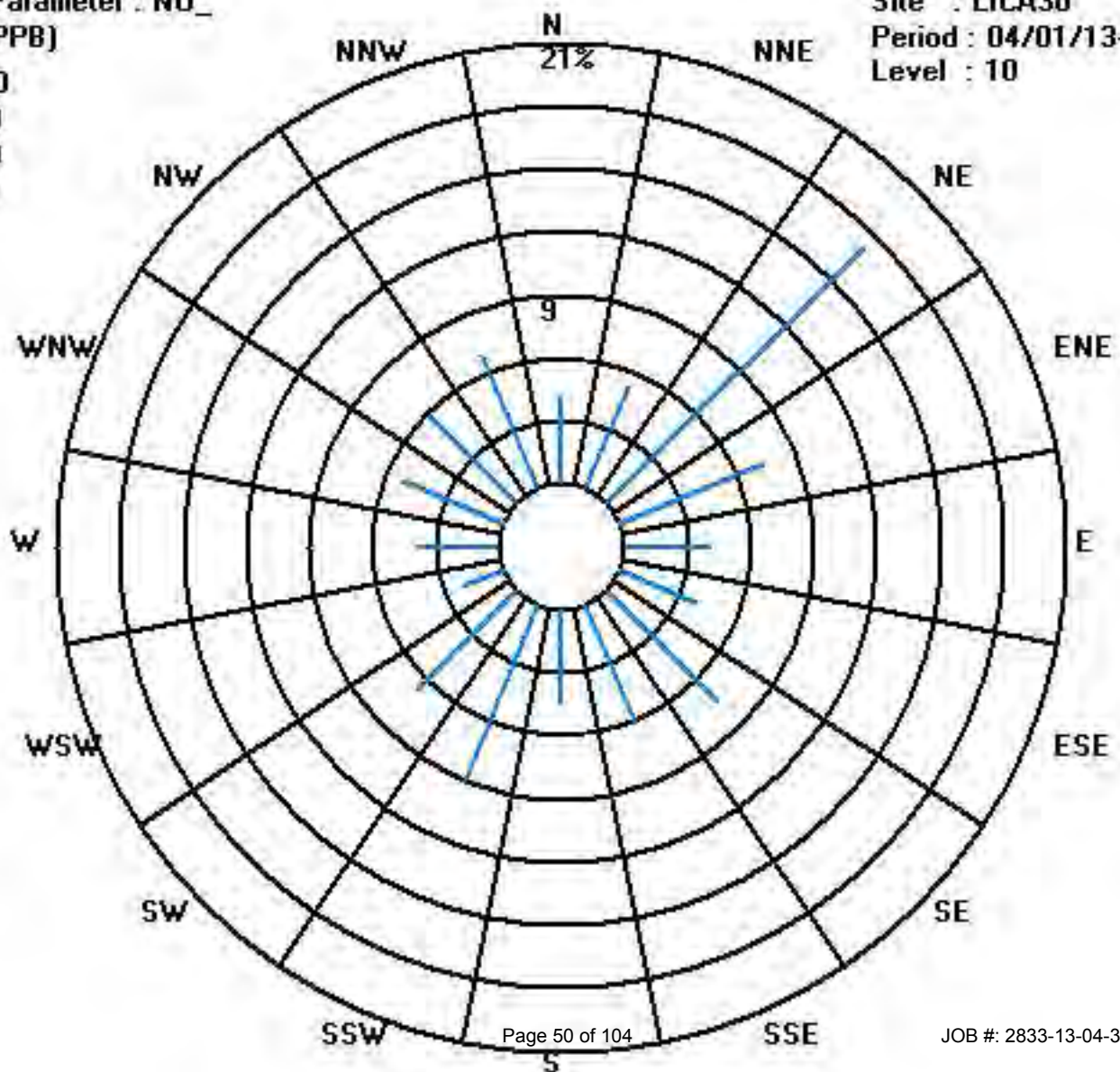
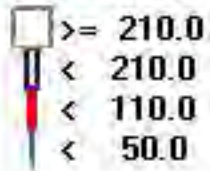
Total # Operational Hours : 682

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50.0	29	36	118	50	28	27	51	42	31	62	46	14	26	35	40	47	682
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	29	36	118	50	28	27	51	42	31	62	46	14	26	35	40	47	

Calm : .00 %

Total # Operational Hours : 682



Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

APRIL 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	1.5	2.5	3.7	3.1	3.2	4.6	4.1	3.6	6	S	2.9	3.5	2.4	4.6	2.1	2.5	1.9	2.8	2.5	1.9	1.5	2.1	0.9	0.8	6	2.8	24
2	1.1	1.8	1.8	1.8	1.9	1.7	3.2	4	S	2.5	1.9	1.9	3	3.6	3.7	4.1	2.6	2.6	2.9	3.2	3.2	4	5	4.1	5	2.9	24
3	4	6.5	12.7	0.8	0.3	2.2	15	S	5.3	2.6	2.1	5.1	3.2	4.1	1.8	2	0.6	0.4	0	0	0.5	0.5	0.6	1.2	15	3.1	24
4	1.7	2.5	2.6	1.5	0.8	0.7	S	2.7	3	2.9	2.2	1.6	1	0.9	1.2	1.2	0.7	0.6	0.6	1.1	0.7	0.7	0.7	0.9	3	1.4	24
5	1.5	7.6	9.1	0.8	0.3	S	0.5	0.2	0.1	0.2	0.3	0.1	0.2	0.1	0.1	0.2	0.3	0.2	0	0.2	0.3	0	0	0	9.1	1.0	24
6	0	0.3	0.1	0.1	S	0.1	0	0	0	0.1	0.2	0	0.2	0.1	0.2	0.1	0	0.1	0.1	0	0.1	0.1	0	0	0.3	0.1	24
7	0.2	0	0.2	S	0.7	0.8	0.8	1.1	1	1	0.8	0.6	0.5	0.3	0.4	0.3	0.3	0.2	0.1	0.4	0.5	0.7	0.8	1	1.1	0.6	24
8	1.1	2	S	1.8	2.6	3	4.2	5.5	2	2.5	1.3	1.5	5.6	6	4.4	3.8	2.5	2.5	1.5	1.6	1.5	2.2	3.7	4.8	6	2.9	24
9	6.2	S	7.2	6.8	6.1	9.4	17.7	13.1	8.8	4.9	2.3	C	C	C	C	C	C	C	1	3.2	2.6	2.8	2.9	3.3	17.7	6.1	24
10	S	2.7	1	1.1	0.9	1	1.6	2.6	3.7	3.4	4.2	2.6	1.9	1.2	1.9	1	1.7	1.6	1.7	6.4	2.3	5.9	0.7	S	6.4	2.3	24
11	2.9	2.3	1.2	1.2	2.1	3.2	4	6.7	8	14.2	12.7	8.5	10.4	6.8	4.6	4.2	5.3	3	3.4	3.4	1.1	0.8	S	7.7	14.2	5.1	24
12	2.3	2.5	1.2	0.9	1	1.6	3.3	1.7	0.9	1.5	0.8	0.6	0.8	0.2	0.1	0.2	0	0.6	1.3	0.1	3	S	5.8	1	5.8	1.4	24
13	1.6	1	8.7	9.6	1.5	0.6	0.8	0.5	0.6	0.6	0.5	0.4	0.3	0.6	0.5	0.5	0.3	0	0.1	4.4	S	0.8	0.6	0	9.6	1.5	24
14	0	0	0	0	0	0	0	0.1	0	0	0	0.1	0.8	1.3	1	1.9	0.8	2.9	1.6	S	2.7	1.2	1.8	3.9	3.9	0.9	24
15	2.3	1.7	1.5	1	0.5	0.2	0.5	0.3	0.2	0.2	0.1	0	0	0	0	0	0	0	S	0.3	0.2	0.5	0.5	0.3	2.3	0.4	24
16	0.3	0.3	0.3	0.6	0.4	0.5	2.1	3.2	1	0.4	0.3	0.6	0.7	1.1	1.1	0.3	0.4	S	0.8	0.6	1	0.8	0.6	0.6	3.2	0.8	24
17	3.7	1.9	7.4	5.9	3.1	2.6	7.3	12.5	4.1	3.9	2.2	0.9	0.3	0.6	0.7	0.9	S	0.9	1.2	1.6	2.3	2.4	1.5	1.5	12.5	3.0	24
18	1.3	1.6	2	5.8	6.5	4.1	4.9	4.4	4.1	2.3	1.6	1.5	1.4	0.4	0.4	S	0.2	0.2	0.3	0.7	0.5	0.5	1.2	1.2	6.5	2.0	24
19	2.2	2	1.5	1	1.1	1.6	4.2	3.1	2	2.3	2.3	0.8	0.8	0.5	S	1.5	1.2	1.3	1.2	1.7	1	1.2	1.1	1.2	4.2	1.6	24
20	1.5	1.6	1.7	1.9	2.1	2.8	4	3.7	6.7	4.9	3.8	2.3	12.4	S	6.4	2.6	0.7	0.6	0.7	0.6	0.6	0.6	0.5	1.9	12.4	2.8	24
21	1.8	1.6	1.4	1.5	2.8	2.6	3.7	4.7	3.6	3	3	2	S	3.8	4.3	6.2	5.9	9.8	0.1	0.2	1.3	1.7	1.2	1.8	9.8	3.0	24
22	2.1	1.6	2.4	3.2	3.8	5.7	9.5	4.7	1.2	1.1	1.9	S	2.3	1.9	0.4	0.7	1	1.7	4.6	3.3	2	1.5	0.9	0.7	9.5	2.5	24
23	1.3	2	1.7	1.7	1.9	3.6	7.7	9.6	5.3	1.7	S	5.4	9.6	12.1	4.2	11.9	13	2.9	1.6	0.9	1.3	1.6	1.9	1.3	13	4.5	24
24	8	5.6	4.8	2.5	2.4	3.5	4.6	3.6	3.6	S	4.4	2.3	1.9	1.2	1	0.8	0.9	0.5	0.5	1.1	2	1.5	2.1	2.8	8	2.7	24
25	2.8	2.5	3.3	3.9	3.9	4.2	5.6	6.1	S	3.8	1.2	0.2	1.1	0.3	0	0	0	0	0	0	0	0	1.6	3.8	6.1	1.9	24
26	2.8	2.3	1.5	2.1	1.9	3.4	6.4	S	10.1	1.5	0.5	0	1.3	0.2	3.3	3.2	0	0	0	0	0	0.6	0	10.1	1.8	24	
27	0.7	2.4	2.8	4.5	4	4.3	S	3.1	4.3	0.9	0.8	0	0.1	0	0.3	0.1	0.7	14.6	10.1	0.4	0	0.1	0	3.8	14.6	2.5	24
28	27.6	18.5	19.4	6.2	8	S	4.5	8.4	3.3	3.8	2.8	0	0.1	0.5	0.7	2.3	0	0	0.1	2.1	3	0.5	0	0	27.6	4.9	24
29	0	0	0	0	S	0.4	0.2	0.2	0	0.2	0.4	0.2	0	0	0	0	0.1	0	0	0	0	0.1	0	0.2	0.4	0.1	24
30	0.1	0	0.1	S	1.2	3.1	3.4	1.5	2.4	1.1	2.4	4.9	5.8	10.3	10.2	4.9	4	2.3	3.1	2.4	2.9	1.7	2.3	3.1	10.3	3.2	24
HOURLY MAX	27.6	18.5	19.4	9.6	8.0	9.4	17.7	13.1	10.1	14.2	12.7	8.5	12.4	12.1	10.2	11.9	13.0	14.6	10.1	6.4	3.2	5.9	5.8	7.7			
HOURLY AVG	2.8	2.7	3.5	2.5	2.3	2.6	4.4	4.0	3.3	2.4	2.1	1.7	2.4	2.2	2.0	2.1	1.6	1.9	1.4	1.4	1.3	1.3	1.4	1.8			

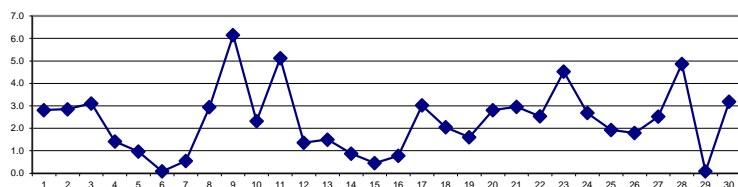
STATUS FLAG CODES

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

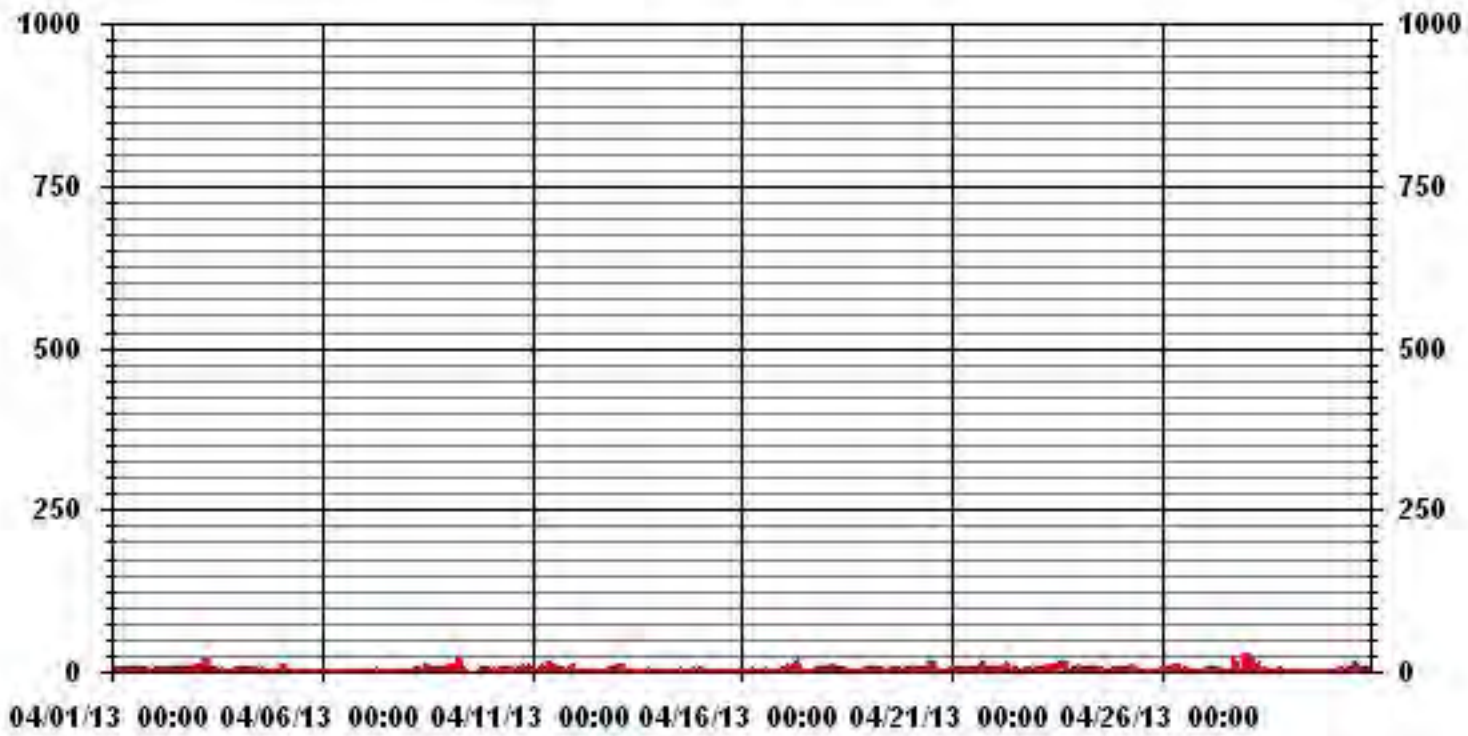
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	606					
MAXIMUM 1-HR AVERAGE:	27.6	PPB	@ HOUR(S)	0	ON DAY(S)	28
MAXIMUM 24-HR AVERAGE:	6.1	PPB			ON DAY(S)	9
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	2.90		MONTHLY AVERAGE:	2.29	PPB	

24 HOUR AVERAGES FOR APRIL 2013



01 Hour Averages



— LICA30 NOX_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

APRIL 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	2.5	3.8	4.8	6.1	6.6	6.4	7.7	5.5	14.8	S	9.3	7.5	5.2	22.8	8.4	14.3	2.4	3.6	3.3	2.7	2.6	5.3	1.4	1.4	22.8	6.5	24	
2	1.9	2.3	2.4	2.5	2.7	2.8	5.3	5.8	S	3.8	3.3	4	5.3	6.5	6.7	7.6	3.8	3.5	3.5	4.1	3.8	6.2	7.2	9.6	9.6	4.5	24	
3	8.7	25.1	32.2	5	0.9	17.2	40.9	S	22.3	7	8.5	16.3	15.3	35	5.3	18.4	1.6	1.5	0.8	0.4	1.9	1.2	1.4	5.2	40.9	11.8	24	
4	3.6	4.4	4	2.1	1.9	1.3	S	4.3	4.9	4	3.3	2.4	1.8	3	2.6	3.6	1.8	1.2	1.2	1.9	1.4	1.2	1.2	1.8	4.9	2.6	24	
5	3.6	14	12.4	3.4	1	S	1.2	0.8	0.6	0.7	0.9	0.6	0.9	0.7	0.8	0.9	0.8	0.8	0.5	1.1	0.9	0.6	0.5	0.7	14	2.1	24	
6	0.7	0.8	0.4	0.1	S	0.7	0.5	0.6	0.3	0.5	0.8	0.5	0.7	0.7	0.6	0.5	0.7	0.7	0.9	0.9	0.5	0.7	0.4	0.5	0.9	0.6	24	
7	0.5	0.5	0.7	S	0.2	0.3	0.6	1.4	0.7	0.4	0.6	0.4	0.7	0.9	0.7	0.5	0.5	0.4	0.1	0.4	0.8	0.4	0.3	0.7	1.4	0.6	24	
8	2.1	2.9	S	2.8	3.4	7.6	5.9	7.2	3.3	14.2	5.7	5.4	21	8.4	18.9	16.9	3.3	3.2	2.5	2.3	2.3	3	5.1	5.6	21	6.7	24	
9	8.5	S	8.1	7.6	7.5	18.3	32.1	20.3	47.1	22.1	C	C	C	C	C	C	C	C	1.7	25.5	3.2	4	4.5	4.8	47.1	14.4	24	
10	S	3.4	2.1	1.6	1.5	1.7	2.3	3.9	5.7	5.3	5.7	3.6	3.5	2.7	3.1	3.1	4.6	4.5	8.6	9.3	6.4	9	4.1	S	9.3	4.4	24	
11	6.2	4.4	1.9	1.8	4.5	8.2	7	10.8	12.5	22.4	17.8	12.6	19.7	10.2	9	6.2	11.2	6.4	8.2	11.3	1.8	1.3	S	25.4	25.4	9.6	24	
12	3.1	3.3	2.3	1.7	1.7	3.4	4.8	4	2.8	3.6	2.5	1.4	1.9	0.8	0.7	0.9	0.5	4.6	4.3	0.6	8.1	S	11.2	2.7	11.2	3.1	24	
13	4.9	2.3	13.6	15.4	6.7	1.4	1.7	1.1	1.2	1.1	1.1	1	1.1	1.1	0.9	0.9	0.8	0.7	25.5	S	3.5	1.3	0.8	25.5	3.9	24		
14	0.6	0.5	0.4	0.6	0.4	0.6	0.6	0.8	0.9	0.4	0.6	2.3	4.2	4.2	3.6	7.4	4.8	5.8	3.8	S	8	1.9	4.1	4.9	8	2.7	24	
15	3.4	2.5	2.3	1.7	1	0.7	1	1	0.7	0.6	0.7	0.5	0.3	0	0.3	0.2	0.3	0.5	S	0.9	0.6	1.2	1	0.9	3.4	1.0	24	
16	1	0.8	0.8	1.6	1	1	3.6	5.1	1.8	1.1	0.9	2.3	3.5	4.8	4.9	1	0.9	S	1.5	1.7	2.3	1.3	1.2	1.3	5.1	2.0	24	
17	7.9	3.6	86.8	74.3	4.2	4.7	18.5	15.8	8	5.5	3.7	1.6	1.1	1.2	1.6	2.5	S	2.4	1.8	2.4	5.1	5.1	2.2	2.1	86.8	11.4	24	
18	1.9	2.7	3.9	16.2	18	8.7	52.5	7.2	9.1	9.7	1.9	2	2.6	0.9	1	S	0.8	0.9	0.8	1.6	1.6	1.2	2.1	2.3	52.5	6.5	24	
19	3.2	2.7	2.4	1.7	1.7	2.6	7.2	4.5	2.9	4.2	3.9	2	1.8	1.2	S	2.7	1.8	1.8	1.9	2.8	2.2	1.7	1.9	1.8	7.2	2.6	24	
20	2.1	2.3	2.3	2.5	2.8	4.1	4.9	5.7	14.2	25.4	26.5	18.6	40.7	S	14.4	7.3	1.4	1.2	1.2	1.3	1.3	1.3	0.9	2.7	40.7	8.0	24	
21	2.9	2.3	1.8	2.1	4.8	3.6	5	31.2	5.9	7.3	10.4	7.3	S	16.9	13.7	17.8	26	31.9	0.6	0.8	5	3.1	2.3	3.4	31.9	9.0	24	
22	3.5	2.6	4.4	4.2	4.9	8.6	11.2	7.9	2.2	2.7	29.7	S	10	11.8	1.4	2.1	2.8	3.9	22.4	13.6	3.8	2	1.7	1.2	29.7	6.9	24	
23	2.6	2.9	2.9	2.3	3.7	5.6	15.1	15	12.8	15.5	S	13.4	24.5	43	16.7	20	25.9	19.2	19.2	2.4	4.3	2.6	3.2	2	43	11.9	24	
24	19.7	19.6	10.5	4.1	4.1	7.4	7.5	4.7	4.5	S	5.3	4.5	3.4	2	2.5	1.5	1.7	1.1	1.2	3.2	2.7	2.4	3	3.6	19.7	5.2	24	
25	4.5	3.3	3.9	4.4	4.7	5.4	9	9.6	S	6.8	3.6	1.2	11.2	4.1	0.8	2.7	0	0	0	0	0	0.4	4.7	5.3	11.2	3.7	24	
26	3.5	3.2	2.2	2.8	2.6	7.4	8.1	S	19	4.6	2.1	0.9	10.3	4.6	10.2	15.9	2.5	0	0	1.2	0	0	2.3	0.7	19	4.5	24	
27	2.2	5.5	3.6	8.8	5.6	7.9	S	4.9	10	2.2	2.2	0.7	1	1.1	0.9	1.4	7	51.4	28.7	4.8	0.5	0.6	0.6	17.3	51.4	7.3	24	
28	35.5	32.5	31.4	26.6	26.3	S	17.3	40.2	15.8	8.6	7.2	1.5	4.5	4.6	5.3	9	0.2	1.7	1.3	8.1	9.1	4.2	0.6	0.3	40.2	12.7	24	
29	0.3	0.3	0.3	0.4	S	1	0.8	0.9	0.5	1	3.8	0.8	1.3	0.5	0.4	0.7	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.7	3.8	0.8	24	
30	0.6	0.6	0.6	S	2.3	6.8	14	2.7	5.3	1.9	7.3	7.7	20.9	19.1	23.6	12.2	19.6	5.3	5.8	3.4	4.2	2.4	3.5	4.1	23.6	7.6	24	
HOURLY MAX	35.5	32.5	86.8	74.3	26.3	18.3	52.5	40.2	47.1	25.4	29.7	18.6	40.7	43.0	23.6	20.0	26.0	51.4	28.7	25.5	9.1	9.0	11.2	25.4				
HOURLY AVG	4.9	5.3	8.5	7.3	4.5	5.2	10.2	8.0	8.2	6.5	6.0	4.4	7.8	7.6	5.7	6.4	4.6	5.7	4.4	4.6	2.9	2.4	2.6	3.9				

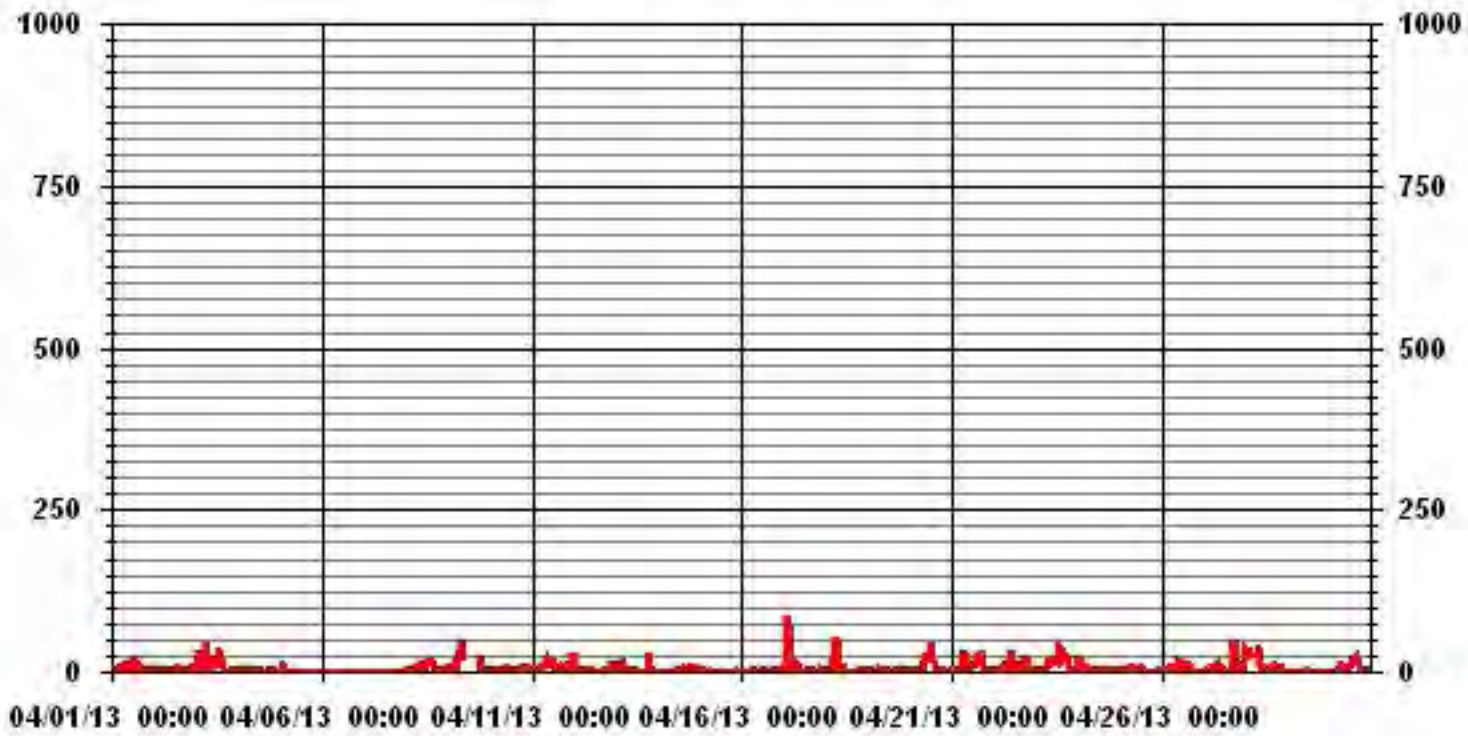
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	671
MAXIMUM INSTANTANEOUS VALUE:	86.8 PPB @ HOUR(S) 2 ON DAY(S) 17
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	8 HRS
STANDARD DEVIATION:	8.57
OPERATIONAL TIME:	720 HRS

01 Hour Averages



— LICA30 NOxMAX PPB

LICA30
NOX_ / WDR Joint Frequency Distribution (Percent)

April 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50.0	4.25	5.27	17.30	7.33	4.10	3.95	7.47	6.15	4.54	9.09	6.74	2.05	3.81	5.13	5.86	6.89	100.00
< 110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	4.25	5.27	17.30	7.33	4.10	3.95	7.47	6.15	4.54	9.09	6.74	2.05	3.81	5.13	5.86	6.89	

Calm : .00 %

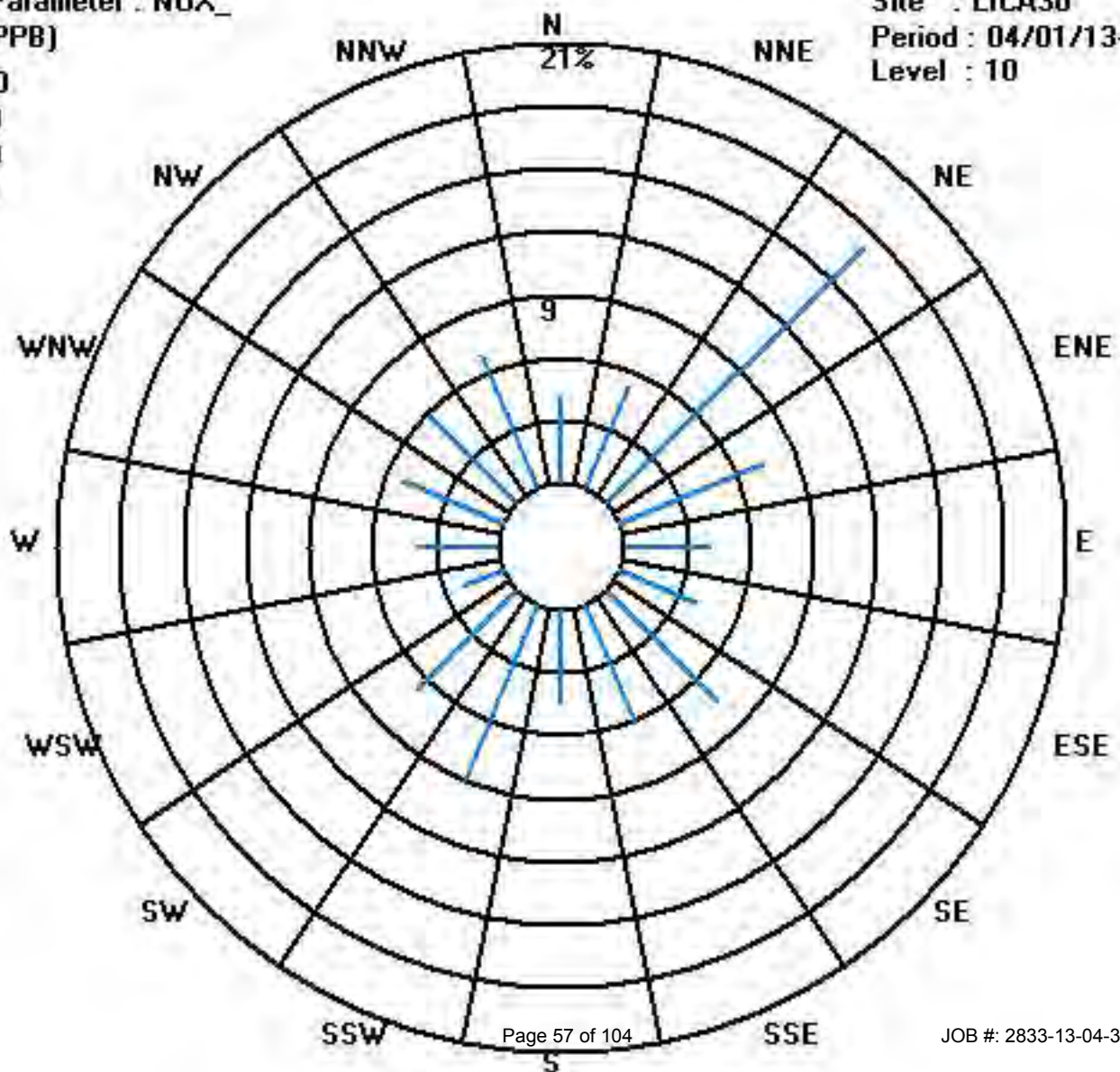
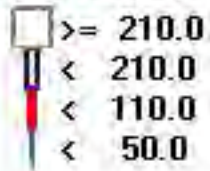
Total # Operational Hours : 682

Distribution By Samples

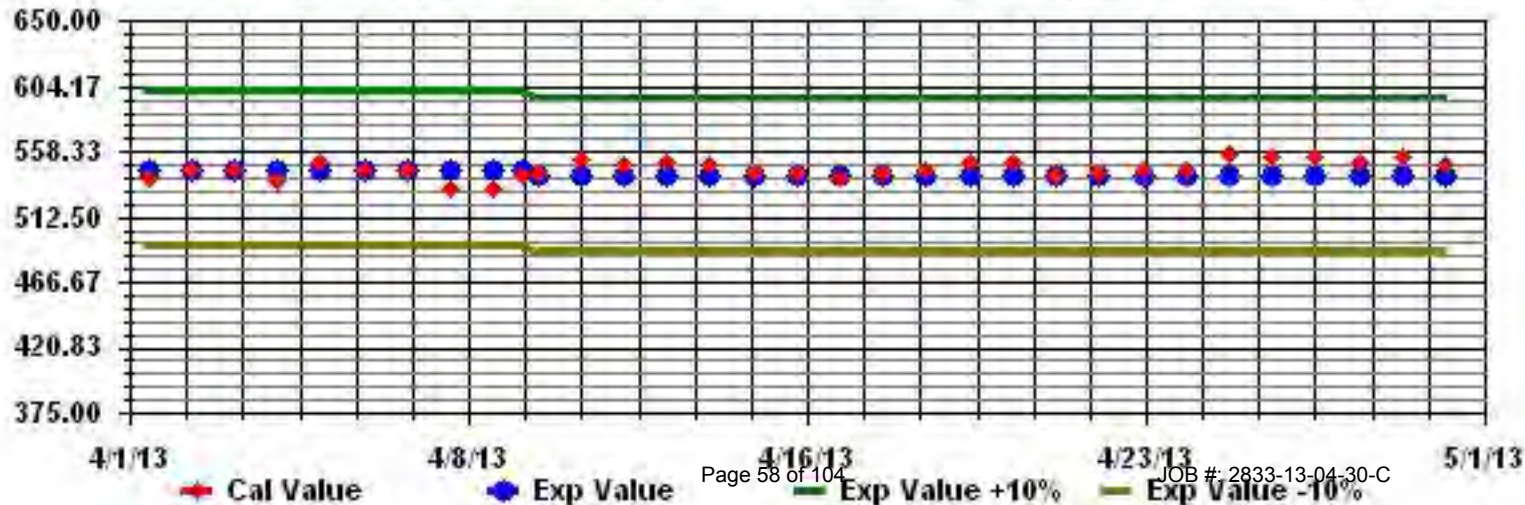
	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50.0	29	36	118	50	28	27	51	42	31	62	46	14	26	35	40	47	682
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	29	36	118	50	28	27	51	42	31	62	46	14	26	35	40	47	

Calm : .00 %

Total # Operational Hours : 682

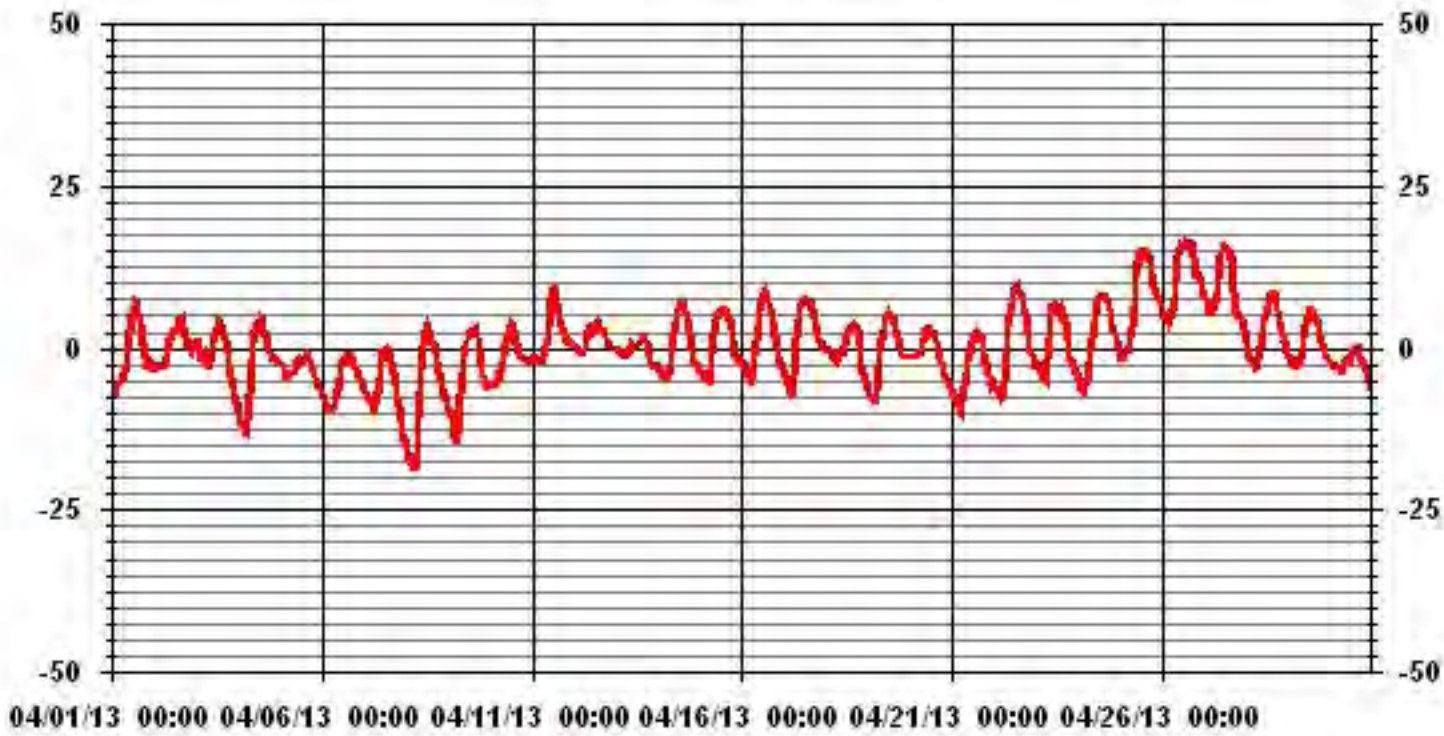


Calibration Graph for Site: LICA30 Parameter: NOX_ Sequence: NO2 Phase: SPAll



Temperature

01 Hour Averages



Precipitation

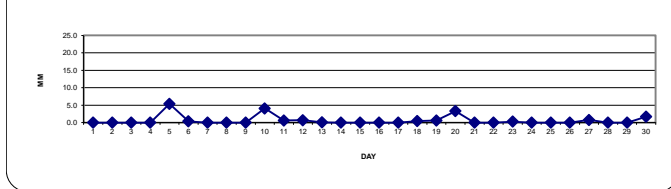
LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA
APRIL 2013
PRECIPITATION hourly averages (mm)

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	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
2		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
3		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	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	24	
5		0	0	0	0	0.3	0.2	0.1	0.1	0.1	0.6	0.3	0	0.2	0.3	1.1	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.1	1.1	5.4	24		
6		0	0.1	0	0	0	0	0	0	0	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4	24	
7		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
8		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
9		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
10		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7	0.8	0.7	0.8	0.6	0.2	0.1	0.8	4.1	24		
11		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.2	0	0.2	0	0	0.2	0.6	24		
12		0	0.1	0.5	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.7	24	
13		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0.1	0.1	24	
14		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
15		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
16		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
17		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
18		0	0	0	0	0	0	0.4	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5	24	
19		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0.2	0.1	0.1	0	0.2	0.6	24	
20		0	0	0	0.4	0.1	0.2	0.8	0.1	0	0	0	0	0.1	0	0	0.7	0.8	0.1	0	0	0	0	0	0	0	0.8	3.3	24	
21		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	24	
23		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0	0	0	0	0.3	0.3	24	
24		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
25		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
26		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24	
27		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0.4	0.3	0	0	0	0	0	0	0.4	0.8	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	0	0	0	0	0.2	0.2	0	0.3	0.5	0.4	0.1	0	0	0	0	0	0	0	0	0	0	0	0.5	1.7	24	
HOURLY MAX		0.0	0.1	0.5	0.4	0.3	0.2	0.8	0.2	0.2	0.6	0.3	0.5	0.4	0.3	1.1	0.7	0.8	0.7	0.8	0.7	0.8	0.6	0.2	0.1					

STATUS FLAG CODES

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

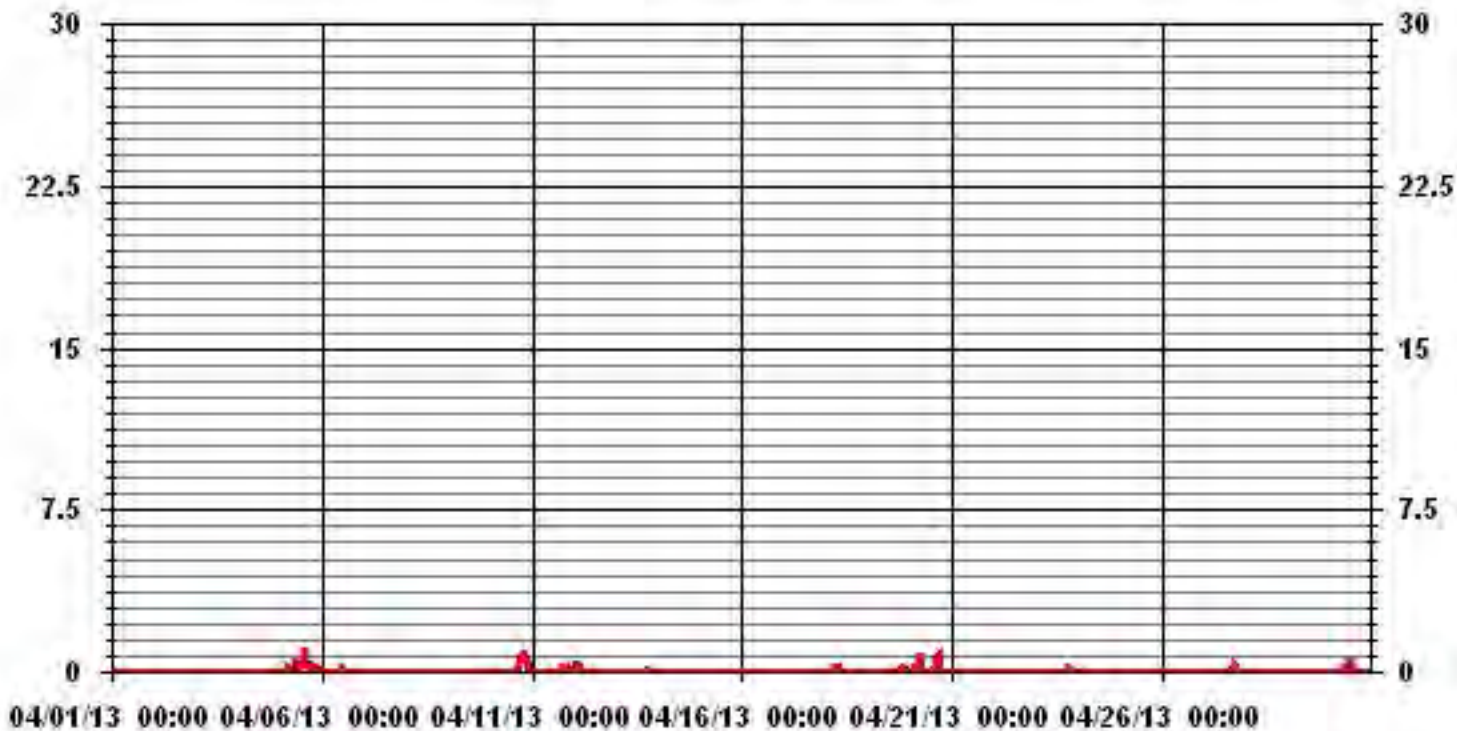
DAILY TOTALS FOR APRIL 2013



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	1.1	MM	14	ON DAY(S)	5
MAXIMUM DAILY TOTAL	5.4	MM		ON DAY(S)	5
MONTHLY TOTAL	18.5	MM			
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS
STANDARD DEVIATION:	0.11		AMD OPERATION UPTIME:	100.0	%
			MONTHLY AVERAGE:	0.03	MM

01 Hour Averages



Relative Humidity

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

APRIL 2013

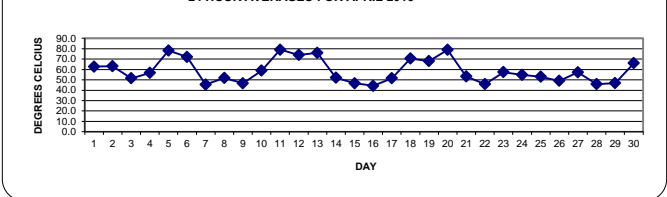
RELATIVE HUMIDITY hourly averages (%)

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	MAX.	AVG.	RDGS.	
1		81	84	85	86	85	85	84	79	73	63	52	44	35	31	32	44	44	46	53	63	66	64	61	64	86	62.7	24	
2		69	71	71	69	68	70	69	62	56	53	52	52	54	55	52	53	54	58	64	69	71	75	75	73	75	63.1	24	
3		73	67	67	67	64	58	62	53	50	47	45	42	40	37	36	34	34	36	41	46	53	56	61	67	73	51.5	24	
4		74	76	77	77	79	79	74	63	48	42	38	35	36	35	35	39	43	52	56	58	61	62	61	61	79	56.7	24	
5		62	63	66	71	81	84	84	82	80	78	76	75	78	80	83	81	82	82	82	83	82	81	81	81	84	78.3	24	
6		79	79	77	77	77	78	77	75	73	71	68	66	66	65	65	67	69	71	73	72	70	70	71	71	79	72.0	24	
7		67	63	59	52	54	55	44	42	37	32	25	21	22	25	31	36	39	42	46	50	53	60	66	69	69	45.4	24	
8		73	76	78	78	78	77	76	64	52	44	34	27	27	31	33	35	36	39	41	43	45	48	52	55	78	51.8	24	
9		58	61	63	66	72	78	74	56	45	39	32	34	32	30	29	28	25	27	30	42	47	46	52	55	78	46.7	24	
10		51	49	49	51	53	53	51	48	46	43	39	36	34	35	40	59	73	82	85	86	87	87	88	88	88	58.9	24	
11		87	88	88	88	89	89	88	86	80	75	70	57	57	55	64	70	72	76	82	86	87	88	87	87	89	79.0	24	
12		87	88	89	89	87	86	85	78	70	67	64	61	59	58	61	60	62	63	68	72	76	79	82	84	89	74.0	24	
13		86	85	84	83	82	81	79	76	72	68	69	69	69	67	68	63	64	74	81	84	87	86	80	68	87	76.0	24	
14		67	69	68	68	72	69	66	62	55	42	35	29	30	30	30	33	33	35	40	49	59	65	71	69	72	51.9	24	
15		71	69	60	59	58	57	53	46	40	37	33	33	33	33	32	33	34	34	40	45	53	57	55	55	71	46.7	24	
16		57	54	55	60	63	64	60	52	44	36	30	26	24	23	24	26	28	31	34	39	45	57	60	69	69	44.2	24	
17		70	69	77	78	80	82	73	52	39	34	30	30	29	28	30	31	33	40	48	54	57	56	58	59	82	51.5	24	
18		61	61	61	64	68	75	83	81	78	78	75	73	69	65	66	64	59	55	57	66	79	84	86	87	87	70.6	24	
19		87	86	86	86	84	86	85	79	65	56	47	35	37	38	38	43	51	60	74	80	82	83	84	84	87	68.2	24	
20		84	86	87	87	87	87	87	83	84	81	81	75	77	76	72	80	86	84	82	77	65	62	59	66	87	79.0	24	
21		66	67	69	71	73	73	67	58	52	45	42	39	39	36	33	34	36	39	47	52	57	59	65	62	73	53.4	24	
22		64	65	67	69	71	69	60	45	34	31	28	26	24	23	24	25	27	32	36	44	53	58	61	64	71	45.8	24	
23		70	72	64	72	73	75	65	57	45	34	31	30	32	40	47	40	42	39	62	83	81	76	74	72	83	57.3	24	
24		75	77	80	81	79	75	65	61	60	51	47	37	36	34	33	33	34	34	38	44	52	56	62	68	81	54.7	24	
25		73	79	77	77	79	79	77	71	62	45	37	33	34	32	30	32	32	34	38	44	49	50	51	55	79	52.9	24	
26		61	63	64	66	69	68	64	61	58	49	44	40	38	35	34	35	32	32	37	46	41	45	44	50	69	49.0	24	
27		56	58	63	66	67	67	65	61	57	43	40	40	41	40	41	47	43	62	82	82	74	67	53	59	82	57.3	24	
28		60	61	62	63	64	64	58	53	48	41	36	33	32	30	29	29	29	31	36	41	43	48	52	60	64	46.0	24	
29		64	63	65	65	64	63	57	54	51	45	38	35	32	33	34	35	34	33	35	37	42	48	48	50	65	46.9	24	
30		52	55	59	56	56	56	65	75	71	70	74	76	76	74	71	70	64	64	64	64	64	65	64	69	75	76	66.0	24
HOURLY MAX		87	88	89	89	89	89	88	86	84	81	81	76	78	80	83	81	86	84	85	86	87	88	88	88	88			
HOURLY AVG		69.5	70.1	70.6	71.4	72.5	72.7	69.9	63.8	57.5	51.3	47.1	43.6	43.1	42.5	43.2	45.3	46.5	49.6	55.1	60.0	62.7	64.6	65.6	67.6				

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

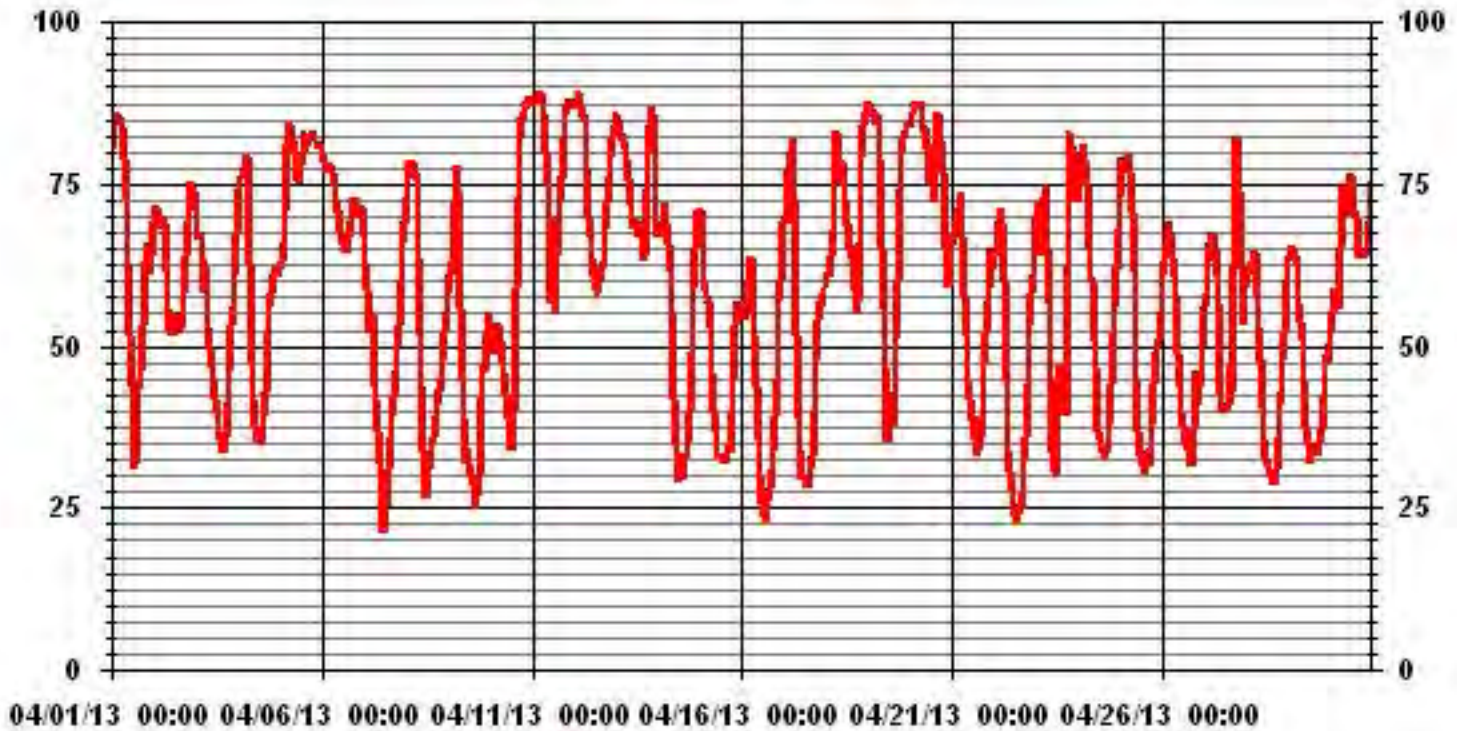
24 HOUR AVERAGES FOR APRIL 2013



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	89	%	@ HOUR(S)	VAR	ON DAY(S)	11, 12
MAXIMUM 24-HR AVERAGE:	79.0	%			ON DAY(S)	11
					VAR-VARIOUS	
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS	
STANDARD DEVIATION:	18.00		AMD OPERATION UPTIME:	100.0	%	
			MONTHLY AVERAGE:	58.58	%	

01 Hour Averages



— LICA30 RH %

Barometric Pressure

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

APRIL 2013

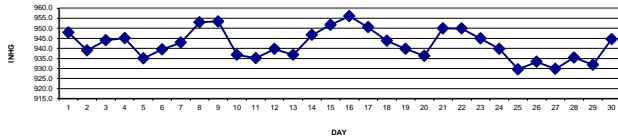
BAROMETRIC PRESSURE hourly averages (millibar)

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	947	947	947	948	948	948	948	949	949	949	950	950	949	949	949	948	948	948	947	947	947	946	946	945	950	947.9	24			
2	2	945	945	944	944	943	943	942	941	941	940	939	938	938	937	936	936	936	935	935	935	935	935	936	936	936	945	939.0	24		
3	3	936	937	938	938	938	939	940	942	943	944	945	946	947	947	947	947	947	948	948	948	948	948	948	948	948	948	948	944.0	24	
4	4	948	948	948	949	949	948	948	948	948	948	948	948	947	946	945	944	943	942	941	940	940	939	938	938	938	949	945.0	24		
5	5	937	936	936	935	935	934	934	934	934	934	934	933	933	933	934	934	935	935	936	936	937	937	937	938	938	938	935.0	24		
6	6	938	938	938	938	939	939	939	939	939	940	940	940	940	940	940	940	940	940	940	940	940	940	940	940	940	940	940	939.5	24	
7	7	940	940	940	940	940	940	940	940	941	941	942	942	942	943	943	944	944	945	945	946	947	947	948	949	949	949	942.9	24		
8	8	949	949	950	951	951	951	952	953	953	954	954	954	955	954	954	954	954	954	954	954	954	954	955	955	955	955	953.0	24		
9	9	955	955	955	955	955	956	956	956	957	957	957	956	956	955	955	954	952	951	950	949	949	948	947	946	946	957	953.4	24		
10	10	945	944	943	942	941	940	939	939	938	937	937	936	935	935	934	934	933	933	933	933	933	933	933	933	933	933	945	936.8	24	
11	11	933	932	933	932	932	933	933	934	934	934	935	936	936	936	936	936	937	937	937	938	938	939	937	937	939	937	939	935.2	24	
12	12	939	940	940	941	941	941	942	942	942	942	942	941	941	940	940	940	939	938	938	937	937	937	937	936	935	942	939.7	24		
13	13	935	934	934	934	934	934	934	934	934	935	935	936	936	937	937	938	939	939	940	940	941	941	941	941	941	941	941	936.8	24	
14	14	942	942	943	943	943	944	944	945	946	947	947	948	948	949	949	949	949	949	949	949	949	949	949	949	949	949	949	946.7	24	
15	15	949	949	949	949	950	950	950	951	951	952	952	952	952	952	953	953	953	953	953	953	953	953	953	954	954	954	951.7	24		
16	16	954	955	955	955	955	956	956	957	957	958	958	958	957	957	956	956	956	956	956	956	956	956	955	955	955	958	956.1	24		
17	17	954	954	953	953	952	952	952	953	953	953	953	952	951	951	950	950	949	949	948	947	947	946	946	946	945	954	954	954	954	24
18	18	944	944	943	942	942	941	941	941	941	942	943	943	944	945	945	946	946	946	946	946	946	946	946	945	944	946	943.8	24		
19	19	944	944	943	943	942	942	942	942	941	941	941	940	939	939	938	938	937	937	937	936	936	936	935	935	944	938.8	24			
20	20	934	934	933	933	933	933	933	933	933	933	934	934	935	935	936	936	937	938	939	941	942	943	944	945	945	945	936.3	24		
21	21	946	947	947	948	949	950	951	951	951	951	951	951	951	951	951	951	951	950	950	951	951	951	951	951	951	951	950.0	24		
22	22	951	951	947	951	951	951	951	952	952	952	952	951	951	950	949	949	948	948	948	947	947	947	947	947	947	952	949.9	24		
23	23	946	946	946	945	945	945	945	946	946	946	946	945	945	944	944	943	943	943	944	944	945	945	946	946	946	946	945.0	24		
24	24	946	945	945	945	944	944	944	943	943	943	942	941	940	939	939	938	937	936	935	934	934	933	932	931	946	939.8	24			
25	25	930	930	929	928	928	927	927	927	927	927	928	928	928	929	930	930	931	931	932	932	932	933	933	933	932	933	929.5	24		
26	26	932	932	932	932	932	932	932	933	933	934	934	934	934	934	934	934	934	934	934	934	934	934	934	934	934	934	933.3	24		
27	27	933	933	933	932	932	932	932	932	932	932	931	930	928	927	926	925	925	927	927	927	928	929	930	931	933	929.8	24			
28	28	932	933	934	935	936	937	937	938	938	939	939	939	938	938	937	937	936	935	934	933	932	932	931	931	939	935.5	24			
29	29	931	931	930	930	929	929	929	929	929	930	930	930	930	931	932	932	933	934	934	935	936	936	937	938	938	931.9	24			
30	30	938	938	939	940	940	941	942	942	942	943	943	944	944	945	946	947	947	948	949	950	951	951	952	952	952	952	944.6	24		
HOURLY MAX		955	955	955	955	956	956	957	957	958	958	958	958	957	958	957	956	956	956	956	956	956	955	955	955						
HOURLY AVG		942	942	942	942	942	942	942	942	943	943	943	943	942	942	942	942	942	942	942	942	942	942	942	942	942					

STATUS FLAG CODES

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

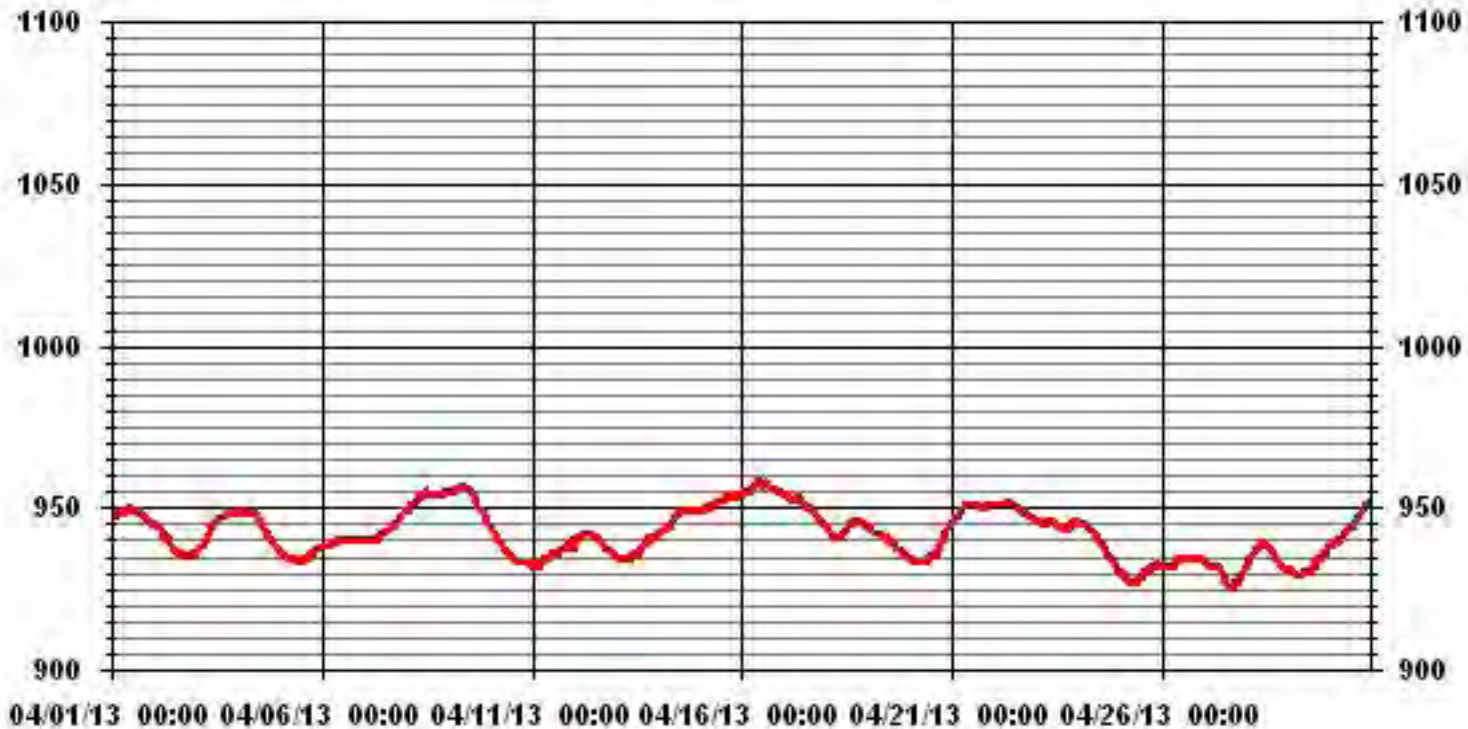
24 HOUR AVERAGES FOR APRIL 2013



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	958 MB	@ HOUR(S)	VAR	ON DAY(S)	16
MAXIMUM 24-HR AVERAGE:	956.1 MB			ON DAY(S)	16
				VAR-VARIOUS	
CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	720 HRS		
		AMD OPERATION UPTIME:	100.0 %		
STANDARD DEVIATION:	7.73	MONTHLY AVERAGE:	942 MB		

01 Hour Averages



Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -MASKWA

APRIL 2013

WIND SPEED 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	2	3.3	2	3.5	3.5	3.9	4.8	3.2	3.8	6.2	2.2	0.8	4.4	4.4	1.6	8.6	6.9	5.8	4.2	1.4	2.8	3.8	5.5	7	8.6	0.4	24	
2	6	5.7	7.2	8.1	6.7	5.4	7.3	7	8.6	9.5	12.5	12.9	12.2	10.9	8.3	10.9	10.9	10.1	9.2	6.7	4.6	2.6	3.5	4.8	12.9	7.1	24	
3	4.8	4.4	5	4.9	7.1	13.3	15.3	14.4	12.8	10.3	10.3	10.2	9.3	8	7.2	8.3	9	7.1	5.8	3.4	2.2	0.2	1.8	1.2	15.3	6.5	24	
4	2.2	1.7	2.8	1.5	1.2	1.3	1.5	3.2	3.6	4.3	6.9	8	8.9	10.9	12.3	12.4	12.6	11.7	9.6	8.2	9.4	8.7	5.8	6.1	12.6	5.8	24	
5	7	6.3	6.5	6.3	6.5	6	7.1	9.2	9.7	9.9	9.9	9.7	10.4	13.1	12.3	12.2	11.2	11.6	12.7	10.6	11.2	10.6	10.7	8.7	13.1	8.8	24	
6	11.6	11	12.5	10.7	11	8.4	9.1	8.1	7	7.8	8.1	7.6	8.9	10.7	7.5	8.4	7.3	6.6	7.5	6.4	7.3	9.3	8.6	9.7	12.5	8.7	24	
7	7.8	8.2	7.3	7.9	7.5	8.7	10	9.6	9.1	7.6	7.1	7.5	9	9.9	9.9	11.5	11.6	11.3	8.3	7.1	6.1	4	2.3	3.1	11.6	7.9	24	
8	3.2	0.3	1	1.5	2	1.3	3.6	5	7.4	5.7	2.6	2.2	3.1	6.9	10.6	12.5	12.6	9.6	6.6	5.1	4.3	4.4	5	5.1	12.6	2.3	24	
9	5.2	5.1	4.9	3.7	1.2	1.3	2.6	4.5	5.4	6.1	10.1	9.9	10.6	12.3	10.7	11.3	10.8	11.1	8.7	9.5	8.8	7.8	8.1	9	12.3	7	24	
10	11.4	8.7	5.7	6.1	5.8	6.1	7.3	7.1	8.4	9.6	11.2	11.8	12	11.2	11.3	10.1	7.6	6.7	5	4.4	3.3	3.6	2.3	1.7	12	7.1	24	
11	1.7	0.6	3.1	4.5	3.7	2.9	3.3	2.7	1.2	2.6	2.1	2.7	1.3	0.5	4.5	5.6	2.8	3.5	0.7	3.2	1.8	3.8	4	4.3	5.6	1	24	
12	4	3.7	6	4.8	7.1	4.4	3.1	5.6	8.1	7.9	9.3	9.4	9.7	6.5	8.7	6.3	5.9	5.7	6.4	5.4	6.6	7	6.5	6.1	9.7	5	24	
13	7.3	7.6	6.9	5.8	6.8	7.5	7.5	9.2	9.6	10.9	11	10.9	8.8	9.2	8.1	7.8	8.6	8.8	6.2	1	1	1.1	3.2	3.8	11	6.5	24	
14	3.2	2.9	3.1	2.6	2.8	3.1	4.3	5.1	7.6	7.7	7.5	7	9.6	8.2	8.3	7.1	5.3	6.3	4.8	1	1.2	0.8	1.4	1.1	9.6	3.6	24	
15	2.3	2.4	3.5	3.1	3.2	3.5	5.2	7.3	7.6	9.8	13.8	14.4	11.7	12.1	10.6	10.2	8.6	8.8	7.9	5.1	2.7	3.8	3.2	4.3	14.4	6.8	24	
16	5.8	6.1	4	3.2	2.6	3.7	4.2	6.8	7.1	6.8	5.5	6.1	5.8	2.6	3.2	2.3	2.7	2.8	4.9	1.3	2.1	1.8	1.4	1.5	7.1	2.6	24	
17	1.2	1.5	1.1	1.1	1.1	0.2	0.4	0.1	5.7	6.8	8.9	9.9	11.2	12.7	11	8.6	8.1	6	7.1	5.2	5.7	6.6	5.6	5.9	12.7	5	24	
18	5	6.7	7.3	4.2	5.4	4.7	3.2	3.7	3.8	4.3	6.2	6	8.3	8.8	8.2	6.7	5.3	4.4	4.4	2.8	2.2	1.5	1.4	1.4	8.8	3.1	24	
19	1.5	1.7	0.7	2.9	1.8	4.4	5	6.4	9.4	9.3	9.2	13.6	15.9	15.6	15.5	14.6	11.4	11	9.2	7.9	7.2	9.3	8.6	8.3	15.9	8	24	
20	6.4	5	3.6	3.3	3.3	2.2	2.1	3.8	4	6.2	7.8	10	8.8	7.1	7.5	7.9	10	14.6	13.6	13.9	13.2	11.8	10.5	7.9	14.6	4.4	24	
21	8.8	9.4	7.4	6.8	4.8	5.1	6.1	6.3	7.6	8.3	7.7	7.6	8.1	7.4	8.1	8.6	7.8	8.3	6.1	3.7	1.6	2	2.8	3.7	9.4	5.8	24	
22	3	3.2	3.9	3.9	3.7	4.6	5.5	4	6.3	7.2	5.3	6.8	7.1	8.5	8.3	7.3	6.5	4.7	3.7	1.9	0.4	1.1	2.2	3.3	8.5	3.4	24	
23	1.3	4.3	3.9	1.3	1.1	0.8	3.6	5.3	6.9	9.8	10.7	9.2	10.9	10.9	8.4	11.8	15.1	14.3	15.2	11.2	8.3	6.4	4.5	4	15.2	6.3	24	
24	3.3	2.4	2.8	2	1.4	3.7	5.7	7.7	7.4	5.3	8.4	4.9	9.4	9	9.7	9.6	11.1	11.9	9.4	5.2	7.9	7.9	7	7.7	11.9	6	24	
25	4.6	3.4	6.3	7	6.7	7.7	8.3	7.6	6	6.8	7.9	10.8	13.7	13.1	11.9	12.4	12.2	13	8.9	4.6	3.6	3.6	4.6	6	13.7	6.3	24	
26	6.5	7	7.9	6.4	7.1	6.7	7.3	5	6.5	5.8	8.2	13.5	12.7	11.2	9.9	7	6	4.5	3.1	3	7.7	5.8	5.4	3.9	13.5	5.6	24	
27	3.4	5.6	5.5	5.1	7.1	5.4	5.1	5.3	3.4	4.9	7.8	13.9	13.6	15	11.3	8.4	6.5	15.5	4.4	5.5	11.9	9.6	13.3	15.6	15.6	6.1	24	
28	17.4	15.2	13.5	10.9	10.5	7.2	8.8	8.7	7.9	5.9	5.7	7	5.9	6.4	5.5	5.5	4.6	3.2	1.4	4	3.6	4.8	6.1	7.5	17.4	5.2	24	
29	7.3	6.9	6.3	6.8	7.6	9.3	10.1	10	10.5	11.9	11.8	11.3	9.8	11.9	12.5	12.7	13.2	13.7	12.1	8.7	7.2	6.1	5.2	4.2	13.7	9.2	24	
30	4.5	4.4	4.2	5	7.4	9.2	7.8	4.6	3.4	2	3.6	5.3	6.6	8.1	9.9	9	9.5	8.3	8.5	9	6.8	6.3	4.3	2.9	9.9	2.9	24	
HOURLY MAX	17.4	15.2	13.5	10.9	11.0	13.3	15.3	14.4	12.8	11.9	13.8	14.4	15.9	15.6	15.5	14.6	15.1	15.5	15.2	13.9	13.2	11.8	13.3	15.6				
HOURLY AVG	5.3	5.2	5.2	4.8	4.9	5.1	5.8	6.2	6.9	7.2	8.0	8.7	9.3	9.4	9.1	9.2	8.7	8.7	7.2	5.5	5.4	5.2	5.2	5.3				

STATUS FLAG CODES

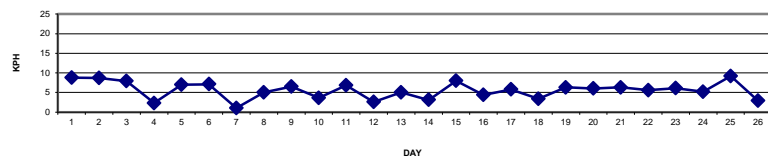
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

LAST CALIBRATION: December 20, 2011

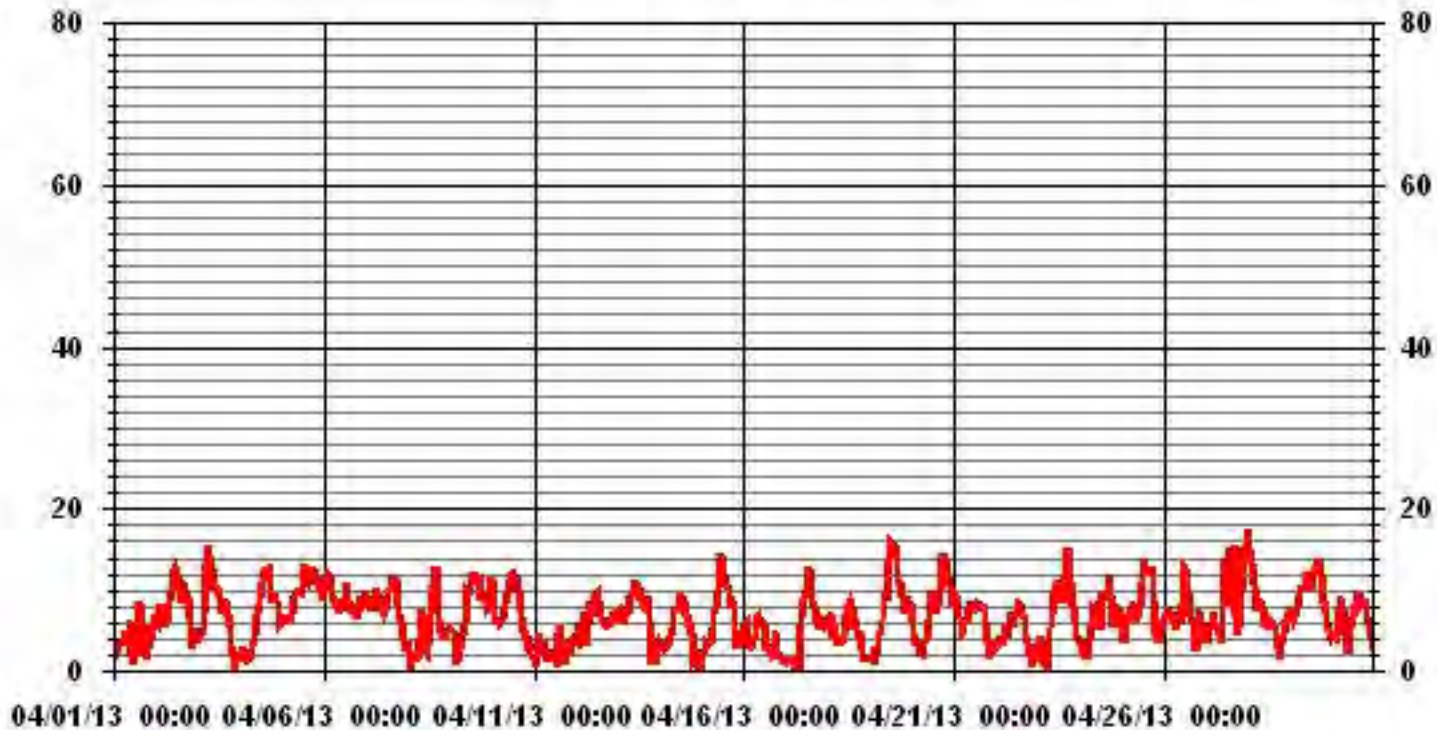
MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	17.4 KPH	@ HOUR(S)	0	ON DAY(S)	28
MAXIMUM 24-HR AVERAGE:	9.2 KPH			ON DAY(S)	29
CALMS (≤ 1 KPH)	1.75 %	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	0 HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	3.47	MONTHLY AVERAGE:	6.73	KPH	

24 HOUR AVERAGES FOR APRIL 2013



01 Hour Averages



— LICA30 WSP KPH

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

APRIL 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		9.6	12	12	12.6	13.7	17.3	15.9	13.7	13.7	18.8	14.4	13.5	17.4	18.8	22.3	24	17.7	16.6	10.8	12	11.8	14.8	16.2	16.6	24	
2		14.2	15.3	23.4	25	19.2	16.6	20.3	30.2	30.2	35.6	37.6	36.7	35	30.6	24.3	29.1	28.2	31	26.4	17.2	19.4	10.9	13.5	12.9	37.6	
3		17.9	16.1	18.4	15.7	28.6	46.4	58.2	57.1	47.1	38.5	36.5	35.1	30.7	30.2	24.9	29.7	30.2	27.7	24	18.6	10.4	3.4	4.8	9.6	58.2	
4		16.4	14	12.9	13.7	12.9	9.1	13.1	12.9	15.1	15.9	17.2	24	25.6	39	38.6	35.2	35.2	33.9	26.7	28.4	26.9	23.6	24.3	19.7	39	
5		24.7	23.5	26.2	20.3	22.1	18.1	19.2	25.6	25.6	25.8	22.6	25.1	27.7	31.7	28.2	29.1	24.9	27.3	27.5	34.7	28.7	24.7	28.4	25.8	34.7	
6		24.7	27.1	25.7	23.5	21.6	20.6	23.4	19.4	22.7	18	16.8	19.4	23.8	25.3	19.4	18.4	17	15.5	19.1	17.6	20.5	24.3	24.3	23.8	27.1	
7		20.8	19.7	18.6	20.6	19.7	20.6	24.7	28.2	21.4	22.8	24	28.2	27.8	31.3	28.6	30.9	31.5	36.8	25.1	26	16.4	10	13.1	16.8	36.8	
8		18.6	34.6	34.4	60.7	41.4	14.2	16.4	13.9	15.3	16.6	16.4	14.8	14.1	24.3	28.6	29.7	31.7	30.4	19.2	15.7	12.4	10.7	12.3	12	60.7	
9		11.3	12.2	12.2	7.6	9	17.5	10.2	11.8	15.9	15.9	31.7	30.3	31.7	32.4	30.8	29.7	32.6	30.6	25.1	26.9	26.9	20.8	21.9	24.5	32.6	
10		30.8	22.7	18.8	19.7	17.9	15.3	22.4	20.3	23.4	28.2	31.7	32.8	35.6	31.7	31.9	35	30	24.6	16.1	19.7	15.5	15.9	12.2	12.4	35.6	
11		12.9	9.6	9.9	9.7	11.3	11.1	12.6	10.7	10.7	9.3	10.9	13.3	12.4	15.9	19.4	13.4	16	11.2	8.9	16.6	12.6	14.6	14.6	15.9	19.4	
12		15.7	13.5	18.1	15.8	28.3	17.2	13.7	18.3	22.7	22.3	24.7	20.8	22.7	19.7	25.6	17.9	21.1	16.9	23.1	16.4	25.3	26	22.7	19.9	28.3	
13		25.6	26.3	24.5	20.2	24	23.2	29.1	28.9	29.3	31.3	30.4	28.2	28.2	27.7	27.6	25.2	21.2	24.5	27.1	6.7	9.3	8.7	11.3	13.9	31.3	
14		11.8	11.6	13.5	12.4	6.5	13.1	15	15	18.1	26.3	20.8	25.8	37.8	25.8	28.8	25.6	20.1	19.9	12.9	9.8	3.4	10.2	9.6	9.2	37.8	
15		8.9	12.4	12.9	11.8	12.9	9.6	11.5	16.9	17.5	29.1	36.1	36.3	30.8	36.3	30.4	29.3	24	25.1	20.5	16.8	8.3	11.4	11.4	11.1	36.3	
16		11.3	12.6	12	12.4	12.9	11.5	7.9	15.7	16.2	21	19.9	23.4	24.4	19.2	15.5	12	14.1	10	10.2	6.9	10.2	8.8	4.6	10	24.4	
17		10	3.9	11.1	9.8	11.3	9.8	9.9	6.5	11.5	15.3	23.1	31.5	30.6	34.3	35.2	30.2	28.6	21.8	17.9	12.9	15.5	19.5	15.3	18.6	35.2	
18		15.3	18.8	24.5	19.2	14.8	14.4	12.6	15.8	15.3	15.9	19	17.5	18.1	22.9	21.8	17.5	24.5	12.2	11.8	12.7	4.8	9.3	9.8	10.9	24.5	
19		10	14.4	9.1	15.5	12.9	13.3	13.5	24	28.4	27.5	32.1	43.3	47	49.7	43.8	37.3	35.4	39.4	24.5	27.3	24.5	24	24.3	22.3	49.7	
20		19	13.8	12.2	11.8	13.7	11.3	10.2	12.2	12	28.4	26.9	36.3	31.1	30	22.7	28.6	46	55.2	57.8	57.1	48.8	48.4	37.9	34.1	57.8	
21		30.9	30.6	30.4	27.3	20.3	17.5	19.9	23.6	26.7	26.9	30.6	32.1	36.3	25.2	31.6	34.8	29.9	33.9	21.6	17.7	9.8	10	10.4	8.3	36.3	
22		12.3	11.3	10.9	9.6	8.9	10.7	13.7	14.4	23.2	28.9	20.7	27.3	31	34.1	36.3	29.1	29.1	22.7	13.9	8.2	9.8	14.4	11.6	12.4	36.3	
23		9.6	11.3	11.8	10	9.1	9.8	15.9	15.8	28.4	40.7	38.9	31.9	52.5	45.1	45.5	52.3	50.5	56.2	57.6	47.1	30.2	23.5	16.2	16.6	57.6	
24		13.1	13.1	14.6	12	10.7	7.7	22.1	16.6	22.1	17.9	26.9	19.4	31.3	26.2	32.6	29.9	35.2	35	29.5	16.4	24.1	21.2	20.5	19.7	35.2	
25		17.2	12.9	16.6	14.8	15.3	18.3	20.4	19.3	16	28.2	34.3	44.2	45.5	42	40.6	44.2	44.6	47	34.1	18.8	13.7	10.7	10.4	13.5	47	
26		17	15.3	17.9	16.1	15	19.1	18.4	24	20.1	28.2	35.2	46.8	43.7	43.9	37.4	29.3	17	17.9	13.7	15.7	35.6	14.8	31.5	13.5	46.8	
27		8.7	12.2	13.3	13.3	13.9	16.6	13	17.8	13.6	14.6	26	37.1	40.4	40.2	49	35.2	51.6	68.3	27.3	23.4	40.9	39.6	47	59.7	68.3	
28		54.7	58.2	46.8	38.6	37.6	29.5	30.8	26.2	26.9	20.8	24.7	25.1	28	27.1	24.5	26.5	20.4	16.6	6.7	13.1	9.8	15.3	26	24	58.2	
29		26.4	24	17.5	20.1	22.7	29.1	30	29.3	31.1	36.5	37	39.6	33.9	30.4	34.6	30.9	35.5	30.9	32.4	24.9	20.8	15.9	15.9	13.5	39.6	
30		14.4	16.6	17.7	16.4	22.1	32.2	26	16.4	15.5	14.2	18.6	16.4	23.2	26	32.6	30.6	34.1	26.4	29.7	36.3	30.4	23.8	17.3	12.2	36.3	
PEAK		54.7	58.2	46.8	60.7	41.4	46.4	58.2	57.1	47.1	40.7	38.9	46.8	52.5	49.7	49.0	52.3	51.6	68.3	57.8	57.1	48.8	48.4	47.0	59.7		

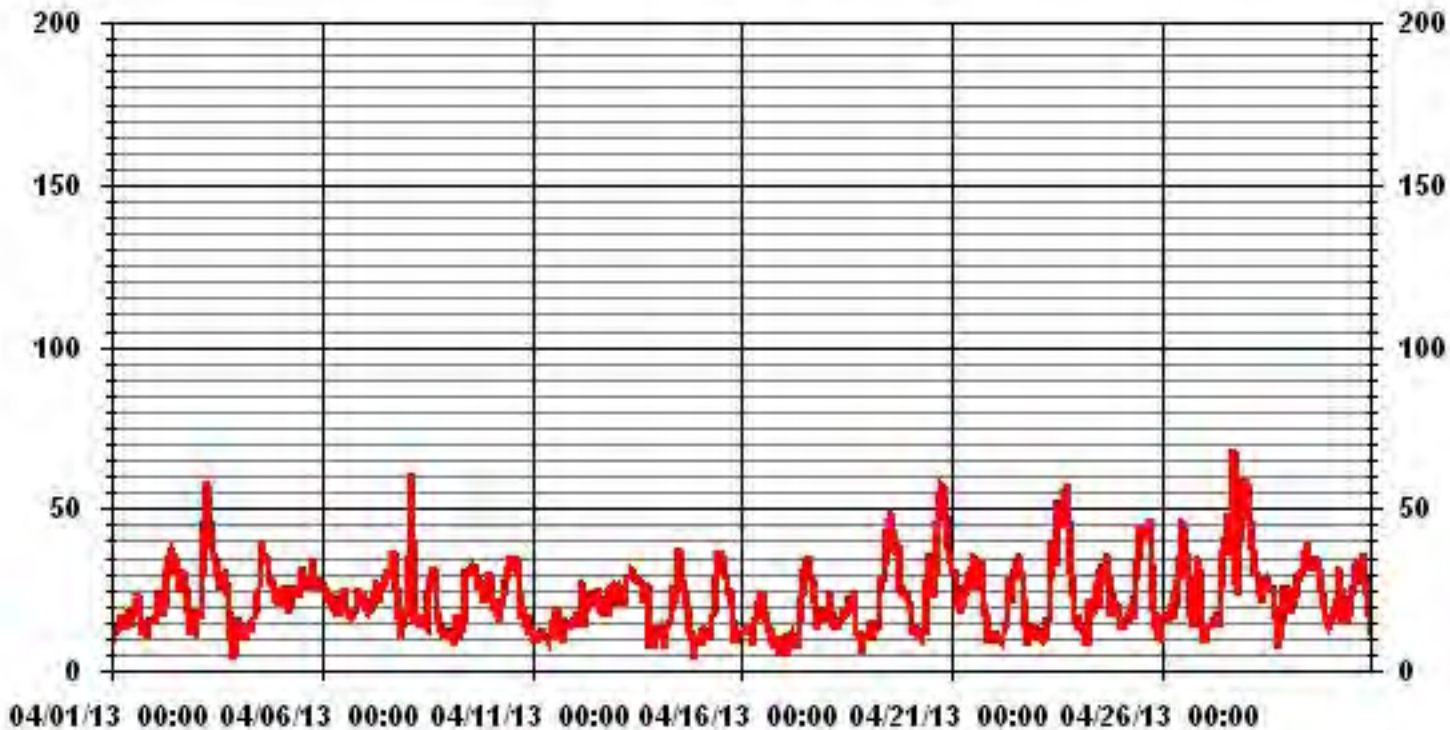
STATUS FLAG CODES

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	68.3	KPH	@ HOUR(S)	17
			ON DAY(S)	27

01 Hour Averages



LICA30
WSP / WDR Joint Frequency Distribution (Percent)

April 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 6.0	1.25	1.94	4.72	3.88	2.50	2.63	2.63	1.80	1.52	3.33	5.55	1.94	2.36	.83	2.22	3.19	42.36
< 12.0	2.08	2.91	10.83	3.33	1.66	1.38	4.44	3.47	2.08	5.69	1.38	.13	1.66	2.36	2.63	3.75	49.86
< 20.0	.69	.41	1.38	.00	.00	.00	.13	1.25	.83	.41	.00	.00	.00	1.66	.97	.00	7.77
< 29.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	4.02	5.27	16.94	7.22	4.16	4.02	7.22	6.52	4.44	9.44	6.94	2.08	4.02	4.86	5.83	6.94	

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	9	14	34	28	18	19	19	13	11	24	40	14	17	6	16	23	305
< 12.0	15	21	78	24	12	10	32	25	15	41	10	1	12	17	19	27	359
< 20.0	5	3	10				1	9	6	3				12	7		56
< 29.0																	
< 39.0																	
>= 39.0																	
Totals	29	38	122	52	30	29	52	47	32	68	50	15	29	35	42	50	

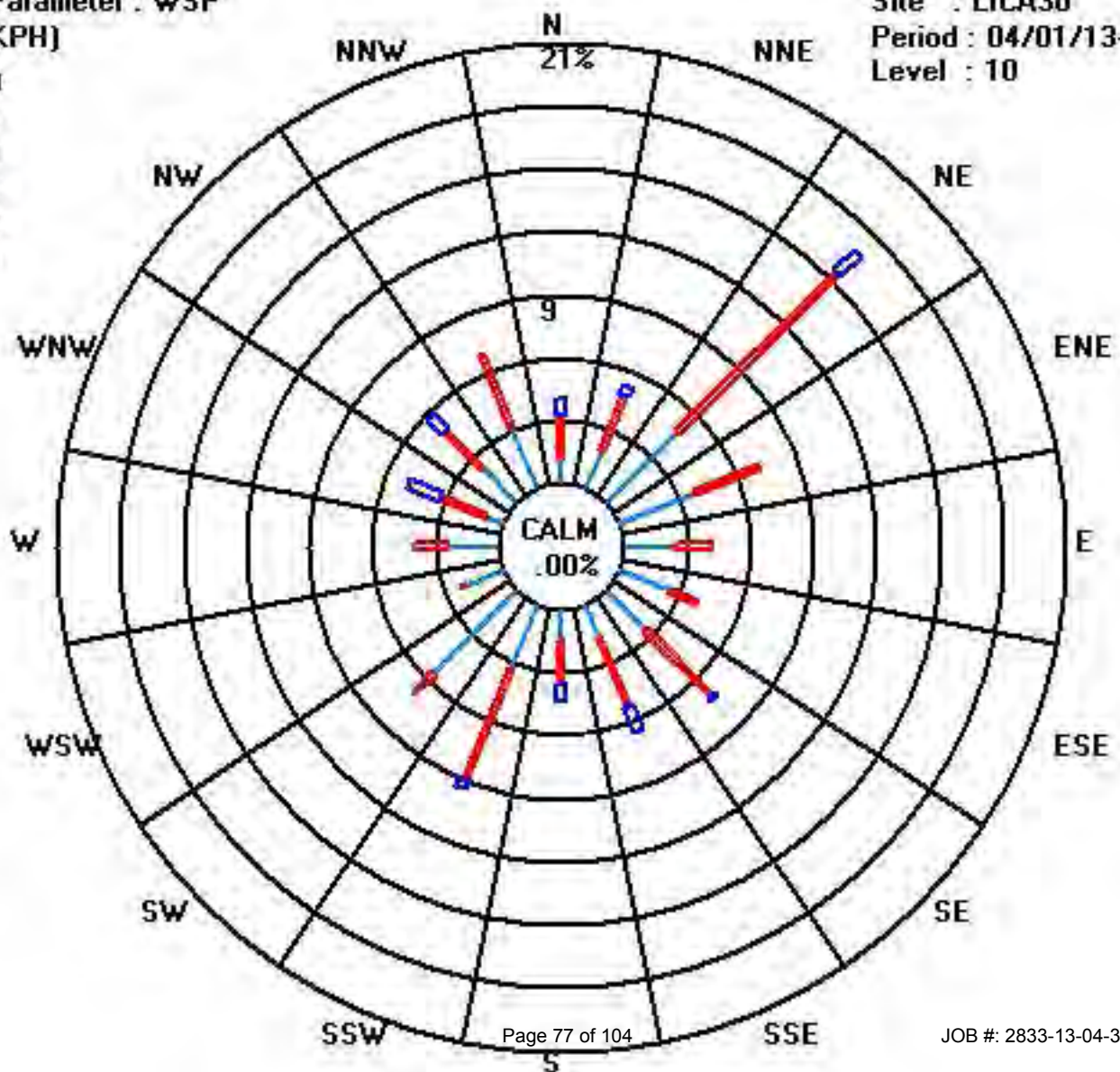
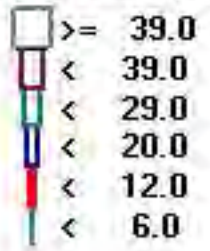
Calm : .00 %

Total # Operational Hours : 720

Class Limits (KPH)

Period : 04/01/13-04/30/13

Level : 10



Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -COLD LAKE- MASKWA

APRIL 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	328	350	320	306	316	330	329	317	299	20	6	79	333	319	96	164	167	164	150	143	54	101	120	127	51	NE	24	
2	132	135	139	149	144	132	145	153	159	171	168	176	188	181	203	202	195	196	200	206	216	240	245	225	177	S	24	
3	274	316	291	267	278	288	314	324	320	337	327	320	326	318	350	350	2	349	340	352	360	69	194	163	321	NW	24	
4	92	64	58	59	49	44	47	51	141	158	155	148	132	142	153	160	159	154	151	149	140	139	135	128	142	SE	24	
5	118	109	105	73	70	57	48	39	42	43	39	40	38	33	35	36	32	34	29	26	23	18	19	22	41	NE	24	
6	29	31	31	31	30	39	38	43	47	44	40	45	45	37	52	37	45	48	44	47	48	43	40	39	39	39	NE	24
7	42	43	47	44	40	39	38	38	42	55	53	71	49	33	36	42	56	51	59	53	41	38	41	59	46	NE	24	
8	65	121	94	54	106	136	31	33	32	16	17	319	236	193	195	192	192	200	215	224	223	219	220	218	198	SSW	24	
9	210	215	222	218	196	215	216	195	207	209	188	199	204	188	195	195	166	158	181	190	178	154	154	152	187	S	24	
10	154	148	132	127	131	128	133	134	141	144	137	134	135	145	139	160	150	130	109	100	77	101	68	99	136	SE	24	
11	120	257	209	209	220	235	219	223	288	256	332	319	226	343	14	54	88	43	318	337	274	271	274	304	278	43	W	24
12	334	341	358	357	4	346	339	360	8	16	18	28	33	56	63	57	56	76	92	79	95	109	95	86	40	NE	24	
13	85	90	98	94	90	87	81	77	78	65	50	52	50	73	62	56	37	38	40	345	266	351	46	78	66	ENE	24	
14	64	49	65	71	36	68	50	42	44	57	44	75	127	131	123	105	104	108	114	138	230	253	304	343	83	E	24	
15	28	64	68	55	54	39	38	40	47	51	43	40	44	50	57	56	54	50	44	37	39	41	61	47	48	NE	24	
16	30	33	47	42	50	40	22	32	39	49	56	94	99	82	14	20	24	209	195	154	178	164	175	97	56	NE	24	
17	184	158	104	91	131	117	8	16	193	188	199	196	202	188	192	225	228	226	196	190	181	169	163	163	193	S	24	
18	163	163	133	113	117	156	133	110	108	75	47	22	23	36	50	54	77	27	28	98	171	184	116	90	82	E	24	
19	133	63	74	73	39	133	136	141	149	145	144	156	149	159	151	150	160	156	160	153	135	138	142	145	147	SE	24	
20	142	139	131	136	133	147	186	203	232	282	281	285	299	318	320	346	358	357	357	357	354	1	359	348	339	NNW	24	
21	352	354	355	348	333	329	340	336	332	331	331	339	330	323	330	323	326	310	343	339	254	216	225	224	331	NNW	24	
22	230	228	224	225	218	212	216	242	278	280	260	280	292	292	278	293	298	327	336	275	179	105	39	104	270	W	24	
23	211	204	213	61	167	275	307	319	330	349	332	327	302	314	322	299	309	323	1	348	351	346	340	349	326	NW	24	
24	313	322	276	268	222	205	202	195	203	223	201	251	211	212	208	201	187	195	194	185	178	171	176	184	201	SSW	24	
25	186	197	202	208	204	198	203	214	225	262	265	281	292	290	283	284	284	288	284	269	259	242	216	204	255	WSW	24	
26	203	203	207	210	209	215	207	249	284	255	260	287	287	283	296	313	298	234	218	203	215	213	237	235	249	WSW	24	
27	226	209	206	212	207	218	206	216	216	219	188	192	171	188	187	214	224	298	302	265	283	276	283	292	230	SW	24	
28	305	310	303	331	316	328	315	311	318	298	292	267	252	248	276	279	259	248	49	103	90	48	45	52	310	NW	24	
29	47	61	59	65	65	62	58	56	61	53	68	86	65	47	40	38	37	34	39	44	49	52	58	51	53	NE	24	
30	57	72	67	109	116	115	117	110	125	66	348	310	290	312	315	321	328	338	344	337	348	343	344	336	357	N	24	
HOURLY AVG	352	354	358	357	333	346	340	360	332	349	348	339	333	343	350	350	358	357	357	357	360	351	359	349				

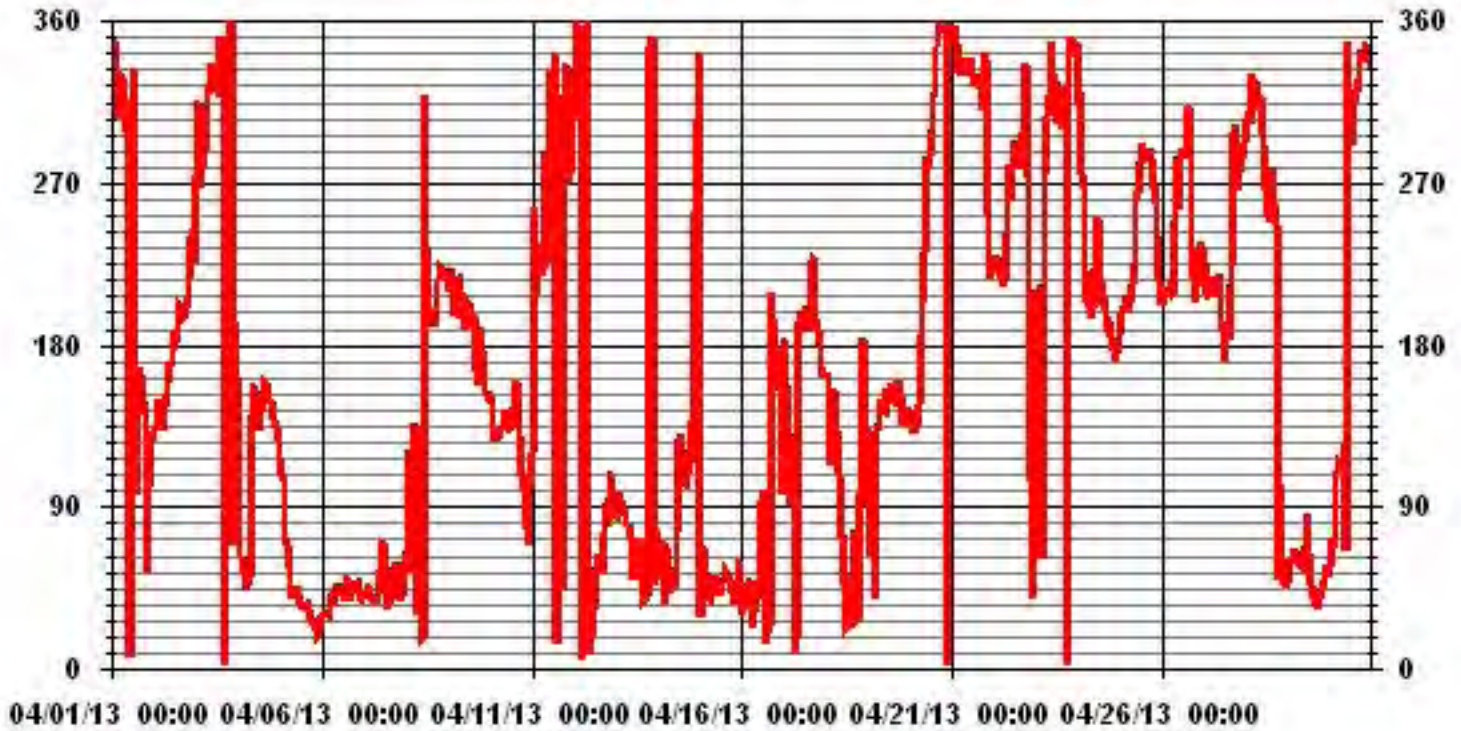
STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- 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:	105.30	AMD OPERATION UPTIME:	100.0 %
		MONTHLY AVERAGE:	55 DEG

01 Hour Averages



Standard Deviation Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

APRIL 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	33	28	44	35	37	41	34	34	32	27	68	88	52	41	59	27	26	27	15	36	24	19	20	20
2	19	21	20	21	22	28	23	25	26	26	24	24	21	24	27	19	17	20	19	19	28	33	30	20
3	26	30	29	27	26	25	32	35	34	33	36	34	34	34	37	33	24	30	33	28	25	35	43	21
4	23	29	38	37	41	29	28	18	32	37	31	28	29	26	24	23	23	22	23	23	23	22	29	25
5	23	25	27	24	24	23	21	19	21	21	20	21	19	17	17	18	18	17	14	16	15	16	15	15
6	12	12	14	13	13	17	18	21	23	24	23	24	24	18	26	19	26	23	20	21	22	20	19	19
7	18	18	20	21	20	18	17	17	22	30	32	37	30	26	32	25	26	23	24	21	17	15	18	19
8	19	47	37	28	22	36	10	11	17	35	63	74	56	38	21	17	16	17	22	18	18	15	15	14
9	13	13	13	11	37	42	21	17	21	27	21	25	24	20	26	22	25	22	23	16	20	20	20	21
10	20	20	26	22	29	25	21	23	23	21	21	23	25	24	23	26	24	24	27	30	25	26	30	36
11	41	47	24	18	19	38	36	43	61	44	50	46	43	62	25	24	52	41	53	33	58	33	30	30
12	34	32	24	30	22	30	33	27	22	22	20	18	20	33	25	31	28	27	25	25	25	25	25	25
13	24	26	28	27	26	26	27	26	26	25	23	23	26	27	27	26	21	19	17	30	35	49	18	18
14	20	20	23	25	17	19	17	19	20	29	40	36	32	32	34	32	35	29	24	45	31	41	30	46
15	22	20	17	18	19	16	16	19	25	25	24	21	27	25	27	26	26	24	19	18	23	16	20	16
16	10	12	17	18	23	15	12	14	23	28	43	44	55	70	60	62	34	47	17	59	20	26	47	20
17	16	47	42	33	39	49	31	68	20	24	21	23	23	22	23	32	32	31	17	14	16	19	21	22
18	24	22	23	35	25	25	42	29	29	27	24	23	19	23	25	31	33	29	25	18	19	22	25	27
19	35	32	39	16	19	17	22	23	23	30	32	25	22	24	24	23	26	25	22	22	25	21	24	21
20	25	26	29	26	24	45	28	31	32	31	26	25	37	36	33	30	26	26	28	26	27	25	31	31
21	27	26	27	28	35	35	34	35	36	36	37	40	34	40	37	38	36	32	33	39	33	25	25	15
22	22	19	13	14	14	14	18	31	35	35	41	38	38	32	36	38	40	46	34	28	47	39	44	20
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24	37	38	23	27	39	15	18	20	23	36	23	40	31	29	27	26	20	18	17	16	20	19	22	18
25	21	26	17	18	15	14	15	19	23	36	34	33	26	27	31	30	29	26	26	29	30	23	15	15
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27	20	15	13	15	13	21	18	31	29	33	27	23	24	21	24	37	34	29	45	34	28	31	28	23
28	27	31	30	34	35	36	34	33	35	43	46	36	48	44	46	44	50	40	30	22	26	18	19	21
29	21	27	22	20	22	22	23	24	26	25	29	31	37	28	26	20	21	18	20	20	20	21	23	20
30	21	22	23	31	25	24	26	28	38															

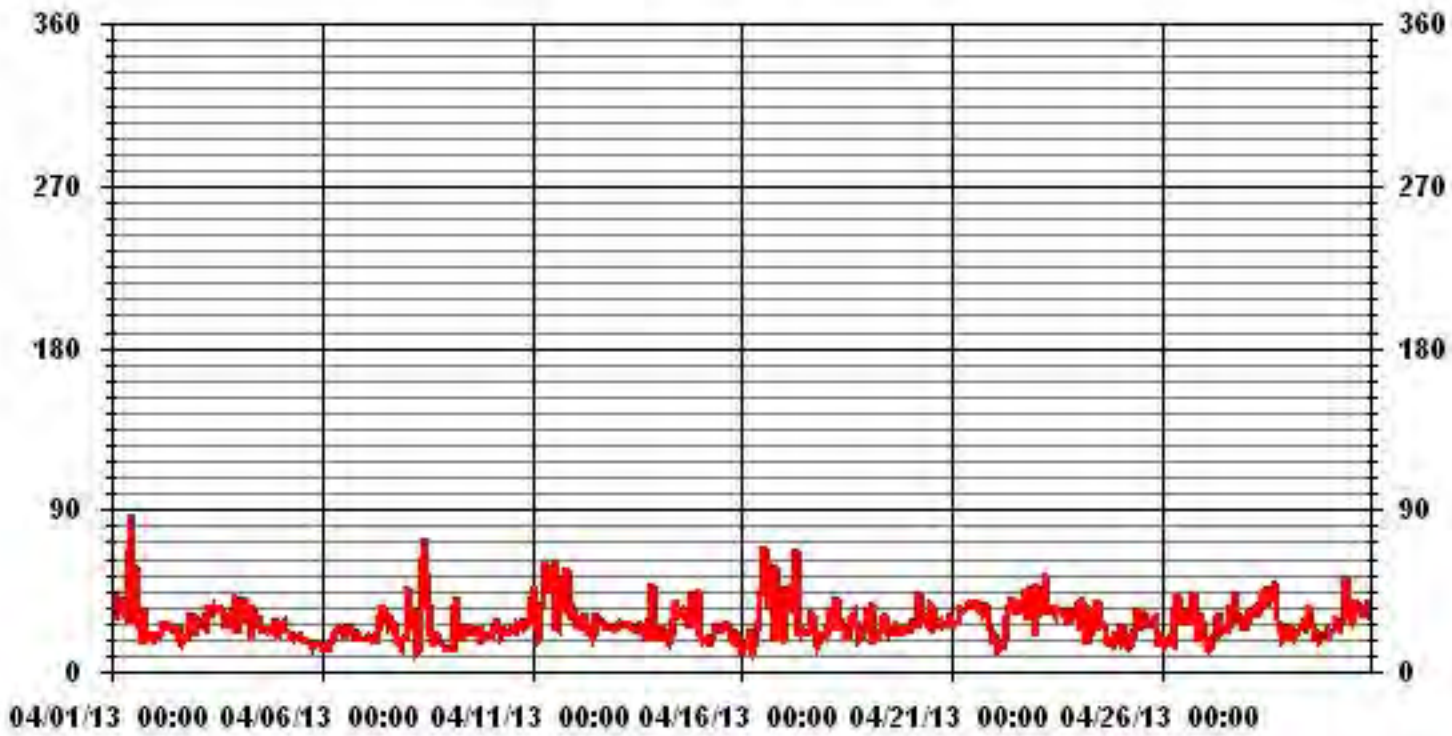
STATUS FLAG CODES

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	April 9, 2013	Previous Calibration	March 12, 2013
Company	Lakeland Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	12:00	End Time (MST)	15:15
Reason:	Post-Repair Calibration		
Barometric Pressure	28.31 inHg	Station Temperature	22 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	NA Volts

Equipment Information

Analyzer Make / Model:	API 100E	S/N :	508	Method:	Fluorescent
Converter Make / Model:	NA	S/N :	NA		
Calibrator Make / Model:	EnviroNics 6100	S/N :	4760	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO 791		
Chart Recorder Make / Model:	NA	S/N:	NA		
Flow Meter:	EnviroNics 6100	S/N :	4760		

Analyzer Settings

Before Calibration		After Calibration	
Concentration Range	0 - 1000 ppb		
Sample Flow / Box Temp	600 ccm 28.5 Deg C	598 ccm 28.6 Deg C	
HVPS / Lamp Setting	491 4065	490 4064	
PMT / RxCell Temp	7.7 Deg C 50 Deg C	7.7 Deg C 50 Deg C	
Converter / IZS Temp	NA Deg C 45 Deg C	NA Deg C 45.0 Deg C	
Offset / Slope	68.4 1.046	50.2 0.959	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4995	0	0	0	N/A
	No zero Adj.			
4915	79.8	792	802	0.9881
4915	79.8	792	800	0.9906
4955	39.9	396	402	0.9856
4975	19.9	198	207	0.9546
4995	0	0	12	N/A
Sum of Least Squares				0.9878
New Correction Factor				0.9906

IZS Calibration Data

Before Calibration		After Calibration	
Auto Zero	0.0		0.0
Auto Span	381.3		381.3
Sample Lines Connected			YES

Percent Change

Previous Month's Calibration Correction Factor:	-
Current Correction Factor Before Span Adjust:	0.9881
Percent Change:	#VALUE!

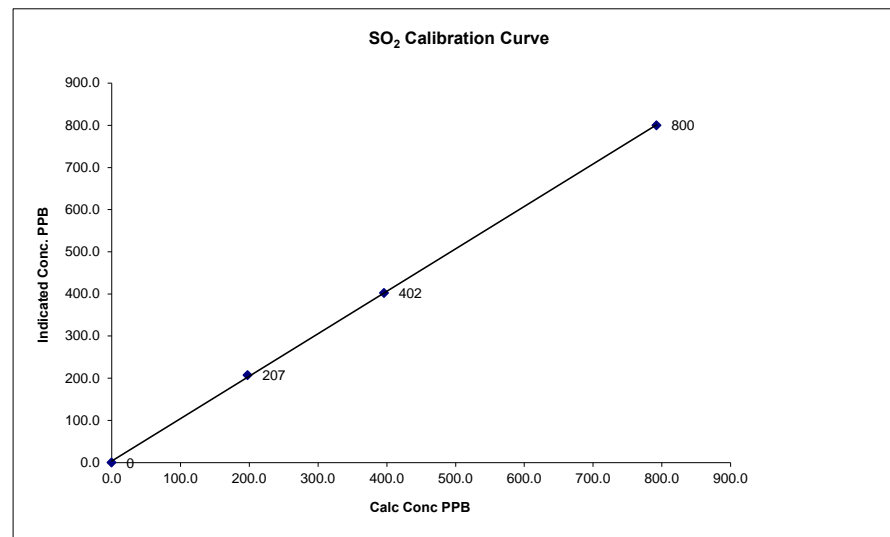
Notes: **N/A : Not applicable**
 Replaced UV lamp serial # 1118371, part #054710000
 IZS was not sadjusted as the analyzer was not stable after calibration.

Calibration Performed by: Limin Li / Waseem Ahmed

SO₂ Calibration Curve

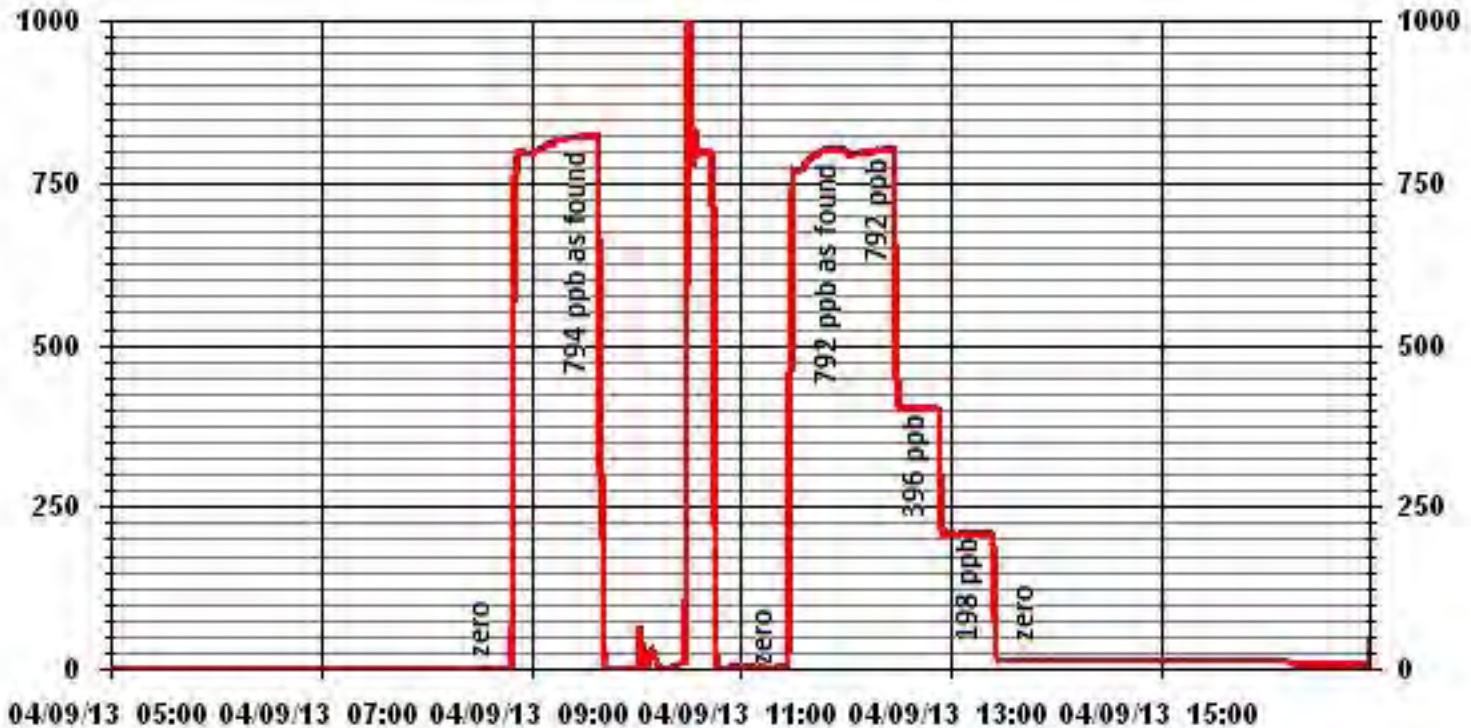
Calibration Date	April 9, 2013
Company	Lakeland Industry & Community Association
Plant / Location	Cold Lake - Maskwa
Start Time (MST)	12:00
End Time (MST)	15:15

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		0.999900
198	207	0.9546		1.006576
396	402	0.9856		3.405468
792	800	0.9906		



Notes:

01 Minute Averages



SO2 Calibration Report

Station Information

Calibration Date	April 10, 2013	Previous Calibration	April 10, 2013
Company	Lakeland Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	15:25	End Time (MST)	18:25
Reason:	Post-Repair Calibration		
Barometric Pressure	27.63 inHg	Station Temperature	20 Deg C
Cal Gas	49.8 ppm	Gas Cyl. #	LL67757
DAS Output Voltage	0 - 1 Volts	Cal Gas Expiry date	December 29, 2013
		Chart Rec. Output	NA Volts

Equipment Information

Analyzer Make / Model:	API 100E	S/N :	508	Method:	Fluorescent
Converter Make / Model:	NA	S/N :	NA		
Calibrator Make / Model:	API 700	S/N :	690	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO 791		
Chart Recorder Make / Model:	NA	S/N :	NA		
Flow Meter:	API 700	S/N :	690		

Analyzer Settings

Before Calibration			After Calibration		
Concentration Range	0 - 1000 ppb				
Sample Flow / Box Temp	588 ccm	27.5 Deg C	588 ccm	28.6 Deg C	
HVPS / Lamp Setting	491	44090	491	4049	
PMT / RxCell Temp	7.7 Deg C	49.8 Deg C	7.7 Deg C	50 Deg C	
Converter / IZS Temp	NA Deg C	45 Deg C	NA Deg C	45.0 Deg C	
Offset / Slope	50.2	0.959	47.9	0.953	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4995	0	0	-1	N/A
	No zero Adj.			
4920	79.7	794	794	1.0000
	No Span Adj.			
4960	39.9	397	395	1.0061
4980	20.0	199	195	1.0215
5000	0	0	-1	N/A
Sum of Least Squares				1.0020
New Correction Factor				1.0000

IZS Calibration Data

Before Calibration		After Calibration	
Auto Zero	1.3	Auto Zero	1.3
Auto Span	370.0	Auto Span	370.0
Sample Lines Connected		Sample Lines Connected	YES

Percent Change

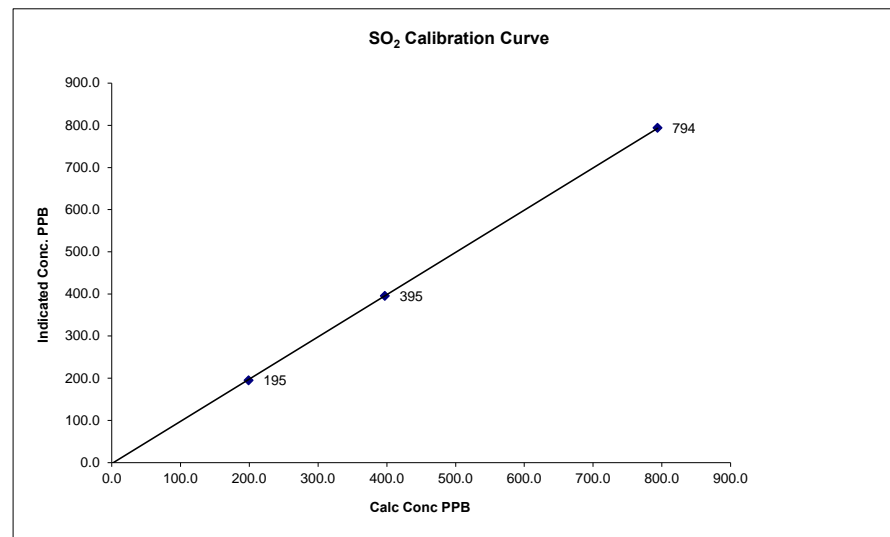
Previous Month's Calibration Correction Factor:	1.0036
Current Correction Factor Before Span Adjust:	1.0000
Percent Change:	0.4%

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

SO₂ Calibration Curve

Calibration Date	April 10, 2013
Company	Lakeland Industry & Community Association
Plant / Location	Cold Lake - Maskwa
Start Time (MST)	15:25
End Time (MST)	18:25

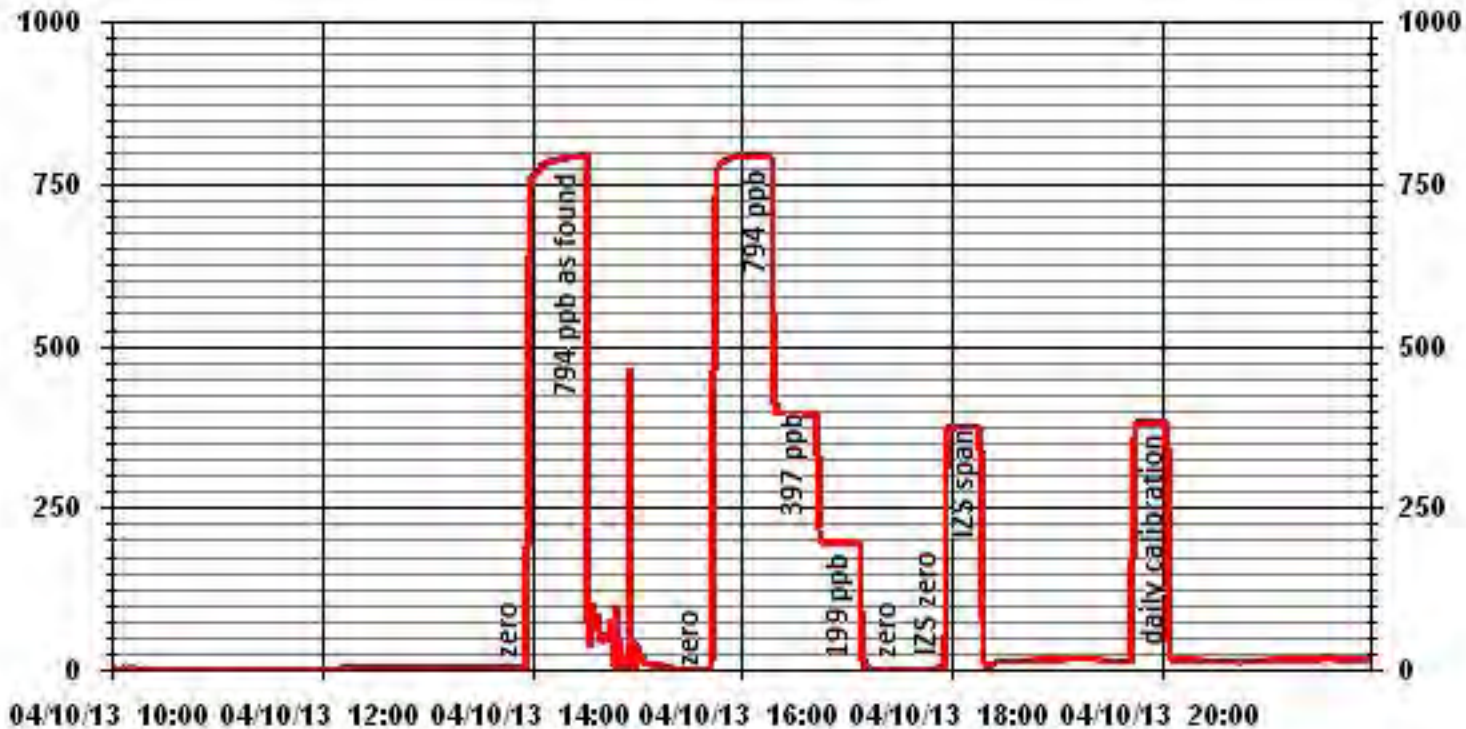
Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope Intercept	(≥ 0.995) (0.85 to 1.15) (± 3% F.S.)
0	-1	n/a		0.999977
199	195	1.0215		1.002652
397	395	1.0061		-2.789734
794	794	0.9998		



Notes:

Calibration Performed by: Limin Li

01 Minute Averages



SO2 Calibration Report

Station Information

Calibration Date	April 11, 2013	Previous Calibration	April 10, 2013
Company	Lakeland Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	13:30	End Time (MST)	16:05
Reason:	Repeat Post-Repair Calibration		
Barometric Pressure	27.67 inHg	Station Temperature	21 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	NA Volts

Equipment Information

Analyzer Make / Model:	API 100E	S/N :	508	Method:	Fluorescent
Converter Make / Model:	NA	S/N :	NA		
Calibrator Make / Model:	EnviroNics 6100	S/N :	4760	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO 791		
Chart Recorder Make / Model:	NA	S/N :	NA		
Flow Meter:	EnviroNics 6100	S/N :	4760		

Analyzer Settings

Before Calibration			After Calibration		
Concentration Range	0 - 1000 ppb				
Sample Flow / Box Temp	590 ccm	28.5 Deg C	587 ccm	29.5 Deg C	
HVPS / Lamp Setting	491	4037	491	4033	
PMT / RxCell Temp	7.7 Deg C	50 Deg C	7.7 Deg C	50 Deg C	
Converter / IZS Temp	NA Deg C	45 Deg C	NA Deg C	45.0 Deg C	
Offset / Slope	47.9	0.953	76.5	0.95	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4995	0	0	13	N/A
4995	0	0	-1	N/A
4915	79.8	792	800	0.9906
4915	79.8	792	795	0.9968
4955	39.9	396	391	1.0133
4975	19.9	198	195	1.0134
4995	0	0	-1	N/A
Sum of Least Squares				1.0007
New Correction Factor				0.9968

IZS Calibration Data

Before Calibration		After Calibration	
Auto Zero	0.0	Auto Zero	0.0
Auto Span	381.3	Auto Span	366.4
Sample Lines Connected		Sample Lines Connected	YES

Percent Change

Previous Month's Calibration Correction Factor:	1.0000
Current Correction Factor Before Span Adjust:	0.9906
Percent Change:	1.0%

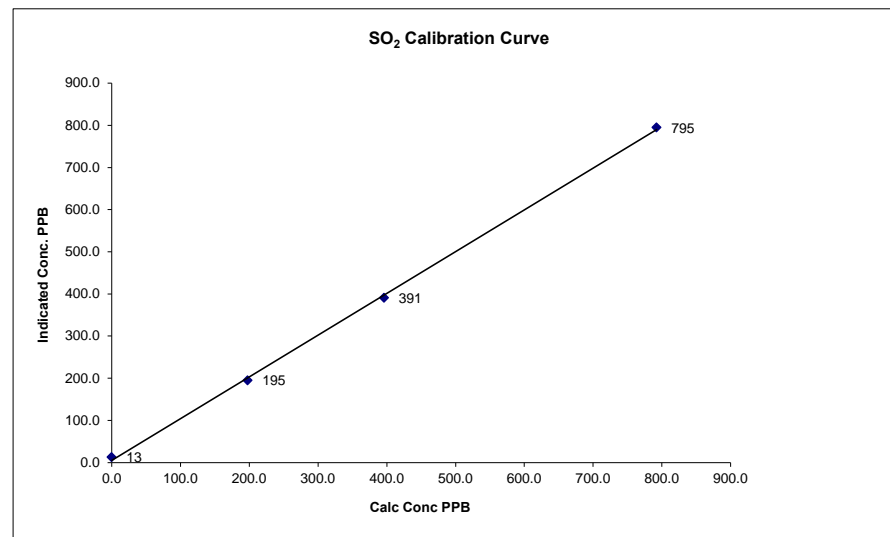
Notes: **N/A : Not applicable**

Calibration Performed by: Waseem Ahmed

SO2 Calibration Curve

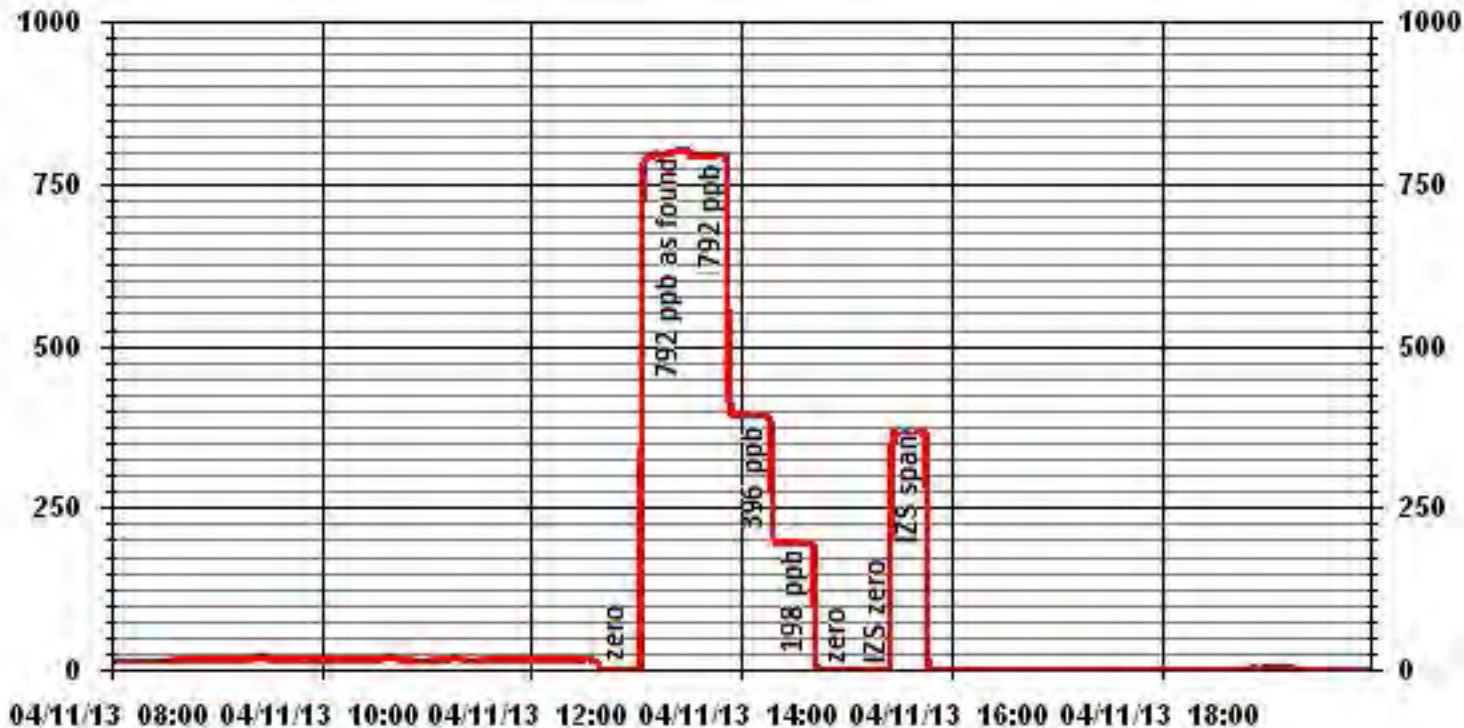
Calibration Date	April 11, 2013
Company	Lakeland Industry & Community Association
Plant / Location	Cold Lake - Maskwa
Start Time (MST)	13:30
End Time (MST)	16:05

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope Intercept	(≥ 0.995) (0.85 to 1.15) (± 3% F.S.)
0	13	n/a		0.999513
198	195	1.0134		0.990587
396	391	1.0133		5.196818
792	795	0.9968		



Notes:

01 Minute Averages



Hydrogen Sulphide

H2S Calibration Report

Station Information

Calibration Date	April 9, 2013	Previous Calibration	March 12, 2013
Company	Lakelnad Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	9:20	End Time (MST)	12:00
Reason:	Removal Calibration		
Barometric Pressure	28.31 inHg	Station Temperature	22 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 101A	S/N :	324	Method:	Fluorescent
Converter Make / Model:	Internal	S/N :	NA		
Calibrator Make / Model:	API 700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO 791		
Chart Recorder Make / Model:	Not in use	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	636 ccm	21.8 Deg C		635 ccm	22.1 Deg C
HVPS / Lamp Setting	636	4805		635	4801
PMT / RxCell Temp	7.1 Deg C	49.9 Deg C		7.1 Deg C	49.9 Deg C
Converter / IZS Temp	323.3 Deg C	45.1 Deg C		323.5 Deg C	45.1 Deg C
Offset / Slope	45.2	0.976		45.2	0.976

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	82	0.9854
	No Span Adj.			
4980	20.0	40	41	0.9854
4988	12.0	24	25	0.9696
5000	0	0	0	NA
Sum of Least Squares New Correction Factor				0.9843

IZS Calibration Data

		Before Calibration	After Calibration
Auto Zero		0.0	0.0
Auto Span		57.0	57.0
Sample Lines Connected			YES

Percent Change

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

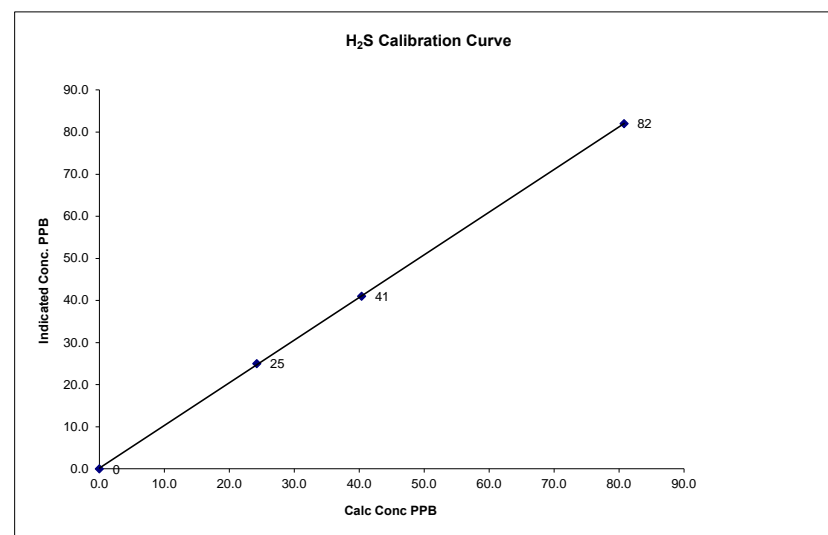
Notes: **NA : Not Applicable**

Calibration Performed by: Waseem Ahmed

H₂S Calibration Curve

Calibration Date	April 9, 2013		
Company	Lakelnad Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	9:20	End Time (MST)	12:00

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999968
0	0		Intercept	(± 3% F.S.)	0.150943
24	25	0.9696			
40	41	0.9854			
81	82	0.9854			



Notes:

H2S Calibration Report

Station Information

Calibration Date	April 9, 2013	Previous Calibration	-
Company	Lakelnad Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	13:05	End Time (MST)	17:40
Reason:	Installation Calibration		
Barometric Pressure	28.27 inHg	Station Temperature	22 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 :	511	Method:	Fluorescent
Converter Make / Model:	Internal	S/N :	NA		
Calibrator Make / Model:	API 700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	AO 791		
Chart Recorder Make / Model:		Not in use	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	525 ccm 30.2 Deg C	514 ccm 31.1 Deg C	
HVPS / Lamp Setting	548 2212	548 2218	
PMT / RxCell Temp	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	75.9 1.129	29.2 1.109	

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	40.0	81	81	1.0000
	No Span Adj.			
4980	20.0	40	40	1.0000
4988	12.0	24	23	1.0539
5000	0	0	-1	NA
Sum of Least Squares New Correction Factor				1.0034

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	-	0.0
Auto Span	-	57.0
Sample Lines Connected		YES

Percent Change

Previous Month's Calibration Correction Factor:	-
Current Correction Factor Before Span Adjust:	1.0000
Percent Change:	#VALUE!

Notes:

NA : Not Applicable

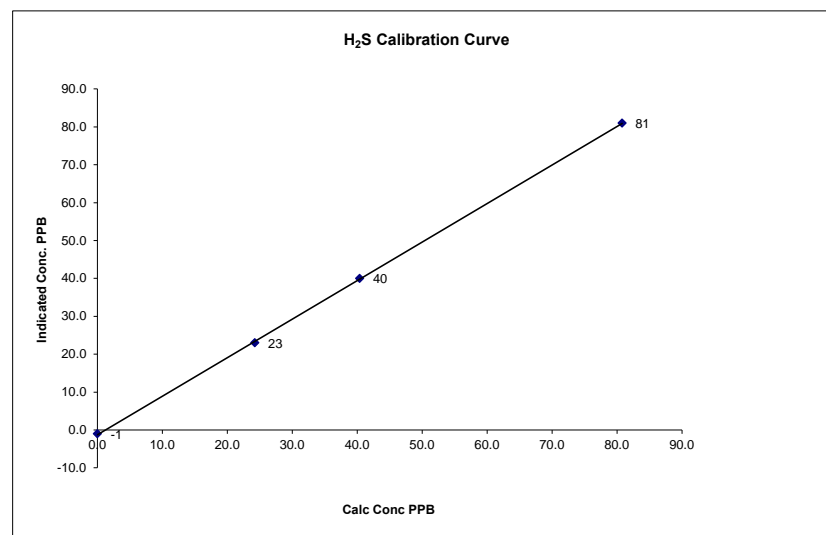
After calibration, it was noticed that the zero/span check system was not working. Will check it tomorrow.

Calibration Performed by: Limin Li / Waseem Ahmed

H₂S Calibration Curve

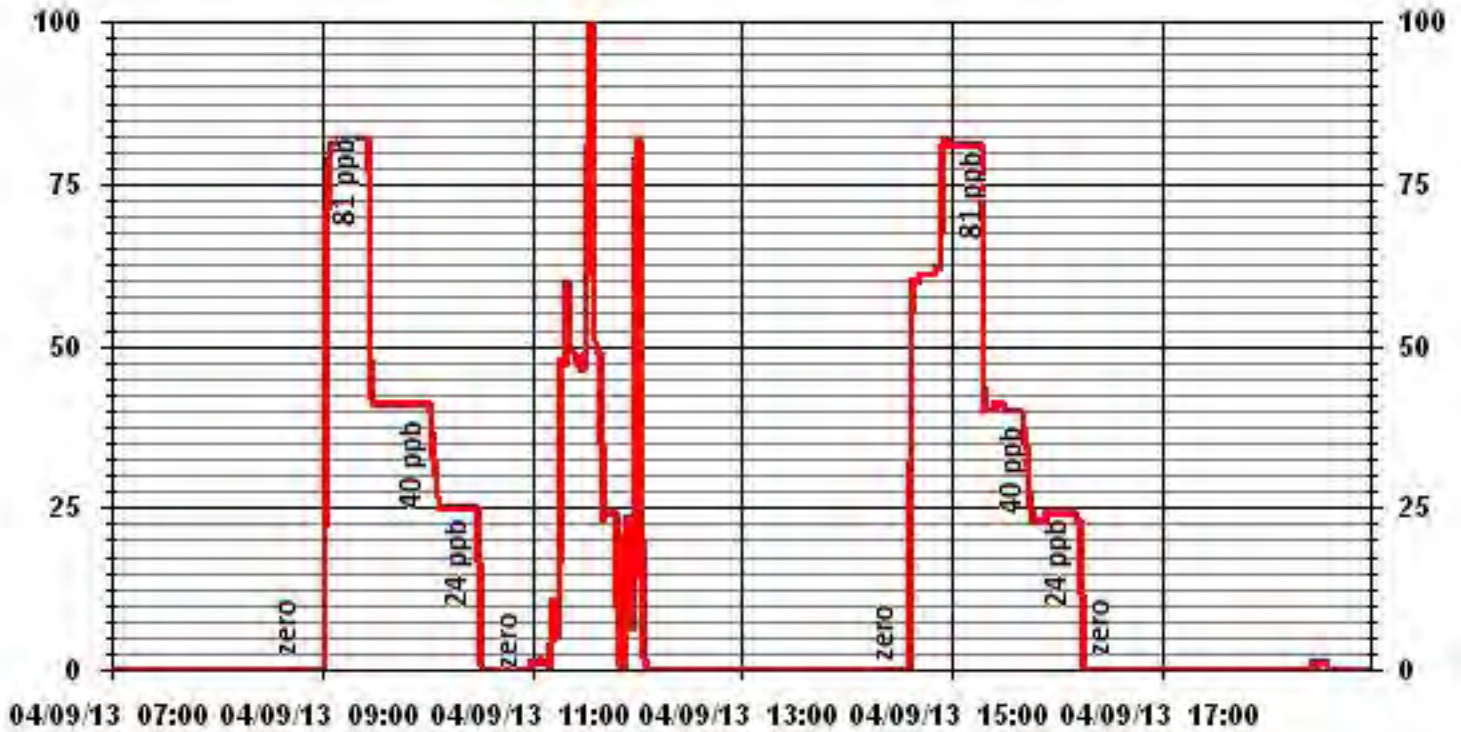
Calibration Date	April 9, 2013		
Company	Lakelnad Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	13:05	End Time (MST)	17:40

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999929
0	-1		Intercept	(± 3% F.S.)	-1.226415
24	23	1.0539			
40	40	1.0100			
81	81	0.9975			



Notes:

01 Minute Averages



— LICA30 H2S_ PPB

Total Hydrocarbons

THC Calibration Report

Station Information			
Calibration Date:	April 15, 2013	Previous Calibration	March 14, 2013
Company:	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location:	Maskwa		
Start Time (MST)	12:00	End Time (MST)	14:10
Reason:	Monthly Calibration		
Barometric Pressure:	28.14 inHg	Station Temperature:	22 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 :	AO 791
Chart Recorder:	NA	S/N:	NA
Output Voltage Range:	0 - 1 VDC	Chart Speed:	NA mm/hr

Analyzer Information

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

Analyzer Settings

	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	0.0	NA
	No Zero Adj.			
2000	73.8	41.3	41.6	0.9932
	No Span Adj.			
2000	36.8	21.0	21.0	1.0000
2000	20.0	11.5	11.4	1.0083
2000	0.0	0.0	0.0	NA
New Correction Factor:				0.9932

Percent Change

Previous Calibration Correction Factor:	0.9932
Current Correction Factor Before Span Adjust:	0.9932
Percent Change:	0.0%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	33.0	34.1
Sample Lines Connected	YES	

Cylinder Pressures			
Span	1725 psi	Hydrogen	1375 psi
		Zero Air	32 psi

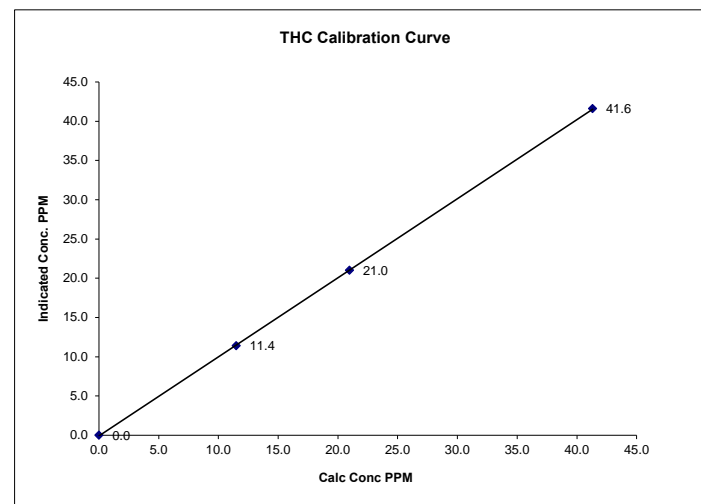
Notes: **NA : Not Applicable**

Calibration Performed by: Waseem Ahmed

THC Calibration Curve

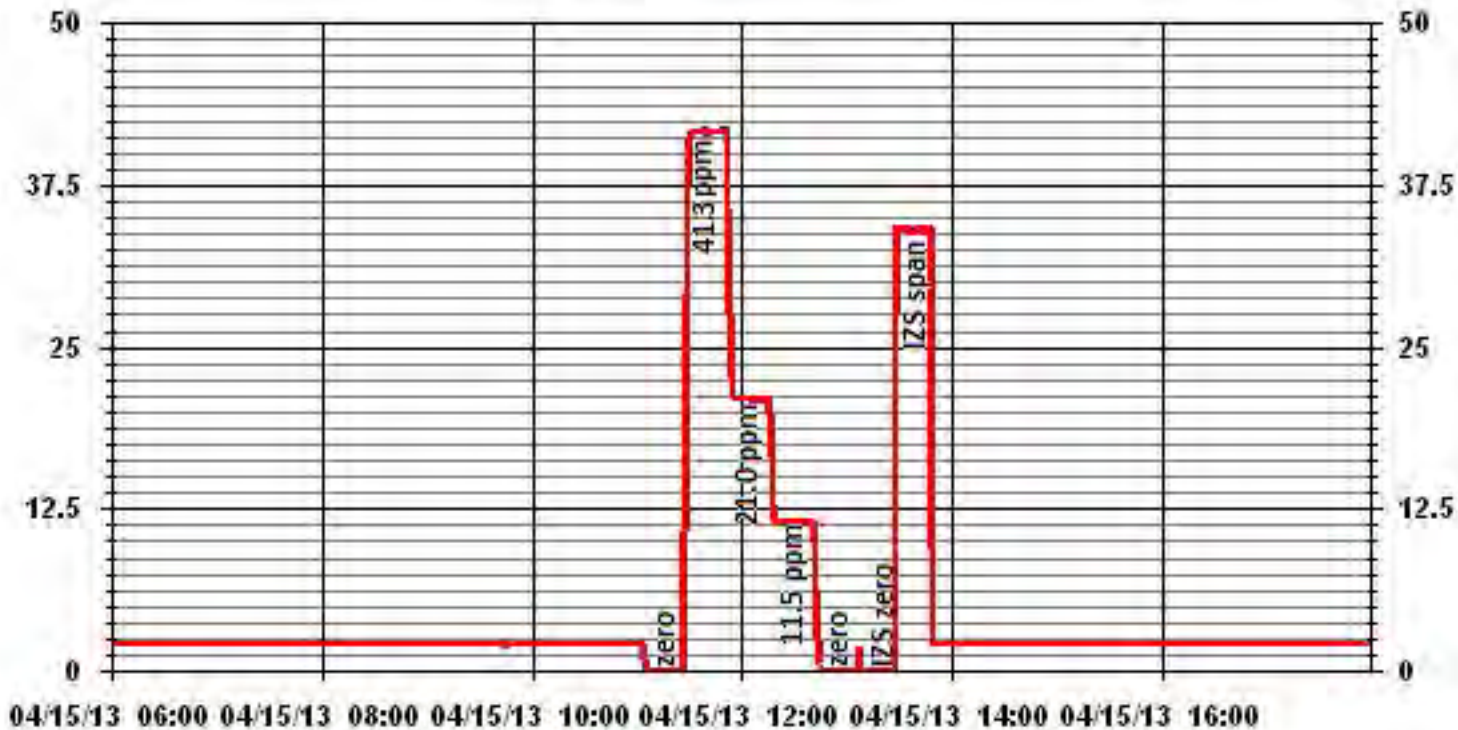
Calibration Date	April 15, 2013		
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location	Maskwa		
Start Time (MST)	12:00	End Time (MST)	14:10

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	NA	0.999976	1.007851	-0.09179
11.5	11.4	1.0083			
21.0	21.0	0.9989			
41.3	41.6	0.9932			



Notes:

01 Minute Averages

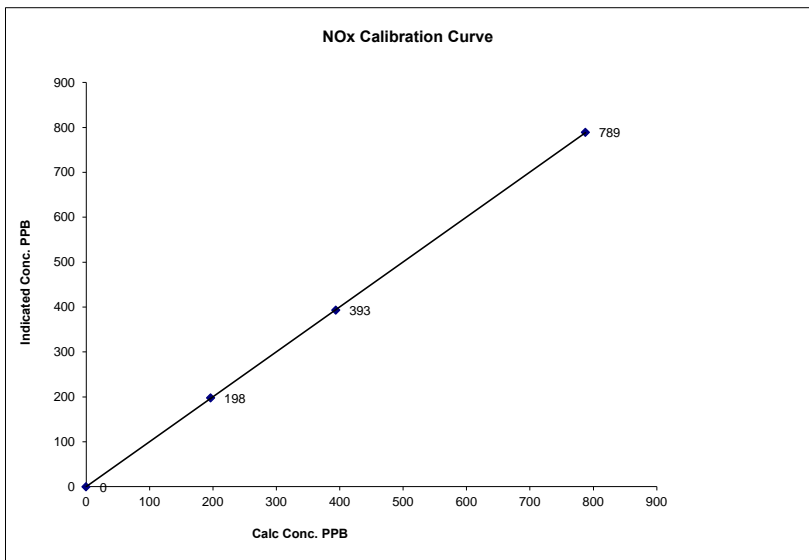


Nitrogen Dioxide

NOx Calibration Curve

Calibration Date	April 9, 2013	
Company	LICA	
Plant / Location	Maskwa	
Start Time (MST)	12:00	End Time (MST) 16:30

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999989
0	0	N/A	Slope (0.85 to 1.15)	1.000956
196	198	0.9920	Intercept (± 3% F.S.)	0.20134
394	393	1.0021		
788	789	0.9983		

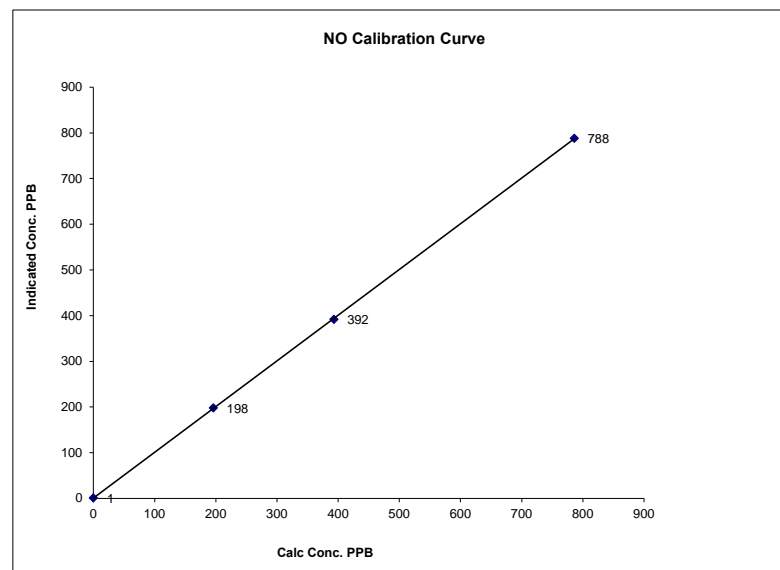


Notes:

NO Calibration Curve

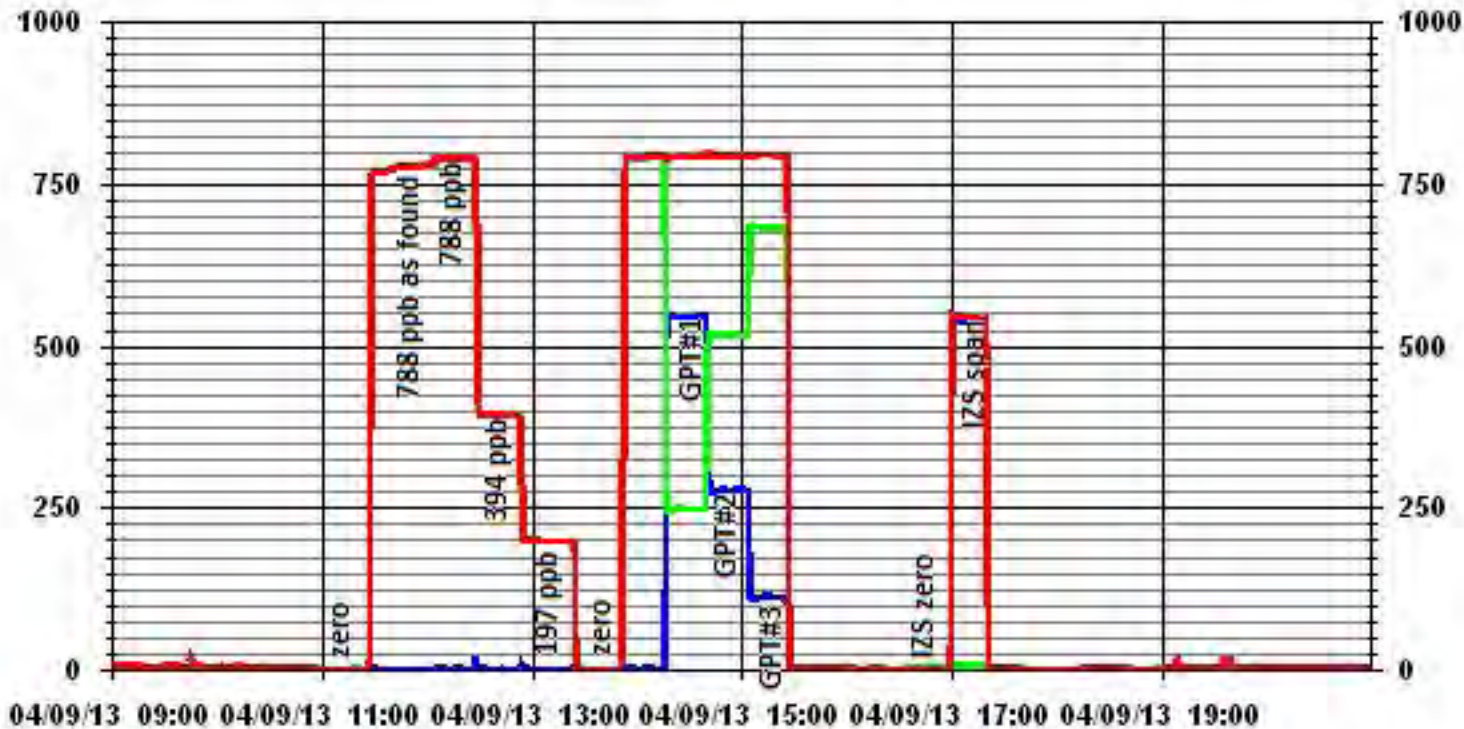
Calibration Date	April 9, 2013	
Company	LICA	
Plant / Location	Maskwa	
Start Time (MST)	12:00	End Time (MST) 16:30

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999983
0	1	N/A	Slope (0.85 to 1.15)	1.001026
196	198	0.9900	Intercept (± 3% F.S.)	-3.9841
393	392	1.0026		
786	788	0.9975		



Notes:

01 Minute Averages



Lakeland Industry & Community Association

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

Prepared By:



May 31, 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: April 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.

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 – April 2013

LICA ST. LINA 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		
SO2 (PPB)	172	48	0	0	0.59	9	9	11	14.6	193(S)	1.5	9	100.0
H2S (PPB)	10	3	0	0	0.92	3	29	3, 5	11.9, 15.6	108(ESE), 86(E)	1.5	18	100.0
THC (PPM)	-	-	-	-	2.02	2.6	VAR	VAR	VAR	VAR	2.2	VAR	100.0
OZONE (PPB)	82	-	0	-	44.8	60	2	16	10.1	207(SSW)	53.8	2	100.0
NOx (PPB)	-	-	-	-	1.43	7.8	22	8	9.6	239(WSW)	2.5	22	100.0
NO (PPB)	-	-	-	-	0.32	3.0	22	8	9.6	239(WSW)	1.1	28, 30	100.0
NO ₂ (PPB)	159	-	0	-	1.11	5.6	16	1	9.4	47(NE)	2.1	16	100.0
PM2.5 (ug/m3)	-	30	-	0	3.59	18	18	15	10.7	11(NNE)	9.0	17	97.9
TEMPERATURE (DEGREE C)	-	-	-	-	0.21	17.7	26	14	19.3	291(WNW)	11.8	26	100.0
BP (MILLIBAR)	-	-	-	-	926	942	16	VAR	VAR	VAR	940.0	16	100.0
RH (%)	-	-	-	-	60.17	89	20, 29	VAR	VAR	VAR	79.0	5	100.0
PRECIPITATION (MM)	-	-	-	-	0.02	2.8	20	5	7.7	271(W)	6.9	5	100.0
VECTOR WS (KPH)	-	-	-	-	12.69	28.7	28	0	-	317(NW)	15.3	30	100.0
VECTOR WD (DEGREES)	-	-	-	-	273(W)	-	-	-	-	-	-	-	100.0

VAR-VARIOUS

General Monthly Summary

Equipment Operation

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

AQM STATION – LICA – St. Lina

Sulphur Dioxide (PPB)

Analyzer make / model - API 100E, S/N: 468

The analyzer was working well throughout the month. The monthly calibration was performed on April 16th. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information.

Hydrogen Sulphide (PPB)

Analyzer make / model - API 101E, S/N: 510

The analyzer was working well throughout the month. The monthly calibration was performed on April 16th. The inlet filter was changed before the monthly calibration was started. An as found points check was performed on April 22nd to verify the analyzer's functionality. Data was corrected using daily zero information.

Ozone (PPB)

Analyzer make / model Thermo 49C, S/N: 49C-54926-302

The analyzer was working well throughout the month. The monthly calibration was performed on April 17th. 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: 77021-384 replaced to Thermo 51C-LT, S/N: 04366-09739

The analyzer did not span on April 1st due to emptying the span gas. The gas was replaced on April 5th. The monthly calibration was performed on April 16th. 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

The analyzer was working well throughout the month. The monthly calibration was performed on April 16th. 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 routine Teom audits were performed on April 16th and April 22nd. 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 15 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.

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.

Relative Humidity (%)

Analyzer make / model - Met One 083

The RH sensor was working well throughout the month.

Precipitation (MM)

Analyzer make / model - Met One 387

No issues were recorded this month.

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 12th, 2012 by the manufacturer.

No issues were recorded this month.

Datalogger

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

Software make/version - ESC v 5.51a

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

Trailer

Both the sample inlet and glass manifold were cleaned on April 16th.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 2013

SULPHUR DIOXIDE (SO₂) hourly averages in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	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	1	1	0	1	0	0	0	1	1	1	1	S	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	24
2	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
3	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	1	0.6	24
4	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	2	1	1	1	1	1	1	2	2	2	1.1	24
5	2	2	2	2	2	2	2	S	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	2	2	1.2	24
6	0	0	0	0	0	0	S	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
7	0	0	1	1	1	S	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24
8	0	0	1	0	S	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24
9	0	0	0	S	0	0	0	0	0	0	1	9	4	4	3	2	3	3	1	1	1	1	1	1	9	1.5	24	
10	1	1	S	0	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	24
11	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	1	0.0	24
12	S	0	0	0	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	S	1	0.8	24	
13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	S	0	1	0.9	24	
14	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	
15	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	S	1	1	1	1	1	0.2	24
16	1	1	1	1	1	1	1	1	C	C	C	C	1	1	S	1	1	1	1	S	1	1	1	1	1	1.0	24	
17	1	1	1	1	1	1	1	1	1	1	1	S	S	0	1	1	3	2	S	0	0	0	0	2	3	1.0	24	
18	5	2	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	S	0	0	0	0	0	0	5	0.7	24	
19	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	S	0	0	0	0	0	0	0	1	0.5	24	
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	1	1	1	1	0	0	0	1	0.2	24	
21	0	0	1	1	0	0	0	0	1	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	1	0.1	24
22	0	0	0	0	0	0	0	1	1	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	1	0.1	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	24	
24	0	0	0	0	0	0	0	0	0	0	1	S	1	1	1	1	2	2	2	2	2	1	1	1	2	0.8	24	
25	1	1	1	2	2	3	2	2	2	2	S	1	1	1	1	0	0	0	0	0	0	0	0	0	3	1.0	24	
26	0	0	0	1	1	1	1	1	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24	
27	0	0	0	0	0	0	0	0	S	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0.5	24	
28	0	0	0	0	0	0	0	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	0.7	24	
29	1	1	2	2	2	2	S	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	2	0.8	24		
30	0	0	0	0	0	S	1	1	1	1	1	1	0	1	1	1	0	0	0	0	0	0	0	1	0.4	24		
HOURLY MAX	5	2	2	2	2	3	2	2	2	2	1	9	4	4	3	2	3	3	2	2	2	1	1	2				
HOURLY AVG	0.6	0.4	0.5	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.6	0.9	0.7	0.7	0.7	0.6	0.7	0.7	0.5	0.5	0.5	0.4	0.4	0.5				

STATUS FLAG CODES

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

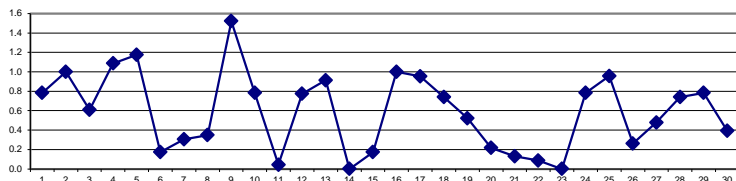
OBJECTIVE LIMIT:

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

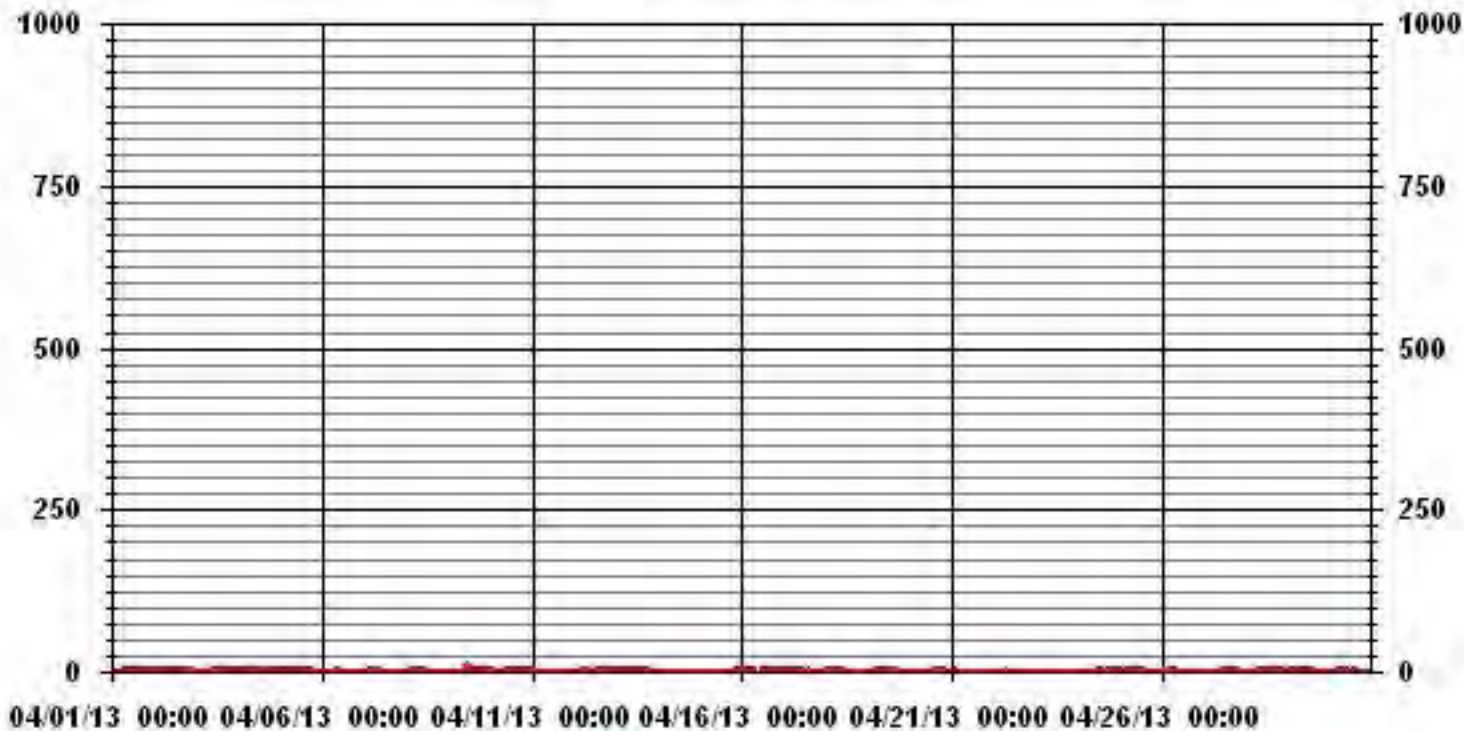
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	343
MAXIMUM 1-HR AVERAGE:	9 PPB @ HOUR(S) 11 ON DAY(S) 9
MAXIMUM 24-HR AVERAGE:	1.5 PPB ON DAY(S) 9
I/ZS CALIBRATION TIME:	34 HRS
MONTHLY CALIBRATION TIME:	4 HRS
STANDARD DEVIATION:	0.74
OPERATIONAL TIME:	720 HRS
AMD OPERATION UPTIME:	100.0 %
MONTHLY AVERAGE:	0.59 PPB

24 HOUR AVERAGES FOR APRIL 2013



01 Hour Averages



— LICA31 SO2_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 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		2	1	1	1	1	1	1	1	1	1	1	S	1	1	1	2	2	2	2	2	2	2	2	2	2	2	1.4	24	
2		2	2	2	2	2	2	2	2	2	2	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.0	24	
3		2	1	1	1	1	1	1	1	1	S	2	2	1	2	2	2	1	2	2	1	1	2	1	1	2	1	1.4	24	
4		2	2	2	2	1	2	1	2	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.9	24	
5		3	3	3	3	3	3	S	S	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	3	2.0	24	
6		1	1	1	1	1	1	S	1	2	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1	24	
7		1	1	1	2	2	S	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.3	24	
8		1	1	1	1	S	2	2	2	2	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.3	24	
9		1	1	1	S	1	1	1	1	1	1	6	22	6	6	6	3	5	4	3	2	2	2	2	2	2	22	3.5	24	
10		2	2	S	1	1	1	1	1	1	2	1	4	2	2	2	2	2	2	2	2	2	2	2	2	2	4	1.8	24	
11		2	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	0	1	2	0.8	24	
12		S	2	1	1	2	1	2	2	2	2	1	1	2	1	1	2	2	2	2	2	2	2	2	2	S	2	1.7	23	
13		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	S	1	2	1.9	24
14		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1.0	24	
15		1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	S	2	2	2	2	1.2	24	
16		2	2	2	2	2	2	2	2	C	C	C	C	2	S	S	2	2	2	2	S	2	2	2	2	2	2	2.0	24	
17		2	2	2	2	2	2	2	2	2	2	2	S	S	2	3	2	5	5	S	1	1	1	1	5	5	2.3	24		
18		6	4	2	2	2	1	1	2	2	1	1	1	2	1	1	1	1	S	1	1	1	1	1	1	1	6	1.6	24	
19		1	1	1	1	1	2	2	2	2	1	2	2	2	2	2	S	1	1	1	1	1	1	1	1	1	2	1.4	24	
20		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	2	2	2	2	2	1	1	1	1	2	1.2	24	
21		1	1	2	2	1	1	1	2	3	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	3	1.2	24	
22		1	1	1	1	1	1	1	2	2	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	2	1.1	24	
23		1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24	
24		1	1	1	1	1	1	1	1	1	1	2	S	2	2	2	3	3	3	3	3	3	2	2	2	3	1.8	24		
25		2	2	2	2	3	3	3	3	3	3	S	2	2	2	2	1	1	1	1	1	1	1	1	1	1	3	1.9	24	
26		1	1	1	2	2	2	2	2	S	2	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	2	1.3	24	
27		1	1	1	1	1	1	1	1	S	1	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	2	1.4	24	
28		1	1	1	1	1	1	1	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.7	24	
29		2	2	3	2	3	3	S	1	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	3	1.6	24	
30		1	1	1	1	1	S	2	2	2	2	2	2	1	1	2	1	1	1	1	1	1	1	1	1	1	2	1.3	24	
HOURLY MAX		6	4	3	3	3	3	3	3	3	3	6	22	6	6	6	3	5	5	3	3	3	2	2	5					
HOURLY AVG		1.6	1.5	1.4	1.4	1.5	1.5	1.4	1.6	1.7	1.5	1.7	2.4	1.7	1.6	1.7	1.6	1.7	1.7	1.5	1.4	1.3	1.4	1.3	1.4					

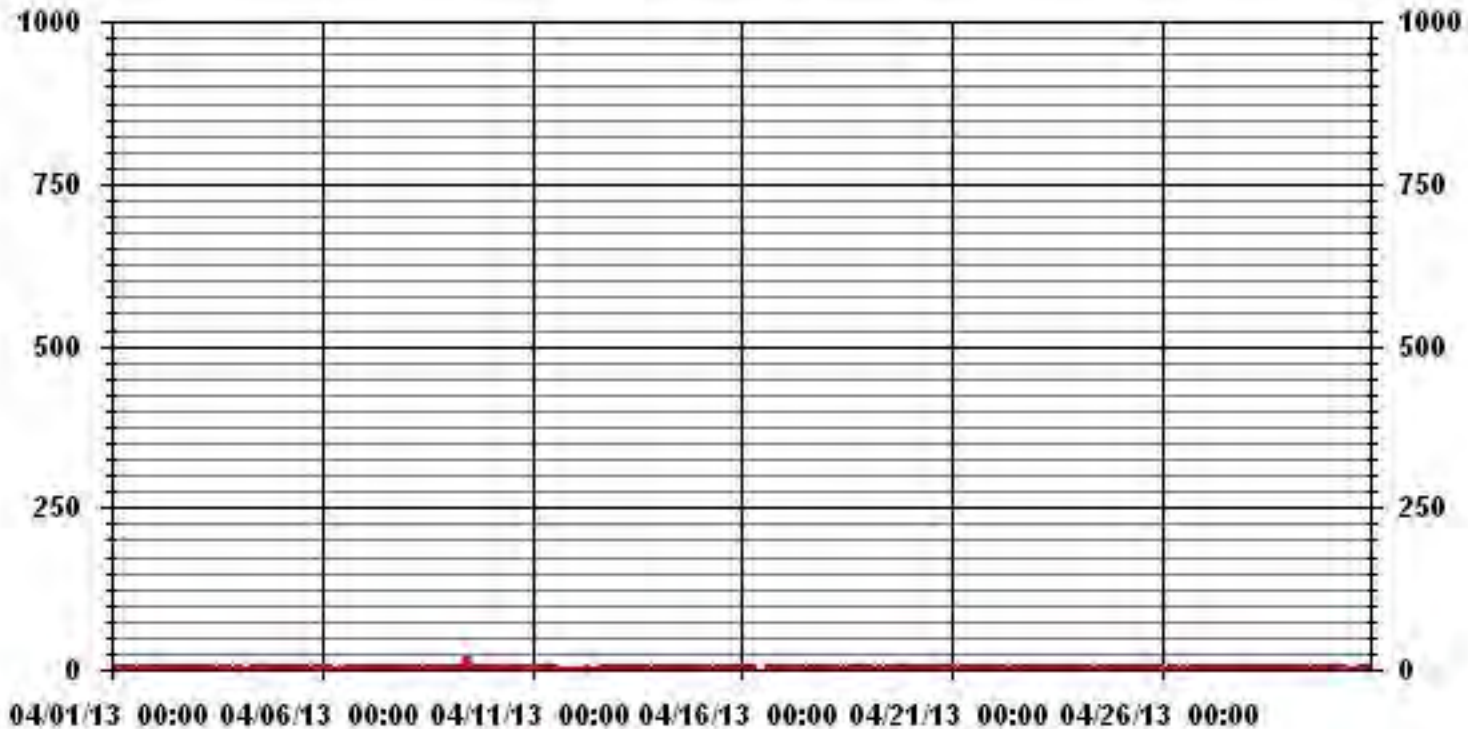
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	675
MAXIMUM INSTANTANEOUS VALUE:	22 PPB @ HOUR(S) 11 ON DAY(S) 9
IZS CALIBRATION TIME:	36 HRS
MONTHLY CALIBRATION TIME:	4 HRS
STANDARD DEVIATION:	1.09
OPERATIONAL TIME:	719 HRS

01 Hour Averages



— LICA31 SO2MAX PPB

LICA31
SO2_ / WDR Joint Frequency Distribution (Percent)

April 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	3.51	4.10	6.30	9.09	3.95	5.27	3.51	8.21	8.06	5.27	6.01	7.47	6.30	6.01	9.23	7.62	100.00
< 60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 170	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.51	4.10	6.30	9.09	3.95	5.27	3.51	8.21	8.06	5.27	6.01	7.47	6.30	6.01	9.23	7.62	

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	24	28	43	62	27	36	24	56	55	36	41	51	43	41	63	52	682
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	24	28	43	62	27	36	24	56	55	36	41	51	43	41	63	52	

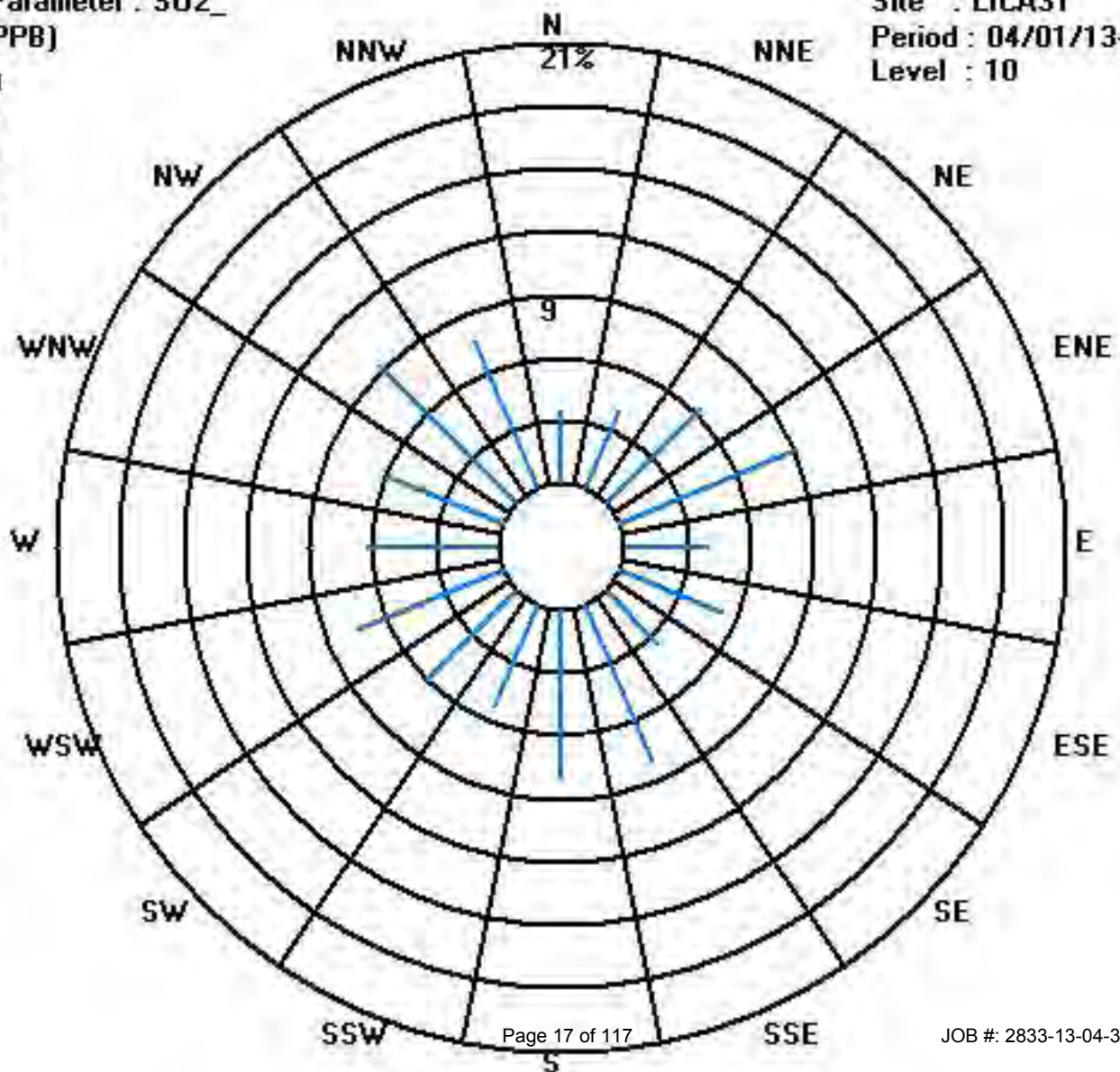
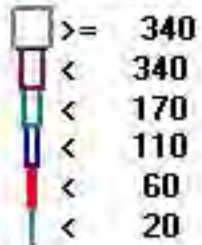
Calm : .00 %

Total # Operational Hours : 682

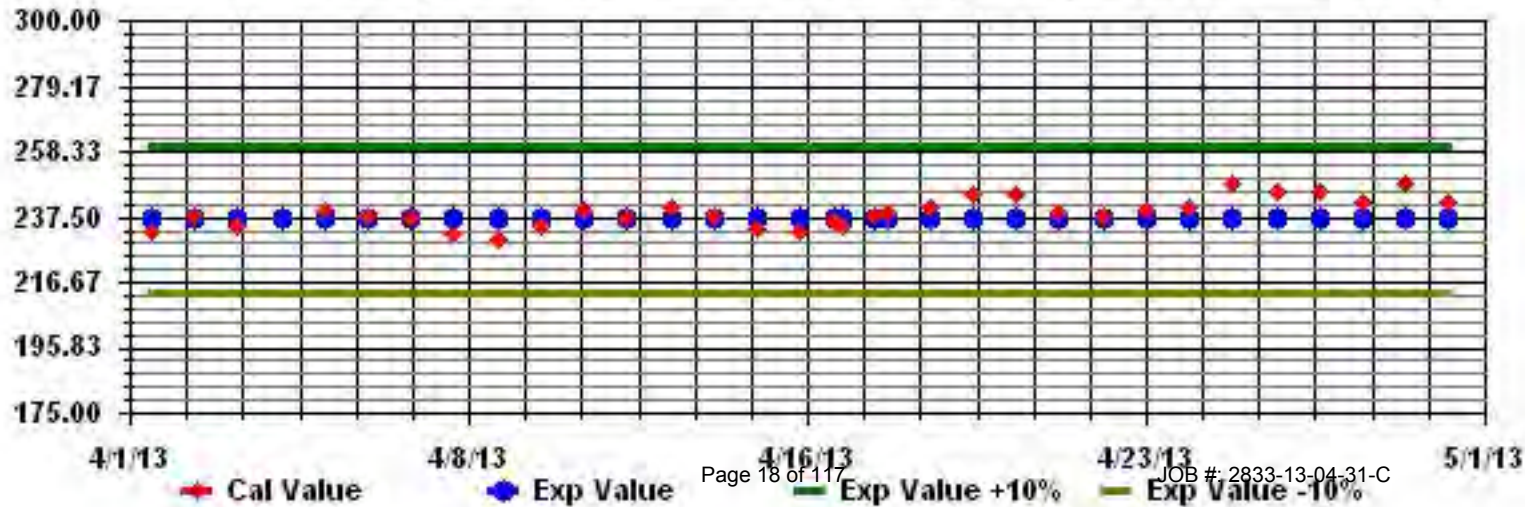
Class Limits (PPB)

Period : 04/01/13-04/30/13

Level : 10



Calibration Graph for Site: LICA31 Parameter: S02_ Sequence: S02 Phase: SPAll



Hydrogen Sulphide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 2013

HYDROGEN SULPHIDE (H₂S) 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	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24	
2	1	1	1	1	1	1	1	1	2	2	2	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1	24
3	1	1	1	1	1	0	0	0	0	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	24
4	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	2	1	2	2	2	2	2	2	2	2	2	2	1.3	24
5	2	2	2	2	2	2	2	2	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.3	24
6	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
7	1	1	1	1	1	S	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	24
8	0	0	0	0	S	1	S	S	0	1	1	0	1	0	0	0	1	0	0	1	0	0	1	0	1	0	1	0.4	24	
9	0	0	0	S	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0.5	24	
10	1	2	S	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2	2	2	2	2	2	2	2	2	2	2	1.4	24
11	2	S	1	1	1	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.4	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	0	1	S	1	0.0	24
13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	S	1	1	0.7	24	
14	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	1.0	24	
15	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	1	1.0	24	
16	1	1	1	1	1	1	C	C	C	C	C	C	C	1	0	S	0	0	0	0	S	0	0	1	1	1	1	0.6	24	
17	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	2	2	1.0	24	
18	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	S	0	0	1	0	1	1	2	2	1.5	24	
19	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	2	2	2	2	2	1.1	24	
20	1	2	2	2	2	2	2	2	2	2	2	2	1	2	2	1	S	1	1	1	1	1	1	1	0	2	2	1.5	24	
21	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	S	1	1	1	1	1	1	1	1	1	1	1	0.5	24	
22	1	1	1	1	1	1	1	1	1	1	1	C	C	1	S	1	1	1	2	1	1	1	1	1	1	1	2	1.0	24	
23	1	2	2	2	2	2	2	2	2	2	2	2	2	S	1	1	1	1	1	1	1	1	0	1	1	2	2	1.4	24	
24	1	0	1	1	1	1	1	1	1	1	1	1	S	1	1	2	2	1	0	0	0	0	0	0	0	0	2	0.7	24	
25	0	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	1	0.0	24	
26	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	1	0.6	24	
27	1	1	1	1	1	1	1	1	1	S	1	1	2	2	2	2	2	2	2	2	2	1	1	1	1	1	2	1.3	24	
28	1	1	1	0	0	0	0	0	S	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.4	24	
29	2	2	2	3	2	3	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1.3	24	
30	1	0	1	0	0	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1	0.7	24	
HOURLY MAX		2	2	2	3	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2			
HOURLY AVG		1.0	0.9	1.0	1.0	0.9	1.0	0.8	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.8	0.8	0.8	0.8	1.0	0.9					

STATUS FLAG CODES

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

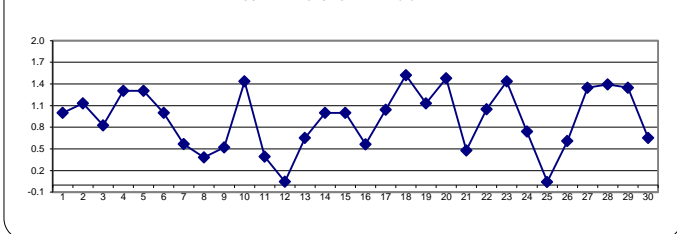
OBJECTIVE LIMIT:

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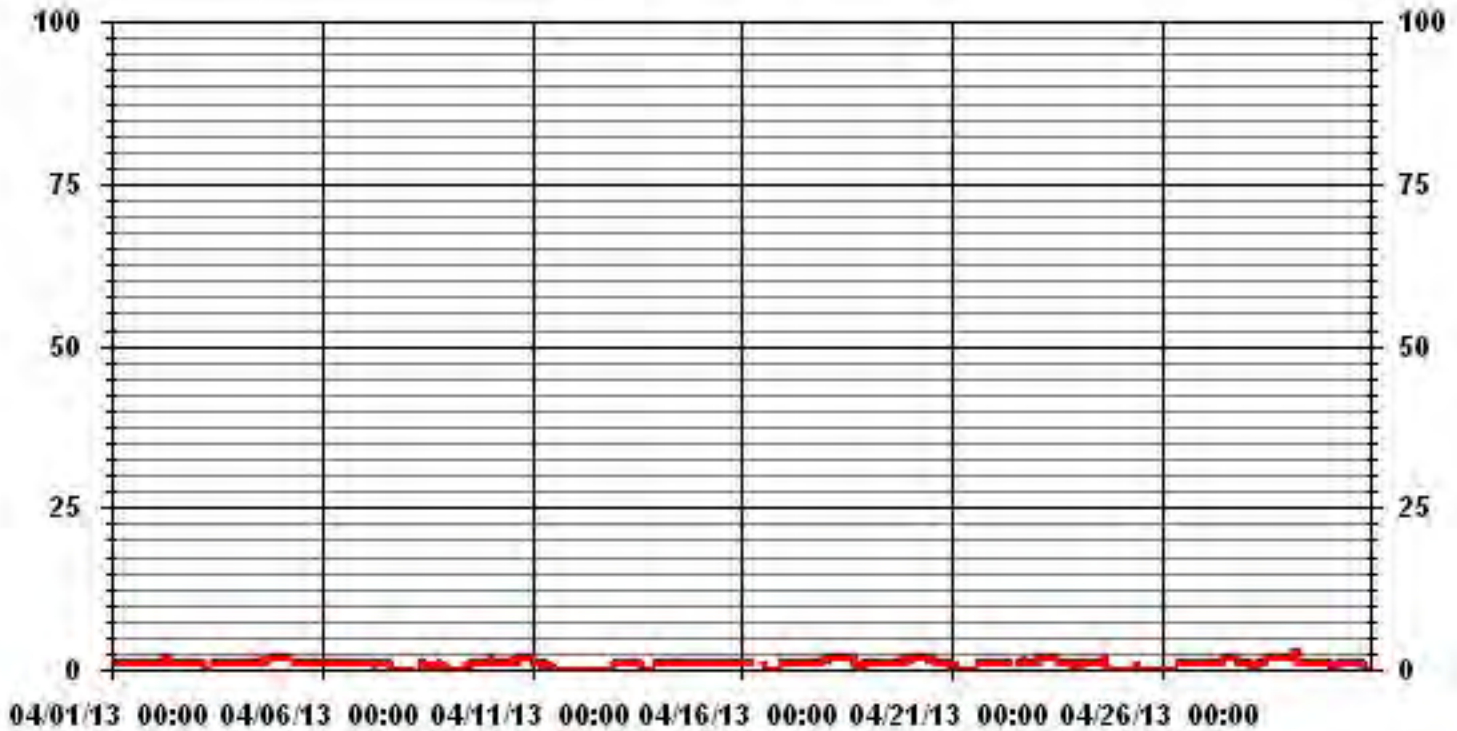
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	521					
MAXIMUM 1-HR AVERAGE:	3	PPB	@ HOUR(S)	3, 5	ON DAY(S)	29
MAXIMUM 24-HR AVERAGE:	1.5	PPB			ON DAY(S)	18
					VAR-VARIOUS	
IZS CALIBRATION TIME:	34	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	0.62		MONTHLY AVERAGE:	0.92	PPB	

24 HOUR AVERAGES FOR APRIL 2013



01 Hour Averages



— LICA31 H2S_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 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			
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		1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1.0	24	
2		1	1	1	2	2	2	2	2	2	S	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	2	1.3	24	
3		1	1	1	1	1	1	1	1	0	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
4		1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	1.4	24	
5		2	2	2	3	3	3	S	S	2	1	2	2	2	2	2	2	1	1	1	1	1	1	1	1	3	1.7	24		
6		1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24	
7		1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	1	0.8	24		
8		0	0	0	0	S	1	S	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	24		
9		1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1.1	24		
10		2	2	S	1	1	1	1	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.7	24		
11		2	S	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1	1	1	0	0	1	2	0.8	24		
12		S	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	1	1	1	1	S	1	0.3	24		
13		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	S	1	1	0.9	24		
14		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	2	2	2	1.1	24		
15		2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	S	1	1	1	2	1.8	24		
16		1	1	1	1	1	1	C	C	C	C	C	C	1	S	S	1	1	0	1	S	1	1	1	1	1	0.9	24		
17		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	S	2	2	2	2	2	2	1.3	24		
18		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	S	1	1	1	1	1	1	1	1.7	24		
19		1	1	1	1	1	1	1	1	1	1	1	2	1	2	2	2	S	2	2	2	2	2	2	2	2	1.5	24		
20		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	S	2	1	1	1	1	1	1	1	1	1.7	24		
21		1	1	1	1	1	1	1	1	0	0	0	1	0	1	S	2	2	1	1	1	1	1	1	1	1	0.9	24		
22		1	1	1	1	1	1	1	2	2	C	C	C	1	S	2	2	2	2	2	2	2	2	2	2	2	1.6	24		
23		2	2	2	2	2	2	2	2	2	2	2	2	S	1	1	1	1	1	1	1	1	1	1	1	1	1.5	24		
24		1	1	1	1	1	1	1	1	1	1	1	S	1	2	3	3	2	0	0	0	0	0	0	0	3	1.0	24		
25		0	0	0	1	1	1	1	1	1	1	S	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0.5	24		
26		0	0	0	1	0	0	0	0	0	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	24		
27		1	1	1	1	1	1	1	1	1	S	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1.5	24		
28		1	1	1	1	1	1	1	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	1.8	24		
29		3	3	3	3	3	3	S	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	3	1.8	24		
30		1	1	1	1	1	1	S	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1	24		
HOURLY MAX		3	3	3	3	3	3	2	2	2	2	2	2	2	2	3	3	2	2	2	2	2	3	3	3					
HOURLY AVG		1.2	1.1	1.1	1.2	1.2	1.3	1.2	1.2	1.3	1.2	1.3	1.3	1.2	1.3	1.4	1.3	1.2	1.1	1.1	1.2	1.1	1.1	1.2	1.2					

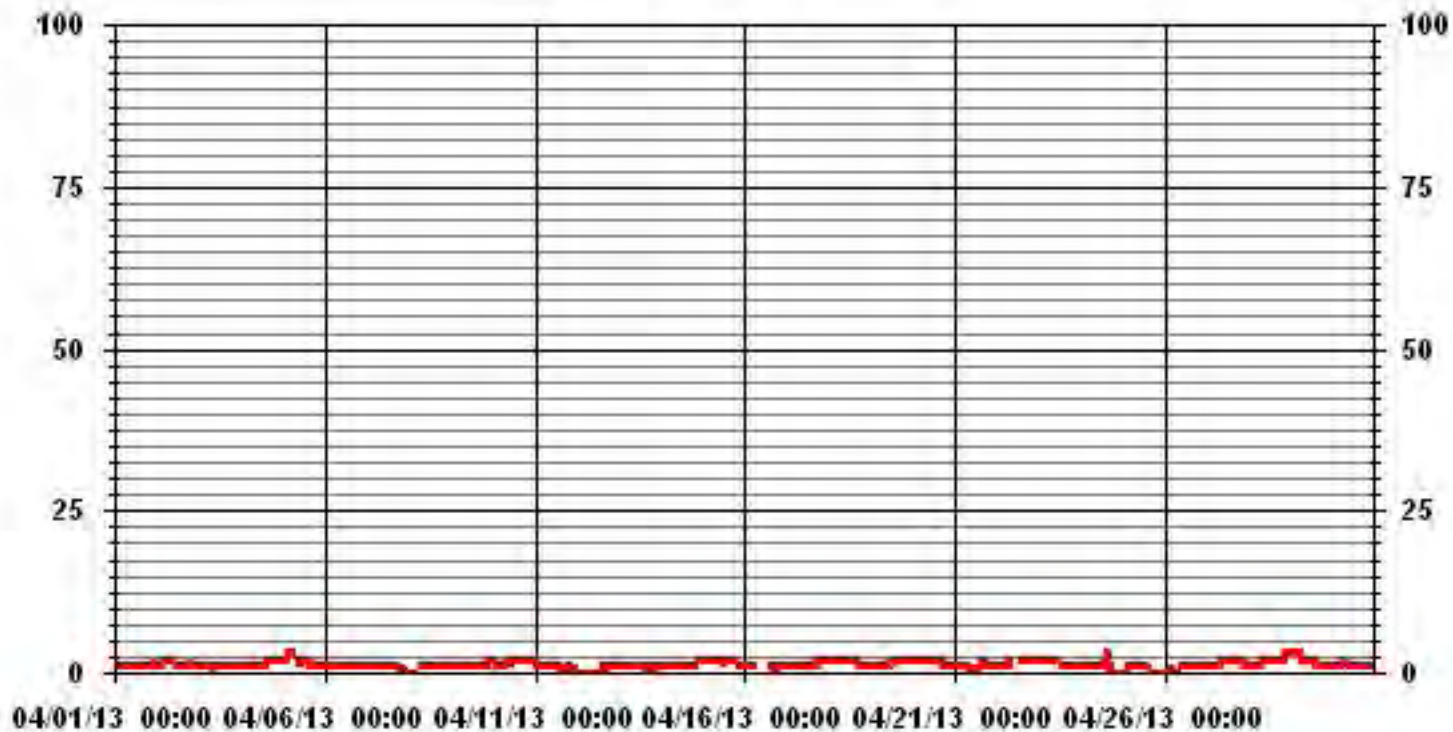
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	611					
MAXIMUM INSTANTANEOUS VALUE:	3	PPB	@ HOUR(S)	VAR	ON DAY(S)	VAR
IZS CALIBRATION TIME:	36	HRS	OPERATIONAL TIME:	720 HRS		
MONTHLY CALIBRATION TIME:	9	HRS				
STANDARD DEVIATION:	0.63					

01 Hour Averages



— LICA31 H2S MAX PPB

LICA31
H2S_ / WDR Joint Frequency Distribution (Percent)

April 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	3.53	4.12	5.75	9.14	3.83	5.16	3.53	8.25	8.11	5.60	6.04	7.37	6.34	5.89	9.29	7.66	99.70
< 10	.00	.00	.00	.00	.14	.14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.29
< 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.53	4.12	5.75	9.14	3.98	5.30	3.53	8.25	8.11	5.60	6.04	7.37	6.34	5.89	9.29	7.66	

Calm : .00 %

Total # Operational Hours : 678

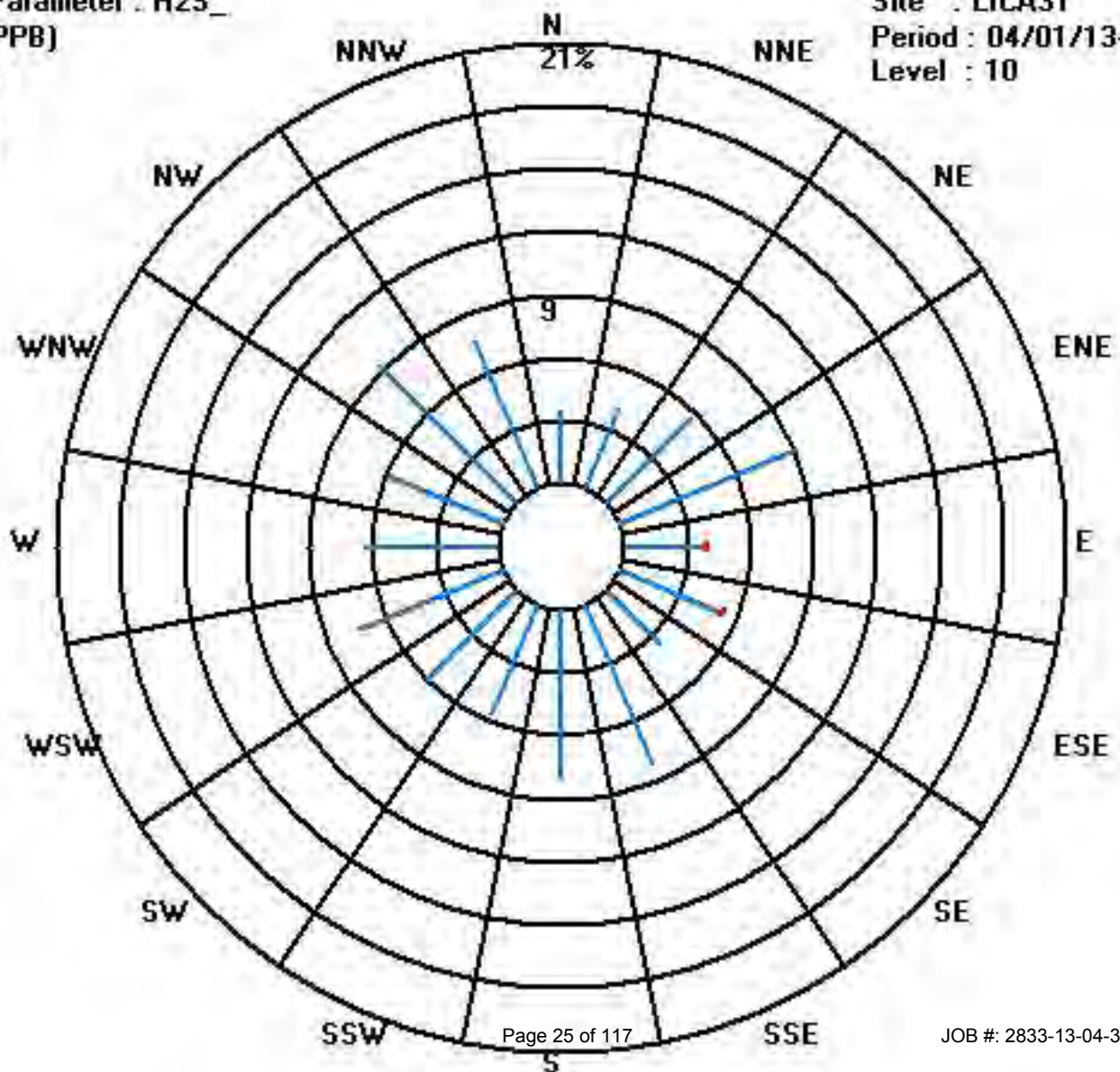
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	24	28	39	62	26	35	24	56	55	38	41	50	43	40	63	52	676
< 10					1	1											2
< 50																	
>= 50																	
Totals	24	28	39	62	27	36	24	56	55	38	41	50	43	40	63	52	

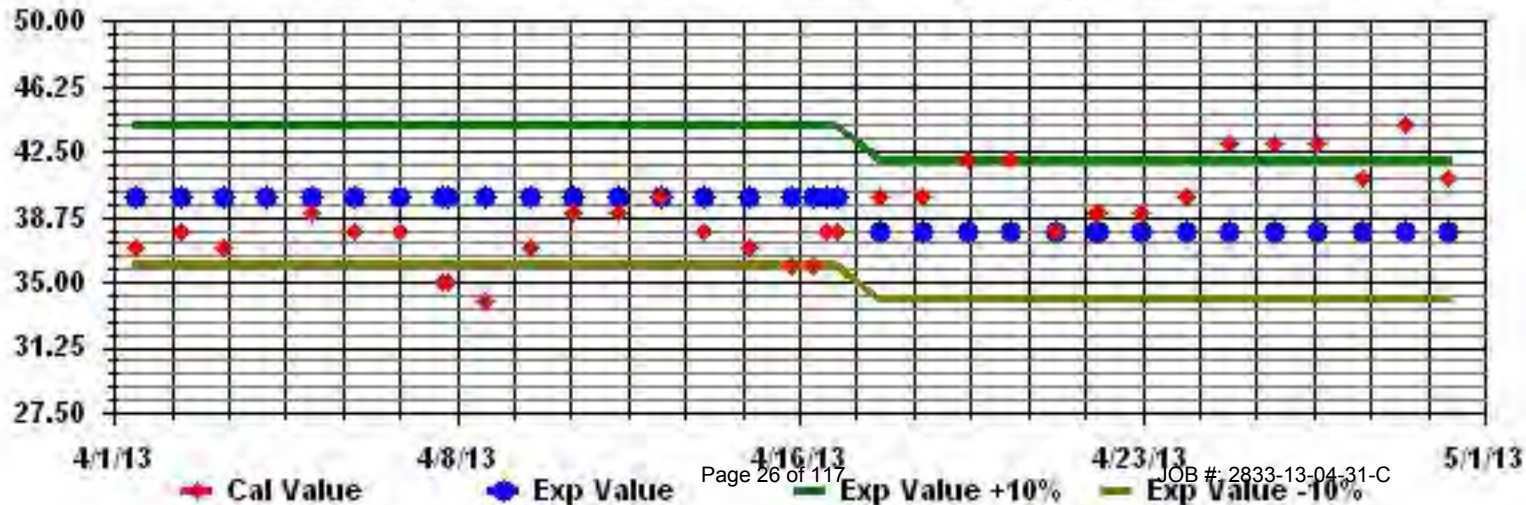
Calm : .00 %

Total # Operational Hours : 678

Class Limits (PPB)



Calibration Graph for Site: LICA31 Parameter: H2S_ Sequence: H2S Phase: SPAll



Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 2013

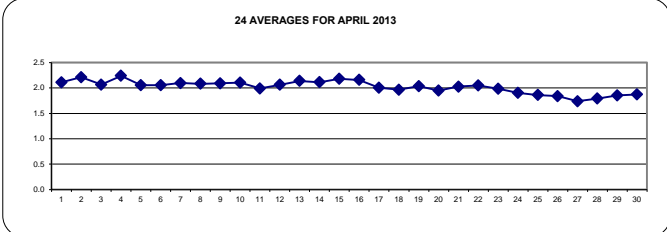
TOTAL HYDROCARBONS hourly averages in ppm

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

STATUS FLAG CODES

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

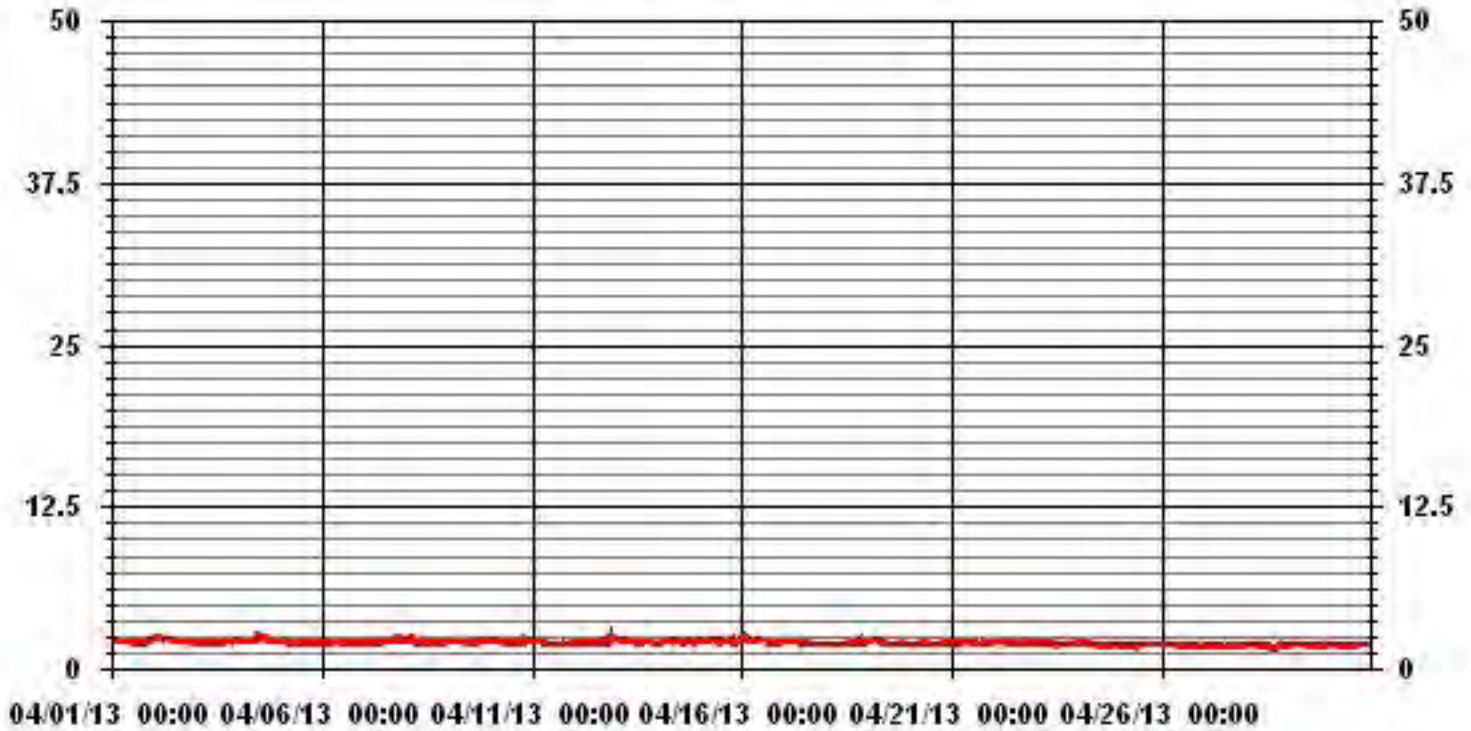
24 AVERAGES FOR APRIL 2013



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	684					
MAXIMUM 1-HR AVERAGE:	2.6	PPM	@ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 24-HR AVERAGE:	2.2	PPM			ON DAY(S)	VAR
					VAR- VARIOUS	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	0.16		MONTHLY AVERAGE:	2.02	PPM	

01 Hour Averages



— LICA31 THC PPM

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 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	2.9	3.8	3.4	2.1	2.1	2.1	2.1	2.6	2.6	3	S	2.5	2	2	2	2	2	2	2.1	2.1	2.2	2.3	2.4	3.8	2.4	24	
2	2.4	2.5	2.6	2.4	2.4	2.4	S	S	2.3	2.3	S	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.2	2.2	2.2	2.6	2.3	24
3	2.1	2.1	2.3	2	2	2.1	2.1	2.1	2.1	S	2.2	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.1	3.1	3.3	2.1	2.3	5.5	5.5	2.4	24	
4	3.7	2.1	2.2	2.2	2.2	2.2	2.1	2.1	S	2.2	2.4	2.9	2.8	2.5	2.6	2.7	2.6	2.3	2.2	2.1	2.1	2.1	2.1	2.1	3.7	2.4	24	
5	2.2	2.9	3.1	3.2	2.7	2.2	S	S	2.1	2.2	2.4	2.1	2	2.3	2.1	2	2	2	2	2	2	2	2	2	3.2	2.3	24	
6	2	2	2.1	2.1	2.2	2.2	S	2.2	2.6	2.2	3	2.2	2.6	2.9	2.3	2.1	2.5	2.6	3	2.5	2.5	2.6	2.2	2.4	3	2.4	24	
7	2.5	2.2	2.1	2.1	2.1	S	2.1	2.1	2.1	2.1	2.2	2.2	2.4	2.2	2.7	2.6	2.8	2.9	2.9	2.9	4.6	2.2	2.2	2.2	4.6	2.5	24	
8	2.3	2.4	2.5	2.6	S	2.1	2.1	2.1	2	2.5	2.1	2.1	2.1	2.8	2.6	2	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.8	2.2	24	
9	2.1	2.1	2.1	S	2.1	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.1	24	
10	2.2	2.2	S	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	3.1	3.3	2.1	2.1	2.1	2.2	2.9	3.3	2.3	24		
11	2.2	S	2.2	2.2	2.2	2.2	2.2	2.1	2.2	2.1	2.1	2	2	2	2	2.1	2	2	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.1	24	
12	S	2.1	2	2.1	2.1	2.3	2.2	2	2	2.2	2.5	2.3	2.2	2.5	2.3	2.6	2.6	3.1	3.2	3.5	3.3	4.2	3.2	S	4.2	2.6	24	
13	2.8	3	2.4	2.4	2.3	2.7	2.8	2.9	2.7	2.7	2.2	2.4	2.3	2.1	2.1	2.2	2.3	2.1	2.1	2.2	2.2	2.2	S	2	3	2.4	24	
14	2	2	2.1	2.1	2.2	2.2	2.2	2.3	3.2	2.2	3	3	2.6	2.6	2.7	2.6	2.8	2.2	2.2	2.2	2.2	S	2.2	2.2	3.2	2.4	24	
15	2.8	2.2	2.2	2.2	2.2	2.2	2.3	2.4	2.4	2.4	2.5	2.8	2.6	3.3	2.8	2.6	2.7	4	4.4	2.1	S	2.2	2.2	2.2	4.4	2.6	24	
16	2.5	2.7	2.6	2.4	2.5	2.2	2.1	2.2	2.2	2.2	2.4	C	C	C	C	C	2.5	2	2.1	S	2.1	2.1	2.3	2.6	2.7	2.3	24	
17	2.2	2.2	2.1	2.2	2.2	2.1	2.2	2.2	2.2	2.1	2	2	2.1	2	2	2	2	1.9	S	2	1.9	1.9	1.9	1.9	2.2	2.1	24	
18	1.9	1.9	2	1.9	1.9	1.9	1.9	2	2.1	2.1	2	1.9	2	2.1	2.1	2	2	S	3.4	8.2	2.1	2.1	3.6	2.1	8.2	2.4	24	
19	2.1	2.2	2.2	2.2	2.4	2.4	2.3	2.3	2.2	2.1	2.1	1.9	2	2	1.9	1.9	S	1.9	2	2	2	2	2	2	2.4	2.1	24	
20	2	2	2	2	2.1	2.1	2.1	2.3	2.1	2.1	2.1	2.1	2.1	2	2	2.2	S	2	2	2	2	2	2	2	2.3	2.1	24	
21	2	2.1	2.1	2.4	2.3	2.1	2.1	2.1	2.3	2.3	2.2	2.2	2.2	2.2	S	2	2.1	2.1	2.2	2.5	2	2	2	2	2.5	2.2	24	
22	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.2	2.1	2.2	2.2	2.1	2.1	S	2	2	2	2	2.1	2.7	2.1	2.1	2.1	2.1	2.7	2.1	24	
23	2.1	2.1	2.1	2.4	2.3	2.3	2.2	2.4	2.3	2	2.1	2	S	2	2	2	1.9	1.9	2	2	2	2	2	2	2.4	2.1	24	
24	3.3	2.6	2	2.2	2.2	2.1	2.1	2	2	2	S	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	3.3	2.0	24	
25	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	S	1.9	1.9	1.9	1.9	1.9	2	2	2.1	2.5	4.4	1.9	2	2.1	4.4	2.0	24	
26	1.9	1.9	1.9	1.9	2	2	2	2	2	S	1.9	1.9	1.9	1.9	1.9	2	2	1.9	1.8	1.9	1.8	1.9	1.8	1.8	2	1.9	24	
27	1.9	1.8	1.8	1.9	1.8	4.8	4.1	1.8	S	1.7	1.7	1.8	1.9	1.7	1.8	1.7	1.8	1.8	1.9	1.9	1.8	1.9	1.9	1.9	4.8	2.0	24	
28	1.9	2	2	2	2.1	2.1	2.1	S	2	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.7	3.5	2.5	1.9	2.3	1.8	3.5	2.0	24	
29	1.8	2	1.8	2.6	2.5	2.5	S	2.5	2.3	2.3	2.2	2.2	2.1	2	1.9	2	1.9	2.5	2.2	1.9	2.4	1.9	3.1	2.4	3.1	2.2	24	
30	2.1	2	2.1	2.2	2	S	1.9	1.9	2	1.9	1.9	1.9	1.9	1.9	2	1.9	2	2	2	2.1	2.3	2.4	2.1	2.5	2.5	2.0	24	
HOURLY MAX	3.7	3.0	3.8	3.4	2.7	4.8	4.1	2.9	3.2	2.7	3.0	3.0	2.8	3.3	2.8	2.7	2.8	4.0	4.4	8.2	4.6	4.2	3.6	5.5				
HOURLY AVG	2.2	2.2	2.2	2.3	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.2	2.3	2.5	2.4	2.2	2.2	2.3				

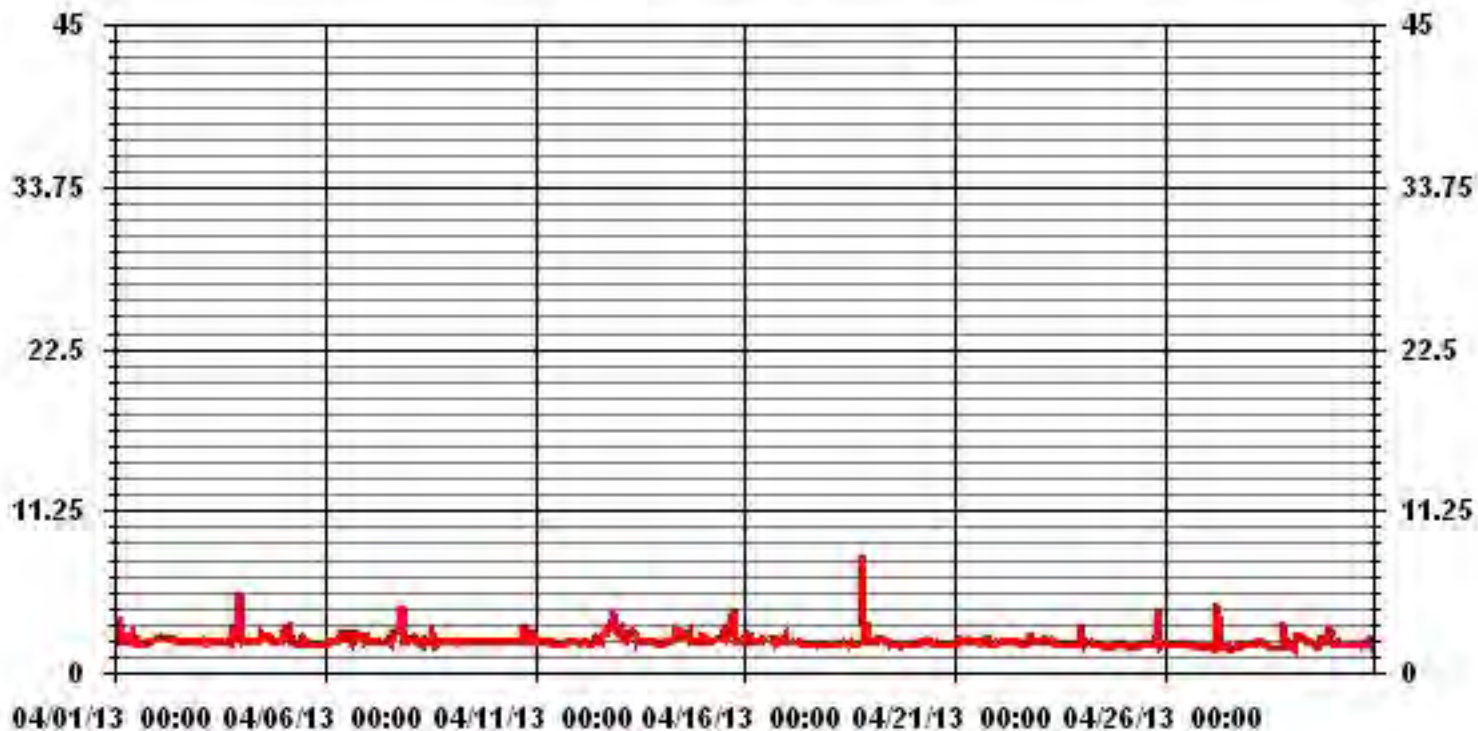
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	681					
MAXIMUM INSTANTANEOUS VALUE:	8.2	PPM	@ HOUR(S)	19	ON DAY(S)	18
IZS CALIBRATION TIME:	34	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION:	0.47					

01 Hour Averages



LICA31
 THC / WDR Joint Frequency Distribution (Percent)

April 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	3.50	4.09	6.72	9.06	3.80	5.11	3.50	8.04	8.04	5.55	5.99	7.45	6.28	5.99	9.21	7.60	100.00
< 10.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.50	4.09	6.72	9.06	3.80	5.11	3.50	8.04	8.04	5.55	5.99	7.45	6.28	5.99	9.21	7.60	

Calm : .00 %

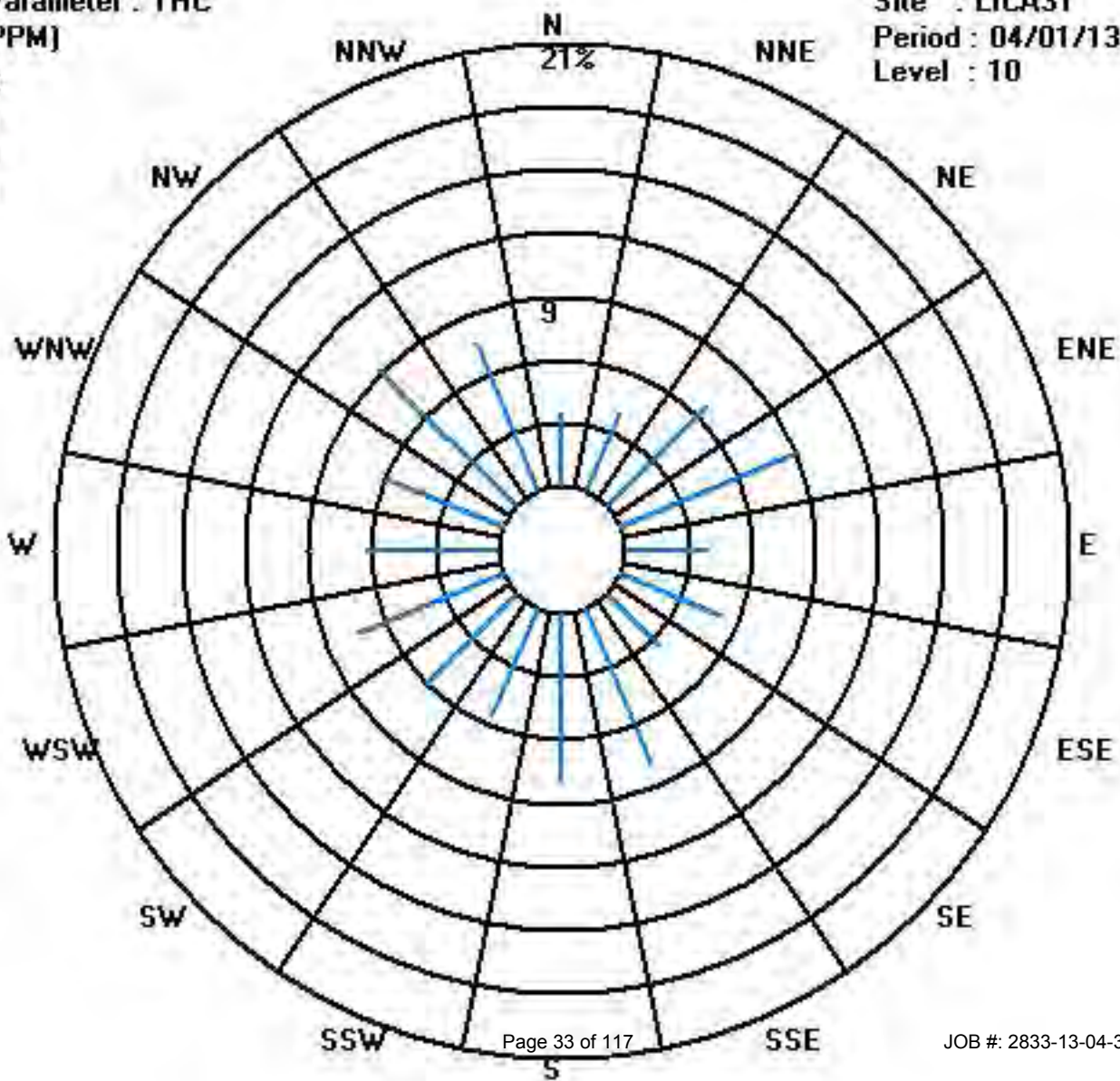
Total # Operational Hours : 684

Distribution By Samples

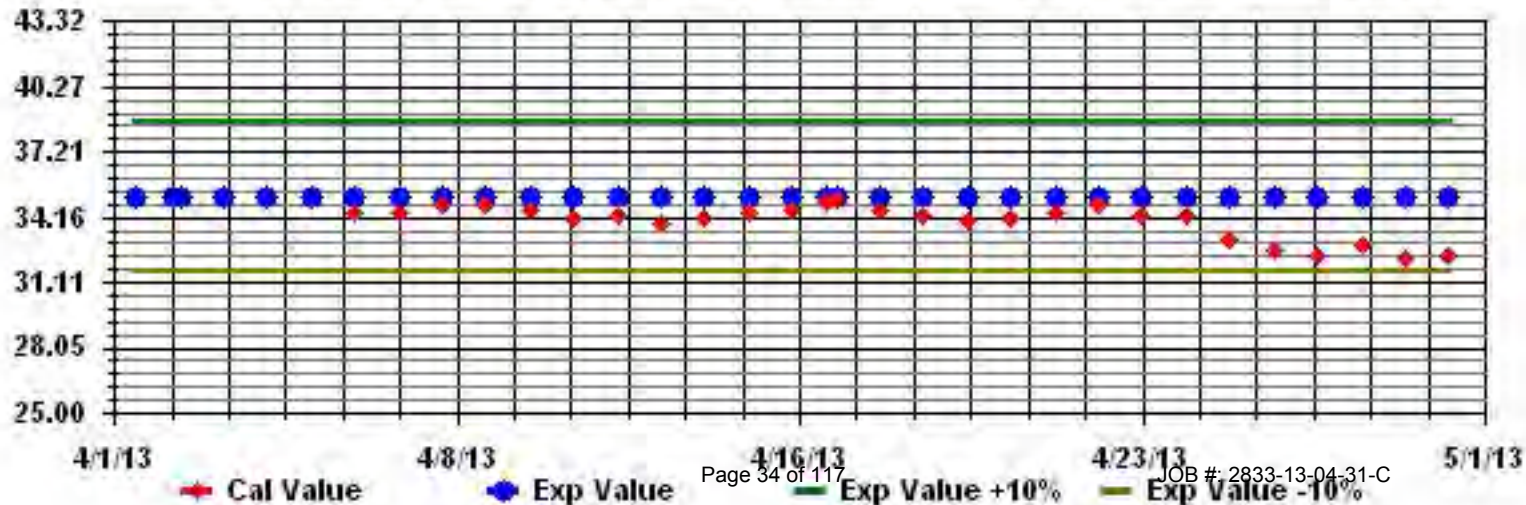
	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	24	28	46	62	26	35	24	55	55	38	41	51	43	41	63	52	684
< 10.0																	
< 50.0																	
>= 50.0																	
Totals	24	28	46	62	26	35	24	55	55	38	41	51	43	41	63	52	

Calm : .00 %

Total # Operational Hours : 684



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



Ozone

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 2013

OZONE (O₃) hourly averages in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	49	48	49	48	48	48	48	46	46	47	48	S	50	52	53	53	52	52	52	53	52	53	52	53	52	53	50.1	24
2	50	50	51	51	52	52	52	52	52	52	S	55	56	56	57	59	60	59	59	56	53	53	51	50	60	53.8	24	
3	51	51	49	48	47	46	44	43	42	S	44	45	45	46	48	51	52	52	52	52	52	52	50	52	52	48.4	24	
4	50	50	50	48	48	46	49	49	S	50	50	48	49	51	52	53	54	54	51	50	51	50	49	49	54	50.0	24	
5	48	47	47	46	45	45	44	S	46	46	47	47	48	48	47	47	35	36	36	35	35	35	35	35	48	42.6	24	
6	34	33	32	31	30	30	S	30	30	31	33	34	36	38	39	40	40	40	39	38	38	37	38	38	40	35.2	24	
7	39	38	36	35	36	S	40	42	44	48	51	51	52	53	54	55	55	54	50	47	46	45	43	42	55	45.9	24	
8	41	40	37	35	S	37	38	38	38	37	38	40	43	45	46	46	47	48	48	47	47	46	45	45	48	42.3	24	
9	44	43	43	S	42	40	40	39	40	43	44	44	49	52	53	54	55	55	54	53	52	51	50	49	55	47.3	24	
10	47	47	S	46	45	44	43	42	42	42	42	43	44	46	48	49	50	50	49	48	46	45	43	41	50	45.3	24	
11	40	S	40	39	39	38	38	37	38	41	44	47	50	51	50	50	49	48	47	47	48	47	44	40	51	44.0	24	
12	S	38	43	44	45	43	41	42	43	45	48	50	52	52	52	53	55	54	51	48	50	50	46	S	55	47.5	24	
13	41	41	48	51	51	50	50	49	46	47	48	49	49	48	48	48	48	48	49	49	46	46	S	45	51	47.6	24	
14	43	42	40	39	37	35	36	36	37	43	42	46	49	49	48	48	48	52	50	47	46	S	46	46	52	43.7	24	
15	47	47	47	45	45	45	42	39	39	40	42	44	46	47	48	48	47	46	45	44	S	42	40	40	48	44.1	24	
16	38	33	37	38	38	40	41	42	42	43	45	47	48	S	51	51	52	51	S	50	50	50	49	49	52	44.4	24	
17	48	46	47	45	45	46	45	45	C	C	C	C	C	55	55	54	54	53	S	50	49	50	50	51	55	49.3	24	
18	51	50	48	45	43	40	38	40	42	44	45	45	45	45	48	49	50	S	50	50	48	47	47	47	51	46.0	24	
19	47	46	47	46	45	45	46	48	51	53	53	53	51	53	54	53	S	50	50	48	48	49	50	48	54	49.3	24	
20	46	43	41	38	36	33	31	30	33	37	36	37	37	40	42	S	41	43	46	49	47	47	47	46	49	40.3	24	
21	47	47	47	47	46	46	46	46	47	49	50	50	51	51	S	51	51	51	50	50	49	48	48	48	51	48.5	24	
22	45	44	44	42	42	39	36	35	37	44	52	52	51	S	57	57	58	58	58	58	58	56	56	56	54	58	49.2	24
23	53	51	50	50	49	48	47	46	49	51	53	54	S	54	53	54	53	54	54	53	53	53	53	53	54	51.7	24	
24	52	51	49	48	45	42	42	44	47	50	53	S	55	55	56	57	56	54	53	52	51	50	48	47	57	50.3	24	
25	45	44	42	41	38	35	38	37	39	43	S	46	47	46	46	45	44	44	43	44	44	44	42	39	47	42.4	24	
26	36	36	36	30	25	25	28	29	30	S	40	44	47	47	50	49	48	50	50	49	47	45	47	45	50	40.6	24	
27	47	46	44	42	37	40	43	40	S	40	44	46	47	46	49	51	51	48	44	44	44	47	46	42	51	44.7	24	
28	32	27	23	22	23	26	30	S	29	30	31	33	35	37	39	41	42	46	45	40	36	36	35	43	46	34.0	24	
29	43	39	36	33	30	30	S	32	32	33	34	36	39	39	38	39	38	38	39	35	35	33	31	33	43	35.4	24	
30	26	26	27	27	30	S	33	33	33	32	33	33	33	33	33	33	33	33	34	34	33	32	31	30	34	31.5	24	
HOURLY MAX	53	51	51	51	52	52	52	52	52	53	53	55	56	56	57	59	60	59	59	58	56	56	56	54				
HOURLY AVG	44.1	42.9	42.4	41.4	40.8	40.5	41.0	40.4	40.5	43.0	44.0	45.1	46.5	47.7	48.7	49.6	48.9	49.0	48.2	47.2	46.6	46.2	45.3	44.7				

STATUS FLAG CODES

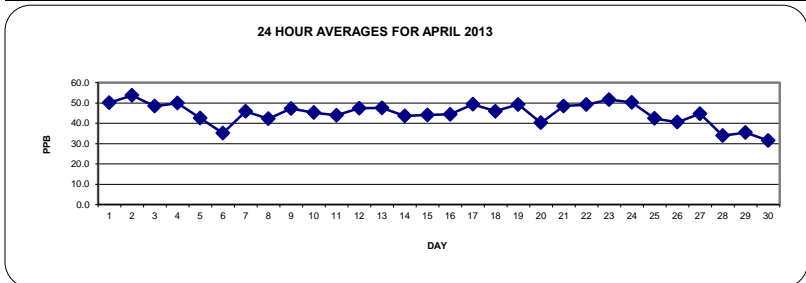
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT:

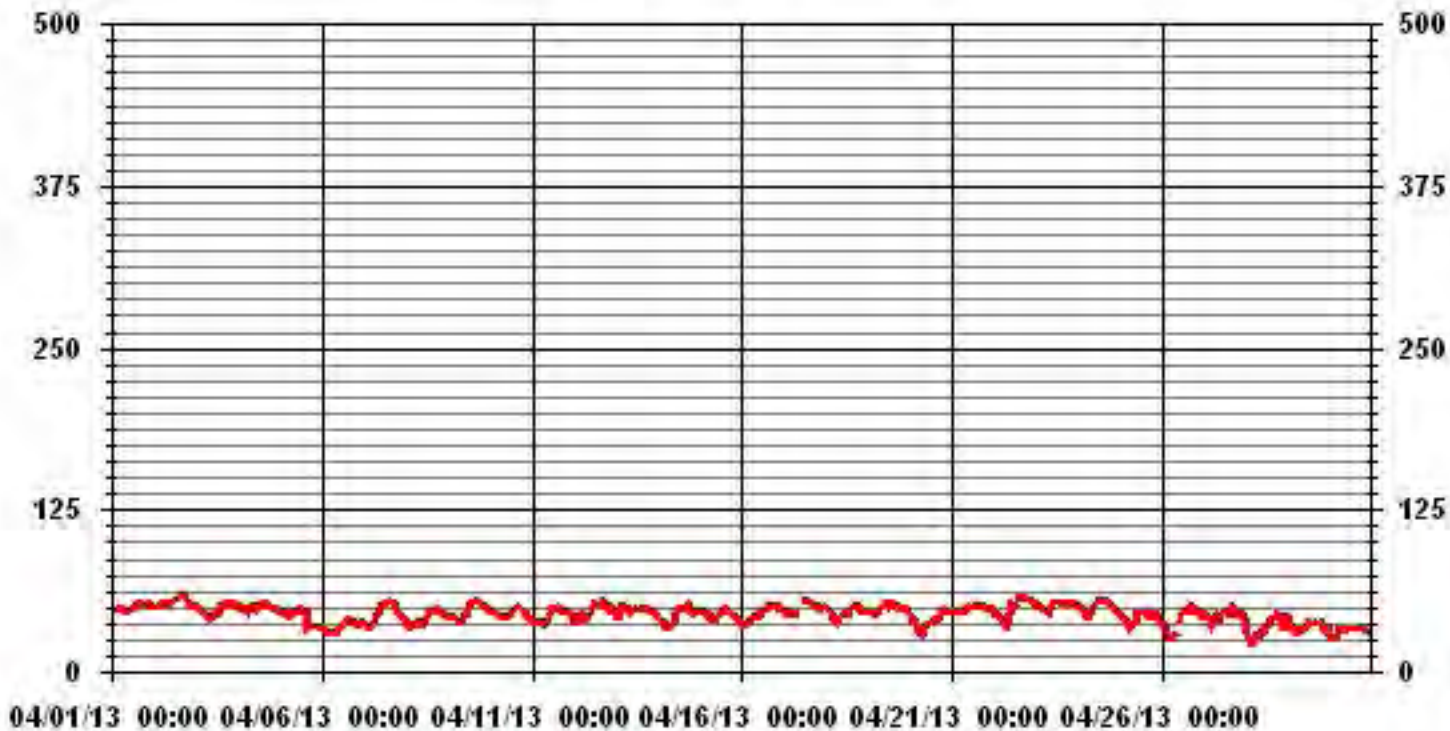
ALBERTA ENVIRONMENT: 1-HR 82 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	683					
MAXIMUM 1-HR AVERAGE:	60	PPB	@ HOUR(S)	16	ON DAY(S)	2
MAXIMUM 24-HR AVERAGE:	53.8	PPB			ON DAY(S)	2
					VAR-VARIOUS	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	6.99		MONTHLY AVERAGE:	44.8	PPB	



01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 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	49	49	49	49	49	48	48	48	47	48	48	S	51	52	53	53	53	53	53	53	52	54	54	53	54	50.7	24	
2	52	51	51	52	52	52	52	52	52	53	S	55	57	57	59	60	60	60	60	57	54	53	52	51	60	54.5	24	
3	52	52	50	48	48	47	45	44	43	S	44	45	46	48	50	52	53	53	52	52	52	52	51	53	49.2	24		
4	50	50	51	49	49	47	49	49	S	50	50	49	51	51	52	54	55	55	52	51	51	51	49	49	55	50.6	24	
5	48	47	47	47	46	45	S	S	46	46	47	47	49	49	48	47	47	36	37	36	35	35	35	35	49	43.4	24	
6	34	34	32	31	31	30	S	30	30	32	33	35	37	39	40	40	40	41	40	39	38	37	38	39	41	35.7	24	
7	40	40	37	36	37	S	42	43	45	50	52	52	53	54	54	55	55	53	48	47	46	43	43	55	47.0	24		
8	42	41	37	36	S	39	38	39	38	38	39	41	44	45	47	47	48	48	49	48	47	46	45	45	49	42.9	24	
9	44	43	43	S	42	41	41	40	42	44	45	47	51	53	54	54	55	56	55	54	54	51	51	49	56	48.2	24	
10	48	47	S	46	46	44	43	43	42	42	42	43	44	47	49	50	50	50	49	48	47	46	44	42	50	45.7	24	
11	42	S	41	40	40	38	38	37	40	43	46	49	51	51	51	51	50	49	48	47	48	48	47	42	51	45.1	24	
12	S	41	44	45	45	44	42	43	44	46	50	51	52	52	52	53	55	55	52	50	51	51	49	S	55	48.5	24	
13	42	43	50	51	51	51	51	50	48	47	48	49	49	49	48	48	48	49	50	50	47	46	S	46	51	48.3	24	
14	45	43	41	39	38	36	36	37	38	45	45	49	50	51	48	48	51	52	52	47	47	S	47	47	52	44.9	24	
15	48	47	47	46	46	46	44	41	40	41	44	45	47	48	48	48	48	46	45	45	S	43	41	40	48	45.0	24	
16	40	35	38	39	40	41	42	42	42	44	43	47	48	S	S	51	52	52	52	S	52	50	50	50	52	45.2	24	
17	48	48	47	46	46	47	46	46	C	C	C	C	C	S	56	56	55	56	55	S	51	50	50	51	52	56	50.3	24
18	51	50	49	47	44	41	38	41	43	44	46	46	46	46	49	49	51	S	51	51	50	48	48	49	51	46.9	24	
19	48	47	48	46	46	46	46	49	52	53	53	53	52	54	55	54	S	51	51	49	48	50	50	48	55	50.0	24	
20	47	45	42	39	37	34	33	32	35	39	37	39	38	41	42	S	42	43	50	50	48	47	47	50	41.5	24		
21	48	48	47	47	46	46	46	47	48	50	50	50	51	52	S	51	52	51	50	50	49	49	48	48	52	48.9	24	
22	47	44	44	44	43	40	37	35	39	48	53	54	53	S	58	58	58	58	58	58	59	57	56	55	59	50.2	24	
23	54	52	51	50	50	48	48	47	50	52	54	54	S	55	54	54	54	54	54	54	54	53	54	54	55	52.3	24	
24	53	52	50	49	47	44	43	46	50	51	54	S	55	56	57	57	57	56	54	53	52	52	49	48	57	51.5	24	
25	46	46	44	41	40	37	38	38	41	45	S	46	47	47	46	45	45	44	44	44	44	44	44	40	47	43.3	24	
26	37	36	36	34	25	26	31	31	32	S	43	46	47	49	50	50	49	52	50	51	48	48	48	46	52	42.0	24	
27	49	48	45	44	39	42	45	43	S	44	45	47	48	47	52	53	54	50	45	45	46	48	47	45	54	46.6	24	
28	37	29	25	23	24	31	31	S	29	31	32	34	36	39	42	42	45	47	47	44	37	36	40	45	47	35.9	24	
29	44	42	37	35	35	31	S	32	33	34	35	38	40	40	39	40	40	40	40	39	38	34	34	40	44	37.4	24	
30	28	27	29	29	31	S	33	33	33	33	33	33	34	33	33	33	33	34	35	35	34	32	31	30	35	32.1	24	
HOURLY MAX	54	52	51	52	52	52	52	52	52	53	54	55	57	57	59	60	60	60	60	59	57	56	56	55				
HOURLY AVG	45.3	44.0	43.2	42.3	41.8	41.5	41.7	41.4	41.6	44.2	44.9	46.1	47.4	48.6	49.5	50.1	50.2	49.8	49.2	48.3	47.4	46.8	46.3	45.8				

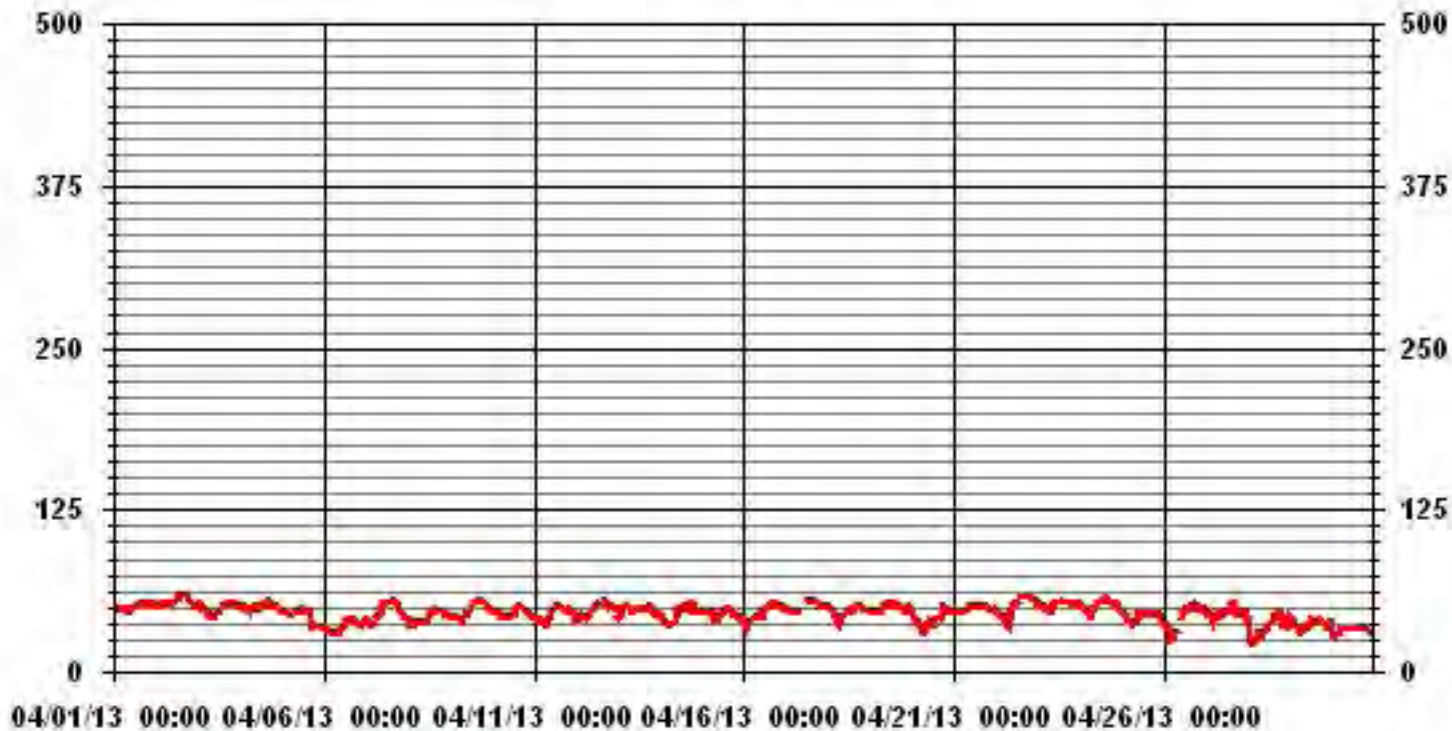
STATUS FLAG CODES

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

NUMBER OF NON-ZERO READINGS:	681				
MAXIMUM INSTANTANEOUS VALUE:	60	PPB	@ HOUR(S)	VAR	ON DAY(S) 2
I/ZS CALIBRATION TIME:	34	HRS	OPERATIONAL TIME:	720	HRS
MONTHLY CALIBRATION TIME:	5	HRS			
STANDARD DEVIATION:	6.84				

01 Hour Averages



LICA31
 O3_ / WDR Joint Frequency Distribution (Percent)

April 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	2.78	3.51	6.29	8.63	3.36	3.22	1.90	3.07	4.53	2.63	4.39	5.71	4.97	4.24	7.90	4.83	72.03
< 110	.73	.58	.43	.58	.58	2.04	1.61	5.12	3.51	2.34	1.46	1.75	1.31	1.75	1.31	2.78	27.96
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.51	4.09	6.73	9.22	3.95	5.27	3.51	8.19	8.05	4.97	5.85	7.46	6.29	6.00	9.22	7.61	

Calm : .00 %

Total # Operational Hours : 683

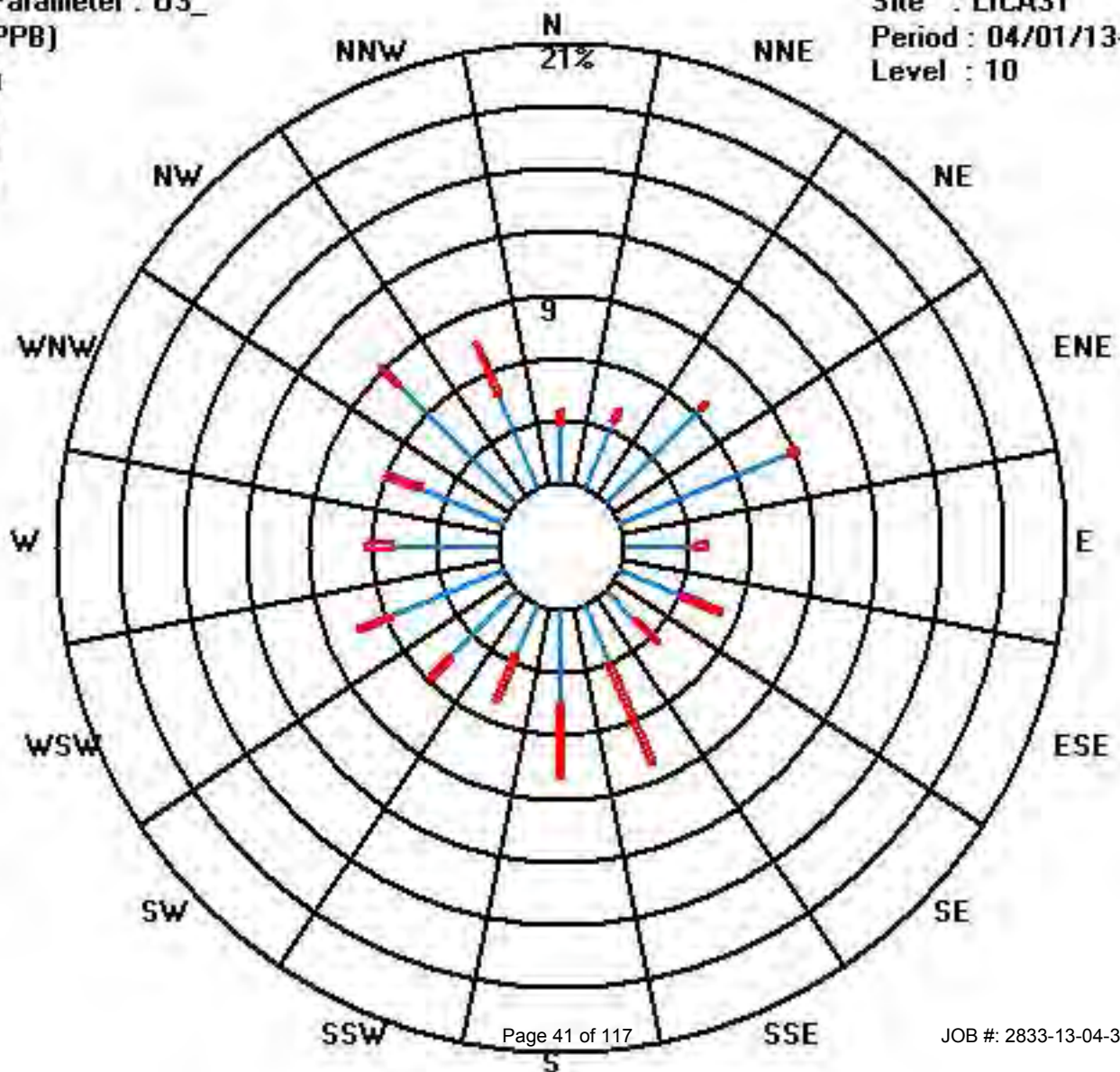
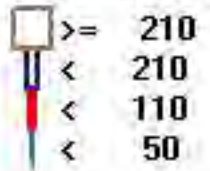
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	19	24	43	59	23	22	13	21	31	18	30	39	34	29	54	33	492
< 110	5	4	3	4	4	14	11	35	24	16	10	12	9	12	9	19	191
< 210																	
>= 210																	
Totals	24	28	46	63	27	36	24	56	55	34	40	51	43	41	63	52	

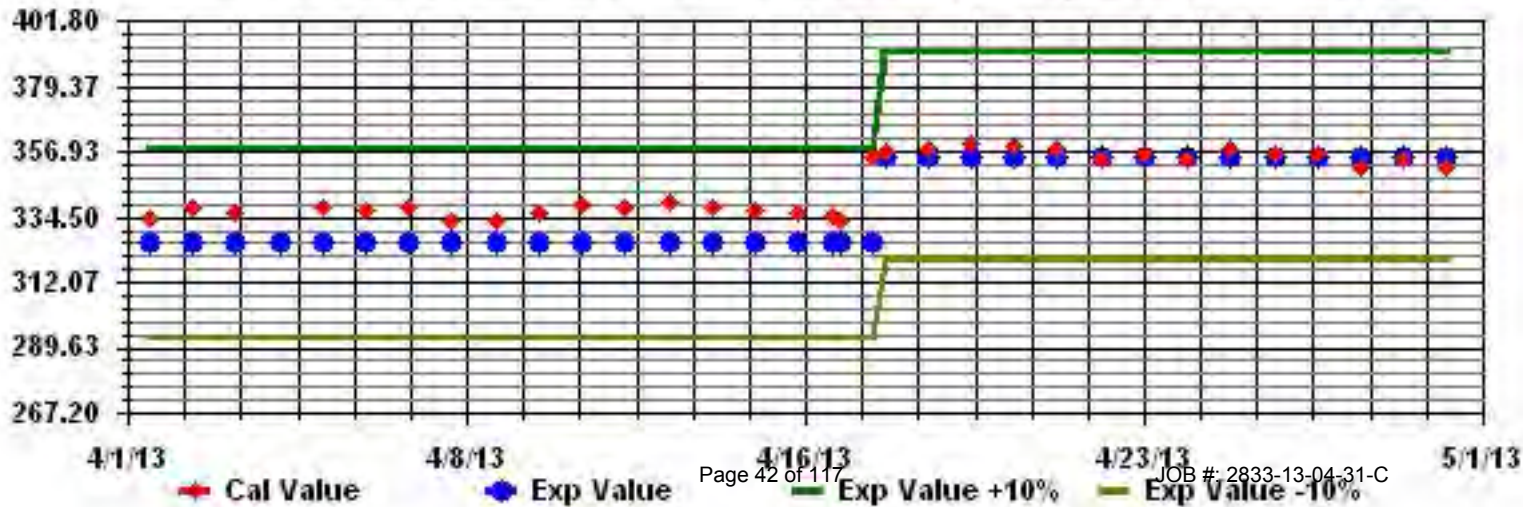
Calm : .00 %

Total # Operational Hours : 683

Class Limits (PPB)



Calibration Graph for Site: LICA31 Parameter: 03_ Sequence: 03 Phase: SPAll



Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION. - ST. LINA

APRIL 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	0.3	0	0	0	0	0.1	0.2	0.6	0.8	0.4	0.4	S	0.9	0.7	0.6	0.6	0.6	0.3	0.4	0.7	0.9	0.9	1.3	1.3	1.3	0.5	24	
2	1.3	1.1	1.3	0.8	0.9	0.9	1.2	1	1.2	1.1	S	1.8	2.3	2.1	2.3	2.6	2.6	2.6	2.5	2.7	2.8	2.7	2.8	2.1	2.8	1.9	24	
3	1.5	1.1	1	1	0.8	0.8	0.7	0.8	0.8	S	0.7	0.6	0.6	0.7	0.3	0.7	0.7	0.4	0.4	0.4	0.1	0.3	0.5	0.7	1.5	0.7	24	
4	0.8	0.3	0.3	0.8	0.4	1	0.6	0.6	S	1.3	1.4	2.5	2.3	1.6	1.9	2.1	2.4	1.7	1.3	1.2	1.4	1.3	1.1	1.1	2.5	1.3	24	
5	1.1	1.2	1.1	1.2	1.3	1.6	1.3	S	1.2	1.1	1.2	1	1.1	1.4	1.7	1.5	1	0.5	0.6	0.6	0.4	0.6	0.5	0.5	1.7	1.0	24	
6	0.5	0.8	0.7	1.3	1.5	1.7	S	2.1	2.4	2.4	1.8	1.7	1.3	1.4	1.1	1.1	1	1	1.1	1	1.4	1.3	1.2	1.4	2.4	1.4	24	
7	1	1.5	1.6	1.7	1.7	S	2.1	2.1	2	1.7	1.7	1.7	1.4	1.5	1.5	1.2	1.1	0.9	0.5	0.5	0.4	0.7	0.9	0.6	2.1	1.3	24	
8	1.4	2.1	3.5	4.5	S	3	1.9	1	1	1.2	1.2	1.3	1	1	1.2	1.1	1.5	1.4	1.2	1.1	1.2	1.4	1.2	1.5	4.5	1.6	24	
9	1.3	1.5	1.8	S	1.3	2.2	2	2.3	1.7	1.2	1	2.6	1.6	1.5	1.5	1.5	1.8	2	2.2	2.1	2	1.6	1.2	1.3	2.6	1.7	24	
10	1.3	1.2	S	1.3	1.4	1.3	1.3	1.3	1.2	1.2	1.5	1.5	1.6	1.9	2.1	2	2.2	2.2	2.3	2.1	2.4	2.2	2.2	2.5	2.5	1.7	24	
11	2.2	S	1.2	1.3	1.4	1.6	1.5	1.2	1.3	0.9	0.9	0.9	1	1.2	0.9	0.3	0.4	0.2	0.2	0.1	0.6	0.5	0.8	1.1	2.2	0.9	24	
12	S	1.3	1.2	1.1	1.1	1	1.4	1.4	1.2	1	1.1	1.1	1.2	1	0.9	0.9	1	1.2	1.3	1.3	1.5	1.7	2.1	S	2.1	1.2	24	
13	1.4	1.3	1.1	1	1.1	1.3	1.4	1.2	1.3	1.1	0.9	0.9	0.7	0.6	0.7	0.8	0.7	0.8	0.9	1	1.6	1.1	S	0.5	1.6	1.0	24	
14	0.6	0.6	0.9	1.8	1.8	3	3	1.8	3.2	2.2	2.5	2.8	1.4	1	0.5	0.4	0.5	0.9	1	0.8	0.9	S	0.7	0.7	3.2	1.4	24	
15	1	0.4	0.6	0.3	0.3	0.4	1.4	3.6	3.5	2.9	2.3	1	0.2	0.6	0.2	0.5	0.3	0.2	0.4	0.3	S	0.8	1.7	1.6	3.6	1.1	24	
16	2.9	5.6	4	3.3	2.9	1.6	1.3	1.3	C	C	C	C	C	C	1.1	0.8	1.3	1.9	S	1.3	1.5	1.4	1.3	5.6	2.1	24		
17	1.8	2.6	2.4	1.9	1.8	2	2.3	2.1	1.8	1.5	1.4	1.8	1.6	1.1	1.2	1.3	1.6	1.6	S	1.6	0.4	0	0	0.3	2.6	1.5	24	
18	1	0.7	0.8	0.7	1	1.5	1	1.3	1.1	1.5	1	1.1	0.9	0.9	0.9	0.8	0.9	S	1	1	1.5	1.8	1.3	1.2	1.8	1.1	24	
19	1.2	1.5	1.4	2	2	2	2.1	2	1.7	1.2	1.3	1.1	1.3	1.1	1	1	S	0.8	1.1	1	1.1	1	1.1	0.9	2.1	1.3	24	
20	1	1	1.2	1.3	1.6	1.2	1.2	1.4	1.1	0.8	0.8	0.7	0.5	0.4	0.4	S	1.2	0.9	1.1	1	0.9	0.5	0.3	0.3	1.6	0.9	24	
21	0.2	0.3	0.4	0.5	0.7	0.9	0.8	0.6	0.7	0.3	0	0.1	0.1	0.1	S	0.1	0.6	0.6	0.5	0.6	0.7	0.7	0.6	0.5	0.9	0.5	24	
22	1.1	1.4	1.3	1.9	2.4	3	4.3	4.8	4.8	3.2	1.3	1.4	1.8	S	1.2	1.3	1.2	1.2	1.8	1.2	1	1.2	1.2	1	4.8	2.0	24	
23	1	0.9	0.9	1	1	1.4	1.4	1.2	1.1	0.8	0.7	0.8	S	0.6	0.4	0.5	0.5	0.4	0.6	0.6	0.6	0.4	0.4	0.3	1.4	0.8	24	
24	0.4	0.6	0.5	0.4	1.3	1.9	1.2	1.3	1	0.9	0.6	S	0.4	0.6	0.9	0.6	1.8	2.3	2.6	2.8	2.1	1.4	1.8	1.8	2.8	1.3	24	
25	1.3	1.2	1.1	0.7	2.2	3.2	2.8	2.7	2	0.9	S	0.4	0.5	0.5	0.5	0.4	0.3	0.4	0.4	0.3	0.5	0.6	0.9	1	3.2	1.1	24	
26	1.3	1.4	1.6	3.1	4.5	4	3.8	3.8	3.4	S	1.1	0.6	0.4	0.5	0.7	0.8	0.8	0.8	0.7	0.6	0.7	0.9	0.7	0.5	4.5	1.6	24	
27	0.7	0.5	0.6	0.8	0.9	0.9	0.7	1.2	S	0	0	0	0.2	0.2	0.4	0.1	0.2	0	0	0	0	0	0	0	0	1.2	0.3	24
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	24	
29	0	0	0	0	0	0	S	0.4	0.4	0.5	0.4	0.4	0.2	0.2	0.2	0.3	0.4	0.5	0.5	0.8	0.4	0.4	0.3	0.4	0.8	0.3	24	
30	0.4	0.5	0.4	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	
HOURLY MAX	2.9	5.6	4.0	4.5	4.5	4.0	4.3	4.8	4.8	3.2	2.5	2.8	2.3	2.1	2.3	2.6	2.6	2.6	2.6	2.8	2.8	2.8	2.7	2.8	2.5			
HOURLY AVG	1.0	1.1	1.1	1.3	1.3	1.6	1.5	1.6	1.6	1.2	1.0	1.1	0.9	0.9	0.9	0.9	1.0	0.9	1.0	0.9	1.0	0.9	1.0	0.9				

STATUS FLAG CODES

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

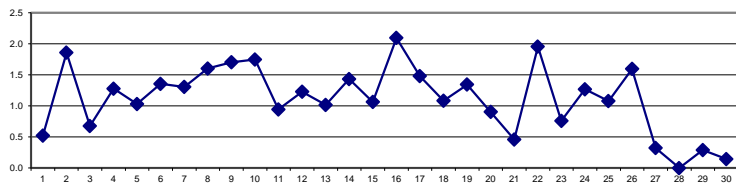
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT: 1-HR 159 PPB

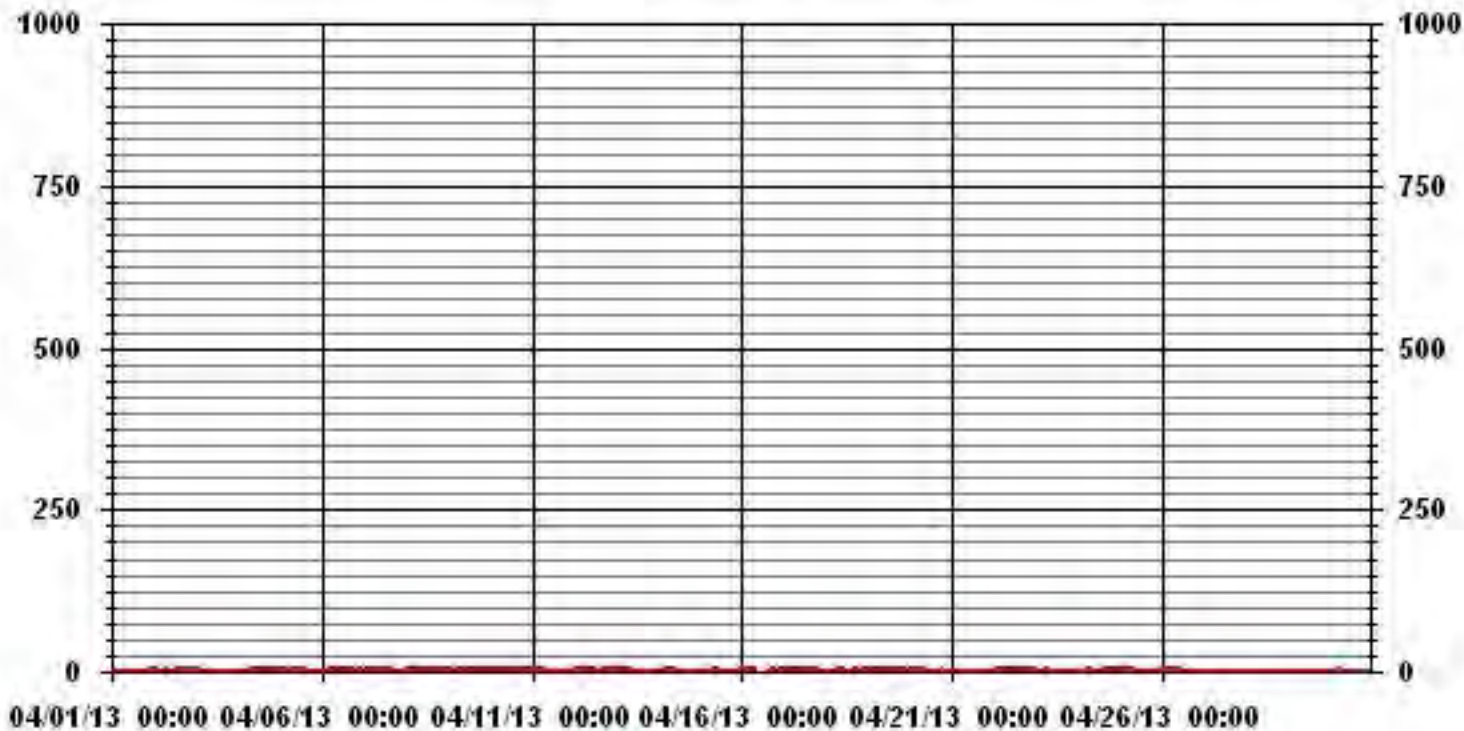
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	618					
MAXIMUM 1-HR AVERAGE:	5.6	PPB	@ HOUR(S)	1	ON DAY(S)	16
MAXIMUM 24-HR AVERAGE:	2.1	PPB			ON DAY(S)	16
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	0.83		MONTHLY AVERAGE:	1.11	PPB	

24 HOUR AVERAGES FOR APRIL 2013



01 Hour Averages



— LICA31 NO2_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 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	0.7	0.7	1.2	1.5	0.7	1.2	1.4	1.6	1.1	1.3	S	1.7	1.4	1.3	1.8	2.2	1	1.3	1.3	1.6	1.7	2.1	1.9	2.2	1.4	24	
2	2	2.1	2.1	1.6	1.6	1.6	1.8	1.8	1.8	1.8	S	2.6	3	3	3	4	4.3	3.7	3.1	4.2	3.8	3.5	3.5	3.2	4.3	2.7	24	
3	2.7	2	1.8	1.8	1.7	2.1	1.8	1.8	1.6	S	1.5	1.2	1.3	1.6	1.5	1.3	1.6	1.6	1.3	1.9	1.2	1	1.3	1.8	2.7	1.6	24	
4	1.7	1.3	1.3	1.7	1.5	2	1.5	1.5	S	2.2	2.2	4	3.9	2.4	2.7	2.9	3.2	2.4	2.2	2.2	2.4	2.3	2.2	1.9	4	2.2	24	
5	2.2	2.1	2.1	2	2.2	2.5	S	S	1.8	1.9	1.8	1.8	1.7	2.4	2.6	2.3	1.9	1.1	1.1	1.2	1.1	1.2	1	1.1	2.6	1.8	24	
6	1	1.6	1.6	2	2.3	2.3	S	2.7	3.1	3.3	2.5	2.5	2.1	2.1	1.7	1.8	1.7	1.7	1.8	1.9	2.1	2.1	2.1	2.3	3.3	2.1	24	
7	1.8	2.4	2.3	2.6	2.8	S	2.9	2.8	2.6	2.6	2.5	2.5	2.3	2.3	2.2	2.2	2.2	1.7	1.8	1.5	1.4	1.9	2.2	1.8	2.9	2.2	24	
8	2.2	3.5	4.5	5.9	S	4.3	2.8	1.7	1.8	2	2	1.9	1.9	1.6	2.4	2.2	16.8	2.6	2.2	2.2	2	2.3	2.1	2.2	16.8	3.2	24	
9	2.1	2.2	2.5	S	2.2	4.6	4	3.6	3.1	2	2.2	5.4	2.5	2.1	2	2.3	2.5	2.5	2.8	3.3	2.9	2.4	2.1	1.9	5.4	2.7	24	
10	2.3	2.1	S	2.1	2	2	2	2.1	2	1.9	2	2.2	2.5	2.4	2.7	2.8	3.2	3.1	3	3.2	3.1	3.1	3.1	3.4	3.4	2.5	24	
11	3.1	S	1.9	2.1	2.8	2.6	2.6	2.1	2.1	1.6	1.6	1.6	1.6	1.9	1.9	1	1.1	1.1	1.2	1	1.4	1.3	1.7	1.9	3.1	1.8	24	
12	S	2.1	2	1.9	1.7	1.8	2.1	2	1.8	1.6	1.6	1.7	1.8	1.6	1.6	1.4	1.6	1.8	1.8	1.8	2.1	2.5	2.9	S	2.9	1.9	24	
13	2.2	2.3	1.9	1.8	1.8	2	2.3	2	2.2	1.8	1.7	1.7	1.5	1.5	1.4	1.6	1.4	1.4	1.6	2	2.5	2	S	1.3	2.5	1.8	24	
14	1.4	1.8	2.2	2.6	3.1	4.1	4.3	2.9	4.3	3.7	3.9	3.9	2.3	2.3	1.5	1.2	1.4	1.8	1.9	1.7	1.8	S	1.8	1.9	4.3	2.5	24	
15	3.1	1.5	1.5	1.4	1.3	1.5	2.9	4.7	4.5	3.9	3.7	2.1	1.2	1.5	1.4	1.3	1.4	0.9	1.2	1.5	S	2	2.7	2.5	4.7	2.2	24	
16	5.5	6.7	5.3	4.5	4.5	2.8	1.9	2.4	C	C	C	C	C	C	C	2	1.7	3.5	29.8	S	2.5	2.3	2.3	1.9	29.8	5.0	24	
17	2.6	3.7	3.1	2.9	3.3	4.2	3.3	3.1	3.2	2.3	2.1	2.6	2.6	1.8	2	15.9	2.8	2.9	S	2.9	1.6	1.4	1.3	1.6	15.9	3.2	24	
18	2.1	1.6	1.6	1.8	2	2.6	2.1	2	2.1	12.1	2.4	2.2	2.3	1.8	1.8	1.6	1.9	S	3.1	1.7	2.3	2.6	2.1	2.1	12.1	2.5	24	
19	2.1	2.3	2.4	2.7	2.7	2.7	2.9	2.9	2.7	1.8	2	1.8	2.2	2	1.6	1.8	S	1.4	1.7	1.5	1.6	1.5	1.9	1.3	2.9	2.1	24	
20	1.6	1.7	2.5	2.7	2.4	2	1.9	2.4	1.9	1.7	1.6	1.4	1.1	1.2	1.1	S	2.1	2	1.9	1.7	1.6	1.2	0.9	1	2.7	1.7	24	
21	1.4	0.9	1.1	1.1	1.6	1.6	1.4	1.2	1.7	1	0.9	1	1	0.7	S	1	2.4	1.7	1.5	1.5	2.4	1.9	1.5	1.5	2.4	1.4	24	
22	2.3	2.4	2.1	2.9	4.4	6.6	6.6	15.4	6.4	6.4	2.4	2.7	2.9	S	9	1.7	2.2	2.2	3.3	1.7	2.3	2.1	1.7	1.7	15.4	4.0	24	
23	1.7	1.7	1.5	1.6	1.6	2.2	2.5	1.9	1.8	1.4	1.6	1.5	S	1.1	1	1.5	1.2	1.4	1.5	1.4	2	1	1.2	1	2.5	1.5	24	
24	1	1.5	1.3	1.3	2.9	9.3	2.2	2.4	1.6	1.5	1.5	S	1.1	1.1	2.2	1.4	3.2	3.1	4.1	3.6	3.3	3.1	2.8	2.7	9.3	2.5	24	
25	2.3	2.2	2	1.8	3.8	4	3.7	3.8	3.4	1.9	S	0.9	0.8	0.9	0.9	0.8	1	1	0.7	1	1.3	1.5	1.3	4	1.8	24		
26	1.7	1.9	2.5	4.5	4.9	4.3	4.2	11	4.1	S	2.5	1	1	1	1.3	1.9	1.6	1.4	1	1.2	1	1.2	1	1.3	11	2.5	24	
27	1.1	1.1	1.4	1.3	1.9	1.7	1.2	3.4	S	2	1.5	1.5	1.8	1.5	1.9	1.4	1.8	1.3	1.2	1	1.1	1.2	1	1	3.4	1.5	24	
28	1.3	1.3	1.3	1.1	1.1	1.2	1.1	S	8.3	1	0.7	0.9	1.2	0.9	0.9	1.1	1.2	1.1	1.1	1.1	1.2	1.5	1.5	1.3	8.3	1.5	24	
29	1.2	1.2	1.3	1.4	1.4	1.4	S	1.2	1.2	1.5	1.2	1.3	1	1.3	1	1.3	1.6	1.8	2.1	2.9	2.1	1.3	1.1	1.3	2.9	1.4	24	
30	1.3	1.6	1.8	2.2	2.3	S	1.3	1.6	1.8	1.1	1.1	1	1	1.1	1	1.3	1.4	1.3	1.2	1.6	1.5	1	1.3	1.3	2.3	1.4	24	
HOURLY MAX	5.5	6.7	5.3	5.9	4.9	9.3	6.6	15.4	8.3	12.1	3.9	5.4	3.9	3.0	9.0	15.9	16.8	3.7	29.8	4.2	3.8	3.5	3.5	3.4				
HOURLY AVG	2.0	2.1	2.1	2.2	2.4	2.9	2.5	3.1	2.8	2.5	1.9	2.0	1.8	1.7	2.0	2.2	2.5	1.9	2.9	1.9	2.0	1.9	1.9	1.8				

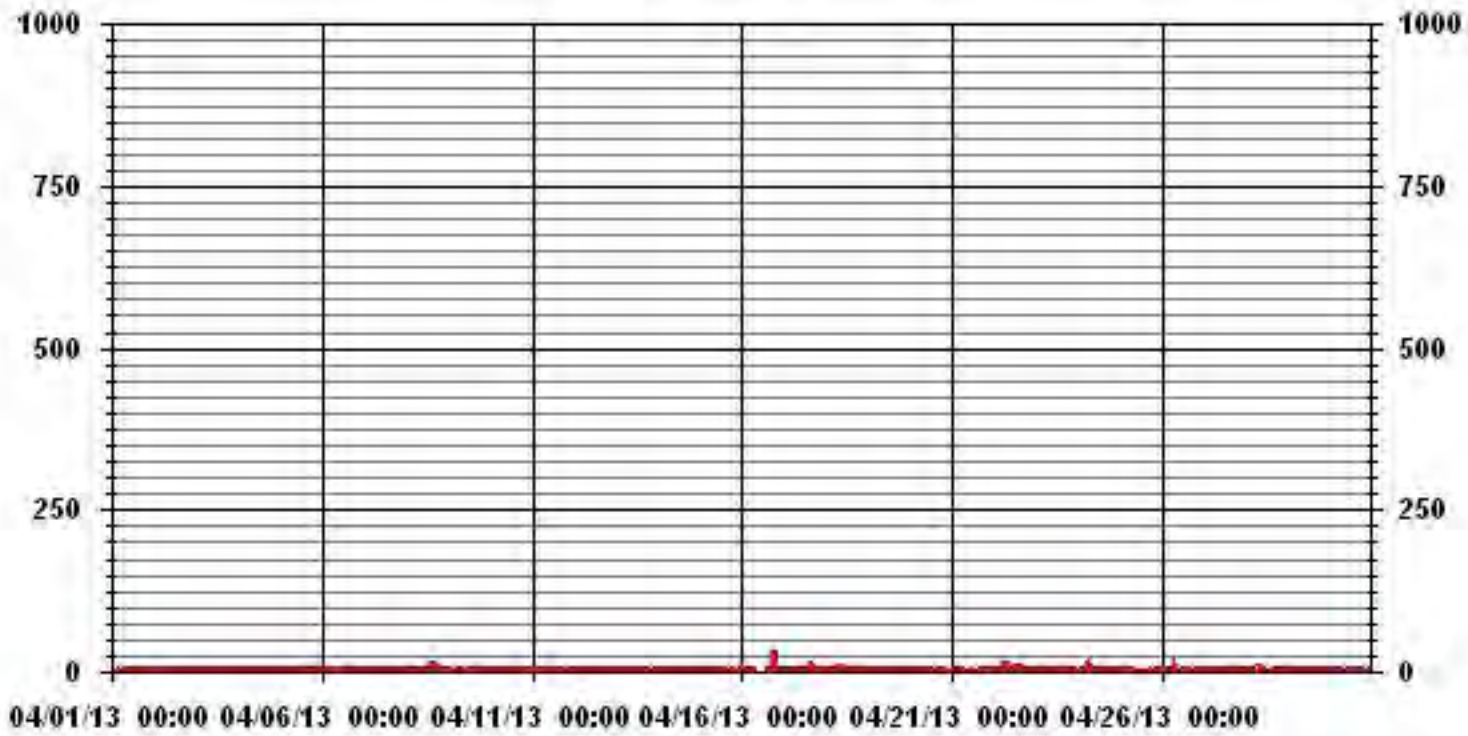
STATUS FLAG CODES

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:	681
MAXIMUM INSTANTANEOUS VALUE:	29.8 PPB @ HOUR(S) 18 ON DAY(S) 16
IZS CALIBRATION TIME:	32 HRS
MONTHLY CALIBRATION TIME:	7 HRS
STANDARD DEVIATION:	1.81
OPERATIONAL TIME:	720 HRS

01 Hour Averages



— LICA31 NO2MAX PPB

LICA31
 NO2_ / WDR Joint Frequency Distribution (Percent)

April 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50.0	3.51	4.10	6.30	9.09	3.81	5.13	3.51	8.21	8.06	5.57	6.01	7.47	6.30	6.01	9.23	7.62	100.00
< 110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.51	4.10	6.30	9.09	3.81	5.13	3.51	8.21	8.06	5.57	6.01	7.47	6.30	6.01	9.23	7.62	

Calm : .00 %

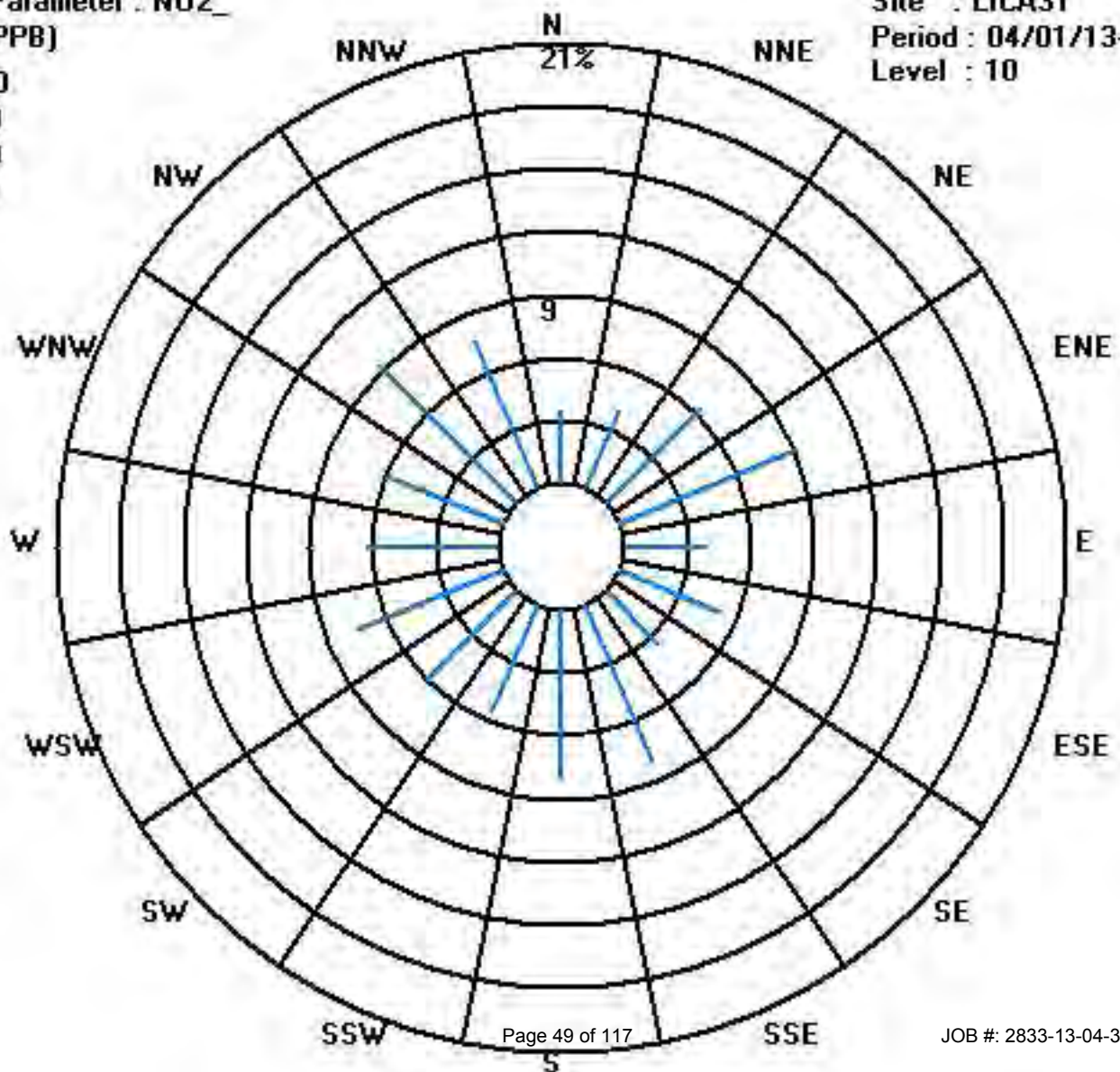
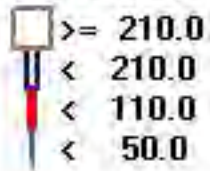
Total # Operational Hours : 682

Distribution By Samples

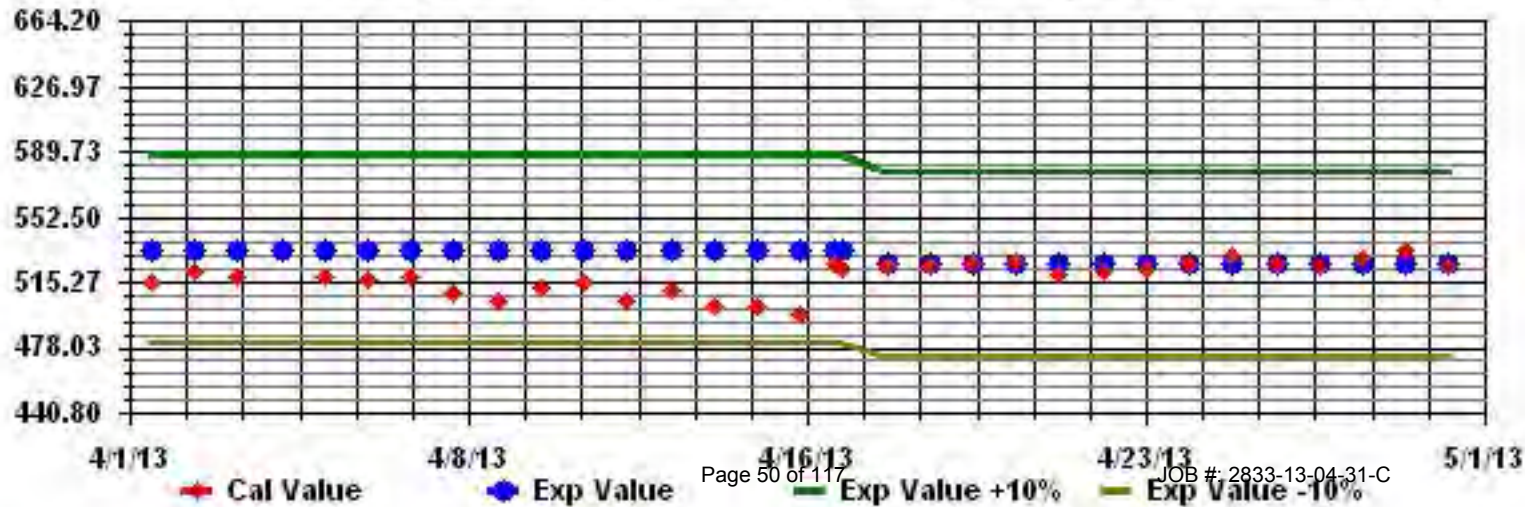
	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50.0	24	28	43	62	26	35	24	56	55	38	41	51	43	41	63	52	682
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	24	28	43	62	26	35	24	56	55	38	41	51	43	41	63	52	

Calm : .00 %

Total # Operational Hours : 682



Calibration Graph for Site: LICA31 Parameter: H02_ Sequence: H02 Phase: SPAll



Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 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	0.1	0	0.3	0.3	0.2	0.2	0.4	0.5	0.5	0.3	0.4	S	0.5	0.6	0.3	0.3	0.5	0.5	0.3	0.3	0.3	0.3	0.1	0.2	0.6	0.3	24	
2	0.3	0.3	0	0	0.2	0.1	0.3	0.2	0.3	0.2	S	0.6	0.3	0.3	0.1	0.3	0	0.4	0.2	0	0.1	0	0.1	0.2	0.6	0.2	24	
3	0.2	0.1	0.2	0.1	0.4	0.3	0.3	0.3	0.3	S	0.1	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0.4	0.1	24	
4	0	0	0	0	0	0	0	0	S	1	0.8	1.3	1.2	0.6	0.6	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.1	1.3	0.4	24	
5	0.1	0.3	0.3	0.3	0.3	0.2	0.3	S	0.4	0.4	0.4	0.3	0.3	0.4	0.5	0.4	0	0	0.2	0.3	0.3	0.1	0	0.3	0.5	0.3	24	
6	0.3	0.2	0.2	0.2	0.2	0.3	S	0.6	1.1	1.1	1.1	0.7	0.5	0.1	0.1	0.1	0	0	0.1	0	0.2	0.1	0	0	1.1	0.3	24	
7	0	0	0	0	0	S	0.1	0.1	0	0.1	0	0.1	0	0.1	0	0	0	0	0	0	0	0	0	0	0.1	0.0	24	
8	0	0	0	0	S	0.3	0.2	0.3	0.2	0.4	0	0.1	0	0	0	0	0.1	0.1	0	0	0	0	0	0	0.4	0.1	24	
9	0	0	0	S	0.6	0.6	0.5	1.1	1	0.7	0.5	1.9	0.3	0.3	0	0	0	0	0.1	0	0.2	0.1	0.1	0.1	1.9	0.4	24	
10	0.1	0.1	S	0.6	0.1	0	0	0	0.3	0.3	0.3	0.3	0.2	0	0	0	0	0	0	0	0	0	0	0	0.6	0.1	24	
11	0	S	0.7	0.7	0.5	0.5	0.7	0.7	0.7	0.5	0.4	0.4	0.2	0.1	0.3	0.4	0.2	0.5	0.2	0.3	0	0.4	0.2	0.4	0.7	0.4	24	
12	S	0.4	0	0	0	0	0.2	0.2	0.1	0.1	0.1	0	0.1	0	0.1	0.1	0.1	0.3	0.2	0.3	0.2	0.1	0.2	S	0.4	0.1	24	
13	0.7	0.6	0.3	0.4	0.3	0.3	0.1	0.4	0.5	0.3	0.3	0.2	0.2	0.3	0.2	0.3	0.3	0.1	0.1	0.2	0.4	0.2	S	0.4	0.7	0.3	24	
14	0.1	0.2	0	0	0	0	0.5	0.5	1.2	1	1.5	1.1	0.4	0.3	0.3	0.2	0	0.1	0	0.2	0.3	S	0.2	0	1.5	0.4	24	
15	0	0	0	0	0	0	0	0.7	1.3	1.3	0.9	0	0	0	0	0	0	0	0	0	S	0.3	0.3	0.2	1.3	0.2	24	
16	0.1	0.1	0.1	0	0	0.1	0.2	0.2	C	C	C	C	C	C	C	0.5	0	0.1	1.1	S	0.2	0.2	0.2	0.1	1.1	0.2	24	
17	0.1	0.1	0	0	0.1	0.6	0.4	0.7	0.8	0.4	0.5	0.5	0.2	0.2	0.2	0.1	0.1	0	S	0	0	0	0	0	0.8	0.2	24	
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0.6	0.1	0.2	0.3	0.2	0.1	0.6	0.1	24
19	0.1	0.3	0.3	0.2	0.1	0.3	0.5	0.5	0.3	0.6	0.2	0.2	0.3	0.4	0	0	S	0.6	0.3	0.5	0.5	0.3	0.2	0.4	0.6	0.3	24	
20	0.4	0.4	0.5	0.6	0.6	0.7	0.5	0.6	0.8	0.6	0.7	0.7	0.7	0.5	0.7	S	0.5	0.2	0.1	0.1	0.4	0.3	0.4	0.4	0.8	0.5	24	
21	0.6	0.5	0.5	0.5	0.3	0.3	0.3	0.4	0.5	0.6	0.3	0.4	0.4	0.3	S	0.8	0.5	0.4	0.6	0.3	0.4	0.5	0.4	0.3	0.8	0.4	24	
22	0.1	0	0.2	0.2	0.3	0.6	1.5	2.5	3	1.7	0.3	0.6	0.9	S	0.5	0	0.2	0	0	0	0	0	0	0	3	0.5	24	
23	0	0	0	0.1	0	0.1	0.2	0.2	0.4	0	0	0	S	0.4	0.1	0	0	0	0	0	0.1	0	0.2	0.2	0.4	0.1	24	
24	0.2	0.2	0.2	0	0	0.5	0.4	0.3	0.2	0.1	0	S	0.4	0.1	0	0	0.1	0.4	0.3	0	0	0	0	0	0.5	0.1	24	
25	0	0	0	0	0	0.1	0.1	0.3	0.4	0	S	0.4	0.1	0.2	0.3	0.2	0.2	0.2	0.5	0.2	0	0	0	0	0.5	0.1	24	
26	0	0	0	0	0	0	0.3	0.9	1.4	S	0.7	0.3	0.4	0.4	0.2	0.4	0.2	0	0.2	0.3	0	0	0	0	1.4	0.2	24	
27	0	0	0	0	0	0	0	0	S	0.9	0.3	0.2	0.5	0.6	0.6	0.8	0.5	0.1	0.3	0.2	0.4	0.4	0.5	0.6	0.9	0.3	24	
28	0.7	0.7	0.7	0.7	0.7	0.7	0.7	S	2	1.5	1.6	1.5	1.6	1.3	1.5	1.6	1.1	1.3	1	1.1	1	1.2	1.1	0.9	2	1.1	24	
29	0.9	0.9	0.9	0.9	1	1	S	0.8	0.5	0.8	0.6	0.6	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.6	0.5	0.6	0.5	0.4	1	0.7	24	
30	0.6	0.6	0.9	0.6	0.8	S	1.6	1.5	1.5	1.4	1.2	1.3	1.2	1.2	1.2	1.1	1.4	1.1	1.1	1.1	1.1	1.2	1.1	1.6	1.1	24		
HOURLY MAX	0.9	0.9	0.9	0.9	1.0	1.0	1.6	2.5	3.0	1.7	1.6	1.9	1.6	1.3	1.5	1.6	1.4	1.3	1.1	1.1	1.0	1.2	1.2	1.1				
HOURLY AVG	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.5	0.7	0.6	0.5	0.5	0.4	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2				

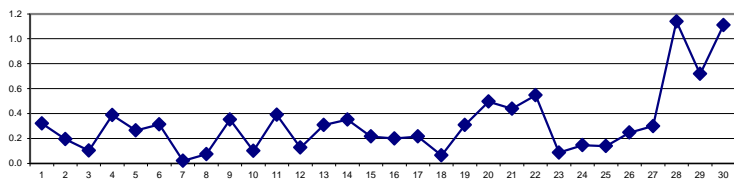
STATUS FLAG CODES

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

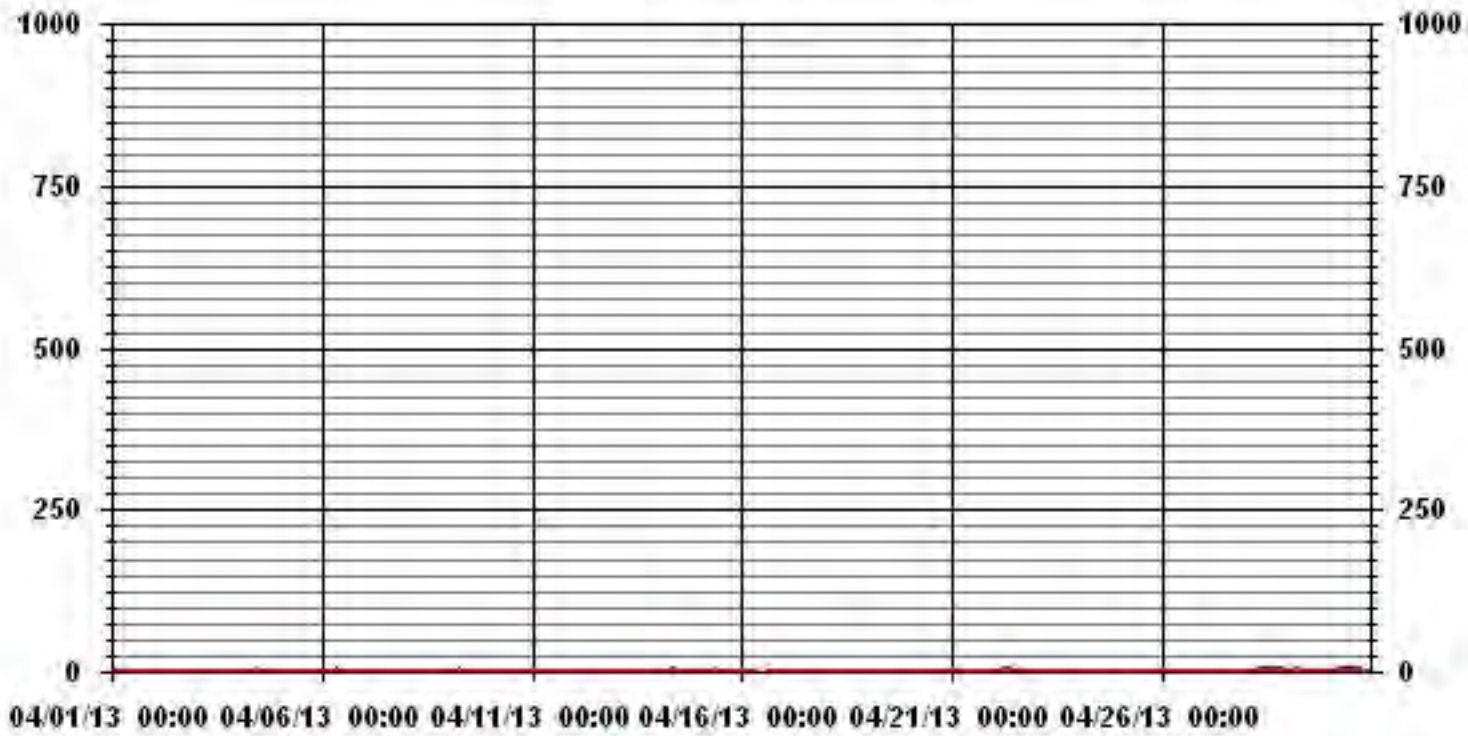
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	471		
MAXIMUM 1-HR AVERAGE:	3.0	PPB	@ HOUR(S) 8 ON DAY(S) 22
MAXIMUM 24-HR AVERAGE:	1.1	PPB	ON DAY(S) 28, 30
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME: 720 HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME: 100.0 %
STANDARD DEVIATION:	0.39		MONTHLY AVERAGE: 0.32 PPB

24 HOUR AVERAGES FOR APRIL 2013



01 Hour Averages



— LICA31 NO_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 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	0.9	0.7	0.9	1.1	1.2	0.9	1.1	1.2	1.2	0.9	0.9	S	1.1	1.4	0.8	1.1	1.3	1.1	0.9	0.9	0.9	0.9	0.9	0.7	1.4	1.0	24	
2	1.1	0.9	0.7	0.5	0.7	0.9	1	0.8	1.1	0.7	S	1.3	1	1	0.8	1.2	1.1	1.3	1	1.1	1	0.5	0.8	0.8	1.3	0.9	24	
3	0.9	0.7	0.9	1.1	1.2	1	0.9	1	1.1	S	0.9	0.7	0.4	0.5	0.5	0.6	0.7	0.6	0.7	0.4	0.3	0.7	0.7	0.6	1.2	0.7	24	
4	0.4	0.4	0.6	0.4	0.4	0.4	0.7	0.4	S	2.1	1.5	2.3	2.1	1.3	1.2	1	1.3	1.2	1.1	1	1	1	1.2	0.8	2.3	1.0	24	
5	0.7	1	1.1	1	1	0.9	S	S	1.1	1.2	1.1	1.1	1.1	1.1	1.1	1.1	0.6	0.6	1.1	1.1	0.9	0.7	0.9	1	1.2	1.0	24	
6	0.9	0.9	1.1	0.9	0.8	1.2	S	1.4	1.7	1.6	1.7	1.4	1.2	0.8	0.7	0.8	0.6	0.6	0.6	0.4	0.7	0.6	0.6	0.5	1.7	0.9	24	
7	0.6	0.4	0.8	0.5	0.7	S	0.9	0.7	0.5	0.7	0.9	1	0.4	0.7	0.6	0.4	0.3	0.8	0.2	0.4	0.2	0.2	0.4	0.4	1	0.6	24	
8	0.2	0.3	0.4	0.8	S	1.2	0.9	0.9	0.8	1.1	0.6	0.8	0.5	0.5	0.8	0.8	9.5	1.2	0.9	0.4	0.5	0.5	0.5	0.5	9.5	1.1	24	
9	0.6	0.6	0.6	S	1.4	2	2.2	3.4	2.5	1.2	1.9	4.3	1.1	1.1	0.8	0.7	0.6	0.8	0.9	0.4	0.9	0.7	0.8	0.7	4.3	1.3	24	
10	0.7	0.7	S	1.2	0.8	0.6	0.6	0.6	1	0.8	0.9	0.9	0.9	0.7	0.5	0.5	0.7	0.3	0.3	0.1	0.1	0.1	0.1	0.1	1.2	0.6	24	
11	0.4	S	1.3	1.3	3.2	1.3	1.9	1.4	2	1.8	1.3	1.2	1.2	1	1	2.2	1.3	1.1	0.8	1.1	0.8	1.1	1.1	1	3.2	1.3	24	
12	S	1.1	0.7	0.7	0.7	0.5	0.8	0.7	0.7	0.7	0.7	0.9	0.7	0.7	0.7	0.7	0.6	1	0.9	0.9	0.8	0.9	0.8	S	1.1	0.8	24	
13	1.5	1.2	0.8	1.3	1	0.9	0.7	1.1	1	0.9	1	0.7	1.1	0.9	0.8	0.9	0.9	0.8	0.7	0.8	1	0.9	S	1.2	1.5	1.0	24	
14	0.9	0.9	0.7	0.7	0.6	0.6	1.2	1.4	1.9	1.8	2.9	2.4	1	1.2	1	1	0.8	0.8	0.7	1	1.2	S	0.8	0.4	2.9	1.1	24	
15	0.3	0.2	0.6	0.5	0.3	0.4	0.5	1.4	2	1.9	1.7	1.3	0.2	0.5	0.3	0.4	0.4	0.3	0.4	0.6	S	1.1	1.1	0.9	2	0.8	24	
16	0.8	0.8	0.7	0.8	0.6	0.9	0.9	0.9	C	C	C	C	C	C	C	1.4	0.6	1.4	47.3	S	1.2	0.8	1.1	1	47.3	3.8	24	
17	0.8	1	0.9	1	1.3	1.3	1.1	1.6	1.7	1.1	1.4	1.5	1	0.8	1	8.3	0.7	0.7	S	1.1	0.4	0	0.1	0	8.3	1.3	24	
18	0.2	0.2	0.2	0.2	0.6	0.6	0.2	0.9	0.3	5.3	0.2	0.2	0.2	0.2	0.2	0.4	0.6	S	1.7	1	0.9	1.2	0.9	0.7	5.3	0.7	24	
19	0.7	0.9	1	0.9	1	1	1	1.2	1.1	1.4	1.1	0.9	0.8	1.1	0.7	0.8	S	1.6	1	1.2	1.2	1	0.7	1.2	1.6	1.0	24	
20	1.3	1.1	1.2	1.3	1.3	1.8	1.3	1.3	1.3	1.3	1.7	1.3	1.2	1.2	1.6	S	2.2	0.9	0.9	0.8	1.1	0.9	1.2	1	2.2	1.3	24	
21	1.2	1.2	1	1.3	1.4	0.8	0.9	1.3	1.2	1.5	1.3	1.2	1.1	1.1	S	1.8	1.5	1	1.2	1	1	1.6	1	1	1.8	1.2	24	
22	0.9	0.7	0.9	0.8	1.9	1.9	2.9	16.9	4.1	4.2	0.9	1.5	1.5	S	7.3	1.6	0.9	0.8	0.7	0.5	0.5	0.6	0.8	0.4	16.9	2.3	24	
23	0.4	0.4	0.7	0.8	0.7	0.9	0.9	0.9	1	0.6	0.5	1	S	1.2	0.7	0.7	0.6	0.7	0.8	0.7	1	0.5	0.8	0.8	1.2	0.8	24	
24	0.8	0.8	1	0.5	1.6	8.5	1.3	1.6	0.7	0.9	0.6	S	1.7	0.9	0.9	0.6	0.9	1.1	1.2	0.9	0.6	0.9	0.6	0.7	8.5	1.3	24	
25	0.7	0.7	0.6	0.6	0.7	0.9	0.7	1.3	1.3	0.8	S	2.1	0.9	0.9	1.1	0.9	1.3	1	1.3	1	0.8	0.8	0.9	0.8	2.1	1.0	24	
26	0.7	0.5	0.4	0.5	0.8	1	1	15.7	2	S	2.4	1	1.1	1	0.8	1.2	1.3	1	0.7	0.9	0.7	0.7	0.7	0.4	15.7	1.6	24	
27	0.6	0.4	0.3	0.5	0.3	0.5	0.4	1.1	S	1.7	0.9	1	1.3	1.3	1.3	1.6	1.2	0.7	0.9	1.1	1.2	1	1	1.3	1.7	0.9	24	
28	2	1.5	1.4	1.4	1.4	1.4	1.4	S	9	2.3	2.5	2.8	2.4	1.9	2.2	2.4	1.7	2.1	1.7	1.8	1.5	1.8	1.8	1.7	9	2.2	24	
29	1.7	1.6	1.8	1.6	1.9	1.7	S	2	1.1	1.6	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.4	2	1.9	1.1	1.7	1.2	1.2	2	1.5	24	
30	1.2	1.2	1.7	1.4	1.5	S	2.4	2.6	2.2	2	1.9	2.2	2.3	1.7	1.9	1.7	2	1.7	1.9	2.5	1.9	1.7	1.9	1.6	2.6	1.9	24	
HOURLY MAX	2.0	1.6	1.8	1.6	3.2	8.5	2.9	16.9	9.0	5.3	2.9	4.3	2.4	1.9	7.3	8.3	9.5	2.1	47.3	2.5	1.9	1.8	1.9	1.7				
HOURLY AVG	0.8	0.8	0.9	0.9	1.1	1.3	1.1	2.3	1.7	1.6	1.3	1.4	1.1	1.0	1.2	1.3	1.3	1.0	2.6	0.9	0.9	0.9	0.9	0.8				

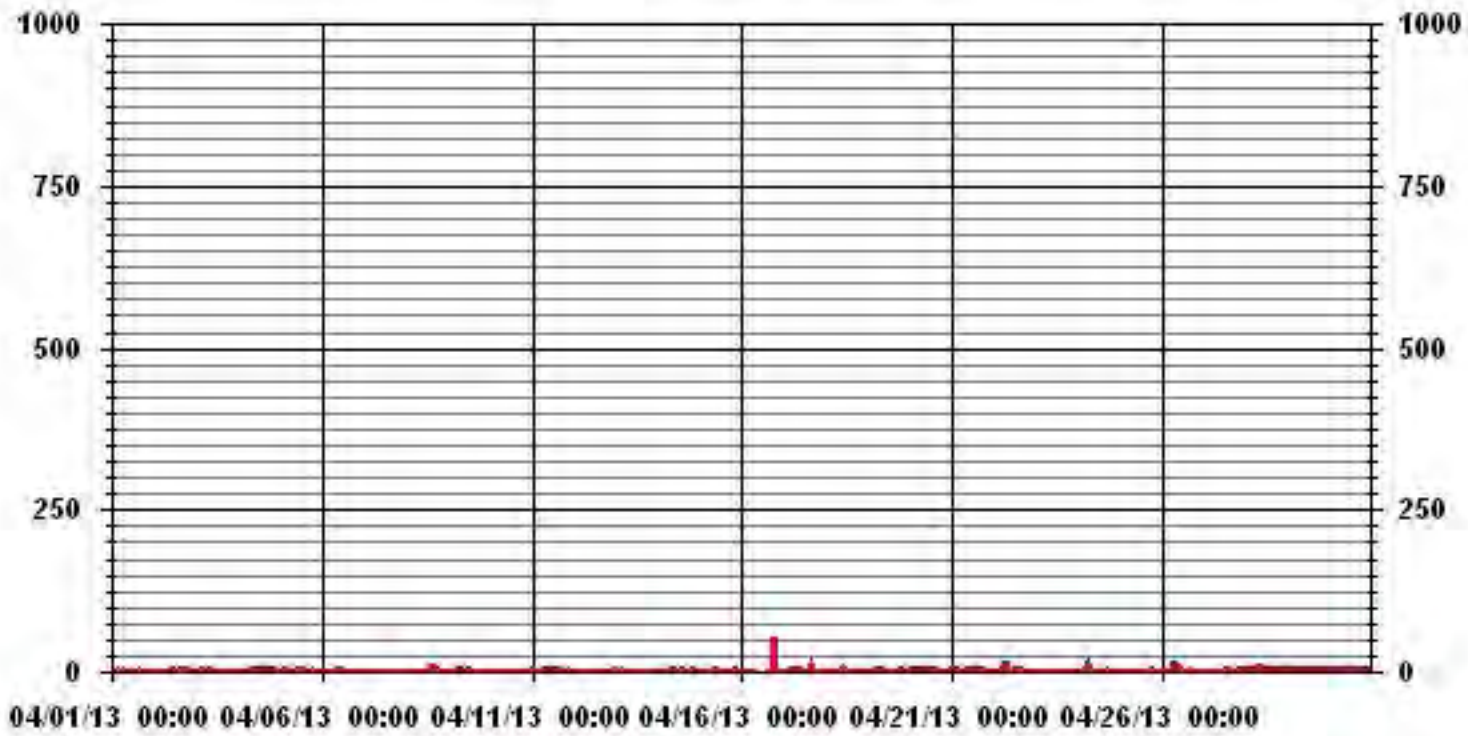
STATUS FLAG CODES

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:	679					
MAXIMUM INSTANTANEOUS VALUE:	47.3	PPB	@ HOUR(S)	18	ON DAY(S)	16
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION:	2.13					

01 Hour Averages



LICA31
 NO_ / WDR Joint Frequency Distribution (Percent)

April 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50.0	3.51	4.10	6.30	9.09	3.81	5.13	3.51	8.21	8.06	5.57	6.01	7.47	6.30	6.01	9.23	7.62	100.00
< 110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.51	4.10	6.30	9.09	3.81	5.13	3.51	8.21	8.06	5.57	6.01	7.47	6.30	6.01	9.23	7.62	

Calm : .00 %

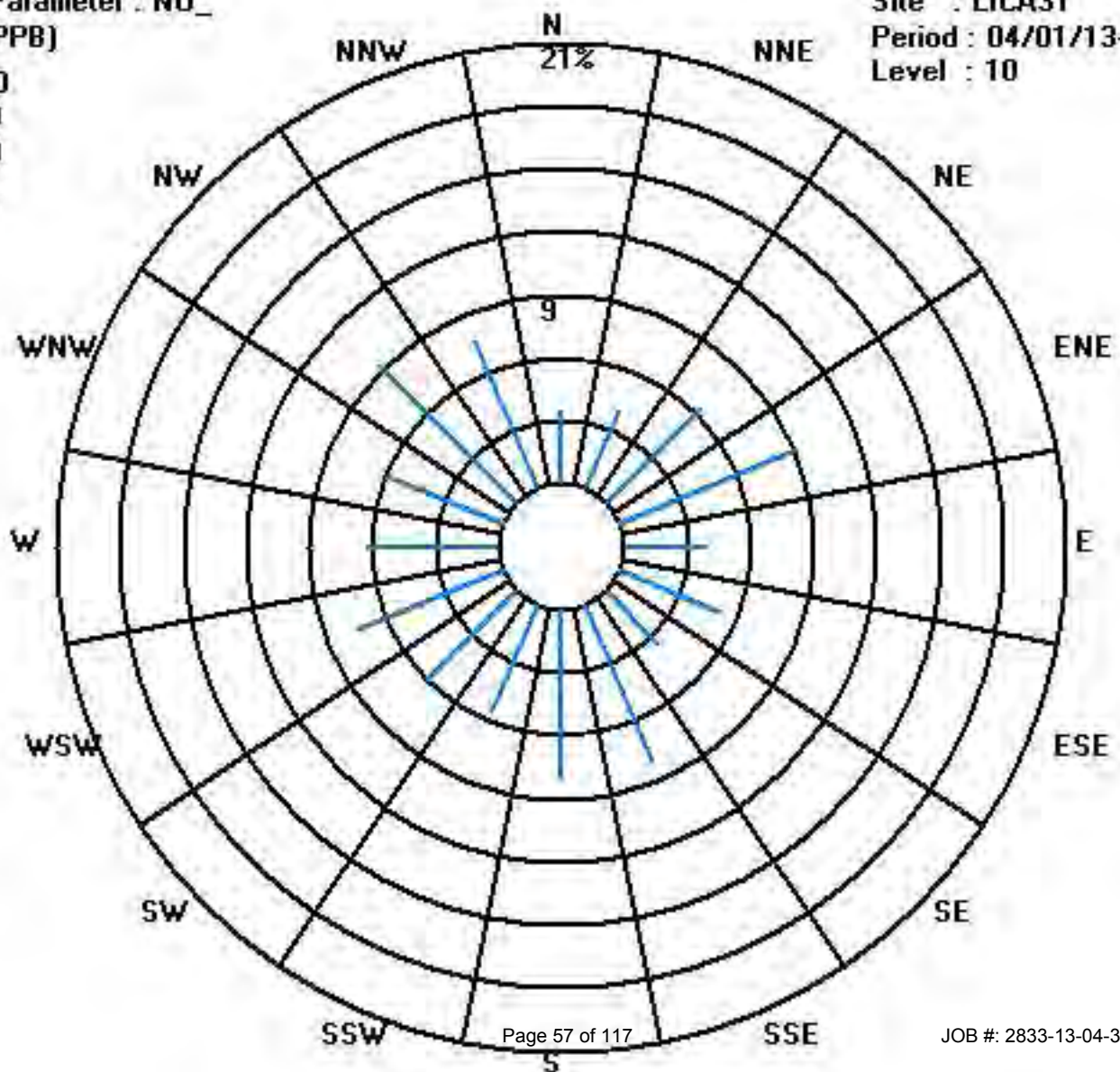
Total # Operational Hours : 682

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50.0	24	28	43	62	26	35	24	56	55	38	41	51	43	41	63	52	682
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	24	28	43	62	26	35	24	56	55	38	41	51	43	41	63	52	

Calm : .00 %

Total # Operational Hours : 682



Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 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	0.4	0	0.3	0.3	0.2	0.3	0.6	1.1	1.3	0.7	0.8	S	1.4	1.3	0.9	0.9	1.1	0.8	0.7	1	1.2	1.2	1.4	1.5	1.5	0.8	24
2	1.6	1.4	1.3	0.8	1.1	1	1.5	1.2	1.5	1.3	S	2.4	2.6	2.4	2.4	2.9	2.6	3	2.7	2.7	2.9	2.7	2.9	2.3	3	2.1	24
3	1.7	1.2	1.2	1.1	1.2	1.1	1	1.1	1.1	S	0.8	0.6	0.6	0.7	0.3	0.7	0.7	0.4	0.4	0.4	0.1	0.3	0.6	0.7	1.7	0.8	24
4	0.8	0.3	0.3	0.8	0.4	1	0.6	0.6	S	2.3	2.2	3.8	3.5	2.2	2.5	2.6	2.8	2.1	1.7	1.6	1.8	1.7	1.5	1.2	3.8	1.7	24
5	1.2	1.5	1.4	1.5	1.6	1.8	1.6	S	1.6	1.5	1.6	1.3	1.4	1.8	2.2	1.9	1	0.5	0.8	0.9	0.7	0.7	0.5	0.8	2.2	1.3	24
6	0.8	1	0.9	1.5	1.7	2	S	2.7	3.5	3.5	2.9	2.4	1.8	1.5	1.2	1.2	1	1	1.2	1	1.6	1.4	1.2	1.4	3.5	1.7	24
7	1	1.5	1.6	1.7	1.7	S	2.2	2.2	2	1.8	1.7	1.8	1.4	1.6	1.5	1.2	1.1	0.9	0.5	0.5	0.4	0.7	0.9	0.6	2.2	1.3	24
8	1.4	2.1	3.5	4.5	S	3.3	2.1	1.3	1.2	1.6	1.2	1.4	1	1	1.2	1.1	1.6	1.5	1.2	1.1	1.2	1.4	1.2	1.5	4.5	1.7	24
9	1.3	1.5	1.8	S	1.9	2.8	2.5	3.4	2.7	1.9	1.5	4.5	1.9	1.8	1.5	1.5	1.8	2	2.3	2.1	2.2	1.7	1.3	1.4	4.5	2.1	24
10	1.4	1.3	S	1.9	1.5	1.3	1.3	1.3	1.5	1.5	1.8	1.8	1.8	1.9	2.1	2	2.2	2.2	2.3	2.1	2.4	2.2	2.2	2.5	2.5	1.8	24
11	2.2	S	1.9	2	1.9	2.1	2.2	1.9	2	1.4	1.3	1.3	1.2	1.3	1.2	0.7	0.6	0.7	0.4	0.4	0.6	0.9	1	1.5	2.2	1.3	24
12	S	1.7	1.2	1.1	1.1	1	1.6	1.6	1.3	1.1	1.2	1.1	1.3	1	1	1	1.1	1.5	1.5	1.6	1.7	1.8	2.3	S	2.3	1.4	24
13	2.1	1.9	1.4	1.4	1.4	1.6	1.5	1.6	1.8	1.4	1.2	1.1	0.9	0.9	0.9	1.1	1	0.9	1	1.2	2	1.3	S	0.9	2.1	1.3	24
14	0.7	0.8	0.9	1.8	1.8	3	3.5	2.3	4.4	3.2	4	3.9	1.8	1.3	0.8	0.6	0.5	1	1	1	1.2	S	0.9	0.7	4.4	1.8	24
15	1	0.4	0.6	0.3	0.3	0.4	1.4	4.3	4.8	4.2	3.2	1	0.2	0.6	0.2	0.5	0.3	0.2	0.4	0.3	S	1.1	2	1.8	4.8	1.3	24
16	3	5.7	4.1	3.3	2.9	1.7	1.5	1.5	C	C	C	C	C	C	C	1.6	0.8	1.4	3	S	1.5	1.7	1.6	1.4	5.7	2.3	24
17	1.9	2.7	2.4	1.9	1.9	2.6	2.7	2.8	2.6	1.9	1.9	2.3	1.8	1.3	1.4	1.4	1.7	1.6	S	1.6	0.4	0	0	0.3	2.8	1.7	24
18	1	0.7	0.8	0.7	1	1.5	1	1.3	1.1	1.5	1	1.1	0.9	0.9	0.9	0.8	0.9	S	1.6	1.1	1.7	2.1	1.5	1.3	2.1	1.1	24
19	1.3	1.8	1.7	2.2	2.1	2.3	2.6	2.5	2	1.8	1.5	1.3	1.6	1.5	1	1	S	1.4	1.4	1.5	1.6	1.3	1.3	1.3	2.6	1.7	24
20	1.4	1.4	1.7	1.9	2.2	1.9	1.7	2	1.9	1.4	1.5	1.4	1.2	0.9	1.1	S	1.7	1.1	1.2	1.1	1.3	0.8	0.7	0.7	2.2	1.4	24
21	0.8	0.8	0.9	1	1	1.2	1.1	1	1.2	0.9	0.3	0.5	0.5	0.4	S	0.9	1.1	1	1.1	0.9	1.1	1.2	1	0.8	1.2	0.9	24
22	1.2	1.4	1.5	2.1	2.7	3.6	5.8	7.3	7.8	4.9	1.6	2	2.7	S	1.7	1.3	1.4	1.2	1.8	1.2	1	1.2	1.2	1	7.8	2.5	24
23	1	0.9	0.9	1.1	1	1.5	1.6	1.4	1.5	0.8	0.7	0.8	S	1	0.5	0.5	0.5	0.4	0.6	0.6	0.7	0.4	0.6	0.5	1.6	0.8	24
24	0.6	0.8	0.7	0.4	1.3	2.4	1.6	1.6	1.2	1	0.6	S	0.8	0.7	0.9	0.6	1.9	2.7	2.9	2.8	2.1	1.4	1.8	1.8	2.9	1.4	24
25	1.3	1.2	1.1	0.7	2.2	3.3	2.9	3	2.4	0.9	S	0.8	0.6	0.7	0.8	0.6	0.5	0.6	0.9	0.5	0.5	0.6	0.9	1	3.3	1.2	24
26	1.3	1.4	1.6	3.1	4.5	4	4.1	4.7	4.8	S	1.8	0.9	0.8	0.9	0.9	1.2	1	0.8	0.9	0.9	0.7	0.9	0.7	0.5	4.8	1.8	24
27	0.7	0.5	0.6	0.8	0.9	0.9	0.7	1.2	S	0.9	0.3	0.2	0.7	0.8	1	0.9	0.7	0.1	0.3	0.2	0.4	0.4	0.5	0.6	1.2	0.6	24
28	0.7	0.7	0.7	0.7	0.7	0.7	0.7	S	2	1.5	1.6	1.5	1.6	1.3	1.5	1.6	1.1	1.3	1	1.1	1	1.2	1.1	0.9	2	1.1	24
29	0.9	0.9	0.9	0.9	1	1	S	1.2	0.9	1.3	1	1	0.9	1	0.9	1	1.1	1.2	1.2	1.4	0.9	1	0.8	0.8	1.4	1.0	24
30	1	1.1	1.3	1.6	1.8	S	1.6	1.5	1.5	1.4	1.2	1.3	1.2	1.2	1.2	1.1	1.4	1.1	1.1	1.1	0.7	1.1	1.2	1.1	1.8	1.3	24
HOURLY MAX	3.0	5.7	4.1	4.5	4.5	4.0	5.8	7.3	7.8	4.9	4.0	4.5	3.5	2.4	2.5	2.9	2.8	3.0	3.0	2.8	2.9	2.7	2.9	2.5			
HOURLY AVG	1.2	1.3	1.4	1.5	1.6	1.8	1.9	2.1	2.3	1.8	1.5	1.6	1.4	1.2	1.2	1.2	1.2	1.2	1.3	1.2	1.2	1.2	1.2	1.1			

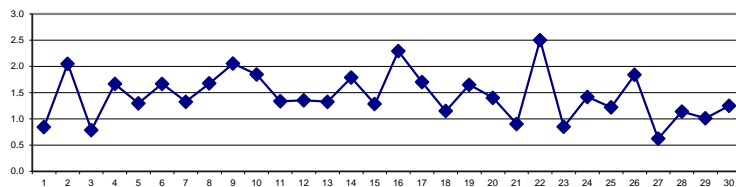
STATUS FLAG CODES

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

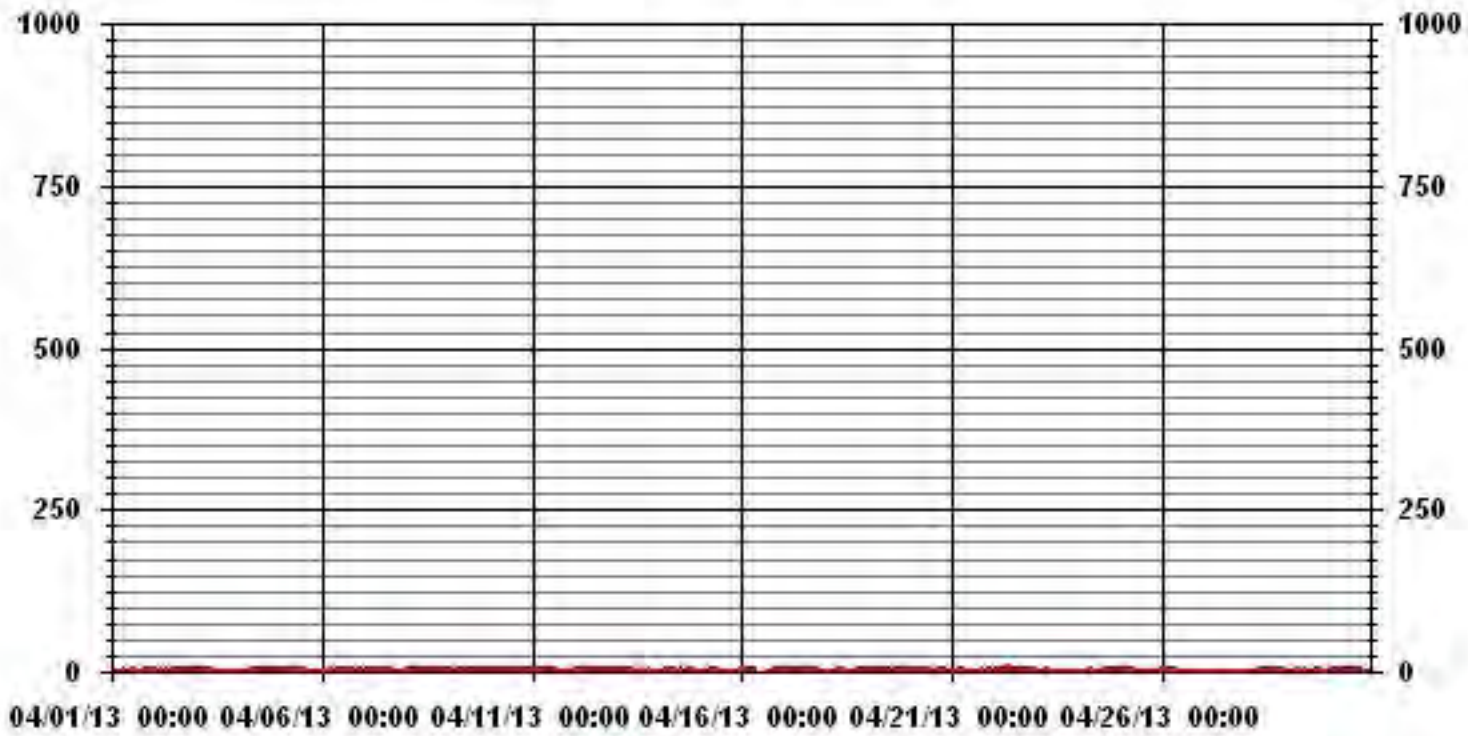
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	679		
MAXIMUM 1-HR AVERAGE:	7.8	PPB @ HOUR(S)	8 ON DAY(S) 22
MAXIMUM 24-HR AVERAGE:	2.5	PPB	ON DAY(S) 22
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME: 720 HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME: 100.0 %
STANDARD DEVIATION:	0.90		MONTHLY AVERAGE: 1.43 PPB

24 HOUR AVERAGES FOR APRIL 2013



01 Hour Averages



— LICA31 NOX_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 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	0.8	0.8	2	2	1	1.4	2.1	1.9	1.4	1.6	S	2.1	2.2	1.6	2.5	2.7	1.5	1.5	1.7	1.8	1.9	2	2.2	2.7	1.7	24	
2	2.2	2	2.1	1.4	1.8	1.7	2.1	1.8	2.1	1.9	S	3.1	3.4	3.1	3.1	4.8	5.1	4.5	3.5	4.7	4.3	3.5	3.6	3.1	5.1	3.0	24	
3	2.6	1.9	1.9	2.1	2.1	2.2	1.9	1.9	2	S	1.5	1.3	1.3	1.5	1.4	1.5	1.5	1.3	1.3	1	1	1.3	1.7	2.6	1.6	24		
4	1.6	1.1	1.1	1.6	1.2	1.7	1.4	1.4	S	3.3	3	5.8	5.2	3	3.2	3.2	3.7	2.9	2.4	2.4	2.4	2.4	2.2	1.9	5.8	2.5	24	
5	1.8	2.2	2	2.2	2.3	2.6	S	S	2.4	2.2	2.2	2.2	2.1	3	2.9	2.7	2	1.1	1.5	1.6	1.5	1.4	1.5	1.5	3	2.0	24	
6	1.4	1.9	1.9	2.4	2.5	2.7	S	3.6	4.2	4.4	3.6	3.1	2.7	2.2	2	1.8	1.8	1.7	2.1	1.7	2.3	2.2	2.1	2	4.4	2.4	24	
7	1.9	2.3	2.5	2.5	2.7	S	3	2.9	2.8	2.5	2.6	2.7	2.1	2.3	2.3	1.8	1.8	1.7	1.4	1.1	1.1	1.5	1.9	1.7	3	2.1	24	
8	2	3.4	4.4	5.8	S	4.6	3	2.3	2.1	2.6	2	2.1	1.9	1.9	2.9	2.4	22.5	2.9	2.8	2	1.9	2.2	2.1	2.3	22.5	3.6	24	
9	2.1	2.2	2.5	S	2.7	5.6	5.7	6.6	5.2	2.7	3.7	9.5	2.9	2.5	2.4	2.2	2.4	2.5	3	3	2.9	2.4	2.2	2.2	9.5	3.4	24	
10	2.1	2.3	S	2.6	2.2	2	2	2	2.5	2.3	2.5	2.5	2.6	2.6	2.6	2.6	3	3	2.9	2.8	3.1	2.8	3.1	3.1	3.1	2.6	24	
11	2.8	S	2.5	2.7	5.4	3.6	3.9	2.8	3.8	2.2	2.2	2.3	2.4	2.3	2.4	2.5	1.8	1.6	1	1.2	1.4	1.7	1.7	2.3	5.4	2.5	24	
12	S	2.6	1.8	1.8	1.6	1.8	2.3	2.3	2.2	1.8	1.8	2	2	1.7	1.7	1.6	1.7	2.2	2.1	2.3	2.4	2.4	2.9	S	2.9	2.0	24	
13	3.1	2.5	2.1	2	2	2.2	2.4	2.2	2.8	2.1	2	1.7	1.9	1.6	1.7	1.7	1.6	1.5	1.6	2.1	2.9	2.1	S	1.9	3.1	2.1	24	
14	1.7	1.7	2	2.7	2.9	4.2	4.7	3.9	5.2	4.7	5.8	5.7	2.5	2.8	1.5	1.5	1.3	1.7	1.8	1.7	1.8	S	1.5	1.5	5.8	2.8	24	
15	2.7	1	1.2	1.2	0.9	1	2.8	5.7	5.7	5.4	4.6	2.4	0.9	1.2	0.9	1.3	1.4	1	1	1.2	S	2.3	3.1	2.6	5.7	2.2	24	
16	5.3	6.8	5	4.6	4.4	2.9	2.2	2.4	C	C	C	C	C	C	C	2.6	1.6	4.3	69.1	S	2.7	2.5	2.7	2	69.1	7.6	24	
17	3	4.1	3.5	3	4.3	4.6	4	4.4	2.8	2.8	3.4	3.2	1.9	2.2	23.6	2.9	3.2	S	2.9	1.2	0.5	0.7	0.9	23.6	3.8	24		
18	1.6	1.4	1.4	1.3	2	2.8	1.7	2	1.7	16.8	2.1	1.8	1.8	1.6	1.6	1.6	S	4.5	1.7	2.6	2.9	2.3	2.1	16.8	2.6	24		
19	2.1	2.5	2.3	2.9	2.8	3	3.1	3.1	2.7	2.5	2.5	1.9	2.4	2.3	1.6	1.9	S	2.3	2.1	2.2	2.5	2.1	2.3	2	3.1	2.4	24	
20	2.1	2.4	3.4	3.7	3.1	3	2.6	2.8	2.5	2.3	2.8	2.2	1.8	1.5	1.9	S	2.7	2.1	2.1	1.9	2	1.5	1.7	1.2	3.7	2.3	24	
21	1.9	1.5	1.7	1.6	1.9	2	1.7	1.8	2.5	2.2	1	1.5	1.2	1.2	S	1.7	3	2.2	2.2	1.5	2.6	2.8	1.8	1.5	3	1.9	24	
22	2.1	2.2	2.1	3	5.5	8	8.8	31	10.1	10.3	2.9	3.4	3.6	S	16.1	2.7	2.9	2.7	4.1	2	2.1	2	2.2	1.6	31	5.7	24	
23	1.5	1.7	1.6	2	2	2.6	2.6	2.2	2.2	1.5	1.4	1.7	S	1.9	1.1	1.7	1.7	1.8	1.9	1.9	2.3	1	1.3	1.2	2.6	1.8	24	
24	1.2	1.5	1.5	1.2	3.9	16.9	2.9	3.5	1.7	2	1.4	S	2.3	1.6	2.7	1.4	3.3	3.4	4.7	3.6	3.1	3	2.4	2.6	16.9	3.1	24	
25	2.2	1.9	1.8	1.3	4	4.2	3.7	4.2	3.6	2.1	S	2.6	1.3	1.5	1.5	1.4	1.5	1.7	2.1	1.3	1.7	1.8	2.1	1.5	4.2	2.2	24	
26	2.1	2.2	2.6	4.7	5.2	4.7	5	26.6	5.6	S	4.9	1.4	1.4	1.7	1.4	2.4	2.7	2.2	1.6	1.8	1.4	1.7	1.3	1	26.6	3.7	24	
27	1.4	1.2	1.5	1.4	1.8	1.8	1.4	3.9	S	2.3	1	1	1.2	1.5	2	1.7	1.7	0.7	1	0.8	0.9	0.9	1	0.9	3.9	1.4	24	
28	1.3	1.3	1.3	0.8	1.1	1.1	1.1	S	14.9	1.2	1.3	1.5	1.5	1	1.2	1.4	1.2	1.2	1	1.4	1.2	1.5	1.7	1.2	14.9	1.8	24	
29	1	1	1.2	1	1.6	1.3	S	2	1.8	2.3	1.8	1.7	1.6	1.7	1.5	1.5	2.1	2.3	2.9	4.2	2.1	2.1	1.3	1.4	4.2	1.8	24	
30	1.6	1.7	2.7	2.7	2.7	S	2	2.4	2.5	1.5	1.5	1.4	1.3	1.3	1.4	1.3	1.8	1.8	1.7	2.9	2.1	1.3	1.4	1.6	2.9	1.9	24	
HOURLY MAX	5.3	6.8	5.0	5.8	5.5	16.9	8.8	31.0	14.9	16.8	5.8	9.5	5.2	3.1	16.1	23.6	22.5	4.5	69.1	4.7	4.3	3.5	3.6	3.1				
HOURLY AVG	2.0	2.1	2.2	2.4	2.7	3.4	2.9	4.8	3.7	3.3	2.5	2.7	2.2	2.0	2.5	2.8	2.9	2.2	4.5	2.1	2.1	2.0	2.0	1.8				

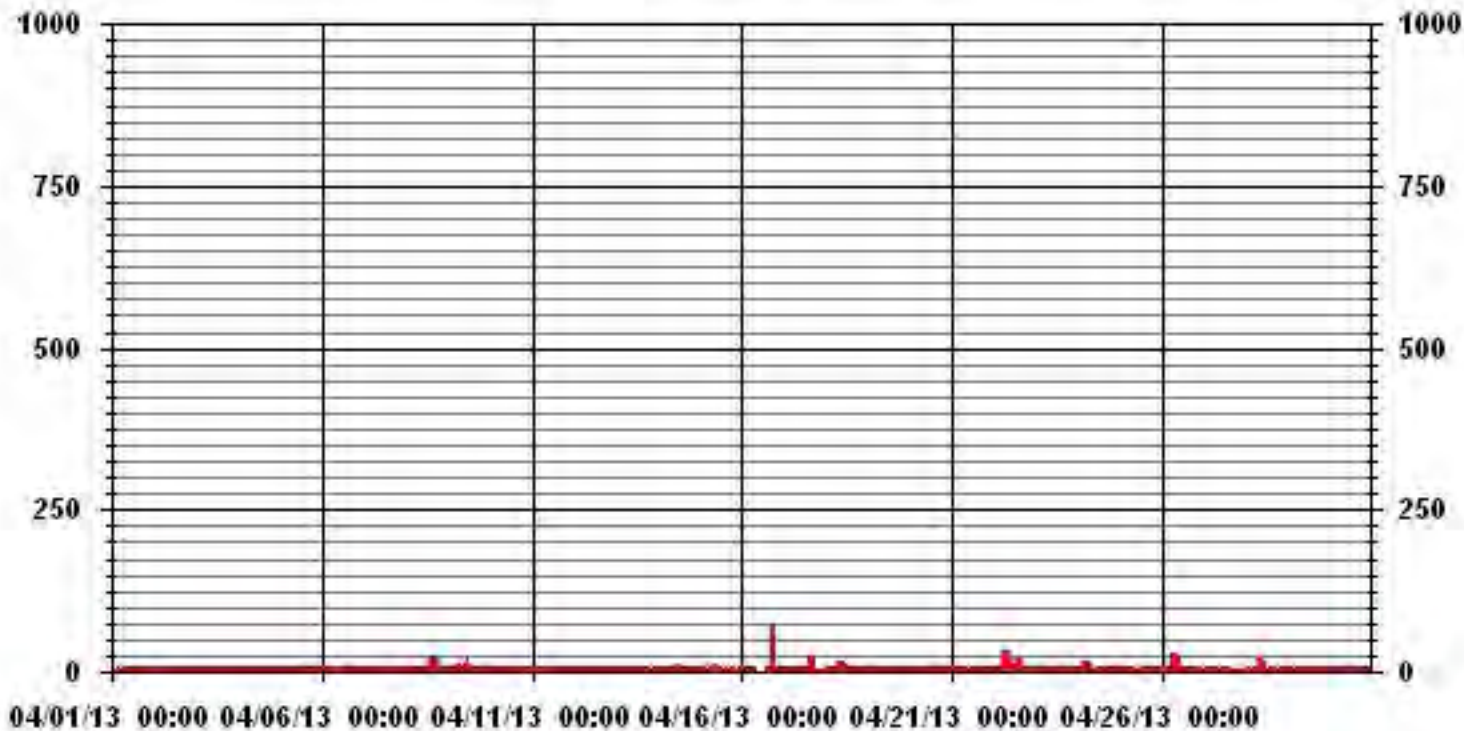
STATUS FLAG CODES

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:	681
MAXIMUM INSTANTANEOUS VALUE:	69.1 PPB @ HOUR(S) 18 ON DAY(S) 16
IZS CALIBRATION TIME:	32 HRS
MONTHLY CALIBRATION TIME:	7 HRS
STANDARD DEVIATION:	3.51
OPERATIONAL TIME:	720 HRS

01 Hour Averages



LICA31
 NOX_ / WDR Joint Frequency Distribution (Percent)

April 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50.0	3.51	4.10	6.30	9.09	3.81	5.13	3.51	8.21	8.06	5.57	6.01	7.47	6.30	6.01	9.23	7.62	100.00
< 110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.51	4.10	6.30	9.09	3.81	5.13	3.51	8.21	8.06	5.57	6.01	7.47	6.30	6.01	9.23	7.62	

Calm : .00 %

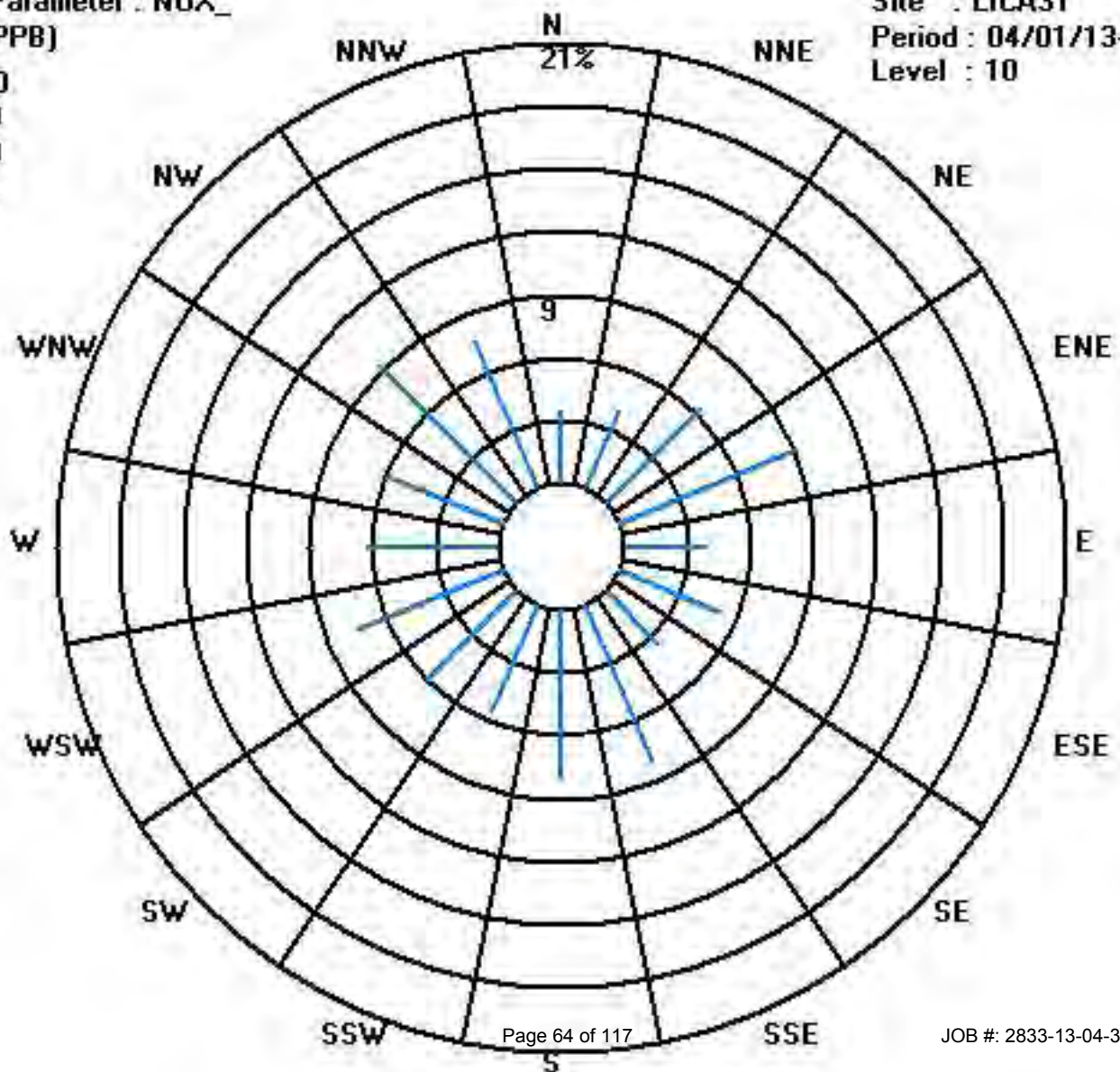
Total # Operational Hours : 682

Distribution By Samples

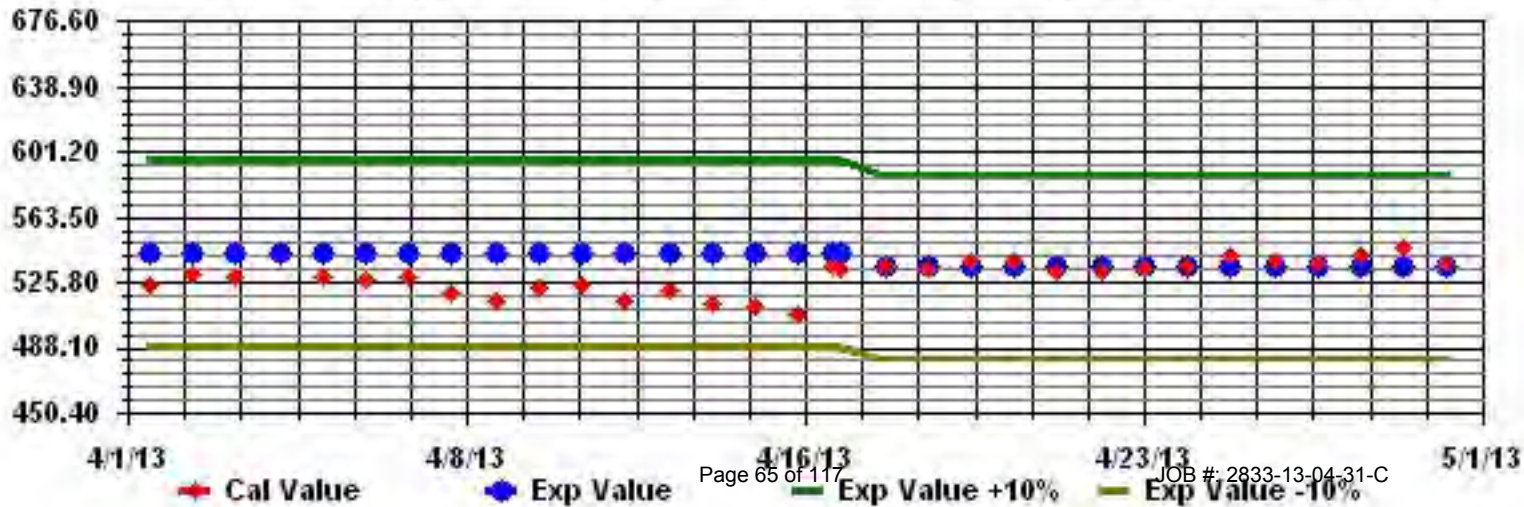
	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50.0	24	28	43	62	26	35	24	56	55	38	41	51	43	41	63	52	682
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	24	28	43	62	26	35	24	56	55	38	41	51	43	41	63	52	

Calm : .00 %

Total # Operational Hours : 682



Calibration Graph for Site: LICA31 Parameter: NOX_ Sequence: NO2 Phase: SPAll



Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 2013

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

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	
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				
DAY																													
1		0	1	0	0	X	0	X	4	3	4	3	4	2	4	1	2	2	1	2	1	1	2	2	5	5	2.0	22	
2		0	1	1	0	1	1	1	5	3	7	4	4	5	6	9	4	10	8	8	5	5	10	5	6	10	4.5	24	
3		3	2	0	2	X	3	0	0	3	1	3	2	2	0	0	0	0	0	0	0	X	0	0	0	3	1.0	22	
4		1	0	2	0	0	1	2	0	1	0	0	1	3	3	1	2	7	2	0	0	1	0	1	2	7	1.3	24	
5		2	2	1	3	4	1	1	2	3	2	0	1	0	0	1	0	0	X	0	0	1	0	0	0	4	1.0	23	
6		1	0	0	0	X	1	2	2	0	0	3	0	0	0	0	1	X	0	1	0	0	0	3	2	3	0.0	22	
7		X	0	0	0	1	0	0	2	1	2	0	0	2	0	3	0	3	4	0	0	X	0	X	0	4	0.9	21	
8		3	3	6	6	X	6	2	0	1	1	3	3	7	10	4	X	0	0	0	0	0	2	0	0	10	2.6	22	
9		1	7	6	5	2	2	9	5	4	5	3	0	2	8	4	4	7	8	6	4	2	2	5	4	9	4.4	24	
10		3	7	2	2	0	2	0	3	2	3	0	0	0	1	2	3	1	1	2	1	1	4	3	4	7	2.0	24	
11		1	2	1	1	0	6	4	4	0	3	3	1	3	3	3	3	3	2	1	1	0	4	1	0	6	2.1	24	
12		4	2	4	6	4	1	1	1	1	1	2	1	3	1	4	1	1	2	2	0	3	1	0	2	6	2.0	24	
13		6	1	7	8	9	5	7	2	3	4	5	6	2	3	1	0	3	0	3	3	1	4	0	0	9	3.5	24	
14		1	0	1	2	1	0	1	0	X	1	4	5	5	0	4	2	2	3	0	0	4	X	1	1	5	1.7	22	
15		2	0	2	3	4	1	2	0	4	1	2	1	0	1	1	0	4	0	0	3	3	6	3	1	6	1.8	24	
16		3	2	0	1	X	0	2	0	1	0	0	C	C	C	6	5	8	5	10	9	8	8	6	9	10	4.2	23	
17		9	8	8	11	8	8	12	9	12	10	11	9	10	14	11	10	8	13	8	6	6	3	5	6	14	9.0	24	
18		13	9	5	6	5	8	6	10	12	9	8	6	11	12	7	18	5	11	1	2	10	10	5	6	18	8.1	24	
19		7	7	7	7	11	8	9	6	7	8	5	5	11	12	9	9	8	8	5	7	6	5	7	8	12	7.6	24	
20		7	9	7	5	7	0	7	8	5	0	4	4	0	1	3	1	5	2	3	4	6	4	6	5	9	4.3	24	
21		4	4	10	7	7	9	6	3	6	5	4	4	3	7	4	3	4	5	5	4	6	6	2	1	10	5.0	24	
22		8	5	9	7	9	5	7	11	12	C	C	3	6	4	10	8	5	8	5	9	9	6	7	4	12	7.1	24	
23		4	9	1	9	6	4	4	5	8	3	5	2	7	7	2	5	3	3	1	4	0	6	3	3	9	4.3	24	
24		3	0	1	0	1	8	4	4	3	4	4	3	4	5	6	2	10	9	9	6	7	6	8	7	10	4.8	24	
25		8	0	4	3	4	11	8	7	7	2	2	2	2	0	8	4	3	3	3	4	5	3	3	2	11	4.1	24	
26		1	4	0	5	4	5	4	3	2	2	4	4	7	2	4	5	5	2	3	2	2	5	2	0	7	3.2	24	
27		2	0	1	2	3	4	1	1	1	1	1	4	1	1	3	5	0	0	0	4	0	1	0	2	5	1.6	24	
28		6	3	2	3	5	1	7	0	4	0	4	2	0	3	3	4	3	3	2	4	6	3	4	4	7	3.2	24	
29		2	5	4	1	6	4	8	6	6	7	2	5	5	3	6	5	1	4	7	2	4	1	2	4	8	4.2	24	
30		0	0	7	9	7	3	3	5	3	4	4	8	6	5	5	6	2	7	9	8	6	7	4	1	9	5.0	24	
HOURLY MAX		13	9	10	11	11	11	12	11	12	10	11	9	11	14	11	18	10	13	10	9	10	10	8	9				
HOURLY AVG		3.6	3.1	3.3	3.8	4.4	3.6	4.1	3.6	4.1	3.1	3.2	3.1	3.8	4.0	4.2	3.9	3.9	3.9	3.2	3.1	3.7	3.8	3.0	3.0				

STATUS FLAG CODES

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

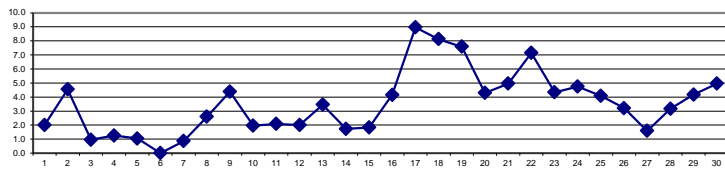
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT: 1-HR - ug/m³ | 24-HR 30 ug/m³

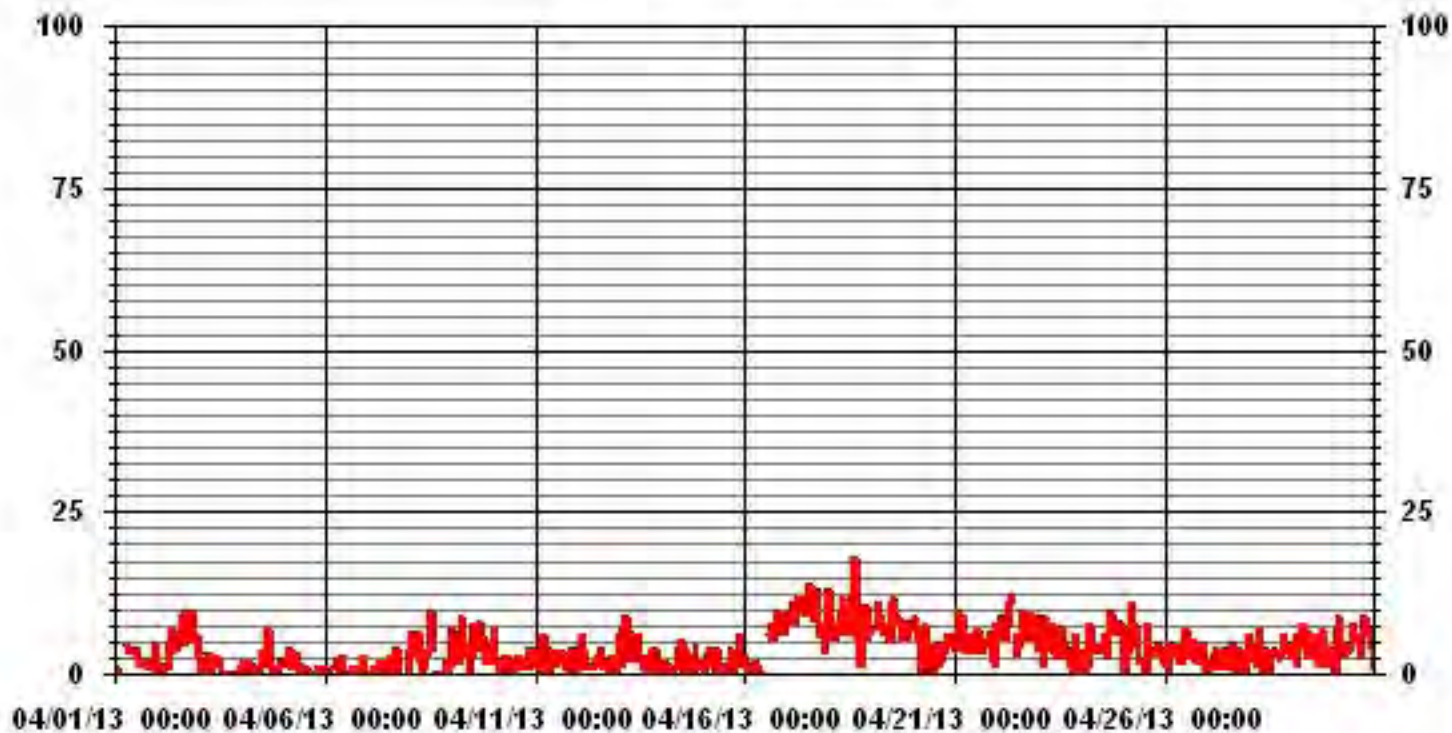
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	-
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	574
MAXIMUM 1-HR AVERAGE:	18 UG/M ³ @ HOUR(S) 15 ON DAY(S) 18
MAXIMUM 24-HR AVERAGE:	9.0 UG/M ³ ON DAY(S) 17
MONTHLY CALIBRATION TIME:	5 HRS
STANDARD DEVIATION:	3.09
OPERATIONAL TIME:	705 HRS
AMD OPERATION UPTIME:	97.9 %
MONTHLY AVERAGE:	3.59 UG/M ³

24 HOUR AVERAGES FOR APRIL 2013



01 Hour Averages



— LICA31 PM2 UG/M3

LICA31
PM2 / WDR Joint Frequency Distribution (Percent)

April 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
Instrument Height : 10 Meters

		Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq	
< 30	3.28	4.00	6.42	9.14	3.57	5.14	3.42	8.28	8.28	5.71	6.14	7.42	6.14	5.71	9.42	7.85	100.00	
< 60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
< 80	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
< 120	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
< 240	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
>= 240	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
Totals	3.28	4.00	6.42	9.14	3.57	5.14	3.42	8.28	8.28	5.71	6.14	7.42	6.14	5.71	9.42	7.85		

Calm : .00 %

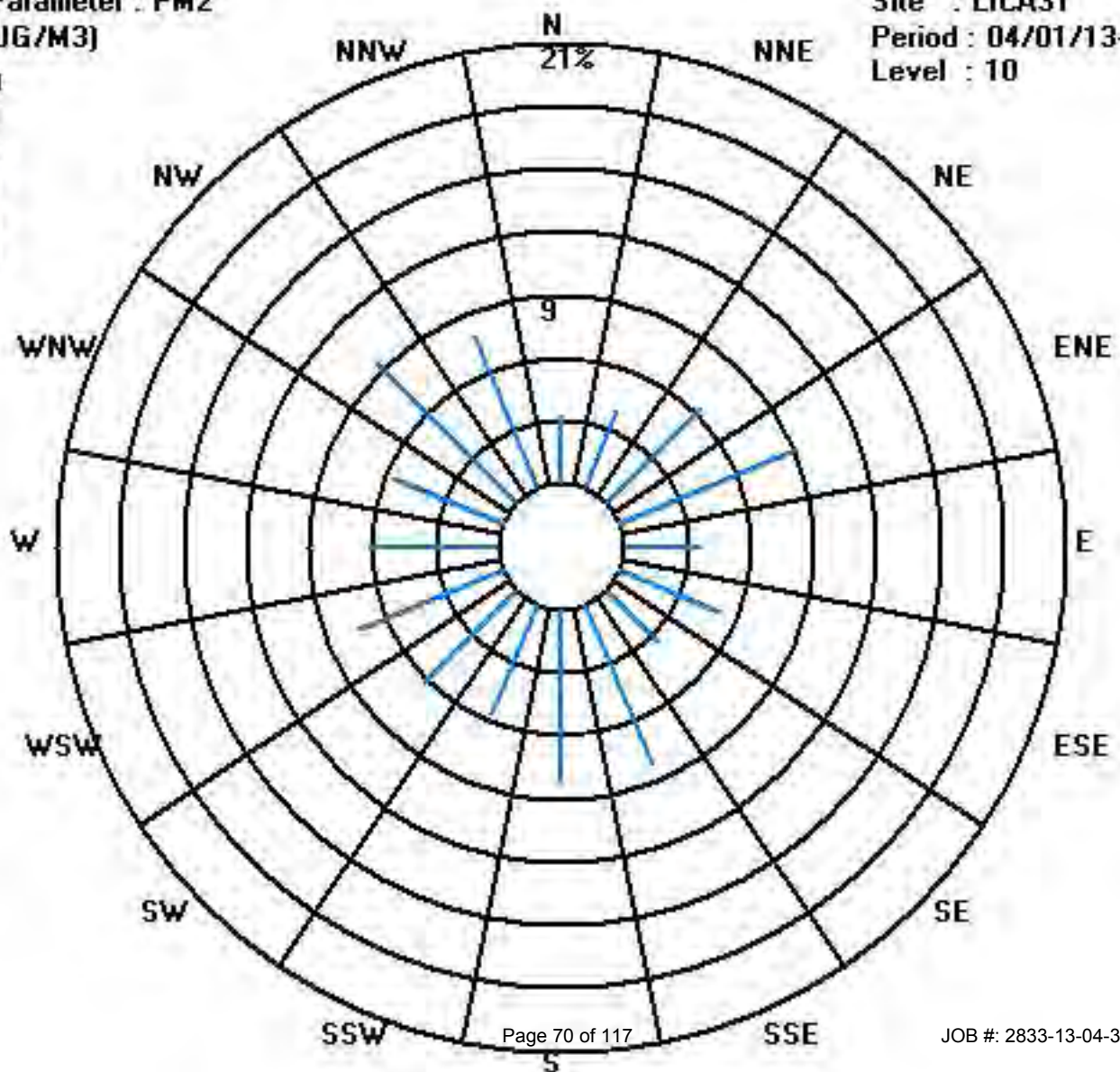
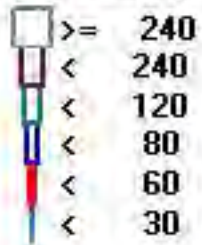
Total # Operational Hours : 700

Distribution By Samples

		Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq	
< 30	23	28	45	64	25	36	24	58	58	40	43	52	43	40	66	55	700	
< 60																		
< 80																		
< 120																		
< 240																		
>= 240																		
Totals	23	28	45	64	25	36	24	58	58	40	43	52	43	40	66	55		

Calm : .00 %

Total # Operational Hours : 700



Temperature

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 2013

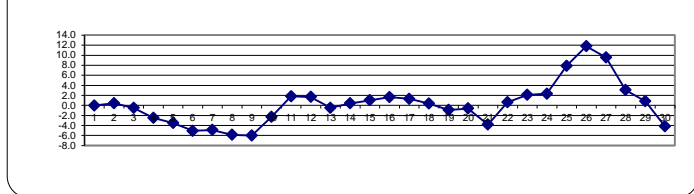
AMBIENT TEMPERATURE hourly averages (Degrees C)

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	-2.9	-3.4	-3.6	-3.8	-4.1	-4.2	-3.5	-0.9	0.8	2.1	3.5	4.4	4	3.5	3.5	3.5	3.6	2.3	1.1	0	-0.9	-1.7	-1.8	-2.2	4.4	0.0	24
2	2	-2.4	-2.4	-2.7	-3	-3.4	-3.3	-3	-2.9	-2.5	-1.4	0.1	1.5	2.7	3.5	3.8	4.4	4.7	4.2	2.7	1.2	1.2	1.4	1.9	3.6	4.7	0.4	24
3	3	3.1	2.3	0.6	-0.5	-0.8	-1	-1.4	-2.4	-2.3	-1.2	-0.6	0.1	1.3	1.9	1.7	1.8	0.6	0.4	-0.7	-1.9	-2.3	-2.8	-3.2	-4.6	3.1	-0.5	24
4	4	-4.9	-4.4	-4.9	-5.8	-6.1	-7	-5.6	-4.5	-2.9	-0.7	-0.2	0.4	0.9	0.5	0.2	-0.2	-1	-1	-1.3	-1.7	-2.1	-2.3	-2.5	-2.7	0.9	-2.5	24
5	5	-3.1	-3.3	-3.8	-3.9	-4	-4.1	-4.2	-4	-3.8	-2.7	-1.7	-1.6	-0.6	0.1	-0.2	-0.5	-2.7	-3.8	-4.8	-5.4	-5.8	-6.2	-6.7	-7	0.1	-3.5	24
6	6	-7	-7.4	-8.2	-9	-9.1	-9.2	-8.8	-8	-6.9	-6.1	-4.8	-3.7	-3.3	-2.7	-2.1	-1.8	-1.9	-1.8	-2.5	-3	-3.3	-3.6	-3.8	-3.9	-1.8	-5.1	24
7	7	-4.3	-4.8	-5.8	-6.6	-7.3	-7.9	-7.9	-8	-7.1	-5.9	-3.4	-1	-0.6	1.6	1.6	0.7	-1.1	-1.9	-4.6	-6.7	-8	-8.6	-9.7	-10.4	1.6	-4.9	24
8	8	-10.6	-11.3	-11.6	-12.3	-12.8	-13.2	-11.1	-7.4	-4.9	-3.2	-2.2	-0.5	0.9	2.8	2.4	1.7	-0.7	-2.1	-3.8	-5.7	-7.2	-8.6	-9.3	-10.4	2.8	-5.9	24
9	9	-11.2	-11.7	-11.9	-12.5	-13.6	-13.6	-11.9	-9.2	-6.1	-4.6	-3.7	-1.9	-0.3	0.3	0.9	0.6	-0.2	-1.6	-3.4	-4.6	-5.6	-6	-6	-6	0.9	-6.0	24
10	10	-5.7	-5.5	-5.3	-5.1	-4.5	-3.8	-2.9	-2.1	-1.3	-0.2	0.3	0.7	1	-0.2	-0.4	-1.2	-1.8	-1.9	-1.9	-2.1	-2.3	-2.4	-2.7	-3.4	1.0	-2.3	24
11	11	-4.1	-4.4	-4.8	-5.7	-6.5	-7.1	-4.2	0.8	3.2	6.9	8.1	8.8	9	8.9	8.6	7.9	7.2	5.4	2.8	1.1	0.6	0.5	0.3	0.2	9.0	1.8	24
12	12	-0.1	-0.1	-0.3	-0.8	-0.9	-1.1	-0.4	2.1	1	2.7	5	5.6	5.9	5.4	5.4	4.9	4.1	3	1.8	0.4	-0.1	-1	-1.2	-1.1	5.9	1.7	24
13	13	-1.2	-1.2	-0.6	-0.8	-1	-1.2	-1	-0.9	-0.7	-0.4	-0.5	-0.4	0	0.6	1.4	1.3	0.7	0.6	0.4	-0.2	-1	-1.7	-1.8	-1.8	1.4	-0.5	24
14	14	-2.1	-2.4	-2.6	-2.6	-2.8	-2.8	-1.8	-0.6	0.8	3.3	5.2	4.3	3.7	4	4.4	3.8	3.4	1.9	0.7	-0.7	-1.3	-1.7	-2.1	-2.4	5.2	0.4	24
15	15	-2.5	-2.5	-3	-3.2	-3.2	-3.2	-2.9	-1.8	0.5	2	3.4	4.5	4.8	5.6	5.9	5.8	5	3.9	3.1	1.8	1.1	0.7	-0.3	-0.6	5.9	1.0	24
16	16	-0.9	-1.4	-1.6	-2.1	-2.4	-2.7	-2.1	-1	0.4	2.2	3.8	4.7	5.4	5.9	6.1	7	6.1	4.6	3.5	2.2	1.1	0.5	0.1	-0.2	7.0	1.6	24
17	17	-1.1	-1.8	-1.7	-2.7	-3.4	-3.1	-1.6	0.1	2.3	3.8	4.1	4.5	5.1	5.2	4.7	4.9	4.3	3.2	2.5	1.6	0.9	0.4	-0.2	-0.5	5.2	1.3	24
18	18	-0.6	-0.7	-0.9	-1.5	-2.1	-2	-1.3	0.2	1.2	1.5	2	1.5	1.1	0.9	2.2	2.4	2.6	2.9	2.5	1.3	0	-0.8	-1.3	-1.8	2.9	0.4	24
19	19	-2.2	-2.7	-2.7	-3.1	-3.6	-3.8	-3.2	-2.2	-1	0.3	1.1	1.8	0.9	1.2	1.1	0.6	0.2	-0.3	-0.5	-0.6	-0.7	-0.8	-0.6	-0.5	1.8	-0.9	24
20	20	-0.4	-0.3	-0.3	-0.2	-0.1	0.1	0.5	1.1	2.4	3.8	2.4	1.8	2.4	1.5	-0.7	-0.2	-0.9	-2.1	-3.1	-4.3	-4	-4.3	-4.7	-5.3	3.8	-0.6	24
21	21	-5.8	-6.6	-7.3	-8.3	-9.2	-9.2	-7.2	-5.6	-4.2	-3.6	-2.9	-2	-1.3	-0.3	0.3	0.4	-0.1	0.2	-1	-2.1	-3.1	-3.8	-4.4	-4.7	0.4	-3.8	24
22	22	-5.3	-5.9	-6.3	-6.9	-7.2	-7.4	-5.6	-3.1	-0.4	2.8	5	5.9	4.9	5.1	5.7	5.7	6.3	5.6	5.4	3.4	2.9	2	1.7	0.6	6.3	0.6	24
23	23	0.2	-0.5	-0.6	-0.8	-1.2	-1.6	-1.2	0.3	3.9	5.4	6.4	6.3	6.4	6.1	5.8	5.4	4.3	4	3.3	1.7	0.8	-0.8	-1.5	-2.2	6.4	2.1	24
24	24	-2.9	-3.3	-3.5	-3.6	-4.1	-4.1	-3.2	-1.2	1.2	3.6	4.8	5.4	6.1	6.8	7	7.5	8	7.3	6.7	5.5	4.2	2.9	2.6	2.2	8.0	2.3	24
25	25	1.6	1.1	0.4	1	1.6	1.7	3.1	4.4	7.1	10.7	11.8	11.6	12.9	13.7	13.3	13.7	13.5	12.6	11.2	9.7	9	8.6	7.8	7.3	13.7	7.9	24
26	26	6	5.6	5.9	5.6	5.8	5.9	7.6	9.2	10.7	13.4	15.7	16.1	16.6	17.5	17.7	17.1	17.5	17.3	15.1	13.7	11.4	10.7	10.4	10.6	17.7	11.8	24
27	27	11.1	8.9	8.1	7	6.1	7.5	9.5	10.3	10.4	11.6	13.4	14.4	16	16.4	15.4	15.7	10.4	6.5	6.1	6	5.8	5.3	4.1	3.1	16.4	9.5	24
28	28	1.1	-0.5	-1.6	-2.5	-3.3	-3.4	-2.5	-1.5	0.3	1.2	3.5	5.1	6.2	7.7	8.6	9	8.9	8.3	7.3	5.9	4.7	4.2	3.9	3	9.0	3.1	24
29	29	1.4	0.5	0.3	0.2	-0.6	-2	-2.1	-2	-1.3	-0.5	0.4	1.9	3.7	4.4	3.9	4	3.7	2.7	2.4	0.8	-0.2	-0.4	-0.8	-0.7	4.4	0.8	24
30	30	-2.1	-2.7	-3	-4	-5.4	-5.9	-6	-5.6	-5.3	-4.5	-3.9	-3.6	-3.6	-2.9	-2.6	-2.7	-2.4	-2.6	-3.2	-4	-4.9	-5.8	-6.5	-7.1	-2.1	-4.2	24
HOURLY MAX		11.1	8.9	8.1	7.0	6.1	7.5	9.5	10.3	10.7	13.4	15.7	16.1	16.6	17.5	17.7	17.1	17.5	17.3	15.1	13.7	11.4	10.7	10.4	10.6			
HOURLY AVG		-2.0	-2.4	-2.8	-3.3	-3.6	-3.8	-2.9	-1.5	-0.2	1.4	2.5	3.2	3.7	4.2	4.2	4.1	3.4	2.6	1.6	0.4	-0.3	-0.9	-1.3	-1.6			

STATUS FLAG CODES

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

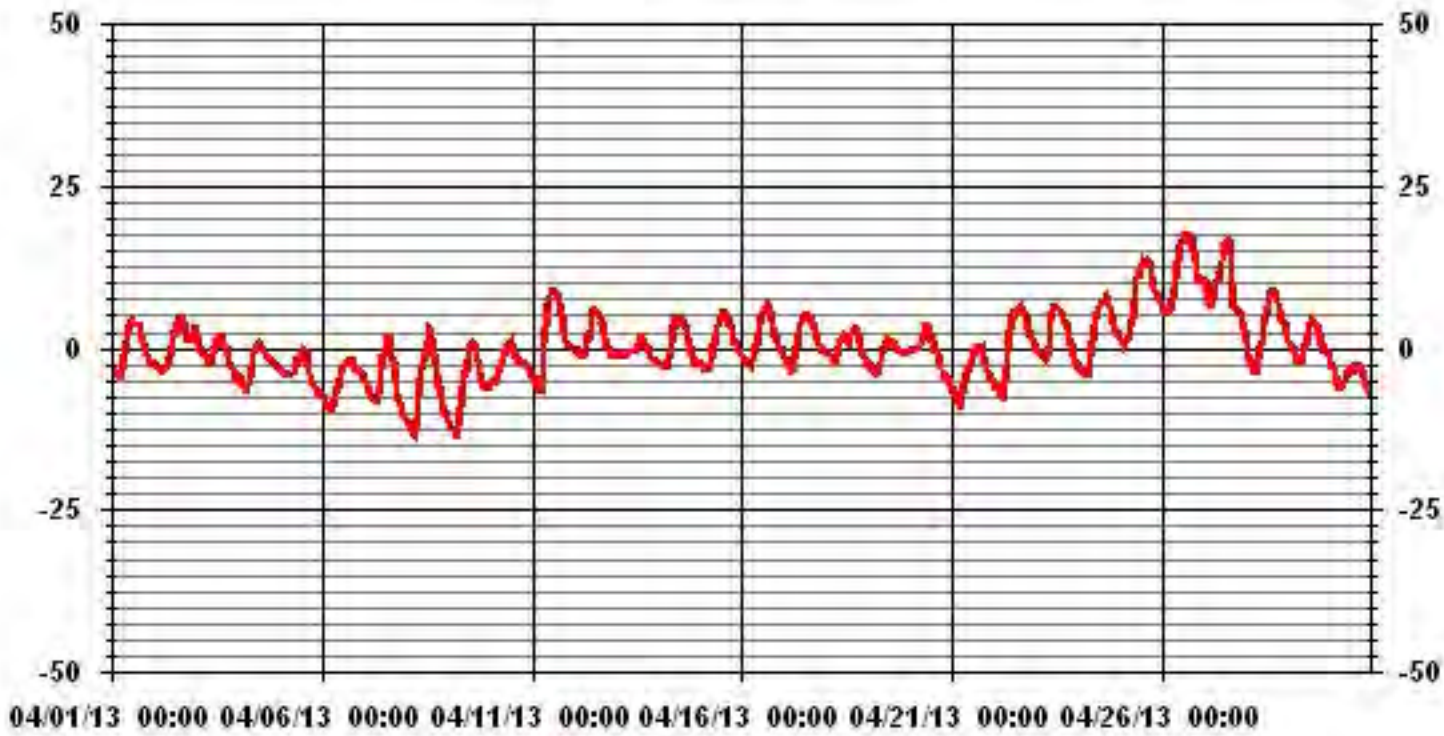
24 HOUR AVERAGES FOR APRIL 2013



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-13.6 °C	@ HOUR(S)	4	ON DAY(S)	9
MAXIMUM 1-HR AVERAGE:	17.7 °C	@ HOUR(S)	14	ON DAY(S)	26
MAXIMUM 24-HR AVERAGE:	11.8 °C			ON DAY(S)	26
CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	720 HRS		
STANDARD DEVIATION:	5.26	AMD OPERATION UPTIME:	100.0 %		
		MONTHLY AVERAGE:	0.21 °C		

01 Hour Averages



Barometric Pressure

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 2013

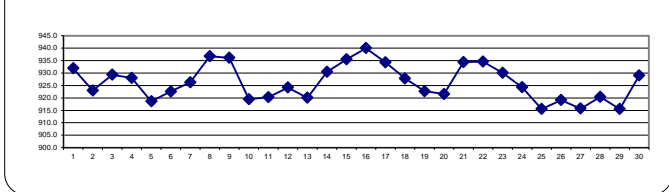
BAROMETRIC PRESSURE hourly averages (millibar)

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	932	932	932	932	932	932	932	932	933	933	934	934	934	933	933	933	932	932	931	931	930	930	929	928	934	931.9	24	
2	2	928	928	927	926	926	925	924	924	923	923	923	922	922	921	921	921	921	921	920	920	920	921	922	922	922	928	923.0	24
3	3	923	923	924	924	924	925	926	928	928	929	930	931	932	932	932	932	932	933	933	933	932	933	933	933	932	933	929.3	24
4	4	932	932	932	932	932	932	931	931	931	931	931	930	929	928	928	927	926	925	924	923	922	922	921	920	932	928.0	24	
5	5	920	919	918	918	918	917	917	917	917	917	917	917	918	918	918	919	919	919	920	920	920	921	921	921	921	921	918.6	24
6	6	922	921	922	922	922	922	922	922	922	923	923	923	923	923	923	923	923	923	923	923	923	923	923	923	923	923	922.6	24
7	7	923	923	923	923	923	923	923	923	924	924	925	926	926	927	928	928	928	929	929	929	929	930	931	931	932	932	926.3	24
8	8	932	933	933	933	934	934	935	936	937	937	938	938	939	939	939	939	939	939	939	939	938	938	938	938	938	939	936.8	24
9	9	938	939	938	938	938	938	939	939	939	939	939	939	939	938	938	937	935	934	933	932	931	930	929	928	939	936.1	24	
10	10	927	926	925	924	923	922	921	921	920	919	919	919	918	918	917	917	916	916	916	916	917	917	917	917	917	927	919.5	24
11	11	917	917	916	916	916	916	917	918	919	919	920	921	921	921	922	922	923	923	923	924	924	924	924	924	924	924	920.3	24
12	12	925	925	925	926	926	926	926	927	927	927	927	927	927	926	926	925	924	923	923	921	921	920	920	919	918	927	924.2	24
13	13	917	917	917	916	916	916	916	917	917	918	918	919	919	920	921	922	923	923	924	925	925	925	925	926	926	926	920.1	24
14	14	926	926	927	927	928	928	928	929	930	930	931	931	932	932	933	932	932	932	933	933	933	933	933	933	933	933	930.5	24
15	15	933	933	933	933	933	933	933	934	935	935	936	936	936	936	937	937	937	937	937	937	937	937	938	938	938	938	935.5	24
16	16	938	938	938	938	939	939	939	940	941	941	941	942	942	942	941	941	940	940	940	940	940	939	939	939	942	940.0	24	
17	17	938	938	937	937	936	936	936	936	936	936	936	936	935	935	935	934	934	933	932	931	930	930	929	928	938	934.3	24	
18	18	927	926	926	925	925	925	925	925	926	926	927	928	928	929	930	931	931	931	931	930	930	930	929	928	931	927.8	24	
19	19	928	927	927	926	926	925	925	924	924	924	923	923	923	922	921	921	921	920	920	920	919	919	919	918	928	927.7	24	
20	20	918	918	917	917	917	917	918	918	919	919	920	920	921	921	921	921	922	924	925	927	928	929	930	930	930	930	921.5	24
21	21	931	931	932	932	933	933	934	935	935	935	935	935	935	935	936	936	936	936	935	935	935	935	935	935	936	934.4	24	
22	22	936	936	936	935	935	935	935	935	935	936	936	936	935	935	935	934	934	934	934	933	933	932	932	932	936	934.5	24	
23	23	931	931	930	930	930	930	930	930	931	931	931	931	930	930	929	929	929	929	929	929	929	930	930	931	931	930.0	24	
24	24	930	930	930	929	929	928	928	927	927	927	927	926	925	924	923	923	922	921	920	919	918	918	917	916	930	924.3	24	
25	25	916	915	914	914	913	913	913	913	913	913	914	914	915	915	916	917	917	918	918	918	918	919	918	918	919	915.5	24	
26	26	918	918	918	918	918	918	918	919	919	919	919	920	920	920	920	920	920	920	920	920	920	920	919	919	920	919.2	24	
27	27	920	920	919	918	918	918	918	918	917	916	915	914	913	912	911	911	912	913	913	914	915	917	917	918	920	915.7	24	
28	28	918	919	920	921	922	922	923	923	923	924	924	923	923	923	922	921	920	919	918	917	917	916	916	915	924	920.4	24	
29	29	915	914	913	913	913	912	912	912	912	912	913	913	914	915	916	916	917	918	919	920	920	921	921	922	922	915.5	24	
30	30	922	922	923	923	924	924	925	926	927	927	928	929	930	930	931	932	932	933	934	934	935	935	936	936	936	936	929.1	24
HOURLY MAX		938	939	938	938	939	939	939	940	941	941	941	942	942	942	942	941	941	941	940	940	940	939	939	939				
HOURLY AVG		926	926	926	926	926	925	926	926	926	926	927	927	927	927	927	927	927	927	926	926	926	927	926	926				

STATUS FLAG CODES

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

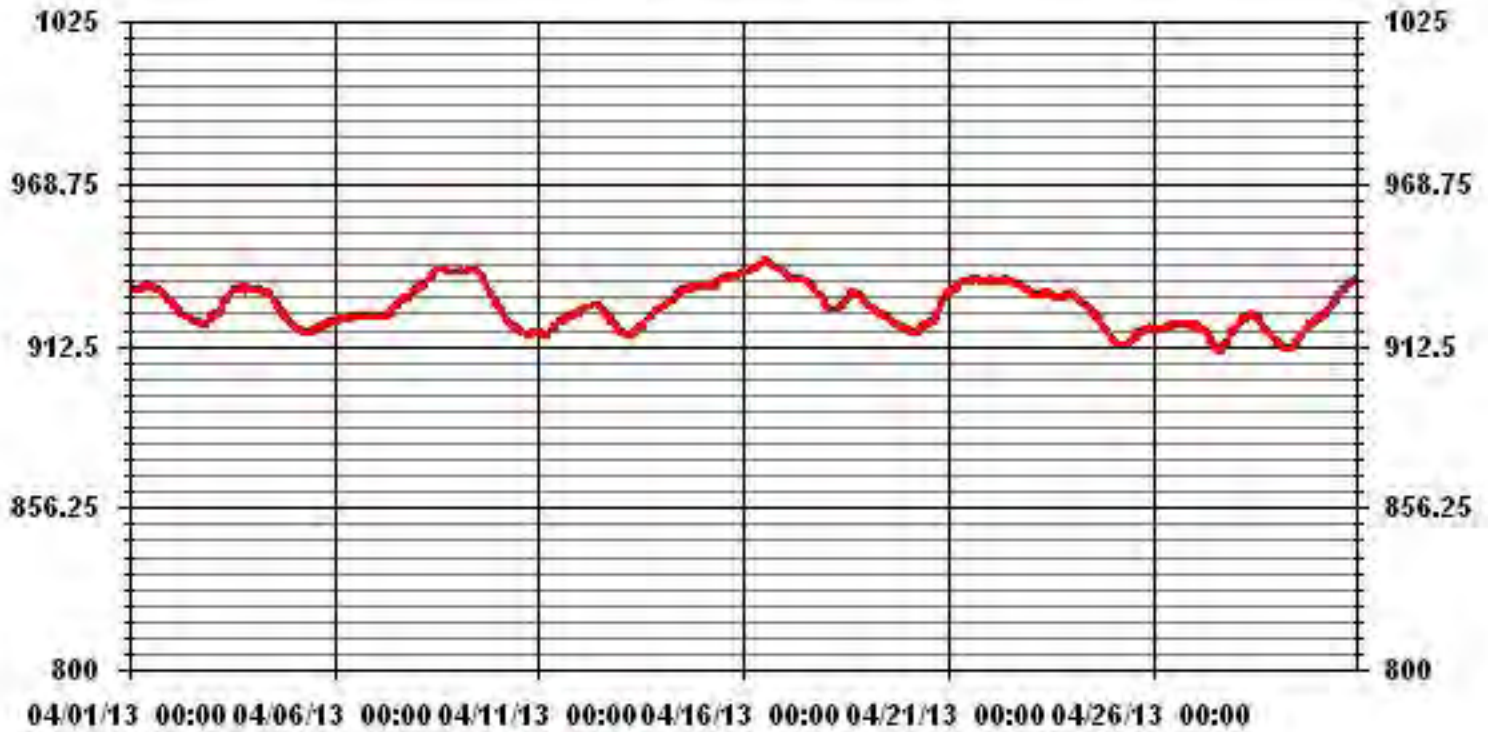
24 HOUR AVERAGES FOR APRIL 2013



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	942 MB	@ HOUR(S)	VAR	ON DAY(S)	16
MAXIMUM 24-HR AVERAGE:	940.0 MB			ON DAY(S)	16
				VAR-VARIOUS	
CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:		720 HRS	
		AMD OPERATION UPTIME:		100.0 %	
STANDARD DEVIATION:	7.48	MONTHLY AVERAGE:		926 MB	

01 Hour Averages



Relative Humidity

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 2013

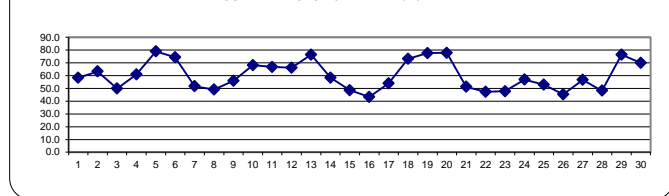
RELATIVE HUMIDITY hourly averages (%)

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	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	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	70	71	68	66	65	64	59	57	55	49	47	49	49	48	47	46	50	55	59	62	64	64	66	71	58.3	24	
2		66	65	65	66	65	62	62	63	65	63	60	58	57	56	57	56	57	59	65	72	74	74	71	60	74	63.3	24	
3		56	55	60	64	59	58	58	52	49	49	48	46	44	42	42	41	43	41	43	46	47	49	50	55	64	49.9	24	
4		56	56	59	64	65	70	64	59	54	49	49	49	51	53	55	58	65	66	64	69	71	72	71	71	72	60.8	24	
5		73	76	83	85	85	85	85	84	83	81	78	75	74	72	73	74	76	77	78	77	79	81	81	81	85	79.0	24	
6		82	81	82	81	80	79	77	75	73	71	68	67	66	66	65	65	67	68	72	75	78	82	83	83	83	74.4	24	
7		84	83	81	80	76	71	65	67	64	48	38	32	24	21	22	23	25	27	39	50	53	55	56	57	84	51.7	24	
8		59	61	63	66	68	69	63	52	45	41	39	34	31	26	26	29	35	37	40	52	56	60	60	65	69	49.0	24	
9		67	69	69	71	75	74	67	59	51	48	45	39	34	33	34	39	47	54	60	63	63	61	60	61	75	56.0	24	
10		62	61	61	61	60	58	57	56	56	54	54	53	55	68	67	74	79	82	84	85	86	87	87	87	87	68.1	24	
11		87	86	86	85	84	84	86	81	69	51	45	41	38	36	37	39	45	54	68	76	78	80	83	85	87	66.8	24	
12		87	85	82	83	82	82	78	68	73	65	53	49	47	46	45	46	49	53	59	66	68	71	74	78	87	66.2	24	
13		82	83	80	81	81	80	79	79	79	77	76	75	73	70	66	65	68	69	70	75	79	80	82	83	83	76.3	24	
14		84	84	83	81	80	76	71	66	59	48	46	43	40	37	33	33	38	50	54	57	58	58	59	62	84	58.3	24	
15		64	64	65	63	62	63	62	55	47	44	41	39	38	36	35	35	37	39	40	42	45	47	51	52	65	48.6	24	
16		52	53	52	53	54	55	52	49	47	44	40	35	32	31	29	27	29	33	37	39	44	48	52	53	55	43.3	24	
17		57	58	60	65	67	65	59	54	52	48	46	45	42	42	44	43	44	50	55	61	61	56	58	60	67	53.8	24	
18		63	66	67	77	86	87	87	84	82	82	76	75	75	74	66	64	62	60	61	65	71	74	75	76	87	73.1	24	
19		78	78	78	80	84	85	82	77	72	63	61	62	67	68	69	77	80	83	84	85	87	88	87	87	88	77.6	24	
20		88	88	89	89	89	89	89	88	81	69	77	77	65	64	79	82	83	82	79	75	64	58	60	63	89	77.8	24	
21		60	61	62	65	69	68	61	55	52	49	45	43	42	41	38	38	39	38	42	47	51	54	55	54	69	51.2	24	
22		57	61	64	67	69	71	64	56	49	38	29	30	35	34	32	34	33	36	46	48	47	47	51	71	47.3	24		
23		51	53	50	49	50	50	49	48	42	40	33	30	32	37	40	52	40	42	50	59	73	73	73	73	47.8	24		
24		76	77	79	79	80	78	74	67	58	49	43	41	40	41	39	37	37	42	44	49	55	59	60	63	80	57.0	24	
25		69	74	78	78	77	77	71	66	56	44	40	41	37	34	36	35	34	36	40	45	47	49	52	55	78	53.0	24	
26		62	64	62	64	64	63	58	56	50	43	36	35	33	30	27	29	29	27	31	35	43	47	52	48	64	45.3	24	
27		43	61	66	72	76	69	64	63	64	60	51	46	39	35	32	28	56	78	77	69	62	50	47	51	78	56.6	24	
28		57	61	63	65	66	65	57	54	46	43	39	37	37	34	33	31	32	33	36	45	50	50	52	71	71	48.2	24	
29		86	89	89	89	89	88	88	87	84	77	74	69	60	51	54	53	60	63	55	80	83	88	88	88	88	89	76.3	24
30		86	87	86	83	81	79	76	75	73	68	65	64	64	62	61	60	58	58	57	58	63	68	72	76	87	70.0	24	
HOURLY MAX		88	89	89	89	89	89	89	88	84	82	78	77	75	74	79	82	83	83	84	85	87	88	88	88	88			
HOURLY AVG		68.8	70.3	71.2	72.5	73.0	72.2	69.0	65.1	61.1	55.4	51.5	49.2	47.3	46.1	46.0	46.7	50.2	52.8	55.6	60.4	62.8	64.3	65.4	67.2				

STATUS FLAG CODES

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

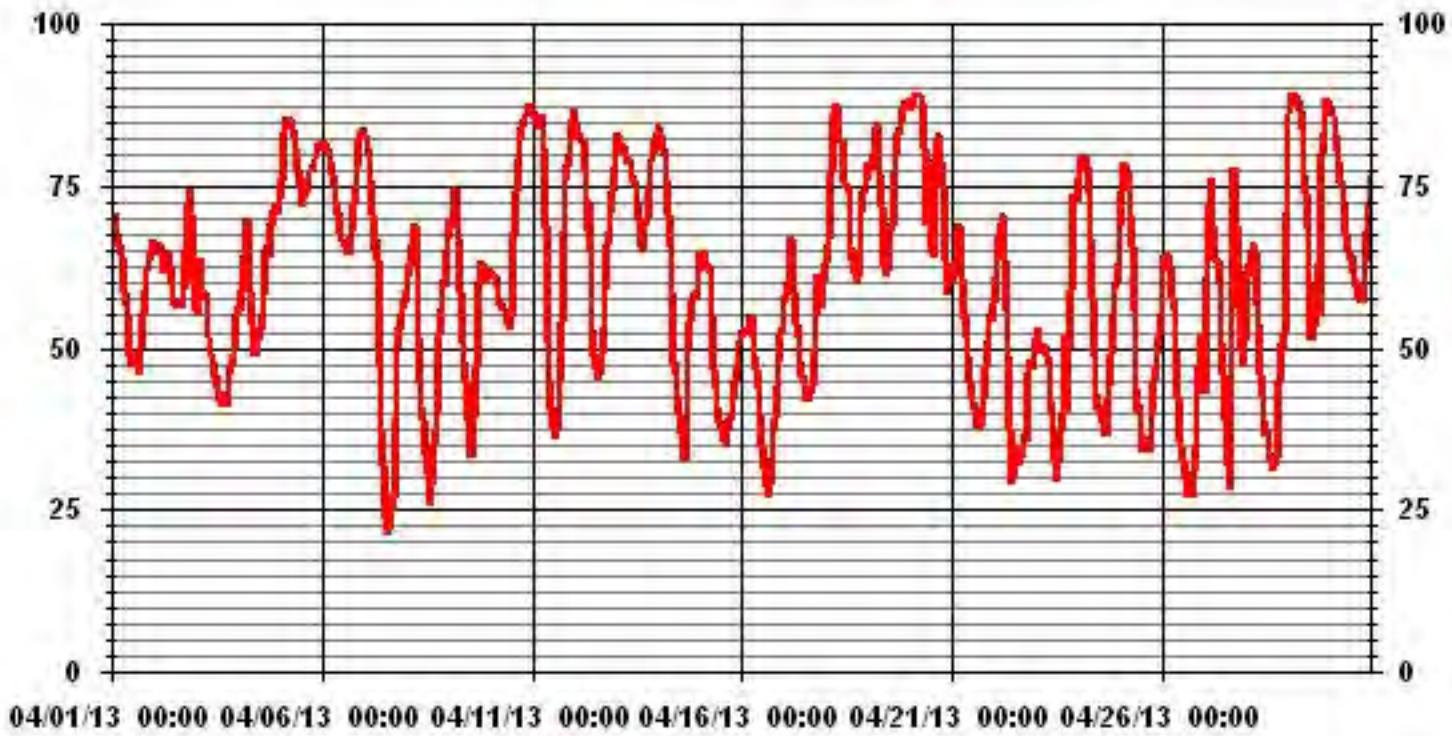
24 HOUR AVERAGES FOR APRIL 2013



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	89	%	@ HOUR(S)	VAR	ON DAY(S)	20, 29
MAXIMUM 24-HR AVERAGE:	79.0	%			ON DAY(S)	5
					VAR-VARIOUS	
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:		720	HRS
STANDARD DEVIATION:	16.45		AMD OPERATION UPTIME:		100.0	%
			MONTHLY AVERAGE:		60.17	%

01 Hour Averages



Precipitation

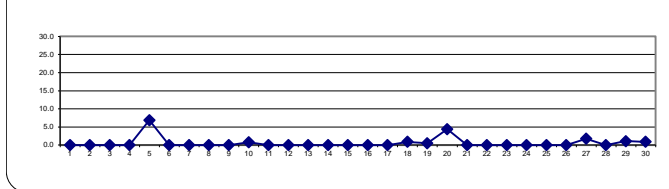
LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA
APRIL 2013
PRECIPITATION hourly averages (mm)

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	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	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	0.4	0.3	0.4	0.5	0.4	0.5	1.3	0.6	0.5	0.2	0.7	0.6	0.2	0.1	0	0	0	0	0	0.1	0.1	0	0	1.3	6.9	24	
	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3	0.2	0.1	0	0	0	0.3	0.8	24	
	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	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	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
	18	0	0	0	0	0.3	0.1	0.1	0	0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.9	24
	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0	0	0.1	0.2	0	0	0	0	0.2	0.5	24
	20	0	0.1	0	0.1	0	2.8	0.6	0	0	0	0	0.1	0	0	0	0.1	0.3	0.1	0.1	0	0	0	0	0	0	2.8	4.4	24	
	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	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	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
	27	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	1.6	0.1	0	0	0	0	0	0	0	0	1.6	1.8	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	0.0	24
	29	0.2	0.1	0	0.1	0.2	0	0.1	0	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.2	1.1	24
	30	0.5	0.3	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.9	0.9	24
HOURLY MAX		0.5	0.3	0.4	0.3	0.4	2.8	0.6	0.5	1.3	0.6	0.5	0.2	0.7	0.6	0.2	0.1	1.6	0.2	0.3	0.2	0.2	0.1	0.0	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

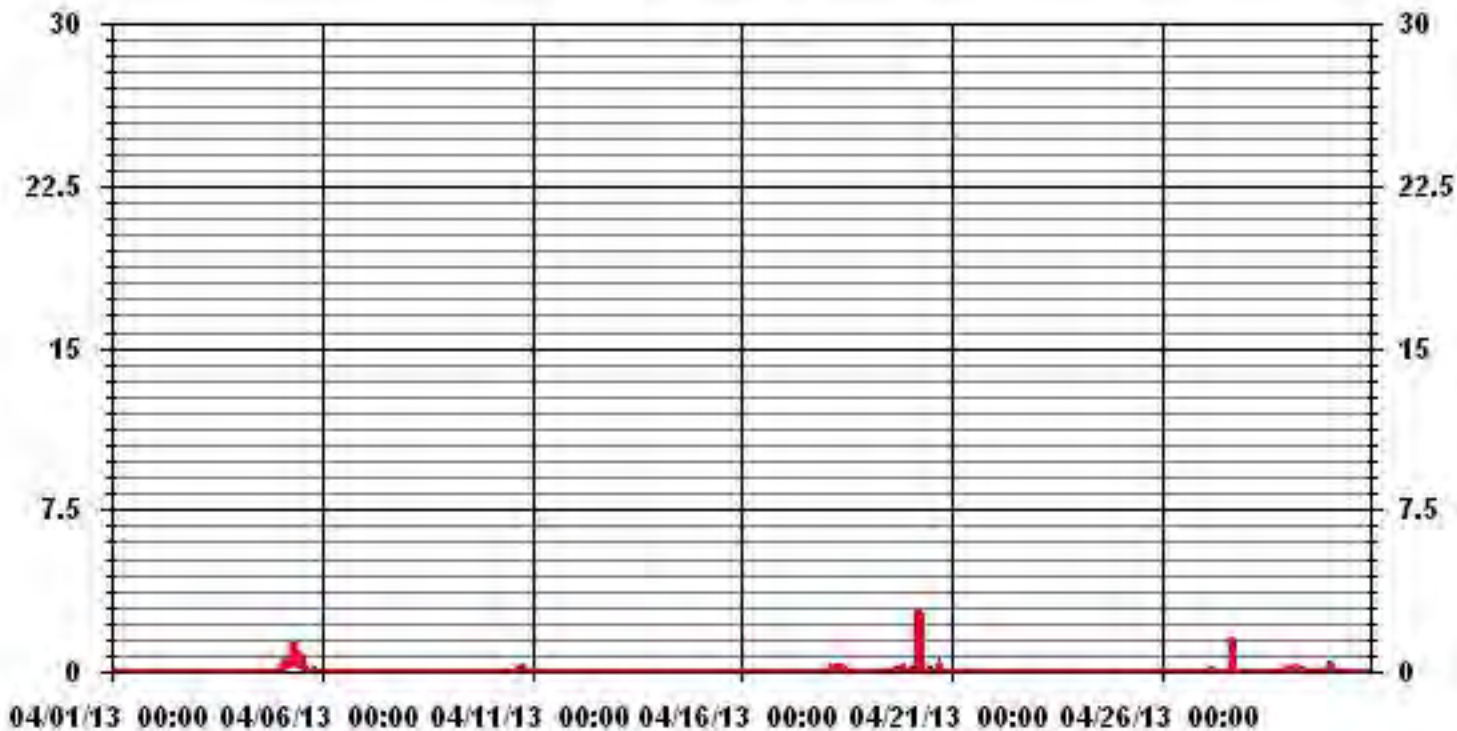
DAILY TOTALS FOR APRIL 2013



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	2.8	MM	5	ON DAY(S)	20
MAXIMUM DAILY TOTAL	6.9	MM		ON DAY(S)	5
MONTHLY TOTAL	17.3	MM			
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS
STANDARD DEVIATION:	0.15		AMD OPERATION UPTIME:	100.0	%
			MONTHLY AVERAGE:	0.02	MM

01 Hour Averages



Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 2013

WIND SPEED 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	6.8	6.5	6.8	7.5	6.9	7.4	7	5.5	6.1	4.9	4.5	3.6	6.9	9	9	10.1	9.6	9.1	7.7	8.2	11	11	12.9	13.8	13.8	2.8	24
2	12.7	16.5	14	17.3	16.3	15	13.6	16.6	19.3	17.3	15.3	16.6	15.7	18.4	17.2	16	10.1	10.6	10.8	11.4	13	12.8	8.9	11.1	19.3	11.9	24
3	11.2	13.3	10.4	12.8	17.7	19.9	24.3	25.7	25.1	17.9	18	17.6	13.9	13.8	14.6	12.1	11.2	11.8	8.9	6.4	4.6	4.5	5.4	3.7	25.7	12.1	24
4	7.3	7.1	7.4	8.9	9.1	9.1	9.2	11.1	12.4	13.6	13.8	15.2	19.7	21	21.2	21.1	20	19	19.3	18.2	18.1	17.8	17.4	13.7	21.2	14.1	24
5	14.4	14.5	13.3	14	14.2	14.9	16.3	16.2	18.7	18.6	17.4	14	12	9.8	12.4	15.1	14.6	14.6	14.3	13.9	12.2	13.6	15.4	12.2	18.7	12.8	24
6	10.6	12	12.1	12.1	12.3	10.7	10.9	10.6	10.9	10.8	9.5	11.7	11.4	13.3	14.2	15.3	15.4	13.6	12.4	12.1	11.8	11.2	12.9	14	15.4	11.8	24
7	14	14.5	13.3	13.6	16.9	19.7	19	21.8	16.8	16.8	16.3	11.7	7.9	6.8	8	9.7	9	6.2	8	7.8	8.8	9.9	13.8	11.6	21.8	12	24
8	8.1	7.7	8.1	9.9	9.9	10.4	8.5	6.4	6.2	6.4	7	6.7	5.8	2.4	2.1	6.1	10	11.1	15.2	13.6	14.4	10.9	10.6	9.1	15.2	2.2	24
9	9.6	11.1	11	10.3	8.8	9.4	10.2	9.6	9.6	15	16.6	14.6	13.5	15	14.8	16.5	19.7	18.3	16.2	16	18.1	17.7	19.6	21.3	21.3	12.8	24
10	21.6	18.2	14.6	15.9	20.5	19.1	19.1	19.5	21.5	22.2	22.4	20.5	17	15.1	16.3	15.5	12.9	11.1	8.3	7	6.4	6	3.8	1	22.4	12.8	24
11	5.4	6.4	9.4	10.4	9.5	8.2	8.9	10.4	14.1	12.8	16.9	20.8	22.3	22.9	21.4	18.5	18.9	19.7	20.6	15.7	11.1	12.9	12.8	12.9	22.9	12.8	24
12	13.8	14.2	16.6	14.8	12.4	10.1	10	7.4	9.9	8.4	8.1	5.9	6.4	8.5	10	12.4	15.4	12.8	12.4	11.7	8.8	9.4	16.2	18.2	18.2	5.6	24
13	16.5	11.8	19.1	20.1	20.5	17.1	17.7	17.4	19.9	18.7	21.5	20.9	21.6	18.9	18.1	16.4	14.7	14.5	12.3	11	9	9.7	9.8	9.3	21.6	14.4	24
14	8.5	8	7.7	7.3	7.9	7.5	4.5	6.6	3.3	4	6.2	8.7	12.1	11.8	10	11.6	11.3	10.1	9.3	9	6.5	5.9	6.6	6.4	12.1	3.8	24
15	5.8	8.6	6.6	8.6	10.4	11.9	10.7	10.7	10.2	11.9	12.7	11.6	10.9	9.9	9.7	10.4	9.1	8.8	4.2	5.5	8.7	11.6	10.2	9.3	12.7	8	24
16	8	9.4	11.7	11.3	11.7	11	10.3	9.6	10	8.3	9	9.8	8.7	6	5.6	3	4	6.3	6.8	6.5	7.4	7.7	6.4	5.3	11.7	4.2	24
17	5.2	4.8	4.3	6.6	7	7.5	7.2	7.7	7.1	8.3	10.9	11	12.7	16	20.3	17.4	16.3	12.3	11.6	9.5	11.7	16	13.6	14.5	20.3	10.3	24
18	14.3	16.7	14.2	13.9	10.2	6.6	6.5	9.9	11.1	13.2	17.5	15.8	17.9	14.3	13.5	10.7	6.3	3.7	1.1	3.2	6.2	6.2	7.8	7	17.9	1.1	24
19	10.2	10	10.6	12.4	12.3	10.9	12.9	15	18.8	20	20.1	19.7	20.3	21	21.8	18.8	17.4	16.5	13.9	12.6	13.8	14.6	12.8	9.3	21.8	15.1	24
20	8.7	9.7	11.5	10.2	7.3	7.7	9.1	14.9	18.4	21.2	17.2	20.6	23.8	22.1	20.5	20.9	20.4	23.9	26.5	24.9	22.3	21.3	18.4	16.2	26.5	13.2	24
21	17.8	13.2	14.2	11.1	11.1	11	11.8	12.2	12.6	16.4	17.2	15.6	16.6	15.6	15.5	13.9	13.4	11.4	12.7	8.3	6.5	6.9	8	8.9	17.8	11.7	24
22	10.2	10.3	9	8.7	7.2	8.3	8.1	6.7	9.6	9.9	10.1	7.4	13.5	16.4	17.3	19.3	20.5	20	5.2	3.2	6	6.2	7.6	7.7	20.5	9.7	24
23	8.9	9.8	11.4	12	10.9	12	12.7	9.9	9.6	12.4	14.2	17.6	15.8	17.3	17.3	20	21.6	28.1	22.6	17.8	13.9	15.1	11	7.8	28.1	13.3	24
24	4.5	6.8	6.5	5	7.5	8.6	9.6	9.1	8.9	7.5	11.3	14.9	14.2	13.3	13.9	14.4	11.2	12.3	6.6	8.4	10.6	10	9.8	11.2	14.9	8.5	24
25	10.5	11.5	11.7	11.4	11.1	12.2	15.9	12.3	12.1	15.5	20.4	22.3	19.4	22.1	21.2	18.1	15.8	13.4	10	6.7	4.1	4	7.7	8.2	22.3	11.3	24
26	9.7	10.3	8.5	13.8	14.5	13.6	18.7	13.8	13.4	20.8	21.1	20.5	18	17.4	19.3	11.8	5.1	9.9	14.1	17.1	10.3	15.4	15.8	15.5	21.1	12.7	24
27	18.6	13	7.5	8.3	9.5	10.7	5	8.4	10.4	13.1	19.1	23.7	22.9	19.5	20	24.2	27.5	19.3	12.9	15.8	17.2	23.1	21.8	24.9	27.5	11.1	24
28	28.7	26.9	24.7	21.4	16.5	13.3	14.6	13.5	9.1	12.4	9.1	10.5	10.6	9.2	9.2	10.8	8.7	4.4	6.4	11.4	14.1	11.7	10.3	13.2	28.7	6	24
29	11.2	10	10.5	11.9	13.4	15.6	18	19.3	22.2	22.6	18.5	16.9	17.4	16.3	11.6	9	8.6	6	1.4	3.6	5.1	7.5	1.9	3.6	22.6	8.8	24
30	12.1	10.7	13.1	14.3	18.5	17.9	16.9	17.2	17.6	17	19.3	19.2	21.1	19.3	19.8	20.1	17.2	16.6	16.4	12.4	9.8	7.8	9.1	8.7	21.1	15.3	24
HOURLY MAX	28.7	26.9	24.7	21.4	20.5	19.9	24.3	25.7	25.1	22.6	22.4	23.7	23.8	22.9	21.8	24.2	27.5	28.1	26.5	24.9	22.3	23.1	21.8	24.9			
HOURLY AVG	11.5	11.5	11.3	11.9	12.1	11.9	12.2	12.5	13.2	13.9	14.7	14.9	15.0	14.7	14.9	14.6	13.9	13.2	11.6	11.0	10.7	11.3	11.3	11.0			

STATUS FLAG CODES

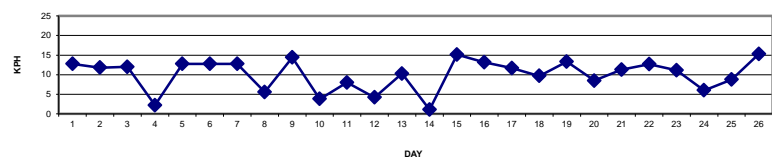
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

LAST CALIBRATION: June 12, 2012

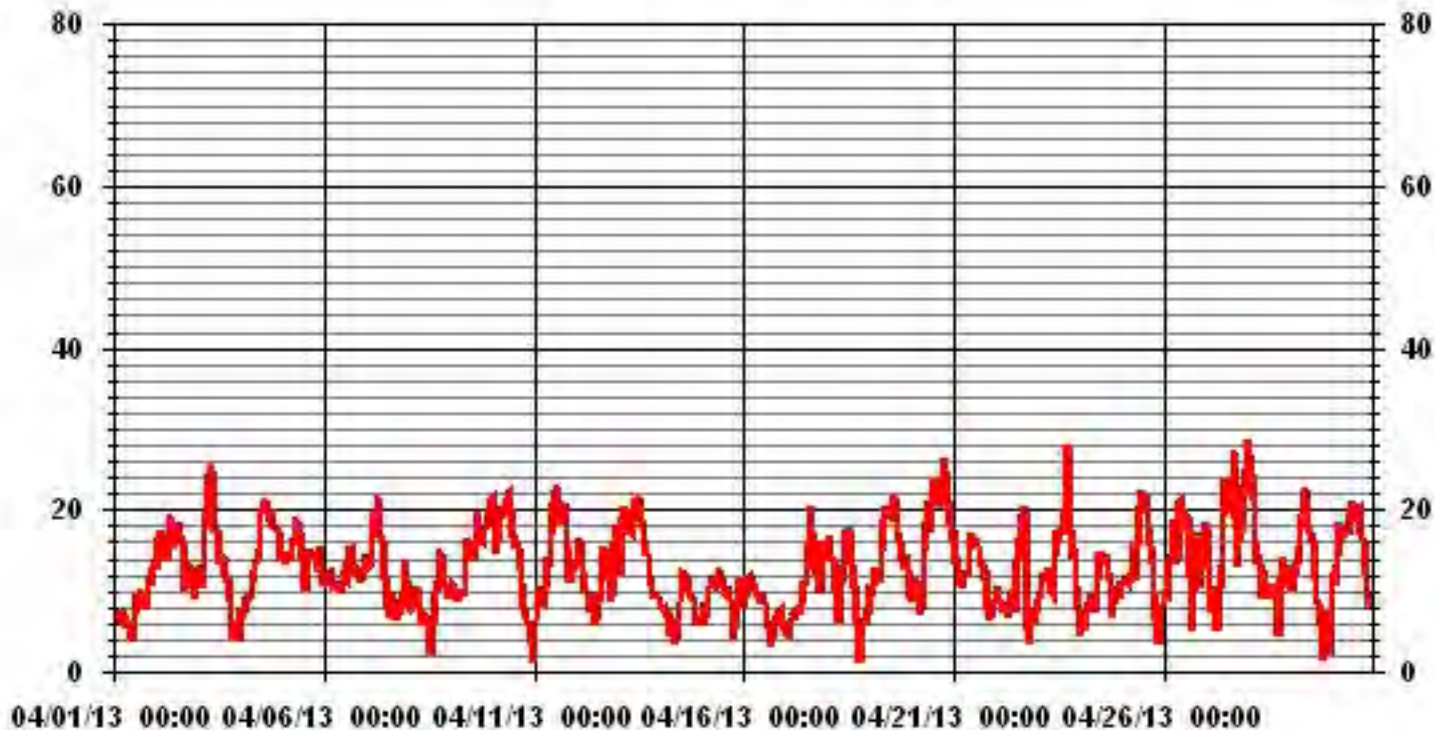
MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	28.7	KPH	@ HOUR(S)	0	ON DAY(S)	28
MAXIMUM 24-HR AVERAGE:	15.3	KPH			ON DAY(S)	30
CALMS (≤ 0 KPH)	0.00	%	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	5.08		MONTHLY AVERAGE:	12.69	KPH	

24 HOUR AVERAGES FOR APRIL 2013



01 Hour Averages



— LICA31 WSP KPH

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 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		14.9	15.6	9.9	13.2	16.5	16.5	11.2	12.7	11	9.4	11.4	12.7	14.3	20.4	21.7	21.3	23	22.3	15.2	14.5	23.9	20.4	22.6	30.5	30.5	
2		27.8	36.4	33.1	36.4	32.9	32.9	30.1	35.1	40.5	37.3	34.6	36.2	36.1	42.9	35.9	30.7	24.1	20	24.3	17.5	20.8	19.5	28.5	26.3	42.9	
3		23.2	28.3	23.7	25.6	43.4	45.8	62.9	59.8	62.9	41.7	43.2	39.9	30.9	31.8	29.8	34.2	30	26.3	21.5	12.3	11.3	6	6.6	14.7	62.9	
4		9.9	14.9	17.5	17.1	18	19.7	14.5	25.2	0	27.2	30.9	31.6	41.9	44	42.1	46.4	42.3	38.6	39.2	38	40.1	39.7	34.4	27.2	46.4	
5		26.6	29.6	25.7	29.4	29.6	31.4	30.9	31.4	35.9	36.4	36	32.4	23.7	21.3	26.8	30.5	34.2	30.9	31.3	33.3	27.8	27.6	27.6	24.8	36.4	
6		21.7	25	22.8	24.3	21.7	19.5	20.8	20.4	23.7	20	21.1	23	20.4	26.1	28.5	25.9	26.3	30.7	23.3	25.7	23.7	22.6	28.8	33.1	33.1	
7		27.8	30.7	23.5	28.3	33.6	36	40.5	38.1	41.4	33.3	32.9	23.7	18.3	21	18.4	23.5	17.5	16	15.6	15.6	16.7	15	24.3	19.3	41.4	
8		15.8	13.2	13.8	14.9	14.3	14.3	13.8	12.8	12.1	16	21.9	19.1	18	12.3	11.3	15.8	17.3	16.7	21.9	20.7	24.1	16	16	11.7	24.1	
9		12.7	13.8	12.3	12.1	11.4	13.8	15	17.3	26.3	28.7	33.8	34.9	28.9	32.9	32.2	34.4	43.4	41	34.6	35.5	38.4	39.5	42.1	41.2	43.4	
10		47.3	38.8	31.3	34.6	40.3	39	40.6	38.3	46.9	44.9	51.2	44.5	37	30.7	32	32.2	25.2	22.4	15.4	12.5	10.5	9.9	12.5	9	51.2	
11		8.8	9.9	12.3	14.9	13.8	10.8	14.7	26.1	27.6	26.7	39.6	42.5	47.1	45.1	48.2	40.3	41.2	45.3	44.7	37.2	30.7	25.8	32	27.2	48.2	
12		29.6	30	39.2	34.4	32.2	22.4	21.7	15.8	22.1	23	20.7	20.2	19.9	18.2	26.9	24.8	30.3	23.1	25.9	19.1	14.7	16.2	33.3	41.2	41.2	
13		45.3	19.1	42.1	37.5	39	38.8	37.9	37.5	45.4	46.7	50.8	49.5	48.4	48.2	40.1	34.2	33.5	28.7	23.7	23.7	17.1	16.9	20.6	15.2	50.8	
14		13.4	13.8	12.7	9.7	12.1	16.5	14	12.3	13.4	12.7	18.2	21.5	24.1	23	22.1	21.5	22	24.1	20.8	22.1	13.8	12.3	9.4	8.8	24.1	
15		9.7	13.8	15.4	14.7	19.7	21.7	19.6	21.7	20	23.2	25.2	26.1	20.8	22.3	23.7	21.3	21.5	15.1	10.1	10.1	16.5	21.7	18.7	18.1	26.1	
16		15.6	17.3	19.7	20.6	21.9	18.7	18.2	17.3	19.7	15.8	19.1	21.7	27.6	16.4	16.4	14.9	14.5	12.5	11.6	9.7	13.4	12.1	11.3	10.8	27.6	
17		6.8	14.9	7.5	7.7	9.4	9.9	11.9	11.9	20.8	21.5	27.4	27.6	35.3	32.9	33.8	32	35	22.1	19.1	25.3	35.3	28.9	32.4	35.3	35.3	
18		32.2	36.8	32.2	37	26.7	14.5	16	20	28.3	33.1	41	40.5	42.7	32.9	30.3	27.6	14.9	10.3	6	8.6	13.2	12.5	18.7	14.7	42.7	
19		22.8	21.5	22.4	26.1	28.3	20.8	26.5	32	42.5	43.8	47.8	40.3	40.5	44.5	41.5	36.6	36.4	33.1	28.7	29.4	27.8	38.1	32.2	21.5	47.8	
20		23.3	21.7	25.2	19.3	18	15.8	20	37.2	42.7	46	46.7	48.8	58.2	48.4	46.4	49.7	62.2	60	65	60.7	59.3	50.6	42.3	39	65	
21		42.3	44.7	34.4	26.1	22.4	25	28.7	31.1	29.4	33.1	35.3	37.5	39.7	39.7	37.5	34.9	29.4	29.2	28.9	24.1	11.9	11.6	12.3	11.9	44.7	
22		14.8	14.8	12.1	11.9	13.2	11.2	12.5	12.3	16.9	20.8	24.1	20.8	25.8	30	32	41	38	44	21.7	13.6	16.7	9.9	10.8	12.1	44	
23		14.9	17.6	18.9	22.2	19.5	21	24.1	21.9	20.7	32.7	36.4	39.2	44	44.2	42.9	62.8	68.5	70.3	64.1	51	47.6	39	32.2	17.6	70.3	
24		14.7	11.3	11.2	7.9	11.2	11.2	17.6	16	16	17.3	21	28.3	29.6	28.7	31.3	33.1	30.5	23.2	13.2	14.7	22.3	23.4	14	18.2	33.1	
25		15	15.6	15.8	29.8	24.3	24.1	28.3	22.6	25.4	45.1	49.7	45.4	49.7	51.4	52.7	46.4	45.1	36.8	24.8	18	11	6.8	14	15.1	52.7	
26		17.1	19.1	14.9	21.7	23.7	22.3	47.1	25.8	32.4	45.3	52.7	49	54.5	48.4	56.5	31.2	25	32.9	53.6	46	15.4	42.3	33.5	43.3	56.5	
27		48.6	52.7	13.8	17.8	19.5	39.4	18.4	20.4	19.7	30	44.7	55.9	48.2	41.4	60.2	53.4	85.8	43.6	29	40.3	58.9	60.4	55.6	56.5	85.8	
28		59.5	60.9	53.4	48.6	37.9	33.5	32.4	30.5	22.8	35.3	23.9	28	25	27.8	24.5	26.1	26.9	12.9	13.4	23.9	23.9	21.5	30.3	37.1	60.9	
29		26.1	21.3	19.1	21	34	33.1	42.1	44.7	43.4	47.6	44	31.1	32.4	31.6	28	31.4	26.3	25.9	17.1	10.8	9.3	13.8	7.5	17.3	47.6	
30		28.9	23	31.8	32.4	36.6	40.8	37.3	38.8	35.1	37.7	39.5	41.6	45.6	40.7	42.7	39.1	35.7	38.1	34	29.2	26.1	14	18	17.3	45.6	
PEAK		59.5	60.9	53.4	48.6	43.4	45.8	62.9	59.8	62.9	47.6	52.7	55.9	58.2	51.4	60.2	62.8	85.8	70.3	65.0	60.7	59.3	60.4	55.6	56.5		

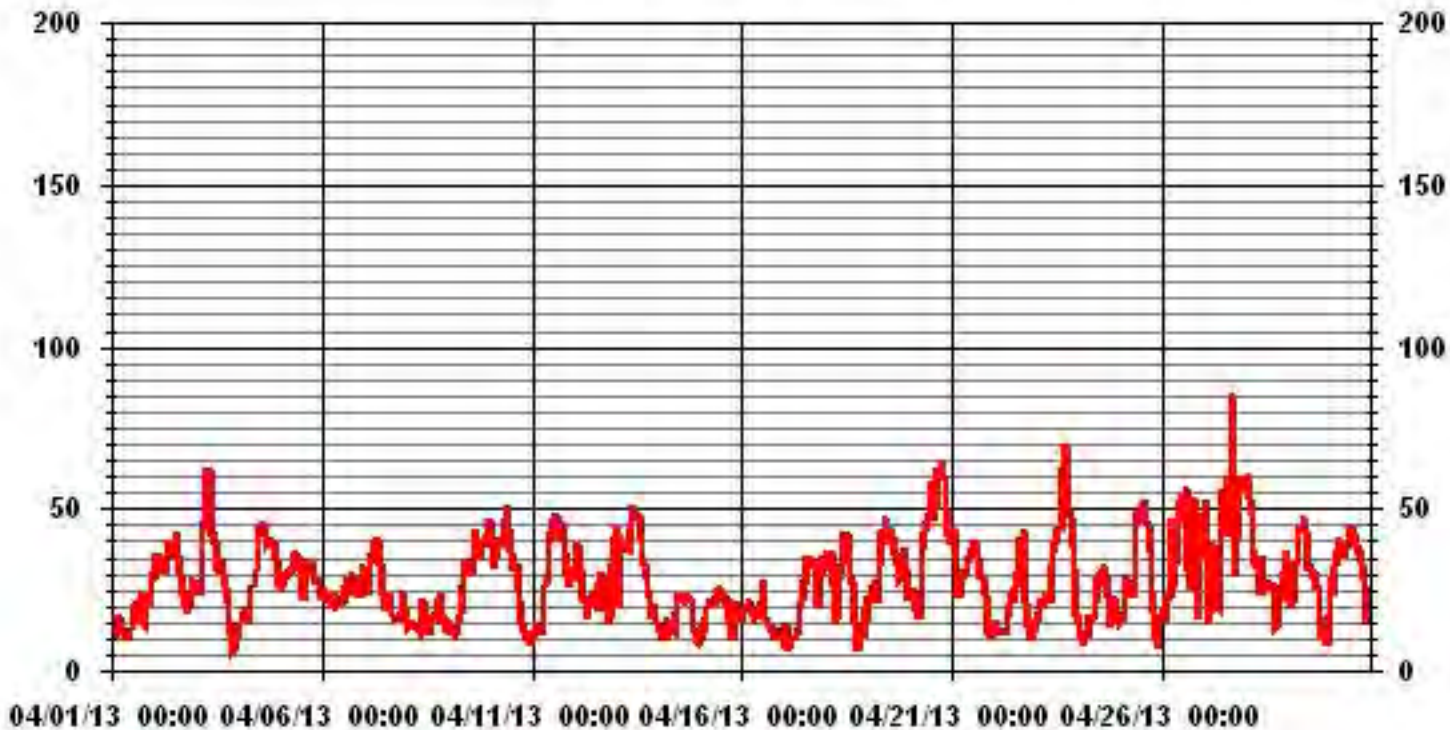
STATUS FLAG CODES

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	85.8	KPH	@ HOUR(S)	16
			ON DAY(S)	27

01 Hour Averages



LICA31
WSP / WDR Joint Frequency Distribution (Percent)

April 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 6.0	.41	.69	.55	.27	.55	.41	.13	.13	.13	.41	.13	.83	.83	.55	.13	.13	6.38
< 12.0	1.11	2.22	5.00	3.33	1.52	2.77	1.25	1.52	3.61	3.61	4.02	4.16	3.05	2.08	1.52	2.36	43.19
< 20.0	1.38	1.38	.97	5.13	1.52	1.80	1.52	5.27	3.33	1.66	1.80	2.08	1.38	1.94	5.27	3.88	40.41
< 29.0	.41	.00	.00	.55	.27	.27	.41	1.11	.97	.00	.00	.27	.97	1.11	2.36	1.25	10.00
< 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.33	4.30	6.52	9.30	3.88	5.27	3.33	8.05	8.05	5.69	5.97	7.36	6.25	5.69	9.30	7.63	

Calm : .00 %

Total # Operational Hours : 720

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 6.0	3	5	4	2	4	3	1	1	1	3	1	6	6	4	1	1	46
< 12.0	8	16	36	24	11	20	9	11	26	26	29	30	22	15	11	17	311
< 20.0	10	10	7	37	11	13	11	38	24	12	13	15	10	14	38	28	291
< 29.0	3			4	2	2	3	8	7			2	7	8	17	9	72
< 39.0																	
>= 39.0																	
Totals	24	31	47	67	28	38	24	58	58	41	43	53	45	41	67	55	

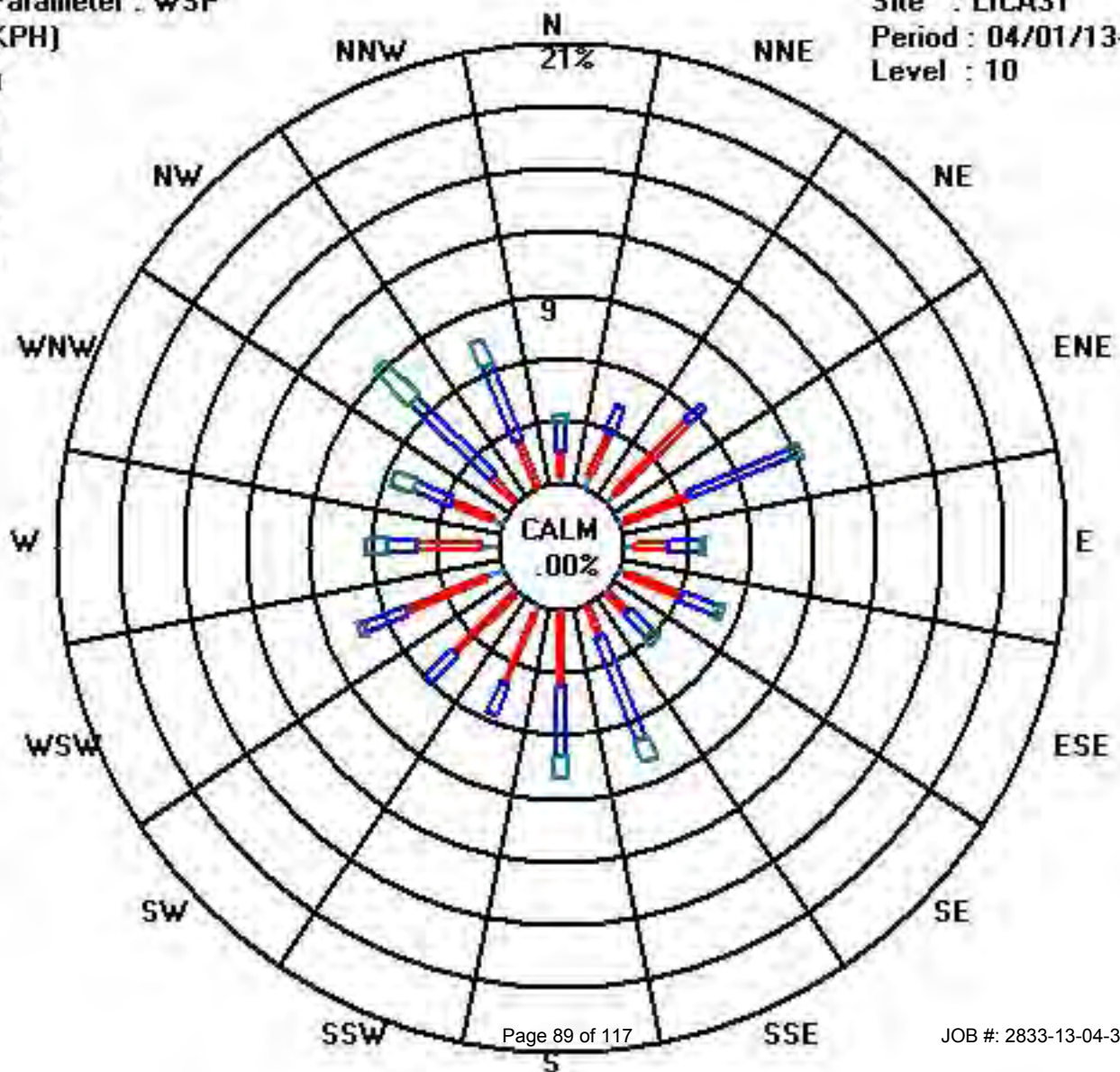
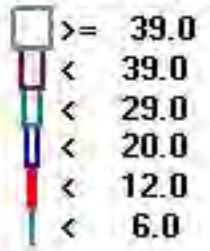
Calm : .00 %

Total # Operational Hours : 720

Class Limits (KPH)

Period : 04/01/13-04/30/13

Level : 10



Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

APRIL 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-HOUR	24-HOUR AVG	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUADRANT	RDGS.
DAY 1	29	334	315	331	353	9	24	45	64	88	96	77	117	166	196	191	203	186	168	178	176	163	158	160	152	SSE	24
2	162	172	166	166	165	156	163	169	178	186	186	192	197	200	214	216	207	201	205	235	241	248	291	332	193	S	24
3	291	303	319	281	278	297	315	336	334	336	338	338	323	333	332	348	342	335	342	333	315	251	247	131	321	NW	24
4	144	167	171	171	182	184	161	172	170	165	165	141	130	133	134	149	135	140	144	144	151	151	151	135	150	SSE	24
5	116	109	98	86	78	70	66	64	63	67	72	67	56	58	49	59	22	18	17	20	16	22	32	35	57	ENE	24
6	29	45	40	45	44	40	47	60	63	54	65	68	74	75	76	71	75	77	78	76	77	72	73	76	63	ENE	24
7	81	70	66	62	64	67	65	64	63	62	59	54	65	36	65	78	117	92	118	118	99	83	68	64	71	ENE	24
8	64	37	49	34	33	33	34	46	53	50	26	358	358	60	40	241	240	233	239	247	253	265	262	241	321	NW	24
9	239	237	244	239	221	209	216	214	209	208	199	193	198	177	181	168	165	162	165	156	155	169	174	174	188	S	24
10	174	169	167	163	166	168	172	170	171	169	169	168	164	151	134	132	130	117	92	60	55	42	18	238	156	SSE	24
11	246	239	237	230	234	227	253	290	314	318	304	307	307	307	305	312	317	310	312	311	304	296	314	310	299	WNW	24
12	325	336	344	341	349	337	341	350	46	53	91	114	134	133	121	118	111	108	101	106	114	104	105	104	67	ENE	24
13	104	110	128	118	112	109	98	85	76	77	78	76	77	70	63	68	69	67	57	50	25	21	19	27	80	E	24
14	29	35	37	32	34	18	22	54	106	195	54	88	125	116	110	119	118	172	168	176	186	198	228	241	107	ESE	24
15	294	335	7	20	29	36	45	54	60	46	62	71	88	86	83	77	110	105	83	40	60	65	58	68	58	ENE	24
16	53	47	59	53	44	40	48	48	50	51	43	64	83	118	116	31	88	199	217	190	262	275	287	281	54	NE	24
17	261	204	222	219	209	224	224	229	228	203	208	209	207	229	238	217	212	200	205	198	184	183	194	183	210	SSW	24
18	176	174	181	191	201	219	264	277	303	325	338	352	4	21	16	11	11	19	21	147	159	170	135	169	303	WNW	24
19	161	159	155	157	160	150	153	153	162	157	157	161	155	150	148	151	150	147	152	159	164	166	179	187	157	SSE	24
20	187	191	199	205	224	271	291	305	306	302	307	312	310	312	301	309	349	348	349	352	345	345	350	351	319	NW	24
21	358	356	355	333	331	340	338	347	339	325	323	336	336	330	329	337	328	321	306	303	287	275	274	268	329	NNW	24
22	263	263	256	251	261	222	226	246	239	274	288	253	230	233	241	253	263	262	280	43	251	243	279	271	254	WSW	24
23	289	285	286	295	300	306	301	316	329	355	330	333	322	304	331	330	343	336	340	340	17	5	13	3	329	NNW	24
24	359	294	277	244	223	240	237	239	233	223	239	223	214	212	190	184	211	234	207	182	176	191	235	238	221	SW	24
25	245	240	231	227	217	217	248	252	252	275	273	263	276	282	279	282	302	310	320	333	300	268	188	195	264	W	24
26	205	220	216	235	240	236	258	258	250	259	290	298	303	296	291	321	342	275	272	293	237	277	259	272	269	W	24
27	280	258	208	201	206	249	281	225	207	186	182	183	191	223	273	252	302	333	306	301	295	298	294	309	259	WSW	24
28	317	320	324	324	324	337	332	332	314	279	280	275	255	262	247	249	192	185	136	100	104	111	143	160	304	WNW	24
29	172	136	122	108	94	86	88	89	88	94	93	103	114	120	146	130	176	173	354	253	266	272	299	298	111	ESE	24
30	311	293	290	309	310	307	313	314	314	319	314	316	322	325	331	326	331	324	324	323	328	315	305	311	317	NW	24
HOURLY AVG	359	356	355	341	353	340	341	350	339	355	338	358	358	333	332	348	349	348	354	352	345	345	350	351			

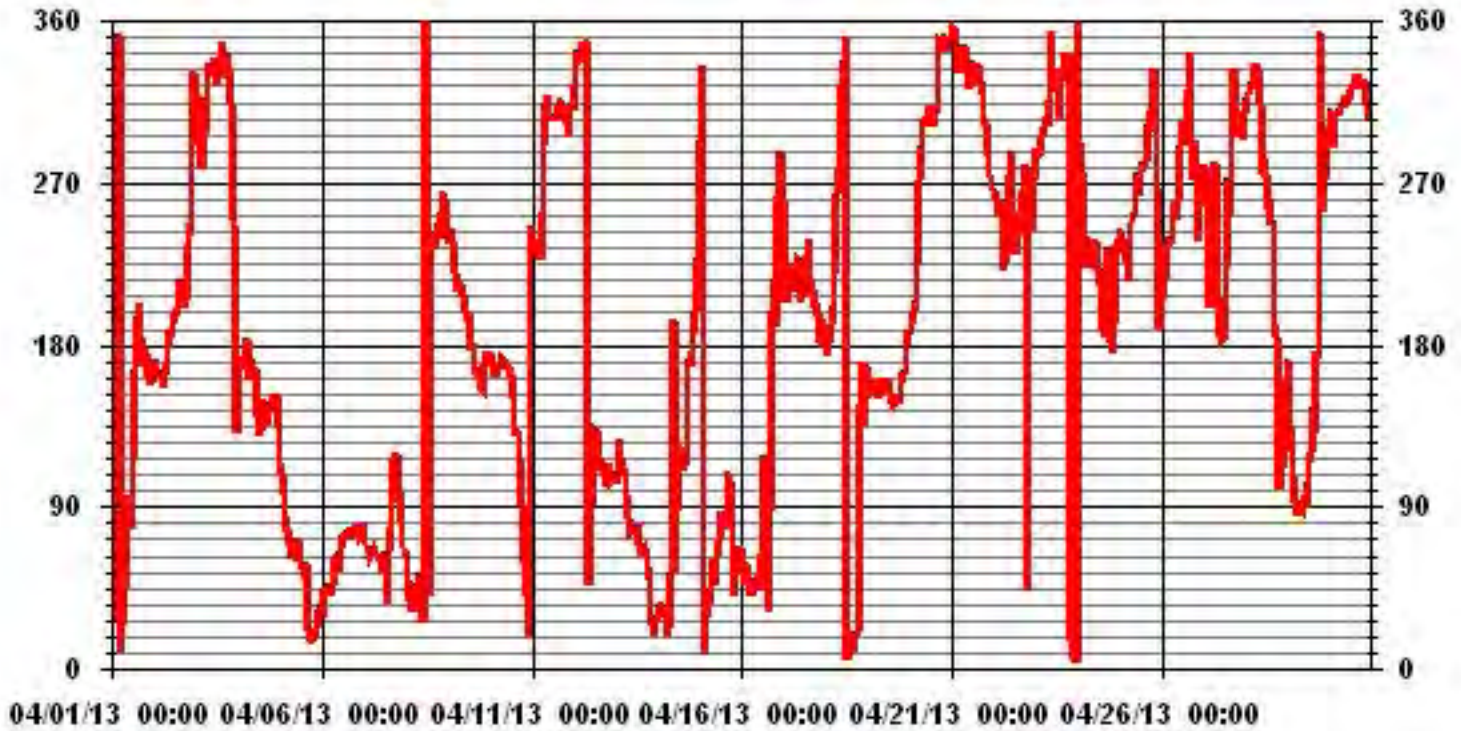
STATUS FLAG CODES

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

LAST CALIBRATION:	June 12, 2012
DECLINATION:	19 DEGREES FROM MAGNETIC NORTH

MONTHLY CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	720 HRS
STANDARD DEVIATION:	101.24	AMD OPERATION UPTIME:	100.0 %
		MONTHLY AVERAGE:	273 DEG

01 Hour Averages



Standard Deviation Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST.LINA

APRIL 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	8	8	6	7	11	6	7	10	13	20	23	38	23	18	18	20	17	12	12	7	9	10	11	12
2	12	11	12	13	12	14	13	12	11	13	13	14	14	15	13	12	14	12	11	5	5	7	13	15
3	14	13	13	11	11	14	17	14	14	16	15	16	18	18	16	18	17	14	13	9	9	5	4	36
4	7	6	5	5	7	5	7	10	11	13	14	16	14	14	14	13	14	13	13	14	13	13	13	13
5	11	10	10	10	11	10	10	10	10	10	11	13	12	14	13	12	13	13	14	13	13	12	9	10
6	11	10	10	10	10	10	10	12	13	11	17	12	13	11	11	10	11	12	11	11	10	10	10	11
7	10	10	10	10	10	9	9	9	11	12	12	16	22	24	23	18	16	22	14	8	6	7	7	7
8	8	6	7	6	5	5	8	11	13	20	24	23	32	50	44	28	9	9	6	6	5	6	5	3
9	4	2	2	2	3	5	7	9	12	12	14	15	17	16	16	15	14	14	12	13	13	13	12	11
10	11	12	12	12	11	12	12	12	12	13	13	14	15	16	13	15	14	13	10	9	8	7	12	31
11	8	5	3	5	4	4	5	12	14	17	16	15	15	15	15	15	15	14	16	16	15	15	15	14
12	14	13	14	13	15	18	13	17	15	24	19	41	35	23	19	18	12	11	9	8	6	8	9	9
13	9	10	13	11	10	10	10	11	11	12	12	12	12	12	13	13	12	11	11	12	11	9	10	9
14	8	8	6	5	9	7	13	11	22	27	34	18	17	17	21	15	14	13	14	9	7	9	5	4
15	10	9	15	10	8	8	9	10	11	13	17	17	16	22	18	15	17	11	13	8	6	8	7	8
16	9	9	7	8	8	8	9	10	12	13	16	16	20	27	32	42	38	17	11	8	19	6	8	10
17	9	12	5	5	5	4	4	6	11	17	20	19	16	14	13	13	13	14	12	11	10	10	12	11
18	10	10	11	12	12	13	14	11	15	14	13	21	15	14	14	15	18	20	26	18	11	9	16	16
19	9	10	12	12	12	13	13	14	14	15	15	15	15	15	13	13	13	13	13	13	12	13	12	13
20	10	11	11	12	22	10	14	14	14	15	16	15	16	15	15	15	21	15	15	15	14	16	14	15
21	14	19	14	12	11	14	13	15	16	14	14	16	16	17	16	17	17	18	16	14	11	7	5	5
22	4	4	4	5	6	5	6	9	8	20	26	32	13	12	12	11	10	9	42	39	21	9	5	5
23	8	8	8	10	13	13	12	14	15	18	18	15	17	17	21	17	16	14	14	13	14	15	14	13
24	21	11	6	8	6	5	5	7	7	21	17	14	15	17	17	15	15	10	12	8	9	11	6	5
25	5	5	5	7	11	10	8	8	9	15	12	11	14	15	15	16	17	16	14	11	23	10	13	11
26	8	8	8	7	6	7	9	9	10	9	16	17	19	18	17	16	44	31	11	15	8	13	9	10
27	12	11	14	10	10	14	19	11	14	15	15	14	15	13	15	10	15	14	14	16	15	15	15	15
28	14	14	14	14	13	15	14	17	21	21	32	28	25	37	33	26	25	46	18	9	8	9	13	16
29	12	12	11	10	11	11	10	10	11	11	12	14	16	16	24	28	28	36	55	33	11	10	52	26
30	14	15	14	15	14	16	16	16	15	16	15	15	14	15	15	14	16	14	14	14	13	11	10	10

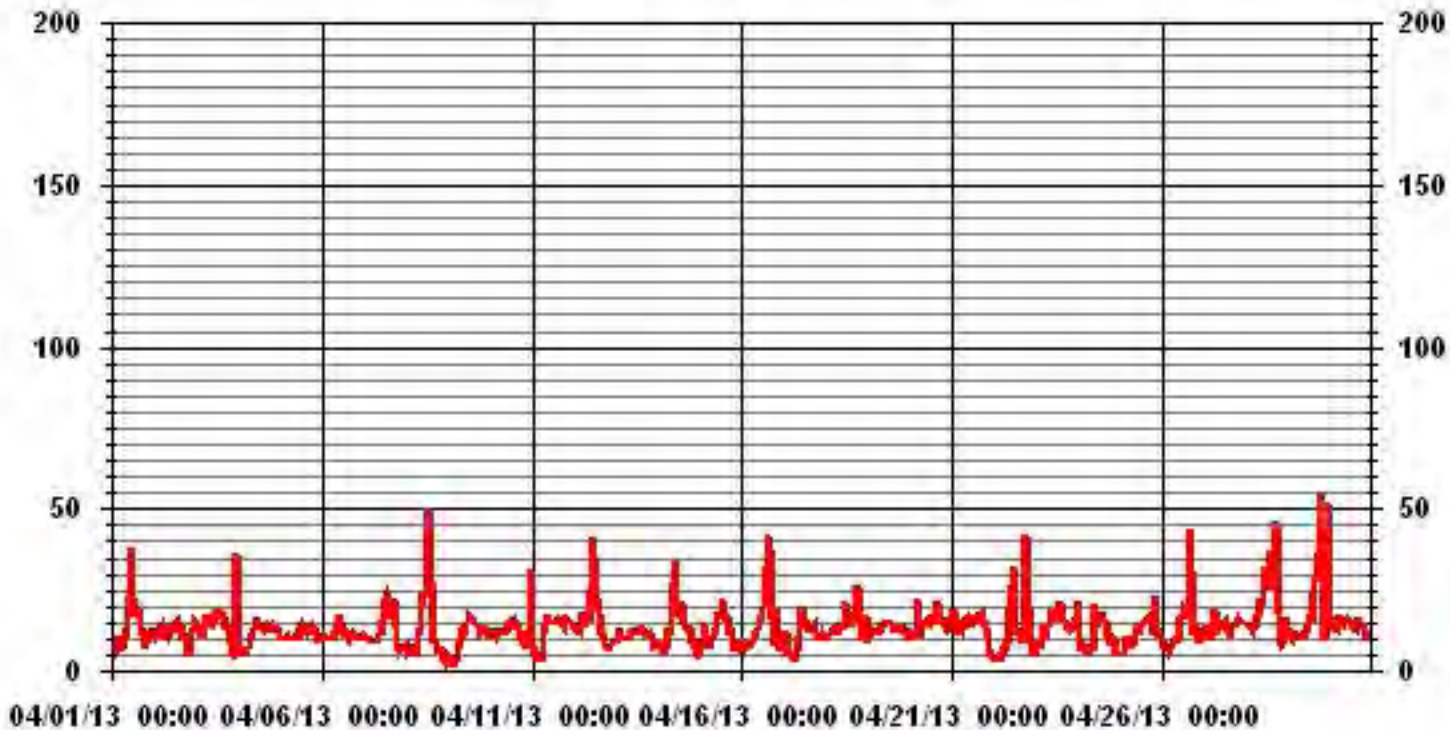
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P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

LAST CALIBRATION: June 12, 2012

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 720 HRS

01 Hour Averages



Calibration Reports

Sulphur Dioxide

SO2 Calibration Report

Station Information

Calibration Date	April 16, 2013	Previous Calibration	March 20, 2013
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location	ST. LINA		
Start Time (MST)	9:30	End Time (MST)	12:35
Reason:	Monthly Calibration		
Barometric Pressure	28.03 inHg	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	NA Volts

Equipment Information

Analyzer Make / Model:	API 100E	S/N :	468	Method:	Fluorescent
Converter Make / Model:	NA	S/N :	NA		
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	0 - 1000 ppb						
Sample Flow / Box Temp	581 ccm	29.3 Deg C		579 ccm	30.4 Deg C		
HVPS / Lamp Setting	540	2147		540	2147		
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	101.3	0.989		99.1	1.002		

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	-1	N/A
5000	0	0	0	N/A
4915	79.8	792	781	1.0146
4915	79.8	792	792	1.0000
4955	39.9	396	391	1.0133
4975	19.8	197	195	1.0083
5000	0	0	0	N/A
Sum of Least Squares				1.0033
New Correction Factor				1.0000

IZS alibration Data

Before Calibration		After Calibration	
Auto Zero	0.0	Auto Zero	0.0
Auto Span	237.0	Auto Span	237.0
Sample Lines Connected		Sample Lines Connected	YES

Percent Change

Previous Month's Calibration Correction Factor:	1.0018
Current Correction Factor Before Span Adjust:	1.0146
Percent Change:	-1.3%

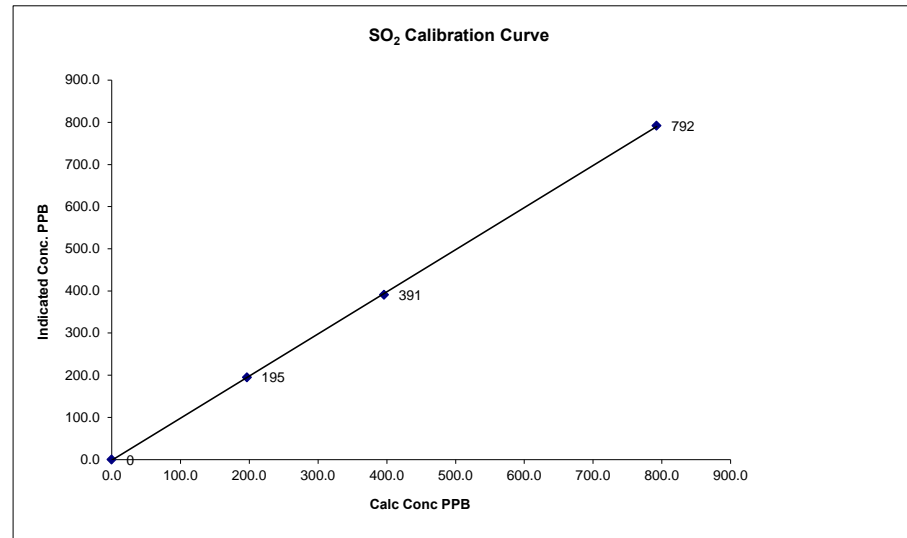
Notes: **N/A : Not applicable**

Calibration Performed by: Waseem Ahmed

SO2 Calibration Curve

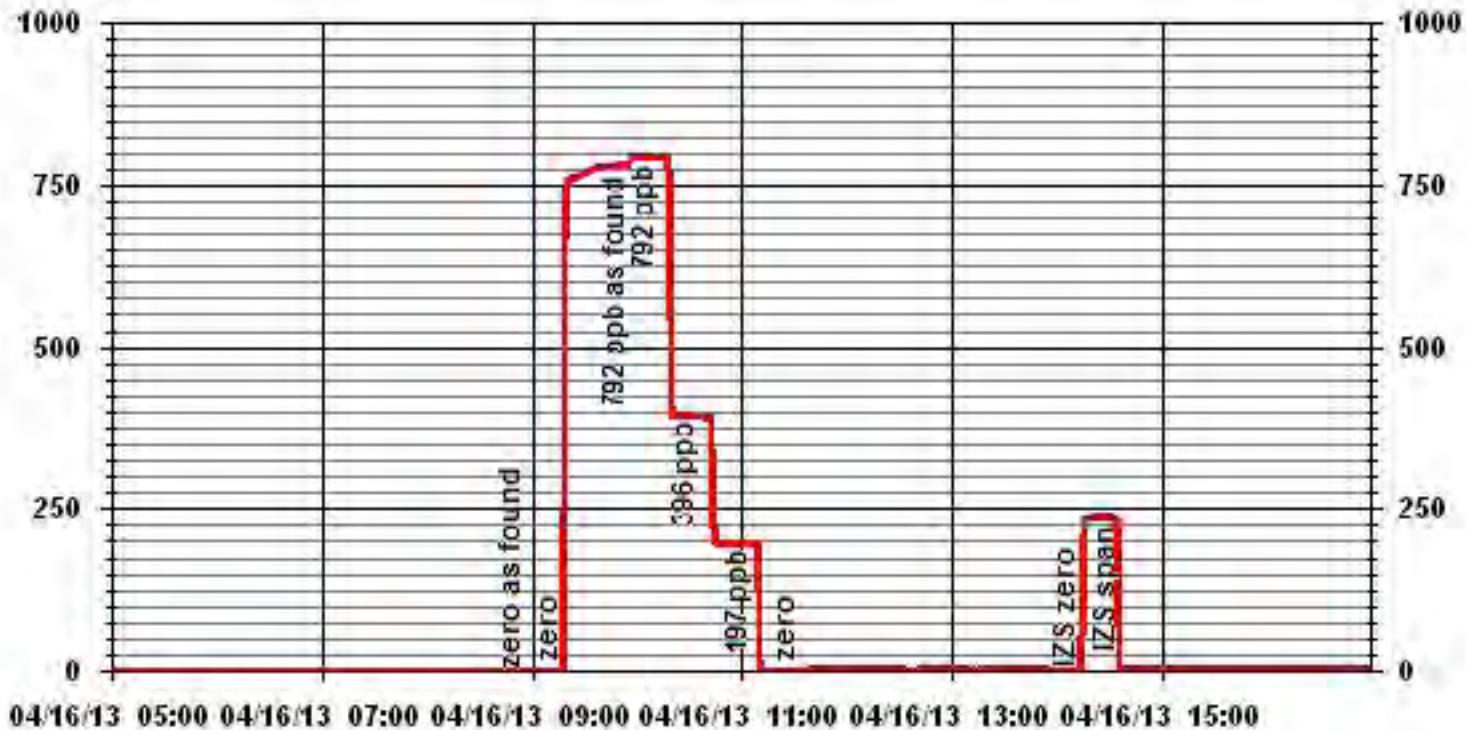
Calibration Date	April 16, 2013
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION
Plant / Location	ST. LINA
Start Time (MST)	9:30
End Time (MST)	12:35

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		0.999952
197	195	1.0083		0.999378
396	391	1.0133		-1.602835
792	792	1.0000		



Notes:

01 Minute Averages



Hydrogen Sulphide

H2S Calibration Report

Station Information

Calibration Date	April 16, 2013		Previous Calibration	March 20, 2013	
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION				
Plant / Location	ST.LINA				
Start Time (MST)	9:30	End Time (MST)	12:35		
Reason:	Monthly Calibration				
Barometric Pressure	28.03	inHg	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	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	ppb	
Sample Flow / Box Temp	539 ccm 32.2 Deg C	537 ccm	33.2 Deg C
HVPS / Lamp Setting	518 2095	518	2093
PMT / RxCell Temp	8.4 Deg C 50 Deg C	8.4 Deg C	50 Deg C
Converter / IZS Temp	314.4 Deg C 45 Deg C	314.4 Deg C	45.0 Deg C
Offset / Slope	109.8 1.046	106.6	1.063

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	1.0000
4960	40.0	81	78	1.0359
4960	40.0	81	82	0.9854
4980	20.0	40	42	0.9619
4988	10.0	20	21	0.9623
5000	0	0	1	NA
Sum of Least Squares				0.9797
New Correction Factor				0.9854

IZS Calibration Data

Before Calibration		After Calibration	
Auto Zero	0.0	0.0	
Auto Span	39.9	38.0	
Sample Lines Connected		YES	

Percent Change

Previous Month's Calibration Correction Factor:	0.9854
Current Correction Factor Before Span Adjust:	1.0359
Percent Change:	-4.9%

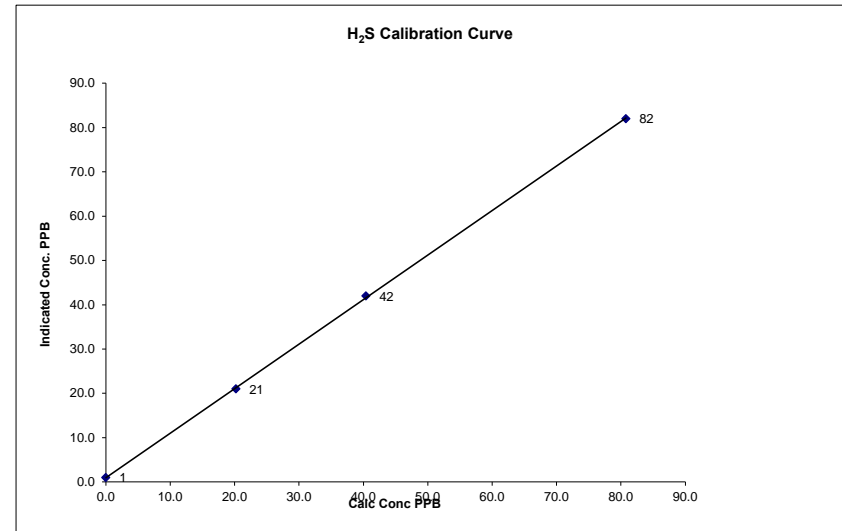
Notes: **NA : Not Applicable**

Calibration Performed by: Waseem Ahmed

H₂S Calibration Curve

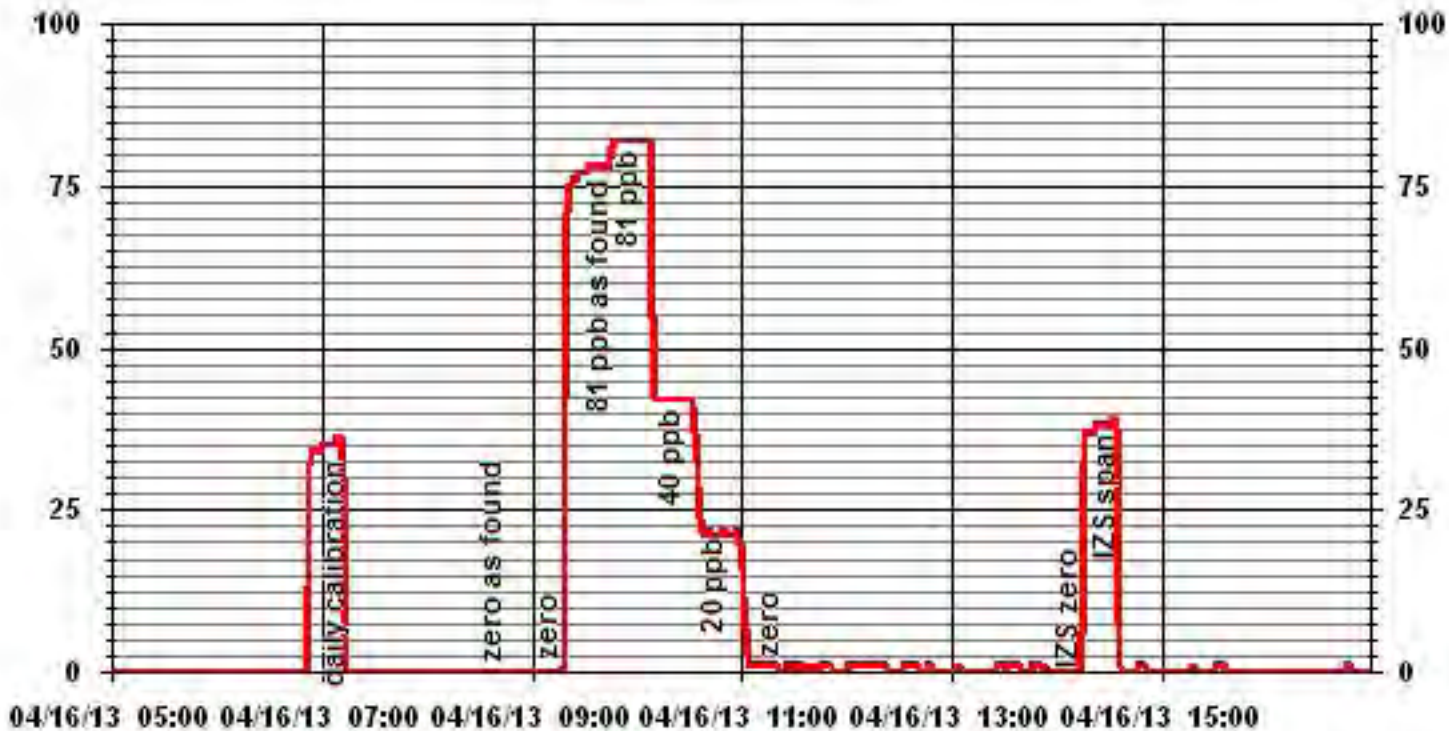
Calibration Date	April 16, 2013	
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION	
Plant / Location	ST.LINA	
Start Time (MST)	9:30	End Time (MST)
		12:35

Calculated Conc.	Indicated Response	Correction Factor	Correlation Coefficient	(≥ 0.995)
ppb	ppb		Slope	0.999919
0	1		Intercept	1.004277
			(± 3% F.S.)	0.996776
20	21	0.9623		
40	42	0.9619		
81	82	0.9854		

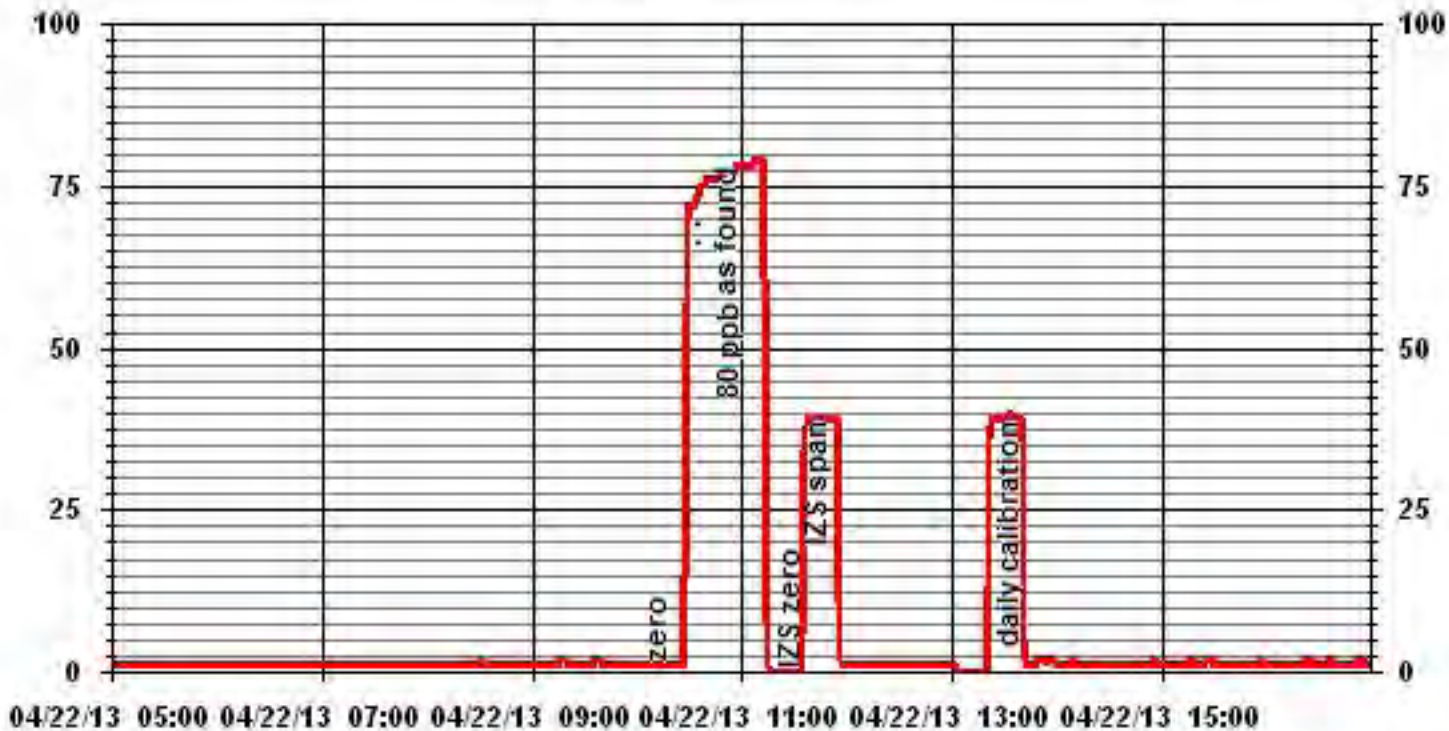


Notes:

01 Minute Averages



01 Minute Averages



Total Hydrocarbons

THC Calibration Report

Station Information			
Calibration Date:	April 16, 2013	Previous Calibration	March 21, 2013
Company:	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location:	ST. LINA		
Start Time (MST)	12:40	End Time (MST)	15:20
Reason:	Monthly Calibration		
Barometric Pressure:	28.03 inHg	Station Temperature:	24 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 :	AO 717
Chart Recorder:	NA	S/N:	NA
Output Voltage Range:	0 - 10 VDC	Chart Speed:	NA mm/hr

Analyzer Information

Make / Model	TECO 51C	S/N :	77021-384	Method	Flame Ionization
--------------	----------	-------	-----------	--------	------------------

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	NA
2000	0.0	0.0	0.0	NA
1931	69.2	40.2	39.8	1.0092
	No Span Adj.			
1965	34.6	20.1	19.6	1.0250
1983	17.3	10.0	9.7	1.0352
2000	0.0	0.0	0.0	NA
New Correction Factor:				1.0092

Percent Change

Previous Calibration Correction Factor:	1.0067
Current Correction Factor Before Span Adjust:	1.0092
Percent Change:	-0.3%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	35.1	35.1
Sample Lines Connected	YES	

Cylinder Pressures			
Span	1900 psi	Hydrogen 700 psi	Zero Air 34 psi

Notes:

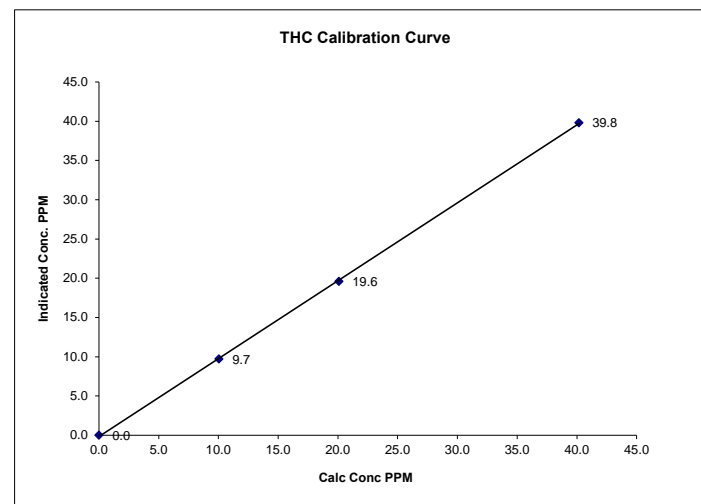
NA : Not Applicable
 Btw 14:39 and 14:41 (last zero point), the sample line was disconnected by mistake. Corrected it and re-started the point.

Calibration Performed by: Waseem Ahmed

THC Calibration Curve

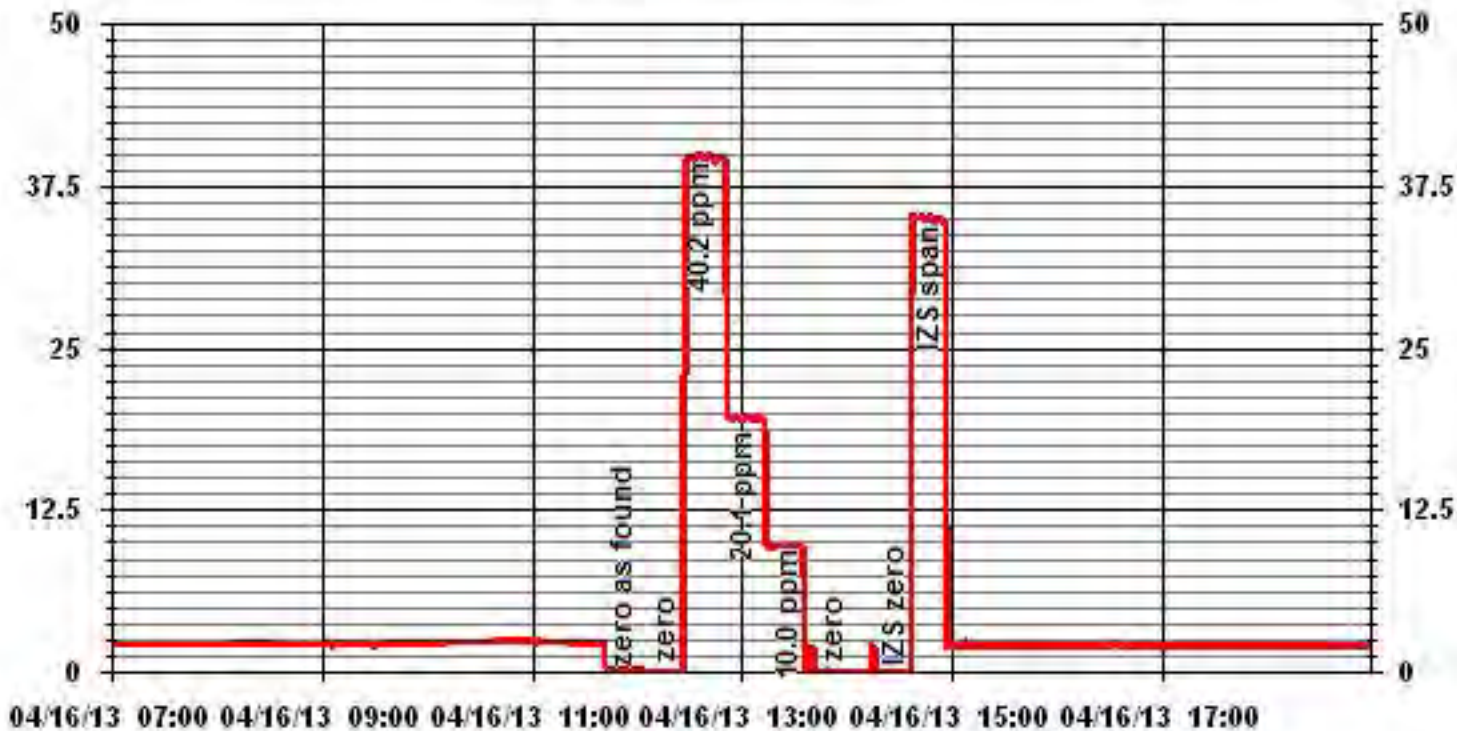
Calibration Date	April 16, 2013		
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location	ST. LINA		
Start Time (MST)	12:40	End Time (MST)	15:20

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient	Slope	Intercept
0.0	0.0	NA	(≥ 0.995)	0.999911	0.992131
10.0	9.7	1.0352	(0.85 to 1.15)		(± 3% F.S.) -0.16098
20.1	19.6	1.0250			
40.2	39.8	1.0092			



Notes:

01 Minute Averages



Nitrogen Dioxide

NOx - NO- NO2 Calibration Report

Station Information

Calibration Date	April 16, 2013		Previous Calibration		March 20, 2013	
Company	LICA		Plant/Location		St. Lina	
Start Time (MST)	9:30		End Time (MST)		14:40	
Reason:	Monthly Calibration					
Barometric Pressure	28.06 inHg	Station Temperature	20 Deg C	MFCF	1	
Cal Gas Concentration	NOx 49.3 ppm	NO	49.2 ppm	Cal Gas Expiry date	December 29, 2016	
Cal Gas Cylinder #	BAL3031					
DAS Output Voltage	0 - 1 Volts	Chart Rec. Output	NA Volts			

Equipment Information

Analyzer Make / Model:	TAPI 200E	S/N :	592	Method:	Chemiluminescent	
Calibrator Make / Model:	Enviroics 6100	S/N:	4760			
DAS Make / Model:	ESC 8832	S/N :	AO717			
Chart Recorder Make / Model:	NA	S/N:	NA			
Flow Meter:	Enviroics 6100	S/N :	4760			

Analyzer Settings

Before Calibration				After Calibration			
Concentration Range	0 - 1000			ppb			
Sample Flow/Conv. Temp	495 ccm	316	Deg C	483	ccm	315	Deg C
Ozone Flow / Vacuum	75 ccm	6.3	*Hg-A	74	ccm	6.2	*Hg-A
HVPS / A ZERO	638 Volts	16.3	MV	638	Volts	18	MV
Rx/ Temp / PMT Temp	50.0 Deg C	6.9	Deg C	50.0	Deg C	6.8	Deg C
Box Temp / IZS Temp	28.4 Deg C	45.1	Deg C	28.9	Deg C	45.3	Deg C
Offset	1.6 NOx	1.1	NO	1.3	NOx	-0.2	NO
Slope	1.146 NOx	1.141	NO	1.206	NOx	1.196	NO
NO2 COEF / Conv Efficiency	N/A	NO2	0.993	NA	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
4995	0.0	NA	0	0	NA	1	1	0	NA	NA
4995	0.0	NA	0	0	NA	1	1	1	NA	NA
4915	79.8	NA	788	786	NA	750	751	0	1.0516	1.0481
4915	79.8	NA	788	786	NA	790	788	3	0.9983	0.9988
4955	39.9	NA	394	393	NA	394	391	4	1.0000	1.0077
4975	19.8	NA	195	195	NA	199	199	1	0.9870	0.9850
4995	0.0	NA	0	0	NA	0	1	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		
4915	79.8	0	788	786	0	793	789	4	NA	NA
4915	79.8	600	788	NA	543	792	250	542	1.0018	99.81%
	No Adj.									
4915	79.8	300	788	NA	274	795	519	277	0.9892	101.11%
4915	79.8	120	788	NA	110	795	683	112	0.9821	101.89%

Linearity	Yes	No	Sum of Least Squares	NOx= 0.997	NO= 0.998	NO2= 0.999
OK?			Correction Factors:	NOx= 0.9983	NO= 0.9988	NO2= 1.0018
			Average Converter Efficiency=	100.94%		

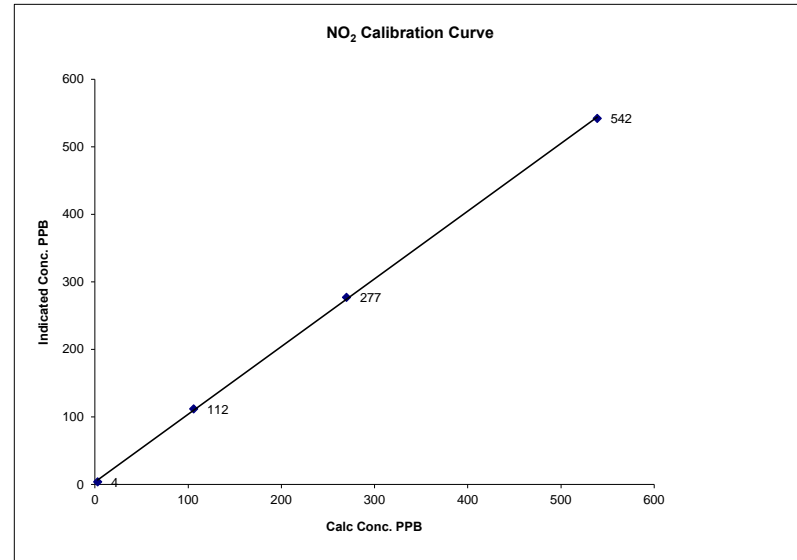
IZS Calibration Data

Before Calibration				After Calibration				
Auto Zero	0.0	NOx	0.0	NO2	0.0	NOx	0.0	NO2
Auto Span	542	NOx	534	NO2	534	NOx	525	NO2
				Sample Lines Connected	YES			
Percent Change from Previous Calibration	NOx		-5.1%	NO	NO2		1.4%	
Notes	NA : Not Applicable							
Additional GPT point at O3=450, Dilution 4915, Source 79.8, O3 450, Nox 796 NO 383 NO2 414								
Calibration Performed by: Waseem Ahmed								

NO2 Calibration Curve

Calibration Date	April 16, 2013	
Company	LICA	
Plant / Location	St. Lina	
Start Time (MST)	9:30	End Time (MST) 14:40

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999864
3	4	N/A	Intercept	(± 3% F.S.)	1.001491
106	112	0.9464			3.90782
270	277	0.9747			
539	542	0.9945			

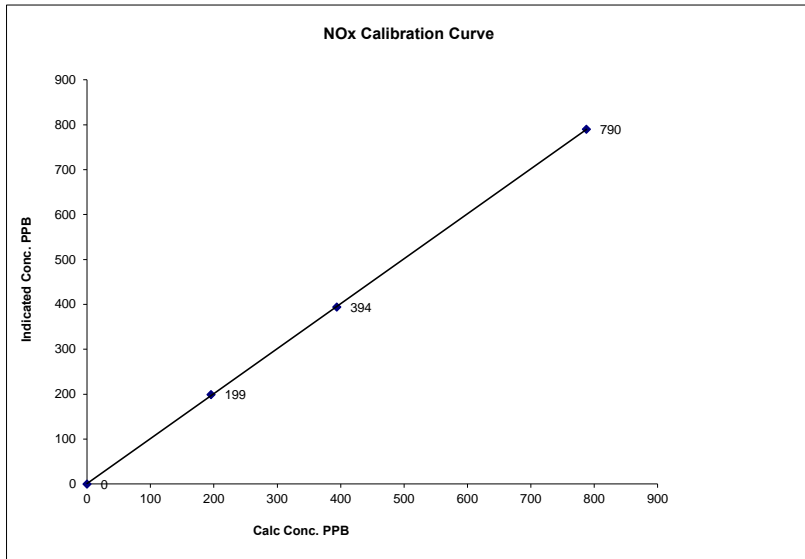


Notes:

NOx Calibration Curve

Calibration Date April 16, 2013
 Company LICA
 Plant / Location St. Lina
 Start Time (MST) 9:30 End Time (MST) 14:40

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999976
0	0	N/A	Slope (0.85 to 1.15)	1.001535
195	199	0.9821	Intercept (± 3% F.S.)	0.99811
394	394	0.9995		
788	790	0.9970		

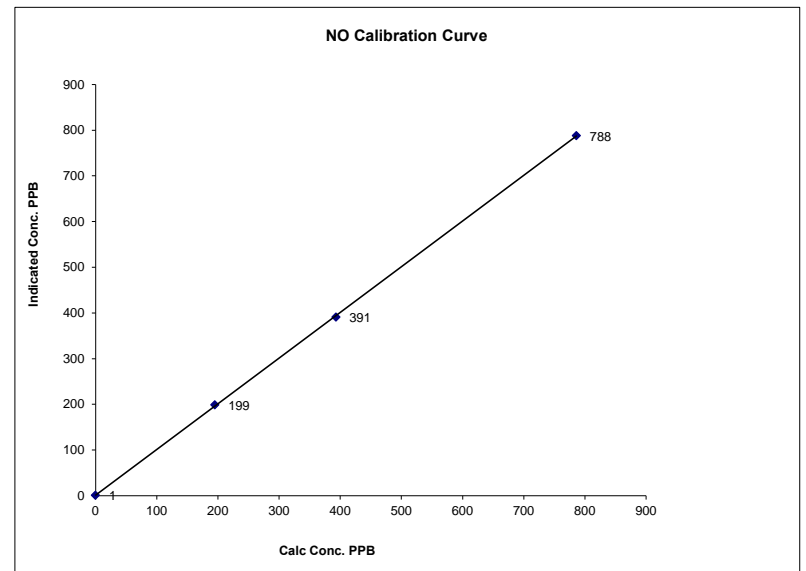


Notes:

NO Calibration Curve

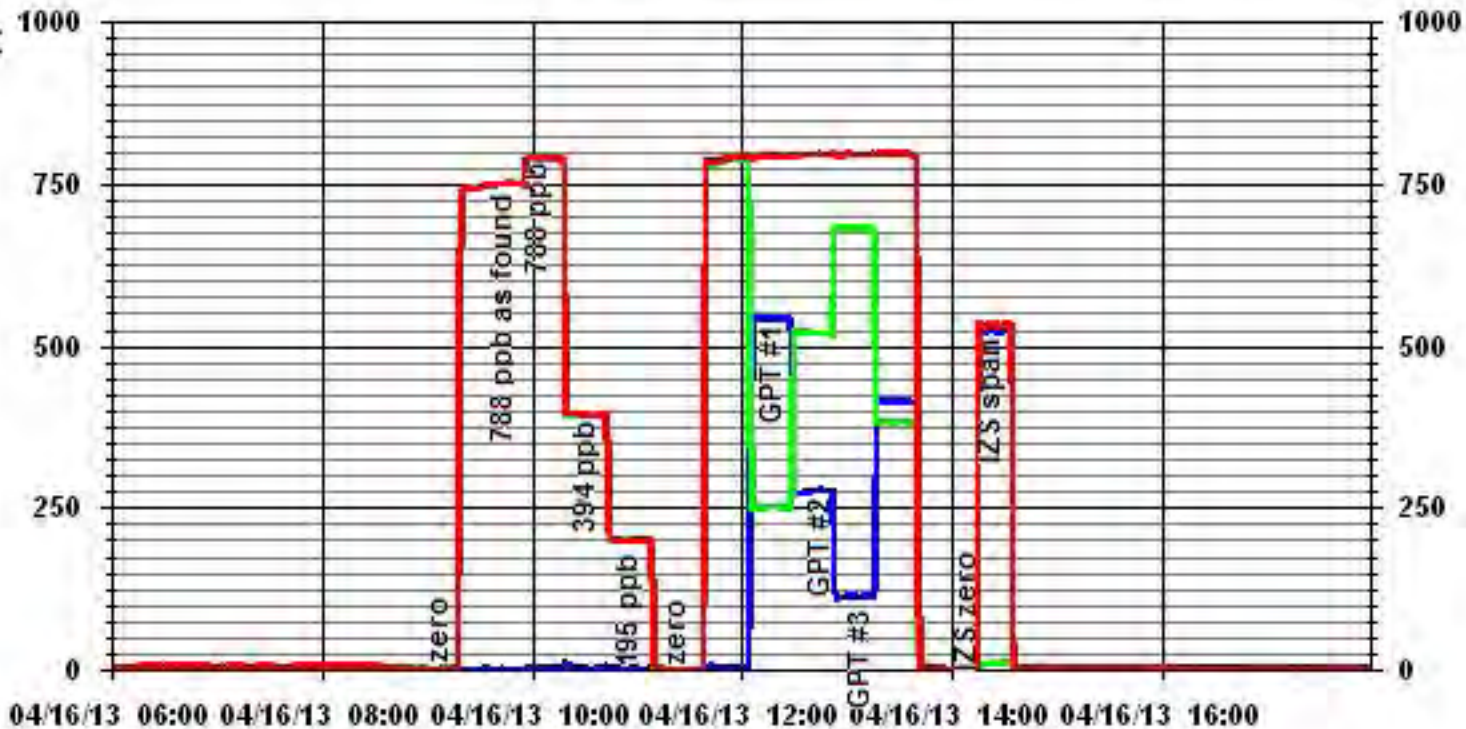
Calibration Date April 16, 2013
 Company LICA
 Plant / Location St. Lina
 Start Time (MST) 9:30 End Time (MST) 14:40

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999945
0	1	N/A	Slope (0.85 to 1.15)	0.998498
195	199	0.9801	Intercept (± 3% F.S.)	-5.9841
393	391	1.0052		
786	788	0.9975		



Notes:

01 Minute Averages



— LICA31 IIOX_ PPB

— LICA31 IIO_ PPB

— LICA31 IIO2_ PPB

Ozone

O₃ Calibration Report
Station Information

Calibration Date	April 17, 2013	Previous Calibration	March 21, 2013
Company	Lakeland Industry & Community Association		
Plant / Location	St. Lina		
Start Time (MST)	9:50	End Time (MST)	-
Reason:	Monthly Calibration		
Barometric Pressure	27.89 inHg	Station Temperature	22.5 Deg C
DAS Output Voltage	0-10 Volts		

Equipment Information

Analyzer Make / Model:	Thermo 49C	S/N :	49C-54926-302	Method:	Fluorescent
Calibrator Make / Model:	Enviroics 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	836 ccm	868 ccm	844 ccm	876 ccm		
Pressure	700 mmHg		711 mmHg			
Bench Temp	56.7 Deg C		56.8 Deg C			
O3 Lamp / Box Temp	80 Deg C	31.8 Deg C	80 Deg C	32.3 Deg C		
Offset / Slope	0.1	1.011	0.1	1.072		

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	406	384	1.0573
4994	450	406	410	0.9902
4994	300	270	274	0.9854
4994	120	106	109	0.9725
4994	0	0	0	N/A
		Sum of Least Squares		N/A
		New Correction Factor		0.9902

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	325.9	355.1
Sample Lines Connected		YES
Percent Change from Previous Calibration		-2.7%

Note: **NA: Not Applicable**

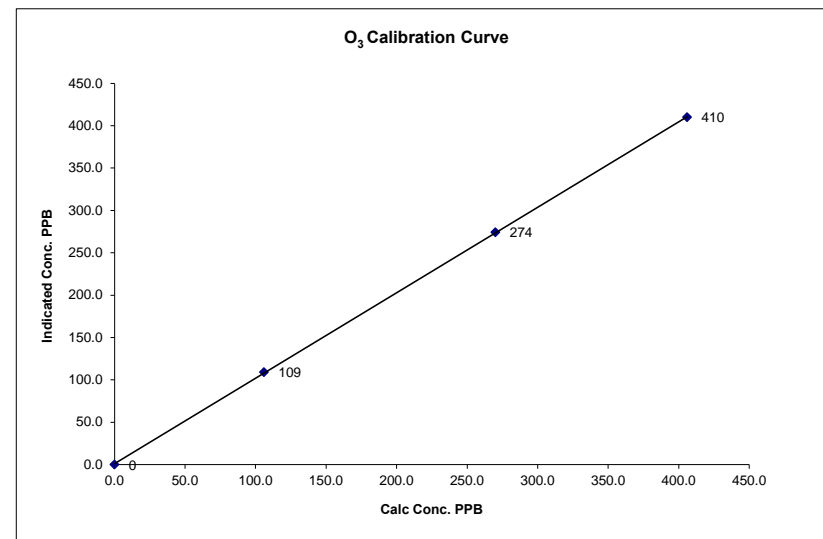
During the IZS phase, the analyzer was in local mode. Switch back to remote mode after 15 mins.
First span point was not very stable, will perform internal cleanin/maintenance next trip.

Calibration Performed by: Waseem Ahmed

O₃ Calibration Curve

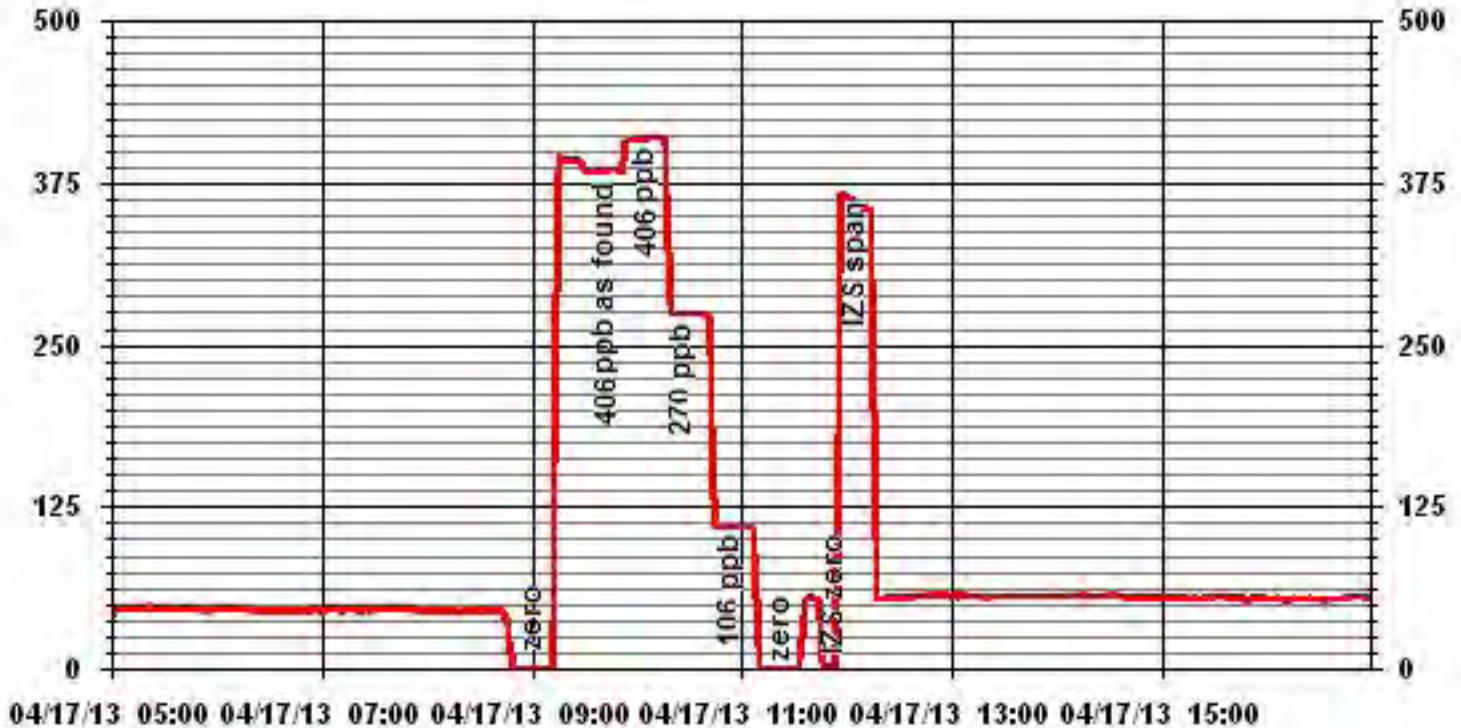
Calibration Date	April 17, 2013
Company	Lakeland Industry & Community Association
Plant / Location	St. Lina
Start Time (MST)	9:50
End Time (MST)	-

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	
0	0	n/a	Intercept	(± 3% F.S.)	0.999971
106	109	0.9725			1.009070
270	274	0.9854			
406	410	0.9902			0.976907



Notes:

01 Minute Averages



Particulate Matter 2.5

TEOMÒ 1405F Audit

	<u>Station</u>		<u>Audit Transfer Standard</u>
Date:	April 16, 2013	Make/Model:	Stremline FTS
Station Name:	Lica St. Lina (CASA # 31)	Serial Number:	Lo 091099, Hi 091001
Location:	St. Lina Station	Cell s/n:	NA
Operator:	LICA	Thermometer s/	Fluke 1551A/1735039

	<u>Sampler</u>		<u>Set-up and current Sampler readings</u>
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 (%)	26.6%
Firmware Ver.	1.55	K _o Factor	15634.0
Parameter	PM 2.5 (with FDMS)	Temp (°C)	6
		Press (ATM)	0.936

Conversion from mmHg or "Hg to ATM (Atmospheres)

ATM = (mmHg) X (1.316 X 10⁻³) or ATM = ("Hg) X (3.34207 X 10⁻²)

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

Audit

Status			
Noise <0.10µg	0.003	Warnings	None
Pump Vacuum <0.4atm	0.29	Pump Gauge (inHg)	-19
Temperature/Pressure			
Measured Temp (± 2 °C)	5.23	D °C	0.8
Measured Press (± 0.01atm)	0.938	DATM	-0.002
Flow Audit			
Indicated Main Flow (l/min)	3.01	Main Flow Drift (±10.0%)	0.72%
Measured Main Flow (l/min)	2.99	Flow Adjusted to Measured?	YES
Indicated Bypass Flow (l/min)	13.65	Bypass Flow Drift (±10.0%)	2.00%
Measured Bypass Flow (l/min)	13.59	Flow Adjusted to Measured?	YES
Leak Check		Instrument Setup	
Main (< 0.15 l/min)	Base=0.00 Ref=0.00	Flow Control = Active	
Aux (< 0.6 l/min)	Base=0.00 Ref=0.00	Report Conditions = Actual	
K_o Factor			
Measured	NA		
K _o Difference (± 2.5%)	NA		

Start Time: 13:00 Finish Time: 15:00

Sample Inlet Cleaned: YES New Filters Installed: YES
 New Filter Loading %: 18.4%

Comments: _____

TEOMÒ 1405F Audit

	<u>Station</u>		<u>Audit Transfer Standard</u>
Date:	April 22, 2013	Make/Model:	Stremline FTS
Station Name:	Lica St. Lina (CASA # 31)	Serial Number:	Lo 091099, Hi 091001
Location:	St. Lina Station	Cell s/n:	NA
Operator:	LICA	Thermometer s/	Fluke 1551A/1735039

	<u>Sampler</u>		<u>Set-up and current Sampler readings</u>
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 (%)	21.4%
Firmware Ver.	1.55	K _o Factor	15634.0
Parameter	PM 2.5 (with FDMS)	Temp (°C)	5.3
		Press (ATM)	0.931

Conversion from mmHg or "Hg to ATM (Atmospheres)

ATM = (mmHg) X (1.316 X 10⁻³) or ATM = ("Hg) X (3.34207 X 10⁻²)

Note: Tolerances are noted as BOLD in Brackets

Audit

Status			
Noise <0.10µg	0.003	Warnings	None
Pump Vacuum <0.4atm	0.29	Pump Gauge (inHg)	-19
Temperature/Pressure			
Measured Temp (± 2 °C)	4.89	D °C	0.4
Measured Press (± 0.01atm)	0.934	DATM	-0.003
Flow Audit			
Indicated Main Flow (l/min)	3.01	Main Flow Drift (±10.0%)	1.02%
Measured Main Flow (l/min)	2.99	Flow Adjusted to Measured?	YES
Indicated Bypass Flow (l/min)	13.65	Bypass Flow Drift (±10.0%)	2.12%
Measured Bypass Flow (l/min)	13.66	Flow Adjusted to Measured?	YES
Leak Check		Instrument Setup	
Main (< 0.15 l/min)	NA	Flow Control = Active	
Aux (< 0.6 l/min)	NA	Report Conditions = Actual	
K_o Factor			
Measured	NA		
K _o Difference (± 2.5%)	NA		

Start Time: 11:40 **Finish Time:** 12:20

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

Comments: _____

Lakeland Industry & Community Association

Portable / Elk Point Airport Monitoring Site

Ambient Air Monitoring Data Report

For

April 2013

Prepared By:



May 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: April 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 – April 2013

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PORTABLE / ELK POINT AIRPORT SITE						MAXIMUM VALUES							OPERATIONAL TIME (PERCENT)
						OBJECTIVES				MONTHLY AVERAGE	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									
SO ₂ (PPB)	172	48	0	0	0.05	4	9	12	12.6	183(S)	0.7	9	100.0
H ₂ S (PPB)	10	3	0	0	0.05	1	VAR	VAR	VAR	VAR	0.5	10, 24	100.0
THC (PPM)	-	-	-	-	2.97	15.9	4	5	1.3	22(NNE)	10.0	4	95.3
THC (55i) (PPM)	-	-	-	-	2.54	10.35	4	3	0.5	77(ENE)	4.45	4	99.9
Methane (PPM)	-	-	-	-	2.52	10.00	4	3	0.5	77(ENE)	4.39	4	99.9
NMHC (PPM)	-	-	-	-	0.02	0.34	7	1	11.1	63(ENE)	0.06	VAR	99.9
NO ₂ (PPB)	159	-	0	-	5.04	40.9	22	21	9.4	248(WSW)	12.6	4	100.0
NO (PPB)	-	-	-	-	1.01	30.4	9	7	0.9	97(E)	4.6	9	100.0
NO _x (PPB)	-	-	-	-	6.05	54.9	9	7	0.9	97(E)	16.0	4	100.0
O ₃ (PPB)	82	-	0	-	40.99	65	2	15, 16	15.4, 14.9	142(SE), 136(SE)	52.8	2	99.9
PM 2.5 (UG/M ³)	-	30	-	0	3.59	35	9	5	0.8	121(ESE)	13.5	9	87.2
VECTOR WS (KPH)	-	-	-	-	13.51	38.6	28	1	-	303(NW)	22.1	20	100.0
VECTOR WD (DEGREES)	-	-	-	-	312(NW)	-	-	-	-	-	-	-	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 analyzer was working well throughout the month. The monthly calibration was performed on April 2nd. The inlet filter was changed before the month calibration was started. The maximum hourly data collected on April 15th at hour 14 is missing due to a small power outage. Data was corrected using daily zero information.

Hydrogen Sulphide (PPB)

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

The analyzer was working well throughout the month. The monthly calibration was performed on April 2nd. The inlet filter was changed before the month calibration was started. The maximum hourly data collected on April 15th at hour 14 is missing due to a small power outage. Data was corrected using daily zero information.

Nitrogen Dioxide (PPB)

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

The analyzer was working well throughout the month. The monthly calibration was performed on April 2nd. The inlet filter was changed before the month calibration was started. The maximum hourly data collected on April 15th at hour 14 is missing due to a small power outage. Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA – PORTABLE

Ozone (PPB)

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

The analyzer was working well throughout the month. The monthly calibration was performed on April 8th. The inlet filter was changed before the month calibration was started. The maximum hourly data collected on April 15th at hour 14 is missing due to a small power outage. Data was corrected using daily zero information.

THC (PPM)

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

The analyzer flamed out on April 4th at hour 11 due to emptying the H2 gas. The gas cylinder was replaced on April 5th at hour 13, and a daily zero /span check was run following the gas replacement. Two hours of data were invalidated due to this event. The hourly readings were lower than the expected after the gas replacement. Performed troubleshooting by increasing the H2 gas cylinder pressure on April 5th. A total of 20 hours of data was discarded due to this issue. Following the as found points check on April 8th, the internal H2 gas pressure was adjusted, from 12 psi to 11psi. A post-repair calibration was then performed. In order to test zero/span system, a zero air cylinder was installed to replace the API 701 zero air supply system and the sample tubing on the THC analyzer was replaced following the calibration on April 8th. The existing mixture span gas cylinder (10ppm Methane/5ppm Propane) was replaced and the Methane only (30ppm) gas cylinder was installed on April 10th. After the gas replacement, a zero/span check was run. The zero air cylinder was removed and the API 701 zero air supply system was installed back on April 11th. The inlet filter was changed before the as found points check was started. A total of six hours of hourly data was invalidated as the data was lower than the background concentration (1.5 ppm).The maximum hourly data collected on April 15th at hour 14 is missing due to a small power outage. Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA – PORTABLE

THC 55i (PPM)

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

The analyzer was working well throughout the month. The monthly calibration was performed on April 8th. The inlet filter was changed before the month calibration was started. The maximum hourly data collected on April 15th at hour 14 is missing due to a small power outage. Data was corrected using daily zero information.

Below are the canister events occurring in April; a total of thirteen canisters were collected.

Date	Time	Concentration	Date	Time	Concentration
04/01/2013	18:55	0.32	04/18/2013	20:35	0.15
04/02/2013	18:50	0.17	04/20/2013	08:00	0.15
04/08/2013	05:45	0.25	04/22/2013	20:25	0.16
04/11/2013	03:45	0.24	04/23/2013	04:55	0.15
04/13/2013	22:05	0.23	04/25/2013	02:50	0.18
04/16/2013	20:35	0.18	04/26/2013	19:15	0.16
04/17/2013	18:00	0.17			

Particulate Matter 2.5 (ug/m³)

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

Two routine Teom audits were performed on April 2nd and April 22nd. The switch valve was changed on April 8th at hour 17 as per client request. A Teom audit was performed following the part replacement. 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. Ninety-four hours of data were invalidated this month as the data were below -3 ug/m³.

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 April 2nd.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

APRIL 2013

SULPHUR DIOXIDE (SO₂) hourly averages in ppb

MST

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

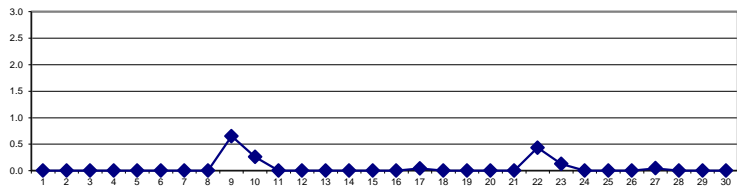
OBJECTIVE LIMIT:

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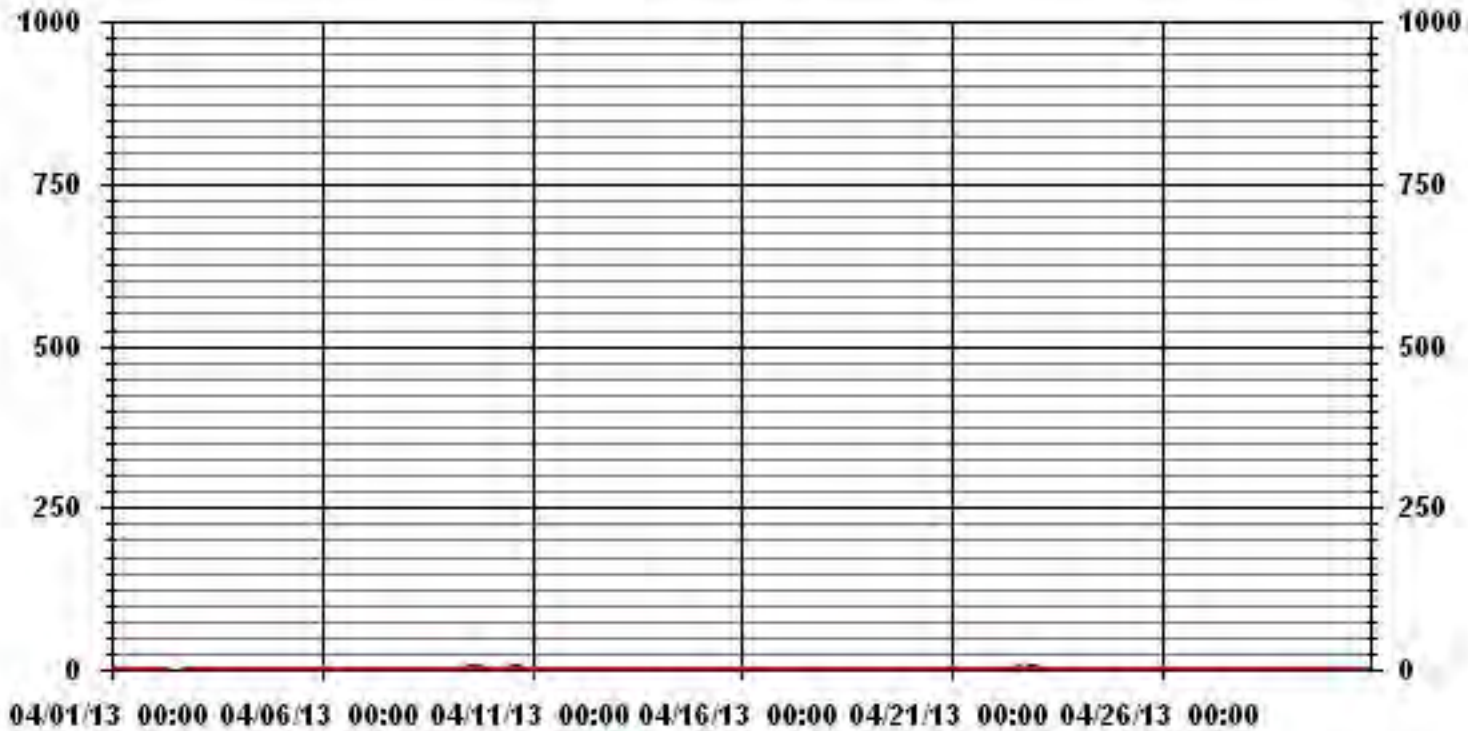
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	27					
MAXIMUM 1-HR AVERAGE:	4	PPB	@ HOUR(S)	12	ON DAY(S)	9
MAXIMUM 24-HR AVERAGE:	0.7	PPB			ON DAY(S)	9
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	0.32		MONTHLY AVERAGE:	0.05	PPB	

24 HOUR AVERAGES FOR APRIL 2013



01 Hour Averages



— LICA35 SO2_ PPB

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

APRIL 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	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																						
2		1	1	S	1	0	0	1	0	1	C	C	C	C	1	C	C	0	0	0	0	0	0	0	0	0	1	0.4	24																						
3		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	1	0.0	24																						
4		S	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	S	1	0.5	24																						
5		0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	S	0	1	0.7	24																							
6		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0.0	24																							
7		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0.0	24																							
8		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	S	1	1	1	1	1	0.2	24																							
9		0	0	1	2	1	1	1	1	1	1	1	1	14	12	7	3	3	2	S	0	0	0	0	1	1	14	2.3	24																						
10		3	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	S	0	0	0	0	0	0	0	3	1.1	24																						
11		0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	S	0	0	0	0	0	0	0	0	3	0.1	24																						
12		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	2	0	2	0.1	24																							
13		0	1	0	0	0	0	0	0	0	0	1	0	0	0	S	0	0	0	0	0	0	0	0	0	1	0.1	24																							
14		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																							
15		0	0	0	0	2	0	0	0	0	0	0	1	S	0	P	0	0	0	0	0	0	0	0	0	2	0.1	23																							
16		0	0	0	0	0	0	0	0	0	0	0	S	1	0	0	1	1	0	1	1	1	1	1	0	1	0.3	24																							
17		1	1	1	1	1	2	1	1	1	1	S	0	0	0	0	1	3	2	1	1	0	0	1	1	3	0.9	24																							
18		1	1	1	1	1	0	1	1	1	S	1	1	1	1	0	1	1	0	1	0	0	0	0	0	1	0.7	24																							
19		1	2	1	1	1	0	1	1	S	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	2	0.5	24																							
20		1	1	1	1	1	1	1	S	2	2	2	2	1	1	2	2	2	2	1	1	1	1	1	2	3	1.5	24																							
21		1	1	2	2	1	1	S	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	2	0.7	24																							
22		0	0	0	0	0	S	1	1	2	2	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1.4	24																							
23		2	2	2	2	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.2	24																							
24		1	1	1	S	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1	1	1	1	1	0.6	24																							
25		1	1	S	0	1	1	1	1	1	1	1	1	1	1	0	1	0	0	1	0	0	0	0	0	1	0.7	24																							
26		0	S	0	0	0	1	1	1	1	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	1	0.4	24																							
27		S	0	0	0	0	0	1	0	0	0	1	1	4	1	2	2	1	1	1	1	1	1	1	1	S	4	0.9	24																						
28		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1	S	0	1	0.2	24																							
29		1	1	1	1	1	5	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	S	0	0	5	1.0	24																						
30		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	S	0	0	0	2	0.1	24																							
HOURLY MAX		3	2	2	2	2	5	1	1	2	2	2	2	14	12	7	3	3	2	2	2	2	2	2	3																										
HOURLY AVG		0.6	0.5	0.5	0.5	0.4	0.6	0.5	0.4	0.6	0.5	0.6	0.6	1.3	0.9	0.8	0.8	0.8	0.5	0.5	0.4	0.5	0.4	0.6	0.4																										

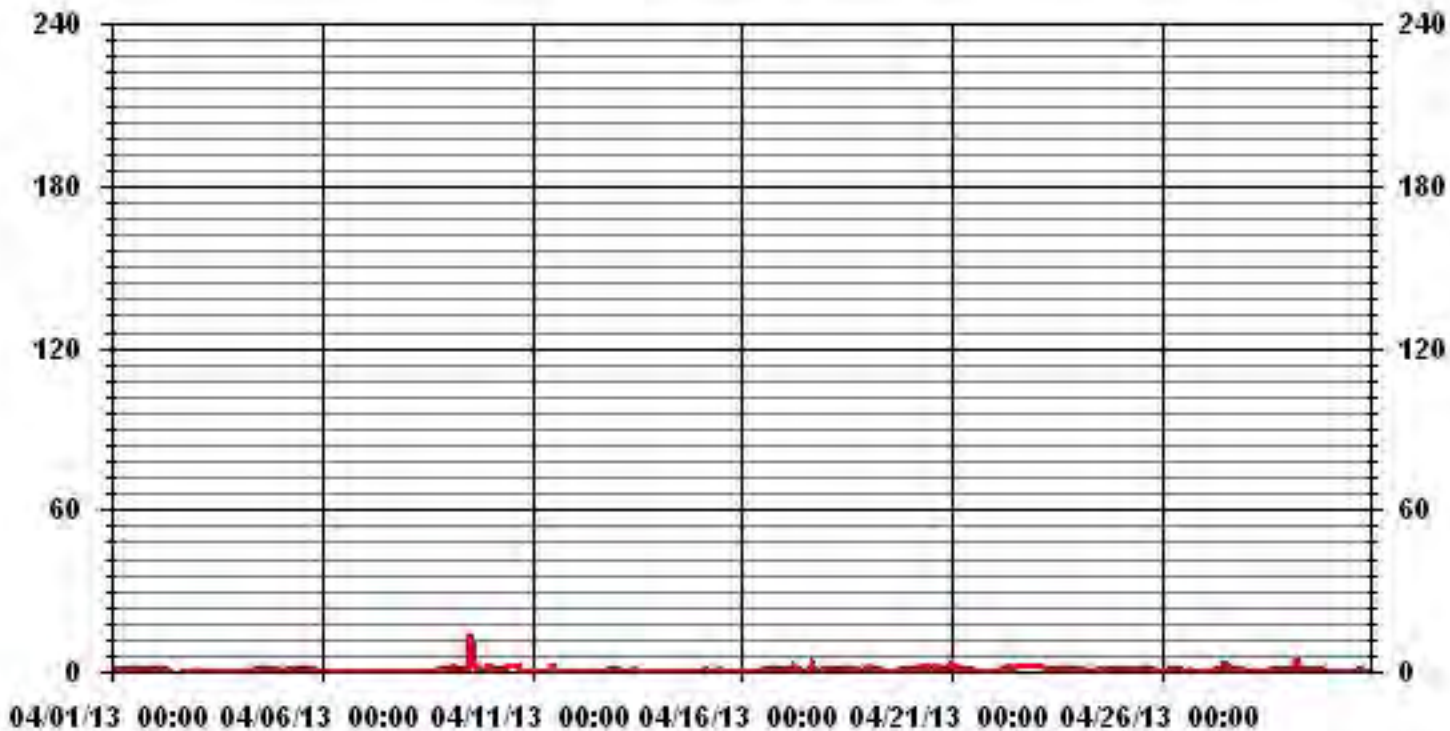
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	304
MAXIMUM INSTANTANEOUS VALUE:	14 PPB @ HOUR(S) 12 ON DAY(S) 9
IZS CALIBRATION TIME:	33 HRS
MONTHLY CALIBRATION TIME:	7 HRS
STANDARD DEVIATION:	1.00
OPERATIONAL TIME:	719 HRS

01 Hour Averages



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

April 2013

Distribution By % Of Samples

Logger Id : 35
 Site Name : LICA-ELK
 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	3.08	4.84	3.23	6.02	6.31	8.37	9.54	2.79	3.08	2.05	3.08	6.46	11.74	12.04	13.06	4.25	100.00
< 60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 170	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.08	4.84	3.23	6.02	6.31	8.37	9.54	2.79	3.08	2.05	3.08	6.46	11.74	12.04	13.06	4.25	

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	
< 20	21	33	22	41	43	57	65	19	21	14	21	44	80	82	89	29	681
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	21	33	22	41	43	57	65	19	21	14	21	44	80	82	89	29	

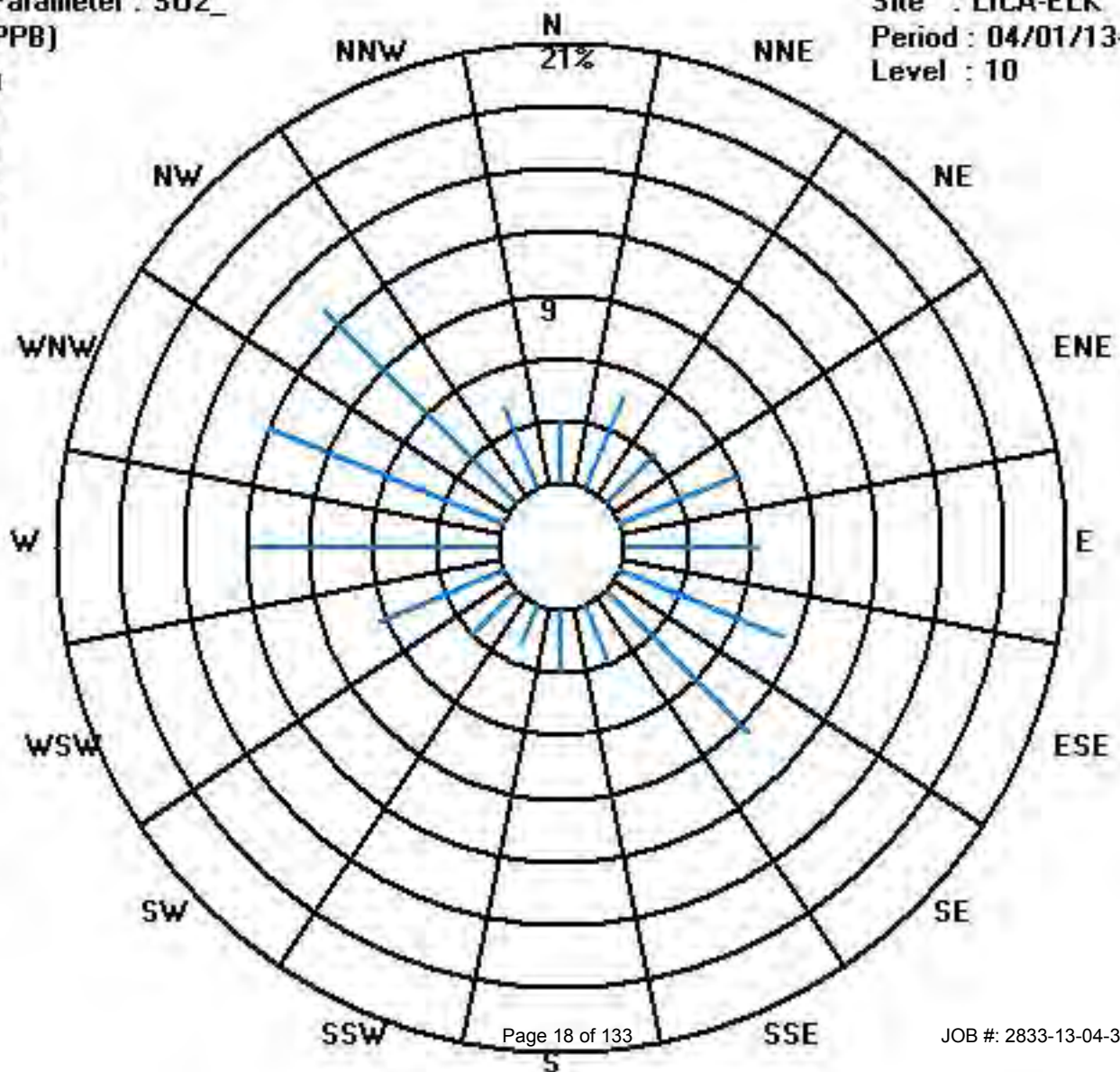
Calm : .00 %

Total # Operational Hours : 681

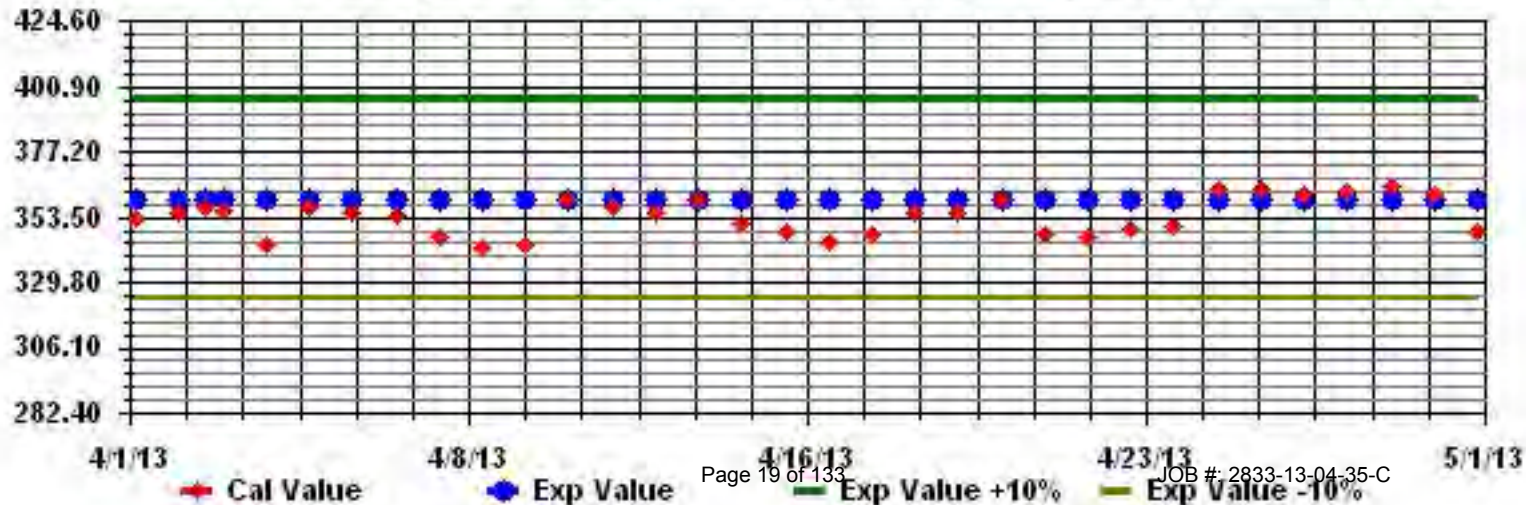
Class Limits (PPB)

Period : 04/01/13-04/30/13

Level : 10



Calibration Graph for Site: LICA35 Parameter: S02_ Sequence: S02 Phase: SPAll



Hydrogen Sulphide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE - Elk Point Airport

APRIL 2013

HYDROGEN SULPHIDE (H₂S) hourly averages in ppb

MST																										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	MAX.	AVG.	RDGS.																							
DAY																																																		
1		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																					
2		0	0	S	0	0	0	0	0	0	C	C	C	C	0	C	C	0	0	0	0	0	0	0	0	0	0	0.0	24																					
3		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																					
4		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																					
5		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	24																					
6		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																					
7		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																					
8		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																					
9		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																					
10		0	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	S	0	0	0	0	0	0	0	0	1	0.5	24																					
11		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																					
12		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																					
13		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																					
14		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																					
15		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																					
16		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																					
17		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																					
18		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																					
19		0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	0.1	24																					
20		1	1	1	1	1	1	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24																					
21		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																					
22		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																					
23		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																					
24		0	0	0	S	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0.5	24																					
25		1	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24																					
26		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																					
27		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																					
28		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																					
29		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																					
30		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																					
HOURLY MAX		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																						
HOURLY AVG		0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1																							

STATUS FLAG CODES

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

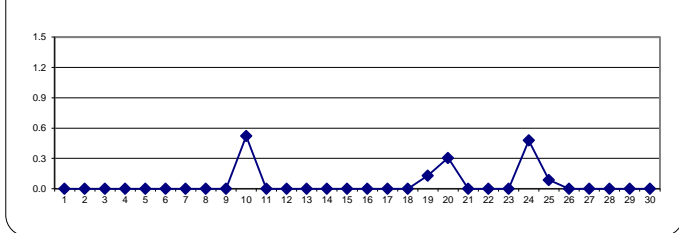
OBJECTIVE LIMIT:

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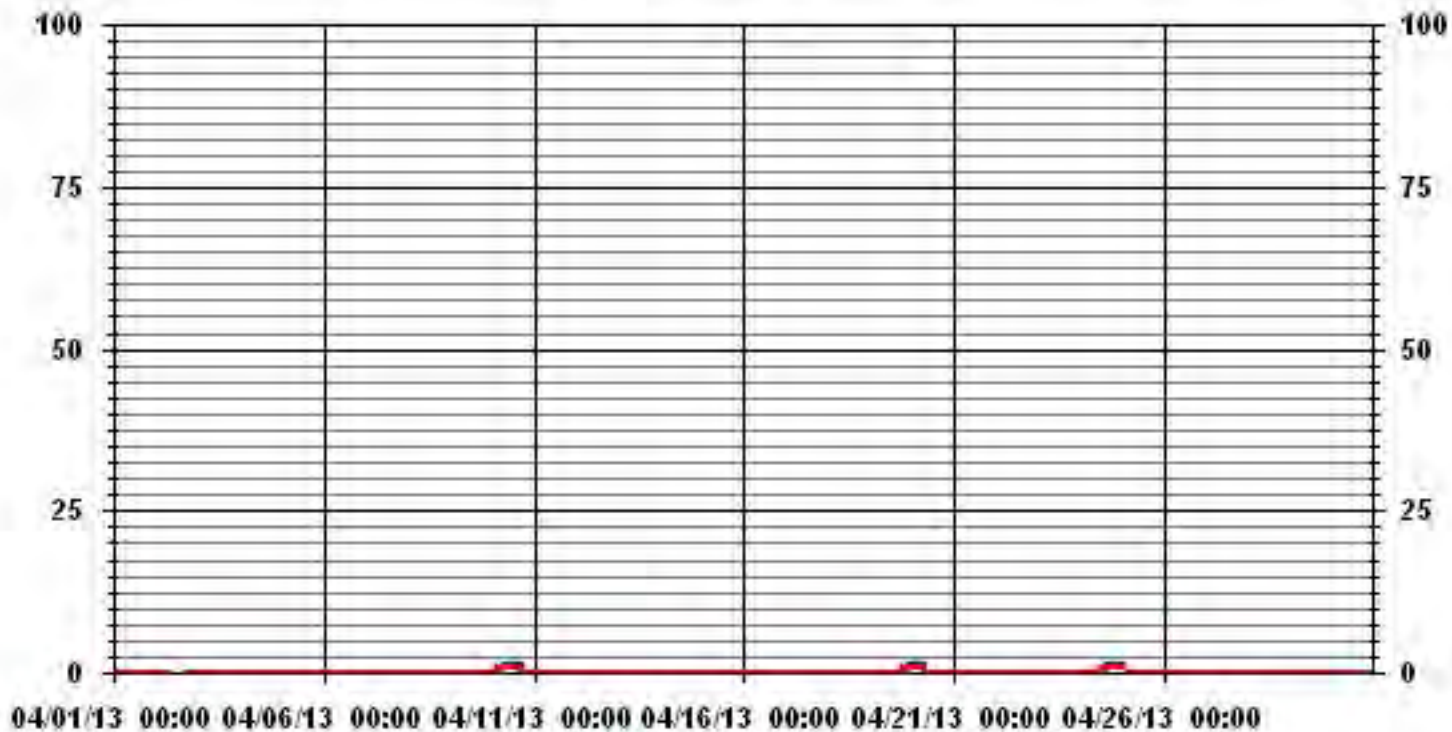
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:		0			
NUMBER OF 24-HR EXCEEDENCES:		0			
NUMBER OF NON-ZERO READINGS:		35			
MAXIMUM 1-HR AVERAGE:	1	PPB	@ HOUR(S)	VAR	ON DAY(S)
MAXIMUM 24-HR AVERAGE:	0.5	PPB			ON DAY(S)
					VAR-VARIOUS
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	720 HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	100.0 %	
STANDARD DEVIATION:	0.22		MONTHLY AVERAGE:	0.05 PPB	

24 HOUR AVERAGES FOR APRIL 2013



01 Hour Averages



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

APRIL 2013

HYDROGEN SULPHIDE MAX instantaneous maximum in ppb

MST

DAY	HOUR																								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	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0.0	24	
2	0	0	S	0	0	0	0	0	0	C	C	C	C	C	0	C	C	0	0	1	0	1	0	0	1	0.1	24	
3	0	S	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
4	S	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	S	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	S	0	0	0.0	24	
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	4	S	0	0	4	0.2	24
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	1	1	0.1	24
8	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	S	0	0	0	0	0	1	0.2	24
9	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	1	0.1	24
10	1	0	1	1	2	1	1	1	1	1	2	1	1	2	2	2	2	S	0	0	0	0	0	0	0	2	1.0	24
11	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
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	1	0	0	0	1	1	1	1	0.2	24
13	1	2	1	1	1	1	1	1	1	1	1	1	1	1	S	0	0	0	0	0	0	0	0	0	0	2	0.7	24
14	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
15	0	0	0	0	0	0	0	0	0	0	0	0	S	0	P	0	0	0	0	0	0	0	0	0	0	0	0.0	24
16	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0.1	23
17	1	0	0	1	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
18	0	1	1	1	1	0	0	1	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24
19	0	0	0	0	0	0	0	0	S	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	0.6	24
20	1	1	1	1	1	1	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24
21	0	0	0	0	0	0	S	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
22	1	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.2	24
23	0	0	0	2	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.1	24
24	0	0	0	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	1.0	24
25	2	2	S	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2	24
26	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
27	S	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	S	1	0.1	24	
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0.0	24
29	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	S	0	0	1	0.0	24
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0	1	0.0	24
HOURLY MAX	2	2	1	2	2	1	1	1	1	1	2	1	1	2	2	2	2	1	1	1	4	2	2	2	2	2	2	2
HOURLY AVG	0.3	0.2	0.1	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.1	0.3	0.2	0.1	0.1	0.1	0.3	0.2	0.3	0.2	0.2	0.2	0.2	

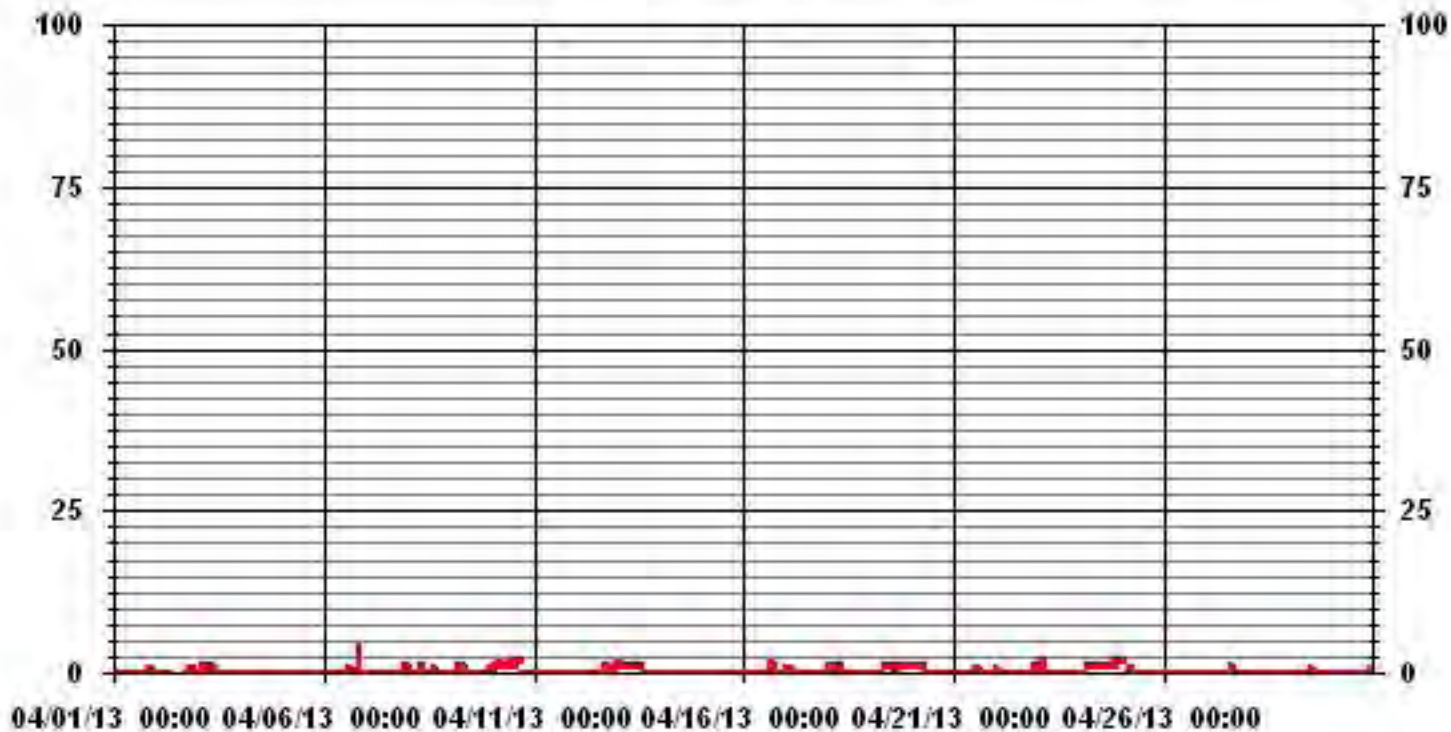
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	114					
MAXIMUM INSTANTANEOUS VALUE:	4	PPB	@ HOUR(S)	20	ON DAY(S)	6
	VAR - VARIOUS					
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	719	HRS	
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION:	0.47					

01 Hour Averages



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

April 2013

Distribution By % Of Samples

Logger Id : 35
Site Name : LICA-ELK
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	3.08	4.84	3.23	6.02	6.31	8.37	9.54	2.79	3.08	2.05	3.08	6.46	11.74	12.04	13.06	4.25	100.00
< 10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.08	4.84	3.23	6.02	6.31	8.37	9.54	2.79	3.08	2.05	3.08	6.46	11.74	12.04	13.06	4.25	

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	21	33	22	41	43	57	65	19	21	14	21	44	80	82	89	29	681
< 10																	
< 50																	
>= 50																	
Totals	21	33	22	41	43	57	65	19	21	14	21	44	80	82	89	29	

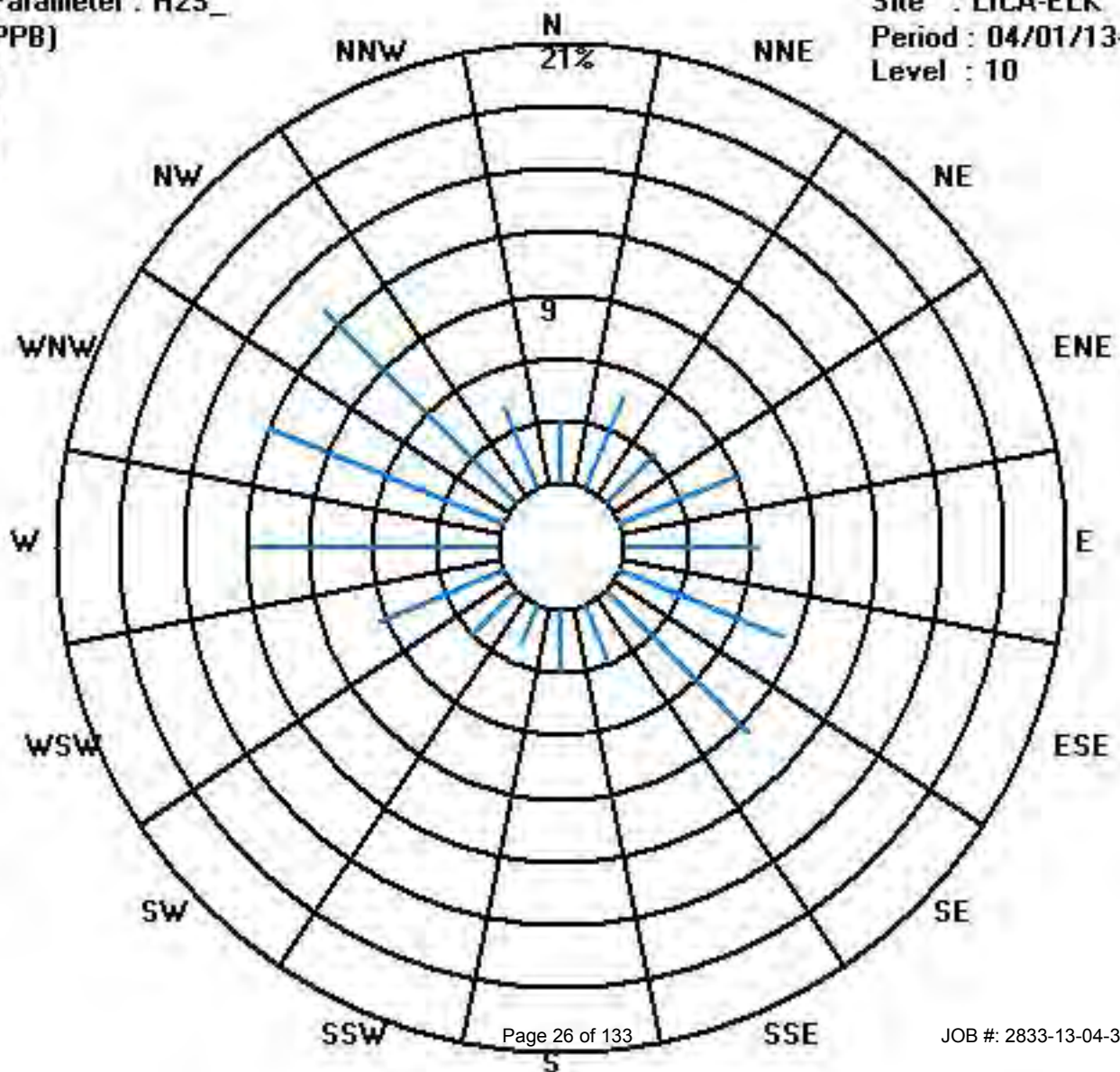
Calm : .00 %

Total # Operational Hours : 681

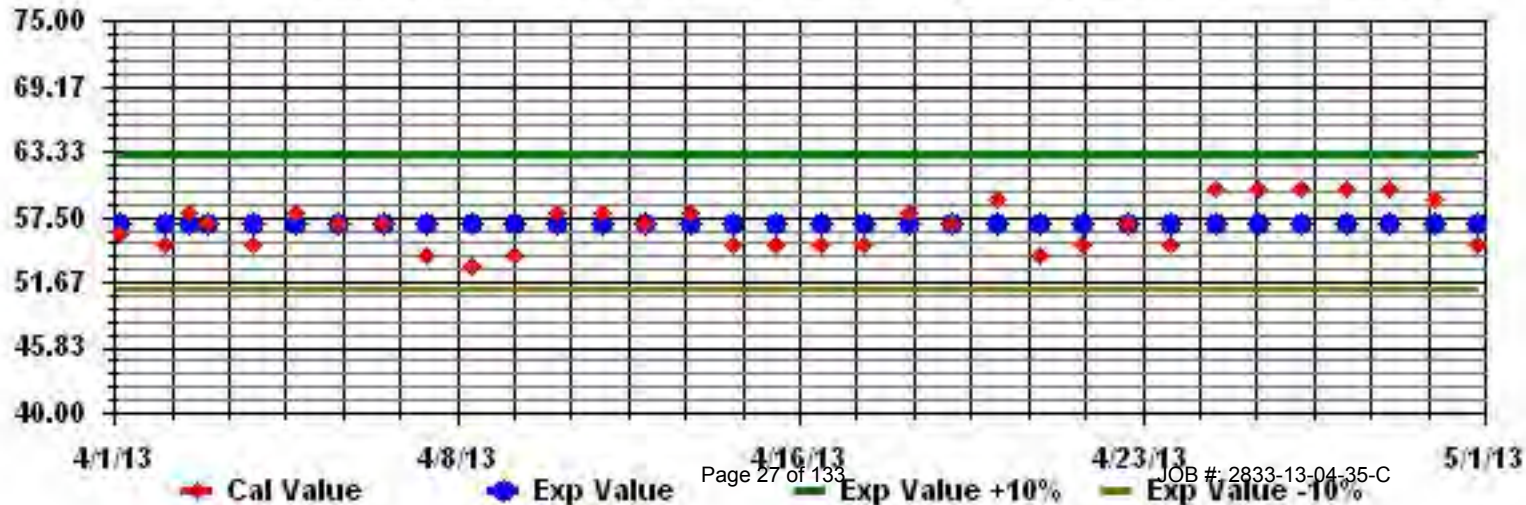
Class Limits (PPB)

Period : 04/01/13-04/30/13

Level : 10

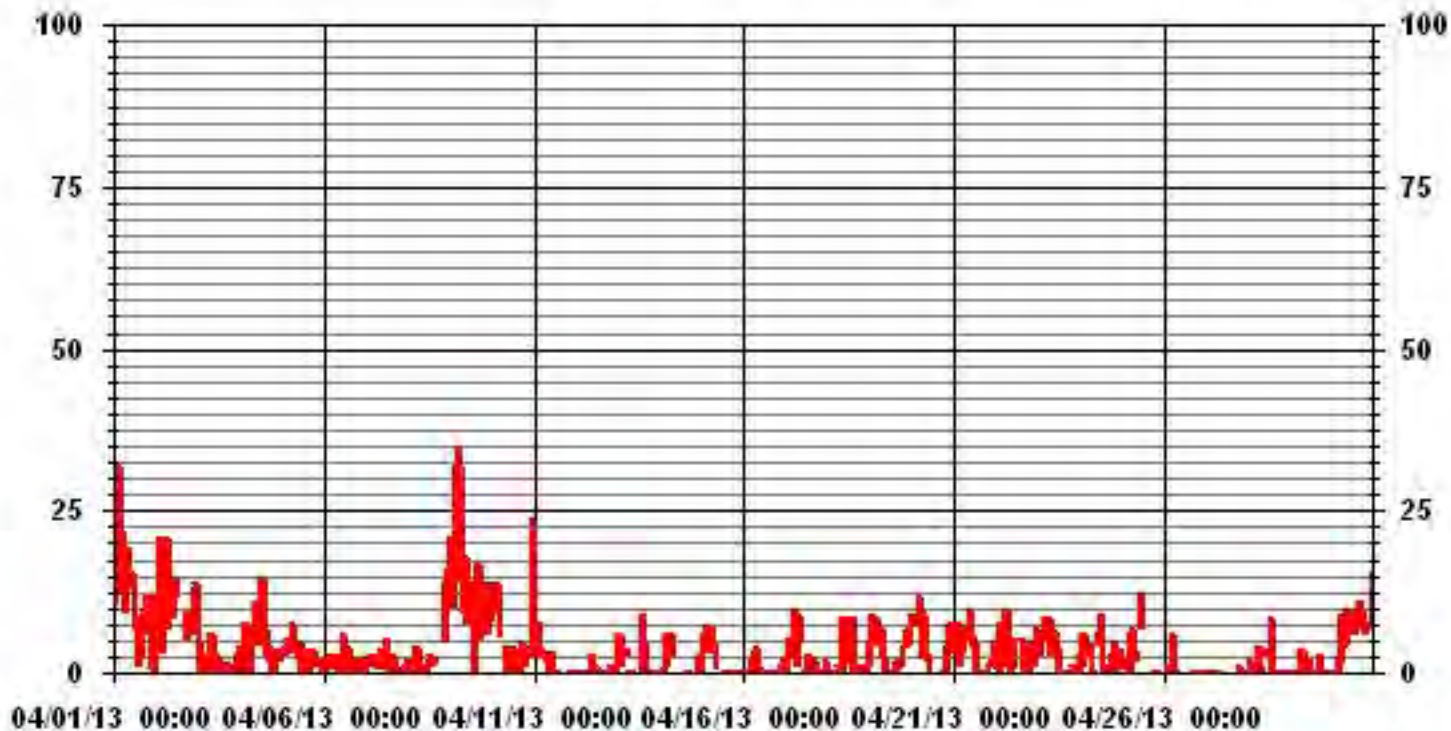


Calibration Graph for Site: LICA35 Parameter: H2S_ Sequence: H2S Phase: SPAll



Particulate Matter 2.5

01 Hour Averages



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

April 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	3.22	5.00	3.54	5.96	6.45	8.87	10.80	2.09	2.74	1.77	3.22	6.45	11.93	9.35	13.70	4.19	99.35
< 60	.00	.00	.00	.00	.00	.16	.00	.00	.00	.16	.00	.16	.16	.00	.00	.00	.64
< 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	3.22	5.00	3.54	5.96	6.45	9.03	10.80	2.09	2.74	1.93	3.22	6.61	12.09	9.35	13.70	4.19	

Calm : .00 %

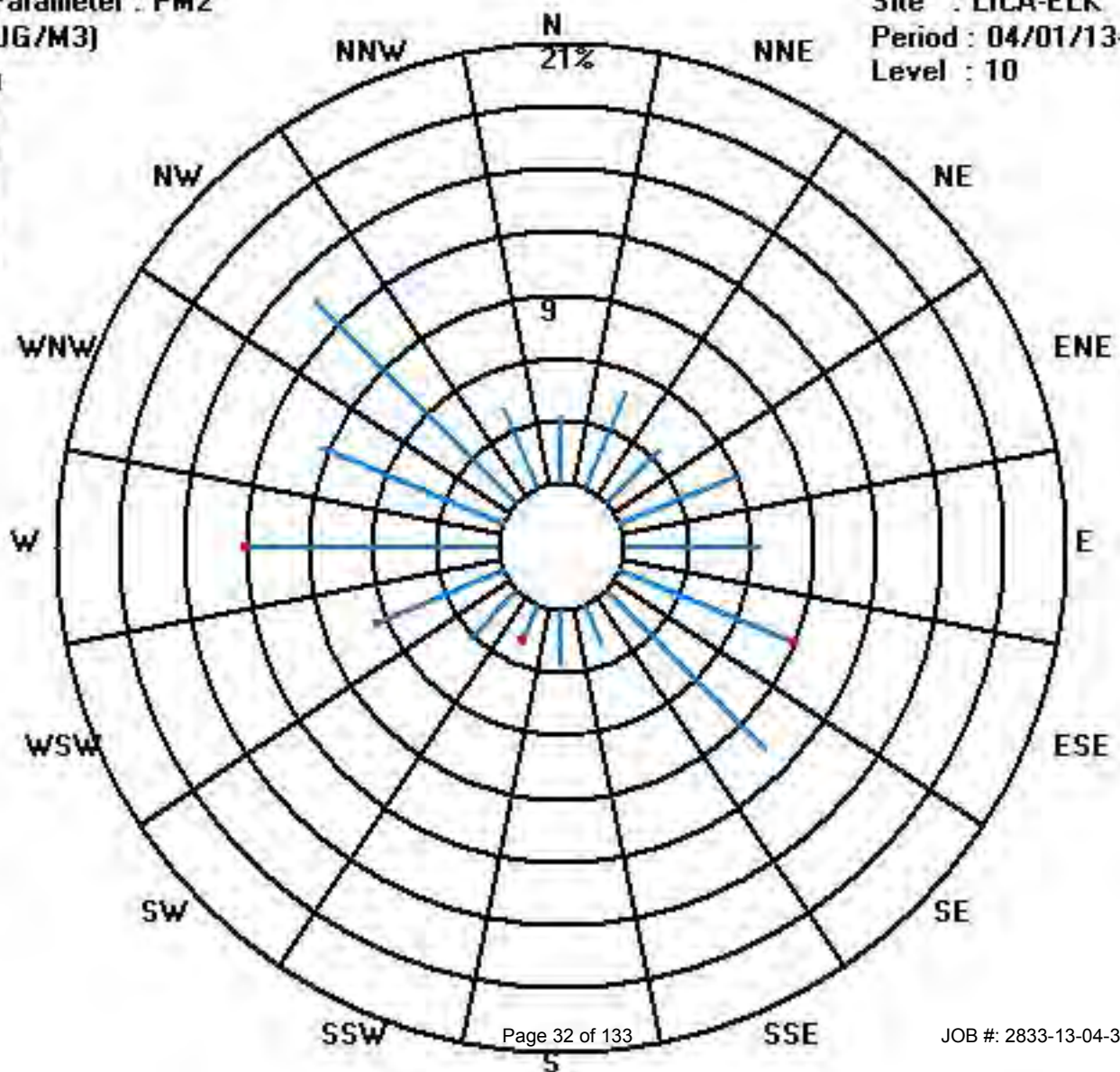
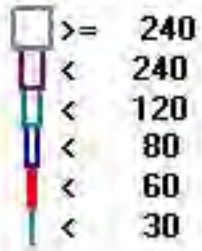
Total # Operational Hours : 620

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 30	20	31	22	37	40	55	67	13	17	11	20	40	74	58	85	26	616
< 60						1				1		1	1				4
< 80																	
< 120																	
< 240																	
>= 240																	
Totals	20	31	22	37	40	56	67	13	17	12	20	41	75	58	85	26	

Calm : .00 %

Total # Operational Hours : 620



Nitrogen Dioxide

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

APRIL 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			
1	19.3	31.5	23.6	S	11.9	15.8	14.4	23.2	16.8	9.8	4.4	4	2.6	1.4	2.1	3.7	3.2	3.1	6.8	11.5	9.4	20.8	8.5	6.3	31.5	11.0	24	
2	8.1	8	S	5.3	4.7	4.8	4.8	3.8	3.1	C	C	C	C	C	C	C	C	5.2	9.2	8.4	9	12.3	16.2	25.5	25.5	8.6	24	
3	11.8	S	4.1	24.6	8.2	6.3	3	1.2	0	0.3	0	0	0.9	0.8	1.6	0	0	1.9	6.9	17.5	10.6	23.1	18	12.3	24.6	6.7	24	
4	S	19.2	26.7	33.2	35.8	38.2	28.5	21.6	11.9	9.2	7.2	5.7	5.7	5.7	4.6	3.9	3.6	3.1	2.8	3.2	2.4	2	1.9	S	38.2	12.6	24	
5	2.3	2.5	2.4	2.7	2.4	2.4	1.9	2.4	2	2.1	1.5	1.3	1.1	1.2	1.3	1.4	1.3	1.1	1	1	1.4	0.4	S	0.7	2.7	1.6	24	
6	0.4	0.3	0.3	0.4	0.7	1.2	1.1	1	0.8	0.6	0.5	0.7	0.7	0.7	0.7	0.9	1.2	1.8	1.5	0.9	1.4	S	1.4	0.7	1.8	0.9	24	
7	0.7	0.7	0.5	0.2	0.1	0.9	0.5	0.2	0.3	0	0.2	0.4	0.6	0.5	0.6	0.4	0.2	0.2	0.4	0.3	S	0.5	0.9	2.7	2.7	0.5	24	
8	5	4.8	3.7	1.3	2.3	6.2	9.7	15.4	11.2	7.7	2.9	2.7	2	1.5	1.3	1.2	1.9	3	4.9	S	11	7.7	3.6	3.6	15.4	5.0	24	
9	16.3	5.2	4.9	6.5	15.5	28	29.7	24.5	18.7	13.9	4	3.3	3.1	2.6	3	3.3	3.4	3.4	S	3.4	5.7	5.4	5	3.3	29.7	9.2	24	
10	3.8	3.4	2.9	3	4.1	4.2	4.4	3.9	2.4	2	2	2	2.1	2.2	2.3	2	2.4	S	3.7	3.9	3.3	2.7	2.2	2.4	4.4	2.9	24	
11	3.3	10.1	12.6	12.4	12.8	6.7	16.9	11.4	4.3	4.2	6.3	2.7	2.4	1.5	1.6	3.7	S	6.2	4.4	6.7	1.4	2.8	4.5	10.6	16.9	6.5	24	
12	2.3	5.7	4.1	1.5	1.1	0.9	0.8	1	0.9	0.7	0.6	0.7	1.2	1.5	1.6	S	2.4	2.5	2.6	6.5	11.9	9.7	5.6	5.8	11.9	3.1	24	
13	3.6	2.3	2.2	2.7	2.9	2.5	2.4	1.9	1.7	1.7	1.6	1.3	1.2	1.1	S	0.9	0.8	0.8	1.1	1.8	4.4	4.1	5.1	3.8	5.1	2.3	24	
14	2.1	2.9	2.6	3.9	5.2	4.3	2.8	3.4	5.5	2.8	1.2	1.2	1.7	S	1.4	1.5	1.6	1.6	2.4	4.2	8.6	18.3	24.4	13.2	24.4	5.1	24	
15	21.5	5.7	9.8	10.9	6.4	3.4	3.2	2.1	1.3	0.5	0.3	0.3	S	0.1	0.2	0.1	0.2	0.2	0.3	0.5	1	1.4	1.8	2.3	21.5	3.2	24	
16	1.6	1.5	3.7	1.3	1.3	2.3	3	3.2	5.8	3.5	2.1	S	3.1	0.6	1	1.2	5.6	6.7	3	12.9	23.1	22.1	26.9	19.8	26.9	6.8	24	
17	34.8	31.2	18.6	18.2	22.8	25.3	21	14.5	10.3	5.6	S	1.4	1	1	1.3	1.5	2	3.2	4.8	5.2	4.8	4.5	1.5	2.3	34.8	10.3	24	
18	3.5	3.4	2.7	3.3	3.8	3.9	3.8	4.9	5.4	S	3.4	1.6	2.2	2.3	1.4	0.9	0.7	0.7	0.7	3.9	13.5	15.3	19.7	14.4	19.7	5.0	24	
19	16.2	17.2	16.1	18.5	14.5	10.6	6.8	5.2	S	3.4	3	1.5	1.2	1.1	1.5	0.9	2.4	2.2	2.3	2.4	2.4	3	2.6	2.8	18.5	6.0	24	
20	3.1	3.2	3	4.7	6.5	7.9	7.3	S	5.1	2.8	1.6	1.5	2.5	1.7	1.7	1.8	1.4	0.6	0.2	0.1	0	0	0.7	0.7	7.9	2.5	24	
21	0.6	0.4	0.6	0.6	0.7	1	S	0.9	0.7	0.8	1.1	1.1	1	0.6	0.9	1.2	1.3	1	5.4	9.9	12.3	12.4	4.8	5.3	12.4	2.8	24	
22	6.6	3.3	5.6	8.7	13.5	S	16.6	6.3	4.2	4.4	2.5	1.3	2.6	3	2.6	2.7	3.3	3.1	3.4	8.1	22.7	40.9	28	16.9	40.9	9.1	24	
23	8.5	8.5	10.8	8.9	S	9.1	5.9	7.2	3.7	0.9	0.7	0.5	1.5	1	1.4	0.2	0.8	0.2	0.2	0.1	0.1	0.1	0.1	5.7	10.8	3.3	24	
24	4.7	6.8	8.3	S	17.1	26.6	11.6	4.4	3.1	1.8	1.9	1.4	1.2	1.5	1.7	1.7	2.9	4	3.4	4.9	6.7	6.3	6.2	6.6	26.6	5.9	24	
25	6.1	6.2	S	6.5	8.7	17.2	11.4	9.1	3.4	1.7	1.1	0.7	1.6	2.9	2.3	2.9	4	1	1.6	12.2	8.1	7.2	9	16.7	17.2	6.2	24	
26	9	S	20.9	17.5	12.7	19.2	13.1	6.9	8.2	6.3	1.9	1.1	0.8	1.2	0.8	2.1	1.8	2	3.9	6.1	6.5	14.1	7.4	9	20.9	7.5	24	
27	S	6.6	4.2	6.9	10.9	11.5	9.8	11.7	5.1	2.8	1.1	0.7	1.2	1.2	1.4	1.8	1.6	0.7	0.4	4.6	4.1	1.5	1.1	S	11.7	4.1	24	
28	0.9	1.7	2.3	2.2	1.3	0.4	0.1	0.2	0.6	0.4	0.3	0.5	0.3	0.3	0.5	0.5	0.8	0.8	1.5	1.4	0.9	1.4	S	4	4	1.0	24	
29	1.7	2.9	2.9	2.3	1.3	1.4	1	1	0.5	0.4	0.3	0.4	0.4	0.5	0.4	0.2	0.8	0.7	2.2	0.9	0.7	S	2.8	3.5	3.5	1.3	24	
30	4.9	2.5	5.2	2.2	2.7	3.3	1.9	3.4	2	1.7	1.1	1.1	0.6	0.7	1.3	0.9	1.2	0.7	0.4	0.7	S	0.8	0.7	1.2	5.2	1.8	24	
HOURLY MAX	NA	31.5	26.7	33.2	35.8	38.2	29.7	24.5	18.7	13.9	7.2	5.7	5.7	5.7	4.6	3.9	5.6	6.7	9.2	17.5	23.1	40.9	28.0	25.5				
HOURLY AVG	NA	7.1	7.3	7.5	8.0	9.2	8.2	6.8	4.8	3.3	2.0	1.5	1.7	1.4	1.5	1.6	1.9	2.1	2.8	4.9	6.7	8.6	7.5	7.2				

STATUS FLAG CODES

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

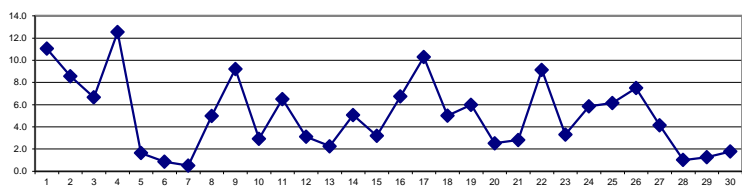
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT: 1-HR 159 PPB

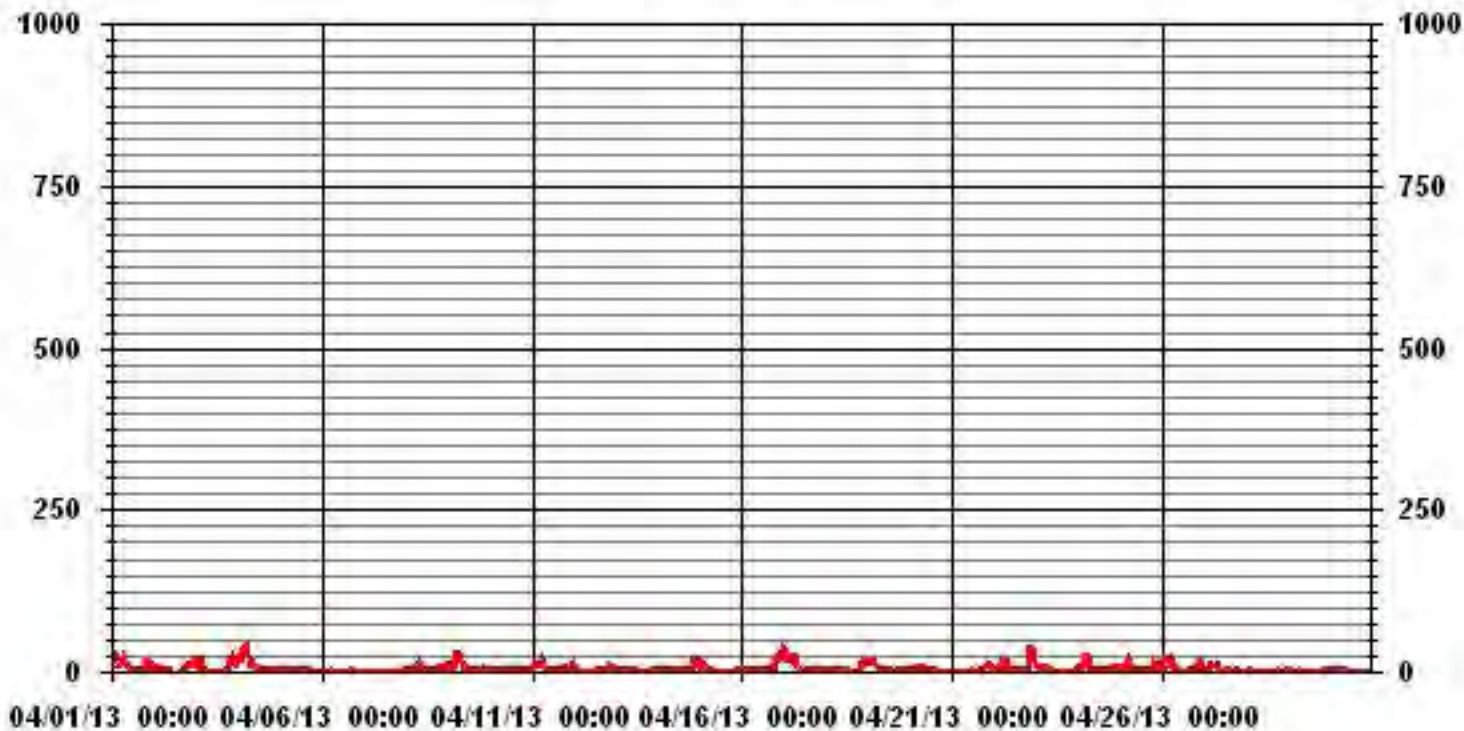
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	672					
MAXIMUM 1-HR AVERAGE:	40.9	PPB	@ HOUR(S)	21	ON DAY(S)	22
MAXIMUM 24-HR AVERAGE:	12.6	PPB			ON DAY(S)	4
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	6.45		MONTHLY AVERAGE:	5.04	PPB	

24 HOUR AVERAGES FOR APRIL 2013



01 Hour Averages



— LICA35 NO2_ PPB

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

APRIL 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	39.4	45.5	36.4	S	16.7	23	21.5	32.8	33.9	16.6	7	9	6.7	3.3	8.1	6.4	5.4	5.1	14.6	21.8	19	49	14.3	8.1	49	19.3	24	
2	12	11.5	S	6.4	6.7	9.5	9.5	4.5	3.9	C	C	C	C	C	C	C	C	8.2	18.4	12	12.7	18.8	25.2	39.7	39.7	13.3	24	
3	18.6	S	9.7	51.2	24.1	9.1	6.1	3.3	0.5	2.5	0.3	2.4	2.8	3.6	4.6	0.4	0.5	8	28.8	45	17.4	52.8	27	15.4	52.8	14.5	24	
4	S	21.8	34.1	39.1	42.9	43.1	37.9	30.5	15.7	10.5	8.6	6.8	6.4	7.2	5.3	4.3	4.1	3.5	3.6	4.1	3	2.6	2.8	S	43.1	15.4	24	
5	2.6	4.9	3.5	3.1	3.2	3.4	2.8	2.8	2.3	2.4	2	1.6	1.4	1.2	1.5	1.7	1.6	1.6	1.5	1.5	2	1.1	S	1	4.9	2.2	24	
6	0.7	0.7	0.7	0.9	1.4	1.5	1.6	1.4	1.4	1.4	0.9	1.1	0.9	1	0.9	1.2	2	2.8	3	2.2	2.1	S	2	1.8	3	1.5	24	
7	1.4	1.4	1.4	1	0.8	1.7	1.6	1.2	1.4	0.8	0.8	1	1.4	1.2	1.1	1	0.9	0.8	1	1.3	S	0.9	1.8	4.6	4.6	1.3	24	
8	8.9	8.7	14.2	1.9	3.3	12.2	14.1	32.9	16.6	10	4.1	3.4	3	2.7	2	2	3	12.1	12.5	S	21	10.3	6.3	10.4	32.9	9.4	24	
9	30.9	7.7	8.5	14.2	33.6	39.3	43.5	34.7	23.2	18.5	6.6	4.8	4.4	3.6	4.5	4.2	13	4.4	S	5.5	15.4	7.3	7.8	4.9	43.5	14.8	24	
10	4.6	4.9	5.4	4.2	5.5	5.9	10.2	5.4	3.7	3.5	4.5	3.5	3.1	3	3.4	2.9	3.9	S	6.4	5	4.5	4.1	2.9	3	10.2	4.5	24	
11	8.2	21.8	17.6	22.4	23.7	18	22.7	17	5.7	5.8	9.6	4.6	5.4	3.1	3.6	13.5	S	25.2	13.2	11.3	5.1	15.2	15.1	22.1	25.2	13.5	24	
12	9.5	12.5	14.8	2.1	2.1	1.5	1.4	1.7	1.4	1.2	1	1.3	2.4	3.9	2.6	S	5	4.2	5.4	12.4	36.3	20	7.7	9.7	36.3	7.0	24	
13	4.5	3	3	3.8	4.2	3.4	3.2	2.5	2.4	2.1	2.2	1.9	1.7	1.7	S	1.7	1.4	1.6	2.2	3.1	7.2	6.9	6.2	5.4	7.2	3.3	24	
14	4.3	4.6	4.2	5.3	8.6	8.3	3.9	6.5	6.6	5.2	2.1	2.1	3.2	S	2.7	2.7	3	2.6	4.7	10.1	13.8	28.8	32.5	25.7	32.5	8.3	24	
15	40.5	22.9	20.6	19.2	11.3	4.1	4.4	3.3	1.8	1.4	0.7	0.8	S	0.5	P	0.6	0.5	0.5	0.7	1.5	1.5	1.8	2.7	6	40.5	6.7	23	
16	2.1	2	14.2	3.1	3.6	4.5	5.7	8.3	26.6	6.6	3.4	S	67.2	2.9	2.8	4.2	12.1	16.6	5.7	44.2	48.3	47.6	42.6	27.4	67.2	17.5	24	
17	40.9	40.9	23.1	27.3	36.4	35.7	36.2	16.7	23.3	7.8	S	2.8	2.5	2.7	2.7	2.6	3.5	5.6	8.3	7.3	7.9	7.2	2.9	3.9	40.9	15.1	24	
18	5.6	4.9	3.8	5.4	6.3	5.9	6.3	7.3	6.6	S	8	2.3	2.7	3.1	2.8	1.6	1.4	1.3	1.2	20	20.2	23	33.9	17.6	33.9	8.3	24	
19	23.7	20.3	24	23.6	18.3	18.1	8.1	7	S	4.3	3.8	3	1.7	1.9	2.5	1.7	3.5	3.1	3.3	3.5	4.3	4.2	3.9	4.5	24	8.4	24	
20	4.1	6.5	4	8.2	12.2	10.4	12.8	S	10.7	6.7	3.5	3.3	4.4	3.8	3.4	3.3	3.8	3.9	0.8	1	0.6	0.5	1.5	1.5	12.8	4.8	24	
21	1.3	1.3	1.2	1.4	1.5	1.8	S	1	1	3.3	2.9	2.2	2.4	1.1	1.7	2.2	3	3	10.3	48.2	17.7	39.4	6.6	7.5	48.2	7.0	24	
22	10.4	4.8	7.7	13.8	27.3	S	22.9	10.5	5.9	5.9	4.1	2.1	6.6	6	3.8	3.6	7.3	3.9	5.4	17.3	31.9	51.4	39.7	31.2	51.4	14.1	24	
23	12.1	11.4	19.4	13.1	S	13.8	7.7	11.2	11	2.9	1.2	1.1	4.8	5.1	5.5	0.7	4.3	0.5	0.7	0.6	0.6	0.6	0.8	18.6	19.4	6.4	24	
24	15.9	15.8	30.8	S	35	32.2	20.9	6.8	5.2	3.3	13.1	2.7	1.8	2.3	2.3	3.4	5.7	6.1	7.1	8.1	12.6	9.3	9.3	9.6	35	11.3	24	
25	9.3	10.6	S	12	11.5	33.5	16.2	12.6	7.3	2.4	1.9	1.5	3.2	4	3.3	4.3	6	2.4	2.6	29	18.3	13.2	12.5	21.6	33.5	10.4	24	
26	19.7	S	28	23.3	23	22.4	18.6	16.1	10.9	9	3.2	1.9	2.4	2.2	2.2	4.1	5.2	3.9	11.7	14.7	15	27.5	17.6	19	28	13.1	24	
27	S	16.8	30.6	13	20.1	34.5	16	14.5	7.6	3.9	1.7	1.5	2.1	2.2	2.5	3.3	3.8	2.5	1	15.6	12.7	4.9	5.8	S	34.5	9.8	24	
28	2.4	2.8	4.2	4.7	3.7	1.3	0.5	0.6	1.3	0.9	0.8	0.9	0.8	0.7	1	1.1	2.4	1.2	2.6	2.4	1.8	3.2	S	9.5	9.5	2.2	24	
29	2.9	4.9	4.6	4.5	2.5	3.3	1.4	1.7	1.3	0.9	0.8	0.8	1.1	1.3	1	0.9	1.5	1.5	4.6	2	2.4	S	7.1	5	7.1	2.5	24	
30	16.9	8.3	10.9	3.8	5.5	6.8	4.2	5.8	4.3	3.8	2.2	2.4	2	2.6	2.9	3.1	3.5	3.7	1.2	2.2	S	1.7	1	3.8	16.9	4.5	24	
HOURLY MAX	40.9	45.5	36.4	51.2	42.9	43.1	43.5	34.7	33.9	18.5	13.1	9.0	67.2	7.2	8.1	13.5	13.0	25.2	28.8	48.2	48.3	52.8	42.6	39.7				
HOURLY AVG	12.6	11.5	13.6	11.9	13.6	14.1	12.5	10.4	8.4	5.1	3.6	2.6	5.3	2.8	3.0	3.0	4.0	4.8	6.3	12.2	12.7	16.2	12.1	12.1				

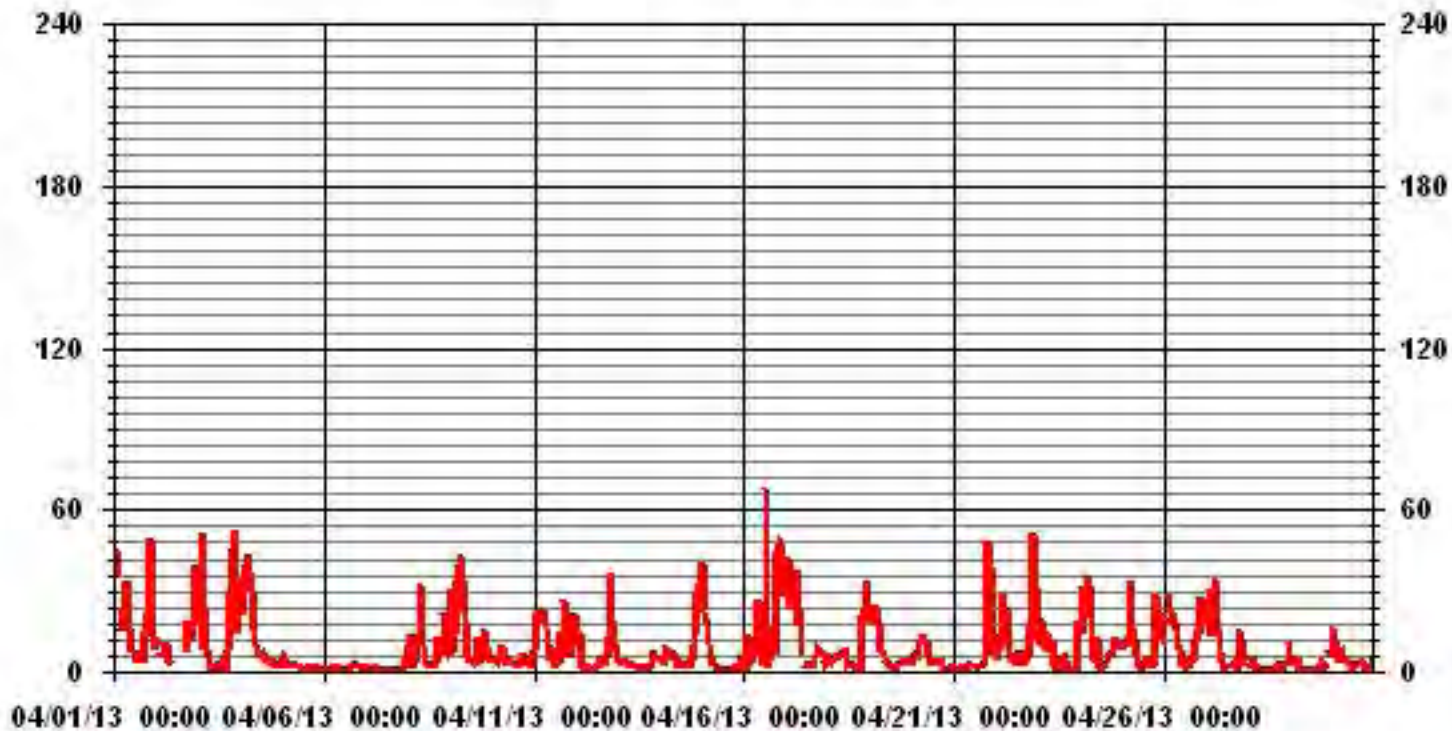
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	679
MAXIMUM INSTANTANEOUS VALUE:	67.2 PPB @ HOUR(S) 12 ON DAY(S) 16
IZS CALIBRATION TIME:	32 HRS
MONTHLY CALIBRATION TIME:	8 HRS
STANDARD DEVIATION:	10.67
OPERATIONAL TIME:	719 HRS

01 Hour Averages



— LICA35 NO2MAX PPB

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

April 2013

Distribution By % Of Samples

Logger Id : 35
 Site Name : LICA-ELK
 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	3.08	4.85	3.23	6.02	6.32	8.38	9.55	2.64	3.08	2.05	3.08	6.47	11.76	12.05	13.08	4.26	100.00
< 110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.08	4.85	3.23	6.02	6.32	8.38	9.55	2.64	3.08	2.05	3.08	6.47	11.76	12.05	13.08	4.26	

Calm : .00 %

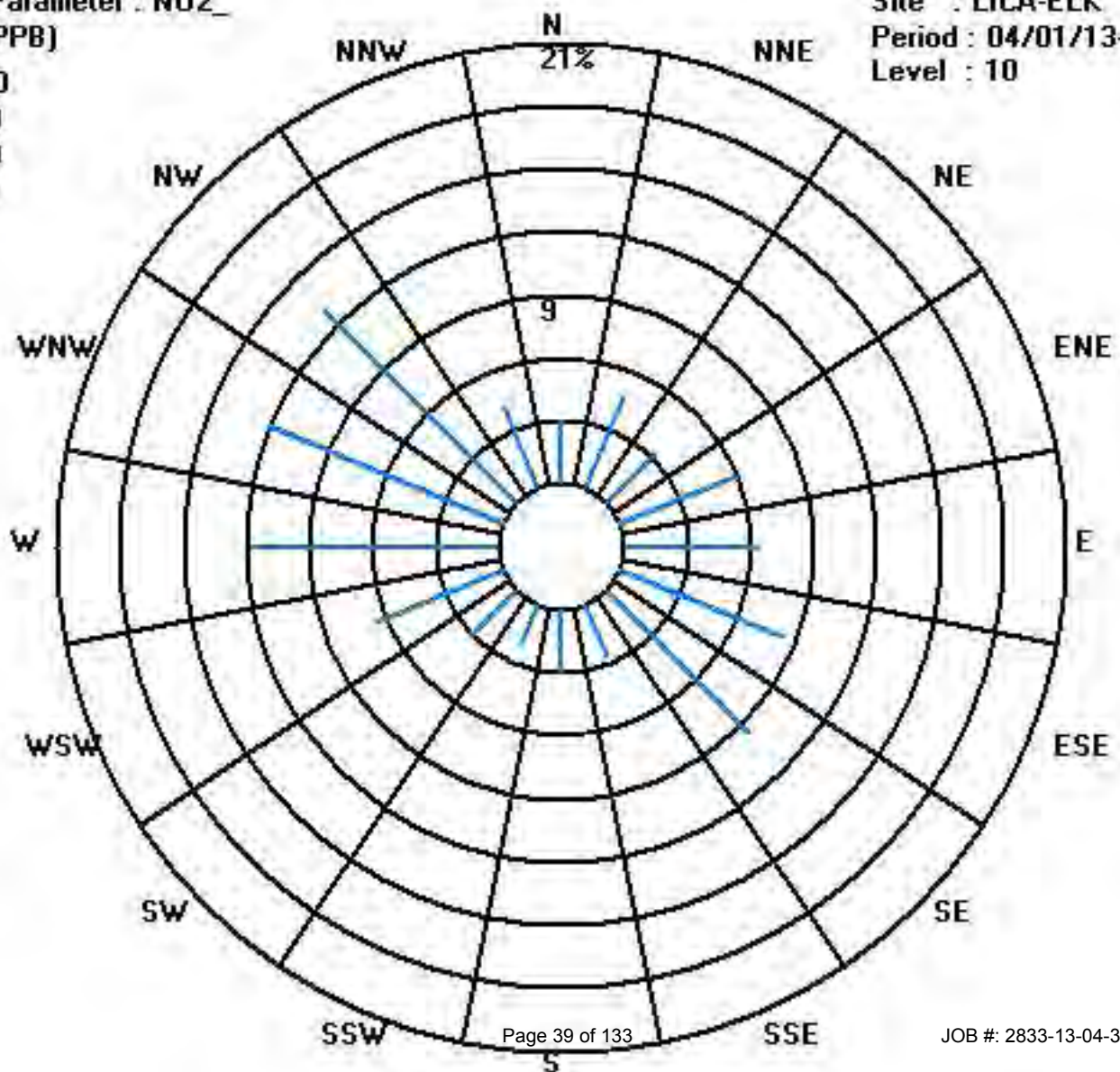
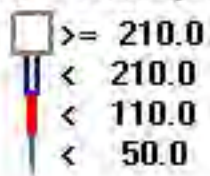
Total # Operational Hours : 680

Distribution By Samples

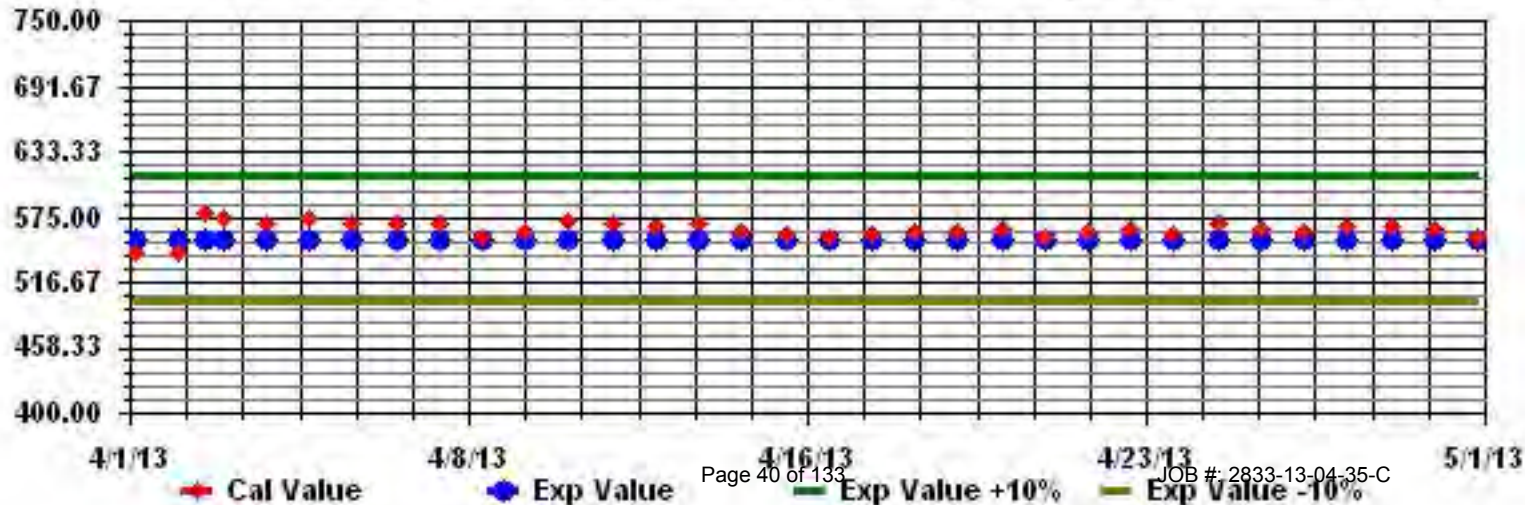
Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 50.0	21	33	22	41	43	57	65	18	21	14	21	44	80	82	89	29	680
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	21	33	22	41	43	57	65	18	21	14	21	44	80	82	89	29	

Calm : .00 %

Total # Operational Hours : 680



Calibration Graph for Site: LICA35 Parameter: H02_ Sequence: H02 Phase: SPAll



Nitric Oxide

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

APRIL 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	1	1.8	0.9	S	0.7	2	2.1	16.7	14.5	7.5	2.7	2.6	1.6	0.6	1.1	1.5	0.9	0.7	0.6	0.4	0	1.6	0.2	0	16.7	2.7	24	
2	0.2	0.1	S	0.2	0.2	0.5	0.5	0.7	0.8	C	C	C	C	C	C	C	C	0.5	0.4	0	0	0	0	0.5	0.8	0.3	24	
3	0	S	0.5	8.9	1.1	0.1	0.5	0.5	0	0.7	0	0.3	1	0.9	1.3	0	0	0.4	1.8	6.6	0.7	1.6	0.5	0.4	8.9	1.2	24	
4	S	0.3	0.5	2.6	3.6	10.8	13.9	15.7	8.8	6.6	4.4	2.5	2.1	1.8	0.8	0.4	0.1	0	0	0	0	0	0	S	15.7	3.4	24	
5	0	0	0	0	0	0	0	0	0	0.3	0.1	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0.3	0.0	24
6	0	0	0.1	0	0	0	0.1	0.4	0.5	0.4	0.3	0.2	0.1	0	0	0	0	0	0	0	0	0	S	0	0	0.5	0.1	24
7	0	0.1	0.1	0	0	0	0.2	0.2	0.2	0.2	0	0	0.1	0.1	0	0	0	0	0	0	S	0.2	0.1	0.2	0.2	0.1	24	
8	0.6	0.5	0.3	0	0.1	0.6	3.7	13.1	11.4	7.7	2.5	2.3	1.6	0.8	0.6	0.4	0.6	0.6	0.4	S	0.7	0.3	0.1	0.3	13.1	2.1	24	
9	0.8	0.5	0.1	0.3	1.1	6.1	16.6	30.4	20.9	15.6	2.8	1.9	1.7	0.9	0.8	0.7	0.6	0.5	S	0.6	0.9	0.5	0.5	0.4	30.4	4.6	24	
10	0.3	0.3	0.2	0.3	0.5	0.8	1.5	1.3	1.5	1.7	1.8	1.6	1.3	1	0.7	0.7	0.9	S	0.6	0.2	0.1	0.1	0.1	0.1	1.8	0.8	24	
11	0.9	1.7	1.2	0.5	0.5	0.6	4.8	6.4	2.7	3	5.3	1.5	1.4	0.8	0.9	2.3	S	2.1	0.9	1.2	0.1	0.2	0.1	0.2	6.4	1.7	24	
12	0.1	1.1	0.5	0	0	0	0	0	0	0	0	0.1	0.4	0.3	0.3	S	1.1	0.8	0.5	0.4	0.6	0.3	0.3	0.2	1.1	0.3	24	
13	0.2	0.1	0	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.2	0	S	0.1	0	0	0	0	0	0	0	0	0.2	0.1	24	
14	0	0.1	0.1	0.1	0.1	0	0.2	0.9	2.5	1.2	0.4	0.4	0.7	S	0.6	0.5	0.5	0.2	0.1	0.2	0.1	0.7	0.9	0.7	2.5	0.5	24	
15	1.9	0.6	0.4	0.4	0.2	0.2	0.6	0.8	0.4	0.1	0	0.1	S	0.3	0.2	0.1	0.1	0.1	0	0.2	0.1	0.1	0	0.1	1.9	0.3	24	
16	0.1	0.2	0.6	0.1	0.3	0.2	0.8	1.5	3.6	2.1	1.3	S	3.8	0.2	0.2	0.1	2.5	2.3	0.2	0.7	2.9	1.7	1.9	0.9	3.8	1.2	24	
17	4.5	2.6	0.5	0.7	2.5	2.5	11.4	8.8	7.7	2.8	S	1	0.7	0.6	0.9	0.8	0.9	0.9	0.8	0.3	0.4	0.3	0.2	0	11.4	2.3	24	
18	0.2	0.2	0.1	0.3	0.4	0.5	0.8	1.3	2.4	S	1.2	0.5	0.6	0.6	0.5	0.2	0.2	0.1	0.1	0.3	0.9	0.4	1.3	0.3	2.4	0.6	24	
19	0.5	0.6	0.8	1.1	0.7	1.2	1.9	2.1	S	1.7	1.3	0.6	0.2	0.2	0.3	0	0.2	0.1	0.1	0	0	0	0	0	2.1	0.6	24	
20	0	0	0	0	0	0.2	0.5	S	2.5	1.6	0.8	0.9	1.4	0.9	1.1	0.7	0.3	0	0	0	0	0	0	0	2.5	0.5	24	
21	0	0.1	0	0	0	0.1	S	0.3	0.2	0.5	0.6	0.3	0.3	0	0.1	0.3	0.4	0.1	1.2	2.3	0.7	0.9	0.1	0	2.3	0.4	24	
22	0	0	0	0	0.6	S	6.6	2.9	2.3	2.5	0.8	0	0.7	0.9	0.5	0.4	0.6	0.1	0	0	1.3	5.7	0.7	0	6.6	1.2	24	
23	0	0	0	0	S	0.9	1.5	3.2	1.9	0.3	0.1	0	0.7	0.5	0.7	0	0.2	0	0	0	0	0	0	0.8	3.2	0.5	24	
24	0.4	0.2	0.5	S	1	3.7	2.1	1.3	1	0.3	0.5	0.1	0.1	0.3	0.2	0.2	0.5	0.6	0.2	0	0	0	0	0	3.7	0.6	24	
25	0	0	S	0.5	0.4	10.1	3.4	3.6	1.4	0.8	0.6	0.2	0.8	1.4	1	1.3	1.7	0.2	0.1	1.6	0.4	0.2	0.1	0.3	10.1	1.3	24	
26	0	S	1.5	0.9	0.9	5.8	4.2	2.4	3.2	3.2	0.9	0.5	0.5	0.5	0.3	0.6	0.3	0.4	0.4	0.6	0.8	0.7	0.5	0.5	5.8	1.3	24	
27	S	0.4	0.7	0.2	0.3	3.3	1.6	5.2	2	0.8	0.4	0.2	0.3	0.2	0.1	0.1	0	0	0.3	0	0	0	0	S	5.2	0.7	24	
28	0.2	0.8	1.2	1.5	0.7	0	0.1	0	0.2	0.1	0.2	0	0.1	0.1	0	0	0.3	0.1	0	0	0	0	S	0.5	1.5	0.3	24	
29	0.2	0.2	0.1	0.1	0.1	0	0.1	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.1	0.1	0.1	0.2	0.3	0.2	0	S	0.1	0	0.3	0.2	24	
30	0.2	0.2	0.1	0	0.2	0.9	0.7	1.7	1.1	0.8	0.4	0.6	0.4	0.5	0.6	0.5	0.5	0.2	0.2	0	S	0.3	0.2	0.3	1.7	0.5	24	
HOURLY MAX	4.5	2.6	1.5	8.9	3.6	10.8	16.6	30.4	20.9	15.6	5.3	2.6	3.8	1.8	1.3	2.3	2.5	2.3	1.8	6.6	2.9	5.7	1.9	0.9				
HOURLY AVG	0.4	0.5	0.4	0.7	0.6	1.8	2.8	4.2	3.2	2.2	1.1	0.7	0.8	0.5	0.5	0.4	0.5	0.4	0.3	0.6	0.4	0.6	0.3	0.2				

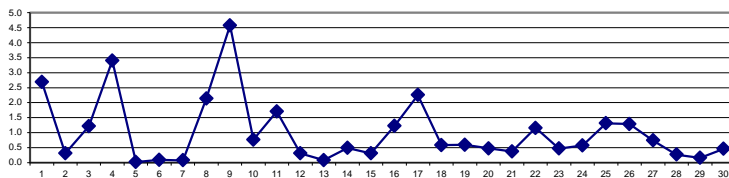
STATUS FLAG CODES

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

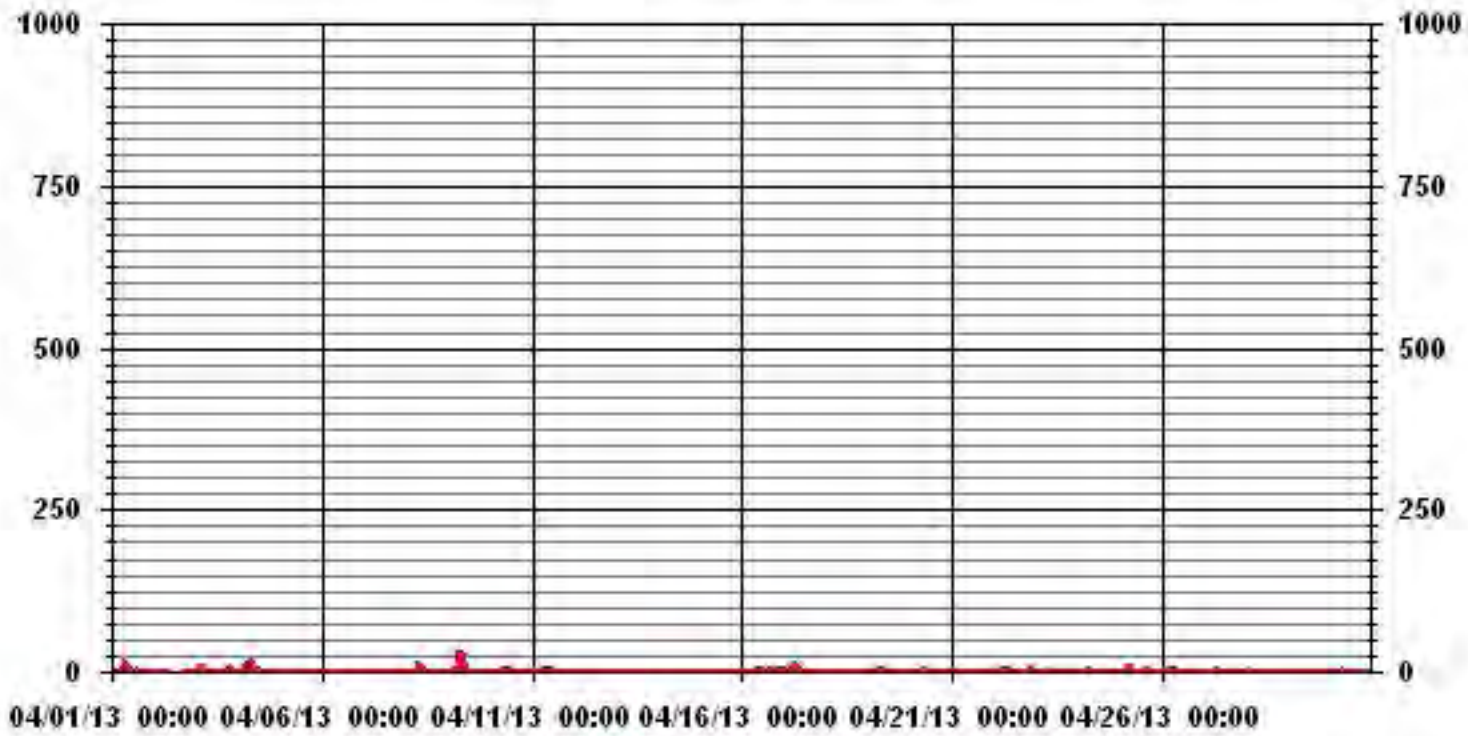
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	519					
MAXIMUM 1-HR AVERAGE:	30.4	PPB	@ HOUR(S)	7	ON DAY(S)	9
MAXIMUM 24-HR AVERAGE:	4.6	PPB			ON DAY(S)	9
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	2.47		MONTHLY AVERAGE:	1.01	PPB	

24 HOUR AVERAGES FOR APRIL 2013



01 Hour Averages



— LICA35 NO_ PPB

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

APRIL 2013

NITRIC OXIDE 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		4.2	5.2	4	S	1.5	6.4	3.7	29	49.7	15.1	4.9	11	4.6	1.5	5	4.5	1.9	1.7	2.5	3	0.6	18.1	0.6	0.4	49.7	7.8	24	
2		0.7	1	S	0.6	0.9	1.2	1.4	1.3	1.5	C	C	C	C	C	C	C	C	1.6	5.5	0.4	0.2	1	0.9	2.7	5.5	1.4	24	
3		0.6	S	1.3	49.8	4.9	0.9	1.4	1.4	0.7	2.6	0.4	2.2	2.5	2.7	3.2	0.7	0.3	2.1	8.8	38.6	2.3	10.8	1.4	1	49.8	6.1	24	
4		S	1.2	1.2	9.6	15.8	24.6	30.5	30.8	11.6	8.4	7.4	4	3.7	3.2	1.7	1.4	0.7	0.5	0.3	0.4	0	0	0	S	30.8	7.1	24	
5		0.6	0.8	0.1	0.2	0.2	0.1	0.3	0.3	0.4	0.8	0.5	0.5	0.4	0.4	0.5	0.5	0.4	0.4	0.2	0.2	0.3	0.2	S	0.5	0.8	0.4	24	
6		0.3	0.3	0.5	0.4	0.4	0.4	0.6	0.9	0.8	1	0.7	0.6	0.5	0.5	0.3	0.5	0.5	0.5	0.2	0.4	0.4	S	0.6	0.3	1	0.5	24	
7		0.5	0.5	0.5	0.5	0.4	0.5	0.6	0.9	0.9	0.5	0.5	0.6	0.7	0.4	0.5	0.3	0.3	0.3	0.5	0.4	S	0.7	0.5	0.9	0.9	0.5	24	
8		3.2	1.4	1.4	0.5	0.5	2.4	9.8	40.2	21.4	11.5	4.3	3.6	2.9	2.3	1.6	1.4	1.3	4.8	5.6	S	2.3	1.2	1	1.2	40.2	5.5	24	
9		3.1	3.4	1	1.4	7.9	22.2	53.9	68.7	25.8	24.3	4.8	3.1	3.6	1.6	2.2	1.4	5.3	1.6	S	1.8	10.1	1.1	0.9	1	68.7	10.9	24	
10		0.9	1.2	1.1	1.1	1.2	2.4	6.8	2.2	2.2	2.9	4.4	4	2.2	2.2	1.7	2	2	S	1.3	0.8	0.6	0.6	0.6	0.5	6.8	2.0	24	
11		4.9	3.9	4.6	2	2.3	3.5	7.4	13.4	4.3	8.1	9.5	3.4	3.8	1.9	1.9	10.1	S	10.8	4	2.5	1.1	2.4	2.3	1.3	13.4	4.8	24	
12		1.5	3	3.5	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.3	0.6	1.3	1.3	0.8	S	2.3	1.8	1.2	1	10.9	1.7	1	0.6	10.9	1.5	24	
13		0.5	0.5	0.5	0.7	0.8	0.5	0.7	0.8	0.5	0.9	0.8	0.7	0.7	0.4	S	0.6	0.3	0.2	0.3	0.3	0.6	0.4	0.5	0.3	0.9	0.5	24	
14		0.5	1.3	0.5	0.7	1.8	1.3	0.6	2.5	3.3	2.4	1	1.3	1.8	S	1.8	1.7	1.4	0.8	0.7	0.9	1	3.5	3.4	3.1	3.5	1.6	24	
15		6.2	3.5	1.6	1.5	1.3	0.6	1.1	1.3	1	0.6	0.4	0.6	S	0.8	P	0.6	0.5	0.7	0.5	0.6	0.5	0.6	0.5	0.7	6.2	1.2	23	
16		0.5	0.6	3.3	0.6	0.8	0.9	1.9	4.4	21.3	4	2.3	S	110.6	1	1.3	1.4	6	7.1	1.2	14.9	36.3	26.6	31.7	3.9	110.6	12.3	24	
17		15.8	10.4	1.3	2.9	40.2	5.3	53.2	13.2	26.9	4.5	S	1.8	1.4	1.9	2.2	2.1	1.8	1.6	1.6	1	2	1.3	0.6	0.6	53.2	8.4	24	
18		0.8	0.8	0.5	1.3	0.9	1.3	1.8	2.3	3.4	S	2.9	1	1.1	1.1	1.2	0.6	0.6	0.5	0.5	1.5	1.8	1.1	4.8	0.8	4.8	1.4	24	
19		1.6	1.6	2.7	2.5	2.2	3.7	3.8	3.3	S	2.5	2.3	1.6	1	1	1.5	0.7	0.9	0.9	0.8	0.7	0.4	0.4	0.6	0.2	3.8	1.6	24	
20		0.2	0.1	0.2	0.7	0.3	1.2	2.7	S	6.7	4.7	2.3	2.2	2.9	2.2	2.4	2	1.6	1.4	0.4	0.3	0.4	0.3	0.5	0.5	6.7	1.6	24	
21		0.5	0.5	0.4	0.5	0.5	0.5	S	0.9	0.6	2.8	2.9	1.2	1.7	0.7	1	1.5	1.5	1	2.9	26.8	3.2	32.9	0.6	0.6	32.9	3.7	24	
22		0.6	0.4	0.6	0.6	1.9	S	12.2	4.8	3.6	3.6	2.2	0.9	3.6	3.3	1.4	1	2.3	0.7	0.6	0.4	5.2	15.2	4.4	0.9	15.2	3.1	24	
23		0.4	0.4	0.5	1.3	S	1.8	2.6	5.8	7.1	1.8	0.8	0.5	2.5	2.8	2.5	0.5	1.9	0.4	0.5	0.5	0.4	0.4	0.4	3.5	7.1	1.7	24	
24		3	1	8	S	15.3	8.4	3.5	2.4	2.3	1.5	8.4	1	0.7	1	0.7	1.2	1.9	1.5	0.9	0.9	0.4	0.3	0.2	0.5	15.3	2.8	24	
25		0.2	0.8	S	1.5	1.4	44.8	6.2	6.4	3.3	1.2	1.2	0.9	1.7	2	1.9	2.1	2.8	0.9	0.6	5.6	2.2	1	0.8	1.2	44.8	3.9	24	
26		0.6	S	3.9	2.6	4	11.1	8	6.6	5.2	5.4	2.6	1.1	1.5	1.3	1.1	1.3	1.3	1	1.3	2.9	2.3	2.7	3	3	11.1	3.2	24	
27		S	1.4	27.2	1.2	1.1	28.8	4.3	7	3.5	1.6	0.8	0.7	0.8	1	0.8	0.8	0.6	0.4	0.4	1.7	0.6	1.3	1.4	S	28.8	4.0	24	
28		1.2	2.2	3	3.4	2.9	1	0.4	0.4	0.8	0.6	0.7	0.6	0.6	0.6	0.4	1.8	0.4	0.6	0.6	0.5	0.5	S	1	3.4	1.1	24		
29		0.9	0.9	0.7	0.7	0.5	0.4	0.7	1.1	0.8	0.8	0.7	0.7	0.7	0.8	0.5	0.6	0.7	0.7	1.5	0.6	0.5	S	0.9	0.5	1.5	0.7	24	
30		1.7	1.6	0.9	0.3	0.7	3.3	2.4	3.3	2.3	2.3	1.4	1.4	1.5	2	2	2	1.7	1.7	0.9	1.1	S	1	0.7	1.1	3.3	1.6	24	
HOURLY MAX		15.8	10.4	27.2	49.8	40.2	44.8	53.9	68.7	49.7	24.3	9.5	11.0	110.6	3.3	5.0	10.1	6.0	10.8	8.8	38.6	36.3	32.9	31.7	3.9				
HOURLY AVG		2.0	1.8	2.7	3.2	3.9	6.2	7.7	8.8	7.3	4.2	2.6	1.9	5.8	1.5	1.6	1.6	1.6	1.7	1.6	3.8	3.1	4.5	2.3	1.2				

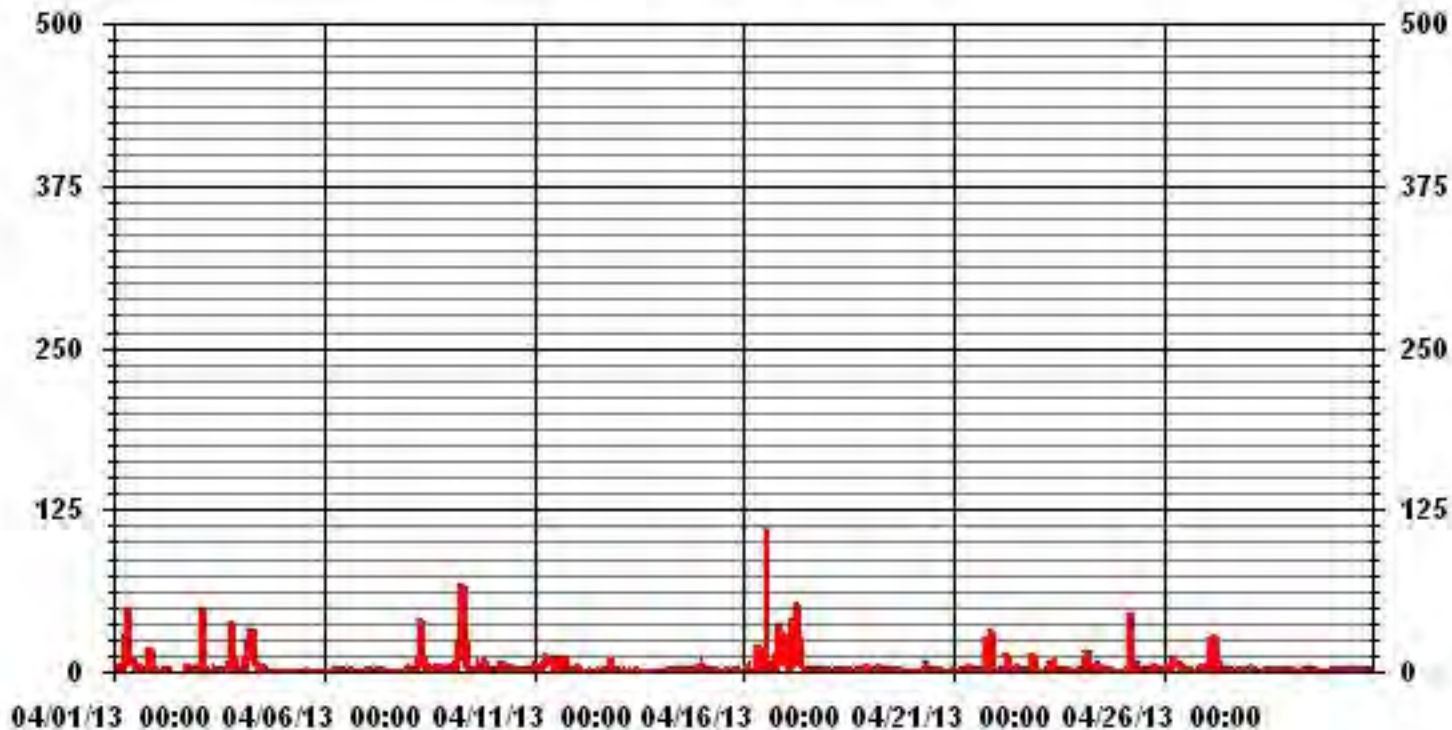
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	676
MAXIMUM INSTANTANEOUS VALUE:	110.6 PPB @ HOUR(S) 12 ON DAY(S) 16
IZS CALIBRATION TIME:	32 HRS
MONTHLY CALIBRATION TIME:	8 HRS
STANDARD DEVIATION:	8.27
OPERATIONAL TIME:	719 HRS

01 Hour Averages



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

April 2013

Distribution By % Of Samples

Logger Id : 35
 Site Name : LICA-ELK
 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	3.08	4.85	3.23	6.02	6.32	8.38	9.55	2.64	3.08	2.05	3.08	6.47	11.76	12.05	13.08	4.26	100.00
< 110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 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
< 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.08	4.85	3.23	6.02	6.32	8.38	9.55	2.64	3.08	2.05	3.08	6.47	11.76	12.05	13.08	4.26	

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	
< 50.0	21	33	22	41	43	57	65	18	21	14	21	44	80	82	89	29	680
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	21	33	22	41	43	57	65	18	21	14	21	44	80	82	89	29	

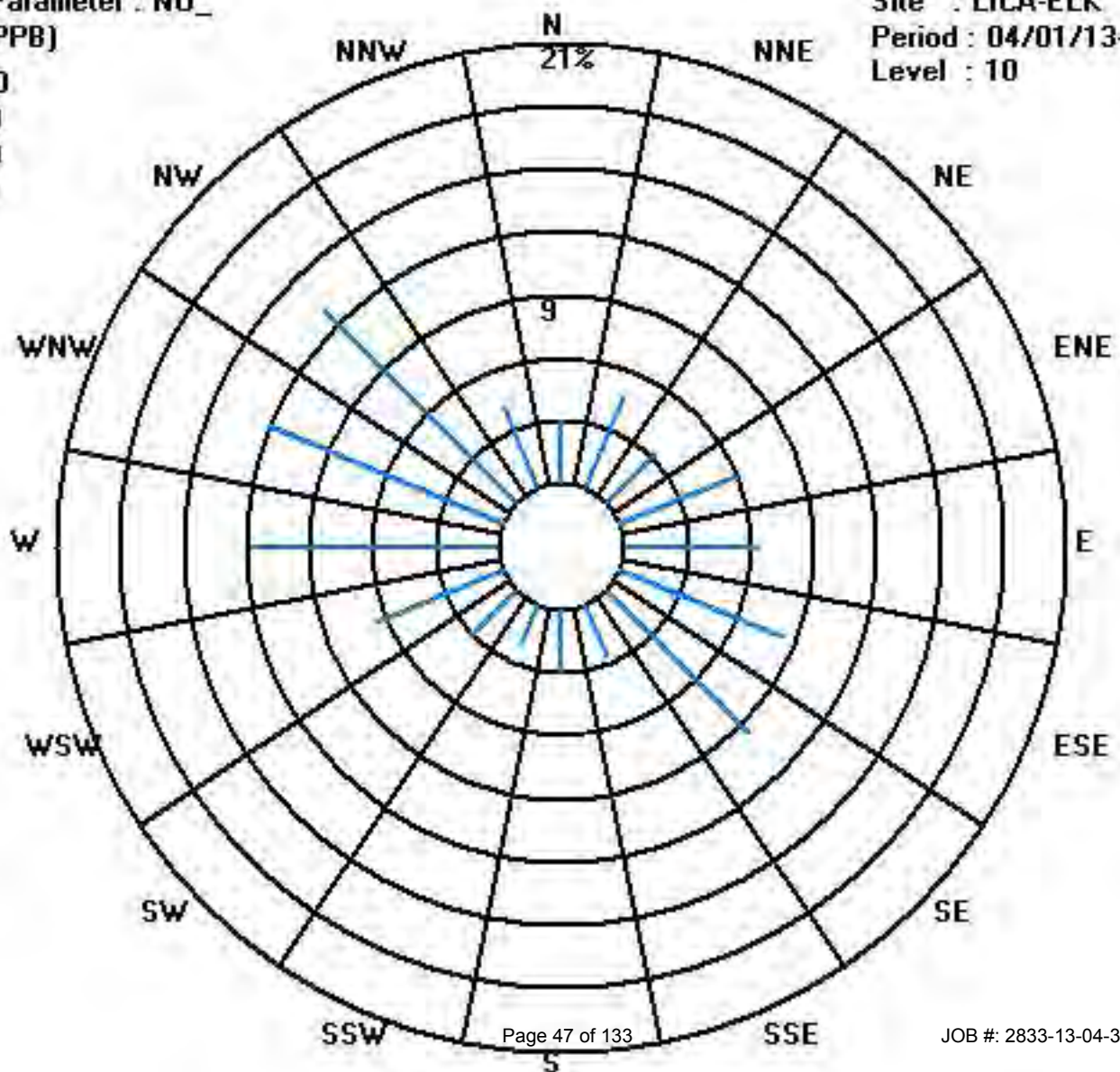
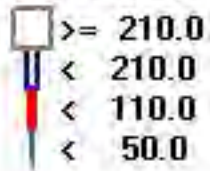
Calm : .00 %

Total # Operational Hours : 680

Class Limits (PPB)

Period : 04/01/13-04/30/13

Level : 10



Oxides of Nitrogen

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

APRIL 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	20.3	33.3	24.5	S	12.6	17.8	16.5	39.9	31.3	17.3	7.1	6.6	4.2	2	3.2	5.2	4.1	3.8	7.4	11.9	9.4	22.4	8.7	6.3	39.9	13.7	24
2	8.3	8.1	S	5.5	4.9	5.3	5.3	4.5	3.9	C	C	C	C	C	C	C	C	5.7	9.6	8.4	9	12.3	16.2	26	26	8.9	24
3	11.8	S	4.6	33.5	9.3	6.4	3.5	1.7	0	1	0	0.3	1.9	1.7	2.9	0	0	2.3	8.7	24.1	11.3	24.7	18.5	12.7	33.5	7.9	24
4	S	19.5	27.2	35.8	39.4	49	42.4	37.3	20.7	15.8	11.6	8.2	7.8	7.5	5.4	4.3	3.7	3.1	2.8	3.2	2.4	2	1.9	S	49	16.0	24
5	2.3	2.5	2.4	2.7	2.4	2.4	1.9	2.4	2	2.4	1.6	1.3	1.1	1.2	1.3	1.4	1.3	1.1	1	1	1.4	0.4	S	0.7	2.7	1.7	24
6	0.4	0.3	0.4	0.4	0.7	1.2	1.2	1.4	1.3	1	0.8	0.9	0.8	0.7	0.7	0.9	1.2	1.8	1.5	0.9	1.4	S	1.4	0.7	1.8	1.0	24
7	0.7	0.8	0.6	0.2	0.1	0.9	0.7	0.4	0.5	0.2	0.2	0.4	0.7	0.6	0.6	0.4	0.2	0.2	0.4	0.3	S	0.7	1	2.9	2.9	0.6	24
8	5.6	5.3	4	1.3	2.4	6.8	13.4	28.5	22.6	15.4	5.4	5	3.6	2.3	1.9	1.6	2.5	3.6	5.3	S	11.7	8	3.7	3.9	28.5	7.1	24
9	17.1	5.7	5	6.8	16.6	34.1	46.3	54.9	39.6	29.5	6.8	5.2	4.8	3.5	3.8	4	4	3.9	S	4	6.6	5.9	5.5	3.7	54.9	13.8	24
10	4.1	3.7	3.1	3.3	4.6	5	5.9	5.2	3.9	3.7	3.8	3.6	3.4	3.2	3	2.7	3.3	S	4.3	4.1	3.4	2.8	2.3	2.5	5.9	3.7	24
11	4.2	11.8	13.8	12.9	13.3	7.3	21.7	17.8	7	7.2	11.6	4.2	3.8	2.3	2.5	6	S	8.3	5.3	7.9	1.5	3	4.6	10.8	21.7	8.2	24
12	2.4	6.8	4.6	1.5	1.1	0.9	0.8	1	0.9	0.7	0.6	0.8	1.6	1.8	1.9	S	3.5	3.3	3.1	6.9	12.5	10	5.9	6	12.5	3.4	24
13	3.8	2.4	2.2	2.8	3.1	2.6	2.5	2.1	1.8	1.8	1.8	1.4	1.4	1.1	S	1	0.8	0.8	1.1	1.8	4.4	4.1	5.1	3.8	5.1	2.3	24
14	2.1	3	2.7	4	5.3	4.3	3	4.3	8	4	1.6	1.6	2.4	S	2	2	2.1	1.8	2.5	4.4	8.7	19	25.3	13.9	25.3	5.6	24
15	23.4	6.3	10.2	11.3	6.6	3.6	3.8	2.9	1.7	0.6	0.3	0.4	S	0.4	0.4	0.2	0.3	0.3	0.3	0.7	1.1	1.5	1.8	2.4	23.4	3.5	24
16	1.7	1.7	4.3	1.4	1.6	2.5	3.8	4.7	9.4	5.6	3.4	S	6.9	0.8	1.2	1.3	8.1	9	3.2	13.6	26	23.8	28.8	20.7	28.8	8.0	24
17	39.3	33.8	19.1	18.9	25.3	27.8	32.4	23.3	18	8.4	S	2.4	1.7	1.6	2.2	2.3	2.9	4.1	5.6	5.5	5.2	4.8	1.7	2.3	39.3	12.5	24
18	3.7	3.6	2.8	3.6	4.2	4.4	4.6	6.2	7.8	S	4.6	2.1	2.8	2.9	1.9	1.1	0.9	0.8	0.8	4.2	14.4	15.7	21	14.7	21	5.6	24
19	16.7	17.8	16.9	19.6	15.2	11.8	8.7	7.3	S	5.1	4.3	2.1	1.4	1.3	1.8	0.9	2.6	2.3	2.4	2.4	2.4	3	2.6	2.8	19.6	6.6	24
20	3.1	3.2	3	4.7	6.5	8.1	7.8	S	7.6	4.4	2.4	2.4	3.9	2.6	2.8	2.5	1.7	0.6	0.2	0.1	0	0	0.7	0.7	8.1	3.0	24
21	0.6	0.5	0.6	0.6	0.7	1.1	S	1.2	0.9	1.3	1.7	1.4	1.3	0.6	1	1.5	1.7	1.1	6.6	12.2	13	13.3	4.9	5.3	13.3	3.2	24
22	6.6	3.3	5.6	8.7	14.1	S	23.2	9.2	6.5	6.9	3.3	1.3	3.3	3.9	3.1	3.1	3.9	3.2	3.4	8.1	24	46.6	28.7	16.9	46.6	10.3	24
23	8.5	8.5	10.8	8.9	S	10	7.4	10.4	5.6	1.2	0.8	0.5	2.2	1.5	2.1	0.2	1	0.2	0.2	0.1	0.1	0.1	0.1	6.5	10.8	3.8	24
24	5.1	7	8.8	S	18.1	30.3	13.7	5.7	4.1	2.1	2.4	1.5	1.3	1.8	1.9	1.9	3.4	4.6	3.6	4.9	6.7	6.3	6.2	6.6	30.3	6.4	24
25	6.1	6.2	S	7	9.1	27.3	14.8	12.7	4.8	2.5	1.7	0.9	2.4	4.3	3.3	4.2	5.7	1.2	1.7	13.8	8.5	7.4	9.1	17	27.3	7.5	24
26	9	S	22.4	18.4	13.6	25	17.3	9.3	11.4	9.5	2.8	1.6	1.3	1.7	1.1	2.7	2.1	2.4	4.3	6.7	7.3	14.8	7.9	9.5	25	8.8	24
27	S	7	4.9	7.1	11.2	14.8	11.4	16.9	7.1	3.6	1.5	0.9	1.5	1.4	1.5	1.9	1.7	0.7	0.4	4.9	4.1	1.5	1.1	S	16.9	4.9	24
28	1.1	2.5	3.5	3.7	2	0.4	0.2	0.2	0.8	0.5	0.5	0.5	0.4	0.4	0.5	0.5	1.1	0.9	1.5	1.4	0.9	1.4	S	4.5	4.5	1.3	24
29	1.9	3.1	3	2.4	1.4	1.4	1.1	1.2	0.8	0.7	0.5	0.6	0.6	0.8	0.5	0.3	0.9	0.9	2.5	1.1	0.7	S	2.9	3.5	3.5	1.4	24
30	5.1	2.7	5.3	2.2	2.9	4.2	2.6	5.1	3.1	2.5	1.5	1.7	1	1.2	1.9	1.4	1.7	0.9	0.6	0.7	S	1.1	0.9	1.5	5.3	2.3	24
HOURLY MAX	39.3	33.8	27.2	35.8	39.4	49.0	46.3	54.9	39.6	29.5	11.6	8.2	7.8	7.5	5.4	6.0	8.1	9.0	9.6	24.1	26.0	46.6	28.8	26.0			
HOURLY AVG	7.7	7.5	7.7	8.2	8.6	10.9	11.0	11.0	8.0	5.5	3.0	2.1	2.5	2.0	2.0	2.0	2.4	2.5	3.1	5.5	7.1	9.2	7.8	7.5			

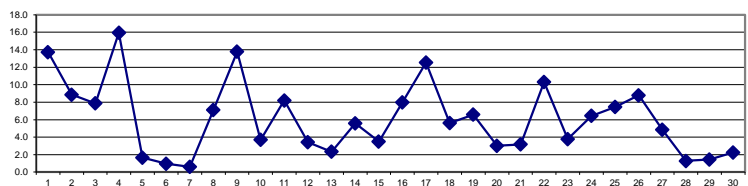
STATUS FLAG CODES

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

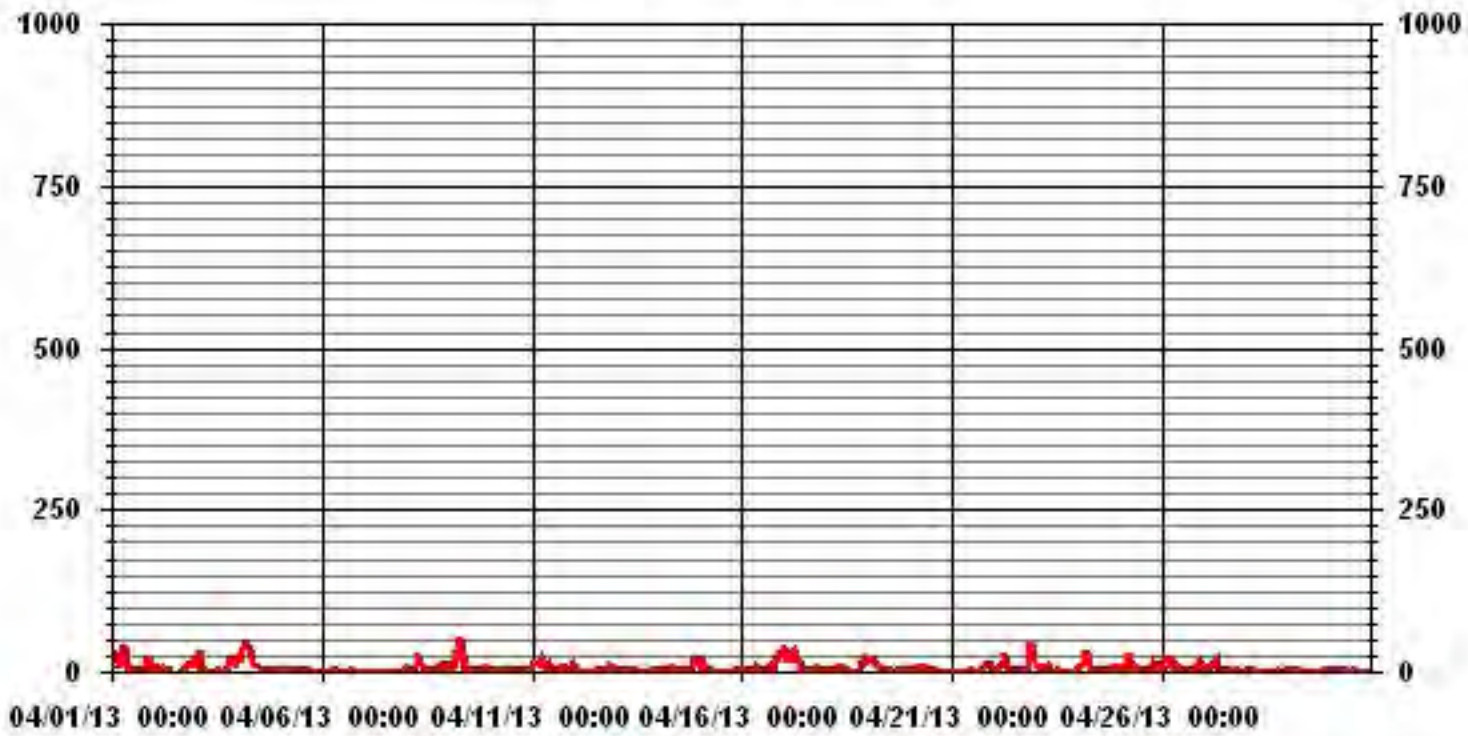
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	674		
MAXIMUM 1-HR AVERAGE:	54.9	PPB @ HOUR(S)	7 ON DAY(S) 9
MAXIMUM 24-HR AVERAGE:	16.0	PPB	ON DAY(S) 4
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME: 720 HRS
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME: 100.0 %
STANDARD DEVIATION:	8.00		MONTHLY AVERAGE: 6.05 PPB

24 HOUR AVERAGES FOR APRIL 2013



01 Hour Averages



— LICA35 NOX_ PPB

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

APRIL 2013

OXIDES OF NITROGEN 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	
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	43.1	50.2	37.6	S	17.6	28.5	24.7	60	83.1	31.5	11.7	14	11.2	4.6	13.1	10.9	7.1	6.3	16	24.3	19.3	67.2	15	8.1	83.1	26.3	24
2	2	12	11.4	S	7	7.3	10.5	10.3	5.5	5.1	C	C	C	C	C	C	C	9	24.1	12.1	12.2	19.5	24.9	42.4	42.4	42.4	14.2	24
3	3	18.4	S	10.4	99.3	27.2	9.3	7	4.3	0.2	4.5	0.1	4	4.7	5.8	7.3	0.1	0.1	9.8	37.3	81.5	18.4	61.7	28	15.3	99.3	19.8	24
4	4	S	22.1	35.2	47.4	58.9	67.8	66	61.1	26.3	18.5	15.8	10.8	10.2	10.2	7.3	5.9	4.7	4	3.7	4.4	3	2.5	2.7	S	67.8	22.2	24
5	5	2.9	5.7	3.6	3.3	3.4	3.4	3	3	2.8	3	2.6	1.8	1.6	1.7	2	2.1	1.8	1.7	1.7	1.5	2	1.1	S	1.3	5.7	2.5	24
6	6	0.9	0.7	0.9	1.1	1.5	1.6	1.8	1.9	1.9	2	1.3	1.5	1.2	1.2	1.2	1.3	2.4	3.5	3.2	2.3	2	S	2	1.8	3.5	1.7	24
7	7	1.4	1.4	1.4	0.9	0.6	1.6	1.5	1.5	1.5	0.8	0.9	1.1	1.4	1.1	1.2	0.8	0.8	0.8	0.8	1.1	S	1.3	1.9	4.7	4.7	1.3	24
8	8	10.9	9.4	15.3	1.9	3.5	13.3	24	71.4	37.9	21.1	8.2	7	5.8	4.9	3.6	3.2	4.2	17.6	18.4	S	22.9	11	6.5	10.6	71.4	14.5	24
9	9	33.2	10.7	9	15.8	41.5	61.4	93.5	100.9	48.9	42.8	11.1	7.7	7	5	6.3	5.4	16.4	5.6	S	6.6	19.9	7.8	8.4	5.2	100.9	24.8	24
10	10	4.9	5.7	6.2	5	6.1	8.1	17	7.2	5.1	6.2	8.3	6.9	5.2	4.8	5.2	4.8	5.5	S	7.2	5.4	4.9	4.2	3.3	3.3	17	6.1	24
11	11	13.2	25.7	18.2	24.3	25.8	21	27.9	30.3	9.8	9.6	19.3	7.8	9	4.7	5.1	23.4	S	35.9	17.1	13.2	5.8	17.1	17.2	22.7	35.9	17.6	24
12	12	10.8	15	18.1	1.9	1.8	1.5	1.2	1.6	1.6	1.3	1.1	1.6	3.4	5	3	S	6.8	5.4	5.6	12.9	46.5	21.2	8.1	10	46.5	8.1	24
13	13	4.6	3.2	2.9	4.4	4.5	3.3	3.3	2.7	2.4	2.3	2.4	1.9	1.9	1.8	S	1.9	1.3	1.5	2.1	3.1	6.9	6.5	5.9	5.3	6.9	3.3	24
14	14	4.2	5.4	4.1	5.4	9.9	9.1	4.1	8.7	9.5	7.3	2.6	3.2	4.8	S	4.3	4.2	4.3	3.3	5.3	10.9	13.8	30.4	35.9	28.7	35.9	9.5	24
15	15	46.9	26.4	21.2	19.7	11.9	4.2	5.2	3.9	2.3	1.8	0.9	1.1	S	1.1	P	0.7	0.8	0.8	0.9	1.6	1.6	2.1	2.8	6.5	46.9	7.5	23
16	16	2.3	2.2	17.2	3.4	4	5	7.1	12.5	47.7	10.5	5.6	S	142.1	3.4	3.7	5.4	17.8	23.7	6.4	59.1	79.2	72.9	72.4	31.1	142.1	27.6	24
17	17	51.7	51.4	24	29.9	74.4	38.5	89.1	29.9	50.3	11.9	S	4.1	3.4	4.1	4.6	4	5	6.6	8.7	7.9	9.4	8	3	3.9	89.1	22.8	24
18	18	5.7	5	3.9	6.1	6.6	6.3	7.6	9.3	9.6	S	10.3	2.8	3.3	3.5	3.7	1.6	1.5	1.4	1.2	21	21.3	23.8	37.7	18	37.7	9.2	24
19	19	24.2	21.4	26.4	25.6	20.2	21.3	11.5	9.8	S	6.3	5.7	4.6	2.4	2.7	3.8	2.4	4.5	3.7	4	4.1	4.3	4.6	4.3	4.7	26.4	9.7	24
20	20	3.9	6.4	4	8.9	12.6	10.5	15.3	S	17.1	10.9	5.5	5.1	7	5.3	5.3	5.1	4.8	5	0.8	0.7	0.3	0.3	1.4	1.2	17.1	6.0	24
21	21	1.2	1	0.9	1.2	1.5	1.8	S	1.7	1.5	5.9	6	3.1	3.7	1.9	2.7	3.9	4.9	4	13.3	75.3	20.1	72.6	6.7	7.7	75.3	10.5	24
22	22	10.6	4.9	7.8	14.2	28.9	S	35.3	15.2	9.3	9.3	6.3	2.7	10.3	9.2	4.9	4.4	9.5	4.3	5.9	17.8	35.1	66.6	44.1	32.1	66.6	16.9	24
23	23	12.2	11.5	19.6	14.1	S	15.4	10	16.8	17.8	4.4	1.9	1.4	7.1	7.8	8	0.7	5.9	0.6	0.7	0.6	0.7	0.6	0.6	21.1	21.1	7.8	24
24	24	16.8	16.6	38.1	S	48.7	40.7	24.3	8.9	7	4.4	17.6	3.4	2.3	3	2.7	4.4	7.4	7.4	7.9	8.9	13	9	9.3	9.7	48.7	13.5	24
25	25	9.1	10.6	S	12.9	11.6	77.1	22.3	18.6	10.4	3.1	2.5	1.7	4.6	5.7	5	5.9	8.7	3	3	34.6	20.4	13.5	12.5	22.6	77.1	13.9	24
26	26	20	S	31.7	25.1	26.5	32.4	26.9	22.7	15.8	14.4	5.7	2.9	3.7	3.5	3	4.9	6.2	4.6	12.8	17.5	16.9	28.7	20.7	21.9	32.4	16.0	24
27	27	S	17.8	56.8	13.6	21	63.1	19	21.4	11.1	5.2	2.3	1.9	2.4	2.6	2.8	3.6	4.1	2.4	0.8	16.5	12.9	6.1	6.9	S	63.1	13.4	24
28	28	3.2	5.1	7.1	8	6.4	2.2	0.8	0.8	1.8	1.4	1.3	1.1	1	1	1.3	1.2	3.8	1.4	2.6	2.5	1.7	3.1	S	10.2	10.2	3.0	24
29	29	3.4	5.3	4.6	4.6	2.6	3.4	1.7	2.3	1.9	1.3	1.1	1.3	1.5	1.9	1.2	1	1.8	1.9	5.9	2.4	2.7	S	7.5	5.4	7.5	2.9	24
30	30	18.3	9.3	11.4	3.9	5.8	10	5.9	8.6	6.2	6	3.2	3	2.9	4.3	4.4	4.6	5	4.8	1.3	2.7	S	2.9	1.5	4.8	18.3	5.7	24
HOURLY MAX		51.7	51.4	56.8	99.3	74.4	77.1	93.5	100.9	83.1	42.8	19.3	14.0	142.1	10.2	13.1	23.4	17.8	35.9	37.3	81.5	79.2	72.9	72.4	42.4			
HOURLY AVG		13.9	12.9	15.6	14.6	17.0	19.7	19.6	18.7	15.4	8.8	5.8	3.9	9.5	4.0	4.3	4.2	5.3	6.2	7.5	15.6	14.9	20.2	14.0	12.9			

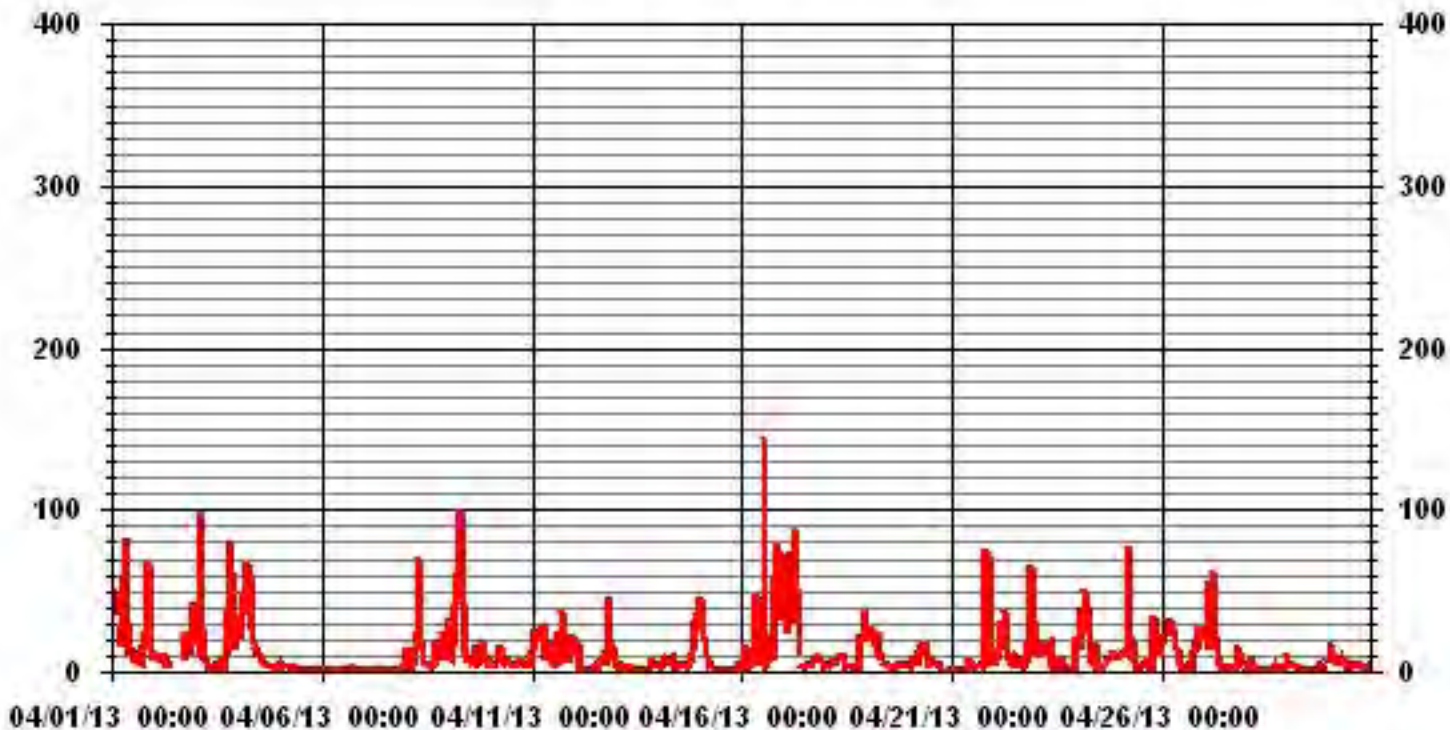
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	679
MAXIMUM INSTANTANEOUS VALUE:	142.1 PPB @ HOUR(S) 12 ON DAY(S) 16
IZS CALIBRATION TIME:	32 HRS
MONTHLY CALIBRATION TIME:	8 HRS
STANDARD DEVIATION:	16.65
OPERATIONAL TIME:	719 HRS

01 Hour Averages



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

April 2013

Distribution By % Of Samples

Logger Id : 35
 Site Name : LICA-ELK
 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	3.08	4.85	3.23	6.02	6.17	8.38	9.55	2.64	3.08	2.05	3.08	6.47	11.76	12.05	13.08	4.26	99.85
< 110.0	.00	.00	.00	.00	.14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14
< 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.08	4.85	3.23	6.02	6.32	8.38	9.55	2.64	3.08	2.05	3.08	6.47	11.76	12.05	13.08	4.26	

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	
< 50.0	21	33	22	41	42	57	65	18	21	14	21	44	80	82	89	29	679
< 110.0					1												1
< 210.0																	
>= 210.0																	
Totals	21	33	22	41	43	57	65	18	21	14	21	44	80	82	89	29	

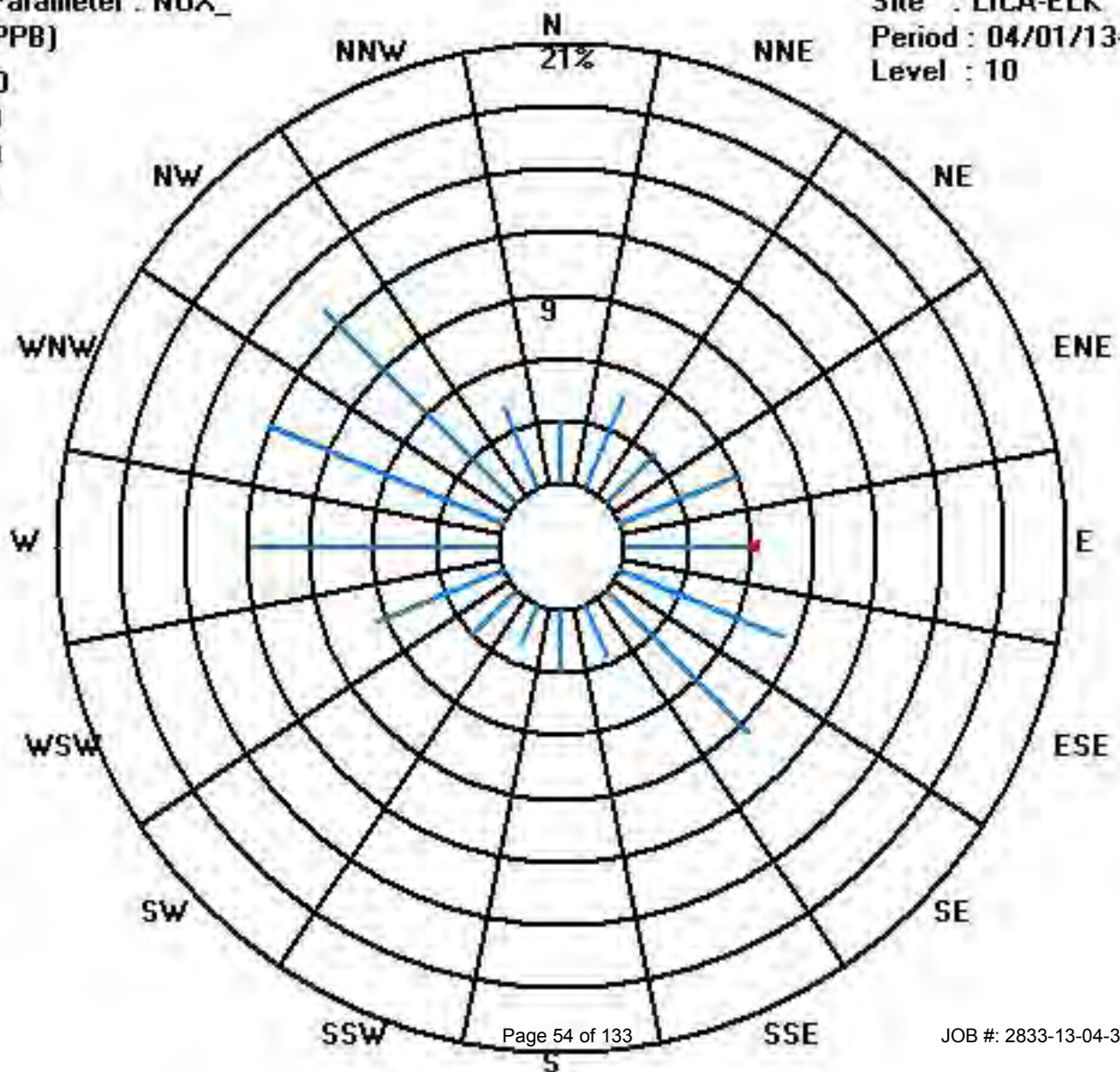
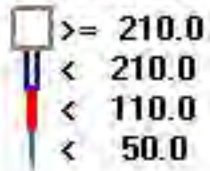
Calm : .00 %

Total # Operational Hours : 680

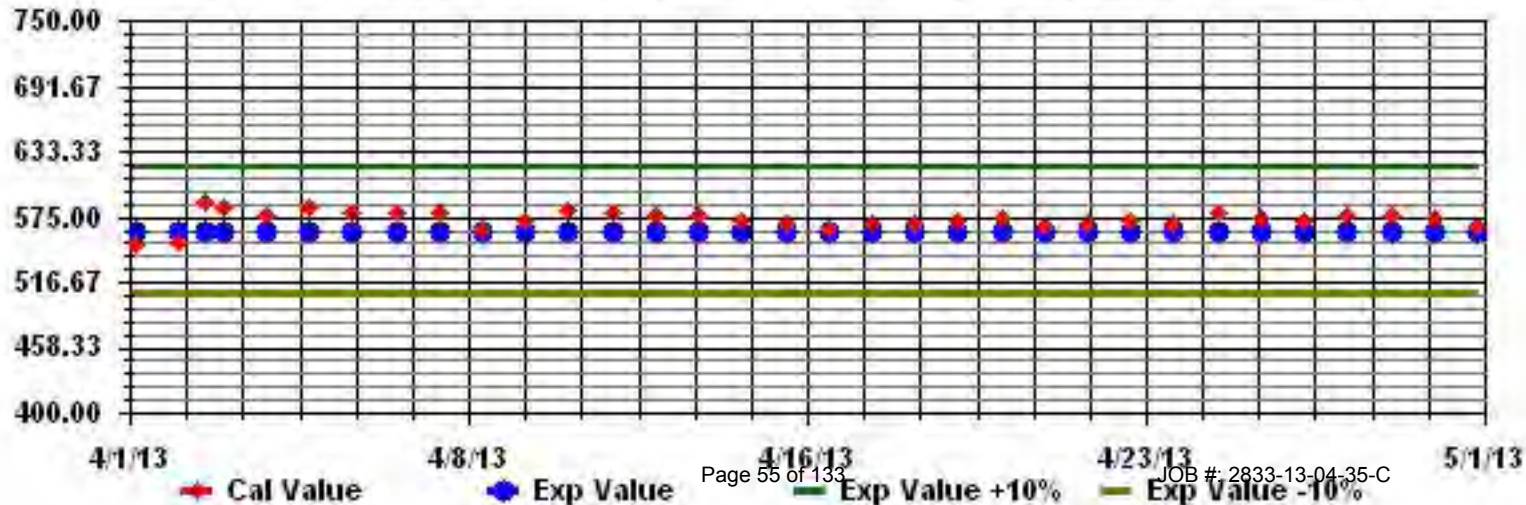
Class Limits (PPB)

Period : 04/01/13-04/30/13

Level : 10



Calibration Graph for Site: LICA35 Parameter: NOX_ Sequence: NO2 Phase: SPAll



Ozone

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

APRIL 2013

OZONE (O₃) hourly averages in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	32	20	30	S	37	32	32	23	30	38	46	48	51	53	54	55	57	55	49	43	43	30	43	45	57	41.1	24	
2	44	45	S	47	49	49	49	52	54	55	55	56	59	Y	62	65	65	64	58	58	55	47	42	32	65	52.8	23	
3	44	S	50	30	43	44	46	45	45	44	45	46	46	47	47	49	49	48	44	36	40	29	32	32	50	42.7	24	
4	S	23	16	10	7	5	11	19	31	38	43	48	51	53	55	58	56	55	54	53	53	53	51	S	S	58	38.3	24
5	50	48	47	45	44	44	45	45	46	47	48	49	49	49	48	48	48	47	46	45	41	44	S	S	39	50	46.2	24
6	38	36	35	35	35	34	34	34	34	35	36	38	39	42	44	44	43	41	37	38	37	S	S	38	41	44	37.7	24
7	42	41	41	39	39	38	40	43	46	49	52	55	53	54	54	52	51	51	51	49	S	S	46	44	41	55	46.6	24
8	38	37	39	40	39	34	30	27	31	C	C	37	40	43	45	47	S	47	44	S	S	39	42	46	45	47	39.5	24
9	31	42	42	38	27	13	13	18	26	34	47	49	50	54	56	57	58	57	S	S	54	51	50	50	49	58	42.0	24
10	50	50	50	48	45	44	42	40	41	41	42	45	48	50	51	51	51	S	S	48	46	45	43	41	41	51	45.8	24
11	41	32	30	29	30	33	24	30	37	37	39	46	50	53	53	52	S	S	48	46	44	48	45	45	38	53	40.4	24
12	43	36	34	33	40	45	44	45	46	48	49	49	51	52	52	S	S	54	52	51	47	39	37	38	39	54	44.5	24
13	47	54	54	53	52	52	52	52	52	51	51	51	S	51	51	51	52	53	52	46	43	42	45	42	45	54	50.4	24
14	47	44	41	39	38	36	35	35	41	46	49	49	50	S	50	51	51	51	49	46	41	27	20	30	51	42.0	24	
15	25	41	36	35	39	41	41	42	44	45	45	46	S	46	46	46	46	46	45	45	44	43	42	42	46	42.2	24	
16	43	42	40	40	41	37	36	37	36	41	44	S	47	48	50	50	43	43	47	37	25	24	17	24	50	38.8	24	
17	9	17	24	22	15	13	18	26	34	46	S	51	51	52	53	54	55	52	49	46	45	46	48	47	55	38.0	24	
18	45	45	45	42	41	40	39	37	37	S	40	42	42	43	49	52	51	50	50	42	33	28	20	25	52	40.8	24	
19	23	18	18	17	22	28	33	39	S	50	52	53	55	55	55	53	55	51	50	52	51	51	52	51	55	42.8	24	
20	49	46	46	42	38	35	34	S	29	33	37	37	36	36	37	40	41	42	40	43	48	49	45	45	49	40.3	24	
21	45	45	45	45	44	43	S	46	46	47	47	49	50	51	51	50	50	50	45	40	34	33	39	37	51	44.9	24	
22	37	40	36	31	25	S	23	35	37	39	45	52	53	53	54	55	54	56	54	47	26	9	22	32	56	39.8	24	
23	38	38	36	36	S	35	38	37	43	49	52	53	52	53	52	53	52	52	52	53	53	53	52	44	53	46.8	24	
24	41	40	39	S	26	17	33	42	46	49	51	53	54	55	56	54	53	51	46	40	39	37	34	56	44.0	24		
25	32	30	S	35	28	13	22	29	37	40	43	45	44	44	44	41	39	41	39	26	31	33	26	14	45	33.7	24	
26	26	S	10	13	18	9	15	21	21	26	36	41	42	43	46	45	46	47	42	40	36	27	33	31	47	31.0	24	
27	S	34	37	32	26	25	25	27	35	40	44	48	49	49	48	47	48	50	48	36	36	39	43	S	50	39.4	24	
28	39	29	24	22	21	22	29	32	31	32	32	31	33	36	39	40	41	41	39	37	37	36	S	S	37	41	33.0	24
29	38	32	29	31	33	30	31	31	33	33	34	34	36	36	37	38	37	37	35	38	40	S	S	36	31	40	34.3	24
30	34	37	34	33	22	23	28	28	30	30	30	30	31	31	30	31	30	31	31	31	31	S	30	28	25	37	29.9	24
HOURLY MAX	50	54	54	53	52	52	52	52	54	55	55	56	59	55	62	65	65	64	58	58	55	53	52	51				
HOURLY AVG	38.3	37.2	36.0	34.4	33.2	31.5	32.5	35.1	37.9	41.6	44.1	45.9	47.0	47.6	48.9	49.3	49.1	48.6	46.4	43.8	41.3	38.4	38.3	37.0				

STATUS FLAG CODES

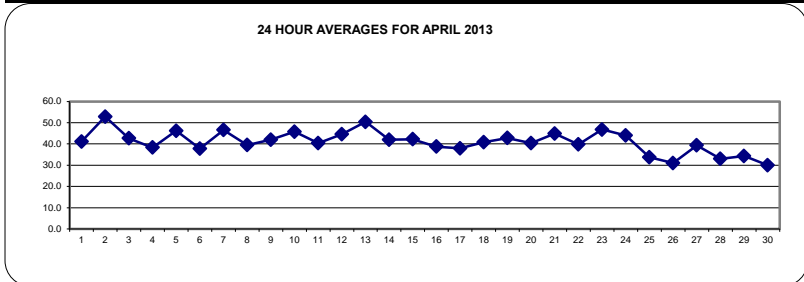
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT:

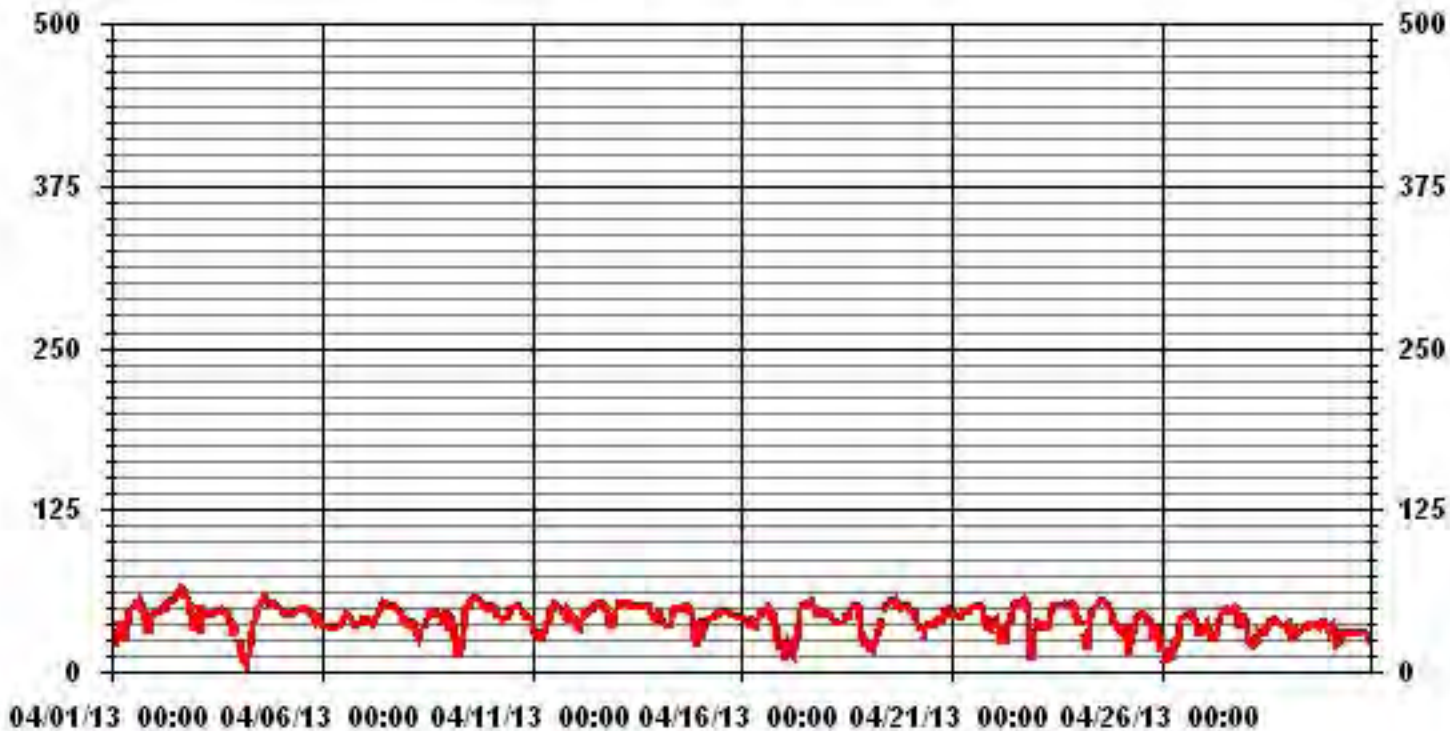
ALBERTA ENVIRONMENT: 1-HR 82 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	684					
MAXIMUM 1-HR AVERAGE:	65	PPB	@ HOUR(S)	15, 16	ON DAY(S)	2
MAXIMUM 24-HR AVERAGE:	52.8	PPB			ON DAY(S)	2
					VAR-VARIOUS	
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	719	HRS	
MONTHLY CALIBRATION TIME:	2	HRS	AMD OPERATION UPTIME:	99.9	%	
STANDARD DEVIATION:	10.29		MONTHLY AVERAGE:	40.99	PPB	



01 Hour Averages



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

APRIL 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	49	35	40	S	41	39	40	38	39	43	48	50	54	55	56	58	59	57	56	51	50	43	47	47	59	47.6	24	
2	47	48	S	50	51	52	51	54	55	56	57	58	61	Y	64	66	66	67	64	61	60	52	52	43	67	56.1	23	
3	46	S	55	52	50	48	49	46	46	45	46	47	47	48	50	50	50	51	53	47	47	37	39	37	55	47.2	24	
4	S	29	23	14	14	15	17	25	36	41	47	51	53	54	57	59	58	56	55	55	54	54	53	S	59	41.8	24	
5	51	50	47	47	45	46	47	46	47	48	49	50	50	50	48	49	49	48	47	46	46	47	S	41	51	47.6	24	
6	38	38	36	35	35	35	35	35	35	35	37	37	39	40	44	46	45	44	43	39	39	38	S	39	43	46	38.9	24
7	43	42	42	40	40	39	42	44	48	52	54	57	54	57	57	53	52	51	51	S	46	45	45	43	57	48.0	24	
8	42	42	42	41	40	38	35	34	C	C	C	C	42	45	47	C	C	48	48	S	46	46	48	47	48	48	43.0	24
9	43	45	45	44	36	27	21	24	28	43	49	50	52	56	57	58	59	58	S	56	54	52	52	51	59	46.1	24	
10	51	51	50	49	48	45	44	42	42	42	45	47	50	51	52	53	52	S	50	47	46	45	42	43	53	47.3	24	
11	44	39	36	35	39	38	28	39	38	39	46	49	51	54	55	56	S	54	51	50	49	49	49	49	56	45.1	24	
12	47	41	39	34	44	46	46	46	48	50	50	50	52	53	54	S	56	55	53	48	41	41	41	45	56	47.5	24	
13	52	56	55	54	53	53	52	53	53	53	53	52	51	52	S	52	51	54	54	53	50	49	45	47	56	52.0	24	
14	48	47	42	42	42	38	36	39	44	49	51	51	52	S	52	52	52	52	52	49	45	35	28	37	52	45.0	24	
15	42	46	44	44	42	43	42	43	45	46	46	47	S	47	P	47	47	46	46	45	44	44	43	43	47	44.6	23	
16	43	43	44	41	44	38	38	39	41	43	47	S	49	50	51	51	48	49	49	47	38	32	26	32	51	42.7	24	
17	27	30	30	28	26	23	25	29	39	49	S	52	52	53	54	57	57	55	52	52	48	49	49	48	57	42.8	24	
18	47	47	46	44	43	42	42	40	38	S	44	43	44	44	52	52	52	51	51	50	45	34	30	30	52	44.0	24	
19	28	21	23	22	26	33	37	42	S	52	53	54	57	57	59	56	57	55	52	53	53	53	54	53	59	45.7	24	
20	51	49	47	46	43	38	38	S	31	37	39	38	38	38	40	43	44	45	41	47	50	50	47	45	51	42.8	24	
21	46	46	46	45	45	43	S	46	47	47	48	50	51	52	52	51	51	51	50	48	41	39	41	39	52	46.7	24	
22	41	42	39	39	35	S	29	37	39	42	51	54	55	55	56	57	57	57	56	54	40	22	31	41	57	44.7	24	
23	42	42	41	40	S	41	41	41	47	51	53	54	54	54	54	54	53	53	54	53	53	54	53	52	54	49.3	24	
24	50	46	48	S	37	25	44	45	49	50	53	55	55	57	57	57	57	56	55	49	45	42	42	39	57	48.4	24	
25	37	34	S	40	34	24	29	34	39	42	45	46	46	46	44	44	42	41	39	36	37	33	22	46	38.3	24		
26	34	S	16	24	24	19	23	28	25	37	40	43	44	45	48	48	49	50	47	45	44	41	42	40	50	37.2	24	
27	S	43	43	43	40	35	37	34	40	44	47	49	50	50	49	50	52	53	50	45	40	44	45	S	53	44.7	24	
28	43	35	28	25	22	24	32	33	32	33	34	33	35	38	40	41	43	45	42	38	38	38	S	45	45	35.5	24	
29	40	36	33	33	34	31	32	32	34	34	35	35	38	37	38	39	38	38	38	41	42	S	45	34	45	36.4	24	
30	42	42	38	39	25	28	31	32	32	32	32	31	33	33	32	32	32	32	32	32	32	S	32	29	28	42	32.7	24
HOURLY MAX	52	56	55	54	53	53	52	54	55	56	57	58	61	57	64	66	66	67	64	61	60	54	54	53				
HOURLY AVG	43.4	41.6	39.9	38.9	37.9	36.1	36.7	38.6	40.6	44.2	46.4	47.7	48.6	49.1	50.8	51.1	51.0	50.8	49.3	48.1	46.1	43.1	42.5	41.6				

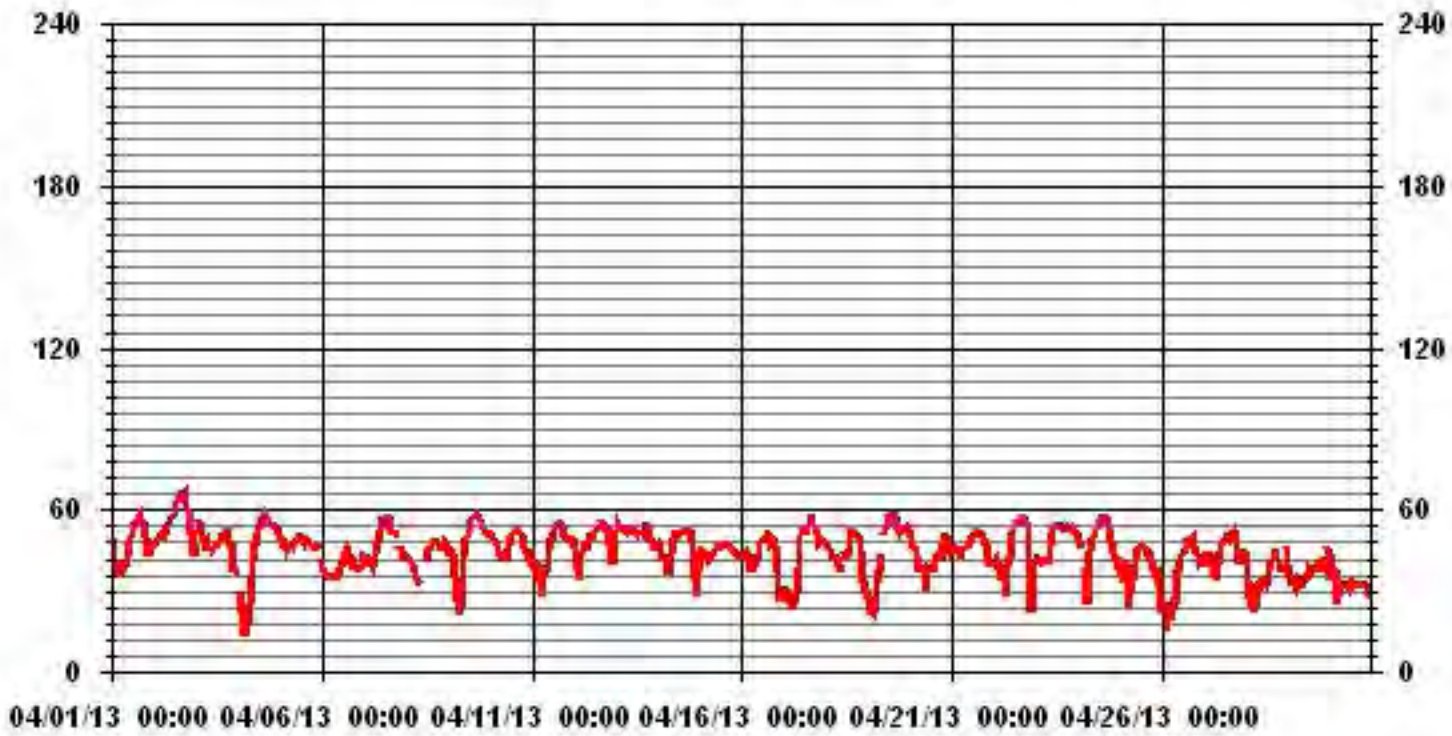
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	680					
MAXIMUM INSTANTANEOUS VALUE:	67	PPB	@ HOUR(S)	17	ON DAY(S)	2
I/ZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	718	HRS	
MONTHLY CALIBRATION TIME:	6	HRS				
STANDARD DEVIATION:	8.84					

01 Hour Averages



— LICA35 O3MAX PPB

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

April 2013

Distribution By % Of Samples

Logger Id : 35
Site Name : LICA-ELK
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	2.77	3.65	2.77	4.97	5.26	6.43	3.21	1.60	1.75	1.31	1.90	5.70	10.23	11.25	10.52	3.80	77.19
< 110	.29	1.16	.43	1.02	1.02	1.90	7.16	1.16	1.31	.73	1.02	.58	1.31	.73	2.48	.43	22.80
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.07	4.82	3.21	5.99	6.28	8.33	10.38	2.77	3.07	2.04	2.92	6.28	11.54	11.98	13.01	4.23	

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	
< 50	19	25	19	34	36	44	22	11	12	9	13	39	70	77	72	26	528
< 110	2	8	3	7	7	13	49	8	9	5	7	4	9	5	17	3	156
< 210																	
>= 210																	
Totals	21	33	22	41	43	57	71	19	21	14	20	43	79	82	89	29	

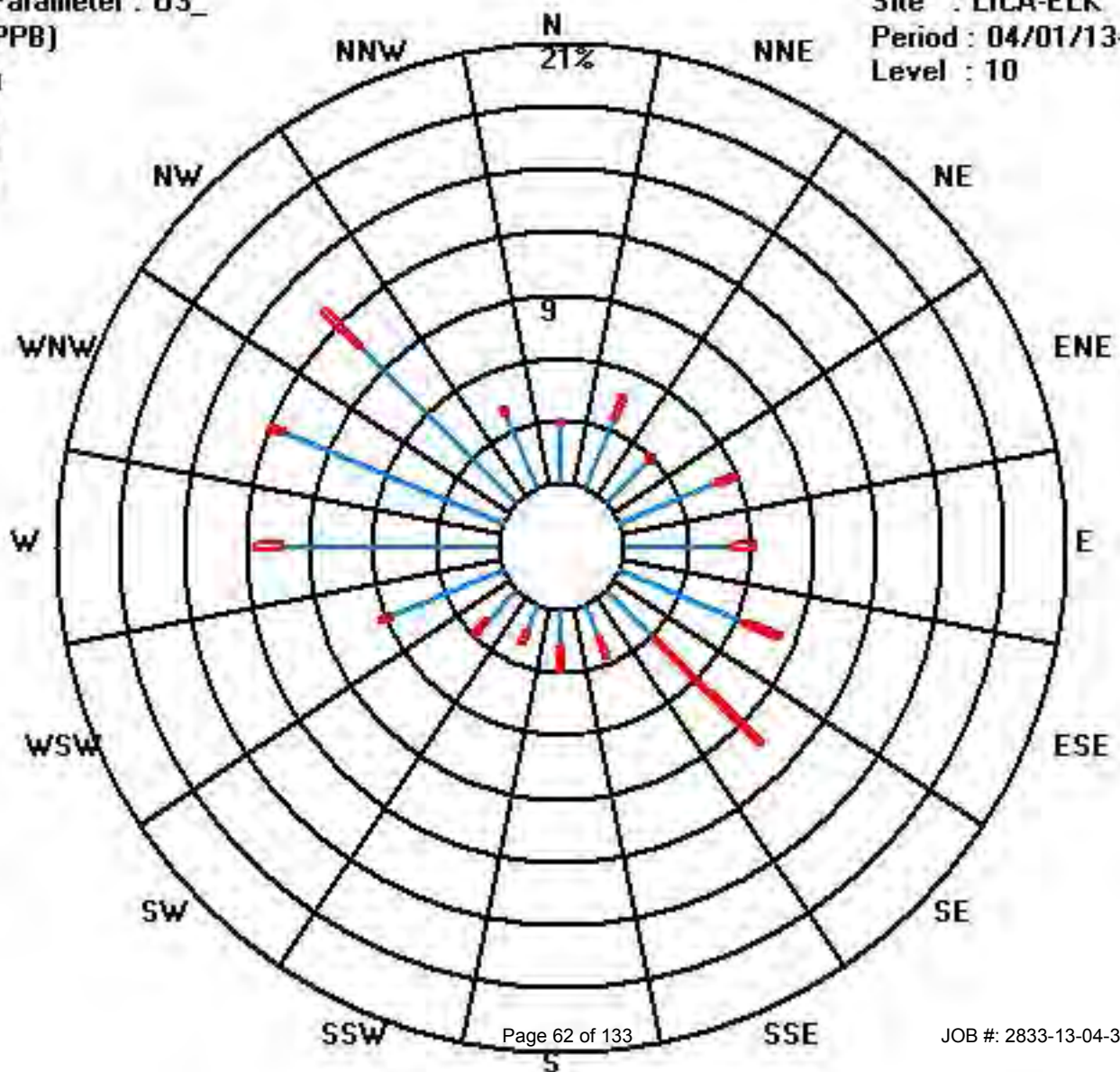
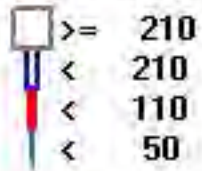
Calm : .00 %

Total # Operational Hours : 684

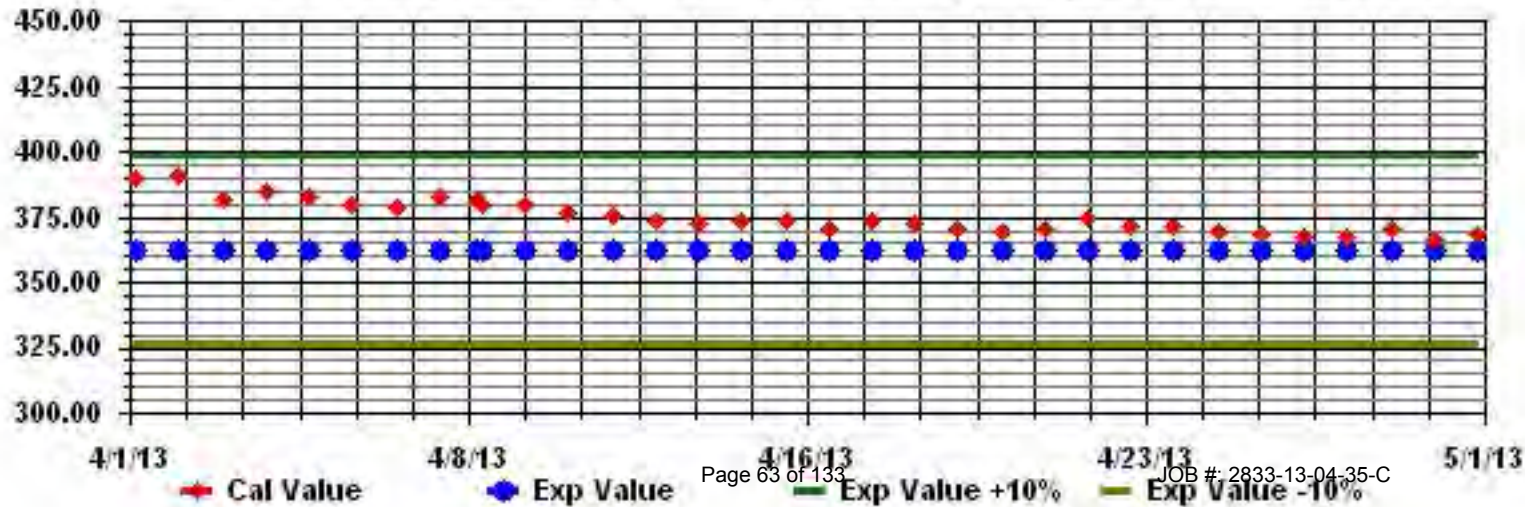
Class Limits (PPB)

Period : 04/01/13-04/30/13

Level : 10



Calibration Graph for Site: LICA35 Parameter: 03_ Sequence: 03 Phase: SPAll



Total Hydrocarbons

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

APRIL 2013

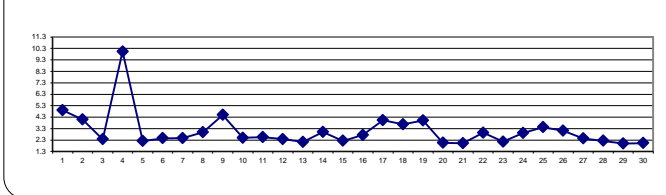
TOTAL HYDROCARBONS (THC) hourly averages in ppm

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	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	6.52	9.77	8.96	S	5.1	3.94	3.92	5.91	6.52	3.82	3.43	3.48	2.22	1.98	1.99	2.59	2.5	2.77	5.19	7.36	4.54	7.03	8.02	5.28	9.8	4.9	24	
2	5.58	6.01	S	4.75	4.63	4.16	4.03	3.61	2.93	2.41	2.2	2.83	3.13	Y	2.21	2.28	3.11	2.72	3.72	5.12	4.88	7.66	6.03	6.31	7.7	4.1	23	
3	3.55	S	1.84	2.03	2.27	2.53	1.85	1.8	1.81	1.85	1.84	1.84	1.8	1.81	1.82	1.79	1.81	1.81	1.89	2.1	2.51	3.38	3.87	6.71	6.7	2.4	24	
4	S	8.29	9.21	15.32	14.69	15.9	12.2	10.23	7.08	4.92	2.51	X	X	Y	S	X	X	X	X	X	X	X	X	X	X	15.9	10.0	12
5	X	X	X	X	X	X	X	X	X	X	X	Y	S	2.09	2.1	2.13	2.14	2.23	2.21	2.34	2.26	2.26	S	X	X	2.4	2.2	12
6	2.38	2.42	2.48	2.47	2.5	2.58	2.61	2.69	2.66	2.56	2.44	2.39	2.29	2.24	2.22	2.24	2.4	2.57	2.56	2.45	2.48	S	2.5	2.4	2.7	2.5	24	
7	2.39	2.42	2.36	2.34	2.39	2.59	2.57	2.56	2.52	2.45	2.4	2.35	2.3	2.3	2.27	2.29	2.26	2.27	2.36	2.47	S	2.79	2.93	3.27	3.3	2.5	24	
8	3.38	3.51	3.42	3.1	3.06	3.25	3.55	4.05	4.7	C	C	C	C	2.17	1.98	1.94	Y	Y	S	S	S	2.47	1.99	2.15	4.7	3.0	22	
9	3.96	2.64	2.49	3.08	10.4	14.46	S	S	8.39	7.58	3.65	3.04	2.46	2.13	2.35	2.23	2.32	2.31	S	2.34	5.29	4.92	5.49	2.8	14.5	4.5	24	
10	2.78	2.74	2.37	2.53	4.31	3.55	3.08	3.39	Y	S	S	2.04	2.16	2.27	2	1.82	2.37	S	2.42	2.11	1.86	1.78	1.98	2.18	4.3	2.5	23	
11	1.72	2.3	2.85	3.57	3.21	2.15	S	4.25	2.09	2.1	3.7	3.29	2.83	2.51	2.38	2.37	S	2.23	2.05	2.05	1.97	1.92	2.17	2.3	4.3	2.5	24	
12	1.96	2.07	1.96	1.95	1.93	1.87	1.87	1.88	1.83	1.77	1.76	1.78	1.88	1.89	2.05	S	2.8	2.37	2.06	4.09	3.58	5.04	3.16	3.18	5.0	2.4	24	
13	2.78	2.35	2.05	2.11	2.05	1.92	1.89	1.9	1.81	1.65	1.66	1.63	1.67	1.64	S	1.56	1.6	1.68	1.66	1.8	3.26	3.15	4.77	2.61	4.8	2.1	24	
14	2.41	2.78	2.83	2.73	2.92	2.57	2.35	2.56	3.57	2.68	2.07	2.02	2.54	S	2.36	2.41	2.26	1.99	2.06	2.36	2.72	6.12	7.15	5.41	7.2	3.0	24	
15	5.73	2.73	2.58	2.4	2.39	2.54	2.54	2.36	2.03	1.86	1.73	1.74	S	1.73	1.74	1.78	1.8	1.76	1.81	1.88	1.88	2.01	2.13	2.22	5.7	2.2	24	
16	2.2	2.25	2.38	2.12	2.31	2.27	2.27	2.28	2.31	2.33	2.21	S	1.9	1.86	1.96	1.95	2.05	2.27	2.11	2.91	5.61	4.92	5.7	4.8	5.7	2.7	24	
17	9.2	6.1	6.7	6.3	5.74	5.94	4.89	4.41	3.24	3.11	S	2.07	1.91	2.07	3.54	2.33	2.68	4.55	5.49	2.72	2.47	2.47	2.36	2.6	9.2	4.0	24	
18	2.59	3.34	2.63	2.73	3.45	2.44	2.35	2.67	3.08	S	2.07	1.79	2.01	2.07	1.88	1.78	1.74	1.76	1.7	2.57	10.22	9.27	11.3	9.22	11.3	3.7	24	
19	9.72	9.92	7.49	8.9	7.26	4.85	4.62	4.2	S	3.29	2.88	1.87	1.72	1.78	1.81	1.63	2.27	2.31	2.33	2.14	2.55	3.15	3.1	2.64	9.9	4.0	24	
20	2.8	2.31	2.46	3.56	2.95	3.25	2.8	S	2.67	1.58	1.55	1.56	1.61	1.51	1.5	1.51	X	1.51	1.57	1.61	1.69	1.71	1.77	1.78	3.6	2.1	23	
21	1.79	1.79	1.8	1.82	1.88	1.97	S	1.87	1.89	1.92	1.85	1.83	1.77	1.74	1.71	1.73	1.74	1.73	1.77	2.07	2.93	3.43	2.71	2.74	3.4	2.0	24	
22	2.56	2.12	2.25	2.68	3.45	S	4.33	2.88	2.17	2.16	1.89	1.75	1.76	1.78	1.85	1.8	1.85	1.74	1.78	2.09	3.66	6.74	8.27	6.21	8.3	2.9	24	
23	4.08	3.59	3.86	3.82	S	3.15	2.26	2.36	1.92	1.7	1.72	1.63	1.62	1.59	1.59	1.57	1.56	1.55	1.56	1.58	1.61	1.62	1.68	1.85	4.1	2.2	24	
24	2.01	2.21	2.64	S	5.26	4.62	3.62	3.35	2.07	1.71	1.77	1.73	1.84	2.07	1.89	1.64	2.73	4.27	2.78	3.69	3.69	3.5	4.03	4.08	5.3	2.9	24	
25	3.24	3.14	S	2.9	3.65	7.96	5.9	2.93	2.18	2.06	1.96	1.97	2.02	2.03	2.05	S	2.08	2.07	2.03	2.69	2.67	2.82	4.45	12.77	12.8	3.4	24	
26	11.16	S	4.76	6.13	3.13	3.89	3.59	2.23	2.31	2.28	1.65	1.5	X	X	X	1.53	1.83	1.65	1.8	2.13	1.67	4.18	2.61	2.39	11.2	3.1	21	
27	S	2.03	1.75	3.31	3.67	2.63	3.15	5.2	3.45	3.38	2.02	1.67	1.95	2.12	2.11	1.91	1.55	X	X	1.64	1.8	1.78	1.68	S	5.2	2.4	22	
28	1.98	2.07	2.12	2.13	2.16	2.2	2.19	2.15	2.14	2.13	2.12	2.13	2.11	2.07	2.07	2.07	2.12	2.17	2.35	2.46	2.36	2.63	S	3.44	3.4	2.2	24	
29	2.1	2.76	2.94	2.67	2.12	2.04	1.88	1.81	1.67	1.7	1.66	1.75	1.77	1.71	1.68	1.71	1.74	1.85	2.04	1.87	1.79	S	2	2.68	2.9	2.0	24	
30	2.23	2.16	3.04	2.22	2	1.91	1.87	1.88	1.88	1.86	1.86	1.87	1.88	1.9	1.9	1.94	1.95	1.93	1.96	1.93	S	2.12	2.21	2.32	3.0	2.0	24	
HOURLY MAX	11.2	9.9	9.2	15.3	14.7	15.9	12.2	10.2	8.4	7.6	3.7	3.5	3.1	2.5	3.5	2.6	3.1	4.6	5.5	7.4	10.2	9.3	11.3	12.8				
HOURLY AVG	3.8	3.5	3.4	3.7	4.0	4.0	3.4	3.2	3.0	2.6	2.2	2.1	2.0	2.0	2.0	1.9	2.1	2.2	2.4	2.6	3.2	3.7	3.9	3.9				

STATUS FLAG CODES

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

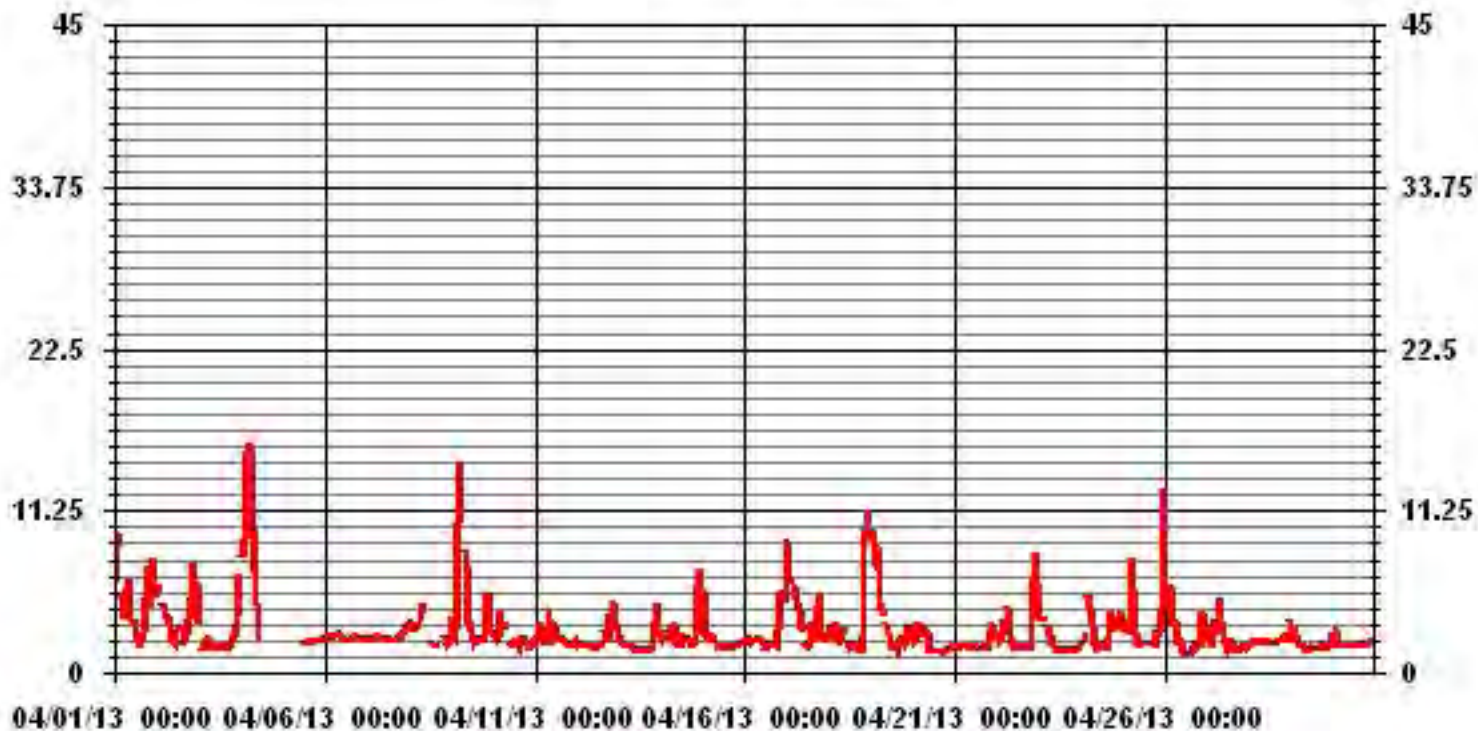
24 AVERAGES FOR APRIL 2013



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	641					
MAXIMUM 1-HR AVERAGE:	15.9	PPM	@ HOUR(S)	5	ON DAY(S)	4
MAXIMUM 24-HR AVERAGE:	10.0	PPM			ON DAY(S)	4
IZS CALIBRATION TIME:	41	HRS	OPERATIONAL TIME:	686	HRS	
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	95.3	%	
STANDARD DEVIATION:	1.97		MONTHLY AVERAGE:	2.97	PPM	

01 Hour Averages



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

APRIL 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		9.4	13.9	12.1	S	6.8	4.3	4.5	8.6	9.2	5	4.9	4.3	2.7	2.3	2.5	3	2.8	4.7	13.3	18.4	6.5	17.5	20.8	19.9	20.8	8.6	24	
2		7.3	7.1	S	7.3	10	6.2	8.8	6.1	4.7	2.8	5.4	6.8	6	Y	3.1	2.9	7.3	6	10.2	12	7.9	12.2	7.9	8	12.2	7.1	23	
3		4.3	S	2.4	2.6	2.8	3	2.3	1.9	1.9	2	1.9	1.9	1.9	1.9	1.8	1.8	1.9	2.2	2.8	2.9	4.8	4.6	50.2	50.2	4.6	24		
4		S	9.3	10.9	36.3	22.4	20.1	15	21.8	8.6	6.8	3.9	X	X	Y	S	X	X	X	X	X	X	X	X	X	X	36.3	15.5	12
5		X	X	X	X	X	X	X	X	X	X	X	Y	S	S	2.2	2.2	2.2	2.3	2.3	2.4	2.4	2.3	S	2.4	2.4	2.3	12	
6		2.4	2.5	2.5	2.6	2.6	2.6	2.7	2.7	2.7	2.7	2.5	2.5	2.4	2.3	2.3	2.3	3.5	3.3	3.2	2.9	2.6	S	2.6	2.5	3.5	2.6	24	
7		2.5	2.5	2.4	2.4	2.4	2.7	2.7	2.7	2.6	2.5	2.5	2.5	2.4	2.4	2.3	2.3	2.3	2.3	2.4	2.6	S	2.9	3.2	3.4	3.4	2.6	24	
8		3.8	4.1	3.8	3.2	3.1	3.5	4.2	5.2	C	C	C	C	C	2.7	2.1	S	Y	Y	S	S	S	S	2.9	2.2	3.3	5.2	3.4	22
9		5.7	2.8	2.7	4.3	34.4	43.2	S	S	10.8	9.8	7.3	8	5.3	2.4	8	4	4.2	5.4	S	5.1	12.1	10.6	14.5	3.1	43.2	9.7	24	
10		3.4	3.6	2.7	4.5	7.1	7	6.5	7.5	Y	S	S	S	3.6	4.9	4.4	5	5.6	S	4.6	3.9	2.3	2.4	2.1	2.9	7.5	4.4	23	
11		2	2.6	3.4	5	4.4	2.9	S	S	2.4	2.3	4.7	3.7	3.1	2.7	2.6	3.5	S	2.7	2.5	2.2	2.1	2.2	2.5	2.8	5	3.0	24	
12		2.2	2.2	2.2	2	2	1.9	1.9	1.9	1.9	1.8	1.8	1.9	2.3	2.4	4.7	S	16	6.1	2.8	19.1	11.4	9	4.5	4.5	19.1	4.6	24	
13		3.5	4.8	3.6	2.4	2.4	2.6	2.6	2.4	2.3	1.8	1.7	1.7	1.7	1.7	S	1.6	1.8	1.8	1.7	2	6.8	8.4	14	2.9	14	3.3	24	
14		2.6	3.4	3.4	3	3.5	3	2.6	3	4.9	3.3	3.4	3.5	9.3	S	4.5	7.6	5.8	3.8	3.2	3.2	3.9	7.6	8.2	6.8	9.3	4.5	24	
15		7.7	3.3	2.9	2.5	2.5	2.6	2.6	2.5	2.2	2	1.8	1.8	S	1.8	P	1.8	1.9	1.8	1.9	2	2	2.1	2.2	2.3	7.7	2.5	23	
16		2.3	2.4	2.8	2.3	2.8	2.6	2.5	2.5	2.9	2.4	2.3	S	2	1.9	2.3	2.5	2.8	2.7	2.7	4	7.5	5.5	9.6	8.3	9.6	3.5	24	
17		11.8	7.4	7.8	7.2	7.5	7.4	5.9	6.2	4.1	4	S	3.4	3.9	7.5	11.1	5.3	8.6	9.7	13.2	4.6	3.3	4.2	2.5	2.8	13.2	6.5	24	
18		3	7	5.9	7.9	7.3	5.5	3.4	5.3	3.6	S	2.7	1.9	2.1	2.2	2	1.9	1.8	1.8	1.8	7	40.3	16.7	26.6	15.2	40.3	7.5	24	
19		22.7	14.4	12.9	21.2	10.1	7.6	7.6	7.9	S	7	4.8	3.8	3.3	3.3	3.6	2.7	5	4.3	4	3.8	6.7	5.9	7.1	5.3	22.7	7.6	24	
20		4.8	3.2	3.3	7.2	3.9	6.4	4.3	S	4.3	1.9	1.7	1.6	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.8	1.8	1.9	7.2	2.7	24
21		1.9	1.8	1.9	1.9	2	2	S	1.9	1.9	2	2	1.9	1.9	1.8	1.8	1.8	1.9	1.9	1.9	1.9	3.3	3.5	4.2	3.1	3.3	4.2	2.2	24
22		3	2.5	2.5	3.3	4.8	S	4.9	3.9	2.5	2.5	2.2	1.8	1.9	1.9	2	1.9	2.1	1.8	1.9	2.6	5.4	11	9.3	8.4	11	3.7	24	
23		4.8	4	5	4.6	S	4.3	2.4	2.7	2.2	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	2.5	5	2.4	24
24		2.4	2.5	3.8	S	13.9	5.4	4.8	6.5	2.5	1.8	2.1	2.8	5.6	3.9	3.4	1.9	8.8	9.6	9.8	17.4	9.6	5.4	6.6	12.8	17.4	6.2	24	
25		4	3.3	S	3.9	8.2	12.7	10.8	4	2.7	2.1	2	2.1	2.2	2.2	2.2	S	S	2.2	2.1	3.7	3	4	7.3	28.5	28.5	5.4	24	
26		30.4	S	5.2	10.5	4	5.5	4.4	4.6	2.8	2.9	1.9	1.6	1.6	1.5	1.5	1.8	2.9	1.8	2.3	2.9	2	20.8	4.6	6.1	30.4	5.4	24	
27		S	2.6	2.5	29.3	8.9	3.4	19	20.7	6	6.3	2.6	2.3	2.8	4.6	5.4	4.4	1.9	1.7	1.5	2	2	2.1	1.9	S	29.3	6.1	24	
28		2.1	2.2	2.3	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.4	2.2	2.1	2.1	2.1	2.7	2.3	2.6	2.9	2.6	4	S	7.1	7.1	2.6	24	
29		2.8	5.1	4	4.3	2.5	2.6	2	1.9	1.7	1.7	1.7	2	2.1	2.1	1.8	2	2.1	2.8	3.7	2.3	2.9	S	2.7	3	5.1	2.6	24	
30		3.1	3	5.5	2.5	2.2	2.1	2	2.1	2	1.9	1.9	1.9	1.9	2	2	2	2	2	2	2	2	S	2.2	2.3	2.5	5.5	2.3	24
HOURLY MAX		30.4	14.4	12.9	36.3	34.4	43.2	19.0	21.8	10.8	9.8	7.3	8.0	9.3	7.5	11.1	7.6	16.0	9.7	13.3	19.1	40.3	20.8	26.6	50.2				
HOURLY AVG		5.8	4.6	4.5	6.9	6.7	6.3	5.1	5.3	3.7	3.2	2.8	2.8	3.0	2.6	3.2	2.8	3.9	3.3	3.8	5.0	6.0	6.5	6.5	8.0				

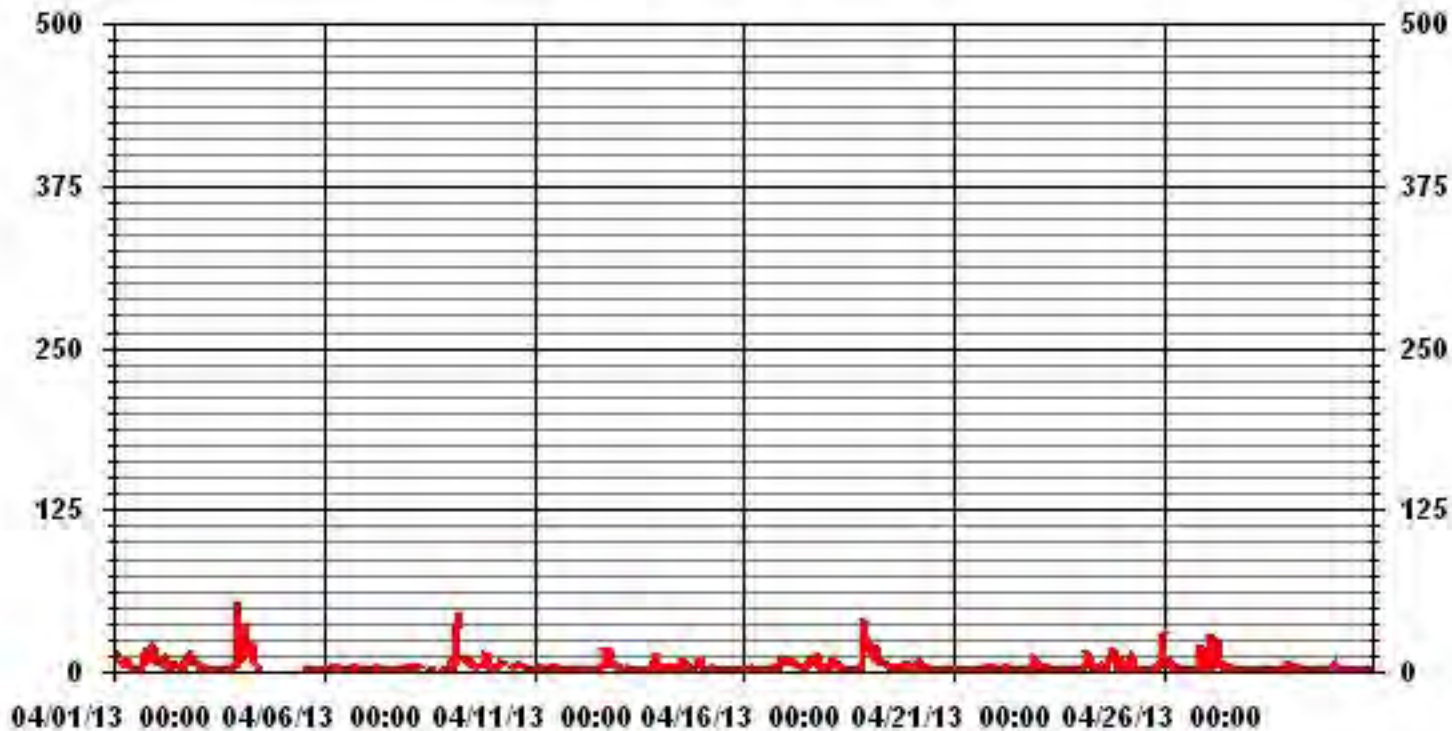
STATUS FLAG CODES

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:	640					
MAXIMUM INSTANTANEOUS VALUE:	50.2	PPM	@ HOUR(S)	23	ON DAY(S)	3
IZS CALIBRATION TIME:	46	HRS	OPERATIONAL TIME:	691	HRS	
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION:	5.22					

01 Hour Averages



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

April 2013

Distribution By % Of Samples

Logger Id : 35
 Site Name : LICA-ELK
 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
< 3.00	2.65	4.83	3.43	4.83	4.52	4.05	5.14	2.49	1.87	.93	2.02	3.74	7.80	9.36	11.85	4.05	73.63
< 10.00	.62	.15	.00	.46	1.24	3.27	4.05	.31	1.24	1.09	1.09	2.18	4.21	2.65	1.56	.46	24.64
< 50.00	.00	.15	.00	.15	.15	.46	.15	.15	.15	.00	.00	.31	.00	.00	.00	.00	1.71
>= 50.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.27	5.14	3.43	5.46	5.92	7.80	9.36	2.96	3.27	2.02	3.12	6.24	12.01	12.01	13.41	4.52	

Calm : .00 %

Total # Operational Hours : 641

Distribution By Samples

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 3.00	17	31	22	31	29	26	33	16	12	6	13	24	50	60	76	26	472
< 10.00	4	1		3	8	21	26	2	8	7	7	14	27	17	10	3	158
< 50.00		1		1	1	3	1	1	1			2					11
>= 50.00																	
Totals	21	33	22	35	38	50	60	19	21	13	20	40	77	77	86	29	

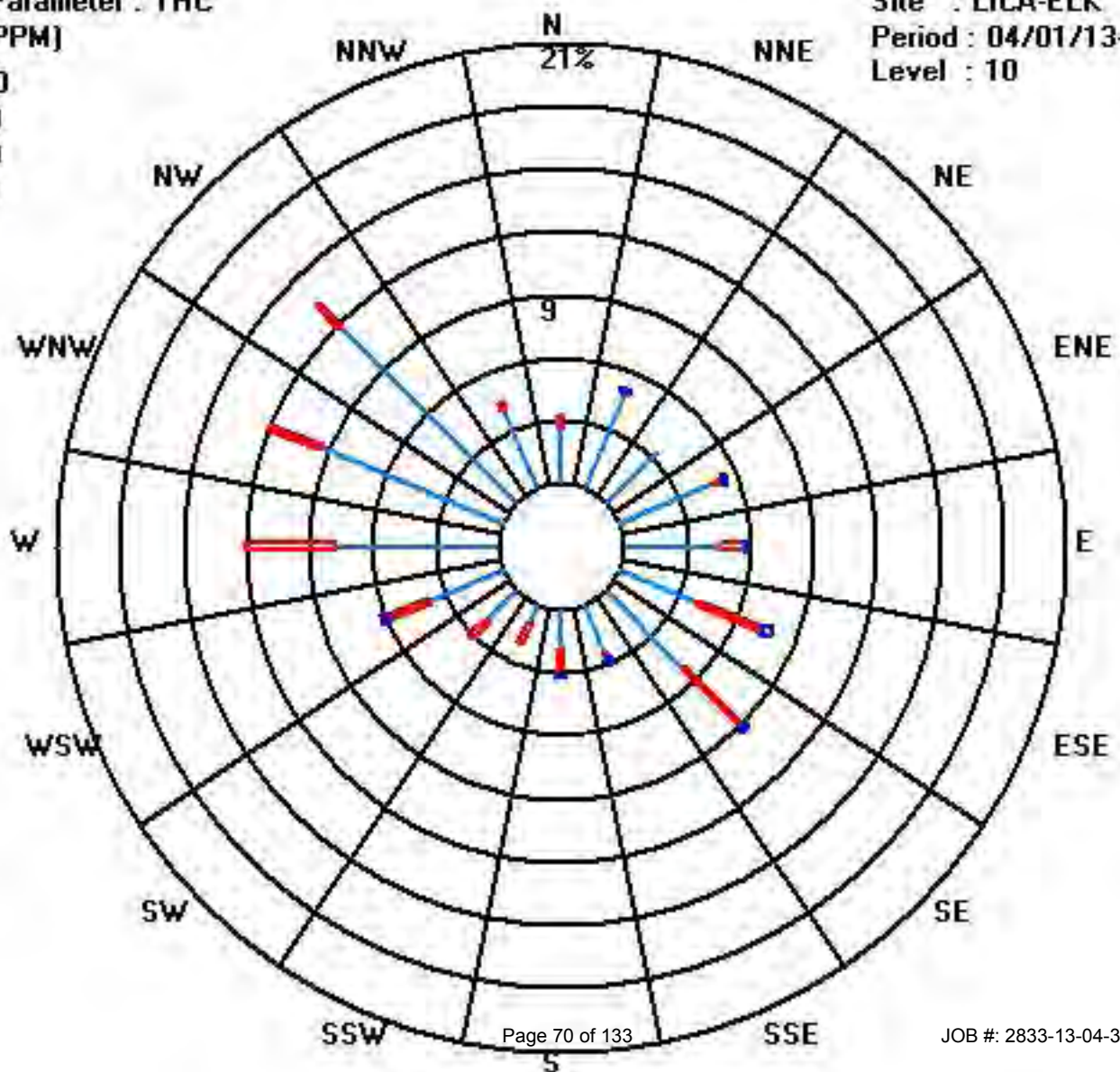
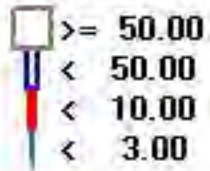
Calm : .00 %

Total # Operational Hours : 641

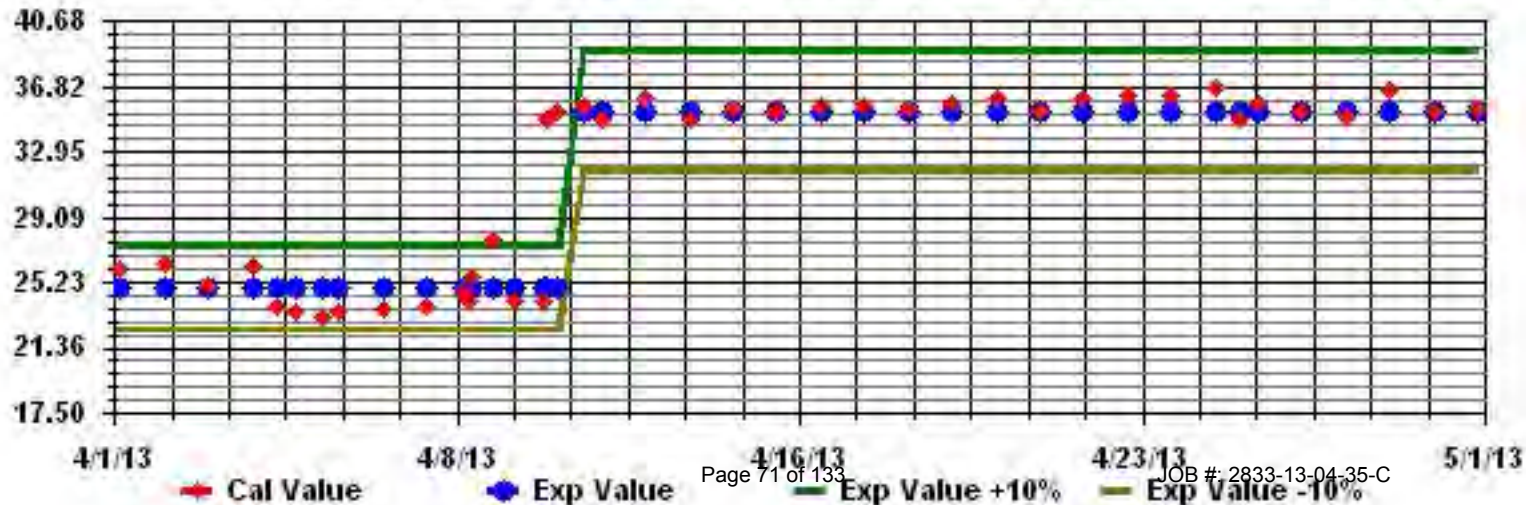
Class Limits (PPM)

Period : 04/01/13-04/30/13

Level : 10



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



Total Hydrocarbons (55i)

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

APRIL 2013

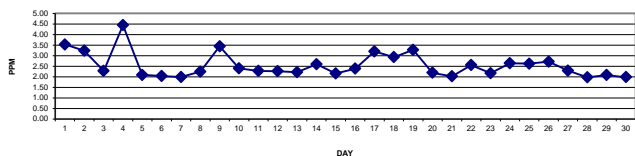
TOTAL HYDROCARBONS (55i) hourly averages in ppm

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	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	4.18	5.81	5.26	S	3.51	2.88	2.89	4.16	4.26	3	2.75	2.79	2.14	2.06	2.05	2.39	2.33	2.5	3.87	5.01	3.52	4.9	5.12	3.89	5.81	3.53	24
2	2	3.9	4.13	S	3.4	3.38	3.17	3.03	2.84	2.48	2.25	2.22	2.44	2.62	Y	2.22	2.27	2.93	2.54	3.26	3.88	3.86	5.45	4.42	4.58	5.45	3.24	23
3	3	3.01	S	2.08	2.17	2.28	2.42	2	1.97	1.94	1.95	1.93	1.94	1.95	1.95	1.96	1.95	1.96	1.97	2.02	2.11	2.29	2.74	2.86	4.88	4.88	2.28	24
4	4	S	5.47	5.9	10.35	8.98	9.24	7.43	6.41	5.07	4.27	3.41	2.98	3.09	3.21	2.79	2.5	2.4	2.35	2.36	2.44	2.47	2.26	2.48	S	10.35	4.45	24
5	5	2.25	2.16	2.15	2.24	2.26	2.28	2.12	2.17	2.09	2.13	2.02	1.99	2.01	2.01	2.01	2.01	2.02	2.02	2.02	2.1	2.03	2	S	2	2.28	2.09	24
6	6	1.98	1.97	1.98	1.99	2	2.05	2.05	2.03	2.04	2.01	2	2.03	2.02	2	2.02	2.03	2.12	2.2	2.2	2.06	2.08	S	2.08	2.02	2.20	2.04	24
7	7	2.02	2.01	1.98	1.97	1.97	2.04	1.99	1.97	1.96	1.94	1.95	1.97	1.97	1.97	1.95	1.96	1.96	1.96	1.98	1.99	S	2	2.07	2.27	2.27	1.99	24
8	8	2.31	2.34	2.29	2.09	2.07	2.18	2.34	2.63	2.97	2.52	2.2	2.06	2.01	C	C	C	C	1.97	2.15	S	S	2.23	2.01	2.09	2.97	2.25	24
9	9	3.1	2.31	2.24	2.62	7.3	9.5	S	S	5.44	4.84	2.84	2.57	2.26	2.13	2.27	2.21	2.29	2.27	S	2.25	3.83	3.72	3.98	2.45	9.50	3.45	24
10	10	2.5	2.48	2.29	2.41	3.35	2.95	2.75	2.83	2.33	2.14	2.2	2.15	2.3	2.4	2.19	2.14	2.46	S	2.48	2.26	2.11	2.08	2.19	2.31	3.35	2.40	24
11	11	2.07	2.38	2.69	3.12	2.78	2.24	3.14	3.37	2.2	2.19	2.27	1.99	1.99	1.95	1.96	2.03	S	2.03	1.93	1.96	1.94	1.91	2.04	2.16	3.37	2.28	24
12	12	1.97	2.03	2	1.97	1.97	1.95	1.94	1.96	1.94	1.92	1.91	1.92	1.99	2	2.07	S	2.61	2.35	2.12	3.13	3.08	3.62	2.94	2.77	3.62	2.27	24
13	13	2.54	2.37	2.2	2.18	2.19	2.11	2.09	2.09	2.05	1.98	1.97	1.96	1.95	1.94	S	1.92	1.92	1.95	1.94	1.99	2.64	2.8	3.76	2.44	3.76	2.22	24
14	14	2.31	2.44	2.55	2.43	2.51	2.42	2.24	2.3	2.91	2.51	2.12	2.1	2.31	S	2.2	2.3	2.23	2.09	2.09	2.27	2.3	4.07	4.95	4.05	4.95	2.60	24
15	15	4.29	2.52	2.31	2.23	2.21	2.26	2.27	2.21	2.07	1.98	1.92	1.91	S	1.91	1.67	1.9	1.91	1.92	1.93	1.96	1.98	2.02	2.09	2.13	4.29	2.16	24
16	16	2.12	2.13	2.18	2.06	2.11	2.1	2.07	2.07	2.13	2.16	2.13	S	1.94	1.92	1.99	1.98	2.01	2.18	2.05	2.41	3.89	3.67	4.14	3.44	4.14	2.39	24
17	17	6.08	4.45	4.67	4.51	4.07	4.19	3.62	3.23	2.78	2.67	S	2.13	2.01	2.05	2.9	2.27	2.36	3.47	4.26	2.47	2.33	2.39	2.26	2.37	6.08	3.20	24
18	18	2.41	2.79	2.45	2.39	2.98	2.31	2.31	2.45	2.66	S	2.2	1.99	2.12	2.14	2.04	1.98	1.96	1.95	1.95	2.08	5.03	5.8	6.81	6.6	6.81	2.93	24
19	19	6.35	6.58	5.24	5.78	5.28	3.84	3.42	3.37	S	2.87	2.63	2.16	2	2.05	2.06	1.96	2.28	2.31	2.41	2.23	2.45	2.74	2.83	2.52	6.58	3.28	24
20	20	2.62	2.41	2.44	2.96	2.83	2.93	2.64	S	2.75	2	1.95	1.96	1.97	1.93	1.9	1.91	1.9	1.89	1.9	1.88	1.88	1.91	1.9	2.96	2.19	24	
21	21	1.9	1.9	1.91	1.92	1.93	1.98	S	1.92	1.91	1.92	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	2.04	2.44	2.73	2.41	2.4	2.73	2.02	24
22	22	2.3	2.06	2.11	2.35	2.61	S	3.18	2.56	2.14	2.13	2	1.92	1.93	1.94	1.95	1.94	1.98	1.94	1.94	2.07	2.89	4.58	5.53	4.66	5.53	2.55	24
23	23	3.31	2.94	2.94	3.08	S	2.73	2.19	2.23	2.08	1.93	1.94	1.91	1.89	1.89	1.89	1.88	1.88	1.88	1.88	1.88	1.89	1.89	1.91	1.96	3.31	2.17	24
24	24	2.04	2.12	2.31	S	3.69	3.72	3.15	2.85	2.21	1.97	1.98	1.96	2.03	2.21	2.1	1.99	2.5	3.54	2.56	3.23	3.11	2.98	3.33	3.26	3.72	2.65	24
25	25	2.97	2.83	S	2.55	2.63	5.27	4.19	2.45	2	1.92	1.89	1.87	1.9	1.91	1.9	1.92	1.93	1.94	1.89	2.2	2.25	2.28	3.08	6.56	6.56	2.62	24
26	26	8.88	S	3.61	4.58	2.85	3.16	3.13	2.26	2.27	2.32	1.96	1.88	1.83	1.83	1.84	1.88	2.03	1.92	1.97	2.2	1.94	3.28	2.54	2.33	8.88	2.72	24
27	27	S	2.06	1.95	2.67	2.99	2.46	2.47	4.21	2.88	2.9	2.12	1.9	2.05	2.16	2.23	2.12	1.89	1.84	1.83	1.89	1.99	1.96	1.87	S	4.21	2.29	24
28	28	1.87	1.89	1.9	1.91	1.91	1.9	1.89	1.88	1.89	1.89	1.89	1.9	1.9	1.88	1.88	1.89	1.93	1.93	2.02	2.11	2.08	2.23	S	2.96	2.96	1.98	24
29	29	2.19	2.5	2.59	2.54	2.16	2.14	2.01	1.98	1.9	1.91	1.91	1.94	1.96	1.95	1.93	1.91	1.93	2.01	2.09	2.01	1.9	S	2.05	2.39	2.59	2.08	24
30	30	2.24	2.09	2.63	2.17	2.04	1.97	1.92	1.92	1.91	1.91	1.89	1.89	1.89	1.89	1.89	1.89	1.9	1.9	1.89	1.9	S	1.92	1.95	2.02	2.63	1.98	24
HOURLY MAX		8.9	6.6	5.9	10.4	9.0	9.5	7.4	6.4	5.4	4.8	3.4	3.0	3.1	3.2	2.9	2.5	2.9	3.5	4.3	5.0	5.0	5.8	6.8	6.6			
HOURLY AVG		3.1	2.8	2.7	3.0	3.1	3.1	2.7	2.7	2.5	2.3	2.1	2.1	2.1	2.0	2.1	2.0	2.1	2.2	2.2	2.3	2.6	2.9	3.1	3.1			

STATUS FLAG CODES

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

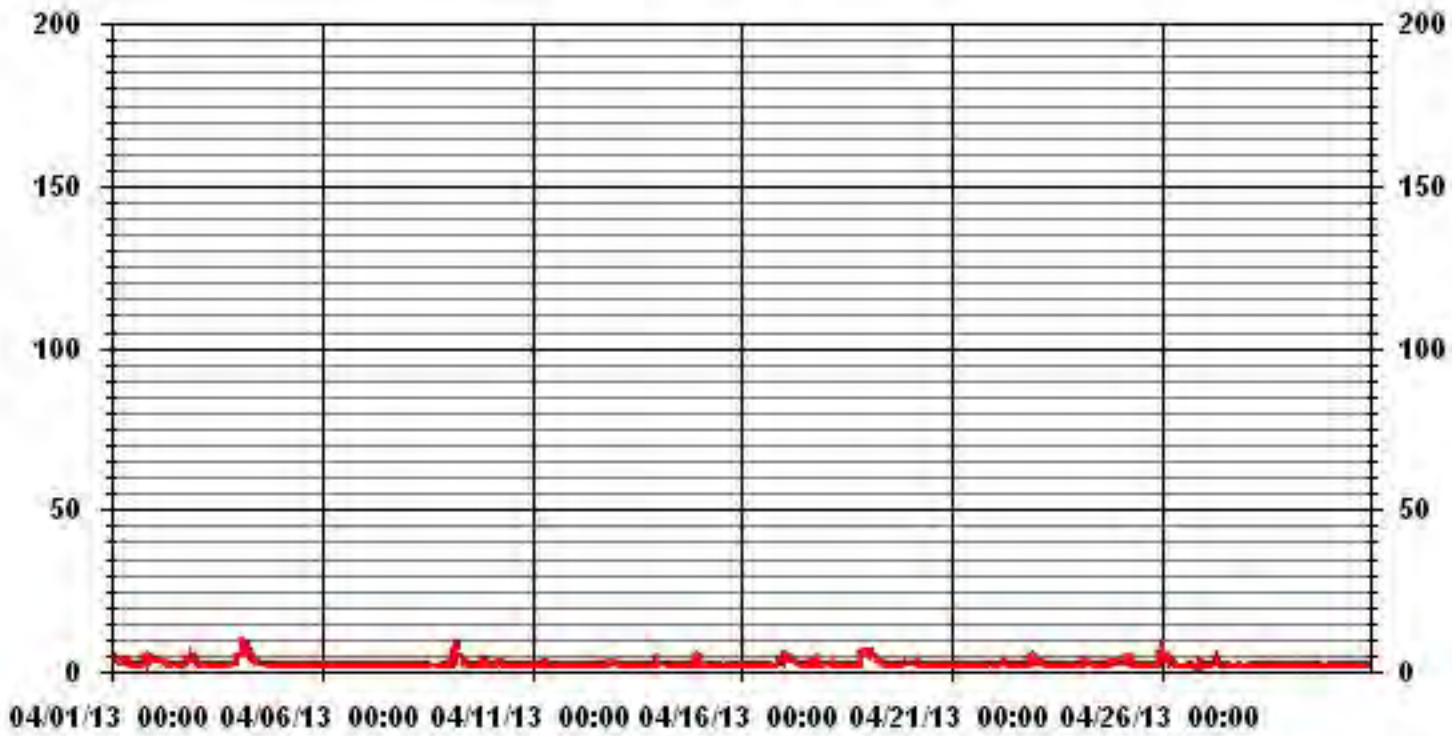
24 AVERAGES FOR APRIL 2013



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	680					
MAXIMUM 1-HR AVERAGE:	10.35	PPM	@ HOUR(S)	3	ON DAY(S)	4
MAXIMUM 24-HR AVERAGE:	4.45	PPM			ON DAY(S)	4
IZS CALIBRATION TIME:	35	HRS	OPERATIONAL TIME:	719	HRS	
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	99.9	%	
STANDARD DEVIATION:	1.08		MONTHLY AVERAGE:	2.54	PPM	

01 Hour Averages



— LICA35 THC55 PPM

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

APRIL 2013

TOTAL HYDROCARBONS (THC) MAX 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		
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		6.46	9.64	7.62	S	4.48	3.08	3.34	5.85	6.13	4.11	3.67	3.32	2.39	2.31	2.50	2.68	2.65	4.19	9.66	13.06	5.08	14.01	16.42	13.80	16.42	6.37	24	
2		4.87	5.18	S	4.45	5.33	4.82	6.49	4.18	3.95	2.61	3.38	3.40	5.03	Y	3.01	2.69	6.13	4.63	7.83	8.44	5.24	9.79	5.60	5.90	9.79	5.13	23	
3		3.62	S	2.53	2.61	2.74	2.74	2.34	2.02	1.95	2.00	1.94	2.03	1.99	1.99	2.03	1.97	1.97	2.07	2.30	2.59	2.53	3.86	3.35	27.60	27.60	3.51	24	
4		S	6.33	7.38	24.50	14.43	11.78	9.20	15.86	5.69	5.21	4.36	3.71	4.22	3.98	3.26	3.52	3.42	3.45	4.89	3.57	3.93	3.16	3.57	S	24.50	6.79	24	
5		3.31	2.61	2.18	2.50	2.89	2.76	2.27	2.21	2.19	2.25	2.14	2.02	2.18	2.16	2.04	2.06	2.04	2.16	2.08	2.15	2.10	2.06	S	2.04	3.31	2.28	24	
6		2.00	2.01	2.07	2.04	2.06	2.07	2.10	2.07	2.06	2.04	2.03	2.06	2.06	2.08	2.11	2.08	3.11	2.77	2.74	2.31	2.13	S	2.12	2.08	3.11	2.18	24	
7		2.08	2.18	2.00	2.09	2.00	2.07	2.16	2.01	2.00	2.06	1.98	2.08	1.99	1.99	1.97	1.98	1.97	2.06	1.99	2.01	S	2.03	2.28	2.33	2.33	2.06	24	
8		2.76	2.70	2.70	2.18	2.10	2.36	2.75	3.32	3.61	2.75	2.33	2.26	C	C	C	C	C	2.13	2.72	S	S	2.52	2.06	2.98	3.61	2.60	24	
9		4.15	2.45	2.40	3.45	24.80	25.57	S	S	7.19	6.09	4.04	6.06	3.22	2.32	3.98	2.91	3.43	4.03	S	3.57	10.01	6.35	8.58	2.74	25.57	6.54	24	
10		2.86	3.09	2.48	3.62	5.46	5.35	4.50	5.00	4.43	2.33	2.70	2.88	3.58	4.26	3.60	3.84	5.21	S	3.89	3.52	2.44	2.61	2.28	2.97	5.46	3.60	24	
11		2.33	2.71	3.06	4.25	3.63	2.63	3.55	9.72	2.33	2.34	2.54	2.22	2.16	2.01	1.99	2.44	S	2.18	2.04	2.10	2.06	2.00	2.16	2.34	9.72	2.82	24	
12		2.20	2.20	2.17	1.98	2.08	1.96	1.98	1.98	2.12	1.97	1.95	1.92	2.02	2.17	2.10	2.26	S	4.64	3.10	2.41	5.50	3.52	4.67	3.96	3.08	5.50	2.69	24
13		2.84	2.66	2.33	2.36	2.38	2.24	2.26	2.22	2.12	2.13	2.07	2.08	1.97	2.06	S	2.00	2.01	2.08	1.97	2.08	3.37	3.35	5.14	2.73	5.14	2.45	24	
14		2.52	2.78	2.77	2.52	2.58	2.63	2.49	2.70	3.37	2.92	2.42	2.28	2.85	S	2.78	2.78	2.68	2.27	2.29	2.40	2.78	4.92	5.44	5.10	5.44	2.97	24	
15		4.89	3.19	2.46	2.32	2.33	2.30	2.30	2.27	2.13	2.04	1.97	1.92	S	1.92	P	1.92	1.92	1.93	1.95	2.00	2.05	2.07	2.22	2.18	4.89	2.29	23	
16		2.14	2.17	2.32	2.20	2.33	2.21	2.12	2.14	2.29	2.21	2.25	S	1.95	1.94	2.11	2.10	2.13	2.33	2.24	2.81	4.34	3.87	4.69	4.52	4.69	2.58	24	
17		6.97	5.09	5.08	5.03	4.41	4.80	4.08	3.81	3.46	3.16	S	2.36	2.16	2.29	4.17	2.70	3.34	4.67	6.07	2.69	2.60	2.60	2.38	2.47	6.97	3.76	24	
18		2.55	3.39	2.89	2.80	3.49	2.80	2.62	2.92	2.99	S	2.59	2.06	2.33	2.22	2.23	2.13	2.10	1.97	2.08	3.21	6.87	6.74	7.96	8.01	8.01	3.43	24	
19		7.54	7.21	6.45	9.29	8.00	5.00	3.92	4.17	S	3.09	2.79	2.72	2.05	2.27	2.24	2.10	2.54	2.55	2.60	2.42	2.69	3.05	3.10	2.84	9.29	3.94	24	
20		2.84	2.77	2.75	3.85	3.53	3.26	3.06	S	3.56	2.29	2.08	2.08	2.10	2.10	1.91	2.06	1.97	2.03	1.97	2.08	1.89	1.89	1.93	1.92	3.85	2.43	24	
21		1.92	1.92	1.92	1.93	1.96	2.00	S	1.93	1.92	1.96	1.93	1.92	1.91	1.91	1.92	1.92	1.92	1.93	1.97	2.24	2.58	2.96	2.81	2.57	2.96	2.08	24	
22		2.45	2.13	2.23	2.66	3.08	S	3.36	3.11	2.33	2.24	2.08	1.94	1.95	1.97	1.99	1.97	2.09	1.95	2.02	2.31	3.49	5.86	5.99	5.82	5.99	2.83	24	
23		3.80	3.21	3.49	3.49	S	3.14	2.23	2.35	2.27	1.96	1.96	1.95	1.91	1.91	1.89	1.90	1.89	1.90	1.90	1.89	1.91	1.91	1.92	2.12	3.80	2.30	24	
24		2.10	2.14	2.63	S	4.95	4.91	3.70	3.44	2.47	2.05	2.01	2.14	2.61	2.60	2.30	2.06	3.60	5.22	5.63	5.33	4.09	3.24	3.61	4.14	5.63	3.35	24	
25		3.23	3.06	S	3.93	3.47	6.19	5.14	2.88	2.34	2.08	1.90	1.89	2.04	2.08	2.04	1.99	2.16	2.06	1.96	2.68	2.56	2.66	4.24	17.14	17.14	3.47	24	
26		17.90	S	3.94	5.49	3.16	3.72	3.53	3.40	2.60	2.63	2.21	2.06	1.99	2.03	1.99	2.05	2.40	2.08	2.23	2.61	2.06	7.72	3.40	2.92	17.90	3.66	24	
27		S	2.36	2.29	5.03	3.79	2.76	7.21	7.21	3.26	3.30	2.36	2.00	2.29	2.40	2.62	2.49	2.13	2.02	2.01	2.05	2.14	2.08	1.97	S	7.21	2.99	24	
28		1.89	2.03	1.92	2.06	1.92	1.91	1.96	1.89	1.95	1.90	1.90	2.04	1.91	1.89	1.90	1.90	2.04	2.09	2.13	2.20	2.17	2.69	S	3.76	3.76	2.09	24	
29		2.66	2.76	3.00	2.87	2.28	2.35	2.15	2.10	1.93	1.93	2.08	2.05	2.04	1.97	2.05	1.95	2.02	2.19	2.41	2.13	1.95	S	2.24	2.62	3.00	2.25	24	
30		2.60	2.48	3.29	2.28	2.13	2.17	1.94	1.98	1.92	1.92	1.90	1.90	1.98	1.90	1.90	1.91	1.91	1.91	1.90	1.91	S	1.94	1.99	2.07	3.29	2.08	24	
HOURLY MAX		17.90	9.64	7.62	24.50	24.80	25.57	9.20	15.86	7.19	6.09	4.36	6.06	5.03	4.26	4.17	3.84	6.13	5.22	9.66	13.06	10.01	14.01	16.42	27.60				
HOURLY AVG		3.8	3.3	3.2	4.1	4.4	4.2	3.4	3.7	3.0	2.6	2.4	2.4	2.4	2.2	2.4	2.3	2.7	2.6	3.0	3.2	3.3	4.0	4.1	5.0				

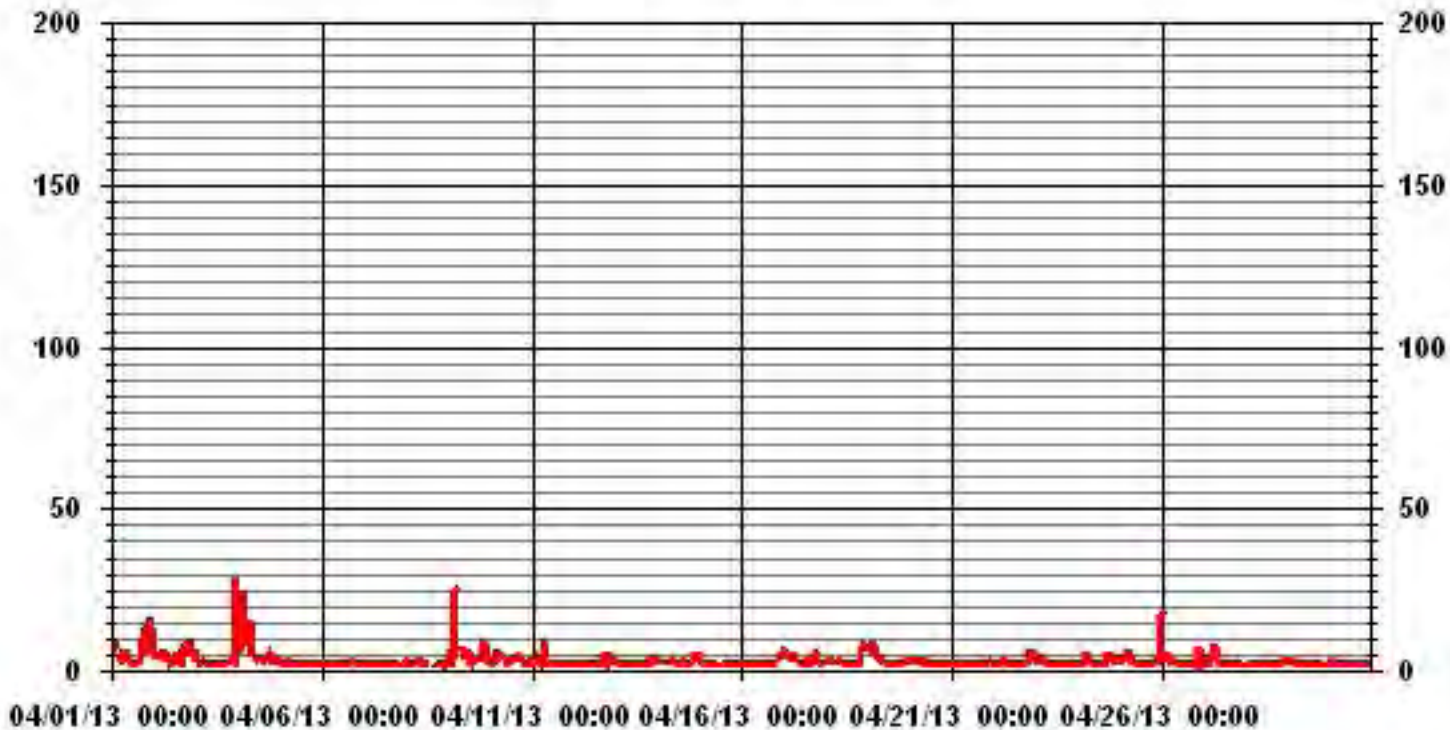
STATUS FLAG CODES

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:	678					
MAXIMUM INSTANTANEOUS VALUE:	27.60	PPM	@ HOUR(S)	23	ON DAY(S)	3
IZS CALIBRATION TIME:	35	HRS	OPERATIONAL TIME:	718	HRS	
MONTHLY CALIBRATION TIME:	5	HRS				
STANDARD DEVIATION:	2.64					

01 Hour Averages



LICA35
 THC55 / WDR Joint Frequency Distribution (Percent)

April 2013

Distribution By % Of Samples

Logger Id : 35
 Site Name : LICA35
 Parameter : THC55
 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	
< 3.00	3.08	4.70	3.23	5.73	5.00	5.14	8.08	2.35	2.64	1.47	2.20	4.85	8.38	10.29	12.64	3.97	83.82
< 10.00	.00	.14	.00	.14	1.17	3.23	2.35	.44	.44	.44	.88	1.47	2.79	1.76	.44	.29	16.02
< 50.00	.00	.00	.00	.14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14
>= 50.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.08	4.85	3.23	6.02	6.17	8.38	10.44	2.79	3.08	1.91	3.08	6.32	11.17	12.05	13.08	4.26	

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	
< 3.00	21	32	22	39	34	35	55	16	18	10	15	33	57	70	86	27	570
< 10.00		1		1	8	22	16	3	3	3	6	10	19	12	3	2	109
< 50.00				1													1
>= 50.00																	
Totals	21	33	22	41	42	57	71	19	21	13	21	43	76	82	89	29	

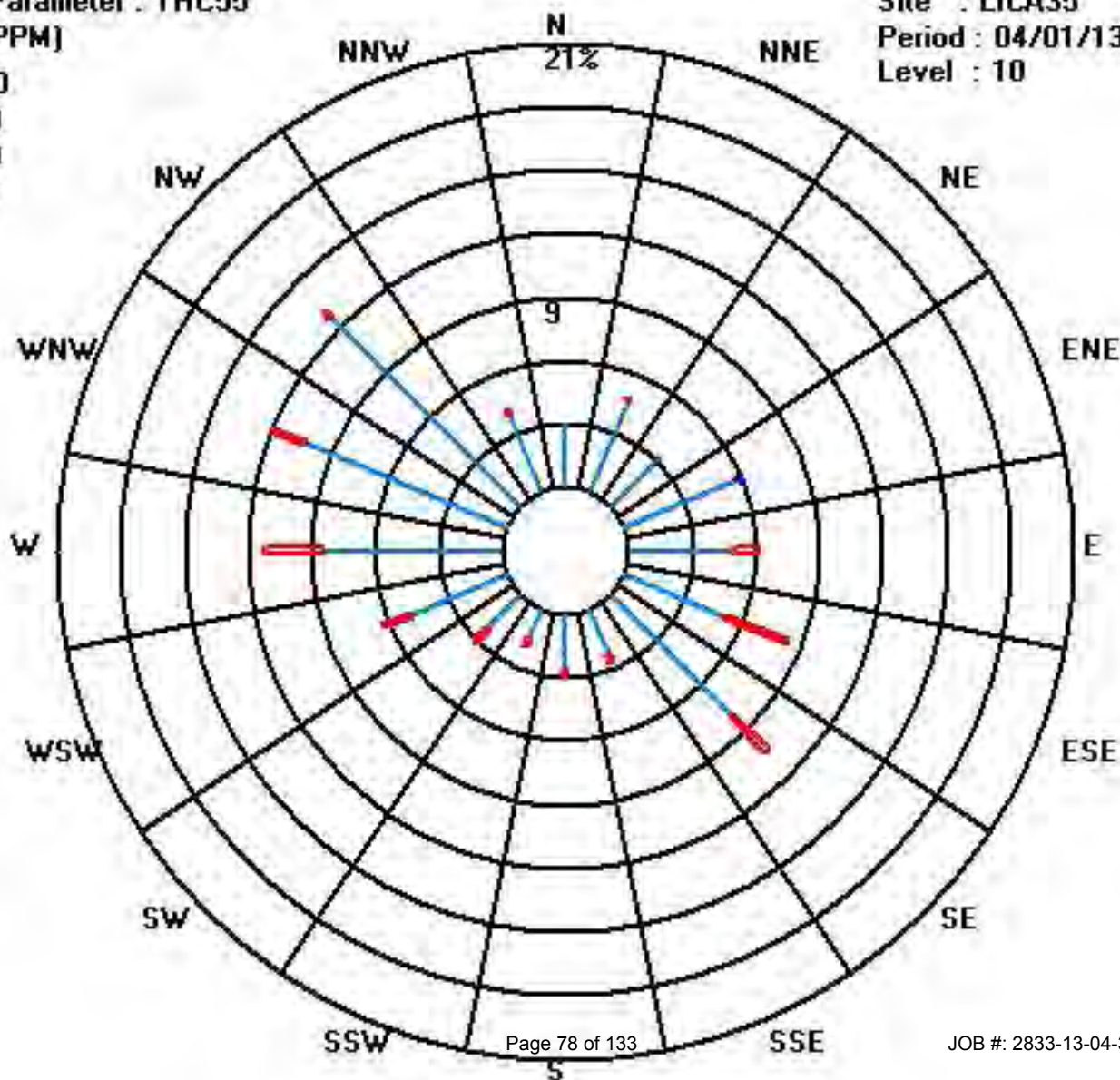
Calm : .00 %

Total # Operational Hours : 680

Class Limits (PPM)

Period : 04/01/13-04/30/13

Level : 10



Methane

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

APRIL 2013

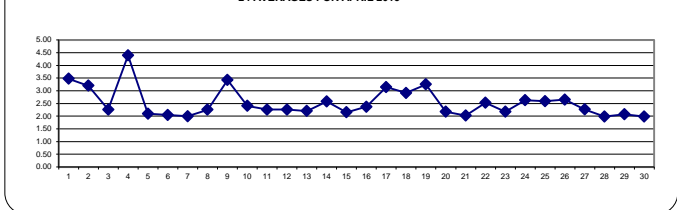
METHANE hourly averages in ppm

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	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	4.06	5.47	5.01	S	3.35	2.87	2.88	4.06	4.13	2.99	2.74	2.79	2.15	2.07	2.05	2.39	2.34	2.49	3.82	4.92	3.49	4.86	5.09	3.87	5.47	3.47	24
2	2	3.88	4.06	S	3.38	3.37	3.16	3.03	2.84	2.49	2.25	2.22	2.44	2.61	Y	2.22	2.28	2.91	2.53	3.21	3.82	3.75	5.29	4.24	4.37	5.29	3.20	23
3	3	2.96	S	2.08	2.18	2.28	2.42	2.00	1.97	1.94	1.95	1.93	1.94	1.95	1.95	1.96	1.95	1.96	1.97	2.02	2.12	2.29	2.73	2.86	4.51	4.51	2.26	24
4	4	S	5.28	5.70	10.00	8.80	9.09	7.33	6.33	5.01	4.24	3.41	2.98	3.09	3.20	2.76	2.50	2.40	2.36	2.36	2.44	2.47	2.27	2.49	S	10.00	4.39	24
5	5	2.26	2.17	2.15	2.24	2.27	2.29	2.12	2.17	2.10	2.14	2.02	1.99	2.00	2.00	2.01	2.01	2.01	2.02	2.02	2.10	2.03	2.00	S	2.01	2.29	2.09	24
6	6	1.98	1.97	1.98	1.99	2.00	2.05	2.05	2.04	2.04	2.01	2.00	2.03	2.02	2.01	2.02	2.04	2.12	2.21	2.20	2.06	2.09	S	2.08	2.02	2.21	2.04	24
7	7	2.03	2.01	1.98	1.97	1.97	2.04	1.99	1.97	1.96	1.94	1.95	1.97	1.97	1.97	1.95	1.96	1.96	1.96	1.98	1.99	S	2.00	2.07	2.28	2.28	1.99	24
8	8	2.31	2.35	2.30	2.09	2.08	2.19	2.34	2.63	2.97	2.52	2.20	2.06	2.02	C	C	C	C	C	1.97	2.13	S	2.23	2.01	2.10	2.97	2.25	24
9	9	3.08	2.31	2.25	2.59	7.16	9.31	S	S	5.37	4.82	2.84	2.57	2.27	2.14	2.27	2.21	2.30	2.27	S	2.26	3.82	3.71	3.97	2.45	9.31	3.43	24
10	10	2.49	2.47	2.29	2.41	3.33	2.94	2.75	2.82	2.34	2.14	2.18	2.15	2.30	2.39	2.20	2.14	2.47	S	2.48	2.26	2.12	2.09	2.20	2.31	3.33	2.40	24
11	11	2.07	2.37	2.66	3.02	2.73	2.25	3.09	3.25	2.20	2.19	2.26	1.99	1.98	1.95	1.96	2.03	S	2.03	1.93	1.96	1.94	1.91	2.04	2.15	3.25	2.26	24
12	12	1.96	2.02	1.99	1.97	1.96	1.95	1.94	1.95	1.94	1.92	1.91	1.92	1.98	2.00	2.07	S	2.60	2.36	2.12	3.12	3.06	3.55	2.91	2.76	3.55	2.26	24
13	13	2.52	2.35	2.19	2.17	2.17	2.11	2.08	2.08	2.05	1.98	1.97	1.95	1.95	1.93	S	1.92	1.91	1.94	1.93	1.99	2.64	2.79	3.63	2.44	3.63	2.20	24
14	14	2.30	2.43	2.55	2.43	2.51	2.41	2.23	2.29	2.91	2.51	2.12	2.10	2.31	S	2.20	2.30	2.24	2.09	2.09	2.27	2.30	3.96	4.71	3.94	4.71	2.57	24
15	15	4.18	2.51	2.31	2.23	2.21	2.26	2.27	2.22	2.08	1.98	1.92	1.91	S	1.91	1.67	1.90	1.91	1.92	1.93	1.96	1.98	2.03	2.09	2.13	4.18	2.15	24
16	16	2.13	2.13	2.19	2.06	2.12	2.10	2.07	2.08	2.14	2.16	2.13	S	1.94	1.92	1.99	1.98	2.01	2.19	2.05	2.41	3.79	3.55	4.02	3.34	4.02	2.37	24
17	17	5.80	4.29	4.52	4.37	3.90	4.09	3.58	3.22	2.78	2.67	S	2.13	2.00	2.05	2.87	2.28	2.36	3.43	4.16	2.47	2.33	2.39	2.26	2.37	5.80	3.14	24
18	18	2.41	2.79	2.45	2.38	2.98	2.30	2.32	2.44	2.64	S	2.19	1.99	2.11	2.14	2.04	1.98	1.95	1.95	1.95	2.07	4.96	5.71	6.74	6.51	6.74	2.91	24
19	19	6.23	6.45	5.16	5.68	5.20	3.82	3.40	3.35	S	2.86	2.62	2.16	2.00	2.05	2.07	1.95	2.28	2.31	2.40	2.23	2.45	2.74	2.83	2.51	6.45	3.25	24
20	20	2.60	2.40	2.42	2.93	2.78	2.88	2.60	S	2.68	1.99	1.95	1.95	1.96	1.92	1.90	1.90	1.90	1.90	1.89	1.90	1.88	1.88	1.91	1.90	2.93	2.17	24
21	21	1.90	1.91	1.91	1.92	1.93	1.98	S	1.92	1.91	1.92	1.91	1.91	1.90	1.90	1.91	1.91	1.91	1.91	1.94	2.04	2.44	2.73	2.41	2.40	2.73	2.02	24
22	22	2.30	2.06	2.11	2.35	2.61	S	3.18	2.56	2.14	2.13	2.00	1.91	1.93	1.94	1.95	1.94	1.98	1.93	1.94	2.07	2.80	4.32	5.29	4.56	5.29	2.52	24
23	23	3.28	2.94	2.93	3.06	S	2.72	2.19	2.23	2.08	1.93	1.93	1.91	1.90	1.89	1.89	1.88	1.88	1.88	1.88	1.88	1.89	1.89	1.91	1.96	3.28	2.17	24
24	24	2.05	2.13	2.31	S	3.61	3.57	3.08	2.85	2.21	1.97	1.98	1.96	2.02	2.20	2.10	1.99	2.50	3.53	2.56	3.21	3.09	2.96	3.29	3.22	3.61	2.63	24
25	25	2.92	2.79	S	2.51	2.58	5.17	4.12	2.42	1.99	1.91	1.89	1.87	1.90	1.91	1.90	1.92	1.93	1.93	1.89	2.19	2.24	2.26	2.99	6.36	6.36	2.59	24
26	26	8.67	S	3.47	4.41	2.72	3.03	3.02	2.22	2.24	2.28	1.93	1.85	1.82	1.82	1.86	1.86	1.89	1.96	2.15	1.93	3.21	2.49	2.31	8.67	2.65	24	
27	27	S	2.06	1.95	2.58	2.90	2.43	2.44	4.08	2.82	2.87	2.11	1.90	2.04	2.13	2.21	2.08	1.87	1.83	1.83	1.88	1.99	1.95	1.87	S	4.08	2.26	24
28	28	1.87	1.89	1.90	1.91	1.91	1.90	1.89	1.88	1.88	1.89	1.89	1.90	1.90	1.88	1.89	1.89	1.93	1.93	2.02	2.12	2.08	2.23	S	2.95	2.95	1.98	24
29	29	2.19	2.48	2.56	2.54	2.16	2.14	2.01	1.97	1.90	1.90	1.90	1.93	1.96	1.94	1.92	1.91	1.93	2.01	2.09	2.01	1.90	S	2.05	2.39	2.56	2.08	24
30	30	2.24	2.09	2.61	2.17	2.03	1.97	1.92	1.92	1.91	1.91	1.90	1.89	1.89	1.89	1.90	1.90	1.90	1.90	1.89	1.91	S	1.92	1.95	2.02	2.61	1.98	24
HOURLY MAX		8.67	6.45	5.70	10.00	8.80	9.31	7.33	6.33	5.37	4.82	3.41	2.98	3.09	3.20	2.87	2.50	2.91	3.53	4.16	4.92	4.96	5.71	6.74	6.51			
HOURLY AVG		3.02	2.79	2.71	2.91	3.02	3.08	2.71	2.63	2.51	2.34	2.14	2.07	2.06	2.04	2.06	2.04	2.12	2.16	2.23	2.34	2.58	2.90	3.01	3.01			

STATUS FLAG CODES

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

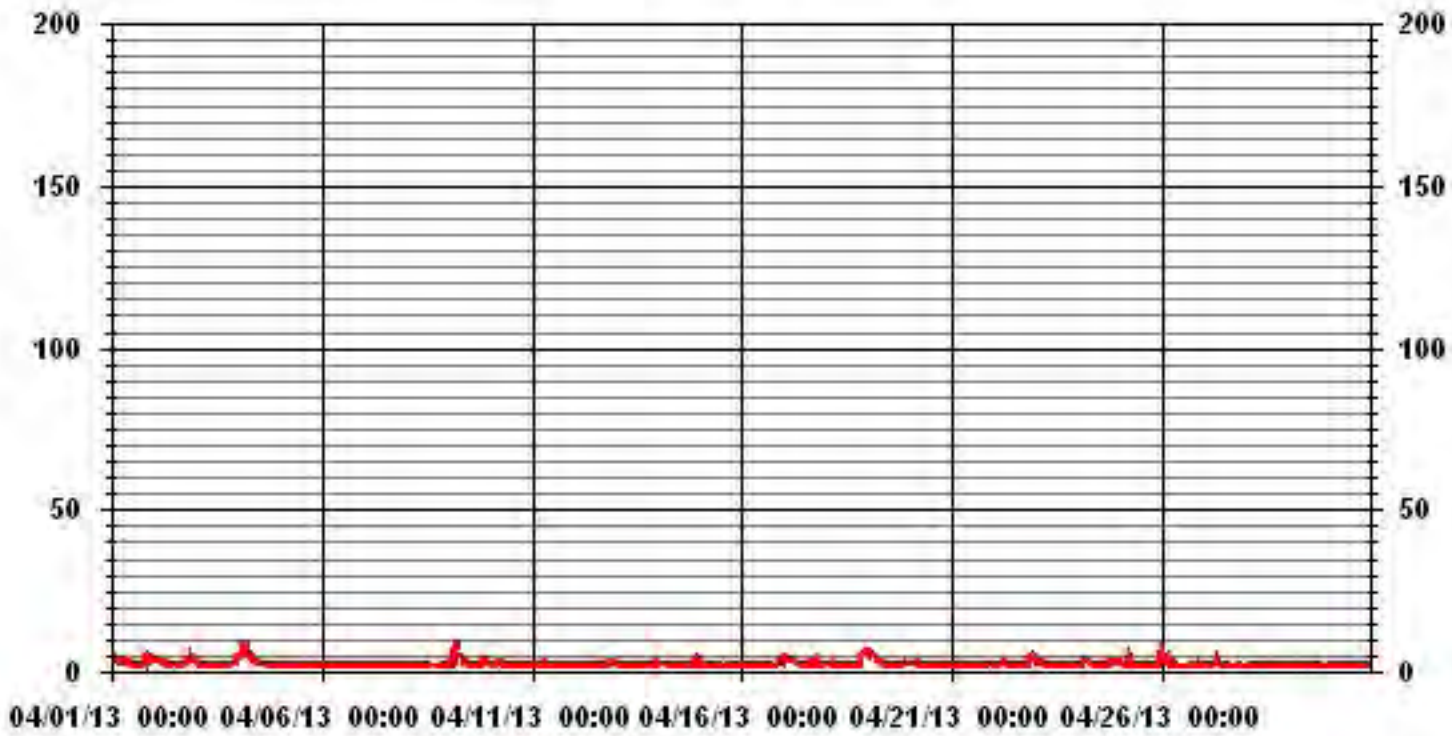
24 AVERAGES FOR APRIL 2013



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	680
MAXIMUM 1-HR AVERAGE:	10.00 PPM @ HOUR(S) 3 ON DAY(S) 4
MAXIMUM 24-HR AVERAGE:	4.39 PPM ON DAY(S) 4
IZS CALIBRATION TIME:	35 HRS
MONTHLY CALIBRATION TIME:	4 HRS
OPERATIONAL TIME:	719 HRS
AMD OPERATION UPTIME:	99.9 %
STANDARD DEVIATION:	1.04
MONTHLY AVERAGE:	2.52 PPM

01 Hour Averages



— LICA35 METHANE PPM

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

APRIL 2013

METHANE MAX 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	6.18	8.92	7.20	S	4.02	3.04	3.32	5.60	5.80	3.96	3.67	3.32	2.38	2.32	2.51	2.66	2.63	4.05	9.40	12.74	5.04	13.94	16.31	13.72	16.31	6.21	24	
2	2	4.87	5.08	S	4.45	5.34	4.81	6.41	4.17	3.95	2.62	3.39	3.41	4.91	Y	3.01	2.68	5.98	4.45	7.70	8.28	5.24	9.35	5.33	5.59	9.35	5.05	23	
3	3	3.54	S	2.53	2.62	2.74	2.74	2.35	2.02	1.95	2.01	1.95	1.97	1.99	1.99	2.04	1.96	1.96	2.08	2.30	2.60	2.53	3.86	3.36	20.28	20.28	3.19	24	
4	4	S	6.18	7.11	20.28	14.25	11.64	9.15	15.59	5.54	5.13	4.35	3.70	4.13	3.98	3.21	3.52	3.42	3.45	4.88	3.57	3.92	3.15	3.57	S	20.28	6.53	24	
5	5	3.31	2.62	2.18	2.50	2.89	2.76	2.28	2.21	2.20	2.23	2.14	2.03	2.08	2.06	2.04	2.07	2.05	2.06	2.09	2.15	2.11	2.05	S	2.04	3.31	2.27	24	
6	6	2.00	2.01	2.00	2.04	2.06	2.07	2.09	2.06	2.06	2.05	2.03	2.05	2.06	2.08	2.07	2.09	3.12	2.77	2.74	2.31	2.14	S	2.12	2.08	3.12	2.18	24	
7	7	2.09	2.03	2.01	2.00	1.99	2.08	2.05	2.02	2.00	1.99	1.98	2.09	1.98	1.98	1.96	1.98	1.98	1.98	1.97	1.99	2.02	S	2.04	2.29	2.33	2.33	2.04	24
8	8	2.76	2.71	2.71	2.18	2.11	2.37	2.75	3.32	3.60	2.75	2.33	2.27	C	C	C	C	C	C	2.10	2.72	S	S	2.52	2.07	2.98	3.60	2.60	24
9	9	4.10	2.45	2.40	3.45	20.28	20.28	S	S	6.97	5.94	4.03	6.06	3.21	2.32	3.98	2.91	3.43	4.03	S	3.53	9.96	6.37	8.60	2.74	20.28	6.05	24	
10	10	2.86	3.09	2.46	3.61	5.46	5.23	4.50	4.94	4.43	2.29	2.70	2.88	3.58	4.26	3.60	3.83	5.21	S	3.89	3.52	2.44	2.61	2.29	2.91	5.46	3.59	24	
11	11	2.32	2.71	3.06	3.97	3.44	2.64	3.45	8.61	2.30	2.33	2.41	2.05	2.08	2.02	2.00	2.44	S	2.18	2.05	1.99	1.96	1.97	2.12	2.25	8.61	2.71	24	
12	12	2.01	2.06	2.04	1.98	1.98	1.96	1.94	1.97	1.96	1.93	1.93	1.96	2.06	2.10	2.20	S	4.59	3.10	2.38	5.38	3.52	4.52	3.91	3.06	5.38	2.63	24	
13	13	2.72	2.58	2.30	2.27	2.28	2.18	2.13	2.11	2.11	2.00	1.98	1.98	1.97	1.96	S	1.93	1.93	1.96	1.96	2.07	3.37	3.35	4.86	2.68	4.86	2.38	24	
14	14	2.36	2.77	2.77	2.52	2.54	2.55	2.29	2.56	3.38	2.93	2.41	2.28	2.79	S	2.78	2.78	2.68	2.28	2.29	2.39	2.78	4.66	5.15	4.86	5.15	2.90	24	
15	15	4.69	3.05	2.35	2.33	2.25	2.28	2.30	2.28	2.14	2.05	1.96	1.92	S	1.92	P	1.92	1.92	1.93	1.95	2.01	2.01	2.08	2.12	2.16	4.69	2.26	23	
16	16	2.15	2.18	2.33	2.20	2.19	2.21	2.13	2.15	2.18	2.20	2.20	S	1.95	1.94	2.12	2.11	2.14	2.32	2.25	2.81	4.16	3.69	4.50	4.32	4.50	2.54	24	
17	17	6.66	4.88	4.79	4.79	4.14	4.58	3.93	3.66	3.46	3.04	S	2.36	2.16	2.27	4.03	2.71	3.35	4.67	5.83	2.69	2.53	2.61	2.34	2.47	6.66	3.65	24	
18	18	2.48	3.40	2.88	2.65	3.49	2.80	2.63	2.80	2.90	S	2.48	2.06	2.13	2.17	2.11	2.01	1.96	1.97	1.97	3.21	6.65	6.56	7.75	7.85	7.85	3.34	24	
19	19	7.32	6.97	6.30	9.07	7.85	4.93	3.92	4.16	S	3.00	2.79	2.73	2.05	2.28	2.24	1.99	2.55	2.55	2.57	2.41	2.70	3.03	3.07	2.77	9.07	3.88	24	
20	20	2.81	2.68	2.59	3.68	3.47	3.18	2.90	S	3.40	2.22	1.96	1.96	1.98	1.96	1.91	1.93	1.93	1.92	1.91	1.91	1.89	1.89	1.93	1.92	3.68	2.34	24	
21	21	1.92	1.92	1.93	1.93	1.97	1.99	S	1.93	1.92	1.93	1.93	1.92	1.92	1.91	1.92	1.92	1.92	1.93	1.97	2.24	2.58	2.96	2.75	2.56	2.96	2.08	24	
22	22	2.44	2.14	2.23	2.56	3.02	S	3.37	3.11	2.33	2.18	2.09	1.94	1.95	1.97	1.98	1.97	2.10	1.95	1.96	2.32	3.35	5.47	5.69	5.62	5.69	2.77	24	
23	23	3.78	3.05	3.44	3.44	S	3.06	2.24	2.36	2.27	1.96	1.96	1.95	1.91	1.91	1.91	1.89	1.90	1.89	1.90	1.89	1.91	1.91	1.92	2.13	3.78	2.29	24	
24	24	2.10	2.15	2.64	S	4.71	4.69	3.46	3.44	2.46	2.00	2.02	2.14	2.62	2.60	2.30	2.06	3.59	5.23	5.51	5.21	4.08	3.10	3.47	4.13	5.51	3.29	24	
25	25	3.12	2.84	S	3.74	3.40	6.00	4.97	2.78	2.23	1.93	1.90	1.89	1.96	1.94	1.95	2.00	2.01	1.97	1.97	1.91	2.65	2.57	2.51	4.06	16.62	16.62	3.35	24
26	26	17.41	S	3.73	5.36	2.96	3.46	3.32	3.19	2.44	2.45	2.01	1.91	1.83	1.83	1.83	1.90	1.91	1.90	2.02	2.39	2.05	7.44	3.18	2.77	17.41	3.45	24	
27	27	S	2.27	2.30	4.64	3.60	2.67	6.99	6.99	3.09	3.28	2.37	1.96	2.10	2.28	2.52	2.36	1.92	1.87	1.84	1.99	2.07	2.08	1.90	S	6.99	2.87	24	
28	28	1.89	1.90	1.92	1.93	1.92	1.91	1.90	1.89	1.90	1.90	1.90	1.94	1.91	1.90	1.90	1.90	2.04	1.94	2.14	2.20	2.17	2.69	S	3.76	3.76	2.06	24	
29	29	2.67	2.64	2.87	2.87	2.27	2.36	2.03	2.01	1.93	1.93	1.93	1.99	2.02	1.97	1.94	1.95	1.98	2.19	2.40	2.14	1.96	S	2.24	2.50	2.87	2.21	24	
30	30	2.52	2.35	3.13	2.26	2.08	2.00	1.94	1.94	1.93	1.92	1.90	1.90	1.90	1.90	1.90	1.91	1.91	1.91	1.90	1.92	S	1.93	1.98	2.08	3.13	2.05	24	
HOURLY MAX		17.41	8.92	7.20	20.28	20.28	20.28	9.15	15.59	6.97	5.94	4.35	6.06	4.91	4.26	4.03	3.83	5.98	5.23	9.40	12.74	9.96	13.94	16.31	20.28				
HOURLY AVG		3.75	3.20	3.08	3.83	4.16	3.95	3.31	3.64	2.93	2.56	2.37	2.37	2.34	2.22	2.37	2.26	2.65	2.57	2.98	3.19	3.25	3.94	3.96	4.69				

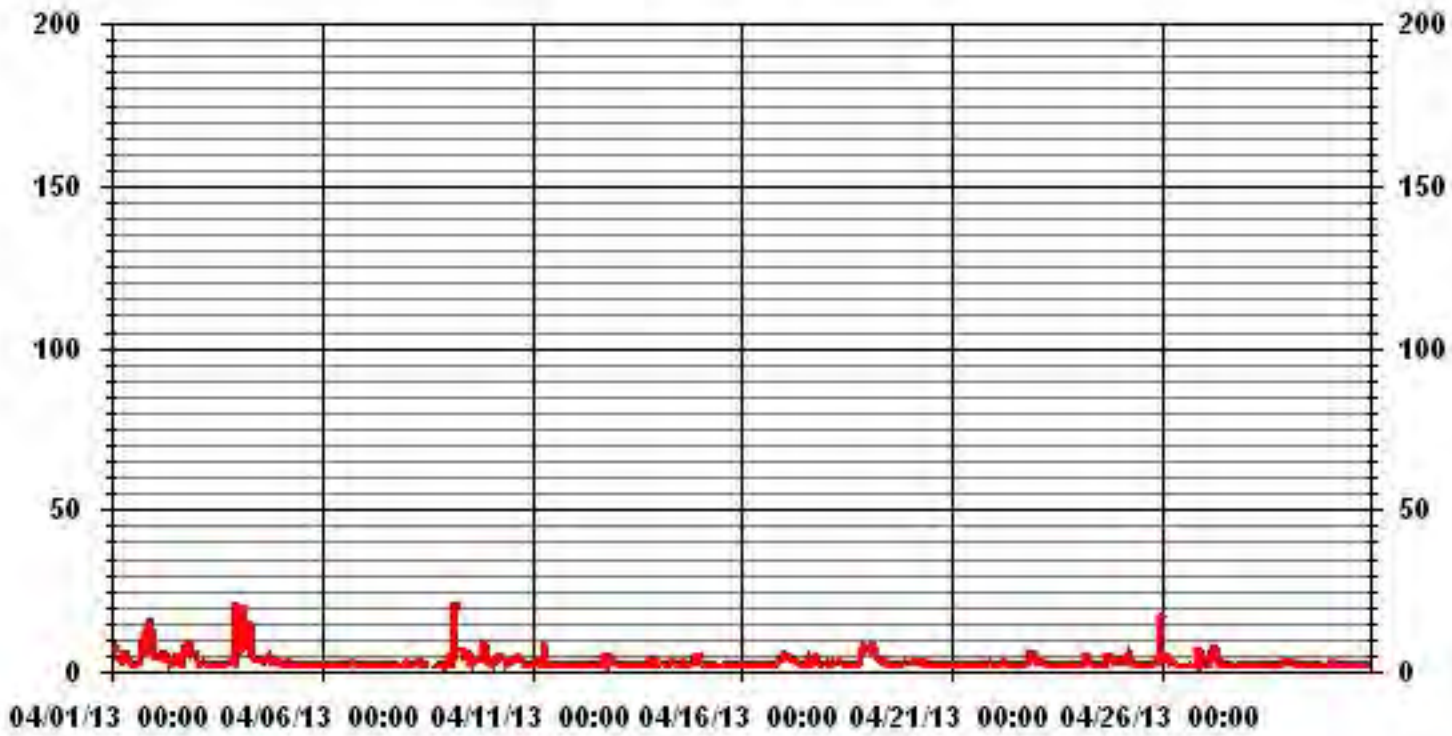
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	678
MAXIMUM INSTANTANEOUS VALUE:	20.28 PPM @ HOUR(S) 23 ON DAY(S) 3
IZS CALIBRATION TIME:	35 HRS
MONTHLY CALIBRATION TIME:	5 HRS
STANDARD DEVIATION:	2.34
OPERATIONAL TIME:	718 HRS

01 Hour Averages



LICA35
 METHANE / WDR Joint Frequency Distribution (Percent)

April 2013

Distribution By % Of Samples

Logger Id : 35
 Site Name : LICA35
 Parameter : METHANE
 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	
< 3.00	3.08	4.70	3.23	5.73	5.00	5.14	8.08	2.35	2.64	1.47	2.50	4.85	8.52	10.29	12.64	3.97	84.26
< 10.00	.00	.14	.00	.14	1.17	3.23	2.35	.44	.44	.44	.58	1.47	2.64	1.76	.44	.29	15.58
< 50.00	.00	.00	.00	.14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14
>= 50.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.08	4.85	3.23	6.02	6.17	8.38	10.44	2.79	3.08	1.91	3.08	6.32	11.17	12.05	13.08	4.26	

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	
< 3.00	21	32	22	39	34	35	55	16	18	10	17	33	58	70	86	27	573
< 10.00		1		1	8	22	16	3	3	3	4	10	18	12	3	2	106
< 50.00				1													1
>= 50.00																	
Totals	21	33	22	41	42	57	71	19	21	13	21	43	76	82	89	29	

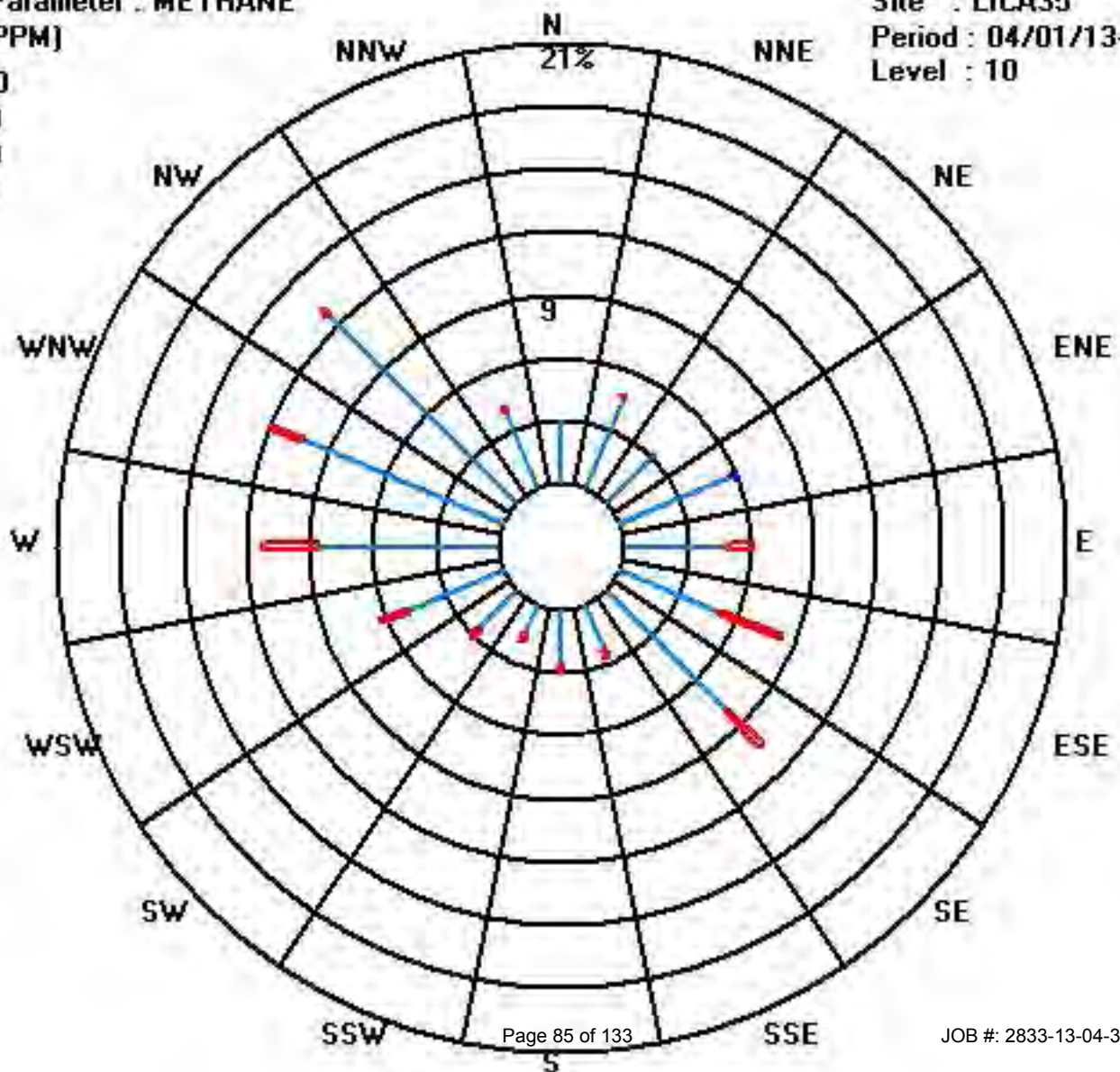
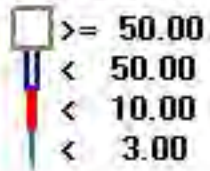
Calm : .00 %

Total # Operational Hours : 680

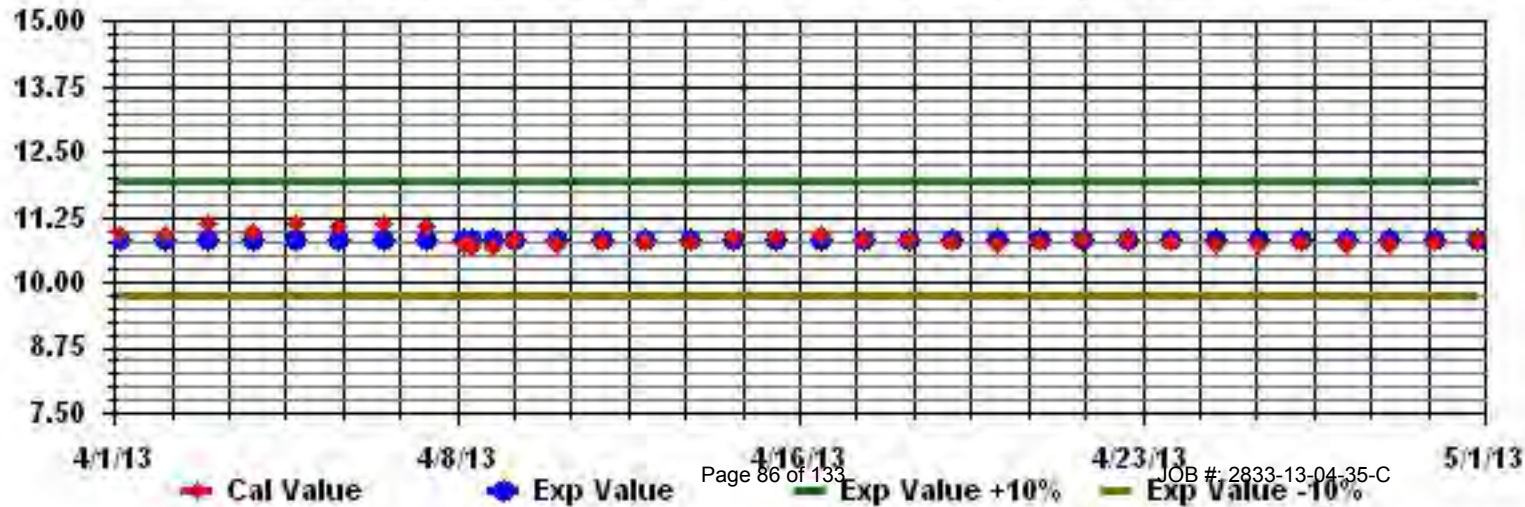
Class Limits (PPM)

Period : 04/01/13-04/30/13

Level : 10



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



Non-Methane Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

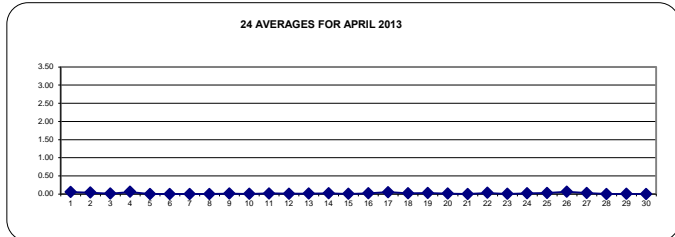
APRIL 2013

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	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	0.12	0.34	0.25	S	0.16	0.01	0	0.09	0.12	0.01	0	0	0	0	0	0	0	0.05	0.09	0.02	0.03	0.03	0.01	0.34	0.06	24		
2	2	0.01	0.06	S	0.02	0	0.01	0	0	0	0	0	0	Y	0	0	0.02	0	0.05	0.06	0.1	0.17	0.17	0.2	0.2	0.04	23		
3	3	0.06	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.14	0.14	0.01	24		
4	4	S	0.2	0.2	0.24	0.19	0.16	0.12	0.08	0.05	0.02	0	0	0.01	0.02	0	0	0	0	0	0	0	0	S	0.24	0.06	24		
5	5	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0	0	0	0	0	0	0	S	0	0.01	0.00	24	
6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0.00	24		
7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0.00	24		
8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	0	0.02	S	S	0	0	0	0.02	0.00	24	
9	9	0.01	0	0	0.02	0.03	0.11	S	S	0.07	0.03	0	0	0	0	0	0	0	0	S	0	0.01	0	0.01	0	0.11	0.01	24	
10	10	0	0	0	0	0.01	0.01	0	0	0	0.01	0.01	0	0	0	0	0	0	0	S	0	0	0	0	0	0.01	0.00	24	
11	11	0	0.01	0.02	0.09	0.04	0	0.05	0.12	0	0	0.01	0	0	0	0	0	S	0	0	0	0	0	0	0.01	0.12	0.02	24	
12	12	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0.01	0.02	0.06	0.03	0.01	0.06	0.01	24	
13	13	0.01	0.02	0.01	0.01	0.01	0	0.01	0.01	0	0	0	0	0	0	S	0	0	0.01	0	0	0.01	0.13	0	0.13	0.01	24		
14	14	0.01	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0.11	0.24	0.1	0.24	0.02	24	
15	15	0.1	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0.1	0.00	24	
16	16	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0.09	0.11	0.12	0.09	0.12	0.02	24	
17	17	0.29	0.16	0.14	0.13	0.17	0.09	0.03	0.01	0	0	S	0	0	0	0.02	0	0	0.03	0.09	0	0	0	0	0	0.29	0.05	24	
18	18	0	0	0	0	0	0	0	0.01	0.02	S	0	0	0.01	0	0	0	0	0	0	0	0.07	0.09	0.08	0.09	0.09	0.02	24	
19	19	0.13	0.14	0.08	0.11	0.08	0.02	0.01	0.01	S	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.14	0.03	24	
20	20	0.02	0.01	0.01	0.03	0.05	0.05	0.04	S	0.07	0.01	0	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0.07	0.01	24	
21	21	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	0.00	24	
22	22	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09	0.26	0.25	0.1	0.26	0.03	24	
23	23	0.03	0	0	0.01	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03	0.00	24	
24	24	0	0	0	S	0.08	0.15	0.07	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.02	0.02	0.04	0.04	0.15	0.02	24	
25	25	0.05	0.04	S	0.03	0.05	0.1	0.07	0.03	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.02	0.08	0.2	0.2	0.03	24	
26	26	0.2	S	0.14	0.16	0.13	0.12	0.11	0.04	0.02	0.03	0.03	0.02	0.01	0.01	0.02	0.02	0.17	0.04	0.01	0.04	0	0.07	0.05	0.01	0.2	0.06	24	
27	27	S	0	0	0.08	0.08	0.03	0.03	0.13	0.05	0.03	0.01	0	0.02	0.03	0.03	0.03	0.01	0.01	0	0	0	0	0	S	0.13	0.03	24	
28	28	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	0.00	24	
29	29	0	0.01	0.02	0	0	0	0	0	0	0	0	0.01	0	0	0	0	0	0	0	0	0	0	S	0	0	0.02	0.00	24
30	30	0	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0.01	0.00	24	
HOURLY MAX		0.29	0.34	0.25	0.24	0.19	0.16	0.12	0.13	0.12	0.03	0.03	0.02	0.02	0.03	0.03	0.03	0.17	0.04	0.09	0.09	0.1	0.26	0.25	0.2				
HOURLY AVG		0.04	0.04	0.03	0.03	0.04	0.03	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.02	0.03	0.04	0.04				

STATUS FLAG CODES

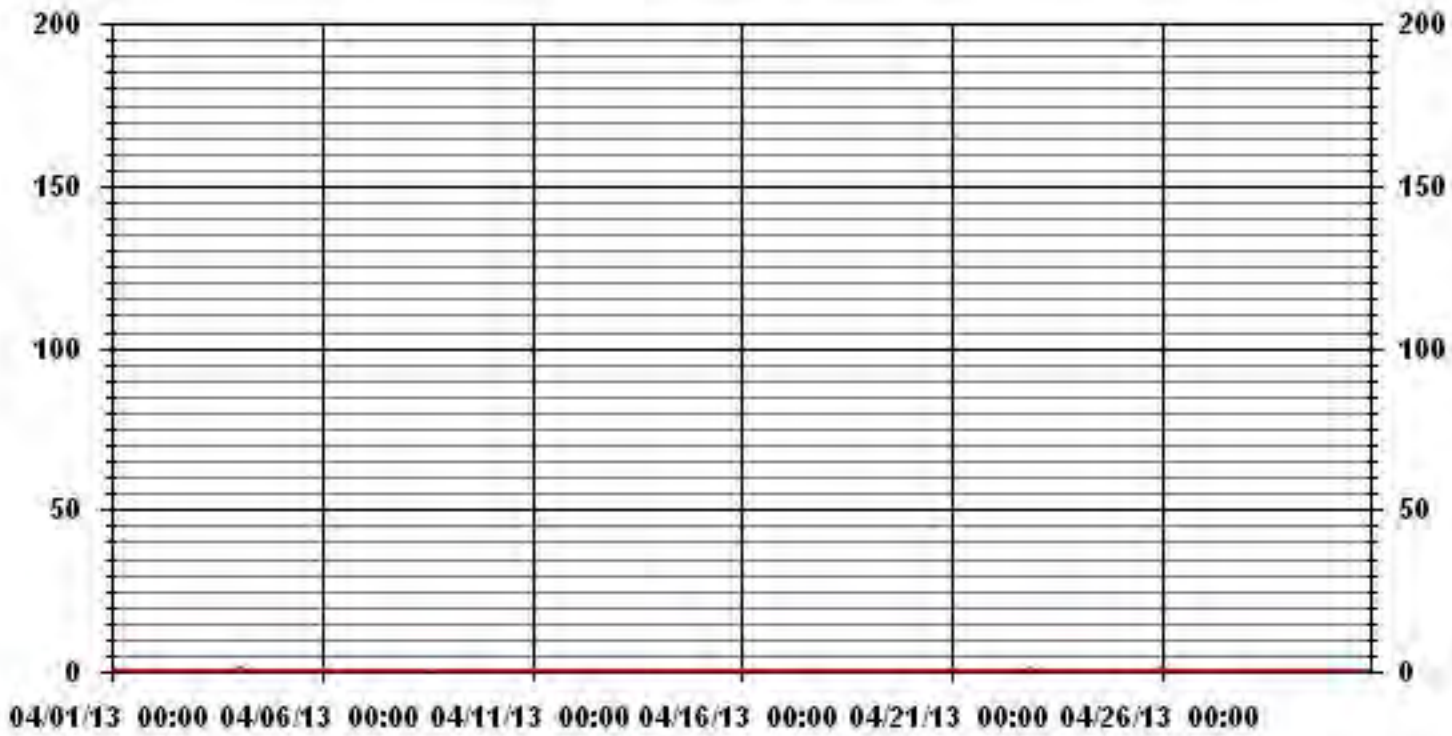
C - CALIBRATION	Q - QUALITY ASSURANCE
Y - MAINTENANCE	R - RECOVERY
S - DAILY ZERO/SPAN CHECK	X - MACHINE MALFUNCTION
P - POWER FAILURE	O - OPERATOR ERROR
G - OUT FOR REPAIR	K - COLLECTION ERROR



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	188					
MAXIMUM 1-HR AVERAGE:	0.34	PPM	@ HOUR(S)	1	ON DAY(S)	7
MAXIMUM 24-HR AVERAGE:	0.06	PPM			ON DAY(S)	VAR
IZS CALIBRATION TIME:	35	HRS	OPERATIONAL TIME:	719	HRS	
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	99.9	%	
STANDARD DEVIATION:	0.04		MONTHLY AVERAGE:	0.02	PPM	

01 Hour Averages



— LICA35 TIMHC PPM

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

APRIL 2013

NON-METHANE HYDROCARBONS MAX 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	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	0:00	MAX.	AVG.	
1	1	0.35	1	0.48	S	0.49	0.13	0.13	0.26	0.36	0.15	0.15	0.1	0	0	0	0.07	0.02	0.14	0.47	0.36	0.2	0.23	0.24	0.11	1	0.24	24	
2	2	0.16	0.2	S	0.17	0.14	0.14	0.13	0.09	0	0	0	0.15	0.26	Y	0.1	0	0.16	0.18	0.27	0.22	0.23	0.44	0.35	0.32	0.44	0.17	23	
3	3	0.21	S	0	0	0	0	0.06	0	0	0	0	0.07	0	0	0	0	0	0	0	0	0.03	0.12	0.08	0.88	0.88	0.06	24	
4	4	S	0.36	0.32	0.34	0.48	0.48	0.29	0.27	0.21	0.16	0.07	0	0.17	0.15	0.14	0.14	0.05	0	0	0.06	0	0.08	0	S	0.48	0.17	24	
5	5	0	0	0	0	0	0	0.17	0	0	0.13	0.06	0	0.13	0.14	0	0	0	0.13	0	0	0	0	0	S	0	0.17	0.03	24
6	6	0	0	0.09	0.05	0	0	0.05	0	0	0	0	0	0	0	0.09	0	0	0	0	0	0	0	S	0	0	0.09	0.01	24
7	7	0	0.17	0	0.12	0	0	0.1	0	0	0.13	0	0	0	0	0	0	0	0.09	0	0	S	0	0	0	0	0.17	0.03	24
8	8	0	0	0	0	0	0.07	0	0.08	0.12	0.03	0	0	C	C	C	C	C	0.18	0.16	S	S	0.08	0	0	0.18	0.04	24	
9	9	0.18	0	0.17	0.23	0.18	0.29	S	S	0.27	0.23	0.1	0.13	0	0	0	0	0	0	S	0.03	0.14	0.1	0.15	0.09	0.29	0.11	24	
10	10	0.14	0.12	0.12	0.11	0.21	0.12	0.09	0.11	0.01	0.13	0.14	0	0	0.19	0	0	0	S	0	0	0	0	0	0.05	0.21	0.07	24	
11	11	0	0.13	0.22	0.28	0.23	0	0.2	1.1	0.1	0.14	0.17	0.2	0.22	0	0	0.09	S	0.04	0	0.15	0.09	0.08	0.09	0.17	1.1	0.16	24	
12	12	0.21	0.16	0.15	0	0.12	0	0.04	0.19	0	0.03	0	0.09	0.12	0	0.14	S	0.11	0.03	0.09	0.13	0.16	0.22	0.17	0.14	0.22	0.10	24	
13	13	0.13	0.15	0.18	0.14	0.16	0.15	0.19	0.15	0.09	0.16	0.1	0.15	0	0.13	S	0.09	0.1	0.14	0.06	0	0.11	0.16	0.29	0.15	0.29	0.13	24	
14	14	0.15	0.1	0	0.06	0.09	0.11	0.22	0.18	0.06	0	0	0	0.12	S	0	0	0	0	0	0.12	0.11	0.28	0.33	0.28	0.33	0.10	24	
15	15	0.26	0.18	0.12	0	0.14	0.04	0.02	0	0	0.02	0	0	S	0	P	0	0	0	0	0.03	0.07	0	0.13	0.06	0.26	0.05	23	
16	16	0	0	0	0	0.15	0.08	0	0	0.11	0.03	0.08	S	0	0	0	0	0	0	0	0.17	0.23	0.23	0.24	0.25	0.25	0.07	24	
17	17	0.37	0.29	0.29	0.27	0.31	0.27	0.18	0.14	0.1	0.14	S	0	0.13	0.14	0.2	0.07	0.14	0.17	0.26	0.11	0.15	0.05	0.1	0	0.37	0.17	24	
18	18	0.09	0.08	0.15	0.15	0.15	0.18	0	0.14	0.18	S	0.15	0	0.21	0.07	0.13	0.13	0.14	0	0.11	0.12	0.24	0.24	0.26	0.24	0.26	0.14	24	
19	19	0.26	0.29	0.27	0.27	0.23	0.19	0.15	0.15	S	0.15	0.13	0.1	0	0.17	0	0.14	0.09	0	0.09	0.1	0.23	0.18	0.12	0.26	0.29	0.16	24	
20	20	0.28	0.15	0.17	0.16	0.18	0.19	0.26	S	0.21	0.22	0.13	0.14	0.15	0.16	0	0.14	0.08	0.13	0.07	0.17	0	0	0	0	0.28	0.13	24	
21	21	0	0	0	0	0	0	S	0.01	0	0.03	0	0	0	0	0	0	0	0	0	0	0.07	0.11	0.09	0.05	0.11	0.02	24	
22	22	0	0	0	0.1	0.13	S	0.17	0.13	0	0.05	0	0	0	0.01	0	0	0	0	0.06	0	0.25	0.43	0.33	0.27	0.43	0.08	24	
23	23	0.16	0.15	0.12	0.14	S	0.19	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.19	0.04	24
24	24	0	0	0.2	S	0.26	0.25	0.25	0.1	0.09	0.09	0	0.1	0.17	0.09	0	0	0	0.15	0.13	0.22	0.15	0.2	0.21	0.19	0.26	0.12	24	
25	25	0.23	0.23	S	0.24	0.21	0.26	0.23	0.18	0.17	0.14	0	0	0.1	0.15	0.16	0	0.14	0.14	0.07	0.15	0.2	0.17	0.24	0.49	0.49	0.17	24	
26	26	0.52	S	0.23	0.29	0.25	0.27	0.27	0.21	0.19	0.19	0.23	0.23	0.16	0.21	0.17	0.18	0.55	0.21	0.23	0.23	0.15	0.36	0.27	0.19	0.55	0.25	24	
27	27	S	0.19	0.09	0.4	0.25	0.2	0.26	0.27	0.27	0.2	0.19	0.11	0.22	0.22	0.21	0.2	0.25	0.19	0.18	0.18	0.13	0.19	0.1	S	0.4	0.20	24	
28	28	0	0.16	0	0.15	0	0	0.08	0	0.06	0	0	0.15	0	0	0	0	0	0.15	0	0	0.09	0.11	S	0.14	0.16	0.05	24	
29	29	0.09	0.18	0.19	0.09	0.1	0.09	0.14	0.12	0	0	0.17	0.12	0.06	0	0.14	0	0.07	0	0	0	0	S	0.16	0.13	0.19	0.08	24	
30	30	0.13	0.15	0.17	0.1	0.12	0.19	0	0.06	0	0	0	0	0.09	0	0	0	0	0	0	0	S	0.01	0.03	0	0.19	0.05	24	
HOURLY MAX		0.52	1	0.48	0.4	0.49	0.48	0.29	1.1	0.36	0.23	0.23	0.23	0.26	0.22	0.21	0.2	0.55	0.21	0.47	0.36	0.25	0.44	0.35	0.88				
HOURLY AVG		0.14	0.16	0.13	0.14	0.16	0.13	0.13	0.14	0.09	0.09	0.06	0.06	0.08	0.07	0.05	0.04	0.07	0.07	0.08	0.09	0.11	0.15	0.14	0.16				

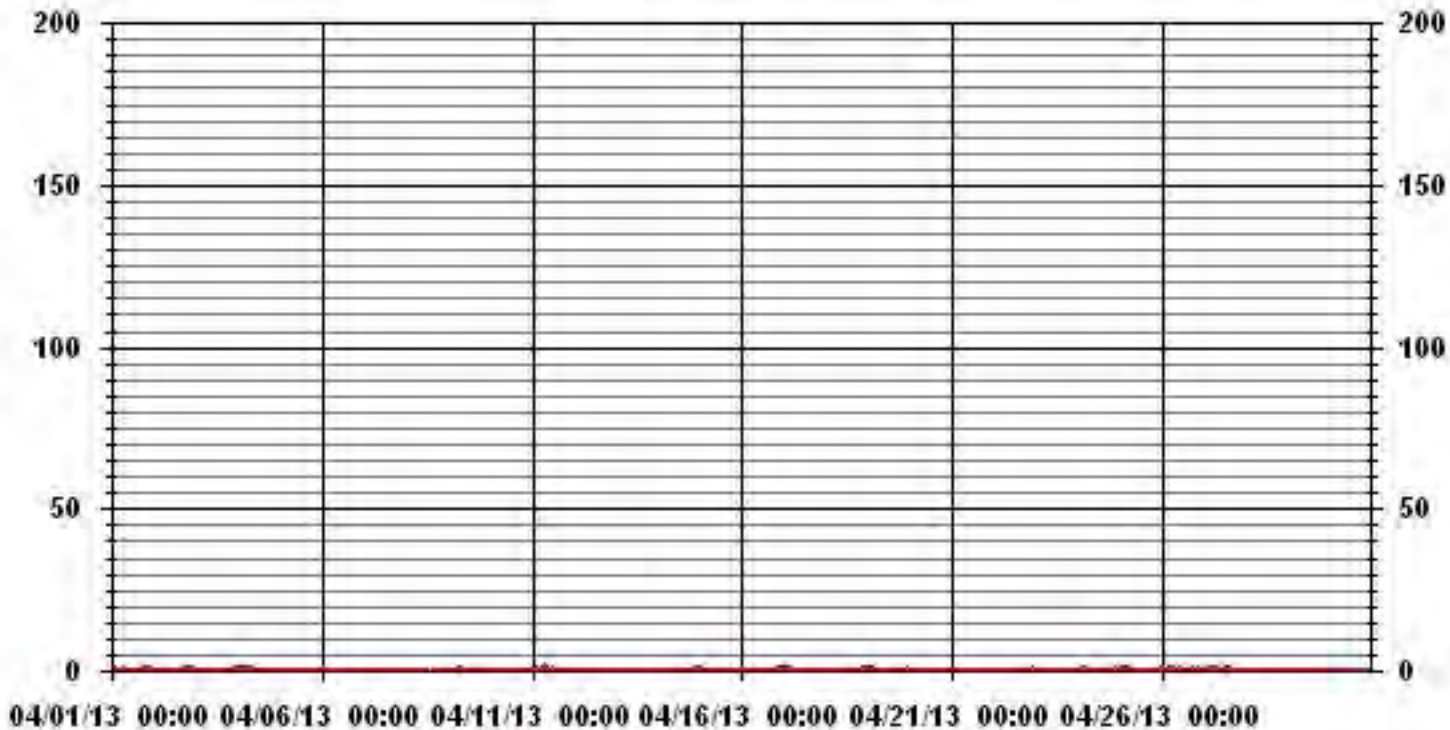
STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- 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:	421
MAXIMUM INSTANTANEOUS VALUE:	1.10 PPM @ HOUR(S) 7 ON DAY(S) 11
IZS CALIBRATION TIME:	35 HRS
MONTHLY CALIBRATION TIME:	5 HRS
STANDARD DEVIATION:	0.12
OPERATIONAL TIME:	718 HRS

01 Hour Averages



— LICA35 IMHCMAX PPM

LICA35
 NMHC / WDR Joint Frequency Distribution (Percent)

April 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	3.08	4.85	3.23	6.02	6.17	8.38	10.44	2.79	3.08	1.91	3.08	6.02	10.88	11.91	13.08	4.26	99.26
< .50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.29	.29	.14	.00	.00	.73
< 1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 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	3.08	4.85	3.23	6.02	6.17	8.38	10.44	2.79	3.08	1.91	3.08	6.32	11.17	12.05	13.08	4.26	

Calm : .00 %

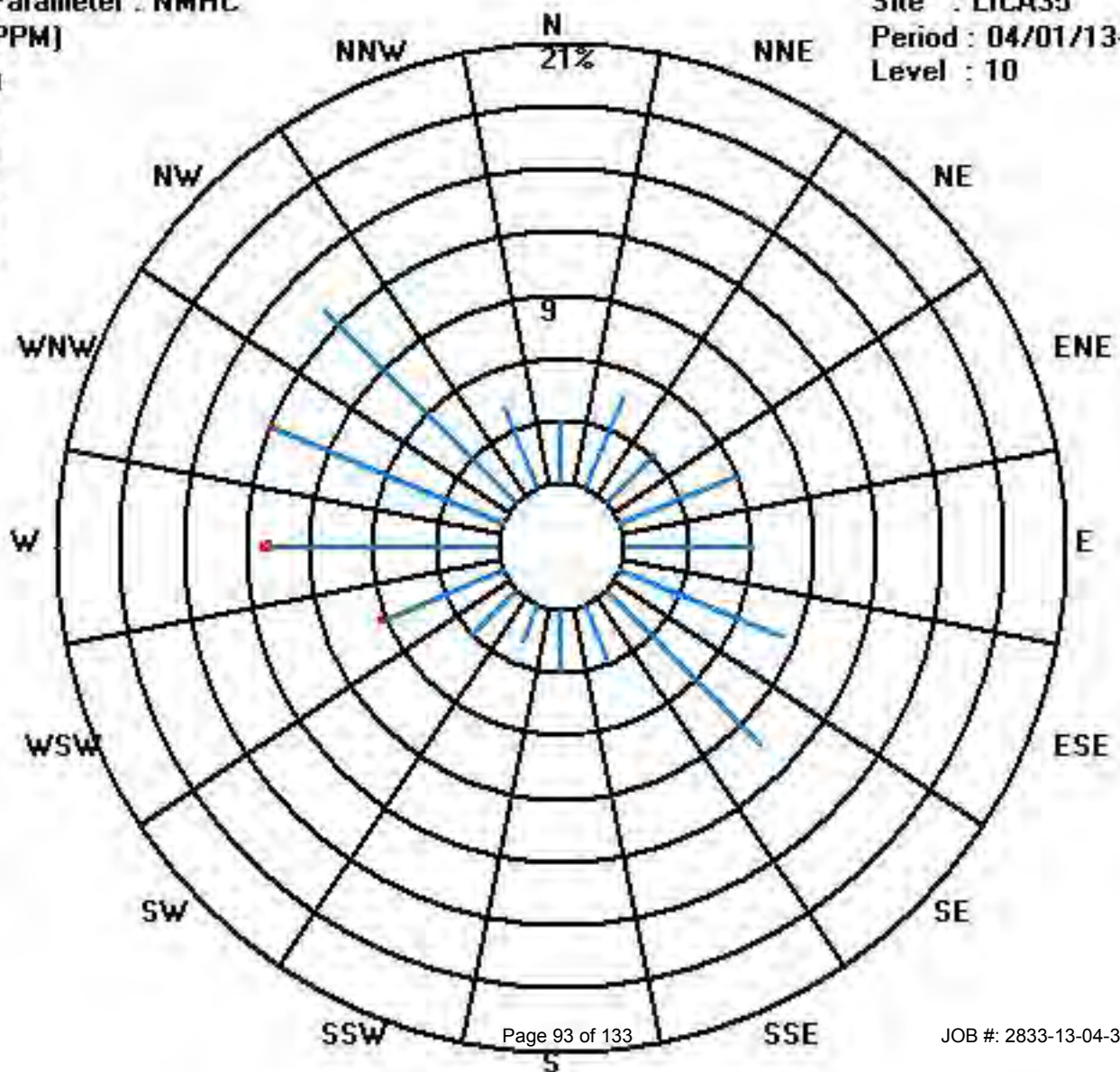
Total # Operational Hours : 680

Distribution By Samples

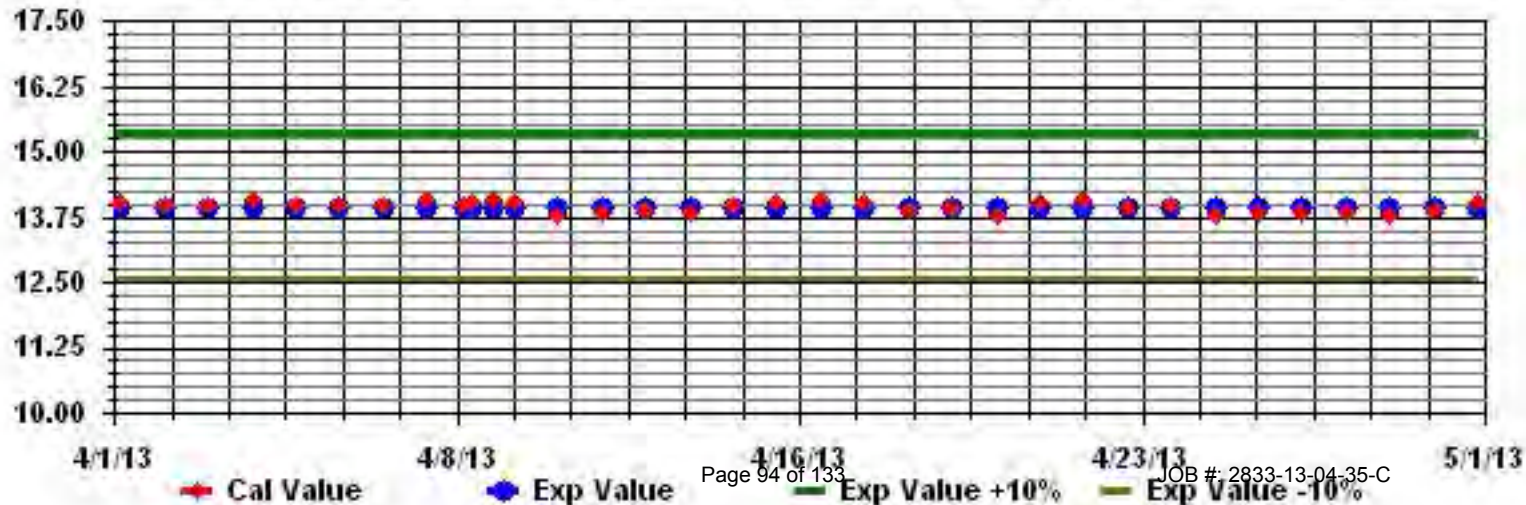
	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< .25	21	33	22	41	42	57	71	19	21	13	21	41	74	81	89	29	675
< .50												2	2	1			5
< 1.00																	
< 2.00																	
< 4.00																	
>= 4.00																	
Totals	21	33	22	41	42	57	71	19	21	13	21	43	76	82	89	29	

Calm : .00 %

Total # Operational Hours : 680

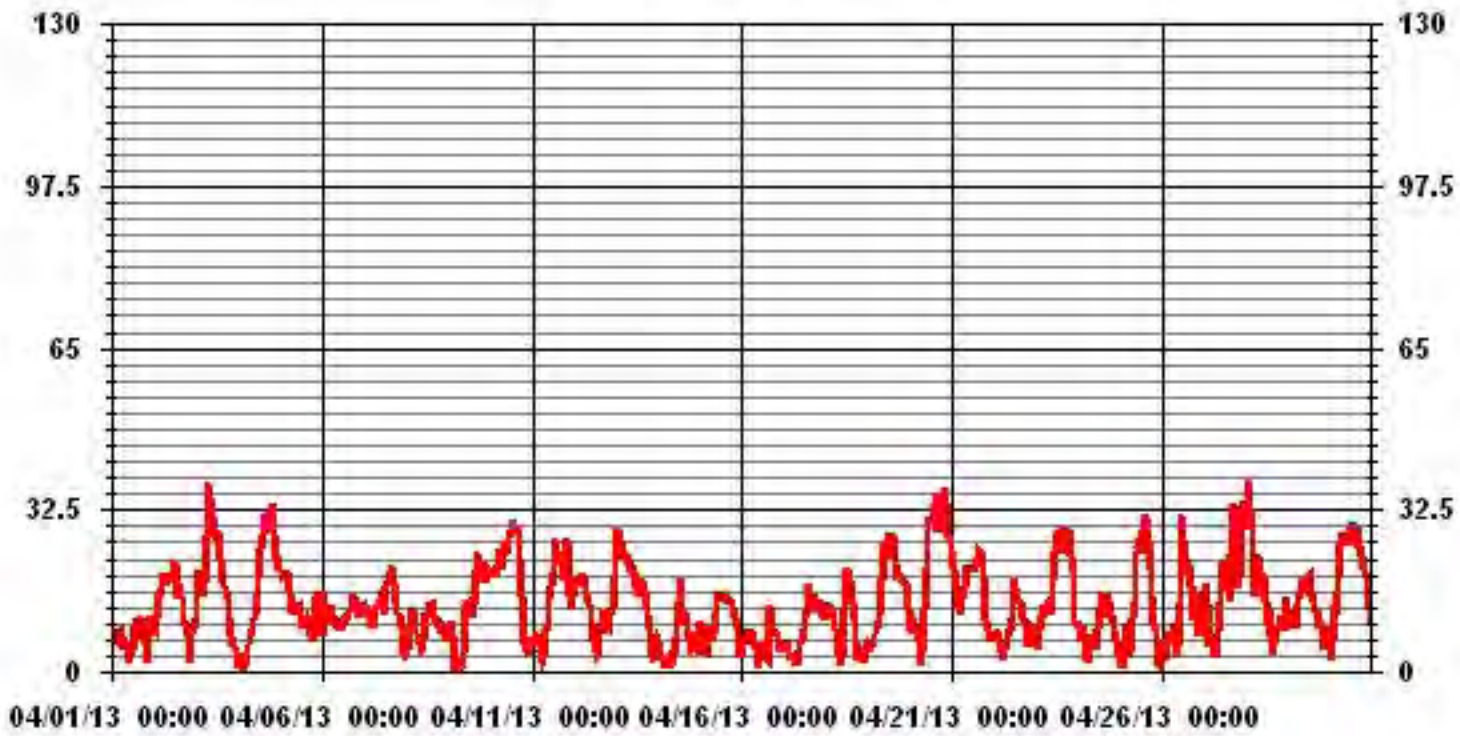


Calibration Graph for Site: LICA35 Parameter: HMHC Sequence: THC55 Phase: SPAll



Vector Wind Speed

01 Hour Averages



— LICA35 WSP KPH

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

APRIL 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		12.6	10.6	11.9	12.4	10.7	10.3	9.6	7.9	8.7	5.2	9.7	10.7	11.6	15.1	16.8	18.1	16.5	17.2	12.5	12.8	6	10	14.3	13.3	18.1	
2		14.6	16.4	18.5	23.3	26.1	28.7	31.6	32.5	28.5	33.8	35.3	31.1	32.7	29.1	30.6	27.8	23.3	18.9	13.8	12.5	7.5	9.6	16.8	16.9	35.3	
3		16.7	32.7	29.8	22.2	26.4	34.9	47.9	59.5	52.7	51.4	53.4	44.1	38.3	40.1	35.5	30.5	27.5	22.7	22	16.7	11.5	6.7	7.1	5.9	59.5	
4		6.5	4.8	5.1	3.8	7.6	5.9	8.7	12.6	11.6	15.2	15.3	23.5	28.3	34	42.2	46.3	45.7	48.3	48.3	45.3	51.6	53.8	38.1	36.8	53.8	
5		30.8	28.1	27.1	26.5	29	25.1	22.1	21.2	20.2	21.6	23.2	22.1	24.6	16.1	18.8	19.1	19	19.1	15.8	9.6	19.2	26.9	33.4	25.6	33.4	
6		22.1	26.3	27.6	18.7	22.4	21.4	18.7	17.4	19.5	16.4	16.8	16.1	18.6	19.1	17.8	19.4	18.2	23.1	22.1	20.9	19.3	20	21.3	30.6	30.6	
7		23.6	20.4	21.6	21.5	19	17.9	23.3	21.5	24.6	25.4	25.6	27.8	23.4	30.4	32	35.9	38	30.7	26.9	24.5	20.2	19.1	8.9	9.6	38	
8		13	10.3	14.2	15.9	15	12.8	10.6	9.2	7.1	9.4	11.9	16.7	15.8	17.7	18.6	18.9	17.3	18.5	17.6	14.9	14.5	13.3	16.4	11.8	18.9	
9		9.8	13	13.1	13.6	6.1	4.4	2.7	3.3	5.4	12.9	22.1	25.3	18.2	22.8	24.2	23.6	31.1	36.8	31.7	28.1	29	30.1	23.2	24.8	36.8	
10		26.5	27.1	27.9	27.3	29.7	32.5	31	31.1	34.8	38.8	38	41.9	41.9	44.9	52.2	41.5	40.1	32.3	27.9	9.8	9.7	10.2	8.2	14	52.2	
11		10.3	9.6	11.9	11.1	9.2	8	6.1	11.9	15	14.8	24.9	25.1	28.2	34.4	37.6	36	40	30.9	32.8	36.5	42.2	24.5	24	20.9	42.2	
12		26.6	27.2	27.7	27.2	32.9	34.8	28.8	24.1	25.5	22.8	23.4	19.2	13.8	10.3	13	20.5	14.6	22.8	18.9	15.3	12.6	16.4	17.3	32.3	34.8	
13		38.7	46.2	40.8	43.8	33.9	34.5	36.6	33.7	33	33.7	32.9	32.4	32.7	28.8	28.4	30.5	29.4	24.3	23.3	20.2	7.6	6.4	14.3	10.2	46.2	
14		9.4	6.9	6.6	7.2	9	6	5.1	4.1	6.2	12.3	17.9	20.9	26.4	28.4	26.4	19.8	18.1	13.8	11.6	9.9	6.1	7.1	9.3	9.8	28.4	
15		13.7	14	8.1	6.8	9	18.7	12.3	14.7	18	21.3	29.7	27.5	29.6	30	0	25	25.7	26	23.2	23.7	20.6	19.7	13.2	7.3	30	
16		12.7	11.9	15.9	13	9.6	12.4	10.4	9.8	10.1	4.6	16.5	14.5	14.4	13.7	11.1	13.4	19.5	16.5	11.5	9.9	11.4	10.7	7.8	9.9	19.5	
17		10.4	8.6	7.8	7.3	8.4	7.2	6.3	5	4.1	11.5	11.1	18.7	19.5	24.8	28.5	25.1	23.5	23.7	19.8	23.5	21.7	24.4	21	19	28.5	
18		23.4	25.4	26.4	18.5	16.7	13.6	13.5	8	5.7	6.7	30.2	29.4	33.1	30.7	34.7	28.7	20.8	13.3	8.3	7.1	7.2	6.2	5.9	12.7	34.7	
19		9.9	8.5	8	9.3	10.2	13.3	13.8	19.3	31.8	37.8	37.9	39.7	47.5	46.4	44.3	47.1	34.9	32.7	30.9	28	26.9	26.7	27.2	25.7	47.5	
20		14.8	11.4	14.4	13.4	11.4	12.8	20.3	13.7	23.8	37	48.5	47.2	42.1	55	51.2	51.7	41.4	51.4	61.8	63.5	68.5	64.5	45.6	51	68.5	
21		40.2	36.4	27.4	24.1	21.8	17.7	23.1	26.5	32.9	32.5	34.8	33.8	35.5	36.3	47	38.9	37.3	37.4	28.4	18.2	11.8	12.6	11	11.8	47	
22		11.9	13.7	12.9	9	10	6.1	6.4	12.4	14.3	16.7	26.5	28.5	24.7	24	27	24.6	17.8	20.2	21.6	13.1	9.4	13.7	12.1	16.5	28.5	
23		17.1	10	16.7	16.2	21.4	21.4	21.6	20.4	19.8	23.8	31.5	42.3	45.5	46.3	59.7	44.9	43.2	57.4	63.8	57.8	42.9	45.2	19.4	15.5	63.8	
24		16.6	13.3	13.2	14	8.1	7.2	7	12.3	14.7	12.1	13.6	22.9	23.4	24.8	21.8	18.8	20.5	23.7	20.3	18	15.6	14	8.8	8.1	24.8	
25		5.6	4.4	15.7	16.1	9.9	7.5	19.4	22.6	30.5	35.6	40	42.2	39.5	44.1	46.6	46.9	44.6	35.6	23.2	18.2	14.4	11.7	11.8	7.7	46.9	
26		19.6	16.5	12.3	15.4	19.5	10.1	18.8	24	14	22.8	35.4	52.9	46	31.4	37.9	37.3	26.2	29.5	19.5	35.6	34.9	11.7	34.1	17.5	52.9	
27		31.4	28.3	31.5	10.1	26.3	17.3	11.9	16.5	15.3	23.3	27.9	45.7	42	39.4	34.5	43.6	67.5	85.8	50.5	26.2	32.5	55.1	54.5	55.5	85.8	
28		51.4	63.9	48.5	53	43.6	30.2	36.6	37.5	29	34.5	35	31.5	24.3	28.8	24	16.8	15.9	14.8	15.6	18.1	18	18.5	13.5	33.2	63.9	
29		23.6	15.2	16.9	18.7	14	24.7	22.4	23.6	31.5	26.1	28.8	30.3	32.3	27.1	26.9	27.4	30.2	20.3	19.8	24.4	15.4	23.1	14.3	14.5	32.3	
30		16	9.6	26.9	21.8	26.2	36.1	40.1	40.9	38.3	38.7	46	42	44	42.3	41.6	44.2	40.5	40.7	36.9	36.4	34.4	32.4	19.5	17.6	46	
PEAK		51.4	63.9	48.5	53.0	43.6	36.1	47.9	59.5	52.7	51.4	53.4	52.9	47.5	55.0	59.7	51.7	67.5	85.8	63.8	63.5	68.5	64.5	54.5	55.5		

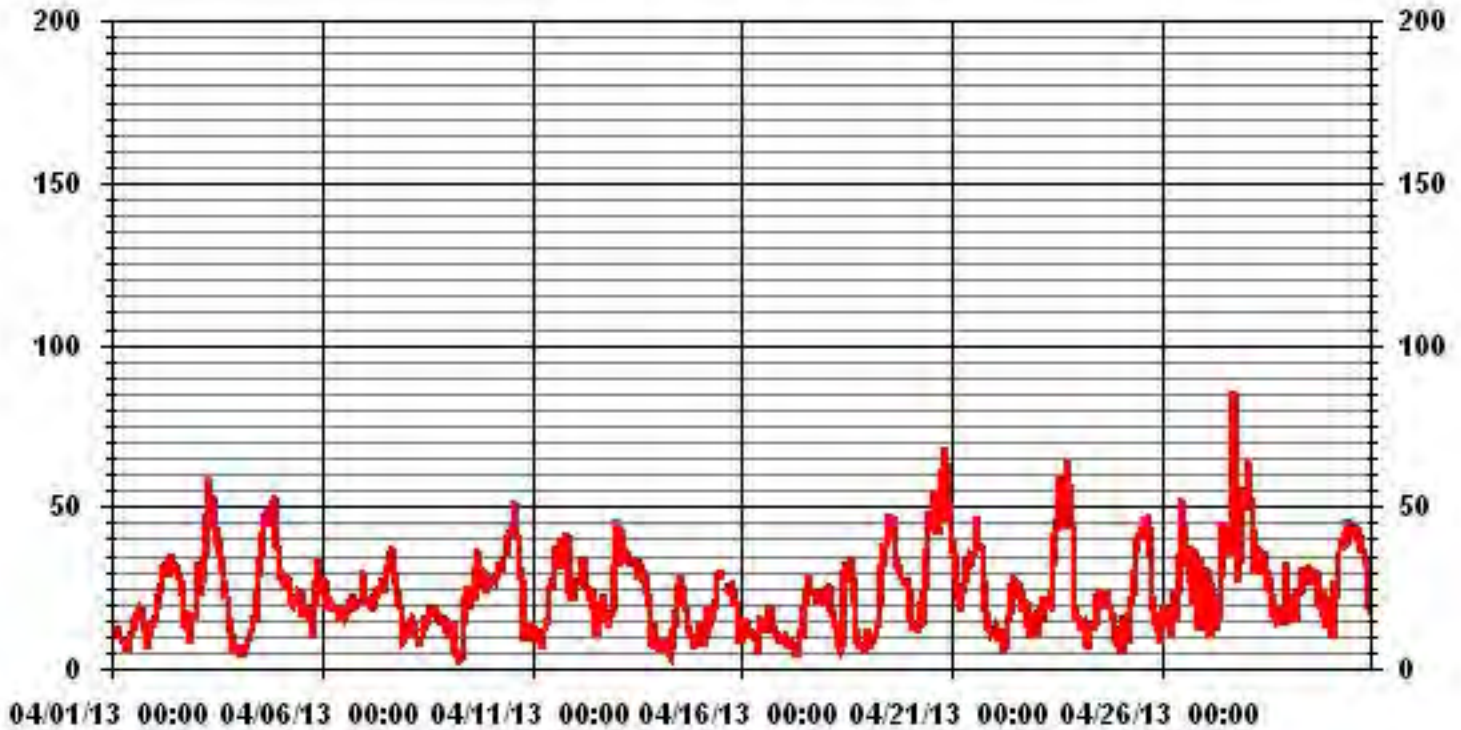
STATUS FLAG CODES

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	85.8	KPH	@ HOUR(S)	17
			ON DAY(S)	27

01 Hour Averages



— LICA35 WSMAX KPH

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

April 2013

Distribution By % Of Samples

Logger Id : 35
Site Name : LICA-ELK
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	.97	.83	.55	1.11	1.11	.97	.41	.55	.41	.69	1.94	1.66	2.08	2.63	1.52	.83	18.33
< 12.0	.83	2.22	1.38	2.08	1.66	3.75	1.80	.97	.27	.83	1.11	4.16	5.83	1.52	2.63	.27	31.38
< 20.0	1.25	1.66	1.11	2.50	2.63	1.66	3.88	.83	2.22	.55	.13	.97	2.63	3.19	2.91	1.11	29.30
< 29.0	.00	.13	.13	.13	.69	1.80	3.33	.41	.27	.00	.00	.00	.83	2.63	4.86	1.11	16.38
< 39.0	.00	.00	.00	.00	.00	.13	.97	.00	.00	.00	.00	.00	.00	1.94	.83	.69	4.58
>= 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.05	4.86	3.19	5.83	6.11	8.33	10.41	2.77	3.19	2.08	3.19	6.80	11.38	11.94	12.77	4.02	

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	7	6	4	8	8	7	3	4	3	5	14	12	15	19	11	6	132
< 12.0	6	16	10	15	12	27	13	7	2	6	8	30	42	11	19	2	226
< 20.0	9	12	8	18	19	12	28	6	16	4	1	7	19	23	21	8	211
< 29.0		1	1	1	5	13	24	3	2				6	19	35	8	118
< 39.0						1	7							14	6	5	33
>= 39.0																	
Totals	22	35	23	42	44	60	75	20	23	15	23	49	82	86	92	29	

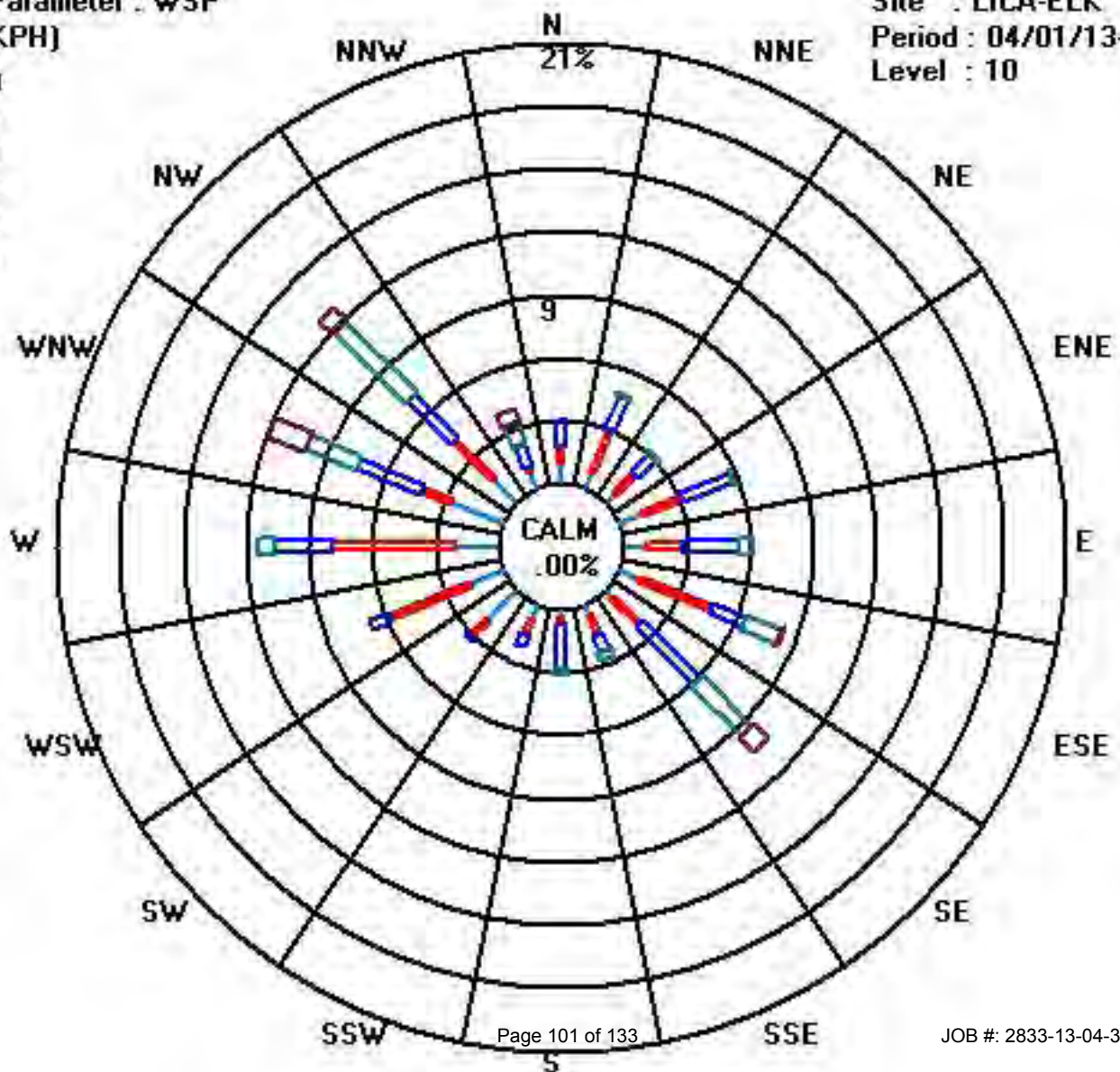
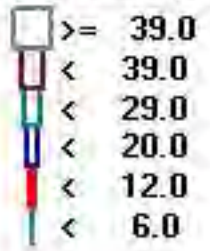
Calm : .00 %

Total # Operational Hours : 720

Class Limits (KPH)

Period : 04/01/13-04/30/13

Level : 10



Vector Wind Direction

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

APRIL 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		
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	AVG.	QUADRANT	RDGS.	
DAY																													
1		311	268	246	266	261	285	305	293	307	218	213	205	259	267	273	235	218	200	207	194	137	106	125	117	240		WSW	24
2		102	111	121	127	125	128	132	128	137	141	141	135	131	148	149	142	136	132	122	126	111	201	285	280	134		SE	24
3		259	284	293	301	272	268	286	305	317	306	318	310	298	301	300	323	316	301	305	301	294	292	286	268	301		WNW	24
4		276	314	329	77	141	22	95	118	100	104	115	124	125	118	124	130	127	131	134	132	131	132	126	122	126		SE	24
5		121	114	104	101	99	86	81	76	73	70	76	71	65	41	27	23	21	14	1	343	323	7	8	17	64		ENE	24
6		1	356	14	6	36	34	27	28	30	43	59	60	72	83	77	74	85	91	89	79	76	74	70	55		NE	24	
7		66	63	61	54	44	29	40	37	37	47	30	33	1	4	16	16	41	45	33	38	32	39	19	356	35		NE	24
8		354	350	326	320	328	314	308	296	266	233	257	273	274	273	275	273	268	258	248	241	252	259	257	272	280		W	24
9		279	254	256	253	250	121	211	97	95	153	186	178	183	166	158	167	138	136	139	138	128	132	130	121	153		SSE	24
10		124	119	121	121	130	128	127	133	123	119	119	120	125	125	125	121	127	127	123	92	77	56	17	320	122		ESE	24
11		305	296	267	244	262	284	299	271	259	261	276	278	276	276	278	285	303	288	309	301	293	296	282	286	285		WNW	24
12		295	298	309	318	323	327	319	332	343	343	4	34	185	229	138	170	183	135	145	141	112	118	110	95	338		NNW	24
13		112	118	120	116	107	100	98	96	92	82	74	65	65	73	83	81	79	65	57	64	115	27	58	55	91		E	24
14		30	353	331	347	7	326	325	43	188	152	117	127	178	187	173	157	136	150	164	225	245	285	288	300	174		S	24
15		297	312	304	302	315	19	20	31	43	57	57	61	30	30	21	24	17	2	2	10	20	32	40	77	21		NNE	24
16		26	350	331	329	333	320	318	321	297	231	324	54	59	71	245	222	277	276	274	259	267	260	283	273	302		WNW	24
17		282	279	261	261	279	294	292	335	3	264	207	214	216	198	183	193	194	182	177	174	169	173	168	158	197		SSW	24
18		141	133	117	118	135	136	121	108	59	322	328	336	336	354	3	26	31	36	16	79	180	103	104	93	50		NE	24
19		147	93	96	116	108	114	122	121	124	129	134	144	144	140	135	147	128	132	125	122	128	131	129	135	131		SE	24
20		137	78	113	126	110	121	10	229	275	305	299	295	297	296	297	298	293	327	329	330	332	334	331	335	314		NW	24
21		334	334	333	325	318	322	321	319	315	316	312	308	307	316	310	305	308	308	299	281	252	264	272	270	311		NW	24
22		262	257	254	263	254	283	298	260	277	248	266	288	290	294	273	274	277	255	253	269	255	248	269	260	270		W	24
23		260	285	260	256	256	263	271	278	296	316	323	312	306	309	309	320	312	318	319	329	340	333	326	312	308		NW	24
24		310	309	301	257	236	238	214	206	239	245	251	217	196	182	177	166	143	131	123	130	117	113	111	98	176		S	24
25		73	320	224	228	235	100	242	245	275	274	275	274	282	284	283	283	282	277	273	279	258	254	226	159	274		W	24
26		244	247	277	233	246	244	252	258	290	267	254	289	297	304	291	285	282	284	269	253	295	260	281	228	277		W	24
27		249	283	293	239	307	311	287	231	192	176	155	163	159	175	180	229	252	309	322	288	279	293	291	288	259		WSW	24
28		295	303	299	300	308	317	321	310	293	284	289	276	281	310	294	299	194	44	66	79	77	89	129	188	302		WNW	24
29		156	117	95	88	80	72	72	84	81	80	80	89	89	94	92	74	108	106	123	84	81	108	249	271	92		E	24
30		253	221	248	255	281	294	306	300	305	306	307	307	312	308	306	309	309	315	318	312	316	309	312	311	304		WNW	24
HOURLY AVG		354	356	333	347	333	327	325	335	343	343	328	336	336	354	310	323	316	327	329	343	340	334	331	356				

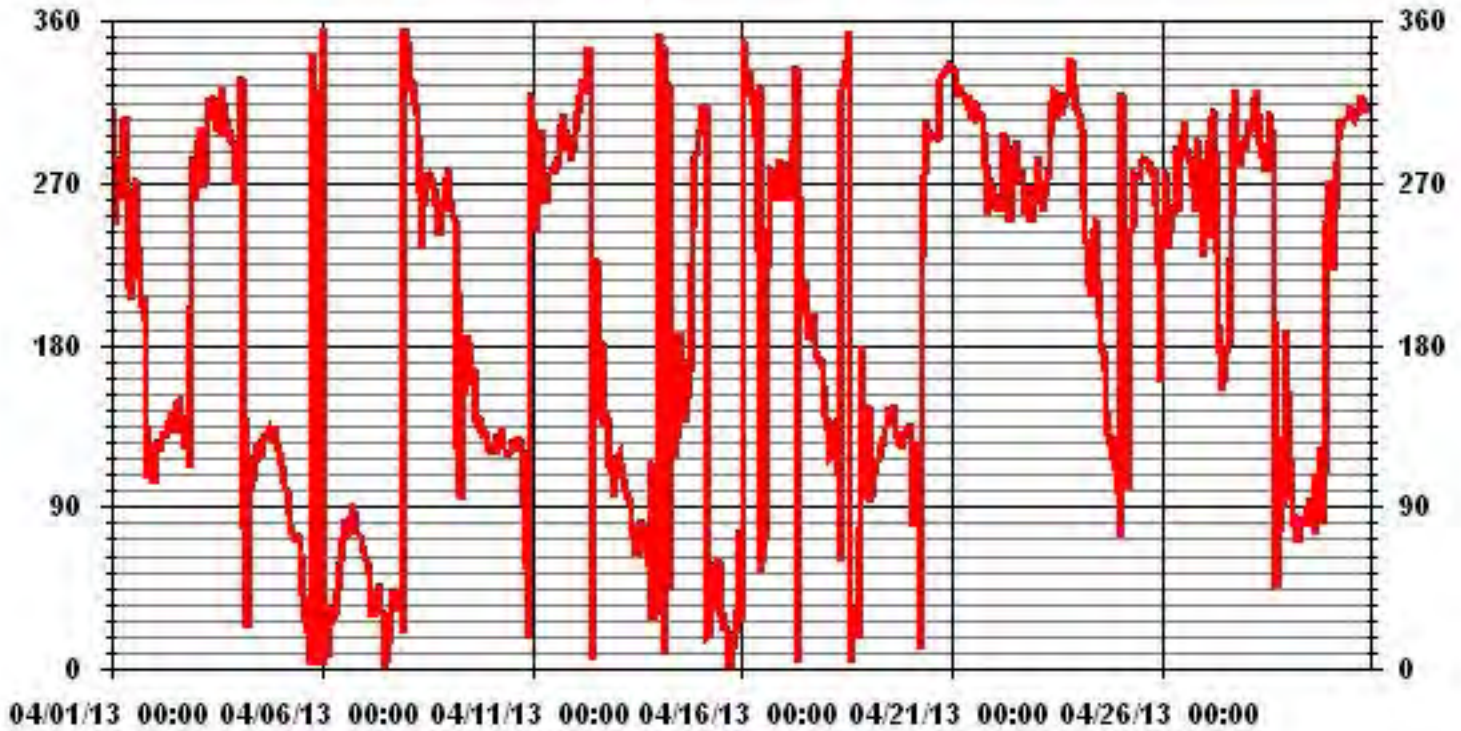
STATUS FLAG CODES

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

MONTHLY CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS
STANDARD DEVIATION:	101.88		AMD OPERATION UPTIME:	100.0	%
			MONTHLY AVERAGE:	312	DEG

01 Hour Averages



Standard Deviation Wind Direction

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

APRIL 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	14	12	7	9	5	4	5	11	7	35	10	29	20	13	9	14	10	8	15	9	22	6	3	6
2	4	6	5	6	7	6	8	8	11	11	11	9	7	13	13	11	9	11	8	11	25	31	22	13
3	10	8	8	4	8	10	6	8	10	6	8	8	9	7	7	9	8	7	4	2	3	3	4	13
4	9	7	7	48	22	30	15	11	10	8	7	8	10	7	7	7	7	8	8	7	7	9	8	8
5	6	6	7	7	5	8	9	10	11	11	12	14	13	13	10	12	11	12	12	10	13	13	12	17
6	23	12	15	13	10	9	10	10	12	12	17	19	18	13	17	14	10	7	8	10	10	11	12	13
7	11	11	10	12	14	10	12	12	13	15	15	20	27	16	16	15	12	13	11	10	10	11	14	26
8	21	19	10	3	3	5	5	8	15	14	17	7	7	9	7	7	9	11	7	5	9	10	11	13
9	8	7	4	6	42	22	26	19	43	24	10	11	10	17	18	16	9	8	8	8	3	4	4	4
10	5	5	4	5	5	4	4	7	7	6	7	8	7	6	7	6	6	8	7	10	16	13	11	7
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16	22	15	16	7	13	6	7	9	7	35	38	30	43	49	35	53	11	4	6	7	11	11	18	5
17	12	8	12	11	18	23	37	33	29	16	12	19	15	14	8	11	10	7	8	9	10	9	11	12
18	10	14	12	7	8	9	8	14	39	13	10	10	8	14	14	15	14	18	33	12	9	41	9	15
19	17	6	4	7	4	5	5	6	6	7	10	13	13	11	11	13	8	9	8	7	8	7	7	8
20	10	14	6	6	6	7	48	15	8	8	8	6	6	7	7	7	7	8	8	9	9	9	8	8
21	8	8	8	8	7	7	8	8	7	10	9	11	13	11	11	10	10	7	6	6	5	9	7	8
22	8	11	8	10	11	12	7	13	13	16	13	7	8	8	14	12	11	12	11	12	7	5	24	10
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24	8	9	9	6	12	11	16	11	15	21	34	18	14	11	13	18	15	7	5	5	7	9	12	20
25	26	47	42	5	31	23	23	14	11	6	8	9	7	6	6	6	5	6	5	15	7	9	51	47
26	17	27	40	27	11	9	12	21	48	41	16	10	8	9	9	7	7	8	9	9	9	9	10	23
27	10	6	6	12	24	23	26	15	15	12	16	14	15	16	11	16	49	11	9	7	7	8	7	7
28	6	7	7	7	7	9	10	10	12	13	14	18	24	23	35	58	36	47	14	8	8	8	9	11
29	11	7	9	8	8	10	10	8	9	10	10	10	10	13	14	21	16	15	10	26	32	45	23	13
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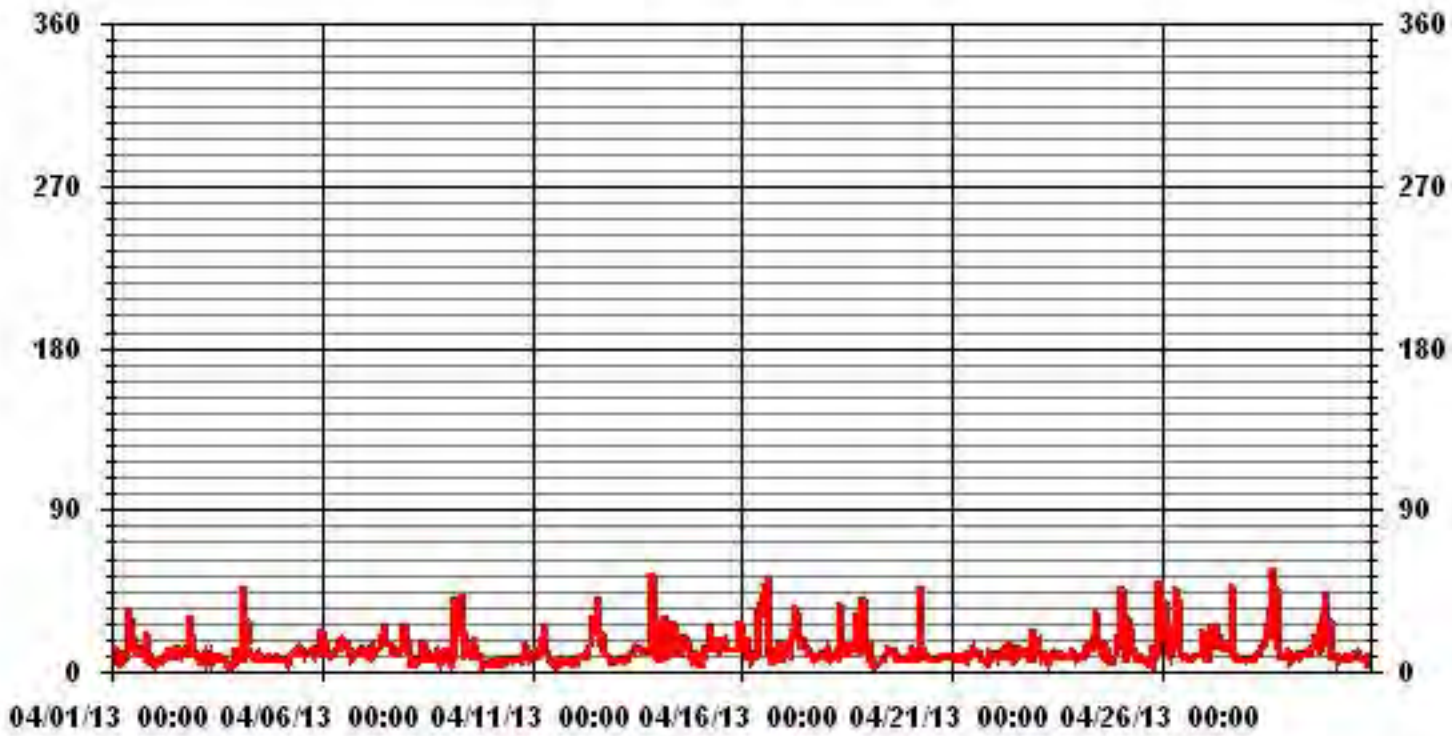
STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- 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

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 720 HRS

01 Hour Averages



— LICA35 STDWDIR DEG

Calibration Reports

Sulphur Dioxide

SO2 Calibration Report

Station Information

Calibration Date	April 2, 2013	Previous Calibration	March 1, 2013
Company	Lakeland Community and Industry Association		
Plant / Location	Portable / Elk Poin Airport		
Start Time (MST)	10:55	End Time (MST)	14:30
Reason:	Monthly Calibration		
Barometric Pressure	27.85 inHg	Station Temperature	19.5 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	NA Volts

Equipment Information

Analyzer Make / Model:	API 100E	S/N :	467	Method:	Fluorescent
Converter Make / Model:	NA	S/N :	NA		
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	0 - 1000 ppb				
Sample Flow / Box Temp	624 ccm	30.7 Deg C	622 ccm	33.8 Deg C	
HVPS / Lamp Setting	612	1555	612	1556	
PMT / RxCell Temp	8.1 Deg C	50 Deg C	8.2 Deg C	50 Deg C	
Converter / IZS Temp	NA Deg C	45 Deg C	NA Deg C	45.0 Deg C	
Offset / Slope	104.1	1.251	107.5	1.229	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	2	N/A
5000	0	0	0	N/A
4915	81.1	805	820	0.9819
4915	81.1	805	804	1.0014
4955	40.6	403	398	1.0128
4975	20.3	202	199	1.0129
5000	0	0	0	N/A
Sum of Least Squares				1.0041
New Correction Factor				1.0014

IZS Calibration Data

Before Calibration		After Calibration	
Auto Zero	0.0	Auto Zero	0.0
Auto Span	359.6	Auto Span	359.6
Sample Lines Connected		Sample Lines Connected	YES

Percent Change

Previous Month's Calibration Correction Factor:	1.0000
Current Correction Factor Before Span Adjust:	0.9819
Percent Change:	1.8%

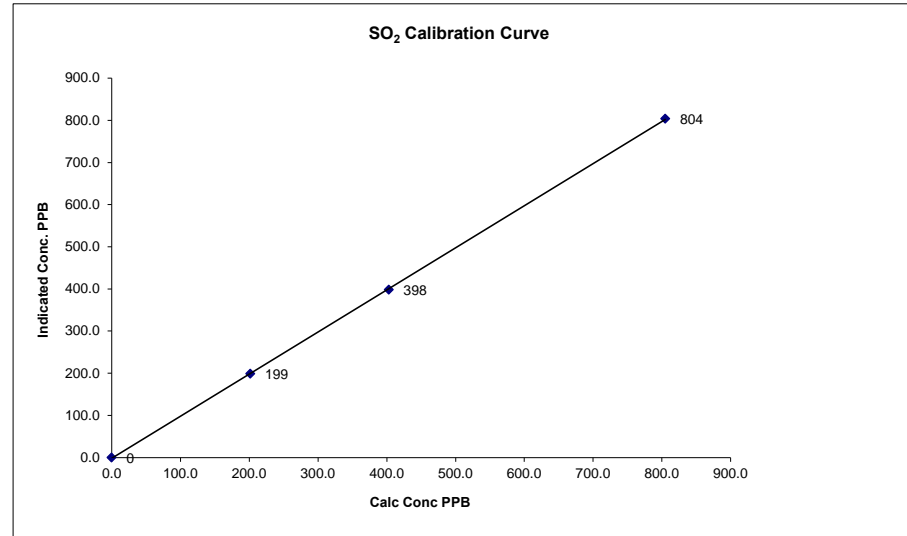
Notes: **N/A : Not applicable**

Calibration Performed by: Waseem Ahmed

SO2 Calibration Curve

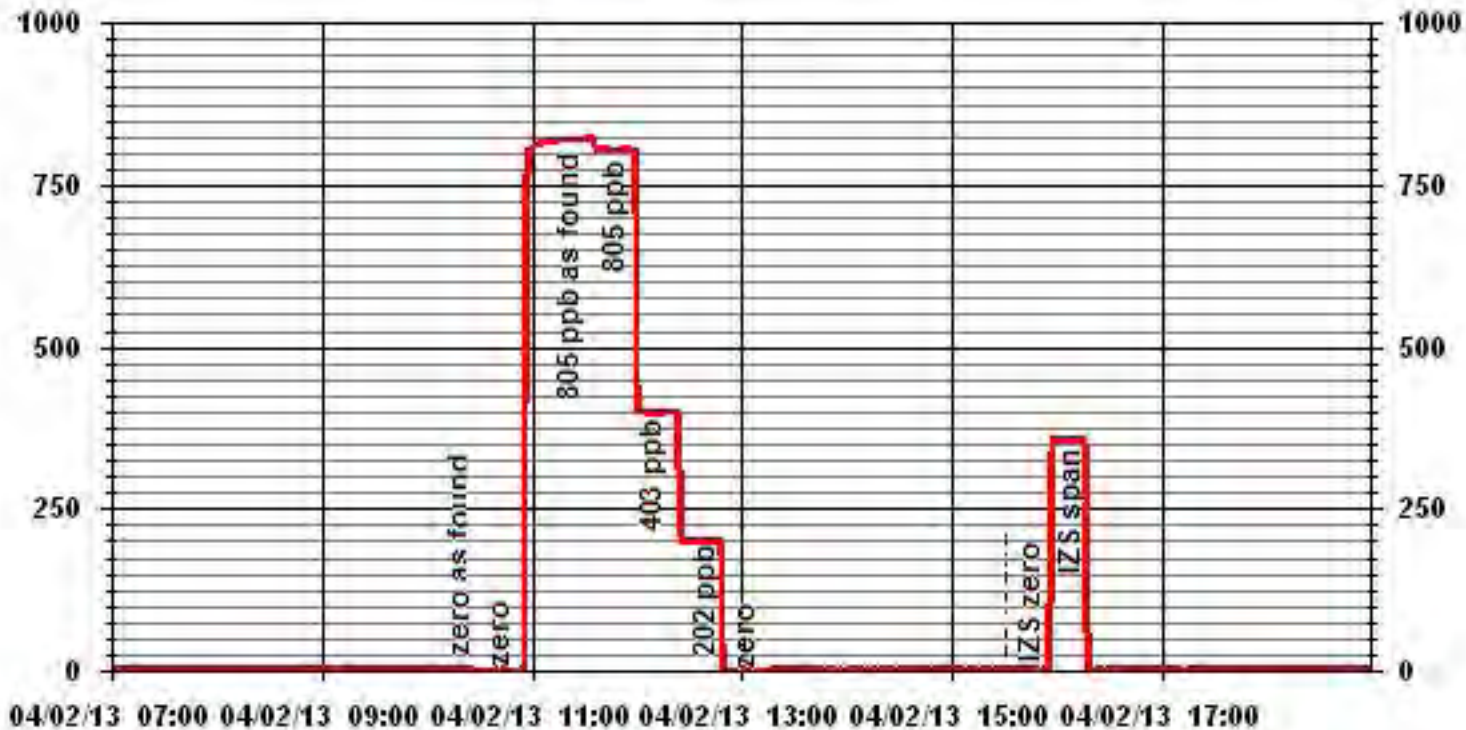
Calibration Date	April 2, 2013
Company	Lakeland Community and Industry Association
Plant / Location	Portable / Elk Poin Airport
Start Time (MST)	10:55
End Time (MST)	14:30

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		0.999960
202	199	1.0129		0.998906
403	398	1.0128		-1.817628
805	804	1.0014		



Notes:

01 Minute Averages



Hydrogen Sulphide

H2S Calibration Report

Station Information

Calibration Date	April 2, 2013		Previous Calibration	March 1, 2013	
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION				
Plant / Location	Portable/ Elk Point Airport				
Start Time (MST)	10:55	End Time (MST)	13:10		
Reason:	Monthly Calibration				
Barometric Pressure	27.85	inHg	Station Temperature	19.5	Deg C
Cal Gas	10.1	ppm	Gas Cyl. #	BLM00504	Cal Gas Expiry date
DAS Output Voltage	0 - 1	Volts	Chart Rec. Output	NA	Volts

Equipment Information

Analyzer Make / Model:	API 101E	S/N :	509	Method:	Fluorescent
Converter Make / Model:	internal	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	ppb	
Sample Flow / Box Temp	511 ccm 30.7 Deg C	509 ccm 32.7 Deg C	
HVPS / Lamp Setting	540 1801	540 1798	
PMT / RxCell Temp	7.9 Deg C 50.0 Deg C	7.9 Deg C 50.0 Deg C	
Converter / IZS Temp	315.0 Deg C 45.0 Deg C	315 Deg C 45.0 Deg C	
Offset / Slope	102.4 1.013	102.4 1.013	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4995	0	0	0	NA
	No Zero Adj.			NA
4960	40.0	81	81	1.0000
	No Span Adj.			
4977	20.0	40	42	0.9625
4988	12.0	24	25	0.9696
4996	0	0	1	NA
Sum of Least Squares				0.9889
New Correction Factor				

IZS Calibration Data

Before Calibration		After Calibration	
Auto Zero	0.0		0.0
Auto Span	57.1		57.1
Sample Lines Connected			YES

Percent Change

Previous Month's Calibration Correction Factor:	1.0000
Current Correction Factor Before Span Adjust:	1.0000
Percent Change:	0.0%

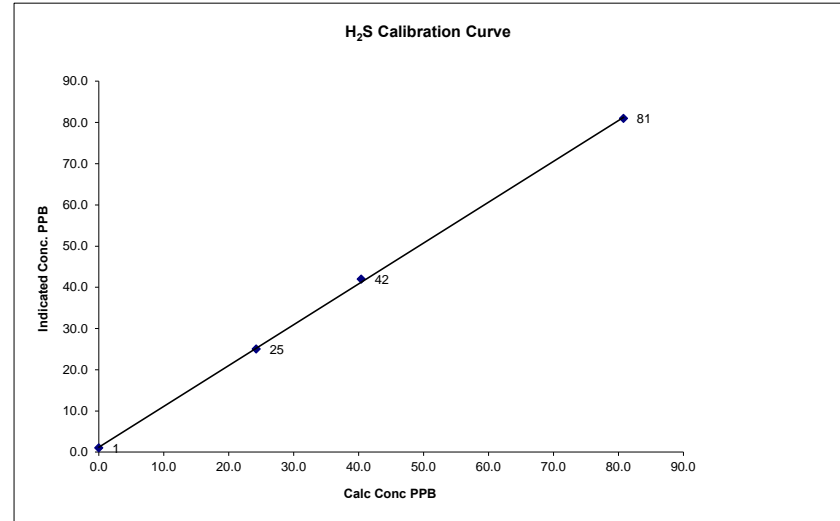
Notes: **NA : Not Applicable**
 analyzer lost power between 13:47 and 13:49

Calibration Performed by: Waseem Ahmed

H₂S Calibration Curve

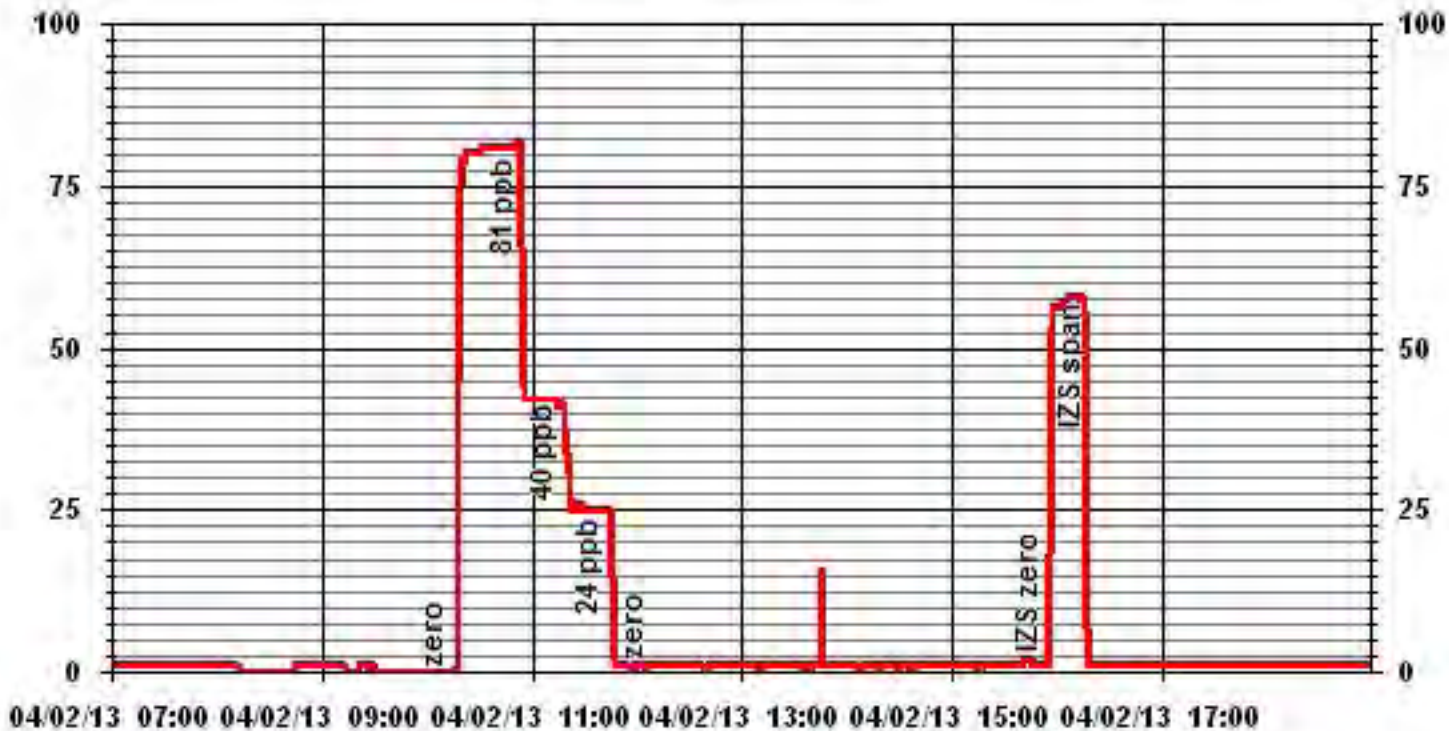
Calibration Date	April 2, 2013	
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION	
Plant / Location	Portable/ Elk Point Airport	
Start Time (MST)	10:55	End Time (MST)
		13:10

Calculated Conc.	Indicated Response	Correction Factor	Correlation Coefficient	(≥ 0.995)
ppb	ppb		Slope	0.999791
0	1		Intercept	0.991244
			(± 3% F.S.)	1.202372
24	25	0.9696		
40	42	0.9625		
81	81	0.9975		



Notes:

01 Minute Averages



Total Hydrocarbons

THC Calibration Report

Station Information			
Calibration Date:	April 8, 2013	Previous Calibration	March 1, 2013
Company:	Lakeland Industry and Community Association		
Plant / Location:	LICA Portable Station / Elk Point Airport		
Start Time (MST)	11:00	End Time (MST)	13:55
Reason:	Monthly Calibration		
Barometric Pressure:	28.26 inHg	Station Temperature:	22 Deg C
Calibrator:	API 700	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:	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	S/N :	04366-09739	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	-0.9	NA
2000	0.0	0.0	-0.1	NA
2000	74.0	41.4	40.5	1.0228
2000	74.0	41.4	41.3	1.0030
2000	37.0	21.1	20.8	1.0139
2000	20.0	11.5	11.3	1.0173
2000	0.0	0.0	0.2	NA
New Correction Factor:				1.0030

Percent Change

Previous Calibration Correction Factor:	0.9679
Current Correction Factor Before Span Adjust:	1.0228
Percent Change:	-5.4%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	24.8	24.8
Sample Lines Connected	YES	

Cylinder Pressures			
Span	300 psi	Hydrogen 1850 psi	Zero Air 33 psi

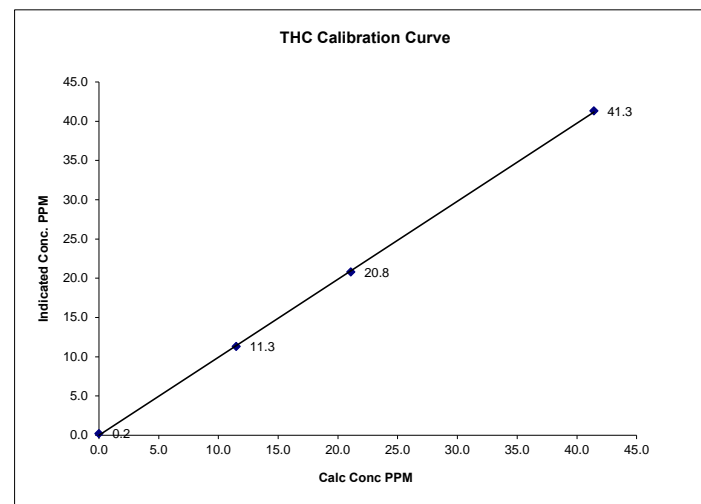
Notes: **NA : Not Applicable**
 Following the AF check, Adjusted H2 pressure from 12 to 11 psi before start calibration. Zero is unstable -0.2-0.59 after cal.

Calibration Performed by: Waseem Ahmed

THC Calibration Curve

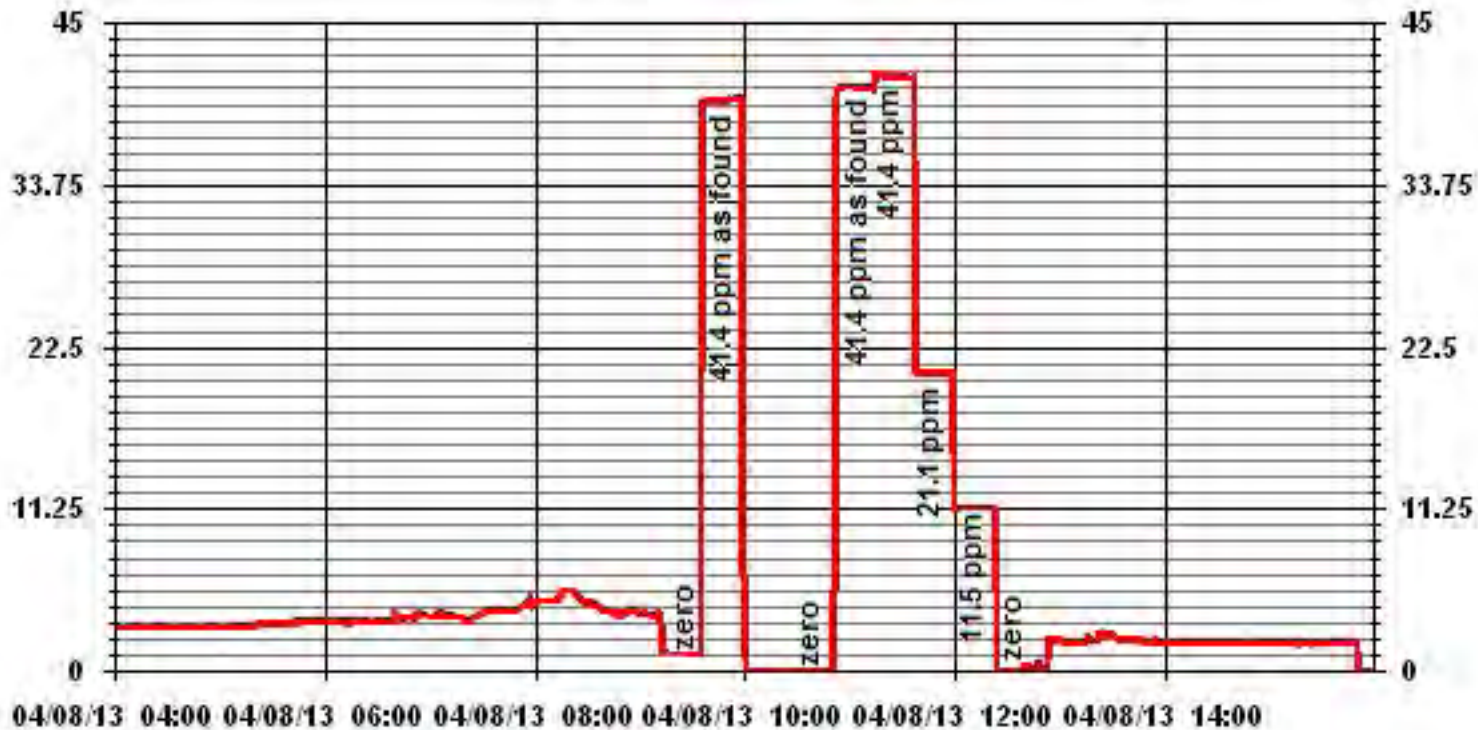
Calibration Date	April 8, 2013
Company	Lakeland Industry and Community Association
Plant / Location	LICA Portable Station / Elk Point Airport
Start Time (MST)	11:00
End Time (MST)	13:55

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient (≥ 0.995)	Slope (0.85 to 1.15)	Intercept (± 3% F.S.)
0.0	0.2	NA	0.999894	0.993580	0.01685
11.5	11.3	1.0173			
21.1	20.8	1.0139			
41.4	41.3	1.0030			



Notes:

01 Minute Averages



Total Hydrocarbons (55i)

Methane - Non Methane Hydrocarbon Calibration Report

Station Information

Calibration Date:	April 8, 2013	Previous Calibration	March 16, 2013
Company:	LICA		
Plant / Location:	ELK POINT AIRPORT		
Start Time (MST)	14:00	End Time (MST)	17:30
Reason:	Monthly Calibration		
Barometric Pressure:	28.27 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:	ESC 8832	S/N :	AO717
Chart Recorder:	NA	S/N:	NA
Output Voltage Range:	0-10	Chart Speed:	NA 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	175.1	Deg C	175.1	Deg C		
Filter Temp	175	Deg C	175	Deg C		
Column Oven Temp	75.3	Deg C	75.3	Deg C		
Flame Temp	369.1	Deg C	368.8	Deg C		
Box Temp	36.1	Deg C	36.2	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	NA	NA
	No adj. needed						
2982	18.00	3.60	3.37	3.73	3.47	0.9651	0.9700
2982	18.00	3.60	3.37	3.59	3.39	1.0028	0.9929
2964	36.00	7.20	6.73	7.11	6.67	1.0127	1.0093
2991	9.00	1.80	1.68	1.88	1.83	0.9574	0.9197
3000	0.00	0.00	0.00	0.00	0.00	NA	NA
Correction Factors:						1.0028	0.9929

Percent Change from Previous Calibration

Previous Calibration Correction Factor:	CH4	NMHC
	0.9945	0.9945
Current Correction Factor Before Span Adjust:	0.9651	0.9700
Percent Change:	3.0%	2.5%

IZS Calibration Data

		Before Calibration		After Calibration	
Auto Zero (ppm)		CH4	NMHC	CH4	NMHC
		0.0	0.0	0.00	0.00
Auto Span (ppm)		CH4 10.8	NMHC 13.96	CH4 10.82	NMHC 13.96
Sample Lines Connected		YES			

Notes: Cylinder Pressures
 Span 1300 psi
 Hydrogen 1550 psi
 Zero Air 45 psi
 Nitrogen 1950 psi

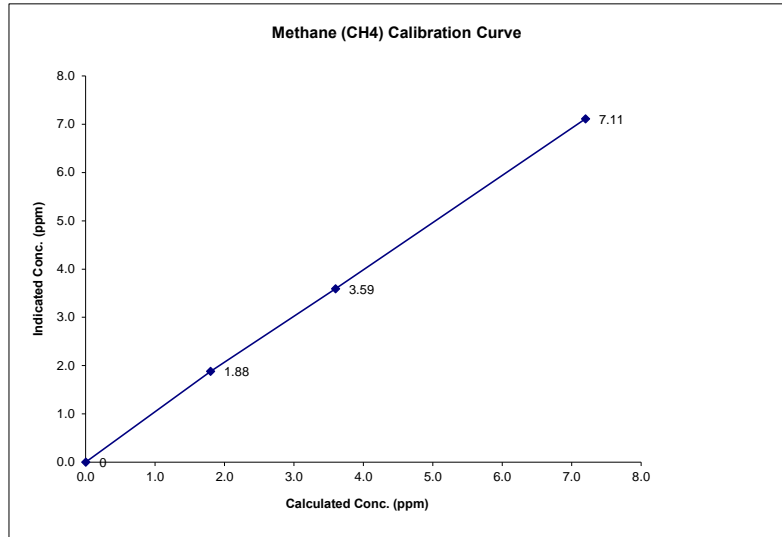
Notes: **NA : Not Applicable**

Calibration Performed by: Waseem Ahmed

Methane (CH4) Calibration Curve

Calibration Date	April 8, 2013		
Company	LICA		
Plant / Location	ELK POINT AIRPORT		
Start Time (MST)	14:00	End Time (MST)	17:30

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999764
0	0	NA	Slope	(0.85 to 1.15)	0.983175
1.80	1.88	0.9574	Intercept	(± 3% F.S.)	0.048000
3.60	3.59	0.9651			
7.20	7.11	1.0127			

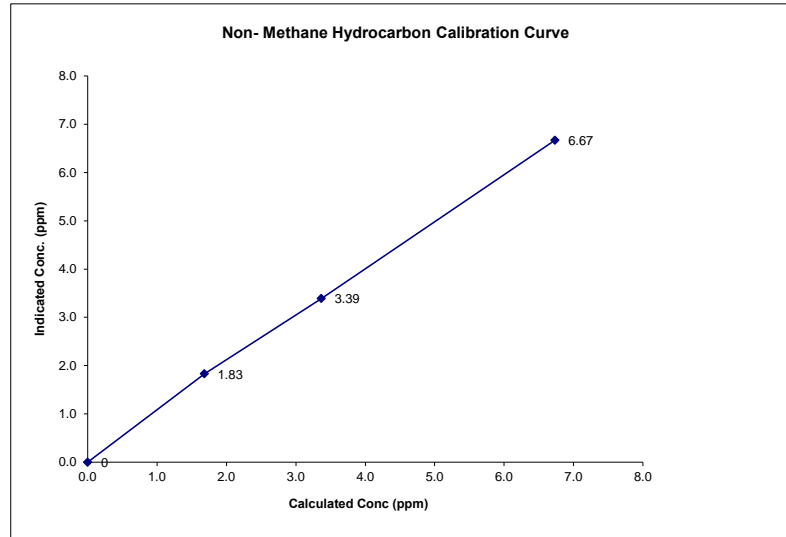


Notes:

Non-Methane Hydrocarbon Calibration Curve

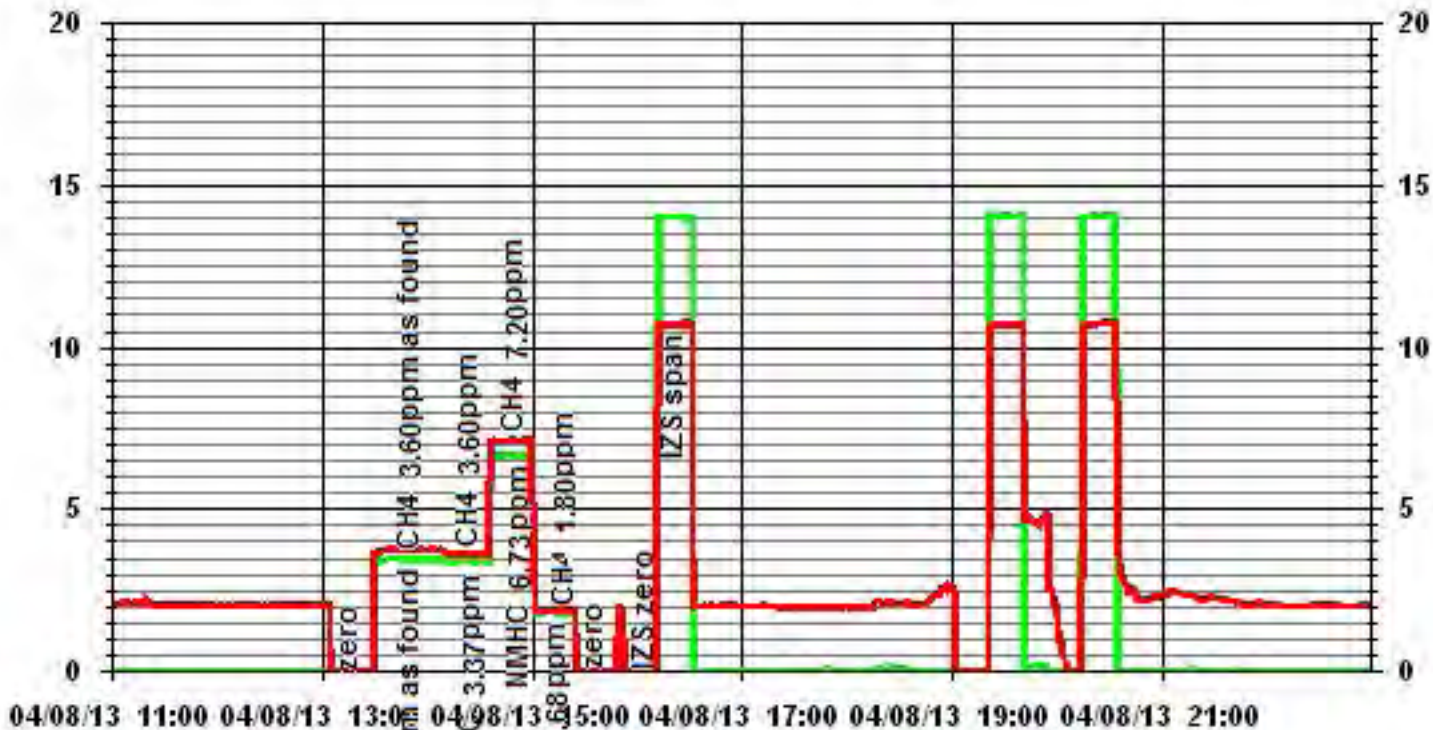
Calibration Date	April 8, 2013		
Company	LICA		
Plant / Location	ELK POINT AIRPORT		
Start Time (MST)	14:00	End Time (MST)	17:30

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999322
0	0	NA	Slope	(0.85 to 1.15)	0.983448
1.68	1.83	0.9197	Intercept	(± 3% F.S.)	0.076000
3.37	3.39	0.9700			
6.73	6.67	1.0093			



Notes:

01 Minute Averages



Particulate Matter 2.5

TEOM 1405F Audit

	<u>Station</u>		<u>Audit Transfer Standard</u>
Date:	April 2, 2013	Make/Model:	Streamline FTS
Station Name:	Lica Portable (CASA # 35)	Serial Number:	Hi 091001, Low 091099
Location:	Elk Point Airport	Cell s/n:	NA
Operator:	LICA	Thermometer s/n:	Fluke 1551A / 1735039

	<u>Sampler</u>		<u>Set-up and current Sampler readings</u>
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 (%)	40.6%
Firmware Ver.	1.52	K _o Factor	13125
Parameter	PM 2.5 (with FDMS)	Temp (°C)	-1.0
		Press (ATM)	0.928

Conversion from mmHg or "Hg to ATM (Atmospheres)

ATM = (mmHg) X (1.316 X 10⁻³) or ATM = ("Hg) X (3.34207 X 10⁻²)

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

Audit

Status			
Noise <0.10µg	0.004	Warnings	None
Pump Vacuum <0.40atm	0.34	Pump Gauge (inHg)	-18
Temperature/Pressure		D °C	
Measured Temp (± 2 °C)	2.7		-3.7
Measured Press (± 0.01atm)	0.932	DATM	-0.004
Flow Audit			
Indicated Main Flow (l/min)	3.00	Main Flow Drift (±10.0%)	0.92%
Measured Main Flow (l/min)	2.97	Flow Adjusted to Measured?	Yes
Indicated Bypass Flow (l/min)	13.67	Bypass Flow Drift (±10.0%)	1.02%
Measured Bypass Flow (l/min)	13.39	Flow Adjusted to Measured?	Yes
Leak Check		Instrument Setup	
Main (< 0.15 l/min)	Base=-0.04 Ref=-0.03	Flow Control = Active	
Aux (< 0.6 l/min)	Base=0.00 Ref=0.00	Report Conditions = Actual	
K_o Factor			
Measured	NA		
K _o Difference (± 2.5%)	NA		

Start Time: 14:20 **Finish Time:** 15:50

Sample Inlet Cleaned: No **New Filters Installed:** Yes
Comments: **New Filter Loading %:** 23.7%

TEOM 1405F Audit

	<u>Station</u>		<u>Audit Transfer Standard</u>
Date:	April 8, 2013	Make/Model:	Streamline FTS
Station Name:	Lica Portable (CASA # 35)	Serial Number:	Hi 091001, Low 091099
Location:	Elk Point Airport	Cell s/n:	NA
Operator:	LICA	Thermometer s/n:	Fluke 1551A / 1735039

	<u>Sampler</u>		<u>Set-up and current Sampler readings</u>
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 (%)	24.5%
Firmware Ver.	1.52	K _o Factor	13125
Parameter	PM 2.5 (with FDMS)	Temp (°C)	-3.7
		Press (ATM)	0.944

Conversion from mmHg or "Hg to ATM (Atmospheres)

ATM = (mmHg) X (1.316 X 10⁻³) or ATM = ("Hg) X (3.34207 X 10⁻²)

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

Audit

Status			
Noise <0.10µg	0.000	Warnings	None
Pump Vacuum <0.40atm	0.34	Pump Gauge (inHg)	-18
Temperature/Pressure		D °C	
Measured Temp (± 2 °C)	-3.8		0.1
Measured Press (± 0.01atm)	0.946	DATM	-0.002
Flow Audit			
Indicated Main Flow (l/min)	3.00	Main Flow Drift (± 10.0%)	0.67%
Measured Main Flow (l/min)	3.01	Flow Adjusted to Measured?	Yes
Indicated Bypass Flow (l/min)	13.67	Bypass Flow Drift (± 10.0%)	0.38%
Measured Bypass Flow (l/min)	13.77	Flow Adjusted to Measured?	Yes
Leak Check		Instrument Setup	
Main (< 0.15 l/min)	Base=-0.05 Ref=-0.05	Flow Control = Active	
Aux (< 0.6 l/min)	Base=0.00 Ref=0.00	Report Conditions = Actual	
K_o Factor			
Measured	NA		
K _o Difference (± 2.5%)	NA		

Start Time: 18:00 Finish Time: 19:30

Sample Inlet Cleaned: No New Filters Installed: Yes
 New Filter Loading %: 17.8%

Comments: Changed a new stwch valve.

Auditor/s: Limin Li

TEOM 1405F Audit

	<u>Station</u>		<u>Audit Transfer Standard</u>
Date:	April 22, 2013	Make/Model:	Streamline FTS
Station Name:	Lica Portable (CASA # 35)	Serial Number:	Hi 091001, Low 091099
Location:	Elk Point Airport	Cell s/n:	NA
Operator:	LICA	Thermometer s/n:	Fluke 1551A / 1735039

	<u>Sampler</u>		<u>Set-up and current Sampler readings</u>
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 (%)	20.8%
Firmware Ver.	1.52	K _o Factor	13125
Parameter	PM 2.5 (with FDMS)	Temp (°C)	5.5
		Press (ATM)	0.940

Conversion from mmHg or "Hg to ATM (Atmospheres)

ATM = (mmHg) X (1.316 X 10⁻³) or ATM = ("Hg) X (3.34207 X 10⁻²)

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

Audit

Status			
Noise <0.10µg	0.009	Warnings	None
Pump Vacuum <0.40atm	0.34	Pump Gauge (inHg)	-18
Temperature/Pressure		D °C	
Measured Temp (± 2 °C)	5.1		0.4
Measured Press (± 0.01atm)	0.942	DATM	-0.002
Flow Audit			
Indicated Main Flow (l/min)	3.00	Main Flow Drift (± 10.0%)	0.55%
Measured Main Flow (l/min)	3.01	Flow Adjusted to Measured?	Yes
Indicated Bypass Flow (l/min)	13.67	Bypass Flow Drift (± 10.0%)	1.20%
Measured Bypass Flow (l/min)	13.55	Flow Adjusted to Measured?	Yes
Leak Check		Instrument Setup	
Main (< 0.15 l/min)	NA	Flow Control = Active	
Aux (< 0.6 l/min)	NA	Report Conditions = Actual	
K_o Factor			
Measured	NA		
K _o Difference (± 2.5%)	NA		

Start Time: 15:00 Finish Time: 16:15

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	April 2, 2013	Previous Calibration	March 1, 2013
Company	LICA	Plant/Location	Lica Portable/ Elk Point Airport
Start Time (MST)	10:55	End Time (MST)	16:30
Reason:	Monthly Calibration		
Barometric Pressure	27.85 inHg	Station Temperature	20 Deg C
Cal Gas Concentration	NOx 49.3 ppm	NO 49.2 ppm	Cal Gas Expiry date
Cal Gas Cylinder #	BAL3031		December 29, 2016
DAS Output Voltage	0 - 1 Volts	Chart Rec. Output	NA Volts

Equipment Information

Analyzer Make / Model:	API 200E	S/N :	593	Method:	Chemiluminescent
Calibrator Make / Model:	Envionics 6100	S/N :	4760		
DAS Make / Model:	ESC 8832	S/N :	AO 717		
Chart Recorder Make / Model:	NA	S/N:	NA		
Flow Meter:	Envionics 6100	S/N :	4760		

Analyzer Settings

Before Calibration		0 - 1000		After Calibration	
Concentration Range					
Sample Flow/Conv. Temp	472 ccm	314 Deg C		475 ccm	314 Deg C
Ozone Flow / Vacuum	78 ccm	4.8 "Hg-A		78 ccm	4.8 "Hg-A
HVPS / A ZERO	638 Volts	6.8 MV		638 Volts	6.8 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	30.6 Deg C	45.2 Deg C		30.6 Deg C	45.2 Deg C
Offset	2 NOx	-0.1 NO		2 NOx	-0.1 NO
Slope	1.187 NOx	1.177 NO		1.187 NOx	1.177 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 Zero Adj.									
4915	81.1	NA	800	799	NA	762	762	0	1.0502	1.0481
4915	81.1	NA	800	799	NA	800	800	0	1.0000	0.9983
4955	40.6	NA	401	400	NA	398	398	0	1.0067	1.0047
4975	20.3	NA	200	200	NA	201	201	0	0.9967	0.9947
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		
4920	81.1	NA	799	798	NA	798	801	-2	NA	
4920	81.1	600	799	NA	551	800	248	551	1.0000	
	No adj.									
4920	81.1	300	799	NA	276	801	523	278	0.9928	
4920	81.1	120	799	NA	108	802	691	111	0.9730	

Linearity OK?	Yes	No	Sum of Least Squares Correction Factors:	NOx= 1.001	NO= 1.001	NO2= 0.997
				NOx= 1.0000	NO= 0.9983	NO2= 1.0000
				Average Converter Efficiency= 101.15%		

Before Calibration **After Calibration**

Auto Zero	0.0	NOx	0.0	NO2	0.0	NOx	0.0	NO2
Auto Span	563	NOx	555	NO2	563	NOx	555	NO2
		Sample Lines Connected	YES					
Percent Change from Previous Calibration		NOx	-4.5%	NO	-4.4%	NO2	0.0%	

Notes:

NA : Not Applicable

Additional point done for ozone cal O3 St. Pt. 450 Nox=804, NO=383, NO2=422

Lost power causing zero air pump stop between 13:47 and 13:49.

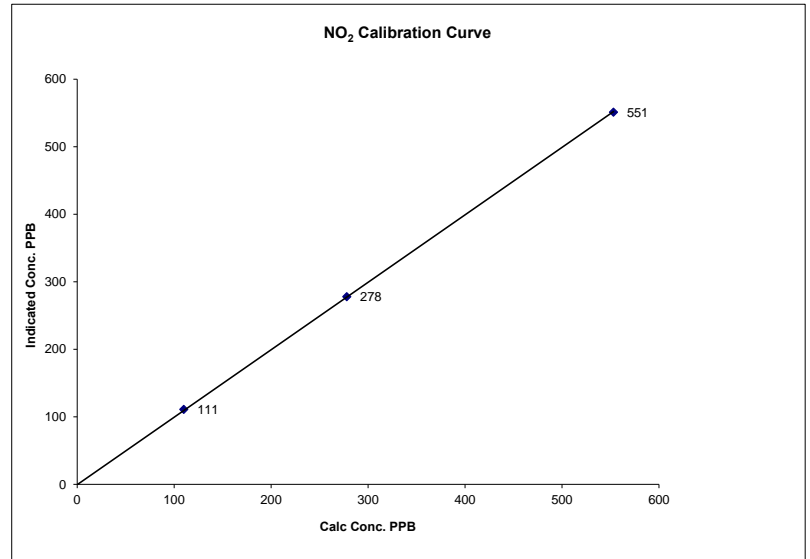
Calibrator malfunction at 13:55, reset the calibrator and re-did the point.

Calibration Performed by: Waseem Ahmed

NO2 Calibration Curve

Calibration Date	April 2, 2013	Company	LICA
Plant / Location	Lica Portable/ Elk Point Airport		
Start Time (MST)	10:55	End Time (MST)	16:30

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999964
0	-2	N/A	Intercept	(± 3% F.S.)	-0.35718
110	111	0.9910			
278	278	1.0000			
553	551	1.0036			

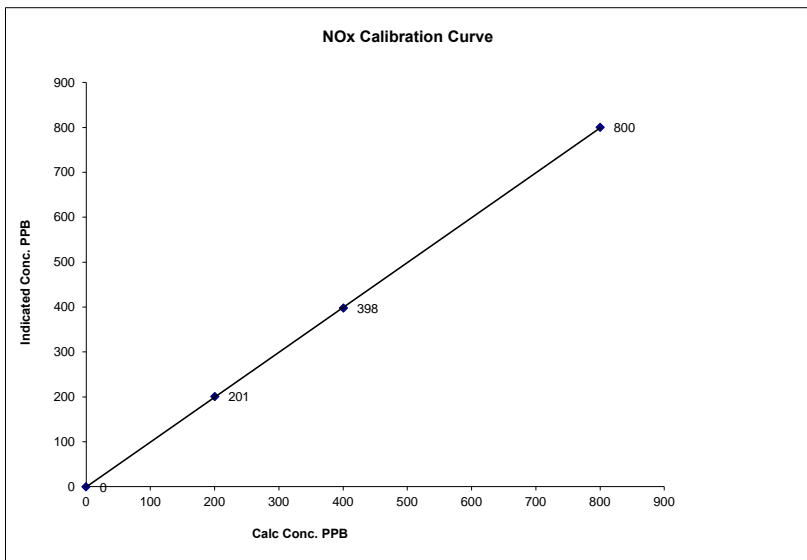


Notes:

NOx Calibration Curve

Calibration Date	April 2, 2013	
Company	LICA	
Plant / Location	Lica Portable/ Elk Point Airport	
Start Time (MST)	10:55	End Time (MST) 16:30

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999983
0	0	N/A	Slope (0.85 to 1.15)	0.998989
200	201	0.9967	Intercept (± 3% F.S.)	-0.21719
401	398	1.0067		
800	800	1.0003		

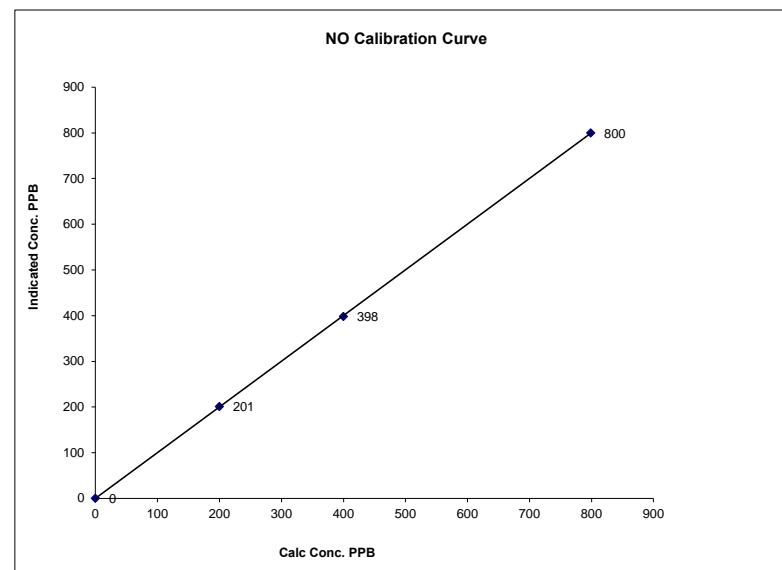


Notes:

NO Calibration Curve

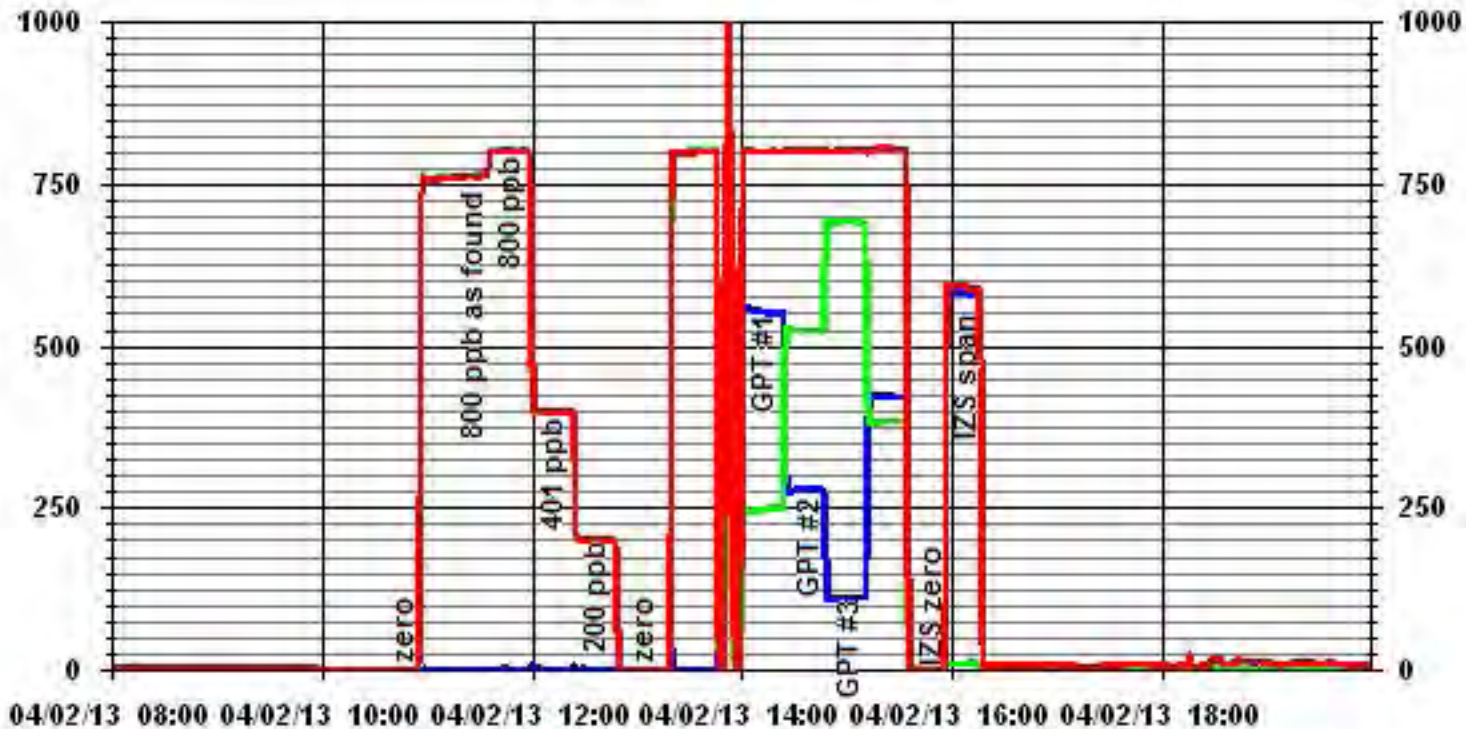
Calibration Date	April 2, 2013	
Company	LICA	
Plant / Location	Lica Portable/ Elk Point Airport	
Start Time (MST)	10:55	End Time (MST) 16:30

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999983
0	0	N/A	Slope (0.85 to 1.15)	1.001565
200	201	0.9947	Intercept (± 3% F.S.)	-5.0734
400	398	1.0047		
799	800	0.9983		



Notes:

01 Minute Averages



— LICA35 IIOX_ PPB

— LICA35 IIO_ PPB

— LICA35 IIO2_ PPB

Ozone

O₃ Calibration Report

Station Information

Calibration Date	April 8, 2013	Previous Calibration	March 1, 2013
Company	Lakeland Industry & Community Association		
Plant / Location	Elk Point Station		
Start Time (MST)	16:00	End Time (MST)	12:25
Reason:	Monthly Calibration		
Barometric Pressure	28.25 inHg	Station Temperature	18.5 Deg C
DAS Output Voltage	0 - 1 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 :	AO 717		

Analyzer Settings

Before Calibration				After Calibration			
Concentration Range	0 - 500 ppb						
Cell A Flow / Cell B Flow	758 LPM	765 ccm		760 LPM	766 ccm		
O ₃ Set Level	699 mmHg			704 mmHg			
Bench Lamp	54 Deg C			54 Deg C			
O ₃ Lamp / Box Temp	68.2 Deg	27.3 Deg C		68.2 Deg C	31.4 Deg C		
Offset / Slope	-0.2	1.016		-0.2	1.016		

Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4994	0	0	0	NA
	No Zero Adj.			
4994	450	418	422	0.9905
	No Span Adj.			
4994	300	278	281	0.9893
4994	120	110	112	0.9821
4944	0	0	0	NA
Sum of Least Squares				0.9898
New Correction Factor				0.9905

IZS Calibration Data

Before Calibration		After Calibration	
Auto Zero	0.0	Auto Zero	0.0
Auto Span	362	Auto Span	362
Sample Lines Connected		YES	
Previous Calibration Correction Factor:		0.9976	
Current Correctio Factor Before Span Adjust:		0.9905	
Percent Change:		0.7%	

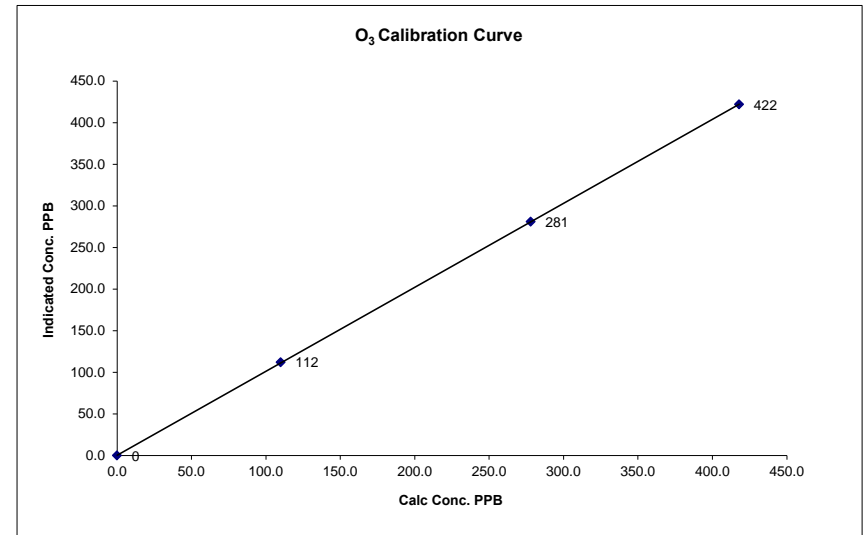
Note: NA : Not Applicable

Calibration Performed by: Waseem Ahmed

O₃ Calibration Curve

Calibration Date	April 8, 2013
Company	Lakeland Industry & Community Association
Plant / Location	Elk Point Station
Start Time (MST)	16:00
End Time (MST)	12:25

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	
0	0	n/a	Slope	0.999995
110	112	0.9821	Intercept	1.008973
278	281	0.9893		0.442030
418	422	0.9905		



Notes:

01 Minute Averages

