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July 11, 2013

RE: May 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

May 2013

Prepared By:



June 26, 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: May 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 – May 2013

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION COLD LAKE SITE						MAXIMUM VALUES						OPERATIONAL TIME (PERCENT)	
						1-HOUR					24-HOUR		
PARAMETER	OBJECTIVES		EXCEEDENCES		MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (KPH)	WIND DIRECTION (DEGREES)	READING		DAY
	1-HR	24-HR	1-HR	24-HR									
SO ₂ (PPB)	172	48	0	0	0.22	2	VAR	VAR	VAR	VAR	0.9	1	99.9
TRS (PPB)	-	-	-	-	0.02	1	VAR	VAR	VAR	VAR	0.3	30	99.9
NO ₂ (PPB)	159	-	0	-	3.00	14.9	10	20	2.3	73(ENE)	4.5	19	99.9
NO (PPB)	-	-	-	-	0.48	9.2	27	6	2.4	59(ENE)	2.3	27	99.9
NO _x (PPB)	-	-	-	-	3.48	20.7	18	3	1.1	67(ENE)	6.7	27	99.9
O ₃ (PPB)	82	-	0	-	35.69	69	6	18	11.3	223(SW)	47.0	11	99.9
THC (PPM)	-	-	-	-	2.13	12.9	15	11	7.3	248(WSW)	2.7	15	99.9
PM 2.5 (UG/M ³)	-	30	-	0	8.20	39	19	6	1.2	336(NNW)	18.3	30	96.1
TEMPERATURE (DEG C)	-	-	-	-	13.49	29.6	6	17	12.2	223(SW)	19.0	6	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	49.95	99	26	5	0.5	264(W)	78.5	25	100.0
VECTOR WS (KPH)	-	-	-	-	6.09	20.0	7	0	-	338(NNW)	13.4	24	99.3
VECTOR WD (DEGREES)	-	-	-	-	102(E)	-	-	-	-	-	-	-	99.3

VAR-VARIOUS NA: NOT AVAILABLE

Monthly Non-Continuous Data Summary

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

Passive Ambient Monitoring Network – May 2013

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PASSIVE NETWORK			
NETWORK MAXIMUM			NETWORK AVERAGE
PARAMETER	STATION	READING (PPB)	READING (PPB)
SO ₂	#14	1.0	0.37
H ₂ S	#17	0.23	0.11
NO ₂	#6	2.8	0.9
O ₃	#8	37.4	32.2

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 May 8th. 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 May 8th. Following the as found points check on May 29th, the scrubber material was renewed. An additional scrubber material was installed on the thermal oxidizer on May 29th to prevent data lose caused by a scrubber material failure in the future. Data was corrected using daily zero information.

Ozone (PPB)

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

The monthly calibration was performed on May 8th. The inlet filter was changed before the monthly calibration was started. The analyzer did not span on May 11th due to the zero/span pump failure. An as found points check was performed on the analyzer on May 15th, and the result was within the acceptable range. The pump was rebuilt on May 15th. 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

No operational issues were observed during the month. The inlet filter was changed before the monthly calibration was started on May 8th. 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 May 8th. 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 May: one was on May 2nd and the other one was on May 15th. Both audits passed the manufacturer requirements. The sample inlet was cleaned and the sample filter was changed on May 2nd. 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-nine 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 replaced to MetOne, S/N: F1644

The wind system is reported as vector wind speed and vector wind direction.

No operational issues were observed during the month. The last wind system calibration was performed on December 18th, 2013.

On May 29th, the RM Young wind system, Maxxam supplied, was removed following a removal calibration, and the MetOne wind system, LICA supplied, was installed. The MetOne wind system was removed from the trailer for the 2-Year manufacturer calibration/maintenance in November 2012.

Ambient Temperature (DEGC)

- System make / model - Rotronic Hygroclip-S3

No operational issues were observed during the month.

Trailer Temperature (DEGC)

- System make / model - R&R 61

No operational issues were observed during the month.

Datalogger

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

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

Trailer

The manifold was cleaned on May 2nd.

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

MAY 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	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2	2	2	1	0	1	1	1	1	1	1	1	1	1	1	S	0	0	1	1	0	0	0	1	2	0.9	24
2	1	1	0	0	0	0	1	1	1	1	1	1	1	1	S	0	0	Y	0	1	1	1	0	0	1	0.6	23
3	0	0	0	0	0	0	0	0	1	1	0	1	1	S	0	1	0	0	0	0	0	0	0	0	1	0.2	24
4	0	0	0	0	0	0	0	1	2	1	0	0	S	0	0	0	0	0	0	0	0	0	1	1	2	0.3	24
5	1	1	0	0	0	0	1	1	1	1	1	S	1	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24
6	0	0	0	0	0	0	0	0	0	0	S	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0.4	24
7	1	1	1	1	1	0	1	2	1	S	1	1	1	0	0	1	1	1	1	0	0	0	0	0	2	0.7	24
8	0	0	0	0	0	0	0	C	C	0	0	0	C	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
9	0	0	1	1	0	1	1	0	S	0	1	1	1	1	1	1	1	0	0	0	0	0	0	2	2	0.6	24
10	1	1	1	1	0	0	0	S	0	1	1	1	1	1	1	2	1	1	1	1	0	0	0	0	2	0.7	24
11	0	0	0	0	0	0	S	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0.6	24
12	1	1	1	1	0	S	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1	0.7	24
13	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
14	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	1	0.2	24
15	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
16	0	S	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0.3	24
17	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	S	1	0.1	24
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0.0	24
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	S	0	0	1	0.0	24
20	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	S	0	0	0	1	0.2	24
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0.0	24
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0.0	24
23	1	1	0	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
24	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
25	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
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.0	24
27	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0.0	24
28	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
29	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
30	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
31	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
HOURLY MAX	2	2	2	1	1	1	1	2	2	1	1	1	1	1	1	2	1	1	1	1	1	1	1	2			
HOURLY AVG	0.3	0.3	0.2	0.2	0.0	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.2			

STATUS FLAG CODES

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

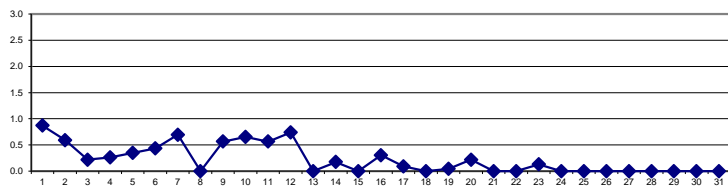
OBJECTIVE LIMIT:

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

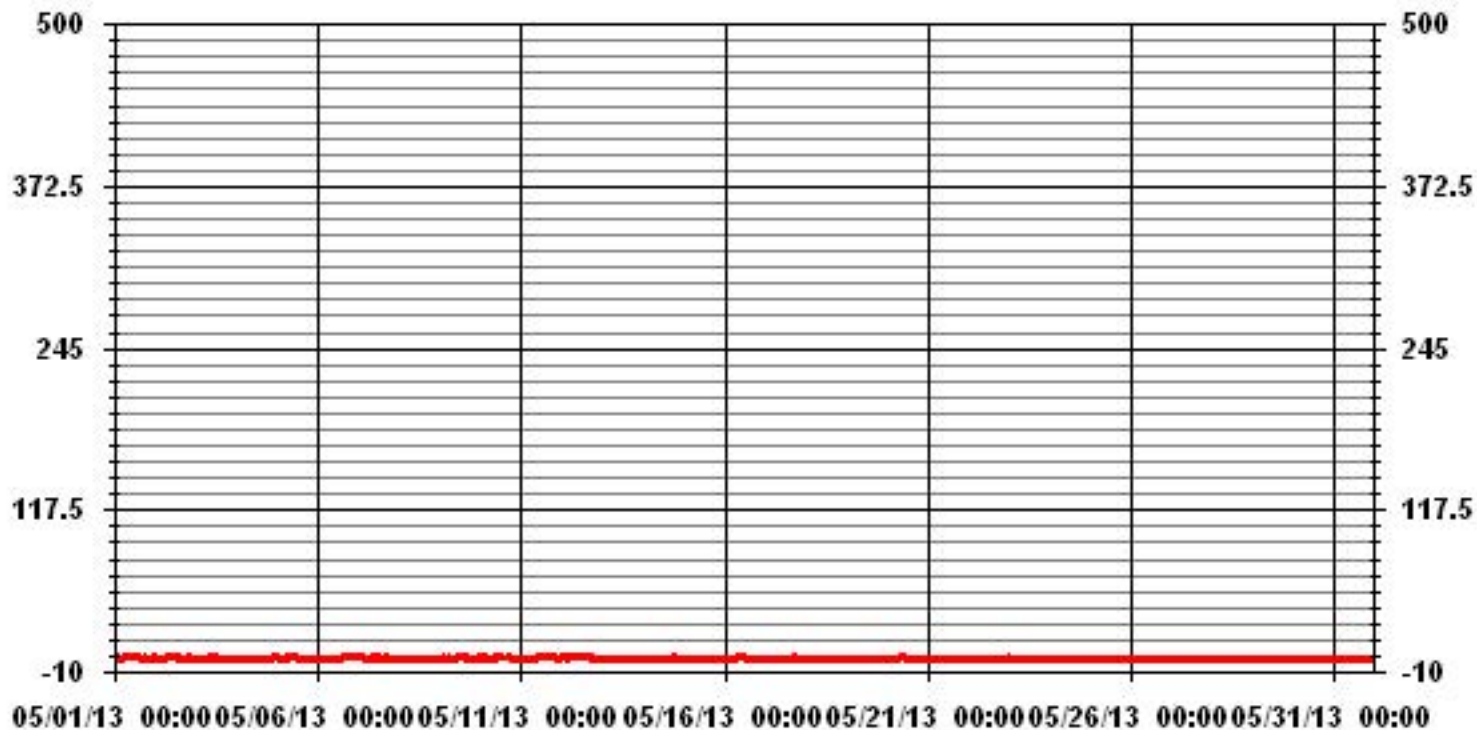
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	151
MAXIMUM 1-HR AVERAGE:	2 PPB @ HOUR(S) VAR ON DAY(S) VAR
MAXIMUM 24-HR AVERAGE:	0.9 PPB ON DAY(S) VAR
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	3 HRS
OPERATIONAL TIME:	743 HRS
AMD OPERATION UPTIME:	99.9 %
STANDARD DEVIATION:	0.44
MONTHLY AVERAGE:	0.22 PPB

24 HOUR AVERAGES FOR MAY 2013



01 Hour Averages



— LICA SO2_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

MAY 2013

SULPHUR DIOXIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	2	3	2	1	1	1	2	1	2	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	3	1.3	24
2	1	1	1	1	1	1	1	1	1	1	2	2	1	1	S	1	1	1	Y	1	1	1	1	1	1	2	1.1	23
3	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	2	1	1	1	1	1	2	1.0	24
4	1	1	1	0	1	1	1	1	2	2	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	2	1.0	24
5	1	1	1	1	1	1	1	1	1	2	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.0	24
6	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	3	2	2	2	1	1	1	1	2	3	1.3	24	
7	2	2	1	2	1	1	2	2	2	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.3	24
8	1	1	1	1	1	1	C	C	C	C	1	C	C	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
9	1	1	1	1	1	1	1	1	S	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	2	2	1.2	24
10	2	2	2	1	1	1	1	S	1	2	2	1	1	1	2	2	2	1	1	1	1	1	1	1	1	2	1.3	24
11	0	1	1	1	1	1	S	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	2	1.0	24
12	1	1	1	1	1	S	1	1	1	1	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	2	1.2	24
13	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1.0	24
14	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
15	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1.0	24
16	1	S	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.0	24
17	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	1	1	1	1	1	1	S	5	1.2	24
18	1	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	1.0	24
19	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	S	1	1	1	2	1.1	24
20	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
21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1.0	24
22	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	1.0	24
23	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1.0	24
24	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1.0	24
25	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	0.9	24
26	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1.0	24
27	1	1	1	1	1	1	1	1	1	0	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
28	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
29	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	0	0	1	1	1	1	1	0.9	24
30	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
31	0	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
HOURLY MAX	2	3	2	2	1	1	2	2	2	2	2	2	2	2	2	3	5	2	2	1	1	1	1	1	2			
HOURLY AVG	1.0	1.1	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.1	1.1	1.1	1.1	1.2	1.0	1.0	0.9	1.0	1.0	1.1				

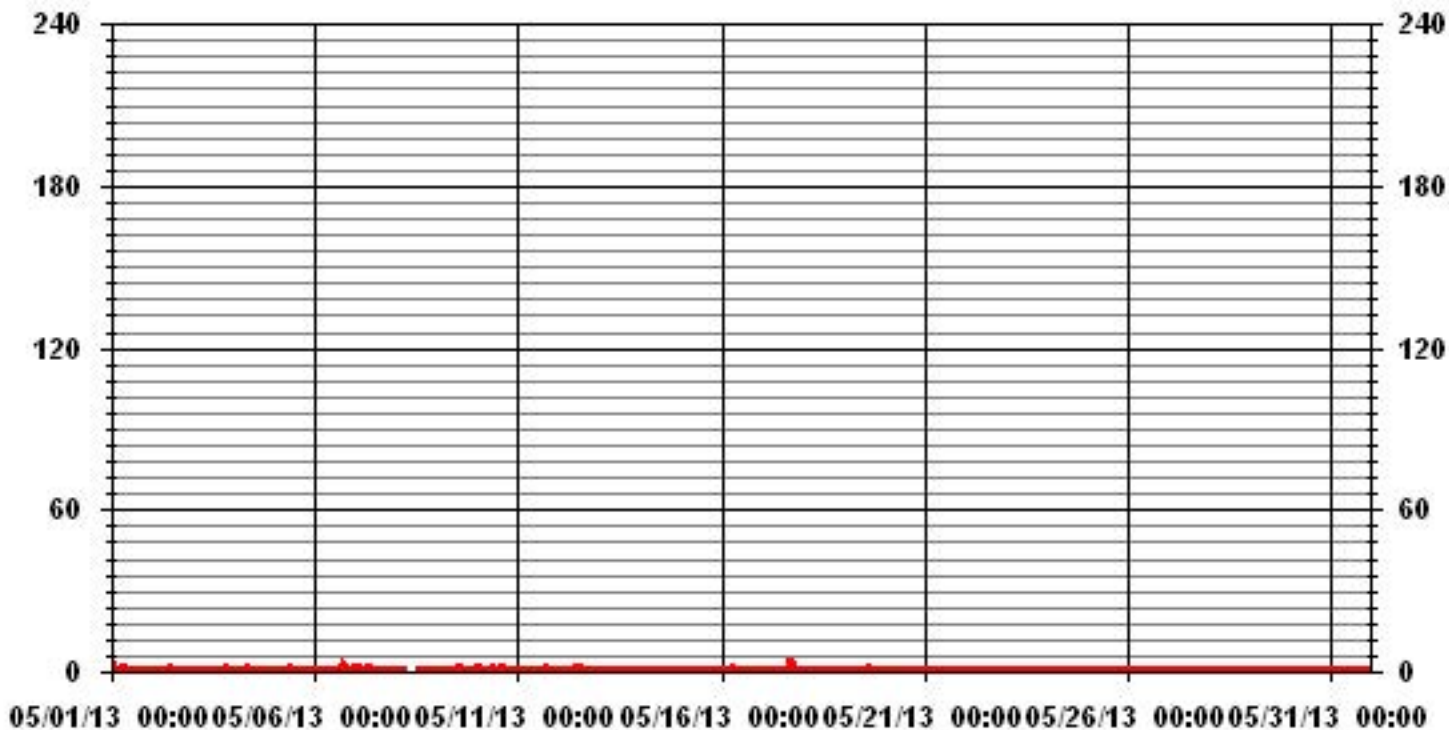
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	696				
MAXIMUM INSTANTANEOUS VALUE:	5	PPB	@ HOUR(S)	17	ON DAY(S) 17
IZS CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	743	HRS
MONTHLY CALIBRATION TIME:	6	HRS			
STANDARD DEVIATION:	0.32				

01 Hour Averages



LICA
 SO2_ / WDR Joint Frequency Distribution (Percent)

May 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	3.54	5.10	8.65	6.09	10.49	9.92	10.21	5.10	2.41	2.55	4.25	9.78	7.51	5.24	5.39	3.68	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	3.54	5.10	8.65	6.09	10.49	9.92	10.21	5.10	2.41	2.55	4.25	9.78	7.51	5.24	5.39	3.68	

Calm : .00 %

Total # Operational Hours : 705

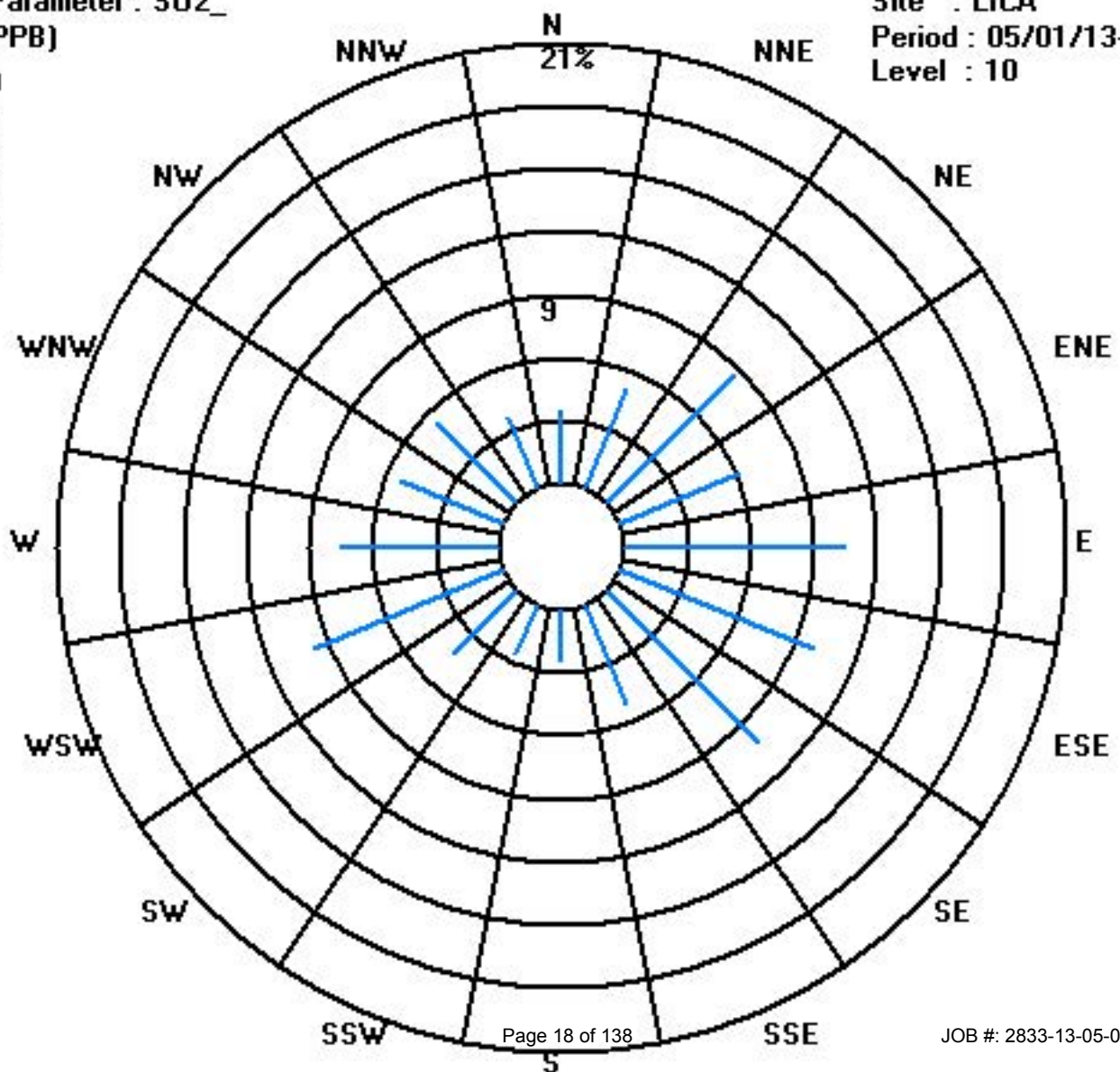
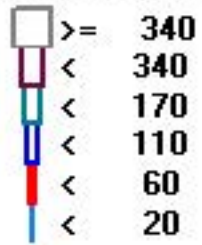
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	25	36	61	43	74	70	72	36	17	18	30	69	53	37	38	26	705
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	25	36	61	43	74	70	72	36	17	18	30	69	53	37	38	26	

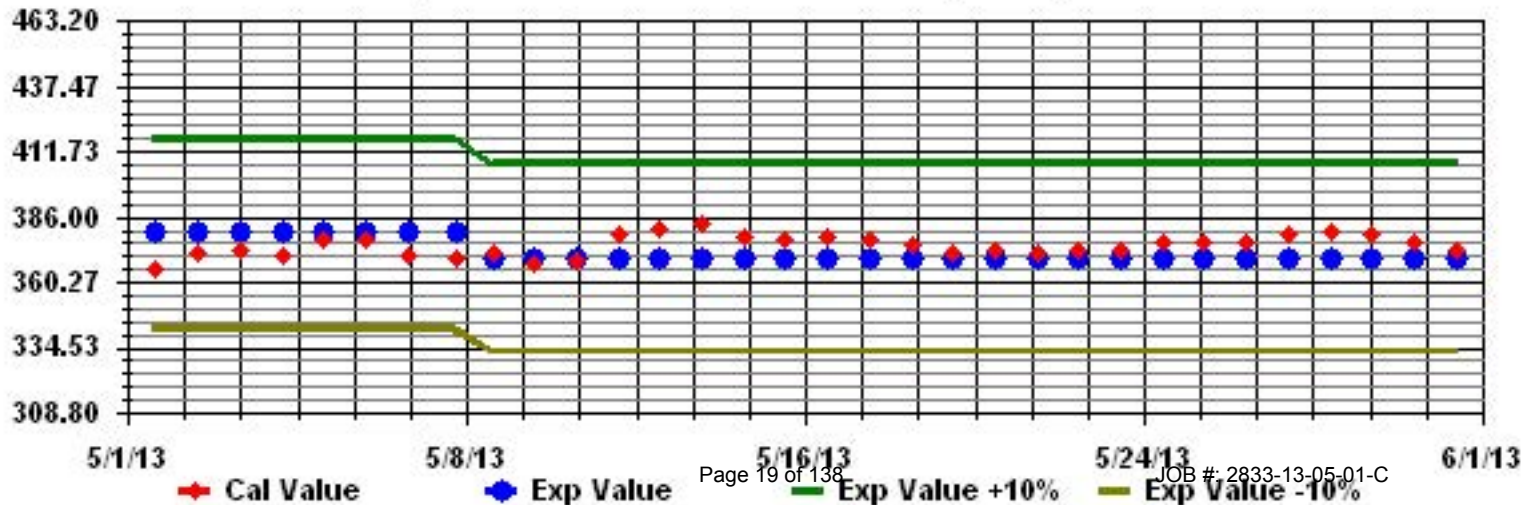
Calm : .00 %

Total # Operational Hours : 705

Class Limits (PPB)



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



Total Reduced Sulphur

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

MAY 2013

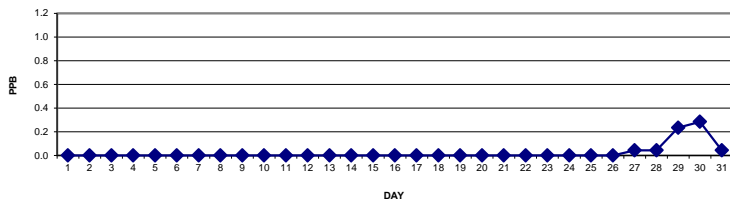
TOTAL REDUCED SULPHUR (TRS) hourly averages in ppb

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 24-HOUR	RDGS.		
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.		
DAY																												
1	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
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	Y	0	0	0	0	0	0	0	0	0.0	23
3	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
4	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
5	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
6	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
7	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
8	0	0	0	0	0	0	0	C	C	C	0	0	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
9	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
10	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
11	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
12	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
13	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
14	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
15	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
16	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
17	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0.0	24
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0.0	24
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0.0	24
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0.0	24
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0.0	24
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0.0	24
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	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	S	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	S	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	S	0	0	0	0	0	0	0	0	0	0	0	0.0	24
27	0	0	1	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	1	0.0	24
28	0	0	0	0	0	1	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
29	0	0	0	0	0	0	0	0	0	0	0	S	0	0	C	C	C	C	C	C	1	1	1	1	1	1	0.2	24
30	1	1	1	1	1	1	S	S	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24
31	0	0	0	0	0	0	1	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
HOURLY MAX	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1			
HOURLY AVG	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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

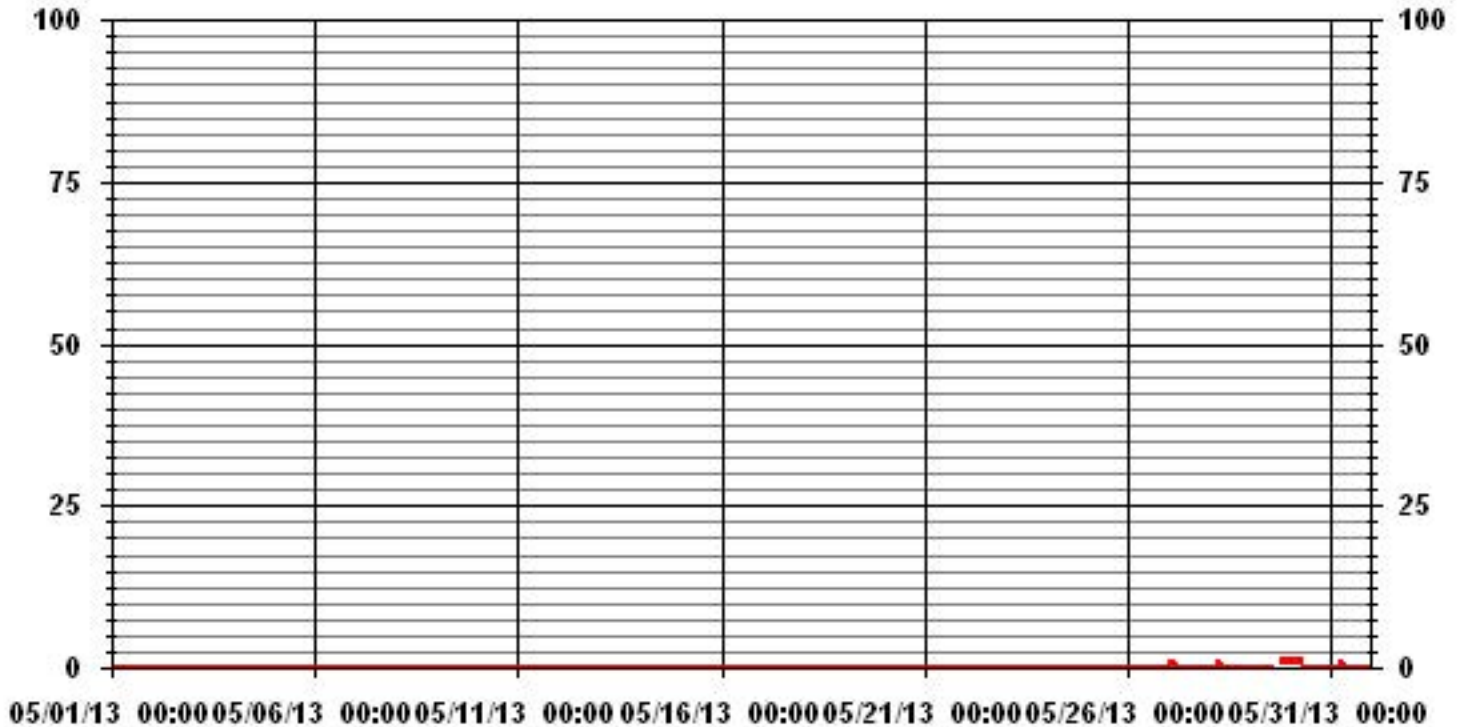
24 HOUR AVERAGES FOR MAY 2013



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	13
MAXIMUM 1-HR AVERAGE:	1 PPB @ HOUR(S)
MAXIMUM 24-HR AVERAGE:	0.3 PPB
	VAR ON DAY(S) VAR ON DAY(S)
	VAR-VARIOUS 30
IZS CALIBRATION TIME:	33 HRS
MONTHLY CALIBRATION TIME:	10 HRS
STANDARD DEVIATION:	0.14
OPERATIONAL TIME:	743 HRS
AMD OPERATION UPTIME:	99.9 %
MONTHLY AVERAGE:	0.02 PPB

01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

MAY 2013

TOTAL REDUCED SULPHUR 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	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1.0	24
2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	Y	1	1	1	1	1	1	1	1	1.0	23
3	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	X	1	1	1	1	1	1	1	1	1	1	1.0	23
4	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	0	1	1	1	1	1.0	24
5	1	0	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
6	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
7	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
8	1	1	1	1	1	1	C	C	C	C	1	C	C	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
9	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
10	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	1.0	24
11	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
12	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	1.0	24
13	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
14	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	1	1.0	24
15	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	1.0	24
16	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	1.0	24
17	S	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	1.0	24
18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1.0	24
19	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
20	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
21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1.0	24
22	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	1.0	24
23	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1.0	24
24	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1.0	24
25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1.0	24
26	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1.0	24
27	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
28	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
29	1	1	1	1	1	1	1	1	1	1	1	S	1	C	C	C	C	C	C	C	C	1	1	1	1	1	1.0	24
30	1	1	1	2	1	1	S	S	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.0	24
31	1	1	1	1	1	2	2	2	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	1.2	24
HOURLY MAX	1	1	1	2	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1				
HOURLY AVG	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		

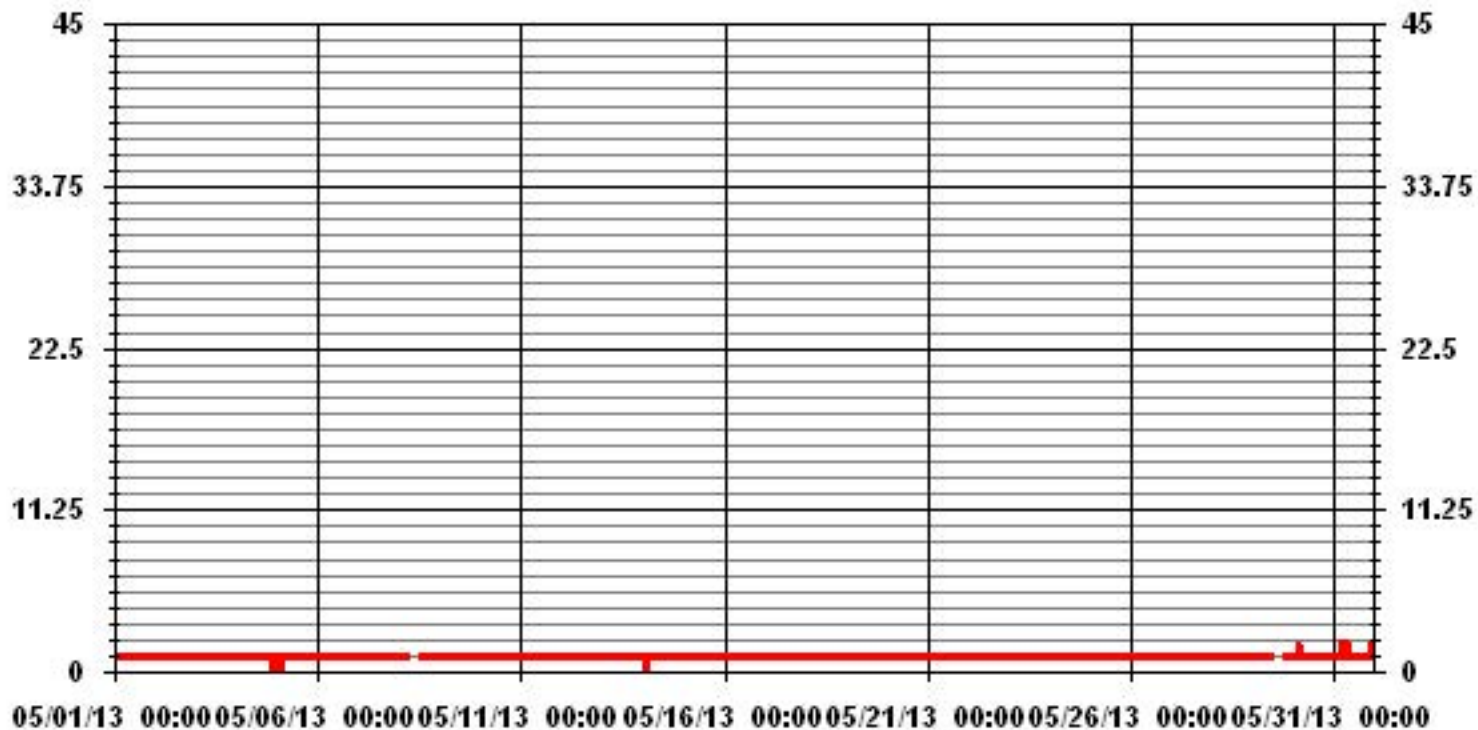
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	693					
MAXIMUM INSTANTANEOUS VALUE:	2	PPB	@ HOUR(S)	VAR	ON DAY(S)	30,31
	VAR - VARIOUS					
IZS CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	742 HRS		
MONTHLY CALIBRATION TIME:	13 HRS					
STANDARD DEVIATION:	0.11					

01 Hour Averages



LICA
 TRS_ / WDR Joint Frequency Distribution (Percent)

May 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	3.56	5.13	8.70	6.13	10.41	9.84	10.27	4.99	2.42	2.56	4.27	9.70	7.56	5.27	5.42	3.70	100.00
< 10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.56	5.13	8.70	6.13	10.41	9.84	10.27	4.99	2.42	2.56	4.27	9.70	7.56	5.27	5.42	3.70	

Calm : .00 %

Total # Operational Hours : 701

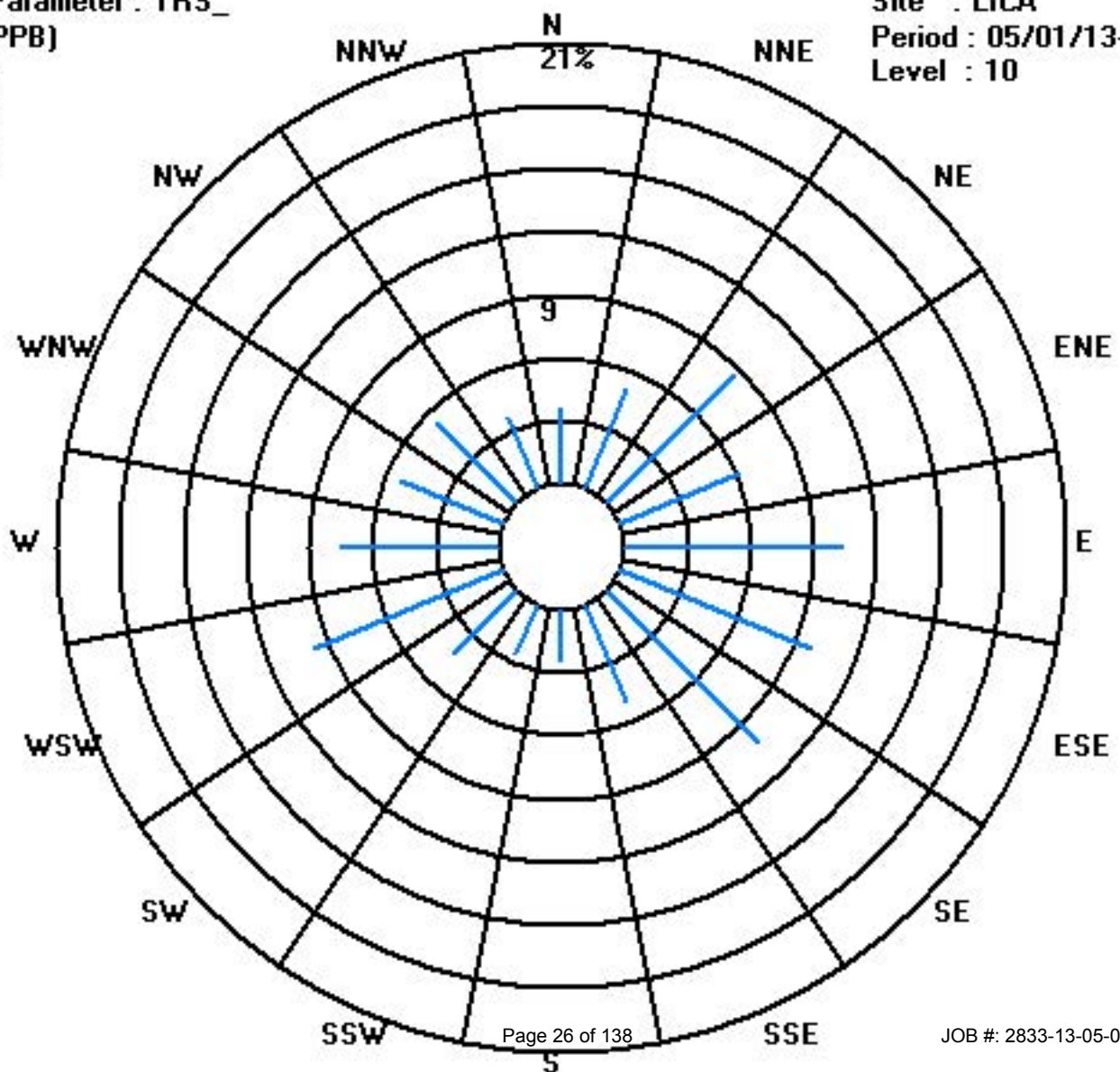
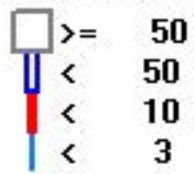
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	25	36	61	43	73	69	72	35	17	18	30	68	53	37	38	26	701
< 10																	
< 50																	
>= 50																	
Totals	25	36	61	43	73	69	72	35	17	18	30	68	53	37	38	26	

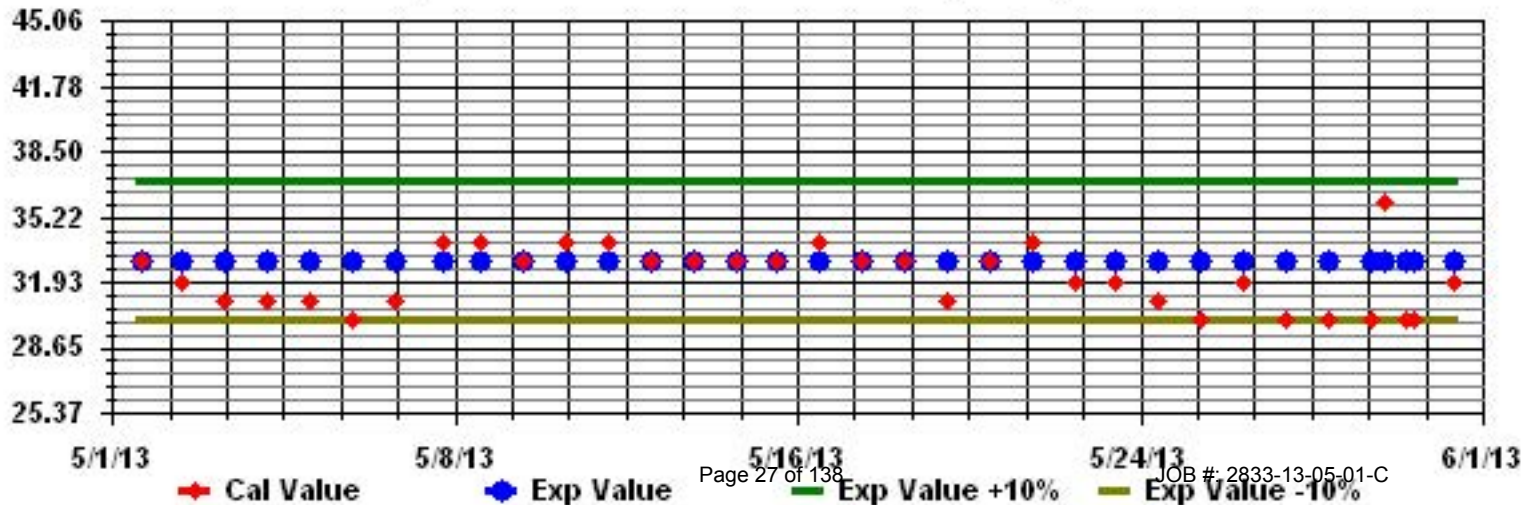
Calm : .00 %

Total # Operational Hours : 701

Class Limits (PPB)



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



Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

MAY 2013

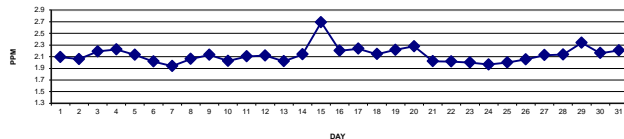
TOTAL HYDROCARBONS (THC) hourly averages in ppm

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 24-HOUR			
DAY	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.	
1		2.1	2.2	2.2	2.1	2.2	2.2	2.2	2	2	2	2	2	2.1	2	2	S	2	2	2	2.1	2.1	2.1	2.2	2.3	2.3	2.1	2.4	
2		2.2	2.2	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2	1.9	1.9	1.9	S	1.9	1.9	Y	1.9	2	2.1	2	2	2.1	2.2	2.1	2.3	
3		2.2	2.6	2.7	2.8	2.6	2.4	2.6	2.5	2.3	2	1.9	1.9	1.9	S	1.9	1.9	1.9	1.9	1.9	1.9	2	2.1	2.2	2.3	2.8	2.2	2.4	
4		2.4	2.4	2.4	2.5	2.5	2.6	3.1	3.3	2.5	2.2	2	1.9	S	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2.1	2.1	3.3	2.2	2.4	
5		2.2	2.3	2.4	2.4	2.4	2.4	2.1	2.1	2	2	1.9	S	2	2	2	2	2	2	2	2	2.1	2.1	2.3	2.3	2.4	2.1	2.4	
6		2.3	2.3	2.2	2.2	2.1	2.2	2.1	2	2	2	S	1.9	1.9	1.9	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2	2.3	2.0	2.4	
7		1.9	1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.9	S	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.3	2.1	2.1	2.3	1.9	2.4
8		2.1	2	2	2	2.2	2.1	2.1	2	2	C	C	C	C	2.1	2.1	2	2	2	2	2	2.2	2.1	2.1	2.1	2.2	2.1	2.4	
9		2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.2	S	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2	2	1.9	1.9	2	2	2	2	2.1	2.3	2.1	2.4
10		2.1	2.1	2	2	2	2	2	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2.1	2.1	2.1	2.1	2.1	2.0	2.4
11		2	2	2.1	2.1	2.1	2.1	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	2.2	2	2.1	2.2	2.1	2.4	
12		2.1	2.2	2.1	2	2	S	2.1	2.2	2.2	2.2	2.2	2.2	2.3	2.4	2.3	2.1	2.1	2	1.9	1.9	2	2	2.1	2.2	2.4	2.1	2.4	
13		2.1	2	2.1	2.3	S	2.1	2.1	2	2	1.9	2	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2	2	2.3	2.3	2.3	2.0	2.4	
14		2.3	2.1	2.1	S	2.2	2.9	3	2.4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.1	2.1	3.0	2.1	2.4
15		2.2	2.4	S	2.7	2.8	3	2.8	2.3	2.1	2	2	12.9	3.3	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2	2.1	12.9	2.7	2.4
16		2.2	S	2.3	2.4	2.4	2.4	2.7	2.5	2.5	2.6	2	2	2	2	2	2	2	2	2	2	2.1	2.2	2.1	2.1	2.2	2.7	2.2	2.4
17		S	2.3	2.4	2.5	2.4	2.5	2.5	2.9	2.6	2.3	2.1	2.1	2.1	2	2	2	2	2	2	2	2.1	2.1	2.1	2.2	S	2.9	2.2	2.4
18		2.2	2.1	2.1	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	S	2.4	2.4	2.1	2.4	
19		2.4	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.1	2	2	2	2	2	2.1	2.1	2.1	2.2	2.2	2.3	2.3	S	2.3	2.3	2.4	2.2	2.4	
20		2.5	2.6	2.6	2.7	2.7	2.9	3.2	3.1	2.1	2	2	2	2	2	1.9	1.9	1.9	1.9	2	2	S	2	2.2	2.2	3.2	2.3	2.4	
21		2.2	2.1	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2	2	2	1.9	1.9	1.9	2	S	2	2	2	2	2.1	2.2	2.0	2.4
22		2.1	2.1	2.1	2.1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	S	2	2	2	2	2	2.1	2.0	2.4
23		2	2	2	2	2	2	2.1	2	2	2	2	2	2	2	2	2	1.9	S	1.9	2	2	2	2.1	2	2.1	2.0	2.4	
24		2	2	2	2	2	2	1.9	2	2	1.9	1.9	1.9	1.9	1.9	1.9	S	2	2	2	2	2	2	2	2	2.0	2.0	2.4	
25		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	S	2	2	2	2	2	2	2	2	2	2.0	2.0	2.4
26		2	2	2	2	2.1	2.1	2.1	2	2	2	2	2	2	2	S	2	2	2	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.1	2.4	
27		2.3	2.3	2.3	2.3	2.3	2.4	2.2	2.1	2.1	2	2	2	2	S	2	2	2	2	2	2	2	2.1	2.1	2.2	2.2	2.4	2.1	2.4
28		2.2	2.2	2.2	2.3	2.4	2.7	2.5	2.1	2	2	2	2	S	2	2	2	2	2	2	2	2	2	2.2	2.2	2.1	2.7	2.1	2.4
29		2.1	2.1	2.1	2.1	2.2	2.2	2	2	2	2	2	S	2	2	2.2	7	2	2	2	2	2.1	2.2	2.2	2.6	2.7	7.0	2.3	2.4
30		2.7	2.5	2.4	2.4	2.3	2.2	2.1	2.1	2.1	2	S	2	2	2	2	2	2	2	2	2	2.1	2.2	2.2	2.2	2.7	2.7	2.2	2.4
31		2.1	2.2	2.5	2.6	2.7	2.7	2.5	2.3	2.4	S	2.2	2.1	2.1	2	2	2	2	2	2	2	2.1	2.1	2	2.1	2.1	2.7	2.2	2.4
HOURLY MAX		2.7	2.6	2.7	2.8	2.8	3.0	3.2	3.3	2.6	2.6	2.2	12.9	3.3	2.4	2.3	7.0	2.1	2.2	2.2	2.3	2.3	2.3	2.6	2.7				
HOURLY AVG		2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.2	2.1	2.1	2.0	2.4	2.1	2.0	2.0	2.2	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.2				

STATUS FLAG CODES

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

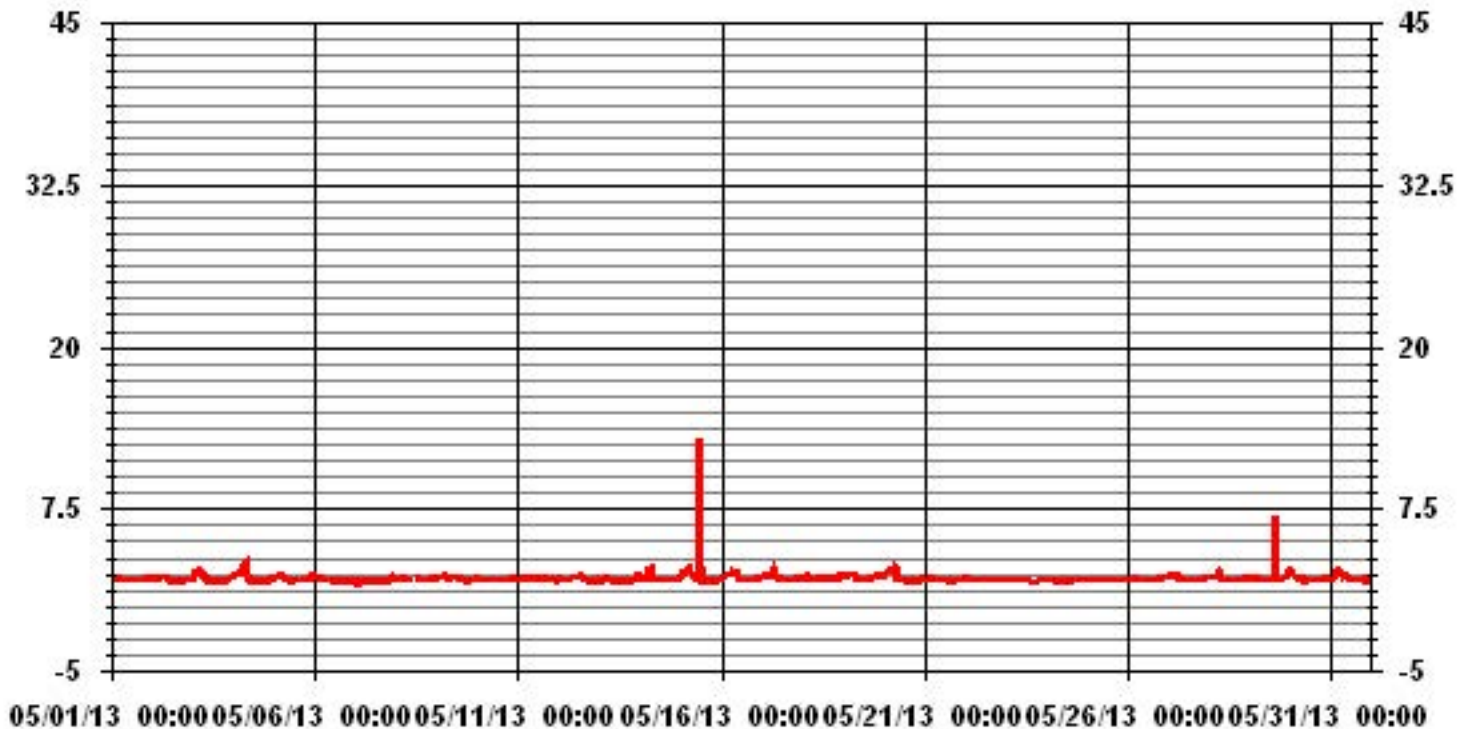
24 AVERAGES FOR MAY 2013



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	708
MAXIMUM 1-HR AVERAGE:	12.9 PPM @ HOUR(S) 11 ON DAY(S) 15
MAXIMUM 24-HR AVERAGE:	2.7 PPM ON DAY(S) 15
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	4 HRS
STANDARD DEVIATION:	0.49
OPERATIONAL TIME:	743 HRS
AMD OPERATION UPTIME:	99.9 %
MONTHLY AVERAGE:	2.13 PPM

01 Hour Averages



— LICA THC PPM

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

MAY 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	0:00	MAX.	AVG.	RDGS.
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00				
DAY																												
1	2.3	2.3	2.3	2.2	2.3	2.3	2.3	2.1	2	2	2	2	2.1	2.1	2.1	S	2	2	2.1	2.2	2.3	2.2	2.3	2.4	2.4	2.2	24	
2	2.3	2.3	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2	2	2	S	1.9	1.9	Y	2	2.2	2.4	2.1	2.1	2.3	2.4	2.1	23	
3	2.5	2.8	3.1	3.1	2.7	2.5	2.7	2.7	2.4	2.2	2	1.9	1.9	S	2.2	1.9	1.9	1.9	1.9	2	2.1	2.1	2.4	2.4	3.1	2.3	24	
4	2.4	2.4	2.5	2.6	2.6	2.7	3.9	3.8	2.7	2.5	2.1	2	S	1.9	1.9	2	1.9	1.9	1.9	2	2	2.2	2.2	2.2	3.9	2.4	24	
5	2.3	2.4	2.4	2.5	2.5	2.6	2.4	2.2	2.1	2	2	S	2	2.1	2	2.1	2	2	2	2	2.2	2.1	2.7	2.7	2.7	2.2	24	
6	2.7	2.6	2.4	2.3	2.3	2.3	2.3	2	2	2	S	1.9	2	2.1	2.1	1.9	1.9	1.9	1.9	1.9	1.9	2	2	2.1	2.7	2.1	24	
7	2	1.9	1.9	1.9	1.9	1.9	2	2	2	S	1.9	1.9	1.9	1.9	1.9	1.9	2	2.1	2	3.9	4.2	3.3	2.2	4.2	2.2	24		
8	2.4	2.1	2	2.1	2.4	2.2	2.1	2.1	2	C	C	C	C	2.1	2.1	2.1	2.2	2	2.1	2.1	2.4	2.3	2.2	2.3	2.4	2.2	24	
9	2.5	2.2	2.2	2.4	2.4	2.4	2.4	2.3	S	2.3	2.3	2.3	2.3	2.3	2.1	2.1	2.1	2.1	2	2	2	2	2.1	2.5	2.5	2.2	24	
10	2.3	2.1	2	2	2	2	2	S	2	2	2	2	2	2	2.1	2.1	2.1	2	2	2.1	2.2	2.2	2.2	2.2	2.3	2.1	24	
11	2.1	2.1	2.1	2.3	2.1	2.2	S	2.3	2.2	2.2	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.3	2.4	2.1	2.1	2.4	2.2	24	
12	2.2	2.3	2.3	2.3	2.1	S	2.2	2.2	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.1	2.2	2.1	2	1.9	1.9	2.1	2.2	2.3	2.4	2.2	24	
13	2.3	2.1	2.2	2.3	S	2.1	2.1	2.1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.6	3	3	2.1	24	
14	2.8	2.3	2.3	S	2.3	3.6	3.6	2.6	2.2	2	2	2	2	2	2.1	2	2	2	2	2	2.1	2.1	2.1	2.2	3.6	2.3	24	
15	2.2	2.5	S	2.8	2.9	3.4	3.1	2.5	2.2	2.1	2.1	41.3	6.5	2.2	2	2	1.9	1.9	1.9	2	2	2.1	2.2	2.3	41.3	4.2	24	
16	2.3	S	2.4	2.5	2.4	2.5	2.9	2.8	3	3.1	2.1	2	2	2	2.3	2.1	2	2	2	3.1	2.8	2.2	2.2	2.3	3.1	2.4	24	
17	S	2.4	2.5	2.6	2.5	2.6	2.7	3	2.9	2.6	2.1	2.3	2.2	2.1	2.1	2.1	2.4	2.1	2.3	2.3	2.2	2.4	2.4	S	3	2.4	24	
18	2.3	2.2	2.2	2.4	2.5	2.3	2.3	2.2	2.2	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.3	S	2.6	2.6	2.2	24	
19	2.5	2.4	2.5	2.5	2.5	2.6	2.5	2.5	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.4	2.4	S	2.3	2.4	2.6	2.3	24	
20	2.7	2.7	2.6	2.8	2.8	3	3.4	3.3	2.8	2	2	2	2	2.8	2	2	2	2	2.1	2	S	2.1	2.2	2.3	3.4	2.4	24	
21	2.3	2.1	2.1	2.2	2.2	2.1	2	2	2.1	2.1	2.2	2	2	2	2	2	2	2	2.4	2.2	S	2	2.1	2.1	2.2	2.4	2.1	24
22	2.3	2.3	2.2	2.2	2.1	2	2.5	2.1	2	2	2	2	2	2	2	2	3	2	S	2.1	2	2	2	2	2	2	24	
23	2	2	2.1	2.1	2.1	2.1	2.3	2.1	2.1	2.1	2	2.1	2	2	2.9	2	2	S	2.1	2.2	2.1	2.3	2.3	2.1	2.9	2.1	24	
24	2.1	2	2	2	2	2	2	2	2.1	2	2.8	2	2	2	2	2	S	2.1	2.5	2	2	2	2	2	2.8	2.1	24	
25	2	2	2	2	2	2	2	2	2	2	2	2	2.6	2	2	S	2	2	2	2	2	2	2	2	2.6	2.0	24	
26	2	2	2	2.1	2.3	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	S	2	2	2.3	2.2	2.1	2.2	2.2	2.3	2.3	2.3	2.1	24	
27	2.4	2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.1	2.1	2.1	2	2.1	S	2.1	2.4	2.4	2	2.1	2.2	2.2	2.2	2.3	2.3	2.5	2.3	24	
28	2.3	2.3	2.4	2.4	2.5	3.1	3.1	2.1	2.1	2.1	2	2	S	2	2	2	2	2	2.2	2.1	2.2	2.3	2.3	2.2	3.1	2.2	24	
29	2.3	2.1	2.1	2.2	2.4	2.4	2.1	2.1	2.1	2	2	S	2	2	15.3	24.3	2	2	2.1	2.2	3.4	2.2	2.9	2.8	24.3	3.8	24	
30	2.9	2.7	2.5	2.8	2.5	2.3	2.2	2.2	2.1	2.1	S	2.1	2	2	2.1	2.1	2	2.1	2.1	2.2	2.3	2.6	2.2	2.2	2.9	2.3	24	
31	2.2	2.4	2.7	2.7	2.8	2.8	2.6	2.5	2.5	S	2.3	2.2	2.1	2.1	2	2.1	2	2	2.1	2.3	2.1	2.1	2.2	2.2	2.8	2.3	24	
HOURLY MAX	3	3	3	3	3	4	4	4	3	3	3	41	7	3	15	24	3	2	3	3	4	4	3	3				
HOURLY AVG	2.3	2.3	2.3	2.4	2.4	2.4	2.5	2.4	2.2	2.2	2.1	3.5	2.2	2.1	2.6	2.8	2.1	2.0	2.1	2.1	2.3	2.2	2.3	2.3				

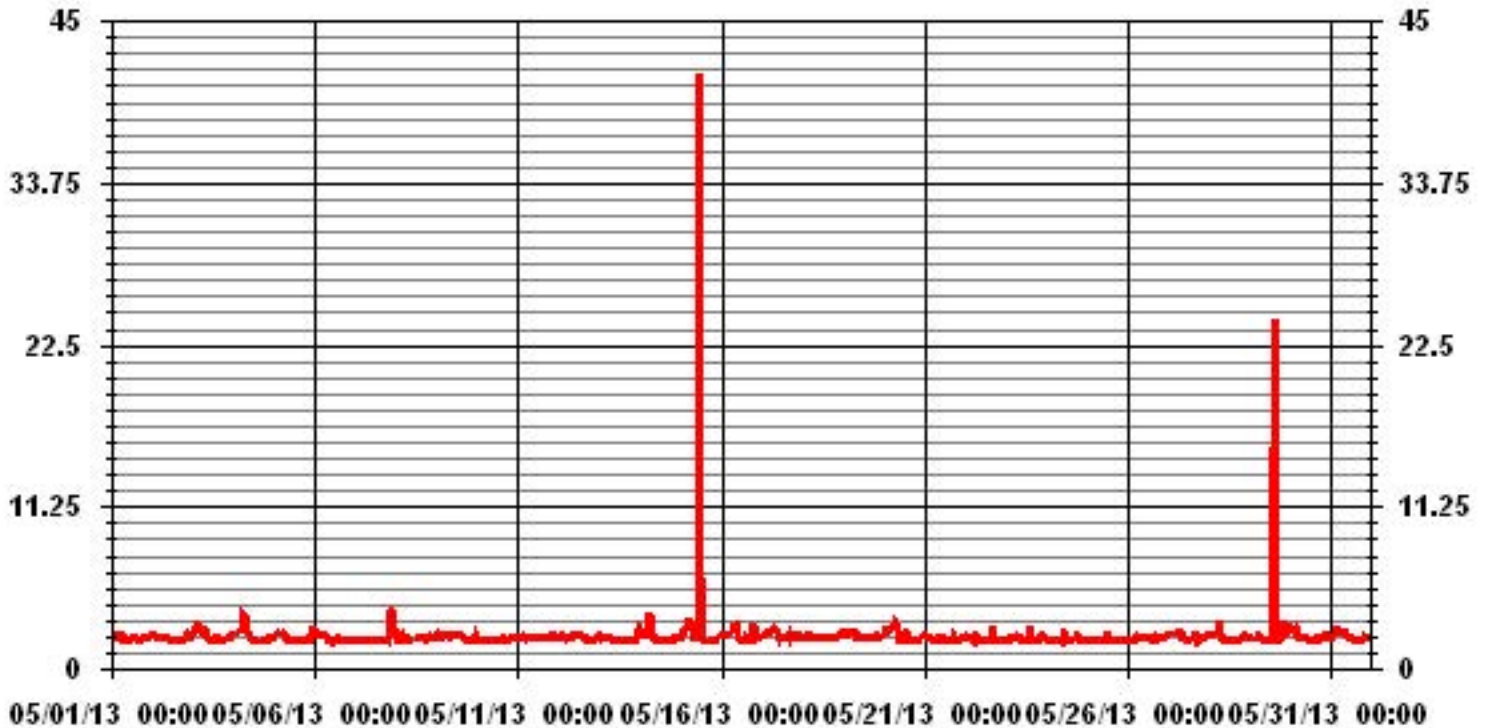
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	708					
MAXIMUM INSTANTANEOUS VALUE:	41.3	PPM	@ HOUR(S)	11	ON DAY(S)	15
S CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	743	HRS	
MONTHLY CALIBRATION TIME:	4	HRS				
STANDARD DEVIATION:	1.79					

01 Hour Averages



LICA
 THC / WD Joint Frequency Distribution (Percent)

May 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	3.55	5.11	8.66	6.10	10.36	9.94	10.51	4.68	2.41	2.55	4.11	9.37	7.24	5.11	5.39	3.69	98.86
< 10.0	.00	.00	.00	.00	.14	.00	.00	.00	.00	.00	.14	.28	.28	.14	.00	.00	.99
< 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.55	5.11	8.66	6.10	10.51	9.94	10.51	4.68	2.41	2.55	4.26	9.80	7.52	5.25	5.39	3.69	

Calm : .00 %

Total # Operational Hours : 704

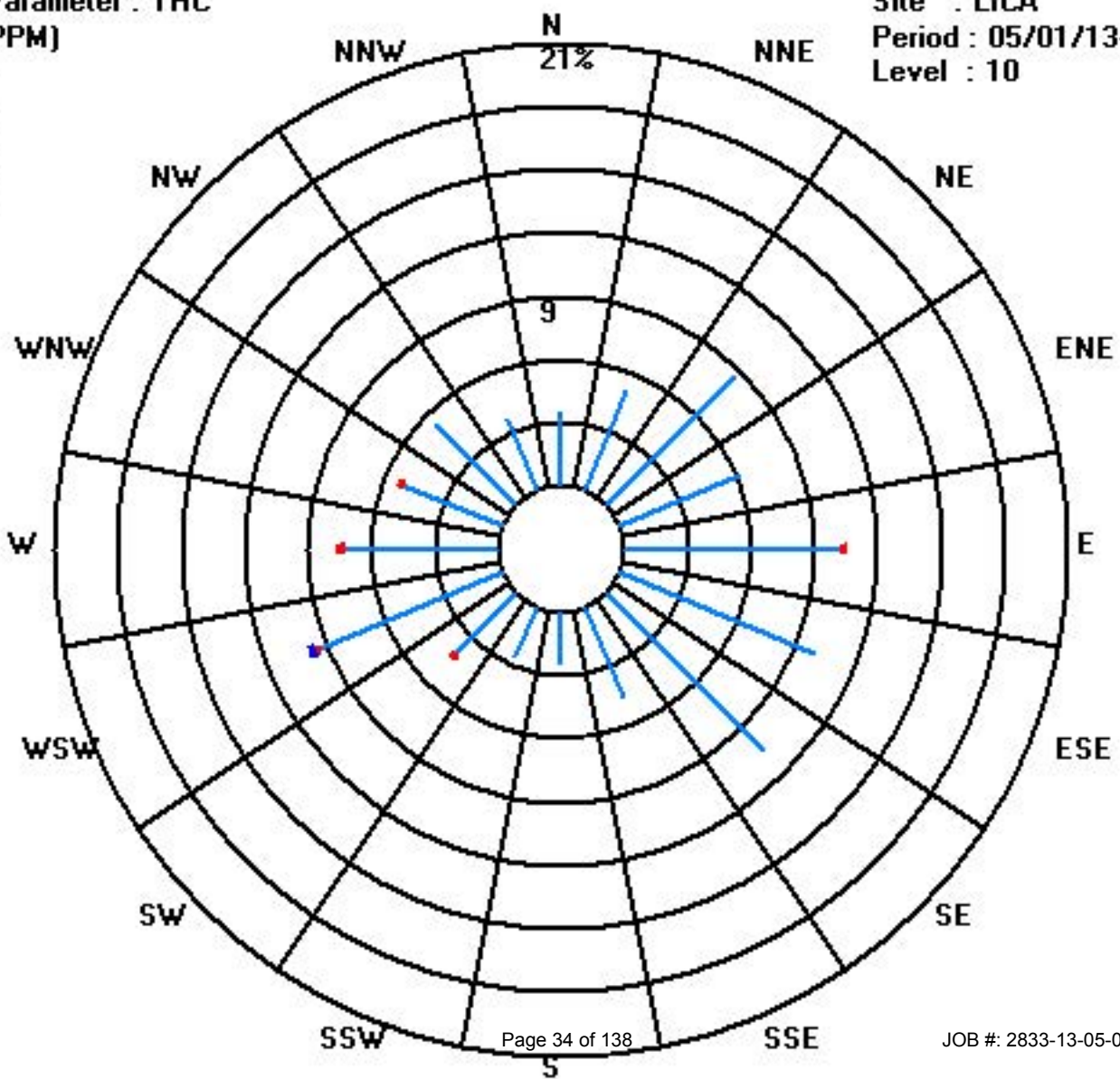
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	25	36	61	43	73	70	74	33	17	18	29	66	51	36	38	26	696
< 10.0					1						1	2	2	1			7
< 50.0												1					1
< 50.0																	
>= 50.0																	
Totals	25	36	61	43	74	70	74	33	17	18	30	69	53	37	38	26	

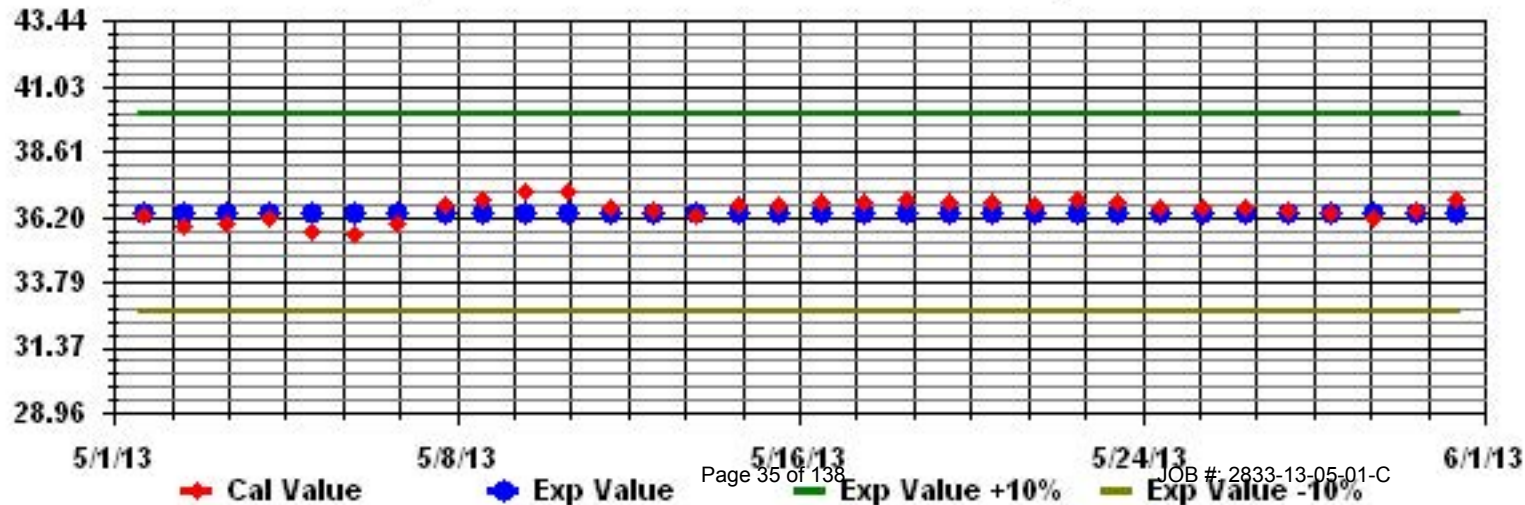
Calm : .00 %

Total # Operational Hours : 704

Class Limits (PPM)



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



Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

MAY 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	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	20	12	6	8	0	5	2	7	4	4	0	3	6	0	2	5	10	6	6	4	4	2	20	5.3	24	
2	2	6	6	5	6	7	4	9	6	7	9	6	8	0	2	11	5	C	2	0	7	8	6	7	4	11	5.7	24	
3	3	8	7	3	6	4	4	4	9	9	0	8	3	0	X	X	X	4	5	6	4	5	7	14	16	16	5.9	22	
4	4	12	9	3	7	7	4	11	4	8	X	X	0	0	2	3	3	4	8	4	0	6	15	5	7	15	5.5	22	
5	5	2	7	2	1	5	6	9	16	16	8	2	2	9	3	2	X	X	X	1	10	11	11	13	11	16	7.0	21	
6	6	7	0	6	12	12	2	8	5	6	12	5	13	15	0	17	21	17	8	31	13	7	13	13	11	31	10.6	24	
7	7	8	X	13	18	5	4	X	3	10	2	10	0	7	8	6	9	5	10	10	7	16	13	6	11	18	8.2	22	
8	8	4	3	2	3	12	8	X	4	5	1	4	X	8	11	2	5	5	7	X	X	7	8	8	4	12	5.6	20	
9	9	2	0	8	5	11	12	15	16	3	3	10	10	7	4	2	11	6	0	0	0	3	0	0	8	16	5.7	24	
10	10	5	9	5	9	12	0	3	1	0	9	4	7	0	5	12	6	3	8	3	1	15	13	9	5	15	6.0	24	
11	11	4	10	7	10	0	13	8	0	0	18	X	9	13	9	9	19	18	10	6	8	0	6	8	0	19	8.0	23	
12	12	0	0	6	9	X	0	X	22	X	6	2	0	11	10	12	5	3	9	5	13	0	4	1	0	22	5.6	21	
13	13	4	11	X	7	2	0	0	1	2	7	4	5	3	7	5	0	0	9	7	1	0	0	1	7	11	3.6	23	
14	14	5	11	2	12	0	8	5	0	7	6	2	6	9	7	3	1	2	1	0	0	3	3	5	2	12	4.2	24	
15	15	1	1	3	5	9	15	9	X	X	C	C	0	0	0	0	2	X	6	8	X	14	0	9	7	15	4.9	20	
16	16	10	9	9	7	4	7	8	X	2	0	4	3	1	X	7	X	16	4	4	5	13	8	4	10	16	6.4	21	
17	17	13	11	13	15	6	6	X	10	4	5	3	3	0	0	11	6	13	2	14	8	33	9	18	22	33	9.8	23	
18	18	22	11	10	13	11	5	8	0	14	X	5	9	8	0	9	9	8	3	5	7	11	9	11	11	22	8.7	23	
19	19	31	17	20	23	14	24	39	13	12	5	2	1	4	14	5	8	2	5	4	6	10	10	12	15	39	12.3	24	
20	20	9	16	8	21	17	16	14	9	6	8	7	6	7	7	8	5	7	4	1	6	8	11	6	16	21	9.3	24	
21	21	11	10	7	13	X	7	8	2	5	9	6	8	6	X	12	7	9	6	16	2	6	12	15	2	16	8.1	22	
22	22	5	10	12	7	6	0	8	6	7	10	6	7	7	13	9	15	8	2	2	10	7	6	11	7	15	7.5	24	
23	23	8	11	10	0	7	8	7	0	11	7	7	3	5	8	7	4	6	9	7	7	15	27	2	9	27	7.7	24	
24	24	12	16	22	10	15	0	5	0	27	10	13	11	7	9	10	9	12	14	7	7	7	11	9	5	27	10.3	24	
25	25	14	12	11	8	7	10	15	10	11	6	8	5	4	3	7	2	7	10	4	3	0	4	0	0	15	6.7	24	
26	26	6	3	3	5	9	8	12	14	12	13	10	9	14	12	11	6	8	7	8	8	8	12	12	10	14	9.2	24	
27	27	12	13	12	11	10	16	13	9	14	7	15	6	5	7	5	4	7	7	11	8	15	15	16	13	16	10.5	24	
28	28	17	15	13	12	14	17	15	7	10	11	3	13	8	0	8	14	6	4	8	5	9	12	15	15	17	10.5	24	
29	29	12	6	11	9	11	15	7	14	15	18	21	12	12	12	18	12	16	8	11	6	11	21	13	16	21	12.8	24	
30	30	13	16	11	11	9	11	12	13	18	27	15	20	36	27	12	21	22	16	18	28	27	22	14	20	36	18.3	24	
31	31	13	17	14	9	11	20	19	16	9	5	5	3	14	9	7	10	6	9	14	17	19	7	11	14	20	11.6	24	
HOURLY MAX		31	17	22	23	17	24	39	22	27	27	21	20	36	27	18	21	22	16	31	28	33	27	18	22				
HOURLY AVG		9.0	9.2	9.0	9.5	8.4	8.3	10.0	7.4	8.7	8.2	6.8	6.2	7.2	6.6	7.9	7.8	7.9	6.6	7.5	7.0	9.7	9.6	8.8	9.0				

STATUS FLAG CODES

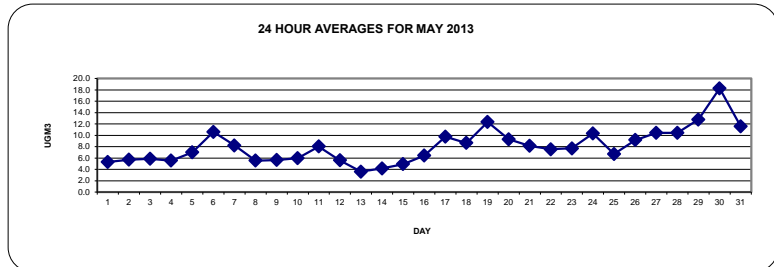
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT:

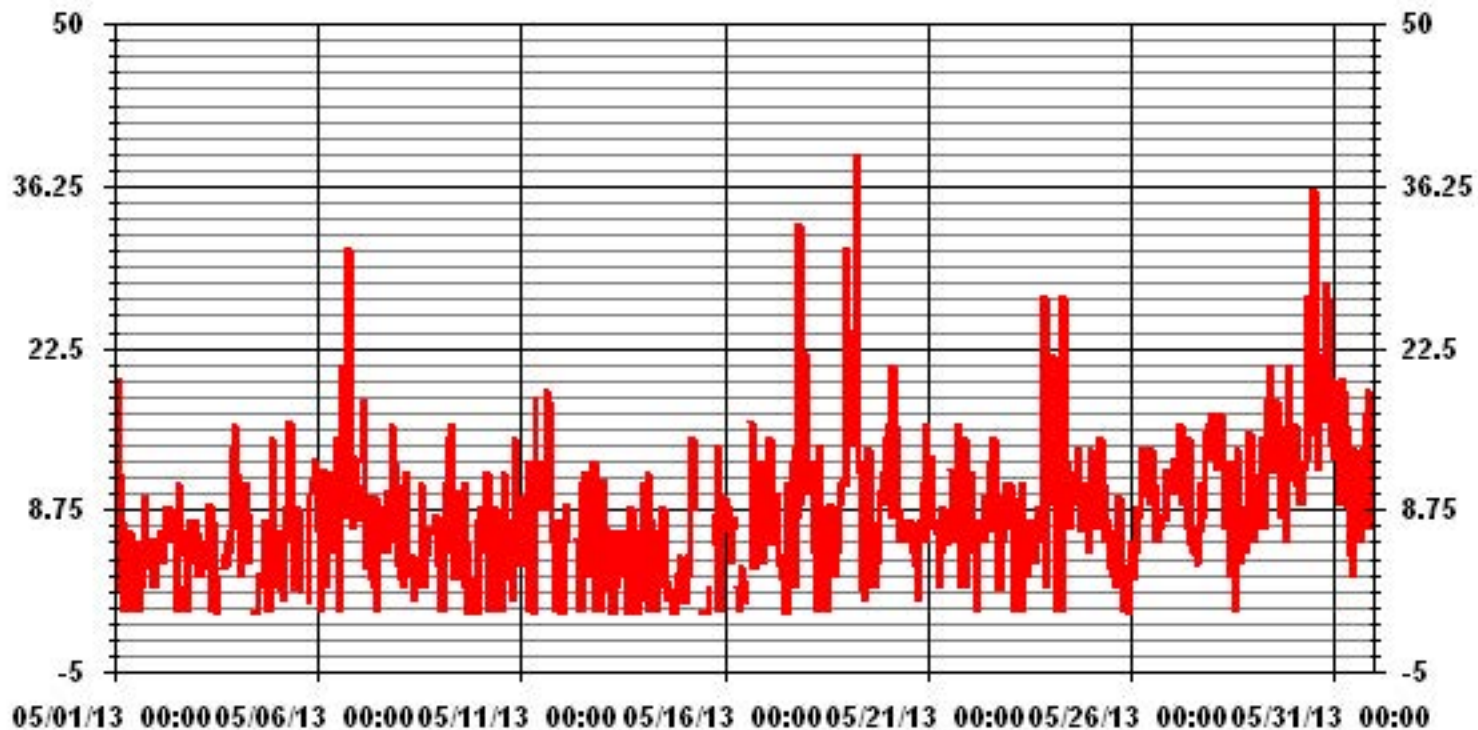
ALBERTA ENVIRONMENT: 1-HR - ug/m³ 24-HR 30 ug/m³

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	-
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	650
MAXIMUM 1-HR AVERAGE:	39 UG/M ³ @ HOUR(S) 6 ON DAY(S) 19
MAXIMUM 24-HR AVERAGE:	18.3 UG/M ³ ON DAY(S) 30
IZS CALIBRATION TIME:	0 HRS
MONTHLY CALIBRATION TIME:	3 HRS
STANDARD DEVIATION:	5.78
OPERATIONAL TIME:	715 HRS
AMD OPERATION UPTIME:	96.1 %
MONTHLY AVERAGE:	8.20 UG/M ³



01 Hour Averages



— LICA PM2 UG/M3

LICA
PM2 / WD Joint Frequency Distribution (Percent)

May 2013

Distribution By % Of Samples

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

Wind Parameter : WD
Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 30	3.53	4.52	8.62	6.50	10.74	10.32	10.32	4.80	2.40	2.40	4.38	9.61	6.78	5.23	5.51	3.53	99.29
< 60	.00	.14	.00	.00	.00	.00	.14	.00	.00	.00	.14	.14	.00	.00	.00	.14	.70
< 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	3.53	4.66	8.62	6.50	10.74	10.32	10.46	4.80	2.40	2.40	4.52	9.75	6.78	5.23	5.51	3.67	

Calm : .00 %

Total # Operational Hours : 707

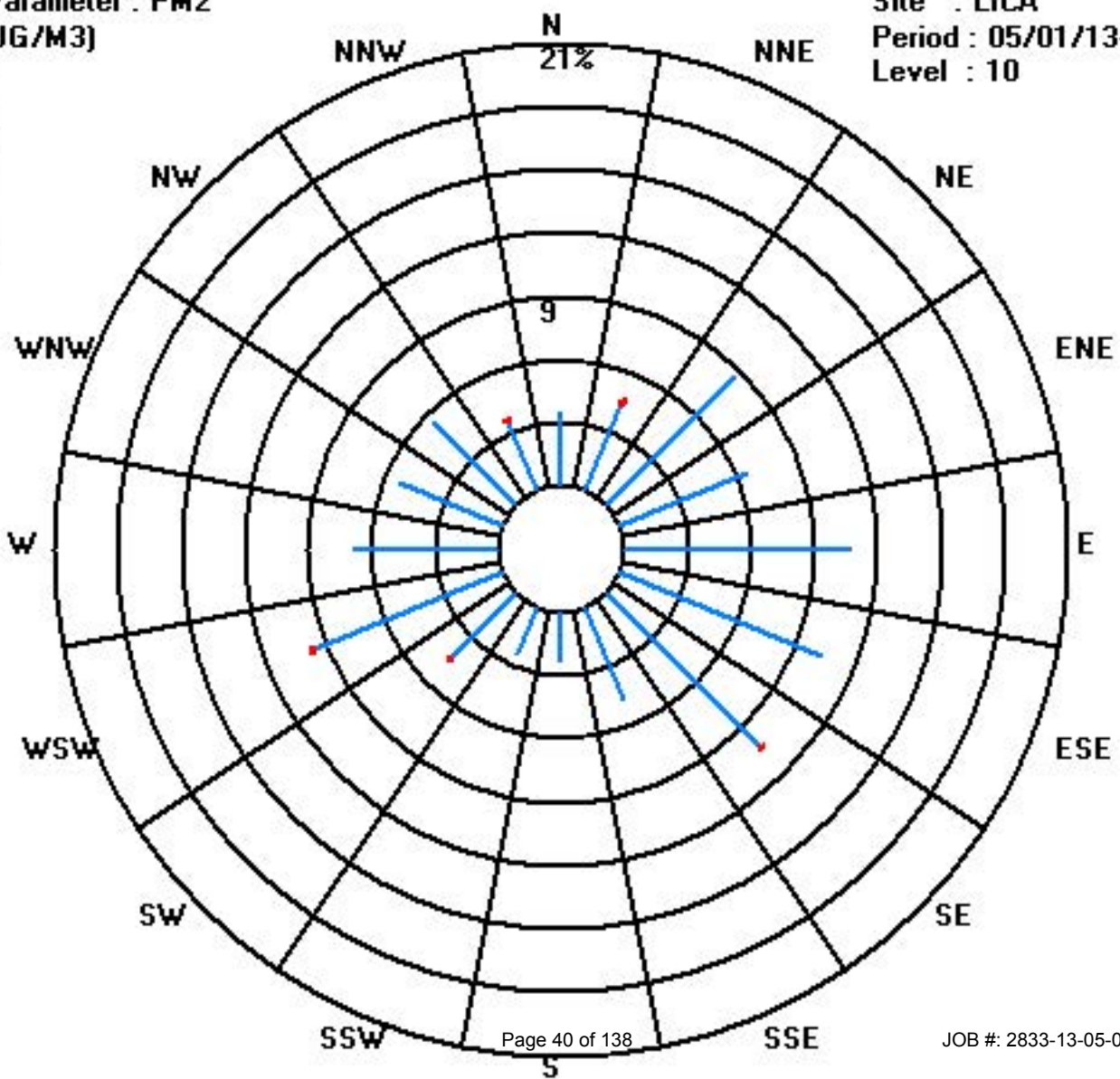
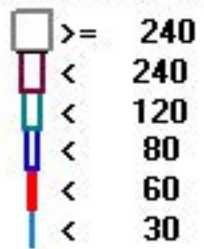
Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 30	25	32	61	46	76	73	73	34	17	17	31	68	48	37	39	25	702
< 60		1					1				1	1				1	5
< 80																	
< 120																	
< 240																	
>= 240																	
Totals	25	33	61	46	76	73	74	34	17	17	32	69	48	37	39	26	

Calm : .00 %

Total # Operational Hours : 707

Class Limits (UG/M3)



Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

MAY 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 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	MAX.	AVG.	RDGS.	
DAY 1	4	8.4	7.8	5.2	4.9	6.2	6.6	3	1.3	1.4	1.3	1.4	1.4	1.2	S	1.2	1.1	1.4	1.7	2.2	1.9	2	2.1	8.4	3.0	24		
2	2	1.8	1.6	1.6	1.8	2.4	2.7	2.4	2.8	3	3.5	3.3	2.3	2.5	S	1.2	1	Y	1.5	8	8.7	8.7	5.4	5.5	8.7	3.4	23	
3	3.5	3.2	3.7	5	5	4.7	5.9	4.8	4.3	2.4	1.3	1.1	1.3	S	1.2	1.6	1.3	2	2.5	5.3	4.8	8.4	13.2	13.2	13.2	4.3	24	
4	10.2	7.5	5.5	5.6	5.3	6.2	6.1	7.2	6	4.2	1	1	S	0.9	0.6	0.8	0.7	0.7	0.8	1	3.1	2.2	2.5	2.1	10.2	3.5	24	
5	2.1	2.5	3.1	3.3	2.6	3.1	2.7	3.2	3.1	3	2.5	S	1.4	1.2	1.1	1	1	1	1	2.3	3	5	4.6	6	6	2.6	24	
6	5	5.2	3.7	2.9	2.6	7	6.1	2.2	2.3	2.2	S	1.3	1.3	0.9	1.3	1.1	1.4	1.2	2	1.6	1.5	1.9	1.9	2	7	2.5	24	
7	2.3	2	1.5	1.7	1	1.1	1.8	1.6	1.6	S	1.1	1.2	1.3	1.3	1.4	1.7	1.6	1.9	1.8	4.1	3	2.8	4.9	4.9	1.9	24		
8	5.2	1.3	0.8	1.4	8.3	2.7	1.7	C	C	C	C	0.5	C	1.2	1.2	1.1	1.3	1.1	1.1	1.5	3.3	2.4	1.7	1.6	8.3	2.1	24	
9	1.9	1.8	1.7	3.6	6.4	13.7	13.7	1.9	S	2.8	3.1	2.9	2.3	3	3.3	1.9	1.5	1.6	1.6	2	2.2	1.4	1.2	4.9	13.7	3.5	24	
10	5.8	3.3	2	1.6	1.3	1.3	1.5	S	1.2	1.1	1	1	1	1	1.1	1.3	1.9	1.6	2.1	8.1	14.9	7.8	7.7	5	14.9	3.2	24	
11	1.1	1	1	1.2	2	1.7	S	1.5	1.3	1.6	1.5	1.5	1.5	1.4	1.5	1.6	2.2	1.6	2	1.7	2.5	4	1.9	1.7	4	1.7	24	
12	1.7	1.7	2.1	1.7	1.8	S	1.9	1.6	1.9	2	2.4	2.1	2.4	2.5	2.2	1.5	1.7	1.5	1.5	1.5	2.7	3	3.5	3.9	3.9	2.1	24	
13	3.3	3	3.2	4.2	S	2.9	3.5	2.3	1.4	1.2	1.2	1	1	1	1.2	1	1	0.9	1	1	1.8	5.8	4.6	4.3	5.8	2.3	24	
14	2.3	3.5	2.4	S	3.8	8.3	8.6	4.6	1.8	1.1	1.3	0.9	1.2	1	1.3	1	1	1	1.6	1.8	2.6	5	5.4	3.2	8.6	2.8	24	
15	3.3	3.1	S	6.7	7.7	9.6	6.5	4.1	3.4	2.5	1.4	1.1	1.3	1	1.1	1	1.2	0.9	1	1.5	2.4	3.5	3.4	2.9	9.6	3.1	24	
16	3.2	S	2.4	2	3	3.8	5.5	7.6	4.4	5.4	1.6	1.7	1.6	1.6	1.4	1.7	1.4	2.4	2.1	3.6	5	6.2	6.8	5.8	7.6	3.5	24	
17	S	7.5	5.7	5.9	4.6	4.3	7.7	8	5.6	3	1.4	1.6	1.1	1.5	1.5	1.9	1.7	1.9	3.1	4	5	8.4	8.4	S	8.4	4.3	24	
18	5.1	4.6	5.2	14.6	7.6	4.9	4.7	2.7	2.4	2.4	2.8	1.7	1.3	0.9	2.4	1.9	1.7	1.4	1.7	2.1	2.1	3.5	S	8.6	14.6	3.8	24	
19	14.4	7.3	4.8	10.1	9.8	8	6.3	5.9	2.2	1.4	1.3	1.2	1.1	1.1	1.3	2.8	1.5	2.3	2.6	3.1	4.5	S	4.9	4.5	14.4	4.5	24	
20	4	5	4.1	5.2	3.8	4.6	5.8	5.6	2.7	2.5	2	1.7	1.2	1.3	1.1	1.2	1.3	1.2	1.4	2.8	S	8	6.1	7	8	3.5	24	
21	7.1	3.9	3	4.6	3.6	5.5	4.6	3.5	3.4	1.8	1.2	1.4	1.1	1.4	1.4	1.1	1.3	0.8	0.9	S	2.4	2.5	2.5	4.2	7.1	2.7	24	
22	4.6	3.8	4.3	1.2	2.2	1.6	1.6	2	1.7	1.4	1.2	1.2	2.2	1.9	1.9	1.9	1.7	1.2	S	2	2.6	2.2	1.7	1.6	4.6	2.1	24	
23	1	1.4	1.7	2.4	4	3	2.1	6.4	2.3	2.8	1.9	1.9	1.5	1.3	1.9	1.5	1.4	S	2.4	2.4	4.9	4.6	3.3	1.9	6.4	2.5	24	
24	2.3	1.8	1.3	1.5	1.8	2.1	2.4	3.2	2	1.7	1.9	1.6	1.7	2	2	2.4	S	1.7	2	2	1.9	1.5	1.5	1.6	3.2	1.9	24	
25	1.6	1.6	1.6	1.7	1.7	1.6	1.7	1.9	1.9	2	2	1.5	1.3	1.4	1.9	S	3.2	2.8	2	1.6	1.9	1.8	1.7	1.6	3.2	1.8	24	
26	1.7	1.5	1.3	1.4	5.7	4	4.1	1.8	1.4	1.6	1.5	1.7	1.7	1.5	S	1.7	1.8	1.2	0.9	2.8	4.5	8.8	5.6	8.5	8.8	2.9	24	
27	10.1	9.1	7.8	5.7	4.2	6.7	5.7	3	2.3	2.7	1.6	1.5	1.6	S	1.6	1.4	1.9	2.4	3	4.3	6.1	6.3	5.8	5.5	10.1	4.4	24	
28	4.4	3.2	2.4	2.2	3.1	3.9	6	3.4	2.8	2.2	1.4	1.1	S	1.7	1.4	1.3	1.1	1.9	2.7	2.7	6.9	7.6	5.3	4.5	7.6	3.2	24	
29	3.4	2	1.6	1.4	3.9	6.6	3	3.9	4.1	2.4	1.9	S	1	1.9	2.8	2.9	2.6	3.2	1.7	3.3	6.1	5.3	4.9	3.8	6.6	3.2	24	
30	4.9	4.1	4.3	4.1	4	4.6	5	3.9	3.1	2.4	S	1.9	2.6	2.9	1.5	1.7	2.3	2.3	2.7	6.4	7.3	5.2	5.3	4.4	7.3	3.8	24	
31	2.7	2.2	1.8	1.7	2.2	3.2	5.3	6.7	5.5	S	2.1	2	2.2	2	1.7	1.7	1.5	2.7	3.3	3.4	3.5	3.3	2.9	5.1	6.7	3.0	24	
HOURLY MAX	14	9	8	15	10	14	14	8	6	5	4	3	3	3	3	3	3	3	3	8	15	9	13	13				
HOURLY AVG	4.1	3.6	3.1	3.7	4.0	4.6	4.7	3.8	2.8	2.3	1.7	1.5	1.5	1.5	1.6	1.5	1.6	1.6	1.6	1.9	2.9	4.2	4.6	4.3	4.4			

STATUS FLAG CODES

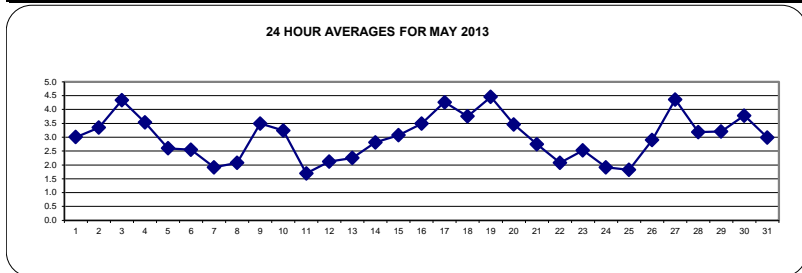
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT:

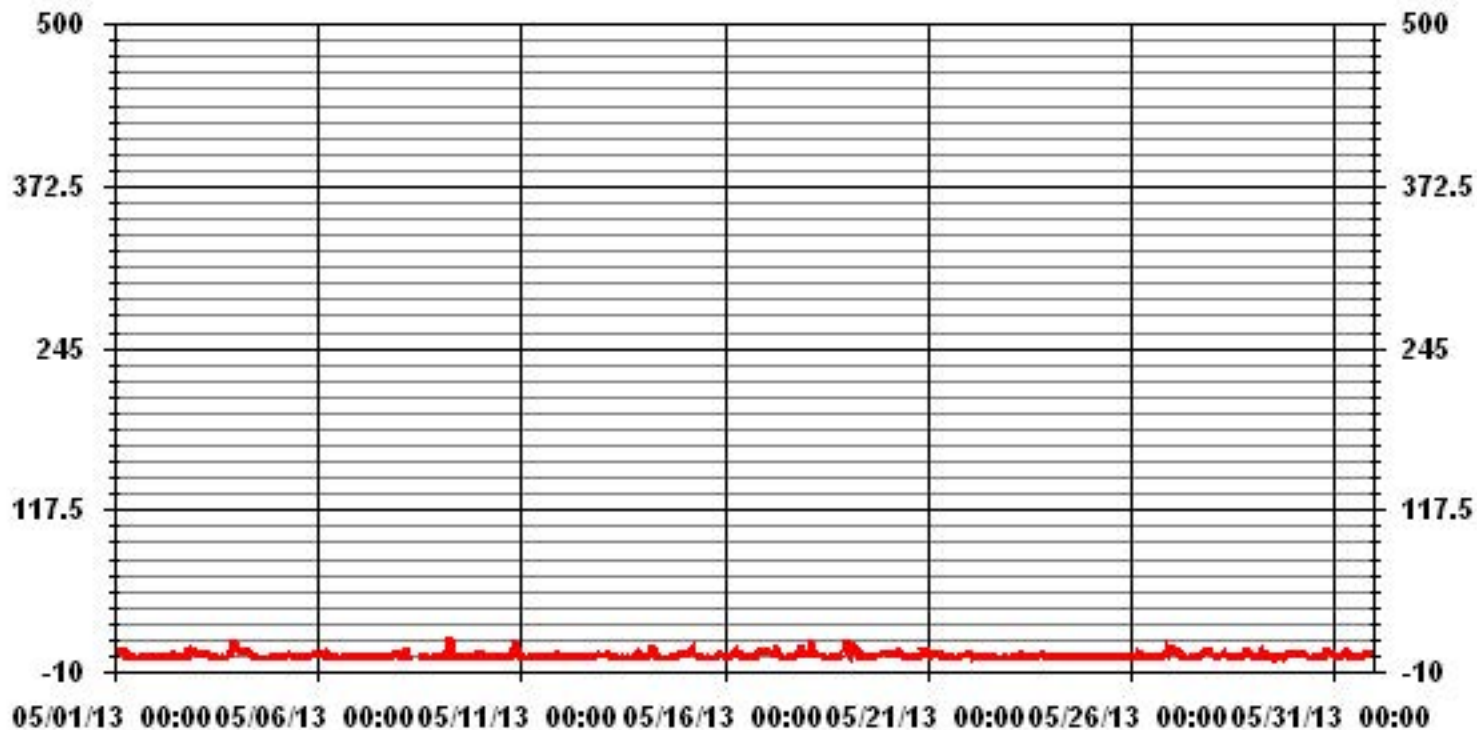
ALBERTA ENVIRONMENT: 1-HR 159 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	707					
MAXIMUM 1-HR AVERAGE:	14.9	PPB	@ HOUR(S)	20	ON DAY(S)	10
MAXIMUM 24-HR AVERAGE:	4.5	PPB			ON DAY(S)	19
S CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	743	HRS	
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:	99.9	%	
STANDARD DEVIATION:	2.23		MONTHLY AVERAGE:	3.00	PPB	



01 Hour Averages



— LICA NO2_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

MAY 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 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	7.5	9.6	10.1	6.1	5.6	9.1	11	4.5	5	1.5	1.5	6.5	2	1.5	2.5	S	3	1.5	1.5	3	3	2.6	2.1	2.1	11	4.5	24
2	2.1	2.1	1.6	1.6	2.1	5	3.1	3.1	3.1	4.6	4.6	6	3.6	9.6	S	2.5	1.5	Y	3.6	20.5	28.5	12	9.6	7.5	28.5	6.3	23
3	6	4.1	8	6	6.5	6	7.5	6	5.1	3.6	2.5	1.5	3	S	3.5	5.1	3.1	3.1	7.1	10.1	7.5	11.1	18.5	14.5	18.5	6.5	24
4	12.5	9.6	7.5	8.5	9.1	8.5	10.6	7.5	6.5	5.5	2.1	2.1	S	1	1	2.1	1	1	1	2.5	5.1	3.1	4.6	2.6	12.5	5.0	24
5	2.6	3	3.6	4.1	3.1	6	4.1	3.6	3.6	4.1	3	S	1.6	2.5	3	1.5	1	1	1.5	3.1	4.6	7.5	7	7.5	7.5	3.6	24
6	5.6	6	5.6	4.6	4.6	14.5	9.6	7	5	5.6	S	2.1	7	3	2	1.5	4.1	2.1	2.6	2.1	1.6	2.1	2.1	3.1	14.5	4.5	24
7	2.6	3	2.1	3	1.6	1.5	5.1	3	2.5	S	1.6	2.1	5.6	2.1	2.1	11.6	3.1	12.5	3	5.6	4.6	3.6	8	12.5	4.0	24	
8	8.5	2.1	1	4.6	19	6	C	C	C	C	C	C	C	2.5	2	1.5	4.1	1.5	2.1	2.6	7	4	2.6	2.1	19	4.3	24
9	2.1	2.6	3.6	18.5	13.5	38	24.6	3.1	S	8	9.6	6.1	3.5	7	21.5	3	2.1	2.6	3	13	6.5	2.1	1.6	7.5	38	8.8	24
10	7.5	4.6	2.1	2.1	2.1	2.1	3.6	S	1.9	1.3	1.3	1.3	1.3	1.3	1.8	1.9	4.9	3.4	5.3	14.4	25.3	10.4	11.8	17.4	25.3	5.6	24
11	1.4	1.4	1.3	2.9	10.4	4.9	S	4.1	2.1	3.1	2.6	2.6	5.6	1.6	2.5	2.5	4.1	2.5	9	2.1	13	29.1	2.6	3.1	29.1	5.0	24
12	2.6	2.6	3.6	3.6	3.1	S	2.1	2.1	5.6	3	5	3	2.6	2.6	3.1	1.6	2.1	2.1	2.1	2.5	4.1	4.1	4.6	4.6	5.6	3.1	24
13	4.1	4.1	3.6	5.1	S	3.6	4.1	4.1	2.1	2.1	2.1	1.5	1.6	1.6	2	1.5	1.5	1	1	1.5	6.5	9.6	8.6	6.1	9.6	3.4	24
14	4.6	7.5	4.1	S	5.1	12.1	10.1	6.5	3	2.1	5.1	1	2.1	1.5	5	1.5	1.6	1.6	6.5	9	5.1	7.5	8	5.6	12.1	5.1	24
15	4.1	5.1	S	12.5	11.1	17.6	8	7	4.6	4.6	3	2.1	2.1	1.5	2.1	1.5	3.1	1	1.6	5.1	6.5	8.5	6	5.5	17.6	5.4	24
16	7.1	S	4.1	4.1	6	7	6.6	16.1	8	9.6	2.1	2.1	2.1	4.1	3	3.6	3.6	6.5	7.5	6.5	9.6	10.6	11.1	11.6	16.1	6.6	24
17	S	9.6	7.1	7.1	5.6	5.6	25.5	10.1	7	5.1	2.1	3.6	2.1	3.6	4.1	6.5	2.6	11.5	7.5	12.1	8	12.5	12.5	S	25.5	7.8	24
18	8	8.1	14.6	24.1	23.5	9.1	6	4.1	5.1	6	6.1	2.5	4.1	1.5	5	8	4.1	2.1	2.5	3.1	4.5	8	S	31.1	31.1	8.3	24
19	28	13.5	7.5	21	17.1	11.6	8	10.1	7.5	2.1	4.6	3	2.1	2.1	2.5	3.6	2.1	3	7	4.6	11.1	S	7.1	7.5	28	8.1	24
20	5.6	6	6.1	8.1	5.1	8.1	9.6	6.5	4.6	5.6	3	3	2.5	3.6	3.6	3.6	4.1	4.1	2.1	9.6	S	12.1	11.1	8.6	12.1	5.9	24
21	10.6	5.1	4.1	7.1	8.6	13	8	10.6	10.5	4.1	2.1	2.5	6.5	4.5	4.1	3.1	4.1	4.1	2.1	S	3.6	4.1	4.1	5.6	13	5.7	24
22	5.1	7	10.6	2.1	4.6	2.6	3.6	3.1	6.1	4.5	4.1	11.5	11.6	12	10.1	13.5	17	3.6	S	4.1	5.6	3.6	2.5	2.1	17	6.5	24
23	1.5	3.1	2.1	4.1	7.1	4.1	3.6	113.5	4.6	6.5	3.6	6.1	3.5	3.6	7	4.6	5.1	S	6.5	4.1	6.5	7.1	6.1	3.1	113.5	9.4	24
24	2.6	2.6	1.6	2.1	3.6	3.6	3.6	7.5	5.6	3.1	3.1	3	4.1	5.6	3.1	5.1	S	3	2.9	6.4	2.5	2	2	3.5	7.5	3.6	24
25	2	2	2	2.5	2.5	2	2	4	2.5	6	4	4.5	2.4	2	2.5	S	5	4.5	2.5	2.5	5.5	4.5	2.5	2	6	3.1	24
26	3	2	2	2.5	9.5	8	8.5	4.5	2.9	3	1.5	2.5	2.4	1.5	S	4.5	3.5	1.5	1.4	5.5	7.4	16.4	7.4	15.9	16.4	5.1	24
27	16	13.4	10.5	7.4	8	11.5	9	9.5	24	7.9	2.4	2.5	5.5	S	1.9	2.4	6.9	4.4	5.4	13.3	7.8	8.3	8.4	7.9	24	8.4	24
28	4.9	3.9	3.4	3.4	5.4	6.4	9.4	4.4	4.4	7.8	5.4	3.9	S	6.8	6.3	5.9	2.3	5.4	6.3	4.4	20.8	9.9	7.9	5.8	20.8	6.3	24
29	4.9	3.4	2.4	1.9	13.3	12.8	7.3	7.8	24.4	11.9	8.8	S	4.3	5.9	12.4	15.3	11.4	26.3	4.9	16.3	22.3	6.3	6.9	5.8	26.3	10.3	24
30	5.4	4.9	4.9	4.4	6.3	11.9	10.8	11.3	15.8	8.4	S	12.6	15	31.6	11.6	7	7.5	20	5.6	12.1	13.5	8.6	6.6	6	31.6	10.5	24
31	4.1	3.6	2.6	2.6	3.6	5.1	13	13.5	9.6	S	3.5	8.4	12.9	12.9	5.4	5.5	2.4	5	6.4	5.5	5	6	5.9	10	13.5	6.6	24
HOURLY MAX	28	14	15	24	24	38	26	114	24	12	10	13	15	32	22	15	17	26	13	21	29	29	19	31			
HOURLY AVG	6.1	5.2	4.8	6.3	7.6	8.6	8.2	10.3	6.6	5.0	3.6	3.9	4.4	4.8	4.7	4.2	4.4	4.6	4.4	6.8	8.8	7.9	6.5	7.5			

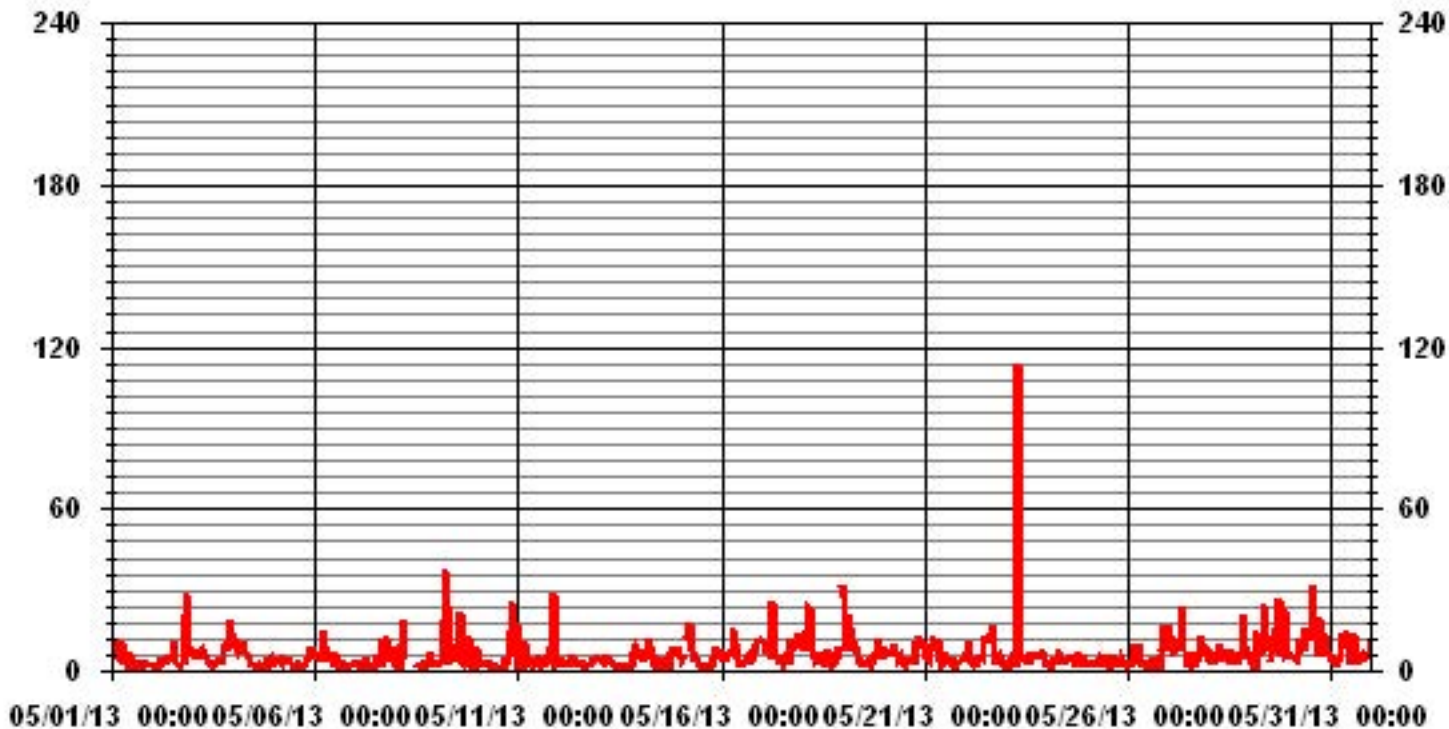
STATUS FLAG CODES

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:	705					
MAXIMUM INSTANTANEOUS VALUE:	114	PPB	@ HOUR(S)	7	ON DAY(S)	23
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	743	HRS	
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION:	6.37					

01 Hour Averages



— LICA NO2MAX PPB

LICA
 NO2_ / WD Joint Frequency Distribution (Percent)

May 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	3.55	5.12	8.67	6.11	10.52	9.95	10.24	4.83	2.41	2.56	4.26	9.81	7.53	5.26	5.40	3.69	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	3.55	5.12	8.67	6.11	10.52	9.95	10.24	4.83	2.41	2.56	4.26	9.81	7.53	5.26	5.40	3.69	

Calm : .00 %

Total # Operational Hours : 703

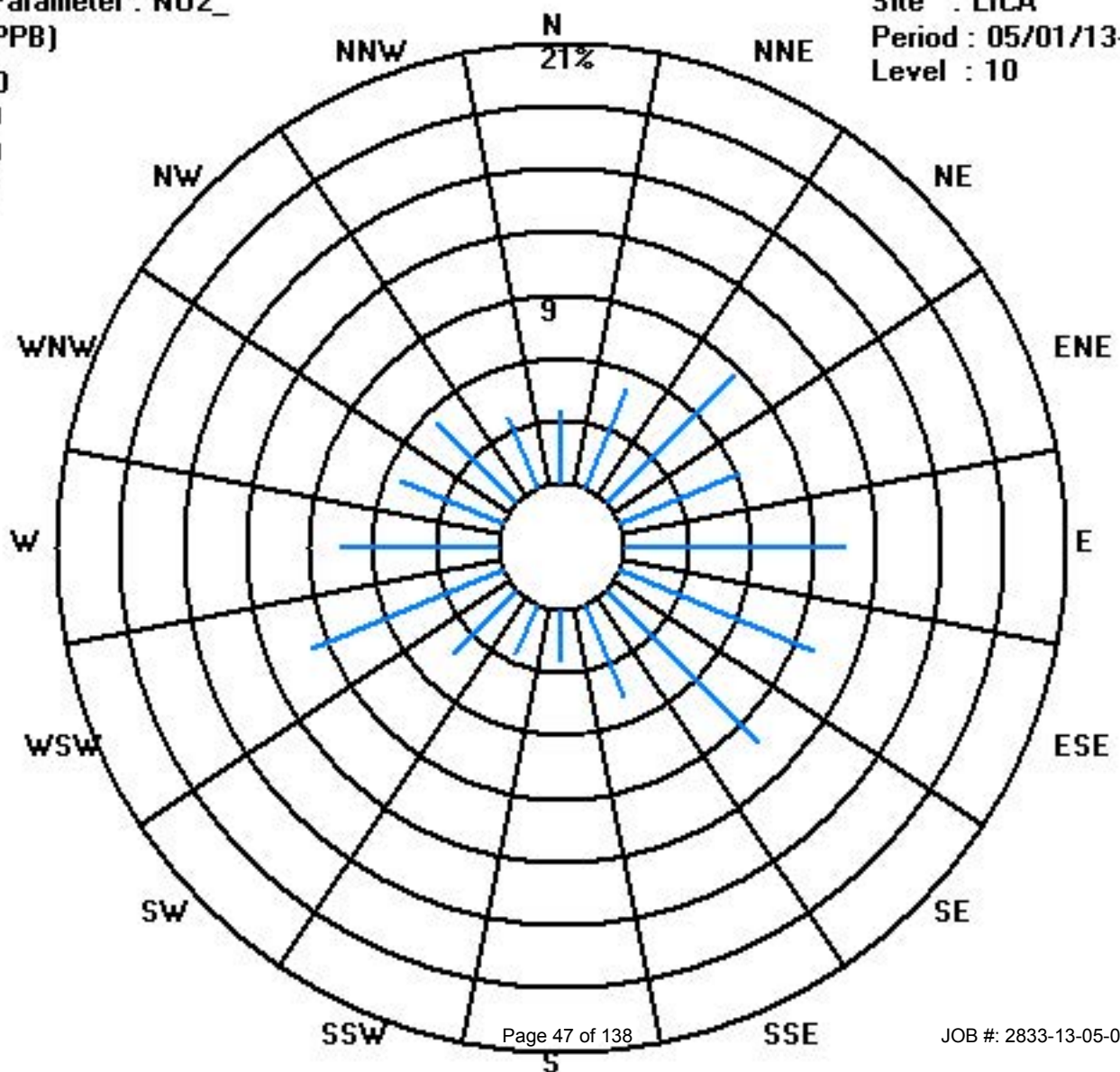
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50.0	25	36	61	43	74	70	72	34	17	18	30	69	53	37	38	26	703
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	25	36	61	43	74	70	72	34	17	18	30	69	53	37	38	26	

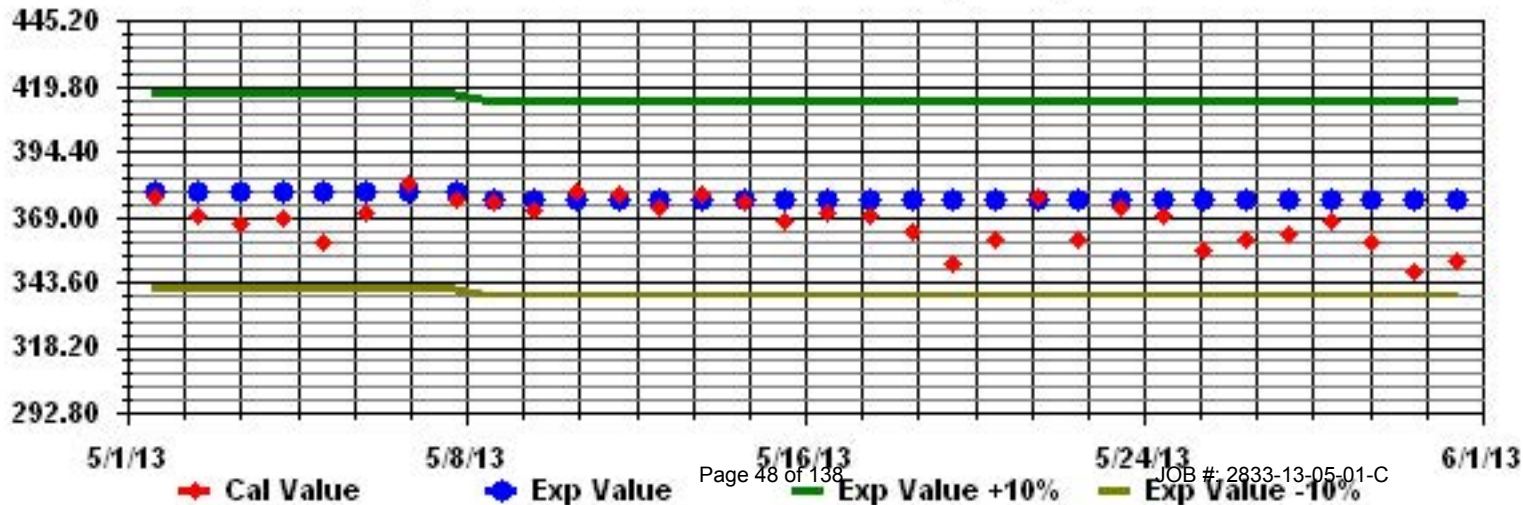
Calm : .00 %

Total # Operational Hours : 703

Class Limits (PPB)



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



Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

MAY 2013

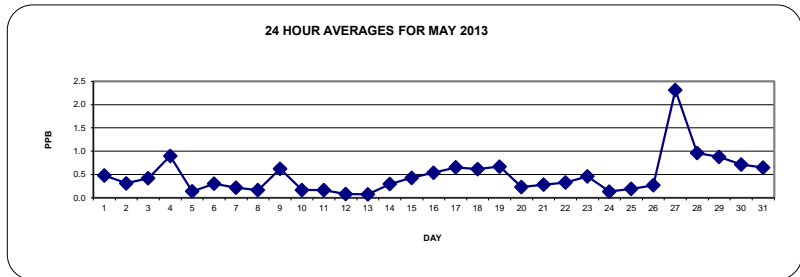
NITRIC OXIDE hourly averages in ppb

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 MAX.	24-HOUR AVG.	RDGS.
1	0	0	0	0	0	1.5	2.9	1.6	1.8	0.5	0.5	0.8	0.5	0.5	0.4	S	0	0	0	0	0.1	0	0	0	2.9	0.5	24	
2	0	0	0	0	0	0.2	0.1	0.7	0.5	0.7	0.9	0.9	0.5	1.4	S	0	0	Y	0	0.5	0.5	0	0	0	1.4	0.3	23	
3	0	0	0	0	0.2	0.7	1.9	1.9	1.8	0.8	0.2	0	0	S	0.3	0	0.1	0.2	0.7	0.5	0	0.1	0.2	0.1	1.9	0.4	24	
4	0.2	0.1	0.3	0.9	1.2	4.1	5.9	3.6	2.4	1.3	0.6	0	S	0	0	0	0	0	0	0	0	0	0.1	0	5.9	0.9	24	
5	0	0	0	0	0	0.3	0.5	0.7	0.6	0.6	0.5	S	0	0	0	0	0	0	0	0	0	0	0	0	0.7	0.1	24	
6	0	0	0	0	0	2	1.8	0.6	1.1	0.6	S	0.3	0.2	0.4	0	0	0	0	0	0	0	0	0	0	2	0.3	24	
7	0	0	0	0	0	0	0.6	0.6	0.7	S	0.4	0.5	0.3	0.2	0.2	0.4	0.2	0.4	0.1	0	0	0	0	0	0.7	0.2	24	
8	0	0	0	0	0.7	0.5	1.1	C	C	C	C	0	C	0	0	0.4	0	0	0	0.5	0	0	0	0	1.1	0.2	24	
9	0	0	0	0.9	0.2	3.3	3.9	0.5	S	0.7	0.7	0.7	0.5	0.6	1.3	0.2	0.1	0.2	0	0.5	0	0	0	0	3.9	0.6	24	
10	0	0	0	0	0	0	0.2	S	0.2	0.3	0.1	0	0	0.1	0.1	0.3	0.6	0.2	0.2	0.7	0.5	0	0	0.4	0.7	0.2	24	
11	0	0	0	0.1	0.3	0.1	S	0.5	0.3	0.1	0	0.1	0.1	0	0	0	0.2	0.1	0.1	0	0.5	1.2	0.1	0	1.2	0.2	24	
12	0	0	0	0.1	0	S	0	0.3	0.3	0.5	0.4	0.1	0.1	0	0	0	0	0	0	0	0	0.1	0	0	0.5	0.1	24	
13	0	0	0	0	S	0.3	0.6	0.4	0.2	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6	0.1	24	
14	0	0.1	0	S	0.1	1.4	2.6	1.4	0.3	0.1	0.4	0	0	0	0	0	0	0	0.1	0.3	0	0	0	0	2.6	0.3	24	
15	0	0	S	0.9	0.7	3.8	1.7	1	0.9	0.5	0.1	0.1	0	0	0.1	0	0	0	0	0	0.1	0	0	0	3.8	0.4	24	
16	0	S	0	0.1	0.4	2.1	3.2	2.8	1.1	1.6	0	0.1	0.1	0.1	0	0.1	0.1	0.3	0.2	0	0	0	0	0.1	3.2	0.5	24	
17	S	0.1	0.1	0.3	0.5	1.7	4.2	3.3	1.6	0.6	0	0.1	0.5	0	0.2	0.4	0.1	0.1	0.3	0.3	0	0	0	S	4.2	0.7	24	
18	0.1	0	0.7	6.1	0.8	1	1	0.4	0.5	0.4	0.6	0	0.1	0.1	0.5	0.1	0.1	0	0	0	0	0	0	S	1.7	6.1	0.6	24
19	1.3	0.1	0	3.4	2.6	3.3	2.3	2	0.3	0	0.1	0	0	0	0	0	0	0	0	0	0	0	S	0	3.4	0.7	24	
20	0	0	0.1	0	0.1	0.4	0.9	2.1	0.5	0.6	0.2	0.1	0.1	0	0.1	0.1	0	0	0	0	S	0.1	0	2.1	0.2	24		
21	0	0	0	0	0.7	1.7	0.6	1.1	0.8	0.2	0.1	0.1	0.7	0.3	0.1	0	0.1	0	0	S	0	0	0	0	1.7	0.3	24	
22	0	0	0	0	0.1	0.2	0.4	0.6	0.4	1.1	0.4	0.3	0.7	1.2	0.5	0.7	0.6	0.1	S	0.2	0.1	0	0	0	1.2	0.3	24	
23	0	0	0	0.2	0.4	0.5	0.6	1.5	1.4	1.7	0.5	0.9	0.6	0.3	1.1	0.4	0.3	S	0.2	0	0	0	0	0	1.7	0.5	24	
24	0	0	0	0	0.2	0.1	0.1	0.7	0.3	0.2	0.1	0.3	0.4	0.1	0.3	0.2	S	0	0	0.1	0	0	0	0	0.7	0.1	24	
25	0	0	0	0	0.1	0.1	0.1	0.4	0.5	0.5	0.4	0.6	0.2	0.2	0.1	S	0.4	0.5	0.2	0	0.1	0.1	0	0	0.6	0.2	24	
26	0.1	0	0	0	0.8	0.6	0.7	0.4	0.2	0.1	0	0.1	0.3	0	S	0.1	0.1	0	0.2	0.1	0	1.4	0.1	0.9	1.4	0.3	24	
27	6.6	7.7	9.2	5.5	4.4	9.2	3.3	1.3	3	0.8	0.2	0.2	0.1	S	0.1	0.1	0.4	0.2	0.4	0.3	0	0	0.1	0.1	9.2	2.3	24	
28	0.2	0.2	0.4	0.8	3.4	6.1	5.2	1.3	1	0.6	0.2	0.2	S	0.8	0.4	0.2	0.3	0.3	0.2	0	0.3	0	0	0	6.1	1.0	24	
29	0	0	0.1	0.1	3.2	3.4	0.6	2.4	1.5	0.8	1.1	S	1.2	0.2	1.3	2.1	0.6	1.1	0.2	0	0.3	0	0	3.4	0.9	24		
30	0.1	0	0	0	0	0.6	1.6	2	1.9	1.3	S	1.9	1.8	0.7	1.9	1.2	0.5	0.1	0.3	0.3	0.3	0	0	2	0.7	24		
31	0	0.1	0	0.1	1.1	2.7	3.2	2.3	1.6	S	1.1	0.3	0.4	0.5	0.6	0.2	0	0.2	0.2	0	0	0	0.2	0.2	3.2	0.7	24	
HOURLY MAX	7	8	9	6	4	9	6	4	3	2	1	2	2	1	2	2	1	1	1	1	1	1	1	0	2			
HOURLY AVG	0.3	0.3	0.4	0.7	0.7	1.7	1.7	1.3	1.0	0.6	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.1				

STATUS FLAG CODES

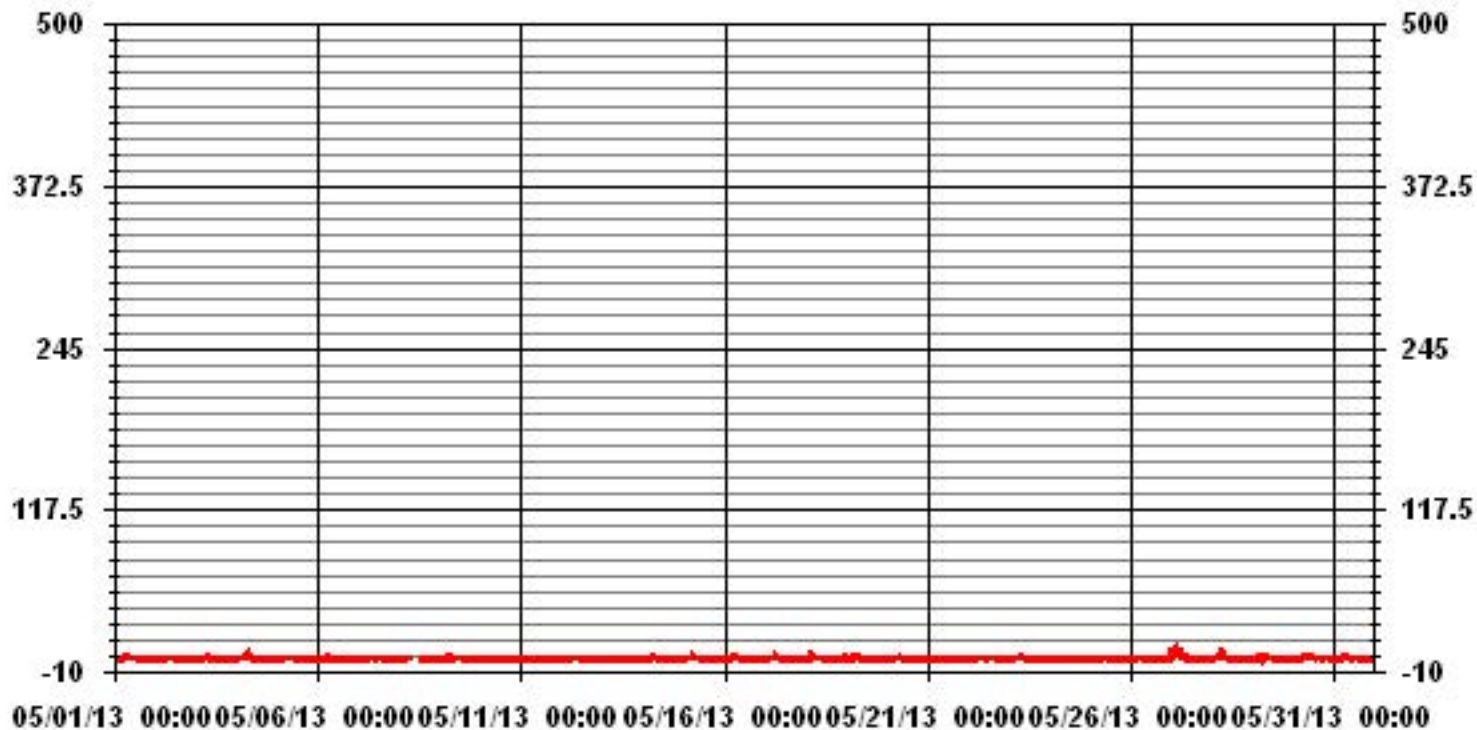
C - CALIBRATION	Q - QUALITY ASSURANCE
Y - MAINTENANCE	R - RECOVERY
S - DAILY ZERO/SPAN CHECK	X - MACHINE MALFUNCTION
P - POWER FAILURE	O - OPERATOR ERROR
G - OUT FOR REPAIR	K - COLLECTION ERROR



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	406					
MAXIMUM 1-HR AVERAGE:	9.2	PPB	@ HOUR(S)	6	ON DAY(S)	27
MAXIMUM 24-HR AVERAGE:	2.3	PPB			ON DAY(S)	27
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	743	HRS	
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:	99.9	%	
STANDARD DEVIATION:	1.02		MONTHLY AVERAGE:	0.48	PPB	

01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

MAY 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	0:00	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	0.5	0.5	0.5	1	6	6.5	3	32	1	1.5	4.5	0.5	1	4	S	1	0	0	1	1	0.5	0.5	0	32	2.9	24	
2	0.5	0	0	0.5	0	2.5	0.5	5.5	1	2	2	2	1	9	S	0.5	0.5	Y	0.5	8.5	11	2	0.5	0.5	11	2.3	23	
3	0.5	0.5	1.5	1	1.5	2	3.5	3	2.5	1.5	0.5	0.5	0.5	S	8	1	1	1	7.5	6.5	0.5	2	2.5	1	8	2.2	24	
4	1	0.5	3.5	2	8	11.5	18	4	3	2.5	13.5	0.5	S	1	0	0.5	0	0	0	0	0	0	4.5	0	18	3.2	24	
5	0	0	0	0	0	1	0.5	1	1.5	1	0.5	S	0.5	0.5	2.5	0.5	1	0	0	0	0	0	0	0.5	2.5	0.5	24	
6	0.5	0.5	0	0.5	0.5	12.9	5	2.5	8	2.5	S	1.5	2	9.5	1.5	0	1	0	0.5	0	0	0	0	0	12.9	2.1	24	
7	0	0	0	0	0	0.5	4	4.5	2.5	S	0.5	2	1.5	1	0.5	0.5	5	1.5	4	2	0.5	0	0.5	0.5	5	1.4	24	
8	1.5	0.5	0.5	1	7	8	C	C	C	C	C	C	C	1	0.5	0	5	1.5	0.5	0.5	10.5	0.5	0.5	0.5	10.5	2.3	24	
9	0	0.5	0.5	18	1	22	12.5	3	S	4	2.5	2.5	1	5.5	21	1	1	1	0.5	15	3.5	0.5	0	0.2	22	5.1	24	
10	0	0	0	0.5	0	0.5	4	S	0.5	0.5	0.5	0.5	0.5	2.5	1.5	2.5	4	3	1.5	2	3.5	0.5	1	9.5	9.5	1.7	24	
11	1.5	0.5	0.5	3	8	1	S	2	1.5	1	0.5	1.5	1.5	0.5	1	0.5	3	2.5	1.5	0.5	8.5	30.5	0.5	1	30.5	3.2	24	
12	0	0.5	0.5	4	0.5	S	4.5	7	2	2	2	1.5	1	0.5	0.5	0	2.5	0.5	0	0.5	0	0.5	0.5	0	7	1.3	24	
13	0	0.5	0	0.5	S	0.5	1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0	0	0	0	0	0.5	0.5	0.5	1	0.4	24	
14	0	1.5	0.5	S	0.5	2.5	3	2	1	0.5	12	0	0.5	0.5	1	0	0.5	0	3	6.5	0	0.5	0	0	12	1.6	24	
15	0	0.5	S	11.5	2	11.9	3.5	2	1.5	1	2	1.5	0.5	0.5	3.5	0.5	0.5	0	0	0.5	4.5	1	0.5	0	11.9	2.1	24	
16	0.5	S	0.5	1.5	2	8	5	7.5	2.5	3	0.5	1	0.5	1.5	0.5	1.5	2.5	2	7	0.5	0.5	0.5	1	1.5	8	2.2	24	
17	S	2	2.5	1.5	1.5	2.5	37	4.5	2.5	1.5	0.5	0.5	11.5	1	3.5	3.5	0.5	1.5	1.5	4.5	0.5	0	0.5	S	37	3.9	24	
18	1	0.5	12.5	29	8.5	2.5	2	1	1	2	3	0.5	1.5	2.5	2	1	1	0.5	0	0	0	0	S	24.5	29	4.2	24	
19	12.9	1.5	0.5	14.5	9	14	4.5	5	2	0.5	4	1	1	1	0	0	0	1	0	0.5	S	0.5	1	14.5	3.2	24		
20	0	0.5	1	1	0.5	2.5	2	4	3	1.5	0.5	0.5	1.5	1	1.5	3	1.5	1.5	0.5	2	S	2.5	0	0.5	4	1.4	24	
21	1	0	1.5	0.5	3.5	21.5	1.5	4	3.5	2.5	2	1.5	10	3	1	0.5	1.5	0.5	0.5	S	0	0	0	0	21.5	2.6	24	
22	0	0	1	0.5	1	1	1.5	2.5	1.5	14.5	3.5	4.5	5.5	7.5	2.5	11	10	2	S	1.5	1.5	2.5	0	0	14.5	3.3	24	
23	0	1	0	9.5	8.5	2.5	3.5	11	15.5	7	2.5	6	7	3	9	3	2.5	S	3	1	0	0	0	0.5	15.5	4.2	24	
24	0	0	0	0	5.5	1	1	5.5	1	1.5	1	1	4	0.5	1	1	S	0.5	2	1.5	0.5	1.5	0.5	1.5	5.5	1.4	24	
25	0.5	0.5	0.5	0.5	1	0.5	0.5	2	2	2.5	4.5	5	1.5	0.5	1.5	S	2	2.5	1	0.5	2.5	1.5	1	0.5	5	1.5	24	
26	1	0.5	0.5	0.5	3.5	1.5	2	2	1	2	1	1	1	0.5	S	2	3	1	8.5	1	1	10.5	1	6	10.5	2.3	24	
27	32	22.5	16	15.5	11.5	18	8.5	6	44	4	1	1.5	1.5	S	0.5	0.5	3	0.5	7.5	7.5	0.5	0.5	1	0.5	44	8.9	24	
28	0.5	0.5	2	5	9	9.5	11	3.5	2	4.5	2.5	3	S	4.5	4.5	3.5	8	2	3.5	0.5	6.5	0.5	0.5	0.5	11	3.8	24	
29	0.5	0.5	0.5	0.5	14.5	16	1.5	18.5	4.5	5.5	21	S	16.5	5.9	21.5	24	4	21.5	2	1	5	0	0.5	2	24	8.1	24	
30	2	0.5	0.5	0.5	1	8	12.5	17.5	16	10	S	17	14.5	6	22	12	4.5	2.5	3	1.5	5	0	1	0.5	22	6.9	24	
31	0.5	0.5	0.5	1	4	5	9	8	3	S	18	2	6.5	6.5	5.5	4.5	0.5	1	4	0	0.5	0.5	6	4.5	18	4.0	24	
HOURLY MAX	32	23	16	29	15	22	37	19	44	15	21	17	17	10	22	24	10	22	9	15	11	31	6	25				
HOURLY AVG	1.9	1.3	1.6	4.2	3.8	6.6	5.8	4.9	5.6	2.9	3.7	2.3	3.4	2.7	4.2	2.7	2.4	1.7	2.2	2.2	2.3	2.0	0.9	1.9				

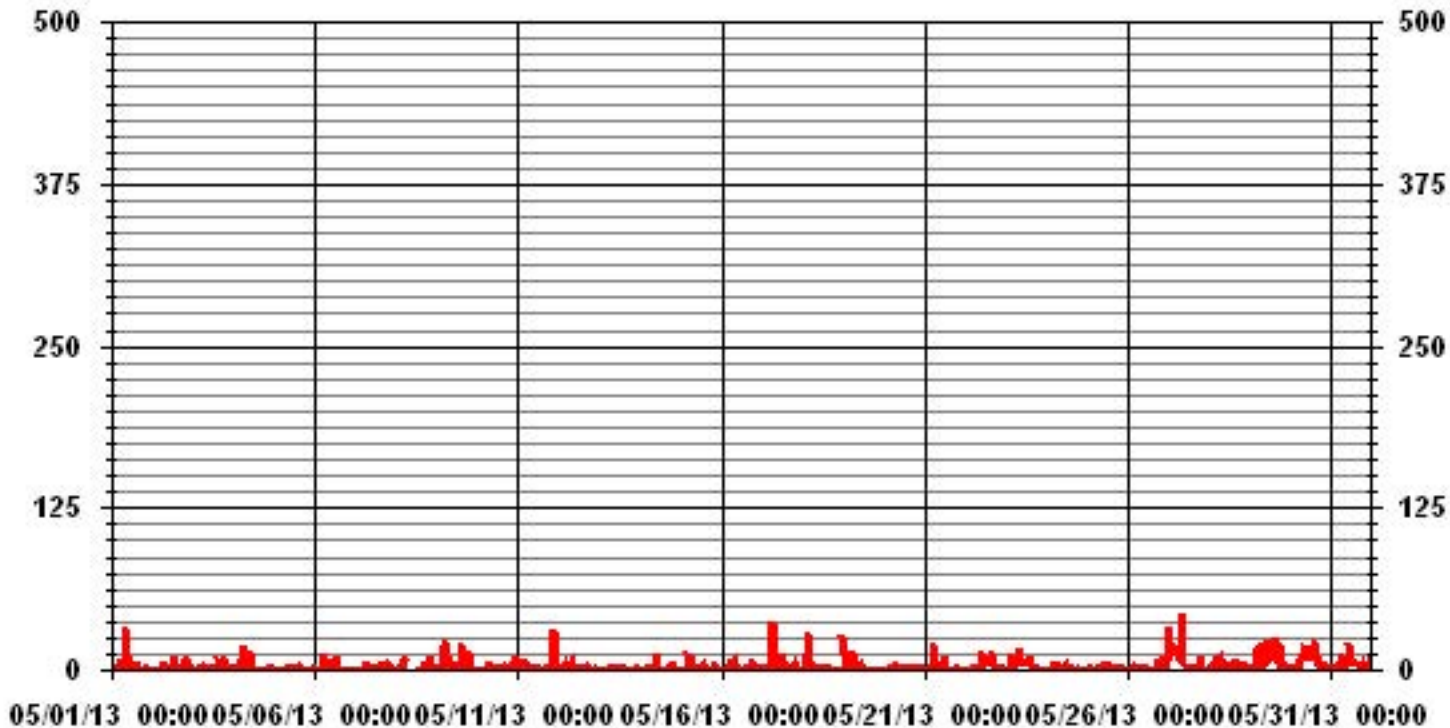
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	602					
MAXIMUM INSTANTANEOUS VALUE:	44	PPB	@ HOUR(S)	8	ON DAY(S)	27
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	743	HRS	
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION:	5.11					

01 Hour Averages



LICA
 NO_ / WD Joint Frequency Distribution (Percent)

May 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	3.55	5.12	8.67	6.11	10.52	9.95	10.24	4.83	2.41	2.56	4.26	9.81	7.53	5.26	5.40	3.69	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	3.55	5.12	8.67	6.11	10.52	9.95	10.24	4.83	2.41	2.56	4.26	9.81	7.53	5.26	5.40	3.69	

Calm : .00 %

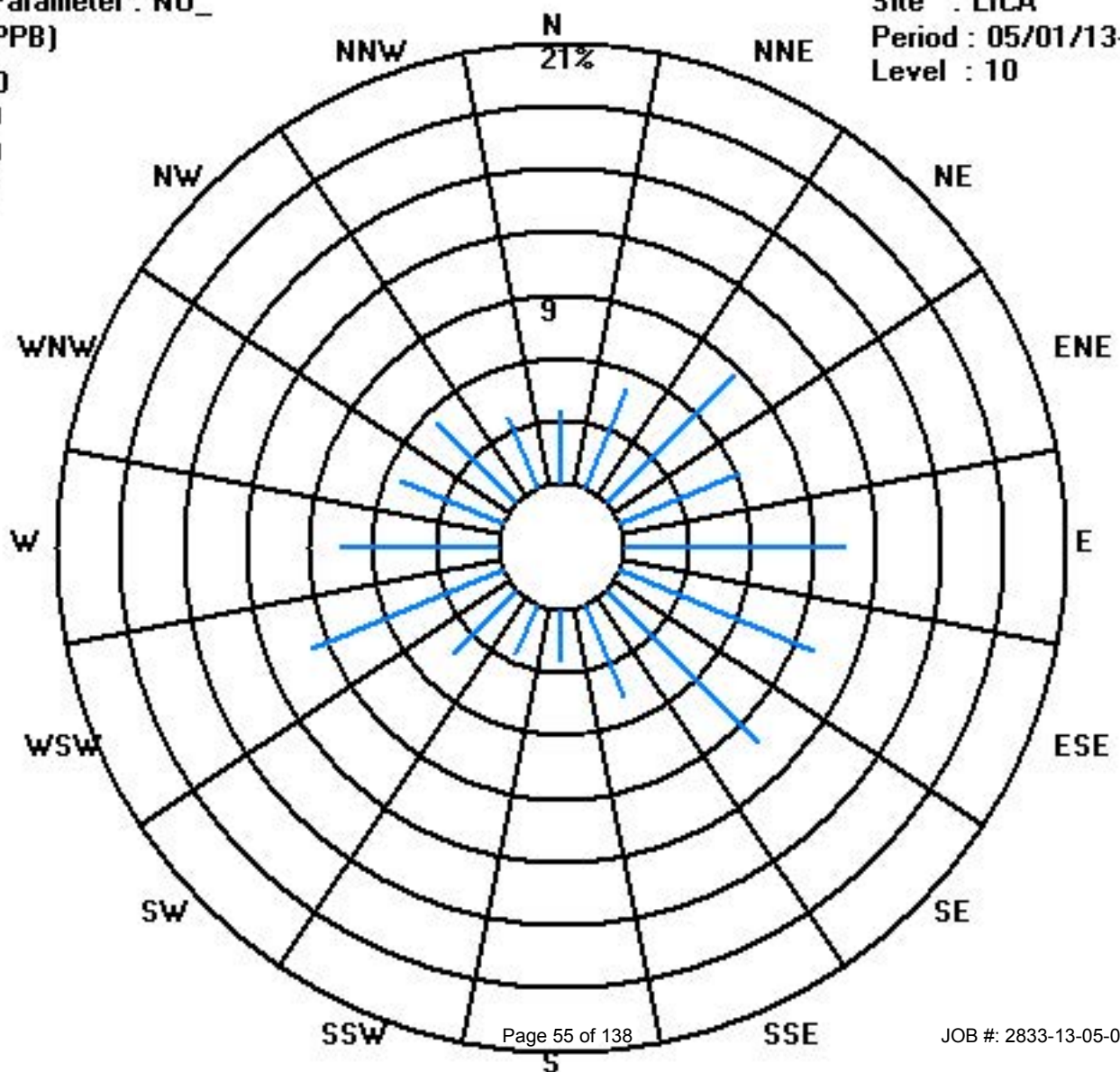
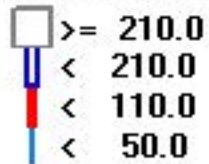
Total # Operational Hours : 703

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50.0	25	36	61	43	74	70	72	34	17	18	30	69	53	37	38	26	703
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	25	36	61	43	74	70	72	34	17	18	30	69	53	37	38	26	

Calm : .00 %

Total # Operational Hours : 703



Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

MAY 2013

OXIDES OF NITROGEN 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	RDGS.
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	
DAY																											
1	4	8.4	7.8	5.2	4.9	7.7	9.5	4.6	3.1	1.9	1.8	2.2	1.9	1.9	1.6	S	1.2	1.1	1.4	1.7	2.3	1.9	2	2.1	9.5	3.5	24
2	2	1.8	1.6	1.6	1.8	2.6	2.8	3.1	3.3	3.7	4.4	4.2	2.8	3.9	S	1.2	Y	1	1.5	8.5	9.2	8.7	5.4	5.5	9.2	3.7	23
3	3.5	3.2	3.7	5	5.2	5.4	7.8	6.7	6.1	3.2	1.5	1.1	1.3	S	1.5	1.6	1.4	2.2	3.2	5.8	4.8	8.5	13.4	13.3	13.4	4.8	24
4	10.4	7.6	5.8	6.5	6.5	10.3	12	10.8	8.4	5.5	1.6	1	S	0.9	0.6	0.8	0.7	0.7	0.8	1	3.1	2.2	2.6	2.1	12	4.4	24
5	2.1	2.5	3.1	3.3	2.6	3.4	3.2	3.9	3.7	3.6	3	S	1.4	1.2	1.1	1	1	1	1	2.3	3	5	4.6	6	6	2.7	24
6	5	5.2	3.7	2.9	2.6	9	7.9	2.8	3.4	2.8	S	1.6	1.5	1.3	1.3	1.1	1.4	1.2	2	1.6	1.5	1.9	1.9	2	9	2.9	24
7	2.3	2	1.5	1.7	1	1.1	2.4	2.2	2.3	S	1.5	1.7	1.8	1.6	1.5	1.6	2.1	1.8	2.3	1.9	4.1	3	2.8	4.9	4.9	2.1	24
8	5.2	1.3	0.8	1.4	9	3.2	2.8	C	C	C	C	0.5	C	1.2	1.2	1.1	1.7	1.1	1.1	1.5	3.8	2.4	1.7	1.6	9	2.2	24
9	1.9	1.8	1.7	4.5	6.6	17	17.6	2.4	S	3.5	3.8	3.6	2.8	3.6	4.6	2.1	1.6	1.8	1.6	2.5	2.2	1.4	1.2	4.9	17.6	4.1	24
10	5.8	3.3	2	1.6	1.3	1.3	1.7	S	1.4	1.4	1.1	1	1	1.1	1.2	1.6	2.5	1.8	2.3	8.8	15.4	7.8	7.7	5.4	15.4	3.4	24
11	1.1	1	1	1.3	2.3	1.8	S	2	1.6	1.7	1.5	1.6	1.6	1.4	1.5	1.6	2.4	1.7	2.1	1.7	3	5.2	2	1.7	5.2	1.9	24
12	1.7	1.7	2.1	1.8	1.8	S	1.9	1.9	2.2	2.5	2.8	2.2	2.5	2.5	2.2	1.5	1.7	1.5	1.5	1.5	2.7	3.1	3.5	3.9	3.9	2.2	24
13	3.3	3	3.2	4.2	S	3.2	4.1	2.7	1.6	1.2	1.3	1	1	1	1.2	1	1	0.9	1	1	1.8	5.8	4.6	4.4	5.8	2.3	24
14	2.3	3.6	2.4	S	3.9	9.7	11.2	6	2.1	1.2	1.7	0.9	1.2	1	1.3	1	1	1	1.7	2.1	2.6	5	5.4	3.2	11.2	3.1	24
15	3.3	3.1	S	7.6	8.4	13.4	8.2	5.1	4.3	3	1.5	1.2	1.3	1	1.2	1	1.2	0.9	1	1.5	2.5	3.5	3.4	2.9	13.4	3.5	24
16	3.2	S	2.4	2.1	3.4	5.9	8.7	10.4	5.5	7	1.6	1.8	1.7	1.7	1.4	1.8	1.5	2.7	2.3	3.6	5	6.2	6.8	5.9	10.4	4.0	24
17	S	7.6	5.8	6.2	5.1	6	11.9	11.3	7.2	3.6	1.4	1.7	1.6	1.5	1.7	2.3	1.8	2	3.4	4.3	5	8.4	8.4	S	11.9	4.9	24
18	5.2	4.6	5.9	20.7	8.4	5.9	5.7	3.1	2.9	2.8	3.4	1.7	1.4	1	2.9	2	1.8	1.4	1.7	2.1	2.1	3.5	S	10.3	20.7	4.4	24
19	15.7	7.4	4.8	13.5	12.4	11.3	8.6	7.9	2.5	1.4	1.4	1.2	1.1	1.1	1.3	2.8	1.5	2.3	2.6	3.1	4.5	S	4.9	4.5	15.7	5.1	24
20	4	5	4.2	5.2	3.9	5	6.7	7.7	3.2	3.1	2.2	1.8	1.3	1.3	1.2	1.3	1.3	1.2	1.4	2.8	S	8.1	6.1	7	8.1	3.7	24
21	7.1	3.9	3	4.6	4.3	7.2	5.2	4.6	4.2	2	1.3	1.5	1.8	1.7	1.5	1.1	1.4	0.8	0.9	S	2.4	2.5	2.5	4.2	7.2	3.0	24
22	4.6	3.8	4.3	1.2	2.3	1.8	2	2.6	2.1	2.5	1.6	1.5	2.9	3.1	2.4	2.6	2.3	1.3	S	2.2	2.7	2.2	1.7	1.6	4.6	2.4	24
23	1	1.4	1.7	2.6	4.4	3.5	2.7	7.9	3.7	4.5	2.4	2.8	2.1	1.6	3	1.9	1.7	S	2.6	2.4	4.9	4.6	3.3	1.9	7.9	3.0	24
24	2.3	1.8	1.3	1.5	2	2.2	2.5	3.9	2.3	1.9	2	1.9	2.1	2.1	2.3	2.6	S	1.7	2	2.1	1.9	1.5	1.5	1.6	3.9	2.0	24
25	1.6	1.6	1.6	1.7	1.8	1.7	1.8	2.3	2.4	2.5	2.4	2.1	1.5	1.6	2	S	3.6	3.3	2.2	1.6	2	1.9	1.7	1.6	3.6	2.0	24
26	1.8	1.5	1.3	1.4	6.5	4.6	4.8	2.2	1.6	1.7	1.5	1.8	2	1.5	S	1.8	1.9	1.2	1.1	2.9	4.5	10.2	5.7	9.4	10.2	3.2	24
27	16.7	16.8	17	11.2	8.6	15.9	9	4.3	5.3	3.5	1.8	1.7	1.7	S	1.7	1.5	2.3	2.6	3.4	4.6	6.1	6.3	5.9	5.6	17	6.7	24
28	4.6	3.4	2.8	3	6.5	10	11.2	4.7	3.8	2.8	1.6	1.3	S	2.5	1.8	1.5	1.4	2.2	2.9	2.7	7.2	7.6	5.3	4.5	11.2	4.1	24
29	3.4	2	1.7	1.5	7.1	10	3.6	6.3	5.6	3.2	3	S	2.2	2.1	4.1	5	3.2	4.3	1.9	3.3	6.4	5.3	4.9	3.8	10	4.1	24
30	5	4.1	4.3	4.1	4	5.2	6.6	5.9	5	3.7	S	3.8	4.4	3.6	3.4	2.9	2.8	2.4	3	6.7	7.6	5.2	5.3	4.4	7.6	4.5	24
31	2.7	2.3	1.8	1.8	3.3	5.9	8.5	9	7.1	S	3.2	2.3	2.6	2.5	2.3	1.9	1.5	2.9	3.5	3.4	3.5	3.3	3.1	5.3	9	3.6	24
HOURLY MAX	17	17	17	21	12	17	18	11	8	7	4	4	4	4	5	5	4	4	4	9	15	10	13	13			
HOURLY AVG	4.4	3.9	3.5	4.4	4.7	6.4	6.4	5.1	3.7	2.9	2.1	1.8	1.9	1.8	1.9	1.8	1.8	1.7	2.0	3.0	4.3	4.7	4.3	4.5			

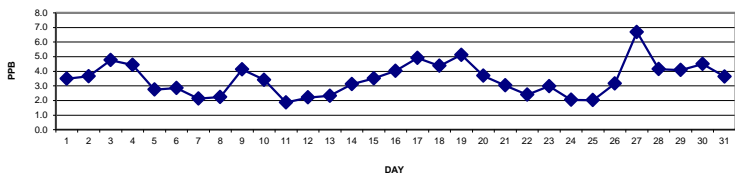
STATUS FLAG CODES

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

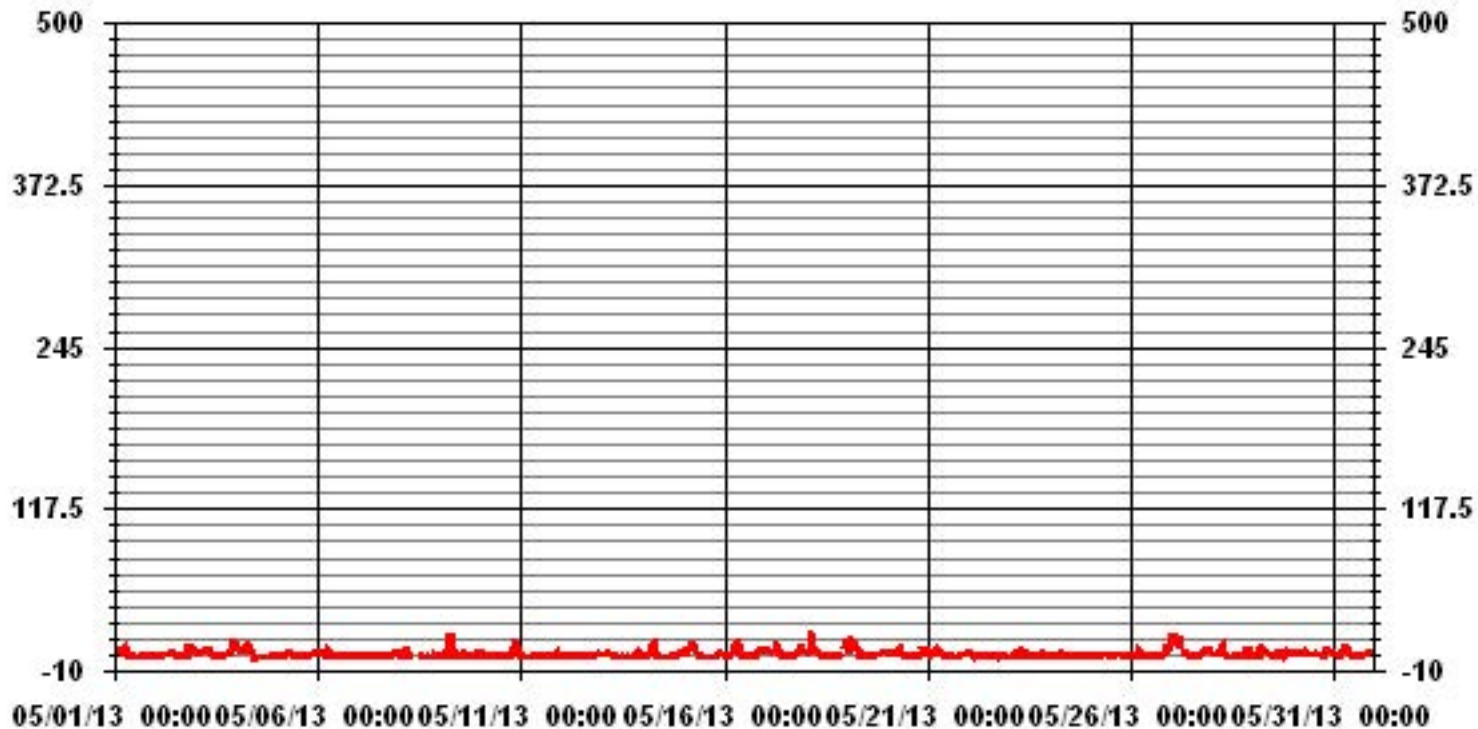
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	707					
MAXIMUM 1-HR AVERAGE:	20.7	PPB	@ HOUR(S)	3	ON DAY(S)	18
MAXIMUM 24-HR AVERAGE:	6.7	PPB			ON DAY(S)	27
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	743	HRS	
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:	99.9	%	
STANDARD DEVIATION:	2.85		MONTHLY AVERAGE:	3.48	PPB	

24 HOUR AVERAGES FOR MAY 2013



01 Hour Averages



— LICA NOX_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

MAY 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	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
1	7.6	9.6	10.1	6.6	6.1	13	16.6	8	23.1	2.6	2.6	9.1	2.6	2.6	3.6	S	4.1	1.6	1.6	4.1	3.6	3.1	2.6	2.6	23.1	6.4	24	
2	2.6	2.1	2.1	1.6	2.1	7.1	3.6	5.6	4.1	5.6	5.6	7.6	4.6	15.1	S	3	1.5	Y	4	28.5	39.4	13	9.5	7.5	39.4	8.0	23	
3	6.5	4	9.5	6.5	7.5	7.4	10.5	9	8	5	3	2	3.5	S	7.1	6.1	4.1	4.6	9.1	15.6	7.6	11.6	20.6	15.1	20.6	8.0	24	
4	13.6	9.6	9.6	10.6	17.6	20	27.6	12.1	9.1	8.1	2.6	2.6	S	1.6	1.1	2.6	1.1	1.1	1.1	2.6	5.1	3.1	8.1	2.6	27.6	7.5	24	
5	2.6	3.1	3.6	4.1	3.1	7.1	4.6	4.6	4.6	5.1	4.1	S	2	3	5	2	2	1	1.5	3	4.5	7.5	7	8	8	4.0	24	
6	5.9	6	5.5	5	5	25.9	13.5	9.5	10.5	8	S	3	9	3.5	2	1.5	5	2.5	2.5	2	1.5	2	2	3	25.9	5.8	24	
7	2.5	2.5	2	3	1.5	2	8	5.5	4.5	S	2	3	6.5	2.5	2.5	15.5	4	16	3.5	6	5	4	8	16	4.9	24		
8	9	2.5	1.5	5.5	25.4	12.4	C	C	C	C	C	C	C	3.6	2.6	1.5	7.5	2.1	2.1	2.6	13.5	4.1	2.6	2.1	25.4	5.9	24	
9	2.1	2.6	3.6	30.6	14.1	58.6	34.1	3.6	S	10.5	12	7.4	4	12	38.4	3.5	2	3.5	3.5	24.9	10	2	1.5	7.5	58.6	12.7	24	
10	8	4.5	2	2.5	2	2.5	7.5	S	2	2	2	1.5	1.5	2.5	3.5	3.5	6.5	4	6.5	16	27.5	11	12.5	26.9	27.5	6.9	24	
11	1.5	2	1.5	5.5	18	5.5	S	4.5	2.5	3.5	3	3.5	7	1.5	3	2.5	4.5	4	10.5	2	18	58.4	3	4	58.4	7.4	24	
12	2.5	2.5	4	6	3.5	S	2.5	4	7	4	5.5	4.5	3.5	2.5	3.5	1.5	4	2	2	3	4	4.5	5	4.5	7	3.7	24	
13	4	4	4	5	S	4	5	4.5	2.5	2.5	2.5	2	1.5	2	2.5	1.5	1.5	1	1.5	1.5	6.5	9.5	9	6.5	9.5	3.7	24	
14	4.5	9	4.5	S	5.5	14	13	8.5	3.5	2.5	12.5	1	2.5	1.5	6	1.5	1.5	1.5	9	14.5	5	7.5	8	5.5	14.5	6.2	24	
15	4	5	S	24	13	29	10.5	9	5.5	5.5	4	2.5	2.5	1.5	4.5	1.5	3.5	1	1.5	5.5	7.4	8.5	6.5	6	29	7.0	24	
16	7.5	S	4	5.9	7.5	14.5	10.5	23	10.5	12.5	2.5	2.5	2.5	5.5	3.5	4.5	6	7.5	13.4	6.5	9.5	10.5	12	12	23	8.4	24	
17	S	10.5	9	8.5	7	8	61.5	14.5	10	7	2.5	4	4.5	4	6.5	8.5	3	12.9	9	15	8.5	13	12.5	S	61.5	10.9	24	
18	9	8.5	26.4	47.9	31.9	11.5	8	5	6	7.4	9.5	2.5	5.5	1.5	6	9	5	2.5	2.5	3	4.5	8.5	S	55.5	55.5	12.0	24	
19	36.4	14.5	7.5	34	26	24.5	12.4	14	9.5	2.5	6.5	3.5	2.5	3	2.5	3.5	2	3	8.5	4.5	11	S	7.5	8.5	36.4	10.8	24	
20	5.5	6.5	7	8	5	10.5	11.5	9	6	6.4	3.5	3.5	3	4.5	4.5	6.5	5.5	5.5	2.5	11	S	14.5	11	8.5	14.5	6.9	24	
21	11.5	5	5	7	11	30	9.5	14.5	14	5.5	2.5	4	7	5	4.5	3	5.5	4	2	S	3.5	4	4	5.5	30	7.3	24	
22	5.5	7	12	2	5	3	5	5	7.5	10.5	7.4	12	14.5	13.9	12.5	13.9	18.5	5	S	5.5	6.5	3.5	2.5	2	18.5	7.8	24	
23	1.5	4	2	11.5	11.5	6	5.5	124.4	19	12	5	8.5	9	6	11	6.5	6	S	8	4.5	6.5	7.5	6	3.5	124.4	12.4	24	
24	2.5	2.5	1.5	2	4.5	4.5	4	12.4	7	4.5	3.5	4	4.5	6	3.5	6	S	3	4.5	7.5	3	2.5	2.5	4.5	12.4	4.4	24	
25	2	2.5	3	2.5	3.5	2.5	3	5	4	8	5.5	7	3.5	2.5	4	S	6	5.5	3.5	3	8	4.5	4	2	8	4.1	24	
26	4	2.5	2.5	2.5	12	9.5	10	6	4	4.5	2	3.5	3.5	2	S	6.5	4.5	2.5	4	6.5	8	24	8	21.5	24	6.7	24	
27	47	31.9	26	21.5	18	27	17.5	14	34.4	11.5	3	3.5	7	S	2.5	3	10	5	9.5	18	8.5	9	9	9	47	15.0	24	
28	5.5	4.5	5	7	14.5	16	18.5	7.5	6.5	12.5	8	5	S	9.9	7.4	8.9	6.9	7.4	9.4	5.4	27.3	9.9	7.9	6.4	27.3	9.4	24	
29	5.9	3.4	2.9	2.4	20.9	28.9	8.9	20.9	25.9	14.4	9.9	S	8.1	8.1	14.6	23.1	13.1	45.5	6.6	17.6	27.5	7.1	7.1	7.6	45.5	14.4	24	
30	6.6	5.6	5.1	5.1	7.6	20.1	21.6	20.6	27	13.5	S	25.9	19.9	32.9	21.5	11	11.5	22.5	8.5	13.4	17.5	8.5	7.5	6.5	32.9	14.8	24	
31	4	4	3	3	7.5	9.5	21	21	12.5	S	6	9.5	19.4	19.4	7.4	7.5	2.5	6	10.5	5.5	5.5	6	10	14	21	9.3	24	
HOURLY MAX	47	32	26	48	32	59	62	124	34	14	13	26	20	33	38	23	19	46	16	29	39	58	21	56				
HOURLY AVG	7.7	6.1	6.2	9.6	10.6	14.5	13.3	14.0	10.0	7.1	5.0	5.3	5.9	6.2	6.8	5.4	5.7	5.9	5.8	8.5	10.5	9.5	7.1	9.2				

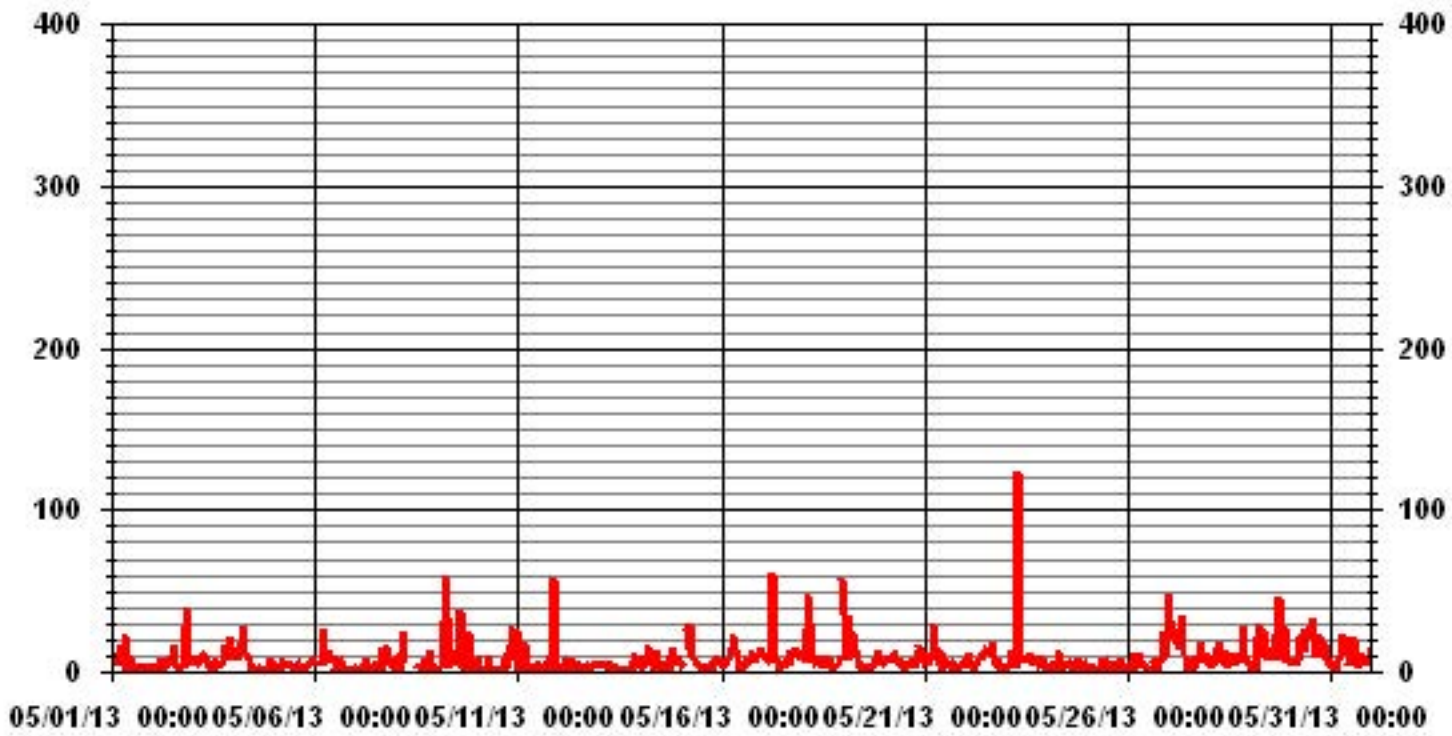
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	705					
MAXIMUM INSTANTANEOUS VALUE:	124.4	PPB	@ HOUR(S)	7	ON DAY(S)	23
IZS CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	743	HRS	
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION:	9.10					

01 Hour Averages



LICA
 NOX_ / WD Joint Frequency Distribution (Percent)

May 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	3.55	5.12	8.67	6.11	10.52	9.95	10.24	4.83	2.41	2.56	4.26	9.81	7.53	5.26	5.40	3.69	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	3.55	5.12	8.67	6.11	10.52	9.95	10.24	4.83	2.41	2.56	4.26	9.81	7.53	5.26	5.40	3.69	

Calm : .00 %

Total # Operational Hours : 703

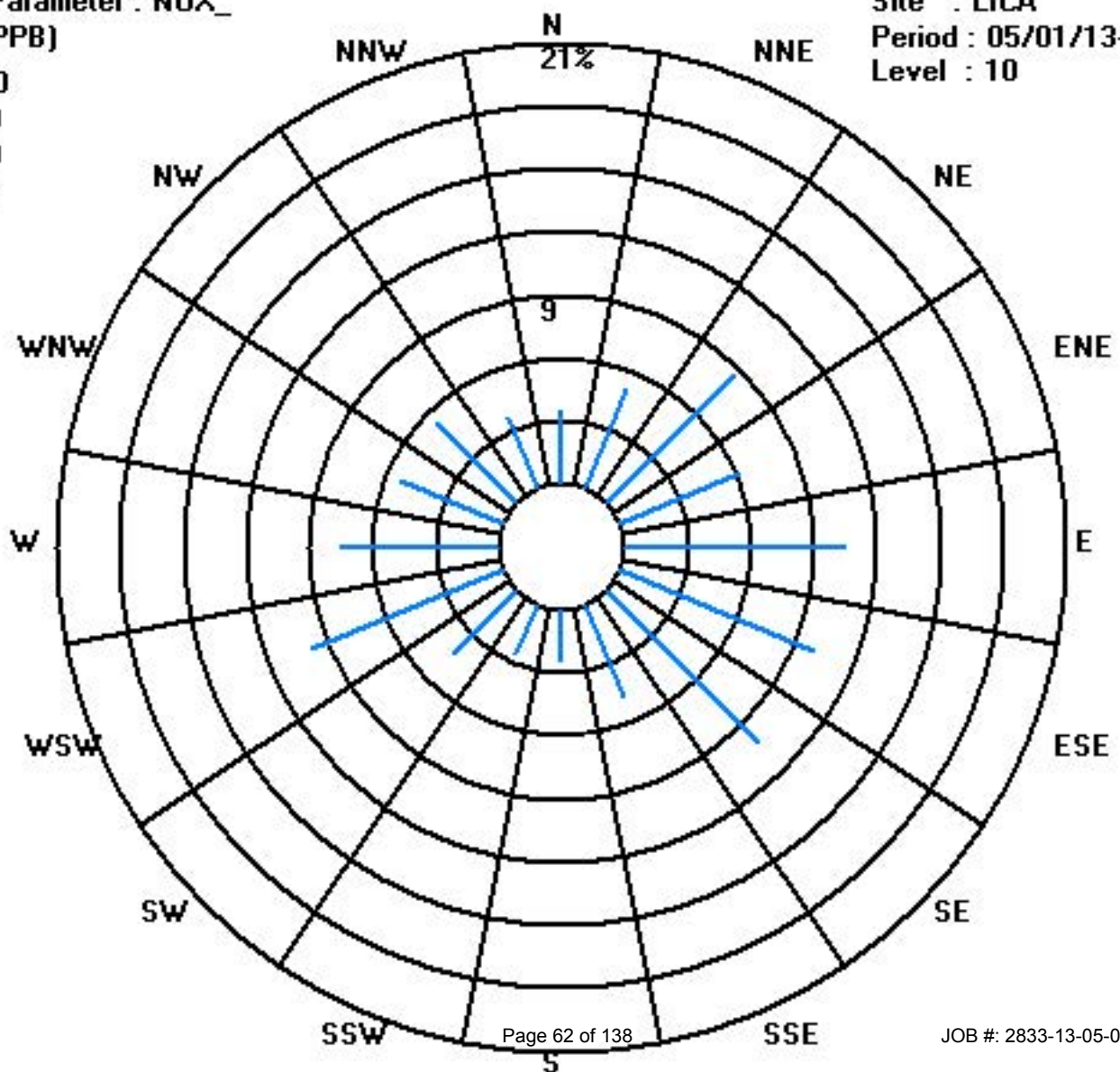
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50.0	25	36	61	43	74	70	72	34	17	18	30	69	53	37	38	26	703
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	25	36	61	43	74	70	72	34	17	18	30	69	53	37	38	26	

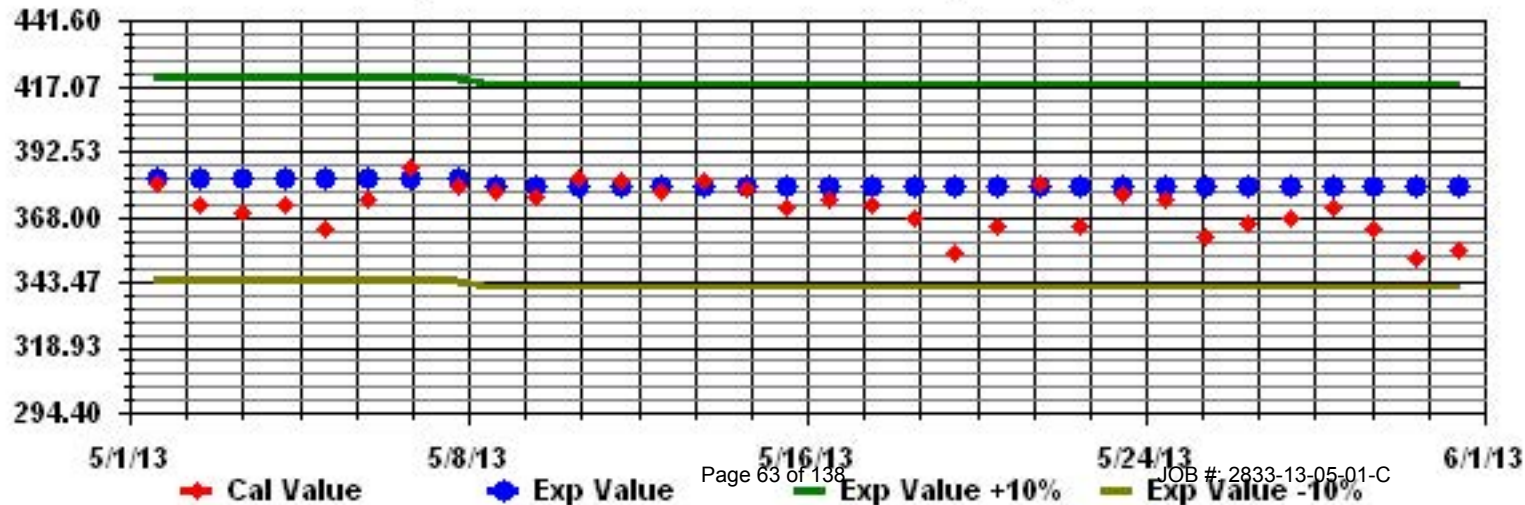
Calm : .00 %

Total # Operational Hours : 703

Class Limits (PPB)



Calibration Graph for Site: LICA Parameter: NOX_ Sequence: NO2 Phase: SPAN



Ozone

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

MAY 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	RDGS.	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.		
DAY																												
1	25	19	18	17	14	12	18	26	30	31	32	34	34	36	37	S	38	39	40	40	37	37	36	35	40	29.8	24	
2	35	35	35	34	33	32	31	31	32	35	36	38	43	45	S	46	46	Y	44	33	26	22	21	18	46	34.1	23	
3	20	15	12	13	18	20	22	27	30	35	39	41	42	S	44	43	44	43	43	37	30	19	12	9	44	28.6	24	
4	8	6	5	3	3	4	10	23	32	39	44	44	S	45	46	47	46	46	46	46	41	40	41	42	47	30.7	24	
5	41	39	35	27	23	25	34	37	40	42	42	S	45	47	47	48	48	50	51	49	42	29	22	17	51	38.3	24	
6	15	19	29	24	21	15	27	39	40	44	S	46	51	60	64	66	68	67	69	66	61	58	54	52	69	45.9	24	
7	44	43	44	40	34	31	28	26	25	S	28	31	35	37	40	41	43	45	44	43	36	30	23	18	45	35.2	24	
8	21	33	36	32	20	30	33	38	39	41	C	C	C	48	49	49	49	48	48	41	43	44	44	44	49	39.4	24	
9	42	40	40	37	32	27	27	41	S	42	44	44	47	48	49	46	43	41	44	41	39	42	42	37	49	40.7	24	
10	35	38	38	36	36	36	38	S	41	43	46	48	49	50	52	53	54	55	53	44	31	28	25	31	55	41.7	24	
11	41	40	39	39	38	38	S	41	45	47	49	50	51	53	54	55	55	54	53	51	48	46	47	46	55	47.0	24	
12	45	44	43	42	41	S	39	39	39	42	46	48	50	50	52	52	54	55	42	37	26	20	21	22	55	41.3	24	
13	24	28	23	26	S	31	33	38	42	43	45	48	48	49	50	51	51	51	49	46	45	34	29	26	51	39.6	24	
14	30	23	26	S	16	19	26	S	45	47	48	52	54	52	51	49	48	51	50	50	47	35	27	22	54	39.5	24	
15	18	16	S	9	10	12	28	37	39	C	C	C	48	48	47	47	48	48	46	45	38	31	29	48	34.6	24		
16	24	S	16	11	8	6	14	27	37	37	44	48	50	51	52	52	53	52	52	48	36	29	23	18	53	34.3	24	
17	S	14	10	7	7	8	20	28	40	47	49	48	50	50	51	50	50	49	48	46	37	24	17	S	51	34.1	24	
18	19	20	14	6	15	15	27	32	35	36	42	50	53	55	50	52	52	51	49	48	44	43	S	24	55	36.2	24	
19	14	15	12	7	6	8	15	20	42	47	47	51	53	54	56	54	53	52	50	47	37	S	22	20	56	34.0	24	
20	19	17	15	12	9	8	9	16	39	43	47	49	51	51	52	51	51	50	51	48	S	27	22	16	52	32.7	24	
21	17	30	29	18	15	21	27	35	35	36	41	49	47	53	56	60	58	58	57	S	51	47	41	34	60	39.8	24	
22	32	26	23	28	29	32	32	32	34	38	42	44	44	44	43	40	41	41	S	34	32	31	29	29	44	34.8	24	
23	32	31	29	27	26	28	31	31	32	33	38	41	43	44	44	46	47	S	45	42	33	29	30	40	47	35.7	24	
24	39	42	44	42	42	41	39	39	44	49	51	51	49	49	50	49	S	48	47	49	47	46	45	43	51	45.4	24	
25	40	38	37	36	37	37	35	34	33	36	38	44	51	52	48	S	37	38	39	40	41	42	41	44	52	39.9	24	
26	40	38	38	28	13	12	25	29	29	30	37	38	37	40	S	38	38	39	41	35	21	10	9	7	41	29.2	24	
27	2	1	1	1	2	4	18	30	37	43	42	45	47	S	46	46	45	43	40	35	24	17	10	8	47	25.5	24	
28	7	7	5	2	1	3	12	25	33	41	45	47	S	47	46	47	47	46	45	41	26	16	18	15	47	27.0	24	
29	15	16	10	7	4	13	30	29	34	39	40	S	46	46	47	47	47	47	47	47	43	34	24	18	47	30.7	24	
30	13	12	12	12	20	28	31	32	37	42	S	47	47	48	49	49	47	46	44	40	28	23	23	23	49	32.7	24	
31	18	11	8	5	3	4	7	20	28	S	41	45	46	45	44	47	47	43	41	37	33	35	21	20	47	28.2	24	
HOURLY MAX	45	44	44	42	42	41	39	41	45	49	51	52	54	60	64	66	68	67	69	66	61	58	54	52				
HOURLY AVG	25.8	25.2	24.2	20.9	19.2	20.0	25.5	31.1	36.3	40.3	42.3	45.2	46.8	48.2	48.8	49.0	48.2	48.2	47.3	43.7	37.3	32.1	28.3	26.9				

STATUS FLAG CODES

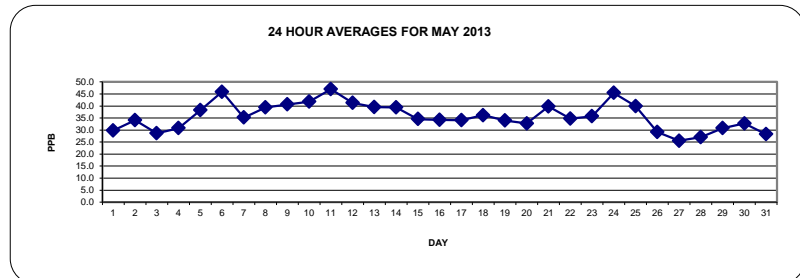
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT:

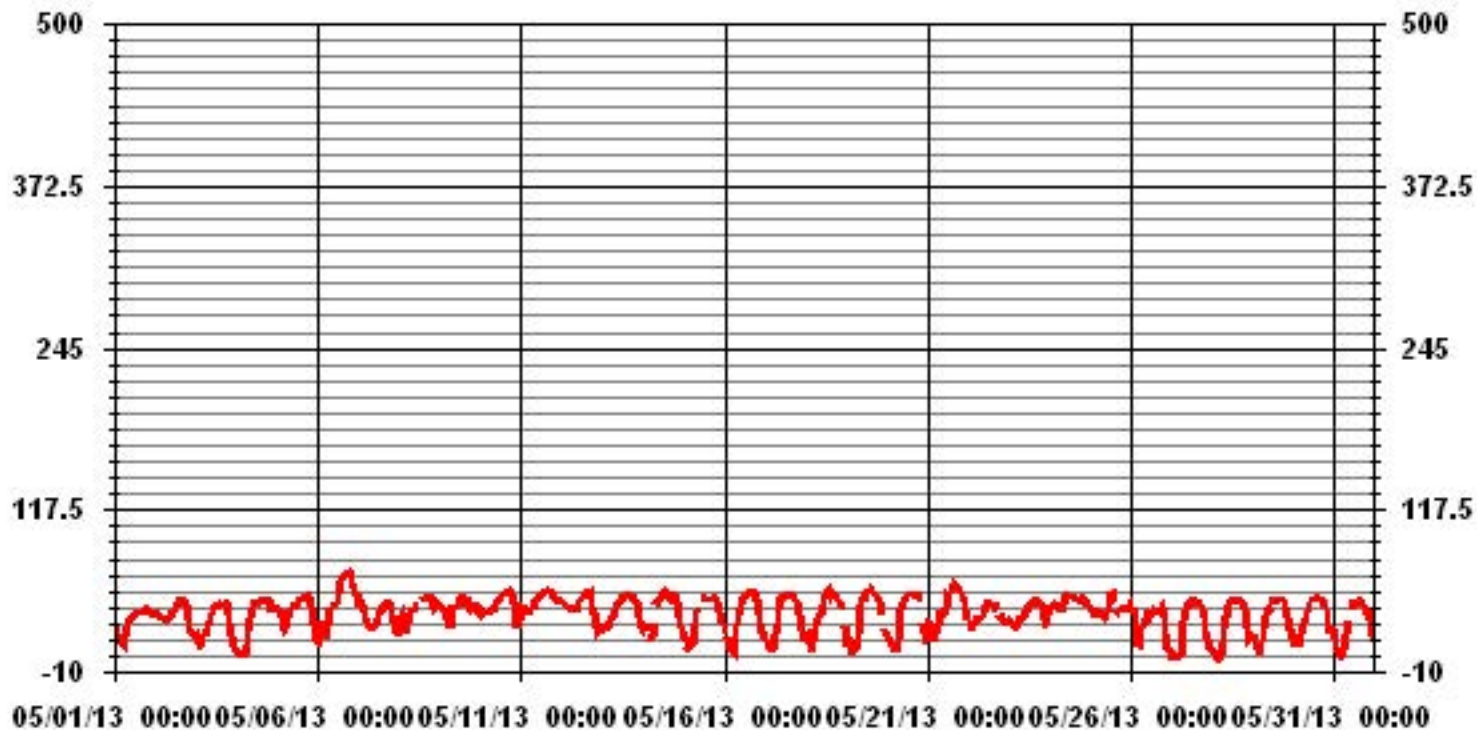
ALBERTA ENVIRONMENT: 1-HR 82 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0				
NUMBER OF NON-ZERO READINGS:	705				
MAXIMUM 1-HR AVERAGE:	69	PPB	@ HOUR(S)	18	ON DAY(S) 6
MAXIMUM 24-HR AVERAGE:	47.0	PPB			ON DAY(S) 11
					VAR-VARIOUS
I/S CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	743	HRS
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	13.84		MONTHLY AVERAGE:	35.69	PPB



01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

MAY 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	28	22	21	21	17	15	24	29	31	33	34	35	35	37	38	S	39	40	42	41	39	38	37	36	42	31.8	24	
2	36	36	36	35	34	33	32	32	34	37	37	41	45	46	S	47	47	47	Y	45	43	32	26	25	23	47	36.5	23
3	25	18	15	19	21	23	23	30	32	39	40	43	43	S	46	46	46	44	44	41	37	28	18	12	46	31.9	24	
4	10	7	8	6	5	6	20	30	35	43	45	46	S	46	47	48	47	46	47	47	44	42	42	43	48	33.0	24	
5	42	40	38	32	30	29	37	39	42	42	44	S	47	48	49	50	49	52	52	51	46	38	30	25	52	41.4	24	
6	21	30	35	31	32	19	40	40	44	46	S	48	59	62	67	67	70	71	71	69	63	60	56	54	71	50.2	24	
7	51	44	46	46	37	32	30	27	27	S	32	35	37	39	41	43	45	46	46	44	41	34	31	22	51	38.1	24	
8	31	36	37	35	26	32	36	39	41	41	C	C	C	C	50	50	50	50	50	50	45	46	45	45	50	41.8	24	
9	43	42	42	41	40	38	40	42	S	44	45	46	49	50	51	49	46	44	46	43	42	43	43	42	51	44.0	24	
10	38	39	39	37	37	38	39	S	43	45	48	49	50	52	53	55	56	56	56	50	37	32	32	43	56	44.5	24	
11	43	41	40	40	39	39	S	43	47	49	50	51	52	54	55	58	60	57	54	52	50	48	48	48	60	48.6	24	
12	46	45	44	43	42	S	40	40	40	45	49	50	51	51	54	54	55	56	55	39	36	27	24	24	56	43.9	24	
13	31	30	25	29	S	32	36	43	43	45	48	49	49	51	51	53	52	52	50	49	47	44	35	33	53	42.5	24	
14	39	28	32	S	21	25	32	S	48	49	49	56	56	54	53	50	51	52	52	51	51	43	31	27	56	43.2	24	
15	24	19	S	15	13	23	34	40	42	C	C	C	49	49	48	48	48	48	49	48	47	45	39	34	49	38.1	24	
16	29	S	20	14	11	8	23	36	42	42	48	50	51	53	53	53	54	54	54	52	42	37	28	24	54	38.2	24	
17	S	18	13	9	11	16	29	31	44	50	51	51	51	53	52	51	51	51	54	49	43	33	24	S	54	38.0	24	
18	24	25	20	15	20	23	31	33	37	38	48	53	57	56	55	55	54	53	51	50	48	49	S	32	57	40.3	24	
19	22	20	18	12	13	12	19	30	47	48	49	53	55	56	58	57	57	56	53	52	44	S	28	25	58	38.4	24	
20	24	21	19	17	13	13	12	27	43	48	51	52	52	53	54	52	52	51	52	51	S	36	35	23	54	37.0	24	
21	29	33	35	27	21	27	31	41	39	37	48	51	49	58	59	61	60	60	59	S	53	50	45	43	61	44.2	24	
22	37	31	29	34	34	34	33	34	36	40	46	45	45	45	44	43	42	42	S	35	33	32	30	30	46	37.1	24	
23	33	33	29	29	29	30	32	33	34	37	41	43	46	45	45	47	48	S	47	44	38	35	39	41	48	38.2	24	
24	40	44	45	43	42	42	40	41	47	51	53	52	51	50	52	52	S	50	49	51	49	47	46	45	53	47.0	24	
25	42	39	38	37	38	38	36	35	35	44	43	51	53	54	51	S	39	40	42	44	44	47	43	46	54	42.6	24	
26	42	41	41	40	24	21	33	32	30	35	44	44	41	41	S	40	40	42	43	42	30	16	19	20	44	34.8	24	
27	5	2	2	3	3	10	26	36	48	45	45	47	49	S	48	48	49	45	42	39	32	21	14	11	49	29.1	24	
28	9	9	7	3	2	5	22	28	39	46	48	49	S	49	47	48	49	48	47	45	36	23	25	18	49	30.5	24	
29	21	20	14	11	8	27	33	32	41	44	45	S	49	48	51	50	48	50	50	47	43	30	33	22	51	35.5	24	
30	16	16	16	17	28	32	33	37	42	47	S	50	50	51	52	52	51	49	46	45	39	32	27	26	52	37.1	24	
31	25	15	13	7	5	8	9	26	33	S	44	47	49	48	47	49	49	46	43	42	39	39	26	26	49	32.0	24	
HOURLY MAX	51	45	46	46	42	42	40	43	48	51	53	56	59	62	67	67	70	71	71	69	63	60	56	54				
HOURLY AVG	30.2	28.1	27.2	24.9	23.2	24.3	30.2	34.7	39.5	43.2	45.4	47.7	48.9	50.0	50.7	50.9	50.1	50.0	49.7	46.9	42.3	37.4	33.3	31.4				

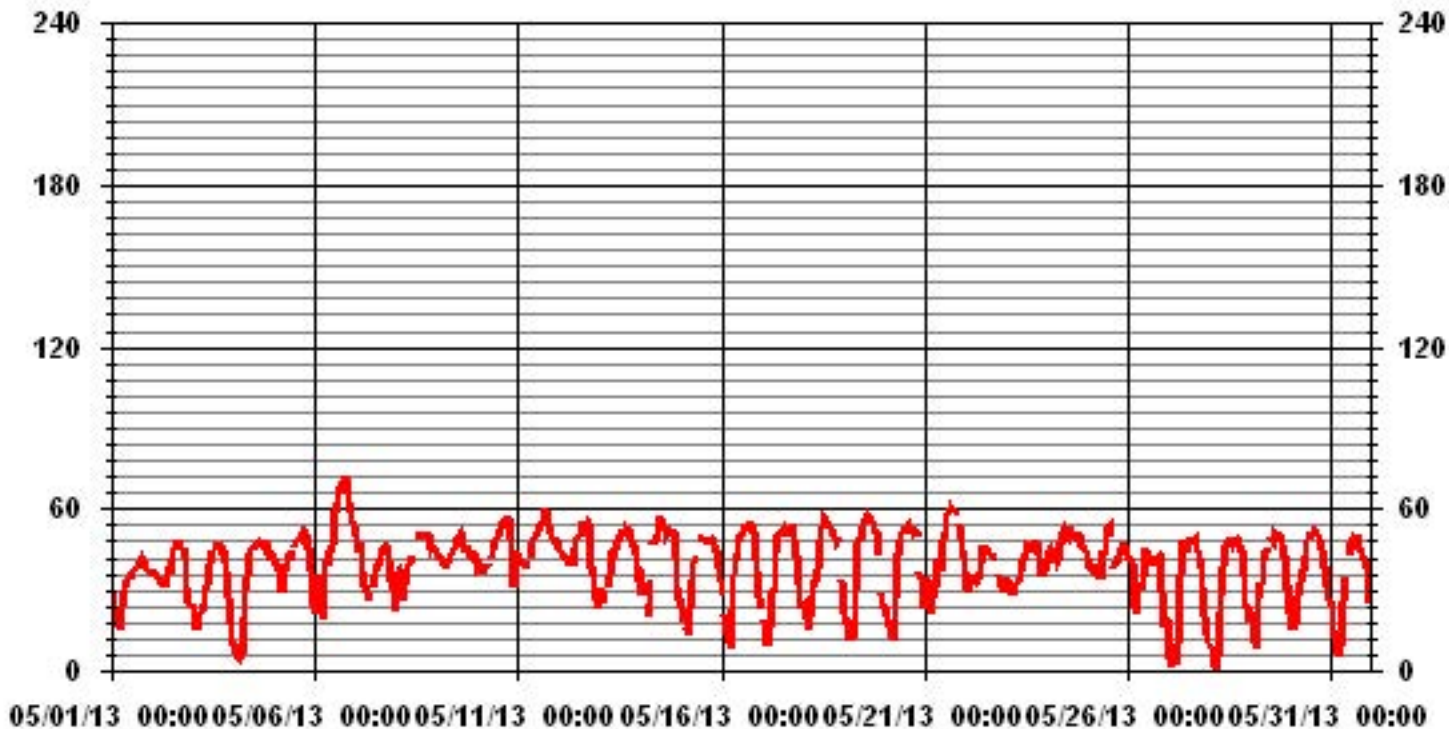
STATUS FLAG CODES

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:	704					
MAXIMUM INSTANTANEOUS VALUE:	71	PPB	@ HOUR(S)	17,18	ON DAY(S)	6
S CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	743	HRS	
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION:	12.89					

01 Hour Averages



LICA
O3_ / WD Joint Frequency Distribution (Percent)

May 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	3.28	4.13	7.70	5.42	9.98	8.98	9.12	3.85	1.56	1.42	3.28	9.41	6.41	3.99	5.13	3.13	86.87
< 110	.28	.99	.99	.71	.57	.99	1.28	1.14	.85	1.14	.99	.14	.85	1.28	.28	.57	13.12
< 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	3.56	5.13	8.70	6.13	10.55	9.98	10.41	4.99	2.42	2.56	4.27	9.55	7.27	5.27	5.42	3.70	

Calm : .00 %

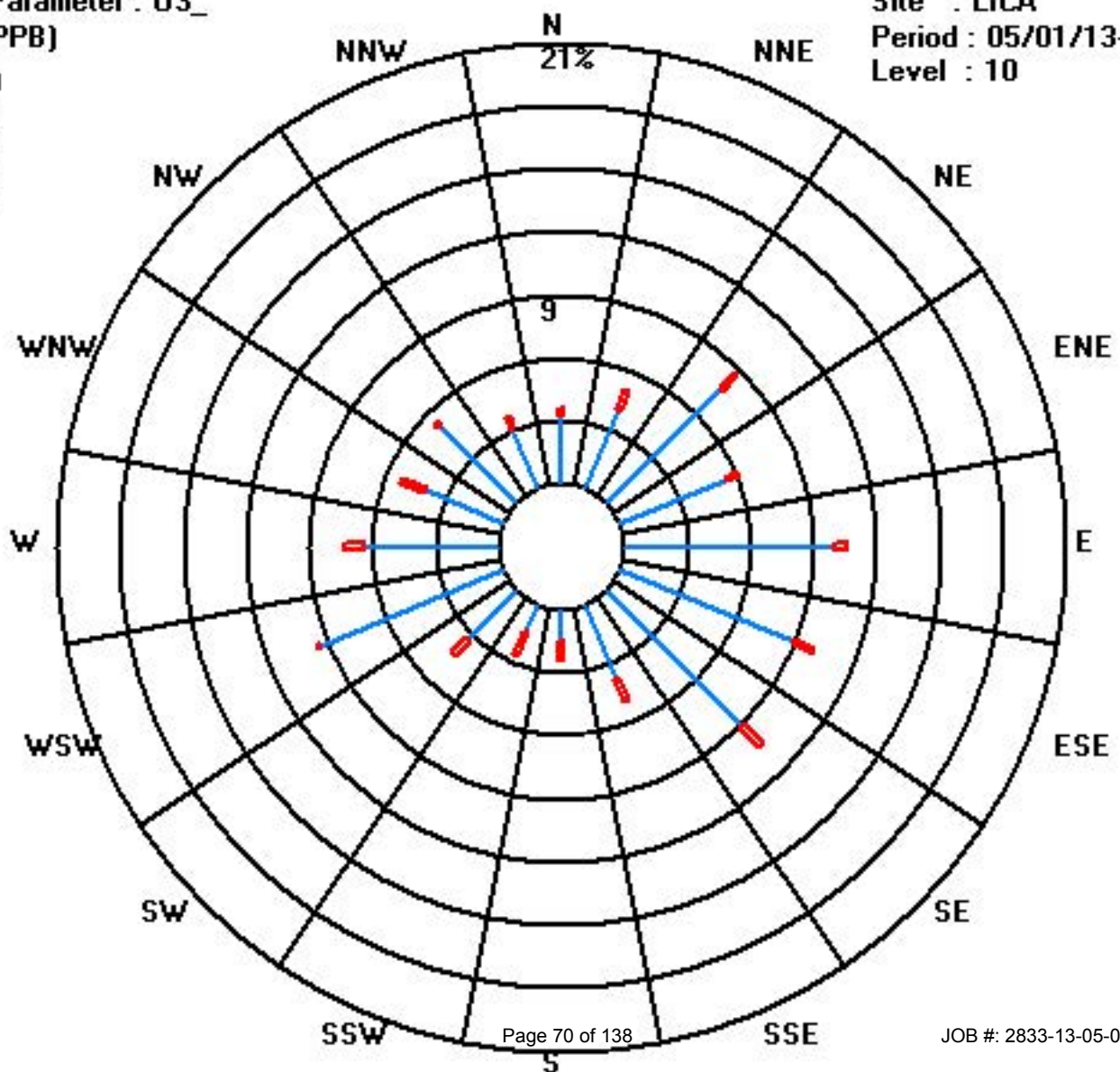
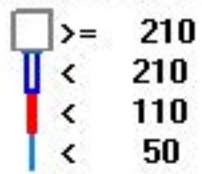
Total # Operational Hours : 701

Distribution By Samples

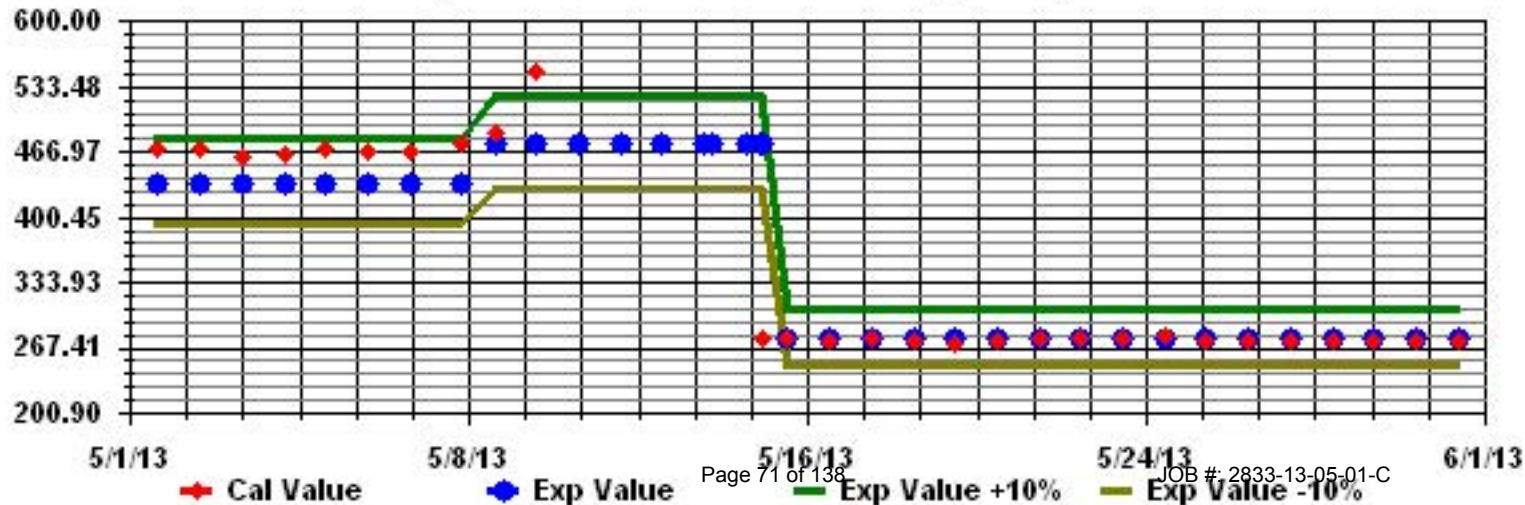
	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	23	29	54	38	70	63	64	27	11	10	23	66	45	28	36	22	609
< 110	2	7	7	5	4	7	9	8	6	8	7	1	6	9	2	4	92
< 210																	
>= 210																	
Totals	25	36	61	43	74	70	73	35	17	18	30	67	51	37	38	26	

Calm : .00 %

Total # Operational Hours : 701

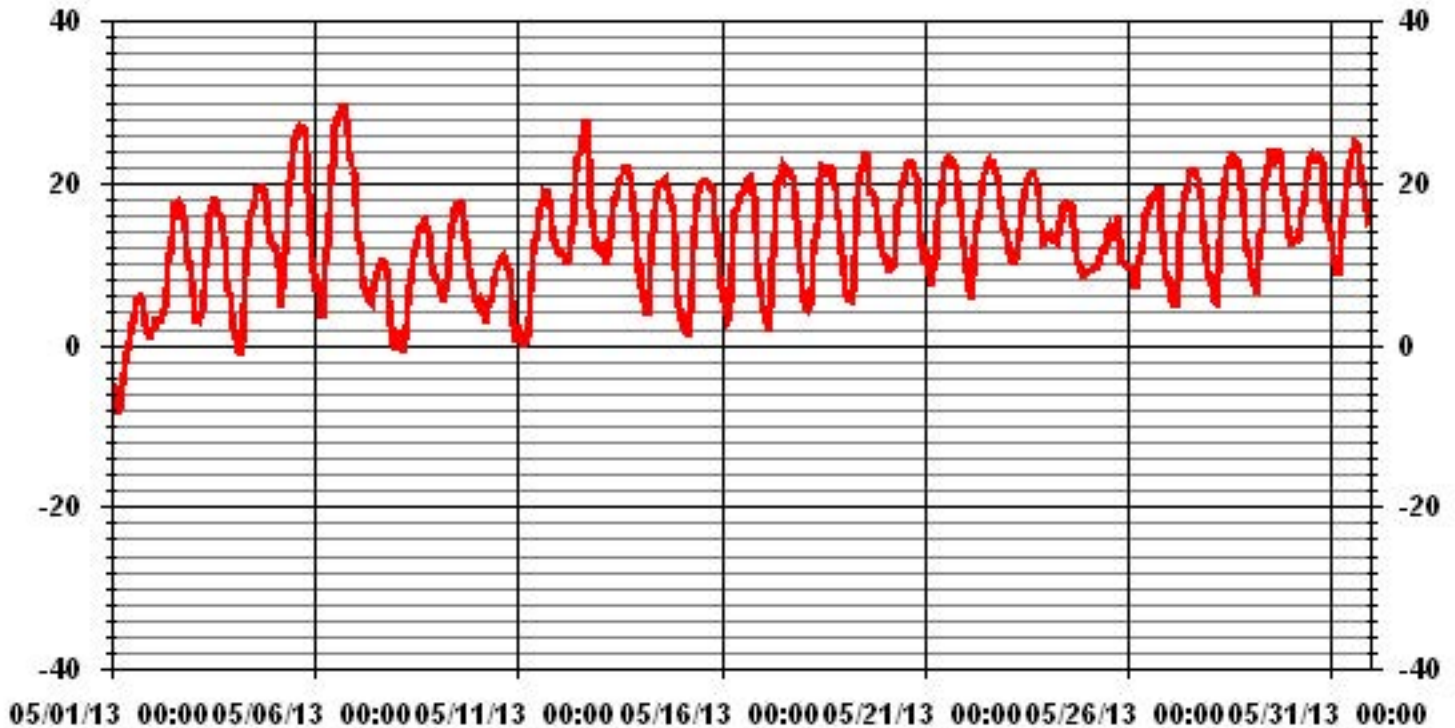


Calibration Graph for Site: LICA Parameter: 03_ Sequence: 03 Phase: SPAll



Ambient Temperature

01 Hour Averages



Relative Humidity

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

MAY 2013

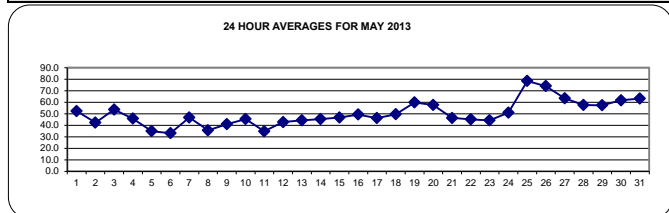
RELATIVE HUMIDITY hourly averages (%)

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
DAY	DAY	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
1	1	72	79	83	86	88	86	75	65	49	42	39	34	32	30	29	29	30	31	36	42	48	50	51	49	88	52.3	24	
2	2	48	49	47	49	51	53	52	50	45	37	35	32	29	27	29	28	29	29	32	38	47	53	60	64	64	42.2	24	
3	3	68	78	83	77	79	74	63	53	46	40	35	31	31	26	28	33	32	38	43	49	63	67	72	79	83	53.7	24	
4	4	85	88	90	90	90	85	71	57	46	36	28	25	23	22	20	20	21	22	22	24	30	33	34	35	90	45.7	24	
5	5	36	38	45	59	65	58	44	37	32	29	27	25	23	21	18	17	17	16	16	20	31	46	56	61	65	34.9	24	
6	6	70	67	61	68	77	70	52	42	33	27	25	21	15	11	11	10	11	12	14	16	19	20	22	23	77	33.2	24	
7	7	32	40	46	52	64	67	65	62	60	58	52	46	40	38	35	32	28	26	26	27	37	54	66	68	68	46.7	24	
8	8	63	53	51	59	67	59	51	40	33	28	26	23	20	20	19	19	19	20	22	24	32	33	35	38	67	35.6	24	
9	9	39	42	41	42	46	44	42	32	30	27	25	29	27	27	28	30	33	40	48	53	58	63	67	68	68	40.9	24	
10	10	70	66	67	74	76	75	66	57	51	40	34	29	26	23	21	21	20	19	22	27	38	52	59	57	76	45.4	24	
11	11	50	53	56	57	58	53	49	40	32	28	26	24	23	21	21	20	21	21	23	26	30	33	34	36	58	34.8	24	
12	12	37	37	37	37	39	40	41	38	35	30	27	24	25	27	24	21	22	22	24	40	67	85	90	91	90	91	42.8	24
13	13	83	72	79	71	64	60	55	47	40	35	32	28	27	26	25	25	24	27	28	32	44	54	61	83	44.3	24		
14	14	59	67	72	75	80	70	57	47	38	33	30	25	22	22	20	23	24	26	31	31	38	54	67	75	80	45.3	24	
15	15	79	84	86	84	87	78	67	51	43	33	23	20	21	21	21	21	23	22	21	25	39	47	58	67	87	46.7	24	
16	16	73	81	86	88	88	79	62	45	35	35	32	29	28	27	27	25	24	26	26	29	45	56	64	73	88	49.3	24	
17	17	77	80	87	87	89	80	59	52	37	29	24	23	18	18	20	22	23	23	24	27	37	50	58	65	89	46.2	24	
18	18	72	75	77	77	78	69	58	54	51	49	36	26	28	24	29	30	27	28	37	39	47	51	58	68	78	49.5	24	
19	19	78	85	87	87	87	85	72	71	50	42	39	34	29	28	29	42	53	47	49	53	62	70	78	80	87	59.9	24	
20	20	81	85	89	88	89	94	95	81	51	46	42	40	35	35	28	27	28	34	36	34	46	59	66	74	95	57.6	24	
21	21	78	79	80	86	88	81	80	64	59	58	43	27	24	18	18	15	15	13	16	21	27	34	41	47	88	46.3	24	
22	22	53	61	70	76	67	60	57	52	47	40	30	26	25	25	26	29	28	28	33	39	44	49	56	60	76	45.0	24	
23	23	59	63	67	68	68	61	56	53	50	46	39	34	30	29	27	23	22	23	25	30	42	52	51	45	68	44.3	24	
24	24	46	43	41	44	44	44	46	45	40	33	32	31	32	32	29	29	42	67	81	77	81	85	87	88	88	50.8	24	
25	25	89	89	88	88	85	83	82	79	77	75	78	71	58	58	64	78	77	76	59	72	91	87	92	88	92	78.5	24	
26	26	89	91	92	95	97	99	95	88	82	77	66	63	62	53	51	51	44	41	52	72	84	90	89	99	73.9	24		
27	27	93	94	95	95	96	87	78	70	59	54	50	43	37	33	33	33	34	37	41	47	62	77	83	88	96	63.3	24	
28	28	92	93	95	94	93	85	74	65	52	41	34	30	27	27	28	33	31	30	33	41	59	71	74	78	95	57.5	24	
29	29	84	89	91	93	92	80	68	66	53	44	40	31	30	37	31	31	30	30	33	47	56	67	72	81	93	57.3	24	
30	30	83	84	83	83	81	76	68	66	59	54	49	46	42	38	42	41	44	44	43	55	68	75	75	80	84	61.6	24	
31	31	86	92	94	94	95	91	84	65	56	48	39	33	33	33	31	31	34	42	50	55	68	78	91	89	95	63.0	24	
HOURLY MAX		93	94	95	95	97	99	95	88	82	77	78	71	62	58	64	78	77	76	81	77	91	90	92	90				
HOURLY AVG		68.5	70.9	73.1	74.9	76.4	71.8	64.0	55.9	47.5	41.7	36.7	32.4	29.7	28.3	27.8	28.7	29.6	31.0	33.9	39.2	49.5	57.5	63.3	66.6				

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

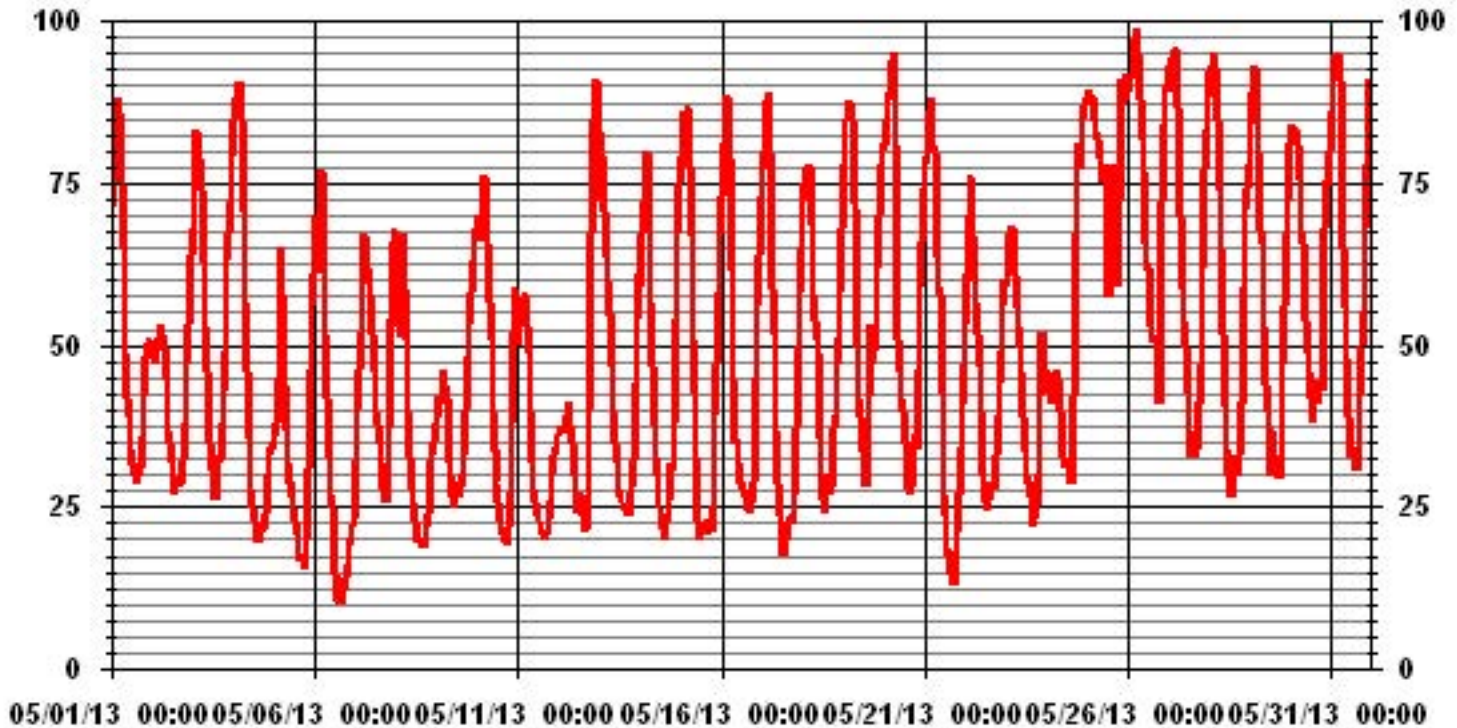
24 HOUR AVERAGES FOR MAY 2013



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	99	%	@ HOUR(S)	5	ON DAY(S)	26
MAXIMUM 24-HR AVERAGE:	78.5	%			ON DAY(S)	25
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	744	HRS	
STANDARD DEVIATION:	22.92		AMD OPERATION UPTIME:	100.0	%	
			MONTHLY AVERAGE:	49.95	%	

01 Hour Averages



Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

MAY 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	5.9	5.1	3.7	1.4	1	1.8	2	3.7	3.8	1.7	1.6	3.4	3.8	3.3	5.1	8.7	9.3	7.9	5.4	5.1	6	8.8	9.6	8.2	9.6	2	24
2	5.9	5.9	5.9	5.4	5.6	4	6.2	4.9	5	7.4	11.7	12.7	14.4	15.5	15.7	12.4	10.4	7.3	4.5	1.2	0.7	0.8	0.9	1	15.7	4.7	24
3	0.5	0.9	1.7	3.1	4.7	4.7	4.8	6.7	5.5	5.6	7.3	9.9	9.3	11.8	9.3	7.9	3.9	6.4	9.8	1.3	1.9	0.7	1.1	0.5	11.8	2.8	24
4	0.9	1.1	1.3	0.6	0.7	0.7	2.2	2.6	3.2	3.2	4.8	8.3	8.7	8.8	10.2	9.9	9.6	11.5	9.1	7.4	2.2	3.3	2.7	2.3	11.5	4.3	24
5	5.4	4.8	3.9	0.8	2.7	4.1	5.7	8.3	8.2	8.5	10.4	12.9	12.3	12	11.4	11.9	11	10.7	7.9	4.6	3.2	1.9	0.4	0.6	12.9	6.8	24
6	0.6	1.7	2	0.4	0.5	0.3	4.8	7.4	6.5	7.5	8.3	9.2	6.3	7.8	7.8	9.2	8	12.2	11.3	8.6	5.6	7.9	9.6	11.2	12.2	6.4	24
7	20	10.9	10.3	16.7	16	14.8	14.5	13.2	13.2	14.7	11.3	11.6	11.5	11.2	11	10.9	11.2	10.4	10.1	7	1.7	0.8	0.8	0.9	20.0	10.6	24
8	2.6	6.2	6	2.5	2.1	3.9	8	9.8	9	8.8	7.2	10	8.1	10.6	9.3	8.3	5.7	6.6	4.8	2.7	4.7	6	6.4	6.5	10.6	6.5	24
9	1.9	1.4	1.6	1.5	2.9	2.9	1.2	6.3	5.5	5.9	5.8	5.8	8.3	10.2	13.2	15	14.5	14.1	13.2	6.7	5.3	4.9	5.3	5.3	15.0	6.6	24
10	7.1	12.5	13.7	8.3	8.6	9.4	13	15.5	14.5	14.1	13.8	13.7	13.5	13.1	10.9	10.6	11.4	10.6	10	5.6	2.3	0.7	0.9	3.6	15.5	9.9	24
11	8.6	8.3	8.4	7.2	5.2	7.4	5.9	7.4	8	9.3	10.8	11.5	10.7	6.9	7.5	7	6.6	7	8.4	7.4	6.1	5.2	8.9	7.6	11.5	7.8	24
12	5.9	4.6	4.1	7.4	7.2	6.7	10.1	12	12.7	5.9	5.5	5.6	6.2	5.1	6.1	6.9	5.5	5.5	18.4	13.7	0.8	3.5	4.7	4.9	18.4	7.0	24
13	7.5	6.1	5.9	6.6	7	7.3	7.3	10.2	14.7	15.4	14.5	14.9	16.3	14.4	13.6	14.7	11.7	13.7	10.4	5.7	4.4	3.4	2.9	3.5	16.3	9.7	24
14	2.8	1.2	1.8	0.4	1.8	5	5.6	5.5	9.5	12.9	13.5	15.1	13.9	13.8	13.1	14.4	11.5	14.9	14.1	10.6	4.1	0.5	1	0.9	15.1	7.8	24
15	0.9	1.4	2.5	0.7	0.2	1.3	3.7	5.4	5.7	5.2	6	7.3	8.1	8.8	10.4	10	9.2	8.2	9.5	3.3	2.1	0.6	0.9	0.9	10.4	4.7	24
16	0.9	1.3	1.2	1.2	1.1	0.9	1.1	3.5	7.3	9.9	5.6	1.5	3.7	2.9	2.8	2.7	2.6	3.1	5.3	3.6	0.8	0.3	0.2	0.8	9.9	2.7	24
17	1	0.3	0.8	0.8	0.9	1	0.8	3.9	2.5	1.8	2.6	6	4	4.3	8.2	6.5	7.1	6.3	5	4.1	1.1	0.8	1.1	0.9	8.2	3.0	24
18	0.7	0.4	0.8	1.1	1.4	1.5	1.6	2.8	3	3.2	2.8	3.4	6.5	7.8	12	5	6.3	7.9	9.5	5.9	2.8	0.7	2.1	1.7	12.0	3.8	24
19	0.5	0.7	0.5	0.5	1.2	0.7	1.2	1.6	6.3	8.2	6.9	3.1	4	4	2.8	8.9	4	3.8	2.6	3.5	1.9	1.7	0.6	1.1	8.9	2.9	24
20	0.7	1.1	2.4	0.6	0.8	1.4	2.1	0.3	6.2	6	5.2	6.4	9.2	8.9	9	8.2	8.1	8.3	4.7	0.5	1.3	1.6	1.1	9.2	4.2	24	
21	3	3.4	2.8	1.4	0.9	1.5	2.6	4.6	5.4	7.2	7.6	10.5	13.9	14.4	14.2	16.6	12.7	14.3	11.6	9.2	7.1	3.9	3.4	2.8	16.6	7.3	24
22	2.1	1.7	0.4	1.8	4	7.9	7.6	8.3	10.3	11	12	14.2	11.9	12.5	12.3	12.3	11.5	12.9	12.6	10	8	7.7	6	7	14.2	8.6	24
23	8.9	4.4	5	5.2	5.7	5.8	6.5	7.3	7.5	7.9	9.1	10.6	11.5	11.6	11.6	9.7	10.8	9.8	8.3	4.7	2	1.9	3.2	5.1	11.6	7.3	24
24	6	8.5	10	9.3	12.4	11.1	11	11	14	15.7	15.6	17.8	16.3	16.8	17.8	15.2	15.8	14.7	12.5	14.6	14.7	11.8	14.6	14.3	17.8	13.4	24
25	12.6	9.2	9.8	9.2	10.8	12.2	12.6	12.9	13.9	13.3	13.6	13.5	14.9	14.6	13.6	7.9	5.6	6.2	7.5	4.6	4	11.3	13.5	10	14.9	10.7	24
26	7.3	4.5	5.8	0.4	1	0.5	1.5	4.2	5.8	5.2	4	5.6	8.8	7	5.7	5.2	5	4	3.3	2.4	0.4	1.3	1.2	0.7	8.8	3.8	24
27	0.5	0.8	0.9	1	1.1	0.9	2.4	3.3	2	3.5	4.9	5	5.6	5	4.8	3.4	5.2	5.1	3.8	1.7	1	0.8	0.8	0.5	5.6	2.7	24
28	1	1.2	1.2	0.7	0.5	0.8	3.1	4.2	3.1	3.6	4.3	3.1	5.8	5.1	9.2	11.6	8.8	7.7	5.1	2.8	0.8	0.6	0.8	0.8	11.6	3.6	24
29	1.3	1.1	1.1	1.1	0.2	2.3	3.9	3.7	4.1	5.7	5.3	6	5.2	4.8	Y	Y	Y	Y	Y	3.2	1.1	0.9	0.8	0.1	6.0	2.7	19
30	0.8	0.4	1.1	1.3	1.6	2.2	2.9	4	4.8	3.3	7.9	10.6	8.3	7.7	11.3	8.4	5.4	3	4.2	2.8	0.9	1.2	1	1.4	11.3	4.0	24
31	0.9	1.1	0.1	0.4	0.2	0.6	0.4	0.6	3.3	3.8	3.2	1.6	2.4	2.3	2.6	3	4	5.3	2.9	0.9	1.2	3.4	1.6	2.4	5.3	2.0	24
HOURLY MAX	20.0	12.5	13.7	16.7	16.0	14.8	14.5	15.5	14.7	15.7	15.6	17.8	16.3	16.8	17.8	16.6	15.8	14.9	18.4	14.6	14.7	11.8	14.6	14.3			
HOURLY AVG	4.0	3.6	3.8	3.2	3.5	4.1	5.0	6.3	7.2	7.6	7.8	8.7	9.1	9.1	9.7	9.4	8.4	8.6	8.3	5.5	3.2	3.2	3.5	3.5			

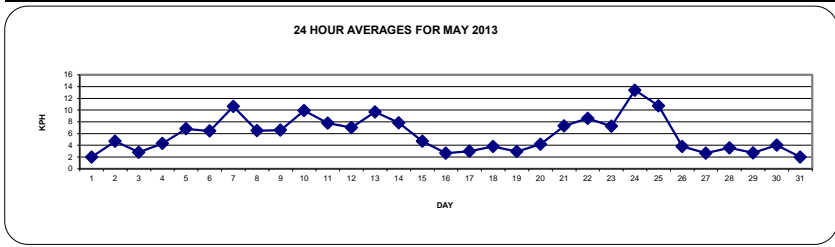
STATUS FLAG CODES

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

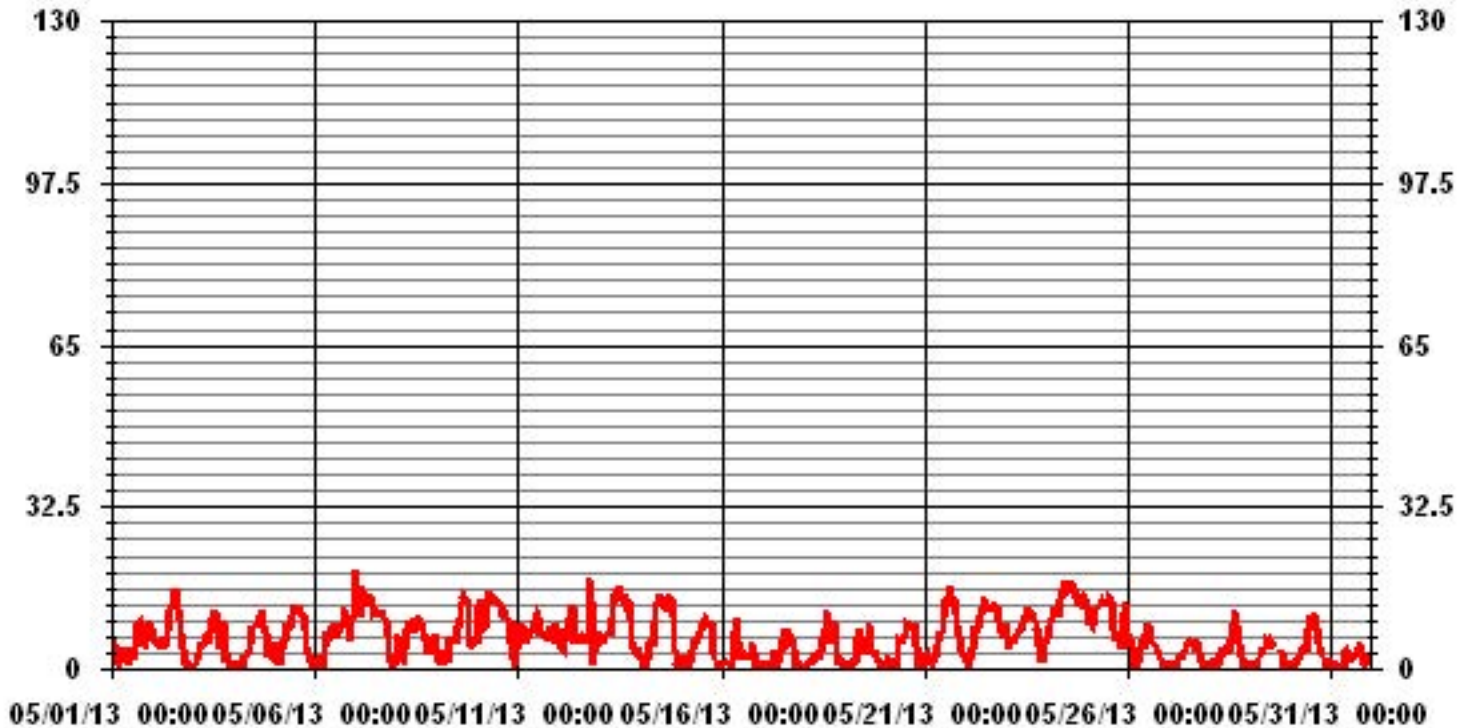
LAST CALIBRATION: November 28, 2012

MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	20.0 KPH	@ HOUR(S)	0	ON DAY(S)	7
MAXIMUM 24-HR AVERAGE:	13.4 KPH			ON DAY(S)	24
CALMS (≤ 0 KPH)	1.34 %	OPERATIONAL TIME:	739	HRS	
MONTHLY CALIBRATION TIME:	0 HRS	AMD OPERATION UPTIME:	99.3	%	
STANDARD DEVIATION:	4.45	MONTHLY AVERAGE:	6.09	KPH	



01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

MAY 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	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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.	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	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	8.9	7.1	6	4.4	2.9	4.2	6	7.5	7.6	9.2	10.6	13.5	13.1	12.4	15.4	17.4	15.8	15.9	12.5	9.3	8.8	12.3	13.1	11.5	17.4	
2	8.9	10.3	11.1	11.6	9.2	11.1	13.6	9.6	9.7	16.4	18.4	21.5	22.5	25.3	26.4	21.2	20.4	12.8	9.6	4	5.6	3.1	0.9	3.8	26.4	
3	2.6	2.2	5.2	6.1	6.3	6.3	7.4	11	10.8	12.5	15.8	18.1	16.9	21.2	20.1	20.6	19	13.9	19.2	5.8	4.2	4.7	4	3.6	21.2	
4	3.3	5	3.4	1.7	2.8	3	10.7	5.7	7	10.8	14.1	15.7	14.4	16.3	18.5	20.4	18.4	21.4	15.7	14.9	4.7	5.1	5	5.6	21.4	
5	8.4	7.5	7.5	0.9	7	5.5	10.7	12.3	13.5	14	17.4	20.4	22.3	22.7	18.2	19.9	19.2	21.1	18	7.5	5.6	3.4	6.2	2.8	22.7	
6	4.3	15.6	5.9	3.7	3.4	4.2	10.7	12.2	10.6	12.9	13.6	17	20.1	17.5	15.6	16.3	15.7	25.4	18.8	15	10.3	14.5	17.2	20.1	25.4	
7	40.9	23.3	26.8	25.3	24.9	23.6	23.3	24.2	20.4	22.4	18.7	18.9	22.2	16.2	18.9	17.3	17.5	15.3	13.9	11.8	4.3	2.7	4.2	2.8	40.9	
8	6.3	9.5	9.6	6	4.3	6.9	12.9	14.9	14	16.1	18.2	17	17	19.4	17.4	18.9	13.5	12.7	14.5	6.3	6.2	7.8	8.8	9.3	19.4	
9	6.1	4.3	5.5	5.3	6.7	6.7	9.3	11.5	9.5	11.7	12.3	10.1	13.9	16.4	21.8	20.5	21.2	23.2	18	13.9	8.3	7.8	7.7	7.8	23.2	
10	10.7	18.9	22.4	17.3	12.7	15.3	23.7	24.8	22.2	22.9	20.5	22.5	24.2	20.6	24.4	20.9	16.1	16.8	15.3	10.1	4.9	2	2.1	10.7	24.8	
11	11.6	10.5	10.3	9.7	8.7	10	11.1	12.8	18.2	17.5	18.7	21.7	21.7	14.1	18.9	14	14.8	16.5	12.3	9.8	8.6	8.9	12.3	11.8	21.7	
12	9.2	7.2	7.8	11.1	10.4	11.2	15.2	16	17.7	12.8	14.2	13	12.5	9.7	12.5	13	10.7	12.1	39.5	29.8	7.5	6.9	6.5	10.1	39.5	
13	11.7	9.6	10.1	9.1	9.7	10.2	13.1	21.1	23.1	22.9	21.9	25.6	28.6	24.2	19.7	21.7	19.4	21.2	16.3	11.4	7	4.5	4.5	4.8	28.6	
14	4.8	4.7	5.6	4.4	5.5	9.9	10.1	9.9	16.8	20.3	21.1	28.9	26.7	21.9	22.9	24.3	18	25.1	21.5	17.4	9.5	4.5	3.9	1.7	28.9	
15	3.2	3.5	4.2	3.4	2.6	7	7	10.3	11.8	10.8	13.1	17.7	19.5	21	19.2	23.5	20.2	15.6	16.1	9.9	4.3	3.9	3.6	0.9	23.5	
16	0.9	3.5	3	4.4	3.2	0.9	3.9	9.4	13	18.7	12.8	10.4	11.4	13.3	9	10.3	12.9	9.1	10.3	8.3	5.3	3.6	4.8	2.7	18.7	
17	3.2	9.3	4.1	2.8	0.9	3.5	3.2	6.8	7.9	8.7	10.6	11.9	11.8	12.3	17.4	12.4	12.6	12.2	8.5	9.6	2.8	2.2	3.4	3.4	17.4	
18	2.6	2.9	0.8	2.8	3.1	5.9	4.3	5.1	6.4	6.4	7.6	11.1	12.3	17.4	19.4	14.5	13.9	14	18.7	10.8	6.5	5.5	5.7	3.9	19.4	
19	4.2	4.4	3.7	3.7	4.1	7.8	3.5	6.3	15.9	14.8	16	15.1	12.9	11.4	17.8	17.1	10.7	9.2	6.2	6.5	5.8	5.1	3.3	4	17.8	
20	4.9	5	6.3	3.4	3.6	4.1	5.8	3.8	11.6	10.3	9.3	11.7	12.4	17.3	16	14.7	16	16.9	15.1	8.2	2.5	3.5	4.1	2.5	17.3	
21	5.9	5.4	4.9	3.2	3.3	3.6	4.7	11.9	9.9	12.2	14	20.3	27.2	24.8	24.8	26.3	21.8	22.8	19.8	17.1	13.3	6.2	4.8	4.5	27.2	
22	3.4	3.8	1.7	4.1	10.9	11.9	12.7	14.3	15.2	17.8	24.1	21.8	19.2	24.1	20.3	21.5	23.2	23.2	19.2	17.4	12.2	10.5	9.4	9.8	24.1	
23	13	11.8	9.5	10.2	10.5	9.9	10.8	13.8	12.6	13.9	17	20.2	18.3	21	20.9	19.3	20.2	17.2	15.7	8.6	3.7	3.8	6.3	8.5	21	
24	9.1	13	16.8	13.5	22.7	18	18.9	19.4	23.2	29.8	24.2	29.3	23.2	25.2	27	24	24.6	26.8	19.4	26.1	25.1	18.1	24.4	27.8	29.8	
25	20.3	14.5	15.4	14.1	18.4	18.9	24.4	22.7	24.5	23.1	24.3	25.6	25.9	26.6	23.6	12.5	11	9.3	12.2	20.1	13.3	21.5	21.2	18.5	26.6	
26	11.3	11.6	15.8	4.1	4.4	3.1	5.4	9.2	12.1	10.4	9.6	12.8	15.8	14	12.8	11.4	10.7	9.9	7.3	5.8	3.6	3.3	7.1	5.9	15.8	
27	4	4.3	3.7	5.4	3.3	3.2	6.6	6.5	6.6	8.4	11.2	13.2	14.5	11.9	11.3	13	10.4	8.7	6.3	4.8	2.9	0.8	0.8	4.4	14.5	
28	3.9	4.2	3.9	2.8	4.4	0.8	6.7	6.8	5.8	10.5	11.2	11.8	12.8	15.3	17.3	16.3	17.1	12.4	9.5	7.8	1	4.7	2.6	3.2	17.3	
29	3.6	3.5	3.5	2.7	3.1	5	6.5	6.6	10.5	10.4	9.8	12	12.8	Y	Y	Y	Y	Y	Y	9.2	11.2	3.3	4	5.2	12.8	
30	5.2	3.1	2.3	2.6	4	6.6	6.2	7.4	9.7	9.1	16.6	19.2	14.4	13.5	17.7	14.9	13	7.4	8.6	6.4	3.8	4.4	3.9	3.1	19.2	
31	4.8	2.9	1.8	3.5	2	2.6	1.7	2.2	6.7	8.6	8.7	10.4	8.4	10.8	7.9	8.9	8.9	12.1	8.8	7.1	10.8	11.4	4.7	4.6	12.1	
PEAK	40.9	23.3	26.8	25.3	24.9	23.6	24.4	24.8	24.5	29.8	24.3	29.3	28.6	26.6	27.0	26.3	24.6	26.8	39.5	29.8	25.1	21.5	24.4	27.8		

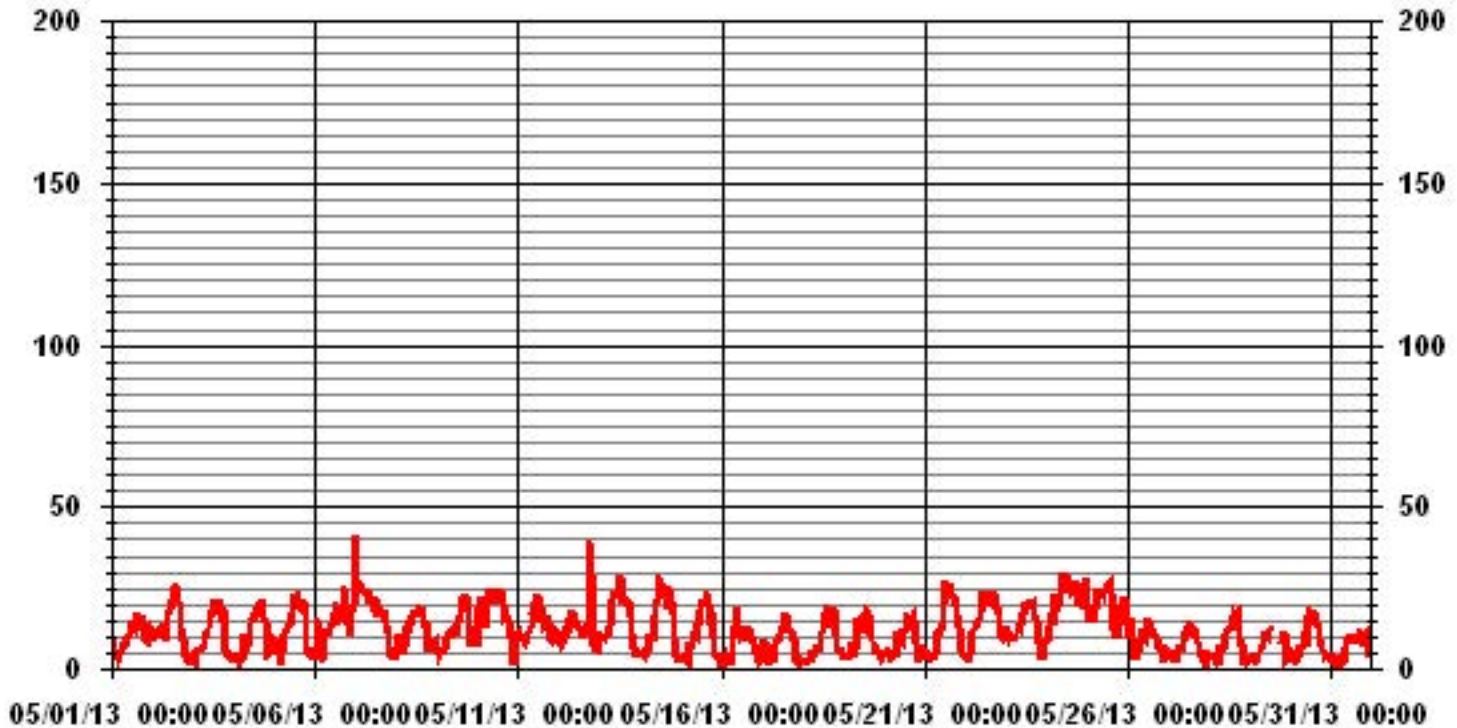
STATUS FLAG CODES

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

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS READING	40.9	KPH	@ HOUR(S)	0
			ON DAY(S)	7

01 Hour Averages



LICA
WSP / WD Joint Frequency Distribution (Percent)

May 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	1.89	3.24	4.46	5.00	5.27	3.11	3.78	2.70	1.35	1.75	2.16	6.90	4.33	2.16	4.19	1.75	54.12
< 12.0	.81	1.35	3.11	1.08	2.84	4.33	5.41	2.16	.81	.54	1.89	2.70	1.75	1.35	.81	.54	31.52
< 20.0	1.08	.13	.67	.13	2.02	2.57	1.21	.00	.00	.00	.13	.40	1.21	1.62	.40	1.21	12.85
< 29.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.13	.13
< 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	3.78	4.73	8.25	6.22	10.14	10.01	10.41	4.87	2.16	2.30	4.19	10.01	7.30	5.14	5.41	3.65	

Calm : 1.35 %

Total # Operational Hours : 739

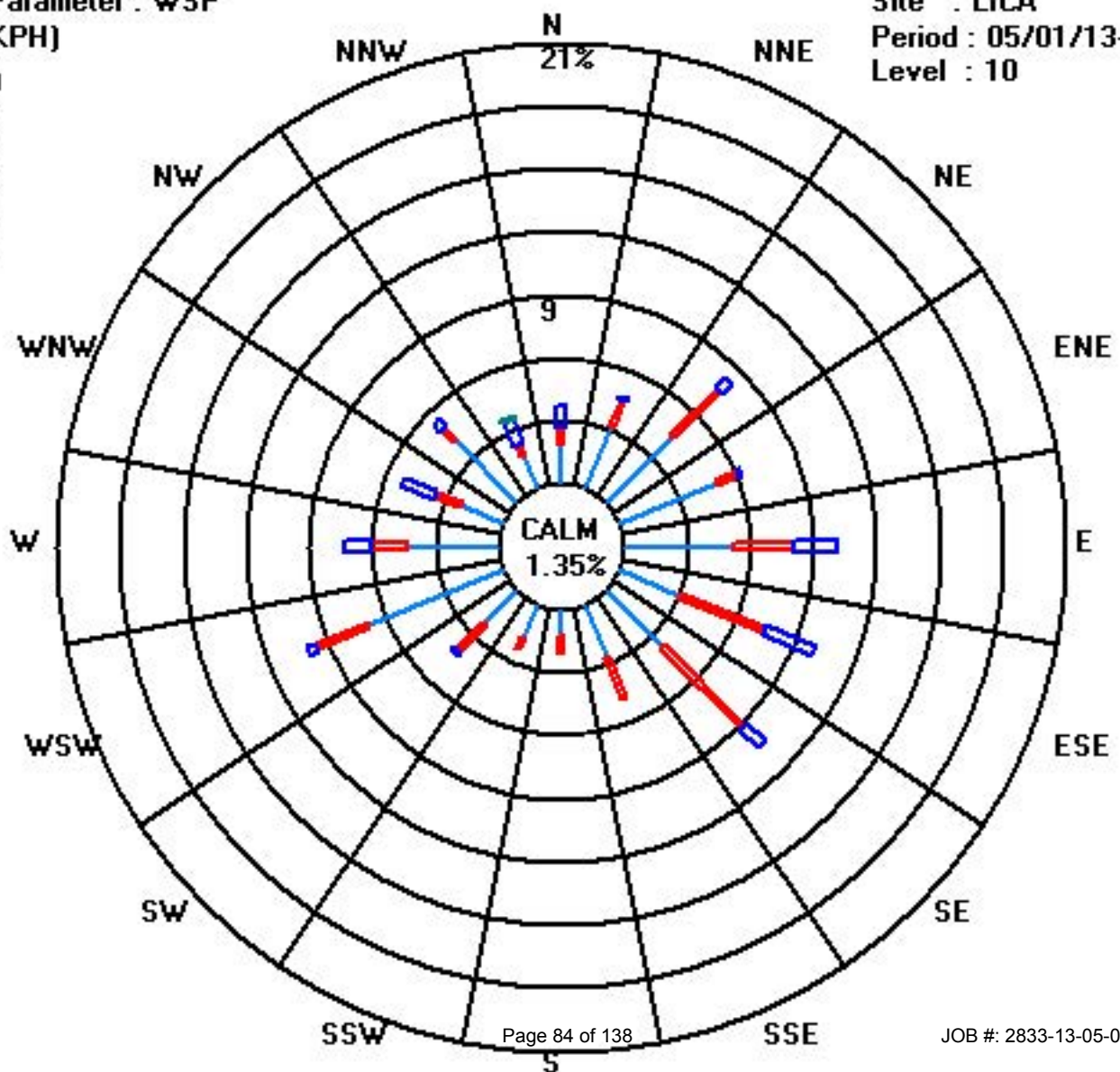
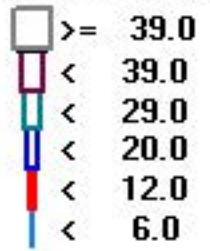
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 6.0	14	24	33	37	39	23	28	20	10	13	16	51	32	16	31	13	400
< 12.0	6	10	23	8	21	32	40	16	6	4	14	20	13	10	6	4	233
< 20.0	8	1	5	1	15	19	9				1	3	9	12	3	9	95
< 29.0																	1
< 39.0																	1
>= 39.0																	
Totals	28	35	61	46	75	74	77	36	16	17	31	74	54	38	40	27	

Calm : 1.35 %

Total # Operational Hours : 739

Class Limits (KPH)



Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

MAY 2013

VECTOR WIND DIRECTION (WD) hourly averages in degrees

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUADRANT	RDGS.	
DAY																												
1	318	309	319	324	214	278	336	43	69	213	245	251	244	265	242	247	244	234	201	158	144	142	144	146	216	SW	24	
2	149	149	163	209	214	184	218	179	178	233	242	250	250	260	276	297	292	302	0	82	306	239	315	256	246	WSW	24	
3	254	277	270	243	249	245	246	281	266	251	285	304	331	323	16	340	26	47	62	27	288	142	97	220	312	NW	24	
4	301	252	258	23	1	73	260	256	251	252	242	246	252	244	253	237	233	237	230	227	156	152	158	208	238	SW	24	
5	218	220	254	281	228	248	240	248	248	247	243	252	273	270	278	264	264	276	283	256	263	256	328	243	258	WSW	24	
6	316	27	17	140	254	322	33	44	60	90	101	105	156	182	186	192	193	223	223	214	200	208	218	236	185	S	24	
7	338	357	354	336	334	337	349	22	6	357	355	357	16	47	47	48	55	53	53	52	42	23	16	63	9	N	24	
8	111	135	138	129	114	131	141	146	141	151	159	149	160	143	149	155	173	215	211	168	142	140	140	143	150	SSE	24	
9	173	213	196	172	130	122	135	226	247	250	284	39	35	37	51	40	39	42	46	38	13	3	332	313	32	NNE	24	
10	306	326	347	356	346	352	348	351	348	2	351	347	353	5	14	30	59	52	64	73	73	45	57	125	4	N	24	
11	136	138	138	135	132	134	142	148	152	151	148	152	157	190	174	203	183	163	147	142	138	132	133	133	150	SSE	24	
12	131	130	118	134	135	132	135	141	141	160	169	206	214	213	181	219	203	209	312	332	245	261	247	247	179	S	24	
13	259	261	249	256	255	258	257	264	282	283	281	282	271	282	280	285	277	284	283	311	303	262	277	257	276	W	24	
14	275	241	261	218	248	252	265	278	279	276	269	288	286	284	283	286	283	319	335	329	346	222	260	335	290	WNW	24	
15	219	258	257	269	251	231	246	252	258	263	246	248	251	264	259	273	307	287	296	272	171	130	319	321	267	W	24	
16	321	322	300	317	277	311	292	271	283	315	318	3	12	41	335	1	298	14	59	74	339	157	176	337	335	NNW	24	
17	229	232	242	345	273	309	320	312	342	301	262	300	277	279	30	52	44	26	30	45	27	10	1	323	355	N	24	
18	317	316	14	67	125	134	48	36	26	32	2	131	156	144	72	101	57	113	104	123	215	73	58	66	94	E	24	
19	247	246	271	360	313	103	336	68	127	128	141	140	238	158	270	324	328	291	158	143	288	332	186	157	175	S	24	
20	49	318	245	302	222	304	289	87	14	47	40	45	39	46	26	24	48	120	130	110	46	136	59	71	51	NE	24	
21	80	86	63	71	25	53	37	98	95	125	129	122	118	120	117	138	133	141	134	103	104	102	106	88	118	ESE	24	
22	70	42	357	319	83	105	107	108	119	122	116	132	119	122	115	104	118	128	105	103	101	100	117	127	113	ESE	24	
23	132	98	85	87	79	95	107	111	102	93	103	108	113	120	122	119	111	110	102	115	118	105	95	100	108	ESE	24	
24	96	99	99	92	98	103	97	95	96	103	106	99	94	88	96	100	130	133	104	93	92	83	93	102	100	E	24	
25	100	89	91	81	85	88	98	104	108	107	103	113	115	94	95	91	93	70	96	167	156	117	109	93	101	E	24	
26	86	119	132	306	57	264	98	110	123	149	131	92	72	83	74	83	54	133	153	87	318	57	110	70	99	E	24	
27	52	86	279	323	318	79	59	110	83	96	58	103	107	130	66	91	55	43	39	53	54	14	11	45	74	ENE	24	
28	273	270	267	43	101	356	44	40	57	63	85	49	6	23	40	44	32	47	41	31	27	38	40	109	40	NE	24	
29	304	300	257	256	202	57	41	42	69	73	68	77	87	236	Y	Y	Y	Y	Y	251	83	167	170	12	69	ENE	19	
30	99	32	81	59	27	97	91	116	134	114	118	127	129	115	143	140	149	146	97	63	82	44	77	68	120	ESE	24	
31	140	241	48	199	134	301	151	228	250	294	286	237	103	41	94	167	220	11	83	87	127	64	19	72	46	NE	24	
HOURLY AVG	338	357	357	360	346	356	349	351	348	357	355	357	353	323	335	340	328	319	335	332	346	332	332	337				

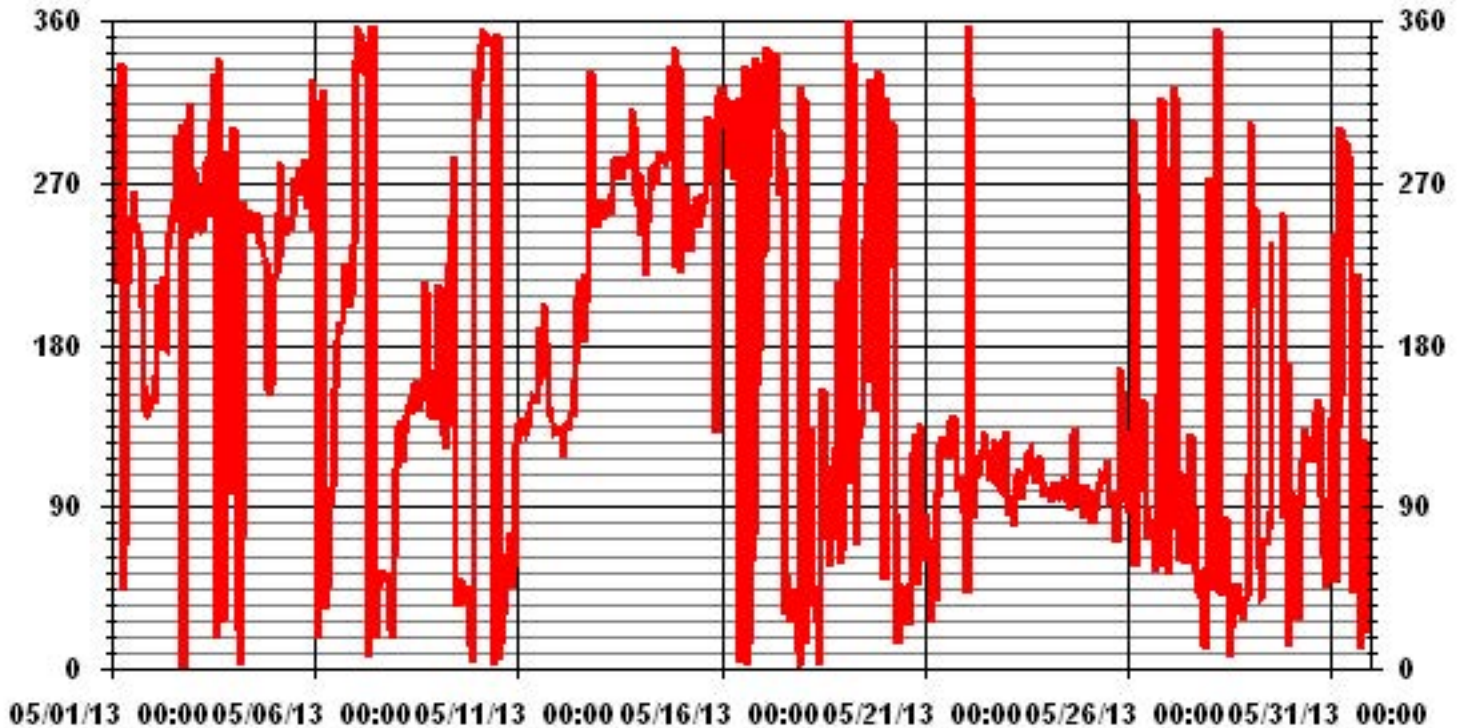
STATUS FLAG CODES

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

LAST CALIBRATION:	November 28, 2012
DECLINATION :	19 DEGREES FROM MAGNETIC NORTH

MONTHLY CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	739 HRS
STANDARD DEVIATION:	99.08	AMD OPERATION UPTIME:	99.3 %
		MONTHLY AVERAGE:	102 DEG

01 Hour Averages



— LICA WDR DEG

Standard Deviation Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

MAY 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	11	10	11	24	37	10	27	27	37	66	68	64	60	62	53	32	27	29	42	31	17	14	17	18
2	27	25	38	45	35	42	32	39	40	26	23	23	24	24	23	24	22	26	13	25	26	22	0	26
3	26	0	24	25	12	14	21	23	31	35	36	25	20	26	28	32	30	23	22	36	30	52	41	52
4	15	12	6	23	35	23	22	35	44	55	51	29	28	30	27	30	27	22	26	19	34	27	39	56
5	26	29	18	9	22	12	18	21	25	27	24	24	26	26	27	25	25	25	21	13	12	13	59	40
6	53	32	30	58	36	55	19	19	23	27	25	25	39	44	43	40	40	28	29	34	41	37	33	25
7	25	21	17	18	16	16	19	21	21	21	27	26	29	26	25	25	22	21	19	17	18	25	19	32
8	19	15	15	19	21	19	16	21	23	35	47	30	38	31	32	34	44	39	36	34	13	13	13	20
9	60	48	53	47	47	30	59	32	31	31	38	34	22	22	20	21	22	21	21	22	16	15	12	11
10	13	14	17	21	16	15	17	21	20	24	25	26	24	25	33	28	23	21	20	21	25	34	17	23
11	15	15	12	14	18	17	27	27	36	31	31	32	32	44	41	43	39	39	17	14	14	15	14	16
12	19	20	23	16	18	20	17	16	17	41	47	47	37	38	44	41	37	37	20	37	37	18	13	17
13	21	17	16	14	12	15	18	24	22	22	24	23	21	24	23	23	26	22	21	14	10	6	12	6
14	36	17	22	54	10	19	20	25	24	24	25	24	24	22	27	24	24	22	16	15	21	56	29	14
15	33	6	14	54	58	24	23	25	33	34	33	44	33	32	28	31	27	24	23	27	43	42	46	0
16	0	2	15	23	22	0	30	45	24	22	30	52	60	69	67	51	57	30	30	18	30	23	28	32
17	21	46	39	17	0	11	41	24	39	57	64	26	56	48	28	30	26	24	22	21	12	23	19	33
18	35	42	22	33	13	30	49	24	23	31	45	55	32	41	26	45	30	27	23	21	46	44	37	31
19	37	42	26	43	20	45	15	28	28	25	38	74	58	62	51	19	20	27	34	37	28	22	36	46
20	41	38	32	40	45	41	41	62	27	27	37	29	37	25	27	24	28	27	21	22	21	39	22	23
21	18	20	19	18	20	21	21	25	25	26	25	28	27	24	25	19	24	17	20	22	22	18	16	14
22	10	8	31	26	26	25	25	26	25	24	24	24	28	27	28	25	26	22	22	24	19	20	22	21
23	18	24	21	20	15	24	27	27	29	29	30	29	30	29	28	29	29	26	24	22	17	20	19	24
24	21	21	21	21	21	20	19	23	24	24	24	24	25	22	22	23	23	20	23	23	21	23	23	22
25	22	22	22	22	24	23	24	24	25	24	23	26	25	25	23	22	25	22	24	42	36	24	23	22
26	22	36	27	47	44	39	32	27	29	37	53	31	25	36	35	31	32	51	50	29	33	33	35	61
27	54	54	43	23	7	41	31	34	62	45	37	39	39	54	54	50	32	19	20	31	19	3	0	29
28	18	42	22	45	48	5	25	23	31	44	43	48	41	52	25	22	23	22	21	16	8	49	22	38
29	13	12	16	5	45	22	20	25	38	30	32	37	52	Y	Y	Y	Y	Y	Y	37	56	47	43	55
30	41	59	38	33	43	53	32	31	29	47	32	25	25	30	19	27	35	37	29	29	53	35	39	27
31	40	54	40	51	62	48	65	42	39	42	51	65	58	69	66	58	34	33	47	44	31	28	37	34

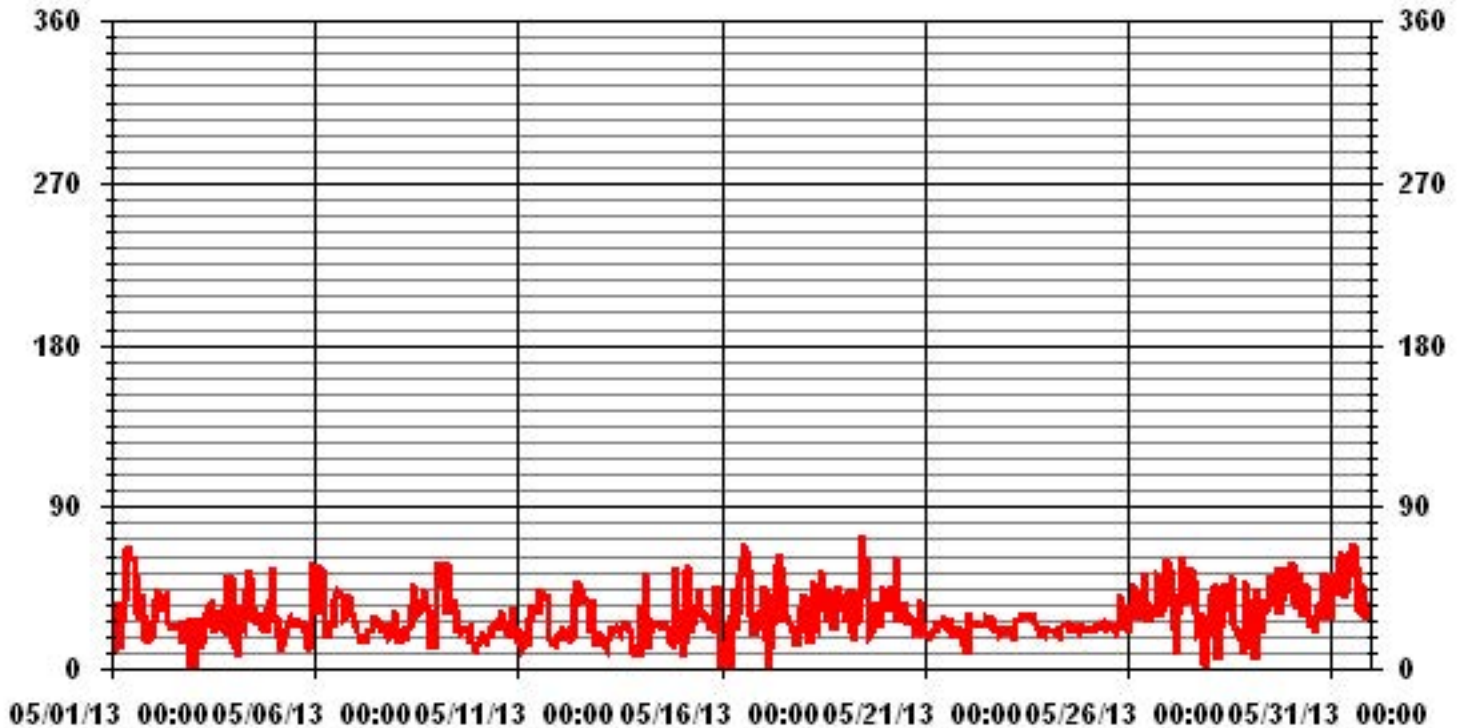
STATUS FLAG CODES

C - CALIBRATION	Q - QUALITY ASSURANCE
Y - 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: 738 HRS

01 Hour Averages

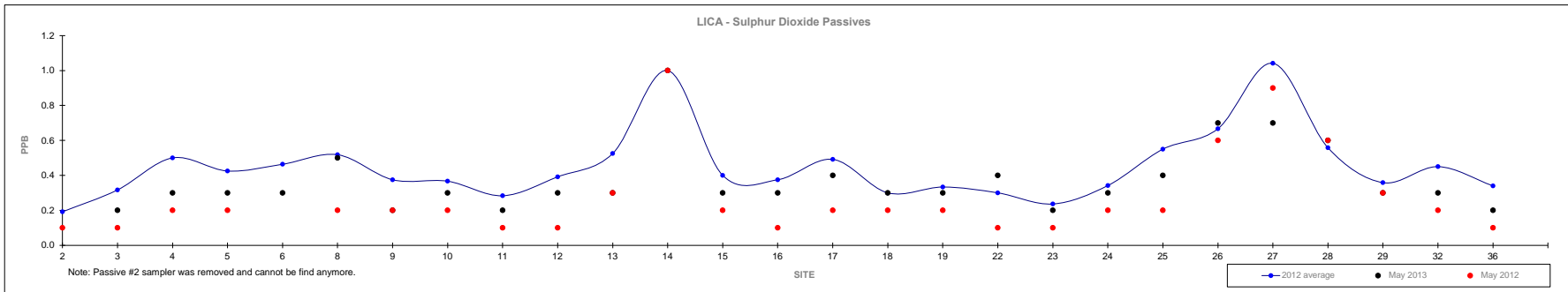


Non-Continuous Monitoring

Passive Summary Results for May 2013

Lakeland Industry & Community Association

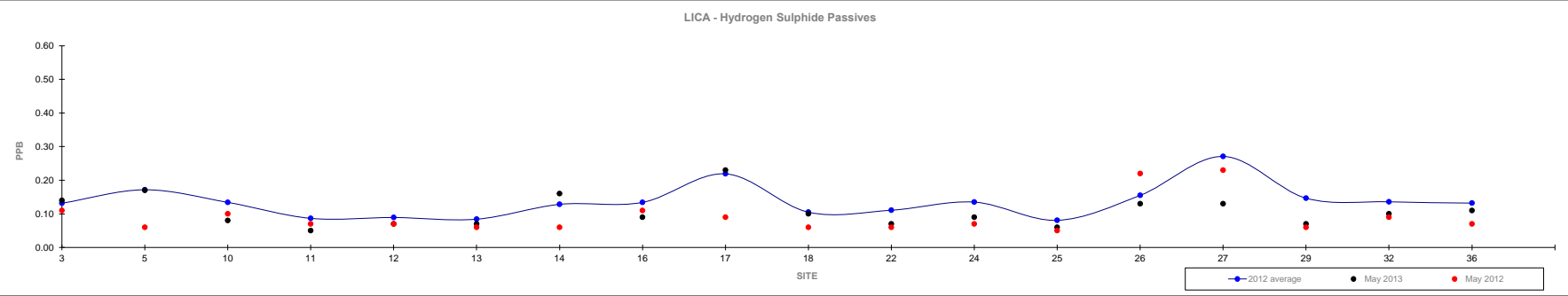
	Sulphur Dioxide ppb																																				Reading	Site
	2	3	4	5	6	8	9	10	11	12	13	14	15	16	17	18	19	22	23	24	25	26	27	28	29	32	36	0.37	-									
Mean	0.2	0.3	0.5	0.4	0.5	0.5	0.4	0.4	0.3	0.4	0.5	1.0	0.4	0.4	0.5	0.3	0.3	0.3	0.2	0.3	0.6	0.7	1.0	0.6	0.4	0.5	0.3											
Minimum	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.7	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.5	0.4	0.2	0.2	0.1	0.2	VAR									
Maximum	0.3	0.6	0.8	0.7	0.7	1.2	0.7	0.7	0.5	0.9	1.1	1.6	0.7	0.7	1.0	0.6	0.7	0.6	0.4	0.7	0.9	1.1	1.8	1.0	0.6	0.8	0.8	1.0	#14									



Passive Summary Results for May 2013

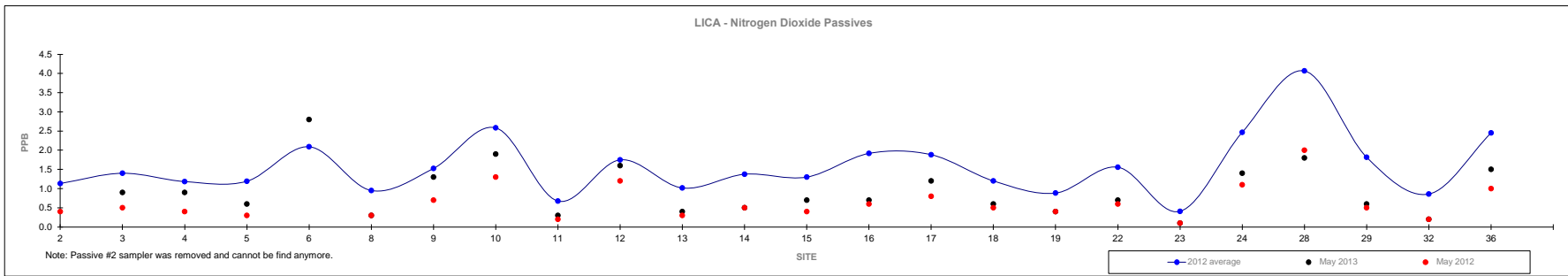
Lakeland Industry & Community Association

	Hydrogen Sulphide ppb																	May 2013		
	3	5	10	11	12	13	14	16	17	18	22	24	25	26	27	29	32	36	Reading	Site
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	0.11	-
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	0.05	#11
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	0.23	#17



Passive Summary Results for May 2013 Lakeland Industry & Community Association

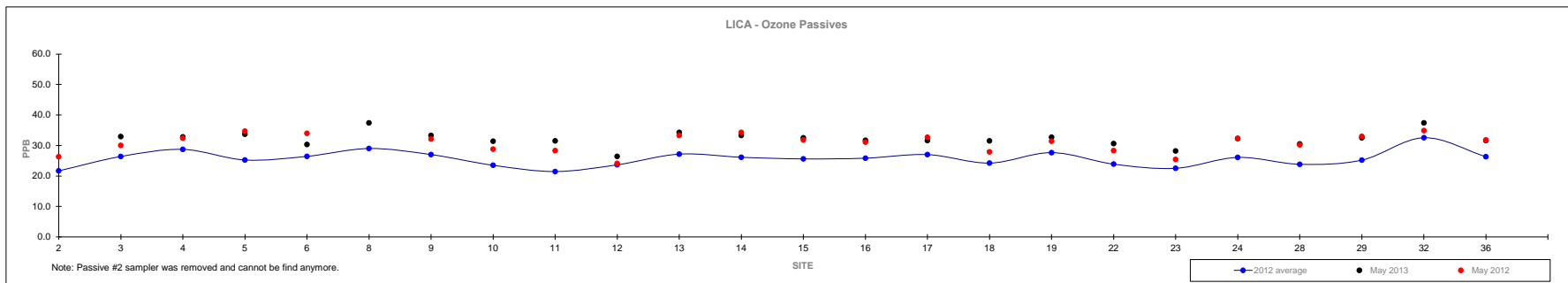
	Nitrogen Dioxide ppb																														May 2013	Site
	2	3	4	5	6	8	9	10	11	12	13	14	15	16	17	18	19	22	23	24	28	29	32	36	Reading							
Mean	1.1	1.4	1.2	1.2	2.1	1.0	1.5	2.6	0.7	1.8	1.0	1.4	1.3	1.9	1.9	1.2	0.9	1.6	0.4	2.5	4.1	1.8	0.9	2.5	0.9	-						
Minimum	0.4	0.5	0.4	0.3	0.9	0.3	0.7	1.3	0.2	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	#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	2.8	#6						



Passive Summary Results for May 2013

Lakeland Industry & Community Association

	Ozone ppb																												Reading	May 2013	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	32.2	-					
Mean	21.7	26.4	28.7	25.2	26.4	29.0	27.0	23.5	21.5	23.7	27.2	26.1	25.6	25.8	27.0	24.2	27.7	23.9	22.5	26.1	23.8	25.2	32.5	26.3							
Minimum	12.8	18.4	18.8	19.0	17.5	21.6	17.6	15.1	12.3	13.9	15.9	17.8	16.8	18.4	16.4	15.8	18.3	15.2	11.8	17.5	17.1	17.5	24.4	20.4	26.4	#12					
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	37.4	#8					



Calibration Reports

Sulphur Dioxide

SO2 Calibration Report

Station Information

Calibration Date	May 8, 2013	Previous Calibration	April 10, 2013
Company	Lakeland Community and Industry Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	7:58	End Time (MST)	10:05
Reason:	monthly calibration	Monthly Calibration	
Barometric Pressure	28.44 inHg	Station Temperature	24 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	454 ccm	28.8 Deg C	453 ccm	28.2 Deg C	
HVPS / Lamp Setting	-632	732	-632	732	
PMT / RxCell Temp	OK Deg C	45.2 Deg C	OK Deg C	45.1 Deg C	
Converter / IZS Temp	NA Deg C	45 Deg C	NA Deg C	45.0 Deg C	
Offset / Slope	6.2	1.061	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	401	0.9881
	no span adj.			
4975	19.8	197	202	0.9734
4985	9.9	98	103	0.9544
4995	0	0	0	N/A
Sum of Least Squares				0.9836
New Correction Factor				0.9881

IZS Calibration Data

Before Calibration		After Calibration	
Auto Zero	0.0	Auto Zero	0.0
Auto Span	379.5	Auto Span	370.4
Sample Lines Connected		Sample Lines Connected	YES

Percent Change

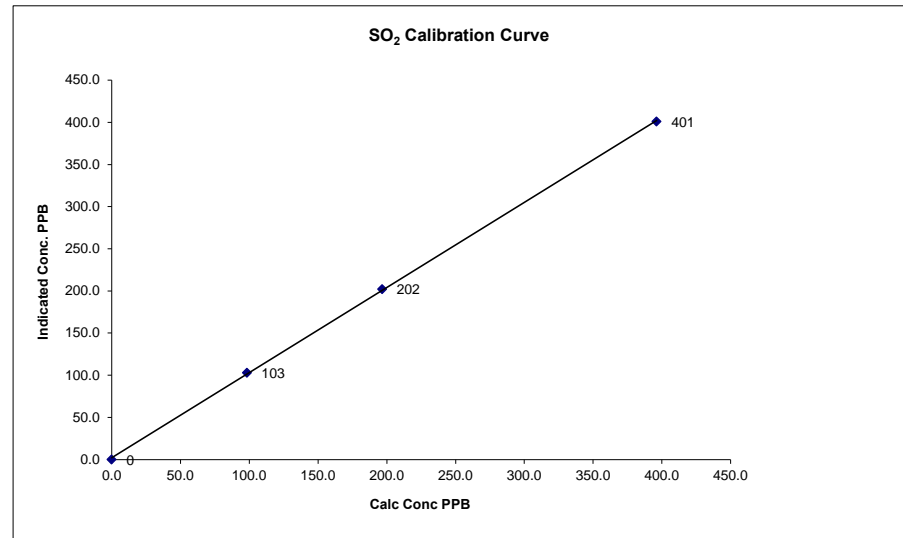
Previous Month's Calibration Correction Factor:	0.9930
Current Correction Factor Before Span Adjust:	0.9881
Percent Change:	0.5%

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

SO₂ Calibration Curve

Calibration Date	May 8, 2013
Company	Lakeland Community and Industry Association
Plant / Location	LICA 1 - Cold Lake South
Start Time (MST)	7:58
End Time (MST)	10:05

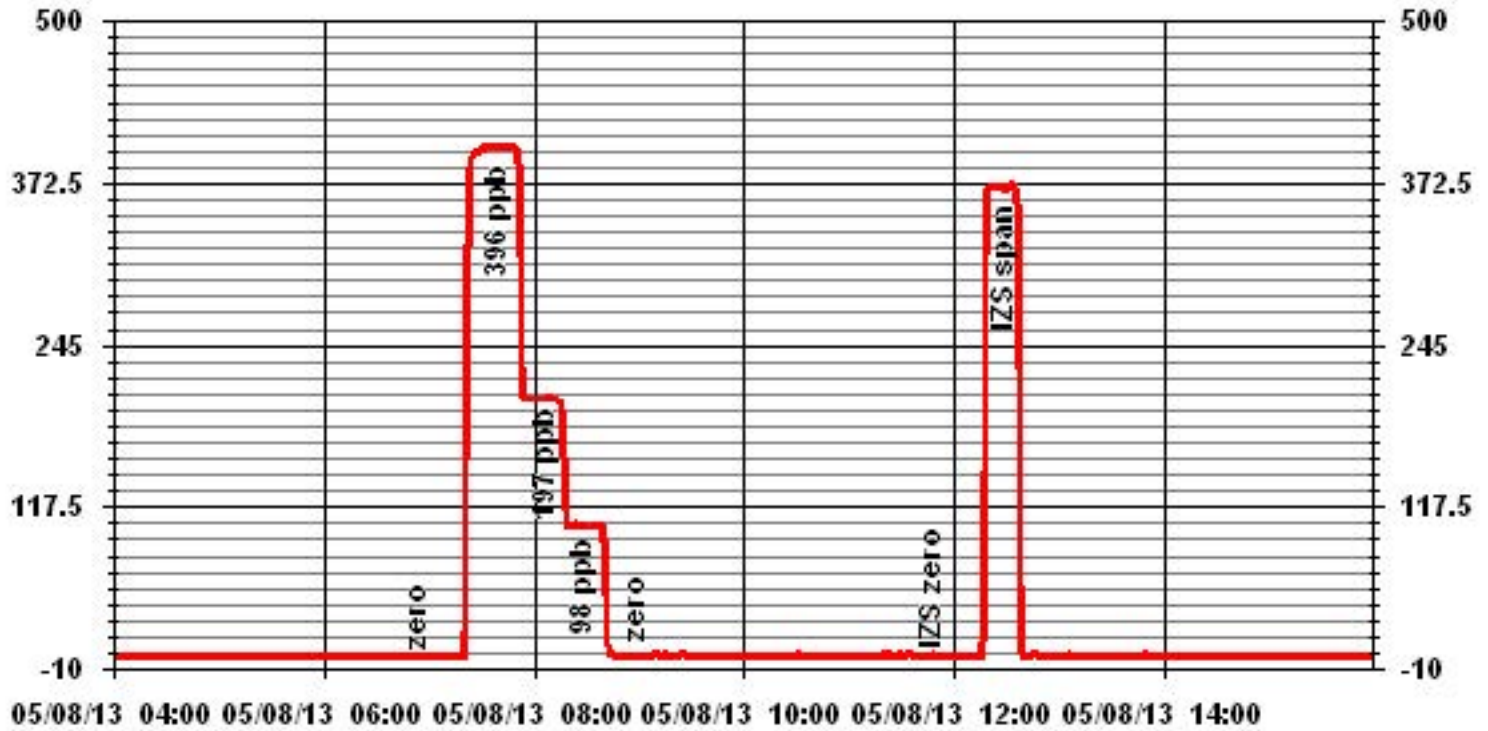
Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope Intercept	(≥ 0.995) (0.85 to 1.15) (± 3% F.S.)
0	0	n/a		0.999882
98	103	0.9544		1.009879
197	202	0.9734		2.007762
396	401	0.9881		



Notes:

Calibration Performed by: Waseem Ahmed/Limin Li

01 Minute Averages



Total Reduced Sulphur

TRS Calibration Report

Station Information

Calibration Date	May 8, 2013	Previous Calibration	April 10, 2013
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	7:58	End Time (MST)	10:27
Reason:	monthly calib.	As Found	
Barometric Pressure	28.44 inHg	Station Temperature	24 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:	API700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	3485		
Chart Recorder Make / Model:	NA	S/N:	NA		
Flow Meter:	API700	S/N :	831		

Analyzer Settings

Before Calibration		After Calibration	
Concentration Range	0 - 100		
Sample Flow / Box Temp	504 ccm, 31.4 Deg C	506 ccm, 31.4 Deg C	
HVPS / Lamp Setting	-650.1, 748	-650.1, 748	
PMT / RxCell Temp	OK, 45 Deg C	OK, 45.1 Deg C	
Converter / IZS Temp	810, 45 Deg C	810, 45.0 Deg C	
Offset / Slope	12.3, 0.908	12.6, 0.934	

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	78	1.0359
4960	40.0	81	81	1.0000
4980	20.0	40	42	0.9619
4990	11.5	23	24	0.9676
5000	0.0	0	0	N/A
Sum of Least Squares				0.9888
New Correction Factor				1.0000

IZS Calibration Data

Before Calibration		After Calibration	
Auto Zero	0.0		0.0
Auto Span	33.4		33.4
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: **N/A : Not applicable**

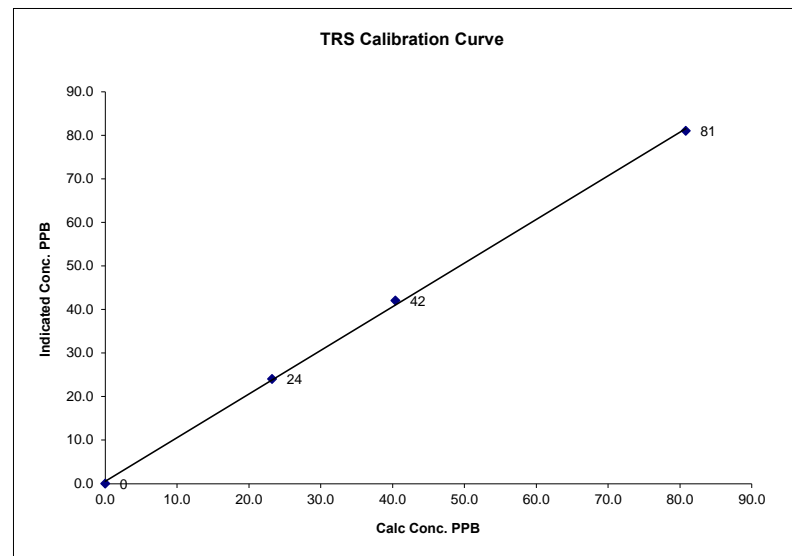
change sample filter

Calibration Performed by: Waseem Ahmed

TRS Calibration Curve

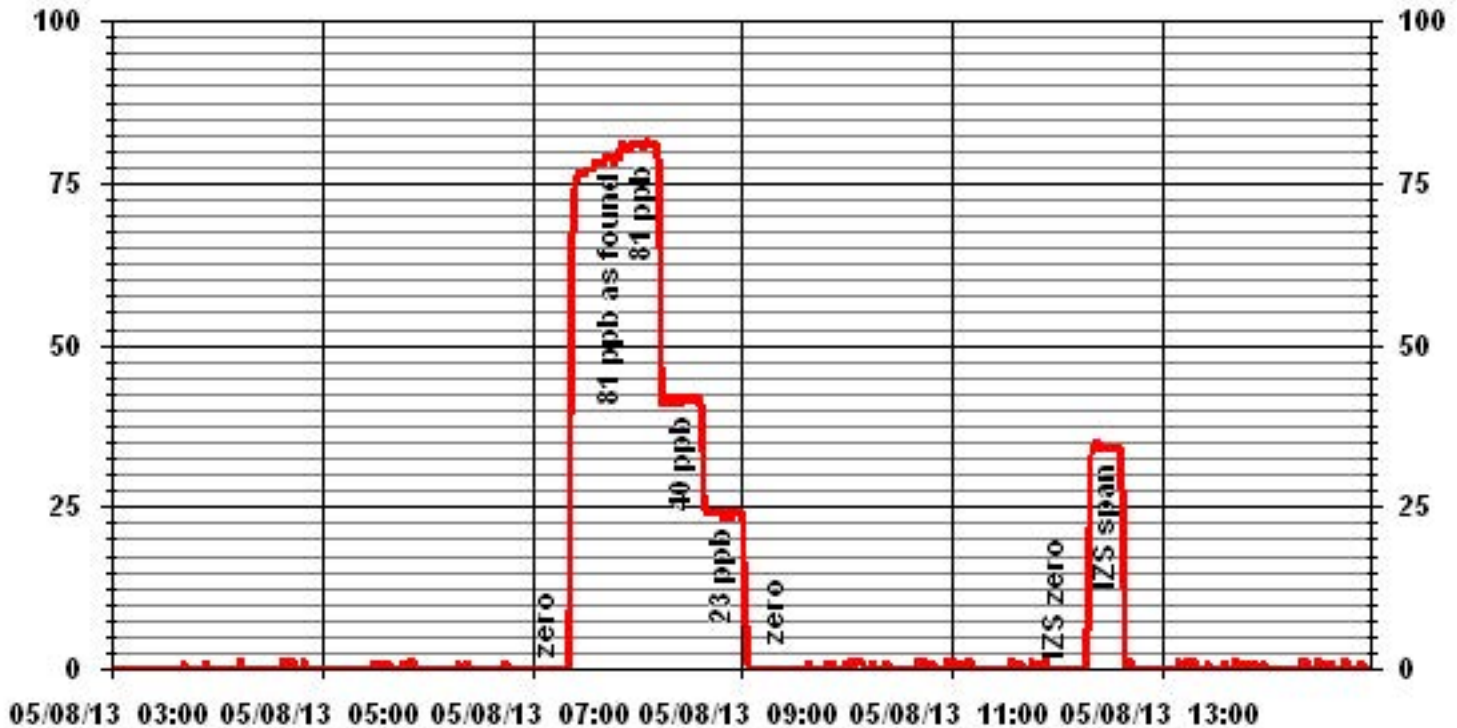
Calibration Date	May 8, 2013
Company	Lakeland Industry & Community Association
Plant / Location	LICA 1 - Cold Lake South
Start Time (MST)	7:58
End Time (MST)	10:27

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15) (± 3% F.S.)
0	0	n/a	Intercept	0.999562
23	24	0.0000		1.001664
40	42	0.5529		0.584160
81	81	0.4988		



Notes:

01 Minute Averages



TRS Calibration Report

Station Information

Calibration Date	May 29, 2013	Previous Calibration	May 8, 2013
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	13:50	End Time (MST)	14:45
Reason:	as found		
Barometric Pressure	27.83 inHg	Station Temperature	24 Deg C
Cal Gas	10.1 ppm	Gas Cyl. #	3LM005045
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:	API700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	3485		
Chart Recorder Make / Model:	NA	S/N:	NA		
Flow Meter:	API700	S/N :	831		

Analyzer Settings

Before Calibration		After Calibration	
Concentration Range	0 - 100		
Sample Flow / Box Temp	500 ccm, 31.4 Deg C	500 ccm, 31.4 Deg C	
HVPS / Lamp Setting	-650.1, 745	-650.1, 744	
PMT / RxCell Temp	OK Deg C, 45 Deg C	OK Deg C, 45.1 Deg C	
Converter / IZS Temp	810 Deg C, 45 Deg C	810 Deg C, 45.0 Deg C	
Offset / Slope	12.9, 0.908	12.9, 0.934	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4994	0	0	0	N/A
4960	No Zero Adj. 39.6	80	81	0.9876
			Sum of Least Squares New Correction Factor	0.9876

IZS Calibration Data

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

Percent Change

Previous Month's Calibration Correction Factor:	1.0000
Current Correction Factor Before Span Adjust:	0.9876
Percent Change:	1.3%

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

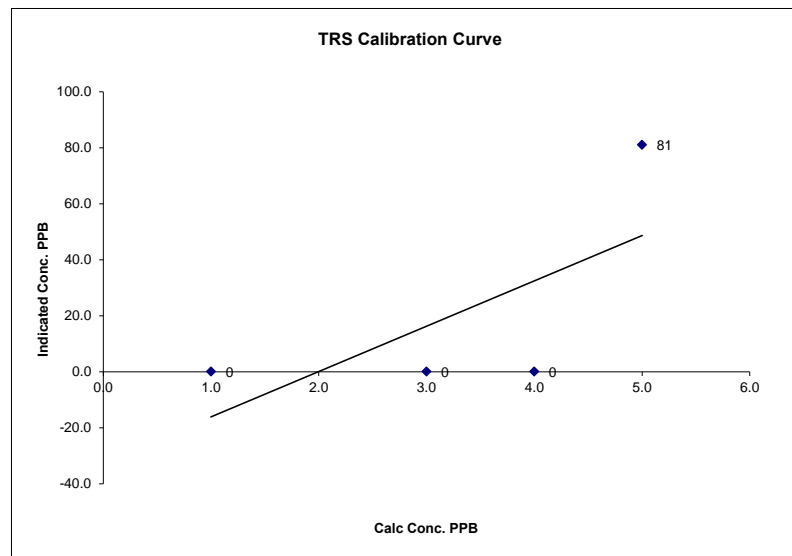
change sample filter

Calibration Performed by: Waseem Ahmed

TRS Calibration Curve

Calibration Date	May 29, 2013		
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	13:50	End Time (MST)	14:45

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (Slope Intercept)	(≥ 0.995) (0.85 to 1.15) ($\pm 3\%$ F.S.)	#DIV/0!
	0	n/a			#DIV/0!
	0	#DIV/0!			#DIV/0!
80	81	#VALUE!			#DIV/0!



Notes:

TRS Calibration Report

Station Information

Calibration Date	May 29, 2013	Previous Calibration	May 8, 2013
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	17:00	End Time (MST)	19:50
Reason:	post repair calib		
Barometric Pressure	28.84 inHg	Station Temperature	24 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:	API700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	3485		
Chart Recorder Make / Model:	NA	S/N:	NA		
Flow Meter:	API700	S/N :	831		

Analyzer Settings

Before Calibration		After Calibration	
Concentration Range	0 - 100		
Sample Flow / Box Temp	476 ccm, 31.4 Deg C	472 ccm, 31.4 Deg C	
HVPS / Lamp Setting	-650.1, 745	-650.1, 746	
PMT / RxCell Temp	OK Deg C, 45 Deg C	OK Deg C, 45.1 Deg C	
Converter / IZS Temp	810 Deg C, 45 Deg C	810 Deg C, 45.0 Deg C	
Offset / Slope	12.9, 0.908	12.2, 0.885	

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	39.6	80	85	0.9412
4960	39.6	80	81	0.9876
4980	19.8	40	41	0.9756
4988	12.0	24	25	0.9696
5000	0.0	0	1	N/A
		Sum of Least Squares		0.9841
		New Correction Factor		0.9876

IZS Calibration Data

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

Percent Change

Previous Month's Calibration Correction Factor:	0.9876
Current Correction Factor Before Span Adjust:	0.9412
Percent Change:	4.9%

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

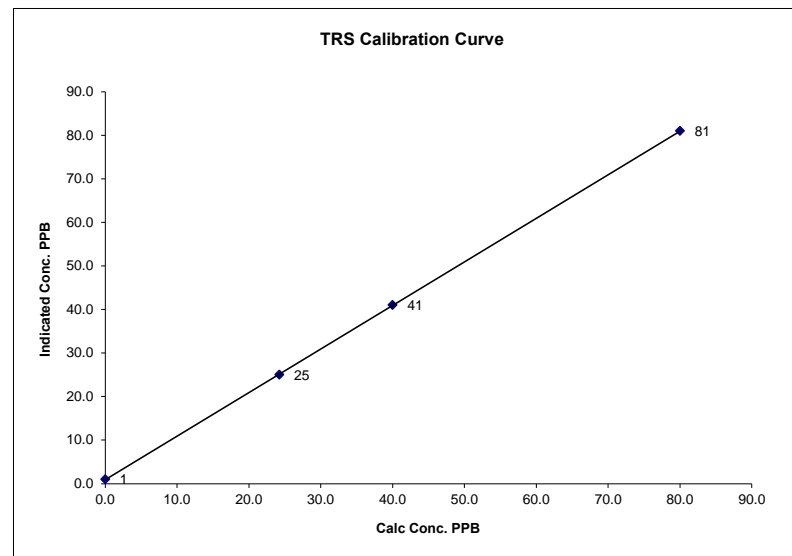
change sample filter

Calibration Performed by: Waseem Ahmed

TRS Calibration Curve

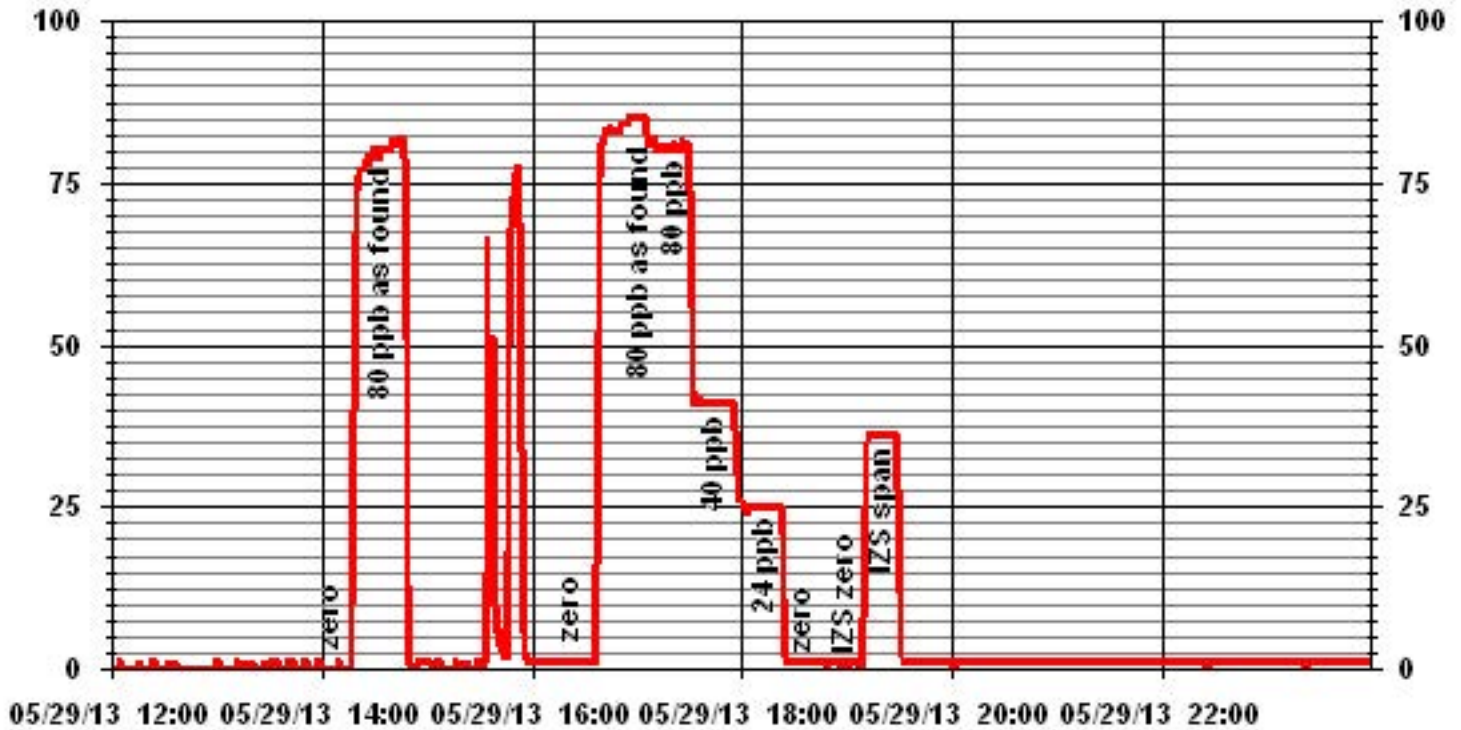
Calibration Date	May 29, 2013
Company	Lakeland Industry & Community Association
Plant / Location	LICA 1 - Cold Lake South
Start Time (MST)	17:00
End Time (MST)	19:50

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		0.999988
24	25	0.0000		1.000861
40	41	0.5912		0.909944
80	81	0.4938		



Notes:

01 Minute Averages



Total Hydrocarbons

THC Calibration Report

Station Information			
Calibration Date:	May 8, 2013	Previous Calibration	April 11, 2013
Company:	Lakeland Industry and Community Association		
Plant / Location:	LICA1/Cold Lake		
Start Time (MST)	10:40	End Time (MST)	12:55
Reason:	monthly calib.	As Found	
Barometric Pressure:	28.42 inHg	Station Temperature:	23 Deg C
Calibrator:	API 700	S/N:	831
Cal Gas Concentration:	CH4 600 PPM	C3H8 204 PPM	
	TOTAL CH4 1161.0 PPM	Gas Cyl. # 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 - 1 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	0.0	NA
	No Zero Adj.			
2000	74.0	41.4	40.6	1.0203
2000	74.0	41.4	41.5	0.9982
2000	37.0	21.1	20.7	1.0188
2000	20.0	11.5	11.2	1.0263
2000	0.0	0.0		NA
New Correction Factor:				0.9982

Percent Change

Previous Calibration Correction Factor:	1.0079
Current Correction Factor Before Span Adjust:	1.0203
Percent Change:	-1.2%

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	1900 psi	Hydrogen 1700 psi	Zero Air 34 psi

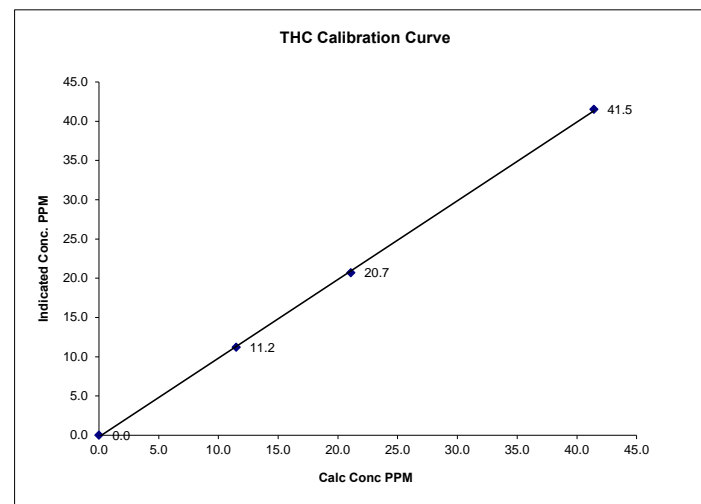
Notes: **NA : Not Applicable**
 spare H2 cylinder=04
 spare span gas cylinder=01

Calibration Performed by: Waseem Ahmed

THC Calibration Curve

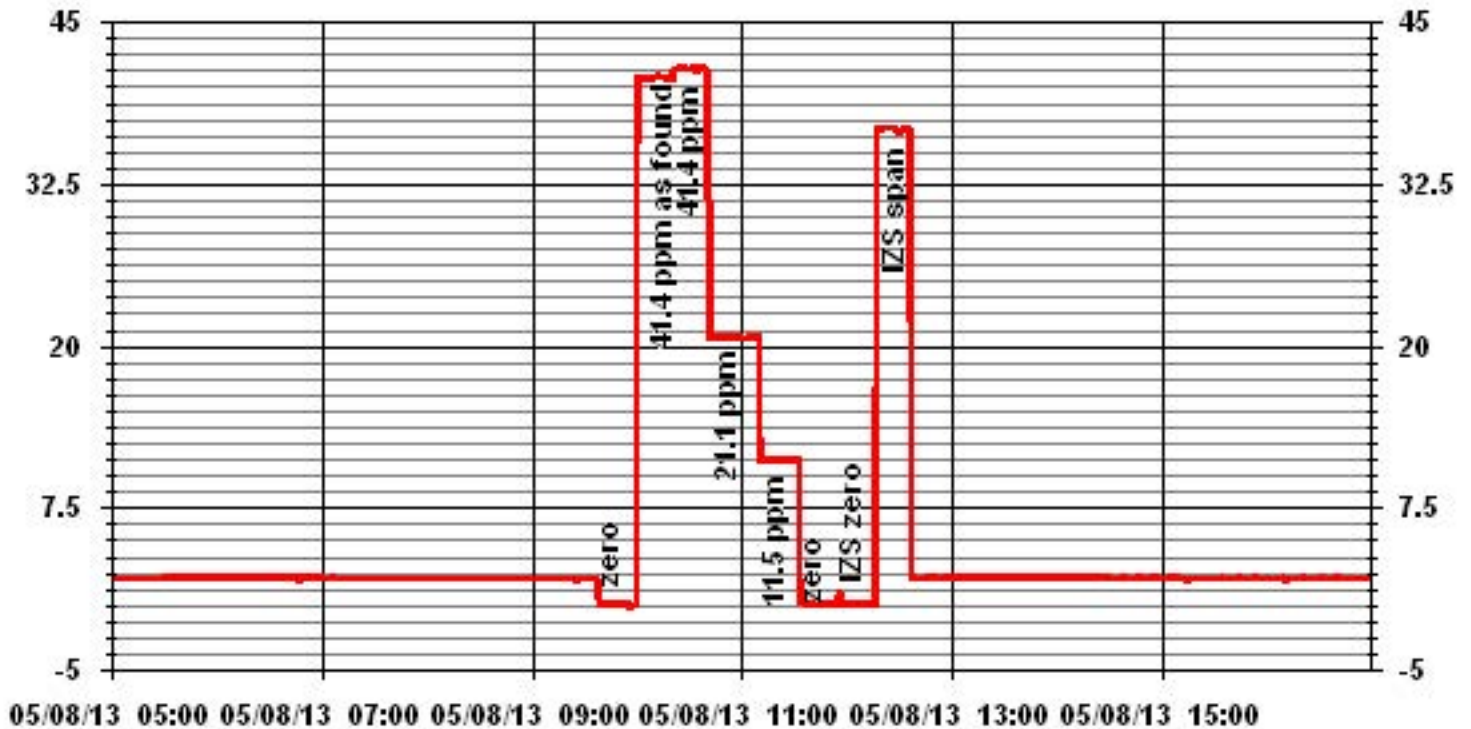
Calibration Date	May 8, 2013		
Company	Lakeland Industry and Community Association		
Plant / Location	LICA1/Cold Lake		
Start Time (MST)	10:40	End Time (MST)	12:55

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient	Slope	Intercept
0.0	0.0	NA	(≥ 0.995)	1.003030	-0.20799
11.5	11.2	1.0263	(0.85 to 1.15)		
21.1	20.7	1.0188			
41.4	41.5	0.9982	(± 3% F.S.)		



Notes:

01 Minute Averages



Particulate Matter 2.5

TEOM 1405F Audit

	<u>Station</u>		<u>Audit Transfer Standard</u>
Date:	May 2, 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)	17.0
		Press (ATM)	0.937

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)	17.19	Δ °C	-0.19
Measured Press (± 0.01atm)	0.939	DATM	-0.002
Flow Audit			
Indicated Main Flow (l/min)	3.00	Main Flow Drift (±10.0%)	2.50%
Measured Main Flow (l/min)	3.08	Flow Adjusted to Measured?	YES
Indicated Bypass Flow (l/min)	13.67	Bypass Flow Drift (±10.0%)	0.46%
Measured Bypass Flow (l/min)	13.50	Flow Adjusted to Measured?	YES
Leak Check		Instrument Setup	
Main (< 0.15 l/min)	Base=0.01	Flow Control = Active	
Aux (< 0.6 l/min)	Base=0.00	Report Conditions = Actual	
K_o Factor			
Measured	NA		
K _o Difference (± 2.5%)	NA		

Start Time: 17:45 **Finish Time:** 19:15

Sample Inlet Cleaned: Yes **New Filters Installed:** Yes
New Filter Loading %: 17.4%

Comments:

TEOM 1405F Audit

	Station		Audit Transfer Standard
Date:	May 15, 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

	Sampler		Set-up and current Sampler readings
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 (%)	20.0%
Firmware Ver.	1.52	K _o Factor	14578.0
Parameter	PM 2.5 (with FDMS)	Temp (°C)	19.3
		Press (ATM)	0.937

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	0.019	Warnings	None
Pump Vacuum < 0.40 atm	0.35	Pump Guage (in Hg)	NA
Temperature/Pressure			
Measured Temp (± 2 °C)	19.70	Δ °C	-0.4
Measured Press (± 0.01atm)	0.933	DATM	0.004
Flow Audit			
Indicated Main Flow (l/min)	3.00	Main Flow Drift (±10.0%)	1.91%
Measured Main Flow (l/min)	2.98	Flow Adjusted to Measured?	YES
Indicated Bypass Flow (l/min)	13.67	Bypass Flow Drift (±10.0%)	0.31%
Measured Bypass Flow (l/min)	13.63	Flow Adjusted to Measured?	YES
Leak Check		Instrument Setup	
Main (< 0.15 l/min)	Base=0.01	Flow Control = Active	
Aux (< 0.6 l/min)	Base=0.00	Report Conditions = Actual	
K_o Factor			
Measured	NA		
K _o Difference (± 2.5%)	NA		

Start Time: 10:00 Finish Time: 11:30

Sample Inlet Cleaned: no New Filters Installed: no
 New Filter Loading %: na

Comments:

Nitrogen Dioxide

NOx - NO- NO2 Calibration Report

Station Information

Calibration Date	May 8, 2013	Previous Calibration	April 10, 2013
Company	LICA	Plant/Location	Cold Lake South
Start Time (MST)	7:58	End Time (MST)	11:50
Reason:	calibration	Monthly Calibration	
Barometric Pressure	28.44 inHg	Station Temperature	24 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 - 10 Volts	Chart Rec. Output	NA Volts

Equipment Information

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

Analyzer Settings

Before Calibration				After Calibration			
Concentration Range			0 - 500				ppb
Sample Flow/Conv. Temp	736 ccm	317 Deg C		734 ccm	318 Deg C		
Ozone Flow / Vacuum	OK ccm	181.7 *Hg-A		OK ccm	181.4 *Hg-A		
HVPS / A ZERO	-821 Volts	NA MV		-821 Volts	NA MV		
Rx/ Temp / PMT Temp	49.5 Deg C	-2.5 Deg C		49.8 Deg C	-2.5 Deg C		
Box Temp / IZS Temp	28.9 Deg C	OK Deg C		28.4 Deg C	OK Deg C		
Offset	4.1 NOx	3.6 NO		4.1 NOx	3.5 NO		
Slope	1.006 NOx	0.937 NO		1.006 NOx	0.937 NO		
NO2 COEF / Conv Efficiency	0.998 NO2	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	0	0	0	NA	NA
	no zero adj.									
4955	39.9	NA	394	393	NA	395	393	2	0.9970	1.0000
	no span adj.									
4975	19.8	NA	195	195	NA	199	198	1	0.9821	0.9850
4985	9.9	NA	98	98	NA	102	101	0	0.9580	0.9655
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		
4955	39.9	NA	394	393	NA	395	393	2	NA	NA
4955	39.9	350	394	NA	324	395	71	324	1.0000	100.00%
	No Adj.									
4955	39.9	150	394	NA	141	395	254	141	1.0000	100.00%
4955	39.9	75	394	NA	70	395	325	70	1.0000	100.00%

Linearity OK?	Yes	No	Sum of Least Squares Correction Factors:	NOx= 0.992	NO= 0.996	NO2= 1.000
				NOx= 0.9970	NO= 1.0000	NO2= 1.0000
				Average Converter Efficiency= 100.00%		

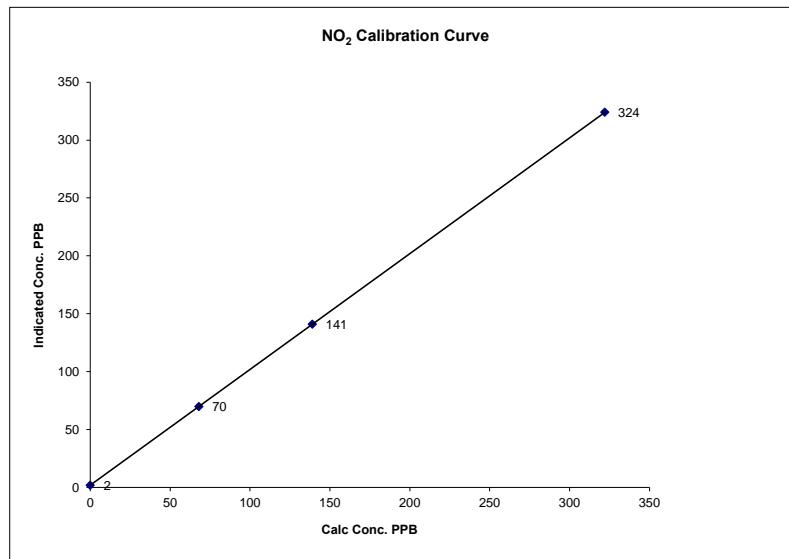
IZS Calibration Data

Before Calibration				After Calibration			
Auto Zero	0.0	NOx	0.0	NO2	0.0	NOx	0.0
Auto Span	382	NOx	379	NO2	380	NOx	376
		Sample Lines Connected				YES	
Percent Change from Previous Calibration		NOx	0.3%	NO	0.0%	NO2	0.0%
Notes	NA : Not Applicable						
	High reading during 1248-1250 due to put channel out of maint.						
Calibration Performed by:	Waseem Ahmed						

NO2 Calibration Curve

Calibration Date	May 8, 2013
Company	LICA
Plant / Location	Cold Lake South
Start Time (MST)	7:58
End Time (MST)	11:50

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	
0	2	N/A	Intercept	(± 3% F.S.)	1.00000
68	70	0.9714			1.00000
139	141	0.9858			2.00000
322	324	0.9938			

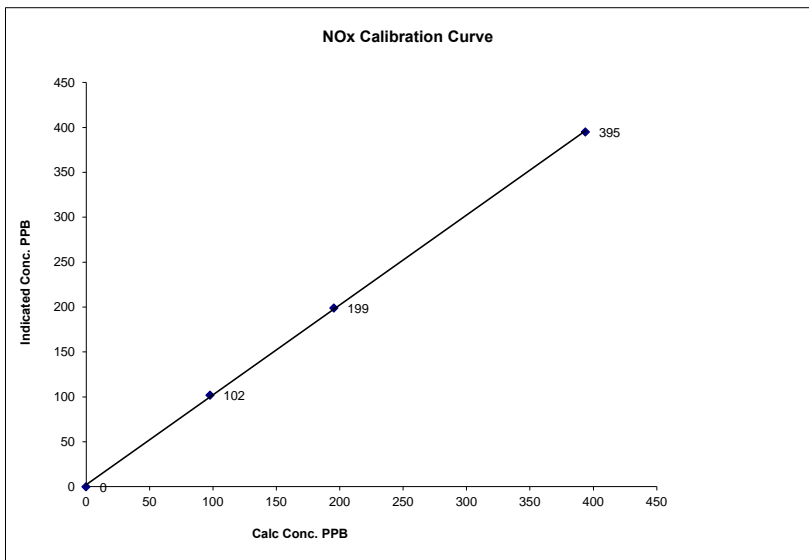


Notes:

NOx Calibration Curve

Calibration Date	May 8, 2013	
Company	LICA	
Plant / Location	Cold Lake South	
Start Time (MST)	7:58	End Time (MST) 11:50

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999858
0	0	N/A	Slope (0.85 to 1.15)	1.000357
98	102	0.9580	Intercept (± 3% F.S.)	2.19862
195	199	0.9821		
394	395	0.9970		

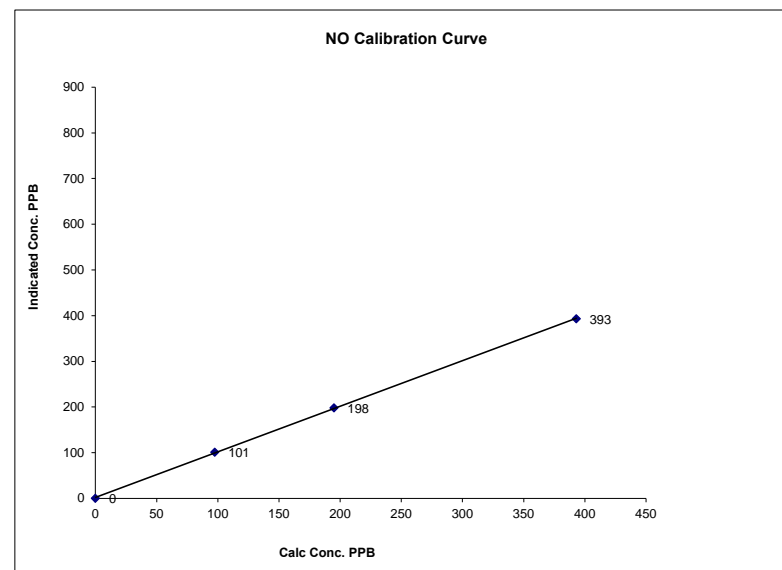


Notes:

NO Calibration Curve

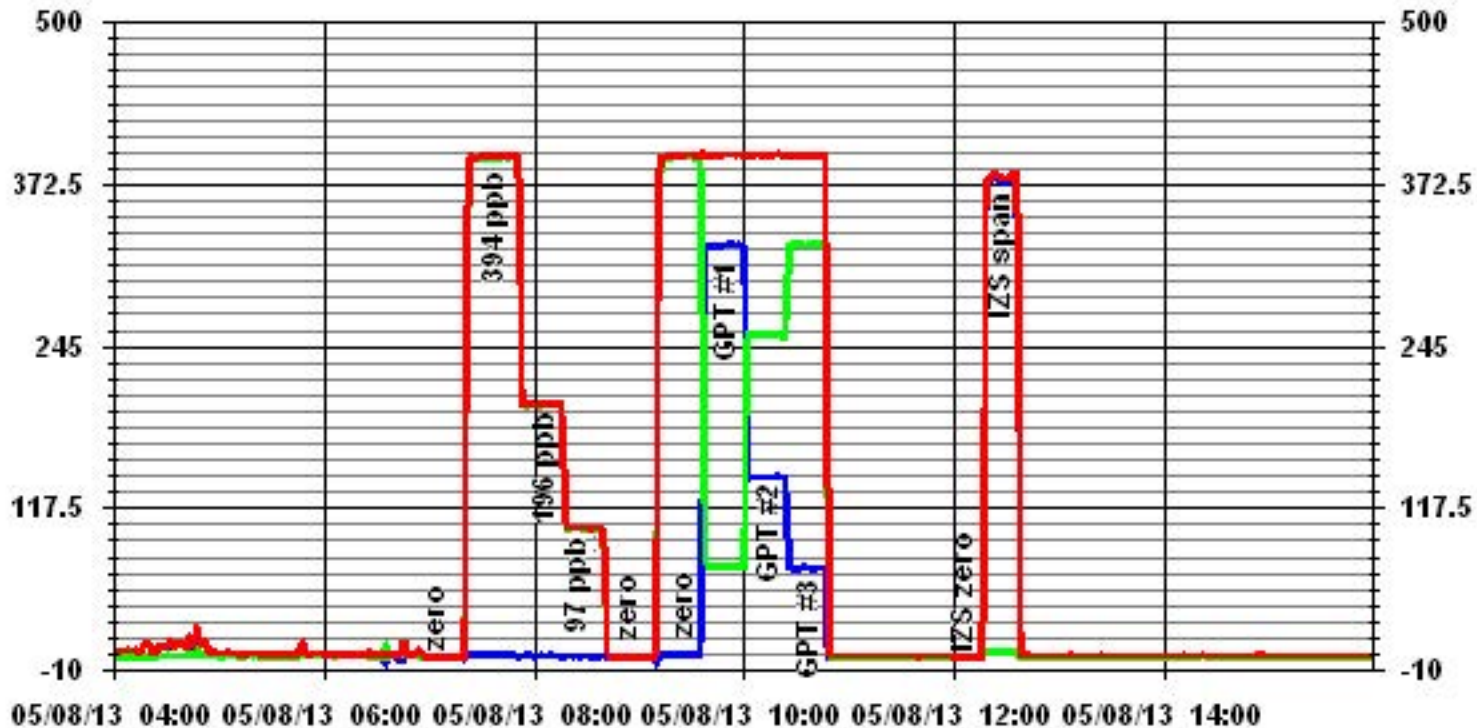
Calibration Date	May 8, 2013	
Company	LICA	
Plant / Location	Cold Lake South	
Start Time (MST)	7:58	End Time (MST) 11:50

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999879
0	0	N/A	Slope (0.85 to 1.15)	0.987681
98	101	0.9655	Intercept (± 3% F.S.)	5.9028
195	198	0.9850		
393	393	1.0000		



Notes:

01 Minute Averages



Ozone

O₃ Calibration Report

Station Information

Calibration Date	May 8, 2013	Previous Calibration	April 11, 2013
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	11:52	End Time (MST)	14:00
Reason:	As Found		
Barometric Pressure	28.42 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	712 LPM	755 LPM	713 LPM	757 LPM				
O ₃ Set Level	709 mmHg	710 mmHg						
Bench Lamp	28.4 Deg C	28.5 Deg C						
O ₃ Lamp / Box Temp	53.5 Deg	67.6 Deg C	53.6 Deg C	67.6 Deg C				
Offset / Slope	-0.1	1.046	-0.1	1.046				

Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4995	0	0	0	NA
	No Zero Adj			
4995	350	322	322	1.0000
	no span adj.			
4995	150	139	139	1.0000
1995	75	68	68	1.0000
4995	0	0	0	na
Sum of Least Squares				1.0000
New Correction Factor				1.0000

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	384	477
Sample Lines Connected		YES
Previous Calibration Correction Factor:		1.0161
Current Correctio Factor Before Span Adjust:		1.0000
Percent Change:		1.6%

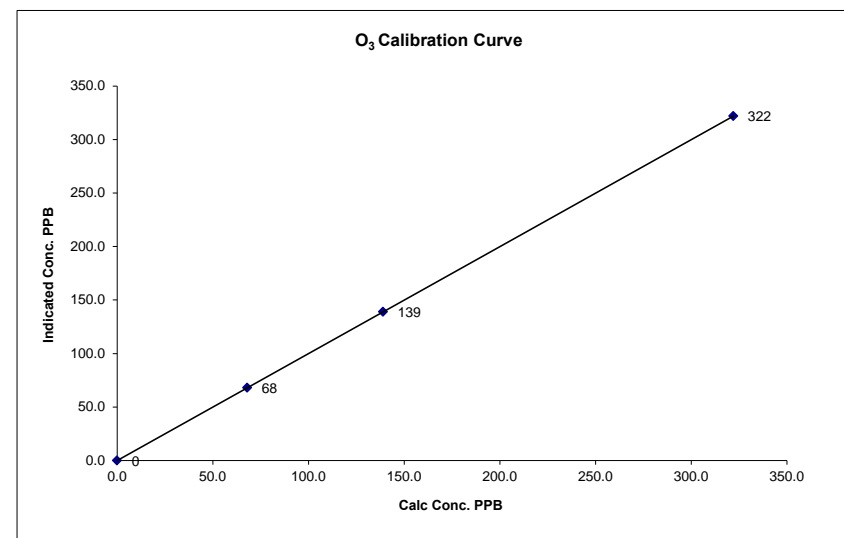
Note: **NA : Not Applicable**
change sample filter

Calibration Performed by: Waseem Ahmed

O₃ Calibration Curve

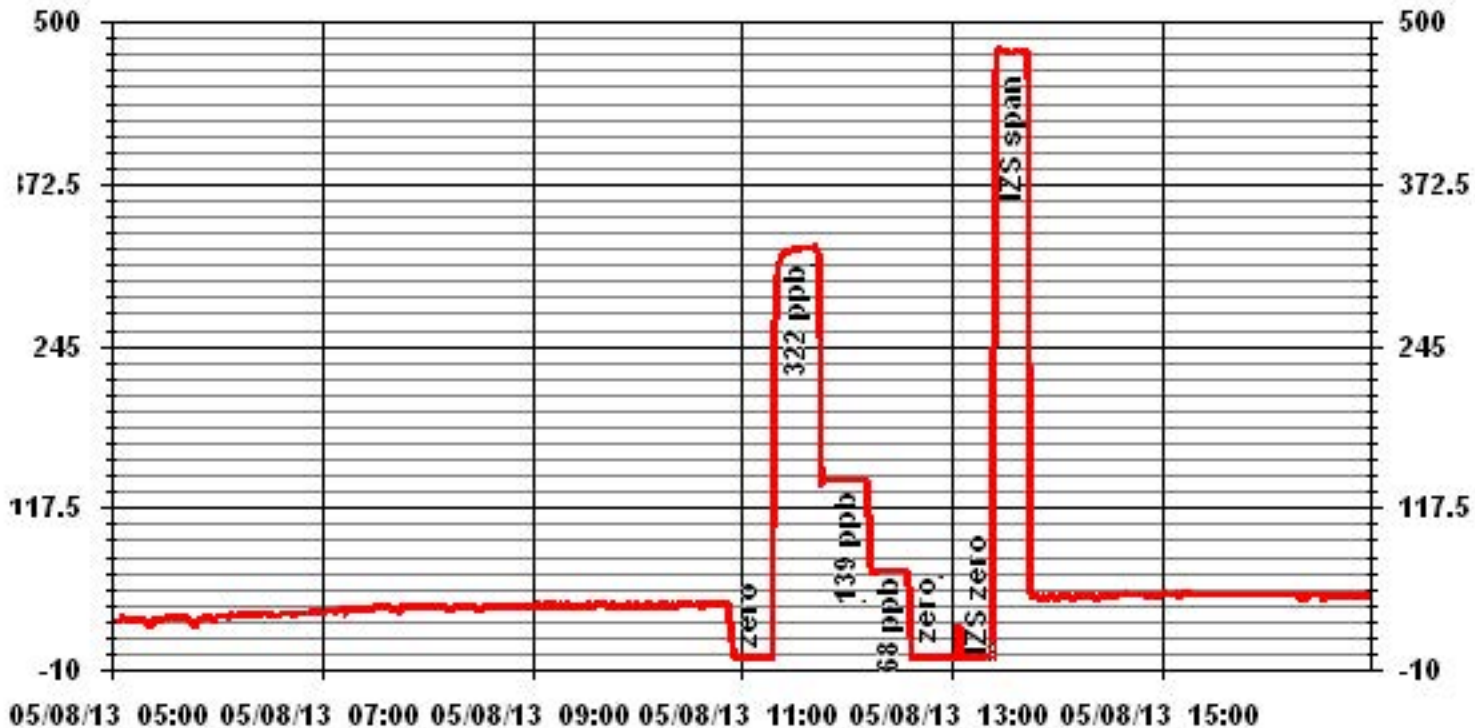
Calibration Date	May 8, 2013
Company	Lakeland Industry & Community Association
Plant / Location	LICA 1 - Cold Lake South
Start Time (MST)	11:52
End Time (MST)	14:00

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	
0	0	n/a	Slope	(0.85 to 1.15)
68	68	1.0000	Intercept	(± 3% F.S.)
139	139	1.0000		1.000000
322	322	1.0000		0.000000



Notes:

01 Minute Averages



O₃ Calibration Report Station Information

Calibration Date	May 15, 2013		Previous Calibration	May 8, 2013	
Company	Lakeland Industry & Community Association				
Plant / Location	LICA 1 - Cold Lake South				
Start Time (MST)	9:30	End Time (MST)	11:30		
Reason:	as found		As Found		
Barometric Pressure	28.05	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:	Envionics 6100	S/N :	4760	Method:	GPT
DAS Make / Model:	ESC 8832	S/N :	3485		

Analyzer Settings

Before Calibration			After Calibration		
Concentration Range	0 - 500		ppb		
Cell A Flow / Cell B Flow	708	LPM	749	757	LPM
O ₃ Set Level	700	mmHg	700	700	mmHg
Bench Lamp	28.7	Deg C	28.5	28.5	Deg C
O ₃ Lamp / Box Temp	53.5	Deg	67.6	67.6	Deg C
Offset / Slope	-0.1	1.046	-0.1	1.046	

Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4995	0	0	0	NA
	No Zero Adj			
4995	350	322	329	0.9787
Sum of Least Squares				
New Correction Factor				0.9787

IZS Calibration Data

Before Calibration		After Calibration	
Auto Zero	0.0	Auto Zero	0.0
Auto Span	477	Auto Span	277
Sample Lines Connected		YES	
Previous Calibration Correction Factor:		1.0000	
Current Correctio Factor Before Span Adjust:		0.9787	
Percent Change:		2.2%	

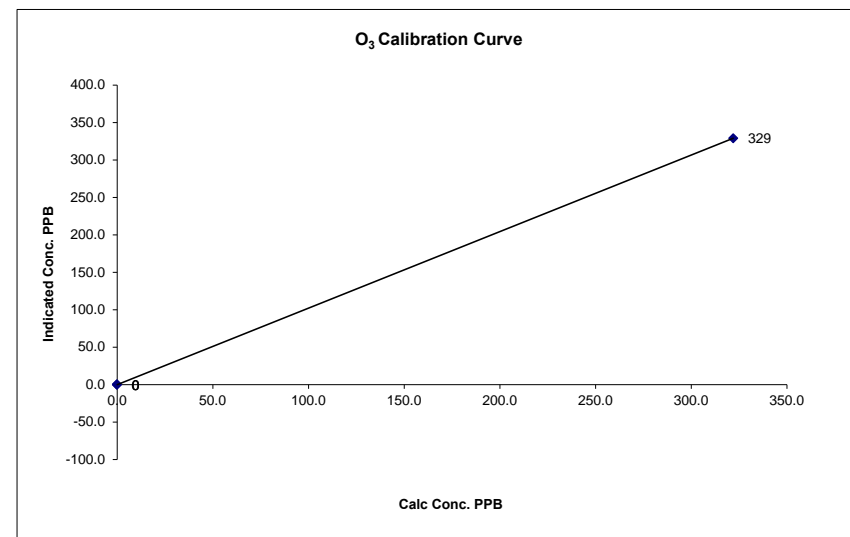
Note: **NA : Not Applicable**
rebuilt zero/span pump

Calibration Performed by: Waseem Ahmed

O₃ Calibration Curve

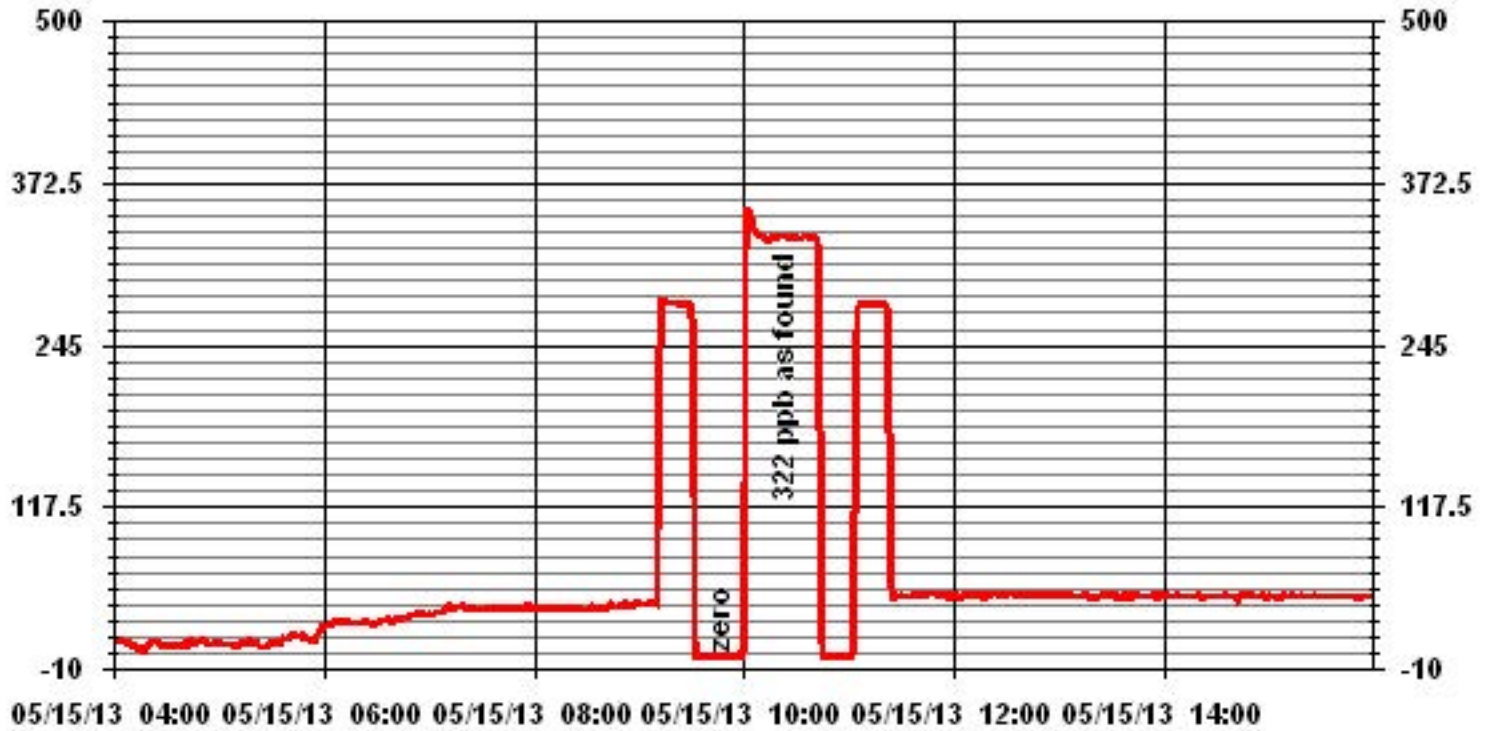
Calibration Date	May 15, 2013		
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	9:30	End Time (MST)	11:30

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	Slope	1.000000
0	0	#DIV/0!	Intercept	1.021739
0	0	#DIV/0!		0.000000
322	329	0.9787		



Notes:

01 Minute Averages



Wind System

Meteorological Sensor Audit Report

Station Information

Audit Date	May 29, 2013	Previous Audit	N/A
Company	LICA		
Plant / Location	CLS		
Start Time (MST)	18:00	End Time (MST)	18:40
Reason:	Remove Calibration		
Translator make/model:	Young 05103	S/N:	48743
DAS make/model:	ESC 8832	S/N:	3485

Wind Speed

Sensor make/model:	RM Young 5103VK	S/N:	92411
Calibrator:	RM Young	Variable speed motor	CA 03309
Output voltage range:	0-1	Output signal range:	0-200 KPH
Sensor height:	10M		

Wind Speed Audit Data

RPM	Wind Speed Actual	Indicated WS - CW	Indicated WS-CCW	Correction Factor
0	0.0	0.7	0.7	-
1000	17.6	17.7	17.8	0.99
2000	35.28	35.4	35.4	1.00
3000	52.92	53.05	53.04	1.00
4000	70.56	70.68	70.68	1.00
5000	88.2	88.32	88.32	1.00
6000	105.84	106	106	1.00
7000	123.48	123.6	123.6	1.00
8000	141.12	141.2	141.2	1.00
9000	158.76	158.8	158.8	1.00
10000	176.4	176.4	176.4	1.00
Average Correction Factor				1.00

Wind Direction

Sensor make/model:	RM Young	S/N:	2411
Calibrator:	RM Young	Direction wheel	N/A
Output voltage range:	0-1	Output signal range:	0 - 360
Sensor height:	10M		

Wind Direction Audit Data

Wind Direction	Indicated	Correction Factor
0	0.4	NA
45	44.2	1.02
90	89.1	1.01
135	134.7	1.00
180	181.5	0.99
225	227.3	0.99
270	268.5	1.01
315	312.3	1.01
355	355.0	NA
Average Correction Factor		1.00

Remarks: _____

Audit Performed by: Limin Li / Waseem Ahmed

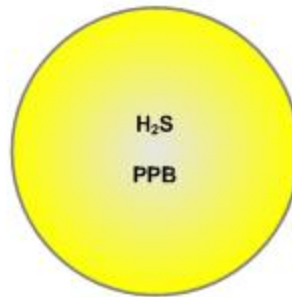
Passive Bubble Maps

Lakeland Industry & Community Association H₂S Passive Bubble Map

MAY 2013

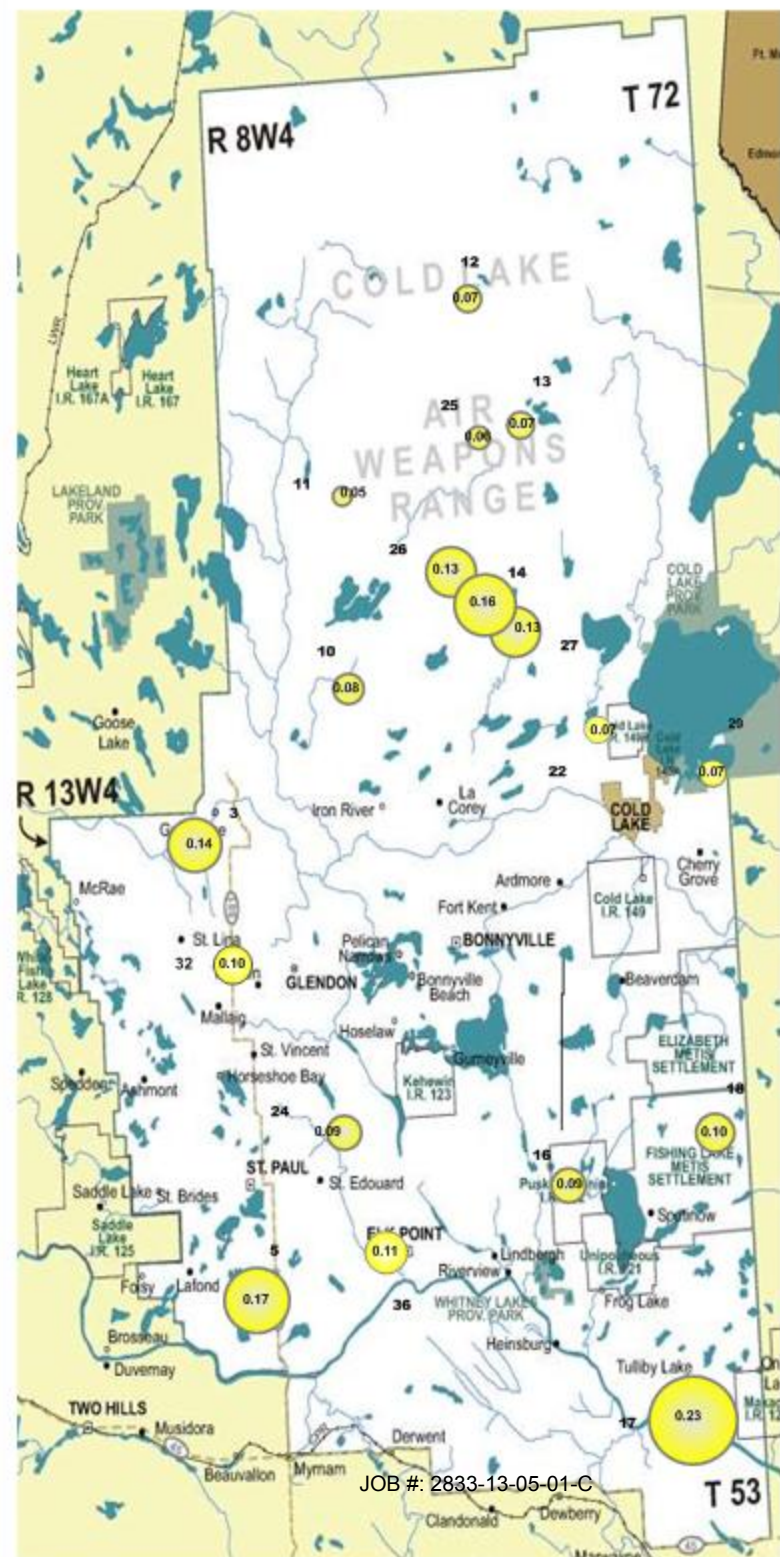
PASSIVE STATIONS

		DUPLICATE
3 – Therien	0.15 PPB	0.13 PPB
5 – Lake Eliza	0.16 PPB	0.17 PPB
10 – La Corey	0.08 PPB	NA
11 – Wolf Lake	0.05 PPB	NA
12 – Foster Creek	0.07 PPB	NA
13 – Primrose	0.07 PPB	NA
14 – Maskwa	0.16 PPB	NA
16 – Frog Lake	0.09 PPB	NA
17 – Clear Range	0.23 PPB	NA
18 – Fishing Lake	0.10 PPB	NA
22 – Cold Lake South	0.07 PPB	NA
24 – Fort George	0.09 PPB	NA
25 – Burnt Lake	0.06 PPB	NA
26 – Mahihkan	0.13 PPB	NA
27 – Mahkeses	0.13 PPB	NA
29 – Cold Lake South 2	0.07 PPB	NA
32 – St. Lina	0.10 PPB	NA
36 – Elk Point	0.11 PPB	NA



Summary

Minimum : 0.05 PPB – Wolf Lake
 Maximum: 0.23 PPB – Clear Range
 Average: 0.11 PPB (Includes Duplicates)



Lakeland Industry & Community Association NO₂ Passive Bubble Map

MAY 2013

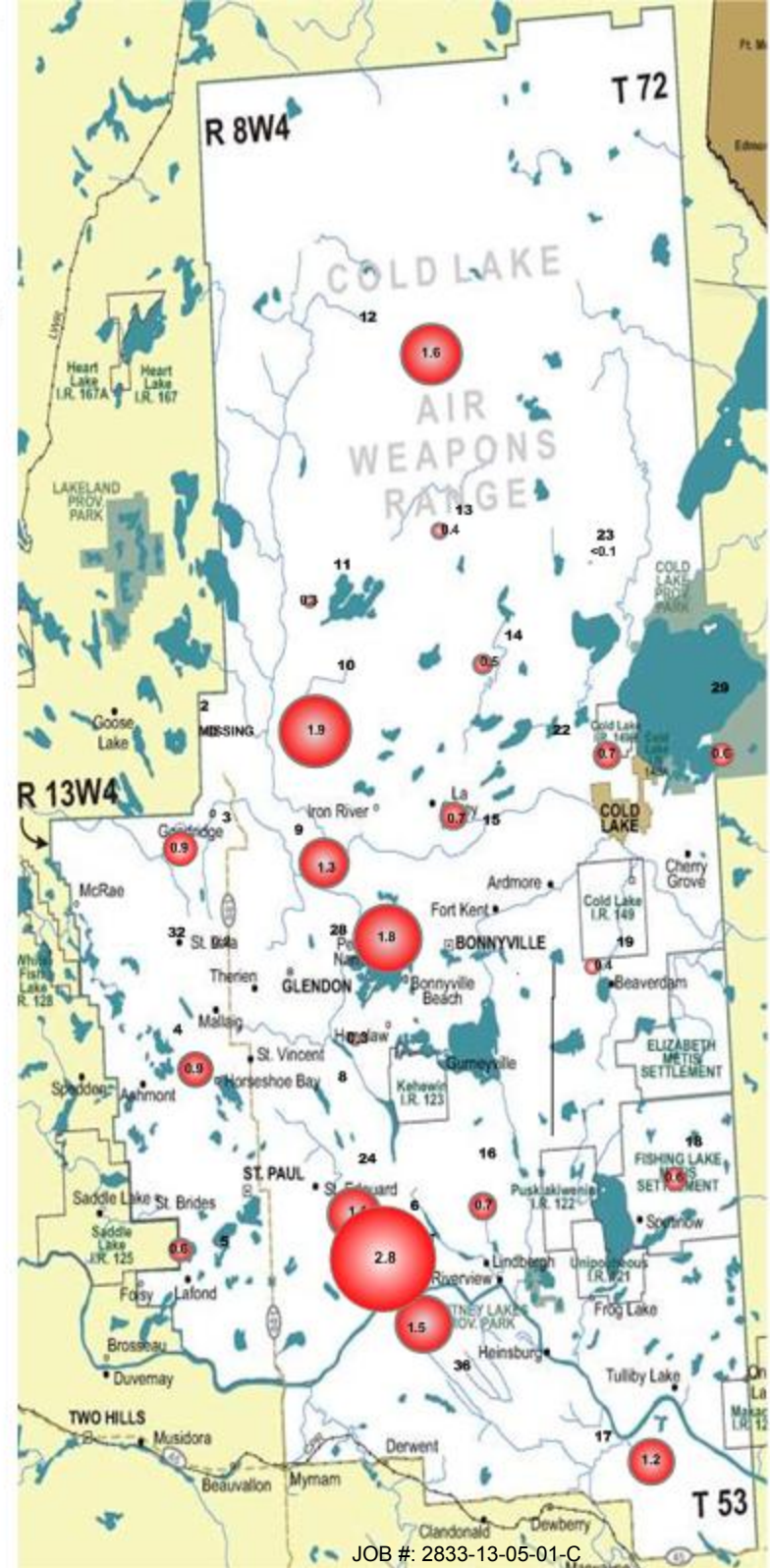
PASSIVE STATIONS

		DUPLICATE
2 – Sand River	MISSING	NA
3 – Therien	0.9 PPB	NA
4 – Flat Lake	0.9 PPB	NA
5 – Lake Eliza	0.6 PPB	NA
6 – Telegraph Creek	2.8PPB	NA
8 – Muriel-Kehewin	0.3 PPB	NA
9 – Dupre	1.3 PPB	NA
10 – La Corey	1.9 PPB	NA
11 – Wolf Lake	0.3 PPB	NA
12 – Foster Creek	1.6 PPB	NA
13 – Primrose	0.4 PPB	NA
14 – Maskwa	0.5 PPB	0.5 PPB
15 – Ardmore	0.6 PPB	0.7 PPB
16 – Frog Lake	0.7 PPB	NA
17 – Clear Range	1.2 PPB	NA
18 – Fishing Lake	0.6 PPB	NA
19 – Beaverdam	0.4 PPB	NA
22 – Cold Lake South	0.7 PPB	NA
23 – Medley-Martineau	< 0.1 PPB	NA
24 – Fort George	1.4 PPB	NA
28 – Town of Bonnyville	1.8 PPB	NA
29 – Cold Lake South 2	0.6 PPB	NA
32 – St. Lina	0.2 PPB	NA
36 – Elk Point	1.5 PPB	NA



Summary

Minimum : <0.1 PPB – Medley-Martineau
Maximum: 2.8 PPB – Telegraph Creek
Average: 0.9 PPB *Includes Duplicates

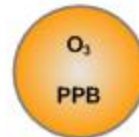


Lakeland Industry & Community Association O₃ Passive Bubble Map

MAY 2013

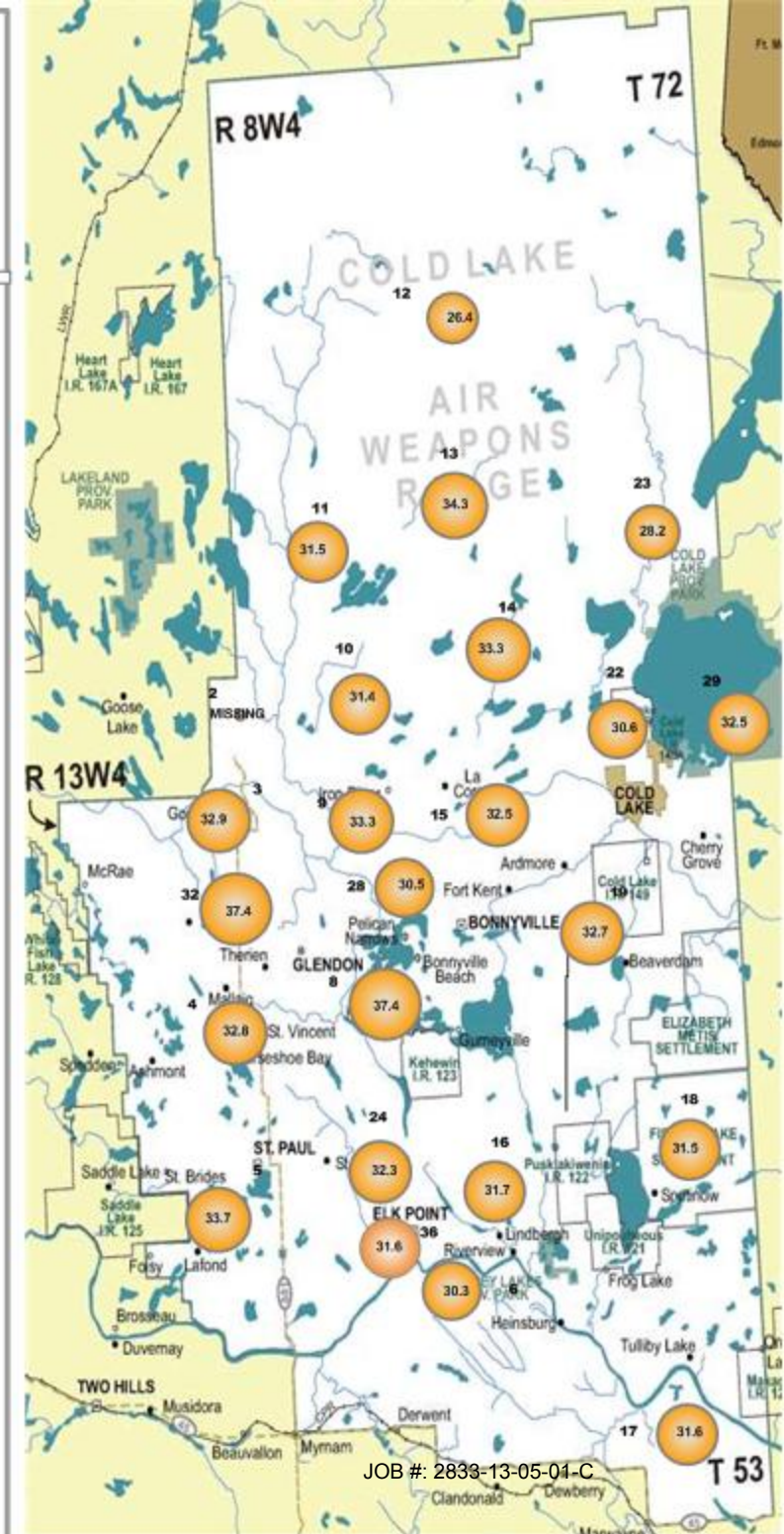
PASSIVE STATIONS

		DUPLICATE
2 – Sand River	MISSING	NA
3 – Therien	32.9 PPB	NA
4 – Flat Lake	32.8 PPB	NA
5 – Lake Eliza	33.7 PPB	NA
6 – Telegraph Creek	30.3 PPB	NA
8 – Muriel-Kehewin	37.4 PPB	NA
9 – Dupre	33.3 PPB	NA
10 – La Corey	31.4 PPB	NA
11 – Wolf Lake	31.5 PPB	NA
12 – Foster Creek	26.4 PPB	NA
13 – Primrose	34.3 PPB	NA
14 – Maskwa	34.8 PPB	31.7 PPB
15 – Ardmore	32.7 PPB	32.2 PPB
16 – Frog Lake	31.7 PPB	NA
17 – Clear Range	31.6 PPB	NA
18 – Fishing Lake	31.5 PPB	NA
19 – Beaverdam	32.7 PPB	NA
22 – Cold Lake South	30.6 PPB	NA
23 – Medley-Martineau	28.2 PPB	NA
24 – Fort George	32.3 PPB	NA
28 – Town of Bonnyville	30.5 PPB	NA
29 – Cold Lake South 2	32.5 PPB	NA
32 – St. Lina	37.4 PPB	NA
36 – Elk Point	31.6 PPB	NA



Summary

Minimum : 26.4 PPB – Wolf Lake
 Maximum: 37.4 PPB – Flat Lake
 Average: 32.2 PPB *Includes Duplicates



Lakeland Industry & Community Association SO₂ Passive Bubble Map

MAY 2013

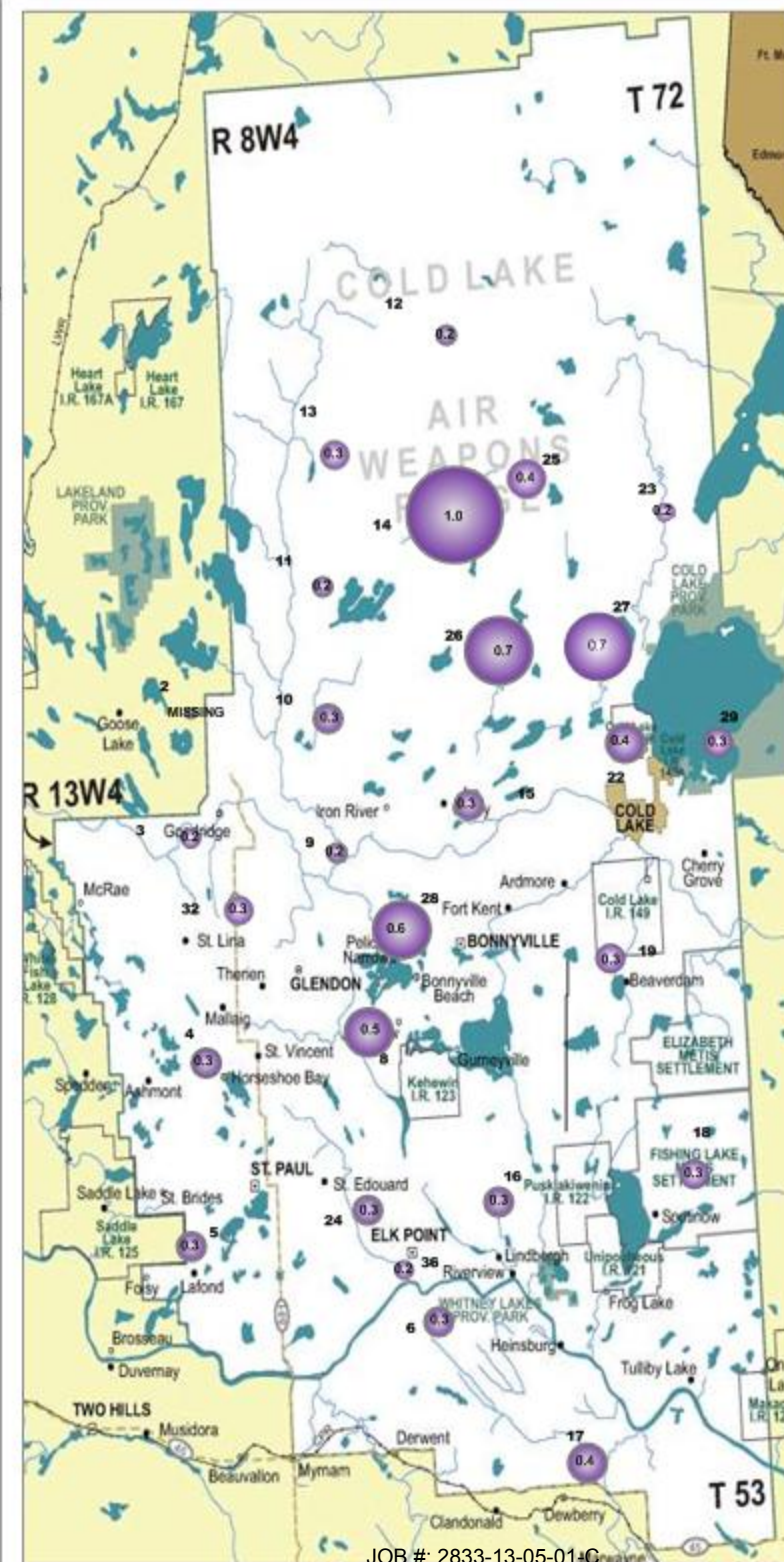
PASSIVE STATIONS

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



Summary

Minimum : 0.2 PPB –Various stations
 Maximum: 1.0 PPB –Maskwa
 Average: 0.37 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	05/01/2013	15:50	06/03/2013	16:27	
4	SO ₂ /NO ₂ /O ₃	05/01/2013	14:17	06/03/2013	14:52	
5	H ₂ S/SO ₂ /NO ₂ /O ₃	05/01/2013	13:35	06/03/2013	14:15	
6	SO ₂ /NO ₂ /O ₃	05/01/2013	12:40	06/03/2013	12:37	
8	SO ₂ /NO ₂ /O ₃	04/29/2013	13:45	05/30/2013	11:38	
9	SO ₂ /NO ₂ /O ₃	04/29/2013	10:57	05/30/2013	10:40	
10	H ₂ S/SO ₂ /NO ₂ /O ₃	04/30/2013	10:04	05/31/2013	08:55	
11	H ₂ S/SO ₂ /NO ₂ /O ₃	04/30/2013	10:45	05/31/2013	09:37	
12	H ₂ S/SO ₂ /NO ₂ /O ₃	04/30/2013	12:12	05/31/2013	11:30	
13	H ₂ S/SO ₂ /NO ₂ /O ₃	04/30/2013	15:55	05/31/2013	15:03	
14	H ₂ S/SO ₂ /NO ₂ /O ₃	04/30/2013	16:50	05/31/2013	14:05	
15	SO ₂ /NO ₂ /O ₃	04/30/2013	15:05	05/31/2013	16:23	
16	H ₂ S/SO ₂ /NO ₂ /O ₃	05/01/2013	09:55	06/03/2013	09:53	
17	H ₂ S/SO ₂ /NO ₂ /O ₃	05/01/2013	11:45	06/03/2013	11:49	
18	H ₂ S/SO ₂ /NO ₂ /O ₃	05/01/2013	10:35	06/03/2013	10:35	
19	SO ₂ /NO ₂ /O ₃	05/01/2013	09:15	06/03/2013	09:15	
22	H ₂ S/SO ₂ /NO ₂ /O ₃	04/29/2013	15:35	05/30/2013	09:34	
23	SO ₂ /NO ₂ /O ₃	04/30/2013	18:40	05/31/2013	17:15	
24	H ₂ S/SO ₂ /NO ₂ /O ₃	04/29/2013	12:00	05/30/2013	12:55	
25	H ₂ S/SO ₂	04/30/2013	13:25	05/31/2013	12:35	
26	H ₂ S/SO ₂	04/30/2013	16:30	05/31/2013	15:35	
27	H ₂ S/SO ₂	04/30/2013	1715	05/31/2013	15:55	
28	SO ₂ /NO ₂ /O ₃	04/29/2013	14:20	05/30/2013	10:58	
29	H ₂ S/SO ₂ /NO ₂ /O ₃	04/29/2013	15:40	05/30/2013	09:25	
32	H ₂ S/SO ₂ /NO ₂ /O ₃	05/01/2013	14:55	06/03/2013	15:29	
36	H ₂ S/SO ₂ /NO ₂ /O ₃	04/29/2013	12:20	05/30/2013	12:25	

ID	SAMPLER	START		END		NOTES
		DATE	TIME	DATE	TIME	
Duplicate # 27	SO ₂	04/30/2013	1715	05/31/2013	15:55	
Duplicate # 28	SO ₂	04/29/2013	14:20	05/30/2013	10:58	
Duplicate # 29	SO ₂	04/29/2013	15:40	05/30/2013	09:25	
Duplicate #3	H ₂ S	05/01/2013	15:50	06/03/2013	16:27	
Duplicate # 5	H ₂ S	05/01/2013	13:35	06/03/2013	14:15	
Duplicate # 14	NO ₂	04/30/2013	16:50	05/31/2013	14:05	
Duplicate # 15	NO ₂	04/30/2013	15:05	05/31/2013	16:23	
Duplicate # 14	O ₃	04/30/2013	16:50	05/31/2013	14:05	
Duplicate # 15	O ₃	04/30/2013	15:05	05/31/2013	16:23	

Passive Network Laboratory Analysis



Your Project #: 2013/05/01 - 2013/05/30
Site Location: LICA

Attention: MICHAEL BISAGA

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

Report Date: 2013/06/17

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B347127

Received: 2013/06/10, 08:47

Sample Matrix: Air
Samples Received: 33

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
H2S Passive Analysis (1)	20	2013/06/16	2013/06/17	EINDSOP-00150	Tang.Passive H2S in
NO2 Passive Analysis (1)	25	2013/06/17	2013/06/17	EINDSOP-00148	Tang Passive NO2 in
O3 Passive Analysis (1)	25	2013/06/17	2013/06/17	EINDSOP-00197	EPA 300 R2.1
SO2 Passive Analysis (1)	29	2013/06/17	2013/06/17	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 #: B347127
 Report Date: 2013/06/17

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
 Client Project #: 2013/05/01 - 2013/05/30
 Site Location: LICA
 Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		GP4523	GP4524	GP4525	GP4526	GP4527		
Sampling Date		2013/05/01 15:50	2013/05/01 14:17	2013/05/01 13:35	2013/05/01 12:40	2013/04/29 13:45		
	UNITS	3	4	5	6	8	RDL	QC Batch

Passive Monitoring								
Calculated H2S	ppb	0.15		0.16			0.02	6904928
Calculated NO2	ppb	0.9	0.9	0.6	2.8	0.3	0.1	6905397
Calculated O3	ppb	32.9	32.8	33.7	30.3	37.4	0.1	6906245
Calculated SO2	ppb	0.2	0.3	0.3	0.3	0.5	0.1	6905417
RDL = Reportable Detection Limit								

Maxxam ID		GP4528	GP4529	GP4530		GP4531		
Sampling Date		2013/04/29 10:57	2013/04/30 10:04	2013/04/30 10:45		2013/04/30 12:12		
	UNITS	9	10	11	QC Batch	12	RDL	QC Batch

Passive Monitoring								
Calculated H2S	ppb		0.08	0.05	6904928	0.07	0.02	6904928
Calculated NO2	ppb	1.3	1.9	0.3	6905831	1.6	0.1	6905831
Calculated O3	ppb	33.3	31.4	31.5	6906245	26.4	0.1	6906245
Calculated SO2	ppb	0.2	0.3	0.2	6905417	0.3	0.1	6905810
RDL = Reportable Detection Limit								

Maxxam ID		GP4532	GP4533	GP4534	GP4535	GP4536		
Sampling Date		2013/04/30 15:55	2013/04/30 16:50	2013/04/30 15:05	2013/05/01 09:55	2013/05/01 11:45		
	UNITS	13	14	15	16	17	RDL	QC Batch

Passive Monitoring								
Calculated H2S	ppb	0.07	0.16		0.09	0.23	0.02	6904928
Calculated NO2	ppb	0.4	0.5	0.6	0.7	1.2	0.1	6905831
Calculated O3	ppb	34.3	34.8	32.7	31.7	31.6	0.1	6906245
Calculated SO2	ppb	0.3	1.0	0.3	0.3	0.4	0.1	6905810
RDL = Reportable Detection Limit								



Maxxam Job #: B347127
 Report Date: 2013/06/17

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
 Client Project #: 2013/05/01 - 2013/05/30
 Site Location: LICA
 Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		GP4537	GP4538		GP4539	GP4540		
Sampling Date		2013/05/01 10:35	2013/05/01 09:15		2013/04/29 15:35	2013/04/30 18:40		
	UNITS	18	19	QC Batch	22	23	RDL	QC Batch

Passive Monitoring								
Calculated H2S	ppb	0.10		6904928	0.07		0.02	6904928
Calculated NO2	ppb	0.6	0.4	6905831	0.7	<0.1	0.1	6905831
Calculated O3	ppb	31.5	32.7	6906245	30.6	28.2	0.1	6906255
Calculated SO2	ppb	0.3	0.3	6905810	0.4	0.2	0.1	6905810
RDL = Reportable Detection Limit								

Maxxam ID		GP4541	GP4542	GP4543	GP4544	GP4545		
Sampling Date		2013/04/29 12:00	2013/04/30 13:25	2013/04/30 16:30	2013/04/30 17:15	2013/04/29 14:20		
	UNITS	24	25	26	27	28	RDL	QC Batch

Passive Monitoring								
Calculated H2S	ppb	0.09	0.06	0.13	0.13		0.02	6904928
Calculated NO2	ppb	1.4				1.8	0.1	6905831
Calculated O3	ppb	32.3				30.5	0.1	6906255
Calculated SO2	ppb	0.3	0.4	0.7	0.7	0.6	0.1	6905810
RDL = Reportable Detection Limit								

Maxxam ID		GP4546	GP4547	GP4548	GP4551	GP4552		
Sampling Date		2013/04/29 15:40	2013/05/01 14:55	2013/04/29 12:20	2013/04/30 16:50	2013/04/30 15:05		
	UNITS	29	32	36	14 DUP	15 DUP	RDL	QC Batch

Passive Monitoring								
Calculated H2S	ppb	0.07	0.10	0.11			0.02	6904928
Calculated NO2	ppb	0.6	0.2	1.5	0.5	0.7	0.1	6905831
Calculated O3	ppb	32.5	37.4	31.6	31.7	32.2	0.1	6906255
Calculated SO2	ppb	0.3	0.3	0.2			0.1	6905810
RDL = Reportable Detection Limit								



Maxxam Job #: B347127
 Report Date: 2013/06/17

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
 Client Project #: 2013/05/01 - 2013/05/30
 Site Location: LICA
 Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		GP4553	GP4554	GP4555	GP4556	GP4557		
Sampling Date		2013/04/30 17:15	2013/04/29 14:20	2013/04/29 15:40	2013/05/01 15:50	2013/05/01 13:35		
	UNITS	27 DUP	28 DUP	29 DUP	3 DUP	5 DUP	RDL	QC Batch

Passive Monitoring								
Calculated H2S	ppb				0.13	0.17	0.02	6904928
Calculated SO2	ppb	0.6	0.5	0.3			0.1	6905810

RDL = Reportable Detection Limit



Maxxam Job #: B347127
Report Date: 2013/06/17

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2013/05/01 - 2013/05/30
Site Location: LICA
Sampler Initials: SB

General Comments

Results relate only to the items tested.



LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
 Attention: MICHAEL BISAGA
 Client Project #: 2013/05/01 - 2013/05/30
 P.O. #:
 Site Location: LICA

Quality Assurance Report
 Maxxam Job Number: PB347127

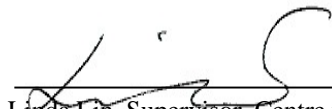
QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
6904928 WC6	Calibration Check	Calculated H2S	2013/06/16		98	%	80 - 120
	Spiked Blank	Calculated H2S	2013/06/16		99	%	N/A
6905397 DF4	Calibration Check	Calculated NO2	2013/06/17		99	%	76 - 118
	Spiked Blank	Calculated NO2	2013/06/17		100	%	N/A
	Method Blank	Calculated NO2	2013/06/17	<0.1		ppb	
6905417 DF4	Calibration Check	Calculated SO2	2013/06/17		100	%	95 - 105
	Spiked Blank	Calculated SO2	2013/06/17		100	%	N/A
	Method Blank	Calculated SO2	2013/06/17	<0.1		ppb	
6905810 DF4	Calibration Check	Calculated SO2	2013/06/17		101	%	95 - 105
	Spiked Blank	Calculated SO2	2013/06/17		101	%	N/A
	Method Blank	Calculated SO2	2013/06/17	<0.1		ppb	
6905831 DF4	Calibration Check	Calculated NO2	2013/06/17		100	%	76 - 118
	Spiked Blank	Calculated NO2	2013/06/17		97	%	N/A
	Method Blank	Calculated NO2	2013/06/17	<0.1		ppb	
6906245 OZ	Calibration Check	Calculated O3	2013/06/17		100	%	91 - 107
	Spiked Blank	Calculated O3	2013/06/17		100	%	N/A
	Method Blank	Calculated O3	2013/06/17	<0.1		ppb	
6906255 OZ	Calibration Check	Calculated O3	2013/06/17		99	%	91 - 107
	Spiked Blank	Calculated O3	2013/06/17		100	%	N/A
	Method Blank	Calculated O3	2013/06/17	<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 #: B347127

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
May 2013

Prepared By:



June 27, 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: May 2013

The monthly ambient data report:

- Prepared by Lili Zhou
- Reviewed by Lily Lin

Calibration Procedure

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

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

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

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

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

- CAL SOP-00211
- CAL SOP-00209
- CAL SOP-00213
- CAL SOP-00214
- CAL SOP-00208

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

MONTHLY CONTINUOUS DATA SUMMARY

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION – MASKWA

Continuous Ambient Monitoring – May 2013

LICA MASKWA SITE						MAXIMUM VALUES							OPERATIONAL TIME (PERCENT)
						1-HOUR					24-HOUR		
PARAMETER	OBJECTIVES		EXCEEDENCES		MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (KPH)	WIND DIRECTION (DEGREES)	READING	DAY	
	1-HR	24-HR	1-HR	24-HR									
SO2 (PPB)	172	48	0	0	0.67	15	21	20	5.9	114(ESE)	2.7	23	100.0
H2S (PPB)	10	3	0	0	0.14	4	VAR	VAR	VAR	VAR	0.8	VAR	100.0
THC (PPM)	-	-	-	-	2.15	6.1	17	6	1.8	308(NW)	2.6	17	99.9
NOx (PPB)	-	-	-	-	2.47	30	3	6	3.6	282(W)	5.1	14	100.0
NO (PPB)	-	-	-	-	0.55	12.3	3	6	3.6	282(W)	1.6	3	100.0
NO ₂ (PPB)	159	-	0	-	1.93	20.7	21	20	5.9	114(ESE)	3.8	23	100.0
VECTOR WS (KPH)	-	-	-	-	5.75	17.7	9	18	-	23(NNE)	9.4	24	100.0
VECTOR WD (DEGREES)	-	-	-	-	118(ESE)	-	-	-	-	-	-	-	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	49.99	92	VAR	VAR	VAR	VAR	79.7	25	100.0
TEMPERATURE (DEG C)	-	-	-	-	13.13	29.4	6	16	13.6	201(SSW)	19.0	6	100.0
BAROMETRIC PRESSURE (MILIBAR)	-	-	-	-	944	959	10	11	10	277(W)	956	10	100.0
PRECIPITATION (MM)	-	-	-	-	0.02	6.7	25	20	5.3	99(E)	9.9	25	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 spanned low on May 1st due to the permeation tube depleting. The monthly calibration was performed on May 9th. The inlet filter was changed before the monthly calibration was started. Following an as found points check was performed on May 16th, the perm tube was changed. 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. The daily span results between May 2nd and 9th went above the +10% of the limited range as the expected span value was setup lower than it should be after the calibration was completed last month. The analyzer responded well on the calibration that was performed on May 9th. The inlet filter was changed before the calibration was started. No data was invalidated due to this issue. 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 May 9th. 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 May 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. Both screens for the rain gauge was installed on May 9th.

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 May 9th.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

MAY 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	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	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	S	0	0	0	0	0	3	1	1	0	0	0	0	0	0	0	0	0	0	2	2	1	3	0.4	24	
2	0	S	0	0	0	0	0	0	0	1	1	1	0	0	1	2	1	2	0	0	0	4	2	1	4	0.7	24	
3	S	0	0	0	0	0	2	6	1	3	1	0	0	0	2	0	0	0	0	0	0	0	0	S	6	0.7	24	
4	1	1	1	0	0	0	1	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0	S	0	3	0.4	24	
5	1	1	1	1	1	1	1	2	2	2	2	1	1	1	1	3	2	1	1	2	1	S	0	0	3	1.3	24	
6	0	0	0	0	0	0	0	0	0	0	2	1	1	1	0	0	0	0	1	1	S	0	0	0	2	0.3	24	
7	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	S	0	0	0	0	1	0	1	0.0	24
9	0	0	0	0	0	0	0	0	C	C	C	C	4	1	1	0	0	S	0	0	0	0	0	4	4	0.5	24	
10	4	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	S	2	1	0	0	1	1	0	4	0.6	24	
11	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	S	0	0	1	0	0	1	0	0	1	0.5	24	
12	0	0	0	0	0	0	0	1	1	1	1	1	1	1	S	0	0	3	5	0	0	0	0	0	5	0.7	24	
13	0	0	0	0	0	0	0	0	0	0	0	0	0	S	2	0	0	0	0	0	0	0	1	3	3	0.3	24	
14	2	3	0	4	0	2	6	11	1	2	1	1	S	0	0	0	0	0	2	0	0	0	0	0	11	1.5	24	
15	0	1	0	0	0	0	0	1	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
16	0	0	0	0	0	0	3	5	C	C	C	4	3	0	1	0	1	1	0	0	1	0	0	5	0.9	24		
17	0	0	0	0	0	0	1	5	7	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0.6	24	
18	0	0	0	0	0	0	0	1	S	1	1	0	0	0	1	0	0	0	2	3	0	0	0	0	3	0.4	24	
19	0	0	0	0	0	0	0	S	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	2	0.1	24	
20	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	1	4	2	0	0	0	0	4	0.3	24	
21	0	0	0	0	0	S	0	0	0	1	0	1	1	1	3	2	1	0	1	1	15	8	7	3	15	2.0	24	
22	0	0	0	0	S	0	0	0	0	2	1	1	1	1	1	2	3	4	7	7	9	3	9	7	9	2.5	24	
23	1	1	0	S	0	0	2	4	1	1	1	2	1	3	2	1	2	4	4	12	14	2	2	1	14	2.7	24	
24	1	2	S	0	0	0	0	0	0	1	2	4	4	1	0	2	4	0	1	1	4	0	0	0	4	1.2	24	
25	0	S	0	0	0	0	0	0	0	0	0	0	1	1	0	1	2	0	0	0	0	0	1	1	2	0.3	24	
26	S	0	0	0	0	0	0	0	3	0	0	0	1	0	1	0	0	0	0	0	0	0	0	S	3	0.2	24	
27	0	0	0	0	0	0	0	1	2	2	1	1	0	1	0	1	1	1	0	0	0	0	S	0	2	0.5	24	
28	0	0	0	0	0	0	0	0	4	2	1	1	1	0	0	0	0	1	0	1	1	S	0	0	4	0.5	24	
29	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	1	0	0	S	0	0	0	2	0.2	24	
30	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	S	0	0	0	0	2	0.2	24	
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	S	4	1	0	0	0	4	0.3	24	
HOURLY MAX	4	3	1	4	1	2	6	11	7	3	2	4	4	3	3	3	4	4	7	12	15	8	9	7				
HOURLY AVG	0.3	0.3	0.1	0.2	0.0	0.1	0.6	1.3	1.1	0.9	0.6	0.7	0.7	0.5	0.7	0.5	0.6	0.7	1.0	1.2	1.6	0.7	0.9	0.7				

STATUS FLAG CODES

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

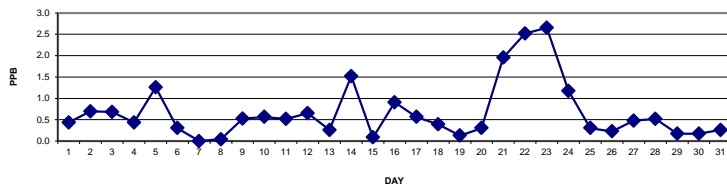
OBJECTIVE LIMIT:

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

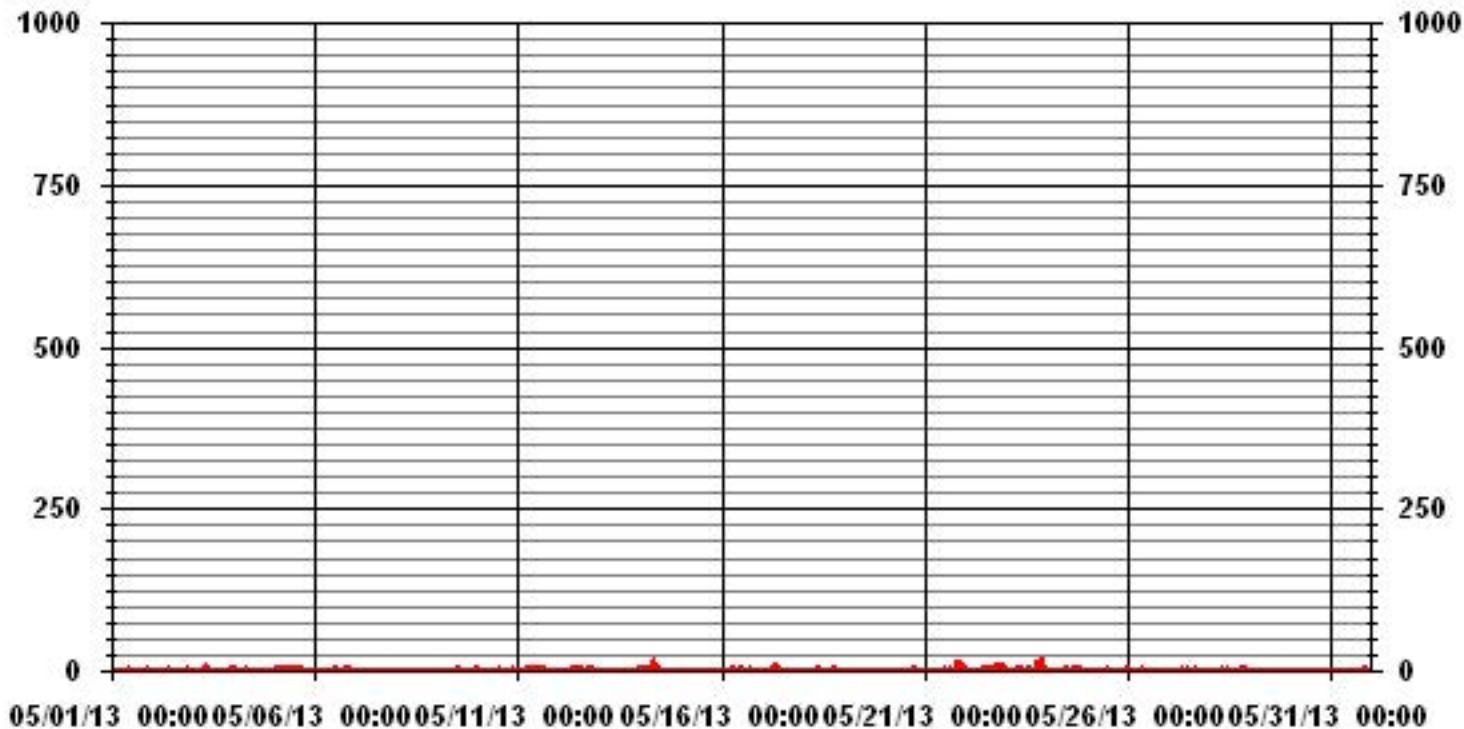
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	224
MAXIMUM 1-HR AVERAGE:	15 PPB @ HOUR(S) 20 ON DAY(S) 21
MAXIMUM 24-HR AVERAGE:	2.7 PPB ON DAY(S) 23
IZS CALIBRATION TIME:	32 HRS
MONTHLY CALIBRATION TIME:	7 HRS
STANDARD DEVIATION:	1.55
OPERATIONAL TIME:	744 HRS
AMD OPERATION UPTIME:	100.0 %
MONTHLY AVERAGE:	0.67 PPB

24 HOUR AVERAGES FOR MAY 2013



01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

MAY 2013

SULPHUR DIOXIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	0	0	S	1	1	1	1	1	2	5	2	1	1	1	0	0	0	0	0	1	3	5	2	2	5	1.3	24	
2	1	S	1	1	1	1	1	1	1	1	2	2	1	1	6	10	8	8	1	1	2	10	6	1	10	3.0	24	
3	S	1	1	1	1	2	11	14	13	13	4	4	3	4	34	4	7	0	1	3	1	1	1	S	34	5.6	24	
4	1	1	0	0	0	0	1	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	5	0.5	24	
5	1	1	1	1	1	1	2	3	3	3	2	1	1	2	10	9	2	3	3	1	S	0	1	10	2.3	24		
6	1	0	0	0	0	1	0	0	0	2	4	3	4	4	1	1	1	1	2	S	0	0	1	4	1.2	24		
7	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	S	1	1	0	0	1	0.3	24	
8	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	S	0	0	1	2	1	2	0.3	24	
9	0	0	0	0	0	0	0	0	C	C	C	C	20	2	2	1	0	S	0	0	0	1	1	21	21	2.5	24	
10	21	2	1	0	0	0	0	0	1	1	1	1	6	3	4	2	S	3	2	1	1	2	2	1	21	2.4	24	
11	1	1	1	1	1	1	2	2	2	1	1	1	1	1	S	0	0	2	2	1	3	1	0	3	1.2	24		
12	1	1	1	1	1	1	1	2	2	1	1	1	1	S	0	0	23	21	1	0	0	0	2	23	2.7	24		
13	1	0	0	0	0	0	0	0	0	0	0	0	0	S	8	6	7	2	0	0	0	0	2	20	2.0	24		
14	20	5	1	7	3	9	28	27	5	14	12	6	S	0	0	3	4	0	14	4	4	0	0	0	28	7.2	24	
15	0	2	1	0	0	0	1	1	2	3	0	S	8	0	0	2	0	1	0	0	0	0	0	0	8	0.9	24	
16	0	0	0	0	0	0	10	9	C	C	C	17	11	1	2	1	1	1	1	1	1	1	1	1	17	2.8	24	
17	1	1	1	1	1	1	5	9	21	S	0	0	3	1	1	1	0	0	0	0	0	0	0	0	21	2.0	24	
18	0	0	0	0	0	0	0	14	S	5	4	0	0	3	6	5	3	9	9	8	1	0	0	0	14	2.9	24	
19	0	0	0	0	0	0	0	S	0	0	0	0	0	29	21	2	2	0	0	0	0	0	0	0	29	2.3	24	
20	0	0	0	0	0	0	S	1	1	1	1	1	1	1	2	1	2	4	13	6	1	1	1	1	13	1.7	24	
21	1	1	1	1	1	S	0	0	2	5	4	6	4	7	9	7	4	1	5	9	24	14	13	9	24	5.6	24	
22	0	0	0	0	S	0	0	0	3	6	5	4	6	5	6	8	9	8	11	12	13	7	17	14	17	5.8	24	
23	4	5	0	S	1	1	5	6	4	6	5	5	5	8	5	6	7	8	8	17	20	4	3	2	20	5.9	24	
24	1	9	S	1	1	4	0	0	1	6	7	8	8	7	1	10	8	1	3	3	7	1	0	0	10	3.8	24	
25	0	S	0	0	0	1	0	1	1	1	3	1	4	3	2	4	4	3	0	3	2	0	4	4	4	1.8	24	
26	S	0	1	1	0	1	1	2	8	1	3	1	6	3	3	1	1	1	0	0	0	0	0	S	8	1.5	24	
27	0	0	0	1	1	1	1	2	4	6	1	4	1	3	2	3	3	3	3	3	1	1	1	S	1	6	1.9	24
28	1	1	1	1	1	1	1	1	12	8	2	3	2	1	1	1	1	1	1	2	S	0	0	0	12	1.9	24	
29	0	0	0	0	0	0	0	0	4	2	2	2	2	1	0	0	6	5	4	0	S	0	0	0	6	1.1	24	
30	0	0	0	0	0	0	3	3	3	3	4	0	1	2	0	1	0	0	0	S	0	0	0	0	4	0.9	24	
31	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1	12	S	11	2	1	1	1	12	1.4	24	
HOURLY MAX	21	9	1	7	3	9	28	27	21	14	12	17	20	29	34	10	9	23	21	17	24	14	17	21				
HOURLY AVG	2.0	1.1	0.4	0.6	0.5	0.9	2.5	3.4	3.6	3.4	2.4	2.5	3.4	3.1	4.0	3.0	2.9	3.2	3.6	3.1	3.0	1.9	2.0	2.9				

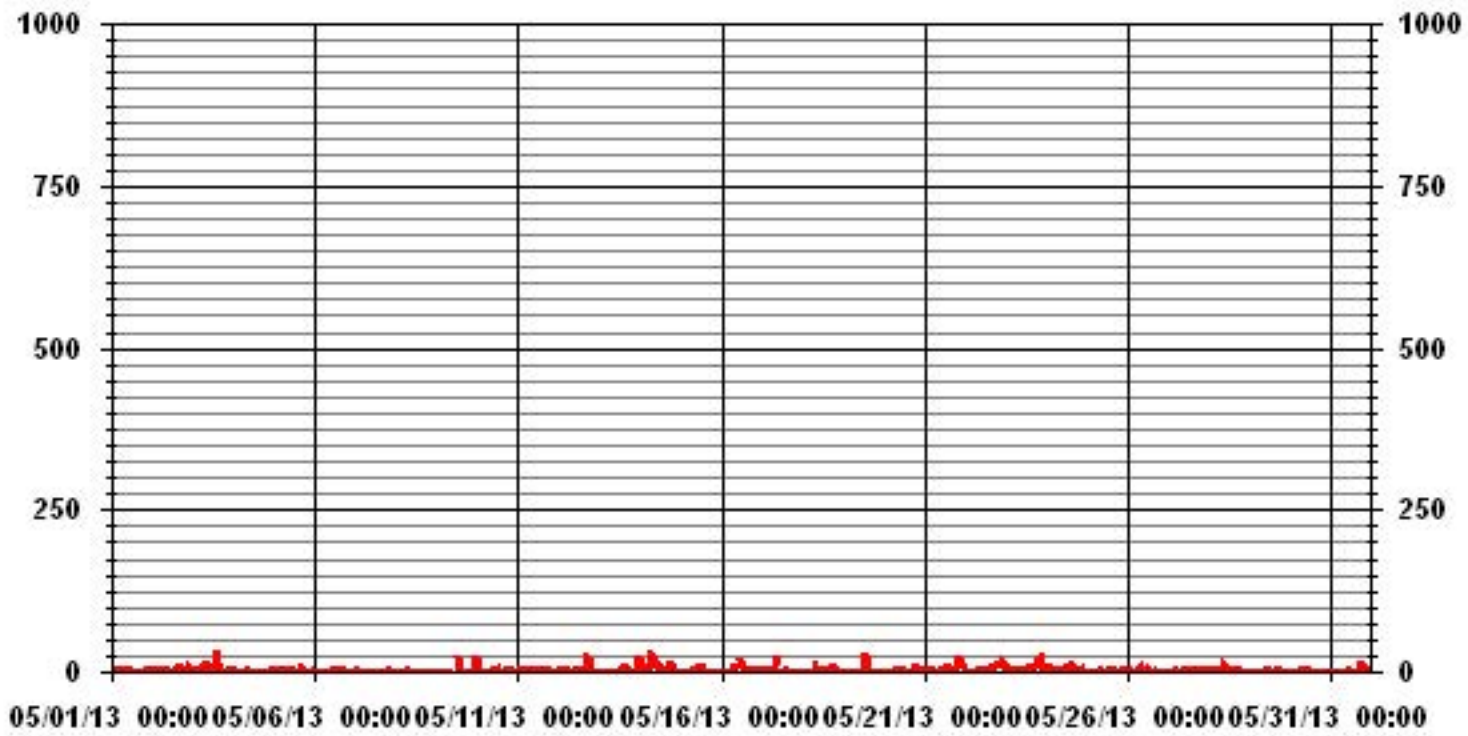
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	447
MAXIMUM INSTANTANEOUS VALUE:	34 PPB @ HOUR(S) 14 ON DAY(S) 3
IZS CALIBRATION TIME:	32 HRS
MONTHLY CALIBRATION TIME:	7 HRS
STANDARD DEVIATION:	4.34
OPERATIONAL TIME:	744 HRS

01 Hour Averages



— LICA30 SO2MAX PPB

LICA30
 SO2_ / WDR Joint Frequency Distribution (Percent)

May 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	5.24	3.40	7.80	10.63	9.50	11.06	7.23	6.66	5.95	9.36	4.53	2.55	4.53	5.81	2.41	3.26	100.00
< 60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 170	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.24	3.40	7.80	10.63	9.50	11.06	7.23	6.66	5.95	9.36	4.53	2.55	4.53	5.81	2.41	3.26	

Calm : .00 %

Total # Operational Hours : 705

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	37	24	55	75	67	78	51	47	42	66	32	18	32	41	17	23	705
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	37	24	55	75	67	78	51	47	42	66	32	18	32	41	17	23	

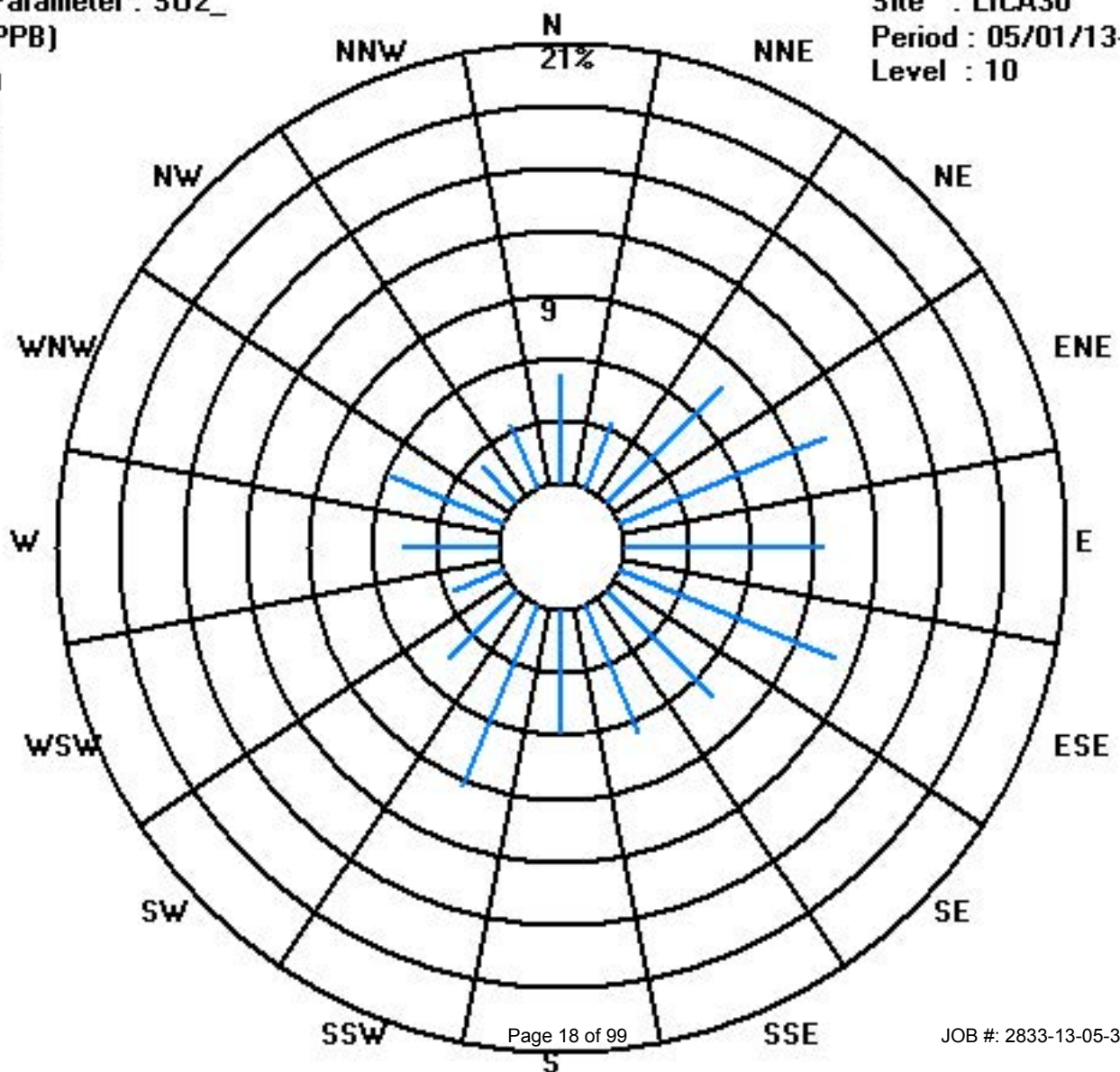
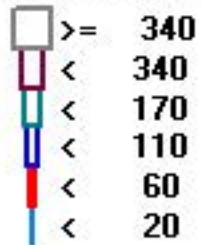
Calm : .00 %

Total # Operational Hours : 705

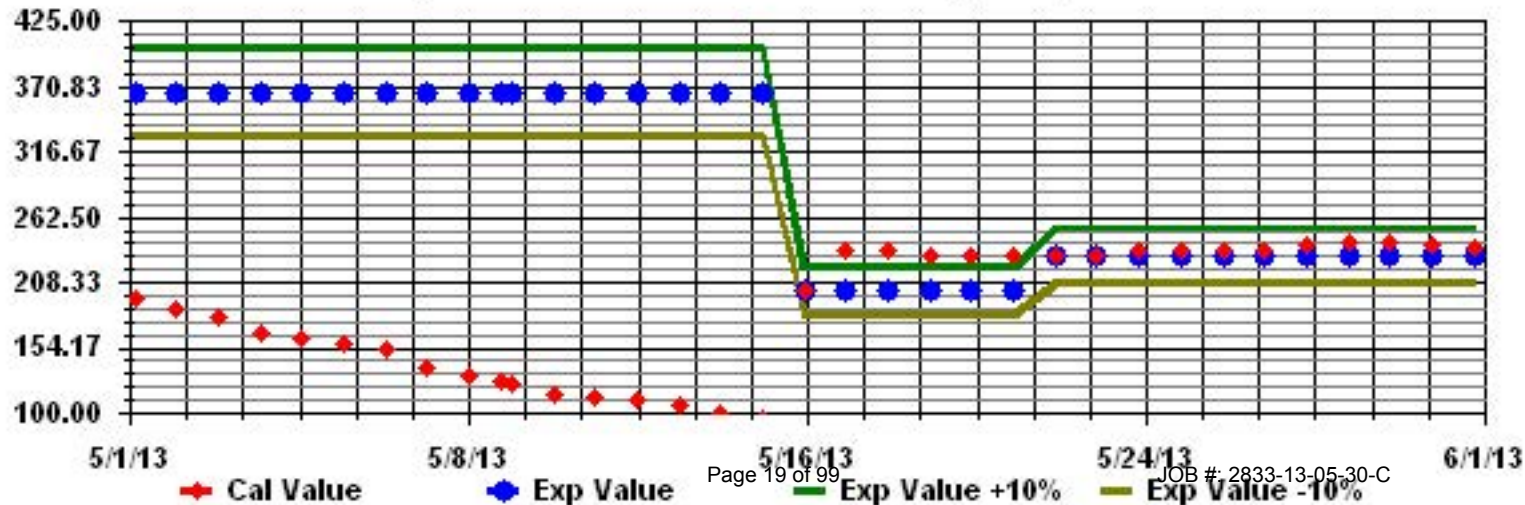
Class Limits (PPB)

Period : 05/01/13-05/31/13

Level : 10



Calibration Graph for Site: LICA30 Parameter: S02_ Sequence: S02 Phase: SPAN



Hydrogen Sulphide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

MAY 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	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	0.0	24
2	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	0.0	24
3	S	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	0.0	24	
4	0	0	1	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	2	0.2	24	
5	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	S	0	0	1	0.1	24	
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	S	0	0	0	1	0.1	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	C	C	C	C	C	C	0	0	0	S	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	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	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	1	1	0	0	0	0	1	0	0	1	0.1	24	
13	1	0	0	0	0	0	0	0	0	0	0	1	0	S	0	0	0	0	1	0	0	0	0	1	1	1	0.2	24	
14	0	0	0	1	0	1	1	0	0	0	0	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
15	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	
16	0	0	1	0	0	0	2	1	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2	24
17	0	1	1	1	2	1	4	2	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0.5	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	0.0	24
19	0	1	1	1	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.2	24
20	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	1	0	4	0.3	24	
21	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	0.0	24
22	0	0	0	0	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	24
23	1	2	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0.3	24	
24	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	0.0	24
25	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	0.0	24
26	S	0	0	1	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	S	4	0.4	24	
27	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	S	1	1	0.2	24	
28	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	1	0.3	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	1	1	0.0	24	
30	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	1	0.2	24	
31	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	
HOURLY MAX		1	2	1	1	2	1	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	1			
HOURLY AVG		0.1	0.2	0.2	0.2	0.1	0.2	0.4	0.3	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.2			

STATUS FLAG CODES

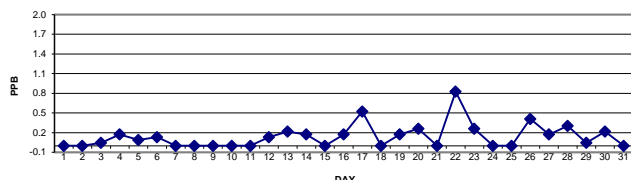
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

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

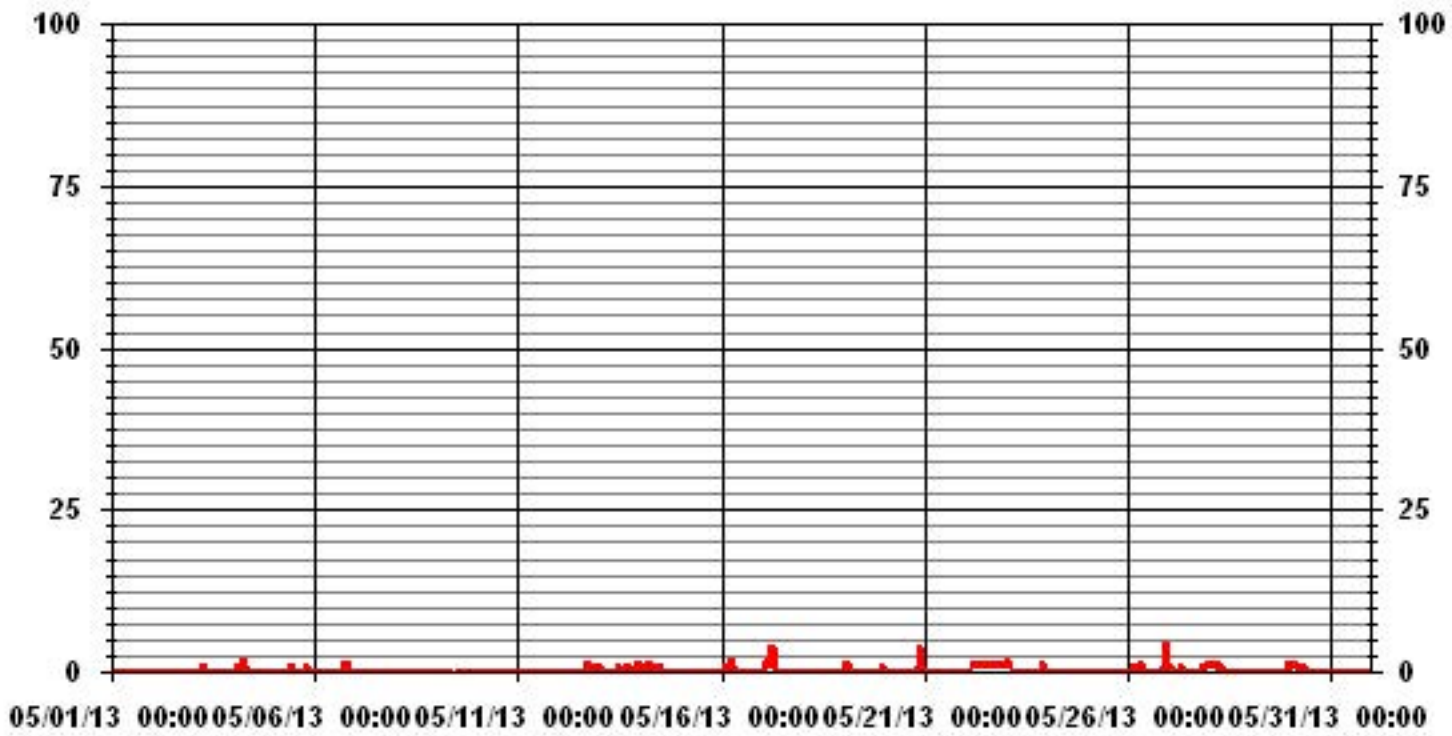
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	85					
MAXIMUM 1-HR AVERAGE:	4	PPB	@ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 24-HR AVERAGE:	0.8	PPB			ON DAY(S)	VAR
					VAR-VARIOUS	
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	744	HRS	
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	0.43		MONTHLY AVERAGE:	0.14	PPB	

24 HOUR AVERAGES FOR MAY 2013



01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

MAY 2013

HYDROGEN SULPHIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	0	0	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
2	0	S	0	0	0	0	0	0	1	0	0	1	1	0	0	1	1	1	0	0	0	0	1	1	0	1	0.3	24
3	S	1	0	0	0	1	1	1	0	1	0	0	0	0	1	0	0	0	0	0	0	1	1	0	S	1	0.4	24
4	0	0	2	1	1	1	4	2	0	0	0	0	0	0	0	1	1	0	0	0	0	0	S	1	4	0.6	24	
5	1	1	0	0	0	1	1	1	1	1	1	1	0	0	0	1	0	1	0	1	1	1	S	1	1	1	0.7	24
6	1	1	0	0	0	1	1	0	0	1	0	0	1	1	1	1	1	1	2	3	S	1	2	2	3	0.9	24	
7	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	S	0	0	0	0	0	1	0.1	24
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	S	0	0	0	0	0	0	1	0.1	24
9	0	0	0	0	0	0	0	0	C	C	C	C	C	0	0	0	0	S	0	0	0	0	0	0	2	2	0.1	24
10	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	1	1	2	0.2	24
11	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	S	1	0	0	0	0	0	0	0	1	1	0.2	24
12	0	0	0	0	1	1	1	0	0	0	1	1	1	1	S	1	1	1	1	0	1	1	1	1	1	1	0.7	24
13	1	2	0	0	0	0	1	1	1	1	1	1	1	S	1	1	1	1	1	0	1	1	1	1	1	2	0.8	24
14	1	1	1	1	1	1	1	1	1	1	1	1	1	S	0	1	1	0	0	0	1	1	0	0	0	1	0.7	24
15	0	1	1	1	0	1	1	0	1	1	0	S	0	0	0	1	0	1	1	0	0	0	0	0	0	1	0.4	24
16	0	1	1	1	1	1	3	2	0	1	S	0	0	1	0	0	0	0	0	1	1	1	1	1	1	3	0.7	24
17	1	2	1	2	3	2	11	4	1	S	1	0	0	0	0	0	0	0	0	0	0	1	0	1	1	11	1.3	24
18	1	0	0	1	0	0	0	1	S	1	1	0	0	1	0	1	0	0	0	1	1	1	0	0	1	0.4	24	
19	0	1	2	2	1	1	0	S	0	0	0	0	0	1	0	1	1	0	0	0	0	0	1	2	2	2	0.6	24
20	0	0	1	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	2	3	5	3	0	5	0.6	24	
21	0	0	0	0	0	S	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.1	24	
22	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
23	1	3	0	S	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	2	0	3	0.4	24	
24	0	0	S	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	1	1	0	0	0	0	0	1	0.2	24
25	0	S	1	0	0	0	1	0	0	1	0	0	0	1	0	1	1	1	1	3	1	1	1	1	3	0.6	24	
26	S	1	1	1	2	2	1	1	1	1	1	0	0	0	1	0	0	1	0	0	4	6	S	6	6	1.1	24	
27	1	1	1	0	1	1	1	1	1	1	0	0	1	0	0	1	0	0	1	0	1	1	S	2	2	0.7	24	
28	1	2	2	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0	1	S	0	0	2	0.9	24	
29	0	1	1	0	0	0	1	1	0	1	1	1	1	0	0	0	0	1	1	1	S	0	0	1	1	0.5	24	
30	1	1	2	1	1	0	2	1	1	1	1	1	0	0	0	0	0	0	0	S	1	0	1	1	2	0.7	24	
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	0	1	0	0	1	0.1	24	
HOURLY MAX	2	3	2	2	3	2	11	4	1	1	1	1	1	1	1	1	1	1	2	3	3	5	6	2				
HOURLY AVG	0.4	0.7	0.6	0.4	0.4	0.5	1.1	0.6	0.4	0.5	0.4	0.3	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.4	0.6	0.7	0.8	0.7				

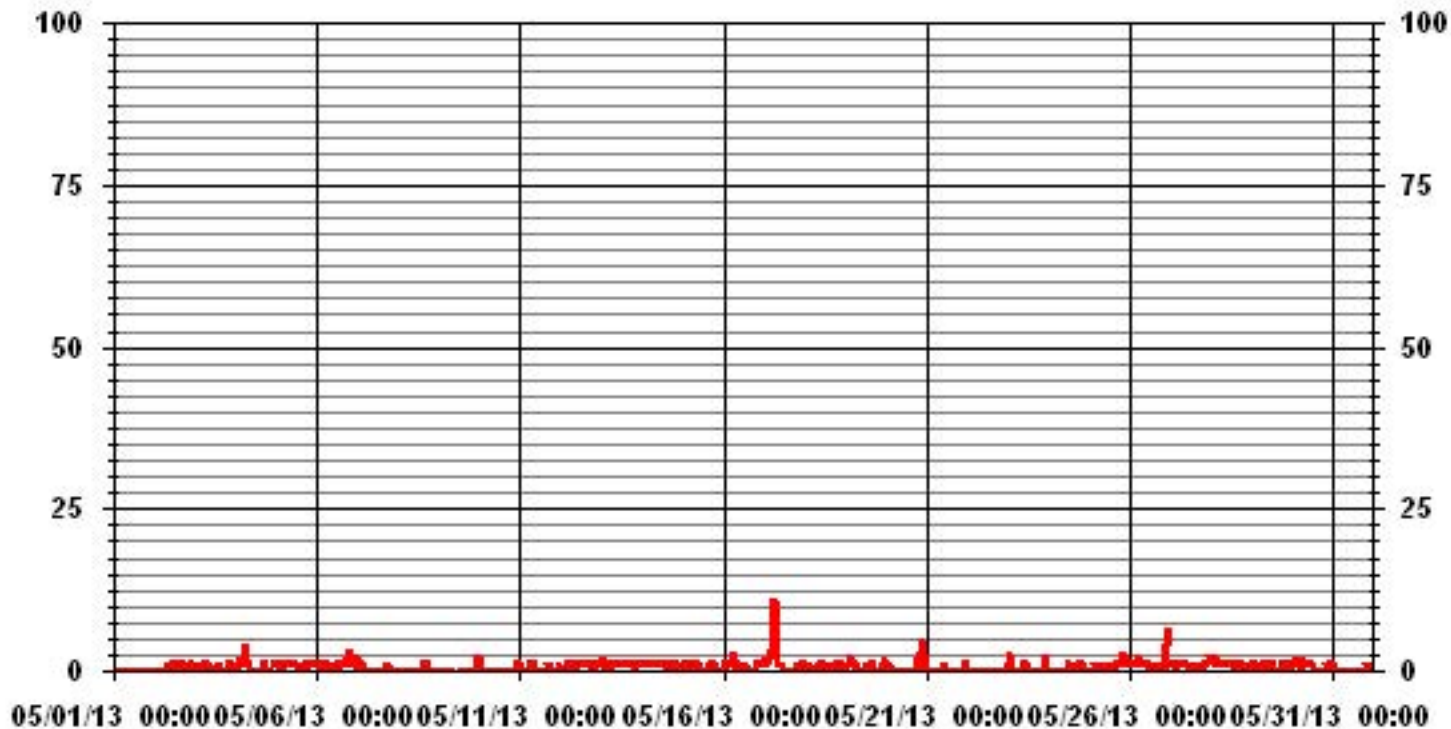
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	282				
MAXIMUM INSTANTANEOUS VALUE:	11	PPB	@ HOUR(S)	6	ON DAY(S) 17
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	744	HRS
MONTHLY CALIBRATION TIME:	5	HRS			
STANDARD DEVIATION:	0.81				

01 Hour Averages



LICA30
H2S_ / WDR Joint Frequency Distribution (Percent)

May 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
Instrument Height : 10 Meters

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 3	5.24	3.39	7.79	10.62	9.49	10.90	7.08	6.65	5.94	9.34	4.53	2.54	4.53	5.94	2.40	3.11	99.57
< 10	.00	.00	.00	.00	.00	.14	.14	.00	.00	.00	.00	.00	.00	.00	.14	.00	.42
< 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.24	3.39	7.79	10.62	9.49	11.04	7.22	6.65	5.94	9.34	4.53	2.54	4.53	5.94	2.54	3.11	

Calm : .00 %

Total # Operational Hours : 706

Distribution By Samples

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 3	37	24	55	75	67	77	50	47	42	66	32	18	32	42	17	22	703
< 10						1	1								1		3
< 50																	
>= 50																	
Totals	37	24	55	75	67	78	51	47	42	66	32	18	32	42	18	22	

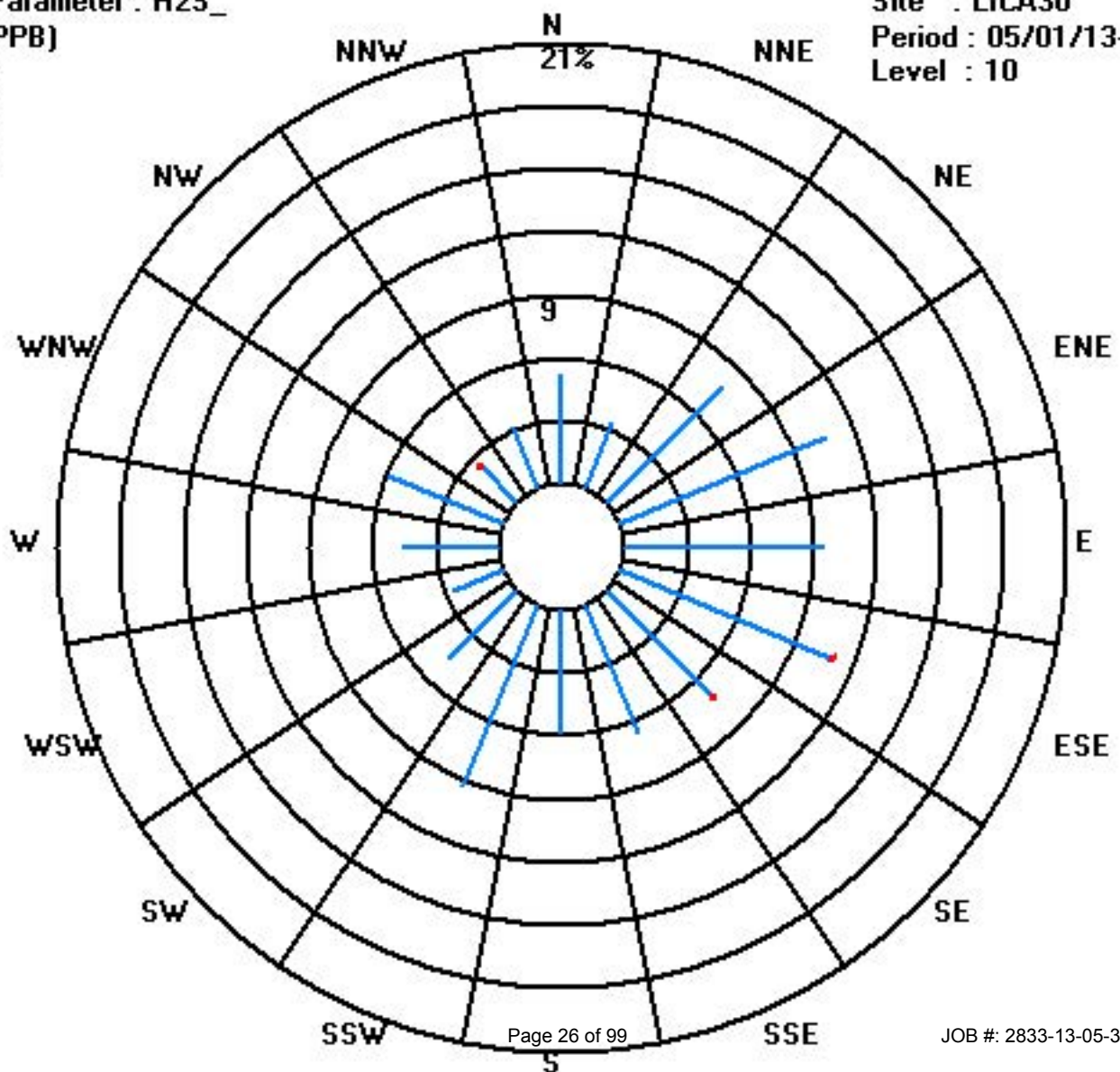
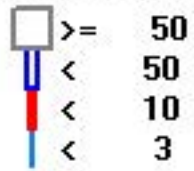
Calm : .00 %

Total # Operational Hours : 706

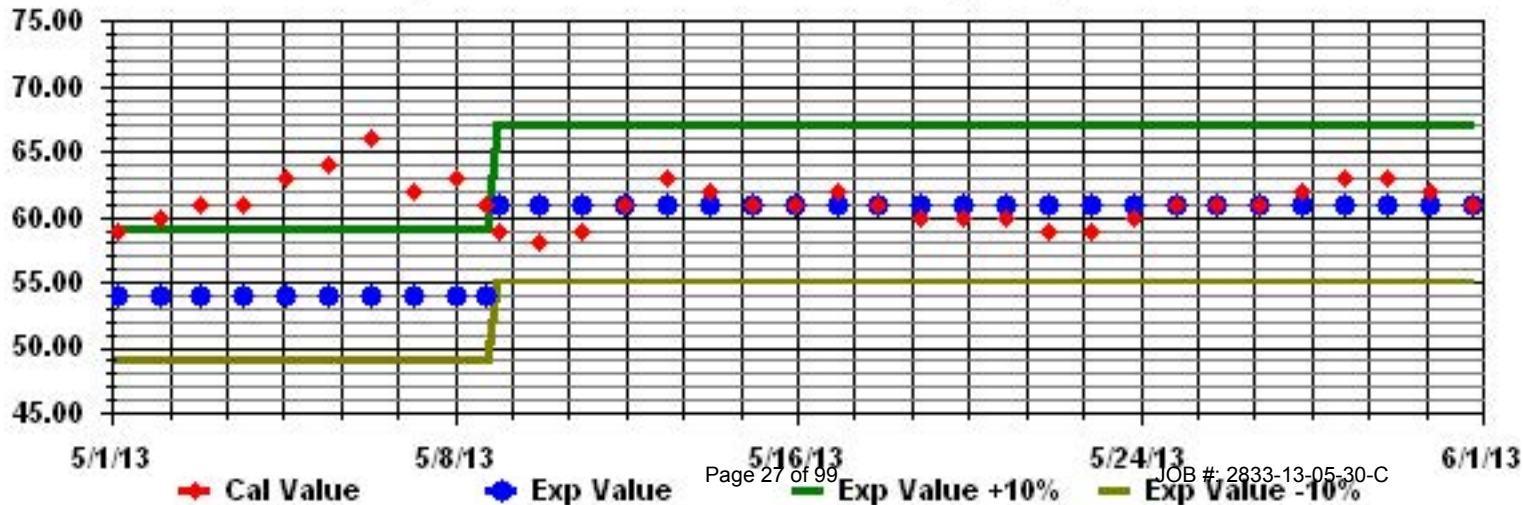
Class Limits (PPB)

Period : 05/01/13-05/31/13

Level : 10



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



Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -MASKWA

MAY 2013

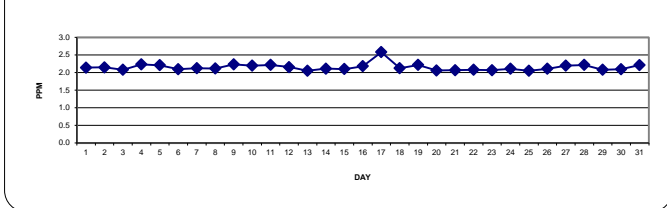
TOTAL HYDROCARBONS hourly averages in ppm

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	23:00	DAILY 24-HOUR			
DAY	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	2.1	S	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.3	2.1	2.4		
2	2.3	S	2.3	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.1	2.1	2	2	2	2.1	2.1	2.1	2	2	2	2	2.6	2.2	2	2.6	2.1	24		
3	S	2	2.1	2.1	2.1	2.2	2.2	2.1	2	2.1	2	2	2	2	2	2	2	2	2	2	2	2.4	2.3	2.1	S	2.4	2.1	23		
4	2.3	2.4	2.8	2.3	2.3	2.5	3.6	2.5	2.1	2	2.1	2.1	2	2	2	2	2	2	2	2	2	2	2	2	S	2.4	3.6	2.2	24	
5	2.5	2.4	2.4	2.3	2.2	2.2	2.3	2.3	2.3	2.3	2.4	2	2	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2	S	2.2	2.2	2.5	2.2	24		
6	2.2	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2	2.1	2.1	2.1	2.1	2.1	2	2	2	2	S	2.1	2.1	2.2	2.3	2.1	24		
7	2.1	2	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	S	2.1	2.1	2.1	2.1	2.2	2.1	24		
8	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	2.1	2.1	2.1	2.1	2.1	S	2.1	2.1	2.1	2.1	2.2	2.2	2.1	24		
9	2.2	2.2	2.3	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	C	C	C	2.2	2.2	2.1	S	2.1	2.1	2.1	2.1	2.1	2.1	2.4	2.4	2.2	24		
10	2.3	2.2	2.2	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	S	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.2	24	
11	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	S	2.2	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2	24	
12	2.2	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	S	2.1	2.1	2.1	2.1	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.2	2.3	2.2	24
13	2.2	2.1	2	2	2	2	2	2	2	2.1	2	2	2	S	2.1	2.1	2.1	2	2	2	2	2	2	2	2.2	2.2	2.2	2.0	24	
14	2.1	2.1	2.2	2.4	2.2	2.4	2.3	2.2	2.1	2.2	2	2.1	S	2	2	2	2	2	2	2	2	2	2.1	2	2.1	2.1	2.4	2.1	24	
15	2.1	2.3	2.2	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.1	S	2.1	2	2	2.1	2	2	2	2	2	2	2	2.1	2.1	2.2	2.3	2.1	24	
16	2.2	2.2	2.3	2.3	2.3	2.4	3.3	2.3	2.2	2.1	S	2	2	2	2	2	2	2	2.1	2	2	2	2	2.1	2.1	2.3	3.3	2.2	24	
17	2.5	2.5	2.8	3.5	4	3.9	6.1	3.4	2.2	S	2	2	2	2	2.1	2	2	2	2	2	2	2	2	2.1	2.1	2.1	6.1	2.6	24	
18	2.1	2.1	2.2	2.2	2.2	2.2	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	2.1	2.1	2.2	2.2	2.1	24	
19	2.3	2.8	2.9	2.5	2.3	2.4	2.4	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.1	2.1	2.4	2.8	2.9	2.2	24	
20	2.2	2.1	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	2	2	2	2	2.2	2.1	24	
21	2.1	2	2	2.1	2.1	S	2	2	2	2	2	2	2	2	2	2.1	2	2	2	2	2	2.1	2.3	2.2	2.2	2.3	2.3	2.1	24	
22	2	2	2	2.1	S	2.1	2	2	2	2.1	2	2	2	2	2	2.1	2.1	2.1	2.2	2.2	2.3	2.2	2.3	2.1	2.3	2.1	2.3	2.1	24	
23	2	2.2	2.1	S	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2	2	2	2	2.1	2.1	2.3	2.2	2	2.1	2	2.3	2.1	24		
24	2.1	2.1	S	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2	2	2	2.3	2.1	24		
25	2	S	2	2	2	2	2	2	2	2.1	2.1	2.1	2	2.1	2	2.1	2.1	2	2	2	2	2.1	2	2.2	2.2	2.2	2.0	24		
26	S	2.2	2.1	2.2	2.3	2.5	2.2	2.1	2.1	2	2	2	2.1	2	2	2	2	2	2	2	2	2	2.1	2.2	2.3	S	2.5	2.1	24	
27	2.3	2.4	2.3	2.3	2.4	2.3	2.3	2.3	2.4	2.3	2.2	2.1	2	2	2	2	2	2.1	2	2	2	2.3	2.4	S	2.4	2.4	2.2	24		
28	2.5	2.6	2.8	2.5	2.6	2.8	2.3	2.3	2.3	2.2	2.1	2	2	2	2	2	2	2	2	2	2	2.2	S	2	2.1	2.8	2.2	24		
29	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2	2	2	2	2	2	2	2	2	2	2.1	2	2	2	S	2.2	2.2	2.3	2.3	2.1	24	
30	2.3	2.4	2.3	2.2	2.1	2.1	2.1	2	2.1	2.1	2	2	2	2	2.1	2	2	2	2	2	S	2.1	2.1	2.1	2.1	2.4	2.1	24		
31	2.1	2.2	2.3	2.3	2.3	2.3	2.4	2.7	2.3	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	S	2.1	2.1	2.2	2.2	2.2	2.7	2.2	24		
HOURLY MAX	2.5	2.8	2.9	3.5	4.0	3.9	6.1	3.4	2.3	2.3	2.4	2.2	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.4	2.6	2.4	2.8					
HOURLY AVG	2.2	2.2	2.3	2.2	2.3	2.3	2.4	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.2					

STATUS FLAG CODES

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

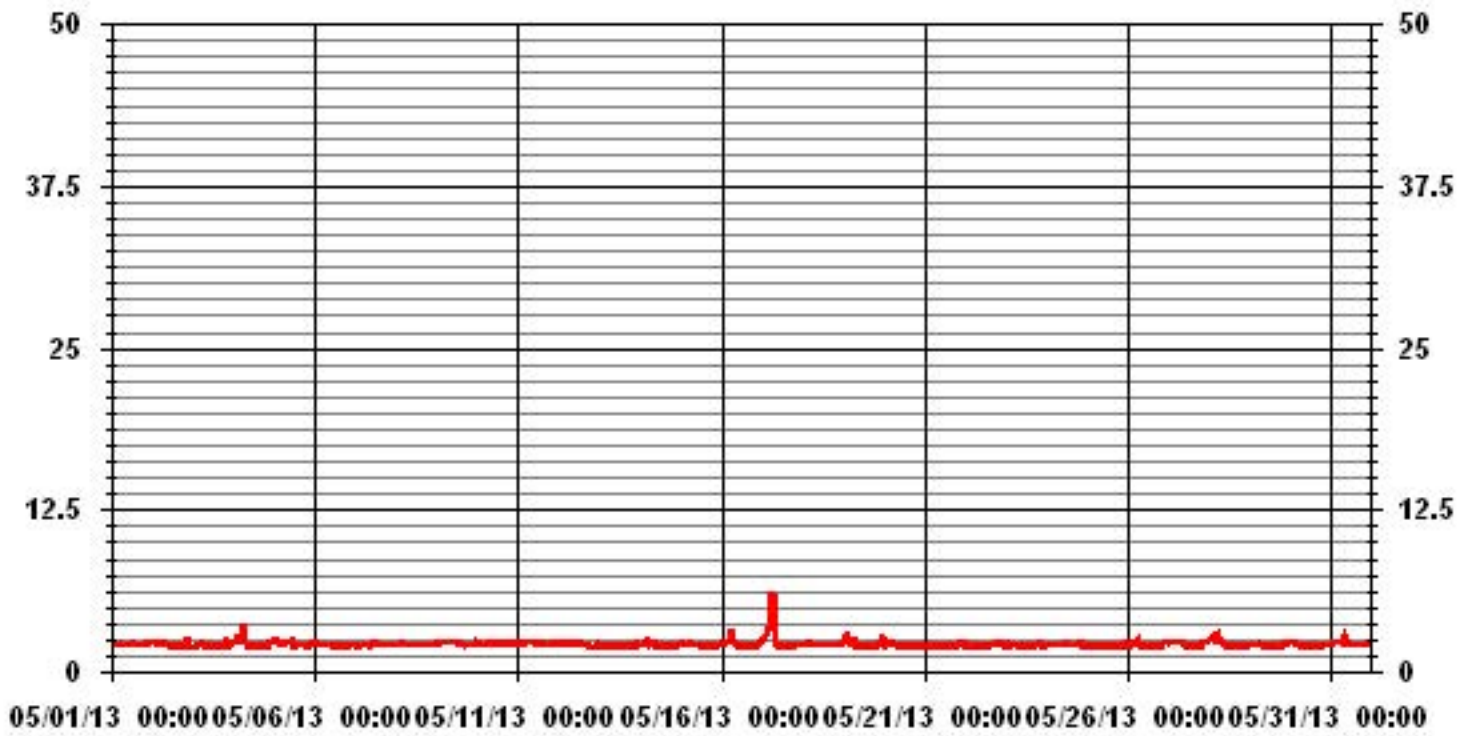
24 AVERAGES FOR MAY 2013



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	708
MAXIMUM 1-HR AVERAGE:	6.1 PPM @ HOUR(S) 6 ON DAY(S) 17
MAXIMUM 24-HR AVERAGE:	2.6 PPM ON DAY(S) 17
	VAR- VARIOUS
IZS CALIBRATION TIME:	33 HRS
MONTHLY CALIBRATION TIME:	3 HRS
STANDARD DEVIATION:	0.25
OPERATIONAL TIME:	743 HRS
AMD OPERATION UPTIME:	99.9 %
MONTHLY AVERAGE:	2.15 PPM

01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

MAY 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	S	2.1	2.2	2.3	2.2	2.2	2.2	2.1	2.1	2.2	2.2	2.2	2.2	2.1	2.1	2.2	2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.2	2.4	
2	2.3	S	2.3	2.3	2.2	2.3	2.3	2.3	2.2	2.1	2.1	2	2	2.3	2.3	2.3	2.3	2.3	2.2	2.4	3.4	3.2	2.1	3.4	2.3	2.4		
3	S	2.1	2.1	2.1	2.2	2.4	2.7	2.6	2.1	2.3	2.3	2.1	2.1	2.5	2.2	2.2	2	2	2.1	3.7	3	2.2	S	3.7	2.3	2.4		
4	2.5	2.5	4.2	2.5	2.5	2.7	5.1	3.4	2.2	2.1	2.2	2.1	2.1	2	2	2	2	2	2	2	2.1	S	2.5	5.1	2.5	2.4		
5	2.5	2.5	2.5	2.3	2.2	2.3	2.3	2.4	2.4	2.5	2.2	2.1	2.4	2.3	2.4	2.4	2.3	2.4	2.2	2	S	2.3	2.2	2.5	2.3	2.4		
6	2.6	2.7	2.2	2.2	2.1	2.3	2.1	2.1	2.1	2.2	2.4	2.1	2.4	2.1	2.1	2	2	2	2	S	2.1	2.2	2.9	2.9	2.2	2.4		
7	2.2	2.1	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.2	S	2.1	2.1	2.2	2.1	2.3	2.2	2.4		
8	2.1	2.3	2.7	2.5	2.2	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	S	2.1	2.1	2.2	2.2	2.2	2.7	2.2	2.4	
9	2.2	2.3	2.4	2.4	2.4	2.5	2.4	2.3	2.3	2.3	2.3	C	C	C	C	2.2	2.2	S	2.1	2.1	2.1	2.2	2.9	2.9	2.3	2.4		
10	2.9	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	S	2.2	2.2	2.2	2.4	2.4	2.4	2.9	2.3	2.4		
11	2.4	2.2	2.2	2.4	2.5	2.4	2.3	2.4	2.4	2.3	2.3	2.3	2.2	2.2	2.2	S	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.5	2.3	2.4		
12	2.4	2.4	2.4	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	S	2.2	2.1	2.4	3.3	1.9	1.9	1.9	2.2	2.2	3.3	2.3	2.4		
13	2.3	2.3	2	2	2	2	2	2.2	2.4	2.1	2.3	2.3	S	2.3	2.3	2.2	2.2	2.1	2	2.1	2	3.1	3	3.1	2.2	2.4		
14	2.2	2.2	3	2.6	2.4	3	3	2.6	2.4	2.7	2.3	2.4	S	2.1	2.2	2.2	2.2	2	2	2	2.3	2.2	2.1	2.1	3	2.4	2.4	
15	2.2	2.6	2.3	2.3	2.2	2.2	2.4	2.2	2.2	2.2	2.4	S	2.3	2.1	2	2.3	2.1	2.1	2.2	2.1	2.1	2.1	2.2	3.2	3.2	2.3	2.4	
16	2.2	2.3	2.4	2.4	2.4	2.5	5.2	2.7	2.4	2.3	S	2.2	2.1	2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.4	2.6	5.2	2.4	2.4	
17	2.6	2.7	3.3	4	4.4	4.4	17.2	6.3	2.4	S	2.1	2.1	2.1	2.2	2.1	2	2.1	2.1	2.1	2.1	2.2	2.2	2.4	2.2	17.2	3.4	2.4	
18	2.2	2.3	2.3	2.5	2.3	2.3	2.2	2.4	S	2.3	2.3	2.1	2.1	2.3	2.3	2.2	2.2	2.3	2.4	2.3	2.1	2.1	2.2	2.3	2.5	2.3	2.4	
19	2.6	3.2	3.4	2.7	2.5	3	2.5	S	2	2	2	2	2	2.3	2.1	2.2	2.1	2.1	2	2.1	2.1	4.5	5.1	5.1	2.5	2.4		
20	2.3	2.3	2.4	2.3	2.2	2.2	S	2.3	2.1	2	2.2	2	2.1	2	2	2	2.1	2.2	2.2	2.1	2	2	2.1	2	2.4	2.1	2.4	
21	2.9	2.1	2.1	2.2	2.1	S	2.1	2	2.1	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.6	2.5	2.6	2.6	2.9	2.3	2.4
22	2.1	2.1	2.1	2.1	S	2.1	2	2.1	2.2	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.3	2.3	2.4	2.4	2.5	2.4	2.6	2.4	2.6	2.2	2.4
23	2	2.5	2.1	S	2.1	2.1	2.2	2.3	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.4	2.4	2	2.6	2.2	2.6	2.2	2.4	
24	2.2	2.4	S	2.3	2.1	2.4	2.1	2.1	2.2	2.3	2.3	2.3	2.4	2.3	2.1	2.4	2.3	2.1	2.2	2.4	2.6	2.1	2.1	2.1	2.6	2.3	2.4	
25	2.1	S	2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.1	2.3	2.4	2.2	2.3	2.3	2.2	2	2.3	2.4	2.1	2.6	2.4	2.6	2.2	2.4	
26	S	2.4	2.2	2.4	3	2.7	2.4	2.1	2.3	2.1	2.1	2.1	2.2	2.1	2.2	2.1	2.1	2.1	2	2.1	2.1	2.7	2.5	S	3	2.3	2.4	
27	2.5	2.6	2.5	2.4	3	2.5	2.4	2.6	2.4	2.4	2.1	2.2	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.4	2.6	2.6	S	2.7	3	2.4	2.4	
28	2.6	2.8	3.2	2.7	3.2	3.2	2.4	2.5	2.7	2.2	2	2.1	2.2	2	2	2	2	2	2	2.2	2.6	S	2.1	2.1	3.2	2.4	2.4	
29	2.1	2.1	2.1	2.1	2.4	2.4	2.2	2	2.2	2.1	2.1	2.1	2.1	2.1	2	2	2.2	2.2	2.1	2.1	S	2.2	2.3	2.7	2.7	2.2	2.4	
30	2.4	2.7	2.4	2.9	2.3	2.3	2.4	2.1	2.1	2.2	2.3	2.1	2.1	2.2	2	2.1	2	2	2	S	2.2	2.2	2.2	2.3	2.9	2.2	2.4	
31	2.5	2.3	2.6	2.5	2.4	2.5	2.6	3.8	2.4	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.2	S	2.2	2.2	2.2	2.4	2.3	3.8	2.4	2.4	
HOURLY MAX	2.9	3.2	4.2	4.0	4.4	4.4	17.2	6.3	2.7	2.7	2.5	2.4	2.4	2.4	2.5	2.4	2.4	2.4	3.3	2.4	3.7	3.4	4.5	5.1				
HOURLY AVG	2.4	2.4	2.5	2.4	2.4	2.5	3.0	2.5	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.4	2.5				

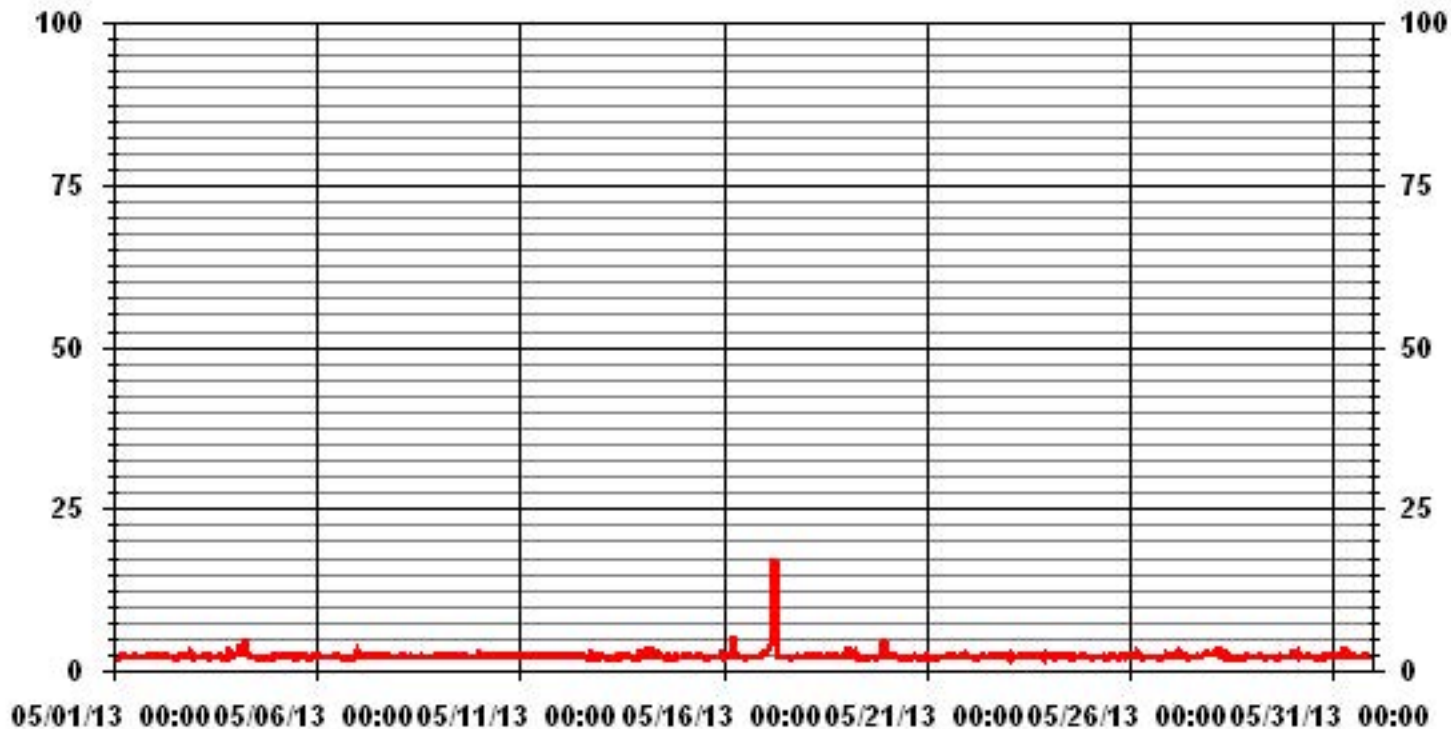
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	707					
MAXIMUM INSTANTANEOUS VALUE:	17.2	PPM	@ HOUR(S)	6	ON DAY(S)	17
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	744	HRS	
MONTHLY CALIBRATION TIME:	4	HRS				
STANDARD DEVIATION:	0.68					

01 Hour Averages



— LICA30 THCMAX PPM

LICA30
 THC / WDR Joint Frequency Distribution (Percent)

May 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
 Instrument Height : 10 Meters

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 3.0	5.22	3.24	7.76	10.45	9.32	11.01	7.06	6.63	5.79	9.46	4.51	2.54	4.66	5.79	2.40	3.10	99.01
< 10.0	.00	.14	.00	.00	.14	.00	.14	.00	.14	.14	.00	.00	.00	.14	.14	.00	.98
< 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.22	3.38	7.76	10.45	9.46	11.01	7.20	6.63	5.93	9.60	4.51	2.54	4.66	5.93	2.54	3.10	

Calm : .00 %

Total # Operational Hours : 708

Distribution By Samples

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 3.0	37	23	55	74	66	78	50	47	41	67	32	18	33	41	17	22	701
< 10.0		1			1		1		1	1				1	1		7
< 50.0																	
>= 50.0																	
Totals	37	24	55	74	67	78	51	47	42	68	32	18	33	42	18	22	

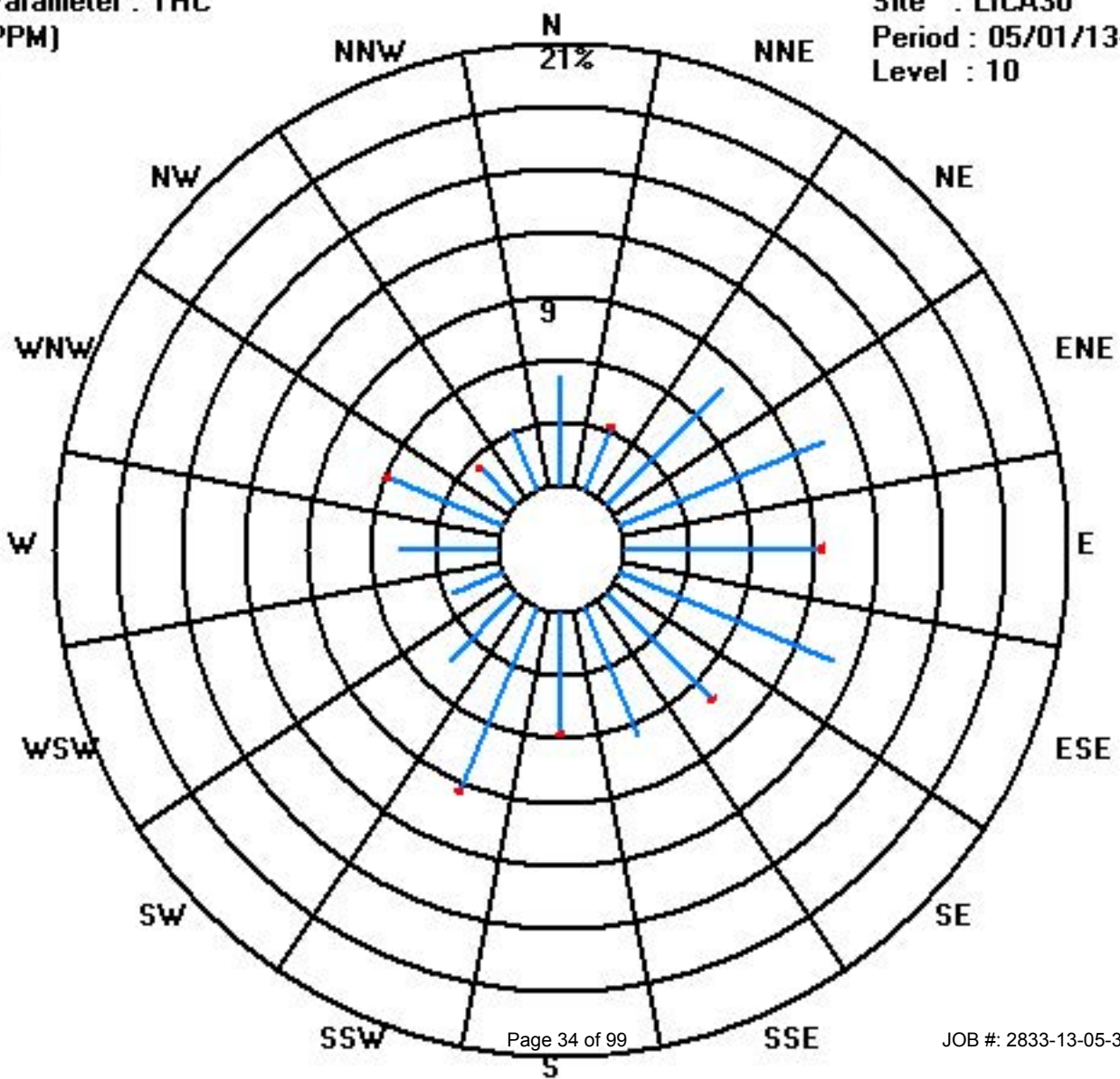
Calm : .00 %

Total # Operational Hours : 708

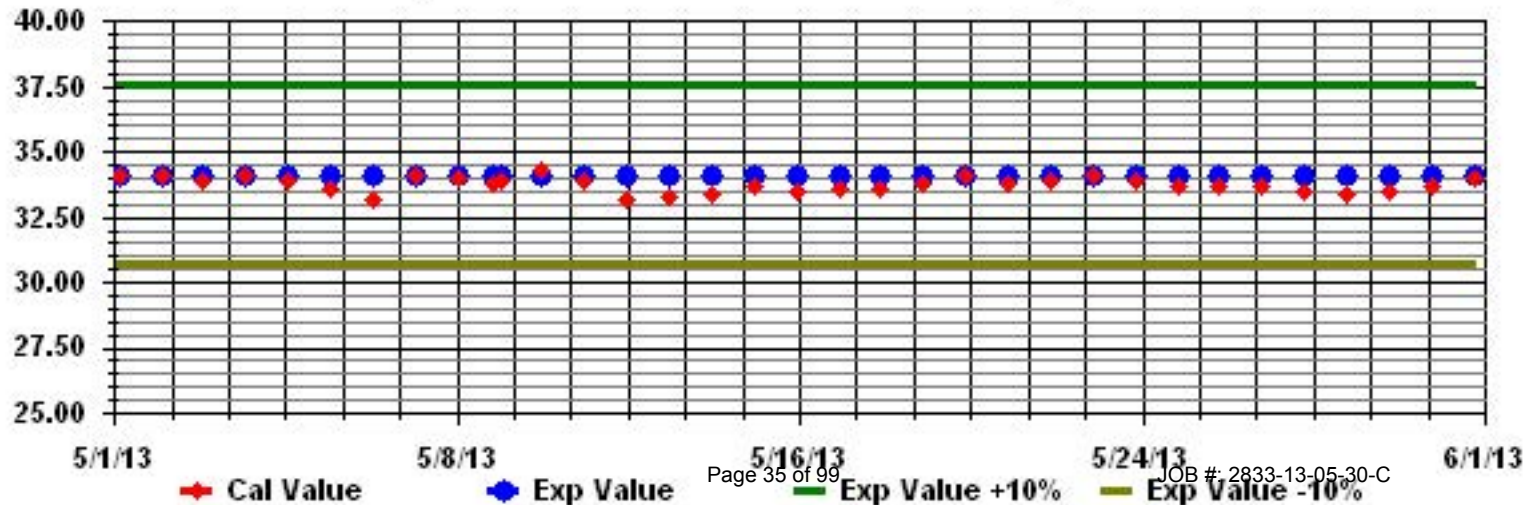
Class Limits (PPM)

Period : 05/01/13-05/31/13

Level : 10



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



Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

MAY 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	23:00	DAILY	24-HOUR	
DAY	HOURLY MAX	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
1	1.3	2	S	3.4	5.4	4.3	3.1	1.3	4.4	2.7	2	1.6	1.7	1.8	1.1	0.7	0.5	0.4	0.6	1.1	0.9	3.9	3.5	2.2	5.4	2.2	24		
2	1.3	S	1.6	1.2	1.3	2.3	2.9	3	2.7	2.8	3.6	2.6	0.3	0	0.6	3.9	2.8	5.7	2.5	0	0.5	11.4	4.6	2.7	11.4	2.6	24		
3	S	2.2	2.5	2	4.1	10.4	17.8	8.5	2.3	7.4	2.8	1.4	0.9	0.2	5.6	1.1	0.9	0	0	1.3	0.6	1.4	1.9	S	17.8	3.4	24		
4	4.6	6.3	5	3.5	5.1	5.7	8	8	4.8	1.4	0.8	0.1	0	0	0	0	0	0	0	0	0	0	0	S	2.2	8.0	24		
5	2.3	2.7	3	2.6	2.1	3.5	4.2	4.2	4.6	3.8	4.1	1	0.5	0.5	0.9	4.4	3.4	0.7	4.7	12.9	1	S	1.9	1.8	12.9	3.1	24		
6	3.1	2.3	1.1	0.3	2.2	1.2	0.2	0	0.1	0.7	3.5	2.1	1.9	2	0.7	0.6	0.7	0.6	0.7	1.2	S	1.5	1.3	2.2	3.5	1.3	24		
7	1.8	1.3	1	0.5	0.3	0.5	0.4	0.4	0.3	0.3	0.3	0.7	0.7	0.5	0.6	0.6	0.5	0.5	0.6	S	0.8	0.6	0.6	0.5	1.8	0.6	24		
8	0.4	0.3	0.8	1.5	0.9	0.9	1.7	1.5	1.1	0.2	0.5	0.5	0.5	0.7	0.7	0.7	0.2	0.3	S	0.3	0.5	0.6	2.8	1.7	2.8	0.8	24		
9	1	1.1	1.4	1.2	1.5	1.4	1.4	2	C	C	C	C	C	C	1.8	1	0.4	S	0.2	0	0.2	0.8	1.8	12.5	12.5	1.7	24		
10	8.7	1.9	1.3	0.4	0.2	0.6	0.6	0.5	0.6	0.6	0.6	0.5	1.5	0.8	1.4	0.6	S	0.8	0.4	0.3	0.5	2.1	2.3	1.7	8.7	1.3	24		
11	1.8	0.3	0.2	0.4	0.7	1.5	1.3	1.6	1.4	0.8	0.8	0.9	0.9	0.8	0.5	S	0.6	0.6	1.3	1.5	1	2.2	1	1	2.2	1.0	24		
12	1.3	1.4	1.2	1.1	0.9	1.1	1.3	1.2	1.5	1.4	1.3	1.4	1.3	1.5	S	0.9	1.1	5	8.1	0.5	1.7	2.6	1.9	6.6	8.1	2.0	24		
13	3.1	1.3	0.3	0.2	0.4	1	1.1	0.5	0.3	0.3	0.4	0.3	0.3	S	4.8	3.2	2.2	0.6	0	0	0.3	1.5	7.7	8.2	8.2	1.7	24		
14	3.5	8.3	4	12.1	4.2	7	11.3	12.3	2.9	3.4	1.9	2.3	S	0.3	0.4	2	0.7	0	3.4	0.6	2	2.4	1.4	1.4	12.3	3.8	24		
15	0.3	12.8	5.7	2.2	1.8	5	7.8	3.6	3.6	2.9	0.4	S	3.2	0.5	0.5	1.6	0.3	0.7	0.3	0.3	0.7	0.8	1.6	1.1	12.8	2.5	24		
16	1.1	2.3	2.3	2.7	3.4	4.7	11	13.5	5.4	10.7	S	5.3	3.8	0.6	1.4	0.8	S	1.6	0.7	1	1.1	1.6	2.2	1.8	13.5	3.6	24		
17	2.2	2.7	2.5	3.2	5.3	4	5.6	12.5	11.7	S	0	0	0	0	0.4	0	0	0	0	0	0	0.9	0.9	0	12.5	2.3	24		
18	0	0	0	0	0	0	1.8	S	1.9	2.2	0.1	0	1.6	2.7	1.3	1.1	1.4	3.8	5.7	1.7	0.8	0.4	0.9	5.7	1.2	24			
19	1.1	1.5	1.2	1.6	2.2	1.6	0.8	S	0	0	0	0	0	1.6	3	0.6	0.3	0	0	0	0.2	0.7	0.5	1	3.0	0.8	24		
20	1	0.9	1.4	0.2	0.7	1.1	S	1.5	0.6	1.1	0.4	0	0.1	0	0	0	0	0.5	4	1.6	0.3	0	0	0	4.0	0.7	24		
21	0	0	0	0	0	S	0	0	0	1.6	1.3	1.9	1.5	1.4	3.8	2.4	1.6	0.1	1.7	2.4	20.7	12.4	10.6	8	20.7	3.1	24		
22	0	0	0	0	S	0	0	0	0.1	1.4	1.3	1.1	1.8	1.9	0.8	2.1	3.4	4.2	8.9	9.1	12.8	4.9	11.8	6.4	12.8	3.1	24		
23	3.3	3.9	0	S	0.6	0.7	3.5	5.5	2.1	2	2.3	2.9	2	3.5	2.8	1.8	2.5	4.7	5.9	14.6	16.5	2.2	3.7	1	16.5	3.8	24		
24	0.6	4	S	1.1	0.7	1.7	0.6	0.5	0.5	2	4.3	6.9	6	2.1	0.1	3	5.7	0.4	2.7	6.9	12.2	0.3	0.4	0.5	12.2	2.7	24		
25	0.7	S	0.1	0.1	0.1	0.3	0.3	0.4	1.1	0.6	1.7	0.6	2.2	0.9	0.2	2.1	4.9	0.3	0	0.6	1.1	0.1	6.1	5.4	6.1	1.3	24		
26	S	0.2	0.7	2.4	0.4	0.9	1.2	1.7	5.7	1	1.3	1.4	1.8	1.4	2.3	1.4	0.1	0	0	0	0.2	0.3	S	5.7	1.1	24			
27	0.7	0.6	1	1	0.2	0.6	0.9	2.7	4	3.1	0.7	2.6	1	1.2	0	1	1.3	0.3	0.1	0	0.1	0.1	S	0.2	4.0	1.0	24		
28	0	0.3	0.2	0.2	0	0.1	0.9	1.1	4.2	2.8	1.3	1.9	0.9	0.5	0.6	0.2	0.1	0.1	0.2	0.6	2.5	S	0.3	0.4	4.2	0.8	24		
29	0.2	0.2	0	0	0	0	0.1	0	0	1.8	1.3	1.3	0.8	0.5	0.7	0.6	3.1	2.6	1.6	0.4	S	1.3	1.3	1.4	3.1	0.8	24		
30	1.1	1.5	1.8	0.9	0.8	0.8	1.9	2.9	3.7	4.2	3.9	1.3	1.2	1.7	0.7	1.1	0.6	0.6	0.4	S	0.4	0.8	0.7	0.6	4.2	1.5	24		
31	0.5	0.9	0.9	0.7	0.6	0.4	1.7	3	1.4	0.5	1.4	1.1	1.3	1.3	1.3	0.9	1.2	2.8	S	6.7	1.4	1.3	0.9	0.5	6.7	1.4	24		
HOURLY MAX	8.7	12.8	5.7	12.1	5.4	10.4	17.8	13.5	11.7	10.7	4.3	6.9	6.0	3.5	5.6	4.4	5.7	5.7	8.9	14.6	20.7	12.4	11.8	12.5					
HOURLY AVG	1.6	2.2	1.4	1.6	1.5	2.1	3.1	3.2	2.5	2.2	1.6	1.5	1.3	1.0	1.3	1.4	1.4	1.2	1.8	2.4	2.8	2.0	2.6	2.5					

STATUS FLAG CODES

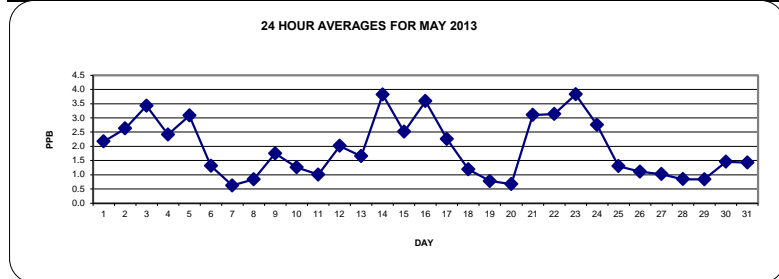
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT:

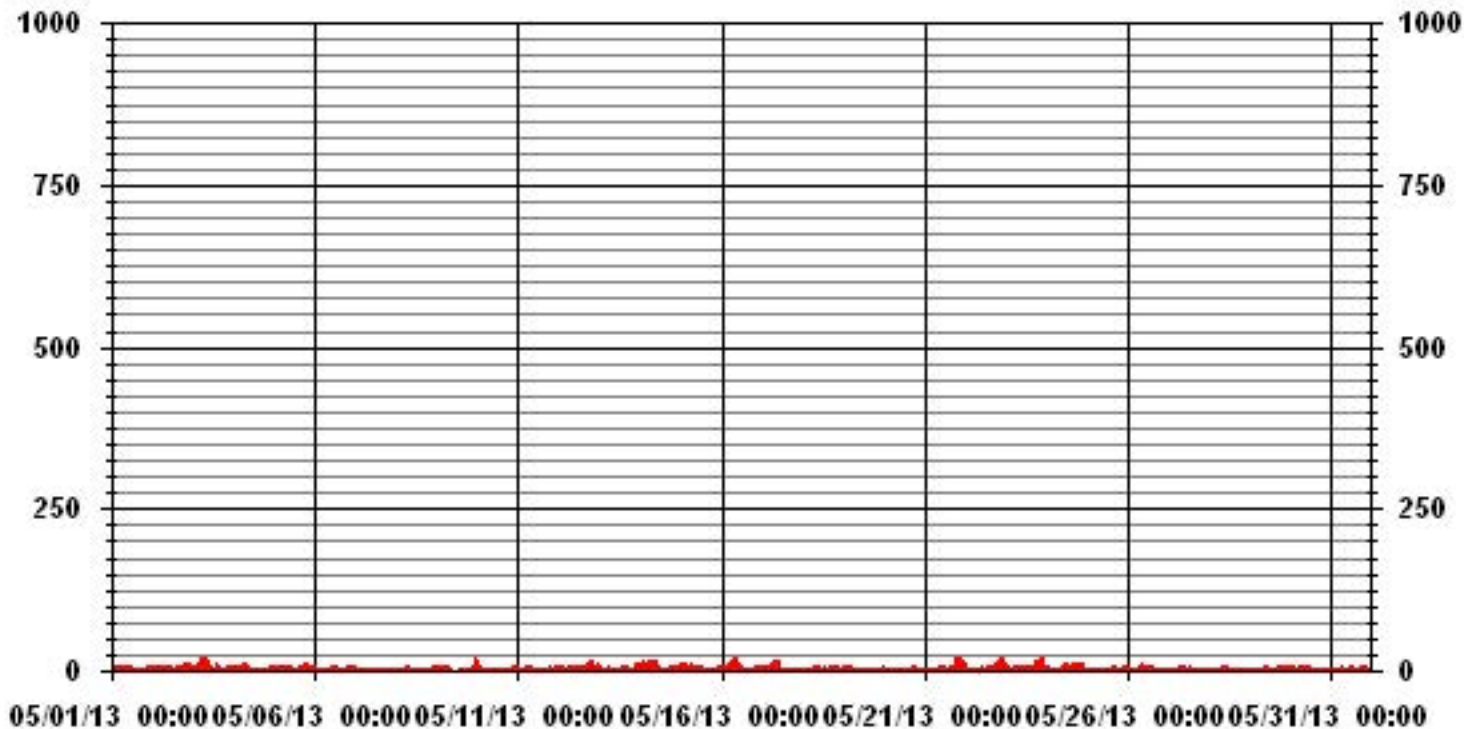
ALBERTA ENVIRONMENT: 1-HR 159 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	619					
MAXIMUM 1-HR AVERAGE:	20.7	PPB	@ HOUR(S)	20	ON DAY(S)	21
MAXIMUM 24-HR AVERAGE:	3.8	PPB			ON DAY(S)	23
IJS CALIBRATION TIME:	34	HRS	OPERATIONAL TIME:	744	HRS	
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	2.64		MONTHLY AVERAGE:	1.93	PPB	



01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

MAY 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	2	3.4	S	3.7	11.9	6	4.7	2.6	6.3	10.7	2.6	1.7	1.7	2	1.6	1.1	1	1.1	1.1	1.7	3.8	5.1	4.2	2.7	11.9	3.6	24
2	2.1	S	2.5	2.1	2.2	4.3	8.9	4	3.3	3.5	4.4	3.8	1.5	1	6.9	11.5	11.2	11.7	7	0.4	8.9	22.9	10.1	5.3	22.9	6.1	24
3	S	4.6	6.5	4.2	7.6	23.7	24.5	18.6	11	12.7	5.6	5	13.5	3.4	28.6	4.6	6.5	0.1	0.1	3.6	2	2.2	4.4	S	28.6	8.8	24
4	7	7.3	6.8	4.7	7.5	8.4	10.1	10.9	7.9	2.3	1.7	0.9	2.1	0.5	0.5	0.2	0.5	0	0.2	0.5	0.5	1.9	S	2.6	10.9	3.7	24
5	3.2	3.7	5.9	3.7	3.2	6.8	5.9	5.5	5.9	5.3	6.2	2.5	1.2	1.4	3.8	13	13	3	14.6	17.2	6.5	S	3.7	2.9	17.2	6.0	24
6	4.7	3.7	2.8	1.9	29.5	6.4	1.9	1.6	1.3	3.4	7	3.6	4.8	5.9	2.2	1.6	1.9	1.4	1.5	2	S	1.9	1.5	5.4	29.5	4.3	24
7	2.3	1.8	2.5	1	1.2	1.5	1.5	2.1	1.7	3.2	1.9	2.1	2.4	1.7	1.7	1.5	1.4	1.1	1.4	S	1.4	1.7	1.8	1.6	3.2	1.8	24
8	1.4	1.4	3	3.1	2.3	2.8	3.1	3.1	3.4	1.4	1.5	2.2	1.4	1.4	1.5	1.5	0.8	0.9	S	1	1.3	1.8	3.9	3.2	3.9	2.1	24
9	2.1	2.3	2.5	2.6	3	3.1	5	5	C	C	C	C	C	C	3.5	1.7	1	S	1.1	0.6	0.9	2.5	3.5	32.8	32.8	4.3	24
10	2.9	3.8	2.9	2.5	1.7	2.3	2.2	1.9	2	2.1	2.7	1.7	6	3	6.3	2.4	S	1.9	1	1.1	1.2	4.6	5.4	4	6.3	2.9	24
11	4.6	1.3	1.1	1.5	2.5	2.6	2.3	2.9	2.7	1.9	1.7	1.8	1.5	1.4	1.1	S	1.2	1	2.4	2.5	1.6	3.9	1.5	2	4.6	2.0	24
12	2.4	2.5	2.4	2	2	2.4	2.5	2.4	2.9	2.8	2	2.4	1.9	1.9	S	1.7	1.8	29.8	29.1	3.4	3.9	3.7	3.2	9.7	29.8	5.2	24
13	6.2	4	1.2	1.3	1.5	3	10.5	1.4	1.3	1.2	1.3	1.3	1.8	S	9.3	13.4	10.1	3.1	1.1	0.5	1.4	2.8	13.9	27.3	27.3	5.2	24
14	5.5	12.9	6.4	18.7	12.9	16.5	26.8	26.5	9.9	16.4	13.8	8.1	S	0.9	2.4	8.3	5.6	0.5	15.7	4.7	7.6	3.7	2.7	3.6	26.8	10.0	24
15	1.7	24.1	12.4	6.7	4	8.2	19.2	6.5	7.9	9.7	1.8	S	14.4	1	0.8	10.7	0.8	3.9	1.4	0.8	1.8	1.7	2.6	1.8	24.1	6.3	24
16	1.8	3.8	3.5	4.4	5.3	7.5	25.4	31.9	10.9	23.9	S	14.1	9.8	1.1	2.7	2.2	S	2.1	1.3	1.4	1.6	2.5	3.3	2.2	31.9	7.4	24
17	2.7	3.5	2.9	4.7	8.7	6.8	13.3	20.3	25	S	0.7	1.3	4	2.6	2.5	1.5	0.7	0.9	0.5	0.3	1.2	3	2.7	1	25	4.8	24
18	1	1.8	1.4	1.3	1.6	1.2	1.1	14.3	S	6.3	5.8	1.1	0.4	4.5	6.9	5.6	4.4	12.6	12.6	10.2	3.1	3.5	1.1	1.4	14.3	4.5	24
19	1.8	2.7	2.4	3.2	6	4.3	2.5	S	1.7	0.8	0.6	0.3	0.2	25.6	27.6	7.8	7.3	1	0.4	0.5	1.5	2.1	2	2.6	27.6	4.6	24
20	2.7	2.8	4.6	2	3.7	5.5	S	3.7	1.8	2.4	1.7	0.6	1.4	1.2	1.9	0.1	1.4	4.2	11.4	6.3	1.5	0.8	0.7	0.6	11.4	2.7	24
21	0.8	0.9	1	1.2	1	S	0.8	0.6	3.7	5.7	5	5.9	5.1	5.6	8.4	8.1	5	1.7	5.8	14.2	31.8	19.8	20.4	15.8	31.8	7.3	24
22	0.8	0.9	1	0.4	S	0.5	0.7	1.3	4	4.7	6	3.6	6	6.1	5.2	6.7	9.3	8.6	12.7	13.7	17.8	10	20.6	16.8	20.6	6.8	24
23	5.1	11.6	1	S	1.1	1.4	6.6	8.4	4.8	5.7	5.6	5.5	4.5	7.7	5.5	4.9	6.8	8.3	11.9	19	21	4.4	6.8	2.4	21	7.0	24
24	1.3	14.1	S	3.1	2.7	7.5	0.8	0.9	1.8	6.7	8.4	11.7	10.4	8.3	1.2	9.4	8.4	1.9	5.5	13.4	17.4	1.5	0.9	1	17.4	6.0	24
25	1.6	S	0.8	0.9	1	1	1	1.2	3.3	2.8	6.7	1.9	4.8	3.8	2.9	6.7	10.5	5.3	0.5	6	10.6	2.9	15.2	16	16	4.7	24
26	S	0.9	3.1	3.8	1.1	3.4	3.7	4.3	11.1	2.5	3.8	3.2	6.8	4.6	4.4	2.8	1.2	1.2	0.7	0.9	1	1.4	1.3	S	11.1	3.1	24
27	1.9	1.4	2.2	4.1	1.2	2.1	2.7	3.9	6.7	8.3	2.5	5.3	2.2	3	2.1	3.2	3.4	2.8	3	0.7	1	1.5	S	0.7	8.3	2.9	24
28	1	1.4	1.4	1.3	1.3	1.6	3.1	3.4	13.3	7.9	2.4	4	2.3	1.3	0.9	0.6	0.6	0.7	0.5	1.7	3.5	S	0.6	0.7	13.3	2.4	24
29	0.6	0.5	0.7	0.8	0.9	0.9	1.4	0.8	0.7	7.2	3.3	3.5	2.7	1.6	1.8	1.7	7.6	8.4	6.3	1	S	1.8	1.7	1.9	8.4	2.5	24
30	1.8	2.4	3.8	1.8	1.9	3.1	7.6	7.1	6.6	6.4	6.5	3.9	2.9	3.3	1.3	2.8	1.1	1.4	1	S	1	1.6	1.3	1	7.6	3.1	24
31	1.3	1.5	1.5	1.5	1.4	1.4	3.9	5.1	2.4	1.4	2.5	2.2	2.7	7.6	2.3	1.7	3.1	19.1	S	14.9	2.7	1.8	1.7	1.1	19.1	3.7	24
HOURLY MAX	7	24	12	19	30	24	27	32	25	24	14	14	14	26	29	13	13	30	29	19	32	23	21	33			
HOURLY AVG	2.6	4.4	3.1	3.1	4.4	4.9	6.8	6.7	5.7	5.8	4.0	3.6	4.2	3.9	4.9	4.6	4.4	4.7	5.2	5.0	5.5	4.1	4.9	5.9			

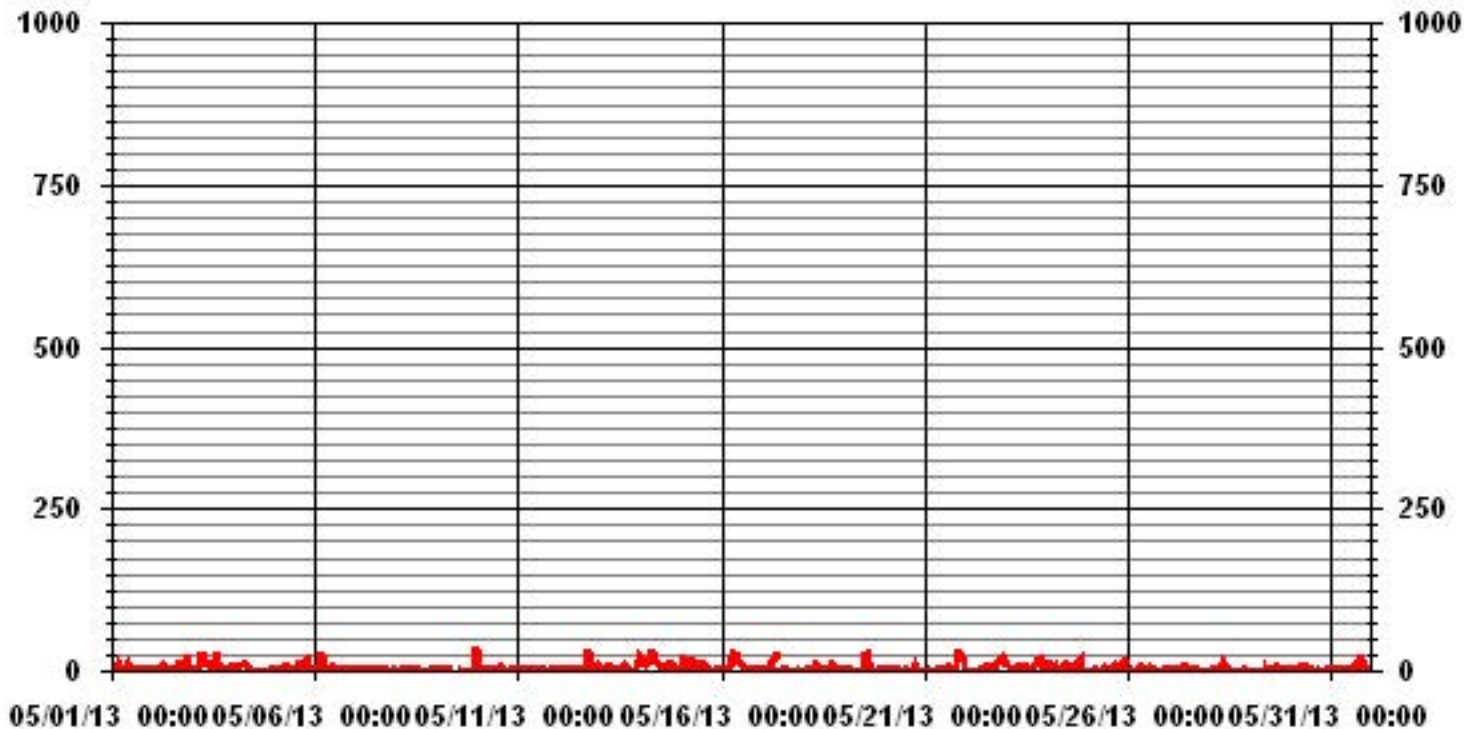
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	703					
MAXIMUM INSTANTANEOUS VALUE:	32.8	PPB	@ HOUR(S)	23	ON DAY(S)	9
IZS CALIBRATION TIME:	34	HRS	OPERATIONAL TIME:	744	HRS	
MONTHLY CALIBRATION TIME:	6	HRS				
STANDARD DEVIATION:	5.45					

01 Hour Averages



— LICA30 NO2MAX PPB

LICA30
 NO2_ / WDR Joint Frequency Distribution (Percent)

May 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
 Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 50.0	5.25	3.40	7.67	10.51	9.51	11.07	7.24	6.67	5.96	9.37	4.54	2.55	4.54	5.96	2.55	3.12	100.00
< 110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.25	3.40	7.67	10.51	9.51	11.07	7.24	6.67	5.96	9.37	4.54	2.55	4.54	5.96	2.55	3.12	

Calm : .00 %

Total # Operational Hours : 704

Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 50.0	37	24	54	74	67	78	51	47	42	66	32	18	32	42	18	22	704
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	37	24	54	74	67	78	51	47	42	66	32	18	32	42	18	22	

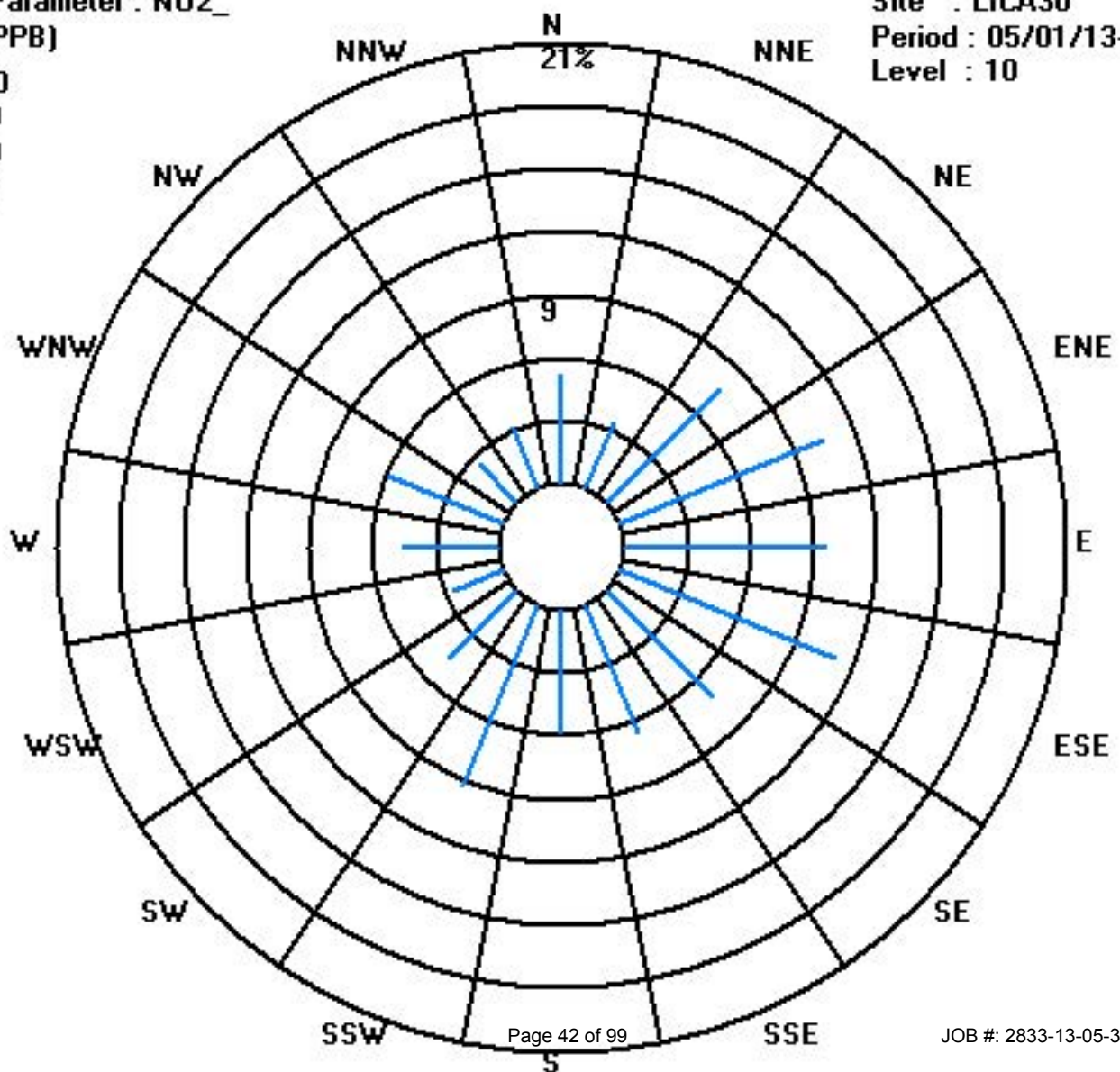
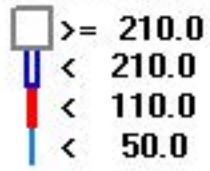
Calm : .00 %

Total # Operational Hours : 704

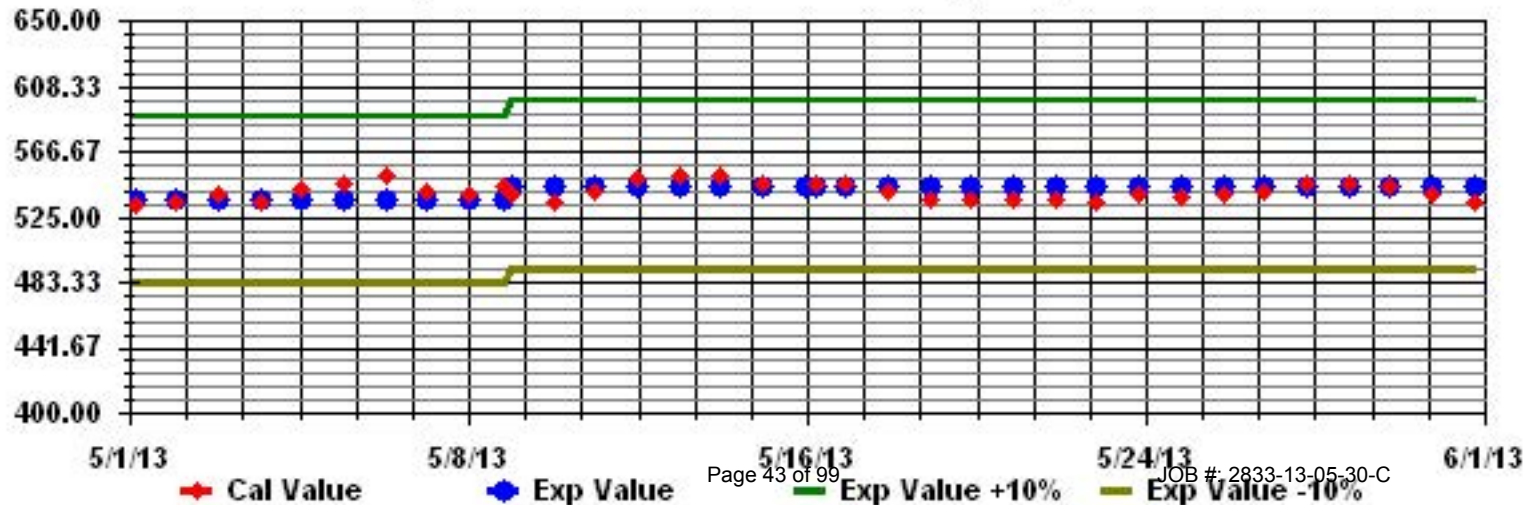
Class Limits (PPB)

Period : 05/01/13-05/31/13

Level : 10



Calibration Graph for Site: LICA30 Parameter: NO2_ Sequence: NO2 Phase: SPAN



Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

MAY 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		
	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
1	0.2	0.2	S	0	0.9	0.8	1.6	0.7	3.2	1.9	1.1	0.4	0.3	0.3	0	0	0	0	0	0	0	0	0	0	0	3.2	0.5	24
2	0	S	0	0	0	0	0.1	0.4	0.1	0.5	0.7	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	0.1	24
3	S	0.5	0.3	0.4	0.9	4.6	12.3	6	2	4.6	1.4	0.1	0	0	1.4	0	0	0	0	0	0	0	0	S	12.3	1.6	24	
4	0.2	0.1	0.1	0	0.1	2	4	3.7	2.2	0.1	0	0	0	0	0	0	0	0	0	0	0	0	S	0	4.0	0.5	24	
5	0	0.1	0.4	0.7	0.6	1.1	1.9	2.1	2.5	1.6	1.3	0	0	0	0	1	0.5	0	0	0	0	S	0	0.1	2.5	0.6	24	
6	0.2	0.5	0.7	0.8	2.2	1.2	1	1.1	0.8	0.6	1	0.1	0	0.1	0	0	0	0	0	0	S	0	0	0	0	2.2	0.4	24
7	0	0	0	0.1	0.5	0.6	1	1.3	1.6	1.8	1.8	1.8	1.4	1.4	1.1	0.8	0.6	0.4	0.3	S	0.2	0.6	0.8	1	1.8	0.8	24	
8	0.8	0.7	0.7	0.9	0.9	0.9	1.2	1.4	1.4	1.1	0.8	0.9	0.6	0.3	0.1	0	0	0	S	0	0	0	0	0.4	1.4	0.6	24	
9	0.3	0.6	0.6	0.9	0.7	0.8	1.2	1.5	C	C	C	C	C	C	0.9	0	0	S	0	0	0	0	0.2	0.2	1.8	1.8	0.6	24
10	3.1	0.9	0.9	0.8	0.8	0.8	0.9	0.8	1	1	0.8	0.7	1.5	0.5	0.7	0.3	S	0	0	0	0	0	0.5	0.6	0.6	3.1	0.7	24
11	0.5	0.6	0.6	0.7	0.6	0.8	0.9	1.3	0.9	0.8	0.5	0.3	0	0	S	0	0	0	0	0	0	0	0	0	0.2	1.3	0.4	24
12	0.2	0.6	0.7	0.6	0.8	0.8	1	1.1	1	0.6	0.2	0	0	0	S	0.2	0	0.6	2.1	0	0	0	0	0	0	2.1	0.5	24
13	0	0	0.2	0.2	0.3	0.6	1.1	0.6	0.5	0.3	0.2	0.1	0	S	1.7	0.7	0.6	0.2	0.1	0	0	0	0.1	1.1	1.7	0.4	24	
14	0.7	0.7	0.8	1.1	1.2	2.6	5.7	7.3	2	2.3	1.4	0.9	S	0	0.2	0.6	0.2	0	0.7	0.1	0.3	0.2	0.4	0.4	7.3	1.3	24	
15	0.9	1.1	1.2	1.3	1.4	2.2	3.6	2.6	2.5	1.9	0.9	S	0.7	0	0	0	0	0	0	0	0	0	0.1	0.2	3.6	0.9	24	
16	0.4	0.8	0.6	0.7	0.7	1.5	7.7	7.5	1.4	4.3	S	1.1	0.5	0	0	0	S	0	0	0	0	0	0	0	0	7.7	1.2	24
17	0	0	0.1	0	0.7	0.4	2.1	5.7	4.5	S	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	5.7	0.6	24
18	0.6	0.7	1	1	1.1	1.3	1.2	1.8	S	0.8	0.5	0	0	0	0.2	0	0	0	0.2	0	0	0	0	0	0	1.8	0.5	24
19	0.1	0.4	0.6	0.8	1.2	1.3	0.8	S	1.4	0.8	0.4	0	0.1	0.6	0.8	0.3	0.2	0.2	0.2	0	0.2	0.2	0.3	0.2	1.4	0.5	24	
20	0.4	0.6	0.6	0.8	1.1	1.1	S	0.9	0.5	0.3	0	0	0.1	0	0	0	0	0.1	0.4	0	0	0	0	0.1	1.1	0.3	24	
21	0.3	0.6	0.7	0.8	0.8	S	1.3	0.9	0.9	1.2	0.6	0.8	0.6	0.7	1.4	0.9	0.5	0.3	0.4	0.2	0.8	0.3	0.3	0.2	1.4	0.7	24	
22	0.3	0.6	0.9	1.1	S	1.5	1.2	1.1	1.3	1.5	1.1	0.7	1.1	0.9	0.7	1.1	1.7	1.5	2.5	1.7	1.5	0.6	1.7	1	2.5	1.2	24	
23	0.2	0.2	0.3	S	0.4	0.4	1.6	2.5	0.9	0.4	0.4	0.2	0	0.6	0.1	0	0	0.4	0.4	0.5	0.1	0	0	0	2.5	0.4	24	
24	0	0	S	0	0	0.1	0	0	0	0	0.4	1	0.7	0	0	0	0.3	0	0	0	0.4	0	0	0	1.0	0.1	24	
25	0.2	S	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0.2	0.0	24	
26	S	0	0	0	0	0.4	0.8	0.4	3.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	3.1	0.2	24
27	0	0	0.1	1	0	0.5	0.7	1.4	1.4	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0.3	1.4	0.3	24
28	0.6	0.7	0.9	0.9	1.2	1.3	1.8	1.5	2.9	1.3	0.3	0.5	0	0.2	0	0.1	0.2	0.1	0	0	0	S	0	0	2.9	0.6	24	
29	0.1	0.1	0.4	0.7	0.8	0.8	0.9	0.7	0.4	0.8	0.1	0.2	0	0	0.1	0	0.6	0.4	0	0	S	0.1	0	0	0.9	0.3	24	
30	0	0.1	0.1	0.3	0.3	0.3	0.7	0.8	0.6	0.6	0.7	0.1	0	0.5	0.1	0.1	0	0	0	S	0	0	0	0	0.8	0.2	24	
31	0	0	0.2	0.4	0.3	0.3	0.3	0.7	0.5	0.2	0.9	0.6	0.4	0.1	0	0	0	0.4	S	0.3	0	0	0	0	0.9	0.2	24	
HOURLY MAX	3.1	1.1	1.2	1.3	2.2	4.6	12.3	7.5	4.5	4.6	1.8	1.8	1.5	1.4	1.7	1.1	1.7	1.5	2.5	1.7	1.5	0.6	1.7	1.8				
HOURLY AVG	0.4	0.4	0.5	0.6	0.7	1.0	2.0	1.9	1.4	1.1	0.6	0.4	0.3	0.2	0.3	0.2	0.2	0.2	0.3	0.1	0.1	0.1	0.2	0.3				

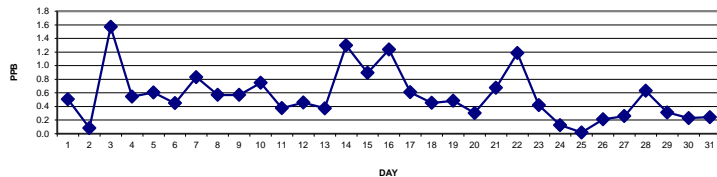
STATUS FLAG CODES

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

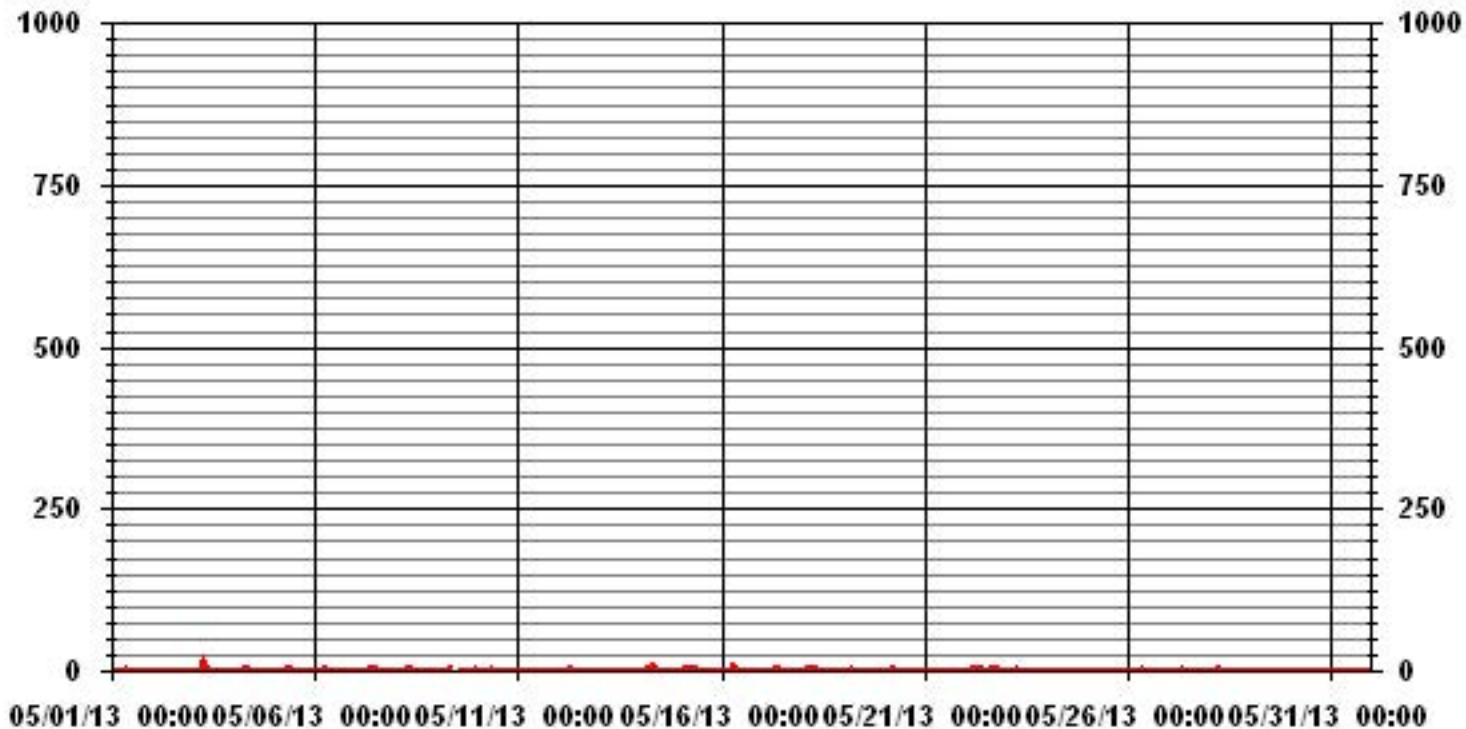
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	420					
MAXIMUM 1-HR AVERAGE:	12.3	PPB	@ HOUR(S)	6	ON DAY(S)	3
MAXIMUM 24-HR AVERAGE:	1.6	PPB			ON DAY(S)	3
Izs CALIBRATION TIME:	34	HRS	OPERATIONAL TIME:	744	HRS	
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	1.00		MONTHLY AVERAGE:	0.55	PPB	

24 HOUR AVERAGES FOR MAY 2013



01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

MAY 2013

NITRIC OXIDE MAX instantaneous maximum 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.
	HOUR START	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	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	0.8	0.6	S	0.4	6	1.4	3	1.7	5.4	12	2.2	0.9	1	0.8	0.6	0.2	0.2	0	0	0.2	0	0	0.2	0.2	12	1.6	24
2	0.1	S	0.6	0.1	0.3	0.4	4.9	1.4	0.6	1.8	1.4	0.7	0	0	2.3	4.8	2.9	1.3	0	0	0	0	0	0	4.9	1.0	24
3	S	1	0.8	0.9	2.4	23.3	24.4	16.8	8.4	10	3.1	2.7	15.2	0.9	17.5	1.8	1.9	0	0	0	0	0	0.4	S	24.4	6.0	24
4	0.8	0.6	0.7	0.5	0.7	5.3	6	4.9	4.1	1.2	0.3	0.2	1	0	0	0	0	0	0	0	0	0	S	0.6	6	1.2	24
5	0.5	0.8	1.6	1.2	1.2	3.3	3.6	2.7	3.5	2.5	4.6	0.5	0.5	0.2	1	4.6	4.2	0.4	1	0.9	0	S	0.5	0.7	4.6	1.7	24
6	1.1	1.3	1.3	1.4	1.7	3.5	1.6	1.7	1.4	1.4	2.3	1.1	1.3	1.9	0.8	0.2	0.8	0.1	0.4	0.1	S	0.6	0.3	0.9	1.7	1.8	24
7	0.2	0.5	0.5	0.7	1.2	1.2	1.5	2.1	2.1	3.3	2.5	2.4	2.7	2.2	1.7	1.4	1.2	0.8	0.8	S	0.8	1.2	1.4	1.6	3.3	1.5	24
8	1.4	1.2	1.2	1.4	1.4	1.6	1.8	2	2.2	1.8	1.6	1.5	1	0.8	0.8	0.4	0.2	0.2	S	0.3	0.4	0.6	0.7	1	2.2	1.1	24
9	0.9	1.2	1.1	1.5	1.2	1.6	2.9	3.1	C	C	C	C	C	C	1.8	0.7	0.4	S	0.2	0.6	0.4	0.7	0.8	7.9	7.9	1.6	24
10	4.7	1.6	1.4	1.4	1.2	1.3	1.8	1.3	1.6	1.7	1.7	1.5	5.2	1.6	2.6	1.2	S	0.4	0.3	0.2	0.7	0.9	1.2	1.2	5.2	1.6	24
11	0.9	1.1	1.2	1.3	1.3	1.5	1.5	1.8	1.6	1.3	1	0.9	0.7	0.5	0.1	S	0.5	0.3	0.6	0.4	0.2	0.4	0.6	0.7	1.8	0.9	24
12	0.7	1.3	1.3	1.1	1.3	1.5	1.7	1.6	1.5	1.3	0.9	0.4	0.3	0.4	S	0.7	0.5	7.4	7.2	0.4	0.6	0.4	0.6	0.4	7.4	1.5	24
13	0.5	0.5	0.8	0.6	1	1.2	16.4	1.2	1	1.2	1.3	1.6	0.8	S	5.1	5.2	3	1.3	0.7	0.5	0.5	0.5	0.7	4.9	16.4	2.2	24
14	4.7	1.4	1.4	2.1	1.7	6.4	18.7	17.9	4.7	17.5	8.9	3.8	S	0.7	1.2	2.6	1.1	0.5	4.2	0.9	0.9	0.8	1.1	1	18.7	4.5	24
15	1.4	1.7	1.9	1.9	2	3.3	7.5	3.9	3.8	4.3	2.3	S	10.6	0.1	0.6	10.6	0	0.9	0.2	0.2	0.1	0.3	0.7	0.8	10.6	2.6	24
16	1	1.3	1.1	1.2	1.5	2.6	20.1	22.9	3.2	13.4	S	4.7	4	0	0.1	0	S	0	0	0	0	0	0	0	22.9	3.5	24
17	0.2	0.6	0.7	1.3	3.1	1.3	6.9	12.7	17	S	0.9	0.4	1	1.2	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.5	0.5	1	17	2.3	24
18	1.1	1.3	1.5	1.5	1.6	1.7	1.8	7.2	S	2.3	2.6	0.4	0.1	0.6	1.7	1	1.2	2.5	2.5	0.9	0.5	0.1	0.2	0.4	7.2	1.5	24
19	0.7	0.9	1.2	1.4	5.1	3.5	1.4	S	2.4	1.3	1	0.5	0.7	7.1	7.5	1	0.9	0.7	0.8	0.6	0.8	0.7	0.9	0.7	7.5	1.8	24
20	0.8	1.3	1.2	1.4	1.5	2.6	S	1.5	1.1	1	0.8	0.3	0.8	0.6	0.4	0.3	0.6	1	1.3	0.7	0.4	0.3	0.4	0.7	2.6	0.9	24
21	0.8	1.3	1.2	1.3	1.3	S	1.9	1.6	2.1	3.4	2.1	2.9	2	2.5	2.9	2.5	1.5	0.9	1.6	0.8	1.5	0.9	0.9	0.9	3.4	1.7	24
22	0.8	1.3	1.4	1.6	S	2.1	1.7	1.6	3.1	3.1	3.3	2	2.8	3	2.9	3.2	4.7	3.6	4.1	3.2	3	1.5	4.2	2.7	4.7	2.6	24
23	0.7	0.7	0.9	S	0.9	1	2.8	4.2	2.8	2.7	2.7	2	1.5	2.9	1.4	1	1.8	1.8	2.3	1.2	0.7	0.2	0.2	0.2	4.2	1.6	24
24	0.3	0.6	S	0.5	0.7	1.3	0.4	0.5	0.3	2.1	2.4	2.7	3	2.1	0	1.7	1.5	0	0.1	0.5	1.2	0.2	0.3	0.5	3	1.0	24
25	0.8	S	0.2	0.1	0.2	0.3	0.2	0.3	0.4	0.3	1.3	0.1	1.8	0.5	0	0.7	0.7	0.4	0	0	0	0	0.6	0.7	1.8	0.4	24
26	S	0.2	0.3	0.8	0.5	3.2	6.1	2.1	6.4	0.7	1.4	0.7	1.5	0.3	0.8	0	0	0	0	0	0	0	0	S	6.4	1.1	24
27	0.4	0.5	0.6	6.8	0.5	1.2	1.7	2.3	2.4	3.3	0	1.2	0	0.3	0	0.1	0.1	0	0	0	0	0	S	0.8	6.8	1.0	24
28	1	1.3	1.6	1.5	1.7	1.9	2.5	2.4	8.8	3.5	1	1.3	1	0.8	0.5	0.5	0.6	0.6	0.6	0.7	0.5	S	0.7	0.6	8.8	1.5	24
29	0.6	0.8	0.9	1.3	1.4	1.3	1.4	1.2	1	3.7	1.5	1.5	0.9	0.6	1.1	1.1	2.1	1.9	0.9	0.3	S	0.7	0.5	0.5	3.7	1.2	24
30	0.4	0.7	0.7	0.9	0.7	0.9	2.8	2.4	1.9	2.1	2.1	1.4	1.3	1.3	0.8	1	0.5	0.8	0.4	S	0.4	0.3	0.3	0.4	2.8	1.1	24
31	0.5	0.5	0.8	0.8	0.9	0.9	1.1	1.3	1.2	0.8	1.7	1.2	1.3	2.7	0.7	0.5	0.5	5.8	S	2.1	0.3	0.4	0.7	0.4	5.8	1.2	24
HOURLY MAX	4.7	1.7	1.9	6.8	17.0	23.3	24.4	22.9	17.0	17.5	8.9	4.7	15.2	7.1	17.5	10.6	4.7	7.4	7.2	3.2	3.0	1.5	4.2	7.9			
HOURLY AVG	1.0	1.0	1.0	1.3	2.1	2.8	5.0	4.3	3.3	3.6	2.0	1.4	2.2	1.3	1.9	1.7	1.2	1.1	1.1	0.6	0.5	0.4	0.7	1.1			

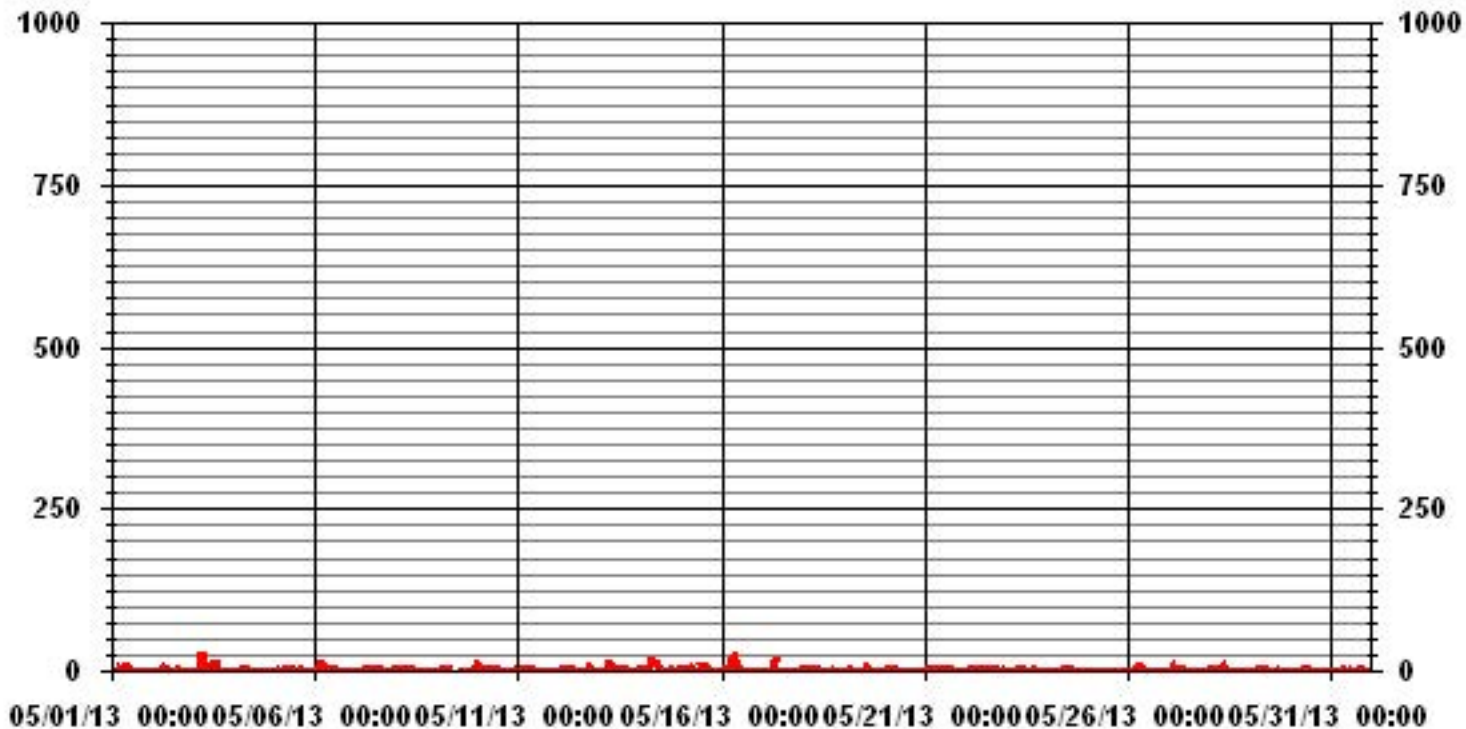
STATUS FLAG CODES

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:	644					
MAXIMUM INSTANTANEOUS VALUE:	24.4	PPB	@ HOUR(S)	6	ON DAY(S)	3
IZS CALIBRATION TIME:	34	HRS	OPERATIONAL TIME:	744	HRS	
MONTHLY CALIBRATION TIME:	6	HRS				
STANDARD DEVIATION:	2.92					

01 Hour Averages



LICA30
 NO_ / WDR Joint Frequency Distribution (Percent)

May 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
 Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 50.0	5.25	3.40	7.67	10.51	9.51	11.07	7.24	6.67	5.96	9.37	4.54	2.55	4.54	5.96	2.55	3.12	100.00
< 110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.25	3.40	7.67	10.51	9.51	11.07	7.24	6.67	5.96	9.37	4.54	2.55	4.54	5.96	2.55	3.12	

Calm : .00 %

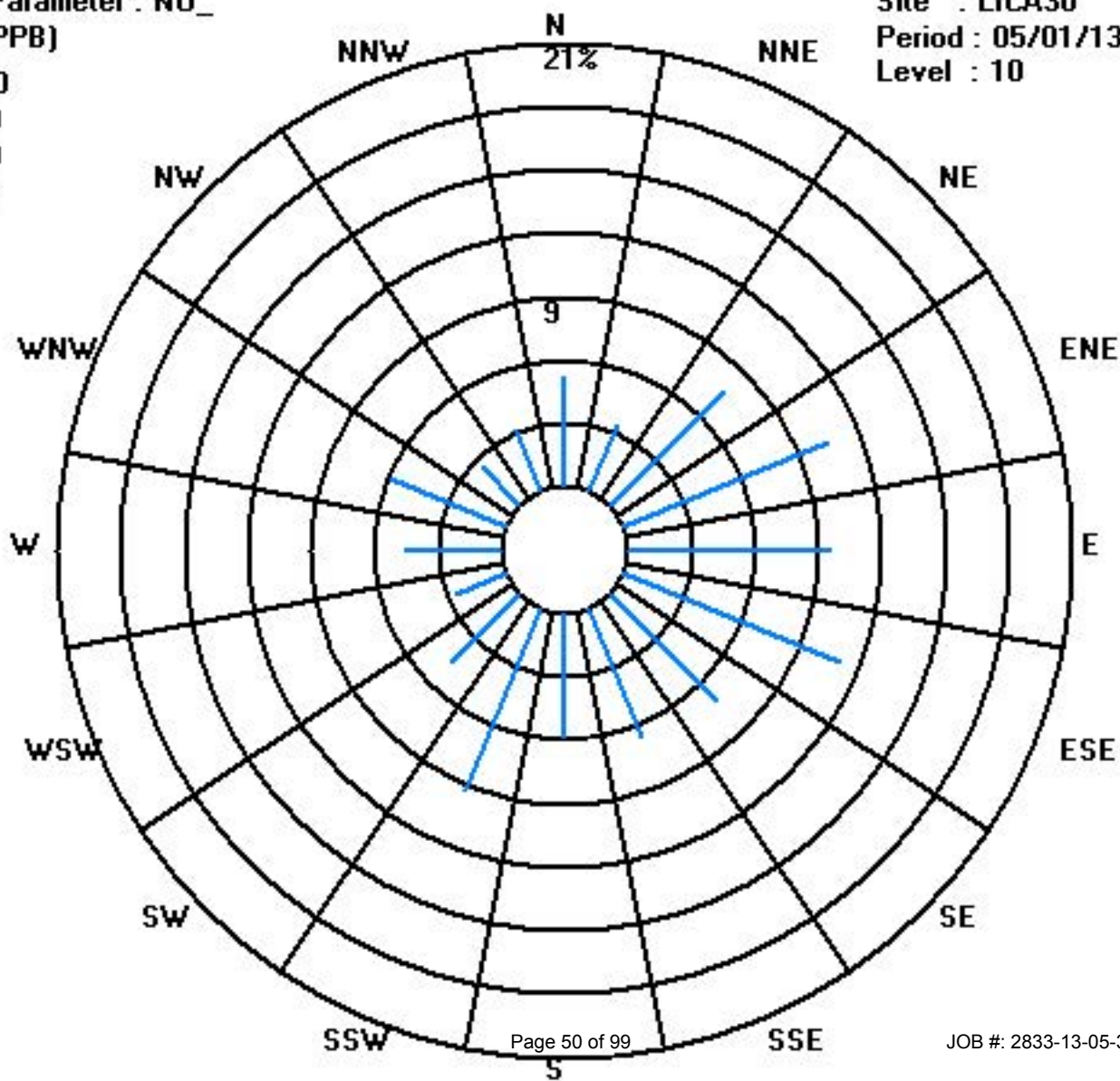
Total # Operational Hours : 704

Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 50.0	37	24	54	74	67	78	51	47	42	66	32	18	32	42	18	22	704
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	37	24	54	74	67	78	51	47	42	66	32	18	32	42	18	22	

Calm : .00 %

Total # Operational Hours : 704



Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

MAY 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 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	1.5	2.2	S	3.4	6.3	5.1	4.7	2	7.6	4.6	3.1	2	2	2.1	1.1	0.7	0.5	0.4	0.6	1.1	0.9	3.9	3.5	2.2	7.6	2.7	24
2	1.3	S	1.6	1.2	1.3	2.3	3	3.4	2.8	3.3	4.3	2.7	0.3	0	0.6	3.9	2.8	5.7	2.5	0	0.5	11.4	4.6	2.7	11.4	2.7	24
3	S	2.7	2.8	2.4	5	15	30.1	14.5	4.3	12	4.2	1.5	0.9	0.2	7	1.1	0.9	0	0	1.3	0.6	1.4	1.9	S	30.1	5.0	24
4	4.8	6.4	5.1	3.5	5.2	7.7	12	11.7	7	1.5	0.8	0.1	0	0	0	0	0	0	0	0	0	0	S	2.2	12	3.0	24
5	2.3	2.8	3.4	3.3	2.7	4.6	6.1	6.3	7.1	5.4	5.4	1	0.5	0.5	0.9	5.4	3.9	0.7	4.7	12.9	1	S	1.9	1.9	12.9	3.7	24
6	3.3	2.8	1.8	1.1	4.4	2.4	1.2	1.1	0.9	1.3	4.5	2.2	1.9	2.1	0.7	0.6	0.7	0.6	0.7	1.2	S	1.5	1.3	2.2	4.5	1.8	24
7	1.8	1.3	1	0.6	0.8	1.1	1.4	1.7	1.9	2.1	2.1	2.5	2.1	1.9	1.7	1.4	1.1	0.9	0.9	S	1	1.2	1.4	1.5	2.5	1.5	24
8	1.2	1	1.5	2.4	1.8	1.8	2.9	2.9	2.5	1.3	1.3	1.4	1.1	1	0.8	0.7	0.2	0.3	S	0.3	0.5	0.6	2.8	2.1	2.9	1.4	24
9	1.3	1.7	2	2.1	2.2	2.2	2.6	3.5	C	C	C	C	C	C	2.7	1	0.4	S	0.2	0	0.2	1	2	14.3	14.3	2.3	24
10	1.8	2.8	2.2	1.2	1	1.4	1.5	1.3	1.6	1.6	1.4	1.2	3	1.3	2.1	0.9	S	0.8	0.4	0.3	0.5	2.6	2.9	2.3	3	1.6	24
11	2.3	0.9	0.8	1.1	1.3	2.3	2.2	2.9	2.3	1.6	1.3	1.2	0.9	0.8	0.5	S	0.6	0.6	1.3	1.5	1	2.2	1	1.2	2.9	1.4	24
12	1.5	2	1.9	1.7	1.7	1.9	2.3	2.3	2.5	2	1.5	1.4	1.3	1.5	S	1.1	1.1	5.6	10.2	0.5	1.7	2.6	1.9	6.6	10.2	2.5	24
13	3.1	1.3	0.5	0.4	0.7	1.6	2.2	1.1	0.8	0.6	0.6	0.4	0.3	S	6.5	3.9	2.8	0.8	0.1	0	0.3	1.5	7.8	9.3	9.3	2.0	24
14	4.2	9	4.8	13.2	5.4	9.6	17	19.6	4.9	5.7	3.3	3.2	S	0.3	0.6	2.6	0.9	0	4.1	0.7	2.3	2.6	1.8	1.8	19.6	5.1	24
15	1.2	13.9	6.9	3.5	3.2	7.2	11.4	6.2	6.1	4.8	1.3	S	3.9	0.5	0.5	1.6	0.3	0.7	0.3	0.3	0.7	0.8	1.7	1.3	13.9	3.4	24
16	1.5	3.1	2.9	3.4	4.1	6.2	18.7	21	6.8	15	S	6.4	4.3	0.6	1.4	0.8	S	1.6	0.7	1	1.1	1.6	2.2	1.8	21	4.8	24
17	2.2	2.7	2.6	3.2	6	4.4	7.7	18.2	16.2	S	0.2	0	0	0	0.4	0	0	0	0	0	0	0.9	0.9	0.3	18.2	2.9	24
18	0.6	0.7	1	1	1.1	1.3	1.2	3.6	S	2.7	2.7	0.1	0	1.6	2.9	1.3	1.1	1.4	4	5.7	1.7	0.8	0.4	0.9	5.7	1.6	24
19	1.2	1.9	1.8	2.4	3.4	2.9	1.6	S	1.4	0.8	0.4	0	0.1	2.2	3.8	0.9	0.5	0.2	0.2	0	0.4	0.9	0.8	1.2	3.8	1.3	24
20	1.4	1.5	2	1	1.8	2.2	S	2.4	1.1	1.4	0.4	0	0.2	0	0	0	0	0.6	4.4	1.6	0.3	0	0	0.1	4.4	1.0	24
21	0.3	0.6	0.7	0.8	0.8	S	1.3	0.9	0.9	2.8	1.9	2.7	2.1	2.1	5.2	3.3	2.1	0.4	2.1	2.6	21.5	12.7	10.9	8.2	21.5	3.8	24
22	0.3	0.6	0.9	1.1	S	1.5	1.2	1.1	1.4	2.9	2.4	1.8	2.9	2.8	1.5	3.2	5.1	5.7	11.4	10.8	14.3	5.5	13.5	7.4	14.3	4.3	24
23	3.5	4.1	0.3	S	1	1.1	5.1	8	3	2.4	2.7	3.1	2	4.1	2.9	1.8	2.5	5.1	6.3	15.1	16.6	2.2	3.7	1	16.6	4.2	24
24	0.6	4	S	1.1	0.7	1.8	0.6	0.5	0.5	2	4.7	7.9	6.7	2.1	0.1	3	6	0.4	2.7	6.9	12.6	0.3	0.4	0.5	12.6	2.9	24
25	0.9	S	0.1	0.1	0.1	0.3	0.3	0.4	1.1	0.6	1.7	0.6	2.4	0.9	0.2	2.1	4.9	0.3	0	0.6	1.1	0.1	6.1	5.4	6.1	1.3	24
26	S	0.2	0.7	2.4	0.4	1.3	2	2.1	8.8	1	1.3	1.4	1.8	1.4	2.3	1.4	0.1	0	0	0	0	0.2	0.3	S	8.8	1.3	24
27	0.7	0.6	1.1	2	0.2	1.1	1.6	4.1	5.4	3.7	0.7	2.6	1	1.2	0	1	1.3	0.3	0.1	0	0.1	0.1	S	0.5	5.4	1.3	24
28	0.6	1	1.1	1.1	1.2	1.4	2.7	2.6	7.1	4.1	1.6	2.4	0.9	0.7	0.6	0.3	0.3	0.2	0.2	0.6	2.5	S	0.3	0.4	7.1	1.5	24
29	0.3	0.3	0.4	0.7	0.8	0.8	1	0.7	0.4	2.6	1.4	1.5	0.8	0.5	0.8	0.6	3.7	3	1.6	0.4	S	1.4	1.3	1.4	3.7	1.1	24
30	1.1	1.6	1.9	1.2	1.1	1.1	2.6	3.7	4.3	4.8	4.6	1.4	1.2	2.2	0.8	1.2	0.6	0.6	0.4	S	0.4	0.8	0.7	0.6	4.8	1.7	24
31	0.5	0.9	1.1	1.1	0.9	0.7	2	3.7	1.9	0.7	2.3	1.7	1.7	1.4	1.3	0.9	1.2	3.2	S	7	1.4	1.3	0.9	0.5	7	1.7	24
HOURLY MAX	4.8	13.9	6.9	13.2	6.3	15.0	30.1	21.0	16.2	15.0	5.4	7.9	6.7	4.1	7.0	5.4	6.0	5.7	11.4	15.1	21.5	12.7	13.5	14.3			
HOURLY AVG	1.6	2.6	1.9	2.1	2.2	3.1	5.0	5.1	3.9	3.3	2.2	1.9	1.6	1.2	1.7	1.6	1.6	1.3	2.1	2.5	2.9	2.1	2.7	2.8			

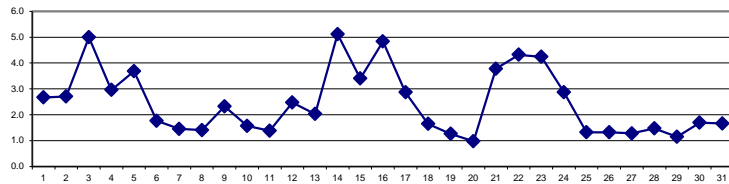
STATUS FLAG CODES

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

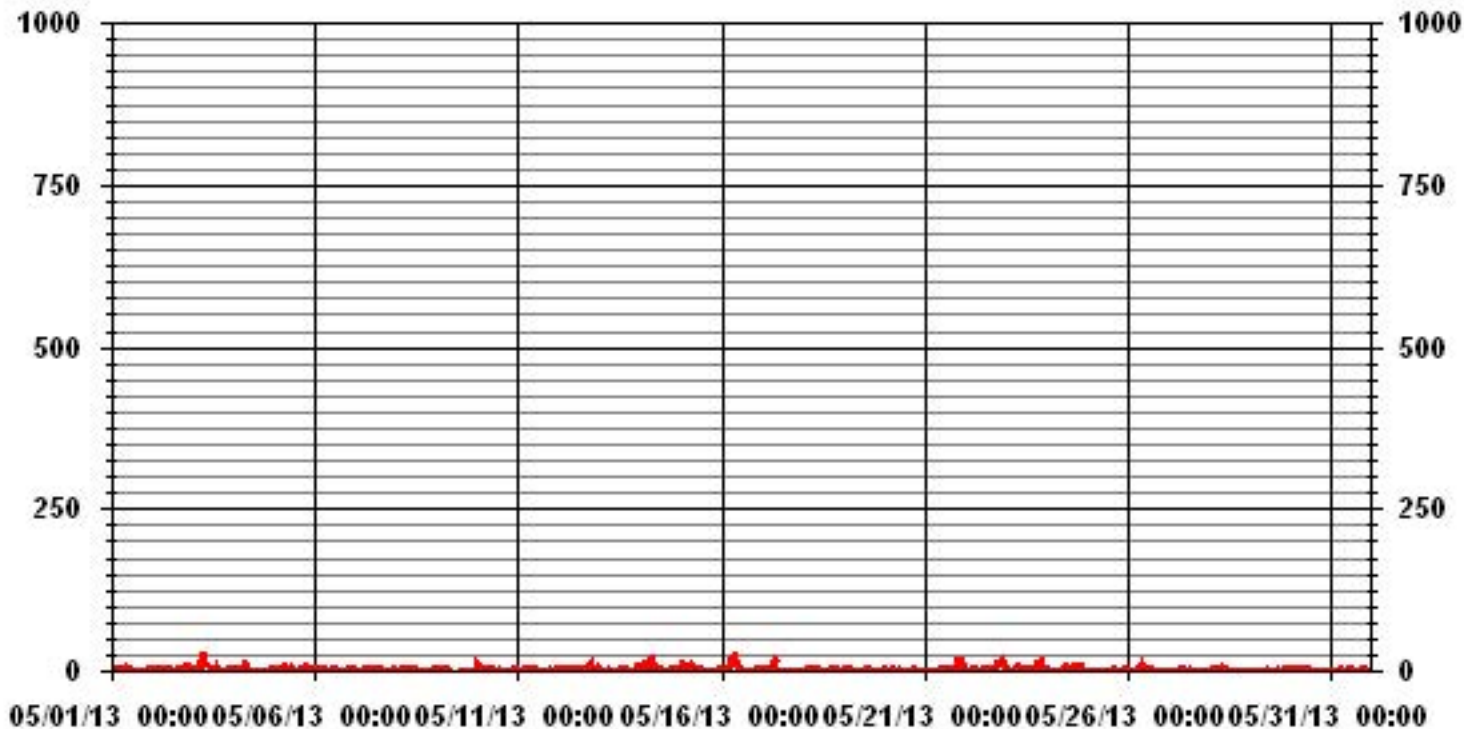
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	661					
MAXIMUM 1-HR AVERAGE:	30.1	PPB	@ HOUR(S)	6	ON DAY(S)	3
MAXIMUM 24-HR AVERAGE:	5.1	PPB			ON DAY(S)	14
IZS CALIBRATION TIME:	34	HRS	OPERATIONAL TIME:	744	HRS	
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	3.28		MONTHLY AVERAGE:	2.47	PPB	

24 HOUR AVERAGES FOR MAY 2013



01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

MAY 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	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	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	3.6	S	4	17.8	7.2	7	4	11.7	20.2	4.5	2.6	2.6	2.8	2.2	1.6	1.2	0.9	1.2	1.8	3.7	5.1	4.3	3.1	20.2	5.0	24	
2	1.9	S	2.5	2	2.2	4.5	12.7	5	3.4	4.9	5.5	4.5	1.6	0.8	10	16.8	15.2	14.2	7.1	0	8.4	23	9.9	5	23	7.0	24	
3	S	5.3	6.7	4.2	9.8	46.3	48	32.3	18.9	22.3	8.4	8	27.1	5	44.4	6.6	9.1	0	0	3.6	1.6	2.1	4.6	S	48	14.3	24	
4	7.2	7.4	6.8	4.9	7.7	13.2	15.1	15.5	11.7	3	1.9	1	3.4	0.3	0.2	0	0.4	0	0	0.2	0	1.6	S	2.8	15.5	4.5	24	
5	3.1	3.7	7.1	4.2	3.2	8.4	8.5	7.5	8.4	6.9	10.9	2.8	1.6	1.5	4.7	17.4	17.4	3.5	16	17.8	6.7	S	3.5	2.9	17.8	7.3	24	
6	4.8	4	3	1.8	43.2	8.7	2.1	1.7	1.4	4.2	9	4.7	6.1	7.8	2.5	1.6	2.7	1.3	1.5	1.7	S	2.2	2	6.5	43.2	5.4	24	
7	2.5	1.9	2.6	1.1	1.6	1.8	2	2.7	2.6	5.1	3	3.2	4.1	2.9	2.3	2.1	1.8	1.5	1.6	S	1.5	2.1	2.1	2.1	5.1	2.4	24	
8	1.8	1.6	3.2	3.5	2.5	3.3	3.9	4.2	4.4	2.4	1.9	2.9	1.7	1.7	1.6	1.7	0.7	0.9	S	1.2	1.1	2.1	3.7	3	4.4	2.4	24	
9	2.1	2.3	2.7	2.7	3	3.2	6.8	6.9	C	C	C	C	C	C	4.2	2	1	S	1	0.6	0.8	2.4	3.5	39.6	39.6	5.0	24	
10	6.5	3.7	2.8	2.6	1.7	2.6	3.1	2	2.3	2.7	3.3	2	10.5	4	8.4	3	S	2.5	0.9	0.9	1	4.5	5.6	4.1	10.5	3.5	24	
11	4.8	1.5	1.3	1.6	2.5	3	3	3.7	3.4	2.1	1.8	2	1.4	1.6	1.2	S	1.3	1.1	2.7	2.8	1.6	3.8	1.7	2	4.8	2.3	24	
12	2.4	2.6	2.6	2.3	2.3	2.8	2.8	2.9	3.6	3.3	2.4	2.9	2.2	1.9	S	1.9	1.8	37	36.3	3.6	3.8	3.9	3.1	9.8	37	6.0	24	
13	6.3	3.7	1.2	1.1	1.5	3.1	24.3	2	1.7	1.9	1.7	2.7	1.9	S	14.2	18.3	12.8	4.1	1.2	0.5	1.4	2.7	13.9	31.6	31.6	6.7	24	
14	9.5	13.2	6.6	18.9	13.2	21.6	44	43.3	13.4	32.1	22.1	11.8	S	1.2	3.5	10.8	6.6	0.4	19.9	5	7.8	3.7	3	3.8	44	13.7	24	
15	1.9	24.7	13	6.7	4.5	9.9	25.6	9.4	10.7	13.1	3.1	S	25.4	1.4	1.8	20.3	0.9	5.1	1.6	0.9	1.8	2	2.7	2	25.6	8.2	24	
16	2	4.7	3.9	4.8	6	9	44.4	53.4	13.9	37.5	S	19.1	14.3	1.2	3.3	2.7	S	2.3	1.5	1.4	1.7	2.6	3.5	2.4	53.4	10.7	24	
17	2.9	3.7	3.3	6	11.8	8.1	20.2	32.8	38.2	S	0.6	1.1	4.4	3.5	2.1	1.1	0.2	0.4	0.2	0	0.7	2.1	2.5	0.7	38.2	6.4	24	
18	0.8	1.3	1.1	1.2	1.4	1	1	20.3	S	8.7	8.3	1.3	0.5	5.4	8.3	6.9	5.6	15.2	15.3	11.2	3.3	3.6	1.3	1.6	20.3	5.4	24	
19	1.8	2.8	2.5	3.6	10.1	6.7	3.2	S	2.3	0.7	0.5	0	0	31.8	33.9	8	7.6	0.8	0.2	0.1	1.3	1.7	1.5	2.1	33.9	5.4	24	
20	2.2	2.6	4.4	1.6	3.5	6.8	S	4.1	1.8	2.6	1.8	0.3	1.6	1.1	2	0	1.4	4.7	12.4	6.7	1.2	0.5	0.5	0.3	12.4	2.8	24	
21	0.3	1	0.8	1.2	0.9	S	1	0.7	4.8	8.7	6.6	8.6	6.8	7.5	10.8	10.2	5.9	1.9	6.8	14.3	32.8	19.7	20.3	16	32.8	8.2	24	
22	0.4	1.1	1.2	0.6	S	0.7	0.6	1.5	5.9	7.2	8.6	5.2	8.7	8.8	7.6	9.4	13.2	12	16.2	16.2	20.4	11.2	24.3	18.7	24.3	8.7	24	
23	5.2	11.6	0.8	S	1.6	1.7	8.6	12.6	7.4	8.6	8.7	8.2	6.7	11.1	7.2	6.4	9.2	10.3	14.6	20.4	21.9	4.6	7.1	2.7	21.9	8.6	24	
24	1.4	15	S	3.6	3.1	8.8	1	1	2	9.1	11	14.9	13.9	10.9	1.4	11.4	10.1	1.9	5.6	14.1	18.8	1.9	0.9	1	18.8	7.1	24	
25	1.7	S	0.8	0.9	0.7	0.8	0.9	0.9	3.6	3.1	8.1	1.7	6.5	4.7	2.9	7.7	11.1	6	0	5.9	10.8	2.3	16.4	16.9	16.9	5.0	24	
26	S	0.9	3.1	3.7	1.1	6.3	9.1	6.1	17	3.1	5.6	4.1	8.7	5.7	5.9	3.5	1.3	1.4	0.6	0.4	0.4	1	1	S	17	4.1	24	
27	1.6	1.3	2	10.2	0.9	2.4	3.5	5	8.8	11.6	2.4	6.8	2.3	3.7	2	3.4	3.6	2.9	2.9	0.1	0.8	1	S	1	11.6	3.5	24	
28	1.2	1.6	1.8	1.5	1.9	2	4.1	4.9	21.3	10.9	3.1	5.4	3.1	1.6	1.1	0.8	0.8	0.7	0.7	1.8	3.6	S	0.8	1	21.3	3.3	24	
29	0.8	0.9	1.1	1.2	1.2	1.2	1.7	1.1	1	10.7	4.7	4.9	3.5	2.4	3.2	2.8	9.9	10.5	7.2	1.2	S	1.9	1.8	1.9	10.7	3.3	24	
30	1.7	2.6	3.9	2	2.2	3.6	10	9.5	8.4	8.6	8.6	5.4	4	4.5	1.4	3.6	1.2	1.7	1.1	S	1	1.7	1.2	1.2	10	3.9	24	
31	1.3	1.4	1.8	1.7	1.4	1.5	4.7	6	3.3	1.4	3.7	2.5	3.4	9.3	2.7	2	3.5	25	S	16.8	2.8	1.8	1.6	1.1	25	4.4	24	
HOURLY MAX	9.5	24.7	13.0	18.9	43.2	46.3	48.0	53.4	38.2	37.5	22.1	19.1	27.1	31.8	44.4	20.3	17.4	37.0	36.3	20.4	32.8	23.0	24.3	39.6				
HOURLY AVG	2.8	4.5	3.3	3.5	5.5	6.7	10.8	10.1	8.2	8.9	5.6	4.8	6.1	5.0	6.6	6.1	5.4	5.7	6.1	5.2	5.6	4.1	5.1	6.4				

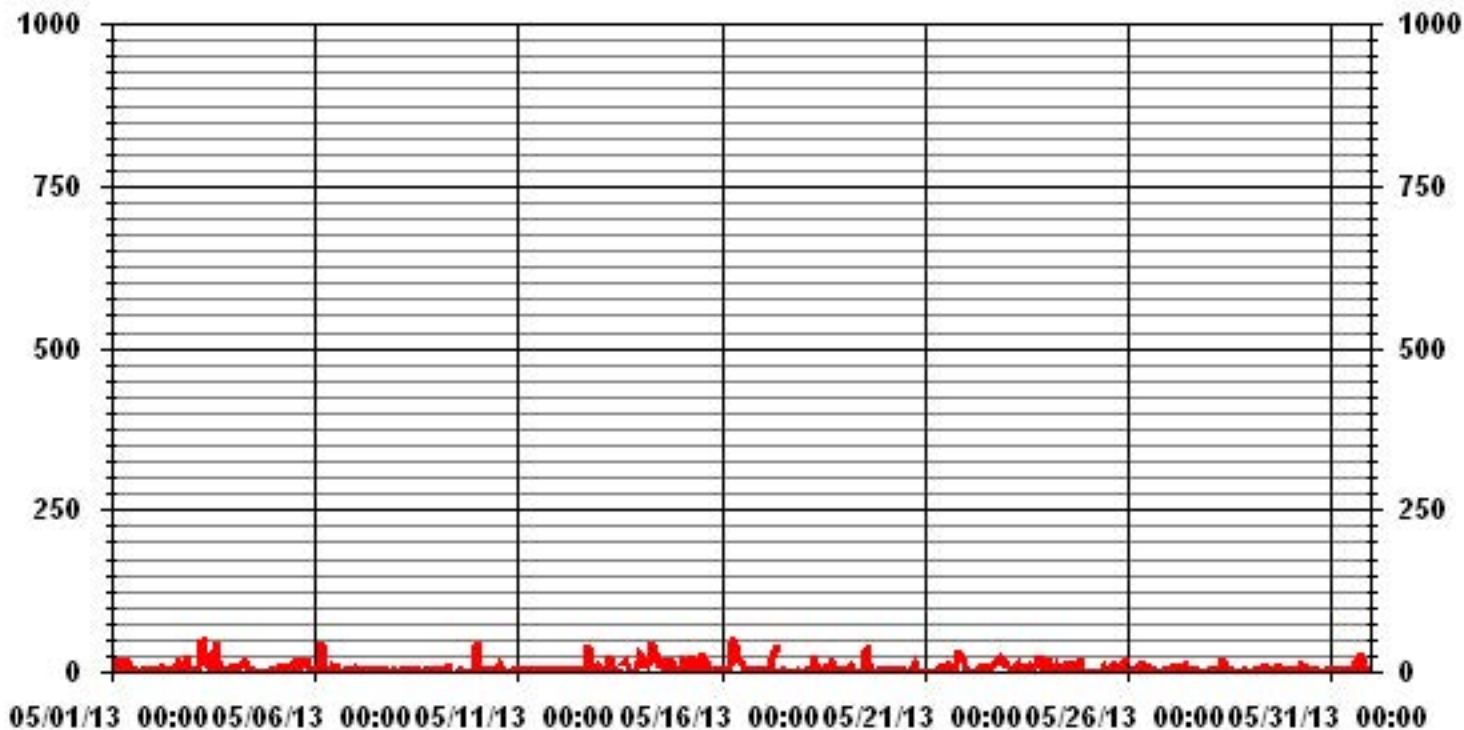
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	692					
MAXIMUM INSTANTANEOUS VALUE:	53.4	PPB	@ HOUR(S)	7	ON DAY(S)	16
IZS CALIBRATION TIME:	34	HRS	OPERATIONAL TIME:	744	HRS	
MONTHLY CALIBRATION TIME:	6	HRS				
STANDARD DEVIATION:	7.70					

01 Hour Averages



— LICA30 NOXMAX PPB

LICA30
NOX_ / WDR Joint Frequency Distribution (Percent)

May 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 50.0	5.25	3.40	7.67	10.51	9.51	11.07	7.24	6.67	5.96	9.37	4.54	2.55	4.54	5.96	2.55	3.12	100.00
< 110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.25	3.40	7.67	10.51	9.51	11.07	7.24	6.67	5.96	9.37	4.54	2.55	4.54	5.96	2.55	3.12	

Calm : .00 %

Total # Operational Hours : 704

Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 50.0	37	24	54	74	67	78	51	47	42	66	32	18	32	42	18	22	704
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	37	24	54	74	67	78	51	47	42	66	32	18	32	42	18	22	

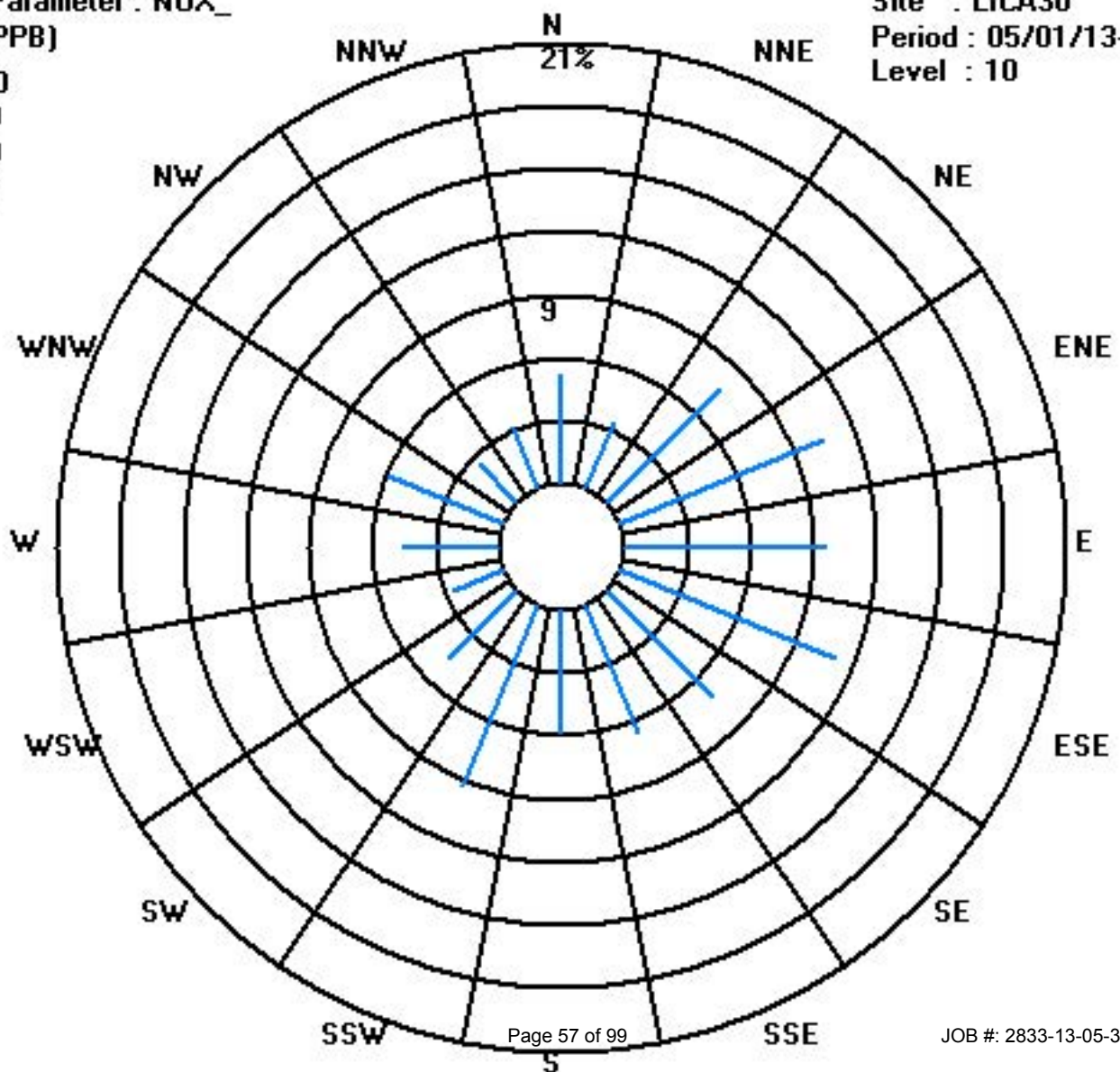
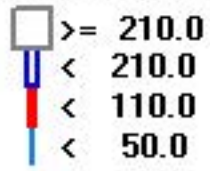
Calm : .00 %

Total # Operational Hours : 704

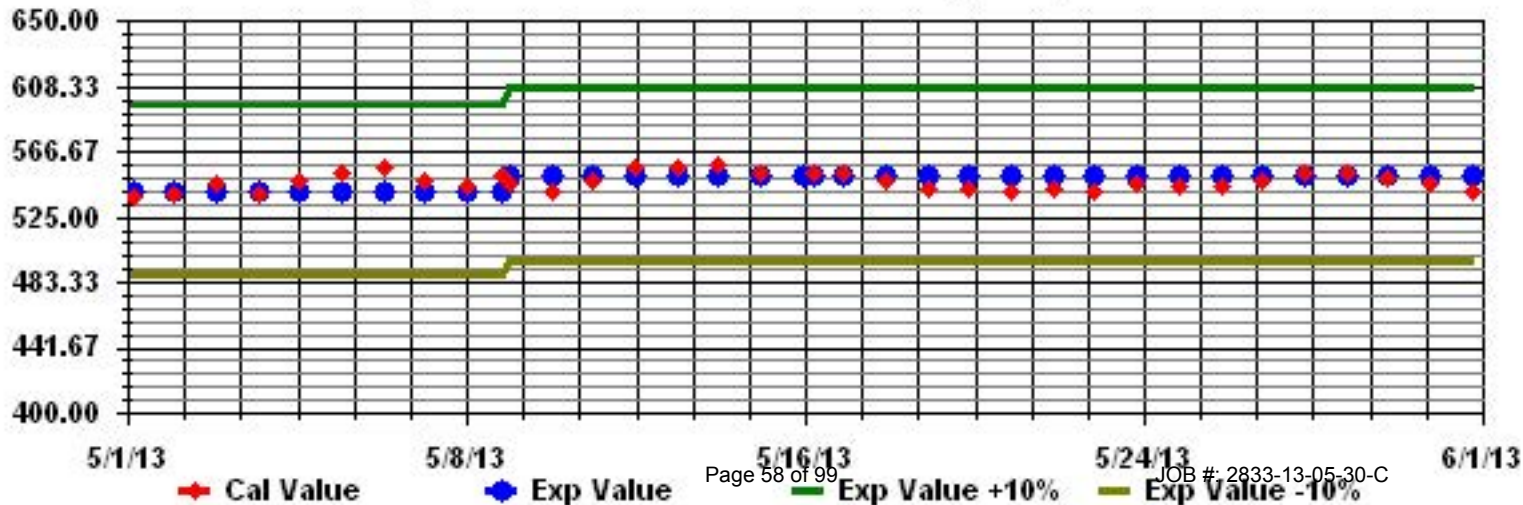
Class Limits (PPB)

Period : 05/01/13-05/31/13

Level : 10



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



Temperature

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

MAY 2013

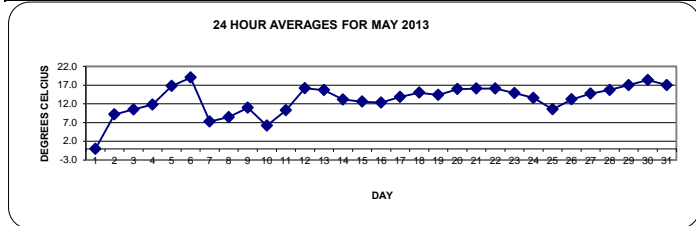
AMBIENT TEMPERATURE hourly averages (Degrees C)

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	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		7.3	-8.3	-8.7	-9.5	-10.5	-9.6	-6.2	-2.5	-0.6	0.6	1.8	2.7	4	4.8	4.9	5.9	5.8	5.7	4.6	3.3	1.5	1.3	0.5	0.3	7.3	0.0	24
2		0.3	1.1	1.8	2	2	2.1	2.7	3.9	5.4	8.5	11.2	14.1	16.4	17.1	17	16.9	15.4	15.7	14.4	12.9	11.8	10.5	9.4	7.8	17.1	9.2	24
3		4.7	2.5	2.6	1.8	0.9	3.5	8.1	11.5	14	16.8	18.3	18.5	18.6	19.3	16.3	16.9	17	16.6	12.9	10.4	7.9	5.6	3.9	3.4	19.3	10.5	24
4		1.8	0.7	0	-0.7	-1.2	-0.2	6.5	11.7	14.6	16.1	16.5	17.8	18.7	19.4	19.5	19.5	19.6	18.7	18	15.9	13.7	13	12.3	11.5	19.6	11.8	24
5		0.9	9.8	7.9	8.3	7.9	8.2	10.8	13.3	16.4	19.9	23	25.7	25.9	26.8	27.1	27	26.8	26.5	24.9	20.6	15.5	12.3	9.7	8.3	27.1	16.8	24
6		6.8	6.7	7.6	6.8	5.4	5.2	10.1	14	17.7	20.8	23.1	25	27.1	28.3	28.8	29.1	29.4	28.9	27.7	24.9	22.7	21.6	20.3	19	29.4	19.0	24
7		4.5	13.2	11.7	8.6	6.4	5.3	4.7	4.4	4.9	6	7.5	9	9.9	11.2	11.4	11.7	11.8	10.8	9.8	7.6	3.8	1.6	0.5	-1.6	13.2	7.3	24
8		2.6	-2	-1.8	-3.8	-3.8	1.3	3.7	5.6	8.4	10.3	12	13.3	14.3	15.4	15.7	14.6	15.8	14.9	14.7	12.8	10.9	10	9.3	8.9	15.8	8.5	24
9		8.1	7.3	6.8	6.4	4.3	2.7	6.1	11	12.5	14.3	16.3	17.8	19.5	19.2	18.6	17.9	16.3	13.5	11.4	10	8.1	6	5.3	4.5	19.5	11.0	24
10		4.7	4.4	3.7	2.9	2.2	2.2	2.7	4.7	5.4	8	9	10.3	11	11.4	12.1	12	11.7	11.3	10	7.4	3.7	1.4	-0.9	-2.4	12.1	6.2	24
11		0.2	1	0.5	-1	-3.3	-1.5	3.5	6	9	11.6	13.3	14.8	16.7	17.7	18.3	19.2	18.8	18.9	17.7	16.1	13.4	12.9	12.3	11.2	19.2	10.3	24
12		8.8	7.9	7.5	8.5	8.9	9.5	10.8	12.9	15.3	18	21.8	23.2	23	23.8	25.7	27.1	26.8	25.8	19.1	14.8	13.3	12.4	11.8	11.6	27.1	16.2	24
13		1.9	11.2	11.2	10.7	10.6	12	14.1	16.3	17.6	18.5	19.6	20.8	21.1	22.5	21	21.2	21	21	20	17.7	13.9	11.5	10.8	10.2	22.5	15.7	24
14		0.2	6.6	5.4	5.1	4.1	6.6	12.2	15.5	17.6	19.1	20.4	21.2	20.2	20	20.8	19	20	17.8	17.1	14.7	12.3	8.1	6.3	5.6	21.2	13.2	24
15		5.5	4.6	2.9	2.5	1.8	4.9	9.7	13.4	17.5	19.2	19.3	19.9	19.5	20.6	19.2	19.2	19.9	19.8	18.3	13.9	10	8	6.9	5.8	20.6	12.6	24
16		3.9	3.2	2	1.9	1.7	5.5	12.3	15	15.8	15.2	16.1	17.6	20.7	20.2	19.8	19	19.5	19	19.5	16.6	11.8	8.6	6.1	5.1	20.7	12.3	24
17		3.9	3	1.8	1.3	1.1	4.1	10.6	16.4	20.4	22.1	22.8	22.9	22.2	21.1	21.9	21.7	20.8	19.6	20.9	17.8	13.1	9.3	7.2	6.5	22.9	13.9	24
18		5.2	4.5	4	2.9	2.3	6.5	11.6	15.2	19.8	21.8	23.6	24.4	24.8	22.6	24.2	22.9	21.2	22.4	20.6	17.1	13.1	12.3	9.3	7.7	24.8	15.0	24
19		6.5	4.9	4.1	3.7	3.2	3.7	7.8	14.5	20	21.7	23.5	23.7	23.7	23.5	19.2	20.3	19.3	18.2	18.7	16.3	13.6	12.9	12	10.2	23.7	14.4	24
20		9.1	9.4	9.7	9.7	10.1	10.7	12.3	13.5	16.5	19.5	20.7	23.1	23.7	22	22.8	22.7	23.9	23.6	20.6	17.2	14	11.2	8.9	7.7	23.9	15.9	24
21		7.4	7.2	6.8	6	7	9.7	11.6	14.2	18.2	20.5	22.6	23.7	24.3	24.3	23.9	23.8	23.8	22.6	21.4	18.4	15.4	13.7	11.6	9.1	24.3	16.1	24
22		6.6	6.9	6.2	5.4	5.4	8.2	11.7	15.2	17.6	19.6	21.2	22.6	23.2	23.6	24.1	23.8	23.2	22.7	20.9	18.8	16.7	15.5	14.5	13.1	24.1	16.1	24
23		1.8	9.8	7	6.6	7.3	9.4	12.2	14.4	15.9	17.7	19.7	21.2	21.7	21.7	22.2	21.3	21.8	21.5	20.5	16.8	14	12.4	10.4	10.2	22.2	14.9	24
24		9.9	11.6	12.1	11.8	11.8	12.7	13.2	13.9	17.4	19.1	19.1	17.9	18.4	17.2	17.1	18	17.4	14.4	11.9	9.2	8.6	8.1	7.8	7.6	19.1	13.6	24
25		7.8	8	8.2	8.1	8.1	8.4	8.8	9.5	10.8	10.9	10.2	10.2	14.4	14.6	13.7	12.6	12.5	13.4	14.4	12.5	9.5	8.7	8.9	8.8	14.6	10.5	24
26		8.6	8.3	8.1	6.9	5.9	7.4	9.2	12.4	14.5	14.7	16.8	17.2	18	18.3	18.9	20.5	19.2	20.4	19.3	16.8	12.1	9.2	7.7	6.5	20.5	13.2	24
27		5.8	4.9	4.3	3.6	3.1	6.7	10.5	15.9	19	20.3	21.8	22.2	22.9	22.5	23	23.2	22.3	21.3	20.8	17	13.8	11.5	9.1	7.7	23.2	14.7	24
28		7.1	6.4	5.6	5.3	4.7	6.8	11.9	17	21.1	22.7	22.5	24.7	24.8	20.2	20.8	21.8	23.7	22.7	21.5	16.7	14.3	12.7	11.7	10.5	24.8	15.7	24
29		9.2	8.1	7.4	6.8	6.7	8.7	10.9	14.2	18.7	22.1	25	25.9	26.9	25.9	23.4	24.5	23.1	23.2	22.7	18.6	15.9	14.2	13.3	12.6	26.9	17.0	24
30		1.1	11.3	12	11.9	11.6	12.9	16.7	20	22	22.7	24.5	25.2	25.7	25.9	25.4	25.7	24.9	24.4	21.7	18.7	16.2	15.5	13.1	11.7	25.9	18.4	24
31		1.8	10.5	9.9	9.8	9.3	11.5	14.6	16.5	18.2	21	23.4	24.4	25.7	25.7	25.9	24.8	19.3	18.3	19	17.9	16.1	15.5	14.8	14.2	25.9	17.0	24
HOURLY MAX		9.9	13.2	12.1	11.9	11.8	12.9	16.7	20.0	22.0	22.7	25.0	25.9	27.1	28.3	28.8	29.1	29.4	28.9	27.7	24.9	22.7	21.6	20.3	19.0			
HOURLY AVG		5.0	6.0	5.4	4.8	4.4	6.0	9.2	12.2	14.9	16.8	18.3	19.4	20.2	20.2	20.1	20.1	19.7	19.1	17.9	15.1	12.3	10.6	9.2	8.2			

STATUS FLAG CODES

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

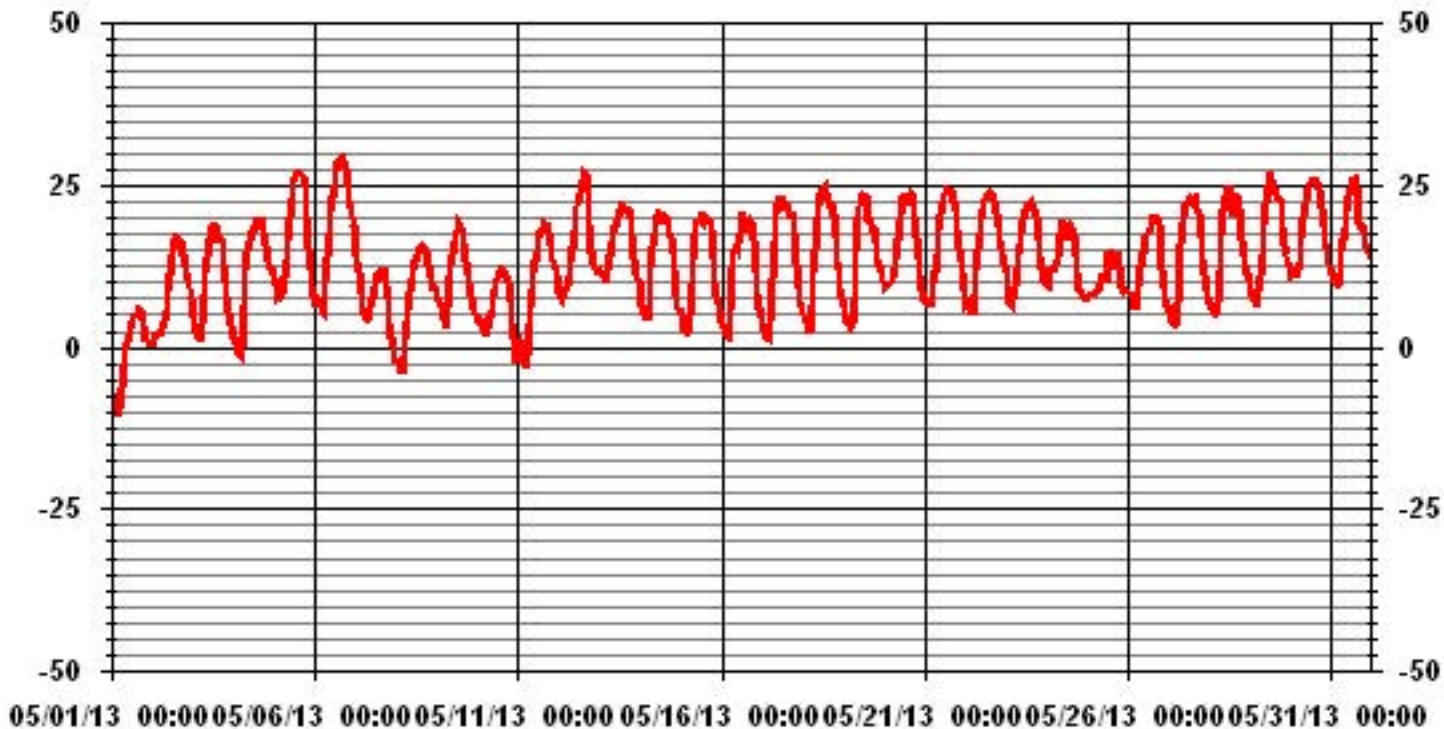
24 HOUR AVERAGES FOR MAY 2013



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-10.5 °C	@ HOUR(S)	4	ON DAY(S)	1
MAXIMUM 1-HR AVERAGE:	29.4 °C	@ HOUR(S)	16	ON DAY(S)	6
MAXIMUM 24-HR AVERAGE:	19.0 °C			ON DAY(S)	6
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	744	HRS
STANDARD DEVIATION:	7.55		AMD OPERATION UPTIME:	100.0	%
			MONTHLY AVERAGE:	13.13	°C

01 Hour Averages



Precipitation

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

MAY 2013

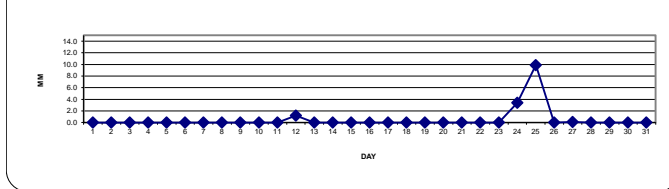
PRECIPITATION hourly averages (mm)

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	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.	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
6		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	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	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	0	0	0	0	0	0	0	0	0.0	0.0	24
11		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	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	0.8	1.2	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	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
19		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
20		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
21		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
22		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	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	24
24		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.3	0.4	1	0.6	0.1	1.3	3.4	24
25		0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0.2	0.8	0	0.1	1.2	6.7	0.1	0.7	0	6.7	9.9	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	24	
27		0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	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	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
31		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
HOURLY MAX		0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.8	0.0	0.4	1.3	6.7	1.0	0.7	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

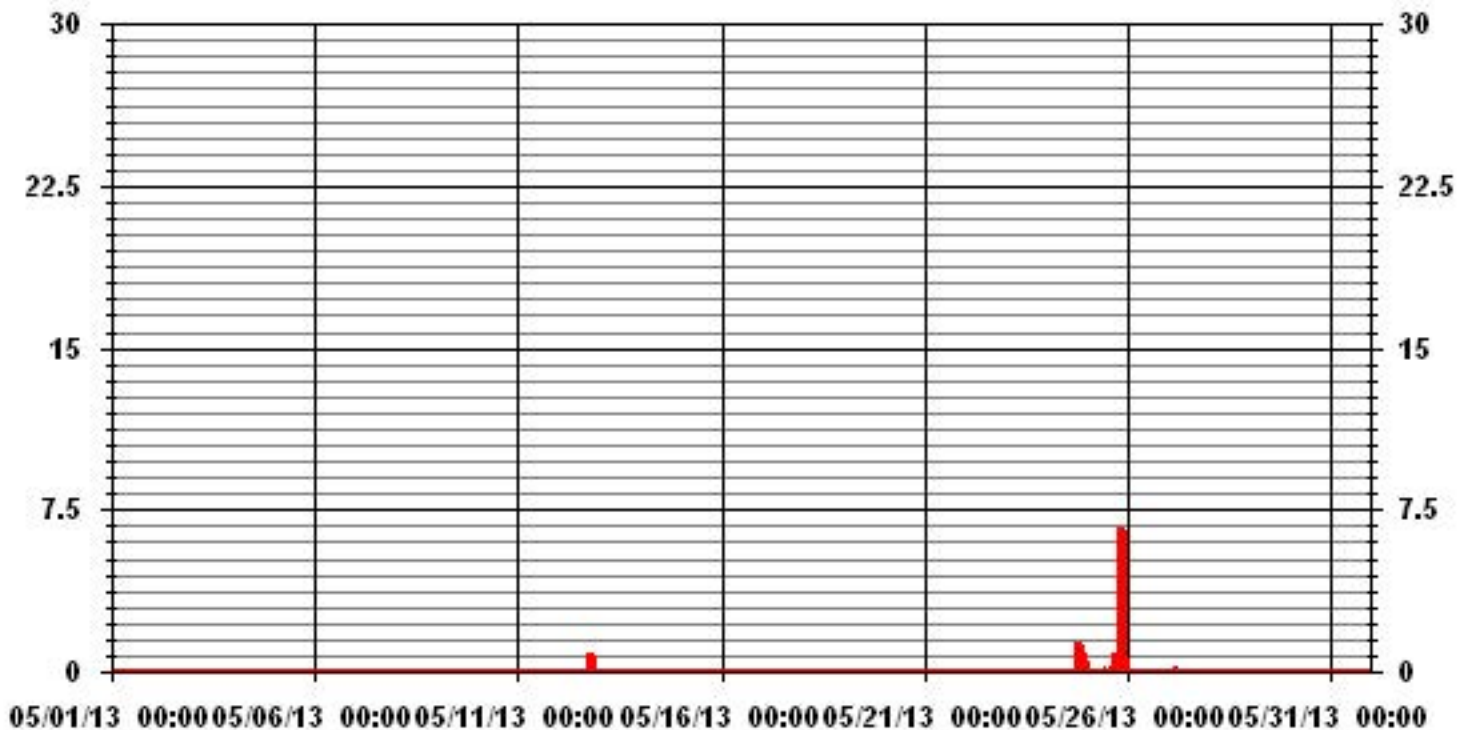
DAILY TOTALS FOR MAY 2013



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	6.7	MM	HOUR(S)	20	ON DAY(S)	25
MAXIMUM DAILY TOTAL	9.9	MM			ON DAY(S)	25
MONTHLY TOTAL	14.6	MM				
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	744	HRS	
STANDARD DEVIATION:	0.26		AMD OPERATION UPTIME:	100.0	%	
			MONTHLY AVERAGE:	0.02	MM	

01 Hour Averages



— LICA30 PRECIP MM

Relative Humidity

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

MAY 2013

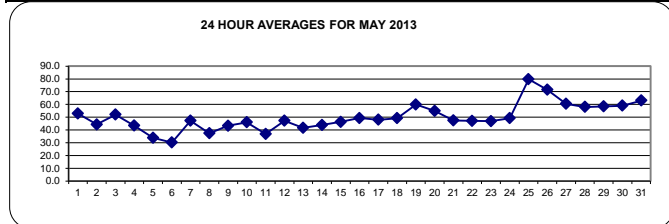
RELATIVE HUMIDITY hourly averages (%)

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOURLY MAX	HOURLY AVG	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																													
1		79	83	83	83	84	82	75	57	47	41	37	34	31	31	32	30	33	35	39	44	50	52	55	54	84	53.0	24	
2		53	53	53	54	56	56	56	53	51	43	38	33	29	29	30	30	33	33	36	40	45	50	53	58	58	58	44.4	24
3		69	76	77	80	83	72	59	48	42	35	31	29	29	26	31	29	30	33	44	54	63	69	71	69	83	52.0	24	
4		73	76	79	81	83	80	61	49	39	30	28	24	24	22	22	23	23	24	25	29	34	36	37	40	83	43.4	24	
5		42	45	50	49	52	53	47	42	37	31	28	24	22	18	16	16	15	14	15	22	33	41	51	52	53	34.0	24	
6		58	57	52	55	60	63	49	39	30	24	22	20	18	13	8	8	8	11	13	20	21	22	25	30	63	30.3	24	
7		39	45	51	64	68	68	66	64	59	54	48	43	39	36	34	31	29	27	29	33	42	49	54	61	68	47.2	24	
8		65	62	62	71	71	53	46	41	35	31	27	24	22	20	20	21	20	22	23	27	32	34	35	36	71	37.5	24	
9		39	42	43	44	51	58	50	35	34	31	29	28	26	27	29	30	34	42	49	54	59	66	70	71	71	43.4	24	
10		70	69	73	74	75	75	73	62	53	39	33	29	25	22	21	19	19	19	21	30	39	47	56	61	75	46.0	24	
11		53	52	54	59	68	63	47	43	36	30	27	25	23	22	22	21	22	22	25	28	34	34	35	39	68	36.8	24	
12		48	52	54	48	46	45	42	39	36	32	27	26	27	27	25	23	24	27	56	78	88	89	89	87	89	47.3	24	
13		80	68	56	55	56	54	49	44	40	37	31	27	27	25	27	26	27	25	26	31	41	48	48	50	80	41.6	24	
14		47	59	65	67	72	66	52	44	37	34	30	23	21	22	22	26	24	33	33	36	45	60	67	68	72	43.9	24	
15		67	74	82	84	87	79	62	50	33	24	21	22	24	22	24	25	23	22	24	36	47	53	60	67	87	46.3	24	
16		70	75	81	83	83	72	51	38	38	40	39	35	25	25	26	28	27	29	28	35	49	60	72	75	83	49.3	24	
17		80	85	87	89	90	86	63	44	29	25	20	17	20	22	21	21	24	27	24	32	46	61	69	70	90	48.0	24	
18		75	77	78	82	85	70	56	48	37	32	27	21	19	26	23	26	29	27	34	44	57	60	72	77	85	49.3	24	
19		81	87	89	90	90	90	79	61	44	40	35	33	32	31	42	39	41	46	45	56	65	68	73	81	90	59.9	24	
20		84	83	82	83	83	80	77	71	56	42	38	31	29	30	24	24	21	22	34	47	57	66	74	78	84	54.8	24	
21		79	81	85	89	86	78	73	65	55	47	42	37	27	23	15	15	16	18	19	23	31	38	45	54	89	47.5	24	
22		62	60	61	65	71	72	66	55	47	39	33	29	26	26	25	27	29	31	36	44	50	55	59	63	72	47.1	24	
23		67	73	84	84	79	70	57	49	46	42	37	30	27	24	25	23	23	25	33	40	47	55	55	84	46.9	24		
24		57	49	46	47	47	45	44	43	35	29	28	32	32	32	32	31	31	45	61	79	82	83	85	88	88	49.3	24	
25		89	89	88	87	86	83	82	80	77	77	81	80	61	59	62	74	79	77	70	77	87	90	89	89	90	79.7	24	
26		87	87	90	91	92	92	91	79	73	72	62	59	56	52	48	44	47	44	47	58	76	87	90	91	92	71.5	24	
27		91	92	92	92	92	92	82	65	55	46	39	36	29	30	29	29	31	32	36	50	65	75	85	89	92	60.6	24	
28		91	92	92	92	92	92	77	59	42	32	33	28	27	41	37	35	31	31	35	54	65	68	72	76	92	58.1	24	
29		83	88	90	90	91	86	81	71	53	43	32	26	23	26	36	32	35	36	37	52	64	73	76	78	91	58.4	24	
30		84	84	80	80	82	79	68	55	49	47	40	38	36	33	36	35	39	41	48	59	67	71	81	86	86	59.1	24	
31		85	88	91	90	89	83	70	58	53	45	36	33	30	32	31	34	61	65	63	66	74	76	79	81	91	63.0	24	
HOURLY MAX	HOURLY AVG	91	92	92	92	92	92	91	80	77	77	81	80	61	59	62	74	79	77	70	79	88	90	90	91				
		69.3	71.1	72.6	74.3	75.8	72.2	62.9	53.3	45.1	39.2	34.8	31.5	28.7	28.3	28.2	28.3	29.9	31.7	35.5	44.2	53.2	59.0	63.9	66.9				

STATUS FLAG CODES

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

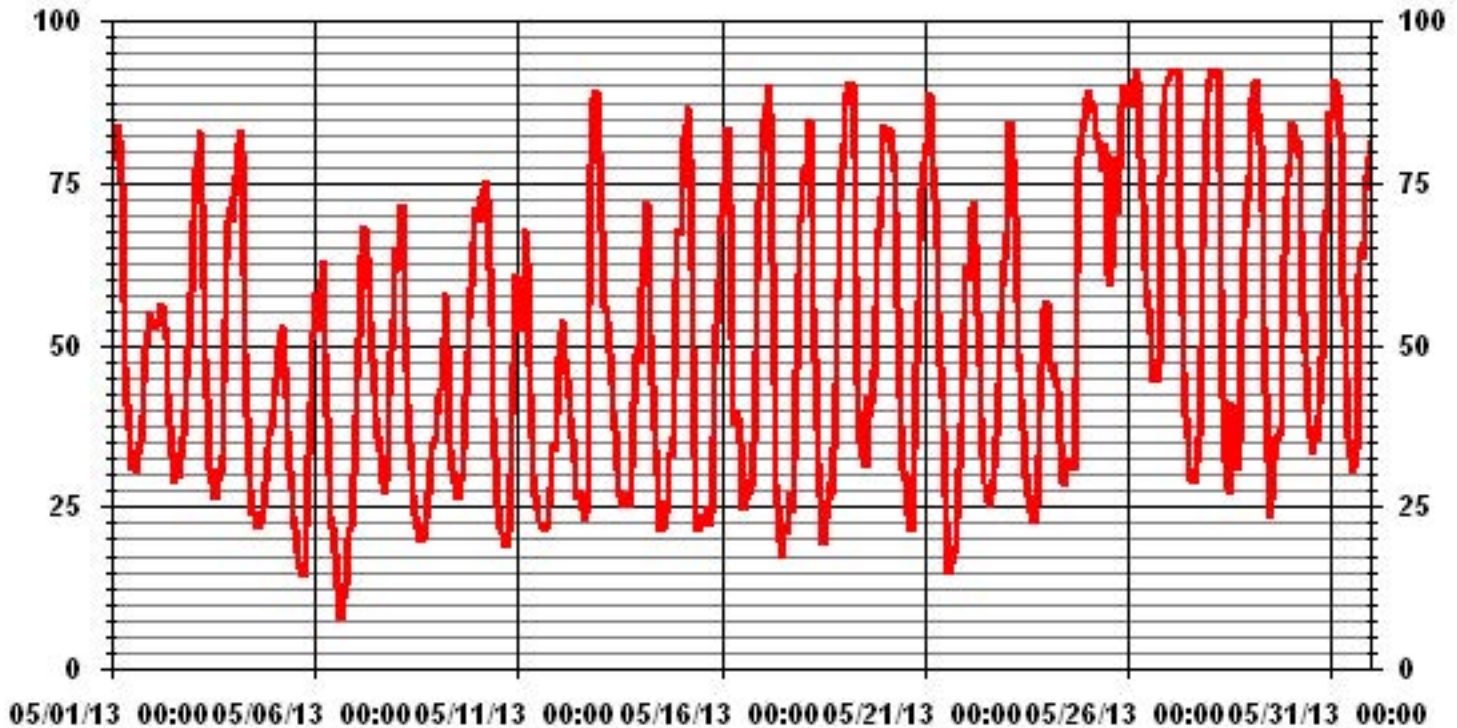
24 HOUR AVERAGES FOR MAY 2013



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	92	%	@ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 24-HR AVERAGE:	79.7	%			ON DAY(S)	25
					VAR-VARIOUS	
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	744	HRS	
STANDARD DEVIATION:	22.35		AMD OPERATION UPTIME:	100.0	%	
			MONTHLY AVERAGE:	49.99	%	

01 Hour Averages



Barometric Pressure

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

MAY 2013

BAROMETRIC PRESSURE hourly averages (millibar)

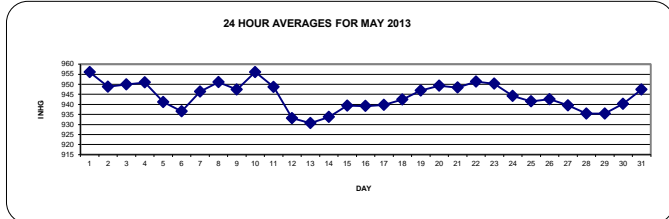
MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOURLY MAX	HOURLY AVG	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																													
1		953	953	953	954	954	955	956	957	958	958	958	958	958	958	958	957	957	957	956	955	955	955	954	954	958	956	24	
2		953	952	952	951	951	950	950	949	949	949	949	948	948	948	948	947	947	947	947	947	947	947	947	947	947	953	949	24
3		947	947	947	947	947	947	948	949	949	950	950	950	950	950	951	951	951	952	952	952	953	953	953	953	953	953	950	24
4		953	953	953	953	953	953	953	954	954	954	954	954	953	952	952	951	950	949	949	948	947	947	946	946	945	954	951	24
5		945	944	944	943	943	943	942	943	943	943	942	942	941	941	940	940	939	939	939	939	939	938	938	938	938	945	941	24
6		938	939	939	939	939	940	941	941	941	941	941	940	938	937	936	935	933	933	932	931	931	930	930	932	941	937	24	
7		935	936	937	939	941	943	944	946	947	948	949	949	949	950	950	950	950	950	950	950	950	950	950	950	950	950	946	24
8		950	951	951	951	951	952	952	953	953	953	953	952	952	952	951	951	951	951	950	950	949	949	949	949	949	953	951	24
9		948	948	948	948	948	947	947	948	948	947	947	947	947	946	946	945	946	946	947	947	948	949	950	950	950	950	947	24
10		950	951	953	954	954	955	956	957	957	958	958	959	958	958	958	957	957	957	956	956	955	955	955	954	958	956	24	
11		955	955	954	954	953	953	953	952	952	951	950	950	949	948	947	946	946	945	944	944	943	942	941	941	955	949	24	
12		941	940	939	938	938	937	937	936	935	935	934	933	932	932	930	929	928	927	929	929	929	929	929	929	941	933	24	
13		930	930	930	931	931	931	932	932	933	933	933	933	932	932	931	930	930	930	929	929	929	929	928	928	933	931	24	
14		928	928	929	929	930	931	932	933	934	934	935	935	935	935	934	935	935	936	936	937	937	937	937	937	937	937	934	24
15		938	938	938	939	939	939	940	941	941	941	941	941	941	940	940	940	939	939	939	939	939	938	938	938	941	939	24	
16		938	938	938	938	938	938	940	940	940	940	941	941	941	940	940	940	939	939	939	939	939	938	938	938	941	939	24	
17		938	938	938	938	938	939	940	941	941	941	941	941	941	940	940	940	940	940	940	940	940	940	940	940	941	940	24	
18		940	940	940	940	941	942	943	943	943	943	943	943	943	943	943	943	943	943	943	944	944	944	944	943	944	942	24	
19		944	943	944	944	945	945	946	947	948	948	948	947	947	947	947	948	948	948	948	948	948	948	949	949	949	947	24	
20		948	948	948	949	949	950	950	950	951	951	951	951	951	950	949	949	949	949	949	949	949	948	948	947	951	949	24	
21		947	947	947	947	948	948	949	949	949	950	949	949	949	949	948	948	948	948	948	948	948	948	948	949	949	950	948	24
22		949	949	949	949	950	951	951	952	952	953	953	953	953	952	952	951	951	951	951	951	951	951	951	952	952	953	951	24
23		952	952	951	951	951	952	952	952	952	952	952	952	951	950	949	949	949	949	948	948	948	948	948	947	952	950	24	
24		947	946	946	946	946	946	946	945	945	945	945	945	944	944	943	943	943	943	943	943	942	942	942	941	947	944	24	
25		941	941	941	941	941	941	941	941	941	941	941	942	942	942	942	942	942	942	942	942	942	942	942	942	942	942	942	24
26		943	942	942	942	941	942	943	943	944	944	944	944	943	943	943	943	943	943	942	942	942	941	941	941	944	943	24	
27		941	941	941	940	940	941	941	942	942	941	941	941	940	940	939	939	939	938	938	937	937	937	936	936	942	940	24	
28		936	936	935	935	935	935	936	936	937	937	937	936	936	936	936	935	935	935	935	935	935	934	934	934	937	935	24	
29		934	934	934	934	934	934	935	935	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936	937	937	935	24
30		937	937	937	937	938	938	939	940	940	940	941	941	941	941	941	941	942	942	942	942	942	943	943	943	943	940	24	
31		944	944	944	945	945	946	947	947	948	948	949	949	949	948	948	948	948	948	949	949	949	949	948	948	949	947	24	

STATUS FLAG CODES

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

MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	959	MB	@ HOUR(S)	11	ON DAY(S)	10
MAXIMUM 24-HR AVERAGE:	956	MB			ON DAY(S)	10
					VAR-VARIOUS	
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	744	HRS	
STANDARD DEVIATION:	7.00		AMD OPERATION UPTIME:	100.0	%	
			MONTHLY AVERAGE:	944	MB	



01 Hour Averages



Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

MAY 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	3.1	1.9	2.2	1.5	1	0.7	3.2	3.2	0.7	2.4	3.8	6.2	5.5	6.8	9.5	9.6	8.3	10.3	8.6	7.9	7.2	9.7	9.7	9.1	10.3	3.8	24
2	8	9.2	10.2	10.4	10.4	9.2	11.5	11.6	10.6	9.2	7.5	8.4	9.3	11.1	10.8	10.1	8.9	5.2	4.4	4.1	3.1	2.9	1.5	0.8	11.6	5.6	24
3	1.1	2.4	1.8	2.3	2.5	3.4	3.6	6	4.9	4	5.6	7.8	8.3	8.4	8.9	4.6	5.4	7.8	4.4	1.2	1.7	0.7	1	1.1	8.9	2.5	24
4	1.5	1	1.4	2.2	1.9	0.9	0.6	2.3	5.1	6	6.1	7.4	7.1	10	9.4	10.6	8.5	10	10.6	8.4	5.9	7.3	7.9	7.7	10.6	5.5	24
5	9.2	7.4	3.6	6.1	6.2	4.3	5.3	5.8	7.1	7.6	8.5	9.5	10.9	9.9	9.4	9.7	8.4	7.6	7.5	3.6	2.4	1.3	1	1.9	10.9	5	24
6	0.5	3.3	4.9	4.2	2.6	2.1	5.7	7.5	7.4	8.4	8.4	9.2	8.9	7.7	16.6	16.2	13.6	14.9	14.4	12.2	12.1	14.3	14	8.7	16.6	4.9	24
7	4.7	11	10.5	13	11.6	10.1	8.5	9.8	12.1	9.4	9.6	9.1	9.1	8.9	8.4	8.3	7.1	9.6	8.7	8.6	3.4	3.5	3.5	2.9	14.7	8.3	24
8	2.7	4.1	3.1	2.7	3.2	6	6.7	8.2	8.9	10.4	10.4	9.7	8.9	8.7	7.3	8.3	9.9	9.6	7.3	6.3	6.8	7.2	7.6	9.7	10.4	6.5	24
9	0.4	8.8	9.3	6.1	4	2.8	2.1	5.5	5.8	4.8	3	3.1	3.1	6.5	10.4	13	14.8	17.5	17.7	6	8.6	4.7	4.7	5.4	17.7	2.1	24
10	6.4	8.9	9	10.2	8.9	6.1	6.8	10.2	9.2	10.3	9.7	10	9.8	9.4	8.2	8.9	8.2	6.1	7.3	5.4	3.6	3.1	2.8	3.3	10.3	6.6	24
11	6.6	8	6.4	3.3	3	3.6	5.2	8.8	9.7	11.1	12.7	11.6	11.8	10.7	9.6	10.5	8.1	9.5	6.6	5.9	5.9	6.7	6.5	4.4	12.7	7	24
12	4	3.6	3.4	4.2	4.5	5.1	6	6.8	7.6	8.4	6.9	8.9	9.2	9	11.7	11.9	11.7	5.4	16.5	5.4	1.9	6.7	7	5.4	16.5	4	24
13	4.8	6.3	6.2	4	4.3	4.6	5.4	9	12.1	12.8	11.5	14	11.9	9.9	11.3	9.6	10.3	11.9	8.7	6.6	2.3	1.9	2.5	4.2	14	7.6	24
14	3.5	1.6	1.7	2	1.1	3	6.2	8.3	9.3	9.3	11.1	12.7	11.8	8.2	9.3	12.1	10.6	9.7	9.6	6.1	3.1	2.5	1.1	1.8	12.7	6	24
15	3.7	1.6	2.3	1.2	1.9	0.8	4.4	3.5	4.3	3.8	6	8.4	6.6	8.3	8.1	7	5.8	6.5	4.8	1.5	1.6	1.9	1.6	1.3	8.4	3.3	24
16	1.4	1.1	1.1	1.5	0.6	0.8	2.2	4	5.8	10	5	4.7	2.2	2	0.1	1.3	2.5	2	4.4	2.8	2.4	0.7	0.7	1.2	10	1.1	24
17	0.7	2.1	0.5	0.6	0.7	0.4	1.8	1	1.7	2.5	2.4	4	3.6	4.3	1.7	5.8	4.9	7.3	5.9	2.6	2.3	0.7	1.1	3.1	7.3	1	24
18	2.6	2.1	2.4	1.1	2.3	3.9	3.8	3	4.5	6.7	5.4	5.1	6.3	9.5	9.9	2.2	3.8	7	9	5.9	1.5	3.9	1.1	1.7	9.9	3.5	24
19	1.1	0.3	0.6	1.4	0.8	1	2.2	0.8	7.3	7.3	6.4	7.3	7.2	5.6	6.4	2.8	6.6	5.4	1.2	0.9	1.2	4.8	1.5	0.7	7.3	1.6	24
20	0.7	1.4	1.9	1.4	1.8	1.2	0.8	1.6	2.2	5.5	7.1	5.8	4.5	5.3	4.9	4.8	5.9	4.9	6.1	3.5	3.3	1.8	2.9	2.6	7.1	2.5	24
21	2.6	4.3	3.1	4.1	4.1	5.4	5.7	4.9	5.1	6.6	8.3	10	10.4	11.3	12.2	10.6	10.4	9	7.9	7.4	5.9	5.3	4.2	2.7	12.2	6.1	24
22	2.8	5.3	4.3	4.7	4.5	5.1	6.5	7.9	8.6	8.6	9.3	10.2	10.5	10.4	10.5	10.7	9.6	8.9	8.4	8	7.5	7.3	6.2	6.7	10.7	7.2	24
23	5.1	2	2.7	4.3	4.5	4.6	4.9	6	6.6	6.7	8	9.2	9.4	11.1	9.8	10.3	8.5	7.6	6.5	4.6	5	3.9	2.4	4.9	11.1	5.7	24
24	4.8	5.1	6.6	6.1	6	8.2	8.1	9.7	10.5	14.3	13.9	12	12.8	13.6	10.1	10.3	9.6	10.9	11.9	12.7	10.9	10.5	10.6	9.4	14.3	9.4	24
25	8.9	8.2	8	8.4	9.9	10.6	10.3	11.5	10.6	10.7	11.3	11.8	14.9	13	12.2	9.1	6.1	6.4	7.6	5.7	5.3	7.6	7.4	7.4	14.9	9	24
26	6.2	5.3	2.5	2	2.3	1.1	1.2	5.2	5.7	3.8	3.2	4.4	5.6	3.6	4.7	6.4	4.3	4.7	2.3	2.6	2.5	1.3	1.3	2.5	6.4	2.9	24
27	0.6	0.3	2.2	0.9	0.5	1.8	3	0.6	0.6	2.4	5	5.8	4.8	4.1	4.9	4.4	4.8	4.1	4.9	1.9	1.5	1.9	1.3	0.4	5.8	2.1	24
28	0.7	0.5	0.9	1.7	1.1	1.1	2.3	3.9	3.2	3.1	2.4	4.4	6.2	9.1	10.5	6.7	7.6	5.7	3.4	1.1	0.9	3.3	3.2	2.9	10.5	2.9	24
29	2.9	2.8	2.7	2.3	2.5	3.5	3	3.9	5.7	5	4.4	5.8	4.3	7.1	8.7	6.2	5.8	4.9	4.6	3.6	0.8	1	2.2	0.3	8.7	2.6	24
30	1.9	2.4	2.5	2.1	2.8	2.2	2.8	3.5	3.2	4.2	6.7	8.7	6.8	7.6	6.3	5.7	5.7	4.9	3	0.8	2.2	2.6	1.7	1.9	8.7	2.9	24
31	3.4	1.3	1	0.6	0.9	0.3	1.3	2.3	3.7	4.8	4.4	3.5	0.1	4.7	5.2	2.9	7.9	4.3	2	1.2	0.6	1.6	0.5	0.9	7.9	0.7	24
HOURLY MAX	9.2	11.0	10.5	13.0	11.6	10.6	11.5	11.6	12.1	14.3	13.9	14.0	14.9	13.6	16.6	16.2	14.8	17.5	17.7	12.7	12.1	14.3	14.0	9.7			
HOURLY AVG	3.4	4.0	3.8	3.8	3.6	3.7	4.6	5.7	6.4	7.1	7.2	8.0	7.8	8.3	8.6	8.1	7.9	7.7	7.3	5.0	4.0	4.3	3.9	3.8			

STATUS FLAG CODES

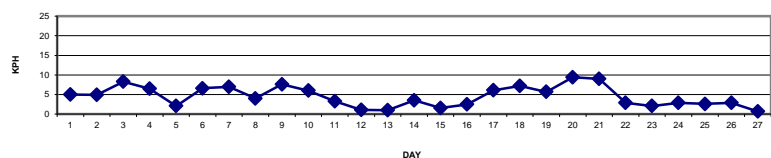
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

LAST CALIBRATION: December 20, 2011

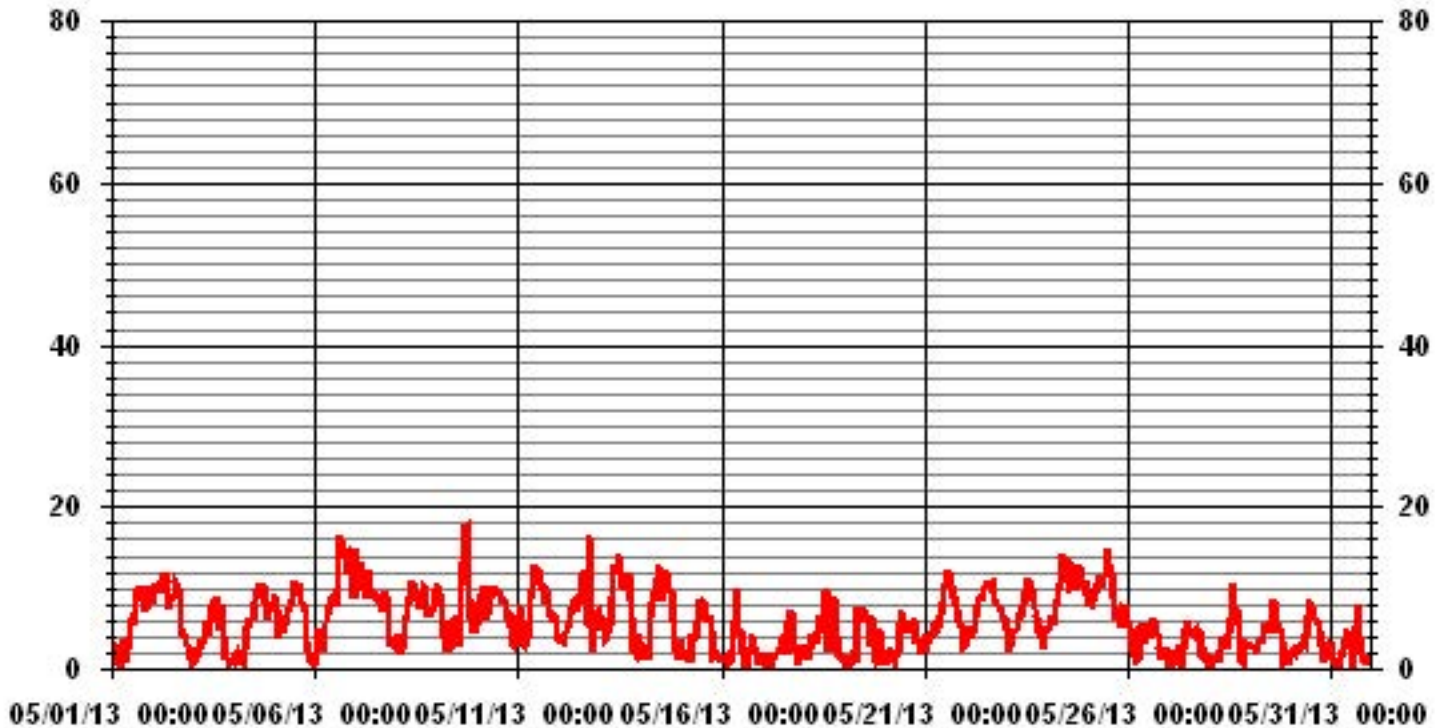
MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	17.7 KPH	@ HOUR(S)	18	ON DAY(S)	9
MAXIMUM 24-HR AVERAGE:	9.4 KPH			ON DAY(S)	24
CALMS (≤ 1 KPH)	5.65 %	OPERATIONAL TIME:	744	HRS	
MONTHLY CALIBRATION TIME:	0 HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	3.59	MONTHLY AVERAGE:	5.75	KPH	

24 HOUR AVERAGES FOR MAY 2013



01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

MAY 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	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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	MAX.	
DAY																										
1	2.4	11.1	11.1	10.2	23.1	15.6	12.6	12	11.1	16.6	25.1	30.2	26.9	28.8	37.4	31.8	30.7	33	27.3	26.2	22.1	22.9	28.4	25.6	37.4	
2	8.4	25.6	30.6	33.5	30	27.6	34.6	32.6	28.4	27.1	24	27.7	40.9	41.9	42.6	43.5	35.4	19	17.7	20.7	13.5	8.2	6.5	3.9	43.5	
3	2.8	5	6.7	5.7	11.5	12.8	13.9	23.3	16.1	14.1	21.6	24.9	32.1	29.7	36.7	21.6	22	29.5	21.6	4.5	7.8	10.9	5.6	4.5	36.7	
4	3.9	3.9	4.5	4.6	4.1	4.3	5.4	9.1	13.5	17	19	25.3	24	41.9	38.4	35.6	27.5	28.1	37.8	27.7	14.8	15.9	21.8	24	41.9	
5	0.7	16.8	11.8	17	15	12.8	14.9	18.2	16.9	20.2	24.3	37.7	52.1	34.3	32.5	32.5	30.3	32.3	24.2	19.8	9.8	7.8	5	4.5	52.1	
6	3.9	11.3	12.4	11.3	8.9	9.3	17.7	23.1	22.5	28.1	31.6	33.2	34.5	33.4	43.9	47.4	45.2	55.9	44.3	33.4	32.3	50.9	34.3	59	59	
7	5.5	42.6	42.6	44.7	40.1	37.9	29.1	34.3	39.4	35.4	30.2	35.4	33	29.1	24.4	27.3	30.4	24	21.2	18.8	9.3	11.8	11.6	10.8	44.7	
8	0.9	13.5	12.2	11.3	13.7	15.5	23.1	25.1	27.1	30.4	31.5	29.7	29.5	26.8	35.2	30.7	31.8	34.2	21.2	19.2	16.3	15.9	20.3	31.9	35.2	
9	9.7	23.8	27.1	24.4	12.4	10.9	9.8	17.7	17.4	15.7	13.9	12.4	18.3	28.4	27	35.6	42.6	42.9	43	22.4	31.6	15.5	19.2	17.4	43	
10	4.9	29.3	29.9	35	36.3	27.5	23.1	29.3	30.6	39.6	36.4	39.4	34	36.1	33.9	33.4	28.8	21.1	22.5	15.7	10	8.5	11.1	12.6	39.6	
11	2.5	25.8	17.9	12.4	13.5	8	24	21.1	32.1	31.7	34.7	31.9	36	33.9	28.6	36	26.4	29	18.5	17.4	13.9	16.3	20.9	15.2	36	
12	2.4	11.1	10.4	11.6	11.7	14.9	15.8	19.9	22.3	25.1	26.4	22	27.9	26.2	40.2	35.3	30.1	35.6	67.1	31.7	8.9	14.8	17.4	17.4	67.1	
13	0.1	23.6	23.6	18.8	20.7	17.9	20.5	44.8	40.2	50.5	59.9	52	42.8	37.6	40.8	34.5	40.6	39.1	31.7	29	9.8	9.6	9.3	17.3	59.9	
14	7.1	5.5	6.9	9.6	6.1	13.5	21.4	28.1	41.3	41.5	39.8	48.5	47.2	37.1	36.7	45	56.6	41.3	31.2	22.9	14.6	7.1	4.7	9.6	56.6	
15	3.5	10.2	9.6	7.2	5.7	5.6	12	13	18.5	18.1	26.6	30.6	31.2	34.7	35.1	26.6	25.5	22.9	25.3	6.3	4.3	3.9	4.7	4.7	35.1	
16	3.4	4.7	4.3	5.8	2.6	3.1	8.8	15.6	29.9	27.9	19.8	16.6	19.2	19	17	13.9	13.7	12	14.1	10	5.6	4.1	3.9	2.8	29.9	
17	4.3	4.3	3	5	3.6	3.6	7.1	6.4	10.3	14	19.7	29.8	46.9	19.3	14	26.1	20.4	19.2	24.9	8.9	7.4	2.5	4.3	9.3	46.9	
18	7.4	7.1	10.4	5.8	12.2	10.7	10	14.1	14.1	22.7	21.1	19.2	27	36	34.1	22.5	21.1	27.3	31.9	22.2	10	11.1	5.2	6.5	36	
19	6.4	2.4	3.9	7.1	4.3	5.2	8	12.8	20.9	23.3	29.2	22.7	23.3	30.1	29.7	13.7	20.1	19	9.8	6.7	6.1	8.7	6.1	4.5	30.1	
20	5	4.7	6.7	4.5	7.6	7.7	6.6	6.4	7.4	16.9	19.7	27.7	24.6	24.2	29.2	20.7	24.2	23.1	23.8	13.9	7.6	7.3	6.1	10	29.2	
21	9.8	10	9.8	11.8	9.1	13.9	13.1	13.5	17.9	28.6	31.6	40	36.2	38.9	44.8	40.2	36.2	37.1	32.1	25.3	22	17.2	11.5	7.8	44.8	
22	5.9	12.1	10.5	12.4	11.8	13.9	25.8	27.5	28.8	32.3	34.5	36.7	47.2	47.2	34.7	41.5	37.1	39.7	39.1	30.6	24.2	29	22.9	20.9	47.2	
23	4.8	12.4	7.1	9.1	11.1	12	15.5	22.5	19.7	26.7	28.2	36.1	34.4	41.1	37.7	42	32	32.1	29.9	26.4	15.9	12.6	12	9.6	42	
24	5.9	24.2	23.8	23.6	27.1	29.5	33	42.8	41.3	50.3	46.6	52.4	43.9	57.3	39.5	42.8	38.7	37.4	46.6	42	46.4	40.9	34.1	35.8	57.3	
25	5.9	31.8	26.4	32.3	31.9	36.7	40.4	40	40.9	37.2	45.3	59.7	50.7	52.2	48.3	39.8	28.6	22.7	26.8	33.4	30.8	23.4	37.6	28.6	59.7	
26	6.5	18.4	10.7	6.7	7.8	6.5	10	17.9	25.8	14.8	16.8	21.6	24.4	23.6	24.2	23.3	15.2	17.2	15.7	6.5	4.7	7.6	7.4	9.1	25.8	
27	5.2	5	8.9	3.9	4.1	6.4	6.5	12.4	12.4	14.8	21.1	25.5	27	26.2	24.4	24.2	23.8	18.1	21.6	5.6	4.3	4.3	3.4	4.5	27	
28	2.5	3.4	2.8	3.9	4.1	3.6	8.5	8.5	14.4	19.8	19	28.8	31.4	25.5	28.8	27.1	25.6	16.1	22.9	9.6	5.5	12.3	9.4	8	31.4	
29	7.6	8.5	10.7	8.5	8.5	9.1	6.7	11.5	15.5	23.1	19.4	30.3	26.6	34.9	32.5	20.3	24.6	21.8	24.4	16.6	6.3	3.6	7.4	13.1	34.9	
30	5.6	8.5	9.1	9.6	8.5	8.2	12	12.4	14.1	18.1	32.5	26.9	37.8	30.1	27.6	30.2	21.2	17.5	11.6	4.4	7.2	8.8	4.7	6.7	37.8	
31	0.2	6.3	4.1	6.5	5.4	4.3	6.5	7.8	11.8	15.5	18.4	13.9	17.4	19.4	16.1	16.3	25.7	21.6	10.4	13.1	8.2	6.5	4.7	3.2	25.7	
PEAK	9.8	42.6	42.6	44.7	40.1	37.9	40.4	44.8	41.3	50.5	59.9	59.7	52.1	57.3	48.3	47.4	56.6	55.9	67.1	42.0	46.4	50.9	37.6	59.0		

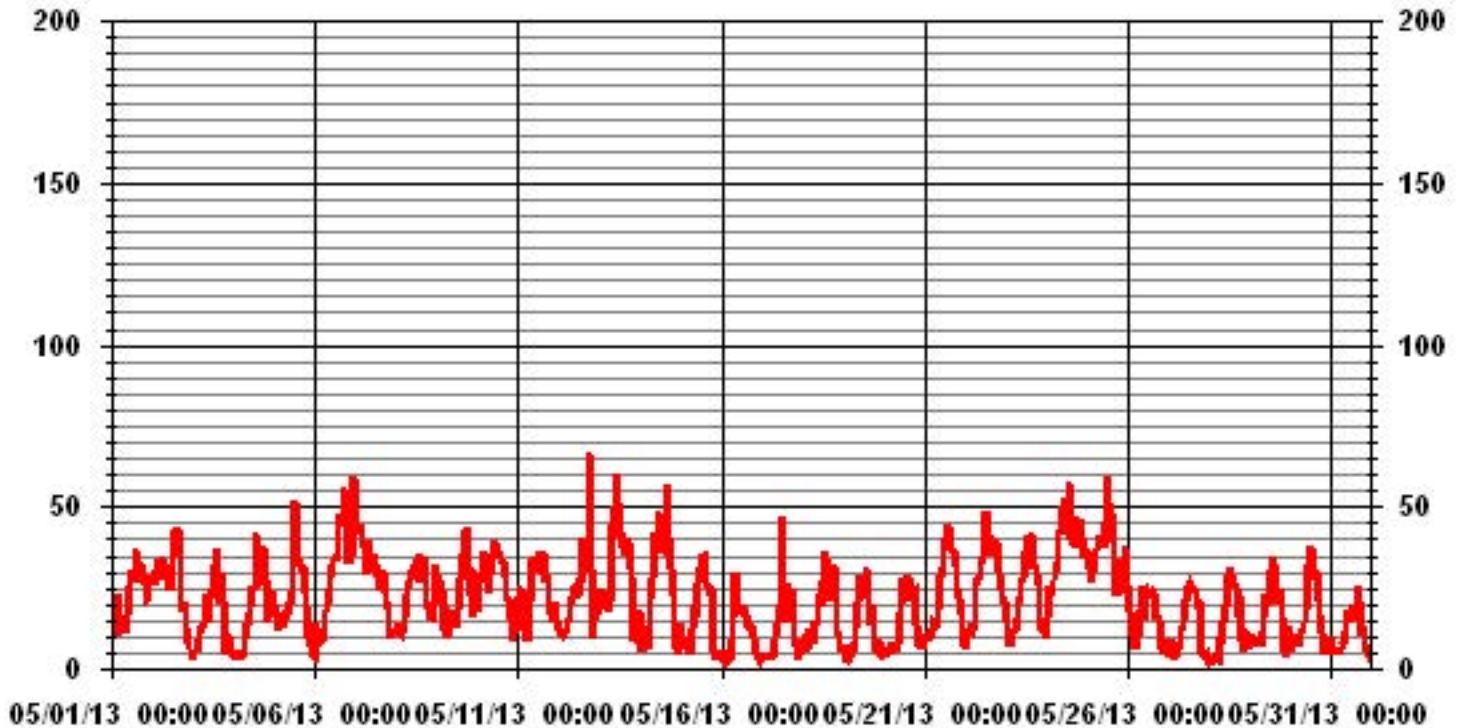
STATUS FLAG CODES

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

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS READING	67.1	KPH	@ HOUR(S)	18
			ON DAY(S)	12

01 Hour Averages



LICA30
WSP / WDR Joint Frequency Distribution (Percent)

May 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 6.0	1.47	2.41	6.72	8.06	3.49	5.51	4.70	2.68	2.55	3.62	3.09	2.68	3.09	1.61	1.61	1.47	54.83
< 12.0	3.49	.94	.80	2.68	5.10	4.43	2.15	3.89	3.22	4.83	1.47	.00	1.61	3.49	.67	1.88	40.72
< 20.0	.26	.26	.26	.00	.80	.53	.00	.00	.40	.94	.00	.00	.00	.67	.13	.13	4.43
< 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	5.24	3.62	7.79	10.75	9.40	10.48	6.85	6.58	6.18	9.40	4.56	2.68	4.70	5.77	2.41	3.49	

Calm : .00 %

Total # Operational Hours : 744

Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 6.0	11	18	50	60	26	41	35	20	19	27	23	20	23	12	12	11	408
< 12.0	26	7	6	20	38	33	16	29	24	36	11		12	26	5	14	303
< 20.0	2	2	2		6	4			3	7				5	1	1	33
< 29.0																	
< 39.0																	
>= 39.0																	
Totals	39	27	58	80	70	78	51	49	46	70	34	20	35	43	18	26	

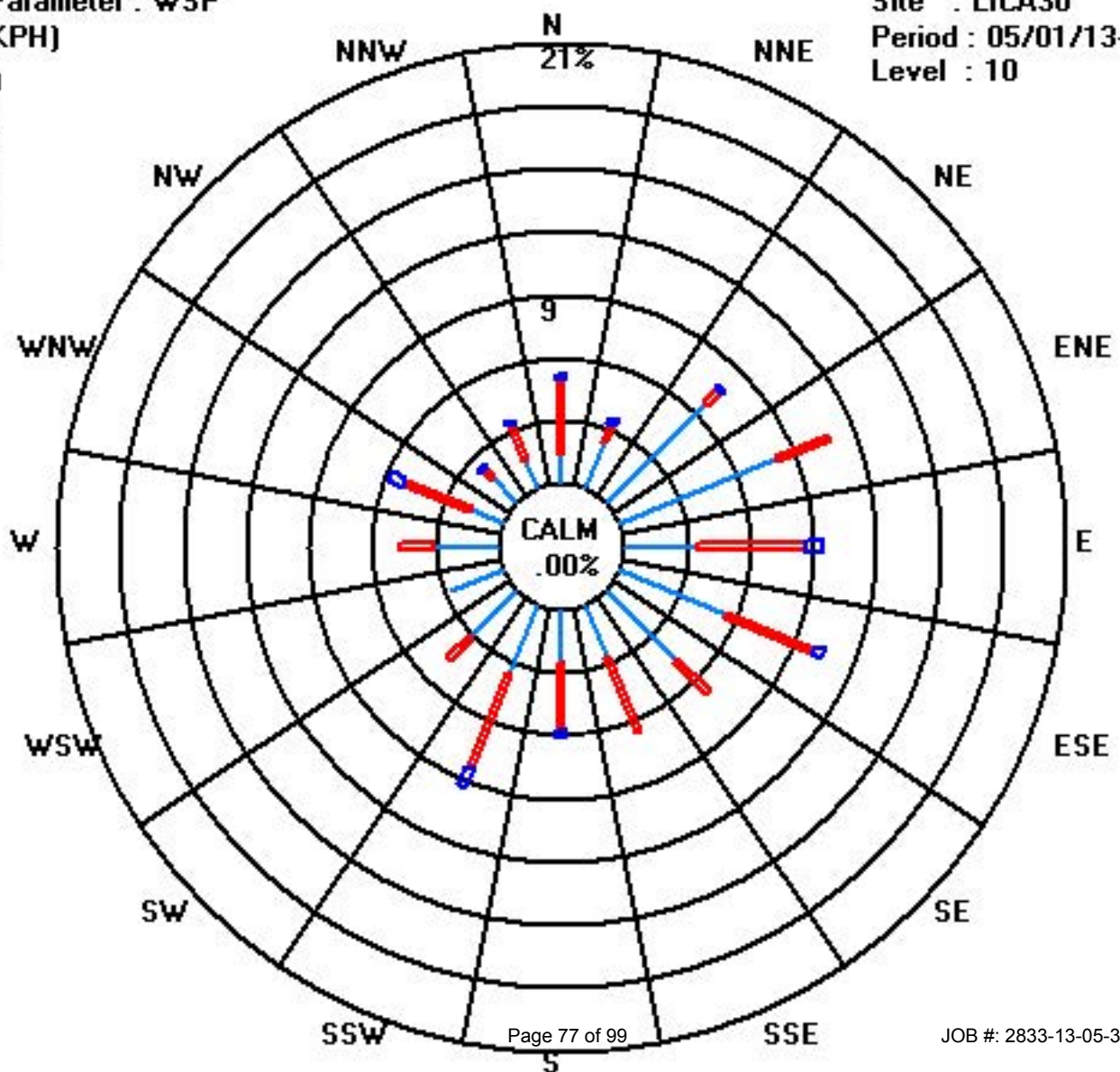
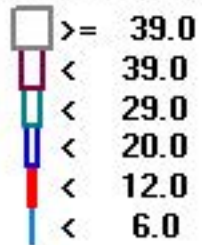
Calm : .00 %

Total # Operational Hours : 744

Class Limits (KPH)

Period : 05/01/13-05/31/13

Level : 10



Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

MAY 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	357	345	333	320	291	355	29	44	273	265	199	187	205	183	190	199	209	202	201	176	152	152	155	162	185	S	24	
2	163	165	175	188	196	197	195	191	197	208	223	228	265	269	285	293	291	295	284	276	277	289	260	181	224	SW	24	
3	159	195	224	213	241	266	282	314	324	311	316	333	333	330	325	336	1	75	64	227	257	334	88	243	324	NW	24	
4	168	191	222	193	160	297	194	226	216	212	212	223	228	215	221	213	226	210	195	194	177	177	182	191	206	SSW	24	
5	198	197	222	215	212	215	219	221	213	210	211	266	280	290	290	293	294	284	290	280	202	243	142	190	248	WSW	24	
6	138	62	62	49	61	41	60	65	64	83	103	121	115	146	199	190	201	204	201	195	189	194	201	295	169	SSE	24	
7	357	2	350	343	349	347	344	354	7	354	352	354	5	3	11	10	19	28	26	33	46	78	69	63	4	N	24	
8	54	126	102	62	112	146	157	151	174	163	164	172	164	168	207	181	196	185	163	158	155	160	176	164	SSE	24		
9	187	193	200	178	137	65	42	206	205	207	273	277	335	60	56	48	48	26	23	11	9	353	325	292	36	NE	24	
10	328	348	359	359	352	2	356	2	357	358	343	340	347	349	333	351	359	358	24	70	75	115	113	113	359	N	24	
11	128	137	139	128	85	39	147	149	167	168	183	162	164	178	180	196	171	157	149	142	138	146	136	126	157	SSE	24	
12	114	69	74	108	116	113	120	133	144	177	169	201	204	193	197	196	194	243	313	3	249	204	209	225	184	S	24	
13	243	277	277	251	255	253	259	280	288	289	283	289	285	277	293	290	291	288	282	282	281	283	281	288	282	282	W	24
14	310	223	264	265	242	272	296	304	291	289	289	297	285	274	280	287	294	338	324	328	319	204	252	251	293	WNW	24	
15	270	272	209	207	167	133	208	230	271	291	280	220	272	230	229	296	266	285	278	198	177	180	196	191	250	WSW	24	
16	183	224	212	190	139	35	295	306	289	304	328	319	205	222	65	251	48	6	17	69	149	182	120	177	307	NW	24	
17	218	133	238	144	173	88	308	16	327	230	252	269	256	3	305	28	43	24	43	80	117	109	72	64	20	NNE	24	
18	57	65	78	53	46	66	54	110	68	47	137	154	142	116	106	171	140	124	119	120	157	197	63	103	109	ESE	24	
19	78	135	116	75	41	58	54	4	152	152	159	185	195	277	341	342	200	220	167	96	103	184	257	127	181	S	24	
20	347	178	212	163	212	97	13	24	74	43	39	68	61	22	55	79	59	75	120	121	128	109	39	58	69	ENE	24	
21	64	46	43	43	46	46	55	55	42	87	117	114	117	106	109	103	100	82	94	99	114	112	112	64	91	E	24	
22	49	46	57	64	59	56	66	80	85	97	106	116	103	107	96	110	106	107	102	103	102	102	107	118	95	E	24	
23	113	54	34	36	52	67	91	106	81	71	94	112	111	100	106	86	92	98	96	112	108	119	68	39	91	E	24	
24	42	93	96	86	85	89	81	78	83	93	99	102	110	87	81	90	117	134	123	112	107	76	64	78	94	E	24	
25	83	74	75	74	67	67	74	79	91	87	94	90	94	87	87	95	96	66	74	124	99	50	101	88	84	E	24	
26	82	58	59	59	79	29	152	114	112	155	146	82	73	86	105	139	153	142	159	134	146	124	133	67	108	ESE	24	
27	134	24	67	147	29	47	32	154	231	77	115	118	141	138	51	106	119	83	60	95	112	140	95	95	101	E	24	
28	128	142	164	195	110	47	35	33	62	51	87	118	42	23	36	61	67	53	75	200	215	59	55	71	57	ENE	24	
29	59	65	74	63	60	41	31	51	48	37	89	89	115	150	174	147	101	118	133	185	176	128	171	230	102	E	24	
30	99	98	103	87	46	33	73	153	116	93	139	141	136	80	81	146	146	153	84	47	14	3	15	60	107	ESE	24	
31	57	135	4	27	20	224	206	213	209	238	256	220	49	188	209	220	6	351	347	322	273	158	338	123	245	WSW	24	
HOURLY AVG	357	348	359	359	352	355	356	354	357	358	352	354	347	349	341	351	359	358	347	328	319	353	338	295				

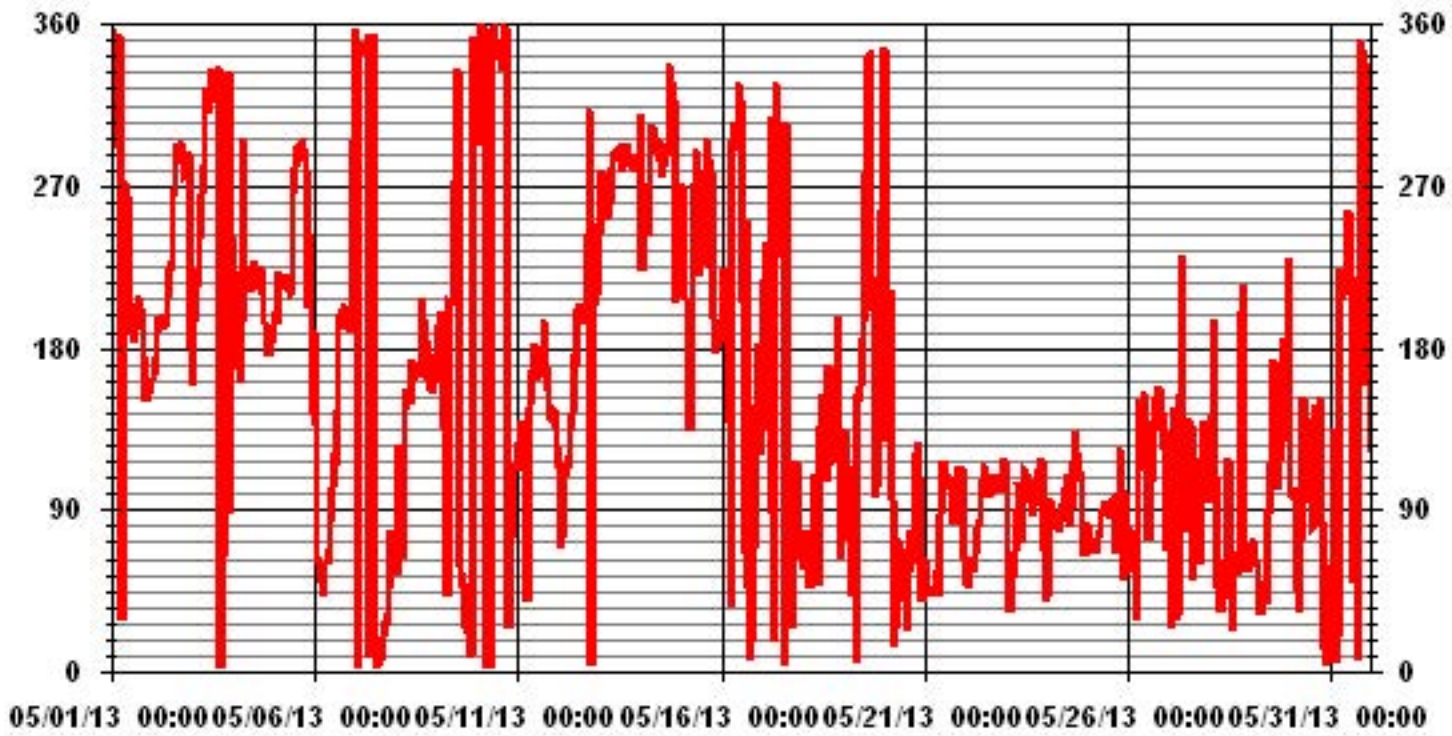
STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- 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:	744 HRS
STANDARD DEVIATION:	94.25	AMD OPERATION UPTIME:	100.0 %
		MONTHLY AVERAGE:	118 DEG

01 Hour Averages



Standard Deviation Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - MASKWA

MAY 2013

STANDARD DEVIATION WIND DIRECTION (STDWDIR) hourly averages in degrees

MST

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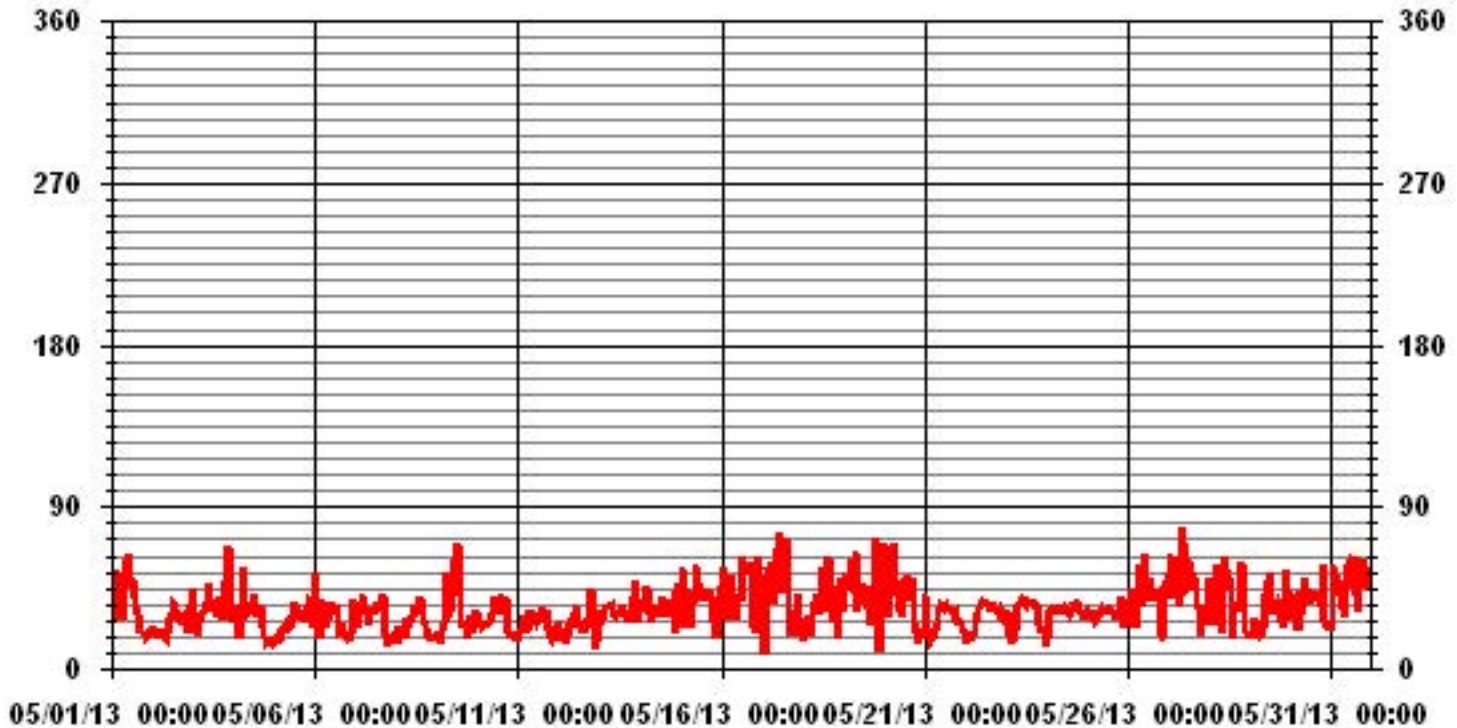
STATUS FLAG CODES

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: December 20, 2011

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 744 HRS

01 Hour Averages



Calibration Reports

Sulphur Dioxide

SO2 Calibration Report

Station Information

Calibration Date	May 9, 2013	Previous Calibration	April 11, 2013
Company	Lakeland Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	9:35	End Time (MST)	12:03
Reason:	Repeat Post-Repair Calibration		
Barometric Pressure	27.99 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 :	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	594 ccm	28.7 Deg C	593 ccm	28.7 Deg C	
HVPS / Lamp Setting	491	3783	491	3781	
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	76.5	0.95	76.5	0.95	

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	790	1.0031
	no span adj.			
4955	39.9	396	392	1.0107
4975	19.9	198	196	1.0082
4995	0	0	-1	N/A
Sum of Least Squares				1.0048
New Correction Factor				1.0031

IZS Calibration Data

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

Percent Change

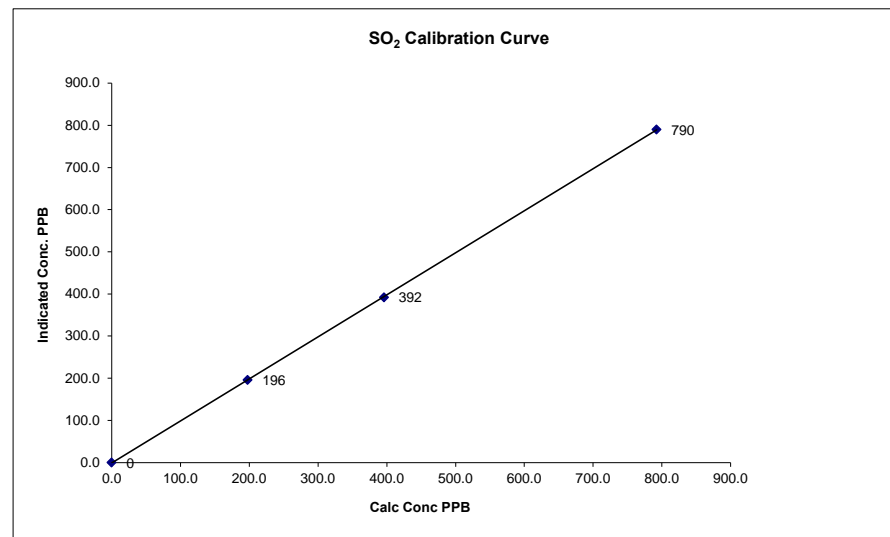
Previous Month's Calibration Correction Factor:	0.9968
Current Correction Factor Before Span Adjust:	1.0031
Percent Change:	-0.6%

Notes: **N/A : Not applicable**
 Soan not adjusted due to low response(127)
 New premeation tube required

SO2 Calibration Curve

Calibration Date	May 9, 2013
Company	Lakeland Industry & Community Association
Plant / Location	Cold Lake - Maskwa
Start Time (MST)	9:35
End Time (MST)	12:03

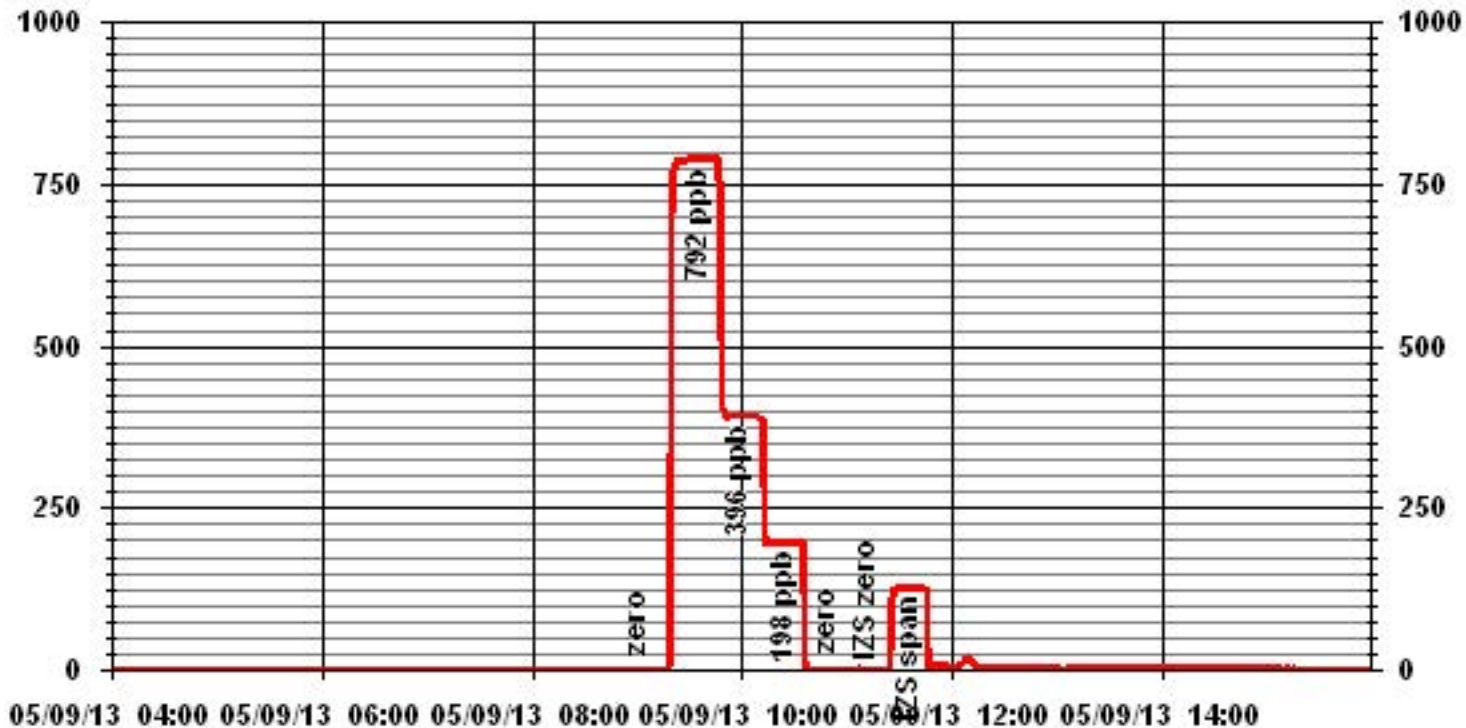
Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope Intercept	(≥ 0.995) (0.85 to 1.15) (± 3% F.S.)
0	0	n/a		0.999983
198	196	1.0082		0.996922
396	392	1.0107		-0.998863
792	790	1.0031		



Notes:

Calibration Performed by: Waseem Ahmed

01 Minute Averages



SO₂ Calibration Report

Station Information

Calibration Date	May 16, 2013	Previous Calibration	May 9, 2013		
Company	Lakeland Industry & Community Association				
Plant / Location	Cold Lake - Maskwa				
Start Time (MST)	8:20	End Time (MST)	10:40		
Reason:	as found	Repeat Post-Repair Calibration			
Barometric Pressure	27.75 inHg	Station Temperature	20 Deg C		
Cal Gas	49.6 ppm	Gas Cyl. #	BAL3031	Cal Gas Expiry date	December 29, 2016
DAS Output Voltage	0 - 1 Volts	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	592 ccm	29.2 Deg C		593 ccm	28.9 Deg C	
HVPS / Lamp Setting	491	3734(92.4%)		491	3734(92.4%)	
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	76.5	0.95		76.5	0.95	

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	789	1.0044
		Sum of Least Squares		
		New Correction Factor		1.0044

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	366.4	202.0
Sample Lines Connected		YES

Percent Change

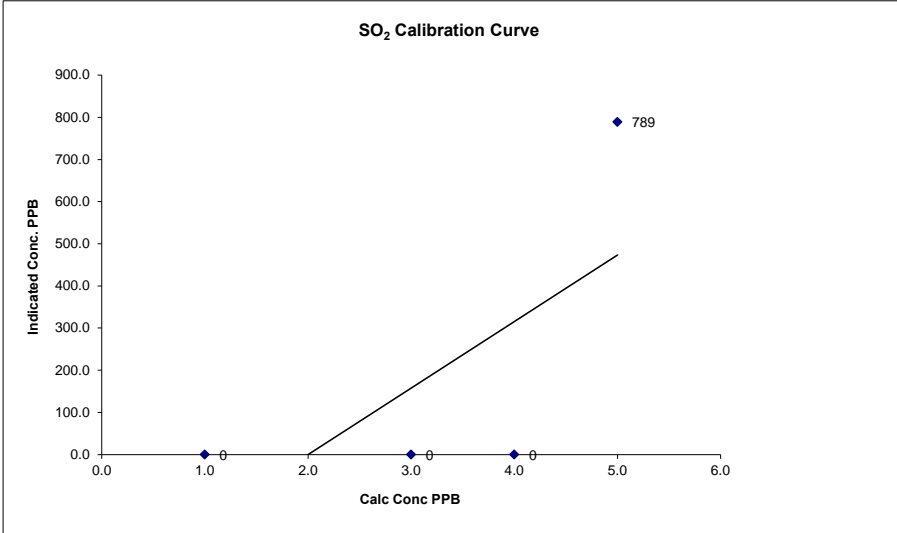
Previous Month's Calibration Correction Factor:	0.9968
Current Correction Factor Before Span Adjust:	1.0031
Percent Change:	-0.6%

Notes: **N/A : Not applicable**
after as found point, change perm tube.

SO₂ Calibration Curve

Calibration Date	May 16, 2013		
Company	Lakeland Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	8:20	End Time (MST)	10:40

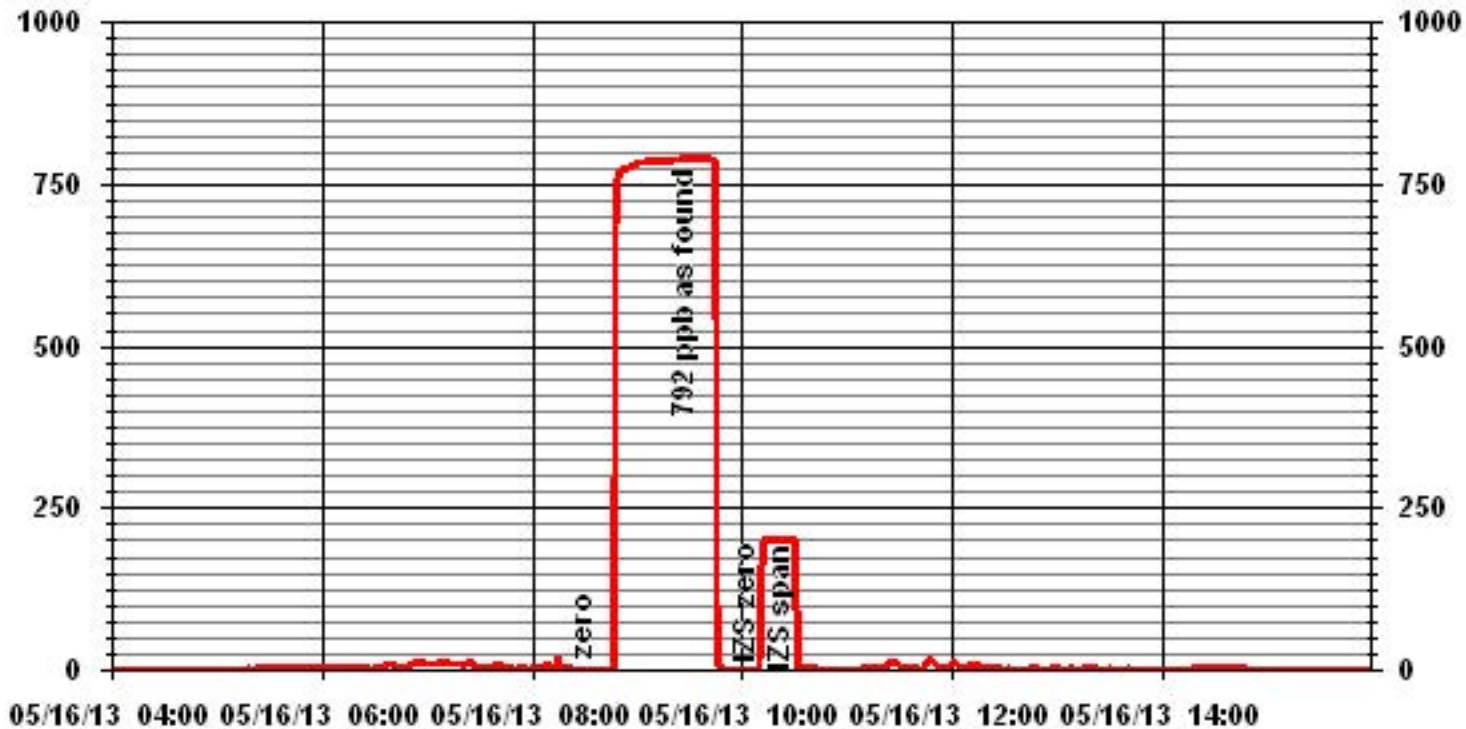
Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope Intercept (± 3% F.S.)	(≥ 0.995) (0.85 to 1.15)
0	0	n/a		1.000000
	0	#VALUE!		0.995659
792	789	1.0044		0.000000



Notes:

Calibration Performed by: Waseem Ahmed

01 Minute Averages



Hydrogen Sulphide

H2S Calibration Report

Station Information

Calibration Date	May 9, 2013	Previous Calibration	April 9, 2013
Company	Lakelnad Industry & Community Association		
Plant / Location	Cold Lake - Maskwa		
Start Time (MST)	9:35	End Time (MST)	12:03
Reason:	Installation Calibration		
Barometric Pressure	27.99 inHg	Station Temperature	20 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:	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	465 ccm 30.3 Deg C	461 ccm 31.6 Deg C	
HVPS / Lamp Setting	548 2350	548 2348	
PMT / RxCell Temp	7.9 Deg C 50 Deg C	7.9 Deg C 50 Deg C	
Converter / IZS Temp	315 Deg C 45 Deg C	315 Deg C 45.0 Deg C	
Offset / Slope	29.2 1.109	29.2 1.043	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	0	NA
	No Zero Adj.			
4960	40.0	81	86	0.9395
4960	40.0	81	82	0.9854
4980	20.0	40	41	0.9854
4988	12.0	24	25	0.9696
5000	0	0	0	NA
Sum of Least Squares				0.9843
New Correction Factor				0.9854

IZS Calibration Data

Before Calibration		After Calibration	
Auto Zero	0.0		0.0
Auto Span	57.0		60.6
Sample Lines Connected			YES

Percent Change

Previous Month's Calibration Correction Factor:	1.0000
Current Correction Factor Before Span Adjust:	0.9395
Percent Change:	6.4%

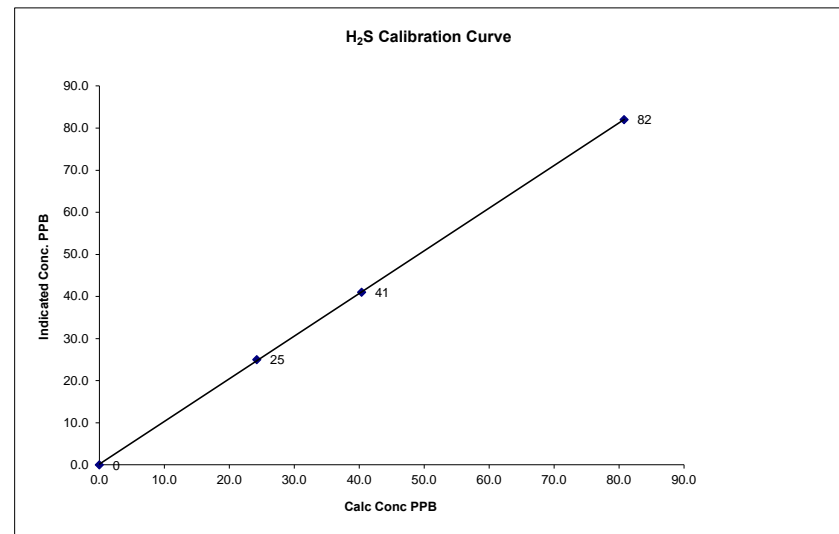
Notes: **NA : Not Applicable**

Calibration Performed by: Limin Li / Waseem Ahmed

H₂S Calibration Curve

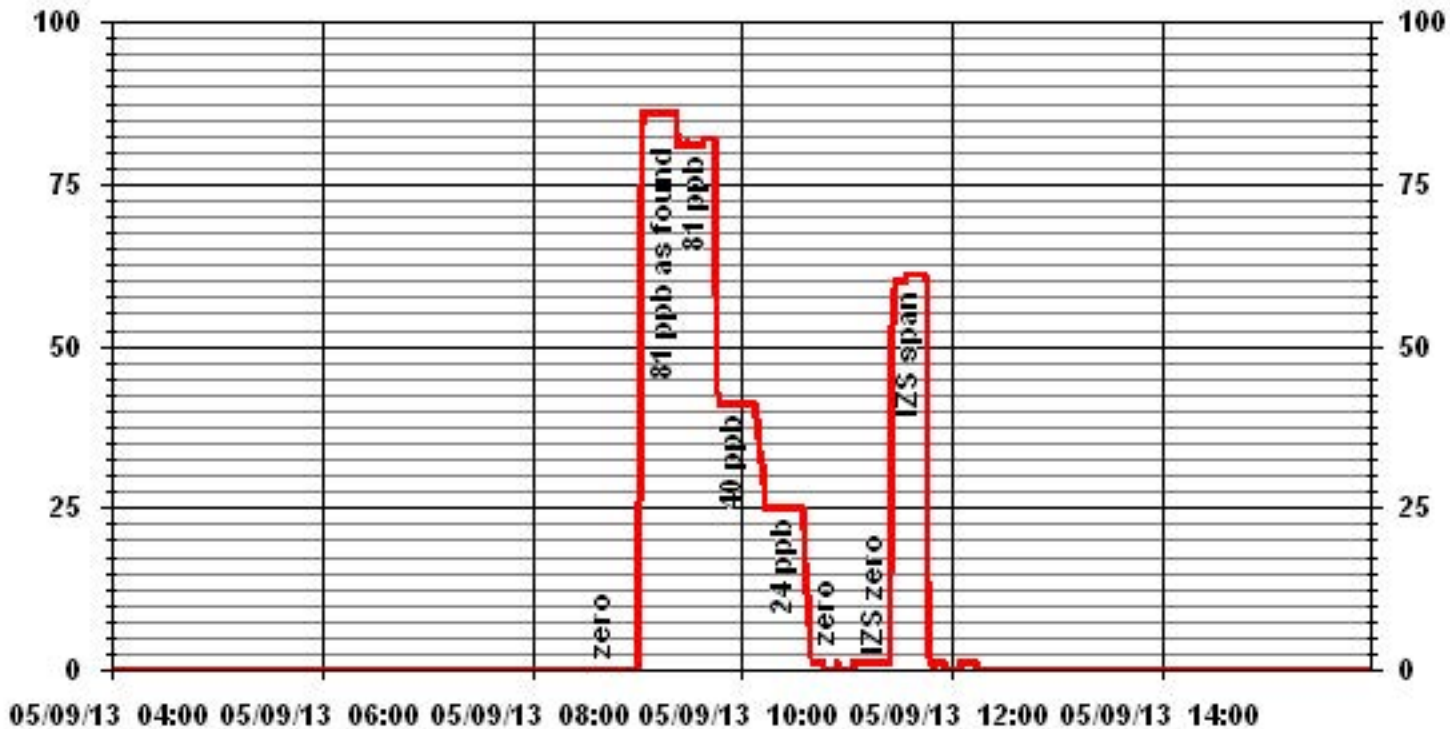
Calibration Date	May 9, 2013
Company	Lakelnad Industry & Community Association
Plant / Location	Cold Lake - Maskwa
Start Time (MST)	9:35
End Time (MST)	12:03

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:

01 Minute Averages



Total Hydrocarbons

THC Calibration Report

Station Information			
Calibration Date:	May 9, 2013	Previous Calibration	April 15, 2013
Company:	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location:	Maskwa		
Start Time (MST)	12:05	End Time (MST)	14:20
Reason:	Monthly Calibration		
Barometric Pressure:	27.97 inHg	Station Temperature:	24 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
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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	-0.1	NA
2000	0.0	0.0	0.0	NA
2000	73.8	41.3	41.7	0.9908
	No Span Adj.			
2000	36.8	21.0	21.0	1.0000
2000	20.0	11.5	11.6	0.9910
2000	0.0	0.0	0.0	NA
New Correction Factor:				0.9908

Percent Change

Previous Calibration Correction Factor:	0.9928
Current Correction Factor Before Span Adjust:	0.9908
Percent Change:	0.2%

IZS Calibration Data

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

Cylinder Pressures			
Span	1500 psi	Hydrogen 900 psi	Zero Air 32 psi

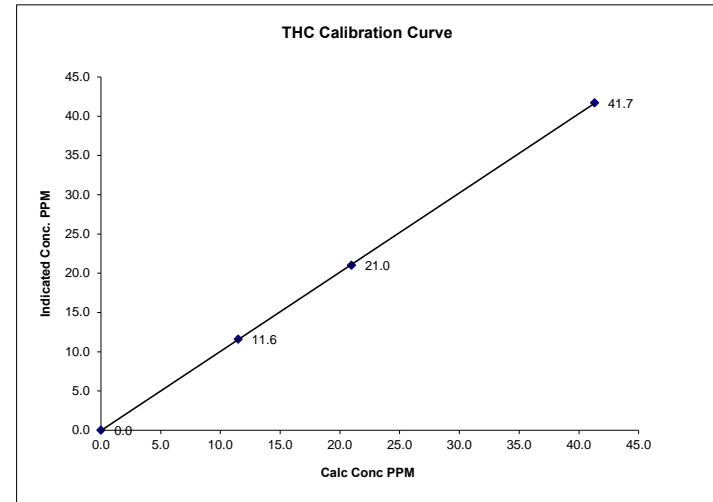
Notes: **NA : Not Applicable**

Calibration Performed by: Waseem Ahmed

THC Calibration Curve

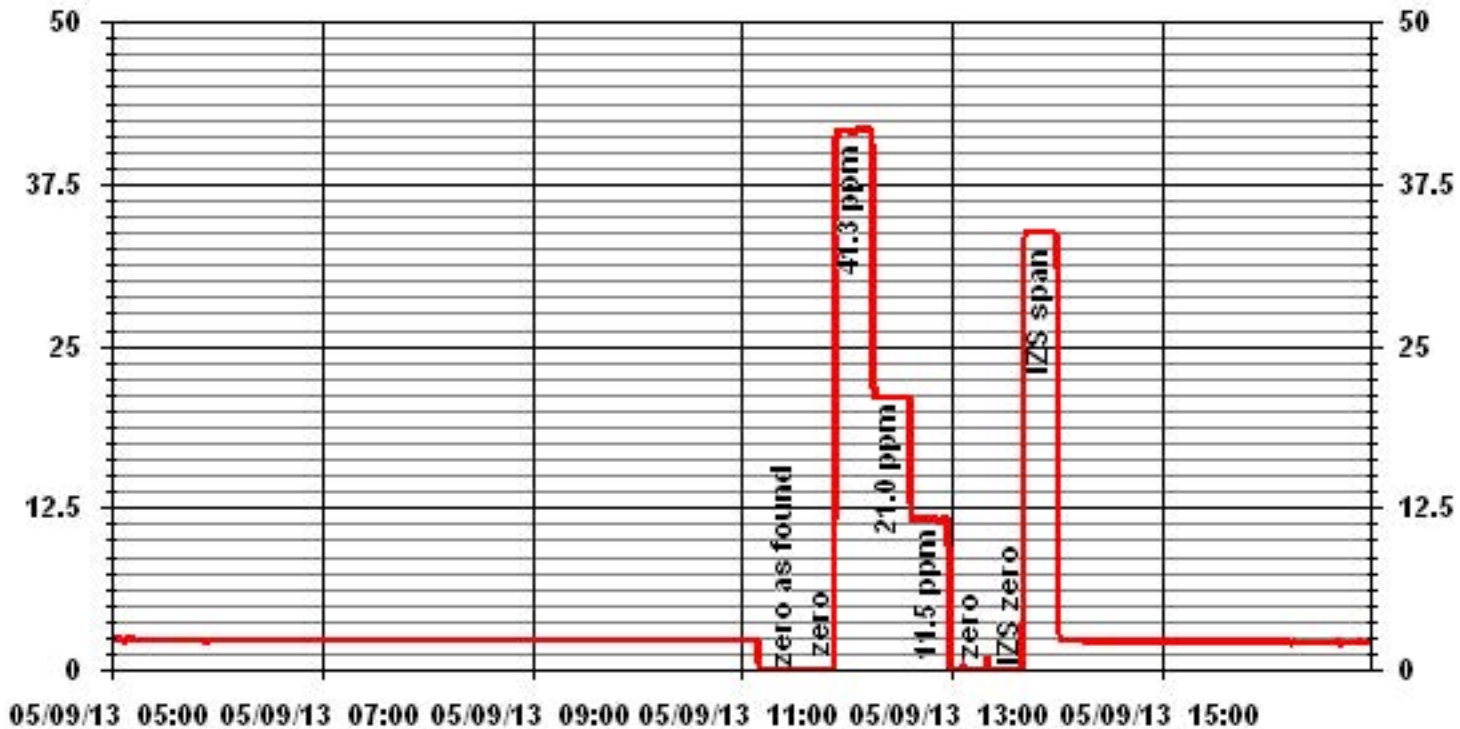
Calibration Date	May 9, 2013		
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location	Maskwa		
Start Time (MST)	12:05	End Time (MST)	14:20

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	0.999977	1.008828	-0.03480
11.5	11.6	0.9910			
21.0	21.0	0.9989			
41.3	41.7	0.9908			



Notes:

01 Minute Averages



Nitrogen Dioxide

NOx - NO- NO2 Calibration Report

Station Information

Calibration Date	May 9, 2013		Previous Calibration	April 9, 2013	
Company	LICA		Plant/Location	Maskwa	
Start Time (MST)	9:35		End Time (MST)	13:50	
Reason:	Monthly Calibration				
Barometric Pressure	27.99 inHg	Station Temperature	20 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:	TAPI 200E	S/N :	594	Method:	Chemiluminescent
Calibrator Make / Model:	Enviroics 6100	S/N:	4760		
DAS Make / Model:	ESC 8832	S/N :	AO 791		
Chart Recorder Make / Model:	N/A	S/N:	NA		
Flow Meter:	Enviroics 6100	S/N :	4760		

Analyzer Settings

Before Calibration				After Calibration			
Concentration Range	452 ccm			315 Deg C			0 - 1000 ppb
Sample Flow/Conv. Temp	79 ccm	4.5 °Hg-A		451 ccm	315 Deg C		
Ozone Flow / Vacuum	751 Volts	14.8 MV		79 ccm	4.5 °Hg-A		
HVPS / A ZERO	50.0 Deg C	6.6 Deg C		751 Volts	15.8 MV		
Rx/ Temp / PMT Temp	28.6 Deg C	42.4 Deg C		50.0 Deg C	6.6 Deg C		
Box Temp / IZS Temp	3 NOx	0.3 NO		31 Deg C	42.3 Deg C		
Offset	1.122 NOx	1.117 NO		0.4 NOx	0.0 NO		
Slope	NA NO2	0.994		1.120 NOx	1.117 NO		
NO2 COEF / Conv Efficiency				NA NO2	0.994		

Dilution Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			Correction Factor	
			NOx	NO	NO2	NOx	NO	NO2	NOx	NO
4995	0.0	NA	0	0	NA	-1	0	-1	NA	NA
4995	0.0	NA	0	0	NA	0	0	0	NA	NA
4915	79.8	NA	788	786	NA	794	793	0	0.9908	0.9912
	no span							1		
4955	39.9	NA	394	393	NA	396	394	1	0.9920	0.9975
4975	19.9	NA	196	196	NA	199	199	0	0.9821	0.9850
4995	0.0	NA	0	0	NA	0	-1	-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		
4915	79.8	NA	788	786	NA	796	795	-1	NA	NA
4915	79.8	600	788	NA	530	798	264	533	0.9925	100.56%
	No Adj.									
4915	79.8	300	788	NA	267	798	527	270	0.9852	101.12%
4915	79.8	120	788	NA	105	689	689	109	0.9545	103.77%

Linearity OK?	Yes	No	Sum of Least Squares Correction Factors:	NOx= 0.992	NO= 0.992	NO2= 0.992
				NOx= 0.9908	NO= 0.9912	NO2= 0.9925
				Average Converter Efficiency= 101.82%		

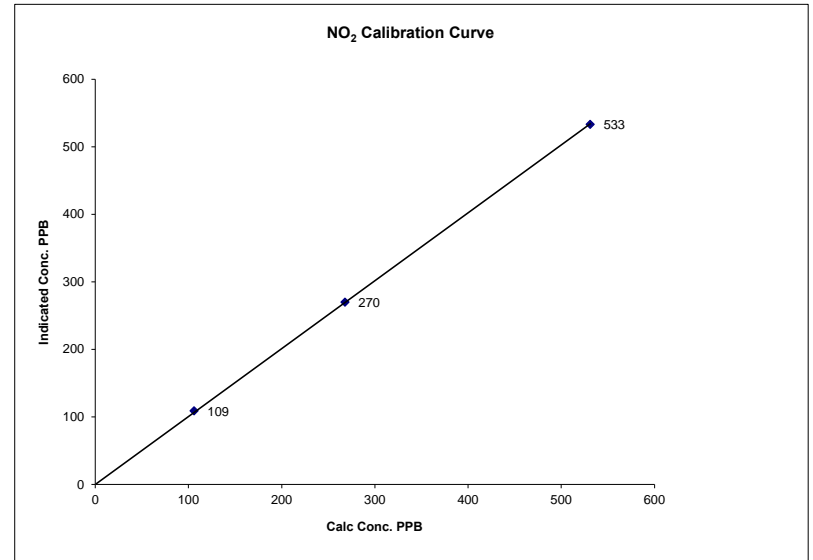
IZS Calibration Data

Before Calibration				After Calibration			
Auto Zero	0.0 NOx	0.0 NO2		0.0 NOx	0.0 NO2		
Auto Span	542 NOx	536 NO2		552 NOx	545 NO2		
				Sample Lines Connected YES			
Percent Change from Previous Calibration		NOx 0.6%	NO 0.6%	NO2 0.8%			
Notes	NA : Not Applicable						
Calibration Performed by: Waseem Ahmed							

NO2 Calibration Curve

Calibration Date	May 9, 2013	
Company	LICA	
Plant / Location	Maskwa	
Start Time (MST)	9:35	End Time (MST) 13:50

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999932
1	-1	N/A	Intercept	(± 3% F.S.)	1.004890
106	109	0.9725			0.14239
268	270	0.9926			
531	533	0.9962			

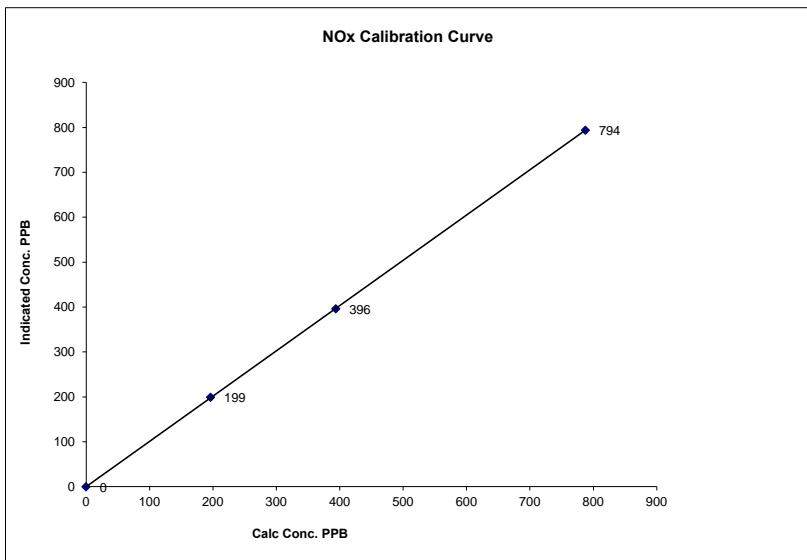


Notes:

NOx Calibration Curve

Calibration Date	May 9, 2013		
Company	LICA		
Plant / Location	Maskwa		
Start Time (MST)	9:35	End Time (MST)	13:50

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999995
0	0	N/A	Slope (0.85 to 1.15)	1.007485
196	199	0.9870	Intercept (± 3% F.S.)	0.20251
394	396	0.9945		
788	794	0.9920		

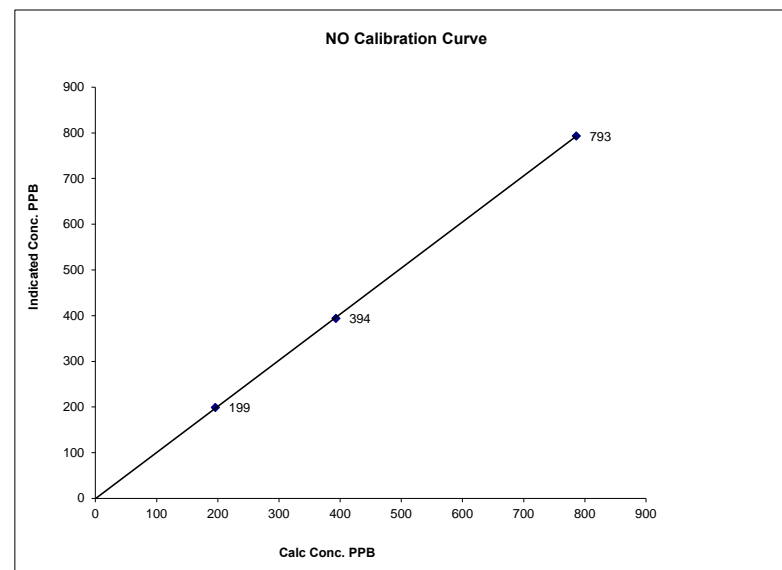


Notes:

NO Calibration Curve

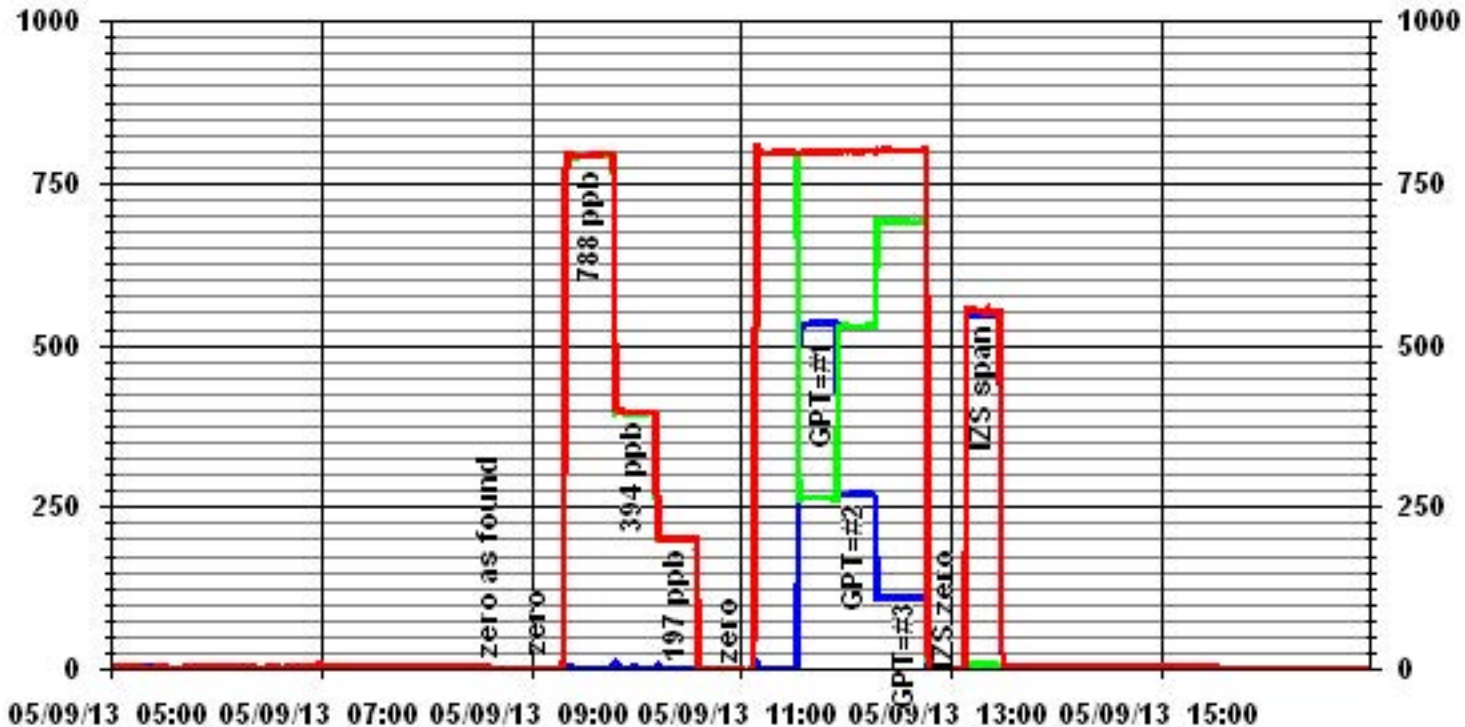
Calibration Date	May 9, 2013		
Company	LICA		
Plant / Location	Maskwa		
Start Time (MST)	9:35	End Time (MST)	13:50

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999978
0	-1	N/A	Slope (0.85 to 1.15)	1.007926
196	199	0.9850	Intercept (± 3% F.S.)	-4.9840
393	394	0.9975		
786	793	0.9912		



Notes:

01 Minute Averages



— LICA30 IIOX_ PPB

— LICA30 IIO_ PPB

— LICA30 IIO2_ PPB

Lakeland Industry & Community Association

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

Prepared By:



June 27, 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: May 2013

The monthly ambient data report:

- Prepared by Lili Zhou
- Reviewed by Lily Lin

Calibration Procedure

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

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

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

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

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

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

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

MONTHLY CONTINUOUS DATA SUMMARY

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION – ST. LINA

Continuous Ambient Monitoring – May 2013

LICA ST. LINA SITE						MAXIMUM VALUES							OPERATIONAL TIME (PERCENT)
						OBJECTIVES					EXCEEDENCES		
PARAMETER	1-HR	24-HR	1-HR	24-HR	MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (KPH)	WIND DIRECTION (DEGREES)	READING	DAY	
SO2 (PPB)	172	48	0	0	0.81	3	26	7, 8	2.2, 3.7	149(SSE), 119(ESE)	1.5	11	99.7
H2S (PPB)	10	3	0	0	1.24	4	6	VAR	VAR	VAR	2.3	6	99.5
THC (PPM)	-	-	-	-	2.02	3.1	30	1	8.5	96(E)	2.2	VAR	99.6
OZONE (PPB)	82	-	0	-	41.6	67	6	17	27.6	220(SW)	55.2	6	99.9
NOx (PPB)	-	-	-	-	1.27	7.8	6	5	9.6	109(ESE)	2.2	29	99.9
NO (PPB)	-	-	-	-	0.25	1.6	26	7	2.2	149(SSE)	0.7	21	99.9
NO ₂ (PPB)	159	-	0	-	1.02	7.1	6	5	9.6	109(ESE)	2.0	29	99.9
PM2.5 (ug/m3)	-	30	-	0	3.92	22	14	5	13.2	292(WNW)	7.3	22	94.4
TEMPERATURE (DEGREE C)	-	-	-	-	14.31	29.4	6	16	28.6	231(SW)	21.6	6	100.0
BP (MILLIBAR)	-	-	-	-	929	943	10	VAR	VAR	VAR	940.9	10	100.0
RH (%)	-	-	-	-	44.96	90	25, 26	VAR	VAR	VAR	74.9	25	100.0
PRECIPITATION (MM)	-	-	-	-	0.02	5.4	29	14	12.7	108(ESE)	7.0	24	100.0
VECTOR WS (KPH)	-	-	-	-	11.52	30.2	13	12	-	267(W)	18.0	24	100.0
VECTOR WD (DEGREES)	-	-	-	-	170(SSE)	-	-	-	-	-	-	-	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 put into the Maintenance mode for a zero check on May 2nd. The monthly calibration was performed on May 3rd. The inlet filter was changed before the monthly calibration was started. The analyzer spanned high on May 25th. An as found points check was performed on May 27th. The result was within the acceptable range. Following the as found points check, the sample pump was rebuilt. No data was discarded due to this event. The maximum hourly data collected on May 13th at hour 4 was invalidated due to a small power outage causing few minute data to lose. Data was corrected using daily zero information.

Hydrogen Sulphide (PPB)

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

The analyzer was put into the Maintenance mode for a zero check on May 2nd. The monthly calibration was performed on May 3rd. The inlet filter was changed before the monthly calibration was started. Following the as found points check on May 14th, the UV lamp voltage and the HVSP voltage were adjusted. The analyzer was allowed time to stabilize. A post-repair calibration was then performed. The expected span value was adjusted following an as found points check on May 29th. The maximum hourly data collected on May 13th at hour 4 was invalidated due to a small power outage causing few minute data to lose. Data was corrected using daily zero information.

Ozone (PPB)

Analyzer make / model Thermo 49C, S/N: 49C-54926-302 replaced to Thermo 49i, S/N: 1002240371

The analyzer was working well throughout the month. The monthly calibration was performed on May 7th. The inlet filter was changed before the monthly calibration was started. The Thermo 49C analyzer, Maxxam supplied, was removed following a removal calibration, and then the Thermo 49i, LICA supplied, was installed following an installation calibration on May 14th. The maximum hourly data collected on May 13th at hour 4 was invalidated due to a small power outage causing few minute data to lose. Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA – St. Lina

Total Hydrocarbon (PPM)

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

The analyzer was working well throughout the month. The monthly calibration was performed on May 3rd. The inlet filter and the Hydrogen gas cylinder were changed before the monthly calibration was started. Following the as found points check on May 14th, the sample pump was rebuilt. A post-repair calibration was then performed. The maximum hourly data collected on May 13th at hour 4 was invalidated due to a small power outage causing few minute data to lose. Data was corrected using daily zero information.

Nitrogen Dioxide (PPB)

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

The analyzer was put into the Maintenance mode for a zero check on May 2nd. The monthly calibration was performed on May 3rd. The inlet filter was changed before the monthly calibration was started. The maximum hourly data collected on May 13th at hour 4 was invalidated due to a small power outage causing few minute data to lose. 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 May 2nd and May 14th. The switch valve was replaced on May 14th. Following the parts replacement, the flow rate was calibrated. 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 42 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. The screens for the rain gauge were installed on May 3rd.

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. The maximum hourly data for wind speed collected on May 13th at hour 4 was invalidated due to a small power outage causing few minute data to lose.

Datalogger

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

Software make/version - ESC v 5.51a

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

Trailer

The glass manifold was cleaned on May 2nd.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

MAY 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	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	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	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	2	0.9	24	
2	1	1	2	S	0	0	1	1	2	2	Y	1	1	1	1	1	1	0	0	0	0	0	0	0	2	0.7	23	
3	0	0	S	1	1	1	1	1	1	C	C	C	0	0	C	C	0	0	0	0	0	0	0	0	1	0.3	24	
4	0	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	1.2	24	
5	S	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	S	2	1.1	24	
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7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	S	S	1	0	S	1	1	1	0.2	24	
8	1	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	1	1	1	S	1	1	1	1	1	0.5	24	
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11	2	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	S	1	1	1	1	1	1	1	2	1.5	24	
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24	1	1	1	2	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	2	0.8	24	
25	0	0	0	S	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0.7	24	
26	0	0	S	0	0	0	1	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1.0	24	
27	1	S	1	1	1	1	1	1	1	C	C	C	Y	1	1	1	1	1	1	1	2	2	2	2	2	1.2	23	
28	S	1	1	1	1	1	1	1	1	1	S	S	0	0	1	0	1	1	1	0	1	1	1	S	1	0.8	24	
29	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	0	1.0	24	
30	1	1	0	1	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	S	1	1	0.3	24	
31	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	S	1	1	1	1	1.0	24	
HOURLY MAX	2	2	2	2	2	2	2	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2			
HOURLY AVG	0.7	0.6	0.7	0.7	0.6	0.7	0.8	0.9	1.0	0.9	0.8	0.9	0.8	0.9	1.0	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8			

STATUS FLAG CODES

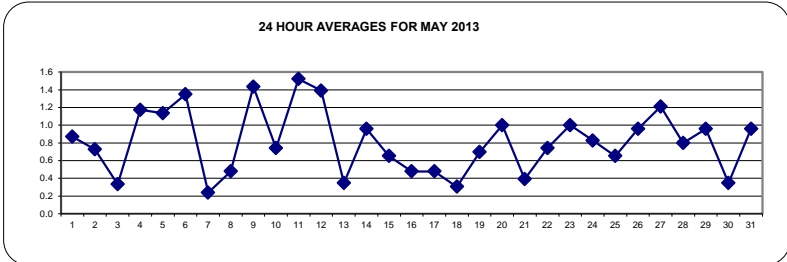
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT:

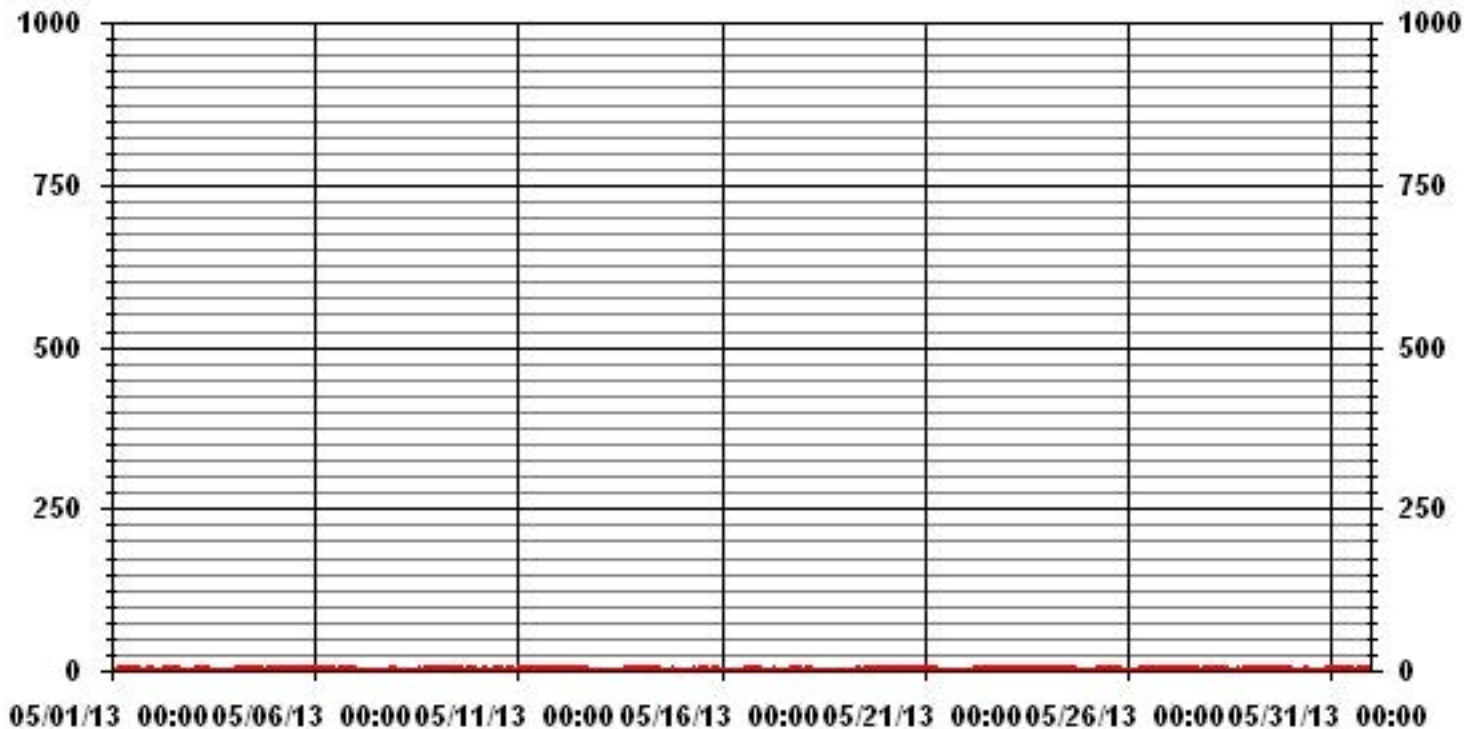
ALBERTA ENVIRONMENT: 1-HR 172 PPB 24-HR 48 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	495
MAXIMUM 1-HR AVERAGE:	3 PPB @ HOUR(S) 7, 8 ON DAY(S) 26
MAXIMUM 24-HR AVERAGE:	1.5 PPB ON DAY(S) 11
IZS CALIBRATION TIME:	37 HRS
MONTHLY CALIBRATION TIME:	8 HRS
STANDARD DEVIATION:	0.60
OPERATIONAL TIME:	742 HRS
AMD OPERATION UPTIME:	99.7 %
MONTHLY AVERAGE:	0.81 PPB



01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

MAY 2013

SULPHUR DIOXIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	1	1	1	1	S	2	2	2	2	1	2	2	2	2	2	2	2	2	3	3	2	2	2	2	3	1.9	24	
2	2	2	3	S	1	1	2	3	3	Y	Y	Y	2	2	2	2	2	1	1	1	1	1	1	1	3	1.7	21	
3	1	1	S	2	2	2	2	2	C	C	C	C	1	1	C	C	1	1	1	1	1	1	1	1	2	1.3	24	
4	1	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	2.2	24	
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6	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	S	2	3	2.3	24	
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9	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	2	S	2	2	1	2	3	2.4	24
10	1	1	1	2	1	2	1	1	1	2	2	2	2	2	2	2	1	1	S	2	2	2	2	2	3	1.7	24	
11	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	S	2	2	2	2	2	2	3	2.4	24	
12	3	3	2	3	3	3	3	3	3	3	3	3	3	3	3	S	S	2	1	1	1	1	1	1	3	2.4	24	
13	1	1	1	1	P	1	1	1	1	1	1	1	1	1	S	2	2	2	2	2	2	2	2	2	2	1.4	23	
14	2	2	2	2	2	2	2	2	2	2	2	2	41	2	S	2	S	S	2	2	2	2	1	1	41	3.7	24	
15	1	1	1	1	1	2	1	2	2	2	1	1	2	S	1	2	2	1	2	1	2	2	2	1	2	1.5	24	
16	1	1	1	1	1	1	1	1	1	1	2	1	S	1	2	2	2	1	2	2	1	2	2	1	2	1.3	24	
17	1	1	1	1	2	1	1	1	2	1	1	S	1	1	1	1	2	1	2	1	2	1	2	1	2	1.3	24	
18	1	2	2	1	1	1	2	1	2	1	S	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1.2	24	
19	1	1	1	1	1	1	1	1	2	S	3	2	3	3	3	2	2	2	2	2	2	2	2	2	2	3	1.8	24
20	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	2	2.0	24
21	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	1.3	24	
22	1	1	1	1	1	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.7	24	
23	2	2	2	2	2	S	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2.0	24	
24	2	2	3	2	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	1	1.7	24	
25	0	1	0	S	1	2	2	2	2	2	2	2	2	1	1	1	2	2	2	2	2	1	1	1	2	1.5	24	
26	1	1	S	1	1	1	2	6	5	2	2	2	1	1	1	1	1	1	1	2	2	2	2	2	6	1.8	24	
27	2	S	1	2	2	2	2	2	2	C	C	C	Y	2	2	2	2	2	2	2	3	3	3	3	3	2.2	23	
28	S	2	2	1	2	2	1	2	1	1	S	S	1	1	1	1	1	1	1	1	2	1	2	S	2	1.4	24	
29	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	1	1	S	1	1.8	24	
30	2	1	1	1	1	2	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	S	2	2	1.2	24	
31	2	2	2	2	2	2	2	2	1	2	2	2	1	2	1	1	1	2	2	2	2	S	1	2	2	1.7	24	
HOURLY MAX	3	3	3	3	3	3	3	6	5	3	3	3	41	3	3	3	3	3	3	3	3	3	3	3	3	3		
HOURLY AVG	1.6	1.6	1.6	1.6	1.6	1.7	1.7	2.0	2.0	1.8	1.9	1.8	3.1	1.7	1.8	1.8	1.8	1.7	1.8	1.8	1.7	1.7	1.7	1.7	1.7			

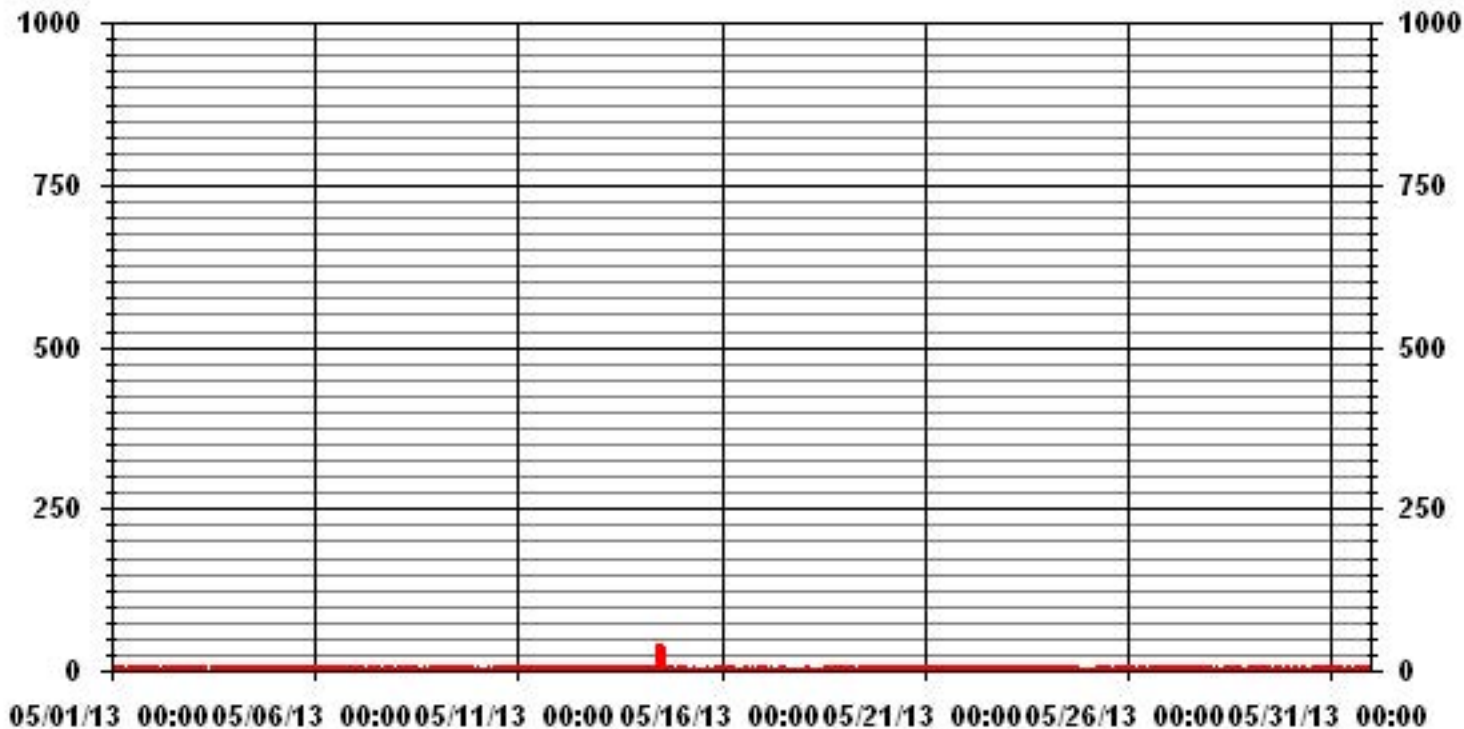
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	684					
MAXIMUM INSTANTANEOUS VALUE:	41	PPB	@ HOUR(S)	12	ON DAY(S)	14
IZS CALIBRATION TIME:	39	HRS	OPERATIONAL TIME:	738	HRS	
MONTHLY CALIBRATION TIME:	9	HRS				
STANDARD DEVIATION:	1.64					

01 Hour Averages



LICA31
SO2_ / WDR Joint Frequency Distribution (Percent)

May 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	5.45	2.86	2.86	3.15	10.04	10.32	8.75	6.45	7.74	7.89	4.16	5.02	7.31	6.74	5.73	5.45	100.00
< 60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 170	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.45	2.86	2.86	3.15	10.04	10.32	8.75	6.45	7.74	7.89	4.16	5.02	7.31	6.74	5.73	5.45	

Calm : .00 %

Total # Operational Hours : 697

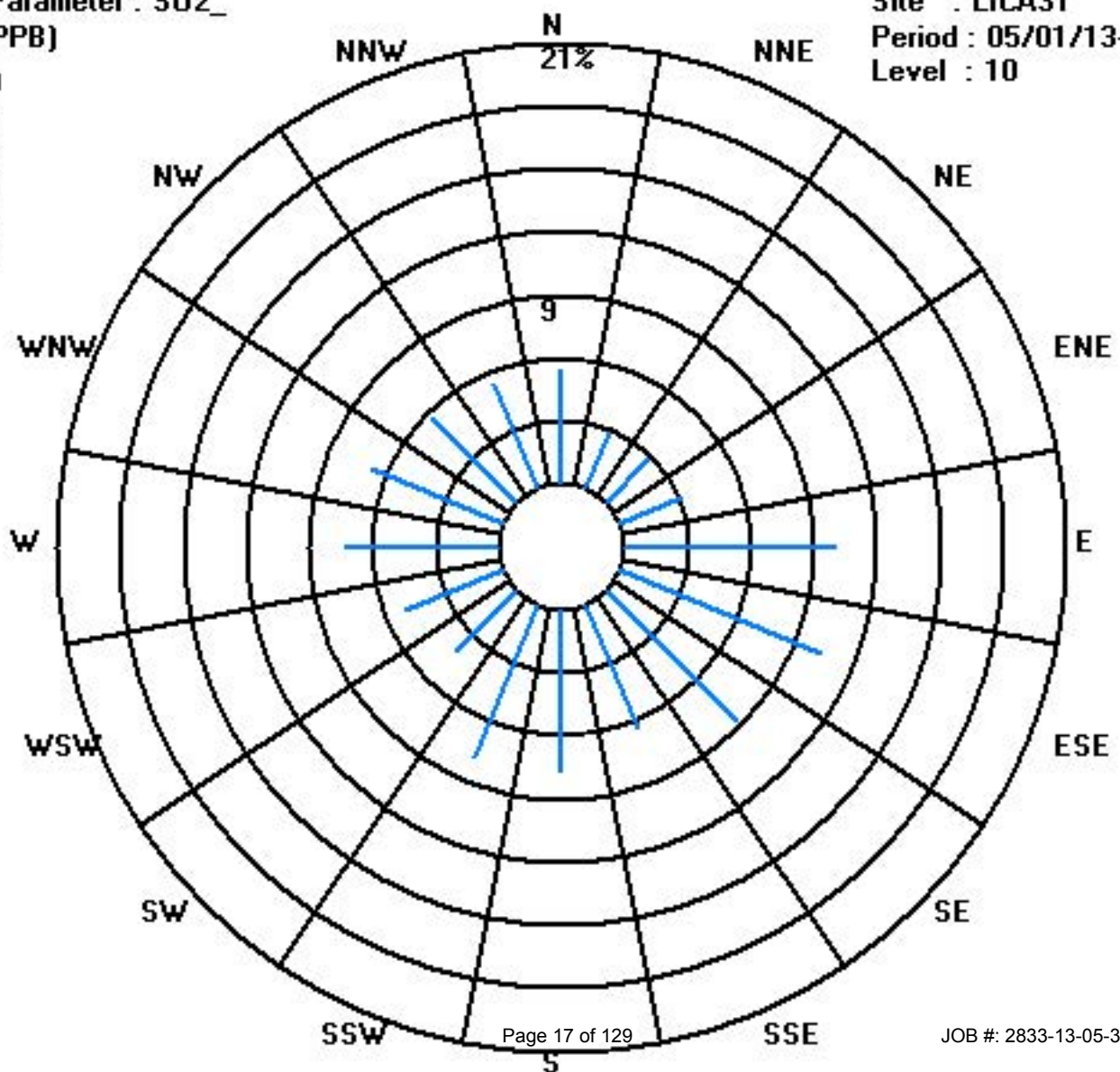
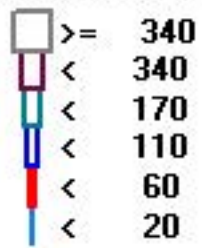
Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 20	38	20	20	22	70	72	61	45	54	55	29	35	51	47	40	38	697
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	38	20	20	22	70	72	61	45	54	55	29	35	51	47	40	38	

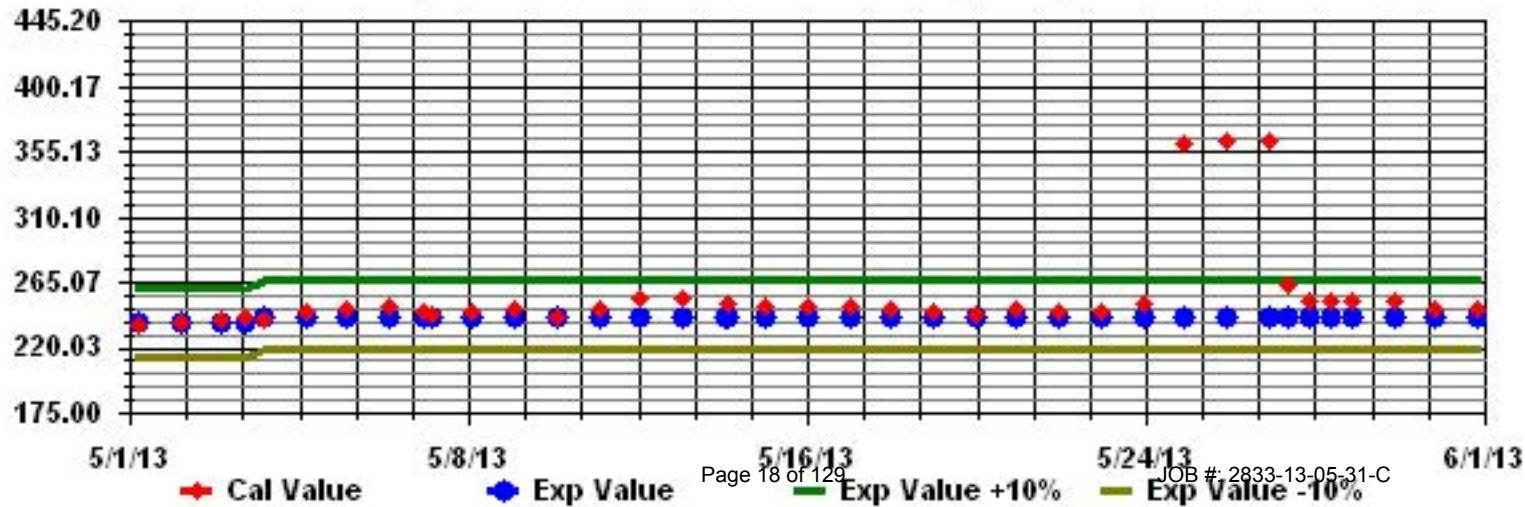
Calm : .00 %

Total # Operational Hours : 697

Class Limits (PPB)



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



Hydrogen Sulphide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

MAY 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			
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	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	24	
2	1	2	2	S	1	1	1	1	1	1	1	Y	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1	23	
3	1	1	S	1	1	1	1	1	1	1	C	C	C	0	0	C	C	1	1	1	0	1	1	1	1	1	1	0.8	24	
4	1	S	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	2	2	1.0	24		
5	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	S	2	2.0	24		
6	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4	2	3	4	4	2	S	1	4	2.3	24		
7	1	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	1	1	0.1	24		
8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	S	1	1	1	2	1.0	24		
9	1	1	2	1	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	S	0	0	0	0	0	0	2	1.5	24	
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	1	1	1	1	1	1	1	0.2	24	
11	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	S	1	1	1	1	1	1	1	1	2	1.3	24	
12	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	S	1	1	1	1	1	1	1	1	3	1.7	24	
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	1	1	1	1	1	1	0	1	0.3	24		
14	1	1	1	0	0	0	0	0	0	0	C	C	Y	Y	Y	C	C	C	0	1	1	1	1	1	1	1	1	0.6	21	
15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24	
16	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	1.0	24	
17	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24	
18	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24	
19	1	1	1	1	1	1	1	1	1	1	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.6	24
20	2	2	2	2	2	2	2	2	2	S	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.9	24
21	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	
22	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	1.0	24	
23	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	
24	1	1	1	1	S	1	1	1	1	2	2	1	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	1.6	24	
25	2	2	2	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1	24	
26	1	1	S	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.9	24	
27	2	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	2	3	2.0	24	
28	S	1	1	1	1	2	2	2	2	1	1	S	S	2	2	2	2	2	2	2	2	2	2	2	S	2	1.7	24		
29	2	2	2	2	2	2	2	2	2	2	2	2	C	C	2	2	2	2	2	2	2	2	2	S	2	2	2.0	24		
30	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	S	1	1	2	1.5	24		
31	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1.0	24	
HOURLY MAX		2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	4	2	3	4	4	3	2	2					
HOURLY AVG		1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.2	1.2	1.2	1.3	1.4	1.4	1.2	1.3	1.3	1.3	1.3	1.2	1.2					

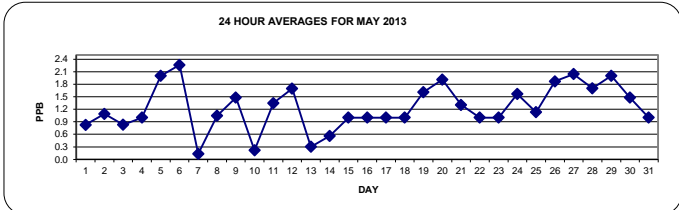
STATUS FLAG CODES

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

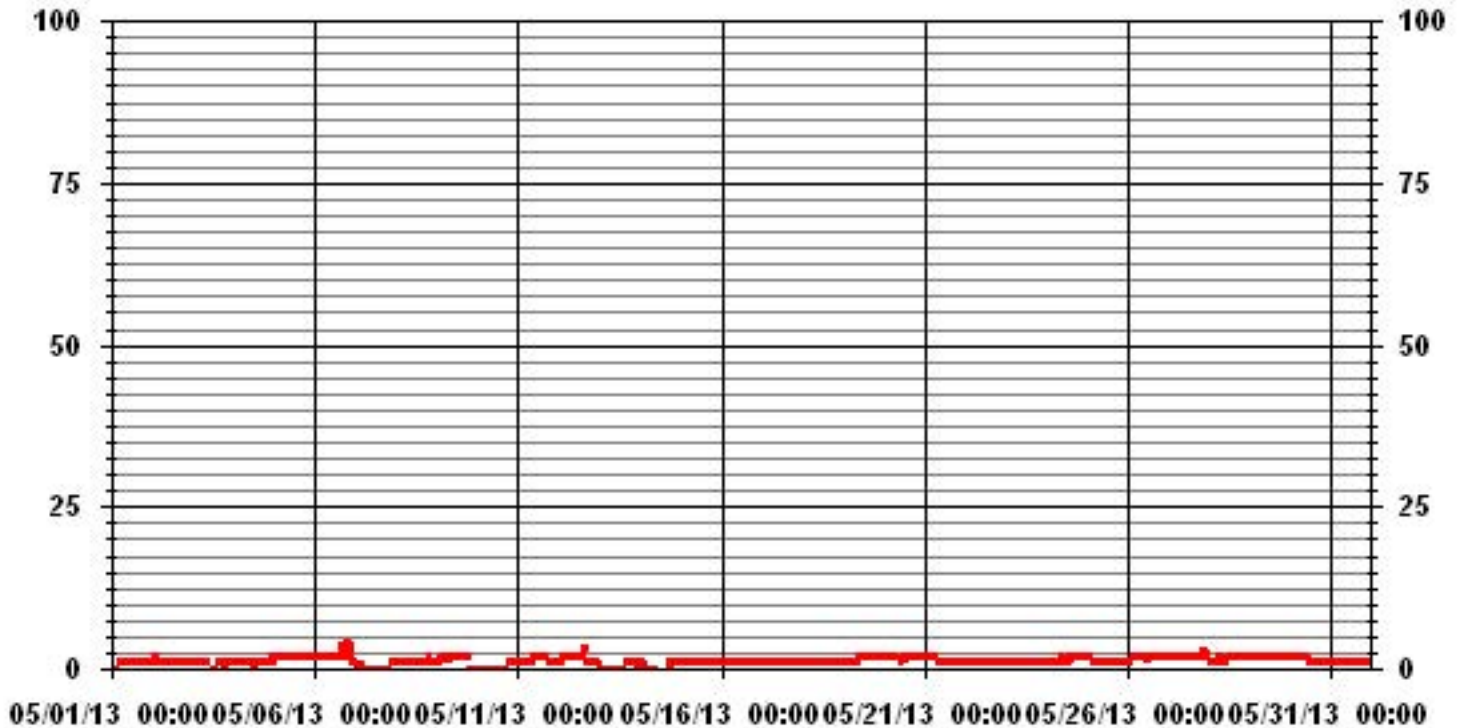
OBJECTIVE LIMIT: ALBERTA ENVIRONMENT: 1-HR 10 PPB 24-HR 3 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	622
MAXIMUM 1-HR AVERAGE:	4 PPB @ HOUR(S) VAR ON DAY(S) 6
MAXIMUM 24-HR AVERAGE:	2.3 PPB VAR-VARIOUS ON DAY(S) 6
IZS CALIBRATION TIME:	34 HRS
MONTHLY CALIBRATION TIME:	12 HRS
STANDARD DEVIATION:	0.66
OPERATIONAL TIME:	740 HRS
AMD OPERATION UPTIME:	99.5 %
MONTHLY AVERAGE:	1.24 PPB



01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST.LINA

MAY 2013

HYDROGEN SULPHIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	1	0	0	0	S	1	1	2	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	1.1	24
2	2	2	2	S	1	1	1	1	1	Y	Y	Y	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.2	21
3	1	1	S	1	1	1	1	1	C	C	C	C	0	0	C	C	1	2	1	1	1	1	1	1	2	0.9	24	
4	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	1.3	24
5	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2.1	24
6	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	2	2	5	3	4	5	5	4	S	2	5	2.7	24
7	1	2	1	1	1	0	0	0	0	1	1	1	1	0	1	1	1	1	1	1	0	S	2	1	2	0.8	24	
8	1	2	2	1	1	1	2	1	1	1	2	2	2	2	2	2	2	2	2	2	2	S	2	2	2	2	1.7	24
9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	S	1	1	1	1	2	1.8	24
10	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	1	1	1	1	1	0.3	24
11	1	1	1	1	2	1	2	2	2	2	2	2	2	2	2	2	2	S	1	1	2	1	2	2	2	2	1.7	24
12	2	2	2	2	2	2	2	2	2	2	3	2	3	3	3	3	S	1	1	1	1	1	1	1	1	3	1.9	24
13	1	1	1	1	P	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1.0	23
14	1	1	1	1	1	1	1	1	1	C	C	Y	Y	Y	C	C	C	C	2	2	2	2	2	1	1	2	1.3	21
15	1	1	1	1	1	1	1	1	1	1	1	1	1	2	S	1	1	1	1	1	1	2	1	1	1	2	1.1	24
16	1	1	1	1	1	1	1	1	2	1	1	1	S	2	1	2	1	1	1	2	2	2	2	2	2	2	1.3	24
17	2	2	1	2	1	1	1	2	1	1	1	S	1	1	1	1	1	1	1	1	2	1	1	1	2	1.2	24	
18	1	1	1	1	1	2	2	1	1	1	S	1	1	1	1	1	1	1	1	1	1	2	1	1	2	1.1	24	
19	1	1	1	1	1	1	1	1	1	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.6	24
20	2	2	4	2	2	2	2	2	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4	2.1	24
21	2	2	2	2	2	3	3	S	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1.4	24
22	1	1	1	1	1	S	S	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.0	24
23	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	1	1	1	2	1.1	24	
24	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	2.0	24
25	2	2	2	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1	24
26	1	1	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.9	24
27	2	S	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	2.4	24
28	S	2	2	2	2	2	2	2	2	2	S	S	2	2	2	2	2	2	2	2	2	2	2	2	S	2	2.0	24
29	2	2	2	2	2	3	3	3	2	2	2	C	C	2	2	2	2	2	2	2	2	2	2	S	2	3	2.1	24
30	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	2	2	2	2	2	1	S	1	1	2	1.8	24
31	1	1	2	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	2	1.1	24
HOURLY MAX	2	2	4	2	2	3	3	3	2	2	3	3	3	3	3	3	5	3	4	5	5	4	3	3				
HOURLY AVG	1.4	1.5	1.5	1.4	1.4	1.4	1.5	1.5	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.5	1.6	1.5	1.6	1.6	1.5	1.4				

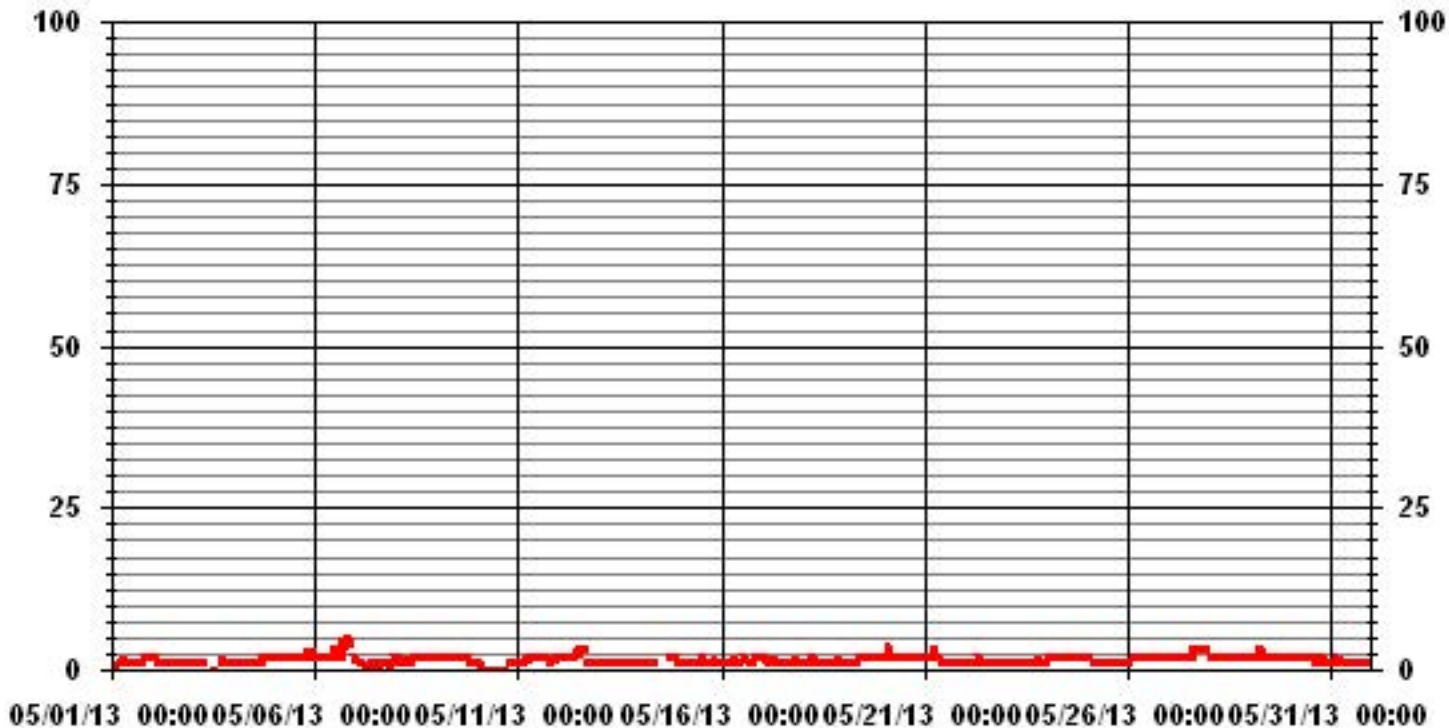
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	662				
MAXIMUM INSTANTANEOUS VALUE:	5	PPB	@ HOUR(S)	19, 20	ON DAY(S) 6
IZS CALIBRATION TIME:	34	HRS	OPERATIONAL TIME:	737	HRS
MONTHLY CALIBRATION TIME:	14	HRS			
STANDARD DEVIATION:	0.69				

01 Hour Averages



— LICA31 H2S MAX PPB

LICA31
H2S_ / WDR Joint Frequency Distribution (Percent)

May 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
Instrument Height : 10 Meters

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 3	5.47	3.17	2.88	3.17	10.51	10.23	8.78	6.48	7.78	7.49	3.89	4.89	7.20	6.05	5.47	5.47	98.99
< 10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.43	.28	.14	.00	.14	.00	.00	1.00
< 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.47	3.17	2.88	3.17	10.51	10.23	8.78	6.48	7.78	7.92	4.17	5.04	7.20	6.19	5.47	5.47	

Calm : .00 %

Total # Operational Hours : 694

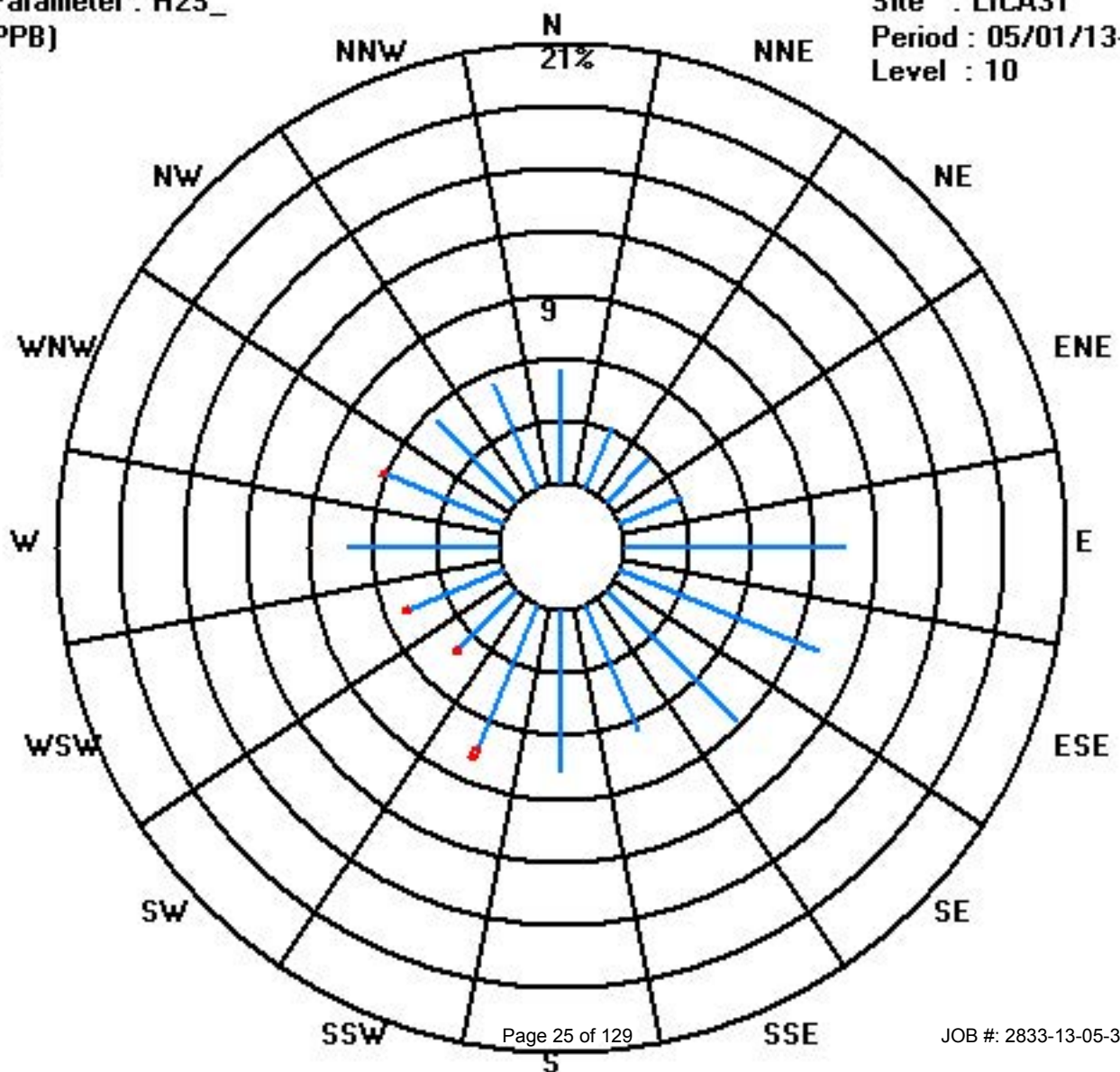
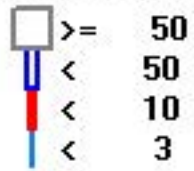
Distribution By Samples

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 3	38	22	20	22	73	71	61	45	54	52	27	34	50	42	38	38	687
< 10										3	2	1		1			7
< 50																	
>= 50																	
Totals	38	22	20	22	73	71	61	45	54	55	29	35	50	43	38	38	

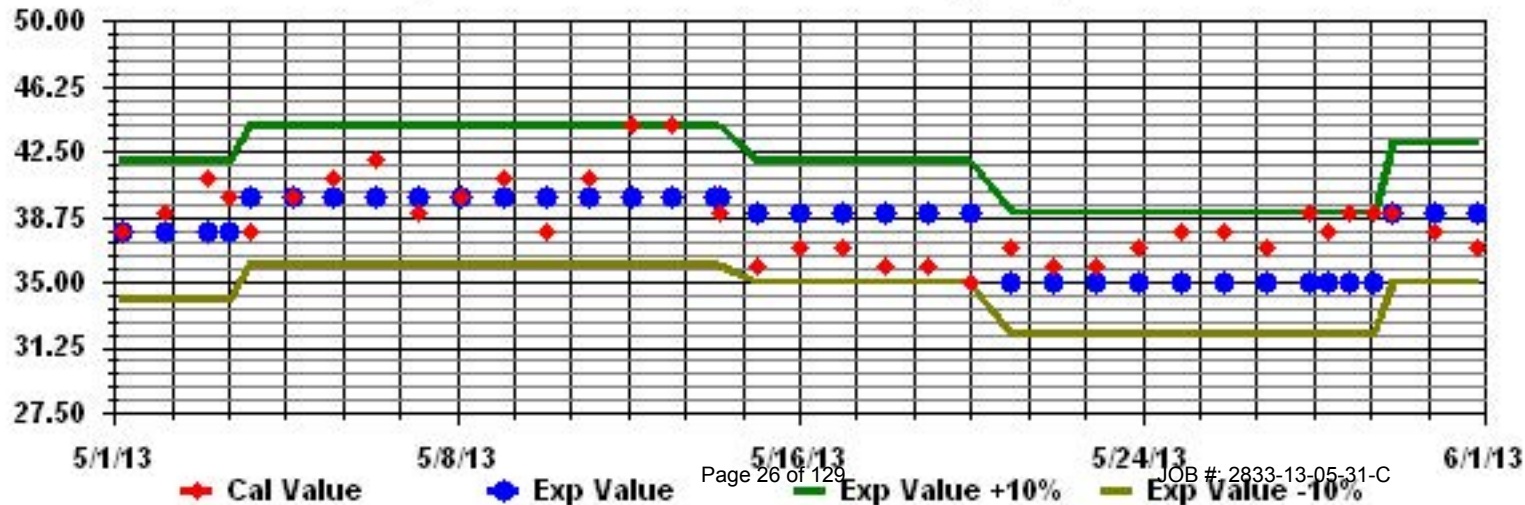
Calm : .00 %

Total # Operational Hours : 694

Class Limits (PPB)



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



Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -ST.LINA

MAY 2013

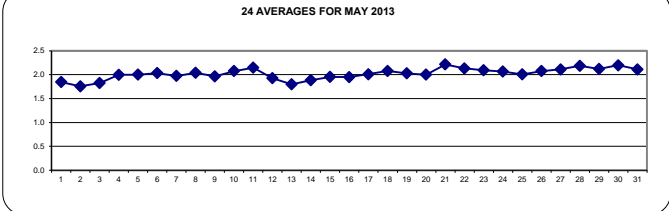
TOTAL HYDROCARBONS hourly averages in ppm

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	23:00	DAILY 24-HOUR			
DAY	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	2	2.1	2.1	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	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.1	1.8	24	
2		1.8	1.8	1.8	S	1.8	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.7	1.7	1.7	1.6	1.8	1.7	1.8	1.8	1.8	1.9	1.8	24		
3		1.7	1.7	S	1.7	1.8	1.8	S	1.8	1.7	1.7	1.9	C	C	C	C	C	1.8	1.8	1.8	1.9	1.9	2	2	2	2.0	1.8	24		
4		2	S	2.1	2.2	2.2	2	1.9	2	2	2	2	2	2	2	2	2	2	2	2	1.9	1.9	1.9	1.9	1.9	1.9	2.2	2.0	24	
5		S	2	2	2	2	2	2	2.1	2.1	2.1	2	2	2	2	1.9	2	1.9	1.9	2	2	2	2	S	2.1	2.0	24			
6		1.9	1.9	1.9	1.9	2.3	2.7	2.3	2	2.1	2.2	2.3	2.2	2	1.9	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	S	1.9	2.7	2.0	24		
7		1.9	1.9	1.9	1.9	2	2	2	2	2	2	2	2	2	2	2	2	1.9	1.9	1.9	1.9	1.9	1.9	S	2.3	2.1	2.3	2.0	24	
8		2	2	2.1	2.2	2.2	2.3	2.3	2.2	2.2	2.2	2	2	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.9	S	2	2.1	2.1	2.3	2.0	24		
9		2.1	2.1	2	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	S	2	2	2	2	2.1	2.0	24		
10		2	2	2	2.1	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2	2	2	2	2	S	2.1	2.4	2.4	2.2	2.1	2.4	2.1	24	
11		2.3	2.4	2.5	2.5	2.5	2.5	2.4	2.2	2.2	2.1	2	2	1.9	1.9	1.9	2	2	S	2	1.9	2	1.9	2	2.1	2.1	2.5	2.1	24	
12		2	2	2	2.1	2.1	2.2	2.2	2.1	2	1.9	1.9	1.8	1.8	1.7	1.7	S	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.2	1.9	24	
13		1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.8	1.8	1.8	1.8	1.8	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	24	
14		1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.8	C	C	Y	Y	Y	C	C	C	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2.0	1.9	21	
15		2	2	2	2	2	2.1	2	2	1.9	1.9	2	1.9	1.9	S	1.9	1.9	1.9	1.9	1.9	2	2	1.9	1.9	2	1.9	2.1	2.0	24	
16		1.9	1.9	2	2	2.1	2	2	2	1.9	1.9	1.9	2	S	1.9	1.9	1.9	1.9	2	2	2	1.9	1.9	1.9	1.9	1.9	2.1	1.9	24	
17		1.9	1.9	1.9	2.1	2	2	2	2	2	2	2	S	2	2	2	2	2	2	2	2	2.2	2	2.1	2	2.1	2.2	2.0	24	
18		2	1.9	1.9	2.3	2.3	2.1	2.3	2.1	2	2	S	2	2.1	2.1	2.1	2.1	2	2.1	2.1	2	2	2.2	2	2.2	2	2.3	2.1	24	
19		2.1	2.2	2.2	2.1	2.2	2.3	2.2	2.1	2.1	S	1.9	2	1.9	1.9	2	2	2	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.3	2.0	24	
20		1.9	1.9	1.9	2	1.9	1.9	2	S	2	2	2	2	2	2	2	2	2	2	2	2	2.1	2.3	2.2	2.1	1.9	2	2.3	2.0	24
21		2.2	2.2	2.4	2.6	2.5	2.4	2.4	S	2.3	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2	2.1	2.3	2.6	2.2	24	
22		2.4	2.5	2.3	2.2	2.3	2.3	S	2.3	2.2	2.2	2.1	2	2	2	2	2	2	2	2	2	2	2	2	2	2.1	2.1	2.5	2.1	24
23		2.1	2.1	2.1	2.2	2.6	S	2.1	2.1	2.1	2.2	2.1	2	2	2	2	2	2	2	2	2	2	2	1.9	2	2.5	2.6	2.1	24	
24		2.1	2.1	2	2	S	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2	2	2.1	2.1	2	2	2	2	2	2	2.1	2.2	2.1	24	
25		2.1	2.1	2.1	S	2.1	2	2	2	2.1	2.1	2	1.9	1.9	1.9	2	2	2.1	2.1	2	1.9	1.9	1.9	2	2	2	2.1	2.0	24	
26		2	2.4	S	2.2	2.1	2.1	2	2	2	1.9	1.9	2	2	2	2	2	2.1	2.1	2.1	2.1	2	2	2.3	2.4	2.4	2.1	24		
27		2	S	2.2	2.2	2.7	2.9	2.3	2	2.1	2.2	2.1	2	2	2	2	2	2	2	2	2	2	2	1.9	1.9	1.9	2.9	2.1	24	
28		S	2	2	2.1	2.3	2.8	3	2.6	2.4	2.1	S	S	2	2	2	2.1	2	2.1	2.1	2	2	2	2	2	S	3.0	2.2	24	
29		1.9	2.1	2.5	2.3	2.3	2.2	2.3	2.2	2.2	2.3	2.3	2.1	2	2	2.1	2	2	2	2	2	2	2	1.9	S	2	2.5	2.1	24	
30		1.9	3.1	2.5	2.2	2.6	2.4	2.5	2.4	2.2	2.1	2.1	2.1	2.1	2	2	2	2	2	2	2	2	2	1.9	S	2	2.1	2.2	24	
31		2.2	2.3	2.5	2.2	2.4	2.4	2.5	2.3	2.1	2	2	2	2	2	2	2	1.9	1.9	2	1.9	S	1.9	2	2	2.5	2.1	24		
HOURLY MAX		2.4	3.1	2.5	2.6	2.7	2.9	3.0	2.6	2.4	2.3	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.4	2.4	2.3	2.5				
HOURLY AVG		2.0	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	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

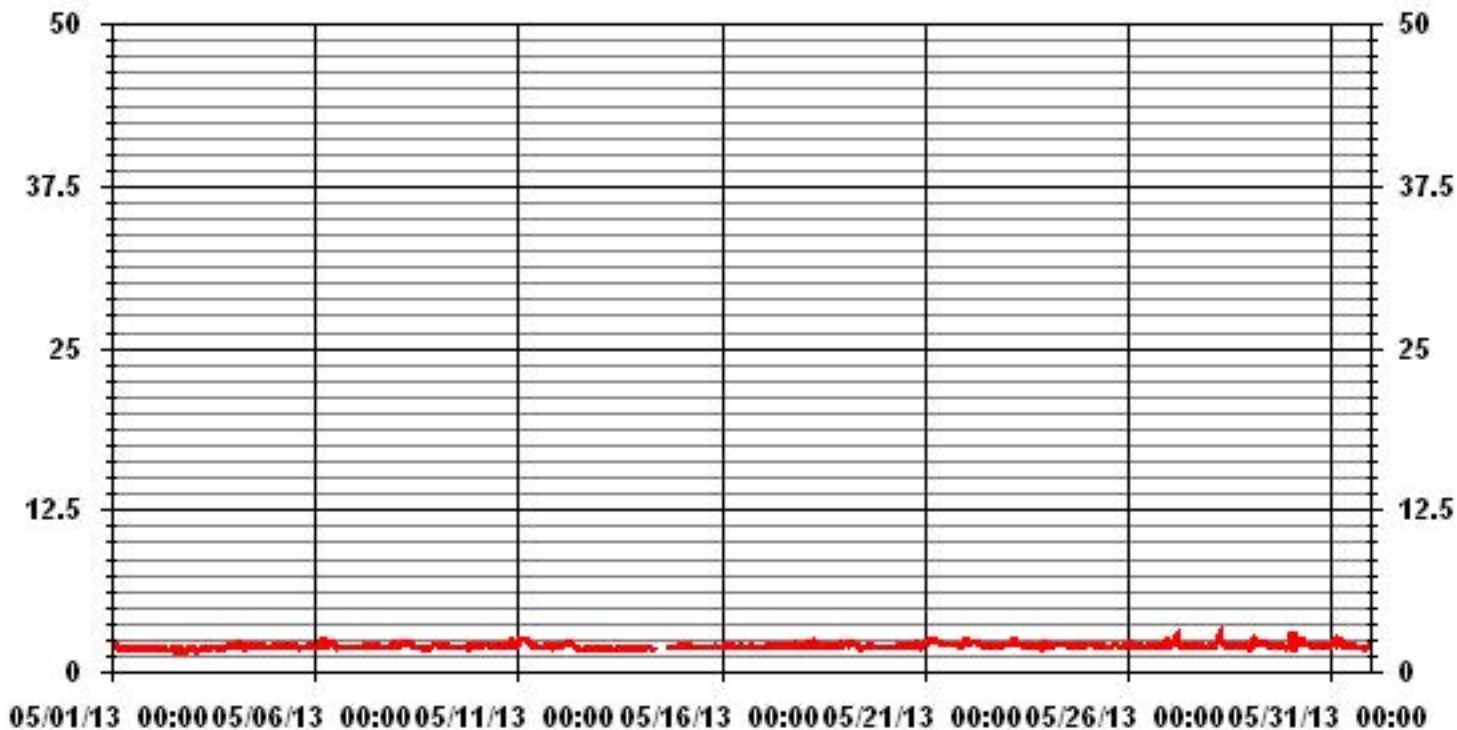
24 AVERAGES FOR MAY 2013



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	696					
MAXIMUM 1-HR AVERAGE:	3.1	PPM	@ HOUR(S)	1	ON DAY(S)	30
MAXIMUM 24-HR AVERAGE:	2.2	PPM			ON DAY(S)	VAR
					VAR- VARIOUS	
IZS CALIBRATION TIME:	35	HRS	OPERATIONAL TIME:	741	HRS	
MONTHLY CALIBRATION TIME:	10	HRS	AMD OPERATION UPTIME:	99.6	%	
STANDARD DEVIATION:	0.18		MONTHLY AVERAGE:	2.02	PPM	

01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

MAY 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	0:00	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	2.5	4	3.3	3.1	S	3.3	2.1	2.2	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	4	2.2	24	
2	1.8	1.8	1.8	S	1.9	1.9	1.9	1.9	1.9	1.8	1.8	Y	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.7	2.4	2.1	2.1	2.5	2.5	1.9	23	
3	2.2	1.8	S	1.8	1.8	1.8	S	1.8	1.8	2.1	C	C	C	C	C	1.9	1.8	1.9	1.9	2	2	2	2.5	2.5	1.9	24		
4	2	S	2.6	3.3	3.1	2.7	2	2.1	2.1	2	2	2	2	2	2	2	2	2	2	2	2	1.9	1.9	3.3	2.2	24		
5	S	2	2	2	2	2	2.1	2.1	2.1	2.2	2.1	2.1	2	2	2	2	2	2	2	2	2.1	2.2	2.2	S	2.2	2.1	24	
6	1.9	1.9	2	2.1	2.7	3.3	2.5	2.1	2.3	2.3	2.5	2.5	2	2	2	1.9	1.9	1.9	1.9	1.9	1.9	S	2.1	3.3	2.2	24		
7	2	1.9	2	2	2	2	2	2	2.1	2.1	2.1	2.1	2.1	2.1	2	2	1.9	2	1.9	2	1.9	2	S	3.1	3.3	2.1	24	
8	2.3	2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	2	2	2	1.9	1.9	1.9	1.9	1.9	1.9	S	2.1	2.1	2.1	2.3	2.1	24	
9	2.1	2.1	2.1	2	2	2.1	2.1	2	1.9	1.9	1.9	2	2	2	2.1	2	2	2	2	S	2	2	2	2	2.1	2.0	24	
10	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	2.1	2.1	2.1	S	2.7	3.9	3.6	4	2.2	4	2.3	24		
11	2.3	2.5	2.5	2.5	2.6	2.6	2.5	2.3	2.2	2.1	2.1	2	2	1.9	2	2	S	2	2	2	2	2.1	2.1	2.1	2.6	2.2	24	
12	2.1	2	2	2.1	2.2	2.3	2.2	2.2	2.1	2	2	1.9	1.8	1.8	1.7	S	1.9	1.8	2	1.8	1.9	1.8	1.8	2.3	2.0	24		
13	1.8	1.9	1.8	1.8	P	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	S	1.9	1.9	1.9	1.9	2	2	2	2	2	1.9	23		
14	1.9	1.9	1.9	1.9	2	1.9	2	2	1.9	C	C	Y	Y	Y	C	C	C	C	C	2	2	2.4	2.4	2.2	2.2	2.4	20	
15	2.1	2	2	2	2.1	2.1	2.1	2.1	2	2	2	2	2	S	1.9	2	2	2	2	2	2.1	2.4	2.5	2.7	1.9	2.7	21	
16	1.9	2	2.6	2.3	2.2	2	2.2	2.1	1.9	1.9	2.2	2.1	S	2	2	2	2	2	2.1	2.5	2	1.9	2.2	2	2.6	2.1	24	
17	1.9	2.2	2	2.1	2.1	2	2	2.2	2	2	2.1	S	2	2	2.1	2	2.1	2	2	3.2	2.6	3.5	2.3	3	3.5	2.2	24	
18	2.1	2.1	2	2.5	2.5	2.1	2.7	2.2	2	2	S	2.1	2.2	2.1	2.2	2.2	2.1	2.1	2.1	2.2	2.1	3	3.3	2.1	3.3	2.3	24	
19	2.2	2.3	2.3	2.2	2.3	2.3	2.2	2.1	S	2	2	2	2	2	2.1	2	2	2.3	2.1	2	1.9	2	2	2.3	2.1	24		
20	3.8	2.1	3	3.5	2	2.8	1.9	2.1	S	2	2.1	2	2.1	2.1	2.2	2.1	2.3	2.2	2.6	3.3	2.9	2.9	2	2.1	3.8	2.4	24	
21	2.6	2.5	3	3	2.9	2.8	2.7	S	2.5	2.5	2.4	2.2	2.2	2.2	2.1	2.2	2.1	2.2	2.1	2.2	2.1	2.1	2.3	2.6	3	2.4	24	
22	2.8	4.3	6	2.8	2.5	2.7	S	2.8	2.7	2.8	2.5	2.2	2.1	2.1	2.2	2.1	2.1	2.1	2	2.1	2.1	2.2	2.8	2.1	6	2.6	24	
23	2.2	2.1	2.5	3.9	4.4	S	2.4	2.7	2.4	2.6	2.7	2.4	2.2	2.2	2.3	2.1	2.1	2.1	2.7	2	2	2	3.7	7.4	7.4	2.7	24	
24	2.7	2.9	2.5	2.3	S	2.7	2.7	2.6	2.5	2.6	2.5	2.5	2.4	2.5	2.4	2.4	2.8	2.7	2.3	2.3	2.2	2.4	2.4	2.6	2.9	2.5	24	
25	2.6	2.6	2.6	S	2.4	2.3	2.3	2.4	2.5	2.5	2.4	2	2	2.1	2.1	2.5	2.6	2.5	2.3	2.2	2	2	2	2	2.6	2.3	24	
26	2	9.5	S	4.2	2.2	2.1	2.1	2.3	2.3	2.2	2.2	2.1	2	2.1	2.1	2.7	2.3	2.7	2.3	2.4	2.1	2	5.5	4.8	9.5	2.9	24	
27	2.3	S	3.3	2.7	3.9	7	3.2	2.1	2.7	2.7	2.4	2.3	2.4	2.3	2.5	2.3	2.8	2.1	2	2	2	2.6	2	2	7	2.7	24	
28	S	2.2	2	2.1	2.6	4.3	5.9	3.5	3.3	2.2	S	S	2.1	2.1	2.2	2.3	2.1	2.2	2.5	2.6	2.2	2.3	2.1	S	5.9	2.6	24	
29	2	2.2	4.7	4.1	3.5	2.5	2.4	2.3	2.4	2.4	2.6	2.3	2.6	2.6	2.5	2	2.2	2	2	2.5	2.3	2	S	3	4.7	2.6	24	
30	2.1	5.7	4.5	3.8	5.7	4.4	3.8	3.2	2.4	2.5	2.4	2.5	2.3	2.1	2.1	2.4	2.6	2.2	2.1	2	2.1	S	2	4.5	5.7	3.0	24	
31	2.3	2.4	4.3	2.4	2.5	2.6	2.6	2.5	2.1	2.1	2.1	2.1	2	2	2	2.1	2	2	2.1	2.1	S	2	2.4	3.8	4.3	2.4	24	
HOURLY MAX	3.8	9.5	6.0	4.2	5.7	7.0	5.9	3.5	3.3	2.8	2.7	2.5	2.6	2.6	2.5	2.7	2.8	2.7	2.7	3.3	3.9	3.6	5.5	7.4				
HOURLY AVG	2.2	2.7	2.7	2.6	2.6	2.6	2.4	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	2.2	2.3	2.5	2.6				

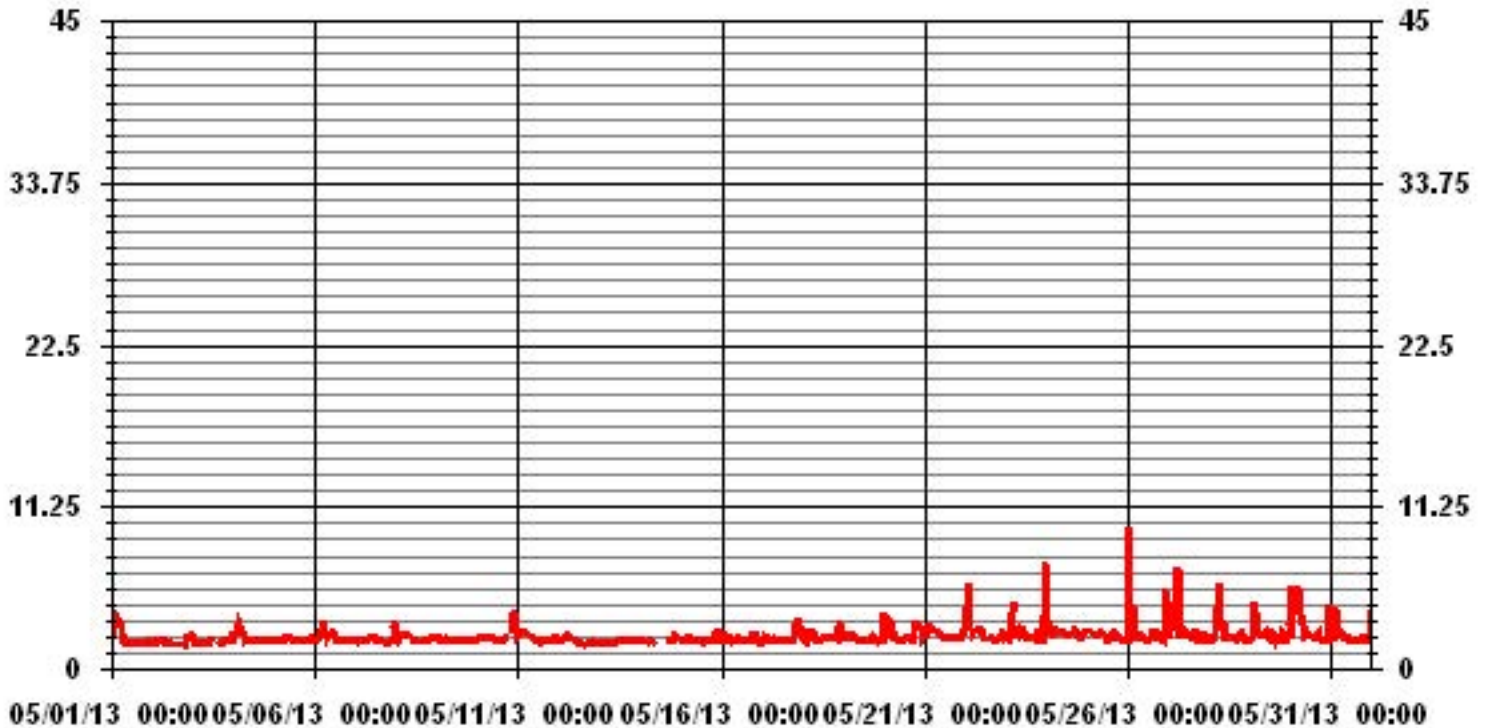
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	692					
MAXIMUM INSTANTANEOUS VALUE:	9.5	PPM	@ HOUR(S)	1	ON DAY(S)	26
IZS CALIBRATION TIME:	36	HRS	OPERATIONAL TIME:	739	HRS	
MONTHLY CALIBRATION TIME:	11	HRS				
STANDARD DEVIATION:	0.67					

01 Hour Averages



LICA31
 THC / WDR Joint Frequency Distribution (Percent)

May 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
 Instrument Height : 10 Meters

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 3.0	5.45	3.16	2.87	3.16	10.20	10.48	8.76	6.46	7.75	7.90	4.16	5.02	7.32	6.17	5.60	5.17	99.71
< 10.0	.00	.00	.00	.00	.28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.28
< 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.45	3.16	2.87	3.16	10.48	10.48	8.76	6.46	7.75	7.90	4.16	5.02	7.32	6.17	5.60	5.17	

Calm : .00 %

Total # Operational Hours : 696

Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 3.0	38	22	20	22	71	73	61	45	54	55	29	35	51	43	39	36	694
< 10.0					2												2
< 50.0																	
>= 50.0																	
Totals	38	22	20	22	73	73	61	45	54	55	29	35	51	43	39	36	

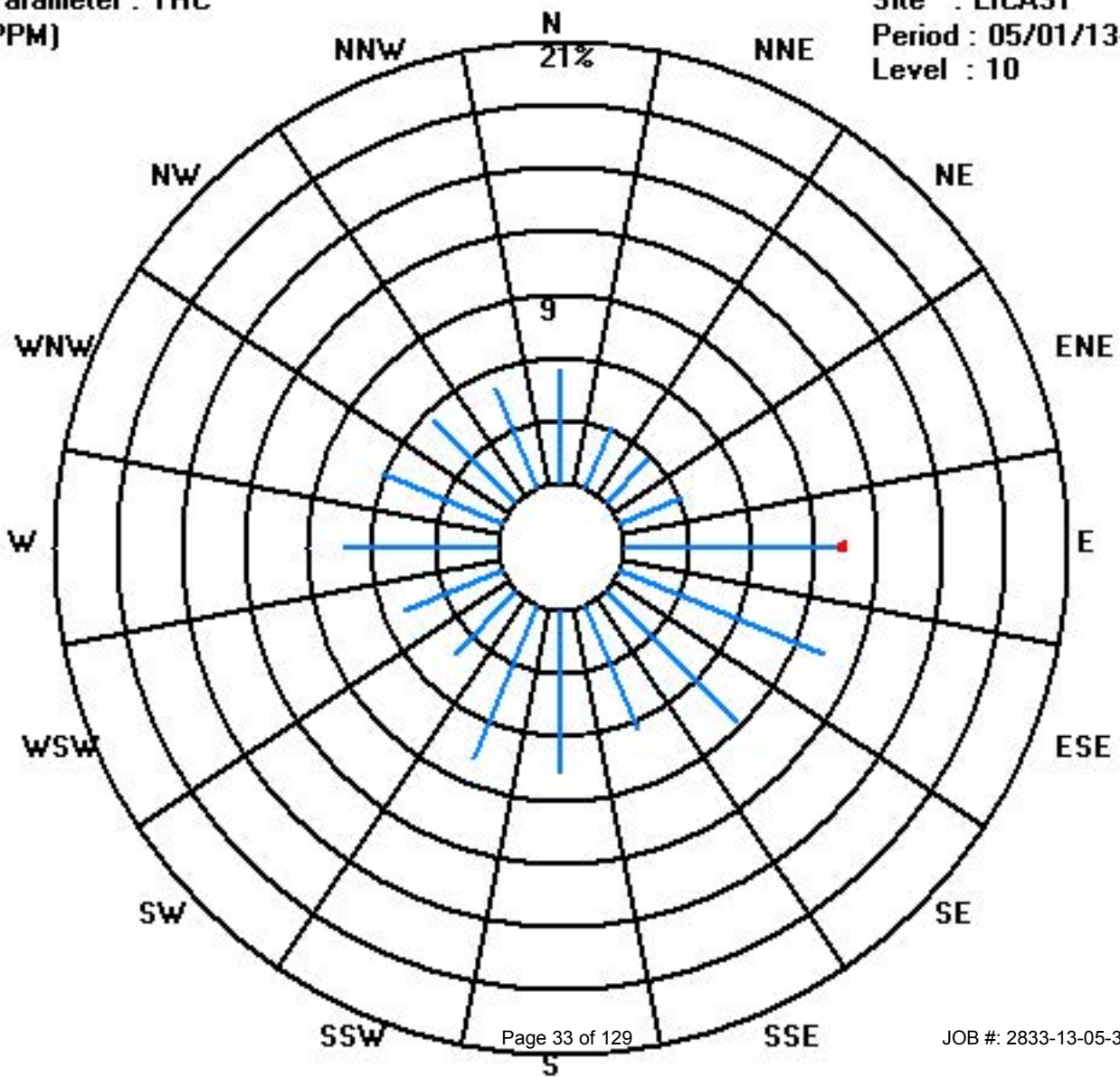
Calm : .00 %

Total # Operational Hours : 696

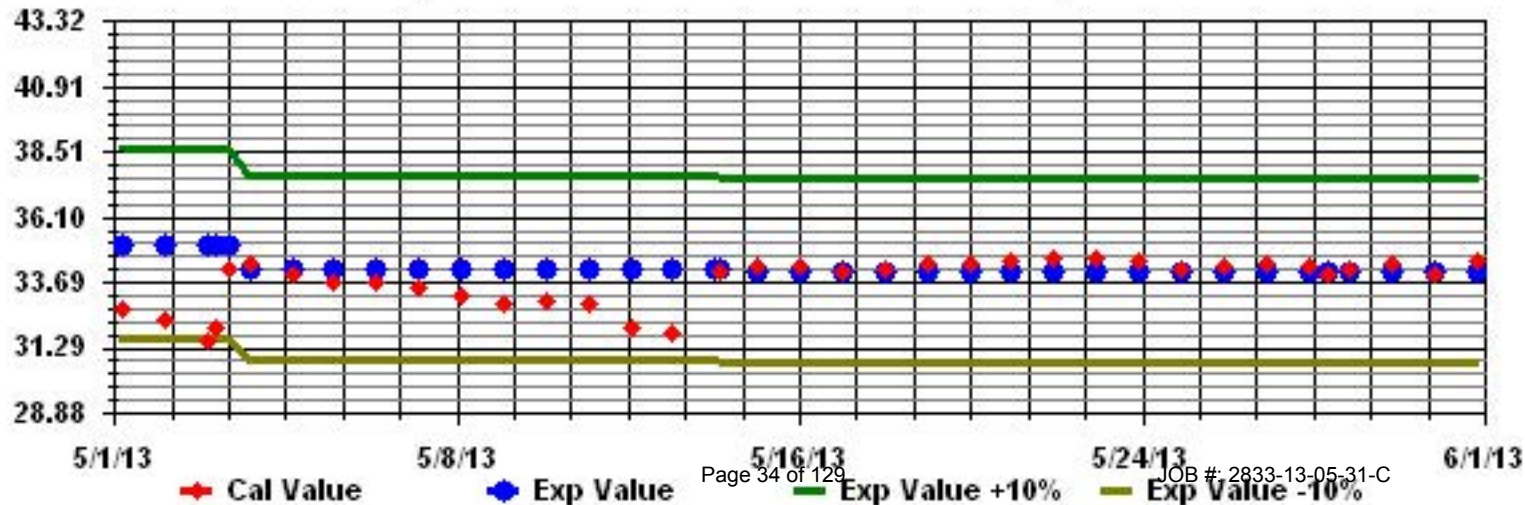
Class Limits (PPM)

Period : 05/01/13-05/31/13

Level : 10



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



Ozone

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

MAY 2013

OZONE (O₃) 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	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		29	29	28	28	S	30	27	29	29	32	33	34	35	36	39	40	41	42	42	41	40	39	38	36	42	34.7	24	
2		36	35	34	S	31	29	29	30	32	35	39	45	47	47	49	50	48	48	45	40	39	39	37	37	50	39.2	24	
3		36	36	S	33	33	34	34	34	35	37	38	39	41	42	S	S	44	44	43	42	41	41	42	42	44	38.6	24	
4		43	S	41	41	41	42	38	38	40	44	45	45	44	45	46	47	51	53	53	52	48	44	43	39	53	44.5	24	
5		S	36	34	33	31	30	29	31	35	39	42	42	44	45	47	50	53	56	56	55	54	54	54	S	56	43.2	24	
6		55	54	55	52	43	37	43	48	48	50	56	59	61	63	64	66	65	67	65	61	58	54	S	46	67	55.2	24	
7		48	47	41	28	25	29	29	29	28	28	29	30	32	34	36	C	C	C	C	40	40	S	38	38	48	34.2	24	
8		37	37	34	30	31	31	31	34	36	35	37	39	40	41	43	44	45	45	45	43	S	39	37	37	45	37.9	24	
9		36	35	35	36	35	32	33	34	35	36	39	43	50	52	54	54	52	46	41	S	43	47	45	44	54	41.6	24	
10		43	40	38	35	32	33	36	38	39	41	43	44	44	45	47	48	48	48	S	48	48	47	45	46	48	42.4	24	
11		45	42	41	39	37	38	38	41	43	44	45	47	48	49	50	50	51	S	50	48	46	43	41	40	51	44.2	24	
12		40	39	37	36	35	33	32	31	33	35	39	43	46	49	49	43	S	41	37	34	34	31	28	28	49	37.1	24	
13		38	39	41	41	39	35	36	39	42	44	45	47	50	49	49	S	48	47	47	47	46	48	48	47	50	44.0	24	
14		47	46	46	47	47	47	45	44	45	C	C	C	C	Y	C	C	C	C	47	47	47	44	47	49	47	49	46.4	23
15		50	48	48	45	40	35	34	38	40	41	43	45	45	S	47	47	47	47	46	47	48	48	48	48	50	44.6	24	
16		48	47	49	44	36	39	41	43	42	44	45	49	S	50	49	50	50	51	50	47	49	49	49	49	51	46.5	24	
17		49	45	47	35	39	44	41	41	42	45	46	S	43	44	43	45	44	45	45	44	43	40	41	41	49	43.1	24	
18		42	42	41	33	33	38	29	33	41	47	S	52	53	55	55	58	58	57	56	51	48	48	44	47	58	46.1	24	
19		45	43	43	42	40	37	38	43	47	S	52	53	49	58	58	56	55	54	47	52	47	47	46	42	58	47.6	24	
20		43	40	44	40	39	34	38	38	S	47	48	48	48	49	49	50	50	51	48	45	42	41	44	43	51	44.3	24	
21		40	35	31	27	29	30	29	S	30	36	51	52	51	51	57	60	58	57	57	52	50	50	46	42	60	44.4	24	
22		41	41	40	38	34	33	S	33	36	40	46	48	48	49	48	47	45	44	42	40	37	35	33	32	49	40.4	24	
23		31	30	30	30	28	S	30	32	34	36	39	43	46	45	47	52	51	49	48	47	45	43	41	40	52	39.9	24	
24		38	37	34	33	S	34	35	35	37	41	44	48	49	49	51	48	44	44	45	45	44	43	42	40	51	41.7	24	
25		38	36	35	S	33	33	32	31	31	30	31	36	36	33	36	33	35	34	37	38	35	31	31	31	38	33.7	24	
26		30	29	S	26	22	22	23	28	29	34	40	42	43	43	44	43	44	44	44	43	41	37	35	34	44	35.7	24	
27		34	S	28	24	25	29	35	42	42	44	46	S	43	49	49	49	48	47	46	47	47	43	43	42	49	40.9	24	
28		S	42	41	38	31	28	31	32	34	42	S	S	49	50	49	50	50	47	51	51	51	47	45	S	51	43.0	24	
29		42	36	31	31	29	23	20	23	30	35	46	52	51	52	48	49	46	46	47	39	43	38	S	38	52	38.9	24	
30		37	40	36	32	28	29	31	32	37	44	48	49	50	44	49	48	42	42	34	32	38	S	36	34	50	38.8	24	
31		33	32	30	34	34	31	28	30	36	39	41	43	44	45	46	47	46	48	49	46	S	35	33	35	49	38.5	24	
HOURLY MAX		55	54	55	52	47	47	45	48	48	50	56	59	61	63	64	66	65	67	65	61	58	54	54	49				
HOURLY AVG		40.5	39.2	38.4	35.6	33.8	33.3	33.2	35.1	36.9	39.5	42.7	45.1	46.0	47.0	48.2	49.0	48.5	48.0	47.0	45.5	44.4	43.0	41.4	40.2				

STATUS FLAG CODES

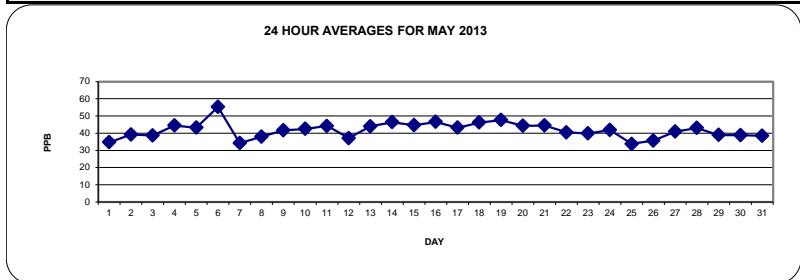
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT:

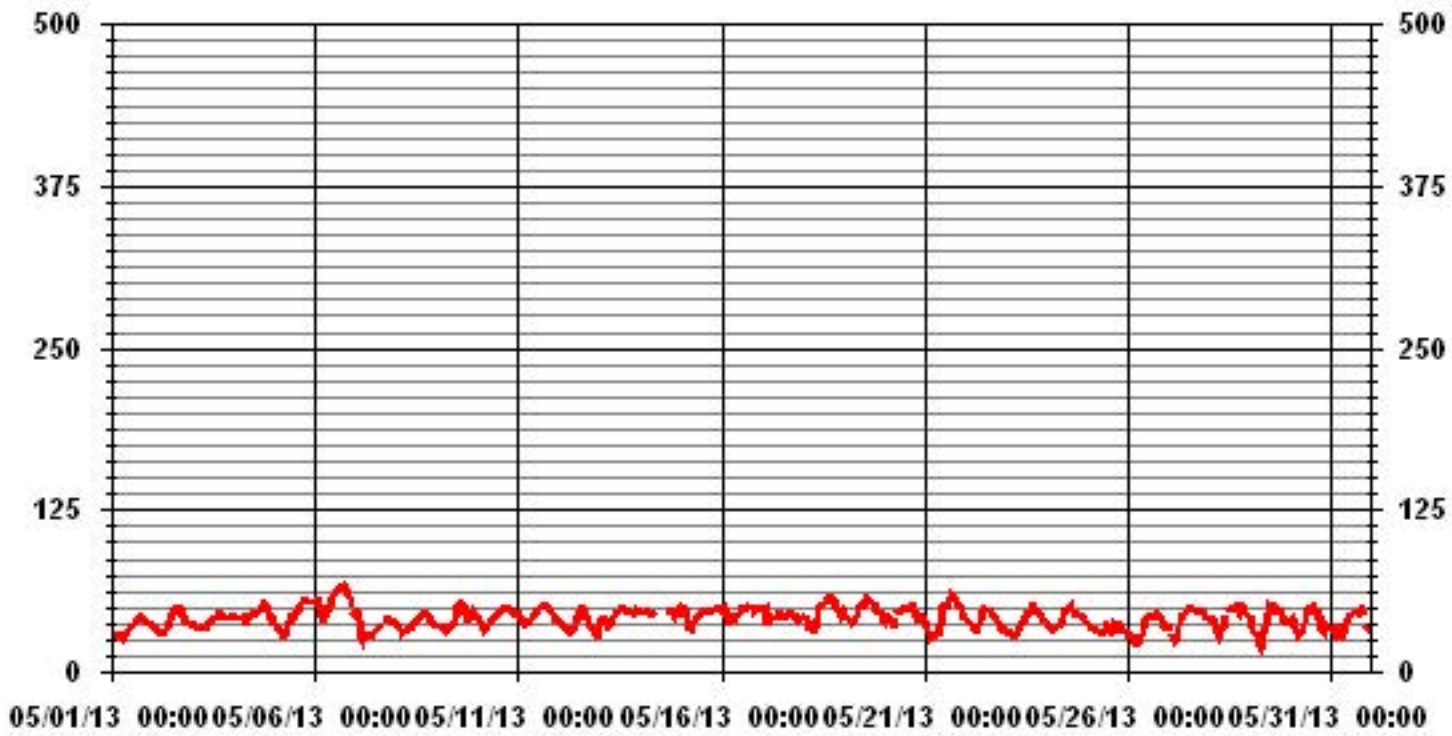
ALBERTA ENVIRONMENT: 1-HR 82 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0				
NUMBER OF NON-ZERO READINGS:	694				
MAXIMUM 1-HR AVERAGE:	67	PPB	@ HOUR(S)	17	ON DAY(S) 6
MAXIMUM 24-HR AVERAGE:	55.2	PPB			ON DAY(S) 6
					VAR-VARIOUS
IJS CALIBRATION TIME:	38	HRS	OPERATIONAL TIME:	743	HRS
MONTHLY CALIBRATION TIME:	11	HRS	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	7.82		MONTHLY AVERAGE:	41.6	PPB



01 Hour Averages



— LICA3T 03_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

MAY 2013

OZONE MAX instantaneous maximum in ppb

MST

DAY	HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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.
	HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	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	30	30	29	28	S	30	29	30	32	32	35	35	35	38	40	40	42	43	42	42	40	40	39	37	43	35.6	24		
2	37	36	35	S	32	29	31	31	33	38	43	Y	48	48	50	50	49	49	47	41	40	40	38	37	50	40.1	23		
3	37	36	S	34	34	35	34	35	36	38	39	40	41	43	S	S	45	44	44	43	42	42	42	43	45	39.4	24		
4	43	S	42	41	41	42	41	40	43	45	47	45	45	46	46	49	52	54	54	54	50	45	44	41	54	45.7	24		
5	S	37	35	34	32	31	30	33	37	41	42	43	45	48	47	52	56	57	57	56	55	54	54	S	57	44.4	24		
6	56	57	57	54	48	39	48	48	48	52	58	60	63	64	66	68	67	68	67	63	59	56	S	52	68	57.3	24		
7	50	48	46	31	26	31	30	29	29	30	31	33	36	38	C	C	C	C	C	40	41	S	38	39	50	35.5	24		
8	37	37	36	31	31	31	32	36	36	36	36	38	40	41	42	44	45	45	45	45	44	S	41	38	37	45	38.6	24	
9	36	36	36	36	35	34	34	36	36	37	42	45	53	53	54	55	54	49	44	S	45	48	47	45	55	43.0	24		
10	44	42	39	36	33	34	38	39	40	42	44	45	45	46	49	50	51	49	S	49	49	48	46	47	51	43.7	24		
11	46	44	41	40	38	38	39	42	43	44	46	48	49	50	50	50	52	S	50	49	47	45	42	41	52	45.0	24		
12	40	39	38	37	36	33	32	33	34	37	41	44	47	51	51	44	S	50	38	36	35	33	29	34	51	38.8	24		
13	39	40	42	43	P	38	37	40	44	44	45	49	50	50	49	S	48	47	47	48	47	48	48	48	50	45.0	23		
14	47	47	47	47	48	48	46	45	46	C	C	C	C	Y	C	C	C	C	C	48	49	46	50	50	50	50	47.6	23	
15	51	49	49	46	43	38	40	40	41	43	45	51	46	S	48	48	48	59	48	48	48	64	49	49	64	47.4	24		
16	59	57	65	55	54	54	60	59	55	55	54	60	S	66	59	63	68	66	72	57	58	55	55	65	72	59.6	24		
17	62	55	49	48	46	56	52	53	55	54	55	S	57	54	60	59	55	58	55	58	52	51	49	50	62	54.0	24		
18	53	52	50	45	46	44	48	37	46	50	S	54	55	61	64	68	67	69	67	60	49	57	56	63	69	54.8	24		
19	50	44	43	43	42	39	41	48	51	S	56	64	61	70	70	64	64	61	56	58	54	56	51	70	54.0	24			
20	44	45	48	49	45	37	41	42	S	49	49	49	49	50	51	52	52	53	51	47	45	43	45	45	53	47.0	24		
21	42	38	33	29	33	33	30	S	34	46	54	54	52	53	61	63	59	58	58	55	52	52	49	45	63	47.1	24		
22	42	42	40	40	36	35	S	35	39	43	49	50	50	50	49	48	47	46	45	42	39	36	34	34	50	42.2	24		
23	32	32	32	32	29	S	32	34	36	38	42	46	47	46	51	54	53	52	50	48	47	44	42	42	54	41.8	24		
24	39	38	37	35	S	36	37	38	39	44	48	50	51	51	53	51	47	46	49	48	46	45	44	42	53	44.1	24		
25	40	37	36	S	35	35	34	32	32	32	35	38	38	35	39	37	37	36	39	40	40	33	32	33	40	35.9	24		
26	31	32	S	28	25	27	27	31	34	39	43	43	44	44	45	45	46	47	46	45	42	39	39	36	47	38.2	24		
27	36	S	33	29	30	33	41	47	45	45	47	S	S	51	51	50	50	48	48	48	47	45	44	44	51	43.4	24		
28	S	42	42	40	36	32	33	36	39	49	S	S	51	52	53	53	52	49	53	54	54	51	47	S	54	45.9	24		
29	46	39	32	33	33	33	22	28	36	44	51	54	55	56	55	55	49	48	48	46	47	42	S	39	56	43.1	24		
30	38	42	40	34	31	33	33	38	43	46	52	52	52	50	53	54	44	46	40	34	40	S	37	37	54	42.1	24		
31	34	33	31	35	35	33	29	34	37	41	44	45	45	47	48	49	48	51	51	49	S	37	36	37	51	40.4	24		
HOURLY MAX	62	57	65	55	54	56	60	59	55	55	58	64	63	70	70	68	68	69	72	63	59	64	56	65					
HOURLY AVG	42.8	41.6	40.8	38.4	36.9	36.4	36.7	38.3	40.0	42.5	45.5	47.5	48.1	50.0	51.5	52.4	51.7	51.7	50.3	48.4	46.8	46.2	43.8	43.6					

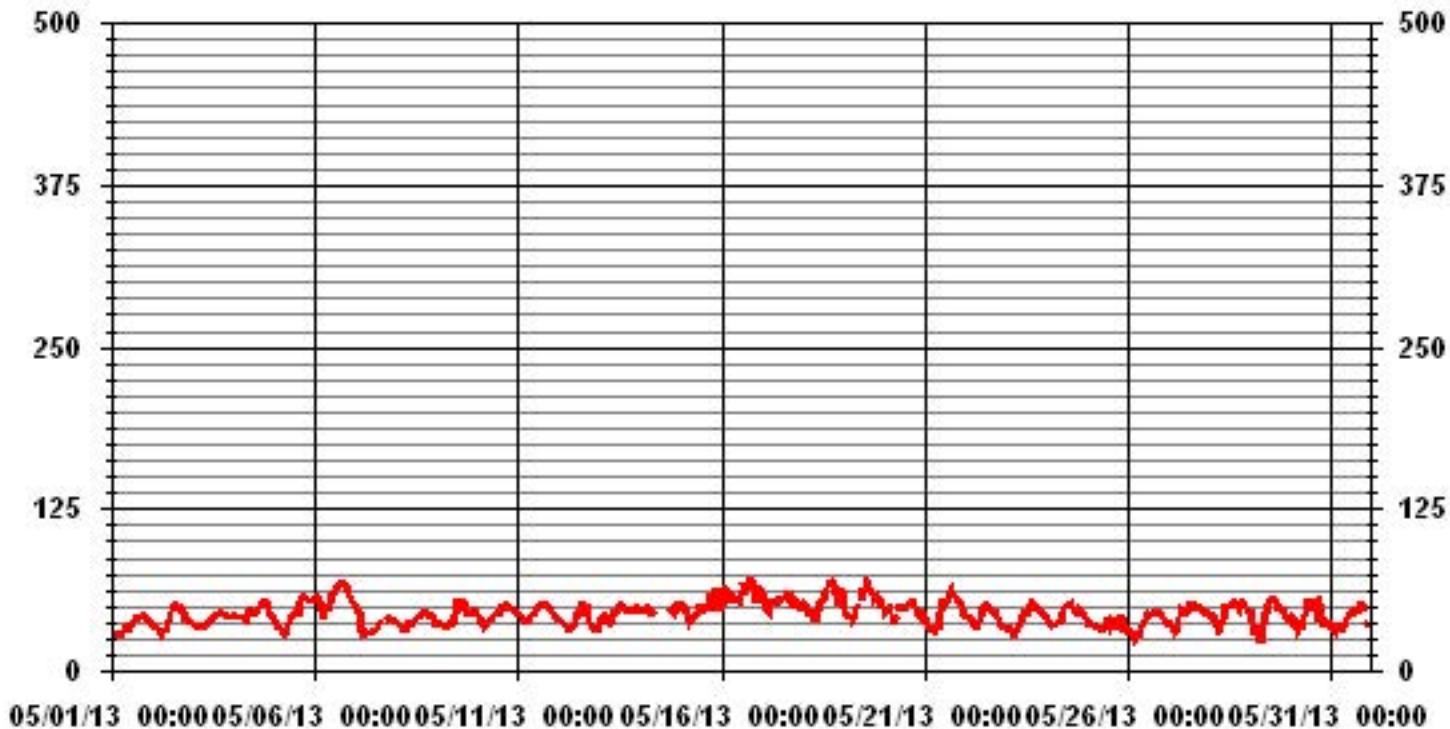
STATUS FLAG CODES

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:	691					
MAXIMUM INSTANTANEOUS VALUE:	72	PPB	@ HOUR(S)	18	ON DAY(S)	16
IZS CALIBRATION TIME:	38	HRS	OPERATIONAL TIME:	741	HRS	
MONTHLY CALIBRATION TIME:	12	HRS				
STANDARD DEVIATION:	8.94					

01 Hour Averages



— LICA31 O3MAX PPB

LICA31
O3_ / WDR Joint Frequency Distribution (Percent)

May 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
Instrument Height : 10 Meters

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 50	5.33	2.30	2.30	2.88	9.65	9.22	6.19	5.76	7.34	6.05	3.17	4.17	6.19	5.76	5.18	5.33	86.88
< 110	.14	.28	.57	.28	.72	1.15	2.59	.72	.43	1.87	1.00	.86	1.15	.57	.57	.14	13.11
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.47	2.59	2.88	3.17	10.37	10.37	8.78	6.48	7.78	7.92	4.17	5.04	7.34	6.34	5.76	5.47	

Calm : .00 %

Total # Operational Hours : 694

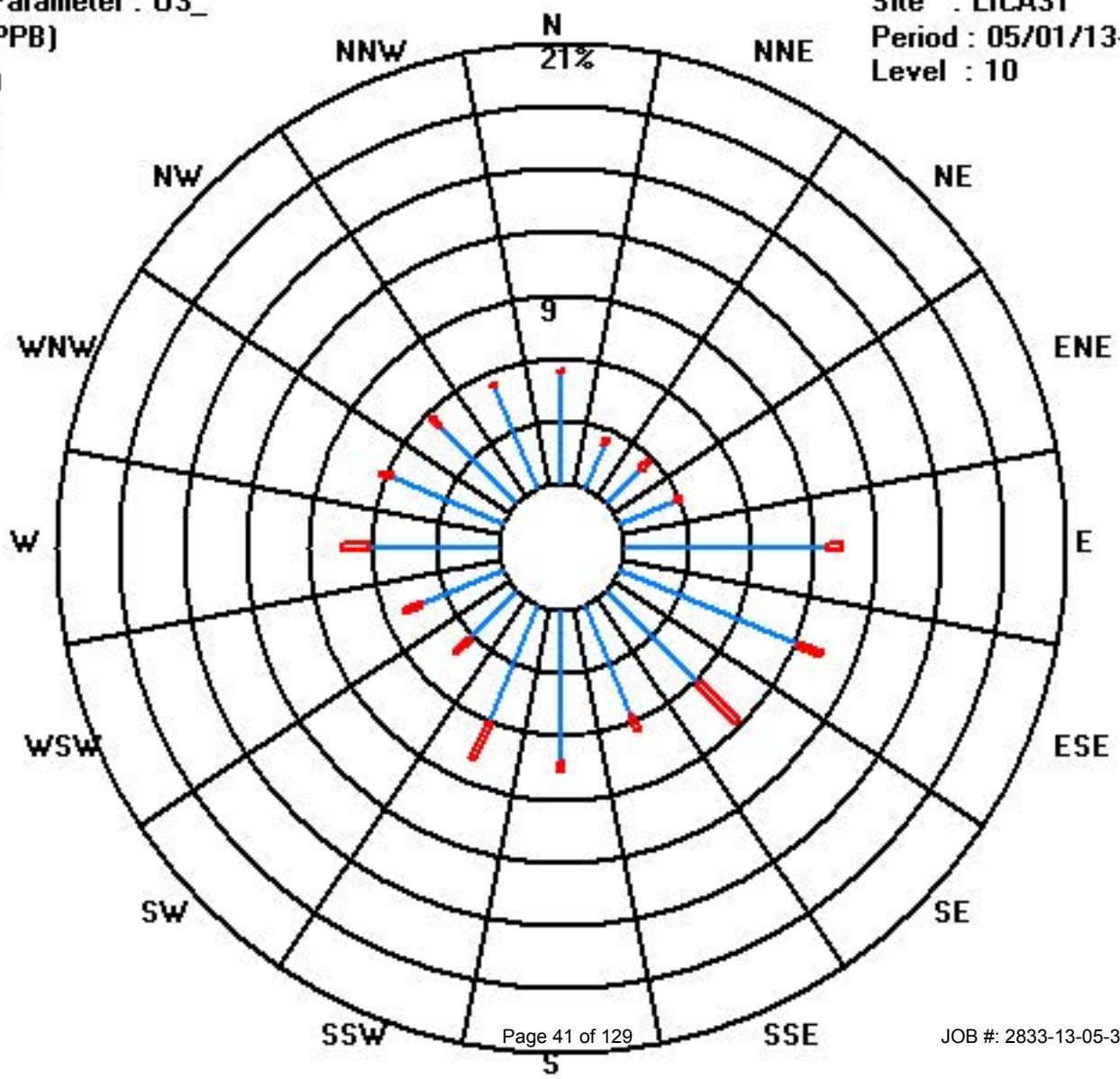
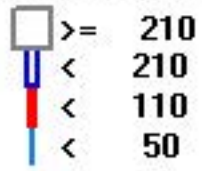
Distribution By Samples

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 50	37	16	16	20	67	64	43	40	51	42	22	29	43	40	36	37	603
< 110	1	2	4	2	5	8	18	5	3	13	7	6	8	4	4	1	91
< 210																	
>= 210																	
Totals	38	18	20	22	72	72	61	45	54	55	29	35	51	44	40	38	

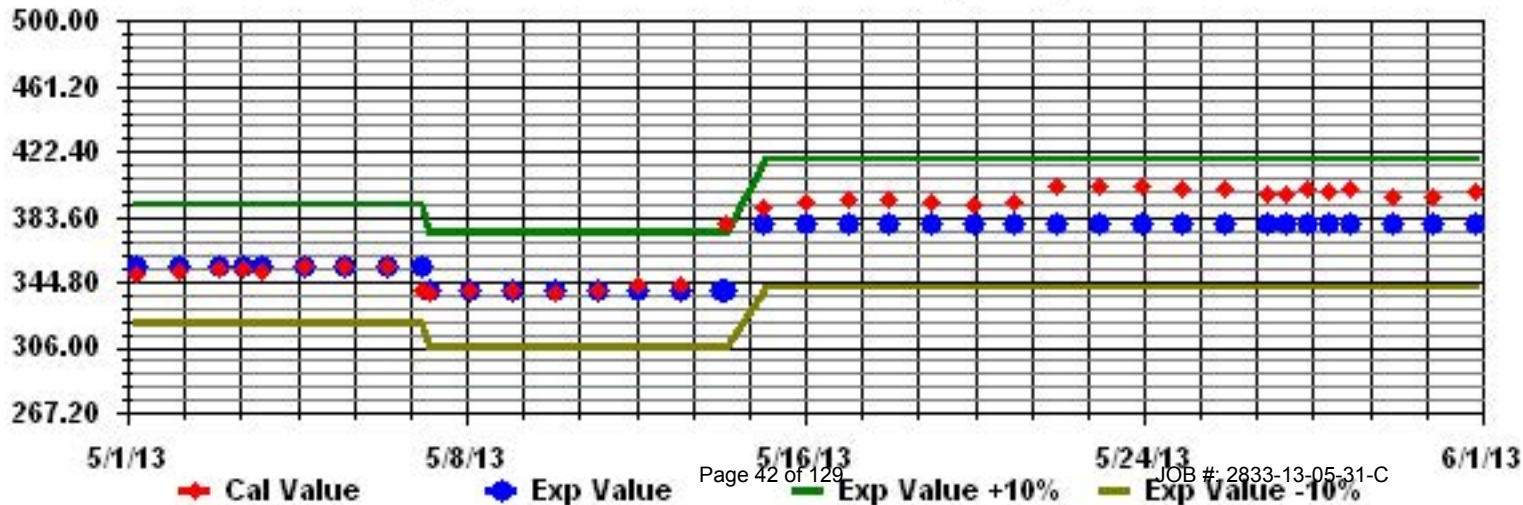
Calm : .00 %

Total # Operational Hours : 694

Class Limits (PPB)



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



Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

MAY 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	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		0	0	0	0	S	0.7	0.9	0.6	0.9	0.6	0.4	0.7	0.7	0.6	0.8	1	0.9	1	1.2	1.4	1.2	1.2	1.3	1.4	1.4	0.8	24	
2		1.3	1.1	1.5	S	1.3	2.3	2.3	2.9	3.5	3.4	Y	1.6	0.3	0.2	0.5	0.4	0.5	0.4	0.1	0.1	0.8	0.4	0.3	0.4	3.5	1.2	23	
3		0.3	0.6	S	0.4	0.4	0.5	0.6	0.6	0.6	C	C	C	C	C	C	0	0.1	0	0.1	0.2	0.3	0.4	0.3	0.6	0.3	24		
4		0.1	S	0.8	1.2	1.1	0.9	0.5	0.7	0.8	0.4	0.2	0.3	0.2	0.3	0.2	0.3	0.5	0.3	0.7	0.8	0.8	1.2	1.2	1.6	1.6	0.7	24	
5		S	1.2	1.5	1.7	1.8	2.1	2.3	2.9	3	2.3	1.4	0.6	0.3	0.3	0.2	0.2	0.2	0.3	0.5	0.8	0.8	1.1	S	3	1.2	24		
6		0.3	0.8	0.5	0.8	3.6	7.1	4	1.4	1.3	1.2	1.7	1.1	0.5	0.5	0.7	0.7	0.7	0.8	1	1.1	1.3	1.6	S	0.7	7.1	1.5	24	
7		0.5	0.3	0.6	0.1	0.4	0.3	0.2	0.3	0.4	0.4	0.4	0.3	0.2	0.3	0.3	0.3	0.4	0.3	0.2	0.4	0.3	S	1.2	1.2	1.2	0.4	24	
8		1.4	0.8	1	1.7	1.7	1.8	1.6	1.1	1	0.8	0.5	0.7	0.7	0.6	0.8	0.4	0.4	0.4	0.5	0.7	S	1.2	1.7	1.7	1.8	1.0	24	
9		1.7	1.7	1.6	1.4	1.3	2.2	2	2.3	2.3	2.4	2.3	2.3	1.9	1.7	1.4	1.7	1.5	1.8	1.4	S	0.8	0.7	0.9	0.8	2.4	1.7	24	
10		1.1	1	0.8	1	1.4	1.3	0.8	0.8	0.7	0.7	0.9	0.8	0.6	0.9	0.7	0.4	0.5	0.6	S	0	0.3	0.6	1.1	0.6	1.4	0.8	24	
11		1.1	1.3	1.5	1.2	1.4	1.4	1.2	0.8	0.6	0.7	0.6	0.5	0.5	0.4	0.3	0.3	0.3	S	0.4	0.8	1.2	1.6	1.8	1.7	1.8	0.9	24	
12		1.6	1.4	1.6	1.5	2	2.3	2.4	2.5	2.3	2.3	2.2	2	1.7	1.3	1.3	0.7	S	0.6	0.3	0.1	0.3	0.7	1.5	0.8	2.5	1.5	24	
13		0.4	0.6	0.5	0.5	1	1.3	1.2	0.9	0.5	0.6	0.4	0.5	0.3	0.4	0.3	S	0.3	0.5	0.4	0.5	0.7	0.5	0.6	1.1	1.3	0.6	24	
14		1	1.2	1	0.9	0.9	0.9	1.3	1.1	0.9	0.8	0.8	0.5	0.4	0.7	0	0.4	S	0	0	0	0	0.2	0	0	1.3	0.6	24	
15		0	0.1	0	0.1	0.7	1	0.8	0.2	0.1	0	0	0	0	S	0.4	0.5	0.5	0.6	0.7	1.2	0.9	0.7	0.6	0.7	1.2	0.4	24	
16		0.5	0.8	0.7	0.9	1.5	1.4	1.5	1.1	0.9	0.4	0.6	0.6	S	0.2	0.4	0.5	0.4	0.4	0.8	1.1	0.3	0.4	0.4	0.4	1.5	0.7	24	
17		0.5	1.6	0.8	2	2.1	1.9	1.5	1.4	1.6	0.5	0.3	S	0	0	0.2	0.2	0.2	0.1	0.1	0	0.2	0.6	1.2	1	2.1	0.8	24	
18		0.8	0.6	0.8	3	4.5	2.2	2.4	2.6	1.6	1	S	0.2	0.5	0.4	0.3	0.3	0.3	0.2	0.3	0.7	1	1	1.2	1.4	4.5	1.2	24	
19		1.3	1.6	1.7	1.4	1.4	1.9	1.7	1	0.9	S	0.5	0.7	1.2	0.9	0.7	0.9	0.8	0.8	1.4	0.6	1.9	1.4	0.8	0.7	1.9	1.1	24	
20		0.5	0.4	0.5	0.2	0.4	0.6	0.8	0.9	S	0.3	0.6	0.5	0.5	0.5	0.4	0.5	0.6	0.6	0.5	0.9	1.6	1.5	1.2	1.4	1.6	0.7	24	
21		1.6	1.9	2.6	2.8	2.5	2.5	2.9	S	2.3	1.9	1.1	0.5	0.4	0.5	0.4	0.5	0.5	0.5	0.6	0.9	0.9	1.2	1.5	2.9	1.3	24		
22		1.7	1.4	1.5	1.5	2.3	1.8	S	1.2	1	0.6	0.3	0.2	0.2	0.3	0.2	0.4	0.2	0.1	0.1	0.3	0.6	0.9	1.3	1	2.3	0.8	24	
23		1.3	1.1	1.1	1.2	1.1	S	1.1	1.1	1.1	1.1	0.7	0.6	0.4	0.4	0.5	0.4	0.4	0.5	0.6	0.7	0.8	1.2	1.6	1.4	1.6	0.9	24	
24		1.7	1.4	2.4	1.9	S	1.4	1.5	1.1	0.9	0.6	0.4	0.1	0.2	0.1	0.2	0	0.1	0	0.1	0.1	0.1	0	0.1	0.1	2.4	0.6	24	
25		0	0	0	S	0.8	1.2	1.2	1.2	0.9	0.9	1.2	1.1	1.2	1	0.8	1.2	1.1	1.3	1.2	1.5	1.6	2	1.8	1.8	2	1.1	24	
26		1.7	1.7	S	1.7	1.9	2	2	2.8	2.7	1.8	1.1	0.9	0.6	0.5	0.4	0.4	0.5	0.6	0.7	0.9	1	1.4	1.8	1.7	2.8	1.3	24	
27		1.2	S	1.8	2.6	3.7	3	2.3	1.4	1.4	1.6	1.2	0.8	0.8	0.6	0.6	0.6	0.5	0.6	0.6	0.9	1	2.1	1.5	1.7	3.7	1.4	24	
28		S	1	0.6	0.7	3.2	4.5	2.5	2.3	2.6	1.4	S	S	0.2	0.4	0.4	0.7	0.7	0.6	0.4	0.6	0.5	1.6	1.4	S	4.5	1.3	24	
29		1.5	3.5	4.1	3.6	3.4	4.2	3.3	2.4	1.9	1.9	1.6	1.3	0.9	0.8	0.8	0.7	0.5	1	1.1	2.2	2.7	1.4	S	1.4	4.2	2.0	24	
30		2.1	1.3	2.1	2.4	3.2	3.3	2.5	2.5	1.8	1.2	1.1	0.9	0.4	0.6	0.5	0.4	0.8	0.7	0.5	0.6	0.6	S	0.6	1.3	3.3	1.4	24	
31		2.7	2.8	2.9	2.2	3	3.3	3.5	2.3	1.3	0.9	0.9	0.6	0.6	0.5	0.6	0.5	0.6	0.6	0.9	0.9	S	0.3	0.3	0.3	3.5	1.4	24	
HOURLY MAX		2.7	3.5	4.1	3.6	4.5	7.1	4.0	2.9	3.5	3.4	2.3	2.3	1.9	1.7	1.4	1.7	1.5	1.8	1.4	2.2	2.7	2.1	1.8	1.8				
HOURLY AVG		1.0	1.1	1.3	1.4	1.9	2.0	1.8	1.5	1.4	1.1	0.9	0.7	0.6	0.5	0.5	0.5	0.5	0.5	0.6	0.7	0.8	1.0	1.0	1.0				

STATUS FLAG CODES

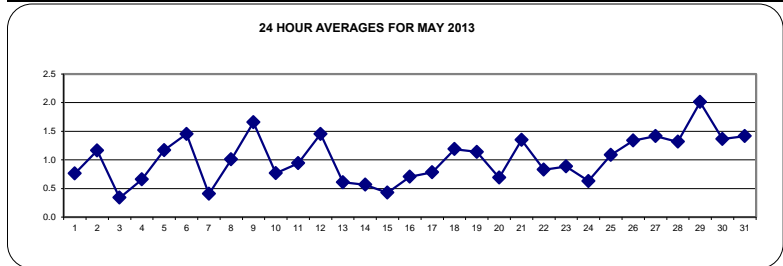
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT:

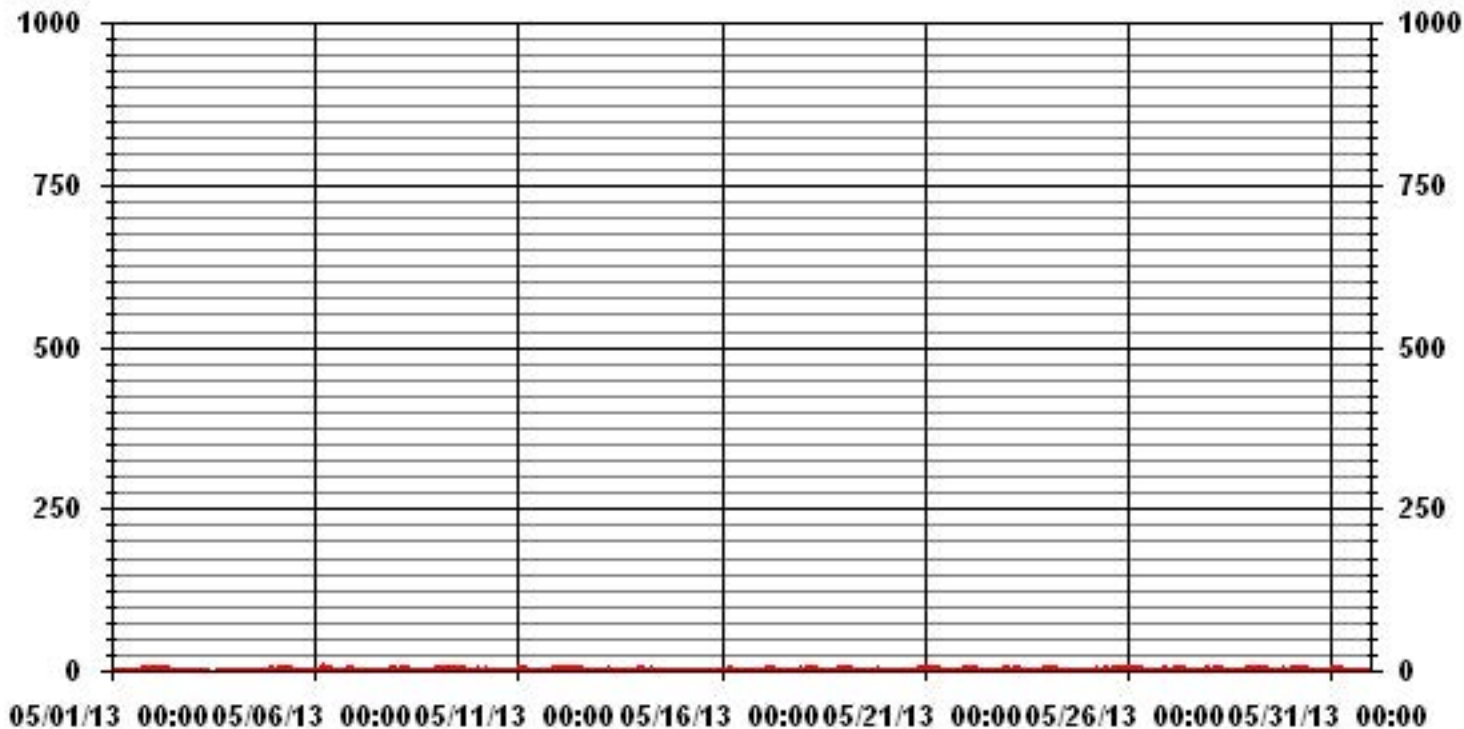
ALBERTA ENVIRONMENT: 1-HR 159 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	672					
MAXIMUM 1-HR AVERAGE:	7.1	PPB	@ HOUR(S)	5	ON DAY(S)	6
MAXIMUM 24-HR AVERAGE:	2.0	PPB			ON DAY(S)	29
IZS CALIBRATION TIME:	35	HRS	OPERATIONAL TIME:	743	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	99.9	%	
STANDARD DEVIATION:	0.83		MONTHLY AVERAGE:	1.02	PPB	



01 Hour Averages



— LICA31 NO2_ PPB

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

MAY 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 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	1.5	1.3	1.6	1.6	S	1.7	1.9	1.4	1.7	1.4	1.2	1.6	1.4	1.4	1.6	1.9	1.8	2.3	2.2	2.2	2	2	2.2	2.3	2.3	1.7	24
2	2.2	2	2.5	S	2	4.6	3.4	4.3	4.6	Y	Y	Y	1.3	1.3	1.8	1.8	1.6	1.3	1.3	1.3	2.9	1.8	1.7	1.4	4.6	2.3	21
3	1.6	1.4	S	1.2	1.2	1.3	1.3	1.6	C	C	C	C	C	C	C	1.3	1.4	1.4	1.7	2	2	1.7	1.8	2	1.5	24	
4	1.8	S	2.5	1.8	1.6	2.2	1	1.6	2.1	1.1	1	1.9	0.9	1.3	1	1.4	1.8	1.2	1.5	1.5	2.5	2.6	2.3	2.3	2.6	1.7	24
5	S	2	2.2	2.2	2.4	3.3	3.4	3.8	4	3.4	2.4	1.7	1.2	1.2	1	1.3	1.6	1	1.1	1.6	1.6	1.7	2	S	4	2.1	24
6	1.4	1.7	1.2	1.8	6.6	7.9	7	2	2.3	1.9	2.8	2.6	1.4	1.4	8.1	1.8	1.4	1.4	2.3	2.6	2.8	3.2	S	1.8	8.1	2.9	24
7	1.5	1.1	3	1	1.1	0.8	0.8	1	1.3	0.8	1	0.8	0.9	0.9	0.8	1	1.1	0.8	0.8	1.1	0.9	S	2	1.9	3	1.1	24
8	2.4	1.5	1.9	2.5	2.5	2.5	2.1	2.1	1.7	1.5	1.5	1.6	1.4	1.4	1.5	1.4	1.4	1.3	1.4	1.6	S	1.8	2.4	2	2.5	1.8	24
9	2.1	2.9	1.9	1.9	2	3.2	2.4	4	14.9	3.1	2.6	2.7	2.4	1.9	2	2	2	2.3	2.1	S	1.4	1	1.4	1.3	14.9	2.8	24
10	7.1	1.4	1.2	1.4	3	1.8	1.2	1.1	1.3	1	1.2	1.4	1	2.3	1	0.7	0.7	0.8	S	1.2	1.6	2.1	2.7	2.1	7.1	1.7	24
11	2.5	2.8	2.9	2.8	3.1	3	2.8	2.7	2.2	2	1.9	1.8	1.9	1.8	1.9	1.6	1.9	S	1	1.7	1.8	2.2	2.4	2.3	3.1	2.2	24
12	2.1	2.2	2.5	2.2	2.8	3	3.1	4.2	3.1	3	2.8	2.8	2.6	2.1	2.3	1.8	S	1.5	1.2	1.4	2.5	2.5	2.7	2.2	4.2	2.5	24
13	1.4	1.5	1.2	1	P	3.1	1.7	1.6	1.3	11.1	0.9	1.6	1	1.1	0.9	S	1	2.1	1.3	1.4	1.7	1.2	1.3	2.3	11.1	1.9	23
14	2.1	2	2.1	1.5	1.6	1.9	2.4	1.7	2	1.4	2	1.2	1	2.7	S	9.1	S	S	2.1	1.6	1.8	3	1	1.8	9.1	2.2	24
15	1.1	1.6	1	1.5	3.5	3.8	3	1.8	2	1.5	7.2	1.3	1.1	S	1.9	1.3	1.3	1.4	2.2	5.6	1.9	2.4	1.8	1.4	7.2	2.2	24
16	1.2	1.9	1.4	1.7	2.6	2.3	2.6	2.2	1.4	1.3	1.3	1.3	S	1.3	1.1	1.2	1.3	1.7	15.8	4.3	0.9	1.1	0.8	1.6	15.8	2.3	24
17	1.1	3	1.6	3.2	3	2.9	2.4	2	2.8	1.4	0.8	S	0.6	0.7	1.6	2.1	1.4	1.1	1.6	0.8	1.1	1.8	2	1.8	3.2	1.8	24
18	1.8	1.2	1.6	5.7	6	3.5	4.6	4.2	2.7	1.9	S	0.9	1.4	1.2	1.2	1.2	1.1	1	1.2	1.4	1.6	1.6	1.9	1.9	6	2.2	24
19	2.1	2.4	2.4	1.9	2.2	2.6	2.5	1.6	1.4	S	1.2	1.2	2.4	1.6	1.3	1.6	1.5	1.6	3.6	2	7.7	2.3	1.7	1.7	7.7	2.2	24
20	1.4	1.2	1.2	1.1	1.1	2.5	1.6	2.2	S	0.9	1.2	1.1	1.3	1.3	1.1	1.2	1.6	1.2	1.4	1.6	3	2.4	2	2.2	3	1.6	24
21	2.4	2.6	3.2	3.8	3.6	3.6	3.6	S	3.2	2.8	2.2	1.4	1.4	1.3	1.2	1.4	1.4	1.4	1.4	1.7	1.8	1.9	1.9	2.4	3.8	2.2	24
22	2.3	2	2.2	3.4	3.2	2.4	S	1.8	1.8	1.4	1.3	0.9	1	1.3	1	1	1.1	1	1	1.3	1.6	1.9	2.1	2.1	3.4	1.7	24
23	2.2	1.8	1.8	1.9	2.1	S	2.1	1.8	1.8	1.7	1.5	1.4	1.1	1	1	1.1	1	1.3	1.3	1.5	1.4	1.7	2.2	2.2	2.2	1.6	24
24	2.1	2	3.1	2.8	S	2.5	2.3	2.6	1.6	1.3	1.3	1.1	1	1	1.1	1.3	1.5	1.1	1.1	1.3	1.3	1.3	1.2	3.1	1.6	24	
25	1.1	1.4	1.2	S	1.7	1.9	1.9	1.9	1.7	1.7	1.9	1.7	1.9	1.9	1.7	1.9	1.8	1.9	1.9	2.2	2.3	4.3	2.7	2.4	4.3	2.0	24
26	2.4	2.7	S	2.8	3.7	3.4	19	5.7	4.3	2.8	1.7	1.6	1.2	1.1	1.1	1.1	1.2	1.1	1.4	1.5	1.6	2.1	2.4	2.4	19	3.0	24
27	1.8	S	2.8	4	4.8	4.4	3.7	2.4	2.4	2.4	2.7	1.8	1.8	1.6	1.7	1.6	1.6	1.7	1.6	1.9	2	8.3	2.4	2.8	8.3	2.7	24
28	S	1.8	1.7	1.8	5.8	6	3.7	3.1	3.7	2.9	S	S	1.2	1.1	1.7	1.9	1.7	2.3	1.7	1.5	1.3	21.7	3.2	S	21.7	3.5	24
29	2.6	4.7	4.8	4.4	4.2	6.1	5.4	3.1	2.7	2.8	2.8	2.1	2	1.9	1.9	1.7	1.7	1.9	2.4	4.8	5.4	3.2	S	2.4	6.1	3.3	24
30	3.1	2.6	2.9	3.6	4.2	4.2	4	3.8	2.8	2.2	2.2	2	1.7	2.2	1.6	1.7	2	1.8	1.8	2.1	2.1	S	1.3	2.4	4.2	2.5	24
31	3.5	3.5	3.5	2.9	3.7	4	4.5	2.8	2	1.9	1.6	1.2	1.4	1.1	1.5	1.2	1.7	1.6	1.9	2.1	S	1.2	1.2	1.2	4.5	2.2	24
HOURLY MAX	7.1	4.7	4.8	5.7	6.6	7.9	19.0	5.7	14.9	11.1	7.2	2.8	2.6	2.7	8.1	9.1	2.0	2.3	15.8	5.6	7.7	21.7	3.2	2.8			
HOURLY AVG	2.1	2.1	2.2	2.4	3.0	3.2	3.4	2.5	2.8	2.2	1.9	1.6	1.4	1.5	1.6	1.7	1.5	1.5	2.1	2.0	2.2	3.0	2.0	2.0			

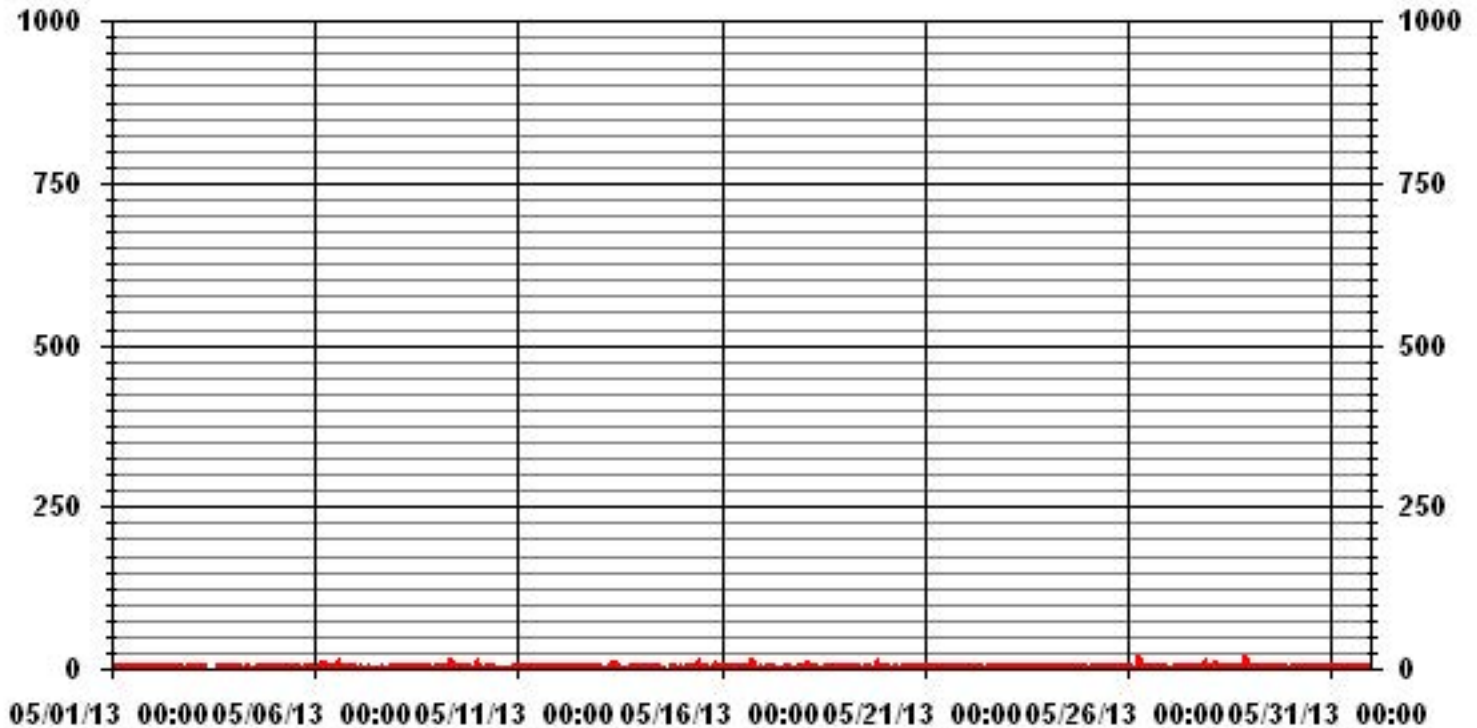
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	695					
MAXIMUM INSTANTANEOUS VALUE:	21.7	PPB	@ HOUR(S)	21	ON DAY(S)	28
IZS CALIBRATION TIME:	37	HRS	OPERATIONAL TIME:	740	HRS	
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION:	1.68					

01 Hour Averages



— LICA31 NO2MAX PPB

LICA31
 NO2_ / WDR Joint Frequency Distribution (Percent)

May 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
 Instrument Height : 10 Meters

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 50.0	5.42	3.13	2.85	3.13	10.41	10.41	8.70	6.41	7.70	7.84	4.13	4.99	7.27	6.70	5.70	5.13	100.00
< 110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.42	3.13	2.85	3.13	10.41	10.41	8.70	6.41	7.70	7.84	4.13	4.99	7.27	6.70	5.70	5.13	

Calm : .00 %

Total # Operational Hours : 701

Distribution By Samples

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 50.0	38	22	20	22	73	73	61	45	54	55	29	35	51	47	40	36	701
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	38	22	20	22	73	73	61	45	54	55	29	35	51	47	40	36	

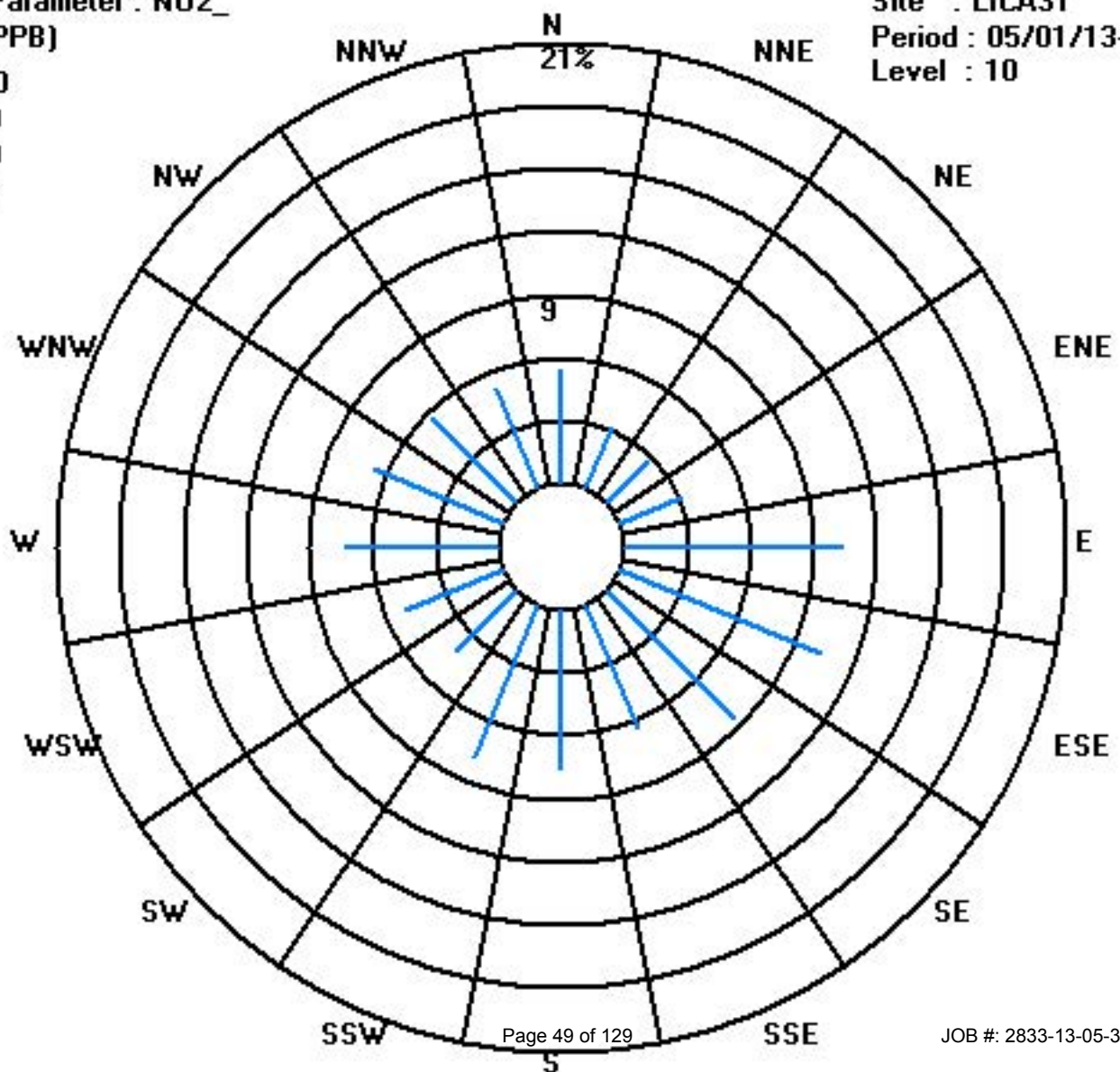
Calm : .00 %

Total # Operational Hours : 701

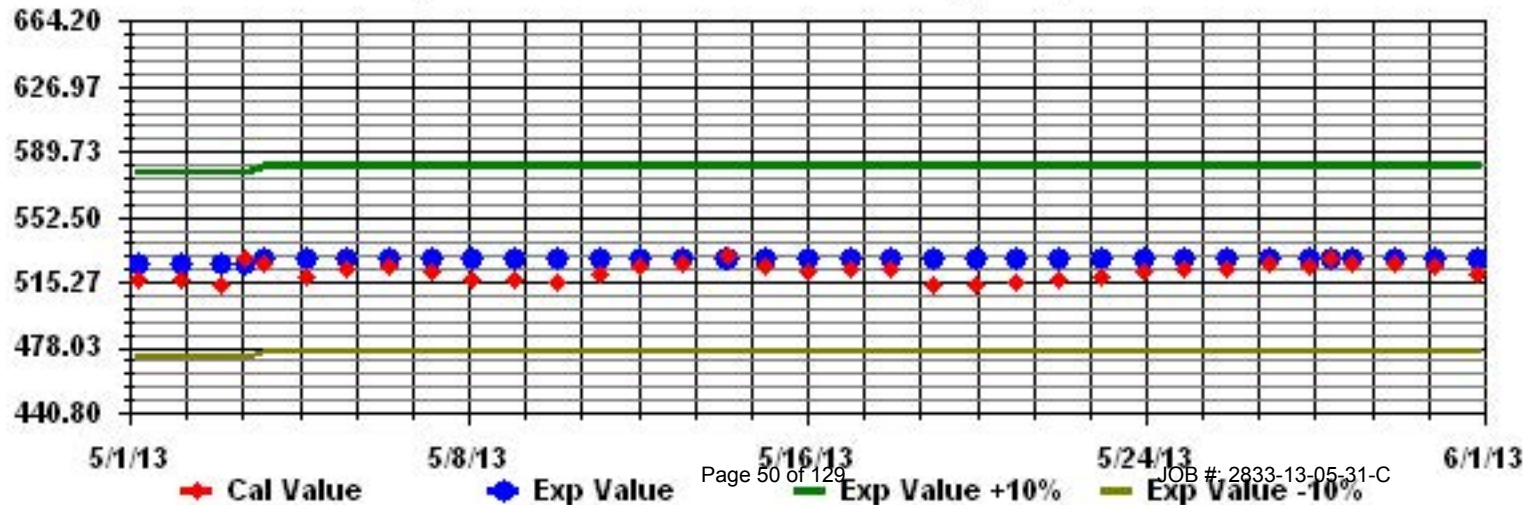
Class Limits (PPB)

Period : 05/01/13-05/31/13

Level : 10



Calibration Graph for Site: LICA31 Parameter: NO2_ Sequence: NO2 Phase: SPAN



Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOICATION - ST. LINA

MAY 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	1.1	1.1	1	S	0.8	0.4	0.2	0.4	0.3	0.4	0.2	0.3	0.4	0.3	0.2	0.2	0.2	0.1	0.3	0.1	0.1	0.1	0.2	1.1	0.4	24	
2	0.2	0.2	0.2	S	0.2	0.1	0.1	0.4	0.4	0.4	Y	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.1	23	
3	0	0	S	0.7	0.4	0.2	0.4	0.3	0.1	C	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0.7	0.1	24	
4	0	S	0.5	0.1	0.1	0.2	0.2	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.7	0.7	0.5	0.4	0.4	0.3	0.3	0.4	0.7	0.4	24	
5	S	0.4	0.3	0.1	0	0.4	0.7	1	1.2	0.9	0.5	0.4	0.2	0.3	0.4	0.2	0.5	0.4	0.4	0.7	0.4	0.4	0.5	S	1.2	0.5	24	
6	0.8	0.5	0.3	0.4	0.4	0.7	0.8	0.5	0.6	0.5	0.7	0.5	0.6	0.8	0.7	0.7	0.6	0.5	0.7	0.4	0.6	0.5	S	0.2	0.8	0.6	24	
7	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0	0.1	0	0	0	0	0	S	0	0	0.1	0.0	24	
8	0	0	0	0.1	0	0.1	0	0.2	0.1	0	0.2	0.1	0	0	0	0	0	0	0	0	0	S	0	0	0.2	0.0	24	
9	0.1	0	0	0	0	0.1	0.1	0.7	0.5	0.2	0	0	0	0	0	0	0	0.3	0	0	S	0.1	0.2	0	0.7	0.1	24	
10	0.1	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	S	0.5	0.3	0.3	0.2	0.3	0.5	0.1	24	
11	0.3	0.2	0.2	0.3	0.3	0.5	0.5	0.4	0.5	0.2	0.1	0	0	0	0	0	0	S	0.6	0.3	0.1	0.1	0	0	0.6	0.2	24	
12	0.1	0	0	0	0	0.2	0.4	0.5	0.5	0.1	0	0.1	0.2	0.2	0.1	0.2	S	0.5	0	0	0	0	0	0	0.5	0.1	24	
13	0	0	0	0	0	0.4	0.1	0.1	0	0	0	0.1	0	0	0.1	S	0.9	0.8	0.7	0.6	0.4	0.3	0.4	0.4	0.9	0.2	24	
14	0.3	0.5	0.5	0.3	0.4	0.5	0.5	0.5	0.3	0.3	0.2	0.3	0.3	0.7	0.4	0.2	S	0.9	0.6	0.5	0.4	0.1	0.2	0.4	0.9	0.4	24	
15	0.3	0.4	0.4	0.4	0.4	0.7	0.6	0.5	0.5	0.4	0.3	0.4	0.3	S	0.3	0.2	0.1	0.2	0.1	0.5	0.1	0	0	0	0.7	0.3	24	
16	0	0	0	0	0	0	0.2	0	0	0	0	0.1	S	0.5	0.4	0	0.2	0.1	0.6	0.4	0	0.1	0.2	0	0.6	0.1	24	
17	0	0	0	0	0	0.2	0.2	0.1	0.3	0	0.2	S	0.8	0.6	0.6	0.5	0.4	0.5	0.4	0.4	0.3	0.2	0.1	0.2	0.8	0.3	24	
18	0.1	0.1	0	0.3	0.4	0.2	0.5	0.6	0.3	0.4	S	0.7	0.6	0.5	0.4	0.3	0.3	0.4	0.4	0.3	0.1	0	0	0	0.7	0.3	24	
19	0	0	0	0.1	0	0	0.1	0.1	0	S	0.3	0.1	0	0	0.2	0.4	0.2	0.2	0.1	0	0	0	0	0	0	0.4	0.1	24
20	0	0	0	0	0	0	0	0	S	0.7	0.1	0.4	0.2	0	0.1	0.2	0.2	0.3	0.1	0.1	0.1	0	0	0	0.7	0.1	24	
21	0	0	0	0	0	0	0	S	0.7	0.8	0.8	0.9	1	0.9	0.8	1.3	1.1	1.1	1.2	1.1	0.9	1	0.8	0.7	1.3	0.7	24	
22	0.7	0.6	0.7	0.8	0.7	0.7	S	0.8	0.3	0	0.2	0	0.3	0.2	0.2	0.1	0.3	0.4	0.3	0.5	0.3	0.1	0.1	0	0.8	0.4	24	
23	0	0	0	0	0.1	S	0.9	0.7	0.6	0.5	0.5	0.3	0.7	0.5	0.3	0.6	0.7	0.6	0.5	0.4	0.4	0.3	0.2	0.3	0.9	0.4	24	
24	0.4	0.2	0.3	0.3	S	0.5	0.2	0.3	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.1	24	
25	0	0	0	S	0.4	0	0.2	0.2	0.1	0.4	0.1	0.3	0.1	0.1	0	0.1	0	0	0	0	0.1	0	0.1	0.2	0.4	0.1	24	
26	0.1	0	S	0.5	0.6	0.9	1.3	1.6	1.5	0.9	0.1	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.4	0.2	0	0	0	0	1.6	0.4	24	
27	0	S	0.3	0.2	0.3	0.5	0.6	0.5	0.5	0.6	0.4	0.4	0.4	0.6	0.6	0.3	0.8	0.5	0.5	0.5	0.5	0.7	0.2	0.1	0.8	0.4	24	
28	S	0.1	0	0	0	0.5	0.1	0.2	0.3	0	S	S	0	0	0	0	0.1	0	0	0	0	0.1	0	S	0.5	0.1	24	
29	0.2	0	0.2	0	0.2	0.5	0.4	0.3	0.5	0.3	0.2	0.2	0.4	0.2	0.1	0.1	0	0	0	0.2	0.1	0	S	0	0.5	0.2	24	
30	0	0	0	0	0	0	0.2	0.3	0	0.1	0	0.2	0	0.3	0	0	0.1	0	0	0	0	S	0.3	0	0.3	0.1	24	
31	0.3	0.1	0.4	0	0.5	0.6	0.8	0.5	0.5	0.3	0.7	0	0.5	0.4	0.3	0.3	0.5	0.4	0.5	0.4	S	0.3	0	0	0.8	0.4	24	
HOURLY MAX	1.1	1.1	1.1	1.0	0.7	0.9	1.3	1.6	1.5	0.9	0.8	0.9	1.0	0.9	0.8	1.3	1.1	1.1	1.2	1.1	0.9	1.0	0.8	0.7				
HOURLY AVG	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.4	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.1	0.1				

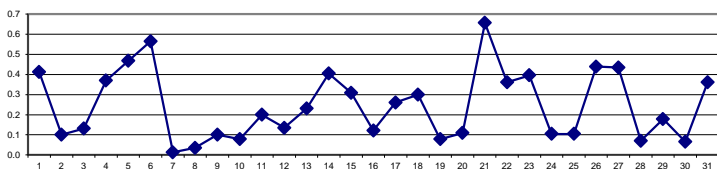
STATUS FLAG CODES

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

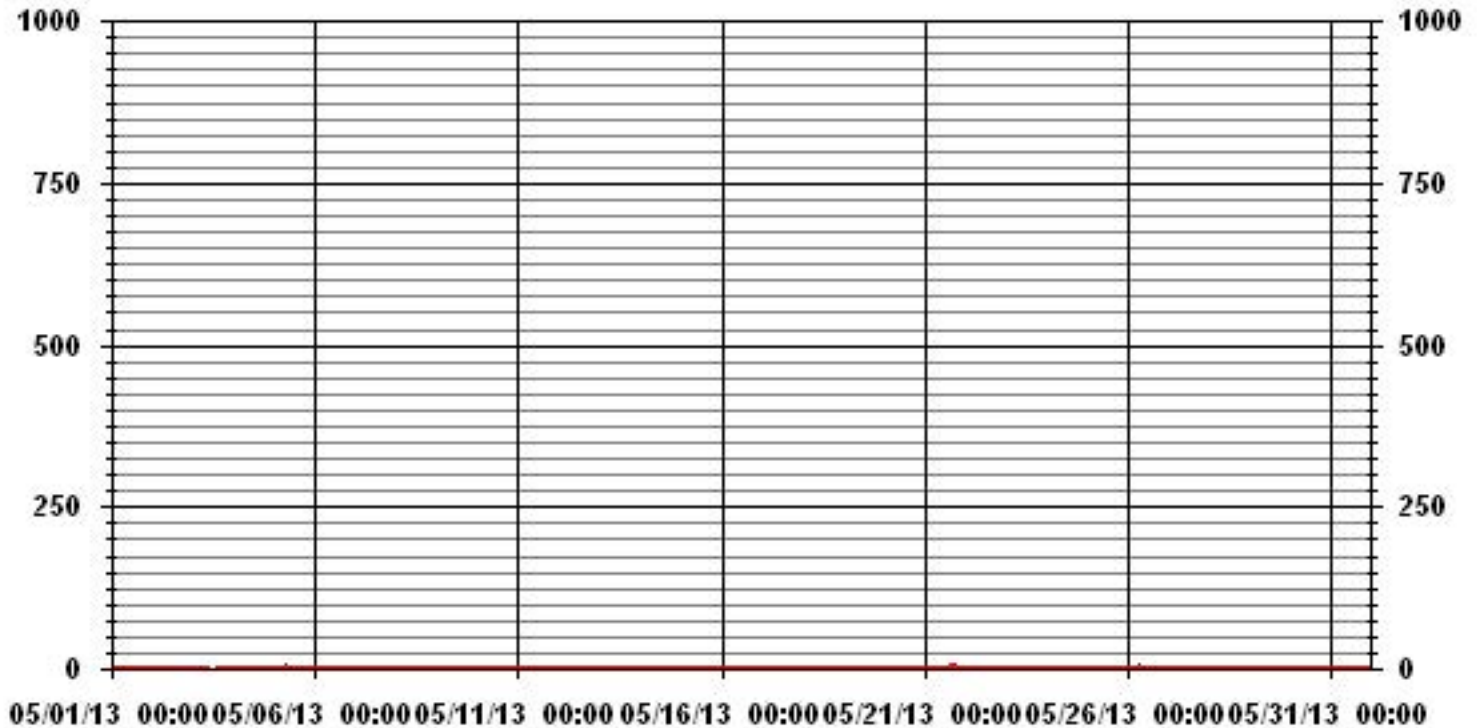
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	444
MAXIMUM 1-HR AVERAGE:	1.6 PPB @ HOUR(S) 7 ON DAY(S) 26
MAXIMUM 24-HR AVERAGE:	0.7 PPB ON DAY(S) 21
IZS CALIBRATION TIME:	35 HRS
MONTHLY CALIBRATION TIME:	7 HRS
STANDARD DEVIATION:	0.28
OPERATIONAL TIME:	743 HRS
AMD OPERATION UPTIME:	99.9 %
MONTHLY AVERAGE:	0.25 PPB

24 HOUR AVERAGES FOR MAY 2013



01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

MAY 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 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	1.9	1.7	1.8	1.8	S	1.4	1.2	0.8	0.9	0.9	0.9	0.9	0.9	1.2	1.1	0.9	0.9	1.5	1.2	1.2	0.9	0.9	0.7	0.8	1.9	1.1	24	
2	0.9	1	0.9	S	1.5	2.5	1.7	1.2	1.1	Y	Y	Y	0.1	0	0.1	0	0.1	0.4	0	0	0.1	0	0	0.2	2.5	0.6	21	
3	0.2	0.4	S	1.8	1.2	0.8	1.1	0.9	C	C	C	C	C	C	C	0.2	0	0	0.3	0.2	0	0.1	0.1	1.8	0.5	24		
4	0.1	S	1.8	0.9	0.7	1.5	1	1.2	1.9	1.1	1	1.1	1.2	1.4	1.2	1.5	1.8	1.4	1.1	1.1	1.2	0.9	0.9	0.9	1.9	1.2	24	
5	S	1.3	1	0.6	0.8	1.5	2.3	2.3	2.1	1.4	1.2	1	0.9	0.9	1	0.8	2	1	1.1	1.9	1	1.1	1.3	S	2.3	1.3	24	
6	1.5	1.5	0.9	1	1.1	1.4	1.5	1.3	1.2	1.1	1.3	1.3	1.8	4.8	1.3	1.4	1.3	2.2	1.1	1.3	1.3	S	0.9	4.8	1.5	24		
7	0.6	0.3	1.7	0.3	0.6	0.7	0.4	0.6	0.7	0.6	1	0.8	0.8	0.8	0.5	0.6	0.6	0.5	0.5	0.5	0.6	S	0.8	0.6	1.7	0.7	24	
8	0.6	0.5	0.5	0.7	0.4	0.8	0.7	1	0.9	0.6	0.8	0.7	0.6	0.6	0.8	0.4	0.4	0.3	0.2	0.5	S	1.5	0.5	0.7	1.5	0.6	24	
9	0.7	0.7	0.7	0.6	0.5	0.7	1.2	2.1	19.1	1.7	0.7	0.7	0.7	0.8	0.7	0.6	0.9	0.6	0.5	S	1.1	0.9	0.7	0.5	19.1	1.6	24	
10	8.1	0.6	0.5	0.5	1.8	1.5	0.7	0.5	0.5	0.4	1.2	0.9	0.3	1.1	0.6	0.3	0.6	0.4	S	1.3	0.9	1.1	1.2	1	8.1	1.1	24	
11	1	0.7	0.9	0.8	1	1.3	1.2	1	1	1.2	0.8	0.8	0.5	0.6	0.7	0.6	0.6	S	1.5	0.8	0.7	0.6	0.8	0.6	1.5	0.9	24	
12	0.9	0.5	0.6	0.6	0.6	1	1	1.7	1.5	1.1	0.7	0.8	1	1	0.9	0.8	S	1.1	0.8	0	0.1	0	0.1	0	1.7	0.7	24	
13	0.2	0.3	0.6	1.2	P	1.6	0.8	0.9	1	8.5	1	1	0.5	0.6	0.8	S	1.9	2.1	1.4	1.4	1	1	1.3	1.2	8.5	1.4	23	
14	1	1.4	1	1	1.4	1.4	1.2	1.7	1.1	1.1	1.7	1.2	0.9	1.2	S	1.2	S	S	2.2	1.5	1.6	1.5	1	1	2.2	1.3	24	
15	1.2	1.2	0.9	1.1	1.4	1.5	2.4	1.3	1.3	1.2	3.1	1.1	1	S	1.2	0.9	0.9	1.4	1.1	1.7	0.7	0.6	0.9	0.6	3.1	1.2	24	
16	0.6	0.8	0.6	0.6	0.9	1.6	1.5	1	0.8	0.3	0.7	0.8	S	1.3	1.3	1.1	1	0.7	15.7	1.5	0.5	0.7	1.1	0.5	15.7	1.5	24	
17	0.8	0.8	0.6	0.6	0.7	1	0.9	1.6	1.1	0.7	0.8	S	1.7	1.2	1.4	1.5	1.3	1.2	1	1.1	0.9	1.3	0.9	0.8	1.7	1.0	24	
18	0.8	0.8	0.8	0.9	0.9	0.9	1.2	1.5	1.1	1	S	1.5	1.4	1.2	1.1	0.9	0.9	1	1.1	0.9	0.8	0.6	0.6	0.8	1.5	1.0	24	
19	0.6	0.5	0.9	0.9	0.7	1	0.9	0.6	0.6	S	1.1	0.7	1.1	0.9	1.1	0.8	1.1	0.9	0.5	0.9	0.3	0.4	0.3	1.1	0.8	24		
20	0.3	0.3	0.8	0.3	0.7	0.2	0.3	0.8	S	1.2	0.7	1	1	0.7	0.7	0.8	0.8	1	0.7	0.8	0.7	0.6	0.6	0.5	1.2	0.7	24	
21	0.2	0.5	0.6	0.4	0.5	0.6	0.8	S	1.4	1.5	1.6	1.5	1.9	1.7	1.4	2	1.9	1.7	1.9	1.7	1.7	1.5	1.4	1.3	2	1.3	24	
22	1.4	1.3	1.5	1.5	1.3	1.5	S	1.6	1	0.7	0.9	1	1	1	0.9	0.7	1	1.1	0.9	1.3	0.8	1	0.9	0.5	1.6	1.1	24	
23	0.5	0.6	0.4	0.6	0.7	S	1.8	1.4	1.5	1.2	1.3	1	1.5	1.3	1	1.3	1.3	1.2	1.3	1	1.1	0.9	1	1.1	1.8	1.1	24	
24	1	0.8	1	1	S	1.4	1.1	1	0.9	0.7	1	0.4	0.8	0.5	0.9	0.5	0.5	0.4	0.4	0.5	0.5	0.3	0.3	0.7	1.4	0.7	24	
25	0.2	0.2	0.2	S	1.2	0.8	0.8	0.8	0.8	1.1	0.9	0.9	0.7	0.8	0.5	0.7	0.8	0.7	0.7	0.5	1	0.8	0.9	0.9	1.2	0.7	24	
26	0.9	0.7	S	1.6	2.6	2	20.2	3	2.6	1.8	0.8	1.4	1.2	0.9	1.2	0.9	0.9	0.9	1.2	1	0.5	0.4	0.7	0.4	20.2	2.1	24	
27	0.9	S	1.1	0.9	1	1.6	1.6	1.3	1.3	1.4	1.1	1.1	1	1.4	1.4	1.1	1.5	1.2	1.1	1.5	1.3	2.2	0.9	0.7	2.2	1.2	24	
28	S	0.9	0.6	0.3	1.1	1.2	0.9	0.9	0.9	1.2	S	S	0.4	0.8	0.9	1	1.2	0.4	0.8	0.5	0.5	12.5	0.6	S	12.5	1.4	24	
29	1.2	0.5	1.1	0.7	1	1.9	1.3	1.2	1.2	1	0.8	1.1	1.2	0.8	0.7	1	1	0.9	1	1.6	0.9	0.5	S	0.7	1.9	1.0	24	
30	0.7	0.5	0.5	0.5	0.5	0.4	0.9	1.1	0.8	0.7	0.7	0.9	0.5	1.7	0.8	0.5	0.9	0.5	0.3	0.3	0.3	S	1.2	0.7	1.7	0.7	24	
31	0.9	0.9	1	1	1.3	1.4	1.6	1.4	1.4	1.3	1.6	0.7	1.4	1.1	1.1	1	1.4	1.3	1.6	1.1	S	1.5	0.6	0.4	1.6	1.2	24	
HOURLY MAX	8.1	1.7	1.8	1.8	2.6	2.5	20.2	3.0	19.1	8.5	3.1	1.5	1.9	1.8	4.8	2.0	2.0	2.1	15.7	1.9	1.7	12.5	1.4	1.3				
HOURLY AVG	1.0	0.8	0.9	0.9	1.0	1.2	1.8	1.3	1.8	1.3	1.1	1.0	0.9	1.0	1.1	0.9	1.0	0.9	1.5	1.0	0.8	1.3	0.8	0.7				

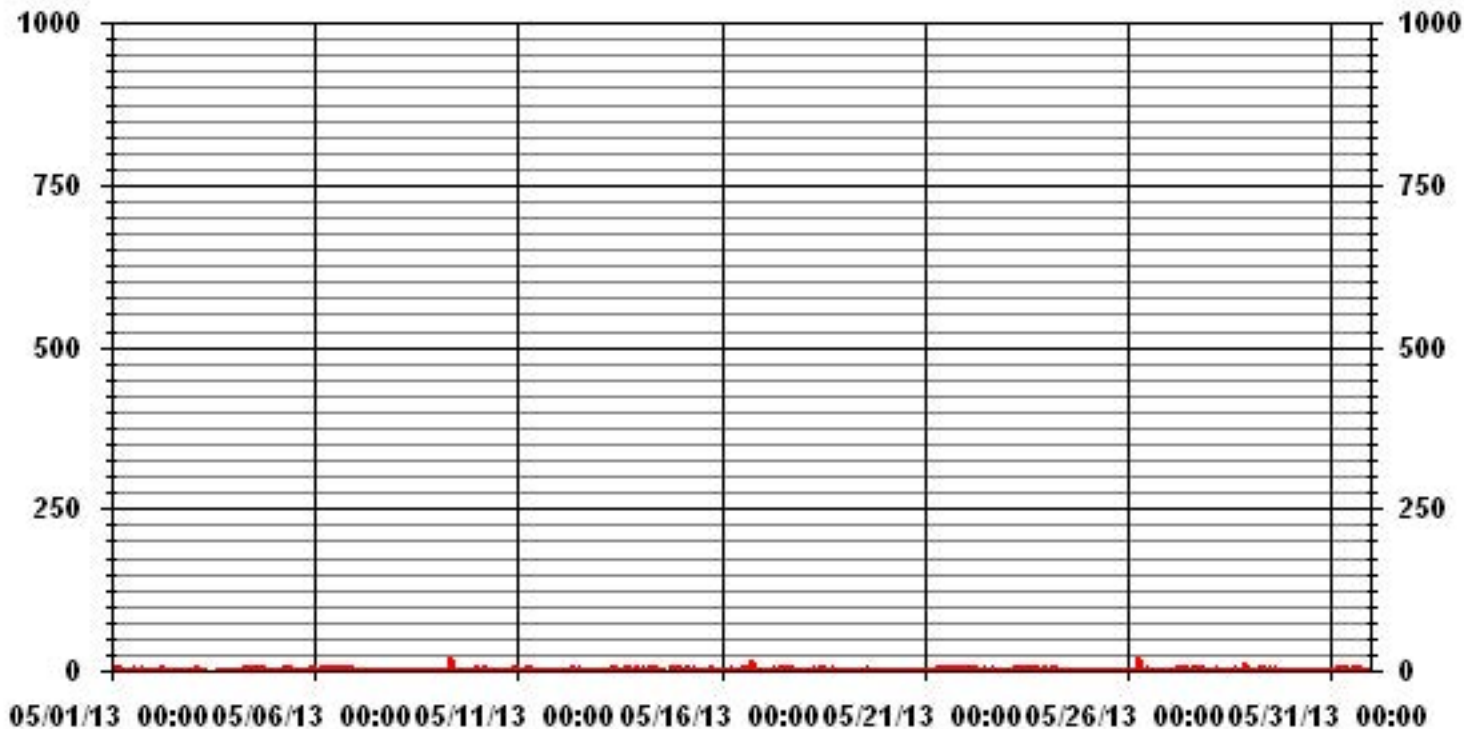
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	683					
MAXIMUM INSTANTANEOUS VALUE:	20.2	PPB	@ HOUR(S)	6	ON DAY(S)	26
IZS CALIBRATION TIME:	37	HRS	OPERATIONAL TIME:	740	HRS	
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION:	1.37					

01 Hour Averages



LICA31
 NO_ / WDR Joint Frequency Distribution (Percent)

May 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
 Instrument Height : 10 Meters

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 50.0	5.42	3.13	2.85	3.13	10.41	10.41	8.70	6.41	7.70	7.84	4.13	4.99	7.27	6.70	5.70	5.13	100.00
< 110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.42	3.13	2.85	3.13	10.41	10.41	8.70	6.41	7.70	7.84	4.13	4.99	7.27	6.70	5.70	5.13	

Calm : .00 %

Total # Operational Hours : 701

Distribution By Samples

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 50.0	38	22	20	22	73	73	61	45	54	55	29	35	51	47	40	36	701
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	38	22	20	22	73	73	61	45	54	55	29	35	51	47	40	36	

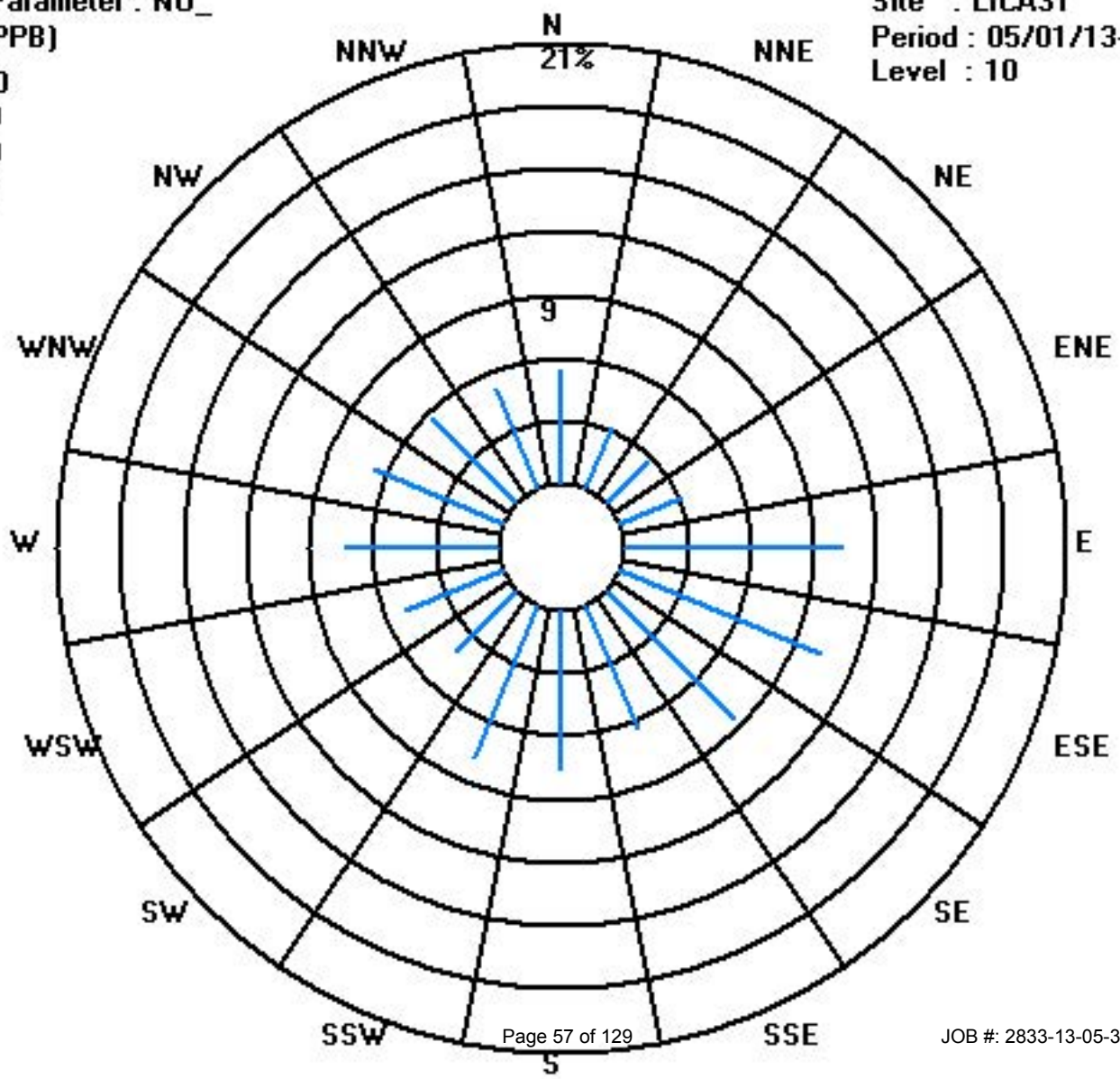
Calm : .00 %

Total # Operational Hours : 701

Class Limits (PPB)

Period : 05/01/13-05/31/13

Level : 10



Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

MAY 2013

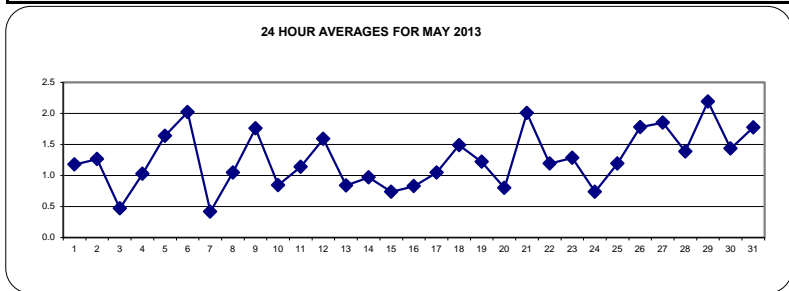
OXIDES OF NITROGEN hourly averages in ppb

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

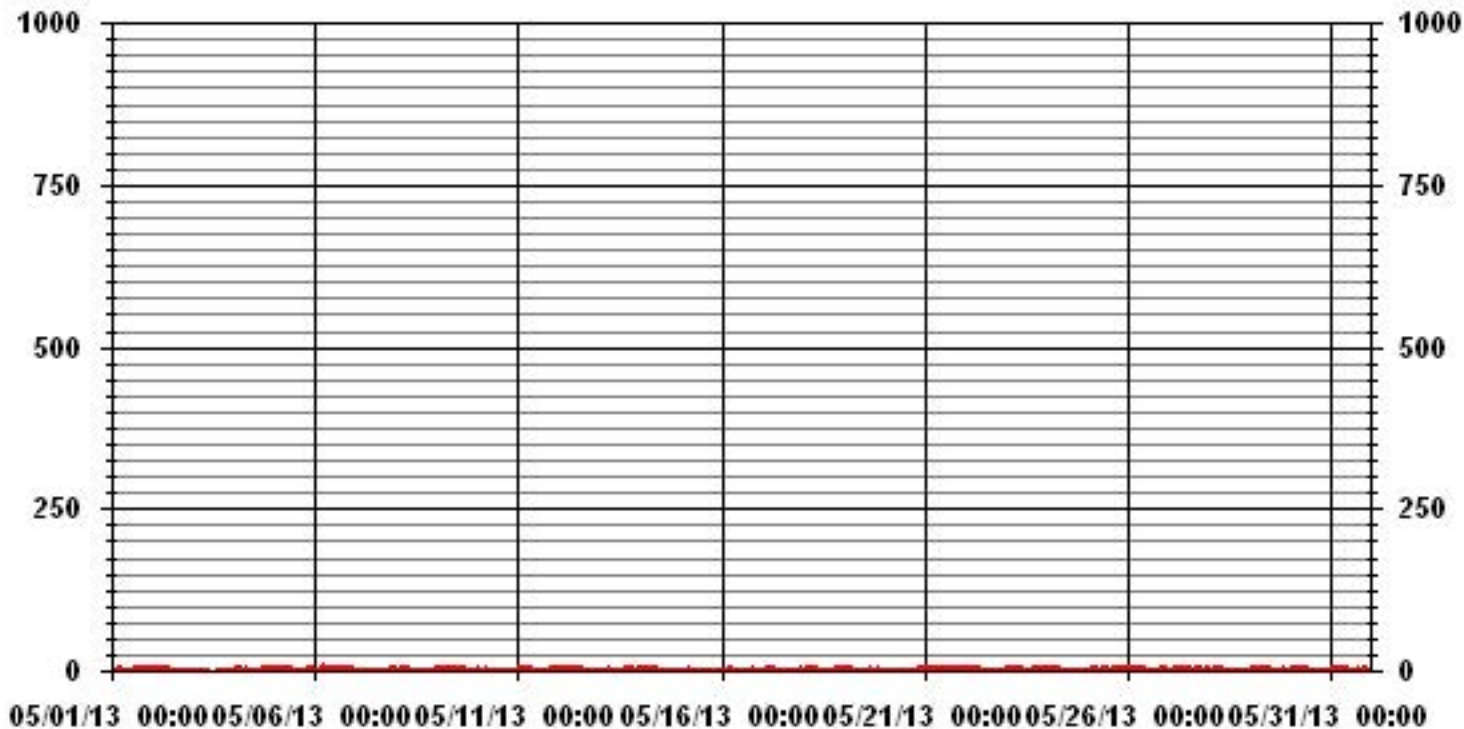
24 HOUR AVERAGES FOR MAY 2013



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	693					
MAXIMUM 1-HR AVERAGE:	7.8	PPB	@ HOUR(S)	5	ON DAY(S)	6
MAXIMUM 24-HR AVERAGE:	2.2	PPB			ON DAY(S)	29
IZS CALIBRATION TIME:	35	HRS	OPERATIONAL TIME:	743	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	99.9	%	
STANDARD DEVIATION:	0.89		MONTHLY AVERAGE:	1.27	PPB	

01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

MAY 2013

OXIDES OF NITROGEN MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY MAX.	24-HOUR AVG.	RDGS.	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00				
DAY																												
1	1.8	1.8	1.6	1.7	S	2.3	2.3	1.3	1.9	1.6	1.4	1.5	1.7	1.8	1.7	1.9	1.7	3.1	2.1	2.7	2.1	1.9	2.2	2.1	3.1	1.9	24	
2	2.1	2	2.6	S	2.5	6.5	3.8	5	5.1	Y	Y	Y	1	0.8	1.3	1.4	1.4	1.3	0.7	0.8	2.8	1.5	1	1	6.5	2.2	21	
3	1	1.5	S	2.1	1.6	1.3	1.8	1.6	C	C	C	C	C	C	C	0.5	0.8	0.7	1.6	1.6	1.4	1.1	1.1	2.1	1.3	24		
4	0.8	S	2.7	2.1	1.9	3.2	1.7	2.2	3.8	1.9	1.8	2.4	1.2	2.3	1.2	2.3	3.1	2	1.8	1.9	2.9	2.9	2.4	2.7	3.8	2.2	24	
5	S	2.4	2.4	2.3	3	4.3	5.4	5.3	5.7	4.2	2.8	1.8	1.3	1.4	1.5	1.1	2.8	1.3	1.6	2.8	2	1.9	2.7	S	5.7	2.7	24	
6	2.6	2.6	1.5	2.2	7.1	8.6	8	2.5	2.6	2.4	3.4	3.2	2	2.6	11.8	2.5	2.3	2.2	3.8	3	2.7	4.1	S	2	11.8	3.7	24	
7	1.2	0.9	4.4	0.8	1.5	1.1	0.8	1	1.5	1	1.3	1.1	1.1	1	0.8	1.2	1.6	1	1.4	1.6	1	S	2	2.1	4.4	1.4	24	
8	2.1	1.5	1.7	2.6	2.4	2.7	2.4	1.9	1.7	1.4	1.4	1.6	1.4	1.2	1.4	1	1.3	1	1.2	1.3	S	2.6	2.5	2.4	2.7	1.8	24	
9	2.6	3.4	2.4	2.1	2.1	3.8	3.1	5.7	31.3	4.8	3.1	3.2	3.1	2.5	2.2	2.5	2.5	2.5	2	S	1.9	1.9	1.7	1.7	31.3	4.0	24	
10	15.7	1.7	1.7	1.6	4.9	3.2	1.5	1.3	1.6	1.6	2.2	2.5	1.3	3.7	1.5	1.1	1.3	1.1	S	1.2	1.5	1.8	2.3	1.8	15.7	2.5	24	
11	2.1	2.3	2.3	2.1	2.4	2.6	2.7	2.3	1.7	1.8	1.4	1.2	1.2	1.1	0.9	1.2	S	1.6	1.8	2.1	2.6	2.6	2.2	2.7	1.9	24		
12	2.3	2	2.2	2.5	2.7	3.5	3.5	5.1	4	3.2	3	3.2	3	2.2	2.2	1.9	S	2	1.4	0.8	2.3	2.2	2.3	1.4	5.1	2.6	24	
13	1.2	1.4	1.6	2	P	4.6	2.1	1.8	2	17.3	1.2	2	1	1.3	0.9	S	2.3	3.7	1.8	2.3	2.2	1.4	1.7	2.8	17.3	2.7	23	
14	2.4	2.6	2.3	1.7	2.2	2.3	3	2.8	2.6	2	3.2	1.6	1.5	3.2	S	9.1	S	S	2.5	1.9	1.3	3.3	0.8	1.6	9.1	2.6	24	
15	0.9	1.5	0.7	1.1	3.8	4.2	4.3	2.1	1.9	1.9	9.1	1.4	0.8	S	2.3	1.6	1.4	2.3	2.7	6.8	1.8	2.4	1.6	1.6	9.1	2.5	24	
16	1.2	2.1	1.4	2	2.6	3.4	3.6	2.8	1.5	0.9	1.2	1.4	S	1.9	1.9	2	1.7	1.9	30.8	5.4	1	1.3	1.5	1.5	30.8	3.3	24	
17	1	3.1	1.3	3.4	3.2	3.5	2.9	3.1	3.5	1.6	1.2	S	1.3	1	2.3	2.9	2.1	1.5	2	1.2	1.5	1.8	2.2	2	3.5	2.2	24	
18	2	1.5	1.8	5.5	6.4	3.8	5.2	4.8	3.1	2.2	S	1.5	2	2	1.4	1.2	1.3	1.1	1.4	1.7	1.8	1.8	1.8	2.2	6.4	2.5	24	
19	2.1	2.3	2.4	2.4	2	2.7	2.6	1.8	1.5	S	1.6	1.7	3	1.7	1.7	1.9	1.7	1.6	3.9	1.5	8	1.9	1.6	1.5	8	2.3	24	
20	1.4	1.2	1.3	0.8	1.4	2.3	1.5	2.8	S	1.6	1.5	1.7	1.2	1.2	1	1.5	1.6	1.8	1.4	1.7	3.3	2.8	2	2.2	3.3	1.7	24	
21	2.2	2.5	3.3	3.6	3.6	3.6	3.8	S	3.9	3.5	2.5	2.2	2.3	2.1	2.1	2.6	2.3	2.3	2.3	2.3	2.5	2.5	2.4	2.9	3.9	2.8	24	
22	3.2	3	3	3.5	3.8	3.3	S	2.8	2.2	1.3	1.3	1	1.2	1.2	1	1.1	1.1	1.1	1.1	1.6	1.6	1.8	2	1.7	3.8	2.0	24	
23	2	1.9	1.8	1.8	1.8	S	3	2.6	2.5	2.2	1.9	1.7	1.7	1.6	1.4	1.7	1.7	1.7	1.9	1.7	1.9	2.1	2.6	2.3	3	2.0	24	
24	2.8	2.3	3.7	3.4	S	3.2	2.6	2.5	1.6	1.3	1.1	0.7	1.1	0.8	1.1	0.9	0.8	0.3	0.6	0.9	0.8	0.6	0.8	1	3.7	1.5	24	
25	0.5	0.8	0.7	S	1.8	1.8	2.2	1.9	1.9	1.9	1.9	2.1	2	1.8	1.6	2.2	2.1	2	2	2.1	2.7	4.6	2.8	2.7	4.6	2.0	24	
26	2.4	2.5	S	3	5.7	4.8	37.6	8.1	6.4	3.8	1.9	2.5	1.5	1.7	1.2	1.5	1.5	1.5	1.9	2	1.7	2.4	2.7	2.4	37.6	4.4	24	
27	1.9	S	2.7	4.1	4.9	4.4	4.2	3	2.9	3	2.6	1.8	1.9	1.8	1.8	1.6	2	1.9	1.9	2.2	2.2	9.8	2.4	2.6	9.8	2.9	24	
28	S	1.8	1.6	1.5	6.3	6.8	4	3.4	3.9	3.3	S	S	1.1	1.1	1.7	2.2	2.2	1.9	1.2	1.3	1.1	33.1	3.5	S	33.1	4.2	24	
29	2.4	4.8	5.3	4.4	4.3	6.8	6.4	3.7	3.4	3.2	2.9	2.3	2.1	1.6	1.8	1.8	1.3	2	2.4	5.9	5.8	3	S	2.2	6.8	3.5	24	
30	2.9	2.3	2.9	3.5	3.8	4.1	3.7	3.8	2.6	2.1	2.1	1.7	1.2	3.1	1.4	1.2	1.7	1.4	1.4	1.4	1.4	1.2	S	1.7	2.7	4.1	2.3	24
31	3.8	3.8	4	3.2	4.3	5	5.1	3.9	3.1	2.9	2.8	1.2	2.4	2	2.1	1.6	2.3	2.8	3.2	2.5	S	1.3	1	1.1	5.1	2.8	24	
HOURLY MAX	15.7	4.8	5.3	5.5	7.1	8.6	37.6	8.1	31.3	17.3	9.1	3.2	3.1	3.7	11.8	9.1	3.1	3.7	30.8	6.8	8.0	33.1	3.5	2.9				
HOURLY AVG	2.4	2.2	2.3	2.5	3.4	3.8	4.5	3.1	3.8	2.9	2.3	1.9	1.6	1.8	1.9	1.9	1.8	1.8	2.8	2.2	2.3	3.5	2.0	2.0				

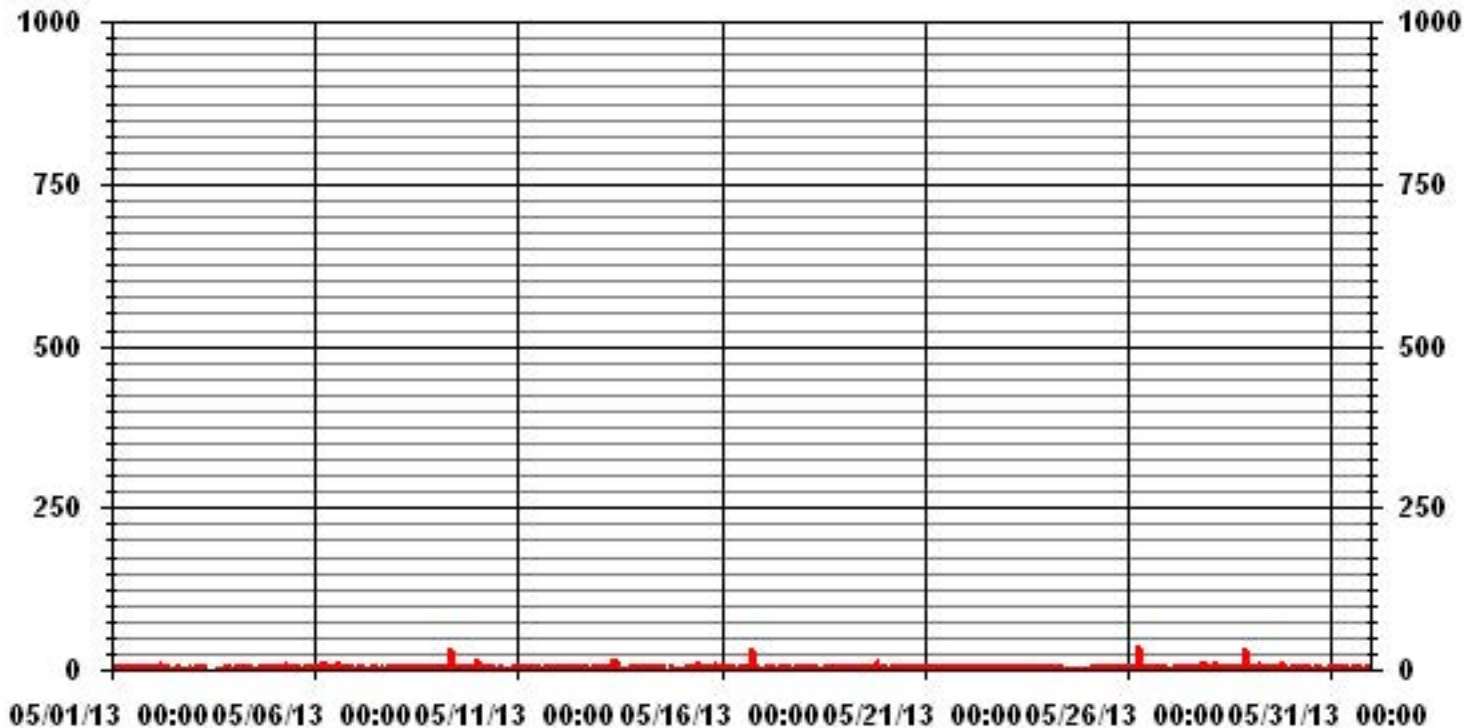
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	695					
MAXIMUM INSTANTANEOUS VALUE:	37.6	PPB	@ HOUR(S)	6	ON DAY(S)	26
IZS CALIBRATION TIME:	37	HRS	OPERATIONAL TIME:	740	HRS	
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION:	2.80					

01 Hour Averages



— LICA31 NOXMAX PPB

LICA31
NOX_ / WDR Joint Frequency Distribution (Percent)

May 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
Instrument Height : 10 Meters

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 50.0	5.42	3.13	2.85	3.13	10.41	10.41	8.70	6.41	7.70	7.84	4.13	4.99	7.27	6.70	5.70	5.13	100.00
< 110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.42	3.13	2.85	3.13	10.41	10.41	8.70	6.41	7.70	7.84	4.13	4.99	7.27	6.70	5.70	5.13	

Calm : .00 %

Total # Operational Hours : 701

Distribution By Samples

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 50.0	38	22	20	22	73	73	61	45	54	55	29	35	51	47	40	36	701
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	38	22	20	22	73	73	61	45	54	55	29	35	51	47	40	36	

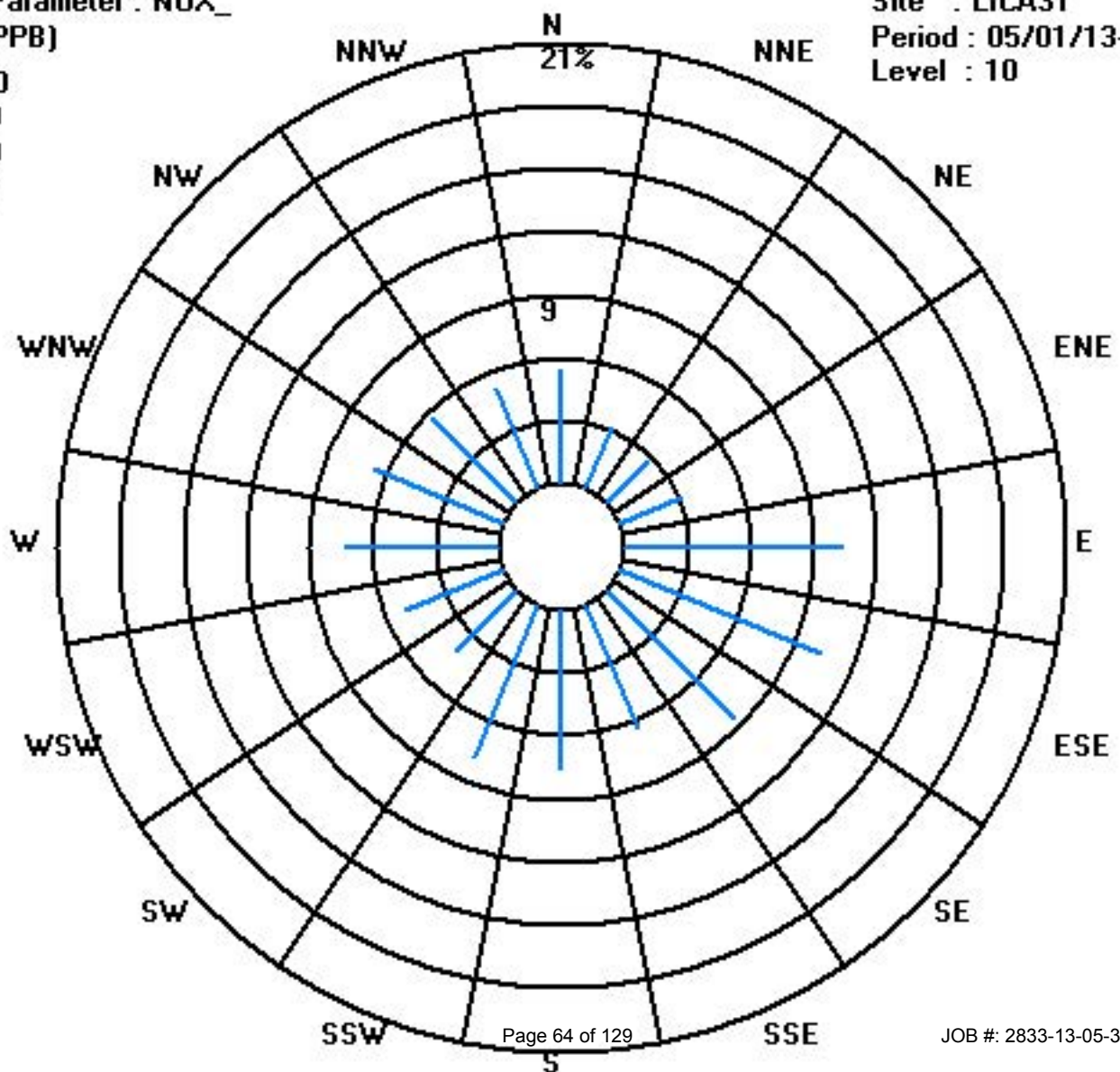
Calm : .00 %

Total # Operational Hours : 701

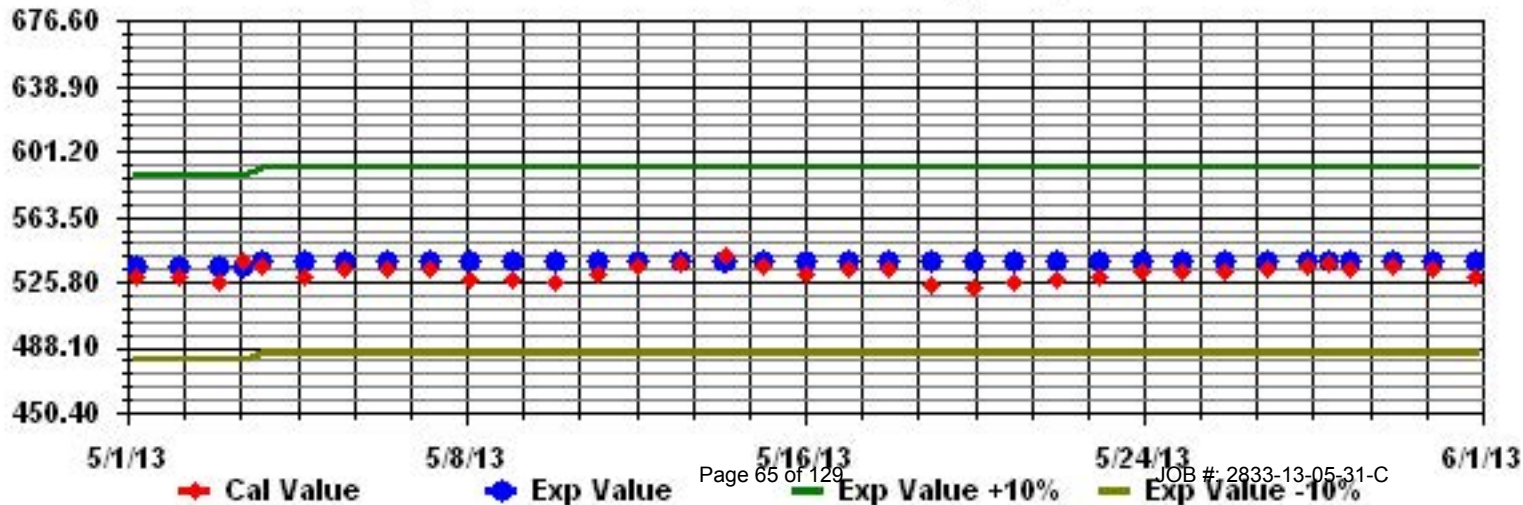
Class Limits (PPB)

Period : 05/01/13-05/31/13

Level : 10



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



Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

MAY 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	23:00	DAILY	24-HOUR	
HOUR START	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	3	3	2	2	1	2	2	4	0	2	3	0	X	5	5	1	4	4	5	6	10	9	6	3	10	3.6	23	
2	10	7	4	2	1	1	2	4	1	2	C	1	2	5	0	1	0	X	1	0	1	1	3	0	10	2.2	23	
3	3	0	4	4	3	0	3	4	0	4	2	1	0	0	1	6	2	2	3	0	3	2	0	0	6	2.0	24	
4	2	2	4	0	3	3	2	0	1	4	5	2	1	4	0	2	0	0	3	0	6	2	2	0	6	2.0	24	
5	0	0	4	8	4	3	4	3	7	4	2	5	3	3	4	3	3	6	5	4	6	2	5	7	8	4.0	24	
6	5	6	6	5	7	5	6	3	7	4	8	8	5	6	5	6	7	8	7	4	5	7	7	9	9	6.1	24	
7	5	4	X	20	3	X	X	0	X	0	X	X	X	X	X	0	X	X	0	X	0	3	2	4	20	3.4	12	
8	0	3	1	0	3	3	0	5	2	0	0	0	4	3	0	0	0	0	2	0	2	3	0	1	5	1.3	24	
9	1	0	2	0	X	5	6	3	3	2	0	1	0	0	2	0	0	0	0	X	X	11	2	0	11	1.8	21	
10	0	0	X	X	X	9	X	16	0	0	1	2	1	2	0	5	0	0	0	2	X	3	4	4	16	2.6	19	
11	3	3	4	1	0	0	7	1	4	4	0	0	1	4	3	0	0	1	0	2	6	4	2	2	7	2.2	24	
12	1	4	0	3	3	6	X	0	1	3	X	1	0	0	0	1	X	X	X	X	X	X	X	X	6	1.5	15	
13	X	X	X	X	1	0	X	0	0	0	0	0	X	0	X	0	0	X	0	0	1	0	0	0	1	0.1	16	
14	X	1	6	2	3	22	2	4	0	0	1	X	0	C	C	C	C	2	0	0	0	0	1	4	22	2.7	22	
15	1	2	2	X	0	2	0	6	1	4	2	2	0	0	2	2	4	3	0	7	9	3	9	4	9	2.8	23	
16	3	5	6	4	5	4	4	2	1	2	3	3	7	4	5	2	2	2	2	8	2	0	3	4	8	3.5	24	
17	4	3	4	4	7	5	5	9	5	2	0	5	2	7	2	1	4	3	4	6	2	4	2	5	9	4.0	24	
18	9	6	3	7	6	8	4	8	6	11	8	5	9	6	3	5	4	5	3	6	6	1	1	3	11	5.5	24	
19	4	3	9	6	9	4	3	4	3	5	6	4	0	5	5	6	4	0	5	5	6	7	6	4	9	4.7	24	
20	3	5	2	0	0	0	3	3	4	0	4	0	0	3	3	2	1	6	7	6	6	7	9	5	9	3.3	24	
21	5	6	8	9	8	9	7	8	3	8	5	2	3	5	4	6	5	6	2	8	9	6	7	6	9	6.0	24	
22	4	7	8	4	6	12	8	8	10	9	8	6	1	10	6	7	8	6	7	5	6	10	9	11	12	7.3	24	
23	7	9	5	5	7	3	7	10	6	9	4	10	7	4	4	3	2	6	4	2	7	8	7	5	10	5.9	24	
24	7	4	4	5	5	9	6	9	8	4	5	2	4	8	3	5	7	4	2	5	3	1	6	3	9	5.0	24	
25	6	7	8	8	9	2	6	8	6	2	1	4	5	4	0	0	1	1	0	3	1	2	1	3	9	3.7	24	
26	2	3	7	10	8	6	3	8	8	9	4	0	1	3	2	1	0	0	6	1	2	7	7	5	10	4.3	24	
27	7	5	12	12	11	8	5	2	3	1	5	0	0	0	6	2	5	0	4	3	0	5	3	4	12	4.3	24	
28	2	4	6	6	11	9	3	6	5	5	2	6	3	3	2	3	5	1	4	1	11	5	9	4	11	4.8	24	
29	8	12	11	10	13	11	11	11	6	11	8	1	5	2	1	4	4	6	1	5	0	3	5	6	13	6.5	24	
30	4	5	6	8	12	10	2	13	12	6	6	16	0	1	0	6	0	9	6	5	9	3	7	3	16	6.2	24	
31	7	10	9	4	2	7	5	7	2	5	4	4	0	1	4	9	1	6	2	3	7	5	6	6	10	4.8	24	
HOURLY MAX	10	12	12	20	13	22	11	16	12	11	8	16	9	10	6	9	8	9	7	8	11	11	9	11				
HOURLY AVG	4.0	4.3	5.3	5.3	5.2	5.6	4.3	5.5	3.8	3.9	3.5	3.1	2.3	3.4	2.6	2.9	2.6	3.2	2.8	3.5	4.5	4.1	4.4	3.8				

STATUS FLAG CODES

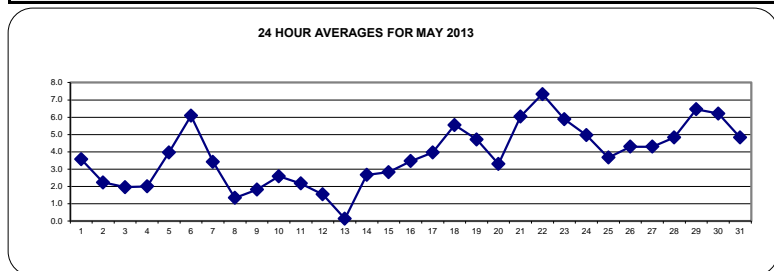
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT:

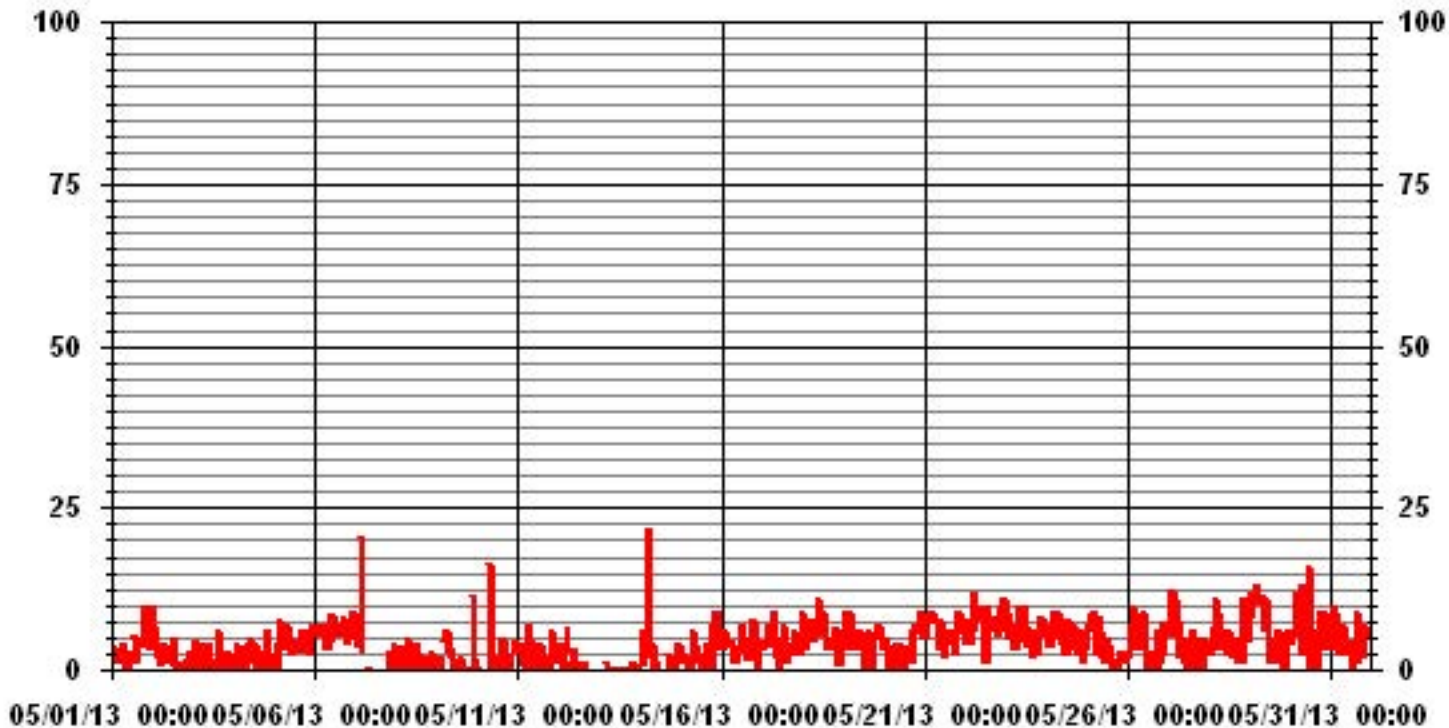
ALBERTA ENVIRONMENT: 1-HR - ug/m³ 24-HR 30 ug/m³

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	-
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	574
MAXIMUM 1-HR AVERAGE:	22 UG/M ³ @ HOUR(S) 5 ON DAY(S) 14
MAXIMUM 24-HR AVERAGE:	7.3 UG/M ³ ON DAY(S) 22
MONTHLY CALIBRATION TIME:	5 HRS
STANDARD DEVIATION:	3.20
OPERATIONAL TIME:	702 HRS
AMD OPERATION UPTIME:	94.4 %
MONTHLY AVERAGE:	3.92 UG/M ³



01 Hour Averages



— LICA31 PM2 UG/M3

LICA31
 PM2 / WDR Joint Frequency Distribution (Percent)

May 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	4.87	2.57	3.29	3.43	10.60	11.17	8.88	6.59	8.02	7.73	4.29	4.87	6.44	6.16	5.87	5.15	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	4.87	2.57	3.29	3.43	10.60	11.17	8.88	6.59	8.02	7.73	4.29	4.87	6.44	6.16	5.87	5.15	

Calm : .00 %

Total # Operational Hours : 698

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 30	34	18	23	24	74	78	62	46	56	54	30	34	45	43	41	36	698
< 60																	
< 80																	
< 120																	
< 240																	
>= 240																	
Totals	34	18	23	24	74	78	62	46	56	54	30	34	45	43	41	36	

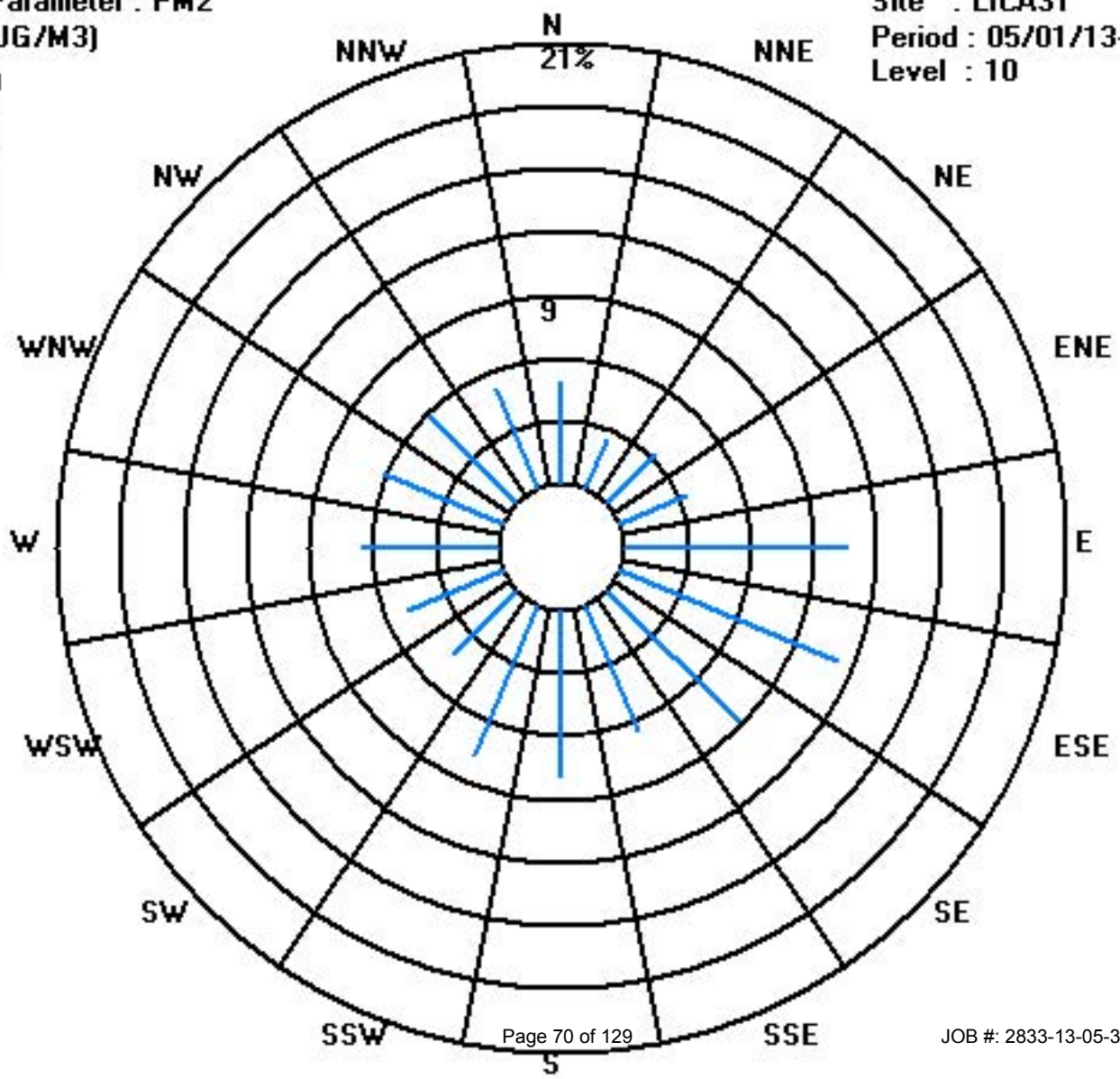
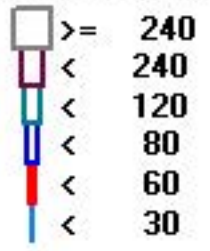
Calm : .00 %

Total # Operational Hours : 698

Class Limits (UG/M3)

Period : 05/01/13-05/31/13

Level : 10



Temperature

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA
MAY 2013

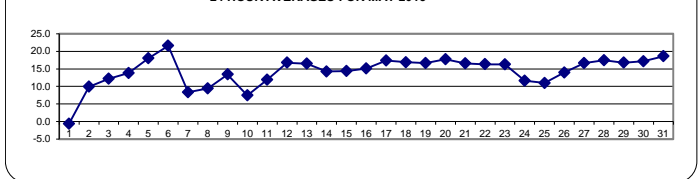
AMBIENT TEMPERATURE hourly averages (Degrees C)

MST	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY 24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	-7.6	-7.9	-8.4	-8.9	-8.6	-6.3	-3.5	-1.9	-1.3	-0.9	-0.4	0.4	1.7	3	4.2	4.5	5.1	5.3	4.9	4	2.6	2.2	1.7	1.8	5.3	-0.6	24
2	2	2.3	2.2	2.1	1.8	2	3.3	5.2	7.3	10.1	13.1	15.1	15.9	16.4	17.2	17.3	16.4	15.7	14.9	13.3	12.2	11.5	10.5	10.2	17.3	9.9	24
3	8.4	7.7	7.1	7	6.1	7.3	9.1	10.4	12.6	14.2	16	16.9	17.8	17.3	16.9	17.2	16.9	15.5	14.9	13.2	11.3	10.5	9.8	9.1	17.8	12.2	24
4	8.9	7.7	7.4	7.7	7.7	9.3	9.7	11.9	14.5	15.3	15.9	16.8	17.7	18.3	18.9	19.8	19.3	19	18.7	16.9	14.8	13.1	11.8	10.8	19.8	13.8	24
5	10.1	9.3	8.5	7.8	6.9	7.5	9.6	13.2	17.6	20.8	22.6	23.9	24.4	25.2	25.7	25.8	25.9	25.2	24.4	22.4	20.1	18.8	19	18.3	25.9	18.0	24
6	17.3	16.7	15.7	13.5	11.5	12	15	18.9	21.2	23.1	24.9	26.5	27.8	28.7	28.9	29.3	29.4	28.3	26.7	24.6	22.2	20	19.4	16.7	29.4	21.6	24
7	14.2	12.4	10.2	6.9	5.2	4.8	4.5	5.6	6.7	7.5	8.3	9.4	10	10.8	11.4	11.6	11.7	11.1	9.9	8.4	6.6	5.4	4.6	3.8	14.2	8.4	24
8	3.3	3.4	2.9	1.9	1.6	2.5	4.3	5.7	7.1	8.7	11	12.7	13.7	14.7	15.5	15.8	16.1	15.6	15.2	14	11.9	10.5	9.7	9.3	16.1	9.5	24
9	8.8	8.1	7.3	6.7	6	5.8	8.1	11.1	14.3	16.4	19.3	21.5	22	22.4	22.8	23.1	22.3	18.5	13.8	10.9	9.4	8.7	7.6	6.9	23.1	13.4	24
10	6.3	5.8	4.5	3.3	2	2.7	3.4	4.2	6.2	8.1	9.2	10.1	11.3	11.6	12.2	12.5	12.5	11.6	10.7	9.2	7.1	6.1	4.7	4.1	12.5	7.5	24
11	3.8	3.3	2.3	1.6	1.3	2	3.9	7.1	9.6	11.8	14.1	15.9	17.3	18.6	19.9	19.9	19.7	20	20	18	15.7	14.3	13.6	12.8	20.0	11.9	24
12	12	11.2	10.5	10.3	10	10.2	10.9	12.6	15.6	18.6	20.7	22	23.5	25.8	27.7	28.2	28.5	23.1	15.5	15	14	12.4	12	12.3	28.5	16.8	24
13	14.4	13.4	12.8	11.9	11.2	11.2	13.6	16	17.9	17.6	19.4	19.9	19.6	20.6	21	20.9	21	19.7	19.2	17.4	15.3	14.5	14	13.1	21.0	16.5	24
14	12	11.1	10.1	9.2	8.5	9.3	10.8	13.2	16	18.2	18.1	19.7	18.8	19	18.7	19.3	18.7	17.9	16.6	15.3	12	10.7	10.2	9	19.7	14.3	24
15	9.5	8.7	8.2	7	6.8	8.1	10.9	14.1	16	17.4	19.1	19.4	18.2	19	18.5	18.9	19.3	18.3	17.2	15.8	14.2	14	13.2	13	19.4	14.4	24
16	12.4	11.8	11.4	10.3	7.5	9.8	10.7	11.3	13.2	14.6	17.9	19.1	20	19.3	19.1	20.2	20.4	19.9	18.9	17.3	14.7	14.2	14	14	20.4	15.1	24
17	12.6	10.9	11.2	7.8	8.9	11.9	14.9	17.5	20.4	22	21.5	21.6	20.9	23.6	22.6	22.5	23.5	21.3	20.2	18.9	17.2	15.9	15.4	14.5	23.6	17.4	24
18	14	13.3	12.2	9.8	10.1	13	13	16	18.8	20.6	21.9	23.2	20.4	21.5	20.9	21.4	21.7	20.8	20.2	18.2	15.5	13.8	12.2	12.7	23.2	16.9	24
19	12.1	11.6	11.3	10.7	10.4	11.5	14.2	16.7	19.4	21.6	22.1	23.3	20.4	23.1	23.4	18.2	19.1	18.7	17.2	16	15.2	14.7	14.4	13.3	23.4	16.6	24
20	13.1	12.5	12.2	11.5	11.6	11.4	13.8	17.9	19.8	21.3	22.4	22.5	22.6	23.3	22.2	22.5	22	21.4	19.7	18.5	17.4	16.1	15.5	14.5	23.3	17.7	24
21	12.8	11.7	11	10.3	10.7	11.1	11.9	13	15.1	17.1	20.7	22	22.6	22.7	22.5	22.3	21.6	21.3	20.3	18.9	16.6	15.7	13.9	12.3	22.7	16.6	24
22	11.5	10.9	10	9.3	8	8.4	11.1	14.1	17.1	19.1	20.2	21	21.3	21.7	22	22.1	21.8	21	20.4	19.2	17.3	15.7	14.4	14	22.1	16.3	24
23	13.5	12.7	11.4	10.3	9.4	10.6	12.7	14.5	16.1	18.1	19.5	20.4	21.1	20.5	21.3	21.2	20.7	19.7	19	18	16.2	15.3	14.8	13.7	21.3	16.3	24
24	12.9	12.2	11.7	11.1	10.6	10.6	11.1	12.8	14.1	15.6	15.6	16	16.1	16	15.5	11.6	10	8.9	8.3	8.4	7.9	7.4	7.1	7.5	16.1	11.6	24
25	7.7	8	8	8	8.1	8.2	8.1	9	10.8	12.2	14	14.4	12.8	10.1	13.4	13.9	13.6	13.6	14.5	14	11.8	10.2	9.6	9.1	14.5	11.0	24
26	8.6	7.8	7.1	7	5.2	7.7	11.1	13.1	14.6	15.9	17	18.1	18.9	19.5	19.6	19.2	20.4	18.6	18	16.9	14.3	12.2	12.2	12	20.4	14.0	24
27	11.4	10.7	9	8.1	8	11.4	14.9	18.2	19.4	19.5	20.7	21.5	21.2	22.8	21.9	22.2	21.3	20.5	19.7	17.9	16.6	14.8	14.1	13.4	22.8	16.6	24
28	11.5	11.7	11.6	10.2	10.1	12.7	14.5	17.2	18.8	21.4	22.4	22.9	23.6	23.8	23.6	23	22.1	20.4	18.2	17.4	17.5	15.9	14.6	14.3	23.8	17.5	24
29	13	12.8	11.8	11.3	12	12.2	13.2	15.2	19.9	21.4	23.2	23.9	21.7	24.3	16.9	17.7	18	19.9	19.2	17.5	15.2	14	14.1	14.1	24.3	16.8	24
30	13.8	14.1	13.8	13.4	13.2	13.5	15.7	17.6	20	21.4	22.2	21.7	20.4	17.3	21.5	19.4	17.7	20.2	19.1	17.4	15.9	14.9	14.2	13.9	22.2	17.2	24
31	13.2	12.9	12.8	13.6	13.5	13.6	14.4	16.9	19.8	20.8	22.8	23.4	24.3	23.5	25	24.7	23.7	23.3	21.4	19.9	16.6	15.3	15.1	15.4	25.0	18.6	24
HOURLY MAX	17.3	16.7	15.7	13.6	13.5	13.6	15.7	18.9	21.2	23.1	24.9	26.5	27.8	28.7	28.9	29.3	29.4	28.3	26.7	24.6	22.2	20.0	19.4	18.3			
HOURLY AVG	10.2	9.6	9.0	8.1	7.6	8.6	10.3	12.5	14.8	16.4	17.9	18.9	19.0	19.5	19.7	19.6	19.4	18.5	17.3	15.9	14.0	12.9	12.2	11.6			

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

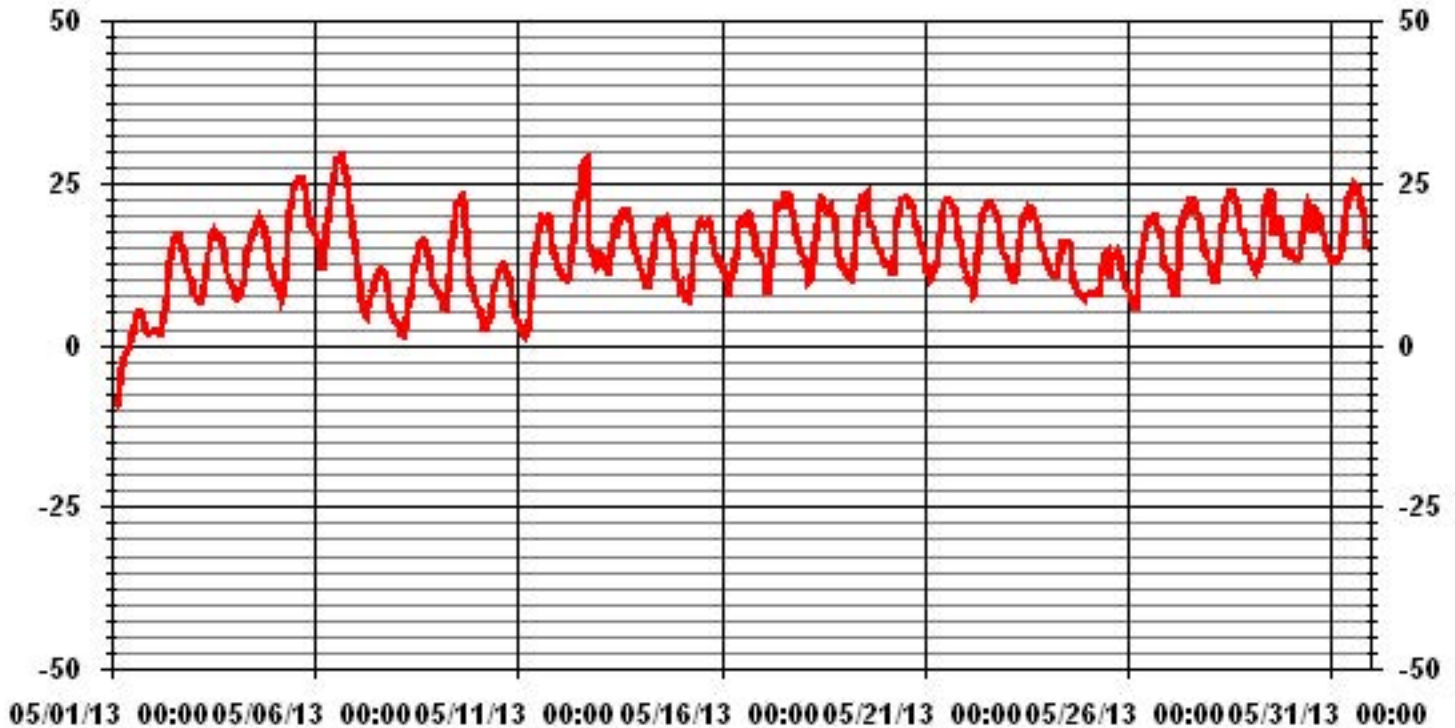
24 HOUR AVERAGES FOR MAY 2013



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-8.9	°C	@ HOUR(S)	3	ON DAY(S)	1
MAXIMUM 1-HR AVERAGE:	29.4	°C	@ HOUR(S)	16	ON DAY(S)	6
MAXIMUM 24-HR AVERAGE:	21.6	°C			ON DAY(S)	6
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	744	HRS	
STANDARD DEVIATION:	6.25		AMD OPERATION UPTIME:	100.0	%	
			MONTHLY AVERAGE:	14.31	°C	

01 Hour Averages



Barometric Pressure

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

MAY 2013

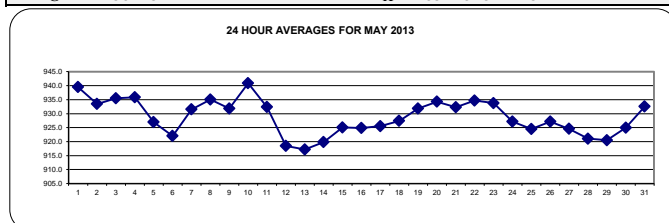
BAROMETRIC PRESSURE hourly averages (millibar)

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR			
HOURLY MAX	HOURLY AVG	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.		
DAY																														
1		936	937	937	938	938	939	940	940	941	941	942	941	941	942	942	941	941	941	940	939	939	938	938	937	942	939.5	24		
2		936	936	935	935	934	934	934	934	934	934	934	933	933	933	933	933	932	932	932	932	932	933	933	932	936	933.5	24		
3		933	933	933	933	933	933	934	934	934	934	935	935	935	936	936	936	937	937	938	938	938	938	939	939	939	939	935.5	24	
4		939	939	939	938	938	938	938	938	938	939	938	938	937	936	935	935	934	934	933	933	932	931	931	930	939	935.9	24		
5		930	929	929	928	928	928	928	928	928	928	928	927	927	927	926	926	926	925	925	925	925	925	925	925	925	930	926.9	24	
6		925	925	925	925	925	925	925	925	925	925	925	924	923	922	921	920	919	919	918	917	917	917	917	917	919	925	922.0	24	
7		921	922	924	925	927	928	929	931	932	933	933	934	934	934	935	935	935	935	935	935	935	935	935	935	935	935	935	931.5	24
8		935	935	935	935	935	935	936	936	936	936	936	936	936	935	935	935	935	935	934	934	934	933	933	936	935.0	24			
9		933	933	932	932	932	931	931	932	932	932	932	931	931	931	930	929	929	930	931	932	933	934	935	936	936	931.8	24		
10		936	937	938	939	940	941	942	942	942	943	943	943	943	943	943	942	942	942	941	941	940	940	939	943	940.9	24			
11		939	939	938	937	936	936	935	935	934	934	933	933	932	932	931	931	930	929	929	928	927	926	926	926	939	932.3	24		
12		925	924	923	923	922	921	921	920	920	920	919	918	918	917	916	915	914	915	915	915	915	915	916	916	925	918.5	24		
13		917	917	917	918	918	918	918	919	919	919	919	919	918	918	918	917	916	916	916	915	915	914	914	919	917.2	24			
14		914	915	915	916	916	917	918	919	920	920	921	921	921	921	921	921	921	922	922	923	923	923	923	923	923	919.8	24		
15		924	924	924	924	925	925	926	926	926	927	927	927	926	926	925	925	925	925	924	924	924	924	924	924	924	927	925.0	24	
16		924	924	924	924	924	925	925	925	925	926	926	926	926	926	926	926	926	926	926	926	926	926	926	926	926	926	924.8	24	
17		924	924	924	924	924	925	925	926	926	926	926	926	926	926	926	926	926	926	926	926	926	926	926	926	926	925.5	24		
18		926	926	925	925	926	926	927	927	927	928	928	928	928	928	928	928	928	928	928	928	928	928	928	929	929	927.4	24		
19		929	929	929	929	930	930	931	931	932	932	932	932	932	932	932	933	933	933	933	933	933	934	934	934	934	934	931.8	24	
20		934	934	934	934	934	935	935	935	936	936	936	936	936	935	935	935	934	934	934	933	933	933	933	933	932	936	934.3	24	
21		932	932	931	932	932	932	932	932	933	933	933	933	933	932	932	932	932	932	932	932	932	932	933	933	933	933	932.3	24	
22		933	933	933	933	933	934	934	935	935	935	936	936	936	936	935	935	935	935	935	935	935	935	935	935	936	934.7	24		
23		935	935	935	935	935	935	935	935	935	935	935	934	934	934	933	933	933	933	932	932	932	932	932	931	935	933.8	24		
24		931	930	930	929	929	929	928	928	928	928	928	927	927	926	926	926	926	926	925	925	925	924	924	931	927.1	24			
25		924	924	924	924	924	924	924	923	923	924	924	924	924	925	925	925	925	925	925	925	925	925	926	926	926	924.5	24		
26		926	926	926	926	926	926	927	927	928	928	928	928	928	928	928	928	928	928	928	927	927	927	926	926	928	927.2	24		
27		926	926	926	925	925	926	926	926	926	926	926	926	926	925	924	924	924	924	923	923	923	923	922	922	922	926	924.5	24	
28		922	921	921	921	921	921	921	921	922	922	922	922	922	921	921	921	921	921	921	921	920	920	920	920	920	922	921.0	24	
29		920	919	919	919	919	920	920	920	921	921	921	921	921	921	921	921	921	921	921	921	921	921	921	921	921	922	920.5	24	
30		922	922	922	922	923	923	923	924	924	925	925	925	925	925	926	926	926	927	927	927	927	927	928	928	928	925.0	24		
31		929	929	929	930	930	931	931	932	932	933	933	934	934	934	934	934	934	934	934	934	934	934	934	934	934	934	932.5	24	
HOURLY MAX		939	939	939	939	939	940	941	942	942	942	943	943	943	943	943	943	942	942	942	941	941	940	940	939					
HOURLY AVG		928	928	928	928	928	929	929	929	929	930	930	930	929	929	929	929	929	929	929	928	928	928	928	928					

STATUS FLAG CODES

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

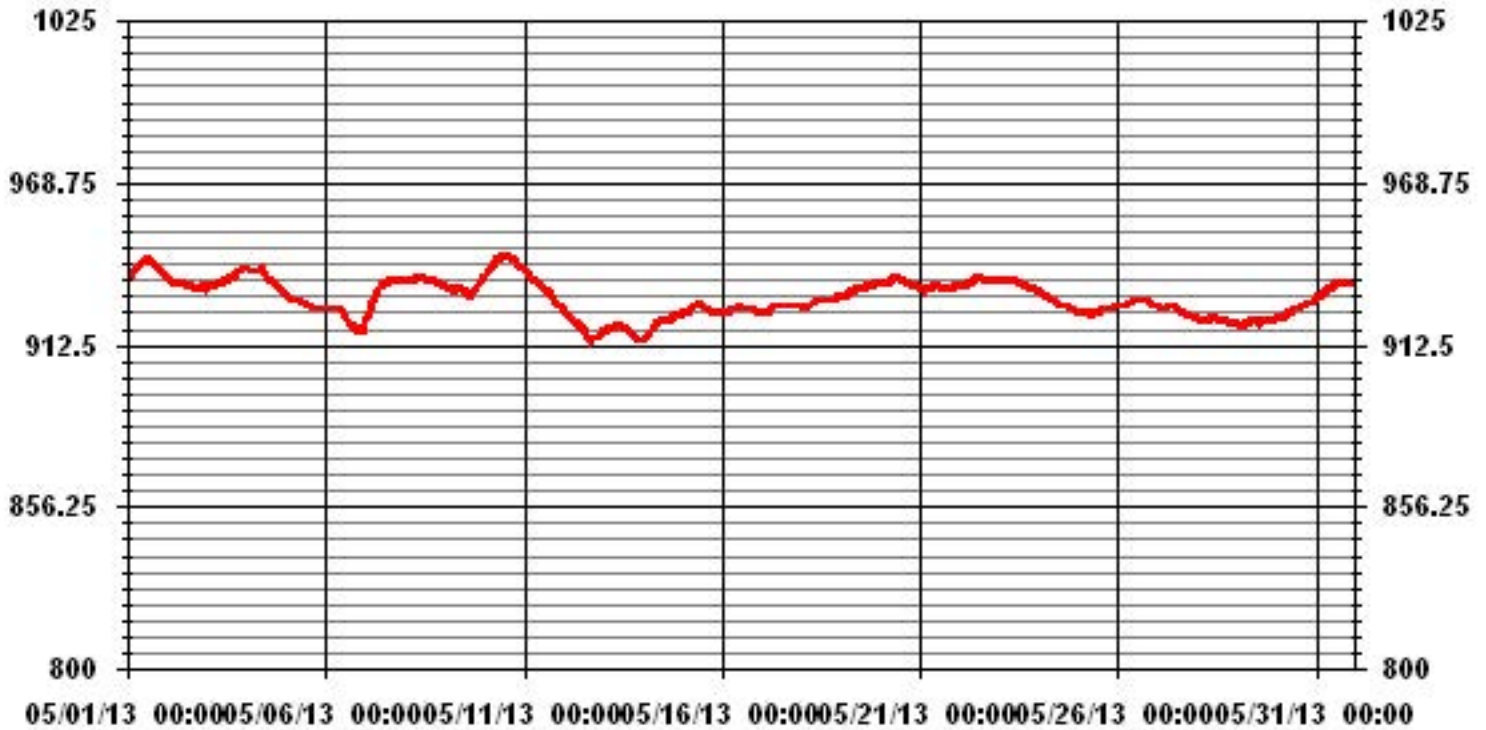
24 HOUR AVERAGES FOR MAY 2013



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	943 MB	@ HOUR(S)	VAR	ON DAY(S)	10
MAXIMUM 24-HR AVERAGE:	940.9 MB			ON DAY(S)	10
				VAR-VARIOUS	
CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:		744 HRS	
		AMD OPERATION UPTIME:		100.0 %	
STANDARD DEVIATION:	6.45	MONTHLY AVERAGE:		929 MB	

01 Hour Averages



Relative Humidity

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

MAY 2013

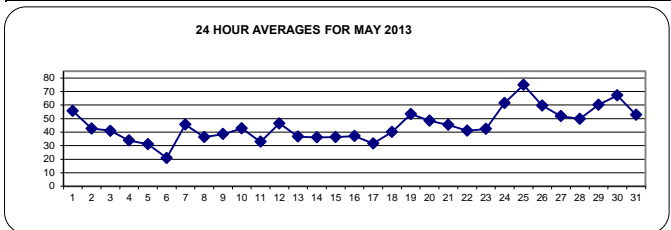
RELATIVE HUMIDITY hourly averages (%)

MST		0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOURLY MAX	HOURLY AVG	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																													
1		78	77	79	81	79	70	64	59	55	46	41	43	41	43	42	44	45	44	45	47	52	52	54	54	81	55.6	24	
2		53	52	54	56	60	61	57	52	46	39	33	28	27	28	26	27	29	31	35	41	45	47	49	48	61	42.7	24	
3		54	56	57	57	60	56	51	49	44	39	35	32	29	29	29	28	27	29	30	33	38	39	40	42	60	41.0	24	
4		42	46	48	47	47	43	45	40	34	29	26	26	24	22	21	22	23	24	28	32	36	39	42	48	48	33.8	24	
5		45	47	51	53	56	55	50	42	35	30	27	25	23	20	19	17	14	14	15	18	22	25	24	19	56	31.1	24	
6		22	26	23	28	35	38	31	26	24	22	18	14	8	6	7	9	9	12	15	17	21	27	29	34	38	20.9	24	
7		41	47	55	67	72	69	64	59	54	50	47	43	41	38	34	30	29	30	30	32	34	38	44	45	72	45.5	24	
8		45	44	48	54	53	51	47	41	38	36	33	30	28	27	25	23	23	24	25	29	33	36	39	40	54	36.3	24	
9		43	44	45	45	47	50	45	38	33	31	27	24	23	21	21	22	23	29	39	50	55	54	57	59	59	38.5	24	
10		61	63	69	74	77	73	68	62	54	43	36	30	28	27	24	23	21	22	21	23	27	29	34	36	77	42.7	24	
11		39	42	45	49	52	51	46	38	34	31	28	25	23	21	20	20	20	21	22	26	30	33	35	37	52	32.8	24	
12		40	43	45	47	48	49	49	46	41	35	32	30	27	24	21	21	21	38	69	73	76	82	82	76	82	46.5	24	
13		53	50	48	49	51	54	49	43	35	33	29	28	28	27	27	26	25	28	27	29	34	34	35	37	54	36.6	24	
14		40	43	46	46	47	44	42	40	35	28	26	21	23	23	23	22	21	29	30	33	49	50	51	56	56	36.2	24	
15		52	55	58	64	65	62	51	38	32	28	24	24	23	22	24	22	23	26	28	30	31	32	32	65	36.3	24		
16		33	36	37	41	57	47	51	57	54	47	36	30	28	30	33	28	25	23	25	30	35	35	36	36	57	37.1	24	
17		39	47	45	66	58	47	41	34	27	22	22	21	20	16	19	17	16	20	22	25	28	35	35	38	66	31.7	24	
18		38	40	44	55	53	44	52	43	33	28	26	24	31	29	31	29	27	29	31	41	52	57	63	61	63	40.0	24	
19		62	64	65	69	70	68	60	53	46	38	36	35	47	34	31	45	46	48	58	54	59	62	64	68	70	53.4	24	
20		68	73	75	80	77	76	65	49	37	29	28	30	31	29	31	29	30	30	34	42	48	55	55	61	80	48.4	24	
21		70	76	79	82	79	79	76	73	66	54	26	23	26	24	17	16	19	18	19	25	30	31	37	44	82	45.4	24	
22		47	48	53	57	65	65	60	52	44	36	27	24	24	23	23	23	25	28	30	34	42	47	53	56	65	41.1	24	
23		57	58	60	61	64	60	54	49	46	44	41	35	31	33	27	20	23	28	31	33	35	38	41	47	64	42.3	24	
24		48	52	56	57	58	58	57	54	51	46	44	40	38	39	41	65	75	82	84	82	85	88	89	89	89	61.6	24	
25		90	89	89	88	87	86	86	85	78	72	65	56	63	82	65	65	70	68	62	62	68	73	74	75	90	74.9	24	
26		76	80	89	90	90	83	71	66	61	55	48	46	43	39	37	38	35	38	41	47	57	66	67	70	90	59.7	24	
27		73	75	83	86	86	74	61	50	49	48	43	36	35	30	31	29	31	34	36	41	44	51	57	61	86	51.8	24	
28		69	69	67	72	73	66	63	57	51	41	34	33	31	29	33	31	37	42	43	45	43	49	58	59	73	49.8	24	
29		63	65	71	73	73	74	74	69	55	51	42	37	41	36	61	56	55	52	51	62	66	73	72	73	74	60.2	24	
30		73	69	72	76	79	78	73	70	62	56	52	53	54	63	52	62	68	59	68	73	72	75	77	76	79	67.2	24	
31		77	80	81	67	60	62	62	56	47	42	39	36	33	33	32	31	34	33	37	42	66	72	73	71	81	52.8	24	
HOURLY MAX		90	89	89	90	90	86	86	85	78	72	65	56	63	82	65	65	75	82	84	82	85	88	89	89				
HOURLY AVG		54.5	56.6	59.3	62.5	63.8	61.1	56.9	51.3	45.2	39.6	34.5	31.7	31.5	30.6	29.9	30.4	31.2	33.2	36.3	40.2	45.4	49.0	51.5	53.0				

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

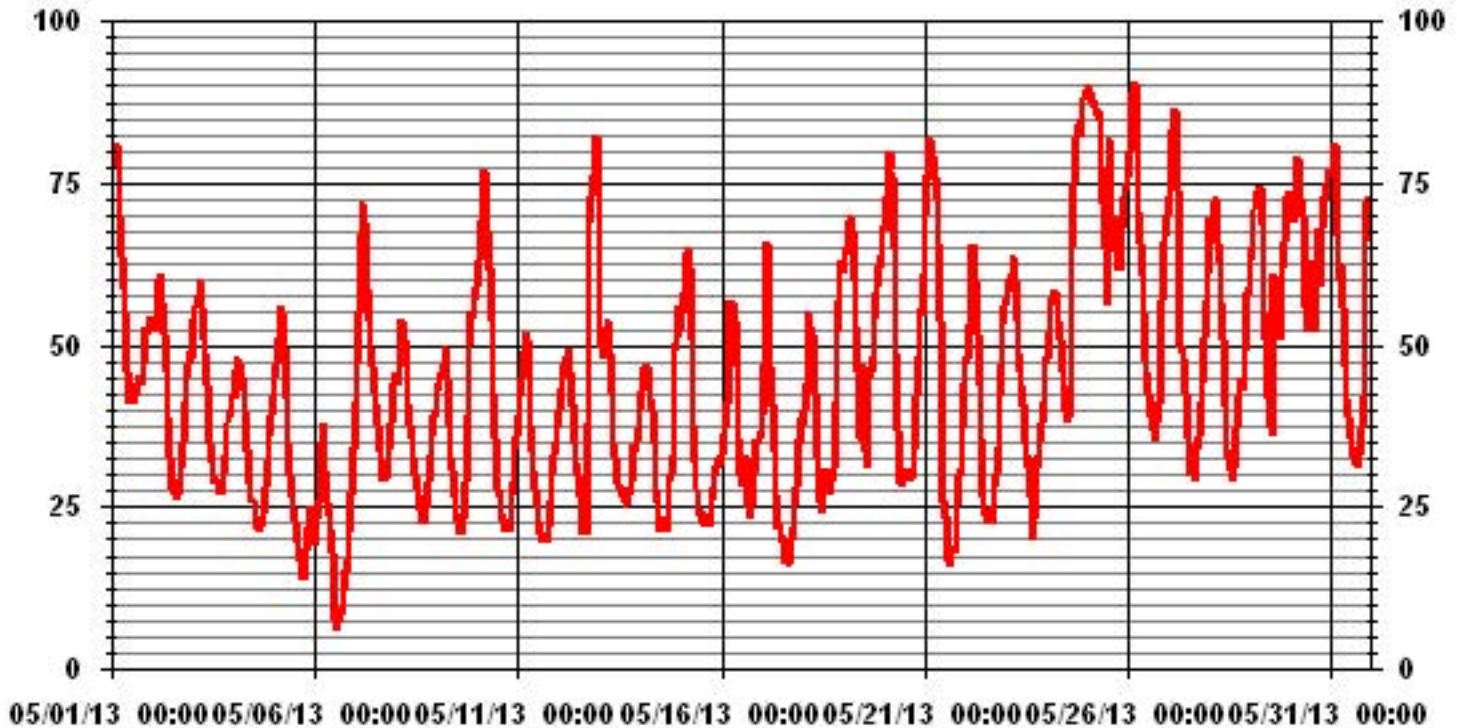
24 HOUR AVERAGES FOR MAY 2013



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	90	%	@ HOUR(S)	VAR	ON DAY(S)	25, 26
MAXIMUM 24-HR AVERAGE:	74.9	%			ON DAY(S)	25
					VAR-VARIOUS	
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:		744	HRS
STANDARD DEVIATION:	18.35		AMD OPERATION UPTIME:		100.0	%
			MONTHLY AVERAGE:		44.96	%

01 Hour Averages



Precipitation

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

MAY 2013

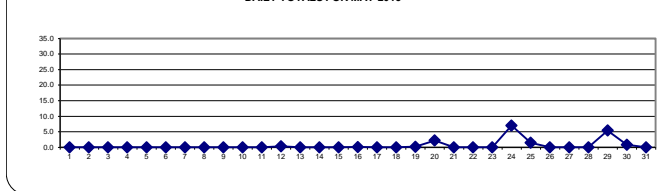
PRECIPITATION hourly averages (mm)

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	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.	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
6		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	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	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	0	0	0	0	0	0	0	0	0.0	0.0	24
11		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
12		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.1	0	0	0	0	0	0.2	0.3	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	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	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	24
17		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
18		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
19		0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.2	24
20		0	0.3	1.3	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.3	2.2	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	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	0.7	1.8	1.7	1	0.2	0.6	1	0	0	0	0	1.8	7.0	24
25		0	0	0	0	0	0	0	0	0	0	0	0.9	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0.9	1.5	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	0	0	0	0	0	0	0	0	0	0.0	0.0	24
28		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
29		0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.4	0	0	0	0	0	0	0	0	0	0	5.4	5.4	24
30		0	0	0	0	0	0	0	0	0	0	0	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0.8	0.8	24
31		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	24
HOURLY MAX		0.0	0.3	1.3	0.6	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.9	0.6	5.4	0.7	1.8	1.7	1.0	0.2	0.6	1.0	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

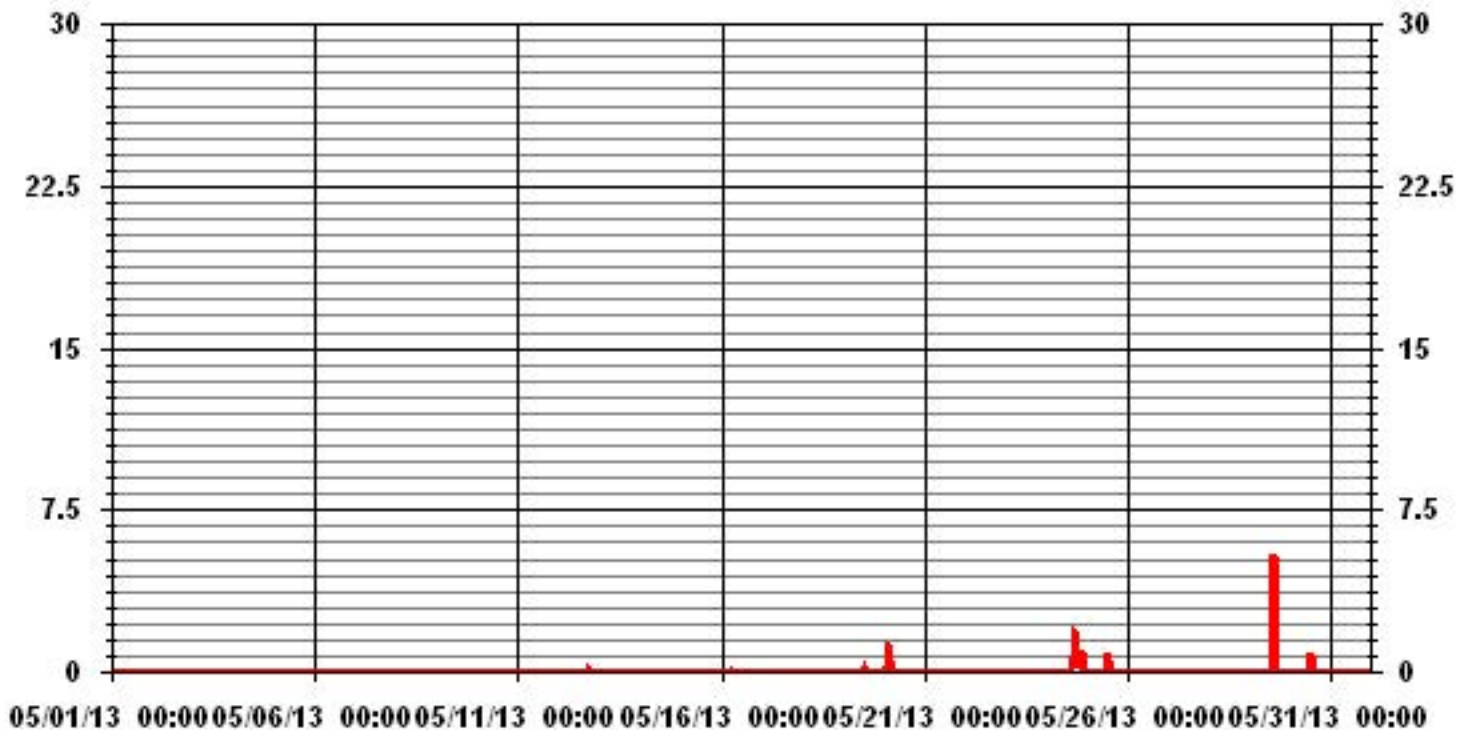
DAILY TOTALS FOR MAY 2013



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	5.4	MM	HOUR(S)	14	ON DAY(S)	29
MAXIMUM DAILY TOTAL	7.0	MM			ON DAY(S)	24
MONTHLY TOTAL	17.5	MM				
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	744	HRS	
STANDARD DEVIATION:	0.24		AMD OPERATION UPTIME:	100.0	%	
			MONTHLY AVERAGE:	0.02	MM	

01 Hour Averages



Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST.LINA

MAY 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	8.8	7.4	6.7	7	7	5.2	3.7	3.1	6.6	7.6	10.4	12	11.9	15.2	15.9	16.5	15.7	13	14.6	12.8	13.7	16.3	18.8	20	20	7.7	24	
2	18.6	19.3	19.4	14.4	13.5	11.1	13.9	13.5	18.6	20.8	19.9	23.7	28.1	26.7	17	17.8	17.1	16.6	7.6	5.8	5.7	7.8	8.4	9.3	28.1	11.9	24	
3	9.3	9.5	11.2	12	11.8	11.3	11.9	13.2	11.9	12.9	12.4	13.1	13.9	15.4	15.5	15.3	15.3	13.3	9.7	14.3	10.8	10	9.3	8.9	15.5	10.5	24	
4	8.1	7.7	8.7	8.4	9.8	7.1	6.8	10.3	11.5	13.5	14.8	16.7	18.7	21.7	22.2	24.2	22.9	17.9	15.2	11	10.6	11.6	13.4	15.2	24.2	11.2	24	
5	13.7	11.8	10.8	9.2	10.8	11.9	11.9	12.5	11.7	14.6	18.8	23.1	24.2	20.3	21.1	19.9	19.3	20.7	18.2	13.2	11.5	7.3	8.6	5.8	24.2	13	24	
6	1.5	1.3	8.4	10.7	11.1	9.6	11.2	12.9	14.6	15.2	14.7	19.2	21.7	21	23.7	24.3	28.6	27.6	22.8	19.9	17.8	16.9	16.9	26.9	28.6	10.2	24	
7	25.1	21.9	19.6	21.7	17.2	20.9	21.7	19.4	16.3	14.5	14.7	13.7	13.1	11.8	11.7	11.3	10.5	9.6	11.6	9.2	8.1	9.5	11.6	12.6	25.1	12.9	24	
8	14.2	13.4	13.9	11.4	11.5	10.6	16	19.6	17.7	17.1	17.6	15.2	15.5	15.3	13.7	13.9	14.1	14	11.3	10.5	11.8	12.4	15.8	16.5	19.6	13.7	24	
9	15	15.6	16.4	16.3	16	14.9	14.5	14	12.2	9.7	3.9	4.2	5.4	4.8	5.2	8.2	14	25.6	25.7	20.4	12.9	15.7	11	9.5	25.7	0.3	24	
10	9.2	17.4	14.4	13.9	12.2	12.5	14.9	15.4	13.2	14.5	14	14.4	10.8	12.8	10.5	10.2	9.3	7.7	5.9	6.7	8.3	9.5	13.8	12.5	17.4	9.1	24	
11	13.7	14.2	13.1	12.7	15.4	15.6	17.1	19	19.2	18.2	16.2	17.4	18.1	16.5	16.7	15.2	14	12.4	13.3	11.7	12.7	15	17	16.2	19.2	15	24	
12	15.7	16.8	18.4	16.9	16	13.9	14.7	11.9	13.1	11	10.4	11.3	10.9	12.9	16.1	21.7	21.1	29	18.4	5.1	4.7	7.8	10.3	13.4	29	10	24	
13	14.5	11.2	12.5	11.8	11.8	11.1	13.3	14.6	18.1	15.6	14.9	23.5	30.2	22.7	23.5	21.1	18.4	13.4	13	9.9	7	7.9	8.4	9.8	30.2	14.2	24	
14	9.9	10	10.7	13.3	12.6	13.2	12.5	12.3	14.6	15.4	14.5	18.3	19.7	19.1	19.2	19.7	18.3	16.8	15.5	16.8	8.4	6.8	6.6	8.6	19.7	12.9	24	
15	8.5	8.5	9.3	9.9	9.4	8.7	6.1	8.6	6.8	6.9	8.1	9.6	12	18.1	17.2	13.1	14.8	15.5	7.1	5.6	5.2	5.5	4.3	4.2	18.1	8.5	24	
16	1.1	4.1	4.7	7.4	8.7	12.8	9.2	9	7.8	3.7	3.1	5.3	7	4.2	14.9	9.8	7.1	7.5	5.6	5	3.8	1	2.9	4.2	14.9	4	24	
17	5.8	6.8	7.1	8.2	7.8	7.3	7.3	5.6	5.2	6.8	4.9	7.2	8.1	7.7	8.8	6.3	5.7	8.7	4.1	3.3	2.1	6.3	7.9	9.5	9.5	2.7	24	
18	8.4	7.1	4.6	7	5.5	1.5	2.6	6	1.5	3.5	8.3	3.8	13.6	14.8	15.5	13.1	9.5	10.8	10.3	15.2	12.6	8	8.5	8.7	15.5	7.6	24	
19	10	10.3	9.4	8.3	8.5	6.9	6.9	10.6	11	10.1	9.1	6.4	6.8	9.4	2	13.9	7.1	2.4	3.6	0.8	8.2	9	9.5	4.8	13.9	5.2	24	
20	4.7	7.1	3.8	5.3	7.9	7.4	7.7	5.4	4	3.8	4.5	3.6	5.5	6.1	4.1	2	5.4	6.3	6.2	6.7	8	9.3	11.4	9.2	11.4	2.3	24	
21	6.4	7.1	8.2	9.1	11.1	9.5	9.6	8.8	9.6	11.5	16	19.9	20.6	23	23.2	22.8	20.6	20.6	20.5	16.9	14.2	14.1	11.9	12	23.2	14.1	24	
22	12.4	11.4	11	12	12.4	13.9	13.1	11.9	11.7	17.4	21.4	21.2	21.3	22.6	21.5	23.1	19.9	17.7	19.1	14	11.9	11.6	11.7	14.6	23.1	14.8	24	
23	16.5	14.4	11.9	10.6	9.4	10.3	11.4	12.8	12.8	14.2	16.2	17	14.5	15.9	16.4	19.1	17.6	16.3	14.7	14.8	12.9	10.6	8.1	8	19.1	13.3	24	
24	10.2	10.6	10.2	11.4	13	13.5	14.2	14.1	14.5	19.4	21.8	26.1	26.7	25.7	24.6	16	16.5	19.3	21.5	22.1	22.1	21.1	21.2	20.4	26.7	18	24	
25	19.6	18	17.9	17.8	16.9	17.5	18.4	20.4	20.5	22.8	22.3	25.2	21	15.1	15.3	14.2	14.6	14.4	18.4	16.9	7.9	6.6	6.7	5.8	25.2	15	24	
26	7.2	5.9	5.4	3.6	6	4.6	4.5	2.2	3.7	4	4.7	4.6	5.4	4.2	4.4	3	3.5	4.4	2.6	5.3	6.3	7.6	10.5	13.8	13.8	3.8	24	
27	8.5	6.5	5.8	7.6	9.8	3.5	2.2	2.3	3.8	8.7	7.7	7.7	5.8	7.6	8.5	7.2	7.9	8.2	5.5	5.2	5.8	6.4	8.7	7.6	9.8	4.3	24	
28	3.2	4.8	6.3	7.5	8	7.6	6.5	5.3	2.9	3.1	3.9	3.2	7.2	6	6.4	2.4	14.6	3.9	11.3	4.8	4.7	3.1	7	6.8	14.6	1.7	24	
29	7.6	8.4	8.1	6.4	6.6	3.2	3.8	4.5	5.1	6.1	7.1	7.6	6.5	5.4	12.7	15.2	5.1	11.4	11.3	4.8	4.6	5.2	5.1	7.2	15.2	4.4	24	
30	7.3	8.5	8.3	7.2	6.8	6.6	6.7	6.3	5.1	5.3	7	7.8	9.7	6.4	6.5	7.1	2	3	4.1	5.7	7.9	7.7	7.2	7.9	9.7	4.7	24	
31	7.4	7.7	9.1	8.9	8.6	8.5	9.1	7.9	7.8	7.4	7.3	7.2	6.1	3.3	5.8	6.9	7.7	8.7	8	5.2	5.3	4.8	3	0.5	9.1	2.7	24	
HOURLY MAX	25.1	21.9	19.6	21.7	17.2	20.9	21.7	20.4	20.5	22.8	22.3	26.1	30.2	26.7	24.6	24.3	28.6	29.0	25.7	22.1	22.1	21.1	21.2	26.9				
HOURLY AVG	10.4	10.5	10.5	10.6	10.7	10.1	10.4	10.8	10.7	11.5	12.0	13.2	14.2	13.9	14.2	14.0	13.5	13.4	12.2	10.3	9.3	9.4	10.2	10.7				

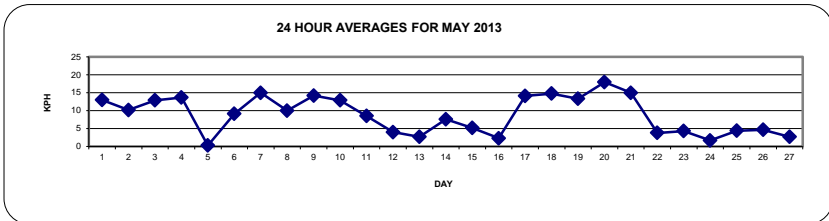
STATUS FLAG CODES

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

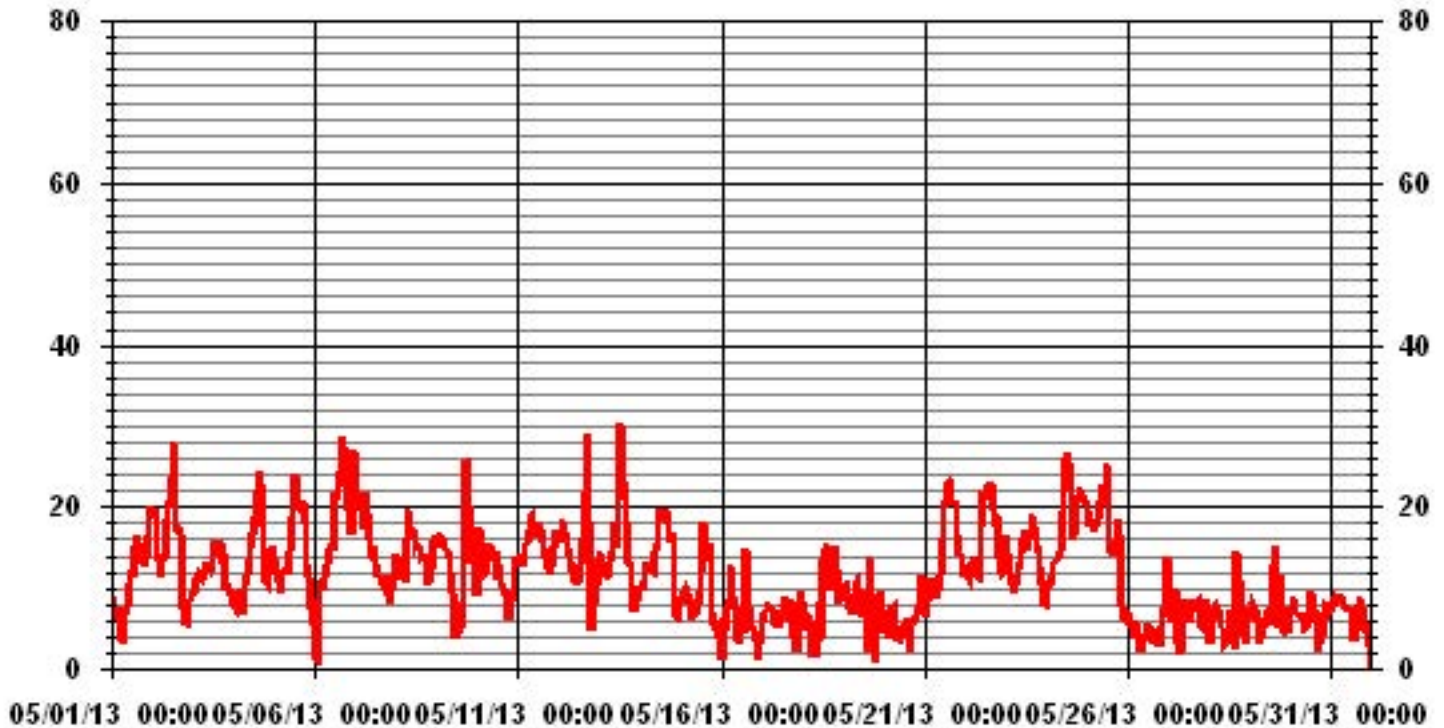
LAST CALIBRATION: June 12, 2012

MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	30.2	KPH	@ HOUR(S)	12	ON DAY(S)	13
MAXIMUM 24-HR AVERAGE:	18.0	KPH			ON DAY(S)	24
CALMS (≤ 0 KPH)	0.27	%	OPERATIONAL TIME:	744	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	5.73		MONTHLY AVERAGE:	11.52	KPH	



01 Hour Averages



— LICA31 WSP KPH

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST. LINA

MAY 2013

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST																									
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	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	15.8	18.2	15.4	11.6	15.4	14.3	6.8	13	16.5	21.3	25.4	29.4	32.2	32.7	35.1	40.3	35.9	29.8	33.3	31.8	32.7	32.7	38.8	39.2	40.3
2	39.4	43.4	38.4	32	23.2	21.5	25.9	26.5	33.8	42	54.1	56.3	66.7	61.5	42.7	46.9	35.3	40.1	30.9	13.6	10.8	16.9	14.2	15.6	66.7
3	16.7	12.7	20.6	21.5	23.9	22	25.2	30.7	25.4	27.6	35.2	32	33.3	44.7	42.3	44.4	38.5	45.3	24.1	35.3	23.2	21.3	16.2	18	45.3
4	12.7	13.2	13.6	13.2	16.4	12.9	11	17.8	23.9	25.4	30.2	34.2	39.6	44.4	45.3	46	41.4	44.2	35.5	23.7	20.8	19.3	21.7	28.4	46
5	23.1	20	18.6	14.3	15.1	16.9	19.5	22.6	18.8	30.9	49	50.8	51.9	54.5	47.5	46	43.3	36.6	33.9	24.3	18.2	14.7	15.8	10.1	54.5
6	5.7	5.7	15.1	16.9	15.2	15.8	24.3	26.9	27.6	28.7	37.4	47.5	50.2	49.4	47.3	48.4	57.5	54.9	49.2	39.4	39.2	32.4	36.3	66.7	66.7
7	78.8	52.3	43.1	45.8	39.6	57.6	52.1	44.7	38.8	35.3	36.8	37.7	38.5	34	35	31.8	25.8	27.8	23.6	19.1	13	16.9	19.4	23.6	78.8
8	25.2	23.9	28.3	23.6	21.3	23	37.7	39.6	37.2	36.8	39	35	38.8	40.9	37.7	43.6	35.7	34.4	26.9	23	21.5	23.6	40.7	35.3	43.6
9	35.5	34.6	34.8	27.4	30.5	32.2	28.9	29.1	21.9	21.7	16	16.2	17.7	21.5	20.6	26	36.8	48.6	53.6	49.7	31.3	39	29.8	19.1	53.6
10	30.9	39.2	41.2	33.3	25.2	30	37.9	37.2	32.4	45.6	44.7	38.1	32.9	35	35.5	31.5	29	20.4	17.3	13.4	13.4	14.7	22.2	23	45.6
11	29.8	28.9	29.1	28	31.8	34.2	35.7	38.5	39.9	41.6	40.1	43.6	43.3	44.2	43.8	35.9	34.8	31.3	31.2	24.5	23.9	36.1	37.2	35.7	44.2
12	31.3	33.1	34.2	32.9	33.9	32	34.8	29.1	28.1	24.8	25	25.4	24.1	35.7	40.1	49.4	41.6	81.2	54.5	16.9	9	12.9	19.5	28.3	81.2
13	32.9	27.1	33.7	23.9	P	18.6	22.3	34.9	46	35.5	36.1	59.7	72	52.3	59.3	59.3	48.1	34.6	28	24.7	13.2	14.7	16.5	17.5	72
14	19.5	20.6	18.6	24.3	24.5	28.1	23.6	26.5	36.8	37.7	35	49.2	46.2	50.2	54	58.2	42	47.9	44.6	42	36.1	12.5	11.6	13.2	58.2
15	13.4	15.1	14.2	16.4	15.3	19.3	16.9	21.5	18.8	19.1	44	28.2	29.8	36.3	56.4	33.1	34.2	35.9	19.7	15.1	10.1	9.2	6.2	6.4	56.4
16	3.1	6.8	9.4	15.3	14.2	28	28.7	26.9	17.3	12.1	16.2	25.8	26.9	22.1	36.1	25.7	25.6	23.7	16.2	11	5.9	2.9	7.2	7.5	36.1
17	7.5	13.6	13.2	18.2	10.3	11.8	12.9	12.3	13.4	19.7	25.6	22.1	28.9	25.9	30.9	22.8	24.1	26	11.4	6.4	9	18.7	12.5	39.8	39.8
18	14.2	9.9	9	11.6	9.9	5.5	20.8	21	7.9	17.7	30.7	25	47.7	35.7	51.2	40.3	28	26.5	33.1	35.7	30.5	18	15.6	16	51.2
19	17.3	17.1	15.6	16.7	15.4	20.6	15.8	29.8	27.4	28.1	26.1	37.9	23	29.4	31.8	36.1	30	14.1	15.8	18.9	21	17.1	20.6	12.9	37.9
20	12.3	15.3	12.1	15.1	16	19.3	14	13.8	12.1	14.5	16.9	21.5	22.8	19.7	19.7	18.7	19.7	14.5	17.3	16.4	20.6	26.3	23.4	26.3	26.3
21	11.6	13.2	15.3	18.6	20.6	22.1	21.1	21.9	24.5	27.6	37.4	50.8	46.4	54.7	51	52.3	51.2	48.2	48.8	43.6	30.2	31.3	27.6	24.5	54.7
22	22.8	28.5	21.7	26.7	27.2	30.2	29.6	32.2	30.2	44.9	57.1	51.5	52.4	53.4	55.3	52.7	46	42.2	41.6	34.6	24.6	22.3	26	35	57.1
23	36.1	33.3	24.3	26.5	23	28.3	30	34.2	30.9	37.5	42.7	49	36.1	43.8	49.2	44.6	40.3	40.7	34.9	32.4	31.1	24.1	23.9	15.8	49.2
24	21.2	23.5	22.3	31.1	32.4	31.3	47.9	35.3	42.7	60.2	75.7	67.8	66.3	68.7	66.3	44.7	53.6	55.2	63.7	62.2	57.8	55.9	65.9	58.2	75.7
25	54.1	48.4	48	51	43	52.1	54.7	59.8	60.2	70.7	62.8	60	54.1	41	35.7	36.8	49.2	39.6	40.1	38.5	32.4	12.7	14.5	12.3	70.7
26	14.2	12.8	9.4	10.5	10.1	11	12.9	13.2	14	20.4	21.9	23.7	23	25.8	19.5	12.3	18	13.8	8.3	9.4	10.3	17.5	20.4	20.8	25.8
27	19.9	18	18.2	19.3	19.3	16.7	7.1	10.8	15.3	20.6	23.6	23	21.5	26.1	26.3	26.7	26.9	29.6	13.2	9.6	8.1	16	15.8	14.9	29.6
28	8.1	11	12.1	10.4	14.5	15.4	14.5	15.1	12.7	18	17.7	25.5	27.6	22.8	26.9	12.9	33.9	15.1	33.7	16.6	9.4	11.2	13.6	13.6	33.9
29	12.9	15.1	15.8	11.8	12.9	27.6	8.3	10.8	12.5	15.6	20.2	25.8	29.6	29.8	50.1	42	19.7	36.6	36	13.8	9.4	11.4	13.4	12.9	50.1
30	12.5	17.1	17.7	15.3	14.7	15.3	17.5	16.9	13.6	16.2	21.2	24.7	49	27.1	17.7	53.2	19.1	7.9	9.9	13.4	18.4	19.7	19.9	17.1	53.2
31	13.4	12.5	14.9	16	16	15.8	23.4	22.8	18.8	24.9	20.6	21.7	16	16	23.3	19.8	22.1	22.5	22.3	17.1	13.2	8.1	10.1	4.6	24.9
PEAK	78.8	52.3	48.0	51.0	43.0	57.6	54.7	59.8	60.2	70.7	75.7	67.8	72.0	68.7	66.3	59.3	57.5	81.2	63.7	62.2	57.8	55.9	65.9	66.7	

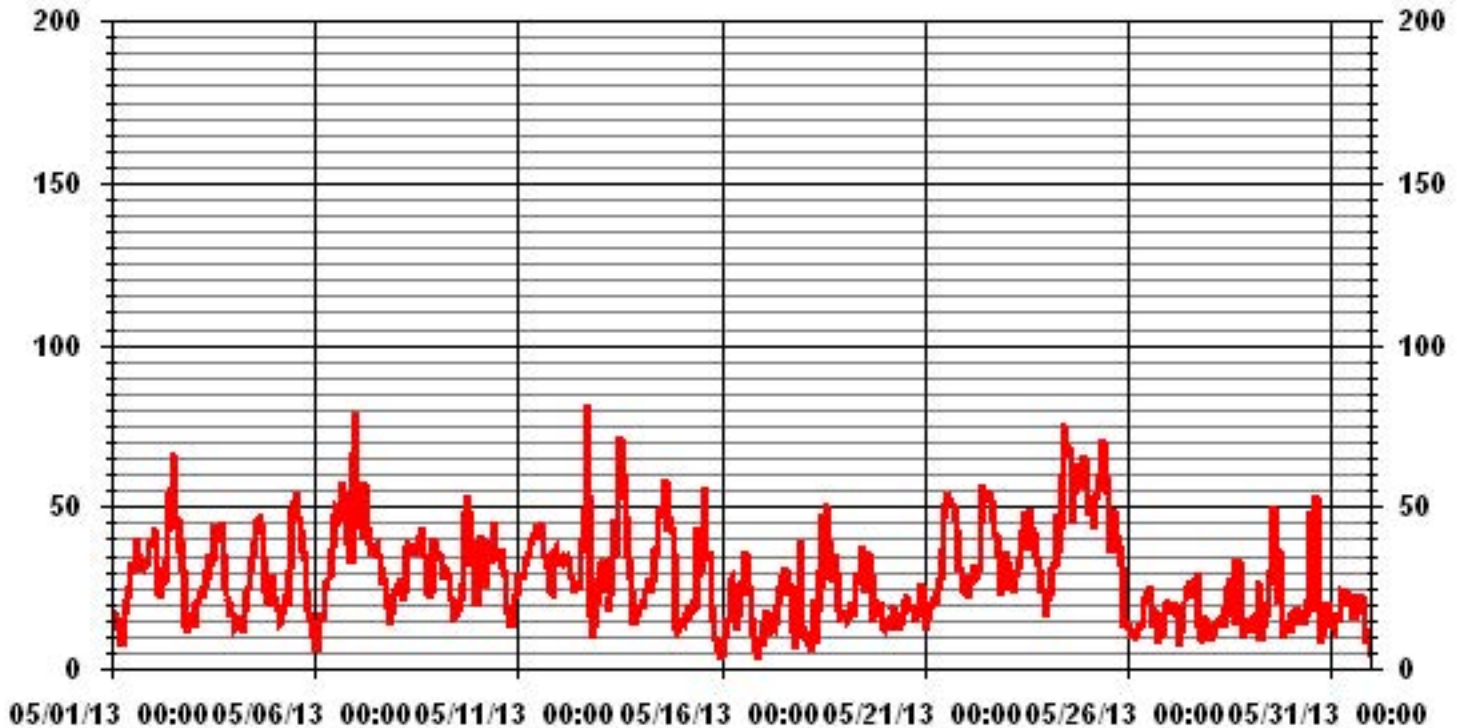
STATUS FLAG CODES

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	81.2	KPH	@ HOUR(S)	17
			ON DAY(S)	12

01 Hour Averages



LICA31
WSP / WDR Joint Frequency Distribution (Percent)

May 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	.80	1.07	1.34	.94	1.07	1.88	.94	1.20	1.07	.67	.67	.94	.53	1.20	1.20	1.47	17.06
< 12.0	2.15	1.74	1.20	1.61	4.70	5.37	2.01	2.28	1.74	2.68	1.74	1.74	3.09	2.82	3.22	1.61	39.78
< 20.0	2.15	.26	.13	.26	2.82	2.95	3.49	2.68	4.56	3.76	1.47	1.20	2.01	2.41	1.47	2.01	33.73
< 29.0	.53	.00	.40	.40	1.47	.26	1.88	.00	.13	.67	.26	.94	1.47	.13	.00	.26	8.87
< 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.13	.13	.00	.00	.26
>= 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	5.64	3.09	3.09	3.22	10.08	10.48	8.33	6.18	7.52	7.79	4.16	4.83	7.25	6.72	5.91	5.37	

Calm : .26 %

Total # Operational Hours : 744

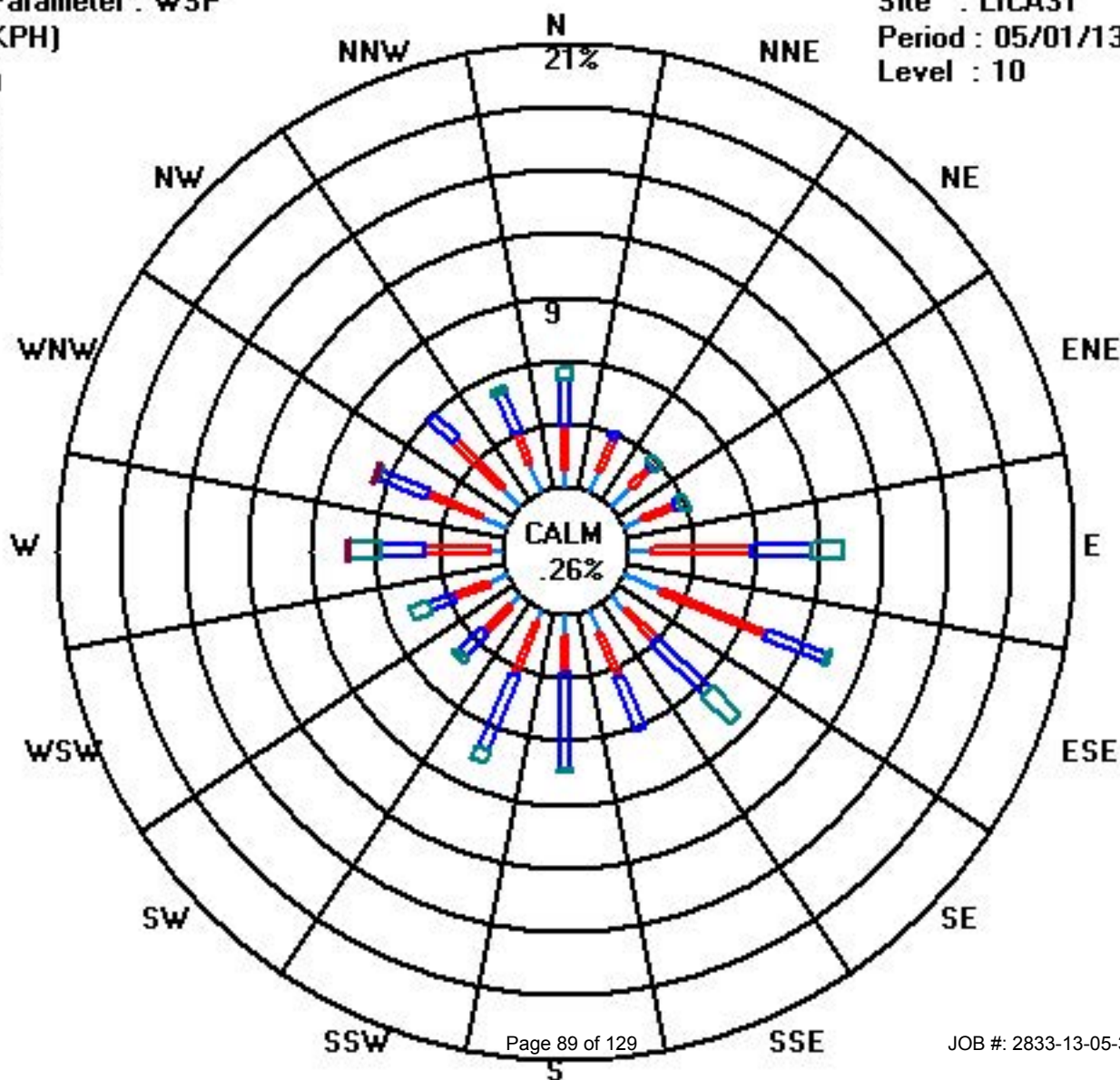
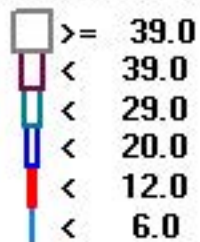
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 6.0	6	8	10	7	8	14	7	9	8	5	5	7	4	9	9	11	127
< 12.0	16	13	9	12	35	40	15	17	13	20	13	13	23	21	24	12	296
< 20.0	16	2	1	2	21	22	26	20	34	28	11	9	15	18	11	15	251
< 29.0	4		3	3	11	2	14		1	5	2	7	11	1		2	66
< 39.0													1	1			2
>= 39.0																	
Totals	42	23	23	24	75	78	62	46	56	58	31	36	54	50	44	40	

Calm : .26 %

Total # Operational Hours : 744

Class Limits (KPH)



Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST.LINA

MAY 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	314	345	329	313	334	348	62	124	224	204	201	199	194	216	212	202	192	199	186	174	168	174	178	184	199	SSW	24			
2	186	192	198	207	210	209	220	209	232	250	265	272	271	275	305	280	274	270	313	355	316	302	307	316	253	WSW	24			
3	274	266	278	295	295	290	291	308	319	299	308	308	333	341	343	0	345	7	11	351	357	353	357	348	325	NW	24			
4	359	322	323	320	316	302	263	242	228	233	242	240	242	243	240	243	238	228	222	213	200	198	201	200	241	WSW	24			
5	194	201	205	215	219	221	224	228	244	249	254	262	262	271	262	263	267	256	256	254	255	283	317	351	250	WSW	24			
6	311	215	40	55	72	109	156	145	131	128	163	186	195	202	204	211	231	220	209	207	207	213	235	335	196	SSW	24			
7	355	352	334	339	340	1	357	348	343	343	346	2	2	1	13	20	13	23	29	32	39	64	97	103	3	N	24			
8	115	123	136	144	152	150	169	174	168	165	156	162	167	158	163	161	169	172	162	150	141	147	173	185	158	SSE	24			
9	192	197	196	195	195	190	204	218	223	235	250	262	343	4	31	13	38	46	46	37	17	8	14	352	85	E	24			
10	330	356	352	351	343	343	6	16	11	0	359	9	4	2	2	8	16	36	37	73	98	102	114	133	14	NNE	24			
11	148	166	172	167	173	178	181	188	188	174	166	171	188	188	192	195	185	171	154	144	148	158	177	183	174	S	24			
12	185	182	178	180	182	188	192	194	206	200	205	205	211	195	218	257	262	303	342	332	241	223	239	268	220	SW	24			
13	284	291	286	274	270	259	266	273	298	308	296	276	277	286	285	315	312	320	328	322	317	309	287	307	287	WNW	24			
14	306	302	294	291	303	292	301	299	296	310	308	293	298	301	299	279	310	349	347	346	1	339	291	278	307	NW	24			
15	292	292	281	268	253	269	280	325	325	274	282	294	273	251	267	254	261	267	265	288	291	313	334	10	278	W	24			
16	323	261	293	302	275	286	312	352	28	33	37	188	187	323	308	275	314	302	295	332	13	39	120	199	305	WNW	24			
17	220	253	266	214	241	273	275	308	330	326	342	348	314	304	346	300	321	4	19	106	88	105	119	115	306	NW	24			
18	136	128	95	87	135	98	120	178	278	204	149	117	158	146	126	115	144	144	146	161	172	155	110	139	141	SE	24			
19	169	175	173	161	187	191	190	163	151	220	231	270	257	272	255	193	162	188	310	47	247	281	297	299	208	SSW	24			
20	2	288	298	75	6	347	341	331	4	305	342	165	139	141	141	79	70	92	88	106	101	109	117	148	74	ENE	24			
21	118	92	109	99	101	89	107	108	98	115	130	139	130	130	133	129	127	127	126	119	122	129	112	103	121	ESE	24			
22	103	104	88	84	78	84	85	90	95	101	126	126	134	145	136	140	136	133	133	131	122	121	117	127	119	ESE	24			
23	129	133	122	116	102	105	116	110	110	95	103	120	129	116	119	138	136	133	132	128	127	125	132	93	121	ESE	24			
24	85	84	78	72	75	79	80	80	83	89	90	91	93	92	106	97	101	90	82	77	74	75	81	87	86	E	24			
25	86	84	87	88	85	83	80	80	89	93	101	119	128	123	130	112	95	102	112	120	167	184	183	154	104	ESE	24			
26	138	130	108	172	245	223	223	149	119	164	162	174	155	172	143	148	115	134	57	70	68	84	98	105	130	SE	24			
27	121	119	102	89	111	123	184	204	107	100	101	113	88	93	104	113	131	144	155	170	177	288	333	355	112	ESE	24			
28	283	344	27	50	58	83	90	94	112	201	114	198	175	200	47	224	267	300	100	78	89	44	326	353	65	ENE	24			
29	56	66	88	100	95	268	40	50	53	56	70	113	102	87	108	141	159	161	197	249	344	32	56	85	98	E	24			
30	85	96	90	94	103	118	103	106	108	109	116	100	114	187	213	107	243	23	28	26	16	28	41	67	90	E	24			
31	60	76	111	148	162	166	182	197	210	203	221	217	251	250	249	244	239	280	282	298	36	42	72	328	328	NNW	24			
HOURLY AVG	359	356	352	351	343	348	357	352	343	343	359	348	343	341	346	300	345	349	347	355	357	353	357	355						

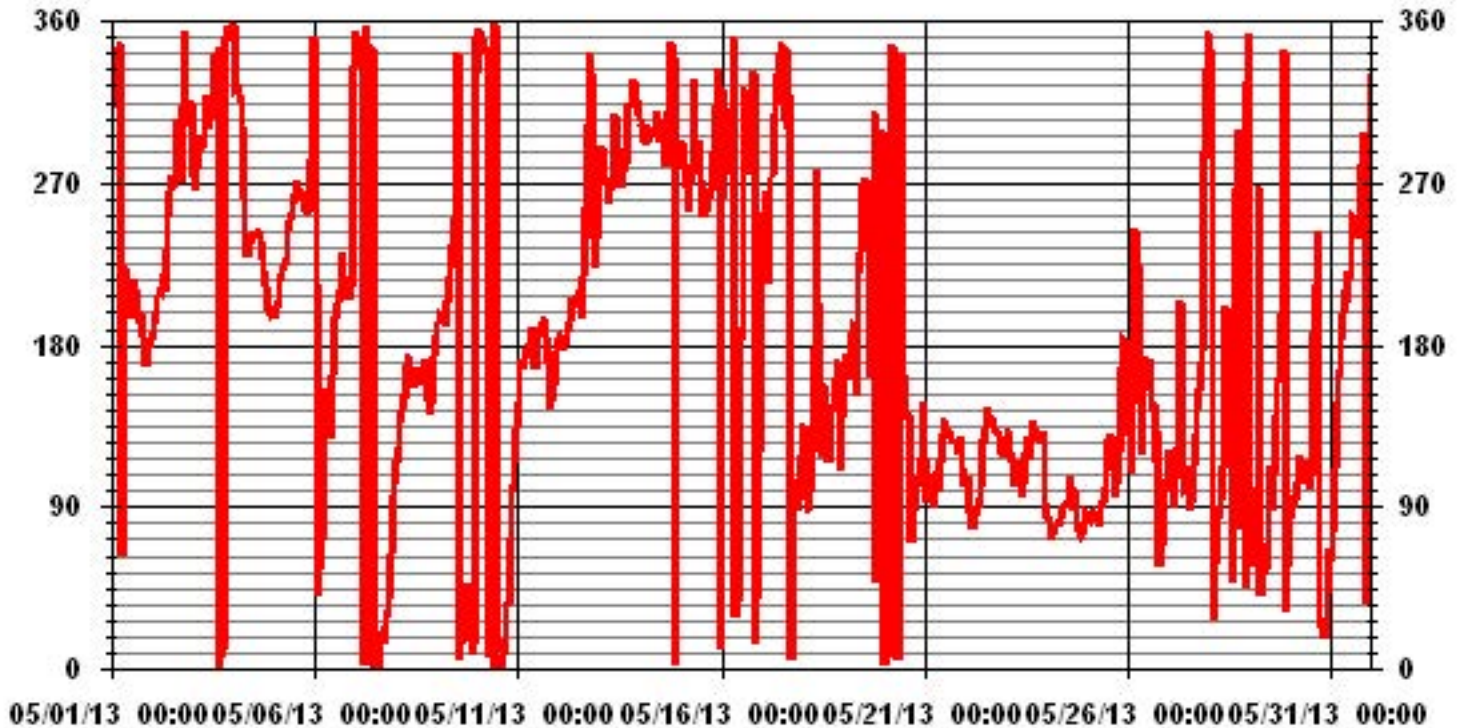
STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- 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:	744 HRS
STANDARD DEVIATION:	96.33	AMD OPERATION UPTIME:	100.0 %
		MONTHLY AVERAGE:	170 DEG

01 Hour Averages



Standard Deviation Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - ST.LINA

MAY 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	10	10	9	6	8	9	17	33	24	29	20	23	24	19	21	17	16	18	13	11	10	11	10	11	
2	12	12	11	11	10	13	12	13	10	11	12	16	15	16	20	20	14	12	19	11	10	10	10	9	8
3	15	3	8	11	11	10	13	16	18	21	23	27	21	21	18	18	16	18	20	19	14	12	12	11	
4	9	8	8	6	7	8	6	9	15	15	18	18	18	16	17	12	13	15	11	10	8	8	8	8	
5	9	9	9	6	5	5	7	9	14	15	15	15	14	18	17	17	16	10	11	7	5	15	10	6	
6	43	60	10	6	6	8	12	14	14	15	20	16	16	17	18	14	13	12	13	12	11	10	14	22	
7	16	14	13	14	14	15	16	16	20	27	24	25	27	25	26	26	23	24	15	10	7	9	7	7	
8	7	9	12	12	12	12	13	14	14	15	17	21	20	22	24	24	24	17	17	12	10	11	10	9	
9	10	10	10	9	9	9	11	12	14	24	55	52	39	50	36	31	19	12	13	12	13	20	14	13	
10	14	14	15	19	13	13	17	18	21	25	23	27	34	24	30	29	30	30	30	12	5	4	7	10	
11	12	12	11	11	10	10	12	12	15	18	20	21	20	23	20	19	15	19	15	12	11	12	11	10	
12	9	8	8	9	10	11	12	15	15	18	17	15	17	19	18	14	12	19	17	19	12	8	8	8	
13	13	13	13	10	9	7	9	14	20	18	22	16	13	18	17	17	21	17	17	14	11	10	11	11	
14	12	12	11	11	12	12	14	16	18	21	20	19	18	20	20	20	16	20	18	16	22	12	11	7	
15	10	10	8	4	5	9	20	19	30	34	33	37	20	20	19	21	23	13	16	14	7	9	7	9	
16	20	4	8	19	8	12	26	23	15	46	53	54	37	53	21	31	33	37	26	13	9	35	14	8	
17	4	7	8	11	5	7	11	20	31	33	49	35	23	42	29	37	60	19	21	12	41	41	6	7	
18	8	8	19	9	12	15	36	22	33	49	26	38	31	19	20	20	33	21	17	15	13	15	10	10	
19	10	9	8	11	17	16	16	16	25	26	28	42	25	34	40	17	26	39	27	42	10	10	14	20	
20	23	26	47	26	15	13	12	18	39	45	46	57	41	51	42	52	27	26	16	13	14	12	12	16	
21	16	11	14	16	14	16	17	18	19	18	19	20	19	20	17	18	18	16	15	15	12	13	13	14	
22	13	12	13	12	14	14	16	20	21	20	19	20	22	18	19	18	18	17	17	14	13	12	13	14	
23	14	16	15	15	16	17	18	20	20	21	21	22	21	20	21	20	20	18	17	15	13	13	17	13	
24	14	16	15	16	17	17	17	18	20	19	18	17	18	18	18	18	18	17	17	17	17	16	17	17	
25	16	17	17	17	17	17	18	17	17	17	19	17	18	16	17	18	20	18	17	16	19	11	15	12	
26	10	15	9	17	5	15	22	58	47	56	50	53	38	45	51	53	53	29	27	13	7	7	12	16	
27	23	27	54	34	14	29	41	39	39	23	34	37	42	31	26	36	29	22	18	7	10	12	10	25	
28	32	12	10	8	9	14	16	23	42	52	54	49	33	37	36	66	14	30	20	14	12	19	13	12	
29	9	9	12	14	13	30	19	18	28	29	30	33	21	41	28	18	23	17	21	16	14	13	17	12	
30	11	12	14	15	11	12	17	23	29	30	30	24	25	25	27	23	26	24	17	14	13	15	14	13	
31	10	9	8	10	10	13	13	18	24	26	31	26	30	49	40	35	23	19	14	19	15	11	29	51	

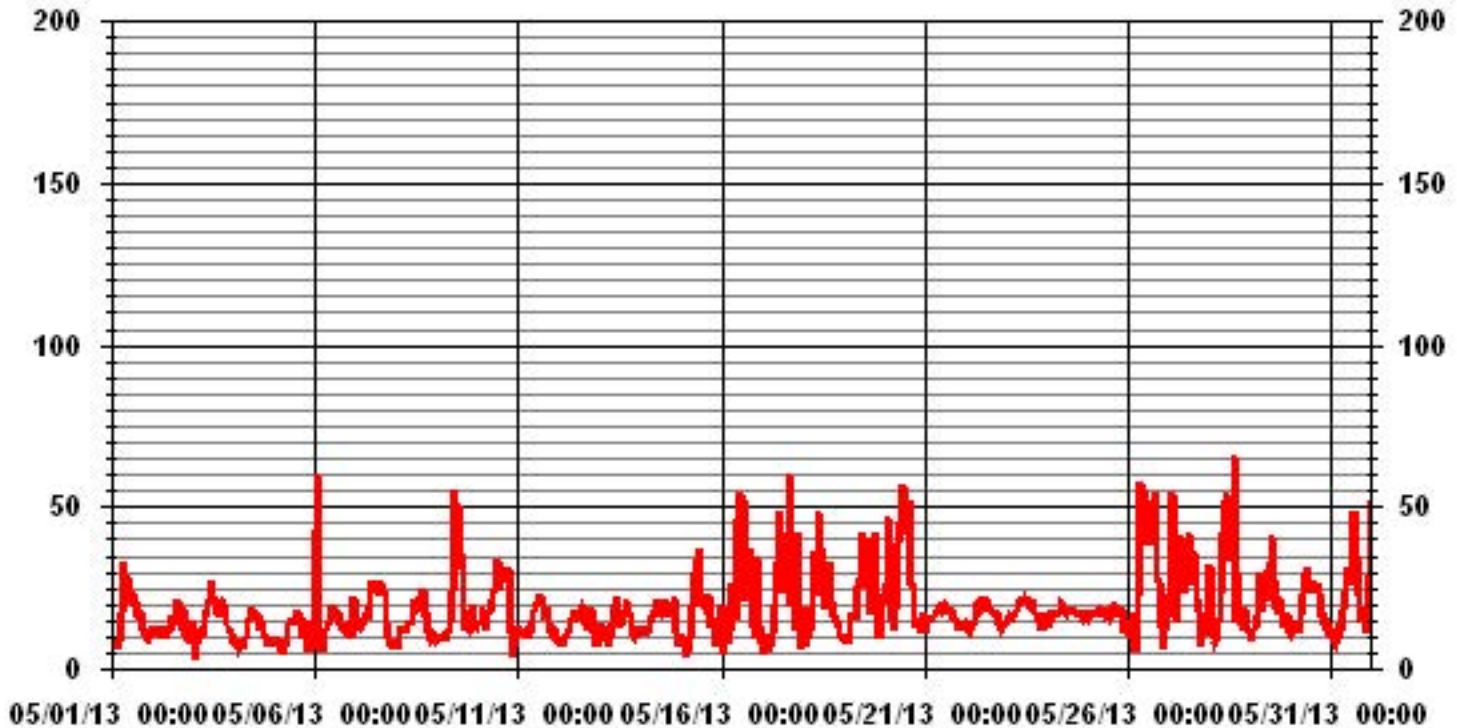
STATUS FLAG CODES

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

LAST CALIBRATION: June 12, 2012

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 744 HRS

01 Hour Averages



Calibration Reports

Sulphur Dioxide

SO2 Calibration Report

Station Information

Calibration Date	May 3, 2013	Previous Calibration	April 16, 2013
Company	Lakeland Industry & Community Association		
Plant / Location	ST. LINA		
Start Time (MST)	9:50	End Time (MST)	12:40
Reason:	Monthly Calibration		
Barometric Pressure	27.8 atm	Station Temperature	22 Deg C
Cal Gas	49.6 ppm	Gas Cyl. #	BAL3031
DAS Output Voltage	0 - 1 Volts	Cal Gas Expiry date	29/12/2016
		Chart Rec. Output	NA Volts

Equipment Information

Analyzer Make / Model:	API 100E	S/N :	468	Method:	Fluorescent
Converter Make / Model:	NA	S/N :	NA		
Calibrator Make / Model:	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 - 1000 ppb				
Sample Flow / Box Temp	574 ccm	29.2 Deg C	576 ccm	27.2 Deg C	
HVPS / Lamp Setting	540	2137	540	2138	
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	99.1	1.002	101.6	1.018	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	1	0.0000
5000	0	0	0	0.0000
4920	80.0	794	782	1.0148
4920	80.0	794	795	0.9982
4960	40.0	397	396	1.0020
4980	20.0	198	198	1.0000
5000	0	0	0	0.0000
Sum of Least Squares				0.9991
New Correction Factor				0.9982

IZS alibration Data

Before Calibration		After Calibration	
Auto Zero	0.0	Auto Zero	0.0
Auto Span	237.0	Auto Span	241.8
Sample Lines Connected		Sample Lines Connected	YES

Percent Change

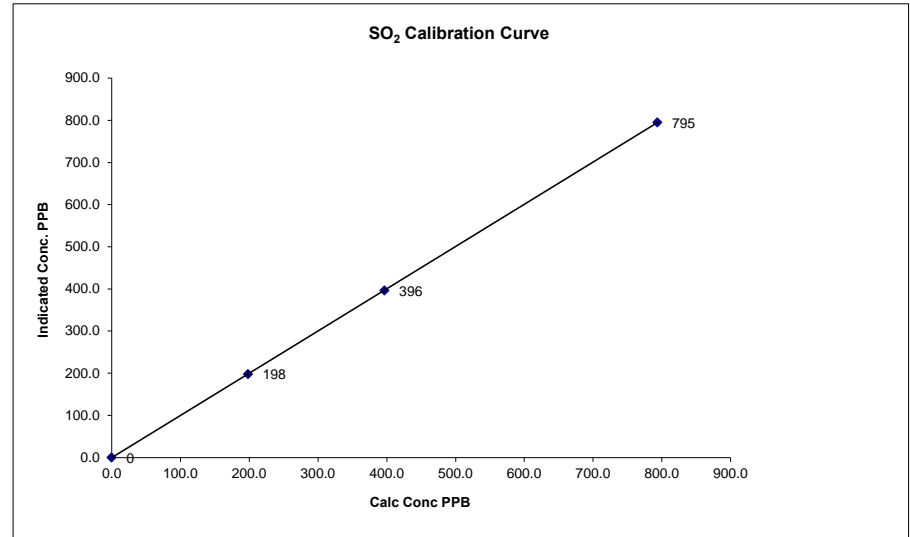
Previous Month's Calibration Correction Factor:	1.0000
Current Correction Factor Before Span Adjust:	1.0148
Percent Change:	-1.5%

Notes:

SO₂ Calibration Curve

Calibration Date	May 3, 2013
Company	Lakeland Industry & Community Association
Plant / Location	ST. LINA
Start Time (MST)	9:50
End Time (MST)	12:40

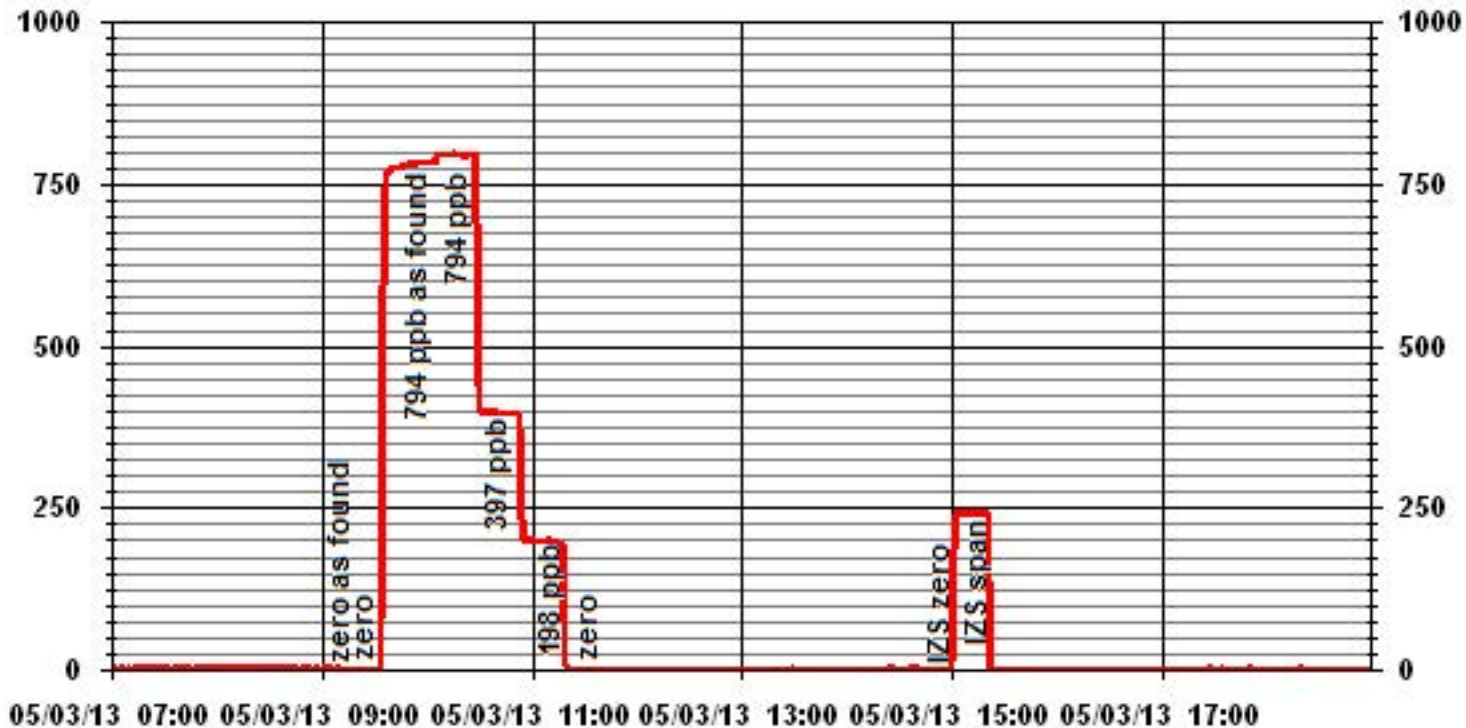
Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope Intercept	(≥ 0.995) (0.85 to 1.15) (± 3% F.S.)
0	0	n/a		0.999996
198	198	1.0020		1.001872
397	396	1.0020		-0.600000
794	795	0.9982		



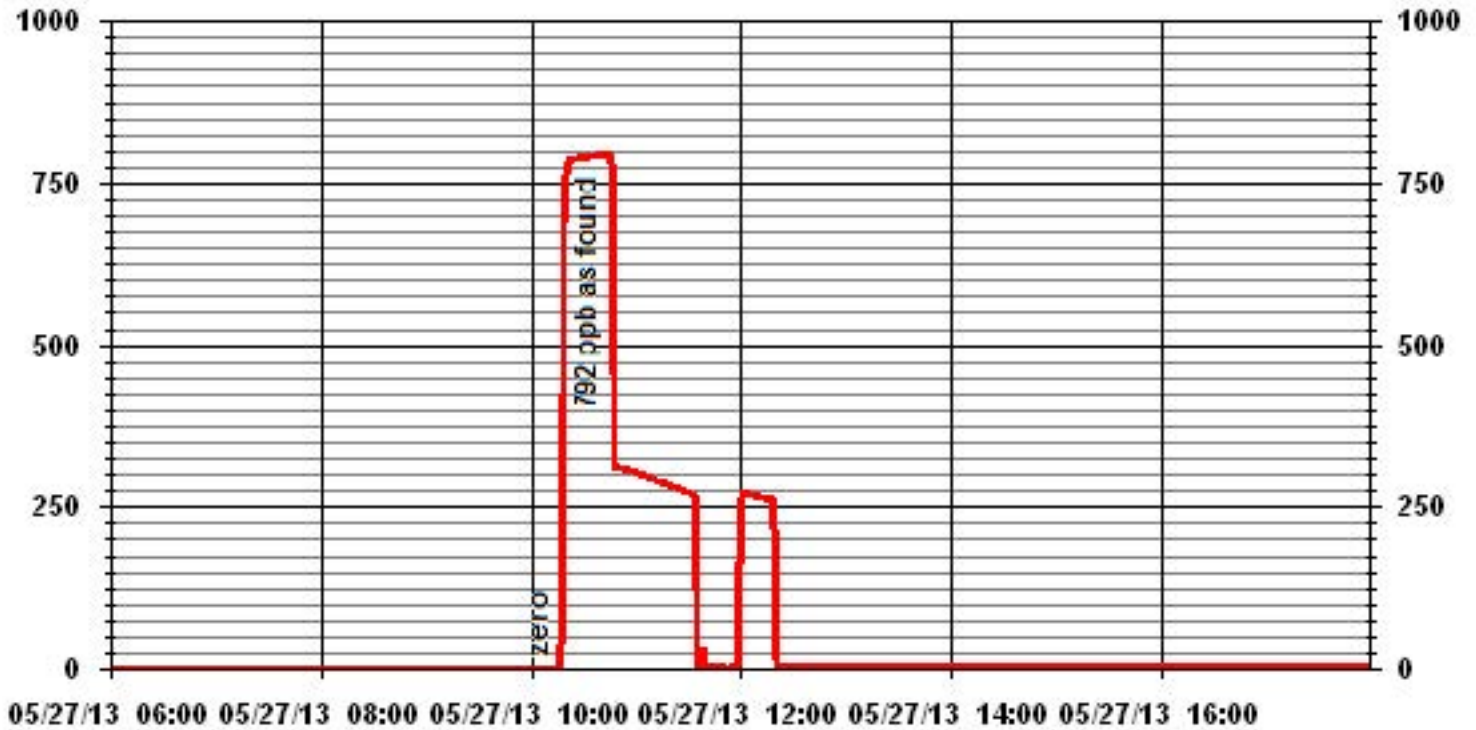
Notes:

Calibration Performed by: Waseem Ahmed

01 Minute Averages



01 Minute Averages



Hydrogen Sulphide

H2S Calibration Report

Station Information

Calibration Date	May 3, 2013		Previous Calibration	April 16, 2013	
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION				
Plant / Location	ST.LINA				
Start Time (MST)	9:50	End Time (MST)	12:20		
Reason:	Monthly Calibration				
Barometric Pressure	27.8	inHG	Station Temperature	22	Deg C
Cal Gas	10.1	ppm	Gas Cyl. #	BLM00504 Cal Gas Expiry date December 25, 2015	
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:	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 - 100	ppb	
Sample Flow / Box Temp	533 ccm 32.2 Deg C	534 ccm	30.7 Deg C
HVPS / Lamp Setting	518 2082	518	2083
PMT / RxCell Temp	8.4 Deg C 50 Deg C	8.4 Deg C	50 Deg C
Converter / IZS Temp	315.5 Deg C 45 Deg C	314.5 Deg C	45.0 Deg C
Offset / Slope	106.6 1.063	110	1.087

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	2	0.0000
5000	0	0	0	1.0000
4955	39.8	80	81	0.9936
	No span adj.			
4975	19.9	40	40	1.0000
4985	9.9	20	19	1.0536
5000	0	0	0	0.0000
Sum of Least Squares				0.9986
New Correction Factor				

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	38.0	39.56
Sample Lines Connected		YES

Percent Change

Previous Month's Calibration Correction Factor:	0.9854
Current Correction Factor Before Span Adjust:	0.9936
Percent Change:	-0.8%

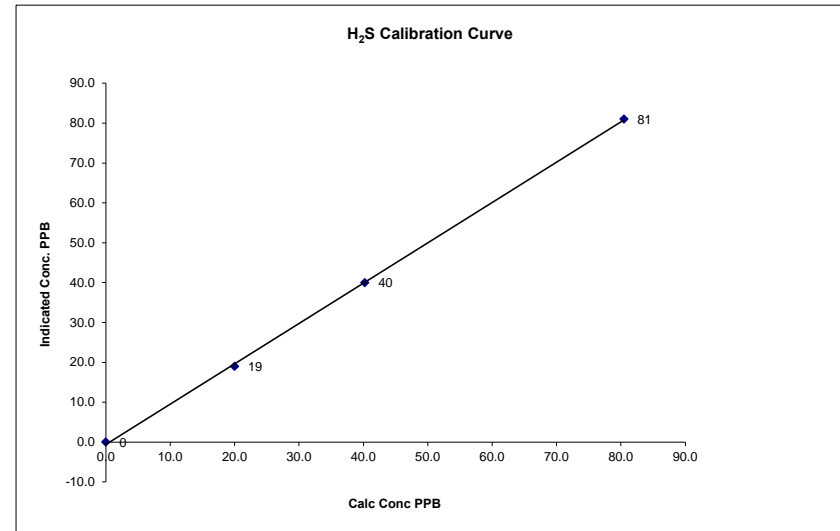
Notes:

Calibration Performed by: Waseem Ahmed

H₂S Calibration Curve

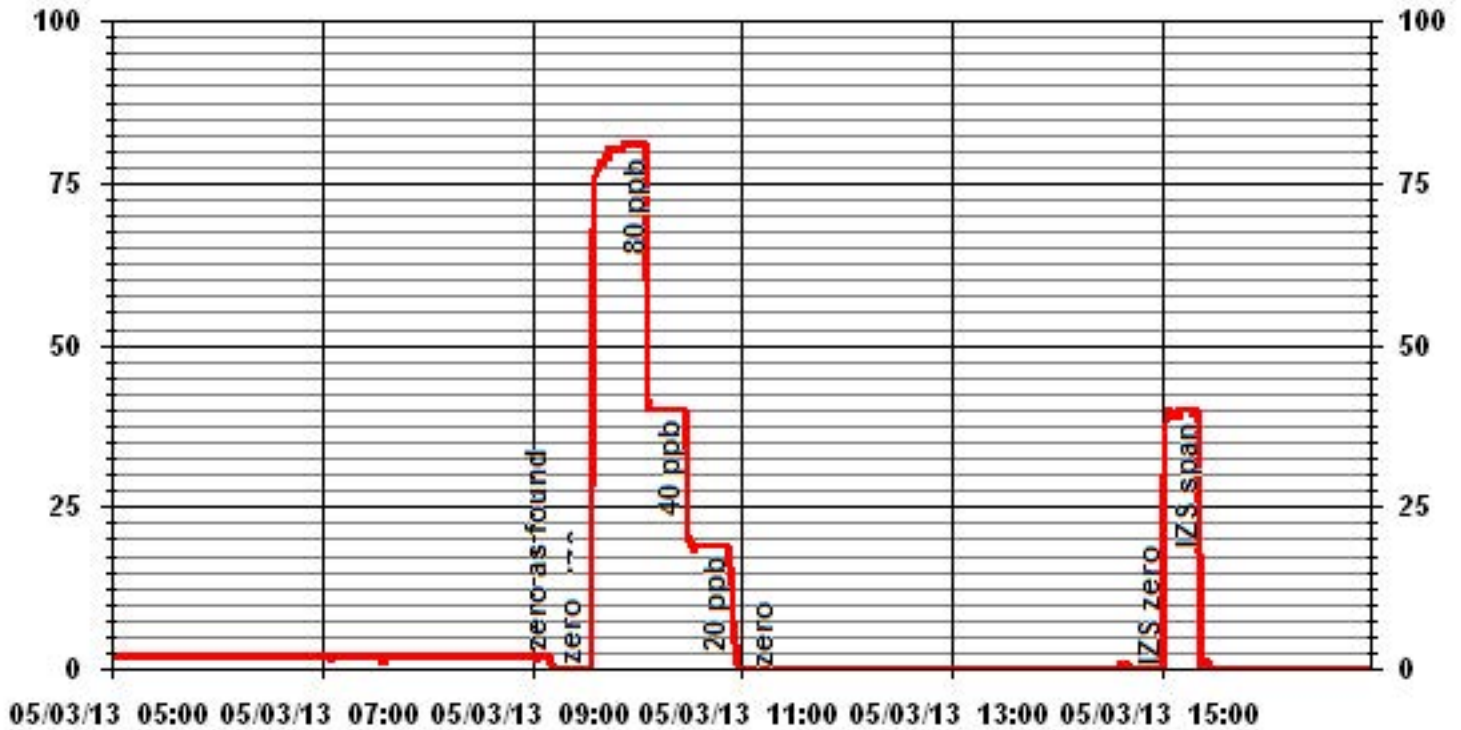
Calibration Date	May 3, 2013	
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION	
Plant / Location	ST.LINA	
Start Time (MST)	9:50	End Time (MST) 12:20

Calculated Conc.	Indicated Response	Correction Factor	Correlation Coefficient	(≥ 0.995)
ppb	ppb		Slope	1.010664
0	0		Intercept	(± 3% F.S.) -0.559481
20	19	1.0536		
40	40	1.0060		
80	81	0.9936		



Notes:

01 Minute Averages



H2S Calibration Report

Station Information

Calibration Date	May 14, 2013	Previous Calibration	May 3, 2013
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location	ST.LINA		
Start Time (MST)	14:15	End Time (MST)	17:10
Reason:	Post Repair		
Barometric Pressure	27.33	inHG	Station Temperature 23 Deg C
Cal Gas	10.1	ppm	Gas Cyl. # BLM00504 Cal Gas Expiry date December 25, 2015
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	529 ccm 33.8 Deg C	530 ccm	32.3 Deg C
HVPS / Lamp Setting	518 2080(102%)	526	2080(102%)
PMT / RxCell Temp	8.4 Deg C 50 Deg C	8.4 Deg C	50 Deg C
Converter / IZS Temp	314.9 Deg C 45 Deg C	314.4 Deg C	45.0 Deg C
Offset / Slope	110 1.087	105.5	1.081

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	0	0.0000
4960	39.8	80	80	1.0000
4980	19.9	40	40	1.0000
4988	11.9	24	24	1.0000
5000	0	0	0	0.0000
Sum of Least Squares				1.0048
New Correction Factor				

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	39.5	38.5
Sample Lines Connected		YES

Percent Change

Previous Month's Calibration Correction Factor:	0.9936
Current Correction Factor Before Span Adjust:	1.0000
Percent Change:	-0.6%

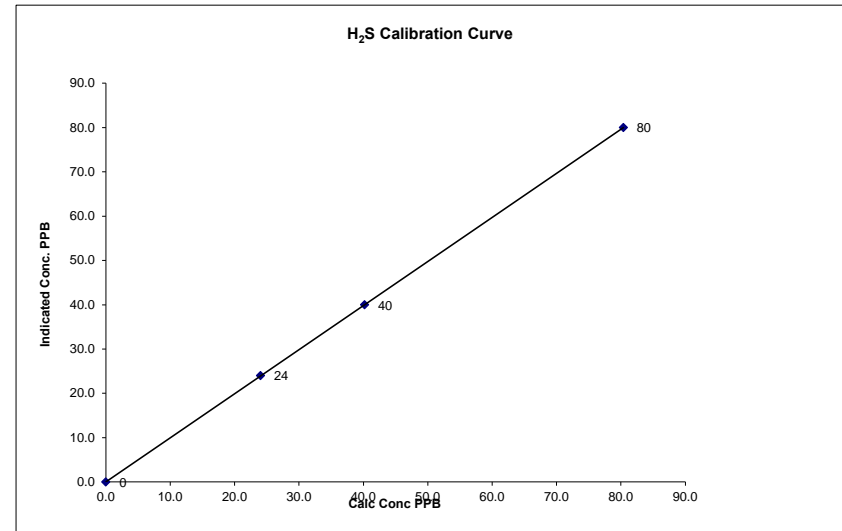
Notes: **Adjust as found point, adjust UV Lamp.**
 Adjust HVPS voltage

Calibration Performed by: Limin Li

H₂S Calibration Curve

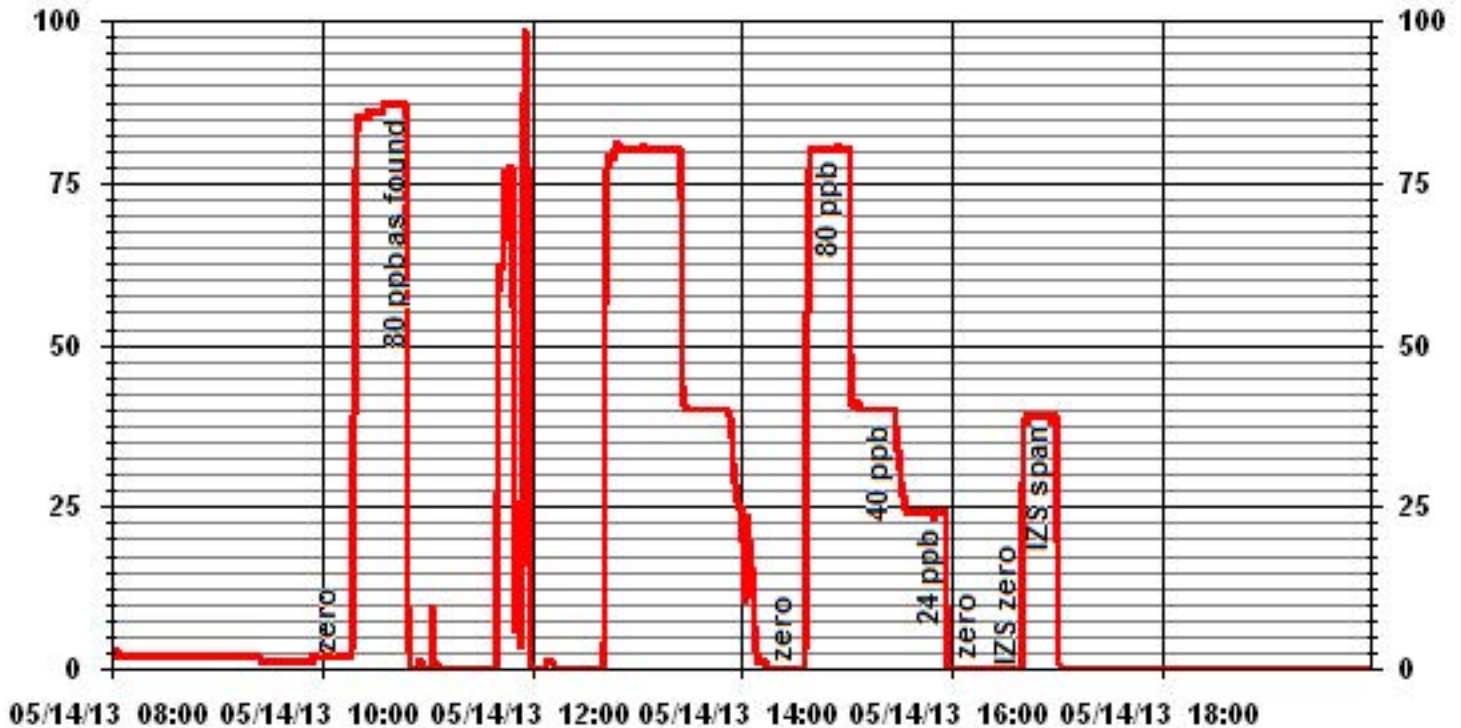
Calibration Date	May 14, 2013
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION
Plant / Location	ST.LINA
Start Time (MST)	14:15
End Time (MST)	17:10

Calculated Conc.	Indicated Response	Correction Factor	Correlation Coefficient	(≥ 0.995)
ppb	ppb		Slope	0.999999
0	0		Intercept	0.994750
			(± 3% F.S.)	0.030727
24	24	1.0016		
40	40	1.0050		
80	80	1.0050		



Notes:

01 Minute Averages



H2S Calibration Report

Station Information

Calibration Date	May 29, 2013	Previous Calibration	May 14, 2013			
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION					
Plant / Location	ST.LINA					
Start Time (MST)	11:05	End Time (MST)	12:00			
Reason:	As found					
Barometric Pressure	27.32	inHG	Station Temperature	23	Deg C	
Cal Gas	10.1	ppm	Gas Cyl. #	BLM5049	Cal Gas Expiry date	December 25, 2015
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		0 - 100		After Calibration	
Concentration Range			ppb		
Sample Flow / Box Temp	530	ccm	31.7	Deg C	530
HVPS / Lamp Setting	526		2065(101.2%)		526
PMT / RxCell Temp	8.4	Deg C	50	Deg C	8.4
Converter / IZS Temp	315.2	Deg C	45	Deg C	315
Offset / Slope	107.4		1.078		107.4

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	0	0.0000
4960	39.6	80	77	1.0389
Sum of Least Squares				
New Correction Factor				

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	35.0	39.0
Sample Lines Connected		YES

Percent Change

Previous Month's Calibration Correction Factor:	1.0000
Current Correction Factor Before Span Adjust:	1.0389
Percent Change:	-3.7%

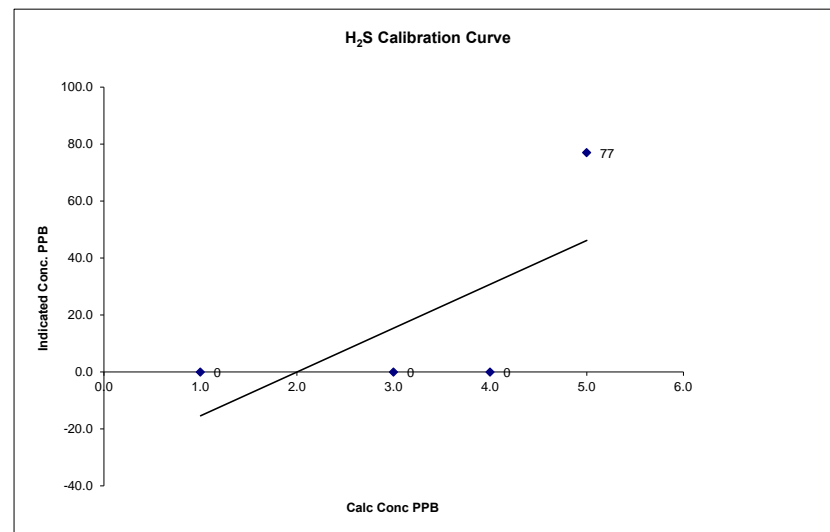
Notes:

Calibration Performed by: Limin Li

H₂S Calibration Curve

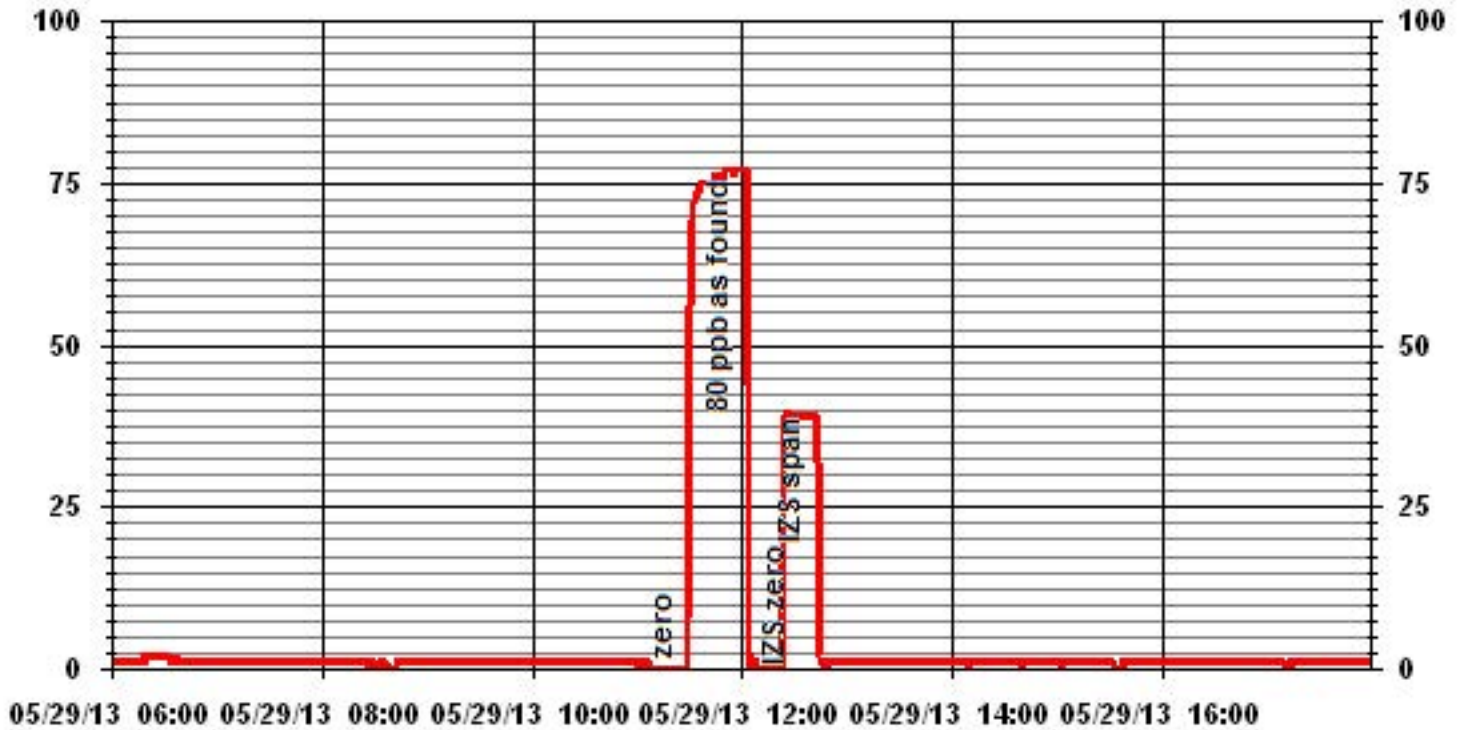
Calibration Date	May 29, 2013
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION
Plant / Location	ST.LINA
Start Time (MST)	11:05
End Time (MST)	12:00

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope Intercept	(≥ 0.995 (0.85 to 1.15) ($\pm 3\%$ F.S.))	#DIV/0!
	0				
	0	#VALUE!			#DIV/0!
80	77	1.0389			#DIV/0!



Notes:

01 Minute Averages



Total Hydrocarbons

THC Calibration Report

Station Information			
Calibration Date:	May 3, 2013	Previous Calibration	April 16, 2013
Company:	Lakeland Industry & Community Association		
Plant / Location:	ST. LINA		
Start Time (MST)	13:24	End Time (MST)	15:35
Reason:	Monthly Calibration		
Barometric Pressure:	27.81 inHG	Station Temperature:	22 Deg C
Calibrator:	API 700	S/N:	831
Cal Gas Concentration:	CH4 600 PPM	C3H8 204 PPM	
	TOTAL CH4 1161.0 PPM	Gas Cyl. # LL155310	Cal Gas Expiry Date: Sep 9,2013
DAS make & Model:	ESC 8832	S/N :	AO 717
Chart Recorder:	NA	S/N:	NA
Output Voltage Range:	0 - 10 VDC	Chart Speed:	NA mm/hr

Analyzer Information

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

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

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2000	0.0	0.0	0.0	0.0000
	No zero adj.			
1931	69.2	40.2	36.8	1.0915
1931	69.2	40.2	40.2	1.0000
1965	34.6	20.1	19.9	1.0095
1983	17.3	10.0	9.8	1.0246
2000	0.0	0.0	-0.1	0.0000
New Correction Factor:				1.0000

Percent Change

Previous Calibration Correction Factor:	1.0092
Current Correction Factor Before Span Adjust:	1.0915
Percent Change:	-7.5%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	35.08	34.21
Sample Lines Connected	YES	

Cylinder Pressures			
Span	1600 psi	Hydrogen	2050 psi
		Zero Air	34 psi

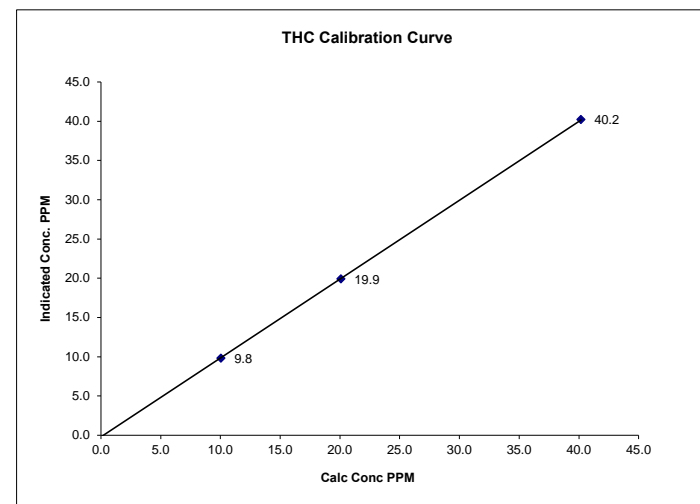
Notes:

Calibration Performed by: Waseem Ahmed

THC Calibration Curve

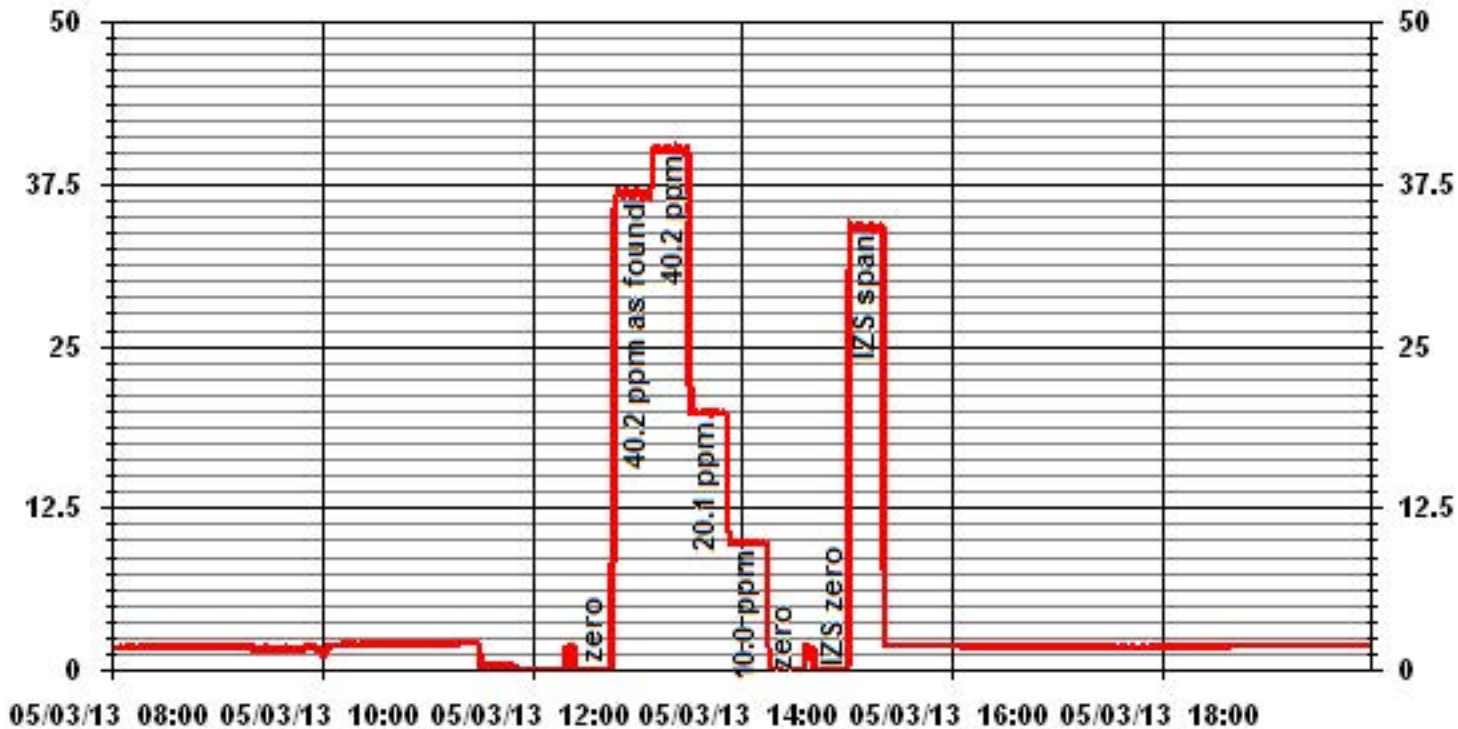
Calibration Date	May 3, 2013		
Company	Lakeland Industry & Community Association		
Plant / Location	ST. LINA		
Start Time (MST)	13:24	End Time (MST)	15:35

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient (≥ 0.995)	Slope (0.85 to 1.15)	Intercept (± 3% F.S.)
0.0	-0.1	0.0000	0.999970	1.004367	-0.20100
10.0	9.8	1.0246			
20.1	19.9	1.0095			
40.2	40.2	0.9992			



Notes:

01 Minute Averages



THC Calibration Report

Station Information			
Calibration Date:	May 3, 2013	Previous Calibration	May 3, 2013
Company:	Lakeland Industry & Community Association		
Plant / Location:	ST. LINA		
Start Time (MST)	9:30	End Time (MST)	10:50
Reason:	As found		
Barometric Pressure:	27.33 inHG	Station Temperature:	22 Deg C
Calibrator:	API 700	S/N:	829
Cal Gas Concentration:	CH4 600 PPM	C3H8 204 PPM	
	TOTAL CH4 1161.0 PPM	Gas Cyl. # LL155310	Cal Gas Expiry Date: Sep 9, 2013
DAS make & Model:	ESC 8832	S/N :	AO 717
Chart Recorder:	NA	S/N:	NA
Output Voltage Range:	0 - 10 VDC	Chart Speed:	NA mm/hr

Analyzer Information

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

	Before Calibration		After Calibration	
Concentration Range	0 - 50	ppm	0 - 50	ppm
Sample Pressure	6.3	psi	6.3	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	-0.3	0.0000
1931	69.2	40.2	38.4	1.0460
New Correction Factor:				1.0460

Percent Change

Previous Calibration Correction Factor:	1.0092
Current Correction Factor Before Span Adjust:	1.0460
Percent Change:	-3.5%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	35.08	34.21
Sample Lines Connected	no	

Cylinder Pressures			
Span	1450 psi	Hydrogen	1800 psi
		Zero Air	34 psi

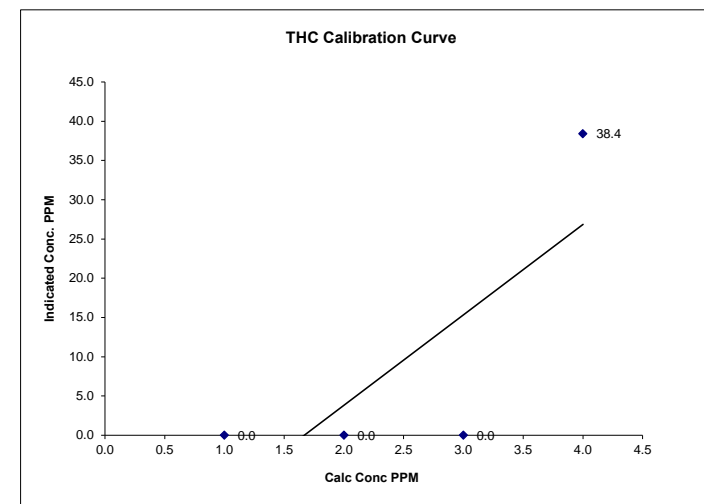
Notes:

Calibration Performed by: Limin Li

THC Calibration Curve

Calibration Date	May 3, 2013		
Company	Lakeland Industry & Community Association		
Plant / Location	ST. LINA		
Start Time (MST)	9:30	End Time (MST)	10:50

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	#DIV/0!
	0.0	0.0000			#DIV/0!
	0.0	#VALUE!			#DIV/0!
	0.0	#VALUE!			#DIV/0!
40.2	38.4	1.0460			



Notes:

THC Calibration Report

Station Information			
Calibration Date:	May 14, 2013	Previous Calibration	May 3, 2013
Company:	Lakeland Industry & Community Association		
Plant / Location:	ST. LINA		
Start Time (MST)	14:15	End Time (MST)	17:10
Reason:	Post repair		
Barometric Pressure:	27.33 inHG	Station Temperature:	22 Deg C
Calibrator:	API 700	S/N:	829
Cal Gas Concentration:	CH4 600 PPM	C3H8 204 PPM	
	TOTAL CH4 1161.0 PPM	Gas Cyl. # LL155310	Cal Gas Expiry Date: Sep 9,2013
DAS make & Model:	ESC 8832	S/N :	AO 717
Chart Recorder:	NA	S/N:	NA
Output Voltage Range:	0 - 10 VDC	Chart Speed:	NA mm/hr

Analyzer Information

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

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

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2000	0.0	0.0	0.0	0.0000
1931	69.2	40.2	40.2	1.0000
1965	34.6	20.1	20.0	1.0045
1983	17.3	10.0	9.9	1.0143
2000	0.0	0.0	0.0	0.0000
New Correction Factor:				1.0000

Percent Change

Previous Calibration Correction Factor:	1.0092
Current Correction Factor Before Span Adjust:	1.0000
Percent Change:	0.9%

IZS Calibration Data

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

Cylinder Pressures			
Span	1450 psi	Hydrogen 1800 psi	Zero Air 34 psi

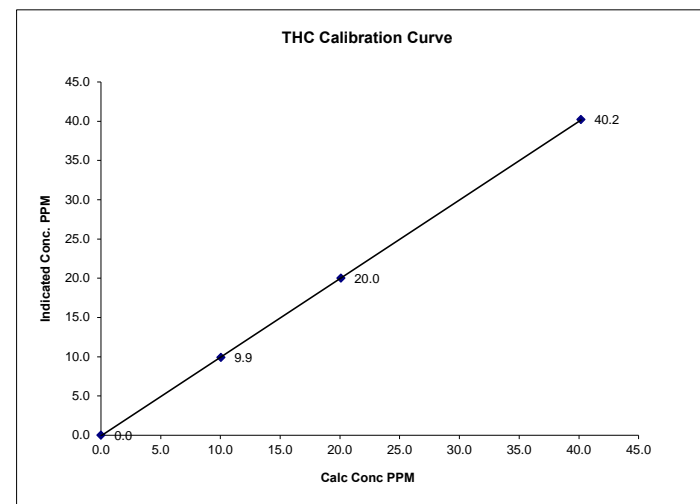
Notes:	After as found point, rebuilt pump.
	Spare 2 of H2 2 of Span

Calibration Performed by: Limin Li

THC Calibration Curve

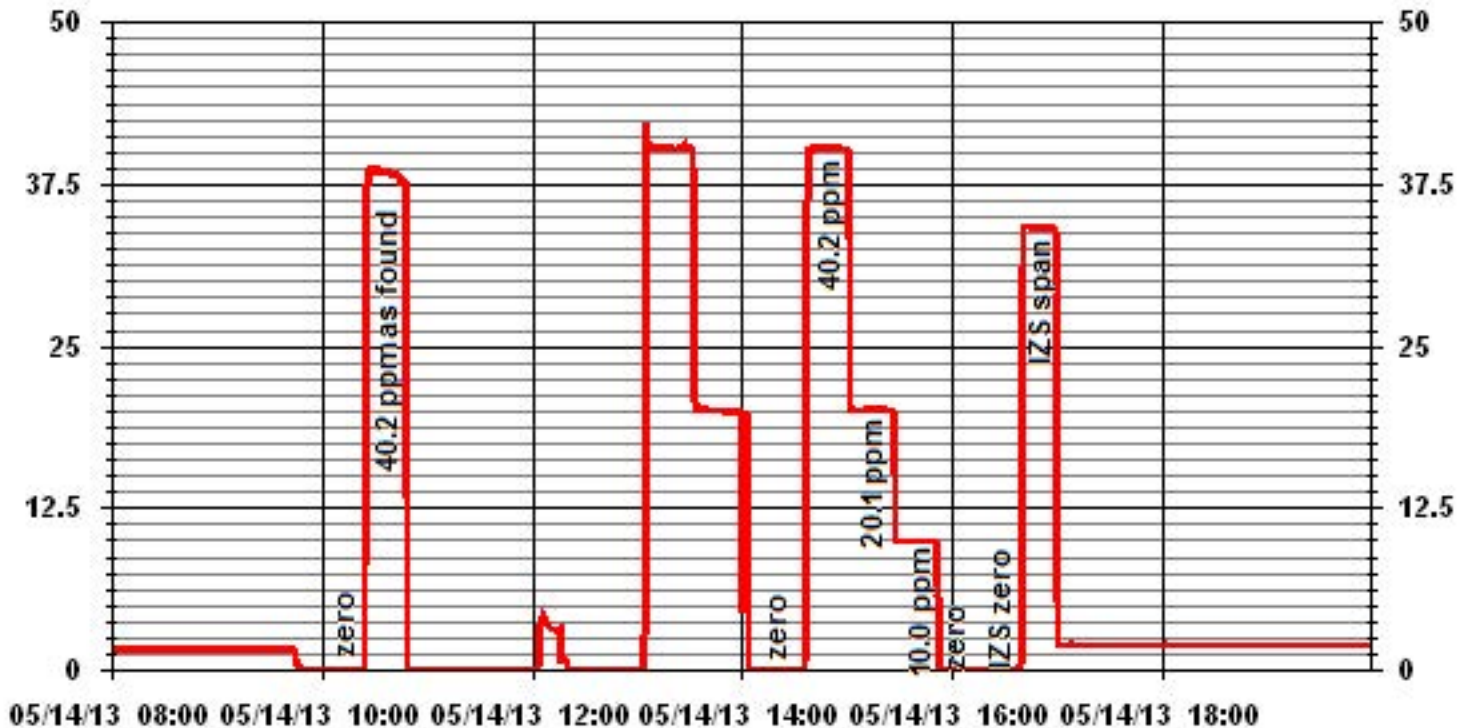
Calibration Date	May 14, 2013
Company	Lakeland Industry & Community Association
Plant / Location	ST. LINA
Start Time (MST)	14:15
End Time (MST)	17:10

Calculated Conc.	Indicated Response	Correction Factor	Correlation Coefficient	Slope	Intercept
ppm	ppm		(≥ 0.995)		
0.0	0.0	0.0000	0.999981	1.001806	-0.08100
10.0	9.9	1.0143			
20.1	20.0	1.0045			
40.2	40.2	0.9992			



Notes:

01 Minute Averages



Nitrogen Dioxide

NOx - NO- NO2 Calibration Report
Station Information

Calibration Date	May 3, 2013	Previous Calibration	April 16, 2013
Company	LICA	Plant/Location	St. Lina
Start Time (MST)	9:50	End Time (MST)	13:17
Reason:	Monthly calibration		
Barometric Pressure	27.8 atm	Station Temperature	22 Deg C
Cal Gas Concentration	NOx 49.3 ppm	NO	49.2 ppm
Cal Gas Cylinder #	BAL3031	Cal Gas Expiry date	29/12/2016
DAS Output Voltage	0-1 Volts	Chart Rec. Output	N/A Volts

Equipment Information

Analyzer Make / Model:	API 200E	S/N :	592	Method:	Chemiluminescent
Calibrator Make / Model:	API 700	S/N:	831		
DAS Make / Model:	ESC 8832	S/N :	AO717		
Chart Recorder Make / Model:	N/A	S/N:	N/A		
Flow Meter:	API 700	S/N :	831		

Analyzer Settings

Before Calibration				After Calibration			
Concentration Range	0-1000			ppb			
Sample Flow/Conv. Temp	481 ccm	314 Deg C		482 ccm	315 Deg C		
Ozone Flow / Vacuum	74 ccm	6.3 *Hg-A		74 ccm	6.3 *Hg-A		
HVPS / A ZERO	638 Volts	18.1 MV		638 Volts	17.6 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	28.1 Deg C	45.3 Deg C		26.4 Deg C	45.2 Deg C		
Offset	1.3 NOx	-0.2 NO		1.3 NOx	-0.2 NO		
Slope	1.206 NOx	1.196 NO		1.225 NOx	1.215 NO		
NO2 COEF / Conv Efficiency	N/A NO2	0.993		N/A NO2	0.993		

Dilution Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			Correction Factor	
			NOx	NO	NO2	NOx	NO	NO2	NOx	NO
5000	0.0	0	0	0	0	0	0	0	0	0
	No zero adj									
4920	80.0	0	789	787	0	777	776	3	1.0152	1.0144
4920	80.0	0	789	787	0	789	788	2	1.0000	0.9990
4960	40.0	0	394	394	0	397	396	2	0.9935	0.9939
4980	20.0	0	197	197	0	200	200	1	0.9860	0.9840
5000	0.0	0	0	0	0	0	1	0	0.0000	0.0000

Gas Phase Titration Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			NO2 Correction Factor	NO2 Conv Efficiency
			NOx	NO	NO2	NOx	NO	NO2		
4920	80.0	0	789	787	0	790	788	3	0	0.00%

Linearity OK?	Yes	No	Sum of Least Squares Correction Factors:	NOx= 0.998	NO= 0.997	NO2=
				NOx= 1.0000	NO= 0.9990	NO2=
				Average Converter Efficiency=		

IZS Calibration Data

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

Percent Change

	NOx	NO	NO2
Previous Month's Calibration Correction Factor	0.998	0.999	1.002
Current Correction Factor Before Span Adjust	1.015	1.014	
Percent Change	-1.7%	-1.5%	

Notes

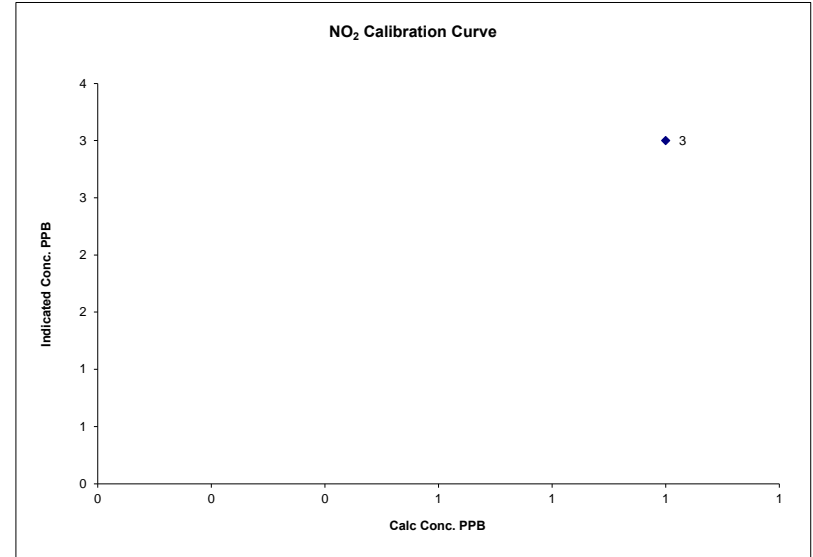
API calibrator: Ozone generator was not working. Calibration aborted.

Calibration Performed by: Waseem Ahmed

NO2 Calibration Curve

Calibration Date	May 3, 2013
Company	LICA
Plant / Location	St. Lina
Start Time (MST)	9:50
End Time (MST)	13:17

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)
2	3	0.0000	Slope (0.85 to 1.15)
			Intercept (± 3% F.S.)

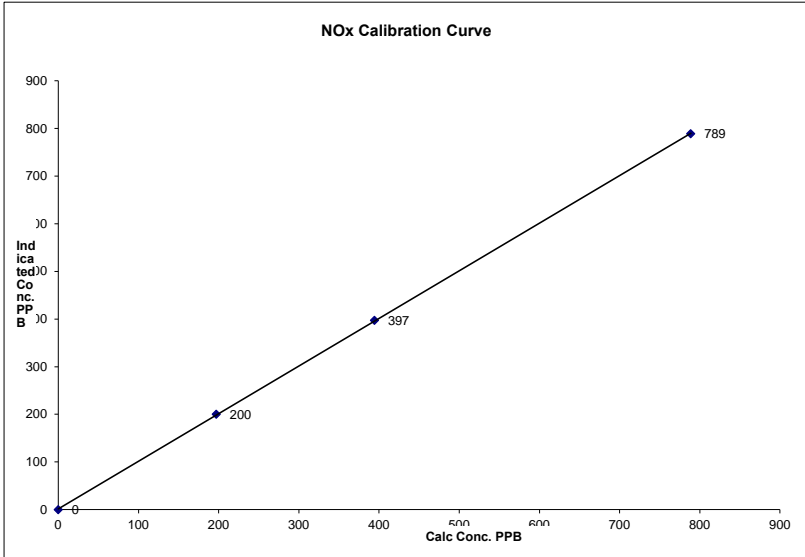


Notes:

NOx Calibration Curve

Calibration Date	May 3, 2013	
Company	LICA	
Plant / Location	St. Lina	
Start Time (MST)	9:50	End Time (MST) 13:17

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999980
0	0	0.0000	Slope (0.85 to 1.15)	0.999420
197	200	0.9860	Intercept (± 3% F.S.)	1.60000
394	397	0.9935		
789	789	1.0000		

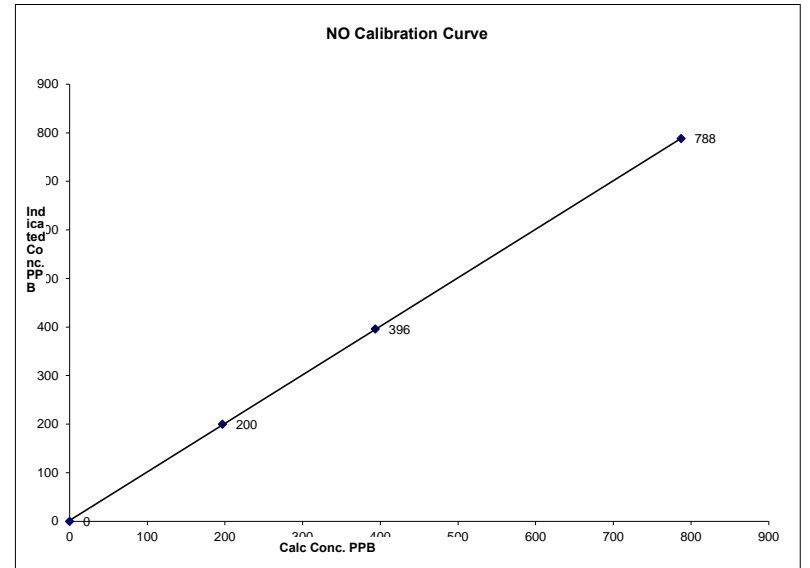


Notes:

NO Calibration Curve

Calibration Date	May 3, 2013	
Company	LICA	
Plant / Location	St. Lina	
Start Time (MST)	9:50	End Time (MST) 13:17

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999981
0	0	0.0000	Slope (0.85 to 1.15)	1.000000
197	200	0.9840	Intercept (± 3% F.S.)	1.60000
394	396	0.9939		
787	788	0.9990		



Notes:

NOx - NO- NO2 Calibration Report
Station Information

Calibration Date	May 3, 2013	Previous Calibration	April 16, 2013
Company	LICA	Plant/Location	St. Lina
Start Time (MST)	13:24	End Time (MST)	15:37
Reason:	NOX GPT (Monthly cal)		
Barometric Pressure	27.8 atm	Station Temperature	22 Deg C
Cal Gas Concentration	NOx 49.3 ppm	NO	49.2 ppm
Cal Gas Cylinder #	BAL3031	Cal Gas Expiry date	29/12/2016
DAS Output Voltage	0-1 Volts	Chart Rec. Output	N/A Volts

Equipment Information

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

Analyzer Settings

Before Calibration				After Calibration			
Concentration Range	0-1000			ppb			
Sample Flow/Conv. Temp	482 ccm	315 Deg C		470 ccm	314 Deg C		
Ozone Flow / Vacuum	74 ccm	6.3 *Hg-A		74 ccm	6.3 *Hg-A		
HVPS / A ZERO	638 Volts	17.6 MV		638 Volts	17.5 MV		
Rx/ Temp / PMT Temp	50.0 Deg C	6.8 Deg C		50.0 Deg C	6.8 Deg C		
Box Temp / IZS Temp	26.4 Deg C	45.2 Deg C		28.2 Deg C	45.1 Deg C		
Offset	1.3 NOx	-0.2 NO		1.3 NOx	-0.2 NO		
Slope	1.225 NOx	1.215 NO		1.225 NOx	1.215 NO		
NO2 COEF / Conv Efficiency	N/A NO2	0.993		N/A NO2	0.993		

Dilution Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			Correction Factor	
			NOx	NO	NO2	NOx	NO	NO2	NOx	NO
4995	0.0	0	0	0	0	0	1	1	0	0

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	797	792	6	0	0.00%
	No span adj.									
4915	79.8	600	788	0.0	551	796	247	551	1.0018	100.00%
4915	79.8	300	788	0.0	279	797	519	279	1.0036	100.00%
4915	79.8	120	788	0.0	114	797	684	114	1.0088	100.00%

Linearity OK?	Yes	No	Sum of Least Squares Correction Factors:	NOx=	NO=	NO2=
				NOx=	NO=	NO2= 1.0018
				Average Converter Efficiency=		

IZS Calibration Data

Before Calibration				After Calibration			
Auto Zero	0.0 NOx	0.0 NO2		0.0 NOx	0.0 NO2		
Auto Span	534.4 NOx	525.4 NO2		538.2 NOx	528.7 NO2		
	Sample Lines Connected:			YES			

Percent Change

	NOx	NO	NO2
Previous Month's Calibration Correction Factor	0.998	0.999	1.002
Current Correction Factor Before Span Adjust			
Percent Change			

Notes

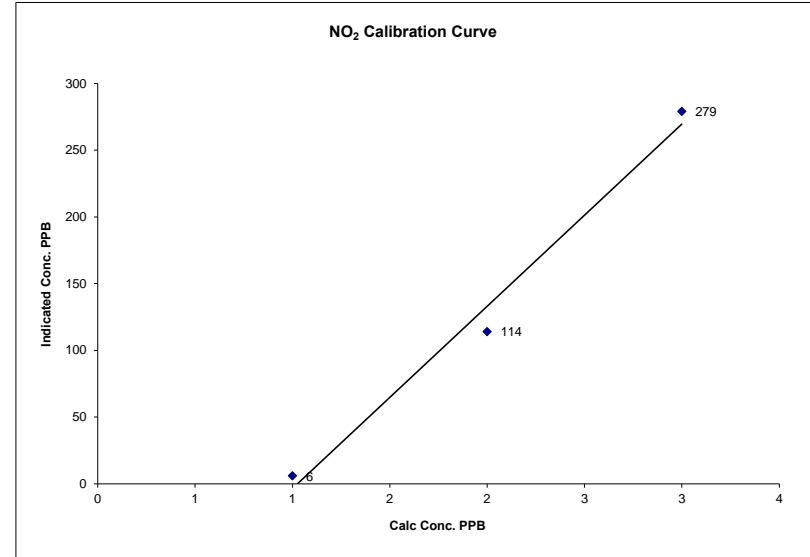
Additional GPT point at O3=450
 Diultion =4915, Source 79.8, O3=450, Nox= 799, NO=386, NO2=413

Calibration Performed by: Waseem Ahmed

NO2 Calibration Curve

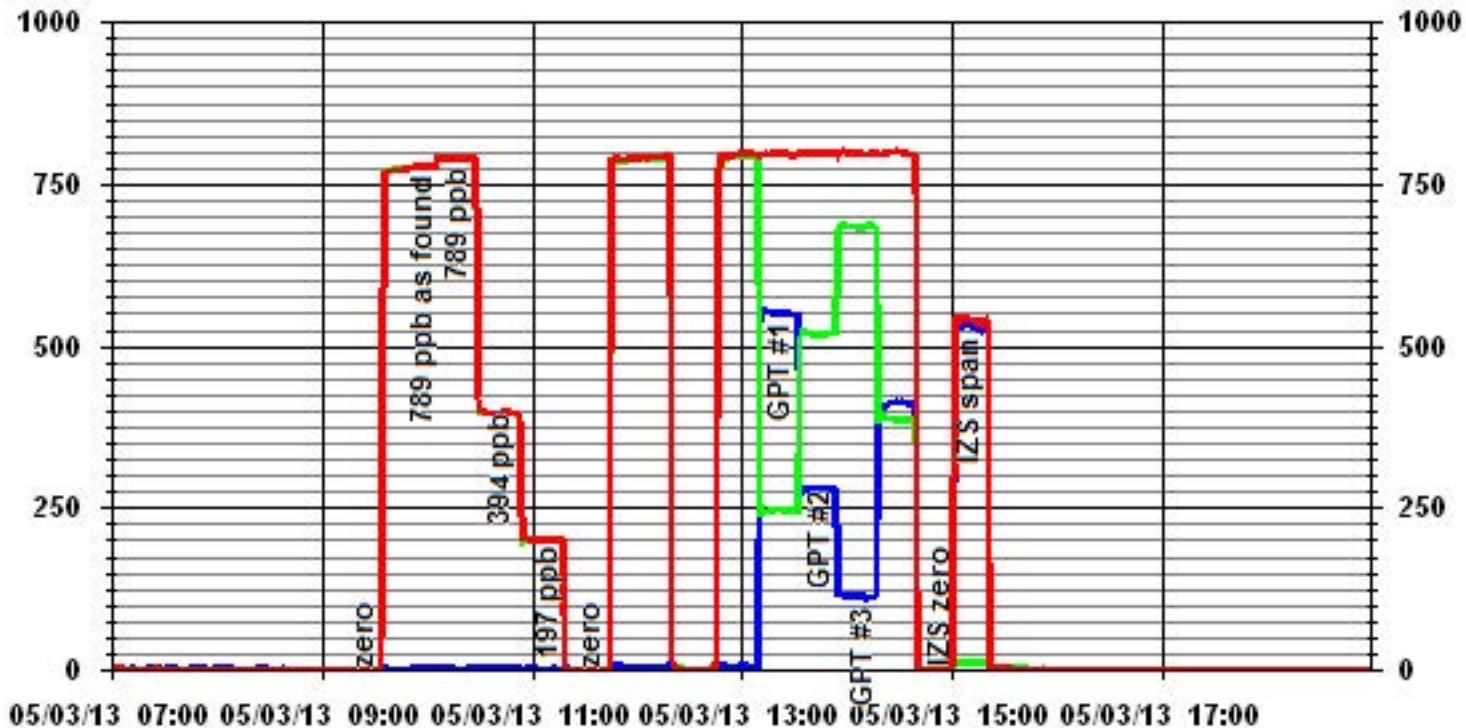
Calibration Date	May 3, 2013
Company	LICA
Plant / Location	St. Lina
Start Time (MST)	13:24
End Time (MST)	15:37

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope Intercept	(≥ 0.995) (0.85 to 1.15) (± 3% F.S.)
108	114	0.9474		
273	279	0.9785		



Notes:

01 Minute Averages



— LICA31 IIOX_ PPB

— LICA31 IIO_ PPB

— LICA31 IIO2_ PPB

Ozone

O₃ Calibration Report

Station Information

Calibration Date	May 7, 2013	Previous Calibration	April 17, 2013
Company	Lakeland Industry & Community Association		
Plant / Location	St. Lina		
Start Time (MST)	16:06	End Time (MST)	18:30
Reason:	Monthly Calibration		
Barometric Pressure	27.81 atm	Station Temperature	23 Deg C
DAS Output Voltage	0-10 Volts		

Equipment Information

Analyzer Make / Model:	Thermo 49C	S/N :	49C-54926-302	Method:	Photometric
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	844 LPM	875 LPM		844 LPM	875 LPM		
O ₃ Set Level	711 mmHg			711 mmHg			
Bench Lamp	56.7 Deg C			56.8 Deg C			
O ₃ Lamp / Box Temp	80 Deg	31.4 Deg C		80 Deg C	33.5 Deg C		
Offset / Slope	0.1	1.072		0.1	1.018		

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	427	0.9508
4994	450	406	403	1.0074
4994	300	273	267	1.0225
4994	120	108	107	1.0093
4994	0	0	0	N/A
Sum of Least Squares				1.0119
New Correction Factor				1.0074

IZS Calibration Data

Before Calibration		After Calibration	
Auto Zero	0.0	Auto Zero	0.0
Auto Span	355.1	Auto Span	339.8
Sample Lines Connected		Sample Lines Connected	Yes
Previous Calibration Correction Factor:		Previous Calibration Correction Factor:	0.9902
Current Correctio Factor Before Span Adjust:		Current Correctio Factor Before Span Adjust:	0.9508
Percent Change:		Percent Change:	4.1%

Note:

N/A : Not Applicable

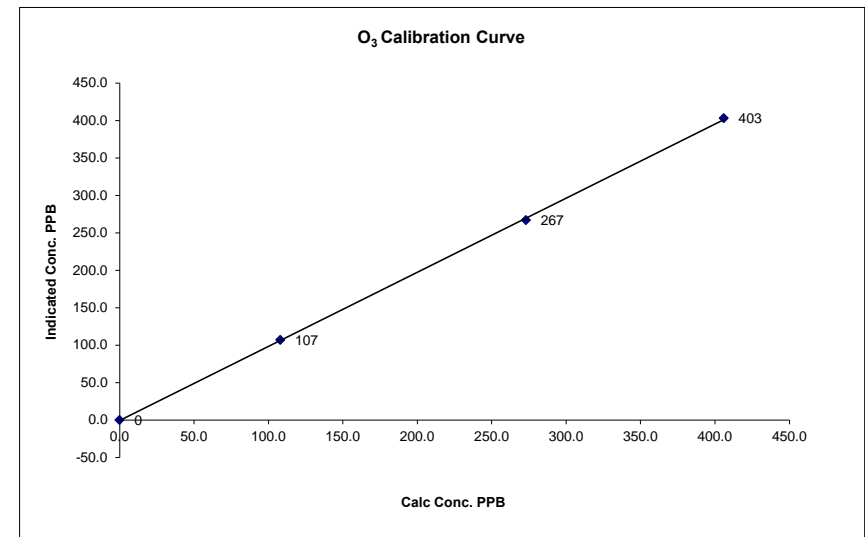
Additional GPT point at O₃=450 for Ozone calibration
 Dilution = 4915 Source = 79.8 O₃=450 Nox=799 NO=386 NO₂=413
 Change sample filter

Calibration Performed by: Waseem Ahmed

O₃ Calibration Curve

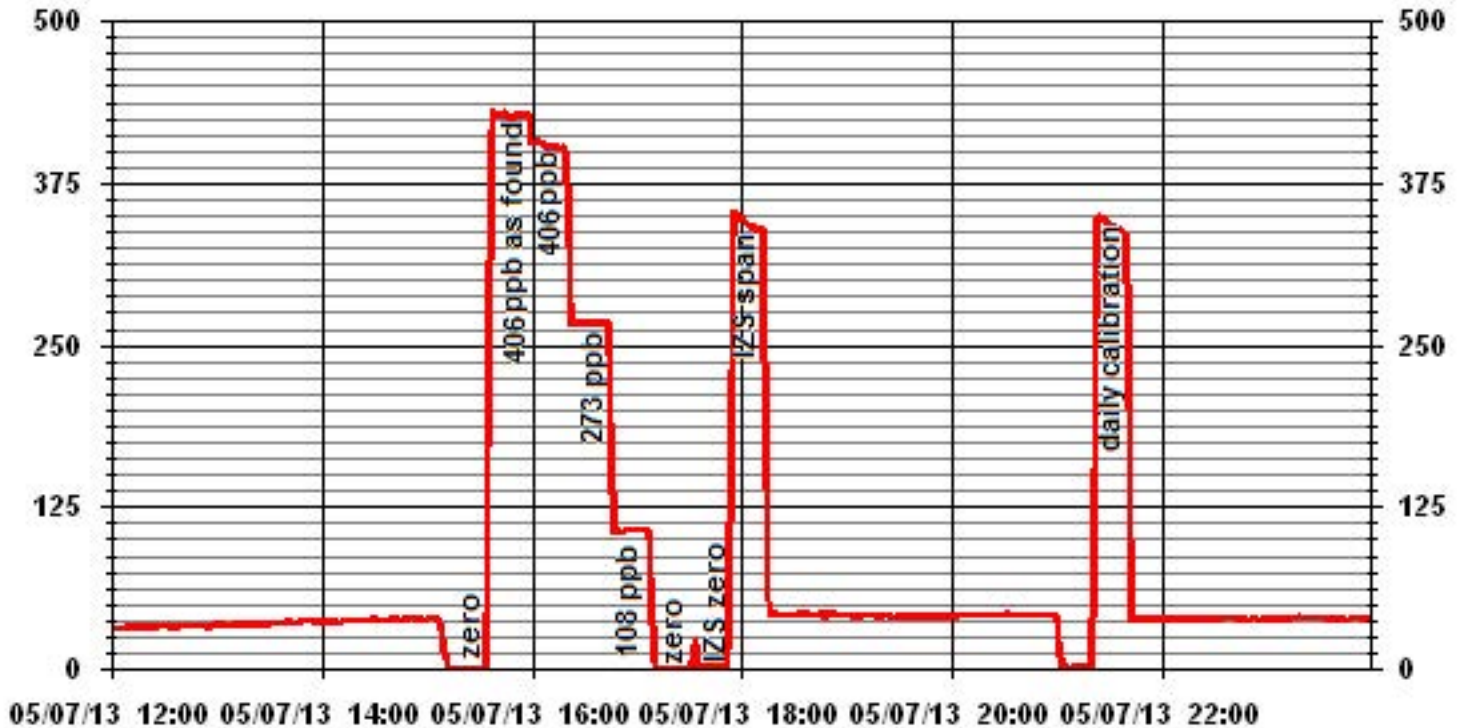
Calibration Date	May 7, 2013
Company	Lakeland Industry & Community Association
Plant / Location	St. Lina
Start Time (MST)	16:06
End Time (MST)	18:30

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999887
0	0	N/A	Slope (0.85 to 1.15)	0.989640
108	107	1.0093	Intercept (± 3% F.S.)	-0.461659
273	267	1.0225		
406	403	1.0074		



Notes:

01 Minute Averages



O₃ Calibration Report

Station Information

Calibration Date	May 14, 2013	Previous Calibration	May 7, 2013
Company	Lakeland Industry & Community Association		
Plant / Location	St. Lina		
Start Time (MST)	9:30	End Time (MST)	12:30
Reason:	Removal Calibration		
Barometric Pressure	27.33 atm	Station Temperature	23 Deg C
DAS Output Voltage	0-10 Volts		

Equipment Information

Analyzer Make / Model:	Thermo 49C	S/N :	49C-54926-302	Method:	Photometric
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	833 LPM	865 LPM	833 LPM	865 LPM	833 LPM	865 LPM	833 LPM	865 LPM
O ₃ Set Level	698 mmHg		698 mmHg		698 mmHg		698 mmHg	
Bench Lamp	56.8 Deg C		56.8 Deg C		56.8 Deg C		56.8 Deg C	
O ₃ Lamp / Box Temp	80 Deg	34.5 Deg C	80 Deg	33.5 Deg C	80 Deg	33.5 Deg C	80 Deg	33.5 Deg C
Offset / Slope	0.1	1.018	0.1	1.018	0.1	1.018	0.1	1.018

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	393	1.0331
4994	300	273	264	1.0341
4994	120	108	107	1.0093
4994	0	0	0	N/A
Sum of Least Squares				1.0323
New Correction Factor				1.0331

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	355.1	339.8
Sample Lines Connected		Yes
Previous Calibration Correction Factor:		0.9902
Current Correctio Factor Before Span Adjust:		1.0331
Percent Change:		-4.2%

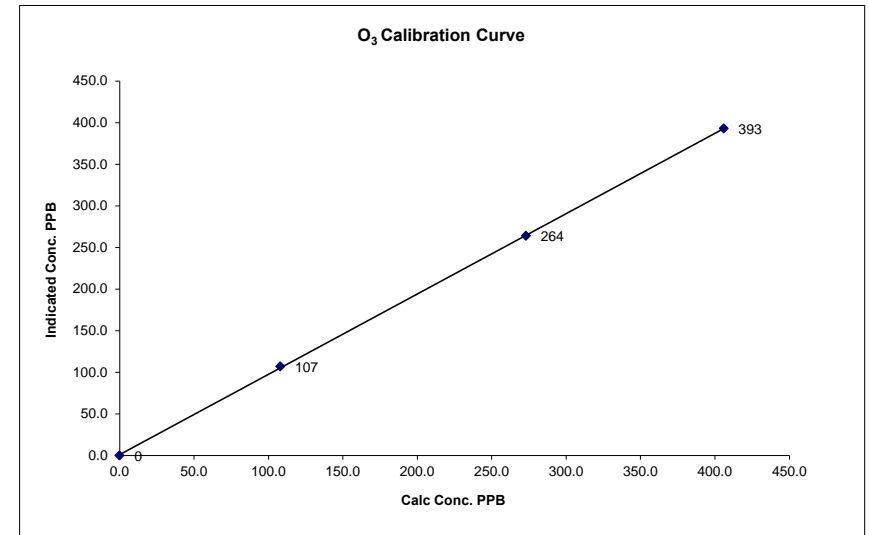
Note: N/A : Not Applicable

Calibration Performed by: Limin Li

O₃ Calibration Curve

Calibration Date	May 14, 2013
Company	Lakeland Industry & Community Association
Plant / Location	St. Lina
Start Time (MST)	9:30
End Time (MST)	12:30

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	
0	0	N/A	Slope (0.85 to 1.15)	0.999952
108	107	1.0093	Intercept (± 3% F.S.)	0.965507
273	264	1.0341		1.036458
406	393	1.0331		



Notes:

O₃ Calibration Report

Station Information

Calibration Date	May 14, 2013	Previous Calibration	May 7, 2013
Company	Lakeland Industry & Community Association		
Plant / Location	St. Lina		
Start Time (MST)	14:15	End Time (MST)	17:10
Reason:	Installation Calibration		
Barometric Pressure	27.33 atm	Station Temperature	23 Deg C
DAS Output Voltage	0-10 Volts		

Equipment Information

Analyzer Make / Model:	Thermo 49i	S/N :	1002240371	Method:	Photometric
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	730 LPM	723 LPM		730 LPM	723 LPM		
O ₃ Set Level	671 mmHg			671 mmHg			
Bench Lamp	53.6 Deg C			53.6 Deg C			
O ₃ Lamp / Box Temp	67.7 Deg	26.5 Deg C		67.7 Deg C	26.5 Deg C		
Offset / Slope	-1	1.027		-1	0.982		

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	406	1.0000
4994	300	273	271	1.0074
4994	120	108	108	1.0000
4994	0	0	0	N/A
Sum of Least Squares				1.0022
New Correction Factor				1.0000

IZS Calibration Data

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

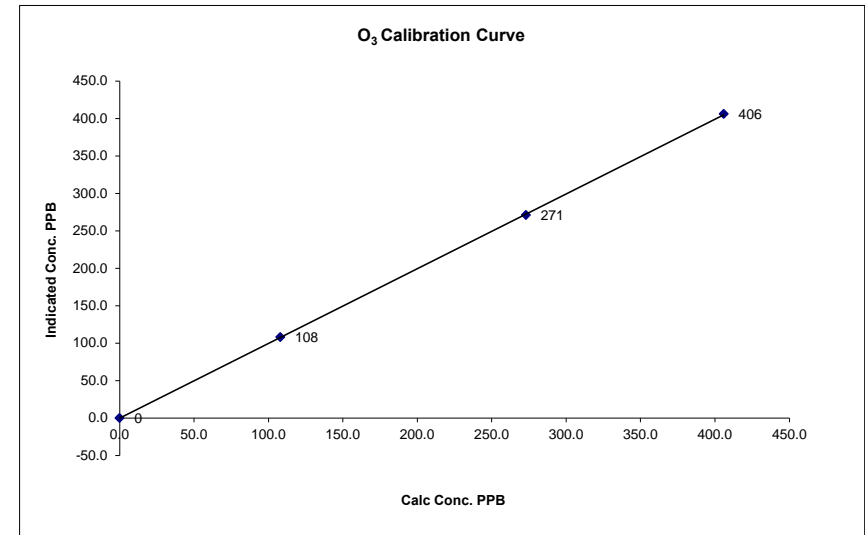
Note: N/A : Not Applicable

Calibration Performed by: Limin Li

O₃ Calibration Curve

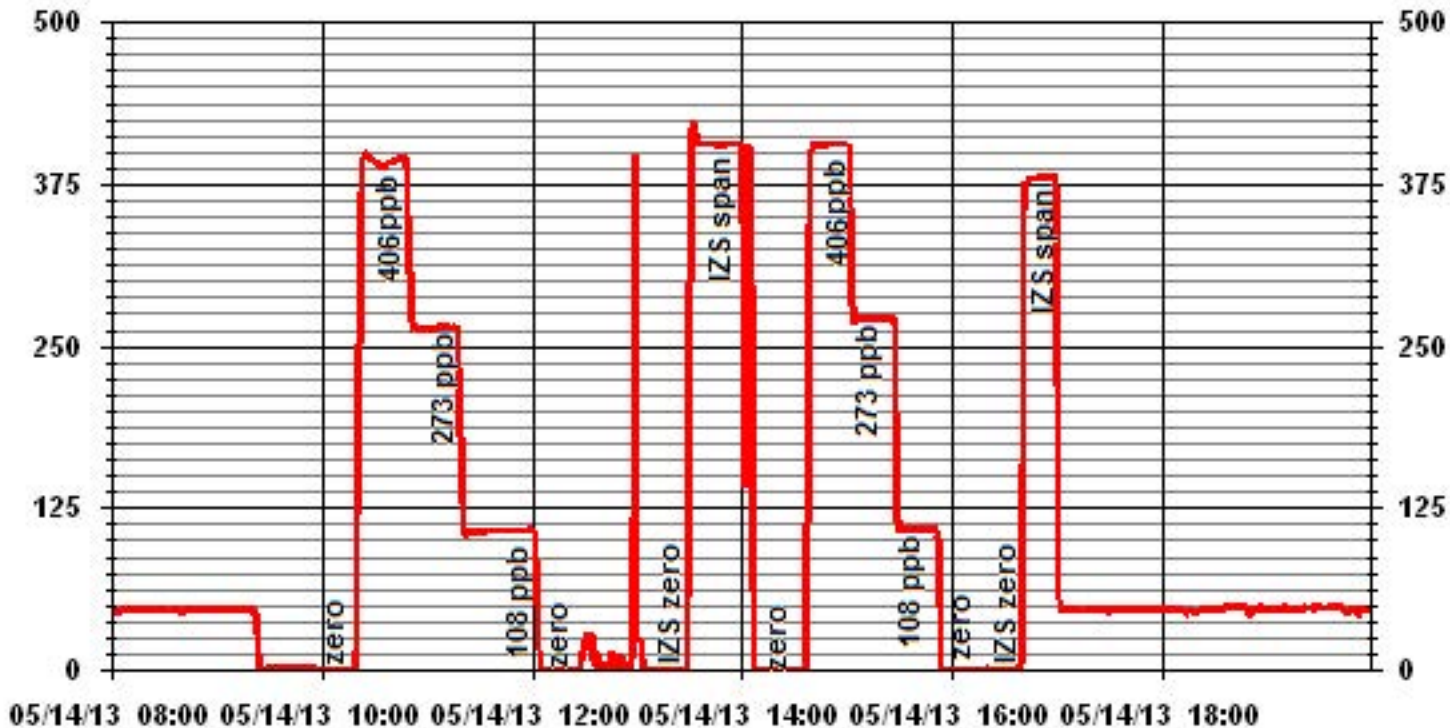
Calibration Date	May 14, 2013		
Company	Lakeland Industry & Community Association		
Plant / Location	St. Lina		
Start Time (MST)	14:15	End Time (MST)	17:10

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	
0	0	N/A	Slope	0.999971
108	108	1.0000	Intercept	0.998415
273	271	1.0074		(± 3% F.S.) -0.188061
406	406	1.0000		



Notes:

01 Minute Averages



Particulate Matter 2.5

TEOMÒ 1405F Audit

Station		Audit Transfer Standard	
Date:	<u>May 2, 2013</u>	Make/Model:	<u>Streamline FTS</u>
Station Name:	<u>Lica St. Lina (CASA # 31)</u>	Serial Number:	<u>Hi 091001,Lo 091099</u>
Location:	<u>St. Lina Station</u>	Cell s/n:	<u>na</u>
Operator:	<u>LICA</u>	Thermometer s/	<u>Trailer weather station</u>
Sampler		Set-up and current Sampler readings	
Make/Model	<u>Thermo Scientific Series 1405F</u>	F-Main Set Pt (l/min)	<u>3.00</u>
Unit #	<u>NA</u>	F-Aux Set Pt (l/min)	<u>13.67</u>
Unit s/n	<u>1405A207691003</u>	Filter Load (%)	<u>21.7%</u>
Firmware Ver.	<u>1.55</u>	K _o Factor	<u>15634.0</u>
Parameter	<u>PM 2.5 (with FDMS)</u>	Temp (°C)	<u>13.88</u>
		Press (ATM)	<u>0.928</u>

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	<u>0.003</u>	Warnings	<u>None</u>
Pump Vacuum <0.4atm	<u>0.29</u>	Pump Gauge (inHg)	<u>-19</u>
Temperature/Pressure		D °C	
Measured Temp (± 2 °C)	<u>14.33</u>		<u>-0.4</u>
Measured Press (± 0.01atm)	<u>0.930</u>	DATM	<u>-0.002</u>
Flow Audit			
Indicated Main Flow (l/min)	<u>3.01</u>	Main Flow Drift (±10.0%)	<u>0.38%</u>
Measured Main Flow (l/min)	<u>3.01</u>	Flow Adjusted to Measured?	<u>YES</u>
Indicated Bypass Flow (l/min)	<u>13.65</u>	Bypass Flow Drift (±10.0%)	<u>1.95%</u>
Measured Bypass Flow (l/min)	<u>13.67</u>	Flow Adjusted to Measured?	<u>YES</u>
Leak Check		Instrument Setup	
Main (< 0.15 l/min)	<u>Base=0.00 Ref=0.00</u>	<u>Flow Control = Active</u>	
Aux (< 0.6 l/min)	<u>Base=-0.00 Ref=0.00</u>	<u>Report Conditions = Actual</u>	
K_o Factor			
Measured	<u>NA</u>		
K _o Difference (± 2.5%)	<u>NA</u>		

Start Time: 11:30 **Finish Time:** 12:40
Sample Inlet Cleaned: Yes **New Filters Installed:** Yes
New Filter Loading %: 17.3%

Comments: 02 filters change

Auditor/s: Waseem Ahmed

TEOMÒ 1405F Audit

Station		Audit Transfer Standard	
Date:	<u>May 14, 2013</u>	Make/Model:	<u>Streamline FTS</u>
Station Name:	<u>Lica St. Lina (CASA # 31)</u>	Serial Number:	<u>Hi 091001, Lo 091099</u>
Location:	<u>St. Lina Station</u>	Cell s/n:	<u>na</u>
Operator:	<u>LICA</u>	Thermometer s/	<u>Trailer weather station</u>
Sampler		Set-up and current Sampler readings	
Make/Model	<u>Thermo Scientific Series 1405F</u>	F-Main Set Pt (l/min)	<u>3.00</u>
Unit #	<u>NA</u>	F-Aux Set Pt (l/min)	<u>13.67</u>
Unit s/n	<u>1405A207691003</u>	Filter Load (%)	<u>25.5%</u>
Firmware Ver.	<u>1.55</u>	K _o Factor	<u>15634.0</u>
Parameter	<u>PM 2.5 (with FDMS)</u>	Temp (°C)	<u>17.8</u>
		Press (ATM)	<u>0.914</u>

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	<u>0.004</u>	Warnings	<u>None</u>
Pump Vacuum <0.4atm	<u>0.27</u>	Pump Gauge (inHg)	<u>-19</u>
Temperature/Pressure		D °C	
Measured Temp (± 2 °C)	<u>18.39</u>		<u>-0.6</u>
Measured Press (± 0.01atm)	<u>0.916</u>	DATM	<u>-0.002</u>
Flow Audit		Main Flow Drift (±10.0%)	
Indicated Main Flow (l/min)	<u>3.00</u>		<u>0.09%</u>
Measured Main Flow (l/min)	<u>3.00</u>	Flow Adjusted to Measured?	<u>YES</u>
Indicated Bypass Flow (l/min)	<u>13.67</u>	Bypass Flow Drift (±10.0%)	<u>1.94%</u>
Measured Bypass Flow (l/min)	<u>13.67</u>	Flow Adjusted to Measured?	<u>YES</u>
Leak Check		Instrument Setup	
Main (< 0.15 l/min)	<u>Base=0.00 Ref=-0.01</u>	<u>Flow Control = Active</u>	
Aux (< 0.6 l/min)	<u>Base=-0.00 Ref=0.00</u>	<u>Report Conditions = Actual</u>	
K_o Factor			
Measured	<u>NA</u>		
K _o Difference (± 2.5%)	<u>NA</u>		

Start Time: 14:30 **Finish Time:** 15:50

Sample Inlet Cleaned: no **New Filters Installed:** no

New Filter Loading %: na

Comments: Change switch valve. Flow rate calibration.

Auditor/s: Limin Li

Lakeland Industry & Community Association

Portable / Elk Point Airport Monitoring Site

Ambient Air Monitoring Data Report

For

May 2013

Prepared By:



June 27, 2013

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

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• Monthly Summaries, Graphs & Wind Roses	11	• Total Hydrocarbons	115
○ Sulphur Dioxide	12	• Total Hydrocarbons (55i)	126
○ Hydrogen Sulphide	20	• Particulate Matter 2.5	130
○ Particulate Matter 2.5	28	• Nitrogen Dioxide	133
○ Nitrogen Dioxide	33	• Ozone	137
○ Nitric Oxide	41		
○ Oxides of Nitrogen	48		
○ Ozone	56		
○ Total Hydrocarbons	64		
○ Total Hydrocarbons (55i)	72		
○ Methane	79		
○ Non-Methane Hydrocarbons	87		
○ Vector Wind Speed	95		
○ Vector Wind Direction	102		
○ Standard Deviation Wind Direction	105		

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: May 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 – May 2013

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PORTABLE / ELK POINT AIRPORT SITE						MAXIMUM VALUES							OPERATIONAL TIME (PERCENT)
						OBJECTIVES				MONTHLY AVERAGE	1-HOUR		
PARAMETER	1-HR		24-HR		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	0.17	3	6	14	23.8	192(S)	1.1	27	100.0
H ₂ S (PPB)	10	3	0	0	0.07	1	VAR	VAR	VAR	VAR	0.8	2	100.0
THC (PPM)	-	-	-	-	3.38	21.7	6	4	1.4	242(WSW)	6.7	6	96.4
THC (55i) (PPM)	-	-	-	-	2.83	14.18	18	4	3.2	134(SE)	4.37	6	99.6
Methane (PPM)	-	-	-	-	2.76	13.61	18	4	3.2	134(SE)	4.21	18	99.6
NMHC (PPM)	-	-	-	-	0.07	0.60	6	4	1.4	242(WSW)	0.21	6	99.6
NO ₂ (PPB)	159	-	0	-	4.93	30.7	16	2	0.9	305(WNW)	11.3	16	100.0
NO (PPB)	-	-	-	-	1.16	41.9	16	5	3.7	263(W)	5.9	16	100.0
NO _x (PPB)	-	-	-	-	6.08	66.5	16	5	3.7	263(W)	17.2	16	100.0
O ₃ (PPB)	82	-	0	-	34.46	67	6	17	32.1	194(SSW)	41.3	6	100.0
PM 2.5 (UG/M ³)	-	30	-	0	7.48	26	30	9	2.9	108(ESE)	12.5	30	96.5
VECTOR WS (KPH)	-	-	-	-	12.05	40.1	25	10	-	116(ESE)	24.1	25	100.0
VECTOR WD (DEGREES)	-	-	-	-	135(SE)	-	-	-	-	-	-	-	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 May 6th. The inlet filter was changed before the month calibration was started. The maximum hourly data collected on May 2nd at hour 13 was invalidated due to a small power outage causing few minute data to lose. 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 May 6th. The inlet filter was changed before the month calibration was started. The maximum hourly data collected on May 2nd at hour 13 was invalidated due to a small power outage causing few minute data to lose. 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 May 6th. The inlet filter was changed before the month calibration was started. The maximum hourly data collected on May 2nd at hour 13 was invalidated due to a small power outage causing few minute data to lose. 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 monthly calibration was performed on May 7th. The inlet filter was changed before the month calibration was started. The analyzer spanned low on May 14th. An as found points check was performed on May 15th. The result was within the acceptable range. The expected span value was changed following the as found points check. No data was invalidated due to this event. The maximum hourly data collected on May 2nd at hour 13 was invalidated due to a small power outage causing few minute data to lose. Data was corrected using daily zero information.

THC (PPM)

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

The monthly calibration was performed on the analyzer on May 6th. The inlet filter was changed before the month calibration was started. Following the as found points check on May 15th, the sample filter holder was changed. Another as found points check was performed following the sample filter holder replacement. The analyzer spanned high on May 17th. No issue was noticed during the trip of the 17th. The analyzer spanned normally on the following day. No data was discarded due to this event. The Thermo 51C analyzer attempted to be replaced by a Thermo 51i analyzer on May 28th. However, the 51i analyzer did not show its stability after the installation. The 51C analyzer was put back to the service. The sample pump was rebuilt on May 28th. The HC scrubber and the water drain filter in the API 701 zero air supply device were replaced on May 28th. The analyzer was allowed to stabilize overnight. An installation calibration was performed on May 29th. A total of four hours of hourly data was invalidated as the data was lower than the background concentration (1.5 ppm). The maximum hourly data collected on May 2nd at hour 13 was invalidated due to a small power outage causing few minute data to lose. The maximum data collected on May 6th at hour 4 was above the full scale. The real concentration for the hour may be higher than indicated. Data was corrected using daily zero information.

General Monthly Summary

AQM STATION – LICA – PORTABLE

THC 55i (PPM)

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

The analyzer was working well throughout the month. The monthly calibration was performed on May 7th. The inlet filter was changed before the month calibration was started. The hourly data collected on May 15th at hour 15 was invalidated as the data was affected by the dust cleaner that was used for the sample inlet clean for the Teom unit. A chromatogram check was performed on the analyzer on May 17th. The maximum hourly data collected on May 2nd at hour 13 was invalidated due to a small power outage causing few minute data to lose. The analyzer was put into the Maintenance mode while maintenance was performed on the THC analyzer on May 28th to avoid any interference on the data quality. Data was corrected using daily zero information.

Below are the canister events occurring in May; a total of twelve canisters were collected.

Date	Time	Concentration	Date	Time	Concentration
05/02/2013	23:40	0.21	05/22/2013	14:10	0.15
05/06/2013	09:45	0.16	05/25/2013	19:30	0.16
05/08/2013	05:35	0.18	05/27/2013	22:00	0.15
05/09/2013	04:05	0.21	05/28/2013	22:30	0.20
05/12/2013	10:50	0.16	05/29/2013	21:50	0.15
05/15/2013	03:35	0.19	05/30/2013	20:05	0.16

Particulate Matter 2.5 (ug/m³)

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

Two routine Teom audits were performed on May 2nd and May 15th. The switch valve was cleaned on May 15th. Data was corrected using Alberta air quality guideline for PM2.5 analyzer. If the data was between 0 to -3, the data was corrected to 0. If the data was below -3, the data was invalidated. Twenty-six 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. The maximum hourly data for wind speed collected on May 2nd at hour 13 was invalidated due to a small power outage causing few minute data to lose.

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 May 2nd.

Continuous Monitoring

Monthly Summaries, Graphs & Wind Roses

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

MAY 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	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	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	S	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	S	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	S	0	0	0	0	0	0	0	0	0	0.0	24
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.0	24
6	0	0	0	0	0	0	0	0	0	C	C	C	C	2	3	C	2	0	0	0	0	0	0	0	0	3	0.4	24
7	0	0	0	1	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	1	0.0	24
8	0	0	0	0	0	0	0	0	0	0	0	0	S	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	S	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	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
11	0	0	0	0	0	0	0	0	0	S	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	S	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	S	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	S	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	S	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	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
17	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
18	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
19	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
20	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
21	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	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	S	0	0	0	0.0	24
23	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	S	0	0	0	1	0.0	24	
24	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	0	0	0	0	1	0.7	24	
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0.0	24
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	1	1	1	1	1	1	1	0.3	24
27	1	1	1	1	1	1	1	1	1	1	2	2	1	1	2	2	S	0	1	1	1	1	1	1	1	2	1.1	24
28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	0	0	0	0	0	0	0	0	1	0.7	24	
29	0	0	0	0	0	0	0	0	0	0	1	1	0	0	S	1	1	1	1	1	1	1	1	1	1	1	0.5	24
30	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	0	0	1	0	1	1	0	1	1	0.8	24	
31	0	0	1	0	0	0	1	0	0	0	0	0	S	1	1	2	1	1	1	1	1	1	1	1	2	0.6	24	
HOURLY MAX	1	1	1	1	1	1	1	1	1	1	2	2	1	2	3	2	2	1	1	1	1	1	1	1	1			
HOURLY AVG	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.3	0.3	0.2	0.1	0.2	0.1	0.2	0.2	0.1	0.2				

STATUS FLAG CODES

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

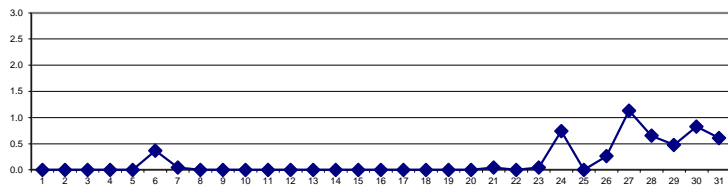
OBJECTIVE LIMIT:

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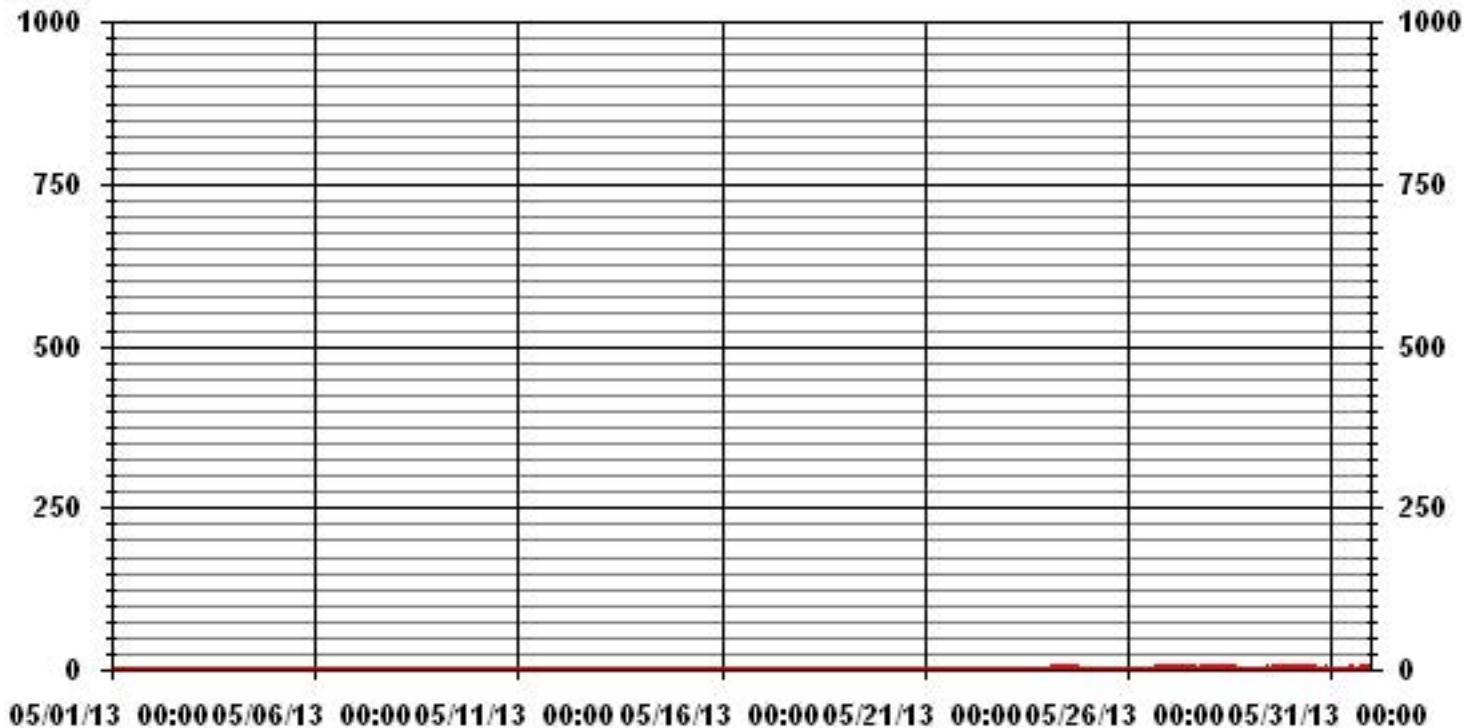
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	109					
MAXIMUM 1-HR AVERAGE:	3	PPB	@ HOUR(S)	14	ON DAY(S)	6
MAXIMUM 24-HR AVERAGE:	1.1	PPB			ON DAY(S)	27
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	744	HRS	
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	0.41		MONTHLY AVERAGE:	0.17	PPB	

24 HOUR AVERAGES FOR MAY 2013



01 Hour Averages



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

MAY 2013

SULPHUR DIOXIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR			
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.		
DAY																													
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0.0	24	
2	0	0	0	0	0	0	0	0	1	1	1	0	1	P	1	1	1	1	S	0	0	0	0	0	0	0	1	0.4	23
3	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	
4	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	S	0	0	1	0	1	0	0	1	0.2	24		
5	0	0	2	0	0	0	0	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	0	2	0.7	24	
6	1	1	1	1	1	1	1	1	0	C	C	C	C	C	C	C	C	1	1	1	1	1	0	0	1	0.8	24		
7	1	1	0	2	2	2	1	3	1	1	1	1	1	S	0	0	1	0	0	0	0	0	0	0	3	0.8	24		
8	0	0	0	0	0	0	1	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24		
9	0	0	0	0	0	0	0	0	0	0	0	S	2	1	1	2	2	2	1	1	0	0	0	0	2	0.5	24		
10	0	0	0	1	0	0	0	0	0	0	S	1	1	3	1	1	1	1	1	1	0	1	1	1	3	0.7	24		
11	1	1	1	1	1	1	1	1	1	S	2	1	0	0	1	1	1	1	1	1	1	1	1	1	2	1.0	24		
12	1	1	1	1	1	2	2	2	S	0	0	0	0	11	1	0	1	1	0	0	0	0	0	0	11	1.1	24		
13	1	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0.1	24		
14	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		
15	0	0	0	0	0	S	0	0	0	0	1	1	1	0	1	1	0	0	1	1	1	1	1	1	1	0.5	24		
16	1	1	1	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24		
17	0	0	0	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.1	24		
18	0	0	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24		
19	0	S	1	0	0	1	1	0	0	1	0	1	1	0	1	1	0	0	0	0	0	0	1	0	1	0.4	24		
20	S	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0	1	1	0	0	1	0	S	2	0.3	24		
21	2	2	1	1	1	1	1	1	2	2	2	1	1	2	1	1	1	2	2	1	2	3	1	S	1	3	1.4	24	
22	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	S	1	1	2	1.2	24	
23	2	1	2	2	1	1	1	1	2	4	2	4	2	2	1	2	1	3	1	2	S	1	2	2	4	1.8	24		
24	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	S	1	1	1	1	2	1.8	24		
25	1	1	1	2	2	1	2	1	1	1	1	1	1	2	1	2	1	2	1	S	1	2	1	1	2	1.3	24		
26	2	1	1	1	1	2	2	1	1	1	1	2	1	1	1	2	1	S	2	2	2	2	3	2	3	1.5	24		
27	2	3	3	3	3	3	3	2	2	2	3	3	3	3	3	3	S	2	2	2	2	2	2	2	3	2.5	24		
28	2	2	2	2	2	2	2	2	2	2	2	2	2	2	S	1	1	1	1	1	1	1	1	1	2	1.7	24		
29	1	1	2	1	1	2	1	1	2	2	2	2	2	2	S	2	2	2	3	2	2	2	2	2	3	1.8	24		
30	2	2	2	2	2	2	2	2	2	2	2	2	2	S	2	2	2	2	2	2	2	2	2	2	2	2.0	24		
31	2	1	2	2	1	2	2	2	2	1	2	2	S	2	3	3	3	2	2	2	3	2	2	3	2.0	24			
HOURLY MAX	2	3	3	3	3	3	3	3	2	4	3	4	3	11	3	3	3	3	3	3	2	3	2	3	2				
HOURLY AVG	0.9	0.8	0.9	0.9	0.8	0.9	0.9	0.8	0.8	0.9	0.9	1.0	0.9	1.3	1.0	1.0	0.9	0.9	0.9	0.8	0.8	0.8	0.7	0.7					

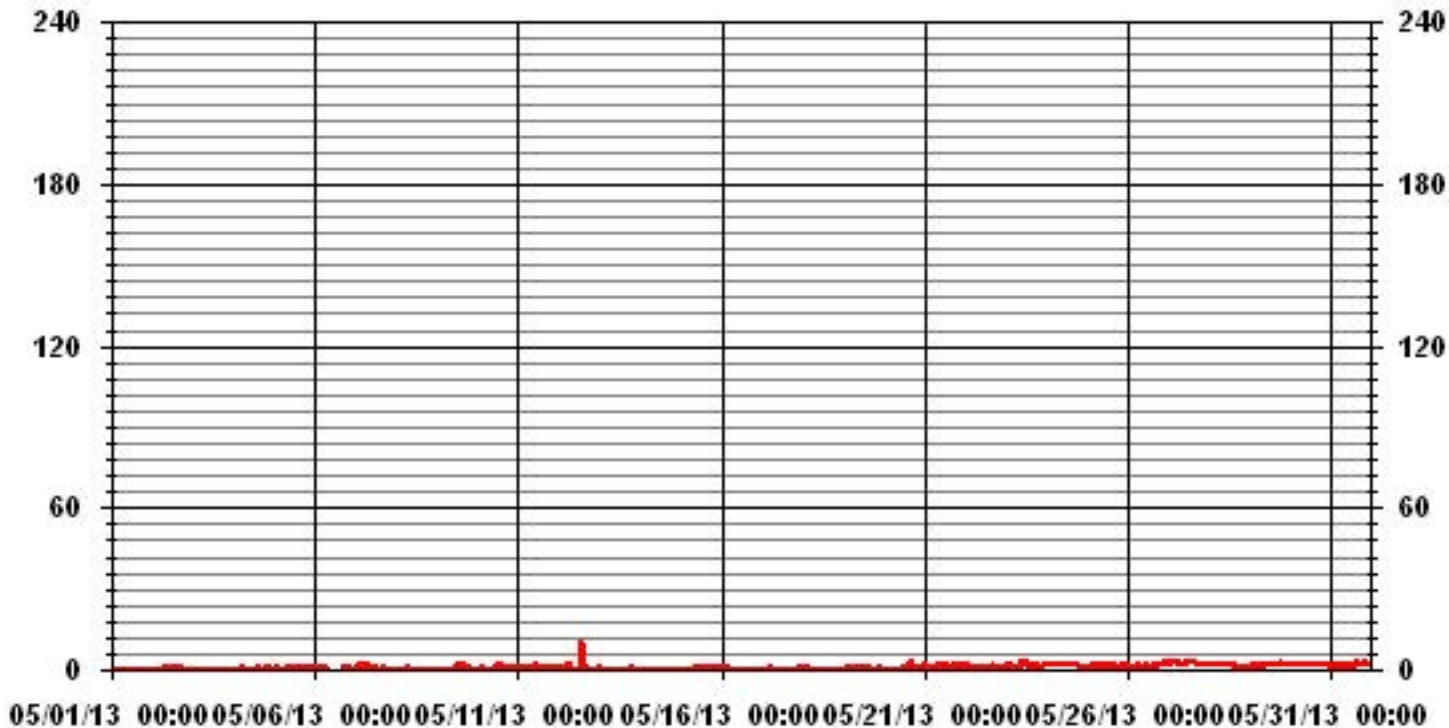
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	400
MAXIMUM INSTANTANEOUS VALUE:	11 PPB @ HOUR(S) 13 ON DAY(S) 12
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	8 HRS
STANDARD DEVIATION:	0.96
OPERATIONAL TIME:	743 HRS

01 Hour Averages



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

May 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	2.40	1.83	2.11	4.51	10.73	17.37	8.61	3.95	3.67	4.37	3.38	5.50	9.74	9.88	6.21	5.64	100.00
< 60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 170	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.40	1.83	2.11	4.51	10.73	17.37	8.61	3.95	3.67	4.37	3.38	5.50	9.74	9.88	6.21	5.64	

Calm : .00 %

Total # Operational Hours : 708

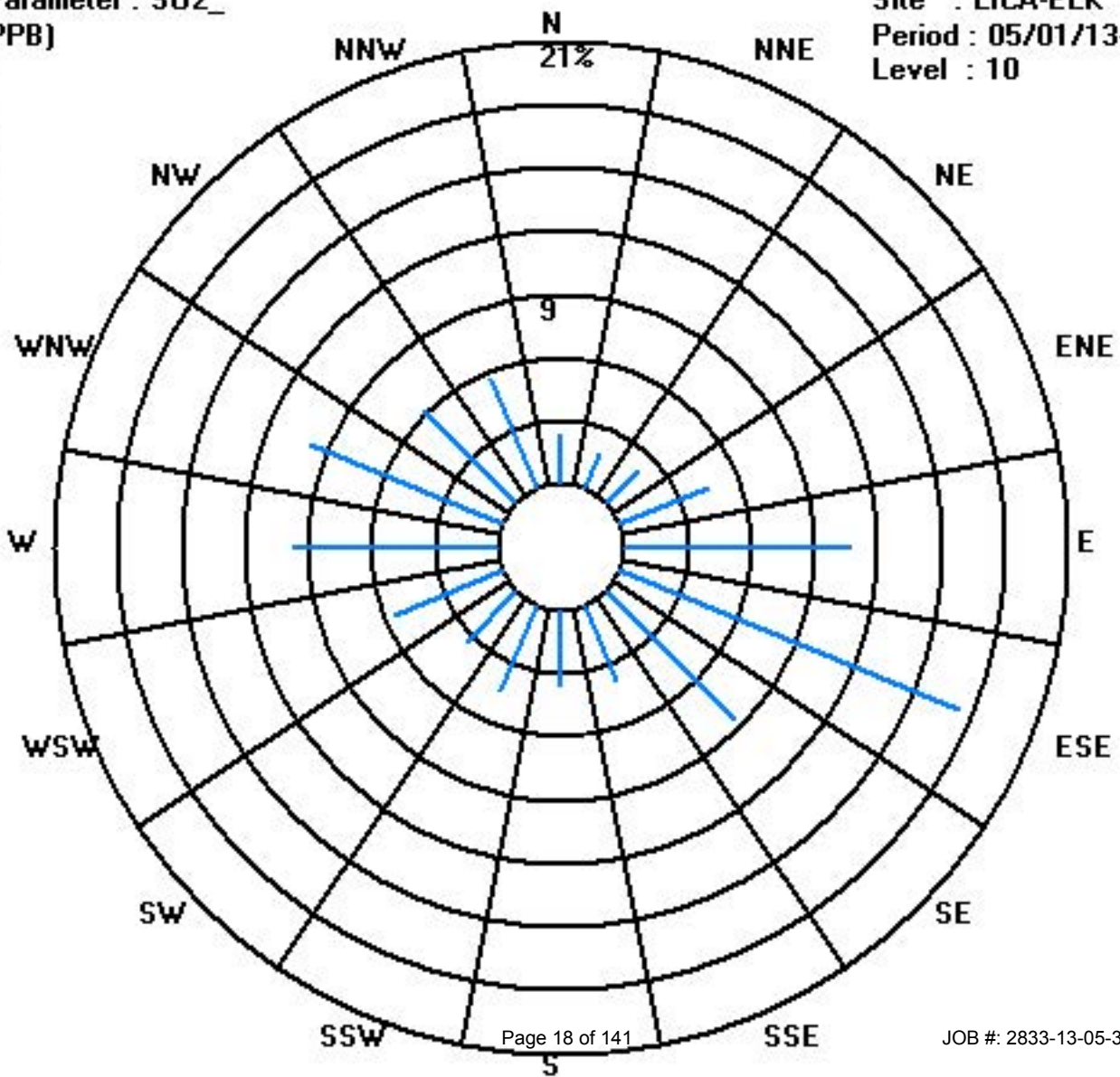
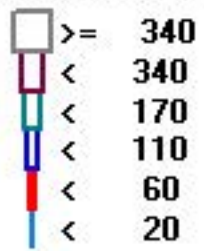
Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 20	17	13	15	32	76	123	61	28	26	31	24	39	69	70	44	40	708
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	17	13	15	32	76	123	61	28	26	31	24	39	69	70	44	40	

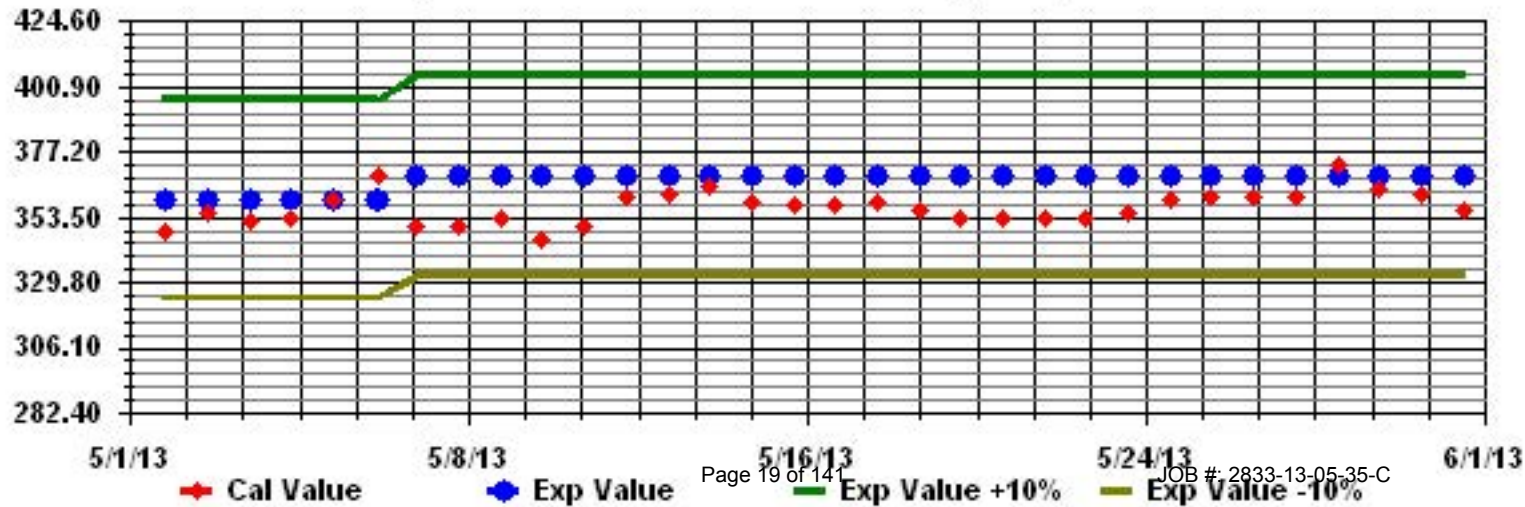
Calm : .00 %

Total # Operational Hours : 708

Class Limits (PPB)



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



Hydrogen Sulphide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE - Elk Point Airport

MAY 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	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	0	0	0	0	0	0	0	0	0	0	0	S	1	1	1	1	1	1	0.2	24	
	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	0	0	0	0	0	0	1	0.8	24	
	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	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	S	0	0	0	0	0	0	0	0	0	0.0	24	
	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.0	24	
	6	0	0	0	0	0	0	0	0	0	C	C	C	C	0	1	C	1	1	1	1	1	1	1	1	1	1	0.5	24	
	7	1	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	
	8	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	
	9	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	
	10	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	
	11	0	0	0	0	0	0	1	1	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
	12	0	0	0	0	0	0	1	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
	13	0	0	0	0	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	
	14	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	
	15	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	
	16	0	0	0	1	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	
	17	0	0	0	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24	
	18	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	
	19	0	S	0	1	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
	20	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	
	21	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	
	22	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	
	23	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	
	24	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	
	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0.0	24	
	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	1	0	1	0.0	24	
	27	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	S	0	0	0	0	0	0	0	0	1	0.2	24	
	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.0	24	
	29	0	0	0	0	1	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	1	0.0	24	
	30	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	
	31	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	1	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	1	
HOURLY AVG		0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1		

STATUS FLAG CODES

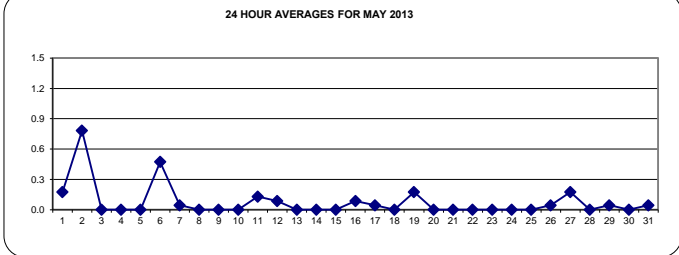
C - CALIBRATION	Q - QUALITY ASSURANCE
Y - MAINTENANCE	R - RECOVERY
S - DAILY ZERO/SPAN CHECK	X - MACHINE MALFUNCTION
P - POWER FAILURE	O - OPERATOR ERROR
G - OUT FOR REPAIR	K - COLLECTION ERROR

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

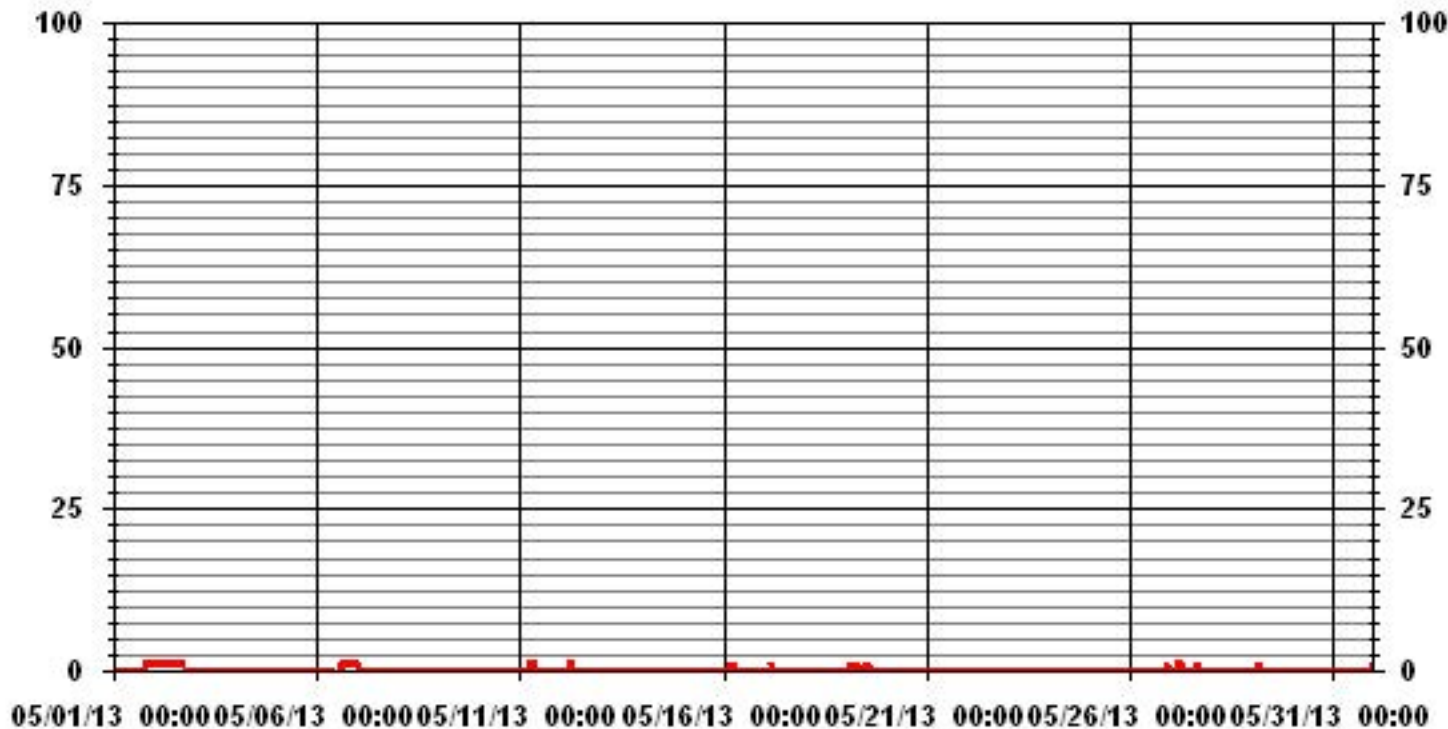
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	51					
MAXIMUM 1-HR AVERAGE:	1	PPB	@ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 24-HR AVERAGE:	0.8	PPB			ON DAY(S)	2
					VAR-VARIOUS	
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	744	HRS	
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	0.26		MONTHLY AVERAGE:	0.07	PPB	

24 HOUR AVERAGES FOR MAY 2013



01 Hour Averages



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

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

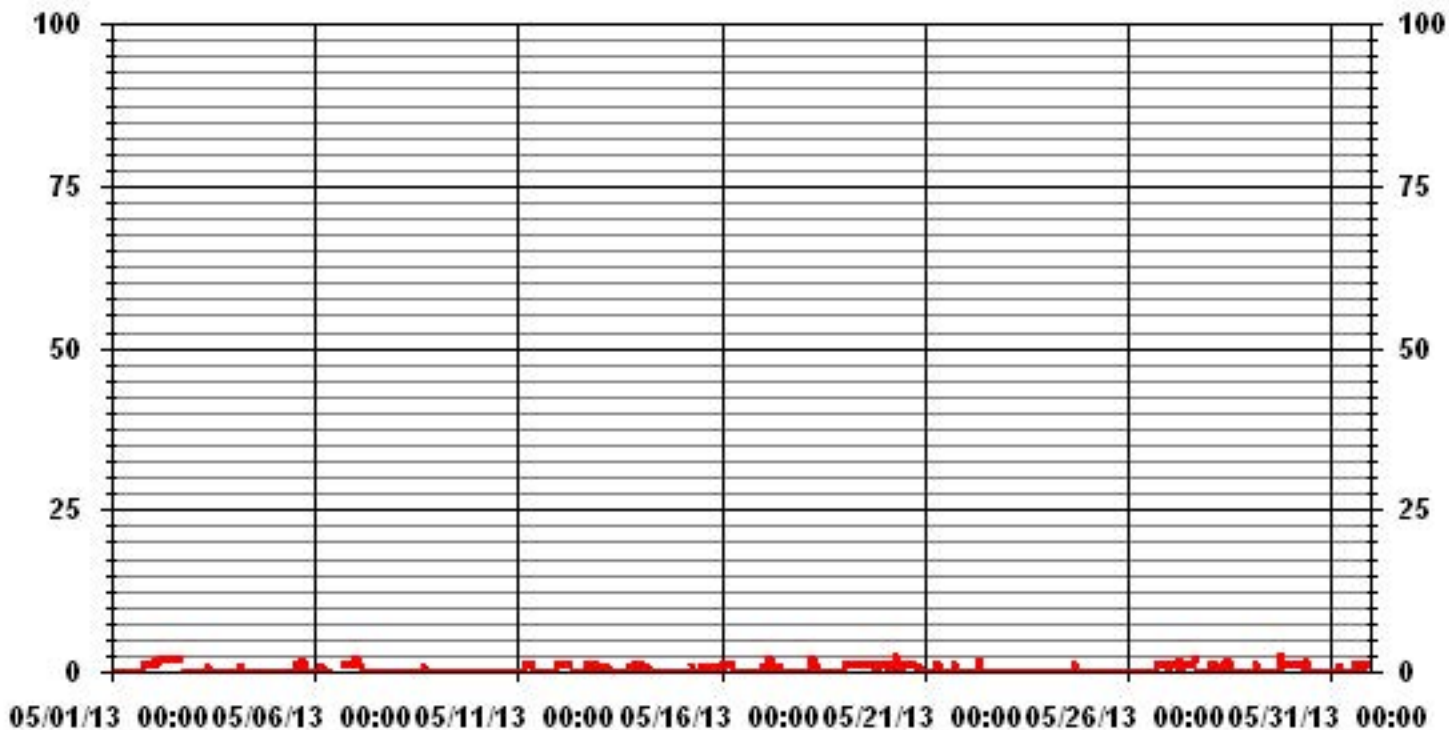
STATUS FLAG CODES

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:	187					
MAXIMUM INSTANTANEOUS VALUE:	3	PPB	@ HOUR(S)	7, 18	ON DAY(S)	20, 29
VAR - VARIOUS						
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	743 HRS		
MONTHLY CALIBRATION TIME:	7	HRS				
STANDARD DEVIATION:	0.55					

01 Hour Averages



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

May 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	2.40	1.83	2.11	4.51	10.73	17.37	8.61	3.95	3.67	4.37	3.38	5.50	9.74	9.88	6.21	5.64	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	2.40	1.83	2.11	4.51	10.73	17.37	8.61	3.95	3.67	4.37	3.38	5.50	9.74	9.88	6.21	5.64	

Calm : .00 %

Total # Operational Hours : 708

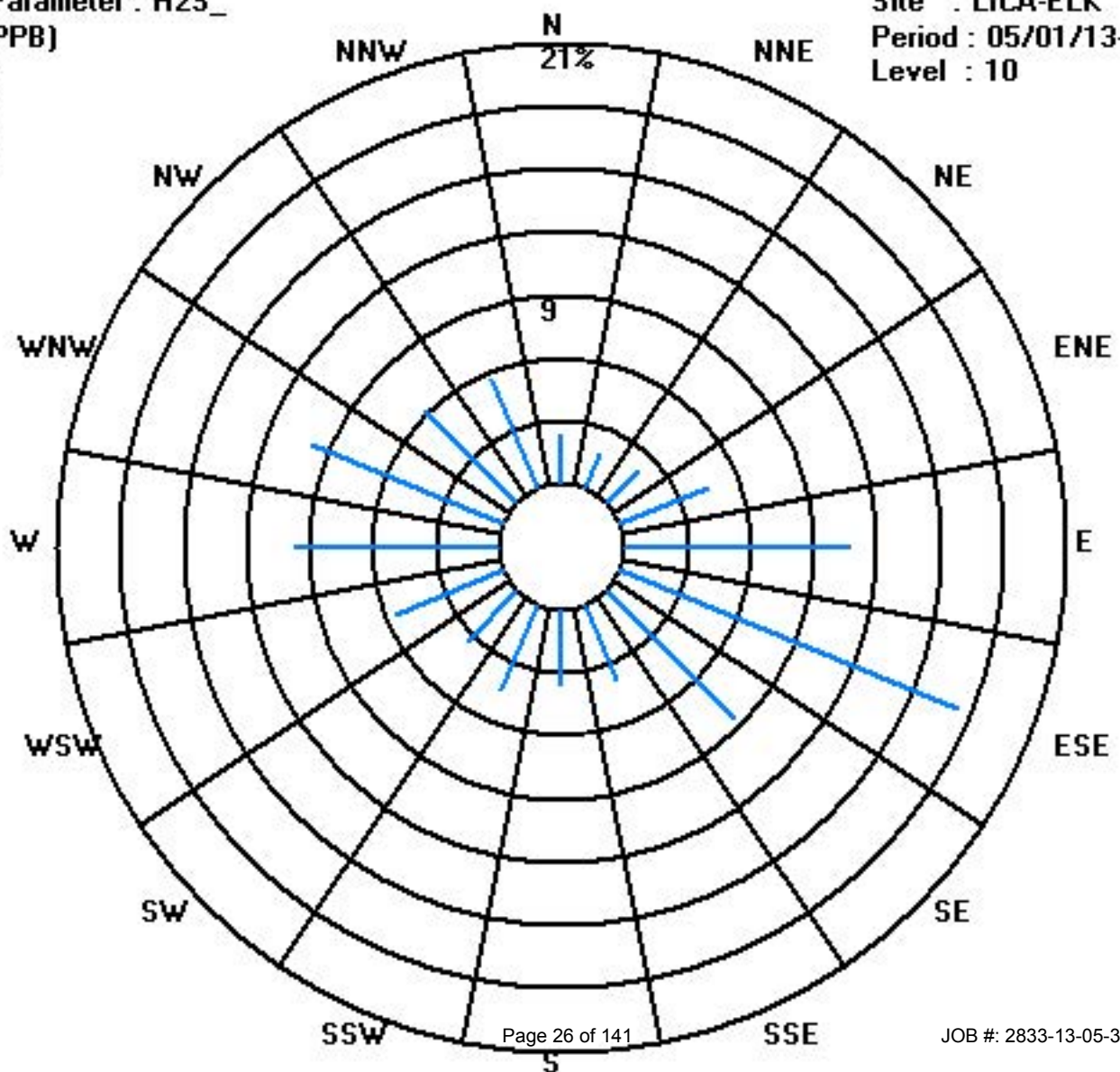
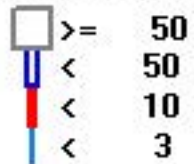
Distribution By Samples

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 3	17	13	15	32	76	123	61	28	26	31	24	39	69	70	44	40	708
< 10																	
< 50																	
>= 50																	
Totals	17	13	15	32	76	123	61	28	26	31	24	39	69	70	44	40	

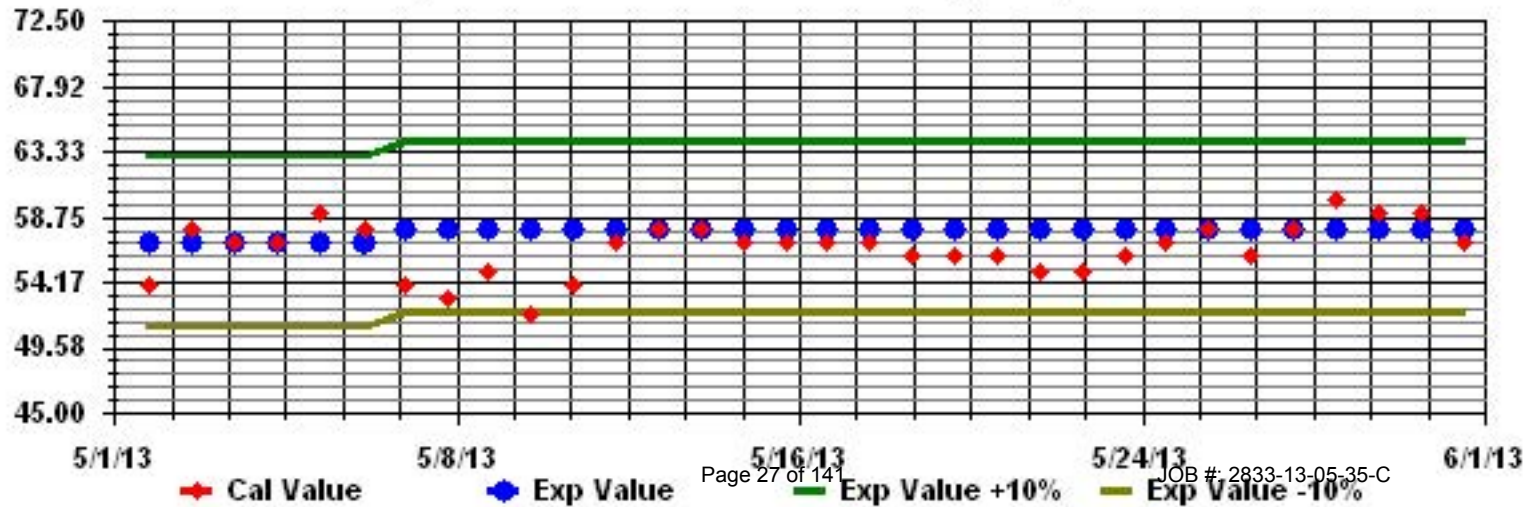
Calm : .00 %

Total # Operational Hours : 708

Class Limits (PPB)



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



Particulate Matter 2.5

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

MAY 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	24:00	DAILY MAX.	24-HOUR AVG.	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	25	26	27	28	29	30	31
1	6	5	1	2	6	2	6	7	0	X	0	0	6	X	X	X	0	0	0	3	2	4	5	2	7	2.9	20				
2	6	9	7	7	2	2	X	X	0	X	2	0	X	0	C	0	3	2	2	0	4	3	5	8	9	3.3	20				
3	5	3	6	4	5	4	6	6	5	5	0	1	0	2	5	3	2	1	0	3	3	5	9	9	3.8	24					
4	6	8	9	8	6	4	5	4	3	0	X	1	1	0	9	3	1	3	8	0	2	3	2	3	9	3.9	23				
5	6	6	6	5	8	7	7	5	3	1	8	7	4	0	0	11	5	3	5	5	11	7	9	10	11	5.8	24				
6	6	5	6	11	13	9	9	5	9	16	11	1	0	6	4	12	15	20	14	5	2	10	12	8	20	8.7	24				
7	5	8	5	8	X	0	10	2	14	2	0	7	X	X	17	8	8	8	8	10	11	7	11	7	17	7.4	21				
8	6	12	10	9	8	4	5	12	6	9	4	5	3	8	4	7	2	10	7	2	6	9	8	9	12	6.9	24				
9	5	10	7	5	2	5	11	8	12	1	6	2	2	10	4	6	1	11	13	11	8	11	7	5	13	6.8	24				
10	2	5	8	10	8	8	5	0	9	5	16	14	7	1	4	6	5	8	7	3	4	8	7	10	16	6.7	24				
11	5	7	9	7	7	3	8	10	5	9	7	7	7	22	12	2	6	10	13	4	9	8	12	10	22	8.3	24				
12	12	10	10	7	9	10	10	8	13	14	18	15	15	11	9	10	5	5	X	4	9	4	8	3	18	9.5	23				
13	3	7	5	0	7	5	6	9	6	0	7	X	X	4	5	5	13	6	0	0	3	5	4	4	13	4.7	22				
14	5	5	4	2	6	6	12	8	4	2	3	2	4	0	8	5	0	0	10	3	5	4	4	2	12	4.3	24				
15	5	7	1	6	2	5	7	8	7	10	2	2	6	C	C	C	0	1	3	4	5	4	10	7	10	4.9	24				
16	7	11	11	10	6	8	6	8	3	17	11	5	18	3	5	5	3	5	3	4	7	2	3	12	18	7.2	24				
17	8	4	7	8	4	4	2	6	4	4	2	9	13	0	3	X	1	9	1	6	4	2	3	12	13	5.0	23				
18	9	12	10	10	13	12	19	13	6	10	0	12	16	13	X	4	3	X	11	5	X	8	3	9	19	9.4	21				
19	9	11	11	11	6	10	10	7	8	20	16	10	8	2	14	12	0	12	5	11	8	8	7	9	20	9.4	24				
20	13	13	12	10	8	11	11	8	7	3	13	0	X	10	15	10	0	3	8	3	13	7	12	9	15	8.7	23				
21	8	18	14	13	14	12	10	17	9	5	3	X	12	6	4	0	7	5	0	3	8	7	11	6	18	8.3	23				
22	9	6	9	7	9	13	6	8	5	4	14	0	9	3	11	21	16	9	5	6	8	7	8	13	21	8.6	24				
23	13	9	10	6	9	9	9	7	13	6	13	3	8	19	7	8	6	4	5	6	5	5	6	5	19	8.0	24				
24	5	18	1	12	7	16	4	9	12	0	2	7	0	9	6	12	8	7	5	6	8	11	14	12	18	8.0	24				
25	10	10	12	8	16	12	7	4	8	5	13	5	8	2	4	8	6	0	11	0	7	6	11	8	16	7.5	24				
26	6	9	12	8	9	2	13	13	16	20	19	9	8	3	4	X	4	2	12	12	1	5	5	14	20	9.0	23				
27	12	13	11	13	12	15	16	8	12	9	18	3	2	8	X	2	5	2	0	6	6	9	8	15	18	8.9	23				
28	11	10	16	13	8	10	6	13	8	8	11	7	15	14	11	14	8	10	6	5	4	8	16	18	18	10.4	24				
29	13	21	16	17	12	17	10	15	10	17	9	10	0	0	3	5	6	1	9	6	12	11	11	13	21	10.2	24				
30	9	12	17	12	15	15	20	16	16	26	X	16	X	0	15	6	12	8	4	2	13	12	12	18	26	12.5	22				
31	19	18	24	17	18	22	9	11	X	10	9	9	4	0	16	9	8	5	7	8	15	6	14	13	24	11.8	23				
HOURLY MAX	19	21	24	17	18	22	20	17	16	26	19	16	18	22	17	21	16	20	14	12	15	12	16	18							
HOURLY AVG	7.9	9.7	9.3	8.6	8.5	8.5	8.8	8.5	7.8	8.2	8.2	5.8	6.8	5.6	7.7	7.2	5.1	5.7	6.1	4.7	6.8	6.6	8.3	9.1							

STATUS FLAG CODES

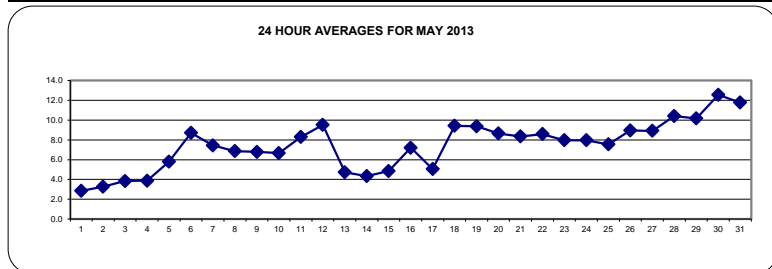
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT:

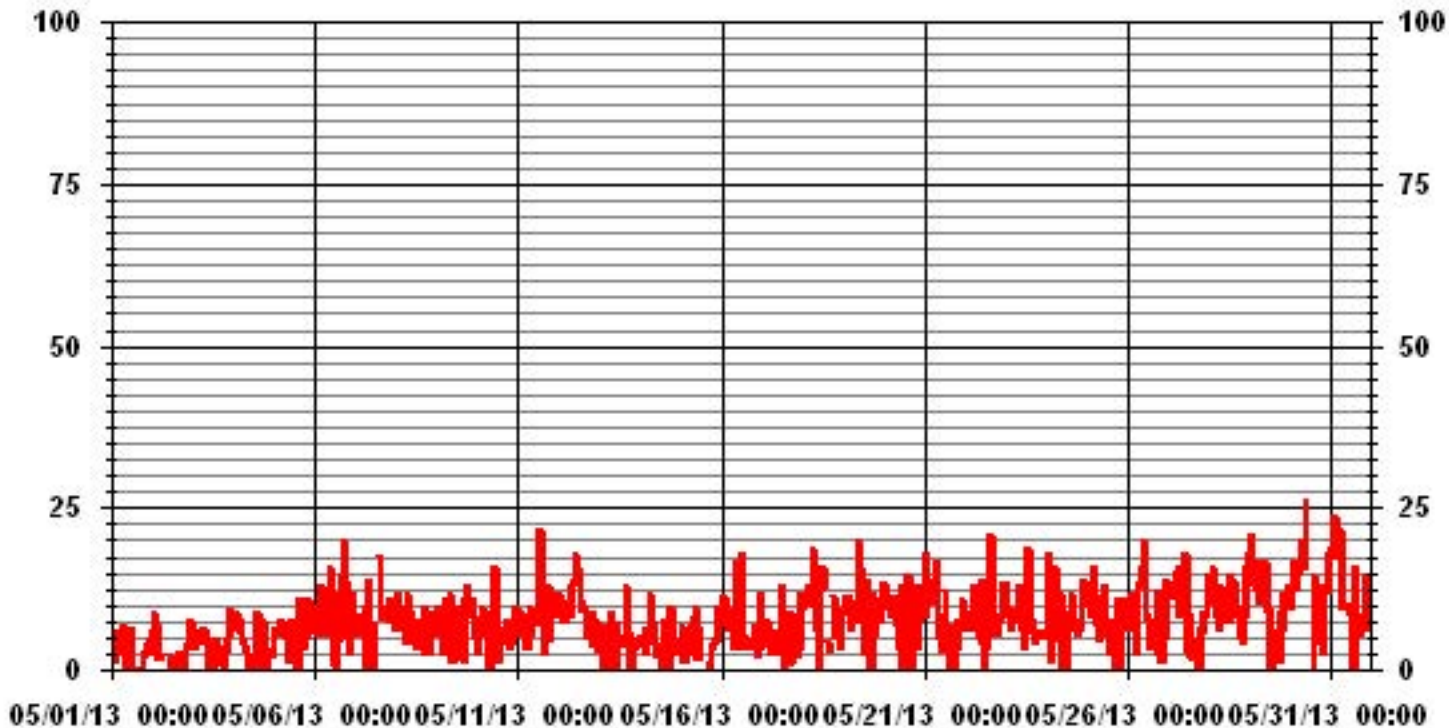
ALBERTA ENVIRONMENT: 1-HR - PPB 24-HR 30 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	-
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	666
MAXIMUM 1-HR AVERAGE:	26 UG/M ³ @ HOUR(S) 9 ON DAY(S) 30
MAXIMUM 24-HR AVERAGE:	12.5 UG/M ³ ON DAY(S) 30
IZS CALIBRATION TIME:	0 HRS
MONTHLY CALIBRATION TIME:	4 HRS
STANDARD DEVIATION:	4.72
OPERATIONAL TIME:	718 HRS
AMD OPERATION UPTIME:	96.5 %
MONTHLY AVERAGE:	7.48 UG/M ³



01 Hour Averages



— LICA35 PM2 UG/M3

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

May 2013

Distribution By % Of Samples

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

Wind Parameter : WDR
 Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 30	2.24	1.82	2.24	4.62	10.50	17.92	8.96	4.20	3.50	4.20	3.08	5.18	9.94	10.08	6.02	5.46	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	2.24	1.82	2.24	4.62	10.50	17.92	8.96	4.20	3.50	4.20	3.08	5.18	9.94	10.08	6.02	5.46	

Calm : .00 %

Total # Operational Hours : 714

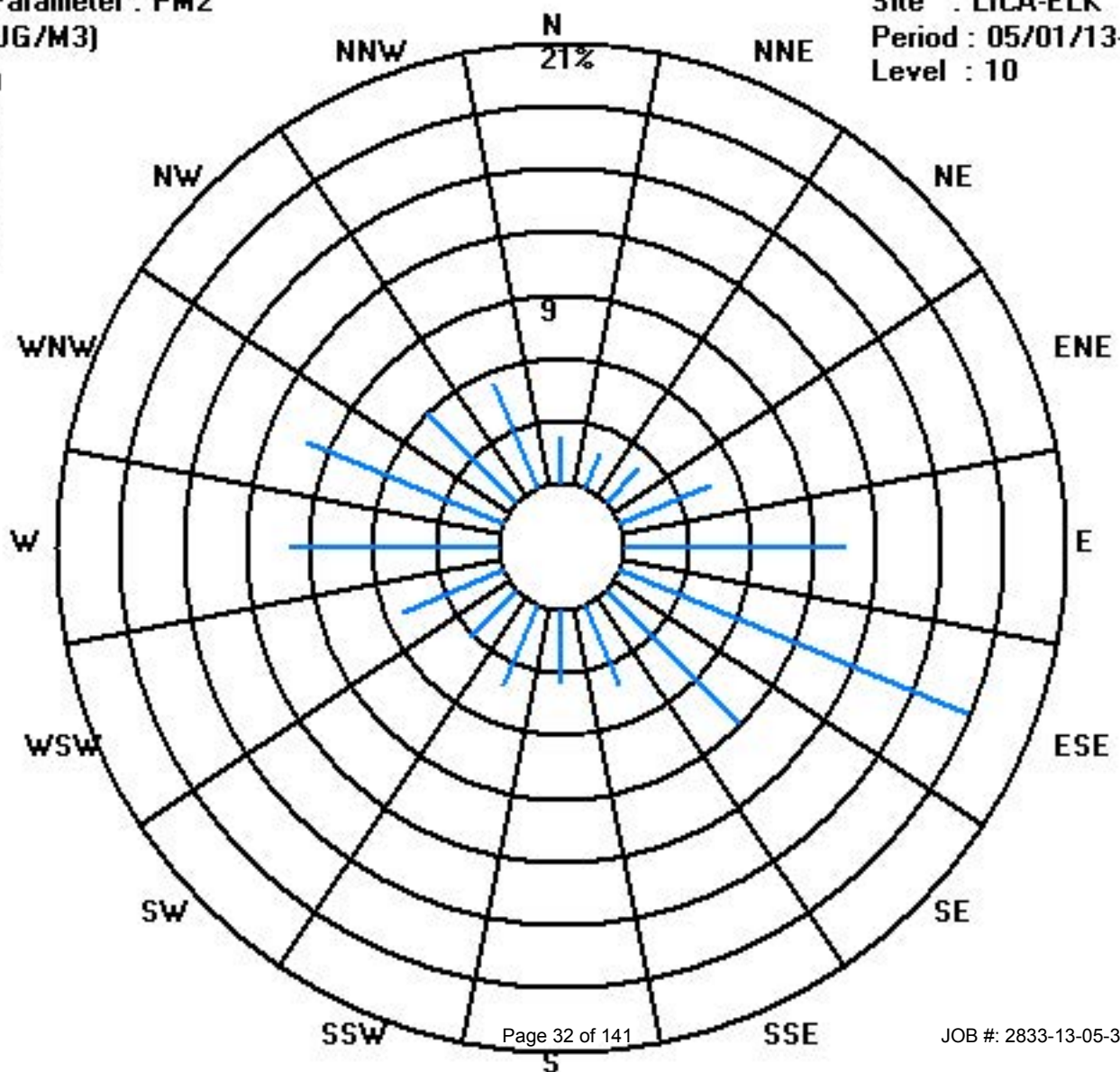
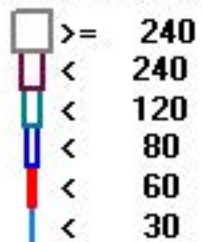
Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 30	16	13	16	33	75	128	64	30	25	30	22	37	71	72	43	39	714
< 60																	
< 80																	
< 120																	
< 240																	
>= 240																	
Totals	16	13	16	33	75	128	64	30	25	30	22	37	71	72	43	39	

Calm : .00 %

Total # Operational Hours : 714

Class Limits (UG/M3)



Nitrogen Dioxide

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

MAY 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 24-HOUR			
DAY	HOURLY MAX	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	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		5.2	1	6.1	9.1	11.9	14.2	5	2.7	1.1	1.4	1.6	1	1	0.9	0.9	1.3	1.3	1.5	1.9	S	3.6	4.4	6.1	3.2	14.2	3.8	24	
2		3.4	2.8	2.2	2.6	4.6	6.6	5.2	4.1	4.1	3.2	2.4	1.1	0.9	1	1.9	1.4	1.2	2.6	S	6	5.9	11.4	20.7	12.5	20.7	4.7	24	
3		8.5	7.7	10.6	9.8	4.7	6.7	5.5	3.6	1.4	1	0.7	0.5	0.5	0.4	0.3	0	0.1	S	2.8	5	4.2	9.3	24.6	15.2	24.6	5.4	24	
4		17.1	14.5	12.7	15.9	29	21.7	12.2	5.5	2	0.9	0.3	0.4	0.2	0.4	0.4	0.5	S	0.7	0.6	1.8	9.4	6.8	4.6	2.6	29	7.0	24	
5		2.7	2.5	3.6	3.4	5	11.6	6.1	3.8	4.1	3.7	1.8	0.9	0.5	0.5	0.5	S	0.5	0.7	1.3	3.2	7.4	15.6	15.9	15.5	15.9	4.8	24	
6		8.1	16.3	16.8	30.3	30.6	25	19	8.4	5.3	C	C	C	C	C	C	C	C	1	2.3	2.5	4.2	4.7	3.6	1.8	2.6	30.6	10.7	24
7		2.8	1.6	0.7	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	S	0	0.2	0.3	0.3	0.3	0.6	3.3	2	4	5.5	5.5	1.0	24	
8		6.2	6.3	10.4	9.5	12.7	6.7	4.1	1.8	1.8	1.3	0.6	0.7	S	0.8	1	1.1	1.1	1.3	1.5	3.6	3.3	4.4	5.2	4.7	12.7	3.9	24	
9		5.3	5.3	8.2	9.5	6.8	7	7.2	4.4	3.1	2.2	1.7	S	1	1	1	1.3	1.7	1.7	0.7	0.6	0.5	0.7	0.7	0.7	9.5	3.1	24	
10		5.2	5.3	1.4	1.5	1.2	0.9	0.7	0.5	0.7	0.4	S	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.4	5.1	7.7	8	12.6	12.6	2.3	24		
11		11.2	9.9	6.4	6.7	8.9	5.4	3.4	2.4	1.3	S	0.9	0.9	0.8	0.8	1.1	1.3	1.4	1.2	2.2	3.1	4.6	5.2	4.8	11.2	3.7	24		
12		6	6.1	6.1	5	4.1	3.7	3.1	S	2.8	2.5	2.3	2.3	2.5	1.7	1.6	1.3	1.6	1	0.5	4.4	8.5	8.9	5.4	8.9	3.7	24		
13		10.6	6.2	5.3	5.5	5.5	5.7	4.7	S	1.2	0.9	0.6	0.6	0.6	0.7	0.6	0.6	0.8	1.1	2.6	5.8	5.3	1.8	1.6	3.3	10.6	3.1	24	
14		8.2	19.5	1.8	5.8	7.6	10.1	S	2.1	1	0.8	0.9	0.9	0.6	0.6	0.6	0.8	1.1	1.3	0.9	0.1	0.3	0.8	8.7	10.7	19.5	3.7	24	
15		9	7.2	6.8	12.9	14.9	S	6.4	3.4	1.8	1.3	0.9	0.7	0.7	0.7	1.3	1.1	1.7	3	3.7	10.7	2.8	3.1	16.7	22.3	22.3	5.8	24	
16		27.6	29.9	30.7	29.2	S	24.6	20.8	4.2	6.6	3.4	1.7	1.1	1	1.3	1.3	0.9	0.8	0.5	1	1.1	10.7	18.6	18.6	24.8	30.7	11.3	24	
17		23.7	18.1	26.2	S	19.9	18.7	14.9	5.1	2.2	0.3	0.2	0.2	0.1	0.1	0.6	0	0.6	0.7	0.1	0.3	5.6	10.6	9.7	17.5	26.2	7.6	24	
18		22.4	21.9	S	25.1	23.6	17.1	16.2	7.5	6	3.6	2.4	1.2	1.3	0.7	0.5	0.7	0.6	1.8	1.8	1.9	4.9	3.7	7.2	9.6	25.1	7.9	24	
19		8.1	S	17.3	20.3	16.3	12.2	8.8	7.6	6.6	3.4	2.5	1.4	1.1	1.7	2.3	3.4	3.8	5.8	4.6	5.8	8.1	12.5	19.1	14.5	20.3	8.1	24	
20		S	7.9	6.2	10.3	10.6	9.8	8.5	2.3	1.1	0.7	0.6	0.6	0.6	0.7	0.8	0.7	0.8	0.8	1.1	1.2	1.2	4.5	3.6	S	10.6	3.4	24	
21		6.1	8.7	10.2	10.3	17.6	13.9	10.1	7.6	5.4	2.9	2.3	1.6	1.6	1.5	1.6	1.3	1.4	1.6	1.3	2.4	3.1	2.2	S	4	17.6	5.2	24	
22		16.1	14.3	14.2	11.3	11.6	12.5	3.3	3.8	2	1.3	1.1	1.1	1.2	1.1	0.9	1	1.2	1.2	1.5	2.1	3.8	S	5.7	4	16.1	5.1	24	
23		3	2.8	3.1	4.8	3.6	4.3	3.7	2.7	1.9	1.7	1.3	1.4	1.4	1.3	1.3	1.3	1.2	1.2	1.8	1.8	S	2.3	2.4	3.4	4.8	2.3	24	
24		1.9	1.5	2.5	1.1	0.8	0.7	0.9	0.9	0.7	0.4	0.5	0.6	0.8	1.7	0.5	0.7	0.6	0.5	0.8	S	0.5	0.6	0.8	1.3	2.5	0.9	24	
25		1.3	1	1.1	1	0.9	0.9	1.2	1.8	1.9	1.5	1.5	1.4	1.9	2.9	1.7	2.4	2.3	2.6	S	2	3	3.3	2.7	2.3	3.3	1.9	24	
26		2.5	3.1	2.8	4.8	11	11.5	10.4	3.7	3.4	2.5	1.3	1	1	0.9	0.9	1	1.1	S	1	3.3	7.9	7.6	10.9	11.2	11.5	4.6	24	
27		8	9.1	9.1	9.7	12.3	7.3	5.1	4.1	2.7	1.4	1.2	0.6	0.6	1.4	0.8	1.4	S	1	1.2	1.7	3.5	4.9	9.9	15.6	15.6	4.9	24	
28		16.1	19.1	19	11.2	10.4	2.7	2.1	2.6	3.5	1.6	0.4	0.3	0.2	0.1	0.3	S	0.4	1.3	3.6	3.6	6.7	12.8	14.6	12.5	19.1	6.3	24	
29		20.1	15	17.8	13.9	6.5	4.7	10.1	12.4	7	4.1	2.8	1.4	1.1	1.1	S	1.5	1.7	3.6	4.4	6.3	5.8	9.4	10.4	6.9	20.1	7.3	24	
30		8.5	7.4	7.4	7.1	6.6	6.6	4.3	4.4	3.5	2.4	1.8	1.5	1.6	S	0.7	0.6	0.6	1.1	0.6	2.9	12	19.5	11.7	12.4	19.5	5.4	24	
31		10.9	9.5	10.6	11.6	8.8	11.6	5.6	5.3	3.2	1.1	0.9	0.7	S	0.7	1	1.1	0.9	0.9	2	5.3	6.2	9	4.2	9.3	11.6	5.2	24	
HOURLY MAX		27.6	29.9	30.7	30.3	30.6	25.0	20.8	12.4	7.0	4.1	2.8	2.3	2.3	2.9	2.3	3.4	3.8	5.8	4.6	10.7	12.0	19.5	24.6	24.8				
HOURLY AVG		9.5	9.4	9.2	10.0	10.3	9.5	7.0	4.1	2.9	1.8	1.3	0.9	0.9	1.0	0.9	1.0	1.1	1.5	1.7	3.0	4.9	6.9	8.8	9.0				

STATUS FLAG CODES

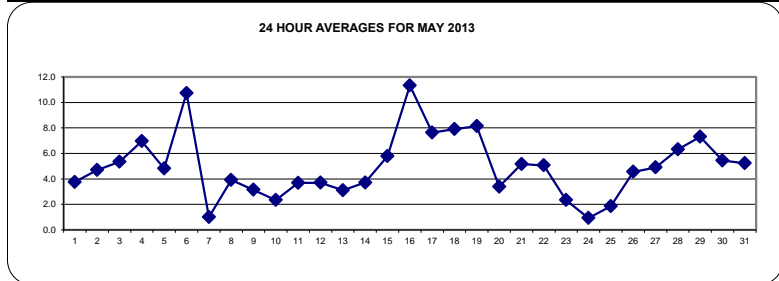
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT:

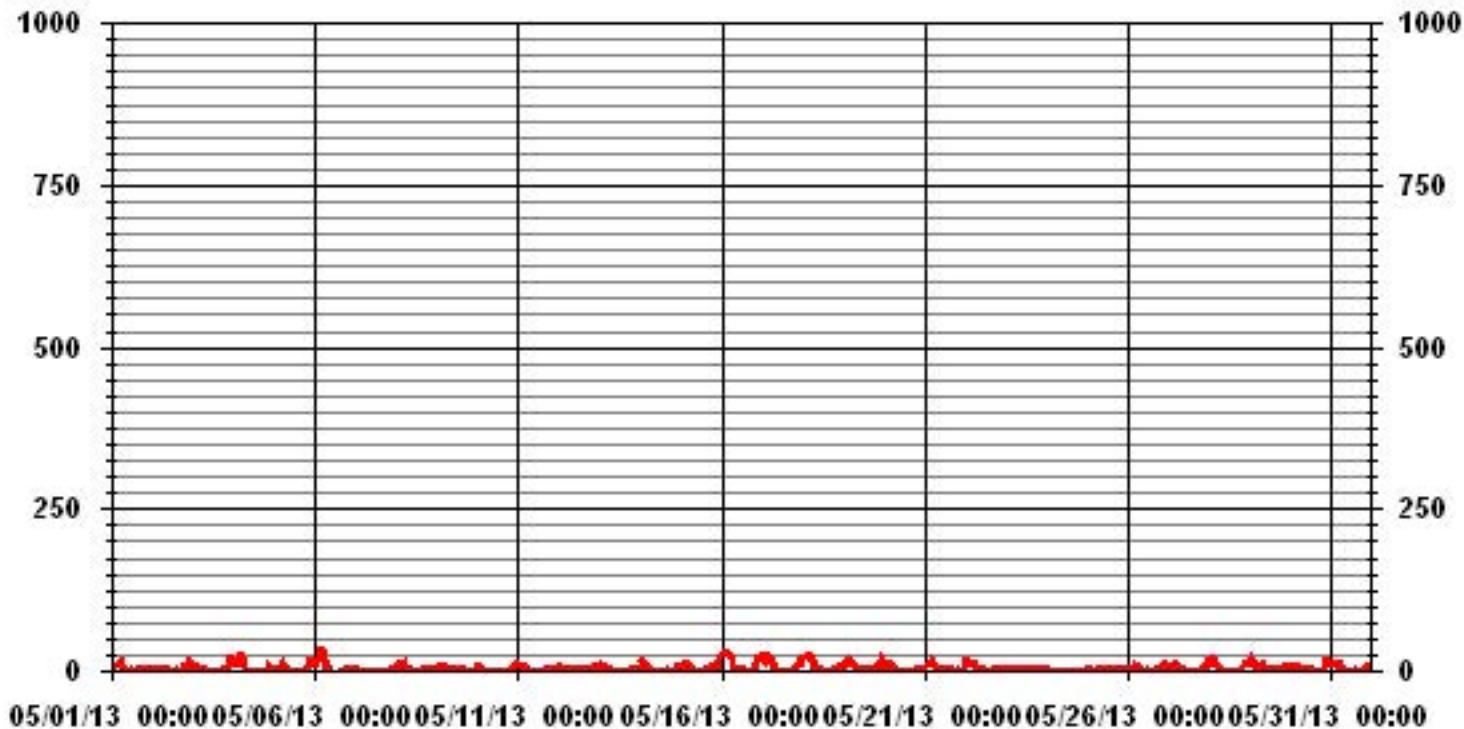
ALBERTA ENVIRONMENT: 1-HR 159 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	703					
MAXIMUM 1-HR AVERAGE:	30.7	PPB	@ HOUR(S)	2	ON DAY(S)	16
MAXIMUM 24-HR AVERAGE:	11.3	PPB			ON DAY(S)	16
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	744	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	5.79		MONTHLY AVERAGE:	4.93	PPB	



01 Hour Averages



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

MAY 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 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	15.8	1.4	11.7	15.3	17.3	16.6	12.1	5.1	1.6	2	2	1.5	1.2	1.2	1.2	1.7	1.8	2	2.9	S	3.2	3.3	6.5	2.6	17.3	5.7	24	
2	3.6	2.1	0.9	2	4.8	7.8	4.9	4	3.1	2.6	1.3	0	0	P	4.4	0.3	0.7	4.5	S	20	13.4	26.6	24.3	20.3	26.6	6.9	23	
3	9.9	10.9	11.6	24.4	7.2	9.8	8.7	4.3	0.4	0.5	0	0	0	0.1	0.7	0	0	S	13.4	5.6	6.4	25.3	28.8	27.3	28.8	8.5	24	
4	25.5	21.2	15.6	28.2	33.2	24.3	18.8	6.2	2.7	0	0	0	0	0	0	0	S	0.3	0	6.9	13.7	7.9	6.7	3.2	33.2	9.3	24	
5	2.3	1.7	3.1	3.6	9.1	11.1	7	3.1	3.1	2.9	1.2	0.1	0	0	0	S	0	0	1.5	8.8	10.5	23.7	20.7	46	46	6.9	24	
6	9.9	20.4	26.9	31.3	33.7	28.2	20	13.7	5.4	C	C	C	C	C	C	C	C	3.7	13.3	6.6	6	5.4	4.4	6.4	33.7	14.7	24	
7	12.8	3.2	2.1	1.9	1.3	1.5	1.4	1.4	1.7	1.6	1.7	1.6	1.7	S	0.3	0.3	0.5	0.6	0.7	1.4	8.4	4.3	7.2	6.6	12.8	2.8	24	
8	8.7	8	33.5	16.9	15.9	9	5.9	2.8	2.8	2.1	1.1	1.3	S	1.4	1.5	1.7	1.6	2.7	2.5	5.1	5.1	10.8	8	6.5	33.5	6.7	24	
9	9.6	9.2	11.4	13	8.9	11.3	11.3	5.7	3.6	3.4	2.5	S	1.8	1.6	1.6	3.7	5.8	2.4	1.5	1.1	1.1	1.3	1.3	1.3	13	5.0	24	
10	17.1	16.7	3.2	2.2	1.8	1.5	1.2	1	1.1	1.1	S	0.5	0.9	0.9	0.8	0.7	0.8	0.8	0.9	0.9	15.4	10.5	11	29.8	29.8	5.3	24	
11	13.4	13.5	10	9.5	15.1	10.6	5.4	3.3	2	S	1.8	1.8	1.9	1.4	1.7	2.4	2.4	3.1	2.1	3.7	6.7	7.7	9	7.7	15.1	5.9	24	
12	7.9	9.8	8.5	7.7	5.8	5.2	5.6	3.9	S	3.4	3.3	3.8	3.3	3.7	2.6	2.6	2.5	3.2	3.6	1.1	18.5	19.2	18.8	12.1	19.2	6.8	24	
13	20	9.4	10.3	11.8	8.4	12.6	6.8	S	2.7	2.3	1.6	1.3	1.3	1.8	1.4	2.3	3.8	2.7	5.9	32.2	21.4	3.5	2.2	11.2	32.2	7.7	24	
14	19	31.7	14.6	12.2	12.5	13.5	S	4.9	2.1	1.4	1.7	2.1	1.5	1.5	3	2.4	2.8	3.1	1.2	1	2.1	15.5	15.7	31.7	7.3	24		
15	14.2	10.3	9.2	17.6	19.9	S	9.3	6	2.7	2.2	2.2	1.7	1.8	2	2.4	2.6	3.6	5.1	8.5	49.3	9.2	5.6	29.3	29.6	49.3	10.6	24	
16	35.9	38.2	36.6	33.4	S	28	27.3	12.5	11.5	6.5	3.1	1.7	1.5	1.9	2.1	1.6	2	0.9	2.1	5	20	31.9	23.7	32.9	38.2	15.7	24	
17	30	34.1	31.7	S	24.5	24.6	17.5	9.3	3.7	1.2	0.9	0.7	0.7	0.6	1.6	1	1.5	1.9	0.7	1.5	11	22.6	15.8	25.2	34.1	11.4	24	
18	27.5	31.4	S	28.4	26.9	29.7	21.8	9.7	7.8	5.3	3.2	1.8	2	1.6	1.3	1.3	1	3.5	3.5	3	9.6	6.8	10.3	11.9	31.4	10.8	24	
19	11.5	S	27.7	26.4	19.6	14.4	9.6	9.3	8	5.1	3.5	2.4	2.1	3.2	6.7	10.2	9.1	13.4	6.7	8.4	11.6	19.7	30.4	18.6	30.4	12.1	24	
20	S	10.5	8.7	13.5	13.1	15.8	15.5	3.1	1.8	1.1	1.3	1	1.1	1.1	1.3	1.1	1.2	1.4	2.1	2.8	3.4	8.4	4.9	S	15.8	5.2	24	
21	7.6	16.8	15.2	13.9	20.8	19.6	15	9.7	8.8	4.6	4.2	2.6	2.8	3.7	2.3	2.4	2.7	4.2	3	4.1	9.6	9.4	S	13.6	20.8	8.5	24	
22	20	18.4	21	21.4	22.2	17.9	4.7	5.4	3.5	3	2.2	2.1	2.9	2.5	1.9	1.9	2.4	2.4	2.7	3	6.6	S	7.3	6.6	22.2	7.9	24	
23	3.9	4.1	5.2	9.6	5.7	8.4	4.9	3.6	2.8	2.4	2	2.2	2.6	2.1	2.6	2.6	2.1	2.5	2.9	3.4	S	4.2	3.8	5.5	9.6	3.9	24	
24	4	3.3	5.7	2.5	1.6	1.5	1.5	1.2	1.2	0.9	0.9	1	1.5	3.7	1.1	1.6	1.4	1.2	1.2	S	0.8	0.8	1.3	2.1	5.7	1.8	24	
25	2.2	1.4	1.6	1.6	1.2	1.2	1.5	2.9	2.5	2.1	2.2	2.3	3.7	15.7	2.4	4.6	3.3	4.1	S	2.7	3.9	4.2	3.6	3.4	15.7	3.2	24	
26	3.5	4.3	3.9	11.7	13.9	14.1	15.1	5.1	4.7	2.9	2	1.4	1.1	1.1	1.3	1.6	1.5	S	1.3	8.2	15.6	30.7	17.6	15.1	30.7	7.7	24	
27	10.9	16.6	11.8	12.6	17	12.1	9.1	4.8	3.9	2.1	2.2	0.8	0.8	12.9	2.3	2.7	S	3.6	2.1	2.6	11.3	27.2	13.9	23.4	27.2	9.0	24	
28	21	22.4	23.3	20.1	13.8	7.9	3.2	5.4	5.4	3.5	1	0.9	1	0.8	1	S	0.9	3.5	6.1	7.4	10	19.4	21.5	19.6	23.3	9.5	24	
29	29.2	20.6	21.6	17.5	10.7	7.5	14.1	21.3	8.3	6.7	3.8	2.8	2.1	3.2	S	2.6	3.8	6.5	6.8	12.6	13	12.9	14.7	9.2	29.2	10.9	24	
30	9.4	9.6	8.8	9.8	9.3	9.2	5.4	5.4	4.3	3.9	2.5	2.5	2.6	S	1.7	1.4	1.3	2.9	1.9	12.4	24.1	28.8	21.5	16.9	28.8	8.5	24	
31	16.4	13.6	16	14.4	11.1	19.5	11.3	7.8	5.1	2.2	1.8	1.6	S	1.4	1.6	1.8	1.3	1.5	3.4	11.4	11.9	17.1	10.5	11.8	19.5	8.5	24	
HOURLY MAX	35.9	38.2	36.6	33.4	33.7	29.7	27.3	21.3	11.5	6.7	4.2	3.8	3.7	15.7	6.7	10.2	9.1	13.4	13.4	49.3	24.1	31.9	30.4	46.0				
HOURLY AVG	14.1	13.8	13.7	14.5	13.5	13.1	9.9	6.1	3.9	2.7	2.0	1.5	1.6	2.6	1.8	2.1	2.2	3.0	3.7	8.0	10.1	13.4	13.2	14.7				

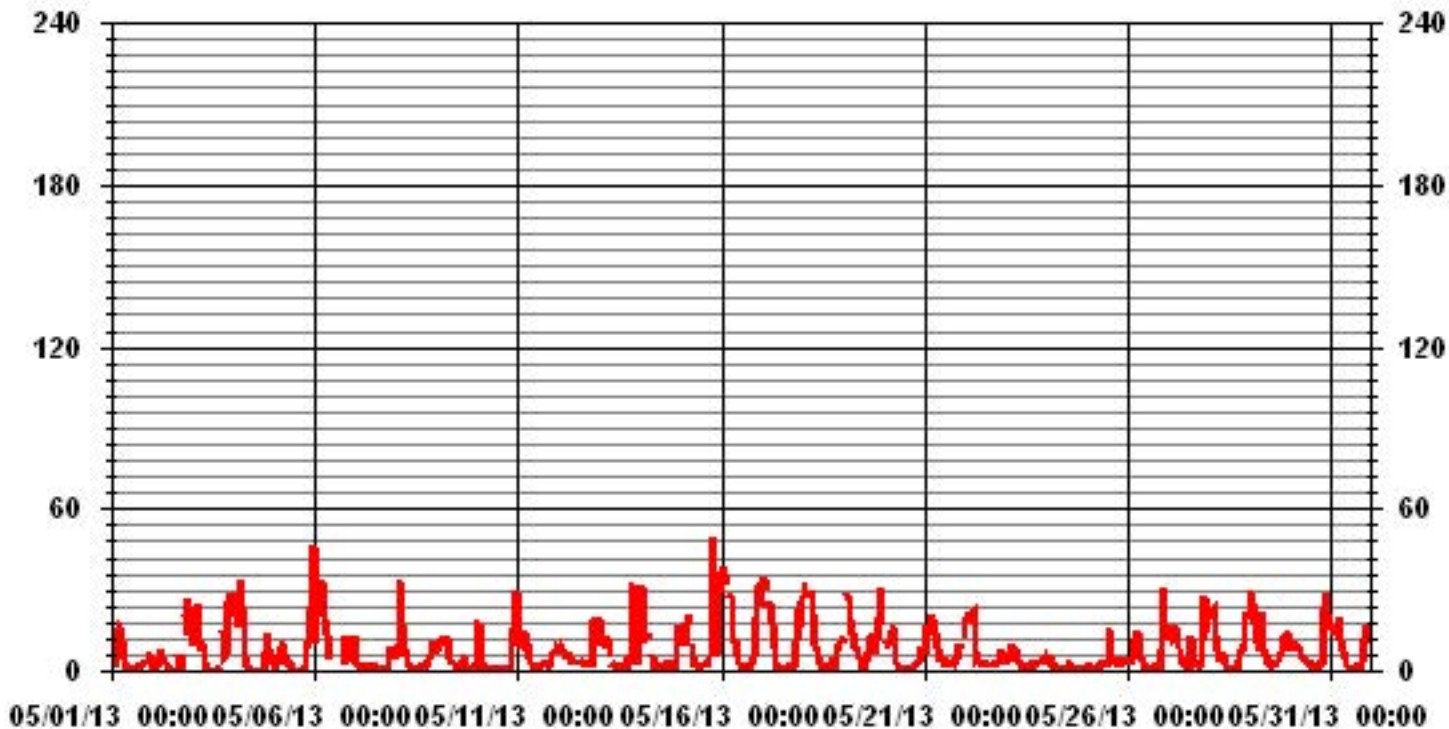
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	684					
MAXIMUM INSTANTANEOUS VALUE:	49.3	PPB	@ HOUR(S)	19	ON DAY(S)	15
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	743	HRS	
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION:	8.41					

01 Hour Averages



— LICA35 NO2MAX PPB

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

May 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	2.40	1.84	2.12	4.53	10.76	17.42	8.64	3.96	3.54	4.24	3.39	5.52	9.77	9.91	6.23	5.66	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	2.40	1.84	2.12	4.53	10.76	17.42	8.64	3.96	3.54	4.24	3.39	5.52	9.77	9.91	6.23	5.66	

Calm : .00 %

Total # Operational Hours : 706

Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 50.0	17	13	15	32	76	123	61	28	25	30	24	39	69	70	44	40	706
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	17	13	15	32	76	123	61	28	25	30	24	39	69	70	44	40	

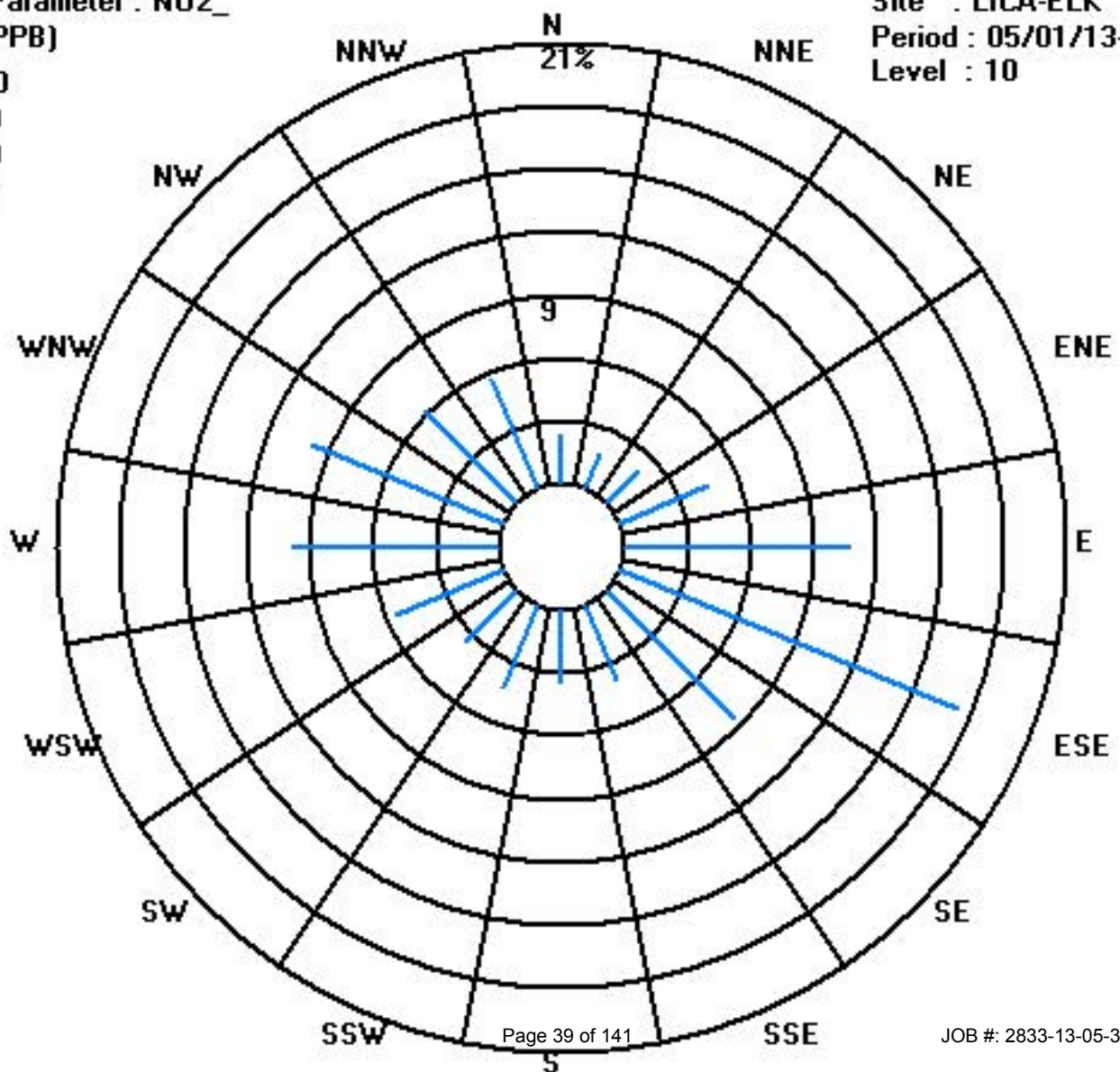
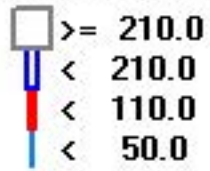
Calm : .00 %

Total # Operational Hours : 706

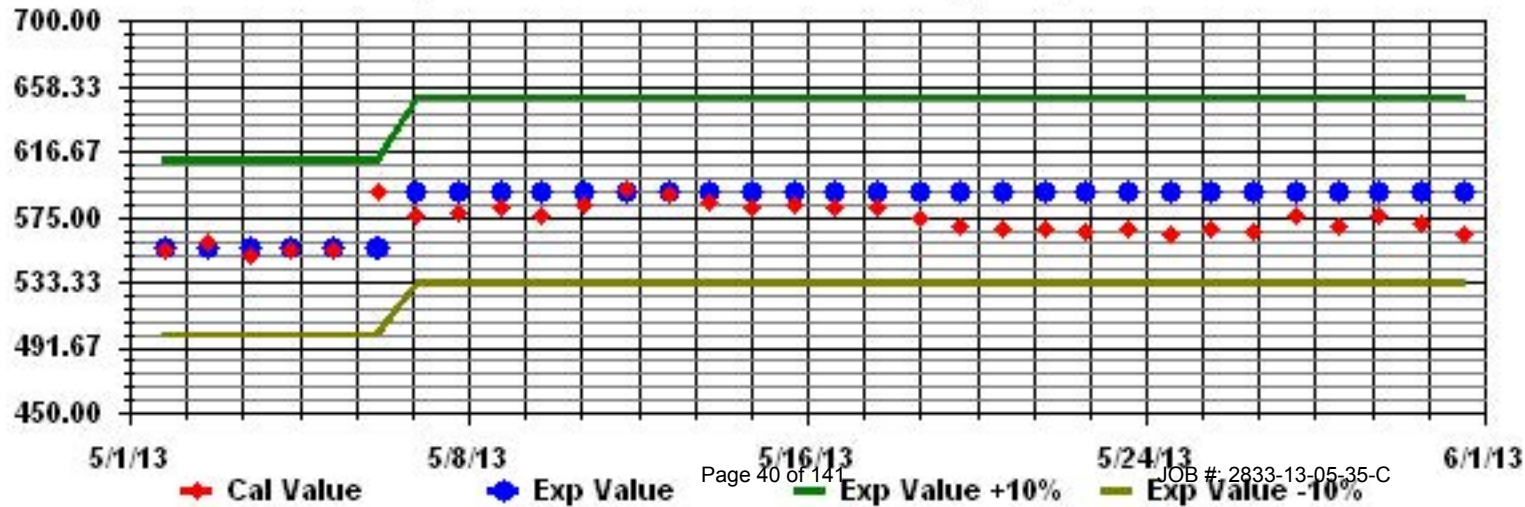
Class Limits (PPB)

Period : 05/01/13-05/31/13

Level : 10



Calibration Graph for Site: LICA35 Parameter: NO2_ Sequence: NO2 Phase: SPAN



Nitric Oxide

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

MAY 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		
	HOUR START	HOUR END	HOUR END	HOUR END	HOUR END	HOUR END	HOUR END	HOUR END	HOUR END	HOUR END	HOUR END	HOUR END	HOUR END	HOUR END	HOUR END	HOUR END	HOUR END	HOUR END	HOUR END	HOUR END	HOUR END	HOUR END	HOUR END	HOUR END	HOUR END	HOUR END	MAX.	AVG.
1	1.3	0	0.7	1.1	1.1	4.9	2.6	1.7	0.5	0.7	0.9	0.4	0.3	0.2	0.3	0.2	0.3	0.3	0.3	S	0.2	0.2	0.2	0	4.9	0.8	24	
2	0.1	0	0	0	0.2	1	0.8	0.9	0.8	0.8	0.7	0.1	0	0	0.3	0.2	0.2	0.1	S	0.5	0.7	1.5	1.3	0.5	1.5	0.5	24	
3	0	0.1	0.1	2.3	0.4	0.9	1.8	1.5	0.5	0.4	0.1	0	0	0	0.1	0	0	S	0.9	0.6	0.4	1.2	2.9	1.5	2.9	0.7	24	
4	1.5	0.7	0.4	1.9	22.3	24.1	9.9	2.9	1	0.4	0.2	0.2	0.3	0.3	0.2	S	0.5	0.4	0.5	0.3	0.5	0.3	0.2	24.1	3.0	24		
5	0.1	0.3	0.2	0.2	0.2	1.4	1.9	1.3	1.8	1.5	0.8	0.4	0.2	0.2	0.3	S	0.4	0.2	0.3	0.1	0.2	0.4	0.4	1.9	1.9	0.6	24	
6	0.2	0.4	2.7	16.2	23.3	22.8	16	3.2	2	C	C	C	C	C	C	C	0.6	0	0	0	0	0	0	0	23.3	5.1	24	
7	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0.4	0.1	0	0.1	0	0	0	0	0	0	0.4	0.0	24	
8	0	0	1.3	0.4	0.7	0.9	1.5	0.8	0.9	0.5	0.2	0.3	S	0.5	0.2	0.1	0.1	0.2	0	0.2	0	0	0	0	1.5	0.4	24	
9	0	0	0	0	0.1	0.9	2	0.9	1	0.5	0.2	S	0.6	0.2	0	0.1	0.1	0	0	0	0	0	0	0	2	0.3	24	
10	0.7	0.2	0	0	0	0	0	0	0	0	S	0.5	0.4	0.4	0.3	0.2	0.3	0.3	0.3	0.2	0.3	0.3	0.4	1	1	0.3	24	
11	0.5	0.5	0.4	0.4	1.1	1.7	1.6	1.3	0.7	S	0.7	0.4	0.3	0.2	0.2	0.3	0.3	0.3	0.1	0.2	0.3	0.1	0.1	0.1	0.1	1.7	0.5	24
12	0.1	0	0	0	0.2	0.5	1	0.6	S	1.4	0.9	0.5	0.3	0.3	0.3	0.3	0.3	0.2	0.1	0	0.7	1.1	0.1	0.4	1.4	0.4	24	
13	0.6	0.2	0.1	0.2	0.2	1	1	S	0.8	0.4	0.2	0	0.1	0.1	0.1	0.1	0.1	0	0.2	1.1	0.5	0	0	0	1.1	0.3	24	
14	0.2	3	0	0	0.1	1.2	S	0.8	0.2	0.1	0.1	0.1	0	0	0	0	0.1	0.1	0	0	0	0	0	0	3	0.3	24	
15	0	0	0	0.4	1.4	S	2.1	1.3	0.7	0.5	0.3	0.2	0.1	0.1	0.3	0.3	0.5	0.6	0.3	2.1	0.2	0.2	0.5	0.6	2.1	0.6	24	
16	6.4	11.8	17.3	28.9	S	41.9	17.7	0.9	2.1	0.8	0.6	0.2	0.1	0.1	0.2	0.1	0	0	0	0	0.4	0.6	0.6	4.8	41.9	5.9	24	
17	5.1	1.3	6	S	35.5	14.4	10.3	2	0.6	0.2	0	0	0	0	0	0	0	0	0	0	0.1	0.3	0	0.3	35.5	3.3	24	
18	1.6	5.5	S	12.6	17.5	12.7	15	2.8	1.7	0.8	0.3	0	0.3	0.1	0	0	0	0.3	0.1	0.2	0	0	0	0	17.5	3.1	24	
19	0.1	S	1.6	2.3	1.9	4.7	3.4	3	2.4	1	0.6	0.2	0	0.2	0	0.2	0.4	0.4	0.2	0.1	0.1	0.1	0.5	0.1	4.7	1.0	24	
20	S	0.5	0.1	0.2	0.3	0.8	2	0.3	0.1	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0.1	0	S	2	0.2	24	
21	0.2	0.8	0.1	0.7	2.6	2.3	2.4	2.1	1.6	1	0.6	0.5	0.5	0.3	0.4	0.3	0.3	0.2	0.1	0	0	0	S	0.2	2.6	0.7	24	
22	0.4	0.2	0.3	0.4	0.5	2.3	0.7	1.4	0.7	0.4	0.5	0.3	0.4	0.5	0.5	0.4	0.2	0.3	0.1	0.3	0.4	S	0.1	0	2.3	0.5	24	
23	0	0	0	0.1	0	0.8	1.4	1.3	1	0.5	0.3	0.3	0.3	0.3	0.3	0.2	0.1	0	0.1	0	S	0.2	0	0	1.4	0.3	24	
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	S	0.1	0	0	0	0.1	0.0	24	
25	0	0	0	0	0	0	0.1	0.7	0.9	0.8	0.7	0.5	0.3	0.9	0.2	0.4	0.3	0.3	S	0.3	0	0.1	0	0	0.9	0.3	24	
26	0	0	0.1	0.1	1.1	8.1	12.6	1.6	1.3	0.9	0.4	0.1	0	0	0.1	0.1	0	S	0.3	0.2	0.3	1.2	0.3	0.5	12.6	1.3	24	
27	0	2	0.6	1.6	6	4.2	2.6	1.7	0.8	0.3	0	0	0	1.4	0.1	0.1	S	0.3	0.1	0.1	0.2	0.6	0.2	1.1	6	1.0	24	
28	3	15.4	14.7	2.1	3.7	1.1	0.6	1	1.5	0.3	0	0	0	0	0	S	0.3	0.2	0.3	0.5	0.4	0.6	1.4	1.7	15.4	2.1	24	
29	5.6	2.1	3.8	2.2	1.2	1.1	4.7	11.8	3.4	1.5	0.6	0.2	0.1	0.1	S	0.5	0.3	0.6	0.4	0.6	0	0.2	0	0.2	11.8	1.8	24	
30	0	0	0	0.1	0.1	0.4	0.8	1.1	1.1	0.6	0.3	0.3	0.2	S	0.6	0.3	0.2	0.3	0.2	0.5	1.3	2.7	1.3	1.3	2.7	0.6	24	
31	0.7	1.6	2.5	0.6	0.8	6.4	2.1	2.2	1.5	0.6	0.3	0.2	S	0.3	0.2	0	0	0	0	0.2	0	0.4	0.1	0	6.4	0.9	24	
HOURLY MAX	6.4	15.4	17.3	28.9	35.5	41.9	17.7	11.8	3.4	1.5	0.9	0.5	0.6	1.4	0.6	0.5	0.6	0.6	0.9	2.1	1.3	2.7	2.9	4.8				
HOURLY AVG	0.9	1.6	1.8	2.5	4.1	5.4	4.0	1.7	1.1	0.6	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.4	0.4	0.6				

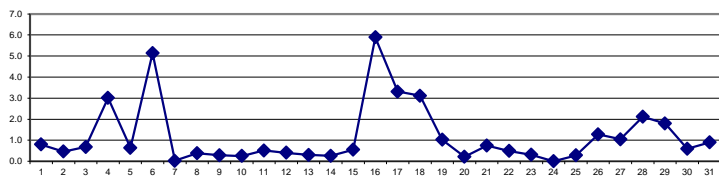
STATUS FLAG CODES

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

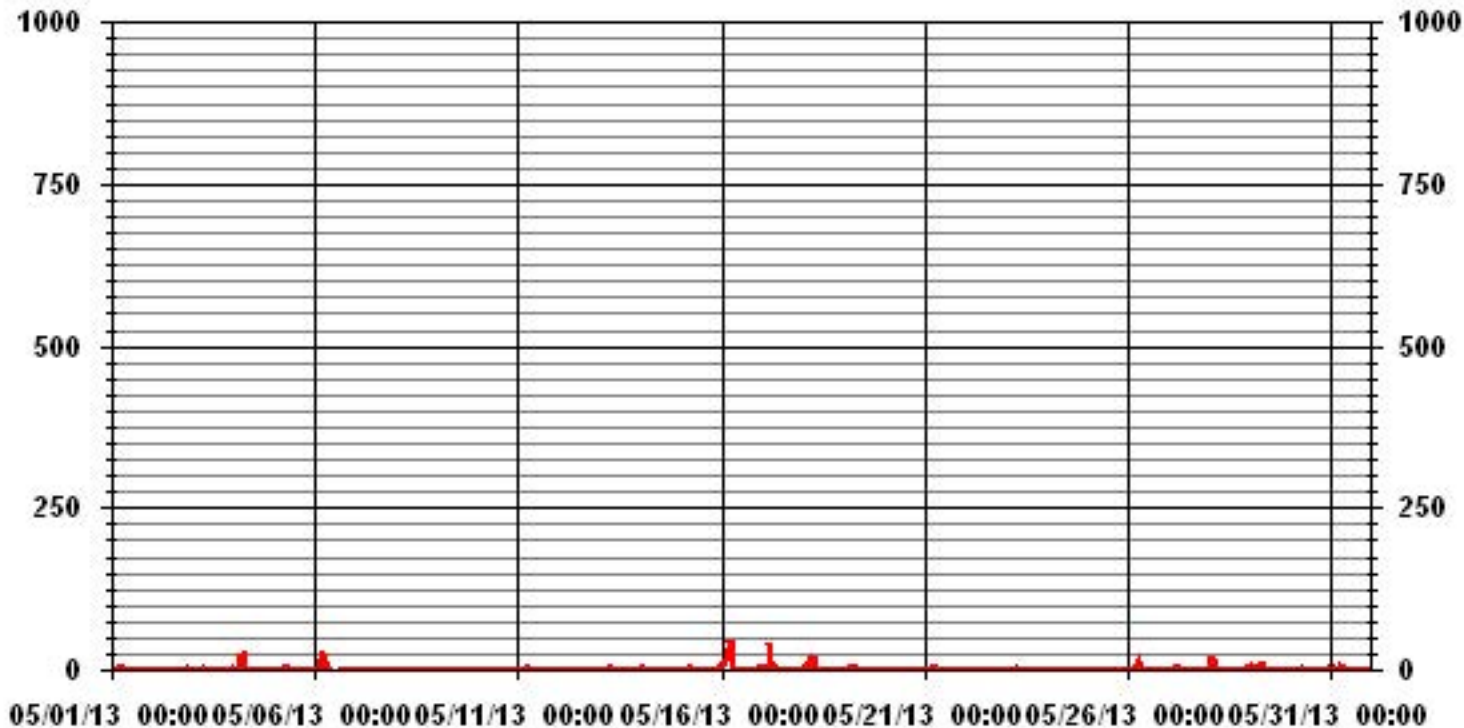
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	513					
MAXIMUM 1-HR AVERAGE:	41.9	PPB	@ HOUR(S)	5	ON DAY(S)	16
MAXIMUM 24-HR AVERAGE:	5.9	PPB			ON DAY(S)	16
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	744	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	3.61		MONTHLY AVERAGE:	1.16	PPB	

24 HOUR AVERAGES FOR MAY 2013



01 Hour Averages



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

MAY 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	6	0.5	2.7	3	3.9	9.4	7.9	3.4	1.2	1.7	1.4	1	1.1	1.2	0.9	0.9	1.3	1.2	1.1	S	1	0.8	0.8	0.6	9.4	2.3	24	
2	0.8	0.6	0.3	0.4	0.8	3.4	2.3	2.1	1.3	1.5	1.8	0.8	0.7	P	1	0.9	0.9	0.8	S	3.1	4.6	6.7	3.7	2.3	6.7	1.9	23	
3	0.6	1.1	0.6	33.7	2	2.8	3.5	3.3	1.1	0.9	0.7	0.7	0.7	0.7	0.9	0.3	0.3	S	12.2	1.4	0.9	8.2	10	3.6	33.7	3.9	24	
4	7.1	2.3	1.3	10	51.6	52.1	40.7	4.8	2.3	0.8	0.8	0.9	1	1	1	1	S	1.4	1.1	1.1	0.9	1.9	1	0.8	52.1	8.1	24	
5	0.5	0.8	0.8	0.8	0.7	2.6	3.5	2.3	2.4	2.4	1.6	0.9	0.8	1	1.1	S	1.2	0.7	0.7	0.9	0.9	1.2	1	23.4	23.4	2.3	24	
6	0.9	0.9	15.5	25.7	31.1	35.4	21	9.2	3.2	C	C	C	C	C	C	C	0.1	3.3	0.1	0.7	0	0	0	35.4	9.2	35		
7	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	S	1.3	0.5	0.5	0.6	0.5	0.5	1.2	0.5	0.7	0.5	1.3	0.3	24	
8	0.5	0.5	22.5	4.8	3.3	1.5	2.3	1.5	1.8	1.4	0.8	1.1	S	1	1	0.8	0.7	1.3	0.7	1.4	0.5	0.9	0.4	0.6	22.5	2.2	24	
9	0.3	0.8	0.7	0.4	0.6	4	3.9	1.7	1.5	1.3	0.7	S	1.3	0.7	0.5	0.8	1	0.5	0.2	0.5	0.5	0.5	0.2	0.2	4	1.0	24	
10	5.7	1.5	0.4	0.5	0.2	0.2	0.5	0.5	0.5	0.4	S	1.3	0.8	0.9	0.8	0.6	0.8	0.6	0.6	0.8	1	0.8	14.2	14.2	1.5	24		
11	0.9	0.9	0.8	0.9	3.3	3.9	2.7	2.5	1.3	S	1.3	0.9	0.9	0.9	0.7	0.8	0.9	1	0.7	0.8	2.1	2.1	0.7	0.6	3.9	1.4	24	
12	0.6	0.6	0.5	0.6	0.8	1.8	2.3	1.2	S	2.1	1.5	1.1	0.8	0.9	0.8	0.7	0.9	0.9	0.6	0.5	4.1	6.6	1.1	2.9	6.6	1.5	24	
13	2.3	1	1	0.8	0.9	4	1.7	S	1.6	1.1	0.9	0.5	0.5	0.7	0.6	0.7	1.2	0.8	1	13.5	3.4	0.3	0.3	0.6	13.5	1.7	24	
14	1.8	13.8	2.8	0.9	0.7	3.2	S	1.9	0.9	0.6	0.4	0.7	0.5	0.5	0.4	0.7	0.9	0.8	0.6	0.2	0.1	0.1	0.7	0.6	13.8	1.5	24	
15	0.4	0.4	0.3	2.2	4.3	S	3.2	2.1	1.3	1.4	0.6	0.7	0.9	0.6	1	0.9	5.2	1.4	1.1	39.4	1.2	0.9	1.5	1.2	39.4	3.1	24	
16	51	52.1	35.1	36	S	55.6	40.3	3.8	4.9	1.9	1.1	0.7	0.6	0.6	0.6	0.6	0.4	0.3	0.5	0.6	1.9	2.6	3.4	12.9	55.6	13.4	24	
17	9.8	25.9	20.9	S	90.6	61.8	15.7	4.7	1.3	0.5	0.4	0.4	0.4	0.5	0.5	0.3	0.4	0.5	0.3	0.3	0.8	3.5	0.5	3.7	90.6	10.6	24	
18	5.4	20.5	S	21.1	25.5	128.5	37.5	4.5	2.6	1.8	1	0.6	1	1	0.5	0.7	0.2	1.1	0.8	0.8	0.7	0.4	0.4	0.5	128.5	11.2	24	
19	0.5	S	4.1	8.6	4.1	7.4	6	5.3	3.1	1.8	1.1	0.9	0.5	0.7	0.6	1.2	1.3	1.6	0.8	0.5	0.6	1	1.7	0.8	8.6	2.4	24	
20	S	1.4	0.6	0.9	1.4	2.3	6.8	0.7	0.5	0.5	0.6	0.5	0.4	0.4	0.4	0.3	0.6	0.6	0.4	0.2	0.3	1.1	0.5	S	6.8	1.0	35	
21	0.9	5.7	0.9	2.3	5.4	5.2	4.5	3.9	3.1	2	1.6	1.3	1	1.5	0.9	0.8	1.3	1.1	0.7	0.9	0.6	0.6	S	0.9	5.7	2.0	24	
22	1.1	0.8	2.3	2.9	1.8	6.1	1.3	2.1	1.9	1.3	1.3	1	1.3	1.5	1.4	1.1	1.1	0.9	0.8	1	2.6	S	1.1	0.3	6.1	1.6	24	
23	0.5	0.7	0.4	1.6	0.6	3.3	2.6	2.2	2	1.4	0.9	0.9	1.1	1.1	1.3	0.9	0.9	0.9	0.5	0.5	S	0.7	0.4	0.5	3.3	1.1	24	
24	0.3	0.4	0.5	0.2	0.2	0.5	0.5	0.6	0.4	0.2	0.4	0.3	0.5	0.9	0.3	0.3	0.2	0.5	0.8	S	0.7	0.4	0.4	0.5	0.9	0.4	24	
25	0.5	0.2	0.3	0.4	0.2	0.4	0.9	1.7	2.1	1.7	1.6	1.6	1.2	9.6	1	1.6	0.8	1.1	S	0.8	0.5	0.5	0.6	0.3	9.6	1.3	24	
26	0.5	0.3	0.6	0.7	2.1	36	37.8	2.9	1.9	1.5	0.9	0.6	0.6	0.5	0.7	0.5	0.6	S	1	1.1	1.2	24.3	1.2	3.1	37.8	5.2	24	
27	3.1	22.6	2.9	5.5	18.3	9.3	7.2	2.5	1.9	0.8	0.7	0.4	0.5	15.9	1.9	0.8	S	0.7	0.7	0.6	0.8	26.1	2.1	6.4	26.1	5.7	24	
28	8.4	48	20.3	9.5	12.1	6.7	1.3	2.7	2.4	1.2	0.4	0.3	0.3	0.1	0.1	S	1	1.1	1.1	1.4	0.8	1.6	5.1	7.5	48	5.8	24	
29	42	9.6	6.3	4.4	2.5	2	8.3	38.6	4.3	2.9	1.3	0.6	0.6	0.6	S	1.3	0.9	1.6	1.4	2.4	0.8	0.6	0.6	1.1	42	5.9	24	
30	0.7	0.5	0.6	0.6	0.9	0.9	1.7	1.6	1.6	1.3	0.9	0.9	0.8	S	1.4	0.8	0.7	0.8	0.7	3.1	6.6	11.7	5.2	5.5	11.7	2.2	24	
31	4.1	8	13.3	1.7	1.9	19.3	5.1	3.4	2.3	1.3	1	0.7	S	1	0.8	0.5	0.4	0.3	0.4	1.1	0.6	4.1	3	0.3	19.3	3.2	24	
HOURLY MAX	51.0	52.1	35.1	36.0	90.6	128.5	40.7	38.6	4.9	2.9	1.8	1.6	1.3	15.9	1.9	1.6	5.2	1.6	12.2	39.4	6.6	26.1	10.0	23.4				
HOURLY AVG	5.2	7.4	5.3	6.0	9.1	15.7	9.1	3.9	1.9	1.3	1.0	0.8	0.8	1.7	0.8	0.8	1.0	0.9	1.2	2.7	1.4	3.7	1.6	3.2				

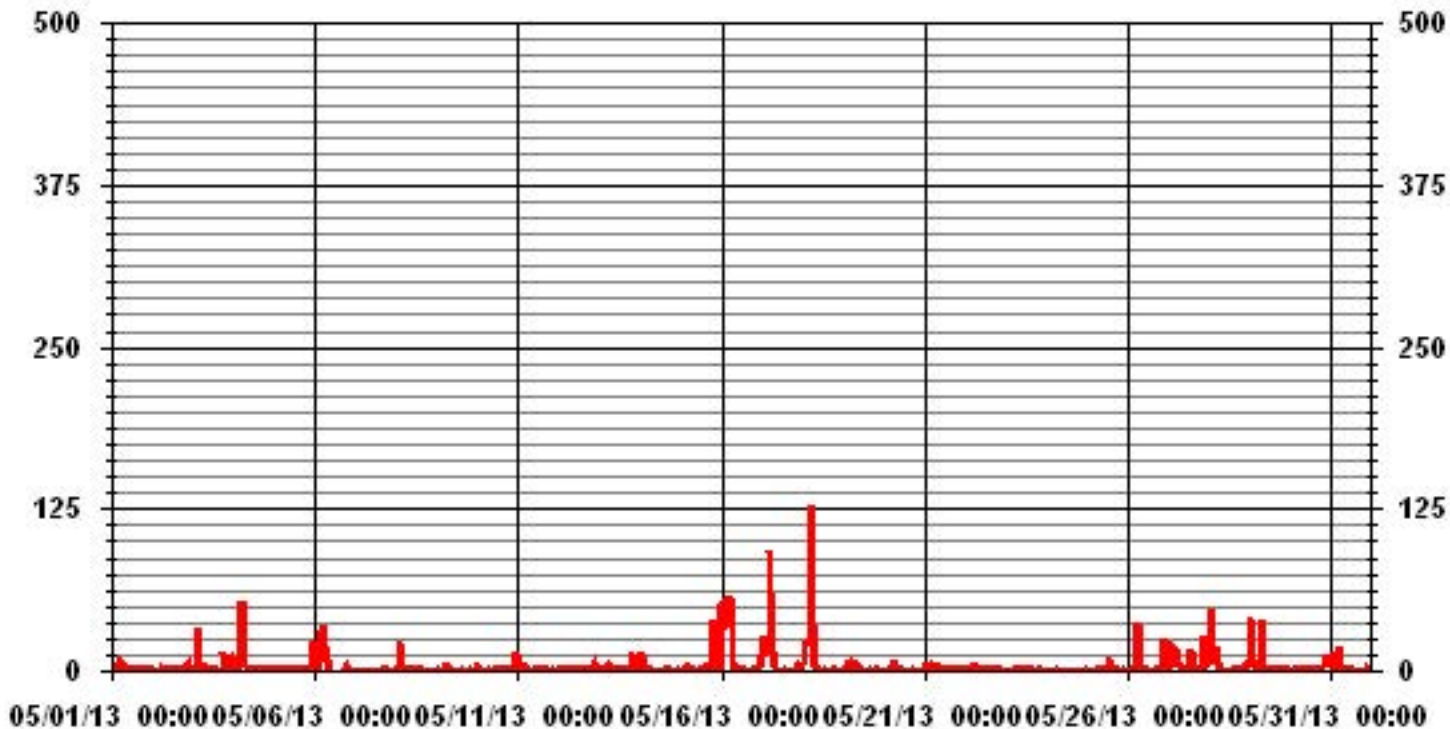
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	690					
MAXIMUM INSTANTANEOUS VALUE:	128.5	PPB	@ HOUR(S)	5	ON DAY(S)	18
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	765	HRS	
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION:	9.73					

01 Hour Averages



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

May 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	2.40	1.84	2.12	4.53	10.76	17.42	8.64	3.96	3.54	4.24	3.39	5.52	9.77	9.91	6.23	5.66	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	2.40	1.84	2.12	4.53	10.76	17.42	8.64	3.96	3.54	4.24	3.39	5.52	9.77	9.91	6.23	5.66	

Calm : .00 %

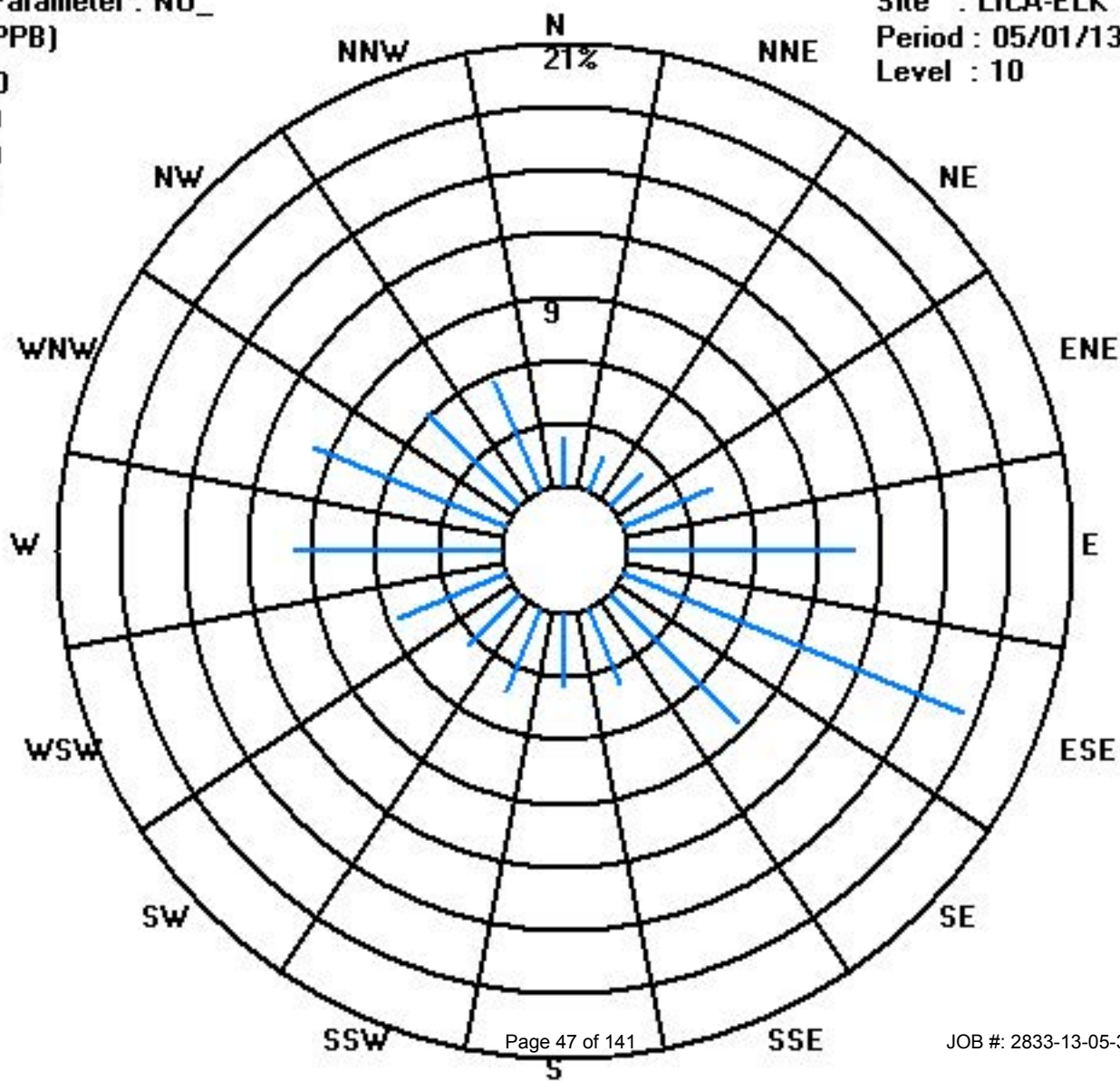
Total # Operational Hours : 706

Distribution By Samples

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 50.0	17	13	15	32	76	123	61	28	25	30	24	39	69	70	44	40	706
< 110.0																	
< 210.0																	
>= 210.0																	
Totals	17	13	15	32	76	123	61	28	25	30	24	39	69	70	44	40	

Calm : .00 %

Total # Operational Hours : 706



Oxides of Nitrogen

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

MAY 2013

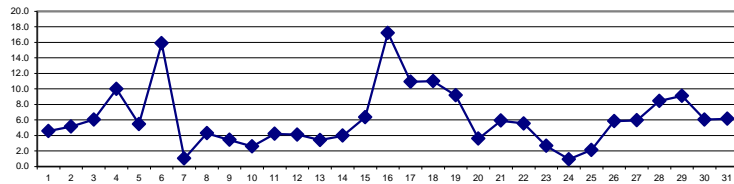
OXIDES OF NITROGEN hourly averages in ppb

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 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	6.5	1	6.8	10.2	13	19.1	7.6	4.4	1.6	2.1	2.5	1.4	1.3	1.1	1.2	1.5	1.6	1.8	2.2	S	3.8	4.6	6.3	3.2	19.1	4.6	24
2	3.5	2.8	2.2	2.6	4.8	7.6	6	5	4.9	4	3.1	1.2	0.9	1	2.2	1.6	1.4	2.7	S	6.5	6.6	12.9	22	13	22	5.2	24
3	8.5	7.8	10.7	12.1	5.1	7.6	7.3	5.1	1.9	1.4	0.8	0.5	0.5	0.4	0.4	0	0.1	S	3.7	5.6	4.6	10.5	27.5	16.7	27.5	6.0	24
4	18.6	15.2	13.1	17.8	51.3	45.8	22.1	8.4	3	1.3	0.5	0.6	0.5	0.7	0.7	0.7	S	1.2	1	2.3	9.7	7.3	4.9	2.8	51.3	10.0	24
5	2.8	2.8	3.8	3.6	5.2	13	8	5.1	5.9	5.2	2.6	1.3	0.7	0.7	0.8	S	0.9	0.9	1.6	3.3	7.6	16	16.3	17.4	17.4	5.5	24
6	8.3	16.7	19.5	46.5	53.9	47.8	35	11.6	7.3	C	C	C	C	C	C	C	1.6	2.3	2.5	4.2	4.7	3.6	1.8	2.6	53.9	15.9	24
7	2.8	1.6	0.7	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	S	0.4	0.3	0.3	0.4	0.3	0.6	3.3	2	4	5.5	5.5	1.0	24
8	6.2	6.3	11.7	9.9	13.4	7.6	5.6	2.6	2.7	1.8	0.8	1	S	1.3	1.2	1.2	1.2	1.5	1.5	3.8	3.3	4.4	5.2	4.7	13.4	4.3	24
9	5.3	5.3	8.2	9.5	6.9	7.9	9.2	5.3	4.1	2.7	1.9	S	1.6	1.2	1	1.4	1.8	1.7	0.7	0.6	0.5	0.7	0.7	0.7	9.5	3.4	24
10	5.9	5.5	1.4	1.5	1.2	0.9	0.7	0.5	0.7	0.4	S	0.7	0.7	0.7	0.6	0.5	0.6	0.5	0.6	0.6	5.4	8	8.4	13.6	13.6	2.6	24
11	11.7	10.4	6.8	7.1	10	7.1	5	3.7	2	S	1.6	1.3	1.1	1	1	1.4	1.6	1.7	1.3	2.4	3.4	4.7	5.3	4.9	11.7	4.2	24
12	6.1	6.1	6.1	5	4.3	4.2	4.7	3.7	S	4.2	3.4	2.8	2.6	2.8	2	1.9	1.6	1.8	1.1	0.5	5.1	9.6	9	5.8	9.6	4.1	24
13	11.2	6.4	5.4	5.7	5.7	6.7	5.7	S	2	1.3	0.8	0.6	0.7	0.8	0.7	0.7	0.9	1.1	2.8	6.9	5.8	1.8	1.6	3.3	11.2	3.4	24
14	8.4	22.5	1.8	5.8	7.7	11.3	S	2.9	1.2	0.9	1	1	0.6	0.6	0.6	0.8	1.2	1.4	0.9	0.1	0.3	0.8	8.7	10.7	22.5	4.0	24
15	9	7.2	6.8	13.3	16.3	S	8.5	4.7	2.5	1.8	1.2	0.9	0.8	0.8	1.6	1.4	2.2	3.6	4	12.8	3	3.3	17.2	22.9	22.9	6.3	24
16	34	41.7	48	58.1	S	66.5	38.5	5.1	8.7	4.2	2.3	1.3	1.1	1.4	1.5	1	0.8	0.5	1	1.1	11.1	19.2	19.2	29.6	66.5	17.2	24
17	28.8	19.4	32.2	S	55.4	33.1	25.2	7.1	2.8	0.5	0.2	0.2	0.1	0.1	0.6	0	0.6	0.7	0.1	0.3	5.7	10.9	9.7	17.8	55.4	10.9	24
18	24	27.4	S	37.7	41.1	29.8	31.2	10.3	7.7	4.4	2.7	1.2	1.6	0.8	0.5	0.7	0.6	2.1	1.9	2.1	4.9	3.7	7.2	9.7	41.1	11.0	24
19	8.2	S	18.9	22.6	18.2	16.9	12.2	10.6	9	4.4	3.1	1.6	1.1	1.9	2.3	3.6	4.2	6.2	4.8	5.9	8.2	12.6	19.6	14.6	22.6	9.2	24
20	S	8.4	6.3	10.5	10.9	10.6	10.5	2.6	1.2	0.8	0.7	0.6	0.6	0.7	0.8	0.7	0.8	0.8	1.1	1.2	1.2	4.6	3.6	S	10.9	3.6	24
21	6.3	9.5	10.3	11	20.2	16.2	12.5	9.7	7	3.9	2.9	2.1	2.1	1.8	2	1.6	1.7	1.8	1.4	2.4	3.1	2.2	S	4.2	20.2	5.9	24
22	16.5	14.5	14.5	11.7	12.1	14.8	4	5.2	2.7	1.7	1.6	1.4	1.6	1.6	1.4	1.4	1.4	1.5	1.6	2.4	4.2	S	5.8	4	16.5	5.5	24
23	3	2.8	3.1	4.9	3.6	5.1	5.1	4	2.9	2.2	1.6	1.7	1.7	1.6	1.6	1.5	1.3	1.2	1.9	1.8	S	2.5	2.4	3.4	5.1	2.6	24
24	1.9	1.5	2.5	1.1	0.8	0.7	0.9	0.9	0.7	0.4	0.5	0.6	0.8	1.8	0.5	0.7	0.6	0.5	0.8	S	0.6	0.6	0.8	1.3	2.5	0.9	24
25	1.3	1	1.1	1	0.9	0.9	1.3	2.5	2.8	2.3	2.2	1.9	2.2	3.8	1.9	2.8	2.6	2.9	S	2.3	3	3.4	2.7	2.3	3.8	2.1	24
26	2.5	3.1	2.9	4.9	12.1	19.6	23	5.3	4.7	3.4	1.7	1.1	1	0.9	1	1.1	1.1	S	1.3	3.5	8.2	8.8	11.2	11.7	23	5.8	24
27	8	11.1	9.7	11.3	18.3	11.5	7.7	5.8	3.5	1.7	1.2	0.6	0.6	2.8	0.9	1.5	S	1.3	1.3	1.8	3.7	5.5	10.1	16.7	18.3	5.9	24
28	19.1	34.5	33.7	13.3	14.1	3.8	2.7	3.6	5	1.9	0.4	0.3	0.2	0.1	0.3	S	0.7	1.5	3.9	4.1	7.1	13.4	16	14.2	34.5	8.4	24
29	25.7	17.1	21.6	16.1	7.7	5.8	14.8	24.2	10.4	5.6	3.4	1.6	1.2	1.2	S	2	2	4.2	4.8	6.9	5.8	9.6	10.4	7.1	25.7	9.1	24
30	8.5	7.4	7.4	7.2	6.7	7	5.1	5.5	4.6	3	2.1	1.8	1.8	S	1.3	0.9	0.8	1.4	0.8	3.4	13.3	22.2	13	13.7	22.2	6.0	24
31	11.6	11.1	13.1	12.2	9.6	18	7.7	7.5	4.7	1.7	1.2	0.9	S	1	1.2	1.1	0.9	0.9	2	5.5	6.2	9.4	4.3	9.3	18	6.1	24
HOURLY MAX	34.0	41.7	48.0	58.1	55.4	66.5	38.5	24.2	10.4	5.6	3.4	2.8	2.6	3.8	2.3	3.6	4.2	6.2	4.8	12.8	13.3	22.2	27.5	29.6			
HOURLY AVG	10.5	10.9	11.0	12.5	14.4	14.9	10.9	5.8	3.9	2.4	1.7	1.1	1.1	1.2	1.1	1.2	1.3	1.7	1.8	3.3	5.1	7.3	9.2	9.6			

STATUS FLAG CODES

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

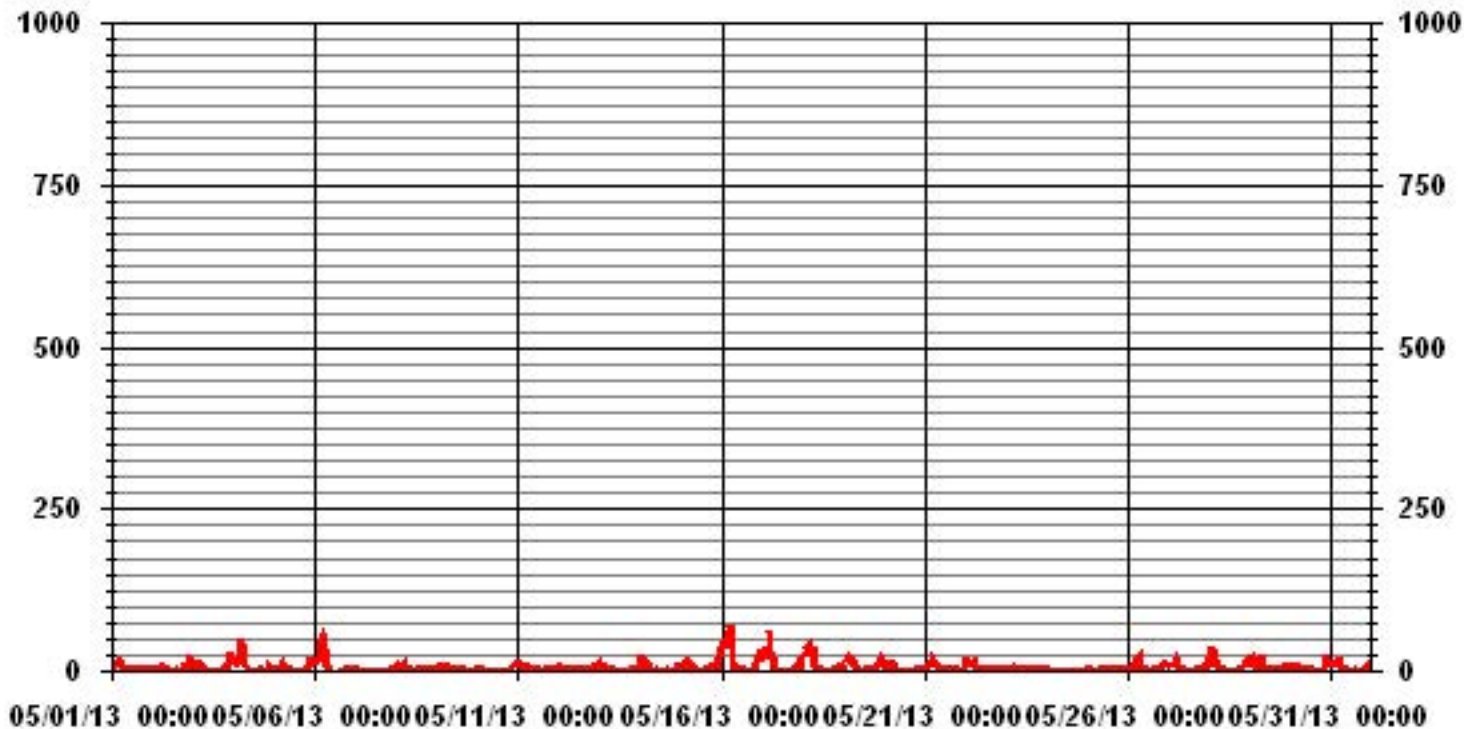
24 HOUR AVERAGES FOR MAY 2013



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	704					
MAXIMUM 1-HR AVERAGE:	66.5	PPB	@ HOUR(S)	5	ON DAY(S)	16
MAXIMUM 24-HR AVERAGE:	17.2	PPB			ON DAY(S)	16
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	744	HRS	
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	8.53		MONTHLY AVERAGE:	6.08	PPB	

01 Hour Averages



— LICA35 NOX_ PPB

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

MAY 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	21.9	1.7	12.5	17.2	21.3	25.8	19.7	8.2	2.7	3.6	3.5	2.4	2.2	2.4	2.1	2.4	2.8	3	3.6	S	6	5.5	8.8	4.7	25.8	8.0	24	
2	5.7	4.3	2.9	3.9	7.1	12.8	7.5	7.2	6.1	5.9	4.9	2.5	1.8	P	7.1	2.7	3.2	6.9	S	25.3	19	34.9	29.4	24.6	34.9	10.3	23	
3	11.9	13.3	13.8	54.2	10.8	13.5	14	9.2	3	2.9	1.5	1.8	1.6	2.4	2.9	0.6	0.6	S	26.9	8.9	8.8	35.6	40.7	32.1	54.2	13.5	24	
4	33.5	25	18.3	39.9	86.3	74.4	61.3	12.5	6.6	2.4	1.1	1.5	1.5	1.6	2	2.3	S	3.3	2.3	9.1	16.1	11.2	8.9	5	86.3	18.5	24	
5	4.3	3.7	5	5.5	11.2	14.4	11.6	6.8	6.9	6.6	4.3	2.3	1.2	2	2	S	1.6	1.6	3.5	11.1	12.8	26	23.1	63.6	63.6	10.0	24	
6	12.2	22.5	44.1	56.9	64.8	62.4	41.5	24.7	10.1	C	C	C	C	C	C	C	C	3.5	14.9	6.2	6.3	4.7	3.8	5.7	64.8	24.0	24	
7	12.5	2.2	1.4	1	0.4	0.6	0.6	0.6	0.8	0.8	0.9	0.9	S	1	0.7	0.7	1	0.8	1.2	9.6	4.4	7.7	7.2	12.5	2.5	24		
8	9	8.4	52.9	22	19.1	10.1	8	4.4	4.4	3.3	1.6	2	S	2.1	2.3	2.2	2.1	3.8	3.1	6.3	5.3	11.2	8.4	6.7	52.9	8.6	24	
9	10.1	10.1	11.9	13.4	9.4	15.5	15.5	7.1	5	4.5	2.8	S	2.3	2	1.8	4.2	6.3	2.7	1.3	1.1	1	1	1.2	1.2	15.5	5.7	24	
10	23.1	18.3	3.2	2	1.8	1.3	1.2	1.1	1.1	1	S	1.3	1.4	1.3	1.1	1.1	1.1	0.9	1.1	1.1	16.2	11	11.6	43.2	43.2	6.4	24	
11	13.9	14	10.4	9.9	17.9	12.4	7.7	5.5	3	S	2.5	2	2.2	1.5	1.9	2.5	2.8	3.6	2	4.1	8.5	8.6	9.3	7.7	17.9	6.7	24	
12	7.8	9.7	8.7	8	5.7	6.5	7.7	4.9	S	4.9	4.3	4.5	3.8	4	2.8	2.8	2.9	3	3.5	1.1	22.2	25.6	19.1	14.9	25.6	7.8	24	
13	22.2	9.6	11.1	11.8	9	16.5	8.3	S	4.1	2.5	2	1.5	1.4	2	1.4	2.6	4.2	3.1	6.2	44.6	24.8	3.1	2.1	11.4	44.6	8.9	24	
14	20.3	45.2	17.2	12.3	12.7	16.3	S	6.6	2.5	1.8	1.9	2.1	1.6	1.6	1.5	3.6	3.1	3.3	3.3	0.7	1.1	1.6	15.7	15.8	45.2	8.3	24	
15	14.3	10.2	9.2	19.1	23.7	S	12.2	7.8	3.7	2.8	2.3	1.7	1.9	2.2	2.7	2.8	8.1	5.8	9.3	83.9	10	5.6	30.1	30	83.9	13.0	24	
16	81.8	84.3	64.6	66.7	S	79.8	65	16.3	16.3	8.2	3.7	2.1	1.7	2.2	2.4	1.7	2.1	1.1	2.1	5.3	21.7	34.6	26.6	43.3	84.3	27.5	24	
17	39.6	57.3	44.6	S	112	85.4	33.5	13.9	4.7	1.6	0.8	0.7	0.7	0.5	1.6	0.7	1.7	2	0.7	1.3	11	25.5	16	28.9	112	21.1	24	
18	32.3	50.1	S	47.7	49.7	153.6	59.5	14.3	10.3	6.8	3.9	2.2	2.7	2.3	1.3	1.7	1	4.3	3.9	3.3	10.1	7	10.7	12	153.6	21.3	24	
19	11.9	S	29.5	33.9	23	20	15.4	13.7	10.5	6.6	4.1	2.7	2.1	3.6	7.2	11	9.8	14.7	6.7	8.7	11.5	20.3	31.6	18.7	33.9	13.8	24	
20	S	11.3	9.4	14	13.7	16.7	22.2	3.7	1.9	1.5	1.2	1	1.1	1.2	1.4	1.3	1.5	1.4	2.4	2.8	3.5	9.3	5	S	22.2	5.8	24	
21	8.3	22.4	16	15.3	26.1	22.9	19.4	13.5	11.5	6.3	5.3	3.3	3.4	4.8	2.9	2.6	3.6	4.9	3.5	4.9	9.9	9.6	S	13.9	26.1	10.2	24	
22	21.1	18.7	23	24.2	23.8	24.2	5.7	7.5	5.1	4.1	3.2	2.7	3.8	3.1	2.7	2.5	3.1	3	3.2	3.8	9.2	S	7.6	6.8	24.2	9.2	24	
23	4.1	4.5	5.2	10.9	6.3	11.6	7.3	5.8	4.5	3.5	2.8	3	3.4	2.8	3.7	3.3	2.9	3	3.1	3.7	S	4.4	4.1	5.8	11.6	4.8	24	
24	3.9	3.3	5.5	2.5	1.4	1.5	1.5	1.3	1.2	1	1	1	1.7	4.1	1.1	1.4	1.2	1.2	1.5	S	1	1.2	1.4	2.6	5.5	1.9	24	
25	2.3	1.5	1.7	1.6	1.3	1.3	2.3	4.7	4.5	3.8	3.4	3.5	5.1	22.1	3.4	6.2	4	5	S	3.2	4.3	4.6	3.8	3.5	22.1	4.2	24	
26	3.6	4.6	4.4	12.4	15.5	50.1	52.2	8.1	6.3	4.2	3.1	1.7	1.6	1.6	1.7	2	1.7	S	2	9.2	16.7	53.2	18.5	18.1	53.2	12.7	24	
27	14.2	36.3	14.9	18.1	35.7	21.5	16.6	7	5.6	2.4	2.8	1	1.3	29	4	3.4	S	4.1	2.3	2.7	11.6	53.1	15.1	28.7	53.1	14.4	24	
28	29.1	68.8	40.8	28.4	25.8	14.8	4	7.8	7.6	4.5	1	0.8	1.1	0.5	1.4	S	1.2	4	6.5	7.8	10.3	20.6	26.2	25.7	68.8	14.7	24	
29	63.5	29.8	26	21.2	12.4	8.9	21.6	59.4	11.9	9.1	4.3	2.8	2.1	3.3	S	3.5	4.1	7.9	7.6	14.6	13.4	13.3	14.7	9.9	63.5	15.9	24	
30	9.4	9.7	8.9	9.9	9.9	9.5	6	6.8	5.6	4.7	2.8	2.8	2.9	S	2.6	1.4	1.3	3.1	1.8	15.2	30.5	40.3	25.2	21.3	40.3	10.1	24	
31	20.3	21.4	29.2	15.2	11.6	37.8	16.2	10.8	7.3	2.8	2	1.8	S	2.1	1.9	2.1	1.7	1.5	3.5	11.7	12.3	20.8	13.3	11.9	37.8	11.3	24	
HOURLY MAX	81.8	84.3	64.6	66.7	112.0	153.6	65.0	59.4	16.3	9.1	5.3	4.5	5.1	29.0	7.2	11.0	9.8	14.7	26.9	83.9	30.5	53.2	40.7	63.6				
HOURLY AVG	18.9	20.7	18.2	20.0	22.3	28.1	18.8	10.0	5.8	3.9	2.7	2.1	2.1	4.0	2.5	2.7	2.9	3.7	4.6	10.4	11.5	16.9	14.7	17.5				

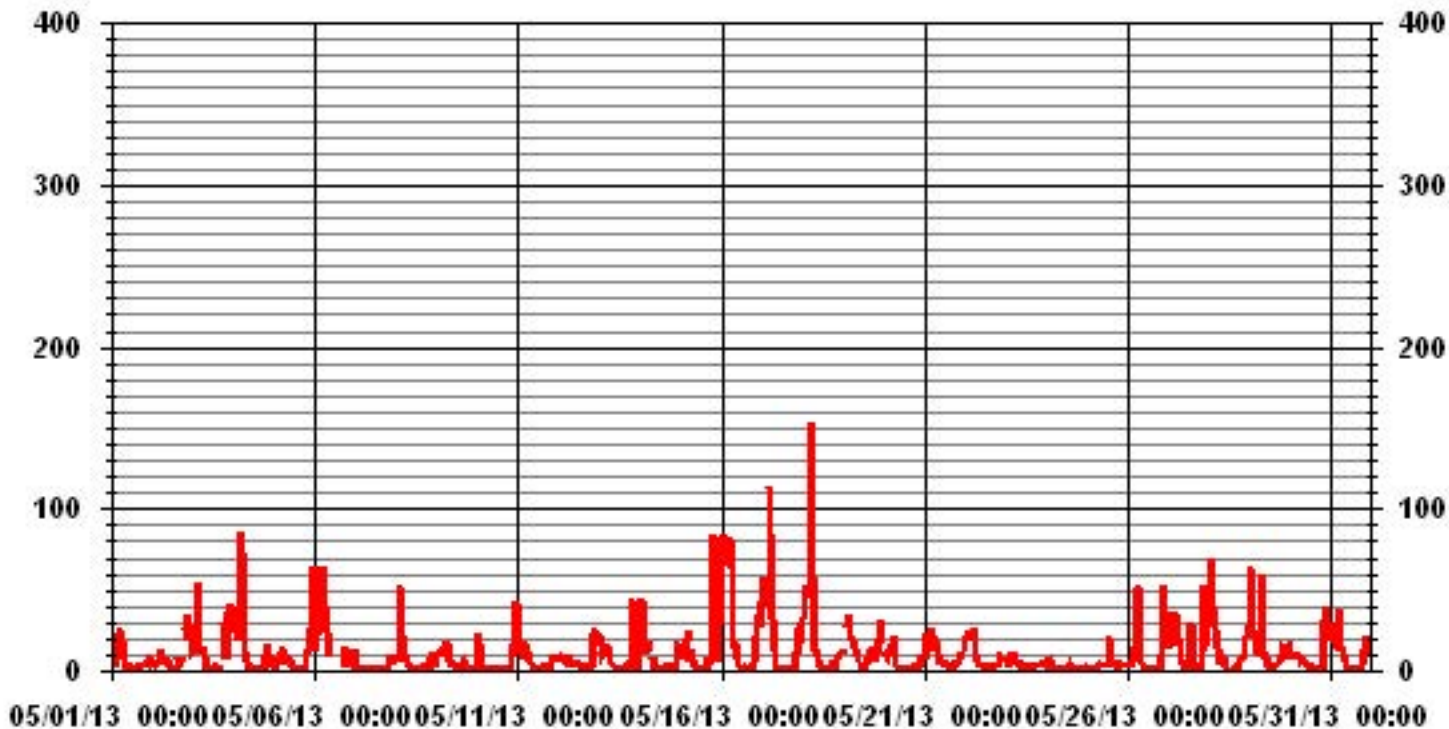
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	704				
MAXIMUM INSTANTANEOUS VALUE:	153.6	PPB	@ HOUR(S)	5	ON DAY(S) 18
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	743	HRS
MONTHLY CALIBRATION TIME:	8	HRS			
STANDARD DEVIATION:	15.78				

01 Hour Averages



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

May 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	2.40	1.84	2.12	4.53	10.76	17.42	8.64	3.96	3.54	4.24	3.39	5.38	9.49	9.63	6.23	5.66	99.29
< 110.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14	.28	.28	.00	.00	.70
< 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	2.40	1.84	2.12	4.53	10.76	17.42	8.64	3.96	3.54	4.24	3.39	5.52	9.77	9.91	6.23	5.66	

Calm : .00 %

Total # Operational Hours : 706

Distribution By Samples

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 50.0	17	13	15	32	76	123	61	28	25	30	24	38	67	68	44	40	701
< 110.0												1	2	2			5
< 210.0																	
>= 210.0																	
Totals	17	13	15	32	76	123	61	28	25	30	24	39	69	70	44	40	

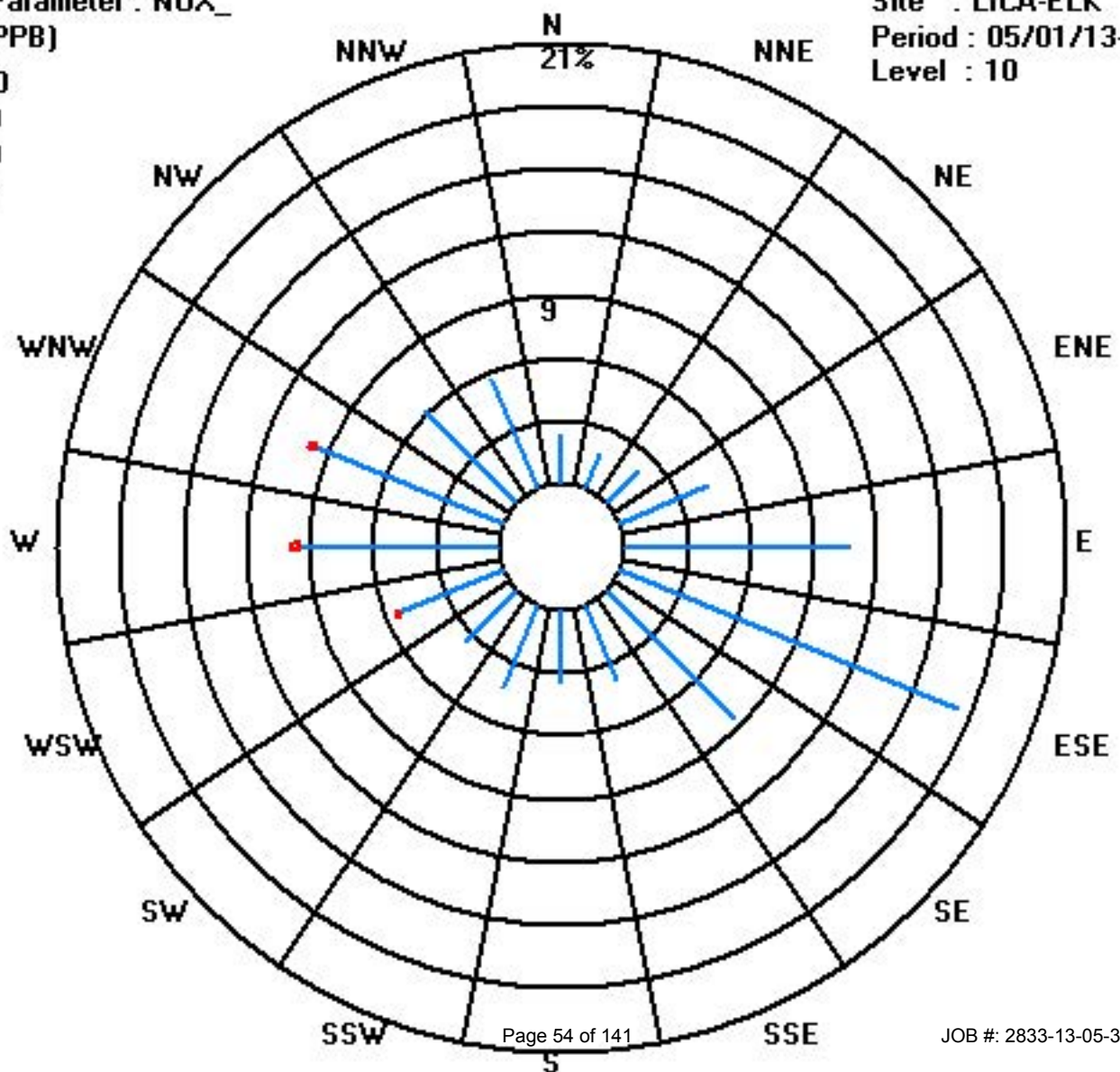
Calm : .00 %

Total # Operational Hours : 706

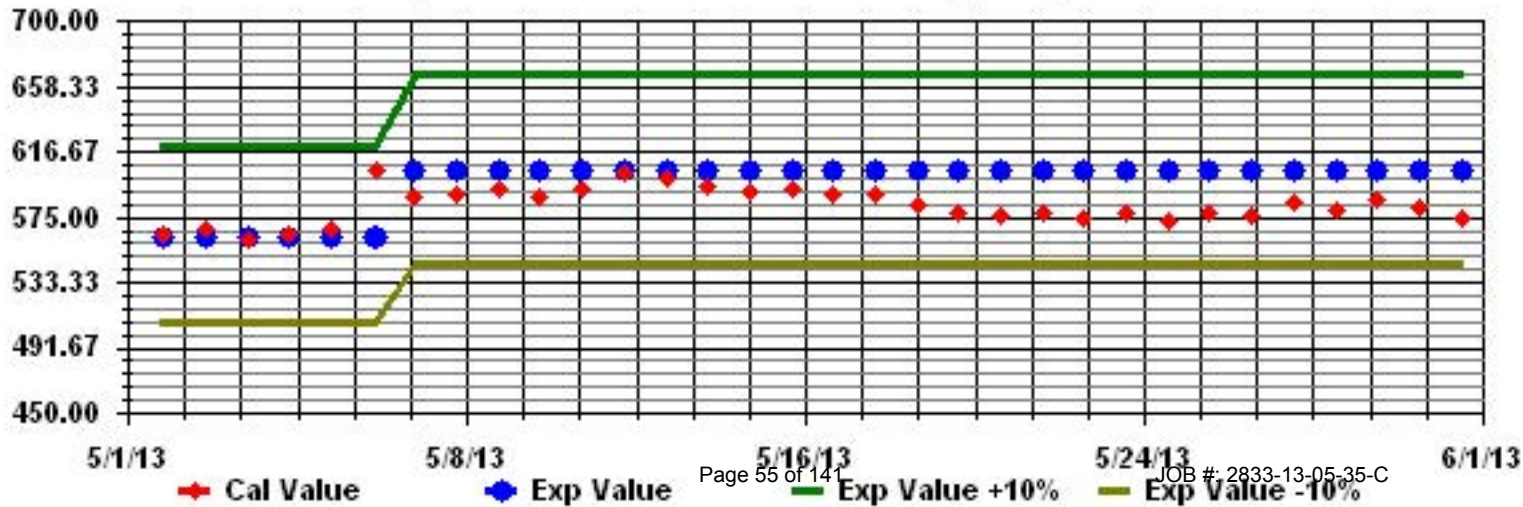
Class Limits (PPB)

Period : 05/01/13-05/31/13

Level : 10



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



Ozone

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

MAY 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	RDGS.	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.		
DAY																												
1	20	26	20	15	12	9	20	25	30	31	32	33	33	34	37	40	41	41	41	S	32	29	25	29	41	28.5	24	
2	28	29	30	29	26	23	25	28	30	35	37	43	46	47	47	50	50	47	S	37	32	21	13	22	50	33.7	24	
3	24	24	20	17	23	22	24	29	33	35	38	39	41	42	44	43	44	S	38	35	36	28	12	18	44	30.8	24	
4	16	18	22	18	3	4	17	28	38	43	44	44	45	45	45	45	S	45	46	43	34	36	37	38	46	32.8	24	
5	36	34	33	34	31	23	29	33	35	39	46	46	43	48	50	S	53	53	53	49	42	30	29	31	53	39.1	24	
6	39	18	16	1	1	4	11	33	39	46	50	56	59	63	65	S	64	67	62	56	53	50	50	46	67	41.3	24	
7	44	45	48	45	36	32	31	30	28	C	C	C	C	C	35	36	38	40	41	40	34	37	32	29	48	36.9	24	
8	26	25	20	17	14	20	26	31	34	35	37	38	S	42	44	45	46	46	44	38	37	34	31	29	46	33.0	24	
9	26	24	21	22	23	20	24	27	32	39	43	S	51	53	54	55	55	49	42	45	43	43	44	43	55	38.2	24	
10	35	34	38	35	33	33	37	38	39	41	S	45	45	47	49	50	51	50	49	48	41	36	35	28	51	40.7	24	
11	26	24	27	26	21	27	29	32	38	S	46	48	49	50	22	50	50	50	49	44	41	38	35	33	50	37.2	24	
12	31	28	28	29	30	30	29	28	S	31	37	45	48	49	22	51	44	41	38	39	28	24	22	20	51	33.6	24	
13	17	19	25	23	21	23	26	S	41	42	44	46	49	50	50	49	48	47	44	38	36	38	37	36	50	36.9	24	
14	30	19	40	36	33	31	S	41	43	46	48	49	49	49	49	46	46	45	45	46	44	41	33	28	49	40.7	24	
15	27	28	24	15	13	S	28	33	39	41	44	46	46	C	C	C	C	47	45	43	32	42	40	23	13	47	33.5	24
16	4	2	1	1	S	2	8	32	31	38	42	47	51	52	52	52	50	50	49	45	33	22	18	10	52	30.1	24	
17	10	9	2	S	3	9	16	33	42	46	46	46	46	46	46	46	46	46	46	46	43	33	27	24	16	46	31.6	24
18	10	9	S	1	1	5	11	26	32	44	50	54	54	56	54	54	55	51	50	49	41	40	29	26	56	34.9	24	
19	25	S	11	5	6	9	16	25	32	39	44	51	53	50	48	44	45	42	41	39	35	24	17	17	53	31.2	24	
20	S	29	25	17	16	17	19	29	37	45	47	48	50	51	52	51	51	52	52	47	44	37	38	S	52	38.8	24	
21	26	22	19	13	9	14	18	23	29	39	49	49	52	54	55	53	54	52	51	49	42	42	S	36	55	37.0	24	
22	23	23	22	24	26	22	32	33	39	43	45	45	46	45	44	43	41	40	39	37	32	S	25	25	46	34.5	24	
23	26	27	27	25	26	25	27	30	32	34	38	41	44	47	48	48	47	46	45	44	S	41	42	38	48	36.9	24	
24	39	39	38	39	38	37	37	36	38	41	43	48	48	44	45	42	45	46	44	S	45	42	39	35	48	41.2	24	
25	35	35	35	34	35	34	31	28	27	29	32	34	35	33	35	33	35	37	S	38	35	35	36	37	38	33.8	24	
26	34	32	34	28	15	9	13	27	30	34	40	43	43	43	44	44	44	S	45	39	32	28	22	16	45	32.1	24	
27	14	10	7	5	5	9	18	27	38	43	45	45	45	45	47	46	S	45	45	42	34	30	19	10	47	29.3	24	
28	7	2	2	9	8	16	26	26	36	44	48	49	48	48	49	S	47	47	45	43	37	26	18	15	49	30.3	24	
29	6	8	2	5	11	20	16	19	32	42	48	52	53	49	S	46	47	44	41	35	31	23	21	19	53	29.1	24	
30	12	16	18	24	20	21	28	30	36	44	50	51	51	S	48	49	49	46	43	36	20	13	13	11	51	31.7	24	
31	11	7	5	7	11	11	21	28	33	39	42	45	51	S	47	48	50	49	45	41	34	31	25	26	20	50	29.4	24
HOURLY MAX	44	45	48	45	38	37	37	41	43	46	50	56	59	63	65	55	64	67	62	56	53	50	50	46				
HOURLY AVG	23.6	22.2	22.0	20.0	18.3	18.7	23.1	29.6	34.8	39.6	43.3	45.7	47.3	47.5	45.8	46.7	47.7	46.7	45.2	41.7	36.7	32.7	28.2	25.8				

STATUS FLAG CODES

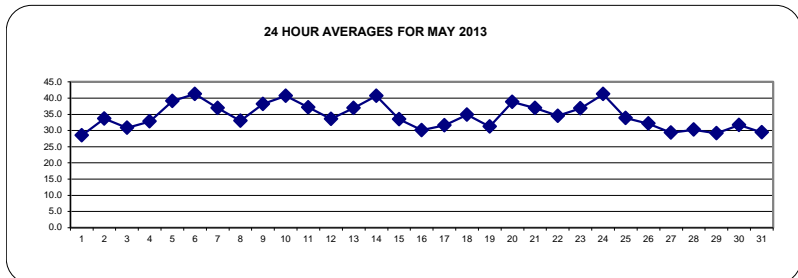
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

OBJECTIVE LIMIT:

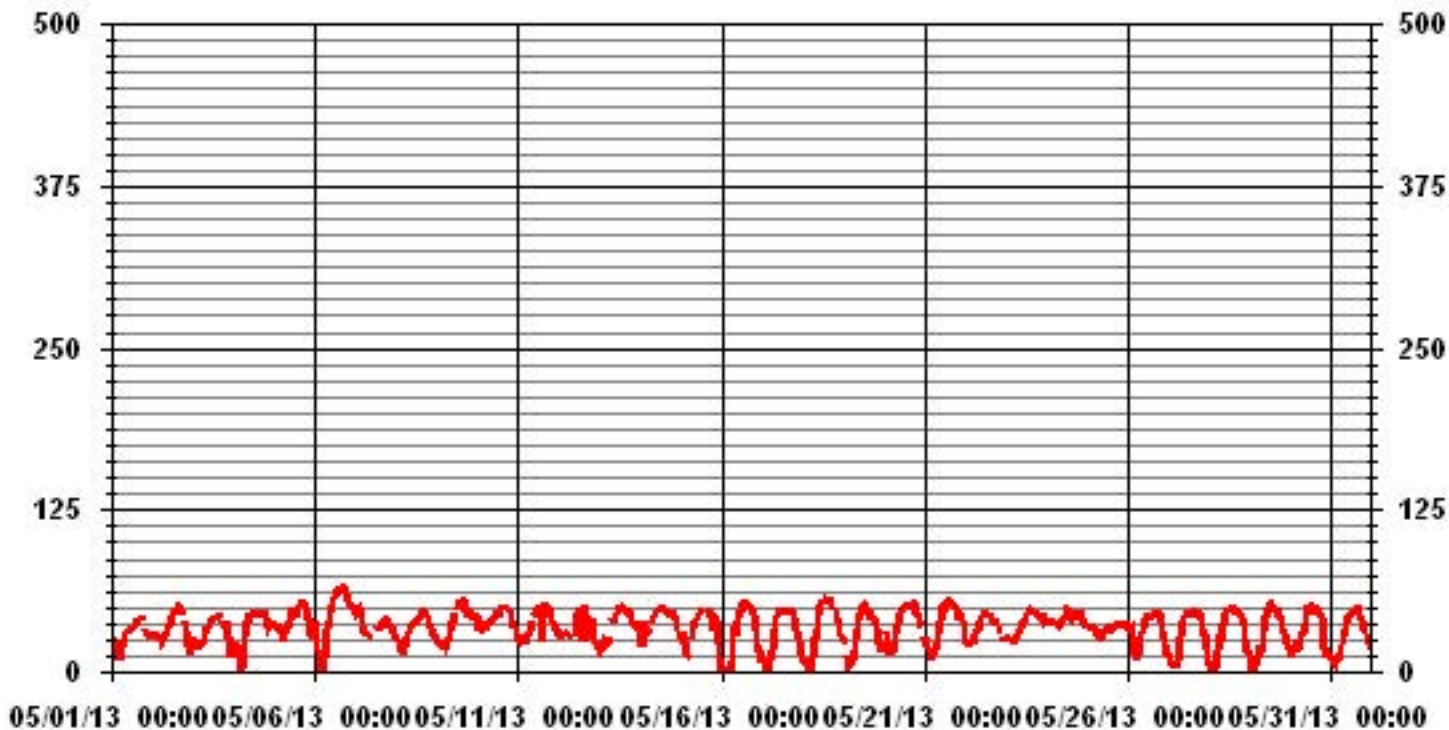
ALBERTA ENVIRONMENT: 1-HR 82 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0				
NUMBER OF NON-ZERO READINGS:	705				
MAXIMUM 1-HR AVERAGE:	67	PPB	@ HOUR(S)	17	ON DAY(S) 6
MAXIMUM 24-HR AVERAGE:	41.3	PPB			ON DAY(S) 6
					VAR-VARIOUS
IJS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	744	HRS
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	13.31		MONTHLY AVERAGE:	34.46	PPB



01 Hour Averages



— LICA35_03_ PPB

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

MAY 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	26	26	26	21	20	12	24	28	31	32	32	33	34	36	40	42	42	42	42	S	36	31	29	30	42	31.1	24	
2	31	30	31	31	29	26	28	30	32	36	40	45	48	P	49	51	52	51	S	43	39	36	22	32	52	36.9	23	
3	28	27	22	24	25	28	27	34	34	37	39	41	43	45	47	45	45	S	43	38	40	39	20	33	47	35.0	24	
4	25	29	28	26	15	9	28	32	42	45	44	45	46	47	46	46	S	47	48	47	41	39	41	41	48	37.3	24	
5	37	35	35	35	34	28	32	34	36	44	49	49	45	51	51	S	56	55	55	52	47	41	39	44	56	42.8	24	
6	44	21	27	2	3	6	21	36	44	47	53	58	61	65	S	Y	Y	71	68	59	55	53	51	48	71	42.5	22	
7	48	48	50	48	41	33	32	31	30	C	C	C	C	C	36	38	40	41	42	42	39	38	37	31	50	39.2	24	
8	30	29	25	23	19	21	29	34	35	37	38	39	S	44	46	46	47	47	46	43	39	37	34	31	47	35.6	24	
9	28	29	25	26	28	23	27	30	36	41	45	S	53	55	55	57	57	55	47	47	44	44	44	44	57	40.9	24	
10	43	40	39	37	34	35	39	39	41	43	S	46	47	48	51	52	52	52	50	49	49	41	40	33	52	43.5	24	
11	30	28	30	28	25	30	31	36	41	S	47	49	50	51	51	51	52	51	50	48	44	42	38	35	52	40.8	24	
12	32	31	30	30	31	31	30	29	S	34	41	48	49	50	54	55	47	43	40	40	38	34	26	26	55	37.8	24	
13	24	23	29	29	25	28	29	S	44	44	46	48	51	51	51	50	50	48	48	45	44	40	39	40	51	40.3	24	
14	39	39	41	39	39	38	S	43	45	47	50	51	51	51	53	48	48	47	47	47	46	43	41	33	53	44.6	24	
15	31	31	31	23	21	S	32	38	41	43	46	47	47	C	C	C	50	48	48	42	44	42	39	23	50	38.4	24	
16	12	6	1	1	S	3	18	36	40	42	45	51	52	53	53	54	51	50	50	49	41	34	26	18	54	34.2	24	
17	20	13	10	S	13	16	25	41	47	47	46	47	47	47	47	47	47	47	47	47	45	42	35	36	21	47	36.2	24
18	14	16	S	2	3	9	28	31	41	52	54	56	57	57	56	56	57	53	53	51	46	44	39	33	57	39.5	24	
19	31	S	17	8	10	13	23	30	38	42	49	53	55	54	52	48	52	53	45	43	41	31	25	22	55	36.3	24	
20	S	36	29	21	23	22	35	33	43	47	48	49	52	52	53	52	52	53	53	51	46	42	40	S	53	42.4	24	
21	29	27	24	19	15	19	25	26	33	50	52	52	55	57	58	55	56	55	52	52	46	43	S	39	58	40.8	24	
22	29	30	28	31	32	31	33	37	42	45	46	47	47	46	45	44	43	42	40	39	35	S	27	27	47	37.7	24	
23	30	29	29	29	28	28	29	32	33	37	42	43	46	49	50	50	50	47	48	46	S	43	44	41	50	39.3	24	
24	40	40	39	39	39	38	38	37	39	42	47	49	50	50	47	45	47	47	46	S	46	44	41	38	50	43.0	24	
25	37	36	36	36	35	35	33	31	29	31	34	37	37	36	37	36	37	40	S	40	37	36	39	39	40	35.8	24	
26	36	34	36	34	22	16	22	30	32	38	42	44	44	45	44	45	45	S	46	45	37	35	27	24	46	35.8	24	
27	19	15	10	10	10	14	26	33	43	45	47	46	47	48	48	48	S	49	47	44	42	38	26	19	49	33.7	24	
28	17	10	4	14	15	20	30	31	45	47	49	51	50	49	50	S	48	50	48	47	46	36	27	22	51	35.0	24	
29	14	14	6	14	18	27	25	29	35	46	52	54	55	54	S	49	50	48	46	43	39	28	27	25	55	34.7	24	
30	18	19	23	29	25	25	31	33	39	50	53	53	53	S	52	50	51	49	46	42	34	24	25	17	53	36.6	24	
31	16	11	9	16	15	18	29	33	37	41	44	46	S	48	49	51	51	47	44	39	37	33	32	25	51	33.5	24	
HOURLY MAX	48	48	50	48	41	38	39	43	47	52	54	58	61	65	58	57	57	71	68	59	55	53	51	48				
HOURLY AVG	28.6	26.7	25.7	24.2	23.1	22.7	28.6	33.2	38.3	42.5	45.5	47.5	49.0	49.6	49.0	48.6	49.1	49.2	47.8	45.4	42.0	38.2	34.0	31.1				

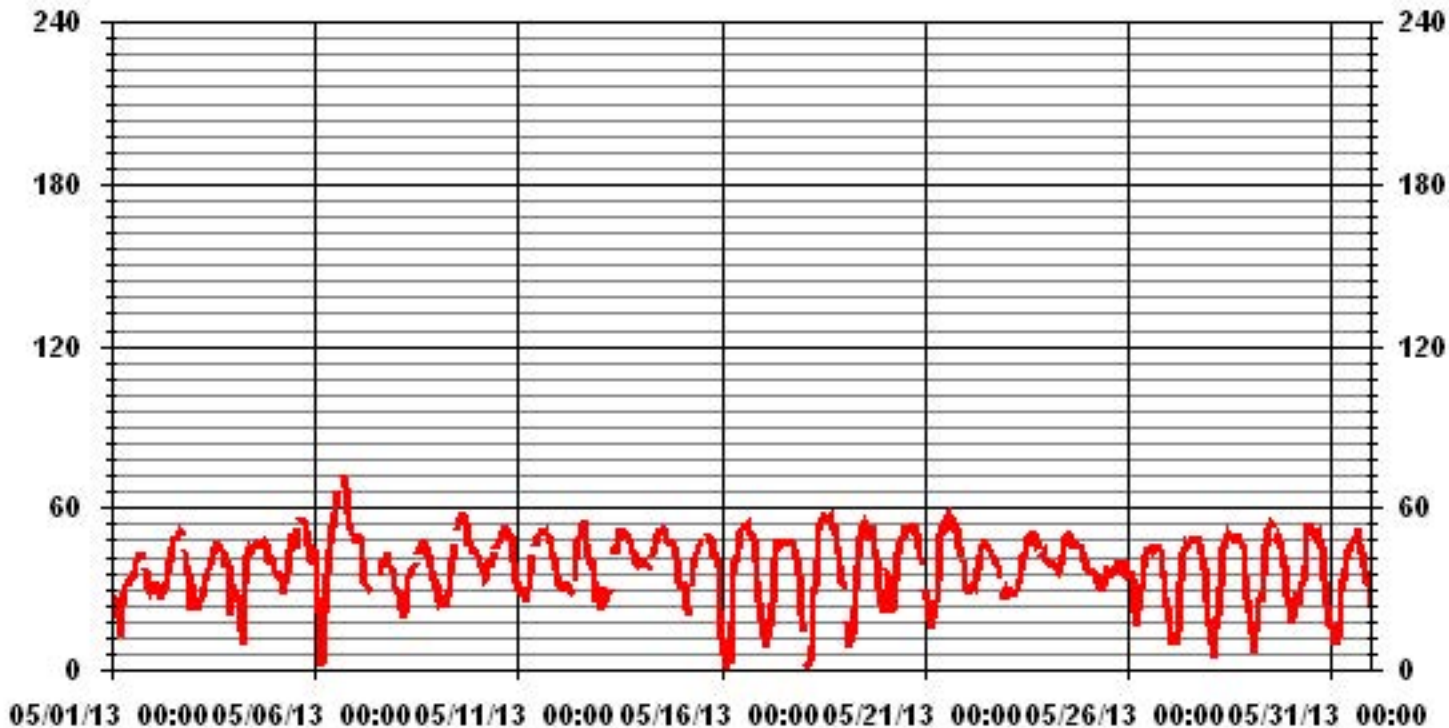
STATUS FLAG CODES

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:	702					
MAXIMUM INSTANTANEOUS VALUE:	71	PPB	@ HOUR(S)	17	ON DAY(S)	6
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	741	HRS	
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION:	12.01					

01 Hour Averages



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

May 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	1.56	1.70	1.98	4.53	9.78	16.02	8.08	3.26	2.83	3.12	3.26	4.96	8.65	9.64	5.53	4.96	89.92
< 110	.85	.14	.14	.00	.99	1.56	.70	.85	.85	1.27	.00	.42	1.13	.28	.70	.14	10.07
< 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	2.41	1.84	2.12	4.53	10.78	17.58	8.79	4.11	3.68	4.39	3.26	5.39	9.78	9.92	6.24	5.10	

Calm : .00 %

Total # Operational Hours : 705

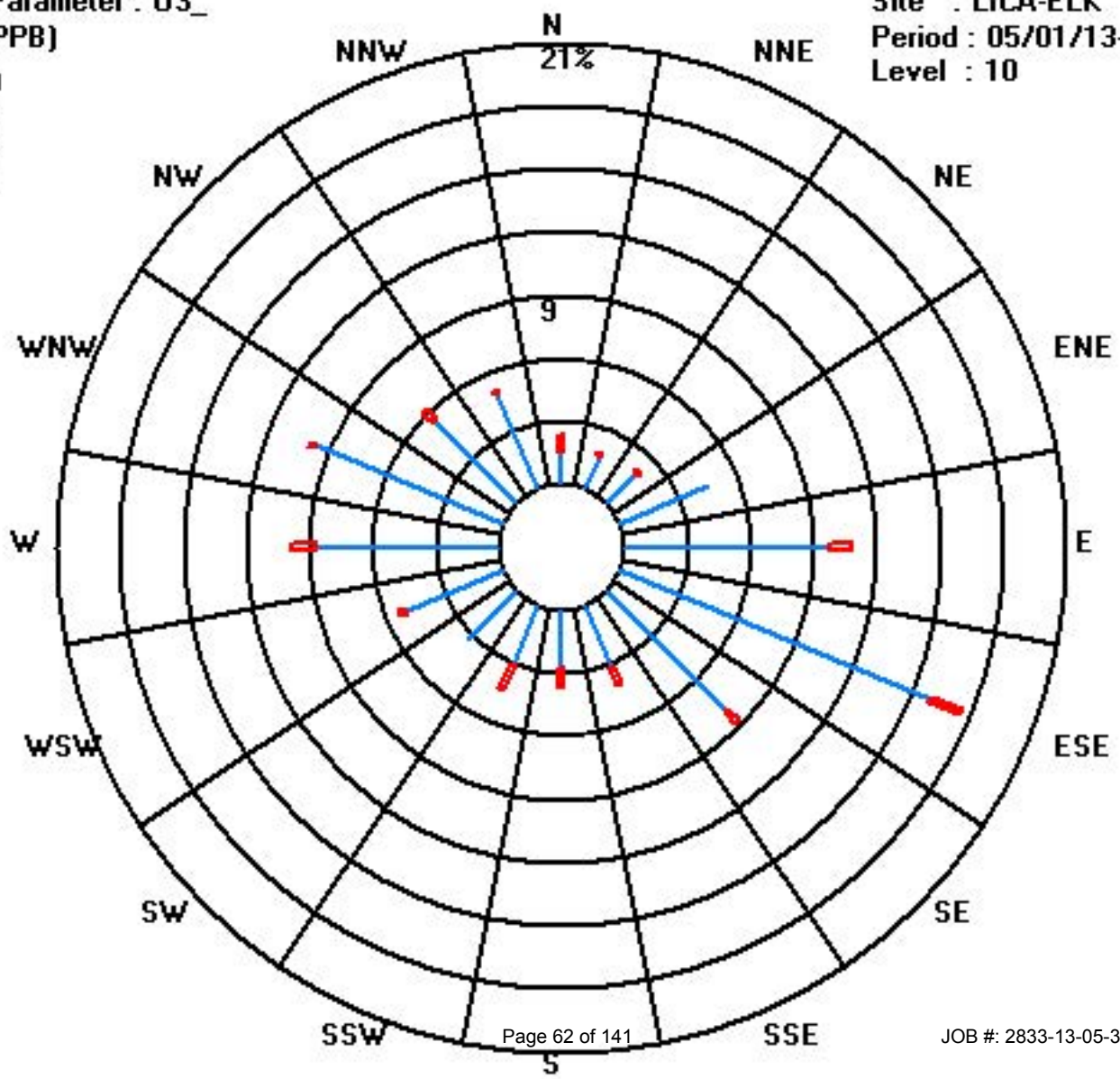
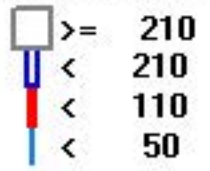
Distribution By Samples

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< 50	11	12	14	32	69	113	57	23	20	22	23	35	61	68	39	35	634
< 110	6	1	1		7	11	5	6	6	9		3	8	2	5	1	71
< 210																	
>= 210																	
Totals	17	13	15	32	76	124	62	29	26	31	23	38	69	70	44	36	

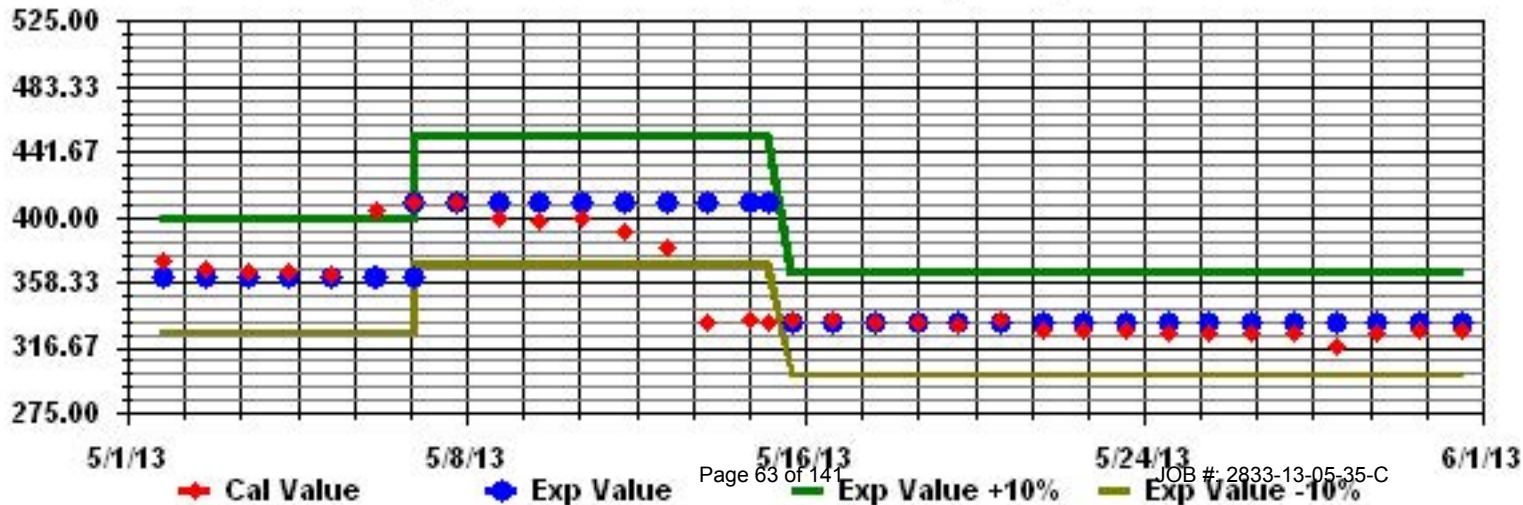
Calm : .00 %

Total # Operational Hours : 705

Class Limits (PPB)



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



Total Hydrocarbons

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

MAY 2013

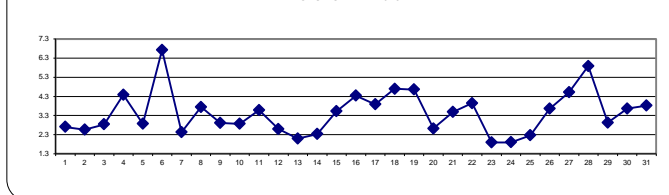
TOTAL HYDROCARBONS (THC) hourly averages in ppm

MST																										DAILY 24-HOUR																										
HOURLY MAX	HOURLY AVG	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.																							
DAY																																																				
		2.5	2.4	2.5	2.8	4	4.5	2.8	2.4	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.3	S	2.9	2.9	4.6	3.1	4.6	2.7	24																								
		3.8	3	2.6	2.5	2.8	3.8	3	2.6	2.7	2.2	2.1	1.9	1.9	1.9	1.9	1.9	2	S	2.2	2.3	2.6	3.4	3.9	3.9	2.6	24																									
		3.7	3.8	4.3	4.3	2.8	2.9	2.9	2.4	2	2	2	2	2	2	2	2	2	S	2.7	2.9	2.8	2.9	4.7	4.1	4.7	2.8	24																								
		4.6	7.9	6.2	5.8	10.8	10.8	6.8	3.1	2.5	2.3	2.2	2.2	2.2	2.1	2.2	S	2	2	2.4	6.2	5.4	6.1	2.9	10.8	4.4	24																									
		2.9	2.9	2.6	2.5	2.6	3.1	2.8	2.3	2.3	2.3	2	1.9	1.9	1.9	1.9	S	2.1	2	2.1	2.3	3.4	6.8	4.8	6.5	6.8	2.9	24																								
		4.1	8.9	11.3	15.3	21.7	17.1	11.8	5.6	4.4	3.6	3.2	2.8	C	C	C	C	1.9	2.3	2.4	5	5.4	3.2	2.3	2.3	21.7	6.7	24																								
		2.1	1.9	1.9	2	2	2	2	2.1	2.1	2.1	2.1	2.1	2.2	S	2	2	2	2	2	2	2	2.7	2.5	4.1	7.9	2.4	24																								
		8.8	4.5	5.3	5.5	6.6	5	3.1	3	2.6	2.4	2.2	2.2	S	2.2	2.2	2.2	2.2	2.2	2.2	3.9	4	4.5	5.2	4.1	8.8	3.7	24																								
		4.8	3.7	4	5.9	4.8	4.6	3.7	3.3	3	2.5	2.4	S	2	2	2	1.9	2	2.2	2.1	2	2	2	2	2	2	5.9	2.9	24																							
		2.2	2.5	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	S	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.2	3.5	7.8	7.1	6.7	7.8	2.9	24																							
		7.4	7	6.2	5	5.3	4.4	3.6	3	2.4	S	2	2	2	2	2.1	2.2	2.3	2	2.1	3.1	2.8	4.8	3.8	7.4	3.6	24																									
		3.5	3.3	3.3	3.5	3.1	2.6	3.2	3.1	S	2.5	2.4	2.1	1.9	1.9	1.7	1.7	X	1.5	X	X	X	3	2.8	2	3.5	2.6	20																								
		2.8	1.9	2	2.1	1.9	1.9	2.1	S	2	2	2	2	2	2	2	2	1.9	2	2	2.2	2.4	2.3	2.2	2.3	2.8	2.1	24																								
		3.3	4.5	2.3	2.9	3.1	2.8	S	1.9	1.9	1.9	1.8	1.8	1.9	1.8	1.8	1.9	1.9	1.8	1.8	1.9	1.9	2	3.1	3.6	4.5	2.3	24																								
		3.3	3.3	3.5	5.4	7.6	S	3.3	2.3	2.1	2	2	2	C	C	Y	Y	2.5	2.5	7.4	3.1	2.8	3.9	5.9	7.6	3.5	22																									
		4.4	10.6	14.4	8.3	S	10.9	7.2	3.4	3.9	2.5	2.4	2.3	2.2	2.2	2.1	2.1	2	2	2	2	2.9	2.7	4.7	2.4	14.4	4.3	24																								
		2.6	7.9	6.6	S	8.5	6.7	4.7	4.3	2.8	2.1	2.1	Y	2.1	2.1	2	2.1	2.1	2	2	2.2	6.7	3.9	4.1	5.8	8.5	3.9	23																								
		6	3.6	S	17.6	16.5	6	3.2	5.8	5	3.7	3	2.4	2.5	2.2	2.3	2.2	2.2	2.3	2.3	2.3	3.5	2.9	4.8	5.7	17.6	4.7	24																								
		3.9	S	6.6	7.5	14.5	11.5	7.6	5.1	4.4	3.8	3.4	2.8	2.4	2.4	2.4	2.2	3.4	2.6	3.2	3.7	2.3	3	3.8	4.6	14.5	4.7	24																								
		S	2.5	2	4.3	3.8	2.3	3.4	3	2.5	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.5	3.4	2.9	S	4.3	2.6	24																								
		5.2	5.2	5.4	6	8.9	6.8	4.7	4.2	3.5	2.4	2.2	2.1	2	1.9	1.9	1.9	2	1.9	2	1.9	2.3	2.5	2.1	S	3.2	8.9	3.5	24																							
		5.9	7.4	9	10.2	8.5	7.8	3.4	2.9	2.3	2.1	2.1	2	2.1	2	2.1	2	2	2.1	2.1	2.3	3.3	S	4.2	2.9	10.2	3.9	24																								
		2.1	2.3	2.4	2.2	1.9	2	1.8	1.7	1.7	1.8	1.7	1.5	1.5	1.6	1.5	1.5	1.5	1.6	1.6	1.8	S	2.7	2.3	2.8	2.8	1.9	24																								
		2.3	2.2	2.4	2.1	2	1.8	1.8	1.8	1.7	1.7	1.7	1.8	1.8	1.7	1.6	1.8	1.7	1.7	1.7	S	2	2	2	2.3	2.4	1.9	24																								
		2.2	2.1	2.2	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.2	2.3	2.1	2.3	2.3	2.3	S	2.2	2.9	3	2.2	2.4	3.0	2.3	24																								
		2.7	3	3.3	5.2	5.9	6.6	6.5	3.1	3.2	2.8	2.3	2.2	2.1	2.2	2.2	2.2	2.2	S	2.1	2.3	4.4	4.5	6.9	6.1	6.9	3.7	24																								
		9.9	7.1	10.1	10.9	6.8	6	6	4.4	3.2	2.5	2.2	1.9	1.9	1.8	1.9	2.1	S	2	2.1	2.2	2.3	2.7	8.5	5.5	10.9	4.5	24																								
		6.3	11.9	10.5	6.3	3.9	3	3.1	3.5	4.5	C	C	C	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	11.9	5.9	12																						
		Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	C	C	C	2.2	2.2	2.1	2.5	2.4	2.8	2.7	3.8	4.4	4.1	4.4	2.9	16																								
		5.5	4.2	4	3.6	3.6	3.6	S	3	2.9	2.5	2.2	2.2	2.1	S	2.1	2.1	2	2.1	2.1	2.4	4.5	6.1	7.2	10.5	10.5	3.7	24																								
		11.6	8.3	6.3	8	4.6	4.7	4.3	3.9	3	2.3	2.4	2.3	S	2.1	2.1	2.2	2.1	2	2.2	2.4	2.7	2.8	2.3	3.2	11.6	3.8	24																								
		11.6	11.9	14.4	17.6	21.7	17.1	11.8	5.8	5.0	3.8	3.4	2.8	2.5	2.4	2.4	2.3	3.4	2.6	3.2	7.4	6.7	7.8	8.5	10.5																											
		4.5	4.8	5.0	5.6	6.0	5.2	4.0	3.2	2.8	2.4	2.2	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.2	2.7	3.2	3.5	4.2	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

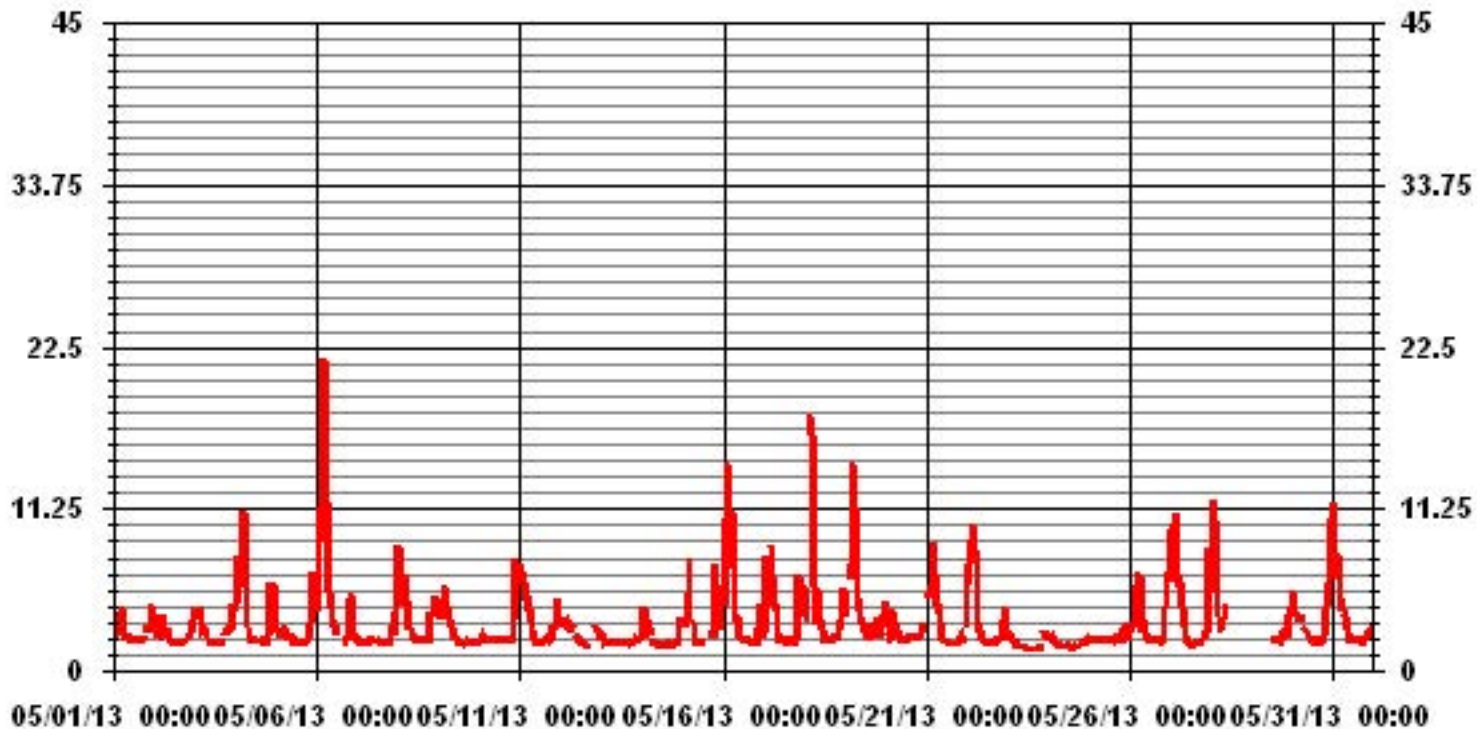
24 AVERAGES FOR MAY 2013



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	672				
MAXIMUM 1-HR AVERAGE:	21.7	PPM @ HOUR(S)	4 ON DAY(S)		
MAXIMUM 24-HR AVERAGE:	6.7	PPM	ON DAY(S)		
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	717	HRS
MONTHLY CALIBRATION TIME:	15	HRS	AMD OPERATION UPTIME:	96.4	%
STANDARD DEVIATION:	2.37		MONTHLY AVERAGE:	3.38	PPM

01 Hour Averages



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

MAY 2013

TOTAL HYDROCARBONS MAX instantaneous maximum in ppm

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY MAX.	24-HOUR AVG.	RDGS.	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00				
DAY																												
1	2.8	2.5	2.8	3.3	4.8	5.1	4.1	2.5	2.5	2.4	2.5	2.5	3.4	2.5	4.4	2.9	3.7	3.1	3.4	S	5.1	3.8	9.9	3.5	9.9	3.6	24	
2	6.8	3.7	2.8	2.7	4	6.1	4.3	3.5	4.8	2.9	2.2	2.3	2	P	2	2	2	2.2	S	2.6	2.7	3.7	4.3	5.2	6.8	3.4	23	
3	4.3	5	5.6	5.5	3.4	3.2	3.4	2.8	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2	2	S	4.9	4	3.4	4.7	6.4	5.2	6.4	3.5	24	
4	7.4	27	13.1	8.3	18.3	14.9	11.2	3.4	3	2.6	2.2	3	2.5	3.4	2.9	2.8	S	2.3	2.1	5.1	23	21.3	16.4	3.3	27	8.7	24	
5	3.2	3	2.6	2.8	3	3.6	3.2	2.4	2.4	2.5	2.3	2	1.9	2.1	2	S	2.1	2.1	2.1	3.1	3.9	11.2	6	9.8	11.2	3.4	24	
6	5.4	19	18.7	38.5	54.9	22.8	14.6	8.2	5.2	4.4	4.3	3.6	C	C	C	C	C	7.5	8.5	12.2	12.2	7.9	2.4	2.7	54.9	13.3	24	
7	2.8	2	1.9	2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	S	2	2	2.1	2.1	2.1	2.3	5.2	3.3	9.4	15.5	15.5	3.2	24	
8	13.7	6.5	7.9	7.2	9.1	6.8	4.3	4	3.3	3.3	2.7	2.8	S	3.3	2.9	2.8	3.5	3.4	4.5	8.6	8.5	39.2	17.5	7.6	39.2	7.5	24	
9	14.8	5.9	5.5	7.5	5.8	6.4	5.1	4.4	4.2	3.2	3.4	S	2.2	2.2	2	2	2.2	2.2	2.2	2.1	2.1	2	2	2.1	14.8	4.0	24	
10	2.5	2.6	2.4	2.2	2.2	2.2	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	2.3	17.5	13.5	13.7	12.9	17.5	4.4	24	
11	9.5	9.9	13.1	6.4	10.2	5.4	7	4.1	3.1	S	2.5	2.2	2.6	3	3.7	3.9	5.2	4.6	2.8	6.1	4	14	21	9	21	6.7	24	
12	5.3	4.3	4.5	4.5	4.5	3.2	7.2	4.9	S	3.1	3.1	2.8	2.4	3.5	2.7	3.9	1.6	1.8	1.8	1.3	1.9	7.9	3.9	2.7	7.9	3.6	24	
13	3.9	2.1	2.8	3.3	2.1	2.3	2.8	S	2.1	2.1	2	2.1	2.1	2	2	2.2	2	2.1	2.5	2.8	2.9	2.6	2.4	2.8	3.9	2.4	24	
14	7.5	7.8	2.4	3.9	3.6	3.3	S	2	1.9	1.9	2.1	1.9	1.9	1.9	1.9	2	1.9	1.9	1.9	1.9	1.9	2	5.9	5.1	7.8	3.0	24	
15	3.7	3.7	4.1	7.1	11.4	S	4.4	2.7	2.2	2.1	2.1	2	2	C	C	Y	Y	Y	Y	3.4	17.6	4.5	3.1	6.9	13.3	17.6	5.4	21
16	9.7	51.1	24.2	12.4	S	13	13	6.3	8	5.2	2.7	2.4	2.3	2.3	5.4	2.3	2.1	2.1	2	2.4	7.2	33.9	22.1	4.8	51.1	10.3	24	
17	8.1	23.9	11.3	S	12.3	14.5	6.8	6.3	3.5	2.4	2.2	Y	2.2	2.1	2.1	2.1	2.6	2.1	2.1	2.8	36	10.2	5.2	17.9	36	8.1	24	
18	22.4	45.3	S	32.1	47.8	15.6	6.1	7.3	5.5	4.4	3.3	3.6	3.9	2.4	2.8	2.6	2.3	3	3.4	3.7	7.9	5.6	11.4	8	47.8	10.9	24	
19	5.1	S	24.7	18.1	21.5	13.4	10.3	6.6	5.1	4.6	3.8	4	3	4.5	4	2.5	8.4	3	6.8	7.3	9.3	4.3	6.2	7.5	24.7	8.0	24	
20	S	3.3	3.3	8.7	9.6	3.4	4.2	3.4	3	2.5	2.3	2.3	2.3	2.4	2.3	2.4	2.8	2.4	2.5	2.9	3.4	8.4	3.7	S	9.6	3.7	24	
21	7.1	9.3	8.5	10.9	12	9.7	5.2	5.3	5.3	3	3	2.5	3.4	2.3	2.3	2.9	2.7	2	2.1	2.9	3.8	2.8	S	6.5	12	5.0	24	
22	8.3	11.2	12.1	14.5	15.6	12.8	4.7	3.3	2.6	2.3	2.3	2.2	2.5	2.2	2.3	2.3	2.2	2.5	2.4	2.8	5.1	S	7.5	5	15.6	5.6	24	
23	3.2	2.9	3.4	3.5	2	2.4	2	1.8	2	2	1.8	1.8	1.8	2.3	2.4	2	2.2	2.9	2.1	2.5	S	6.3	2.9	4.2	6.3	2.6	24	
24	3.7	2.7	3.8	2.2	2.1	2.1	1.9	1.9	1.8	1.8	1.9	2.2	2	2.2	2.1	2.4	1.8	1.7	1.7	S	2.1	2.1	2.2	2.8	3.8	2.2	24	
25	2.6	2.3	2.6	2.6	2.1	2.3	2.5	3	2.6	2.5	2.4	2.3	2.8	4.8	2.2	3.6	2.4	2.6	S	3	7.8	6.3	2.6	4	7.8	3.1	24	
26	3.6	4.9	6.3	37.6	20	10.3	10.6	3.7	4	3	2.6	2.3	2.3	2.4	2.3	2.8	2.3	S	2.3	3	7.7	8	13.6	7.6	37.6	7.1	24	
27	15.5	10.5	20.1	27.4	9.3	10.3	10.3	4.9	3.7	2.8	3.5	3.2	2	1.9	2	4.8	S	3.2	2.3	2.3	2.4	11	18.9	7.2	27.4	7.8	24	
28	7.3	47	49.2	23.3	4.4	3.3	3.5	5.6	C	C	C	C	C	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	49.2	18.0	12
29	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	C	C	C	C	3	3.6	3.2	4.2	3.3	3.5	3.8	4.9	6.6	14.3	14.3	5.0	16
30	6.9	6.2	4.8	5.2	4.5	3.9	S	S	3.1	2.8	2.5	2.6	2.4	S	2.4	2.1	2.4	2.6	2.7	4.2	7.8	11.5	13.3	22.4	22.4	5.5	24	
31	20.2	11	9	23.7	7.1	5.9	5.1	4.8	4.6	2.9	2.8	2.8	S	2.3	2.4	5.5	2.2	2.2	2.7	3.1	4.6	3.4	3.2	5.1	23.7	5.9	24	
HOURLY MAX	22.4	51.1	49.2	38.5	54.9	22.8	14.6	8.2	8.0	5.2	4.3	4.0	3.9	4.8	5.4	5.5	8.4	7.5	8.5	17.6	36.0	39.2	22.1	22.4				
HOURLY AVG	7.5	11.6	9.4	11.3	10.7	7.3	5.8	4.1	3.4	2.8	2.6	2.5	2.4	2.6	2.6	2.8	2.7	2.7	3.0	4.2	7.2	8.9	8.5	7.5				

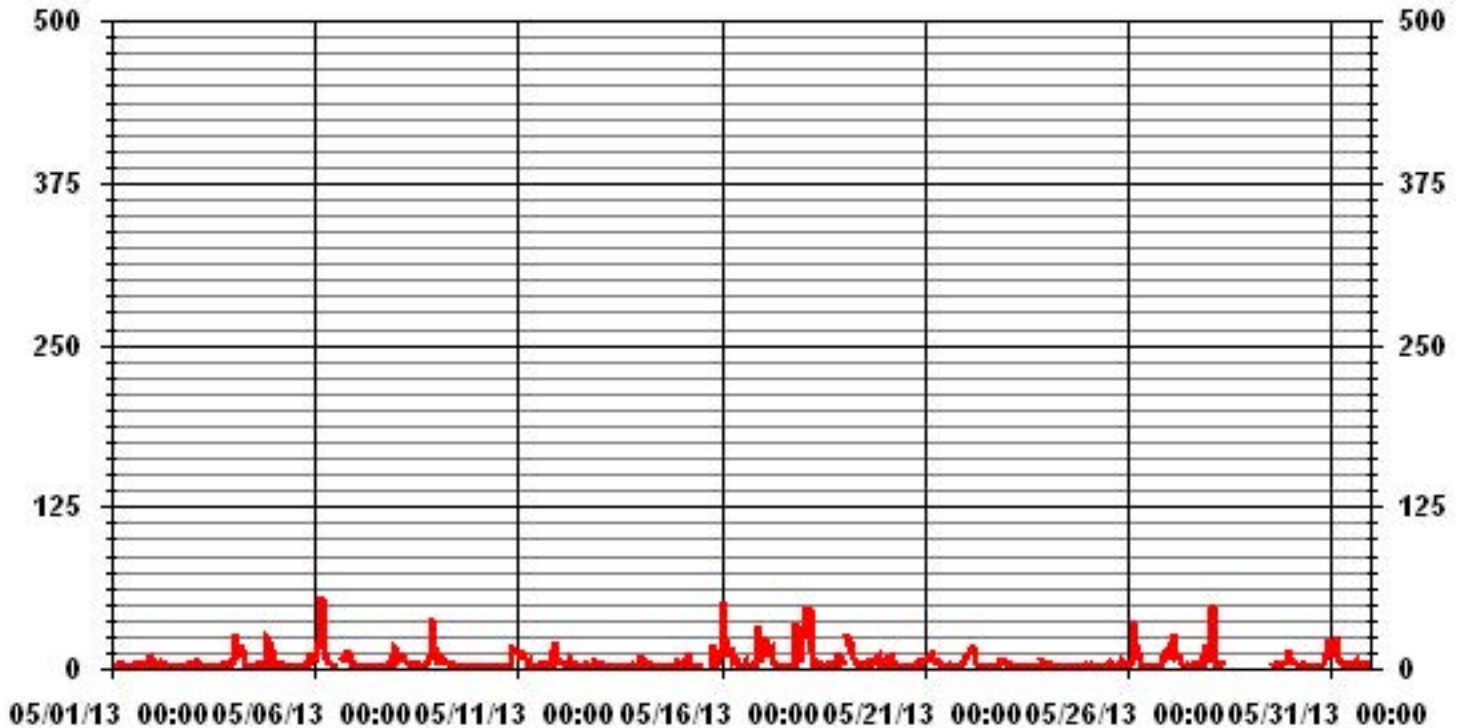
STATUS FLAG CODES

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:	671					
MAXIMUM INSTANTANEOUS VALUE:	54.9	PPB	@ HOUR(S)	4	ON DAY(S)	6
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	720	HRS	
MONTHLY CALIBRATION TIME:	17	HRS				
STANDARD DEVIATION:	6.80					

01 Hour Averages



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

May 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	
< 3.0	2.23	1.33	1.48	3.12	5.80	10.26	4.76	3.42	1.63	3.27	2.52	3.42	6.39	6.39	3.42	5.05	64.58
< 10.0	.14	.14	.59	1.19	4.46	6.99	4.31	.89	1.78	1.04	.59	1.48	3.42	2.38	2.23	.59	32.29
< 50.0	.00	.00	.00	.00	.29	.44	.29	.00	.00	.00	.14	.29	.29	.89	.29	.14	3.12
>= 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.38	1.48	2.08	4.31	10.56	17.70	9.37	4.31	3.42	4.31	3.27	5.20	10.11	9.67	5.95	5.80	

Calm : .00 %

Total # Operational Hours : 672

Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 3.0	15	9	10	21	39	69	32	23	11	22	17	23	43	43	23	34	434
< 10.0	1	1	4	8	30	47	29	6	12	7	4	10	23	16	15	4	217
< 50.0					2	3	2				1	2	2	6	2	1	21
>= 50.0																	
Totals	16	10	14	29	71	119	63	29	23	29	22	35	68	65	40	39	

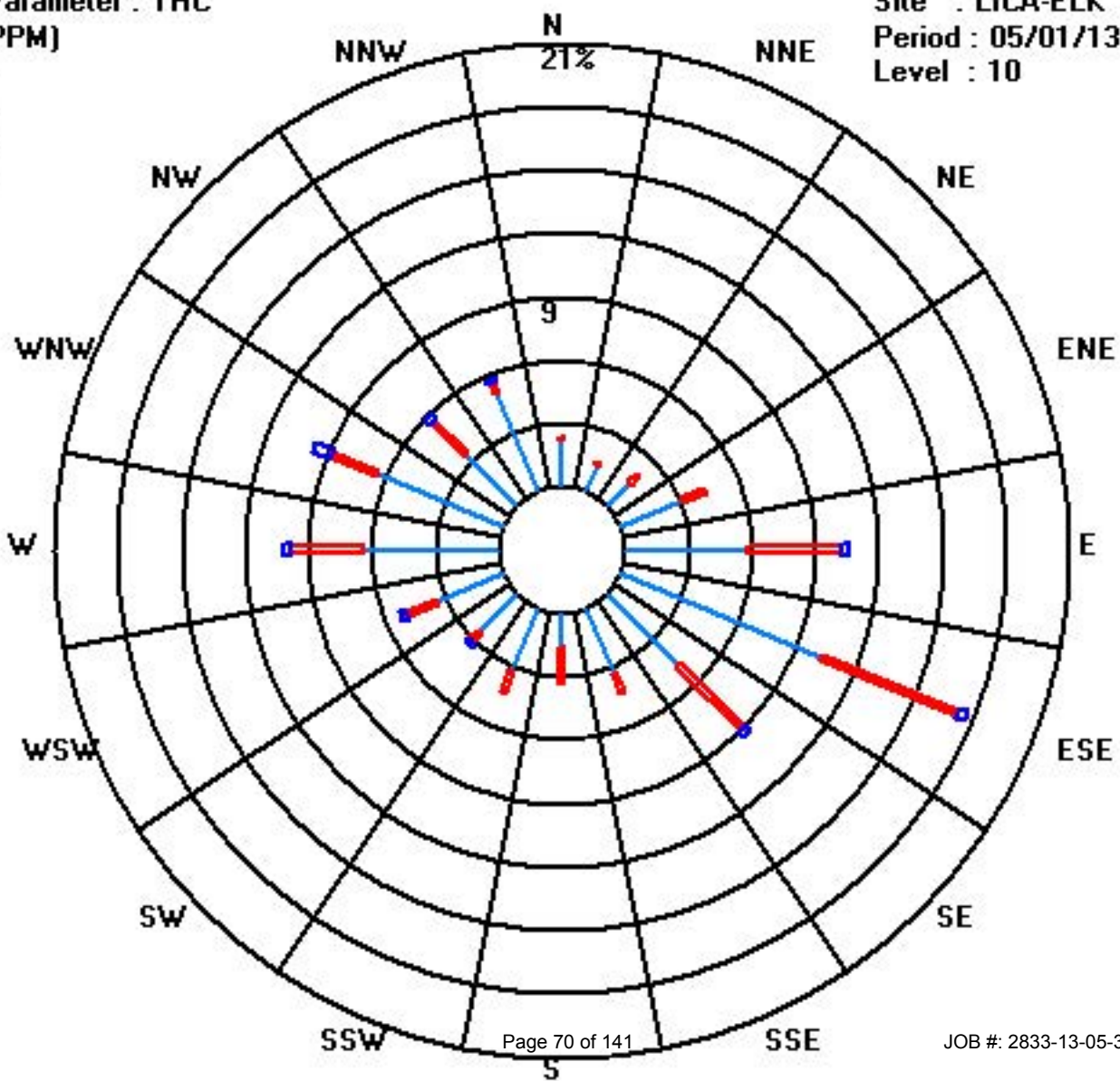
Calm : .00 %

Total # Operational Hours : 672

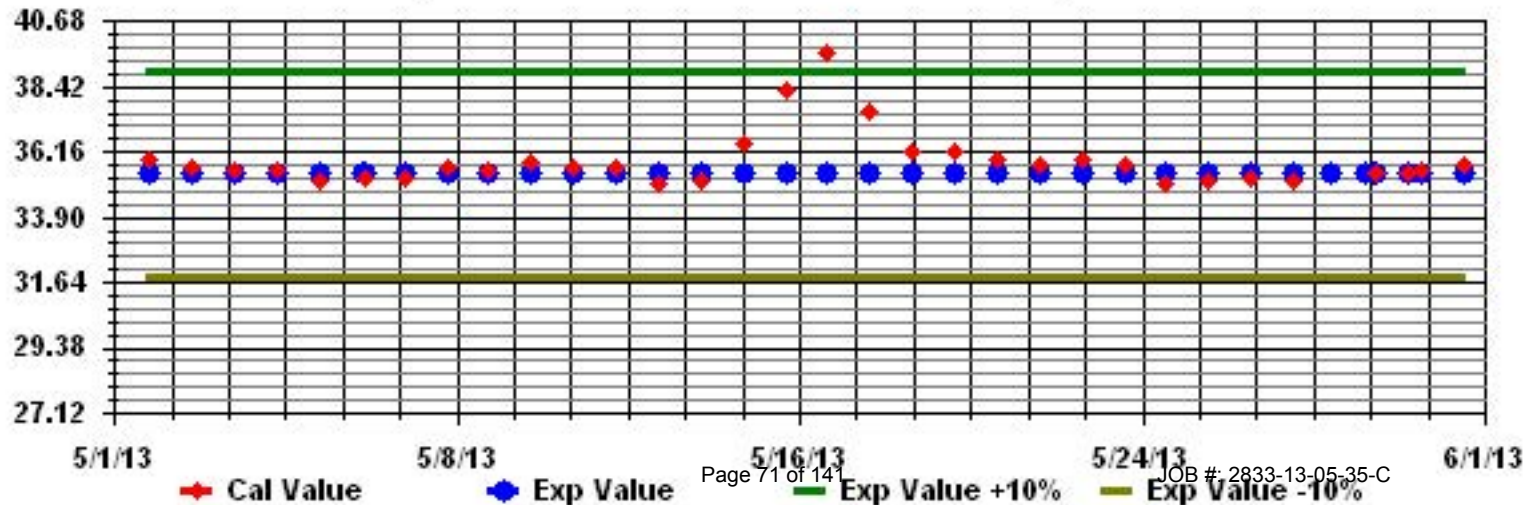
Class Limits (PPM)

Period : 05/01/13-05/31/13

Level : 10



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



Total Hydrocarbons (55i)

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

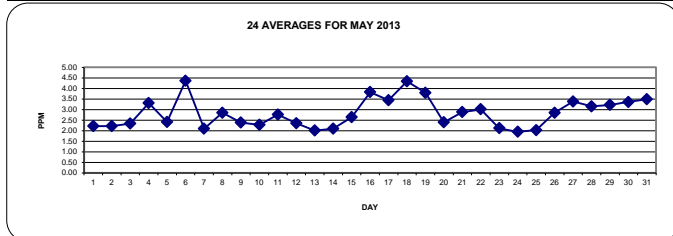
MAY 2013

TOTAL HYDROCARBONS (55i) hourly averages in ppm

MST																										DAILY	24-HOUR		
DAY	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	24:00	MAX.	AVG.	RDGS.
1			2.10	2.03	2.09	2.27	2.76	3.24	2.37	2.01	1.99	1.98	2.02	1.98	1.99	1.97	1.99	1.96	2.04	1.96	2.02	S	2.28	2.37	3.15	2.51	3.24	2.22	24
2			2.72	2.48	2.22	2.15	2.28	2.89	2.45	2.30	2.27	2.08	1.97	1.91	1.87	1.87	1.88	1.88	1.88	1.90	S	2.06	2.11	2.17	2.70	3.06	3.06	2.22	24
3			2.86	3.06	3.10	3.35	2.41	2.38	2.40	2.12	1.89	1.90	1.88	1.87	1.87	1.87	1.88	1.88	S	2.17	2.30	2.29	2.20	3.34	3.06	3.35	2.35	24	
4			3.30	6.07	4.86	4.56	6.51	7.12	5.07	2.48	2.13	1.97	1.89	1.91	1.90	1.89	1.90	1.91	S	1.90	1.91	2.01	4.09	3.69	4.53	2.44	7.12	3.31	24
5			2.44	2.41	2.24	2.21	2.26	2.55	2.37	2.10	2.08	2.10	2.03	1.95	1.93	1.91	1.92	S	1.90	1.93	1.92	1.97	2.60	4.34	3.53	4.87	4.87	2.42	24
6			3.26	5.41	7.72	8.48	13.02	10.64	7.74	4.12	3.35	2.86	2.70	2.52	2.35	2.33	2.27	S	2.13	2.30	2.28	3.60	3.98	2.98	2.20	2.19	13.02	4.37	24
7			2.07	1.90	1.88	1.91	1.90	1.92	1.90	1.91	1.92	C	C	C	C	1.88	S	1.87	1.87	1.86	1.87	1.88	2.23	2.18	2.81	4.38	4.38	2.10	24
8			5.62	3.57	3.69	3.72	4.45	3.77	2.52	2.43	2.20	2.00	1.97	1.98	S	1.98	1.96	1.93	1.94	1.93	1.95	2.84	3.17	3.09	3.84	3.09	5.62	2.85	24
9			3.18	2.82	2.85	4.05	3.63	3.37	2.85	2.57	2.46	2.20	2.06	S	1.90	1.89	1.88	1.86	1.88	1.99	1.95	1.90	1.89	1.89	1.89	1.89	4.05	2.38	24
10			1.95	2.09	1.99	1.92	1.91	1.90	1.88	1.88	1.88	1.87	S	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.88	1.89	2.18	4.77	4.88	4.38	4.88	2.28	24
11			4.59	4.78	4.01	3.39	3.47	3.22	2.68	2.43	2.10	S	1.96	1.92	1.92	1.90	1.96	2.05	2.12	1.98	1.95	2.48	2.40	3.61	3.50	3.18	4.78	2.77	24
12			2.80	2.74	2.71	2.75	2.66	2.38	2.68	2.58	S	2.46	2.42	2.27	2.14	2.16	2.05	2.08	1.93	1.96	1.90	1.78	1.86	2.65	2.86	2.33	2.86	2.35	24
13			2.71	2.18	2.19	2.30	2.14	2.12	2.26	S	1.85	1.83	1.81	1.81	1.83	1.84	1.83	1.83	1.83	1.85	1.87	1.93	2.09	2.07	2.02	2.03	2.71	2.01	24
14			2.44	3.45	2.03	2.34	2.43	2.29	S	1.90	1.86	1.85	1.84	1.82	1.84	1.82	1.82	1.81	1.82	1.82	1.82	1.81	1.83	1.90	2.65	2.99	3.45	2.09	24
15			2.65	2.61	2.73	3.71	4.91	S	2.67	2.07	1.90	1.88	1.86	1.84	1.84	1.84	2.08	X	2.29	2.20	2.07	4.28	2.74	2.25	2.70	5.11	5.11	2.65	23
16			4.98	7.12	11.36	7.62	S	8.50	6.78	2.71	2.92	2.13	2.02	1.97	1.90	1.91	1.97	1.89	1.83	1.82	1.81	1.84	2.21	3.52	5.20	4.05	11.36	3.83	24
17			4.10	7.02	6.63	S	7.47	6.70	5.56	3.28	2.33	1.93	1.85	Y	1.84	1.83	1.83	1.82	1.85	1.82	1.82	1.88	4.33	3.11	2.97	3.70	7.47	3.44	23
18			7.29	5.97	S	13.32	14.18	7.92	6.34	4.04	3.63	2.93	2.41	2.06	2.04	1.93	1.97	1.95	1.92	1.99	2.00	2.00	2.61	2.31	3.97	5.16	14.18	4.35	24
19			3.83	S	5.08	5.12	10.02	7.99	5.97	4.48	4.03	2.97	2.66	2.30	2.04	2.07	2.06	1.95	2.69	2.15	2.55	2.76	3.08	3.35	3.91	4.30	10.02	3.80	24
20			S	3.23	2.94	4.15	4.11	3.05	2.69	2.36	2.12	1.93	1.87	1.87	1.88	1.91	1.93	1.90	1.93	1.93	1.98	2.04	2.07	2.56	2.45	S	4.15	2.40	24
21			4.14	4.01	4.05	4.39	5.52	5.01	3.66	3.39	3.01	2.35	2.10	2.03	1.97	1.96	1.96	1.94	1.95	1.95	1.95	2.09	2.27	2.10	S	2.51	5.52	2.88	24
22			3.74	4.52	5.58	6.85	5.50	5.33	2.82	2.48	2.11	1.96	1.95	1.92	1.95	1.90	1.93	1.93	1.93	1.95	2.00	2.06	2.62	S	3.45	2.84	6.85	3.01	24
23			2.27	2.40	2.43	2.30	2.15	2.20	2.09	2.02	2.01	2.06	2.01	1.95	1.92	1.95	1.95	1.93	1.93	2.00	2.08	S	2.37	2.23	2.41	2.43	2.12	2.12	24
24			2.18	2.11	2.25	2.07	2.02	1.93	1.93	1.91	1.89	1.87	1.87	1.89	1.91	1.92	1.87	1.94	1.88	1.88	S	1.86	1.86	1.88	2.01	2.25	1.95	2.4	24
25			2.00	1.95	1.96	1.95	1.93	1.91	1.97	1.97	1.99	1.93	1.97	1.97	1.99	2.04	1.89	2.01	2.02	2.03	S	2.03	2.45	2.54	2.05	2.14	2.54	2.03	24
26			2.31	2.39	2.66	3.60	4.26	4.29	4.74	2.57	2.58	2.36	2.10	1.96	1.96	1.97	1.98	1.99	1.99	S	1.99	2.04	3.18	3.41	4.80	4.51	4.80	2.85	24
27			6.61	5.38	6.41	6.52	4.91	4.21	4.50	3.36	2.70	2.27	2.10	1.93	1.91	1.88	1.90	1.99	S	1.95	1.98	2.01	2.07	2.13	5.11	3.99	6.61	3.38	24
28			4.59	6.17	6.45	5.10	3.10	2.58	2.55	2.73	3.43	C	C	Y	1.89	C	1.88	S	1.90	1.95	2.07	2.25	2.35	2.54	3.24	3.19	6.45	3.16	23
29			4.11	4.33	5.20	5.71	3.57	3.62	4.50	S	3.52	2.87	2.43	2.05	1.99	1.97	S	2.02	1.96	2.31	2.21	2.59	2.52	3.52	4.12	3.74	5.71	3.22	24
30			5.11	3.91	3.69	3.38	3.36	3.32	S	2.75	2.65	2.28	2.05	2.00	1.98	S	1.93	1.91	1.90	1.91	1.94	2.15	4.14	5.58	6.57	9.48	9.48	3.36	24
31			10.51	7.58	5.85	7.22	4.19	4.30	3.97	3.51	2.69	2.07	2.06	1.99	S	1.97	1.99	2.03	1.94	1.91	2.03	2.18	2.50	2.58	2.15	3.05	10.51	3.49	24
HOURLY MAX			10.5	7.6	11.4	13.3	14.2	10.6	7.7	4.5	4.0	3.0	2.7	2.5	2.4	2.3	2.3	2.1	2.7	2.3	2.6	4.3	4.3	5.6	6.6	9.5			
HOURLY AVG			3.7	3.9	4.0	4.3	4.4	4.1	3.5	2.6	2.4	2.2	2.1	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.2	2.6	2.9	3.4	3.5			

STATUS FLAG CODES

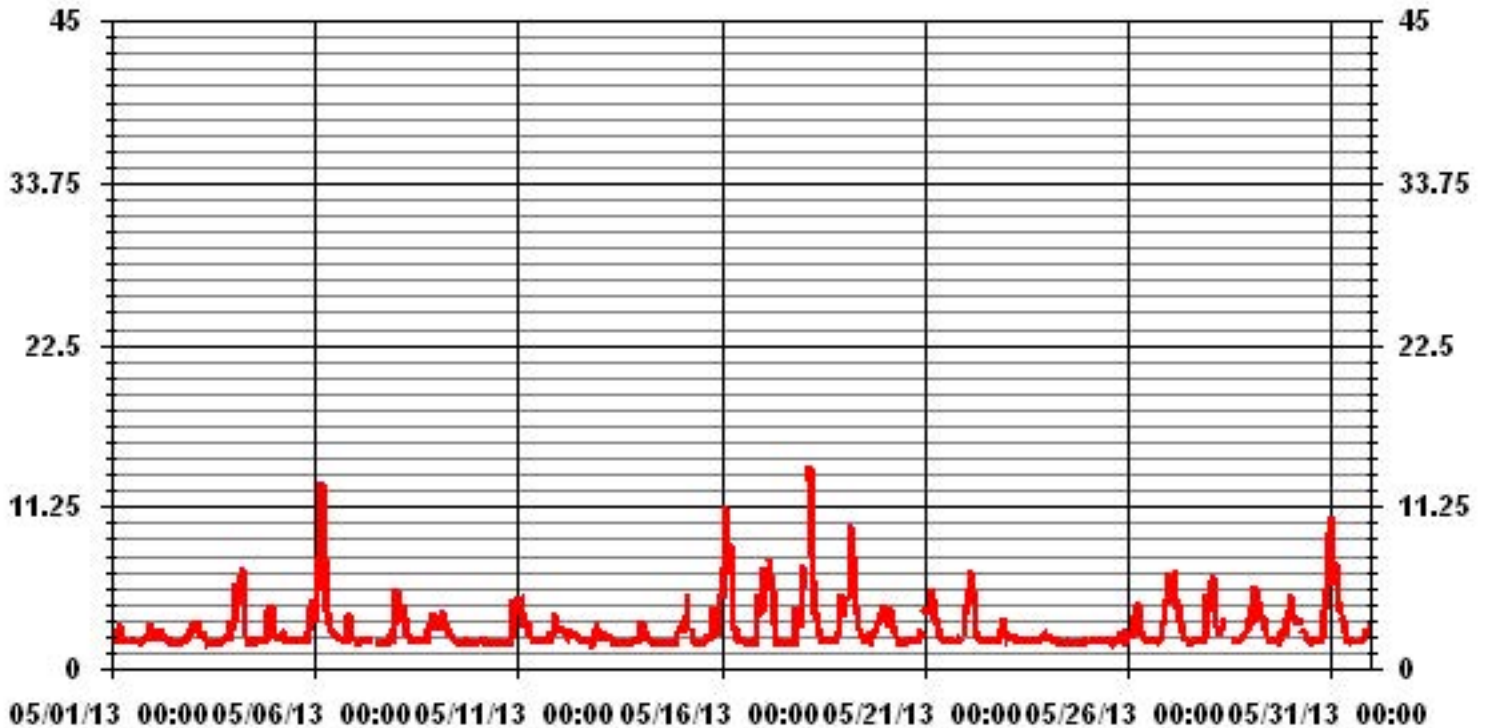
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	701					
MAXIMUM 1-HR AVERAGE:	14.18	PPM	@ HOUR(S)	4	ON DAY(S)	18
MAXIMUM 24-HR AVERAGE:	4.37	PPM			ON DAY(S)	6
IZS CALIBRATION TIME:	34	HRS	OPERATIONAL TIME:	741 HRS		
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:	99.6 %		
STANDARD DEVIATION:	1.58		MONTHLY AVERAGE:	2.83 PPM		

01 Hour Averages



— LICA35 THC55 PPM

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

MAY 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	
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	2.21	2.07	2.33	2.41	3.39	3.52	3.07	2.05	2.07	2.05	2.06	2.00	2.06	2.09	2.25	2.02	2.24	2.03	2.19	S	2.63	2.61	3.93	3.04	3.93	2.45	24
2	2	3.49	3.11	2.36	2.27	2.48	3.22	2.69	2.57	2.63	2.29	2.16	2.04	2.00	P	2.03	2.09	2.01	2.07	S	2.34	2.30	2.64	2.93	3.60	3.60	2.51	23
3	3	3.28	3.52	3.84	3.91	2.89	2.62	2.68	2.28	1.91	2.08	1.90	1.97	2.03	2.05	1.89	1.90	2.04	S	2.64	2.62	2.50	2.69	4.12	3.67	4.12	2.65	24
4	4	4.30	8.52	6.51	6.51	9.73	9.76	7.89	2.78	2.52	2.09	1.91	2.02	2.09	2.11	2.09	2.06	S	2.11	2.07	2.60	6.92	6.87	7.44	2.66	9.76	4.50	24
5	5	2.68	2.45	2.35	2.41	2.49	2.81	2.60	2.33	2.30	2.26	2.18	2.08	2.08	2.14	2.09	S	2.06	2.12	2.07	2.27	2.84	6.20	4.40	6.59	6.59	2.77	24
6	6	4.41	7.28	8.54	14.85	16.31	11.51	9.79	6.08	3.73	3.05	2.99	2.77	2.68	2.78	S	Y	Y	2.66	2.82	4.48	4.55	4.05	2.36	2.43	16.31	5.72	22
7	7	2.43	2.06	2.02	2.13	2.06	2.01	1.97	2.04	2.03	C	C	C	C	S	2.05	1.97	1.87	2.02	1.96	1.94	2.77	2.62	3.71	5.33	5.33	2.37	24
8	8	6.14	5.15	4.24	4.23	4.90	4.86	3.05	2.55	2.41	2.19	2.01	2.06	S	2.11	2.07	1.96	1.97	2.07	2.09	4.44	4.70	9.24	8.14	4.14	9.24	3.77	24
9	9	5.21	3.33	3.65	4.61	4.21	4.16	3.35	2.77	2.69	2.51	2.19	S	2.06	2.05	2.13	1.98	2.06	2.17	2.09	1.92	1.92	2.04	1.91	1.90	5.21	2.74	24
10	10	2.03	2.30	2.25	1.93	2.06	2.03	1.90	2.00	1.89	2.00	S	1.95	1.88	1.97	1.88	1.96	1.88	1.89	2.00	1.91	4.40	6.16	5.90	4.88	6.16	2.57	24
11	11	5.31	5.74	5.13	3.85	4.58	3.85	3.02	2.73	2.31	S	2.01	2.00	1.98	1.97	2.08	2.24	2.49	2.18	2.13	2.88	2.58	7.50	9.57	4.82	9.57	3.61	24
12	12	3.34	3.19	3.07	3.20	3.29	2.58	3.63	2.96	S	2.61	2.53	2.51	2.33	2.36	2.25	2.30	2.08	2.16	2.18	2.00	2.12	3.71	3.40	2.72	3.71	2.72	24
13	13	3.38	2.47	2.35	2.92	2.33	2.39	2.77	S	2.11	2.04	1.99	1.95	2.01	2.03	2.01	2.07	2.06	2.10	2.05	2.18	2.23	2.35	2.25	2.33	3.38	2.28	24
14	14	4.53	4.61	2.13	2.91	2.76	2.53	S	2.09	1.99	2.04	2.00	2.04	2.06	2.00	1.96	1.96	1.96	1.97	2.08	1.82	1.95	2.10	4.70	4.51	4.70	2.55	24
15	15	2.87	2.92	3.16	4.58	5.70	S	3.27	2.33	2.08	2.09	2.01	1.93	2.06	2.04	2.33	X	X	2.44	5.72	4.49	2.52	3.12	6.15	6.15	3.19	21	
16	16	6.06	13.34	14.86	9.14	S	9.69	9.49	4.64	3.73	2.95	2.26	2.18	2.02	2.09	2.13	2.09	1.98	2.02	1.91	2.00	3.13	6.08	6.79	5.33	14.86	5.04	24
17	17	6.01	9.40	8.17	S	8.99	8.68	6.65	4.23	2.63	2.25	2.02	Y	2.04	1.97	2.03	2.03	2.02	1.96	1.98	2.14	8.67	4.97	3.48	6.70	9.40	4.50	23
18	18	8.18	10.66	S	17.73	24.13	11.48	7.78	4.59	3.86	3.28	2.67	2.33	2.39	2.23	2.17	2.11	2.09	2.21	2.19	2.16	3.59	3.02	6.05	5.93	24.13	5.78	24
19	19	4.32	S	6.14	9.24	11.54	8.49	7.50	5.16	4.33	3.61	2.91	2.61	2.23	2.33	2.34	2.16	3.75	2.45	3.00	3.16	4.02	3.87	4.16	5.88	11.54	4.57	24
20	20	S	3.75	3.63	5.17	5.47	3.64	3.15	2.67	2.60	2.18	2.13	2.08	2.11	2.17	2.09	2.08	2.16	2.10	2.23	2.27	2.30	3.55	2.99	S	5.47	2.84	24
21	21	5.55	5.21	4.67	4.90	6.64	6.08	3.95	3.60	3.39	2.68	2.27	2.20	2.12	2.19	2.12	2.06	2.18	2.14	2.18	2.36	2.76	2.39	S	3.26	6.64	3.34	24
22	22	4.26	5.18	6.21	8.26	5.91	6.72	4.03	2.64	2.29	2.17	2.11	2.03	2.10	2.08	2.10	2.10	2.11	2.08	2.22	2.43	3.21	S	4.50	3.78	8.26	3.50	24
23	23	2.86	2.73	2.96	2.76	2.29	2.46	2.39	2.20	2.25	2.23	2.25	2.19	2.05	2.12	2.16	2.12	2.13	2.19	2.26	2.27	S	2.90	2.66	2.90	2.96	2.41	24
24	24	2.47	2.26	2.64	2.18	2.06	1.97	1.94	2.06	1.94	2.04	2.00	2.05	2.06	2.08	2.00	2.15	2.01	2.05	1.90	S	2.06	1.88	2.08	2.28	2.64	2.09	24
25	25	2.20	2.18	2.16	2.12	2.16	2.02	2.17	2.33	2.27	2.09	2.12	2.14	2.19	2.44	2.00	2.24	2.22	2.24	S	2.33	4.30	3.19	2.25	2.55	4.30	2.34	24
26	26	2.58	3.23	3.69	5.73	6.26	6.00	6.64	3.01	2.82	2.56	2.39	2.17	2.12	2.20	2.19	2.22	2.20	S	2.22	2.34	4.04	4.64	6.49	5.17	6.64	3.60	24
27	27	8.73	6.82	10.49	9.14	5.83	6.08	6.49	3.63	3.12	2.50	2.33	2.09	2.08	2.06	2.08	2.22	S	2.16	2.16	2.21	2.25	3.03	6.67	4.73	10.49	4.30	24
28	28	4.98	9.79	8.10	10.20	3.38	2.90	2.82	3.33	C	C	C	Y	1.99	C	2.03	S	2.04	2.64	2.29	3.03	2.89	2.84	4.39	4.70	10.20	4.13	23
29	29	5.27	7.44	7.49	8.70	3.99	4.11	6.13	S	3.88	3.50	2.90	2.43	2.27	2.16	S	3.21	2.62	3.39	3.13	3.25	2.90	4.39	5.97	10.58	10.58	4.53	24
30	30	6.57	5.39	4.27	4.65	4.12	3.61	S	S	2.90	2.66	2.39	2.33	2.26	S	2.20	2.15	2.13	2.47	2.42	3.72	6.50	9.96	11.12	18.56	18.56	4.88	24
31	31	17.61	10.19	8.49	20.50	8.02	5.20	4.66	4.46	3.76	2.48	2.29	2.22	S	2.10	2.22	2.64	2.20	2.02	2.53	2.97	4.10	3.10	2.45	4.67	20.50	5.26	24
HOURLY MAX		17.61	13.34	14.86	20.50	24.13	11.51	9.79	6.08	4.33	3.61	2.99	2.77	2.68	2.78	2.34	3.21	3.75	3.39	3.13	5.72	8.67	9.96	11.12	18.56			
HOURLY AVG		4.8	5.2	4.9	6.1	5.7	4.9	4.4	3.1	2.7	2.4	2.2	2.2	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.7	3.5	4.1	4.7	4.9			

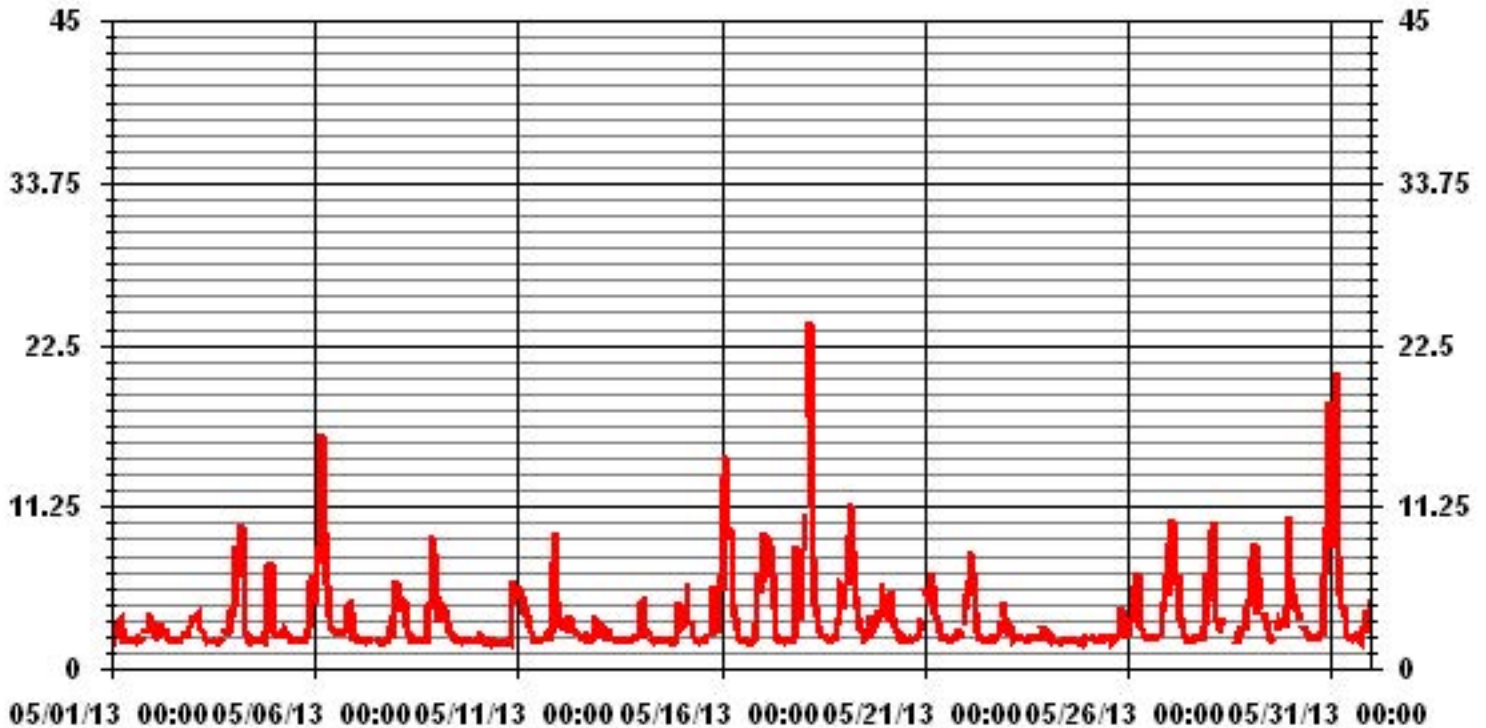
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	693					
MAXIMUM INSTANTANEOUS VALUE:	24.13	PPM	@ HOUR(S)	4	ON DAY(S)	18
IZS CALIBRATION TIME:	35	HRS	OPERATIONAL TIME:	736	HRS	
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION:	2.55					

01 Hour Averages



— LICA35 THC55MAX PPM

LICA35
 THC55 / WDR Joint Frequency Distribution (Percent)

May 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	
< 3.0	2.28	1.42	1.56	3.28	6.99	12.83	6.41	3.70	2.42	3.70	2.71	4.13	7.27	6.13	4.70	4.56	74.17
< 10.0	.14	.28	.42	1.14	3.70	4.27	2.28	.42	1.42	.71	.57	1.28	2.42	3.70	1.42	.57	24.82
< 50.0	.00	.00	.00	.00	.00	.28	.14	.00	.00	.00	.00	.14	.00	.14	.14	.14	.99
>= 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.42	1.71	1.99	4.42	10.69	17.40	8.84	4.13	3.85	4.42	3.28	5.56	9.70	9.98	6.27	5.27	

Calm : .00 %

Total # Operational Hours : 701

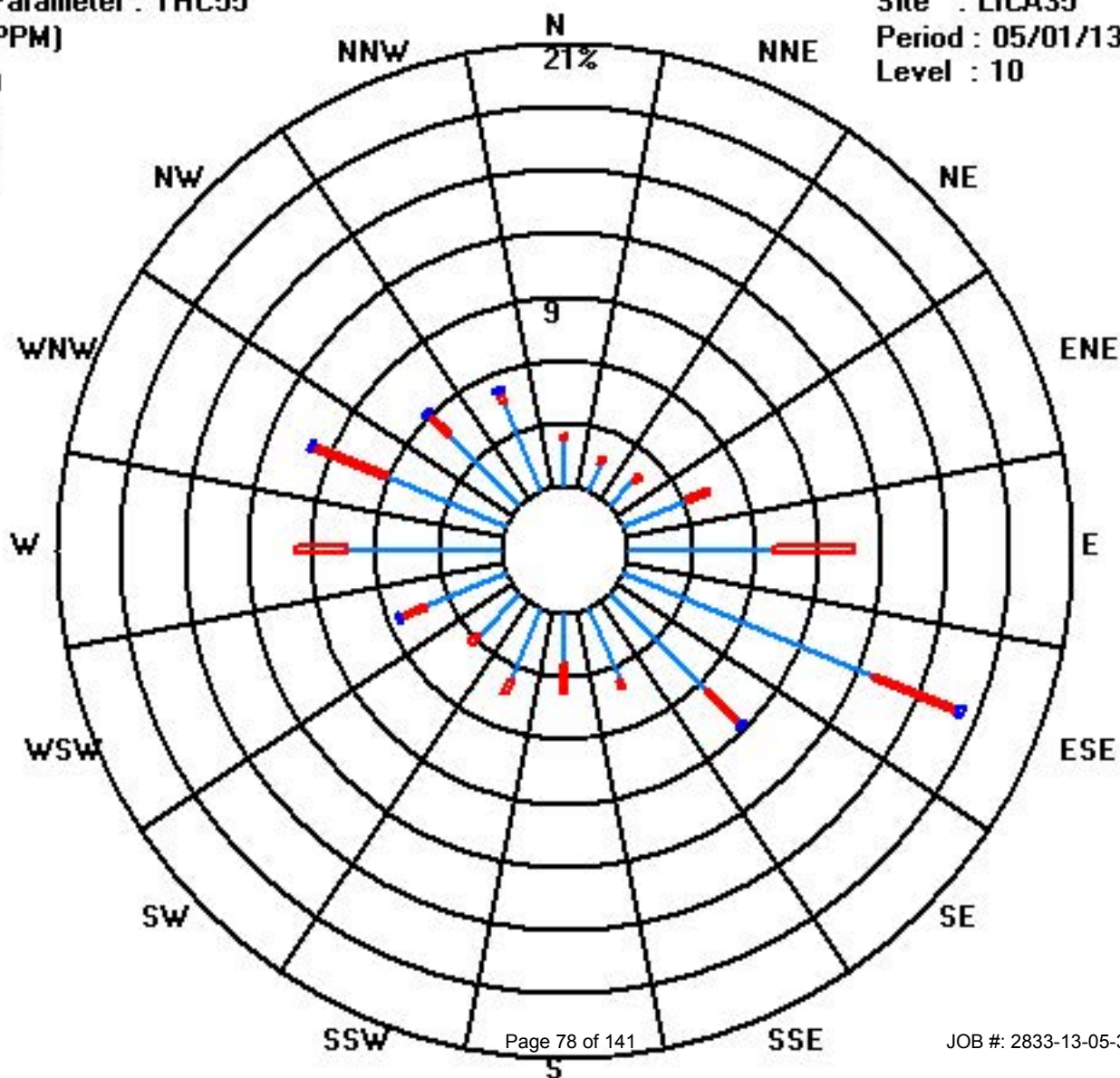
Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 3.0	16	10	11	23	49	90	45	26	17	26	19	29	51	43	33	32	520
< 10.0	1	2	3	8	26	30	16	3	10	5	4	9	17	26	10	4	174
< 50.0						2	1					1		1	1	1	7
>= 50.0																	
Totals	17	12	14	31	75	122	62	29	27	31	23	39	68	70	44	37	

Calm : .00 %

Total # Operational Hours : 701

Class Limits (PPM)



Methane

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

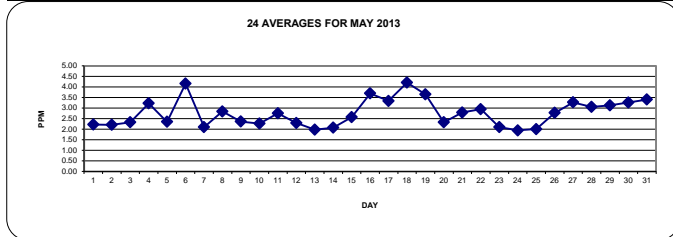
MAY 2013

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		
DAY	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.
1			2.11	2.03	2.09	2.27	2.75	3.22	2.37	2.01	1.98	1.98	2.02	1.98	1.99	1.97	1.99	1.96	2.04	1.96	2.02	S	2.28	2.37	3.13	2.51	3.22	2.22	24
2			2.71	2.48	2.21	2.15	2.28	2.88	2.44	2.30	2.27	2.08	1.96	1.91	1.87	1.87	1.87	1.87	1.87	1.90	S	2.05	2.11	2.16	2.67	2.96	2.96	2.21	24
3			2.79	3.00	3.01	3.29	2.40	2.36	2.40	2.12	1.89	1.89	1.88	1.87	1.87	1.87	1.88	1.88	S	2.16	2.29	2.29	2.19	3.27	3.00	3.29	2.32	24	
4			3.20	5.82	4.61	4.31	6.11	6.79	4.91	2.47	2.12	1.97	1.89	1.90	1.89	1.88	1.88	1.89	S	1.89	1.89	2.00	4.05	3.67	4.46	2.44	6.79	3.22	24
5			2.44	2.41	2.24	2.21	2.25	2.51	2.35	2.10	2.06	2.06	1.95	1.88	1.86	1.85	1.85	S	1.85	1.85	1.86	1.94	2.44	4.06	3.39	4.64	4.64	2.35	24
6			3.18	5.17	7.46	8.10	12.44	10.09	7.41	3.98	3.23	2.74	2.50	2.33	2.16	2.11	2.08	S	1.92	2.14	2.15	3.45	3.84	2.88	2.16	2.14	12.44	4.16	24
7			2.04	1.89	1.88	1.90	1.90	1.91	1.90	1.90	1.92	C	C	C	C	S	1.87	1.86	1.86	1.86	1.88	1.88	2.22	2.18	2.81	4.34	2.09	24	
8			5.56	3.55	3.65	3.68	4.39	3.68	2.52	2.43	2.20	2.00	1.97	1.98	S	1.98	1.96	1.93	1.94	1.93	1.94	2.84	3.16	3.08	3.83	3.08	5.56	2.84	24
9			3.13	2.80	2.83	3.98	3.54	3.34	2.83	2.57	2.45	2.19	2.05	S	1.87	1.86	1.84	1.85	1.87	1.87	1.97	1.94	1.90	1.89	1.89	1.89	3.98	2.36	24
10			1.96	2.09	1.98	1.92	1.90	1.90	1.89	1.88	1.88	1.87	S	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.88	1.89	2.18	4.75	4.83	4.29	4.83	2.27	24
11			4.51	4.71	3.99	3.36	3.45	3.21	2.68	2.43	2.10	S	1.96	1.92	1.92	1.90	1.95	2.05	2.12	1.98	1.95	2.46	2.40	3.58	3.46	3.13	4.71	2.75	24
12			2.77	2.72	2.68	2.73	2.63	2.37	2.67	2.56	S	2.41	2.32	2.18	2.07	2.08	1.98	1.99	1.83	1.86	1.84	1.77	1.82	2.49	2.67	2.24	2.77	2.29	24
13			2.55	2.14	2.16	2.23	2.11	2.09	2.22	S	1.83	1.81	1.80	1.81	1.81	1.81	1.80	1.81	1.81	1.81	1.85	1.91	2.08	2.05	2.00	2.03	2.55	1.98	24
14			2.42	3.38	2.04	2.33	2.42	2.28	S	1.89	1.85	1.83	1.82	1.82	1.81	1.81	1.81	1.81	1.82	1.81	1.82	1.82	1.83	1.89	2.56	2.89	3.38	2.08	24
15			2.62	2.57	2.70	3.54	4.58	S	2.66	2.07	1.89	1.86	1.85	1.84	1.82	1.82	1.93	X	1.94	2.16	2.05	4.20	2.70	2.24	2.64	4.88	4.88	2.57	23
16			4.69	6.80	10.91	7.21	S	8.13	6.51	2.67	2.87	2.12	1.99	1.96	1.89	1.90	1.88	1.86	1.83	1.81	1.81	1.83	2.18	3.36	4.95	3.84	10.91	3.70	24
17			3.87	6.75	6.27	S	7.14	6.43	5.38	3.19	2.31	1.90	1.83	Y	1.83	1.82	1.82	1.81	1.84	1.82	1.82	1.88	4.24	3.01	2.90	3.58	7.14	3.34	23
18			7.06	5.76	S	12.87	13.61	7.68	6.05	3.85	3.49	2.80	2.35	2.03	2.00	1.91	1.93	1.93	1.89	1.95	1.96	1.99	2.57	2.28	3.85	4.97	13.61	4.21	24
19			3.68	S	4.78	4.83	9.70	7.79	5.76	4.29	3.87	2.86	2.57	2.23	2.00	2.03	2.01	1.91	2.57	2.09	2.44	2.63	2.94	3.19	3.72	4.07	9.70	3.65	24
20			S	3.07	2.83	3.93	3.88	2.95	2.61	2.33	2.10	1.89	1.85	1.84	1.85	1.87	1.87	1.88	1.90	1.93	2.00	2.01	2.48	2.37	S	3.93	2.33	24	
21			3.95	3.83	3.86	4.20	5.33	4.85	3.51	3.28	2.88	2.20	2.07	2.00	1.94	1.90	1.90	1.90	1.92	1.89	1.92	2.07	2.24	2.10	S	2.49	5.33	2.79	24
22			3.66	4.41	5.38	6.66	5.35	5.19	2.79	2.47	2.09	1.94	1.91	1.89	1.90	1.88	1.88	1.88	1.88	1.91	1.95	2.02	2.53	S	3.33	2.77	6.66	2.94	24
23			2.25	2.37	2.40	2.29	2.15	2.19	2.09	2.02	2.00	2.04	1.98	1.92	1.90	1.93	1.91	1.99	1.98	2.06	S	2.34	2.23	2.40	2.40	2.10	2.10	24	
24			2.18	2.11	2.25	2.07	2.02	1.93	1.93	1.90	1.89	1.87	1.86	1.88	1.90	1.92	1.86	1.93	1.88	1.87	1.88	S	1.85	1.86	1.87	2.00	2.25	1.94	24
25			1.99	1.93	1.95	1.94	1.91	1.90	1.96	1.95	1.97	1.92	1.91	1.90	1.95	2.03	1.88	1.99	1.99	2.01	S	1.99	2.37	2.50	2.02	2.12	2.50	2.00	24
26			2.30	2.37	2.61	3.53	4.09	4.09	4.53	2.52	2.52	2.31	2.06	1.94	1.93	1.94	1.95	1.95	1.95	S	1.95	2.00	3.04	3.30	4.59	4.30	4.59	2.77	24
27			6.37	5.15	6.21	6.23	4.70	4.04	4.35	3.26	2.64	2.23	2.06	1.89	1.86	1.85	1.85	1.93	S	1.91	1.94	1.97	2.01	2.11	4.87	3.76	6.37	3.27	24
28			4.38	5.91	6.16	4.92	3.03	2.52	2.51	2.62	3.23	C	C	Y	1.88	C	1.86	S	1.87	1.93	2.06	2.22	2.32	2.51	3.13	3.10	6.16	3.06	23
29			3.94	4.14	4.94	5.49	3.45	3.51	4.31	S	3.38	2.82	2.41	2.04	1.98	1.96	S	2.01	1.95	2.29	2.18	2.56	2.48	3.43	3.98	3.62	5.49	3.13	24
30			4.91	3.75	3.54	3.27	3.25	3.19	S	2.67	2.60	2.25	2.04	1.99	1.98	S	1.92	1.89	1.88	1.90	1.93	2.13	3.99	5.41	6.21	9.03	9.03	3.26	24
31			10.18	7.36	5.60	6.98	4.02	4.13	3.83	3.39	2.66	2.06	2.06	1.98	S	1.96	1.98	1.97	1.93	1.90	2.02	2.17	2.47	2.52	2.13	2.92	10.18	3.40	24
HOURLY MAX			10.18	7.36	10.91	12.87	13.61	10.09	7.41	4.29	3.87	2.86	2.57	2.33	2.16	2.11	2.08	2.05	2.57	2.29	2.44	4.20	4.24	5.41	6.21	9.03			
HOURLY AVG			3.65	3.75	3.84	4.15	4.29	3.97	3.43	2.59	2.41	2.14	2.03	1.95	1.91	1.91	1.90	1.91	1.92	1.94	1.96	2.20	2.55	2.80	3.26	3.38			

STATUS FLAG CODES

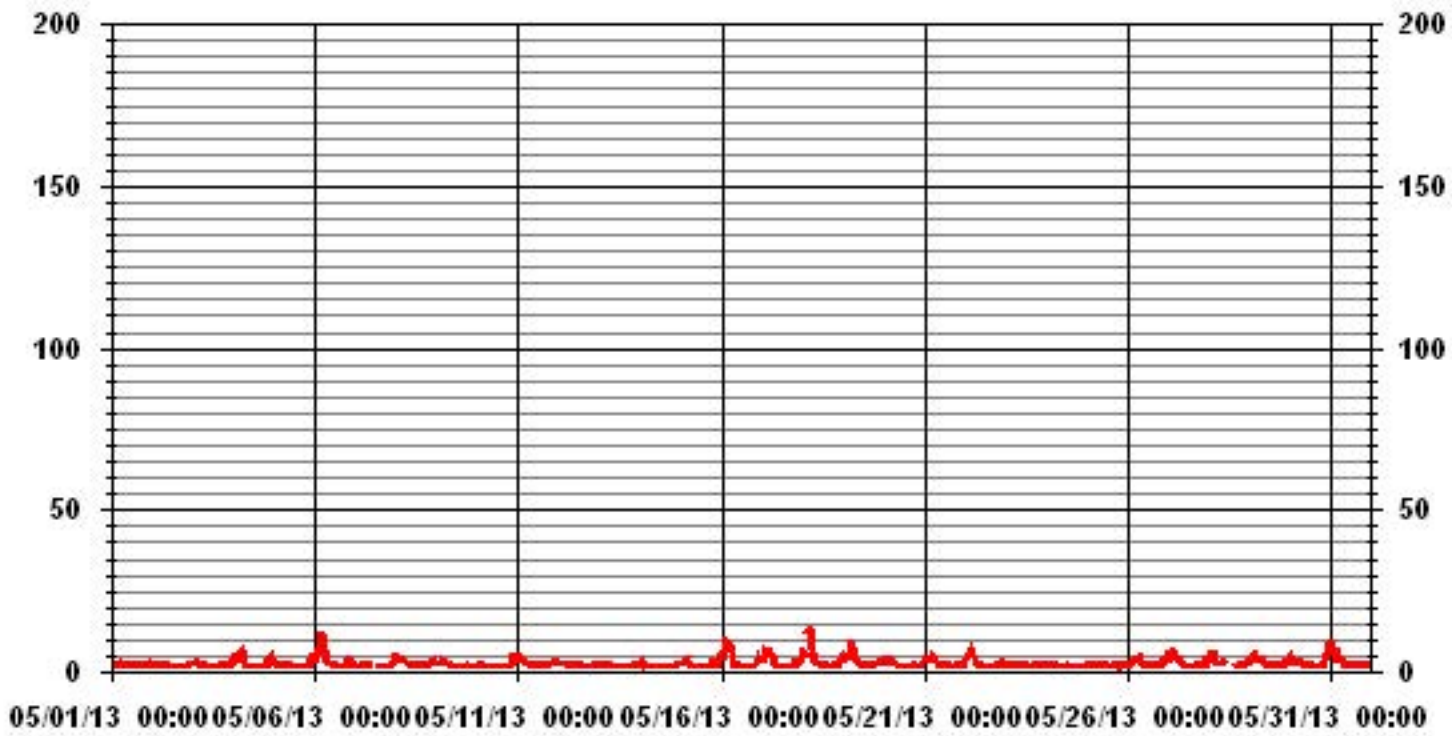
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	701					
MAXIMUM 1-HR AVERAGE:	13.61	PPM	@ HOUR(S)	4	ON DAY(S)	18
MAXIMUM 24-HR AVERAGE:	4.21	PPM			ON DAY(S)	18
IZS CALIBRATION TIME:	34	HRS	OPERATIONAL TIME:	741	HRS	
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:	99.6	%	
STANDARD DEVIATION:	1.50		MONTHLY AVERAGE:	2.76	PPM	

01 Hour Averages



— LICA35 METHANE PPM

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

MAY 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		
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		2.21	2.07	2.19	2.40	3.25	3.38	2.97	2.06	2.04	2.06	2.06	2.00	2.05	2.01	2.25	2.02	2.25	2.04	2.19	S	2.64	2.62	3.93	3.05	3.93	2.42	24	
2		3.49	3.12	2.28	2.18	2.48	3.21	2.59	2.57	2.64	2.29	2.02	1.95	1.91	P	1.88	1.88	1.88	1.92	S	2.19	2.29	2.59	2.87	3.29	3.49	2.43	23	
3		3.10	3.36	3.72	3.75	2.81	2.50	2.57	2.29	1.91	1.90	1.90	1.89	1.88	1.89	1.89	1.90	1.90	S	2.65	2.58	2.51	2.68	3.92	3.48	3.92	2.56	24	
4		4.14	8.07	6.14	6.13	9.12	9.14	7.61	2.72	2.35	2.06	1.91	1.94	1.91	1.89	1.90	1.90	S	1.90	1.91	2.61	6.86	6.74	7.38	2.67	9.14	4.30	24	
5		2.58	2.45	2.29	2.30	2.38	2.68	2.52	2.17	2.13	2.09	2.01	1.92	1.87	1.86	1.86	S	1.86	1.85	1.88	2.17	2.61	5.79	4.19	6.17	6.17	2.59	24	
6		4.16	7.20	8.16	14.16	15.66	10.93	9.26	5.80	3.54	2.88	2.75	2.50	2.47	2.31	S	Y	Y	2.45	2.62	4.33	4.35	3.86	2.32	2.26	15.66	5.43	22	
7		2.26	1.91	1.91	1.95	1.92	1.93	1.93	1.91	1.93	C	C	C	C	S	1.88	1.87	1.87	1.87	1.88	1.95	2.69	2.63	3.70	5.13	5.13	2.27	24	
8		5.95	5.08	4.02	4.13	4.80	4.76	3.05	2.55	2.41	2.19	2.02	2.07	S	2.12	2.07	1.96	1.97	1.96	2.10	4.44	4.66	9.06	8.16	4.14	9.06	3.72	24	
9		5.05	3.33	3.55	4.46	4.17	4.00	3.21	2.68	2.68	2.52	2.11	S	1.90	1.87	1.85	1.86	1.92	1.99	1.96	1.92	1.92	1.91	1.91	1.90	5.05	2.64	24	
10		2.04	2.12	2.09	1.93	1.91	1.91	1.90	1.89	1.89	1.88	S	1.88	1.89	1.88	1.88	1.88	1.88	1.89	1.89	1.89	1.92	4.40	6.12	5.82	4.75	6.12	2.51	24
11		5.21	5.65	4.99	3.75	4.40	3.72	2.95	2.74	2.21	S	2.02	1.93	1.98	1.98	2.02	2.16	2.39	2.18	2.03	2.80	2.50	7.52	9.36	4.77	9.36	3.53	24	
12		3.24	3.10	2.95	3.12	3.25	2.44	3.63	2.96	S	2.46	2.39	2.30	2.11	2.14	2.05	2.08	1.87	1.90	1.96	1.79	1.92	3.39	3.07	2.52	3.63	2.55	24	
13		3.09	2.26	2.25	2.69	2.19	2.22	2.57	S	1.89	1.82	1.81	1.81	1.82	1.82	1.81	1.83	1.82	1.83	1.91	2.03	2.24	2.19	2.05	2.19	3.09	2.09	24	
14		4.47	4.53	2.14	2.75	2.63	2.45	S	2.10	1.88	1.83	1.83	1.82	1.82	1.82	1.82	1.83	1.83	1.82	1.82	1.82	1.85	1.92	4.33	4.05	4.53	2.40	24	
15		2.74	2.76	2.98	4.16	5.35	S	3.11	2.33	1.93	1.88	1.87	1.85	1.84	1.85	2.06	X	X	X	2.28	5.54	4.33	2.35	2.97	5.97	5.97	3.01	21	
16		5.60	12.90	14.31	8.74	S	9.30	9.09	4.44	3.64	2.76	2.08	2.04	1.90	1.91	1.90	1.88	1.85	1.82	1.82	1.92	3.10	5.87	6.58	4.92	14.31	4.80	24	
17		5.66	9.11	7.74	S	8.55	8.25	6.40	4.02	2.63	2.10	1.88	Y	1.84	1.83	1.82	1.82	1.93	1.83	1.83	2.14	8.51	4.70	3.32	6.47	9.11	4.29	23	
18		7.89	10.35	S	17.16	20.28	11.28	7.47	4.35	3.64	3.11	2.52	2.22	2.15	2.11	1.98	1.97	1.90	1.98	2.00	2.04	3.45	2.95	5.82	5.66	20.28	5.40	24	
19		4.10	S	5.82	9.04	11.29	8.33	7.29	4.95	4.10	3.42	2.68	2.44	2.06	2.16	2.13	1.98	3.57	2.26	2.80	2.88	3.82	3.64	3.92	5.57	11.29	4.36	24	
20		S	3.53	3.42	4.89	5.14	3.45	2.92	2.50	2.36	1.95	1.88	1.87	1.86	1.88	1.88	1.88	1.92	1.91	1.95	2.08	2.21	3.31	2.87	S	5.14	2.62	24	
21		5.30	4.97	4.40	4.66	6.42	5.96	3.76	3.39	3.15	2.51	2.13	2.04	1.98	1.92	1.92	1.93	1.95	1.92	1.95	2.28	2.70	2.38	S	3.06	6.42	3.16	24	
22		4.13	5.07	6.05	8.04	5.78	6.59	3.87	2.65	2.30	1.99	1.93	1.91	1.95	1.89	1.91	1.90	1.90	1.95	2.01	2.19	3.05	S	4.30	3.68	8.04	3.35	24	
23		2.72	2.63	2.82	2.67	2.19	2.33	2.19	2.04	2.02	2.08	2.03	1.94	1.91	1.98	1.98	1.91	1.95	2.09	2.03	2.21	S	2.75	2.58	2.78	2.82	2.25	24	
24		2.46	2.22	2.65	2.17	2.06	1.98	1.94	1.92	1.90	1.88	1.88	1.92	1.92	2.04	1.88	2.14	1.91	1.89	1.90	S	1.88	1.89	1.93	2.23	2.65	2.03	24	
25		2.21	1.99	2.10	2.01	1.93	1.94	2.08	2.21	2.11	1.98	1.94	1.93	2.05	2.44	1.92	2.11	2.03	2.06	S	2.16	4.09	3.06	2.15	2.55	4.09	2.22	24	
26		2.55	3.08	3.61	5.52	5.93	5.74	6.37	2.90	2.71	2.43	2.21	1.96	1.95	1.96	1.96	1.97	1.97	S	1.98	2.18	3.79	4.48	6.27	4.95	6.37	3.41	24	
27		8.49	6.50	10.29	8.70	5.56	5.83	6.30	3.41	3.05	2.36	2.14	1.93	1.89	1.85	1.86	2.05	S	1.94	1.98	2.01	2.04	2.90	6.40	4.49	10.29	4.09	24	
28		4.77	9.46	7.78	9.82	3.22	2.75	2.67	3.17	C	C	Y	1.91	C	1.91	S	1.91	2.64	2.15	2.91	2.74	2.73	4.20	4.45	9.82	3.96	23		
29		4.99	7.00	7.13	8.31	3.81	3.87	5.89	S	3.73	3.36	2.80	2.23	2.28	2.17	S	3.02	2.63	3.30	2.93	3.11	2.78	4.28	5.76	10.25	10.25	4.35	24	
30		6.35	5.16	4.05	4.48	3.95	3.46	S	S	2.77	2.56	2.25	2.11	2.26	S	2.20	1.92	2.14	2.29	2.42	3.54	6.27	9.87	10.44	17.96	17.96	4.69	24	
31		17.06	9.94	8.17	20.28	7.83	4.99	4.45	4.24	3.64	2.47	2.23	2.22	S	2.11	2.21	2.00	1.97	2.02	2.42	2.82	3.94	3.02	2.36	4.52	20.28	5.08	24	
HOURLY MAX		17.06	12.90	14.31	20.28	20.28	11.28	9.26	5.80	4.10	3.42	2.80	2.50	2.47	2.44	2.25	3.02	3.57	3.30	2.93	5.54	8.51	9.87	10.44	17.96				
HOURLY AVG		4.60	5.03	4.73	5.88	5.34	4.71	4.23	2.96	2.59	2.32	2.12	2.02	1.98	1.99	1.95	1.99	2.04	2.05	2.11	2.57	3.40	3.97	4.50	4.66				

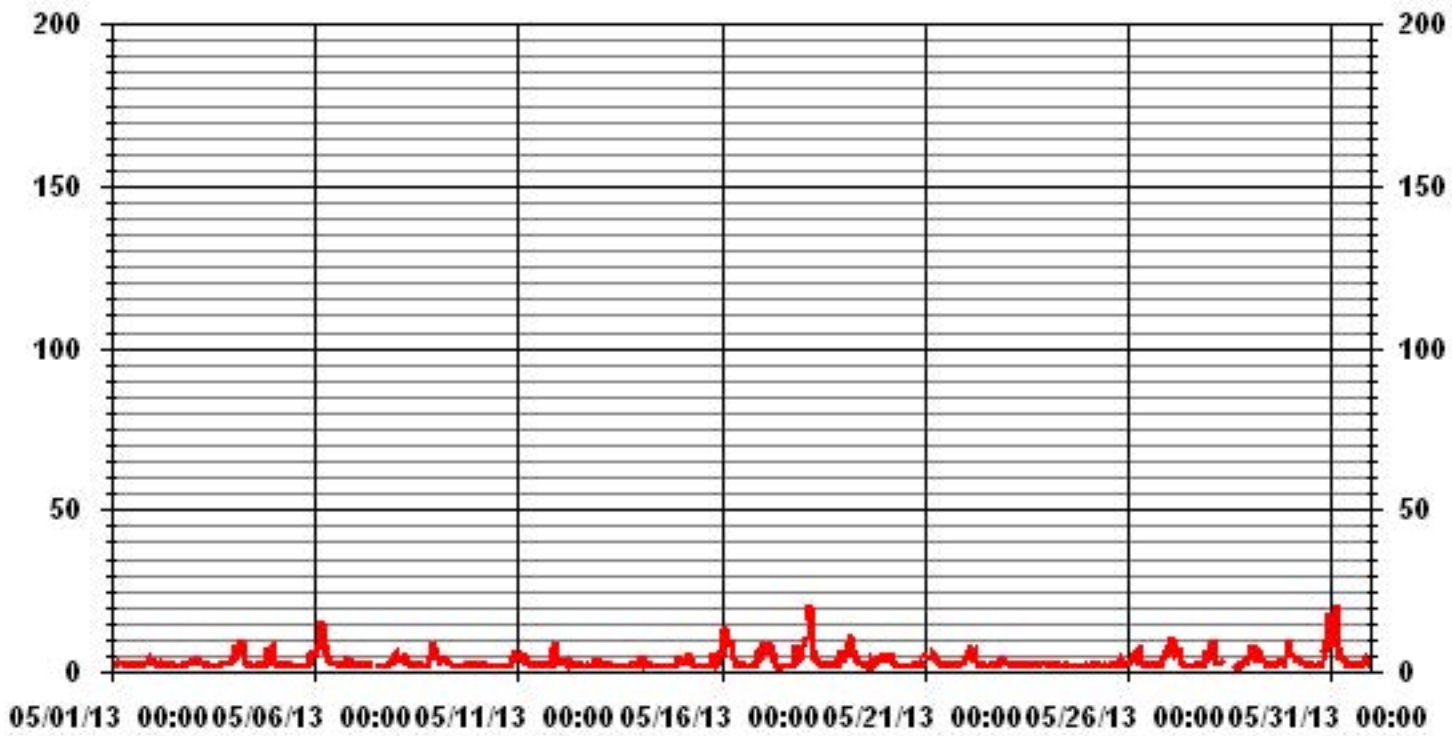
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	693
MAXIMUM INSTANTANEOUS VALUE:	20.28 PPM @ HOUR(S) 4 ON DAY(S) 18
I/S CALIBRATION TIME:	35 HRS
MONTHLY CALIBRATION TIME:	8 HRS
OPERATIONAL TIME:	736 HRS
STANDARD DEVIATION:	2.44

01 Hour Averages



LICA35
 METHANE / WDR Joint Frequency Distribution (Percent)

May 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	
< 3.0	2.28	1.42	1.56	3.28	6.99	12.98	6.41	3.70	2.42	3.70	2.85	4.13	7.56	6.27	4.70	4.56	74.89
< 10.0	.14	.28	.42	1.14	3.70	4.27	2.28	.42	1.42	.71	.42	1.28	2.13	3.56	1.42	.57	24.25
< 50.0	.00	.00	.00	.00	.00	.14	.14	.00	.00	.00	.00	.14	.00	.14	.14	.14	.85
>= 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.42	1.71	1.99	4.42	10.69	17.40	8.84	4.13	3.85	4.42	3.28	5.56	9.70	9.98	6.27	5.27	

Calm : .00 %

Total # Operational Hours : 701

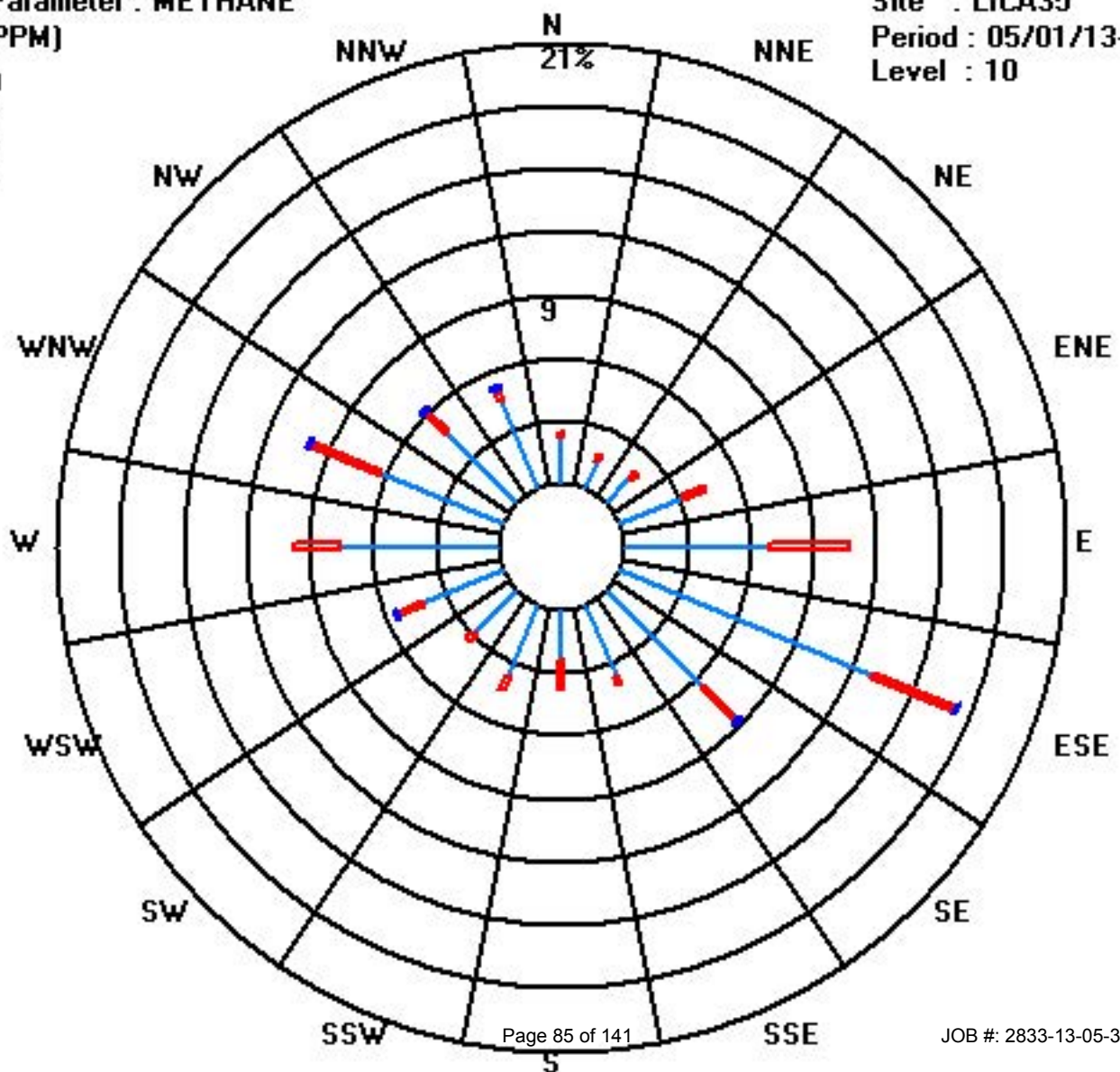
Distribution By Samples

Limit	Direction																Freq
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
< 3.0	16	10	11	23	49	91	45	26	17	26	20	29	53	44	33	32	525
< 10.0	1	2	3	8	26	30	16	3	10	5	3	9	15	25	10	4	170
< 50.0						1	1					1		1	1	1	6
>= 50.0																	
Totals	17	12	14	31	75	122	62	29	27	31	23	39	68	70	44	37	

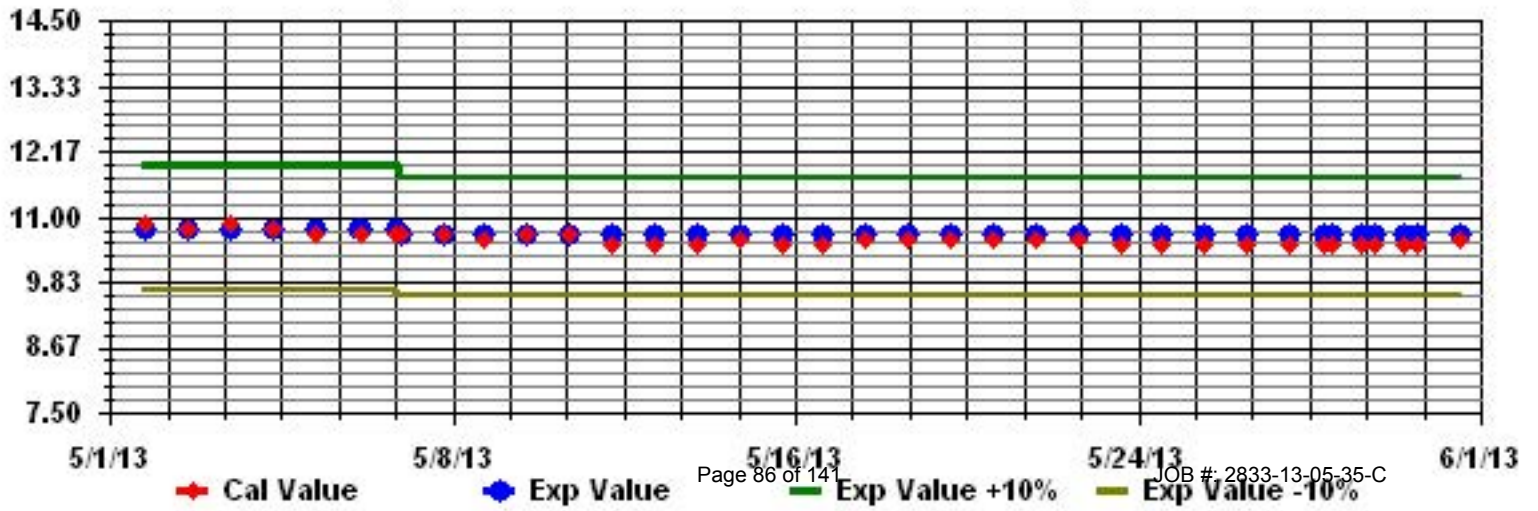
Calm : .00 %

Total # Operational Hours : 701

Class Limits (PPM)



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



Non-Methane Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

MAY 2013

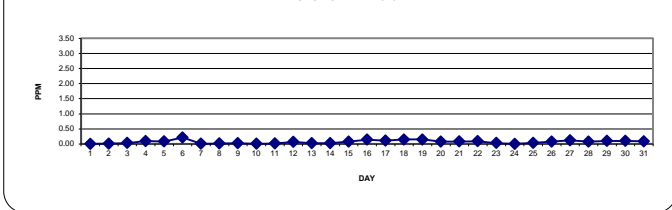
NON-METHANE HYDROCARBONS hourly averages in ppm

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	24:00	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		0	0	0	0	0.01	0.02	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0.01	0	0.02	0.00	24	
2		0	0	0	0	0	0.01	0	0	0	0	0	0	0	0	0	0	0.01	0	S	0	0	0.01	0.1	0.1	0.1	0.01	24	
3		0.1	0	0.1	0.1	0	0	0	0	0	0.1	0	0	0	0	0	0	S	0	0	0.1	0	0.1	0.1	0	0.1	0.1	0.03	24
4		0.1	0.2	0.2	0.2	0.4	0.4	0.1	0	0	0	0	0.1	0	0.1	0.1	S	0.1	0.1	0	0	0	0.1	0	0.1	0	0.4	0.10	24
5		0	0	0	0	0.02	0.03	0.02	0	0.01	0.1	0.1	0.1	0.1	0.1	S	0.1	0.1	0.1	0	0.2	0.3	0.2	0.2	0.3	0.2	0.3	0.08	24
6		0.1	0.3	0.3	0.3	0.6	0.6	0.3	0.2	0.1	0.1	0.2	0.2	0.2	S	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0	0.6	0.21	0.6	0.21	24	
7		0	0.1	0	0.01	0	0	0	0	C	C	C	C	C	S	0	0	0	0	0	0	0	0	0	0.03	0.1	0.01	24	
8		0.1	0	0	0.1	0.1	0.1	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0.01	0.01	0	0.01	0.1	0.02	24	
9		0.05	0.02	0.02	0.1	0.1	0	0	0	0	0.1	0	S	0.1	0	0.03	0	0.01	0.02	0	0	0	0	0	0	0	0.1	0.02	24
10		0	0.01	0.01	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.01	0.05	0.1	0.1	0.01	24	
11		0	0	0.1	0	0.01	0.01	0	0	0.01	S	0	0	0	0	0	0	0	0	0	0.01	0	0.1	0.1	0	0.1	0.01	24	
12		0.1	0	0.1	0	0.02	0.01	0.01	0.02	S	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0.2	0.2	0.1	0.2	0.07	24
13		0.2	0	0	0.1	0	0.1	0	S	0.02	0.02	0.01	0	0.02	0.03	0.02	0.02	0.02	0.04	0.01	0.01	0.01	0.02	0.02	0	0.2	0.03	24	
14		0.01	0.1	0	0.01	0.01	0.01	S	0.1	0	0.02	0.01	0	0.02	0	0	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0.03	24
15		0	0.1	0	0.2	0.4	S	0.01	0	0.1	0	0	0	0.02	0.01	0.1	X	0.3	0.1	0	0	0	0	0	0.1	0.3	0.4	0.08	23
16		0.3	0.3	0.4	0.4	S	0.4	0.2	0.1	0.1	0	0.1	0	0.1	0	0.1	0	0	0	0	0	0	0.1	0.2	0.3	0.2	0.4	0.14	24
17		0.3	0.3	0.4	S	0.3	0.3	0.2	0.1	0	0	0	Y	0.01	0.01	0.01	0.01	0	0	0	0	0.1	0.1	0	0.2	0.4	0.11	23	
18		0.2	0.2	S	0.5	0.5	0.3	0.3	0.2	0.2	0.1	0.1	0	0	0	0	0	0.1	0	0.1	0.1	0.1	0.1	0.1	0.2	0.5	0.15	24	
19		0.2	S	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.15	24	
20		S	0.2	0.1	0.2	0.3	0.1	0	0	0	0.1	0	0	0.03	0.1	0.1	0.1	0.1	0	0	0	0	0.1	0.1	S	0.3	0.07	24	
21		0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0	0	0	0	0	0	0.1	0	0	0	0	S	0.1	0.2	0.08	24	
22		0.1	0.1	0.2	0.2	0.2	0.1	0	0.1	0	0	0.1	0	0.1	0.1	0.1	0.1	0.1	0	0.1	0	0.1	S	0.1	0.1	0.2	0.09	24	
23		0	0.1	0	0.1	0	0.1	0	0	0	0	0.1	0	0	0	0	0.1	0	0.1	0.1	0	S	0	0	0	0.1	0.03	24	
24		0	0	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0	0	0	0	S	0	0	0.01	0	0.01	0.00	24	
25		0.1	0	0	0.01	0.01	0	0.01	0.01	0.02	0	0.06	0.07	0.04	0.01	0	0.1	0.1	0	S	0.1	0.1	0	0.02	0.02	0.1	0.03	24	
26		0.01	0.02	0.05	0.1	0.2	0.2	0.2	0	0	0	0.1	0	0.02	0.02	0.03	0.04	0.04	S	0.04	0.04	0.1	0.1	0.3	0.2	0.3	0.08	24	
27		0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0	0.1	0.1	0.1	0	0.1	0	S	0	0	0	0.1	0	0.3	0.2	0.3	0.12	24	
28		0.2	0.2	0.3	0.2	0.1	0	0	0.1	0.2	C	C	Y	0	C	0	S	0.1	0	0	0	0	0	0.1	0	0.3	0.08	23	
29		0.2	0.2	0.3	0.3	0.1	0.1	0.2	S	0.2	0	0	0	0	0	S	0	0.01	0.1	0.1	0	0.1	0.1	0.2	0.1	0.3	0.11	24	
30		0.2	0.2	0.1	0.1	0.1	0.2	S	0.1	0	0	0	0.1	0	S	0	0.1	0.1	0	0	0	0	0.2	0.1	0.3	0.4	0.4	0.10	24
31		0.4	0.2	0.2	0.3	0.1	0.2	0.1	0.2	0	0	0	0	S	0	0	0.1	0	0	0	0	0	0.1	0	0.1	0.4	0.4	0.09	24
HOURLY MAX		0.4	0.3	0.4	0.5	0.6	0.6	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.3	0.2	0.1	0.2	0.2	0.3	0.3	0.4					
HOURLY AVG		0.12	0.11	0.12	0.14	0.14	0.13	0.08	0.05	0.05	0.03	0.04	0.03	0.03	0.02	0.04	0.03	0.05	0.04	0.03	0.03	0.05	0.07	0.11	0.10				

STATUS FLAG CODES

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

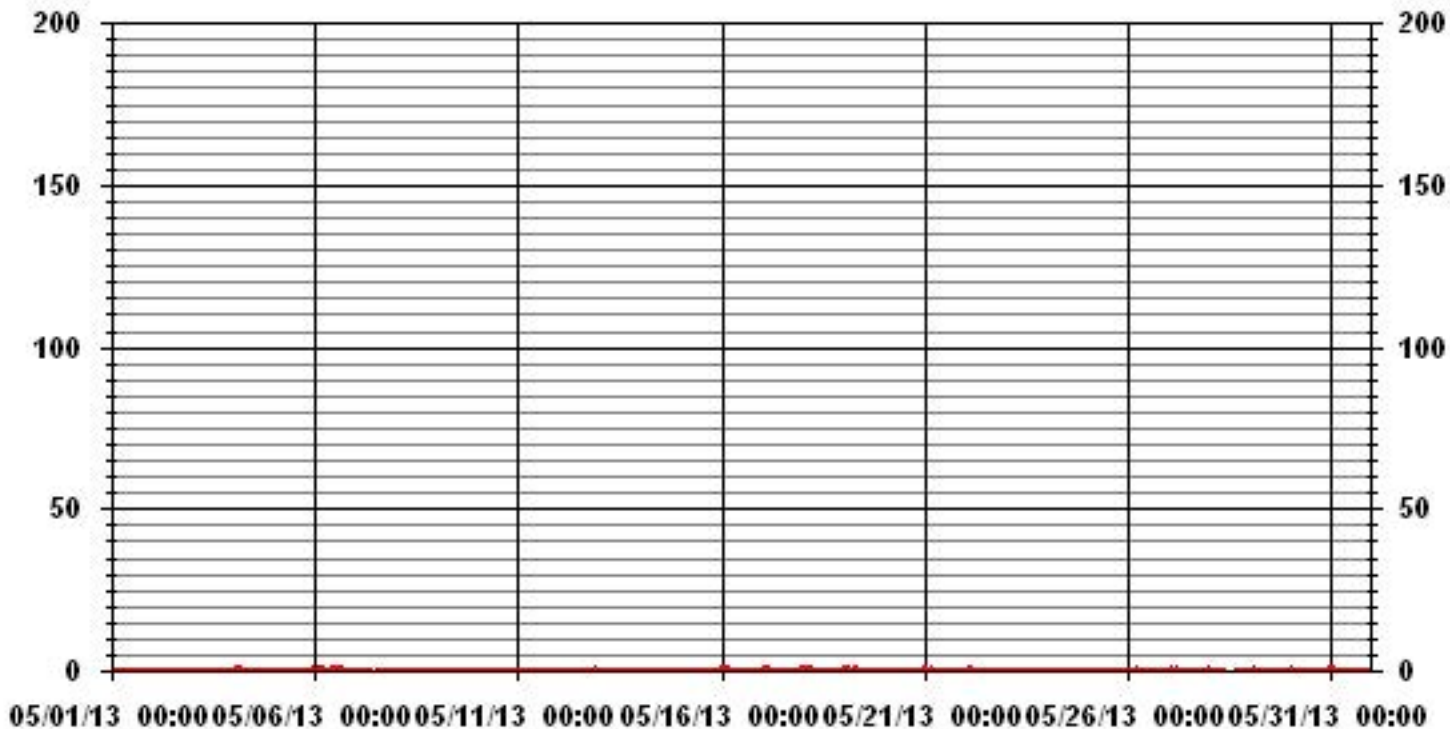
24 AVERAGES FOR MAY 2013



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	375					
MAXIMUM 1-HR AVERAGE:	0.60	PPM	@ HOUR(S)	4	ON DAY(S)	6
MAXIMUM 24-HR AVERAGE:	0.21	PPM			ON DAY(S)	6
IZS CALIBRATION TIME:	34	HRS	OPERATIONAL TIME:	741	HRS	
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:	99.6	%	
STANDARD DEVIATION:	0.10		MONTHLY AVERAGE:	0.07	PPM	

01 Hour Averages



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - PORTABLE SITE

MAY 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	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		0.00	0.00	0.14	0.14	0.18	0.16	0.12	0.00	0.10	0.06	0.00	0.00	0.14	0.00	0.00	0.04	0.00	0.00	S	0.00	0.12	0.14	0.06	0.18	0.06	24	
2		0.16	0.16	0.13	0.14	0.08	0.16	0.14	0.16	0.12	0.11	0.15	0.10	0.11	P	0.16	0.23	0.14	0.16	S	0.18	0.14	0.20	0.18	0.33	0.33	0.16	23
3		0.25	0.19	0.26	0.20	0.17	0.19	0.13	0.12	0.00	0.18	0.00	0.10	0.16	0.18	0.00	0.00	0.16	S	0.15	0.23	0.09	0.16	0.22	0.19	0.26	0.14	24
4		0.29	0.51	0.40	0.40	0.67	0.62	0.40	0.18	0.18	0.15	0.00	0.12	0.18	0.24	0.20	0.18	S	0.23	0.19	0.13	0.19	0.16	0.26	0.09	0.67	0.26	24
5		0.12	0.00	0.11	0.23	0.17	0.22	0.19	0.22	0.18	0.21	0.23	0.22	0.22	0.29	0.24	S	0.21	0.28	0.22	0.18	0.29	0.45	0.24	0.53	0.53	0.23	24
6		0.25	0.44	0.40	0.68	0.69	0.69	0.54	0.29	0.30	0.31	0.36	0.32	0.31	0.47	S	Y	Y	0.27	0.34	0.28	0.25	0.24	0.18	0.23	0.69	0.37	22
7		0.18	0.17	0.13	0.24	0.15	0.10	0.07	0.14	0.12	C	C	C	C	S	0.18	0.10	0.00	0.16	0.10	0.00	0.17	0.00	0.09	0.20	0.24	0.12	24
8		0.24	0.17	0.21	0.18	0.25	0.22	0.07	0.00	0.00	0.00	0.00	0.09	S	0.00	0.00	0.00	0.00	0.14	0.07	0.09	0.16	0.19	0.20	0.17	0.25	0.11	24
9		0.19	0.18	0.19	0.25	0.24	0.18	0.18	0.10	0.14	0.18	0.13	S	0.18	0.19	0.30	0.13	0.16	0.21	0.14	0.02	0.00	0.14	0.00	0.00	0.30	0.15	24
10		0.00	0.21	0.17	0.00	0.16	0.14	0.00	0.12	0.00	0.13	S	0.07	0.00	0.09	0.00	0.09	0.00	0.00	0.12	0.00	0.00	0.12	0.15	0.15	0.21	0.07	24
11		0.21	0.14	0.15	0.17	0.17	0.15	0.16	0.08	0.22	S	0.00	0.09	0.00	0.00	0.14	0.12	0.13	0.14	0.15	0.17	0.09	0.23	0.22	0.21	0.23	0.14	24
12		0.30	0.21	0.18	0.20	0.16	0.16	0.17	0.17	S	0.18	0.23	0.24	0.27	0.30	0.28	0.26	0.25	0.31	0.28	0.22	0.28	0.33	0.34	0.25	0.34	0.24	24
13		0.32	0.25	0.18	0.24	0.22	0.24	0.21	S	0.24	0.23	0.18	0.15	0.20	0.23	0.19	0.28	0.26	0.29	0.23	0.17	0.18	0.20	0.24	0.16	0.32	0.22	24
14		0.17	0.20	0.00	0.16	0.13	0.19	S	0.18	0.14	0.22	0.17	0.23	0.25	0.19	0.15	0.13	0.13	0.15	0.26	0.00	0.12	0.21	0.45	0.45	0.45	0.19	24
15		0.16	0.24	0.19	0.41	0.45	S	0.17	0.00	0.16	0.25	0.17	0.09	0.26	0.22	0.28	X	X	0.18	0.22	0.18	0.21	0.23	0.43	0.45	0.23	21	
16		0.47	0.52	0.55	0.50	S	0.46	0.40	0.22	0.25	0.19	0.19	0.18	0.13	0.18	0.26	0.23	0.16	0.21	0.09	0.19	0.19	0.28	0.37	0.41	0.55	0.29	24
17		0.37	0.42	0.63	S	0.45	0.45	0.30	0.19	0.16	0.24	0.18	Y	0.22	0.15	0.22	0.22	0.19	0.13	0.15	0.20	0.28	0.27	0.22	0.27	0.63	0.27	23
18		0.31	0.32	S	0.57	0.72	0.48	0.43	0.31	0.26	0.26	0.22	0.18	0.24	0.21	0.21	0.22	0.21	0.28	0.22	0.14	0.18	0.22	0.31	0.30	0.72	0.30	24
19		0.24	S	0.42	0.36	0.46	0.39	0.29	0.33	0.29	0.23	0.25	0.19	0.23	0.24	0.29	0.23	0.25	0.25	0.27	0.32	0.26	0.24	0.25	0.32	0.46	0.29	24
20		S	0.24	0.23	0.33	0.33	0.24	0.23	0.24	0.24	0.28	0.28	0.25	0.25	0.30	0.22	0.22	0.29	0.21	0.29	0.26	0.29	0.25	0.25	S	0.33	0.26	24
21		0.26	0.28	0.28	0.33	0.37	0.36	0.24	0.27	0.29	0.29	0.19	0.21	0.16	0.30	0.23	0.17	0.25	0.25	0.23	0.18	0.21	0.12	S	0.19	0.37	0.25	24
22		0.19	0.24	0.31	0.36	0.22	0.25	0.23	0.25	0.23	0.23	0.21	0.13	0.21	0.20	0.24	0.22	0.23	0.14	0.23	0.26	0.22	S	0.24	0.19	0.36	0.23	24
23		0.14	0.25	0.18	0.24	0.12	0.15	0.22	0.18	0.23	0.18	0.26	0.26	0.15	0.16	0.26	0.23	0.24	0.20	0.26	0.18	S	0.22	0.12	0.19	0.26	0.20	24
24		0.24	0.19	0.00	0.10	0.00	0.02	0.00	0.15	0.06	0.18	0.12	0.17	0.17	0.15	0.15	0.16	0.11	0.17	0.00	S	0.18	0.00	0.17	0.16	0.24	0.12	24
25		0.19	0.24	0.12	0.17	0.22	0.12	0.17	0.19	0.20	0.17	0.22	0.24	0.23	0.22	0.13	0.19	0.22	0.23	S	0.21	0.24	0.23	0.25	0.21	0.25	0.20	24
26		0.17	0.15	0.25	0.22	0.39	0.33	0.32	0.25	0.20	0.24	0.24	0.22	0.19	0.24	0.24	0.28	0.25	S	0.29	0.22	0.28	0.23	0.29	0.38	0.39	0.26	24
27		0.34	0.35	0.39	0.45	0.32	0.30	0.26	0.25	0.19	0.22	0.24	0.21	0.22	0.23	0.24	0.33	S	0.24	0.24	0.22	0.24	0.19	0.36	0.32	0.45	0.28	24
28		0.29	0.37	0.39	0.39	0.23	0.23	0.19	0.32	C	C	Y	0.11	C	0.19	S	0.18	0.20	0.20	0.21	0.19	0.21	0.29	0.29	0.39	0.25	23	
29		0.28	0.47	0.38	0.39	0.28	0.24	0.32	S	0.23	0.23	0.27	0.23	0.22	0.12	S	0.18	0.24	0.18	0.24	0.25	0.21	0.19	0.29	0.34	0.47	0.26	24
30		0.27	0.24	0.26	0.28	0.31	0.31	S	S	0.24	0.21	0.27	0.29	0.15	S	0.15	0.25	0.23	0.28	0.14	0.19	0.29	0.28	0.71	0.60	0.71	0.28	24
31		0.59	0.42	0.38	0.50	0.32	0.30	0.25	0.34	0.23	0.21	0.14	0.18	S	0.16	0.23	0.66	0.24	0.14	0.23	0.16	0.24	0.27	0.24	0.26	0.66	0.29	24
HOURLY MAX		0.59	0.52	0.63	0.68	0.72	0.69	0.54	0.34	0.30	0.31	0.36	0.32	0.31	0.47	0.30	0.66	0.29	0.31	0.34	0.32	0.29	0.45	0.71	0.60			
HOURLY AVG		0.24	0.26	0.25	0.29	0.29	0.27	0.22	0.19	0.18	0.20	0.18	0.18	0.18	0.20	0.19	0.20	0.18	0.19	0.19	0.18	0.19	0.21	0.25	0.26			

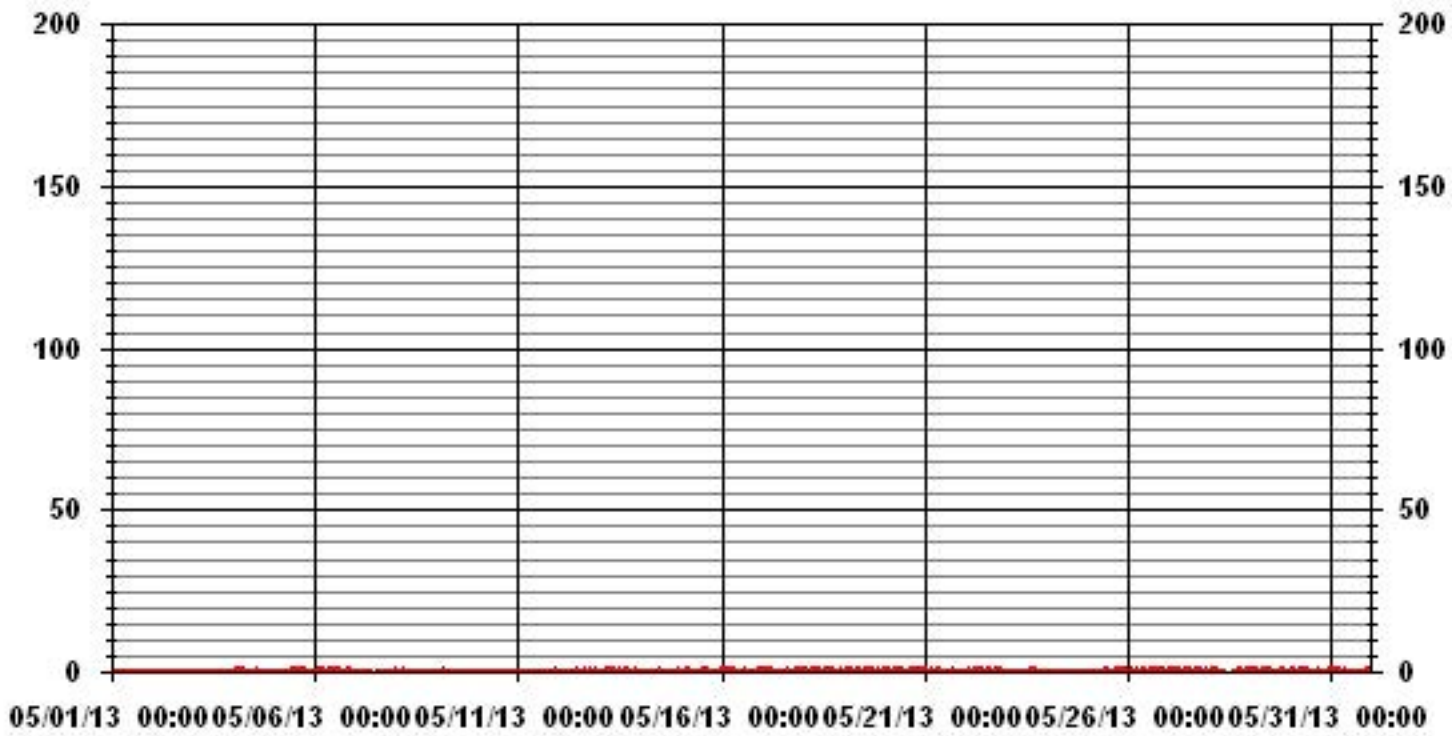
STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- 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:	641					
MAXIMUM INSTANTANEOUS VALUE:	0.72	PPM	@ HOUR(S)	4	ON DAY(S)	18
IZS CALIBRATION TIME:	35	HRS	OPERATIONAL TIME:	736	HRS	
MONTHLY CALIBRATION TIME:	8	HRS				
STANDARD DEVIATION:	0.12					

01 Hour Averages



— LICA35 IMHCMAX PPM

LICA35
 NMHC / WDR Joint Frequency Distribution (Percent)

May 2013

Distribution By % Of Samples

Logger Id : 35
 Site Name : LICA35
 Parameter : NMHC
 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
< .2	2.42	1.71	1.85	4.27	10.27	16.97	8.55	4.13	3.28	4.13	2.99	4.99	9.12	8.13	5.99	4.99	93.86
< .5	.00	.00	.14	.14	.42	.42	.14	.00	.57	.28	.28	.42	.57	1.71	.28	.14	5.56
< 1.0	.00	.00	.00	.00	.00	.00	.14	.00	.00	.00	.00	.14	.00	.14	.00	.14	.57
< 2.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 4.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 4.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.42	1.71	1.99	4.42	10.69	17.40	8.84	4.13	3.85	4.42	3.28	5.56	9.70	9.98	6.27	5.27	

Calm : .00 %

Total # Operational Hours : 701

Distribution By Samples

Limit	Direction															Freq	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
< .2	17	12	13	30	72	119	60	29	23	29	21	35	64	57	42	35	658
< .5			1	1	3	3	1		4	2	2	3	4	12	2	1	39
< 1.0							1					1		1		1	4
< 2.0																	
< 4.0																	
>= 4.0																	
Totals	17	12	14	31	75	122	62	29	27	31	23	39	68	70	44	37	

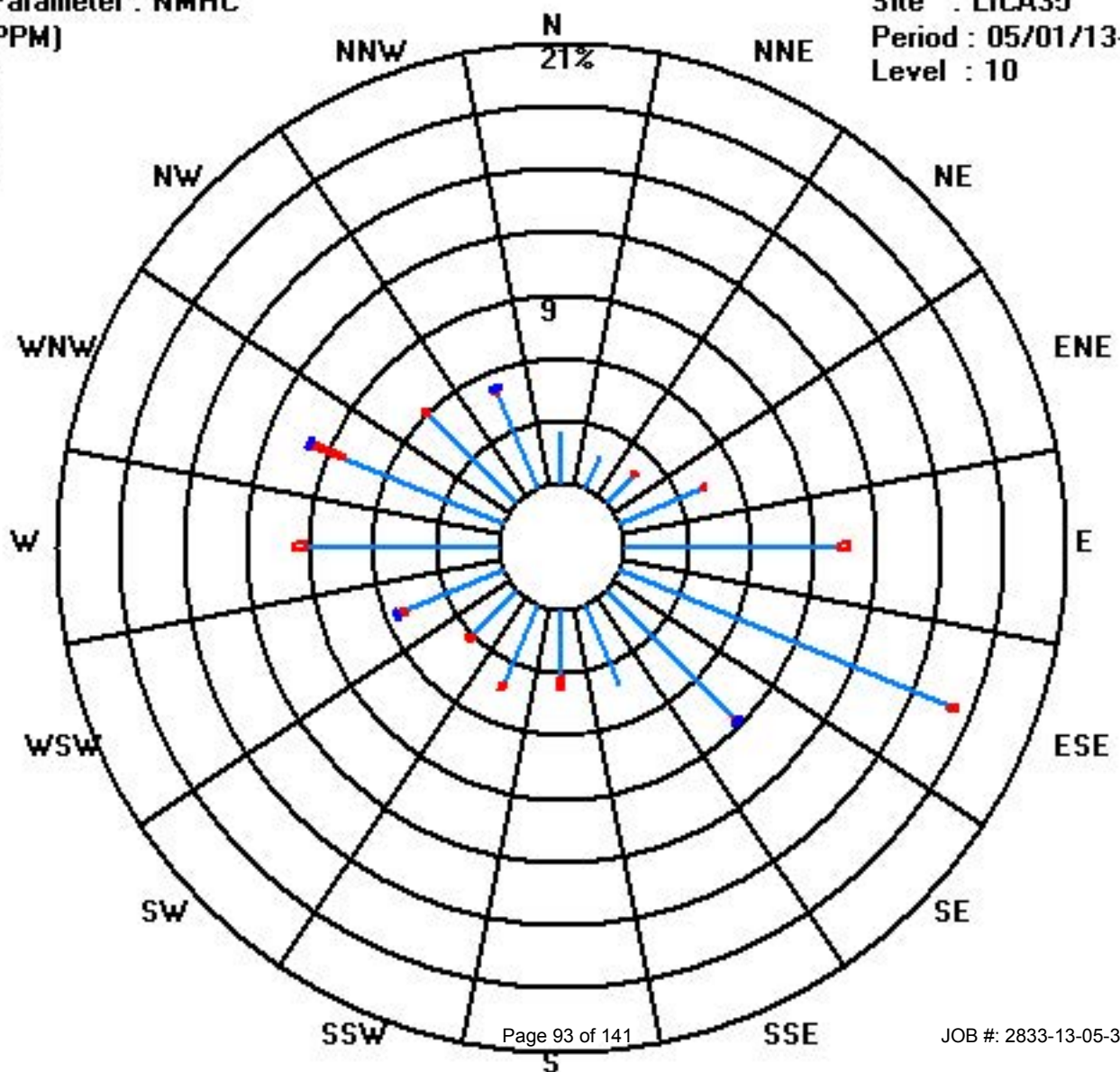
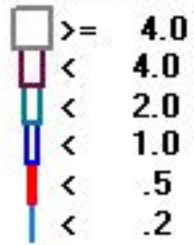
Calm : .00 %

Total # Operational Hours : 701

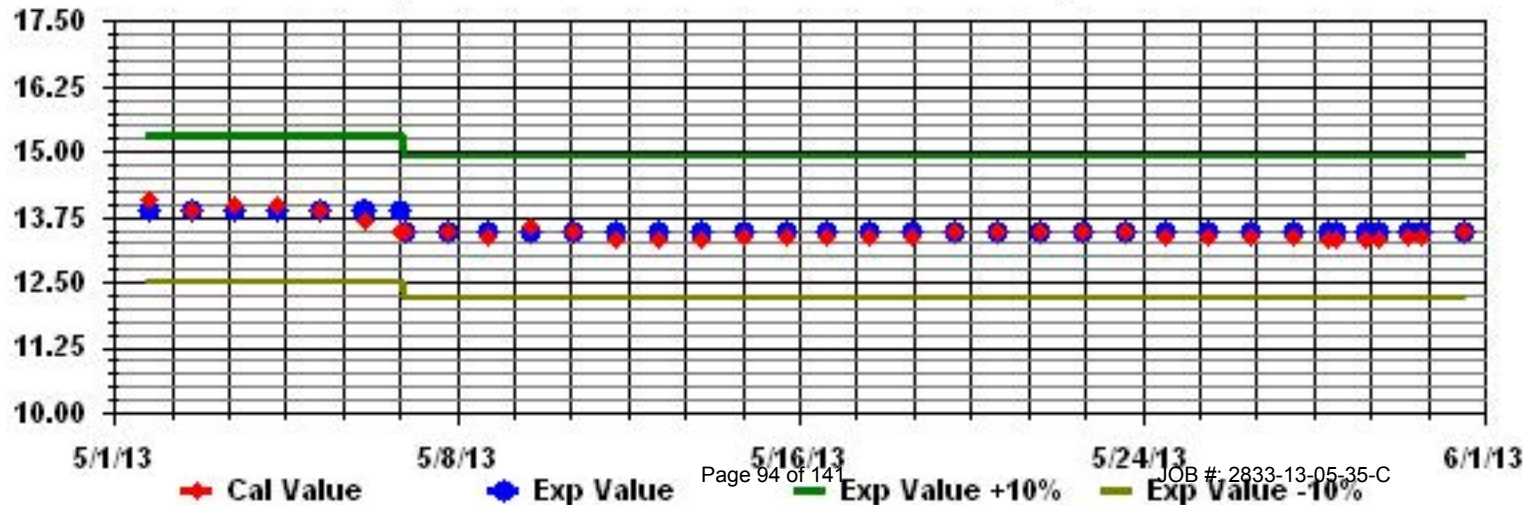
Class Limits (PPM)

Period : 05/01/13-05/31/13

Level : 10



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



Vector Wind Speed

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

MAY 2013

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

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.	
DAY																												
1	6.7	6.3	3.6	7.3	6.4	5.9	5.6	0.7	2.1	3	4.9	5.7	10.3	10.1	11.5	16	16	14.1	13.5	10.8	16.2	15.6	13.3	15	16.2	5.5	24	
2	15.7	11.6	11.8	8.6	6.9	4.6	3.4	7.4	6.7	12.6	19.3	22.7	24.7	28.2	26.9	24.2	23.6	16.2	12.6	13.8	9.9	7.2	9.7	28.2	9.8	24		
3	7.1	11.6	13	9	12.8	14.9	11.7	16.6	16.5	14.2	19.5	22.7	19.8	15.7	16.2	12	18.2	10.2	5	2.8	3.3	7.1	11.3	9	22.7	9.7	24	
4	7.8	2.3	4.1	5.8	5.9	3.3	5.8	3	4.3	7.5	6.3	8.8	11.5	13.7	15.5	15.3	18.1	17.6	17.2	12.1	9.2	10.3	12.5	14.1	18.1	8.5	24	
5	11.9	11	10.3	11.7	11.3	4.7	10.8	11.4	9.7	10.1	15.1	21.9	24.4	23.3	22.9	19.9	19.4	17	12.7	6.9	9	9.2	4.8	8.9	24.4	13.3	24	
6	10.7	2.5	4.1	0.4	1.4	1.3	1.6	8.2	16.6	15	15	14.2	20.7	22.5	23.8	26.4	29.4	32.1	27.7	21.2	20	22.8	23.5	19.2	32.1	15.8	24	
7	31	34.1	24	25.6	26.7	22.9	24.9	25.6	22	20.7	20.2	18.7	18.9	18.6	13.3	11.8	13.1	12.4	12.8	9.3	6.4	5.9	5.9	4.6	34.1	17.9	24	
8	6.7	7.1	7	6.4	6.5	4.9	13.1	19.4	19.5	19.1	17.8	17.4	17.1	17	19	17.3	16.4	15.5	14	14.7	13	10.7	9.4	12.4	19.5	13.4	24	
9	7.2	7.8	6.4	2.3	6.4	7.9	9.3	8.7	7.7	13.3	12.4	11.7	10	10.2	10.6	14.5	14.9	25.2	28.5	26.9	16.5	16.3	17.9	15.7	28.5	12.8	24	
10	11.3	7.7	13.5	16.3	19.6	16.7	20.2	22.8	21	21.9	22.2	22.3	16.4	16.5	19.6	15.8	16.8	14.5	10.1	7.2	3.3	6.9	9.2	8.1	22.8	15.0	24	
11	7.2	8	10.4	7.9	9.1	12	13.9	16.1	17.3	18.8	22.2	22.1	21.4	20.7	19.5	18.7	16.3	14.6	17.5	18.1	16.9	15.7	14.5	10.3	22.2	15.4	24	
12	10.3	11	11.5	12.2	15.2	15.5	14.3	15.3	13.8	11.3	11.5	12.1	10.9	8.2	10.9	12.6	18.2	21	39.6	28.7	11.4	9.8	11.6	8.7	39.6	14.4	24	
13	8	4.6	12.1	10.4	8.4	8.4	9.3	15.2	26.5	29.8	26.8	29.6	34	25.9	25.3	29.2	26.9	25	21.5	12.7	9.9	8.7	7.8	8	34.0	17.7	24	
14	7.3	12.4	12.1	9.2	13.5	9.7	13.2	14.3	15.5	19.6	23.2	22.9	28.4	28.5	30.5	32.9	26.2	24.8	25.2	19.1	11.3	9.1	6.3	6.8	32.9	17.6	24	
15	9.4	12	7.3	5.5	6.9	7.1	6.7	10.2	10.1	9.2	5.6	8.6	11.2	8.4	16.8	2.9	12.1	7.5	4.1	4.6	11	7.2	2	1	16.8	7.8	24	
16	3.7	2.2	0.9	2.9	1.6	3.7	3.8	5.3	5.2	4.4	6.7	3.5	3.2	6.3	7.2	1.9	11.2	14	12.1	7.2	5.5	0.4	3.7	9.8	14.0	5.3	24	
17	5.8	2	6.3	6.6	11.5	1.6	0.3	2.6	3.4	4.5	10.6	11.3	2.3	6.6	3.8	4.3	6	7.8	12.9	7.3	1	4.6	4.4	3.9	12.9	5.5	24	
18	3.2	3.8	3.4	1.5	3.2	2.6	3.1	2.1	5.6	6.5	6.5	10.9	28.6	5.5	17.8	7.7	6.5	24.4	20.3	14.8	5.6	5.9	4.1	2.4	28.6	8.2	24	
19	2.6	4.1	3.3	1.8	1.1	2	0.7	2.7	6.3	11.6	8.6	7.9	3	9.4	6.9	8.2	10.7	9.6	3.8	9.4	6.6	2.5	3	0.5	11.6	5.3	24	
20	7	7.2	5.3	4.5	3.8	7.3	5.7	6.3	8.6	10.8	7.9	7.9	7	6.6	2.2	7.6	9.3	13.7	13.6	10.5	8.5	10.6	9	8	13.7	7.9	24	
21	5.8	9.3	4.7	4.6	4.7	4.3	6.1	12	15	14.9	21.4	29.7	33.2	31.3	30.8	28.7	27.5	28.7	28.6	21.4	15.1	16.6	12.2	7.5	33.2	17.3	24	
22	6	3.5	3.1	3.2	5.4	4.8	10.4	14.6	25.4	27.2	30.7	30.1	32.8	31	30.8	29	29.2	27.9	25.9	21.1	13.9	11.3	11.7	14.7	32.8	18.5	24	
23	16.5	17.3	17.6	15	16.2	17.7	21.1	23.7	21.9	20.2	22.3	25.9	27.4	25.4	26.4	28.5	26.2	26.5	22.2	21.7	16.3	10	10.2	11.7	28.5	20.3	24	
24	12.2	12.5	14	13.9	16.4	17.7	19.1	16.9	21.2	26.5	27.7	36.9	33.4	24.7	23.5	19.9	24.5	22.8	21	24.9	28.3	27.4	21.9	20.4	36.9	22.0	24	
25	24.6	24.6	24.5	19.9	16	20.6	24.7	34.9	37.9	37.2	40.1	37	34.5	17.8	16.1	17.5	24.7	25.1	26.1	21.2	14	12.4	13.3	12.7	40.1	24.1	24	
26	8.3	8.2	13.3	5.5	4.9	2.4	3.6	1.5	4.3	2.9	5.1	3.1	1.4	6.2	6.8	5	5.1	5.2	3.3	3.8	3.4	4.4	6.7	1.6	13.3	4.8	24	
27	2.2	1	0.9	0.5	1.1	0.8	3.6	3.3	4.4	8.8	11	10.2	10.9	10.6	8.3	11.9	8.4	5.4	3.5	5.9	2.9	1.5	0.4	6.1	11.9	5.2	24	
28	4.2	6.6	4	4.3	5.6	3.9	0.7	1.3	2.5	4.6	5.1	1.6	8.3	8.6	6.8	9.4	10.6	4.1	2	0.5	4.5	5.4	7	5.2	10.6	4.9	24	
29	3.2	4.5	1.8	1	1.4	1.3	5.1	1.9	2.7	5.4	8.9	10.6	11.7	19.4	11.2	16.1	20.3	12.2	3.7	1.2	3.8	3.3	2.5	0.3	20.3	6.4	24	
30	1.9	4.7	2.5	4	4.5	3.1	6.1	8.1	3.5	2.9	11.5	18.5	18.3	16.1	13.6	10.6	10.9	9.7	9.6	3.8	3	2.1	0	1	18.5	7.1	24	
31	2.2	0.7	1.1	0.2	0.7	0.2	1.2	1.9	6.6	8	7	4.9	1	2.2	5.1	6.7	7.1	11.5	11.9	7.5	4.9	7.5	4.2	1.9	11.9	4.4	24	
HOURLY MAX	31.0	34.1	24.5	25.6	26.7	22.9	24.9	34.9	37.9	37.2	40.1	37.0	34.5	31.3	30.8	32.9	29.4	32.1	39.6	28.7	28.3	27.4	23.5	20.4				
HOURLY AVG	8.6	8.5	8.3	7.4	8.2	7.5	9.0	10.8	12.4	13.6	15.3	16.5	17.3	16.0	16.1	15.6	16.9	16.7	15.6	12.6	10.0	9.4	8.8	8.4				

STATUS FLAG CODES

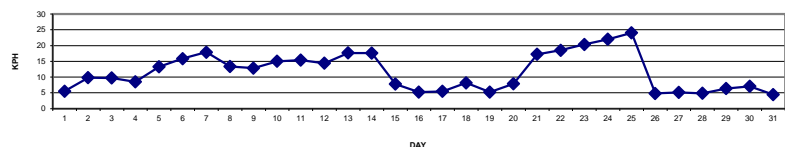
C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- MAINTENANCE	R	- RECOVERY
S	- DAILY ZERO/SPAN CHECK	X	- MACHINE MALFUNCTION
P	- POWER FAILURE	O	- OPERATOR ERROR
G	- OUT FOR REPAIR	K	- COLLECTION ERROR

LAST CALIBRATION: November 24, 2011

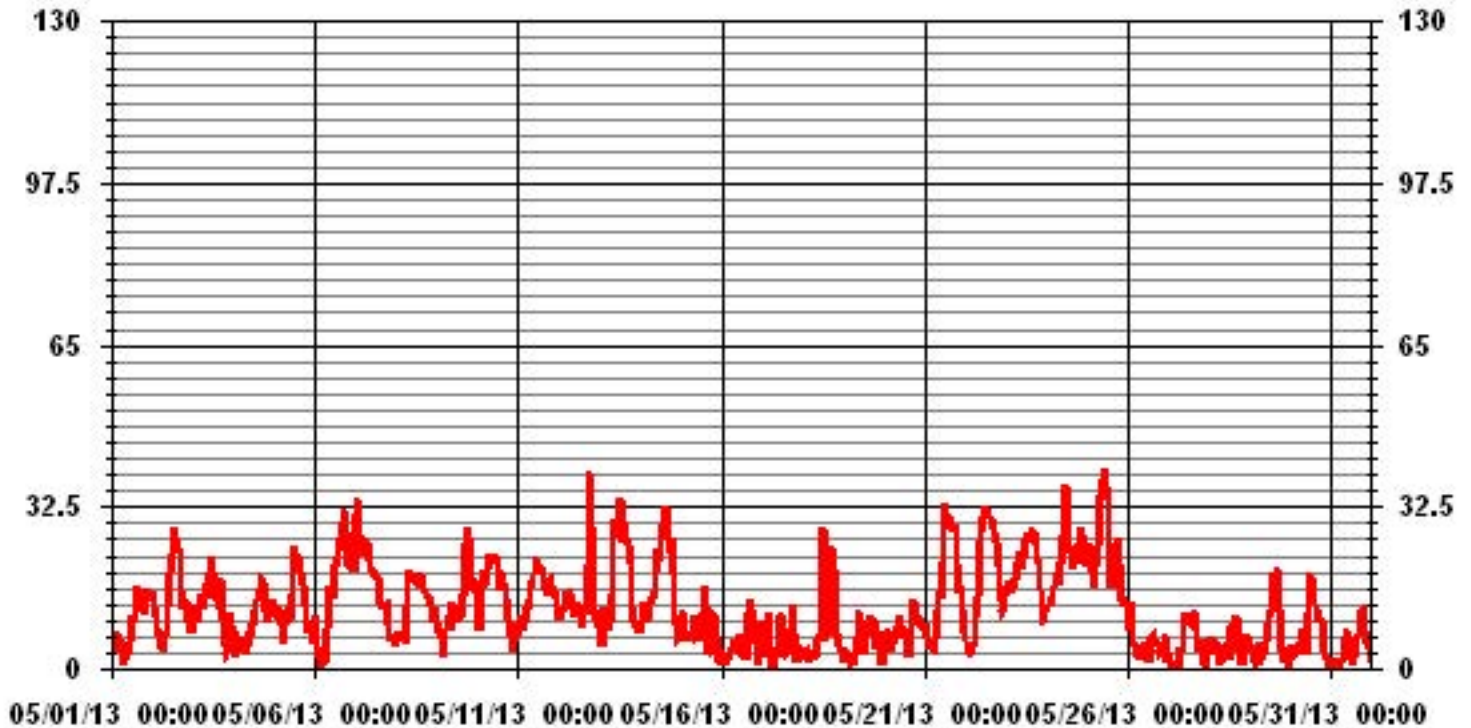
MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	40.1	KPH	@ HOUR(S)	10	ON DAY(S)	25
MAXIMUM 24-HR AVERAGE:	24.1	KPH			ON DAY(S)	25
CALMS (≤ 0 KPH)	0.67	%	OPERATIONAL TIME:	744	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME:	100.0	%	
STANDARD DEVIATION:	8.41		MONTHLY AVERAGE:	12.05	KPH	

24 HOUR AVERAGES FOR MAY 2013



01 Hour Averages



— LICA35 WSP KPH

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

MAY 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	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	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	11.4	9.1	8	13	10	9	10.7	9.6	11.6	16.1	19.4	25.7	25.3	31	28.9	32.9	28.3	29.5	25.3	19.2	24.7	26.6	22.4	25.3	32.9	
2	27.9	23	25.2	16.9	13.5	11.5	17.4	16.9	18.3	28.6	35.5	54	50.9	52.2	60.3	46.4	43.5	28.9	27.4	25.1	21.4	14.3	10.5	15.5	60.3	
3	11.7	16.4	17.7	17.6	20.2	22.3	18	29.6	26.2	25.8	36.6	40.4	42.1	50	38.4	30.1	43.7	28.2	17.3	16.7	9	16.1	13.9	11	50	
4	12.4	7.8	8.2	9.3	9.2	6.7	9.5	8.1	12.2	18	19.7	27.7	29.4	32.9	33.7	31.6	37.1	32.9	31.6	25.6	15.9	20.3	24.9	29.2	37.1	
5	27.5	21.2	18	21.7	25.1	14.4	20.6	20.1	18	20.4	31	41.5	44.8	39.8	39.2	44.3	35.6	31.6	25.7	13.4	11.8	13.1	7.4	14.1	44.8	
6	14.6	5.8	7.6	6.3	6.1	5.1	5.1	15.8	28.5	27.1	28.3	31.2	40.9	38.7	43.6	51.2	49.5	60.2	50	35.2	35.6	40.1	39.2	37.3	60.2	
7	65.1	70.4	49.4	52.4	45.7	42.4	44	46.2	40	40.1	36.1	35.9	34.7	38.4	36.4	30	28.7	27.5	24.7	18.5	12.5	11.9	9.7	7.1	70.4	
8	9.1	10.7	10.1	10.2	10.6	9.6	21.6	30.6	31.3	36.1	36.6	37.5	33.5	33.7	39.6	34.2	41	35.3	25.2	22.9	18	17.5	15.5	19.9	41	
9	14.4	12.7	8.4	6.7	10.1	11	14.8	13.6	15.7	25.8	24.1	38	29.4	33.8	29.3	32.8	39	44.8	49.1	53.3	38.6	32.1	31.2	27.3	53.3	
10	18.2	13.9	31.3	28.9	37.5	31.6	36.2	40.9	39.7	43.2	44	39.4	36.9	39.1	41.4	33.9	31.9	27.8	19.4	15.4	10.4	11.4	10.9	11.4	44	
11	9.8	11.2	15.3	12.8	13.9	18.4	21	27.1	31.3	34.7	43.4	39.9	43.3	37.3	43.1	36.8	32.6	29.2	30.8	30.6	25.9	25.9	23.2	19	43.4	
12	15	16.2	16.9	18.5	20.8	22.7	21.9	22.1	25.4	21.3	23.6	25.3	19.4	19.3	28.2	30.2	38.9	39	91	57.5	24.1	15.4	19.6	20.7	91	
13	16.2	11.8	22	26.7	16.2	15.3	18.9	29.2	49.4	44.7	48.5	49.4	60.7	50.2	45.7	47.9	45.2	39.2	38.5	21.1	14.2	12.7	11.5	11.6	60.7	
14	11.6	17.3	15.9	17.5	20.8	17.6	27.7	28.4	29.2	34.6	42.1	52.8	48.2	49.8	51.1	51.6	43.5	43.9	41.8	39.8	20.3	13.2	10.1	12.8	52.8	
15	12.8	16.1	14.7	9.6	12.8	16.5	12.2	18.9	18.5	18.7	20.8	30.5	26	34.2	34.8	22.3	33.8	20.3	8.4	21.6	19.1	13.7	6	4.7	34.8	
16	10.7	9.1	4.7	7.1	6.1	22.5	8.9	11.7	19.1	18.1	28.5	15.9	17.4	22.3	23.3	23.4	39.1	26.6	21.2	13	9.5	13.5	10.1	11.9	39.1	
17	11.8	8.4	8.8	9	15.9	10.6	4.8	9.4	9.8	20.2	25.1	22.9	20.9	19.5	17.1	24.5	24.6	21.5	26.4	14.3	11.1	15.6	12	10.7	26.4	
18	11.5	11.5	12	5.1	28.6	9.4	8.3	8.1	11.5	14.5	22.2	28.9	50	34.9	35.4	18.1	42.1	40.7	39.1	34	11	13.6	9.6	7.6	50	
19	6.1	7.7	11.5	11.1	5.1	5.3	6.1	8.1	17.2	21.1	19.2	22.2	22.5	26.6	30.9	15.2	20.8	19.3	17.7	19.2	14.1	10.1	7.6	5.9	30.9	
20	12.9	13.4	14.7	7.7	8.7	17.4	11.1	14.5	18	24.3	24.8	25.2	24.2	22.4	18.3	19.2	19.2	22	22.8	18.2	13.7	25.3	17.3	16.4	25.3	
21	10.2	14	7.9	8.1	8.1	6.7	16.1	19.7	22.4	27.6	45.1	49.8	49.4	52.6	49.4	50.8	49.2	48.3	43.9	35.1	26	23.9	21.2	14.4	52.6	
22	10.2	6.9	7.1	5.9	8.2	8.3	19.1	30.6	41.2	41.3	52.8	49.1	55.1	58.6	52.3	50.4	49	46.6	44	36.5	23.3	17.8	18.4	23.5	58.6	
23	29.8	29.3	29.1	23.1	23.7	28	35	35	32.4	32.3	42.9	42.7	46	42.4	46.3	50.8	42.2	42	36.6	35.1	26.5	25.4	17.6	21	50.8	
24	20	22.2	22.4	23.8	30.3	30.7	32.8	28.2	34.8	53.3	53.4	61.8	60.1	57.9	45.7	34.2	51.8	42.4	42.7	50.3	52.9	53.3	42.1	32.8	61.8	
25	43.4	43.4	43.9	37.3	28.6	35	41.7	60.1	59.7	57.8	60.1	56.3	53.2	47.3	32.9	33.4	39.6	43.4	50.7	34.3	24.6	21.7	27.1	22.4	60.1	
26	20.2	24.9	23.3	11.1	9.9	10	8.2	10.6	14.4	13.8	19.3	15.1	12.7	23	22.8	15	18.9	14.6	10.1	8.2	8.1	14.9	13.8	8.5	24.9	
27	9.1	5	3.5	5.2	3.7	5.9	9	9.3	12.1	19.8	24.8	28	26.9	26.5	21.2	23.8	16.1	11.5	8.8	11.3	4.9	14.5	5.4	9.7	28	
28	11.3	12.8	9.3	7.8	8.8	7.5	5	6.3	9.7	16.2	20.1	19.3	22.2	21.5	20.3	23.6	21.5	21.8	13.6	9.8	8.3	9.7	9.4	10.3	23.6	
29	7.4	8.1	5	5.3	4.7	5.9	11.6	9.2	12.5	15.5	22.2	25.1	43.8	49.6	44.7	28.7	47.8	31.5	10.9	7.9	8.6	6	8.3	3.7	49.6	
30	5.3	8.2	10.7	12.8	9.7	6.2	12.7	13.4	11.1	15.8	26.2	36.8	34.8	31.2	41.5	22.6	25.7	38.3	16.7	11.5	6	7.4	1.8	3.6	41.5	
31	4.5	3.2	4.7	3.7	3.3	2.6	5	7.4	17.8	19.6	18	20.7	18.5	13.7	17	18.9	20.5	19.9	19	11.8	13.3	11.3	10.1	9	20.7	
PEAK	65.1	70.4	49.4	52.4	45.7	42.4	44.0	60.1	59.7	57.8	60.1	61.8	60.7	58.6	60.3	51.6	51.8	60.2	91.0	57.5	52.9	53.3	42.1	37.3		

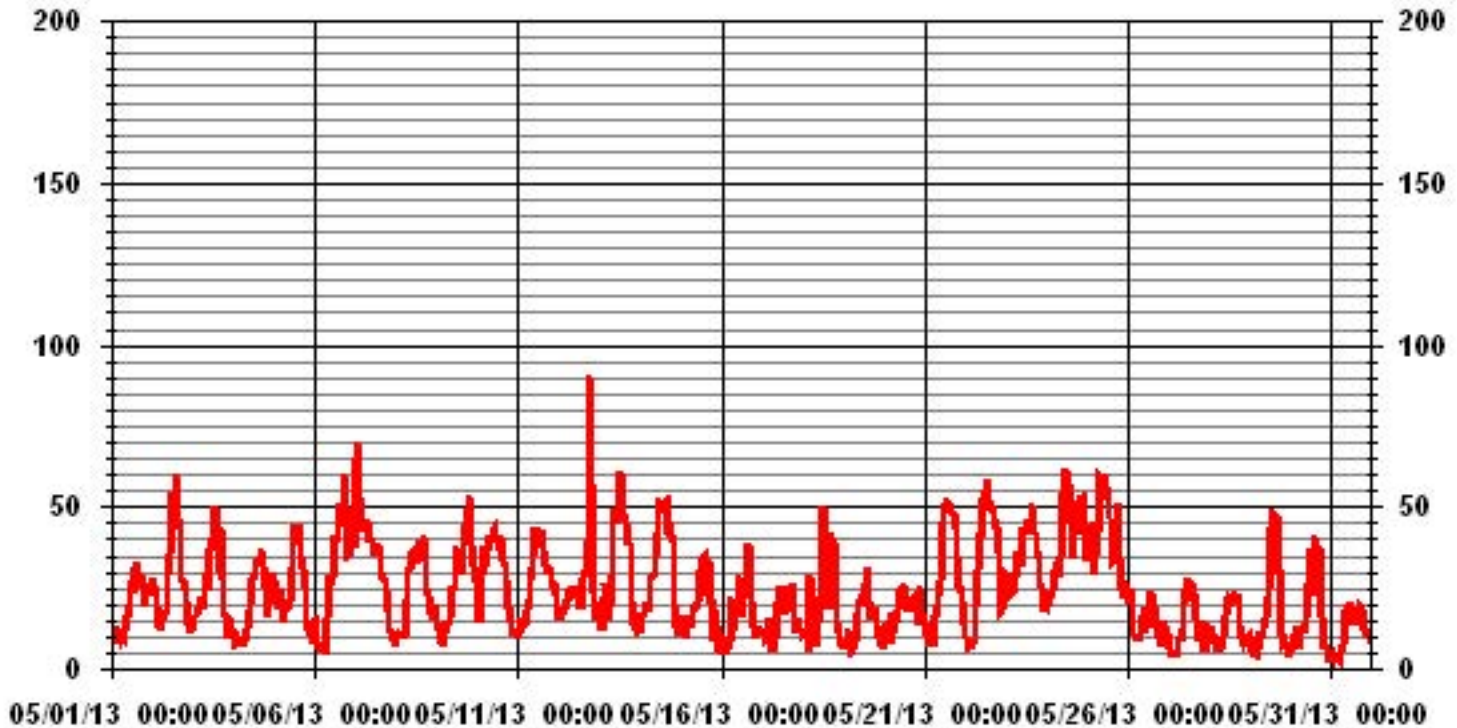
STATUS FLAG CODES

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

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS READING	91	KPH	@ HOUR(S)	18
			ON DAY(S)	12

01 Hour Averages



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

May 2013

Distribution By % Of Samples

Logger Id : 35
Site Name : LICA-ELK
Parameter : WSP
Units : KPH

Wind Parameter : WDR
Instrument Height : 10 Meters

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 6.0	.67	.40	1.07	1.88	3.89	3.09	1.61	.67	1.47	.67	1.20	1.47	2.68	3.76	2.55	.80	27.95
< 12.0	.67	.67	.80	.80	3.76	4.30	2.01	1.61	.80	1.34	1.20	2.41	4.16	2.95	2.01	.40	29.97
< 20.0	.67	.53	.00	.53	1.61	4.03	4.43	1.20	.94	1.34	.94	1.07	1.20	1.34	.94	2.41	23.25
< 29.0	.26	.13	.26	1.20	.94	4.03	.53	.67	.53	.67	.00	.26	1.74	1.34	.13	1.88	14.65
< 39.0	.00	.00	.00	.00	.26	1.88	.26	.00	.00	.26	.00	.00	.26	.53	.13	.13	3.76
>= 39.0	.00	.00	.00	.00	.00	.13	.00	.00	.00	.00	.00	.00	.00	.00	.13	.00	.26
Totals	2.28	1.74	2.15	4.43	10.48	17.47	8.87	4.16	3.76	4.30	3.36	5.24	10.08	9.94	5.91	5.64	

Calm : .13 %

Total # Operational Hours : 744

Distribution By Samples

	Direction																
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 6.0	5	3	8	14	29	23	12	5	11	5	9	11	20	28	19	6	208
< 12.0	5	5	6	6	28	32	15	12	6	10	9	18	31	22	15	3	223
< 20.0	5	4		4	12	30	33	9	7	10	7	8	9	10	7	18	173
< 29.0	2	1	2	9	7	30	4	5	4	5		2	13	10	1	14	109
< 39.0					2	14	2			2			2	4	1	1	28
>= 39.0						1									1		2
Totals	17	13	16	33	78	130	66	31	28	32	25	39	75	74	44	42	

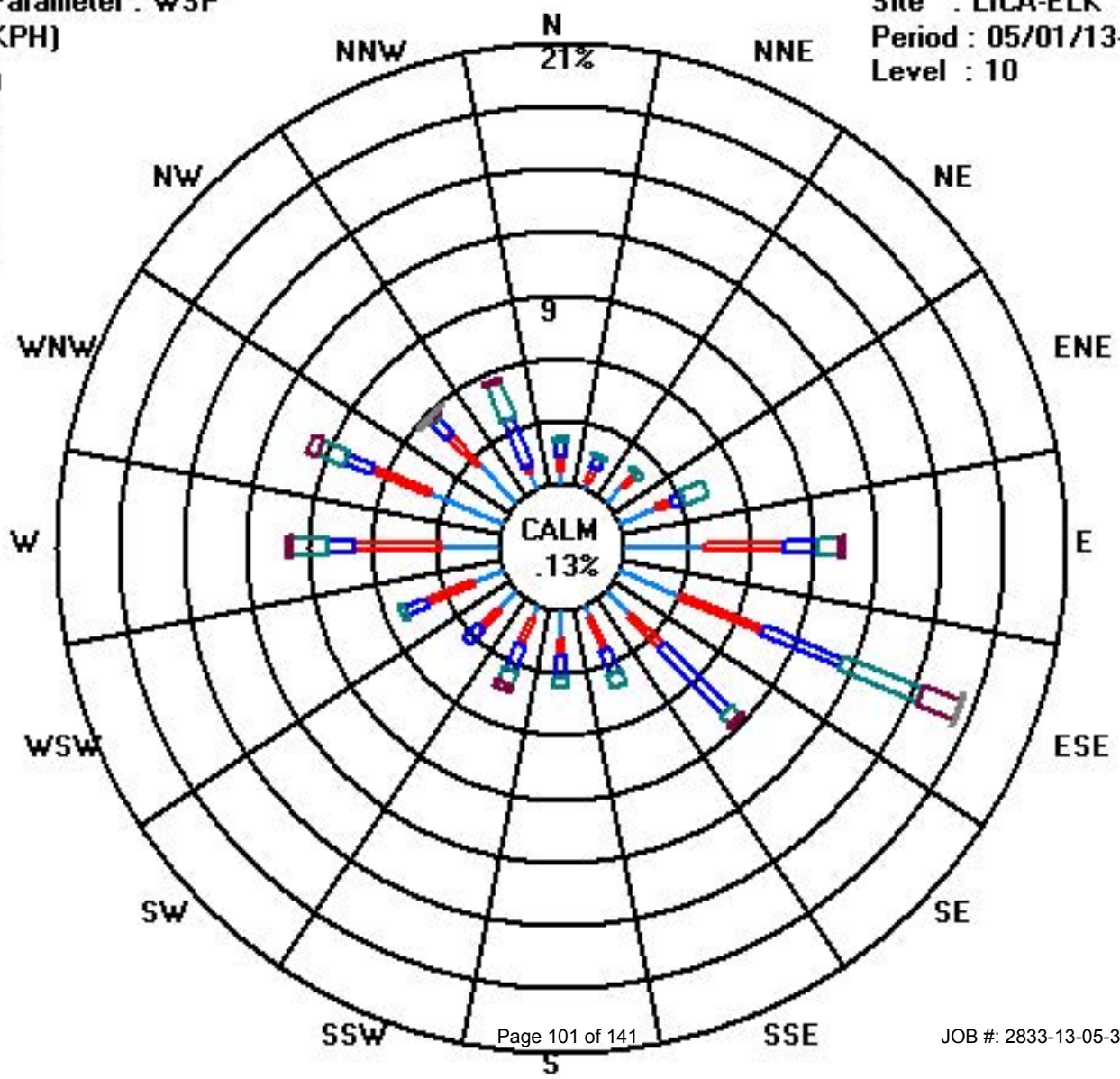
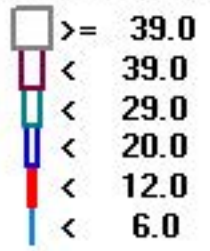
Calm : .13 %

Total # Operational Hours : 744

Class Limits (KPH)

Period : 05/01/13-05/31/13

Level : 10



Vector Wind Direction

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

MAY 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		315	320	285	293	274	279	308	225	294	273	272	218	192	195	204	204	200	208	189	153	139	141	136	141	196	SSW	24	
2		134	147	153	151	154	141	186	218	178	224	248	262	260	268	267	272	290	285	278	276	283	303	288	261	254	WSW	24	
3		267	257	255	273	262	279	274	292	302	283	284	286	314	332	331	347	17	47	171	240	59	291	300	305	298	WNW	24	
4		291	252	275	277	260	284	281	270	244	253	249	204	234	232	222	226	225	226	212	198	179	180	195	208	226	SW	24	
5		222	223	230	229	245	270	249	247	234	237	249	244	269	273	273	273	264	257	256	259	242	246	316	262	254	WSW	24	
6		262	280	292	310	242	327	80	85	116	119	130	160	177	182	192	202	202	194	195	185	183	194	205	233	187	S	24	
7		324	344	341	327	337	337	349	346	332	340	337	348	344	344	351	358	10	21	17	12	88	74	89	89	347	NNW	24	
8		109	101	98	99	106	73	117	125	136	138	140	140	140	139	141	139	149	155	150	132	134	139	137	136	134	SE	24	
9		104	90	106	113	90	101	115	120	159	203	192	210	251	274	264	315	358	42	35	30	20	340	343	343	21	NNE	24	
10		306	300	321	329	328	328	346	346	347	359	348	337	329	335	344	350	351	344	18	35	85	110	106	111	345	NNW	24	
11		101	96	119	102	113	120	123	133	139	152	142	158	157	158	168	173	177	161	141	135	136	137	136	126	143	SE	24	
12		99	104	109	113	116	121	122	123	138	142	144	143	134	151	164	208	242	241	311	327	316	252	251	269	170	SSE	24	
13		253	294	254	263	280	267	260	277	295	297	293	284	280	272	275	280	278	283	285	304	312	326	328	310	284	WNW	24	
14		305	300	314	286	273	279	272	298	301	285	288	295	281	278	282	285	287	293	315	328	323	329	298	270	292	WNW	24	
15		257	257	266	258	253	269	273	258	273	288	274	262	260	254	174	221	171	173	167	194	205	222	313	170	239	WSW	24	
16		297	256	305	286	284	263	322	314	233	256	78	70	320	313	298	350	321	315	313	312	294	196	303	303	308	NW	24	
17		292	179	285	294	287	177	159	344	344	353	42	90	46	2	263	295	297	297	342	330	180	323	262	305	323	NW	24	
18		162	300	283	301	134	329	299	33	107	129	107	165	132	85	91	79	54	136	155	173	95	50	142	96	124	ESE	24	
19		339	286	222	133	103	127	279	61	109	117	133	211	211	153	194	277	205	287	235	164	222	270	266	101	193	S	24	
20		261	258	254	226	261	263	313	317	359	12	64	323	10	28	359	90	99	88	91	79	83	138	151	128	62	ENE	24	
21		95	109	92	109	117	117	119	116	118	109	118	123	119	116	121	117	125	115	113	116	120	102	102	112	116	ESE	24	
22		129	127	112	95	92	102	95	113	123	117	118	116	124	123	131	123	109	114	113	115	122	117	119	116	118	ESE	24	
23		116	116	116	110	108	108	111	114	120	103	115	122	117	123	117	121	119	123	116	120	121	123	83	88	115	ESE	24	
24		84	83	86	78	76	81	72	83	79	78	78	88	96	104	70	89	75	66	75	74	76	78	83	88	81	E	24	
25		98	103	98	87	78	84	94	113	112	113	116	114	117	141	153	127	106	113	118	113	122	136	148	130	112	ESE	24	
26		91	109	131	162	170	279	323	63	129	112	99	116	8	125	133	151	132	90	105	121	92	82	119	93	118	ESE	24	
27		56	63	109	224	320	343	89	86	80	99	94	77	90	77	86	133	121	111	51	73	49	301	100	297	89	E	24	
28		293	287	300	307	307	314	47	69	129	123	111	15	359	48	83	86	17	208	256	217	313	304	299	292	349	NNW	24	
29		295	283	300	65	15	97	251	280	63	92	107	109	112	101	136	113	159	177	125	88	88	102	81	37	123	ESE	24	
30		70	72	141	106	72	55	63	111	112	108	119	123	125	122	88	51	69	105	80	101	112	82	196	296	99	E	24	
31		102	134	293	192	359	119	86	170	185	175	202	257	181	169	183	280	274	268	274	266	296	282	309	284	250	WSW	24	
HOURLY AVG		339	344	341	329	359	343	349	346	359	359	348	348	359	344	359	358	358	344	342	330	323	340	343	343				

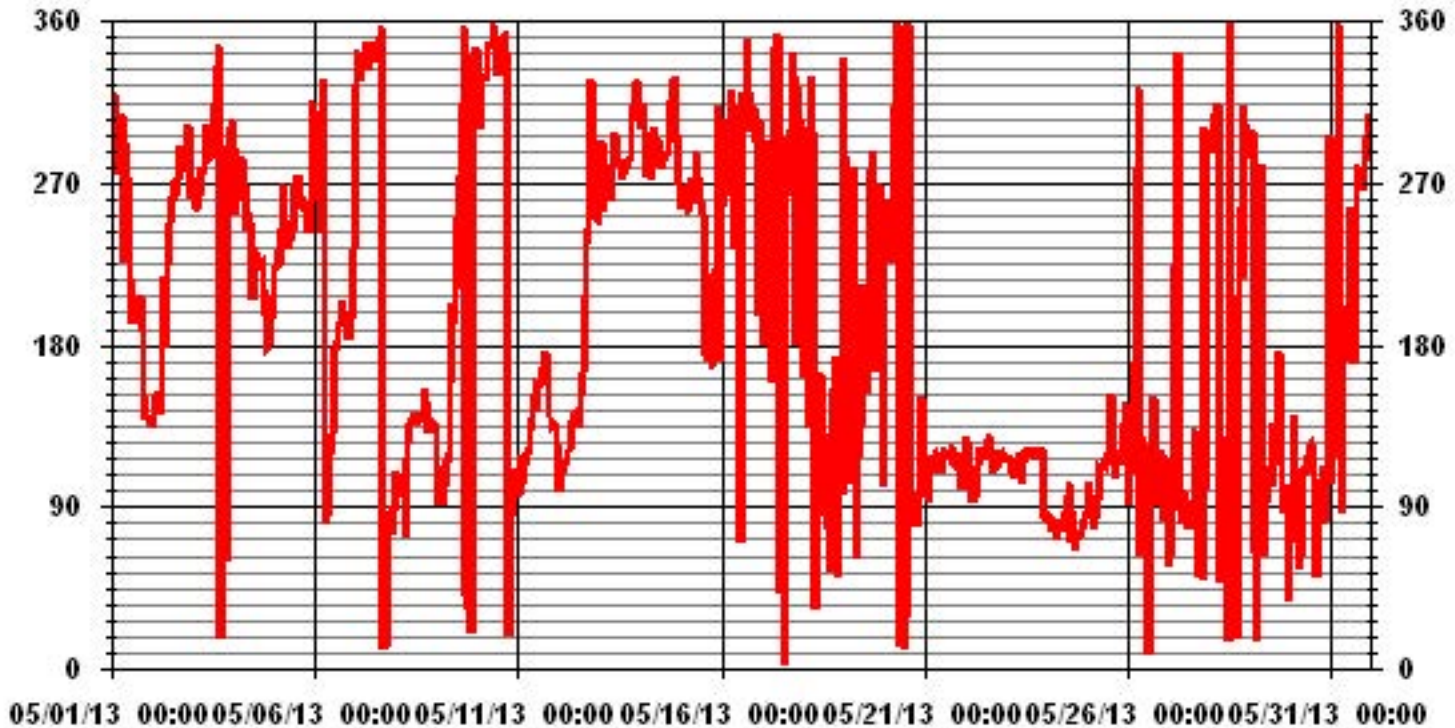
STATUS FLAG CODES

C - CALIBRATION	Q - QUALITY ASSURANCE
Y - 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:	744	HRS
STANDARD DEVIATION:	93.40		AMD OPERATION UPTIME:	100.0	%
			MONTHLY AVERAGE:	135	DEG

01 Hour Averages



Standard Deviation Wind Direction

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

MAY 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	4	5	7	6	6	6	10	31	55	63	47	39	31	32	25	16	18	16	12	11	8	9	7	9
2	7	11	13	12	14	21	43	20	21	17	14	14	15	14	15	16	10	10	6	10	7	10	10	9
3	7	6	5	12	8	10	8	10	12	13	13	13	17	19	14	16	14	24	22	39	27	10	5	6
4	9	25	10	7	8	10	8	26	27	26	50	48	30	23	20	20	16	13	11	7	7	8	8	9
5	10	10	9	10	11	18	13	11	16	17	15	16	15	13	13	16	15	14	12	10	3	13	10	6
6	5	10	12	46	21	30	49	14	11	13	16	18	17	16	15	15	11	11	9	7	8	9	10	14
7	11	12	10	9	9	10	12	14	14	15	19	19	15	18	33	26	19	28	15	13	12	12	13	9
8	9	6	5	6	7	14	11	9	12	15	18	16	22	18	16	16	19	17	14	6	5	7	6	8
9	13	9	6	26	9	5	10	10	18	14	20	27	30	36	28	14	18	13	13	12	13	9	8	7
10	9	7	9	10	8	9	13	15	15	20	20	16	23	20	19	21	17	20	22	13	33	9	5	7
11	8	5	7	5	7	6	8	12	13	16	15	16	19	17	20	19	14	16	10	7	6	6	5	6
12	5	4	5	6	5	6	9	9	16	18	21	20	15	20	27	19	14	12	14	8	7	6	9	12
13	19	21	11	17	11	13	13	10	9	10	10	11	11	14	14	9	11	9	9	5	6	5	4	5
14	5	4	4	7	8	12	11	12	12	14	15	11	14	15	12	11	12	11	9	8	7	5	6	6
15	5	4	6	6	6	14	12	13	18	24	43	33	21	33	14	37	28	15	12	8	8	32	20	31
16	19	36	16	16	8	30	17	43	30	28	30	61	60	49	43	74	32	15	11	7	5	43	16	2
17	27	27	11	4	7	48	42	31	47	52	18	26	57	35	42	51	30	24	14	8	52	27	16	23
18	44	39	41	17	42	36	30	51	26	23	48	27	14	58	16	37	26	11	13	12	25	20	23	31
19	27	14	30	40	49	18	34	37	21	18	24	39	45	30	32	15	12	12	46	11	21	38	37	23
20	10	12	20	13	11	23	19	11	16	25	47	39	52	40	36	35	23	12	11	10	7	13	12	18
21	10	7	11	8	9	6	13	9	9	11	14	11	11	12	13	12	12	10	9	7	5	5	5	7
22	7	23	23	15	9	12	9	11	9	12	11	13	12	13	13	14	12	10	9	7	6	4	5	6
23	5	6	5	5	6	7	9	9	10	13	11	14	12	14	12	12	13	11	8	7	6	20	12	7
24	8	9	7	10	10	10	11	11	12	12	12	10	11	12	12	12	12	12	11	12	12	12	11	9
25	8	9	9	9	11	11	10	8	10	11	9	10	9	14	14	11	8	8	10	8	10	11	12	10
26	10	9	9	11	18	17	18	54	33	70	54	56	39	47	47	41	31	31	39	17	17	29	13	43
27	38	35	41	49	51	52	27	29	30	23	25	31	21	21	26	14	14	14	23	12	10	42	38	8
28	17	14	48	18	8	12	55	27	36	53	60	60	26	26	46	32	15	24	19	37	16	7	5	10
29	31	11	17	41	50	30	13	41	49	39	32	27	24	12	46	11	14	13	22	56	22	13	37	35
30	19	11	26	24	16	14	16	14	47	55	24	15	16	21	20	20	19	12	13	18	15	15	35	20
31	25	27	21	23	28	32	21	32	28	29	27	53	54	42	51	38	44	11	7	9	27	8	36	25

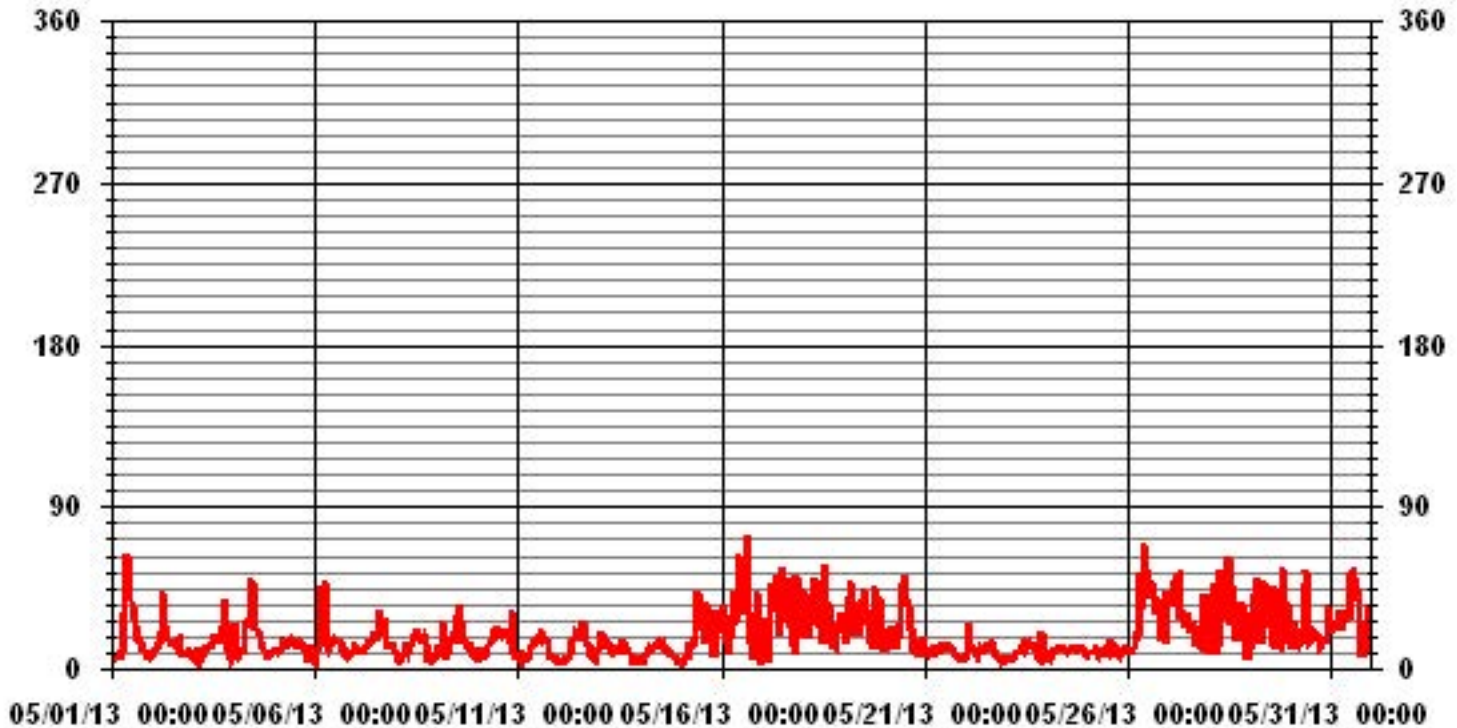
STATUS FLAG CODES

C	- CALIBRATION	Q	- QUALITY ASSURANCE
Y	- 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: 744 HRS

01 Hour Averages



Calibration Reports

Sulphur Dioxide

SO2 Calibration Report

Station Information

Calibration Date	May 6, 2013	Previous Calibration	April 2, 2013
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location	Portable / ELK Point Airport		
Start Time (MST)	10:50	End Time (MST)	14:00
Reason:	Monthly calibration		
Barometric Pressure	27.8 atm	Station Temperature	23 Deg C
Cal Gas	49.6 ppm	Gas Cyl. #	BAL3031
DAS Output Voltage	0-1 Volts	Cal Gas Expiry date	December 29, 2016
		Chart Rec. Output	N/A Volts

Equipment Information

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

Analyzer Settings

Before Calibration			After Calibration		
Concentration Range	0-1000		ppb		
Sample Flow / Box Temp	624 ccm	31.2 Deg C	621 ccm	34.4	Deg C
HVPS / Lamp Setting	612	1530	612	1527	
PMT / RxCell Temp	8.1 Deg C	50 Deg C	8.2 Deg C	50	Deg C
Converter / IZS Temp	N/A Deg C	45 Deg C	N/A Deg C	45.0	Deg C
Offset / Slope	107.5	1.229	111.9	1.226	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4994	0	0	3	N/A
4994	0	0	0	N/A
4915	79.8	792	795	0.9968
4915	79.8	792	797	0.9943
4955	39.9	396	398	0.9955
4975	19.8	197	201	0.9782
5000	0	0	1	N/A
Sum of Least Squares				0.9937
New Correction Factor				0.9943

IZS Calibration Data

Before Calibration		After Calibration	
Auto Zero	0.0		0.0
Auto Span	359.8		368.5
Sample Lines Connected			Yes

Percent Change

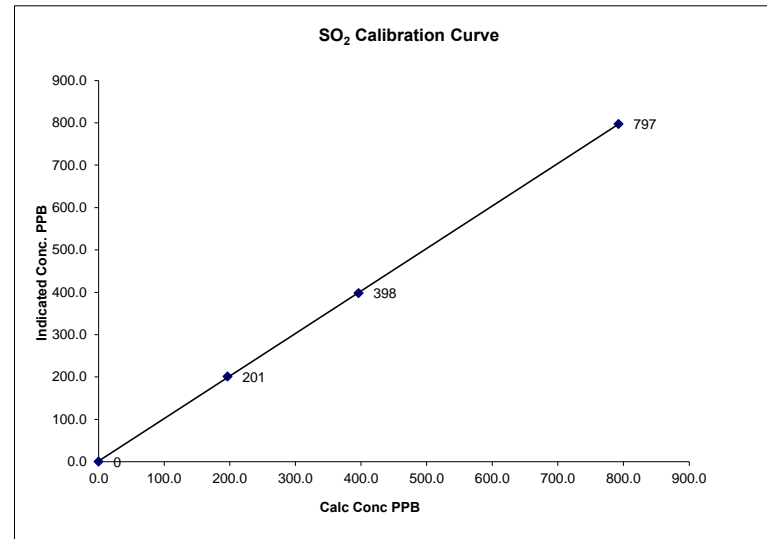
Previous Month's Calibration Correction Factor:	1.0014
Current Correction Factor Before Span Adjust:	0.9968
Percent Change:	0.5%

Notes:	N/A : Not applicable
	Change sample filter
	Pump flow warning reading went down 791 to 744 (11:16-11:24)
	Pump check and rebuild will required.

SO2 Calibration Curve

Calibration Date	May 6, 2013
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION
Plant / Location	Portable / ELK Point Airport
Start Time (MST)	10:50
End Time (MST)	14:00

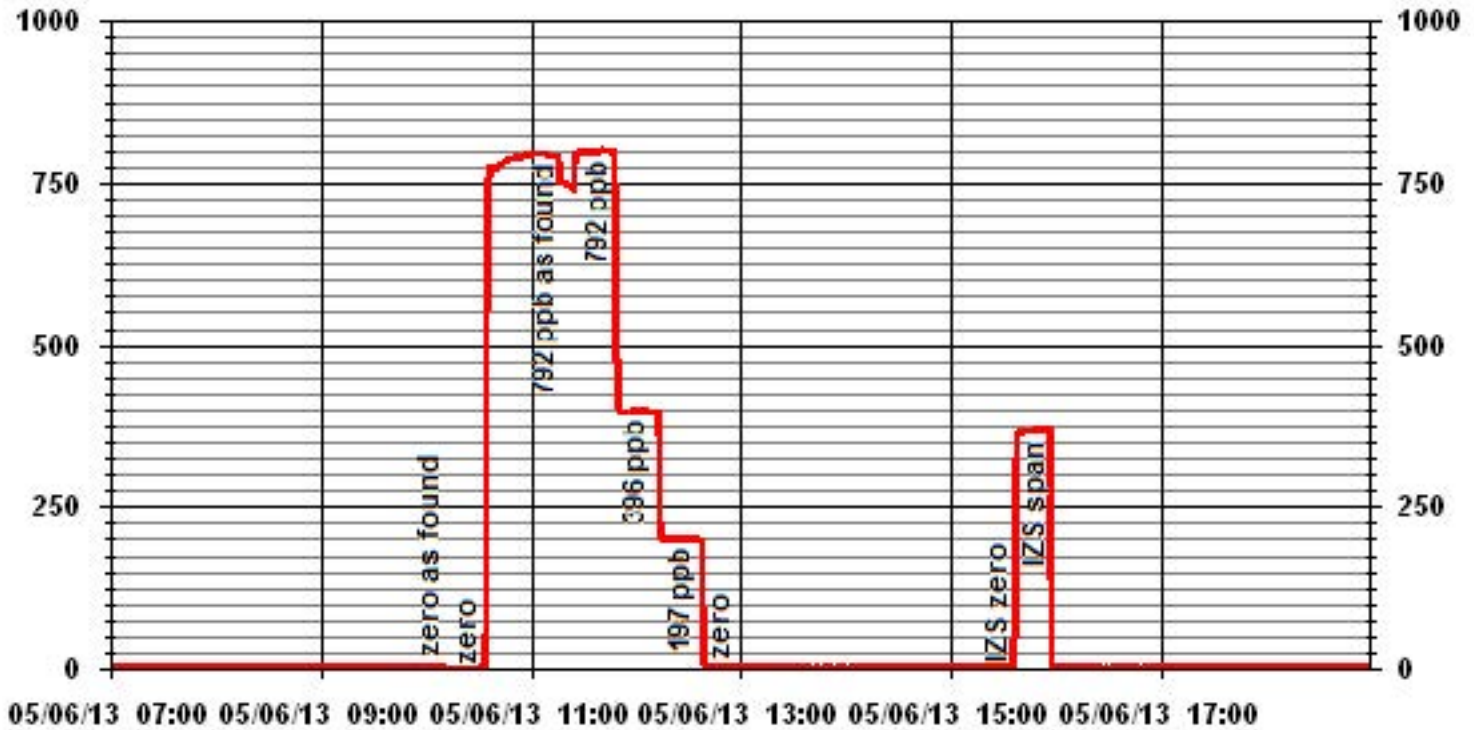
Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope Intercept	(≥ 0.995) (0.85 to 1.15) (± 3% F.S.)
0	0	N/A		0.999977
197	201	0.9782		1.004269
396	398	0.9955		1.203461
792	797	0.9943		



Notes:

Calibration Performed by: Waseem Ahmed

01 Minute Averages



Hydrogen Sulphide

H2S Calibration Report

Station Information

Calibration Date	May 6, 2013	Previous Calibration	April 2, 2013
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION		
Plant / Location	Portable / ELK Point Airport		
Start Time (MST)	10:50	End Time (MST)	13:30
Reason:	Monthly calibration		
Barometric Pressure	27.8 mBar	Station Temperature	23 Deg C
Cal Gas	10.1 ppm	Gas Cyl. #	BLM00594 Cal Gas Expiry date
DAS Output Voltage	0-1 Volts	Chart Rec. Output	N/A Volts
Equipment Information			
Analyzer Make / Model:	API 101E	S/N :	509 Method: Fluorescent
Converter Make / Model:	Internal	S/N :	N/A
Calibrator Make / Model:	API 700	S/N :	831 Method: Dilution
DAS Make / Model:	ESC8832	S/N :	AO717
Chart Recorder Make / Model:	N/A	S/N:	N/A
Flow Meter:	API 700	S/N :	831

Equipment Information

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

Analyzer Settings

Before Calibration		After Calibration	
Concentration Range	0-100 ppb	0-100 ppb	
Sample Flow / Box Temp	510 ccm 32 Deg C	506 ccm 35.2 Deg C	
HVPS / Lamp Setting	540 1772	540 1770	
PMT / RxCell Temp	7.9 Deg C 50 Deg C	7.9 Deg C 50 Deg C	
Converter / IZS Temp	315 Deg C 45 Deg C	315 Deg C 45.0 Deg C	
Offset / Slope	102.4 1.013	106.4 0.996	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	2	NA
5000	0	0	0	NA
4960	40.0	81	84	0.9619
4960	40.0	81	82	0.9854
4977	20.0	40	41	0.9860
4988	12.0	24	25	0.9696
5000	0	0	1	NA
Sum of Least Squares				0.9844
New Correction Factor				0.9854

IZS Calibration Data

Before Calibration		After Calibration	
Auto Zero	0.0	Auto Zero	0.0
Auto Span	57.1	Auto Span	57.97
Sample Lines Connected		Sample Lines Connected	Yes

Percent Change

Previous Month's Calibration Correction Factor:	1.0000
Current Correction Factor Before Span Adjust:	0.9619
Percent Change:	4.0%

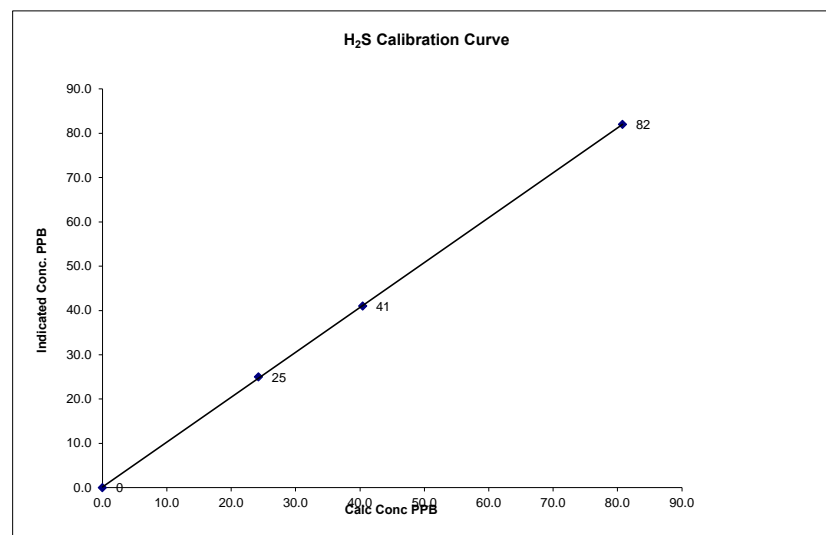
Notes:	NA : Not Applicable
	Change sample filter
	Calibrator malfunction (11:42-11:48)
	Calibrator reset.

Calibration Performed by: Waseem Ahmed

H₂S Calibration Curve

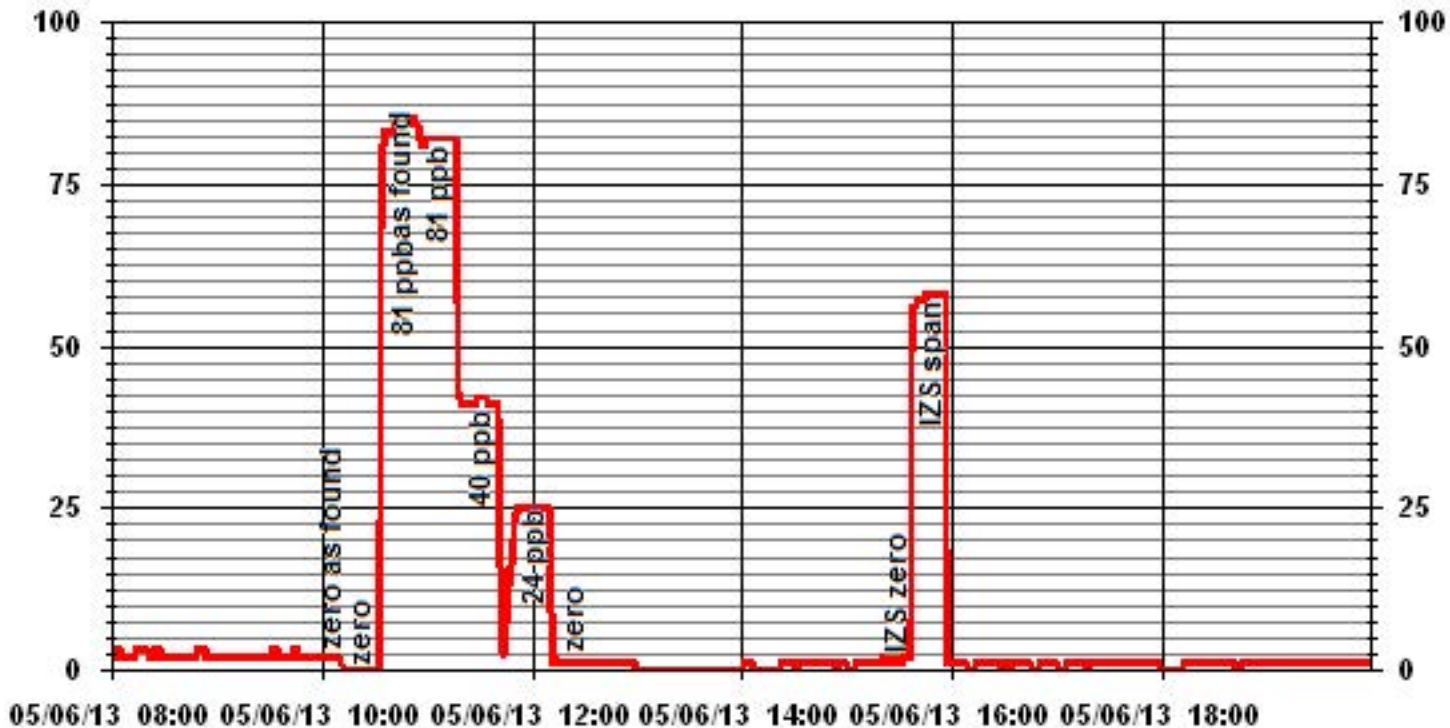
Calibration Date	May 6, 2013
Company	LAKELAND INDUSTRY & COMMUNITY ASSOCIATION
Plant / Location	Portable / ELK Point Airport
Start Time (MST)	10:50
End Time (MST)	13:30

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999967
0	0	NA	Intercept	(± 3% F.S.)	1.013421
24	25	0.9696			0.145871
40	41	0.9860			
81	82	0.9854			



Notes:

01 Minute Averages



Total Hydrocarbons

THC Calibration Report

Station Information			
Calibration Date:	May 6, 2013	Previous Calibration	April 8, 2013
Company:	Lakeland Industry & Community Association		
Plant / Location:	ELK Point Airport		
Start Time (MST)	13:40	End Time (MST)	16:10
Reason:	Monthly calibration		
Barometric Pressure:	27.73 atm	Station Temperature:	26 Deg C
Calibrator:	API700	S/N:	831
Cal Gas Concentration:	CH4 600 PPM	C3H8 204 PPM	
	TOTAL CH4 1161.0 PPM	Gas Cyl. #	LL155310
		Cal Gas Expiry Date:	September 9, 2013
DAS make & Model:	ESC8832	S/N :	AO717
Chart Recorder:	NA	S/N:	NA
Output Voltage Range:	0-10 VDC	Chart Speed:	NA mm/hr

Analyzer Information

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

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

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2000	0.0	0.0	-0.5	N/A
2000	0.0	0.0	0.0	N/A
2000	74.0	41.4	41.2	1.0054
	No span adj.			
2000	37.0	21.1	20.7	1.0188
2000	20.0	11.5	11.3	1.0173
2000	0.0	0.0	-0.1	N/A
New Correction Factor:				1.0054

Percent Change

Previous Calibration Correction Factor:	1.0030
Current Correction Factor Before Span Adjust:	1.0054
Percent Change:	-0.2%

IZS Calibration Data

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

Cylinder Pressures			
Span	1750 psi	Hydrogen 1150 psi	Zero Air 33 psi

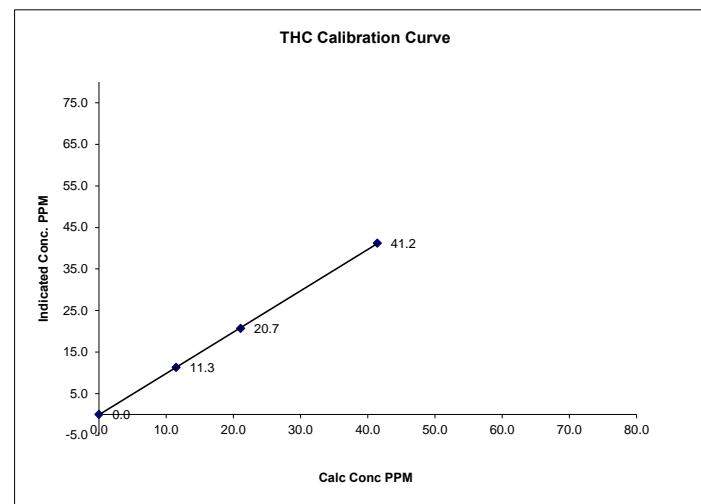
Notes:	N/A : Not Applicable
	Change sample filter
	Daily cal 1400-1408
	Spare cylinders H2=3 Span=2 N2=1

Calibration Performed by: Waseem Ahmed

THC Calibration Curve

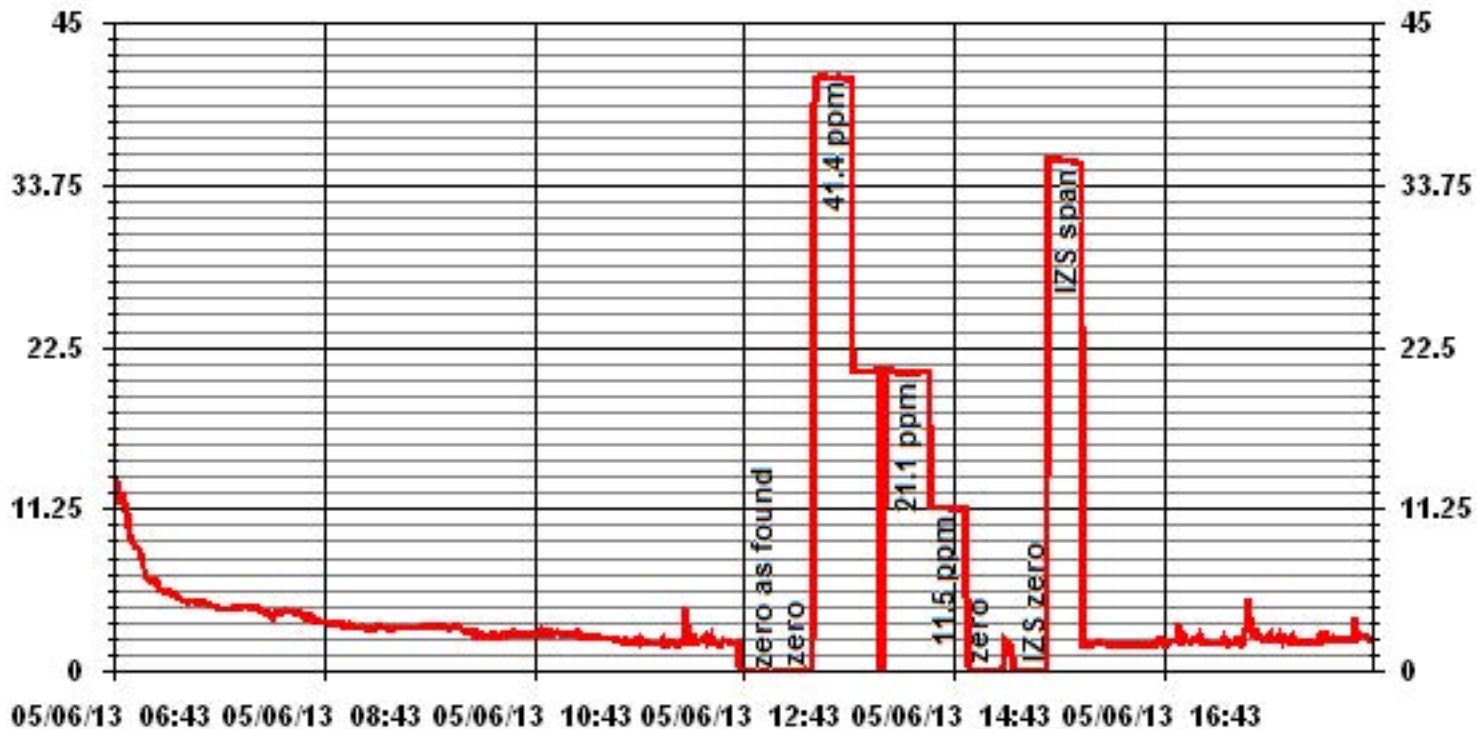
Calibration Date	May 6, 2013
Company	Lakeland Industry & Community Association
Plant / Location	ELK Point Airport
Start Time (MST)	13:40
End Time (MST)	16:10

Calculated Conc.	Indicated Response	Correction Factor	Correlation Coefficient	Slope	Intercept
ppm	ppm		(≥ 0.995)		
0.0	0.0	N/A	0.999941	0.994625	-0.09998
11.5	11.3	1.0173	(0.85 to 1.15)		
21.1	20.7	1.0188			
41.4	41.2	1.0054	(± 3% F.S.)		



Notes:

01 Minute Averages



THC Calibration Report

Station Information			
Calibration Date:	May 15, 2013	Previous Calibration	May 6, 2013
Company:	Lakeland Industry & Community Association		
Plant / Location:	ELK Point Airport		
Start Time (MST)	15:40	End Time (MST)	16:30
Reason:	As found		
Barometric Pressure:	27.75 atm	Station Temperature:	22 Deg C
Calibrator:	API700	S/N:	829
Cal Gas Concentration:	CH4 600 PPM	C3H8 204 PPM	
	TOTAL CH4 1161.0 PPM	Gas Cyl. #	LL155310
		Cal Gas Expiry Date:	September 9, 2013
DAS make & Model:	ESC8832	S/N :	AO717
Chart Recorder:	NA	S/N:	NA
Output Voltage Range:	0-10 VDC	Chart Speed:	NA mm/hr

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

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	0.2	N/A
2000	74.0	41.4	41.7	0.9934
				New Correction Factor: 0.9934

Percent Change	
Previous Calibration Correction Factor:	1.0000
Current Correction Factor Before Span Adjust:	0.9934
Percent Change:	0.7%

IZS Calibration Data		
	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	35.36	35.4
Sample Lines Connected	Yes	

Cylinder Pressures			
Span	1650 psi	Hydrogen 900 psi	Zero Air 33 psi

Notes: **N/A : Not Applicable**

After change sample filter holder, do one more as found point.

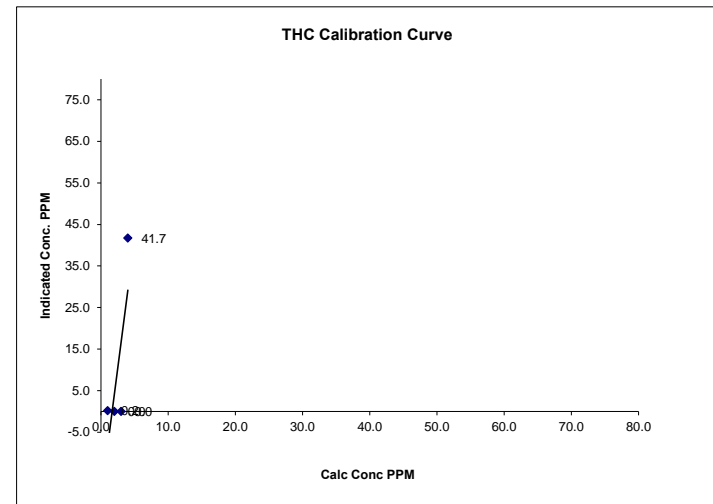
Spare cylinders H2=3 Span=2 (Methane/NoMethane) N2=1

Calibration Performed by: Limin Li

THC Calibration Curve

Calibration Date	May 15, 2013
Company	Lakeland Industry & Community Association
Plant / Location	ELK Point Airport
Start Time (MST)	15:40
End Time (MST)	16:30

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	N/A			
41.4	41.7	0.9934			



Notes:

THC Calibration Report

Station Information			
Calibration Date:	May 15, 2013	Previous Calibration	May 6, 2013
Company:	Lakeland Industry & Community Association		
Plant / Location:	ELK Point Airport		
Start Time (MST)	15:40	End Time (MST)	16:30
Reason:	As found		
Barometric Pressure:	27.75 atm	Station Temperature:	22 Deg C
Calibrator:	API700	S/N:	829
Cal Gas Concentration:	CH4 600 PPM TOTAL CH4 1161.0 PPM	C3H8 204 PPM Gas Cyl. # LL155310	Cal Gas Expiry Date: September 9, 2013
DAS make & Model:	ESC8832	S/N :	AO717
Chart Recorder:	NA	S/N:	NA
Output Voltage Range:	0-10 VDC	Chart Speed:	NA mm/hr

Analyzer Information

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

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

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2000	0.0	0.0	0.2	N/A
2000	74.0	41.4	41.7	0.9934
New Correction Factor:				0.9934

Percent Change

Previous Calibration Correction Factor:	1.0000
Current Correction Factor Before Span Adjust:	0.9934
Percent Change:	0.7%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	35.36	35.4
Sample Lines Connected	Yes	

Cylinder Pressures
Span 1650 psi Hydrogen 900 psi Zero Air 33 psi

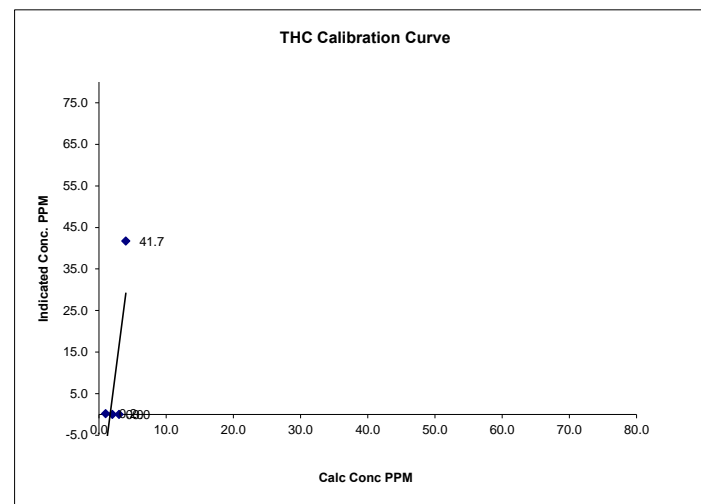
Notes: **N/A : Not Applicable**
After change sample filter holder, do one more as found point.
Spare cylinders H2=3 Span=2 (Methane/NoMethane) N2=1

Calibration Performed by: Limin Li

THC Calibration Curve

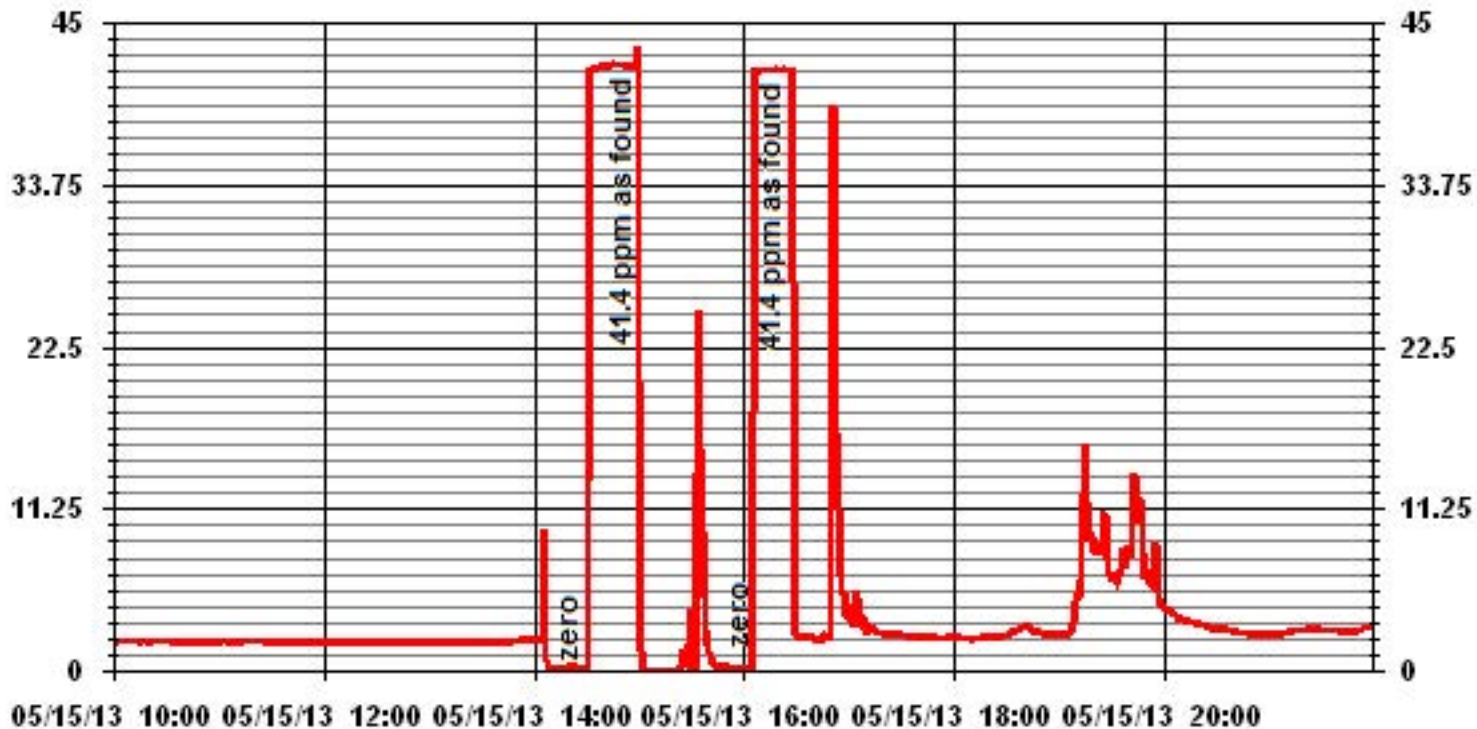
Calibration Date	May 15, 2013		
Company	Lakeland Industry & Community Association		
Plant / Location	ELK Point Airport		
Start Time (MST)	15:40	End Time (MST)	16:30

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient (≥ 0.995)
0.0	0.2	N/A	Slope (0.85 to 1.15)
41.4	41.7	0.9934	Intercept (± 3% F.S.)



Notes:

01 Minute Averages



THC Calibration Report

Station Information			
Calibration Date:	May 28, 2013	Previous Calibration	May 6, 2013
Company:	Lakeland Industry & Community Association		
Plant / Location:	ELK Point Airport		
Start Time (MST)	10:00	End Time (MST)	12:30
Reason:	Removal calibration		
Barometric Pressure:	27.68 atm	Station Temperature:	23.5 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:	ESC8832	S/N :	AO717
Chart Recorder:	NA	S/N:	NA
Output Voltage Range:	0-10 VDC	Chart Speed:	NA mm/hr

Analyzer Information

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

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

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2000	0.0	0.0	1.2	N/A
	No zero adj.			
2000	74.0	41.4	40.8	1.0151
	No span adj.			
2000	37.0	21.1	20.5	1.0277
2000	20.0	11.5	11.2	1.0263
2000	0.0	0.0	0.1	N/A
New Correction Factor:				1.0151

Percent Change

Previous Calibration Correction Factor:	1.0054
Current Correction Factor Before Span Adjust:	1.0151
Percent Change:	-1.0%

IZS Calibration Data

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

Cylinder Pressures			
Span	1500 psi	Hydrogen 550 psi	Zero Air 33 psi

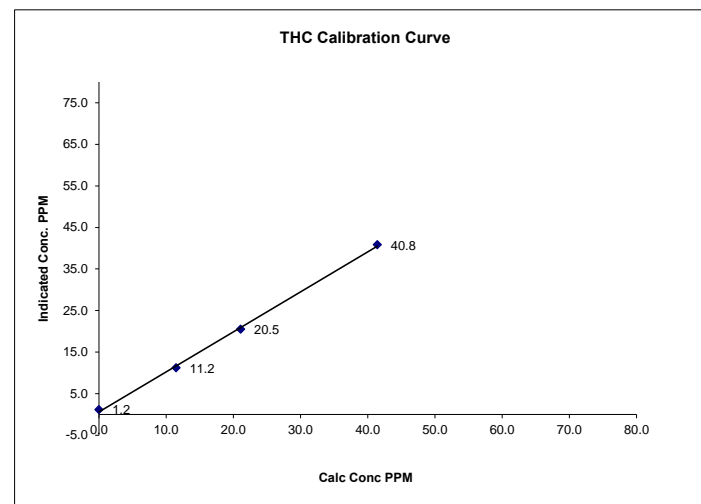
Notes: **N/A : Not Applicable**
 Analyser unstable (zero drift), required maintenance.

Calibration Performed by: Limin Li / Waseem Ahmed

THC Calibration Curve

Calibration Date	May 28, 2013
Company	Lakeland Industry & Community Association
Plant / Location	ELK Point Airport
Start Time (MST)	10:00
End Time (MST)	12:30

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient (≥ 0.995)	Slope (0.85 to 1.15)	Intercept (± 3% F.S.)
0.0	1.2	N/A	0.999095	0.962361	0.61446
11.5	11.2	1.0263			
21.1	20.5	1.0277			
41.4	40.8	1.0151			



Notes:

THC Calibration Report

Station Information			
Calibration Date:	May 28, 2013	Previous Calibration	NA
Company:	Lakeland Industry & Community Association		
Plant / Location:	ELK Point Airport		
Start Time (MST)	13:05	End Time (MST)	15:35
Reason:	Install calibration		
Barometric Pressure:	27.66 atm	Station Temperature:	26 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:	ESC8832	S/N :	AO717
Chart Recorder:	NA	S/N:	NA
Output Voltage Range:	0-10 VDC	Chart Speed:	NA mm/hr

Analyzer Information

Make / Model	Thermo 51i-LT	S/N :	0925436893	Method	Flame Ionization
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Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0-50	ppm	0-50	ppm
Sample Pressure	9.6	psi	9.6	psi
Hydrogen Pressure	19.4	psi	19.4	psi
Air Pressure	38.3	psi	38.3	psi

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2000	0.0	0.0	0.0	N/A
	No zero adj			
2000	74.0	41.4	41.4	1.0000
	No span adj.			
2000	37.0	21.1	20.5	1.0287
2000	20.0	11.5	10.8	1.0644
2000	0.0	0.0	0.0	N/A
New Correction Factor:				1.0000

Percent Change

Previous Calibration Correction Factor:	NA
Current Correction Factor Before Span Adjust:	1.0000
Percent Change:	#VALUE!

IZS Calibration Data

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

Cylinder Pressures			
Span	1500 psi	Hydrogen 550 psi	Zero Air 33 psi

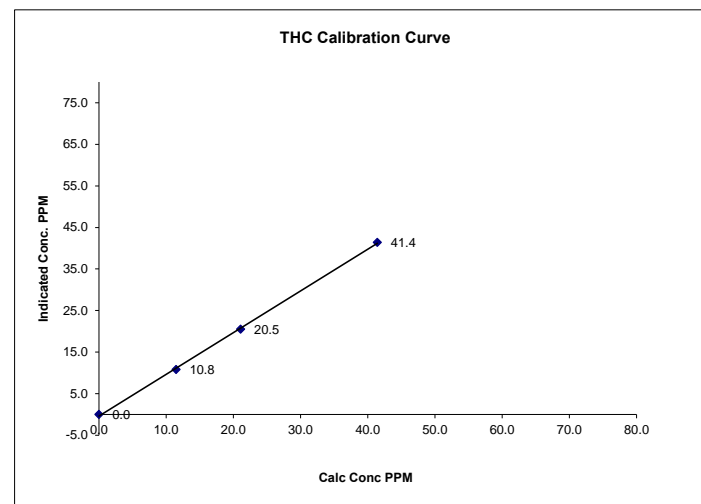
Notes:	N/A : Not Applicable
	After three point cal, sample reading less than the background level.
	Uninstall, maintenance required.

Calibration Performed by: Limin Li / Waseem Ahmed

THC Calibration Curve

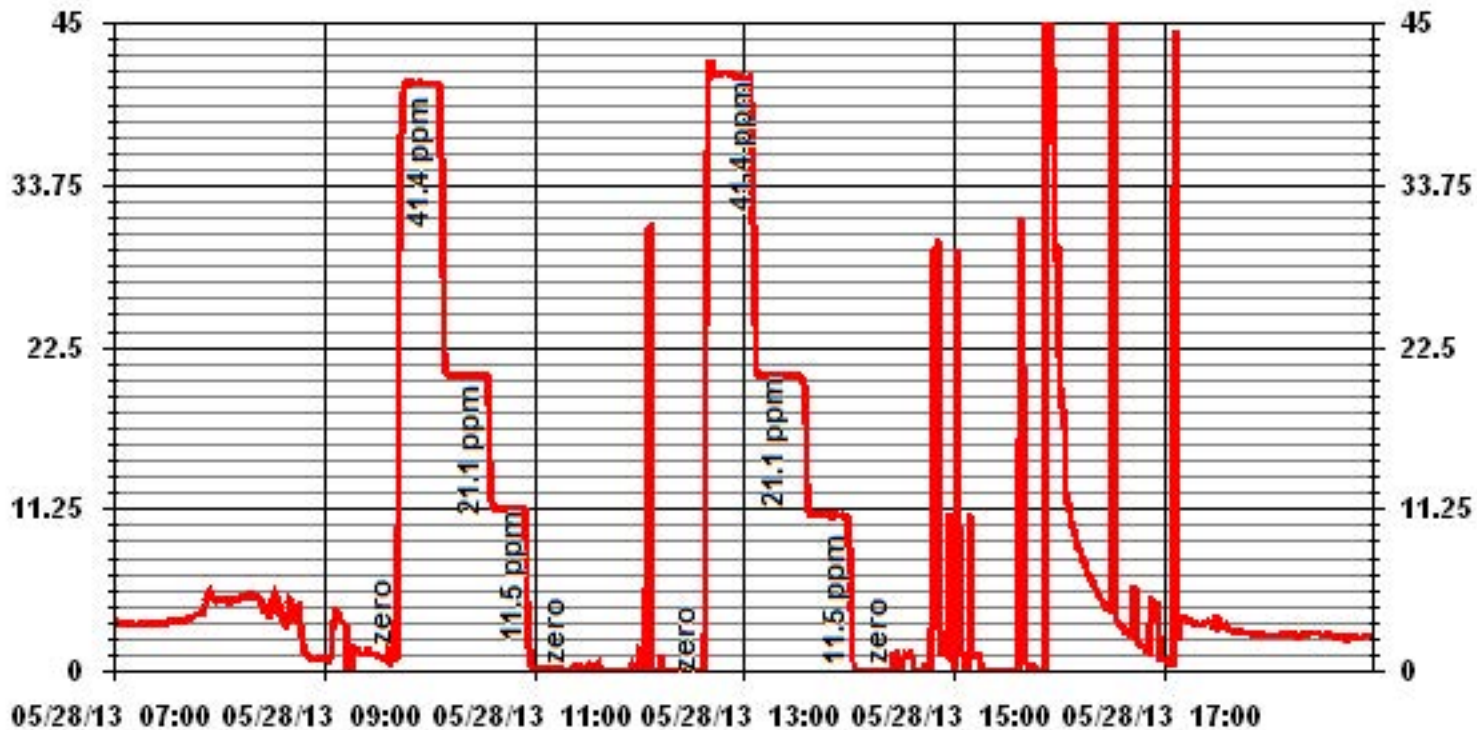
Calibration Date	May 28, 2013
Company	Lakeland Industry & Community Association
Plant / Location	ELK Point Airport
Start Time (MST)	13:05
End Time (MST)	15:35

Calculated Conc.	Indicated Response	Correction Factor	Correlation Coefficient	Slope	Intercept
ppm	ppm		(≥ 0.995)		
0.0	0.0	N/A	0.999576	1.003022	-0.38285
11.5	10.8	1.0644	(0.85 to 1.15)		
21.1	20.5	1.0287	(± 3% F.S.)		
41.4	41.4	1.0000			



Notes:

01 Minute Averages



THC Calibration Report

Station Information			
Calibration Date:	May 29, 2013	Previous Calibration	May 6, 2013
Company:	Lakeland Industry & Community Association		
Plant / Location:	ELK Point Airport		
Start Time (MST)	9:35	End Time (MST)	
Reason:	Post repair calibration		
Barometric Pressure:	27.65 atm	Station Temperature:	21 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:	ESC8832	S/N :	AO717
Chart Recorder:	NA	S/N:	NA
Output Voltage Range:	0-10 VDC	Chart Speed:	NA mm/hr

Analyzer Information

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

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

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2000	0.0	0.0	-1.7	N/A
2000	0.0	0.0	0.0	N/A
2000	74.1	41.5	65.6	0.6323
2000	74.1	41.5	41.5	1.0000
2000	37.0	21.1	20.9	1.0090
2000	20.0	11.5	11.3	1.0173
2000	0.0	0.0	0.0	N/A
New Correction Factor:				1.0000

Percent Change

Previous Calibration Correction Factor:	1.0054
Current Correction Factor Before Span Adjust:	0.6323
Percent Change:	59.0%

IZS Calibration Data

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

Cylinder Pressures			
Span	1500 psi	Hydrogen 550 psi	Zero Air 33 psi

Notes: **N/A : Not Applicable**

Reading at analyzer was 65.6 but the data logger indicated 54.31 b/c the analyzer set to 50ppm max.

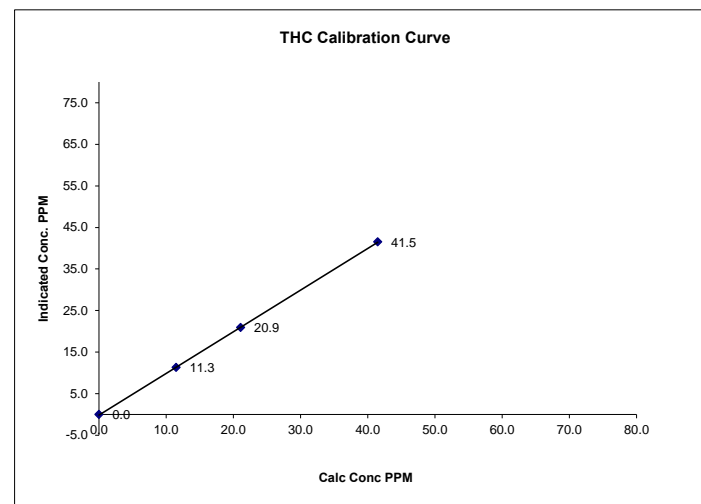
Daily span was not working. Adjust the gas pressure and 2nd start cal @ 1330 again.

Calibration Performed by: Limin Li / Waseem Ahmed

THC Calibration Curve

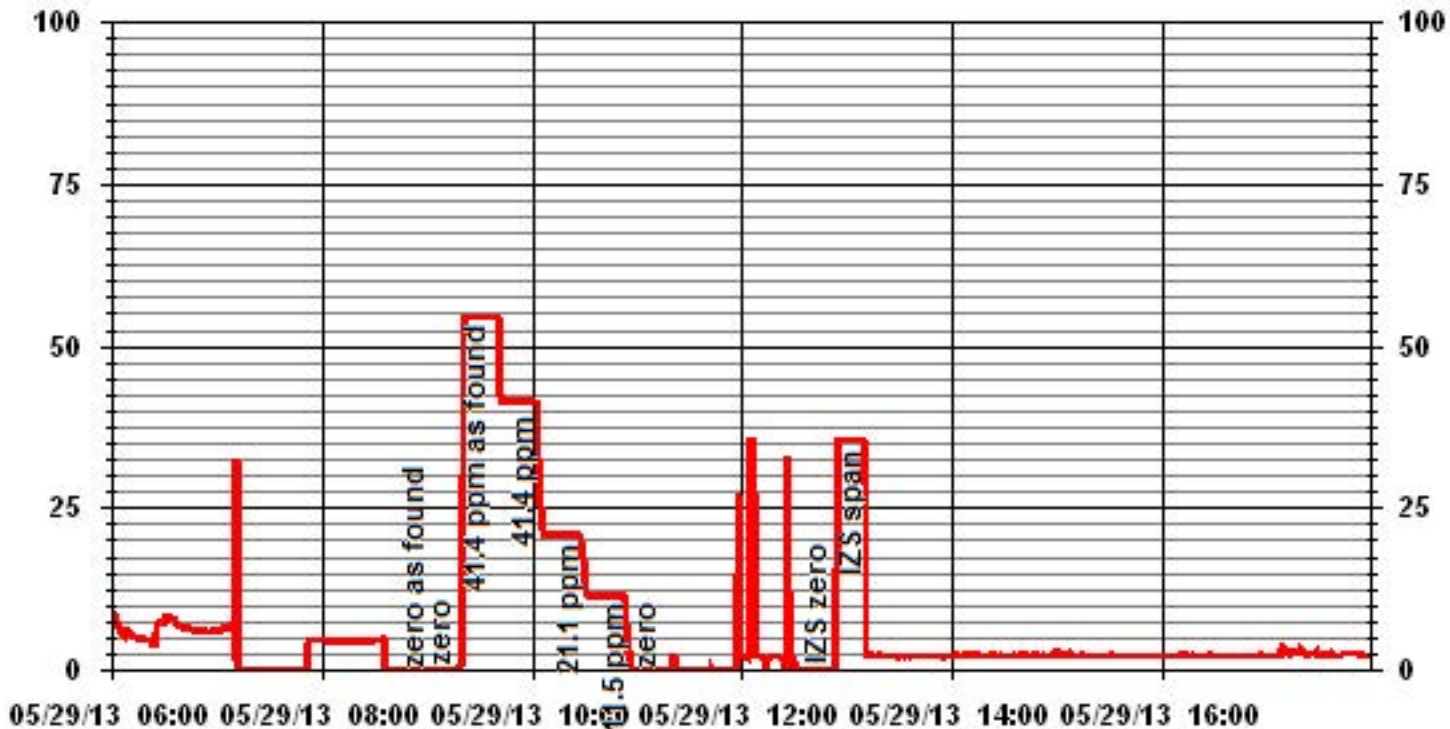
Calibration Date	May 29, 2013
Company	Lakeland Industry & Community Association
Plant / Location	ELK Point Airport
Start Time (MST)	9:35
End Time (MST)	

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient (≥ 0.995)	Slope (0.85 to 1.15)	Intercept (± 3% F.S.)
0.0	0.0	N/A	0.999955	1.001294	-0.11188
11.5	11.3	1.0173			
21.1	20.9	1.0090			
41.5	41.5	1.0000			



Notes:

01 Minute Averages



Total Hydrocarbons (55i)

Methane - Non Methane Hydrocarbon Calibration Report

Station Information

Calibration Date:	May 7, 2013	Previous Calibration	April 8, 2013
Company:	Lakeland Industry and Community Association		
Plant / Location:	ELK Point Airport		
Start Time (MST)	10:45	End Time (MST)	12:18
Reason:	Monthly calibration		
Barometric Pressure:	28.05 inHg	Station Temperature:	22.0 Deg C
Calibrator:	API700	S/N:	831
Cal Gas Concentration:	CH4 600 PPM	C3H8 204 PPM=	561 CH4
	Cyl. # LL155310	Cal Gas Expiry Date:	September 9, 2013
DAS make & Model:	ESC8832	S/N :	AO717
Chart Recorder:	N/A	S/N:	N/A
Output Voltage Range:	0-10	Chart Speed:	N/A cm/hr

Analyzer Information

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

Concentration Range (PPM)	CH4= 0-20		NMHC= 0-20		THC = 0-40	
	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	75.1	Deg C		
Flame Temp	371.7	Deg C	372.4	Deg C		
Box Temp	37.1	Deg C	37.4	Deg C		

Calibration Data

Gas Flows (sccm)		Calculated Concentration		Actual Concentration		Correction factors	
Dilution Flow	Cal Gas Flow	CH4	NMHC	CH4	NMHC	CH4	NMHC
3000	0.00	0.00	0.00	0.00	0.00	0.000	0.000
	No Zero Adj.						
2982	18.00	3.60	3.37	3.65	3.45	0.9863	0.9757
2982	18.00	3.60	3.37	3.59	3.34	1.0028	1.0078
2964	36.00	7.20	6.73	7.12	6.54	1.0112	1.0294
2991	9.00	1.80	1.68	1.88	1.80	0.9574	0.9350
3000	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000
Correction Factors:						1.0028	1.0078

Percent Change from Previous Calibration

	CH4	NMHC
Previous Calibration Correction Factor:	1.0028	0.9988
Current Correction Factor Before Span Adjust:	0.9863	0.9757
Percent Change:	1.7%	2.4%

IZS Calibration Data

		Before Calibration		After Calibration	
Auto Zero (ppm)	CH4	0.00	NMHC 0.00	CH4 0.00	NMHC 0.00
Auto Span (ppm)	CH4	10.82	NMHC 13.96	CH4 10.72	NMHC 13.56
Sample Lines Connected		YES			

Notes: Cylinder Pressures
 Span 1100 psi
 Hydrogen 2150 psi
 Zero Air 45 psi
 Nitrogen 1100 psi

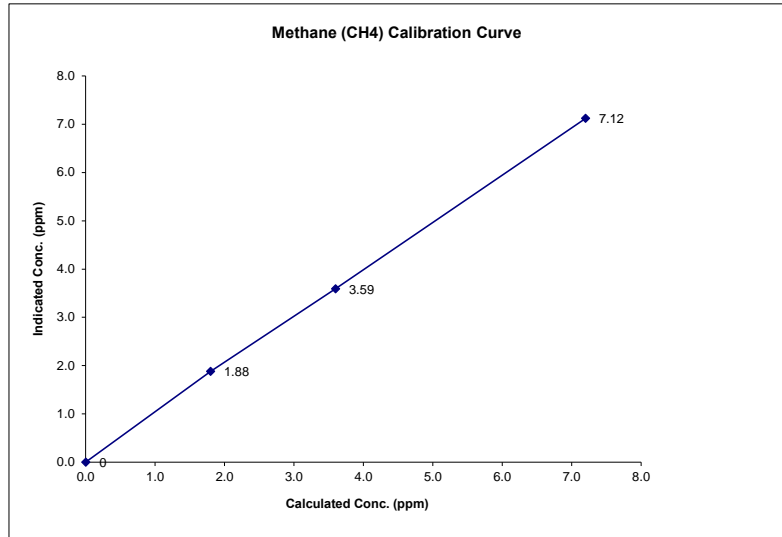
Notes: Change sample filter
 Install H2 cylinder after calibration.

Calibration Performed by: Waseem ahmed

Methane (CH4) Calibration Curve

Calibration Date	May 7, 2013		
Company	Lakeland Industry and Community Association		
Plant / Location	ELK Point Airport		
Start Time (MST)	10:45	End Time (MST)	12:18

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999776
0	0	0.0000	Slope	(0.85 to 1.15)	0.984603
1.80	1.88	0.9574	Intercept	(± 3% F.S.)	0.046000
3.60	3.59	0.9863			
7.20	7.12	1.0112			

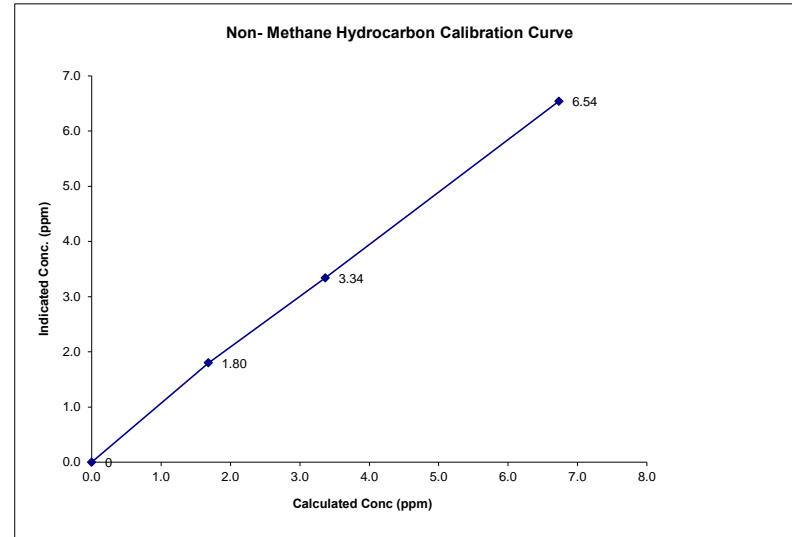


Notes:

Non-Methane Hydrocarbon Calibration Curve

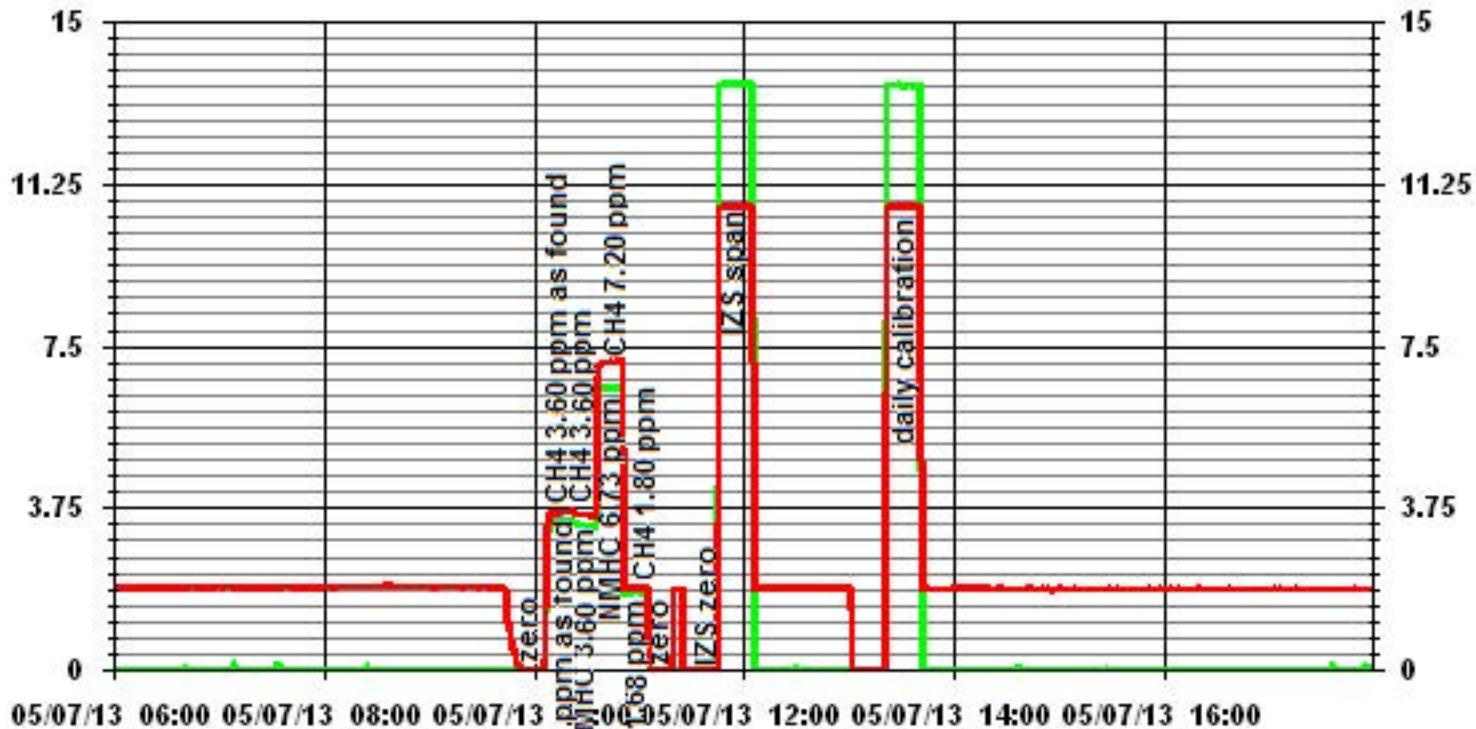
Calibration Date	May 7, 2013		
Company	Lakeland Industry and Community Association		
Plant / Location	ELK Point Airport		
Start Time (MST)	10:45	End Time (MST)	12:18

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.999262
0	0	0.0000	Slope	(0.85 to 1.15)	0.964264
1.68	1.80	0.9350	Intercept	(± 3% F.S.)	0.080000
3.37	3.34	0.9757			
6.73	6.54	1.0294			



Notes:

01 Minute Averages



— LICA35

METHANE

— LICA35

NMHC

PPM

Particulate Matter 2.5

TEOM 1405F Audit

	<u>Station</u>		<u>Audit Transfer Standard</u>
Date:	<u>May 2, 2013</u>	Make/Model:	<u>Fisher Brand</u>
Station Name:	<u>Lica Portable (CASA # 35)</u>	Serial Number:	<u>15-021B</u>
Location:	<u>Devon Wellsite 13-16-62-5 W4M</u>	Cell s/n:	<u>NA</u>
Operator:	<u>LICA</u>	Thermometer s/n:	<u>NA</u>
	<u>Sampler</u>		<u>Set-up and current Sampler readings</u>
Make/Model	<u>Thermo Scientific Series 1405F</u>	F-Main Set Pt (l/min)	<u>3.00</u>
Unit #	<u>NA</u>	F-Aux Set Pt (l/min)	<u>13.67</u>
Unit s/n	<u>1405A207691003</u>	Filter Load (%)	<u>21.2%</u>
Firmware Ver.	<u>1.52</u>	K _o Factor	<u>13125.0</u>
Parameter	<u>PM 2.5 (with FDMS)</u>	Temp (°C)	<u>16.0</u>
		Press (ATM)	<u>0.943</u>

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 <0.10 µg	<u>0.007</u>	Warnings	<u>None</u>
Pump Vacuum <0.40atm	<u>0.34</u>	Pump Gauge (inHg)	<u>-18</u>
Temperature/Pressure			
Measured Temp (± 2 °C)	<u>18.0</u>	D °C	<u>-2.0</u>
Measured Press (± 0.01atm)	<u>0.941</u>	DATM	<u>0.002</u>
Flow Audit			
Indicated Main Flow (l/min)	<u>3.00</u>	Main Flow Drift (±10.0%)	<u>0.25%</u>
Measured Main Flow (l/min)	<u>3.02</u>	Flow Adjusted to Measured?	<u>Yes</u>
Indicated Bypass Flow (l/min)	<u>13.67</u>	Bypass Flow Drift (±10.0%)	<u>1.55%</u>
Measured Bypass Flow (l/min)	<u>13.61</u>	Flow Adjusted to Measured?	<u>Yes</u>
Leak Check		Instrument Setup	
Main (< 0.15 l/min)	<u>Base=-0.03 Ref=-0.04</u>	<u>Flow Control = Active</u>	
Aux (< 0.6 l/min)	<u>Base=0.00 Ref=0.00</u>	<u>Report Conditions = Actual</u>	
K_o Factor			
Measured	<u>NA</u>		
K _o Difference (± 2.5%)	<u>NA</u>		

Start Time: 14:05 **Finish Time:** 15:05
Sample Inlet Cleaned: Yes **New Filters Installed:** Yes
Comments: **New Filter Loading %:** 17.8%

Auditor/s: Waseem Ahmed

TEOM 1405F Audit

Station	Audit Transfer Standard
Date: <u>May 15, 2013</u>	Make/Model: <u>Fisher Brand</u>
Station Name: <u>Lica Portable (CASA # 35)</u>	Serial Number: <u>15-021B</u>
Location: <u>Devon Wellsite 13-16-62-5 W4M</u>	Cell s/n: <u>NA</u>
Operator: <u>LICA</u>	Thermometer s/n: <u>NA</u>

Sampler	Set-up and current Sampler readings
Make/Model: <u>Thermo Scientific Series 1405F</u>	F-Main Set Pt (l/min) <u>3.00</u>
Unit #: <u>NA</u>	F-Aux Set Pt (l/min) <u>13.67</u>
Unit s/n: <u>1405A207691003</u>	Filter Load (%) <u>21.2%</u>
Firmware Ver.: <u>1.52</u>	K _o Factor <u>13125.0</u>
Parameter: <u>PM 2.5 (with FDMS)</u>	Temp (°C) <u>19.2</u>
	Press (ATM) <u>0.927</u>

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	<u>0.006</u>	Warnings	<u>None</u>
Pump Vacuum <0.40atm	<u>0.32</u>	Pump Gauge (inHg)	<u>-18</u>
Temperature/Pressure			
Measured Temp (± 2 °C)	<u>19.4</u>	D °C	<u>-0.2</u>
Measured Press (± 0.01atm)	<u>0.930</u>	DATM	<u>-0.003</u>
Flow Audit			
Indicated Main Flow (l/min)	<u>3.00</u>	Main Flow Drift (±10.0%)	<u>0.28%</u>
Measured Main Flow (l/min)	<u>2.98</u>	Flow Adjusted to Measured?	<u>Yes</u>
Indicated Bypass Flow (l/min)	<u>13.67</u>	Bypass Flow Drift (±10.0%)	<u>1.61%</u>
Measured Bypass Flow (l/min)	<u>13.66</u>	Flow Adjusted to Measured?	<u>Yes</u>
Leak Check		Instrument Setup	
Main (< 0.15 l/min)	<u>Base=-0.05 Ref=-0.05</u>	<u>Flow Control = Active</u>	
Aux (< 0.6 l/min)	<u>Base=0.00 Ref=0.00</u>	<u>Report Conditions = Actual</u>	
K_o Factor			
Measured	<u>NA</u>		
K _o Difference (± 2.5%)	<u>NA</u>		

Start Time: 13:45 Finish Time: 16:20

Sample Inlet Cleaned: no New Filters Installed: no

New Filter Loading %: na

Comments:

Auditor/s: Limin Li

Nitrogen Dioxide

NOx - NO- NO2 Calibration Report

Station Information

Calibration Date	May 6, 2013	Previous Calibration	April 2, 2013
Company	LICA	Plant/Location	ELK Point Airport
Start Time (MST)	10:50	End Time (MST)	16:20
Reason:	Monthly calibration		
Barometric Pressure	27.8 atm	Station Temperature	23 Deg C
Cal Gas Concentration	NOx 49.3 ppm	NO	49.2 ppm
Cal Gas Cylinder #	BAL3031	Cal Gas Expiry date	December 29, 2016
DAS Output Voltage	0-1 Volts	Chart Rec. Output	N/A Volts

Equipment Information

Analyzer Make / Model:	API 200E	S/N :	593	Method:	Chemiluminescent
Calibrator Make / Model:	EnviroNics 6100	S/N:	4760		
DAS Make / Model:	ESC 8832	S/N :	AO717		
Chart Recorder Make / Model:	N/A	S/N:	N/A		
Flow Meter:	EnviroNics 6100	S/N :	4760		

Analyzer Settings

Before Calibration				After Calibration			
Concentration Range	0-1000			ppb			
Sample Flow/Conv. Temp	477 ccm	315 Deg C		471 ccm	314 Deg C		
Ozone Flow / Vacuum	78 ccm	4.8 "Hg-A		77 ccm	4.7 "Hg-A		
HVPS / A ZERO	638 Volts	6.6 MV		638 Volts	7.0 MV		
Rx/ Temp / PMT Temp	50.0 Deg C	6.8 Deg C		50.0 Deg C	6.8 Deg C		
Box Temp / IZS Temp	31.6 Deg C	45.4 Deg C		34.5 Deg C	45.2 Deg C		
Offset	2 NOx	-0.1 NO		0.5 NOx	0.2 NO		
Slope	1.243 NOx	1.234 NO		1.320 NOx	1.298 NO		
NO2 COEF / Conv Efficiency	NA NO2	0.996		NA NO2	0.996		

Dilution Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration			Indicated Concentration			Correction Factor	
			NOx	NO	NO2	NOx	NO	NO2	NOx	NO
4994	0.0	NA	0	0	NA	-1	0	-1	NA	NA
4994	0.0	NA	0	0	NA	0	0	0	NA	NA
4915	79.8	NA	788	786	NA	740	746	-6	1.0630	1.0537
4915	79.8	NA	788	786	NA	787	783	4	0.9996	1.0039
4955	39.9	NA	394	393	NA	391	390	1	1.0046	1.0077
4975	19.8	NA	195	195	NA	197	196	1	0.9870	0.9951
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		
4915	79.8	NA	788	786	NA	788	785	4	NA	NA
4915	79.8	600	788	NA	513	792	276	516	0.9923	100.59%
		No adj								
4915	79.8	300	788	NA	249	792	540	252	0.9842	101.22%
4915	79.8	120	788	NA	106	793	683	109	0.9636	102.94%

Linearity	Sum of Least Squares		NOx= 1.002	NO= 1.004	NO2= 0.992
OK?	Yes	No	Correction Factors: NOx= 0.9996	NO= 1.0039	NO2= 0.9923
			Average Converter Efficiency= 101.59%		

IZS Calibration Data

Before Calibration					After Calibration				
Auto Zero	0.0 NOx	0.0 NO2			0.0 NOx	0.0 NO2			
Auto Span	563 NOx	555 NO2			605.5 NOx	591.7 NO2			
	Sample Lines Connected				YES				

Percent Change

	NOx	NO	NO2
Previous Month's Calibration Correction Factor	1.000	0.998	1.000
Current Correction Factor Before Span Adjust	1.063	1.054	0.992
Percent Change	-5.9%	-5.3%	0.8%

Notes

NA : Not Applicable O3 = 450, Nox=792 NO=393 NO2= 398

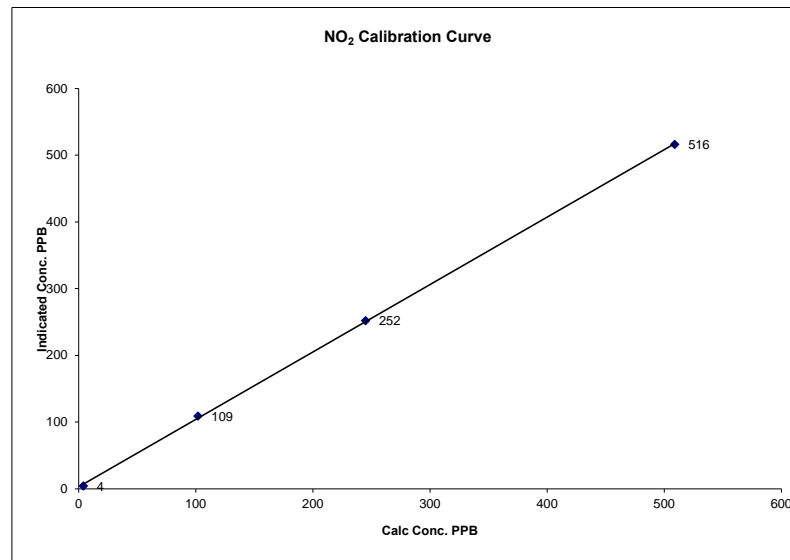
Change sample filter,
Daily cal 1400-1408

Calibration Performed by: Waseem Ahmed

NO2 Calibration Curve

Calibration Date	May 6, 2013
Company	LICA
Plant / Location	ELK Point Airport
Start Time (MST)	10:50
End Time (MST)	16:20

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient Slope	(≥ 0.995) (0.85 to 1.15)	0.999853
4	4	NA	Intercept	(± 3% F.S.)	3.05430
102	109	0.9358			
245	252	0.9722			
509	516	0.9864			

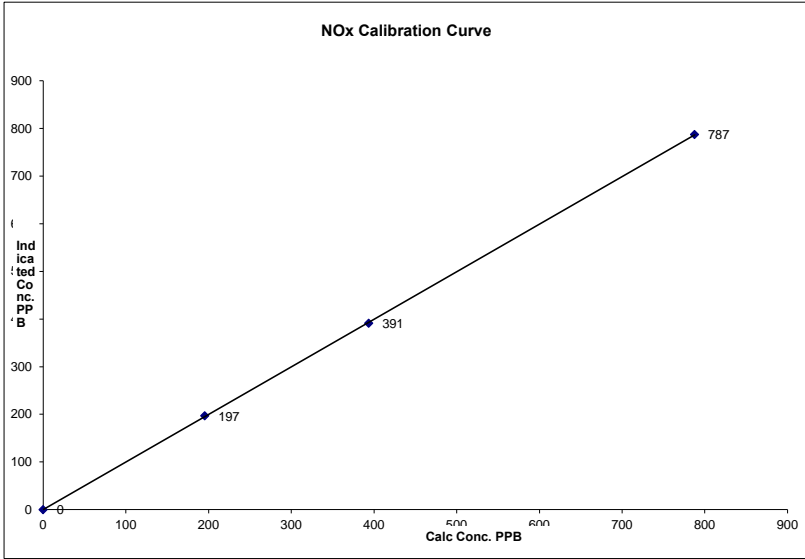


Notes:

NOx Calibration Curve

Calibration Date	May 6, 2013	
Company	LICA	
Plant / Location	ELK Point Airport	
Start Time (MST)	10:50	End Time (MST) 16:20

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999975
0	0	NA	Slope (0.85 to 1.15)	0.998057
195	197	0.9870	Intercept (± 3% F.S.)	0.19526
394	391	1.0046		
788	787	0.9996		

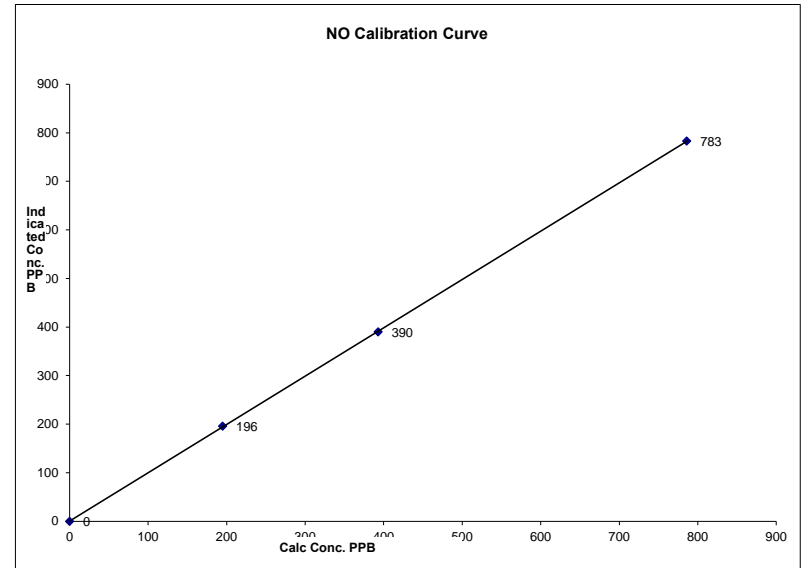


Notes:

NO Calibration Curve

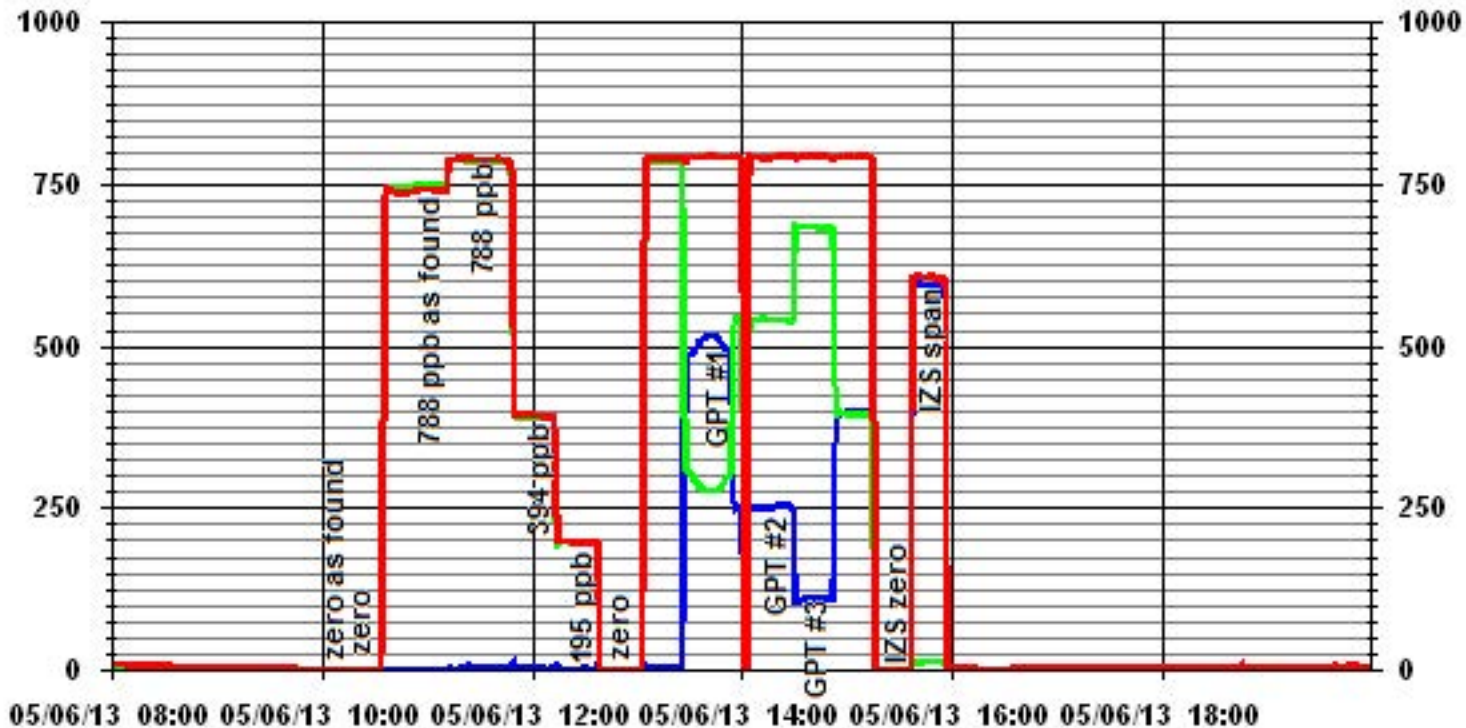
Calibration Date	May 6, 2013	
Company	LICA	
Plant / Location	ELK Point Airport	
Start Time (MST)	10:50	End Time (MST) 16:20

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999986
0	0	NA	Slope (0.85 to 1.15)	0.995147
195	196	0.9951	Intercept (± 3% F.S.)	0.39199
393	390	1.0077		
786	783	1.0039		



Notes:

01 Minute Averages



— LICA35 IIOX_ PPB

— LICA35 IIO_ PPB

— LICA35 IIO2_ PPB

Ozone

O₃ Calibration Report

Station Information

Calibration Date	May 7, 2013	Previous Calibration	April 8, 2013
Company	Lakeland Industry & Community Association		
Plant / Location	EIK Point Airport		
Start Time (MST)	10:30	End Time (MST)	12:50
Reason:	Monthly Calibration		
Barometric Pressure	28.05 atm	Station Temperature	22 Deg C
DAS Output Voltage	0-10 Volts		

Equipment Information

Analyzer Make / Model:	Thermo 49i	S/N :	1002240372	Method:	Photometric
Calibrator Make / Model:	Enviro-nics 6100	S/N :	4760	Method:	GPT
DAS Make / Model:	ESC 8832	S/N :	AO717		

Analyzer Settings

Before Calibration				After Calibration			
Concentration Range	0-500 ppb						
Cell A Flow / Cell B Flow	756 LPM	762 LPM		759 LPM	762 LPM		
O ₃ Set Level	699 mmHg			699 mmHg			
Bench Lamp	54 Deg C			54 Deg C			
O ₃ Lamp / Box Temp	68.2 Deg	31.7 Deg C		68.2 Deg C	31.4 Deg C		
Offset / Slope	-0.2	1.016		-0.2	0.976		

Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
4994	0	0	0	N/A
	No zero adj			
4994	450	392	408	0.9608
4994	450	392	392	1.0000
4994	300	245	263	0.9316
4994	120	102	105	0.9714
4994	0	0	0	N/A
Sum of Least Squares				0.9794
New Correction Factor				1.0000

IZS Calibration Data

Before Calibration		After Calibration	
Auto Zero	0.0	Auto Zero	0.0
Auto Span	362	Auto Span	410
Sample Lines Connected		Sample Lines Connected	Yes
Previous Calibration Correction Factor:		Previous Calibration Correction Factor:	0.9905
Current Correctio Factor Before Span Adjust:		Current Correctio Factor Before Span Adjust:	0.9608
Percent Change:		Percent Change:	3.1%

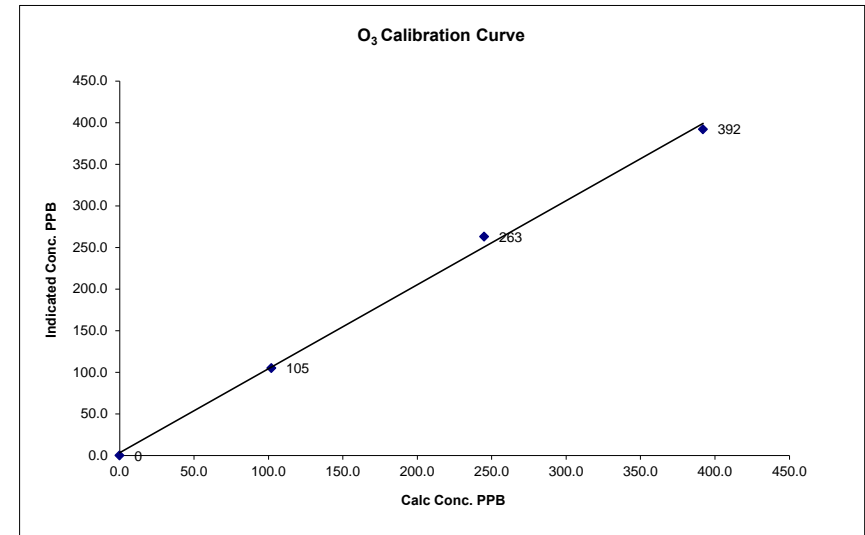
Note: N/A : Not Applicable
Change sample filter

Calibration Performed by: Waseem Ahmed

O₃ Calibration Curve

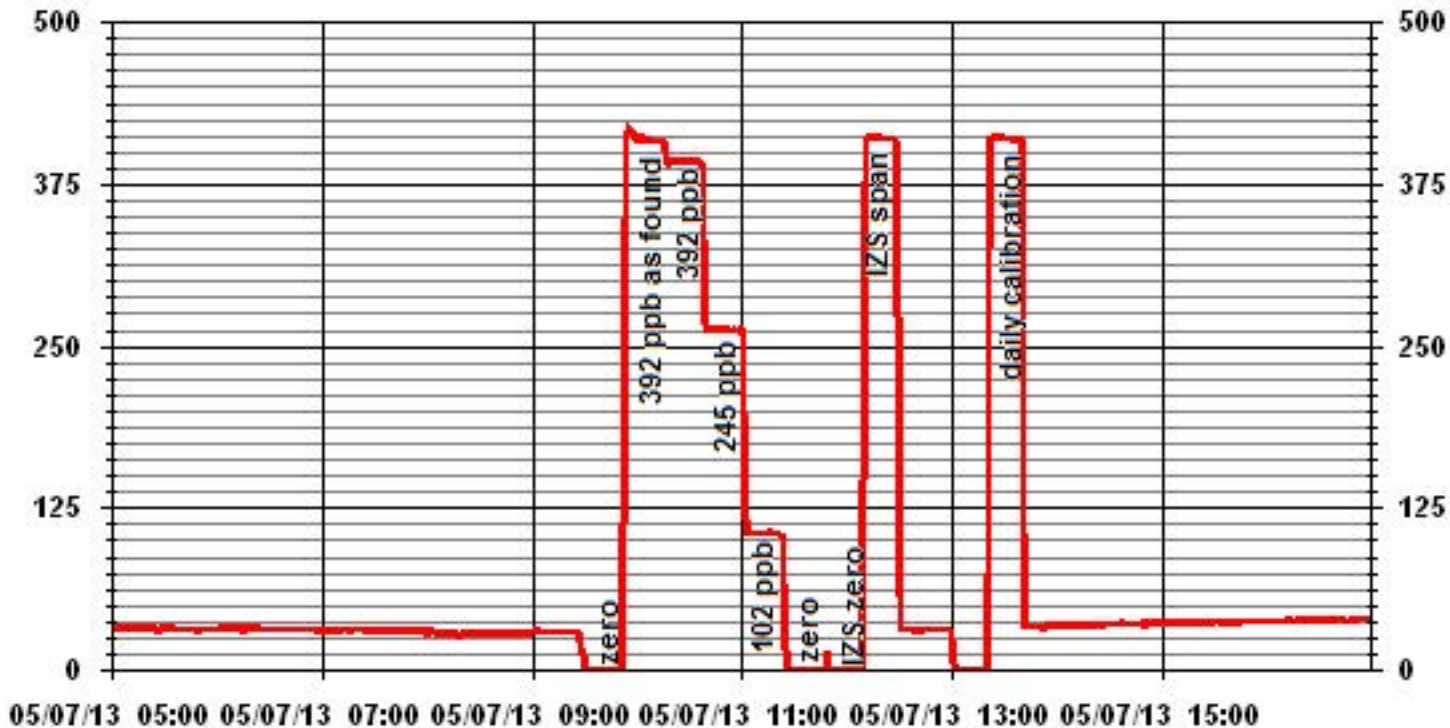
Calibration Date	May 7, 2013
Company	Lakeland Industry & Community Association
Plant / Location	EIK Point Airport
Start Time (MST)	10:30
End Time (MST)	12:50

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	
0	0	N/A	Slope (0.85 to 1.15)	0.997599
102	105	0.9714	Intercept (± 3% F.S.)	1.009550
245	263	0.9316		3.485583
392	392	1.0000		



Notes:

01 Minute Averages



01 Minute Averages

