Lakeland Industry & Community Association

Cold Lake Monitoring Site
Ambient Air Monitoring
Data Report
For
October 2008

Prepared By:

Maxxam Analytics Inc

Driven by Service and Science

November 20, 2008

Lakeland Industry & Community Association
Ambient Air Monitoring

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Introduction

The following Ambient Air Monitoring report was prepared for:

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

Monitoring Location: Cold Lake
Data Period: October 2008

The monthly ambient data report:

- Prepared by Lily Lin
- Reviewed by Craig Snider

The monthly analytical report for passive monitoring:
Authorized by Levi Manchak

Calibration Procedure

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

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

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

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

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

MONTHLY CONTINUOUS DATA SUMMARY
LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

Continuous Ambient Monitoring – October 2008

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	57	0	0	0.14	4	29	13	2.6	149(SSE)	0.7	22	99.7
TRS (PPB)	-	-	-	-	0.00	0	ALL	ALL	VAR	VAR	0.0	ALL	99.5
NO_2 (PPB)	212	106	0	0	3.96	23	29	18	0.2	289(WNW)	13.9	29	99.7
NO (PPB)	-	-	-	-	1.62	64	28	8	0.6	69(ENE)	15.0	28	99.7
NOx (PPB)	-	-	-	-	5.83	82	28	8	0.6	69(ENE)	28.1	28	99.7
O_3 (PPB)	82	-	0	-	21.62	44	3	16	6.4	140(SE)	32.0	25	99.9
THC (PPM)	-	-	-	-	1.78	3.6	29	8	0.1	191(S)	2.5	29	99.7
PM 2.5 (UG/M^3)	-	30	-	0	3.04	19.9	29	18	0.2	289(WNW)	11.1	8	99.5
TEMPERATURE (DEG C)	-	-	-	-	5.15	25.2	23	14	18.4	276(W)	17.3	23	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	61.49	95.6	5	9	9.8	120(ESE)	89.7	8	100.0
VECTOR WS (KPH)	-	-	-	-	7.03	31.1	25	15	-	303(WNW)	18.3	25	99.9
VECTOR WD (DEGREES)	-	-	-	-	268(W)	-	-	-	-	-	-	-	99.9

VAR-VARIOUS

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

Passive Ambient Monitoring Network – October 2008

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PASSIVE NETWORK			
NETWORK MAXIMUM			NETWORK AVERAGE
PARAMETER	STATION	READING (PPB)	READING (PPB)
NO_2	#28	7.8	2.6
SO_2	#14	1.5	0.3
H_2S	#27	0.32	0.14
O_3	#8	27.6	22.1

General Monthly Summary - Cold Lake

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

Sulphur Dioxide (PPB)

- Analyzer make / model - TECO 43A

No operational issues during the month. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information.

Total Reduced Sulphur (PPB)

- Analyzer make / model -TECO 43A
- Converter - CD NOVA CDN 101

A new SO2 scrubber material and packing were installed on the analyzer October 1st. However, after the replacement, the readings could not stabilize and the analyzer response was slow. Thus, the old packing and scrubber material were put back and allowed the analyzer time to stabilize. The analyzer response was back to normal. The post-repair calibration was performed on October 2nd. A permeation tube was replaced due to the TRS span was 17% lower than expected value on October 28th. The inlet filter was changed before the monthly calibration was started.

General Monthly Summary - Cold Lake

AQM STATION – LICA – COLD LAKE

Total HydroCarbon (PPM)

- Analyzer make / model -TECO 51C-LT

No operational issues during the month. The CH4 span gas cylinder was replaced on October 1st. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information.

Nitrogen Dioxide (PPB)

- Analyzer make / model - TECO 42C

No operational issues during the month. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information.

Ozone (PPB)

- Analyzer make / model - TECO 49I

No operational issues during the month. The pump was rebuilt following an as found point on October 1st, and the charcoal in the exhaust scrubber was replaced during the pump rebuild. The inlet filter was changed before the monthly calibration was started.

Particulate Matter 2.5 (ug/m^3)

- Analyzer make / model - TEOM 1400A

No operational issues during the month. The TEOM audit was performed on October 2nd, 2008. Four hours of data were invalidated as it was below –3.0 ug/m^3.

General Monthly Summary - Cold Lake

AQM STATION – LICA – COLD LAKE

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

- System make / model – RM Young 5103VK

No operational issues observed during the month. The Met One 50.5 wind system was checked using the zero/span method in the manual. A Maxxam-Owned RM Young 5103VK (S/N# 2068) wind system was installed as a temporary replacement for the AENV-Owned Met One 50.5 wind system which was shipped to the manufacturer for factory calibration on October 10th.

Relative Humidity (PERCENT)

- System make / model - Rotronic Hygroclip-S3

No operational issues observed during the month.

Ambient Temperature (DEGC)

- System make / model - Rotronic Hygroclip-S3

No operational issues observed during the month.

Trailer Temperature (DEGC)

- System make / model - R&R 61

No operational issues observed during the month.

Datalogger

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

The ESC 8832 is connected to a modem with DSL for continuous connection with the base computer. The modem hung up several times and needed to be reset during this month. No data was lost and affected by this issue.

General Monthly Summary - Cold Lake

AQM STATION – LICA – COLD LAKE

Trailer
No operational issues during the month. The manifold and inlet lines were cleaned on October 2nd. A/C heat exchanger and filters on the Bard HVAC unit were cleaned and throw-away filter was replaced on October 2nd.

Air Quality Index (AQI)
The AQI data was adjusted to reflect regular monthly and daily calibrations, maintenance, and downtime. All AQI values recorded in October were within the good range.

Passive Network
The result of the sample #5 H2S duplicate sampling showed large variation in the concentration result. The field and laboratory data was reviewed, but failed to provide information on the reason for the discrepancies. Due to the large variation, the H2S duplicate was not utilized in the data reporting.

Continuous Monitoring

Cold Lake

Monthly Summaries, Graphs & Wind Roses

Air Quality Index

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER2008

AIR QUALITY INDEX (AQI)

MST

HOUR START HOUR END	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	23:00 0:00	DAILY MAX.
DAY																									
1	6 O3_	4 O3_	2 O3_	1 O3_	1 O3_	2 PM2	4 PM2	5 PM2	7 PM2	- **NA**	13 O3_	16 O3_	19 O3_	- **NA**	- **NA**	- **NA**	- **NA**	10 O3_	7 PM2	5 PM2	8 PM2	8 PM2	7 PM2	6 PM2	19 O3_
2	6 PM2	5 PM2	4 PM2	3 PM2	3 PM2	3 PM2	4 PM2	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	16 O3_	17 O3_	16 O3_	15 O3_	10 O3_	13 PM2	11 O3_	7 PM2	6 PM2	12 O3_	16 O3_	17 O3_
3	15 O3_	14 O3_	14 O3_	10 O3_	7 O3_	9 O3_	11 O3_	- **NA**	13 PM2	11 O3_	12 O3_	16 O3_	18 O3_	20 O3_	21 O3_	21 O3_	**22** **O3_**	**22** **O3_**	16 O3_	18 O3_	17 O3_	16 O3_	16 O3_	16 O3_	22 O3_
4	15 O3_	15 O3_	14 O3_	13 O3_	13 O3_	12 O3_	- **NA**	11 O3_	13 O3_	13 O3_	14 O3_	15 O3_	16 O3_	18 O3_	18 O3_	17 O3_	18 O3_	19 O3_	19 O3_	19 O3_	18 O3_	18 O3_	19 O3_	20 O3_	20 O3_
5	20 O3_	20 O3_	20 O3_	19 O3_	18 O3_	- **NA**	16 O3_	15 O3_	14 O3_	12 O3_	12 O3_	12 O3_	12 O3_	12 O3_	12 O3_	11 O3_	10 O3_	9 O3_	9 O3_	8 O3_	8 O3_	7 O3_	- **NA**	- **NA**	20 O3_
6	- **NA**	13 O3_	13 O3_	13 O3_	- **NA**	12 O3_	11 O3_	10 O3_	12 O3_	12 O3_	13 O3_	13 O3_	14 O3_	14 O3_	14 O3_	15 O3_	15 O3_	15 O3_	13 O3_	7 O3_	5 O3_	3 O3_	3 O3_	3 O3_	15 O3_
7	3 O3_	3 O3_	3 O3_	- **NA**	2 PM2	1 PM2	3 O3_	7 O3_	10 O3_	12 O3_	12 O3_	12 O3_	11 O3_	11 O3_	12 O3_	12 O3_	11 O3_	9 O3_	10 O3_	10 O3_	6 O3_	6 O3_	5 O3_	7 O3_	12 O3_
8	6 O3_	6 O3_	- **NA**	6 O3_	9 O3_	10 O3_	10 O3_	9 O3_	8 O3_	8 O3_	8 O3_	9 O3_	9 O3_	9 O3_	10 O3_	10 O3_	10 O3_	11 O3_	10 O3_	10 O3_	11 O3_	12 O3_	12 O3_	12 O3_	12 O3_
9	12 O3_	- **NA**	11 O3_	10 O3_	7 O3_	9 O3_	8 O3_	8 O3_	8 O3_	9 O3_	10 O3_	11 O3_	12 O3_	14 O3_	13 O3_	12 O3_	11 O3_	10 O3_	9 O3_	8 O3_	7 O3_	7 O3_	6 O3_	5 O3_	14 O3_
10	- **NA**	4 O3_	3 O3_	2 O3_	3 O3_	2 O3_	4 O3_	10 O3_	9 O3_	10 O3_	10 O3_	11 O3_	11 O3_	12 O3_	13 O3_	13 O3_	12 O3_	11 O3_	11 O3_	10 O3_	10 O3_	6 O3_	4 O3_	- **NA**	13 O3_
11	4 O3_	3 O3_	2 O3_	2 O3_	2 O3_	0 0	1 O3_	2 PM2	7 PM2	6 O3_	11 O3_	12 O3_	14 O3_	14 O3_	15 O3_	14 O3_	14 O3_	13 O3_	12 O3_	11 O3_	11 O3_	10 O3_	- **NA**	10 O3_	15 O3_
12	10 O3_	9 O3_	9 O3_	10 O3_	11 O3_	11 O3_	10 O3_	10 O3_	11 O3_	12 O3_	13 O3_	14 O3_	15 O3_	15 O3_	16 O3_	16 O3_	15 O3_	14 O3_	10 O3_	8 O3_	4 O3_	- **NA**	3 O3_	2 O3_	16 O3_
13	2 O3_	1 O3_	1 O3_	1 PM2	3 PM2	1 PM2	1 PM2	7 PM2	5 O3_	7 O3_	9 O3_	13 O3_	15 O3_	16 O3_	17 O3_	18 O3_	17 O3_	16 O3_	14 O3_	12 O3_	- **NA**	11 O3_	9 O3_	8 O3_	18 O3_
14	7 O3_	6 O3_	8 O3_	9 O3_	10 O3_	11 O3_	12 O3_	15 O3_	16 O3_	16 O3_	17 O3_	17 O3_	17 O3_	18 O3_	17 O3_	17 O3_	18 O3_	17 O3_	17 O3_	- **NA**	16 O3_	13 O3_	13 O3_	14 O3_	18 O3_
15	13 O3_	13 O3_	12 O3_	12 O3_	11 O3_	10 O3_	9 O3_	9 O3_	11 O3_	12 O3_	14 O3_	16 O3_	17 O3_	18 O3_	18 O3_	18 O3_	18 O3_	18 O3_	- **NA**	16 O3_	13 O3_	13 O3_	11 O3_	9 O3_	18 O3_
16	8 O3_	5 O3_	3 PM2	3 PM2	2 PM2	2 PM2	3 PM2	6 PM2	10 PM2	12 O3_	14 O3_	14 O3_	15 O3_	16 O3_	18 O3_	18 O3_	17 O3_	- **NA**	7 O3_	6 O3_	5 O3_	2 PM2	5 PM2	7 O3_	18 O3_
17	6 O3_	7 O3_	8 O3_	9 O3_	10 O3_	10 O3_	11 O3_	10 O3_	8 O3_	9 O3_	11 O3_	11 O3_	13 O3_	14 O3_	15 O3_	15 O3_	- **NA**	7 O3_	3 PM2	3 PM2	5 PM2	4 PM2	3 PM2	1 PM2	15 O3_
18	5 O3_	11 O3_	12 O3_	9 O3_	9 O3_	13 O3_	11 O3_	13 O3_	13 O3_	14 O3_	15 O3_	16 O3_	16 O3_	17 O3_	17 O3_	- **NA**	17 O3_	16 O3_	14 O3_	18 O3_	18 O3_	17 O3_	15 O3_	13 O3_	18 O3_
19	13 O3_	12 O3_	13 O3_	11 O3_	12 O3_	9 O3_	10 O3_	9 O3_	11 O3_	12 O3_	13 O3_	14 O3_	16 O3_	17 O3_	- **NA**	18 O3_	17 O3_	14 O3_	12 O3_	13 O3_	13 O3_	14 O3_	15 O3_	14 O3_	18 O3_
20	14 O3_	14 O3_	14 O3_	14 O3_	14 O3_	14 O3_	13 O3_	13 O3_	13 O3_	14 O3_	14 O3_	15 O3_	14 O3_	- **NA**	15 O3_	15 O3_	14 O3_	13 O3_	13 O3_	12 O3_	7 O3_	8 O3_	8 O3_	5 O3_	15 O3_
21	5 O3_	9 O3_	11 O3_	13 O3_	13 O3_	13 O3_	11 O3_	11 O3_	14 O3_	15 O3_	17 O3_	17 O3_	- **NA**	18 O3_	18 O3_	18 O3_	18 O3_	18 O3_	18 O3_	17 O3_	16 O3_	13 O3_	14 O3_	15 O3_	18 O3_
22	14 O3_	15 O3_	13 O3_	12 O3_	13 O3_	10 O3_	4 O3_	8 O3_	10 O3_	13 O3_	15 O3_	- **NA**	18 O3_	17 O3_	18 O3_	18 O3_	17 O3_	18 O3_	17 O3_	17 O3_	17 O3_	17 O3_	16 O3_	16 O3_	18 O3_
23	16 O3_	16 O3_	15 O3_	14 O3_	13 O3_	13 O3_	14 O3_	18 O3_	19 O3_	19 O3_	- **NA**	19 O3_	19 O3_	19 O3_	19 O3_	19 O3_	19 O3_	16 O3_	13 O3_	15 O3_	13 O3_	14 O3_	14 O3_	11 O3_	19 O3_
24	8 O3_	3 O3_	4 O3_	5 O3_	2 O3_	5 O3_	12 O3_	9 O3_	8 O3_	- **NA**	14 O3_	19 O3_	20 O3_	20 O3_	19 O3_	19 O3_	17 O3_	16 O3_	17 O3_	17 O3_	18 O3_	17 O3_	17 O3_	16 O3_	20 O3_
25	15 O3_	14 O3_	15 O3_	15 O3_	16 O3_	16 O3_	15 O3_	14 O3_	- **NA**	15 O3_	17 O3_	18 O3_	17 O3_	18 O3_	- **NA**	18 O3_	18 O3_	17 O3_	17 O3_	16 O3_	17 O3_	17 O3_	17 O3_	15 O3_	18 O3_
26	15 O3_	15 O3_	15 O3_	14 O3_	15 O3_	15 O3_	15 O3_	- **NA**	15 O3_	15 O3_	15 O3_	16 O3_	16 O3_	16 O3_	16 O3_	16 O3_	15 O3_	14 O3_	8 O3_	9 O3_	6 O3_	6 O3_	9 O3_	11 O3_	16 O3_
27	11 O3_	13 O3_	13 O3_	13 O3_	12 O3_	11 O3_	- **NA**	12 O3_	12 O3_	12 O3_	12 O3_	12 O3_	12 O3_	12 O3_	12 O3_	12 O3_	8 O3_	4 O3_	4 PM2	5 PM2	6 PM2	7 PM2	6 PM2	6 PM2	13 O3_
28	5 PM2	5 PM2	5 PM2	5 PM2	5 PM2	- **NA**	6 PM2	6 PM2	9 PM2	11 PM2	10 O3_	12 O3_	12 O3_	14 O3_	11 O3_	9 O3_	7 PM2	9 PM2	8 PM2	9 PM2	10 PM2	10 PM2	11 PM2	10 PM2	14 O3_
29	9 PM2	7 PM2	7 PM2	7 PM2	- **NA**	7 PM2	8 PM2	7 PM2	9 PM2	10 PM2	9 PM2	10 PM2	10 PM2	12 O3_	15 PM2	8 PM2	8 PM2	10 PM2	**17** **PM2**	11 PM2	11 PM2	12 PM2	13 O3_	15 O3_	17 PM2
30	15 O3_	16 O3_	18 O3_	- **NA**	15 O3_	14 O3_	13 O3_	11 O3_	12 O3_	13 O3_	14 O3_	15 O3_	16 O3_	16 O3_	16 O3_	16 O3_	15 O3_	6 O3_	5 O3_	3 PM2	7 PM2	5 PM2	6 O3_	12 O3_	18 O3_
31	14 O3_	13 O3_	- **NA**	12 O3_	11 O3_	11 O3_	10 O3_	9 O3_	9 O3_	11 O3_	12 O3_	13 O3_	14 O3_	14 O3_	14 O3_	14 O3_	13 O3_	13 O3_	13 O3_	13 O3_	13 O3_	13 O3_	12 O3_	12 O3_	14 O3_
PEAK	20 O3_	20 O3_	20 O3_	19 O3_	18 O3_	16 O3_	16 O3_	18 O3_	19 O3_	19 O3_	17 O3_	19 O3_	20 O3_	20 O3_	21 O3_	21 O3_	22 O3_	22 O3_	19 O3_	19 O3_	18 O3_	18 O3_	19 O3_	20 O3_	

STATUS FLAG CODES	NA - NOT APPLICABLE

V - VARIOUS

AQI CLASS	OZONE (O_3)					PARTICULATE MATTER 2.5 (PM2)					NITROGEN DIOXIDE (NO_2)					SULPHUR DIOXIDE (SO_2)					FREQUENCY	
	HRS	%	MAX AQI	HR	DAY	HRS	%	MAX AQI	HR	DAY	HRS	%	MAX AQI	HR	DAY	HRS	%	MAX AQI	HR	DAY	HRS	%
VERY POOR (101-255)	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%
POOR (51-100)	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%
FAIR (26-50)	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%
GOOD (1-25)	607	81.6%	22	16, 17	3	91	12.2%	17	18	29	0	0.0%	-	-	-	0	0.0%	-	-	-	698	93.8%
OVERALL	607	81.6%	-	-	-	91	12.2%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	698	93.8%
UNAVAILABLE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46	6.2%

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2008

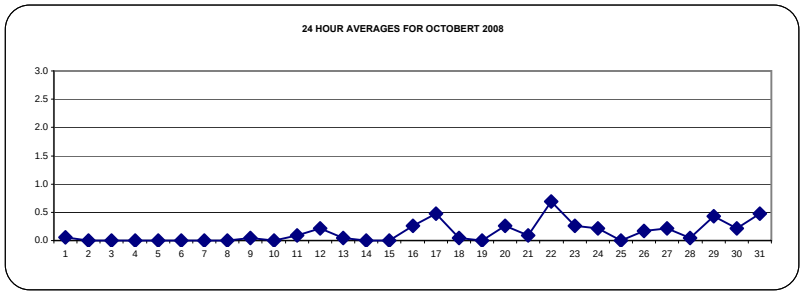
SULPHUR DIOXIDE (SO_2) hourly averages in ppb

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	**C**	**C**	**C**	**C**	**C**	1	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
2	0	0	0	0	0	0	0	0	**IZS**	0	0	**M**	**M**	0	0	0	0	0	0	0	0	0	0	0	0	0.0	22
3	0	0	0	0	0	0	0	**IZS**	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	**IZS**	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	**IZS**	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	**IZS**	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	**IZS**	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	**IZS**	0	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	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0.0	24
10	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0.0	24
11	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	1	0.1	24
12	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	1	0	0	0	**IZS**	0	0	1	0.2	24
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	1	1	0.0	24
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	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	**IZS**	0	0	0	0	0	0	0.0	24
16	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1	1	1	**IZS**	0	0	0	0	0	0	1	0.3	24
17	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	**IZS**	0	0	0	0	0	0	0	1	0.5	24
18	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	1	0.0	24
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0.0	24
20	0	0	1	3	1	0	0	0	0	0	0	0	1	**IZS**	0	0	0	0	0	0	0	0	0	0	3	0.3	24
21	0	1	1	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
22	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	1	1	2	3	1	1	1	1	1	1	2	3	**0.7**	24
23	1	1	1	1	1	1	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24
24	0	0	0	0	0	0	0	0	0	**IZS**	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0.2	24
25	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
26	0	0	0	1	0	0	0	**IZS**	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.2	24
27	0	0	0	0	0	0	**IZS**	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0.2	24
28	0	0	0	0	0	**IZS**	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
29	0	0	0	0	**IZS**	0	0	0	0	0	0	1	2	**4**	1	0	0	0	0	0	0	2	0	0	**4**	0.4	24
30	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	1	1	0	1	0.2	24
31	0	0	**IZS**	0	0	1	0	0	0	1	1	1	1	1	1	0	0	1	0	1	0	0	1	1	1	0.5	24
HOURLY MAX	1	1	1	3	1	1	NA	1	1	1	1	1	2	4	1	2	3	1	1	1	1	2	1	2			
HOURLY AVG	0.0	0.1	0.1	0.2	0.1	0.1	NA	0.0	0.1	0.2	0.2	0.3	0.3	0.4	0.2	0.2	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.2			

STATUS FLAG CODES

S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

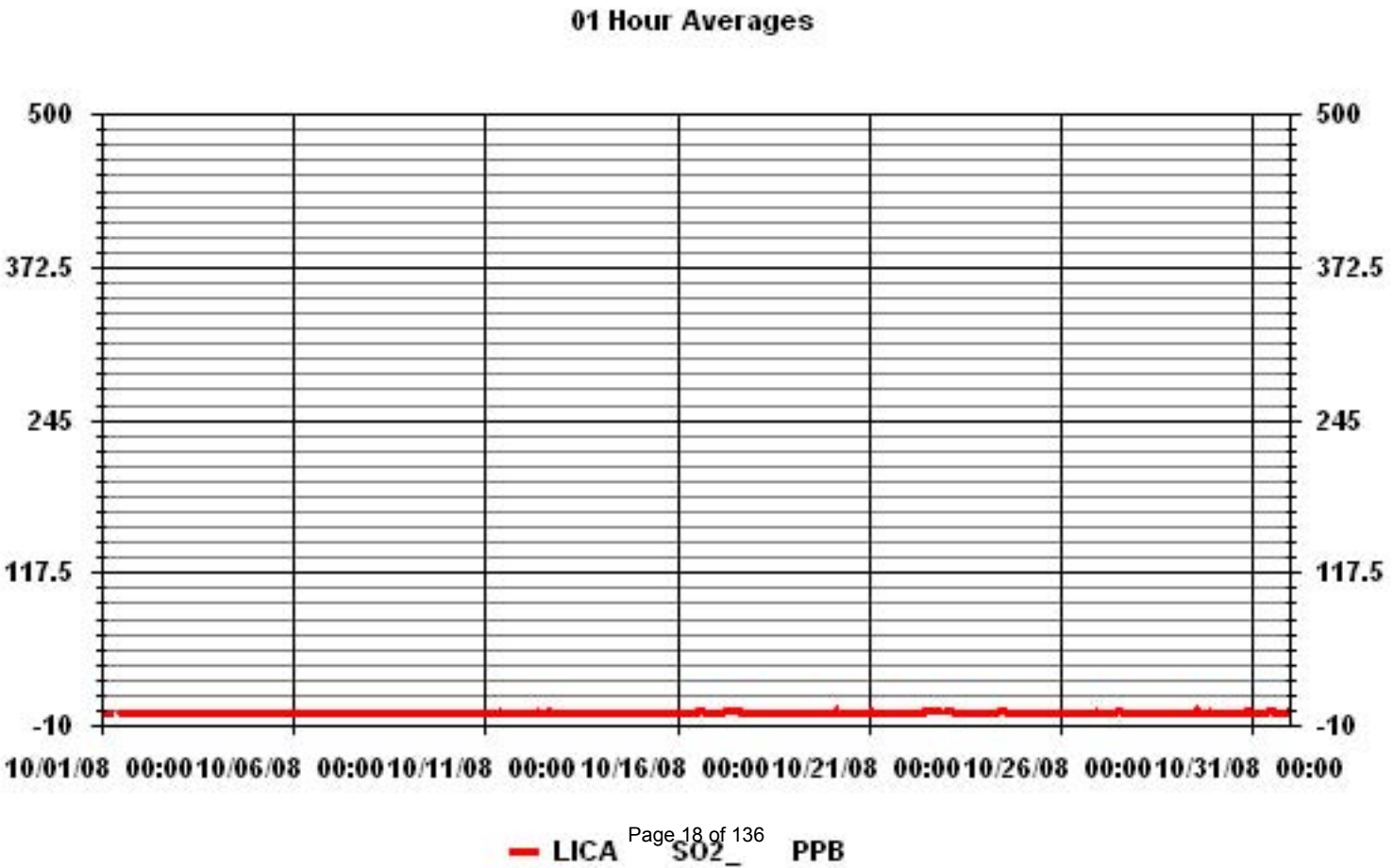


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB | 24-HR 57 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	88					
MAXIMUM 1-HR AVERAGE:	4	PPB	@ HOUR(S)	13	ON DAY(S)	29
MAXIMUM 24-HR AVERAGE:	0.7	PPB			ON DAY(S)	22

IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	742	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:	99.7	%
STANDARD DEVIATION:	0.41		MONTHLY AVERAGE:	0.14	PPB


01 Hour Averages
500
372.5
245
117.5
-10
10/01/08 00:00
10/06/08 00:00
10/11/08 00:00
10/16/08 00:00
10/21/08 00:00
10/26/08 00:00
10/31/08 00:00
LICA SO2_ PPB

LICA
SO2_ / WDR Joint Frequency Distribution (Percent)

October 2008

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	.85	1.99	1.56	2.13	6.56	10.84	11.84	3.42	3.13	2.99	7.27	12.55	14.97	13.40	5.27	1.14	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	.85	1.99	1.56	2.13	6.56	10.84	11.84	3.42	3.13	2.99	7.27	12.55	14.97	13.40	5.27	1.14	

Calm : .00 %

Total # Operational Hours : 701

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	20	6	14	11	15	46	76	83	24	22	21	51	88	105	94	37	8	701
<	60																	
<	110																	
<	170																	
<	340																	
>=	340																	
	Totals	6	14	11	15	46	76	83	24	22	21	51	88	105	94	37	8	

Calm : .00 %

Total # Operational Hours : 701

Logger : 01 Parameter : SO2_

Class Limits (PPB)

>= 340

< 340

< 170

< 110

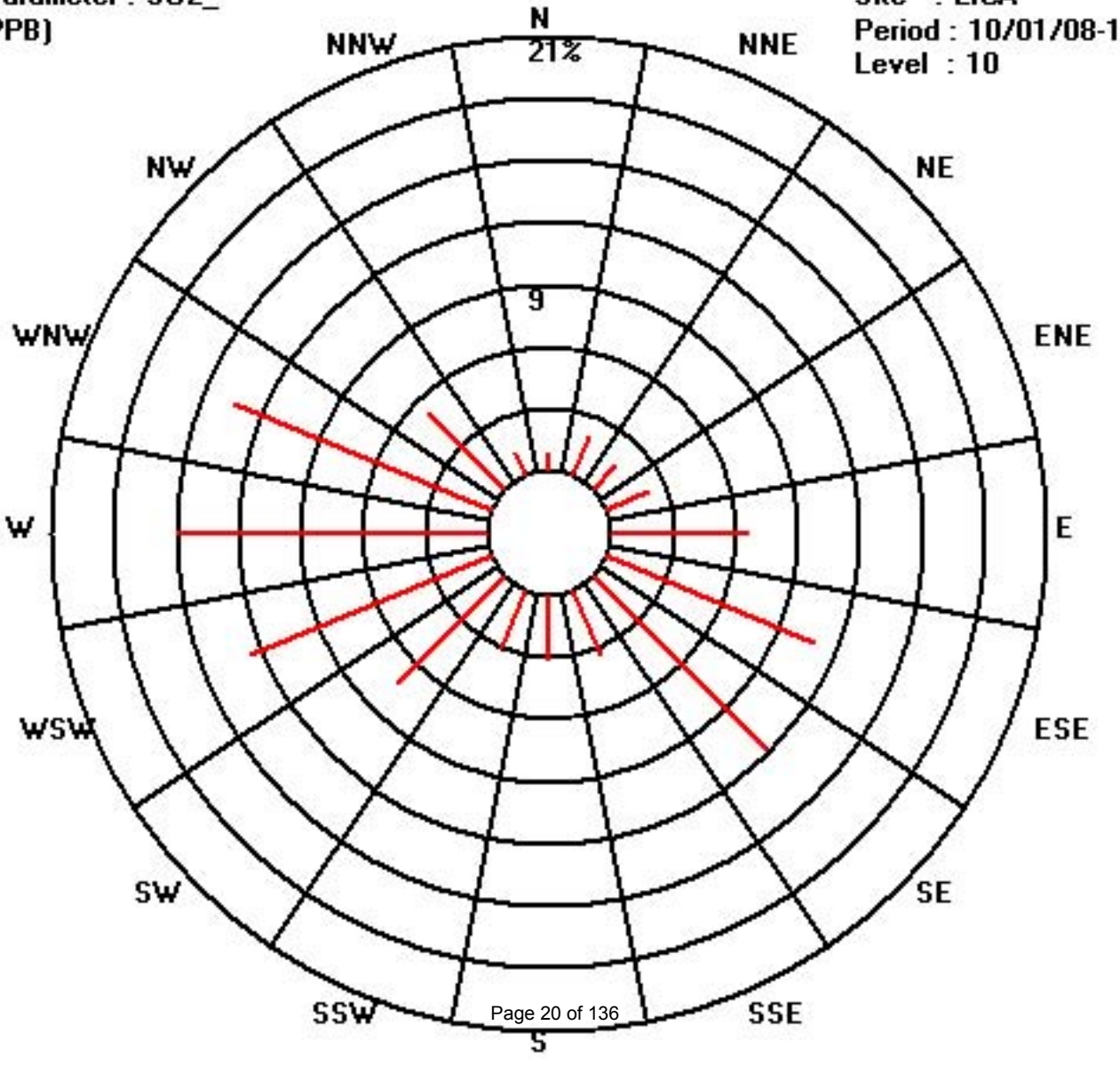
< 60

< 20

Site : LICA

Period : 10/01/08-10/31/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -*COLD LAKE*

OCTOBER 2008

SULPHUR DIOXIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	1	0	0	0	1	1	**C**	**C**	**C**	**C**	**C**	2	1	1	1	1	1	1	1	1	0	0	1	2	0.7	24
2	1	1	1	0	0	0	1	1	**IZS**	1	0	**M**	**M**	0	1	0	0	1	0	1	1	0	0	0	1	0.5	22
3	0	0	0	0	0	1	1	**IZS**	0	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	0.7	24
4	1	0	0	0	1	0	**IZS**	0	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	0.7	24
5	0	1	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
6	0	0	0	0	**IZS**	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0.1	24
7	1	1	1	**IZS**	1	0	1	1	1	1	1	1	0	1	0	0	1	1	1	0	1	0	0	0	1	0.7	24
8	0	0	**IZS**	0	1	0	0	1	0	1	0	1	0	0	0	1	1	0	0	1	0	0	1	0	1	0.3	24
9	0	**IZS**	0	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	0.7	24
10	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	1	1.0	24
11	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	1	2	1.0	24
12	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	2	2	2	1	1	1	**IZS**	1	1	2	1.2	24
13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1.0	24
14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1.0	24
15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1	1.0	24
16	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1	2	1.0	24
17	1	1	1	1	1	1	1	2	2	2	1	1	2	2	2	1	**IZS**	1	1	1	1	1	1	1	2	1.3	24
18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	1.0	24
19	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1.0	24
20	1	1	2	5	3	1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	1	5	1.3	24
21	1	1	1	1	1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
22	1	1	1	1	1	1	1	1	1	1	1	**IZS**	1	2	1	3	4	2	1	1	1	2	2	2	4	1.4	24
23	2	2	2	2	1	2	1	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.2	24
24	1	1	1	1	1	1	1	2	1	**IZS**	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1	24
25	1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
26	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
27	1	1	1	1	1	1	**IZS**	1	2	2	2	2	3	2	2	2	2	2	2	1	1	1	1	1	3	1.5	24
28	1	1	1	2	2	**IZS**	2	2	2	2	2	2	2	2	2	2	2	4	2	1	1	1	1	1	4	1.7	24
29	1	1	1	1	**IZS**	1	1	1	1	2	3	3	4	**6**	**6**	2	2	1	1	1	3	4	3	2	**6**	2.2	24
30	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
31	1	1	**IZS**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
HOURLY MAX	2	2	2	5	3	2	2	2	2	2	3	3	4	6	6	3	4	4	2	1	3	4	3	2			
HOURLY AVG	0.8	0.9	0.9	1.0	1.0	0.9	0.9	1.0	1.0	1.1	1.1	1.0	1.1	1.1	1.1	1.0	1.1	1.1	0.9	0.9	1.0	0.9	0.9	0.9			

STATUS FLAG CODES

S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

MONTHLY SUMMARY

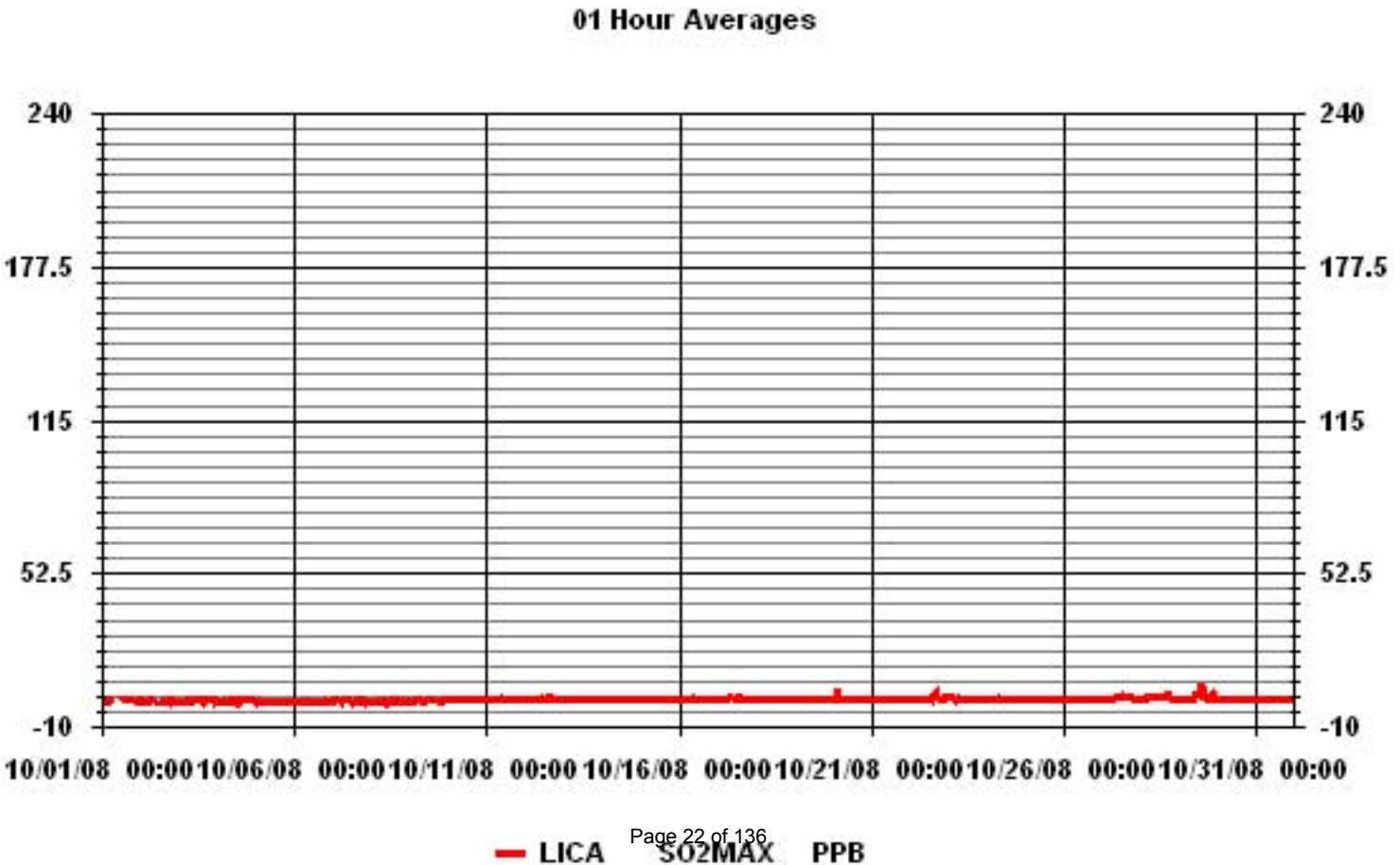
NUMBER OF NON-ZERO READINGS: 602

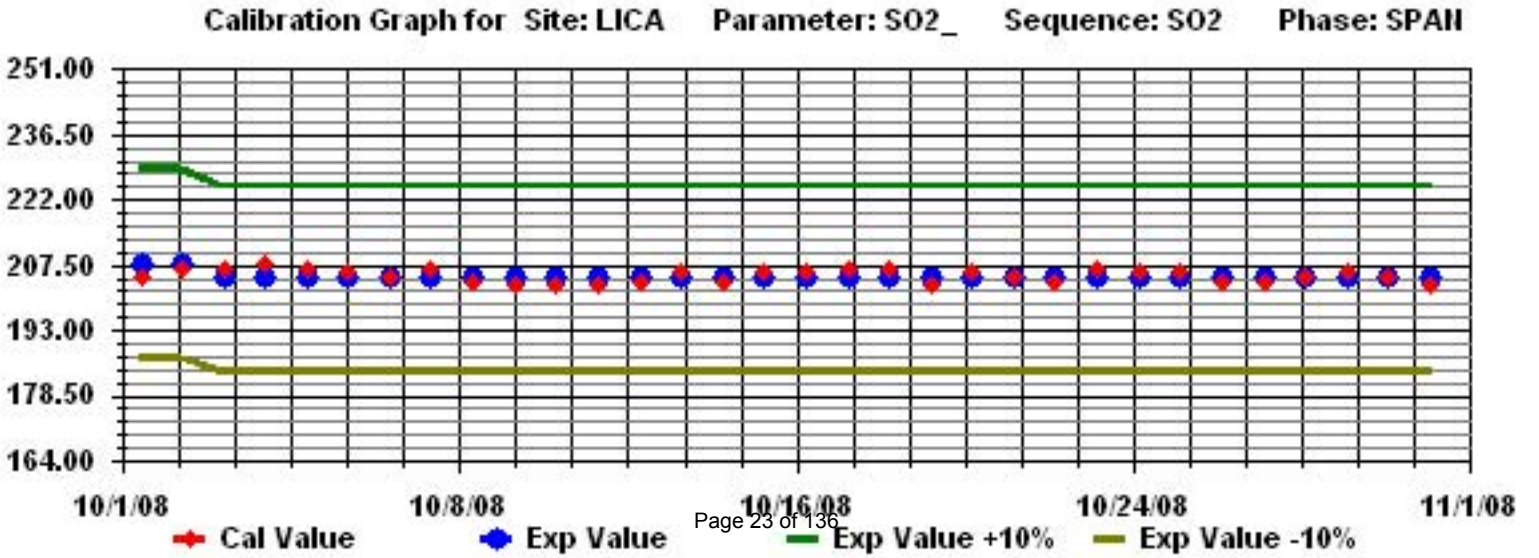
MAXIMUM INSTANTANEOUS VALUE: 6 PPB @ HOUR(S) 13,14 ON DAY(S) 29

IZS CALIBRATION TIME: 31 HRS OPERATIONAL TIME: 742 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION: 0.64


01 Hour Averages
240
177.5
115
52.5
-10
10/01/08 00:00
10/06/08 00:00
10/11/08 00:00
10/16/08 00:00
10/21/08 00:00
10/26/08 00:00
10/31/08 00:00
LICA SO2MAX PPB


Calibration Graph for Site: LICA Parameter: SO2_ Sequence: SO2 Phase: SPAN
251.00
236.50
222.00
207.50
193.00
178.50
164.00
10/1/08
10/8/08
10/16/08
10/24/08
11/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Reduced Sulphur

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2008

TOTAL REDUCED SULPHUR (TRS) hourly averages in ppb

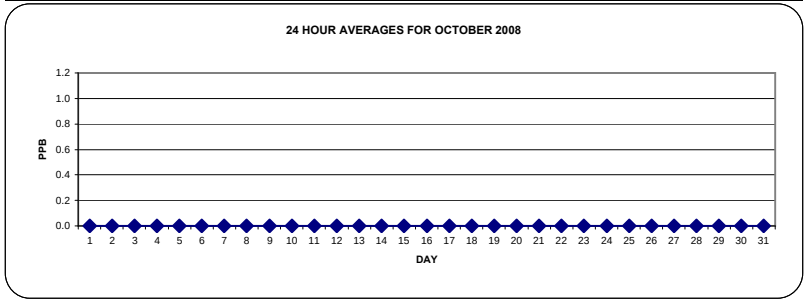
MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	0	0	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**M**	**M**	0	0	0	0	0	0	0	0	0.0	23
2	0	0	0	0	0	0	0	0	**IZS**	0	**C**	**C**	**C**	**C**	0	0	0	0	0	0	0	0	0	0	0	0.0	24
3	0	0	0	0	0	0	0	**IZS**	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	**IZS**	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	**IZS**	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	**IZS**	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	**IZS**	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	**IZS**	0	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	**IZS**	0	0	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	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	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	**IZS**	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	**IZS**	0	0	0	0.0	24
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	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	**IZS**	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	**IZS**	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	**IZS**	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	**IZS**	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	**IZS**	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	**IZS**	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	**IZS**	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	**IZS**	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	**IZS**	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	**IZS**	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	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
25	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
26	0	0	0	0	0	0	0	**IZS**	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	**IZS**	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	**IZS**	0	**M**	**M**	**C**	0	0	0	**M**	0	0	0	0	0	0	0	0	0	0	0	0.0	21
29	0	0	0	0	**IZS**	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	**IZS**	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	**IZS**	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
HOURLY AVG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

STATUS FLAG CODES

S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

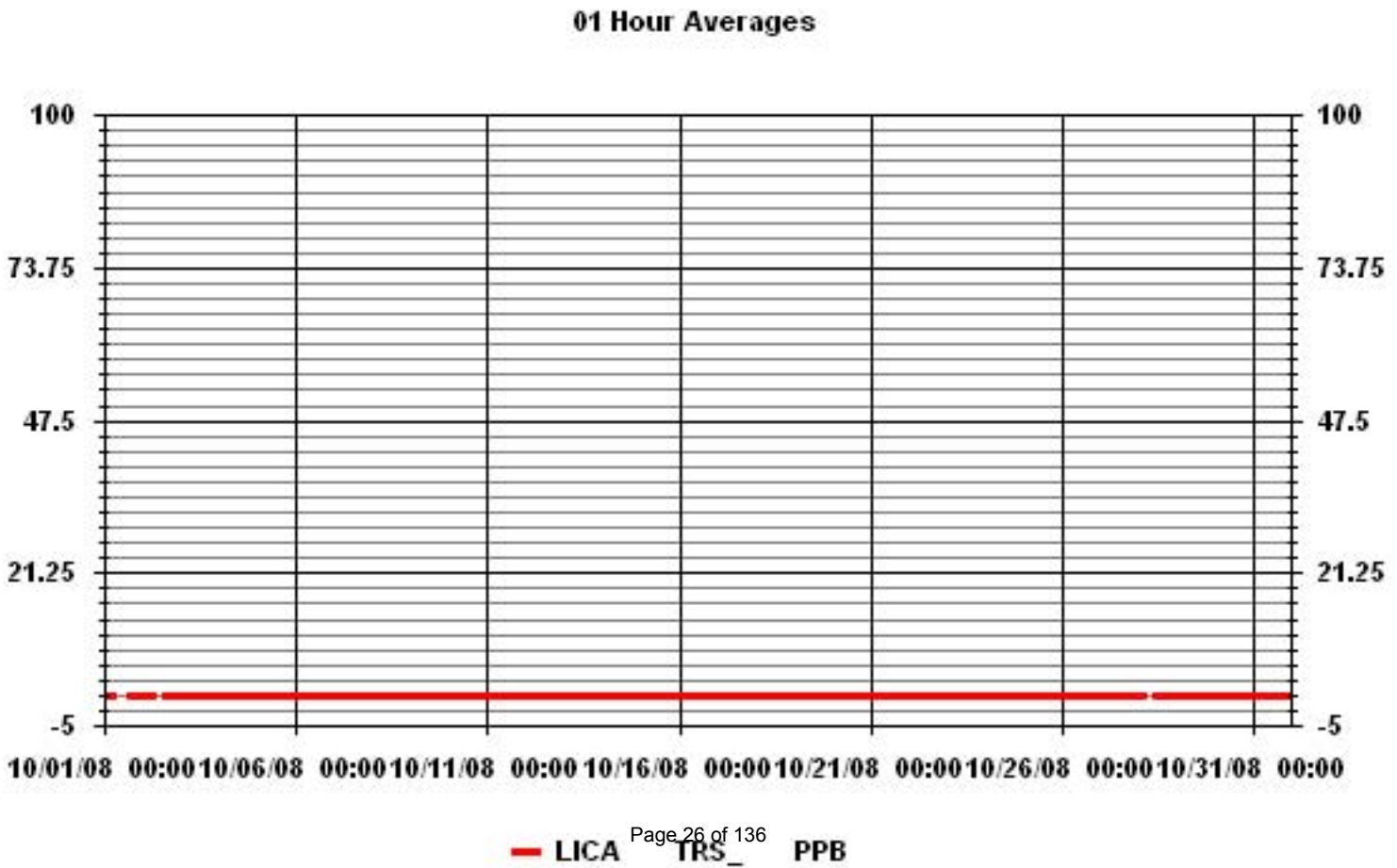
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB | 24-HR 57 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	0					
MAXIMUM 1-HR AVERAGE:	0	PPB	@ HOUR(S)	ALL	ON DAY(S)	ALL
MAXIMUM 24-HR AVERAGE:	0.0	PPB		VAR-VARIOUS	ON DAY(S)	ALL

IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	740	HRS
MONTHLY CALIBRATION TIME:	13	HRS	AMD OPERATION UPTIME:	99.5	%
STANDARD DEVIATION:	0.00		MONTHLY AVERAGE:	0.00	PPB


01 Hour Averages
100
73.75
47.5
21.25
-5
10/01/08 00:00
10/06/08 00:00
10/11/08 00:00
10/16/08 00:00
10/21/08 00:00
10/26/08 00:00
10/31/08 00:00
LICA TRS_ PPB

LICA
TRS_ / WD Joint Frequency Distribution (Percent)

October 2008

Distribution By % Of Samples

Logger Id : 01
Site Name : LICA
Parameter : TRS_
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
<	3	.86	1.59	1.30	2.02	6.52	10.86	11.88	3.33	3.18	3.04	7.39	12.75	15.21	13.62	5.21	1.15	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	.86	1.59	1.30	2.02	6.52	10.86	11.88	3.33	3.18	3.04	7.39	12.75	15.21	13.62	5.21	1.15	

Calm : .00 %

Total # Operational Hours : 690

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3	6	11	9	14	45	75	82	23	22	21	51	88	105	94	36	8	690
<	10																	
<	50																	
>=	50																	
	Totals	6	11	9	14	45	75	82	23	22	21	51	88	105	94	36	8	

Calm : .00 %

Total # Operational Hours : 690

Logger : 01 Parameter : TRS_

Class Limits (PPB)

>= 50

< 50

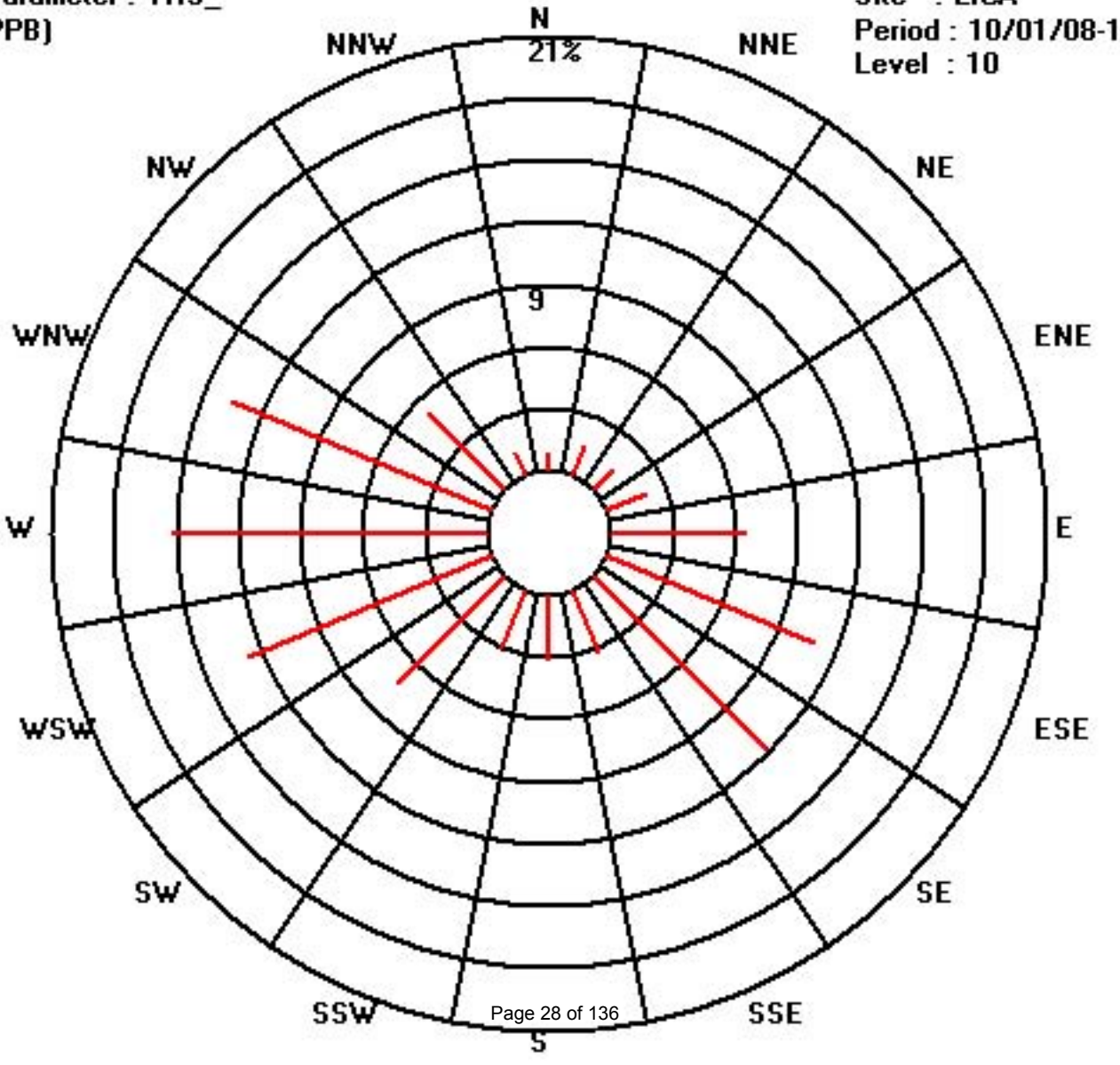
< 10

< 3

Site : LICA

Period : 10/01/08-10/31/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2008

TOTAL REDUCED SULPHUR MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	1	0	1	1	C	C	C	C	C	C	C	C	M	M	0	1	1	1	1	0	0	1	0.5	22
2	1	0	0	0	0	0	0	0	IZS	1	C	C	C	C	0	0	0	0	1	0	0	0	0	0	1	0.2	24
3	0	0	0	0	0	0	0	IZS	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	IZS	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	IZS	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	IZS	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	IZS	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
8	0	0	IZS	0	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	IZS	0	0	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	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0.0	23
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0.0	24
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	IZS	0	0	1	0.0	24
13	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	IZS	0	0	0	1	0.1	24
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	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	IZS	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	IZS	0	0	0	1	1	0	1	0.1	24
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	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	IZS	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	IZS	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	IZS	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	IZS	0	0	0	0	0	1	1	0	0	0	0	1	0.1	24
22	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
23	0	0	1	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
24	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	1	0	1	0	0	0	1	0	0	0	1	0.1	24
25	0	1	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
26	0	0	0	0	0	0	0	IZS	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	IZS	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	0.2	24
28	0	0	0	0	0	IZS	0	M	C	C	0	0	M	M	0	0	0	0	0	0	0	0	0	0	0	0.0	21
29	0	0	0	0	IZS	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	IZS	0	1	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0.3	24
31	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
HOURLY MAX	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0	1	1	1	1	1	1	1	0			
HOURLY AVG	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0			

STATUS FLAG CODES

S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 35

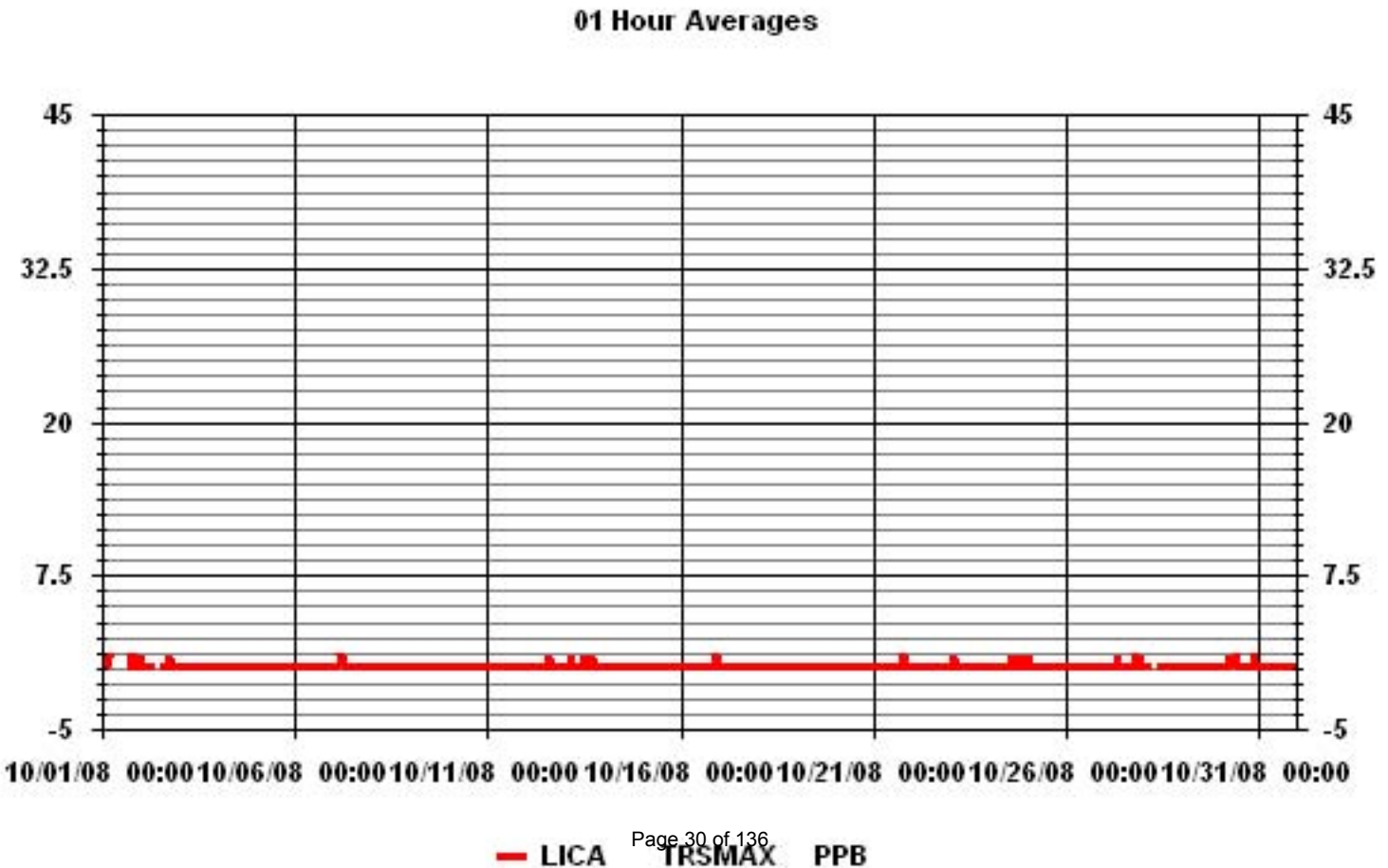
MAXIMUM INSTANTANEOUS VALUE: 1 PPB @ HOUR(S) VAR ON DAY(S) VAR

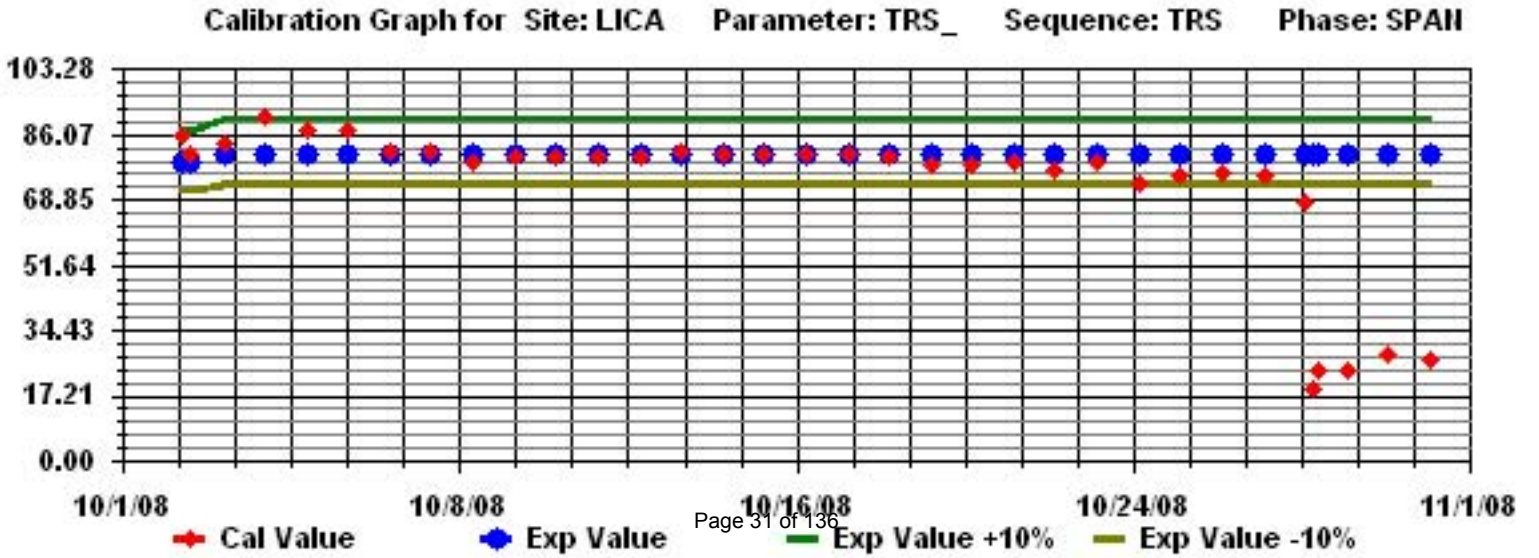
VAR - VARIOUS

IZS CALIBRATION TIME: 31 HRS OPERATIONAL TIME: 738 HRS

MONTHLY CALIBRATION TIME: 14 HRS

STANDARD DEVIATION: 0.22


01 Hour Averages
45
32.5
20
7.5
-5
10/01/08 00:00
10/06/08 00:00
10/11/08 00:00
10/16/08 00:00
10/21/08 00:00
10/26/08 00:00
10/31/08 00:00
LICA TRSMAX PPB


Calibration Graph for Site: LICA Parameter: TRS_ Sequence: TRS Phase: SPAN
103.28
86.07
68.85
51.64
34.43
17.21
0.00
10/1/08
10/8/08
10/16/08
10/24/08
11/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2008

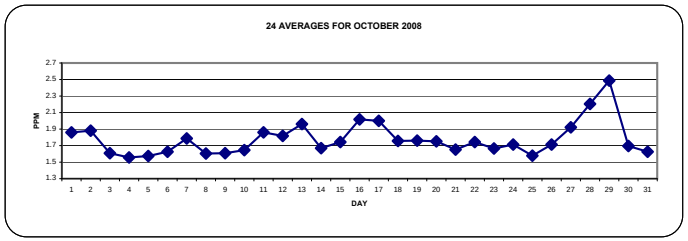
TOTAL HYDROCARBONS (THC) hourly averages in ppm

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	1.7	1.7	1.7	1.8	1.8	2	2.1	2	1.9	**C**	**C**	**C**	**C**	1.7	1.7	1.7	1.7	1.8	2	2	1.9	2	2	2	2.1	1.9	24
2	2	2.1	2.1	2.1	2.1	2.1	2.1	2.2	**IZS**	1.8	1.8	**M**	**M**	1.6	1.6	1.6	1.6	1.6	1.8	1.8	2	2	1.8	1.7	2.2	1.9	22
3	1.6	1.6	1.6	1.6	1.6	1.6	1.6	**IZS**	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.6	1.6	1.6	1.7	1.6	1.6	1.6	1.6	1.6	1.7	1.6	24
4	1.6	1.6	1.6	1.6	1.6	1.6	**IZS**	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	24
5	1.6	1.6	1.6	1.6	1.6	**IZS**	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.6	24
6	1.5	1.5	1.5	1.5	**IZS**	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.8	1.8	2	2.0	1.6	24
7	2	2	2.2	**IZS**	2.2	2.1	1.9	1.8	1.8	1.7	1.8	1.7	1.7	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6	2	1.9	2.2	1.8	24
8	1.7	1.6	**IZS**	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.6	24
9	1.6	**IZS**	1.6	1.6	1.7	1.6	1.6	1.6	1.6	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.6	24
10	**IZS**	1.7	1.7	1.8	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.8	1.8	**IZS**	1.8	1.6	24
11	1.8	1.8	1.8	1.9	2	2	2	2.1	2.5	2.2	1.8	1.7	1.7	1.7	1.7	1.8	1.7	1.7	1.7	1.8	1.8	1.8	**IZS**	1.8	2.5	1.9	24
12	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	**IZS**	1.9	2	2.0	1.8	24
13	2.1	2.1	2.2	2.3	2.6	2.6	2.6	2.5	2.3	2	1.8	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	**IZS**	1.8	1.8	1.8	2.6	2.0	24
14	1.8	1.8	1.7	1.7	1.8	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	**IZS**	1.6	1.8	1.8	1.7	1.8	1.7	24
15	1.8	1.7	1.8	1.7	1.7	1.7	1.8	1.9	1.8	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.7	**IZS**	1.7	1.8	1.8	2	2.1	2.1	1.7	24
16	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.2	2.3	2	2	1.9	1.9	1.8	1.7	1.7	1.8	**IZS**	1.9	1.9	1.9	2	2.1	2.1	2.3	2.0	24
17	2.2	2.2	2.1	2.1	2	2.1	2.2	2.2	2.3	2.2	2.2	2.2	2.1	2	1.8	1.7	**IZS**	1.7	1.7	1.8	1.8	1.8	1.8	1.8	2.3	2.0	24
18	2.1	2	2	2.2	2.1	2	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.6	1.6	**IZS**	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	2.2	1.8	24
19	1.8	1.7	1.7	1.8	1.8	1.9	2	1.9	1.8	1.8	1.7	1.7	1.7	1.7	**IZS**	1.6	1.6	1.6	1.7	1.8	1.8	1.8	1.8	1.8	2.0	1.8	24
20	1.8	2	2	2.1	2	1.9	1.9	1.8	1.7	1.7	1.7	1.6	1.6	**IZS**	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.8	2.1	1.8	24
21	1.9	1.9	1.6	1.6	1.6	1.6	1.7	1.7	1.6	1.6	1.6	1.6	**IZS**	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.8	1.7	1.7	1.9	1.7	24
22	1.7	1.7	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.8	1.8	**IZS**	1.7	1.7	1.7	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.9	1.7	24
23	1.6	1.6	1.6	1.7	1.7	1.8	1.7	1.6	1.5	1.5	**IZS**	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.8	1.8	1.9	2	2.0	1.7	24
24	2	2	2	1.9	2	2.1	1.9	1.9	2.1	**IZS**	1.9	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.1	1.7	24
25	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	**IZS**	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	24
26	1.6	1.6	1.7	1.7	1.7	1.7	1.7	**IZS**	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.9	1.9	1.9	1.7	24
27	1.9	1.9	1.9	1.9	1.9	1.9	**IZS**	1.9	1.9	1.9	1.8	1.9	1.9	1.9	1.8	1.8	1.8	1.9	2	1.9	2	2.1	2.1	2.2	2.2	1.9	24
28	2.3	2.3	2.4	2.5	2.6	**IZS**	2.7	2.6	2.7	2.4	2	2	2	1.9	1.9	1.9	2	2.1	2.2	2	2	2.1	2.1	2	2.7	2.2	24
29	2.1	2.1	2.2	2.4	**IZS**	2.9	3.2	3.5	**3.6**	3.5	2.5	2.3	2.3	2.2	2.4	2.4	2.3	2.4	2.4	2.4	2.5	2.3	1.7	1.6	**3.6**	**2.5**	24
30	1.6	1.6	1.6	**IZS**	1.6	1.6	1.6	1.7	1.8	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.9	2.2	1.8	1.8	1.7	2.2	1.7	24
31	1.6	1.6	**IZS**	1.7	1.6	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.6	24
HOURLY MAX	2.3	2.3	2.4	2.5	2.6	2.9	3.2	3.5	3.6	3.5	2.5	2.3	2.3	2.2	2.4	2.4	2.3	2.4	2.4	2.4	2.5	2.3	2.1	2.2			
HOURLY AVG	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8			

STATUS FLAG CODES

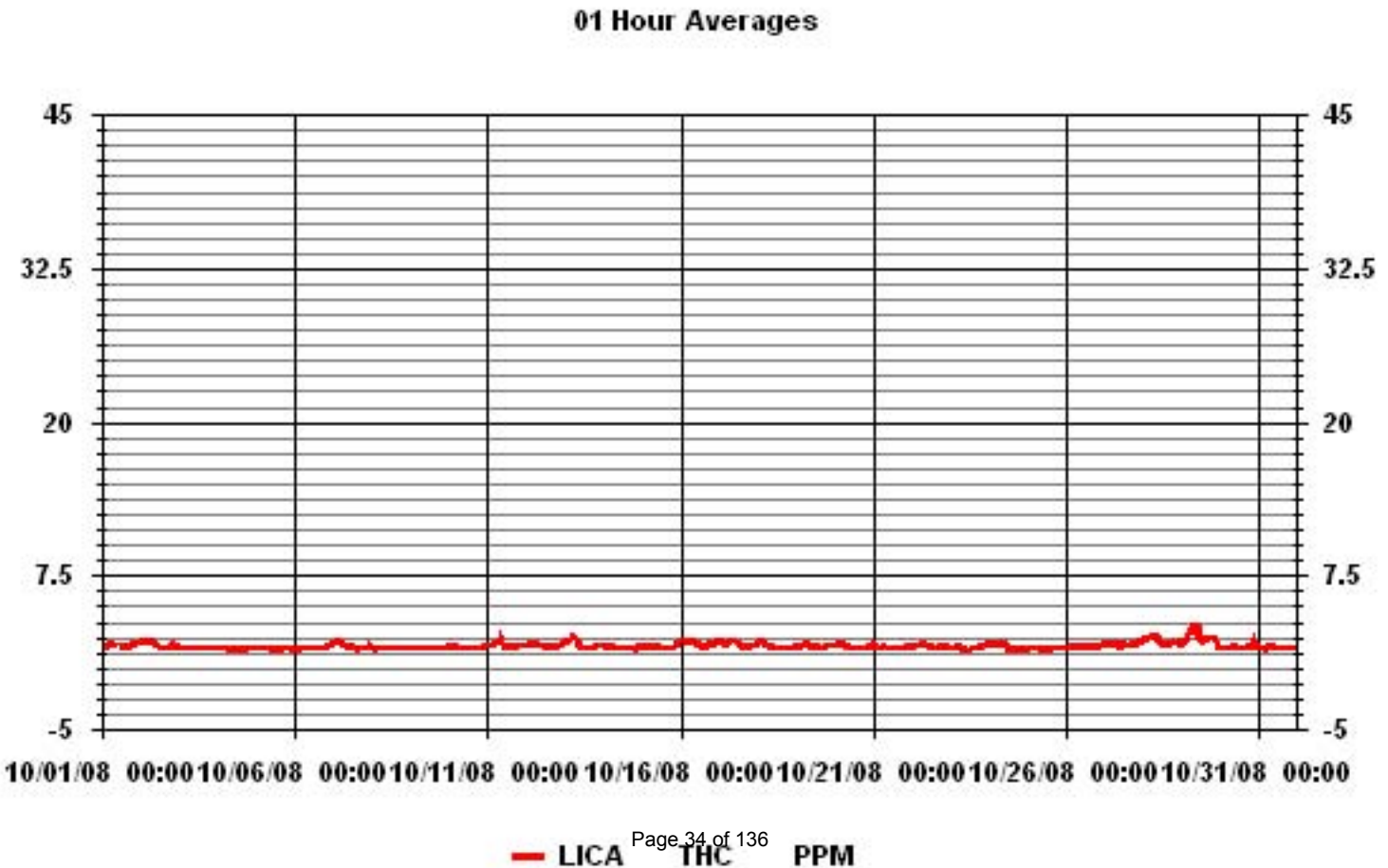
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE
BB	- BELOW BACKGROUND OF 1.5 PPM		



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	707					
MAXIMUM 1-HR AVERAGE:	3.6	PPM	@ HOUR(S)	8	ON DAY(S)	29
MAXIMUM 24-HR AVERAGE:	2.5	PPM			ON DAY(S)	29

IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	742	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	99.7	%
STANDARD DEVIATION:	0.26		MONTHLY AVERAGE:	1.78	PPM


01 Hour Averages
45
32.5
20
7.5
-5
10/01/08 00:00
10/06/08 00:00
10/11/08 00:00
10/16/08 00:00
10/21/08 00:00
10/26/08 00:00
10/31/08 00:00
LICA THC PPM

LICA
THC / WD Joint Frequency Distribution (Percent)

October 2008

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	.85	1.99	1.56	2.27	6.55	10.96	11.82	2.99	2.99	2.99	7.12	12.53	14.95	13.39	5.27	1.13	99.43
<	10.0	.00	.00	.00	.00	.00	.00	.00	.28	.14	.00	.14	.00	.00	.00	.00	.00	.56
<	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	.85	1.99	1.56	2.27	6.55	10.96	11.82	3.27	3.13	2.99	7.26	12.53	14.95	13.39	5.27	1.13	

Calm : .00 %

Total # Operational Hours : 702

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3.0	6	14	11	16	46	77	83	21	21	21	50	88	105	94	37	8	698
<	10.0								2	1		1						4
<	50.0																	
>=	50.0																	
	Totals	6	14	11	16	46	77	83	23	22	21	51	88	105	94	37	8	

Calm : .00 %

Total # Operational Hours : 702

Logger : 01 Parameter : THC

Class Limits (PPM)

>= 50.0

< 50.0

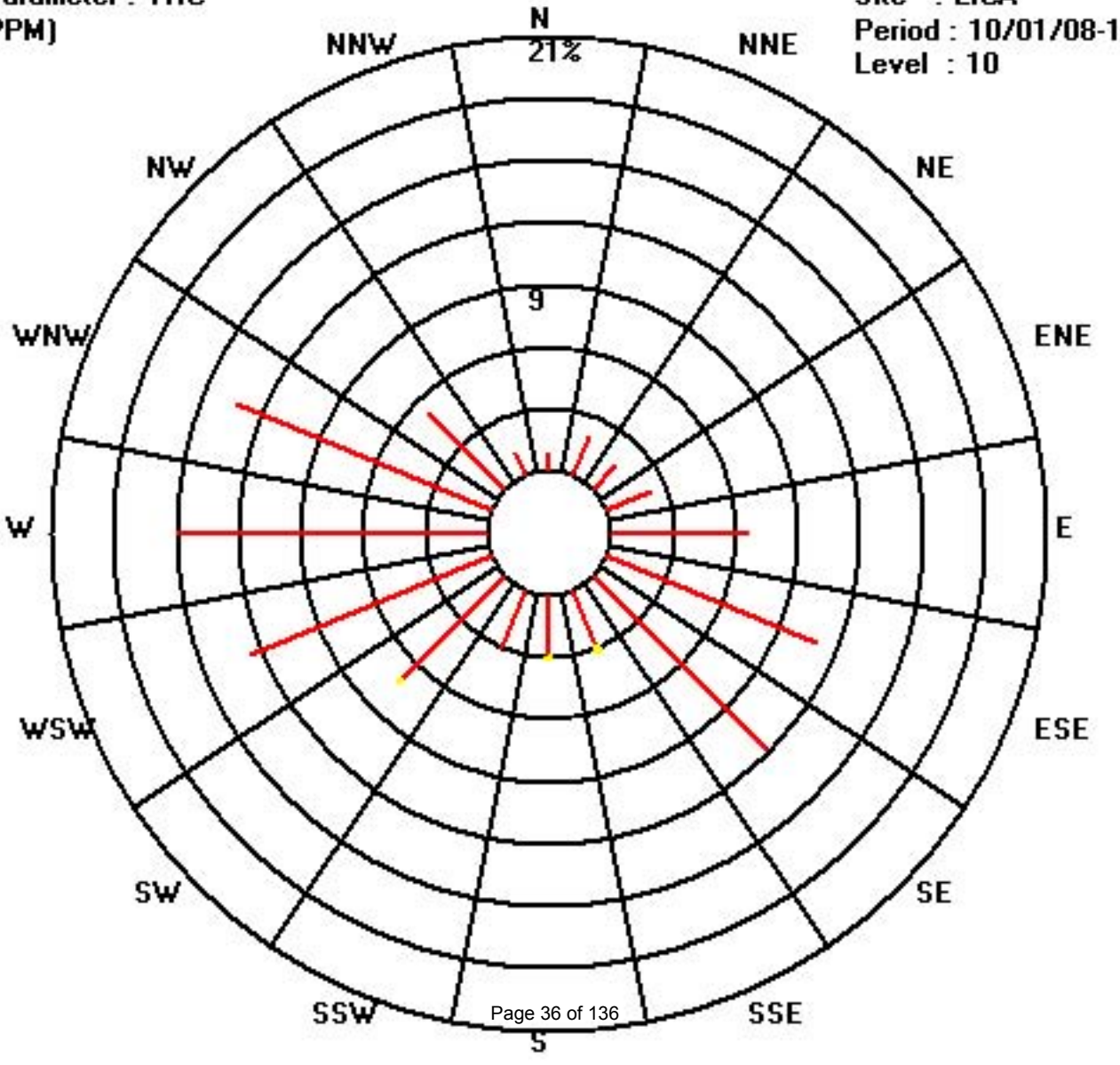
< 10.0

< 3.0

Site : LICA

Period : 10/01/08-10/31/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2008

TOTAL HYDROCARBONS MAX instantaneous maximum in ppm

MST

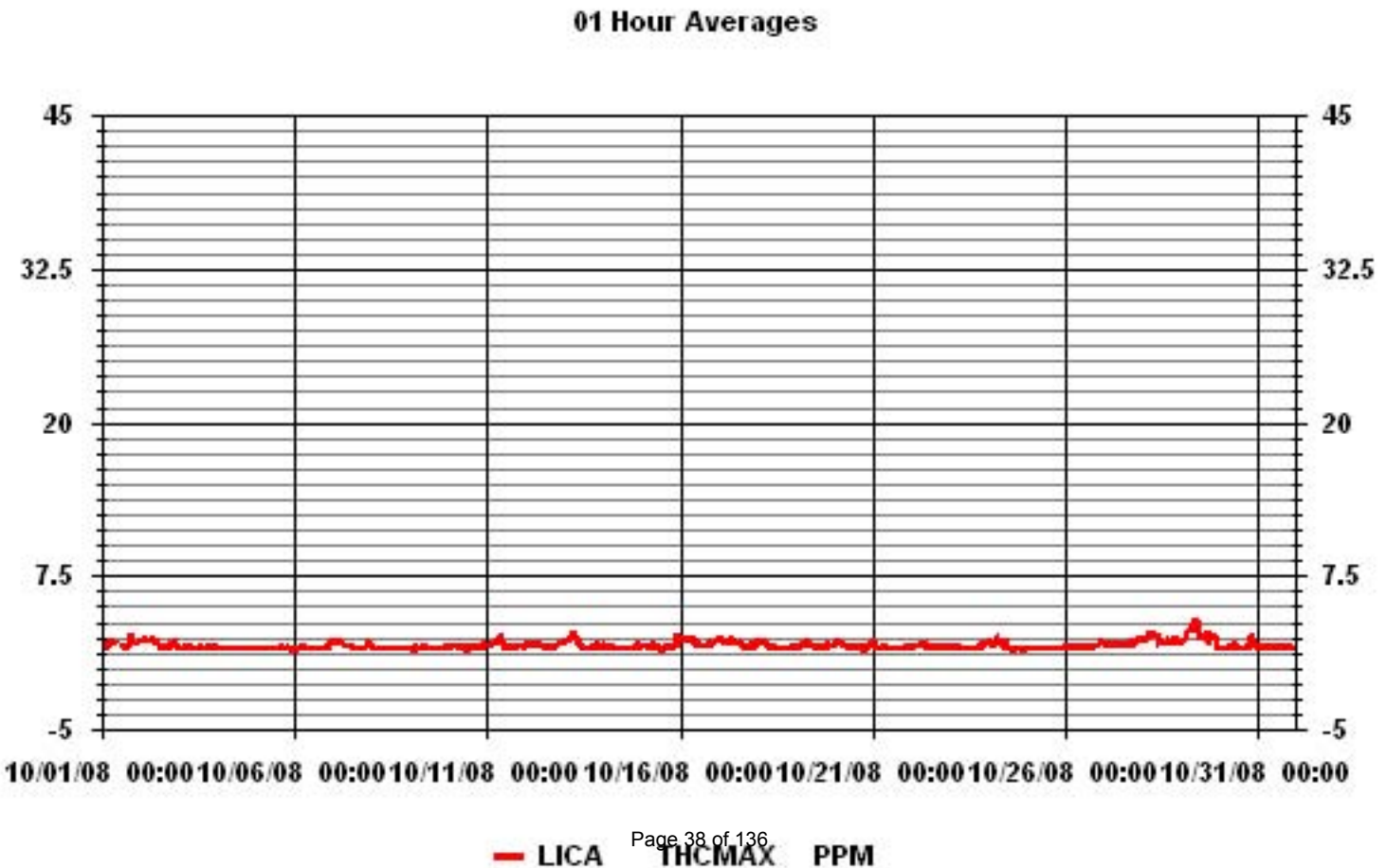
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	1.7	1.7	1.7	1.9	1.9	2.2	2.3	2.2	2.1	**C**	**C**	**C**	**C**	1.8	1.8	1.7	1.8	1.9	2.8	2.1	2	2	2.1	2.2	2.8	2.0	24
2	2.3	2.2	2.2	2.4	2.2	2.2	2.2	2.4	**IZS**	2.1	2.2	**M**	**M**	1.7	1.7	1.7	1.7	1.7	2	2	2.1	2.2	1.9	1.8	2.4	2.0	22
3	1.7	1.6	1.6	1.7	1.7	1.7	1.7	**IZS**	1.7	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.6	1.6	1.8	1.6	1.6	1.6	2	1.6	2	1.7	24
4	1.6	1.6	1.6	1.6	1.6	1.6	**IZS**	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	24
5	1.6	1.6	1.6	1.6	1.6	**IZS**	1.6	1.6	1.6	1.6	1.7	1.6	1.6	1.6	1.6	1.6	2	1.6	1.6	1.7	1.7	1.6	1.6	1.5	2	1.6	24
6	1.5	1.5	1.6	1.6	**IZS**	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.8	1.7	1.8	2	2.1	2.1	1.7	24
7	2.1	2.1	2.3	**IZS**	2.3	2.2	2.1	1.9	1.8	1.8	1.8	1.8	1.7	1.7	1.6	1.6	1.7	1.6	1.6	1.6	1.7	2	2.2	2.1	2.3	1.9	24
8	1.8	1.7	**IZS**	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.8	1.6	24
9	1.6	**IZS**	1.6	1.7	1.7	1.6	1.6	1.8	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.8	1.6	24
10	**IZS**	1.7	1.8	1.8	1.8	1.9	1.7	1.6	1.6	1.7	1.8	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.9	1.9	**IZS**	1.9	1.7	24
11	1.8	1.8	1.9	2	2.1	2.1	2.1	2.4	2.6	2.4	2	1.8	1.7	1.7	1.7	1.8	1.8	1.7	1.8	1.9	1.8	1.8	**IZS**	1.8	2.6	1.9	24
12	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	2	1.9	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.8	1.9	2.1	**IZS**	2	2	2.1	1.9	24
13	2.2	2.2	2.3	2.5	2.8	2.7	2.8	2.6	2.4	2.2	1.9	1.8	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.8	**IZS**	1.9	1.9	1.8	2.8	2.1	24
14	1.9	1.9	1.8	1.7	1.8	1.8	1.8	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.6	1.6	1.6	**IZS**	1.8	1.9	1.9	1.7	1.9	1.7	24
15	1.8	1.8	1.8	1.8	1.8	1.7	1.9	2	1.9	1.8	1.7	1.7	1.7	1.6	1.7	1.7	1.7	1.8	**IZS**	1.8	1.9	1.9	2.8	2.4	2.8	1.9	24
16	2.4	2.3	2.3	2.3	2.3	2.2	2.2	2.4	2.5	2.2	2	1.9	1.9	1.8	1.8	1.8	1.8	**IZS**	2	2.1	2.1	2.2	2.2	2.3	2.5	2.1	24
17	2.4	2.5	2.3	2.2	2.1	2.2	2.3	2.2	2.4	2.2	2.2	2.2	2.1	2.1	2	1.7	**IZS**	1.7	1.8	1.9	1.9	1.9	1.8	1.9	2.5	2.1	24
18	2.2	2.2	2.2	2.2	2.1	2.1	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.6	**IZS**	1.6	1.6	1.7	1.6	1.6	1.6	1.7	1.8	2.2	1.8	24
19	1.8	1.7	1.7	1.8	1.9	2	2.1	2.1	1.9	1.8	1.8	1.8	1.7	1.7	**IZS**	1.7	1.7	1.7	1.7	1.9	1.9	1.8	1.8	1.9	2.1	1.8	24
20	1.9	2.1	2.2	2.2	2.1	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.7	**IZS**	1.6	1.6	1.7	1.7	1.6	1.7	1.7	1.8	1.9	2	2.2	1.8	24
21	2.1	2.1	1.7	1.6	1.6	1.7	1.7	1.8	1.7	1.6	1.6	1.6	**IZS**	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.9	1.8	1.7	2.1	1.7	24
22	1.7	1.7	1.8	1.8	1.8	1.8	2	1.9	2	1.9	1.8	**IZS**	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.7	2	1.8	24
23	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.6	1.6	1.6	**IZS**	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.9	1.9	2	2	2	1.7	24
24	2.1	2.1	2.1	2	2.1	2.4	2.1	2	2.3	**IZS**	2.2	1.8	1.6	1.6	1.6	1.5	1.6	1.7	1.6	1.6	1.6	1.6	1.5	1.6	2.4	1.8	24
25	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	**IZS**	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.6	24
26	1.7	1.7	1.7	1.7	1.7	1.7	1.7	**IZS**	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.9	2.1	2.1	2.1	1.8	24
27	1.9	1.9	1.9	1.9	1.9	2.1	**IZS**	1.9	1.9	1.9	1.9	1.9	2	2	1.9	2.1	1.9	1.9	2.2	2.1	2.2	2.3	2.3	2.4	2.4	2.0	24
28	2.5	2.4	2.5	2.7	2.7	**IZS**	2.9	2.8	2.8	2.7	2.1	2.2	2	2	2	2	2.4	2.3	2.4	2.3	2.5	2.4	2.2	2.1	2.9	2.4	24
29	2.2	2.2	2.3	2.8	**IZS**	3.2	3.5	3.6	**3.7**	**3.7**	3.1	2.4	2.4	2.4	2.6	2.6	2.4	2.9	2.5	2.8	2.7	2.6	1.9	1.7	**3.7**	2.7	24
30	1.6	1.6	1.6	**IZS**	1.6	1.6	1.7	1.7	1.9	2	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.7	1.7	2.4	2.5	2.1	2	1.7	2.5	1.8	24
31	1.7	1.7	**IZS**	1.7	1.7	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.8	1.7	24
HOURLY MAX	3	3	3	3	3	3	4	4	4	4	3	2	2	2	3	3	2	3	3	3	3	3	3	2			
HOURLY AVG	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.9	1.9	1.9	1.9			

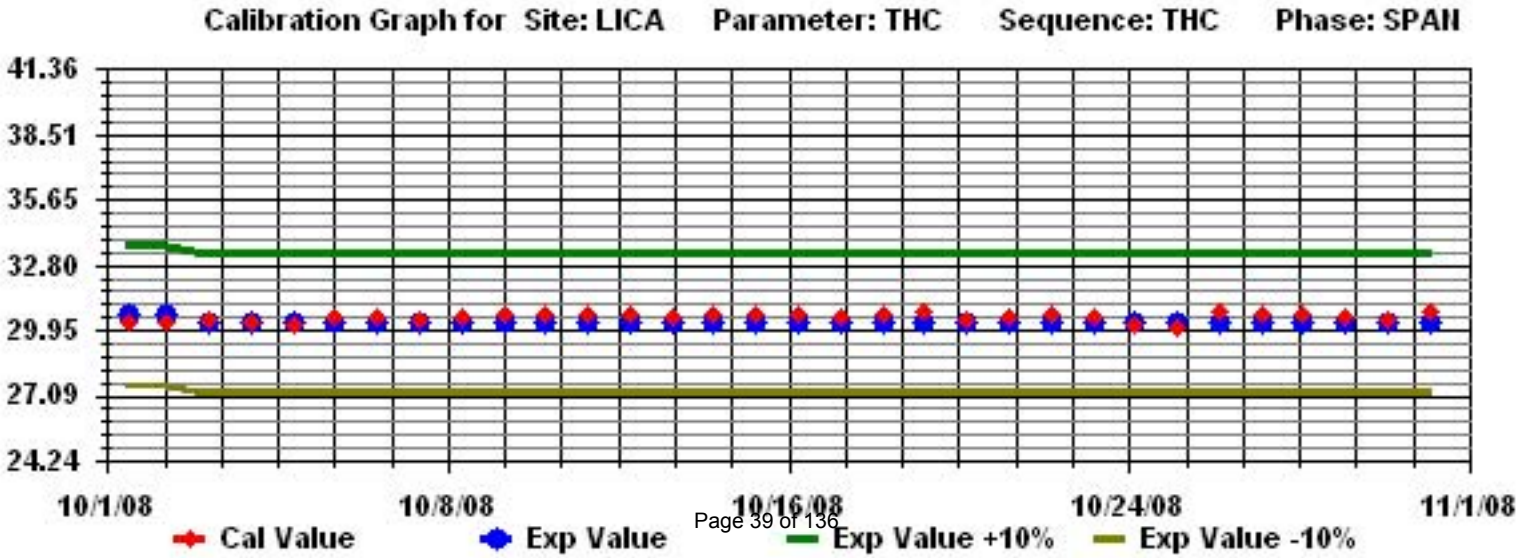
STATUS FLAG CODES

S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE
BB	- BELOW BACKGROUND OF 1.5 PPM		

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	707					
MAXIMUM INSTANTANEOUS VALUE:	3.7	PPM	@ HOUR(S)	8,9	ON DAY(S)	29
IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:		742	HRS
MONTHLY CALIBRATION TIME:	4	HRS				
STANDARD DEVIATION:	0.32					


01 Hour Averages
45
32.5
20
7.5
-5
10/01/08 00:00
10/06/08 00:00
10/11/08 00:00
10/16/08 00:00
10/21/08 00:00
10/26/08 00:00
10/31/08 00:00
LICA THCMAX PPM


Calibration Graph for Site: LICA Parameter: THC Sequence: THC Phase: SPAN
41.36
38.51
35.65
32.80
29.95
27.09
24.24
10/1/08
10/8/08
10/16/08
10/24/08
11/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2008

PARTICULATE MATTER 2.5 (PM2.5) hourly averages in ug/m^3

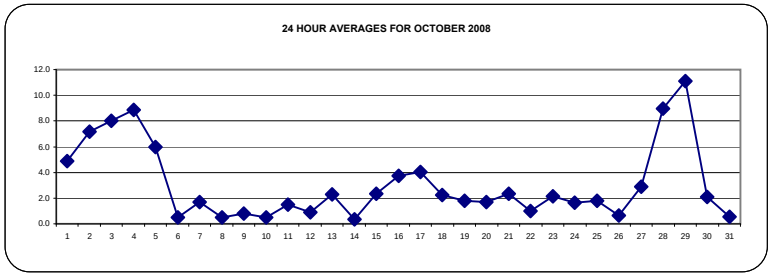
MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0.5	0	0	0	0.4	2.3	4.7	6.3	8.2	5.6	4.7	3.9	1	6.8	5.1	4.8	5.7	8.1	8.1	6.1	9.3	9	8.8	7.7	9.3	4.9	24
2	7.2	6.2	5.3	4.1	3.5	3.4	4.7	11	13.6	**C**	**C**	**C**	**C**	6.1	3.2	6.9	5.2	10.7	15.8	7.2	8	7.6	7.5	5.9	15.8	7.2	24
3	6	4.7	4.4	1.9	1.8	5.4	4.8	3.8	16.1	4.1	3.6	2.1	4	4.8	6.7	10.1	11.2	11	16.8	13.6	12.3	15.1	13.4	14.8	16.8	8.0	24
4	13.1	10.9	8.5	8.2	8.1	11.2	10.7	9.8	9	8	9.7	9.3	7.6	8.1	9.4	9	8.6	9.7	7.1	6.6	7.2	7.4	7.9	8.2	13.1	8.9	24
5	9.2	8.8	9.3	10.9	12.7	10.6	9.9	12.2	13.2	11.5	6.9	4.2	2.3	2.9	1.9	1.8	0.8	1.1	0	0	0.3	0.6	**N**	**N**	13.2	6.0	22
6	**N**	0.2	0	1	0	1.4	0.7	0	0	0	0	0.2	0	1.1	0.5	0	0	0	0	0.3	1.5	3	0.7	1	3.0	0.5	23
7	0	0.1	0	0.3	2.3	1.5	2.5	1.4	0	0	0.3	2.3	1.4	2.5	1.2	2.8	3.4	2.9	2.4	2.9	3.7	1.7	3.2	1.8	3.7	1.7	24
8	2.5	2.4	1.9	1.7	0	0	0	0.5	0.8	0	0.4	0	0	0.7	0.5	0.2	0.4	0	0.1	0	0	0	0	0	2.5	0.5	24
9	0	0	0	1.7	0.3	0	0.7	0.7	0.8	1.4	0.9	0.2	0	0.3	2.6	1	3.7	1.6	1.1	0.2	0.4	0.7	0.9	0.5	3.7	0.8	24
10	0.9	0.6	0.1	1.2	0.8	1.1	0	0	0.9	1	0.5	1.4	0	0	0.5	0.4	0.5	0.2	0.4	0.3	0.4	0.6	0	0.6	1.4	0.5	24
11	0.1	0	0	1.1	0.7	0	0.1	2.3	8.6	5.3	1.8	0.7	0.3	0	0	0.6	1.2	0.7	1.5	1.9	2.1	2.7	2	1.9	8.6	1.5	24
12	1.2	1	1.6	1.2	0.6	1.1	0.8	1.4	2	0.4	0	0	0	0.3	0	0	1.6	0.6	1.5	1.2	2.3	1	1.6	0.6	2.3	0.9	24
13	0.9	0.9	0.4	1	4.1	1.6	1.1	8.1	5.3	4.7	4.4	0.5	0.7	0.1	0	0.7	1	0	4.8	3.8	2.4	2.6	3.5	1.8	8.1	2.3	24
14	1.5	1.8	0.9	0	0	0.5	0	0	0	0.1	0	0	0.5	0.8	0	0	0	0.1	0	0.2	1.3	0.5	0.7	0	1.8	0.4	24
15	0.3	0.4	1.1	0.5	0.8	1.8	1.5	2.2	3.1	2.8	3	2.9	1.3	2	2	2.2	3.2	4	4	4.1	3.4	3.4	3	3.1	4.1	2.3	24
16	2.9	3.1	3.5	3.5	2.8	2.5	3	6.9	12.3	4.2	3.3	3.4	3.2	2.2	2.4	2.5	1.6	2.8	3.8	2	2	2.7	6	7.5	12.3	3.8	24
17	6.7	5.4	4.6	3.7	3.7	2.8	3.7	4.7	4.7	6	4.1	3.6	3.8	4.7	4.4	2.9	2.6	1.9	3.2	3.8	5.9	4.5	3.7	1.4	6.7	4.0	24
18	4.6	2.4	0.2	0.1	0.4	0.4	0.7	1.6	2.3	2.1	3.5	2.8	1.7	0.6	2.8	5.4	3	3.2	4.1	1.7	3.7	3.3	1.3	2.2	5.4	2.3	24
19	2	2.5	2	3.4	2.2	2.8	3	3.5	3.9	5.2	3.7	1	0	0	0	0	0	0	0.5	5.3	2.1	0.3	0	0	5.3	1.8	24
20	0	0	0.6	1	0	0	0	0.2	0.7	1.4	3.5	1.7	0.1	1.8	3.2	2.8	2.6	2.9	1.4	3	3.2	4	2.8	4.3	4.3	1.7	24
21	3.6	7.5	4.5	2.8	2	2.3	2.3	2.1	4.9	2.9	1.5	2.7	1.6	2.3	2	1.6	2.4	1.4	0.9	0.5	1.1	1.1	1.4	0.7	7.5	2.3	24
22	1.5	1	1.1	1.6	0.9	0.8	2.3	3.8	3.3	1.7	1.7	0	0	0	0	0	0.7	2.4	0	0	0	0	0	0.9	3.8	1.0	24
23	0.5	0.5	2.6	4.2	5.3	5.6	6	0	3.1	2.6	1	1.1	1	0.9	1.4	1.8	0.5	1.8	2.5	3.6	1.3	1.1	1.2	1.2	6.0	2.1	24
24	0	1.4	1.3	0.7	1.5	0.3	1.7	2.3	3.4	2.4	4.1	1.3	1	1.2	2.5	7.8	1.2	0.2	0	0.9	2.6	0.3	1.7	0	7.8	1.7	24
25	0	0.2	1.3	1.9	2	0.8	1	3.1	3.1	3.3	0	1.1	1.6	0	**N**	1.3	2	2	2.9	1	0.3	1	7	4.8	7.0	1.8	23
26	3	2.4	1.7	0.4	0	0.6	1.4	1.5	1.2	1.5	0.1	0	0.1	0	0	0.1	0.6	0	0.3	0.2	0	0	0.5	0.3	3.0	0.7	24
27	0	0	0	0	0	0	0.5	0.9	0.5	1.8	2.2	2.4	2.9	2.6	3.3	4.6	4.2	4.7	5	5.5	7	8.2	6.7	6.6	8.2	2.9	24
28	5.9	5.7	5.6	5.7	5.5	6.3	6.6	7.7	11	13.4	8.5	8	7.9	7.2	11.9	8.1	8.9	10.9	9.4	10.6	12.3	12.1	13.2	12.4	13.4	9.0	24
29	11.1	8.6	8.8	7.9	7.1	8.3	9	8.6	10.5	12.2	10.4	11.8	12.5	8.6	17.8	9.9	9	12	**19.9**	13.5	13.4	14.5	13.1	8.4	**19.9**	**11.1**	24
30	7	5.5	1.4	0.7	0.7	0.4	0.3	0.7	3	3.4	1.5	0	0	0	0	0	0	1.8	1.4	3.2	7.9	6.1	3.5	1.3	7.9	2.1	24
31	0.3	0	0.9	0	0.4	0.9	0.9	1	0.7	0.5	0.4	0.3	0.4	0	0.3	0.8	1.1	1.3	0.1	0	0.6	0.9	0.6	1.1	1.3	0.6	24
HOURLY MAX	13	11	9	11	13	11	11	12	16	13	10	12	13	9	18	10	11	12	20	14	13	15	13	15			
HOURLY AVG	3.1	2.7	2.4	2.3	2.3	2.5	2.7	3.5	4.8	3.7	2.9	2.3	1.9	2.2	2.9	2.9	2.8	3.2	3.8	3.3	3.8	3.7	3.9	3.4			

STATUS FLAG CODES

S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

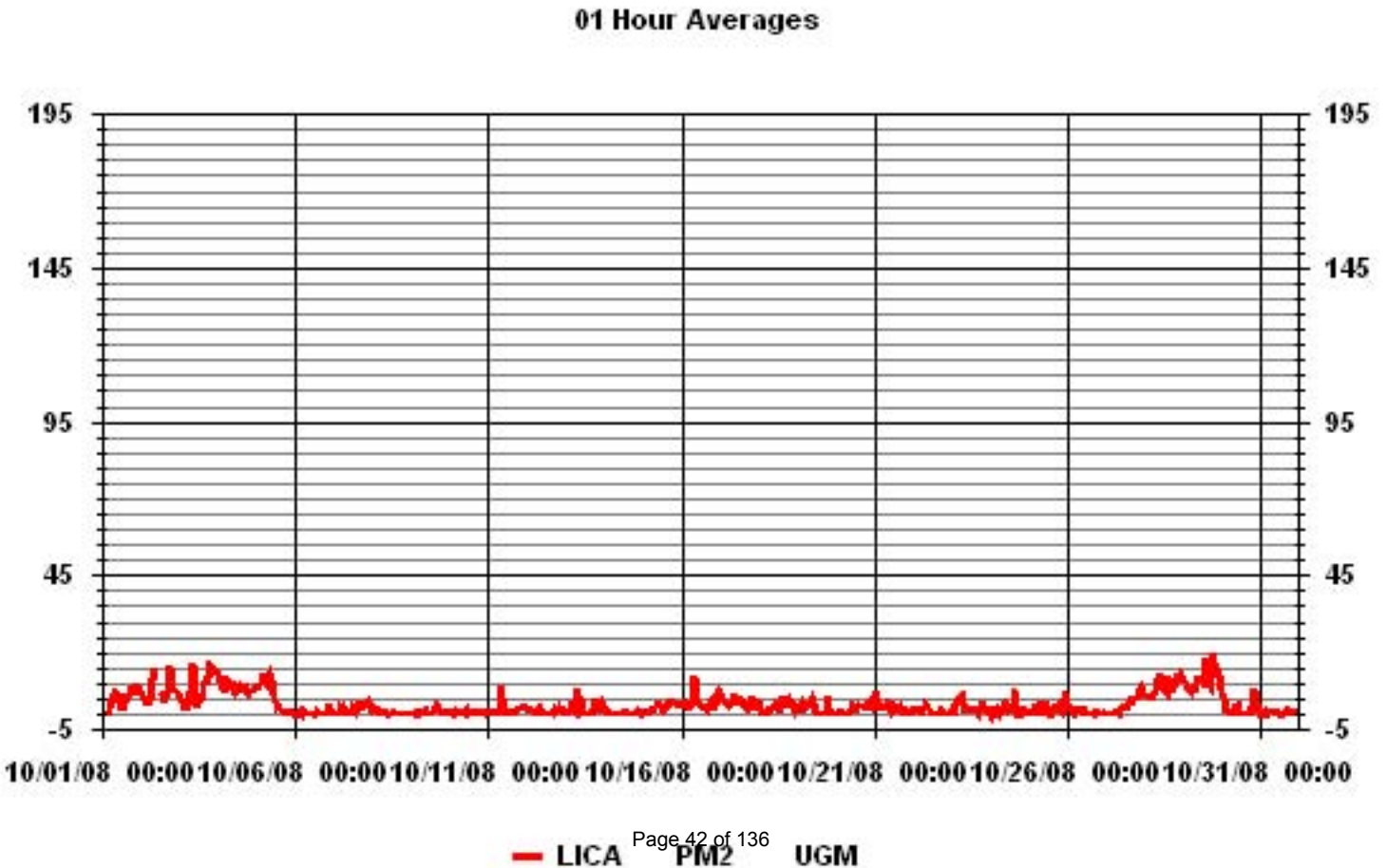
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR - PPB 24-HR 30 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	-					
NUMBER OF 24-HR EXCEEDENCES:	0	PROPOSED CANADA WIDE GUIDELINE				
NUMBER OF NON-ZERO READINGS:	617					
MAXIMUM 1-HR AVERAGE:	19.9	UG/M^3	@ HOUR(S)	18	ON DAY(S)	29
MAXIMUM 24-HR AVERAGE:	11.1	UG/M^3			ON DAY(S)	8

IZS CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	740	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	99.5	%
STANDARD DEVIATION:	3.55		MONTHLY AVERAGE:	3.04	UG/M^3


01 Hour Averages
195
145
95
45
-5
10/01/08 00:00
10/06/08 00:00
10/11/08 00:00
10/16/08 00:00
10/21/08 00:00
10/26/08 00:00
10/31/08 00:00
LICA PM2 UGM

LICA
PM2 / WD Joint Frequency Distribution (Percent)

October 2008

Distribution By % Of Samples

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

Wind Parameter : WD
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	30.0	.82	2.05	1.50	2.32	6.29	11.08	11.90	3.28	3.14	3.00	7.52	12.31	14.63	13.67	5.33	1.09	100.00
<	60.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	80.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	120.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	240.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	240.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	.82	2.05	1.50	2.32	6.29	11.08	11.90	3.28	3.14	3.00	7.52	12.31	14.63	13.67	5.33	1.09	

Calm : .00 %

Total # Operational Hours : 731

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	30.0	6	15	11	17	46	81	87	24	23	22	55	90	107	100	39	8	731
<	60.0																	
<	80.0																	
<	120.0																	
<	240.0																	
>=	240.0																	
	Totals	6	15	11	17	46	81	87	24	23	22	55	90	107	100	39	8	

Calm : .00 %

Total # Operational Hours : 731

Logger : 01 Parameter : PM2

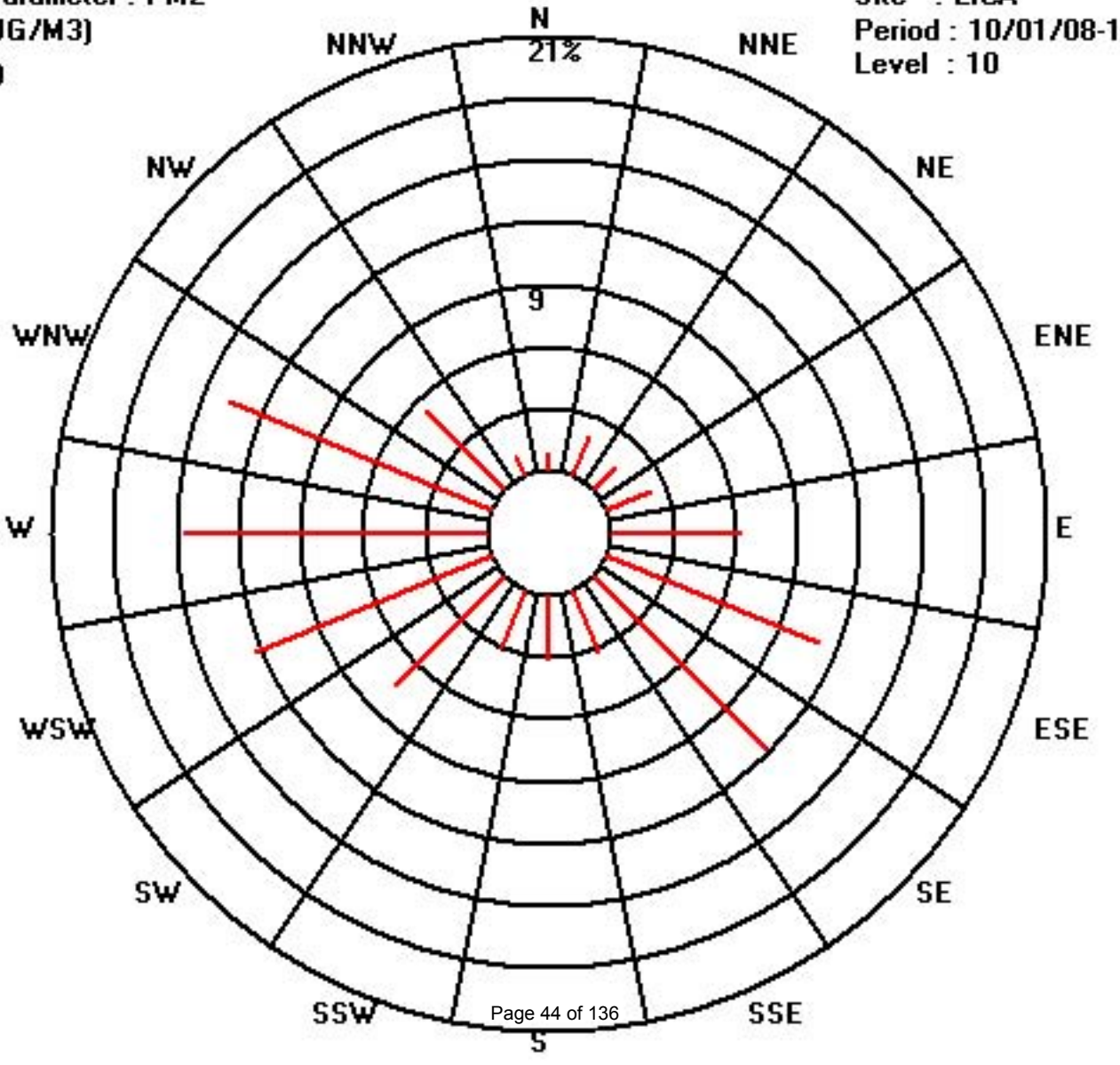
Class Limits (UG/M3)

- >= 240.0
- < 240.0
- < 120.0
- < 80.0
- < 60.0
- < 30.0

Site : LICA

Period : 10/01/08-10/31/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2008

PARTICULATE MATTER 2.5 MAX instantaneous maximum in ug/m^3

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2.7	2.5	1.4	1.6	2.2	5	6.5	12.5	11.9	8.2	7.8	6.5	3.7	15.2	7.3	7.1	8.5	10.3	10.2	8.1	12.8	12	11.4	9.3	15.2	7.7	24
2	10.4	8	7.1	6.5	5.3	4.9	8.1	16.2	**C**	**C**	**C**	**C**	**C**	9.8	8.4	13.2	7.4	65.4	64.4	9.2	11.8	9.7	9.9	8.8	65.4	15.0	24
3	9	6.7	6	5.7	4.8	10.2	9.8	6.9	**75.7**	5.9	6	5.8	5.8	9	9.5	13.7	14.5	12.9	20.8	17.3	15.2	17.2	15.2	16.6	**75.7**	13.3	24
4	15.6	12.6	11.9	10.2	10.9	13.4	13.6	12	10.9	10.1	11.9	11.4	9.8	11.4	12.2	11.3	10.6	11.5	9.6	9.4	8.5	8.7	10.9	10.2	15.6	11.2	24
5	10.7	10.2	10.6	19	22.4	13.1	13	14.8	14.9	13.6	9	7.8	5	6	5.5	3.5	3.1	4.7	1.6	1.4	1.4	2.8	5.1	0.8	NA	NA	24
6	-0.8	3.8	3.2	6.2	3.1	3.8	3	1.6	1.6	1.2	1.8	2.1	3.6	4.2	3.2	2.6	2.9	3.5	1.8	2.7	2.7	5.5	3.1	3.3	6.2	2.9	24
7	1.9	2	1.8	5.2	5.5	3.4	4.9	4.3	2.7	1.8	1.5	5.4	4.9	5.7	4.7	6.9	7.7	6	4.6	5.2	5.7	3.4	5.3	4.8	7.7	4.4	24
8	3.7	3.8	4.5	3.8	0.2	0.3	1	3.1	1.7	1	2.1	2.3	3.9	2.9	3.3	3.6	1.9	2.1	2.5	0.5	1.5	1.9	2.4	1.7	4.5	2.3	24
9	2	1.1	1.6	4.3	2.2	1.6	3.1	2	2.9	3.6	3.3	3.1	1.4	3.4	4.7	3.1	7	4.6	3.8	2.1	2.5	2.4	3.8	2.2	7	3.0	24
10	3.1	2	2.6	2.9	3.1	2.5	3	2.6	4.3	3.1	2.5	4.7	1.1	2.6	2.9	3.5	2.4	2.9	2.4	1.5	2.4	3.3	2.6	3.3	4.7	2.8	24
11	2.1	1.5	1.9	2.8	2.4	1.4	2.1	8.1	10.2	8.8	6.5	2.5	3.3	3	2.5	3.4	3.3	2.9	4.9	4.1	5.1	5.3	4.4	3.8	10.2	4.0	24
12	3.7	3.1	3.1	2.9	2.5	4.3	3	4.8	4.4	3.2	1.5	2.9	2.6	3.2	1.3	2.6	4.3	3.1	3.8	5.4	4.3	5.5	4.6	4.1	5.5	3.5	24
13	3.2	3.5	2.7	3.8	8.6	4.8	3.8	13.2	9	8.4	7.1	3.2	4.1	3.1	1.5	3	2.5	1.2	7.1	6.5	5.3	4.6	7.1	3.8	13.2	5.0	24
14	2.9	3.2	3.1	2.7	1.5	2.1	2.6	0.5	1.9	1.6	2.3	1.5	1.8	3.9	2.4	2.4	2.4	2.2	1.4	1.8	3.6	2.9	2.8	2.8	3.9	2.3	24
15	2.1	1.7	2.4	2.6	2.1	3.7	3.4	4.3	4.7	4.9	4.7	4.8	3.7	4.1	4.7	4.3	4.3	6.9	5.8	6.1	5.3	6	5	5.7	6.9	4.3	24
16	6	5.8	5.9	5.7	4.7	4.8	5.9	10.8	16	7.1	5.7	5.7	5.6	4.6	4.6	4.7	2.8	5.6	6.4	4.9	3.2	4.6	9.8	12.7	16	6.4	24
17	10.9	8.7	7.8	6.9	5.9	5.2	6.5	7.6	8.6	9.5	7.7	6	6.6	6.8	6.3	5.9	5.5	5.5	6.5	7.4	7.6	6.9	6	4.7	10.9	7.0	24
18	7.1	4.7	3.5	2.6	3.2	2.7	3.7	3.4	4.3	3.8	6.3	4.4	3.5	2.1	5.9	7.7	4.4	4.6	6.4	3.1	5.1	7.3	2.7	3.9	7.7	4.4	24
19	4.8	3.7	3.3	5.5	3.9	4.3	4.8	4.9	6.9	7.6	5.1	5.4	0.3	2.1	1.1	1.6	1.5	2.3	2.9	10.2	4.6	2.7	1.6	2.1	10.2	3.9	24
20	0.9	1.5	2.3	2.5	0.8	2.1	1.6	2.1	3.1	5.4	6	3.3	2.4	4.4	4.6	4.3	4.2	5.5	3	4.6	6.9	5.9	4.7	6.9	6.9	3.7	24
21	8.5	12	7.9	5.5	4.4	4.8	3.9	4.9	7.4	5.8	4.1	6	3	3.8	4.5	4.3	3.8	2.5	2.3	2.1	2.8	3.1	4.1	2.9	12	4.8	24
22	3.3	2.6	3	3.3	2.3	2.7	4.3	6.3	6.3	5.3	5.1	2	1.6	1.9	0.3	3.5	2.3	5.1	1.7	0.3	0.7	1.3	2.4	4.2	6.3	3.0	24
23	3.1	2.4	5.4	15.4	12.9	8.1	11.7	4.2	5.1	5	3.7	3.5	2.8	2.6	3.2	4.6	2.8	4.4	4.3	7	4.2	3	2.8	3.9	15.4	5.3	24
24	2.5	3.3	3.7	3.9	5	4.5	8	9.1	8.1	4.4	5.9	6.5	4.1	3.2	5.1	22.5	4.3	4.4	1.3	2.6	5.2	1.6	5.3	2.2	22.5	5.3	24
25	2	1.6	3.6	3.5	4.1	3	2.4	6.5	9.3	8.7	5.9	4.8	13.7	3.9	0.5	5.4	5.8	4.6	4.8	2.8	2.9	6.6	14	10.6	14	5.5	24
26	5.2	4.7	3.6	2.6	1.8	1.9	3.1	3.7	4.1	3.7	3.3	2.4	3.5	2	2.1	1.6	3.5	1	5.1	4.3	4.9	3.1	2.8	3.6	5.2	3.2	24
27	1.9	1	1.2	2.8	2.4	1.6	2.4	2.8	2	3.6	4.2	5.9	4.3	4.8	5.2	7.4	7.5	7	7.4	9.1	9.2	10.8	8.8	8.8	10.8	5.1	24
28	8.8	9.1	7	9.1	9	10.2	10.4	10.5	17.2	29	10.5	10.2	16	18.9	18.6	9.4	11.4	12.9	12	12.9	14.8	15.4	16.2	13.9	29	13.1	24
29	14	11.4	11.9	10.9	9.3	10.3	12.9	11.2	13.4	15.6	13	15.1	16.3	16.7	29.5	18.8	13	18.1	23.5	15.9	17	18.7	15.7	10.7	29.5	15.1	24
30	11.8	8.4	5.3	2.6	2.6	2.5	2.2	3.7	5.6	6.3	3.8	3.7	1.4	1.6	2	1.8	1.7	4.6	3.3	5.5	11.7	12.7	5.4	2.9	12.7	4.7	24
31	3	1.5	3.5	2.9	3.1	2.9	2.7	3.3	3.6	2.1	2.5	2.5	1.9	1.3	1.9	2.8	2.6	3	2.5	2.4	2.7	2.5	2.5	2.7	3.6	2.6	24
HOURLY MAX	16	13	12	19	22	13	14	16	76	29	13	15	16	19	30	23	15	65	64	17	17	19	16	17			
HOURLY AVG	5.2	4.8	4.6	5.5	5.1	4.9	5.6	6.7	9.6	6.8	5.5	5.2	4.9	5.7	5.7	6.4	5.4	7.7	8.0	5.8	6.1	6.3	6.6	5.9			

STATUS FLAG CODES

S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

MONTHLY SUMMARY

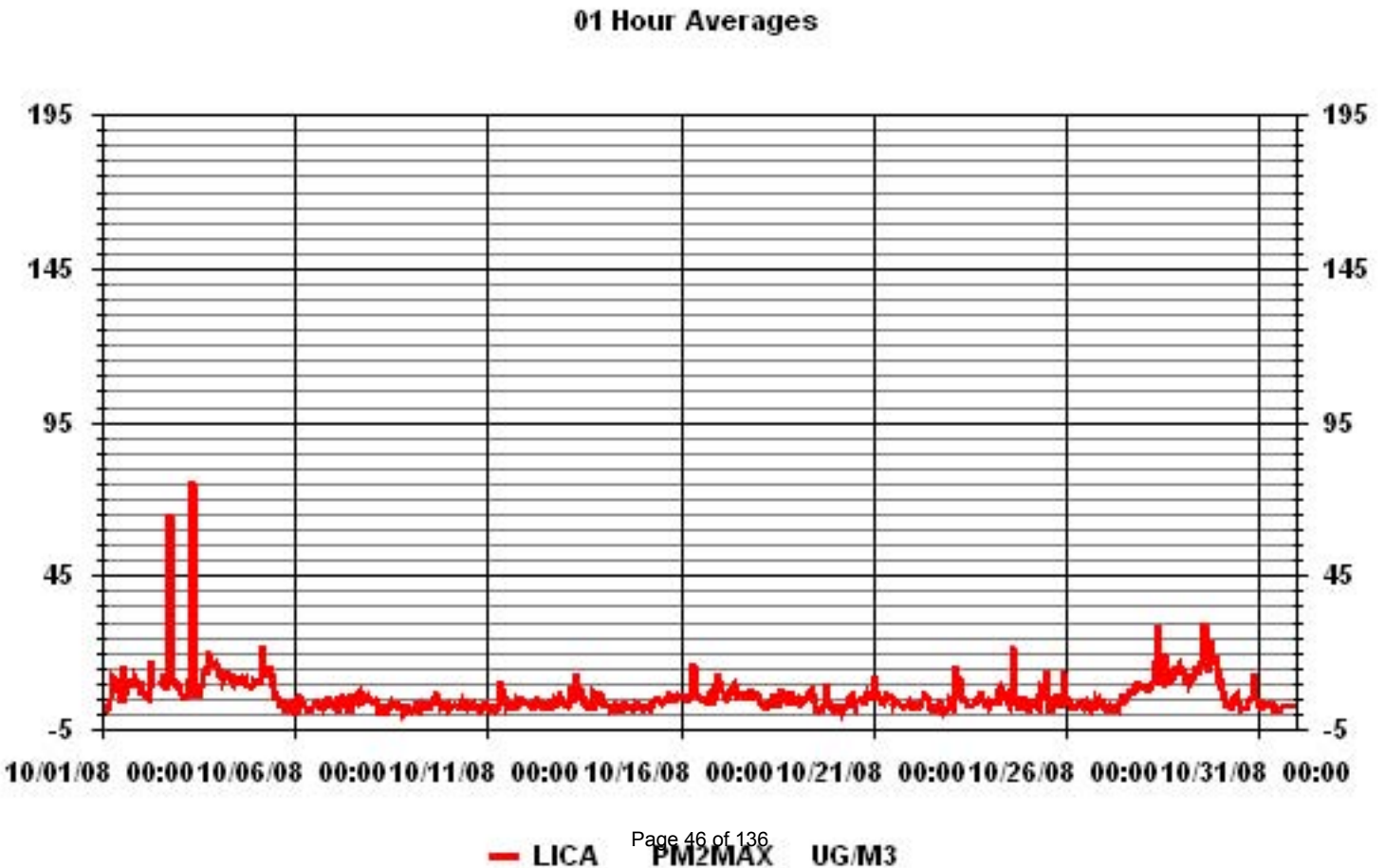
NUMBER OF NON-ZERO READINGS: 690

MAXIMUM INSTANTANEOUS VALUE: 75.7 UG/M^3 @ HOUR(S) 8 ON DAY(S) 3

IZS CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 696 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION 5.94


01 Hour Averages
195
145
95
45
-5
10/01/08 00:00
10/06/08 00:00
10/11/08 00:00
10/16/08 00:00
10/21/08 00:00
10/26/08 00:00
10/31/08 00:00
LICA PM2MAX UG/M3

Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2008

NITROGEN DIOXIDE hourly averages in ppb

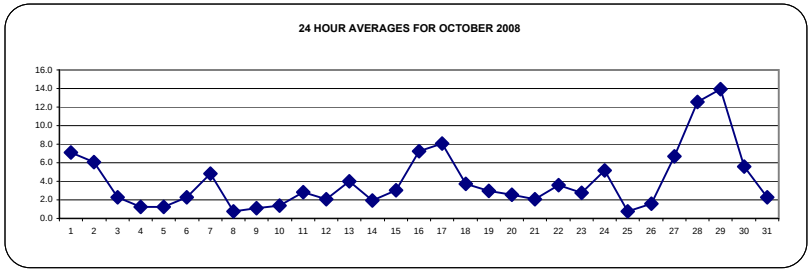
MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	1	1	1	2	2	7	6	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2	3	4	14	17	15	12	13	12	9	17	7.1	24
2	8	7	6	4	3	3	3	7	**IZS**	6	2	**M**	**M**	1	1	2	2	9	17	11	14	12	6	3	17	6.0	22
3	2	1	1	3	3	5	4	**IZS**	1	1	2	1	1	1	1	1	1	2	11	2	2	3	2	1	11	2.3	24
4	1	1	1	1	1	2	**IZS**	3	1	1	1	1	1	1	2	1	2	2	1	1	1	1	1	1	3	1.3	24
5	1	1	1	1	2	**IZS**	2	1	1	1	1	1	1	1	1	1	2	2	2	2	2	1	1	0	2	1.3	24
6	0	1	1	1	**IZS**	2	3	2	0	0	0	0	0	0	0	0	0	1	5	8	7	8	6	7	8	2.3	24
7	6	4	4	**IZS**	9	13	13	9	4	2	2	3	3	2	3	2	3	6	4	4	5	3	4	3	13	4.8	24
8	3	3	**IZS**	2	1	1	1	1	1	1	0	1	0	0	0	1	1	1	0	0	0	0	0	0	3	0.8	24
9	0	**IZS**	2	1	3	1	2	3	3	2	1	1	1	0	1	1	1	0	0	0	0	0	1	1	3	1.1	24
10	**IZS**	2	2	4	2	2	1	1	1	1	1	0	0	1	1	0	0	1	0	0	0	4	7	**IZS**	7	1.4	24
11	5	4	7	8	6	7	4	3	4	4	1	0	0	0	0	0	1	1	2	2	2	2	**IZS**	2	8	2.8	24
12	1	1	2	2	1	1	2	2	2	2	2	1	1	1	1	1	1	2	3	3	7	**IZS**	5	4	7	2.1	24
13	5	5	7	6	8	9	7	7	7	4	3	1	1	1	0	1	2	1	2	4	**IZS**	3	4	4	9	4.0	24
14	5	6	4	3	2	3	3	2	1	1	0	0	0	0	0	0	0	0	1	**IZS**	1	4	6	2	6	1.9	24
15	2	3	4	2	3	3	4	5	4	3	2	2	1	1	2	2	2	2	**IZS**	3	4	4	6	6	6	3.0	24
16	6	8	11	11	11	7	9	10	19	4	2	2	2	2	1	1	3	**IZS**	12	9	9	11	9	7	19	7.2	24
17	6	5	4	4	6	8	5	7	9	7	4	4	4	3	3	3	**IZS**	12	21	20	16	13	12	9	21	8.0	24
18	7	5	5	10	11	4	7	3	3	4	2	1	1	1	1	**IZS**	1	3	4	1	1	1	3	6	11	3.7	24
19	4	4	2	4	3	8	6	7	4	2	1	1	1	0	**IZS**	0	0	5	4	5	3	2	1	2	8	3.0	24
20	2	2	2	2	1	2	2	3	2	2	1	1	1	**IZS**	1	1	1	2	3	4	10	5	4	4	10	2.5	24
21	5	5	3	2	2	2	5	6	2	1	0	0	**IZS**	0	0	0	0	0	0	1	2	6	4	2	6	2.1	24
22	3	2	4	4	3	6	16	9	6	3	2	**IZS**	2	2	2	2	3	2	2	2	2	2	2	2	16	3.6	24
23	2	2	2	2	3	5	7	1	0	0	**IZS**	0	0	1	1	1	1	5	10	6	4	4	4	3	10	2.8	24
24	5	10	8	5	10	10	5	18	10	**IZS**	5	4	4	2	8	1	4	3	2	1	1	1	1	1	18	5.2	24
25	1	2	1	2	1	1	2	7	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0.7	24
26	0	0	1	1	0	0	0	**IZS**	0	0	0	0	0	0	0	0	1	3	9	4	5	6	5	2	9	1.6	24
27	2	1	1	1	1	3	**IZS**	3	3	2	3	3	3	4	5	5	10	15	15	15	19	16	12	12	19	6.7	24
28	11	10	11	12	11	**IZS**	14	13	17	17	7	7	8	6	9	11	19	21	17	14	13	14	14	13	21	12.6	24
29	13	12	11	13	**IZS**	15	14	15	13	13	10	8	11	12	17	17	19	21	**23**	19	19	17	6	2	**23**	**13.9**	24
30	1	1	1	**IZS**	1	2	6	8	4	4	2	1	0	0	0	0	1	15	14	17	20	18	11	2	20	5.6	24
31	1	1	**IZS**	2	4	3	4	6	6	3	1	1	1	2	2	2	3	3	2	1	1	1	1	1	6	2.3	24
HOURLY MAX	13	12	11	13	11	15	16	18	19	17	10	8	11	12	17	17	19	21	23	20	20	18	14	13			
HOURLY AVG	3.6	3.7	3.8	4.0	3.9	4.7	5.4	5.8	4.6	3.1	2.0	1.6	1.7	1.6	2.2	2.0	2.9	5.1	6.8	5.8	6.1	5.8	5.0	3.7			

STATUS FLAG CODES

S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

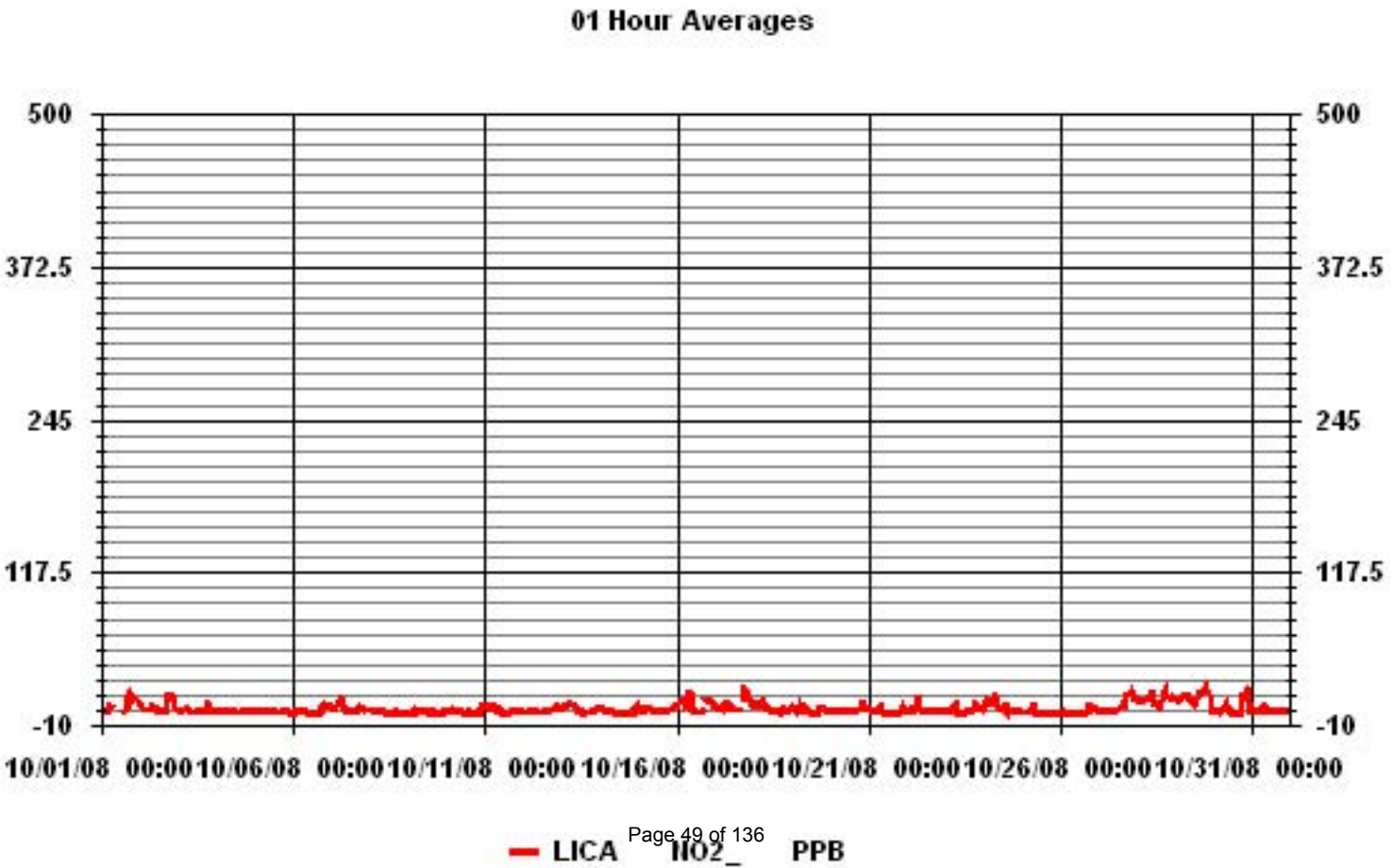
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 212 PPB | 24-HR 106 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	608					
MAXIMUM 1-HR AVERAGE:	23	PPB	@ HOUR(S)	18	ON DAY(S)	29
MAXIMUM 24-HR AVERAGE:	13.9	PPB			ON DAY(S)	29

IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	742	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	99.7	%
STANDARD DEVIATION:	4.50		MONTHLY AVERAGE:	3.96	PPB


01 Hour Averages
500
372.5
245
117.5
-10
10/01/08 00:00
10/06/08 00:00
10/11/08 00:00
10/16/08 00:00
10/21/08 00:00
10/26/08 00:00
10/31/08 00:00
LICA NO2_ PPB

LICA
NO2_ / WD Joint Frequency Distribution (Percent)

October 2008

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	.85	1.85	1.57	2.14	6.58	10.87	11.87	3.29	3.14	3.00	7.29	12.58	15.02	13.44	5.29	1.14	100.00
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	.85	1.85	1.57	2.14	6.58	10.87	11.87	3.29	3.14	3.00	7.29	12.58	15.02	13.44	5.29	1.14	

Calm : .00 %

Total # Operational Hours : 699

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	6	13	11	15	46	76	83	23	22	21	51	88	105	94	37	8	699
<	110																	
<	210																	
>=	210																	
	Totals	6	13	11	15	46	76	83	23	22	21	51	88	105	94	37	8	

Calm : .00 %

Total # Operational Hours : 699

Logger : 01 Parameter : NO2_

Class Limits (PPB)

>= 210

< 210

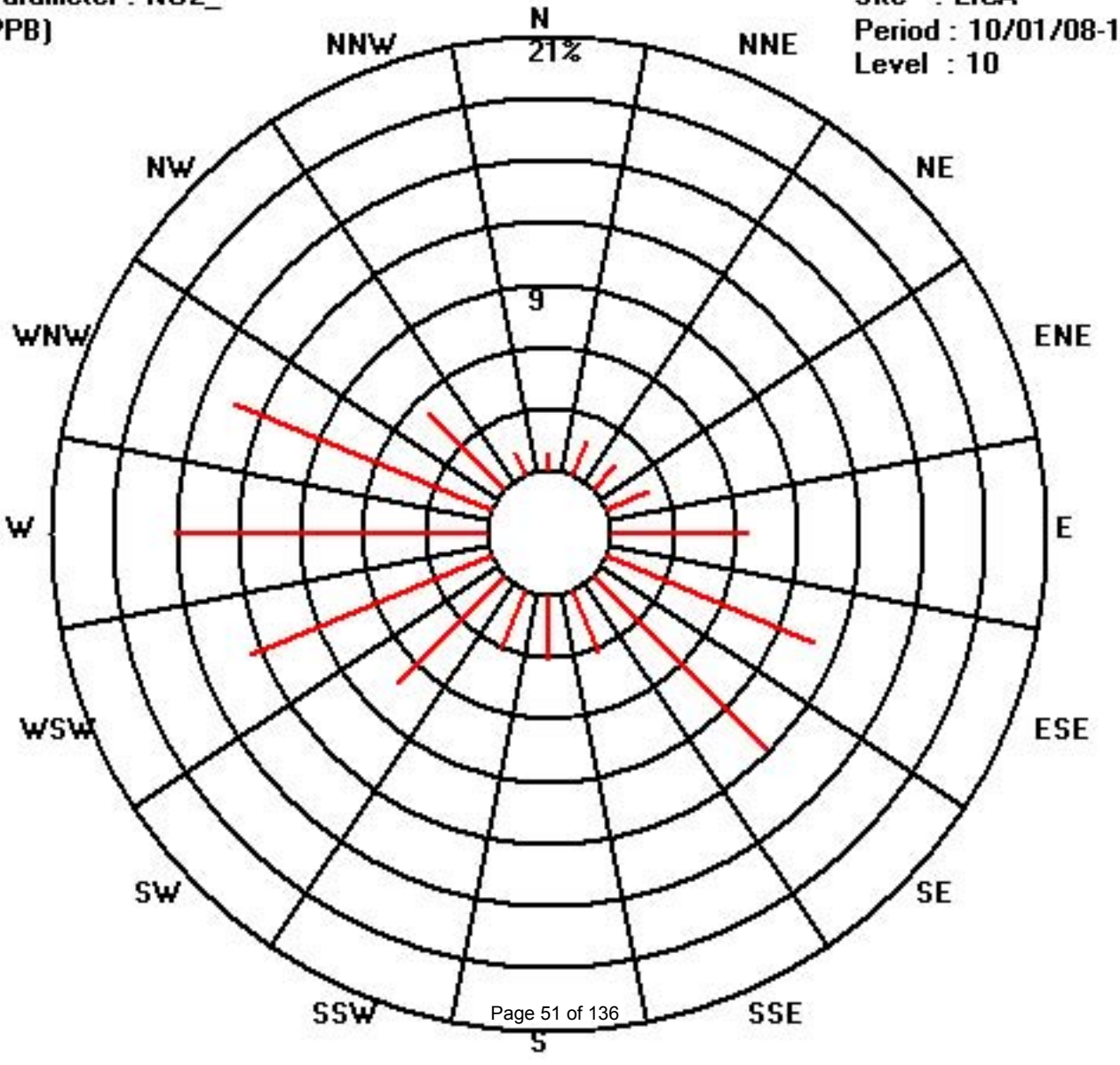
< 110

< 50

Site : LICA

Period : 10/01/08-10/31/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2008

NITROGEN DIOXIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	1	1	2	3	3	28	8	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	4	12	25	25	22	16	16	22	11	28	12.4	24
2	9	9	8	6	4	5	6	25	**IZS**	16	5	M	M	3	3	2	6	18	25	22	29	17	13	5	29	11.2	22
3	4	2	2	8	10	12	6	**IZS**	2	4	4	2	3	4	3	2	2	7	23	3	4	5	5	2	23	5.2	24
4	1	1	1	2	7	2	**IZS**	6	6	1	5	5	2	2	3	2	3	4	2	3	3	3	8	2	8	3.2	24
5	1	1	1	1	6	**IZS**	3	3	3	2	1	2	5	3	2	3	4	4	3	2	7	2	1	1	7	2.7	24
6	1	1	1	1	**IZS**	4	4	3	2	1	1	1	0	0	0	1	1	2	18	16	12	13	10	8	18	4.4	24
7	10	6	9	**IZS**	17	15	23	20	7	3	19	11	8	5	5	4	10	18	8	10	10	6	8	5	23	10.3	24
8	5	4	**IZS**	4	2	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	0	0	0	0	5	1.3	24
9	1	**IZS**	2	3	6	2	3	4	5	4	2	1	1	4	1	1	2	1	0	0	1	1	1	2	6	2.1	24
10	**IZS**	3	3	6	5	4	3	2	4	10	12	1	2	12	22	1	1	1	1	0	2	9	12	**IZS**	22	5.3	23
11	7	5	11	11	9	9	6	6	5	4	2	1	0	1	1	1	1	3	5	6	4	5	**IZS**	2	11	4.6	24
12	2	2	6	2	2	2	2	8	4	2	2	1	1	1	2	2	2	3	5	6	10	**IZS**	7	7	10	3.5	24
13	6	7	9	10	13	11	9	8	8	6	5	2	1	2	1	2	4	2	4	10	**IZS**	4	4	5	13	5.8	24
14	6	7	5	6	3	4	4	4	2	2	1	1	1	0	0	0	0	1	1	**IZS**	5	8	8	5	8	3.2	24
15	4	5	7	3	4	4	9	6	5	5	3	4	2	4	4	6	4	3	**IZS**	4	6	6	9	9	9	5.0	24
16	7	10	15	13	33	11	12	24	35	14	7	3	3	21	2	3	14	**IZS**	19	28	14	17	13	12	35	14.3	24
17	17	8	7	7	27	26	7	14	15	31	6	5	7	5	5	5	**IZS**	33	52	30	20	19	16	13	52	16.3	24
18	13	7	10	12	14	7	9	7	6	6	5	2	2	1	1	**IZS**	2	11	12	1	3	2	8	11	14	6.6	24
19	10	8	3	9	5	12	15	15	7	3	2	2	1	1	**IZS**	1	4	15	14	14	7	2	2	3	15	6.7	24
20	3	3	3	3	3	4	3	4	4	4	2	1	2	**IZS**	1	1	4	5	8	14	14	11	6	8	14	4.8	24
21	7	7	6	3	3	4	7	10	3	1	1	1	**IZS**	1	0	9	1	1	0	3	6	10	7	3	10	4.1	24
22	5	3	5	7	4	14	31	22	12	4	2	**IZS**	4	2	7	4	6	4	2	3	2	3	4	3	31	6.7	24
23	2	2	2	3	7	7	101	4	1	1	**IZS**	1	1	1	1	10	3	7	14	14	7	5	5	5	101	8.9	24
24	11	16	12	12	13	16	9	**177**	19	**IZS**	25	41	42	8	60	37	73	36	4	2	2	2	2	2	**177**	**27.0**	24
25	2	2	2	3	3	2	3	57	**IZS**	1	1	0	0	0	0	0	1	1	1	1	1	0	0	0	57	3.5	24
26	1	1	1	1	1	0	1	**IZS**	0	0	0	0	0	0	0	1	2	6	14	7	7	11	8	4	14	2.9	24
27	3	2	2	2	3	8	**IZS**	5	4	3	3	4	4	5	7	7	21	20	22	23	25	30	15	17	30	10.2	24
28	14	13	14	17	14	**IZS**	20	17	24	25	10	9	12	13	17	13	40	43	23	18	19	18	17	16	43	18.5	24
29	16	15	13	16	**IZS**	24	20	24	18	19	20	9	13	14	19	19	28	28	27	23	23	23	12	2	28	18.5	24
30	2	2	1	**IZS**	3	4	10	13	6	5	3	2	1	1	0	1	5	29	20	22	24	23	20	4	29	8.7	24
31	2	2	**IZS**	6	11	5	5	10	10	10	3	1	2	18	5	6	7	5	4	3	2	6	4	2	18	5.6	24
HOURLY MAX	17	16	15	17	33	28	101	177	35	31	25	41	42	21	60	37	73	43	52	30	29	30	22	17			
HOURLY AVG	5.8	5.2	5.6	6.2	8.1	8.5	11.7	17.8	7.8	6.5	5.3	4.1	4.4	4.6	6.0	5.0	8.8	11.2	11.9	10.4	9.5	9.2	8.2	5.6			

STATUS FLAG CODES

S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

MONTHLY SUMMARY

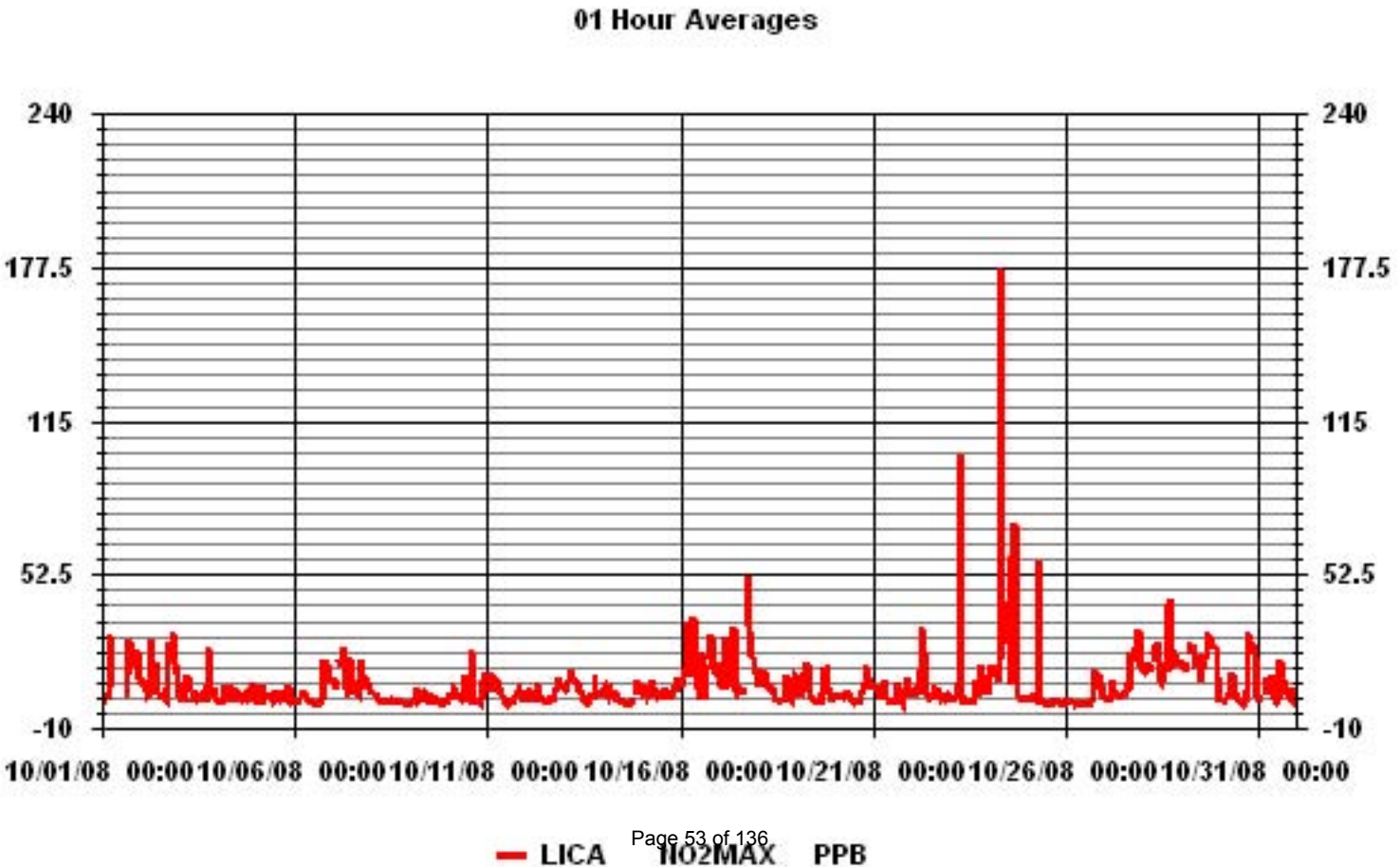
NUMBER OF NON-ZERO READINGS: 669

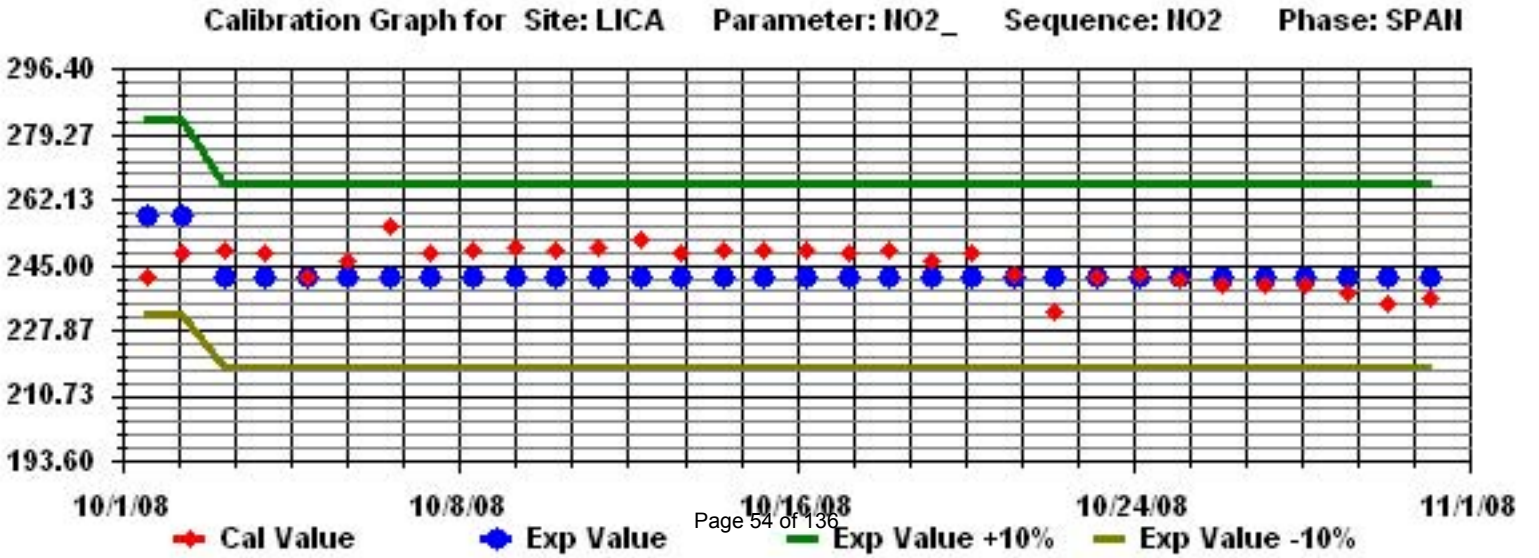
MAXIMUM INSTANTANEOUS VALUE: 177 PPB @ HOUR(S) 7 ON DAY(S) 24

IZS CALIBRATION TIME: 31 HRS OPERATIONAL TIME: 741 HRS

MONTHLY CALIBRATION TIME: 8 HRS

STANDARD DEVIATION 11.24


01 Hour Averages
240
177.5
115
52.5
-10
10/01/08 00:00
10/06/08 00:00
10/11/08 00:00
10/16/08 00:00
10/21/08 00:00
10/26/08 00:00
10/31/08 00:00
LICA NO2MAX PPB


Calibration Graph for Site: LICA Parameter: NO2_ Sequence: NO2 Phase: SPAN
296.40
279.27
262.13
245.00
227.87
210.73
193.60
10/1/08
10/8/08
10/16/08
10/24/08
11/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2008

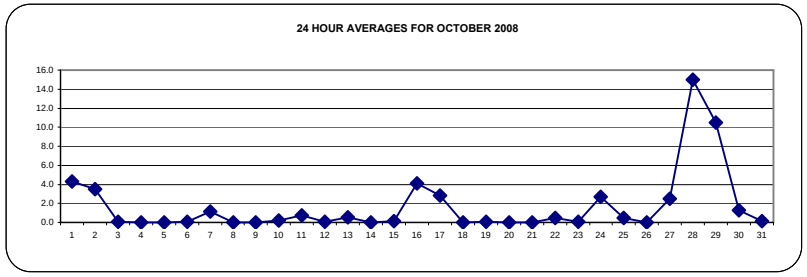
NITRIC OXIDE hourly averages in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	24	24	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0	0	0	1	7	6	1	3	4	3	24	4.3	24
2	3	3	2	1	2	5	12	32	**IZS**	6	0	**M**	**M**	0	0	0	0	0	3	2	2	0	0	0	32	3.5	22
3	0	0	0	0	0	1	0	**IZS**	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
4	0	0	0	0	0	0	**IZS**	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	**IZS**	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	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0.1	24
7	0	0	0	**IZS**	4	6	9	2	2	0	0	2	1	0	0	0	0	1	0	0	0	0	0	0	9	1.2	24
8	0	0	**IZS**	0	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	**IZS**	0	0	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	**IZS**	0	0	0	0	0	0	0	0	2	1	0	0	1	0	0	0	0	0	0	0	0	0	**IZS**	2	0.2	24
11	0	0	0	0	0	3	2	3	4	4	1	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	4	0.7	24
12	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	1	0.0	24
13	0	0	0	0	0	1	3	2	3	3	1	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	3	0.6	24
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0.0	24
15	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	1	0.1	24
16	0	0	0	1	3	2	4	20	57	2	1	1	1	1	0	0	0	**IZS**	0	1	0	0	1	0	57	4.1	24
17	1	0	0	0	0	1	0	0	2	5	1	1	1	1	1	0	**IZS**	1	20	14	9	3	3	1	20	2.8	24
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0.0	24
19	0	0	0	0	0	0	0	0	1	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	1	0.0	24
20	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	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	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
22	0	0	0	0	0	0	5	3	2	1	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	5	0.5	24
23	0	0	0	0	0	0	1	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
24	0	2	0	0	3	3	0	16	2	**IZS**	3	3	8	0	10	8	3	1	0	0	0	0	0	0	16	2.7	24
25	0	0	0	0	0	0	0	11	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0.5	24
26	0	0	0	0	0	0	0	**IZS**	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	**IZS**	0	0	1	1	1	2	1	1	0	2	1	4	6	14	10	5	8	14	2.5	24
28	6	6	11	20	22	**IZS**	47	43	**64**	41	3	3	2	2	3	1	5	13	16	2	3	13	11	8	**64**	**15.0**	24
29	7	4	4	3	**IZS**	23	30	47	32	20	6	5	5	4	6	4	2	7	13	11	8	0	0	0	47	10.5	24
30	0	0	0	**IZS**	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	5	9	11	2	0	11	1.3	24
31	0	0	**IZS**	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
HOURLY MAX	7	6	11	20	22	24	47	47	64	41	6	5	8	4	10	8	5	13	20	14	14	13	11	8			
HOURLY AVG	0.6	0.5	0.6	0.9	1.2	2.4	4.7	6.4	6.1	3.1	0.7	0.6	0.7	0.3	0.7	0.4	0.4	0.9	2.1	1.6	1.6	1.4	0.9	0.7			

STATUS FLAG CODES

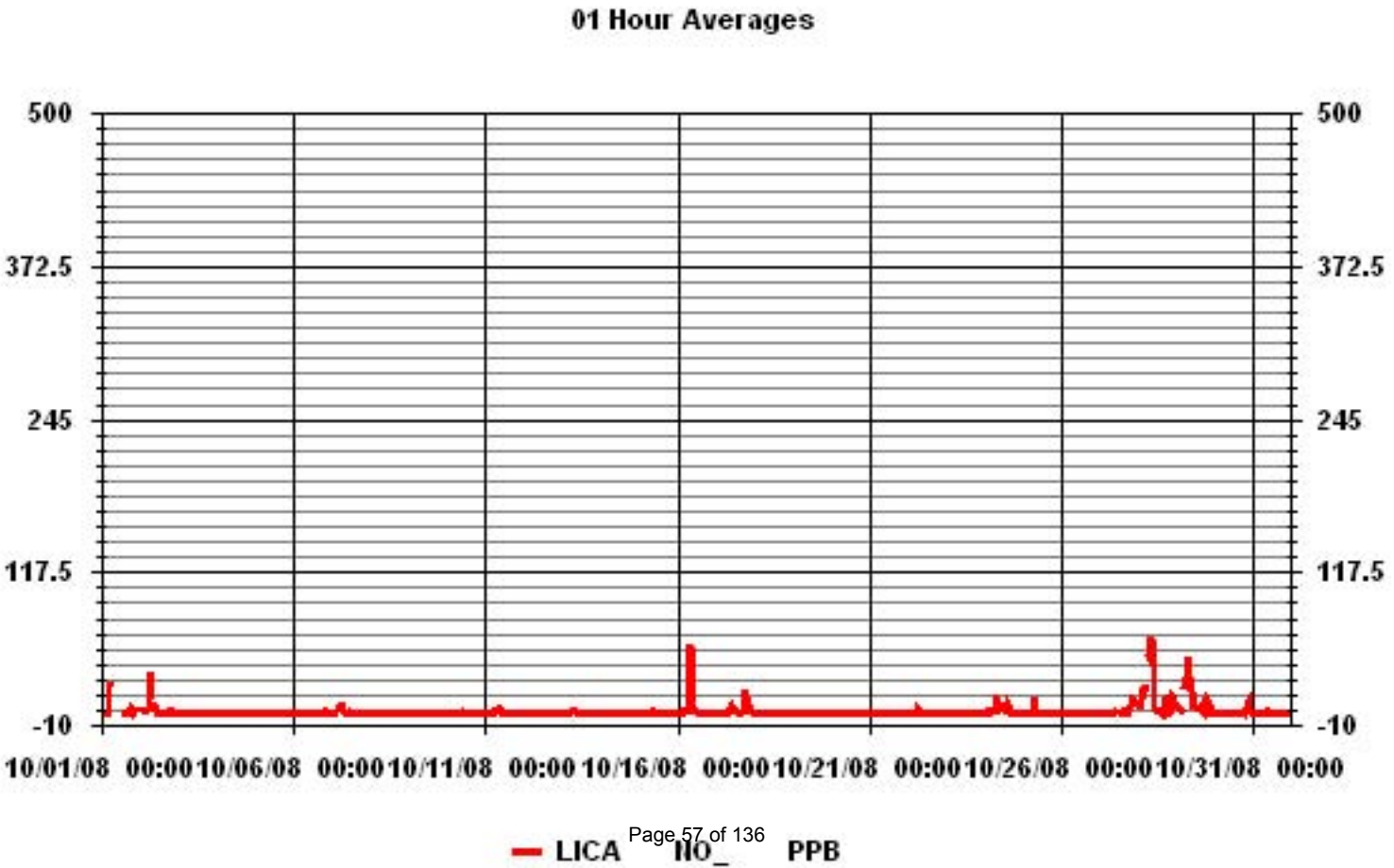
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	166					
MAXIMUM 1-HR AVERAGE:	64	PPB	@ HOUR(S)	8	ON DAY(S)	28
MAXIMUM 24-HR AVERAGE:	15.0	PPB			ON DAY(S)	28

IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	742	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	99.7	%
STANDARD DEVIATION:	5.87		MONTHLY AVERAGE:	1.62	PPB


01 Hour Averages
500
372.5
245
117.5
-10
10/01/08 00:00
10/06/08 00:00
10/11/08 00:00
10/16/08 00:00
10/21/08 00:00
10/26/08 00:00
10/31/08 00:00
LICA NO_ PPB

LICA
NO_ / WD Joint Frequency Distribution (Percent)

October 2008

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	.85	1.85	1.57	2.00	6.58	10.87	11.87	3.14	3.14	3.00	7.29	12.58	15.02	13.44	5.29	1.14	99.71
<	110	.00	.00	.00	.14	.00	.00	.00	.14	.00	.00	.00	.00	.00	.00	.00	.00	.28
<	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	.85	1.85	1.57	2.14	6.58	10.87	11.87	3.29	3.14	3.00	7.29	12.58	15.02	13.44	5.29	1.14	

Calm : .00 %

Total # Operational Hours : 699

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	6	13	11	14	46	76	83	22	22	21	51	88	105	94	37	8	697
<	110				1				1									2
<	210																	
>=	210																	
	Totals	6	13	11	15	46	76	83	23	22	21	51	88	105	94	37	8	

Calm : .00 %

Total # Operational Hours : 699

Logger : 01 Parameter : NO_

Class Limits (PPB)

>= 210

< 210

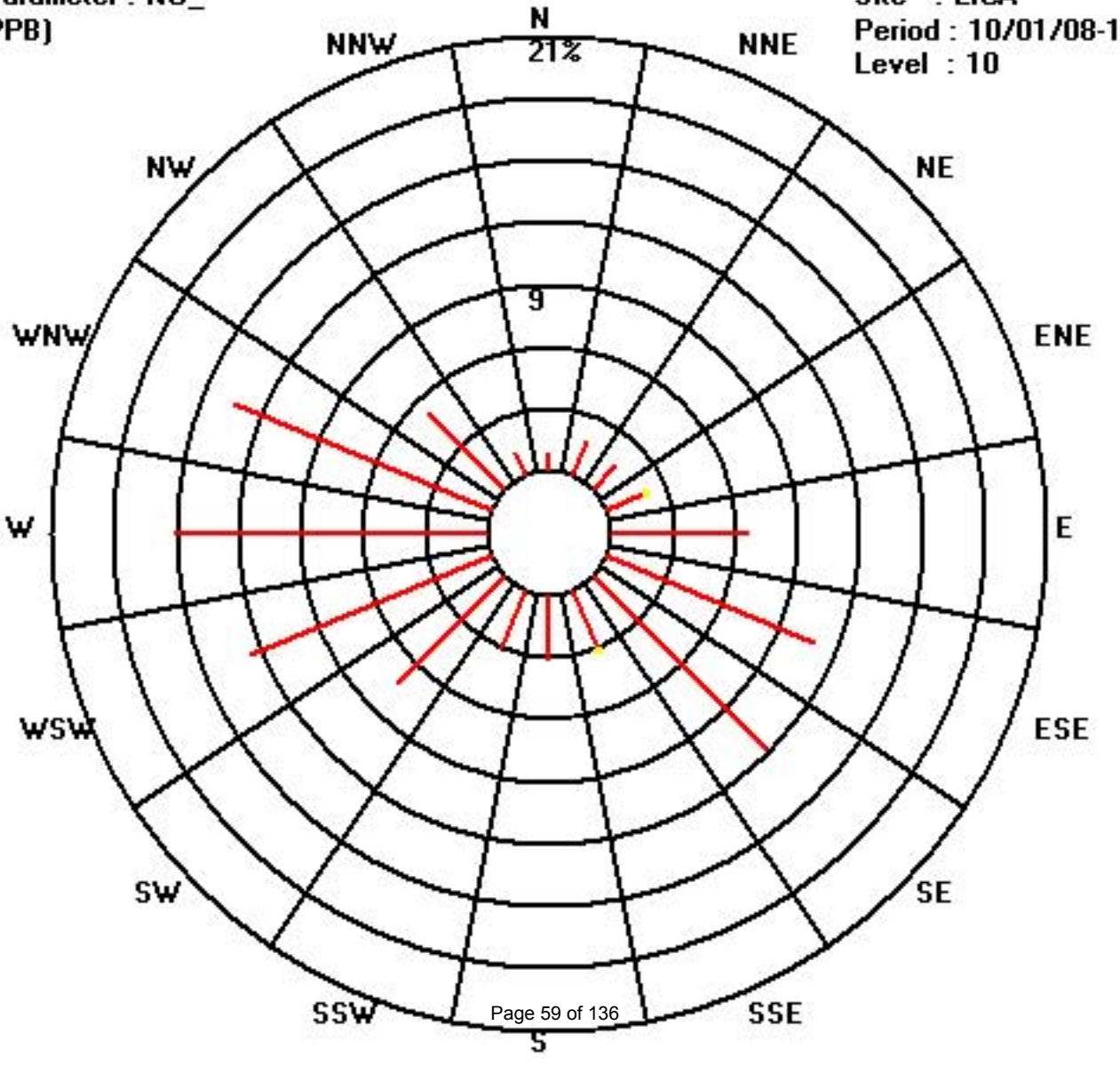
< 110

< 50

Site : LICA

Period : 10/01/08-10/31/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2008

NITRIC OXIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	1	7	113	36	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2	7	5	64	14	3	3	39	6	113	18.8	24
2	3	6	4	2	5	14	23	93	**IZS**	27	2	**M**	**M**	0	1	0	1	2	21	22	32	2	7	0	93	12.7	22
3	0	0	0	5	6	13	1	**IZS**	0	2	3	1	3	0	0	0	1	2	2	0	0	2	4	25	25	3.0	24
4	0	0	0	0	3	0	**IZS**	3	3	1	2	2	1	1	0	1	1	2	0	1	1	0	1	0	3	1.0	24
5	0	0	0	0	3	**IZS**	0	2	1	0	0	0	16	1	6	3	7	2	0	0	7	0	0	0	16	2.1	24
6	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	12	5	0	0	12	0.8	24
7	0	1	4	**IZS**	15	14	43	11	21	2	6	18	14	1	1	2	7	14	1	4	1	0	0	0	43	7.8	24
8	0	0	**IZS**	0	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	**IZS**	0	0	0	0	0	3	1	1	0	0	0	9	0	0	1	0	0	0	0	0	0	0	9	0.7	24
10	**IZS**	0	0	0	0	0	0	0	4	14	14	0	11	6	12	0	0	0	0	0	1	0	2	**IZS**	14	2.9	24
11	1	0	1	2	3	5	4	9	5	5	2	1	0	0	0	0	0	2	0	3	1	2	**IZS**	0	9	2.0	24
12	0	0	2	0	0	0	0	2	3	3	1	0	0	0	1	1	0	0	0	0	11	**IZS**	4	0	11	1.2	24
13	0	2	2	3	1	6	7	3	3	4	3	4	0	0	0	0	0	0	5	0	**IZS**	0	0	0	7	1.9	24
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0.0	24
15	2	0	0	0	0	0	2	0	2	3	1	2	2	1	1	1	2	0	**IZS**	0	0	0	0	1	3	0.9	24
16	0	1	2	3	25	49	27	104	100	17	3	6	3	9	0	0	0	**IZS**	3	37	3	3	2	4	104	17.4	24
17	19	1	0	0	6	16	9	7	26	42	2	1	5	2	6	0	**IZS**	14	122	51	15	13	68	3	122	18.6	24
18	3	0	0	0	0	0	0	0	3	1	1	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	3	0.3	24
19	0	0	0	0	0	0	0	0	2	1	1	1	0	1	**IZS**	0	1	2	2	7	0	0	0	2	7	0.9	24
20	2	0	0	0	0	1	0	0	0	1	2	1	2	**IZS**	1	0	2	4	7	13	1	1	1	9	13	2.1	24
21	1	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	4	0	0	0	0	0	0	0	0	4	0.2	24
22	0	0	0	0	0	0	49	59	8	2	3	**IZS**	3	0	1	2	2	1	0	1	0	0	0	0	59	5.7	24
23	0	0	0	0	0	0	60	0	0	0	**IZS**	0	1	0	0	18	0	0	0	1	0	0	0	0	60	3.5	24
24	4	25	1	3	65	17	0	**160**	37	**IZS**	44	32	75	0	59	69	78	21	0	0	0	0	0	0	**160**	30.0	24
25	0	0	0	0	0	0	0	82	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	82	3.6	24
26	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	2	0	2	2	2	0	2	0.3	24
27	0	0	0	0	0	9	**IZS**	0	1	1	1	2	4	1	3	1	36	7	25	16	25	28	16	24	36	8.7	24
28	21	12	23	40	38	**IZS**	63	64	100	96	6	7	5	6	15	3	37	49	44	8	19	37	16	14	100	31.4	24
29	12	9	7	10	**IZS**	70	63	97	46	33	16	5	9	9	11	6	21	20	23	21	18	4	0	0	97	22.2	24
30	0	0	0	**IZS**	0	0	0	2	1	2	2	1	0	0	0	0	0	17	7	21	17	34	10	0	34	5.0	24
31	0	0	**IZS**	1	3	2	2	2	3	17	2	1	2	3	2	11	6	3	1	0	1	1	2	0	17	2.8	24
HOURLY MAX	21	25	23	40	65	113	63	160	100	96	44	32	75	9	59	69	78	49	122	51	32	37	68	25			
HOURLY AVG	2.3	1.9	1.6	2.4	6.2	11.3	13.4	25.1	13.2	9.5	4.0	3.0	5.6	1.7	4.1	4.1	7.0	5.6	11.0	7.4	5.7	4.6	5.8	2.9			

STATUS FLAG CODES

S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

MONTHLY SUMMARY

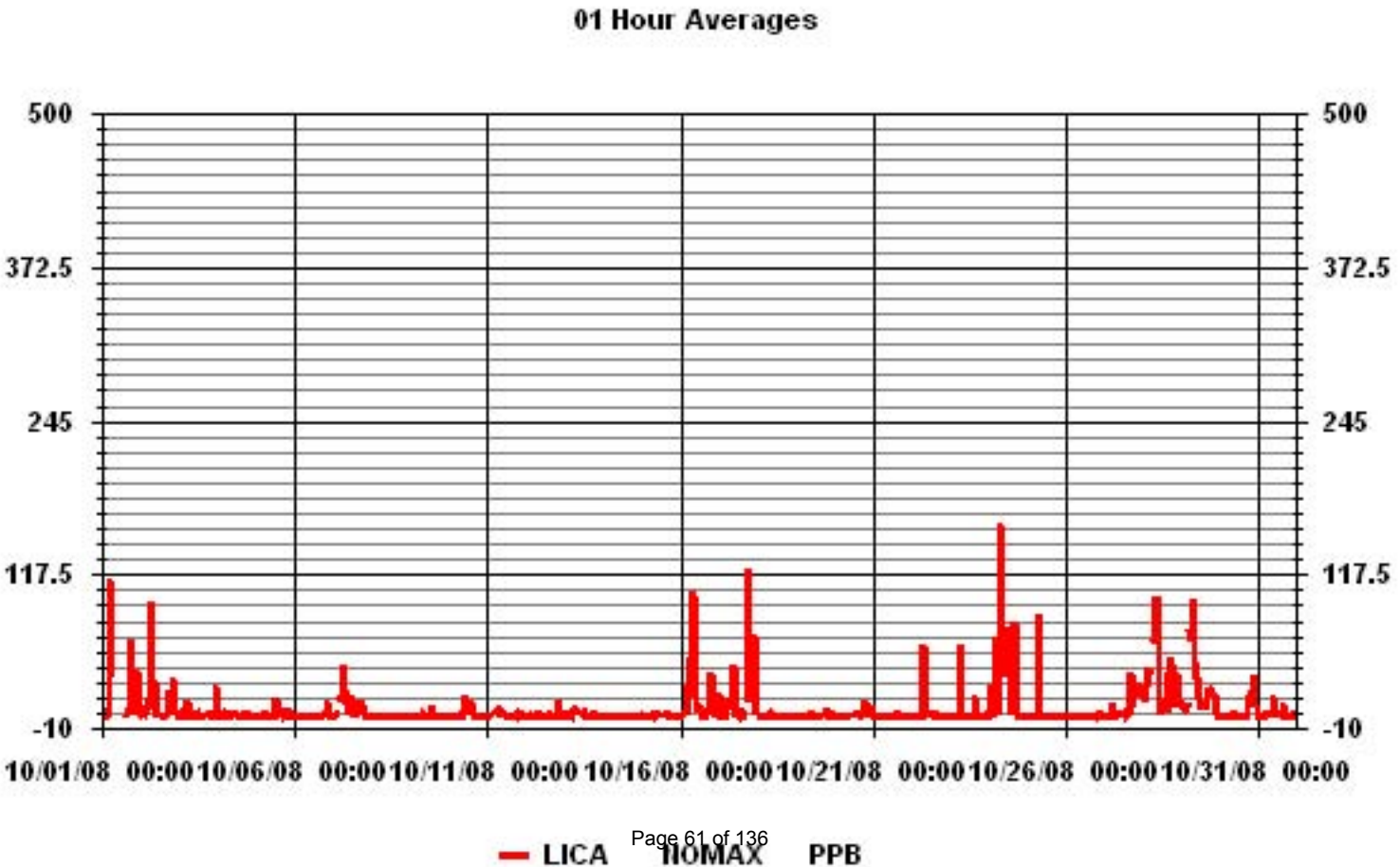
NUMBER OF NON-ZERO READINGS: 349

MAXIMUM INSTANTANEOUS VALUE: 160 PPB @ HOUR(S) 7 ON DAY(S) 24

IZS CALIBRATION TIME: 31 HRS OPERATIONAL TIME: 742 HRS

MONTHLY CALIBRATION TIME: 8 HRS

STANDARD DEVIATION 17.08


01 Hour Averages
500
372.5
245
117.5
-10
10/01/08 00:00
10/06/08 00:00
10/11/08 00:00
10/16/08 00:00
10/21/08 00:00
10/26/08 00:00
10/31/08 00:00
LICA
NOMAX
PPB

Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2008

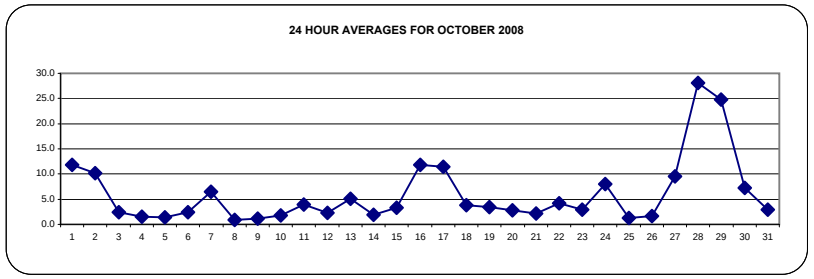
OXIDES OF NITROGEN hourly averages in ppb

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	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	1	1	1	2	3	32	31	**C**	**C**	**C**	**C**	**C**	**C**	**C**	3	3	5	15	25	22	13	17	16	12	32	11.9	24
2	11	11	9	6	6	8	15	39	**IZS**	13	3	**M**	**M**	2	1	2	3	10	21	14	17	12	7	3	39	10.1	22
3	2	1	1	3	4	6	4	**IZS**	2	2	3	1	1	1	1	1	1	2	11	2	2	3	2	1	11	2.5	24
4	1	1	1	1	2	2	**IZS**	3	2	1	2	2	1	1	2	2	2	2	1	1	1	1	1	1	3	1.5	24
5	1	1	1	1	2	**IZS**	2	2	2	1	1	1	2	1	1	1	2	2	2	2	2	1	1	0	2	1.4	24
6	0	1	1	1	**IZS**	2	3	2	0	0	0	0	0	0	0	0	0	1	5	8	8	9	7	7	9	2.4	24
7	6	4	5	**IZS**	13	20	22	11	6	3	3	5	5	3	3	2	4	7	5	5	6	3	4	3	22	6.4	24
8	3	3	**IZS**	2	1	1	1	1	1	1	1	1	0	1	0	1	1	1	0	0	0	0	0	0	3	0.9	24
9	0	**IZS**	2	1	3	1	2	3	3	2	1	1	1	1	1	1	1	0	0	0	0	0	1	1	3	1.1	24
10	**IZS**	2	2	4	2	2	2	1	1	3	2	0	1	3	2	0	0	1	0	0	1	4	7	**IZS**	7	1.8	24
11	5	4	8	9	7	10	6	7	8	8	2	1	0	1	0	1	1	1	2	2	2	3	**IZS**	2	10	3.9	24
12	1	1	2	2	1	1	2	3	3	2	3	2	1	1	1	1	1	2	3	3	7	**IZS**	5	4	7	2.3	24
13	5	6	8	7	9	11	10	9	10	8	5	2	1	1	1	1	2	1	3	4	**IZS**	3	4	5	11	5.0	24
14	5	6	4	3	2	3	3	2	1	1	0	0	0	0	0	0	0	0	0	**IZS**	1	4	6	2	6	1.9	24
15	2	3	4	2	3	3	5	5	5	4	3	3	2	1	2	2	2	2	**IZS**	3	4	4	6	6	6	3.3	24
16	6	8	12	12	14	10	13	31	76	7	4	4	3	3	2	2	3	**IZS**	12	11	10	12	10	7	76	11.8	24
17	8	6	4	5	7	10	6	7	11	12	6	6	6	5	5	3	**IZS**	14	42	35	25	16	15	10	42	11.5	24
18	7	5	5	10	11	4	7	3	4	5	3	2	1	1	1	**IZS**	1	3	4	1	1	1	3	6	11	3.9	24
19	4	4	2	5	3	8	6	8	5	3	2	2	1	1	**IZS**	0	1	5	5	6	3	1	1	2	8	3.4	24
20	2	2	2	2	1	2	2	3	3	2	2	1	1	**IZS**	1	1	2	2	4	5	10	5	4	5	10	2.8	24
21	5	5	3	2	2	2	5	7	2	1	0	0	**IZS**	0	0	0	0	0	0	1	2	6	4	2	7	2.1	24
22	3	2	4	4	3	6	21	12	8	4	3	**IZS**	2	2	2	2	4	2	2	2	2	2	2	2	21	4.2	24
23	2	2	2	2	3	5	9	1	0	0	**IZS**	1	1	1	1	1	1	5	10	6	4	4	4	3	10	3.0	24
24	5	12	8	6	14	14	5	32	13	**IZS**	8	8	13	2	18	9	6	5	2	1	1	1	1	1	32	8.0	24
25	1	2	1	2	1	1	2	18	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	1.2	24
26	0	0	1	1	0	0	0	**IZS**	0	0	0	0	0	0	0	0	1	3	9	5	5	6	5	3	9	1.7	24
27	2	2	1	1	1	4	**IZS**	3	3	3	4	5	5	5	6	6	12	16	20	21	33	27	18	21	33	9.5	24
28	18	17	22	33	34	**IZS**	62	56	**82**	59	10	10	11	8	12	12	24	35	33	17	16	28	25	22	**82**	**28.1**	24
29	21	16	16	16	**IZS**	38	44	63	45	33	17	14	17	16	24	21	22	29	36	30	27	17	6	1	63	24.7	24
30	1	1	1	**IZS**	1	2	6	8	5	5	3	1	0	0	0	0	1	18	15	23	30	30	14	2	30	7.3	24
31	1	1	**IZS**	2	5	4	4	7	7	5	2	1	2	3	3	3	4	4	3	2	1	1	1	1	7	2.9	24
HOURLY MAX	21	17	22	33	34	38	62	63	82	59	17	14	17	16	24	21	24	35	42	35	33	30	25	22			
HOURLY AVG	4.3	4.3	4.6	5.1	5.4	7.3	10.3	12.4	11.0	6.5	3.2	2.6	2.8	2.2	3.1	2.6	3.6	6.3	9.2	7.7	7.8	7.4	6.0	4.5			

STATUS FLAG CODES

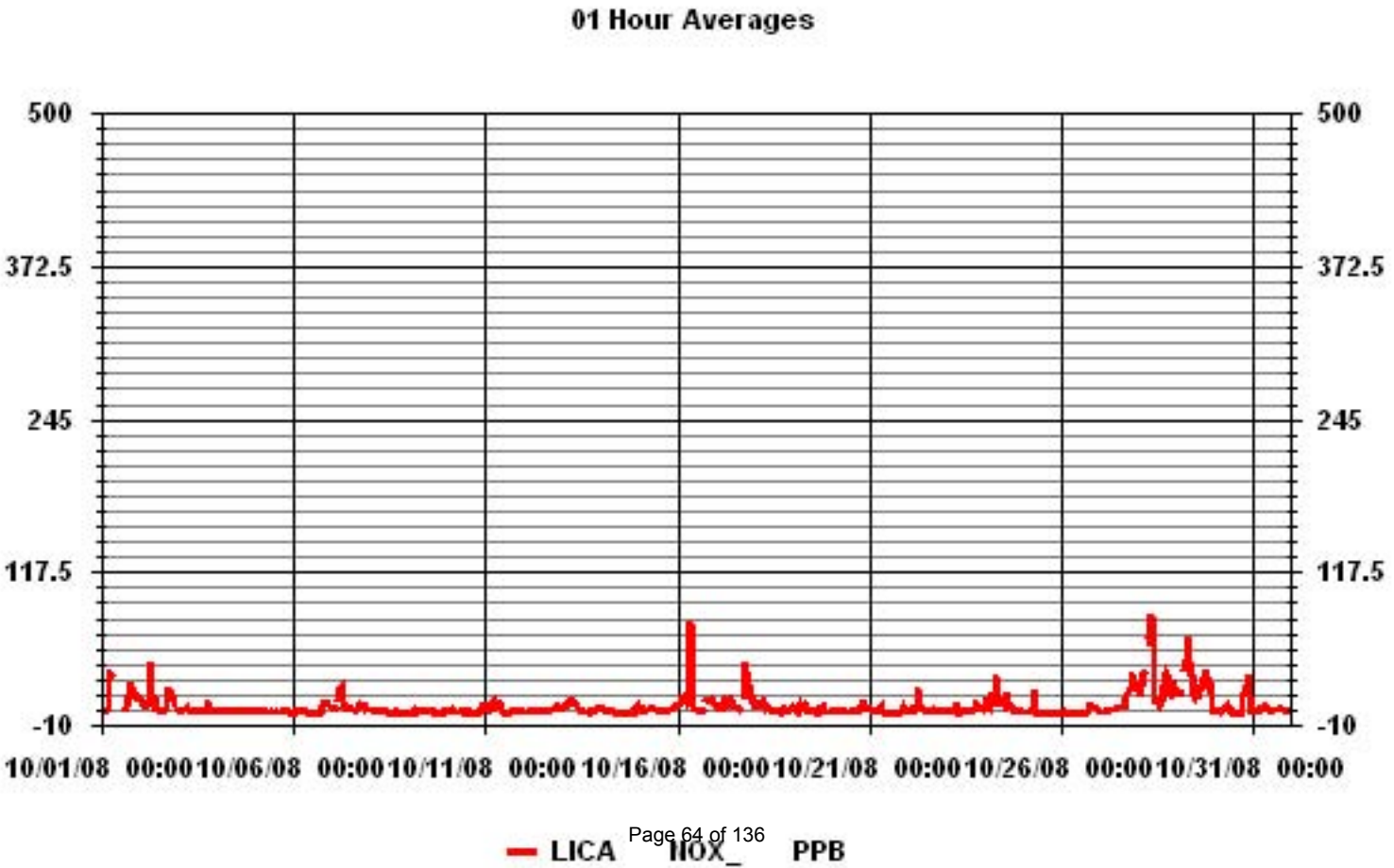
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	620					
MAXIMUM 1-HR AVERAGE:	82	PPB	@ HOUR(S)	8	ON DAY(S)	28
MAXIMUM 24-HR AVERAGE:	28.1	PPB			ON DAY(S)	28

IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	742	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	99.7	%
STANDARD DEVIATION:	9.25		MONTHLY AVERAGE:	5.83	PPB


01 Hour Averages
500
372.5
245
117.5
-10
10/01/08 00:00
10/06/08 00:00
10/11/08 00:00
10/16/08 00:00
10/21/08 00:00
10/26/08 00:00
10/31/08 00:00
LICA NOX_ PPB

LICA
NOX_ / WD Joint Frequency Distribution (Percent)

October 2008

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	.85	1.85	1.57	2.00	6.58	10.87	11.73	3.14	3.14	3.00	7.01	12.58	15.02	13.44	5.15	1.14	99.14
<	110	.00	.00	.00	.14	.00	.00	.14	.14	.00	.00	.28	.00	.00	.00	.14	.00	.85
<	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	.85	1.85	1.57	2.14	6.58	10.87	11.87	3.29	3.14	3.00	7.29	12.58	15.02	13.44	5.29	1.14	

Calm : .00 %

Total # Operational Hours : 699

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	6	13	11	14	46	76	82	22	22	21	49	88	105	94	36	8	693
<	110				1			1	1			2				1		6
<	210																	
>=	210																	
	Totals	6	13	11	15	46	76	83	23	22	21	51	88	105	94	37	8	

Calm : .00 %

Total # Operational Hours : 699

Logger : 01 Parameter : NOX_

Class Limits (PPB)

>= 210

< 210

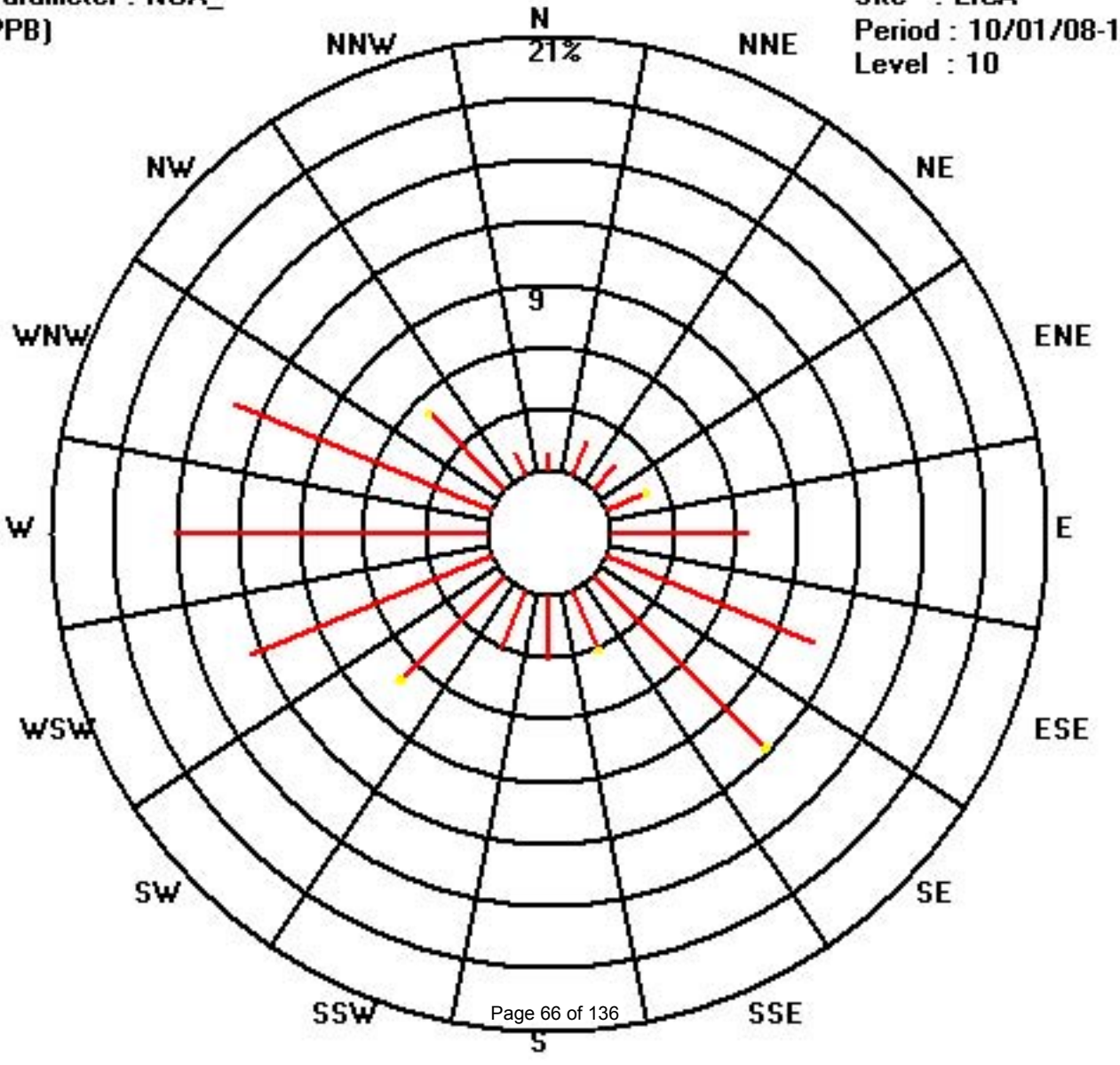
< 110

< 50

Site : LICA

Period : 10/01/08-10/31/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2008

OXIDES OF NITROGEN MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2	2	3	5	11	138	45	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	6	16	31	70	37	20	19	58	17	138	30.0	24
2	13	14	12	8	9	19	30	113	**IZS**	44	8	**M**	**M**	3	4	3	8	20	44	35	55	18	21	5	113	23.1	22
3	4	2	2	9	14	20	7	**IZS**	3	6	8	4	6	5	3	2	3	9	24	4	4	7	8	11	24	7.2	24
4	2	1	1	2	11	3	**IZS**	10	9	2	7	7	4	2	4	4	4	6	3	4	3	3	10	2	11	4.5	24
5	1	1	1	2	8	**IZS**	3	4	5	2	2	2	17	5	6	5	10	7	3	2	13	2	1	1	17	4.5	24
6	1	1	1	1	**IZS**	4	5	3	2	1	1	1	0	1	1	1	1	2	20	17	23	18	10	9	23	5.4	24
7	10	8	13	**IZS**	28	29	61	31	10	5	23	25	17	6	6	5	15	26	9	14	11	7	9	6	61	16.3	24
8	5	4	**IZS**	4	2	1	1	2	2	2	2	1	2	1	1	1	1	1	1	1	0	0	0	0	5	1.5	24
9	1	**IZS**	2	4	6	3	3	7	7	5	4	2	2	12	1	2	3	1	1	1	0	1	1	2	12	3.1	24
10	**IZS**	3	4	6	5	4	3	3	9	22	20	2	11	19	34	1	1	2	1	0	2	9	15	**IZS**	34	8.0	24
11	8	6	12	12	12	12	10	14	11	10	5	2	1	2	1	1	1	4	6	9	6	8	**IZS**	2	14	6.7	24
12	2	3	8	2	2	2	3	11	7	5	4	2	2	2	3	3	2	3	5	6	16	**IZS**	12	7	16	4.9	24
13	6	8	11	11	14	17	16	12	10	10	8	6	2	2	1	3	4	2	10	10	**IZS**	4	4	5	17	7.7	24
14	7	8	5	6	3	4	4	4	3	2	1	1	1	0	1	0	0	1	1	**IZS**	6	8	8	5	8	3.4	24
15	6	6	7	3	4	4	12	7	8	7	5	6	4	5	5	8	7	4	**IZS**	4	6	6	9	9	12	6.2	24
16	7	11	16	15	55	48	40	121	128	31	10	6	5	31	3	3	14	**IZS**	22	55	16	20	16	17	128	30.0	24
17	36	9	7	7	34	38	11	22	39	69	7	7	12	8	11	6	**IZS**	46	169	80	35	31	75	15	169	33.7	24
18	16	8	10	12	15	7	10	7	9	7	7	3	3	2	2	**IZS**	3	11	12	2	3	2	8	11	16	7.4	24
19	10	8	3	9	5	12	15	16	9	5	3	3	2	3	**IZS**	1	6	15	15	18	7	2	3	5	18	7.6	24
20	6	3	4	4	3	7	4	5	5	5	3	2	4	**IZS**	2	2	6	10	14	25	14	11	7	15	25	7.0	24
21	9	7	6	3	3	4	7	11	3	1	1	1	**IZS**	1	0	13	1	1	0	3	6	10	8	3	13	4.4	24
22	6	3	5	7	4	15	74	45	20	6	3	**IZS**	6	3	9	7	8	6	3	4	2	4	5	3	74	10.8	24
23	2	2	2	3	7	7	101	4	1	1	**IZS**	2	1	2	2	15	4	8	14	15	8	5	5	5	101	9.4	24
24	14	40	13	16	65	33	9	**257**	55	**IZS**	41	56	77	9	68	71	137	50	4	2	3	2	2	2	**257**	44.6	24
25	2	3	2	3	3	2	3	118	**IZS**	1	1	0	0	1	0	1	1	1	1	1	1	0	0	0	118	6.3	24
26	1	1	1	1	1	1	1	**IZS**	1	0	1	1	0	0	0	1	2	6	15	7	10	13	9	5	15	3.4	24
27	3	3	3	2	4	11	**IZS**	5	5	5	5	6	7	6	10	8	50	27	46	38	51	48	31	41	51	18.0	24
28	35	24	35	55	52	**IZS**	83	82	125	119	16	17	17	19	27	16	74	88	67	24	32	54	32	30	125	48.8	24
29	26	22	20	26	**IZS**	94	81	116	64	48	37	15	23	23	31	25	48	44	47	44	40	27	12	2	116	39.8	24
30	2	2	1	**IZS**	3	4	11	14	7	7	5	3	1	1	0	2	5	46	25	43	40	56	29	5	56	13.6	24
31	2	3	**IZS**	7	15	8	8	11	15	24	4	2	5	21	7	10	12	6	5	3	2	6	6	3	24	8.0	24
HOURLY MAX	36	40	35	55	65	138	101	257	128	119	41	56	77	31	68	71	137	88	169	80	55	56	75	41			
HOURLY AVG	8.2	7.2	7.2	8.4	13.7	19.0	22.8	37.7	20.4	15.6	8.3	6.6	8.3	6.7	8.4	7.5	14.9	16.1	21.9	16.9	14.5	13.4	13.8	8.1			

STATUS FLAG CODES

S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

MONTHLY SUMMARY

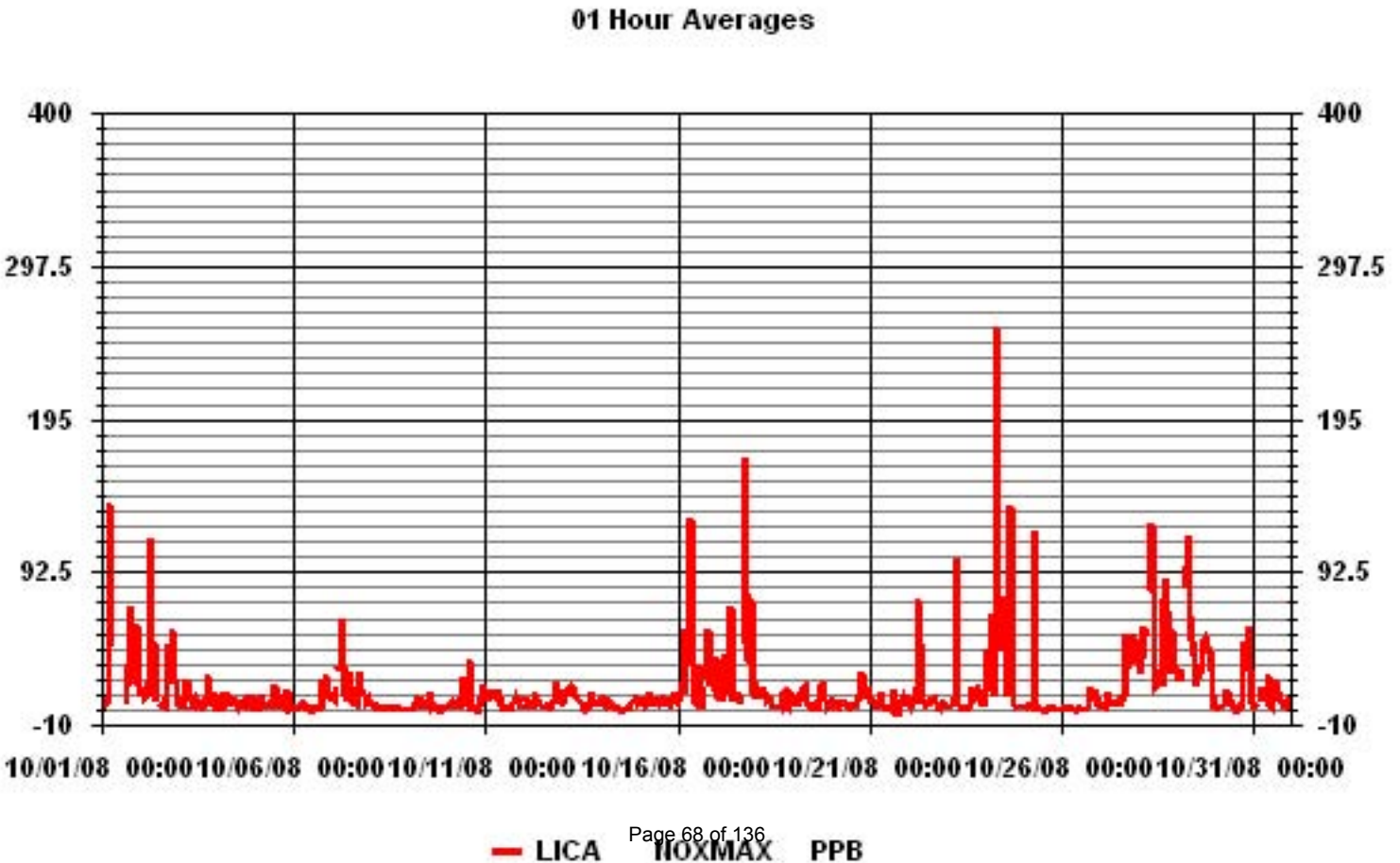
NUMBER OF NON-ZERO READINGS: 680

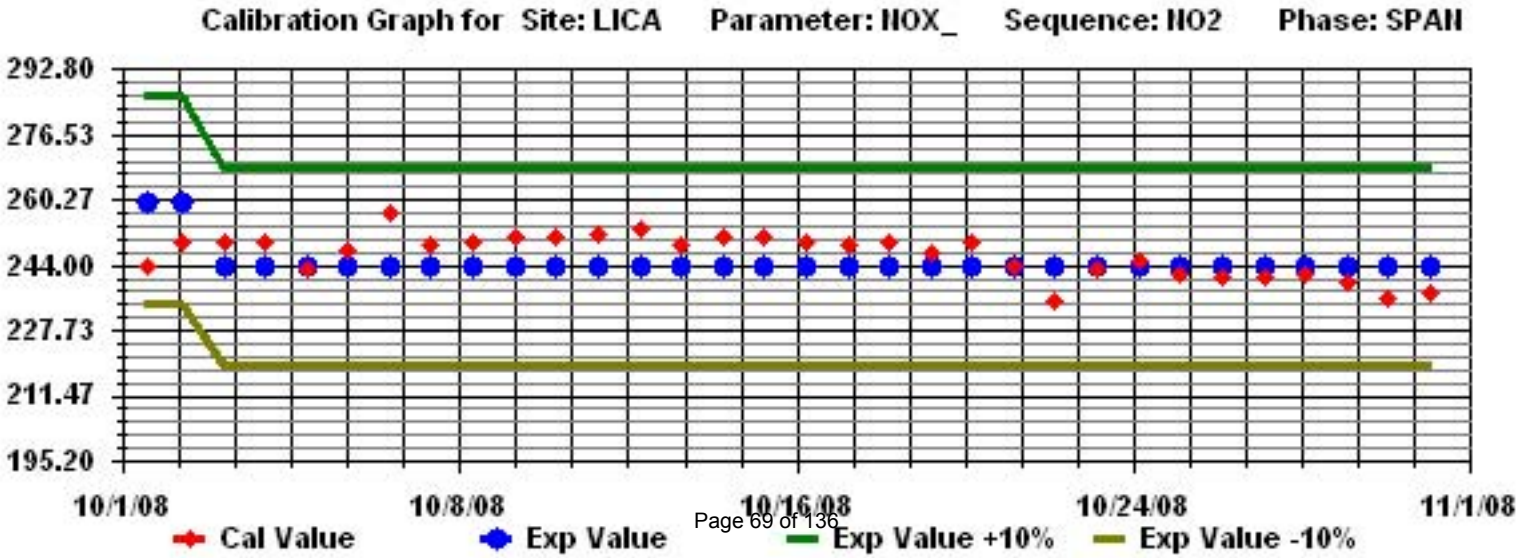
MAXIMUM INSTANTANEOUS VALUE: 257 PPB @ HOUR(S) 7 ON DAY(S) 24

IZS CALIBRATION TIME: 31 HRS OPERATIONAL TIME: 742 HRS

MONTHLY CALIBRATION TIME: 8 HRS

STANDARD DEVIATION 23.03


01 Hour Averages
400
297.5
195
92.5
-10
10/01/08 00:00
10/06/08 00:00
10/11/08 00:00
10/16/08 00:00
10/21/08 00:00
10/26/08 00:00
10/31/08 00:00
LICA NOXMAX PPB


Calibration Graph for Site: LICA Parameter: NOX_ Sequence: NO2 Phase: SPAN
292.80
276.53
260.27
244.00
227.73
211.47
195.20
10/1/08
10/8/08
10/16/08
10/24/08
11/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ozone

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2008

OZONE (O_3) hourly averages in ppb

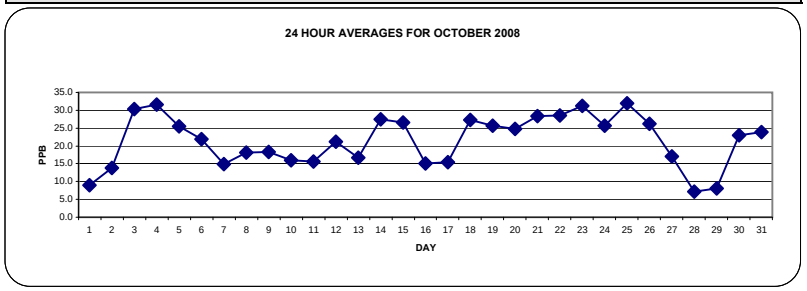
MST

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	12	7	4	2	1	0	0	1	11	**IZS**	25	31	38	**M**	**C**	**C**	**C**	19	8	3	4	1	1	1	38	8.9	23
2	0	0	0	0	0	0	0	**C**	**C**	**C**	**C**	**C**	**C**	31	34	31	29	20	7	21	13	10	23	31	34	13.9	24
3	29	28	27	20	14	18	21	**IZS**	22	22	24	31	35	40	41	42	**44**	43	31	36	34	32	32	31	**44**	30.3	24
4	30	29	28	26	26	24	**IZS**	22	25	26	28	30	32	36	35	34	35	37	37	37	36	36	38	39	39	31.6	24
5	40	40	40	38	35	**IZS**	31	29	27	24	23	23	23	23	24	21	20	18	17	16	16	14	18	25	40	25.4	24
6	28	26	26	25	**IZS**	23	21	20	23	24	25	26	28	28	28	29	30	30	25	13	9	5	6	5	30	21.9	24
7	6	5	5	**IZS**	2	1	5	14	20	24	23	23	21	22	23	24	21	18	19	19	12	11	10	14	24	14.9	24
8	12	11	**IZS**	12	18	19	19	18	16	16	16	17	18	18	19	19	19	21	20	20	21	23	23	24	24	18.2	24
9	23	**IZS**	22	19	14	18	15	15	15	17	20	21	24	27	25	24	22	20	18	16	14	13	11	9	27	18.3	24
10	**IZS**	7	6	3	5	4	8	19	18	19	20	21	22	23	26	25	23	21	21	20	19	12	8	**IZS**	26	15.9	24
11	7	6	3	3	4	0	1	2	8	12	21	24	27	28	29	28	27	25	23	22	21	20	**IZS**	20	29	15.7	24
12	19	18	18	19	21	21	20	19	21	24	26	28	29	30	31	31	30	28	20	16	8	**IZS**	6	4	31	21.2	24
13	4	2	1	1	3	2	0	5	9	13	17	26	29	31	34	35	33	32	28	24	**IZS**	21	18	15	35	16.7	24
14	13	11	15	18	20	22	24	29	31	32	33	34	34	35	34	34	35	34	34	**IZS**	32	26	25	28	35	27.5	24
15	26	25	23	24	21	20	18	18	21	24	28	31	33	35	36	36	36	35	**IZS**	31	25	26	21	17	36	26.5	24
16	15	10	4	2	1	2	2	2	4	24	27	28	29	32	35	36	33	**IZS**	13	11	9	4	9	13	36	15.0	24
17	12	14	15	17	19	19	21	19	16	18	21	22	25	28	29	30	**IZS**	14	4	2	1	4	2	2	30	15.4	24
18	9	21	23	18	17	25	21	26	26	27	29	31	32	34	34	**IZS**	34	31	28	36	35	34	30	25	36	27.2	24
19	25	24	25	22	23	18	19	17	21	24	25	27	31	34	**IZS**	35	34	27	24	25	25	28	30	28	35	25.7	24
20	28	27	27	27	28	28	26	25	26	27	28	30	28	**IZS**	29	29	28	26	25	23	14	15	15	10	30	24.7	24
21	10	18	22	26	26	25	22	21	28	30	33	34	**IZS**	35	36	36	35	35	35	33	31	25	27	29	36	28.3	24
22	27	29	25	24	25	19	8	15	20	26	30	**IZS**	35	34	36	36	34	35	34	33	33	33	32	32	36	28.5	24
23	32	31	30	28	25	25	27	36	37	37	**IZS**	37	37	37	37	37	37	32	25	29	26	27	27	22	37	31.2	24
24	15	6	7	10	3	9	23	18	15	**IZS**	28	37	39	39	37	38	33	31	34	34	35	34	34	31	39	25.7	24
25	29	28	29	29	31	31	29	27	**IZS**	29	34	35	34	36	35	36	35	34	33	32	33	34	33	30	36	**32.0**	24
26	29	29	29	28	29	30	30	**IZS**	29	30	30	31	32	32	32	32	30	27	15	17	12	11	17	21	32	26.2	24
27	22	25	26	25	24	22	**IZS**	24	24	24	23	24	24	24	24	23	16	8	4	3	1	1	2	1	26	17.1	24
28	1	1	1	0	0	**IZS**	1	1	1	6	20	23	24	28	21	18	8	2	2	4	2	1	1	0	28	7.2	24
29	0	0	0	0	**IZS**	1	0	1	2	6	16	18	18	24	12	10	7	3	1	1	1	10	25	30	30	8.1	24
30	30	32	35	**IZS**	30	27	25	22	24	25	28	30	32	32	32	32	30	11	9	3	1	2	12	24	35	23.0	24
31	27	26	**IZS**	23	21	21	20	18	18	21	24	25	27	28	27	27	25	25	25	25	26	25	24	23	28	24.0	24
HOURLY MAX	40	40	40	38	35	31	31	36	37	37	34	37	39	40	41	42	44	43	37	37	36	36	38	39			
HOURLY AVG	18.7	17.9	17.8	16.9	16.8	16.3	15.8	17.3	19.2	22.5	25.0	27.5	29.0	30.5	30.2	29.9	28.4	24.7	20.6	20.2	18.3	17.9	18.7	19.5			

STATUS FLAG CODES

S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

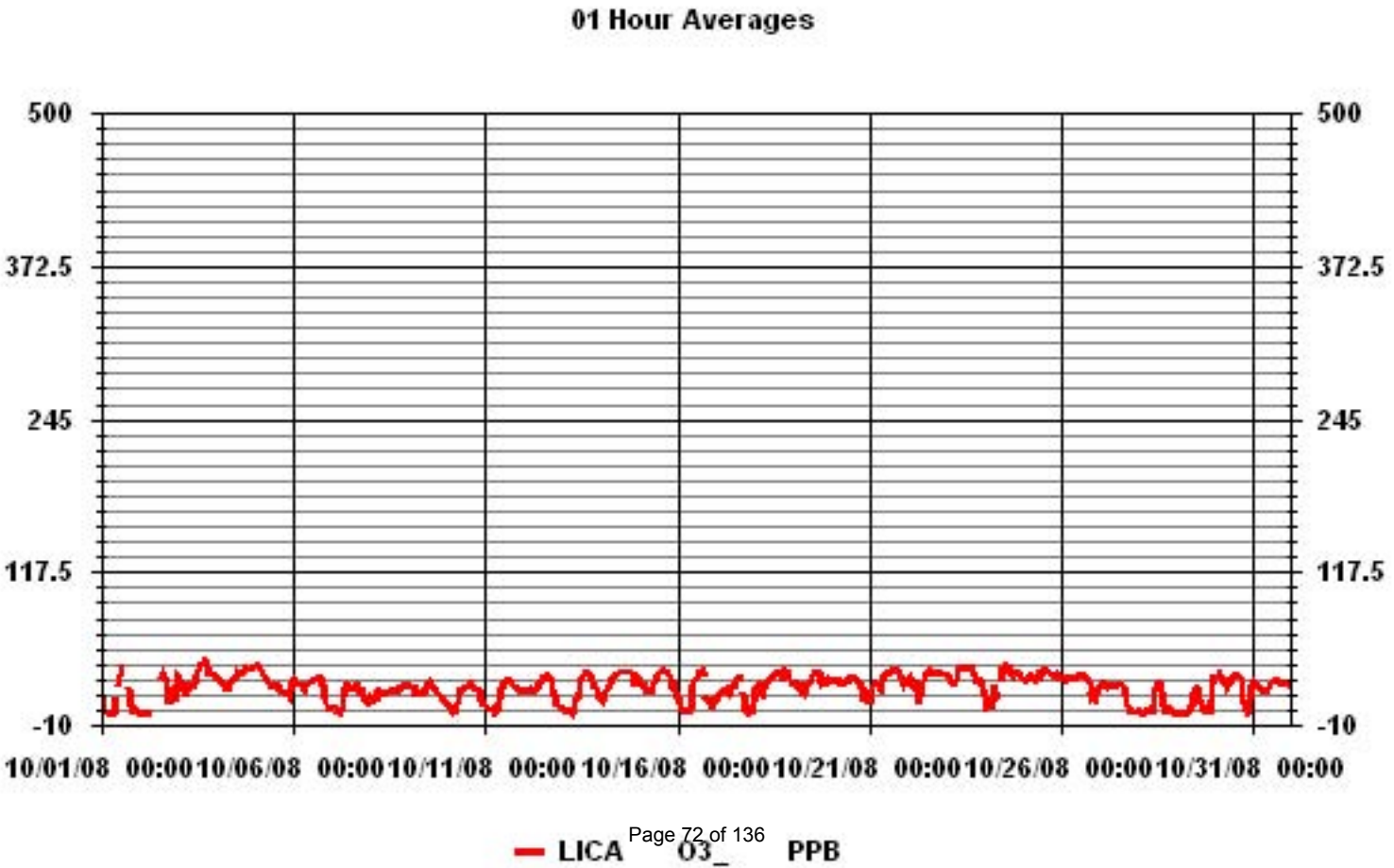
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 82 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	684					
MAXIMUM 1-HR AVERAGE:	44	PPB	@ HOUR(S)	16	ON DAY(S)	3
MAXIMUM 24-HR AVERAGE:	32.0	PPB			ON DAY(S)	25
					VAR-VARIOUS	

IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	743	HRS
MONTHLY CALIBRATION TIME:	9	HRS	AMD OPERATION UPTIME	99.9	%
STANDARD DEVIATION	10.72		MONTHLY AVERAGE	21.62	PPB


01 Hour Averages
500
372.5
245
117.5
-10
10/01/08 00:00
10/06/08 00:00
10/11/08 00:00
10/16/08 00:00
10/21/08 00:00
10/26/08 00:00
10/31/08 00:00
LICA O3_ PPB

LICA
O3_ / WD Joint Frequency Distribution (Percent)

October 2008

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	.85	1.57	1.28	2.29	6.44	10.88	12.17	3.43	3.15	3.00	7.30	12.60	15.04	13.46	5.30	1.14	100.00
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	.85	1.57	1.28	2.29	6.44	10.88	12.17	3.43	3.15	3.00	7.30	12.60	15.04	13.46	5.30	1.14	

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
<	50	6	11	9	16	45	76	85	24	22	21	51	88	105	94	37	8	698
<	110																	
<	210																	
>=	210																	
	Totals	6	11	9	16	45	76	85	24	22	21	51	88	105	94	37	8	

Calm : .00 %

Total # Operational Hours : 698

Logger : 01 Parameter : 03_

Class Limits (PPB)

>= 210

< 210

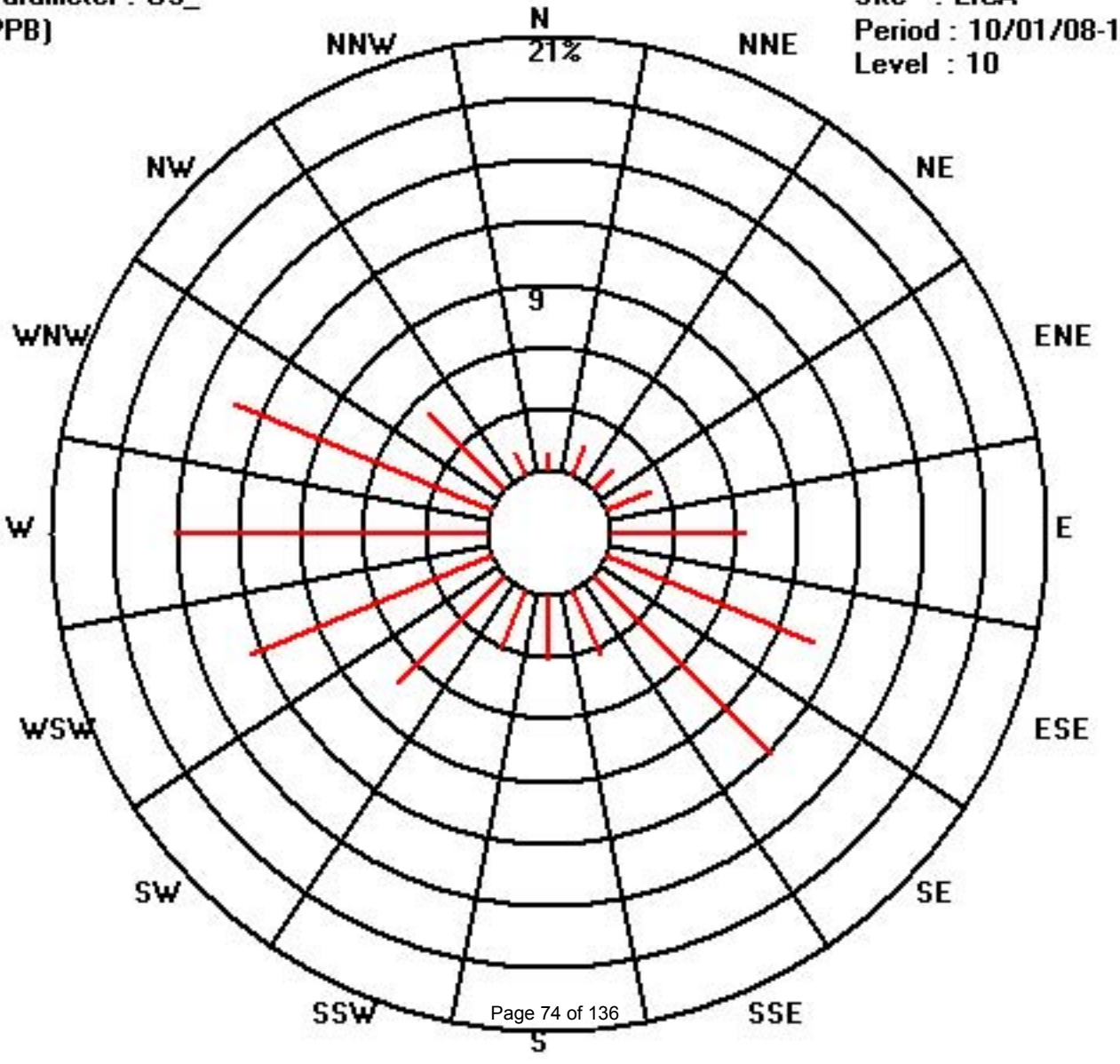
< 110

< 50

Site : LICA

Period : 10/01/08-10/31/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2008

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	18	12	6	4	1	0	1	3	18	**IZS**	28	35	40	**M**	**C**	**C**	**C**	**C**	19	7	9	3	2	1	40	11.5	23
2	1	1	1	1	0	1	0	**C**	**C**	**C**	**C**	**C**	**C**	35	36	32	31	26	16	36	30	16	32	35	36	18.3	24
3	32	29	28	25	19	23	23	**IZS**	23	23	28	34	38	41	43	44	**47**	45	39	37	35	34	33	32	**47**	32.8	24
4	30	30	29	28	27	26	**IZS**	24	26	28	29	31	34	38	37	35	36	37	38	37	37	37	39	39	39	32.7	24
5	40	41	40	40	39	**IZS**	34	30	29	26	25	24	24	26	25	23	21	19	17	17	17	16	24	28	41	27.2	24
6	29	28	28	28	**IZS**	25	22	21	25	25	26	27	29	29	29	30	31	31	30	16	17	9	11	11	31	24.2	24
7	8	8	9	**IZS**	6	3	14	18	24	26	25	24	24	24	24	27	24	20	22	22	19	17	14	16	27	18.2	24
8	13	12	**IZS**	17	20	20	20	19	17	16	17	18	19	19	20	20	20	22	21	22	22	25	25	25	25	19.5	24
9	24	**IZS**	24	22	16	19	16	16	17	18	22	23	27	28	26	24	23	21	20	17	16	14	12	11	28	19.8	24
10	**IZS**	7	7	5	5	5	21	21	20	21	21	23	24	27	28	27	24	23	21	21	20	19	11	**IZS**	28	18.2	24
11	10	8	5	6	6	2	2	5	10	15	24	25	28	30	29	29	28	27	25	24	22	22	**IZS**	20	30	17.5	24
12	20	20	20	21	22	22	21	20	22	25	28	29	30	31	32	32	32	30	25	20	14	**IZS**	10	5	32	23.1	24
13	7	3	2	2	5	5	2	8	11	16	21	30	31	34	35	36	34	33	30	26	**IZS**	23	20	17	36	18.7	24
14	14	14	17	20	21	24	28	32	33	33	35	35	35	36	36	36	36	35	35	**IZS**	33	30	27	29	36	29.3	24
15	29	26	25	25	22	21	20	19	22	28	30	32	35	37	37	37	37	36	**IZS**	33	29	30	25	21	37	28.5	24
16	20	14	6	4	3	4	8	3	18	26	29	29	31	34	37	38	37	**IZS**	16	15	14	10	16	18	38	18.7	24
17	19	21	21	21	23	22	22	22	19	20	23	23	27	30	30	32	**IZS**	25	11	6	2	13	4	6	32	19.2	24
18	15	24	25	21	22	27	27	28	27	28	31	32	33	35	35	**IZS**	35	34	35	37	36	36	33	29	37	29.8	24
19	27	26	27	24	24	21	23	23	24	25	26	29	34	35	**IZS**	36	35	33	30	28	27	30	31	29	36	28.1	24
20	29	27	27	28	29	28	27	26	28	28	30	30	29	**IZS**	31	30	29	28	26	26	18	19	19	13	31	26.3	24
21	12	20	26	31	27	28	24	26	31	31	35	37	**IZS**	36	37	37	36	36	36	35	33	29	30	30	37	30.6	24
22	29	30	27	26	27	24	19	22	25	28	31	**IZS**	36	36	37	37	36	37	35	34	34	34	33	33	37	30.9	24
23	32	32	30	29	27	27	32	38	37	37	**IZS**	37	38	38	38	38	38	36	30	32	29	29	30	30	38	33.2	24
24	20	11	13	18	6	24	27	25	21	**IZS**	32	40	42	41	40	40	37	34	36	35	36	35	35	34	42	29.7	24
25	31	29	29	30	32	31	30	29	**IZS**	30	36	37	36	36	37	37	36	35	34	33	35	35	34	32	37	33.2	24
26	29	30	30	29	30	30	30	**IZS**	30	30	31	32	32	33	33	32	31	30	25	24	18	19	24	23	33	28.5	24
27	24	26	27	26	25	25	**IZS**	24	24	24	24	24	26	25	25	24	22	16	11	11	2	3	6	4	27	19.5	24
28	5	2	2	1	2	**IZS**	1	2	2	19	21	26	27	30	27	19	17	11	5	7	3	1	1	1	30	10.1	24
29	1	2	1	1	**IZS**	1	1	1	3	12	19	19	20	30	19	12	10	7	1	2	2	18	29	31	31	10.5	24
30	31	33	37	**IZS**	33	29	29	27	27	28	29	32	32	33	33	33	32	26	16	8	9	12	23	25	37	26.8	24
31	27	27	**IZS**	24	24	23	21	20	20	23	25	27	28	29	29	29	28	27	26	26	26	26	25	24	29	25.4	24
HOURLY MAX	40	41	40	40	39	31	34	38	37	37	36	40	42	41	43	44	47	45	39	37	37	37	39	39			
HOURLY AVG	20.9	19.8	19.6	19.2	18.7	18.6	18.8	19.7	21.8	24.6	26.9	29.1	30.7	32.3	31.9	31.2	30.4	28.3	24.4	23.1	21.5	21.5	21.9	21.7			

STATUS FLAG CODES

S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

MONTHLY SUMMARY

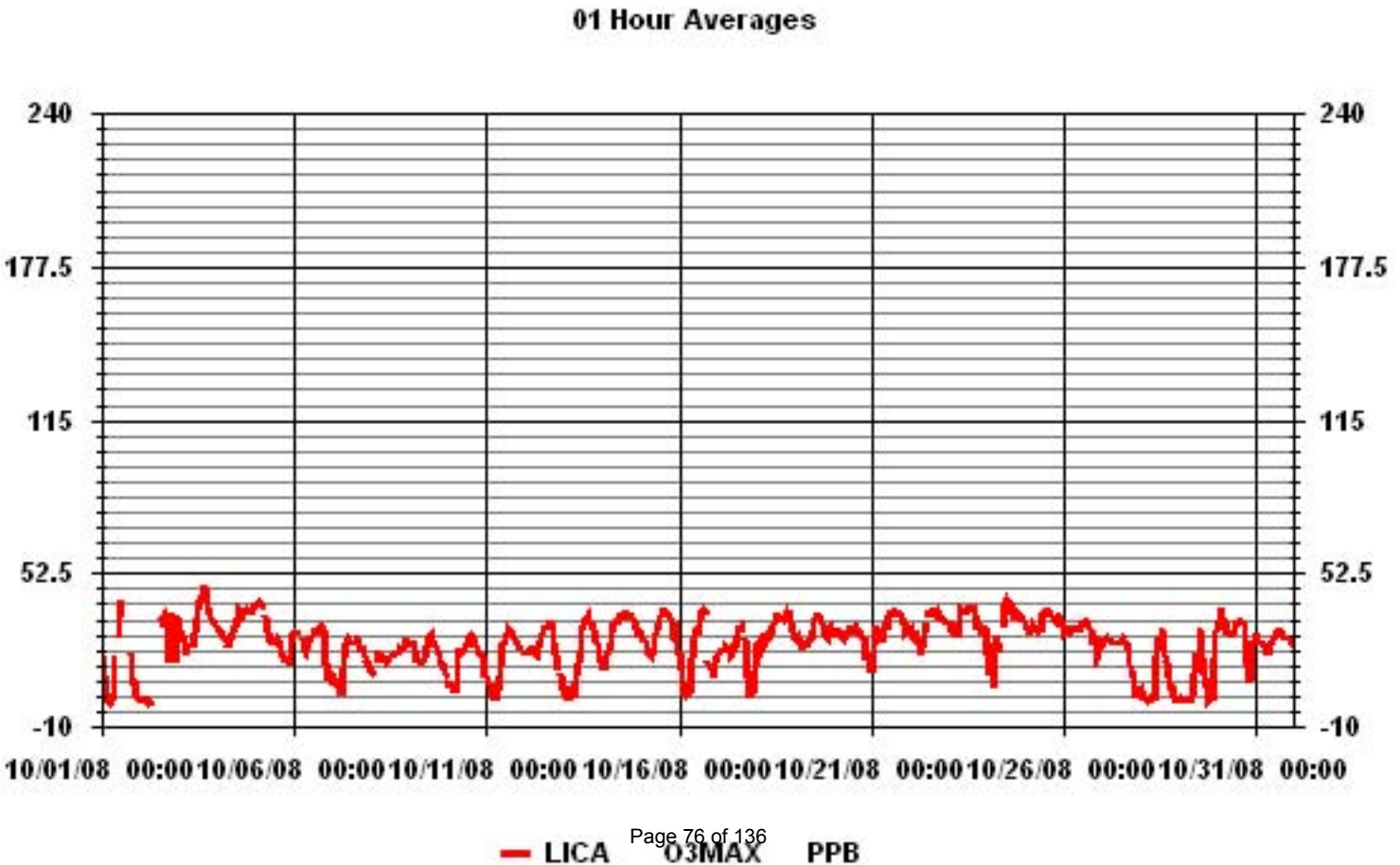
NUMBER OF NON-ZERO READINGS: 699

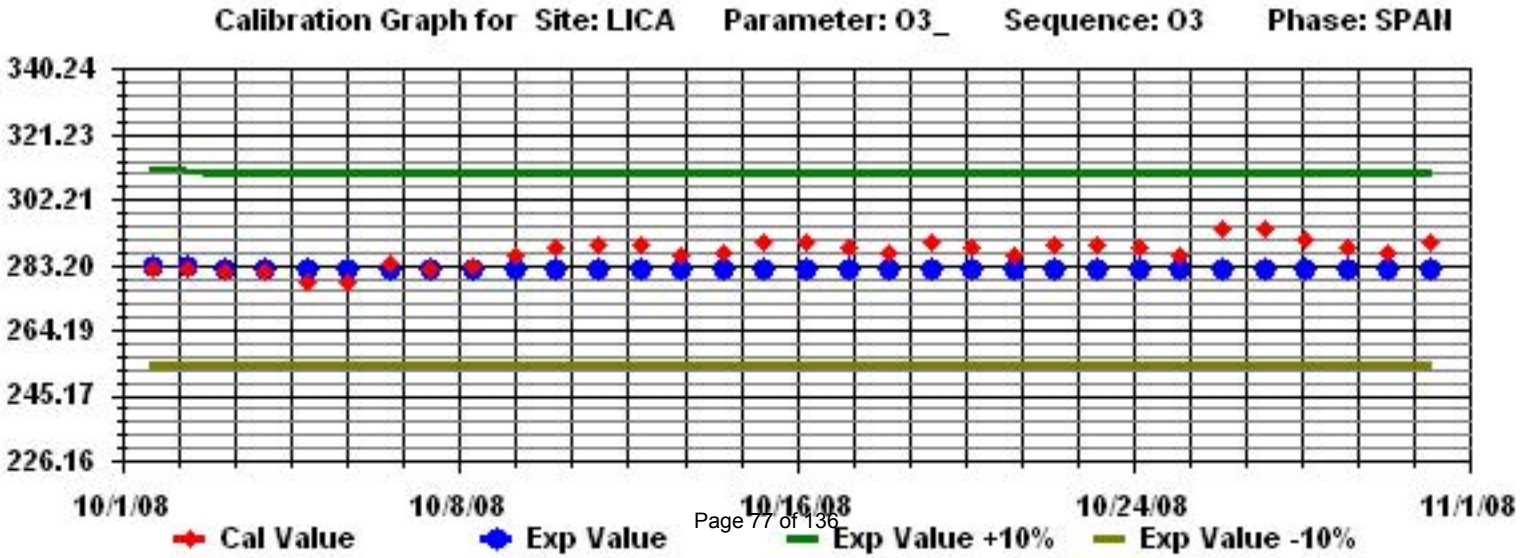
MAXIMUM INSTANTANEOUS VALUE: 47 PPB @ HOUR(S) 16 ON DAY(S) 3

IZS CALIBRATION TIME: 31 HRS OPERATIONAL TIME: 743 HRS

MONTHLY CALIBRATION TIME: 10 HRS

STANDARD DEVIATION 10.23


01 Hour Averages
240
177.5
115
52.5
-10
10/01/08 00:00
10/06/08 00:00
10/11/08 00:00
10/16/08 00:00
10/21/08 00:00
10/26/08 00:00
10/31/08 00:00
LICA O3MAX PPB


Calibration Graph for Site: LICA Parameter: O3_ Sequence: O3 Phase: SPAN
340.24
321.23
302.21
283.20
264.19
245.17
226.16
10/1/08
10/8/08
10/16/08
10/24/08
11/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ambient Temperature

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2008

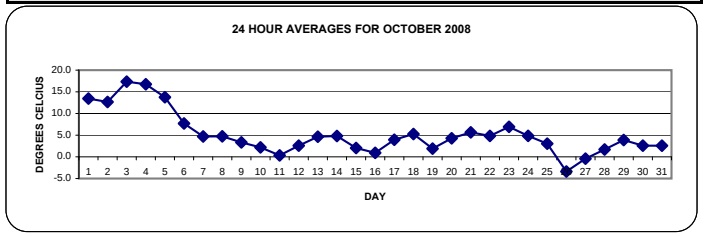
AMBIENT TEMPERATURE hourly averages (Degrees C)

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	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	8.5	7.3	6.5	5.7	5.1	4.8	4.8	6.3	12.8	16.3	18.5	21.3	24.2	22.9	24	23.9	23.8	21.6	16.6	13	10.9	9.2	7.9	6.9	24.2	13.5	24
2	5.8	4.8	4	3.3	2.8	2	2	4.2	10.8	14.8	18	20.1	21.5	23	24.9	24.1	22.5	20.8	15.7	14.7	12.7	10.1	9.9	11.2	24.9	12.7	24
3	12.4	12.9	12.7	9.9	7.2	9.2	10.8	11.8	13.6	15.3	18.4	21.7	23.6	25.1	**25.2**	25	24.9	23.6	20.7	20.7	19.1	17.5	17.8	17	**25.2**	**17.3**	24
4	15.8	15.4	14.8	14.8	14.6	12.7	11.8	12.2	13.4	14.6	16.9	18.9	20.6	21.5	21.6	22.4	21.6	20	18.1	17.4	16.6	15.7	15.4	15	22.4	16.7	24
5	15.2	14.9	15.2	15.4	14.6	13.8	14	13.3	13.5	14.2	14.6	14.7	14.9	15	15	14.2	13.9	13.3	12.7	12.3	11.9	11.7	11.4	10.5	15.4	13.8	24
6	9.8	9.5	9	8.1	7.6	7.2	7	7	7.4	7.5	8	9	10.4	11.8	12.3	13.5	13	11.8	9.3	4.5	2.1	0.8	-0.5	-1.2	13.5	7.7	24
7	-1.7	-2.4	-2.7	-2.5	-1.5	-0.9	0.4	3.3	5.7	7.4	7.7	7.8	7.9	8.5	9	9.7	9.5	8.8	7.8	7.4	6.1	6	5.7	5.8	9.7	4.7	24
8	5.9	5.9	6	6.4	6.9	6.5	6	5.6	4.8	4.7	4.6	4.5	4.3	4.6	4.8	4.5	4.4	4.2	4	3.8	3.3	2.9	2.5	2.5	6.9	4.7	24
9	2.3	2.4	2.5	2.5	2.4	2.4	2	1.6	1.9	2.8	3.9	4.5	5.6	6.5	5.9	5.8	4.9	4.2	3.6	2.9	2.7	2.4	2.2	2.1	6.5	3.3	24
10	2	1.9	1.8	1.5	1.8	1.7	2	1.7	2	2.6	3	3.5	4	4.8	5.4	5.2	4.7	3.3	1.9	1.2	0.5	-0.7	-1.3	-2	5.4	2.2	24
11	-1.8	-2.7	-3.4	-3.7	-3.8	-4.7	-5.9	-5.4	-2.3	0.4	2.5	3.6	4.8	5.9	6.3	6.5	5.8	3.9	1.9	1.1	0.4	-0.1	-0.4	-0.8	6.5	0.3	24
12	-1.1	-1.6	-1.8	-2.1	-1.6	-1.7	-2.1	-1.9	0.3	2.8	4.8	6.7	8.3	9.3	9.8	10	10.3	8.4	4.4	2.2	1	0	-1	-1.5	10.3	2.6	24
13	-1.9	-2.4	-2.8	-3.5	-2.5	-2.4	-3.5	-1.7	1.3	3.9	7.4	10.6	12.1	12.4	12.2	12.2	11.5	10	8.5	7.5	6.4	5.6	5.5	5	12.4	4.6	24
14	4.3	3.7	4.1	4.4	4.6	4.9	5.2	5.5	5.5	5.3	5.6	5.7	5.4	5.4	5.7	6.4	6.5	6.2	5.2	5.4	4.5	3	2.3	0.6	6.5	4.8	24
15	-0.8	-1.2	-1.5	-2.2	-3	-3.3	-3.5	-3.4	-1	1.7	4.2	6.3	7.9	9	9	8.8	7.9	6.1	5	3.5	1.3	1.3	-0.9	-2.3	9.0	2.0	24
16	-3.1	-3.6	-4.4	-5.1	-5.9	-6.3	-6.6	-6.2	-1.2	2.7	4.8	7	9	10.3	10.8	10.9	10	5.6	1.6	-0.5	-1.7	-2.3	-1.9	-1.7	10.9	0.9	24
17	-2	-1.7	-1.4	-1.3	-0.4	0.2	1.1	1.3	1.9	3.1	4.7	6.5	9	11.8	13.4	13.6	12.5	8.5	5.5	3.6	1.9	1.2	1.6	0	13.6	3.9	24
18	0.9	4	3.9	2.6	1.6	1.7	1.2	1.6	2.5	4.1	6.1	7.8	9.3	10	10.4	10.2	9.3	7.3	6.1	7.4	7.3	5.5	3.3	2.1	10.4	5.3	24
19	1.1	0.2	-0.8	-0.8	-1.3	-2	-2.2	-2.4	-0.5	1.6	3.6	5.5	6.9	7.8	8	8	7.3	4.2	0.7	0.7	0	0	0.4	-0.4	8.0	1.9	24
20	-0.7	-1	-1.1	-1	0	0.5	0.1	-0.1	1.3	3.4	5.8	6.9	7.2	8.2	10.3	10.6	10.1	9	7.5	6.7	5.7	5	4.4	4	10.6	4.3	24
21	3.5	5.3	6	6.1	5.6	5.6	5	3.9	4.7	6.3	6.8	7	7.1	7.4	7.2	7.4	7.4	7.4	7.5	6.1	4.3	3	2.8	2.2	7.5	5.7	24
22	1.2	1.1	-0.3	-1	-1.2	-2.2	-3.5	-3	-0.1	2.3	5.4	7.4	8.9	10.1	10.7	11.6	10.7	9	8.1	7.9	8.2	8.3	7.7	8.6	11.6	4.8	24
23	9	9.1	9	8	6.9	6.8	6.7	8.1	8.6	8.8	9.1	9.5	10	10.3	10.4	10.2	9.2	7.2	4.8	3.5	1.3	0.9	0.5	-1.6	10.4	6.9	24
24	-2.9	-3.2	-3.8	-4.3	-3.3	-1.7	0.2	0.3	1.1	3.2	7	12	13.6	13.7	14	12.1	8.6	7.5	8.2	7.5	7.8	7.2	6.5	5	14.0	4.8	24
25	3.5	2.8	2.8	3.3	5.1	4.9	4.4	4.8	5.6	5.6	5.6	5.8	4.3	3.7	4	3.9	2.9	1.8	0.4	-0.2	0.3	0.3	-0.6	-2	5.8	3.0	24
26	-1.9	-2.3	-2.9	-3.2	-3.4	-3.7	-4.1	-4.3	-3.8	-3	-2.3	-1.5	-0.8	-0.3	0.1	0	-0.9	-2.3	-4.5	-6.3	-7.4	**-8**	-7.5	-6.9	0.1	-3.4	24
27	-6.8	-6.2	-5.4	-5.4	-4.9	-5.7	-3.6	-3.8	-3	-1.4	1	3.3	5.5	6.5	7.7	9.3	8.6	3.9	1.1	-0.7	-1.5	-2.2	-2.9	-3.4	9.3	-0.4	24
28	-4	-4.6	-5.1	-5.4	-5.6	-5.8	-5.8	-5.4	-2.8	3.2	7.7	10.3	11.6	13.5	11.4	10.3	8.1	5.3	3.3	1.8	0.8	0	-0.7	-1.3	13.5	1.7	24
29	-2	-2.5	-2.5	-2.4	-2.7	-2.7	-3.1	-3.6	-2.1	3.1	8.1	11.3	13.9	15.9	12.7	8.4	7.1	5.4	4.5	2.2	2.1	5.8	7.9	8.4	15.9	3.9	24
30	7.7	6.6	5.1	3.1	1.8	0.6	0.2	-0.6	0.1	2.3	4.2	5.5	6	6.6	6.5	6.2	5.4	2.5	0.4	-1.5	-2.5	-2.6	-1.6	0	7.7	2.6	24
31	0.7	1	0.1	-0.4	0	0.3	0	0	0.4	1.2	2.4	4	5.8	6.7	6.8	6.1	5	4.2	3.5	3	3.1	2.9	2.6	2.3	6.8	2.6	24
HOURLY MAX	15.8	15.4	15.2	15.4	14.6	13.8	14.0	13.3	13.6	16.3	18.5	21.7	24.2	25.1	25.2	25.0	24.9	23.6	20.7	20.7	19.1	17.5	17.8	17.0			
HOURLY AVG	2.5	2.4	2.1	1.6	1.5	1.4	1.3	1.6	3.3	5.2	7.0	8.6	9.8	10.6	10.8	10.7	9.9	8.2	6.3	5.1	4.2	3.6	3.2	2.7			

STATUS FLAG CODES

S	- OUT OF SERVICE	OD	- OUTSIDE DECTECTION LIMITS
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

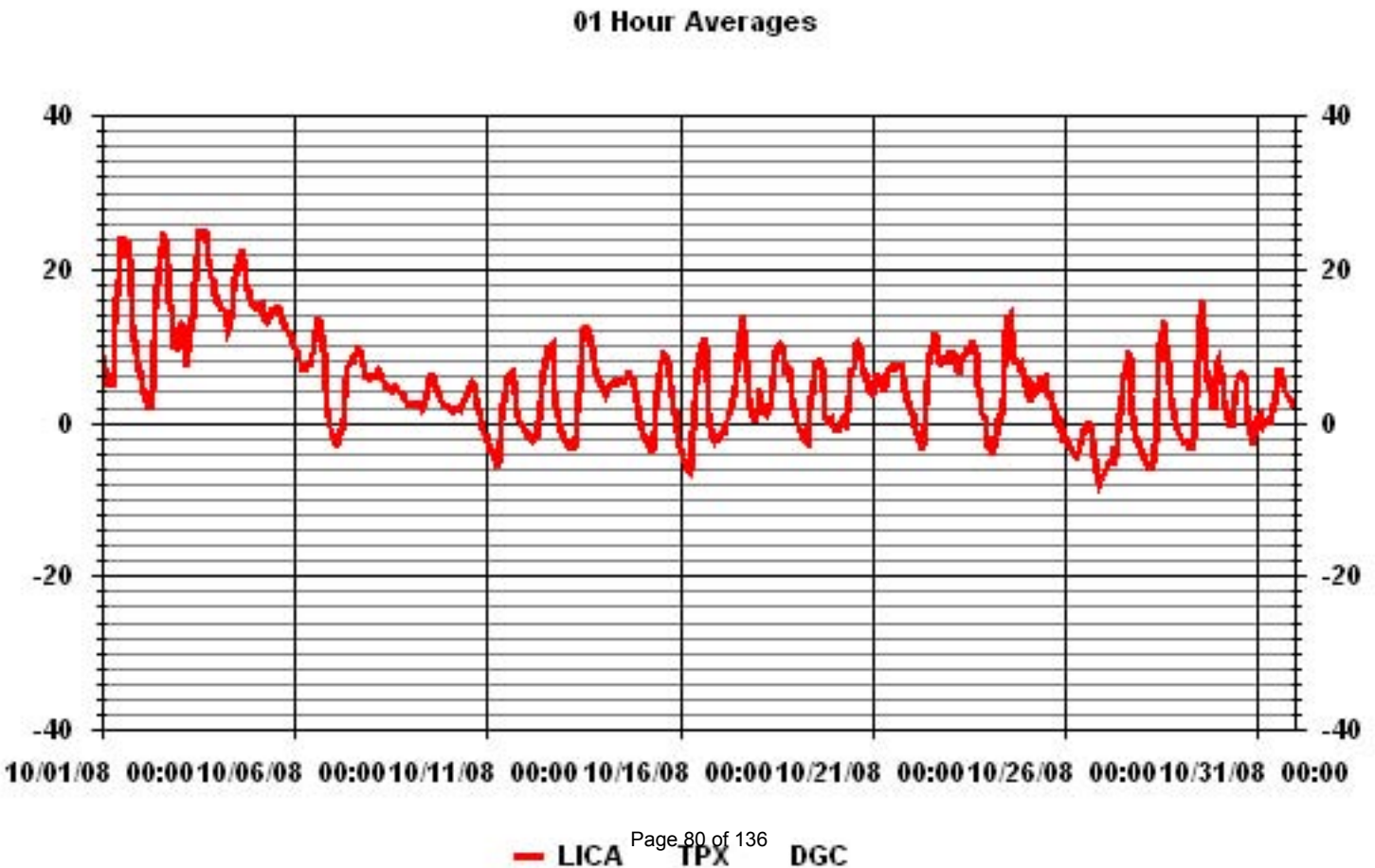


MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-8	^{o}C	@ HOUR(S)	21	ON DAY(S)	26
MAXIMUM 1-HR AVERAGE:	25.2	^{o}C	@ HOUR(S)	14	ON DAY(S)	23
MAXIMUM 24-HR AVERAGE:	17.3	^{o}C			ON DAY(S)	23
					VAR-VARIOUS	

CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	744	HRS
			AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	6.46		MONTHLY AVERAGE:	5.15	^{o}C

*** Outside detection limits of sensor.**


01 Hour Averages
40
20
0
-20
-40
10/01/08 00:00
10/06/08 00:00
10/11/08 00:00
10/16/08 00:00
10/21/08 00:00
10/26/08 00:00
10/31/08 00:00
LICA TPX DGC

Relative Humidity

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2008

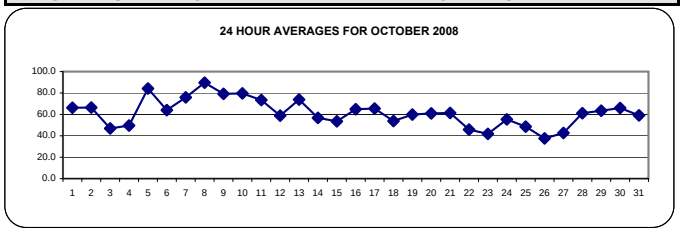
RELATIVE HUMIDITY hourly averages (%)

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	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	85.7	87.3	86.4	87.4	87.5	87.1	87.4	82.5	67.5	55.2	48.1	39.7	30.0	38.0	35.9	36.3	35.8	43.5	61.8	72.8	78.4	83.2	85.6	86.4	87.5	66.2	24
2	88.5	90.7	92.0	92.2	91.7	93.1	91.1	84.4	69.7	60.5	48.9	42.4	41.3	38.2	31.8	36.2	40.5	46.6	63.6	61.1	66.6	76.0	76.5	70.5	93.1	66.4	24
3	64.2	61.9	61.8	72.0	80.9	72.6	65.9	61.1	53.6	48.0	40.3	31.4	27.8	25.3	25.8	27.3	27.4	30.0	36.1	37.4	41.0	44.9	43.7	45.6	80.9	46.9	24
4	48.4	48.3	49.1	48.1	48.0	54.4	57.7	56.9	55.3	52.8	46.9	42.4	38.9	37.4	38.6	38.8	42.4	47.5	51.5	52.8	55.0	57.9	59.5	61.9	61.9	49.6	24
5	62.5	64.4	63.8	66.0	78.4	82.6	81.8	90.1	95.1	**95.6**	92.4	90.0	86.7	84.7	83.1	85.8	87.2	89.6	91.2	91.8	92.8	93.6	89.6	80.8	**95.6**	84.2	24
6	73.2	76.2	72.7	80.1	80.0	81.9	81.1	77.2	66.1	63.3	59.1	54.3	48.2	43.7	42.2	38.3	37.6	38.4	44.4	64.0	72.3	77.8	81.1	82.1	82.1	64.0	24
7	83.5	86.0	86.6	85.0	85.4	84.4	81.7	70.5	60.4	52.1	54.0	60.8	67.8	67.9	67.1	65.0	68.1	72.6	77.4	80.7	88.2	89.0	94.3	94.1	94.3	75.9	24
8	95.2	95.4	95.4	93.0	83.7	80.2	81.0	83.1	89.5	90.0	91.0	90.1	89.8	90.2	90.0	89.8	90.4	90.3	91.5	90.0	90.6	90.2	91.5	89.8	95.4	**89.7**	24
9	89.5	85.1	82.6	85.9	87.6	81.2	84.1	83.6	80.9	78.0	71.4	66.5	59.1	51.2	61.9	64.9	76.9	80.7	83.8	86.5	86.6	88.5	91.8	92.0	92.0	79.2	24
10	93.5	93.7	93.6	94.6	93.7	93.7	89.9	79.4	78.8	75.0	74.2	72.5	67.0	61.5	57.1	60.1	62.3	69.8	75.1	78.1	81.1	87.1	89.1	91.0	94.6	79.7	24
11	91.4	92.3	92.8	93.9	94.8	92.9	91.1	90.4	90.3	84.3	70.2	61.7	53.4	47.2	45.4	44.1	47.4	54.1	61.3	66.2	70.4	73.1	75.3	77.5	94.8	73.4	24
12	78.8	79.7	78.3	76.0	71.6	71.9	73.7	71.6	63.2	53.6	44.6	38.7	34.9	33.5	30.8	30.2	30.0	36.1	51.8	61.3	68.1	72.8	78.5	82.7	82.7	58.9	24
13	84.2	84.5	85.7	89.1	91.2	91.0	90.4	91.4	88.1	80.0	69.0	55.0	49.4	47.6	44.6	44.8	47.1	52.2	63.0	74.0	81.4	86.8	90.1	92.0	92.0	73.9	24
14	93.7	94.2	87.9	84.2	81.4	76.4	71.5	60.6	53.6	52.2	50.8	48.7	51.0	52.3	49.8	41.0	32.5	33.0	33.8	31.2	37.0	44.6	48.2	52.6	94.2	56.8	24
15	56.0	56.6	60.0	63.9	68.2	71.8	75.9	76.2	68.6	57.9	48.8	43.1	38.0	34.1	32.4	32.3	34.6	38.8	41.3	46.1	54.7	53.9	62.7	69.2	76.2	53.5	24
16	74.2	73.5	76.7	79.0	82.4	85.5	84.3	83.7	68.8	56.7	49.2	44.3	41.2	38.5	37.2	36.9	39.8	53.8	65.7	73.1	76.6	79.0	77.6	78.0	85.5	64.8	24
17	78.5	78.2	78.1	77.1	73.5	70.3	67.3	67.3	67.8	66.0	59.8	52.8	45.1	40.4	39.8	40.3	45.0	58.5	67.2	73.4	78.4	81.0	80.0	86.0	86.0	65.5	24
18	84.1	69.5	66.6	66.1	67.5	65.0	66.8	63.2	62.2	55.4	49.1	44.3	JULY	33.9	32.2	33.5	36.0	42.3	45.3	40.3	41.4	54.5	58.3	60.2	84.1	53.8	24
19	62.3	66.1	70.7	72.6	74.6	80.0	83.6	84.7	77.9	74.7	67.9	55.2	42.2	34.8	31.4	32.0	34.4	44.6	54.7	55.2	59.6	60.1	57.7	60.0	84.7	59.9	24
20	60.5	61.3	62.2	62.1	57.6	56.4	58.9	61.2	59.1	57.9	56.3	57.0	55.8	53.2	49.9	50.7	53.8	58.7	62.4	66.9	70.8	73.9	77.1	79.2	79.2	61.0	24
21	81.7	76.4	70.3	70.7	72.2	67.4	66.5	69.4	69.0	65.0	59.6	56.8	56.2	54.2	51.9	49.6	50.2	49.5	46.2	51.5	57.6	60.9	59.8	59.6	81.7	61.3	24
22	61.4	60.4	64.9	67.1	67.8	72.1	76.6	75.5	64.4	57.3	47.6	39.9	33.5	29.8	25.3	22.1	24.6	27.6	29.5	29.6	28.3	29.0	31.8	33.6	76.6	45.8	24
23	34.8	36.5	38.1	42.3	46.2	51.9	59.8	47.8	40.2	39.8	38.3	36.1	34.0	31.9	29.6	28.0	28.7	33.2	39.1	43.2	50.6	51.8	55.8	65.7	65.7	41.8	24
24	70.2	70.7	72.6	73.4	73.2	69.9	60.3	62.3	61.8	52.8	46.8	36.8	29.0	27.4	26.7	37.6	56.6	55.6	47.5	49.4	53.3	58.5	63.4	72.0	73.4	55.3	24
25	74.1	70.7	68.5	65.7	58.5	56.2	55.5	54.0	52.8	52.8	49.0	45.6	52.8	44.6	24.0	18.8	24.3	30.1	40.5	44.9	38.9	31.4	46.3	65.5	74.1	48.6	24
26	54.4	50.4	49.5	44.3	35.2	31.1	32.1	35.0	34.5	31.4	27.3	24.7	23.2	23.6	22.1	22.8	27.9	31.7	41.1	46.5	52.7	55.8	52.8	51.5	55.8	37.6	24
27	51.7	48.6	44.1	45.9	46.8	49.9	41.0	41.8	40.9	38.3	34.0	30.5	27.5	26.6	25.8	24.2	26.9	37.4	45.4	52.4	55.5	59.0	63.3	65.7	65.7	42.6	24
28	67.8	71.7	72.7	74.1	75.0	75.7	77.9	79.0	72.1	55.5	38.5	32.5	30.6	26.7	38.8	43.7	50.1	58.0	62.3	66.6	69.8	72.5	76.0	79.1	79.1	61.1	24
29	81.9	82.4	81.8	82.7	83.5	82.8	84.6	86.0	80.0	61.2	41.3	33.8	30.2	24.4	41.7	56.3	55.2	62.4	65.9	71.9	69.5	52.8	52.7	57.5	86.0	63.4	24
30	61.9	66.6	68.5	75.9	82.8	87.8	83.8	84.1	82.5	76.6	65.8	55.1	46.8	43.4	42.0	42.2	45.1	55.6	62.4	68.6	72.0	73.8	72.0	68.1	87.8	66.0	24
31	63.9	62.6	66.0	69.0	68.2	67.1	69.2	69.2	67.7	65.0	60.7	54.8	48.6	45.7	45.4	46.7	50.1	52.6	55.2	56.4	56.3	57.3	59.3	61.6	69.2	59.1	24
HOURLY MAX	95.2	95.4	95.4	94.6	94.8	93.7	91.1	91.4	95.1	95.6	92.4	90.1	89.8	90.2	90.0	89.8	90.4	90.3	91.5	91.8	92.8	93.6	94.3	94.1			
HOURLY AVG	72.6	72.3	72.3	73.5	73.8	73.7	73.3	71.7	67.2	61.4	54.9	49.6	46.0	43.0	41.9	42.6	45.4	50.8	56.7	60.8	64.4	66.8	69.1	71.3			

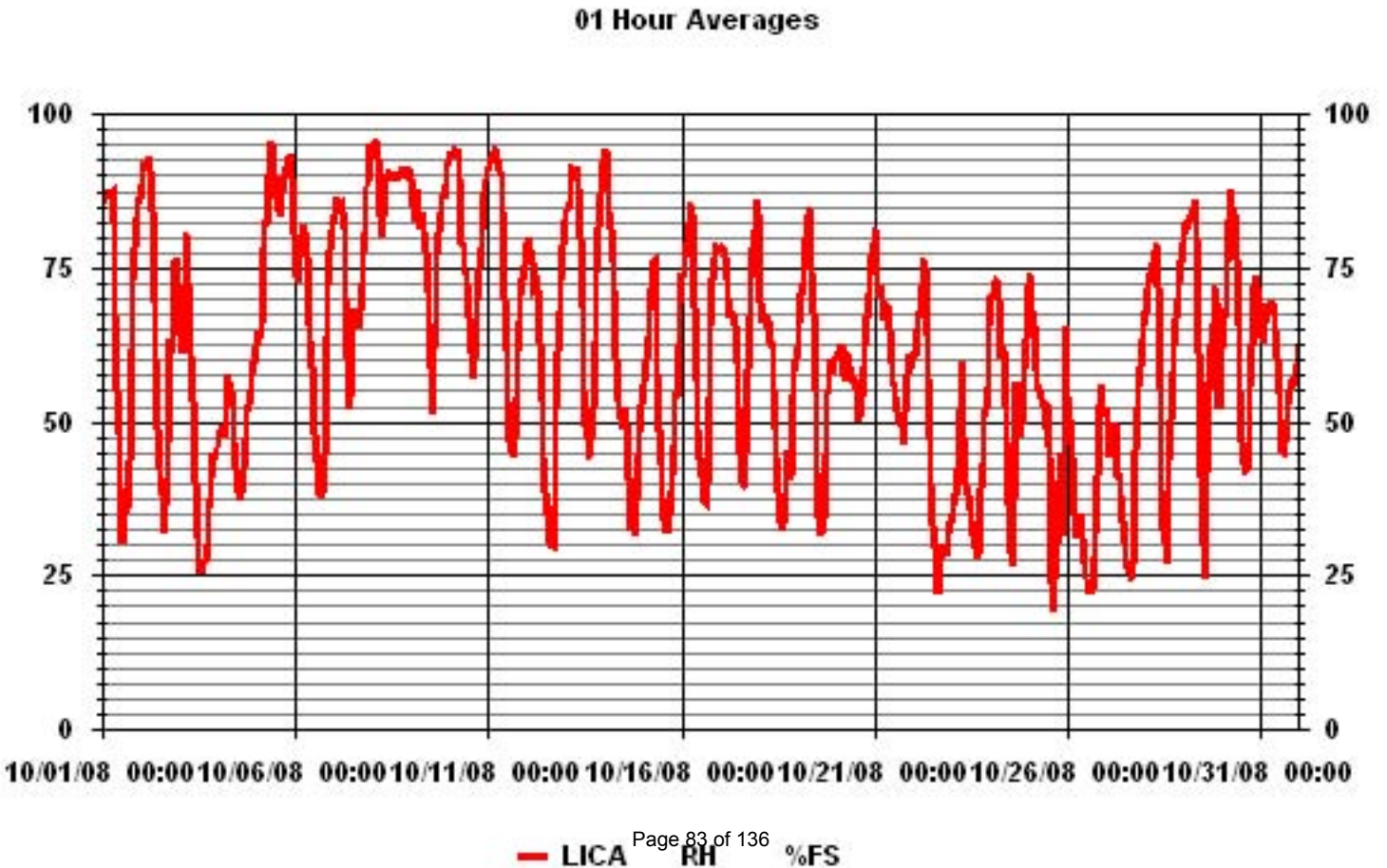
STATUS FLAG CODES

S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	95.6	%	@ HOUR(S)	9	ON DAY(S)	5	
MAXIMUM 24-HR AVERAGE:	89.7	%			ON DAY(S)	8	
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:		744	HRS	
			AMD OPERATION UPTIME:		100.0	%	
STANDARD DEVIATION:	19.28		MONTHLY AVERAGE:		61.49	%	


01 Hour Averages
100
75
50
25
0
10/01/08 00:00
10/06/08 00:00
10/11/08 00:00
10/16/08 00:00
10/21/08 00:00
10/26/08 00:00
10/31/08 00:00
LICA RH %FS

Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2008

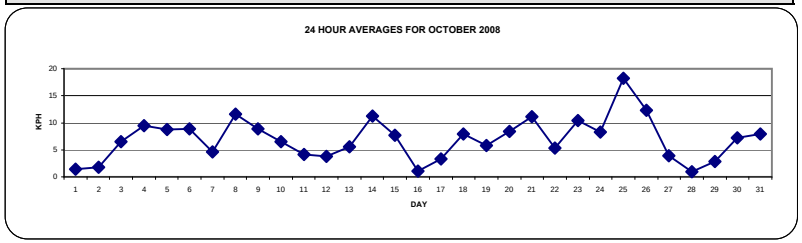
VECTOR WIND SPEED (WS) hourly averages (km/hr)

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	0.7	0.5	0.6	0.7	0.3	1.3	1.7	0.6	2.8	3.5	4.9	6.4	4.9	6	5.3	5	3.3	2.2	0.7	0.7	0.3	0.4	0.7	0.2	6.4	1.4	24
2	0	0.4	0.4	0.5	0.3	0.8	0.3	0.7	0.3	3.6	4.7	5.5	4.6	2.8	5.2	5.5	4.6	2	1.7	3.6	1.8	1	3.7	3.9	5.5	1.8	24
3	4.5	7.2	5.8	2.6	2.2	3.9	5.9	6.9	8.6	**M**	8.3	11.8	11.7	9.8	12.6	6.7	6.4	3.4	3.9	8.6	5.9	4.2	7.6	7.7	12.6	6.5	23
4	6.4	10	8	6.2	7.6	7.8	6.5	7	11.5	12.6	9.7	10.6	11.2	10.9	9.9	13.9	12.5	12	11.8	10	9.3	8.8	9.8	10.3	13.9	9.5	24
5	9.1	7.9	6.2	7.7	9.2	8.3	8	8.5	8.4	9.8	11.8	13.8	13.3	9.9	10.8	9.3	7.6	7	7.1	6.7	6.1	5.7	5.3	13.5	13.8	8.8	24
6	14.8	8.5	10.5	8	7.3	6.5	8.8	10.2	14.9	15.4	13.4	11.4	15.1	13.8	12.8	12.1	11.3	8.9	4.8	1.8	1.2	0	1.2	0.7	15.4	8.9	24
7	0.8	0.2	1	2	1	1	2.9	5.5	8.4	11.2	12.2	7.4	7.7	8.6	8.7	5.6	4.5	3.5	5.2	1.9	0.6	0.9	4.3	5.5	12.2	4.6	24
8	4.8	4.4	4	5.7	11.2	11.9	13.9	13.6	11.3	10.8	12.5	14.6	15.1	13.9	12.5	11.4	11.3	10.9	10.6	14	14	16.8	14.4	15.4	16.8	11.6	24
9	15.9	14.4	11.5	6.2	6.6	7.6	5.4	6	7.2	7.8	10.2	11.3	13.5	15	11.6	8.9	8.3	8.3	7.9	6.9	5.2	6.2	4.8	5.8	15.9	8.9	24
10	5.6	6.4	6.4	4.9	7.2	6	6.5	**C**	**C**	**C**	**C**	8.4	7.5	7.1	7.9	9.7	10.6	8.3	5.7	6.6	4.6	3.4	3.8	3.2	10.6	6.5	24
11	2.1	2.5	2.6	4.5	4.6	0.3	0.8	1	4.7	5.3	7.3	7	6.6	5.1	6.5	4.4	4.4	2.1	2.5	2.8	4.5	5.4	6.2	6.4	7.3	4.2	24
12	3.8	2	1.7	3.3	3.3	2.3	5.1	2.7	3.5	5.2	7.5	7.6	5.6	6.6	6.8	6.2	5.9	3.4	1.6	2.8	0.2	0.3	2	0.4	7.6	3.7	24
13	0.5	0.5	0.6	1.7	4.2	2.3	0.8	3.3	4	5.4	5.8	9.9	11.2	11.4	13.1	11.3	8.8	5.9	7.8	5.8	4.5	4.3	4.9	4.5	13.1	5.5	24
14	4.6	6.9	6.2	6	5.6	8.2	9.1	12.2	14.3	15.1	15.9	21.2	19.3	17.9	15.7	15.8	17.1	11.4	9.8	9.8	8.3	7.3	5.2	7.9	21.2	11.3	24
15	4.6	6.3	6.2	6.2	6.5	6.9	6.9	7.2	9.2	10.6	10.9	11.3	12.2	12	13.4	12.7	9.3	7.1	7.3	5.8	4.2	5	2.1	1	13.4	7.7	24
16	0.7	1.1	0.8	0.5	0.2	0.2	0.2	0	0	2.2	1	0.8	1.6	1.7	2.2	4	3.5	1.7	0.5	0.2	0.2	0.2	1.1	1.5	4.0	1.1	24
17	2.5	2.8	2.2	2.8	3.3	4.5	6.8	3.3	3.6	1.3	2.8	5.1	7.9	7.8	8.7	5.8	2.5	1.6	0.3	0.4	0.5	0.9	0.7	2	8.7	3.3	24
18	4.5	6.3	5.4	4.9	3.1	4.4	4	6.1	5.6	8.8	11.2	13.1	12.9	13.1	12.7	12.5	10.3	4.9	7.3	11.2	9.2	9.3	4.5	5.3	13.1	7.9	24
19	5.6	6.9	6.1	6.4	7	6.6	6.3	6	4.3	7.9	7.1	7	6.7	5.9	8.3	8.7	4.4	2.8	1.1	2.4	3.3	5	6.6	6.8	8.7	5.8	24
20	7.9	7.3	7.4	6.9	10.4	10.4	8.6	6.1	8.4	10.7	13.7	15.7	16.1	13.6	11.7	12.7	10.3	9.7	5	3.8	1.9	0.8	0.8	0.9	16.1	8.4	24
21	2.5	6.3	8.8	7.1	6.7	8.6	7.8	8	10.9	12.9	17.1	18.6	18.8	18.1	17.2	14.6	11.8	14.1	16.9	7.4	6.9	7.6	9.9	8.3	18.8	11.1	24
22	6.6	6.5	6.1	6.6	6.1	3.8	1	3.3	3.7	5.3	4	5.9	5.7	7.3	9.5	6	3.8	4.3	6.9	6.4	3.9	7.6	3.1	4	9.5	5.3	24
23	4.9	4	3.7	3.1	8.7	8	9.5	13.8	19.6	20.4	20.9	18.4	16.9	17.2	18.4	15.7	13.5	6.8	5.3	6.3	4.9	4.7	4.4	1.1	20.9	10.4	24
24	0.2	0.2	0.3	0.1	0.9	2	1.6	1.8	2.3	5.2	6.5	13.8	20.3	22.8	20.5	20.6	5.4	5.2	8.5	9.6	11.4	14.8	13.2	10.8	22.8	8.3	24
25	9.3	9.3	7.5	10.9	13.4	12.1	11.1	14	17.1	18.4	20.1	23.9	22.9	23.4	27.2	**31.1**	21.6	17.5	15.2	13.4	20.5	26.5	27.4	24.7	**31.1**	**18.3**	24
26	27	24.3	24	20.5	18.7	16.9	14	15	16.2	17.1	17.9	15.7	14.7	11.5	11.6	11	8.2	3.3	1.1	1.5	0.3	0.8	1.6	2.3	27.0	12.3	24
27	3.1	3.8	6.5	6.3	1.2	1.5	6.4	5.3	5.3	7.6	4.9	6.8	8	8.9	6.1	4.7	1.9	2.2	0.2	0.8	0.7	0.3	0	0.3	8.9	3.9	24
28	0.2	0.1	0.1	0.9	0.4	0.7	0.2	0.3	0.6	0.3	0	1.6	3.6	2.7	4.3	2.2	0.9	0.6	0.4	0.2	0.1	0.1	0.2	0.8	4.3	0.9	24
29	0.8	0.5	0.5	0.7	0.4	0.3	1	0.4	0.1	0.4	2.9	3.9	1.1	2.6	3.7	3.6	0.2	0.4	0.2	1.3	3.6	9.5	16	12.7	16.0	2.8	24
30	12.1	13.5	15.8	9.8	5.7	5.3	7.5	6.1	6.3	8.6	10.7	11.5	13.8	10.9	10.4	8.4	3.8	0.4	0.1	0.7	1.7	2.1	2.9	4.4	15.8	7.2	24
31	7.1	5.6	4.5	4.4	5.4	5.8	6.8	5.7	5.2	6.2	9.5	10	9.7	8.6	10.2	12.6	8.6	8.7	9.8	9.3	8.4	8.5	9.8	9.2	12.6	7.9	24
HOURLY MAX	27.0	24.3	24.0	20.5	18.7	16.9	14.0	15.0	19.6	20.4	20.9	23.9	22.9	23.4	27.2	31.1	21.6	17.5	16.9	14.0	20.5	26.5	27.4	24.7			
HOURLY AVG	5.6	5.7	5.5	5.1	5.4	5.4	5.7	6.0	7.3	8.6	9.5	10.6	11.0	10.5	10.8	10.1	7.6	5.8	5.4	5.2	4.8	5.4	5.7	5.9			

STATUS FLAG CODES

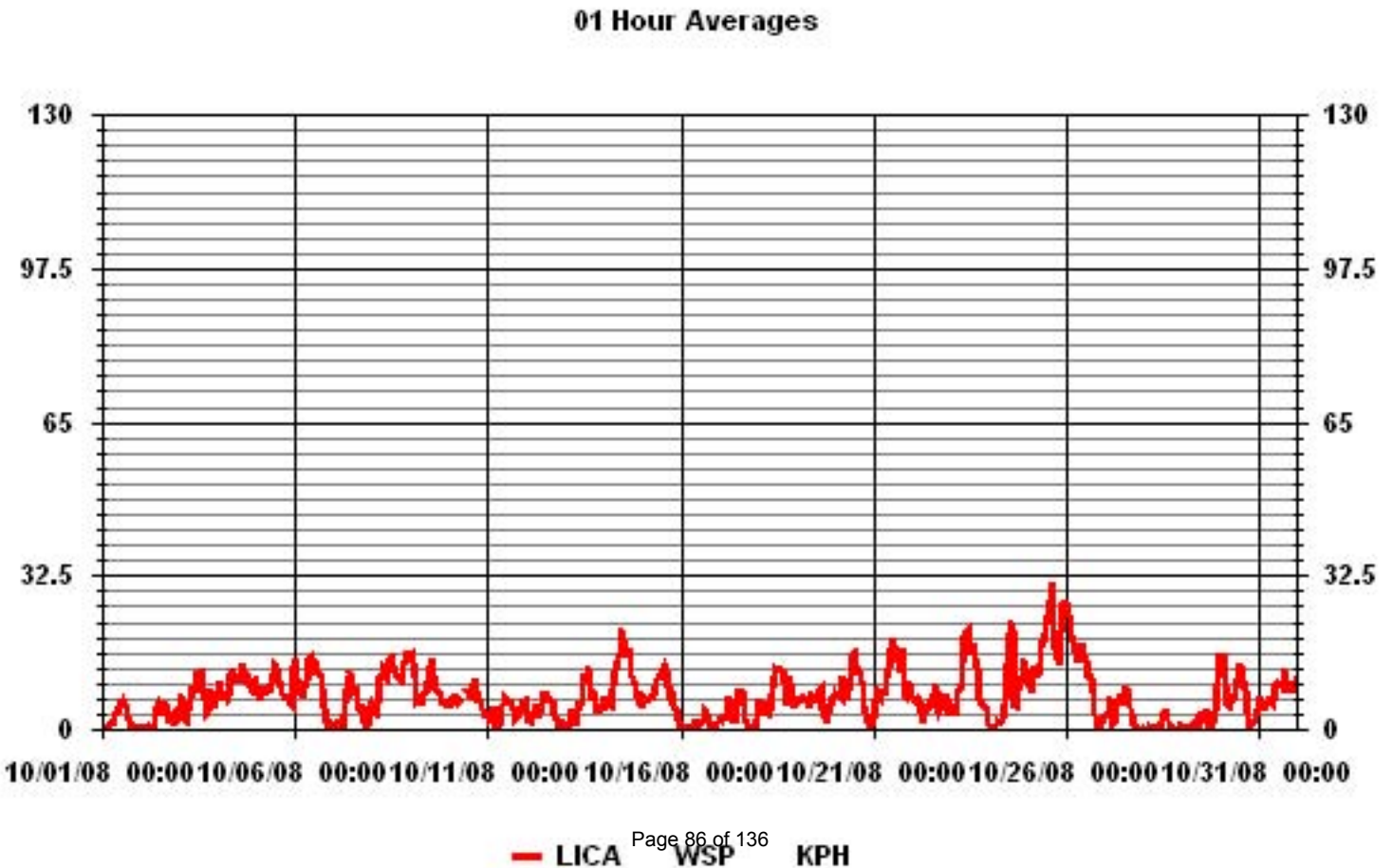
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



LAST CALIBRATION: December-2006

MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	31.1	KPH	@ HOUR(S)	15	ON DAY(S)	25	
MAXIMUM 24-HR AVERAGE:	18.3	KPH			ON DAY(S)	25	
CALMS (≤ 0 KPH)	6.18	%	OPERATIONAL TIME:		743	HRS	
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME		99.9	%	
STANDARD DEVIATION:	5.40		MONTHLY AVERAGE:		7.03	KPH	


01 Hour Averages
130
97.5
65
32.5
0
10/01/08 00:00
10/06/08 00:00
10/11/08 00:00
10/16/08 00:00
10/21/08 00:00
10/26/08 00:00
10/31/08 00:00
LICA WSP KPH

LICA
WSP / WD Joint Frequency Distribution (Percent)

October 2008

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	.00	1.21	1.48	1.75	2.57	4.73	5.54	2.57	1.48	2.70	4.33	5.95	3.24	2.02	.94	.27	40.86
<	12.0	.67	.27	.00	.00	2.97	5.54	4.60	.00	.40	.00	2.57	5.54	7.30	4.46	1.08	.81	36.26
<	20.0	.00	.00	.00	.00	.54	.40	.94	.00	.00	.00	.00	.67	3.38	5.54	2.16	.00	13.66
<	29.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.54	1.35	.94	.00	2.84
<	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.13	.00	.00	.13
>=	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	.67	1.48	1.48	1.75	6.08	10.69	11.09	2.57	1.89	2.70	6.90	12.17	14.47	13.53	5.14	1.08	

Calm : 6.22 %

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		9	11	13	19	35	41	19	11	20	32	44	24	15	7	2	302
<	12.0	5	2			22	41	34		3		19	41	54	33	8	6	268
<	20.0					4	3	7					5	25	41	16		101
<	29.0													4	10	7		21
<	39.0														1			1
>=	39.0																	
	Totals	5	11	11	13	45	79	82	19	14	20	51	90	107	100	38	8	

Calm : 6.22 %

Total # Operational Hours : 739

Logger : 01 Parameter : WSP

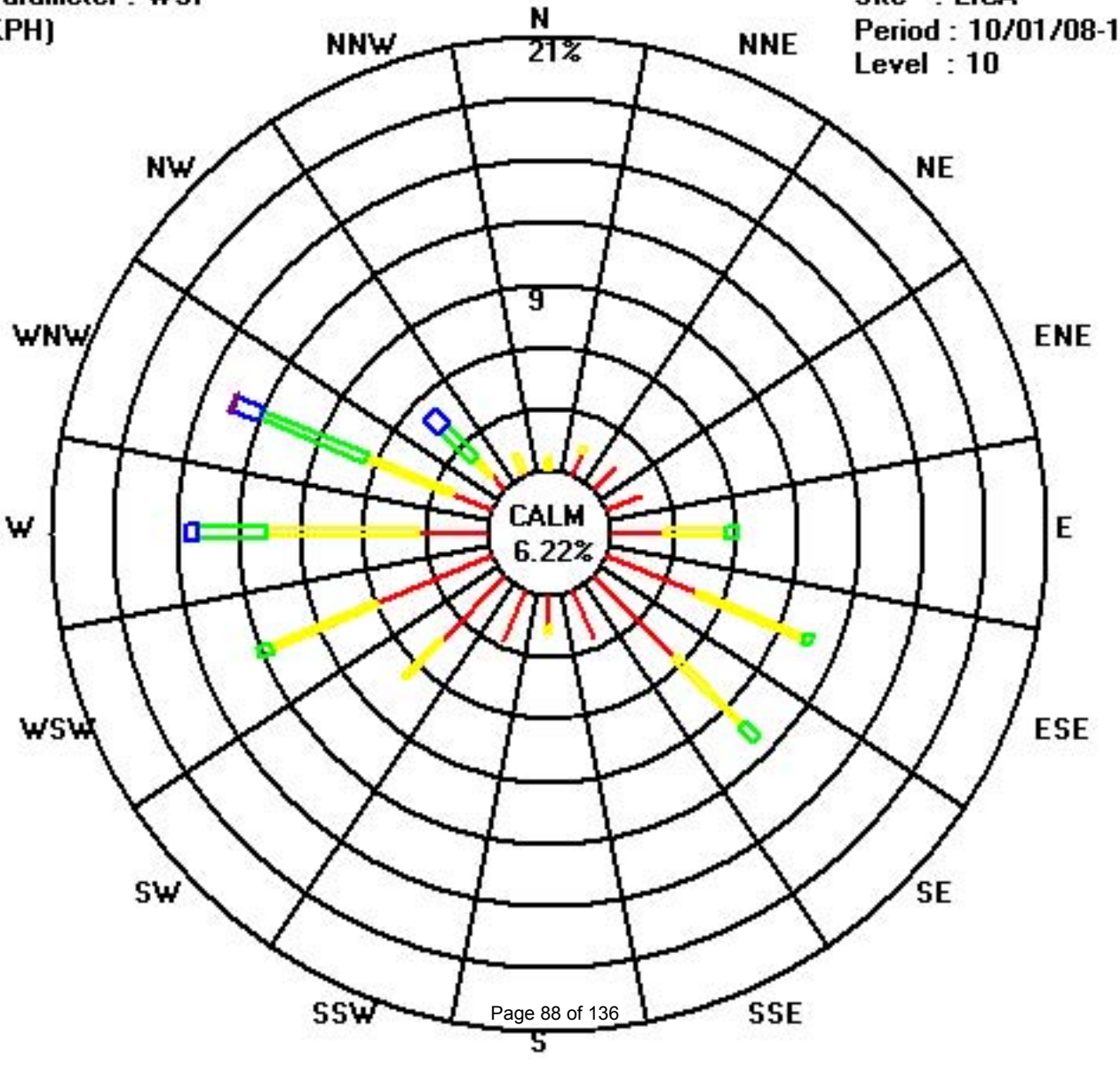
Class Limits (KPH)

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

Site : LICA

Period : 10/01/08-10/31/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2008

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST

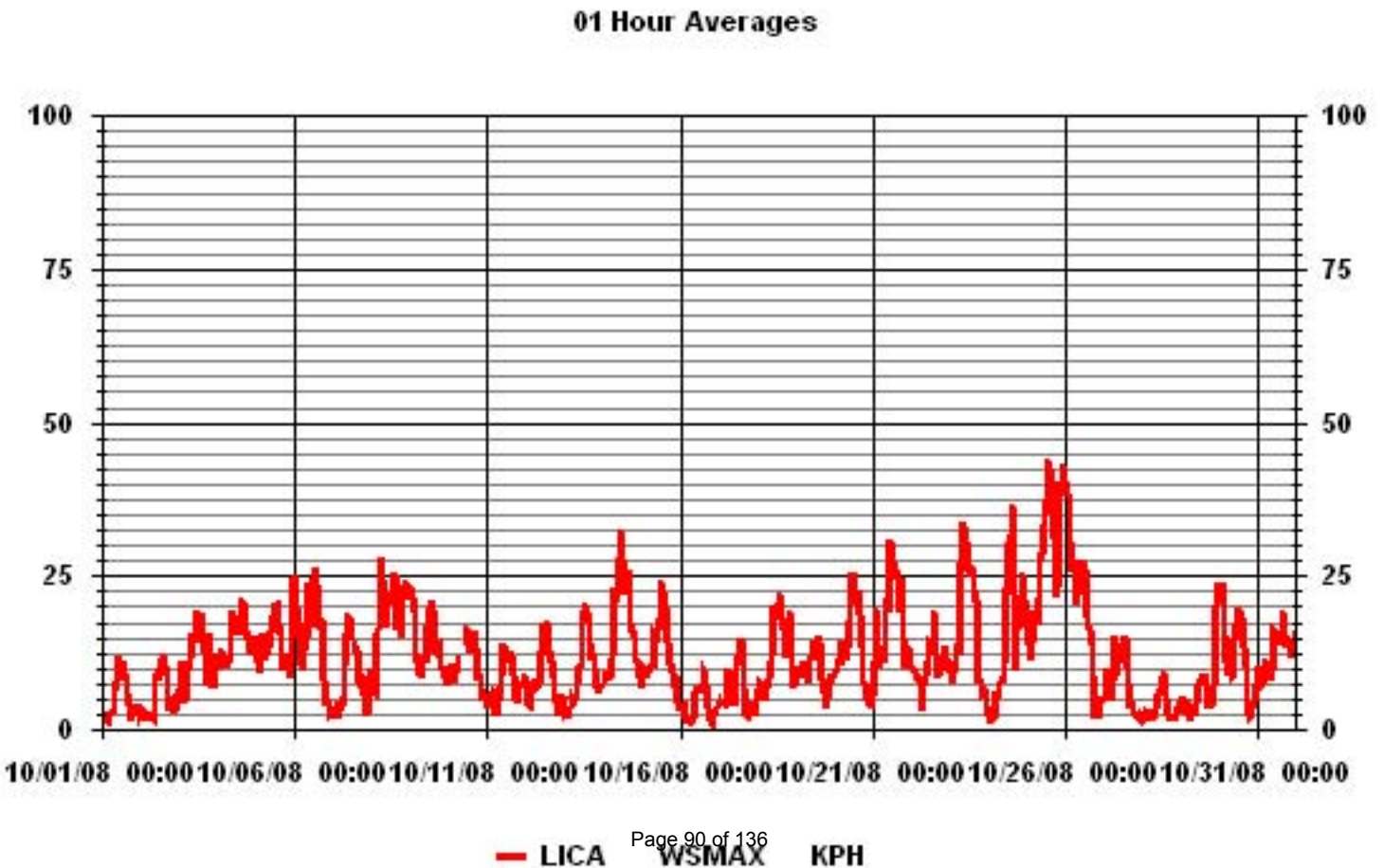
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.
DAY																									
1	2.1	2.1	2.7	1.5	1.3	2.3	2.9	2.9	6.1	8	11.8	11.1	11.1	10.8	8.1	9	6.2	4.1	1.5	2.8	4	3.1	4.1	2.1	11.8
2	2.5	3.3	3	2.2	2.1	3	1.4	2.2	1.9	8.7	8.6	10	8.6	11.3	12.5	10.8	9	3.7	3.8	5.3	3.4	2.8	5.3	5.1	12.5
3	6.7	11.3	9.2	5.1	4.6	11.1	9.5	11.5	15	M	14.6	19.4	16.7	18.6	19	15.3	12.8	6.9	10.3	15.8	8.1	6.6	12.5	10.5	19.4
4	9.8	12.2	13	10.1	11	12.1	9.9	11	18.9	18.8	15.5	18.5	16.4	17.4	15.2	20.6	20.4	20.2	16.2	14.9	13	12.2	13.6	15.3	20.6
5	13.4	11.3	9	12.8	15.5	11.1	12.4	12.8	13.2	16	18.5	20.3	20.5	16.4	16.5	15.9	12	9.6	10.5	12.1	10.4	8.4	16.3	24.5	24.5
6	25.3	15	19.8	17.8	10.9	9.5	12.7	14.7	23.8	20.6	21.3	16.7	24.8	26.3	23.9	17.8	16.2	18.3	8.4	4.5	4.4	4.4	2.7	3	26.3
7	2.5	2.4	2.4	4.3	3.3	4	5.4	10.5	15.6	18.9	18.4	15.9	14.9	13.3	13.4	13.1	8.1	6.5	8.9	5.8	3.6	2.4	6.8	9.7	18.9
8	8	6.2	6	15.6	16.2	17.2	28.1	24.6	18.3	16.7	20.3	22.1	21.6	22.9	25.6	17.3	17.6	16.5	14.9	23.4	21.8	24.4	21	23	28.1
9	23	21.8	19.2	12.8	11.3	10.7	9.2	8.3	11.7	11.6	16.8	16.1	19.7	21.1	19.8	13	12.6	13.5	13.8	10.6	9.7	10.3	7.1	8.6	23
10	9.8	9.7	10.8	7.5	10.7	9.4	11.5	0	0	0	0	16.5	14	13.1	13	13.2	15.9	13.5	8.2	9	7	5.1	5.1	5.7	16.5
11	3.6	4.4	5.1	6.4	6.1	3	2.9	4.6	6.8	8.8	13.9	12.9	12.2	12.3	10.9	11.2	9	5	4.1	5.3	6.7	7.6	7.9	9.1	13.9
12	7	4.3	4	6.1	7.4	7.2	8.2	6.8	7.7	12.5	13	17.4	11.9	17.8	13.2	11.2	11.2	8.8	4.3	5.5	2.8	2.7	5.6	2.7	17.8
13	2.2	2.4	1.7	3.5	5.5	5.1	4.8	5.6	7.7	10.2	10.9	17.3	19.1	20.4	19	18.8	14.4	11.2	12.4	10.3	7	6	7.4	6.7	20.4
14	7.5	9.3	9.4	9.1	8.2	11.6	12.2	23.1	20.7	21.8	28	32.4	27.6	27.2	21.8	22.8	26.1	17.6	16.2	15.5	11.7	11.1	8.3	11.2	32.4
15	6.7	8.7	9.2	8.5	9.4	10.3	10.8	10	15.8	15.5	17.4	17.2	24.1	20.8	21.2	20	14.4	10.7	11.2	9.4	6.6	9.2	4.8	2.9	24.1
16	3.7	3.7	3.9	2.4	1.6	1.4	1.6	1.3	1.7	5.9	6.4	7	6	7.2	10.1	9.8	7.5	3.8	1.9	1.2	0.8	2.1	3	3.5	10.1
17	4.1	4.9	4.4	4.2	5.1	9	10	6.3	6.5	3.7	6.7	10.3	11.8	13.7	14.9	14	6.9	2.8	2.4	3.4	2.9	4.3	2	3.6	14.9
18	6.4	7.9	7.7	7.5	4.7	6.2	6.9	8.3	10.9	12.2	20.3	19.2	19.4	20.5	22.4	18.3	16.4	11.5	16.6	15.5	19.2	17.6	6.6	7.5	22.4
19	7.5	10.1	8.9	8.9	8.9	11	9.3	8	7.5	11.8	11.2	14	14	12.6	15.2	14.5	8.5	6.4	3.4	4.2	5.2	7.4	8.5	8.6	15.2
20	9.5	9.6	11.4	10.3	13.7	14.3	12.1	11.4	13.3	17.8	21.5	25	25	21	20.3	22.7	19.1	13.7	7.3	7.7	5	3.8	6.5	3.3	25
21	5.6	11.2	19.7	11.6	10.1	13.7	10.7	11.5	21.6	19	30.9	30	29.9	27.6	26.4	24.7	19.1	21.5	24.6	15.2	10.5	10.1	13	12.8	30.9
22	10.2	9.9	9.5	8.2	8.9	8	2.8	7.2	7.5	10.9	8.7	14.1	13.8	14.6	19.5	12.5	8.3	8.9	9.9	11.4	10	13.6	9.7	11.5	19.5
23	9.5	7.6	11	9.3	13.8	12.1	13.6	27.3	33.9	33.4	30.7	26.2	24.7	26.7	25.4	22.8	21.2	15.4	7.7	8.4	6.2	6.6	6.4	4	33.9
24	2.7	1.5	1.6	2.1	2.2	6.3	5.2	7.8	8.4	8.3	10.9	23.2	30.4	31.3	31.9	36.7	22.4	9.4	16.4	16.8	17.3	25.7	21.1	20.7	36.7
25	15	14.1	11.4	14.1	19.2	18.6	18.3	21.5	27.1	28.7	33.3	34.9	37.6	**43.9**	42.7	41.2	35.1	31.2	21.7	23.2	40.3	37.9	43.4	38	**43.9**
26	40.7	38.5	38.2	31	26.8	27	20.3	21.8	25	25.2	27.7	27.2	26.4	18.8	17.2	16.5	13.9	9.2	2.8	3	1.8	2.4	5.3	4.7	40.7
27	5.1	7	10	9.5	4.5	7.7	15.1	9	10.1	14.1	10.6	12.9	12.2	15.1	10.3	8	3.6	4.7	2.8	2.7	2.2	1.9	2.4	1.8	15.1
28	2.5	1.9	2.2	3.2	2.2	2.1	3.4	1.9	3.3	5.8	6.5	5.5	8.4	9.4	7	5.3	2.7	1.9	1.7	1.7	1.9	3.5	2.7	4.6	9.4
29	5.3	3.2	4.7	4.5	2.5	1.4	2.9	3.6	3.3	4.2	7.2	8.3	7.3	8.8	8.9	7.7	3.4	4.8	5.1	3.6	7	20.1	23.9	20.4	23.9
30	22.6	20.6	24	15.7	11.3	8.9	10.3	8.4	8.6	14.7	17.2	18.8	19.9	16.8	17.1	13.6	10.5	2.6	1.8	2.1	4.3	3.5	4.8	7.5	24
31	10	10.1	7.4	7.7	11.4	8.9	10.4	10.3	7.9	9.4	16.5	16.2	15.8	13.5	16	19.2	16.9	13.2	15.3	14.2	13.1	11.7	13.8	15.7	19.2
PEAK	40.7	38.5	38.2	31.0	26.8	27.0	28.1	27.3	33.9	33.4	33.3	34.9	37.6	43.9	42.7	41.2	35.1	31.2	24.6	23.4	40.3	37.9	43.4	38.0	

STATUS FLAG CODES

S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS READING	43.9	KPH	@ HOUR(S)	13
			ON DAY(S)	25


01 Hour Averages
100
75
50
25
0
10/01/08 00:00
10/06/08 00:00
10/11/08 00:00
10/16/08 00:00
10/21/08 00:00
10/26/08 00:00
10/31/08 00:00
LICA WSMAX KPH

Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

OCTOBER 2008

VECTOR WIND DIRECTION (WD) hourly averages in degrees

MST

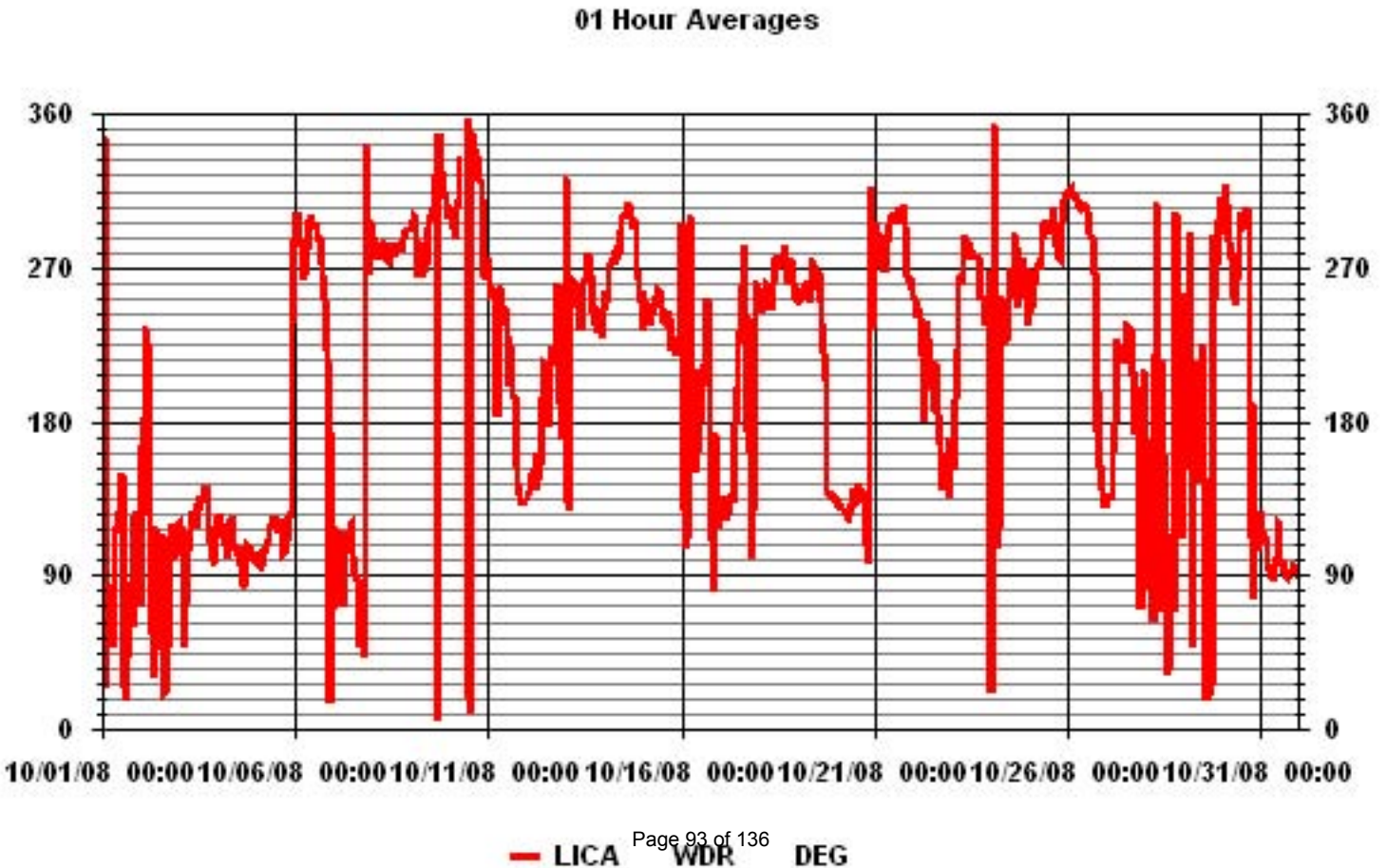
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUANDRANT	RDGS.
DAY																											
1	311	347	24	57	67	84	48	59	115	118	127	133	150	26	17	19	41	64	86	60	124	127	105	71	75	ENE	24
2	166	183	125	236	133	225	74	56	30	119	97	87	46	50	114	22	23	47	105	120	101	102	120	121	83	E	24
3	110	119	116	47	73	104	115	118	126	**M**	119	130	130	136	133	142	140	140	109	119	100	96	119	124	121	ESE	23
4	122	126	121	113	108	100	109	107	123	125	109	106	103	104	96	85	83	93	108	107	103	105	100	99	105	ESE	24
5	98	97	104	95	105	103	107	111	119	120	123	123	123	119	120	116	103	104	107	110	124	127	238	286	114	ESE	24
6	302	298	299	287	283	263	266	281	297	298	300	296	293	296	287	287	273	266	252	222	216	15	173	70	287	WNW	24
7	99	119	106	94	77	71	116	105	105	114	121	122	102	91	86	89	49	49	70	42	343	265	273	298	95	E	24
8	287	286	282	275	283	283	284	284	280	275	274	278	285	276	282	283	282	282	279	286	291	292	292	293	283	W	24
9	298	301	300	276	264	286	273	264	267	271	294	301	297	306	323	325	4	349	340	327	315	311	303	304	303	WNW	24
10	301	300	294	286	305	310	333	**C**	**C**	**C**	**C**	355	20	9	350	341	334	334	322	320	311	266	266	265	324	NW	24
11	276	256	257	257	256	182	224	259	245	241	248	237	231	200	224	196	195	154	145	139	134	131	134	135	210	SSW	24
12	138	138	147	146	152	161	140	146	154	194	215	214	198	177	214	224	222	213	226	261	191	169	260	222	192	S	24
13	323	134	128	265	254	247	262	253	241	233	250	262	264	269	279	270	266	245	236	247	232	244	238	229	255	WSW	24
14	245	257	249	273	271	276	279	277	280	278	292	299	302	298	301	308	303	293	299	296	270	264	253	254	286	WNW	24
15	233	248	248	242	236	242	245	251	250	257	257	256	247	240	239	245	241	226	227	223	223	218	225	250	242	WSW	24
16	296	129	106	112	215	301	223	182	150	152	162	211	180	200	213	241	252	240	130	111	80	174	118	124	196	SSW	24
17	129	128	137	122	130	125	134	137	132	178	200	226	233	254	259	283	243	175	163	100	128	240	262	243	198	SSW	24
18	248	244	251	257	261	260	250	245	252	261	273	272	277	272	270	274	283	270	263	260	276	260	263	253	265	W	24
19	252	257	256	253	254	260	263	250	252	275	272	266	257	269	250	239	221	205	137	139	137	138	136	134	242	WSW	24
20	134	131	128	132	130	127	125	128	126	129	134	140	132	133	144	141	140	136	127	108	96	318	295	235	132	SE	24
21	284	297	292	290	272	271	268	271	285	295	300	301	299	296	302	305	299	296	307	295	266	263	263	259	290	WNW	24
22	254	252	241	248	242	220	179	234	238	229	199	202	208	186	215	186	167	150	140	142	162	142	135	171	201	SSW	24
23	164	152	193	222	265	260	267	286	289	278	286	277	277	278	276	276	276	268	251	254	236	240	243	268	270	W	24
24	21	86	355	159	106	117	229	253	229	227	228	252	267	266	270	290	283	247	258	257	275	266	267	236	262	W	24
25	249	244	246	259	268	272	269	275	287	296	298	292	297	290	303	303	291	283	276	275	297	309	312	312	290	WNW	24
26	315	314	316	313	313	311	306	305	308	307	306	308	304	291	289	288	268	267	174	197	155	141	133	134	305	WSNW	24
27	133	136	136	136	162	179	229	223	221	223	213	225	238	233	230	235	208	208	172	200	97	70	143	210	207	SSW	24
28	171	141	101	81	118	62	219	308	69	132	217	161	112	116	32	34	104	88	69	302	238	187	111	255	86	E	24
29	250	240	151	189	290	48	161	215	191	154	144	225	178	149	17	28	19	26	289	251	272	298	310	310	298	WNW	24
30	290	298	319	308	286	276	262	254	248	262	278	291	302	293	300	305	295	112	192	76	111	127	104	125	290	WNW	24
31	125	117	109	112	98	94	90	90	86	101	122	121	96	99	92	90	91	89	91	93	97	93	91	90	98	E	24
HOURLY AVG	323	347	355	313	313	311	333	308	308	307	306	355	304	306	350	341	334	349	340	327	343	318	312	312			

STATUS FLAG CODES

S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

LAST CALIBRATION:	December-2006
DECLINATION :	19 DEGREES FROM MAGNETIC NORTH

MONTHLY CALIBRATION TIME:	4	HRS	OPERATIONAL TIME:	743	HRS
STANDARD DEVIATION	83.45		AMD OPERATION UPTIME	99.9	%
			MONTHLY AVERAGE	268	DEG


01 Hour Averages
360
270
180
90
0
10/01/08 00:00
10/06/08 00:00
10/11/08 00:00
10/16/08 00:00
10/21/08 00:00
10/26/08 00:00
10/31/08 00:00
LICA WDR DEG

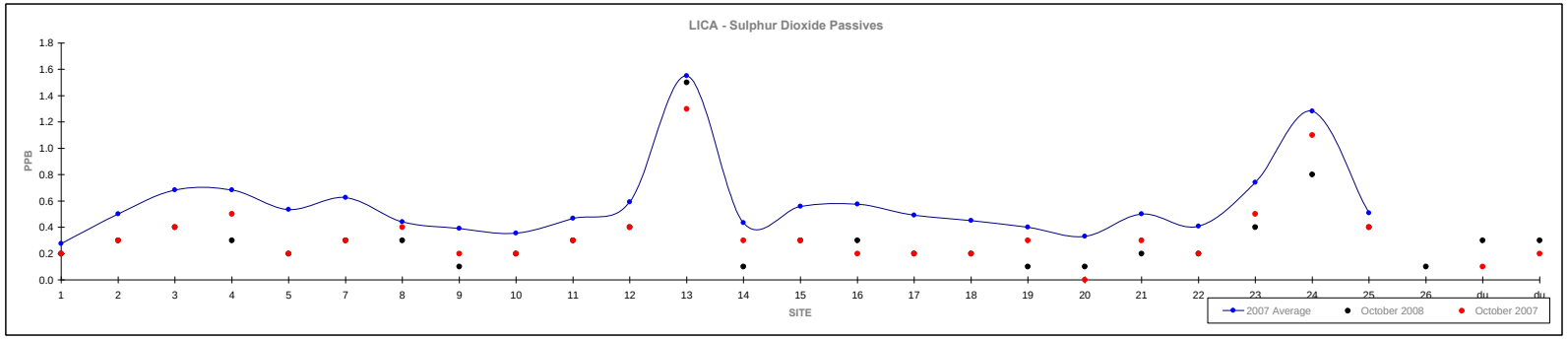
Non-Continuous Monitoring

Passive Summary Results for October 2008

Lakeland Industry & Community Association

Sulphur Dioxide
ppb

	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	Reading	Site
													2007													2008	
Mean	0.3	0.5	0.7	0.7	0.5	0.6	0.4	0.4	0.4	0.5	0.6	1.6	0.4	0.6	0.6	0.5	0.5	0.4	0.3	0.5	0.4	0.7	1.3	0.5	0.4	0.3	-
Minimum	0.1	0.3	0.4	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.8	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.5	0.2	0.0	<0.1	#23
Maximum	0.4	1.0	1.3	1.1	1.0	1.1	0.8	0.7	0.7	0.8	1.6	2.6	0.8	1.1	1.1	1.0	0.8	0.6	0.5	0.8	0.8	1.2	2.1	0.8	0.0	1.5	#14

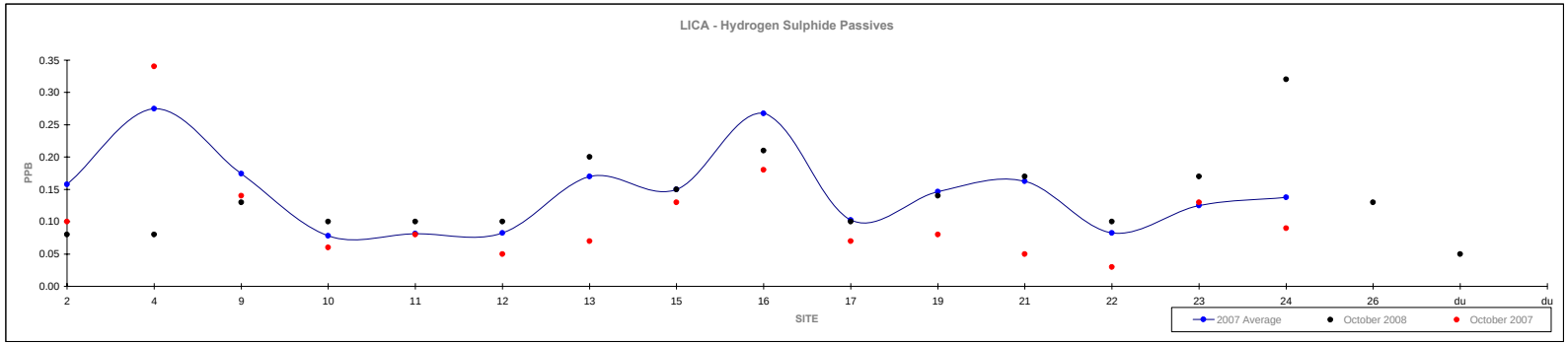


Passive Summary Results for October 2008

Lakeland Industry & Community Association

Hydrogen Sulphide
ppb

	2007															2008	
	3	**5**	**10**	**11**	**12**	**13**	**14**	**16**	**17**	**18**	**22**	**24**	**25**	**26**	**27**	**Reading**	**Site**
Mean	0.2	0.3	0.2	0.1	0.1	0.1	0.2	0.2	0.3	0.1	0.1	0.2	0.1	0.1	0.1	0.14	-
Minimum	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.05	#3 (Dupliate)
Maximum	0.5	0.7	0.5	0.1	0.1	0.2	0.4	0.4	0.9	0.2	0.4	0.4	0.2	0.2	0.4	0.32	#27

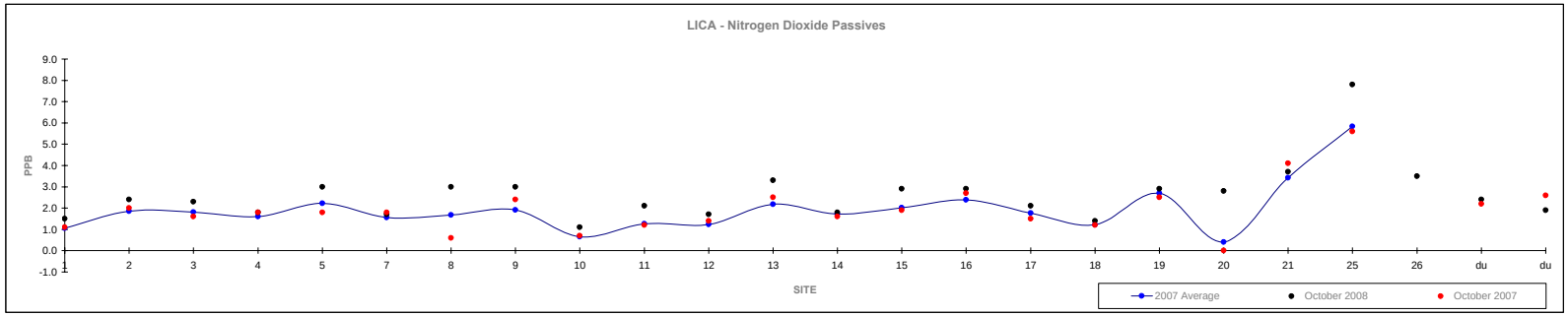


Passive Summary Results for October 2008

Lakeland Industry & Community Association

Nitrogen Dioxide
ppb

	2007																					2008	
	2	**3**	**4**	**5**	**6**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**22**	**23**	**24**	**28**	**Reading**	**Site**
Mean	1.1	1.9	1.8	1.6	2.2	1.6	1.7	1.9	0.7	1.3	1.2	2.2	1.7	2.0	2.4	1.8	1.2	2.7	0.4	3.4	5.8	2.6	-
Minimum	0.2	0.8	0.2	0.3	1.2	0.5	0.6	0.4	0.3	0.3	0.6	0.8	0.8	0.7	0.8	0.6	0.2	1.2	0.1	2.1	3.3	1.1	#11
Maximum	4.1	3.5	4.0	3.8	5.3	3.6	3.8	3.9	1.4	3.2	2.5	5.3	3.4	4.5	4.8	3.9	3.0	5.8	1.2	6.4	10.7	7.8	#28

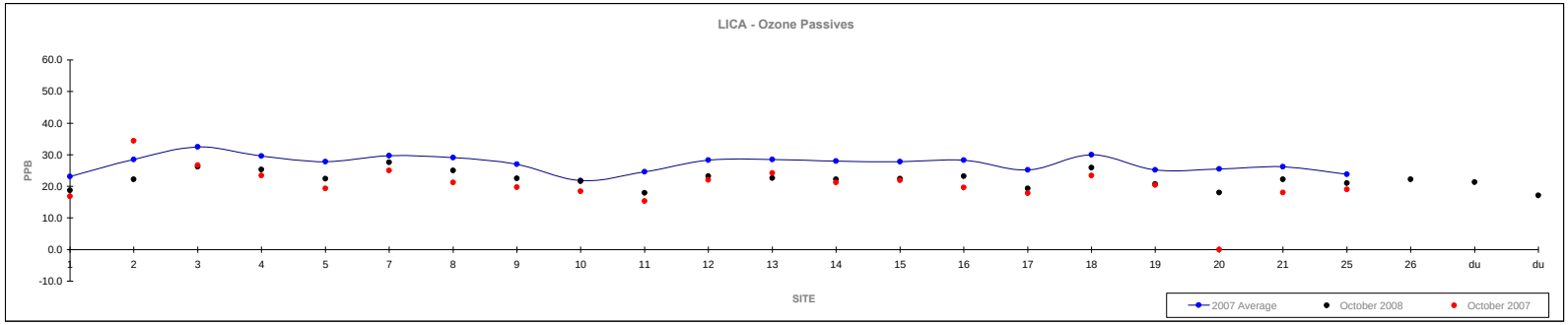


Passive Summary Results for October 2008

Lakeland Industry & Community Association

Ozone ppb

	2007																					2008	
	2	3	4	5	6	8	9	10	11	12	13	14	15	16	17	18	19	22	23	24	28	Reading	Site
Mean	23.1	28.5	32.5	29.6	27.8	29.7	29.0	27.0	21.9	24.6	28.3	28.5	28.0	27.8	28.3	25.2	30.0	25.2	25.5	26.2	23.8	22.1	-
Minimum	12.9	18.6	20.6	19.3	17.6	19.5	18.7	16.2	12.2	15.3	16.8	19.9	19.0	18.9	17.4	14.7	19.4	15.8	10.9	17.7	16.9	17.1	#5 (Duplicate)
Maximum	37.3	41.1	51.4	48.0	46.3	42.3	44.1	44.6	29.5	33.6	41.2	38.6	39.9	41.6	44.7	38.6	46.5	39.2	39.0	41.6	33.2	27.5	#8



Calibration Reports

Cold Lake

Sulphur Dioxide

SO_2 Calibration Report

Station Information

Calibration Date	October 1, 2008	Previous Calibration	September 4, 2008
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:32	End Time (MST)	11:15
Reason:	Monthly Calibration		
Barometric Pressure	716 mmHg	Station Temperature	25 Deg C
Cal Gas	52.2 ppm	Cal Gas Expiry date	March 12, 2010
DAS Output Voltage	0 - 10 Volts		

Equipment Information

Analyzer Make / Model:	TECO 43A	S/N :	43A-4468-272	Method:	Fluorescent
Converter Make / Model:	-	S/N :	-		
Calibrator Make / Model:	Environics 2000	S/N :	1991	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	263		
Flow Meter:	Environics 2000	S/N :	1991		

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range	0 - 500 ppb							
Sample Flow / Box Temp	700	ccm	OK	Deg C	700	ccm	OK	Deg C
HVPS / Lamp Setting	OK		827		OK		830	
PMT / RxCell Temp	OK	Deg C	OK	Deg C	OK	Deg C	OK	Deg C
Converter / IZS Temp	NA	Deg C	OK	Deg C	NA	Deg C	OK	Deg C
Offset / Slope	104		920		104		892	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5003.0	0	0	0	N/A
4965.6	38.9	406	408	0.9945
4965.6	38.9	406	406	0.9994
4984.5	24.3	253	255	0.9931
4992.6	14.6	152	154	0.9883
5006.0	0	0	1	N/A
			Sum of Least Squares	0.9968
			New Correction Factor	0.9994

	Before Calibration	After Calibration
Auto Zero	0.2	0.2
Auto Span	208.6	205.3
Sample Lines Connected		**YES**
Percent Change from Previous Calibration		0.3%

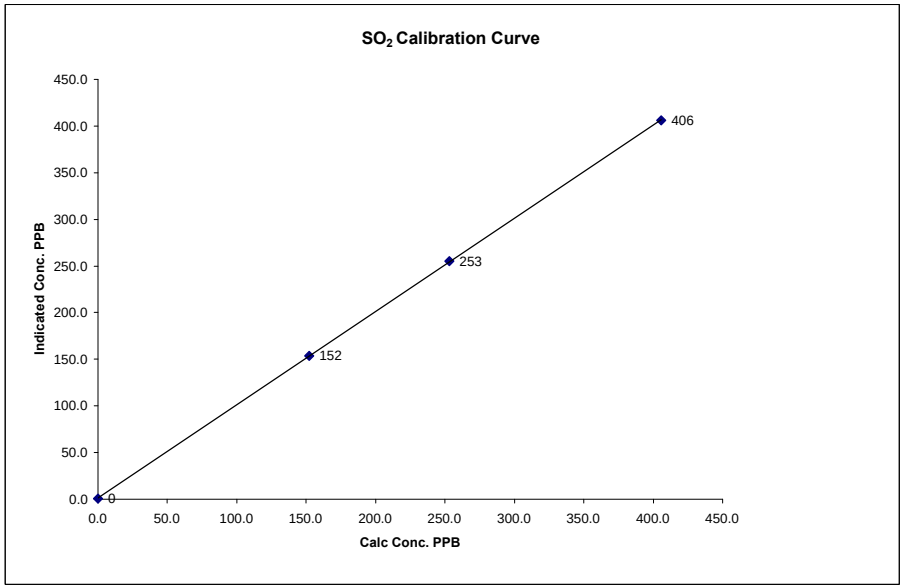
Calibration Performed by: Shea Beaton

SO_2 Calibration Curve

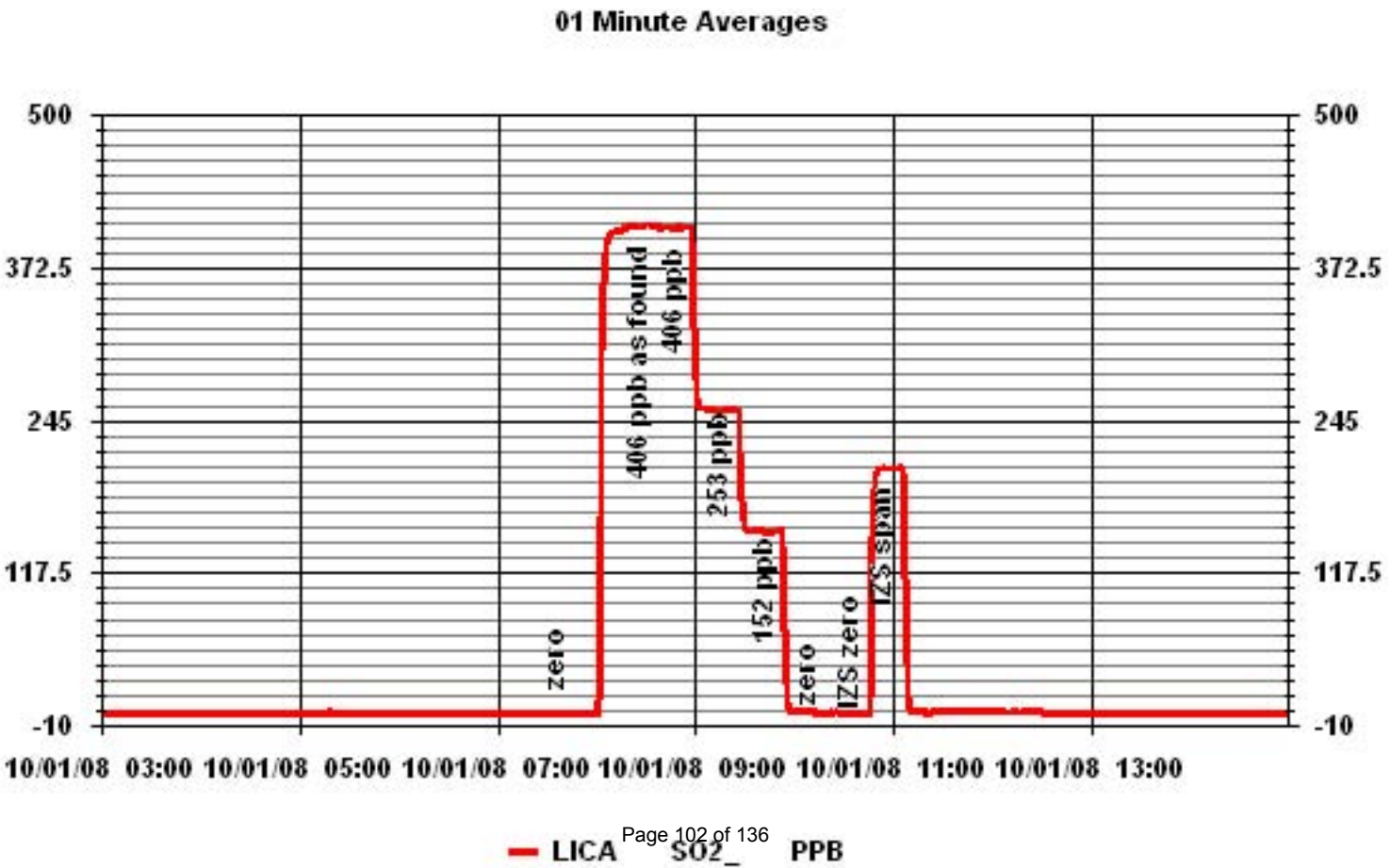
Calibration Date	October 1, 2008		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:32	End Time (MST)	11:15

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	1	n/a
152	154	0.9883
253	255	0.9931
406	406	0.9994

Correlation Coefficient	(≥ 0.995)	0.999985
Slope	(0.85 to 1.15)	0.998232
Intercept	(± 3% F.S.)	1.558136



Notes:


01 Minute Averages
500
372.5
245
117.5
-10
zero
406 ppb as found
406 ppb
253 ppb
152 ppb
zero
IZS zero
IZS span
10/01/08 03:00
10/01/08 05:00
10/01/08 07:00
10/01/08 09:00
10/01/08 11:00
10/01/08 13:00
LICA SO2_ PPB

Total Reduced Sulphur

TRS Calibration Report

Station Information

Calibration Date	October 1, 2008	Previous Calibration	September 16, 2008
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	7:35	End Time (MST)	16:15
Reason:	Monthly Calibration (Repair)		
Barometric Pressure	714 mm Hg	Station Temperature	25 Deg C
Cal Gas	10.6 ppm	Cal Gas Expiry date	April 3, 2009
DAS Output Voltage	0 - 10 Volts		

Equipment Information

Analyzer Make / Model:	TECO 43A	S/N :	43A-35786-254	Method:	Fluorescent
Converter Make / Model:	CD Nova CDN 101	S/N :	250		
Calibrator Make / Model:	API 700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	263		
Flow Meter:	API 700	S/N :	831		

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range	0 -100 ppb							
Sample Flow / Box Temp	425	ccm	OK	Deg C	425	ccm	OK	Deg C
HVPS / Lamp Setting	OK		887		OK		886	
PMT / RxCell Temp	OK	Deg C	OK	Deg C	OK	Deg C	OK	Deg C
Converter / IZS Temp	850	Deg C	OK	Deg C	850	Deg C	OK	Deg C
Offset / Slope	951		803		951		785	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	0	N/A
4962.2	37.8	80	81	0.9893
5000	0	0	0	N/A
4962.2	37.8	80	80	1.0017
			Sum of Least Squares	0.9955
			New Correction Factor	0.9893

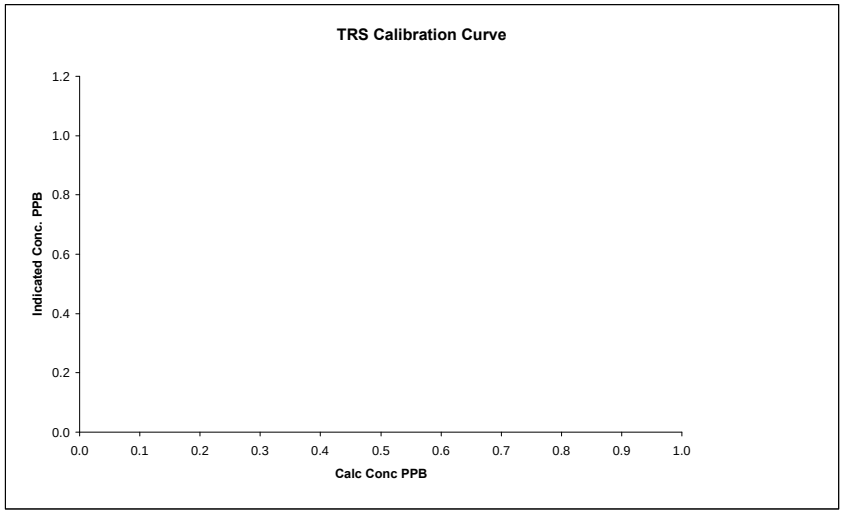
	Before Calibration	After Calibration
Auto Zero	-0.2	0.3
Auto Span	84.1	83.7
Sample Lines Connected		YES
Percent Change from Previous Calibration		-

Calibration Performed by: Shea Beaton

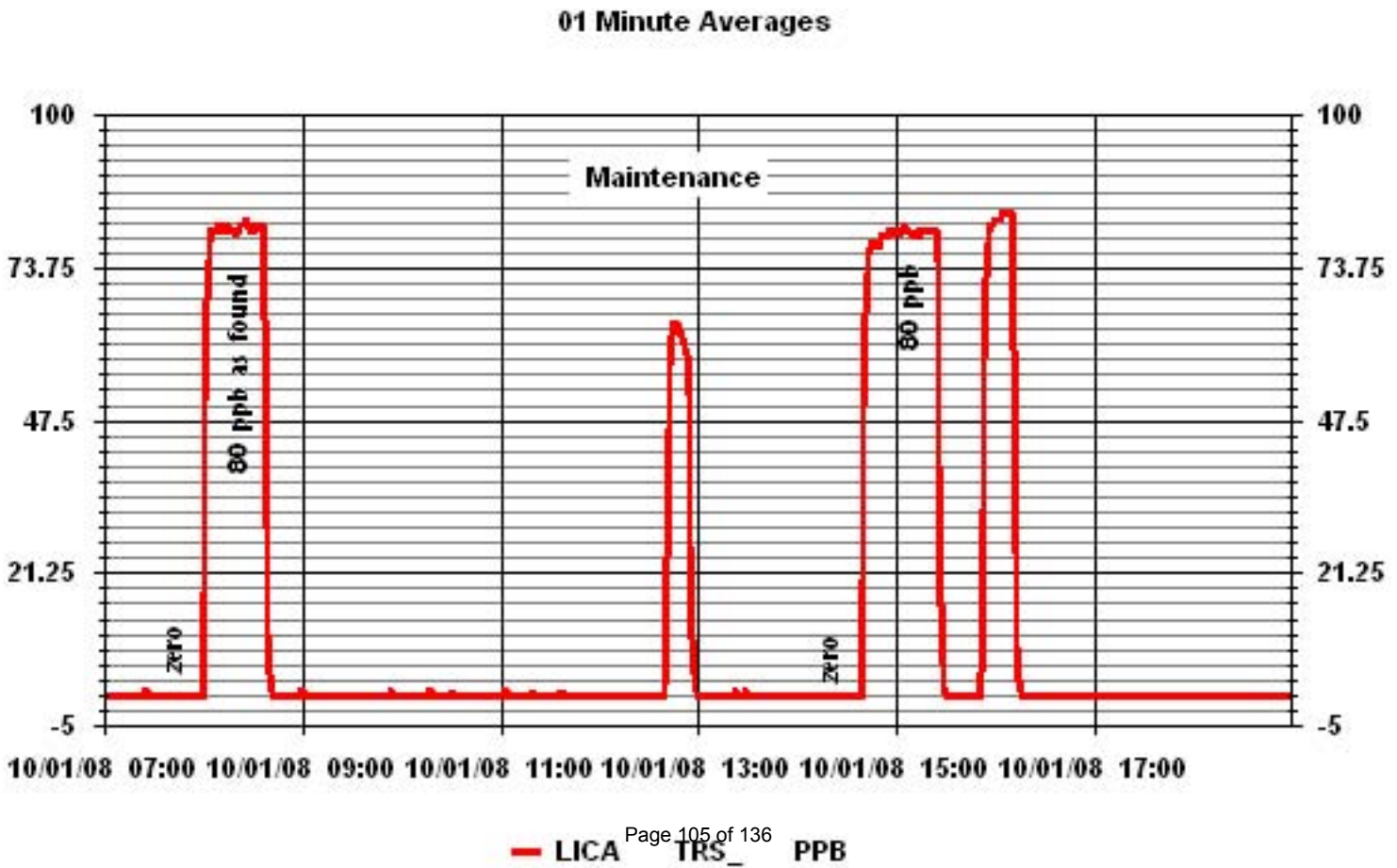
TRS Calibration Curve

Calibration Date	October 1, 2008		
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	7:35	End Time (MST)	16:15

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	#DIV/0!
			Slope (0.85 to 1.15)	#DIV/0!
			Intercept (± 3% F.S.)	#DIV/0!



Notes: SO2 scrubber material and packing were relaced following the as found points. Problem with "new" scrubber material


01 Minute Averages
100
73.75
47.5
21.25
-5
Maintenance
zero
80 ppb as found
zero
80 ppb
10/01/08 07:00
10/01/08 09:00
10/01/08 11:00
10/01/08 13:00
10/01/08 15:00
10/01/08 17:00
LICA TRS_ PPB

TRS Calibration Report

Station Information

Calibration Date	October 2, 2008	Previous Calibration	September 16, 2008
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	10:25	End Time (MST)	13:45
Reason:		Post- Repair Calibration	
Barometric Pressure	710 mm Hg	Station Temperature	24 Deg C
Cal Gas	10.6 ppm	Cal Gas Expiry date	April 3, 2009
DAS Output Voltage	0 - 10 Volts		

Equipment Information

Analyzer Make / Model:	TECO 43A	S/N :	43A-35786-254	Method:	Fluorescent
Converter Make / Model:	CD Nova CDN 101	S/N :	250		
Calibrator Make / Model:	API 700	S/N :	831	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	263		
Flow Meter:	API 700	S/N :	831		

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range	0 -100 ppb							
Sample Flow / Box Temp	425	ccm	OK	Deg C	425	ccm	OK	Deg C
HVPS / Lamp Setting	OK		887		OK		887	
PMT / RxCell Temp	OK	Deg C	OK	Deg C	OK	Deg C	OK	Deg C
Converter / IZS Temp	850	Deg C	OK	Deg C	850	Deg C	OK	Deg C
Offset / Slope	951		785		951		785	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	0	N/A
4963.2	37.7	80	80	0.9989
4979.6	18.9	40	40	1.0020
4991.6	9.5	20	20	1.0068
5000	0	0	0	N/A
			Sum of Least Squares	0.9998
			New Correction Factor	0.9989

	Before Calibration	After Calibration
Auto Zero	-0.4	0.0
Auto Span	86.8	81.9
Sample Lines Connected		YES
Percent Change from Previous Calibration		0.3%

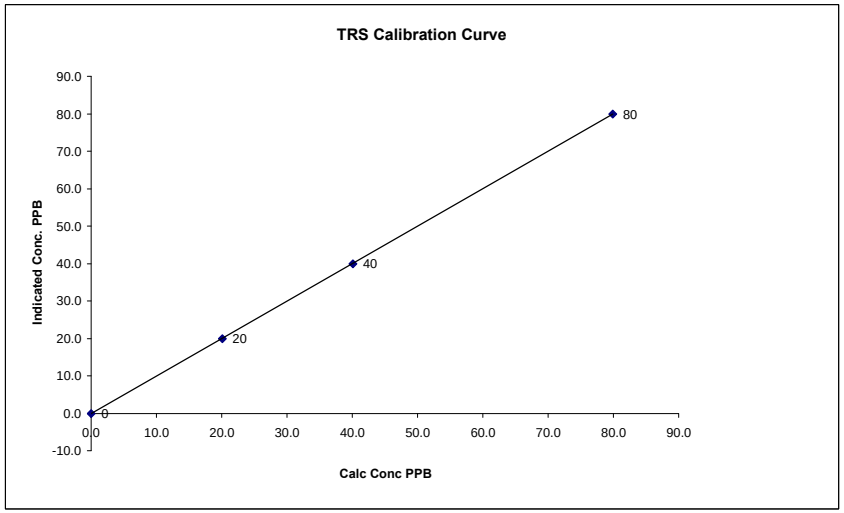
Calibration Performed by: Shea Beaton

TRS Calibration Curve

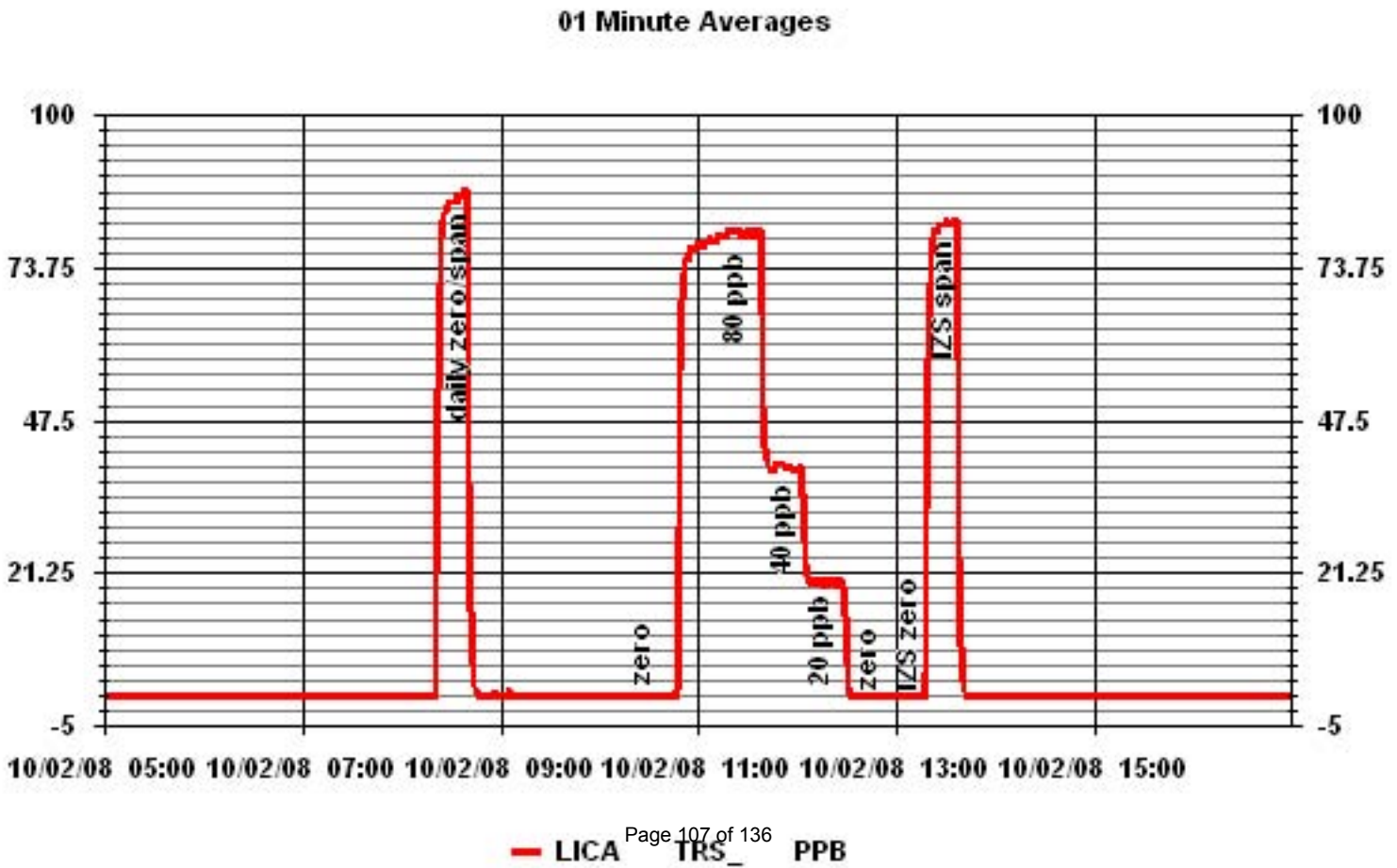
Calibration Date	October 2, 2008		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	10:25	End Time (MST)	13:45

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
20	20	1.0068
40	40	1.0020
80	80	0.9989

Correlation Coefficient	(≥ 0.995)	0.999994
Slope	(0.85 to 1.15)	1.001626
Intercept	(± 3% F.S.)	-0.088255



Notes:


01 Minute Averages
100
73.75
47.5
21.25
-5
daily zero/span
zero
80 ppb
40 ppb
20 ppb
zero
IZS zero
IZS span
10/02/08 05:00
10/02/08 07:00
10/02/08 09:00
10/02/08 11:00
10/02/08 13:00
10/02/08 15:00
LICA TRS_ PPB

TRS Calibration Report

Station Information

Calibration Date	October 28, 2008	Previous Calibration	October 2, 2008
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:30	End Time (MST)	13:40
Reason:		Post- Repair Calibration	
Barometric Pressure	715 mm Hg	Station Temperature	23 Deg C
Cal Gas	10.6 ppm	Cal Gas Expiry date	April 3, 2009
DAS Output Voltage	0 - 10 Volts		

Equipment Information

Analyzer Make / Model:	TECO 43A	S/N :	43A-35786-254	Method:	Fluorescent
Converter Make / Model:	CD Nova CDN 101	S/N :	250		
Calibrator Make / Model:	Environics 2000	S/N :	1991	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	263		
Flow Meter:	API 700	S/N :	831		

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range	0 -100 ppb							
Sample Flow / Box Temp	425	ccm	OK	Deg C	425	ccm	OK	Deg C
HVPS / Lamp Setting	OK		890		OK		890	
PMT / RxCell Temp	OK	Deg C	OK	Deg C	OK	Deg C	OK	Deg C
Converter / IZS Temp	850	Deg C	OK	Deg C	850	Deg C	OK	Deg C
Offset / Slope	951		785		951		785	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5008.0	0	0	0	N/A
4970.7	37.7	80	80	0.9974
5000	0	0	0	N/A
			Sum of Least Squares	0.9974
			New Correction Factor	0.9974

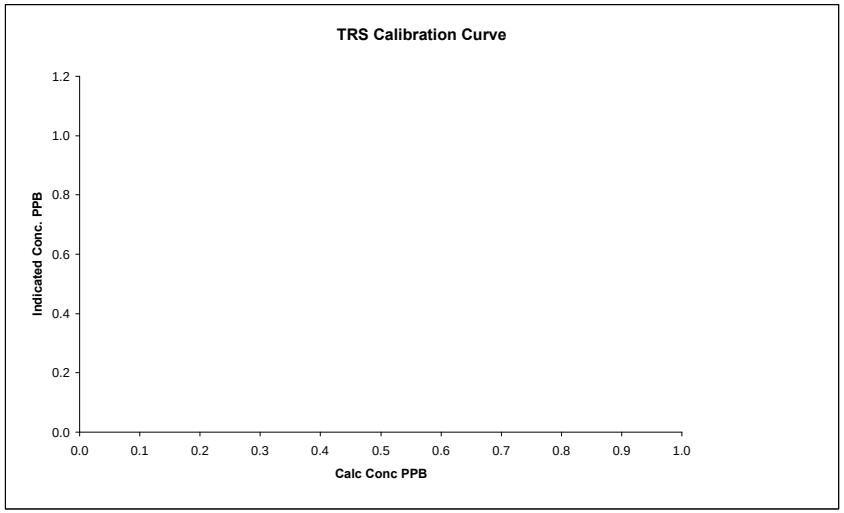
	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	68.0	Will take time to stabilize
Sample Lines Connected		YES
Percent Change from Previous Calibration		-

Calibration Performed by: Shea Beaton

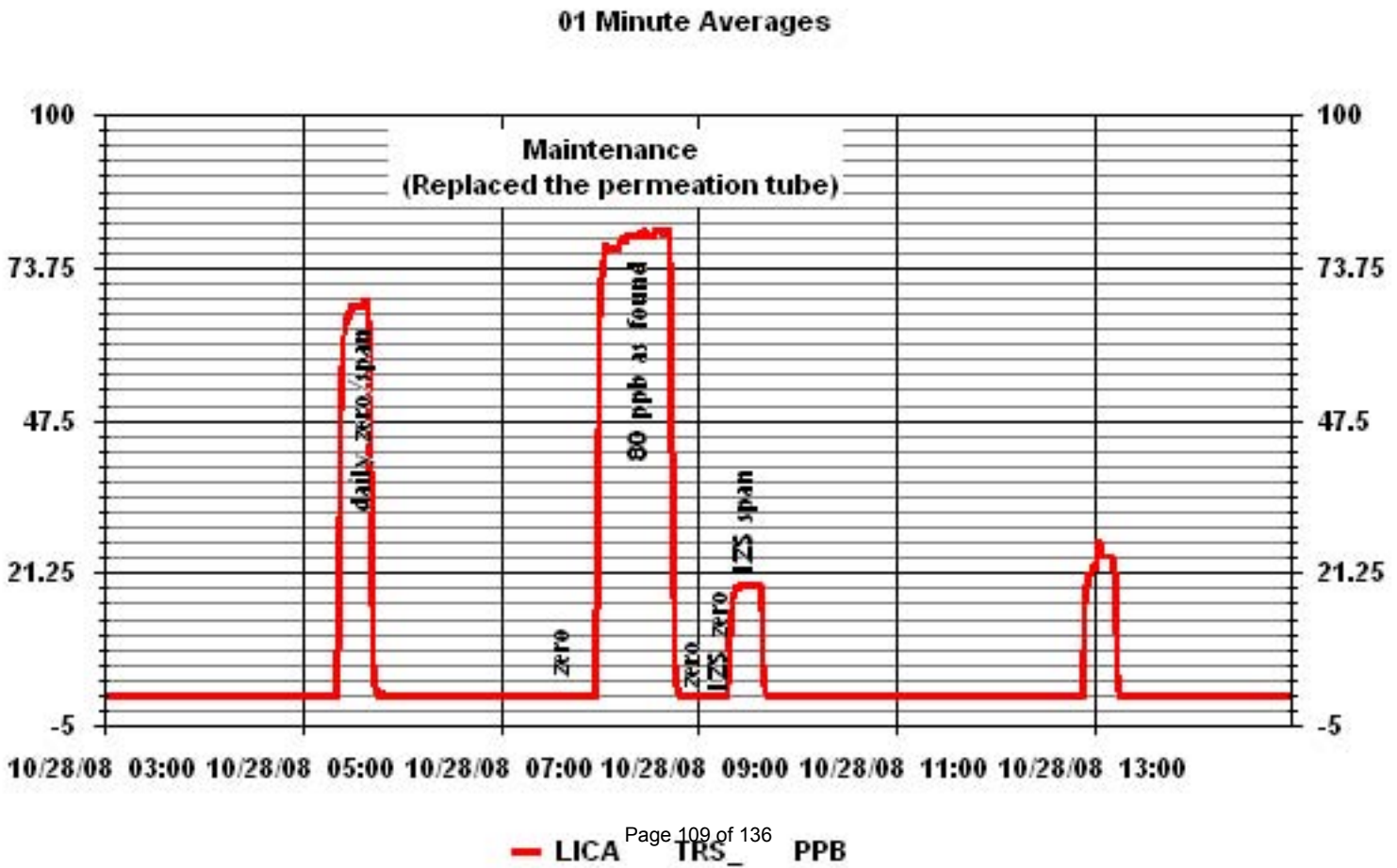
TRS Calibration Curve

Calibration Date	October 28, 2008		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:30	End Time (MST)	13:40

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	#DIV/0!
			Slope (0.85 to 1.15)	#DIV/0!
			Intercept (± 3% F.S.)	#DIV/0!



Notes:


01 Minute Averages
Maintenance
(Replaced the permeation tube)
100
73.75
47.5
21.25
-5
daily zero/span
zero
80 ppb as found
zero
LZS zero
LZS span
10/28/08 03:00
10/28/08 05:00
10/28/08 07:00
10/28/08 09:00
10/28/08 11:00
10/28/08 13:00
LICA TRS_ PPB

Total Hydrocarbons

THC Calibration Report

Station Information

Calibration Date:	October 1, 2008	Previous Calibration	September 4, 2008
Company:	**Lakeland Industry and Community Association**		
Plant / Location:	**LICA1/Cold Lake**		
Start Time (MST)	9:00	End Time (MST)	12:45
Reason:	Monthly Calibration		
Barometric Pressure:	716 mmHg	Station Temperature:	25 Deg C
Calibrator:	API 700	S/N:	831
Cal Gas Concentration:	1000 ppm	Cal Gas Expiry Date:	2/22/2011
DAS make & Model:	ESC 8832	S/N :	263
Output Voltage Range:	0 - 10 VDC		

Analyzer Information

Make / Model	TECO 51C-LT	S/N :	51CLT-42740-8718	Method	Flame Ionization

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	16	psi	16	psi

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2000	0	0.0	-0.3	N/A
2000	0	0.0	0.0	N/A
2000	80.0	38.5	38.7	0.9938
2000	80.0	38.5	38.5	0.9990
2000	40.0	19.6	19.6	1.0004
2000	20.0	9.9	9.7	1.0207
2000	0	0.0	0.0	N/A
			Correction Factor:	0.9990

Percent Change

Previous Calibration Correction Factor:	0.9990
Current Correction Factor Before Span Adjust:	0.9990
Percent Change:	0.0%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	-0.4	0.0
Auto Span	30.3	30.3
Sample Lines Connected		**YES**

Cylinder Pressures			
Span	2100	psi	
Hydrogen	1500	psi	
Zero Air	unlimited	psi	Maxxam-owned API 701 zero air supply with catalytic oxidizer

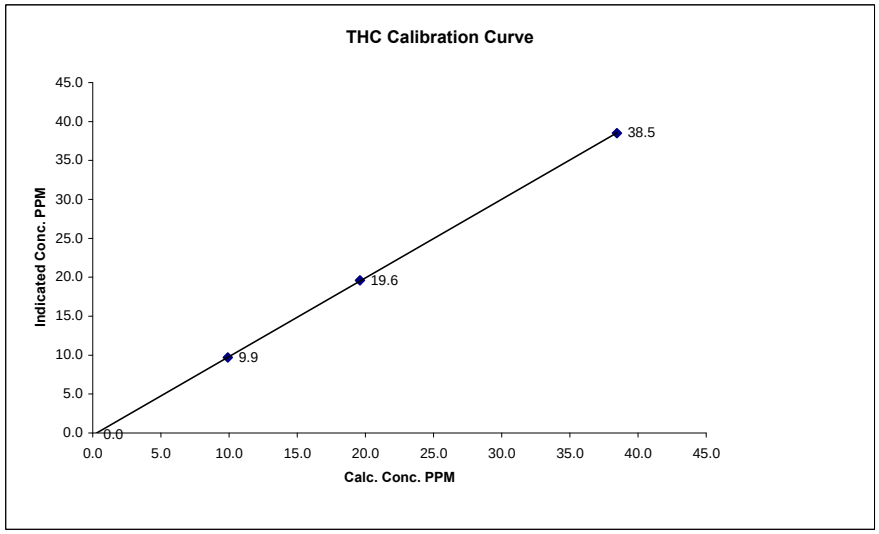
Calibration Performed by: Shea Beaton

THC Calibration Curve

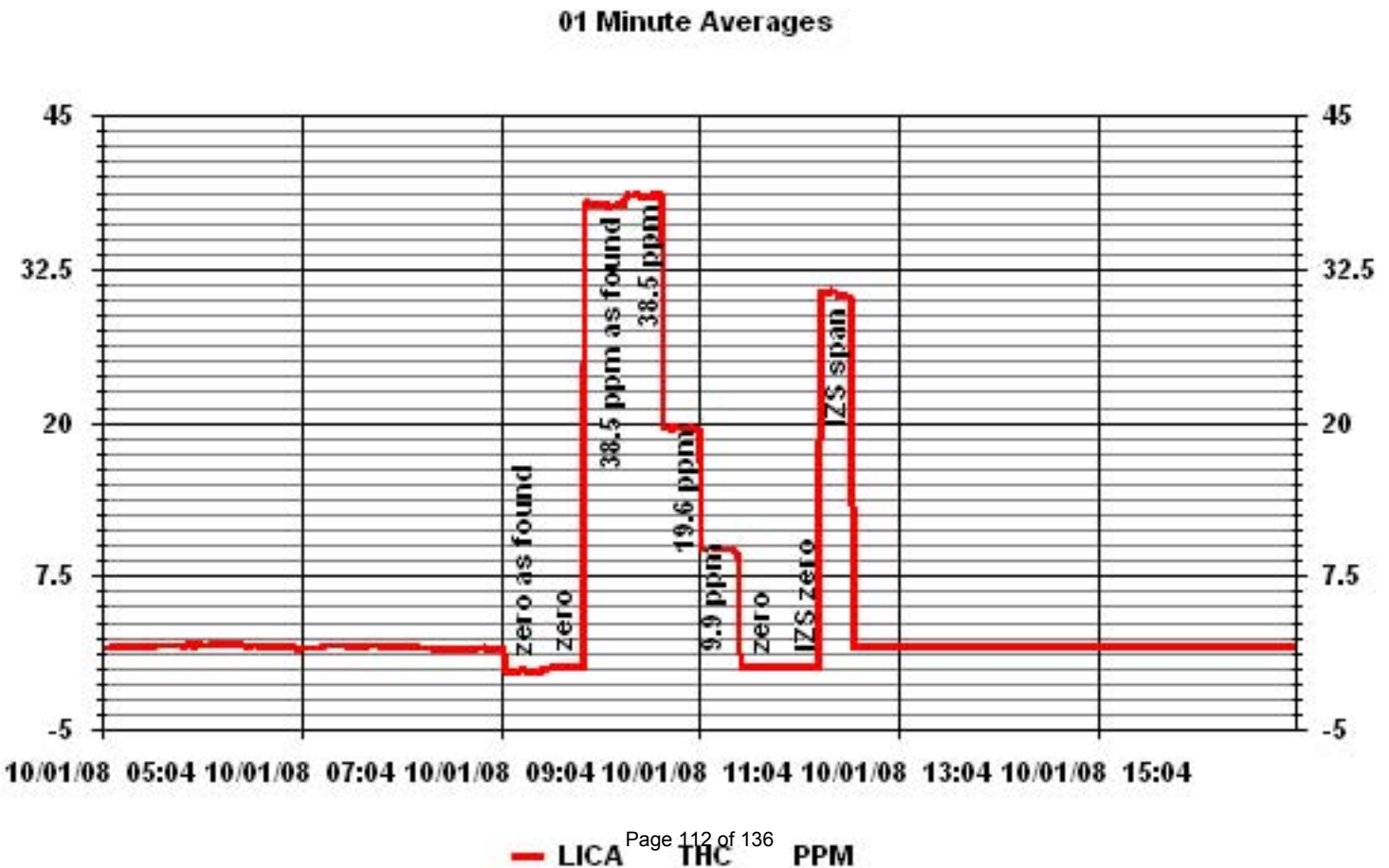
Calibration Date	October 1, 2008		
Company	**Lakeland Industry and Community Association**		
Plant / Location	**LICA1/Cold Lake**		
Start Time (MST)	9:00	End Time (MST)	12:45

Calculated Conc. ppm	Indicated Response ppm	Correction Factor
0.0	-0.3	
9.9	9.7	1.0207
19.6	19.6	1.0004
38.5	38.5	0.9990

Correlation Coefficient	(≥ 0.995)	0.999988
Slope	(0.85 to 1.15)	1.009083
Intercept	(± 3% F.S.)	-0.271941



Notes:


01 Minute Averages
45
32.5
20
7.5
-5
zero as found
zero
38.5 ppm as found
38.5 ppm
19.6 ppm
9.9 ppm
zero
IZS zero
IZS span
10/01/08 05:04
10/01/08 07:04
10/01/08 09:04
10/01/08 11:04
10/01/08 13:04
10/01/08 15:04
LICA THC PPM

Particulate Matter 2.5

TEOM® Calibration

Station		Transfer Standard	
Date:	October 2, 2008	Make/Model:	Bios DC-2
Station Name:	LICA 1	Serial Number:	1193
Location:	Cold Lake - South	Cell s/n:	2272
Operator:	LICA	Thermometer s/n:	2178

Sampler		Set-up and current Sampler readings	
Make/Model	R & P Series 1400 a TEOM	F-Main Set Pt (l/min)	3.00
Unit #	AMU 1494	F-Aux Set Pt (l/min)	13.67
Control unit s/n	140AB229030002	Filter Load (%)	28%
Transducer s/n	140AB229030002	K_o Factor	11095
Parameter	PM 2.5	Temp (^oC)	15.0
		Press (ATM)	0.935

Note: Tolerances are noted as BOLD in Brackets

Calibration

Zero flow

	Pump Off		Pump On (Time to reach set points)	
F-Main (l/min)	0.12		**(45-60 Sec)**	35
F-Aux (l/min)	0.07		**(45-60 Sec)**	50

Temperature/Pressure

Measured Temp **(± 1 ^oC)**	14.9	**Δ ^oC**	-0.1
Measured Press **(± 1.5% ATM)**	0.934	**Δ % ATM**	-0.1%

Flow Audit

			Δ % from Set-pt
Indicated Main/Aux Flow (l/min)	3.00 / 13.63	**(± 2%)**	0.0% / 0.3%
Total Flow = Main + Aux (l/min)	16.63	**(± 2%)**	0.2%
Measured Total Flow (l/min)	16.70	**(± 1.0 l/min. (5.65%))**	-0.4%
Measured Main Flow (l/min)	3.02	**(± 0.2 l/min. (6.25%))**	-0.7%

Leak Check

		Actual leakage = Pump On - Pump Off
Main **(< 0.15 l/min)**	N/A	N/A
Aux **(< 0.15 l/min)**	N/A	N/A

K_o Factor

Measured	NA
K_o Difference **(± 2.5%)**	NA

Start Time: 9:10 **Finish Time:** 12:30

Sample Inlet Cleaned: YES **Sample Inlet Connected:** YES

Comments:

Calibrator/s: Shea Beaton

Nitrogen Dioxide

NOx - NO- NO_2 Calibration Report

Station Information

Calibration Date	October 1, 2008	Previous Calibration	September 4, 2008
Company	**Lakeland Ind & Comm. Assoc.**	Plant/Location	**LICA 1 - Cold Lake South**
Start Time (MST)	7:35	End Time (MST)	14:05
Reason:	Re-Calibration		
Barometric Pressure	714 mmHg	Station Temperature	25.0 Deg C
Cal Gas Concentration	NOx 52 ppm NO 51.5 ppm	Cal Gas Expiry date	March 12, 2010
DAS Output Voltage	0 - 5 Volts		

Equipment Information

Analyzer Make / Model:	TECO 42C	S/N :	42-7408-716	Method:	Chemiluminescent
Calibrator Make / Model:	Environics 2000	S/N:	1991		
DAS Make / Model:	ESC 8832	S/N :	263		
Flow Meter:	Environics 2000	S/N :	1991		

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range				0 - 500 ppb				
Sample Flow/Conv. Temp	754	ccm	318	Deg C	750	ccm	317	Deg C
Ozone Flow / Vacuum	OK	ccm	166.3	"Hg-A	OK	ccm	165.6	"Hg-A
HVPS	-821		Volts		-821		Volts	
Rx/ Temp / PMT Temp	49.6	Deg C	-2.4	Deg C	49.5	Deg C	-2.5	Deg C
Box Temp / IZS Temp	28.4	Deg C	OK	Deg C	27.8	Deg C	OK	Deg C
Offset	3.3	NOx	3.1	NO	3.2	NOx	3	NO
Slope	1.011	NOx	0.818	NO	1.013	NOx	0.808	NO

Gas Phase Titration Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration		Indicated Concentration			Correction Factor	
			NOx	NO	NOx	NO	NO2	NOx	NO
5003.0	0	N/A	0	0	0	0	0	N/A	N/A
4965.6	38.9	N/A	404	400	408	405	4	0.9907	0.9884
4965.6	38.9	N/A	404	400	405	400	5	0.9980	1.0008
4984.5	24.3	N/A	252	250	253	249	3	0.9971	1.0034
4992.6	14.6	N/A	152	150	152	151	1	0.9975	0.9945
5006.0	0	N/A	0	0	0	0	0	N/A	N/A
								Converter Efficiency	
4965.6	38.9	N/A	404	400	405	400	4	N/A	
4965.6	38.9	300	404	N/A	402	124	278	99%	
4965.6	38.9	200	404	N/A	403	205	198	99%	
4965.6	38.9	100	404	N/A	403	302	101	99%	
4965.6	38.9	N/A	404	400	404	400	4	N/A	
								Correction Factor	
5000.0	N/A	N/A	0	0	0	0	0	N/A	N/A
Linearity OK?			**Yes**	No	Sum of Least Squares			0.9977	1.0009
Flows Checked on-site?			Yes	**No**	New Correction Factor			0.9980	1.0008
					Average Converter Efficiency			99%	

	Before Calibration				After Calibration			
Auto Zero	0.6	NOx	0.6	NO2	0.6	NOx	0.3	NO2
Auto Span	249.1	NOx	247.5	NO2	244.1	NOx	242.5	NO2
Sample Lines Connected							**YES**	
Percent Change from Previous Calibration					*NOx*	0.3%	*NO*	-0.2%

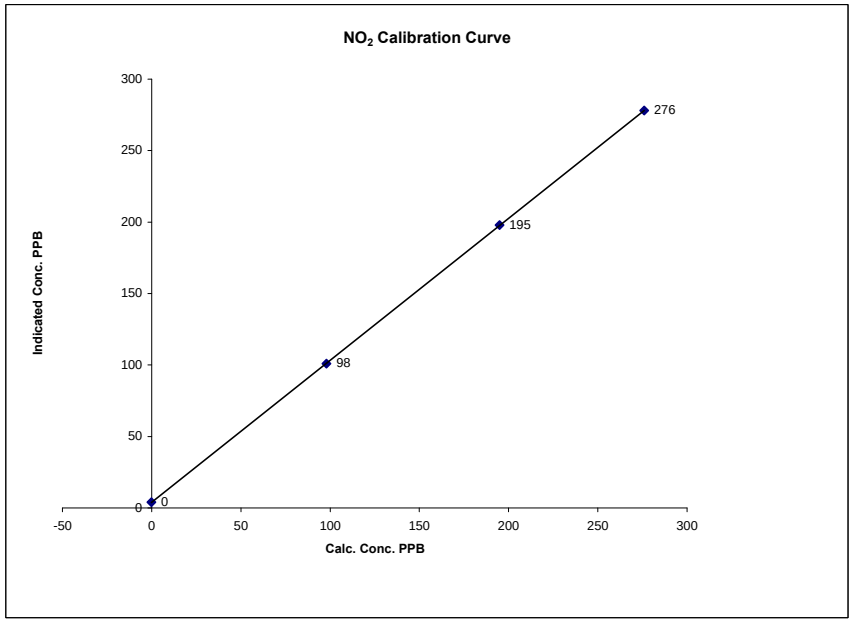
Calibration Performed by: Shea Beaton

NO_2 Calibration Curve

Calibration Date	October 1, 2008		
Company	**Lakeland Ind & Comm. Assoc.**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:35	End Time (MST)	14:05

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	4	N/A
98	101	0.9703
195	198	0.9848
276	278	0.9928

Correlation Coefficient	(≥ 0.995)	0.999994
Slope	(0.85 to 1.15)	0.993231
Intercept	(± 3% F.S.)	3.987682

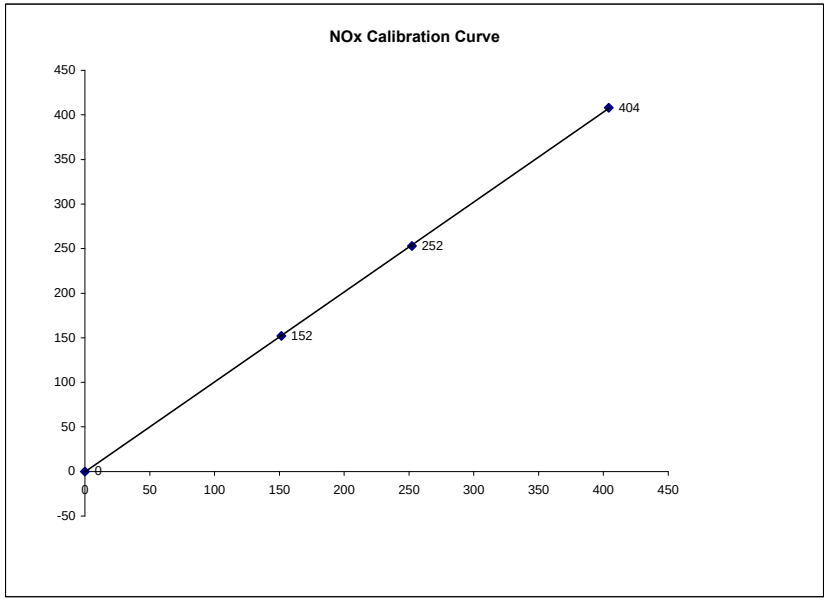


Notes:

NOx Calibration Curve

Calibration Date	October 1, 2008		
Company	**Lakeland Ind & Comm. Assoc.**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:35	End Time (MST)	14:05

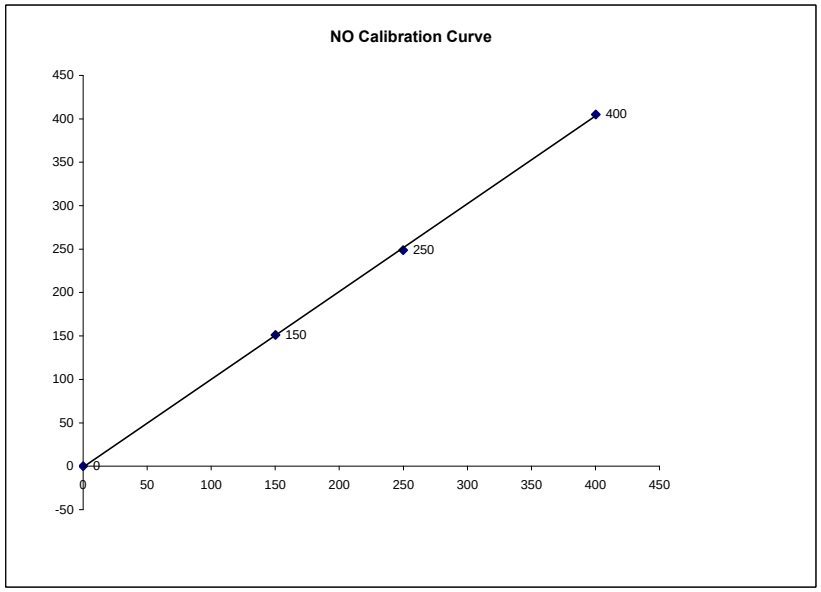
Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999977
			Slope (0.85 to 1.15)	1.009064
0	0	N/A	Intercept (± 3% F.S.)	-0.604624
152	152	0.9975		
252	253	0.9971		
404	408	0.9907		

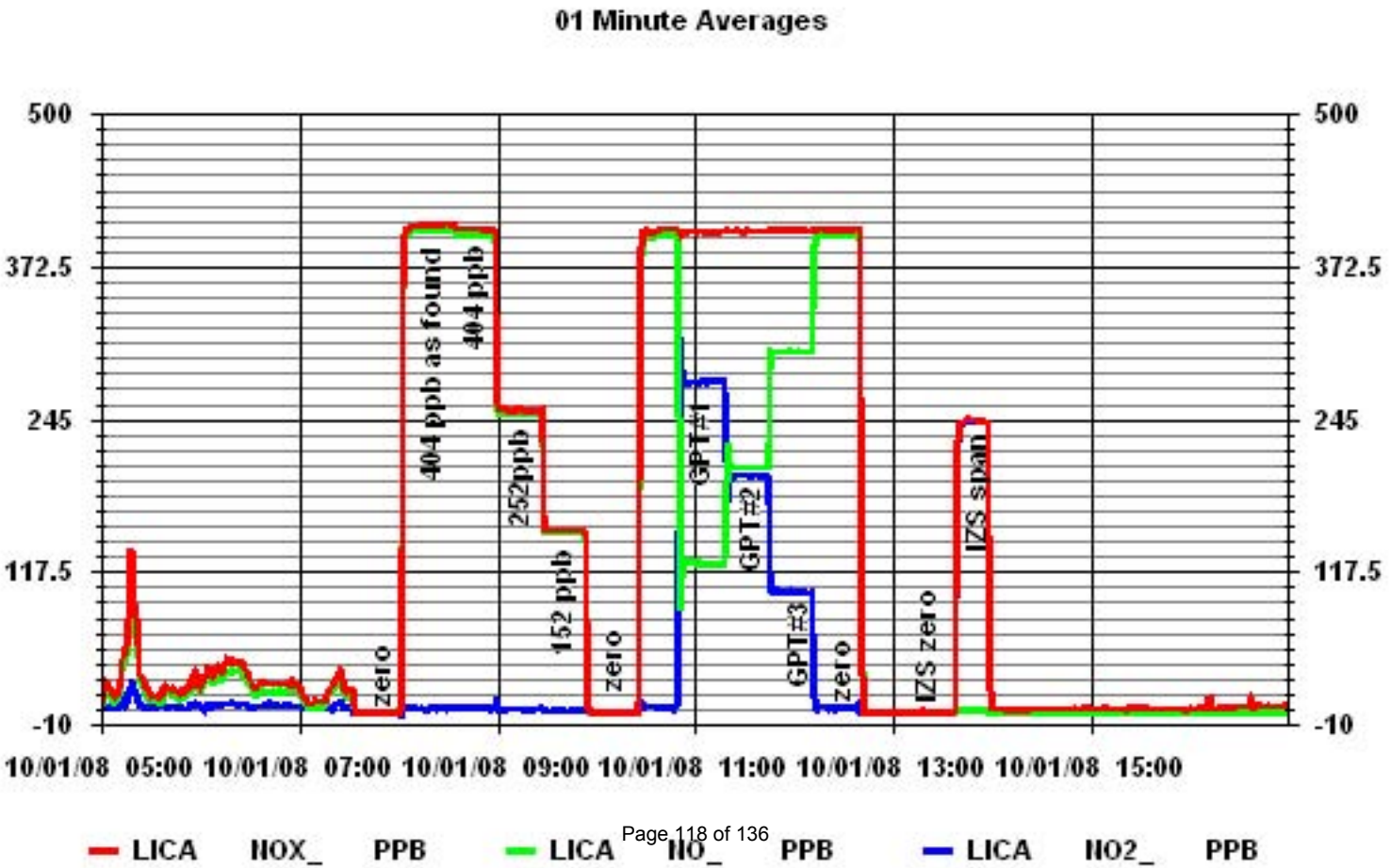


NO Calibration Curve

Calibration Date	October 1, 2008		
Company	**Lakeland Ind & Comm. Assoc.**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:35	End Time (MST)	14:05

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999892
			Slope (0.85 to 1.15)	1.010049
0	0	N/A	Intercept (± 3% F.S.)	-0.841487
150	151	0.9945		
250	249	1.0034		
400	405	0.9884		




01 Minute Averages
500
372.5
245
117.5
-10
zero
404 ppb as found
404 ppb
252ppb
152 ppb
zero
GPT#1
GPT#2
GPT#3
zero
IZS zero
IZS span
10/01/08 05:00
10/01/08 07:00
10/01/08 09:00
10/01/08 11:00
10/01/08 13:00
10/01/08 15:00
LICA NOX_ PPB
LICA NO_ PPB
LICA NO2_ PPB

Ozone

O_3 Calibration Report

Station Information

Calibration Date	October 1, 2008	Previous Calibration	September 4, 2008
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	13:20	End Time (MST)	17:15
Reason:		Monthly Calibration	
Barometric Pressure	714 mm Hg	Station Temperature	25 Deg C
DAS Output Voltage	0 - 10 Volts		

Equipment Information

Analyzer Make / Model:	TEI 49i	S/N :	700419951	Method:	Fluorescent
Calibrator Make / Model:	Environics 2000	S/N :	1991	Method:	GPT
DAS Make / Model:	ESC 8832	S/N :	263		

Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0 - 500 ppb			
Bench Temp/ Pressure	28.6	Deg C	28.7	Deg C
O_3 Set Level	29%		29%	
Bench Lamp/O3 Lamp				
Sample Flow A/B	0.741 LPM	0.753 LPM	0.742 LPM	0.754 LPM
Offset / Slope	0.7	1.046	0.7	1.04

Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	0	N/A
5000	400	391	393	0.9949
5000	0	0	0	N/A
5000	400	391	391	1.0000
			Sum of Least Squares	N/A
			New Correction Factor	0.9949

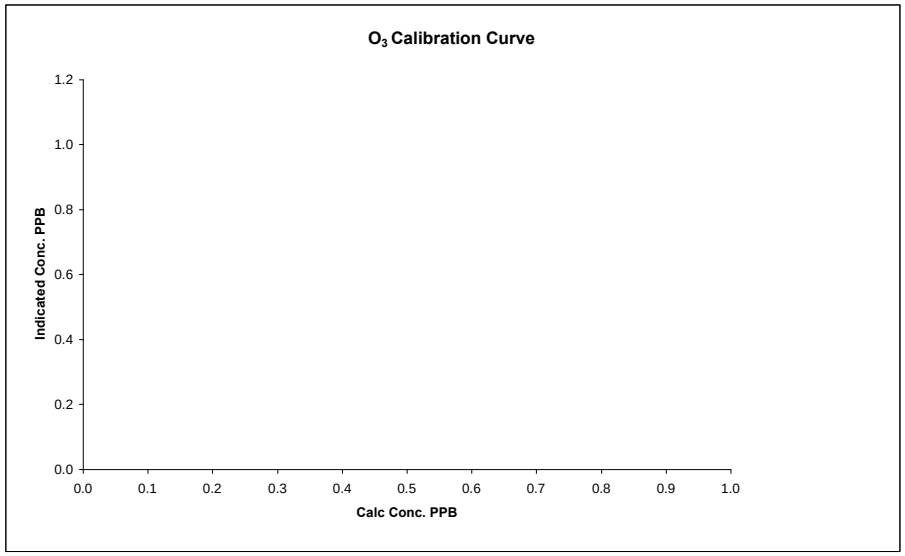
	Before Calibration	After Calibration
Auto Zero	0	0
Auto Span	285	283
Sample Lines Connected		YES
Percent Change from Previous Calibration		-

Calibration Performed by: Shea Beaton

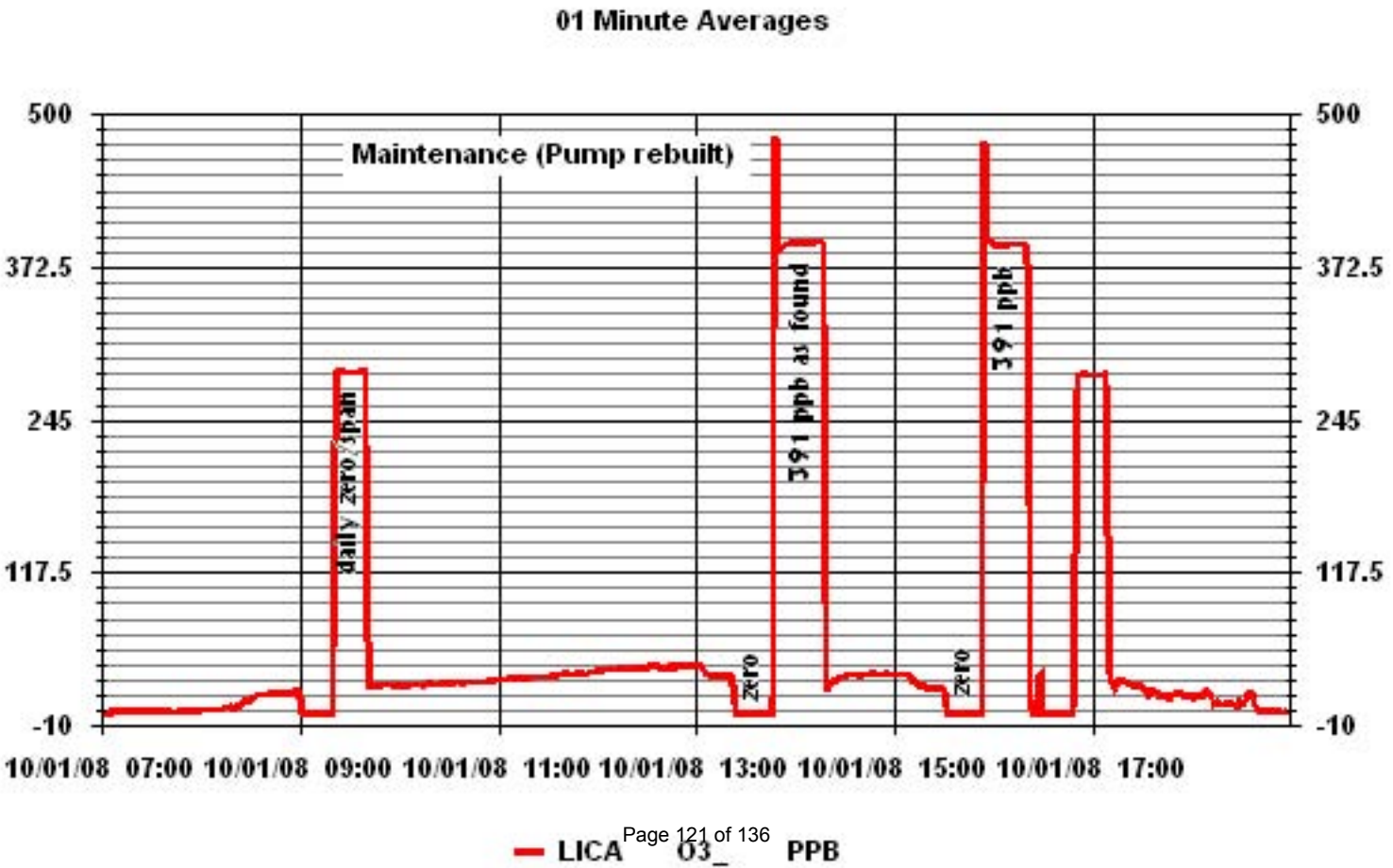
O_3 Calibration Curve

Calibration Date	October 1, 2008		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	13:20	End Time (MST)	17:15

Calculated Conc. ppb	Indicated Response ppb	Correction Factor			
			Correlation Coefficient	(≥ 0.995)	#DIV/0!
			Slope	(0.85 to 1.15)	#DIV/0!
			Intercept	(± 3% F.S.)	#DIV/0!



Notes: pressure =706.8 mmHg , Bench Lamp = 53.6, O3 Lamp = 67.6
Pump rebuilt following the as found points. Adjusted span, will perform full cal tomorrow.


01 Minute Averages
Maintenance (Pump rebuilt)
daily zero/span
zero
391 ppb as found
zero
391 ppb
500
372.5
245
117.5
-10
10/01/08 07:00
10/01/08 09:00
10/01/08 11:00
10/01/08 13:00
10/01/08 15:00
10/01/08 17:00
LICA O3_ PPB

O_3 Calibration Report

Station Information

Calibration Date	October 2, 2008	Previous Calibration	September 4, 2008
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:35	End Time (MST)	11:10
Reason:		Monthly Calibration	
Barometric Pressure	710 mm Hg	Station Temperature	24 Deg C
DAS Output Voltage	0 - 10 Volts		

Equipment Information

Analyzer Make / Model:	TEI 49i	S/N :	700419951	Method:	Fluorescent
Calibrator Make / Model:	Environics 2000	S/N :	1991	Method:	GPT
DAS Make / Model:	ESC 8832	S/N :	263		

Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0 - 500 ppb			
Bench Temp/ Pressure	28.5	Deg C	29.2	Deg C
O_3 Set Level	29%		29%	
Bench Lamp/O3 Lamp				
Sample Flow A/B	0.74 LPM	0.752 LPM	0.743 LPM	0.755 LPM
Offset / Slope	0.7	1.04	0.7	1.046

Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	0	N/A
5000	400	391	393	0.9949
5000	400	391	391	1.0000
5000	200	194	195	0.9949
5000	100	95	95	1.0000
5000	0	0	0	N/A
			Sum of Least Squares	N/A
			New Correction Factor	1.0000

	Before Calibration	After Calibration
Auto Zero	-0.2	-0.2
Auto Span	282.9	282.7
Sample Lines Connected		YES
Percent Change from Previous Calibration		0.0%

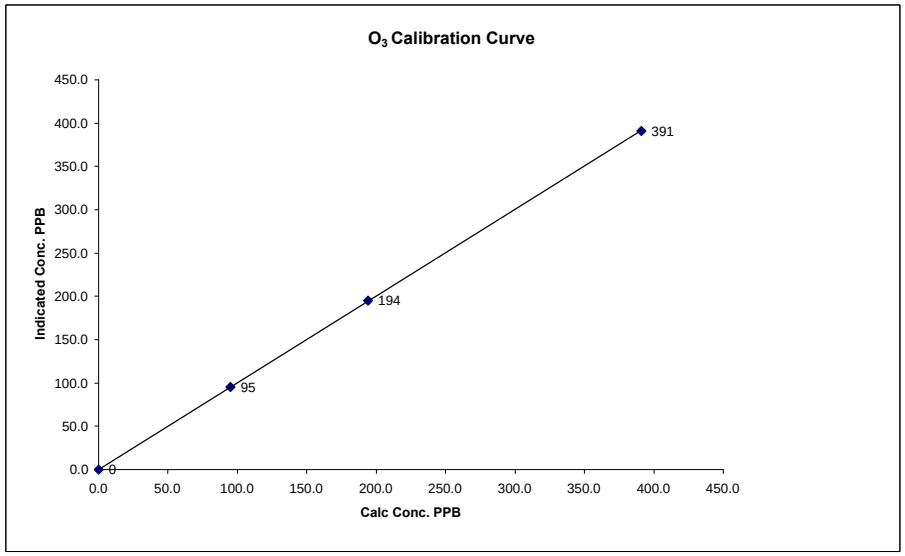
Calibration Performed by: Shea Beaton

O_3 Calibration Curve

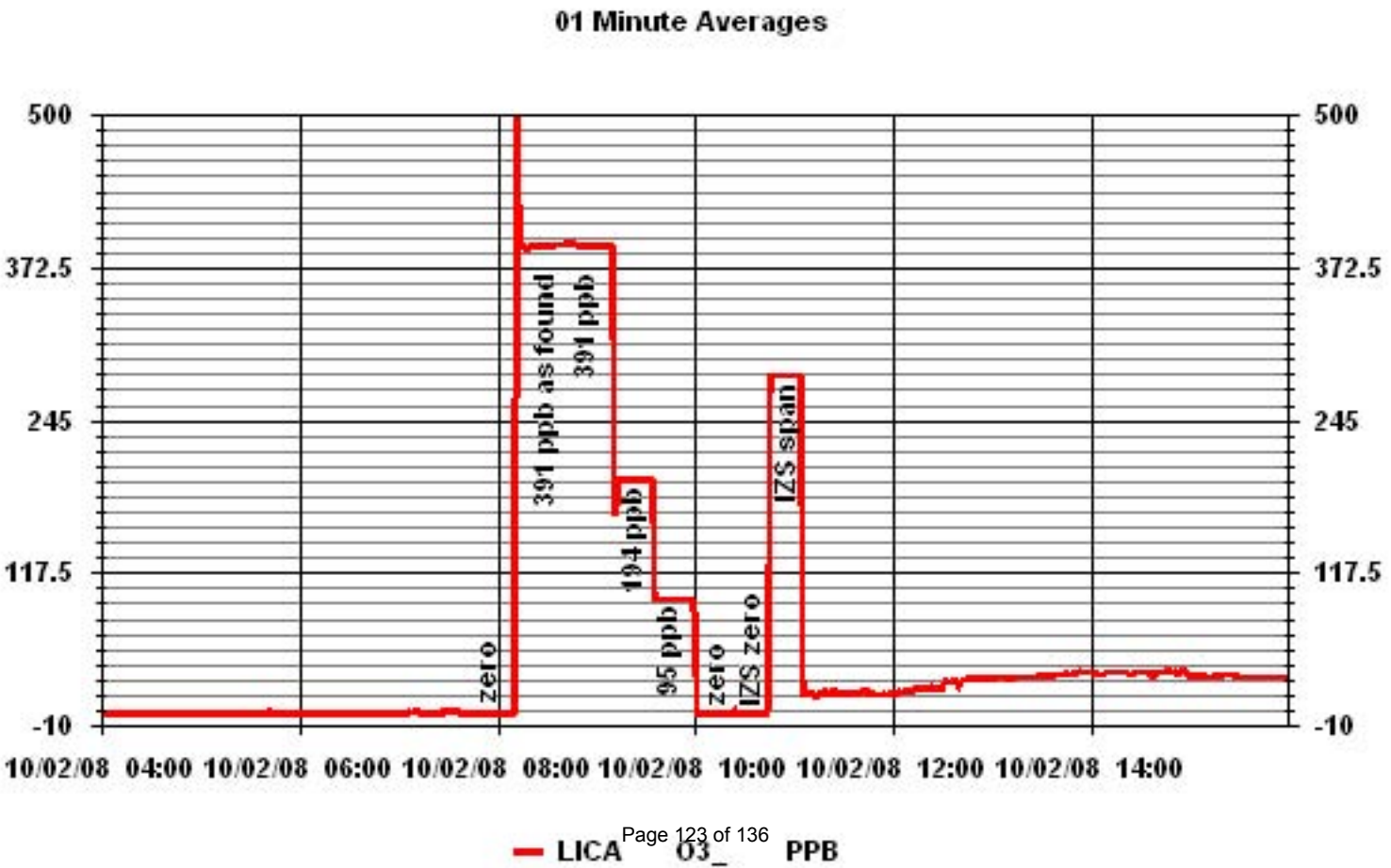
Calibration Date	October 2, 2008		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:35	End Time (MST)	11:10

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
95	95	1.0000
194	195	0.9949
391	391	1.0000

Correlation Coefficient	(≥ 0.995)	0.999991
Slope	(0.85 to 1.15)	1.000286
Intercept	(± 3% F.S.)	0.201395



Notes: pressure =706.8 mmHg , Bench Lamp = 53.6, O3 Lamp = 67.6
Pump was rebuilt yesterday.


01 Minute Averages
500
372.5
245
117.5
-10
zero
391 ppb as found
391 ppb
194 ppb
95 ppb
zero
IZS zero
IZS span
10/02/08 04:00
10/02/08 06:00
10/02/08 08:00
10/02/08 10:00
10/02/08 12:00
10/02/08 14:00
LICA O3_ PPB

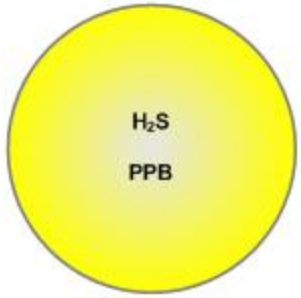
Passive Bubble Maps

Lakeland Industry & Community Association
H_2S Passive Bubble Map

OCTOBER 2008

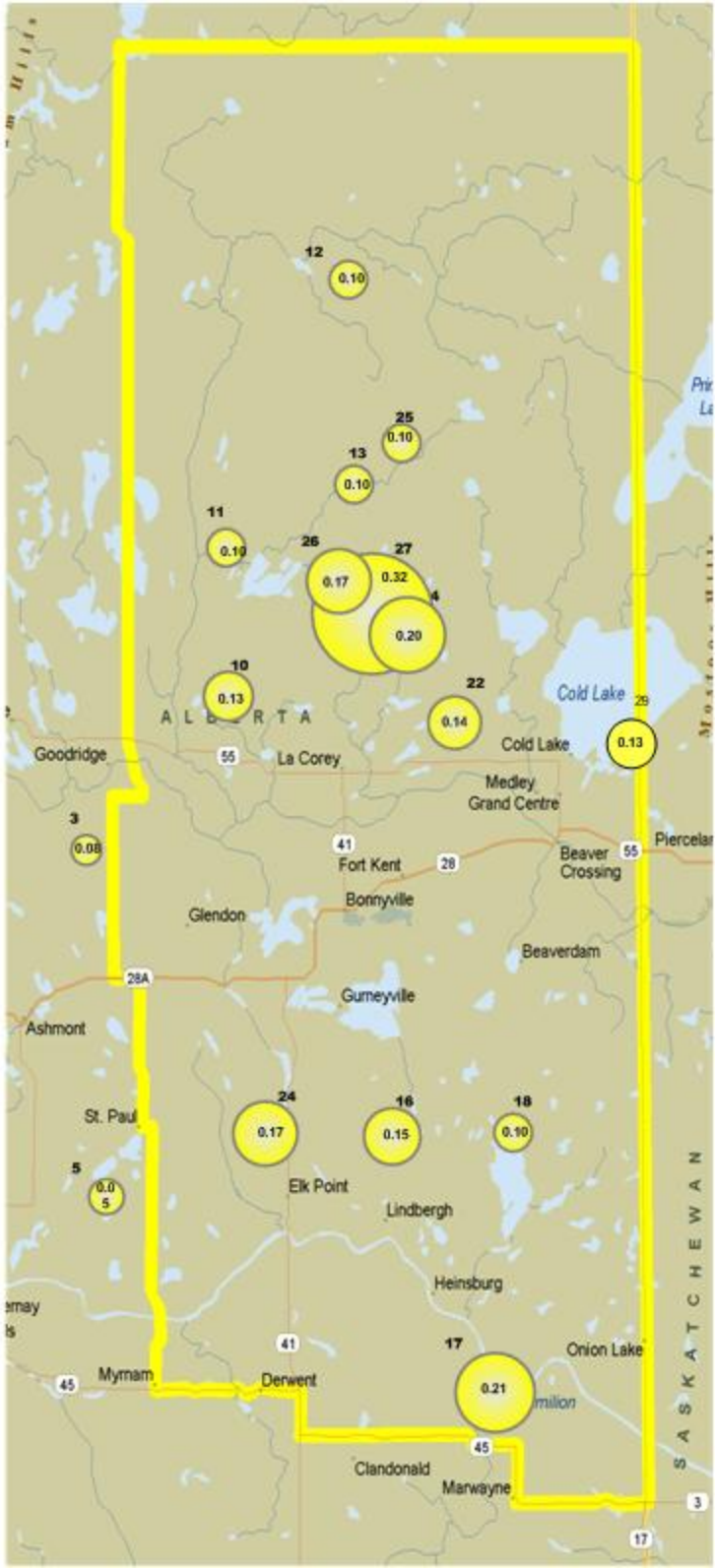
PASSIVE STATIONS

3 – Therien	0.08 PPB
3A – Therien	0.05 PPB
5 – Lake Eliza	0.08 PPB
10 – La Corey	0.13 PPB
11 – Wolf Lake	0.10 PPB
12 – Foster Creek	0.10 PPB
13 – Primrose	0.10 PPB
14 – Maskwa	0.20 PPB
16 – Frog Lake	0.15 PPB
17 – Clear Range	0.21 PPB
18 – Fishing Lake	0.10 PPB
22 – Cold Lake South	0.14 PPB
24 – Fort George	0.17 PPB
25 – Burnt Lake	0.10 PPB
26 – Mahihkan	0.17 PPB
27 – Hilda Lake	0.32 PPB
29 – Cold Lake South 2	0.13 PPB



Summary

Minimum : 0.05PPB – Therien
Maximum: 0.32 PPB –Hilda Lake
Average: 0.14 PPB *Includes Duplicates (Due to a large variation in the concentration result of sample #5 duplicate, the result was not utilized in the data reporting).

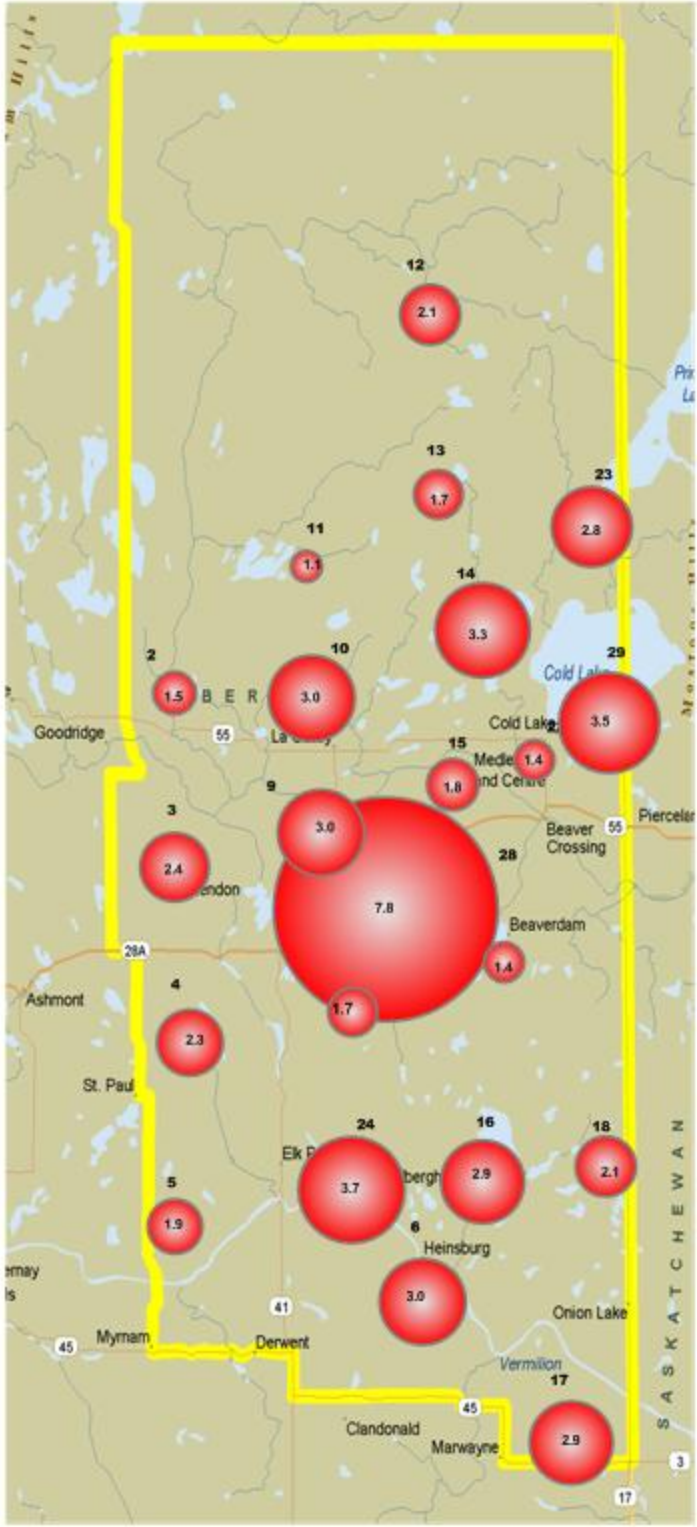


Lakeland Industry & Community Association
NO_2 Passive Bubble Map

OCTOBER 2008

PASSIVE STATIONS

2 – Sand River	1.5 PPB
3 – Therien	2.4 PPB
3A – Therien	2.4 PPB
4 – Flat Lake	2.3 PPB
5 – Lake Eliza	1.8 PPB
5A – Lake Eliza	1.9 PPB
6 – Telegraph Creek	3.0 PPB
8 – Muriel-Kehewin	1.7 PPB
9 – Dupre	3.0 PPB
10 – La Corey	3.0 PPB
11 – Wolf Lake	1.1 PPB
12 – Foster Creek	2.1 PPB
13 – Primrose	1.7 PPB
14 – Maskwa	3.3 PPB
15 – Ardmore	1.8 PPB
16 – Frog Lake	2.9 PPB
17 – Clear Range	2.9 PPB
18 – Fishing Lake	2.1 PPB
19 – Beaverdam	1.4 PPB
22 – Cold Lake South	2.9 PPB
23 – Medley-Martineau	2.8 PPB
24 – Fort George	3.7 PPB
28 – Town of Bonnyville	7.8 PPB
29 – Cold Lake South 2	3.5 PPB



Summary

Minimum : 1.1 PPB – Wolf Lake
Maximum: 7.8 PPB – Town of Bonnyville
Average: 2.6 PPB *Includes Duplicates

Lakeland Industry & Community Association
O_3 Passive Bubble Map

OCTOBER 2008

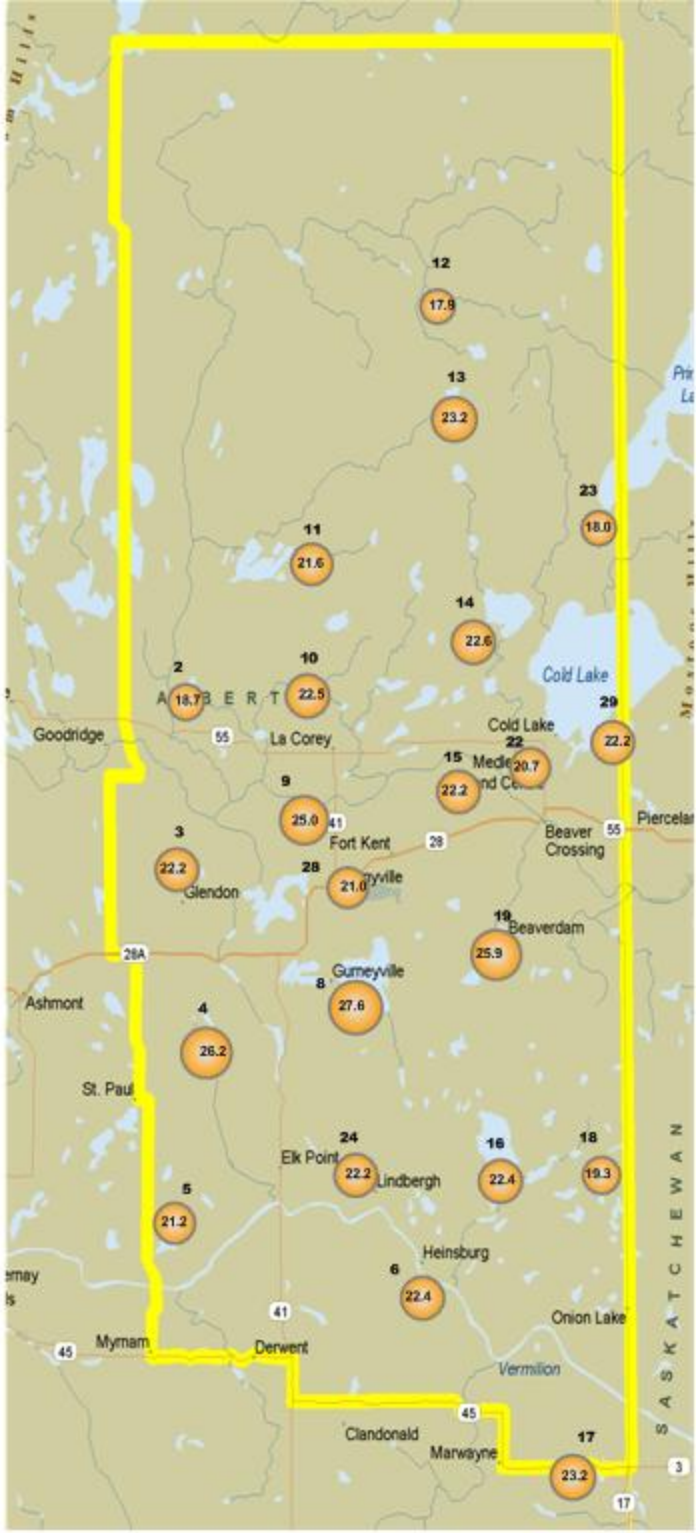
PASSIVE STATIONS

2 – Sand River	18.7 PPB
3 – Therien	22.2 PPB
3A – Therien	21.3 PPB
4 – Flat Lake	26.2 PPB
5 – Lake Eliza	25.3 PPB
5A – Lake Eliza	17.1 PPB
6 – Telegraph Creek	22.4 PPB
8 – Muriel-Kehewin	27.6 PPB
9 – Dupre	25.0 PPB
10 – La Corey	22.5 PPB
11 – Wolf Lake	21.6 PPB
12 – Foster Creek	17.9 PPB
13 – Primrose	23.2 PPB
14 – Maskwa	22.6 PPB
15 – Ardmore	22.2 PPB
16 – Frog Lake	22.4 PPB
17 – Clear Range	23.2 PPB
18 – Fishing Lake	19.3 PPB
19 – Beaverdam	25.9 PPB
22 – Cold Lake South	20.7 PPB
23 – Medley-Martineau	18.0 PPB
24 – Fort George	22.2 PPB
28 – Town of Bonnyville	21.0 PPB
29 – Cold Lake South 2	22.2 PPB

O_3 PPB

Summary

Minimum : 17.1 PPB –Lake Eliza
Maximum: 27.6 PPB –Muriel-Kehewin
Average: 22.1 PPB *Includes Duplicates

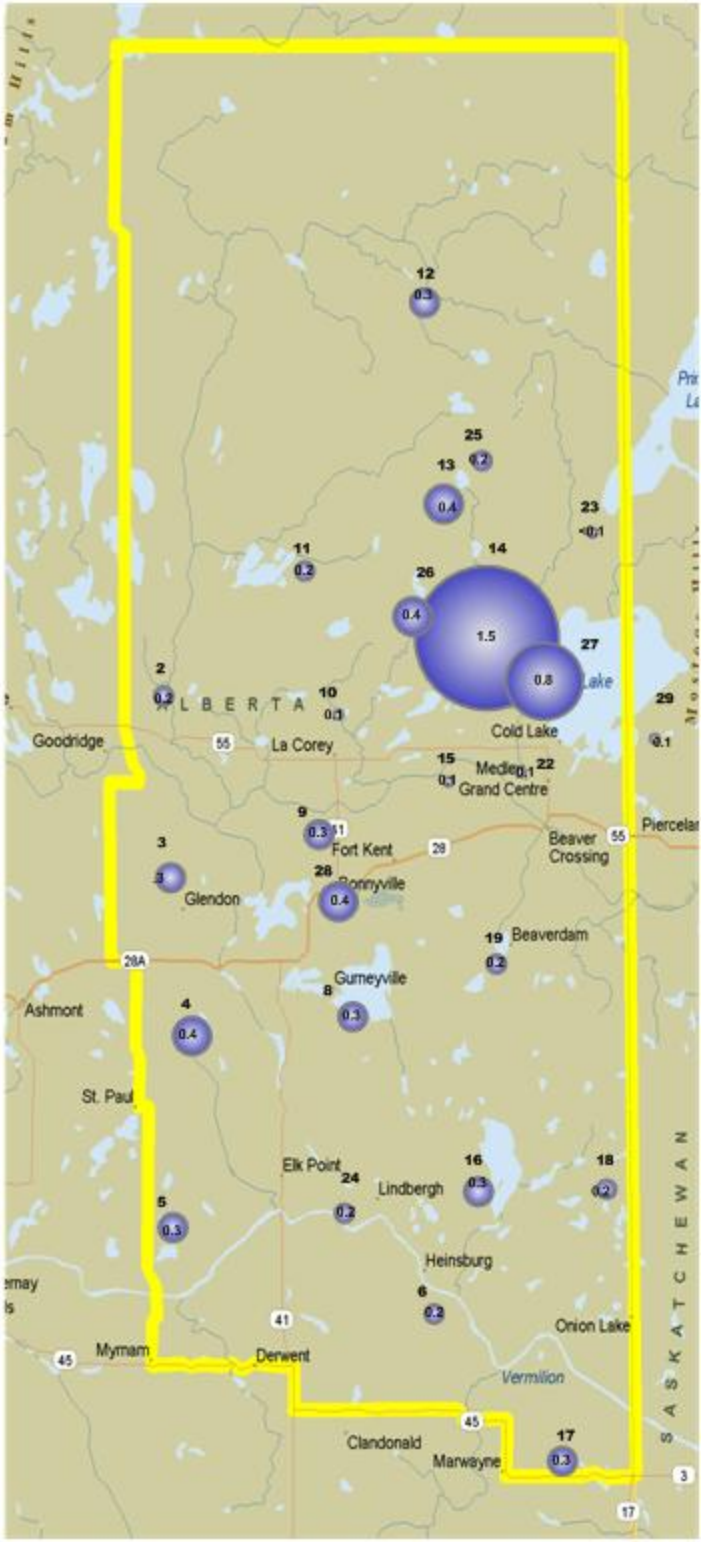


Lakeland Industry & Community Association
SO_2 Passive Bubble Map

OCTOBER 2008

PASSIVE STATIONS

2 – Sand River	0.2 PPB
3 – Therien	0.3 PPB
3A – Therien	0.3 PPB
4 – Flat Lake	0.4 PPB
5 – Lake Eliza	0.3 PPB
5A – Lake Eliza	0.3 PPB
6 – Telegraph Creek	0.2 PPB
8 – Muriel-Kehewin	0.3 PPB
9 – Dupre	0.3 PPB
10 – La Corey	0.1 PPB
11 – Wolf Lake	0.2 PPB
12 – Foster Creek	0.3 PPB
13 – Primrose	0.4 PPB
14 – Maskwa	1.5 PPB
15 – Ardmore	0.1 PPB
16 – Frog Lake	0.3 PPB
17 – Clear Range	0.3 PPB
18 – Fishing Lake	0.2 PPB
19 – Beaverdam	0.2 PPB
22 – Cold Lake South	0.1 PPB
23 – Medley-Martineau	<0.1PPB
24 – Fort George	0.2 PPB
25 – Burnt Lake	0.2 PPB
26 – Mahihkan	0.4 PPB
27 – Hilda Lake	0.8 PPB
28 – Town of Bonnyville	0.4 PPB
29 – Cold Lake South 2	0.1 PPB



Summary

Minimum :< 0.1 PPB – Medley-Martineau
Maximum: 1.5 PPB – Hilda Lake
Average: 0.3 PPB *Includes Duplicates

Passive Network Laboratory Analysis

Your Project #: 2008/09/27 - 2008/10/30
Site:LICA

Attention: MICHAEL BISAGA
LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
PO BOX 8237
5006 - 50TH AVENUE
BONNYVILLE, AB
CANADA T9N 2J5

Report Date: 2008/11/18

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A859945
Received: 2008/11/03, 13:49

Sample Matrix: Air
Samples Received: 27

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
H2S Passive Analysis (1)	18	2008/11/17	2008/11/18		EDM SOP-0320
NO2 Passive Analysis (1)	24	2008/11/18	2008/11/18		EDM SOP-0318
O3 Passive Analysis (1)	24	2008/11/05	2008/11/18		EDM SOP-0317
SO2 Passive Analysis (1)	27	2008/11/18	2008/11/18		EDM SOP-0319

* 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,
Email:
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. SCC and CALA have approved this reporting process and electronic report format.

Total cover pages: 1

Maxxam Job #: A859945
Report Date: 2008/11/18

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2008/09/27 - 2008/10/30
Site Reference: LICA
Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		M50682	M50683	M50684	M50685	M50686		
Sampling Date		2008/09/27	2008/09/27	2008/09/28	2008/09/28	2008/09/28		
	Units	**1**	**2**	**3**	**4**	**5**	**RDL**	**QC Batch**
Passive Monitoring								
Calculated H2S	ppb		0.08		0.08		0.02	2739527
Calculated NO2	ppb	1.5	2.4	2.3	1.8	3.0	0.1	2744475
Calculated O3	ppb	18.7	22.2	26.2	25.3	22.4	0.1	2712678
Calculated SO2	ppb	0.2	0.3	0.4	0.3	0.2	0.1	2744040

RDL = Reportable Detection Limit

Maxxam ID		M50687	M50688	M50689	M50690	M50691		
Sampling Date		2008/09/28	2008/09/27	2008/09/27	2008/09/27	2008/09/27		
	Units	**7**	**8**	**9**	**10**	**11**	**RDL**	**QC Batch**
Passive Monitoring								
Calculated H2S	ppb			0.13	0.10	0.10	0.02	2739527
Calculated NO2	ppb	1.7	3.0	3.0	1.1	2.1	0.1	2744475
Calculated O3	ppb	27.6	25.0	22.5	21.6	17.9	0.1	2712678
Calculated SO2	ppb	0.3	0.3	0.1	0.2	0.3	0.1	2744040

RDL = Reportable Detection Limit

Maxxam ID		M50692	M50693	M50694	M50695	M50696		
Sampling Date		2008/09/27	2008/09/27	2008/09/27	2008/09/28	2008/09/28		
	Units	**12**	**13**	**14**	**15**	**16**	**RDL**	**QC Batch**
Passive Monitoring								
Calculated H2S	ppb	0.10	0.20		0.15	0.21	0.02	2739527
Calculated NO2	ppb	1.7	3.3	1.8	2.9	2.9	0.1	2744475
Calculated O3	ppb	23.2	22.6	22.2	22.4	23.2	0.1	2712678
Calculated SO2	ppb	0.4	1.5	0.1	0.3	0.3	0.1	2744040

RDL = Reportable Detection Limit

Maxxam Job #: A859945
Report Date: 2008/11/18

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2008/09/27 - 2008/10/30
Site Reference: LICA
Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		M50697	M50698		M50699	M50700		
Sampling Date		2008/09/28	2008/09/28		2008/09/27	2008/09/27		
	Units	**17**	**18**	**QC Batch**	**19**	**20**	**RDL**	**QC Batch**
Passive Monitoring								
Calculated H2S	ppb	0.10		2739527	0.14		0.02	2739527
Calculated NO2	ppb	2.1	1.4	2744475	2.9	2.8	0.1	2744475
Calculated O3	ppb	19.3	25.9	2712678	20.7	18.0	0.1	2712678
Calculated SO2	ppb	0.2	0.2	2744040	0.1	<0.1	0.1	2743710

RDL = Reportable Detection Limit

Maxxam ID		M50701	M50704	M50705	M50706	M50707		
Sampling Date		2008/09/28	2008/09/27	2008/09/27	2008/09/27	2008/09/27		
	Units	**21**	**22**	**23**	**24**	**25**	**RDL**	**QC Batch**
Passive Monitoring								
Calculated H2S	ppb	0.17	0.10	0.17	0.32		0.02	2739527
Calculated NO2	ppb	3.7				7.8	0.1	2744475
Calculated O3	ppb	22.2				21.0	0.1	2712678
Calculated SO2	ppb	0.2	0.2	0.4	0.8	0.4	0.1	2743710

RDL = Reportable Detection Limit

Maxxam ID		M50708	M50709	M50710		
Sampling Date		2008/09/27	2008/09/27	2008/09/27		
	Units	**26**	**2A**	**4A**	**RDL**	**QC Batch**
Passive Monitoring						
Calculated H2S	ppb	0.13	0.05	0.28	0.02	2739527
Calculated NO2	ppb	3.5	2.4	1.9	0.1	2744475
Calculated O3	ppb	22.2	21.3	17.1	0.1	2712678
Calculated SO2	ppb	0.1	0.3	0.3	0.1	2743710

RDL = Reportable Detection Limit

General Comments

Results relate only to the items tested.

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Attention: MICHAEL BISAGA
Client Project #: 2008/09/27 - 2008/10/30
P.O. #:
Site Reference: LICA

Quality Assurance Report

Maxxam Job Number: PA859945

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2712678 OZ	Calibration Check	Calculated O3	2008/11/06		98	%	91 - 107
	SPIKE	Calculated O3	2008/11/06		107	%	N/A
	BLANK	Calculated O3	2008/11/06	<0.1		ppb	
2739527 TM5	Calibration Check	Calculated H2S	2008/11/17		96	%	80 - 120
	SPIKE	Calculated H2S	2008/11/17		103	%	N/A
2743710 DF4	Calibration Check	Calculated SO2	2008/11/18		97	%	95 - 105
	SPIKE	Calculated SO2	2008/11/18		95	%	N/A
	BLANK	Calculated SO2	2008/11/18	<0.1		ppb	
2744475 DF4	Calibration Check	Calculated NO2	2008/11/18		103	%	76 - 118
	SPIKE	Calculated NO2	2008/11/18		98	%	N/A
	BLANK	Calculated NO2	2008/11/18	<0.1		ppb	

N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics Edmonton: 9331 - 48th Street T6B 2R4 Telephone(780) 468-3500 FAX(780) 466-3332

Passive Field Data

Field Notes

SAMPLER	SITE	ID	START		END		NOTES
			DATE	TIME	DATE	TIME	
$SO_2/NO_2/O_3$		2	09/27/08	07:30	10/30/08	07:10	
$H_2S/SO_2/NO_2/O_3$		3	09/27/08	06:35	10/30/08	06:25	
$SO_2/NO_2/O_3$		4	09/28/08	11:35	10/31/08	11:45	
$H_2S/SO_2/NO_2/O_3$		5	09/28/08	10:55	10/31/08	11:10	
$SO_2/NO_2/O_3$		6	09/28/08	09:35	10/31/08	09:55	
$SO_2/NO_2/O_3$		8	09/28/08	12:25	10/31/08	12:40	
$SO_2/NO_2/O_3$		9	09/27/08	16:00	10/30/08	15:45	
$H_2S/SO_2/NO_2/O_3$		10	09/27/08	08:20	10/30/08	08:00	
$H_2S/SO_2/NO_2/O_3$		11	09/27/08	08:55	10/30/08	08:45	
$H_2S/SO_2/NO_2/O_3$		12	09/27/08	10:10	10/30/08	10:00	
$H_2S/SO_2/NO_2/O_3$		13	09/27/08	11:35	10/30/08	11:20	
$H_2S/SO_2/NO_2/O_3$		14	09/27/08	12:35	10/30/08	12:05	
$SO_2/NO_2/O_3$		15	09/27/08	15:25	10/30/08	15:15	
$H_2S/SO_2/NO_2/O_3$		16	09/28/08	08:05	10/31/08	08:35	
$H_2S/SO_2/NO_2/O_3$		17	09/28/08	08:45	10/31/08	09:15	
$H_2S/SO_2/NO_2/O_3$		18	09/28/08	07:30	10/31/08	07:50	
$SO_2/NO_2/O_3$		19	09/28/08	06:35	10/31/08	06:55	
$H_2S/SO_2/NO_2/O_3$		22	09/27/08	14:35	10/30/08	14:20	
$SO_2/NO_2/O_3$		23	09/27/08	13:50	10/30/08	13:30	
$H_2S/SO_2/NO_2/O_3$		24	09/28/08	10:05	10/31/08	10:30	
H_2S/SO_2		25	09/27/08	11:18	10/30/08	11:10	
H_2S/SO_2		26	09/27/08	12:20	10/30/08	11:55	
H_2S/SO_2		27	09/27/08	12:55	10/30/08	12:25	
$SO_2/NO_2/O_3$		28	09/27/08	16:15	10/30/08	16:25	
$H_2S/SO_2/NO_2/O_3$		29	09/27/08	14:35	10/30/08	14:20	
$H_2S/SO_2/NO_2/O_3$		3A	08/27/08	06:35	10/30/08	06:25	
$H_2S/SO_2/NO_2/O_3$		5A	08/28/08	10:55	10/31/08	11:10	