Lakeland Industry & Community Association

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

Prepared By:

Maxxam Analytics Inc

Driven by Service and Science

April 29, 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: March 2008

The monthly ambient data report:

- Prepared by Pamela Eddy
- Reviewed by Craig Snider

The monthly analytical report for passive monitoring:
Authorized by Jodi Hanson

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 – March 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	5	4	10	9.7	310 (NW)	0.7	4,19	99.9
TRS (PPB)	-	-	-	-	0.02	6	8	7	0.8	236 (SW)	0.5	7	99.9
NO_2 (PPB)	212	106	0	0	6.19	41	5	22	0.8	98 (E)	15.8	5,18	99.9
NO (PPB)	-	-	-	-	1.17	53	18	8	0.9	57 (ENE)	7.2	8	99.9
NOx (PPB)	-	-	-	-	7.74	86	18	8	0.9	57 (ENE)	22.6	8	99.9
O_3 (PPB)	82	-	0	-	35.76	59	9	15,16	9.6,8.9	229 (SW) 230 (SW)	45.0	9	99.9
THC (PPM)	-	-	-	-	1.86	2.9	8	9	1.6	95 (E)	2.1	VAR	99.9
PM 2.5 (UG/M^3)	-	30	-	0	2.91	19.4	11	1	1.5	92 (E)	6.3	4	95.6
TEMPERATURE (DEG C)	-	-	-	-	-5.67	8.3	10	16	-	-	2.1	11	99.9
RELATIVE HUMIDITY (%)	-	-	-	-	68.09	95.0	24	5	-	-	78.5	28	99.9
VECTOR WS (KPH)	-	-	-	-	5.98	21.8	1	22	-	313 (NW)	12.8	12	99.9
VECTOR WD (DEGREES)	-	-	-	-	WNW	-	-	-	-	-	-	-	99.9

VAR-VARIOUS

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

Passive Ambient Monitoring Network – March 2008

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PASSIVE NETWORK			
NETWORK MAXIMUM			NETWORK AVERAGE
PARAMETER	STATION	READING (PPB)	READING (PPB)
NO_2	#25	9.0	2.1
SO_2	#13	1.7	0.6
H_2S	#15	0.14	0.11
O_3	#3	54.5	43.2

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

No operational issues during the month. The pump was rebuilt after the “As Found” points were completed. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information.

Total HydroCarbon (PPM)

- Analyzer make / model -TECO 51C-LT

No operational issues during the month. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information. It was agreed to with the LICA Program Manager to invalidate all data, after zero correction, which falls below the historical background average of 1.5 ppm. As a result 0 hours of data was invalidated for this reason.

General Monthly Summary - Cold Lake

AQM STATION – LICA – COLD LAKE

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 inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information.

Particulate Matter 2.5 (ug/m^3)

- Analyzer make / model - TEOM 1400A

No operational issues during the month. During the monthly calibration the bypass and sensor in-line filters were replaced. As a new filter was installed, the sampler was unstable until full conditioning of the filter was completed, as a result 32 hours of data was invalidated, uptime was at 95.6% for the month.

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

- System make / model - MET ONE 50.5

No operational issues observed during the month. The wind system is reported as vector wind speed and vector wind direction.

Relative Humidity (PERCENT)

- System make / model - Rotronic Hygroclip-S3

No operational issues observed during the month.

General Monthly Summary - Cold Lake

AQM STATION – LICA – COLD LAKE

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. One hour of data was lost for unknown reasons.

General Monthly Summary - Cold Lake

AQM STATION – LICA – COLD LAKE

Trailer

- No operational issues during the month.

Air Quality Index (AQI)

The AQI data was adjusted to reflect regular monthly calibrations, maintenance, and downtime and daily calibrations. There were 43 hours of fair AQI values recorded in March 2008, all of these due to Ozone. The highest hourly concentration of Ozone was 59.0 ppb and an AQI value of 33 on March 9th hour 15 and hour 16.

Passive Network

Site #04 and #21 had duplicates installed.

Continuous Monitoring

Cold Lake

Monthly Summaries, Graphs & Wind Roses

Air Quality Index

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MARCH 2008

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	19 O3_	19 O3_	19 O3_	20 O3_	20 O3_	20 O3_	20 O3_	20 O3_	20 O3_	20 O3_	21 O3_	20 O3_	20 O3_	20 O3_	19 O3_	19 O3_	- **NA**	16 O3_	17 O3_	18 O3_	18 O3_	18 O3_	18 O3_	19 O3_	21 O3_
2	20 O3_	20 O3_	20 O3_	19 O3_	19 O3_	19 O3_	18 O3_	18 O3_	18 O3_	18 O3_	18 O3_	19 O3_	19 O3_	19 O3_	19 O3_	- **NA**	19 O3_	19 O3_	18 O3_	18 O3_	15 O3_	17 O3_	18 O3_	17 O3_	20 O3_
3	17 O3_	18 O3_	17 O3_	18 O3_	17 O3_	17 O3_	17 O3_	17 O3_	17 O3_	17 O3_	18 O3_	18 O3_	18 O3_	18 O3_	- **NA**	18 O3_	18 O3_	18 O3_	17 O3_	18 O3_	18 O3_	19 O3_	20 O3_	19 O3_	20 O3_
4	17 O3_	16 O3_	16 O3_	18 O3_	16 O3_	15 O3_	14 O3_	14 O3_	13 O3_	15 O3_	15 O3_	16 O3_	17 O3_	- **NA**	18 O3_	18 O3_	19 O3_	18 O3_	15 O3_	14 O3_	11 O3_	14 O3_	10 O3_	10 O3_	19 O3_
5	7 O3_	6 PM2	6 O3_	9 O3_	8 PM2	7 PM2	9 O3_	14 O3_	16 O3_	17 O3_	18 O3_	18 O3_	- **NA**	19 O3_	19 O3_	18 O3_	19 O3_	17 O3_	15 O3_	7 O3_	5 O3_	5 PM2	6 PM2	5 PM2	19 O3_
6	4 PM2	3 PM2	3 O3_	6 O3_	10 O3_	6 O3_	8 O3_	7 O3_	12 PM2	14 O3_	17 O3_	- **NA**	20 O3_	21 O3_	22 O3_	23 O3_	24 O3_	24 O3_	22 O3_	21 O3_	21 O3_	20 O3_	20 O3_	19 O3_	24 O3_
7	20 O3_	21 O3_	20 O3_	18 O3_	17 O3_	15 O3_	14 O3_	17 O3_	19 O3_	22 O3_	- **NA**	25 O3_	26 O3_	27 O3_	27 O3_	28 O3_	28 O3_	28 O3_	24 O3_	15 O3_	14 O3_	12 O3_	10 O3_	6 O3_	28 O3_
8	10 O3_	5 O3_	3 PM2	2 PM2	5 PM2	3 PM2	3 PM2	7 PM2	11 PM2	- **NA**	21 O3_	25 O3_	28 O3_	29 O3_	28 O3_	29 O3_	30 O3_	30 O3_	27 O3_	24 O3_	22 O3_	19 O3_	18 O3_	16 O3_	30 O3_
9	16 O3_	15 O3_	15 O3_	17 O3_	18 O3_	20 O3_	21 O3_	22 O3_	- **NA**	24 O3_	25 O3_	26 O3_	28 O3_	31 O3_	33 O3_	33 O3_	32 O3_	30 O3_	25 O3_	20 O3_	21 O3_	22 O3_	23 O3_	21 O3_	33 O3_
10	19 O3_	18 O3_	22 O3_	22 O3_	22 O3_	21 O3_	20 O3_	- **NA**	21 O3_	24 O3_	24 O3_	25 O3_	28 O3_	30 O3_	29 O3_	28 O3_	27 O3_	26 O3_	25 O3_	22 O3_	12 O3_	6 O3_	4 PM2	5 PM2	30 O3_
11	16 PM2	12 PM2	6 O3_	8 O3_	7 O3_	7 O3_	- **NA**	14 O3_	16 O3_	18 O3_	20 O3_	22 O3_	23 O3_	25 O3_	26 O3_	26 O3_	27 O3_	25 O3_	23 O3_	18 O3_	15 O3_	16 O3_	15 O3_	16 O3_	27 O3_
12	15 O3_	15 O3_	16 O3_	17 O3_	19 O3_	- **NA**	20 O3_	19 O3_	20 O3_	22 O3_	23 O3_	24 O3_	23 O3_	23 O3_	24 O3_	23 O3_	21 O3_	22 O3_	22 O3_	22 O3_	21 O3_	23 O3_	25 O3_	24 O3_	25 O3_
13	24 O3_	24 O3_	24 O3_	22 O3_	- **NA**	12 O3_	13 O3_	14 O3_	17 O3_	19 O3_	21 O3_	21 O3_	22 O3_	24 O3_	24 O3_	24 O3_	24 O3_	24 O3_	23 O3_	18 O3_	14 O3_	13 O3_	12 O3_	10 O3_	24 O3_
14	19 O3_	20 O3_	20 O3_	- **NA**	19 O3_	19 O3_	18 O3_	17 O3_	17 O3_	19 O3_	20 O3_	20 O3_	20 O3_	21 O3_	21 O3_	21 O3_	21 O3_	20 O3_	17 O3_	13 O3_	17 O3_	19 O3_	19 O3_	20 O3_	21 O3_
15	19 O3_	18 O3_	- **NA**	18 O3_	18 O3_	18 O3_	18 O3_	19 O3_	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	19 O3_
16	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	9 O3_	9 O3_
17	- **NA**	16 O3_	16 O3_	16 O3_	15 O3_	15 O3_	14 O3_	15 O3_	15 O3_	15 O3_	16 O3_	16 O3_	17 O3_	18 O3_	20 O3_	23 O3_	24 O3_	24 O3_	23 O3_	17 O3_	17 O3_	18 O3_	17 O3_	- **NA**	24 O3_
18	3 PM2	2 O3_	5 O3_	2 PM2	2 PM2	3 PM2	6 PM2	8 PM2	12 O3_	20 O3_	21 O3_	22 O3_	23 O3_	25 O3_	28 O3_	28 O3_	28 O3_	26 O3_	23 O3_	14 O3_	9 O3_	5 PM2	- **NA**	4 PM2	28 O3_
19	4 PM2	16 O3_	15 O3_	12 O3_	11 O3_	10 O3_	5 O3_	6 PM2	12 O3_	20 O3_	21 O3_	23 O3_	24 O3_	25 O3_	25 O3_	26 O3_	29 O3_	29 O3_	25 O3_	21 O3_	22 O3_	- **NA**	13 O3_	15 O3_	29 O3_
20	14 O3_	12 O3_	6 O3_	4 O3_	4 PM2	4 PM2	6 PM2	12 PM2	10 O3_	18 O3_	22 O3_	24 O3_	25 O3_	26 O3_	27 O3_	27 O3_	27 O3_	25 O3_	21 O3_	10 O3_	- **NA**	19 O3_	21 O3_	19 O3_	27 O3_
21	18 O3_	17 O3_	16 O3_	13 O3_	14 O3_	15 O3_	14 O3_	14 O3_	16 O3_	16 O3_	18 O3_	19 O3_	21 O3_	22 O3_	23 O3_	24 O3_	23 O3_	21 O3_	19 O3_	- **NA**	16 O3_	12 O3_	18 O3_	20 O3_	24 O3_
22	20 O3_	19 O3_	18 O3_	18 O3_	18 O3_	17 O3_	17 O3_	17 O3_	18 O3_	18 O3_	18 O3_	19 O3_	19 O3_	19 O3_	19 O3_	19 O3_	19 O3_	19 O3_	- **NA**	20 O3_	20 O3_	20 O3_	20 O3_	19 O3_	20 O3_
23	19 O3_	18 O3_	19 O3_	19 O3_	18 O3_	17 O3_	17 O3_	16 O3_	17 O3_	17 O3_	18 O3_	18 O3_	19 O3_	21 O3_	23 O3_	22 O3_	24 O3_	- **NA**	23 O3_	24 O3_	24 O3_	24 O3_	23 O3_	23 O3_	24 O3_
24	22 O3_	21 O3_	20 O3_	19 O3_	19 O3_	19 O3_	19 O3_	20 O3_	20 O3_	20 O3_	- **NA**	22 O3_	23 O3_	23 O3_	23 O3_	24 O3_	- **NA**	24 O3_	24 O3_	23 O3_	21 O3_	23 O3_	23 O3_	22 O3_	24 O3_
25	22 O3_	21 O3_	21 O3_	22 O3_	22 O3_	21 O3_	20 O3_	20 O3_	21 O3_	21 O3_	22 O3_	23 O3_	23 O3_	23 O3_	21 O3_	- **NA**	19 O3_	18 O3_	16 O3_	16 O3_	16 O3_	17 O3_	17 O3_	17 O3_	23 O3_
26	17 O3_	17 O3_	17 O3_	17 O3_	17 O3_	17 O3_	17 O3_	17 O3_	17 O3_	18 O3_	19 O3_	20 O3_	20 O3_	20 O3_	- **NA**	21 O3_	22 O3_	21 O3_	20 O3_	17 O3_	18 O3_	17 O3_	17 O3_	13 O3_	22 O3_
27	12 O3_	13 O3_	15 O3_	15 O3_	13 O3_	12 O3_	10 O3_	13 O3_	15 O3_	18 O3_	20 O3_	21 O3_	22 O3_	- **NA**	23 O3_	24 O3_	24 O3_	23 O3_	22 O3_	20 O3_	22 O3_	22 O3_	15 O3_	10 O3_	24 O3_
28	16 O3_	19 O3_	15 O3_	9 O3_	6 O3_	11 O3_	15 O3_	18 O3_	20 O3_	20 O3_	20 O3_	21 O3_	- **NA**	23 O3_	24 O3_	24 O3_	24 O3_	24 O3_	25 O3_	24 O3_	25 O3_	25 O3_	24 O3_	20 O3_	25 O3_
29	19 O3_	20 O3_	21 O3_	19 O3_	19 O3_	15 O3_	19 O3_	21 O3_	21 O3_	21 O3_	20 O3_	- **NA**	20 O3_	21 O3_	22 O3_	22 O3_	23 O3_	23 O3_	22 O3_	21 O3_	23 O3_	23 O3_	20 O3_	18 O3_	23 O3_
30	16 O3_	16 O3_	13 O3_	14 O3_	13 O3_	11 O3_	10 O3_	11 O3_	16 O3_	19 O3_	- **NA**	24 O3_	25 O3_	24 O3_	23 O3_	24 O3_	24 O3_	25 O3_	25 O3_	24 O3_	22 O3_	21 O3_	19 O3_	15 O3_	25 O3_
31	14 O3_	13 O3_	12 O3_	13 O3_	12 O3_	10 O3_	6 PM2	10 O3_	19 O3_	- **NA**	23 O3_	24 O3_	25 O3_	26 O3_	26 O3_	27 O3_	27 O3_	26 O3_	25 O3_	24 O3_	22 O3_	25 O3_	25 O3_	23 O3_	27 O3_
PEAK	24 O3_	24 O3_	24 O3_	22 O3_	22 O3_	21 O3_	21 O3_	22 O3_	21 O3_	24 O3_	25 O3_	26 O3_	28 O3_	31 O3_	33 O3_	33 O3_	32 O3_	30 O3_	27 O3_	24 O3_	25 O3_	25 O3_	25 O3_	24 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)	43	5.8%	33	15,16	9	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	43	5.8%
GOOD (1-25)	595	80.0%	-	-	-	35	4.7%	16	1	11	0	0.0%	-	-	-	0	0.0%	-	-	-	630	84.7%
OVERALL	638	85.8%	-	-	-	35	4.7%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	673	90.5%
UNAVAILABLE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71	9.5%

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MARCH 2008

SULPHUR DIOXIDE (SO_2) hourly averages in ppb

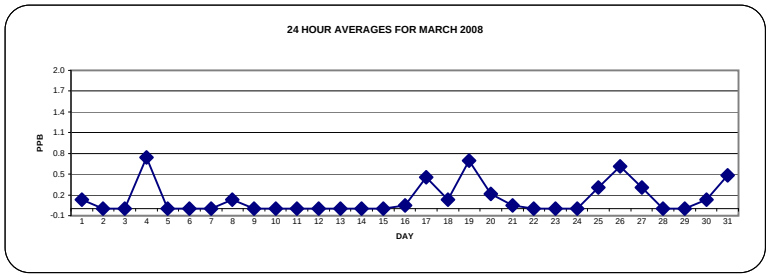
MST

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

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

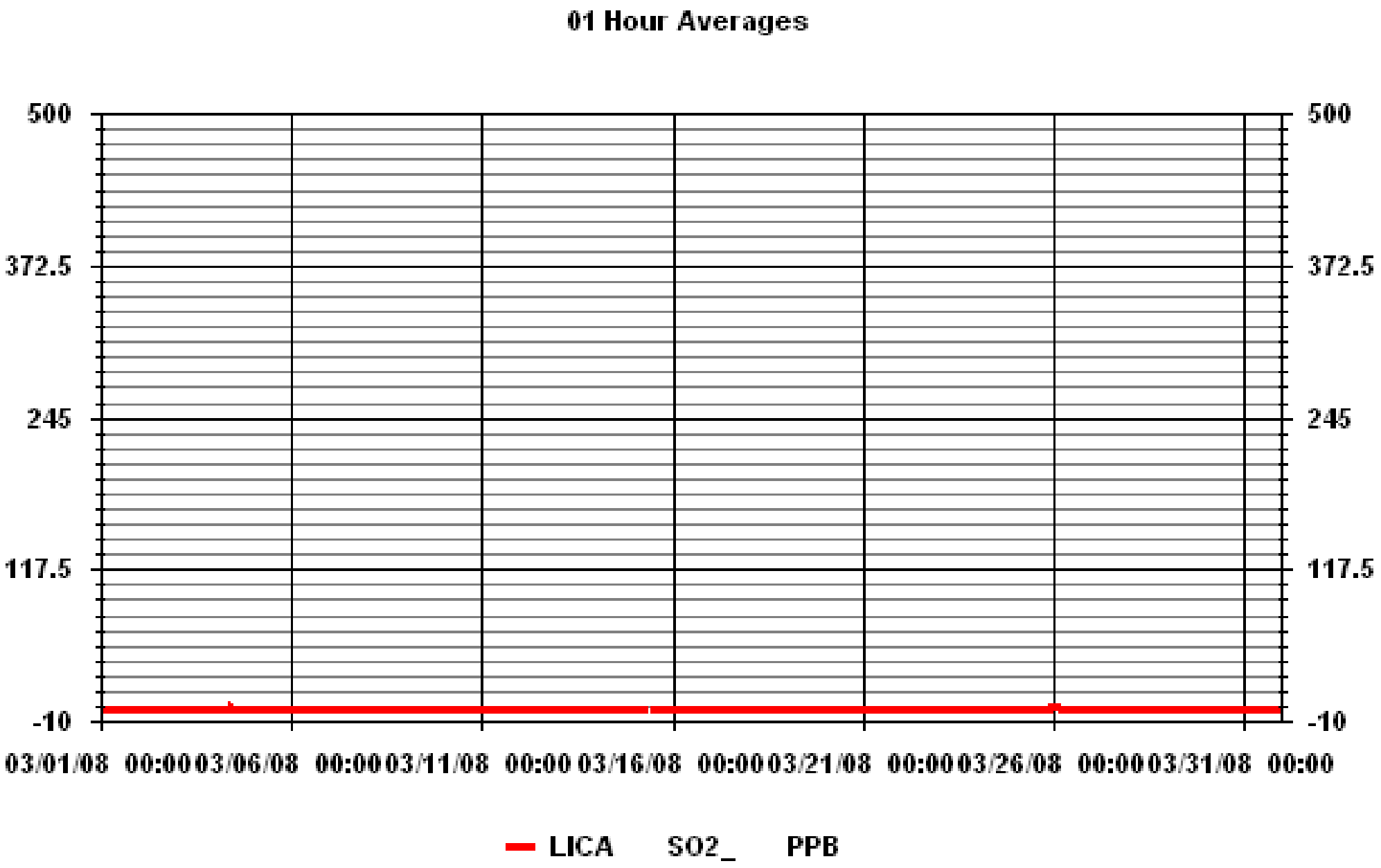
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB 24-HR 57 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	81					
MAXIMUM 1-HR AVERAGE:	5	PPB	@ HOUR(S)	10	ON DAY(S)	4
MAXIMUM 24-HR AVERAGE:	0.7	PPB			ON DAY(S)	4,19

IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	743	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	0.46		MONTHLY AVERAGE:	0.14	PPB


01 Hour Averages
500
372.5
245
117.5
-10
03/01/08 00:00
03/06/08 00:00
03/11/08 00:00
03/16/08 00:00
03/21/08 00:00
03/26/08 00:00
03/31/08 00:00
LICA SO2_ PPB

LICA
SO2_ / WDR Joint Frequency Distribution (Percent)

March 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	1.69	7.79	8.35	4.67	13.73	8.78	7.64	1.55	1.13	2.40	17.28	8.49	5.52	2.69	5.66	2.54	100.00
<	60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	170	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	1.69	7.79	8.35	4.67	13.73	8.78	7.64	1.55	1.13	2.40	17.28	8.49	5.52	2.69	5.66	2.54	

Calm : .00 %

Total # Operational Hours : 706

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	20	12	55	59	33	97	62	54	11	8	17	122	60	39	19	40	18	706
<	60																	
<	110																	
<	170																	
<	340																	
>=	340																	
	Totals	12	55	59	33	97	62	54	11	8	17	122	60	39	19	40	18	

Calm : .00 %

Total # Operational Hours : 706

Logger : 01 Parameter : SO2_

Class Limits (PPB)

>= 340

< 340

< 170

< 110

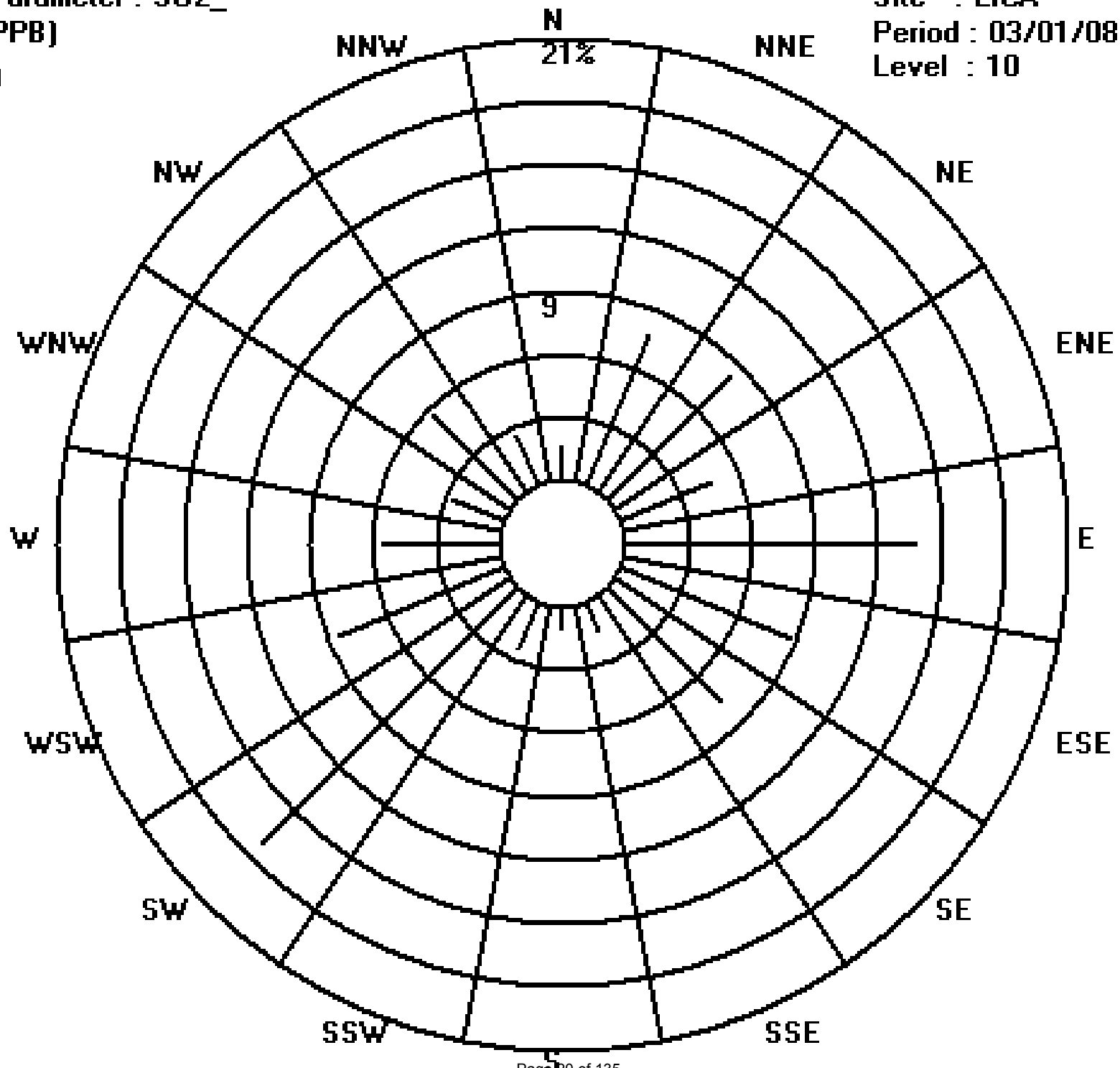
< 60

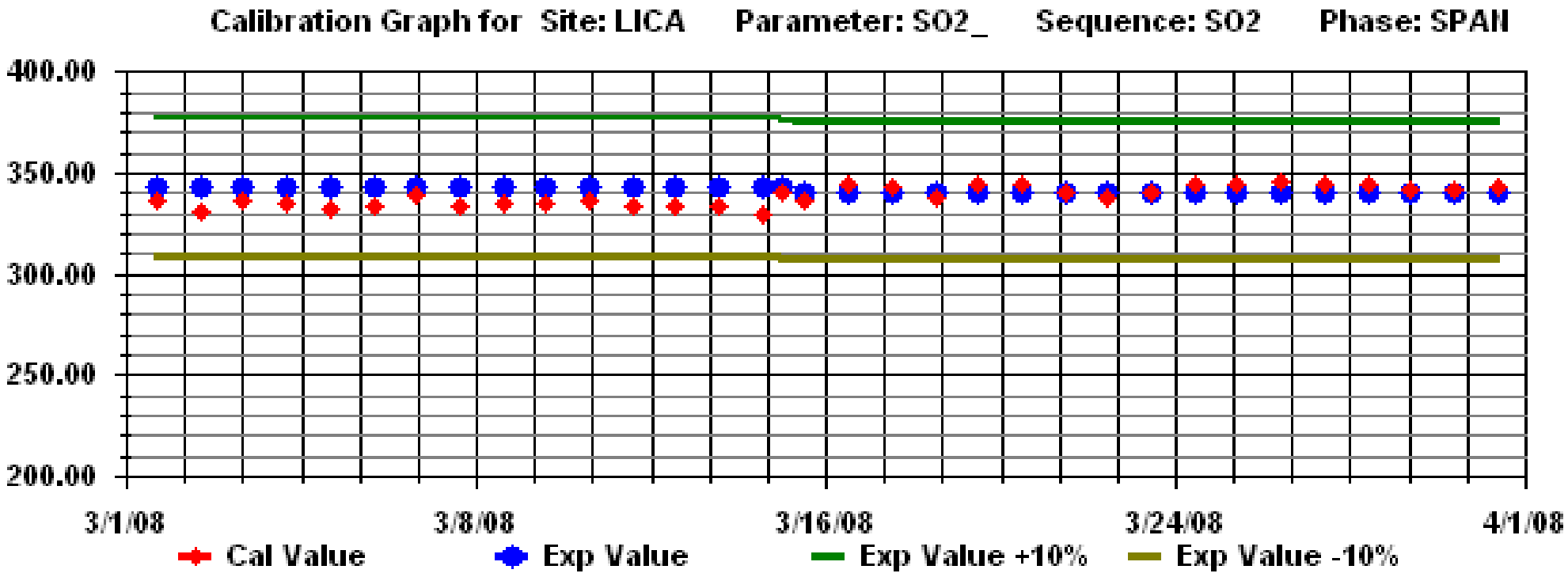
< 20

Site : LICA

Period : 03/01/08-03/31/08

Level : 10




Calibration Graph for Site: LICA Parameter: SO2_ Sequence: SO2 Phase: SPAN
400.00
350.00
300.00
250.00
200.00
3/1/08
3/8/08
3/16/08
3/24/08
4/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

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

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

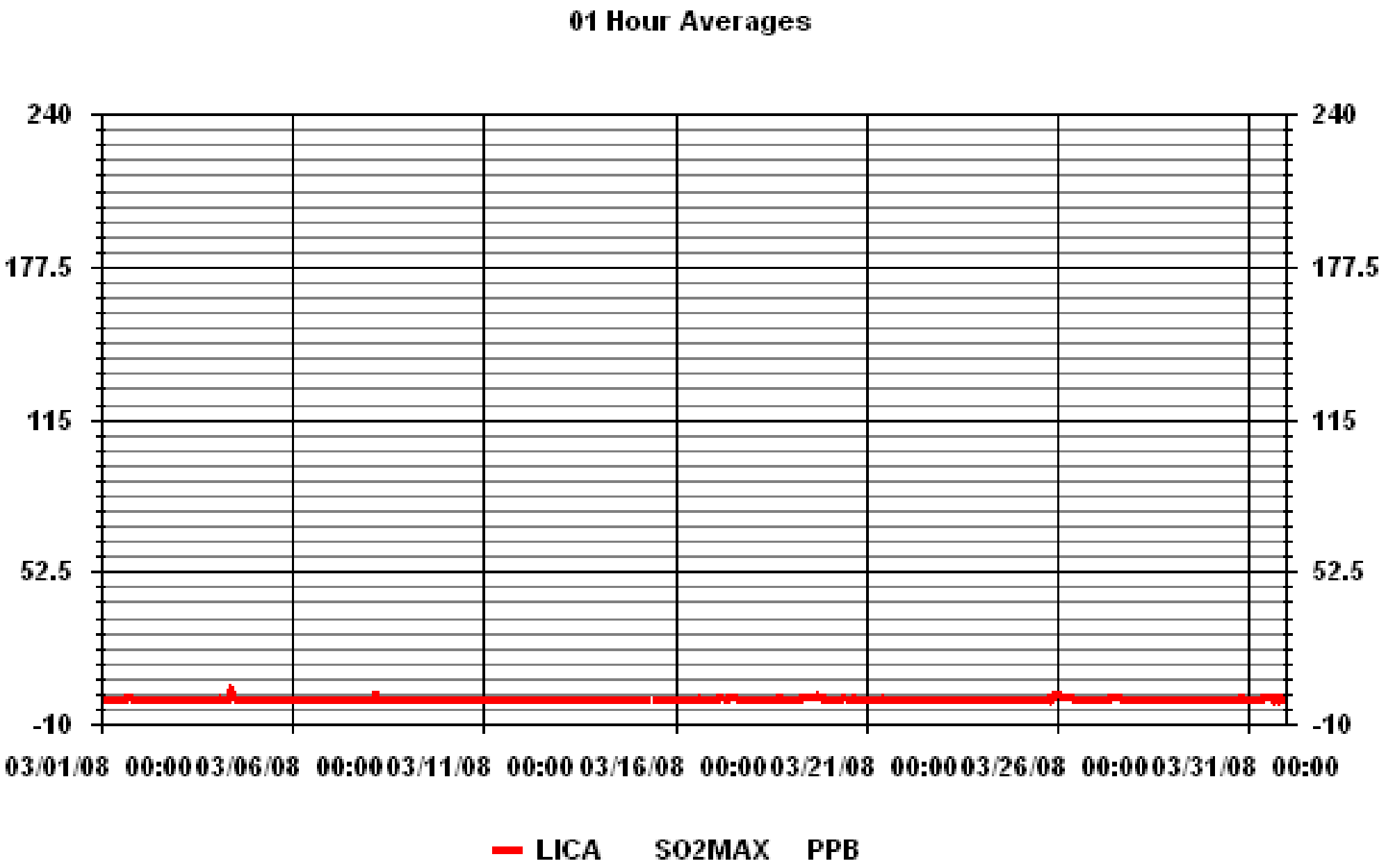
NUMBER OF NON-ZERO READINGS: 81

MAXIMUM INSTANTANEOUS VALUE: 5 PPB @ HOUR(S) 10 ON DAY(S) 4

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 742 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION: 0.47


01 Hour Averages
240
177.5
115
52.5
-10
03/01/08 00:00
03/06/08 00:00
03/11/08 00:00
03/16/08 00:00
03/21/08 00:00
03/26/08 00:00
03/31/08 00:00
LICA SO2MAX PPB

Total Reduced Sulphur

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MARCH 2008

TOTAL REDUCED SULPHUR (TRS) hourly averages in ppb

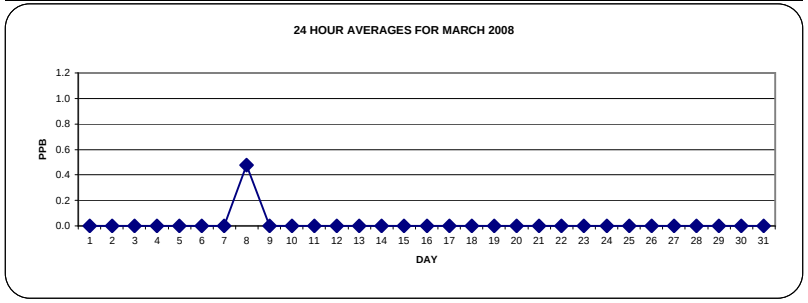
MST

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	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0.0	24
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0.0	24
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0.0	24
4	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0.0	24
5	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
6	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
7	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
8	0	0	0	1	3	0	6	1	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0.5	24
9	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
10	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
11	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
12	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
13	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
14	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
15	0	0	IZS	0	0	0	0	0	C	C	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0.0	24
16	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
17	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
18	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
19	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
20	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
21	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
22	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
23	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
24	0	0	0	0	0	0	0	0	0	0	M	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0.0	23
25	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
26	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
27	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
28	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
29	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
30	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
31	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
HOURLY MAX	0	0	0	1	3	0	6	1	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	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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

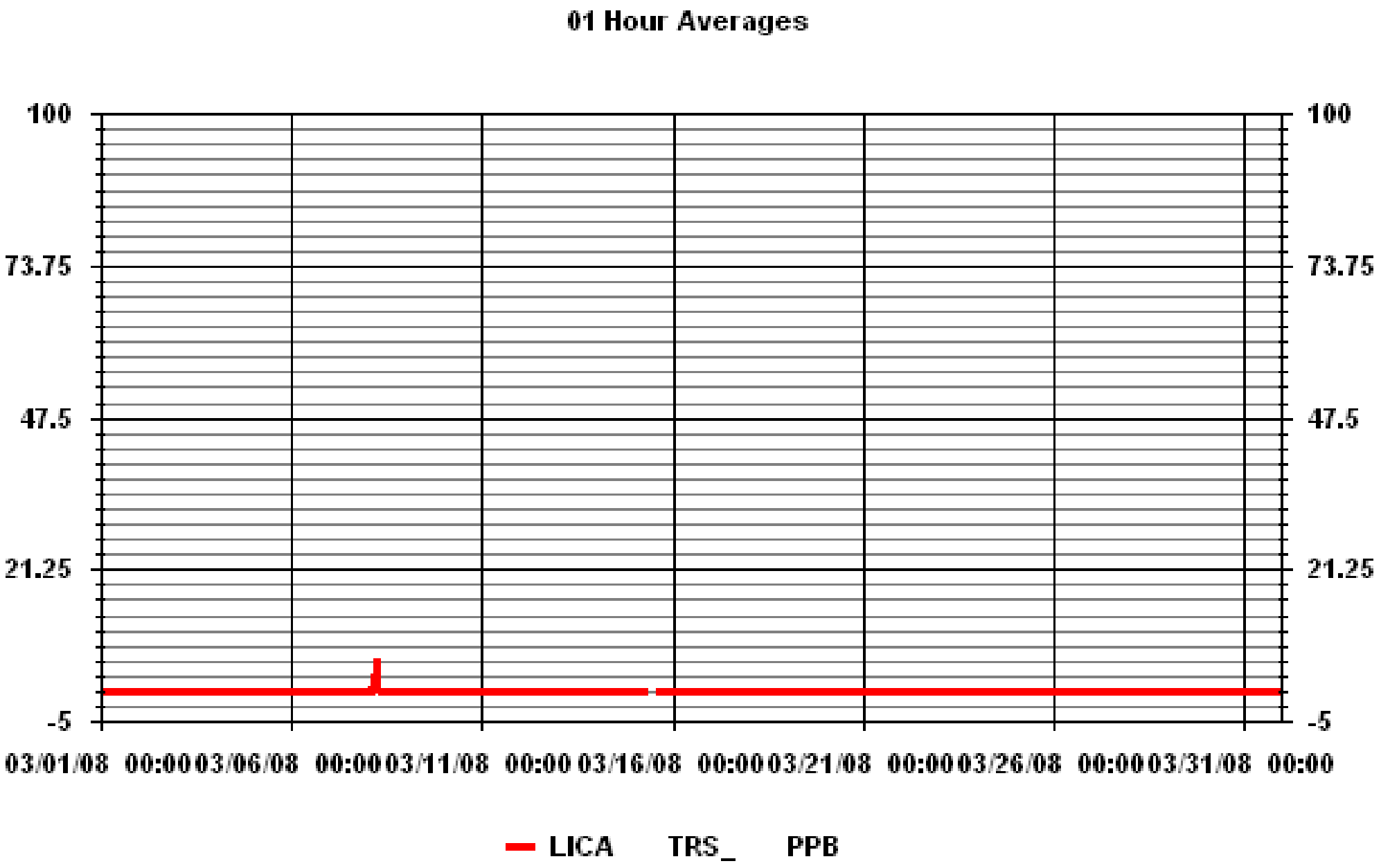
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB 24-HR 57 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	4					
MAXIMUM 1-HR AVERAGE:	6	PPB	@ HOUR(S)	7	ON DAY(S)	8
MAXIMUM 24-HR AVERAGE:	0.5	PPB			ON DAY(S)	7
				VAR-VARIOUS		

IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	743	HRS
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	0.26		MONTHLY AVERAGE:	0.02	PPB


01 Hour Averages
100
73.75
47.5
21.25
-5
03/01/08 00:00
03/06/08 00:00
03/11/08 00:00
03/16/08 00:00
03/21/08 00:00
03/26/08 00:00
03/31/08 00:00
LICA TRS_ PPB

LICA
TRS_ / WD Joint Frequency Distribution (Percent)

March 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	1.70	7.39	8.39	4.55	13.79	8.81	7.68	1.56	1.13	2.41	17.21	8.53	5.54	2.70	5.68	2.56	99.71
< 10	.00	.00	.00	.14	.00	.00	.00	.00	.00	.00	.14	.00	.00	.00	.00	.00	.28
< 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	1.70	7.39	8.39	4.69	13.79	8.81	7.68	1.56	1.13	2.41	17.35	8.53	5.54	2.70	5.68	2.56	

Calm : .00 %

Total # Operational Hours : 703

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	12	52	59	32	97	62	54	11	8	17	121	60	39	19	40	18	701
< 10				1							1						2
< 50																	
>= 50																	
Totals	12	52	59	33	97	62	54	11	8	17	122	60	39	19	40	18	

Calm : .00 %

Total # Operational Hours : 703

Logger : 01 Parameter : TRS_

Class Limits (PPB)

>= 50

< 50

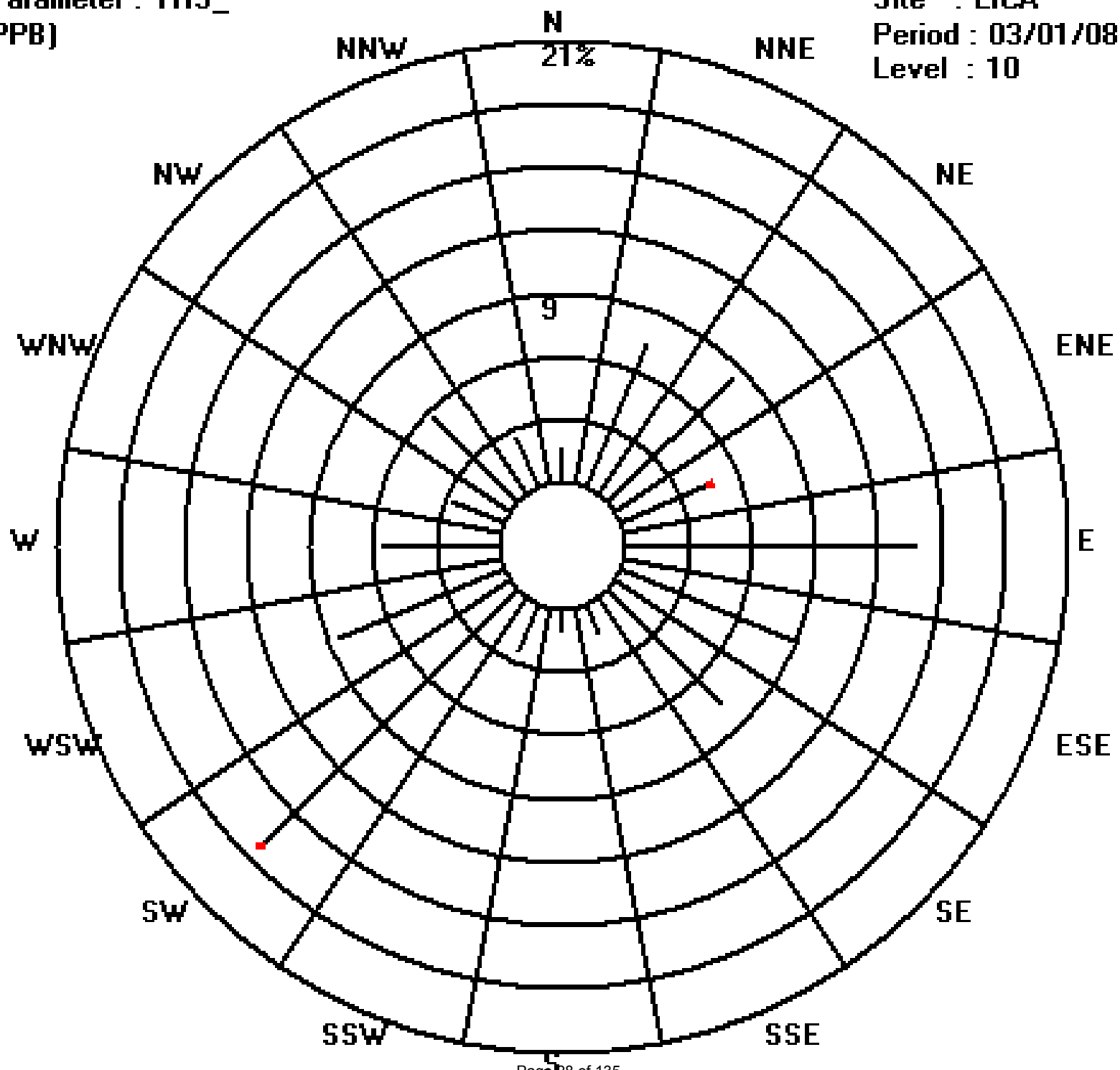
< 10

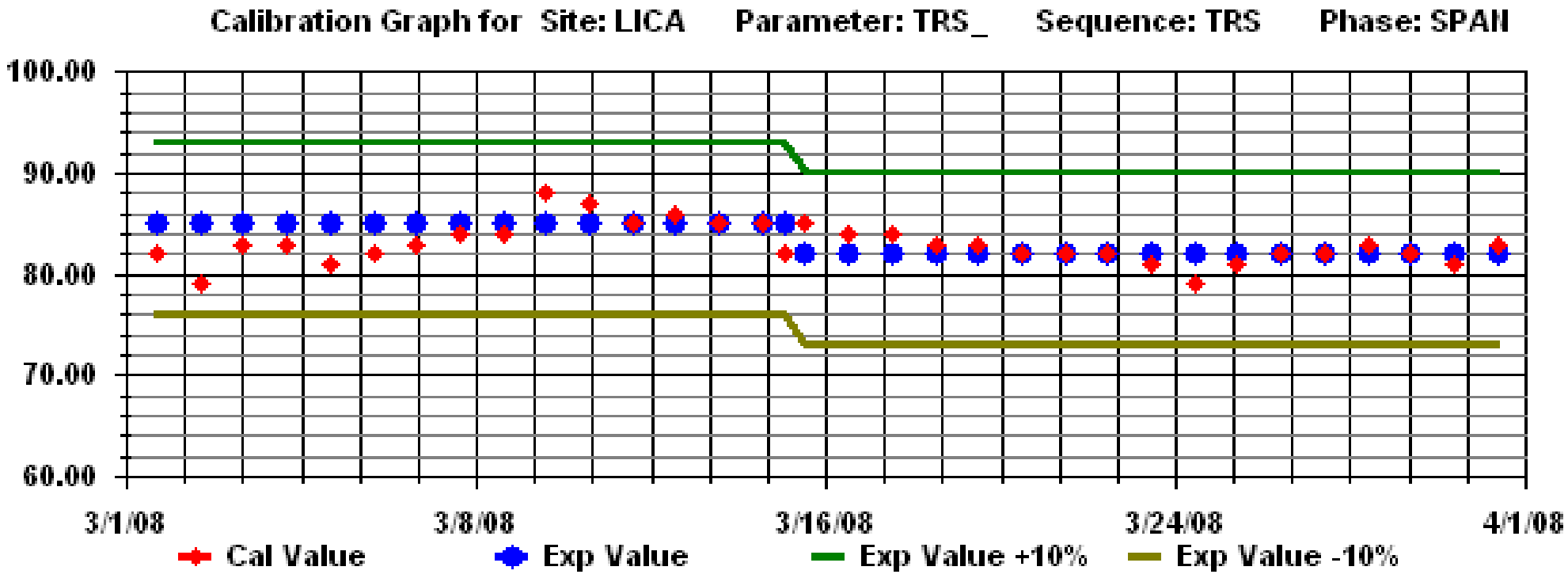
< 3

Site : LICA

Period : 03/01/08-03/31/08

Level : 10




Calibration Graph for Site: LICA Parameter: TRS_ Sequence: TRS Phase: SPAN
100.00
90.00
80.00
70.00
60.00
3/1/08
3/8/08
3/16/08
3/24/08
4/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MARCH 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	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	IZS	0	0	0	0	0	0	0	1	0.1	24
2	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
3	0	0	1	0	0	1	0	0	0	0	0	0	0	1	IZS	0	1	0	0	0	0	0	0	0	1	0.2	24
4	0	0	0	0	0	1	0	1	0	1	1	1	1	IZS	0	0	1	0	0	0	0	0	1	1	1	0.4	24
5	0	1	1	1	1	2	3	1	0	1	0	0	IZS	0	1	1	1	1	1	1	1	1	1	1	3	0.9	24
6	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	0	1	1	0	0	0	1	0	1	0.8	24
7	1	0	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
8	1	1	1	48	61	1	98	2	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	98	9.9	24
9	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
10	1	1	3	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1.1	24
11	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	1.0	24
12	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
13	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1.0	24
14	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
15	0	1	IZS	1	1	1	1	1	C	C	C	C	C	C	C	C	1	1	1	1	1	1	1	1	1	0.9	24
16	1	IZS	1	1	0	1	1	1	1	1	0	1	0	0	0	0	0	1	1	1	1	0	1	1	1	0.7	24
17	IZS	1	0	1	1	1	0	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	IZS	1	0.8	24
18	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	IZS	1	1	1.0	24
19	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1.0	24
20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	IZS	1	1	1	1	1.0	24
21	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	P	1	IZS	1	1	1	0	1	0.9	23
22	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
23	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	0	0	1	0.9	24
24	0	1	0	1	1	1	1	1	1	1	M	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	0.9	23
25	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
26	1	1	1	1	1	1	1	1	1	0	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1.0	24
27	1	1	1	1	1	1	1	1	1	1	1	0	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1.0	24
28	1	0	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
29	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	1.0	24
30	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1.0	24
31	1	1	1	1	1	1	1	1	1	IZS	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
HOURLY MAX	1	1	3	48	61	2	98	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
HOURLY AVG	0.8	0.8	0.9	2.4	2.8	1.0	4.1	0.9	0.8	0.9	0.8	0.8	0.9	0.8	0.9	0.8	0.9	0.8	0.8	0.8	0.8	0.8	0.9	0.8			

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 587

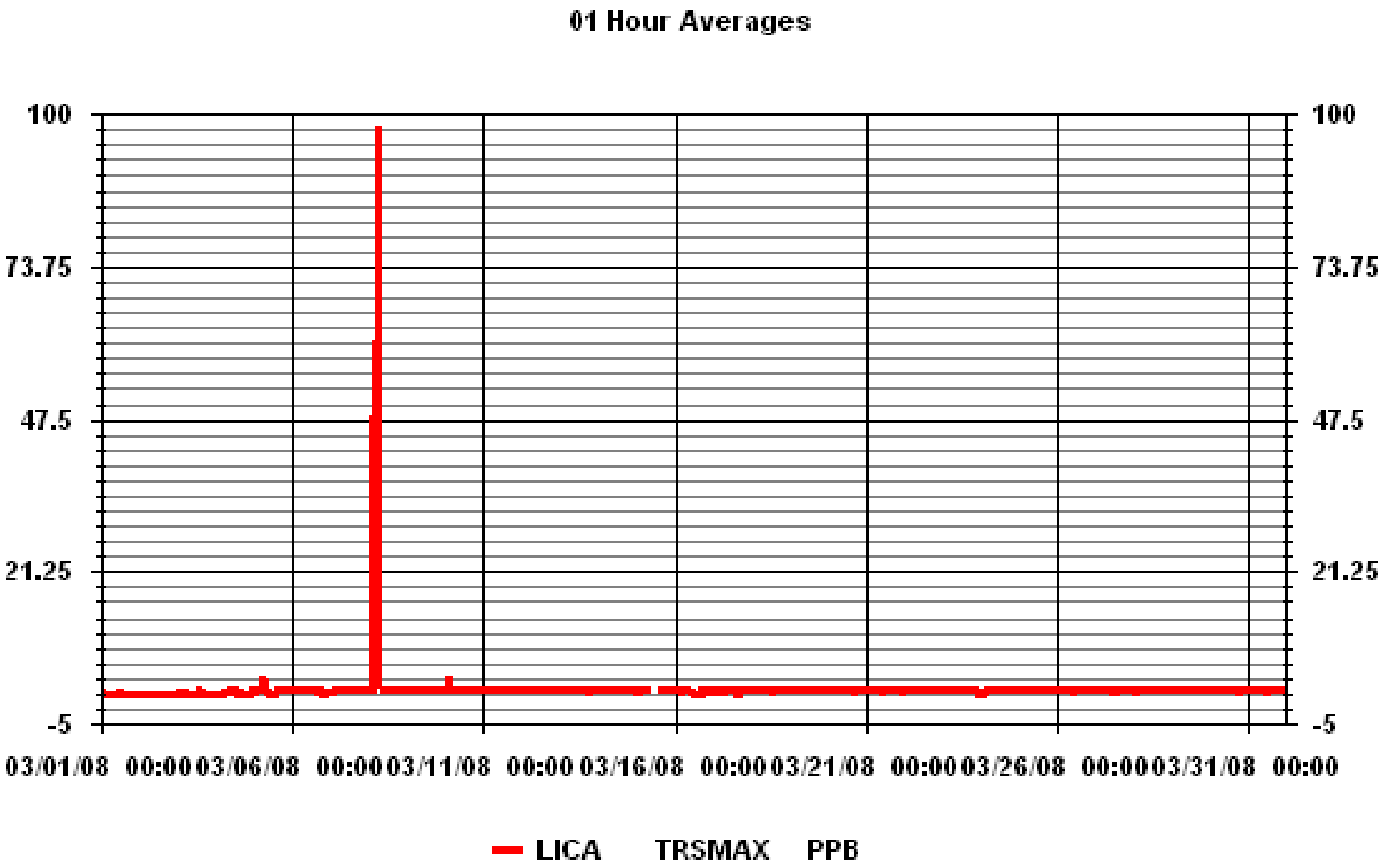
MAXIMUM INSTANTANEOUS VALUE: 98 PPB @ HOUR(S) 7 ON DAY(S) 8

VAR - VARIOUS

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 742 HRS

MONTHLY CALIBRATION TIME: 8 HRS

STANDARD DEVIATION: 4.67


01 Hour Averages
100
73.75
47.5
21.25
-5
03/01/08 00:00
03/06/08 00:00
03/11/08 00:00
03/16/08 00:00
03/21/08 00:00
03/26/08 00:00
03/31/08 00:00
LICA TRSMAX PPB

Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MARCH 2008

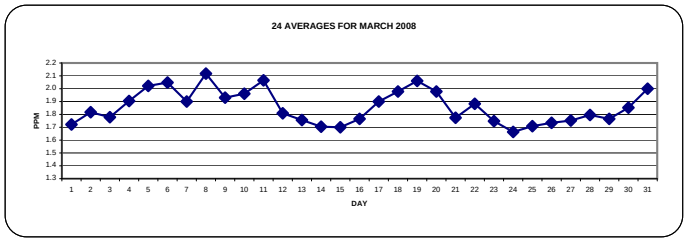
TOTAL HYDROCARBONS (THC) hourly averages in ppm

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

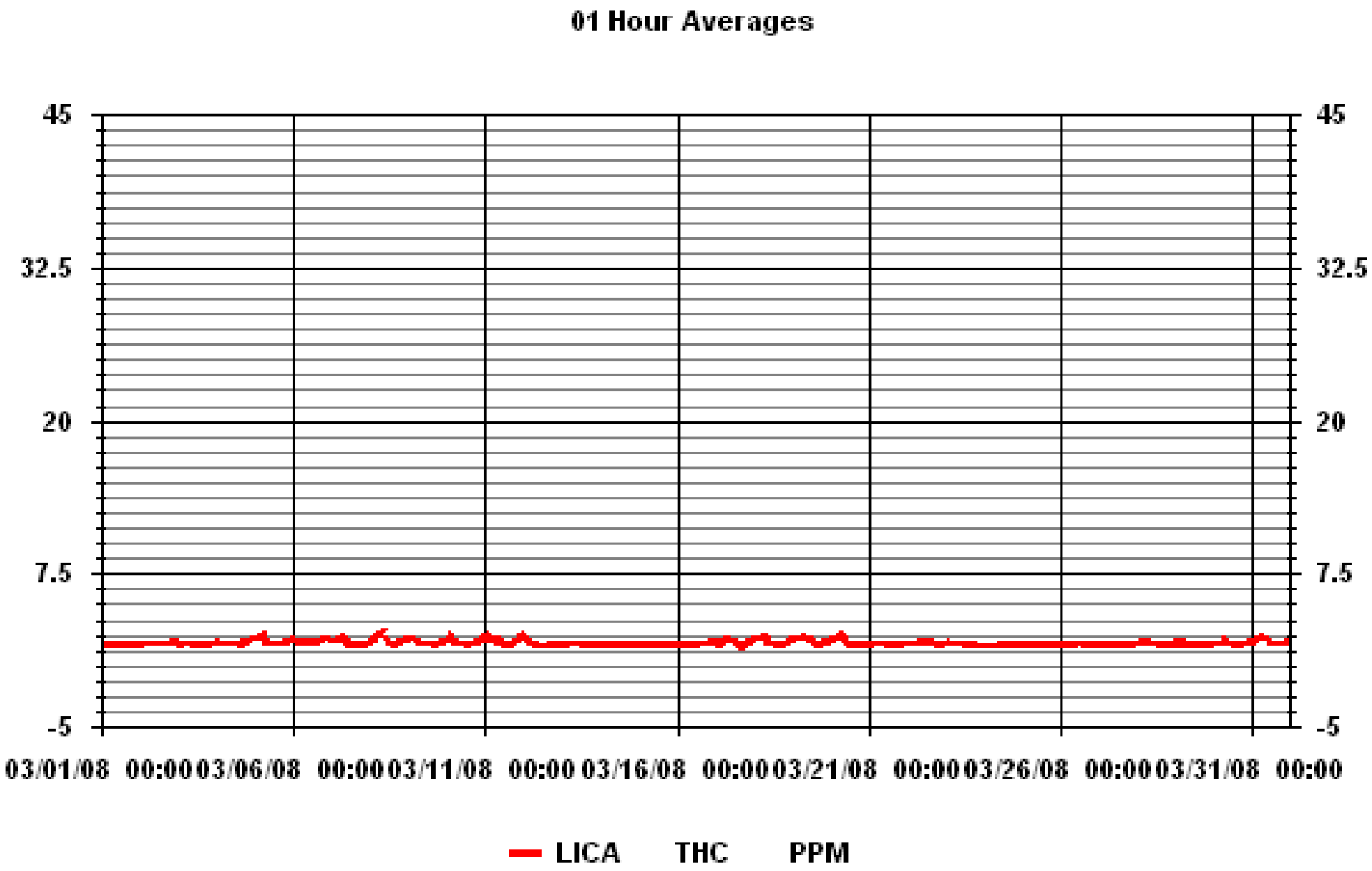
STATUS FLAG CODES

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 1-HR AVERAGE:	2.9	PPM	@ HOUR(S)	9	ON DAY(S)	8
MAXIMUM 24-HR AVERAGE:	2.1	PPM			ON DAY(S)	8,11,19
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	743	HRS	
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	99.9	%	
STANDARD DEVIATION:	0.21		MONTHLY AVERAGE:	1.86	PPM	


01 Hour Averages
45
32.5
20
7.5
-5
03/01/08 00:00
03/06/08 00:00
03/11/08 00:00
03/16/08 00:00
03/21/08 00:00
03/26/08 00:00
03/31/08 00:00
LICA THC PPM

LICA
THC / WD Joint Frequency Distribution (Percent)

March 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	1.69	7.77	8.34	4.66	13.86	8.76	7.63	1.55	1.13	2.40	17.25	8.48	5.51	2.68	5.65	2.54	100.00
< 10.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	1.69	7.77	8.34	4.66	13.86	8.76	7.63	1.55	1.13	2.40	17.25	8.48	5.51	2.68	5.65	2.54	

Calm : .00 %

Total # Operational Hours : 707

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	12	55	59	33	98	62	54	11	8	17	122	60	39	19	40	18	707
< 10.0																	
< 50.0																	
>= 50.0																	
Totals	12	55	59	33	98	62	54	11	8	17	122	60	39	19	40	18	

Calm : .00 %

Total # Operational Hours : 707

Logger : 01 Parameter : THC

Class Limits (PPM)

>= 50.0

< 50.0

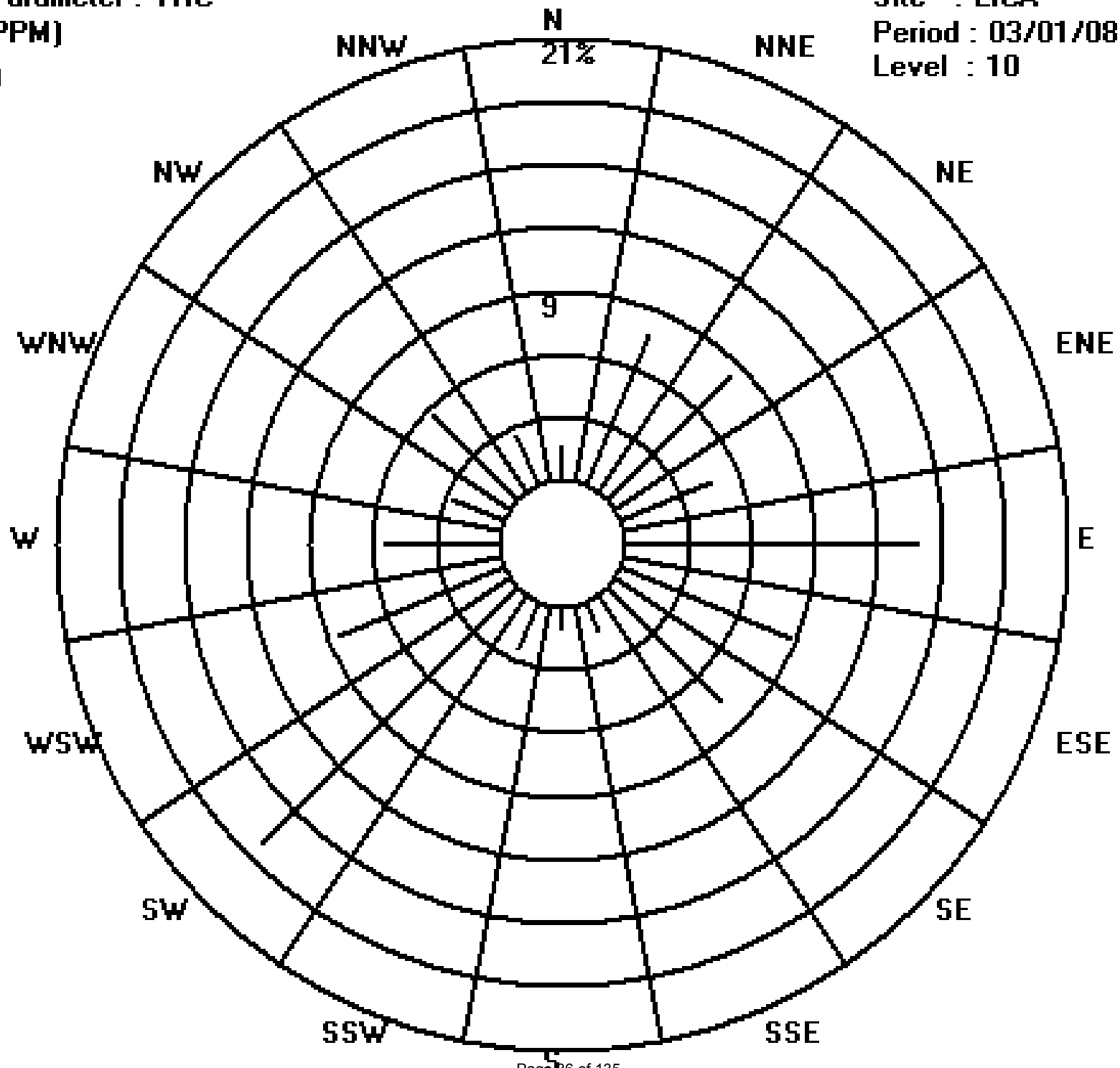
< 10.0

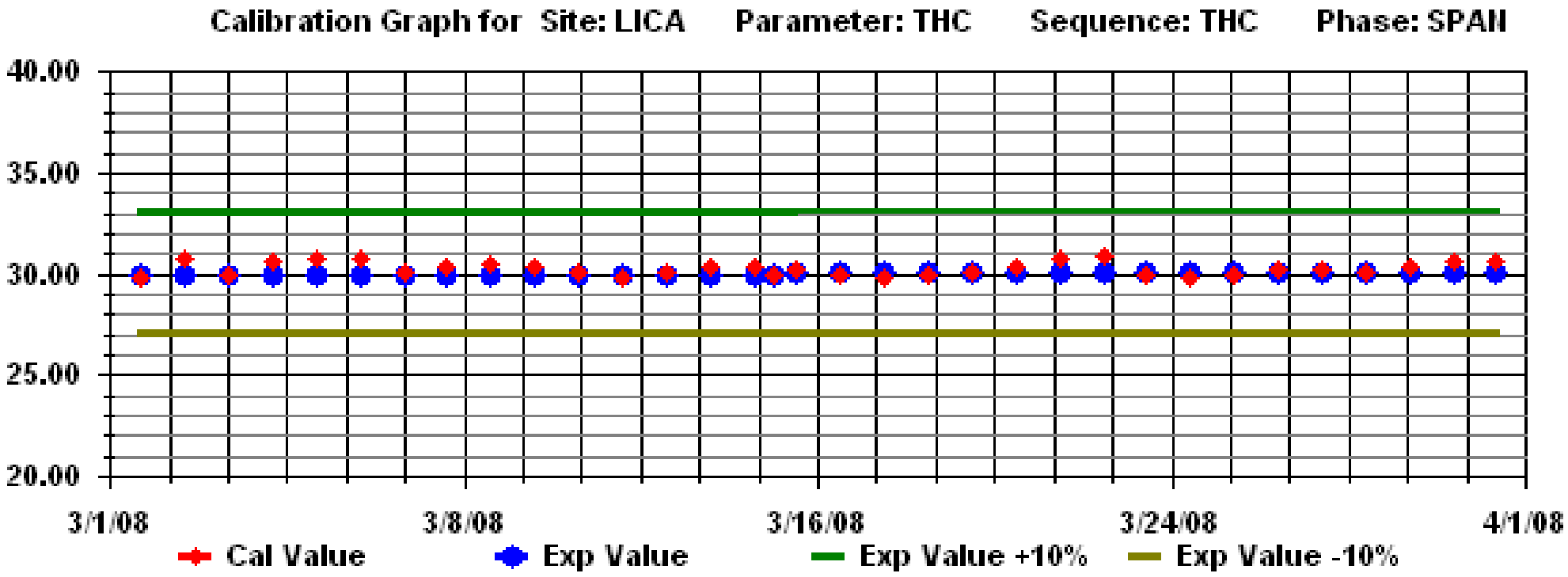
< 3.0

Site : LICA

Period : 03/01/08-03/31/08

Level : 10




Calibration Graph for Site: LICA Parameter: THC Sequence: THC Phase: SPAN
40.00
35.00
30.00
25.00
20.00
3/1/08
3/8/08
3/16/08
3/24/08
4/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MARCH 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	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.9	1.8	2.1	1.9	**IZS**	1.8	1.8	1.8	1.7	1.7	1.8	1.8	2.1	1.8	24
2	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.8	1.8	1.9	1.8	**IZS**	1.9	1.9	1.9	1.9	5.9	1.9	2	1.9	5.9	2.0	24
3	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.9	1.8	1.8	1.8	1.8	1.8	1.8	**IZS**	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.8	24
4	2	2	1.9	1.8	1.8	1.8	1.9	1.9	2	1.9	1.9	1.9	1.9	**IZS**	1.9	1.9	2.2	1.9	2	2	2.2	2.2	2.2	2.2	2.2	2.0	24
5	2.2	2.3	2.4	2.5	2.6	2.7	2.7	2	1.9	1.9	1.8	1.8	**IZS**	1.8	1.8	1.8	1.8	1.8	2	2.1	2.1	2.2	2.2	2.3	2.7	2.1	24
6	2.3	2.3	2.3	2.1	2	2	2	2.4	2.2	2.1	2	**IZS**	2	2.1	2	2	2.1	2.1	2.3	2.4	2.3	2.3	2.3	2.3	2.4	2.2	24
7	2.3	2	2.1	2.1	2.2	2.3	2.3	2.5	2.5	2	**IZS**	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.9	1.9	2	2.5	2.0	24
8	2.1	2.1	2.3	2.6	2.7	2.6	2.9	2.9	3.1	**IZS**	2.3	2.3	2	1.9	1.8	1.8	1.8	1.9	1.9	2.1	2.1	2.1	2.1	2.2	3.1	2.2	24
9	2.2	2.2	2.3	2.3	2.2	2.2	2.1	1.9	**IZS**	1.9	1.9	1.8	1.9	1.9	1.8	1.8	1.8	1.9	1.9	2	2	2	2	2	2.3	2.0	24
10	2.1	2.4	2.6	2.5	2.1	2	1.9	**IZS**	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	2	2.1	2.3	2.3	2.5	2.6	2.0	24
11	2.7	2.8	2.6	2.4	2.3	2.3	**IZS**	2	2.1	2.1	2	1.9	1.9	1.8	1.7	1.8	1.7	1.9	2	2	2.1	2.3	2.6	2.7	2.8	2.2	24
12	2.7	2.6	2.4	2.2	2.1	**IZS**	1.9	1.8	1.8	1.8	1.7	1.7	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	2.7	1.9	24
13	1.7	1.7	1.7	1.7	**IZS**	1.9	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.7	1.8	1.7	1.7	1.7	1.8	1.9	1.9	1.9	2	2	1.8	24
14	1.9	1.7	1.7	**IZS**	1.7	1.8	1.7	1.7	1.7	1.8	1.7	1.8	1.7	1.8	1.8	1.7	1.7	1.7	1.9	2.4	1.8	1.8	1.8	1.7	2.4	1.8	24
15	1.8	1.7	**IZS**	1.7	1.7	1.7	1.7	1.8	1.8	**C**	**C**	**C**	**C**	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.7	24
16	1.7	**IZS**	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	2	2	2	2.1	2.1	1.8	24
17	**IZS**	1.9	1.9	1.9	2	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2	1.8	1.7	1.7	1.8	1.7	1.9	1.8	2	2.1	**IZS**	2.2	2.0	24
18	2.3	2.3	2.3	2.3	2.4	2.8	2.6	2.6	2.4	2	1.8	2	1.8	1.9	1.8	2	1.8	1.7	1.8	2	1.9	2	**IZS**	2.3	2.8	2.1	24
19	2.3	2.1	2.2	2.3	2.3	2.3	3.1	3.2	2.5	2.3	2.3	2.2	2.2	2.1	2	1.9	1.8	1.8	1.9	1.9	1.9	**IZS**	2	2.1	3.2	2.2	24
20	2.1	2.3	2.3	2.3	2.4	2.5	2.6	2.7	2.7	2.4	2.2	1.9	1.8	1.7	1.7	1.7	1.7	1.8	1.8	1.9	**IZS**	1.8	1.8	1.8	2.7	2.1	24
21	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	1.8	1.8	1.9	1.9	1.8	1.8	**P**	1.9	**IZS**	1.8	1.9	1.9	1.8	1.9	1.8	23
22	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.1	2	2.1	2.1	2.3	2	2	2	2	2.1	2	**IZS**	1.9	1.9	1.9	1.9	1.9	2.3	1.9	24
23	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.9	1.8	1.9	1.9	1.9	2.1	1.7	1.8	**IZS**	1.7	1.7	1.7	1.7	1.7	1.7	2.1	1.8	24
24	1.7	1.7	1.7	1.7	1.7	1.7	1.9	1.7	1.8	1.7	**M**	1.7	1.7	1.7	1.7	1.7	**IZS**	1.8	1.8	1.7	1.7	1.8	1.7	1.7	1.9	1.7	23
25	1.7	1.8	1.8	1.8	1.7	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	**IZS**	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.7	24
26	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.7	1.8	1.8	2.1	1.8	1.8	1.8	**IZS**	1.8	1.8	1.8	1.8	1.8	1.7	1.8	1.8	1.9	2.1	1.8	24
27	1.9	1.9	1.8	1.8	1.8	1.8	2	1.8	1.8	1.8	1.8	1.8	1.8	**IZS**	1.7	1.7	1.8	1.8	1.8	1.9	1.8	1.8	2	2	2	1.8	24
28	1.9	1.9	2.1	2.1	2.1	2	2	1.9	1.9	1.8	1.8	2.1	**IZS**	1.8	1.8	1.8	**S**	1.8	1.7	1.8	1.7	1.7	1.9	2	2.1	1.9	23
29	2	2	1.8	2.1	2	2.1	1.9	1.7	1.7	1.7	1.7	**IZS**	1.7	1.7	1.7	1.8	1.8	1.7	1.7	1.8	1.7	1.8	1.8	1.8	2.1	1.8	24
30	1.8	1.8	1.8	1.8	1.9	2.1	2.5	2.4	2.3	2.2	**IZS**	2	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	2	2	2.5	2.0	24
31	2.1	2.1	2.2	2.3	2.4	2.5	2.4	2.7	2.5	**IZS**	2.2	2	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	2	2	2.1	2.7	2.1	24
HOURLY MAX	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	6	2	3	3			
HOURLY AVG	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	2.0	1.9	2.0	2.0			

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
BB	- BELOW BACKGROUND OF 1.5 PPM		

MONTHLY SUMMARY

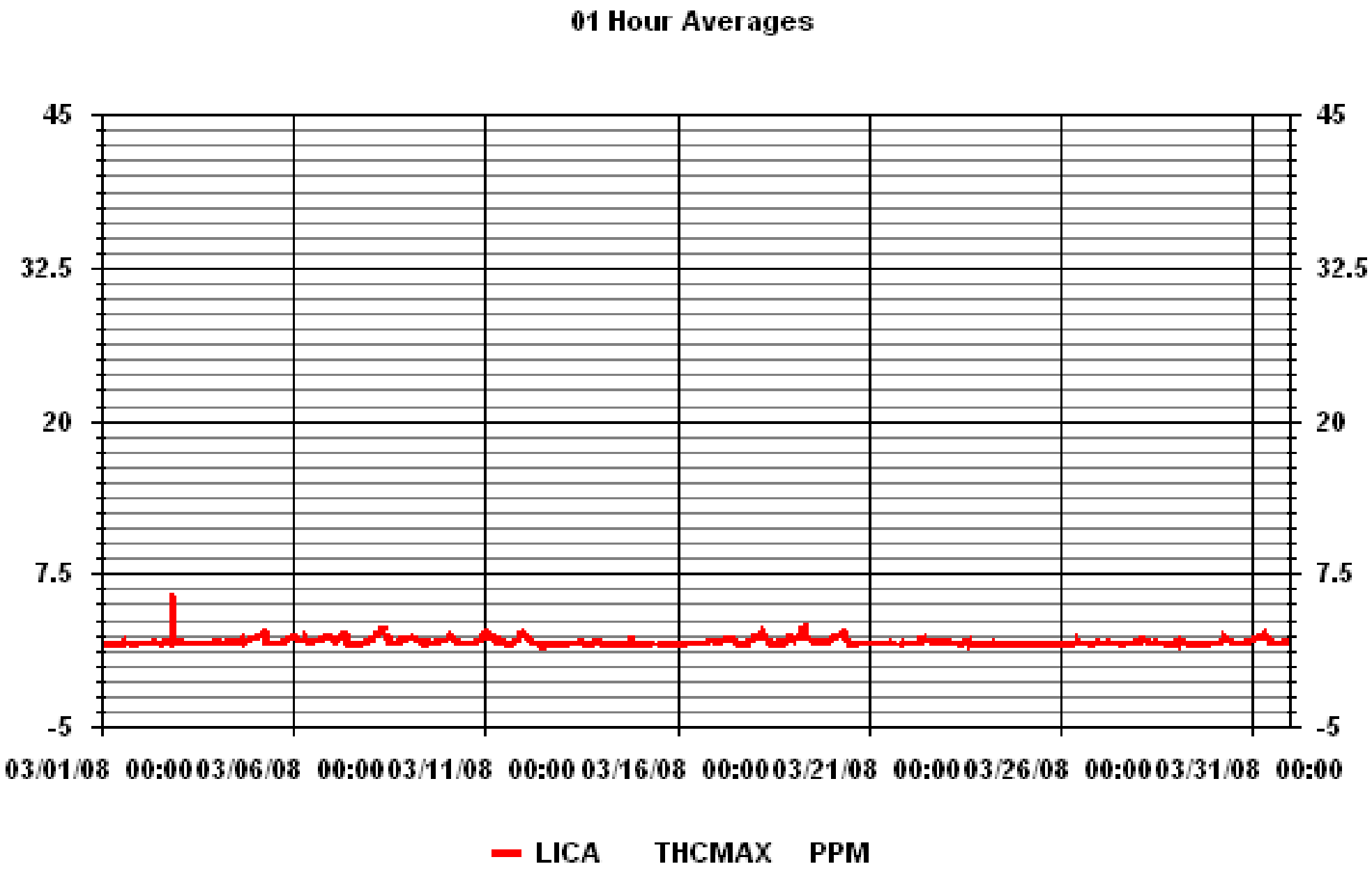
NUMBER OF NON-ZERO READINGS: 705

MAXIMUM INSTANTANEOUS VALUE: 5.9 PPM @ HOUR(S) 21 ON DAY(S) 2

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 741 HRS

MONTHLY CALIBRATION TIME: 4 HRS

STANDARD DEVIATION: 0.29


01 Hour Averages
45
32.5
20
7.5
-5
03/01/08 00:00
03/06/08 00:00
03/11/08 00:00
03/16/08 00:00
03/21/08 00:00
03/26/08 00:00
03/31/08 00:00
LICA THCMAX PPM

Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MARCH 2008

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

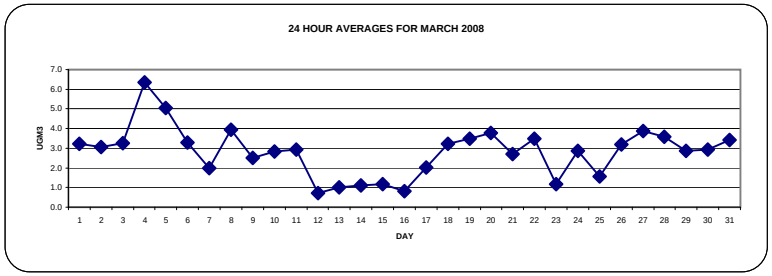
MST

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	1.7	1	0.8	0	2.3	3	2.4	2.5	4.4	3	3.9	5.6	7.2	5.9	3.8	3	3	4.5	4.6	4.1	3.2	2.1	2.5	2.8	7.2	3.2	24
2	2.6	3	3.4	2.9	3.8	3.2	3.7	4.1	4.6	4.2	3.2	2.7	2.6	2.2	2	2.7	2.6	1.3	2.5	2	4.7	4.1	3.3	2	4.7	3.1	24
3	2.2	1.4	1.4	1.1	1.2	1.3	2.1	2.4	3.1	2.8	2.9	2.4	3	2.5	3.3	3.2	4.3	3.9	4	5.4	6.4	6.3	5.7	5.7	6.4	3.3	24
4	6.1	7	5.6	5.5	5	4.9	5.7	6.7	6.5	7	6.4	6.1	5.4	5.5	5.1	4.8	6	5.6	6.8	7.4	10.3	7.8	7.7	7.1	10.3	6.3	24
5	4.5	7.4	6.4	10.3	9.4	8.6	7.3	3.9	5.8	1.3	3.2	3.7	3.6	3.2	3.3	3.6	3.8	3.1	2.1	2.9	4.8	6.3	6.8	6.1	10.3	5.1	24
6	4.6	3.3	3	2.3	0.7	2.3	1.1	7.7	14.1	4.1	2.3	1.6	3.2	3	3.4	2.9	1.9	1.2	2.4	2.8	2.1	3.6	3	2.5	14.1	3.3	24
7	4.6	2.1	2.3	2.1	3.1	3.4	5.6	4.3	4	2.4	1.9	1.5	0	0.2	0	0	0	0.5	1	2.2	1.7	0.6	1.2	2.6	5.6	2.0	24
8	1	2	3.5	2.5	6.4	3.6	3.6	8.4	13	1.1	1.4	3	1.5	1.9	2.8	1.5	1.3	2.3	3.2	4.1	4.3	5.1	7.7	9	13.0	3.9	24
9	9.8	9.2	8	6.7	4.1	2.4	0.2	0.6	1.5	1.4	2	1.4	1.2	1.7	0.8	0.3	0	0	0	2.6	0.3	1.2	2.2	2.7	9.8	2.5	24
10	1.7	1.2	3.8	4.4	4.7	5.8	5.7	4.2	3.1	1.5	2	1.9	1.3	1	1.2	1.3	1.5	1	1.2	1.2	3.1	3.7	4.9	6.2	6.2	2.8	24
11	19.4	14.7	4.1	4.5	5.9	3.6	2.1	1.1	0.6	0.6	0	0	0	0	1	0	0	1.4	1.4	1.3	1.3	3.3	2.6	1.3	19.4	2.9	24
12	2.3	2.7	2.3	0.9	0	0	0	0.1	0.5	1	0.3	0	2.6	0	0	0	0.6	0.7	1.3	0.9	0.4	0	0	0.4	2.7	0.7	24
13	0	0.1	0.3	0.1	0.8	1.3	2.7	3.5	1.6	1.1	1.7	1.8	0.5	0.5	0.5	0.7	0.7	2.2	1.3	0	0	0.1	0	2.9	3.5	1.0	24
14	0.9	0	0	0.4	0.5	0.1	0.5	1.2	1.9	2.1	1.7	1.7	1.1	1.1	1.5	1.6	0.4	2.4	1.7	3.3	1.5	0.6	0.5	0	3.3	1.1	24
15	0.2	0.5	0.6	0.9	1.4	0.8	1.5	2.1	2.3	1.2	1.5	**C**	**C**	**C**	**C**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	2.3	1.2	15
16	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	0.8	0.8	0.8	1
17	0.7	1.3	0	0.3	1.7	2.3	2	1.7	2.1	3.3	4	4.1	5	5.7	5.1	0	0.5	1.7	0.8	0.5	1.1	1.6	1	1.6	5.7	2.0	24
18	3.5	1.6	0.5	2	2.2	3.6	6.7	9.6	5.9	1.6	2.7	6.3	4.2	2.4	1.2	0.7	0.8	0.2	0.9	2.7	2.9	5.9	4.8	4.6	9.6	3.2	24
19	4.4	4.1	2	3	3.3	2.6	3	7.6	4.8	3.3	2.9	2.5	3.1	3.2	3.6	1.7	1.3	1.9	5.3	4	4.1	3.7	4	4.5	7.6	3.5	24
20	3.2	3.3	3.5	4.2	4.2	4.8	6.6	13.9	6.8	4.6	2.1	2.1	0.9	0.5	1	0	3.2	2.8	4.2	5.4	5.3	4.5	2	1.5	13.9	3.8	24
21	1.8	1.9	1.6	2.7	2.4	2	2.3	3	3.2	4	3.6	3.2	1.7	2.3	1.7	0.1	1.7	3.3	3.5	3.5	3.5	7.5	2	2.4	7.5	2.7	24
22	2.7	2.8	2.9	2.2	2.6	2.5	2.4	3.9	4.2	7	4.5	4	3.9	4.1	3.5	3.5	3.3	3	2.3	1.9	4	3.5	4.1	5	7.0	3.5	24
23	4	2.1	1.5	0	0.4	0	1.4	2.6	1	1.9	2	3.3	1.2	0	1.1	1	0	0.9	0	0	0	0.9	1.9	1.3	4.0	1.2	24
24	1.7	3.6	3.8	3.6	2.5	1.1	2.2	2.2	3.3	3.8	**M**	3.1	4	2.7	3	2.2	3	5.9	5.4	3.6	3.3	1.5	0.1	0	5.9	2.9	23
25	0.1	0	0.3	0.5	0.3	0.4	0.4	1.4	2	2.3	2.1	1.2	0	2.6	3.6	2.9	2.2	3	2	2.3	2	1.8	1.9	2.1	3.6	1.6	24
26	1.4	1.4	1.8	1.7	1.8	2.5	3.2	3.9	5.1	5	4.1	4.1	4.1	4.8	4.1	3.7	3.6	3.6	3.9	4.3	1.7	1.8	4.3	0.8	5.1	3.2	24
27	1.4	2.1	1.9	4.4	1.9	2.2	5.6	8.2	6.4	3.5	4.6	5.1	4.5	3.4	4	0.5	2.7	4.5	4.4	3.9	4.2	4.1	4.8	4.4	8.2	3.9	24
28	4.2	3.9	2.8	2.7	4	4.9	5.8	5.2	1.9	3.1	3.4	3.4	3.3	2.9	3	3	3.7	3.9	6.8	4.3	2.8	1.7	2.4	2.7	6.8	3.6	24
29	3.5	3.1	3.2	3.3	3.7	3.1	4.1	2.1	1.2	1.4	1.5	2.2	2.9	2.5	2.8	3.1	3.4	2.8	2.9	3.2	1.8	2.7	4	3.9	4.1	2.9	24
30	2.8	2.3	2.4	2	1.9	2.2	4.9	6.9	3	2.5	1.4	2.8	2.6	3	2.5	2	2.5	2.7	3.3	3.6	3.6	3.3	3	2.8	6.9	2.9	24
31	2.3	2.4	2.5	2.2	2.4	3.2	7.1	10.8	5.2	4.8	5.2	1.9	1.5	1.1	2.1	4	3.2	1.9	2.1	2.7	5.2	3.4	2.4	2.7	10.8	3.4	24
HOURLY MAX	19	15	8	10	9	9	7	14	14	7	6	6	7	6	5	5	6	6	7	7	10	8	8	9			
HOURLY AVG	3.3	3.1	2.5	2.6	2.8	2.7	3.4	4.5	4.1	2.9	2.7	2.9	2.6	2.4	2.4	1.9	2.1	2.5	2.8	3.0	3.1	3.2	3.1	3.1			

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

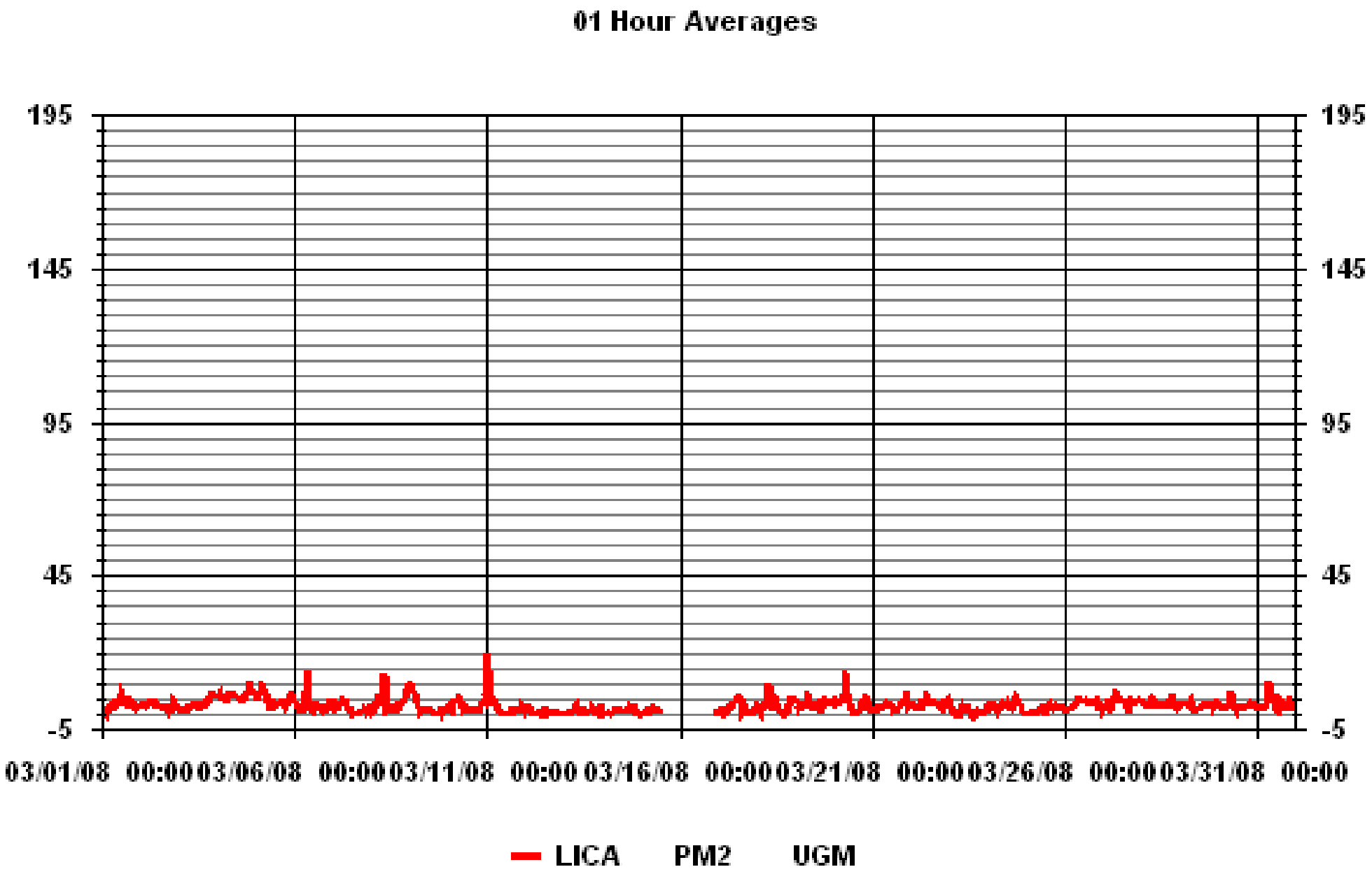
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR - PPB 24-HR 30 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	-					
NUMBER OF 24-HR EXCEEDENCES:	0	PROPOSED CANADA WIDE GUIDELINE				
NUMBER OF NON-ZERO READINGS:	664					
MAXIMUM 1-HR AVERAGE:	19.4	UG/M^3	@ HOUR(S)	1	ON DAY(S)	11
MAXIMUM 24-HR AVERAGE:	6.3	UG/M^3			ON DAY(S)	4

IZS CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	711	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	95.6	%
STANDARD DEVIATION:	2.20		MONTHLY AVERAGE:	2.91	UG/M^3


01 Hour Averages
195
145
95
45
-5
03/01/08 00:00
03/06/08 00:00
03/11/08 00:00
03/16/08 00:00
03/21/08 00:00
03/26/08 00:00
03/31/08 00:00
LICA PM2 UGM

LICA
PM2 / WD Joint Frequency Distribution (Percent)

March 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	1.83	4.95	8.62	4.95	14.85	9.19	7.63	1.55	1.27	2.40	17.11	8.91	5.37	2.82	5.79	2.68	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	1.83	4.95	8.62	4.95	14.85	9.19	7.63	1.55	1.27	2.40	17.11	8.91	5.37	2.82	5.79	2.68	

Calm : .00 %

Total # Operational Hours : 707

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 30.0	13	35	61	35	105	65	54	11	9	17	121	63	38	20	41	19	707
< 60.0																	
< 80.0																	
< 120.0																	
< 240.0																	
>= 240.0																	
Totals	13	35	61	35	105	65	54	11	9	17	121	63	38	20	41	19	

Calm : .00 %

Total # Operational Hours : 707

Logger : 01 Parameter : PM2

Class Limits (UG/M3)

>= 240.0

< 240.0

< 120.0

< 80.0

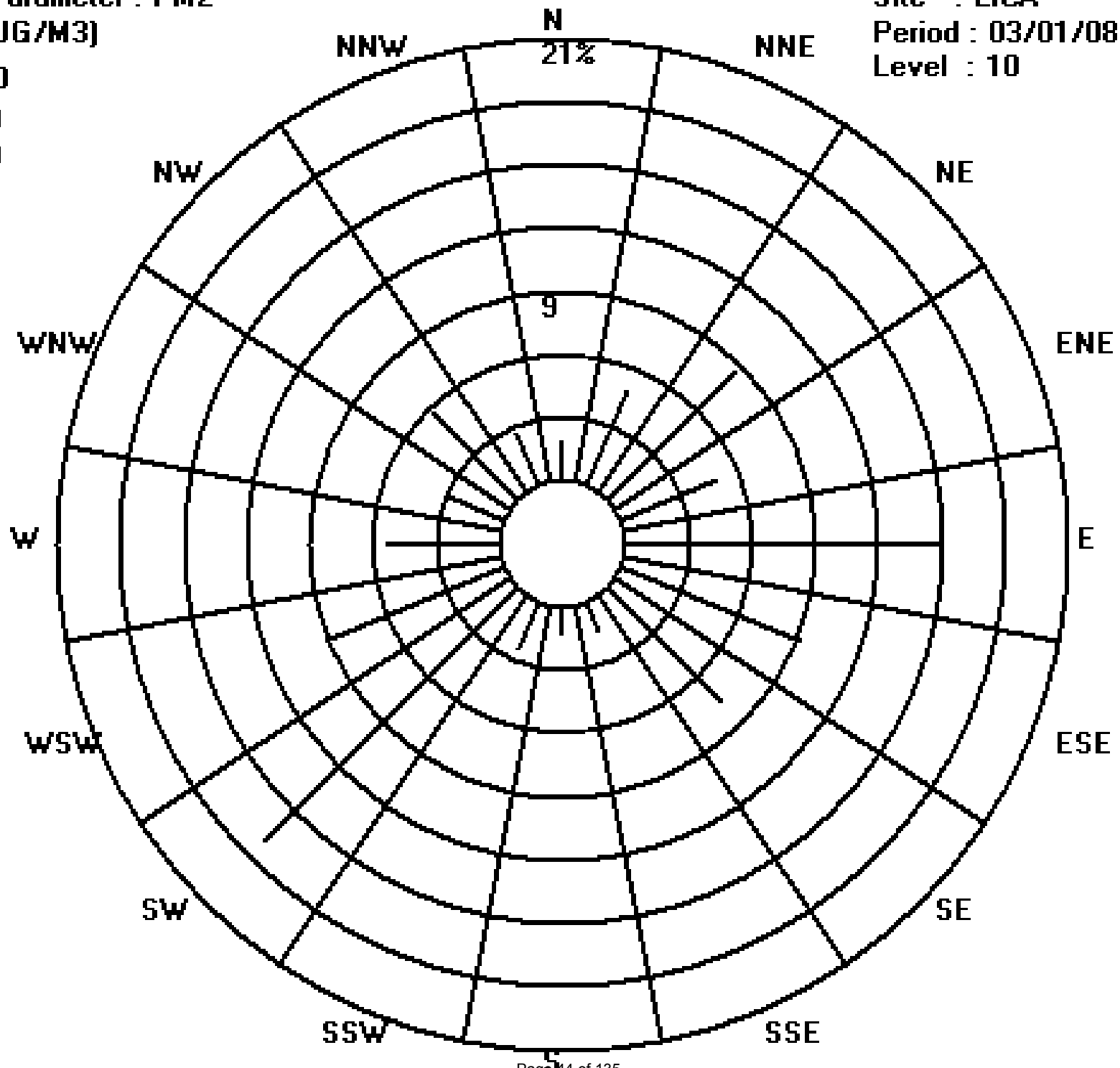
< 60.0

< 30.0

Site : LICA

Period : 03/01/08-03/31/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MARCH 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	5.5	4.3	4.3	6.2	5.6	7.7	7.7	8.3	33.5	8.1	6.7	10.4	10.3	10.9	8.1	5.6	7	9.1	7.3	7	6.8	5.3	4.7	6.1	33.5	8.2	24
2	6.3	7.1	6.7	6.1	7.3	7.5	9	9	8.9	7.6	7.3	7.1	6.9	6	6.6	7.4	7.2	4	7.2	5.7	17.1	12.7	8.6	6	17.1	7.7	24
3	5.7	5.3	5.4	5.1	4.8	4.8	6	8	9.2	7.6	6.1	6.4	5.9	7.3	7.7	6.7	7.5	6.6	7.8	8.4	11.6	10	9.9	8.8	11.6	7.2	24
4	9.6	10.4	8.9	8.8	8.9	9	10	10.6	10.6	10.1	10.1	9.8	8.9	9.8	8.7	7.8	10	8.9	10.3	11.7	15.1	11.6	12.4	11.4	15.1	10.1	24
5	9.4	12.8	12.1	15.1	15.3	12.7	12	9.6	9.8	7.5	6.5	6.6	7.1	6.2	6	7.5	7	7.2	7.1	7.6	9	19.4	15	11.4	19.4	10.0	24
6	9	8.2	7.6	7.2	6.1	8.6	5.9	20.9	22.8	16.5	5.9	6.6	8.7	7.1	7.1	8.8	6.5	4.9	5.5	6.6	5.4	7.5	6.8	5.5	22.8	8.6	24
7	8.7	6.4	6	5	7	7.7	8.9	7.5	7.7	6.6	7.8	4.3	2.4	3.8	3.2	1.3	2.8	3.4	4.4	7.5	5.6	4.2	5.6	6.6	8.9	5.6	24
8	5.5	4.9	7.9	6.1	15.4	8.4	7.1	14.8	20.8	7	6.2	5.1	4.3	5.9	4.5	4.2	3.3	6.9	6.7	7.8	7.7	8.7	10.8	15.1	20.8	8.1	24
9	13.2	13	11.4	10.4	7.7	6	3.2	4.9	5	4.4	5	2.4	4.3	2.9	5.4	2.7	1.7	2.9	2.5	8.2	3.2	5.4	7.9	8.4	13.2	5.9	24
10	5.1	4.9	7.5	7.8	7.6	9.8	8.8	7.5	6.2	5.6	4.2	4.2	3.7	2.1	2.4	2.7	3.1	2.8	3.6	4.6	6.7	7.9	8.3	13.2	13.2	5.8	24
11	27.2	29.2	12	8.1	9	7.8	4.9	4	3.9	3.8	2.6	0.5	0.9	2.8	5.4	0.7	1.7	5.5	5.3	4.4	4.9	7	6.1	5.4	29.2	6.8	24
12	6	7.5	6.4	4.3	2.9	2.6	2.4	2.4	2.9	4.4	3.7	2.1	7.8	5.5	5.4	1.6	3.5	3.3	4.4	4.5	3.1	3.1	2.3	3.1	7.8	4.0	24
13	2.6	2	3.2	2.9	3.8	4.6	6.1	7.7	5.5	4.3	4.5	4.9	2.9	3.9	5	3.3	4.7	6.8	5.9	2	3.3	2.9	3.2	8.5	8.5	4.4	24
14	7	4.2	2.9	3.2	3	3.2	3.8	4.6	5.1	5.1	4.4	4.3	4.4	3.9	4.8	6.7	3.4	5.6	4.3	6.2	4.6	4	4	2.9	7	4.4	24
15	3	4	4.3	4.5	5.3	3.7	4.3	5.4	5.3	3.9	5.4	**C**	**C**	**C**	**C**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	5.4	4.5	15
16	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	4.2	4.2	4.2	1
17	5.4	4.9	3.8	2.9	5.7	6.8	6	6.1	7.1	7.2	7.2	7.5	9.7	9.7	8.9	2.3	3.6	4.9	3.4	3.4	3.9	4.3	5.5	5.3	9.7	5.6	24
18	6.5	4.3	3.3	4.5	5.4	7.7	14.1	14.3	13.9	4.2	9.2	11.9	9.2	4.6	2.9	2.7	2	2.4	3.2	6	7	11.4	8.5	7.1	14.3	6.9	24
19	7	10	4.8	7.9	6.1	6.5	6.2	12.9	10.4	5.9	6.9	4.5	5.5	6	5.5	4.4	4	3.6	9.2	9.3	7.3	6.8	8.8	8.2	12.9	7.0	24
20	6.8	5.9	6.5	8.2	7.8	8.9	10.5	20	17.3	12.5	7	4.3	3.9	5.7	11.1	3.2	6.5	5.3	9.6	9.1	8.4	8.3	6.4	5.4	20	8.3	24
21	5.3	4.4	4.9	8.2	5	4.8	5.3	6.1	6.1	6.1	5.9	5.3	5.5	5.5	4.5	3.3	4.7	**P**	6.8	6.6	6.4	20.5	6	5.1	20.5	6.2	23
22	5.5	5.7	5	4.9	5.2	6	4.9	7	7.7	12.3	7.5	7.1	6.9	7.3	6.4	6.5	7.5	5.9	6.6	4.5	7.1	6.5	6.6	8	12.3	6.6	24
23	6.3	4.9	4.3	2.4	3.2	4	3.8	6.5	3.7	4	4.5	13.9	4.8	3.8	3.7	3	1.9	3.7	3.8	2.1	3.1	3.6	5.3	4.4	13.9	4.4	24
24	5	6.1	7.5	6.2	4.8	5.2	4.5	5.3	7	6.6	**M**	6.1	6.6	5.1	5.7	4.3	5.3	12.8	8.7	6.5	6.6	4.5	2.7	2.4	12.8	5.9	23
25	3.2	2.3	3.1	3	2.7	2.9	3.8	3.9	5.3	5.4	5.7	3.8	2.9	6.5	7.1	7.1	5.5	6.8	5.3	4.9	4.7	4.9	5.6	5.4	7.1	4.7	24
26	4.4	4.5	4.2	4.9	4.6	5.1	5.4	7	8.4	7.5	7.3	7.1	7	6.8	6.9	7.8	6.2	6.5	6.7	7.5	3.8	4.4	16.5	3.3	16.5	6.4	24
27	4.4	5.3	5.1	16	5.1	5.4	10.9	11.5	13.5	10.9	7	8.1	8	6.5	6.7	5.6	5.5	8.2	8.6	6.4	7	7.1	7.9	7.1	16	7.8	24
28	7.5	7.2	5.7	6.8	7.5	7.6	8.6	7.7	6.9	5.6	6.7	5.7	5.9	5.3	5.4	5.5	6.5	11	12.5	7.9	6.2	4.4	4.5	5.4	12.5	6.8	24
29	6.5	5.5	5.7	6	6.2	6.7	6.7	5	4.2	4.4	3.8	5.3	7.8	5.8	6.1	6.8	6.5	6.5	7.1	7.8	4	5.7	7.1	7.6	7.8	6.0	24
HOURLY MAX	27	29	12	16	15	13	14	21	34	17	10	14	10	11	11	9	10	13	13	12	17	21	17	15			
HOURLY AVG	7.1	7.0	6.1	6.5	6.4	6.5	6.8	8.5	9.6	7.0	6.1	6.1	6.0	5.8	6.0	4.8	5.0	6.0	6.4	6.5	6.7	7.5	7.3	6.8			

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

MONTHLY SUMMARY

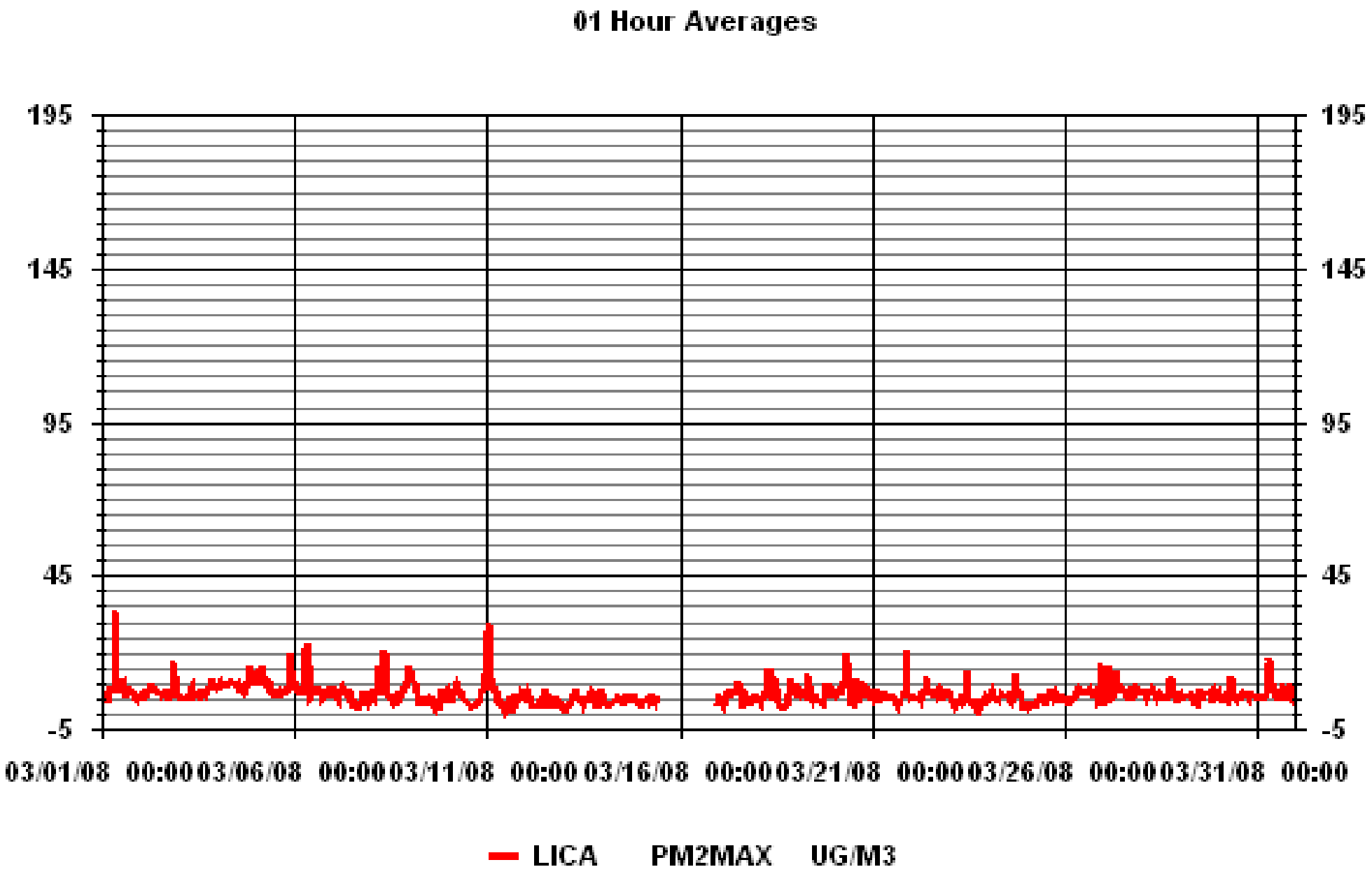
NUMBER OF NON-ZERO READINGS: 658

MAXIMUM INSTANTANEOUS VALUE: 33.5 UG/M^3 @ HOUR(S) 9 ON DAY(S) 1

IZS CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 662 HRS

MONTHLY CALIBRATION TIME: 4 HRS

STANDARD DEVIATION: 3.44


01 Hour Averages
195
145
95
45
-5
03/01/08 00:00
03/06/08 00:00
03/11/08 00:00
03/16/08 00:00
03/21/08 00:00
03/26/08 00:00
03/31/08 00:00
LICA PM2MAX UG/M3

Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MARCH 2008

NITROGEN DIOXIDE hourly averages in ppb

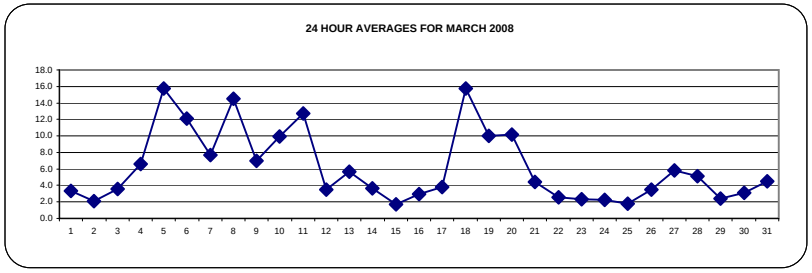
MST

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	7	6	6	4	3	4	4	4	3	3	2	3	3	3	3	3	IZS	4	3	3	2	1	2	1	7	3.3	24
2	1	2	1	2	3	2	2	2	1	1	1	1	1	1	1	IZS	1	1	3	3	7	4	3	4	7	2.1	24
3	4	4	4	3	3	4	4	4	4	3	2	2	2	2	IZS	4	5	6	6	4	5	3	2	2	6	3.6	24
4	5	6	3	1	2	4	6	6	7	5	4	3	3	IZS	3	3	4	5	9	12	18	12	15	15	18	6.6	24
5	16	20	17	16	23	24	16	8	6	3	2	1	IZS	2	3	5	5	9	13	34	33	41	35	31	41	15.8	24
6	29	30	26	21	10	19	13	24	32	15	8	IZS	2	2	2	3	3	3	5	6	6	6	6	7	32	12.1	24
7	5	3	4	6	5	8	10	10	8	4	IZS	2	2	2	2	2	1	2	5	18	16	19	19	23	23	7.7	24
8	15	21	28	28	40	31	27	28	31	IZS	5	4	3	3	4	4	3	4	6	8	8	10	11	11	40	14.5	24
9	12	12	13	12	11	10	8	8	IZS	6	5	4	4	4	3	3	3	3	6	9	7	7	5	6	13	7.0	24
10	5	6	6	7	7	7	9	IZS	7	5	5	4	3	3	4	5	6	7	7	9	20	29	35	33	35	10.0	24
11	32	33	25	22	23	26	IZS	18	12	7	6	5	4	3	3	2	3	3	6	12	14	13	12	8	33	12.7	24
12	8	7	7	6	6	IZS	6	8	6	4	2	2	2	2	2	1	1	1	2	2	2	2	1	1	8	3.5	24
13	1	2	1	3	IZS	20	15	12	8	5	4	3	3	2	1	1	1	2	2	7	11	9	7	10	20	5.7	24
14	3	2	2	IZS	4	4	4	5	4	3	2	2	1	1	1	2	2	3	7	14	7	4	4	2	14	3.6	24
15	3	2	IZS	3	3	3	3	3	C	C	C	C	C	C	C	1	1	1	1	1	1	1	0	0	3	1.7	24
16	0	IZS	1	1	1	1	1	1	1	0	0	0	1	1	1	2	2	2	5	9	12	6	9	11	12	3.0	24
17	IZS	2	2	3	3	3	4	4	3	3	3	3	3	4	4	2	1	2	2	10	8	8	7	IZS	10	3.8	24
18	28	26	16	28	27	27	31	33	15	3	3	3	2	3	2	2	2	3	6	18	24	30	IZS	31	33	15.8	24
19	29	7	10	13	12	16	23	32	20	4	6	4	4	4	4	3	3	3	5	7	5	IZS	11	6	32	10.0	24
20	7	7	13	13	15	20	23	26	20	11	7	3	3	3	2	2	2	3	11	26	IZS	11	3	3	26	10.2	24
21	3	3	4	9	8	4	5	5	3	2	2	1	1	2	1	1	1	4	8	IZS	11	15	6	2	15	4.4	24
22	2	2	3	3	4	5	4	4	1	2	2	2	2	2	2	2	2	2	IZS	2	2	2	3	3	5	2.5	24
23	3	3	2	2	3	5	3	4	3	2	2	2	2	1	1	2	2	IZS	3	2	2	1	1	3	5	2.3	24
24	3	2	3	3	3	4	4	3	2	2	M	1	1	1	1	1	IZS	2	2	2	3	2	2	2	4	2.2	23
25	1	3	3	1	1	3	5	3	2	1	1	1	1	1	2	IZS	1	2	3	3	1	1	0	1	5	1.8	24
26	2	2	3	3	5	5	6	4	3	2	1	1	1	1	IZS	2	2	2	4	8	5	5	6	8	8	3.5	24
27	9	7	7	7	9	11	16	10	9	5	3	2	2	IZS	1	1	2	2	3	5	2	2	7	11	16	5.8	24
28	4	2	4	10	20	19	12	7	3	4	3	2	IZS	2	2	2	2	3	2	3	2	1	2	7	20	5.1	24
29	6	5	3	5	4	7	1	1	0	0	0	IZS	1	0	1	1	1	1	2	4	1	1	5	5	7	2.4	24
30	4	3	5	3	5	7	8	7	6	4	IZS	1	1	0	1	0	1	1	1	2	2	3	3	4	8	3.1	24
31	5	5	5	4	5	9	19	16	8	IZS	2	2	1	1	1	1	1	1	2	3	5	2	3	3	19	4.5	24
HOURLY MAX	32	33	28	28	40	31	31	33	32	15	8	5	4	4	4	5	6	9	13	34	33	41	35	33			
HOURLY AVG	8.4	7.8	7.6	8.1	8.9	10.4	9.7	10.0	7.9	3.9	3.1	2.3	2.1	2.0	2.1	2.2	2.2	2.9	4.7	8.2	8.1	8.4	7.5	8.5			

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

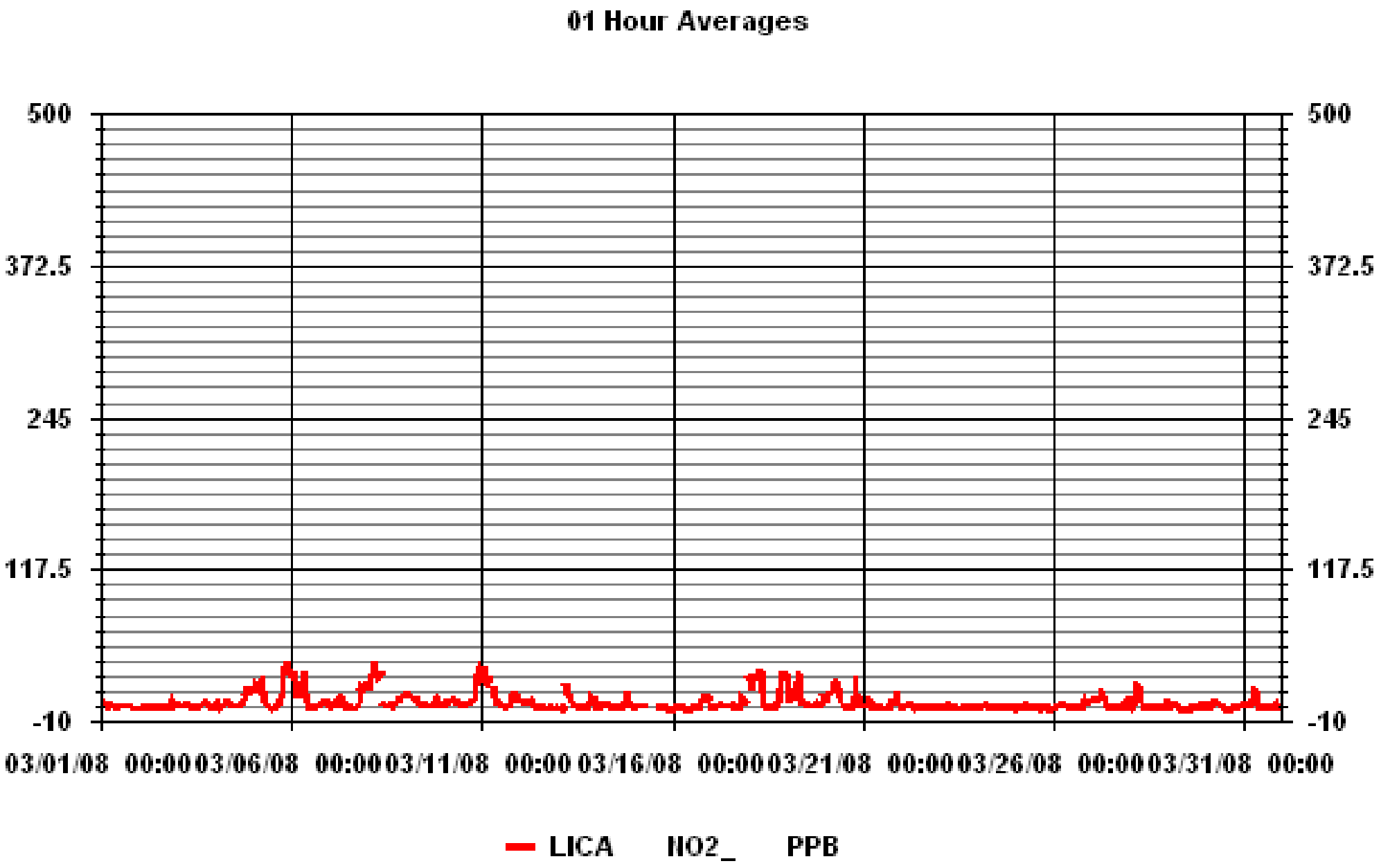
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 212 PPB 24-HR 106 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	691					
MAXIMUM 1-HR AVERAGE:	41	PPB	@ HOUR(S)	22	ON DAY(S)	5
MAXIMUM 24-HR AVERAGE:	15.8	PPB			ON DAY(S)	5,18

IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	743	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	7.28		MONTHLY AVERAGE:	6.19	PPB


01 Hour Averages
500
372.5
245
117.5
-10
03/01/08 00:00
03/06/08 00:00
03/11/08 00:00
03/16/08 00:00
03/21/08 00:00
03/26/08 00:00
03/31/08 00:00
LICA NO2_ PPB

LICA
NO2_ / WD Joint Frequency Distribution (Percent)

March 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	1.70	7.52	8.38	4.68	13.77	8.80	7.67	1.56	1.13	2.41	17.32	8.52	5.53	2.69	5.68	2.55	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	1.70	7.52	8.38	4.68	13.77	8.80	7.67	1.56	1.13	2.41	17.32	8.52	5.53	2.69	5.68	2.55	

Calm : .00 %

Total # Operational Hours : 704

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	12	53	59	33	97	62	54	11	8	17	122	60	39	19	40	18	704
< 110																	
< 210																	
>= 210																	
Totals	12	53	59	33	97	62	54	11	8	17	122	60	39	19	40	18	

Calm : .00 %

Total # Operational Hours : 704

Logger : 01 Parameter : NO2_

Class Limits (PPB)

>= 210

< 210

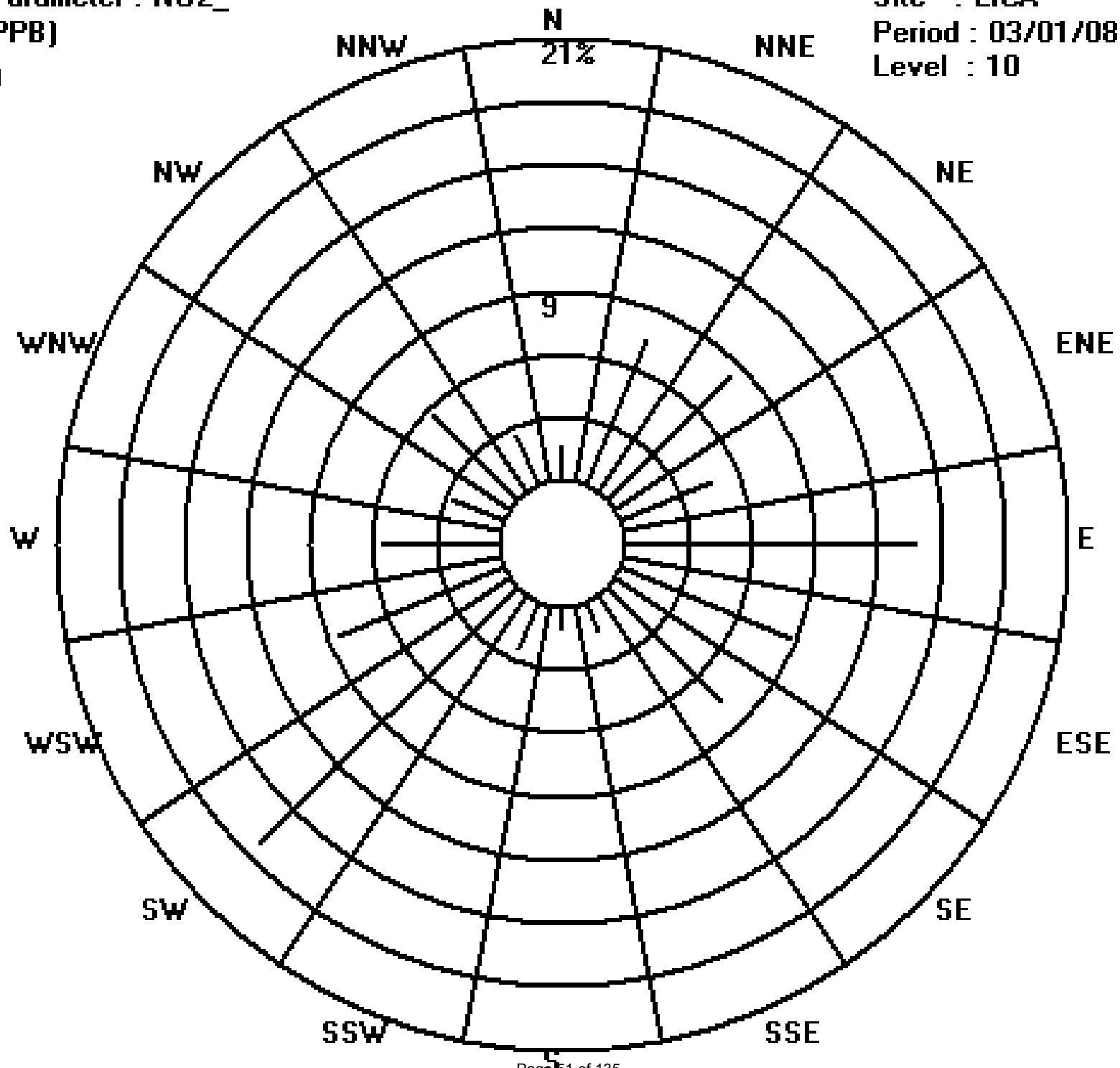
< 110

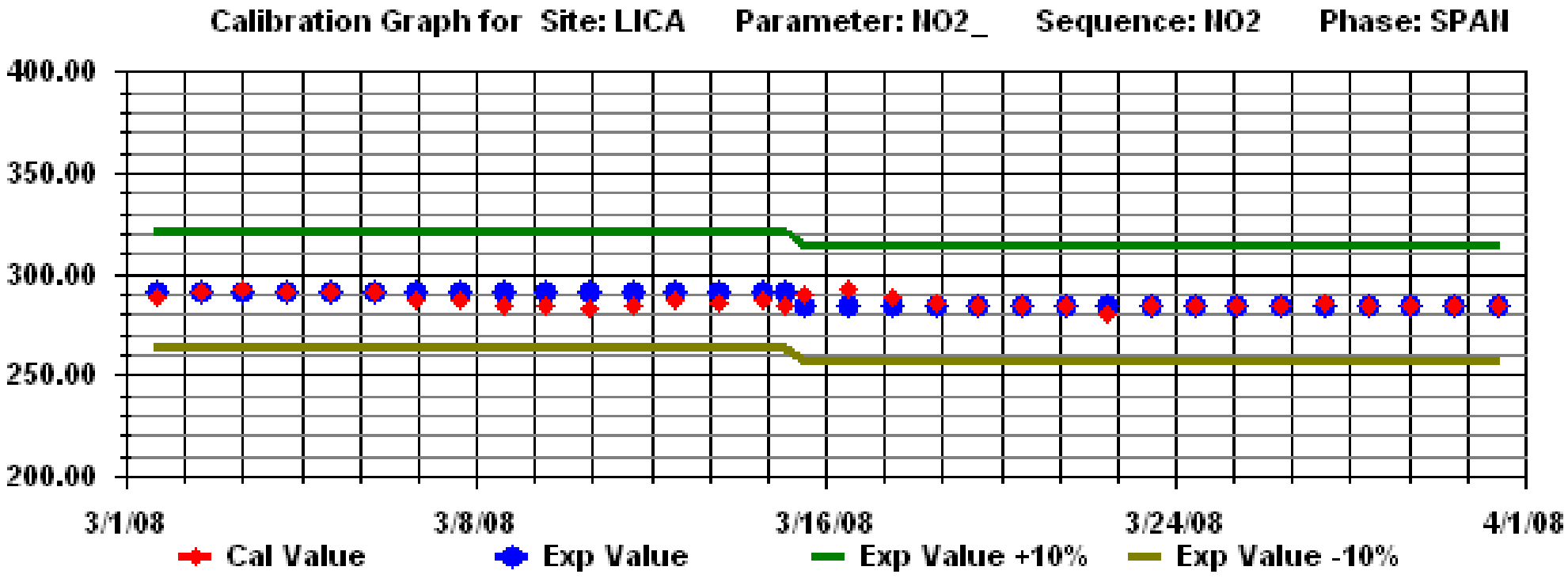
< 50

Site : LICA

Period : 03/01/08-03/31/08

Level : 10




Calibration Graph for Site: LICA Parameter: NO2_ Sequence: NO2 Phase: SPAN
400.00
350.00
300.00
250.00
200.00
3/1/08
3/8/08
3/16/08
3/24/08
4/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MARCH 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	12	9	10	6	4	8	8	7	5	5	5	8	4	5	4	4	**IZS**	5	4	4	2	2	2	2	12	5.4	24
2	1	3	3	2	4	3	3	3	2	1	1	1	1	2	1	**IZS**	4	3	4	11	14	8	5	6	14	3.7	24
3	6	5	6	5	5	8	7	6	6	5	5	6	4	5	**IZS**	11	12	9	11	6	7	4	3	8	12	6.5	24
4	9	7	5	2	4	5	7	7	8	6	5	4	3	**IZS**	5	4	5	10	15	30	29	24	23	18	30	10.2	24
5	26	29	24	27	31	28	27	24	11	6	3	3	**IZS**	14	5	8	7	13	30	125	63	85	49	35	125	29.3	24
6	36	33	35	24	22	40	21	49	46	33	14	**IZS**	4	3	3	4	5	7	10	9	9	11	8	13	49	19.1	24
7	8	4	6	7	9	14	13	11	12	5	**IZS**	3	2	2	2	2	5	5	20	39	33	55	35	36	55	14.3	24
8	23	28	32	34	210	35	34	34	36	**IZS**	6	10	3	5	9	4	4	6	9	9	10	11	14	13	210	25.2	24
9	13	13	15	12	12	10	9	9	**IZS**	7	6	5	4	6	6	6	3	4	13	15	14	28	9	8	28	9.9	24
10	7	9	7	7	7	9	13	**IZS**	9	7	6	6	5	4	6	8	10	9	8	18	28	43	41	37	43	13.2	24
11	36	36	33	46	30	37	**IZS**	36	20	11	9	7	6	4	10	4	10	5	11	17	27	24	16	8	46	19.3	24
12	9	8	9	9	9	**IZS**	7	63	11	6	2	2	2	2	4	3	6	2	2	2	4	4	1	1	63	7.3	24
13	2	3	2	3	**IZS**	68	36	19	10	8	5	6	3	3	2	2	3	3	4	14	29	16	12	14	68	11.6	24
14	9	2	6	**IZS**	6	5	6	10	8	7	3	6	3	2	3	4	15	6	20	19	12	7	7	4	20	7.4	24
15	4	4	**IZS**	4	5	5	5	24	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2	2	1	1	1	1	1	1	24	4.1	24
16	1	**IZS**	2	2	2	2	2	3	2	1	2	5	3	2	2	2	3	3	11	14	29	17	16	15	29	6.1	24
17	**IZS**	3	3	4	4	4	6	7	5	3	4	3	5	5	6	4	2	3	5	23	14	11	12	**IZS**	23	6.2	24
18	33	34	23	33	30	36	71	57	30	5	7	4	4	8	4	3	3	4	16	38	47	35	**IZS**	33	71	24.3	24
19	32	16	19	21	17	30	37	46	42	5	8	5	6	6	5	6	4	4	7	12	7	**IZS**	26	8	46	16.0	24
20	10	17	24	23	22	30	38	47	31	14	15	5	4	12	5	5	6	6	19	37	**IZS**	19	4	5	47	17.3	24
21	5	5	9	33	12	8	8	8	8	4	2	2	4	3	3	4	4	**P**	26	**IZS**	26	22	14	3	33	9.7	23
22	2	3	5	5	9	13	6	6	2	3	3	3	3	4	7	3	5	3	**IZS**	4	3	4	4	4	13	4.5	24
23	4	5	3	3	8	19	5	9	5	3	6	2	8	3	3	8	8	**IZS**	5	4	4	2	3	4	19	5.4	24
24	5	4	6	5	4	5	9	4	5	3	**M**	2	3	2	4	2	**IZS**	3	3	3	5	3	3	3	9	3.9	23
25	3	7	5	2	2	6	8	5	3	2	1	1	1	4	6	**IZS**	3	3	5	5	3	1	1	2	8	3.4	24
26	3	5	4	7	11	13	8	6	5	4	3	4	2	3	**IZS**	4	3	15	7	17	7	20	8	12	20	7.4	24
27	13	9	9	23	15	16	21	15	15	10	4	3	3	**IZS**	2	3	14	4	7	11	5	3	17	24	24	10.7	24
28	6	3	8	20	36	56	38	11	5	10	13	4	**IZS**	5	3	4	3	14	3	9	5	2	8	8	56	11.9	24
29	10	7	5	9	5	15	4	1	1	1	1	**IZS**	1	1	2	7	2	3	6	8	2	4	8	9	15	4.9	24
30	7	6	9	4	10	12	12	10	7	6	**IZS**	5	2	4	3	2	2	1	1	3	4	5	4	11	12	5.7	24
31	8	8	11	6	7	17	26	26	16	**IZS**	3	3	2	4	2	2	3	2	3	3	15	3	3	5	26	7.7	24
HOURLY MAX	36	36	35	46	210	68	71	63	46	33	15	10	8	14	10	11	15	15	30	125	63	85	49	37			
HOURLY AVG	11.4	10.8	11.3	12.9	18.4	18.6	16.5	18.8	12.6	6.5	5.3	4.2	3.4	4.4	4.2	4.4	5.4	5.4	9.5	17.0	15.3	15.8	11.9	11.7			

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

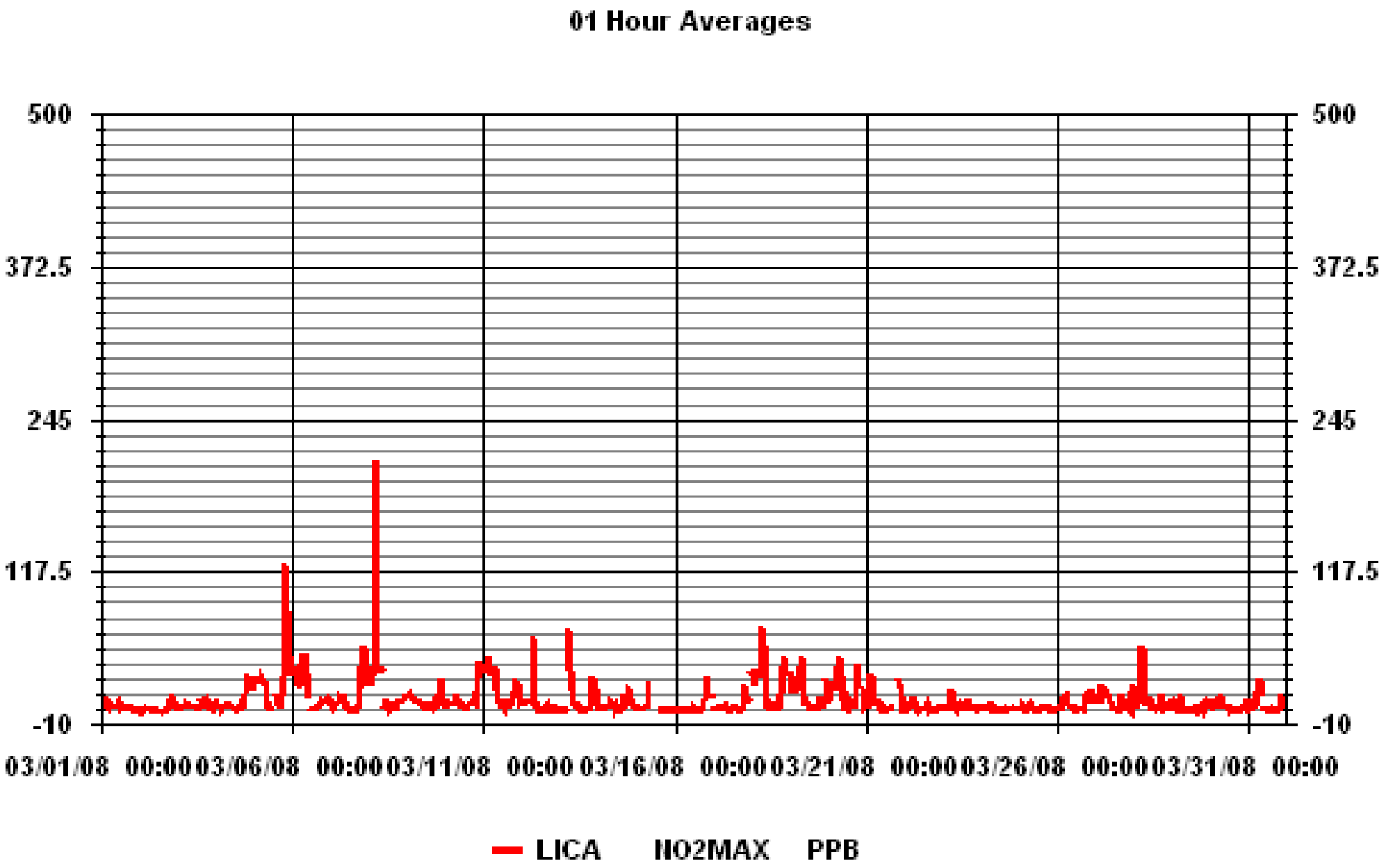
NUMBER OF NON-ZERO READINGS: 702

MAXIMUM INSTANTANEOUS VALUE: 210 PPB @ HOUR(S) 8 ON DAY(S) 5

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 742 HRS

MONTHLY CALIBRATION TIME: 8 HRS

STANDARD DEVIATION 14.38


01 Hour Averages
500
372.5
245
117.5
-10
03/01/08 00:00
03/06/08 00:00
03/11/08 00:00
03/16/08 00:00
03/21/08 00:00
03/26/08 00:00
03/31/08 00:00
LICA NO2MAX PPB

Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MARCH 2008

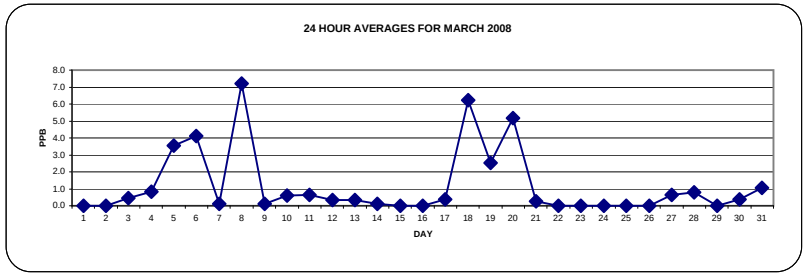
NITRIC OXIDE hourly averages in ppb

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	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0.0	24
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0.0	24
3	0	0	0	0	0	0	0	0	1	1	1	1	1	2	IZS	2	1	0	0	0	0	0	0	0	2	0.4	24
4	0	0	0	0	0	0	0	0	3	4	4	3	2	IZS	1	1	1	0	0	0	0	0	0	0	4	0.8	24
5	0	0	0	0	0	0	0	0	0	0	0	0	IZS	1	2	2	0	0	0	6	8	41	18	4	41	3.6	24
6	3	3	3	1	0	2	0	14	45	14	8	IZS	1	1	0	0	0	0	0	0	0	0	0	0	45	4.1	24
7	0	0	0	0	0	0	0	0	2	1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.1	24
8	0	0	3	1	46	17	17	31	46	IZS	2	1	0	1	1	0	0	0	0	0	0	0	0	0	46	7.2	24
9	0	0	0	0	0	0	0	0	IZS	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
10	0	0	0	0	0	0	0	IZS	1	1	1	1	0	0	0	0	0	0	0	0	0	2	4	4	4	0.6	24
11	3	5	3	1	0	0	IZS	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	5	0.7	24
12	0	0	0	0	0	IZS	0	6	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0.3	24
13	0	0	0	0	IZS	5	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0.3	24
14	0	0	0	IZS	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
15	0	0	IZS	0	0	0	0	0	C	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0.0	24
16	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
17	IZS	0	0	0	0	0	0	0	0	1	1	1	2	2	1	0	0	0	0	0	0	0	0	IZS	2	0.4	24
18	1	0	0	4	6	20	36	53	17	1	1	1	0	0	0	0	0	0	0	0	2	0	IZS	1	53	6.2	24
19	1	0	0	0	0	0	4	33	14	1	2	1	1	1	0	0	0	0	0	0	0	IZS	0	0	33	2.5	24
20	0	0	0	0	2	11	24	49	24	6	3	0	0	0	0	0	0	0	0	0	IZS	0	0	0	49	5.2	24
21	0	0	0	2	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	2	0.3	24
22	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
23	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
24	0	0	0	0	0	0	0	0	0	0	M	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0.0	23
25	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
26	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
27	0	0	0	0	0	0	2	3	5	3	1	1	0	IZS	0	0	0	0	0	0	0	0	0	0	5	0.7	24
28	0	0	0	0	6	5	4	1	0	1	1	0	IZS	0	0	0	0	0	0	0	0	0	0	0	6	0.8	24
29	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
30	0	0	0	0	0	0	1	3	3	2	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.4	24
31	0	0	0	0	0	0	8	11	4	IZS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	11	1.0	24
HOURLY MAX	3	5	3	4	46	20	36	53	46	14	8	3	2	2	2	2	1	0	0	6	8	41	18	4			
HOURLY AVG	0.3	0.3	0.3	0.3	2.0	2.0	3.2	6.9	5.8	1.5	1.1	0.4	0.3	0.3	0.2	0.2	0.1	0.0	0.0	0.2	0.3	1.4	0.7	0.3			

STATUS FLAG CODES

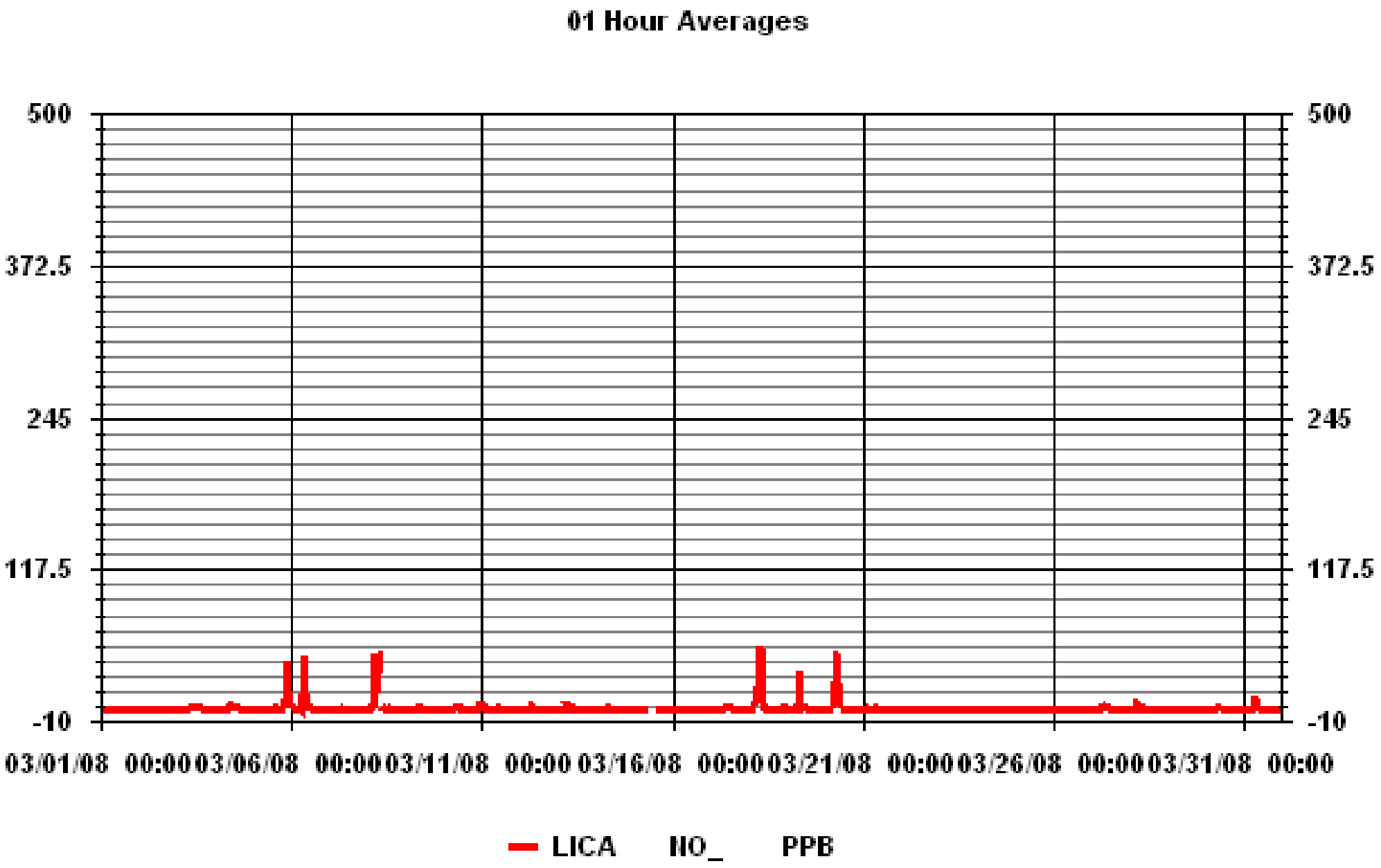
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	134					
MAXIMUM 1-HR AVERAGE:	53	PPB	@ HOUR(S)	8	ON DAY(S)	18
MAXIMUM 24-HR AVERAGE:	7.2	PPB			ON DAY(S)	8

IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	743	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	5.32		MONTHLY AVERAGE:	1.17	PPB


01 Hour Averages
500
372.5
245
117.5
-10
03/01/08 00:00
03/06/08 00:00
03/11/08 00:00
03/16/08 00:00
03/21/08 00:00
03/26/08 00:00
03/31/08 00:00
LICA NO_ PPB

LICA
NO_ / WD Joint Frequency Distribution (Percent)

March 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	1.70	7.52	8.38	4.54	13.77	8.80	7.67	1.56	1.13	2.41	17.32	8.52	5.53	2.69	5.68	2.55	99.85
< 110	.00	.00	.00	.14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	1.70	7.52	8.38	4.68	13.77	8.80	7.67	1.56	1.13	2.41	17.32	8.52	5.53	2.69	5.68	2.55	

Calm : .00 %

Total # Operational Hours : 704

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	12	53	59	32	97	62	54	11	8	17	122	60	39	19	40	18	703
< 110				1													1
< 210																	
>= 210																	
Totals	12	53	59	33	97	62	54	11	8	17	122	60	39	19	40	18	

Calm : .00 %

Total # Operational Hours : 704

Logger : 01 Parameter : NO_

Class Limits (PPB)

>= 210

< 210

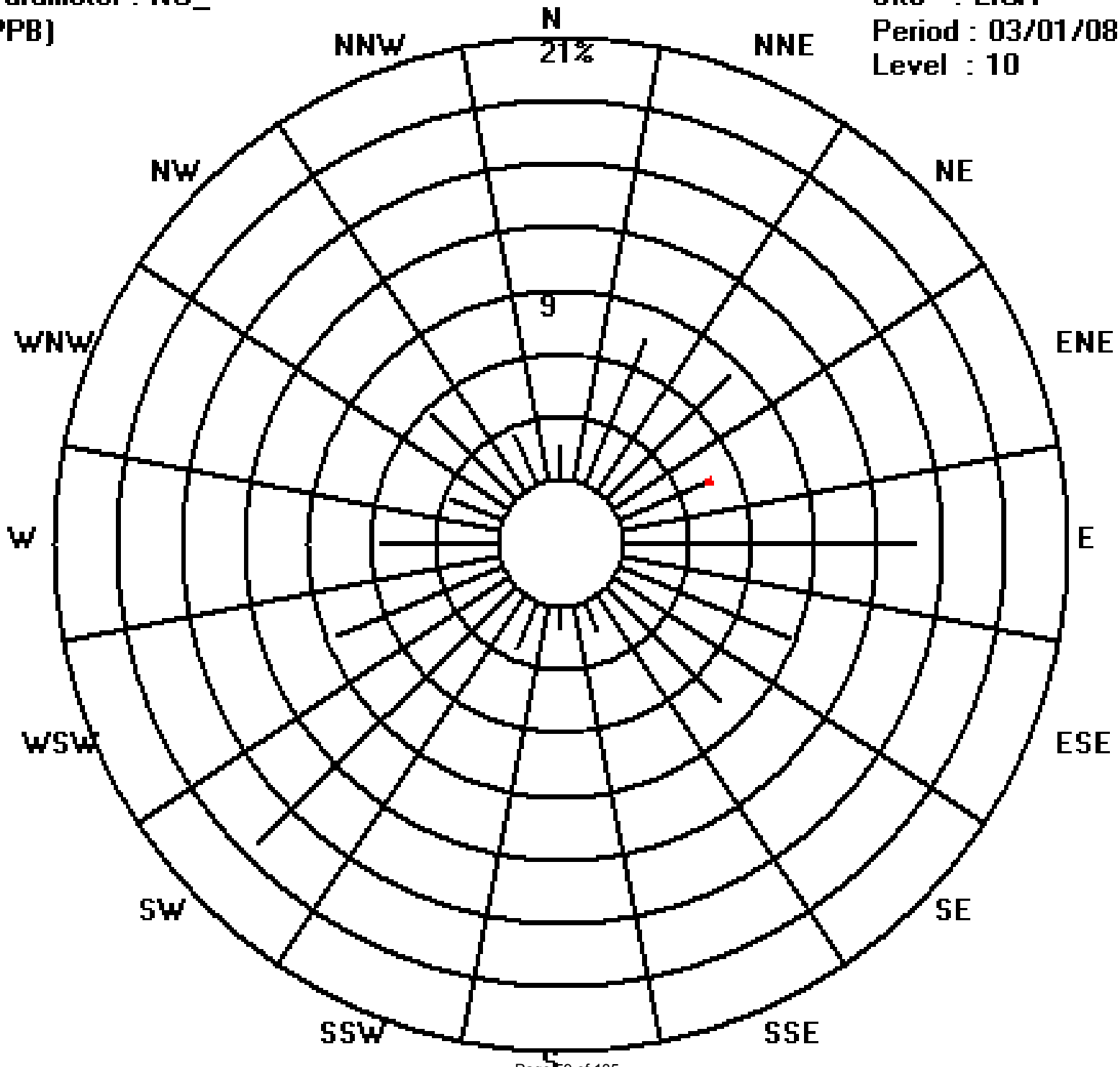
< 110

< 50

Site : LICA

Period : 03/01/08-03/31/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MARCH 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	2	0	1	1	1	1	3	1	1	0	2	3	0	1	0	0	**IZS**	0	0	0	0	0	0	0	3	0.7	24
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**IZS**	4	0	0	2	0	0	1	2	4	0.4	24
3	0	1	1	1	1	2	9	2	9	2	9	8	4	29	**IZS**	14	7	4	8	0	0	0	0	0	29	4.8	24
4	0	0	0	0	0	0	0	2	4	5	5	4	2	**IZS**	7	2	12	1	1	6	3	3	2	0	12	2.6	24
5	8	3	1	4	7	1	2	13	3	1	1	1	**IZS**	12	3	5	1	1	5	103	52	255	62	13	255	24.2	24
6	19	17	17	4	4	15	1	52	67	53	14	**IZS**	3	6	0	4	2	2	0	2	4	4	2	0	67	12.7	24
7	1	0	0	0	0	0	0	1	3	1	**IZS**	0	0	0	0	0	0	0	0	17	2	31	3	11	31	3.0	24
8	0	0	13	8	485	31	31	53	64	**IZS**	2	14	0	3	2	1	0	0	0	0	1	0	0	0	485	30.8	24
9	0	0	0	0	0	0	0	0	**IZS**	1	2	1	1	1	1	0	1	0	0	1	0	3	0	0	3	0.5	24
10	0	1	0	0	0	0	0	**IZS**	2	1	1	1	1	1	1	2	2	7	0	0	4	12	8	13	13	2.5	24
11	7	10	14	23	1	4	**IZS**	13	2	1	2	2	3	0	2	8	2	0	0	0	2	0	0	0	23	4.2	24
12	0	0	0	0	0	**IZS**	0	164	3	1	0	0	0	0	0	2	5	0	0	0	0	0	0	0	164	7.6	24
13	0	0	0	0	**IZS**	102	5	1	2	2	2	7	1	0	0	2	1	0	0	0	12	1	3	1	102	6.2	24
14	0	0	1	**IZS**	1	0	0	7	4	2	1	2	5	0	1	1	2	2	5	5	1	1	1	0	7	1.8	24
15	1	1	**IZS**	1	1	1	1	1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	0	3	0	3	0.7	24
16	0	**IZS**	0	0	0	0	1	1	1	0	1	1	5	1	1	1	1	0	0	0	8	4	4	0	8	1.3	24
17	**IZS**	0	0	0	1	1	0	3	1	3	2	2	3	2	2	1	0	0	0	0	0	0	0	**IZS**	3	1.0	24
18	4	9	2	14	11	53	70	76	51	4	7	4	1	1	1	2	4	0	0	13	20	2	**IZS**	2	76	15.3	24
19	3	0	0	2	0	6	13	84	51	1	4	2	2	1	1	1	0	0	0	0	0	**IZS**	11	1	84	8.0	24
20	0	4	4	2	8	27	54	94	51	8	9	2	5	6	2	1	2	2	0	9	**IZS**	4	0	0	94	12.8	24
21	0	1	0	21	4	2	1	3	6	2	1	0	1	1	1	1	0	**P**	6	**IZS**	4	1	1	0	21	2.6	23
22	0	0	1	1	4	1	1	1	0	2	6	1	1	8	7	0	7	0	**IZS**	0	0	0	0	0	8	1.8	24
23	0	0	0	0	3	4	0	1	1	1	1	1	1	0	1	1	1	**IZS**	0	0	1	0	0	0	4	0.7	24
24	0	0	0	0	0	2	3	0	0	0	**M**	0	0	0	0	0	**IZS**	6	7	7	8	7	7	7	8	2.5	23
25	0	0	0	0	0	0	0	0	0	0	0	0	0	15	3	**IZS**	3	5	1	0	0	0	0	0	15	1.2	24
26	0	0	1	1	1	6	3	1	3	2	1	1	1	8	**IZS**	2	0	4	0	3	0	16	1	0	16	2.4	24
27	7	0	1	6	2	2	6	5	9	6	2	1	1	**IZS**	1	0	3	0	0	0	18	0	2	6	18	3.4	24
28	0	0	0	2	67	28	61	3	2	5	6	3	**IZS**	3	4	1	0	5	1	0	0	0	0	0	67	8.3	24
29	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	4	0	2	2	0	1	0	0	0	0	0	4	0.4	24
30	0	0	0	0	0	0	2	5	5	4	**IZS**	0	0	10	4	0	0	0	0	0	0	0	0	0	10	1.3	24
31	0	0	0	0	0	2	22	22	14	**IZS**	1	1	0	3	0	0	1	0	0	0	0	0	0	0	22	2.9	24
HOURLY MAX	19	17	17	23	485	102	70	164	67	53	14	14	5	29	7	14	12	7	8	103	52	255	62	13			
HOURLY AVG	1.7	1.6	1.9	3.0	20.1	9.7	9.6	20.3	12.4	3.9	3.0	2.2	1.5	4.1	1.6	1.9	2.2	1.3	1.2	5.6	4.7	11.5	3.7	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

MONTHLY SUMMARY

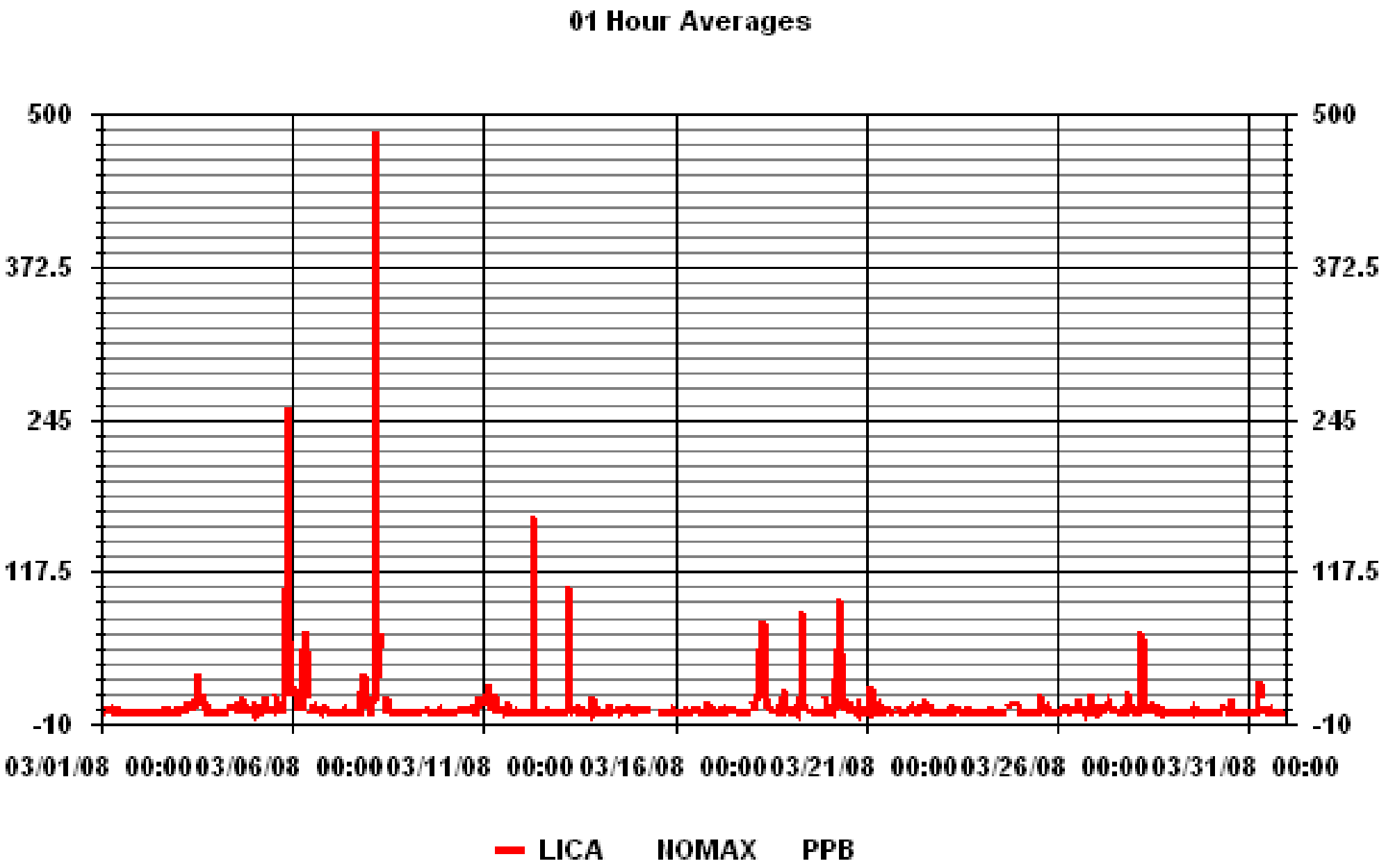
NUMBER OF NON-ZERO READINGS: 399

MAXIMUM INSTANTANEOUS VALUE: 485 PPB @ HOUR(S) 22 ON DAY(S) 5

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 742 HRS

MONTHLY CALIBRATION TIME: 8 HRS

STANDARD DEVIATION 24.35


01 Hour Averages
500
372.5
245
117.5
-10
03/01/08 00:00
03/06/08 00:00
03/11/08 00:00
03/16/08 00:00
03/21/08 00:00
03/26/08 00:00
03/31/08 00:00
LICA NOMAX PPB

Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MARCH 2008

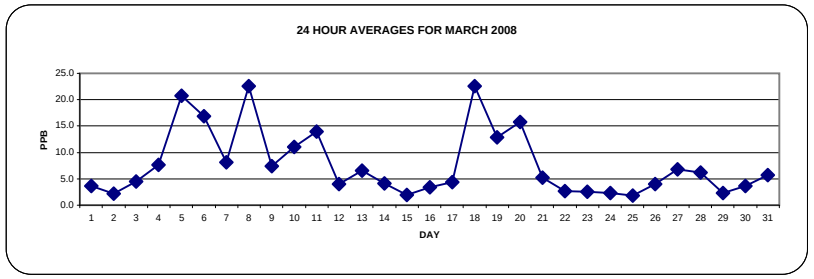
OXIDES OF NITROGEN hourly averages in ppb

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	7	6	7	4	4	4	4	4	3	3	3	4	4	4	4	3	**IZS**	5	3	3	2	1	1	1	7	3.7	24
2	1	2	1	2	3	2	2	2	1	1	1	1	1	1	1	**IZS**	2	2	3	3	7	4	3	4	7	2.2	24
3	4	4	5	3	4	5	5	5	5	4	4	4	4	5	**IZS**	6	7	7	7	4	5	3	2	2	7	4.5	24
4	5	6	3	1	2	4	6	7	10	9	9	6	5	**IZS**	5	4	5	6	9	12	19	12	15	15	19	7.6	24
5	17	22	18	16	25	25	18	11	8	4	3	3	**IZS**	4	5	8	7	10	14	41	43	84	55	37	84	20.8	24
6	34	34	31	22	11	21	14	38	78	30	17	**IZS**	4	3	3	3	4	3	5	6	7	7	6	7	78	16.9	24
7	5	3	4	6	5	8	10	10	11	6	**IZS**	3	3	2	2	2	1	2	5	19	16	21	19	25	25	8.2	24
8	15	21	33	31	84	50	47	62	80	**IZS**	7	6	4	4	5	5	4	5	7	8	8	10	11	12	84	22.6	24
9	12	12	13	12	11	10	8	8	**IZS**	7	6	5	5	4	3	3	3	3	6	10	8	8	6	6	13	7.3	24
10	5	6	6	7	7	7	9	**IZS**	9	6	6	6	4	4	5	6	7	8	7	9	21	31	40	38	40	11.0	24
11	36	39	29	24	23	27	**IZS**	20	14	9	8	7	6	3	3	2	3	3	6	12	14	13	12	8	39	14.0	24
12	8	7	7	6	6	**IZS**	6	14	7	5	2	2	2	2	2	2	2	2	2	2	2	2	1	1	14	4.0	24
13	1	2	1	3	**IZS**	27	16	13	10	8	6	5	4	2	1	2	2	2	2	7	12	9	7	10	27	6.6	24
14	3	2	3	**IZS**	4	4	5	6	5	4	2	2	2	2	2	2	3	4	8	15	8	4	4	2	15	4.2	24
15	3	3	**IZS**	3	4	4	3	3	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2	1	1	1	1	1	1	1	0	4	2.0	24
16	0	**IZS**	1	1	1	1	1	2	1	1	1	1	1	1	2	3	3	3	5	9	13	7	10	11	13	3.4	24
17	**IZS**	2	2	3	3	3	5	5	4	4	4	4	6	6	6	2	1	2	2	10	8	8	7	**IZS**	10	4.4	24
18	29	27	17	32	33	47	68	86	33	5	5	4	3	4	3	2	3	3	6	19	26	31	**IZS**	32	86	22.5	24
19	30	7	10	13	12	17	28	66	35	6	9	5	5	5	5	4	3	3	5	7	5	**IZS**	11	6	66	12.9	24
20	7	7	13	14	17	31	48	77	45	18	11	4	4	4	2	2	2	4	11	26	**IZS**	11	3	3	77	15.8	24
21	3	4	5	12	9	5	6	6	4	3	2	2	2	2	2	1	2	5	8	**IZS**	12	16	6	2	16	5.2	24
22	2	2	3	3	4	5	5	4	2	2	3	2	2	2	2	2	3	2	IZS	2	2	2	3	2	5	2.7	24
23	3	3	2	2	3	5	4	5	3	2	2	2	2	2	2	3	2	**IZS**	3	2	2	1	1	3	5	2.6	24
24	3	2	3	3	3	4	4	3	2	2	**M**	1	2	1	1	1	**IZS**	2	2	2	3	2	2	2	4	2.3	23
25	1	2	3	1	1	3	5	4	2	2	1	1	1	2	2	**IZS**	2	2	3	3	1	1	0	0	5	1.9	24
26	2	2	3	3	6	6	6	4	3	3	2	2	2	2	**IZS**	2	2	2	4	9	5	6	6	9	9	4.0	24
27	10	7	7	8	10	11	19	13	15	8	4	3	3	**IZS**	2	1	2	3	3	5	3	1	8	11	19	6.8	24
28	4	2	4	11	27	25	16	8	4	5	5	3	**IZS**	2	2	2	2	3	2	3	2	1	2	7	27	6.2	24
29	6	4	3	5	4	7	1	0	0	0	0	**IZS**	1	1	1	1	1	1	2	4	1	1	5	5	7	2.3	24
30	4	3	5	3	5	7	10	11	10	6	**IZS**	1	1	1	1	0	1	1	1	1	2	3	3	4	11	3.7	24
31	5	5	5	4	5	9	27	27	12	**IZS**	4	3	2	2	1	1	1	1	2	2	5	2	2	3	27	5.7	24
HOURLY MAX	36	39	33	32	84	50	68	86	80	30	17	7	6	6	6	8	7	10	14	41	43	84	55	38			
HOURLY AVG	8.8	8.3	8.2	8.6	11.2	12.8	13.5	17.5	14.3	5.8	4.7	3.3	3.0	2.8	2.7	2.7	2.8	3.3	4.8	8.5	8.8	10.1	8.4	8.9			

STATUS FLAG CODES

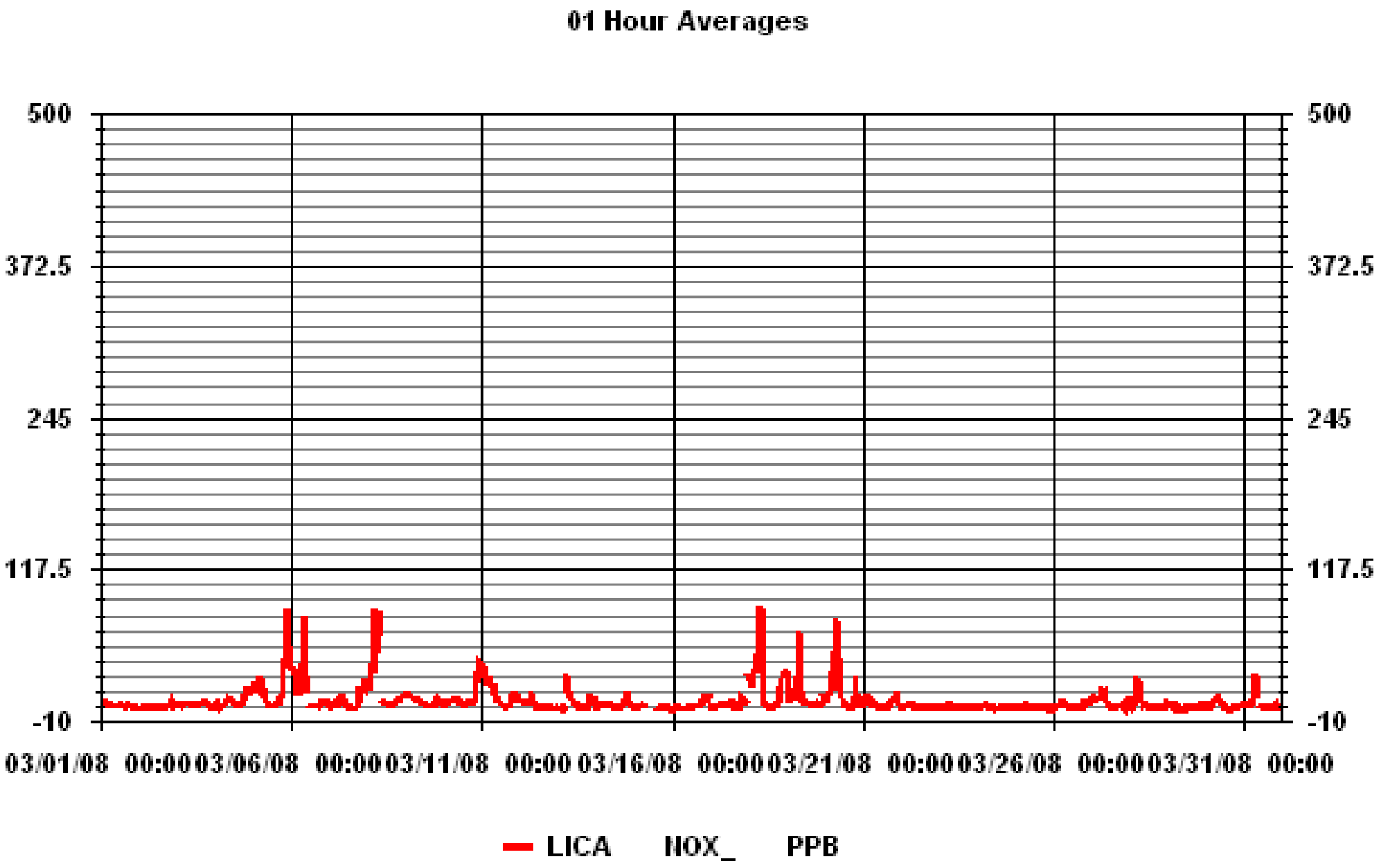
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	695					
MAXIMUM 1-HR AVERAGE:	86	PPB	@ HOUR(S)	8	ON DAY(S)	18
MAXIMUM 24-HR AVERAGE:	22.6	PPB			ON DAY(S)	8

IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	743	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	11.41		MONTHLY AVERAGE:	7.74	PPB


01 Hour Averages
500
372.5
245
117.5
-10
03/01/08 00:00
03/06/08 00:00
03/11/08 00:00
03/16/08 00:00
03/21/08 00:00
03/26/08 00:00
03/31/08 00:00
LICA NOX_ PPB

LICA
NOX_ / WD Joint Frequency Distribution (Percent)

March 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	1.70	7.52	8.23	4.26	13.21	8.66	7.52	1.56	1.13	2.41	17.32	8.52	5.39	2.69	5.68	2.55	98.43
<	110	.00	.00	.14	.42	.56	.14	.14	.00	.00	.00	.00	.00	.14	.00	.00	.00	1.56
<	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	1.70	7.52	8.38	4.68	13.77	8.80	7.67	1.56	1.13	2.41	17.32	8.52	5.53	2.69	5.68	2.55	

Calm : .00 %

Total # Operational Hours : 704

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	12	53	58	30	93	61	53	11	8	17	122	60	38	19	40	18	693
<	110			1	3	4	1	1						1				11
<	210																	
>=	210																	
	Totals	12	53	59	33	97	62	54	11	8	17	122	60	39	19	40	18	

Calm : .00 %

Total # Operational Hours : 704

Logger : 01 Parameter : NOX_

Class Limits (PPB)

>= 210

< 210

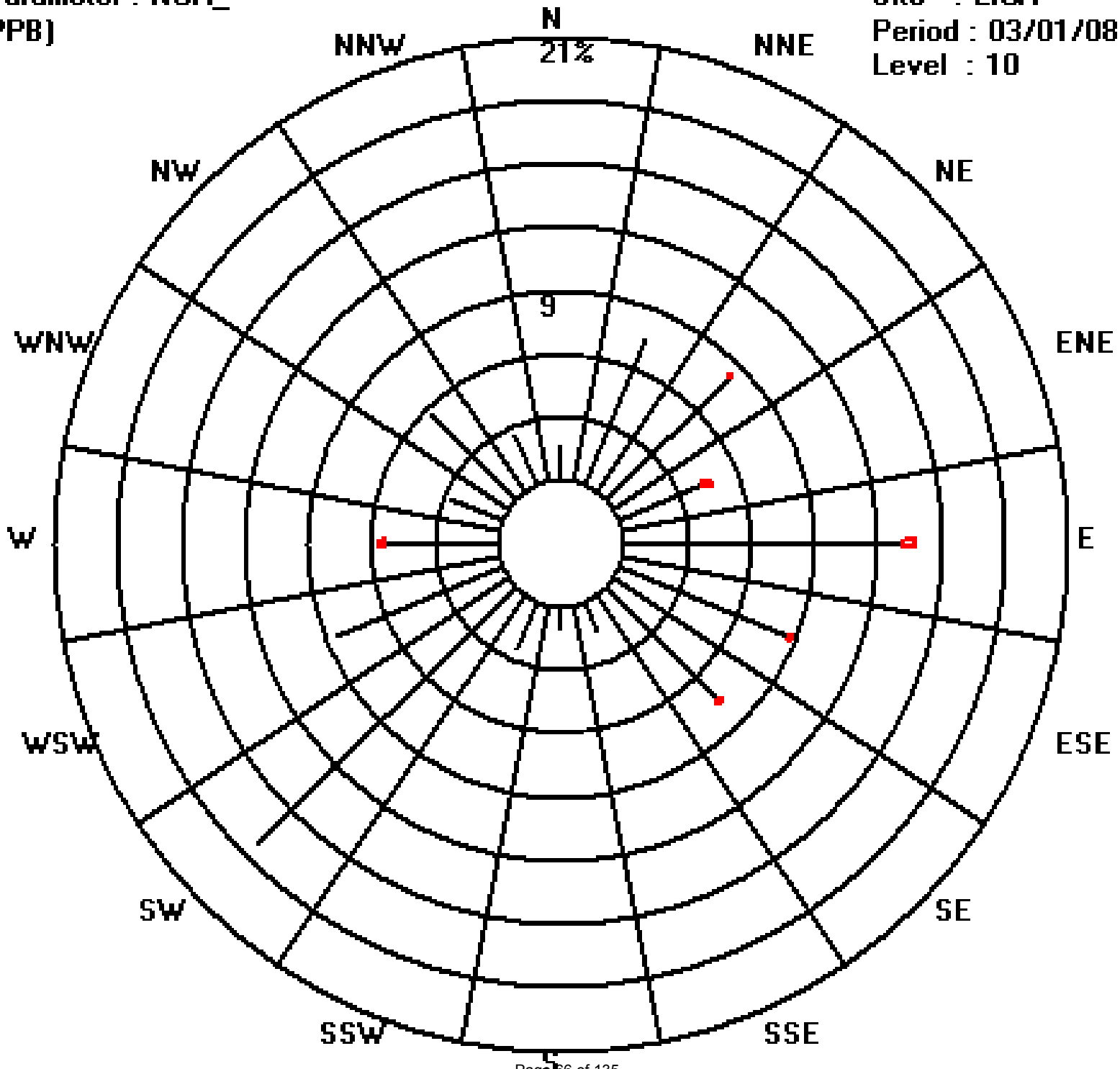
< 110

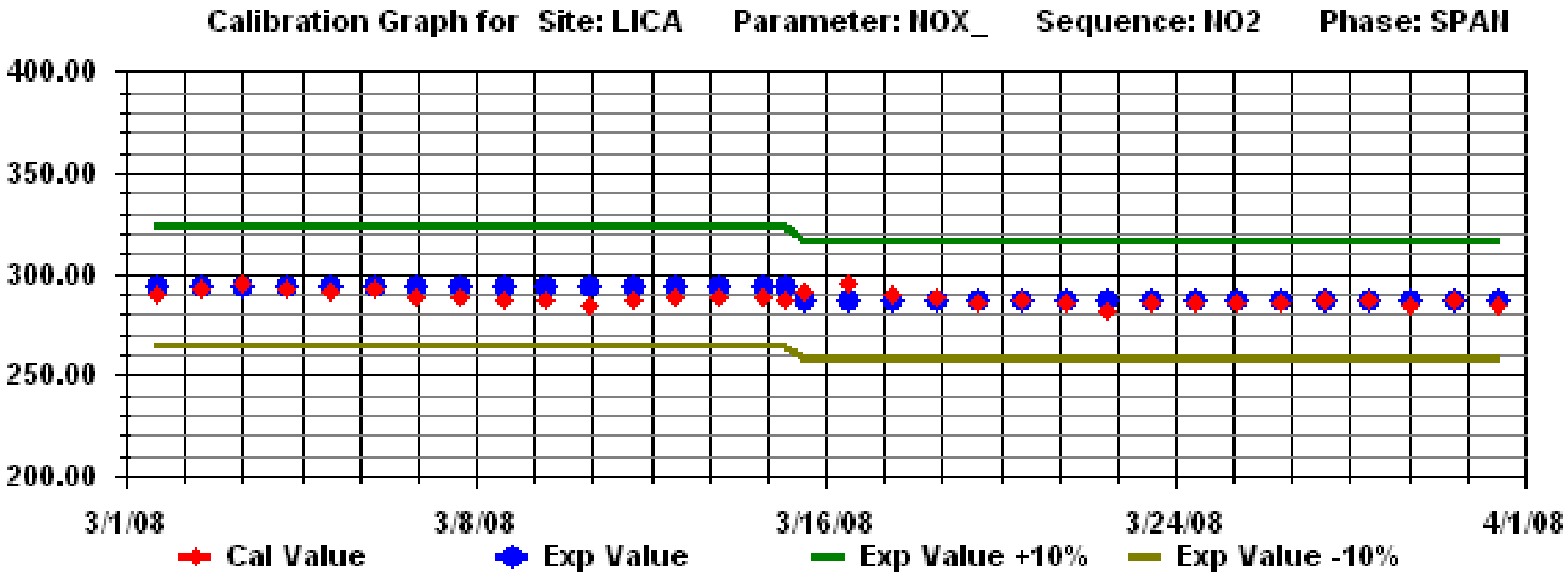
< 50

Site : LICA

Period : 03/01/08-03/31/08

Level : 10




Calibration Graph for Site: LICA Parameter: NOX_ Sequence: NO2 Phase: SPAN
400.00
350.00
300.00
250.00
200.00
3/1/08
3/8/08
3/16/08
3/24/08
4/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MARCH 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	13	10	10	7	5	9	8	8	6	6	6	12	5	6	4	4	**IZS**	6	4	4	2	2	2	2	13	6.1	24
2	1	3	2	3	4	3	3	3	3	2	2	2	2	2	2	**IZS**	6	3	4	13	15	8	5	7	15	4.3	24
3	6	6	7	6	6	10	14	9	9	7	9	12	9	30	**IZS**	26	19	13	18	6	7	4	3	8	30	10.6	24
4	9	7	5	2	4	6	7	10	12	12	12	8	6	**IZS**	12	7	13	10	16	36	33	26	24	19	36	12.9	24
5	35	34	26	33	41	30	31	39	15	8	5	5	**IZS**	25	8	13	10	15	36	228	113	334	112	49	334	54.1	24
6	57	51	53	29	26	54	22	96	107	86	29	**IZS**	7	8	4	4	8	10	10	12	11	14	10	13	107	31.3	24
7	9	4	6	7	10	14	13	13	15	7	**IZS**	4	3	2	3	3	6	6	20	56	37	90	40	49	90	18.1	24
8	24	29	44	43	500	68	68	89	103	**IZS**	9	25	4	7	11	6	5	6	9	10	11	11	15	13	500	48.3	24
9	14	13	15	13	12	10	9	10	**IZS**	8	8	6	6	7	9	6	4	4	13	16	14	29	9	8	29	10.6	24
10	7	10	7	8	7	9	13	**IZS**	11	9	7	8	6	5	8	11	11	14	8	18	28	56	48	51	56	15.7	24
11	43	46	47	69	32	42	**IZS**	50	23	12	11	10	9	5	13	6	12	5	11	17	27	25	16	9	69	23.5	24
12	9	8	9	9	9	**IZS**	7	225	14	8	3	2	3	3	5	6	10	2	2	2	4	4	1	1	225	15.0	24
13	3	3	2	3	**IZS**	148	41	20	13	12	8	14	5	4	3	3	4	3	5	14	42	16	13	15	148	17.1	24
14	9	3	8	**IZS**	7	6	6	16	11	9	5	9	4	3	4	5	18	8	26	22	13	7	8	4	26	9.2	24
15	5	5	**IZS**	5	7	6	6	26	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	3	3	2	2	2	2	3	1	26	5.2	24
16	1	**IZS**	2	2	3	3	3	5	3	2	3	7	5	4	4	3	4	4	11	14	36	21	20	16	36	7.7	24
17	**IZS**	3	3	4	4	5	6	10	6	5	7	5	9	8	8	5	2	3	5	24	14	11	12	**IZS**	24	7.2	24
18	38	43	26	48	40	82	142	132	81	10	13	6	5	10	6	5	4	4	16	43	67	36	**IZS**	35	142	38.8	24
19	35	16	19	21	18	35	44	128	84	7	12	8	9	8	7	8	4	4	7	12	7	**IZS**	37	8	128	23.4	24
20	10	20	28	25	29	56	90	129	83	23	21	8	6	19	7	6	8	6	20	41	**IZS**	20	4	5	129	28.9	24
21	6	6	9	54	16	9	9	11	13	6	4	3	6	4	4	5	4	**P**	30	**IZS**	31	23	15	3	54	12.3	23
22	3	4	5	5	13	15	7	8	3	6	6	5	4	13	10	3	10	3	**IZS**	4	3	4	5	5	15	6.3	24
23	4	6	3	3	9	23	5	10	6	5	8	4	10	4	5	10	10	**IZS**	5	4	5	2	3	5	23	6.5	24
24	5	5	7	5	5	8	13	5	6	3	**M**	3	3	3	5	2	**IZS**	3	3	3	5	3	3	4	13	4.6	23
25	3	7	5	1	2	6	8	6	3	3	2	1	2	6	10	**IZS**	4	8	5	6	3	1	1	2	10	4.1	24
26	4	6	6	7	13	15	10	8	7	5	4	6	3	4	**IZS**	6	4	19	7	20	8	37	9	12	37	9.6	24
27	17	9	11	30	17	18	24	19	23	16	7	5	4	**IZS**	4	3	17	4	8	11	8	3	18	30	30	13.3	24
28	6	3	8	23	102	75	78	13	6	16	20	6	**IZS**	9	7	6	4	19	4	9	5	3	8	8	102	19.0	24
29	11	7	5	9	6	15	4	1	1	1	1	**IZS**	2	4	2	10	3	3	7	8	3	5	8	9	15	5.4	24
30	7	7	9	4	10	12	13	15	13	10	**IZS**	6	3	13	6	2	3	1	1	3	4	6	5	11	15	7.1	24
31	8	8	11	6	6	19	47	49	30	**IZS**	5	5	3	7	3	3	4	2	3	3	15	3	3	5	49	10.8	24
HOURLY MAX	57	51	53	69	500	148	142	225	107	86	29	25	10	30	13	26	19	19	36	228	113	334	112	51			
HOURLY AVG	13.4	12.7	13.3	16.1	32.1	27.0	25.0	38.8	24.5	10.9	8.4	7.0	5.1	8.0	6.2	6.3	7.4	6.6	10.5	22.0	19.1	26.9	15.3	13.6			

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

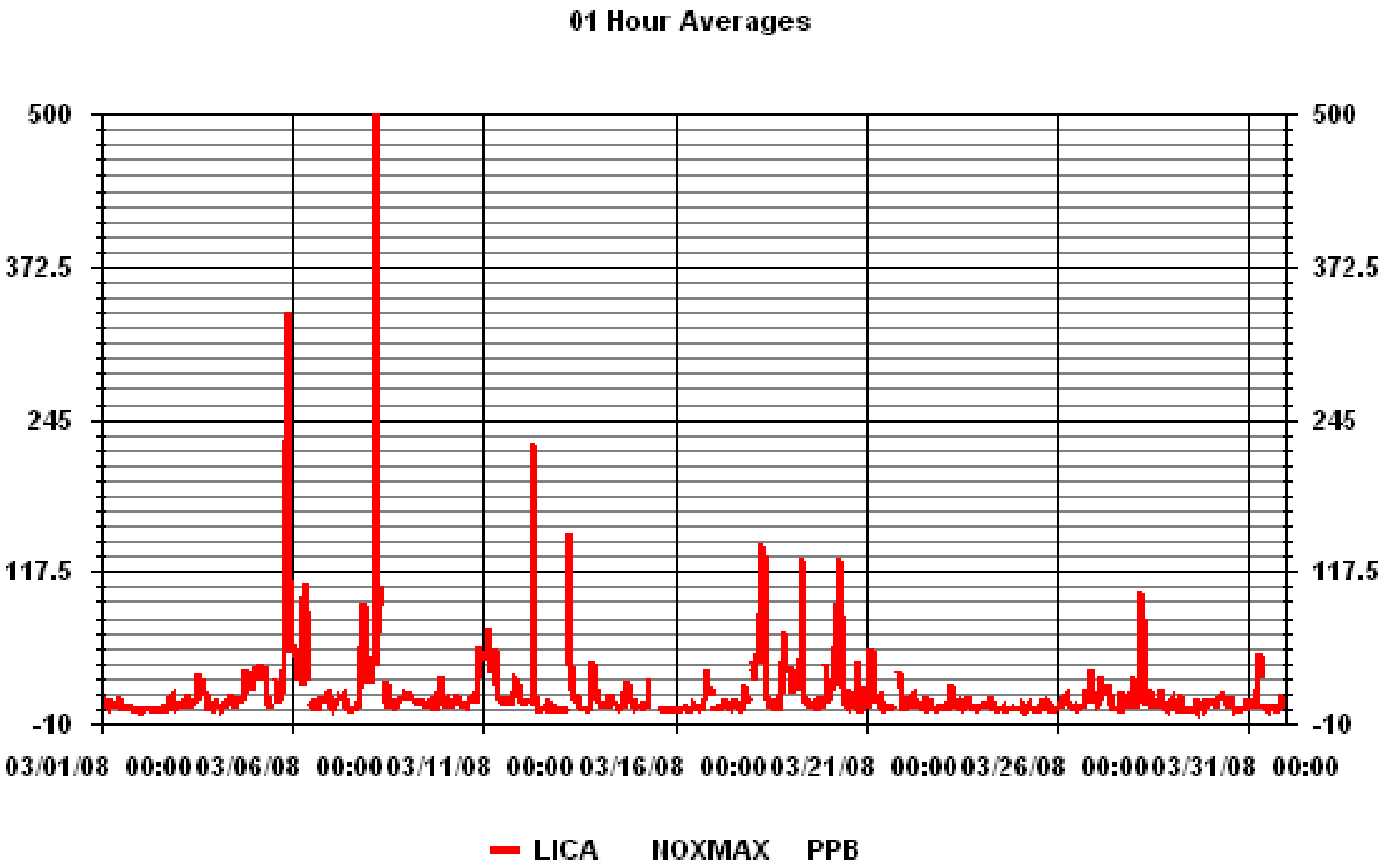
NUMBER OF NON-ZERO READINGS: 702

MAXIMUM INSTANTANEOUS VALUE: 500 PPB @ HOUR(S) 5 ON DAY(S) 8

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 742 HRS

MONTHLY CALIBRATION TIME: 8 HRS

STANDARD DEVIATION 31.56


01 Hour Averages
500
372.5
245
117.5
-10
03/01/08 00:00
03/06/08 00:00
03/11/08 00:00
03/16/08 00:00
03/21/08 00:00
03/26/08 00:00
03/31/08 00:00
LICA NOXMAX PPB

Ozone

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MARCH 2008

OZONE (O_3) hourly averages in ppb

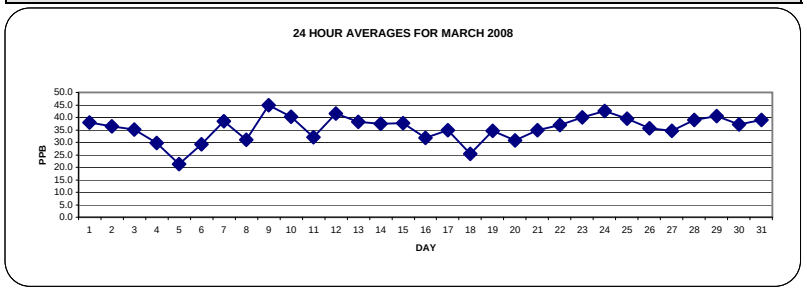
MST

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	38	38	38	40	40	39	39	39	40	40	41	40	40	39	38	37	**IZS**	32	34	35	36	36	36	37	41	37.9	24
2	39	39	39	38	37	37	36	36	35	35	36	37	37	38	38	**IZS**	38	38	36	35	30	33	35	33	39	36.3	24
3	34	35	34	35	34	34	33	33	33	34	35	35	36	36	**IZS**	36	35	35	34	36	36	37	39	38	39	35.1	24
4	34	31	32	35	32	30	28	27	26	29	29	31	33	**IZS**	35	36	37	35	30	28	22	27	19	19	37	29.8	24
5	14	9	11	18	10	9	18	28	31	34	35	36	**IZS**	37	37	36	37	33	29	13	9	4	1	2	37	21.3	24
6	5	4	5	11	20	12	16	14	13	28	33	**IZS**	39	41	44	46	47	48	44	42	41	40	40	38	48	29.2	24
7	39	41	39	36	34	29	28	33	37	44	**IZS**	49	51	52	52	53	54	53	48	29	28	24	19	11	54	38.4	24
8	19	10	3	2	2	0	1	3	9	**IZS**	42	49	54	55	54	55	56	56	52	47	43	37	35	31	56	31.1	24
9	31	30	30	33	36	39	41	43	**IZS**	48	49	51	54	57	59	59	58	56	49	39	41	43	46	42	59	45.0	24
10	37	36	43	44	43	42	40	**IZS**	42	47	48	50	54	56	55	54	52	51	49	43	23	11	2	2	56	40.2	24
11	3	1	11	16	14	14	**IZS**	27	32	36	39	43	46	50	51	51	52	50	45	35	29	31	30	31	52	32.0	24
12	30	30	32	34	38	**IZS**	39	38	40	43	46	47	46	46	47	45	42	43	43	43	42	46	50	48	50	41.7	24
13	48	47	47	44	**IZS**	24	25	27	34	38	41	42	44	47	47	47	48	47	46	36	28	26	24	19	48	38.1	24
14	37	40	39	**IZS**	37	37	35	34	34	37	39	40	40	41	42	42	41	39	34	25	34	38	38	39	42	37.5	24
15	37	36	**IZS**	36	36	36	36	37	36	37	38	39	40	41	37	37	37	38	38	39	39	39	40	39	41	37.7	24
16	39	**IZS**	38	38	38	37	35	34	**C**	**C**	**C**	**C**	35	36	35	35	35	34	31	24	18	23	19	18	39	31.7	24
17	**IZS**	32	32	31	30	30	28	29	30	30	31	32	33	36	40	46	47	47	46	34	34	36	34	**IZS**	47	34.9	24
18	5	4	10	2	0	1	2	5	23	39	41	43	46	49	53	54	53	51	45	27	17	8	**IZS**	3	54	25.3	24
19	4	32	29	24	21	19	10	7	24	40	42	46	47	50	50	51	55	55	50	41	44	**IZS**	26	30	55	34.7	24
20	27	23	11	8	5	2	1	5	19	36	43	47	49	51	52	52	52	49	41	19	**IZS**	37	41	37	52	30.7	24
21	36	34	31	26	27	29	27	28	31	31	35	38	42	43	45	47	46	42	38	**IZS**	31	23	36	39	47	35.0	24
22	39	38	36	36	35	34	33	33	35	35	35	37	38	38	38	38	38	38	**IZS**	39	40	40	39	37	40	36.9	24
23	37	36	37	37	36	34	34	32	34	34	35	36	38	42	45	44	48	**IZS**	46	47	48	47	46	45	48	39.9	24
24	43	41	39	38	38	38	38	39	40	40	**M**	43	45	46	46	47	**IZS**	47	47	46	41	45	45	43	47	42.5	23
25	44	42	41	43	43	41	39	40	42	42	43	45	45	45	42	**IZS**	37	36	32	31	32	33	34	34	45	39.4	24
26	33	34	34	34	33	33	34	34	34	35	37	39	40	40	**IZS**	42	43	42	39	34	35	34	33	26	43	35.7	24
27	24	26	29	29	26	23	19	26	30	36	40	42	44	**IZS**	46	47	47	45	43	40	43	43	29	20	47	34.7	24
28	32	37	29	18	12	21	30	35	39	40	40	42	**IZS**	46	47	48	48	48	49	48	49	50	47	39	50	38.9	24
29	38	39	41	37	37	29	38	41	41	41	40	**IZS**	40	42	43	44	45	45	43	41	45	45	39	36	45	40.4	24
30	32	32	26	28	25	21	19	22	32	38	**IZS**	47	49	47	46	47	48	49	49	47	43	41	37	30	49	37.2	24
31	27	26	24	25	23	19	10	20	37	**IZS**	45	48	50	51	51	52	52	51	50	48	43	49	49	45	52	38.9	24
HOURLY MAX	48	47	47	44	43	42	41	43	42	48	49	51	54	57	59	59	58	56	52	48	49	50	50	48			
HOURLY AVG	30.2	30.1	29.7	29.2	28.1	26.4	27.1	28.3	32.2	37.4	39.2	41.9	43.3	44.8	45.3	45.8	45.8	44.4	42.0	36.4	34.8	34.2	33.6	30.4			

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

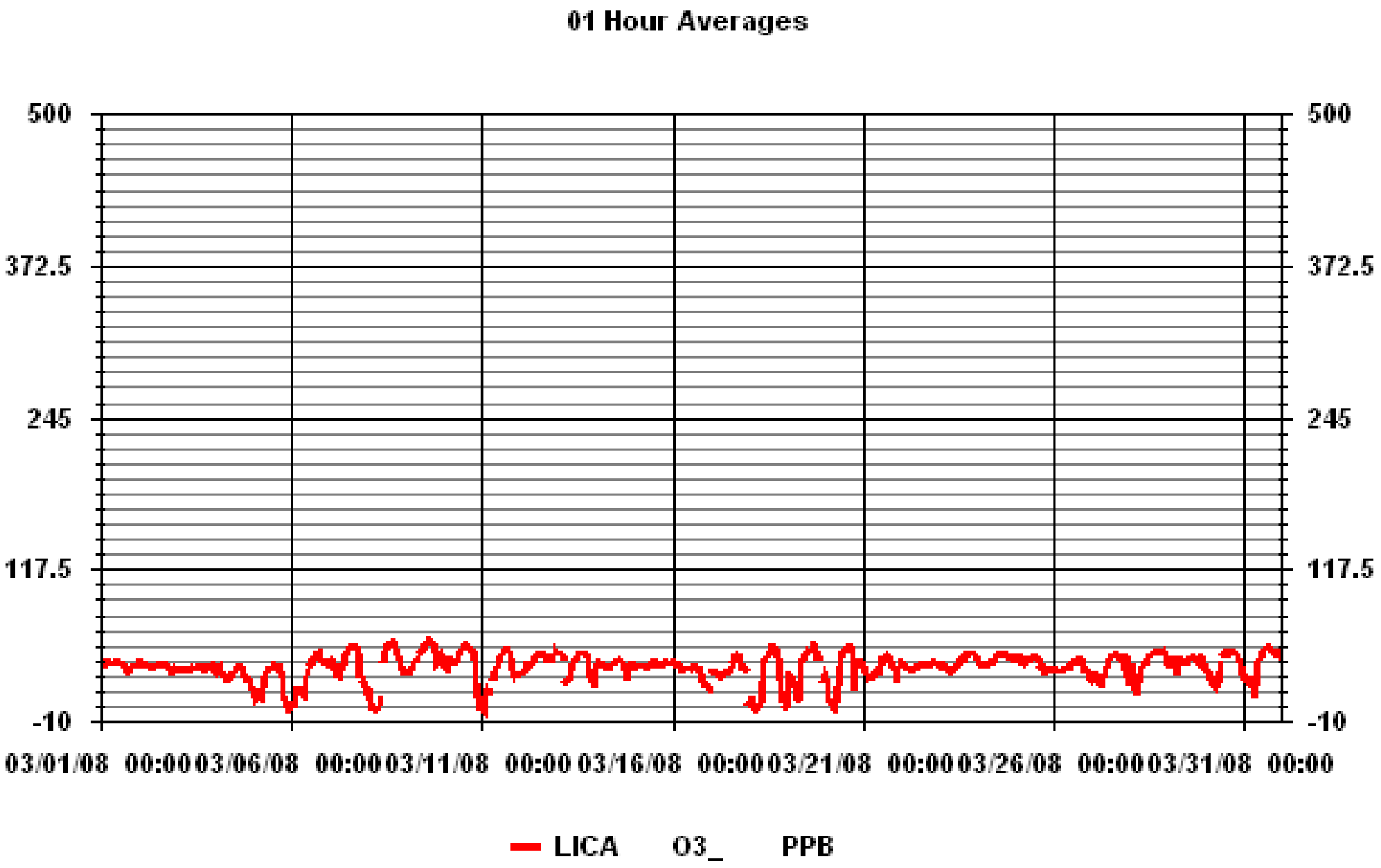
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 82 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	705					
MAXIMUM 1-HR AVERAGE:	59	PPB	@ HOUR(S)	15,16	ON DAY(S)	9
MAXIMUM 24-HR AVERAGE:	45.0	PPB			ON DAY(S)	9
					VAR-VARIOUS	

IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	743	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME	99.9	%
STANDARD DEVIATION	11.69		MONTHLY AVERAGE	35.76	PPB


01 Hour Averages
500
372.5
245
117.5
-10
03/01/08 00:00
03/06/08 00:00
03/11/08 00:00
03/16/08 00:00
03/21/08 00:00
03/26/08 00:00
03/31/08 00:00
LICA O3_ PPB

LICA
O3_ / WD Joint Frequency Distribution (Percent)

March 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	1.69	6.93	8.06	4.95	14.14	8.76	7.21	1.41	1.13	2.40	12.58	7.63	5.51	2.54	5.09	2.12	92.22
<	110	.00	.28	.28	.00	.00	.00	.42	.14	.00	.00	4.66	.84	.00	.14	.56	.42	7.77
<	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	1.69	7.21	8.34	4.95	14.14	8.76	7.63	1.55	1.13	2.40	17.25	8.48	5.51	2.68	5.65	2.54	

Calm : .00 %

Total # Operational Hours : 707

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	12	49	57	35	100	62	51	10	8	17	89	54	39	18	36	15	652
<	110		2	2				3	1			33	6		1	4	3	55
<	210																	
>=	210																	
	Totals	12	51	59	35	100	62	54	11	8	17	122	60	39	19	40	18	

Calm : .00 %

Total # Operational Hours : 707

Logger : 01 Parameter : O3_

Class Limits (PPB)

>= 210

< 210

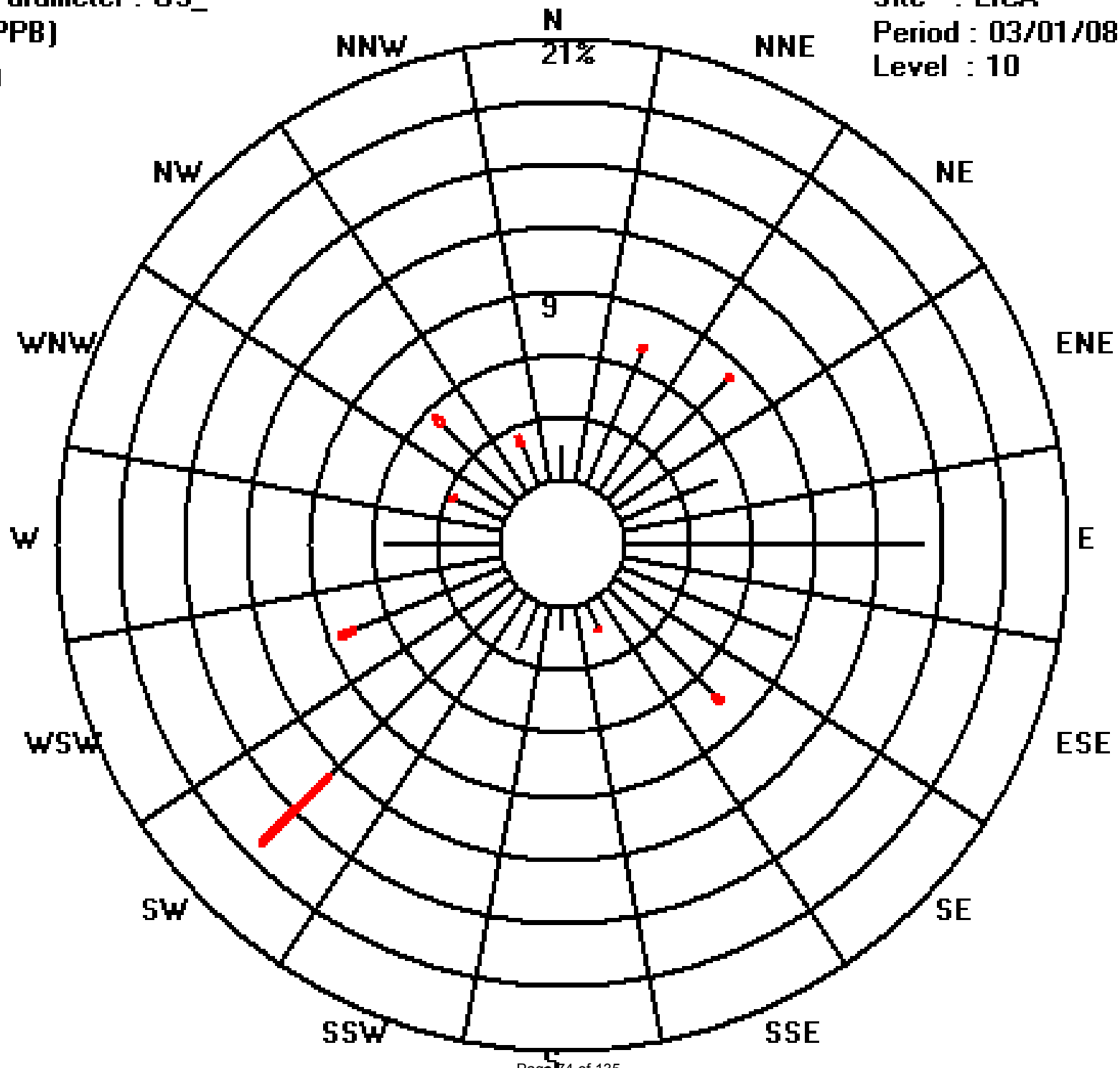
< 110

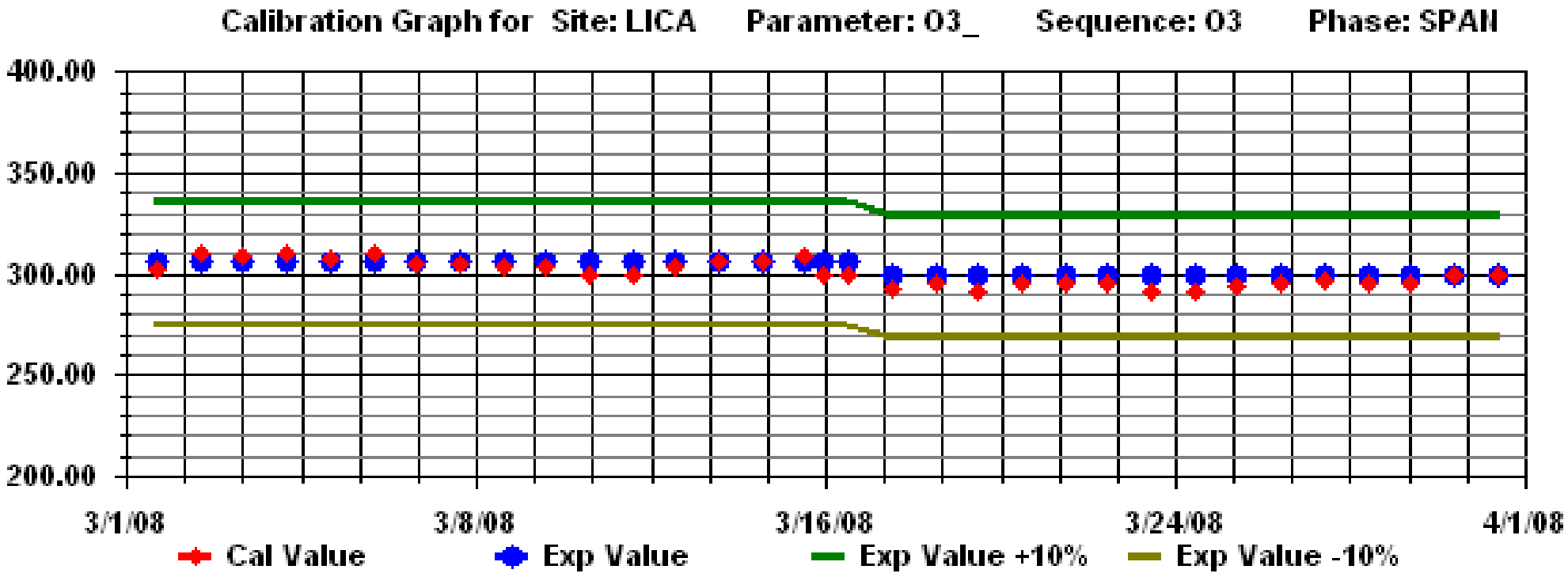
< 50

Site : LICA

Period : 03/01/08-03/31/08

Level : 10




Calibration Graph for Site: LICA Parameter: O3_ Sequence: O3 Phase: SPAN
400.00
350.00
300.00
250.00
200.00
3/1/08
3/8/08
3/16/08
3/24/08
4/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MARCH 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	41	40	40	42	41	41	41	41	41	41	41	40	41	41	39	38	**IZS**	36	36	36	37	38	37	39	42	39.5	24
2	40	40	39	38	38	38	37	37	36	36	36	38	38	38	38	**IZS**	38	38	37	37	33	36	36	35	40	37.3	24
3	36	36	36	36	36	35	34	34	35	35	36	36	37	37	**IZS**	38	37	37	36	38	37	38	39	39	39	36.4	24
4	35	32	33	37	34	31	30	28	29	30	31	32	34	**IZS**	36	37	39	37	34	35	29	29	25	25	39	32.3	24
5	17	17	17	24	19	11	28	31	33	35	36	36	**IZS**	38	38	37	38	37	40	26	24	21	3	3	40	26.5	24
6	8	8	11	14	25	18	21	21	18	34	38	**IZS**	40	42	46	47	48	49	46	44	42	41	42	41	49	32.3	24
7	41	41	41	37	36	33	33	36	43	47	**IZS**	51	52	52	52	54	54	53	52	40	42	35	35	21	54	42.7	24
8	25	16	5	10	10	1	3	5	20	**IZS**	45	53	56	56	55	56	57	57	55	50	46	41	38	34	57	34.5	24
9	32	31	32	35	39	41	43	44	**IZS**	48	50	52	56	59	59	60	60	58	55	47	50	50	51	45	60	47.7	24
10	42	40	45	45	44	43	41	**IZS**	44	48	49	53	56	56	56	55	54	52	52	47	32	24	6	5	56	43.0	24
11	7	4	27	23	20	25	**IZS**	35	35	38	41	45	49	52	52	52	52	52	48	40	38	37	35	34	52	36.6	24
12	33	33	33	36	41	**IZS**	41	40	42	45	47	47	47	47	48	48	44	44	44	44	44	50	50	49	50	43.3	24
13	49	48	47	46	**IZS**	37	32	33	36	40	43	43	46	48	48	48	49	48	48	46	38	33	32	28	49	42.0	24
14	40	40	40	**IZS**	38	38	37	36	35	48	41	41	41	42	42	43	42	40	39	29	36	39	39	39	48	39.3	24
15	37	37	**IZS**	37	37	37	37	38	37	38	39	40	42	42	41	37	38	38	39	39	39	40	41	40	42	38.7	24
16	39	**IZS**	39	38	38	38	36	**C**	**C**	**C**	**C**	**C**	36	36	36	35	35	35	34	27	24	28	25	29	39	33.8	24
17	**IZS**	33	32	32	31	31	30	30	31	31	32	33	34	37	43	47	48	48	48	45	40	40	37	**IZS**	48	37.0	24
18	11	10	19	6	1	2	11	8	37	41	47	47	48	54	55	56	55	52	50	39	35	15	**IZS**	6	56	30.7	24
19	17	39	34	29	32	27	20	12	37	42	47	48	49	52	51	54	57	56	54	47	46	**IZS**	33	37	57	40.0	24
20	37	33	17	15	12	8	3	10	34	39	47	48	51	53	53	53	54	52	49	37	**IZS**	45	45	39	54	36.3	24
21	38	35	34	30	30	30	30	32	32	33	37	41	44	44	46	49	48	**P**	40	**IZS**	37	33	41	40	49	37.5	23
22	40	39	38	37	36	35	34	36	36	36	36	38	38	39	39	38	39	39	**IZS**	40	41	41	40	38	41	38.0	24
23	37	37	38	38	37	36	36	34	34	35	36	37	40	45	48	45	49	**IZS**	48	48	49	48	47	46	49	41.2	24
24	45	43	40	40	39	39	39	40	40	41	**M**	44	46	47	47	49	**IZS**	49	50	48	44	47	46	44	50	44.0	23
25	44	44	43	43	44	43	41	41	42	43	44	45	47	47	45	**IZS**	39	40	33	33	33	34	34	35	47	40.7	24
26	34	35	35	35	35	35	36	36	36	37	38	40	40	41	**IZS**	43	44	44	42	37	37	37	38	30	44	37.6	24
27	26	29	31	33	30	27	23	30	33	40	42	44	45	**IZS**	46	48	48	47	46	43	44	44	41	29	48	37.8	24
28	37	39	37	23	16	31	35	38	41	42	42	43	**IZS**	47	48	48	49	52	50	49	51	51	49	41	52	41.7	24
29	41	43	43	41	40	36	41	42	42	42	41	**IZS**	41	43	44	44	46	46	45	45	46	46	43	39	46	42.6	24
30	35	38	31	30	29	23	23	30	38	42	**IZS**	48	50	49	47	48	49	50	49	48	45	43	41	35	50	40.0	24
31	31	30	29	27	25	23	14	33	45	**IZS**	47	49	51	52	52	53	53	52	51	49	48	50	50	48	53	41.8	24
HOURLY MAX	49	48	47	46	44	43	43	44	45	48	50	53	56	59	59	60	60	58	55	50	51	51	51	49			
HOURLY AVG	33.2	33.0	32.9	31.9	31.1	29.8	30.3	31.4	35.9	39.5	41.1	43.3	44.7	46.1	46.6	46.9	47.0	46.1	45.0	41.1	39.6	38.5	37.3	33.8			

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

MONTHLY SUMMARY

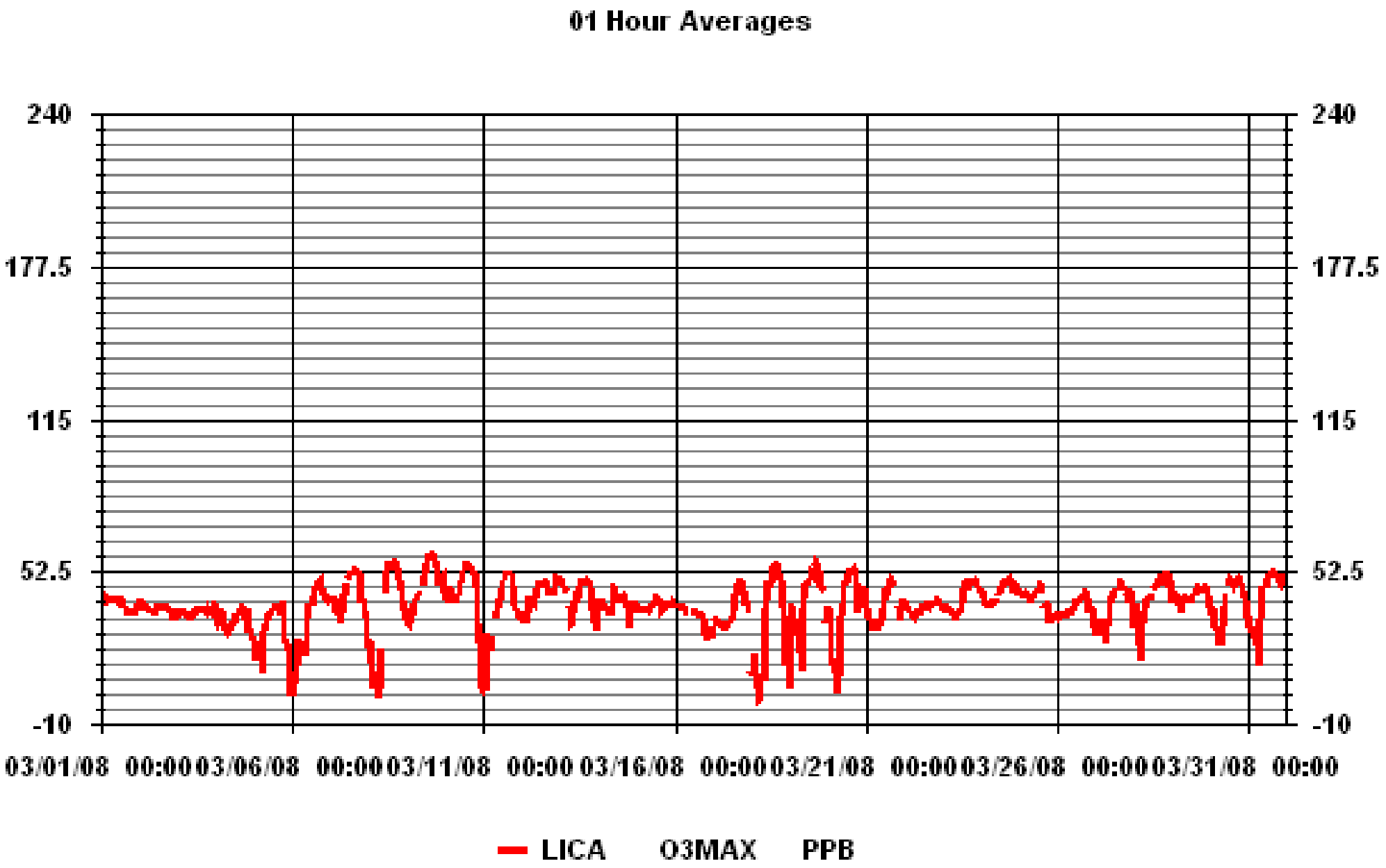
NUMBER OF NON-ZERO READINGS: 705

MAXIMUM INSTANTANEOUS VALUE: 60 PPB @ HOUR(S) 16,17 ON DAY(S) 9

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 742 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION 10.44


01 Hour Averages
240
177.5
115
52.5
-10
03/01/08 00:00
03/06/08 00:00
03/11/08 00:00
03/16/08 00:00
03/21/08 00:00
03/26/08 00:00
03/31/08 00:00
LICA O3MAX PPB

Ambient Temperature

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MARCH 2008

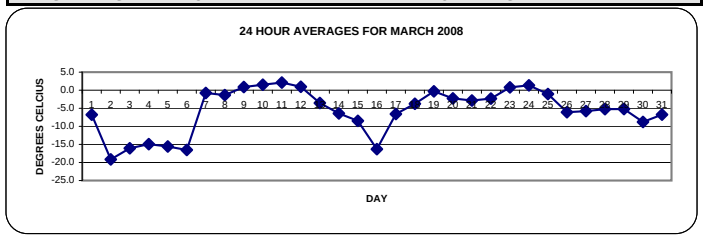
AMBIENT TEMPERATURE hourly averages (Degrees C)

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	-7.7	-7.9	-7.8	-6.9	-7.6	-8.1	-8.1	-8.5	-8.6	-8.2	-7.7	-6.4	-4.3	-1.7	-1.1	-0.1	-1	-3.6	-5.8	-6.6	-8.1	-10.5	-12.5	-14	-0.1	-6.8	24
2	-15.7	-17.6	-19.1	-19.9	-20.5	-21.3	-22.2	-23	-23	-22.6	-21.1	-19.5	-17.8	-16.9	-16.6	-16.8	-17.1	-17.7	-18.5	-18.6	-18.8	-18.6	-18.3	-18.5	-15.7	-19.2	24
3	-18.3	-18.5	-18.3	-18.8	-19.2	-20	-20.9	-20.9	-20.2	-19.3	-18.1	-17.1	-15.5	-14.2	-13.1	-12.5	-12.3	-12	-12.5	-12.8	-12.9	-12.9	-12.9	-12.6	-12.0	-16.1	24
4	-12.7	-12.3	-12.4	-14.3	-16.5	-18.3	-19.9	-21.1	-20.3	-19.4	-17.4	-15.7	-14.3	-12.7	-11.9	-10.9	-10.1	-10.4	-12.4	-13.6	-13.4	-14.5	-16.8	-17.1	-10.1	-14.9	24
5	-19.2	-20.8	-20.8	-17.1	-16.6	-16	-15.7	-15.3	-15.1	-14.5	-13.9	-12.7	-11.5	-10.8	-9.7	-9.4	-9.4	-10.4	-12.7	-15.7	-18.5	-21.1	-22.8	-24.3	-9.4	-15.6	24
6	-25.1	-26	-27.5	-27.9	-29.1	-29.2	-29.7	-29	-23.6	-18	-15.7	-12.9	-10.4	-8.2	-6.6	-5.6	-5.8	-6.2	-7.8	-9.4	-10.9	-11.1	-10.7	-10.5	-5.6	-16.5	24
7	-9.6	-8	-7.6	-7.4	-7.6	-6.9	-5.1	-3.9	-1.7	1.4	4	5.1	5.9	6.6	7.3	7.7	7.3	6.3	4.1	0	-2.1	-3.6	-4.8	-5.9	7.7	-0.8	24
8	-7.1	-7.7	-8.3	-9	-9.5	-10.2	-11.2	-10.4	-5.1	-0.5	1.8	5.1	6.1	6.1	6.2	6.5	6.7	6	3.7	2.4	0.6	-0.7	-1.6	-2.3	6.7	-1.4	24
9	-2	-2.4	-2.6	-2.7	-3.2	-3.3	-3.6	-3.5	-1.8	0.2	2.4	4	4.8	5.5	6.5	6.9	6.5	5.2	3.1	1.1	0.9	0.7	0	-1.6	6.9	0.9	24
10	-2.3	-3.4	-2.5	-2.6	-2.7	-3.1	-3	-3	-0.6	2.7	4.1	5.2	6.6	7.4	8	8.3	8.1	7.5	5.5	3	0.1	-1.5	-2.4	-2.9	8.3	1.5	24
11	-2.4	-1.8	-0.8	-0.5	-0.3	-0.2	0.5	1.5	1.9	2.4	3.2	4.2	5.1	6	4.9	5.9	6.6	5.3	3.4	2.1	1.7	1.5	0.8	-0.3	6.6	2.1	24
12	-0.6	-1	-0.6	-0.4	0.1	0.4	0.5	1.1	2	3.1	5.3	5.1	4	3.6	2.8	2.9	2.1	0.9	-0.3	-1	-1.8	-1.6	-1.9	-2	5.3	0.9	24
13	-2.3	-2.9	-4	-4.8	-6.1	-7.3	-8.1	-6.9	-5.1	-4.3	-3.1	-2.3	-1.6	-0.1	0.7	1.1	0.6	-0.4	-1.7	-2.7	-4.2	-5.7	-6.8	-7.1	1.1	-3.5	24
14	-6.8	-8	-8.4	-8.8	-8.9	-9.6	-10	-10.1	-9.1	-7.3	-6.1	-5.4	-4.8	-3.9	-3.4	-2.8	-2.8	-3.6	-5.5	-6	-5.1	-5.5	-5.8	-6.5	-2.8	-6.4	24
15	-7.1	-7.4	-7.5	-7.9	-8.5	-8.5	-8.7	-8.8	-8.3	-7.5	-6.4	-5.5	-4.5	-4.2	-5.3	-6.8	-8.1	-9.1	-10	-11.1	-12	-12.7	-13.5	-14.3	-4.2	-8.5	24
16	-15.2	-16.1	-16.8	-17.2	-17.4	-17.8	-18.3	-18.4	-18.3	-17.8	-17	-15.4	-14.2	-12.4	-12.2	-11.9	-11.4	-12	-14	-17	-19.3	-20.4	-20.7	-20.2	-11.4	-16.3	24
17	-18.1	-16.6	-16	-15.3	-14.9	-14.3	-13.5	-12.9	-12	-8.8	-5.9	-4.3	-2.2	0.4	2.8	3.4	3.9	3.7	2.4	-0.8	-3	-3.6	-5.5	-7.1	3.9	-6.6	24
18	-7.4	-7.8	-9.6	-10.6	-11.7	-12.7	-13.4	-10.9	-6.2	-3.9	-2.4	-0.9	1.6	3.9	5	5.4	5.3	4.2	1.8	-1.8	-3.3	-4.2	-4.9	-5.6	5.4	-3.8	24
19	-6	-4.2	-4.9	-5.7	-5.7	-5.9	-7.1	-5.9	-1.2	1.2	3	4.9	5.5	5.4	6.1	6.6	6	5.2	3.6	0.3	0.7	-1.6	-3.6	-4.4	6.6	-0.3	24
20	-5.6	-6.9	-7.8	-8.7	-9.7	-10.2	-10.6	-8.6	-3.9	-1.4	0	1.1	2.7	4	5	5.2	5.3	5	3.5	0	-2	-2.6	-3.7	-4.6	5.3	-2.3	24
21	-5.6	-6	-7.2	-7.9	-8.1	-8.5	-9.1	-7.9	-5.9	-4.2	-2.2	-0.5	0.4	1	2.3	2.4	2.5	1.8	0.9	-0.3	-1.3	-2.1	-1.6	-1.5	2.5	-2.9	24
22	-1.8	-2.2	-2.7	-3.2	-3.6	-4.4	-5.3	-5	-4.5	-4.1	-3.6	-2.8	-1.9	-1	-0.8	-0.5	-0.5	-0.9	-1	-1	-1.1	-1.2	-1.2	-1.3	-0.5	-2.3	24
23	-1.3	-1.3	-1.1	-2.3	-3.8	-4.7	-5.2	-4.8	-3.5	-2.2	-0.7	1	3.2	5.3	6.5	6	6	5.2	4.1	3.5	3	2.5	2	1.6	6.5	0.8	24
24	1.1	0.8	0.3	-0.4	-0.7	-1.2	-1.5	-1.4	-1	-0.4	**M**	1.2	2.3	4	5.2	5.5	5.8	4.8	3.4	2.3	0.6	0.1	0.1	0	5.8	1.3	23
25	-0.4	-1.1	-2	-2.4	-2.4	-2.8	-3.3	-2.6	-1	0	1.1	2.2	3.3	3.3	1.7	1.3	1.3	0.8	-1.1	-2.7	-3.5	-4	-5	-6	3.3	-1.1	24
26	-7	-7.9	-8.5	-9.2	-9.5	-9.8	-10.1	-9.6	-8.6	-7.4	-6.4	-5	-3.9	-2.5	-2.2	-1.2	-0.6	-0.7	-1.5	-3.9	-5.9	-7.2	-8.2	-9.6	-0.6	-6.1	24
27	-10.8	-11.3	-11.6	-12.3	-13	-13.9	-13.8	-11.4	-8.5	-5.7	-4.2	-2.5	-1	-0.1	0.4	0.7	0.6	0	-0.9	-2.2	-2.3	-3.1	-5	-7	0.7	-5.8	24
28	-6.8	-6.6	-7.9	-9.4	-9.5	-9.4	-8.2	-7.5	-6.6	-6.3	-6.2	-5	-3.2	-2.2	-2.4	-2	-2.2	-1.6	-3.2	-3.4	-3.8	-4	-4.1	-4.3	-1.6	-5.2	24
29	-4.6	-4.9	-4.8	-5.4	-5.9	-7.4	-7.2	-7.1	-7.2	-6.5	-5.2	-3.9	-2.8	-2.3	-2	-1.8	-1.9	-2.1	-3.6	-5.3	-6.3	-7.4	-8.8	-10.7	-1.8	-5.2	24
30	-12.7	-14.5	-15.5	-16.6	-17.6	-18.4	-18.1	-13.9	-10.3	-7.5	-6.1	-4.8	-3.6	-2.7	-2.1	-2	-2.1	-2.3	-3.1	-4.4	-5.9	-7.3	-8.6	-10.8	-2.0	-8.8	24
31	-12.3	-13.7	-14.4	-15.4	-16	-16.7	-16	-11.1	-8.2	-5.8	-3.5	-1.5	-0.7	-0.3	0	0	-0.2	-0.6	-1.6	-3	-4.3	-4.7	-5.4	-6.7	0.0	-6.8	24
HOURLY MAX	1.1	0.8	0.3	-0.4	0.1	0.4	0.5	1.5	2.0	3.1	5.3	5.2	6.6	7.4	8.0	8.3	8.1	7.5	5.5	3.5	3.0	2.5	2.0	1.6			
HOURLY AVG	-8.2	-8.6	-9.0	-9.4	-9.9	-10.3	-10.5	-9.7	-7.9	-6.2	-4.9	-3.4	-2.2	-1.1	-0.6	-0.3	-0.4	-1.0	-2.5	-4.1	-5.2	-6.1	-6.9	-7.7			

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

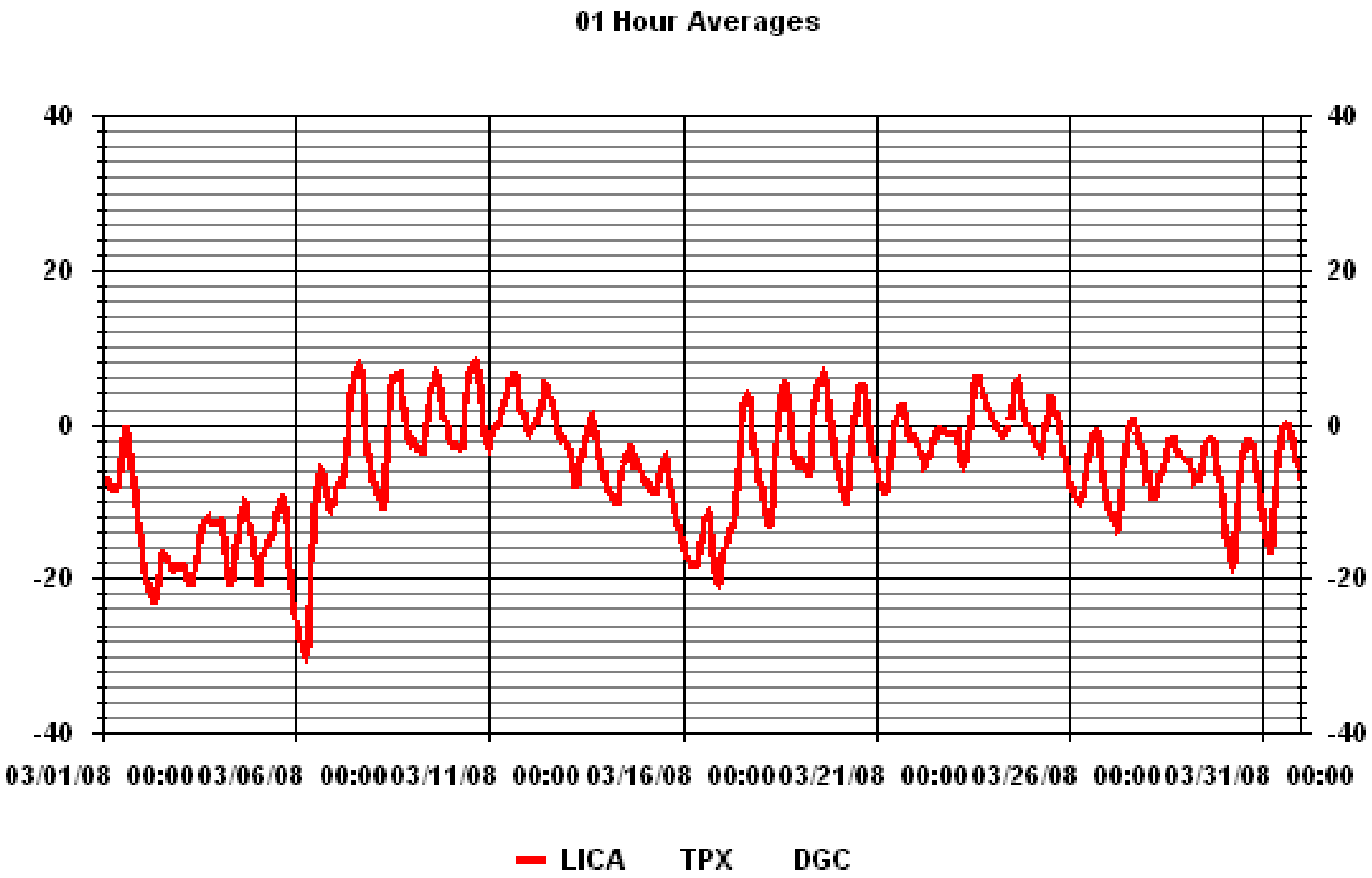


MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	*	-29.7	^{o}C	@ HOUR(S)	7	ON DAY(S)	6
MAXIMUM 1-HR AVERAGE:		8.3	^{o}C	@ HOUR(S)	16	ON DAY(S)	10
MAXIMUM 24-HR AVERAGE:		2.1	^{o}C			ON DAY(S)	11
						VAR-VARIOUS	

CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	743	HRS
			AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	7.46		MONTHLY AVERAGE:	-5.67	^{o}C

*** Outside detection limits of sensor.**


01 Hour Averages
40
20
0
-20
-40
03/01/08 00:00
03/06/08 00:00
03/11/08 00:00
03/16/08 00:00
03/21/08 00:00
03/26/08 00:00
03/31/08 00:00
LICA
TPX
DGC

Relative Humidity

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MARCH 2008

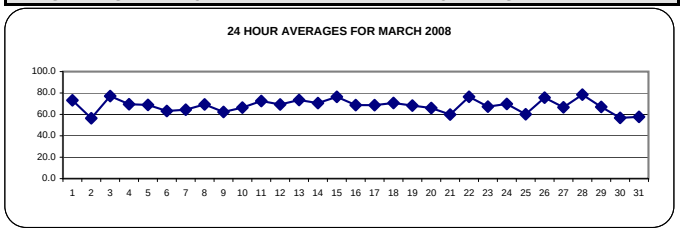
RELATIVE HUMIDITY hourly averages (%)

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	81.0	81.9	83.0	79.0	80.6	79.8	80.6	81.2	80.4	78.2	77.5	77.4	77.1	73.5	74.2	65.0	59.9	62.9	63.6	64.5	64.3	64.5	63.6	63.0	83.0	73.2	24
2	62.7	62.0	60.1	61.5	61.9	60.9	61.7	61.1	58.5	54.9	50.5	45.5	43.2	42.7	44.1	46.8	48.4	49.6	52.0	53.4	58.5	61.8	74.7	77.8	77.8	56.4	24
3	79.0	78.7	78.0	76.9	75.5	74.9	74.3	74.4	73.2	72.4	71.3	71.6	69.2	69.1	72.0	77.3	79.9	81.2	83.8	85.0	84.6	83.6	82.8	81.9	85.0	77.1	24
4	81.8	82.5	77.7	74.2	74.7	73.4	75.4	77.2	71.1	65.9	60.6	57.2	55.6	55.5	55.0	55.2	55.6	58.8	67.7	73.3	77.3	79.4	81.6	81.7	82.5	69.5	24
5	80.2	78.3	77.9	82.2	82.1	81.6	82.4	80.4	77.2	70.4	66.0	62.3	58.6	56.8	52.8	50.7	49.3	51.5	51.9	61.1	69.1	75.5	77.5	77.4	82.4	68.9	24
6	77.2	75.5	74.7	75.7	72.8	73.5	72.3	72.7	70.5	55.1	49.3	43.3	41.3	40.7	45.7	48.6	49.0	50.5	57.4	64.4	71.1	75.8	78.5	80.3	80.3	63.2	24
7	83.1	81.9	80.9	79.9	82.2	82.2	76.5	70.0	63.4	56.1	52.1	53.2	50.1	46.8	44.1	39.0	35.9	39.8	47.1	64.9	73.5	78.3	80.8	84.1	84.1	64.4	24
8	85.7	86.7	88.8	88.5	89.0	87.7	87.2	85.0	72.5	62.2	56.7	50.0	48.1	47.5	48.8	47.2	46.5	49.9	59.9	64.7	71.4	77.2	79.9	83.0	89.0	69.3	24
9	81.6	82.8	82.5	80.8	78.5	76.1	75.0	72.1	63.9	57.2	51.3	46.8	45.2	44.2	42.0	40.6	39.9	43.3	53.0	64.0	63.4	65.0	68.4	77.5	82.8	62.3	24
10	80.0	82.2	76.2	75.9	75.9	76.6	75.4	75.6	67.4	58.7	54.6	52.8	50.5	49.0	46.8	45.4	46.3	47.8	54.8	64.7	77.0	84.3	87.2	87.7	87.7	66.4	24
11	86.1	85.9	82.9	82.2	81.5	80.7	77.7	72.7	72.5	70.1	65.8	60.2	56.7	54.1	62.7	56.9	53.1	60.8	70.1	76.0	79.5	80.2	84.0	87.5	87.5	72.5	24
12	87.7	88.0	84.4	80.7	74.8	72.0	71.7	69.6	67.8	65.7	60.5	59.8	69.5	72.0	71.1	56.8	55.4	58.1	63.5	66.9	69.9	66.8	64.0	65.8	88.0	69.3	24
13	63.3	65.1	69.3	72.6	78.4	83.5	86.6	82.3	74.6	70.5	64.2	63.6	61.9	56.5	54.1	54.4	59.0	68.6	84.8	86.9	89.5	91.2	90.7	91.0	91.2	73.4	24
14	85.6	78.1	77.1	78.3	78.5	79.6	80.0	78.8	75.6	72.4	71.9	69.0	64.8	62.1	61.4	60.7	58.3	65.2	74.1	74.8	63.9	61.5	62.0	60.5	85.6	70.6	24
15	61.1	61.0	60.8	64.7	73.5	73.6	77.4	84.1	85.8	84.5	80.1	77.6	72.9	76.7	86.4	82.0	80.7	79.2	77.6	76.9	79.1	80.6	79.5	77.7	86.4	76.4	24
16	76.2	75.4	75.6	75.2	74.4	75.4	75.8	77.2	73.9	69.6	66.9	60.9	57.8	54.1	54.2	52.6	51.9	54.3	62.6	72.9	76.9	77.7	78.0	78.8	78.8	68.7	24
17	77.9	74.6	73.2	72.5	73.9	78.7	80.7	81.1	78.2	73.5	68.0	66.3	61.2	56.2	54.0	48.5	46.9	48.3	55.0	66.6	73.6	74.7	80.2	83.8	83.8	68.7	24
18	84.2	84.4	87.8	89.5	87.5	86.4	85.5	80.3	78.5	75.2	68.0	61.7	54.0	47.8	43.7	42.7	42.7	46.6	55.0	71.0	76.8	80.5	82.3	84.3	89.5	70.7	24
19	85.4	79.2	81.2	84.1	84.5	84.8	87.5	81.5	65.3	59.8	56.0	51.0	50.7	53.3	51.3	46.7	42.3	43.3	56.6	71.4	68.4	78.9	86.1	88.8	88.8	68.3	24
20	90.5	91.0	90.1	89.4	88.6	88.0	86.8	83.9	74.3	60.0	54.7	53.0	47.3	40.5	36.3	33.5	37.3	42.8	49.5	64.9	73.1	71.2	67.2	69.2	91.0	66.0	24
21	71.1	70.8	74.2	76.4	76.2	75.2	76.1	71.5	65.0	60.3	55.3	50.8	47.8	46.4	42.6	38.7	39.7	45.3	50.8	56.7	60.5	66.2	59.9	59.1	76.4	59.9	24
22	60.6	63.2	65.6	67.2	69.4	72.0	74.8	74.7	75.8	82.3	83.7	80.8	77.9	74.3	75.9	77.0	77.3	83.1	84.4	82.3	81.6	82.9	83.4	84.5	84.5	76.4	24
23	85.0	85.9	85.7	86.6	88.7	90.0	90.4	86.6	79.7	73.6	67.5	61.6	55.2	48.5	44.4	47.8	43.8	48.1	53.5	53.7	54.2	56.5	60.9	66.7	90.4	67.3	24
24	69.8	76.0	81.4	93.1	95.0	94.0	87.4	83.4	80.7	76.7	**M**	64.3	57.9	49.6	45.3	43.8	42.6	50.6	64.5	69.4	75.9	73.6	67.6	61.8	95.0	69.8	23
25	60.4	60.3	63.2	62.2	60.5	60.6	61.5	59.4	55.9	54.5	53.4	48.1	41.7	43.3	54.6	57.5	54.9	58.7	64.5	69.1	69.7	70.3	75.7	82.7	82.7	60.1	24
26	82.7	81.8	81.9	82.8	82.7	83.1	83.3	84.2	85.8	82.7	80.0	75.1	70.0	64.8	64.1	60.3	57.8	58.6	63.0	71.6	74.8	78.4	81.3	84.3	85.8	75.6	24
27	85.6	86.7	87.2	86.1	85.2	85.4	84.3	80.0	75.8	66.7	60.6	57.6	54.5	50.3	48.3	41.8	39.9	46.7	51.1	55.5	56.8	61.4	72.0	79.7	87.2	66.6	24
28	77.5	76.8	82.0	84.5	85.6	87.9	88.0	85.1	80.6	76.9	74.7	70.2	63.7	60.7	62.4	62.7	62.5	59.2	87.1	90.2	90.9	91.5	90.9	91.8	91.8	78.5	24
29	92.1	91.4	90.2	90.4	90.1	89.9	88.8	84.4	79.9	71.6	62.6	57.5	53.2	51.8	50.9	49.6	48.9	45.9	49.8	50.9	46.5	49.6	56.4	65.2	92.1	67.0	24
30	75.7	78.5	80.4	81.4	82.4	81.2	78.9	71.2	58.1	45.6	36.6	34.3	32.8	33.8	36.4	36.9	38.7	39.3	43.3	47.7	53.4	57.9	64.4	73.9	82.4	56.8	24
31	78.4	81.9	82.0	82.4	82.0	81.5	79.5	70.9	60.1	54.4	53.1	44.5	38.7	33.6	32.3	38.3	41.1	40.8	42.2	42.9	50.6	56.1	56.4	61.9	82.4	57.7	24
HOURLY MAX	92.1	91.4	90.2	93.1	95.0	94.0	90.4	86.6	85.8	84.5	83.7	80.8	77.9	76.7	86.4	82.0	80.7	83.1	87.1	90.2	90.9	91.5	90.9	91.8			
HOURLY AVG	78.4	78.3	78.6	79.3	79.6	79.7	79.5	77.2	72.3	67.0	62.5	59.0	55.8	53.4	53.5	51.8	51.1	54.2	61.1	67.0	70.2	72.7	74.8	77.2			

STATUS FLAG CODES

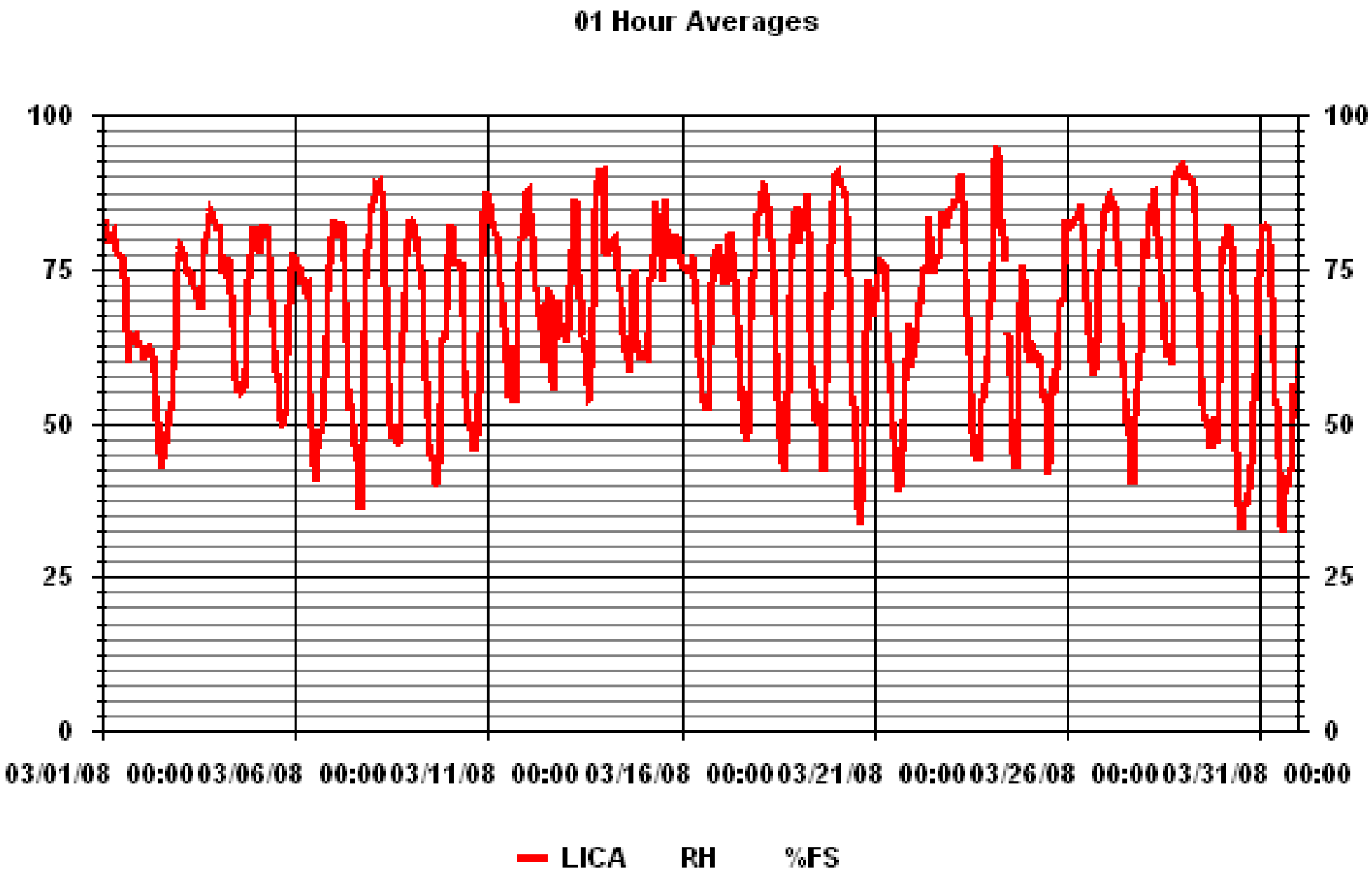
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	95.0	%	@ HOUR(S)	5	ON DAY(S)	24
MAXIMUM 24-HR AVERAGE:	78.5	%			ON DAY(S)	28

CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	743	HRS
			AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	14.39		MONTHLY AVERAGE:	68.09	%


01 Hour Averages
100
75
50
25
0
03/01/08 00:00
03/06/08 00:00
03/11/08 00:00
03/16/08 00:00
03/21/08 00:00
03/26/08 00:00
03/31/08 00:00
LICA RH %FS

Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MARCH 2008

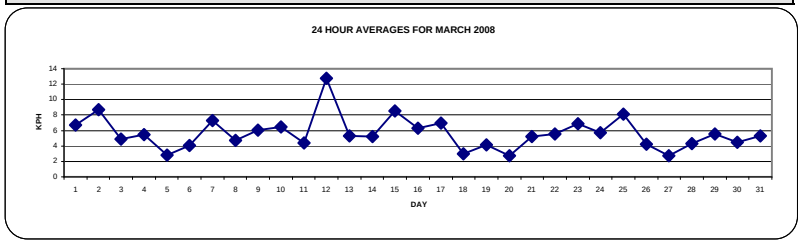
VECTOR WIND SPEED (WS) hourly averages (km/hr)

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	5	5.7	5	8.5	10.5	9.1	9.5	7.6	2.8	0.7	5.6	8.4	10.6	13.1	12.9	17	20.1	17.8	18	16.5	21.2	21.8	18.9	20.3	21.8	6.7	24
2	21.3	16.7	17.7	14.2	13.9	17.6	15.5	12.8	14.2	14.7	13.1	11	9.8	10.3	12.4	12.5	10.9	8.8	6.5	3.1	0.6	1.6	2.5	4.2	21.3	8.7	24
3	5.2	6	8.5	7.5	7.7	8	9.5	9	8.1	7.2	7.1	8.3	7.7	6.9	7	5.6	4.1	4.2	3.7	3.8	2.7	3.8	3.8	2.9	9.5	4.9	24
4	4.2	5.7	11.3	12.7	10.4	7.3	7.5	6.1	8.4	9.7	8.8	8.7	8.4	10.5	10.4	10.9	8.3	6.9	4.6	6.1	5.5	2.8	0.9	4.2	12.7	5.5	24
5	1.1	0.2	0.9	3.2	2	0.6	4.1	3.6	4.2	6.9	6.4	5.1	4.5	5.3	4	4.1	3.2	1.4	2.3	1.5	0.2	0.8	1	0.7	6.9	2.8	24
6	1.7	2.1	1.4	1.8	0	0.5	0.4	0.2	1.6	2.9	4.1	6.5	6.2	6.1	8.6	5.3	9	7.6	5.7	6	6.4	5.4	4.2	3.1	9.0	4.0	24
7	1.9	2.9	3.8	2.8	1.4	3.9	6	7.6	10.6	11.3	12.8	16.3	16	17.9	16.7	13.7	13.7	6.9	3.8	0.7	0.6	0.8	1.4	0.7	17.9	7.3	24
8	2.1	0.7	1.5	1.2	0.5	0.2	0.8	0.7	1.6	2.4	3.5	6.6	10	12.1	10.7	12.3	10.3	7.8	5.7	5.6	3.7	3.6	4.1	5.4	12.3	4.7	24
9	5.5	5.6	6.8	7.5	6.2	6.1	6	6.2	8.2	8.2	7.2	7.1	9.9	9.8	9.6	8.9	8.6	6.3	2.5	0.8	3.7	1.2	2.9	1	9.9	6.1	24
10	1.1	2.3	5.2	6.2	7.6	7.3	6.9	5.5	6.5	10.3	9.6	9.7	11.1	12.1	12.1	11.7	9.4	8.5	6.3	2.5	0.4	0.9	0.8	1.4	12.1	6.5	24
11	1.5	0.6	1.6	2.2	0.5	2.5	2	2.9	4.1	5.6	6.2	6.7	6.6	11.9	12	6.1	4	7.3	3	2.3	0.9	5.5	5.4	4.4	12.0	4.4	24
12	4.7	4.4	6.4	5.9	5.4	6.3	7.7	8.3	10.6	10.3	16.5	17.5	18.7	16.1	15.4	20.7	20.2	18.4	19.1	19.4	13.8	16	15.9	9.2	20.7	12.8	24
13	13.7	8.9	7.1	6.3	2.1	2.3	0.9	1.3	1	5	6.2	8.6	9.7	9	8.4	9.1	9.5	8.6	3.1	0.8	0.8	1.6	1	1.6	13.7	5.3	24
14	9.1	7.8	5.3	1.9	2.7	5	5	4.2	4.2	4.7	5.1	5	5.1	6.2	6.6	5.5	6.9	5.7	3.5	2.4	5.5	5.3	6.2	7.1	9.1	5.3	24
15	6.7	5.9	7.1	6.7	**6**	6	7.3	8.2	7.4	6.3	6.1	5.8	5.5	4.2	7.9	9.9	11.2	11.7	12	13.3	12.4	11.5	12.1	13.1	13.3	8.5	24
16	12.8	11.9	10.7	9.7	10.3	10.2	9.6	8.4	8.6	8.5	7.2	5.5	5.2	1.1	8.3	6.4	5	5.2	2.6	0	0.5	1	1.2	2.1	12.8	6.3	24
17	4.1	7.3	8.3	9.5	8.7	7.7	6.1	4.9	6.4	5.2	4.3	8.1	10.5	8.9	9.8	12.9	10.4	10.1	6.2	4.2	4.2	4.5	3.1	1.3	12.9	6.9	24
18	0.5	1.2	0.1	1.1	0.5	0.5	0.4	0.9	3.1	6.5	6.9	6.1	4.9	1.6	7.4	8.8	7.7	6.6	2.7	1.8	0.8	0.1	0.8	0.8	8.8	3.0	24
19	0.7	1	1.6	1	0.9	0.5	0.3	2.7	1.5	4.5	8.3	7.3	8.5	10.2	9	10.4	9.6	7.7	3.6	1.4	4.9	0.7	0.2	3.3	10.4	4.2	24
20	0.5	0	0.5	0.7	0.2	0.5	0.8	0.7	1.2	2.3	4.6	5.9	6.2	4.8	3	3.5	4.7	4.8	2.5	1.1	1.6	3.9	6.5	5.5	6.5	2.8	24
21	4.2	2.9	1.9	3	3	3.4	3	4.8	5.3	5.6	7.9	8.4	11.5	8.5	7.8	9	7.9	6.3	4	2.4	2.4	1.1	5	5	11.5	5.2	24
22	6	5.5	3.9	4.4	5	6.5	4.9	6.2	9.6	7.7	7.8	8.5	7.8	7.2	5.9	3.8	3.7	4	4.6	4.6	4.3	3.7	3.8	3	9.6	5.5	24
23	3.1	3.5	5.6	6.6	4.8	3.8	4.5	4.4	5.9	6.7	7.3	8.6	9.2	9.5	9.2	8.9	9.7	7.8	7.7	7.7	9	9.9	7.1	5	9.9	6.9	24
24	6.9	7.6	5	4.4	4.7	4.6	4.8	5.7	6.5	6.6	**M**	7.2	6.7	6	6.8	4.9	2.6	6	8.2	4.5	3.2	5.3	6.5	6.8	8.2	5.7	23
25	6.4	7	6.7	6.7	6	6	6.7	6.4	8.2	9.1	9.9	9.6	10.3	3	8.9	10.1	8.5	8.4	9	8.4	8	9.9	11.9	10.1	11.9	8.1	24
26	6.4	4.8	4.5	5.2	5.5	6.1	6.2	5.7	5.9	5.4	5.1	4.5	3.7	4	2.9	2.3	2.4	4.9	2.5	3.8	3.6	2.4	1.9	0.9	6.4	4.2	24
27	1.1	1.4	2.5	2.4	1.5	0.9	1.4	1.2	2.3	3.3	3.9	3.3	3.9	3.8	5	4.4	2.7	3.2	3.5	3.3	5.8	2	1.5	1.9	5.8	2.8	24
28	3.8	3.7	1.7	1	1.7	2.3	3.7	4	7.2	9.3	8.3	5.2	4.2	4	8.1	6.9	5.2	4.8	6.2	1.7	3.8	2.3	2.5	2	9.3	4.3	24
29	1.1	3.3	3.2	3.5	3	2.1	7.8	10.6	9.9	10.4	8.9	6.3	5.1	7	6.6	7.6	8.1	6.9	4.6	3.6	6.1	4.3	2.2	1.2	10.6	5.6	24
30	0.1	0.5	0.3	0.1	1.1	0.4	0.5	1.6	1.1	1.3	7.3	7.5	7.3	8.9	10.3	11.7	12	10.4	7.6	5.3	4.1	4.5	2.6	0.3	12.0	4.5	24
31	0.3	0.2	0.5	0.2	0.2	0.2	0.3	1	3.9	7.5	9.1	10.2	12.3	11.7	12.1	11.8	11.5	10.1	7.4	4.9	2.4	3.6	4	1.3	12.3	5.3	24
HOURLY MAX	21.3	16.7	17.7	14.2	13.9	17.6	15.5	12.8	14.2	14.7	16.5	17.5	18.7	17.9	16.7	20.7	20.2	18.4	19.1	19.4	21.2	21.8	18.9	20.3			
HOURLY AVG	4.6	4.4	4.7	4.8	4.3	4.5	4.8	4.9	5.8	6.6	7.5	7.9	8.3	8.1	8.9	8.9	8.4	7.6	5.9	4.6	4.6	4.6	4.6	4.2			

STATUS FLAG CODES

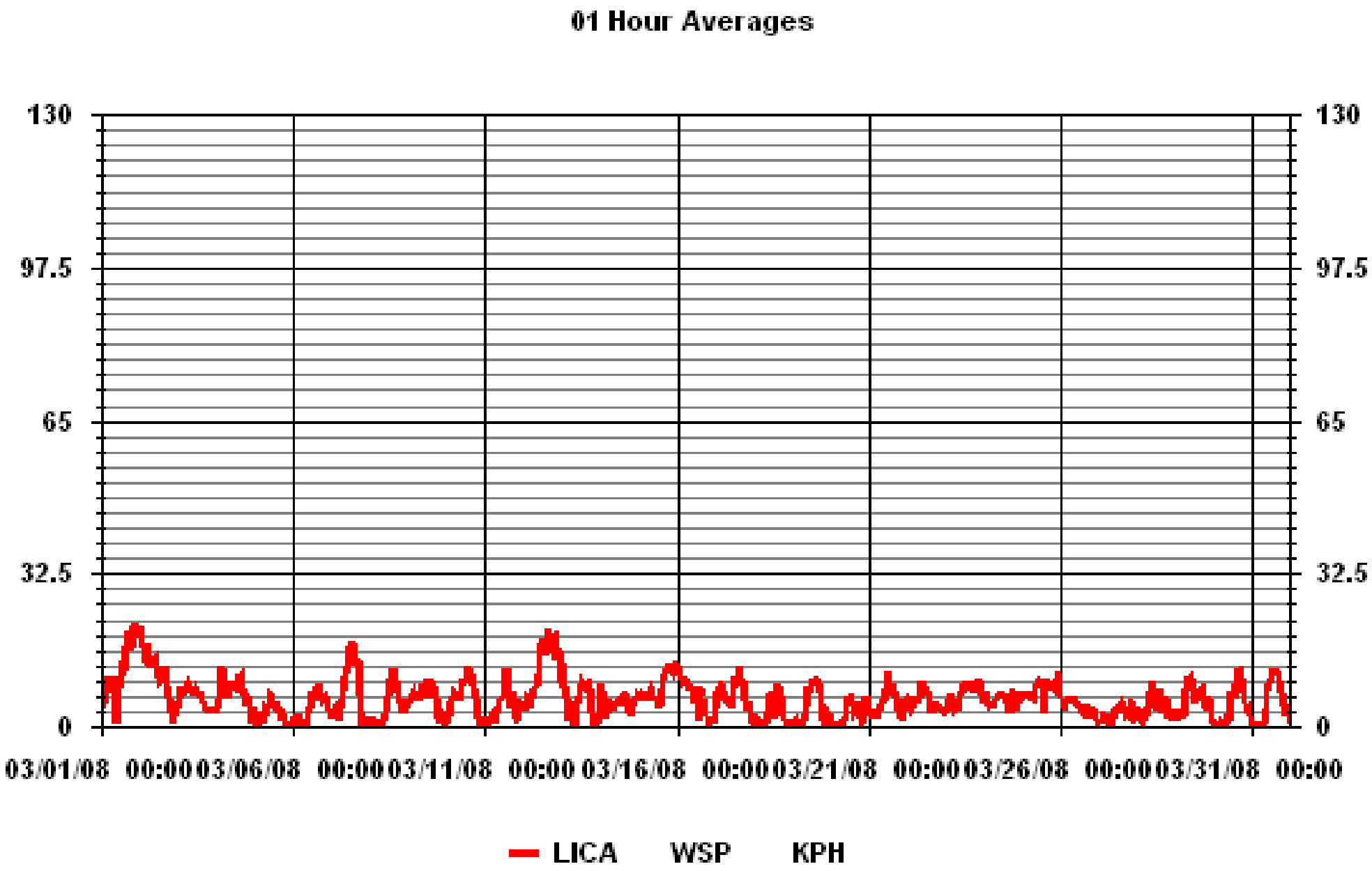
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



LAST CALIBRATION: December-2006

MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	21.8	KPH	@ HOUR(S)	22	ON DAY(S)	1	
MAXIMUM 24-HR AVERAGE:	12.8	KPH			ON DAY(S)	15	
CALMS (≤ 0 KPH)	2.96	%	OPERATIONAL TIME:		743	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME		99.9	%	
STANDARD DEVIATION:	4.17		MONTHLY AVERAGE:		5.98	KPH	


01 Hour Averages
130
97.5
65
32.5
0
03/01/08 00:00
03/06/08 00:00
03/11/08 00:00
03/16/08 00:00
03/21/08 00:00
03/26/08 00:00
03/31/08 00:00
LICA WSP KPH

LICA
WSP / WD Joint Frequency Distribution (Percent)

March 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	1.21	3.63	6.86	3.36	7.67	5.24	3.76	1.48	.94	1.88	6.05	3.63	2.42	.67	.80	.80	50.47
<	12.0	.67	3.09	1.21	1.48	6.19	3.23	3.36	.00	.00	.00	9.69	4.57	2.28	.13	1.34	1.07	38.35
<	20.0	.00	.80	.00	.00	.00	.00	.13	.00	.00	.00	.80	.40	.53	1.61	2.55	.40	7.26
<	29.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.26	.67	.00	.94
<	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	1.88	7.53	8.07	4.84	13.86	8.47	7.26	1.48	.94	1.88	16.55	8.61	5.24	2.69	5.38	2.28	

Calm : 2.96 %

Total # Operational Hours : 743

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	9	27	51	25	57	39	28	11	7	14	45	27	18	5	6	6	375
<	12.0	5	23	9	11	46	24	25				72	34	17	1	10	8	285
<	20.0		6					1				6	3	4	12	19	3	54
<	29.0														2	5		7
<	39.0																	
>=	39.0																	
	Totals	14	56	60	36	103	63	54	11	7	14	123	64	39	20	40	17	

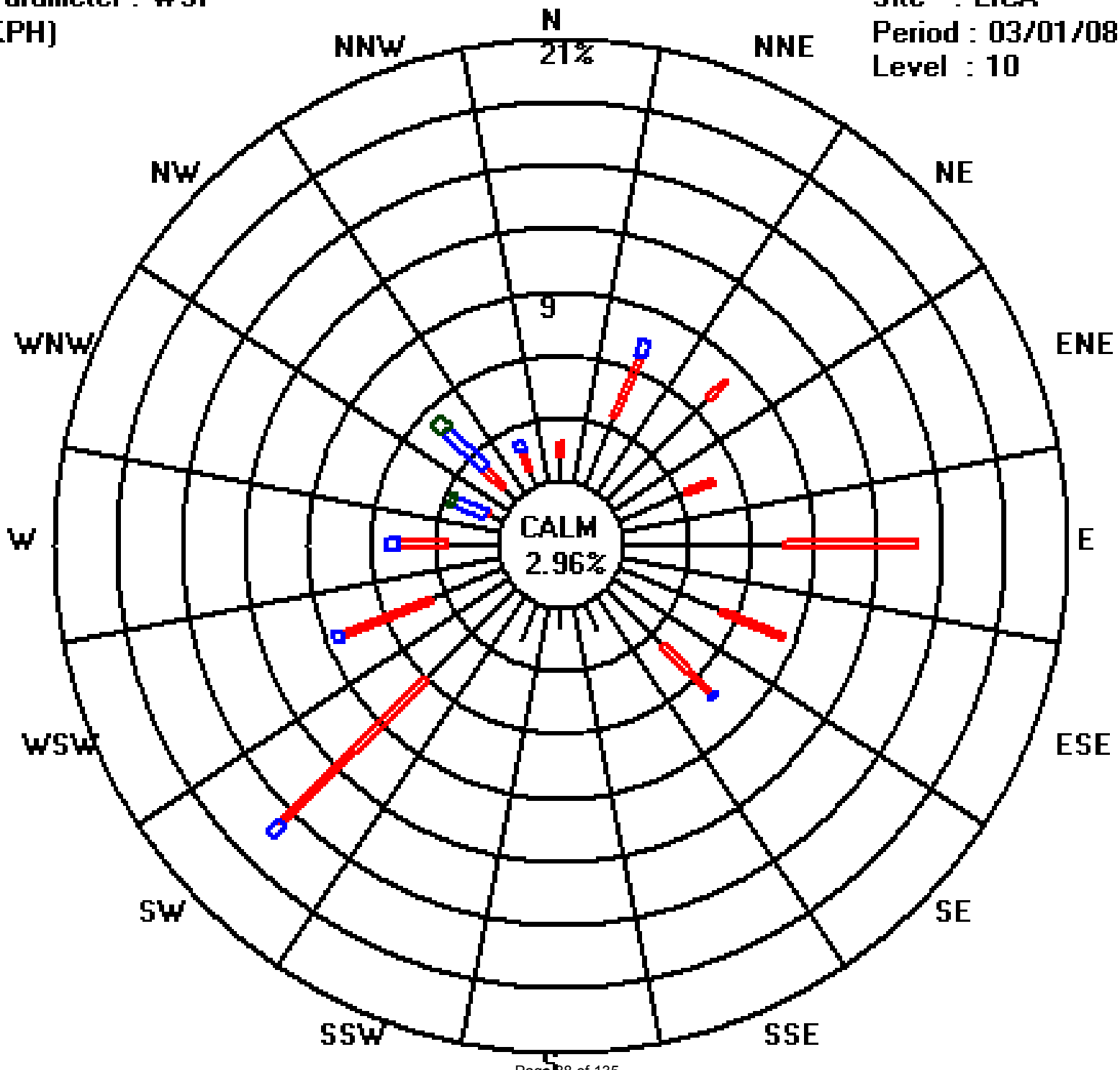
Calm : 2.96 %

Total # Operational Hours : 743

Logger : 01 Parameter : WSP
Class Limits (KPH)

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

Site : LICA
Period : 03/01/08-03/31/08
Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MARCH 2008

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST

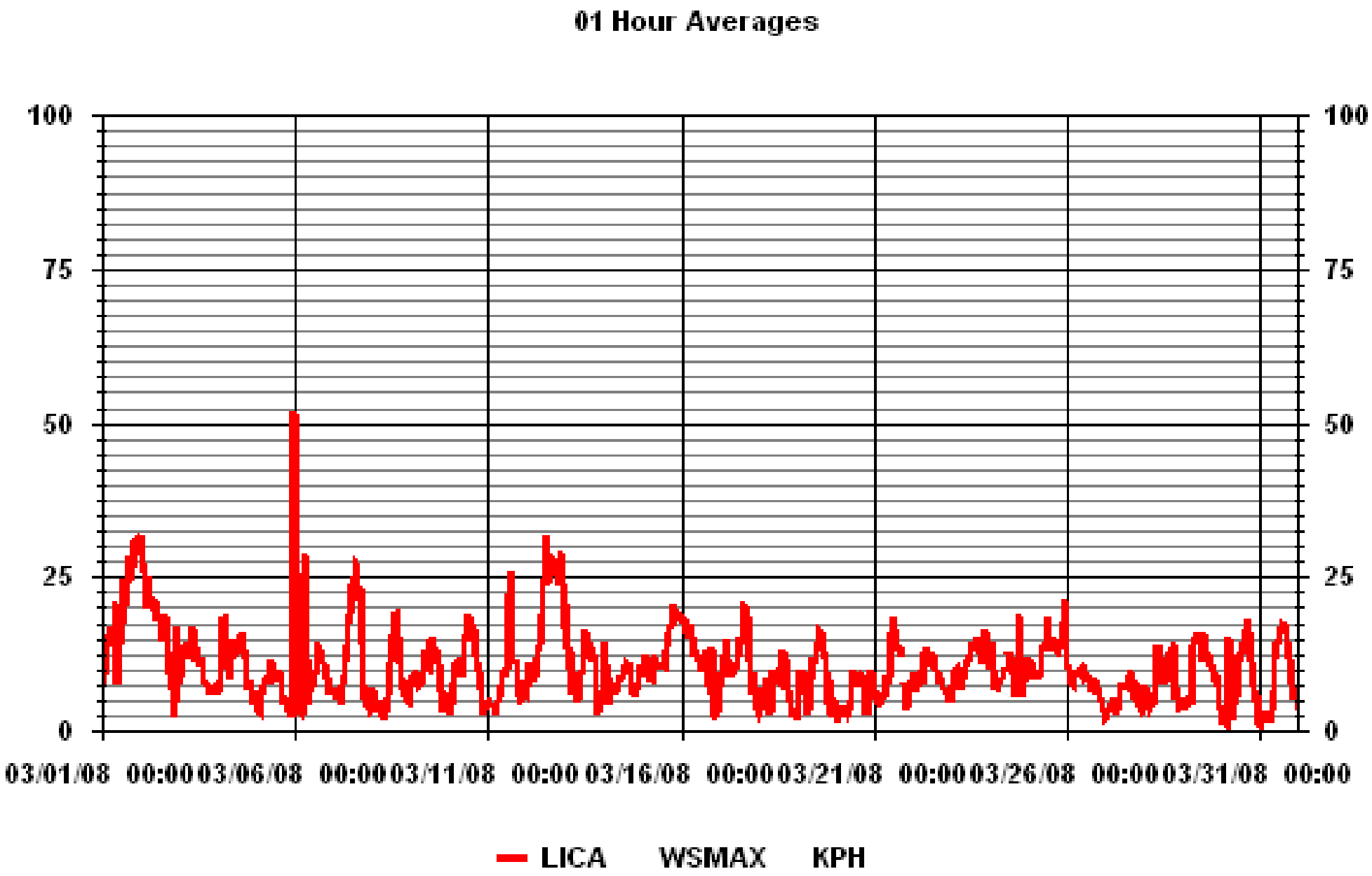
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.
DAY																									
1	7.8	10.4	9.3	13.7	15.6	15	16.9	14.7	21.2	7.3	9.7	14.1	17.2	24.7	20.1	24.5	28.4	24.7	24.9	26.4	30.7	31.1	28.6	30.7	31.1
2	31.6	27.7	25.9	22	19.8	25.3	22.3	20.5	19.5	21.4	17.8	18.9	14.4	15.5	18.1	18.9	16.9	13.1	9.6	7	2.3	4.4	16.9	7.5	31.6
3	8.6	8.9	14.1	12.8	12.6	14.5	13.7	14.5	16.9	13.1	11.1	13.4	12.3	10.5	11.8	8.5	8.1	7.4	5.8	7	6.3	7.2	7.5	5.9	16.9
4	6.4	8.4	18.3	18.5	14.1	13.9	10.4	8.2	14.9	14.4	14.1	13.1	13.6	13.8	15.4	16.1	12.5	12.7	6.6	7.8	7.8	5.7	4.3	6.6	18.5
5	3.4	3.1	6.7	7.4	5.7	8.7	8.1	9.1	7.4	11.5	9.6	8.9	7.8	9.7	8.1	9.4	6.2	4.3	5.5	2.9	5.1	2.6	2.2	52	52
6	3.2	25.9	5.1	3.2	2.9	3.7	28.9	12	4	6.7	7.1	9.2	9.5	9.8	14.3	11.2	13	11.5	11	8.3	9	6.7	6.8	6	28.9
7	6.9	5.2	6.4	7.1	4.2	7.4	8.9	11.4	13.8	17.5	18.9	23.7	24.9	27.2	26.8	21.2	23.6	14.6	7.9	5.6	4.3	3.9	3.1	3.3	27.2
8	6.9	3.4	4.8	4.1	4.8	2.2	4.5	1.9	3.2	5.3	5.9	11	15.7	19	19.2	16.6	15.4	11	8.8	7.2	5.9	5.5	5.2	7.7	19.2
9	7.7	8.7	9.2	10	8.5	7.3	7.6	8.9	12.2	13	10.7	10.4	14.6	15.2	13.4	12.2	13.6	11	6.6	2.9	6.6	3	5.6	4.3	15.2
10	2.7	4.3	7.8	8.9	10.8	11.2	10.2	8.8	9.3	15.6	15.1	14.7	19	16.7	17.1	16.6	12.5	11.4	9.9	6.9	2.9	2.9	3.5	4.7	19
11	4.9	4.5	4.2	4.1	2.6	4.5	4.9	5.6	7.4	9.4	9.4	10.1	10.3	22.2	26	11.5	11.3	11.1	5.8	5	5.1	8.1	6.7	6.2	26
12	7.3	11	8.5	7.9	9.3	9.3	11.8	12.9	14	18.8	24.5	24.4	31.9	24	27.9	28.5	28.3	26.6	27	27.1	23.5	29.2	24.3	16.6	31.9
13	21.2	13.8	9.9	13.3	5.9	6.7	5.3	5.4	4.8	9.3	9.8	13.1	16.4	12.8	12.5	14.2	13.9	12.6	11.7	2.6	3	4	4.3	6.7	21.2
14	14.5	11.1	8.8	4.1	6.3	7.5	7	6.7	7.3	8.2	9.1	8.2	9.2	11	10.7	9.3	11.1	8	6.2	5.4	7.2	7.4	10.7	10.3	14.5
15	10.5	8.8	12.4	9.7	8.5	8.3	11.3	12.2	10.8	10.8	10.4	10.4	11	10.7	13.1	13.8	16	16.8	17	20.4	19.9	18.9	17.7	19.3	20.4
16	18.1	18	18	16.3	15	16.1	17.2	15.5	12.2	13	11.5	12	9.5	10.3	12.3	13.2	7.9	8.1	5.9	13.8	2.9	2.6	3.3	4	18.1
17	7.2	9.4	12.2	14	14.6	12	9.4	9.3	9.4	10.1	11	12.2	14.9	15	14.2	20.4	20.2	18.8	11.6	6.8	5.9	9.4	6.5	4	20.4
18	2.9	3.4	6.8	4.2	6.4	8.8	3.3	2.8	9.9	8.3	9.4	9.7	8.2	7.9	11.9	13	11.4	11.9	6.9	5	3.2	2.2	3	2.7	13
19	2.6	8	9.8	7.8	9.8	6.2	2.7	4.8	3.3	8.4	12.1	11	13.5	14.4	16.4	16.1	13.1	12.2	9.8	4	8.6	3.1	2.4	5.4	16.4
20	3.3	1.7	2.2	3.1	4	2.2	4.1	3	3.5	5	7.8	9.8	9.3	8.3	7	7.8	9.1	8.8	5.8	2.7	4.9	7.4	9.7	8.2	9.8
21	6.9	5.6	4.9	5.4	4.9	5.3	5.5	8.9	8.2	8.9	16.2	12.9	18.4	16.7	14	13.6	12.7	**P**	7.2	3.9	3.9	4.3	8.3	7.8	18.4
22	9.4	8.4	6.3	7.1	9.3	9.9	7.4	12.6	13.5	11.2	11.9	11.4	12.2	12	10.1	9.8	7.5	9	7.9	7.1	6.6	6.3	6.6	4.6	13.5
23	5.4	6.5	9.8	10.1	7	7	8.7	10.1	9.6	10.5	11.3	12.3	14.4	13.9	13.6	13.5	15.2	12.6	14	10.8	14.2	16.5	12.3	10	16.5
24	10.5	14.6	10.1	7.4	7.1	7.7	7.8	8.4	10.1	10.2	**M**	12.4	10	9.8	11.9	9.7	5.5	11.2	18.8	8.3	5.5	7.9	10.8	11.9	18.8
25	8.3	10.5	11.5	10.1	9.4	8.6	9.4	9.3	12.8	13.8	14.2	17.4	18.6	15.2	13.1	14.3	15.2	13.3	13	13.5	14.8	17.5	21.5	15.1	21.5
26	10.9	10.2	7.9	7.6	9	9.2	9.6	9.7	10.1	8.4	10.7	8.7	9	8.5	8.1	6.3	7.5	8.6	6.7	6.8	5.6	5.2	3.3	2.1	10.9
27	2.5	3.5	3.9	3.6	3.1	5.5	2.7	3.6	4.4	7.3	7.9	6.6	7.6	7.5	9	10	6.6	5.5	5	7.8	7.5	4.3	3.3	3.6	10
28	7.3	5.7	4.3	3.5	3.9	4.3	6.3	8.7	14.2	13.3	12.3	7.9	8.3	10.8	11.9	11.6	7.8	13.5	14.3	5	6.9	3.8	4	4.3	14.3
29	3.4	5.1	4.5	5	5.5	4.1	14.1	15.3	14.3	15.7	16.1	12.8	11.3	16.1	12.5	11.7	12.8	11	9.9	7.8	9.3	7.5	4.3	3.6	16.1
30	1.1	2.5	1.5	1.2	15.3	3.2	1.9	3.1	4.3	5.3	12.4	11.9	12.7	14.4	15	16.6	18.2	16.3	11.4	7.7	6	6.4	6	1.6	18.2
31	1.3	2.3	1.7	3.1	1.4	2.3	1.4	3.3	6.5	11.8	14.1	14.7	16.8	17.4	17.1	17.6	16	14.6	11.9	8	5.1	6.9	6.6	3.8	17.6
PEAK	31.6	27.7	25.9	22.0	19.8	25.3	28.9	20.5	21.2	21.4	24.5	24.4	31.9	27.2	27.9	28.5	28.4	26.6	27.0	27.1	30.7	31.1	28.6	52.0	

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	52	KPH	@ HOUR(S)	24
			ON DAY(S)	5


01 Hour Averages
100
75
50
25
0
03/01/08 00:00
03/06/08 00:00
03/11/08 00:00
03/16/08 00:00
03/21/08 00:00
03/26/08 00:00
03/31/08 00:00
LICA WSMAX KPH

Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MARCH 2008

VECTOR WIND DIRECTION (WD) hourly averages in degrees

MST

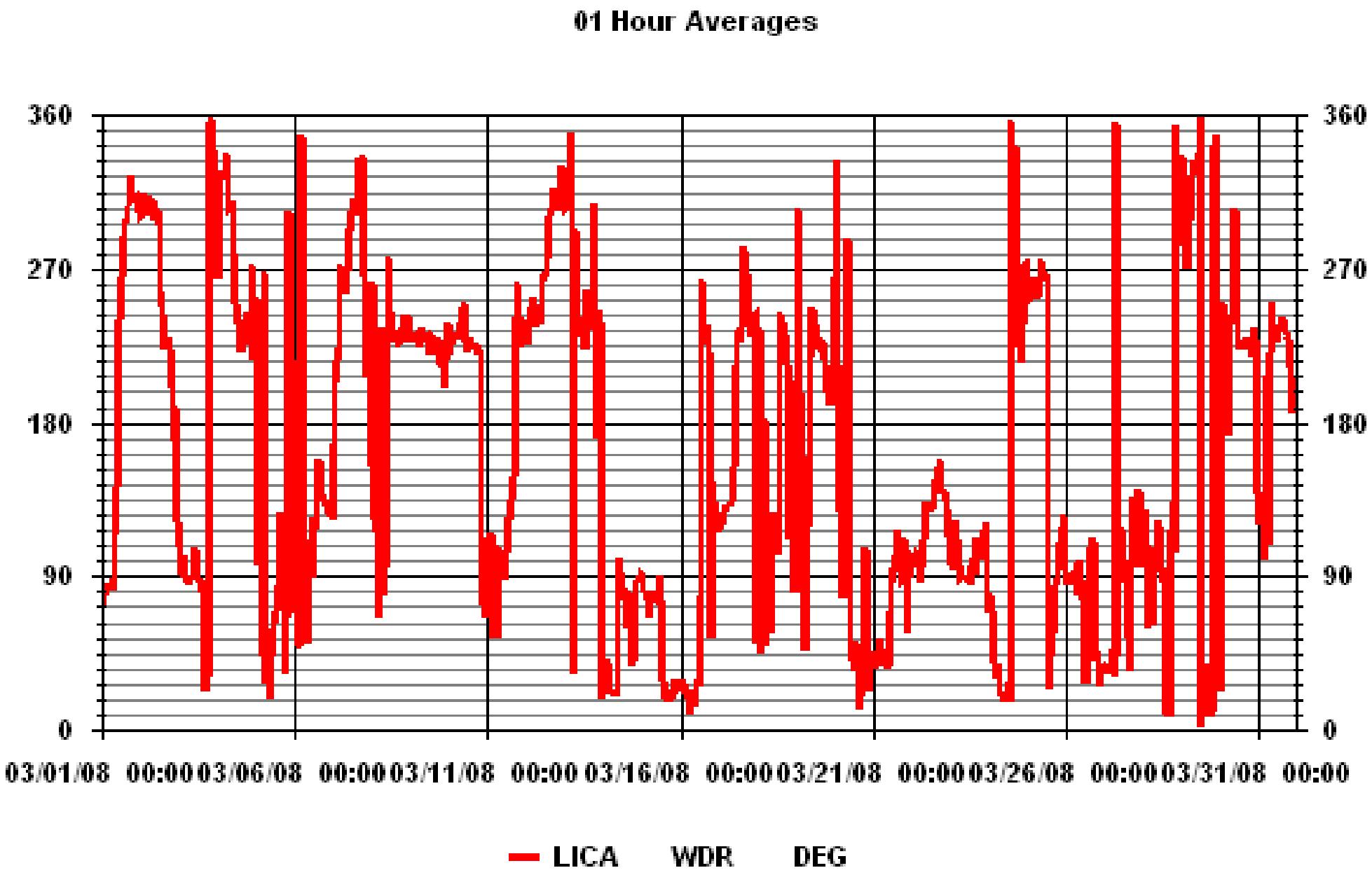
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUANDRANT	RDGS.
DAY																											
1	75	86	79	82	84	83	83	90	114	143	240	241	265	289	297	300	307	323	323	315	312	313	304	300	317	NW	24
2	301	304	314	302	305	313	311	310	302	303	303	297	258	249	245	224	226	227	224	202	169	190	131	123	286	WNW	24
3	108	92	90	102	92	88	85	89	91	105	107	89	89	88	81	47	23	62	31	356	359	335	340	268	79	ENE	24
4	264	303	324	328	322	338	335	306	307	310	280	250	238	241	221	225	229	226	230	244	234	273	217	240	274	W	24
5	253	97	241	243	43	269	27	40	18	43	59	63	70	85	115	128	121	78	33	66	304	98	87	217	65	ENE	24
6	69	199	51	49	348	67	113	75	51	92	89	124	121	117	134	159	136	139	136	133	131	129	127	123	125	SE	24
7	168	203	217	224	273	267	256	259	256	269	293	303	307	311	301	321	334	335	335	267	206	223	225	154	293	WNW	24
8	262	124	116	236	66	138	236	79	95	127	277	246	234	234	229	229	225	232	227	235	243	233	243	229	231	SW	24
9	229	230	230	231	232	224	230	235	232	228	230	227	220	225	230	229	227	229	213	227	214	201	216	239	227	SW	24
10	220	226	231	230	230	232	229	238	247	251	228	222	225	229	227	225	225	225	220	222	73	113	99	65	228	SW	24
11	92	114	116	56	56	54	87	105	104	101	87	98	104	124	134	136	149	241	262	250	224	242	230	226	131	SE	24
12	229	226	239	247	253	241	236	247	247	237	264	266	268	276	301	305	313	317	308	311	305	321	330	323	287	WNW	24
13	306	307	313	321	350	32	294	250	243	241	232	225	223	245	258	245	234	250	308	171	195	246	240	18	263	W	24
14	22	36	41	39	23	23	22	21	21	76	101	93	85	78	59	81	64	37	41	67	87	89	87	92	58	ENE	24
15	91	82	78	78	66	76	80	80	80	78	80	90	77	30	19	23	16	23	22	18	25	30	25	26	46	NE	24
16	25	30	27	24	20	14	10	19	23	14	30	26	78	264	236	226	228	237	223	53	146	135	125	116	18	NNE	24
17	118	125	124	128	131	132	132	132	134	154	214	234	232	231	236	283	281	268	260	233	231	243	244	50	203	SSW	24
18	127	236	44	82	183	49	61	57	118	124	127	118	116	103	245	240	234	232	215	112	130	205	92	80	172	S	24
19	102	305	101	197	161	46	85	119	156	218	247	227	238	231	225	221	228	219	214	197	213	190	193	215	220	SW	24
20	265	333	127	158	214	78	82	259	287	273	42	42	35	52	38	12	20	46	60	107	25	23	41	46	38	NE	24
21	37	39	43	52	52	37	42	48	40	37	69	87	95	92	102	117	98	87	88	112	107	57	90	97	78	ENE	24
22	104	100	104	103	96	87	95	111	133	129	130	132	131	133	142	147	154	158	139	141	140	135	130	115	124	ESE	24
23	98	94	118	123	112	98	89	90	91	90	88	86	86	96	100	91	113	105	104	100	107	117	122	82	100	E	24
24	69	79	71	41	35	30	38	23	22	19	**M**	20	28	358	17	338	343	224	265	248	215	238	272	273	5	N	23
25	258	253	254	258	265	255	253	264	275	263	265	268	265	24	53	43	56	85	89	94	110	119	126	118	230	SW	24
26	92	85	92	87	91	90	79	97	99	89	77	54	27	36	97	107	113	111	41	46	28	28	37	38	77	ENE	24
27	35	38	34	36	34	47	32	356	43	116	119	92	86	99	55	34	95	128	136	134	135	141	95	112	89	E	24
28	121	129	109	59	66	61	89	92	107	123	120	97	87	48	9	21	8	117	133	104	355	325	305	313	81	E	24
29	336	285	273	270	278	298	325	334	332	331	338	1	359	12	30	36	38	7	30	10	342	349	28	91	349	NNW	24
30	23	250	179	227	172	222	243	238	280	306	242	223	227	223	228	225	230	227	224	219	222	235	230	140	228	SW	24
31	121	128	139	100	178	207	109	221	251	229	229	234	237	234	239	239	236	233	230	213	185	196	207	201	230	SW	24
HOURLY AVG	336	333	324	328	350	338	335	356	332	331	338	303	359	358	301	338	343	335	335	356	359	349	340	323			

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:	0	HRS	OPERATIONAL TIME:	743	HRS
STANDARD DEVIATION	95.87		AMD OPERATION UPTIME	99.9	%
			MONTHLY AVERAGE	285.00	DEG


01 Hour Averages
360
270
180
90
0
03/01/08 00:00
03/06/08 00:00
03/11/08 00:00
03/16/08 00:00
03/21/08 00:00
03/26/08 00:00
03/31/08 00:00
LICA WDR DEG

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MARCH 2008

STANDARD DEVIATION WIND DIRECTION (STDWDIR) hourly averages in degrees

MST

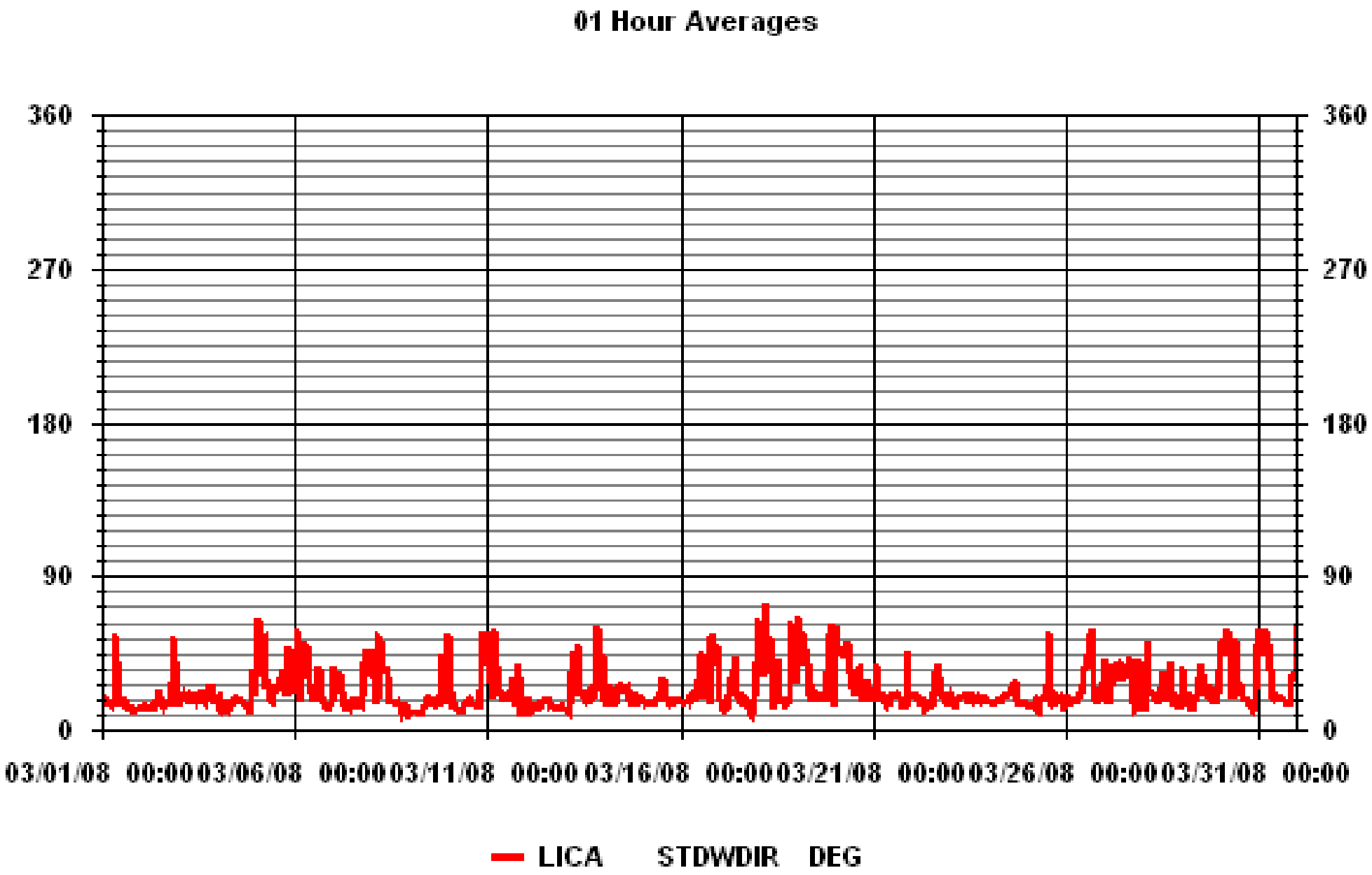
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00
DAY																								
1	14	15	19	18	16	16	15	18	56	41	17	16	17	16	17	15	13	14	12	13	12	12	13	13
2	12	13	14	14	12	12	12	12	15	15	17	23	18	18	15	17	17	17	15	28	55	31	41	15
3	17	19	17	21	20	19	16	20	19	21	21	18	21	20	18	17	23	18	19	26	26	17	17	18
4	19	12	11	13	11	18	13	12	14	17	18	19	19	18	18	17	16	15	14	15	10	31	36	19
5	42	65	52	31	53	54	24	29	24	18	18	22	26	23	31	29	35	33	22	22	49	41	24	37
6	21	59	35	17	45	31	50	49	39	29	23	16	20	21	20	37	18	20	18	14	12	12	14	17
7	38	34	22	23	33	24	15	14	13	17	17	14	16	16	15	18	17	16	20	40	31	48	46	43
8	47	32	16	19	54	53	46	34	35	36	32	16	16	17	16	16	17	15	11	12	13	16	14	10
9	10	11	11	11	11	10	10	10	13	15	18	19	18	18	17	15	17	14	21	45	14	34	28	57
10	32	24	13	15	13	13	12	10	13	15	16	17	18	17	16	16	15	15	12	24	58	46	46	59
11	37	58	29	18	60	21	38	25	22	22	17	19	21	16	20	31	24	14	17	39	33	8	10	13
12	13	19	11	11	16	11	14	13	14	17	17	18	17	18	15	16	14	14	13	13	12	14	14	13
13	12	11	10	15	35	46	21	45	51	21	23	21	19	21	22	18	17	19	27	54	60	46	22	45
14	18	16	16	20	27	16	16	17	20	22	25	26	25	24	23	25	19	17	15	22	14	16	17	19
15	19	17	15	16	17	17	16	15	16	19	19	21	22	31	17	19	18	16	17	16	18	18	17	17
16	17	17	16	17	17	19	17	18	19	23	21	29	43	45	19	24	29	20	15	55	57	42	51	39
17	19	13	14	13	14	14	20	32	23	36	43	20	18	20	16	17	19	18	14	11	9	16	19	41
18	65	51	62	31	64	75	35	55	34	13	15	19	23	42	18	18	18	15	16	19	64	60	52	42
19	27	67	55	38	58	49	41	19	38	28	17	24	21	18	23	19	17	20	19	34	21	56	63	14
20	61	59	45	46	49	42	44	47	52	34	25	21	21	22	34	36	30	17	30	24	30	18	18	18
21	19	26	39	19	19	21	21	18	16	18	17	22	20	20	22	20	19	15	16	17	13	46	22	21
22	21	21	21	21	19	14	18	18	12	13	14	14	15	22	26	34	38	32	22	20	21	17	14	19
23	22	20	18	13	18	18	20	21	20	21	18	18	19	21	20	18	19	20	18	20	20	18	17	18
24	17	16	17	16	17	18	18	18	19	20	**M**	20	21	25	26	27	29	19	17	14	18	14	16	16
25	15	14	14	15	17	13	12	17	18	18	18	24	22	57	18	16	17	20	18	19	20	18	14	15
26	20	20	20	17	17	18	17	21	20	22	26	36	36	44	36	55	59	24	18	18	18	24	19	28
27	41	33	18	18	26	39	29	31	40	34	28	38	36	31	34	43	41	17	12	14	12	41	25	20
28	13	13	26	52	25	22	20	21	20	15	18	26	34	30	17	20	21	40	14	23	16	17	13	16
29	37	16	17	16	16	23	12	16	18	19	30	30	39	34	26	21	20	26	19	20	15	21	22	36
30	52	43	54	48	59	46	41	18	45	53	26	25	27	21	19	19	18	18	16	14	13	15	24	50
31	60	51	43	59	49	58	52	36	20	18	20	18	18	19	18	18	16	16	15	15	31	33	29	59

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

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 743 HRS


01 Hour Averages
360
270
180
90
0
03/01/08 00:00
03/06/08 00:00
03/11/08 00:00
03/16/08 00:00
03/21/08 00:00
03/26/08 00:00
03/31/08 00:00
LICA STDWDIR DEG

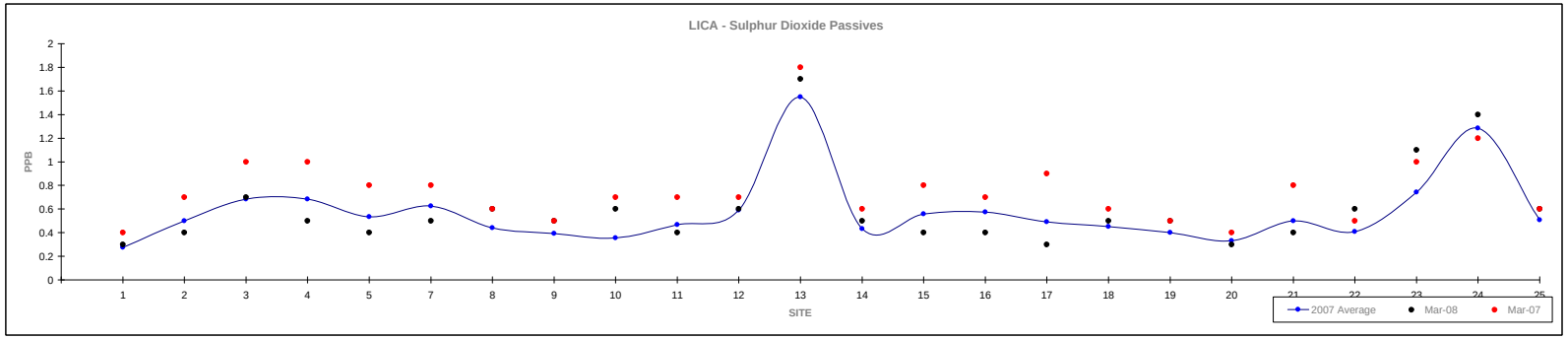
Non-Continuous Monitoring

Passive Summary Results for March 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	0.6	-
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	0.3	#1,#17,#20
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	1.7	#13

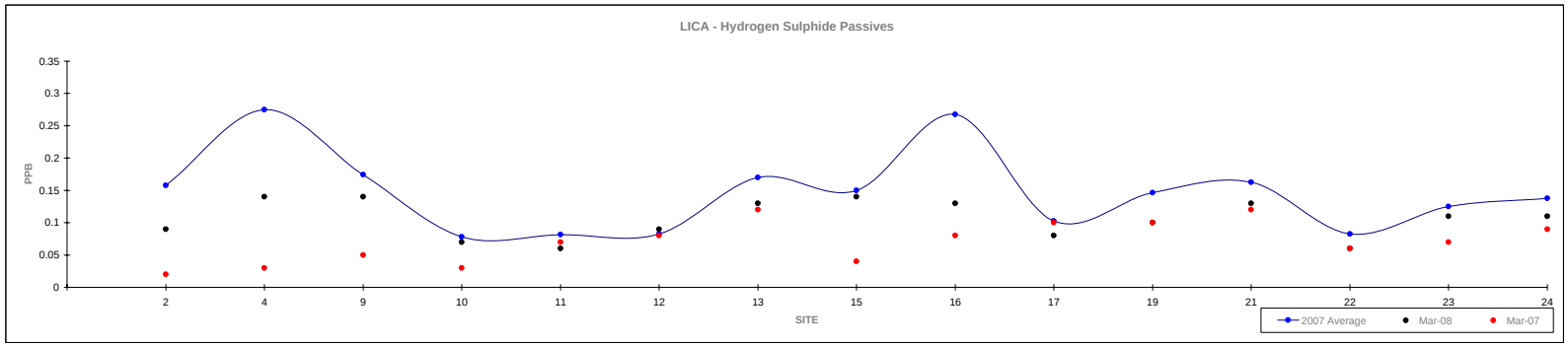


Passive Summary Results for March 2008

Lakeland Industry & Community Association

Hydrogen Sulphide
ppb

	2007															2008	
	2	**4**	**9**	**10**	**11**	**12**	**13**	**15**	**16**	**17**	**19**	**21**	**22**	**23**	**24**	**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	0.11	-
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	0.06	#11, #22
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	0.14	#4,#9,#15

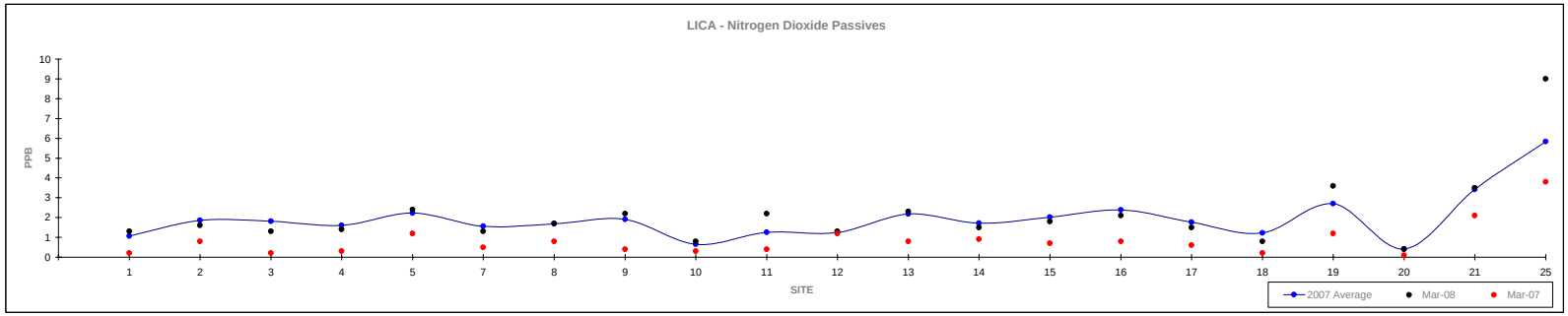


Passive Summary Results for March 2008

Lakeland Industry & Community Association

Nitrogen Dioxide
ppb

	2007																					2008	
	1	**2**	**3**	**4**	**5**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**25**	**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	2.1	-
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	0.4	#20
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	9.0	#25

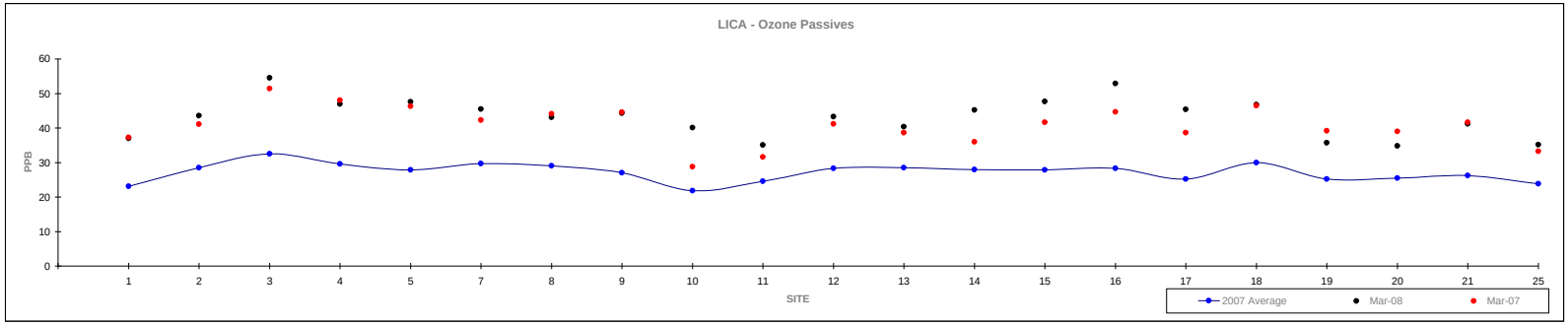


Passive Summary Results for March 2008

Lakeland Industry & Community Association

Ozone ppb

	2007																					2008	
	1	2	3	4	5	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	25	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	43.2	-
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	34.8	#20
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	54.5	#3



Calibration Reports

Cold Lake

Sulphur Dioxide

SO_2 Calibration Report

Station Information

Calibration Date	March 15, 2008	Previous Calibration	February 7, 2008
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	8:20	End Time (MST)	12:35
Reason:	Monthly Calibration		
Barometric Pressure	711 mmHg	Station Temperature	26 Deg C
Cal Gas	50.2 ppm	Cal Gas Expiry date	06/18/2009
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		850		OK		853	
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	110		938		106		984	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	-2	N/A
5000	0	0	0	N/A
4959	40.2	404	398	1.0143
4959	40.2	404	405	0.9967
4974	25.2	253	254	0.9963
4984	15.1	152	153	0.9911
5000	0	0	0	N/A
			Sum of Least Squares	0.9961
			New Correction Factor	0.9967

	Before Calibration	After Calibration
Auto Zero	0	-1
Auto Span	342	343
Sample Lines Connected		**YES**
Percent Change from Previous Calibration		-1.2%

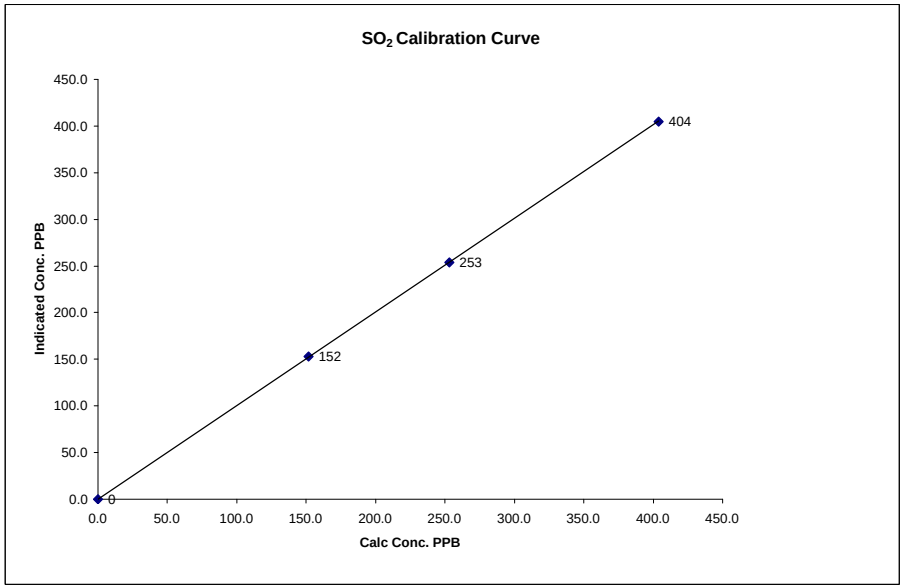
Calibration Performed by: Shea Beaton

SO_2 Calibration Curve

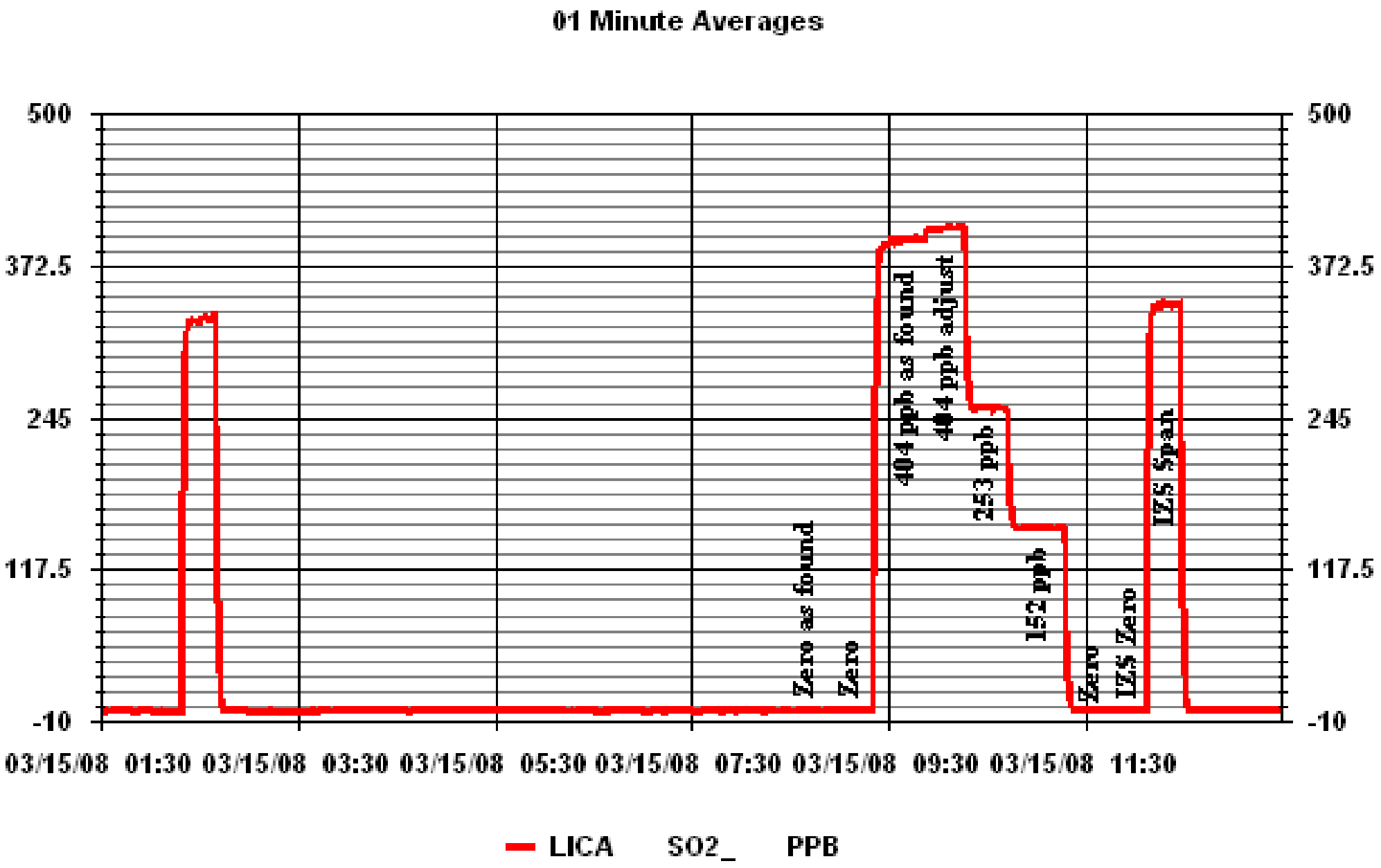
Calibration Date	March 15, 2008		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	8:20	End Time (MST)	12:35

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
152	153	0.9911
253	254	0.9963
404	405	0.9967

Correlation Coefficient	(≥ 0.995)	0.999994
Slope	(0.85 to 1.15)	1.002852
Intercept	(± 3% F.S.)	0.335604



Notes:


01 Minute Averages
500
372.5
245
117.5
-10
Zero as found
Zero
404 ppb as found
404 ppb adjust
253 ppb
152 ppb
Zero
LZS Zero
LZS Span
03/15/08 01:30
03/15/08 03:30
03/15/08 05:30
03/15/08 07:30
03/15/08 09:30
03/15/08 11:30
LICA SO2_ PPB

Total Reduced Sulphur

TRS Calibration Report

Station Information

Calibration Date	March 15, 2008	Previous Calibration	February 7, 2008
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	8:10	End Time (MST)	15:25
Reason:	Monthly Calibration		
Barometric Pressure	711 mm Hg	Station Temperature	26 Deg C
Cal Gas	10.2 ppm	Cal Gas Expiry date	07/03/2008
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 :	690	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	263		
Flow Meter:	API 700	S/N :	690		

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range	0 -100 ppb							
Sample Flow / Box Temp	400	ccm	OK	Deg C	425	ccm	OK	Deg C
HVPS / Lamp Setting	OK		891		OK		889	
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	893		690		897		701	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	0	N/A
4960	39.2	80	80	0.9998
5000	0	0	0	N/A
4960	39.2	80	79	1.0124
4980	22.1	45	45	1.0014
4990	12.3	25	26	0.9646
5000	0	0	0	N/A
			Sum of Least Squares	1.0065
			New Correction Factor	1.0124

	Before Calibration	After Calibration
Auto Zero	0	0
Auto Span	86	82
Sample Lines Connected		YES
Percent Change from Previous Calibration		0.0%

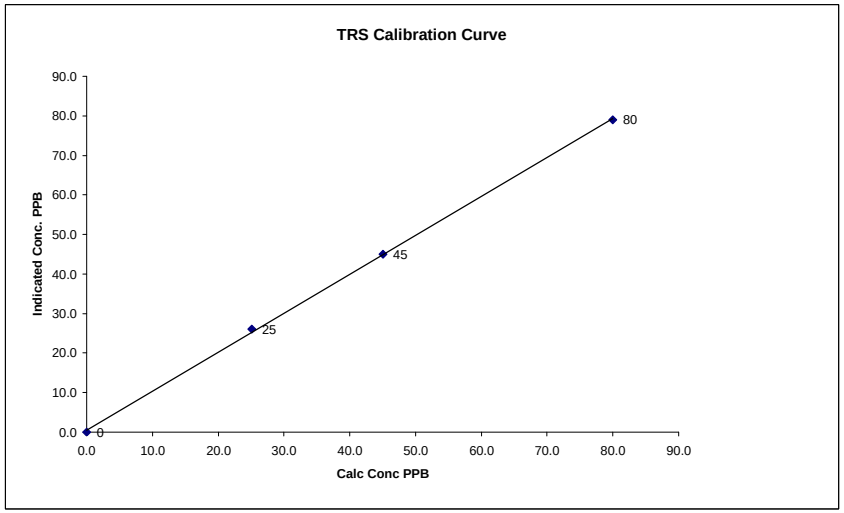
Calibration Performed by: Shea Beaton

TRS Calibration Curve

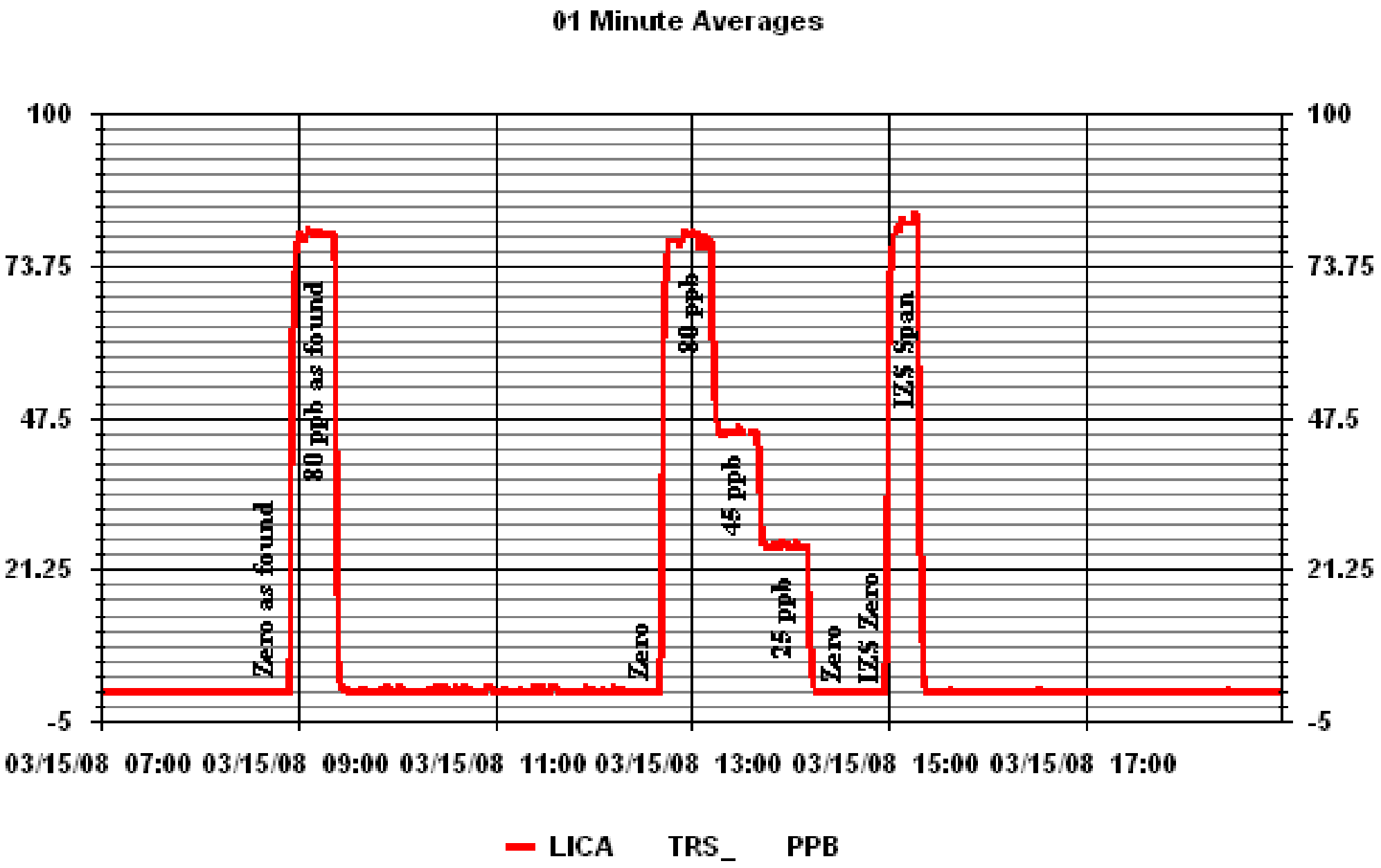
Calibration Date	March 15, 2008		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	8:10	End Time (MST)	15:25

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
25	26	0.9646
45	45	1.0014
80	79	1.0124

Correlation Coefficient	(≥ 0.995)	0.999708
Slope	(0.85 to 1.15)	0.984346
Intercept	(± 3% F.S.)	0.555939



Notes: Pump rebuild after as found points


01 Minute Averages
100
73.75
47.5
21.25
-5
Zero as found
80 ppb as found
Zero
80 ppb
45 ppb
25 ppb
Zero
IZS Zero
IZS Span
03/15/08 07:00
03/15/08 09:00
03/15/08 11:00
03/15/08 13:00
03/15/08 15:00
03/15/08 17:00
LICA TRS_ PPB

Total Hydrocarbons

THC Calibration Report

Station Information

Calibration Date:	March 15, 2008	Previous Calibration	February 7, 2008
Company:	**Lakeland Industry and Community Association**		
Plant / Location:	**LICA1/Cold Lake**		
Start Time (MST)	9:05	End Time (MST)	13:00
Reason:		Monthly Calibration	
Barometric Pressure:	711 mmHg	Station Temperature:	26 Deg C
Calibrator:	API 700	S/N:	690
Cal Gas Concentration:	1010 ppm	Cal Gas Expiry Date:	Jan-10
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	8.5	psi	8	psi
Air Pressure	18	psi	18	psi

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2000	0	0.0	0.0	N/A
2000	80.0	38.8	39.4	0.9859
2000	80.0	38.8	38.8	1.0012
2000	40.0	19.8	19.4	1.0208
2000	20.0	10.0	9.6	1.0417
2000	0	0.0	0.0	N/A
			Correction Factor:	1.0012

Percent Change

Previous Calibration Correction Factor:	0.9986
Current Correction Factor Before Span Adjust:	0.9859
Percent Change:	1.3%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	30.4	30.1
Sample Lines Connected		**YES**

Cylinder Pressures	
Span	300 psi
Hydrogen	850 psi
Zero Air	Maxxam-owned API 701 zero air supply with catalytic oxidizer

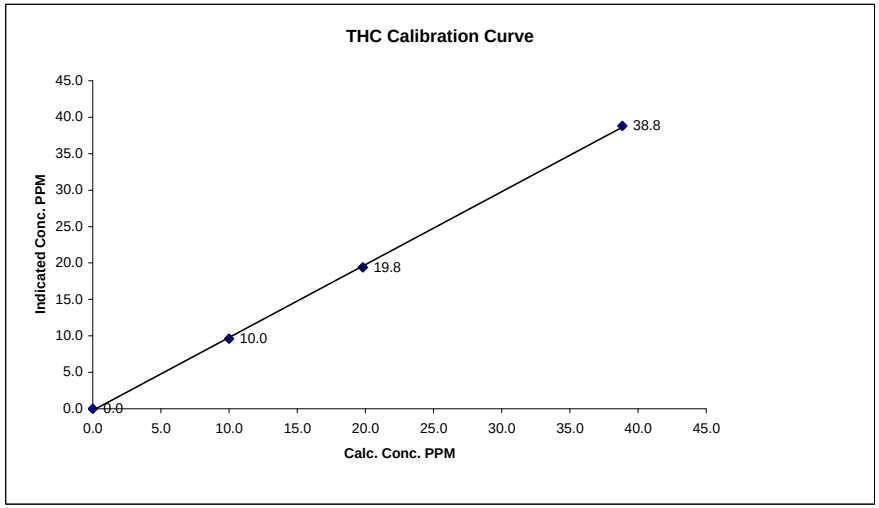
Calibration Performed by: Shea Beaton

THC Calibration Curve

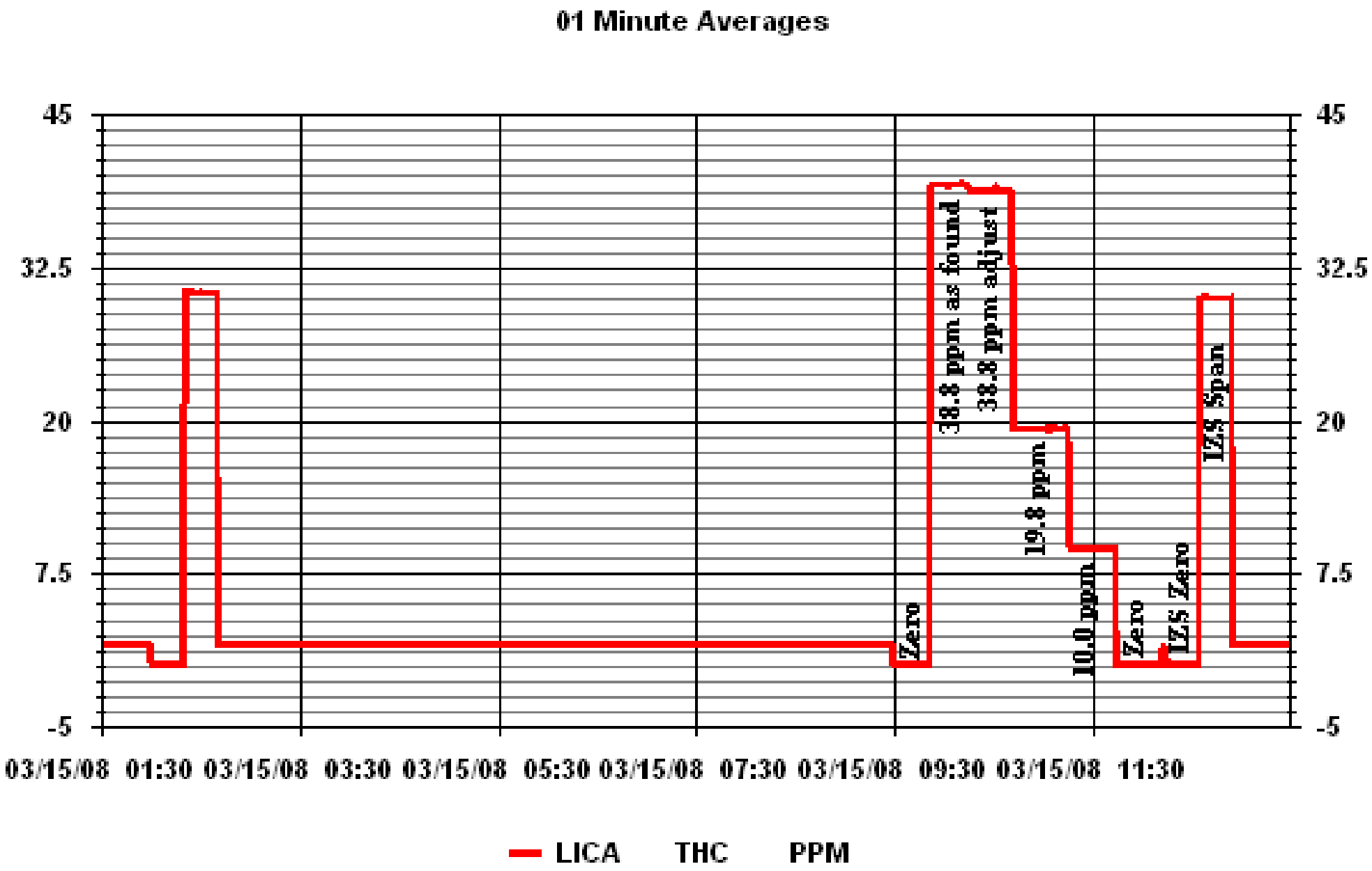
Calibration Date	March 15, 2008		
Company	**Lakeland Industry and Community Association**		
Plant / Location	**LICA1/Cold Lake**		
Start Time (MST)	9:05	End Time (MST)	13:00

Calculated Conc. ppm	Indicated Response ppm	Correction Factor
0.0	0.0	
10.0	9.6	1.0417
19.8	19.4	1.0208
38.8	38.8	1.0012

Correlation Coefficient	(≥ 0.995)	0.999826
Slope	(0.85 to 1.15)	1.000969
Intercept	(± 3% F.S.)	-0.229145



Notes:


01 Minute Averages
45
32.5
20
7.5
-5
Zero
38.8 ppm as found
38.8 ppm adjust
19.8 ppm
10.0 ppm
Zero
IZS Zero
IZS Span
03/15/08 01:30
03/15/08 03:30
03/15/08 05:30
03/15/08 07:30
03/15/08 09:30
03/15/08 11:30
LICA THC PPM

Particulate Matter 2.5

TEOM® Calibration

Station		Transfer Standard	
Date:	March 15, 2008	Make/Model:	Bios DC-2
Station Name:	LICA	Serial Number:	1193
Location:	Cold Lake - South	Cell s/n:	2272
Operator:	Maxxam Analytics	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	140AB213859701	Filter Load (%)	30
Transducer s/n	140AB213859701	K_o Factor	11095
Parameter	PM 2.5	Temp (^oC)	-4.2
		Press (ATM)	0.936

Note: Tolerances are noted as BOLD in Brackets

Calibration

Zero flow

	Pump Off		Pump On (Time to reach set points)	
F-Main (l/min)	0.07		**(45-60 Sec)**	34
F-Aux (l/min)	0.18		**(45-60 Sec)**	56

Temperature/Pressure

Measured Temp **(± 1 ^oC)**	-4.6	**Δ ^oC**	-0.4
Measured Press **(± 1.5% ATM)**	0.936	**Δ % ATM**	0.0%

Flow Audit

			Δ % from Set-pt
Indicated Main/Aux Flow (l/min)	3.00 / 13.65	**(± 2%)**	0.0% / 0.1%
Total Flow = Main + Aux (l/min)	16.65	**(± 2%)**	0.1%
Measured Total Flow (l/min)	16.68	**(± 1.0 l/min. (5.65%))**	-0.2%
Measured Main Flow (l/min)	2.99	**(± 0.2 l/min. (6.25%))**	0.3%

Leak Check

		Actual leakage = Pump On - Pump Off
Main **(< 0.15 l/min)**	0.20	0.13
Aux **(< 0.15 l/min)**	0.25	0.07

K_o Factor

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

Start Time: **11:15** **Finish Time:** **14:30:00 PM**

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

Comments: Changed large in-line bypass and sensor flow filters

Calibrator/s: Shea Beaton

Nitrogen Dioxide

NOx - NO- NO_2 Calibration Report

Station Information

Calibration Date	March 15, 2008	Previous Calibration	February 7, 2008
Company	**Lakeland Ind & Comm. Assoc.**	Plant/Location	**LICA 1 - Cold Lake South**
Start Time (MST)	8:20	End Time (MST)	15:10
Reason:	Monthly Calibration		
Barometric Pressure	711 mmHg	Station Temperature	26.0 Deg C
Cal Gas Concentration	NOx 49.8 ppm NO	49.7 ppm	Cal Gas Expiry date 06/18/2009
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	734	ccm	318	Deg C	737	ccm	317	Deg C
Ozone Flow / Vacuum	OK	ccm	175.3	"Hg-A	OK	ccm	175.7	"Hg-A
HVPS	-821		Volts		-821		Volts	
Rx/ Temp / PMT Temp	49.7	Deg C	-2.5	Deg C	49.6	Deg C	-2.5	Deg C
Box Temp / IZS Temp	31.3	Deg C	OK	Deg C	31.4	Deg C	OK	Deg C
Offset	2.6	NOx	2.5	NO	2.9	NOx	2.8	NO
Slope	1.002	NOx	0.686	NO	1.002	NOx	0.697	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
5000	N/A	N/A	0	0	1	0	0	N/A	N/A
5000	N/A	N/A	0	0	0	0	0	N/A	N/A
4959	40.2	N/A	400	400	394	393	1	1.0164	1.0169
4959	40.2	N/A	400	400	400	399	1	1.0011	1.0016
4974	25.2	N/A	251	251	251	250	0	1.0001	1.0021
4984	15.1	N/A	150	150	150	150	1	1.0028	1.0008
5000	N/A	N/A	0	0	0	0	0	N/A	N/A
								Converter Efficiency	
4959	40.2	N/A	400	400	400	400	0	N/A	
4959	40.2	300	400	N/A	398	128	270	99%	
4959	40.2	200	400	N/A	399	208	191	99%	
4959	40.2	100	400	N/A	399	304	96	100%	
4959	40.2	N/A	400	400	399	398	1	N/A	
								Correction Factor	
5000	N/A	N/A	0	0	0	0	0	N/A	N/A

Linearity OK?	**Yes**	No	Sum of Least Squares	1.0010	1.0017
Flows Checked on-site?	Yes	**No**	New Correction Factor	1.0011	1.0016
			Average Converter Efficiency	99%	

	Before Calibration				After Calibration			
Auto Zero	1	NOx	1	NO2	0	NOx	0	NO2
Auto Span	290	NOx	288	NO2	288	NOx	286	NO2
Sample Lines Connected					**YES**			
Percent Change from Previous Calibration					*NOx*	-2.0%	*NO*	-1.8%

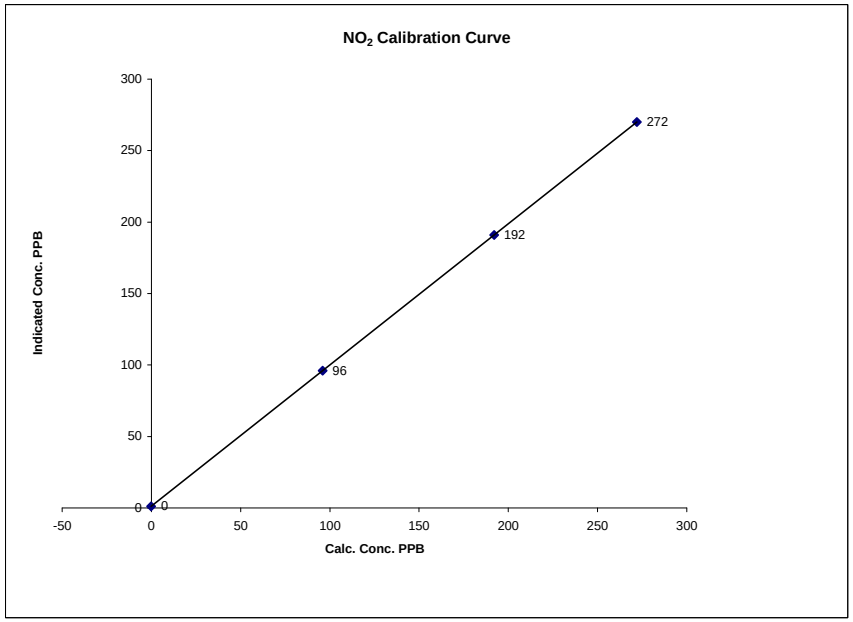
Calibration Performed by: Shea Beaton

NO_2 Calibration Curve

Calibration Date	March 15, 2008		
Company	**Lakeland Ind & Comm. Assoc.**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	8:20	End Time (MST)	15:10

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	1	N/A
96	96	1.0000
192	191	1.0052
272	270	1.0074

Correlation Coefficient	(≥ 0.995)	1.000000
Slope	(0.85 to 1.15)	0.988051
Intercept	(± 3% F.S.)	1.247543

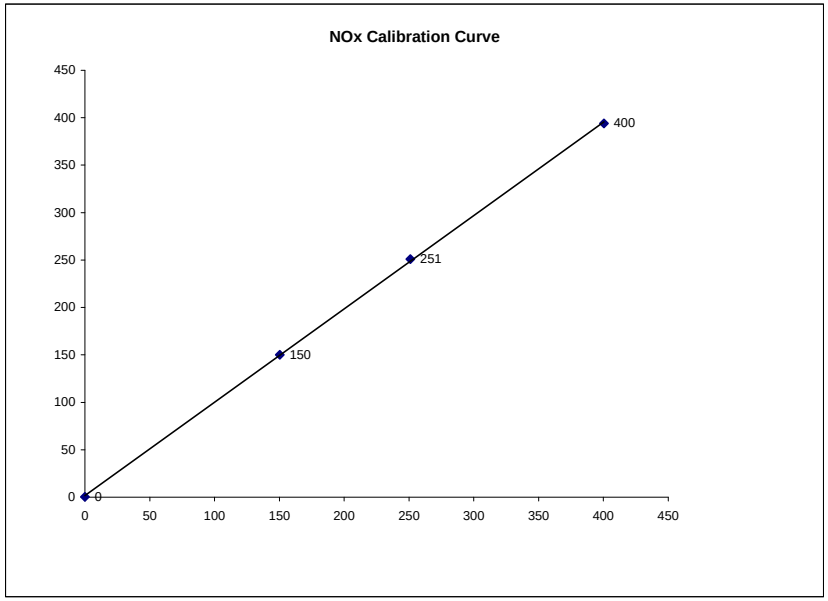


Notes:

NOx Calibration Curve

Calibration Date	March 15, 2008		
Company	**Lakeland Ind & Comm. Assoc.**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	8:20	End Time (MST)	15:10

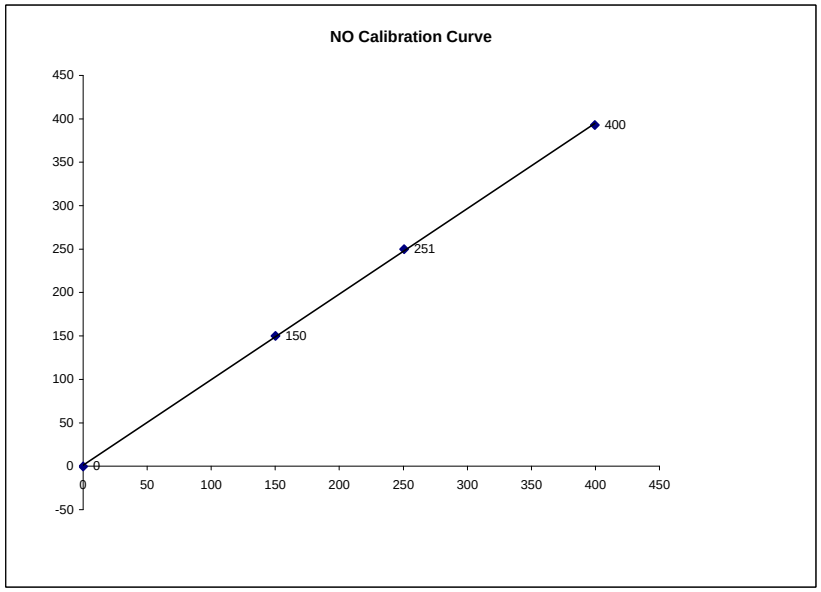
Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999882
			Slope (0.85 to 1.15)	0.983908
0	1	N/A	Intercept (± 3% F.S.)	1.623302
150	150	1.0028		
251	251	1.0001		
400	394	1.0164		

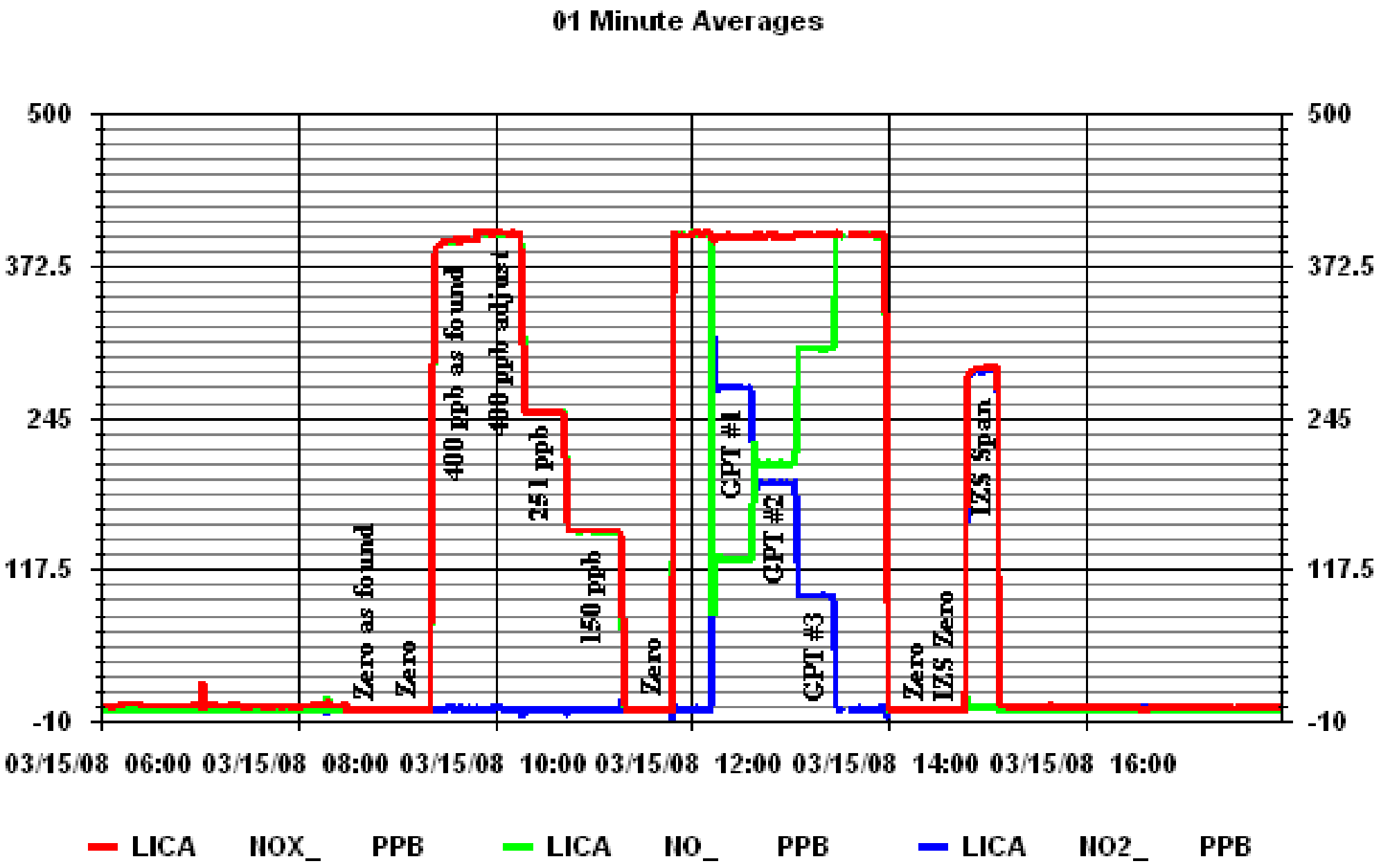


NO Calibration Curve

Calibration Date	March 15, 2008		
Company	**Lakeland Ind & Comm. Assoc.**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	8:20	End Time (MST)	15:10

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999877
			Slope (0.85 to 1.15)	0.984356
0	0	N/A	Intercept (± 3% F.S.)	1.279616
150	150	1.0008		
251	250	1.0021		
400	393	1.0169		




01 Minute Averages
500
372.5
245
117.5
-10
Zero as found
Zero
400 ppb as found
400 ppb adjust
251 ppb
150 ppb
Zero
GPT #1
GPT #2
GPT #3
Zero
LZS Zero
LZS Span
03/15/08 06:00
03/15/08 08:00
03/15/08 10:00
03/15/08 12:00
03/15/08 14:00
03/15/08 16:00
LICA NOX_ PPB
LICA NO_ PPB
LICA NO2_ PPB

Ozone

O_3 Calibration Report

Station Information

Calibration Date	March 16, 2008	Previous Calibration	February 7, 2008
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:55	End Time (MST)	11:45
Reason:		Monthly Calibration	
Barometric Pressure	712 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:	Dilution
DAS Make / Model:	ESC 8832	S/N :	263		

Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0 - 500 ppb			
Bench Temp/ Pressure	30.6	707.4	30.7	707.4
O_3 Set Level	29%		29%	
Bench Lamp/O3 Lamp	53.7	67.7	53.7	67.7
Sample Flow A/B	0.74 LPM	0.753 LPM	0.746 LPM	0.758 LPM
Offset / Slope	0.8	1.081	0.7	1.049

Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	0.1	N/A
5000	300	291	300	0.9700
5000	300	291	291	1.0000
5000	200	197	198	0.9949
5000	100	96	97	0.9897
5000	0	0	0	N/A
			Sum of Least Squares	N/A
			New Correction Factor	1.0000

	Before Calibration	After Calibration
Auto Zero	0	0
Auto Span	310	300
Sample Lines Connected		YES
Percent Change from Previous Calibration		2.6%

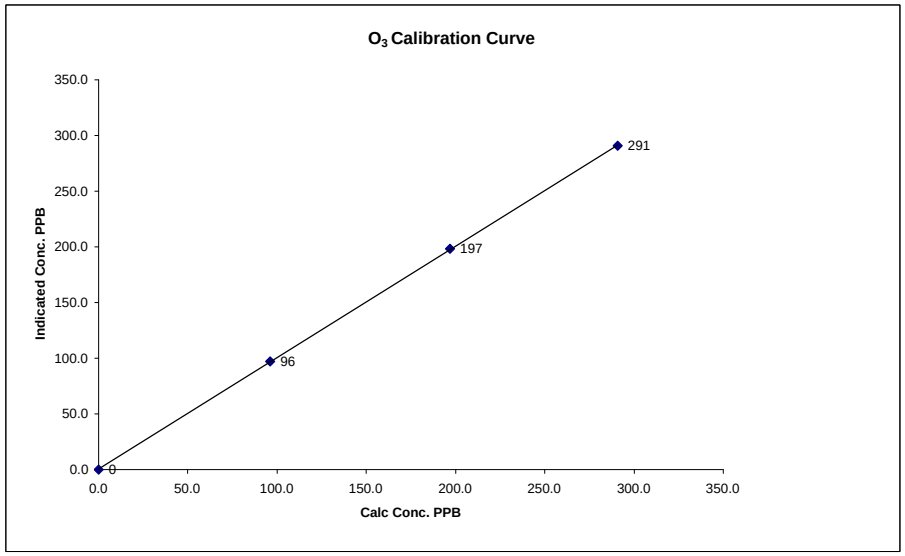
Calibration Performed by: Shea Beaton

O_3 Calibration Curve

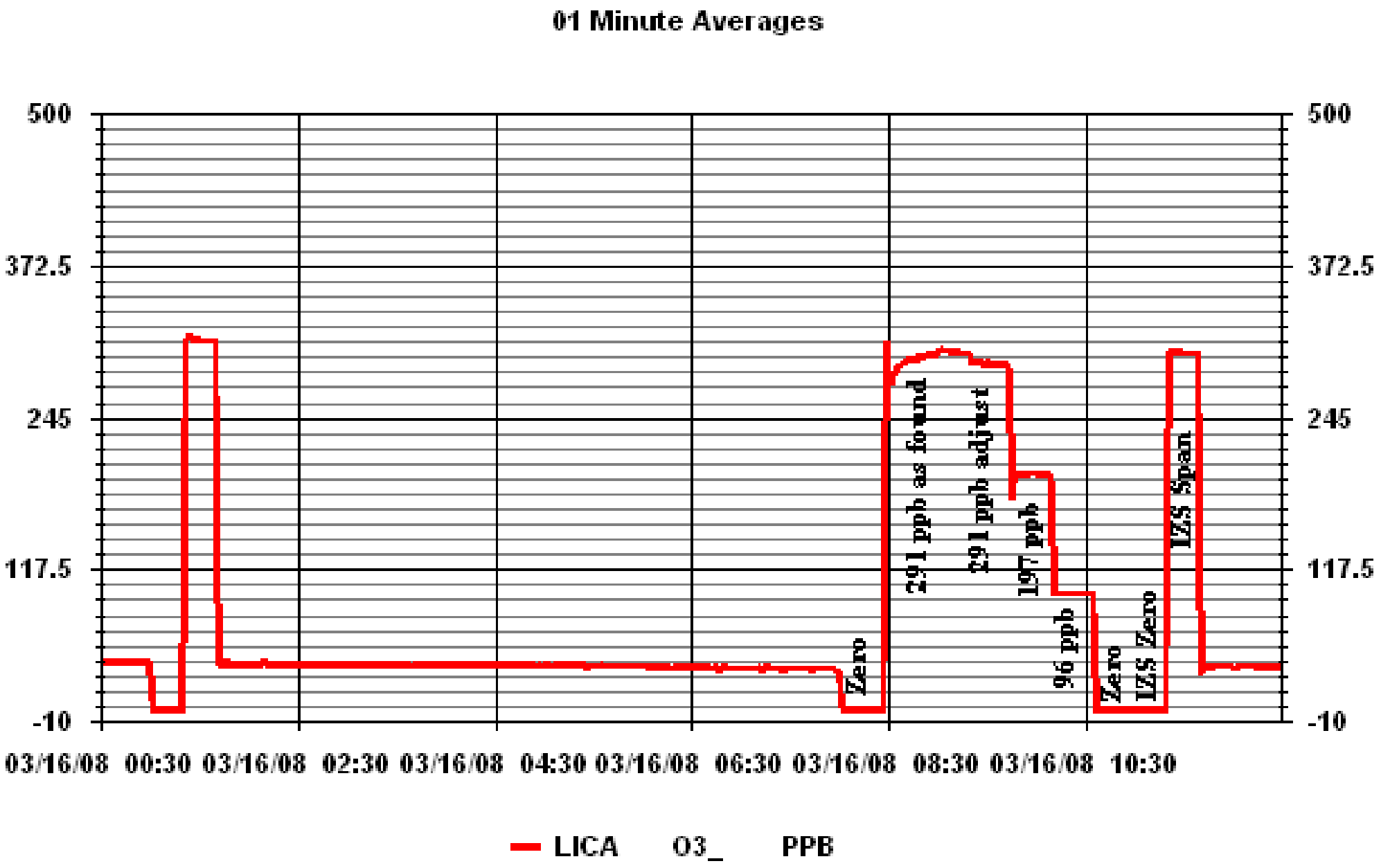
Calibration Date	March 16, 2008		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:55	End Time (MST)	11:45

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
96	97	0.9897
197	198	0.9949
291	291	1.0000

Correlation Coefficient	(≥ 0.995)	0.999981
Slope	(0.85 to 1.15)	0.999713
Intercept	(± 3% F.S.)	0.566853



Notes:


01 Minute Averages
500
372.5
245
117.5
-10
03/16/08 00:30
03/16/08 02:30
03/16/08 04:30
03/16/08 06:30
03/16/08 08:30
03/16/08 10:30
Zero
291 ppb as found
291 ppb adjust
197 ppb
96 ppb
Zero
LZS Zero
LZS Span
LICA O3_ PPB

Passive Bubble Maps

Lakeland Industry & Community Association
SO_2 Passive Bubble Map

March 2008

PASSIVE STATIONS

1 – Sand River	0.3 PPB
2 – Therien	0.4 PPB
3 – Flat Lake	0.7 PPB
4 – Lake Eliza	0.5 PPB
4D – Lake Eliza	0.5 PPB
5 – Telegraph Creek	0.4 PPB
7 – Muriel-Kehewin	0.5 PPB
8 – Dupre	0.6 PPB
9 – La Corey	0.5 PPB
10 – Wolf Lake	0.6 PPB
11 – Foster Creek	0.4 PPB
12 – Primrose	0.6 PPB
13 – Maskwa	1.7 PPB
14 – Ardmore	0.5 PPB
15 – Frog Lake	0.4 PPB
16 – Clear Range	0.4 PPB
17 – Fishing Lake	0.3 PPB
18 – Beaverdam	0.5 PPB
19 – Cold Lake South	0.5 PPB
20 – Medley-Martineau	0.3 PPB
21 – Fort George	0.4 PPB
21D – Fort George	0.5 PPB
22 – Burnt Lake	0.6 PPB
23 – Mahihkan	1.1 PPB
24 – Hilda Lake	1.4 PPB
25 – Town of Bonnyville	0.6 PPB

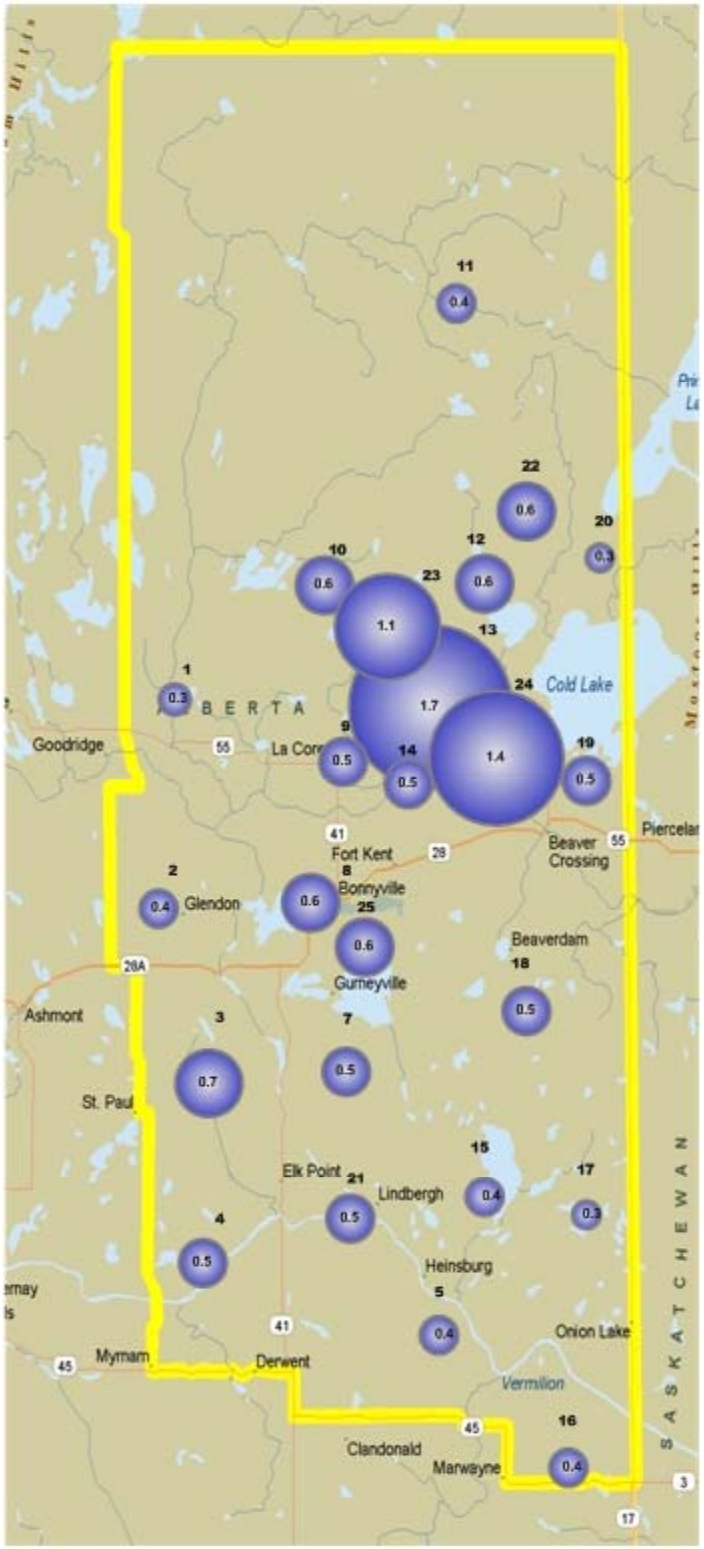
Summary

Minimum : 0.3 PPB – Sand River , Fishing Lake, Medley-Martineau
Maximum: 1.7 PPB – Maskwa
Average: 0.6 PPB *Includes Duplicates

Comparison of Continuous and Passive Monitoring
19 – Cold Lake South Passive – 0.5 PPB
19 – Cold Lake South Station – 0.14 PPB

Duplicates: 4 – Lake Eliza 0.5 PPB
4D – Lake Eliza 0.5 PPB

21 – Fort George 0.4 PPB
21D – Fort George 0.5 PPB

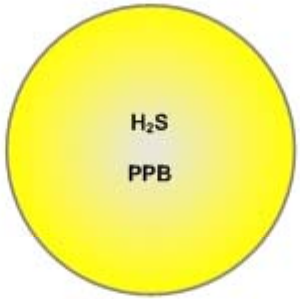


Lakeland Industry & Community Association
H_2S Passive Bubble Map

March 2008

PASSIVE STATIONS

2 – Therien	0.09 PPB
4 – Lake Eliza	0.14 PPB
4D – Lake Eliza	0.13 PPB
9 – La Corey	0.14 PPB
10 – Wolf Lake	0.07 PPB
11 – Foster Creek	0.06 PPB
12 – Primrose	0.09 PPB
13 – Maskwa	0.13 PPB
15 – Frog Lake	0.14 PPB
16 – Clear Range	0.13 PPB
17 – Fishing Lake	0.08 PPB
19 – Cold Lake South	0.10 PPB
21 – Fort George	0.13 PPB
21D – Fort George	0.11 PPB
22 – Burnt Lake	0.06 PPB
23 – Mahihkan	0.11 PPB
24 – Hilda Lake	0.11 PPB

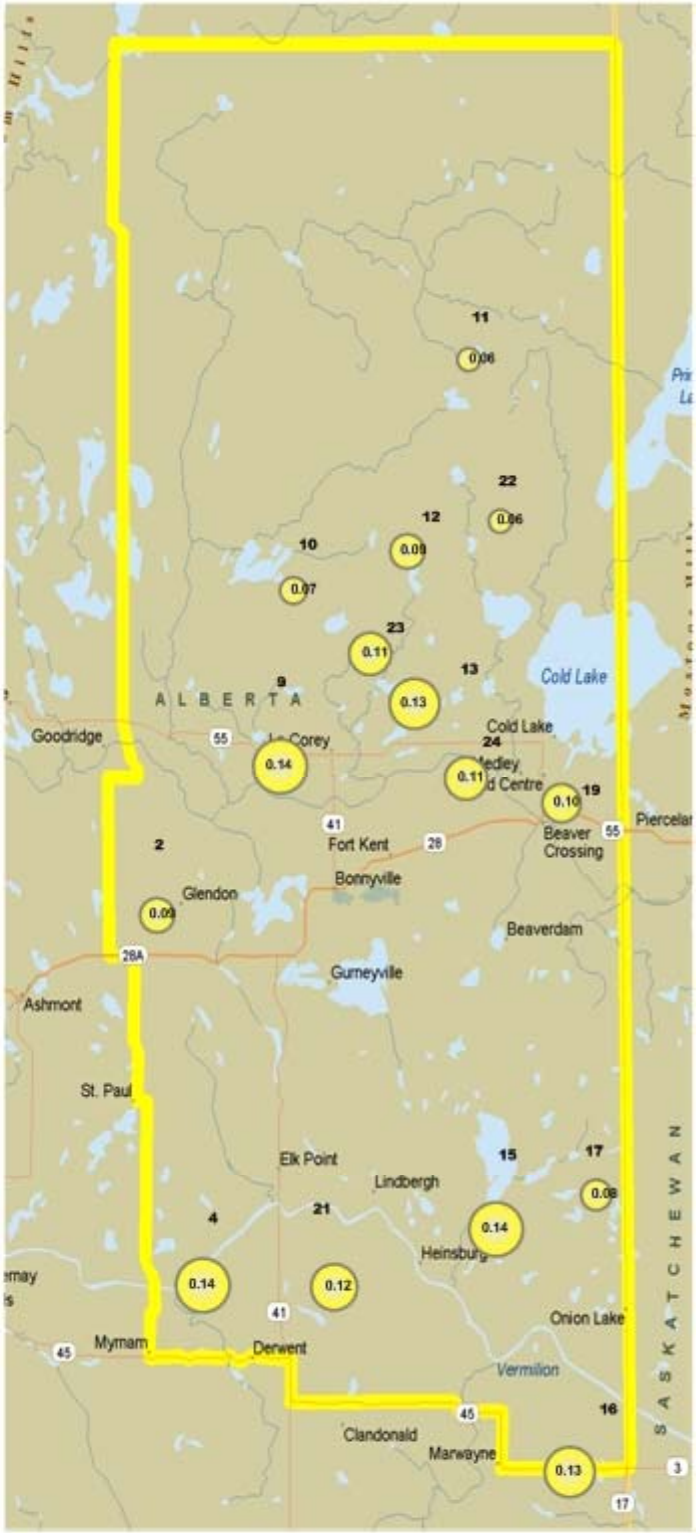


Summary

Minimum : 0.06 PPB – Foster Creek, Burnt Lake
Maximum: 0.14 PPB – Lake Eliza, La Corey, Frog Lake
Average: 0.11 PPB *Includes Duplicates

Duplicates: 4 – Lake Eliza 0.14 PPB
4D – Lake Eliza 0.13 PPB

21 – Fort George 0.13 PPB
21D – Fort George 0.11 PPB

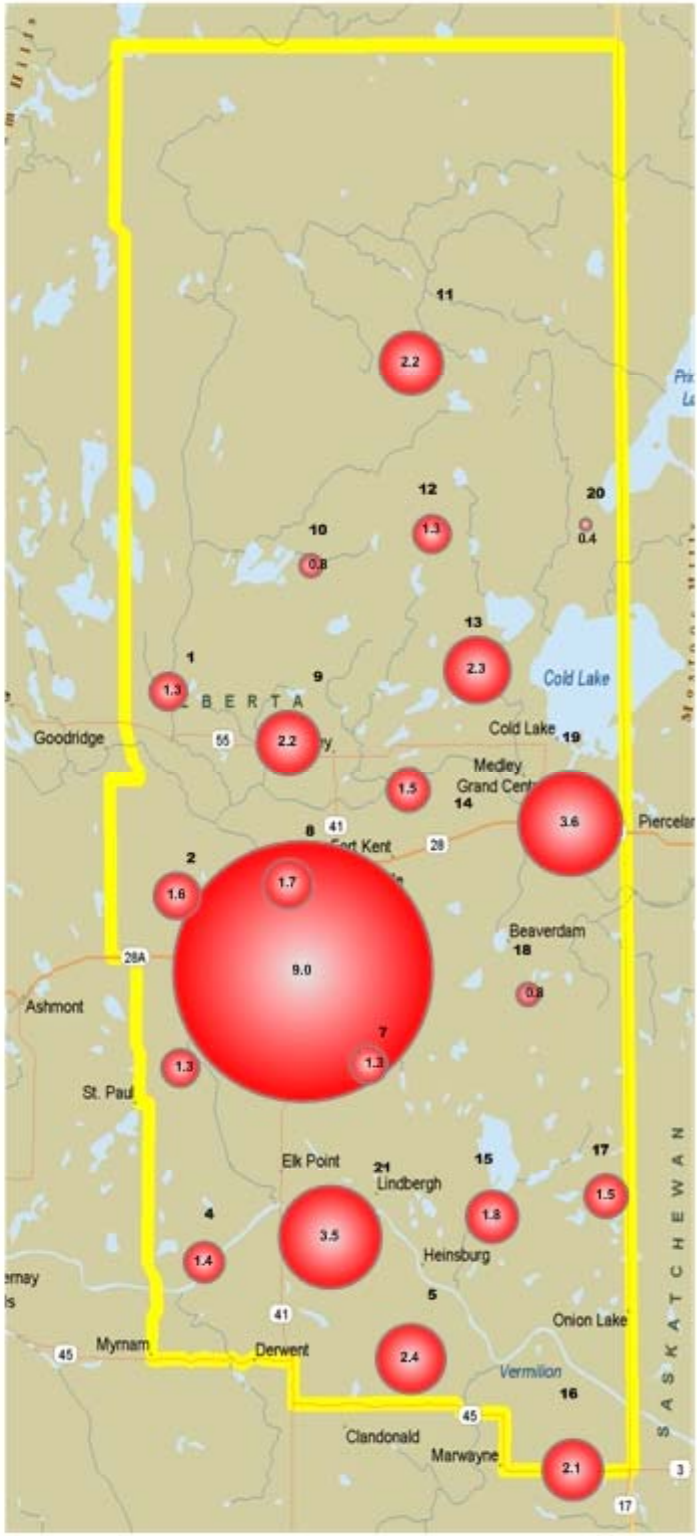


Lakeland Industry & Community Association
NO_2 Passive Bubble Map

March 2008

PASSIVE STATIONS

1 – Sand River	1.3 PPB
2 – Therien	1.6 PPB
3 – Flat Lake	1.3 PPB
4 – Lake Eliza	1.4 PPB
4D – Lake Eliza	1.4 PPB
5 – Telegraph Creek	2.4 PPB
7 – Muriel-Kehewin	1.3 PPB
8 – Dupre	1.7 PPB
9 – La Corey	2.2 PPB
10 – Wolf Lake	0.8 PPB
11 – Foster Creek	2.2 PPB
12 – Primrose	1.3 PPB
13 – Maskwa	2.3 PPB
14 – Ardmore	1.5 PPB
15 – Frog Lake	1.8 PPB
16 – Clear Range	2.1 PPB
17 – Fishing Lake	1.5 PPB
18 – Beaverdam	0.8 PPB
19 – Cold Lake South	3.6 PPB
20 – Medley-Martineau	0.4 PPB
21 – Fort George	3.5 PPB
21D – Fort George	3.6 PPB
25 – Town of Bonnyville	9.0 PPB



Summary

Minimum : 0.4 PPB – Medley-Martineau
Maximum: 9.0 PPB – Town of Bonnyville
Average: 2.1 PPB *Includes Duplicates

Duplicates: 4 – Lake Eliza 1.4 PPB
4D – Lake Eliza 1.4 PPB

21 – Fort George 3.5 PPB
21D – Fort George 3.6 PPB

Comparison of Continuous and Passive Monitoring

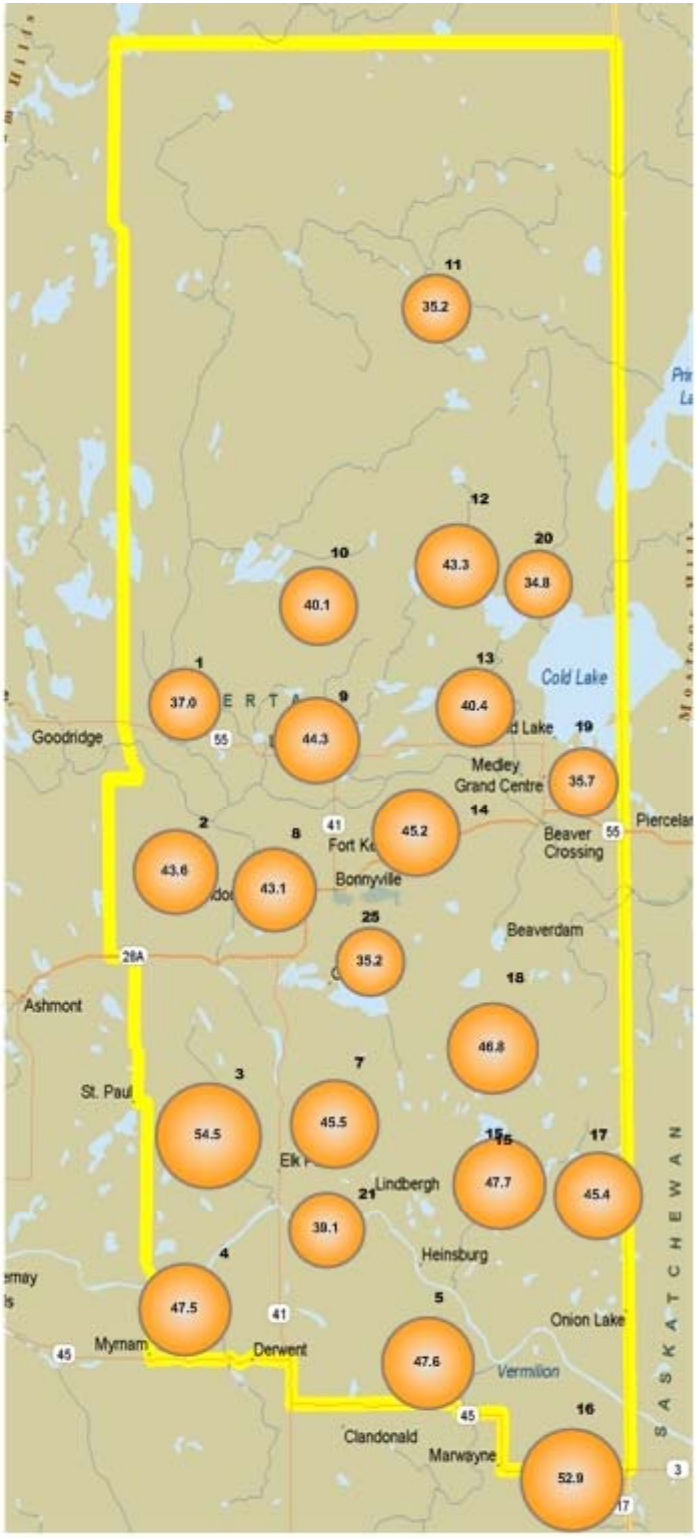
19 - Cold Lake South Passives – 3.6 PPB
19 - Cold Lake South Station – 6.19 PPB

Lakeland Industry & Community Association
O_3 Passive Bubble Map

March 2008

PASSIVE STATIONS

1 – Sand River	37.0 PPB
2 – Therien	43.6 PPB
3 – Flat Lake	54.5 PPB
4 – Lake Eliza	46.9 PPB
4D – Lake Eliza	48.1 PPB
5 – Telegraph Creek	47.6 PPB
7 – Muriel-Kehewin	45.5 PPB
8 – Dupre	43.1 PPB
9 – La Corey	44.3 PPB
10 – Wolf Lake	40.1 PPB
11 – Foster Creek	35.2 PPB
12 – Primrose	43.3 PPB
13 – Maskwa	40.4 PPB
14 – Ardmore	45.2 PPB
15 – Frog Lake	47.7 PPB
16 – Clear Range	52.9 PPB
17 – Fishing Lake	45.4 PPB
18 – Beaverdam	46.8 PPB
19 – Cold Lake South	35.7 PPB
20 – Medley-Martineau	34.8 PPB
21 – Fort George	41.2 PPB
21D – Fort George	37.0 PPB
25 – Town of Bonnyville	35.2 PPB



Summary

Minimum : 34.8 PPB – Medley-Martineau
Maximum: 54.5 PPB – Flat Lake
Average: 43.1 PPB *Includes Duplicates

Duplicates: 4 – Lake Eliza 46.9 PPB
4D – Lake Eliza 48.1 PPB

21 – Fort George 41.2 PPB
21D – Fort George 37.0 PPB

Comparison of Continuous and Passive Monitoring

19 – Cold Lake South Passive – 35.7 PPB
19 – Cold Lake South Station – 35.76 PPB

Passive Network Laboratory Analysis

Your Project #: 2008/02/27 - 2008/03/28
Site:LICA

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

Report Date: 2008/04/22

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A815205
Received: 2008/04/02, 15:40

Sample Matrix: Air
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
H2S Passive Analysis (1)	1	2008/04/21	2008/04/22		EDM SOP-0320
NO2 Passive Analysis (1)	1	2008/04/21	2008/04/22		EDM SOP-0318
O3 Passive Analysis (1)	1	2008/04/15	2008/04/15		EDM SOP-0317
SO2 Passive Analysis (1)	1	2008/04/21	2008/04/22		EDM SOP-0319

Sample Matrix: Air
Samples Received: 25

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
H2S Passive Analysis (1)	16	2008/04/21	2008/04/22		EDM SOP-0320
NO2 Passive Analysis (1)	22	2008/04/21	2008/04/22		EDM SOP-0318
O3 Passive Analysis (1)	22	2008/04/15	2008/04/15		EDM SOP-0317
SO2 Passive Analysis (1)	25	2008/04/21	2008/04/22		EDM SOP-0319

(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.

JODI HANSON, Project Manager, Customer Service
Email: jodi.hanson@maxxamanalytics.com
Phone# (780) 468-3500

==========
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section

Your Project #: 2008/02/27 - 2008/03/28
Site:LICA

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

Report Date: 2008/04/22

CERTIFICATE OF ANALYSIS

5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CAEAL have approved this reporting process and electronic report format.

Total cover pages: 2

Maxxam Job #: A815205
Report Date: 2008/04/22

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2008/02/27 - 2008/03/28
Site Reference: LICA
Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		J40476		
Sampling Date		2008/03/01 13:10		
	Units	**21A**	**RDL**	**QC Batch**
Passive Montioring				
Calculated H2S	ppb	0.11	0.02	2262712
Calculated NO2	ppb	3.6	0.1	2262713
Calculated O3	ppb	37.0	0.1	2250654
Calculated SO2	ppb	0.5	0.1	2262717

RDL = Reportable Detection Limit

Maxxam Job #: A815205
Report Date: 2008/04/22

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2008/02/27 - 2008/03/28
Site Reference: LICA
Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		J40456	J40457	J40458	J40459		
Sampling Date		2008/02/27 09:15	2008/02/27 08:35	2008/03/01 14:45	2008/03/01 14:05		
	Units	**1**	**2**	**3**	**4**	**RDL**	**QC Batch**
Passive Montioring							
Calculated H2S	ppb		0.09		0.14	0.02	2262712
Calculated NO2	ppb	1.3	1.6	1.3	1.4	0.1	2262713
Calculated O3	ppb	37.0	43.6	54.5	46.9	0.1	2250654
Calculated SO2	ppb	0.3	0.4	0.7	0.5	0.1	2262717

RDL = Reportable Detection Limit

Maxxam ID		J40460	J40461	J40462	J40463		
Sampling Date		2008/03/01 12:35	2008/03/01 15:30	2008/02/27 08:00	2008/02/27 10:00		
	Units	**5**	**7**	**8**	**9**	**RDL**	**QC Batch**
Passive Montioring							
Calculated H2S	ppb				0.14	0.02	2262712
Calculated NO2	ppb	2.4	1.3	1.7	2.2	0.1	2262713
Calculated O3	ppb	47.6	45.5	43.1	44.3	0.1	2250654
Calculated SO2	ppb	0.4	0.5	0.6	0.5	0.1	2262717

RDL = Reportable Detection Limit

Maxxam ID		J40464	J40465	J40466	J40467		
Sampling Date		2008/02/27 10:40	2008/02/27 12:00	2008/02/27 13:50	2008/02/27 14:40		
	Units	**10**	**11**	**12**	**13**	**RDL**	**QC Batch**
Passive Montioring							
Calculated H2S	ppb	0.07	0.06	0.09	0.13	0.02	2262712
Calculated NO2	ppb	0.8	2.2	1.3	2.3	0.1	2262713
Calculated O3	ppb	40.1	35.1	43.3	40.4	0.1	2250654
Calculated SO2	ppb	0.6	0.4	0.6	1.7	0.1	2262717

RDL = Reportable Detection Limit

Maxxam Job #: A815205
Report Date: 2008/04/22

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2008/02/27 - 2008/03/28
Site Reference: LICA
Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		J40468	J40469	J40470	J40471		
Sampling Date		2008/02/27 07:00	2008/03/01 11:00	2008/03/01 11:45	2008/03/01 10:20		
	Units	**14**	**15**	**16**	**17**	**RDL**	**QC Batch**
Passive Montioring							
Calculated H2S	ppb		0.14	0.13	0.08	0.02	2262712
Calculated NO2	ppb	1.5	1.8	2.1	1.5	0.1	2262713
Calculated O3	ppb	45.2	47.7	52.9	45.4	0.1	2250654
Calculated SO2	ppb	0.5	0.4	0.4	0.3	0.1	2262717

RDL = Reportable Detection Limit

Maxxam ID		J40472	J40473	J40474	J40475		
Sampling Date		2008/03/01 09:25	2008/03/01 08:55	2008/02/27 16:20	2008/03/01 13:10		
	Units	**18**	**19**	**20**	**21**	**RDL**	**QC Batch**
Passive Montioring							
Calculated H2S	ppb		0.10		0.13	0.02	2262712
Calculated NO2	ppb	0.8	3.6	0.4	3.5	0.1	2262713
Calculated O3	ppb	46.8	35.7	34.8	41.2	0.1	2250654
Calculated SO2	ppb	0.5	0.5	0.3	0.4	0.1	2262717

RDL = Reportable Detection Limit

Maxxam ID		J40477	J40480	J40481	J40482		
Sampling Date		2008/03/01 14:05	2008/02/27 13:30	2008/02/27 14:30	2008/02/27 15:05		
	Units	**04A**	**22**	**23**	**24**	**RDL**	**QC Batch**
Passive Montioring							
Calculated H2S	ppb	0.13	0.06	0.11	0.11	0.02	2262712
Calculated NO2	ppb	1.4				0.1	2262713
Calculated O3	ppb	48.1				0.1	2250654
Calculated SO2	ppb	0.5	0.6	1.1	1.4	0.1	2262717

RDL = Reportable Detection Limit

Maxxam Job #: A815205
Report Date: 2008/04/22

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2008/02/27 - 2008/03/28
Site Reference: LICA
Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		J40483		
Sampling Date		2008/02/27 07:30		
	Units	**25**	**RDL**	**QC Batch**
Passive Montioring				
Calculated NO2	ppb	9.0	0.1	2262713
Calculated O3	ppb	35.2	0.1	2250654
Calculated SO2	ppb	0.6	0.1	2262717

RDL = Reportable Detection Limit

General Comments

Results relate only to the items tested.

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Attention: MICHAEL BISAGA
Client Project #: 2008/02/27 - 2008/03/28
P.O. #:
Site Reference: LICA

Quality Assurance Report

Maxxam Job Number: PA815205

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2250654 LM1	Calibration Check	Calculated O3	2008/04/15		100	%	91 - 107
	SPIKE	Calculated O3	2008/04/15		102	%	N/A
	BLANK	Calculated O3	2008/04/15	<0.1		ppb	
2262712 SS6	Calibration Check	Calculated H2S	2008/04/22		116	%	80 - 120
	SPIKE	Calculated H2S	2008/04/22		100	%	N/A
2262713 DF4	Calibration Check	Calculated NO2	2008/04/21		103	%	76 - 118
	SPIKE	Calculated NO2	2008/04/21		100	%	N/A
	BLANK	Calculated NO2	2008/04/21	<0.1		ppb	
2262717 DF4	Calibration Check	Calculated SO2	2008/04/21		101	%	95 - 105
	SPIKE	Calculated SO2	2008/04/21		102	%	N/A
	BLANK	Calculated SO2	2008/04/21	<0.1		ppb	

N/A = Not Applicable

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	
$SO_2/NO_2/O_3$		1	02/27/08	09:15	03/27/08	10:55	
$H_2S/SO_2/NO_2/O_3$		2	02/27/08	08:35	03/27/08	10:20	
$SO_2/NO_2/O_3$		3	03/01/08	14:45	03/28/08	11:35	
$H_2S/SO_2/NO_2/O_3$		4	03/01/08	14:05	03/28/08	12:10	
$SO_2/NO_2/O_3$		5	03/01/08	12:35	03/28/08	13:30	
$SO_2/NO_2/O_3$		7	03/01/08	15:30	03/28/08	10:45	
$SO_2/NO_2/O_3$		8	02/27/08	08:00	03/27/08	08:45	
$H_2S/SO_2/NO_2/O_3$		9	02/27/08	10:00	03/27/08	11:45	
$H_2S/SO_2/NO_2/O_3$		10	02/27/08	10:40	03/27/08	12:20	
$H_2S/SO_2/NO_2/O_3$		11	02/27/08	12:00	03/28/08	08:35	
$H_2S/SO_2/NO_2/O_3$		12	02/27/08	13:50	03/27/08	13:45	
$H_2S/SO_2/NO_2/O_3$		13	02/27/08	14:40	03/28/08	06:55	
$SO_2/NO_2/O_3$		14	02/27/08	07:00	03/27/08	08:00	
$H_2S/SO_2/NO_2/O_3$		15	03/01/08	11:00	03/28/08	14:55	
$H_2S/SO_2/NO_2/O_3$		16	03/01/08	11:45	03/28/08	14:10	
$H_2S/SO_2/NO_2/O_3$		17	03/01/08	10:20	03/28/08	15:35	
$SO_2/NO_2/O_3$		18	03/01/08	09:25	03/28/08	16:35	
$H_2S/SO_2/NO_2/O_3$		19	03/01/08	08:45	03/27/08	17:20	
$SO_2/NO_2/O_3$		20	02/27/08	16:20	03/27/08	15:45	
$H_2S/SO_2/NO_2/O_3$		21	03/01/08	13:10	03/28/08	12:50	
H_2S/SO_2		22	02/27/08	13:30	03/28/08	07:25	
H_2S/SO_2		23	02/27/08	14:30	03/27/08	14:35	
H_2S/SO_2		24	02/27/08	15:05	03/27/08	14:50	
$SO_2/NO_2/O_3$		25	02/27/08	07:30	03/27/08	08:25	
$H_2S/SO_2/NO_2/O_3$		21A	03/01/08	11:00	03/28/08	12:50	
$H_2S/SO_2/NO_2/O_3$		04A	03/01/08	11:45	03/28/08	12:10	