Lakeland Industry & Community Association

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

Prepared By:

Maxxam Analytics Inc

Driven by Service and Science

September 24, 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: AUGUST 2008

The monthly ambient data report:

- Prepared by Lily Lin
- 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 – August 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	0.01	1	VAR	VAR	VAR	VAR	0.0	ALL	99.7
TRS (PPB)	-	-	-	-	0.01	4	17	1	0.2	220(SW)	0.3	17	99.7
NO_2 (PPB)	212	106	0	0	1.42	7	18	19	3.8	97(E)	2.4	26	98.0
NO (PPB)	-	-	-	-	0.31	11	14,15	VAR	VAR	VAR	2.4	14	98.0
NOx (PPB)	-	-	-	-	1.90	16	5	5	0.2	92(E)	4.1	14	98.0
O_3 (PPB)	82	-	0	-	21.92	57	15	16,17	4.2, 3.1	219(SW), 198(SSW)	38.1	9	100.0
THC (PPM)	-	-	-	-	1.90	3.1	6	4,5	0.5, 0.2	220(SW), 200(SSW)	2.2	6	99.7
PM 2.5 (UG/M^3)	-	30	-	1	3.64	37.1	15	18	1.6	147(SE)	8.6	8	86.0
TEMPERATURE (DEG C)	-	-	-	-	16.24	30.1	18	15	5.7	156(SSE)	23.2	18	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	73.06	98.9	14	6	0.7	181(S)	93.9	12	100.0
VECTOR WS (KPH)	-	-	-	-	6.16	17.7	24	13	-	125(SE)	11.4	2	100.0
VECTOR WD (DEGREES)	-	-	-	-	235(SW)	-	-	-	-	-	-	-	100.0

VAR-VARIOUS

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

Passive Ambient Monitoring Network – August 2008

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PASSIVE NETWORK			
NETWORK MAXIMUM			NETWORK AVERAGE
PARAMETER	STATION	READING (PPB)	READING (PPB)
NO_2	#28	3.1	1.1
SO_2	#14	0.8	0.3
H_2S	#5	1.02	0.32
O_3	#14	29.0	19.95

Lakeland Industry & Community Association - Cold Lake

Exceedences Summary Report
August 2008

SO_2 1 - Hour Exceedences
No Exceedences Recorded During the Month

SO_2 24 - Hour Exceedences
No Exceedences Recorded During the Month

NO2 1- Hour Exceedences
No Exceedences Recorded During the Month

NO2 24- Hour Exceedences
No Exceedences Recorded During the Month

O3 1- Hour Exceedences
No Exceedences Recorded During the Month

PM2.5 24- Hour Exceedences

DATE	TIME (mst)	READING (UG/M3)	WS (kph)	WD (deg)
August 15, 2008	-	37.1	2.1	191(S)

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 inlet filter was changed before the monthly calibration was started.

Total HydroCarbon (PPM)

- Analyzer make / model -TECO 51C-LT

No operational issues during the month. The zero air pump was rebuilt following the as found points on August 1st, 2008. A new 4-way valve in the zero air supply was replaced on August 25th, 2008, and the repaired calibration was performed after the replacement. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information.

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 perm tub and scrubbing materials for the perm oven was replaced following the as found points on August 1st, 2008. On August 20th, the analyzer was put on the maintenance mode for checking high span value issues for 12 hours. The full calibration was re-done on August 25th, 2008. The inlet filter was changed before the monthly calibration was started.

Ozone (PPB)

- Analyzer make / model - TECO 49I

No operational issues during the month. The inlet filter was changed before the monthly calibration was started.

Particulate Matter 2.5 (ug/m^3)

- Analyzer make / model - TEOM 1400A

The Teom audit was performed on August 25th, 2008 showing all parameters were within tolerances. The technician performed an audit on the AENV-Owned Teom, and then replaced it with a Maxxam-Owned Teom on August 25th. The Teom was put up on the maintenance mode overnight to allow it stable. There were 24 hours of data invalid during this period. Seventy-nine hours of data were invalidated as it was below –3.0 ug/m^3.

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.

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 and daily calibrations, maintenance, and downtime. 10 hours of fair AQI values recorded in August 2008. 9 hours of fair AQI values were due to Ozone and 1 hour was due to PM2.5. The highest hourly concentration of PM2.5 was 37.1 UG/M3 and an AQI value of 29 on August 15th, hour 18.The highest hourly concentration of Ozone was 57.0 ppb and an AQI value of 31 on August 15th, hour 16 and hour 17.

Passive Network

No issues with the passive network during the month.

Continuous Monitoring

Cold Lake

Monthly Summaries, Graphs & Wind Roses

Air Quality Index

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

AUGUST 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	7 O3_	- **NA**	4 PM2	3 O3_	5 O3_	5 O3_	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	1 PM2	14 O3_	14 O3_	19 O3_	- **NA**	15 O3_	17 O3_	15 O3_	19 O3_
2	- **NA**	11 O3_	- **NA**	- **NA**	9 O3_	8 O3_	7 O3_	7 O3_	8 O3_	8 O3_	8 O3_	8 O3_	9 O3_	10 O3_	11 O3_	- **NA**	11 O3_	11 O3_	- **NA**	- **NA**	11 O3_	- **NA**	13 O3_	- **NA**	13 O3_
3	12 O3_	11 O3_	11 O3_	12 O3_	11 O3_	11 O3_	11 O3_	11 O3_	11 O3_	11 O3_	11 O3_	11 O3_	11 O3_	11 O3_	11 O3_	11 O3_	11 O3_	12 O3_	11 O3_	11 O3_	8 O3_	6 O3_	- **NA**	7 O3_	12 O3_
4	6 O3_	5 O3_	3 O3_	4 O3_	2 O3_	5 PM2	5 PM2	9 PM2	4 O3_	7 PM2	9 O3_	11 O3_	12 O3_	- **NA**	13 O3_	10 O3_	- **NA**	13 O3_	- **NA**	8 O3_	5 O3_	- **NA**	9 O3_	6 O3_	13 O3_
5	- **NA**	- **NA**	2 O3_	6 PM2	1 O3_	12 PM2	8 PM2	5 O3_	6 O3_	10 O3_	14 O3_	12 O3_	11 PM2	- **NA**	14 O3_	16 O3_	16 O3_	16 O3_	15 O3_	11 O3_	- **NA**	2 O3_	- **NA**	1 O3_	16 O3_
6	1 O3_	1 PM2	- **NA**	0 PM2	1 PM2	13 PM2	16 PM2	7 O3_	10 O3_	15 O3_	17 O3_	17 O3_	18 O3_	18 O3_	20 O3_	20 O3_	20 O3_	20 O3_	19 O3_	- **NA**	12 O3_	10 O3_	13 O3_	12 O3_	20 O3_
7	10 O3_	9 O3_	11 O3_	11 O3_	11 O3_	11 O3_	11 O3_	11 O3_	12 O3_	14 O3_	14 O3_	17 O3_	20 O3_	21 O3_	23 O3_	22 O3_	22 O3_	22 O3_	- **NA**	21 O3_	17 O3_	17 O3_	16 O3_	15 O3_	23 O3_
8	16 O3_	16 O3_	16 O3_	16 O3_	15 O3_	14 O3_	13 O3_	13 O3_	15 O3_	16 O3_	17 O3_	18 O3_	19 O3_	18 O3_	20 O3_	20 O3_	18 O3_	- **NA**	16 O3_	14 O3_	10 O3_	8 O3_	13 O3_	- **NA**	20 O3_
9	20 O3_	22 O3_	- **NA**	25 O3_	23 O3_	19 O3_	17 O3_	18 O3_	- **NA**	23 O3_	18 O3_	19 O3_	19 O3_	18 O3_	19 O3_	19 O3_	- **NA**	17 O3_	- **NA**	22 O3_	20 O3_	17 O3_	15 O3_	13 O3_	25 O3_
10	15 O3_	12 O3_	13 O3_	14 O3_	12 O3_	11 O3_	10 O3_	12 O3_	17 O3_	22 O3_	25 O3_	25 O3_	25 O3_	27 O3_	28 O3_	- **NA**	28 O3_	27 O3_	22 O3_	17 O3_	14 O3_	15 O3_	- **NA**	22 O3_	28 O3_
11	20 O3_	21 O3_	- **NA**	19 O3_	14 O3_	13 O3_	10 O3_	9 O3_	12 O3_	15 O3_	19 O3_	21 O3_	21 O3_	20 O3_	- **NA**	20 O3_	17 O3_	- **NA**	18 O3_	16 O3_	14 O3_	8 O3_	8 O3_	5 O3_	21 O3_
12	6 O3_	7 O3_	8 O3_	7 O3_	7 O3_	9 O3_	7 O3_	8 O3_	8 O3_	8 O3_	6 O3_	5 O3_	4 O3_	- **NA**	5 O3_	- **NA**	5 O3_	- **NA**	6 O3_	7 O3_	6 O3_	5 O3_	6 O3_	6 O3_	9 O3_
13	6 O3_	5 O3_	5 O3_	4 O3_	4 O3_	3 O3_	4 O3_	5 O3_	6 O3_	6 O3_	7 O3_	7 O3_	- **NA**	7 O3_	8 O3_	8 O3_	5 O3_	5 O3_	5 O3_	4 O3_	- **NA**	- **NA**	- **NA**	- **NA**	8 O3_
14	- **NA**	4 PM2	- **NA**	- **NA**	- **NA**	4 PM2	15 PM2	18 PM2	2 O3_	4 PM2	9 O3_	- **NA**	13 O3_	14 O3_	16 O3_	16 O3_	- **NA**	13 O3_	12 O3_	17 PM2	- **NA**	- **NA**	1 O3_	- **NA**	18 PM2
15	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	11 PM2	20 PM2	12 PM2	10 O3_	15 O3_	- **NA**	16 O3_	16 O3_	19 O3_	24 O3_	28 O3_	31 O3_	31 O3_	29 PM2	13 O3_	12 O3_	10 O3_	- **NA**	13 O3_	31 O3_
16	14 O3_	13 O3_	11 O3_	12 O3_	12 O3_	12 O3_	9 O3_	11 O3_	14 O3_	- **NA**	20 O3_	22 O3_	24 O3_	28 O3_	27 O3_	29 O3_	- **NA**	16 O3_	15 O3_	15 O3_	- **NA**	18 O3_	10 O3_	6 O3_	29 O3_
17	6 PM2	5 PM2	6 PM2	5 PM2	4 PM2	8 PM2	22 PM2	9 PM2	- **NA**	12 O3_	- **NA**	13 O3_	13 O3_	13 O3_	13 O3_	13 O3_	13 O3_	14 O3_	13 O3_	11 O3_	- **NA**	11 O3_	11 O3_	10 O3_	22 PM2
18	11 O3_	11 O3_	- **NA**	11 O3_	11 O3_	11 O3_	10 O3_	- **NA**	12 O3_	14 O3_	16 O3_	17 O3_	19 O3_	20 O3_	22 O3_	23 O3_	23 O3_	23 O3_	19 O3_	15 O3_	13 O3_	- **NA**	- **NA**	12 O3_	23 O3_
19	9 O3_	- **NA**	- **NA**	11 O3_	15 O3_	- **NA**	- **NA**	16 PM2	17 O3_	17 O3_	- **NA**	19 O3_	19 O3_	17 O3_	19 O3_	20 O3_	19 O3_	23 O3_	21 O3_	17 O3_	15 O3_	- **NA**	- **NA**	- **NA**	23 O3_
20	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	8 O3_	8 O3_	6 O3_	- **NA**	10 O3_
21	7 O3_	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	8 O3_	8 O3_	8 O3_	- **NA**	8 O3_	8 O3_	8 O3_	8 O3_	8 O3_	8 O3_	8 O3_	7 O3_	7 O3_	8 O3_
22	8 O3_	9 O3_	8 O3_	- **NA**	6 O3_	5 O3_	10 O3_	14 O3_	15 O3_	16 O3_	16 O3_	16 O3_	17 O3_	18 O3_	18 O3_	15 O3_	14 O3_	13 O3_	12 O3_	7 O3_	6 O3_	6 PM2	6 O3_	7 O3_	18 O3_
23	6 O3_	5 O3_	- **NA**	4 O3_	4 O3_	6 O3_	6 O3_	9 O3_	11 O3_	13 O3_	17 O3_	19 O3_	19 O3_	20 O3_	20 O3_	20 O3_	20 O3_	20 O3_	18 O3_	15 O3_	13 O3_	13 O3_	13 O3_	- **NA**	20 O3_
24	- **NA**	- **NA**	- **NA**	- **NA**	10 O3_	- **NA**	10 O3_	10 O3_	11 O3_	13 O3_	16 O3_	17 O3_	18 O3_	19 O3_	18 O3_	18 O3_	17 O3_	17 O3_	16 O3_	17 O3_	16 O3_	15 O3_	15 O3_	15 O3_	19 O3_
25	- **NA**	14 O3_	12 O3_	8 O3_	- **NA**	- **NA**	13 PM2	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	17 O3_
26	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	10 O3_	10 O3_	10 O3_	10 O3_	10 O3_	10 PM2	4 O3_	- **NA**	- **NA**	- **NA**	4 O3_	15 O3_
27	5 O3_	4 O3_	2 O3_	4 O3_	4 O3_	4 O3_	5 O3_	6 O3_	8 O3_	9 O3_	12 O3_	14 O3_	14 O3_	14 O3_	14 O3_	14 O3_	14 O3_	13 O3_	12 O3_	11 O3_	8 O3_	- **NA**	4 O3_	6 O3_	14 O3_
28	5 O3_	5 O3_	6 O3_	7 O3_	7 O3_	5 O3_	6 O3_	7 O3_	9 O3_	10 O3_	13 O3_	13 O3_	13 O3_	14 O3_	14 O3_	14 O3_	14 O3_	14 O3_	14 O3_	11 O3_	- **NA**	9 O3_	7 O3_	5 O3_	14 O3_
29	5 O3_	6 O3_	7 O3_	4 O3_	1 O3_	1 PM2	3 PM2	4 PM2	5 O3_	8 O3_	15 O3_	17 O3_	17 O3_	19 O3_	21 O3_	21 O3_	22 O3_	21 O3_	16 O3_	- **NA**	14 O3_	16 O3_	17 O3_	16 O3_	22 O3_
30	14 O3_	10 O3_	13 O3_	10 O3_	9 O3_	9 O3_	9 O3_	10 O3_	11 O3_	13 O3_	13 O3_	13 O3_	13 O3_	15 O3_	14 O3_	14 O3_	12 O3_	10 O3_	- **NA**	7 O3_	8 O3_	5 O3_	1 O3_	1 O3_	15 O3_
31	2 O3_	2 PM2	1 O3_	- **NA**	1 O3_	1 O3_	3 PM2	3 PM2	3 O3_	6 O3_	10 O3_	12 O3_	12 O3_	12 O3_	12 O3_	12 O3_	12 O3_	- **NA**	9 O3_	5 O3_	3 O3_	2 O3_	1 O3_	1 O3_	12 O3_
PEAK	20 O3_	22 O3_	16 O3_	25 O3_	23 O3_	19 O3_	22 O3_	18 O3_	17 O3_	23 O3_	25 O3_	25 O3_	25 O3_	28 O3_	28 O3_	29 O3_	31 O3_	31 O3_	29 O3_	22 O3_	20 O3_	18 O3_	17 O3_	22 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)	9	1.2%	31	16,17	15	1	0.1%	29	18	15	0	0.0%	-	-	-	0	0.0%	-	-	-	10	1.3%
GOOD (1-25)	524	70.4%	-	-	-	42	5.6%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	566	76.1%
OVERALL	533	71.6%	-	-	-	43	5.8%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	576	77.4%
UNAVAILABLE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71	9.5%

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

AUGUST 2008

SULPHUR DIOXIDE (SO_2) hourly averages in ppb

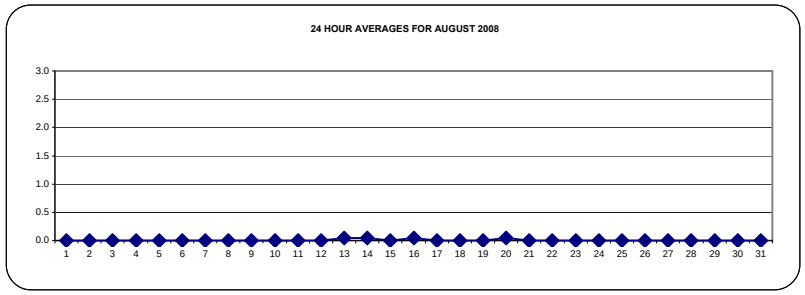
MST

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	**IZS**	0	0	0	0	**C**	**C**	**C**	**C**	**C**	0	0	0	**M**	**M**	0	0	0	0	0	0	0	0	0	0.0	22
2	**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
3	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
4	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
5	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
6	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
7	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
8	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
9	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
10	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
11	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
12	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
13	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	1	0	0	0	0	0	1	0.0	24
14	0	0	0	0	0	0	0	0	0	1	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
15	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
16	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0.0	24
17	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
18	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
19	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
20	0	0	0	0	0	**IZS**	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
21	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
22	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
23	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
24	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
25	**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
26	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
27	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
28	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
29	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
30	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
31	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
HOURLY MAX	0	0	0	0	0	0	NA	0	0	1	1	0	0	0	0	0	0	0	1	0	0	1	0	0			
HOURLY AVG	0.0	0.0	0.0	0.0	0.0	0.0	NA	0.0	0.0	0.0	0.0	0.0	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	- MAINTENANCE
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

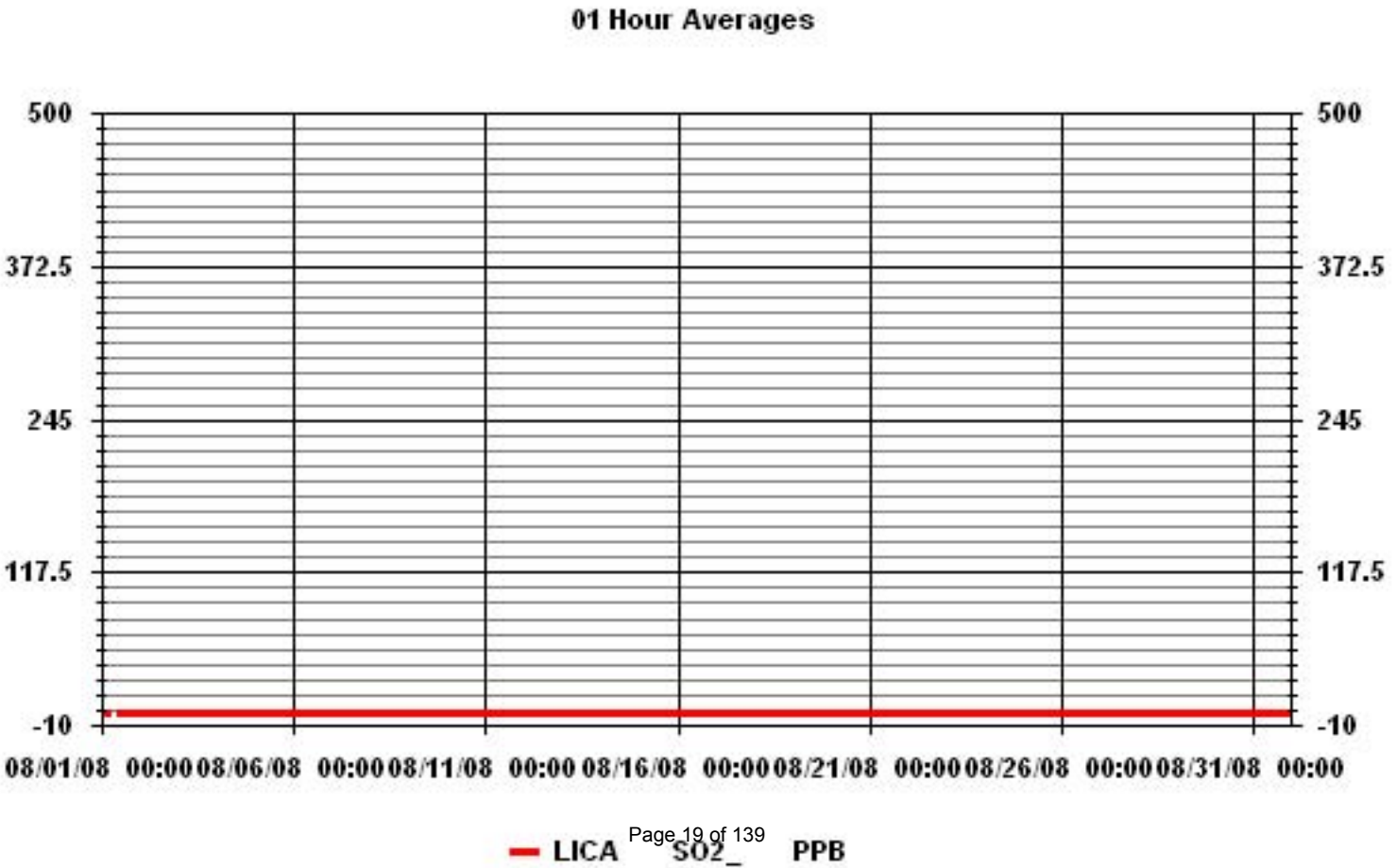
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB | 24-HR 57 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	4					
MAXIMUM 1-HR AVERAGE:	1	PPB	@ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 24-HR AVERAGE:	0.0	PPB			ON DAY(S)	ALL

IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	742	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:	99.7	%
STANDARD DEVIATION:	0.08		MONTHLY AVERAGE:	0.01	PPB


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

LICA
SO2_ / WDR Joint Frequency Distribution (Percent)

August 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	2.69	1.84	.99	.71	3.12	8.66	14.63	4.11	3.55	3.69	11.50	13.77	12.78	7.52	5.96	4.40	100.00
<	60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	170	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	2.69	1.84	.99	.71	3.12	8.66	14.63	4.11	3.55	3.69	11.50	13.77	12.78	7.52	5.96	4.40	

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
<	20	19	13	7	5	22	61	103	29	25	26	81	97	90	53	42	31	704
<	60																	
<	110																	
<	170																	
<	340																	
>=	340																	
	Totals	19	13	7	5	22	61	103	29	25	26	81	97	90	53	42	31	

Calm : .00 %

Total # Operational Hours : 704

Logger : 01 Parameter : SO2_

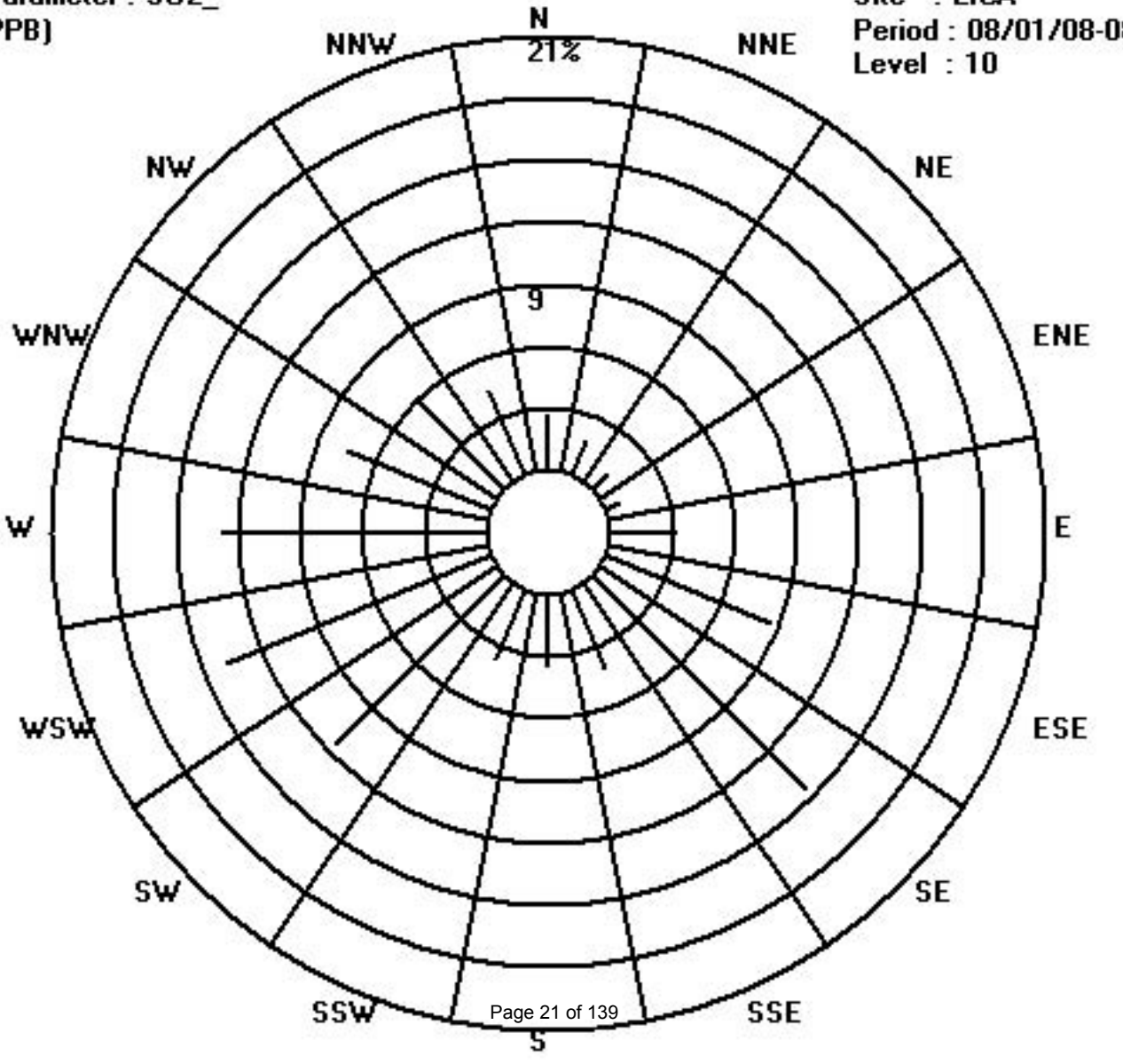
Class Limits (PPB)

>= 340
< 340
< 170
< 110
< 60
< 20

Site : LICA

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

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -*COLD LAKE*

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

STATUS FLAG CODES

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

MONTHLY SUMMARY

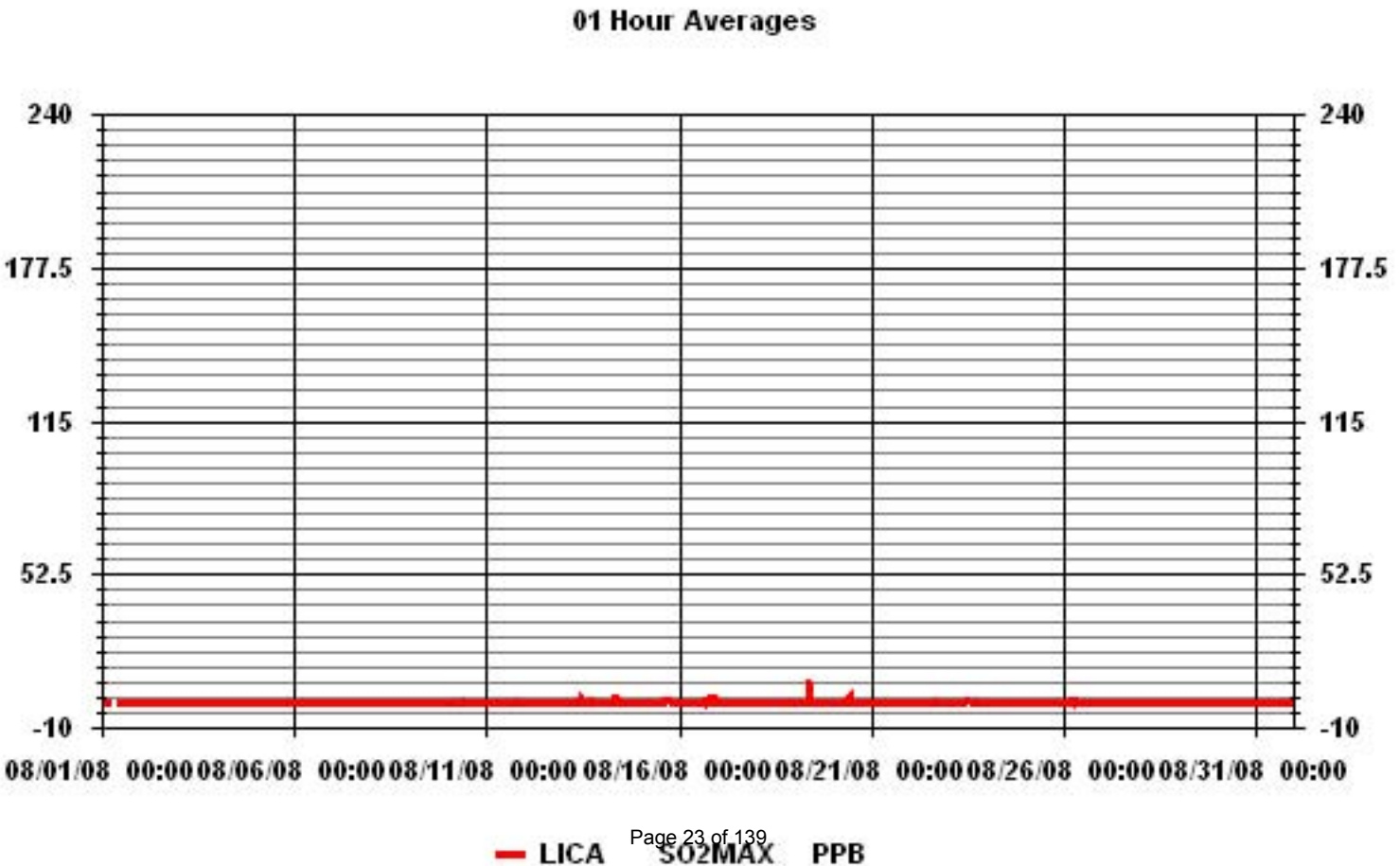
NUMBER OF NON-ZERO READINGS: 32

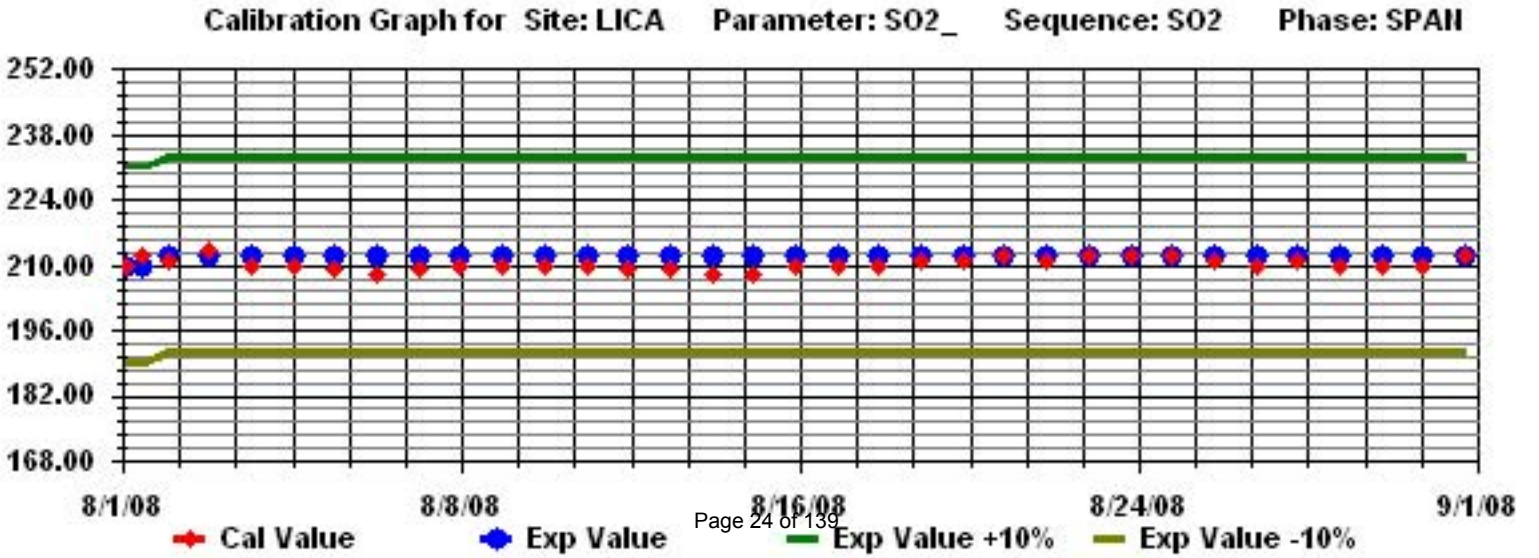
MAXIMUM INSTANTANEOUS VALUE: 10 PPB @ HOUR(S) 9 ON DAY(S) 19

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 742 HRS

MONTHLY CALIBRATION TIME: 6 HRS

STANDARD DEVIATION: 0.47


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


Calibration Graph for Site: LICA Parameter: SO2_ Sequence: SO2 Phase: SPAN
252.00
238.00
224.00
210.00
196.00
182.00
168.00
8/1/08
8/8/08
8/16/08
8/24/08
9/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Reduced Sulphur

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

AUGUST 2008

TOTAL REDUCED SULPHUR (TRS) hourly averages in ppb

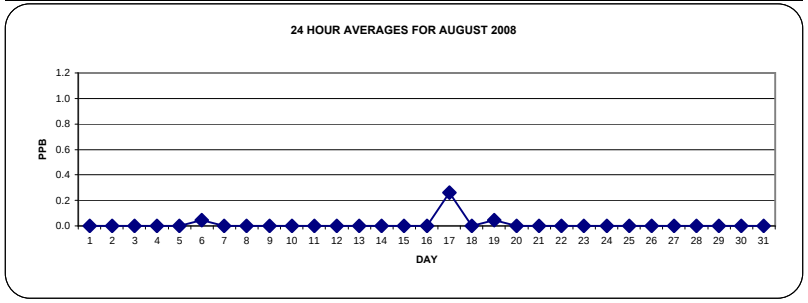
MST

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

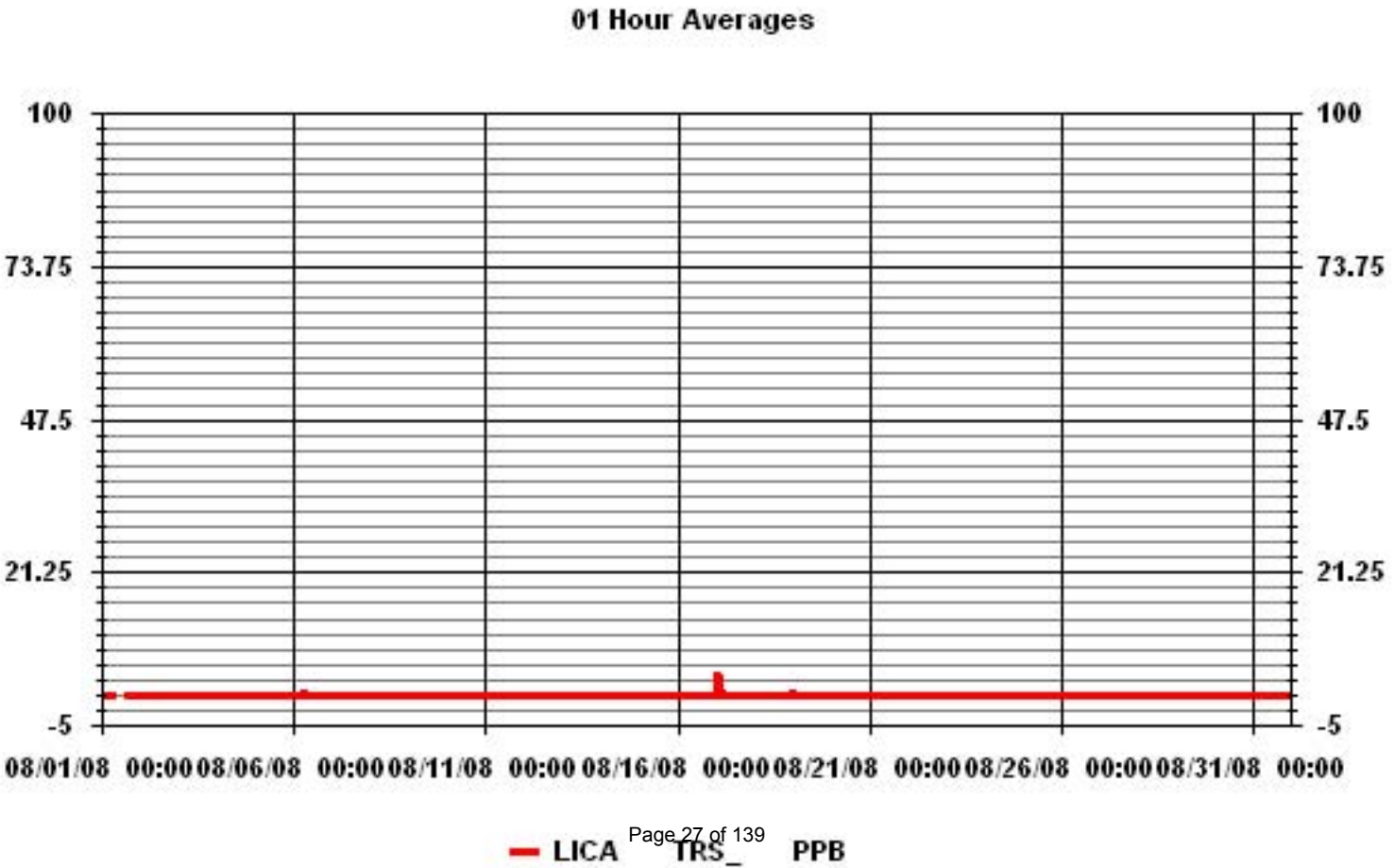
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB 24-HR 57 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	5					
MAXIMUM 1-HR AVERAGE:	4	PPB	@ HOUR(S)	1	ON DAY(S)	17
MAXIMUM 24-HR AVERAGE:	0.3	PPB		VAR-VARIOUS	ON DAY(S)	17

IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	742	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	99.7	%
STANDARD DEVIATION:	0.17		MONTHLY AVERAGE:	0.01	PPB


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

LICA
TRS_ / WD Joint Frequency Distribution (Percent)

August 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	2.69	1.84	.99	.70	2.97	8.79	14.75	4.11	3.54	3.68	11.34	13.75	12.76	7.51	5.95	4.39	99.85
<	10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14	.00	.00	.00	.00	.00	.14
<	50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	2.69	1.84	.99	.70	2.97	8.79	14.75	4.11	3.54	3.68	11.48	13.75	12.76	7.51	5.95	4.39	

Calm : .00 %

Total # Operational Hours : 705

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3	19	13	7	5	21	62	104	29	25	26	80	97	90	53	42	31	704
<	10											1						1
<	50																	
>=	50																	
	Totals	19	13	7	5	21	62	104	29	25	26	81	97	90	53	42	31	

Calm : .00 %

Total # Operational Hours : 705

Logger : 01 Parameter : TRS_

Class Limits (PPB)

>= 50

< 50

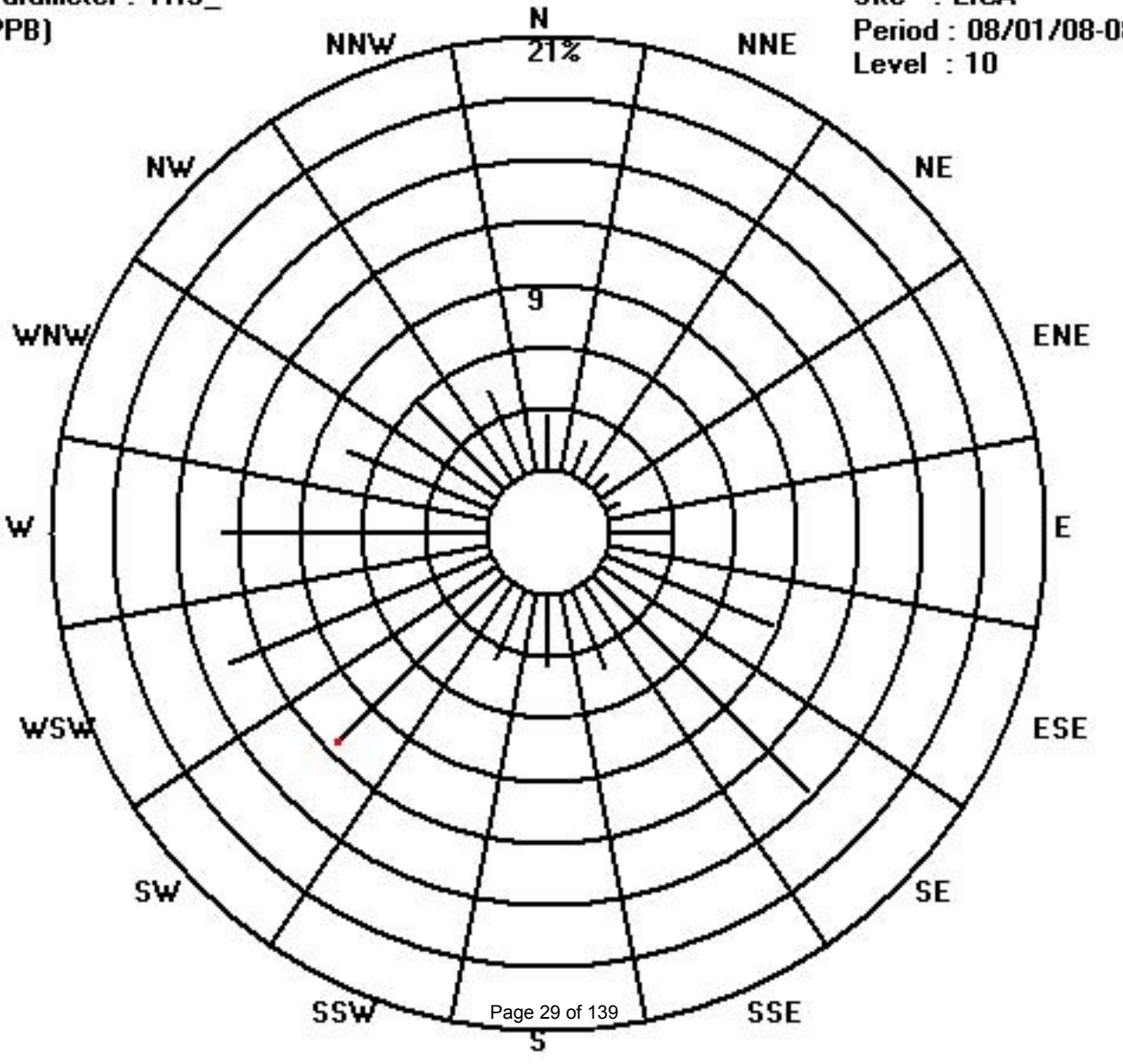
< 10

< 3

Site : LICA

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

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

AUGUST 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	**IZS**	1	1	1	1	0	1	**C**	**C**	**C**	**C**	**C**	1	**M**	**M**	1	0	1	1	0	0	0	0	1	0.6	22
2	**IZS**	0	0	0	0	0	0	0	0	0	1	1	1	0	1	0	0	0	0	0	1	0	0	**IZS**	1	0.2	24
3	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	**IZS**	0	1	0.1	24
4	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	**IZS**	1	0	1	0.4	24
5	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	**IZS**	0	3	0	3	0.3	24
6	0	0	0	0	0	0	1	2	1	1	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	2	0.2	24
7	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	**IZS**	0	0	0	0	0	1	0.1	24
8	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	**IZS**	0	1	1	0	1	0	1	0.3	24
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	**IZS**	0	0	0	0	0	0	0	1	0.0	24
10	1	1	1	0	0	1	0	1	1	0	0	0	0	1	0	**IZS**	0	0	0	0	0	7	1	0	7	0.7	24
11	0	0	1	1	0	0	1	1	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	1	0.2	24
12	0	0	0	1	1	0	1	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	1	0.1	24
13	0	1	0	0	0	1	0	1	0	**N**	**N**	**N**	**IZS**	0	0	0	0	1	0	0	0	0	0	0	1	0.2	21
14	0	1	1	1	1	0	0	0	1	0	1	**IZS**	0	0	0	0	0	0	0	0	0	0	1	2	2	0.4	24
15	1	2	1	1	1	0	1	1	1	1	**IZS**	1	0	0	0	0	0	0	0	0	0	0	1	0	2	0.5	24
16	0	0	0	0	0	1	0	0	0	**IZS**	0	0	0	0	0	1	0	0	0	0	1	3	2	0	3	0.3	24
17	13	**35**	5	2	1	1	1	1	**IZS**	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**35**	2.6	24
18	0	0	0	0	0	1	0	**IZS**	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0.2	24
19	7	1	0	0	0	0	**IZS**	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	7	0.6	24
20	0	1	1	0	0	**IZS**	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.3	24
21	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
22	0	1	0	**IZS**	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	1	1	0	1	0.3	24
23	1	1	**IZS**	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	1	0	0	1	0	1	0.6	24
24	0	**IZS**	0	1	0	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	24
25	**IZS**	0	0	0	0	0	1	1	1	1	0	0	0	1	0	1	0	0	0	0	3	2	1	**IZS**	3	0.5	24
26	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	1	0.0	24
27	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	0	0	0	0	1	0	**IZS**	1	0	1	0.3	24
28	1	1	1	0	0	0	1	1	1	1	1	0	1	1	0	0	0	0	0	0	**IZS**	0	0	1	1	0.5	24
29	0	0	1	1	0	0	1	1	1	1	0	0	1	0	0	0	0	0	0	**IZS**	0	1	0	0	1	0.3	24
30	1	0	0	0	1	0	1	1	0	0	0	0	0	0	1	0	0	0	**IZS**	0	0	1	0	0	1	0.3	24
31	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	1	0	**IZS**	0	0	0	0	1	0	1	0.3	24
HOURLY MAX	13	35	5	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	3	7	3	2			
HOURLY AVG	0.9	1.6	0.5	0.4	0.3	0.4	0.5	0.7	0.5	0.2	0.2	0.1	0.1	0.3	0.1	0.1	0.1	0.0	0.1	0.1	0.3	0.6	0.6	0.2			

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

NUMBER OF NON-ZERO READINGS: 186

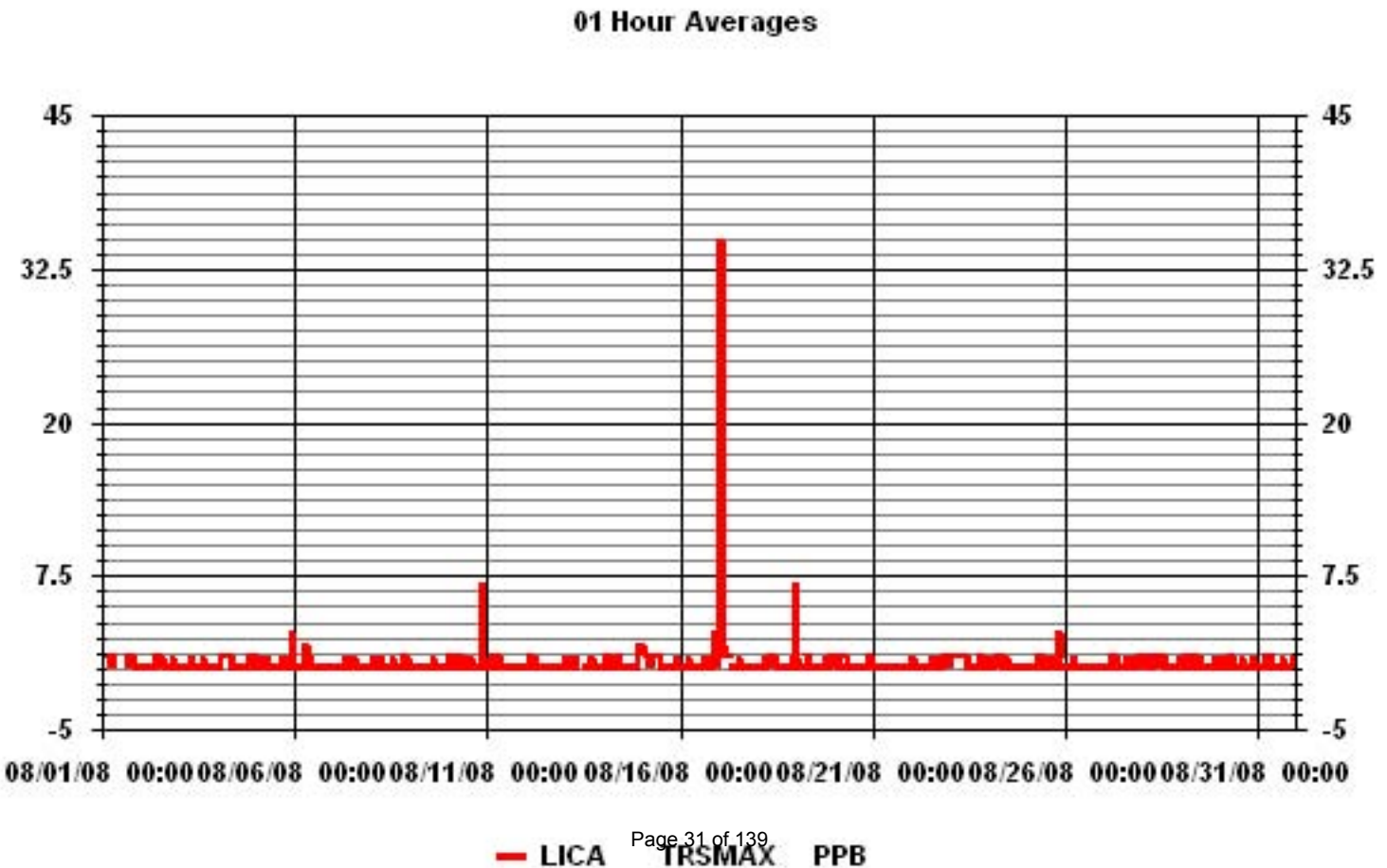
MAXIMUM INSTANTANEOUS VALUE: 35 PPB @ HOUR(S) 1 ON DAY(S) 17

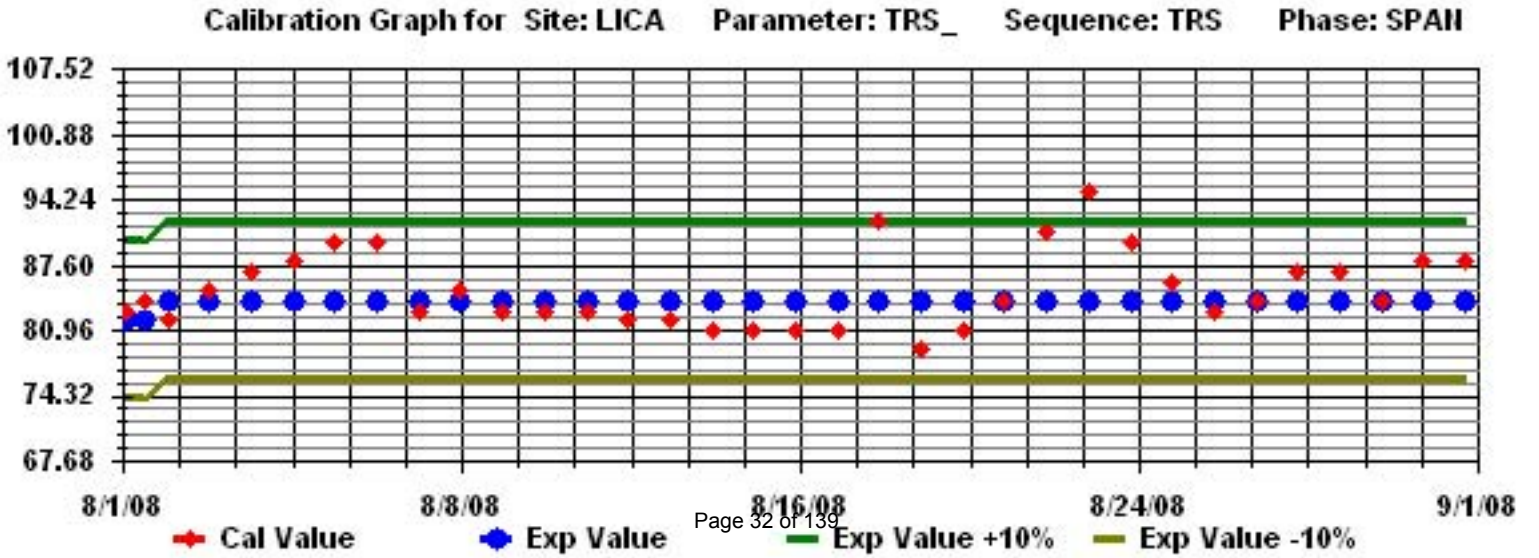
VAR - VARIOUS

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 739 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION: 1.53


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


Calibration Graph for Site: LICA Parameter: TRS_ Sequence: TRS Phase: SPAN
107.52
100.88
94.24
87.60
80.96
74.32
67.68
8/1/08
8/8/08
8/16/08
8/24/08
9/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

AUGUST 2008

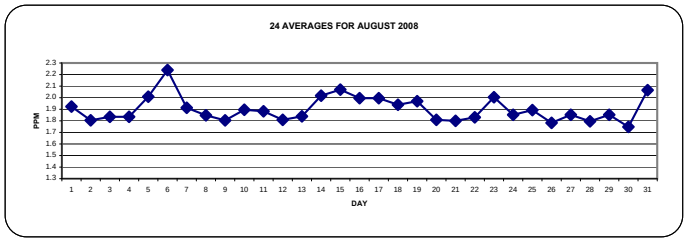
TOTAL HYDROCARBONS (THC) hourly averages in ppm

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	2	**IZS**	2.3	2.1	2.1	2.2	**M**	**M**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.8	2.3	1.9	22
2	**IZS**	1.8	1.8	1.8	1.8	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	**IZS**	1.9	1.8	24
3	1.8	1.8	1.9	1.8	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	2	**IZS**	1.9	2.0	1.8	24
4	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.9	1.8	1.8	1.7	1.7	1.7	1.8	1.8	1.8	1.9	**IZS**	2	2.1	2.1	1.8	24
5	2.1	2	2.1	2.3	2.4	2.4	2.3	2.4	2.2	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	**IZS**	1.9	2.1	2.1	2.4	2.0	24
6	2.4	2.4	2.6	2.7	**3.1**	**3.1**	3	2.7	2.6	2.2	1.9	1.8	1.8	1.9	1.9	1.9	1.9	1.8	1.9	**IZS**	1.9	2	2	2	**3.1**	**2.2**	24
7	2.1	2	2	2	2	2	2.1	2.1	2.1	2	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	**IZS**	1.7	1.8	1.8	1.8	1.8	2.1	1.9	24
8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	**IZS**	1.9	1.9	2	2.1	1.9	1.9	2.1	1.8	24
9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	**IZS**	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	24
10	1.8	1.9	1.9	1.8	1.9	1.8	1.9	2	2	1.9	1.9	1.9	1.9	1.9	1.9	**IZS**	1.9	1.9	1.9	1.9	2	2	1.8	1.8	2.0	1.9	24
11	1.9	1.8	1.8	1.8	1.9	1.9	2.1	2.1	2	2	1.9	1.9	1.9	1.8	**IZS**	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	2	2.1	1.9	24
12	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	**IZS**	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	24
13	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	**IZS**	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8	2	2	2.0	1.8	24
14	2	2	2	2.1	2.1	2.3	2.4	2.7	2.6	2.2	2	**IZS**	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.8	1.8	2	2.1	2.1	2.7	2.0	24
15	2.1	2.2	2.2	2.3	2.4	2.5	2.7	2.3	2.1	1.9	**IZS**	1.8	1.8	1.8	1.9	1.9	1.8	1.8	1.8	2	2.2	2.1	2	2	2.7	2.1	24
16	2	2.1	2.1	2	2	2.1	2.1	2.1	2.1	**IZS**	2.1	2.1	2.1	2.1	2.1	2.1	1.9	1.8	1.8	1.8	1.8	1.8	1.9	1.9	2.1	2.0	24
17	2	2.1	2.2	2.3	2.4	2.4	2.5	2.3	**IZS**	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	2.5	2.0	24
18	1.9	2	1.9	1.9	1.9	1.9	2	**IZS**	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.1	2	2.1	2.1	1.9	24
19	2.2	2	1.9	2	1.9	1.9	**IZS**	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.9	2	2	2.1	2.2	2.3	2.1	1.9	2.3	2.0	24
20	1.8	1.9	1.9	1.8	1.8	**IZS**	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	24
21	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	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	24
22	1.8	1.8	1.8	**IZS**	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	2	2.0	1.8	24
23	2	2	**IZS**	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	1.9	2	2	1.9	2.2	2.0	24
24	1.9	**IZS**	1.9	1.9	1.9	2	1.9	1.9	1.9	1.9	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	1.8	2.0	1.9	24
25	**IZS**	1.9	1.9	2.1	2.1	2.3	2.3	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	**IZS**	2.3	1.9	24
26	1.8	1.7	1.7	1.7	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.9	2.1	**IZS**	2	2.1	1.8	24
27	2	2.1	2.1	2	2	2	2	1.9	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	**IZS**	1.9	2.1	2.1	1.9	24
28	2	2.1	2	1.8	1.8	1.9	2	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	**IZS**	1.8	1.8	1.8	2.1	1.8	24
29	1.9	1.9	2	2.1	2.2	2.2	2.2	2.2	2	1.8	1.7	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	2.2	1.9	24
30	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	**IZS**	1.7	1.7	1.7	1.9	1.9	1.9	1.7	24
31	2	2.4	2.4	2.4	2.3	2.4	2.6	2.6	2.5	2.2	2	1.9	1.8	1.8	1.7	1.7	1.7	**IZS**	1.8	1.8	1.8	1.9	1.9	1.9	2.6	2.1	24
HOURLY MAX	2.4	2.4	2.6	2.7	3.1	3.1	3.0	2.7	2.6	2.2	2.1	2.1	2.1	2.1	2.1	2.1	1.9	2.0	2.0	2.1	2.2	2.3	2.1	2.1			
HOURLY AVG	1.9	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9			

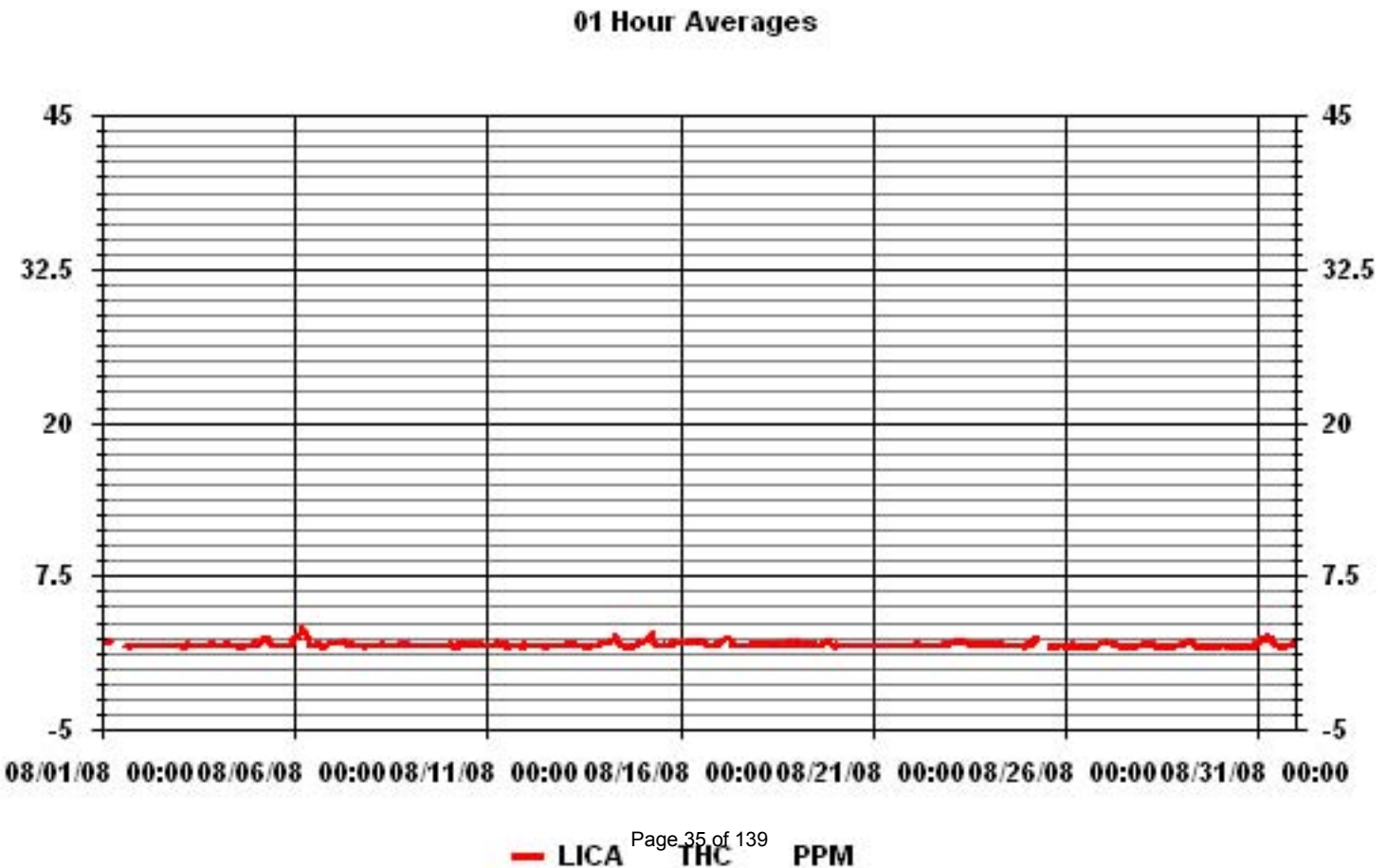
STATUS FLAG CODES

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:	693						
MAXIMUM 1-HR AVERAGE:	3.1	PPM	@ HOUR(S)	4,5	ON DAY(S)	6	
MAXIMUM 24-HR AVERAGE:	2.2	PPM			ON DAY(S)	6	
IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:		742	HRS	
MONTHLY CALIBRATION TIME:	16	HRS	AMD OPERATION UPTIME:		99.7	%	
STANDARD DEVIATION:	0.19		MONTHLY AVERAGE:		1.90	PPM	


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

LICA
THC / WD Joint Frequency Distribution (Percent)

August 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	2.74	1.87	1.01	.72	2.88	8.65	14.86	4.18	3.60	3.60	11.39	13.85	12.40	7.21	6.06	4.47	99.56
<	10.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14	.14	.14	.00	.00	.00	.00	.43
<	50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	2.74	1.87	1.01	.72	2.88	8.65	14.86	4.18	3.60	3.75	11.54	13.99	12.40	7.21	6.06	4.47	

Calm : .00 %

Total # Operational Hours : 693

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3.0	19	13	7	5	20	60	103	29	25	25	79	96	86	50	42	31	690
<	10.0										1	1	1					3
<	50.0																	
>=	50.0																	
	Totals	19	13	7	5	20	60	103	29	25	26	80	97	86	50	42	31	

Calm : .00 %

Total # Operational Hours : 693

Logger : 01 Parameter : THC

Class Limits (PPM)

>= 50.0

< 50.0

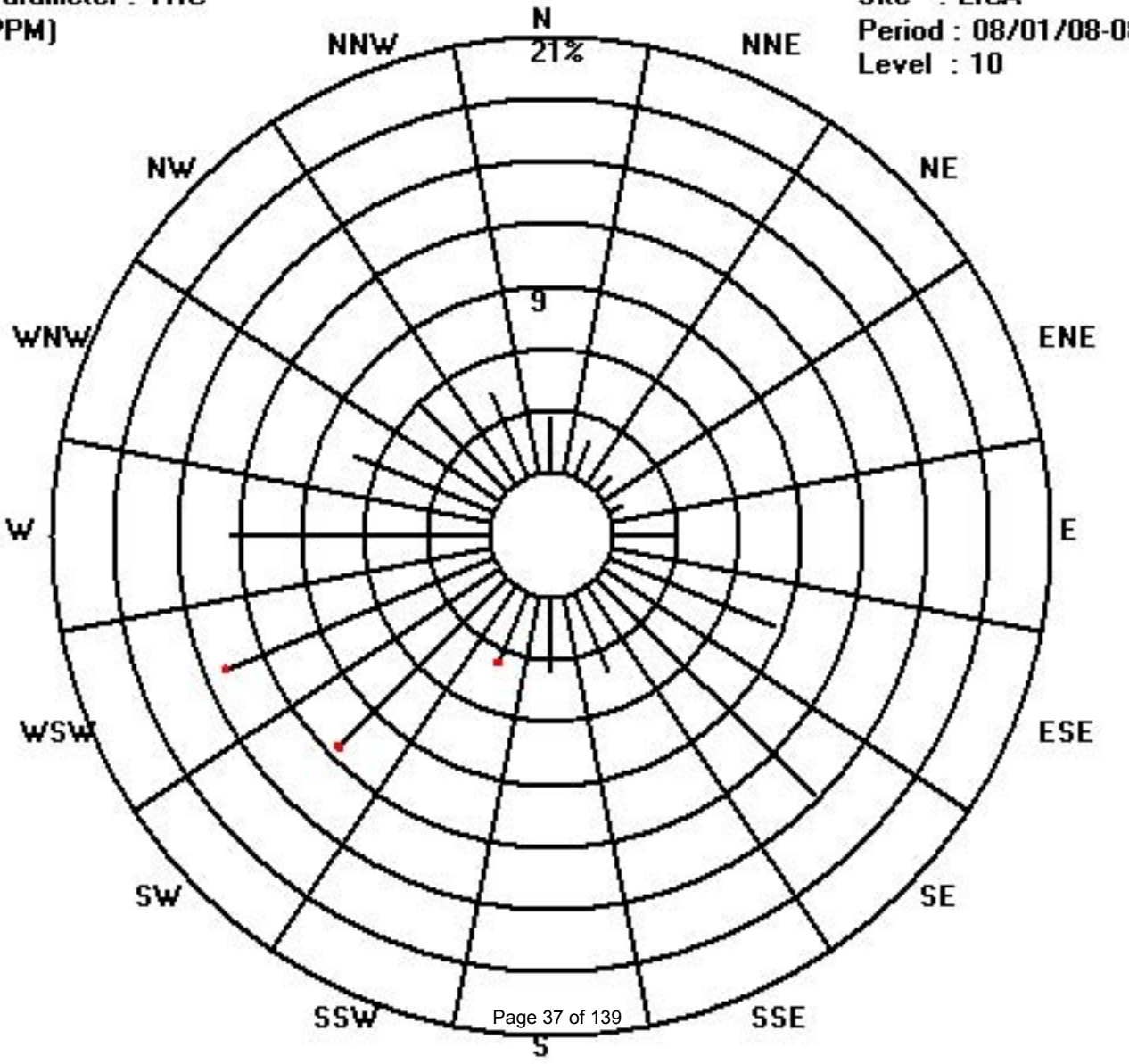
< 10.0

< 3.0

Site : LICA

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

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

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

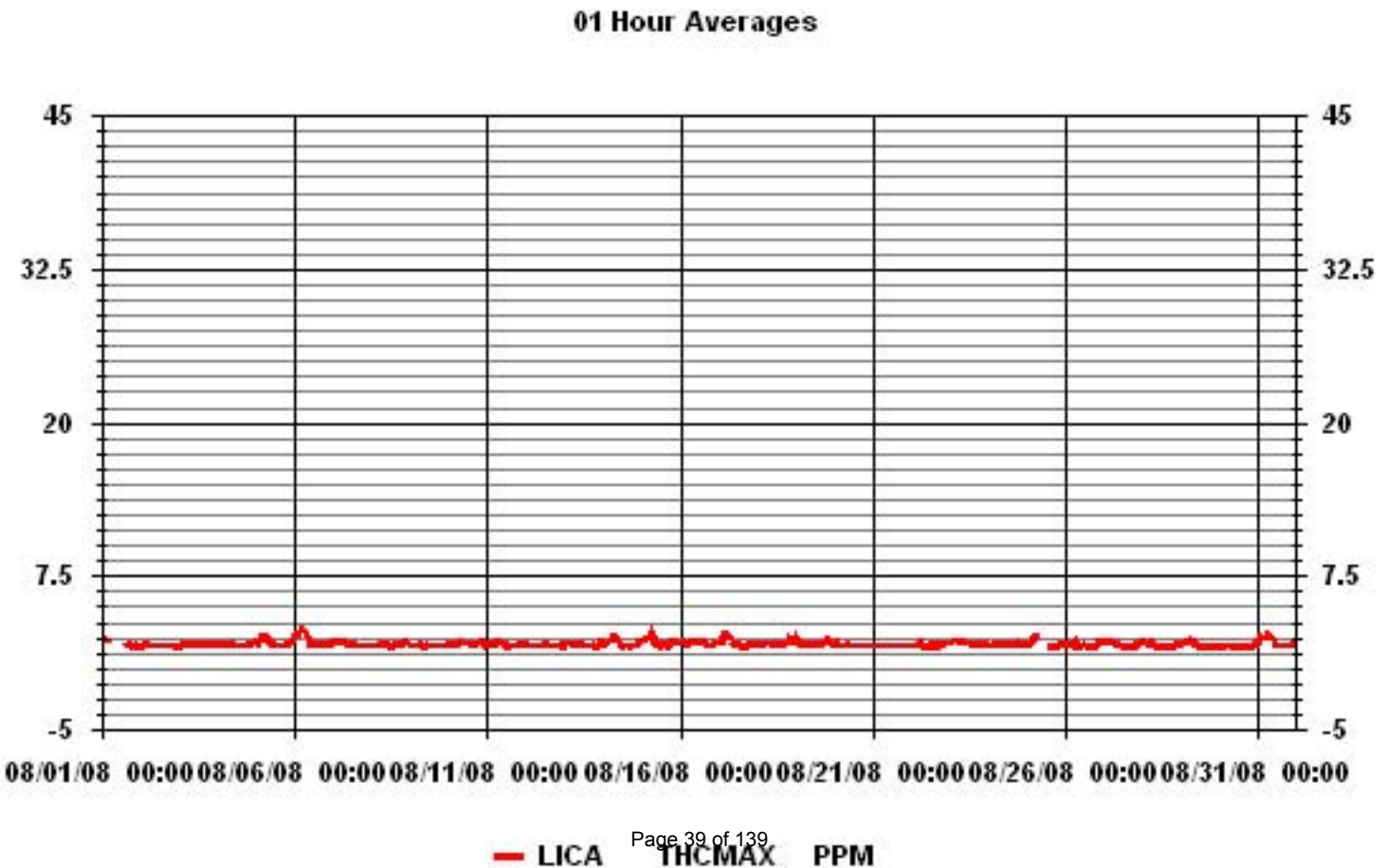
NUMBER OF NON-ZERO READINGS: 693

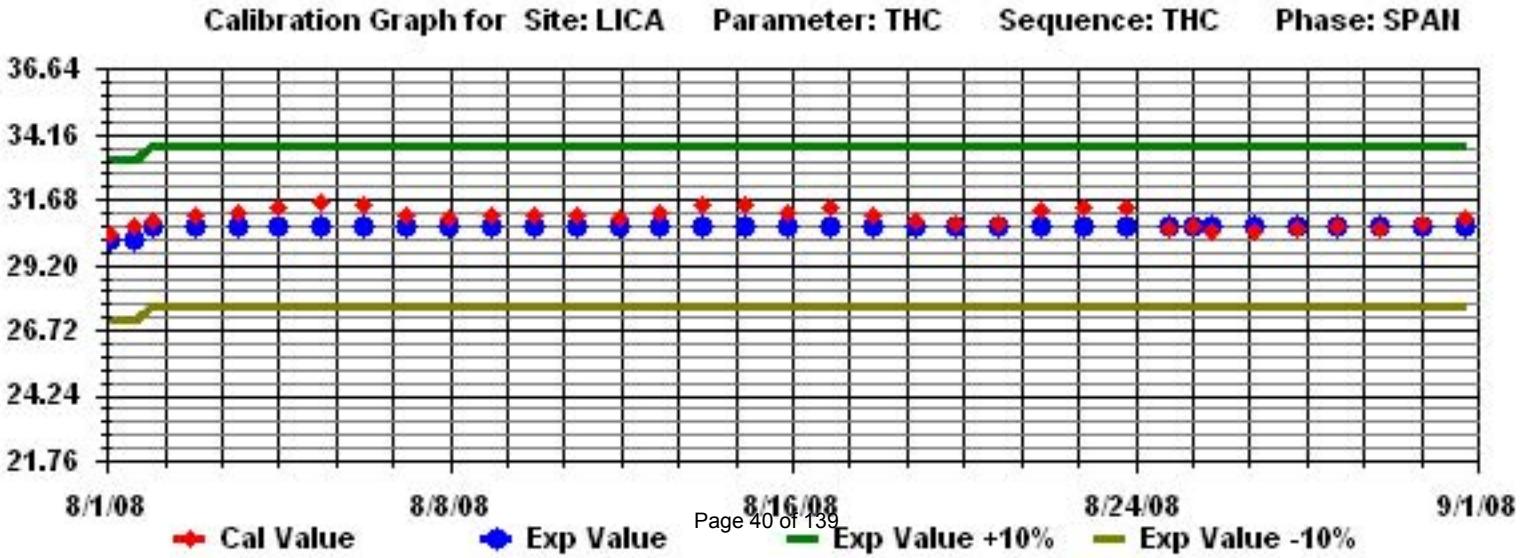
MAXIMUM INSTANTANEOUS VALUE: 3.2 PPM @ HOUR(S) 21 ON DAY(S) 23

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 742 HRS

MONTHLY CALIBRATION TIME: 16 HRS

STANDARD DEVIATION: 0.23


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


Calibration Graph for Site: LICA Parameter: THC Sequence: THC Phase: SPAN
36.64
34.16
31.68
29.20
26.72
24.24
21.76
8/1/08
8/8/08
8/16/08
8/24/08
9/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

AUGUST 2008

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

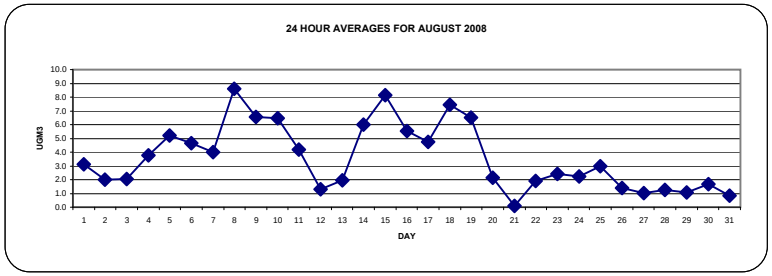
MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0.3	4.5	3.1	1.7	2.4	0	4.4	1	4.7	2.4	0	4.8	2.6	9.6	9.8	0.8	8	8	0.3	**N**	2.9	0	0.8	9.8	3.1	23
2	0	0	**N**	**N**	0	2.6	0.8	2.5	5.4	5.6	2.5	3.6	0.6	0.5	9	**N**	0	2.5	**N**	**N**	0	**N**	0	0	9.0	2.0	18
3	0	0.1	0.2	0	0.4	1	2	2.1	6	4.5	1.5	2.1	3.2	1.6	3	2.2	2.2	3.2	7.8	0	3.1	2	0.8	0	7.8	2.0	24
4	1.2	0	0	0	0	6	5.9	10.8	0.4	8.6	4.9	4.1	3.8	**N**	5	10.9	**N**	4.1	**N**	6.7	0	**N**	0.8	1.9	10.9	3.8	20
5	**N**	**N**	0	7.5	0	13.9	9.7	4.9	3.9	6.8	2.7	5.7	12.9	**N**	0	10.1	7.4	2.9	7.8	8.1	0	0	**N**	0	13.9	5.2	20
6	0	0.8	0	0.4	0.6	16.1	19.7	4.7	10.9	4.2	0	0	3.1	1	7.4	5.8	0	7.2	8.5	9.7	5.3	1.3	2.9	1.6	NA	4.6	24
7	0.1	0.3	0.7	0.2	0	2.2	5	7	10.5	1.8	12.4	0	2.8	1.1	1.7	9.2	7.6	6.2	0	7.1	11.6	0	4.6	3.7	12.4	4.0	24
8	4	3.3	3	3.6	4.9	4.9	7.3	8.4	9.3	11	13.4	5.3	12.5	12.5	4.3	13.6	19.4	7.2	10.2	11.4	7.5	8.7	12.3	**N**	19.4	**8.6**	23
9	0.6	19	**N**	0	9.2	7.7	7.9	6	**N**	0.2	17.5	10.3	0.7	9	7.9	18.4	8.6	3.1	**N**	2.8	5.6	2.5	0	1	19.0	6.6	21
10	0	0	5.2	3.4	8.7	7.5	9.3	7.9	8.2	1.7	1.7	8.7	4.9	2.5	7.6	2.8	2.6	10	18.9	14.3	7.7	10.1	**N**	5.5	18.9	6.5	23
11	9.4	0.3	**N**	3.1	0.7	7.8	7.5	3.2	5.2	9.2	3.9	4.8	0	4	2.7	6.3	9	**N**	2.5	4.2	7	0	0	1.5	9.4	4.2	22
12	4	2.7	0	2.1	0	0	0.8	0	1.1	2.4	4	4.2	2.7	3.7	0	**N**	0	**N**	0	0	0.7	0.3	0	0.1	4.2	1.3	22
13	1.3	0.4	1.2	0	0.9	1.4	0.8	1	0	2.3	2.7	4.1	5	2.9	5.7	6.1	5.4	0	1.6	0	0	**N**	**N**	0	6.1	1.9	22
14	**N**	4.2	**N**	0	0	4.6	17.6	21.9	0	5.3	2.9	7.1	6.1	0	2.7	2.9	**N**	6.3	12.9	19.8	**N**	**N**	0	0	21.9	6.0	19
15	0	**N**	0	0	0	13.5	23.4	13.8	6.3	1.7	9.4	4.6	1.9	8.7	6.5	0	13.3	13.8	**37.1**	12.9	8.8	3.7	**N**	0	**37.1**	8.2	22
16	0	0	0	0	0	0	5	3.2	0.7	4	5.7	5.6	7.5	6.1	17.9	16.7	**N**	10.7	10.6	3.7	**N**	12.8	5.7	5.5	17.9	5.5	22
17	6.9	6.1	7.5	6.5	5.1	9.3	26.4	10.4	**N**	0.7	**N**	0.3	3.3	0	0	0	0	1.4	6	5.3	**N**	0.8	3.5	0	26.4	4.7	21
18	0	0	**N**	0	0.8	4.9	10.1	6.5	9.8	8.7	12.3	14	11.4	16.4	5.4	15.8	16.8	5.7	12.1	1.9	1.8	**N**	**N**	2.2	16.8	7.5	21
19	4	**N**	**N**	0	1.9	**N**	**N**	18.9	0	3	**N**	9.9	4.2	13.2	11.2	10	6.9	3.4	17.3	0	0	**N**	**N**	**N**	18.9	6.5	16
20	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	0.1	5.4	1.5	0	1.2	4	9.2	7.5	2.4	0	0	0	0	0.7	0	**N**	9.2	2.1	15
21	0	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	0	0	0	**N**	0	0	0	0	1.3	0	0	0	0	1.3	0.1	13
22	0	0	0	0	0	1.7	0	0	0	0	1.2	0	0	2.4	4.2	0.8	3.5	5.1	7.3	8.2	2.1	6.9	2.1	0.5	8.2	1.9	24
23	1.7	1.4	0	0.3	0	0	1.7	0	2.5	5.6	4.2	4.1	0.7	2.4	3.1	3.2	2.8	5.9	8.4	4.1	3.6	0	0	**N**	8.4	2.4	23
24	**N**	**N**	**N**	**N**	0	**N**	0	0	6	3.4	0	4.7	0	0	6.3	5.3	8.6	3.8	0	0	3.9	0	0	0	8.6	2.2	19
25	0	0	1.9	0	**N**	**N**	15	1	**C**	**C**	**M**	**M**	**M**	**C**	**C**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	15.0	3.0	10
26	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	0	0	0	0	0	11.7	0	**N**	**N**	0	1	11.7	1.4	9
27	0.3	0	0	0	0.1	0	2.9	1.2	2.5	0	0	1.7	0.3	0	0.9	0	0.9	1.3	0.5	2.3	2.7	3.3	0.8	2.3	3.3	1.0	24
28	1.3	3	3.4	1.2	0	0	3	3.1	1.1	2	1.6	0	0	0.1	2.3	1.8	2.3	0	1	1.2	0.7	0.8	0.7	0	3.4	1.3	24
29	0.5	0	0	0	0	1.3	3.9	4.4	2.5	2.8	0.3	1.6	0	0.3	0.2	0	0	0.9	0	3.4	2.2	0.6	0	0.6	4.4	1.1	24
30	3.4	1.3	5.7	3.5	2.4	3.7	2.6	3.7	0.4	0.8	0.8	1.8	1.2	0	0	0.5	2.8	3.5	0.1	0.9	1.1	0	0.5	0	5.7	1.7	24
31	1.8	2	0	0	0.5	0	3.8	3.9	2.8	0.2	0	0	0.1	0.1	0.3	0.8	0	0.6	0.5	0.5	0.9	0	1.1	0.5	3.9	0.9	24
HOURLY MAX	9	19	8	8	9	16	26	22	11	11	18	14	13	16	18	18	19	14	37	20	12	13	12	6			
HOURLY AVG	1.6	1.9	1.6	1.3	1.4	4.5	7.1	5.5	3.7	3.8	4.2	3.7	3.3	3.4	4.6	5.7	4.6	4.2	7.1	4.5	3.1	2.5	1.5	1.1			

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

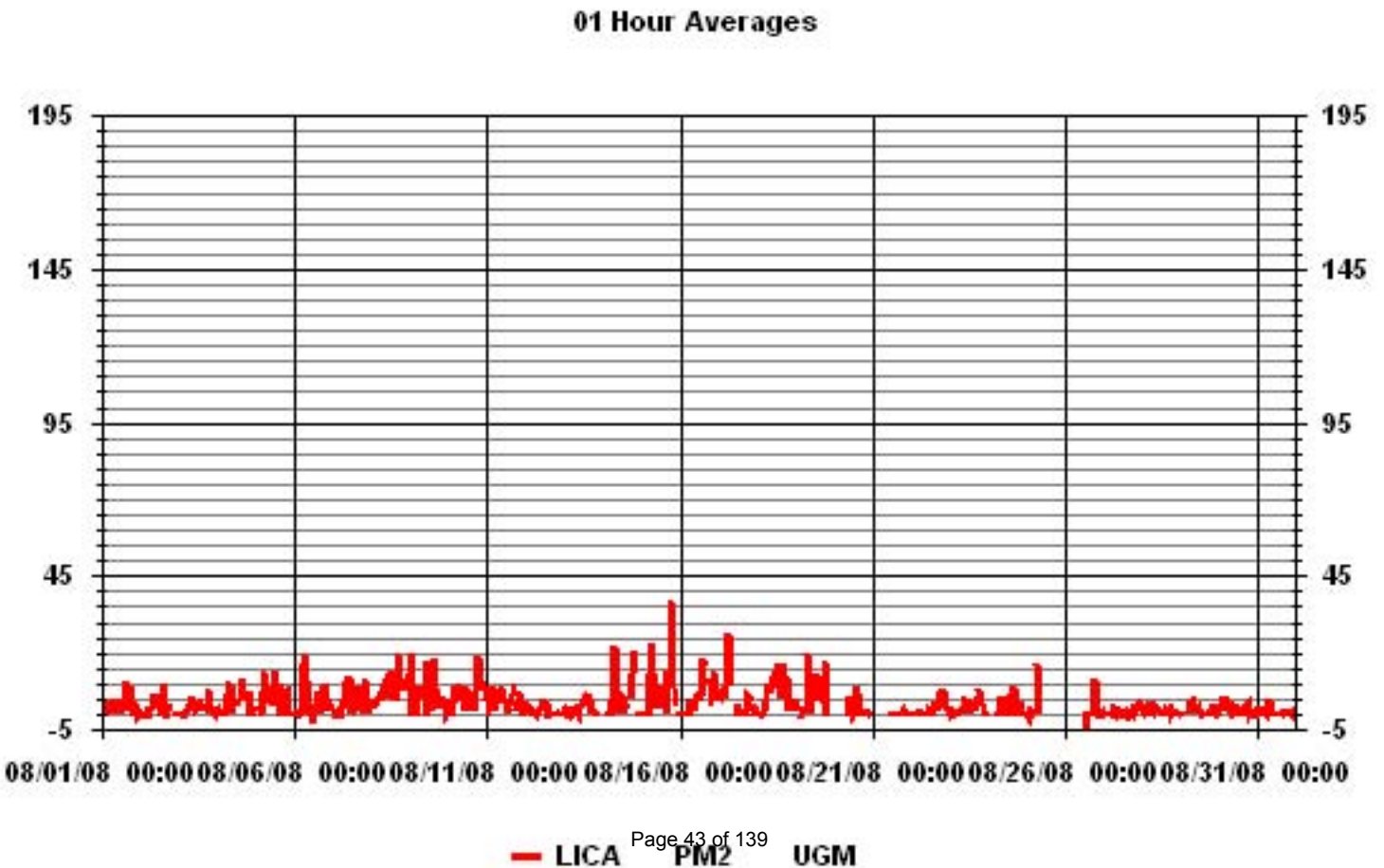
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR - PPB 24-HR 30 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	-				
NUMBER OF 24-HR EXCEEDENCES:	1	PROPOSED CANADA WIDE GUIDELINE			
NUMBER OF NON-ZERO READINGS:	459				
MAXIMUM 1-HR AVERAGE:	37.1	UG/M^3	@ HOUR(S) 18	ON DAY(S)	15
MAXIMUM 24-HR AVERAGE:	8.6	UG/M^3		ON DAY(S)	8

IZS CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	640	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	86.0	%
STANDARD DEVIATION:	4.65		MONTHLY AVERAGE:	3.64	UG/M^3


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

LICA
PM2 / WD Joint Frequency Distribution (Percent)

August 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	1.57	1.73	.78	.78	3.94	9.63	15.63	4.42	3.63	3.63	12.00	14.21	11.69	7.26	5.05	3.79	99.84
< 60.0	.00	.00	.00	.00	.00	.00	.00	.15	.00	.00	.00	.00	.00	.00	.00	.00	.15
< 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	1.57	1.73	.78	.78	3.94	9.63	15.63	4.58	3.63	3.63	12.00	14.21	11.69	7.26	5.05	3.79	

Calm : .00 %

Total # Operational Hours : 633

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 30.0	10	11	5	5	25	61	99	28	23	23	76	90	74	46	32	24	632
< 60.0								1									1
< 80.0																	
< 120.0																	
< 240.0																	
>= 240.0																	
Totals	10	11	5	5	25	61	99	29	23	23	76	90	74	46	32	24	

Calm : .00 %

Total # Operational Hours : 633

Logger : 01 Parameter : PM2

Class Limits (UG/M3)

>= 240.0

< 240.0

< 120.0

< 80.0

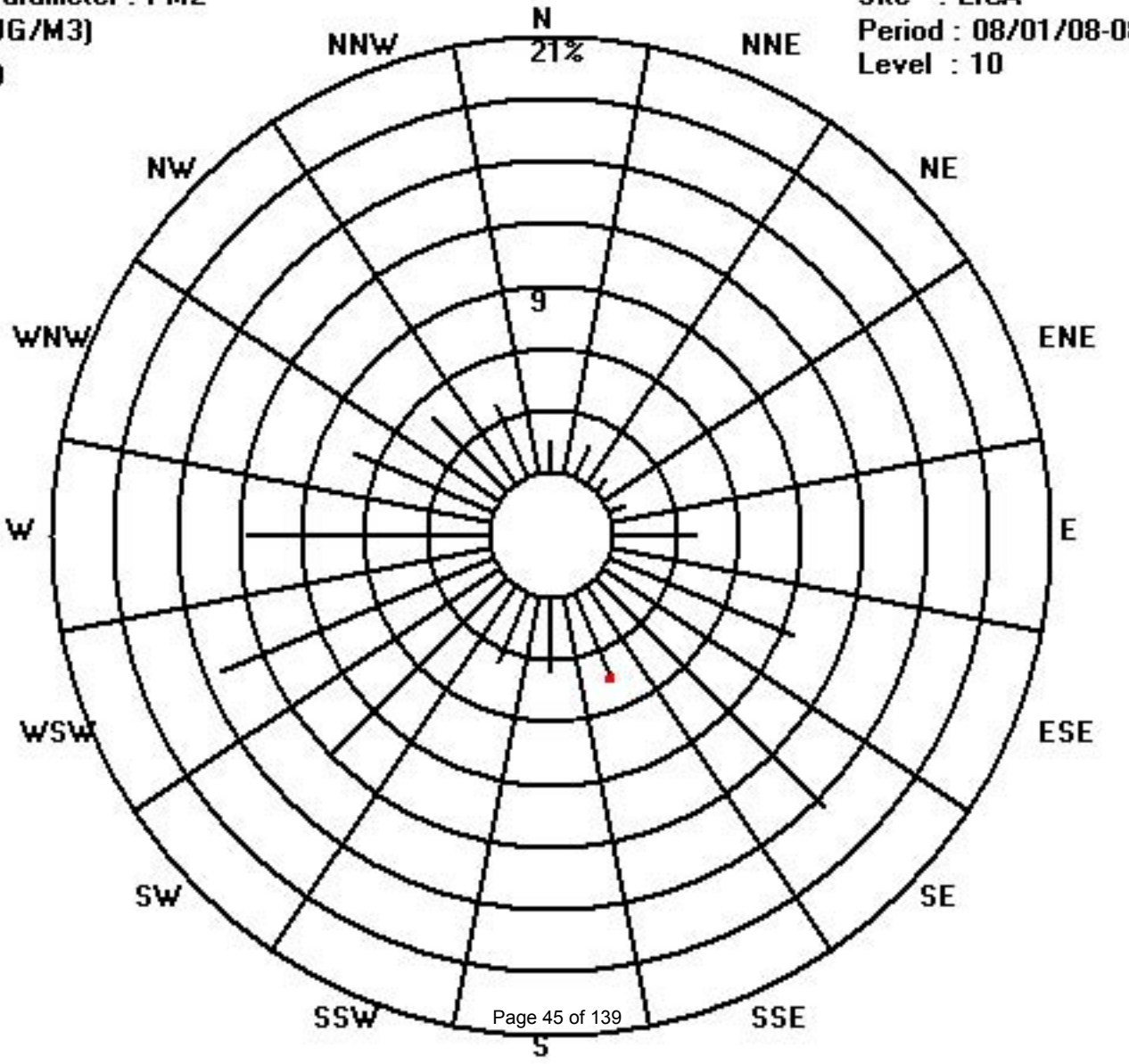
< 60.0

< 30.0

Site : LICA

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

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

AUGUST 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	4.2	4.9	7.7	10.8	15.5	10.5	4.7	17.7	14.1	21.5	19.3	15	31.7	16.4	24.8	21.6	18.5	16.6	29.8	17.8	0.5	6.2	3.3	7.8	31.7	14.2	24
2	6	0.5	0	0	0	19.2	4.9	6.1	11.9	10.1	9.7	9.9	8.7	14.2	34.2	10.2	5.5	10.3	0	1.6	4.8	2.8	2.5	3.3	34.2	7.4	24
3	2	3.6	2.6	2.6	2.6	3.4	6.5	7.5	14.3	19.9	17.5	16.3	11.9	11.6	14	9.9	19.7	20.2	13.6	3.2	6.4	6.1	4.4	4.7	20.2	9.4	24
4	4.5	0.6	1.7	5.4	2.1	16.7	13.1	17.6	10.5	20.1	20.9	19.3	20.9	24.8	61.2	54.2	27.6	37.2	14.2	14.8	9.2	12.1	12.2	15.3	61.2	18.2	24
5	0	0.6	3.7	17.8	7.3	49.8	50.5	14.7	23.8	22.1	22.4	28	29.3	14.8	13.8	35.8	28.5	22.2	20.8	20.5	6.6	1.8	6.2	2.6	NA	NA	24
6	3.7	5.3	5.3	4.9	4.8	30.3	28.2	27.6	23.4	20.5	21	24.6	61.3	21.7	21.4	33.7	23	23.6	24.2	13.1	10	9.8	8.9	4	61.3	18.9	24
7	4.5	5.4	5	2.2	2	5.6	11.1	11.5	19.8	21.9	30.5	24.7	29.2	24.9	25.4	46.8	23.2	27.9	23.9	21.6	22.7	2.6	8.1	6.7	46.8	17.0	24
8	7	6.6	7.1	6.4	9	7.7	11.9	17.7	24.2	31.2	33	23.7	41.7	34	28.6	39.3	35.5	28.7	21	20.6	16.6	18.8	27.7	3.1	41.7	20.9	24
9	29.7	71.3	6.3	12.1	14.2	13	11.9	11.6	13.6	25.6	38	31	21.2	46.3	24.8	30.8	29.3	19.4	10.5	13.7	11.5	10.3	4.7	5.3	71.3	21.1	24
10	1.2	7.3	20.4	11.2	12.3	11	15.4	13.7	25.3	26	35.7	27.5	35.1	41.9	37.6	24.2	27.2	28.5	61.1	41.9	28.7	32.1	4.7	50.7	61.1	25.9	24
11	36.3	11	13.2	12.8	11.1	12.1	11.7	10.3	19.8	21.5	24.4	28.2	16.1	19.6	14.8	14.2	20.6	17.2	10.3	9.2	14.3	8.2	3.2	3.9	36.3	15.2	24
12	8.7	6.1	3.1	5	5.7	3	6.3	1	9.2	7.2	11.8	10.1	9.5	14.6	4.5	0	8.4	0	3	0.5	4	5.8	2.2	3.1	14.6	5.5	24
13	5.5	3.1	4.2	2.1	5.1	4.9	5.7	9.2	15.1	11.6	18.7	27.2	15	14.2	23.8	18.8	15	16.1	10	1.4	3.4	1.5	2.8	8.7	27.2	10.1	24
14	0	17.6	3.9	6.6	6.1	12.7	30.5	39.6	28.8	27.7	33	37.8	31.7	35.3	43.8	43.4	28	33.6	35.4	48.6	5.9	5.9	0.9	1.4	48.6	23.3	24
15	1.9	1.6	4.2	2	2.6	26.4	39	60.1	33	24.1	53.2	52.8	28.5	58.3	34.7	58	34.9	43.9	**78.5**	68.9	13.7	12.5	3.4	5.5	**78.5**	30.9	24
16	2.7	2.7	2.7	0	2	5.3	21.5	19.3	24.8	33.6	28.3	28	38.1	33.8	40.7	47.2	28.2	27.9	21.1	11.4	12.7	19	17.4	13.7	47.2	20.1	24
17	12.2	13.2	10.5	11.9	10.4	27.5	36	50.3	9	15.9	13.1	23.8	23.3	27	18.1	24.6	18.3	15.9	14.2	18.3	10.6	11	7.6	4	50.3	17.8	24
18	3.7	2.8	0	1	5.3	9	18	16	21	22.5	30.7	36.8	37	49.6	28.8	41	40.1	33.7	30.3	12.1	10.5	5.6	37.6	14	49.6	21.1	24
19	19	4.4	4.2	8.1	22.2	2.7	15.9	56.7	13.5	36.5	25.4	44.3	25	38.2	48.1	38	40.6	57.4	45.7	22.4	8.2	1.2	**N**	N	57.4	26.3	22
20	**N**	**N**	4.3	**N**	**N**	**N**	**N**	5.4	14.3	15.6	12.5	3.7	7.2	10.3	15	17.5	13.3	8.7	0	1.2	4.3	7.5	2.2	0	17.5	7.9	18
21	2.6	**N**	1.9	0	**N**	0	1	1.5	1.4	4.4	0	4.5	7	6.1	5	4.5	4.7	3.5	6.7	8.1	2.5	3.7	0.9	0	8.1	3.2	22
22	0	0.3	2	2.6	2.6	10.8	11.7	3.2	7.5	8.3	13	8.5	8.9	16.5	15.3	12	19.6	23.7	29.3	31.7	18.6	22.5	7.7	7.4	31.7	11.8	24
23	7.6	6.2	3	7.8	4.4	4.7	11.1	8.3	14.5	21.6	16.1	21.7	14.1	28.6	24.8	17.6	12.8	13.6	14.8	10.1	7.5	5.9	2.2	0	28.6	11.6	24
24	0	0	0	0	0.6	0	1.1	7.5	11	12.7	21.7	17.8	12.4	11.4	25.1	21.6	18.6	12.2	11.6	9	10.3	4	0	0	25.1	8.7	23
25	1.5	2	11.4	4.7	0	1.8	29.5	10.8	**C**	**C**	**M**	**M**	**M**	**C**	**C**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	29.5	7.7	12
26	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	1	2.6	2.3	1.3	2.4	60.3	5.2	2.4	15.9	3.9	9.8	60.3	9.7	11
27	4.3	2	2.9	6.3	7.6	6.3	9.2	7.9	4.8	3.3	4.7	15.1	4.2	5.9	4.4	1.9	7.3	4.9	3.2	3.7	5.3	6.8	2.7	4.7	15.1	5.4	24
28	5	5.4	6.2	3.9	2.5	5.9	7	5.9	4.4	6.6	6.9	2.4	2	2.8	5.4	5.5	9.6	11.5	4.4	3.6	4.1	3	2.7	1.5	11.5	4.9	24
29	2.9	2.3	2	0	1.7	8.1	7	9.2	4.7	8.6	9.8	16.3	9.1	4.8	6.5	3.9	2.4	4.9	3.5	7.1	4.9	3.8	0.9	5.2	16.3	5.4	24
HOURLY MAX	36	71	20	18	22	50	51	60	33	37	53	53	61	58	61	58	41	57	79	69	29	32	38	51			
HOURLY AVG	6.5	7.2	5.0	5.5	6.1	11.4	15.6	16.7	15.5	18.5	21.2	22.2	21.5	22.5	23.1	24.2	20.1	20.2	21.5	15.8	9.3	8.8	6.7	6.9			

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

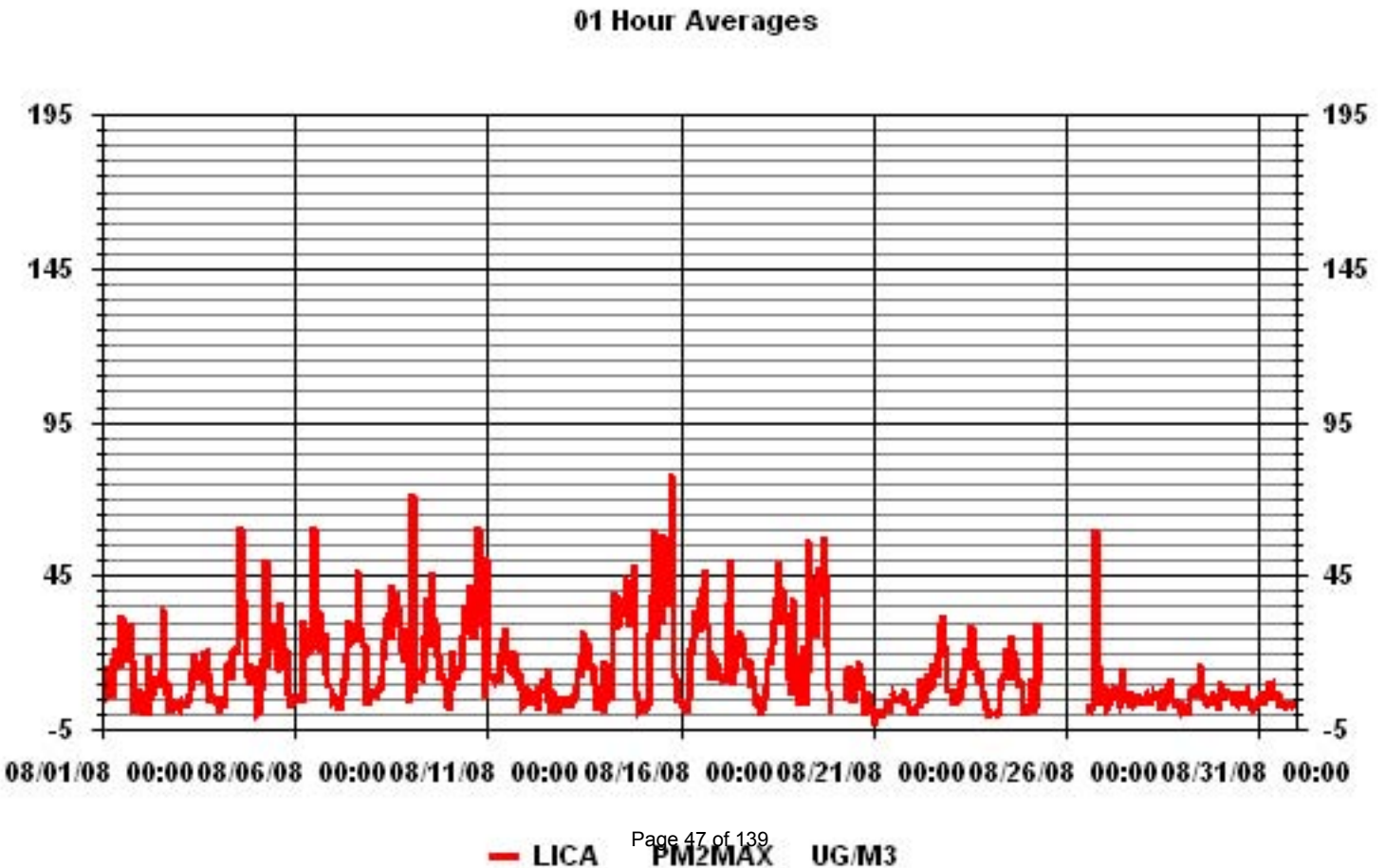
NUMBER OF NON-ZERO READINGS: 630

MAXIMUM INSTANTANEOUS VALUE: 78.5 UG/M^3 @ HOUR(S) 18 ON DAY(S) 15

IZS CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 660 HRS

MONTHLY CALIBRATION TIME: 4 HRS

STANDARD DEVIATION: 13.52


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

Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

AUGUST 2008

NITROGEN DIOXIDE hourly averages in ppb

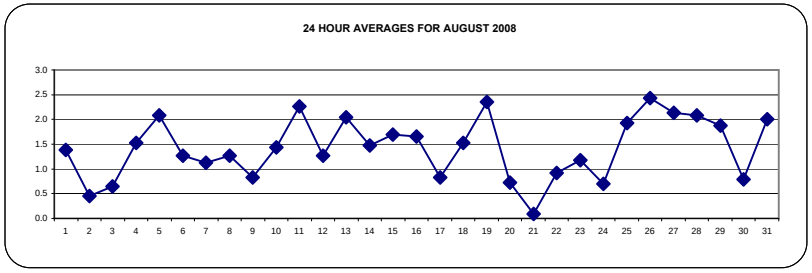
MST

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	2	IZS	2	1	2	3	C	C	C	C	C	C	C	C	M	M	1	1	1	1	1	1	1	1	3	1.4	22
2	IZS	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	IZS	1	0.5	24
3	0	1	2	1	1	2	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2	3	IZS	1	3	0.7	24
4	1	2	3	1	4	2	4	3	3	1	1	1	0	0	0	1	0	1	1	1	1	IZS	2	2	4	1.5	24
5	2	2	2	3	3	5	5	3	4	3	1	1	3	1	0	0	1	1	2	2	IZS	2	1	1	5	2.1	24
6	1	1	1	1	2	2	3	3	5	2	1	0	0	0	0	0	0	0	1	IZS	2	2	1	1	5	1.3	24
7	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	IZS	2	2	1	1	1	2	1.1	24
8	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	IZS	2	3	3	4	2	1	4	1.3	24
9	1	1	1	0	1	1	1	0	1	1	2	1	0	0	0	1	IZS	1	1	1	1	1	1	1	2	0.8	24
10	1	1	2	0	0	1	1	1	1	2	1	1	1	1	1	IZS	1	1	2	4	5	3	1	1	5	1.4	24
11	2	1	1	3	3	2	3	5	3	4	3	1	1	2	IZS	2	1	1	2	4	3	1	1	3	5	2.3	24
12	2	1	1	2	2	2	2	1	1	1	1	1	2	IZS	1	1	1	1	1	1	1	1	1	1	2	1.3	24
13	1	3	3	4	4	4	2	2	2	2	2	1	IZS	1	1	1	1	1	2	1	2	1	3	3	4	2.0	24
14	2	2	1	1	1	1	1	2	3	2	1	IZS	1	1	1	1	0	0	1	4	2	3	2	1	4	1.5	24
15	1	1	1	0	1	1	2	3	5	3	IZS	1	1	1	1	1	1	1	2	3	3	3	2	1	5	1.7	24
16	2	2	2	1	1	2	2	1	2	IZS	2	1	2	2	2	2	1	1	1	1	1	1	3	3	3	1.7	24
17	3	3	3	2	1	1	1	2	IZS	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	3	0.8	24
18	0	0	0	0	0	1	1	IZS	1	1	1	1	1	1	1	1	1	1	2	7	4	6	2	2	7	1.5	24
19	2	4	3	2	2	4	IZS	3	2	1	1	1	1	2	2	1	1	1	2	3	5	6	3	2	6	2.3	24
20	2	3	1	0	0	IZS	0	1	M	M	M	M	M	M	M	M	M	M	M	M	1	0	0	0	3	0.7	12
21	0	0	0	0	IZS	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
22	0	0	0	IZS	1	2	0	0	0	0	0	0	0	1	1	1	1	0	1	2	4	3	2	2	4	0.9	24
23	1	2	IZS	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	2	1.2	24
24	0	IZS	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	1	2	1	1	1	1	1	2	0.7	24
25	IZS	1	1	1	3	4	5	C	C	C	C	C	C	C	M	0	0	1	1	2	3	2	3	IZS	5	1.9	23
26	2	1	1	1	3	7	7	5	1	1	2	2	1	1	0	0	1	2	4	4	3	4	IZS	3	7	2.4	24
27	5	4	3	5	3	4	4	3	3	2	1	0	0	1	0	0	0	0	1	1	3	IZS	2	4	5	2.1	24
28	3	3	3	2	2	3	3	3	2	3	1	1	1	1	1	1	0	1	0	2	IZS	4	5	3	5	2.1	24
29	3	2	2	2	1	2	5	3	4	3	1	1	0	1	0	0	0	0	3	IZS	5	2	2	1	5	1.9	24
30	1	1	0	2	2	1	1	1	1	0	0	0	0	0	0	0	0	1	IZS	0	1	1	2	3	3	0.8	24
31	3	5	5	3	3	3	2	2	1	2	1	0	0	0	0	0	0	IZS	3	4	3	3	1	2	5	2.0	24
HOURLY MAX	5	5	5	5	4	7	7	5	5	4	3	2	3	2	2	2	1	2	4	7	5	6	5	4			
HOURLY AVG	1.6	1.7	1.6	1.4	1.7	2.2	2.2	1.9	1.9	1.4	1.0	0.7	0.7	0.7	0.6	0.6	0.6	0.8	1.4	2.1	2.3	2.1	1.6	1.6			

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

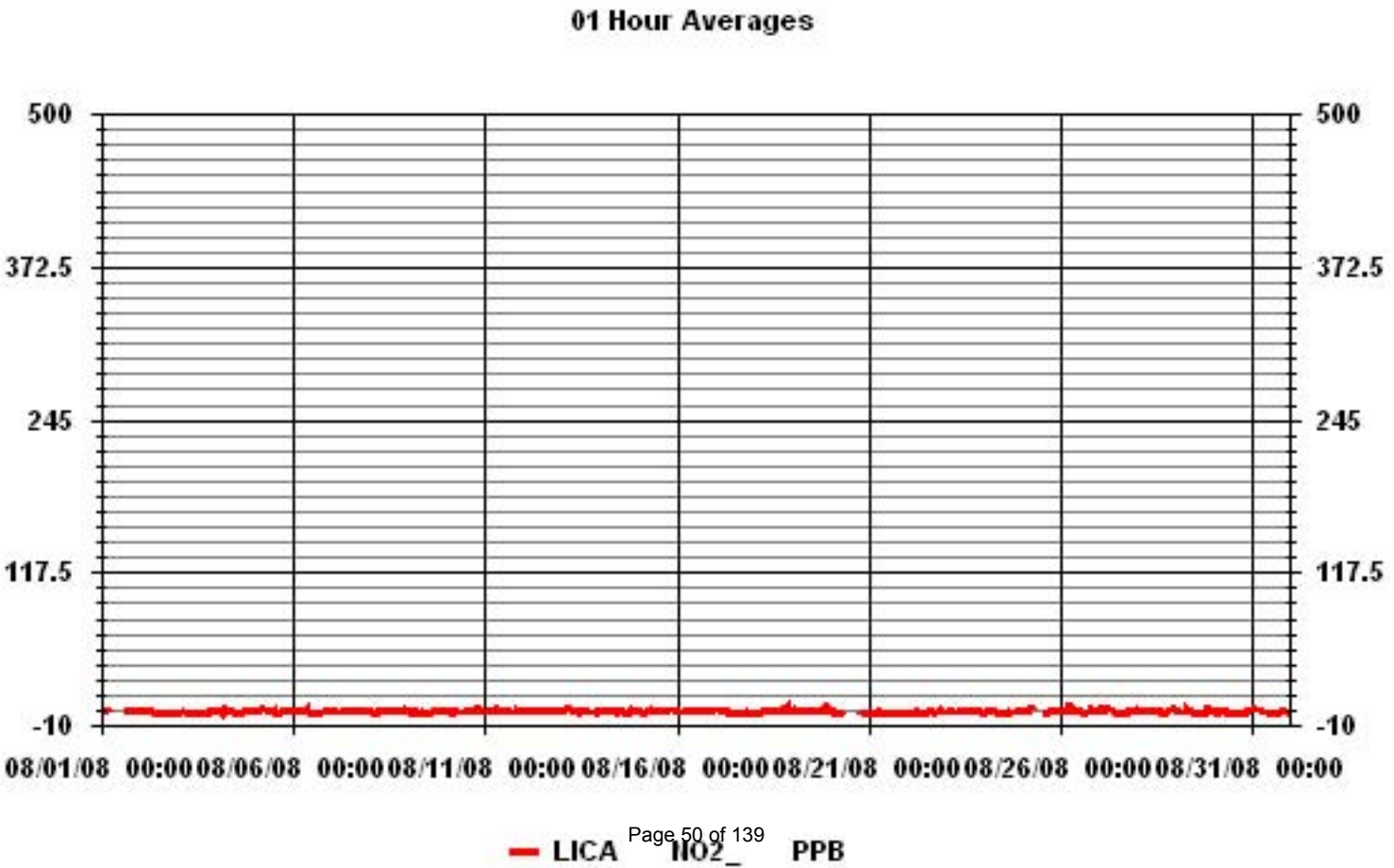
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 212 PPB 24-HR 106 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	533					
MAXIMUM 1-HR AVERAGE:	7	PPB	@ HOUR(S)	19	ON DAY(S)	18
MAXIMUM 24-HR AVERAGE:	2.4	PPB			ON DAY(S)	26

IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	729	HRS
MONTHLY CALIBRATION TIME:	15	HRS	AMD OPERATION UPTIME:	98.0	%
STANDARD DEVIATION:	1.27		MONTHLY AVERAGE:	1.42	PPB


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

LICA
NO2_ / WD Joint Frequency Distribution (Percent)

August 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	2.05	1.90	1.02	.73	2.93	8.81	15.12	4.25	3.67	3.81	11.74	14.24	12.62	7.19	6.02	3.81	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	2.05	1.90	1.02	.73	2.93	8.81	15.12	4.25	3.67	3.81	11.74	14.24	12.62	7.19	6.02	3.81	

Calm : .00 %

Total # Operational Hours : 681

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	14	13	7	5	20	60	103	29	25	26	80	97	86	49	41	26	681
< 110																	
< 210																	
>= 210																	
Totals	14	13	7	5	20	60	103	29	25	26	80	97	86	49	41	26	

Calm : .00 %

Total # Operational Hours : 681

Logger : 01 Parameter : NO2_

Class Limits (PPB)

>= 210

< 210

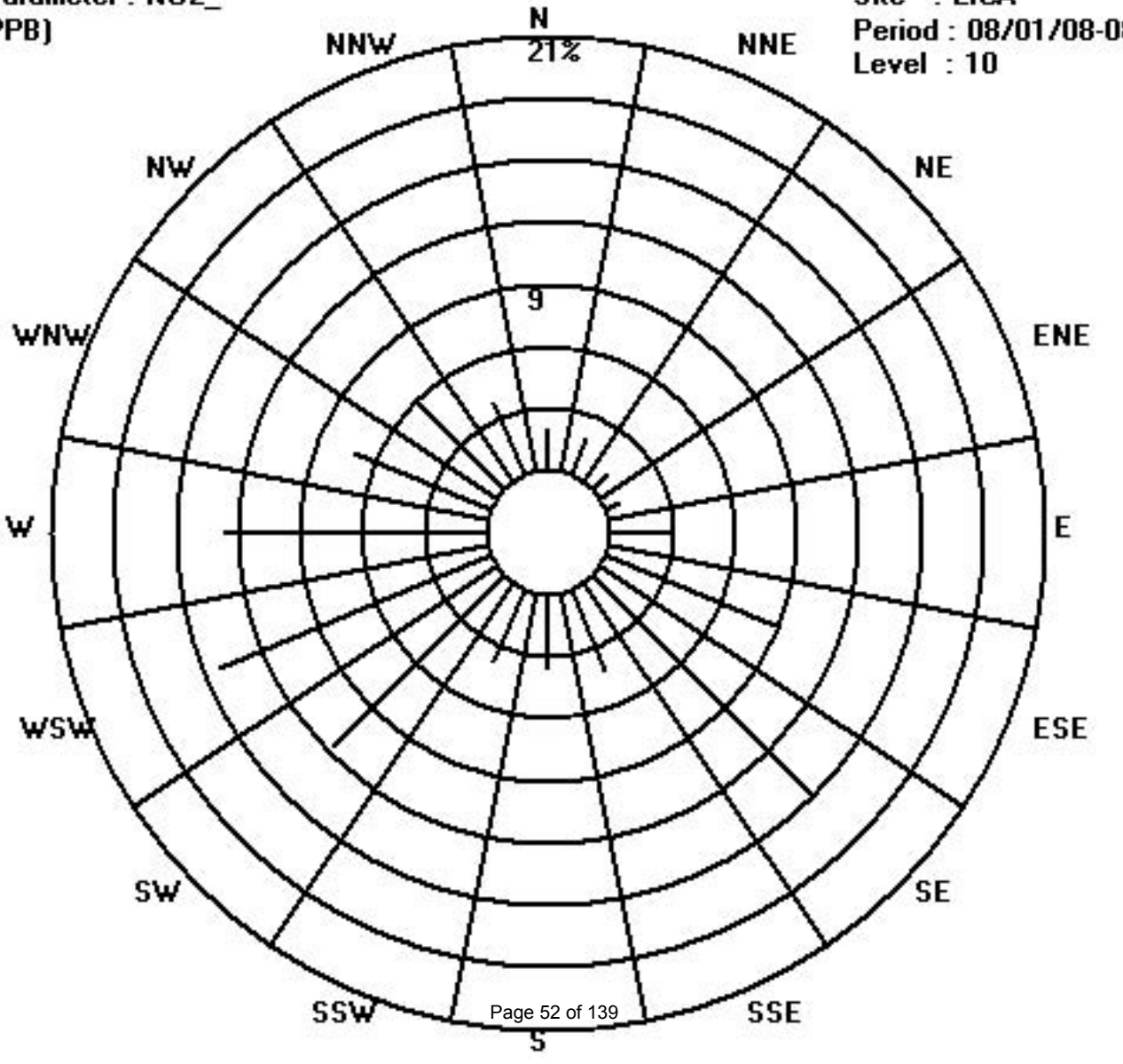
< 110

< 50

Site : LICA

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

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

AUGUST 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	4	**IZS**	3	2	6	4	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**M**	**M**	3	3	1	2	2	3	3	3	6	3.0	22
2	**IZS**	3	2	2	2	2	1	1	2	1	1	0	1	0	1	1	0	1	0	0	3	2	0	**IZS**	3	1.2	24
3	1	3	3	2	3	3	2	1	0	0	0	0	0	0	0	0	1	2	1	1	6	7	**IZS**	2	7	1.7	24
4	1	5	5	4	5	4	5	5	3	3	1	1	1	1	5	2	2	2	5	2	3	**IZS**	3	2	5	3.0	24
5	4	3	3	5	4	12	7	5	5	5	2	2	6	7	1	1	2	3	3	4	**IZS**	3	2	2	12	4.0	24
6	1	2	1	2	3	8	5	4	8	3	2	1	1	2	1	2	2	1	3	**IZS**	4	5	1	1	8	2.7	24
7	1	1	1	1	1	3	2	10	13	5	3	21	11	2	1	4	9	4	**IZS**	3	4	1	1	1	21	4.5	24
8	1	1	1	1	2	4	3	2	1	3	13	2	5	5	2	1	3	**IZS**	3	7	8	6	8	3	13	3.7	24
9	1	1	1	1	1	1	2	1	2	5	3	4	1	1	4	10	**IZS**	2	1	4	3	2	5	2	10	2.5	24
10	2	3	3	1	3	1	1	2	2	2	1	2	1	2	1	**IZS**	2	2	5	8	11	5	2	2	11	2.8	24
11	3	1	2	7	12	3	5	10	4	6	7	2	2	2	**IZS**	3	2	3	5	4	4	3	2	6	12	4.3	24
12	6	2	2	3	3	4	4	2	2	1	1	2	2	**IZS**	3	1	1	1	1	1	1	1	2	1	6	2.0	24
13	3	4	4	5	5	5	3	2	3	6	3	2	**IZS**	2	2	2	2	2	4	4	3	2	5	3	6	3.3	24
14	3	4	2	2	5	1	2	2	6	3	2	**IZS**	1	1	3	2	1	1	3	5	5	4	3	2	6	2.7	24
15	3	1	1	1	1	2	4	5	6	9	**IZS**	1	4	2	2	3	5	2	3	21	6	6	3	2	21	4.0	24
16	2	3	4	2	2	2	3	2	9	**IZS**	4	2	2	3	3	3	2	1	2	1	1	3	4	5	9	2.8	24
17	4	4	4	4	2	1	3	15	**IZS**	2	7	3	1	0	3	1	10	1	1	4	5	1	1	1	15	3.4	24
18	0	1	1	1	1	2	2	**IZS**	2	2	1	5	2	3	4	2	2	7	6	43	6	9	3	3	43	4.7	24
19	4	4	4	4	2	15	**IZS**	6	3	4	2	4	2	6	4	4	2	2	3	6	9	10	6	3	15	4.7	24
20	4	5	3	1	0	**IZS**	1	5	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	5	2	1	0	5	2.5	12
21	1	0	0	0	**IZS**	1	7	5	6	11	1	2	3	5	3	5	4	1	0	1	0	0	0	0	11	2.4	24
22	0	0	0	**IZS**	2	5	1	0	2	6	2	1	3	8	3	1	1	2	2	4	8	6	3	3	8	2.7	24
23	18	4	**IZS**	2	2	3	5	1	1	2	1	2	1	3	2	1	1	2	2	3	7	7	2	1	18	3.2	24
24	1	**IZS**	3	1	3	4	4	1	8	1	1	1	1	1	5	2	2	2	4	3	3	1	5	2	8	2.6	24
25	**IZS**	2	3	2	19	7	8	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**M**	1	1	2	2	2	4	5	6	**IZS**	19	4.6	23
26	4	2	1	2	6	10	10	7	2	2	4	4	2	2	4	1	2	4	7	7	4	6	**IZS**	5	10	4.3	24
27	9	5	4	7	5	5	5	5	4	3	2	1	1	8	1	1	1	1	1	1	10	**IZS**	4	4	10	3.8	24
28	4	3	4	3	3	6	4	5	3	**63**	2	2	2	2	1	1	2	2	2	4	**IZS**	6	9	8	**63**	6.1	24
29	6	3	2	2	1	7	8	5	6	6	3	1	1	11	1	2	1	1	19	**IZS**	23	4	3	1	23	5.1	24
30	2	2	1	8	4	3	1	1	1	1	1	1	0	0	1	1	1	2	**IZS**	1	1	3	7	4	8	2.0	24
31	4	7	7	5	5	4	3	2	2	3	1	1	1	0	0	0	0	**IZS**	5	6	5	10	2	3	10	3.3	24
HOURLY MAX	18	7	7	8	19	15	10	15	13	63	13	21	11	11	5	10	10	7	19	43	23	10	9	8			
HOURLY AVG	3.3	2.7	2.5	2.8	3.8	4.4	3.8	4.0	3.9	5.9	2.6	2.6	2.1	2.9	2.3	2.1	2.3	2.1	3.4	5.4	5.3	4.2	3.3	2.6			

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

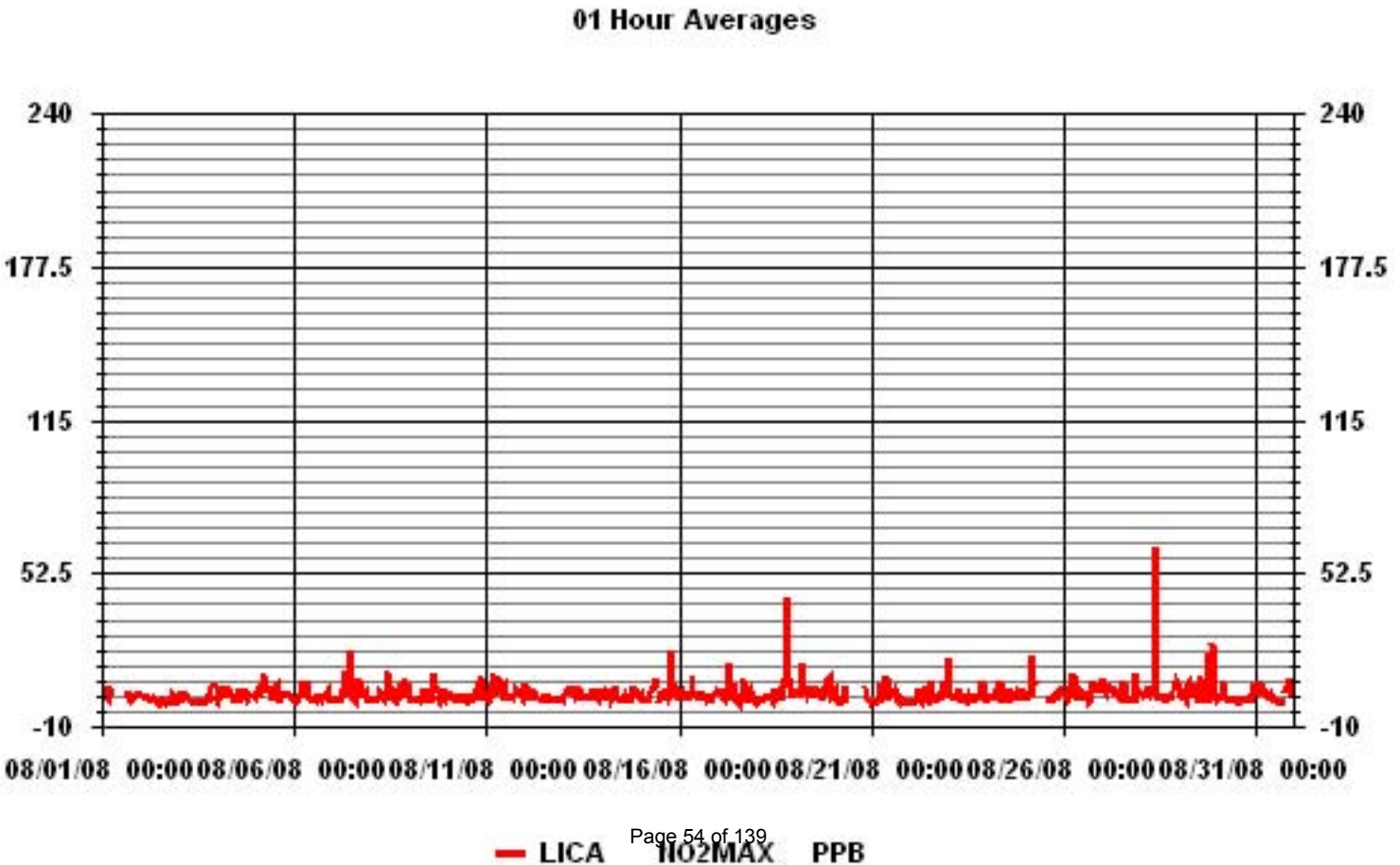
NUMBER OF NON-ZERO READINGS: 645

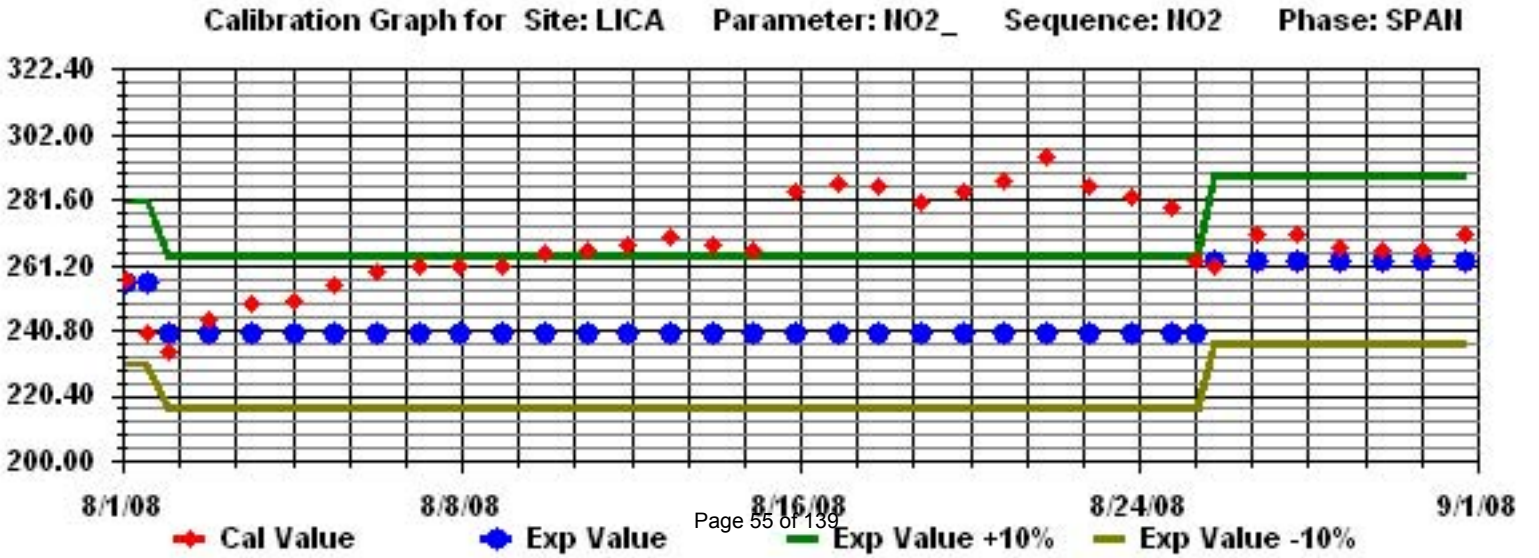
MAXIMUM INSTANTANEOUS VALUE: 63 PPB @ HOUR(S) 9 ON DAY(S) 28

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 729 HRS

MONTHLY CALIBRATION TIME: 15 HRS

STANDARD DEVIATION 3.99


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


Calibration Graph for Site: LICA Parameter: NO2_ Sequence: NO2 Phase: SPAN
322.40
302.00
281.60
261.20
240.80
220.40
200.00
8/1/08
8/8/08
8/16/08
8/24/08
9/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

AUGUST 2008

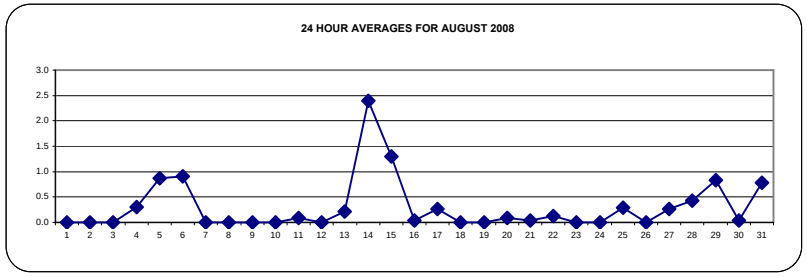
NITRIC OXIDE hourly averages in ppb

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	IZS	0	0	0	0	C	C	C	C	C	C	C	C	M	M	0	0	0	0	0	0	0	0	0	0.0	22
2	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
3	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
4	0	0	0	0	0	0	2	2	2	1	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	2	0.3	24
5	0	0	0	0	0	10	4	2	2	2	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	10	0.9	24
6	0	0	0	0	2	7	8	2	2	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	8	0.9	24
7	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
8	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
9	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
10	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
11	0	0	0	0	0	0	0	1	0	1	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	1	0.1	24
12	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0.0	24
13	0	0	0	0	0	0	0	0	0	1	1	0	IZS	0	0	0	0	1	1	0	0	0	1	0	1	0.2	24
14	1	3	1	2	4	6	10	11	11	5	0	IZS	0	0	0	0	0	0	0	0	0	0	0	1	**11**	**2.4**	24
15	1	1	1	1	5	4	11	4	2	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	**11**	1.3	24
16	0	0	0	0	0	0	0	0	1	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
17	0	0	0	0	0	1	2	3	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.3	24
18	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
19	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
20	0	0	0	0	0	IZS	0	1	M	M	M	M	M	M	M	M	M	M	M	M	0	0	0	0	1	0.1	12
21	0	0	0	0	IZS	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
22	0	0	0	IZS	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	0	2	0.1	24
23	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
24	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
25	IZS	0	0	0	0	0	4	C	C	C	C	C	C	C	M	0	0	0	0	0	0	0	0	IZS	4	0.3	23
26	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
27	0	0	0	0	0	0	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	2	0.3	24
28	0	0	0	0	0	1	1	1	0	7	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	7	0.4	24
29	0	0	0	0	0	3	9	2	2	2	0	0	0	0	0	0	0	0	1	IZS	0	0	0	0	9	0.8	24
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	1	0	1	0.0	24
31	0	0	0	3	1	0	2	4	3	3	0	0	0	0	0	0	0	IZS	0	0	0	2	0	0	4	0.8	24
HOURLY MAX	1	3	1	3	5	10	11	11	11	7	1	0	0	1	0	0	0	1	1	0	2	2	1	1			
HOURLY AVG	0.1	0.1	0.1	0.2	0.4	1.1	1.9	1.3	1.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0			

STATUS FLAG CODES

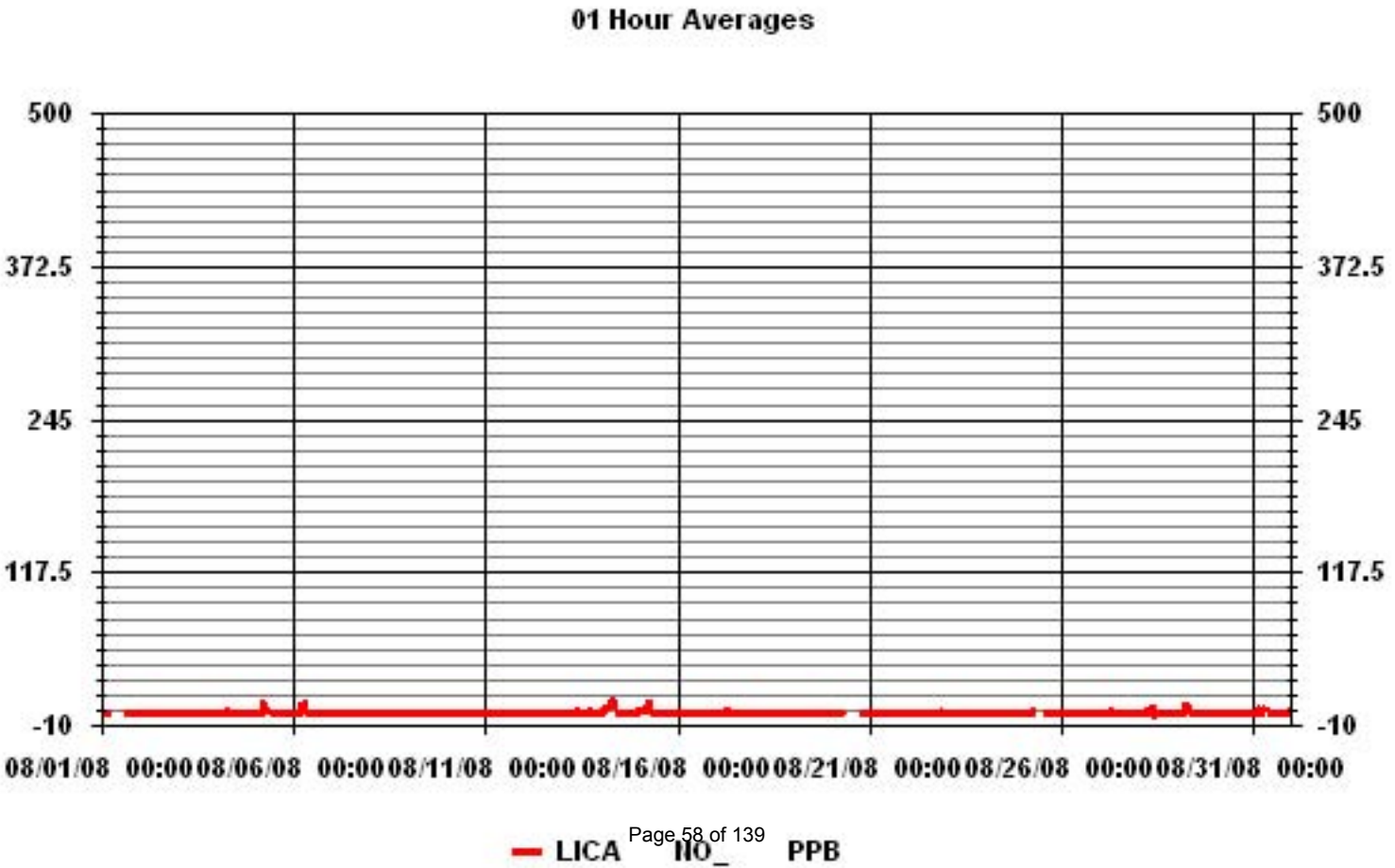
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	72					
MAXIMUM 1-HR AVERAGE:	11	PPB	@ HOUR(S)	VAR	ON DAY(S)	14,15
MAXIMUM 24-HR AVERAGE:	2.4	PPB			ON DAY(S)	14

IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	729	HRS
MONTHLY CALIBRATION TIME:	15	HRS	AMD OPERATION UPTIME:	98.0	%
STANDARD DEVIATION:	1.26		MONTHLY AVERAGE:	0.31	PPB


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

LICA
NO_ / WD Joint Frequency Distribution (Percent)

August 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	2.05	1.90	1.02	.73	2.93	8.81	15.12	4.25	3.67	3.81	11.74	14.24	12.62	7.19	6.02	3.81	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	2.05	1.90	1.02	.73	2.93	8.81	15.12	4.25	3.67	3.81	11.74	14.24	12.62	7.19	6.02	3.81	

Calm : .00 %

Total # Operational Hours : 681

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	14	13	7	5	20	60	103	29	25	26	80	97	86	49	41	26	681
< 110																	
< 210																	
>= 210																	
Totals	14	13	7	5	20	60	103	29	25	26	80	97	86	49	41	26	

Calm : .00 %

Total # Operational Hours : 681

Logger : 01 Parameter : NO_

Class Limits (PPB)

>= 210

< 210

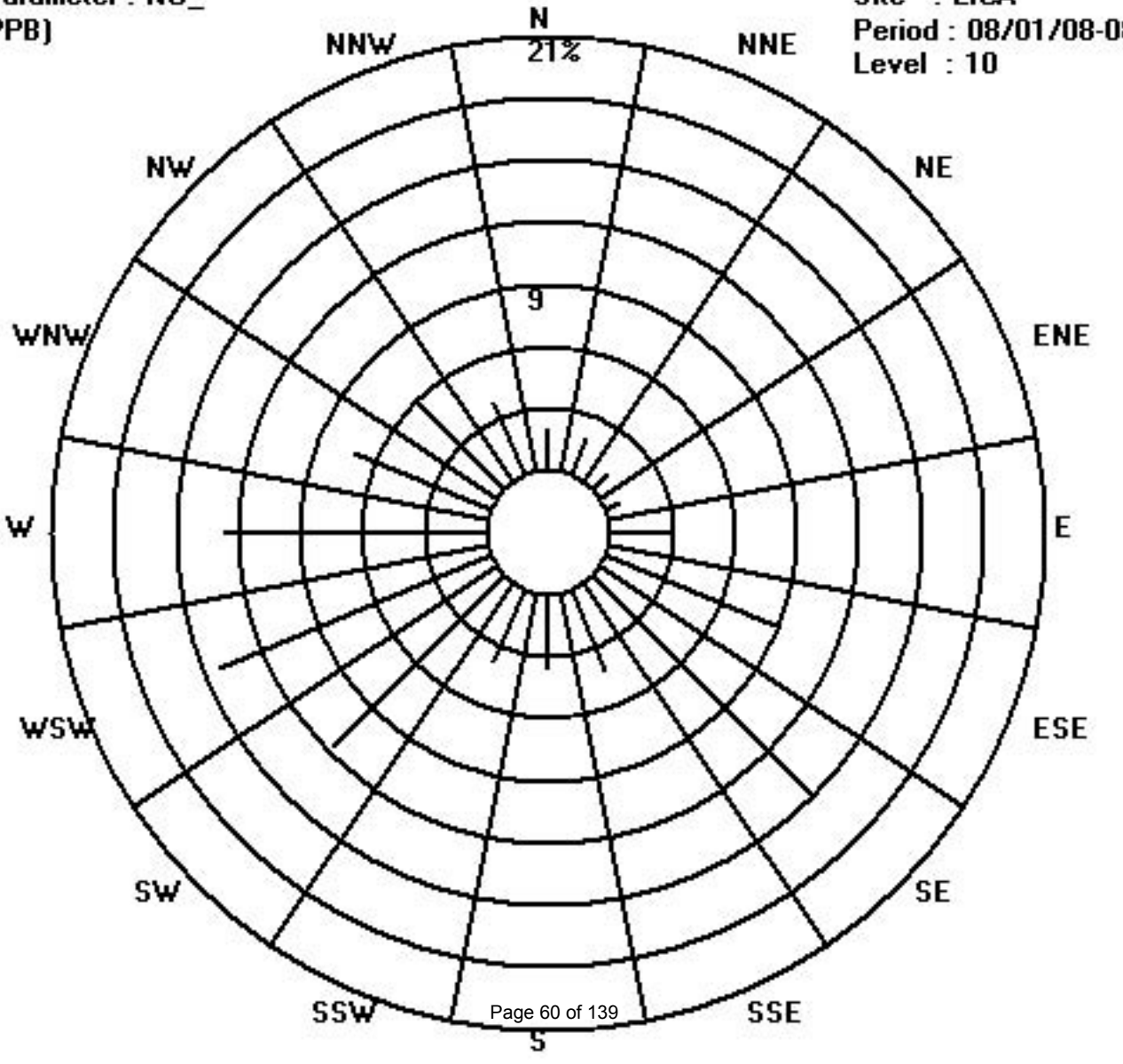
< 110

< 50

Site : LICA

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

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

AUGUST 2008

NITRIC OXIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	**IZS**	0	0	2	1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**M**	**M**	1	2	0	0	0	0	0	0	2	0.5	22
2	**IZS**	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	0.0	24
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0.0	24
4	0	0	0	0	0	0	2	2	2	2	1	0	0	0	3	0	1	0	4	0	0	**IZS**	0	0	4	0.7	24
5	0	0	1	1	1	51	11	2	3	4	2	1	2	3	0	0	0	0	0	0	**IZS**	0	1	0	51	3.6	24
6	1	2	1	0	3	22	13	3	5	1	1	0	0	0	0	0	1	0	1	**IZS**	0	3	0	0	22	2.5	24
7	0	0	0	0	0	3	0	2	5	4	21	5	2	1	1	4	3	3	**IZS**	0	2	0	0	0	21	2.4	24
8	0	0	0	0	0	2	1	0	0	7	1	0	7	1	0	0	2	**IZS**	5	3	2	0	0	1	7	1.4	24
9	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	3	**IZS**	0	0	0	0	0	5	0	5	0.4	24
10	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	**IZS**	0	0	0	3	2	0	0	0	3	0.3	24
11	0	0	0	1	0	0	0	2	1	2	2	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	2	0.3	24
12	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0.0	24
13	0	0	0	0	0	0	0	0	2	12	3	2	**IZS**	0	0	1	0	1	1	1	0	1	2	1	12	1.2	24
14	1	9	2	4	16	7	13	12	14	29	1	**IZS**	0	0	0	0	0	0	0	1	0	1	1	2	29	4.9	24
15	4	2	5	3	7	5	16	13	3	2	**IZS**	0	6	2	0	5	1	0	0	30	1	1	0	0	30	4.6	24
16	0	0	0	0	0	0	0	0	5	**IZS**	4	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0.4	24
17	1	2	1	1	2	2	2	65	**IZS**	3	1	0	0	0	1	11	3	0	0	0	1	0	0	0	65	4.2	24
18	0	0	0	0	0	1	0	**IZS**	0	1	0	0	0	6	0	0	0	1	0	28	0	0	0	0	28	1.6	24
19	0	0	0	0	0	9	**IZS**	0	0	0	0	11	4	2	1	2	0	0	0	0	0	0	0	0	11	1.3	24
20	0	0	0	0	0	**IZS**	0	5	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	3	0	0	0	5	0.7	12
21	0	0	0	0	**IZS**	1	7	9	12	19	2	1	4	4	3	5	3	0	0	0	0	0	0	0	19	3.0	24
22	0	0	0	**IZS**	0	2	0	3	1	15	0	0	1	31	0	0	11	13	13	12	15	12	11	10	31	6.5	24
23	28	8	**IZS**	0	0	0	3	0	0	0	0	0	0	0	0	2	0	4	0	0	1	0	4	0	28	2.2	24
24	0	**IZS**	1	0	1	1	0	0	1	1	0	0	3	1	3	1	5	0	4	2	2	0	2	0	5	1.2	24
25	**IZS**	0	0	0	10	2	8	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**M**	0	0	0	0	0	0	0	0	**IZS**	10	1.4	23
26	0	0	0	0	0	0	6	1	0	0	0	0	0	0	11	0	0	0	0	0	1	2	**IZS**	0	11	0.9	24
27	0	0	0	0	0	1	2	3	4	2	1	0	0	1	0	0	0	0	0	0	0	**IZS**	7	7	7	1.2	24
28	10	8	9	8	8	8	10	10	7	**142**	1	0	1	0	0	0	0	0	0	0	**IZS**	0	0	0	**142**	9.7	24
29	0	0	0	0	0	16	21	6	3	8	1	0	0	28	0	0	0	0	19	**IZS**	6	0	0	0	28	4.7	24
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	11	1	11	0.5	24
31	1	0	0	8	2	1	3	5	4	4	1	0	0	0	0	0	0	**IZS**	0	0	0	23	0	0	23	2.3	24
HOURLY MAX	28	9	9	8	16	51	21	65	14	142	21	11	7	31	11	11	11	13	19	30	15	23	11	10			
HOURLY AVG	1.6	1.1	0.7	0.9	1.7	4.5	4.1	5.1	2.7	9.6	1.6	0.8	1.1	3.0	0.9	1.2	1.1	0.9	1.7	2.9	1.2	1.5	1.5	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

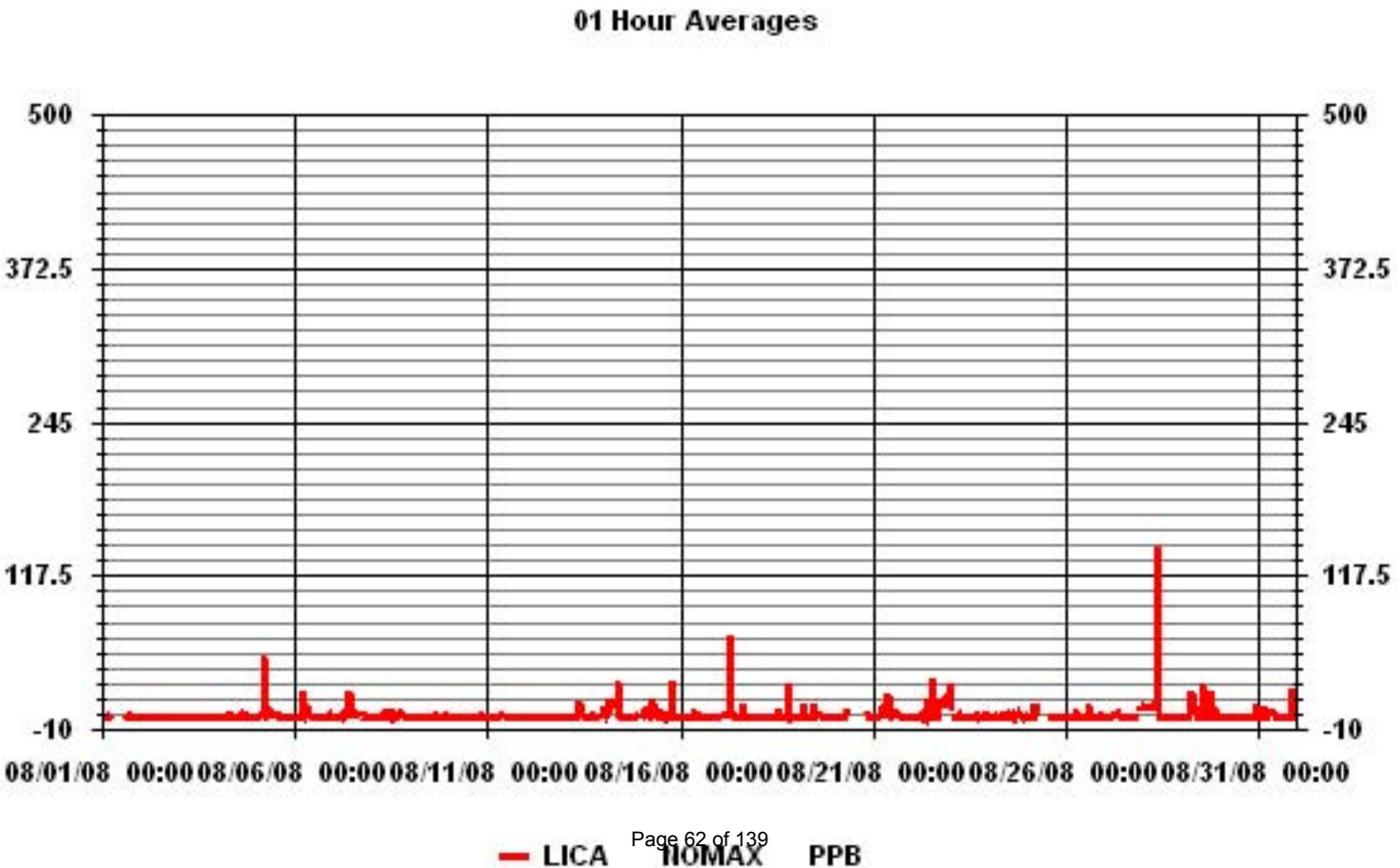
NUMBER OF NON-ZERO READINGS: 244

MAXIMUM INSTANTANEOUS VALUE: 142 PPB @ HOUR(S) 9 ON DAY(S) 28

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 729 HRS

MONTHLY CALIBRATION TIME: 15 HRS

STANDARD DEVIATION 7.50


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

Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

AUGUST 2008

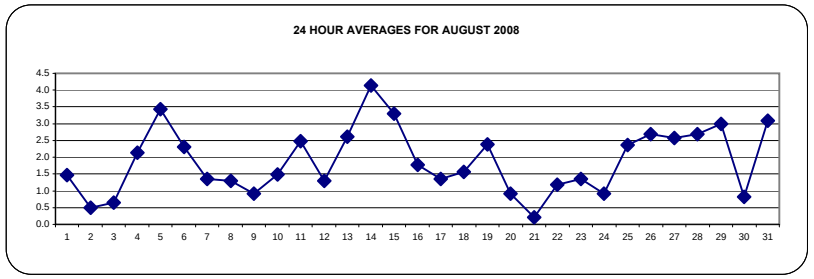
OXIDES OF NITROGEN hourly averages in ppb

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	2	**IZS**	2	1	2	3	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**M**	**M**	2	1	1	1	1	1	1	1	3	1.5	22
2	**IZS**	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	**IZS**	1	0.5	24
3	0	1	2	1	1	2	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2	3	**IZS**	1	3	0.7	24
4	1	2	3	1	4	3	6	6	6	3	1	1	0	0	1	1	1	1	2	1	1	**IZS**	2	2	6	2.1	24
5	2	2	3	4	3	**16**	9	6	6	5	2	1	3	2	1	1	1	2	2	2	**IZS**	2	2	2	**16**	3.4	24
6	2	2	1	1	4	9	11	5	7	3	1	0	0	0	0	0	0	0	1	**IZS**	2	2	1	1	11	2.3	24
7	1	1	1	1	1	2	2	2	2	2	2	1	1	1	1	1	1	1	**IZS**	2	2	1	1	1	2	1.3	24
8	1	1	0	0	0	1	1	1	1	1	2	1	1	1	1	1	1	**IZS**	2	3	3	4	2	1	4	1.3	24
9	1	1	1	0	1	1	1	0	1	1	2	2	1	0	0	1	**IZS**	1	1	1	1	1	1	1	2	0.9	24
10	1	1	2	0	0	1	1	1	2	2	1	1	1	1	1	**IZS**	1	1	2	4	5	3	1	1	5	1.5	24
11	2	1	1	3	3	2	4	6	4	6	3	1	1	2	**IZS**	2	1	1	2	4	3	1	1	3	6	2.5	24
12	2	1	1	2	2	2	2	1	1	1	1	1	2	**IZS**	2	1	1	1	1	1	1	1	1	1	2	1.3	24
13	1	3	3	4	4	4	3	2	2	3	3	2	**IZS**	2	2	1	2	2	3	2	2	2	5	3	5	2.6	24
14	3	5	3	4	6	7	11	13	14	7	2	**IZS**	1	1	1	1	0	0	1	4	3	3	3	2	14	**4.1**	24
15	3	2	2	2	6	6	14	8	7	4	**IZS**	1	1	1	1	1	1	1	2	4	3	3	2	1	14	3.3	24
16	2	2	2	1	1	2	2	2	4	**IZS**	2	1	2	2	2	2	1	1	1	1	1	1	3	3	4	1.8	24
17	3	4	4	3	2	2	4	5	**IZS**	1	0	0	0	0	0	0	0	0	0	2	1	0	0	0	5	1.3	24
18	0	0	0	0	0	1	1	**IZS**	1	1	1	1	1	1	1	1	1	1	2	8	4	6	2	2	8	1.6	24
19	2	4	3	2	2	5	**IZS**	3	2	1	1	1	1	2	2	1	1	1	2	3	5	6	3	2	6	2.4	24
20	2	3	1	0	0	**IZS**	0	2	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	1	1	0	0	3	0.9	12
21	0	0	0	0	**IZS**	0	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0.2	24
22	0	0	0	**IZS**	1	2	0	0	0	1	1	0	0	3	1	1	1	0	1	2	5	4	2	2	5	1.2	24
23	3	2	**IZS**	1	1	2	2	1	1	2	1	1	1	1	1	1	1	1	1	2	2	1	1	1	3	1.3	24
24	0	**IZS**	1	1	1	2	1	1	1	1	0	0	0	1	1	1	1	1	2	1	1	1	1	1	2	0.9	24
25	**IZS**	1	1	1	4	5	10	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**M**	0	0	1	1	1	3	2	3	**IZS**	10	2.4	23
26	2	1	1	1	3	7	8	5	1	1	3	3	1	1	1	0	1	2	4	4	4	5	**IZS**	3	8	2.7	24
27	5	4	3	5	3	5	6	6	5	3	2	0	0	1	0	0	0	0	1	1	3	**IZS**	2	4	6	2.6	24
28	3	3	3	2	2	4	4	6	3	11	1	1	1	1	1	1	0	1	0	2	**IZS**	4	5	3	11	2.7	24
29	4	2	2	2	1	6	14	6	7	5	2	1	0	2	0	0	0	0	4	**IZS**	6	2	2	1	14	3.0	24
30	1	1	0	2	2	1	1	1	1	0	0	0	0	0	0	0	0	1	**IZS**	0	1	1	3	3	3	0.8	24
31	3	5	6	6	5	4	4	6	5	5	2	1	0	0	0	0	0	**IZS**	3	4	3	5	2	2	6	3.1	24
HOURLY MAX	5	5	6	6	6	16	14	13	14	11	3	3	3	3	2	2	2	2	4	8	6	6	5	4			
HOURLY AVG	1.8	1.9	1.8	1.7	2.2	3.6	4.3	3.5	3.2	2.7	1.4	0.8	0.7	1.0	0.8	0.7	0.7	0.8	1.5	2.1	2.4	2.3	1.8	1.7			

STATUS FLAG CODES

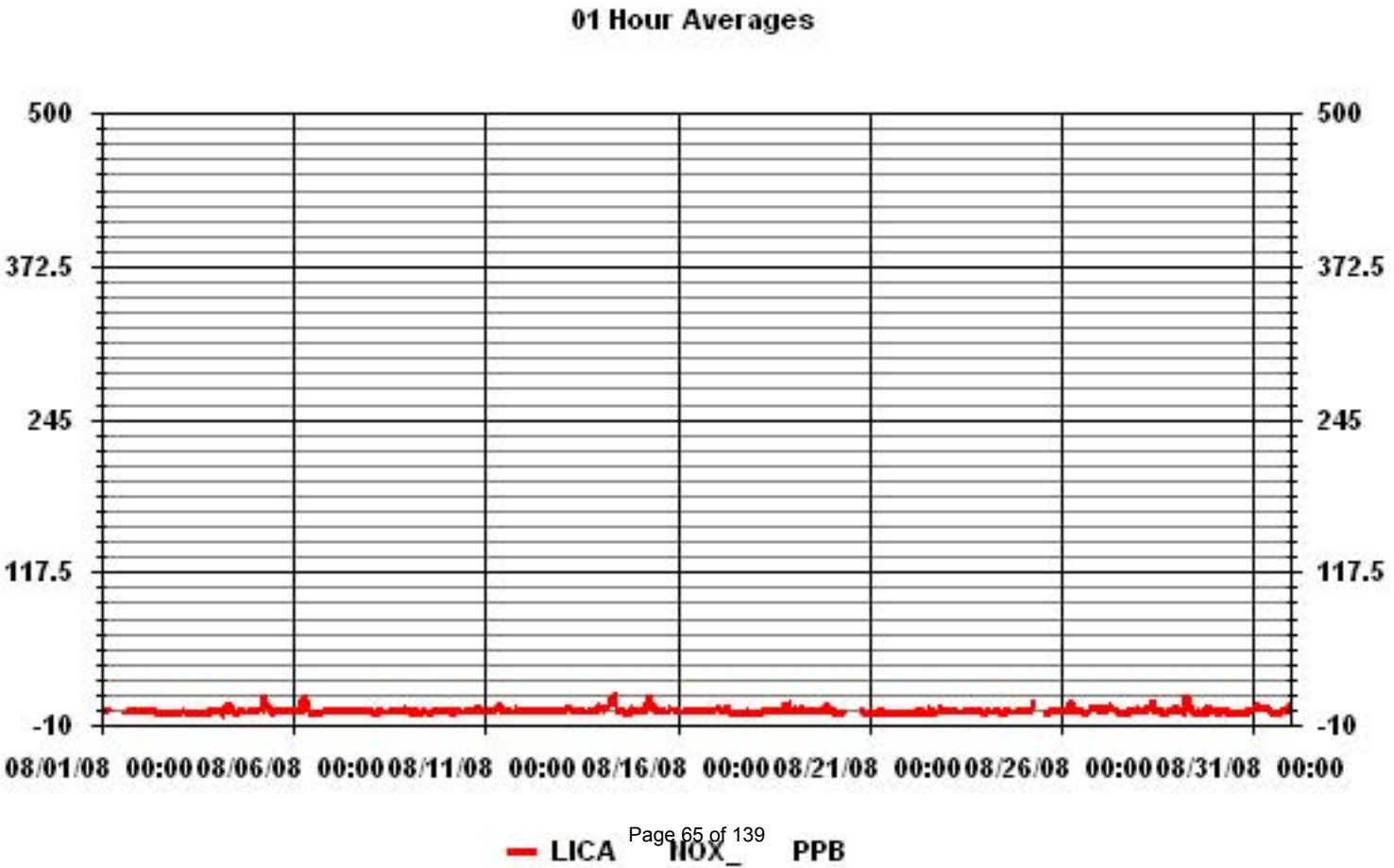
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	553					
MAXIMUM 1-HR AVERAGE:	16	PPB	@ HOUR(S)	5	ON DAY(S)	5
MAXIMUM 24-HR AVERAGE:	4.1	PPB			ON DAY(S)	14

IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	729	HRS
MONTHLY CALIBRATION TIME:	15	HRS	AMD OPERATION UPTIME:	98.0	%
STANDARD DEVIATION:	2.07		MONTHLY AVERAGE:	1.90	PPB


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

LICA
NOX_ / WD Joint Frequency Distribution (Percent)

August 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	2.05	1.90	1.02	.73	2.93	8.81	15.12	4.25	3.67	3.81	11.74	14.24	12.62	7.19	6.02	3.81	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	2.05	1.90	1.02	.73	2.93	8.81	15.12	4.25	3.67	3.81	11.74	14.24	12.62	7.19	6.02	3.81	

Calm : .00 %

Total # Operational Hours : 681

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	14	13	7	5	20	60	103	29	25	26	80	97	86	49	41	26	681
< 110																	
< 210																	
>= 210																	
Totals	14	13	7	5	20	60	103	29	25	26	80	97	86	49	41	26	

Calm : .00 %

Total # Operational Hours : 681

Logger : 01 Parameter : NOX_

Site : LICA

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

Level : 10

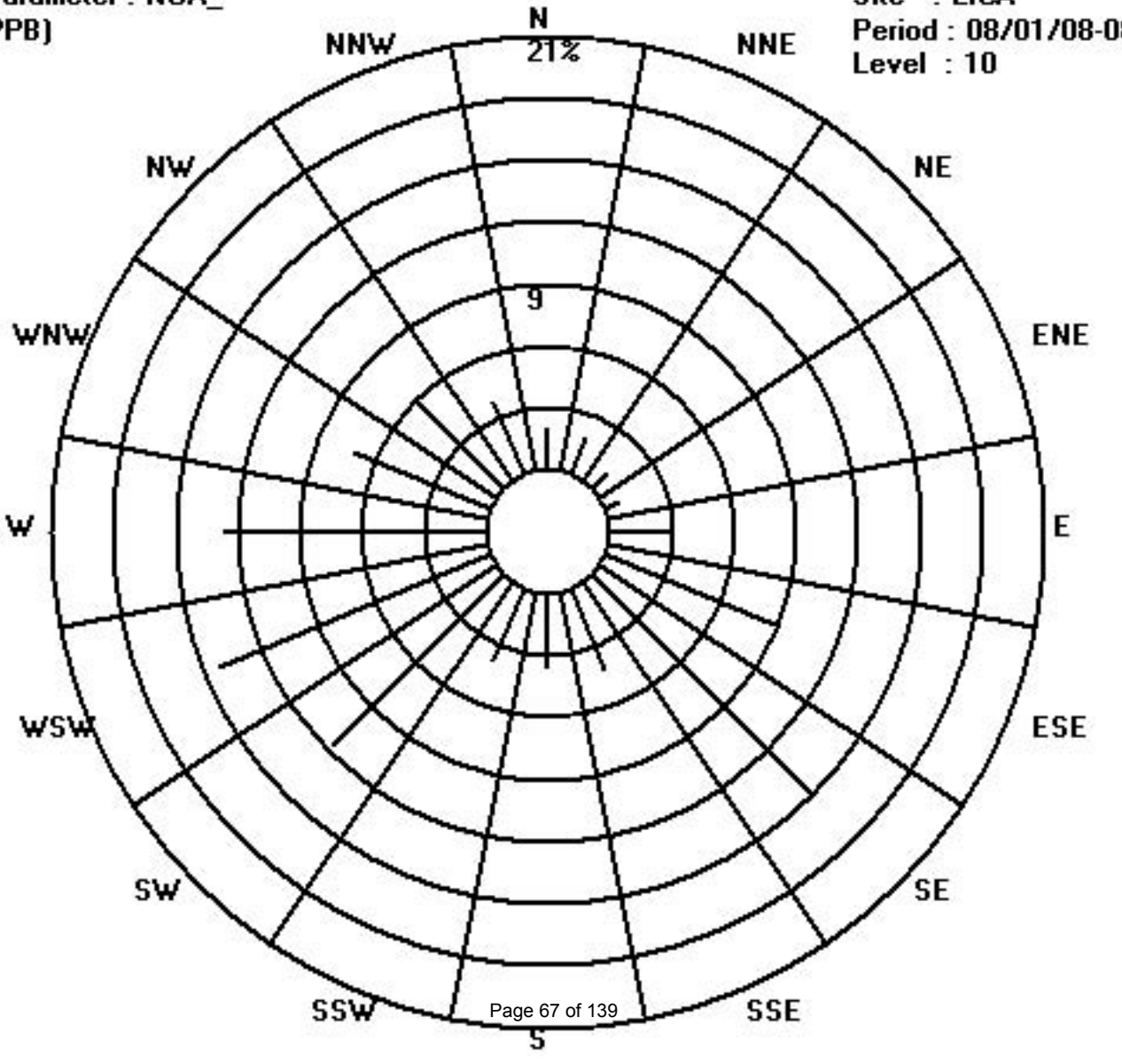
Class Limits (PPB)

>= 210

< 210

< 110

< 50



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

AUGUST 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	4	**IZS**	3	2	8	5	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**M**	**M**	5	6	1	2	2	3	3	3	8	3.6	22
2	**IZS**	3	2	2	2	2	2	2	2	3	1	1	1	1	1	1	0	1	0	0	3	2	0	**IZS**	3	1.5	24
3	1	3	3	2	3	4	3	1	0	0	0	0	1	1	0	0	1	2	1	0	7	7	**IZS**	2	7	1.8	24
4	1	5	6	4	6	5	7	8	6	5	2	2	1	2	9	3	3	2	10	2	4	**IZS**	3	3	10	4.3	24
5	4	3	4	5	4	57	18	7	8	9	3	2	9	11	2	1	3	3	3	4	**IZS**	3	3	3	57	7.3	24
6	2	4	2	2	6	27	18	7	14	4	3	1	1	2	1	2	3	1	4	**IZS**	5	8	1	2	27	5.2	24
7	1	2	1	2	2	6	3	12	18	9	12	26	13	2	3	5	10	5	**IZS**	3	6	2	2	1	26	6.3	24
8	1	1	1	1	3	6	5	3	1	6	15	2	7	7	2	1	6	**IZS**	4	9	11	6	8	4	15	4.8	24
9	1	2	1	1	1	1	3	2	3	6	3	6	2	2	5	13	**IZS**	3	1	5	3	2	9	3	13	3.4	24
10	2	3	4	1	4	1	1	2	2	2	2	2	2	2	1	**IZS**	2	2	6	10	13	6	2	2	13	3.2	24
11	3	1	2	9	13	3	6	12	5	10	10	2	3	3	**IZS**	3	2	3	5	4	4	3	2	6	13	5.0	24
12	6	2	2	3	3	4	4	2	2	1	1	2	3	**IZS**	4	1	1	1	2	1	1	2	2	2	6	2.3	24
13	3	4	4	5	5	5	4	3	6	14	6	5	**IZS**	3	2	3	3	3	5	5	3	3	6	4	14	4.5	24
14	4	13	4	7	21	8	16	15	18	13	3	**IZS**	2	1	3	3	1	1	3	7	5	5	5	5	21	7.1	24
15	7	3	6	4	9	7	21	18	10	11	**IZS**	2	10	4	3	6	7	3	3	47	7	8	3	2	47	8.7	24
16	2	3	6	2	2	3	3	3	15	**IZS**	6	2	2	3	3	3	2	2	3	1	1	3	4	5	15	3.4	24
17	5	5	6	6	5	4	6	72	**IZS**	5	9	3	1	1	5	1	14	1	2	4	6	1	1	1	72	7.1	24
18	0	0	1	1	1	3	2	**IZS**	2	3	1	6	3	6	4	2	2	8	6	71	6	9	3	3	71	6.2	24
19	4	4	4	4	3	23	**IZS**	6	3	5	2	6	5	6	5	6	3	2	3	6	9	10	6	3	23	5.6	24
20	4	5	4	1	0	**IZS**	1	10	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	6	2	1	0	10	3.1	12
21	1	0	0	0	**IZS**	2	15	10	14	16	4	3	6	8	5	8	5	1	0	1	0	0	0	0	16	4.3	24
22	0	0	0	**IZS**	2	8	1	1	4	12	3	2	5	38	5	2	1	3	2	4	8	7	3	5	38	5.0	24
23	53	5	**IZS**	2	2	4	9	2	2	2	2	2	1	3	3	2	1	6	2	3	9	7	3	1	53	5.5	24
24	1	**IZS**	4	2	5	5	5	3	9	3	1	2	2	2	6	2	4	2	8	4	5	1	7	2	9	3.7	24
25	**IZS**	2	4	2	29	10	16	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**M**	1	1	2	2	2	4	5	6	**IZS**	29	6.1	23
26	4	2	1	2	6	10	14	7	2	3	5	5	3	3	11	1	2	4	7	7	6	8	**IZS**	6	14	5.2	24
27	9	5	4	7	5	7	7	8	9	5	3	2	1	9	2	1	1	1	2	1	10	**IZS**	4	4	10	4.7	24
28	4	4	4	3	3	7	8	10	5	**157**	3	3	3	3	2	2	2	2	2	5	**IZS**	6	9	8	**157**	11.1	24
29	7	3	3	2	2	21	27	11	9	14	4	2	1	21	2	3	1	2	39	**IZS**	29	4	4	1	39	9.2	24
30	2	2	1	8	4	3	2	2	1	1	1	1	1	1	1	1	1	2	**IZS**	1	1	4	17	4	17	2.7	24
31	5	7	8	12	6	5	6	8	6	8	3	2	1	0	0	0	0	**IZS**	5	7	6	33	2	3	33	5.8	24
HOURLY MAX	53	13	8	12	29	57	27	72	18	157	15	26	13	38	11	13	14	8	39	71	29	33	17	8			
HOURLY AVG	4.9	3.3	3.2	3.5	5.5	8.5	8.0	8.8	6.5	12.1	4.0	3.5	3.3	5.4	3.3	2.8	3.0	2.6	4.7	7.7	6.2	5.5	4.1	3.0			

STATUS FLAG CODES

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

MONTHLY SUMMARY

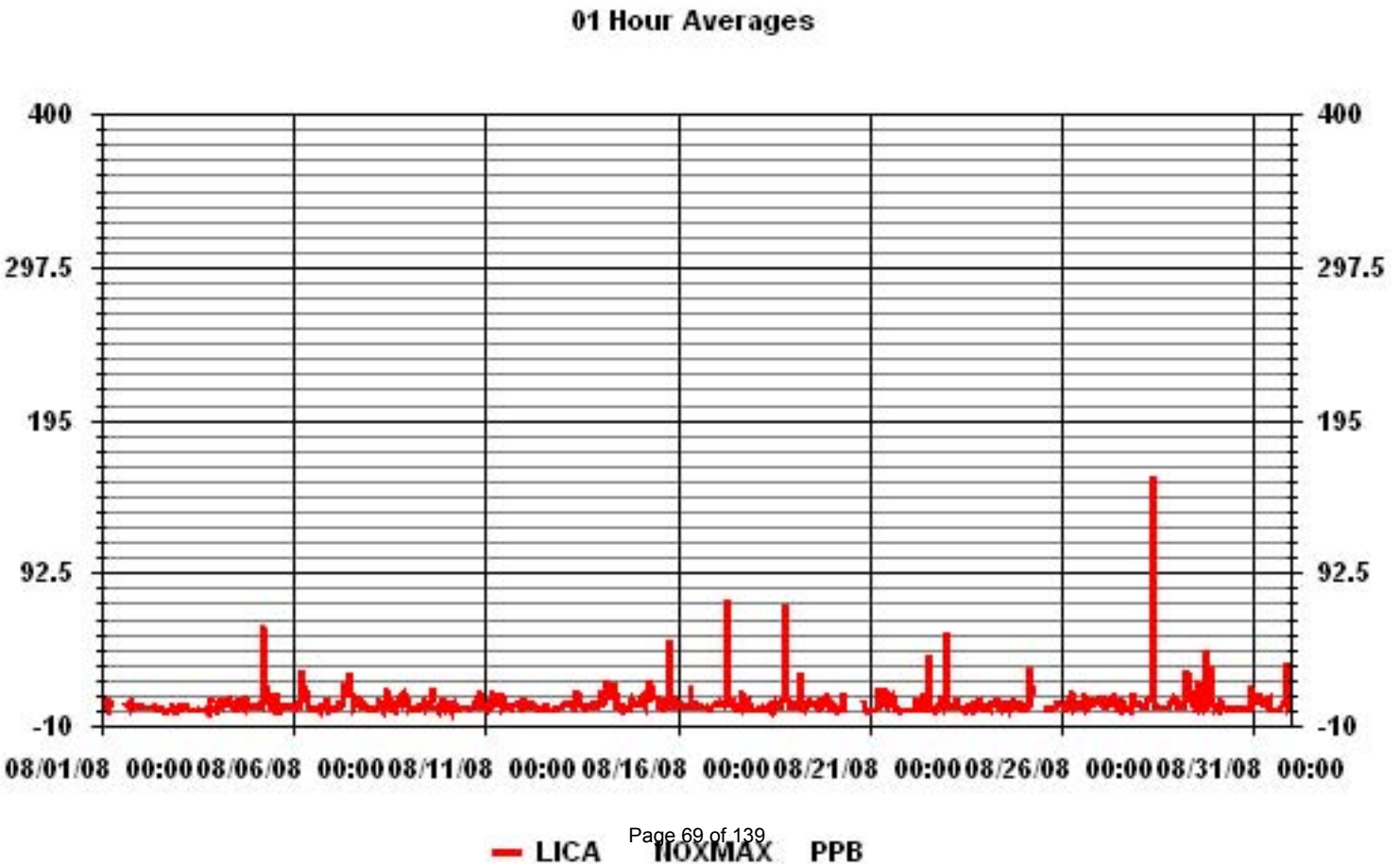
NUMBER OF NON-ZERO READINGS: 651

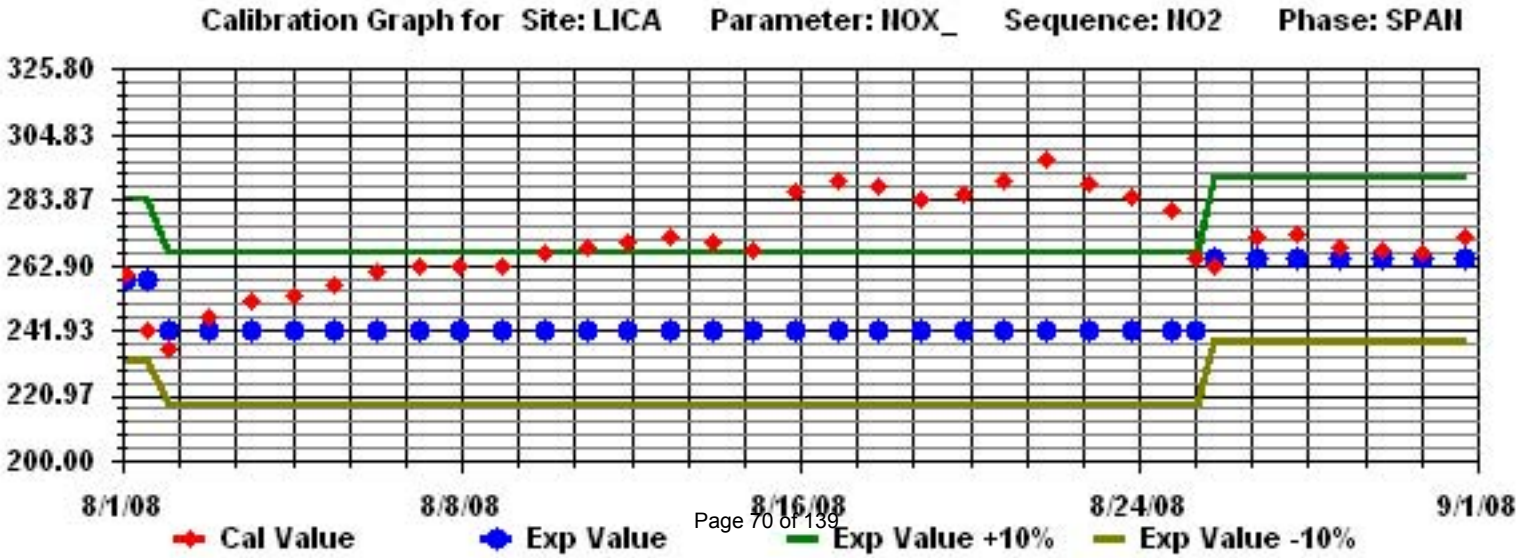
MAXIMUM INSTANTANEOUS VALUE: 157 PPB @ HOUR(S) 9 ON DAY(S) 28

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 729 HRS

MONTHLY CALIBRATION TIME: 15 HRS

STANDARD DEVIATION 8.89


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


Calibration Graph for Site: LICA Parameter: NOX_ Sequence: NO2 Phase: SPAN
325.80
304.83
283.87
262.90
241.93
220.97
200.00
8/1/08
8/8/08
8/16/08
8/24/08
9/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ozone

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

AUGUST 2008

OZONE (O_3) hourly averages in ppb

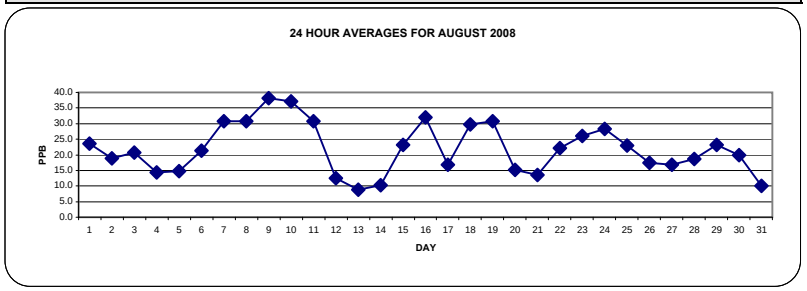
MST

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	14	**IZS**	5	6	9	10	14	19	26	31	35	35	34	**C**	**C**	**C**	**C**	27	28	37	28	29	33	30	37	23.7	24
2	**IZS**	21	19	17	17	15	14	14	15	15	15	16	17	20	21	21	21	21	23	24	22	23	25	**IZS**	25	18.9	24
3	23	22	21	23	22	22	22	22	22	21	21	22	21	21	22	21	22	23	21	21	16	11	**IZS**	13	23	20.7	24
4	12	9	6	7	3	4	5	7	7	13	18	22	24	25	25	20	23	25	22	16	10	**IZS**	18	11	25	14.4	24
5	10	4	3	5	2	1	7	10	12	19	27	24	14	21	28	31	32	31	29	21	**IZS**	4	3	2	32	14.8	24
6	1	0	0	0	0	0	3	13	19	29	34	34	35	36	39	40	40	40	37	**IZS**	23	20	26	24	40	21.4	24
7	20	18	21	22	22	21	21	22	24	28	28	33	39	42	45	44	44	43	**IZS**	42	34	34	31	30	45	30.8	24
8	31	31	31	31	30	27	26	26	29	31	34	35	37	36	40	40	36	**IZS**	31	27	20	15	26	36	40	30.7	24
9	40	43	47	50	45	37	33	35	38	45	36	37	37	36	38	37	**IZS**	34	35	43	40	34	30	26	50	**38.1**	24
10	30	23	26	28	24	22	19	23	33	44	49	49	50	52	53	**IZS**	53	52	43	33	28	30	45	43	53	37.0	24
11	40	41	42	38	27	26	20	18	23	29	38	42	42	39	**IZS**	40	34	35	35	31	28	16	15	10	42	30.8	24
12	11	13	15	14	14	17	14	15	16	15	12	10	8	**IZS**	10	12	10	10	12	13	12	10	11	12	17	12.4	24
13	12	9	9	7	7	6	8	9	11	12	13	14	**IZS**	14	15	15	9	10	9	7	6	3	0	0	15	8.9	24
14	0	0	0	0	0	0	0	1	3	7	17	**IZS**	25	28	31	31	29	25	23	11	3	2	1	0	31	10.3	24
15	0	0	0	0	0	0	1	9	19	29	**IZS**	32	32	38	47	53	**57**	**57**	40	25	24	20	23	25	**57**	23.1	24
16	27	25	22	24	24	24	18	22	28	**IZS**	39	43	47	53	52	55	43	31	30	30	33	35	19	11	55	32.0	24
17	5	3	1	1	0	0	2	10	**IZS**	23	25	26	26	26	26	26	26	27	25	22	23	22	21	20	27	16.8	24
18	21	21	21	21	22	21	19	**IZS**	23	27	31	34	37	40	44	46	45	45	37	29	26	20	28	24	46	29.7	24
19	17	26	25	22	29	25	**IZS**	30	33	33	36	37	38	34	38	39	38	45	41	34	29	26	20	15	45	30.9	24
20	12	9	11	17	15	**IZS**	13	13	14	14	16	18	17	18	19	20	19	18	17	16	15	15	11	13	20	15.2	24
21	14	13	12	10	**IZS**	10	10	10	11	13	14	15	15	15	15	15	15	15	16	16	15	15	14	13	16	13.5	24
22	15	17	16	**IZS**	12	10	20	27	29	31	31	32	34	35	35	30	27	25	23	14	12	9	11	13	35	22.1	24
23	12	9	**IZS**	7	8	11	12	17	22	26	33	38	37	39	40	40	40	40	36	30	26	26	25	25	40	26.0	24
24	24	**IZS**	22	21	20	19	19	19	21	25	32	33	35	37	36	36	34	33	31	33	32	30	29	30	37	28.3	24
25	**IZS**	28	23	15	11	5	4	12	13	23	33	31	34	33	33	33	31	32	31	27	20	19	15	**IZS**	34	23.0	24
26	18	22	21	23	21	14	13	19	29	27	23	20	18	19	19	20	20	19	15	7	5	4	**IZS**	7	29	17.5	24
27	9	7	3	7	8	7	9	11	15	18	23	27	28	28	28	27	27	26	24	21	16	**IZS**	8	11	28	16.9	24
28	10	10	11	13	13	9	11	13	17	20	25	25	25	28	28	28	28	28	27	21	**IZS**	17	14	10	28	18.7	24
29	9	12	13	7	2	1	1	6	10	16	29	33	34	37	41	42	43	41	32	**IZS**	28	32	33	31	43	23.2	24
30	27	20	25	20	18	18	17	20	22	26	25	26	26	29	28	27	24	19	**IZS**	13	15	10	2	1	29	19.9	24
31	3	3	1	0	1	1	2	4	6	11	20	23	23	23	23	23	24	**IZS**	18	9	6	3	2	1	24	10.0	24
HOURLY MAX	40	43	47	50	45	37	33	35	38	45	49	49	50	53	53	55	57	57	43	43	40	35	45	43			
HOURLY AVG	16.1	15.8	15.7	15.2	14.2	12.8	12.6	15.9	19.7	23.4	27.1	28.9	29.6	31.1	31.7	31.4	30.8	30.2	27.3	23.2	20.5	18.4	18.6	16.8			

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

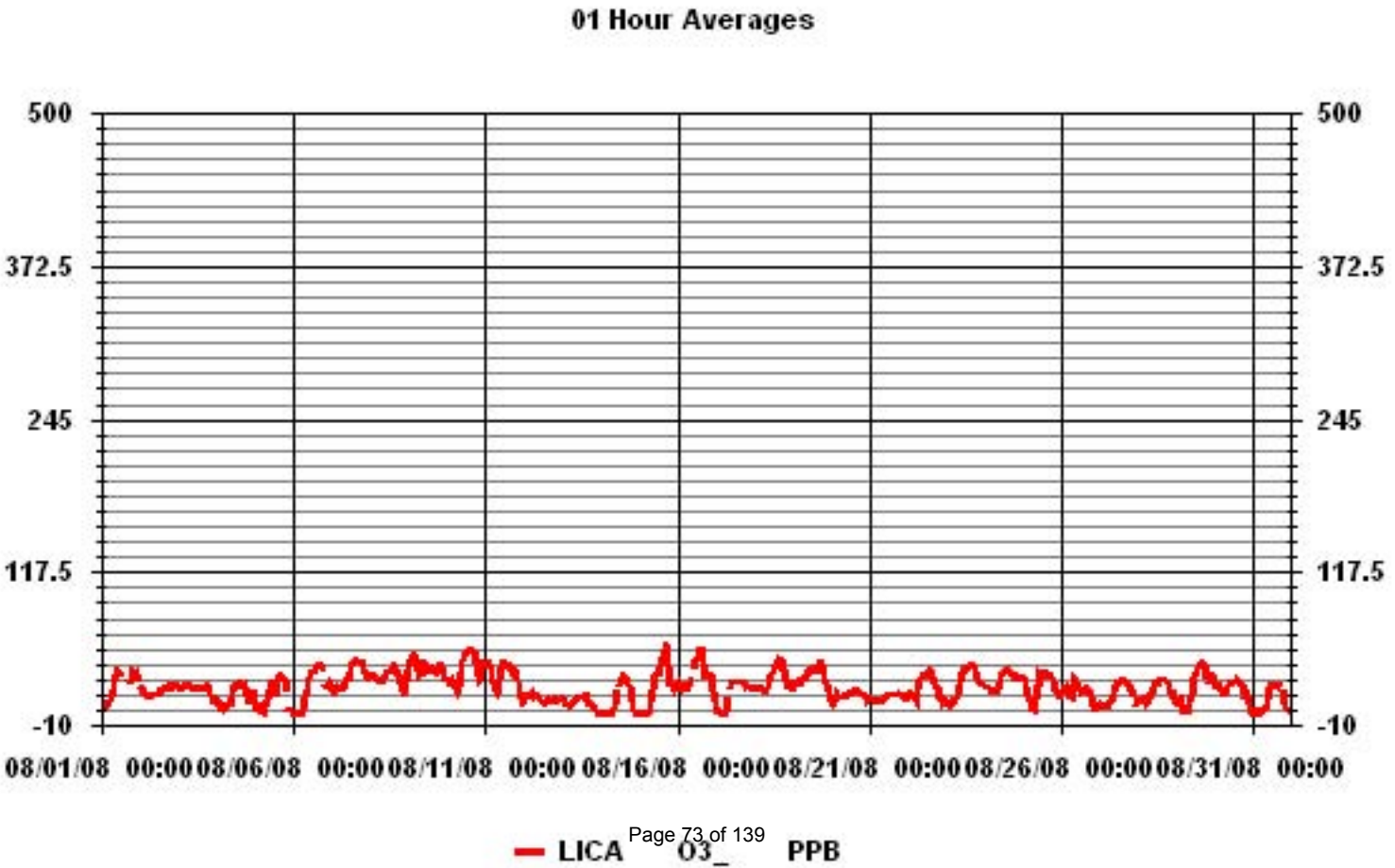
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 82 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	683					
MAXIMUM 1-HR AVERAGE:	57	PPB	@ HOUR(S)	16,17	ON DAY(S)	15
MAXIMUM 24-HR AVERAGE:	38.1	PPB			ON DAY(S)	9
					VAR-VARIOUS	

IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	744	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME	100.0	%
STANDARD DEVIATION	12.21		MONTHLY AVERAGE	21.92	PPB


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

LICA
O3_ / WD Joint Frequency Distribution (Percent)

August 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	2.68	1.83	.99	.70	2.82	9.05	14.42	3.96	3.25	3.53	11.17	13.71	12.30	7.49	5.94	4.38	98.30
< 110	.00	.00	.00	.00	.00	.14	.28	.14	.28	.14	.28	.00	.42	.00	.00	.00	1.69
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.68	1.83	.99	.70	2.82	9.19	14.71	4.10	3.53	3.67	11.45	13.71	12.72	7.49	5.94	4.38	

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	19	13	7	5	20	64	102	28	23	25	79	97	87	53	42	31	695
< 110						1	2	1	2	1	2		3				12
< 210																	
>= 210																	
Totals	19	13	7	5	20	65	104	29	25	26	81	97	90	53	42	31	

Calm : .00 %

Total # Operational Hours : 707

Logger : 01 Parameter : 03_

Class Limits (PPB)

>= 210

< 210

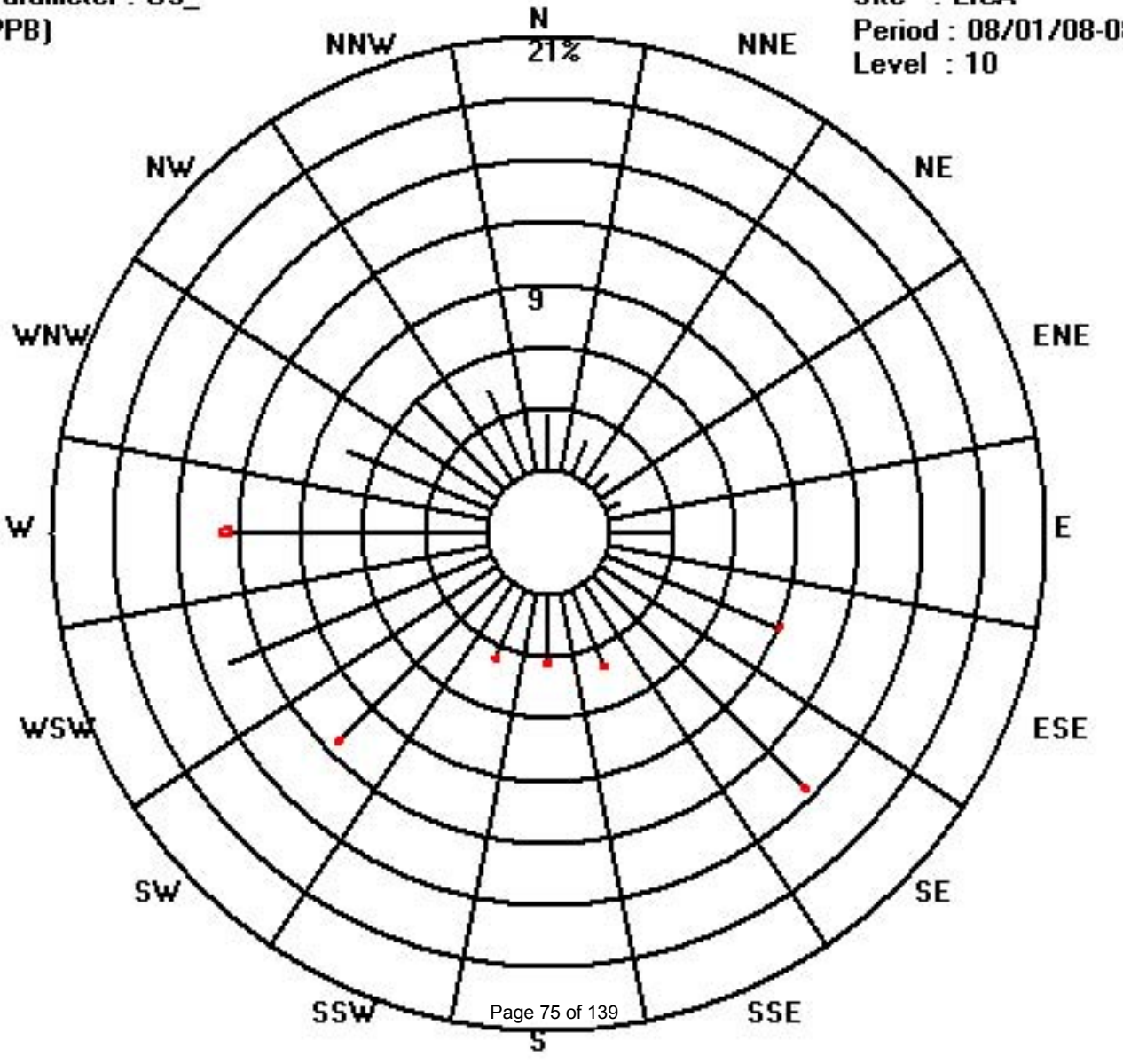
< 110

< 50

Site : LICA

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

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

AUGUST 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	17	**IZS**	8	8	13	14	18	23	30	34	37	37	36	**C**	**C**	**C**	**C**	28	40	43	29	30	34	33	43	26.9	24
2	**IZS**	23	20	18	18	16	15	15	16	16	16	17	18	22	22	22	23	22	25	25	24	26	26	**IZS**	26	20.2	24
3	24	24	22	24	24	23	24	23	23	22	22	23	22	22	23	23	24	27	24	22	21	13	**IZS**	13	27	22.3	24
4	13	11	8	8	4	5	7	8	10	16	21	25	26	27	29	25	26	27	27	21	16	**IZS**	21	17	29	17.3	24
5	16	9	5	7	5	6	10	12	17	25	29	28	18	28	31	35	34	33	31	28	**IZS**	6	6	4	35	18.4	24
6	2	1	0	1	0	1	9	18	26	34	36	35	36	39	41	42	42	42	40	**IZS**	27	27	27	26	42	24.0	24
7	22	22	23	23	23	22	22	24	26	30	30	40	41	45	46	45	45	46	**IZS**	44	38	35	34	31	46	32.9	24
8	32	32	32	31	32	29	28	27	31	35	35	38	39	39	42	42	41	**IZS**	33	30	23	20	34	40	42	33.3	24
9	50	50	52	52	49	41	35	36	46	48	44	40	39	37	41	41	**IZS**	38	47	46	42	37	32	29	52	42.3	24
10	33	34	33	30	26	23	20	29	40	49	52	52	53	54	55	**IZS**	56	56	49	39	33	42	46	46	56	41.3	24
11	42	43	43	44	35	30	23	21	27	33	45	46	46	42	**IZS**	43	39	41	38	34	31	24	16	13	46	34.7	24
12	13	15	17	16	18	19	15	17	18	16	14	11	9	**IZS**	12	12	11	13	13	14	13	11	12	13	19	14.0	24
13	13	11	11	8	8	8	9	10	14	13	14	16	**IZS**	15	16	16	13	11	11	8	7	6	2	1	16	10.5	24
14	1	1	0	0	0	0	1	2	5	11	23	**IZS**	27	31	33	33	34	26	25	20	6	4	3	1	34	12.5	24
15	1	0	0	0	0	0	2	15	25	32	**IZS**	34	35	45	52	58	60	60	56	32	29	25	25	28	60	26.7	24
16	30	29	25	26	26	26	22	25	33	**IZS**	43	46	52	55	55	**63**	50	34	31	32	37	38	34	16	**63**	36.0	24
17	7	7	5	1	1	1	5	19	**IZS**	25	27	27	27	26	27	27	28	28	27	23	24	23	22	21	28	18.6	24
18	22	22	22	23	23	21	20	**IZS**	24	29	32	36	40	42	47	48	46	48	41	32	30	26	32	32	48	32.1	24
19	25	34	33	27	32	29	**IZS**	33	34	35	40	40	40	38	40	41	41	50	49	38	34	28	23	18	50	34.9	24
20	13	11	17	18	16	**IZS**	13	15	15	16	18	19	18	19	20	21	22	19	18	17	17	16	13	16	22	16.8	24
21	16	14	13	12	**IZS**	11	12	11	12	14	15	16	16	15	15	15	16	16	17	17	17	16	15	14	17	14.6	24
22	16	18	18	**IZS**	16	15	25	30	40	33	34	34	37	38	38	33	28	27	27	19	15	15	16	17	40	25.6	24
23	14	12	**IZS**	9	12	14	14	22	24	31	37	40	39	41	41	42	41	41	39	32	28	27	27	25	42	28.3	24
24	25	**IZS**	23	21	21	20	20	21	23	31	34	34	37	38	37	38	35	35	34	34	33	32	30	31	38	29.9	24
25	**IZS**	30	28	21	17	9	9	16	18	30	36	35	35	35	35	35	32	34	34	29	24	22	19	**IZS**	36	26.5	24
26	23	25	25	26	24	16	17	28	31	29	26	25	19	20	20	22	21	21	18	11	7	10	**IZS**	11	31	20.7	24
27	11	10	7	8	10	9	10	14	18	21	26	28	28	29	29	28	28	27	26	23	20	**IZS**	10	13	29	18.8	24
28	12	12	13	14	14	13	12	15	19	23	26	26	26	30	30	30	29	32	32	25	**IZS**	19	16	13	32	20.9	24
29	14	14	15	13	3	3	6	8	13	21	34	35	36	40	43	44	45	43	43	**IZS**	30	34	34	33	45	26.3	24
30	29	26	28	26	20	19	19	22	25	27	26	27	28	30	30	30	27	22	**IZS**	16	16	15	4	2	30	22.3	24
31	6	4	2	0	2	1	2	5	8	16	22	24	24	24	24	24	25	**IZS**	22	15	9	6	4	2	25	11.8	24
HOURLY MAX	50	50	52	52	49	41	35	36	46	49	52	52	53	55	55	63	60	60	56	46	42	42	46	46			
HOURLY AVG	18.7	18.8	18.3	17.2	16.4	14.8	14.8	18.8	23.0	26.5	29.8	31.1	31.6	33.3	33.6	33.7	33.2	32.7	31.6	26.5	23.4	21.8	21.3	19.3			

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

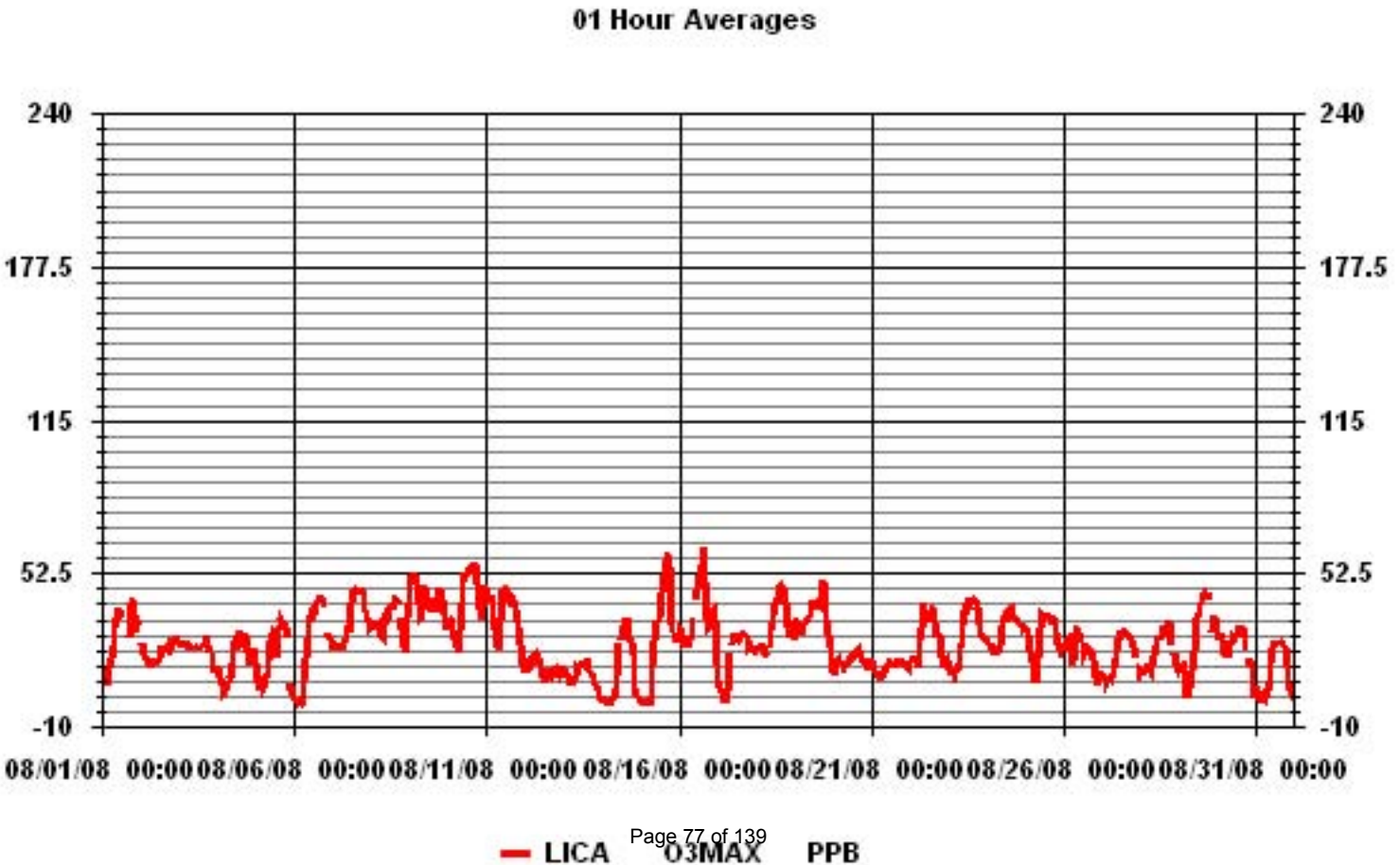
NUMBER OF NON-ZERO READINGS: 695

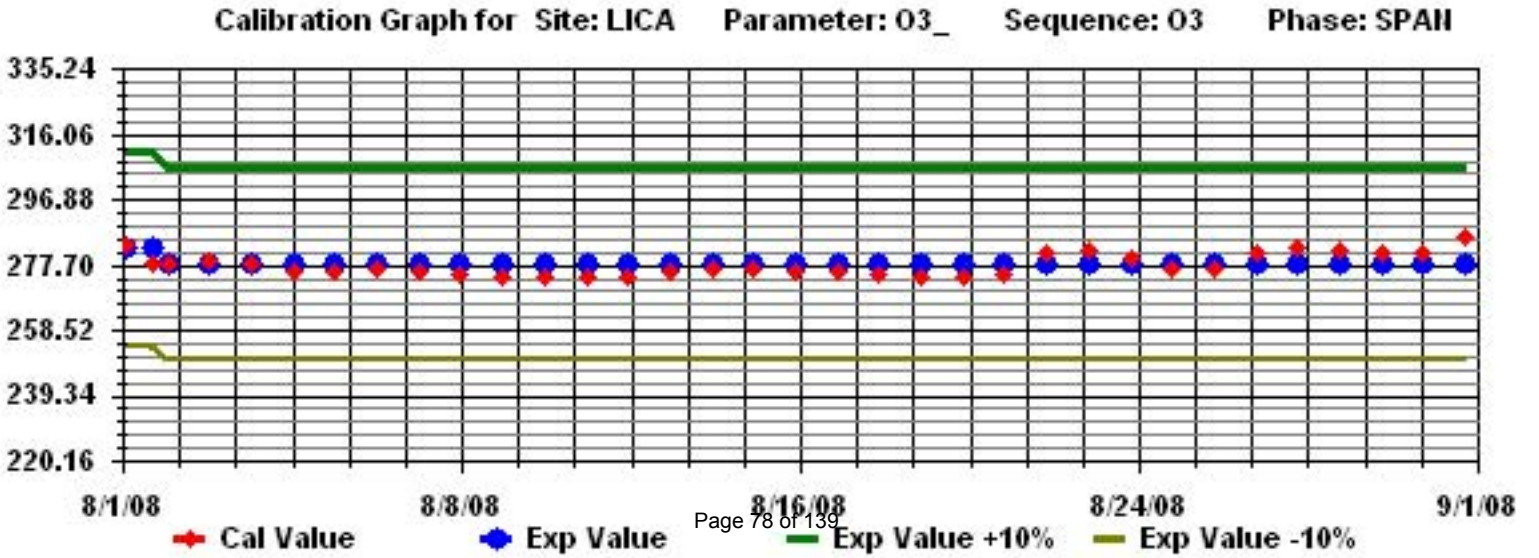
MAXIMUM INSTANTANEOUS VALUE: 63 PPB @ HOUR(S) 15 ON DAY(S) 16

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 744 HRS

MONTHLY CALIBRATION TIME: 4 HRS

STANDARD DEVIATION 12.74


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


Calibration Graph for Site: LICA Parameter: O3_ Sequence: O3 Phase: SPAN
335.24
316.06
296.88
277.70
258.52
239.34
220.16
8/1/08
8/8/08
8/16/08
8/24/08
9/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ambient Temperature

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

AUGUST 2008

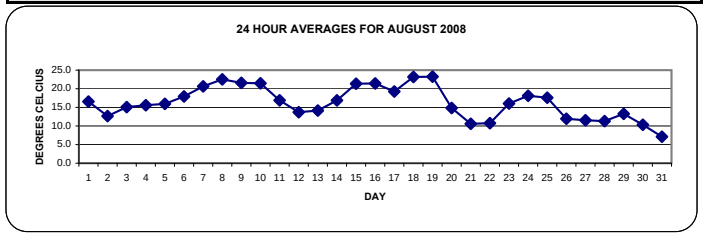
AMBIENT TEMPERATURE hourly averages (Degrees C)

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	10.2	8.1	8.3	8.8	9.9	10.9	12.2	15.2	17.9	19.7	21.2	22	22.7	22.1	22.1	21.9	22.6	22.5	21	19.5	16.9	14.6	13.8	13.1	22.7	16.6	24
2	12.8	11.8	10.3	9.2	8.5	9.2	10.8	11.1	11.2	11.3	12.3	13.1	14.3	16.4	15.3	15.7	15.9	14.5	14.1	13.5	13.3	13.3	13.1	12.9	16.4	12.7	24
3	12.8	12.9	12.8	13	12.9	12.8	13.3	13.9	14.7	15.3	16	17.4	17	16.9	17.6	17.6	18.1	18.1	16.5	16.3	14.7	13.9	13.8	13.5	18.1	15.1	24
4	13.3	12.7	11.7	11.1	10.5	10.7	11	11.6	12.6	15.4	17.6	19	18.7	20.3	18.9	18.4	20	21.1	19.2	17.8	16.2	16.2	15.7	14	21.1	15.6	24
5	12.3	10.8	10.1	10.5	10	10.6	13.7	14.7	16.2	18.5	20.5	19.8	17	19.1	21.9	21.6	20	21	20.7	19.5	16.1	14	12.7	11.6	21.9	16.0	24
6	10.6	10	9.2	8.6	8.1	9	12.8	15.1	18	20.8	22.3	23.2	24.2	24.7	24.8	25	24.8	24.7	23.7	21.7	18.8	17	17.2	16.1	25.0	17.9	24
7	14.7	14	14.3	14.2	14.2	14.3	15.5	17.4	19.4	20.7	21.9	24.5	26	26.7	26.8	26.7	26.3	26.3	25.1	24	22	21	20.1	19.3	26.8	20.6	24
8	19	18.7	18.3	17.7	17.2	16.4	17.2	18.9	20.4	22.5	24	25	26.3	27.1	27.5	28.1	28.1	27.5	26.8	25.4	23.1	21.2	22.4	21.8	28.1	22.5	24
9	20.6	20.1	20.7	21.1	20.3	18.7	19.1	20.4	21.5	19.6	19.1	23.1	24.3	25.2	25.8	25.2	25.4	25.2	23.6	21.7	20.5	19.8	19	18.1	25.8	21.6	24
10	17.9	16.5	16.7	17.8	17.2	17.1	17.6	19.1	20.5	21.7	23	24.4	25.6	26.1	26.7	26.9	26.6	26.4	25.2	23.2	21.6	19.9	19.2	18.4	26.9	21.5	24
11	17.7	16.9	16.5	15.6	14.1	13.9	14	14.7	15.6	18.3	19.1	19.6	19.9	20.2	20.6	20	19.7	18.2	16.9	16.4	15.6	14.5	13.8	13.6	20.6	16.9	24
12	13.7	14.1	13.8	13.5	13.7	13.5	13.2	13.4	13.6	13.9	14.2	14.2	14.3	14.9	14.8	14.5	13.9	13.6	13.4	13.3	13.2	13.1	12.7	12.4	14.9	13.7	24
13	12.3	12.4	12.4	12.4	12.5	12.5	12.8	13.4	13.7	13.9	14.7	15.9	15.7	15.7	16.4	16.5	15.6	17.2	17.5	15.8	14.4	12.9	11.7	11	17.5	14.1	24
14	10.3	10.4	9.6	8.9	8.7	8.8	10.5	13	14.5	16.6	18.8	20.7	22.4	23.6	24.4	24.9	24.9	24.8	25	21.8	17.6	15.8	15	14.1	25.0	16.9	24
15	13.2	12.4	11.8	11.2	10.8	10.8	14	18.2	21.5	24.3	25.9	27.2	28.1	28.8	29.2	29.6	29.4	29.2	26.9	24.3	22.4	21.4	21.3	20.4	29.6	21.3	24
16	19.6	18.6	18	18.3	**17.5**	17	17	19.3	22	23.3	24.3	25.2	25.4	26.1	26.9	27.6	27.4	24.8	24.2	22.4	20	18.6	16.2	14.5	27.6	21.4	24
17	13.5	12.6	12.1	11.4	10.8	10.6	14.3	17.9	20.1	21.2	22.6	23.6	24.5	24.8	25.3	25.5	25.3	24.8	23.7	21.8	20.1	19.2	18.7	17.8	25.5	19.3	24
18	17.6	17.4	16.9	16.7	16.7	16.8	18.2	20.4	21.5	23.3	24.4	25.6	27.2	28.3	29.5	**30.1**	30	29.6	28.2	26.1	24.1	22.3	22.8	22.3	**30.1**	**23.2**	24
19	19.2	20.3	18.6	17.5	19.4	19.6	20.4	21.9	24.1	24.9	26	26.6	26.7	26.5	27.7	28.6	28.4	28.4	26.3	24.2	21.8	21.2	20.4	19.2	28.6	23.2	24
20	18	16.8	16.1	15.3	14.2	13.2	12.7	13.5	14.7	16	16.6	15.7	15	14.8	15.1	15.4	15.1	14.9	14.7	14.7	14.4	13.7	12.7	12.6	18.0	14.8	24
21	12.6	12.4	12	11.1	9.9	9.5	9.1	9.1	9	9.6	10	10.8	11.9	12.2	12.4	12.7	12.6	12	11.2	10.6	9.5	8.7	7.8	7.2	12.7	10.6	24
22	6.9	7.2	6.5	5.8	5.4	4.8	6.5	7.7	8.7	10.7	11.7	12.7	13.5	14.1	14.8	14.9	15.1	14.9	14.5	13.3	12.8	12.1	11.7	11.7	15.1	10.8	24
23	11.7	11.3	10.7	9.8	10.2	10.4	10.9	12.5	14.6	16.7	18.6	20.1	21.1	21.4	21.5	22.2	21.9	21.3	20	17.7	16.1	15.5	14.6	13.7	22.2	16.0	24
24	13.3	12.7	12.1	11.5	11.2	11	12	13.5	15.7	18.8	21.1	22.5	23.1	24	23.8	23.7	23.6	23.4	22.9	21.5	20.4	18.8	17.5	16.8	24.0	18.1	24
25	17	16.5	15.5	13.4	11.9	10.5	11.7	14.3	15.7	19.3	22.8	23.2	23.6	23.5	22.7	22.5	20.9	20	18.7	17.4	16.3	15.7	15.1	14.1	23.6	17.6	24
26	14.1	14.1	13.5	13.6	13.3	12.5	11.8	11.6	11.7	12.6	12.5	12.8	13.3	13.3	13.6	13.6	13.5	13.6	13.6	11	8	6.9	6.5	5.6	14.1	11.9	24
27	6.4	5.5	3.5	4.4	4.2	4	5.5	8.1	10.9	13.6	15.8	17	17.8	18.5	18.8	18.6	18.5	17.9	16.6	14	11.6	10.1	7.7	7.9	18.8	11.5	24
28	7	8	8.6	8.8	8.5	7	8.1	10.3	12.8	14.7	16.3	15.5	15	16.3	14.9	14.8	15.6	15	11	9.7	9.3	8.6	8.4	7.1	16.3	11.3	24
29	6.6	6.7	6.4	5.1	3.5	3.6	6	8.3	10.4	13.2	16.8	18.3	19	19.8	20.3	20.7	20.7	20.5	18.2	15.6	14.5	14.8	15	14.5	20.7	13.3	24
30	13.4	11.6	11.7	10.5	9.5	9.9	10.3	11.2	11.5	11.9	12.8	12.1	12.7	13.7	13.6	13.3	11.8	9.9	8.7	7.9	7.3	6.1	3.8	2.6	13.7	10.3	24
31	2.5	2.5	1.5	0.2	0.3	**-0.1**	**-0.1**	2.1	5.4	8.8	11.1	12.4	13.1	13.5	13.8	14	14.1	13.4	13.1	9.8	6.5	5.2	4.1	3.6	14.1	7.1	24
HOURLY MAX	20.6	20.3	20.7	21.1	20.3	19.6	20.4	21.9	24.1	24.9	26.0	27.2	28.1	28.8	29.5	30.1	30.0	29.6	28.2	26.1	24.1	22.3	22.8	22.3			
HOURLY AVG	13.3	12.8	12.3	11.8	11.5	11.3	12.3	13.9	15.5	17.1	18.5	19.5	20.0	20.6	20.9	21.0	20.8	20.5	19.4	17.8	16.1	15.0	14.3	13.6			

STATUS FLAG CODES

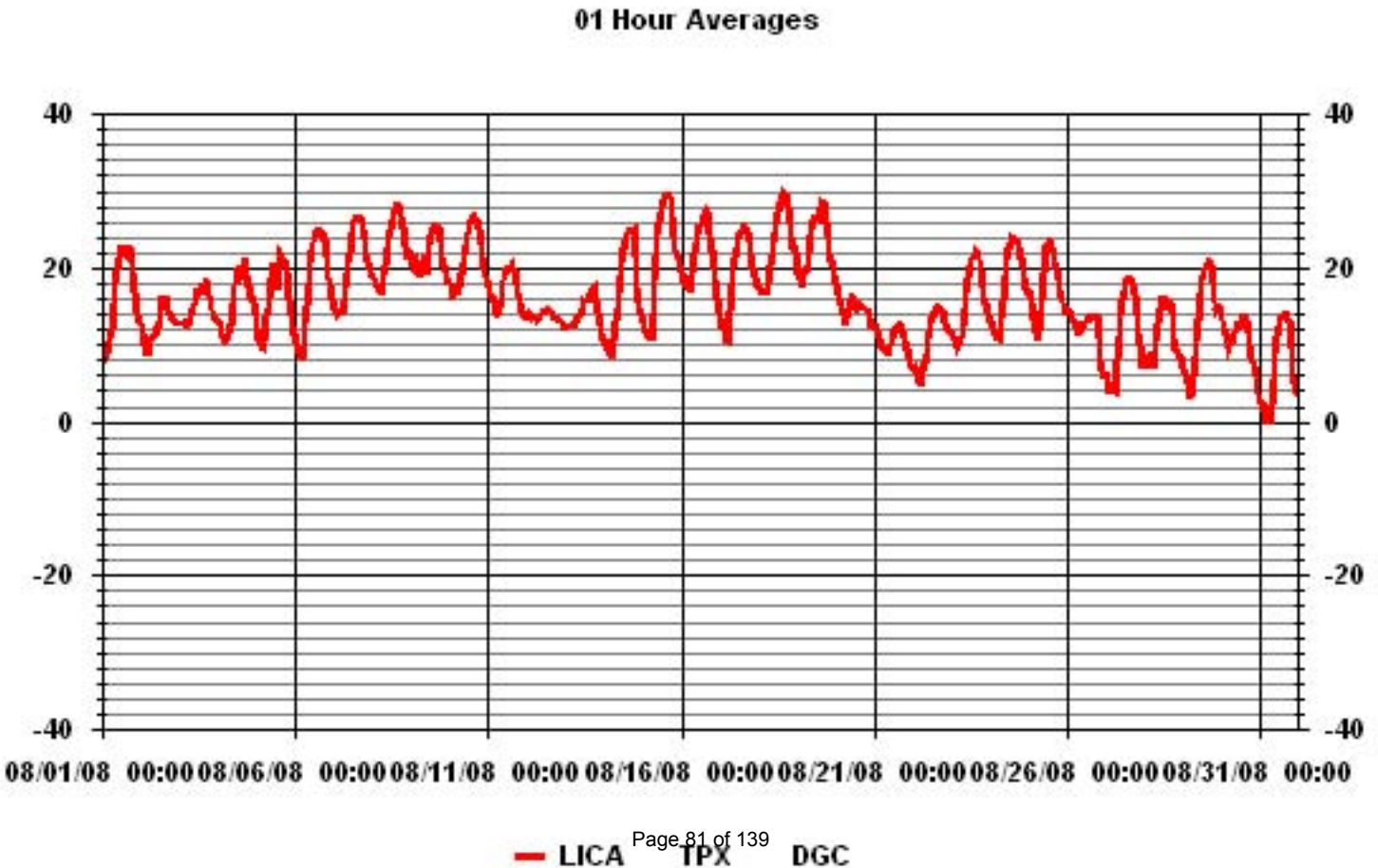
S	- OUT OF SERVICE	OD	- OUTSIDE DECTECTION LIMITS
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:		-0.1	^{o}C	@ HOUR(S)	5,6	ON DAY(S)	31
MAXIMUM 1-HR AVERAGE:		30.1	^{o}C	@ HOUR(S)	15	ON DAY(S)	18
MAXIMUM 24-HR AVERAGE:		23.2	^{o}C			ON DAY(S)	18
						VAR-VARIOUS	
CALIBRATION TIME:	0	HRS		OPERATIONAL TIME:		744	HRS
				AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	5.90			MONTHLY AVERAGE:		16.24	^{o}C

*** Outside detection limits of sensor.**


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

Relative Humidity

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

AUGUST 2008

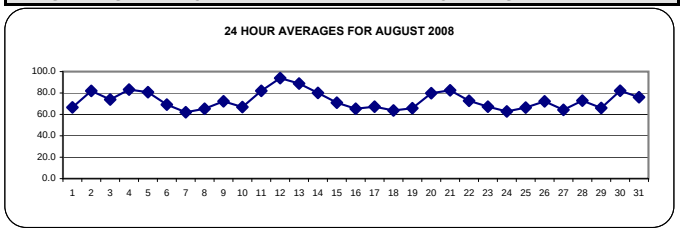
RELATIVE HUMIDITY hourly averages (%)

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.	24-HOUR AVG.	RDGS.
DAY																											
1	75.2	87.2	87.9	88.1	84.1	82.2	75.4	63.1	53.3	49.2	46.2	43.7	44.1	47.6	50.3	55.3	54.9	56.0	65.9	65.7	71.8	80.6	84.1	85.4	88.1	66.6	24
2	85.9	88.0	91.7	93.6	93.7	90.4	83.7	82.2	86.3	91.7	90.3	88.8	82.2	72.5	80.3	78.5	71.5	77.6	74.5	74.6	74.8	72.5	70.6	71.7	93.7	82.0	24
3	72.4	72.3	72.9	71.5	72.1	73.2	72.8	72.5	71.4	72.1	70.1	64.9	66.8	66.8	65.0	67.0	65.7	66.8	78.0	77.8	85.6	91.4	91.9	92.4	92.4	73.9	24
4	93.4	95.3	96.6	97.6	97.8	97.3	97.6	98.4	95.5	82.7	74.6	68.7	70.5	63.6	68.6	81.4	67.9	63.2	69.3	80.2	88.9	79.0	79.0	88.8	98.4	83.2	24
5	91.8	95.2	95.8	97.1	96.5	96.5	87.1	86.4	80.8	71.9	64.0	64.8	84.4	71.7	54.7	57.2	64.4	62.1	66.5	75.5	89.4	93.7	95.6	95.3	97.1	80.8	24
6	95.3	95.3	95.6	95.8	95.6	93.7	87.5	83.0	74.2	64.6	56.5	50.6	46.2	44.1	43.9	44.0	42.1	42.8	48.3	58.6	71.6	77.1	75.2	78.3	95.8	69.2	24
7	83.9	84.7	81.3	79.9	78.0	76.2	72.3	67.1	64.5	60.8	60.1	53.1	46.9	43.2	41.5	44.3	45.8	47.1	49.2	50.3	62.1	62.8	65.1	68.1	84.7	62.0	24
8	69.1	70.1	70.4	71.9	73.3	77.4	74.6	69.7	65.7	61.4	58.0	54.9	51.9	52.6	49.9	50.2	54.3	57.7	60.2	66.1	75.8	82.7	76.7	72.7	82.7	65.3	24
9	74.0	79.8	68.8	60.5	67.1	77.4	78.3	73.7	69.0	72.8	83.0	70.5	64.3	62.5	62.1	67.6	68.5	68.3	71.1	69.9	77.2	79.9	82.4	84.6	84.6	72.2	24
10	83.3	89.4	87.6	81.6	84.9	86.9	84.8	79.1	73.6	66.2	58.9	54.2	49.7	47.1	45.4	44.0	43.3	43.9	52.0	62.3	67.7	74.6	71.4	72.3	89.4	66.8	24
11	79.3	83.1	82.5	85.7	95.4	97.0	97.3	94.6	90.0	78.2	74.4	71.8	68.6	65.9	63.8	67.2	72.3	75.2	77.2	80.1	87.3	93.5	93.1	94.4	97.3	82.0	24
12	94.8	93.1	92.4	94.9	93.1	91.9	94.6	92.9	91.5	91.3	92.5	96.4	97.8	96.6	95.2	93.2	95.6	95.0	93.8	91.8	92.3	93.6	94.5	95.0	97.8	**93.9**	24
13	95.5	95.8	96.1	94.7	93.5	94.0	93.6	90.6	86.9	86.4	82.9	78.4	80.6	81.4	80.8	81.5	90.2	81.6	79.1	86.8	91.7	95.1	97.2	97.9	97.9	88.8	24
14	98.0	98.5	98.3	98.4	98.7	98.8	**98.9**	95.8	91.3	85.1	74.5	68.5	63.1	57.5	52.7	51.7	49.5	49.3	51.1	71.7	88.8	92.9	94.2	94.4	**98.9**	80.1	24
15	95.7	95.8	95.9	95.6	94.7	95.1	89.1	81.8	70.3	60.4	53.2	49.7	46.6	46.3	45.4	41.0	43.4	45.8	60.1	74.6	80.9	84.7	78.6	77.9	95.9	70.9	24
16	78.5	80.5	80.3	75.5	76.3	75.7	77.6	67.8	57.3	52.8	50.4	48.6	49.8	47.5	48.3	49.1	48.2	53.7	58.4	65.6	70.0	76.0	86.9	92.6	92.6	65.3	24
17	93.6	94.7	94.9	94.9	95.3	95.0	84.9	79.2	64.0	56.4	51.8	48.9	46.6	46.2	44.4	44.4	43.4	47.1	52.2	61.3	64.6	67.5	69.4	72.5	95.3	67.2	24
18	71.4	72.3	72.8	71.4	71.6	73.2	71.3	66.3	63.7	59.3	56.9	55.9	JULY	50.7	48.3	47.4	50.5	51.4	58.1	65.4	72.4	77.4	68.4	68.7	77.4	63.7	24
19	82.0	74.7	79.1	82.7	75.2	74.0	68.1	67.2	59.2	55.5	49.3	48.9	49.6	53.9	52.0	50.3	52.1	50.5	60.0	69.1	77.2	80.1	83.2	85.3	85.3	65.8	24
20	87.9	91.2	89.5	82.4	82.9	82.0	82.5	79.6	76.1	73.2	72.2	73.4	74.8	73.9	72.7	72.5	73.5	74.9	75.4	75.9	77.9	84.8	93.3	93.0	93.3	79.8	24
21	94.6	94.8	93.7	96.0	95.5	94.1	92.6	91.6	90.2	85.5	79.5	74.4	70.3	69.0	67.3	66.3	67.8	69.4	71.2	75.3	79.6	84.4	87.6	89.3	96.0	82.5	24
22	88.6	85.4	88.3	88.8	91.7	93.6	85.4	79.4	74.6	65.5	63.1	59.9	54.7	52.0	52.8	53.3	53.8	56.9	60.9	74.1	75.5	81.8	83.5	82.1	93.6	72.7	24
23	82.9	86.0	88.9	90.8	88.9	86.5	83.2	76.4	67.5	61.5	56.2	51.6	47.8	46.3	46.8	43.6	44.0	47.4	54.6	66.2	72.8	73.6	74.9	75.4	90.8	67.2	24
24	74.2	76.0	77.6	79.4	80.4	80.0	75.0	70.7	65.6	58.5	49.2	47.0	45.9	44.0	45.7	48.7	52.1	54.0	56.3	57.4	61.4	66.9	70.0	70.4	80.4	62.8	24
25	67.5	68.7	73.9	84.4	89.0	93.0	89.1	81.7	78.6	68.4	53.8	51.3	42.4	42.1	42.9	43.9	50.1	50.1	55.0	62.6	71.5	75.3	78.5	78.7	93.0	66.4	24
26	66.6	59.9	64.9	60.8	61.3	68.2	75.8	74.2	73.3	73.3	74.0	72.3	71.4	68.0	65.4	62.6	61.8	63.1	66.7	82.4	91.7	93.3	90.3	91.4	93.3	72.2	24
27	87.5	89.3	92.8	90.9	90.7	90.5	84.9	77.2	67.3	58.3	48.4	40.8	37.0	33.5	32.9	32.5	35.2	40.2	45.5	56.8	66.5	75.9	85.6	81.9	92.8	64.3	24
28	85.7	85.4	84.6	81.7	80.9	86.5	83.2	75.4	63.9	57.3	50.0	50.2	51.3	47.5	56.2	62.2	56.2	57.9	82.9	88.9	87.6	89.8	90.4	93.6	93.6	72.9	24
29	95.4	94.3	93.6	93.8	94.7	95.2	94.3	89.5	80.9	69.7	51.3	44.6	39.9	37.6	36.8	35.6	35.8	38.4	49.7	60.5	63.6	62.2	61.9	64.4	95.4	66.0	24
30	71.6	79.7	87.8	91.7	91.6	91.7	90.5	86.7	82.1	76.3	72.3	78.4	74.9	64.3	60.8	59.6	73.5	92.1	88.9	88.1	86.1	90.3	95.5	95.8	95.8	82.1	24
31	96.8	97.1	96.9	96.5	96.8	97.1	97.4	97.2	91.2	76.8	59.4	50.8	47.2	47.0	46.3	46.0	45.8	48.3	53.4	73.5	87.2	91.0	92.3	93.3	97.4	76.1	24
HOURLY MAX	98.0	98.5	98.3	98.4	98.7	98.8	98.9	98.4	95.5	91.7	92.5	96.4	97.8	96.6	95.2	93.2	95.6	95.0	93.8	91.8	92.3	95.1	97.2	97.9			
HOURLY AVG	84.3	85.6	86.2	86.1	86.5	87.2	84.6	80.4	74.8	69.1	63.8	60.5	58.9	56.2	55.5	56.2	57.2	59.0	64.0	71.3	77.8	81.4	82.6	83.8			

STATUS FLAG CODES

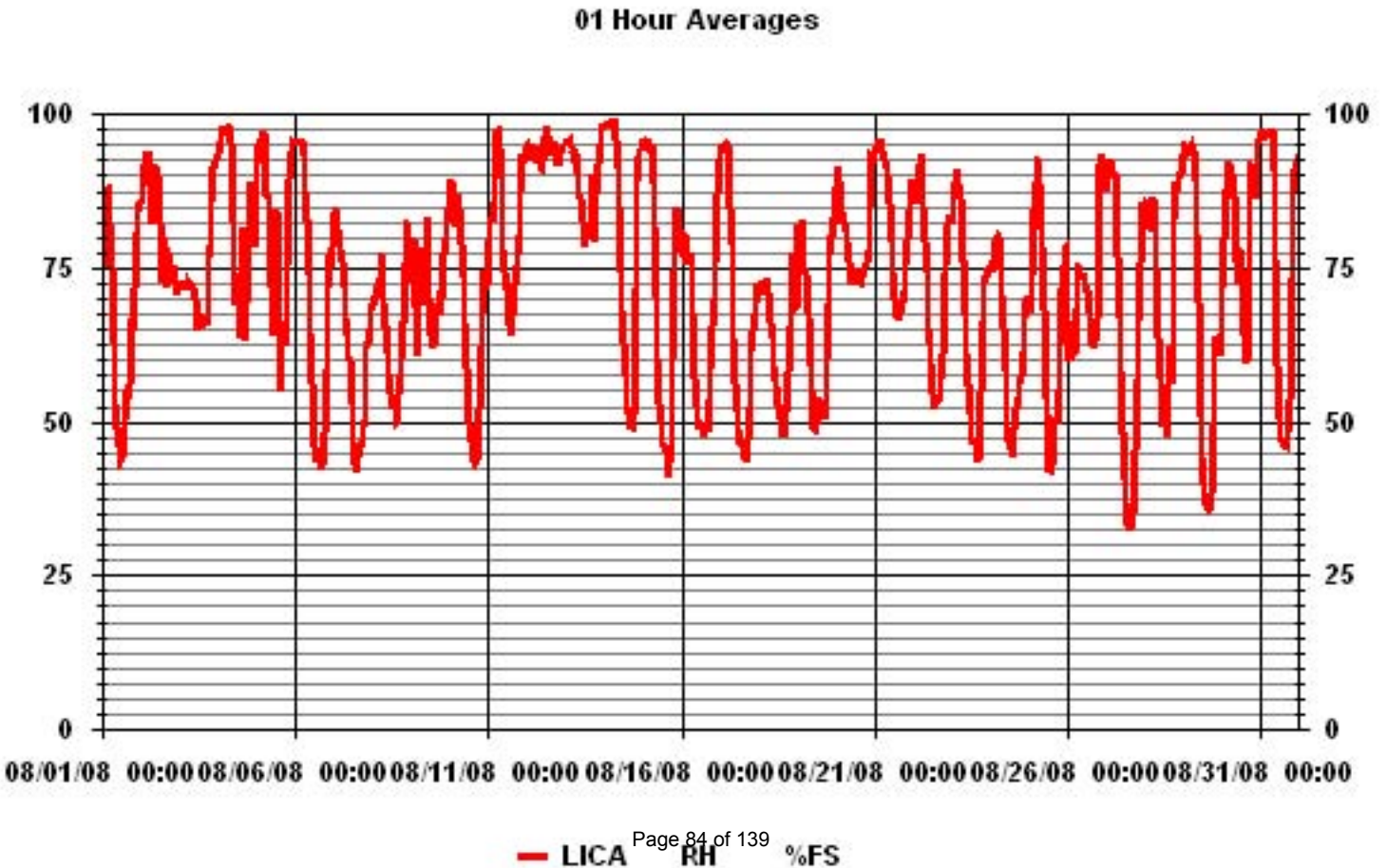
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	98.9	%	@ HOUR(S)	6	ON DAY(S)	14
MAXIMUM 24-HR AVERAGE:	93.9	%			ON DAY(S)	12

CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	744	HRS
			AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	16.59		MONTHLY AVERAGE:	73.06	%


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

Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

AUGUST 2008

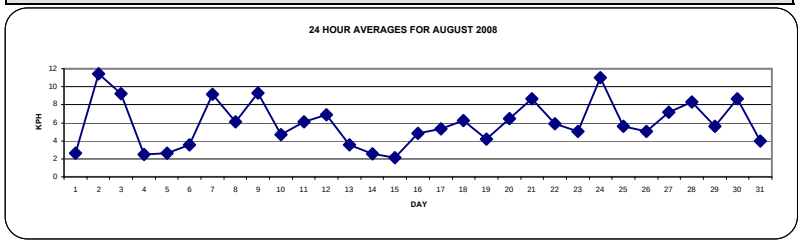
VECTOR WIND SPEED (WS) hourly averages (km/hr)

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	4	0.5	0.9	1	0.5	1.7	2.1	3.4	5.8	7.5	7.9	8.9	10.4	12.4	11.3	8.2	11.3	12.1	6.7	12.3	13.6	10.4	11.4	10.1	13.6	2.6	24
2	10.4	9.5	7.5	6.6	5.8	7.1	11.5	12.7	13.2	12.8	14.8	16.4	16.8	16.5	12.5	13.2	14.3	12.1	16.3	11.4	8	12.2	11.8	11.6	16.8	**11.4**	24
3	9.4	9.4	10.1	9.4	9.3	8.7	9.3	11.5	12.2	14	13.7	15.7	13.5	11.9	12.5	8.7	6.8	8.1	6.5	6.8	6.1	5.9	4.9	5.1	15.7	9.2	24
4	5.8	4.3	4.1	5.6	4.9	2	3.1	0.9	1.8	2.2	5.5	5.6	5.2	6.4	5.2	1.5	1.1	4	4	2.5	1	5.9	3.2	2	6.4	2.5	24
5	1.6	0.8	0.4	2.6	0.5	0.2	2.4	2.2	1.3	2.4	3.8	5.8	3.9	3.3	2.9	4.5	5.7	6	6.3	3.3	0.5	1	0.3	0.6	6.3	2.6	24
6	0.7	0.2	0.6	0.6	0.5	0.2	1.2	3.7	3.9	3.9	5.3	5	3.8	4.7	4.6	4.4	6.4	5.6	6.2	5	4.3	4.1	5.5	4.9	6.4	3.6	24
7	3.8	4.2	5.2	5.7	4.8	5.1	8.9	7.9	8.4	9.3	9.7	12	13.2	14.3	15.3	14.1	15.3	12.8	11.1	7.1	7	7.6	8.5	8.3	15.3	9.2	24
8	8.9	9.5	8	7.2	9.7	7.8	6.2	3.2	4	3.5	3.9	6.1	5.9	5.2	5.9	7.7	5.9	8.2	7.2	3.3	1.6	1.1	8.2	7.8	9.7	6.1	24
9	9.8	5.8	14.8	11.3	9.4	7.2	6.9	8.4	12.4	8.5	2.2	6.7	11.3	13.2	13.8	10.9	10.9	10.7	13.2	11.3	7	6.8	7.4	3.5	14.8	9.3	24
10	3.7	0.9	4.6	8.1	6.2	9	6.4	5	4.4	5	4.1	4.6	3.4	4.2	3.8	6	6	7.3	2.9	3	1.8	5.4	6	0.9	9.0	4.7	24
11	9.6	9.2	7.7	2.6	2.3	4.6	4.2	3.3	2.8	1.9	5.5	6.7	10	10	8.4	6.7	6.4	8.1	8.9	1.8	4	7.6	7.7	6.3	10.0	6.1	24
12	6.6	6.9	6.7	6.1	8.3	7.3	5.4	7.7	8.1	7.1	6.6	3.9	4.9	6.2	11.1	9.9	8.6	6.8	6.8	6.9	4.7	4.9	7.6	5.7	11.1	6.9	24
13	4.9	2.7	2.7	3.3	2.6	3.1	3.5	2.8	2.8	3.5	2.9	3.6	2.4	3	1.6	3.8	7.5	6.1	4.5	5.7	4.5	2.2	2.5	3.2	7.5	3.6	24
14	1.4	4.2	0.7	2.7	1.1	0.8	0.7	2	2.1	3	3.5	3.6	4.4	5.3	4.7	4.3	5.6	5.2	3.7	1.1	0.7	0.6	0.2	0.2	5.6	2.6	24
15	0	0.4	0	0.3	0.5	0	1.2	1.9	1.7	1.3	1.4	2.1	2.3	3.9	5	5	4.2	3.1	1.6	4	4.9	2.6	1.7	2.1	5.0	2.1	24
16	1.5	0.8	3.2	1.8	1.6	2.2	1.5	3.4	5.5	5.8	4.5	5.5	5.3	5.4	7.8	7.3	10.8	14	9.7	5.7	6	4.2	1.2	1.1	14.0	4.8	24
17	0.4	0.2	0.2	0.9	0.3	0.6	0.8	0.9	5.1	8.6	6.8	7.5	6.7	8.2	8.5	7.8	9.7	9.8	8.1	4.5	7.3	7.8	8.2	9.4	9.8	5.3	24
18	8.8	7.1	7.6	7.4	10.3	10.5	5.1	5.4	8.9	7.8	6.8	5.9	5.6	5.4	6	5.7	8.1	7.5	3.8	3.8	3	2.5	5.6	1.4	10.5	6.3	24
19	2.4	1.4	1.2	1.4	1.9	2.6	3.5	6.5	7.7	4.8	12.2	7.2	4.6	3.8	3.6	1.5	3.5	3.4	3.6	3.7	4	4.7	5.4	5.1	12.2	4.2	24
20	5.4	4.8	4.8	5.6	6.2	6.7	7.3	7.1	5.7	6.6	6.2	9.8	8.3	8.3	6.9	6.9	8.3	6.7	6.9	6.2	6.5	3.8	4.6	6	9.8	6.5	24
21	3.9	7	6.4	6.5	8.7	8.2	7.8	8.5	8.9	9.6	10.8	9.5	10.3	10	9.6	9.2	8.8	8.9	10.3	9.8	9.1	9.2	9.2	8.2	10.8	8.7	24
22	8.8	8	6.2	5.9	2.9	4.2	8.8	9.5	8.5	7.6	7.6	9.6	10.4	8.2	8.3	9.8	7.2	2.8	0.5	1.2	1.7	0.8	1.5	1.7	10.4	5.9	24
23	1.2	1.5	0.5	1	2.7	2.3	1.4	2.1	4.3	5.4	6.9	7	6.2	5.8	5.6	6.6	6.4	8.9	6.8	5	6.8	9.2	8.6	8.2	9.2	5.0	24
24	9.1	9.7	9.3	8.2	7.4	6.5	8.4	9.1	11	11.8	16.5	15.8	17	**17.7**	16.8	14.5	12.8	9.9	7	9.2	9.3	9	9	9.6	**17.7**	11.0	24
25	7.9	5.7	1	1.8	0.8	1	0.5	5.9	6.6	5.9	9.4	10.3	9.4	11.4	8.9	10.4	10	7.1	4.8	3.7	3.5	3.3	1.6	2.9	11.4	5.6	24
26	2.2	4	2.5	4.2	5	3.6	3	6.7	5.5	2.4	6.8	6.1	8.4	8.5	10.8	9.6	7.6	7	3.5	1.9	1.3	2.7	3.8	4.4	10.8	5.1	24
27	5	3.3	1.7	4.4	5.3	4.6	5.4	6.4	6.5	7.2	9.3	12.5	13.1	13.1	13.1	13.4	12.7	8.7	9	4.5	4.3	2.3	2.6	4.4	13.4	7.2	24
28	3.7	4.2	5.1	5.2	5.4	3.6	5.7	7.6	9.2	11.4	13.5	15.6	14.4	15	14.8	12.1	11.8	13.4	4.7	4.2	5.6	4.6	5.3	3.2	15.6	8.3	24
29	4.6	4.1	4.8	0.4	0.2	2.2	0.4	1.5	3.7	6.2	8.8	9.6	9.7	9.5	9.8	8.3	5.7	2.2	3.3	3	4.6	8	10.3	13.1	13.1	5.6	24
30	1.7	0.6	4.8	5.6	6.3	7.2	7.5	10.7	11.2	13.5	16.1	13.9	12.6	13.5	11.9	13	11.9	7	11.6	10	9.8	2	2.5	2.4	16.1	8.6	24
31	3.4	4.2	1.6	0.5	0.9	1.3	1.8	3	5.1	6	7.8	8.3	8.2	**7**	7.8	5.9	7.4	6.6	4.1	1.7	1.9	0.6	0.6	0.4	8.3	4.0	24
HOURLY MAX	10.4	9.7	14.8	11.3	10.3	10.5	11.5	12.7	13.2	14.0	16.5	16.4	17.0	17.7	16.8	14.5	15.3	14.0	16.3	12.3	13.6	12.2	11.8	13.1			
HOURLY AVG	4.9	4.4	4.4	4.3	4.3	4.3	4.6	5.5	6.4	6.7	7.8	8.4	8.4	8.8	8.7	8.1	8.3	7.7	6.6	5.3	5.0	4.9	5.4	5.0			

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

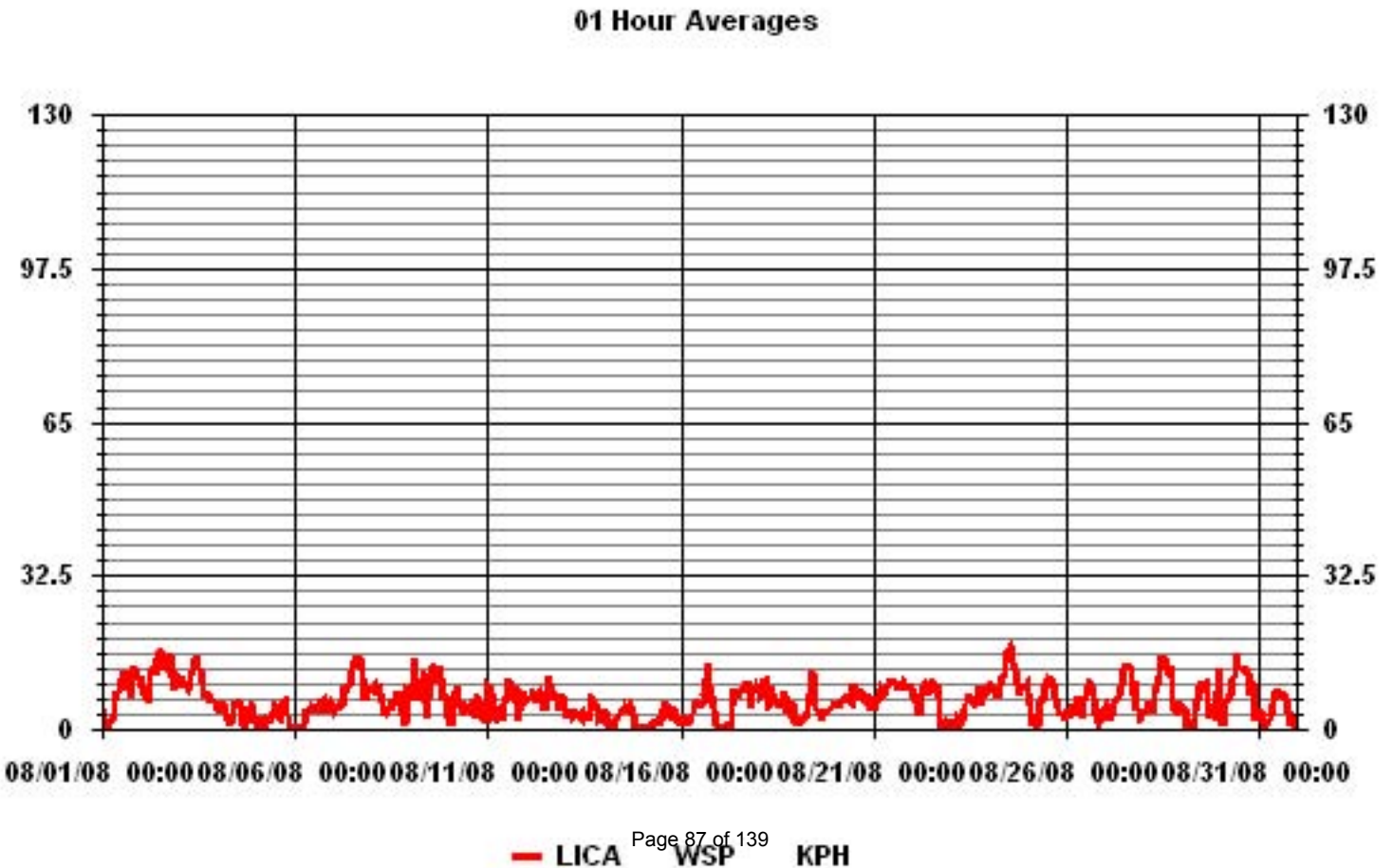


LAST CALIBRATION: December-2006

MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	17.7	KPH	@ HOUR(S)	13	ON DAY(S)	24
MAXIMUM 24-HR AVERAGE:	11.4	KPH			ON DAY(S)	2

CALMS (≤ 0 KPH)	1.88	%	OPERATIONAL TIME:	744	HRS
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME	100.0	%
STANDARD DEVIATION:	3.78		MONTHLY AVERAGE:	6.16	KPH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65
32.5
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08/06/08 00:00
08/11/08 00:00
08/16/08 00:00
08/21/08 00:00
08/26/08 00:00
08/31/08 00:00
LICA WSP KPH

LICA
WSP / WD Joint Frequency Distribution (Percent)

August 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	.67	.67	.53	.67	1.34	3.62	4.70	3.62	3.09	2.68	9.81	7.79	3.76	2.82	2.28	1.61	49.73
<	12.0	2.01	1.07	.26	.00	1.88	4.83	7.66	.40	.26	.13	.80	4.30	6.04	3.76	3.62	2.68	39.78
<	20.0	.00	.00	.00	.00	.13	.53	2.41	.00	.00	.00	.53	1.47	2.68	.67	.13	.00	8.60
<	29.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	2.68	1.74	.80	.67	3.36	9.00	14.78	4.03	3.36	2.82	11.15	13.57	12.50	7.25	6.04	4.30	

Calm : 1.88 %

Total # Operational Hours : 744

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	5	5	4	5	10	27	35	27	23	20	73	58	28	21	17	12	370
<	12.0	15	8	2		14	36	57	3	2	1	6	32	45	28	27	20	296
<	20.0					1	4	18				4	11	20	5	1		64
<	29.0																	
<	39.0																	
>=	39.0																	
	Totals	20	13	6	5	25	67	110	30	25	21	83	101	93	54	45	32	

Calm : 1.88 %

Total # Operational Hours : 744

Logger : 01 Parameter : WSP

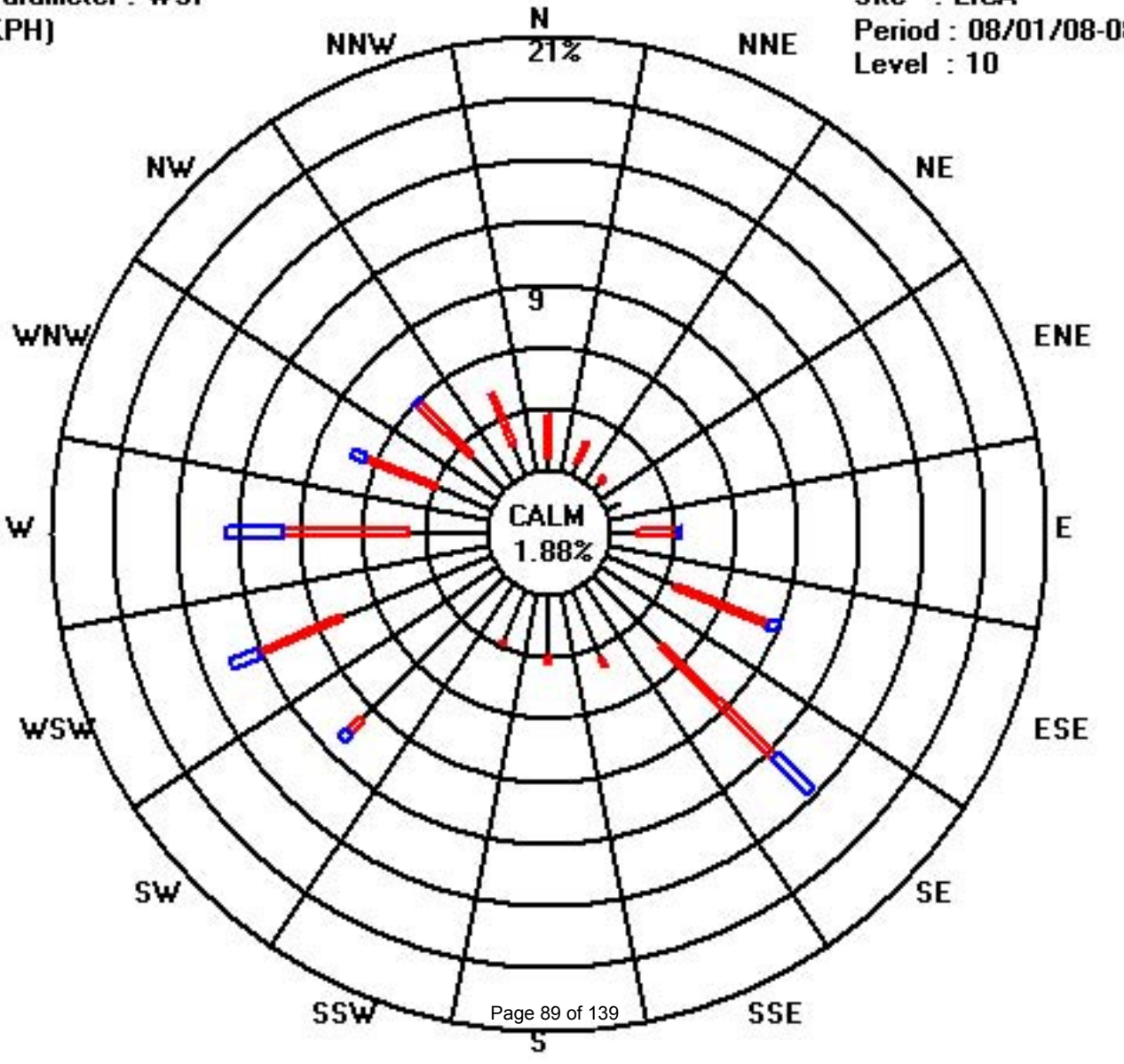
Class Limits (KPH)

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

Site : LICA

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

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

AUGUST 2008

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST

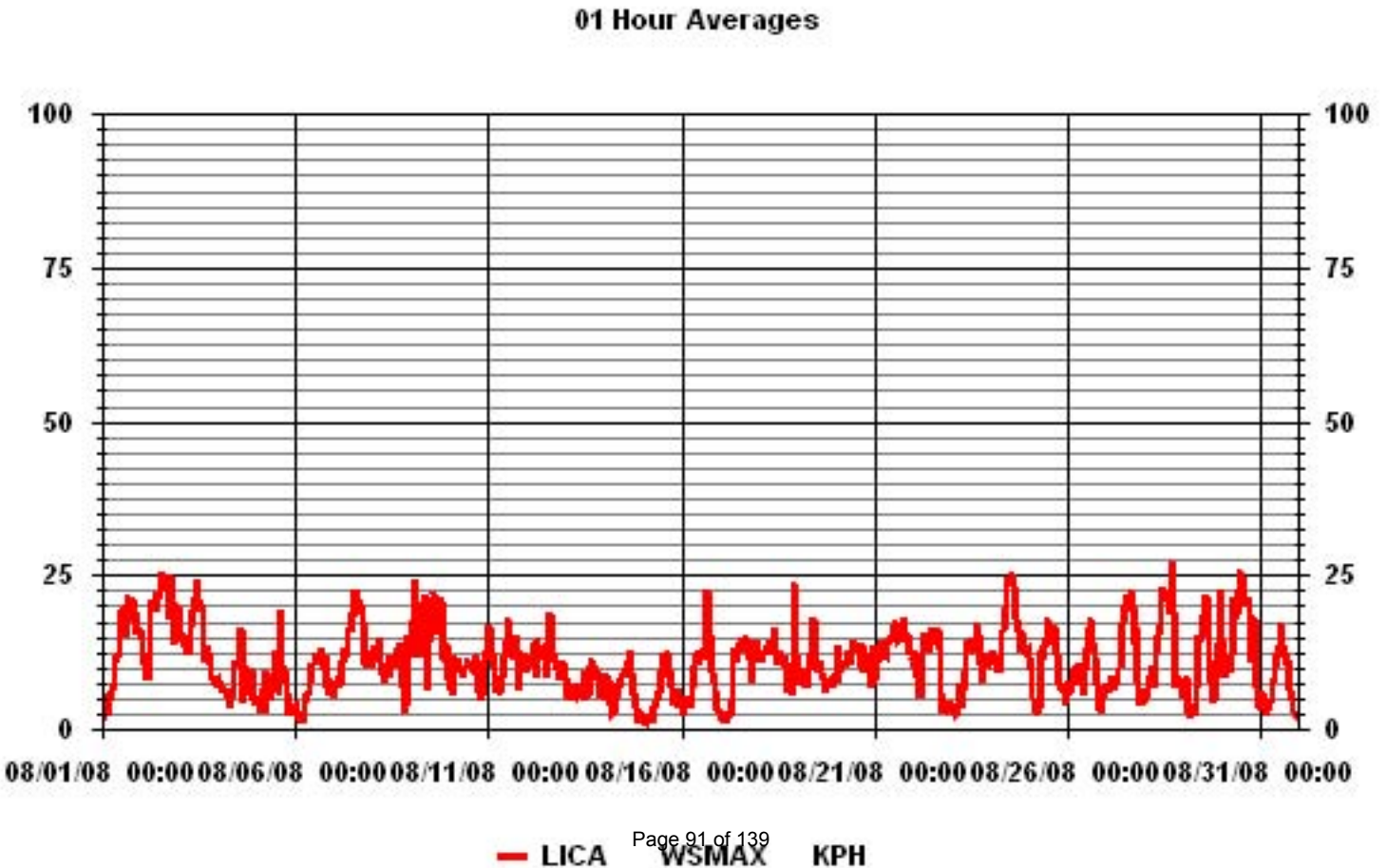
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.
DAY																									
1	5.7	2.3	2.6	2.6	3.2	4.6	6.2	7.3	10.7	11.9	12.4	15.7	19.2	19.7	19.4	14.9	22	18.2	17.8	21.3	19.2	15.7	16.2	16.1	22
2	15.1	12.5	11.1	10.9	8.1	11.3	21.2	20.3	19.8	19.7	22.3	21.1	23	25.4	22.7	23.2	24.2	17.8	25.1	19.8	13.7	20.4	19.1	20.3	25.4
3	15	15.2	14.5	13.4	14.7	12	15.3	16.7	19.2	21.3	19	24.1	21.3	20.6	19.3	13.4	10.9	13.4	12.7	10.6	8.5	8.2	7.9	7.6	24.1
4	8	7	6	7	6.2	5.3	6.5	3.4	5	6.4	11.3	10.6	10.5	13.6	16.6	4.4	7.1	10.4	8.7	5.6	8.2	10	4.9	4	16.6
5	5.1	4.1	2.6	6.7	3.5	2.7	9.6	5.4	4.7	7.1	8.2	12.7	6.5	6.3	7.7	19.3	10.7	9.6	9.1	6	2	4.1	2.8	3.7	19.3
6	3.9	1.9	1.7	2.3	2.4	0.8	4.4	5.7	6.3	7.7	10.5	10.8	12.2	11	12.4	10.4	13.1	10.7	11	6.9	5.5	8.1	7.3	7.3	13.1
7	5	6.9	7.1	8.6	6.9	11	13	11.6	12.7	16	16.1	19	19.9	22.1	22.2	19.8	20.2	19.7	17.6	10.7	10	10.8	11.4	11.1	22.2
8	12.7	13.4	12.4	10.7	14.9	11	9.2	7.6	8.4	8.9	8.9	12.1	11	10.1	10.8	13.1	10.4	14.1	13.2	7	2.8	3.9	15.2	12.1	15.2
9	17.8	11.5	24.4	20.9	13.8	11.5	13.4	15.8	21.1	21.1	6.3	14.2	17.7	21.5	22.1	15.4	17.1	17.7	21.5	20.8	11.6	11.3	14.2	8.4	24.4
10	6.7	5.3	9.5	11.9	9.8	11.4	10.1	9.5	8.5	10.2	11.4	11.3	10.8	10.2	11.1	11.7	11.2	10.9	6.3	4.9	5.5	11.1	11.5	12.9	12.9
11	16.4	16.4	12.7	10.5	6	8.2	8.7	6.5	6.7	8.4	11.8	14.2	18.1	14.9	12.6	11.4	12.8	15.4	13.2	6.4	11.9	11.3	12.3	9.3	18.1
12	9.9	11.5	11.3	10.2	13.8	14	8.3	14	12.7	13	11.4	13.6	8.5	10.7	18.9	15.1	12.4	11.8	9.6	11.2	8.4	7.9	11	8.2	18.9
13	8.7	5.5	4.6	5.8	4.5	6	7.2	5.6	6	5.7	7.2	9.4	7.1	5.5	5.6	10.4	11.6	10.7	8	9.1	9	5.2	6.4	6.2	11.6
14	4.8	8.9	6.3	6.7	4.2	2.4	2.7	5.1	7.1	7.7	6.9	9.1	8.4	10.3	10	9.7	12.7	9.5	6	3.6	1.7	1.9	1.6	2.4	12.7
15	1.9	1.9	1.3	1.9	1.5	1.5	3.6	3.8	4.3	4.6	6	9.1	9	12.2	10.3	12.9	9.8	7.1	4	5.9	6.1	4.9	5.4	4.1	12.9
16	3.8	2.1	5.5	4.6	4.3	4.9	3.6	6.8	10.3	12.3	10.3	12.6	12.8	11.2	13	12.4	22.8	19.5	15.5	9.6	8	6.4	3.6	3.2	22.8
17	1.9	1.6	2	2.7	1.1	2.1	2.3	4.8	12	13.3	10.9	13	13.8	14.6	13.2	12.6	14.7	14.5	11.5	7.4	11.8	11.9	11	14.2	14.7
18	13	10.8	12.1	12.7	13.3	13.4	12.2	13.7	13.7	15	16.6	12.4	10.6	12.9	11.7	11.1	12	11.2	5.9	7.6	5.4	6.4	23.7	12.3	23.7
19	10.4	10.1	7.3	7.7	9.8	6.7	8.2	9.5	12.3	13	18.1	13.4	9.5	9.5	11.2	9.6	8.2	6	8.3	6.7	7.5	6.9	8.5	9.1	18.1
20	8.8	13.6	9.1	10	10.5	10.5	10.9	12.7	10.3	12.1	13.5	14.3	13.2	13.4	11.1	11.4	14.2	9.2	10.8	12.4	10.3	7.3	6.9	13.6	14.3
21	7.7	11.7	12.5	11	14.5	12.9	12.2	11.9	14	14.7	15.2	14.3	16.9	17.7	14.6	14.9	14	15.1	18	15	15.1	12.1	12.7	11.3	18
22	11.6	12.7	8.9	7.7	5	7.8	15.7	15.3	13.1	12.9	12.9	16.6	15.7	15.7	13.5	16.6	13.2	6	3	3.4	4.5	3.1	3.3	4.6	16.6
23	3.2	3.5	2.5	2.8	5	7.2	3.4	6.2	9.3	14	14	13.5	14.6	12.9	14.3	17.2	12.6	15.4	10.7	7.3	9.8	12.4	11.6	11.1	17.2
24	11.9	12.8	12.1	10.9	11	9.1	11.8	16	16.2	19.9	23	24.3	24.4	25.4	24.1	23.5	18.2	16.1	12.4	15.9	14.2	12.6	12.4	12.9	25.4
25	11.8	9.8	5.5	3.8	3.4	3.1	3.4	12.8	11.4	13.5	15	17.9	16.4	17.3	13.8	15	16.9	12.4	7.6	7	7.1	6.2	4	6.4	17.9
26	5.4	7.6	6	9.8	10	7.3	9.3	10	10.2	5.5	10.9	9.7	13.1	16.4	18	13.4	13.6	12	7.5	3.5	2.7	4.4	5.2	6.2	18
27	7	7	6.1	8.2	8.1	6.4	7.1	10	10.9	10.8	17.2	19.7	19.6	21.9	20.3	22.7	20	15.2	15.5	7.9	6.4	3.7	4.5	6.4	22.7
28	5.7	6.4	8.6	7.6	10.4	6.8	9.6	12.4	15.3	16.7	22.8	22.7	22.2	21.6	22.5	18.4	21.4	**27.3**	19.2	6.8	8.7	7	8.4	4.9	**27.3**
29	6.2	6.2	8.6	2.8	1.9	3.5	2.2	4.1	6.7	15.2	14.4	16.8	18.5	16.7	21.7	15.5	11.4	7.8	4.9	5	8.1	13.8	14.1	22.8	22.8
30	14.7	8.3	11.9	10.2	9.3	10.5	12	21.3	17.7	18.5	22.7	26	22.8	24.7	19.7	21.1	21.2	10.9	18.6	17.7	17.7	7.1	4.2	4	26
31	4.7	5.9	5.2	2.4	3.3	3.6	4.2	7.8	8	9.8	12.3	13.7	17.1	11.6	13.6	10.2	12.1	11.6	6.5	5.1	3	2.5	2.6	1.9	17.1
PEAK	17.8	16.4	24.4	20.9	14.9	14.0	21.2	21.3	21.1	21.3	23.0	26.0	24.4	25.4	24.1	23.5	24.2	27.3	25.1	21.3	19.2	20.4	23.7	22.8	

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

MAXIMUM INSTANTANEOUS READING	27.3	KPH	@ HOUR(S)	17
			ON DAY(S)	28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75
50
25
0
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08/06/08 00:00
08/11/08 00:00
08/16/08 00:00
08/21/08 00:00
08/26/08 00:00
08/31/08 00:00
LICA WSMAX KPH

Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

AUGUST 2008

VECTOR WIND DIRECTION (WD) hourly averages in degrees

MST

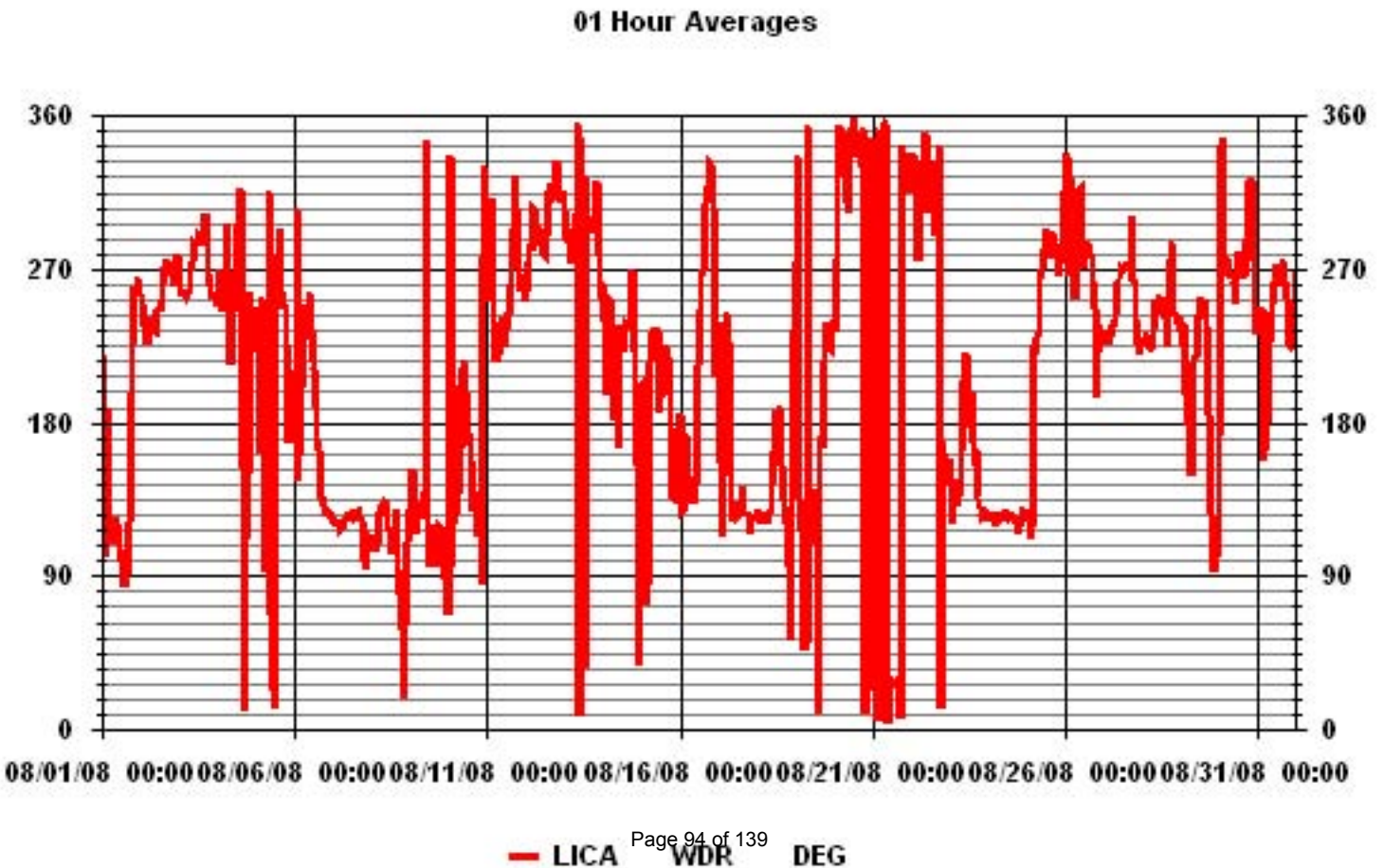
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUANDRANT	RDGS.
DAY																											
1	219	176	101	112	188	112	109	116	125	121	116	106	100	84	90	84	91	121	197	225	260	255	265	256	141	SE	24
2	255	250	237	231	225	238	242	238	235	234	246	247	252	245	261	271	275	266	274	271	260	268	270	279	254	WSW	24
3	268	258	254	258	255	257	258	269	274	286	285	286	291	290	283	290	303	301	268	261	254	254	256	248	273	W	24
4	254	270	246	248	250	246	296	263	214	240	245	269	296	262	317	154	10	118	111	150	257	244	239	242	251	WSW	24
5	247	223	161	253	241	92	235	244	316	68	24	12	275	278	261	294	258	249	248	227	168	202	210	186	266	W	24
6	203	305	145	160	220	200	249	229	232	257	235	217	212	190	170	164	138	137	132	125	128	127	129	125	168	SSE	24
7	121	124	119	121	117	118	122	124	126	126	122	125	128	125	127	128	124	124	122	99	94	104	108	113	120	ESE	24
8	112	112	105	109	128	125	131	132	134	133	119	117	103	112	115	129	79	94	84	59	18	61	110	128	111	ESE	24
9	129	153	127	115	123	127	125	133	124	140	346	95	113	113	115	120	96	101	120	119	115	90	87	67	116	ESE	24
10	92	336	95	121	129	127	138	201	212	216	198	170	171	171	158	128	140	128	113	125	85	277	331	299	145	SE	24
11	250	296	307	312	226	215	239	228	219	241	224	239	235	244	261	270	294	325	306	298	257	265	267	251	263	W	24
12	257	274	284	280	307	306	283	293	293	286	290	279	278	290	316	320	311	312	319	334	317	309	312	313	300	WNW	24
13	305	289	288	287	273	276	293	303	356	8	347	296	325	36	296	301	296	296	292	292	322	279	253	262	301	WNW	24
14	239	251	196	253	252	241	181	208	207	165	237	224	221	227	239	238	237	266	270	222	154	183	37	201	232	SW	24
15	202	129	199	73	85	215	232	235	220	236	234	186	195	214	218	225	219	198	147	137	136	140	177	172	191	S	24
16	185	128	129	173	147	137	137	136	132	148	144	214	246	266	269	279	309	318	333	332	318	307	209	208	275	W	24
17	156	220	113	238	149	245	228	197	122	126	134	125	126	130	133	142	126	126	126	114	123	123	124	125	128	SE	24
18	127	127	123	121	125	128	121	126	129	144	163	187	160	179	190	156	136	132	121	97	52	87	148	234	136	SE	24
19	275	337	136	118	90	46	74	355	51	109	124	141	135	110	9	172	165	217	226	239	231	224	223	240	143	SE	24
20	233	276	331	354	345	346	325	322	310	302	335	353	359	351	347	339	337	330	353	9	25	23	328	347	339	NNW	24
21	47	51	18	4	350	349	351	356	355	3	8	31	25	28	24	29	28	6	343	339	333	325	318	315	2	N	24
22	322	338	316	308	274	302	333	334	348	348	303	305	312	333	289	300	325	343	12	169	142	162	144	154	319	NW	24
23	159	121	130	147	131	136	147	163	204	211	221	216	177	198	169	155	164	136	131	125	126	128	126	124	155	SSE	24
24	124	125	125	122	123	120	127	124	123	123	**127**	127	124	125	125	126	125	122	115	120	122	130	126	126	124	ESE	24
25	127	124	112	119	225	219	230	233	264	270	281	294	292	287	276	282	292	285	282	265	279	278	314	314	275	W	24
26	338	336	265	324	287	254	254	308	317	318	275	270	286	281	286	277	279	264	247	194	221	237	235	233	278	W	24
27	233	231	225	234	237	235	237	243	262	264	272	271	273	272	272	271	269	301	265	263	241	227	220	230	261	W	24
28	228	227	232	229	224	222	230	234	250	250	255	243	249	253	242	224	252	275	286	246	244	237	243	235	245	WSW	24
29	226	226	238	197	178	215	149	210	217	219	243	247	254	241	245	252	237	185	127	107	93	100	102	125	211	SSW	24
30	172	343	347	265	277	270	265	268	266	263	250	266	280	276	270	265	287	274	322	314	323	296	231	247	276	W	24
31	237	245	248	157	231	163	179	227	245	249	262	272	267	269	259	275	267	263	254	226	224	225	227	267	254	WSW	24
HOURLY AVG	338	343	347	354	350	349	351	356	356	348	347	353	359	351	347	339	337	343	353	339	333	325	331	347			

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:	744	HRS
STANDARD DEVIATION	82.42		AMD OPERATION UPTIME	100.0	%
			MONTHLY AVERAGE	235	DEG


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

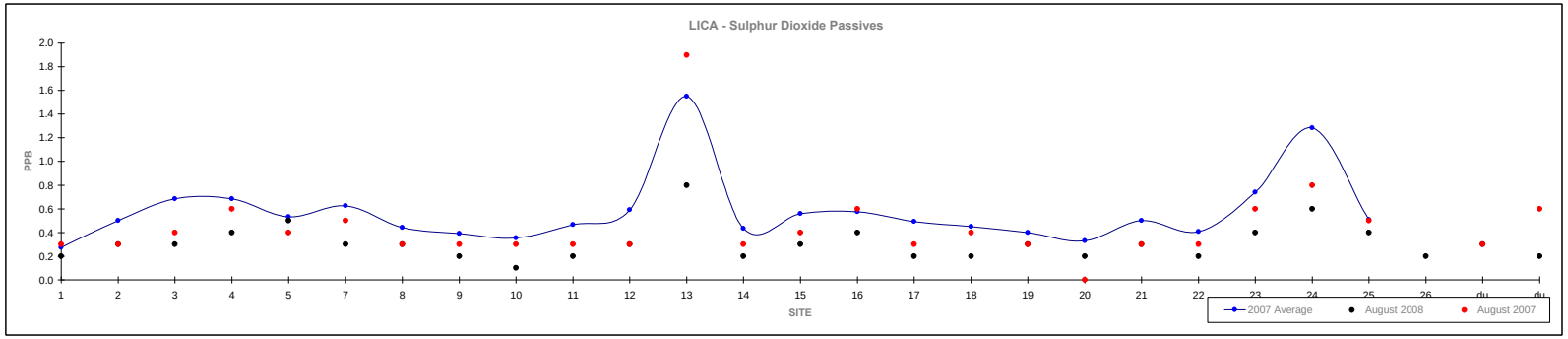
Non-Continuous Monitoring

Passive Summary Results for August 2008

Lakeland Industry & Community Association

Sulphur Dioxide
ppb

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Reading	Site
													2007													2008	
Mean	0.3	0.5	0.7	0.7	0.5	0.6	0.4	0.4	0.4	0.5	0.6	1.6	0.4	0.6	0.6	0.5	0.5	0.4	0.3	0.5	0.4	0.7	1.3	0.5	0.4	0.3	-
Minimum	0.1	0.3	0.4	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.8	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.5	0.2	0.0	0.1	#10
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	0.8	#13

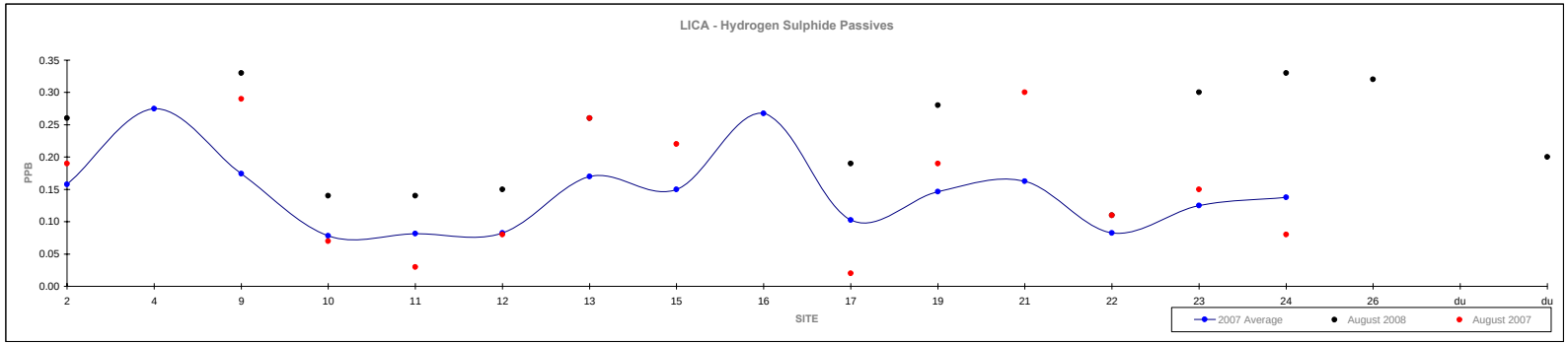


Passive Summary Results for August 2008

Lakeland Industry & Community Association

Hydrogen Sulphide
ppb

	2007															2008	
	3	5	10	11	12	13	14	16	17	18	22	24	25	26	27	Reading	Site
Mean	0.2	0.3	0.2	0.1	0.1	0.1	0.2	0.2	0.3	0.1	0.1	0.2	0.1	0.1	0.1	0.32	-
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	0.11	#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	1.02	#4

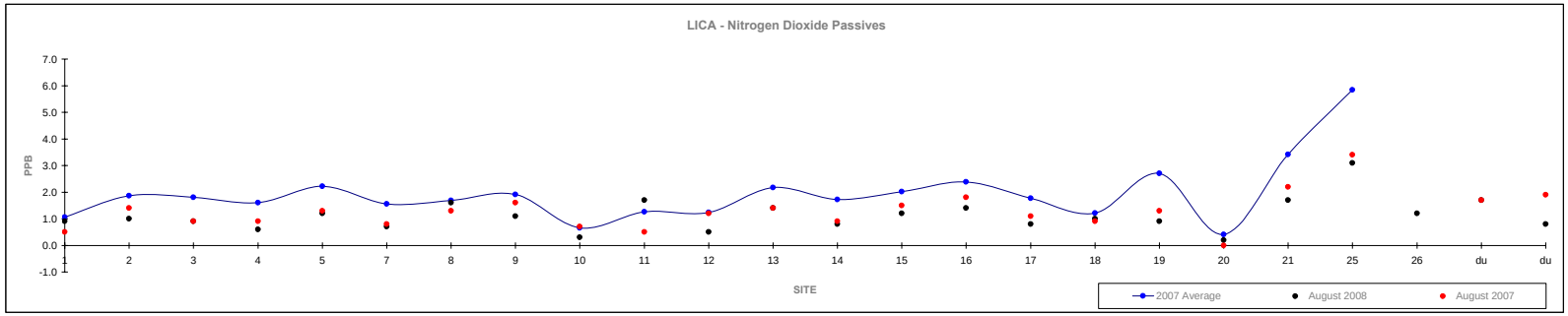


Passive Summary Results for August 2008

Lakeland Industry & Community Association

Nitrogen Dioxide
ppb

	2007																					2008	
	2	**3**	**4**	**5**	**6**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**22**	**23**	**24**	**28**	**Reading**	**Site**
Mean	1.1	1.9	1.8	1.6	2.2	1.6	1.7	1.9	0.7	1.3	1.2	2.2	1.7	2.0	2.4	1.8	1.2	2.7	0.4	3.4	5.8	1.1	-
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	0.2	#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	3.1	#25

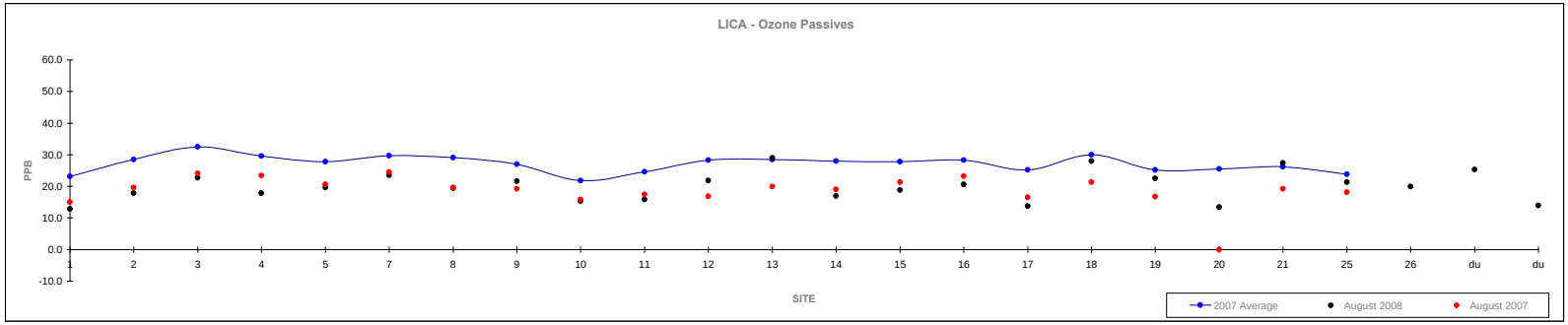


Passive Summary Results for August 2008

Lakeland Industry & Community Association

Ozone ppb

	2007																					2008	
	2	3	4	5	6	8	9	10	11	12	13	14	15	16	17	18	19	22	23	24	28	Reading	Site
Mean	23.1	28.5	32.5	29.6	27.8	29.7	29.0	27.0	21.9	24.6	28.3	28.5	28.0	27.8	28.3	25.2	30.0	25.2	25.5	26.2	23.8	20.0	-
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	12.8	#1
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	29.0	#13



Calibration Reports

Cold Lake

Sulphur Dioxide

SO_2 Calibration Report

Station Information

Calibration Date	August 1, 2008	Previous Calibration	July 3, 2008
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	6:35	End Time (MST)	11:05
Reason:	Monthly Calibration		
Barometric Pressure	706 mmHg	Station Temperature	23 Deg C
Cal Gas	52.2 ppm	Cal Gas Expiry date	March 12, 2010
DAS Output Voltage	0 - 10 Volts		

Equipment Information

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

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range	0 - 500 ppb							
Sample Flow / Box Temp	700	ccm	OK	Deg C	700	ccm	OK	Deg C
HVPS / Lamp Setting	OK		825		OK		826	
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	106		960		104		960	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	-1	N/A
5000	0	0	0	N/A
4961.1	38.9	406	406	1.0003
4975.7	24.3	254	254	0.9988
4985.4	14.6	152	152	1.0028
5000	0	0	0	N/A
			Sum of Least Squares	0.3469
			New Correction Factor	1.0003

	Before Calibration	After Calibration
Auto Zero	-1	-1
Auto Span	211	212
Sample Lines Connected		**YES**
Percent Change from Previous Calibration		-0.2%

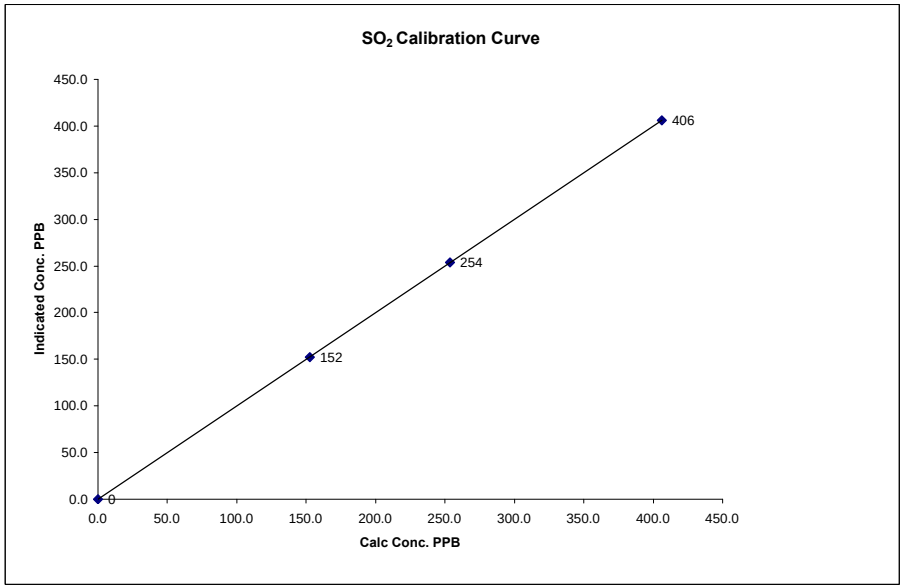
Calibration Performed by: Shea Beaton

SO_2 Calibration Curve

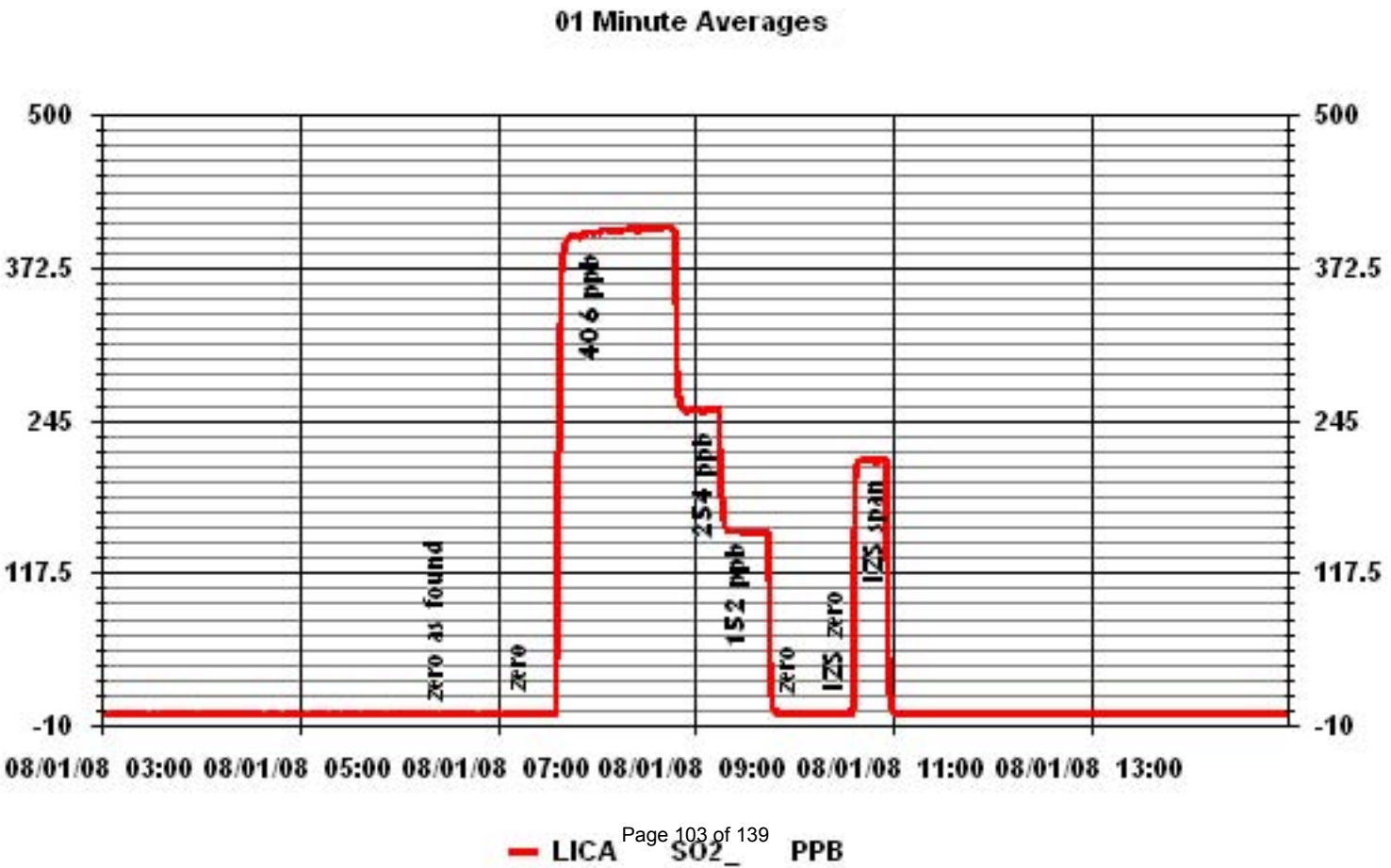
Calibration Date	August 1, 2008		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	6:35	End Time (MST)	11:05

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
152	152	1.0028
254	254	0.9988
406	406	1.0003

Correlation Coefficient	(≥ 0.995)	0.999997
Slope	(0.85 to 1.15)	1.000154
Intercept	(± 3% F.S.)	-0.089317



Notes:


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

Total Reduced Sulphur

TRS Calibration Report

Station Information

Calibration Date	August 1, 2008		Previous Calibration	July 3, 2008	
Company	Lakeland Industry & Community Association				
Plant / Location	LICA 1 - Cold Lake South				
Start Time (MST)	8:50		End Time (MST)	12:20	
Reason:	Monthly Calibration				
Barometric Pressure	706	mm Hg	Station Temperature	23	Deg C
Cal Gas	10.6	ppm	Cal Gas Expiry date	April 3, 2009	
DAS Output Voltage	0 - 10	Volts			

Equipment Information

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

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range	0 -100				ppb			
Sample Flow / Box Temp	425	ccm	OK	Deg C	425	ccm	OK	Deg C
HVPS / Lamp Setting	OK		888		OK		883	
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	918		920		918		992	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	0	N/A
4962.3	37.7	80	77	1.0380
4962.2	37.8	80	79	1.0144
4978.8	21.2	45	44	1.0215
4988.2	11.8	25	24	1.0423
5000	0	0	-1	N/A
			Sum of Least Squares	1.0178
			New Correction Factor	1.0144

	Before Calibration	After Calibration
Auto Zero	-1	0
Auto Span	83	85
Sample Lines Connected		YES
Percent Change from Previous Calibration		0.0%

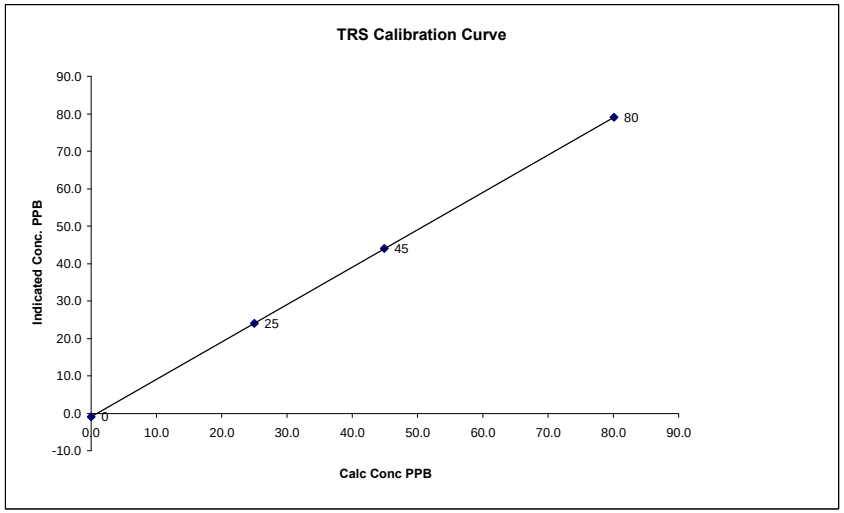
Calibration Performed by: Shea Beaton

TRS Calibration Curve

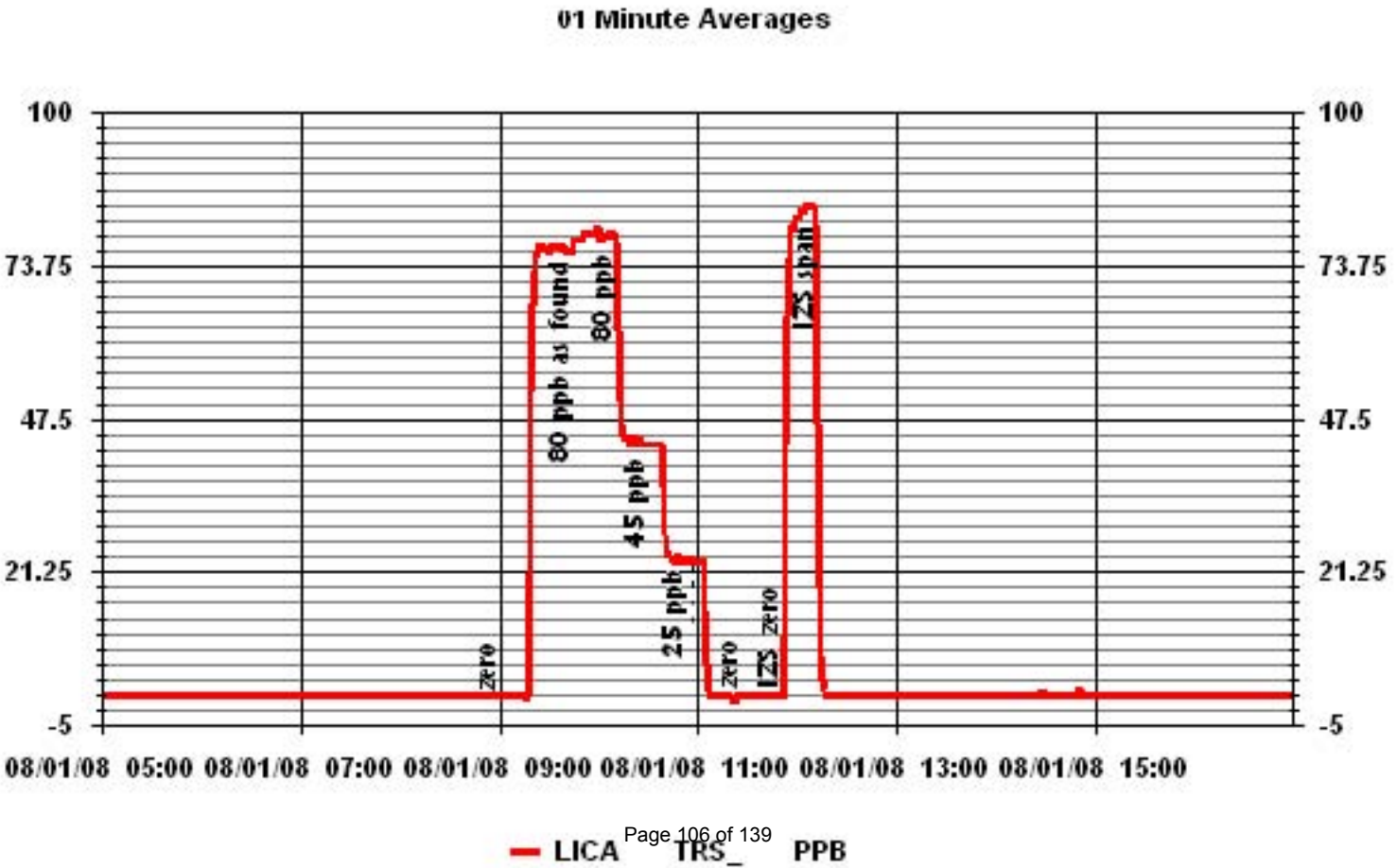
Calibration Date	August 1, 2008		
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	8:50	End Time (MST)	12:20

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	-1	n/a
25	24	1.0423
45	44	1.0215
80	79	1.0144

Correlation Coefficient	(≥ 0.995)	0.999997
Slope	(0.85 to 1.15)	0.998492
Intercept	(± 3% F.S.)	-0.967424



Notes: span adjustment maxxed out, will performed PMT adjustment next calibration.


01 Minute Averages
100
73.75
47.5
21.25
-5
zero
80 ppb as found
80 ppb
45 ppb
25 ppb
zero
IZS zero
IZS span
08/01/08 05:00
08/01/08 07:00
08/01/08 09:00
08/01/08 11:00
08/01/08 13:00
08/01/08 15:00
LICA TRS_ PPB

Total Hydrocarbons

THC Calibration Report

Station Information

Calibration Date:	August 1, 2008	Previous Calibration	July 4, 2008
Company:	**Lakeland Industry and Community Association**		
Plant / Location:	**LICA1/Cold Lake**		
Start Time (MST)	6:35	End Time (MST)	15:05
Reason:	Monthly Calibration		
Barometric Pressure:	706 mmHg	Station Temperature:	23 Deg C
Calibrator:	API 700	S/N:	831
Cal Gas Concentration:	1010 ppm	Cal Gas Expiry Date:	2/22/2011
DAS make & Model:	ESC 8832	S/N :	263
Output Voltage Range:	0 - 10 VDC		

Analyzer Information

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

Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0 - 50	ppm	0 - 50	ppm
Sample Pressure	6.5	psi	6.5	psi
Hydrogen Pressure	8	psi	8	psi
Air Pressure	18	psi	17	psi

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2000	0	0.0	0.0	N/A
2000	80	38.8	38.3	1.0143
2000	0.0	0.0	0.0	N/A
2000	80.0	38.8	38.3	1.0143
2000	40.0	19.8	19.6	1.0104
2000	20.0	10.0	9.7	1.0309
2000	0	0.0	0.0	N/A
			Correction Factor:	1.0143

Percent Change

Previous Calibration Correction Factor:	1.0090
Current Correction Factor Before Span Adjust:	1.0143
Percent Change:	-0.5%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	30.4	30.7
Sample Lines Connected		**YES**

Cylinder Pressures			
Span	800	psi	
Hydrogen	2000	psi	
Zero Air	unlimited	psi	Maxxam-owned API 701 zero air supply with catalytic oxidizer

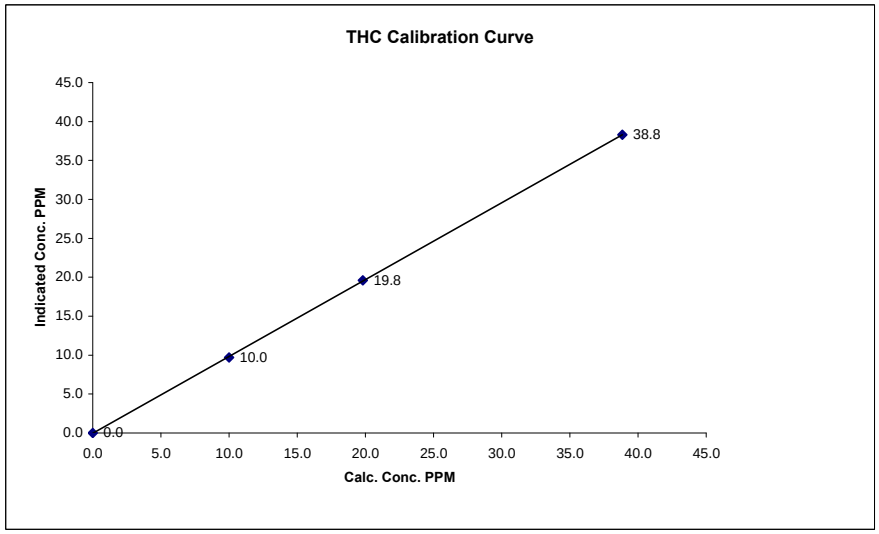
Calibration Performed by: Shea Beaton

THC Calibration Curve

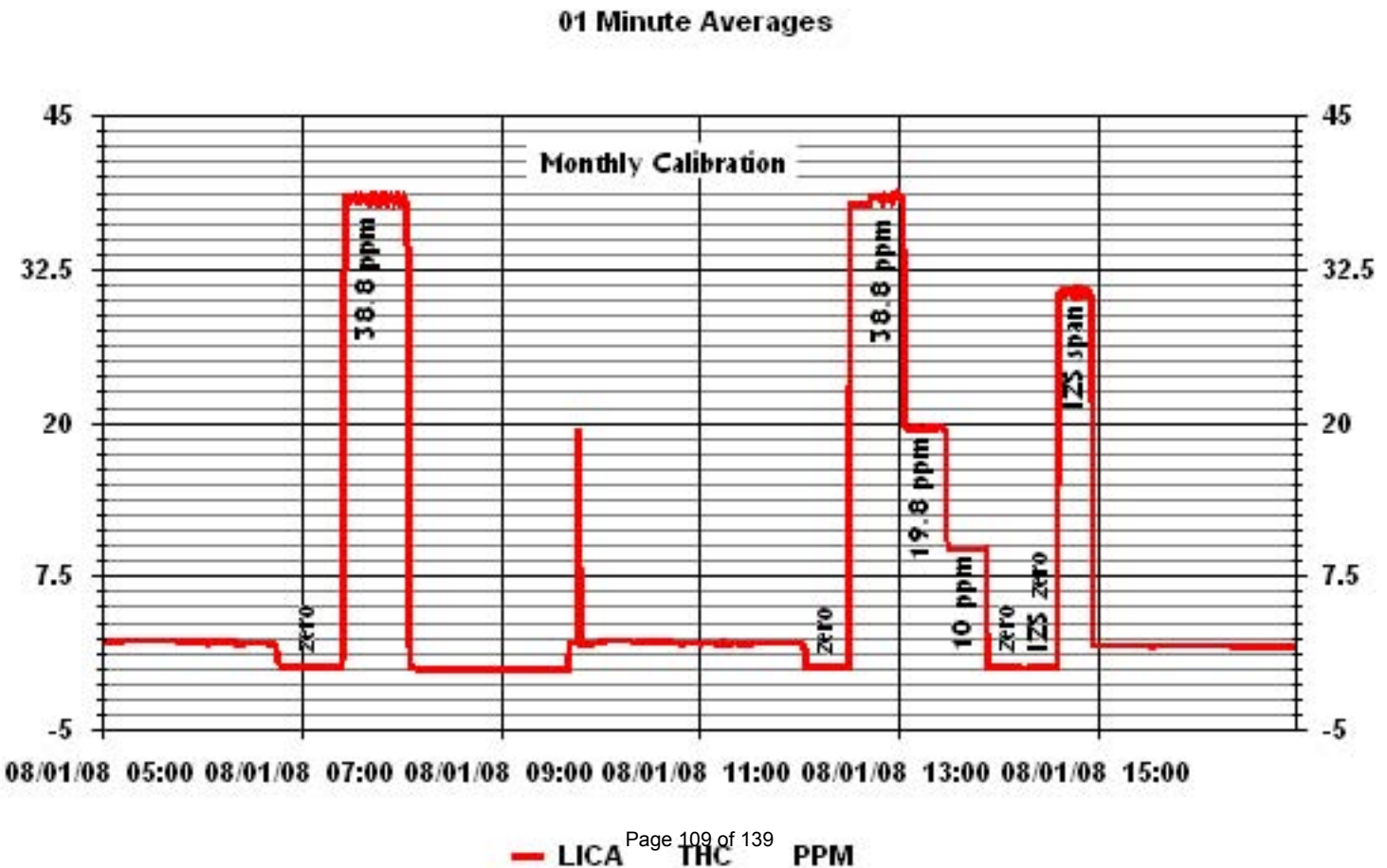
Calibration Date	August 1, 2008		
Company	**Lakeland Industry and Community Association**		
Plant / Location	**LICA1/Cold Lake**		
Start Time (MST)	6:35	End Time (MST)	15:05

Calculated Conc. ppm	Indicated Response ppm	Correction Factor
0.0	0.0	
10.0	9.7	1.0309
19.8	19.6	1.0104
38.8	38.3	1.0143

Correlation Coefficient	(≥ 0.995)	0.999966
Slope	(0.85 to 1.15)	0.987567
Intercept	(± 3% F.S.)	-0.049137



Notes: Re-build zero air pump and optimized the gas flows following the as found points. Began th post repair calibration at 12:03


01 Minute Averages
Monthly Calibration
45
32.5
20
7.5
-5
38.8 ppm
zero
38.8 ppm
19.8 ppm
10 ppm
zero
IZS zero
IZS span
08/01/08 05:00
08/01/08 07:00
08/01/08 09:00
08/01/08 11:00
08/01/08 13:00
08/01/08 15:00
LICA THC PPM

THC Calibration Report

Station Information

Calibration Date:	August 25, 2008	Previous Calibration	August 1, 2008
Company:	**Lakeland Industry and Community Association**		
Plant / Location:	**LICA1/Cold Lake**		
Start Time (MST)	7:40	End Time (MST)	14:00
Reason:	Repaired Calibration		
Barometric Pressure:	706 mmHg	Station Temperature:	23 Deg C
Calibrator:	API 700	S/N:	831
Cal Gas Concentration:	1010 ppm	Cal Gas Expiry Date:	2/22/2011
DAS make & Model:	ESC 8832	S/N :	263
Output Voltage Range:	0 - 10 VDC		

Analyzer Information

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

Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0 - 50	ppm	0 - 50	ppm
Sample Pressure	6.5	psi	6.5	psi
Hydrogen Pressure	8	psi	8	psi
Air Pressure	16	psi	16	psi

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2000	0	0.0	0.0	N/A
2000	80	38.8	38.5	1.0090
2000	0.0	0.0	0.0	N/A
2000	80.0	38.8	38.3	1.0143
2000	40.0	19.8	19.6	1.0104
2000	20.0	10.0	9.8	1.0204
2000	0	0.0	0.0	N/A
			Correction Factor:	1.0143

Percent Change

Previous Calibration Correction Factor:	1.0090
Current Correction Factor Before Span Adjust:	1.0143
Percent Change:	-0.5%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.1	0.0
Auto Span	30.7	30.7
Sample Lines Connected		**YES**

Cylinder Pressures			
Span	500	psi	
Hydrogen	1200	psi	
Zero Air	unlimited	psi	Maxxam-owned API 701 zero air supply with catalytic oxidizer

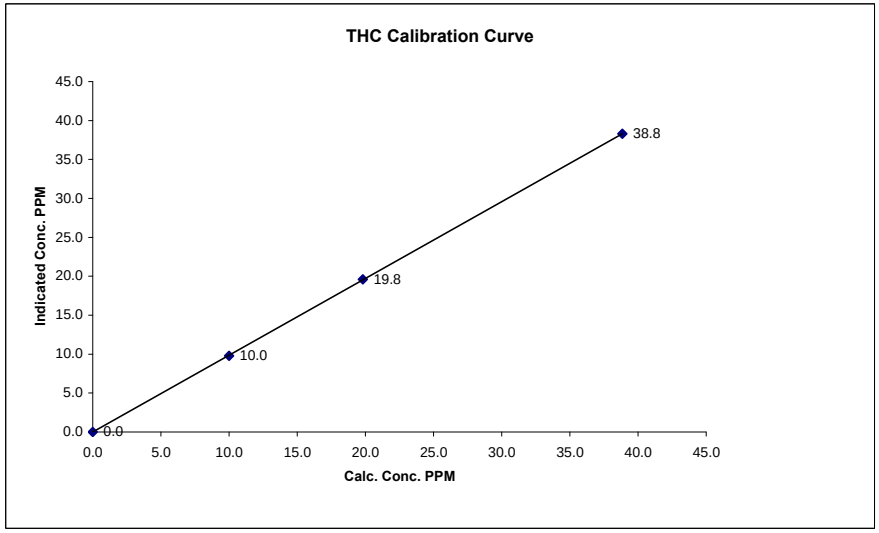
Calibration Performed by: Shea Beaton

THC Calibration Curve

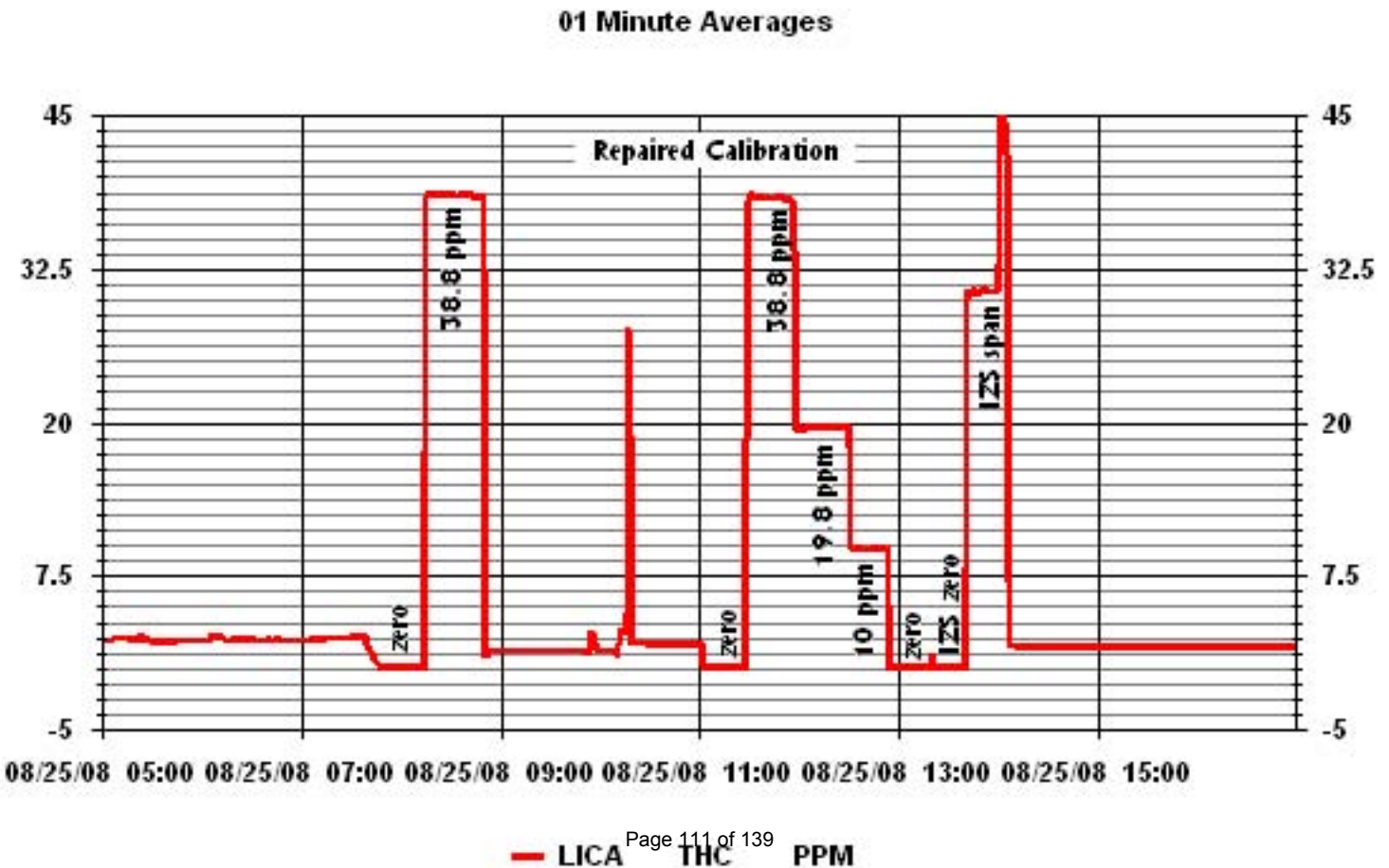
Calibration Date	August 25, 2008		
Company	**Lakeland Industry and Community Association**		
Plant / Location	**LICA1/Cold Lake**		
Start Time (MST)	7:40	End Time (MST)	14:00

Calculated Conc. ppm	Indicated Response ppm	Correction Factor
0.0	0.0	
10.0	9.8	1.0204
19.8	19.6	1.0104
38.8	38.3	1.0143

Correlation Coefficient	(≥ 0.995)	0.999989
Slope	(0.85 to 1.15)	0.986697
Intercept	(± 3% F.S.)	-0.009201



Notes:


01 Minute Averages
Repaired Calibration
45
32.5
20
7.5
-5
38.8 ppm
zero
38.8 ppm
19.8 ppm
10 ppm
zero
zero
IZS zero
IZS span
08/25/08 05:00
08/25/08 07:00
08/25/08 09:00
08/25/08 11:00
08/25/08 13:00
08/25/08 15:00
LICA THC PPM

Particulate Matter 2.5

TEOM® Calibration

Station		Transfer Standard	
Date:	August 25, 2008	Make/Model:	Bios DC-2
Station Name:	LICA 1	Serial Number:	1193
Location:	Cold Lake - South	Cell s/n:	2272
Operator:	LICA	Thermometer s/n:	2178

Sampler		Set-up and current Sampler readings	
Make/Model	R & P Series 1400 a TEOM	F-Main Set Pt (l/min)	3.00
Unit #	AMU 1494	F-Aux Set Pt (l/min)	13.67
Control unit s/n	140AB213859701	Filter Load (%)	50%
Transducer s/n	140AB213859701	K_o Factor	11095
Parameter	PM 2.5	Temp (^oC)	15.4
		Press (ATM)	0.923

Note: Tolerances are noted as BOLD in Brackets

Calibration

Zero flow

	Pump Off		Pump On (Time to reach set points)	
F-Main (l/min)	0.06		**(45-60 Sec)**	33
F-Aux (l/min)	0.17		**(45-60 Sec)**	48

Temperature/Pressure

Measured Temp **(± 1 ^oC)**	15.5	**Δ ^oC**	0.1
Measured Press **(± 1.5% ATM)**	0.924	**Δ % ATM**	0.1%

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)	16.38	**(± 1.0 l/min. (5.65%))**	1.6%
Measured Main Flow (l/min)	3.01	**(± 0.2 l/min. (6.25%))**	-0.3%

Leak Check

		Actual leakage = Pump On - Pump Off
Main **(< 0.15 l/min)**	0.06	0.00
Aux **(< 0.15 l/min)**	0.16	-0.01

K_o Factor

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

Start Time: 8:00 **Finish Time:** 9:30

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

Comments: Removeal audit for AENV Teom.

Calibrator/s: Shea Beaton

TEOM® Calibration

Station		Transfer Standard	
Date:	August 25, 2008	Make/Model:	Bios DC-2
Station Name:	LICA 1	Serial Number:	1193
Location:	Cold Lake - South	Cell s/n:	2272
Operator:	LICA	Thermometer s/n:	2178

Sampler		Set-up and current Sampler readings	
Make/Model	R & P Series 1400 a TEOM	F-Main Set Pt (l/min)	3.00
Unit #	AMU 1494	F-Aux Set Pt (l/min)	13.67
Control unit s/n	140AB213859701	Filter Load (%)	18%
Transducer s/n	140AB213859701	K_o Factor	11095
Parameter	PM 2.5	Temp (^oC)	23.1
		Press (ATM)	0.927

Note: Tolerances are noted as BOLD in Brackets

Calibration

Zero flow

	Pump Off		Pump On (Time to reach set points)	
F-Main (l/min)	0.11		**(45-60 Sec)**	40
F-Aux (l/min)	0.12		**(45-60 Sec)**	47

Temperature/Pressure

Measured Temp **(± 1 ^oC)**	22.9	**Δ ^oC**	-0.2
Measured Press **(± 1.5% ATM)**	0.926	**Δ % ATM**	-0.1%

Flow Audit

			Δ % from Set-pt
Indicated Main/Aux Flow (l/min)	3.00 / 13.63	**(± 2%)**	0.0% / 0.3%
Total Flow = Main + Aux (l/min)	16.63	**(± 2%)**	0.2%
Measured Total Flow (l/min)	16.67	**(± 1.0 l/min. (5.65%))**	-0.2%
Measured Main Flow (l/min)	3.04	**(± 0.2 l/min. (6.25%))**	-1.3%

Leak Check

		Actual leakage = Pump On - Pump Off
Main **(< 0.15 l/min)**	0.12	0.01
Aux **(< 0.15 l/min)**	0.14	0.02

K_o Factor

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

Start Time: **13:50** **Finish Time:** **14:45**

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

Comments: Installation audit of Maxxam-Owned Teom. Maxxam owned control and sensor units, sensor flow plastic tubing, Control-to Sensor unit cable, and lower 2 sections of SS inlet tubing are Maxxam-Owned. Inlets, flows splitter, upper most SS tube, bypass flow line, temp sensor, analog output cable all AENV owned.

Calibrator/s: Shea Beaton

Nitrogen Dioxide

NOx - NO- NO_2 Calibration Report

Station Information

Calibration Date	August 1, 2008	Previous Calibration	July 3, 2008
Company	**Lakeland Ind & Comm. Assoc.**	Plant/Location	**LICA 1 - Cold Lake South**
Start Time (MST)	6:35	End Time (MST)	13:50
Reason:	Monthly Calibration		
Barometric Pressure	706 mmHg	Station Temperature	23.0 Deg C
Cal Gas Concentration	NOx 52 ppm NO 51.5 ppm	Cal Gas Expiry date	March 12, 2010
DAS Output Voltage	0 - 5 Volts		

Equipment Information

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

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range			0 - 500	ppb				
Sample Flow/Conv. Temp	718	ccm	317	Deg C	714	ccm	317	Deg C
Ozone Flow / Vacuum	OK	ccm	174.7	"Hg-A	OK	ccm	174	"Hg-A
HVPS	-820		Volts		-820		Volts	
Rx/ Temp / PMT Temp	49.8	Deg C	-2.5	Deg C	49.6	Deg C	-2.4	Deg C
Box Temp / IZS Temp	29.8	Deg C	OK	Deg C	29	Deg C	OK	Deg C
Offset	3.4	NOx	3.2	NO	3.4	NOx	3.6	NO
Slope	1.01	NOx	0.85	NO	1.01	NOx	0.896	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	0	N/A	0	0	0	0	0	N/A	N/A
4961	38.9	N/A	405	401	381	384	3	1.0618	1.0434
4961	38.9	N/A	405	401	405	401	4	0.9989	0.9992
4976	24.3	N/A	253	250	253	251	3	0.9989	0.9972
4985	14.6	N/A	152	150	152	151	1	0.9989	0.9959
5000	0	N/A	0	0	0	0	0	N/A	N/A
								Converter Efficiency	
4961	38.9	N/A	405	401	406	402	4	N/A	
4961	38.9	300	405	N/A	403	128	275	99%	
4961	38.9	200	405	N/A	403	208	195	98%	
4961	38.9	100	405	N/A	404	305	100	99%	
4961	38.9	N/A	405	401	405	402	3	N/A	
			1					Correction Factor	
5000	N/A	N/A	0	0	1	0	0	N/A	N/A
Linearity OK?			**Yes**	No	Sum of Least Squares			0.9989	0.9984
Flows Checked on-site?			Yes	**No**	New Correction Factor			0.9989	0.9992
					Average Converter Efficiency			99%	

	Before Calibration				After Calibration			
Auto Zero	1	NOx	1	NO2	1	NOx	1	NO2
Auto Span	260	NOx	258	NO2	243	NOx	241	NO2
Sample Lines Connected							**YES**	
Percent Change from Previous Calibration					*NOx*	0.0%	*NO*	0.0%

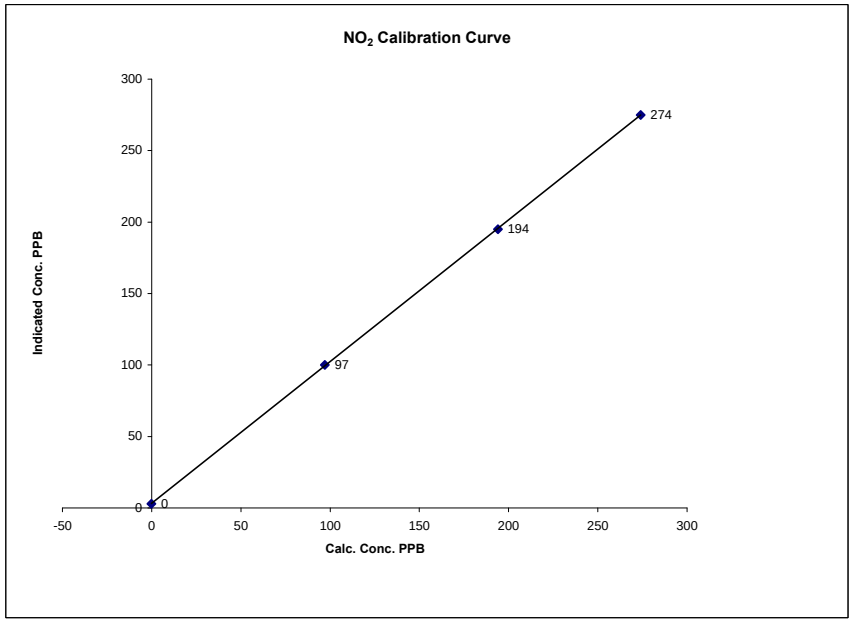
Calibration Performed by:	Shea Beaton

NO_2 Calibration Curve

Calibration Date	August 1, 2008		
Company	**Lakeland Ind & Comm. Assoc.**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	6:35	End Time (MST)	13:50

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	3	N/A
97	100	0.9700
194	195	0.9949
274	275	0.9964

Correlation Coefficient	(≥ 0.995)	0.999983
Slope	(0.85 to 1.15)	0.990902
Intercept	(± 3% F.S.)	3.309851



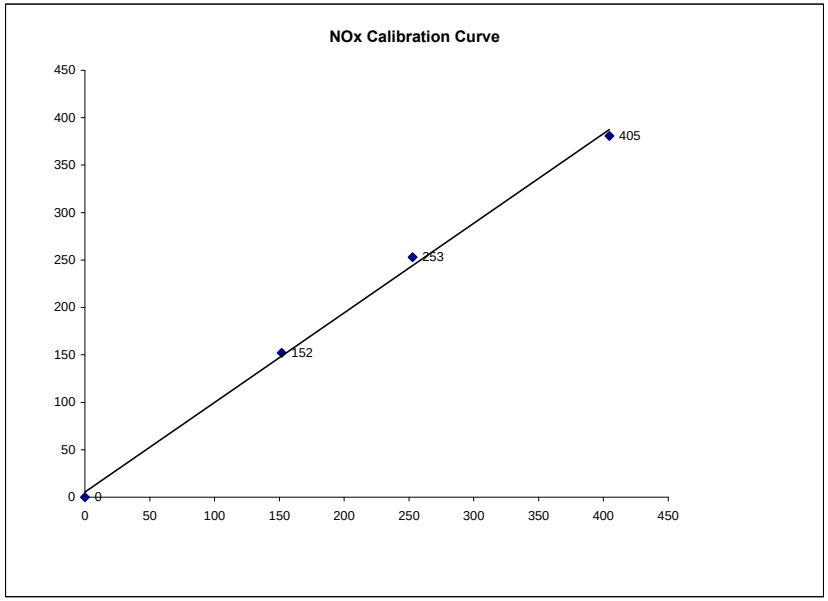
Notes:

NOx Calibration Curve

Calibration Date	August 1, 2008		
Company	**Lakeland Ind & Comm. Assoc.**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	6:35	End Time (MST)	13:50

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	N/A
152	152	0.9989
253	253	0.9989
405	381	1.0618

Correlation Coefficient	(≥ 0.995)	0.997932
Slope	(0.85 to 1.15)	0.945243
Intercept	(± 3% F.S.)	5.296323

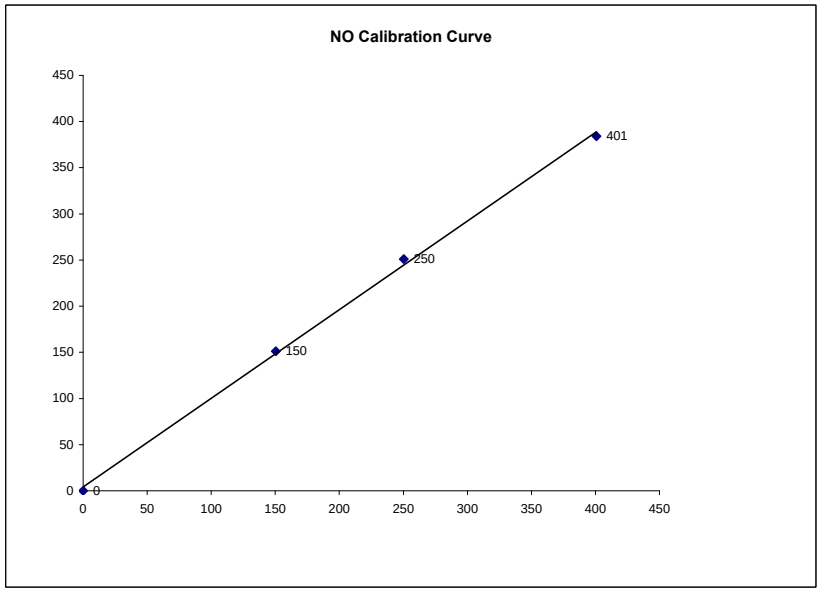


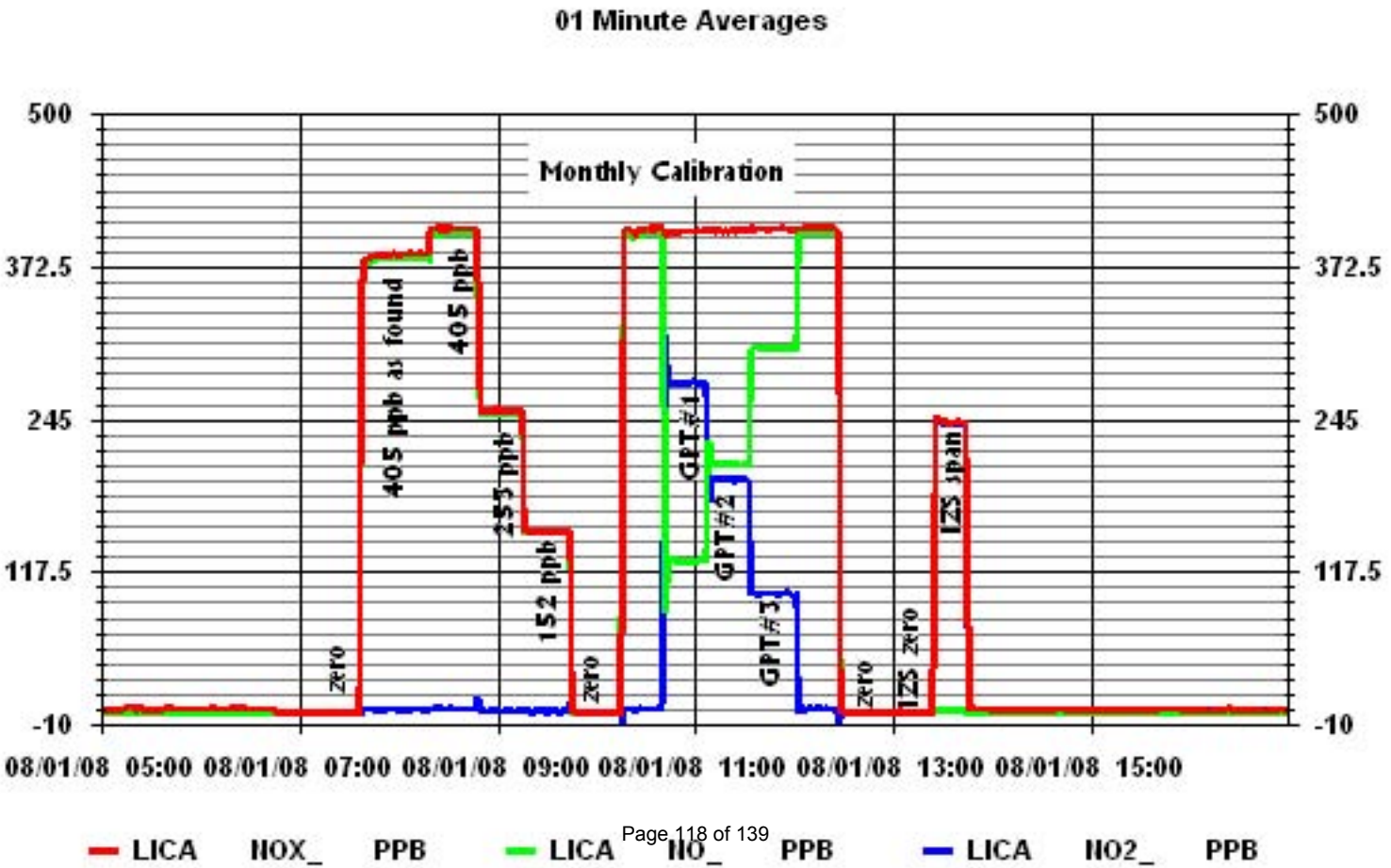
NO Calibration Curve

Calibration Date	August 1, 2008		
Company	**Lakeland Ind & Comm. Assoc.**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	6:35	End Time (MST)	13:50

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	N/A
150	151	0.9959
250	251	0.9972
401	384	1.0434

Correlation Coefficient	(≥ 0.995)	0.998864
Slope	(0.85 to 1.15)	0.960883
Intercept	(± 3% F.S.)	4.001512




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

NOx - NO- NO_2 Calibration Report

Station Information

Calibration Date	August 25, 2008	Previous Calibration	August 1, 2008
Company	**Lakeland Ind & Comm. Assoc.**	Plant/Location	**LICA 1 - Cold Lake South**
Start Time (MST)	7:40	End Time (MST)	14:15
Reason:	Re-Calibration		
Barometric Pressure	701 mmHg	Station Temperature	24.0 Deg C
Cal Gas Concentration	NOx 52 ppm NO 51.5 ppm	Cal Gas Expiry date	March 12, 2010
DAS Output Voltage	0 - 5 Volts		

Equipment Information

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

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range			0 - 500	ppb				
Sample Flow/Conv. Temp	741	ccm	317	Deg C	741	ccm	317	Deg C
Ozone Flow / Vacuum	OK	ccm	164.4	"Hg-A	OK	ccm	165	"Hg-A
HVPS	-820		Volts		-820		Volts	
Rx/ Temp / PMT Temp	49.9	Deg C	-2.5	Deg C	49.4	Deg C	-2.5	Deg C
Box Temp / IZS Temp	29.1	Deg C	OK	Deg C	28.5	Deg C	OK	Deg C
Offset	3.6	NOx	3.4	NO	3.3	NOx	3.1	NO
Slope	1.01	NOx	0.896	NO	1.011	NOx	0.831	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	0	N/A	0	0	0	0	0	N/A	N/A
4961	38.9	N/A	405	401	435	432	3	0.9300	0.9275
4961	38.9	N/A	405	401	405	401	4	0.9989	0.9992
4976	24.3	N/A	253	250	253	250	3	0.9989	1.0012
4985	14.6	N/A	152	150	152	151	2	0.9989	0.9959
5000	0	N/A	0	0	0	0	0	N/A	N/A
								Converter Efficiency	
4961	38.9	N/A	405	401	404	400	4	N/A	
4961	38.9	300	405	N/A	403	129	273	99%	
4961	38.9	200	405	N/A	404	209	195	100%	
4961	38.9	100	405	N/A	405	305	100	101%	
4961	38.9	N/A	405	401	406	402	4	N/A	
			1					Correction Factor	
5000	N/A	N/A	0	0	1	0	0	N/A	N/A
Linearity OK?			**Yes**	No	Sum of Least Squares			0.9989	0.9994
Flows Checked on-site?			Yes	**No**	New Correction Factor			0.9989	0.9992
					Average Converter Efficiency			100%	

	Before Calibration				After Calibration			
Auto Zero	1	NOx	1	NO2	1	NOx	1	NO2
Auto Span	282	NOx	280	NO2	265	NOx	263	NO2
Sample Lines Connected							**YES**	
Percent Change from Previous Calibration					*NOx*	0.0%	*NO*	0.0%

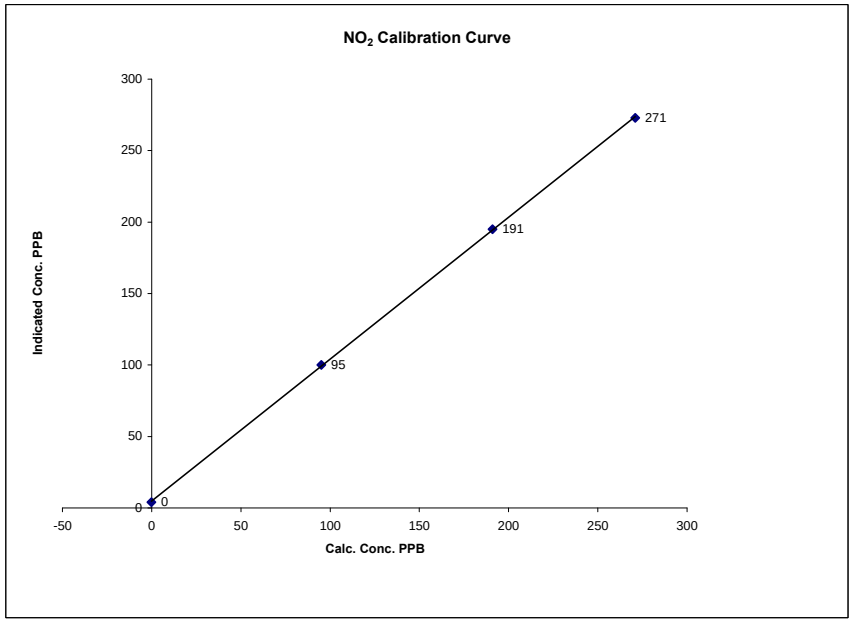
Calibration Performed by:	Shea Beaton

NO_2 Calibration Curve

Calibration Date	August 25, 2008		
Company	**Lakeland Ind & Comm. Assoc.**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:40	End Time (MST)	14:15

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	4	N/A
95	100	0.9500
191	195	0.9795
271	273	0.9927

Correlation Coefficient	(≥ 0.995)	0.999943
Slope	(0.85 to 1.15)	0.992232
Intercept	(± 3% F.S.)	4.856548

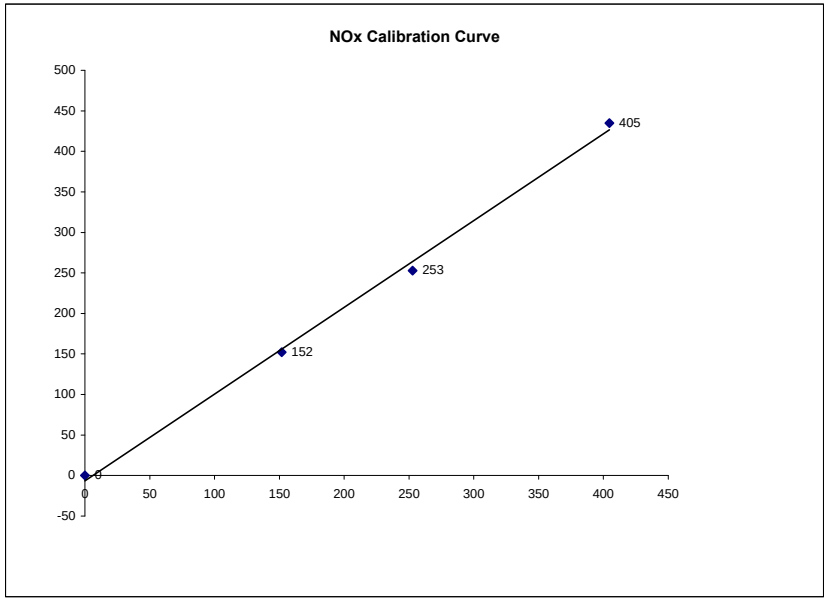


Notes:

NOx Calibration Curve

Calibration Date	August 25, 2008		
Company	**Lakeland Ind & Comm. Assoc.**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:40	End Time (MST)	14:15

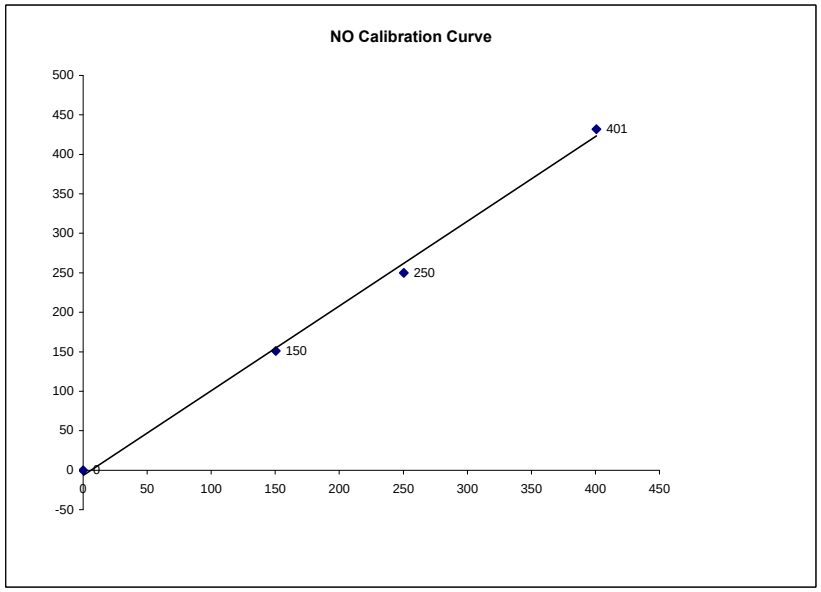
Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.997486
			Slope	(0.85 to 1.15)	1.070907
0	0	N/A	Intercept	(± 3% F.S.)	-6.623120
152	152	0.9989			
253	253	0.9989			
405	435	0.9300			

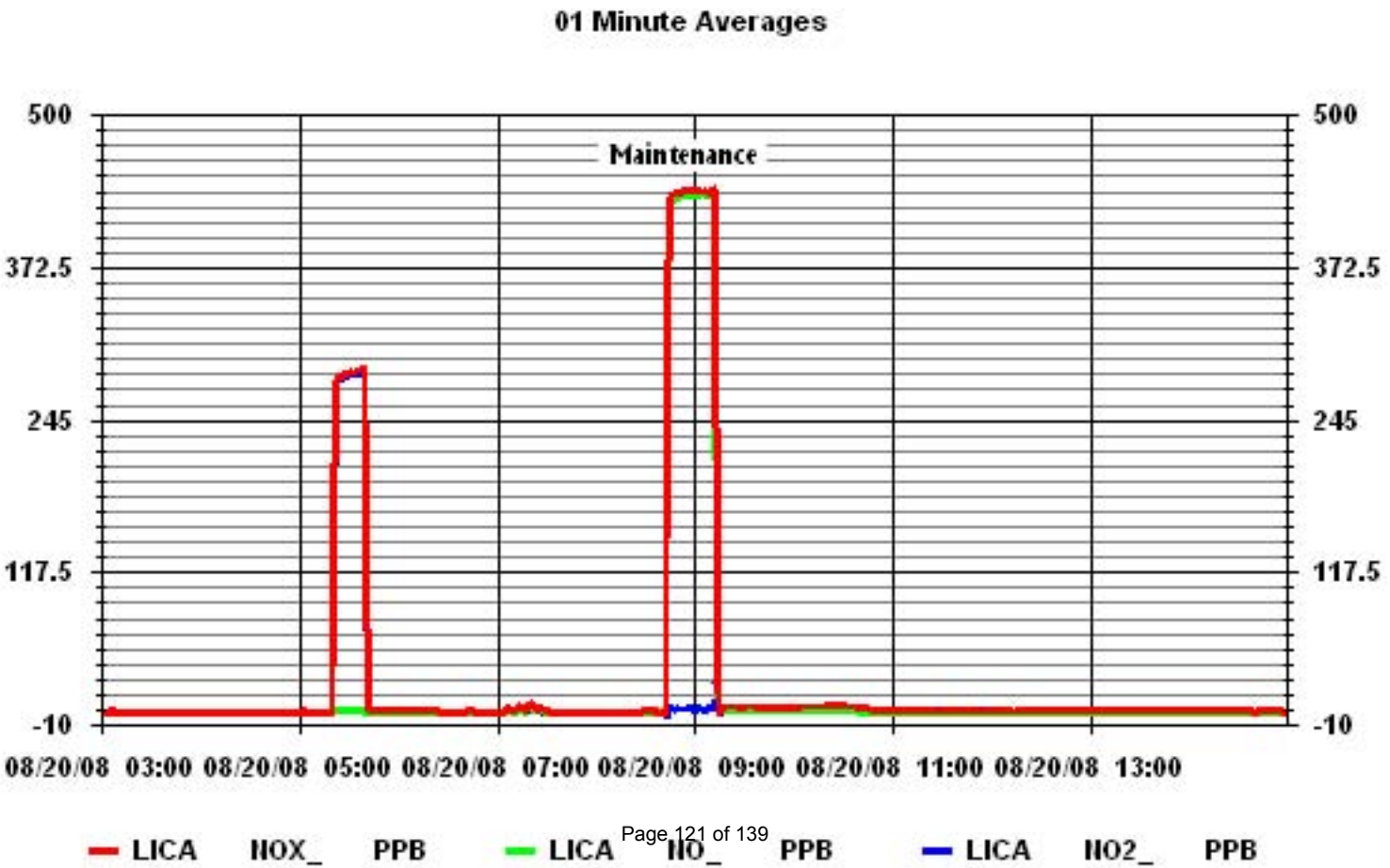


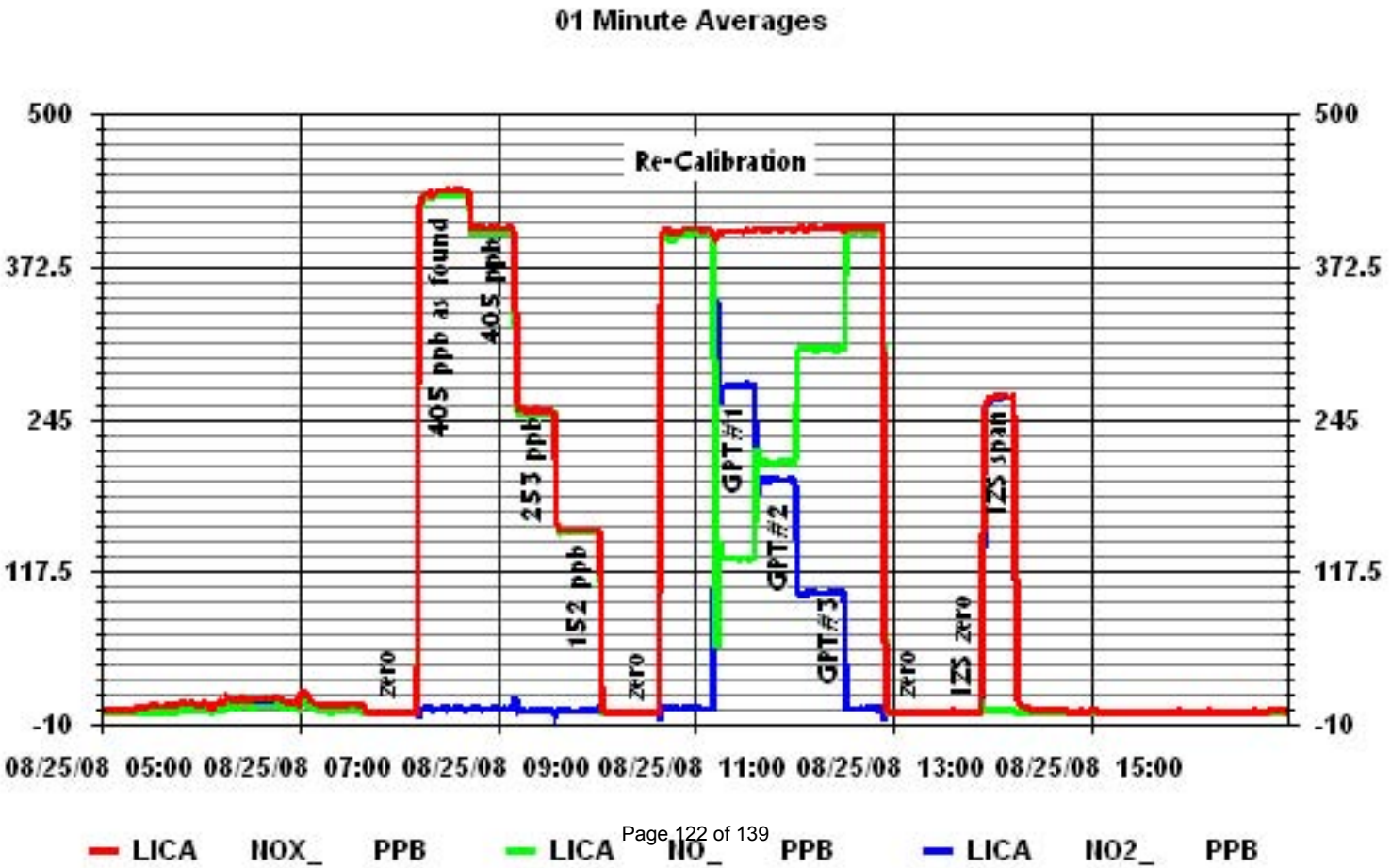
NO Calibration Curve

Calibration Date	August 25, 2008		
Company	**Lakeland Ind & Comm. Assoc.**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:40	End Time (MST)	14:15

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient	(≥ 0.995)	0.997196
			Slope	(0.85 to 1.15)	1.073083
0	0	N/A	Intercept	(± 3% F.S.)	-6.726168
150	151	0.9959			
250	250	1.0012			
401	432	0.9275			




01 Minute Averages
Maintenance
500
372.5
245
117.5
-10
08/20/08 03:00
08/20/08 05:00
08/20/08 07:00
08/20/08 09:00
08/20/08 11:00
08/20/08 13:00
LICA NOX_ PPB
LICA NO_ PPB
LICA NO2_ PPB


01 Minute Averages
Re-Calibration
500
372.5
245
117.5
-10
405 ppb as found
405 ppb
253 ppb
152 ppb
zero
zero
GPT#1
GPT#2
GPT#3
zero
IZS zero
IZS span
08/25/08 05:00
08/25/08 07:00
08/25/08 09:00
08/25/08 11:00
08/25/08 13:00
08/25/08 15:00
LICA NOX_ PPB
LICA NO_ PPB
LICA NO2_ PPB

Ozone

O_3 Calibration Report

Station Information

Calibration Date	August 1, 2008	Previous Calibration	July 4, 2008
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	13:50	End Time (MST)	16:40
Reason:		Monthly Calibration	
Barometric Pressure	706 mm Hg	Station Temperature	23 Deg C
DAS Output Voltage	0 - 10 Volts		

Equipment Information

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

Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0 - 500 ppb			
Bench Temp/ Pressure	28.9	Deg C	29.3	Deg C
O_3 Set Level	29%		29%	
Bench Lamp/O3 Lamp				
Sample Flow A/B	0.736 LPM	0.748 LPM	0.739 LPM	0.751 LPM
Offset / Slope	0.7	1.049	0.7	1.046

Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	0	N/A
5000	400	387	391	0.9898
5000	400	387	387	1.0000
5000	200	196	194	1.0103
5000	100	94	94	1.0000
5000	0	0	0	N/A
			Sum of Least Squares	N/A
			New Correction Factor	1.0000

	Before Calibration	After Calibration
Auto Zero	0	0
Auto Span	285	278
Sample Lines Connected		YES
Percent Change from Previous Calibration		1.3%

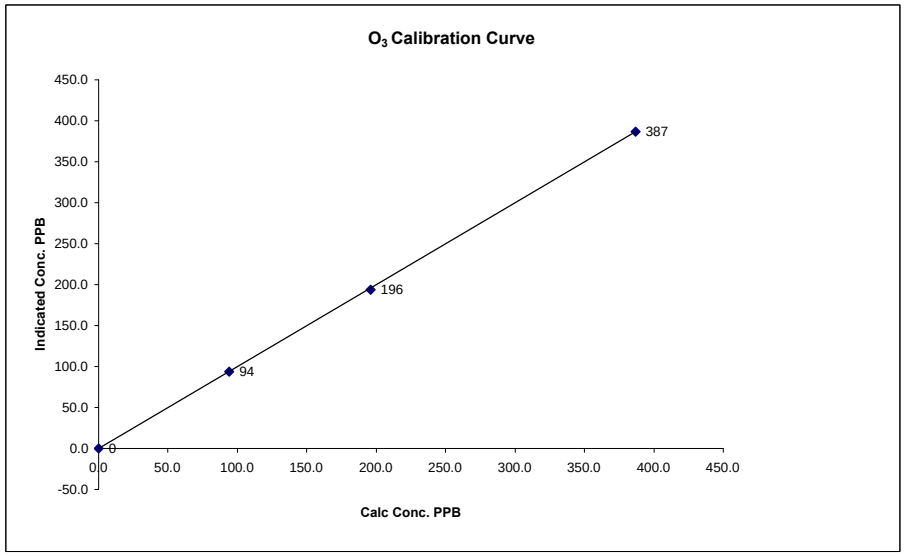
Calibration Performed by: Shea Beaton

O_3 Calibration Curve

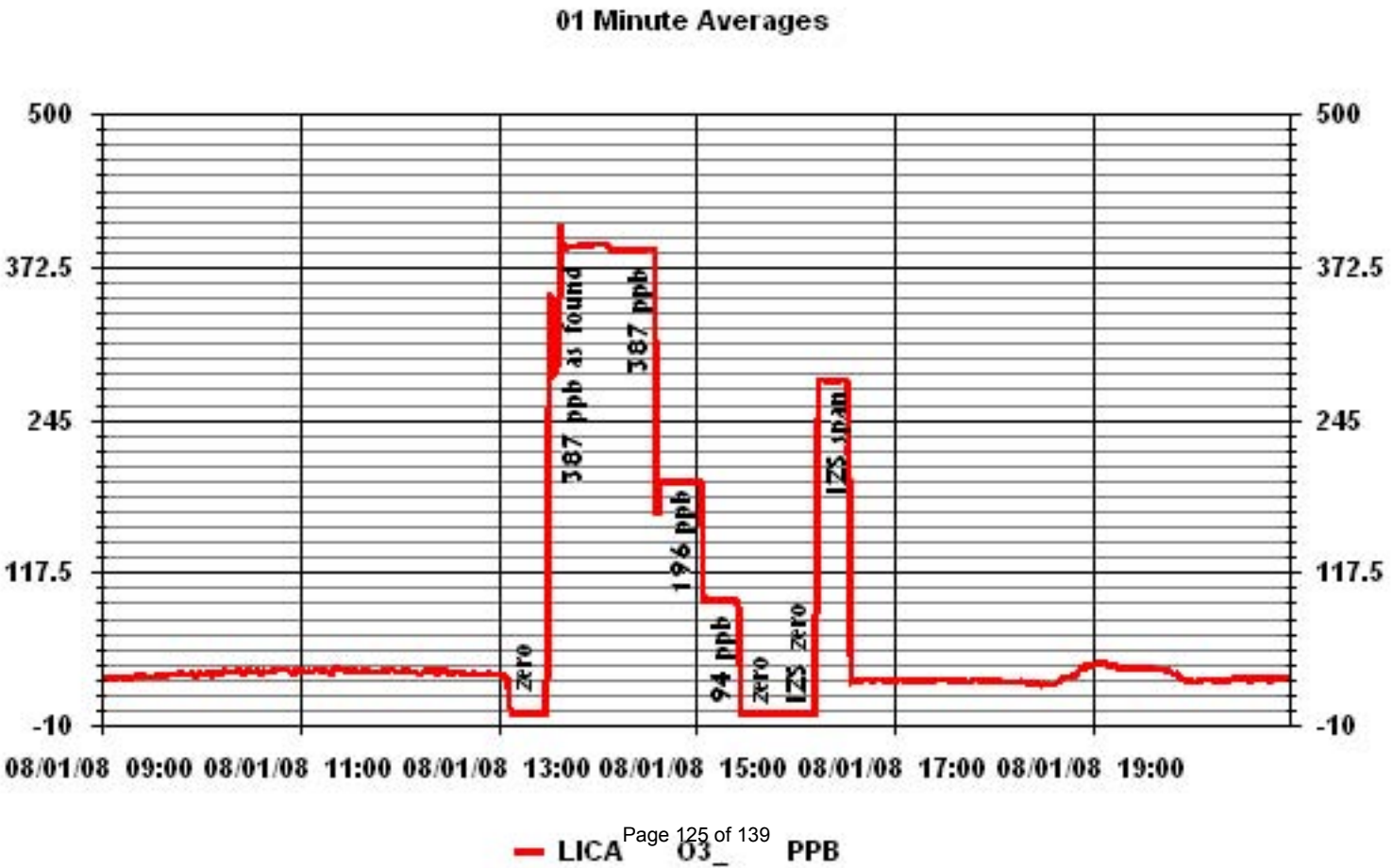
Calibration Date	August 1, 2008		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	13:50	End Time (MST)	16:40

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
94	94	1.0000
196	194	1.0103
387	387	1.0000

Correlation Coefficient	(≥ 0.995)	0.999964
Slope	(0.85 to 1.15)	0.999351
Intercept	(± 3% F.S.)	-0.390162



Notes: pressure =698.3 mmHg , Bench Lamp = 53.6, O3 Lamp = 67.7


01 Minute Averages
500
372.5
245
117.5
-10
zero
387 ppb as found
387 ppb
196 ppb
94 ppb
zero
LZS zero
LZS span
08/01/08 09:00 08/01/08 11:00 08/01/08 13:00 08/01/08 15:00 08/01/08 17:00 08/01/08 19:00
LICA O3_ PPB

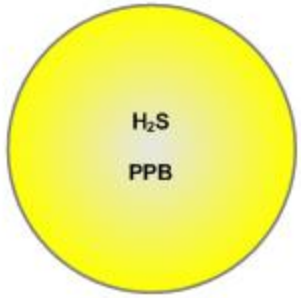
Passive Bubble Maps

Lakeland Industry & Community Association
H_2S Passive Bubble Map

AUGUST 2008

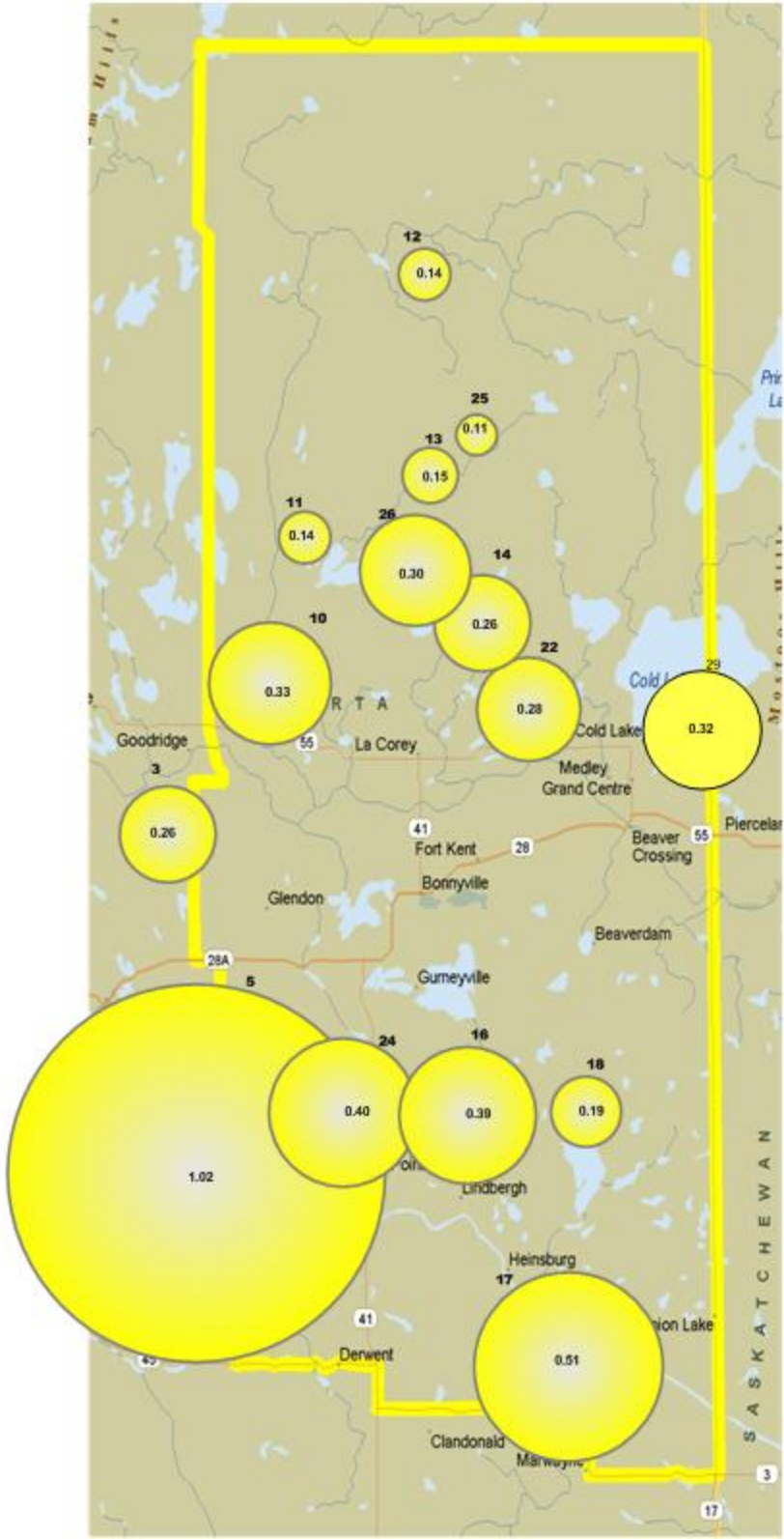
PASSIVE STATIONS

3 – Therien	0.26 PPB
5 – Lake Eliza	1.02 PPB
10 – La Corey	0.33 PPB
11 – Wolf Lake	0.14 PPB
12 – Foster Creek	0.14 PPB
13 – Primrose	0.15 PPB
14 – Maskwa	0.26 PPB
16 – Frog Lake	0.39 PPB
16A – Frog Lake	0.41 PPB
17 – Clear Range	0.51 PPB
18 – Fishing Lake	0.19 PPB
18A – Fishing Lake	0.20 PPB
22 – Cold Lake South	0.28 PPB
24 – Fort George	0.40 PPB
25 – Burnt Lake	0.11 PPB
26 – Mahihkan	0.30 PPB
27 – Hilda Lake	0.33 PPB
29 – Cold Lake South 2	0.32 PPB



Summary

Minimum : 0.11PPB – Burnt Lake
Maximum: 1.02 PPB –Lake Eliza
Average: 0.32 PPB *Includes Duplicates



Lakeland Industry & Community Association
NO_2 Passive Bubble Map

AUGUST 2008

PASSIVE STATIONS

2 – Sand River	0.9 PPB
3 – Therien	1.0 PPB
4 – Flat Lake	0.9 PPB
5 – Lake Eliza	0.6 PPB
6 – Telegraph Creek	1.2 PPB
8 – Muriel-Kehewin	0.7 PPB
9 – Dupre	1.6 PPB
10 – La Corey	1.1 PPB
11 – Wolf Lake	0.3 PPB
12 – Foster Creek	1.7 PPB
13 – Primrose	0.5 PPB
14 – Maskwa	1.4 PPB
15 – Ardmore	0.8 PPB
16 – Frog Lake	1.2 PPB
16A – Frog Lake	1.7 PPB
17 – Clear Range	1.4 PPB
18 – Fishing Lake	0.8 PPB
18A – Fishing Lake	0.8 PPB
19 – Beaverdam	1.0 PPB
22 – Cold Lake South	0.9 PPB
23 – Medley-Martineau	0.2 PPB
24 – Fort George	1.7 PPB
28 – Town of Bonnyville	3.1 PPB
29 – Cold Lake South 2	1.2 PPB

Summary

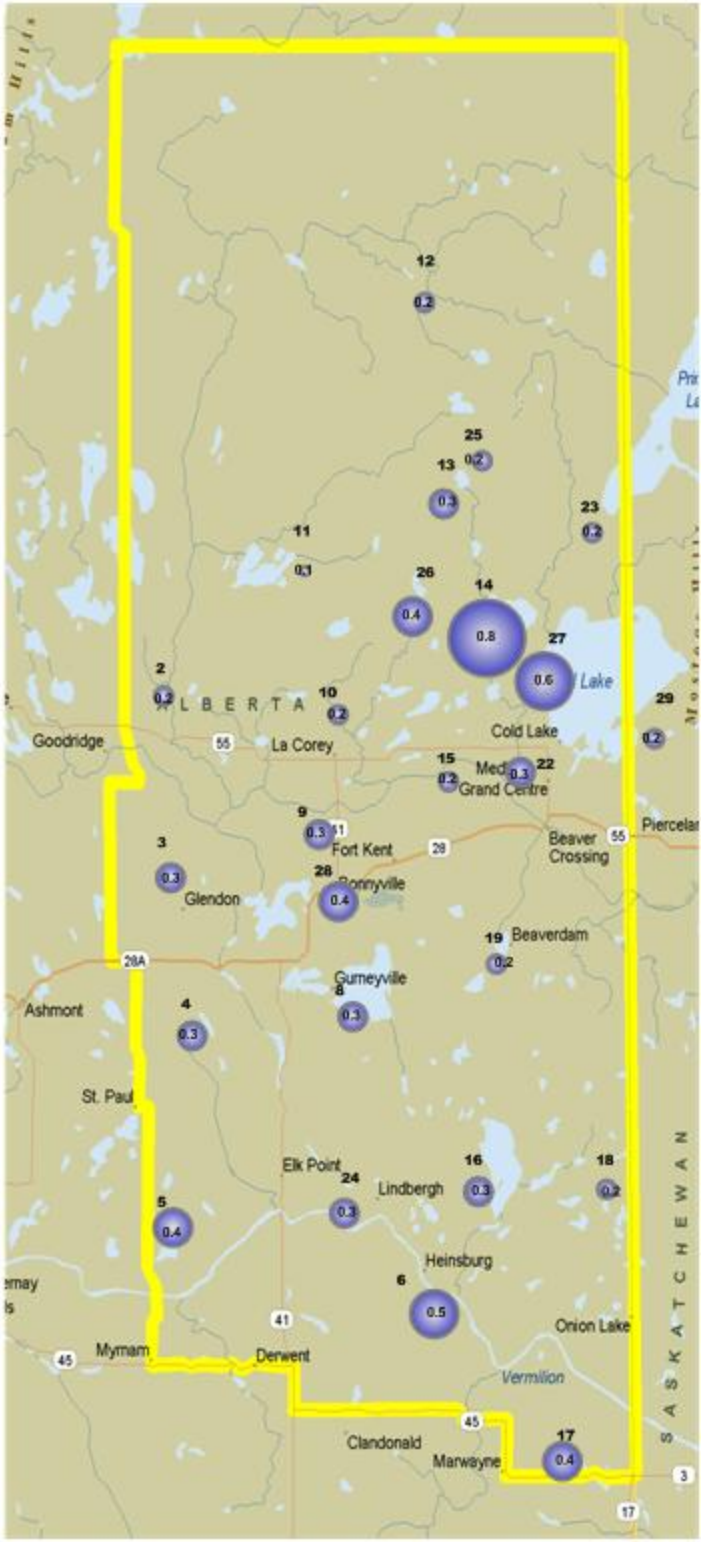
Minimum : 0.2 PPB – Medley-Martineau
Maximum: 3.1 PPB – Town of Bonnyville
Average: 1.1 PPB *Includes Duplicates

Lakeland Industry & Community Association
SO_2 Passive Bubble Map

AUGUST 2008

PASSIVE STATIONS

2 – Sand River	0.2 PPB
3 – Therien	0.3 PPB
4 – Flat Lake	0.3 PPB
5 – Lake Eliza	0.4 PPB
6 – Telegraph Creek	0.5 PPB
8 – Muriel-Kehewin	0.3 PPB
9 – Dupre	0.3 PPB
10 – La Corey	0.2 PPB
11 – Wolf Lake	0.1 PPB
12 – Foster Creek	0.2 PPB
13 – Primrose	0.3 PPB
14 – Maskwa	0.8 PPB
15 – Ardmore	0.2 PPB
16 – Frog Lake	0.3 PPB
16A – Frog Lake	0.3 PPB
17 – Clear Range	0.4 PPB
18 – Fishing Lake	0.2 PPB
18A – Fishing Lake	0.2 PPB
19 – Beaverdam	0.2 PPB
22 – Cold Lake South	0.3 PPB
23 – Medley-Martineau	0.2 PPB
24 – Fort George	0.3 PPB
25 – Burnt Lake	0.2 PPB
26 – Mahihkan	0.4 PPB
27 – Hilda Lake	0.6 PPB
28 – Town of Bonnyville	0.4 PPB
29 – Cold Lake South 2	0.2 PPB



Summary

Minimum : 0.1 PPB – Wolf Lake
Maximum: 0.8 PPB – Maskwa
Average: 0.3 PPB *Includes Duplicates

Lakeland Industry & Community Association
O_3 Passive Bubble Map

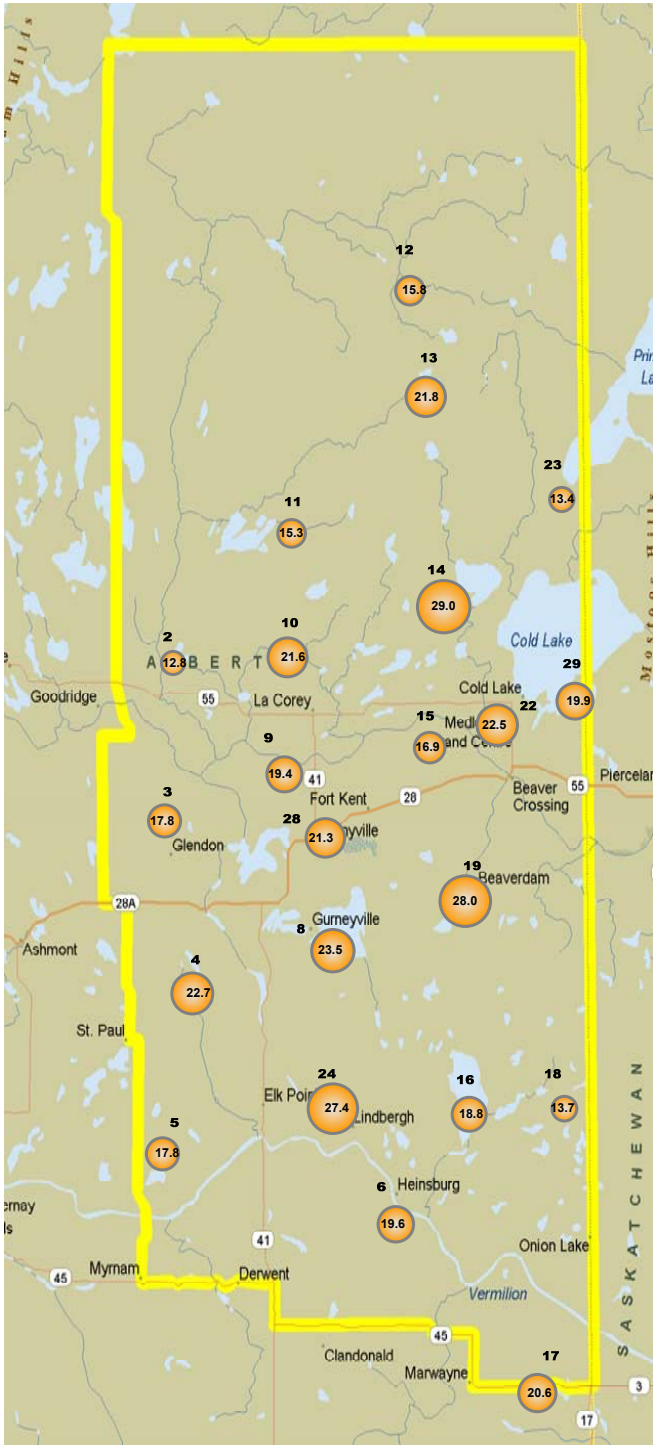
AUGUST 2008

PASSIVE STATIONS

2 – Sand River	12.8 PPB
3 – Therien	17.8 PPB
4 – Flat Lake	22.7 PPB
5 – Lake Eliza	17.8 PPB
6 – Telegraph Creek	19.6 PPB
8 – Muriel-Kehewin	23.5 PPB
9 – Dupre	19.4 PPB
10 – La Corey	21.6 PPB
11 – Wolf Lake	15.3 PPB
12 – Foster Creek	15.8 PPB
13 – Primrose	21.8 PPB
14 – Maskwa	29.0 PPB
15 – Ardmore	16.9 PPB
16 – Frog Lake	18.8 PPB
16A – Frog Lake	25.3 PPB
17 – Clear Range	20.6 PPB
18 – Fishing Lake	13.7 PPB
18A – Fishing Lake	13.9 PPB
19 – Beaverdam	28.0 PPB
22 – Cold Lake South	22.5 PPB
23 – Medley-Martineau	13.4 PPB
24 – Fort George	27.4 PPB
28 – Town of Bonnyville	21.3 PPB
29 – Cold Lake South 2	19.9 PPB

Summary

Minimum : 12.8 PPB – Sand River
Maximum: 29.0 PPB –Maskwa
Average: 19.95 PPB *Includes Duplicates



Passive Network Laboratory Analysis

Your Project #: 2008/07/30 - 2008/08/28
Site:LICA

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

Report Date: 2008/09/19

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A845329
Received: 2008/09/03, 12:03

Sample Matrix: Air
Samples Received: 27

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
H2S Passive Analysis (1)	18	2008/09/19	2008/09/19		EDM SOP-0320
NO2 Passive Analysis (1)	24	2008/09/08	2008/09/19		EDM SOP-0318
O3 Passive Analysis (1)	24	2008/09/18	2008/09/19		EDM SOP-0317
SO2 Passive Analysis (1)	27	2008/09/05	2008/09/19		EDM SOP-0319

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) The detection limit is based on a 30 day sampling period.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

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 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: 1

Maxxam Analytics Inc

Maxxam Job #: A845329
Report Date: 2008/09/19

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2008/07/30 - 2008/08/28
Site Reference: LICA
Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		L40258	L40259	L40260	L40261		
Sampling Date		2008/07/30 10:30	2008/07/30 09:55	2008/07/31 14:20	2008/07/31 13:45		
	Units	**1**	**2**	**3**	**4**	**RDL**	**QC Batch**
Passive Monitoring							
Calculated H2S	ppb		0.26		1.02	0.02	2589381
Calculated NO2	ppb	0.9	1.0	0.9	0.6	0.1	2557500
Calculated O3	ppb	12.8	17.8	22.7	17.8	0.1	2588232
Calculated SO2	ppb	0.2	0.3	0.3	0.4	0.1	2554186

RDL = Reportable Detection Limit

Maxxam ID		L40262	L40263	L40264	L40265		
Sampling Date		2008/07/31 12:15	2008/07/31 15:05	2008/07/30 09:25	2008/07/30 11:20		
	Units	**5**	**7**	**8**	**9**	**RDL**	**QC Batch**
Passive Monitoring							
Calculated H2S	ppb				0.33	0.02	2589381
Calculated NO2	ppb	1.2	0.7	1.6	1.1	0.1	2557500
Calculated O3	ppb	19.6	23.5	19.4	21.6	0.1	2588232
Calculated SO2	ppb	0.5	0.3	0.3	0.2	0.1	2554186

RDL = Reportable Detection Limit

Maxxam ID		L40266	L40267	L40269	L40270		
Sampling Date		2008/07/30 11:45	2008/07/30 12:50	2008/07/30 14:20	2008/07/30 15:15		
	Units	**10**	**11**	**12**	**13**	**RDL**	**QC Batch**
Passive Monitoring							
Calculated H2S	ppb	0.14	0.14	0.15	0.26	0.02	2589381
Calculated NO2	ppb	0.3	1.7	0.5	1.4	0.1	2557500
Calculated O3	ppb	15.3	15.8	21.8	29.0	0.1	2588232
Calculated SO2	ppb	0.1	0.2	0.3	0.8	0.1	2554186

RDL = Reportable Detection Limit

Maxxam Job #: A845329
Report Date: 2008/09/19

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2008/07/30 - 2008/08/28
Site Reference: LICA
Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		L40271	L40272	L40273	L40274		
Sampling Date		2008/07/30 08:35	2008/07/31 10:50	2008/07/31 11:35	2008/07/31 09:55		
	Units	**14**	**15**	**16**	**17**	**RDL**	**QC Batch**
Passive Monitoring							
Calculated H2S	ppb		0.39	0.51	0.19	0.02	2589381
Calculated NO2	ppb	0.8	1.2	1.4	0.8	0.1	2557500
Calculated O3	ppb	16.9	18.8	20.6	13.7	0.1	2588232
Calculated SO2	ppb	0.2	0.3	0.4	0.2	0.1	2554186

RDL = Reportable Detection Limit

Maxxam ID		L40275	L40276	L40277	L40278		
Sampling Date		2008/07/31 09:05	2008/07/30 07:50	2008/07/30 16:40	2008/07/31 12:50		
	Units	**18**	**19**	**20**	**21**	**RDL**	**QC Batch**
Passive Monitoring							
Calculated H2S	ppb		0.28		0.40	0.02	2589381
Calculated NO2	ppb	1.0	0.9	0.2	1.7	0.1	2557500
Calculated O3	ppb	28.0	22.5	13.4	27.4	0.1	2588232
Calculated SO2	ppb	0.2	0.3	0.2	0.3	0.1	2554186

RDL = Reportable Detection Limit

Maxxam ID		L40281	L40282	L40283	L40284		
Sampling Date		2008/07/30 13:55	2008/07/30 15:00	2008/07/30 15:35	2008/07/30 09:00		
	Units	**22**	**23**	**24**	**25**	**RDL**	**QC Batch**
Passive Monitoring							
Calculated H2S	ppb	0.11	0.30	0.33		0.02	2589381
Calculated NO2	ppb				3.1	0.1	2557500
Calculated O3	ppb				21.3	0.1	2588232
Calculated SO2	ppb	0.2	0.4	0.6	0.4	0.1	2554186

RDL = Reportable Detection Limit

Maxxam Job #: A845329
Report Date: 2008/09/19

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2008/07/30 - 2008/08/28
Site Reference: LICA
Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		L40285	L40286	L40287		
Sampling Date		2008/07/30 07:45	2008/07/31 10:50	2008/07/31 10:05		
	Units	**26**	**15A**	**17A**	**RDL**	**QC Batch**
Passive Monitoring						
Calculated H2S	ppb	0.32	0.41	0.20	0.02	2589381
Calculated NO2	ppb	1.2	1.7	0.8	0.1	2557500
Calculated O3	ppb	19.9	25.3	13.9	0.1	2588232
Calculated SO2	ppb	0.2	0.3	0.2	0.1	2554186

RDL = Reportable Detection Limit

General Comments

Results relate only to the items tested.

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Attention: MICHAEL BISAGA
Client Project #: 2008/07/30 - 2008/08/28
P.O. #:
Site Reference: LICA

Quality Assurance Report

Maxxam Job Number: PA845329

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2554186 DF4	Calibration Check	Calculated SO2	2008/09/08		104	%	95 - 105
	SPIKE	Calculated SO2	2008/09/08		105	%	N/A
	BLANK	Calculated SO2	2008/09/08	<0.1		ppb	
2557500 DF4	Calibration Check	Calculated NO2	2008/09/08		102	%	76 - 118
	SPIKE	Calculated NO2	2008/09/08		101	%	N/A
	BLANK	Calculated NO2	2008/09/08	<0.1		ppb	
2588232 LM1	Calibration Check	Calculated O3	2008/09/18		98	%	91 - 107
	SPIKE	Calculated O3	2008/09/18		98	%	N/A
	BLANK	Calculated O3	2008/09/18	<0.1		ppb	
2589381 TM5	Calibration Check	Calculated H2S	2008/09/19		102	%	80 - 120
	SPIKE	Calculated H2S	2008/09/19		100	%	N/A

N/A = Not Applicable

Passive Field Data

Field Notes

SAMPLER	SITE	ID	START		END		NOTES
			DATE	TIME	DATE	TIME	
$SO_2/NO_2/O_3$		2	07/30/08	10:30	08/28/08	09:10	
$H_2S/SO_2/NO_2/O_3$		3	07/30/08	09:55	08/28/08	08:40	
$SO_2/NO_2/O_3$		4	07/31/08	14:20	08/29/08	13:20	
$H_2S/SO_2/NO_2/O_3$		5	07/31/08	13:45	08/29/08	12:45	
$SO_2/NO_2/O_3$		6	07/31/08	12:15	08/29/08	11:20	
$SO_2/NO_2/O_3$		8	07/31/08	15:05	08/29/08	14:05	
$SO_2/NO_2/O_3$		9	07/30/08	09:25	08/28/08	08:00	
$H_2S/SO_2/NO_2/O_3$		10	07/30/08	11:20	08/28/08	10:10	
$H_2S/SO_2/NO_2/O_3$		11	07/30/08	11:45	08/28/08	10:50	
$H_2S/SO_2/NO_2/O_3$		12	07/30/08	12:50	08/28/08	12:05	
$H_2S/SO_2/NO_2/O_3$		13	07/30/08	14:50	08/28/08	13:30	
$H_2S/SO_2/NO_2/O_3$		14	07/30/08	15:15	08/28/08	15:15	
$SO_2/NO_2/O_3$		15	07/30/08	08:35	08/28/08	07:10	
$H_2S/SO_2/NO_2/O_3$		16	07/31/08	10:50	08/29/08	09:45	
$H_2S/SO_2/NO_2/O_3$		17	07/31/08	11:35	08/29/08	10:30	
$H_2S/SO_2/NO_2/O_3$		18	07/31/08	09:55	08/29/08	09:05	
$SO_2/NO_2/O_3$		19	07/31/08	09:05	08/29/08	08:15	
$H_2S/SO_2/NO_2/O_3$		22	07/30/08	07:50	08/28/08	18:05	
$SO_2/NO_2/O_3$		23	07/30/08	16:40	08/28/08	17:10	
$H_2S/SO_2/NO_2/O_3$		24	07/31/08	12:50	08/29/08	12:05	
H_2S/SO_2		25	07/30/08	13:55	08/28/08	13:10	
H_2S/SO_2		26	07/30/08	15:00	08/28/08	15:05	
H_2S/SO_2		27	07/30/08	15:35	08/28/08	16:20	
$SO_2/NO_2/O_3$		28	07/30/08	09:00	08/28/08	07:45	
$H_2S/SO_2/NO_2/O_3$		29	07/30/08	07:45	08/28/08	18:50	
$H_2S/SO_2/NO_2/O_3$		16A	07/30/08	07:50	08/29/08	09:45	
$H_2S/SO_2/NO_2/O_3$		18A	0730//08	07:45	08/29/08	09:05	