Lakeland Industry & Community Association

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

Prepared By:

Maxxam Analytics Inc

Driven by Service and Science

August 22, 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: July 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 – July 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	0.00	1	12	8	7.6	266(W)	0.0	ALL	99.6
TRS (PPB)	-	-	-	-	0.02	3	26	2	0.1	91(E)	0.2	25	99.2
NO_2 (PPB)	212	106	0	0	1.44	10	14	11	7	294(WNW)	2.7	24	99.6
NO (PPB)	-	-	-	-	0.30	22	5	6	6	268(W)	2.4	14	99.6
NOx (PPB)	-	-	-	-	1.93	26	14	11	7	294(WNW)	5.3	14	99.6
O_3 (PPB)	82	-	0	-	24.43	59	4	15	6.7	199(SSW)	33.3	21	100.0
THC (PPM)	-	-	-	-	1.82	2.8	25	VAR	VAR	VAR	2.1	25	100.0
PM 2.5 (UG/M^3)	-	30	-	0	4.27	24.1	26	6	0.9	55(NE)	9.3	3	83.1
TEMPERATURE (DEG C)	-	-	-	-	16.82	29.2	21	17	-	-	22.7	21	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	71.43	98.8	28	VAR	-	-	91.0	27	100.0
VECTOR WS (KPH)	-	-	-	-	5.72	19.1	31	13	-	245(WSW)	12.7	31	100.0
VECTOR WD (DEGREES)	-	-	-	-	251(WSW)	-	-	-	-	-	-	-	100.0

VAR-VARIOUS

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

Passive Ambient Monitoring Network – July 2008

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PASSIVE NETWORK			
NETWORK MAXIMUM			NETWORK AVERAGE
PARAMETER	STATION	READING (PPB)	READING (PPB)
NO_2	#28	3.4	1.2
SO_2	#14	1.2	0.5
H_2S	#5	0.48	0.24
O_3	#28	36.0	23.96

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. The daily span started dropping on July 18th. On July 21st, the technician went to the station to check the SO2 analyzer and noticed that the permeation tube is no longer producing sufficient span. Thus, the technician replaced the permeation tube and allowed perm tube to stabilize. 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 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 Maxxam-owned Thomas wobble pump was removed and an AENV-owned 2 cylinder Thomas diaphragm pump was installed on July 2nd, 2008. On July 3rd, the full calibration was performed, and no issue was noticed. 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 and KO confirmation were performed on July 4th, 2008 showing all parameters were within tolerances. The Teom was put in maintenance mode following the audit to allow it to stabilize until July 5th, 9:00. A new teom filter was installed following the audit. On July 21st, the teom screen was noticed frozen and was not able to navigate within the main screen likely due to power outage on the 19th. The maintenance mode was again entered until the screen returned to normal and the analyzer stabilized. As a result, 30 hours of data was invalided due to these two maintenances. There were 39 hours data invalid, which is likely due to a problem with the mass transducer on the 5th and 6th. Fifty-five hours of data were invalidated as it was below –3.0 ug/m^3 in this month.

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

- System make / model - MET ONE 50.5

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

General Monthly Summary - Cold Lake

AQM STATION – LICA – COLD LAKE

Relative Humidity (PERCENT)

- System make / model - Rotronic Hygroclip-S3

No operational issues observed during the month.

Ambient Temperature (DEGC)

- System make / model - Rotronic Hygroclip-S3

No operational issues observed during the month.

Trailer Temperature (DEGC)

- System make / model - R&R 61

No operational issues observed during the month.

Datalogger

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

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

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. There were 3 hours of fair AQI values recorded in July 2008. All the fair AQI values were due to ozone. The highest hourly concentration of Ozone was 56 ppb and an AQI value of 30 on July 25th, hour 14.

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*

JULY 2008

AIR QUALITY INDEX (AQI)

MST

HOUR START HOUR END DAY	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.
1	13 O3_	- **NA**	8 O3_	6 O3_	5 O3_	6 O3_	11 O3_	14 O3_	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	18 O3_	17 O3_	16 O3_	15 O3_	13 O3_	7 O3_	4 O3_	3 O3_	18 O3_
2	- **NA**	2 O3_	1 O3_	1 PM2	4 PM2	9 PM2	- **NA**	- **N A**	- **NA**	- **NA**	13 O3_	15 O3_	16 O3_	16 O3_	- **NA**	- **NA**	19 O3_	19 O3_	18 O3_	16 O3_	13 O3_	9 O3_	9 O3_	- **NA**	19 O3_
3	5 O3_	5 PM2	4 PM2	3 PM2	9 PM2	14 PM2	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	24 O3_	24 O3_	24 O3_	23 O3_	20 O3_	16 O3_	14 O3_	- **NA**	11 O3_	24 O3_
4	8 PM2	6 O3_	4 O3_	3 O3_	5 PM2	6 PM2	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	18 O3_	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	18 O3_
5	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	0 O3_
6	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	8 O3_	8 O3_
7	8 O3_	6 O3_	6 O3_	- **NA**	5 O3_	4 O3_	3 O3_	- **NA**	- **NA**	10 O3_	10 O3_	10 O3_	12 O3_	11 O3_	- **NA**	11 O3_	10 O3_	- **NA**	- **NA**	7 O3_	- **NA**	- **NA**	8 O3_	8 O3_	12 O3_
8	7 O3_	4 O3_	- **NA**	4 O3_	5 O3_	6 O3_	5 O3_	7 O3_	9 O3_	10 O3_	12 O3_	13 O3_	- **NA**	16 O3_	17 O3_	18 O3_	19 O3_	- **NA**	19 O3_	17 O3_	14 O3_	9 O3_	9 O3_	6 O3_	19 O3_
9	3 O3_	- **NA**	6 O3_	6 O3_	3 O3_	9 PM2	10 O3_	12 O3_	16 O3_	18 O3_	19 O3_	20 O3_	19 O3_	20 O3_	20 O3_	21 O3_	- **NA**	20 O3_	19 O3_	19 O3_	17 O3_	8 O3_	8 O3_	4 O3_	21 O3_
10	- **NA**	5 O3_	4 O3_	3 PM2	8 O3_	- **NA**	13 O3_	8 O3_	10 O3_	- **NA**	13 O3_	- **NA**	- **NA**	17 O3_	18 O3_	- **NA**	17 O3_	16 O3_	15 O3_	9 O3_	9 O3_	4 O3_	6 O3_	- **NA**	18 O3_
11	10 O3_	11 O3_	12 O3_	13 O3_	12 O3_	12 O3_	11 O3_	11 O3_	12 O3_	13 O3_	13 O3_	12 O3_	14 O3_	14 O3_	- **NA**	14 O3_	14 O3_	15 O3_	14 O3_	- **NA**	15 O3_	12 O3_	- **NA**	10 O3_	15 O3_
12	9 O3_	9 O3_	7 O3_	8 O3_	6 O3_	5 O3_	6 O3_	8 O3_	12 O3_	- **NA**	- **NA**	17 O3_	17 O3_	- **NA**	17 O3_	17 O3_	18 O3_	18 O3_	17 O3_	13 O3_	10 O3_	- **NA**	10 O3_	9 O3_	18 O3_
13	9 O3_	9 O3_	8 O3_	8 O3_	8 O3_	9 O3_	8 O3_	10 O3_	11 O3_	12 O3_	13 O3_	- **NA**	- **NA**	15 O3_	16 O3_	17 O3_	- **NA**	17 O3_	17 O3_	16 O3_	- **NA**	11 O3_	8 O3_	- **NA**	17 O3_
14	- **NA**	2 O3_	1 O3_	2 PM2	4 PM2	10 PM2	7 O3_	8 O3_	8 O3_	9 O3_	11 O3_	- **NA**	16 O3_	16 O3_	15 O3_	13 O3_	11 O3_	13 O3_	12 O3_	- **NA**	9 O3_	8 O3_	6 O3_	2 O3_	16 O3_
15	- **NA**	1 O3_	2 O3_	4 PM2	1 O3_	9 PM2	7 PM2	6 O3_	9 O3_	14 O3_	- **NA**	- **NA**	17 O3_	16 O3_	17 O3_	- **NA**	15 O3_	15 O3_	- **NA**	- **NA**	19 O3_	18 O3_	16 O3_	13 O3_	19 O3_
16	6 O3_	- **NA**	1 O3_	2 O3_	2 PM2	14 PM2	7 O3_	11 O3_	13 O3_	- **NA**	20 O3_	21 O3_	22 O3_	21 O3_	19 O3_	18 O3_	18 O3_	- **NA**	17 O3_	15 O3_	11 O3_	8 O3_	6 O3_	5 O3_	22 O3_
17	3 O3_	1 O3_	1 O3_	- **NA**	4 PM2	7 PM2	10 PM2	4 O3_	- **NA**	15 O3_	19 O3_	21 O3_	20 O3_	18 O3_	19 O3_	19 O3_	- **NA**	20 O3_	20 O3_	14 O3_	11 O3_	10 O3_	10 O3_	10 O3_	21 O3_
18	10 O3_	10 O3_	8 O3_	- **NA**	3 O3_	6 PM2	8 O3_	- **NA**	12 O3_	12 O3_	14 O3_	18 O3_	20 O3_	22 O3_	23 O3_	- **NA**	19 O3_	16 O3_	18 O3_	19 O3_	19 O3_	15 O3_	13 O3_	11 O3_	23 O3_
19	15 O3_	13 O3_	13 O3_	12 O3_	12 O3_	9 O3_	- **NA**	14 O3_	15 O3_	18 O3_	19 O3_	20 O3_	22 O3_	23 O3_	- **NA**	20 O3_	21 O3_	- **NA**	- **NA**	17 O3_	- **NA**	- **NA**	- **NA**	4 O3_	23 O3_
20	2 O3_	- **NA**	1 O3_	1 O3_	2 O3_	- **NA**	10 PM2	10 O3_	13 O3_	17 O3_	18 O3_	19 O3_	20 O3_	- **NA**	- **NA**	22 O3_	24 O3_	24 O3_	23 O3_	21 O3_	17 O3_	16 O3_	16 O3_	16 O3_	24 O3_
21	15 O3_	14 O3_	14 O3_	15 O3_	- **NA**	13 O3_	13 O3_	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	15 O3_
22	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	14 O3_	16 O3_	16 O3_	- **NA**	- **NA**	- **NA**	17 O3_	17 O3_	14 O3_	14 O3_	15 O3_	14 O3_	14 O3_	12 O3_	12 O3_	11 O3_	11 O3_	17 O3_
23	11 O3_	10 O3_	- **NA**	9 O3_	9 O3_	8 O3_	7 O3_	8 O3_	11 O3_	11 O3_	- **NA**	12 O3_	13 O3_	13 O3_	- **NA**	- **NA**	17 O3_	16 O3_	15 O3_	13 O3_	12 O3_	6 O3_	4 O3_	4 O3_	17 O3_
24	3 O3_	- **NA**	2 PM2	8 PM2	7 PM2	10 PM2	8 PM2	11 PM2	9 O3_	- **NA**	- **NA**	16 O3_	15 O3_	17 O3_	15 O3_	14 O3_	- **NA**	15 O3_	15 O3_	11 O3_	10 PM2	4 O3_	3 O3_	3 PM2	17 O3_
25	- **NA**	2 PM2	2 PM2	1 PM2	5 PM2	14 PM2	8 PM2	9 O3_	- **NA**	19 O3_	22 O3_	- **NA**	- **NA**	23 O3_	30 O3_	29 O3_	28 O3_	24 O3_	23 O3_	18 O3_	12 PM2	6 PM2	6 PM2	- **NA**	30 O3_
26	7 PM2	8 PM2	6 PM2	9 PM2	7 PM2	17 PM2	20 PM2	- **NA**	19 O3_	20 O3_	22 O3_	22 O3_	22 O3_	- **NA**	25 O3_	24 O3_	24 O3_	21 O3_	19 O3_	18 O3_	15 O3_	15 O3_	- **NA**	14 O3_	25 O3_
27	13 O3_	11 O3_	13 O3_	16 O3_	16 O3_	17 O3_	- NA	17 O3_	17 O3_	18 O3_	19 O3_	19 O3_	20 O3_	18 O3_	16 O3_	13 O3_	12 O3_	13 O3_	17 O3_	19 O3_	15 O3_	- **NA**	13 O3_	11 O3_	20 O3_
28	6 O3_	4 O3_	7 O3_	7 O3_	6 PM2	- **NA**	- **NA**	15 PM2	- **NA**	13 O3_	13 O3_	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	18 O3_	14 O3_	- **NA**	11 O3_	11 O3_	9 O3_	18 O3_
29	7 O3_	5 O3_	2 O3_	2 O3_	- **NA**	16 PM2	7 PM2	6 PM2	8 O3_	14 O3_	17 O3_	20 O3_	22 O3_	22 O3_	21 O3_	20 O3_	20 O3_	18 O3_	17 O3_	- **NA**	13 O3_	13 O3_	14 O3_	15 PM2	22 O3_
30	13 O3_	12 O3_	11 O3_	- **NA**	12 O3_	12 O3_	12 O3_	11 PM2	10 O3_	12 O3_	13 O3_	- **NA**	18 O3_	19 O3_	19 O3_	21 O3_	19 O3_	- **NA**	- **NA**	16 O3_	12 O3_	11 O3_	- **NA**	10 O3_	21 O3_
31	- **NA**	- **NA**	- **NA**	12 O3_	11 O3_	10 O3_	- NA	9 O3_	9 O3_	10 O3_	11 O3_	11 O3_	12 O3_	12 O3_	13 O3_	13 O3_	- **NA**	- **NA**	13 O3_	12 O3_	8 O3_	- **NA**	8 O3_	5 O3_	13 O3_
PEAK	15 O3_	14 O3_	14 O3_	16 O3_	16 O3_	17 O3_	20 O3_	17 O3_	19 O3_	20 O3_	22 O3_	22 O3_	22 O3_	23 O3_	30 O3_	29 O3_	28 O3_	24 O3_	23 O3_	21 O3_	19 O3_	18 O3_	16 O3_	16 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)	3	0.4%	30	14	25	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	3	0.4%
GOOD (1-25)	461	62.0%	-	-	-	57	7.7%	20	6	26	0	0.0%	-	-	-	0	0.0%	-	-	-	518	69.6%
OVERALL	464	62.4%	-	-	-	57	7.7%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	521	70.0%
UNAVAILABLE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71	9.5%

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JULY 2008

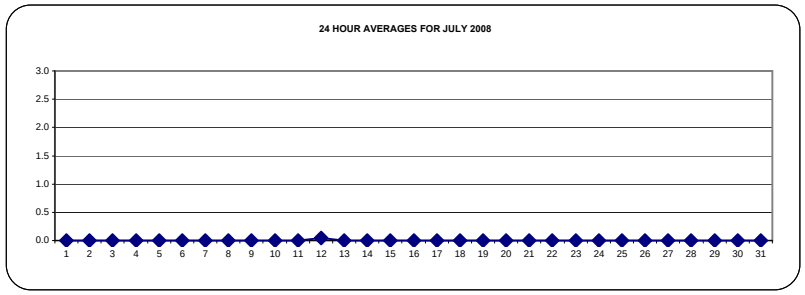
SULPHUR DIOXIDE (SO_2) hourly averages in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
2	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
3	0	0	0	0	0	0	C	C	C	C	C	0	0	0	M	0	0	0	0	0	0	0	0	0	0	0.0	23
4	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
5	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
6	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
7	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
8	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
9	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
10	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0.0	24
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0.0	24
12	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	1	0.0	24
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0.0	24
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0.0	24
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0.0	24
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0.0	24
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0.0	24
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0.0	24
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0.0	24
20	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0.0	24
21	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	M	M	0	0	0	0	0	0	0	0	0.0	22
22	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
23	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
24	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
25	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
26	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
27	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
28	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
29	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
30	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
31	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
HOURLY MAX	0	0	0	0	0	0	NA	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
HOURLY AVG	0.0	0.0	0.0	0.0	0.0	0.0	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

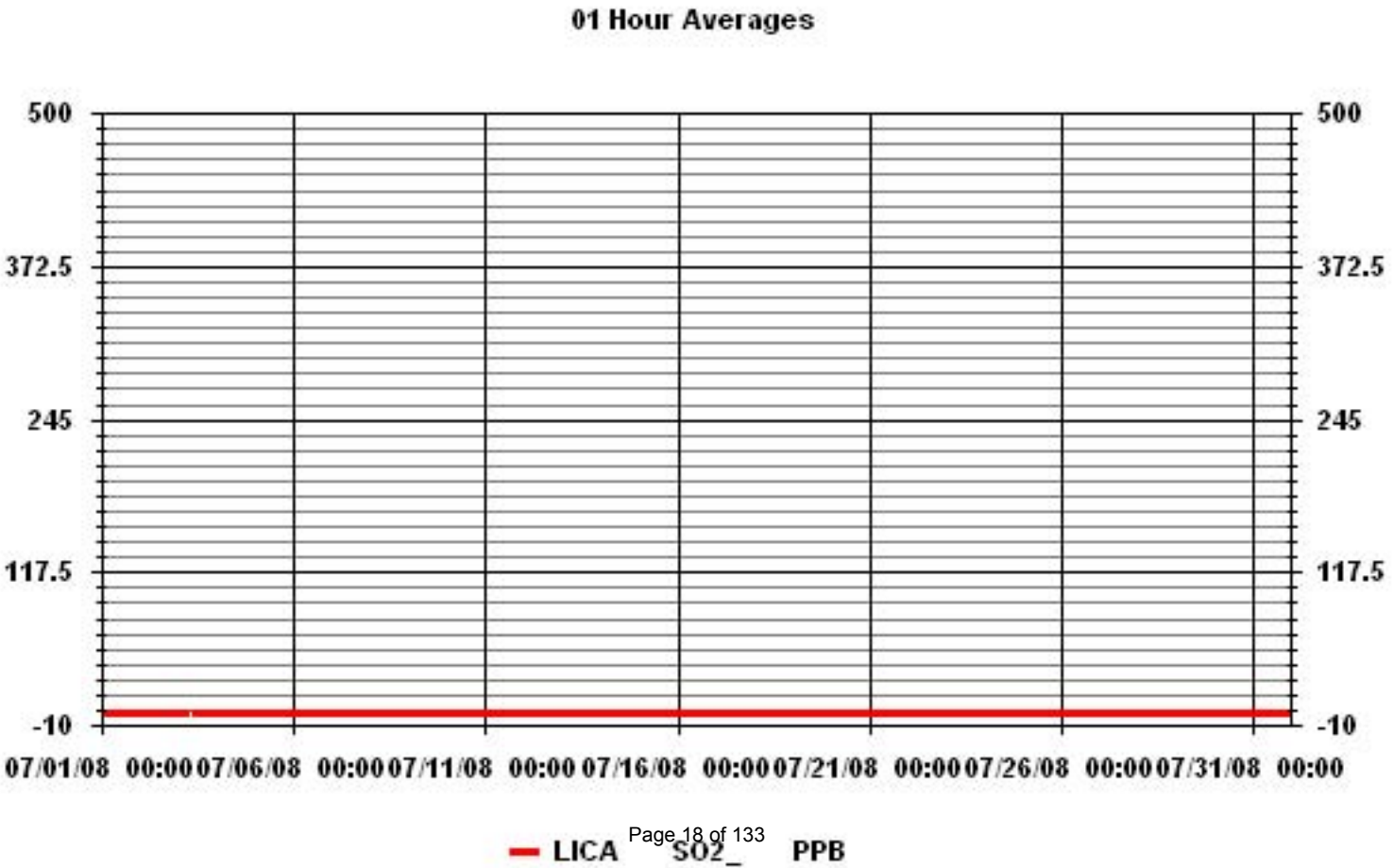


OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB | 24-HR 57 PPB

MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	1					
MAXIMUM 1-HR AVERAGE:	1	PPB	@ HOUR(S)	8	ON DAY(S)	12
MAXIMUM 24-HR AVERAGE:	0.0	PPB			ON DAY(S)	ALL

IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	741	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:	99.6	%
STANDARD DEVIATION:	0.04		MONTHLY AVERAGE:	0.00	PPB


01 Hour Averages
500
372.5
245
117.5
-10
07/01/08 00:00
07/06/08 00:00
07/11/08 00:00
07/16/08 00:00
07/21/08 00:00
07/26/08 00:00
07/31/08 00:00
LICA SO2_ PPB

LICA
SO2_ / WDR Joint Frequency Distribution (Percent)

July 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	1.70	2.69	2.83	3.82	8.65	12.62	3.54	4.68	4.96	11.20	14.46	10.92	6.95	4.68	3.54	100.00
<	60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	170	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	2.69	1.70	2.69	2.83	3.82	8.65	12.62	3.54	4.68	4.96	11.20	14.46	10.92	6.95	4.68	3.54	

Calm : .00 %

Total # Operational Hours : 705

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	20	19	12	19	20	27	61	89	25	33	35	79	102	77	49	33	25	705
<	60																	
<	110																	
<	170																	
<	340																	
>=	340																	
	Totals	19	12	19	20	27	61	89	25	33	35	79	102	77	49	33	25	

Calm : .00 %

Total # Operational Hours : 705

Logger : 01 Parameter : SO2_

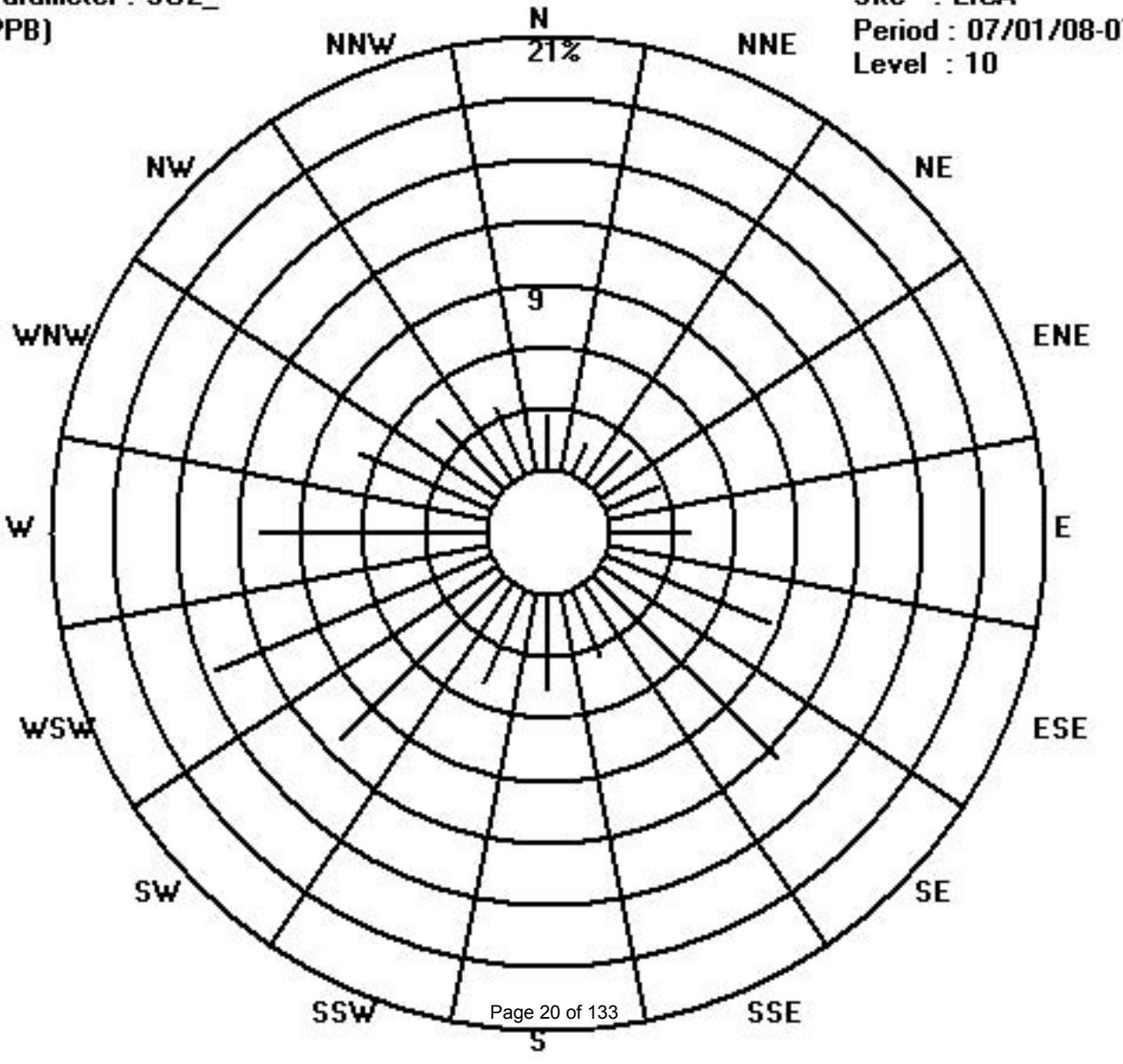
Site : LICA

Period : 07/01/08-07/31/08

Level : 10

Class Limits (PPB)

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



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -*COLD LAKE*

JULY 2008

SULPHUR DIOXIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
2	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
3	0	0	0	0	0	0	**C**	**C**	**C**	**C**	**C**	1	0	0	**M**	0	0	0	0	0	0	0	0	0	1	0.1	23
4	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
5	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
6	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
7	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
8	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
9	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
10	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0.0	24
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	**IZS**	0	1	0.0	24
12	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	2	0.1	24
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0.0	24
14	0	0	0	0	0	0	0	0	2	1	1	1	0	0	0	0	0	0	0	**IZS**	0	0	0	0	2	0.2	24
15	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	1	0.0	24
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0.0	24
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0.0	24
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0.0	24
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0.0	24
20	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0.0	24
21	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	**M**	**M**	0	0	0	0	0	0	0	0	0.0	22
22	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
23	0	0	0	0	0	0	0	0	0	0	**IZS**	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
24	0	0	0	0	0	0	0	0	0	**IZS**	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
25	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	1	**2**	1	1	0	0	0	0	0	0	0	**2**	0.2	24
26	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
27	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
28	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
29	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
30	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
31	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
HOURLY MAX	0	0	0	0	0	0	0	0	2	1	1	1	0	1	2	1	1	0	0	0	1	0	0	0			
HOURLY AVG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

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

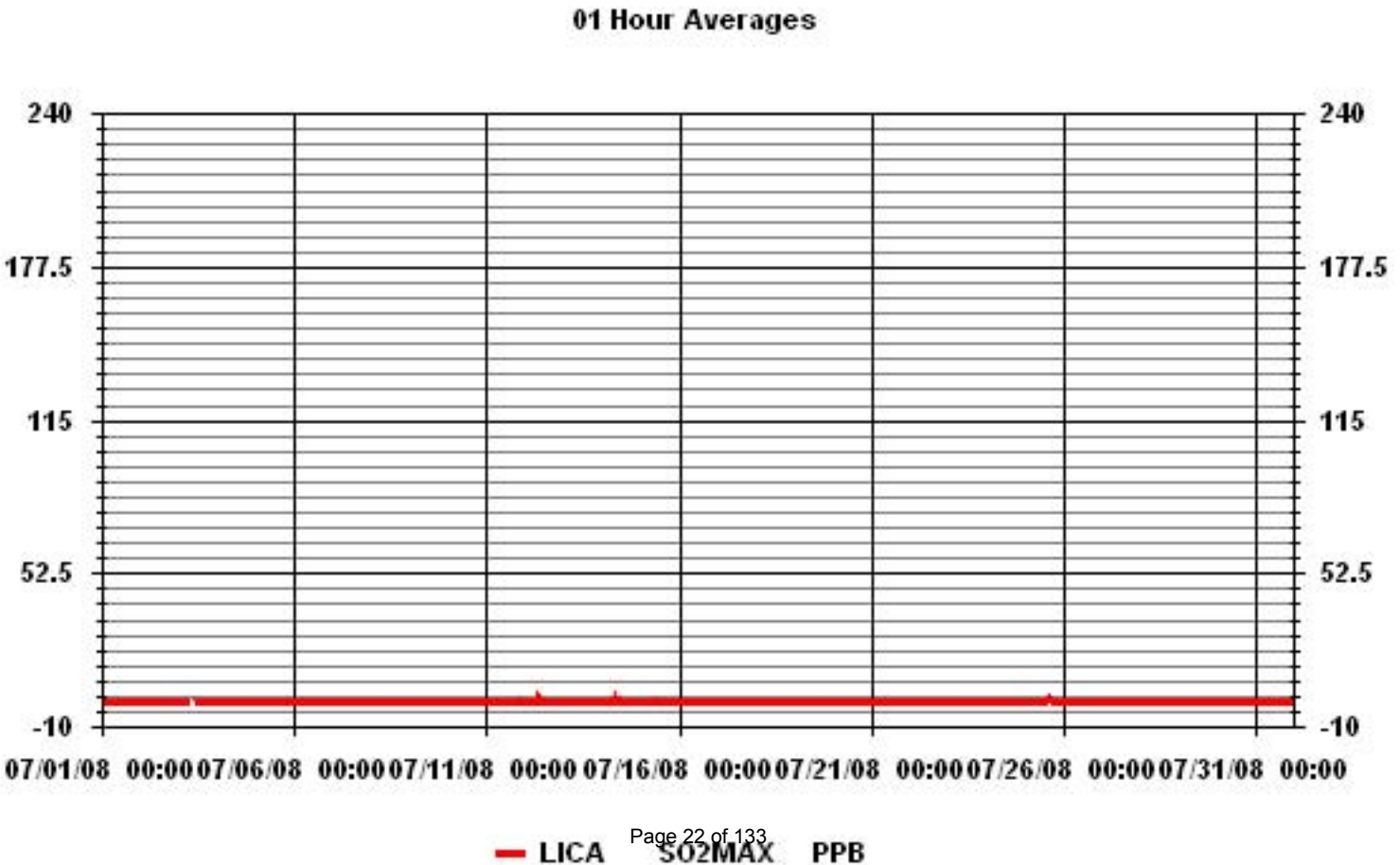
NUMBER OF NON-ZERO READINGS: 15

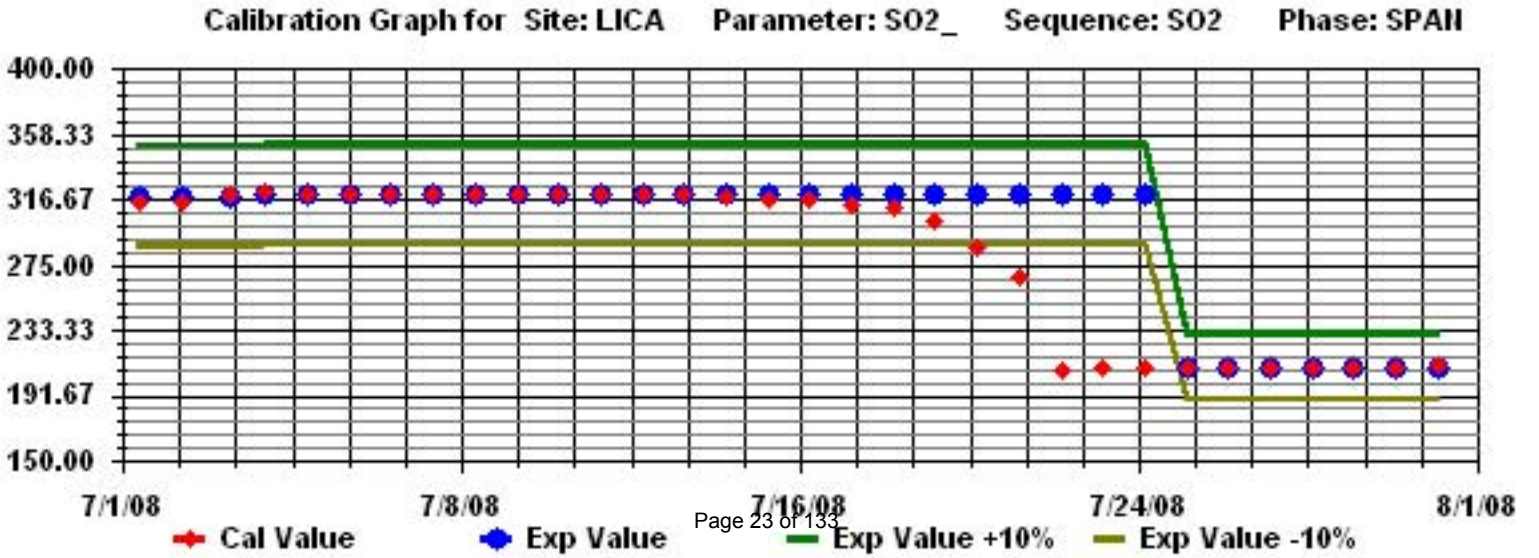
MAXIMUM INSTANTANEOUS VALUE: 2 PPB @ HOUR(S) 14 ON DAY(S) 25

IZS CALIBRATION TIME: 31 HRS OPERATIONAL TIME: 741 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION: 0.18


01 Hour Averages
240
177.5
115
52.5
-10
07/01/08 00:00
07/06/08 00:00
07/11/08 00:00
07/16/08 00:00
07/21/08 00:00
07/26/08 00:00
07/31/08 00:00
LICA SO2MAX PPB


Calibration Graph for Site: LICA Parameter: SO2_ Sequence: SO2 Phase: SPAN
400.00
358.33
316.67
275.00
233.33
191.67
150.00
7/1/08
7/8/08
7/16/08
7/24/08
8/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Reduced Sulphur

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JULY 2008

TOTAL REDUCED SULPHUR (TRS) hourly averages in ppb

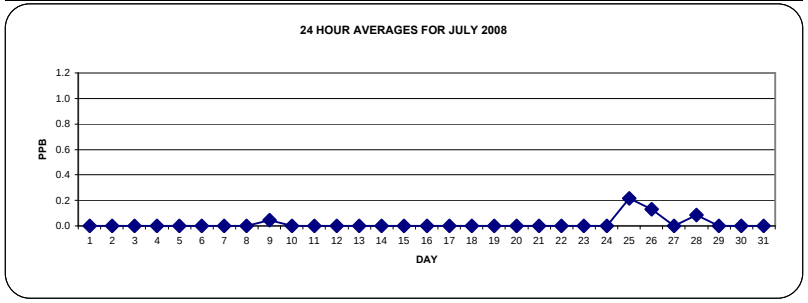
MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
2	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
3	0	0	0	0	0	0	**M**	**M**	**C**	**C**	**C**	**C**	**C**	**C**	**M**	**C**	**C**	0	0	0	0	0	0	0	0	0.0	21
4	0	0	0	0	0	0	**IZS**	0	0	0	0	0	M	M	0	0	0	0	0	0	0	0	0	0	0	0.0	22
5	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
6	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
7	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
8	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
9	0	**IZS**	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
10	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0.0	24
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0.0	24
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0.0	24
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0.0	24
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0.0	24
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0.0	24
16	0	0	0	0	0	0	0	0	0	0	0	0	0	**M**	0	0	0	**IZS**	0	0	0	0	0	0	0	0.0	23
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0.0	24
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0.0	24
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0.0	24
20	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0.0	24
21	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
22	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
23	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
24	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
25	0	0	0	1	0	0	2	2	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	**0.2**	24
26	0	0	**3**	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**3**	0.1	24
27	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
28	0	0	0	0	1	**IZS**	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
29	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
30	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
31	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
HOURLY MAX	0	0	3	1	1	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
HOURLY AVG	0.0	0.0	0.1	0.0	0.0	0.0	0.1	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			

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

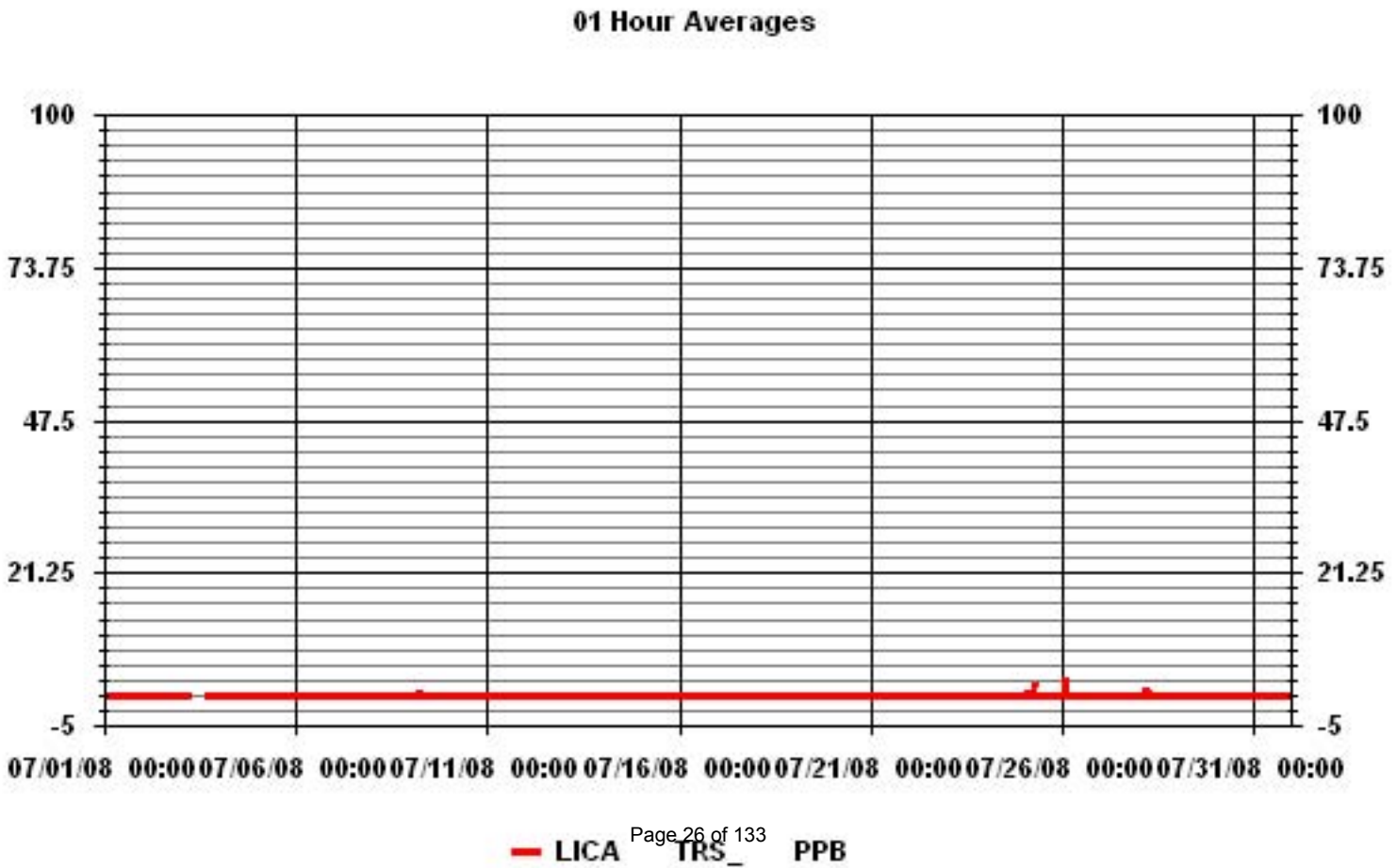
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB | 24-HR 57 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	7					
MAXIMUM 1-HR AVERAGE:	3	PPB	@ HOUR(S)	2	ON DAY(S)	26
MAXIMUM 24-HR AVERAGE:	0.2	PPB		VAR-VARIOUS	ON DAY(S)	25

IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	738	HRS
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:	99.2	%
STANDARD DEVIATION:	0.17		MONTHLY AVERAGE:	0.02	PPB


01 Hour Averages
100
73.75
47.5
21.25
-5
07/01/08 00:00
07/06/08 00:00
07/11/08 00:00
07/16/08 00:00
07/21/08 00:00
07/26/08 00:00
07/31/08 00:00
LICA TRS_ PPB

LICA
TRS_ / WD Joint Frequency Distribution (Percent)

July 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	2.71	1.71	2.71	2.85	3.71	8.71	12.85	3.57	4.57	4.42	11.14	14.57	11.00	7.00	4.71	3.57	99.85
<	10	.00	.00	.00	.00	.14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14
<	50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	2.71	1.71	2.71	2.85	3.85	8.71	12.85	3.57	4.57	4.42	11.14	14.57	11.00	7.00	4.71	3.57	

Calm : .00 %

Total # Operational Hours : 700

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3	19	12	19	20	26	61	90	25	32	31	78	102	77	49	33	25	699
<	10					1												1
<	50																	
>=	50																	
	Totals	19	12	19	20	27	61	90	25	32	31	78	102	77	49	33	25	

Calm : .00 %

Total # Operational Hours : 700

Logger : 01 Parameter : TRS_

Class Limits (PPB)

>= 50

< 50

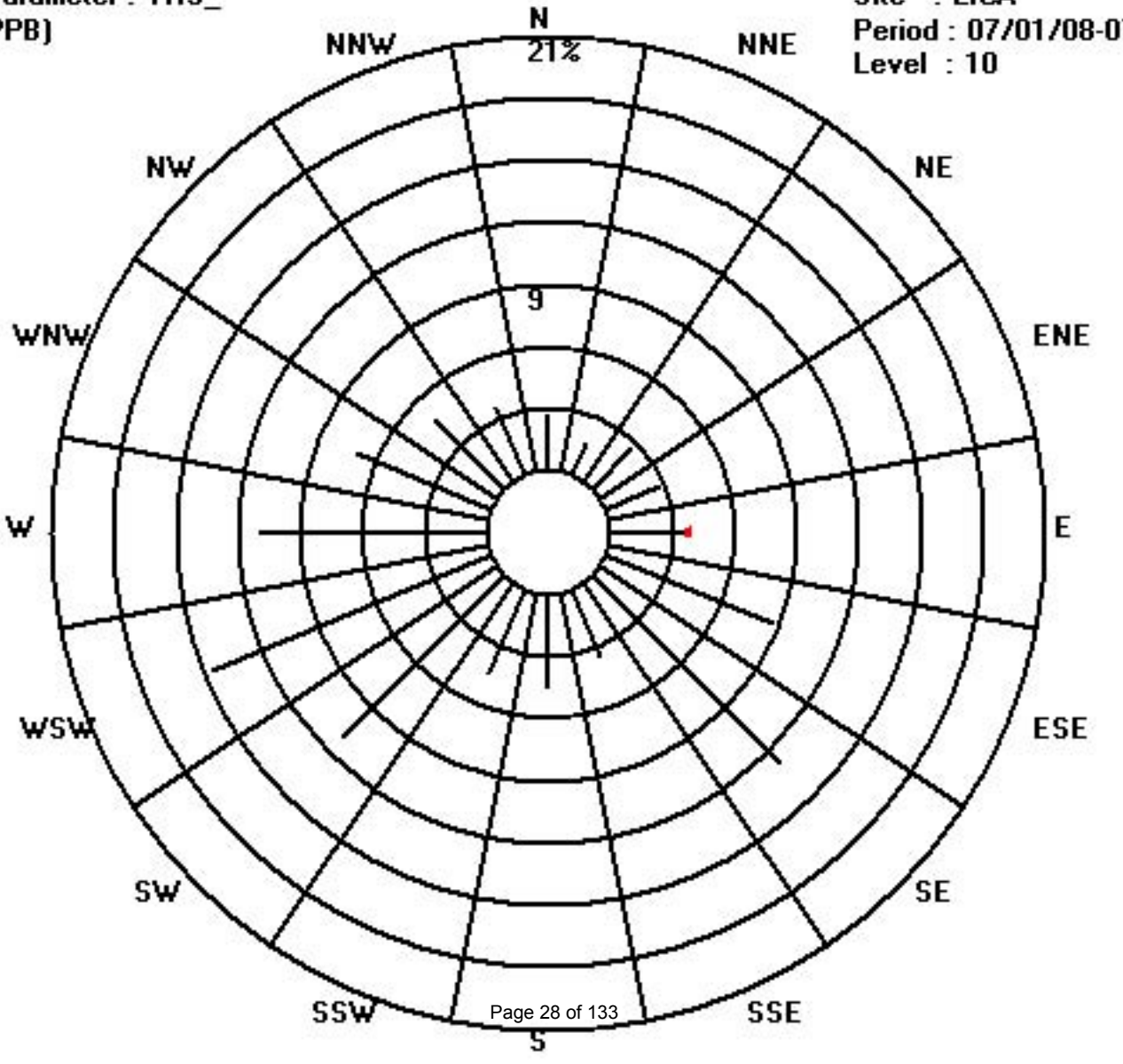
< 10

< 3

Site : LICA

Period : 07/01/08-07/31/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JULY 2008

TOTAL REDUCED SULPHUR MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	1	1	1	1	1	1	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.3	24
2	1	0	1	0	1	1	1	1	**IZS**	1	0	0	1	0	0	0	1	0	1	0	1	1	1	0	1	0.6	24
3	1	1	1	1	1	1	1	**M**	**M**	**C**	**C**	**C**	**C**	**C**	**C**	**M**	**C**	**C**	1	0	0	1	1	1	1	0.8	21
4	1	1	1	1	1	1	**IZS**	0	0	0	1	1	**M**	**M**	1	1	1	0	0	0	0	1	0	0	1	0.6	22
5	0	1	1	1	1	**IZS**	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
6	0	0	1	1	**IZS**	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.2	24
7	1	0	0	**IZS**	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2	24
8	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
9	0	**IZS**	1	1	1	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0.4	24
10	**IZS**	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	0.0	24
11	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	1	0.0	24
12	0	1	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	0	1	0.3	24
13	0	0	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	1	0.2	24
14	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	1	0.2	24
15	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	1	0.1	24
16	0	0	0	0	0	1	2	1	0	0	0	0	0	**M**	0	0	0	**IZS**	1	0	0	0	0	0	2	0.2	23
17	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	1	0.1	24
18	0	0	0	1	1	1	1	1	1	0	0	0	1	1	1	**IZS**	0	0	0	0	0	0	0	1	1	0.4	24
19	0	0	1	0	1	1	0	1	1	0	0	1	0	0	**IZS**	0	0	1	0	0	0	0	0	0	1	0.3	24
20	0	0	0	1	1	1	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	1	0.1	24
21	0	0	0	0	1	0	1	0	1	1	1	0	**IZS**	0	0	0	0	0	0	0	1	1	0	1	1	0.3	24
22	0	0	0	0	1	0	0	0	0	0	0	**IZS**	0	0	0	0	1	1	0	0	0	1	0	1	1	0.2	24
23	1	1	1	1	1	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	1	2	1	2	0.4	24
24	1	1	1	1	1	1	1	0	0	**IZS**	0	1	0	1	1	0	0	0	0	0	0	0	1	0	1	0.5	24
25	0	1	1	5	1	2	3	3	**IZS**	1	0	0	0	0	0	1	0	1	0	1	0	0	1	0	5	0.9	24
26	0	0	**18**	2	1	1	1	**IZS**	0	1	1	0	0	0	0	0	0	0	0	1	0	0	1	1	**18**	1.2	24
27	0	0	0	1	1	1	**IZS**	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.2	24
28	0	1	0	1	2	**IZS**	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.4	24
29	0	0	0	0	**IZS**	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.1	24
30	0	1	1	**IZS**	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
31	0	0	**IZS**	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0.1	24
HOURLY MAX	1	1	18	5	2	2	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1			
HOURLY AVG	0.2	0.3	1.1	0.7	0.7	0.8	0.9	0.5	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	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: 185

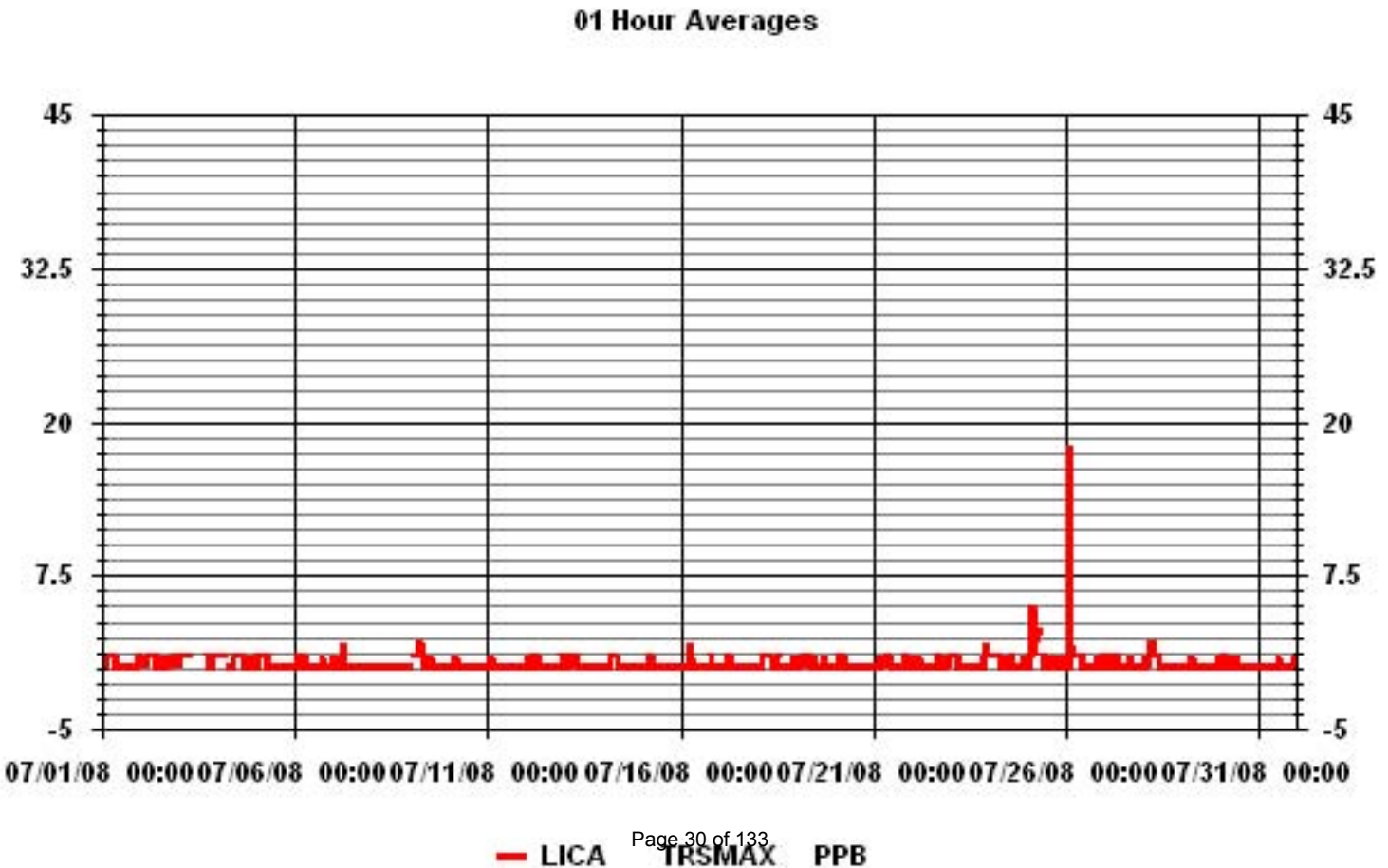
MAXIMUM INSTANTANEOUS VALUE: 18 PPB @ HOUR(S) 2 ON DAY(S) 26

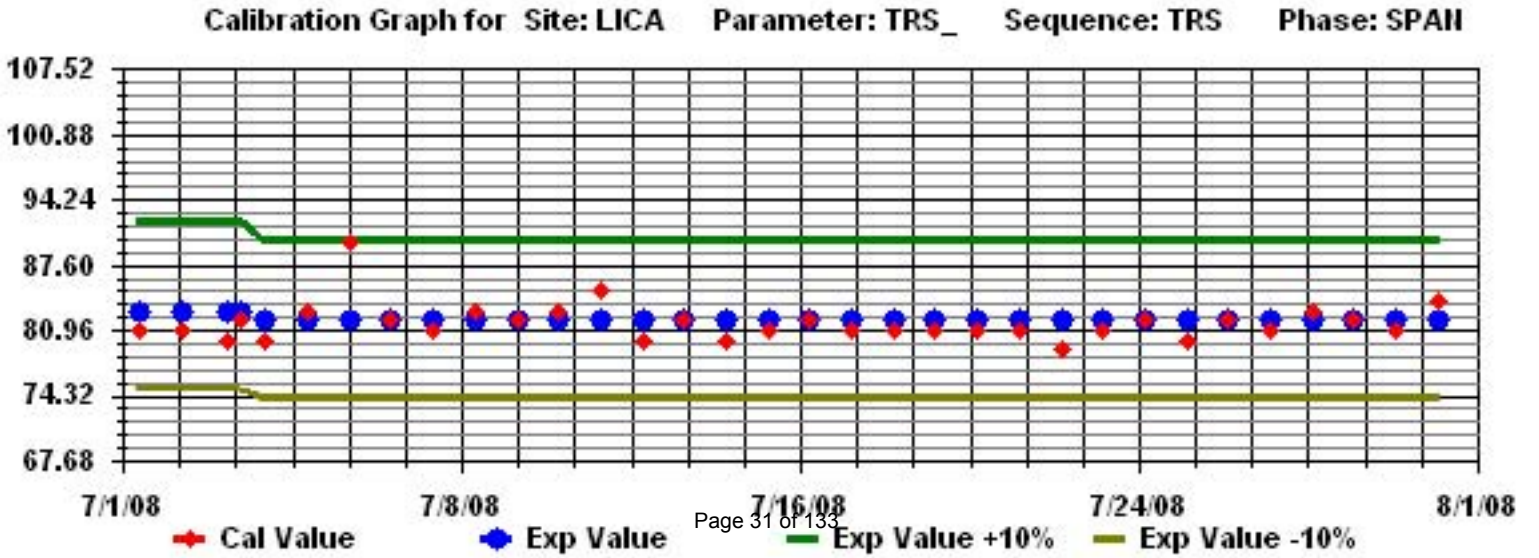
VAR - VARIOUS

IZS CALIBRATION TIME: 31 HRS OPERATIONAL TIME: 738 HRS

MONTHLY CALIBRATION TIME: 8 HRS

STANDARD DEVIATION: 0.85


01 Hour Averages
45
32.5
20
7.5
-5
07/01/08 00:00
07/06/08 00:00
07/11/08 00:00
07/16/08 00:00
07/21/08 00:00
07/26/08 00:00
07/31/08 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
7/1/08
7/8/08
7/16/08
7/24/08
8/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JULY 2008

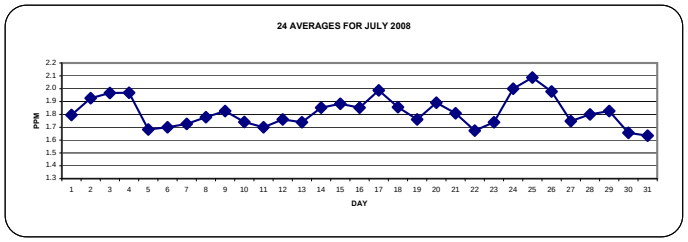
TOTAL HYDROCARBONS (THC) hourly averages in ppm

MST

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

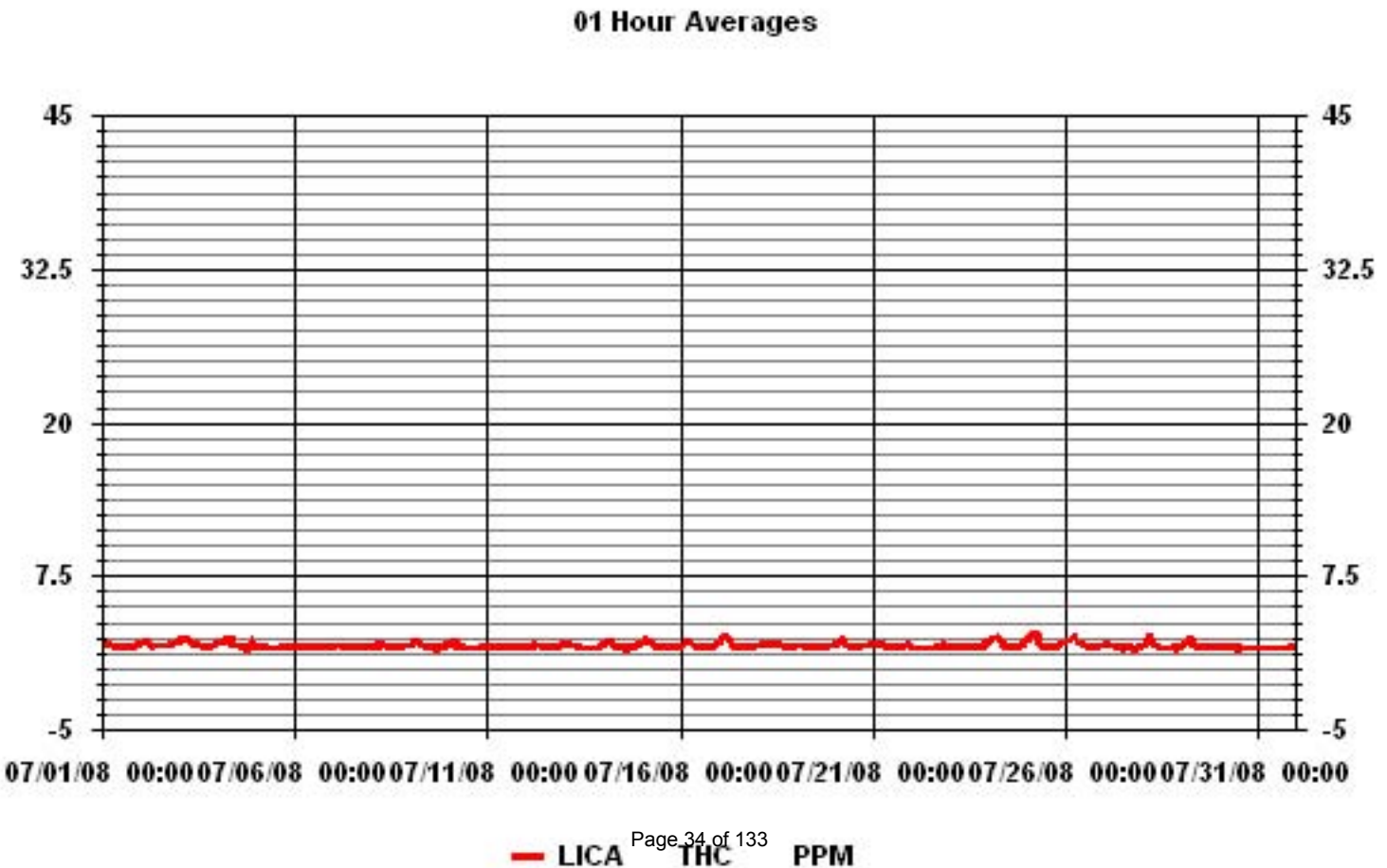
STATUS FLAG CODES

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:	706						
MAXIMUM 1-HR AVERAGE:	2.8	PPM	@ HOUR(S)	VAR	ON DAY(S)	25	
MAXIMUM 24-HR AVERAGE:	2.1	PPM			ON DAY(S)	25	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		744	HRS	
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:		100.0	%	
STANDARD DEVIATION:	0.22		MONTHLY AVERAGE:		1.82	PPM	


01 Hour Averages
45
32.5
20
7.5
-5
07/01/08 00:00
07/06/08 00:00
07/11/08 00:00
07/16/08 00:00
07/21/08 00:00
07/26/08 00:00
07/31/08 00:00
LICA THC PPM

LICA
THC / WD Joint Frequency Distribution (Percent)

July 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	2.69	1.69	2.69	2.83	3.82	8.64	12.46	3.68	4.53	5.24	11.18	14.44	10.90	6.94	4.67	3.54	100.00
< 10.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.69	1.69	2.69	2.83	3.82	8.64	12.46	3.68	4.53	5.24	11.18	14.44	10.90	6.94	4.67	3.54	

Calm : .00 %

Total # Operational Hours : 706

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	19	12	19	20	27	61	88	26	32	37	79	102	77	49	33	25	706
< 10.0																	
< 50.0																	
>= 50.0																	
Totals	19	12	19	20	27	61	88	26	32	37	79	102	77	49	33	25	

Calm : .00 %

Total # Operational Hours : 706

Logger : 01 Parameter : THC

Class Limits (PPM)

>= 50.0

< 50.0

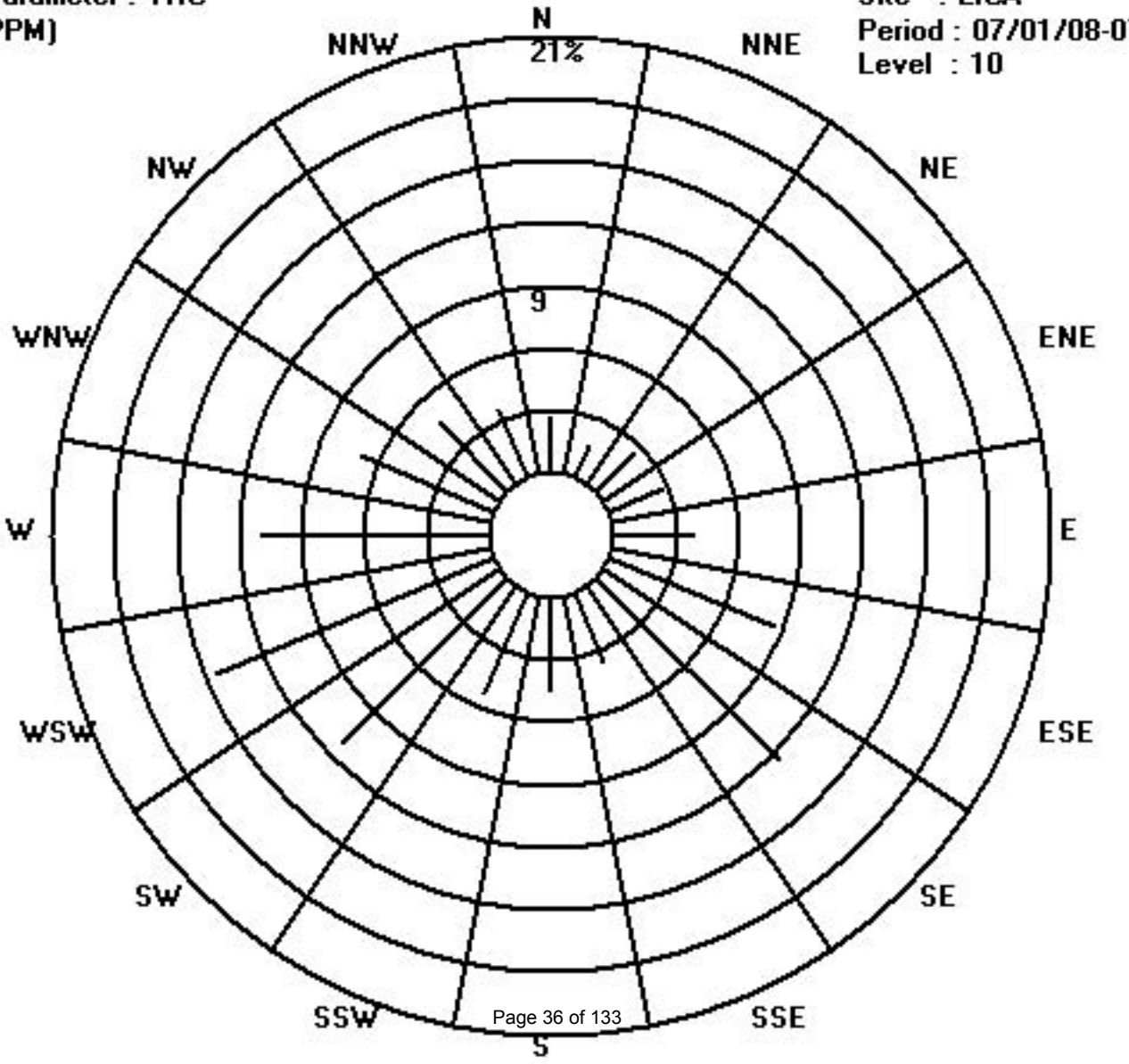
< 10.0

< 3.0

Site : LICA

Period : 07/01/08-07/31/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JULY 2008

TOTAL HYDROCARBONS MAX instantaneous maximum in ppm

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	1.8	2	2	2.1	2.2	2.1	2	1.8	1.7	**IZS**	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.9	1.8	1.7	1.8	1.8	2	2.1	2.2	1.9	24
2	2.1	2.2	2.2	2.1	2.4	2.3	2.1	1.9	**IZS**	2.3	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	2	2.1	2.1	2.1	2.4	2.4	2.0	24
3	2.3	2.4	2.5	2.4	2.4	2.6	2.3	**IZS**	**M**	**M**	2	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.8	1.9	1.9	1.9	1.9	2.2	2.6	2.1	24
4	2.3	2.3	2.5	2.3	2.5	2.5	**IZS**	2.2	2.1	**C**	**C**	**C**	**C**	**C**	**C**	1.9	1.8	1.7	1.7	1.8	1.9	2.5	1.9	1.9	2.5	2.1	24
5	2	1.7	1.8	1.8	1.8	**IZS**	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	2	1.7	24
6	1.7	1.7	1.7	1.9	**IZS**	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.7	1.8	1.7	1.8	1.7	1.7	1.7	1.7	1.9	1.7	24
7	1.7	1.8	1.8	**IZS**	1.8	1.8	1.9	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.9	1.7	24
8	1.8	2.1	**IZS**	2.1	2	1.8	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.9	2.1	1.8	1.8	1.9	2.1	1.8	24
9	2.1	**IZS**	2.3	2.3	2.3	2.3	2.2	1.9	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.7	1.7	1.8	2.1	2	2.3	1.9	24
10	**IZS**	2.2	2.1	2.2	2.3	1.7	1.7	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.7	1.7	1.7	1.7	1.8	2	1.9	**IZS**	2.3	1.8	24
11	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	**IZS**	1.7	1.8	1.7	24
12	1.7	1.7	1.9	1.8	1.8	1.9	1.9	1.9	1.9	1.8	1.9	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	**IZS**	2	2.1	2.1	1.8	24
13	1.9	1.9	2	2.1	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	1.7	1.7	1.7	**IZS**	1.7	1.9	2	2.1	1.8	24
14	2	2	2.1	2.3	2.3	2.4	2.3	2	1.8	1.7	1.7	1.7	2	1.7	1.7	1.7	1.7	1.7	1.7	**IZS**	1.8	1.9	2	2	2.4	1.9	24
15	2.1	2.3	2.4	2.4	2.4	2.4	2.3	2.1	1.9	1.8	1.8	1.7	1.7	1.8	1.8	1.8	1.7	1.7	**IZS**	1.7	1.7	1.7	1.7	1.8	2.4	1.9	24
16	1.8	1.9	2	2.2	2.2	2.4	2.4	2.1	2	1.8	1.8	1.7	1.7	1.7	1.8	1.8	1.8	**IZS**	1.7	1.7	1.8	1.9	2	2.2	2.4	1.9	24
17	2.2	2.4	2.7	2.8	2.7	2.7	2.6	2.5	2.2	1.9	1.8	1.8	1.7	1.7	1.7	1.7	**IZS**	1.8	1.8	1.8	1.8	2	1.8	1.8	2.8	2.1	24
18	1.9	1.8	1.9	2	2.1	2.1	2	2	2	2	2.1	2	2	2	1.9	**IZS**	1.9	1.7	1.7	1.9	1.8	1.8	1.8	1.9	2.1	1.9	24
19	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.8	1.7	1.8	**IZS**	1.8	1.8	1.9	1.8	1.8	1.8	1.9	1.9	2	2	1.8	24
20	2	2	2.2	2.3	2.4	2.4	2.2	2.1	1.9	1.8	1.8	1.7	1.7	**IZS**	1.7	1.7	1.8	1.8	1.8	1.9	1.8	1.9	1.9	1.9	2.4	1.9	24
21	2	1.9	2	2	1.9	1.9	2	2	1.9	1.8	1.7	1.7	**IZS**	1.8	1.7	1.7	1.7	1.7	1.8	2	2	2.1	2.1	1.8	2.1	1.9	24
22	1.8	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	1.7	1.7	1.7	2	2.7	2.3	2.1	2.3	2.7	1.8	24
23	1.9	1.8	1.8	1.7	1.8	1.9	1.9	1.8	1.9	1.9	**IZS**	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.8	**5.2**	2.3	2.8	**5.2**	2.0	24
24	5	3	2.6	2.5	2.5	2.5	2.7	2.6	2.3	**IZS**	2	1.8	1.8	1.7	1.7	1.8	1.7	1.7	1.8	1.8	1.9	1.9	2.1	2.4	5	2.3	24
25	2.4	2.6	2.9	2.9	2.9	2.9	2.9	2.7	**IZS**	2	1.9	1.8	1.8	1.8	1.8	1.8	1.7	1.8	1.8	2	2.1	2.1	2.1	2.2	2.9	2.2	24
26	2.4	2.6	2.6	2.6	2.7	2.6	2.6	**IZS**	2.1	2.1	2	2	1.9	1.9	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	2.7	2.1	24
27	1.9	1.9	2.2	2	1.9	1.9	**IZS**	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.8	1.7	1.9	1.8	1.8	1.7	1.8	1.8	1.9	1.9	2.2	1.8	24
28	1.9	1.9	2.1	2.5	2.9	**IZS**	2.8	2.1	1.9	1.9	1.7	1.7	1.7	1.6	1.7	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	2.9	1.9	24
29	1.9	2	2	2.2	**IZS**	2.4	2.3	2.3	2	1.9	1.8	1.8	1.8	2.2	1.8	1.7	1.8	1.7	1.7	1.8	1.8	1.7	1.7	1.8	2.4	1.9	24
30	1.7	1.7	1.7	**IZS**	1.7	1.7	1.7	1.8	1.8	1.7	1.7	1.7	1.8	1.8	1.8	1.7	1.7	1.7	1.6	1.7	1.6	1.7	1.7	1.7	1.8	1.7	24
31	1.6	1.6	**IZS**	1.6	1.7	1.7	1.7	1.7	1.7	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.9	2	2	1.7	24
HOURLY MAX	5	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	3	5	2	3			
HOURLY AVG	2.1	2.0	2.1	2.1	2.2	2.1	2.1	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.8	1.9	2.0	1.9	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

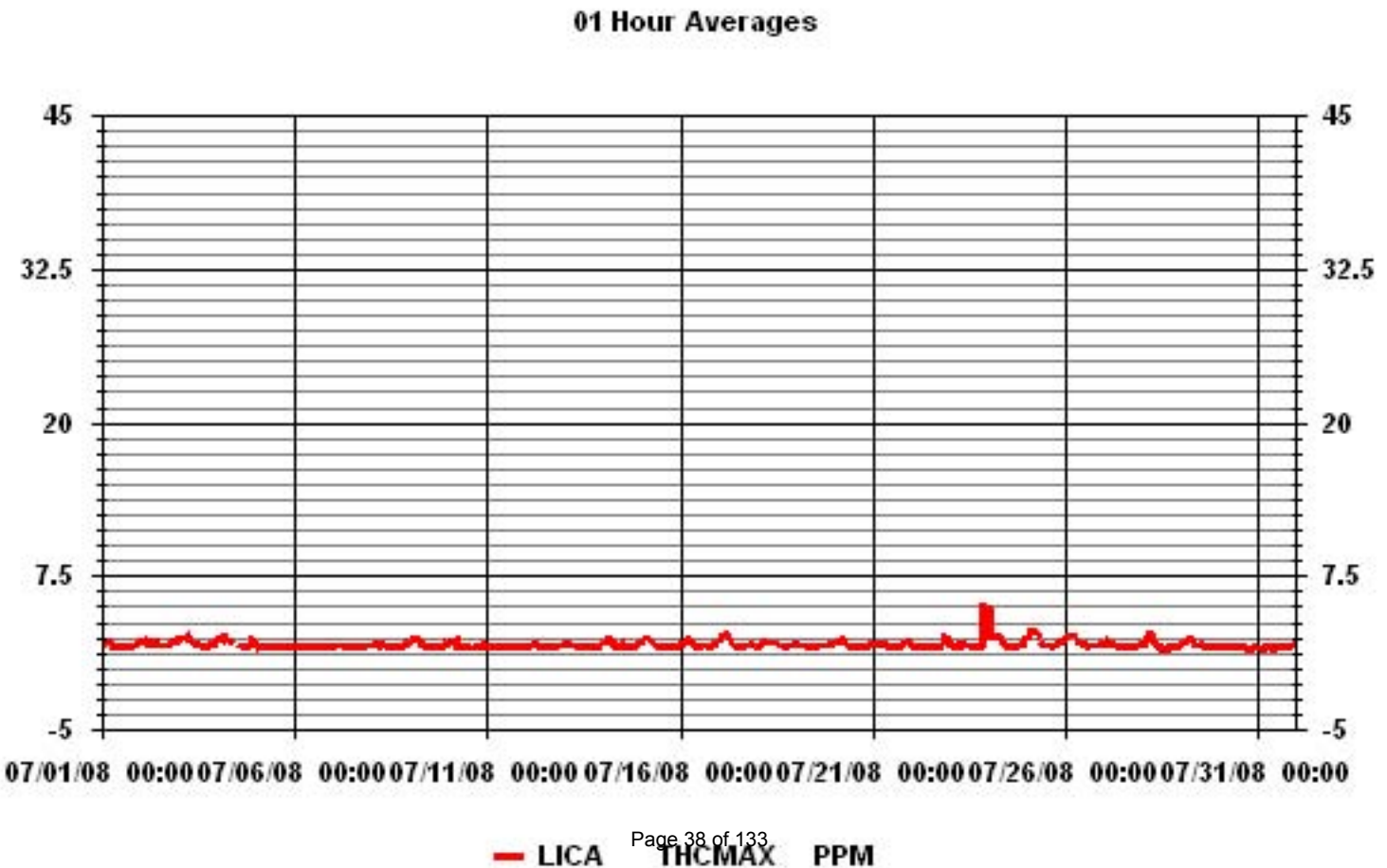
NUMBER OF NON-ZERO READINGS: 704

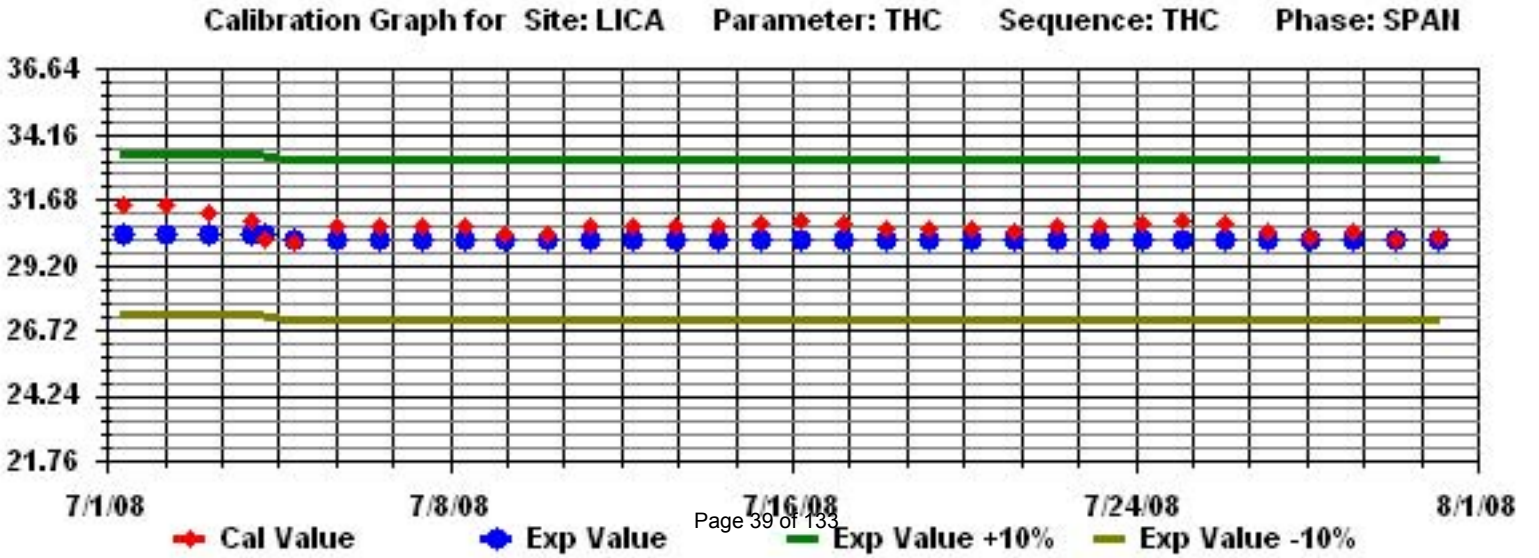
MAXIMUM INSTANTANEOUS VALUE: 5.2 PPM @ HOUR(S) 21 ON DAY(S) 23

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME: 744 HRS

MONTHLY CALIBRATION TIME: 6 HRS

STANDARD DEVIATION: 0.31


01 Hour Averages
45
32.5
20
7.5
-5
07/01/08 00:00
07/06/08 00:00
07/11/08 00:00
07/16/08 00:00
07/21/08 00:00
07/26/08 00:00
07/31/08 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
7/1/08
7/8/08
7/16/08
7/24/08
8/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JULY 2008

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

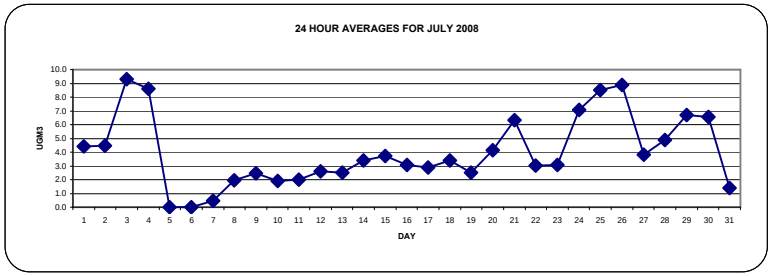
MST

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	**N**	11.8	7.6	4.2	3.6	3.9	0	5.8	1.3	1.9	0	0	2.8	4.5	9.7	7.6	7.9	5.4	2.3	2.9	6.8	7.3	4.2	0	11.8	4.4	23
2	0	1.1	0.8	0.7	4.8	10.6	0	0.9	1.4	0.7	0	0.2	1.5	4.7	3.2	4.8	5.2	8.6	8.2	13.9	11.7	10.7	8	5.5	13.9	4.5	24
3	4.1	5.6	5.1	3.9	10.2	16.4	8	17.6	15.6	8.8	1.9	3.2	4.9	6.4	8.2	7	9.8	9.4	13	15.9	14	16.2	8.3	9.3	17.6	**9.3**	24
4	9.6	5.8	3.8	1.3	6.1	7	4	3.4	11.8	15.4	18.1	16.8	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	18.1	8.6	12
5	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	0.0	NA	0
6	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	NA	NA	0
7	**N**	0	0	1	1	1.2	0	**N**	**N**	0	0	0	1.2	1.6	**N**	0	0	**N**	1.7	0	**N**	**N**	0	0	1.7	0.5	17
8	2.8	1.4	1.2	0.3	0	0	0.1	0	0	2.2	0	0.3	**N**	0	0.3	0.1	0.5	1.5	6.5	5.8	9.1	5.8	7.3	0	9.1	2.0	23
9	0	0	4.1	0	2	11.4	3	7.1	0	0.2	5.6	0	0.7	2.4	0	0	**N**	6.3	6	2.3	4.3	0	1	0	11.4	2.5	23
10	6.1	1	0.7	3.7	5.9	**N**	0.6	5.5	0	**N**	0.2	**N**	**N**	0	0	0	0.7	0.3	2.7	8	0.8	0	0	**N**	8.0	1.9	19
11	0.8	0.2	1.3	0.7	1.6	1.7	1.3	2.7	0.9	3.1	2.7	0	0	2.7	3.8	1.4	4.7	0	2	**N**	1.5	5.4	4.4	3.3	5.4	2.0	23
12	0.9	1.2	0.1	2.6	0	4.1	3	0	3.1	**N**	**N**	4.5	4	0	0	2.8	0	2.4	5.7	10.9	4.9	3.7	0.8	2.9	10.9	2.6	22
13	0	3.8	0.8	1.4	2	2	6.2	2.8	0.9	1.3	2.4	**N**	**N**	0	2.8	1.7	**N**	0	12.2	4.5	0	4.6	0.5	**N**	12.2	2.5	20
14	**N**	0	0	1.9	5.1	11.6	0	1.9	6.1	4.8	2.5	0	2	7.4	9	6.6	7.1	0	2.2	1.9	4.1	4.3	0	0	11.6	3.4	23
15	**N**	0	1.6	4.8	0	10.3	8.7	0	6.6	2	0	**N**	2.3	1.2	1.7	**N**	5.9	6.8	4.6	**N**	12.4	3.1	0	2.5	12.4	3.7	20
16	0	**N**	0	0.2	1.9	17	7.3	3.9	2.7	0.9	0	0	3	0	7.5	3.8	2.8	0	6.7	1.4	5.9	5	0	0.5	17.0	3.1	23
17	0	0.2	0	0	5.3	8.6	12.3	0.3	4.4	0	0.7	0	0	0	0	0.4	6	1.9	2.2	15.3	3.9	5.2	1.5	0.6	15.3	2.9	24
18	0.5	0	0	**N**	3	7.2	6.5	2.5	2.8	8	3.9	3.9	6.1	0	2.7	15.5	0	9.5	0.4	**N**	0	0	0	1.8	15.5	3.4	22
19	2.9	3.1	1	0.3	1.2	4.1	1.9	1.3	2.6	0.3	2.4	0	4	0	9.3	5.8	5.2	**N**	**N**	2.1	**N**	**N**	**N**	0	9.3	2.5	19
20	0	**N**	0	0	1.2	10.4	11.5	2	2.5	0.3	2.1	5.7	0	2.3	0	5.9	10.3	6.1	12.4	7.1	6.5	3.2	2.4	3.8	12.4	4.2	23
21	4	1.9	2	0.3	3.5	4.4	7.2	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	0	13.7	11.4	15.6	13.3	3.8	7.7	**N**	15.6	6.3	14
22	5.4	0	**N**	10.5	5.2	4.4	0	7	5.1	3.2	**N**	**N**	**N**	3.6	2.7	3.6	1	2.5	0	1.1	3.8	1.3	0	0	10.5	3.0	20
23	1.2	0	0.6	0	4.4	2.7	5	2.8	0	5.2	3.8	3.6	3.2	2.4	**N**	**N**	0.4	2.7	11	5.1	4.6	6	1.5	1.2	11.0	3.1	22
24	1.6	1.1	2.3	9.6	7.9	11.6	9.2	13.4	9.2	10.1	**N**	1.6	4	13.5	5.8	15.2	**N**	0	7.5	11.5	12.2	2.6	2	3.2	15.2	7.1	22
25	3.5	2.5	2.4	1.3	5.7	16.4	9.9	2.7	8	8.4	8.6	**N**	**N**	11.5	7.5	7.2	10.8	13.8	14.1	16.6	14.6	7.3	6.8	7.6	16.6	8.5	22
26	7.8	9.7	6.8	11	8.5	19.8	**24.1**	1.7	6	11.1	8	6.5	6.7	**N**	2.3	7.3	0	12.8	17.1	14.8	7	4	6.7	4.8	**24.1**	8.9	23
27	3.3	1.6	2.2	3	4.6	4.2	4.9	5.1	12.3	7	5.5	7.4	3.6	10.1	1.9	5.8	3.8	0.3	0	0	3.6	1.2	0	0	12.3	3.8	24
28	0	4.2	4.2	3.1	7	10	11.4	17.4	**N**	2.8	4.4	2.1	0	1.8	4.5	10.5	2.4	4.8	4.3	10.5	2.9	2.3	1.1	1.1	17.4	4.9	23
29	0	0	0	1	0	18.8	7.9	7	9.5	9	5.9	4.2	3.9	12.2	0	1.7	8.3	5.5	5.1	16.1	8.8	4.6	13.4	17.4	18.8	6.7	24
30	12.4	9.2	5.7	6.8	12.5	13.8	13	12.9	11	9	9.2	**N**	9	4.8	1.1	0	2.5	**N**	0	4.8	0	0	**N**	0	13.8	6.6	21
31	**N**	**N**	0	0.2	0	0	**N**	0	0	0	4	6.4	0	2.4	0	0	**N**	0	3.9	2.3	5.4	**N**	2.1	0	6.4	1.4	19
HOURLY MAX	12	12	8	11	13	20	24	18	16	15	18	17	9	14	10	16	11	14	17	17	15	16	13	17			
HOURLY AVG	2.8	2.5	1.9	2.6	3.9	8.3	6.0	4.7	4.8	4.5	3.7	3.0	2.9	3.7	3.4	4.6	4.0	4.6	6.0	7.6	6.2	4.3	3.1	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

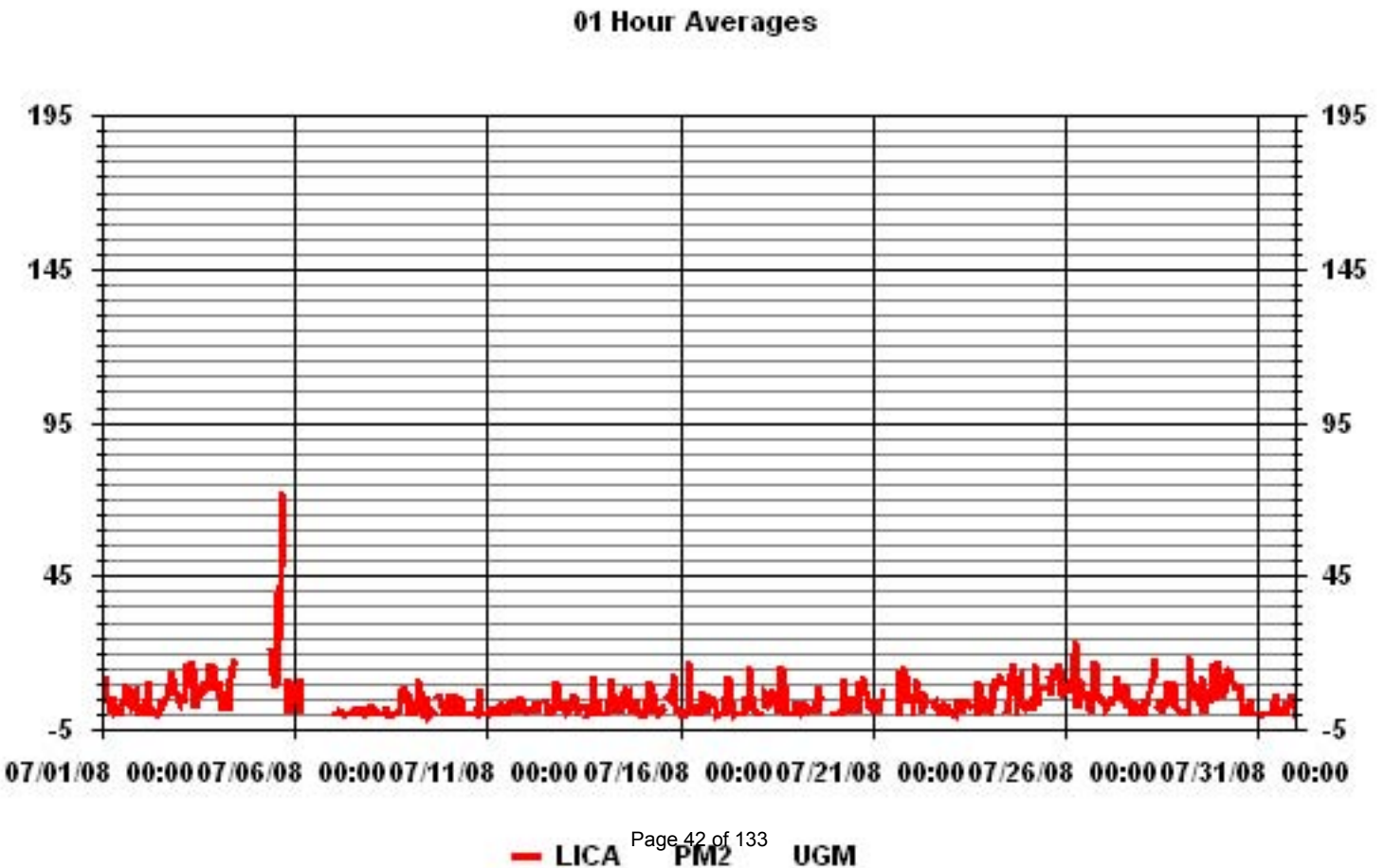
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR - PPB 24-HR 30 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	-				
NUMBER OF 24-HR EXCEEDENCES:	0	PROPOSED CANADA WIDE GUIDELINE			
NUMBER OF NON-ZERO READINGS:	486				
MAXIMUM 1-HR AVERAGE:	24.1	UG/M^3	@ HOUR(S) 6	ON DAY(S)	26
MAXIMUM 24-HR AVERAGE:	9.3	UG/M^3		ON DAY(S)	3

IZS CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	618	HRS
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME:	83.1	%
STANDARD DEVIATION:	4.43		MONTHLY AVERAGE:	4.27	UG/M^3


01 Hour Averages
195
145
95
45
-5
07/01/08 00:00
07/06/08 00:00
07/11/08 00:00
07/16/08 00:00
07/21/08 00:00
07/26/08 00:00
07/31/08 00:00
LICA PM2 UGM

LICA
PM2 / WD Joint Frequency Distribution (Percent)

July 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	2.19	1.88	2.82	2.98	3.29	8.16	12.71	4.23	4.86	5.65	11.30	14.59	10.36	6.75	4.39	3.13	99.37
<	60.0	.15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.15	.15	.00	.47
<	80.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.15	.15
<	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	2.35	1.88	2.82	2.98	3.29	8.16	12.71	4.23	4.86	5.65	11.30	14.59	10.36	6.90	4.55	3.29	

Calm : .00 %

Total # Operational Hours : 637

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	30.0	14	12	18	19	21	52	81	27	31	36	72	93	66	43	28	20	633
<	60.0	1													1	1		3
<	80.0																1	1
<	120.0																	
<	240.0																	
>=	240.0																	
	Totals	15	12	18	19	21	52	81	27	31	36	72	93	66	44	29	21	

Calm : .00 %

Total # Operational Hours : 637

Logger : 01 Parameter : PM2

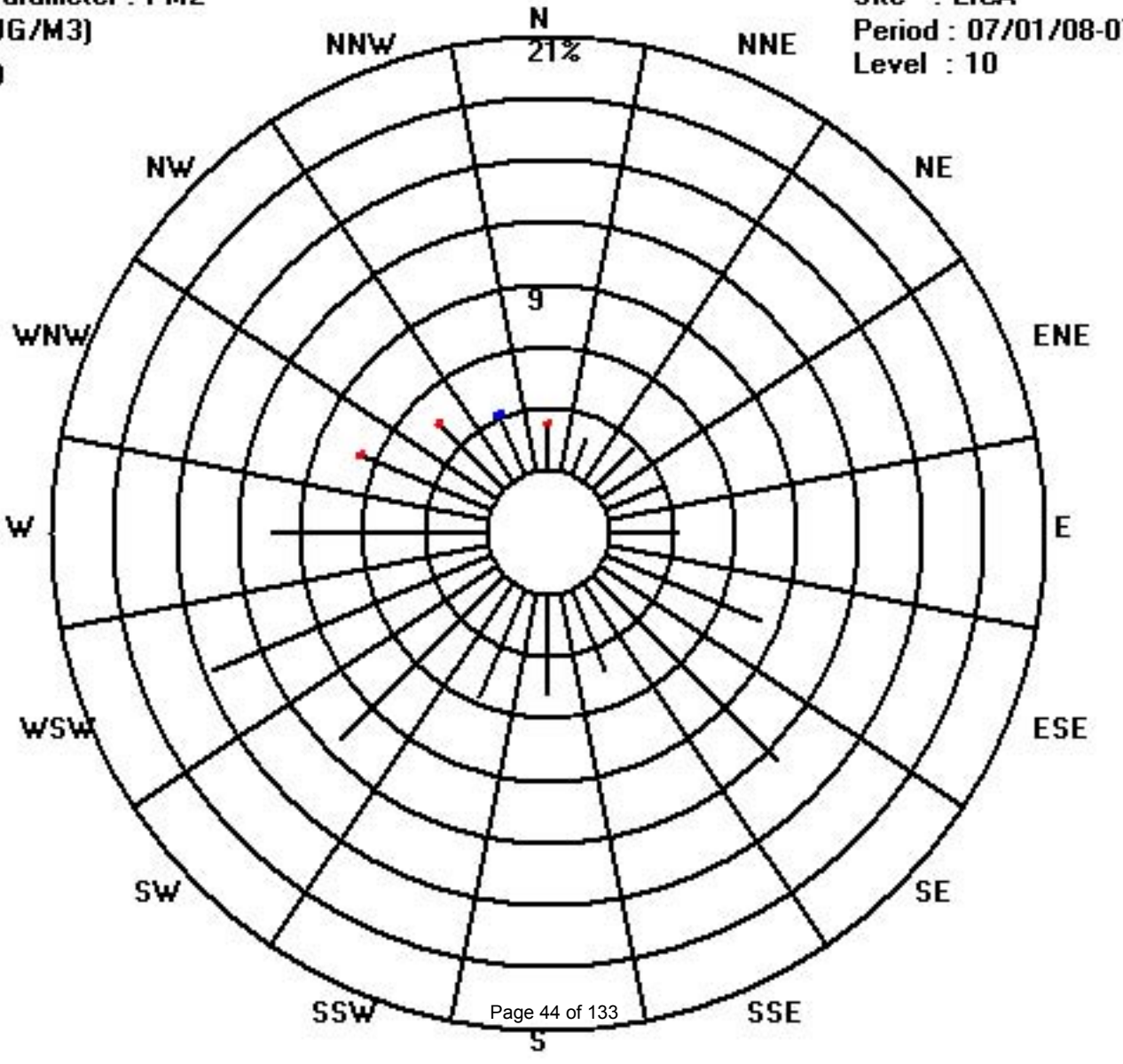
Class Limits (UG/M3)

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

Site : LICA

Period : 07/01/08-07/31/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JULY 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	7.3	31.8	16.1	16.3	8.9	16	12.7	15	11.5	12.8	9.6	13	13	16.9	22.8	24.1	18.3	14.4	10.9	8.9	16	17.1	10.8	3.1	31.8	14.5	24
2	6.5	6.6	6.4	5.5	11.2	22.8	6.5	10.1	11.2	10.1	16.7	20.4	14.5	23	19.2	15.8	20.2	34.2	14	20.8	16.6	14.5	13.1	11.6	34.2	14.6	24
3	8.3	9.3	9.7	7.8	21.7	30.7	23.7	30.2	29.7	24.6	25.4	23.6	25.9	22.1	25.8	19.7	27.7	23.7	21.4	31	28.3	22.5	16	13.8	31	21.8	24
4	15.4	19.4	10.6	11.4	13.8	20.8	27.6	21	23.1	29.9	53	**63.3**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**63.3**	25.8	12
5	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	NA	NA	0
6	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	0	1.9	0	0	1.9	0.5	4
7	0	5.5	1.3	9.3	6.9	6.4	4.2	7	6.6	13.3	11	8.7	12.3	14.4	10	8.9	14.3	7.5	7.6	5.1	0	3.6	6.2	5.6	14.4	7.3	24
8	10.3	7.5	10	10.3	4.3	5.1	4.9	3.4	5.9	10.8	7.4	16.7	10.1	11.4	20.6	10.5	9.5	13	14.8	10.4	22	12.1	14.2	6.7	22	10.5	24
9	3.7	7.9	9.5	5.6	9.9	27.1	8.4	16.2	12.7	8.2	19	18.6	22.5	28.5	19.5	7.8	2.1	13.5	11.3	8.2	11.3	7	8.1	3.7	28.5	12.1	24
10	10.9	6	4.9	7.2	12.7	3.5	16.9	16.6	7.3	5.2	11.5	14.8	13.3	8.1	14.9	19	16.1	11.1	47.6	30.2	17.3	3.5	5.6	3.3	47.6	12.8	24
11	7.3	6.6	5.6	4.9	6	7.7	7.2	8.6	8.2	16.7	11.8	13	10.9	12.2	42.6	10.5	12.4	21.4	10.3	4.8	7.3	12.5	8	7.5	42.6	11.0	24
12	7.2	4.9	7.8	8.5	3.4	17.4	7.8	11.7	15.2	9.9	13.3	21.1	15.6	14.1	7	15.8	13.7	14.7	16.5	24.6	12.7	18.3	7.6	7.4	24.6	12.3	24
13	3.2	7.5	4.6	5.1	5.5	5.1	14.4	9.5	15.5	9.7	10.6	8.9	8.9	11.1	24.8	52	8.6	16.1	41	11.4	12	13.2	4.4	0	52	12.6	24
14	-0.3	4	1.6	6.1	9.2	22.6	8.1	8.3	19.2	12.2	9.2	8.9	23.9	18.5	25.1	19.9	18.3	7.3	12.2	13.6	13.8	13.3	2.8	8.6	25.1	11.9	24
15	4.9	5.6	9.6	11	3.7	19.5	19.6	14.3	18.2	13	11.9	11	27.7	11.1	19.4	16.1	18.8	20.5	21.7	12	24.8	11.6	6	7.2	27.7	14.1	24
16	2.7	0.1	5.5	8.9	4.8	27.1	21.9	13	11.9	8.3	11.5	9.5	14.1	11	20.9	28.5	43.4	8.2	16.1	12.2	15.9	14	6.1	6.1	43.4	13.4	24
17	4.4	6.6	2.3	5.4	12.4	14.8	33	12.1	14.7	5.6	12.5	17.3	14.5	9.5	11	14.1	20.6	16.1	15.2	47.5	10.8	11.7	7.8	4.8	47.5	13.5	24
18	5.5	4.8	6.7	0	12.2	21.6	14.5	13.8	15.4	17.1	17.1	16.3	14.9	17.6	20.2	60.6	32.2	29.7	13.2	2.5	2.3	5.4	3.3	6.7	60.6	14.7	24
19	10.5	12	10	5.4	5.5	8.2	5.6	6.8	9	12	18.7	9.2	32.9	17	33.7	14.8	21	21	12.7	18.5	11.4	0	0.6	0.9	33.7	12.4	24
20	5.4	2.2	2.9	7.7	8	20.9	23.7	12.9	17.8	15	16.1	20.7	23.6	28.8	16	22.1	27.7	16	18.1	12.9	11.9	11.4	6.4	7.2	28.8	14.8	24
21	6.8	5.3	4.8	2.7	6.7	11.4	10.3	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	11.4	29.1	27.9	28	28.7	10.8	26.4	26.6	29.1	15.8	15
22	10.2	9.4	13.5	20.5	13	15.6	12.8	12.6	16.8	21.6	12.2	20.9	18.5	31.2	18.5	22.2	18.6	14.5	11	7.8	12.2	6.7	5.1	2.9	31.2	14.5	24
23	6.1	7.1	9.6	12	15.9	16.5	15.4	11.9	12.7	30.9	14.3	22.6	20.7	17.8	10.8	9.2	16.5	11	25.2	11.5	6.2	13.7	5.9	4.9	30.9	13.7	24
24	6.9	10.3	6.1	17.6	11.6	24.4	15.7	25.8	23.3	22.9	21.9	19.6	29.1	31.7	25.9	55.5	20.2	12.8	15.5	23.5	32.5	11	5.5	5.3	55.5	19.8	24
25	6.7	5.6	5.5	4.9	16	28.8	31.5	32.7	16.6	21.6	17.8	42	24.2	24.9	23.1	20.9	22.7	37.1	36.6	52.9	53	13.9	12.3	13.5	53	23.5	24
26	11.1	15.4	10.9	15	11.6	32.2	33.3	17.7	19.7	26.9	42	26.6	30.9	19.9	12.4	25.7	24.1	22	26.6	23.2	13.2	10.4	9.5	10.5	42	20.5	24
27	8.7	6.2	6.1	7.1	7.8	14.9	15.9	8.9	19.4	29.3	24.7	20.4	16.7	19.3	7.6	13.3	11.1	8.9	3.7	7	7.1	5.6	2.7	1.1	29.3	11.4	24
28	1.7	11.4	9.8	7.1	17.6	15.3	16.8	36	20.5	16.9	14.9	24.9	8.2	12.2	22.1	26.1	18	12.1	11.1	16	13.8	13.5	5.1	4.9	36	14.8	24
29	3.4	4.8	1.2	6.1	1.6	35.4	33.1	25.4	20.2	32.1	24.6	26.1	20.3	39.9	27.6	20.5	29.7	20.2	18.5	31.7	17	8.9	19.7	20.2	39.9	20.3	24
HOURLY MAX	15	32	16	21	22	35	33	36	30	32	53	63	33	40	43	61	43	37	48	53	53	23	26	27			
HOURLY AVG	6.5	8.3	7.1	8.5	9.7	18.2	16.5	15.4	15.5	16.8	17.6	19.9	18.7	18.9	20.1	22.1	19.1	17.5	18.5	18.3	15.5	10.7	8.1	7.2			

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

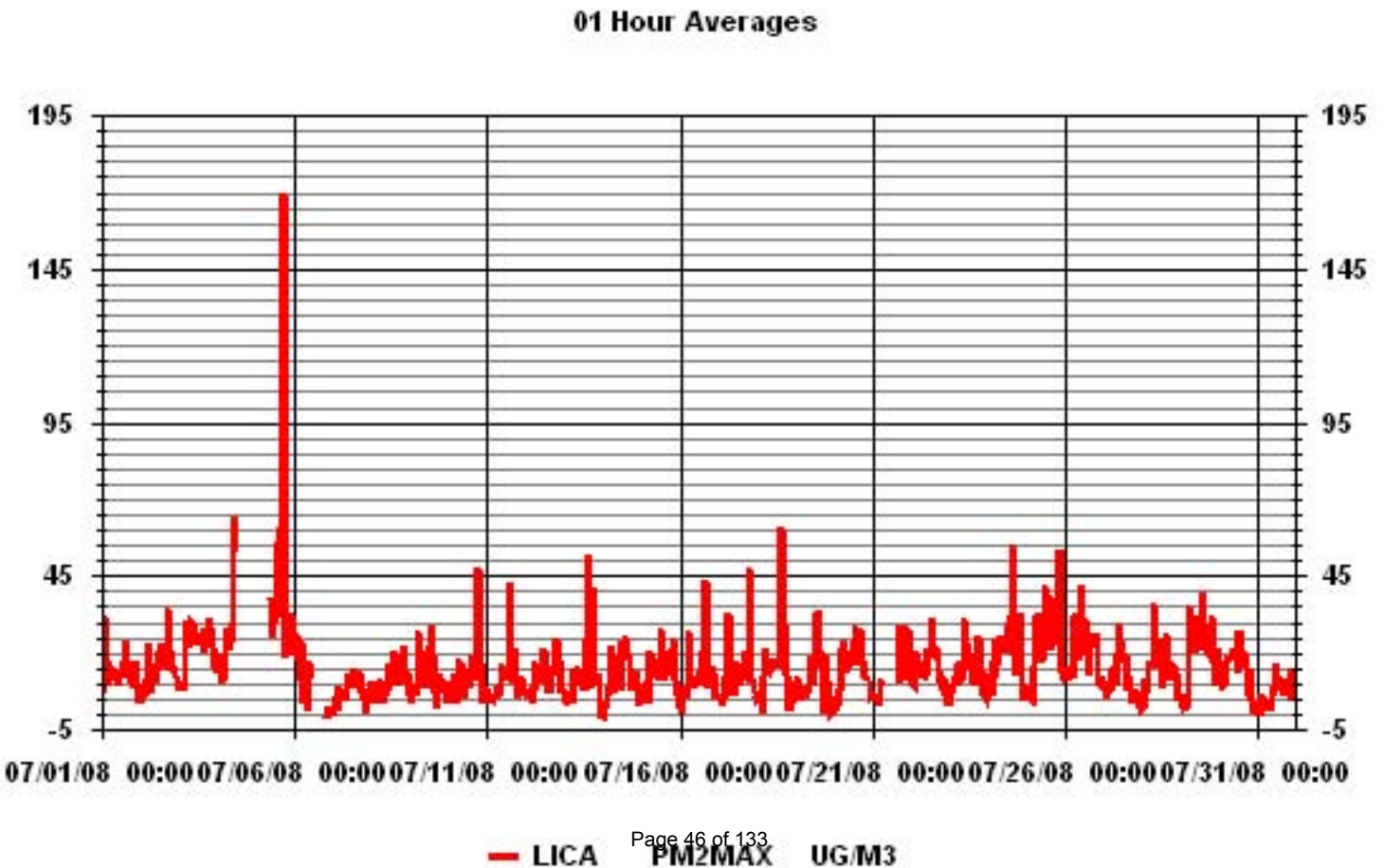
NUMBER OF NON-ZERO READINGS: 622

MAXIMUM INSTANTANEOUS VALUE: 63.3 UG/M^3 @ HOUR(S) 11 ON DAY(S) 4

IZS CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 631 HRS

MONTHLY CALIBRATION TIME: 0 HRS

STANDARD DEVIATION: 9.54


01 Hour Averages
195
145
95
45
-5
07/01/08 00:00
07/06/08 00:00
07/11/08 00:00
07/16/08 00:00
07/21/08 00:00
07/26/08 00:00
07/31/08 00:00
LICA PM2MAX UG/M3

Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JULY 2008

NITROGEN DIOXIDE hourly averages in ppb

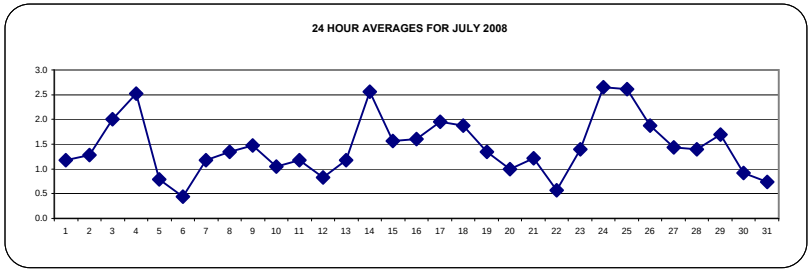
MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	1	1	1	1	2	3	2	1	0	**IZS**	0	0	0	0	1	1	0	0	0	1	2	3	4	3	4	1.2	24
2	3	3	2	1	1	2	2	1	**IZS**	0	0	0	0	0	**M**	**C**	1	1	1	1	2	2	2	2	3	1.3	23
3	2	2	2	2	2	3	**M**	**M**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1	1	1	1	1	3	4	2	3	4	2.0	22
4	4	3	3	3	3	6	**IZS**	4	4	3	2	2	2	2	2	2	1	1	1	2	3	3	1	1	6	2.5	24
5	1	1	2	2	1	**IZS**	6	2	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	6	0.8	24
6	0	1	0	1	**IZS**	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0.4	24
7	1	1	1	**IZS**	2	3	3	1	0	0	1	1	0	1	1	0	1	0	0	1	3	2	2	2	3	1.2	24
8	2	5	**IZS**	2	2	2	2	2	2	1	1	1	0	0	1	0	0	0	0	1	2	3	1	1	5	1.3	24
9	1	**IZS**	3	2	2	2	2	2	2	1	1	1	2	1	1	0	0	0	1	1	2	3	2	2	3	1.5	24
10	**IZS**	2	1	1	2	1	1	2	2	0	1	0	0	0	0	1	0	1	1	2	1	2	2	**IZS**	2	1.0	24
11	4	4	3	2	2	1	1	1	1	0	0	0	0	0	0	0	0	0	1	1	2	3	**IZS**	1	4	1.2	24
12	0	2	4	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	1	**IZS**	2	2	4	0.8	24
13	3	2	3	3	3	2	2	1	1	1	1	0	0	0	0	0	0	0	0	1	**IZS**	1	1	2	3	1.2	24
14	1	1	1	3	3	3	3	2	3	3	2	**10**	7	1	0	1	3	1	1	**IZS**	2	2	2	4	**10**	2.6	24
15	3	2	2	4	3	3	4	3	3	2	1	0	0	0	0	0	0	0	**IZS**	1	1	1	1	2	4	1.6	24
16	2	1	1	1	1	3	4	3	3	2	1	1	1	1	1	1	0	**IZS**	1	1	1	2	2	3	4	1.6	24
17	3	3	4	3	3	5	4	4	2	2	1	1	1	0	0	0	**IZS**	1	1	1	2	2	1	1	5	2.0	24
18	1	1	1	2	2	2	3	3	2	2	2	2	1	1	1	**IZS**	2	2	1	2	3	3	2	2	3	1.9	24
19	3	2	2	2	2	2	1	1	1	1	1	1	0	1	**IZS**	1	1	1	1	1	1	2	1	2	3	1.3	24
20	2	1	2	2	1	1	1	1	1	0	0	0	1	**IZS**	1	1	1	1	1	1	1	1	1	1	2	1.0	24
21	1	1	1	1	1	1	1	1	1	1	0	0	**IZS**	1	0	1	1	1	1	2	4	3	4	0	4	1.2	24
22	0	0	0	0	0	1	0	2	1	1	1	**IZS**	1	1	2	0	0	0	2	1	0	0	0	0	2	0.6	24
23	0	1	1	1	1	1	2	1	2	3	**IZS**	2	2	3	0	0	0	0	1	1	1	4	2	3	4	1.4	24
24	2	2	2	5	5	4	5	4	4	**IZS**	2	1	3	1	3	1	0	0	1	3	4	4	3	2	5	**2.7**	24
25	2	2	2	2	2	5	4	3	**IZS**	3	2	1	1	1	2	1	1	2	2	3	5	5	5	4	5	2.6	24
26	3	3	3	3	3	3	6	**IZS**	2	1	1	1	1	1	1	0	0	0	1	1	3	3	2	1	6	1.9	24
27	1	1	1	1	2	1	**IZS**	1	1	1	1	1	1	2	2	2	2	3	1	1	2	2	1	2	3	1.4	24
28	2	2	2	4	4	**IZS**	4	3	2	1	1	1	0	0	0	0	0	1	0	1	1	1	1	1	4	1.4	24
29	3	3	2	2	**IZS**	3	3	4	3	3	2	1	1	1	1	1	0	0	0	1	2	1	1	1	4	1.7	24
30	1	0	0	**IZS**	2	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	2	0.9	24
31	1	0	**IZS**	1	1	1	1	1	2	1	1	1	0	0	0	0	0	0	0	1	2	1	1	1	2	0.7	24
HOURLY MAX	4	5	4	5	5	6	6	4	4	3	2	10	7	3	3	2	3	3	2	3	5	5	5	4			
HOURLY AVG	1.8	1.8	1.8	2.0	2.0	2.3	2.5	1.9	1.7	1.3	0.9	1.0	0.9	0.7	0.8	0.6	0.5	0.7	0.7	1.2	1.9	2.2	1.7	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

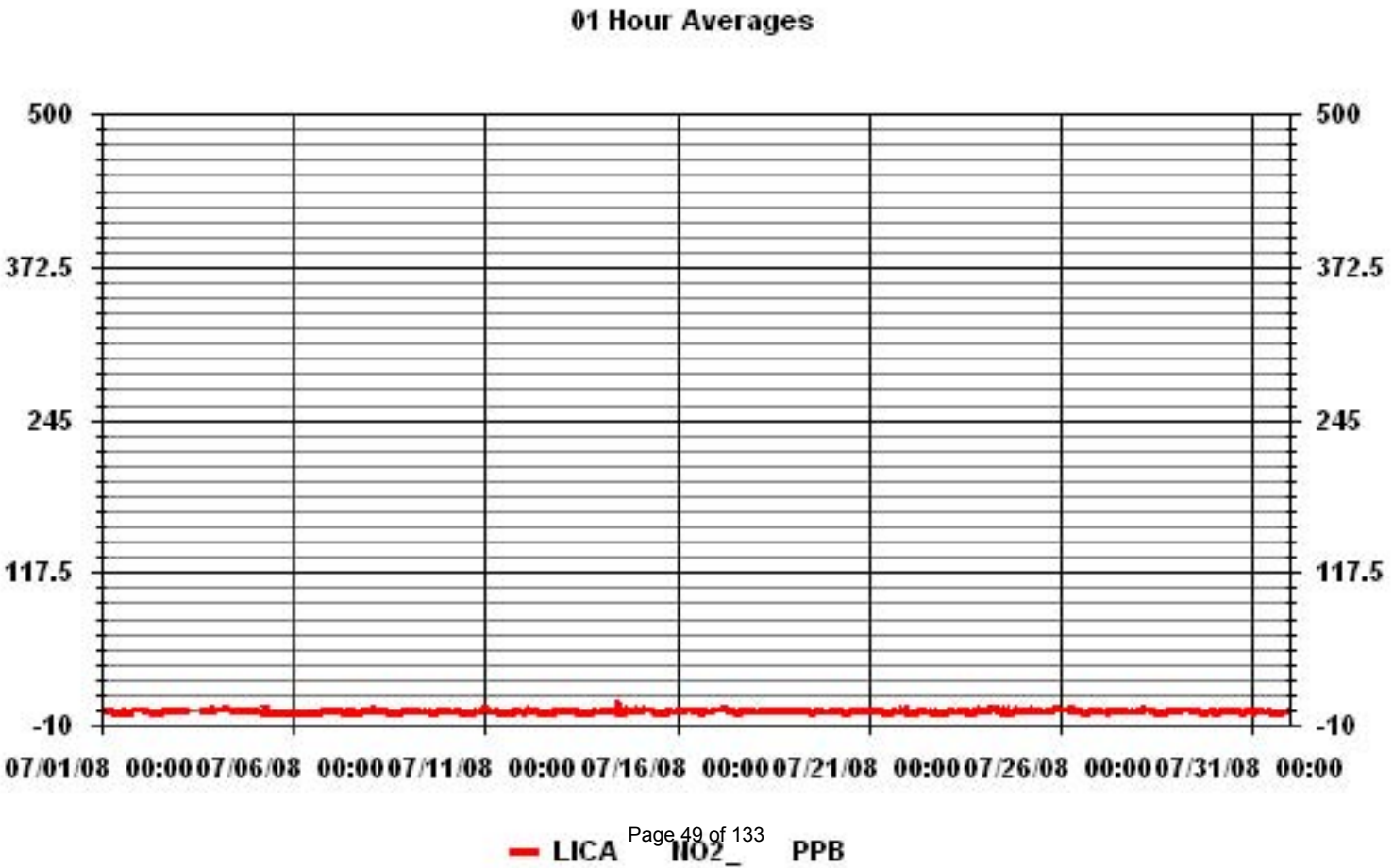
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 212 PPB | 24-HR 106 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	552					
MAXIMUM 1-HR AVERAGE:	10	PPB	@ HOUR(S)	11	ON DAY(S)	14
MAXIMUM 24-HR AVERAGE:	2.7	PPB			ON DAY(S)	24

IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	741	HRS
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:	99.6	%
STANDARD DEVIATION:	1.24		MONTHLY AVERAGE:	1.44	PPB


01 Hour Averages
500
372.5
245
117.5
-10
07/01/08 00:00
07/06/08 00:00
07/11/08 00:00
07/16/08 00:00
07/21/08 00:00
07/26/08 00:00
07/31/08 00:00
LICA NO2_ PPB

LICA
NO2_ / WD Joint Frequency Distribution (Percent)

July 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	2.70	1.70	2.70	2.84	3.84	8.68	12.82	3.41	4.55	4.70	11.25	14.52	10.96	6.98	4.70	3.56	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	2.70	1.70	2.70	2.84	3.84	8.68	12.82	3.41	4.55	4.70	11.25	14.52	10.96	6.98	4.70	3.56	

Calm : .00 %

Total # Operational Hours : 702

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	19	12	19	20	27	61	90	24	32	33	79	102	77	49	33	25	702
<	110																	
<	210																	
>=	210																	
	Totals	19	12	19	20	27	61	90	24	32	33	79	102	77	49	33	25	

Calm : .00 %

Total # Operational Hours : 702

Logger : 01 Parameter : NO2_

Class Limits (PPB)

>= 210

< 210

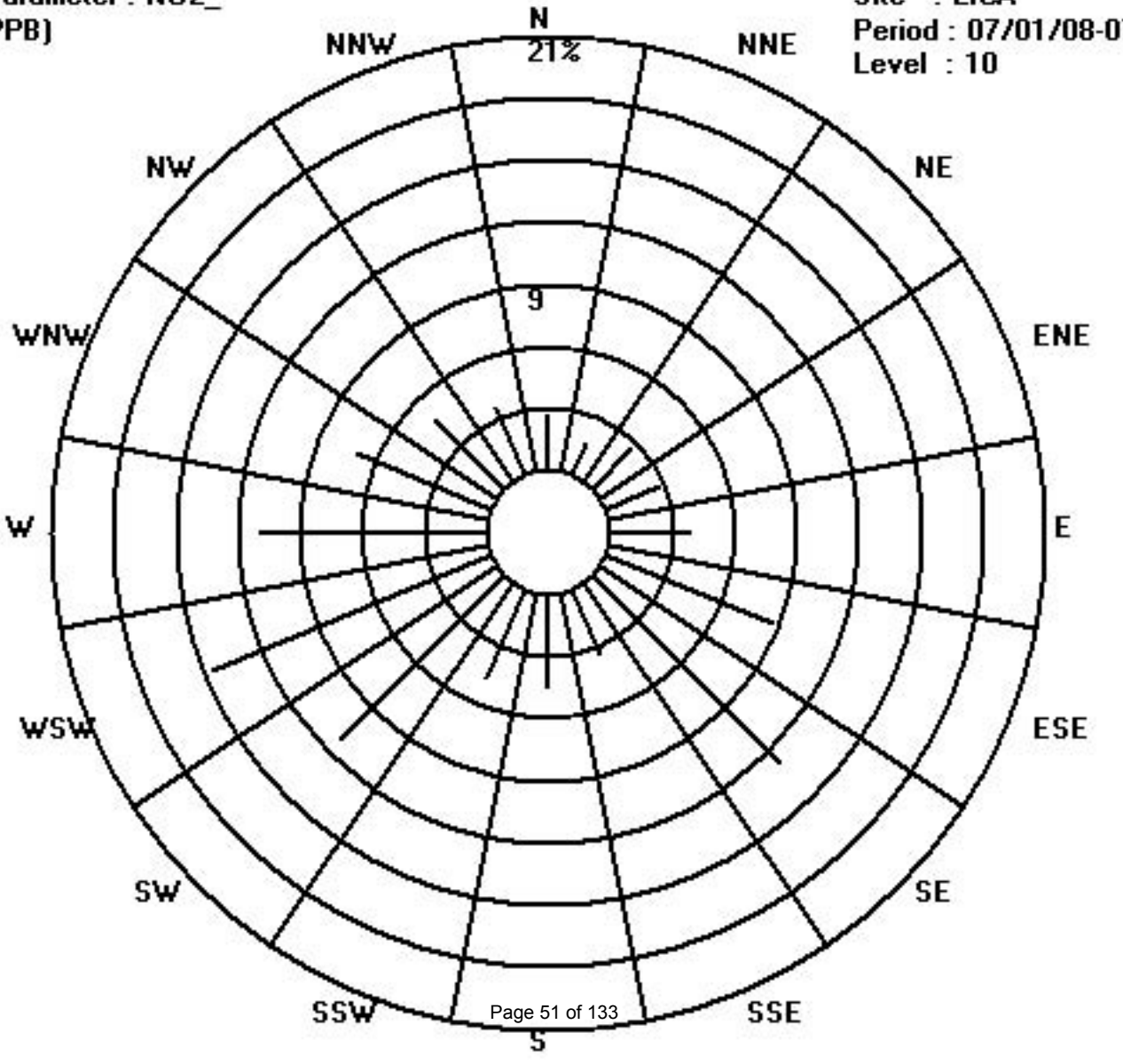
< 110

< 50

Site : LICA

Period : 07/01/08-07/31/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JULY 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	3	4	3	4	4	6	4	1	1	**IZS**	1	1	0	1	1	2	2	3	3	2	4	5	6	5	6	2.9	24
2	4	4	3	2	3	6	6	6	**IZS**	2	1	5	1	3	**M**	**C**	3	8	2	3	4	6	5	6	8	4.0	23
3	6	4	4	3	3	7	**M**	**M**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	4	10	2	8	2	6	7	4	9	10	5.3	22
4	7	7	4	4	5	11	**IZS**	6	6	10	4	11	3	3	2	2	3	2	2	4	12	5	4	5	12	5.3	24
5	3	1	3	4	2	**IZS**	**130**	18	1	1	1	0	0	0	1	1	1	2	1	1	1	5	1	1	**130**	7.8	24
6	1	1	2	4	**IZS**	2	2	1	1	1	3	0	2	4	7	2	1	3	2	3	2	2	2	1	7	2.1	24
7	2	1	1	**IZS**	3	5	4	3	1	2	4	1	1	1	2	2	6	2	1	2	4	3	3	4	6	2.5	24
8	3	8	**IZS**	3	3	3	4	3	2	2	2	2	1	2	1	1	1	1	1	1	5	5	2	1	8	2.5	24
9	1	**IZS**	3	3	4	3	3	4	2	3	2	3	5	3	2	1	1	1	6	6	5	7	3	4	7	3.3	24
10	**IZS**	2	2	2	2	2	2	10	3	1	2	2	2	1	5	1	3	2	2	4	2	3	4	**IZS**	10	2.7	24
11	5	5	5	3	3	2	2	2	2	1	4	0	3	1	1	1	1	1	2	2	3	5	**IZS**	2	5	2.4	24
12	2	4	9	3	4	3	1	2	1	1	1	1	1	1	1	1	1	1	1	1	4	**IZS**	3	3	9	2.2	24
13	5	2	3	3	4	2	3	2	2	2	1	1	0	0	1	2	0	0	1	1	**IZS**	5	2	3	5	2.0	24
14	2	1	2	5	5	5	4	3	5	9	39	94	69	20	1	2	17	3	2	**IZS**	3	3	3	6	94	13.2	24
15	5	3	4	6	5	4	5	4	5	3	2	1	2	4	1	1	1	1	**IZS**	2	1	2	2	3	6	2.9	24
16	3	2	2	2	3	5	5	5	12	3	7	2	4	2	1	3	1	**IZS**	1	1	6	3	3	8	12	3.7	24
17	4	4	7	5	4	7	6	4	8	6	3	4	1	1	1	1	**IZS**	2	1	3	4	5	2	4	8	3.8	24
18	1	1	2	4	4	3	5	10	12	5	7	2	3	2	2	**IZS**	3	4	3	3	5	4	3	2	12	3.9	24
19	3	3	3	2	2	4	3	2	2	5	1	4	1	1	**IZS**	1	0	3	8	2	4	3	4	3	8	2.8	24
20	3	2	5	3	2	2	2	1	1	1	1	1	1	**IZS**	2	1	1	2	1	2	2	2	1	1	5	1.7	24
21	1	2	1	2	6	2	4	3	2	1	2	1	**IZS**	2	1	2	2	3	1	3	7	7	6	1	7	2.7	24
22	1	2	2	0	3	4	3	8	5	6	5	**IZS**	2	9	15	1	1	1	11	4	1	1	1	1	15	3.8	24
23	1	1	1	1	1	2	36	3	25	17	**IZS**	3	10	15	2	1	1	2	1	1	4	6	4	4	36	6.2	24
24	3	4	3	7	7	5	6	6	5	**IZS**	12	3	11	5	13	2	1	1	2	6	5	7	4	3	13	5.3	24
25	2	3	3	3	4	10	6	5	**IZS**	9	4	3	2	3	3	3	2	4	10	11	13	7	7	5	13	5.3	24
26	5	4	5	4	4	5	11	**IZS**	5	2	3	14	2	2	3	2	1	1	2	2	11	6	10	2	14	4.6	24
27	2	2	2	2	3	2	**IZS**	3	2	1	3	2	2	5	6	14	6	8	4	3	5	3	2	3	14	3.7	24
28	3	3	4	5	5	**IZS**	6	5	2	2	1	1	1	1	2	1	1	1	1	2	1	1	2	3	6	2.3	24
29	6	4	4	3	**IZS**	4	5	6	4	4	3	2	2	4	4	12	1	2	2	2	7	2	2	2	12	3.8	24
30	1	1	1	**IZS**	7	2	4	3	4	3	2	7	8	3	2	1	1	1	0	2	1	1	1	1	8	2.5	24
31	1	1	**IZS**	1	2	2	1	1	4	3	1	1	1	2	2	1	1	2	2	2	4	2	2	2	4	1.8	24
HOURLY MAX	7	8	9	7	7	11	130	18	25	17	39	94	69	20	15	14	17	8	11	11	13	7	10	9			
HOURLY AVG	3.0	2.9	3.2	3.2	3.7	4.1	9.8	4.5	4.5	3.8	4.2	5.9	4.9	3.5	3.0	2.4	2.5	2.3	2.8	2.8	4.5	4.1	3.3	3.3			

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

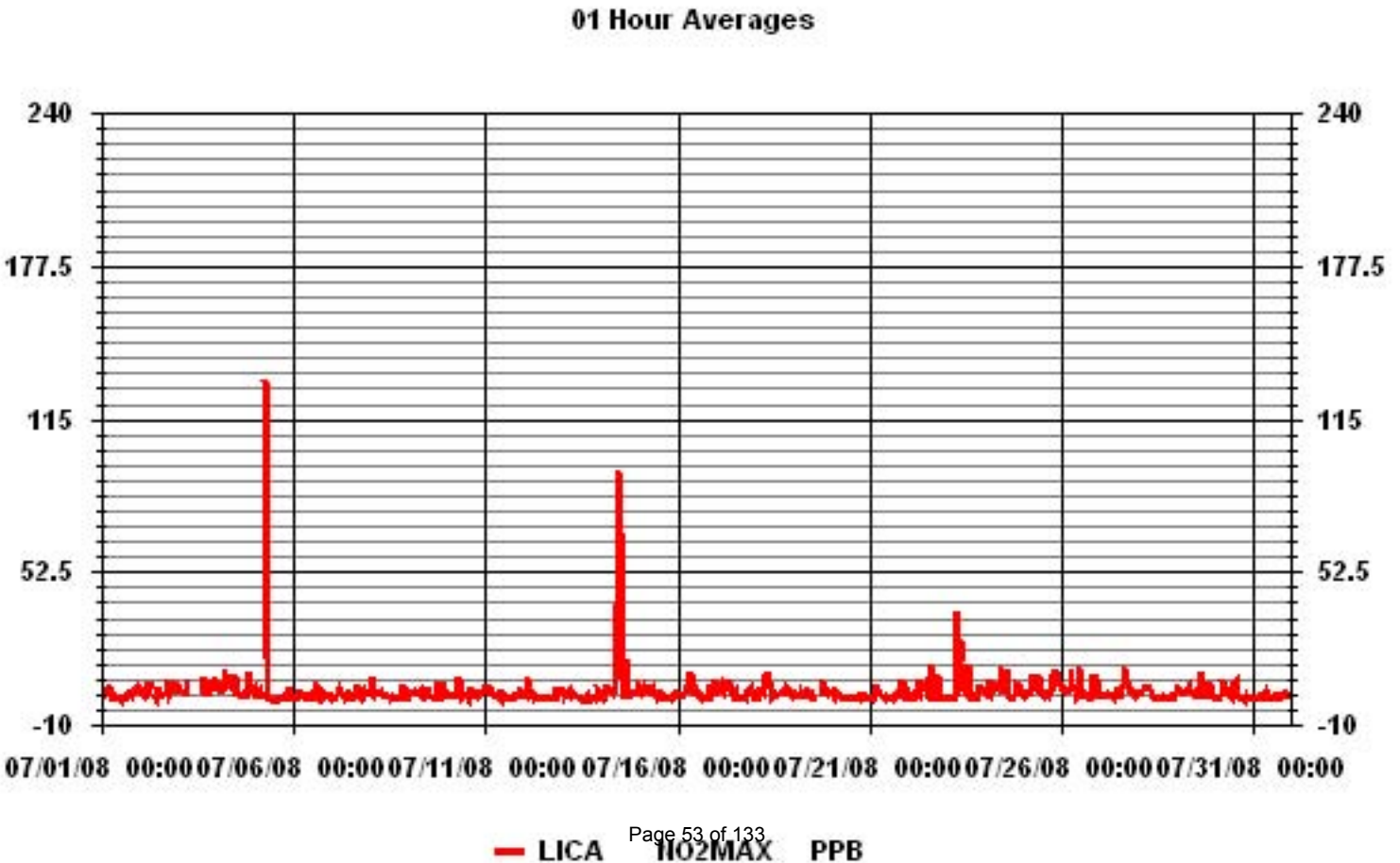
NUMBER OF NON-ZERO READINGS: 689

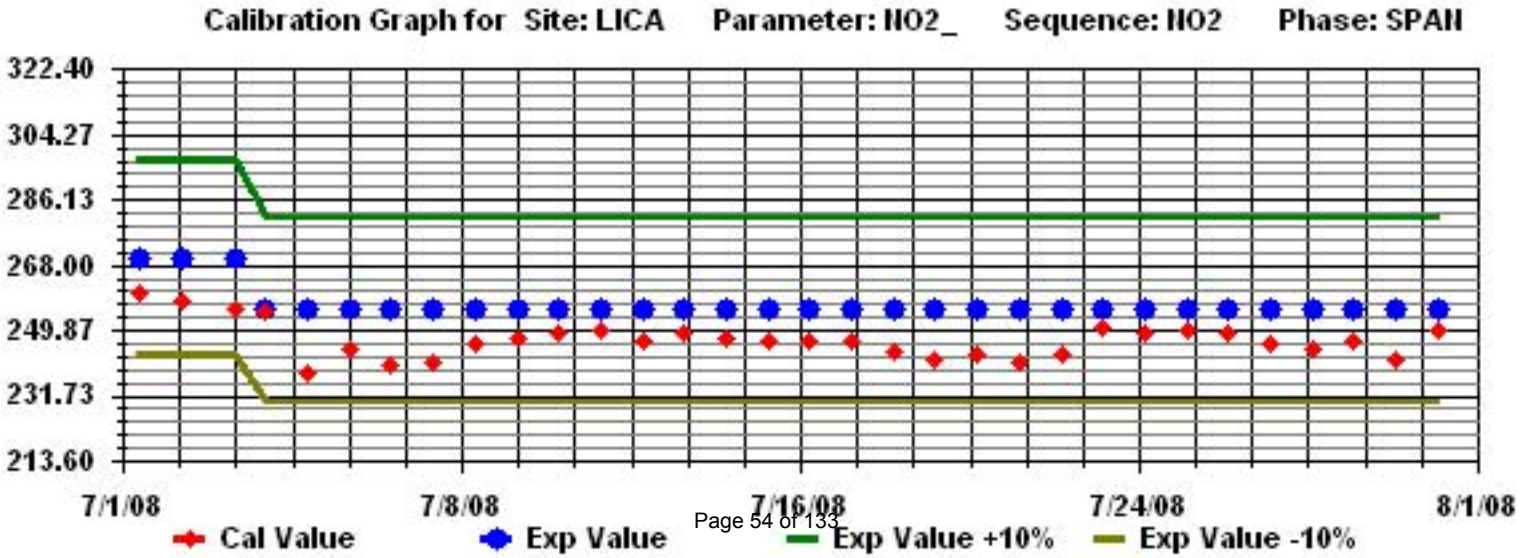
MAXIMUM INSTANTANEOUS VALUE: 130 PPB @ HOUR(S) 6 ON DAY(S) 5

IZS CALIBRATION TIME: 31 HRS OPERATIONAL TIME: 741 HRS

MONTHLY CALIBRATION TIME: 8 HRS

STANDARD DEVIATION 7.19


01 Hour Averages
240
177.5
115
52.5
-10
07/01/08 00:00
07/06/08 00:00
07/11/08 00:00
07/16/08 00:00
07/21/08 00:00
07/26/08 00:00
07/31/08 00:00
LICA NO2MAX PPB


Calibration Graph for Site: LICA Parameter: NO2_ Sequence: NO2 Phase: SPAN
322.40
304.27
286.13
268.00
249.87
231.73
213.60
7/1/08
7/8/08
7/16/08
7/24/08
8/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JULY 2008

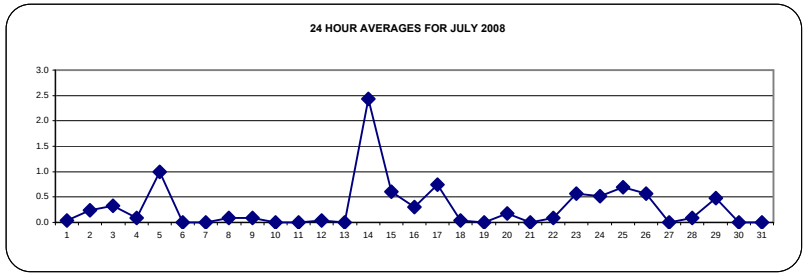
NITRIC OXIDE hourly averages in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	1	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
2	0	0	0	0	0	4	1	0	**IZS**	0	0	0	0	0	**M**	**N**	0	0	0	0	0	0	0	0	4	0.2	23
3	0	0	0	0	1	4	**M**	**M**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	0	0	0	0	4	0.3	22
4	0	0	0	0	0	2	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.1	24
5	0	0	0	0	0	**IZS**	**22**	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**22**	1.0	24
6	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
7	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
8	0	0	**IZS**	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
9	0	**IZS**	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
10	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0.0	24
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0.0	24
12	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	1	0.0	24
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0.0	24
14	0	0	0	0	0	1	1	1	2	1	17	16	12	1	0	0	4	0	0	**IZS**	0	0	0	0	17	**2.4**	24
15	0	0	0	0	1	2	4	3	3	1	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	4	0.6	24
16	0	0	0	0	1	2	2	1	1	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	2	0.3	24
17	0	0	0	0	1	5	4	6	1	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	6	0.7	24
18	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	1	0.0	24
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0.0	24
20	0	1	1	1	0	0	1	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	1	0.2	24
21	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
22	0	0	0	0	0	0	0	1	0	0	0	**IZS**	0	0	1	0	0	0	0	0	0	0	0	0	1	0.1	24
23	0	0	0	0	0	0	2	0	6	2	**IZS**	0	1	2	0	0	0	0	0	0	0	0	0	0	6	0.6	24
24	0	0	0	0	0	1	2	3	2	**IZS**	0	0	2	0	2	0	0	0	0	0	0	0	0	0	3	0.5	24
25	0	0	0	0	1	9	5	1	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0.7	24
26	0	0	1	1	2	3	6	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0.6	24
27	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
28	0	0	0	0	0	**IZS**	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
29	0	0	0	0	**IZS**	3	3	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.5	24
30	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
31	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
HOURLY MAX	0	1	1	1	2	9	22	6	6	2	17	16	12	2	2	0	4	0	0	0	0	0	0	0			
HOURLY AVG	0.0	0.0	0.1	0.1	0.2	1.3	2.0	0.8	0.6	0.2	0.6	0.6	0.5	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

STATUS FLAG CODES

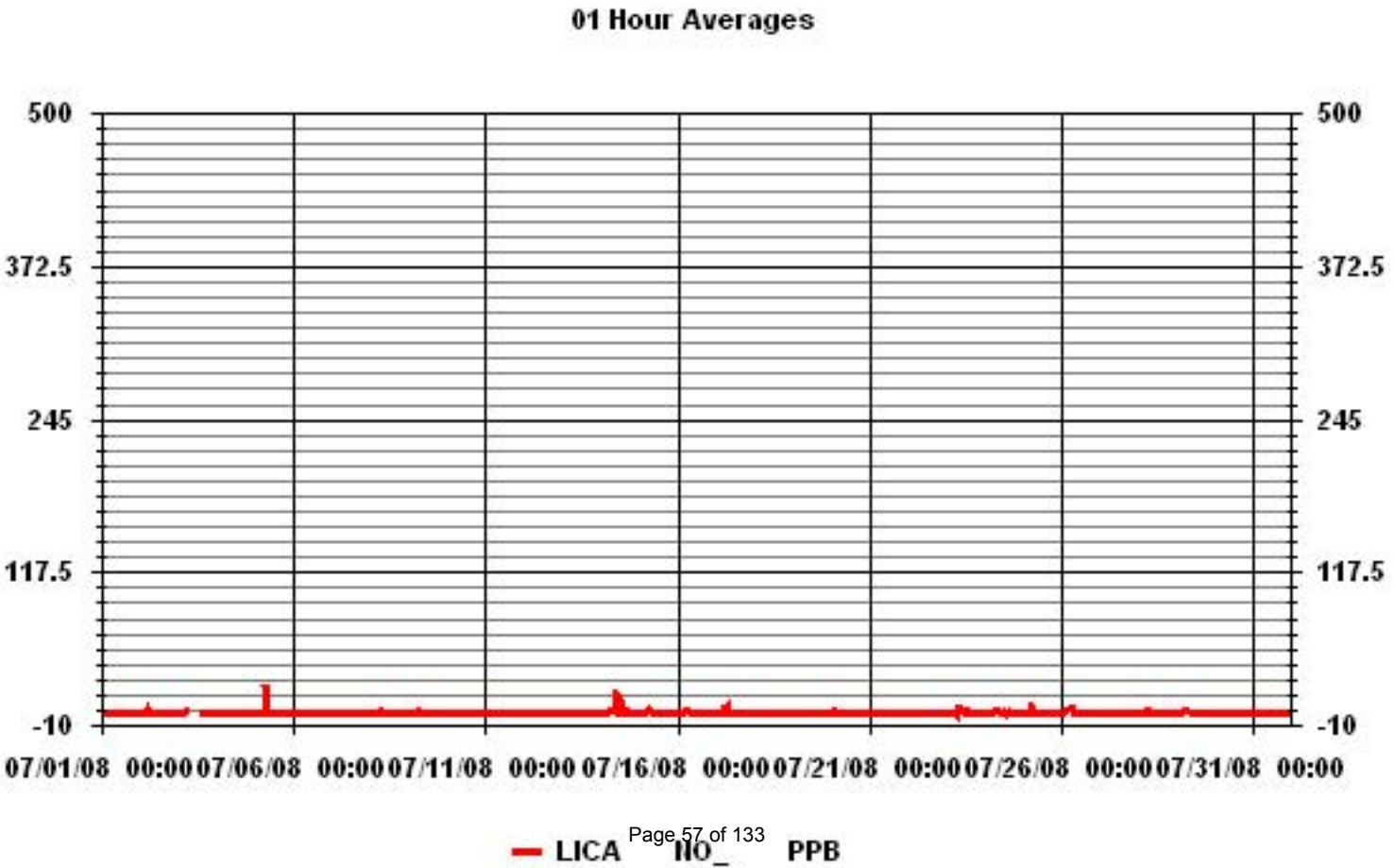
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	73					
MAXIMUM 1-HR AVERAGE:	22	PPB	@ HOUR(S)	6	ON DAY(S)	5
MAXIMUM 24-HR AVERAGE:	2.4	PPB			ON DAY(S)	14

IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	741	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	99.6	%
STANDARD DEVIATION:	1.50		MONTHLY AVERAGE:	0.30	PPB


01 Hour Averages
500
372.5
245
117.5
-10
07/01/08 00:00
07/06/08 00:00
07/11/08 00:00
07/16/08 00:00
07/21/08 00:00
07/26/08 00:00
07/31/08 00:00
LICA NO_ PPB

LICA
NO_ / WD Joint Frequency Distribution (Percent)

July 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	2.70	1.70	2.70	2.84	3.84	8.68	12.82	3.41	4.55	4.70	11.25	14.52	10.96	6.98	4.70	3.56	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	2.70	1.70	2.70	2.84	3.84	8.68	12.82	3.41	4.55	4.70	11.25	14.52	10.96	6.98	4.70	3.56	

Calm : .00 %

Total # Operational Hours : 702

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	19	12	19	20	27	61	90	24	32	33	79	102	77	49	33	25	702
< 110																	
< 210																	
>= 210																	
Totals	19	12	19	20	27	61	90	24	32	33	79	102	77	49	33	25	

Calm : .00 %

Total # Operational Hours : 702

Logger : 01 Parameter : NO_

Class Limits (PPB)

>= 210

< 210

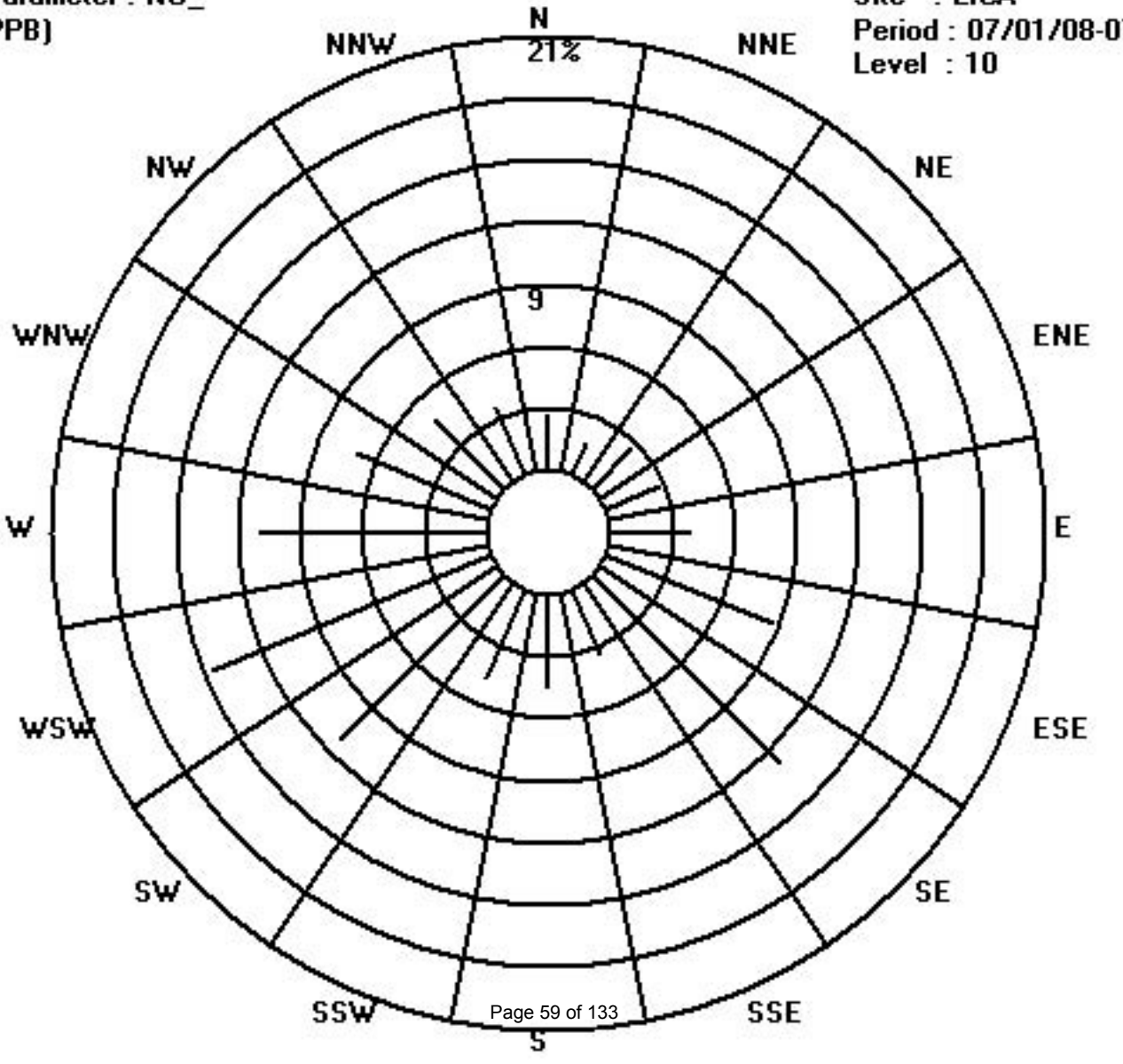
< 110

< 50

Site : LICA

Period : 07/01/08-07/31/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JULY 2008

NITRIC OXIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	1	1	2	1	0	0	**IZS**	0	0	0	0	0	5	1	1	1	1	1	1	1	2	5	0.8	24
2	1	1	1	2	7	11	4	1	**IZS**	3	2	1	1	3	**M**	**C**	4	3	0	2	0	0	3	1	11	2.4	23
3	4	1	3	3	3	14	**M**	**M**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0	9	0	3	0	0	0	0	2	14	2.8	22
4	2	3	0	1	1	9	**IZS**	2	1	8	0	16	0	2	0	0	0	0	0	0	1	0	0	0	16	2.0	24
5	0	0	0	0	0	**IZS**	**187**	35	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	**187**	9.7	24
6	0	0	0	0	**IZS**	0	0	0	0	2	0	0	6	2	7	1	1	0	0	0	0	0	0	0	7	0.8	24
7	0	0	0	**IZS**	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.1	24
8	0	0	**IZS**	0	0	1	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0.4	24
9	0	**IZS**	0	0	1	1	1	2	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	2	0.3	24
10	**IZS**	0	0	0	0	0	1	8	1	0	0	0	1	0	2	0	2	4	0	1	0	0	0	**IZS**	8	0.9	24
11	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	**IZS**	0	2	0.2	24
12	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	1	0.1	24
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	**IZS**	0	0	0	1	0.1	24
14	0	0	0	0	0	2	2	2	3	10	151	87	100	27	1	0	41	0	0	**IZS**	0	0	0	4	151	18.7	24
15	2	1	1	1	1	3	7	3	35	4	2	0	0	20	2	0	0	0	**IZS**	0	0	0	0	0	35	3.6	24
16	0	0	0	0	3	5	4	2	7	1	1	0	10	0	0	1	0	**IZS**	0	0	3	0	0	10	10	2.0	24
17	1	1	1	2	2	7	6	8	4	3	6	3	0	0	0	0	**IZS**	0	0	1	1	4	0	1	8	2.2	24
18	0	0	0	3	1	1	2	13	11	8	2	0	0	0	0	**IZS**	0	0	0	1	0	5	0	0	13	2.0	24
19	0	0	0	0	0	0	0	0	2	5	0	2	0	0	**IZS**	0	0	0	3	0	0	0	0	0	5	0.5	24
20	0	14	9	2	1	1	1	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	1	0	0	1	14	1.3	24
21	0	0	0	1	0	0	1	1	3	0	2	0	**IZS**	1	1	0	1	0	0	0	0	14	0	0	14	1.1	24
22	0	0	0	0	2	1	2	7	5	4	4	**IZS**	2	6	15	0	0	0	8	2	0	0	0	0	15	2.5	24
23	0	0	0	0	0	0	32	3	45	16	**IZS**	0	18	14	7	0	0	0	0	0	0	0	0	0	45	5.9	24
24	1	0	1	0	1	3	3	4	3	**IZS**	3	0	11	14	15	0	0	0	0	0	0	0	0	2	15	2.7	24
25	0	0	1	1	6	23	8	6	**IZS**	3	0	0	1	0	0	0	0	0	3	1	13	1	2	3	23	3.1	24
26	1	2	3	2	16	5	8	**IZS**	1	0	0	1	0	0	0	0	0	0	0	0	4	0	5	0	16	2.1	24
27	0	0	0	0	7	0	**IZS**	3	0	0	4	0	2	1	4	12	1	1	2	0	0	0	0	0	12	1.6	24
28	0	0	0	0	0	**IZS**	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.1	24
29	0	0	0	1	**IZS**	8	3	3	3	3	0	0	1	2	1	6	0	2	0	0	8	0	0	0	8	1.8	24
30	0	0	0	**IZS**	3	0	4	1	3	2	0	0	2	1	0	0	0	0	0	0	0	0	0	0	4	0.7	24
31	0	0	**IZS**	0	0	0	0	0	1	1	0	2	0	1	3	0	0	8	0	0	0	0	0	0	8	0.7	24
HOURLY MAX	4	14	9	3	16	23	187	35	45	16	151	87	100	27	15	12	41	8	8	2	13	14	5	10			
HOURLY AVG	0.4	0.8	0.7	0.7	1.9	3.4	10.2	3.8	4.6	2.6	6.2	3.9	5.4	3.2	2.1	0.9	2.0	0.6	0.7	0.4	1.1	0.9	0.4	0.9			

STATUS FLAG CODES

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

MONTHLY SUMMARY

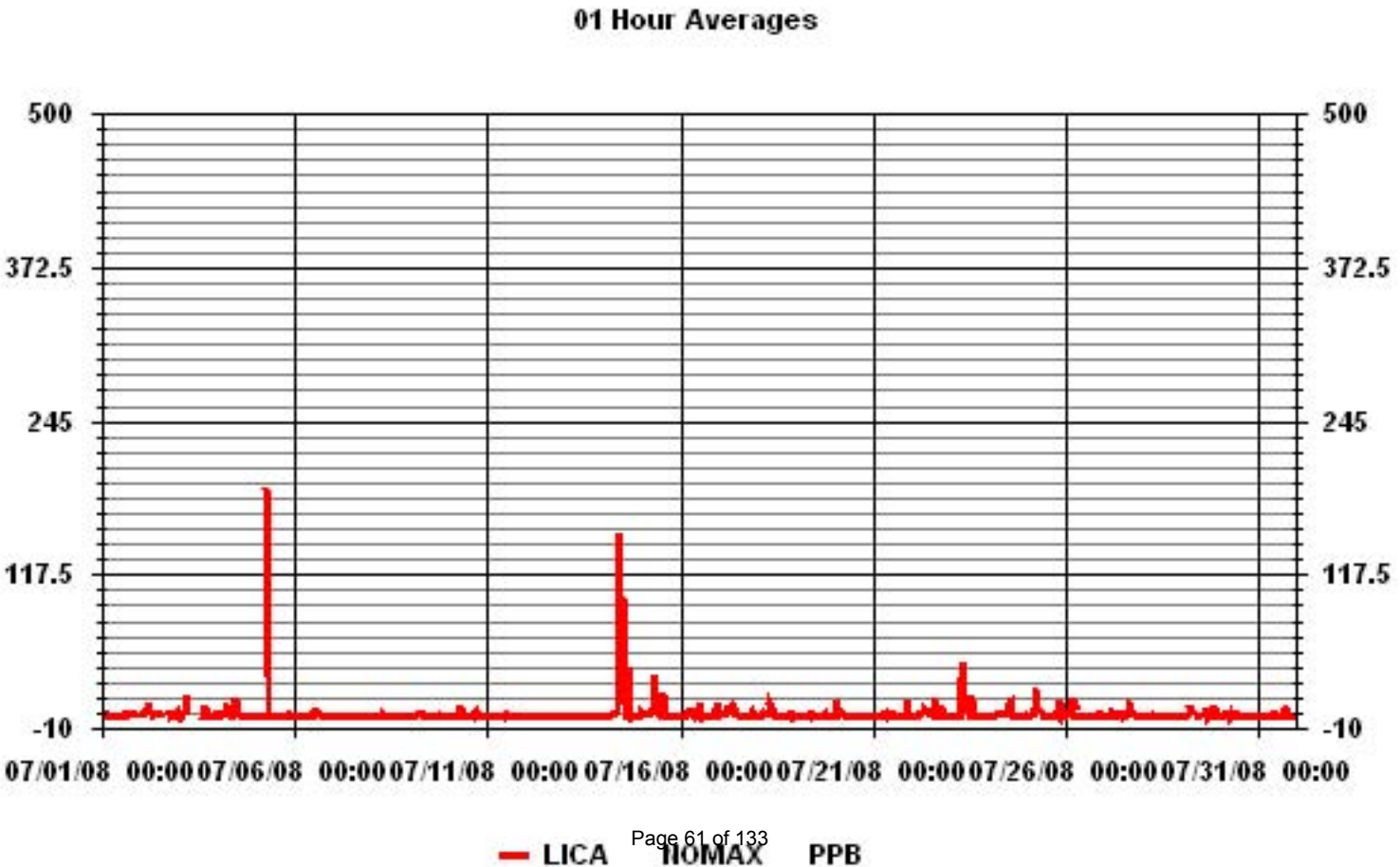
NUMBER OF NON-ZERO READINGS: 264

MAXIMUM INSTANTANEOUS VALUE: 187 PPB @ HOUR(S) 6 ON DAY(S) 5

IZS CALIBRATION TIME: 31 HRS OPERATIONAL TIME: 741 HRS

MONTHLY CALIBRATION TIME: 8 HRS

STANDARD DEVIATION 11.10


01 Hour Averages
500
372.5
245
117.5
-10
07/01/08 00:00
07/06/08 00:00
07/11/08 00:00
07/16/08 00:00
07/21/08 00:00
07/26/08 00:00
07/31/08 00:00
LICA
NOMAX
PPB

Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JULY 2008

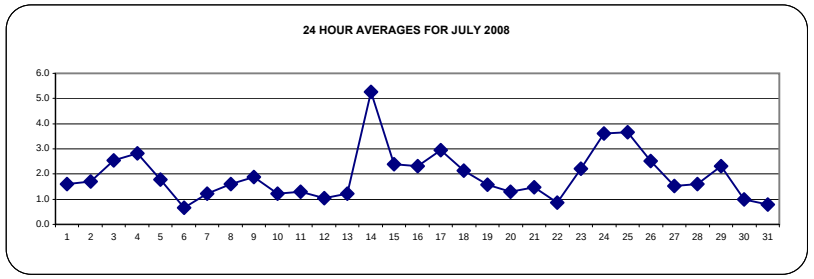
OXIDES OF NITROGEN hourly averages in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	1	1	2	2	3	5	3	1	0	**IZS**	0	0	0	0	1	1	1	0	1	1	2	4	4	4	5	1.6	24
2	3	3	2	2	2	7	3	1	**IZS**	1	0	0	0	0	**M**	**C**	1	1	1	1	2	2	2	2	7	1.7	23
3	2	2	2	2	4	8	**M**	**M**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1	2	1	1	1	3	4	2	3	8	2.5	22
4	4	3	3	3	4	8	**IZS**	5	5	4	2	2	2	2	2	2	1	1	1	2	4	3	1	1	8	2.8	24
5	1	1	2	2	2	**IZS**	25	3	1	1	0	0	0	0	1	1	0	1	0	0	0	0	0	0	25	1.8	24
6	0	1	0	1	**IZS**	2	1	0	0	0	0	0	1	0	1	0	1	1	1	1	1	1	1	1	2	0.7	24
7	1	1	1	**IZS**	2	4	3	1	0	0	1	1	0	1	1	0	1	0	0	1	3	2	2	2	4	1.2	24
8	2	5	**IZS**	2	2	2	3	3	2	2	1	1	1	1	1	1	0	0	0	1	2	3	1	1	5	1.6	24
9	1	**IZS**	3	2	3	3	3	4	3	2	1	2	2	2	1	0	0	0	1	1	2	3	2	2	4	1.9	24
10	**IZS**	2	1	1	2	1	1	3	2	0	1	1	1	0	0	1	0	1	1	3	1	2	2	**IZS**	3	1.2	24
11	4	4	3	2	2	2	2	1	1	1	0	0	0	0	0	0	0	0	1	1	2	3	**IZS**	1	4	1.3	24
12	1	2	4	1	2	2	2	2	1	1	0	0	0	0	0	0	0	0	0	1	1	**IZS**	2	2	4	1.0	24
13	3	2	3	3	3	2	2	2	1	1	1	0	0	0	0	0	0	0	0	1	**IZS**	1	1	2	3	1.2	24
14	2	1	2	3	4	5	4	3	6	5	16	**26**	20	2	1	1	7	2	1	**IZS**	2	2	2	4	**26**	**5.3**	24
15	3	2	3	5	4	6	8	7	6	3	1	0	0	1	0	0	0	0	**IZS**	1	1	1	1	2	8	2.4	24
16	2	2	1	2	2	5	7	5	5	3	2	1	2	1	1	1	0	**IZS**	1	1	2	2	2	3	7	2.3	24
17	3	3	4	4	4	11	9	10	4	3	2	1	1	0	0	0	**IZS**	1	1	1	2	2	1	1	11	3.0	24
18	1	1	1	2	3	2	4	5	3	2	3	2	1	1	1	**IZS**	2	2	1	2	3	3	2	2	5	2.1	24
19	3	3	2	2	2	3	1	1	2	1	1	1	1	1	**IZS**	1	1	1	1	1	1	2	2	2	3	1.6	24
20	2	2	3	3	2	2	2	1	1	1	0	0	1	**IZS**	1	1	1	1	1	1	1	1	1	1	3	1.3	24
21	1	1	1	1	1	1	2	2	2	1	1	0	**IZS**	1	1	1	1	1	1	2	4	4	4	0	4	1.5	24
22	0	0	0	0	0	1	0	3	2	2	2	**IZS**	1	2	4	0	0	0	2	1	0	0	0	0	4	0.9	24
23	0	1	1	1	1	1	5	2	8	6	**IZS**	2	4	5	1	0	0	0	1	1	1	4	3	3	8	2.2	24
24	2	3	2	5	6	6	8	8	6	**IZS**	3	2	5	2	5	1	0	0	1	4	4	4	3	3	8	3.6	24
25	2	2	3	2	3	15	10	4	**IZS**	4	3	1	1	1	2	1	1	2	2	3	5	6	6	5	15	3.7	24
26	3	4	4	4	5	6	12	**IZS**	2	1	1	1	1	1	1	1	0	0	1	1	3	3	2	1	12	2.5	24
27	1	1	1	1	2	1	**IZS**	1	1	1	1	1	1	2	3	3	2	3	1	1	2	2	1	2	3	1.5	24
28	2	2	3	4	4	**IZS**	6	4	2	2	1	1	0	0	0	0	1	1	0	1	1	0	1	1	6	1.6	24
29	3	3	2	2	**IZS**	6	6	6	6	4	3	1	1	1	1	1	0	0	1	1	2	1	1	1	6	2.3	24
30	1	0	0	**IZS**	2	1	1	2	2	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	2	1.0	24
31	1	0	**IZS**	0	1	1	1	1	2	1	1	1	1	0	0	0	0	0	0	1	2	1	1	2	2	0.8	24
HOURLY MAX	4	5	4	5	6	15	25	10	8	6	16	26	20	5	5	3	7	3	2	4	5	6	6	5			
HOURLY AVG	1.8	1.9	2.0	2.2	2.7	4.1	4.8	3.1	2.7	1.9	1.7	1.7	1.7	1.0	1.1	0.7	0.8	0.7	0.8	1.3	2.0	2.2	1.8	1.8			

STATUS FLAG CODES

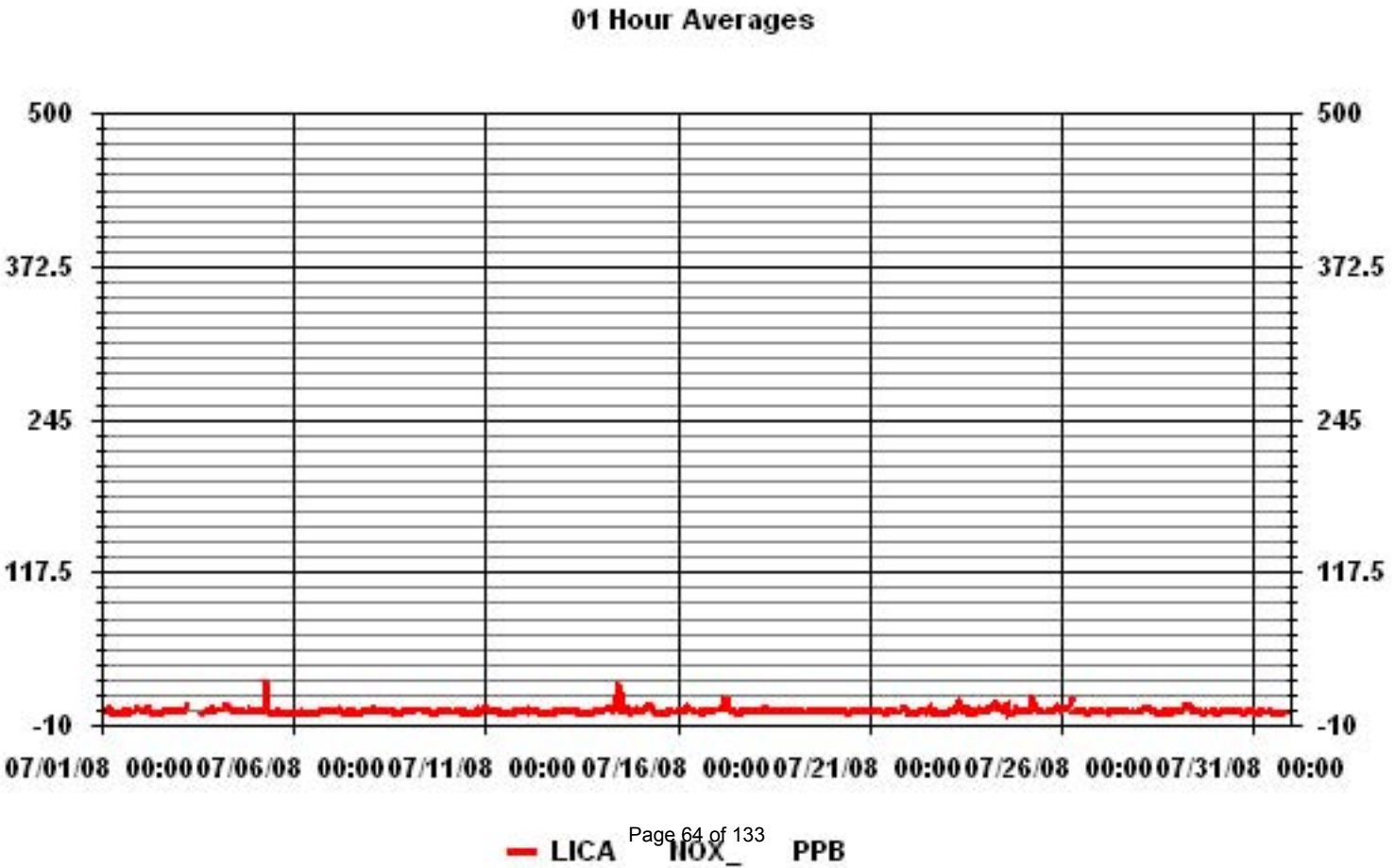
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	577					
MAXIMUM 1-HR AVERAGE:	26	PPB	@ HOUR(S)	11	ON DAY(S)	14
MAXIMUM 24-HR AVERAGE:	5.3	PPB			ON DAY(S)	14

IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	741	HRS
MONTHLY CALIBRATION TIME:	8	HRS	AMD OPERATION UPTIME:	99.6	%
STANDARD DEVIATION:	2.35		MONTHLY AVERAGE:	1.93	PPB


01 Hour Averages
500
372.5
245
117.5
-10
07/01/08 00:00
07/06/08 00:00
07/11/08 00:00
07/16/08 00:00
07/21/08 00:00
07/26/08 00:00
07/31/08 00:00
LICA NOX_ PPB

LICA
NOX_ / WD Joint Frequency Distribution (Percent)

July 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	2.70	1.70	2.70	2.84	3.84	8.68	12.82	3.41	4.55	4.70	11.25	14.52	10.96	6.98	4.70	3.56	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	2.70	1.70	2.70	2.84	3.84	8.68	12.82	3.41	4.55	4.70	11.25	14.52	10.96	6.98	4.70	3.56	

Calm : .00 %

Total # Operational Hours : 702

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	19	12	19	20	27	61	90	24	32	33	79	102	77	49	33	25	702
< 110																	
< 210																	
>= 210																	
Totals	19	12	19	20	27	61	90	24	32	33	79	102	77	49	33	25	

Calm : .00 %

Total # Operational Hours : 702

Logger : 01 Parameter : NOX_

Site : LICA

Period : 07/01/08-07/31/08

Level : 10

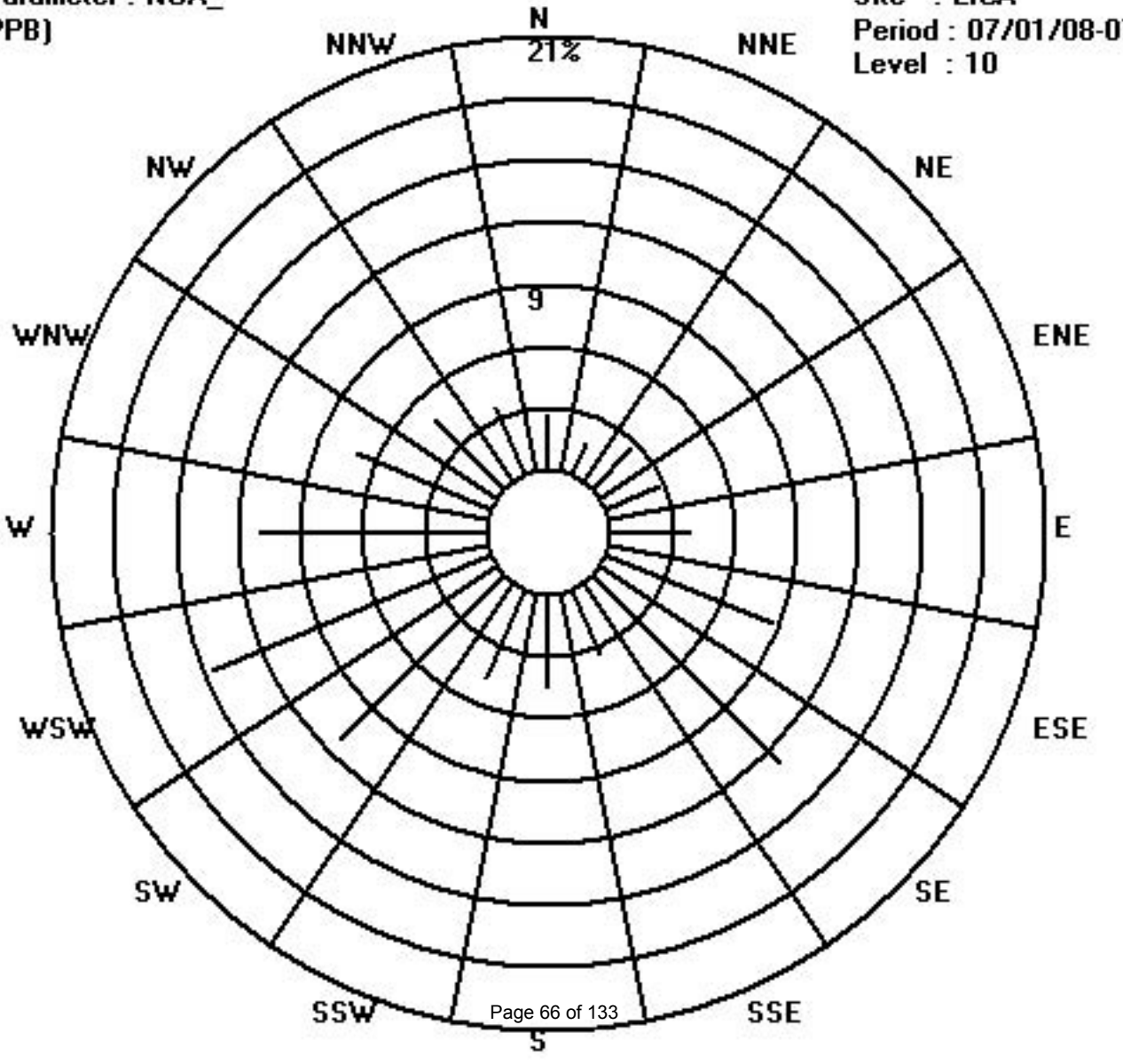
Class Limits (PPB)

>= 210

< 210

< 110

< 50



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JULY 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	3	4	3	6	5	8	6	2	1	**IZS**	1	2	0	1	2	7	3	4	4	2	5	6	8	7	8	3.9	24
2	5	5	3	4	10	17	11	7	**IZS**	2	2	5	2	6	**M**	**C**	4	9	2	6	4	6	9	7	17	6.0	23
3	10	6	7	6	7	20	**M**	**M**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	5	14	3	11	2	6	8	4	12	20	8.1	22
4	9	10	5	6	7	17	**IZS**	9	7	18	4	16	3	4	3	3	3	2	2	5	13	6	4	5	18	7.0	24
5	3	1	3	4	2	**IZS**	**188**	28	1	1	1	1	0	1	1	2	1	2	1	2	2	7	2	1	**188**	11.1	24
6	1	2	2	5	**IZS**	2	3	1	1	2	4	1	4	6	12	3	3	4	3	4	2	3	2	2	12	3.1	24
7	2	2	1	**IZS**	4	5	5	3	1	3	5	2	1	2	2	3	7	3	1	2	4	3	3	4	7	3.0	24
8	3	8	**IZS**	3	3	4	9	6	3	3	2	3	2	3	1	2	1	1	1	1	5	5	2	2	9	3.2	24
9	2	**IZS**	3	3	4	4	4	6	3	4	3	4	6	4	3	2	1	1	8	8	5	7	4	4	8	4.0	24
10	**IZS**	3	2	2	2	2	4	18	4	2	3	3	3	2	7	2	5	5	3	5	2	4	4	**IZS**	18	4.0	24
11	5	5	5	3	3	3	3	2	3	1	6	1	5	1	1	1	1	1	2	2	3	6	**IZS**	2	6	2.8	24
12	2	4	9	3	5	4	2	4	2	1	1	1	2	1	2	1	1	1	1	1	4	**IZS**	4	3	9	2.6	24
13	5	3	3	4	4	3	3	2	2	2	2	1	1	1	1	4	1	0	2	2	**IZS**	6	3	4	6	2.6	24
14	3	2	3	5	6	8	6	5	8	19	79	164	142	38	2	3	48	4	3	**IZS**	3	3	3	10	164	24.7	24
15	5	3	5	6	6	7	12	8	15	6	3	1	3	9	1	1	2	1	**IZS**	2	2	2	2	3	15	4.6	24
16	4	3	2	3	7	10	10	8	19	4	8	2	7	2	2	5	1	**IZS**	1	1	9	3	4	19	19	5.8	24
17	5	5	7	7	6	14	12	12	12	10	7	6	1	1	1	2	**IZS**	3	1	5	6	7	2	6	14	6.0	24
18	1	1	2	6	5	4	8	23	17	13	10	3	3	2	2	**IZS**	4	4	3	4	6	6	3	2	23	5.7	24
19	4	3	3	2	3	5	3	3	3	11	1	7	1	1	**IZS**	2	0	3	12	2	4	3	4	4	12	3.7	24
20	4	15	13	5	4	3	4	2	2	2	1	1	1	**IZS**	3	2	1	2	1	2	2	3	1	1	15	3.3	24
21	1	2	1	3	7	2	5	4	4	2	3	1	**IZS**	3	2	3	4	4	2	3	7	15	6	1	15	3.7	24
22	1	2	2	0	5	5	5	15	11	10	7	**IZS**	4	15	25	1	1	1	19	7	1	1	1	1	25	6.1	24
23	1	1	1	2	2	3	60	6	61	29	**IZS**	4	23	28	9	1	1	4	1	1	5	6	4	4	61	11.2	24
24	4	4	4	8	8	9	10	10	8	**IZS**	16	4	20	17	28	3	1	1	2	7	6	7	5	5	28	8.1	24
25	3	3	4	5	10	33	14	11	**IZS**	13	4	3	3	4	3	4	2	5	14	12	24	9	10	8	33	8.7	24
26	7	6	6	6	19	10	19	**IZS**	6	3	3	15	3	3	3	2	1	1	2	2	13	6	16	2	19	6.7	24
27	2	3	3	2	6	3	**IZS**	5	2	2	8	2	4	7	8	24	7	10	6	3	5	3	2	3	24	5.2	24
28	3	4	4	5	5	**IZS**	8	7	3	2	2	2	1	2	2	1	1	1	1	2	1	1	2	4	8	2.8	24
29	6	4	4	3	**IZS**	13	8	9	7	7	4	2	3	7	5	19	1	4	2	2	11	2	3	2	19	5.6	24
30	2	1	1	**IZS**	9	3	8	4	6	5	2	8	10	4	2	2	2	1	0	2	1	1	1	1	10	3.3	24
31	1	1	**IZS**	1	2	2	2	2	6	5	2	4	2	3	3	1	1	5	2	2	5	2	2	3	6	2.6	24
HOURLY MAX	10	15	13	8	19	33	188	28	61	29	79	164	142	38	28	24	48	10	19	12	24	15	16	19			
HOURLY AVG	3.6	3.9	3.8	4.1	5.7	7.7	15.4	7.7	7.8	6.5	6.7	9.3	9.0	6.1	4.9	3.8	4.1	3.0	3.8	3.4	5.5	4.9	4.0	4.4			

STATUS FLAG CODES

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

MONTHLY SUMMARY

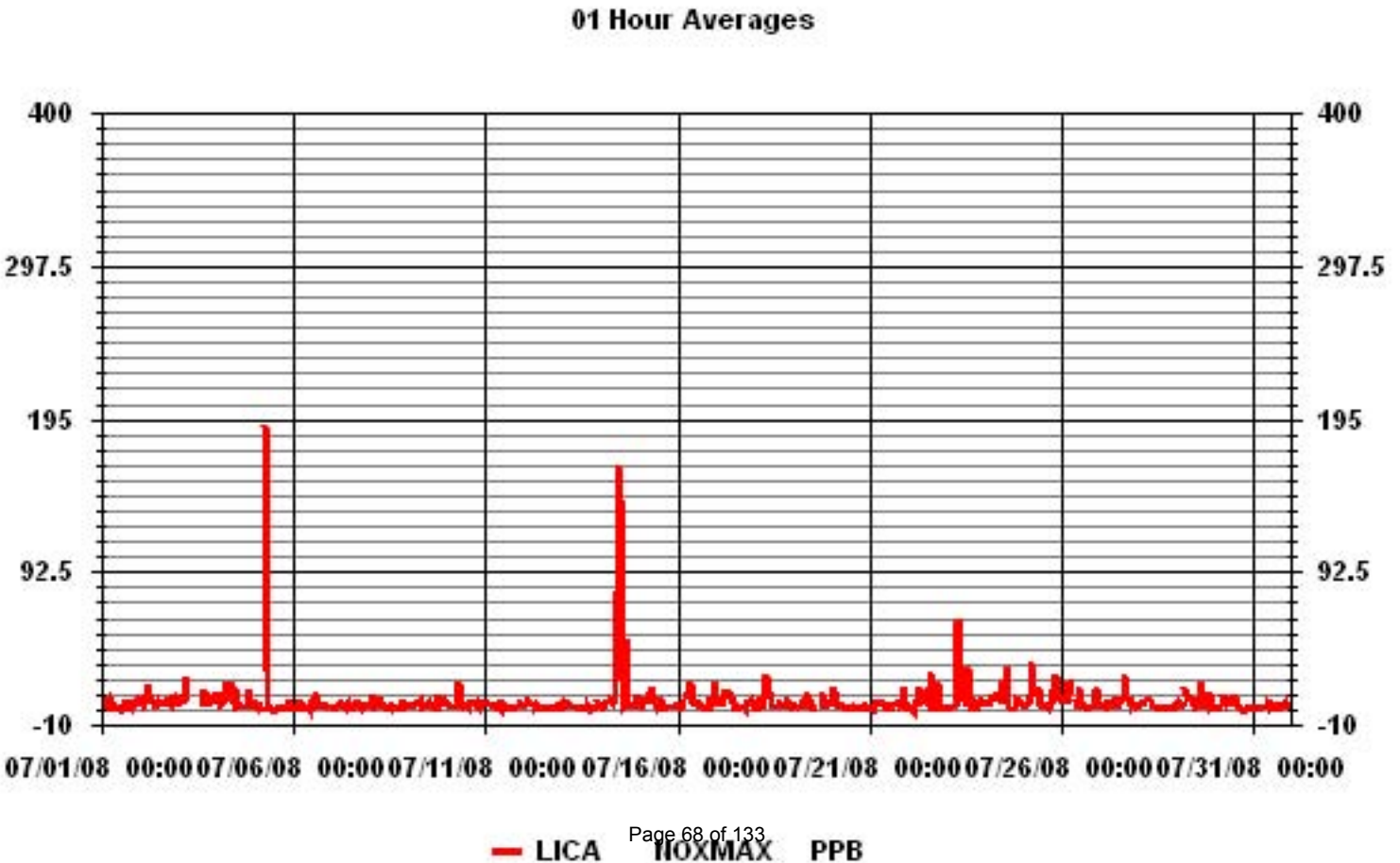
NUMBER OF NON-ZERO READINGS: 696

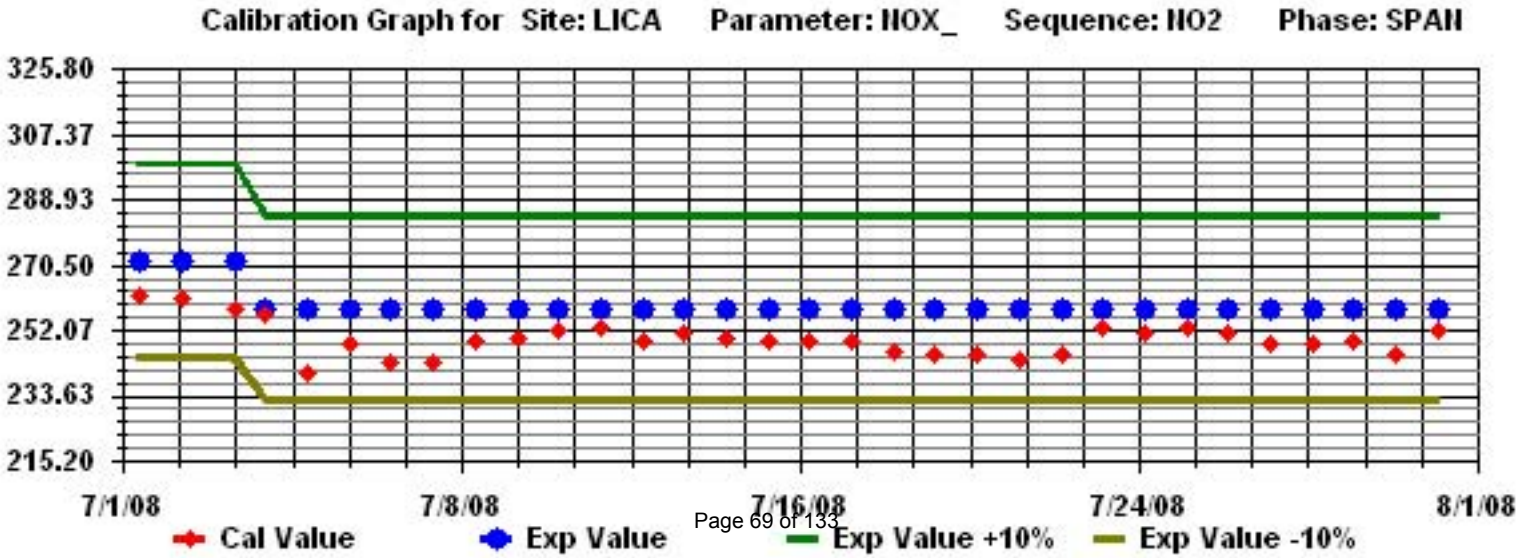
MAXIMUM INSTANTANEOUS VALUE: 188 PPB @ HOUR(S) 6 ON DAY(S) 5

IZS CALIBRATION TIME: 31 HRS OPERATIONAL TIME: 741 HRS

MONTHLY CALIBRATION TIME: 8 HRS

STANDARD DEVIATION 12.30


01 Hour Averages
400
297.5
195
92.5
-10
07/01/08 00:00
07/06/08 00:00
07/11/08 00:00
07/16/08 00:00
07/21/08 00:00
07/26/08 00:00
07/31/08 00:00
LICA NOXMAX PPB


Calibration Graph for Site: LICA Parameter: NOX_ Sequence: NO2 Phase: SPAN
325.80
307.37
288.93
270.50
252.07
233.63
215.20
7/1/08
7/8/08
7/16/08
7/24/08
8/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ozone

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JULY 2008

OZONE (O_3) hourly averages in ppb

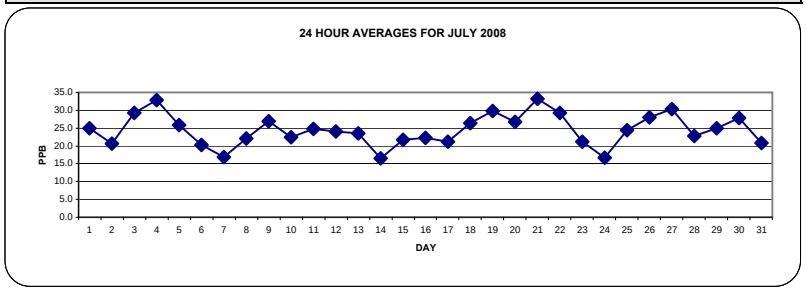
MST

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	26	21	16	11	10	11	22	28	31	**IZS**	35	36	36	37	36	38	36	33	31	29	25	13	8	6	38	25.0	24
2	5	3	2	1	1	3	14	19	**IZS**	24	25	29	31	32	34	36	37	37	36	31	25	18	18	14	37	20.7	24
3	10	8	5	2	2	4	18	**IZS**	27	37	42	44	46	49	48	48	48	48	45	40	32	27	23	21	49	29.3	24
4	12	11	7	5	10	10	**C**	**C**	**C**	**C**	**C**	35	47	50	57	**59**	58	58	51	38	23	18	41	35	**59**	32.9	24
5	36	35	25	21	24	**IZS**	23	20	21	24	27	30	33	29	29	26	25	27	24	22	22	24	23	26	36	25.9	24
6	23	22	21	16	**IZS**	18	18	22	23	23	23	23	24	23	23	23	22	21	19	18	17	15	16	15	24	20.3	24
7	15	12	11	**IZS**	9	7	6	12	18	20	20	20	23	22	22	22	20	22	20	14	18	21	16	16	23	16.8	24
8	13	7	**IZS**	8	9	11	10	14	17	20	24	26	28	32	34	35	38	36	37	34	27	17	18	11	38	22.0	24
9	5	**IZS**	12	12	5	12	19	24	31	36	37	40	38	40	40	41	42	40	37	38	33	15	15	8	42	27.0	24
10	**IZS**	9	7	4	15	29	26	16	19	26	25	30	33	34	35	37	33	32	30	17	17	8	11	**IZS**	37	22.4	24
11	19	21	23	25	24	23	21	21	23	25	25	24	27	27	29	27	27	29	28	30	29	24	**IZS**	19	30	24.8	24
12	18	17	13	15	11	9	12	16	23	28	33	34	33	33	34	34	35	36	34	26	20	**IZS**	20	18	36	24.0	24
13	17	18	16	16	16	17	16	20	22	23	26	28	28	30	32	33	34	34	33	32	**IZS**	22	16	12	34	23.5	24
14	6	4	2	2	6	10	14	16	16	18	21	28	31	31	30	26	21	25	24	**IZS**	17	15	11	4	31	16.4	24
15	2	2	3	3	2	5	7	12	18	28	32	33	33	32	33	32	30	29	**IZS**	37	37	35	31	25	37	21.8	24
16	11	5	2	3	1	4	14	22	25	33	39	41	44	41	37	35	35	**IZS**	33	29	22	16	12	9	44	22.3	24
17	5	2	1	0	0	2	5	7	19	30	37	42	40	36	37	38	**IZS**	40	40	27	22	20	19	20	42	21.3	24
18	20	19	16	8	5	11	15	17	23	24	28	35	40	44	45	**IZS**	38	31	36	38	37	30	26	22	45	26.4	24
19	29	25	25	23	23	18	27	28	29	35	37	40	44	45	**IZS**	40	41	43	44	34	24	13	10	8	45	29.8	24
20	3	1	2	1	3	6	12	20	26	34	35	37	40	**IZS**	44	44	47	48	45	41	34	32	31	31	48	26.8	24
21	29	28	28	29	28	26	25	26	31	37	39	42	**IZS**	45	46	46	47	46	45	38	25	11	16	32	47	**33.3**	24
22	37	33	30	35	32	31	29	27	31	32	27	**IZS**	32	33	33	28	27	29	27	27	24	23	22	22	37	29.2	24
23	22	20	18	18	17	16	14	15	21	22	**IZS**	23	25	26	30	32	33	31	29	26	23	12	8	8	33	21.3	24
24	5	3	2	3	2	5	8	11	17	**IZS**	32	31	30	33	30	28	29	30	30	22	13	8	6	4	33	16.6	24
25	3	2	2	1	1	0	2	18	**IZS**	38	43	42	37	46	56	55	54	48	46	35	17	9	4	2	56	24.4	24
26	4	1	1	0	0	1	6	**IZS**	37	40	43	43	44	47	49	47	47	42	38	35	30	30	29	28	49	27.9	24
27	26	22	25	31	32	33	**IZS**	33	33	36	37	37	40	35	32	25	23	25	34	38	29	23	26	22	40	30.3	24
28	11	7	13	14	9	**IZS**	11	16	23	25	25	28	29	32	35	33	32	33	35	28	25	22	21	17	35	22.8	24
29	13	10	4	4	**IZS**	2	6	9	16	27	34	39	43	43	41	40	39	36	34	30	25	26	27	24	43	24.9	24
30	25	23	22	**IZS**	23	23	23	21	19	23	25	32	36	37	37	42	38	37	36	31	23	21	22	20	42	27.8	24
31	20	20	**IZS**	23	21	20	17	18	18	20	21	22	24	24	25	26	27	27	25	24	16	17	15	10	27	20.9	24
HOURLY MAX	37	35	30	35	32	33	29	33	37	40	43	44	47	50	57	59	58	58	51	41	37	35	41	35			
HOURLY AVG	15.7	13.7	12.2	11.5	11.8	12.7	15.2	18.9	23.5	28.1	30.9	33.1	34.6	35.6	36.4	35.9	35.4	35.1	34.2	30.3	24.4	19.5	18.7	17.0			

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

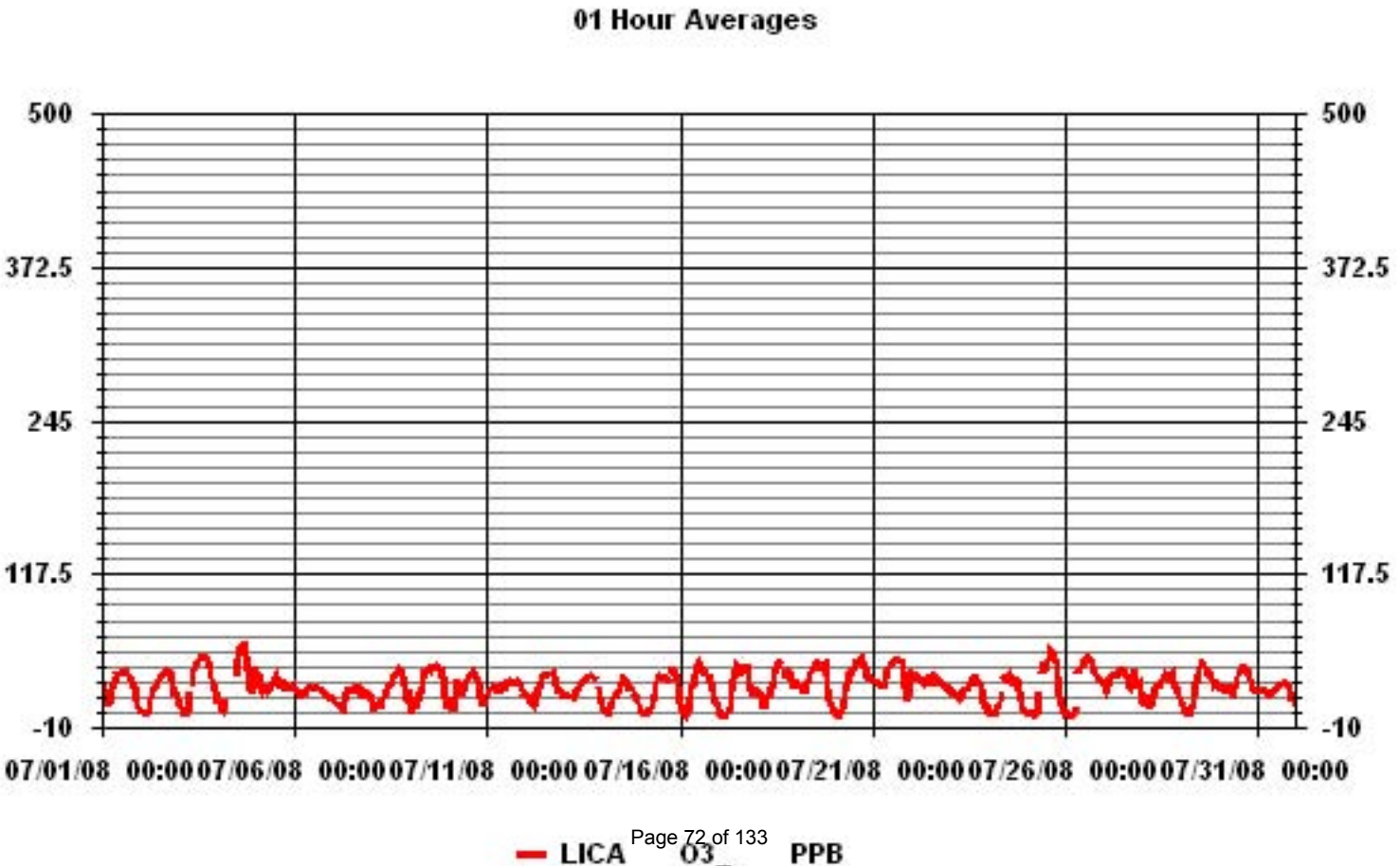
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 82 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	703					
MAXIMUM 1-HR AVERAGE:	59	PPB	@ HOUR(S)	15	ON DAY(S)	4
MAXIMUM 24-HR AVERAGE:	33.3	PPB			ON DAY(S)	21
					VAR-VARIOUS	

IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	744	HRS
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME	100.0	%
STANDARD DEVIATION	12.34		MONTHLY AVERAGE	24.43	PPB


01 Hour Averages
500
372.5
245
117.5
-10
07/01/08 00:00
07/06/08 00:00
07/11/08 00:00
07/16/08 00:00
07/21/08 00:00
07/26/08 00:00
07/31/08 00:00
LICA O3_ PPB

LICA
O3_ / WD Joint Frequency Distribution (Percent)

July 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	1.69	2.68	2.82	3.81	8.47	12.28	3.67	4.51	5.22	10.59	14.26	10.87	6.92	4.66	3.53	98.72
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.28	.14	.70	.14	.00	.00	.00	.00	1.27
< 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	1.69	2.68	2.82	3.81	8.47	12.28	3.67	4.80	5.36	11.29	14.40	10.87	6.92	4.66	3.53	

Calm : .00 %

Total # Operational Hours : 708

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	19	12	19	20	27	60	87	26	32	37	75	101	77	49	33	25	699
< 110									2	1	5	1					9
< 210																	
>= 210																	
Totals	19	12	19	20	27	60	87	26	34	38	80	102	77	49	33	25	

Calm : .00 %

Total # Operational Hours : 708

Logger : 01 Parameter : 03_

Class Limits (PPB)

>= 210

< 210

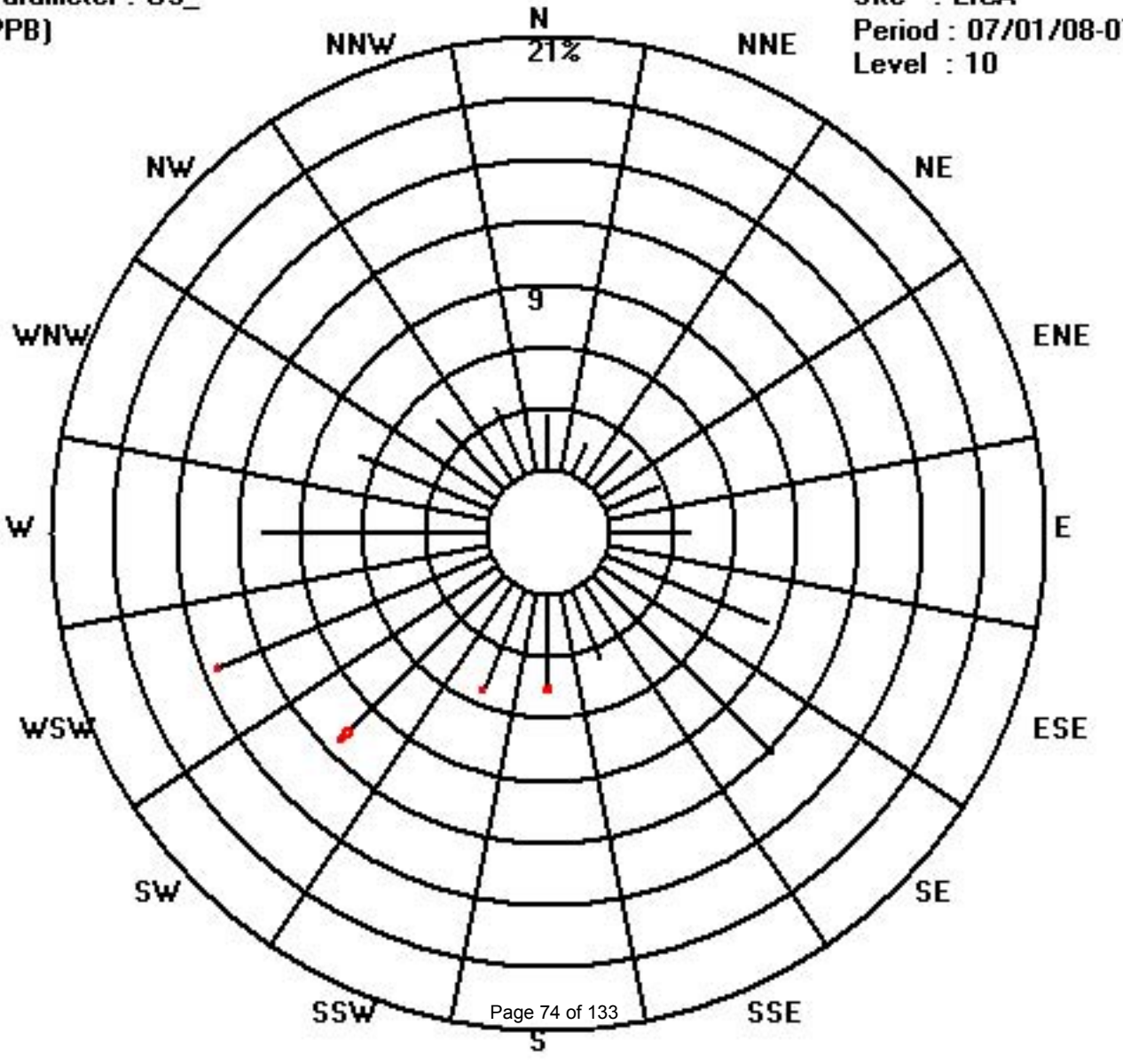
< 110

< 50

Site : LICA

Period : 07/01/08-07/31/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JULY 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	29	30	21	13	12	15	28	31	33	**IZS**	37	37	37	38	37	40	39	36	32	31	28	19	12	12	40	28.1	24
2	8	5	4	3	3	11	16	21	**IZS**	25	29	31	33	34	37	39	39	38	38	35	28	23	22	21	39	23.6	24
3	16	12	10	5	3	15	22	**IZS**	35	41	48	48	49	52	50	50	50	49	48	44	37	34	30	31	52	33.9	24
4	20	20	9	11	17	15	**C**	**C**	**C**	**C**	**C**	47	50	57	60	62	**63**	62	56	45	31	25	42	41	63	38.6	24
5	41	41	30	23	28	**IZS**	29	22	23	26	28	34	35	33	31	27	29	31	28	23	23	25	24	28	41	28.8	24
6	25	24	24	20	**IZS**	19	21	24	25	25	24	24	26	25	24	24	23	22	21	19	18	17	18	18	26	22.2	24
7	17	14	12	**IZS**	10	9	7	16	20	22	22	24	25	24	23	26	23	24	24	17	21	23	18	17	26	19.0	24
8	15	12	**IZS**	9	11	13	12	17	20	22	26	28	31	33	36	37	40	38	39	36	33	22	21	16	40	24.7	24
9	9	**IZS**	16	17	10	19	22	29	35	39	39	41	40	42	43	43	44	42	39	41	38	20	21	13	44	30.5	24
10	**IZS**	15	12	12	32	35	30	20	22	29	27	33	35	36	38	40	36	34	34	28	22	13	16	**IZS**	40	27.2	24
11	21	22	26	27	25	24	22	23	24	26	26	27	29	30	33	28	29	33	31	32	32	27	**IZS**	21	33	26.9	24
12	19	18	17	16	15	11	14	19	28	32	35	35	34	34	35	35	38	38	37	31	27	**IZS**	22	19	38	26.5	24
13	19	19	18	17	17	18	18	22	23	25	28	29	30	32	35	39	38	35	34	33	**IZS**	29	23	20	39	26.1	24
14	12	6	4	8	11	13	16	18	21	22	28	33	35	33	33	28	25	26	27	**IZS**	20	18	14	6	35	19.9	24
15	5	5	5	5	4	6	9	17	24	34	34	34	36	33	35	34	33	31	**IZS**	40	40	37	35	29	40	24.6	24
16	22	7	4	5	3	8	22	25	30	37	42	42	48	46	41	37	38	**IZS**	35	32	29	21	16	13	48	26.2	24
17	8	4	2	1	1	3	6	13	28	34	40	45	43	39	38	39	**IZS**	43	42	41	23	23	20	22	45	24.3	24
18	21	20	18	13	7	15	17	24	27	26	32	38	43	48	47	**IZS**	40	39	42	42	39	38	31	29	48	30.3	24
19	34	29	29	26	28	29	30	30	32	42	42	45	47	48	**IZS**	44	45	49	47	45	29	19	17	14	49	34.8	24
20	6	3	4	3	5	10	15	25	35	37	39	39	44	**IZS**	47	47	50	49	48	43	38	34	32	32	50	29.8	24
21	30	29	29	30	29	27	26	29	36	39	43	44	**IZS**	47	48	47	49	49	48	43	31	17	27	38	49	36.3	24
22	38	36	35	37	32	32	32	32	33	36	30	**IZS**	35	36	36	31	30	30	29	28	26	25	23	24	38	31.6	24
23	23	21	20	19	18	18	15	19	24	24	**IZS**	26	27	29	32	35	39	33	31	27	26	18	12	12	39	23.8	24
24	8	5	3	5	5	9	9	15	21	**IZS**	35	34	36	35	35	33	30	31	32	29	18	12	9	6	36	19.8	24
25	4	3	5	3	2	1	6	24	**IZS**	42	47	45	42	58	61	58	57	52	52	43	28	16	9	4	61	28.8	24
26	7	4	1	2	1	3	16	**IZS**	41	44	47	45	46	50	52	50	48	46	40	38	35	35	36	32	52	31.3	24
27	30	27	35	36	35	36	**IZS**	35	40	42	42	42	43	40	35	32	32	35	39	43	39	34	33	29	43	36.3	24
28	18	11	17	19	12	**IZS**	14	19	27	27	26	31	31	37	37	36	35	35	37	33	27	24	24	20	37	26.0	24
29	18	13	8	7	**IZS**	6	8	14	22	31	40	43	45	45	44	42	41	38	37	34	27	29	29	26	45	28.1	24
30	27	26	23	**IZS**	25	24	24	23	22	26	30	36	38	40	42	45	40	39	39	35	26	22	23	21	45	30.3	24
31	21	21	**IZS**	24	23	22	18	19	20	21	23	23	25	25	26	27	28	28	27	24	22	19	19	15	28	22.6	24
HOURLY MAX	41	41	35	37	35	36	32	35	41	44	48	48	50	58	61	62	63	62	56	45	40	38	42	41			
HOURLY AVG	19.0	16.7	15.2	14.3	14.6	16.1	18.1	22.3	27.5	31.3	34.1	36.1	37.3	38.6	39.0	38.5	38.4	37.8	37.1	34.5	28.7	23.9	22.6	21.0			

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

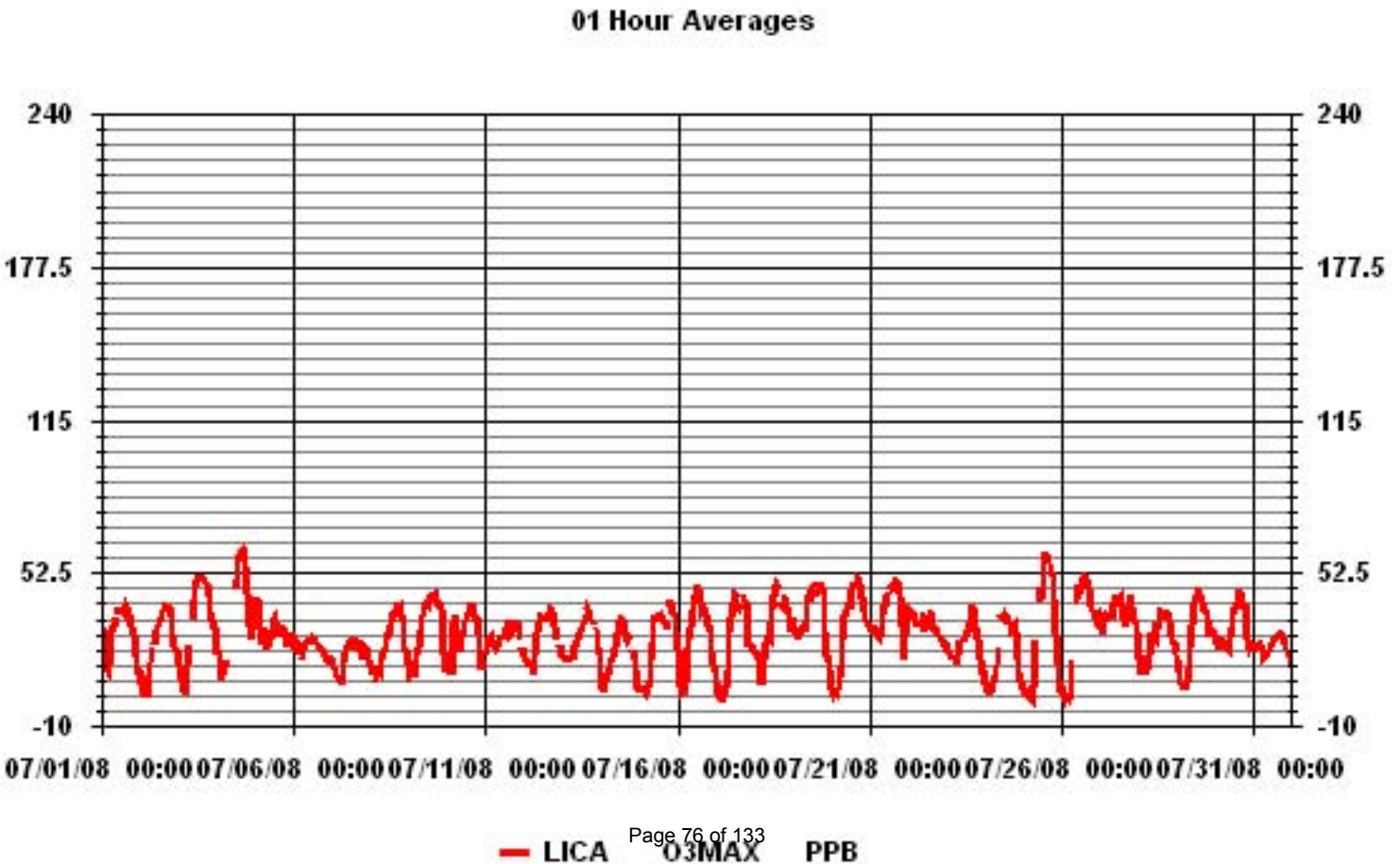
NUMBER OF NON-ZERO READINGS: 708

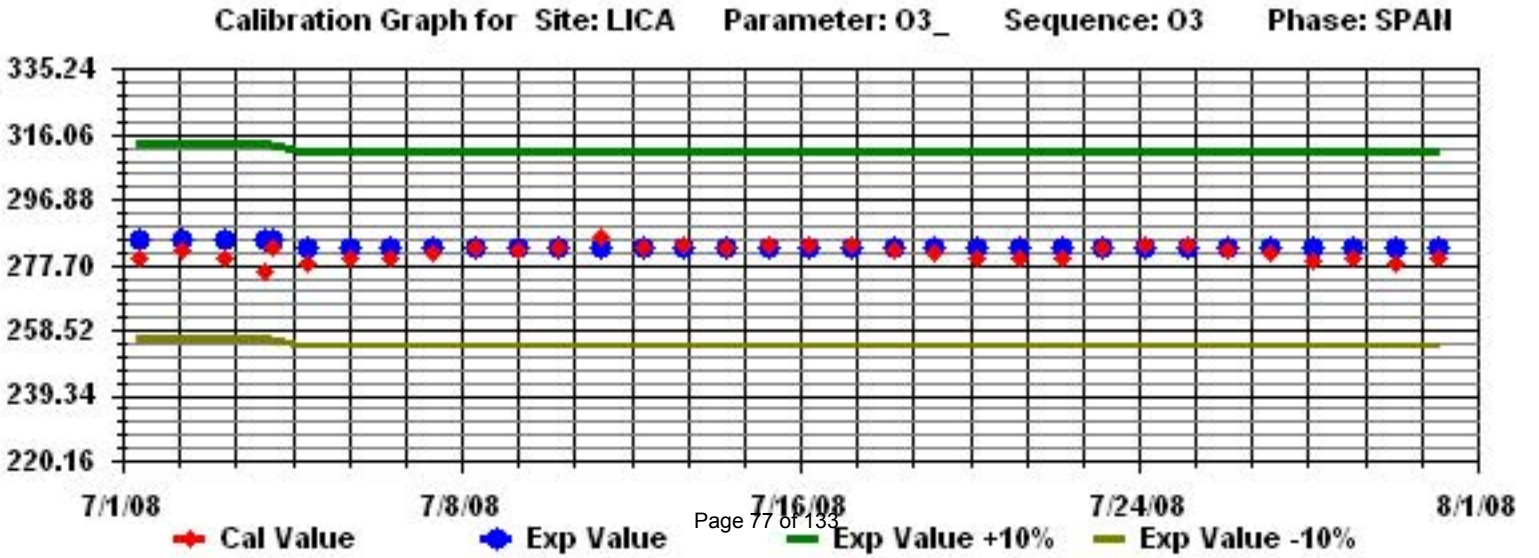
MAXIMUM INSTANTANEOUS VALUE: 63 PPB @ HOUR(S) 16 ON DAY(S) 4

IZS CALIBRATION TIME: 31 HRS OPERATIONAL TIME: 744 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION 12.45


01 Hour Averages
240
177.5
115
52.5
-10
07/01/08 00:00
07/06/08 00:00
07/11/08 00:00
07/16/08 00:00
07/21/08 00:00
07/26/08 00:00
07/31/08 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
7/1/08
7/8/08
7/16/08
7/24/08
8/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ambient Temperature

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JULY 2008

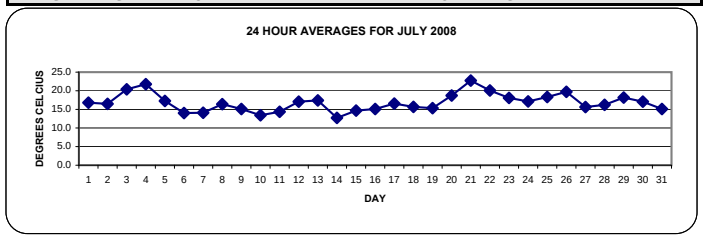
AMBIENT TEMPERATURE hourly averages (Degrees C)

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	16.9	13.9	11.3	9.5	8.8	12.1	15.8	17.9	19.5	20.2	20.8	21.6	21.9	21.9	21.4	21.2	20.4	19.7	19	18.3	17	13.3	11.1	9.8	21.9	16.8	24
2	8.8	7.9	7.2	6.7	6.6	10.4	13.2	15.1	17.1	18.3	19.7	20.3	21.1	21.6	22.7	22.8	23	23	22.4	21.4	19.5	16.9	15.8	14.1	23.0	16.5	24
3	12.5	11.7	10.9	10.1	9.8	12.8	16.5	18.3	20.6	22.3	23.8	24.8	25.7	26.4	27	27.4	27.6	27.5	27.2	25.7	23.2	20.8	18.7	17.9	27.6	20.4	24
4	16.1	15	14.1	13.3	13.8	15.7	19.1	20.1	21.3	22.6	25	26.4	26.9	27.4	27.8	27.8	28.1	27.8	26.9	24.8	22.3	20.2	20.5	19.4	28.1	21.8	24
5	18.7	18.4	17.8	17.4	16.5	15.9	16	16	16.4	16.9	18.4	19.5	20.1	19.8	19.4	18.9	19.1	17.9	17.2	15.4	14.9	14.8	14.6	14.3	20.1	17.3	24
6	13.5	12.4	12.4	11.5	11	11.7	12	12.1	12.3	13	13.8	14.5	15.1	15.5	16	16.3	16.6	16.5	16.3	16	15.7	14.8	14	13.5	16.6	14.0	24
7	13.3	13.1	12.9	13	13	13	13.1	13.3	13.8	14.8	15.4	15.9	15.7	15.9	16.9	14.7	14.5	14.7	15	14.5	13.9	13	12.5	12.4	16.9	14.1	24
8	12.4	12.6	12.8	13	12.9	13	13.2	14.3	15.3	16.2	17.8	18.9	19.8	20.5	20.9	21.1	21.1	21	20.1	19.6	17.4	14.1	13.4	12.1	21.1	16.4	24
9	10.2	9.3	9.9	9.6	8.3	10.1	12.5	15.1	17.2	19	19.2	19.8	18.9	19	18.1	18	19.4	18.8	18.1	18.5	16.5	13.6	12	11.3	19.8	15.1	24
10	11.1	11.1	11	11.1	11.9	11.6	11.6	11.7	12.2	12.9	13	14	14.9	15.8	17	17.8	16.5	16.9	17	16	14.2	11.2	10.3	11.3	17.8	13.4	24
11	11.6	11.4	11.1	10.9	10.6	10.5	10.8	12.2	14	16.3	17.8	18.4	19.4	18.7	18.7	17.6	16.7	15.2	15.8	15.8	14.1	13	12.3	11.5	19.4	14.4	24
12	11	11.3	10.1	10.1	9.3	9.8	11.8	14.2	16.5	18.2	19.5	20.6	21.9	23.1	23.7	23.8	23	22.7	22.5	20.7	17.7	15.8	16.5	16	23.8	17.1	24
13	16.3	15.6	14.5	13.6	13.4	14.2	15.1	16.7	17.5	18.5	20	21.3	22.4	22.6	22.1	21.3	22.4	22.6	20.2	17.9	16	12.6	10.9	9.9	22.6	17.4	24
14	8.8	7.7	6.8	6.6	7.4	9.8	12.3	13.9	14.4	14.4	15	16.8	18.3	18	17.6	15.3	14.2	12.8	14.4	14.8	12.7	11.9	11.3	9.8	18.3	12.7	24
15	8.8	7.6	7.4	7.6	6.8	8.2	10.8	13.8	15.8	17.3	18.2	19	20	20.2	20.5	20.8	20.4	19.6	18.8	18.5	15.2	12.9	12.2	11.7	20.8	14.7	24
16	10.4	8.7	7.8	6.8	**6.4**	8.3	11.7	14.2	16.8	18	19.1	20	21	21.4	21	20	21.2	20.2	17.7	17.3	16.3	14.1	12.5	11.5	21.4	15.1	24
17	10.2	9.2	8.4	7.8	7.6	8.8	10.1	13.9	17.1	19.6	20.6	21.1	21.6	22.2	22.7	23.1	22.2	22.8	22.4	20.3	18.2	16.7	15.5	15.1	23.1	16.6	24
18	14.4	13.8	12.7	11.5	11	12.6	14.5	15.6	16.6	17.4	17.9	20	21	21.3	22.5	21.4	19.2	16.3	14.4	13.1	12.6	12.4	12	11.9	22.5	15.7	24
19	12.6	12.6	12.8	12.6	12.5	12.8	13	13.4	14	15	16	17	18.5	19.8	20.2	18.4	19.1	16.5	18.8	18.2	15.6	13.9	12.9	11.7	20.2	15.3	24
20	10.8	10.1	9.5	9	9.4	10.7	13.9	15.6	17.9	20	21.8	23.2	24.2	25.1	25.7	25.7	25.6	25.4	24.7	23.4	21	19.8	18.8	18	25.7	18.7	24
21	17.1	16.4	16	15.8	15.4	15.9	17.1	19.2	21.7	24	25.8	27.2	27.9	28.2	28.5	28.8	29	**29.2**	28.4	27	24.4	21.4	20.4	20.8	**29.2**	**22.7**	24
22	20.3	19.6	19.7	18.1	17.4	17.5	17.4	18.4	19.7	21.1	22	22.5	23.4	24	23.7	22.5	21.4	21.9	21.1	20.1	18.5	17.7	17.3	16.5	24.0	20.1	24
23	16	15.1	14.3	14.5	14.6	14.6	15	16	19.5	19.3	19.2	19.3	20.5	21.3	22.7	23.1	23.5	23.4	22.6	21	18.6	15	12.7	11.9	23.5	18.1	24
24	10.3	9.6	8.7	9.2	9.7	10.7	11.3	15	18.4	20.7	22.8	23.6	23.5	23.1	23.8	23.7	24.4	24.9	23.8	20.6	17.1	13.9	11.7	10.7	24.9	17.1	24
25	10	9.2	8.4	7.7	7.4	9.6	12.1	15.9	19.3	21.3	22.8	24.8	26.1	26.7	26.8	25.8	26.2	25.7	26.1	23.5	19.4	16.5	14.9	13.6	26.8	18.3	24
26	12.5	11.5	10.7	10.1	9.6	11	16	19.1	20.7	22.4	23.8	24.5	25.3	26.5	26.9	26.7	27	25.6	25.5	24.2	21.2	19	17.5	15.9	27.0	19.7	24
27	14.9	14.1	14.2	15	15	14.8	13.9	13.9	15.2	17.1	18.3	19	19	18	17.7	17.2	16.8	16.5	15.6	14.8	14.2	14	13.3	12.5	19.0	15.6	24
28	11.6	11.4	12	11.9	12	13.3	14	15.4	17.1	17.6	18	18.8	19.3	19.5	20.6	18.9	18	18.5	19	17.8	17.3	16.8	15.9	14.6	20.6	16.2	24
29	13.7	12.9	11.8	11.3	10.4	11.4	14.1	14.6	16.7	19.1	20.4	21	21.8	23.2	23.3	23.5	23.8	23.7	23.3	22.3	20	18.8	17.9	17.1	23.8	18.2	24
30	17.4	17.2	16.3	15.4	15.5	15.9	16.4	16.1	17.1	19.2	20.3	21.9	22.1	21.6	20.1	17.9	17.7	17.5	16.4	14.5	13.6	13.4	13.4	12.9	22.1	17.1	24
31	12.6	12.4	12.2	11.9	12	12	12.1	12.5	13.2	14.1	15.2	16.4	18.6	19.1	20.1	20.6	20.6	20.7	20	18.2	14.6	12.8	11.1	9.4	20.7	15.1	24
HOURLY MAX	20.3	19.6	19.7	18.1	17.4	17.5	19.1	20.1	21.7	24.0	25.8	27.2	27.9	28.2	28.5	28.8	29.0	29.2	28.4	27.0	24.4	21.4	20.5	20.8			
HOURLY AVG	13.1	12.3	11.8	11.4	11.2	12.2	13.8	15.3	16.9	18.3	19.4	20.4	21.2	21.5	21.8	21.4	21.2	20.8	20.3	19.2	17.2	15.3	14.3	13.5			

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

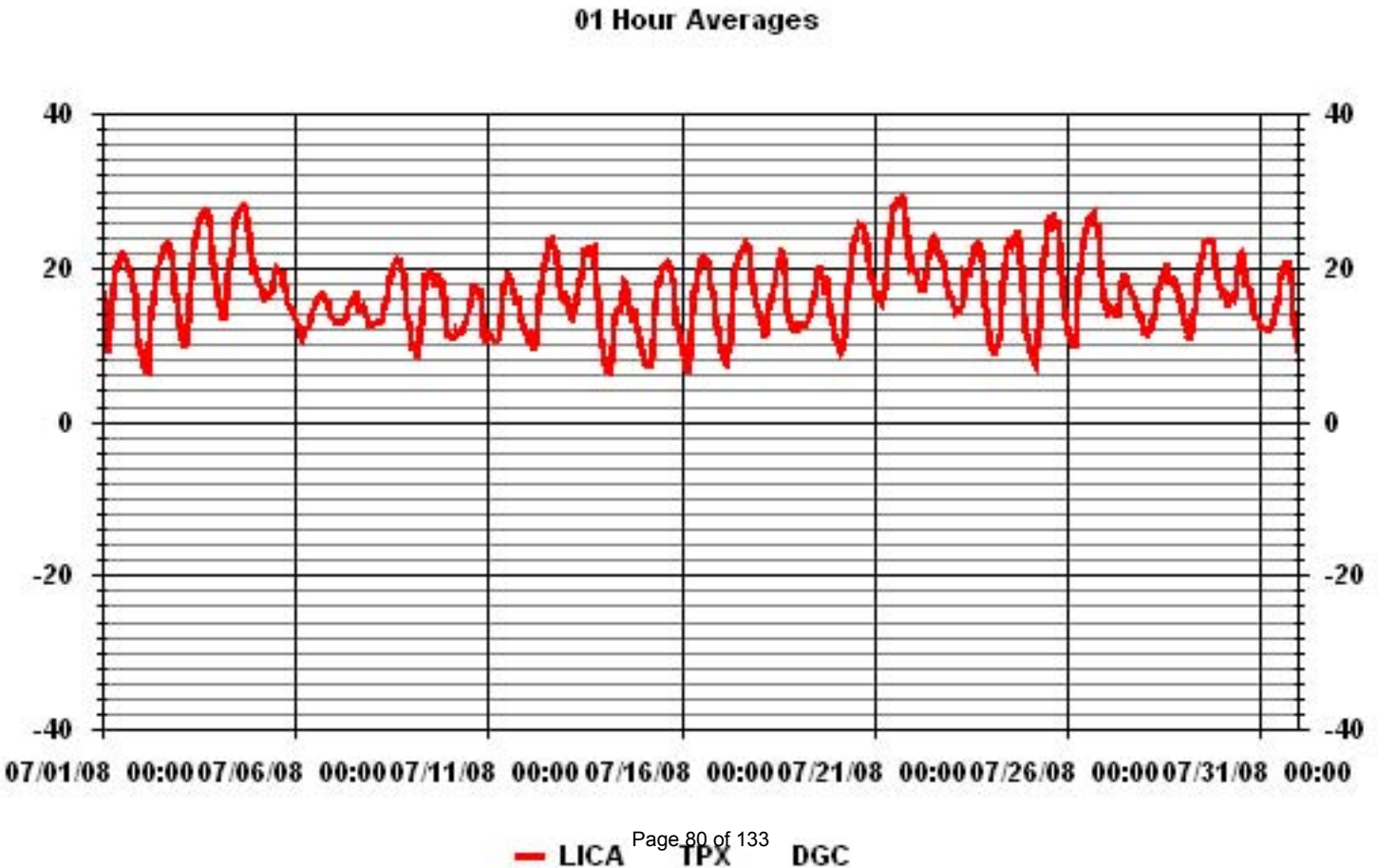


MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	*	6.4	^{o}C	@ HOUR(S)	4	ON DAY(S)	16
MAXIMUM 1-HR AVERAGE:		29.2	^{o}C	@ HOUR(S)	17	ON DAY(S)	21
MAXIMUM 24-HR AVERAGE:		22.7	^{o}C			ON DAY(S)	21
						VAR-VARIOUS	

CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	744	HRS
			AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	4.88		MONTHLY AVERAGE:	16.82	^{o}C

*** Outside detection limits of sensor.**


01 Hour Averages
40
20
0
-20
-40
07/01/08 00:00
07/06/08 00:00
07/11/08 00:00
07/16/08 00:00
07/21/08 00:00
07/26/08 00:00
07/31/08 00:00
LICA TPX DGC

Relative Humidity

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JULY 2008

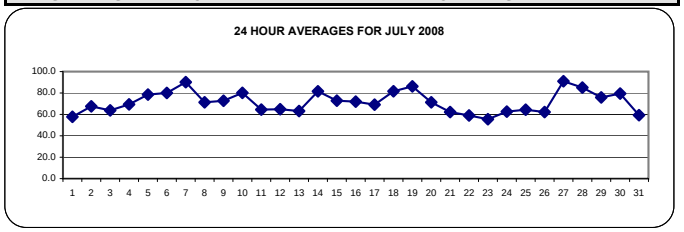
RELATIVE HUMIDITY hourly averages (%)

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	47.8	61.9	73.8	83.5	81.8	70.9	56.2	53.0	48.2	46.7	42.4	39.4	39.5	40.2	44.5	46.8	48.5	49.4	50.5	51.2	57.3	76.7	85.7	89.8	89.8	57.7	24
2	89.6	91.8	94.1	93.4	92.9	82.2	78.1	70.0	63.6	59.5	55.4	49.8	49.5	48.2	46.5	45.0	45.0	46.3	49.3	57.1	67.2	77.8	81.1	87.3	94.1	67.5	24
3	91.7	91.9	92.6	92.0	92.2	81.7	71.9	68.6	65.3	58.2	51.8	45.6	43.1	42.1	39.8	39.7	39.9	41.0	44.1	51.3	61.6	69.3	76.7	78.1	92.6	63.8	24
4	85.0	87.6	88.8	90.0	87.9	81.9	72.1	69.8	67.1	66.6	62.0	61.2	54.6	55.2	53.4	51.8	48.3	48.9	52.1	61.8	75.0	84.3	76.7	82.4	90.0	69.4	24
5	80.1	84.8	92.6	95.0	95.2	93.9	94.4	93.4	88.0	81.4	72.7	65.5	60.2	62.7	63.3	66.5	65.7	69.3	69.6	80.2	79.6	77.2	77.2	75.9	95.2	78.5	24
6	80.4	84.9	85.6	89.5	91.8	88.3	87.7	85.7	82.4	78.1	74.9	72.8	70.4	69.7	68.2	67.9	68.7	70.1	73.5	76.4	79.0	88.6	91.8	95.1	95.1	80.1	24
7	95.5	97.3	97.9	98.2	98.5	98.7	98.4	96.0	91.7	85.8	82.6	79.3	81.7	83.3	77.6	86.2	92.0	87.5	86.9	91.2	88.6	88.0	90.7	89.8	98.7	90.1	24
8	92.1	94.2	95.6	95.3	94.7	92.2	90.4	84.8	80.1	75.2	68.5	63.1	55.2	48.5	46.6	44.3	42.0	42.5	44.5	48.0	60.4	77.4	84.7	91.1	95.6	71.3	24
9	94.8	95.8	93.2	92.0	95.0	89.7	85.3	75.9	66.1	58.5	59.7	55.7	57.4	52.6	56.7	57.3	47.9	52.4	59.6	60.5	71.6	85.8	90.5	92.0	95.8	72.8	24
10	93.7	94.5	94.9	94.7	95.1	90.8	90.0	95.4	94.2	85.9	84.0	78.1	70.9	65.2	59.2	54.5	58.6	57.4	57.9	71.8	79.4	92.3	90.4	73.8	95.4	80.1	24
11	70.0	71.3	71.8	71.7	73.4	74.9	73.5	69.6	63.3	58.3	53.8	51.5	45.1	48.1	46.4	54.4	61.4	69.5	62.8	60.4	64.1	71.4	78.1	83.3	83.3	64.5	24
12	86.8	85.9	90.4	91.3	94.1	92.2	86.5	76.5	65.4	55.5	46.1	44.7	44.9	41.2	38.7	38.9	40.3	40.8	45.5	58.5	70.8	78.4	70.1	72.5	94.1	64.8	24
13	69.9	72.4	76.8	79.0	79.4	78.6	77.1	71.6	66.4	61.5	55.9	48.3	42.0	39.8	41.0	48.2	36.6	35.2	47.8	59.1	65.0	81.3	90.4	92.5	92.5	63.2	24
14	93.4	94.0	94.0	94.5	94.5	89.8	82.0	77.9	77.0	77.9	74.0	63.4	56.0	58.5	64.1	73.8	84.0	86.5	78.1	75.4	87.2	92.1	93.8	95.6	95.6	81.6	24
15	95.6	96.1	96.5	97.3	97.2	97.3	90.2	78.3	71.9	64.5	57.9	49.0	46.7	48.8	49.6	46.1	51.6	56.5	64.2	56.0	71.4	87.1	87.9	90.1	97.3	72.8	24
16	93.8	95.7	96.1	96.1	96.2	94.1	88.3	80.4	69.1	60.8	53.1	47.3	48.1	46.8	49.4	54.0	47.0	50.4	61.9	64.6	70.8	82.9	88.3	90.6	96.2	71.9	24
17	93.4	94.0	95.3	94.8	95.9	97.3	97.3	83.2	72.5	58.2	52.0	47.4	44.6	42.7	40.8	39.7	45.5	45.1	45.1	60.8	71.2	76.8	81.8	82.7	97.3	69.1	24
18	85.2	87.7	90.5	93.3	93.5	89.8	83.5	79.7	72.9	71.8	68.1	60.4	JULY	55.7	51.7	58.8	72.0	84.2	92.9	96.9	97.2	96.5	97.3	97.9	97.9	81.6	24
19	96.3	97.5	96.8	97.4	97.1	97.4	95.9	95.1	93.0	86.6	82.6	76.2	68.5	62.8	64.2	73.7	72.1	83.2	72.1	79.0	91.0	95.8	96.7	97.6	97.6	86.2	24
20	97.7	97.7	97.9	98.2	98.5	98.0	90.1	86.3	78.4	66.6	61.1	57.2	51.5	46.6	43.6	43.1	46.4	48.2	53.4	59.8	69.5	72.3	74.1	75.2	98.5	71.3	24
21	79.0	81.4	80.8	79.3	80.7	79.9	76.7	71.1	63.2	52.3	44.7	40.7	40.0	41.2	41.5	43.1	40.7	42.8	47.6	56.2	70.0	82.5	83.7	73.7	83.7	62.2	24
22	73.0	71.5	58.0	71.2	77.8	77.9	77.9	74.3	70.5	63.8	54.9	48.3	41.0	39.8	41.9	48.3	49.5	47.3	49.0	50.3	56.2	57.5	58.1	57.9	77.9	59.0	24
23	57.9	61.4	66.6	62.4	64.2	65.0	64.7	63.0	47.6	48.3	51.4	52.6	47.5	45.9	40.5	34.9	32.4	33.8	40.3	49.0	57.1	74.7	85.3	85.4	85.4	55.5	24
24	90.3	91.0	92.8	92.5	92.4	87.4	84.7	72.8	60.2	53.5	42.8	35.6	33.7	36.6	32.6	38.2	33.3	29.7	33.7	47.1	67.1	78.7	86.6	89.0	92.8	62.6	24
25	90.1	91.3	92.7	93.6	93.3	91.1	87.7	69.1	57.9	52.1	49.0	38.4	28.3	31.2	32.2	34.5	35.2	41.2	42.0	53.6	74.7	85.7	89.1	91.4	93.6	64.4	24
26	92.1	93.1	93.7	93.3	93.2	86.8	75.0	64.0	56.4	52.8	49.4	46.8	45.8	38.3	32.3	33.3	31.5	36.1	43.7	50.5	61.8	68.2	73.8	80.7	93.7	62.2	24
27	84.3	86.4	85.2	82.8	83.7	85.2	92.9	97.6	96.4	88.9	84.0	82.5	82.3	91.1	93.0	96.1	97.1	96.8	94.1	92.0	97.4	97.9	98.1	98.1	98.1	**91.0**	24
28	98.4	98.6	98.8	98.7	98.8	98.8	97.8	94.3	84.4	81.5	79.3	74.5	70.7	68.9	64.6	73.7	78.4	75.9	72.7	81.2	83.2	86.3	88.9	93.7	**98.8**	85.1	24
29	95.2	96.3	97.1	97.7	97.5	95.9	90.8	92.8	84.7	74.5	69.0	65.6	60.3	58.2	55.6	51.2	51.6	52.8	55.4	62.7	76.2	78.1	78.9	83.3	97.7	75.9	24
30	82.5	83.2	85.6	87.0	85.5	84.8	83.8	88.1	85.4	76.7	73.0	62.9	61.5	64.0	67.3	70.0	74.7	72.7	74.4	87.3	92.3	91.2	86.5	86.9	92.3	79.5	24
31	82.5	77.2	74.2	74.5	71.8	70.5	68.0	62.3	59.7	55.3	54.1	53.2	46.6	45.5	43.2	40.6	37.9	35.1	38.9	45.8	63.9	67.6	72.7	81.7	82.5	59.3	24
HOURLY MAX	98.4	98.6	98.8	98.7	98.8	98.8	98.4	97.6	96.4	88.9	84.0	82.5	82.3	91.1	93.0	96.1	97.1	96.8	94.1	96.9	97.4	97.9	98.1	98.1			
HOURLY AVG	85.7	87.4	88.4	89.4	89.8	87.2	83.5	78.7	72.4	66.4	61.6	56.7	52.9	52.2	51.3	53.4	54.1	55.8	58.2	64.4	73.5	81.3	84.1	85.6			

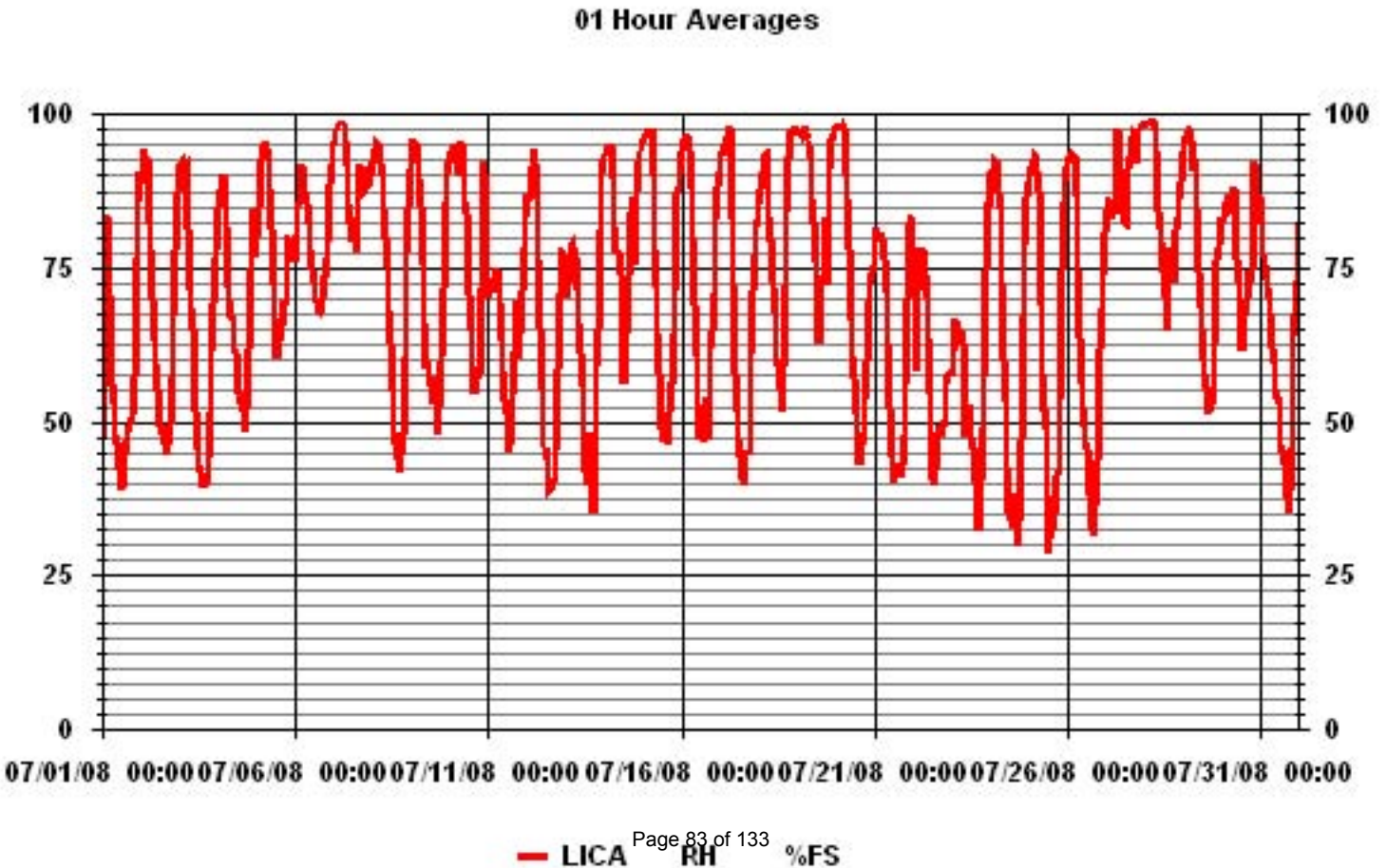
STATUS FLAG CODES

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

MAXIMUM 1-HR AVERAGE:	98.8	%	@ HOUR(S)	VAR	ON DAY(S)	28	
MAXIMUM 24-HR AVERAGE:	91.0	%			ON DAY(S)	27	
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:		744	HRS	
			AMD OPERATION UPTIME:		100.0	%	
STANDARD DEVIATION:	18.94		MONTHLY AVERAGE:		71.43	%	


01 Hour Averages
100
75
50
25
0
07/01/08 00:00
07/06/08 00:00
07/11/08 00:00
07/16/08 00:00
07/21/08 00:00
07/26/08 00:00
07/31/08 00:00
LICA RH %FS

Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JULY 2008

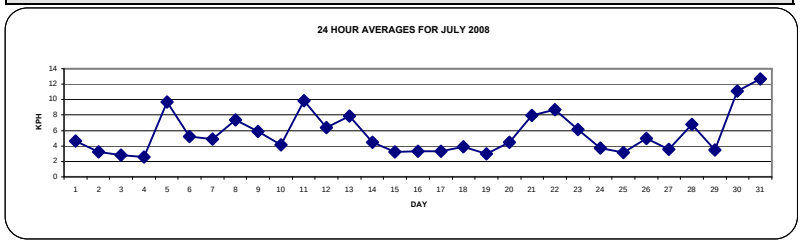
VECTOR WIND SPEED (WS) hourly averages (km/hr)

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	5.9	1.5	1.1	1.4	1.3	2.4	4.5	7	9.1	11.7	11.6	11.1	11.5	11.1	9.1	10.4	13.2	11.3	10.4	8.5	3.8	0.3	0.4	0	13.2	4.6	24
2	0.4	0.8	1.5	0.4	0.4	0.3	4	6	5.4	4.5	4	4.9	4.4	4.2	3.8	3.5	6.3	5.7	7.2	5.9	4.6	4.4	2.5	0.4	7.2	3.2	24
3	0.1	0.3	0.3	0.4	0.5	1	1.8	2.4	2.4	4.7	4.9	5.7	6.9	6.4	7.4	7.1	6.3	4.9	3.3	3.2	3.2	2.8	3.3	1.3	7.4	2.8	24
4	0.2	0.5	0.8	0.5	1.2	1.2	3.3	3.3	4	7.6	5.6	6.2	5.9	6.8	7.4	6.7	9	9.3	7.1	2.7	1.9	3.2	11.2	2.4	11.2	2.6	24
5	5.8	6.6	3.7	5.8	7.5	7.7	6	8.7	11.8	13.2	15.1	16.7	18	15	12.3	11	10.4	10.6	11.4	9.2	8.5	6.3	6.7	5.3	18.0	9.7	24
6	5.2	4.2	3	1.2	2.1	4.6	6.5	6.8	7.8	6.9	7.6	7.2	7.9	7.8	6.6	5.6	6.1	6.3	4.5	3.6	3.4	3.5	3.9	2.7	7.9	5.2	24
7	3	1.7	1.1	1.6	2.9	3.8	5	5.3	5.5	5	6.3	6.1	6.1	6.9	9.5	5.2	4.6	6.2	4.7	4.8	9.5	5.3	3.9	3.5	9.5	4.9	24
8	4.6	4.7	3.2	4.6	5.3	5.9	5.4	6.3	6.9	7.7	8.9	9.4	12.5	13.6	13.7	13.6	11.6	11.9	8.4	8	2.9	2.2	4.1	1.3	13.7	7.4	24
9	1.1	1.9	4.4	2.3	1.3	4.4	6.3	6.3	6.9	8.3	7.5	8.4	11.3	13.5	12.4	9	9.9	7.8	5.8	5.9	3.4	0.9	1.4	0.5	13.5	5.9	24
10	0.9	1	0.6	0.8	5.9	12.2	6.3	0.8	4.3	10.4	7.2	6.4	5.5	2.9	1.8	3.5	5.9	6.1	0.9	1.4	2.5	1.8	3.9	6.5	12.2	4.1	24
11	6.3	6.1	7.2	9.1	7.9	7.3	6	6.5	9.7	10	11.9	14.4	15.2	15.2	15.6	19.1	11.9	9.7	11	12.3	9.9	5.7	5	4.1	19.1	9.9	24
12	5.5	5.3	4.5	6.9	5.7	4.9	6.1	6.6	7.6	9.6	10.1	9.8	10.6	11.1	11.4	11.2	6.7	2.8	2.5	1.9	1	2.3	4.3	4.1	11.4	6.4	24
13	5.1	4.6	3.9	5.3	6.6	6.5	6.1	8.2	10.3	10.6	10.8	12.2	13.7	15.3	12.1	8.7	14.7	13.5	4.4	5.9	5.4	2.3	2.4	1	15.3	7.9	24
14	0.2	0.6	0.3	2	0.9	4.4	3.7	5	7.5	8.8	5.5	7	3.8	7.7	9.4	4.5	7	7.3	6.1	2.8	3.8	4.6	2.6	2.8	9.4	4.5	24
15	0.6	1.7	2.1	3.8	1.4	4.3	3.1	0.8	2	2.2	3.2	4.8	4.1	5	4.3	3.6	4.3	3	4	5.2	7.6	4.3	1.8	1	7.6	**3.3**	24
16	0.4	1.2	0.2	1.2	0.4	1.9	2.6	3.7	0.7	1.8	1.6	3.9	3.1	5.1	8.8	6.3	8.5	9.2	7.4	3.2	1	1.5	3.3	1.6	9.2	3.3	24
17	1.4	0.8	1.7	0.4	1	0.9	2	1.7	0.8	2	1.6	3.6	5.3	5.2	5.5	5.7	5.5	4.6	4.2	6.1	6	3.5	4	5.4	6.1	3.3	24
18	7.3	6.8	2.5	1.4	0.6	1.6	4	5.5	7.3	2.5	1.4	1.4	5.9	5.5	3.3	4.1	8	4.3	7.8	3.6	4	0.8	1.8	2.1	8.0	3.9	24
19	2.9	2.3	2.2	2	1	1.5	3.9	5.1	5	5.2	3.9	3.4	2.4	4.6	3.1	7.5	0.1	4.2	1.7	2.4	3.5	1.6	0.8	1.3	7.5	3.0	24
20	0.1	0.7	1.2	0.6	1	1	2	4.6	5	5.8	5.4	5.6	5.6	4.5	4.5	5.3	5.8	7.6	8.4	7.4	5.6	6	7.1	6.6	8.4	4.5	24
21	6.4	6.8	7.3	8.6	9.5	10.7	10.8	8.9	9.9	11.3	10.6	10.3	10.9	12.1	12.1	11.1	6.2	3.7	4.8	3.7	2.3	1.2	2.3	9.1	12.1	7.9	24
22	8	12.6	14.2	11.8	6.9	6.4	7.3	6.7	8.3	8.6	13.5	11	9.8	7.6	10.5	11.8	11	9.1	7.7	5.8	5	5.6	4.8	4.4	14.2	8.7	24
23	3.9	3.7	3.7	3.6	3.4	3.1	5.2	5.3	9.5	11.6	9.5	8.8	7.5	5.8	7	8.3	8	7.9	8.2	8.4	6.2	2.9	3.4	1.6	11.6	6.1	24
24	0.2	0.6	1.2	3.8	2.4	2.6	3.7	4.3	4.4	5.6	7	7.7	6.7	6.9	1.7	2.5	4.7	8.6	8.1	3.7	1.7	0.6	0.6	0.5	8.6	3.7	24
25	0.6	0.7	0.6	0.2	0.5	0.4	1.1	3.1	5.6	6.4	5.6	6.7	6.3	7.2	7.8	6.8	6.7	2.7	2.2	2	0.8	0.5	0.2	0.4	7.8	3.1	24
26	0.3	0.4	0.1	0.7	0.4	0.8	0.9	4.4	5.7	4.3	5.9	6.9	6	10.2	11.8	11	10	10.2	9.2	5.5	3.7	3.5	3.2	3.4	11.8	4.9	24
27	3.8	1.9	3.1	2.5	3.2	3.9	8.8	6.5	4.7	2.4	4	7	6.9	4.1	4	0.9	1.4	3.1	3.6	3	1.9	1.1	2	1.1	8.8	3.5	24
28	1	0.5	1.9	1.9	4	2.6	2	6.5	7.9	8.6	9.8	10.7	11.6	14.7	14	11.2	10.1	9.2	9.1	6.9	5.4	5.1	3.7	4.7	14.7	6.8	24
29	5	3.3	1.1	1.9	0.6	0.9	1.5	2.2	1.2	1	1.6	3.3	1.1	2.1	2.7	4.7	6	7.5	7	7	5.5	5.5	5.9	5.5	7.5	3.5	24
30	7.5	7.5	7.2	8.3	9.8	11.5	7.4	6.8	10.2	11.6	7.9	11.4	6.4	8	10.1	18	16.1	16.8	16.3	14.7	13.5	13.1	13.5	12.6	18.0	11.1	24
31	13.2	15.7	16.2	15.1	13.6	11.9	11.7	15.9	14.8	18.2	15.1	13.7	18.4	**19.1**	17	16	15.6	13.9	10	7.1	3.1	3.2	2.8	2.5	**19.1**	**12.7**	24
HOURLY MAX	13.2	15.7	16.2	15.1	13.6	12.2	11.7	15.9	14.8	18.2	15.1	16.7	18.4	19.1	17.0	19.1	16.1	16.8	16.3	14.7	13.5	13.1	13.5	12.6			
HOURLY AVG	3.4	3.5	3.3	3.6	3.5	4.3	4.8	5.5	6.5	7.4	7.2	7.9	8.1	8.6	8.4	8.2	8.1	7.7	6.7	5.5	4.5	3.4	3.8	3.2			

STATUS FLAG CODES

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

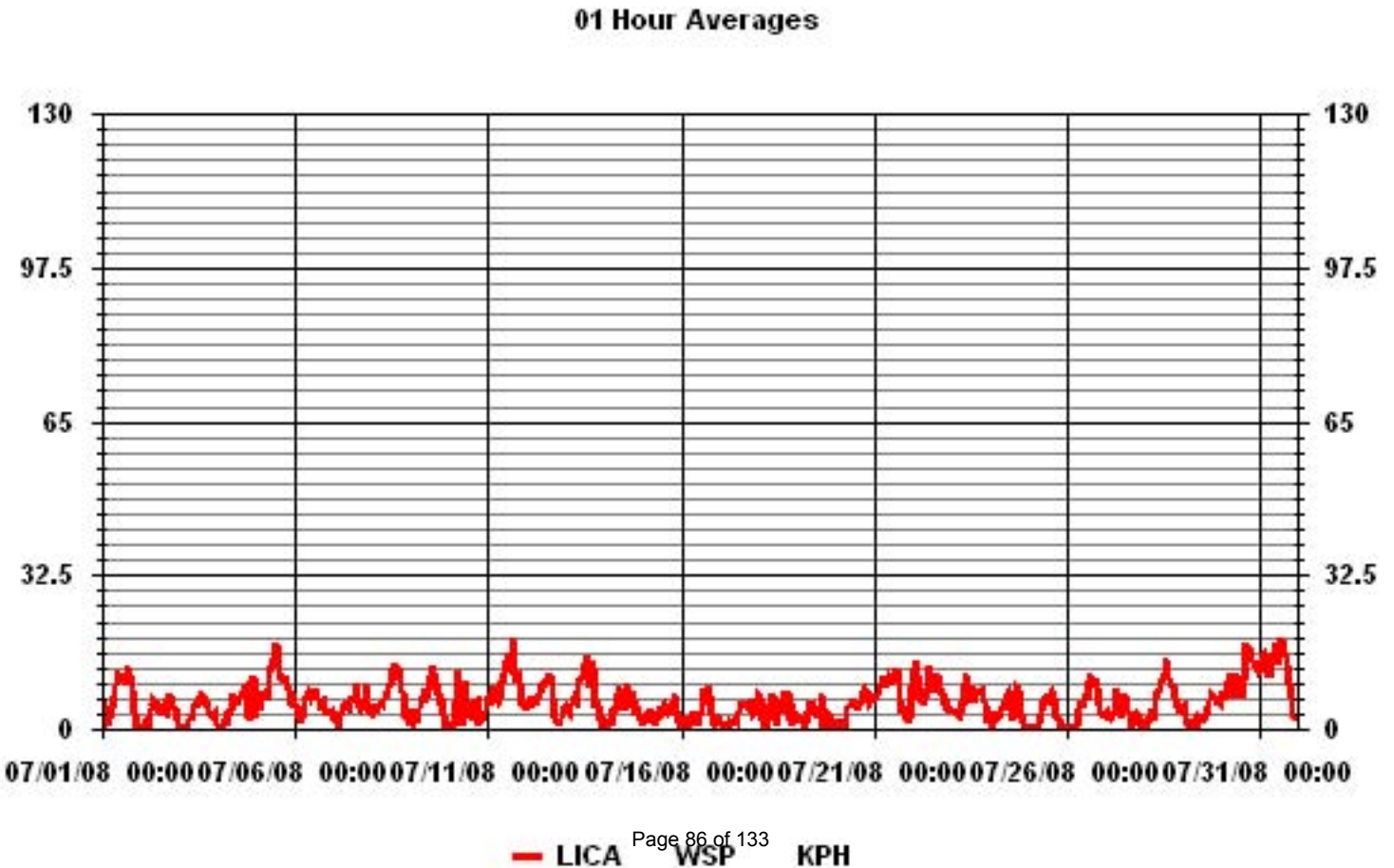


LAST CALIBRATION: December-2006

MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	19.1	KPH	@ HOUR(S)	13	ON DAY(S)	31
MAXIMUM 24-HR AVERAGE:	12.7	KPH			ON DAY(S)	31

CALMS (≤ 0 KPH)	2.28	%	OPERATIONAL TIME:	744	HRS
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME	100.0	%
STANDARD DEVIATION:	4.00		MONTHLY AVERAGE:	5.72	KPH


01 Hour Averages
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65
32.5
0
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07/06/08 00:00
07/11/08 00:00
07/16/08 00:00
07/21/08 00:00
07/26/08 00:00
07/31/08 00:00
LICA WSP KPH

LICA
WSP / WD Joint Frequency Distribution (Percent)

July 2008

Distribution By % Of Samples

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

Wind Parameter : WD
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	1.07	.80	.94	2.95	2.15	5.10	7.25	3.49	3.89	4.43	8.33	6.85	3.36	2.41	1.88	1.07	56.04
<	12.0	1.47	.80	1.34	.00	1.20	3.09	4.97	.13	.67	.67	2.15	4.56	5.10	3.36	2.41	1.88	33.87
<	20.0	.13	.00	.13	.00	.00	.00	.26	.00	.00	.00	.26	2.82	2.41	1.20	.26	.26	7.79
<	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	1.61	2.41	2.95	3.36	8.19	12.50	3.62	4.56	5.10	10.75	14.24	10.88	6.98	4.56	3.22	

Calm : 2.28 %

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	8	6	7	22	16	38	54	26	29	33	62	51	25	18	14	8	417
<	12.0	11	6	10		9	23	37	1	5	5	16	34	38	25	18	14	252
<	20.0	1		1				2				2	21	18	9	2	2	58
<	29.0																	
<	39.0																	
>=	39.0																	
	Totals	20	12	18	22	25	61	93	27	34	38	80	106	81	52	34	24	

Calm : 2.28 %

Total # Operational Hours : 744

Logger : 01 Parameter : WSP

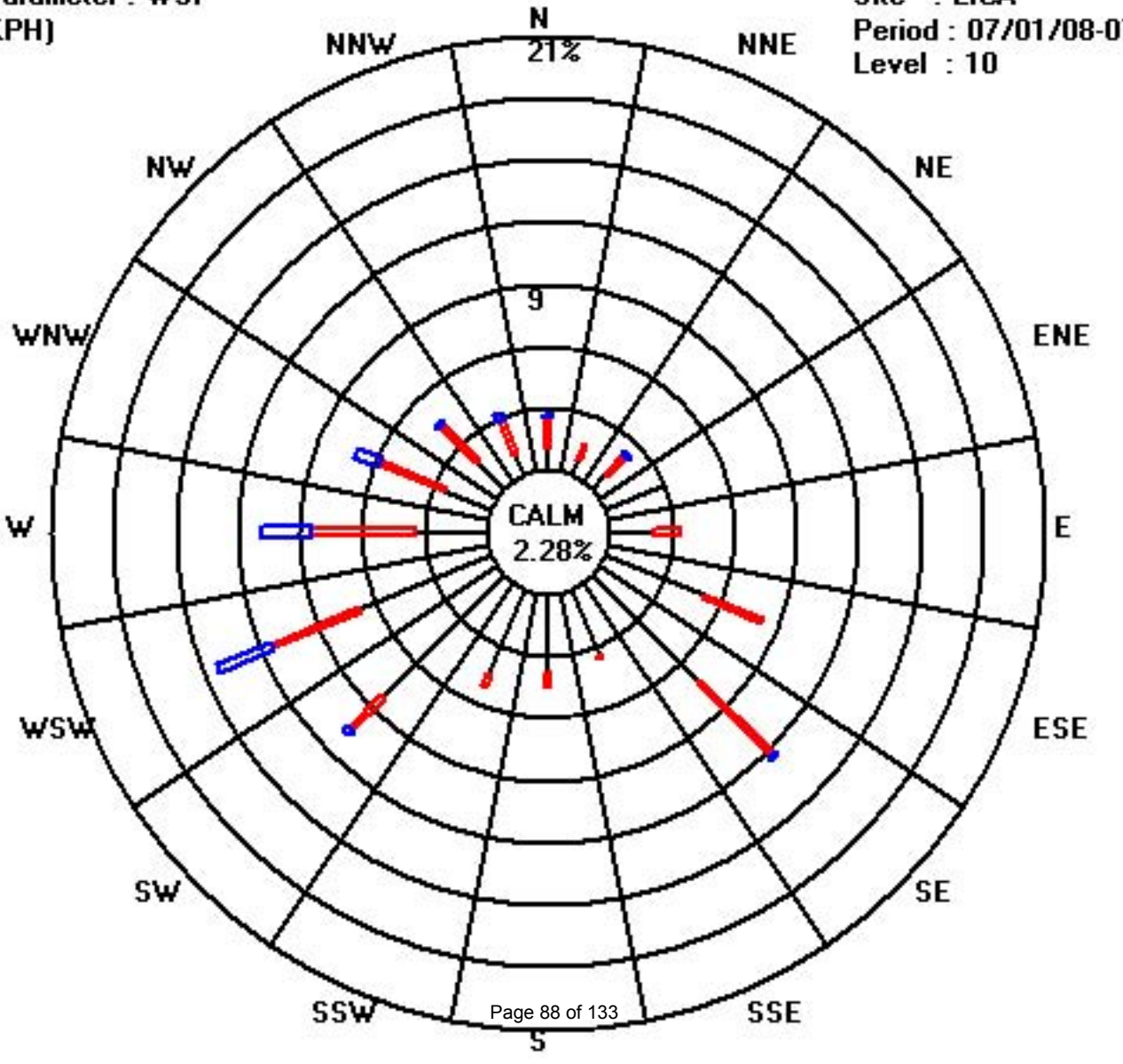
Class Limits (KPH)

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

Site : LICA

Period : 07/01/08-07/31/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JULY 2008

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST

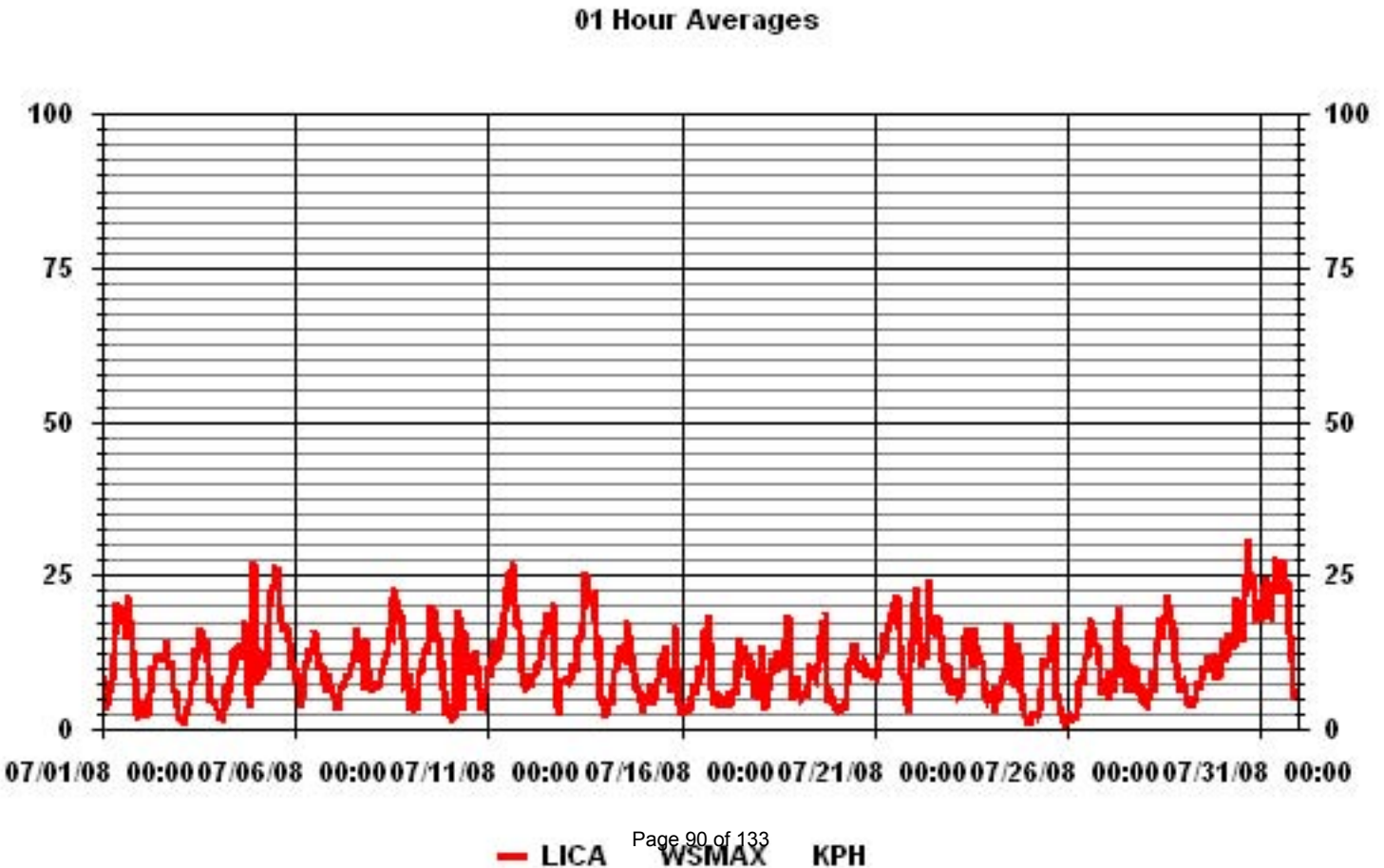
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.
DAY																									
1	8.7	4.5	3.2	4.1	4.2	5.7	8	11.8	15.2	20.4	18.2	20.2	18.1	17.5	14.4	17.3	22	18	16.1	13	8.6	2.7	1.9	2	22
2	2.4	2.6	4.3	2.5	2.6	5.6	5.9	10.2	9.6	11.9	11.3	12.3	10.8	11.8	10.8	12.1	14.5	9.6	11.2	10.5	6	6.6	3.8	2.2	14.5
3	1.8	1.4	1.7	1.5	2.1	3.8	4.6	7.2	7.9	9	13.1	11.2	14.7	16.3	12.5	13.7	14.7	11.4	8.9	4.7	4.7	4.8	4.3	3.5	16.3
4	2.2	2.2	1.9	3.1	7	3.9	7.2	6	8.8	12.9	9.9	13.1	13.4	12.7	13.3	11.2	17.7	15.3	10.7	5.7	3.5	15.2	27.2	7.1	27.2
5	11.4	13.3	8.5	8.8	10.2	10.8	10.1	16.8	19.8	22.7	23.3	26.7	25.9	26	20.1	17.8	15.6	16.8	17	16.8	14.4	9.7	10.8	10.3	26.7
6	8.5	8.7	7.7	3.2	4.9	9.2	10.2	11	12.9	13	12.8	14.6	16	13.3	12.8	10.2	10	10.8	7.6	5.8	6.8	8.9	7.1	6.1	16
7	5.6	3.3	3.3	4.1	6.2	7	7.7	8.6	8.8	8.2	10.3	10.8	12.8	10.6	16.5	11	14.4	12	6.8	6.9	15	9.7	7.4	5.9	16.5
8	6.5	7.6	6.9	7	7.6	9.8	9	10.3	11.6	12.7	15.5	15.2	21.3	23.1	20.4	20.5	17.3	19	18.7	14.8	7.4	7.7	8	3.6	23.1
9	3.4	4.7	6.5	5	3.1	9.1	9.3	11.4	12.9	13.3	12	15.7	20.1	18.3	19.7	13.9	15.9	15.3	9.7	11.5	6.6	2.3	4.5	3.4	20.1
10	2.5	3.1	1.9	2.1	14.3	19.5	18.3	3	9.1	15.9	12.2	10.2	11.9	9.4	9	12.1	12.6	10.5	6.8	3.1	4.1	3.8	6	9.8	19.5
11	9.8	9.5	11.5	14.4	11.8	11.3	11.6	12.6	16.3	14.7	19.1	23.1	25.4	24.1	26	27.3	20.6	17.2	16.9	17.6	15.7	9.5	7.3	6.1	27.3
12	8	8.6	6.5	9.1	8.7	9	10.7	9.9	11.1	14.7	15.5	15.6	19.1	17.6	17.6	18.7	20.4	10.2	5.1	3.7	2.2	8.4	8	7.9	20.4
13	8	8.1	7.6	8	10.7	10.2	9.3	14.5	14.5	15.1	17.1	19.4	25.1	25.1	22.2	21.4	21.8	22	17.8	11.1	15.3	4.8	5.7	4.3	25.1
14	1.8	2.5	2.8	4.3	4.3	7.3	9.2	9.6	12.3	13.4	11.2	12.6	10.7	13.9	17.7	10.3	15.2	12.3	9.6	6.6	5.9	6.8	6.5	4.8	17.7
15	2.8	4	4.2	5.6	3.8	7.5	5.4	4.9	5.5	7.9	8.3	11.4	10.9	12.4	13.4	9.4	8.7	6	9.7	9.1	16.7	10.5	4.5	4.3	16.7
16	2.3	4	2.8	3.4	2.5	3.2	5.2	7.4	6.1	6	7.3	10.1	9.7	11.9	15.9	11	16.6	18.4	14.5	6.6	3.9	4.8	6.3	4.2	18.4
17	4	4.2	5.2	3.5	4.6	3.4	6.2	3.8	6.7	5.5	10	9.7	15	12.1	11.2	13.6	11.5	11.7	7.9	11.4	8.5	5.6	5.5	7.5	15
18	9.7	8.9	13.4	3.8	3.2	5.7	6.5	8.9	11.6	10	10.3	9	12.9	9.5	11.1	9.9	14.4	17.7	18.5	11.3	8.7	5.3	5.4	8	18.5
19	8	6.1	5.3	5.9	5.7	5.2	6.8	10.6	9.8	9.2	8.7	8.2	9.2	10.7	15.1	17.3	0	18.6	4.9	4.8	6.9	5.5	4.3	4.2	18.6
20	3.4	3	3.4	2.7	3.6	3.1	5	7.2	10.6	11.5	11	13.6	13.5	10	9.8	9.8	11.1	11.5	11.1	9	8.3	9.1	9.8	8.7	13.6
21	8.5	9.5	9.3	11.1	12.1	14.5	15.5	12.6	15.9	17.2	18.7	17.9	20.6	18.4	21.8	16.7	13.8	9.1	8.4	5.2	4.1	2.5	10.8	14	21.8
22	14	20.4	23	18.6	14	10.2	11.8	11.8	13.8	16.2	24.1	17.7	16	15.9	15.2	18.6	17.4	15.6	11.2	8.4	7.4	8.3	10.5	6.3	24.1
23	6.1	6.2	6.7	8.2	5.6	5.9	7.9	12	15	16.5	14.1	13.8	16.3	10.1	16.6	13.8	13.4	12.6	11.5	10.9	8.4	5.4	4.6	5.1	16.6
24	4.4	5.7	2.4	6.8	4.7	4.9	5.5	8.5	7.8	9.9	14.3	17.1	13.8	14.3	7.4	6.6	10.1	14.1	12.4	6.1	3.3	2.1	1.2	1.4	17.1
25	1.8	1.6	2.8	1.7	3	2.3	2.9	6.7	10.2	11.3	9.9	10.8	11.5	13.7	15.2	13.1	17.4	4.5	5.7	3.9	2.5	1.5	0.9	1.3	17.4
26	2.1	2.8	1.5	1.6	2.2	2.1	3.5	7.6	8.7	8.4	10	11.2	11.8	16.1	18.1	16.7	16	13.6	14.1	10.8	8.7	5.6	7	7.3	18.1
27	7.1	4.6	9.3	8.7	5.8	8.7	17.9	14.6	19.9	10.1	8.5	12.9	13.4	6.8	7	10.9	5.9	8.3	10.3	7.5	5.3	7.6	4.3	5.5	19.9
28	4.4	4.1	4.8	6.7	9.6	7.1	5.8	12.5	14.3	17.9	14.6	16.8	18.4	21.2	21.9	20.4	17.9	14.7	16.9	11.2	8.5	8.3	5.7	7	21.9
29	7.5	6.2	3.7	5.3	3.4	4.6	4.3	5.4	6.2	7.8	6.5	10.3	7.8	10	9.3	12.1	11.3	11.8	11.3	12.3	7.9	9.3	9.5	8.2	12.3
30	14.3	12.2	10.7	11.7	15.6	15.2	14.3	13.1	16.6	21.3	16.6	17.4	14	17.3	21.6	25.2	**30.9**	25.8	25.4	23	18.1	18.3	21	19.2	**30.9**
31	17.6	21	23.6	24.8	19.2	18.4	18.3	23.3	23.3	28	22	22.6	26.9	27.7	23.7	22.5	22.4	24.1	15.6	11.2	6.8	5.5	5.2	5.3	28
PEAK	17.6	21.0	23.6	24.8	19.2	19.5	18.3	23.3	23.3	28.0	24.1	26.7	26.9	27.7	26.0	27.3	30.9	25.8	25.4	23.0	18.1	18.3	27.2	19.2	

STATUS FLAG CODES

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

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS READING	30.9	KPH	@ HOUR(S)	16
			ON DAY(S)	30


01 Hour Averages
100
75
50
25
0
07/01/08 00:00
07/06/08 00:00
07/11/08 00:00
07/16/08 00:00
07/21/08 00:00
07/26/08 00:00
07/31/08 00:00
LICA WSMAX KPH

Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JULY 2008

VECTOR WIND DIRECTION (WD) hourly averages in degrees

MST

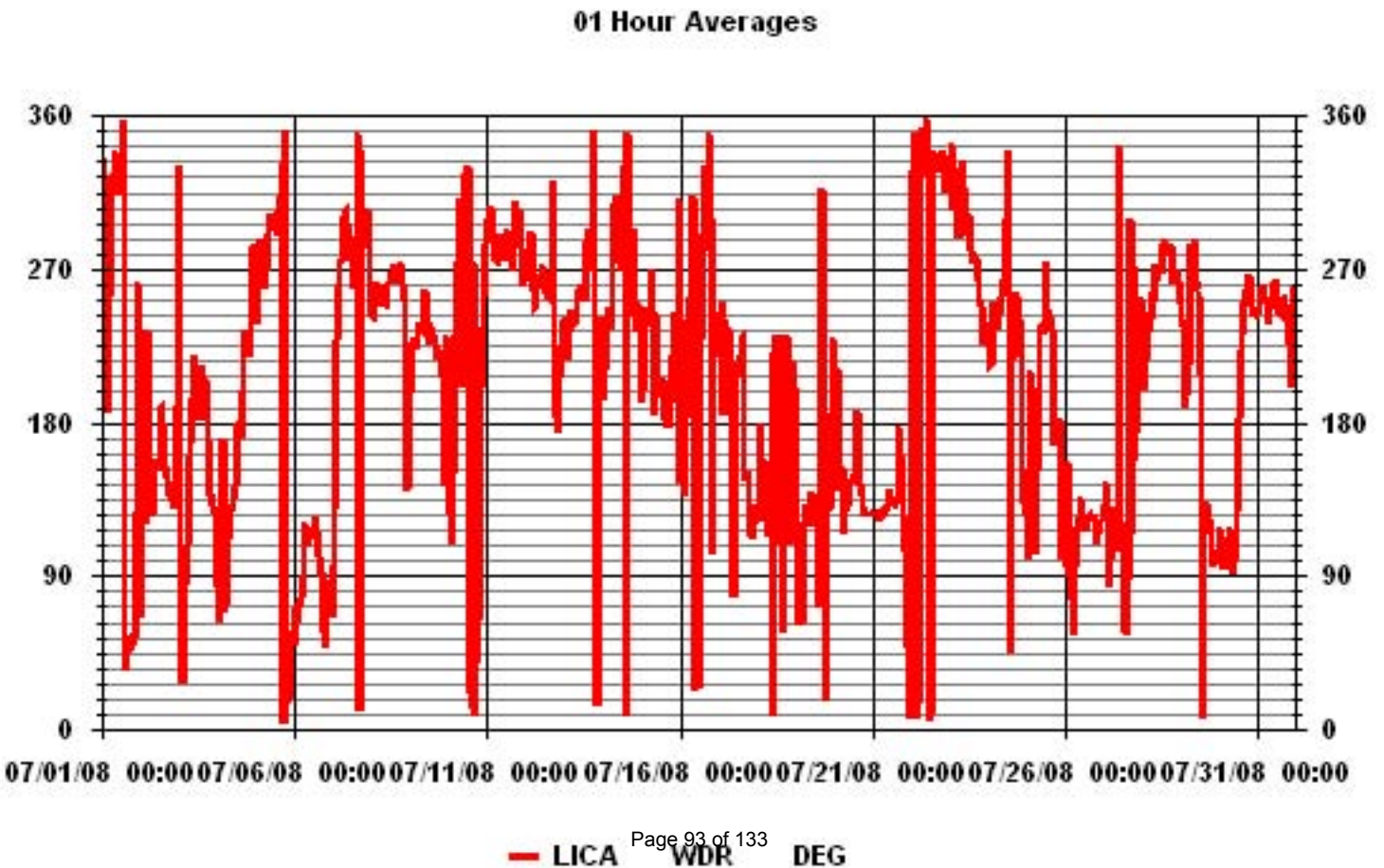
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUANDRANT	RDGS.
DAY																											
1	335	259	230	226	186	254	324	326	339	313	325	324	330	357	34	48	45	51	53	51	54	128	262	106	0	N	24
2	66	215	222	120	234	169	129	128	129	158	154	154	189	190	181	156	149	147	138	135	129	140	138	190	149	SSE	24
3	330	34	27	63	84	108	160	168	194	219	207	206	199	181	213	204	204	191	171	138	138	132	127	105	186	S	24
4	85	62	69	170	68	73	128	111	132	128	135	143	178	179	171	199	227	234	231	219	223	270	283	285	191	S	24
5	238	263	288	262	262	258	268	290	293	302	297	300	298	289	306	313	332	3	352	15	18	40	54	53	308	NW	24
6	71	74	63	71	77	91	121	109	107	111	118	113	123	123	117	102	91	91	58	47	69	88	84	66	98	E	24
7	97	129	229	261	274	276	301	304	305	298	274	289	278	258	269	350	10	339	292	287	303	305	283	255	292	WNW	24
8	244	243	248	262	250	250	248	261	252	251	262	267	267	273	262	266	271	272	274	263	252	143	141	153	260	WSW	24
9	198	227	230	223	225	238	235	232	247	258	232	226	238	236	232	230	226	217	221	221	207	143	232	172	230	SW	24
10	126	136	109	150	232	274	311	200	311	326	317	318	330	22	12	274	7	39	64	171	200	235	254	285	305	WNW	24
11	297	296	307	301	285	277	276	287	291	279	274	285	293	276	280	268	292	310	306	304	304	283	260	264	287	WNW	24
12	276	281	262	292	258	248	249	258	266	267	272	266	255	268	255	254	297	322	183	196	174	206	225	239	261	W	24
13	241	220	218	233	246	237	238	240	251	257	260	257	251	262	286	294	268	275	351	54	14	207	242	240	260	WSW	24
14	193	221	211	248	234	241	273	308	313	310	296	294	269	331	7	350	243	244	273	293	234	238	250	236	286	WNW	24
15	192	199	245	248	236	247	270	229	184	244	207	204	195	206	181	204	177	205	202	220	244	216	192	312	216	SW	24
16	144	240	137	235	182	247	254	226	313	22	99	24	178	228	291	330	281	322	350	301	103	224	244	242	289	WNW	24
17	219	225	251	184	240	224	235	230	165	77	156	207	214	219	231	232	149	146	151	115	115	112	121	132	171	S	24
18	130	125	179	121	159	127	118	113	120	221	8	126	232	225	221	110	56	112	231	144	113	108	217	177	146	SE	24
19	200	121	61	94	62	122	130	130	120	120	139	119	130	131	71	100	317	92	17	113	131	129	185	230	117	ESE	24
20	209	154	212	139	148	154	114	128	132	132	146	148	147	183	187	157	145	138	132	125	127	126	126	127	139	SE	24
21	126	126	127	125	125	124	125	130	128	132	141	137	134	133	135	135	178	161	134	126	105	49	7	10	128	SE	24
22	22	327	350	6	15	30	323	353	348	358	334	5	9	21	339	332	331	337	331	340	315	325	332	324	347	NNW	24
23	336	344	304	329	292	288	299	306	334	319	299	289	303	282	273	278	277	264	253	250	249	226	233	239	288	WNW	24
24	226	213	214	251	240	240	234	244	253	264	**286**	299	339	45	65	217	222	256	254	241	220	132	153	126	261	W	24
25	100	142	210	168	116	102	152	200	237	238	231	255	274	248	243	233	236	166	172	172	183	99	116	117	230	SW	24
26	95	157	91	76	109	55	95	119	125	136	133	128	116	124	125	126	122	126	124	108	115	121	122	130	122	ESE	24
27	130	146	125	83	99	130	126	126	126	343	104	109	122	58	55	88	300	114	157	272	174	234	203	254	119	ESE	24
28	199	244	220	218	233	240	257	251	273	262	270	267	284	287	280	280	281	279	284	262	266	267	264	251	270	W	24
29	241	238	188	240	196	213	284	271	287	264	258	255	209	6	114	128	133	125	116	95	102	100	105	96	129	SE	24
30	119	114	96	96	94	104	119	102	91	98	104	128	182	222	231	251	256	256	267	261	249	243	245	244	205	SSW	24
31	247	250	259	261	254	251	237	246	252	256	262	264	254	245	244	252	253	250	240	227	200	220	260	208	250	WSW	24
HOURLY AVG	336	344	350	329	292	288	324	353	348	358	334	324	339	357	339	350	332	339	352	340	315	325	332	324			

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	83.84		AMD OPERATION UPTIME	100.0	%
			MONTHLY AVERAGE	251	DEG


01 Hour Averages
360
270
180
90
0
07/01/08 00:00
07/06/08 00:00
07/11/08 00:00
07/16/08 00:00
07/21/08 00:00
07/26/08 00:00
07/31/08 00:00
LICA WDR DEG

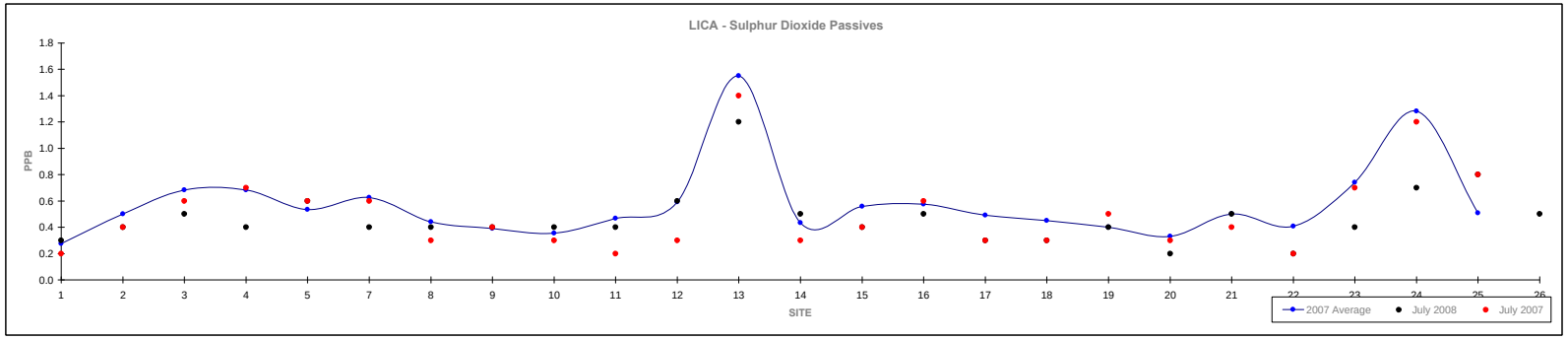
Non-Continuous Monitoring

Passive Summary Results for July 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	0.5	-
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	0.2	#23,#25
Maximum	0.4	1.0	1.3	1.1	1.0	1.1	0.8	0.7	0.7	0.8	1.6	2.6	0.8	1.1	1.1	1.0	0.8	0.6	0.5	0.8	0.8	1.2	2.1	0.8	0.0	1.2	#14

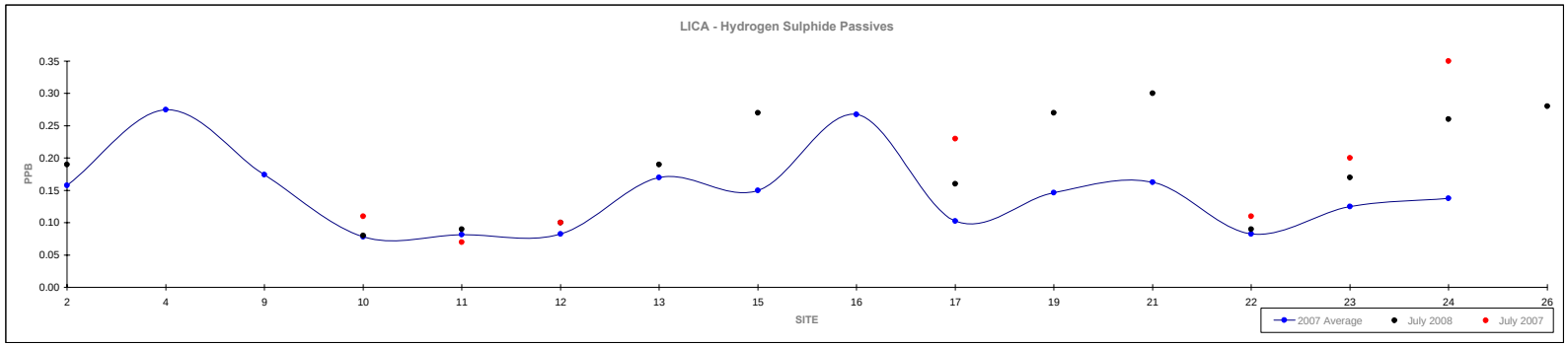


Passive Summary Results for July 2008

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	0.24	-
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	0.08	#11
Maximum	0.5	0.7	0.5	0.1	0.1	0.2	0.4	0.4	0.9	0.2	0.4	0.4	0.2	0.2	0.4	0.48	#5

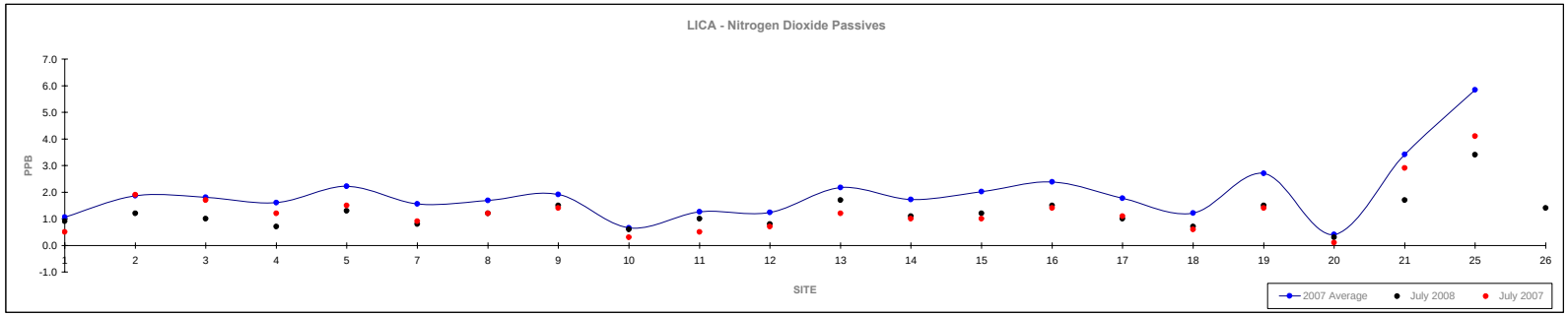


Passive Summary Results for July 2008

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	1.2	-
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	0.3	#23
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	3.4	#28

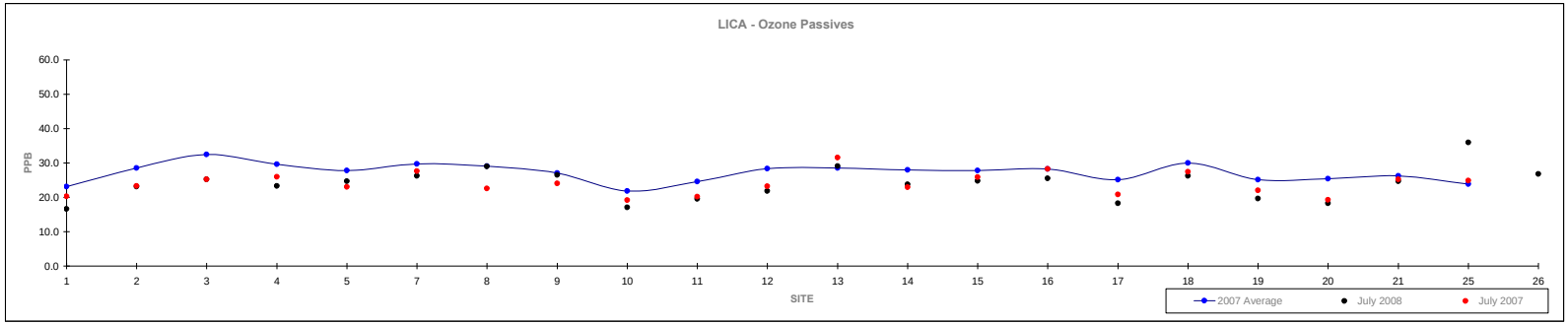


Passive Summary Results for July 2008

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	24.0	-
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	16.6	#2
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	36.0	#28



Calibration Reports

Cold Lake

Sulphur Dioxide

SO_2 Calibration Report

Station Information

Calibration Date	July 3, 2008	Previous Calibration	June 5, 2008
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	6:35	End Time (MST)	10:55
Reason:	Monthly Calibration		
Barometric Pressure	712 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	828	OK	825
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	910	106	960

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	0	N/A
4961.1	38.9	406	398	1.0204
4961.1	38.9	406	407	0.9978
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	0.9985
			New Correction Factor	0.9978

	Before Calibration	After Calibration
Auto Zero	-1	-1
Auto Span	316	321
Sample Lines Connected		**YES**
Percent Change from Previous Calibration		0.2%

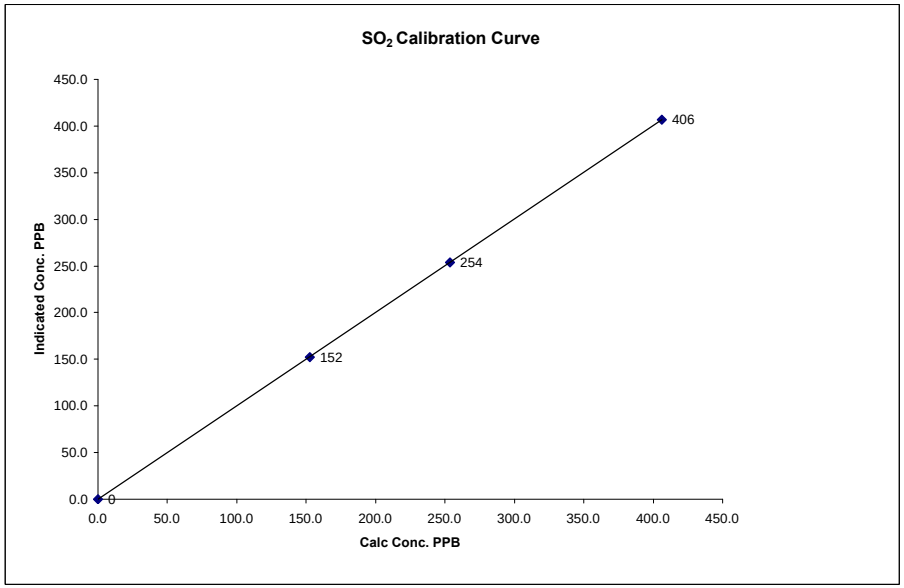
Calibration Performed by: Shea Beaton

SO_2 Calibration Curve

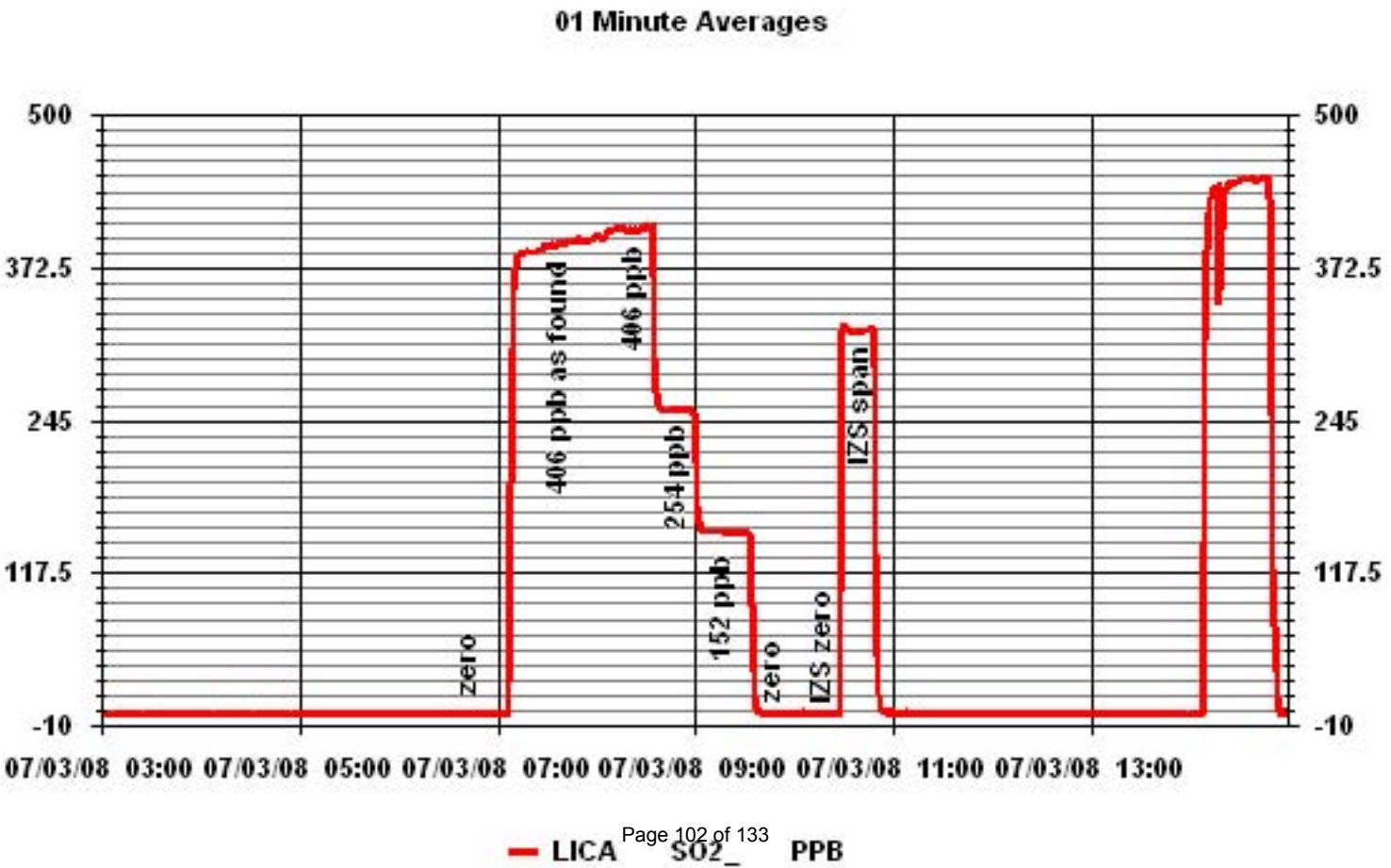
Calibration Date	July 3, 2008		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	6:35	End Time (MST)	10:55

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
152	152	1.0028
254	254	0.9988
406	407	0.9978

Correlation Coefficient	(≥ 0.995)	0.999996
Slope	(0.85 to 1.15)	1.002472
Intercept	(± 3% F.S.)	-0.310048



Notes:


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

Total Reduced Sulphur

TRS Calibration Report

Station Information

Calibration Date	July 3, 2008	Previous Calibration	June 4, 2008
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	13:44	End Time (MST)	17:10
Reason:	Monthly Calibration		
Barometric Pressure	710 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		886		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		859		918		920	

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	74	1.0801
4962.2	37.8	80	79	1.0144
4981.1	18.9	40	40	1.0017
4990.5	9.5	20	20	1.0070
5000	0	0	0	N/A
			Sum of Least Squares	1.0116
			New Correction Factor	1.0144

	Before Calibration	After Calibration
Auto Zero	0	0
Auto Span	81	82
Sample Lines Connected		YES
Percent Change from Previous Calibration		-5.0%

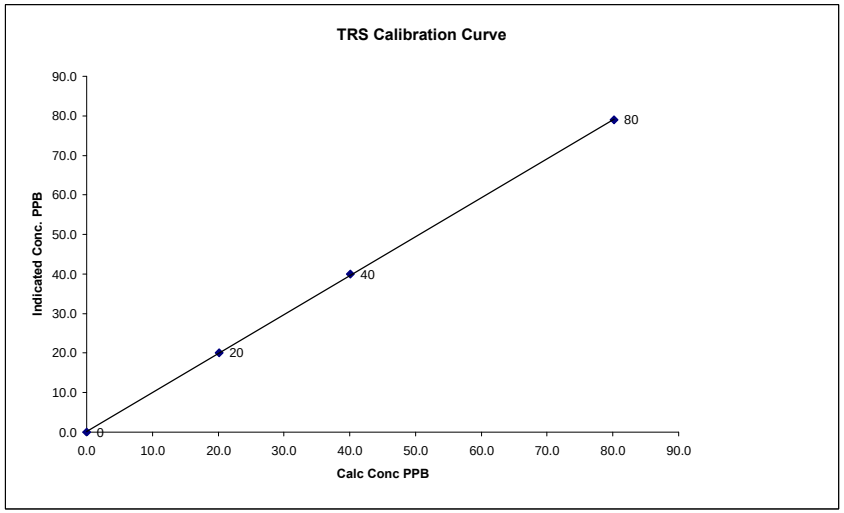
Calibration Performed by: Shea Beaton

TRS Calibration Curve

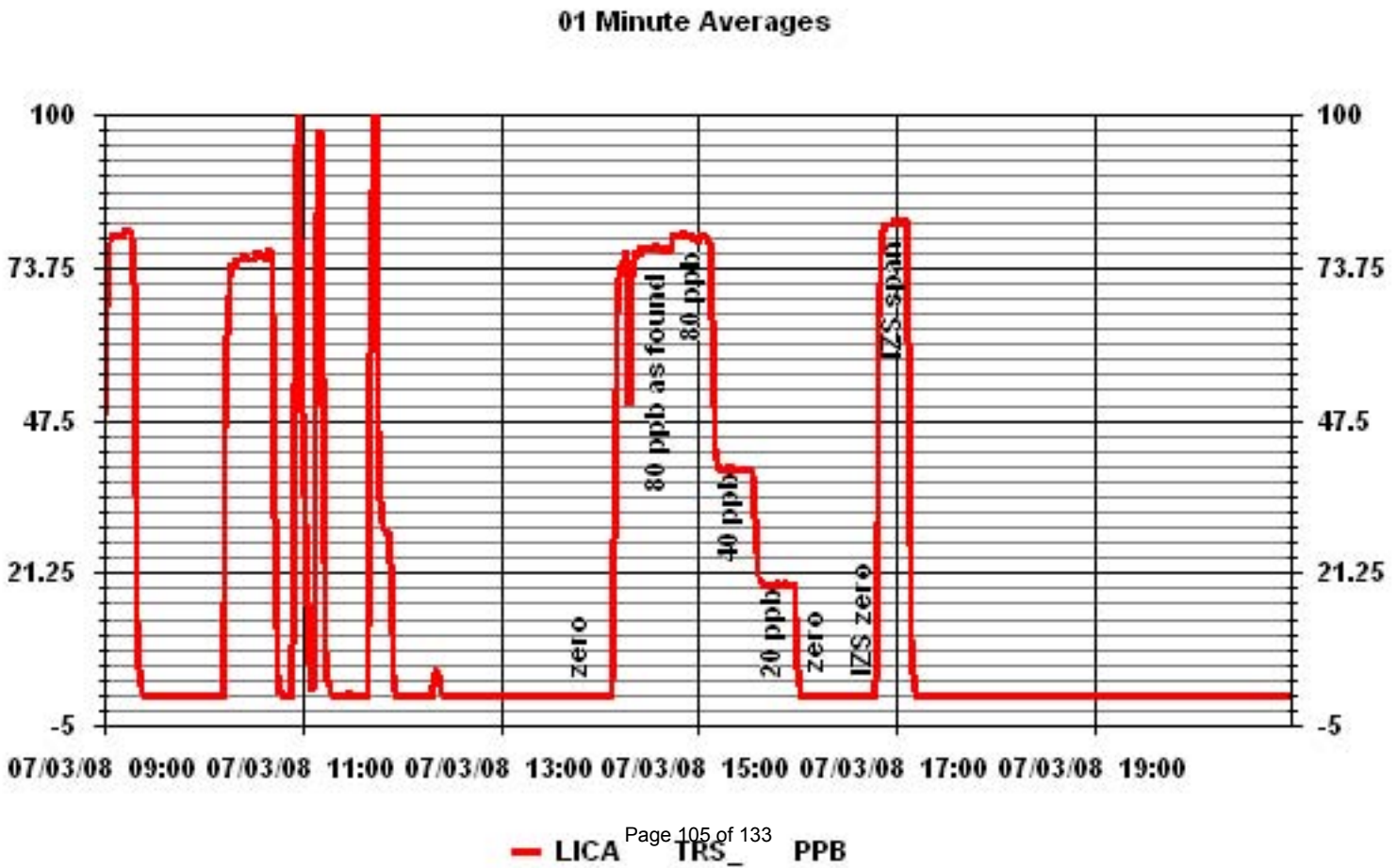
Calibration Date	July 3, 2008		
Company	Lakeland Industry & Community Association		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	13:44	End Time (MST)	17:10

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
20	20	1.0070
40	40	1.0017
80	79	1.0144

Correlation Coefficient	(≥ 0.995)	0.999951
Slope	(0.85 to 1.15)	0.985914
Intercept	(± 3% F.S.)	0.158213



Notes:


01 Minute Averages
100
73.75
47.5
21.25
-5
zero
80 ppb as found
80 ppb
40 ppb
20 ppb
zero
IZS zero
IZS span
07/03/08 09:00
07/03/08 11:00
07/03/08 13:00
07/03/08 15:00
07/03/08 17:00
07/03/08 19:00
LICA TRS_ PPB

Total Hydrocarbons

THC Calibration Report

Station Information

Calibration Date:	July 4, 2008	Previous Calibration	June 4, 2008
Company:	**Lakeland Industry and Community Association**		
Plant / Location:	**LICA1/Cold Lake**		
Start Time (MST)	9:50	End Time (MST)	14:05
Reason:	Monthly Calibration		
Barometric Pressure:	706 mmHg	Station Temperature:	23 Deg C
Calibrator:	Environics 2000	S/N:	1991
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	8.5	psi	8	psi
Air Pressure	18	psi	18	psi

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2000	0	0.0	0.1	N/A
2000	0	0.0	0.0	N/A
2000	80.0	38.8	38.8	1.0012
2000	80.0	38.8	38.4	1.0116
2000	40.0	19.8	19.3	1.0261
2000	20.0	10.0	9.7	1.0309
2000	0	0.0	0.0	N/A
			Correction Factor:	1.0116

Percent Change

Previous Calibration Correction Factor:	1.0090
Current Correction Factor Before Span Adjust:	1.0012
Percent Change:	0.8%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.4	0.0
Auto Span	30.9	30.2
Sample Lines Connected		**YES**

Cylinder Pressures			
Span	1200	psi	
Hydrogen	1050	psi	
Zero Air	unlimited	psi	Maxxam-owned API 701 zero air supply with catalytic oxidizer

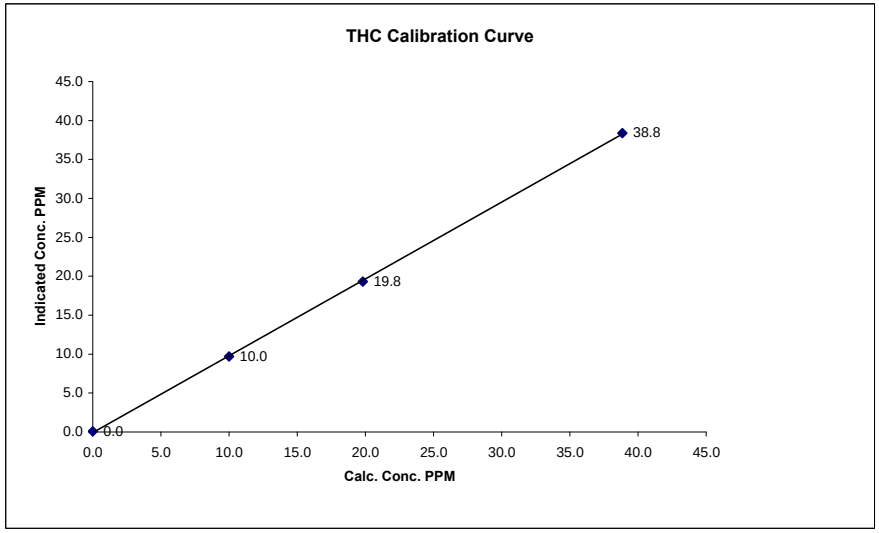
Calibration Performed by: Shea Beaton

THC Calibration Curve

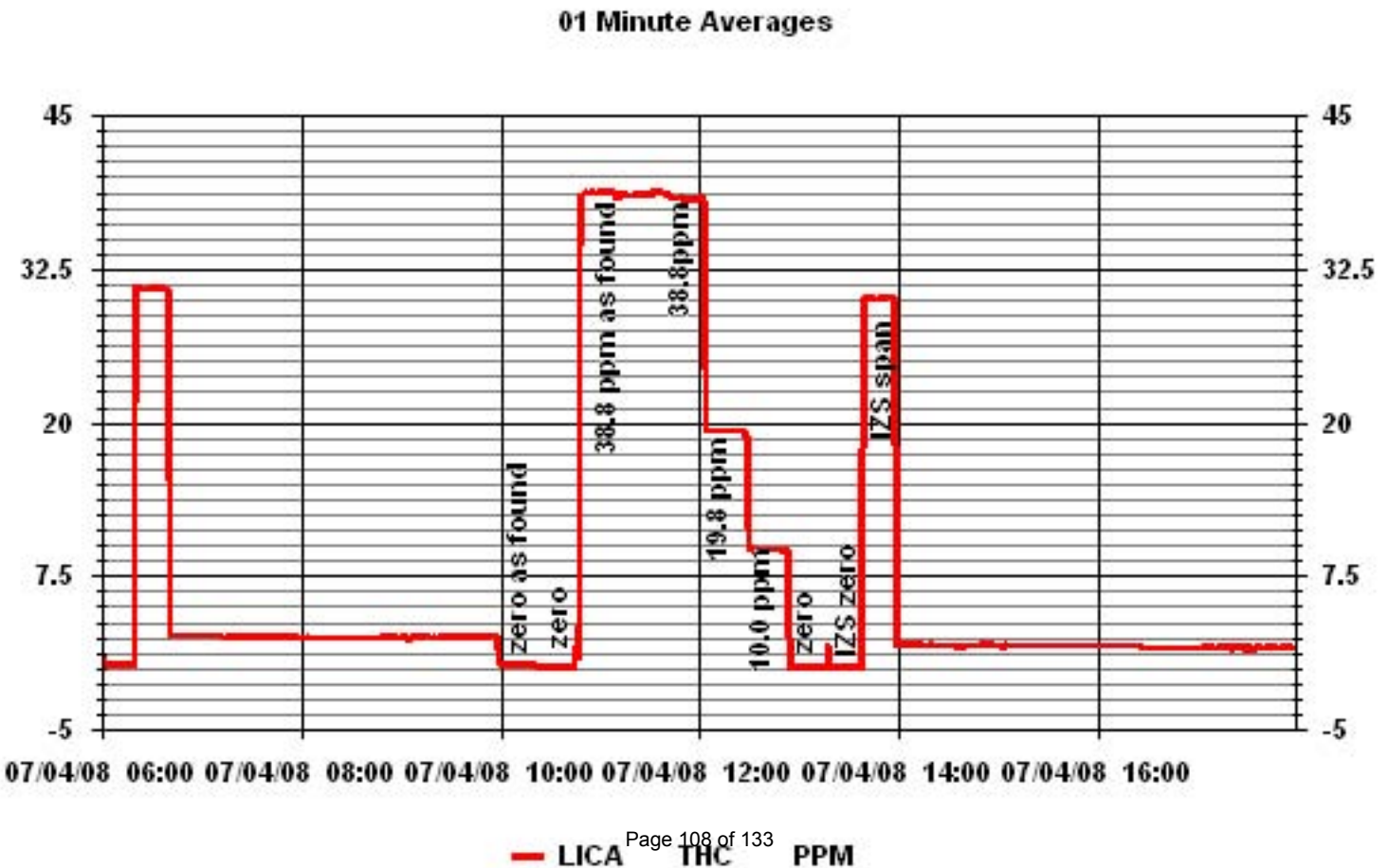
Calibration Date	July 4, 2008		
Company	**Lakeland Industry and Community Association**		
Plant / Location	**LICA1/Cold Lake**		
Start Time (MST)	9:50	End Time (MST)	14:05

Calculated Conc. ppm	Indicated Response ppm	Correction Factor
0.0	0.1	
10.0	9.7	1.0309
19.8	19.3	1.0261
38.8	38.4	1.0116

Correlation Coefficient	(≥ 0.995)	0.999892
Slope	(0.85 to 1.15)	0.987154
Intercept	(± 3% F.S.)	-0.067041



Notes: The span was adjusted following the as found span point, then adjusted a second time, the analyzer crept up following the first adjustement.


01 Minute Averages
45
32.5
20
7.5
-5
zero as found
zero
38.8 ppm as found
38.8ppm
19.8 ppm
10.0 ppm
zero
IZS zero
IZS span
07/04/08 06:00
07/04/08 08:00
07/04/08 10:00
07/04/08 12:00
07/04/08 14:00
07/04/08 16:00
LICA THC PPM

Particulate Matter 2.5

TEOM® Calibration

Station		Transfer Standard	
Date:	July 4, 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 (%)	48%
Transducer s/n	140AB213859701	K_o Factor	11095
Parameter	PM 2.5	Temp (^oC)	29.4
		Press (ATM)	0.925

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)**	39
F-Aux (l/min)	0.18		**(45-60 Sec)**	52

Temperature/Pressure

Measured Temp **(± 1 ^oC)**	28.8	**Δ ^oC**	-0.6
Measured Press **(± 1.5% ATM)**	0.925	**Δ % ATM**	0.0%

Flow Audit

			Δ % from Set-pt
Indicated Main/Aux Flow (l/min)	3.00 / 13.65	**(± 2%)**	0.0% / 0.1%
Total Flow = Main + Aux (l/min)	16.65	**(± 2%)**	0.1%
Measured Total Flow (l/min)	16.10	**(± 1.0 l/min. (5.65%))**	3.4%
Measured Main Flow (l/min)	2.95	**(± 0.2 l/min. (6.25%))**	1.7%

Leak Check

		Actual leakage = Pump On - Pump Off
Main **(< 0.15 l/min)**	NA	0.07
Aux **(< 0.15 l/min)**	NA	0.17

K_o Factor

Measured	10927
K_o Difference **(± 2.5%)**	1.51%

Start Time: **12:00** **Finish Time:** **14:45**

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

Comments: Performed KO confirmation, left Teom in maintenance mode overnight to stablize.
Installed new teom filter following the audit. Filter loading now at 16%

Calibrator/s: Shea Beaton

Nitrogen Dioxide

NOx - NO- NO_2 Calibration Report

Station Information

Calibration Date	July 2, 2008	Previous Calibration	June 4, 2008
Company	**Lakeland Ind & Comm. Assoc.**	Plant/Location	**LICA 1 - Cold Lake South**
Start Time (MST)	14:20	End Time (MST)	15:50
Reason:	Monthly Calibration		
Barometric Pressure	717 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	685	ccm	318	Deg C	753	ccm	317	Deg C
Ozone Flow / Vacuum	OK	ccm	194.1	"Hg-A	OK	ccm	170.3	"Hg-A
HVPS	-820		Volts		-820		Volts	
Rx/ Temp / PMT Temp	48.7	Deg C	-2.5	Deg C	49.5	Deg C	-2.4	Deg C
Box Temp / IZS Temp	27.1	Deg C	OK	Deg C	26.9	Deg C	OK	Deg C
Offset	3.9	NOx	3.7	NO	3.1	NOx	3.3	NO
Slope	1.006	NOx	0.978	NO	1.007	NOx	0.834	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	395	393	2	1.0242	1.0195
								Converter Efficiency	
5000	N/A	N/A	0	0	1	0	0	N/A	N/A
								Correction Factor	

Linearity OK?	**Yes**	No	Sum of Least Squares	
Flows Checked on-site?	Yes	**No**	New Correction Factor	
			Average Converter Efficiency	

	Before Calibration				After Calibration			
Auto Zero	0	NOx	0	NO2	NA	NOx	NA	NO2
Auto Span	261	NOx	259	NO2	NA	NOx	NA	NO2
Sample Lines Connected							**YES**	
Percent Change from Previous Calibration					*NOx*		*NO*	

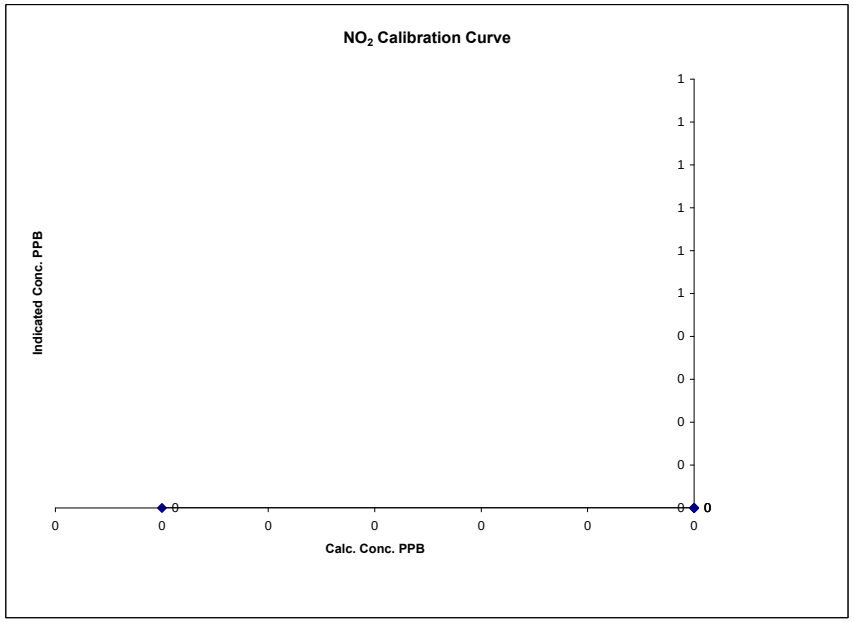
Calibration Performed by: Shea Beaton

NO_2 Calibration Curve

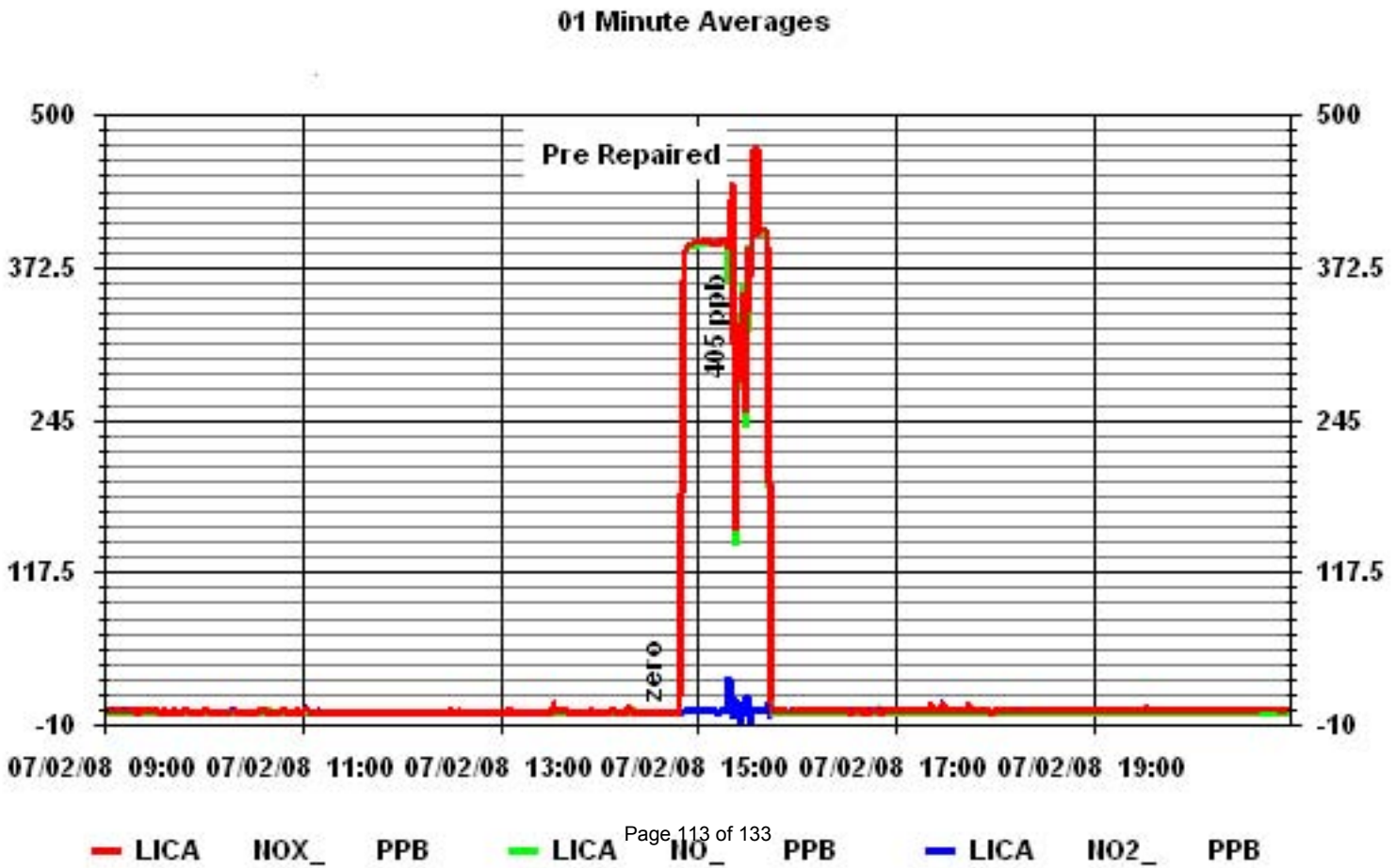
Calibration Date	July 2, 2008		
Company	**Lakeland Ind & Comm. Assoc.**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	14:20	End Time (MST)	15:50

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	N/A
0	0	#DIV/0!
0	0	#DIV/0!
0	0	#DIV/0!

Correlation Coefficient	(≥ 0.995)	#DIV/0!
Slope	(0.85 to 1.15)	0.000000
Intercept	(± 3% F.S.)	0.000000



Notes: Installed newly rebuilt AENV-owned pump following as-found points, removed Maxxam-Owned pump. Adjusted slope and offset, will allow to stablize overnight.


01 Minute Averages
500
372.5
245
117.5
-10
Pre Repaired
405 ppb
zero
07/02/08 09:00 07/02/08 11:00 07/02/08 13:00 07/02/08 15:00 07/02/08 17:00 07/02/08 19:00
LICA NOX_ PPB
LICA NO_ PPB
LICA NO2_ PPB

NOx - NO- NO_2 Calibration Report

Station Information

Calibration Date	July 3, 2008	Previous Calibration	July 2, 2008
Company	**Lakeland Ind & Comm. Assoc.**	Plant/Location	**LICA 1 - Cold Lake South**
Start Time (MST)	6:35	End Time (MST)	14:30
Reason:	Post Repair		
Barometric Pressure	712 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	737	ccm	318	Deg C	736	ccm	317	Deg C
Ozone Flow / Vacuum	OK	ccm	168.4	"Hg-A	OK	ccm	168.7	"Hg-A
HVPS	-820		Volts		-820		Volts	
Rx/ Temp / PMT Temp	49.5	Deg C	-2.5	Deg C	49.7	Deg C	-2.4	Deg C
Box Temp / IZS Temp	28.7	Deg C	OK	Deg C	28	Deg C	OK	Deg C
Offset	3.1	NOx	3.3	NO	3.4	NOx	3.2	NO
Slope	1.007	NOx	0.834	NO	1.01	NOx	0.850	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	396	394	2	1.0216	1.0169
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	150	2	0.9989	1.0025
5000	0	N/A	0	0	0	0	0	N/A	N/A
								Converter Efficiency	
4961	38.9	N/A	405	401	404	401	3	N/A	
4961	38.9	300	405	N/A	401	129	272	99%	
4961	38.9	200	405	N/A	402	209	193	99%	
4961	38.9	100	405	N/A	403	306	97	99%	
4961	38.9	N/A	405	401	404	400	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	1.0000
Flows Checked on-site?	Yes	**No**	New Correction Factor	0.9989	0.9992
			Average Converter Efficiency	99%	

	Before Calibration				After Calibration			
Auto Zero	0	NOx	0	NO2	1	NOx	0	NO2
Auto Span	261	NOx	259	NO2	259	NOx	256	NO2
Sample Lines Connected							**YES**	
Percent Change from Previous Calibration					*NOx*	0.5%	*NO*	0.0%

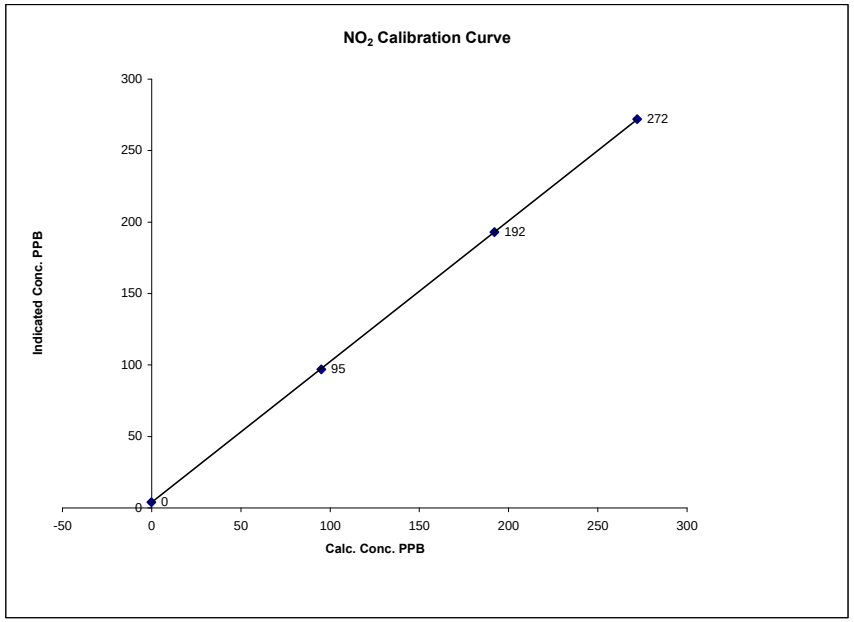
Calibration Performed by: Shea Beaton

NO_2 Calibration Curve

Calibration Date	July 3, 2008		
Company	**Lakeland Ind & Comm. Assoc.**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	6:35	End Time (MST)	14:30

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	4	N/A
95	97	0.9794
192	193	0.9948
272	272	1.0000

Correlation Coefficient	(≥ 0.995)	0.999993
Slope	(0.85 to 1.15)	0.985389
Intercept	(± 3% F.S.)	3.816521

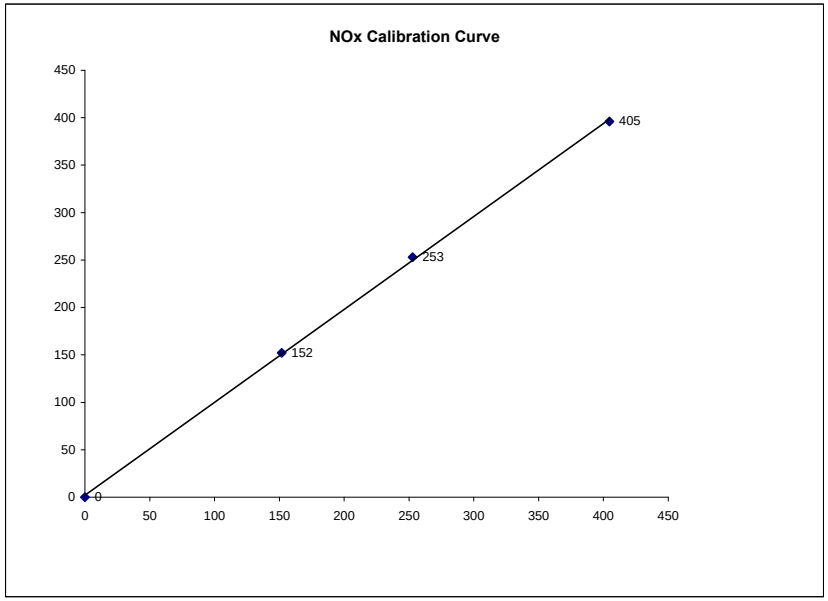


Notes:

NOx Calibration Curve

Calibration Date	July 3, 2008		
Company	**Lakeland Ind & Comm. Assoc.**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	6:35	End Time (MST)	14:30

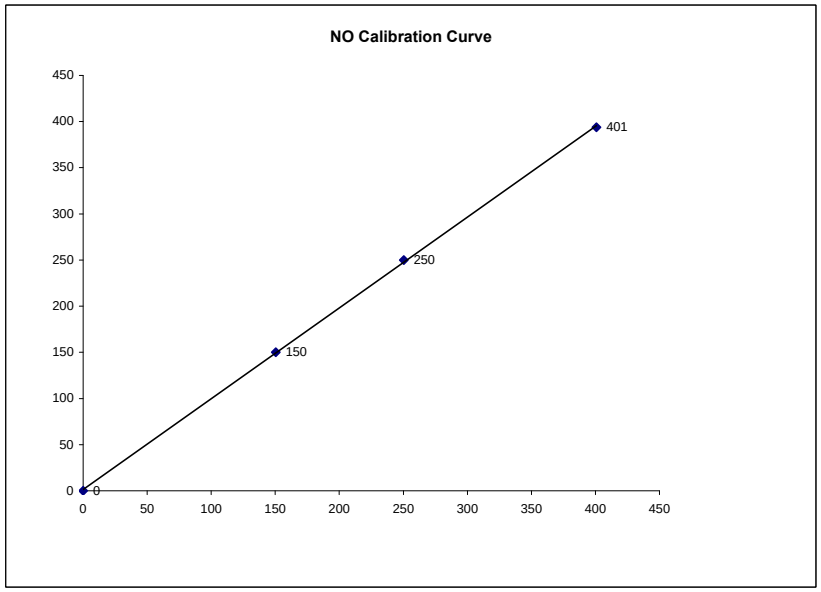
Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999729
			Slope (0.85 to 1.15)	0.980149
0	0	N/A	Intercept (± 3% F.S.)	1.985367
152	152	0.9989		
253	253	0.9989		
405	396	1.0216		

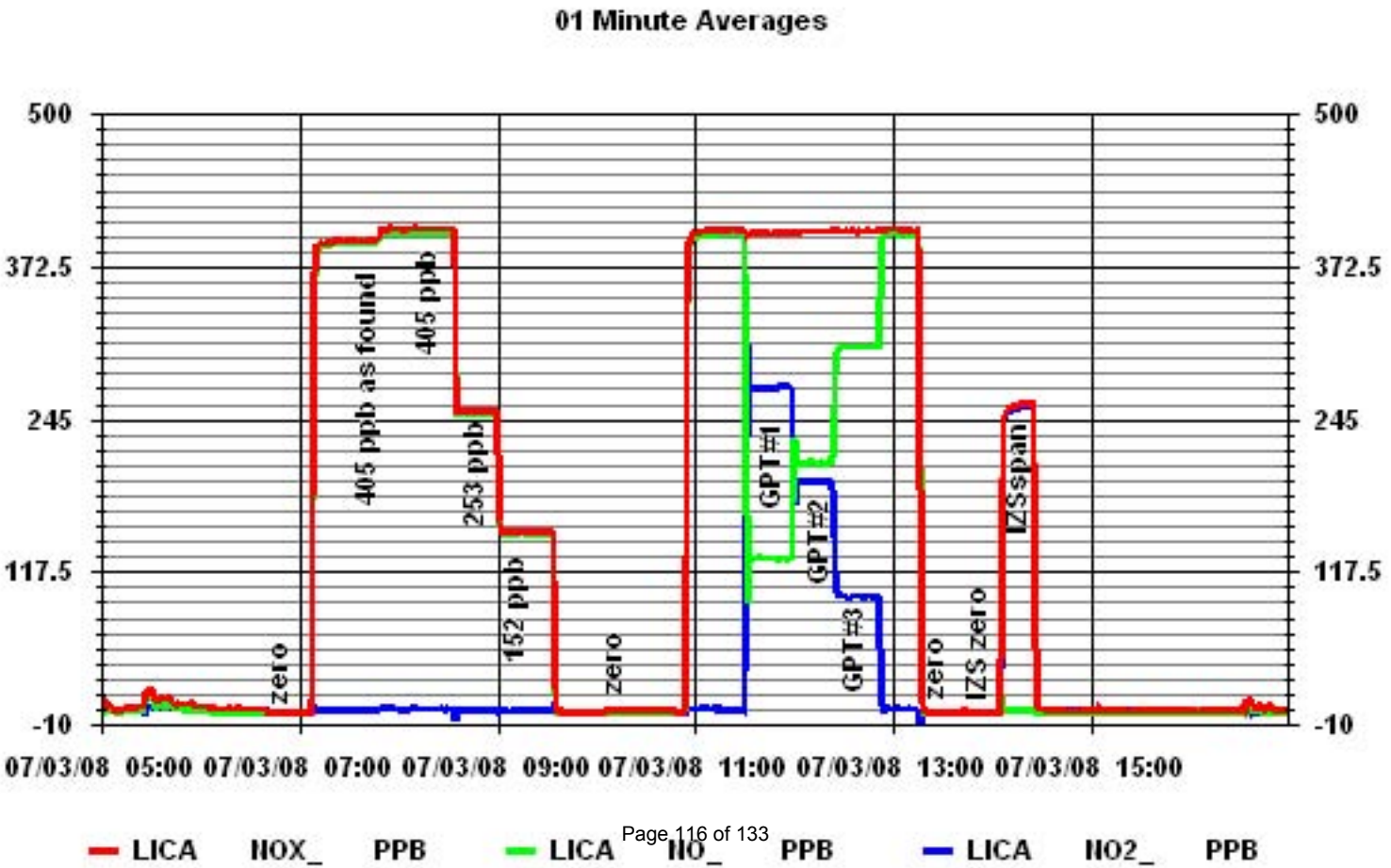


NO Calibration Curve

Calibration Date	July 3, 2008		
Company	**Lakeland Ind & Comm. Assoc.**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	6:35	End Time (MST)	14:30

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient (≥ 0.995)	0.999874
			Slope (0.85 to 1.15)	0.984380
0	0	N/A	Intercept (± 3% F.S.)	1.294208
150	150	1.0025		
250	250	1.0012		
401	394	1.0169		




01 Minute Averages
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
IZSspan
07/03/08 05:00
07/03/08 07:00
07/03/08 09:00
07/03/08 11:00
07/03/08 13:00
07/03/08 15:00
LICA NOX_ PPB
LICA NO_ PPB
LICA NO2_ PPB

Ozone

O_3 Calibration Report

Station Information

Calibration Date	July 4, 2008	Previous Calibration	June 5, 2008
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	6:50	End Time (MST)	10:35
Reason:		Monthly Calibration	
Barometric Pressure	705 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	30.3	Deg C	29.3	Deg C
O_3 Set Level	29%		29%	
Bench Lamp/O3 Lamp				
Sample Flow A/B	0.735 LPM	0.718 LPM	0.735 LPM	0.747 LPM
Offset / Slope	0.7	1.049	0.8	1.062

Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	0	N/A
5000	400	387	382	1.0131
5000	400	387	388	0.9974
5000	200	196	195	1.0051
5000	100	94	95	0.9895
5000	0	0	0	N/A
			Sum of Least Squares	N/A
			New Correction Factor	0.9974

	Before Calibration	After Calibration
Auto Zero	0	0
Auto Span	277	283
Sample Lines Connected		YES
Percent Change from Previous Calibration		-0.3%

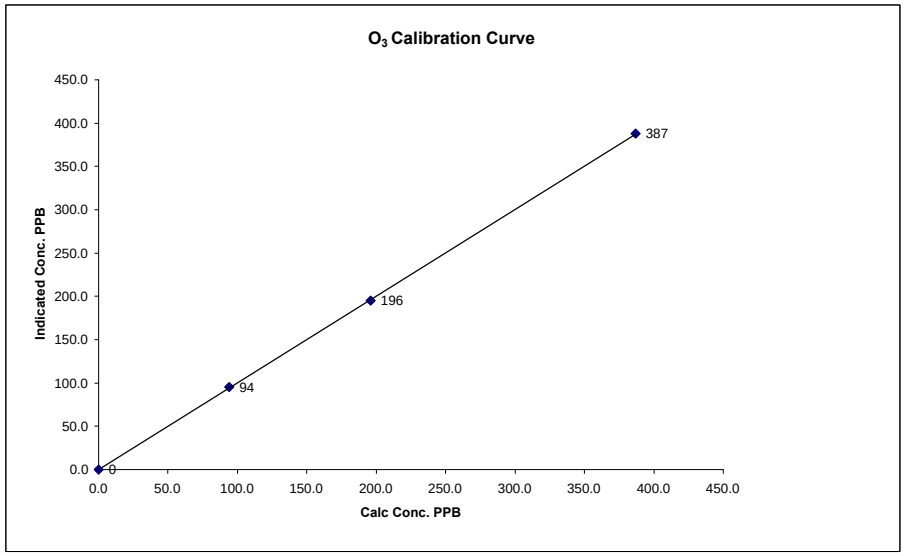
Calibration Performed by: Shea Beaton

O_3 Calibration Curve

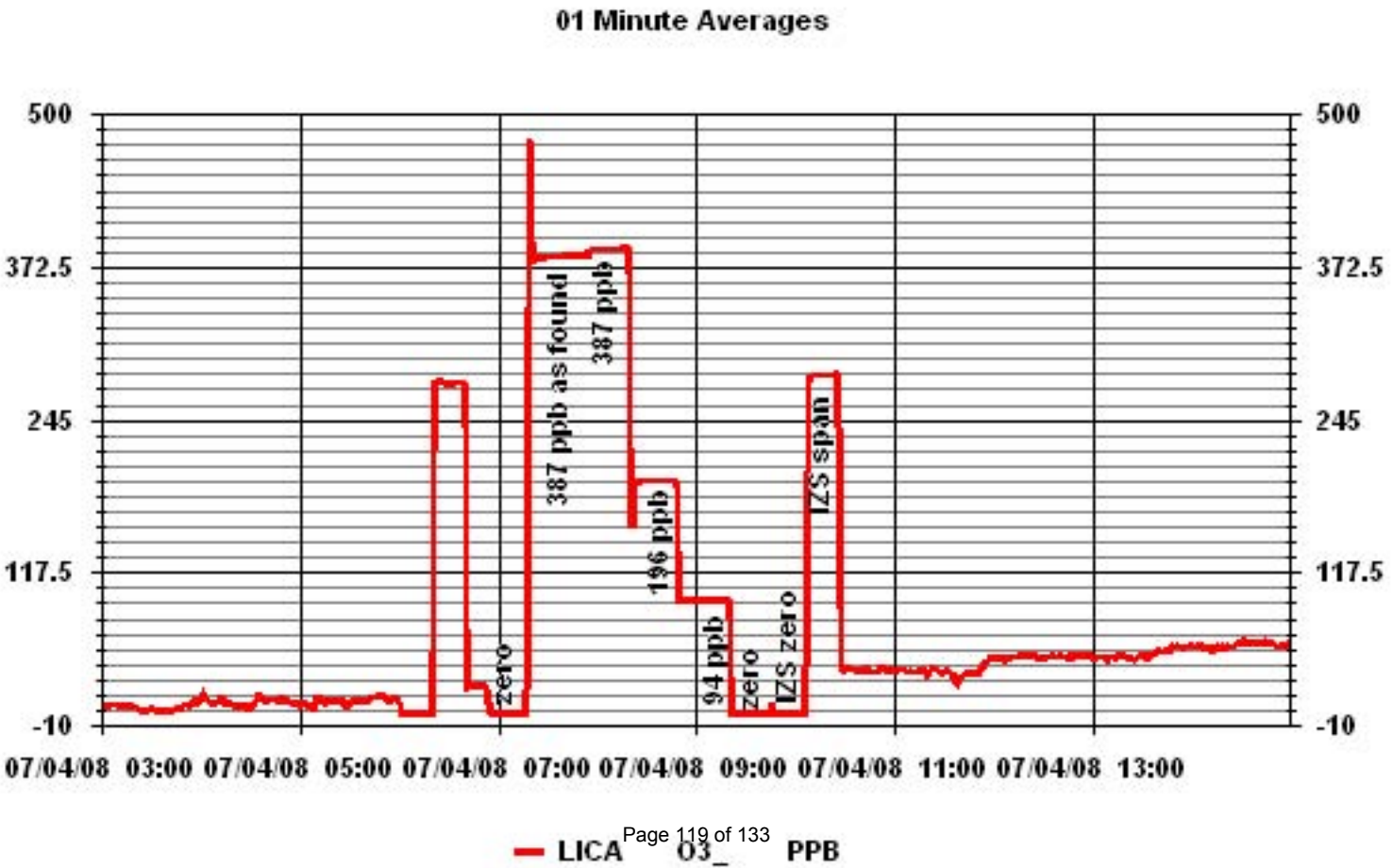
Calibration Date	July 4, 2008		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	6:50	End Time (MST)	10:35

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
94	95	0.9895
196	195	1.0051
387	388	0.9974

Correlation Coefficient	(≥ 0.995)	0.999969
Slope	(0.85 to 1.15)	1.001404
Intercept	(± 3% F.S.)	0.012361



Notes: pressure =698.0 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
IZS zero
IZS span
07/04/08 03:00
07/04/08 05:00
07/04/08 07:00
07/04/08 09:00
07/04/08 11:00
07/04/08 13:00
LICA O3_ PPB

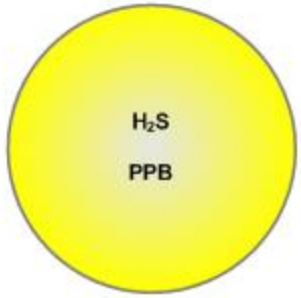
Passive Bubble Maps

Lakeland Industry & Community Association
H_2S Passive Bubble Map

JULY 2008

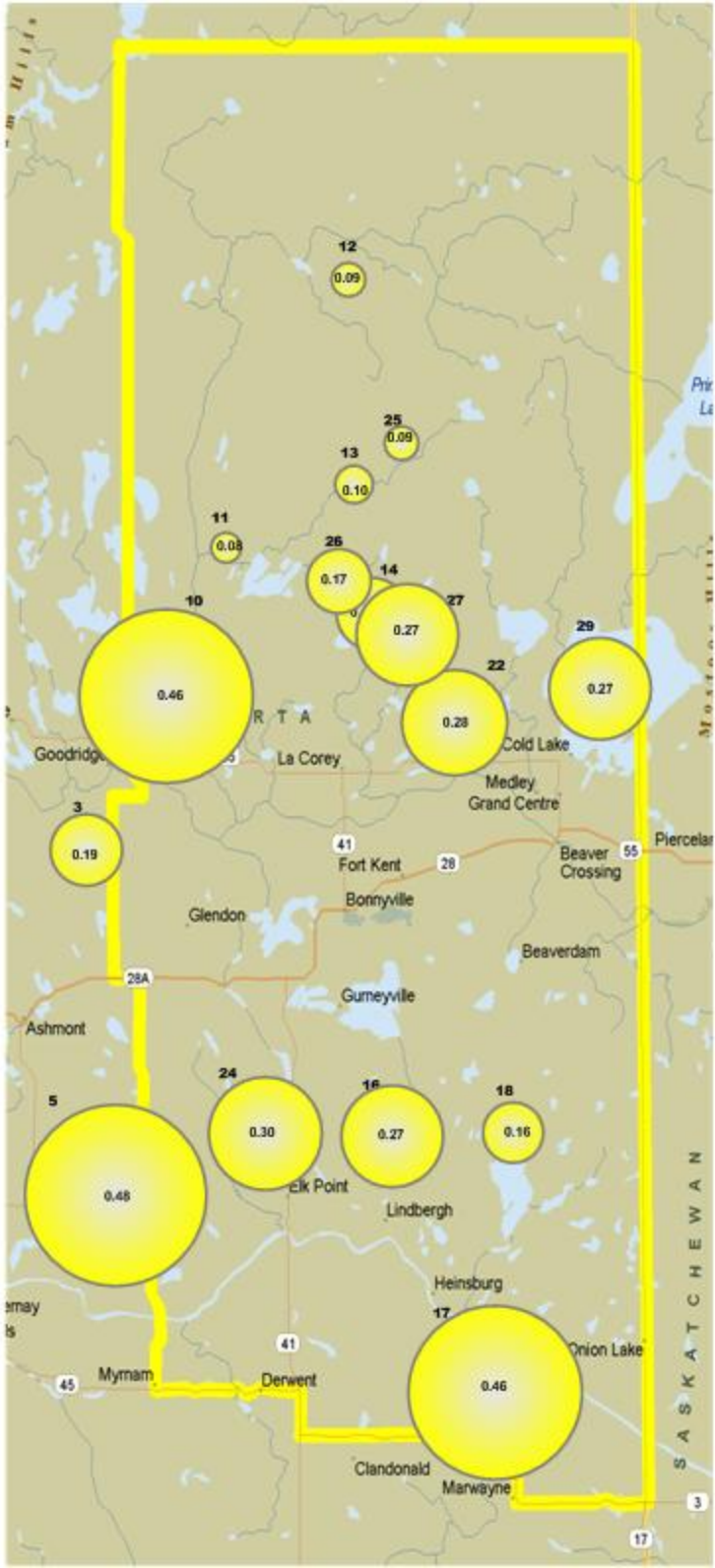
PASSIVE STATIONS

3 – Therien	0.19 PPB
5 – Lake Eliza	0.48 PPB
10 – La Corey	0.46 PPB
11 – Wolf Lake	0.08 PPB
12 – Foster Creek	0.09 PPB
13 – Primrose	0.10 PPB
14 – Maskwa	0.19 PPB
16 – Frog Lake	0.27 PPB
17 – Clear Range	0.46 PPB
18 – Fishing Lake	0.16 PPB
22A – Cold Lake South	0.27 PPB
22 – Cold Lake South	0.28 PPB
24 – Fort George	0.30 PPB
25 – Burnt Lake	0.09 PPB
26 – Mahihkan	0.17 PPB
27 – Hilda Lake	0.26 PPB
29 – Cold Lake South 2	0.27 PPB
29A – Cold Lake South 2	0.25 PPB



Summary

Minimum : 0.08 PPB – Wolf Lake
Maximum: 0.48 PPB – Lake Eliza
Average: 0.24 PPB *Includes Duplicates

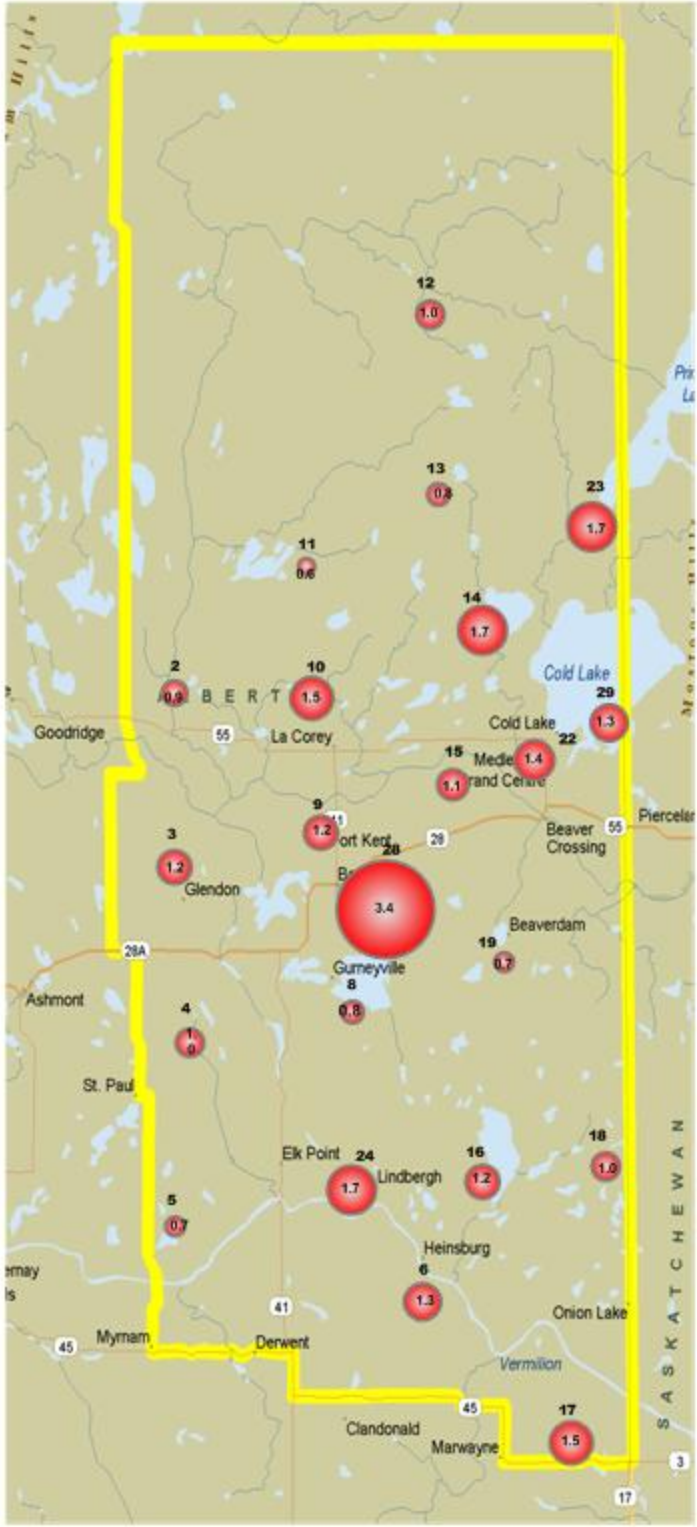


Lakeland Industry & Community Association
NO_2 Passive Bubble Map

JULY 2008

PASSIVE STATIONS

2 – Sand River	0.9 PPB
3 – Therien	1.2 PPB
4 – Flat Lake	1.0 PPB
5 – Lake Eliza	0.7 PPB
6 – Telegraph Creek	1.3 PPB
8 – Muriel-Kehewin	0.8 PPB
9 – Dupre	1.2 PPB
10 – La Corey	1.5 PPB
11 – Wolf Lake	0.6 PPB
12 – Foster Creek	1.0 PPB
13 – Primrose	0.8 PPB
14 – Maskwa	1.7 PPB
15 – Ardmore	1.1 PPB
16 – Frog Lake	1.2 PPB
17 – Clear Range	1.5 PPB
18 – Fishing Lake	1.0 PPB
19 – Beaverdam	0.7 PPB
22 – Cold Lake South	1.5 PPB
22A – Cold Lake South	1.2 PPB
23 – Medley-Martineau	0.3 PPB
24 – Fort George	1.7 PPB
28 – Town of Bonnyville	3.4 PPB
29 – Cold Lake South 2	1.4 PPB
29A – Cold Lake South 2	1.3 PPB



Summary

Minimum : 0.3 PPB – Medley-Martineau
Maximum: 4.5 PPB – Town of Bonnyville
Average: 1.2 PPB *Includes Duplicates

Lakeland Industry & Community Association
O_3 Passive Bubble Map

JULY 2008

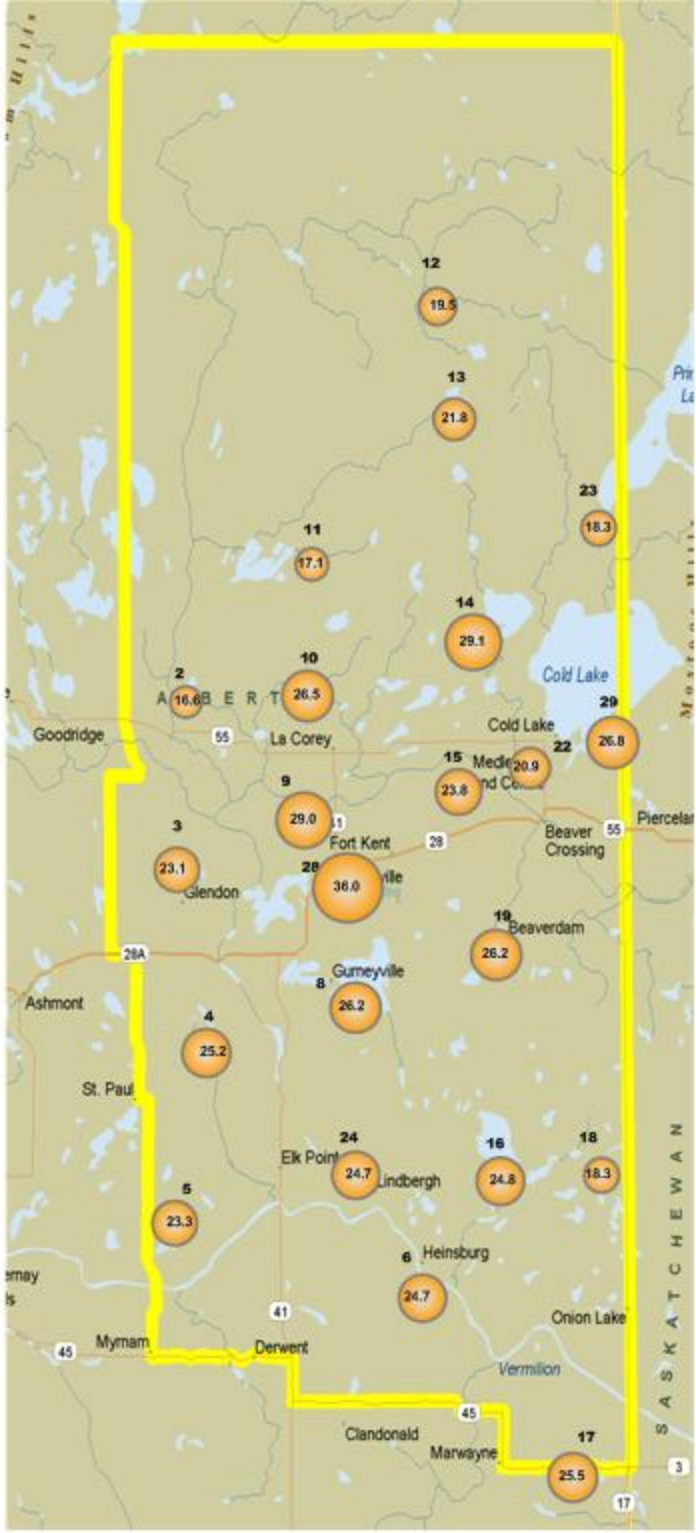
PASSIVE STATIONS

2 – Sand River	16.6 PPB
3 – Therien	23.1 PPB
4 – Flat Lake	25.2 PPB
5 – Lake Eliza	23.3 PPB
6 – Telegraph Creek	24.7 PPB
8 – Muriel-Kehewin	26.2 PPB
9 – Dupre	29.0 PPB
10 – La Corey	26.5 PPB
11 – Wolf Lake	17.1 PPB
12 – Foster Creek	19.5 PPB
13 – Primrose	21.8 PPB
14 – Maskwa	29.1 PPB
15 – Ardmore	23.8 PPB
16 – Frog Lake	24.8 PPB
17 – Clear Range	25.5 PPB
18 – Fishing Lake	18.3 PPB
19 – Beaverdam	26.2 PPB
22 – Cold Lake South	19.6 PPB
22A – Cold Lake South	22.2 PPB
23 – Medley-Martineau	18.3 PPB
24 – Fort George	24.7 PPB
28 – Town of Bonnyville	36.0 PPB
29 – Cold Lake South 2	26.8 PPB
29A – Cold Lake South 2	26.7 PPB

O_3 PPB

Summary

Minimum : 16.6 PPB – Sand River
Maximum: 36.0 PPB –Town of Bonnyville
Average: 23.96 PPB *Includes Duplicates

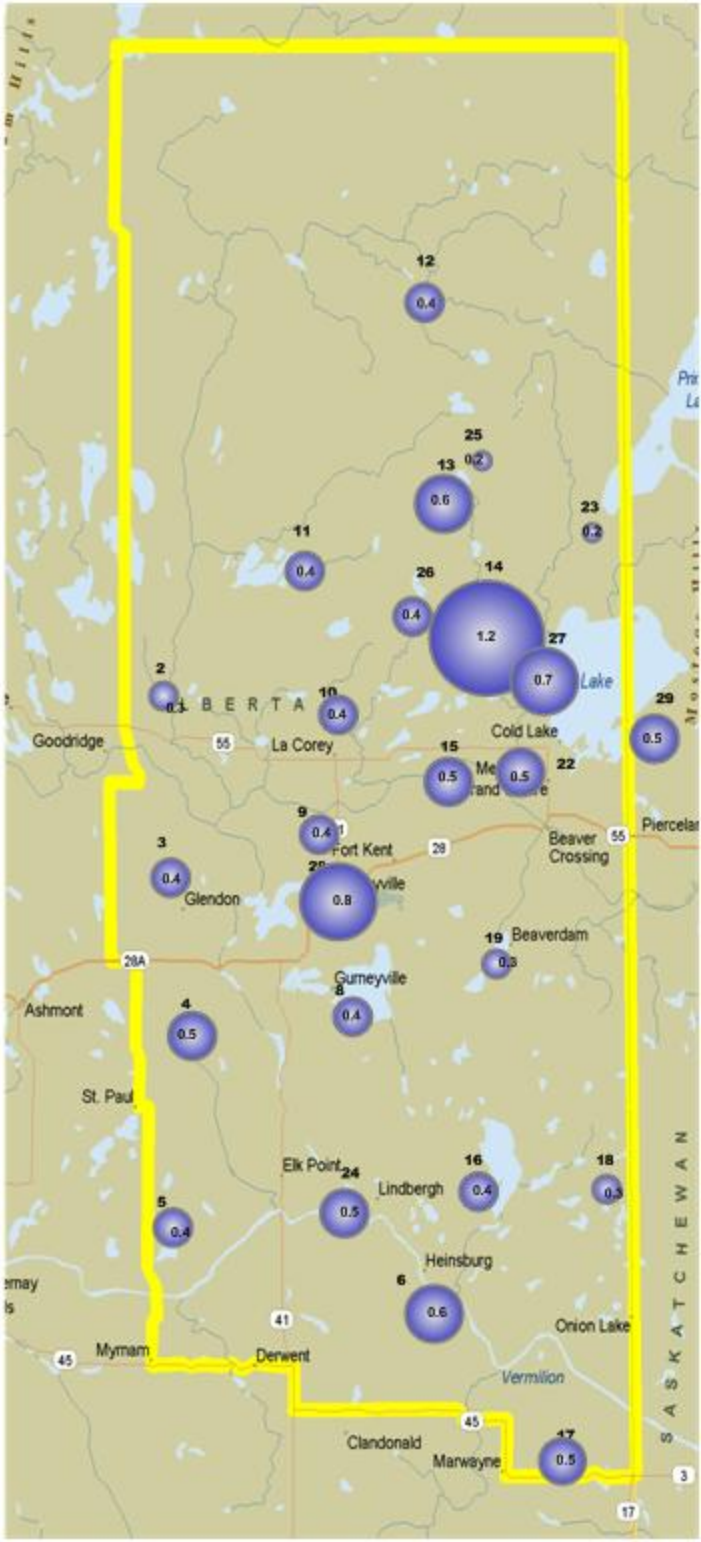


Lakeland Industry & Community Association
SO_2 Passive Bubble Map

JULY 2008

PASSIVE STATIONS

2 – Sand River	0.3 PPB
3 – Therien	0.4 PPB
4 – Flat Lake	0.5 PPB
5 – Lake Eliza	0.4 PPB
6 – Telegraph Creek	0.6 PPB
8 – Muriel-Kehewin	0.4 PPB
9 – Dupre	0.4 PPB
10 – La Corey	0.4 PPB
11 – Wolf Lake	0.4 PPB
12 – Foster Creek	0.4 PPB
13 – Primrose	0.6 PPB
14 – Maskwa	1.2 PPB
15 – Ardmore	0.5 PPB
16 – Frog Lake	0.4 PPB
17 – Clear Range	0.5 PPB
18 – Fishing Lake	0.3 PPB
19 – Beaverdam	0.3 PPB
22 – Cold Lake South	0.4 PPB
22A – Cold Lake South	0.5 PPB
23 – Medley-Martineau	0.2 PPB
24 – Fort George	0.5 PPB
25 – Burnt Lake	0.2 PPB
26 – Mahihkan	0.4 PPB
27 – Hilda Lake	0.7 PPB
28 – Town of Bonnyville	0.8 PPB
29 – Cold Lake South 2	0.5 PPB
29A – Cold Lake South 2	0.5 PPB



Summary

Minimum : 0.2 PPB – Medley-Martineau, Burnt Lake
Maximum: 1.2 PPB – Maskwa
Average: 0.5 PPB *Includes Duplicates

Passive Network Laboratory Analysis

Your Project #: 2008/06/29 - 2008/07/31
Site:LICA

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

Report Date: 2008/08/21

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A839853
Received: 2008/08/07, 16:17

Sample Matrix: Air
Samples Received: 27

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
H2S Passive Analysis (1)	18	2008/08/21	2008/08/21		EDM SOP-0320
NO2 Passive Analysis (1)	24	2008/08/20	2008/08/21		EDM SOP-0318
O3 Passive Analysis (1)	24	2008/08/14	2008/08/21		EDM SOP-0317
SO2 Passive Analysis (1)	7	2008/08/20	2008/08/21		EDM SOP-0319
SO2 Passive Analysis (1)	20	2008/08/21	2008/08/21		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 #: A839853
Report Date: 2008/08/21

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2008/06/29 - 2008/07/31
Site Reference: LICA
Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		L01906	L01907	L01908	L01909		
Sampling Date		2008/06/29 09:05	2008/06/29 08:35	2008/06/30 12:55	2008/06/30 12:25		
	Units	**1**	**2**	**3**	**4**	**RDL**	**QC Batch**
Passive Monitoring							
Calculated H2S	ppb		0.19		0.48	0.02	2523997
Calculated NO2	ppb	0.9	1.2	1.0	0.7	0.1	2519804
Calculated O3	ppb	16.6	23.1	25.2	23.3	0.1	2507567
Calculated SO2	ppb	0.3	0.4	0.5	0.4	0.1	2523579

RDL = Reportable Detection Limit

Maxxam ID		L01910	L01911	L01912	L01913		
Sampling Date		2008/06/30 11:10	2008/06/30 13:45	2008/06/29 08:00	2008/06/29 10:00		
	Units	**5**	**7**	**8**	**9**	**RDL**	**QC Batch**
Passive Monitoring							
Calculated H2S	ppb				0.46	0.02	2523997
Calculated NO2	ppb	1.3	0.8	1.2	1.5	0.1	2519804
Calculated O3	ppb	24.7	26.2	29.0	26.5	0.1	2507567
Calculated SO2	ppb	0.6	0.4	0.4	0.4	0.1	2523579

RDL = Reportable Detection Limit

Maxxam ID		L01914	L01915	L01916	L01917		
Sampling Date		2008/06/29 10:35	2008/06/29 12:05	2008/06/29 14:05	2008/06/29 14:55		
	Units	**10**	**11**	**12**	**13**	**RDL**	**QC Batch**
Passive Monitoring							
Calculated H2S	ppb	0.08	0.09	0.10	0.19	0.02	2523997
Calculated NO2	ppb	0.6	1.0	0.8	1.7	0.1	2519804
Calculated O3	ppb	17.1	19.5	21.8	29.1	0.1	2507567
Calculated SO2	ppb	0.4	0.4	0.6	1.2	0.1	2523579

RDL = Reportable Detection Limit

Maxxam Job #: A839853
Report Date: 2008/08/21

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2008/06/29 - 2008/07/31
Site Reference: LICA
Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		L01919	L01921	L01922	L01923		
Sampling Date		2008/06/29 07:15	2008/06/30 09:45	2008/06/30 10:30	2008/06/30 09:10		
	Units	**14**	**15**	**16**	**17**	**RDL**	**QC Batch**
Passive Monitoring							
Calculated H2S	ppb		0.27	0.46	0.16	0.02	2523997
Calculated NO2	ppb	1.1	1.2	1.5	1.0	0.1	2519804
Calculated O3	ppb	23.8	24.8	25.5	18.3	0.1	2507567
Calculated SO2	ppb	0.5	0.4	0.5	0.3	0.1	2523579

RDL = Reportable Detection Limit

Maxxam ID		L01924	L01925	L01926		
Sampling Date		2008/06/30 08:15	2008/06/30 07:20	2008/06/29 16:15		
	Units	**18**	**19**	**20**	**RDL**	**QC Batch**
Passive Monitoring						
Calculated H2S	ppb		0.27		0.02	2523997
Calculated NO2	ppb	0.7	1.5	0.3	0.1	2519804
Calculated O3	ppb	26.2	19.6	18.3	0.1	2507567
Calculated SO2	ppb	0.3	0.4	0.2	0.1	2523579

RDL = Reportable Detection Limit

Maxxam ID		L01927	L01932	L01933	L01934		
Sampling Date		2008/06/30 11:45	2008/06/29 13:30	2008/06/29 14:40	2008/06/29 15:15		
	Units	**21**	**22**	**23**	**24**	**RDL**	**QC Batch**
Passive Monitoring							
Calculated H2S	ppb	0.30	0.09	0.17	0.26	0.02	2523997
Calculated NO2	ppb	1.7				0.1	2519804
Calculated O3	ppb	24.7				0.1	2507567
Calculated SO2	ppb	0.5	0.2	0.4	0.7	0.1	2510929

RDL = Reportable Detection Limit

Maxxam Job #: A839853
Report Date: 2008/08/21

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2008/06/29 - 2008/07/31
Site Reference: LICA
Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		L01935	L01936		L01937		
Sampling Date		2008/06/29 07:40	2008/06/30 07:20		2008/06/30 7:20		
	Units	**25**	**26**	**QC Batch**	**19A**	**RDL**	**QC Batch**
Passive Monitoring							
Calculated H2S	ppb		0.28	2523997	0.28	0.02	2523997
Calculated NO2	ppb	3.4	1.4	2519804	1.2	0.1	2519804
Calculated O3	ppb	36.0	26.8	2507567	22.2	0.1	2507567
Calculated SO2	ppb	0.8	0.5	2510929	0.5	0.1	2523579

RDL = Reportable Detection Limit

Maxxam ID		L03387		
Sampling Date		2008/06/30 07:20		
	Units	**26A**	**RDL**	**QC Batch**
Passive Monitoring				
Calculated H2S	ppb	0.25	0.02	2523997
Calculated NO2	ppb	1.3	0.1	2519804
Calculated O3	ppb	26.7	0.1	2507567
Calculated SO2	ppb	0.3	0.1	2510929

RDL = Reportable Detection Limit

General Comments

Results relate only to the items tested.

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Attention: MICHAEL BISAGA
Client Project #: 2008/06/29 - 2008/07/31
P.O. #:
Site Reference: LICA

Quality Assurance Report

Maxxam Job Number: PA839853

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2507567 LM1	Calibration Check	Calculated O3	2008/08/15		98	%	91 - 107
	SPIKE	Calculated O3	2008/08/15		100	%	N/A
	BLANK	Calculated O3	2008/08/15	<0.1		ppb	
2510929 SS6	Calibration Check	Calculated SO2	2008/08/15		102	%	95 - 105
	SPIKE	Calculated SO2	2008/08/15		100	%	N/A
	BLANK	Calculated SO2	2008/08/15	<0.1		ppb	
2519804 SS6	Calibration Check	Calculated NO2	2008/08/20		101	%	76 - 118
	SPIKE	Calculated NO2	2008/08/20		100	%	N/A
	BLANK	Calculated NO2	2008/08/20	<0.1		ppb	
2523579 SS6	Calibration Check	Calculated SO2	2008/08/21		102	%	95 - 105
	SPIKE	Calculated SO2	2008/08/21		100	%	N/A
	BLANK	Calculated SO2	2008/08/21	<0.1		ppb	
2523997 TM5	Calibration Check	Calculated H2S	2008/08/21		101	%	80 - 120
	SPIKE	Calculated H2S	2008/08/21		101	%	N/A

N/A = Not Applicable

Edmonton: 9331 - 48th Street T6B 2R4 Telephone(780) 468-3500 FAX(780) 466-3332

Passive Field Data

Field Notes

SAMPLER	SITE	ID	START		END		NOTES
			DATE	TIME	DATE	TIME	
$SO_2/NO_2/O_3$		2	06/29/08	09:05	07/30/08	10:30	
$H_2S/SO_2/NO_2/O_3$		3	06/29/08	08:35	07/30/08	09:55	
$SO_2/NO_2/O_3$		4	06/30/08	12:55	07/31/08	14:20	
$H_2S/SO_2/NO_2/O_3$		5	06/30/08	12:25	07/31/08	13:45	
$SO_2/NO_2/O_3$		6	06/30/08	11:10	07/31/08	12:15	
$SO_2/NO_2/O_3$		8	06/30/08	13:45	07/31/08	15:05	
$SO_2/NO_2/O_3$		9	06/29/08	08:00	07/30/08	09:25	
$H_2S/SO_2/NO_2/O_3$		10	06/29/08	10:00	07/30/08	11:20	
$H_2S/SO_2/NO_2/O_3$		11	06/29/08	10:35	07/30/08	11:45	
$H_2S/SO_2/NO_2/O_3$		12	06/29/08	12:05	07/30/08	12:50	
$H_2S/SO_2/NO_2/O_3$		13	06/29/08	14:05	07/30/08	14:50	
$H_2S/SO_2/NO_2/O_3$		14	06/29/08	14:55	07/30/08	15:15	
$SO_2/NO_2/O_3$		15	06/29/08	07:15	07/30/08	08:35	
$H_2S/SO_2/NO_2/O_3$		16	06/30/08	09:45	07/31/08	10:50	
$H_2S/SO_2/NO_2/O_3$		17	06/30/08	10:30	07/31/08	11:35	
$H_2S/SO_2/NO_2/O_3$		18	06/30/08	09:10	07/31/08	09:55	
$SO_2/NO_2/O_3$		19	06/30/08	08:15	07/31/08	09:05	
$H_2S/SO_2/NO_2/O_3$		22	06/30/08	07:20	07/30/08	07:50	
$SO_2/NO_2/O_3$		23	06/29/08	16:15	07/30/08	16:40	
$H_2S/SO_2/NO_2/O_3$		24	06/30/08	11:45	07/31/08	12:50	
H_2S/SO_2		25	06/29/08	13:30	07/30/08	13:55	
H_2S/SO_2		26	06/29/08	14:40	07/30/08	15:00	
H_2S/SO_2		27	06/29/08	15:15	07/30/08	15:35	
$SO_2/NO_2/O_3$		28	06/29/08	07:40	07/30/08	09:00	
$H_2S/SO_2/NO_2/O_3$		29	06/30/08	07:20	07/30/08	07:45	
$H_2S/SO_2/NO_2/O_3$		22A	06/30/08	15:05	07/30/08	07:50	
$H_2S/SO_2/NO_2/O_3$		29A	06/30/08	16:05	0730//08	07:45	