Lakeland Industry & Community Association

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

Prepared By:

Maxxam Analytics Inc

Driven by Service and Science

June 24, 2008

Lakeland Industry & Community Association
Ambient Air Monitoring

Table of Contents

	Page
Introduction	3
Calibration Procedure	4
Monthly Continuous Summary – Cold Lake	5
Monthly Non Continuous Summary	6
Monthly Continuous Summary – Cold Lake	7
Continuous Monitoring	11
• Cold Lake	12
● Monthly Summaries, Graphs & Wind Roses	13
o Air Quality Index	14
o Sulphur Dioxide	16
o Total Reduced Sulphur	24
o Total Hydrocarbons	32
o Particulate Matter 2.5	40
o Nitrogen Dioxide	47
o Nitric Oxide	55
o Oxides of Nitrogen	62
o Ozone	70
o Ambient Temperature	78
o Relative Humidity	81
o Vector Wind Speed	84
o Vector Wind Direction	91

	Page
Non-Continuous Monitoring	94
Calibration Reports	99
● Sulphur Dioxide	100
● Total Reduced Sulphur	107
● Total Hydrocarbons	110
● Particulate Matter 2.5	113
● Nitrogen Dioxide	116
● Ozone	120
Passive Bubble Maps	123
Passive Monitoring Laboratory Analysis	128
Passive Field Data	137
● Field Notes	138

Introduction

The following Ambient Air Monitoring report was prepared for:

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

Monitoring Location: Cold Lake
Data Period: May 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 – May 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	0	ALL	ALL	VAR	VAR	0.0	ALL	98.9
TRS (PPB)	-	-	-	-	0.00	0	ALL	ALL	VAR	VAR	0.0	ALL	99.9
NO_2 (PPB)	212	106	0	0	2.06	19	2	9	2.4	58 (ENE)	4.9	2	99.9
NO (PPB)	-	-	-	-	0.12	10	26	9	5.4	104 (SE)	0.7	26	99.9
NOx (PPB)	-	-	-	-	2.35	27	2	6	2.7	60 (ENE)	5.6	2	99.9
O_3 (PPB)	82	-	0	-	38.58	63	16	17,18	18.1,16.3	289(WNW), 297(WNW)	47.0	11	99.9
THC (PPM)	-	-	-	-	1.70	6.6	6	7	1.1	308(NW)	2.1	6	99.9
PM 2.5 (UG/M^3)	-	30	-	0	4.64	25.4	28	4	3.1	125(SE)	11.4	23	96.5
TEMPERATURE (DEG C)	-	-	-	-	11.01	25.2	15	16	-	-	17.7	15	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	51.05	95.3	5	4	-	-	78.9	21	100.0
VECTOR WS (KPH)	-	-	-	-	7.00	25.4	18	18	-	305(WNW)	13.5	15	100.0
VECTOR WD (DEGREES)	-	-	-	-	285 (WNW)	-	-	-	-	-	-	-	100.0

VAR-VARIOUS

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

Passive Ambient Monitoring Network – MAY 2008

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PASSIVE NETWORK			
NETWORK MAXIMUM			NETWORK AVERAGE
PARAMETER	STATION	READING (PPB)	READING (PPB)
NO_2	#25	4.5	1.4
SO_2	#13	1.2	0.3
H_2S	#4	0.17	0.10
O_3	#21	51.1	43.5

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. On May 1st, the SO2 values were less stable during the initial span point, observed the UV lamp voltage was fluctuating more than expected. Installed a difference UV lamp and allowed the analyzer time to stabilized. After that, ran the daily calibration program to help assess analyzer stability. The full calibration was performed on May 2nd. On May 21st, the vacuum pump was rebuilt. 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 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

No operational issues during the month. During the Teom audit, the aux flow displayed on the Teom was fluctuating. The total flow was low and fluctuating (still within tolerance), and the main flow was low (outside tolerance). A leak was found in the brass elbow fitting screwed into the bottom of the mass transducer unit. The brass elbow fitting was wrapped with Teflon tap as a temporary fix. After the repair until a new part arrived, all audited parameters were within allowable tolerances. Following the calibration and filter change, the analyzer was allowed to stabilize full conditioning of the filter was completed, as a result 17 hours of data was invalidated. Four hours of data were invalidated as it was below –3.0 ug/m^3.

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

- System make / model - MET ONE 50.5

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

Relative Humidity (PERCENT)

- System make / model - Rotronic Hygroclip-S3

No operational issues observed during the month.

General Monthly Summary - Cold Lake

AQM STATION – LICA – COLD LAKE

Ambient Temperature (DEGC)

- System make / model - Rotronic Hygroclip-S3

No operational issues observed during the month.

Trailer Temperature (DEGC)

- System make / model - R&R 61

No operational issues observed during the month.

Datalogger

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

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

General Monthly Summary - Cold Lake

AQM STATION – LICA – COLD LAKE

Trailer

- No operational issues during the month.

Air Quality Index (AQI)

The AQI data was adjusted to reflect regular monthly and daily calibrations, maintenance, and downtime. There were 145 hours of fair AQI values recorded in May 2008, all of these due to Ozone. The highest hourly concentration of Ozone was 63.0 ppb and an AQI value of 36 on May 16th, hour 17 and hour 18.

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*

MAY 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	24 O3_	- **NA**	24 O3_	24 O3_	23 O3_	23 O3_	23 O3_	22 O3_	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	27 O3_	27 O3_	26 O3_	23 O3_	18 O3_	18 O3_	11 O3_	11 O3_	27 O3_
2	- **NA**	12 O3_	11 O3_	11 O3_	10 O3_	7 O3_	- **NA**	- **N A**	- **NA**	- **NA**	24 O3_	27 O3_	31 O3_	33 O3_	33 O3_	34 O3_	33 O3_	33 O3_	33 O3_	26 O3_	17 O3_	12 O3_	14 PM2	- **NA**	34 O3_
3	10 PM2	8 PM2	7 PM2	7 PM2	8 PM2	9 PM2	12 O3_	17 O3_	20 O3_	25 O3_	29 O3_	33 O3_	33 O3_	33 O3_	33 O3_	34 O3_	35 O3_	34 O3_	33 O3_	32 O3_	29 O3_	22 O3_	- **NA**	15 O3_	35 O3_
4	13 O3_	13 O3_	13 O3_	13 O3_	16 O3_	17 O3_	21 O3_	23 O3_	24 O3_	23 O3_	25 O3_	26 O3_	31 O3_	32 O3_	33 O3_	32 O3_	30 O3_	29 O3_	28 O3_	28 O3_	23 O3_	- **NA**	19 O3_	17 O3_	33 O3_
5	12 O3_	6 O3_	5 O3_	7 O3_	5 O3_	4 PM2	9 O3_	14 O3_	17 O3_	21 O3_	25 O3_	27 O3_	26 O3_	31 O3_	32 O3_	31 O3_	32 O3_	33 O3_	33 O3_	31 O3_	- **NA**	24 O3_	17 O3_	12 O3_	33 O3_
6	8 O3_	8 O3_	6 O3_	4 O3_	2 PM2	7 PM2	9 O3_	18 O3_	19 O3_	20 O3_	23 O3_	23 O3_	23 O3_	23 O3_	24 O3_	23 O3_	22 O3_	23 O3_	22 O3_	- **NA**	20 O3_	20 O3_	21 O3_	17 O3_	24 O3_
7	14 O3_	18 O3_	18 O3_	19 O3_	19 O3_	19 O3_	21 O3_	21 O3_	22 O3_	24 O3_	24 O3_	23 O3_	23 O3_	23 O3_	25 O3_	27 O3_	28 O3_	25 O3_	- **NA**	26 O3_	25 O3_	25 O3_	25 O3_	23 O3_	28 O3_
8	20 O3_	18 O3_	17 O3_	17 O3_	16 O3_	15 O3_	15 O3_	15 O3_	16 O3_	18 O3_	22 O3_	23 O3_	27 O3_	30 O3_	33 O3_	33 O3_	34 O3_	- **NA**	33 O3_	30 O3_	27 O3_	24 O3_	22 O3_	22 O3_	34 O3_
9	22 O3_	20 O3_	18 O3_	14 O3_	13 O3_	15 O3_	17 O3_	18 O3_	18 O3_	21 O3_	23 O3_	23 O3_	24 O3_	26 O3_	26 O3_	28 O3_	- **NA**	28 O3_	26 O3_	23 O3_	16 O3_	12 O3_	12 PM2	8 PM2	28 O3_
10	8 O3_	7 O3_	7 O3_	7 O3_	5 O3_	8 O3_	11 O3_	17 O3_	19 O3_	22 O3_	29 O3_	30 O3_	32 O3_	32 O3_	32 O3_	- **NA**	35 O3_	36 O3_	34 O3_	29 O3_	28 O3_	27 O3_	23 O3_	21 O3_	36 O3_
11	21 O3_	21 O3_	21 O3_	21 O3_	21 O3_	20 O3_	20 O3_	20 O3_	22 O3_	23 O3_	24 O3_	26 O3_	28 O3_	28 O3_	- **NA**	28 O3_	27 O3_	27 O3_	28 O3_	28 O3_	27 O3_	25 O3_	25 O3_	24 O3_	28 O3_
12	20 O3_	19 O3_	19 O3_	19 O3_	15 O3_	16 O3_	15 O3_	18 O3_	22 O3_	22 O3_	24 O3_	24 O3_	25 O3_	- **NA**	27 O3_	27 O3_	28 O3_	28 O3_	28 O3_	27 O3_	19 O3_	17 O3_	19 O3_	18 O3_	28 O3_
13	17 O3_	14 O3_	18 O3_	15 O3_	7 O3_	6 O3_	11 O3_	21 O3_	24 O3_	27 O3_	33 O3_	34 O3_	- **NA**	33 O3_	32 O3_	33 O3_	33 O3_	32 O3_	30 O3_	28 O3_	25 O3_	21 O3_	20 O3_	22 O3_	34 O3_
14	22 O3_	20 O3_	14 O3_	9 O3_	12 O3_	16 O3_	17 O3_	20 O3_	21 O3_	24 O3_	25 O3_	- **NA**	27 O3_	28 O3_	30 O3_	29 O3_	28 O3_	27 O3_	27 O3_	24 O3_	16 O3_	9 O3_	8 O3_	8 O3_	30 O3_
15	8 O3_	12 O3_	17 O3_	18 O3_	19 O3_	18 O3_	16 O3_	16 O3_	16 O3_	15 O3_	- **NA**	15 O3_	15 O3_	15 O3_	14 O3_	14 O3_	15 O3_	16 O3_	17 O3_	16 O3_	16 O3_	16 O3_	15 O3_	15 O3_	19 O3_
16	15 O3_	15 O3_	15 O3_	15 O3_	15 O3_	15 O3_	16 O3_	20 O3_	23 O3_	- **NA**	28 O3_	29 O3_	30 O3_	32 O3_	33 O3_	35 O3_	36 O3_	36 O3_	35 O3_	33 O3_	28 O3_	21 O3_	14 O3_	17 O3_	36 O3_
17	12 O3_	11 O3_	10 O3_	10 O3_	7 O3_	7 O3_	8 O3_	NA O3_	- **NA**	25 O3_	27 O3_	28 O3_	26 O3_	26 O3_	26 O3_	28 O3_	27 O3_	26 O3_	25 O3_	23 O3_	21 O3_	21 O3_	21 O3_	20 O3_	28 O3_
18	19 O3_	19 O3_	19 O3_	19 O3_	19 O3_	19 O3_	18 O3_	- **NA**	17 O3_	18 O3_	18 O3_	18 O3_	20 O3_	21 O3_	21 O3_	21 O3_	19 O3_	21 O3_	27 O3_	24 O3_	23 O3_	19 O3_	19 O3_	20 O3_	27 O3_
19	18 O3_	21 O3_	20 O3_	19 O3_	17 O3_	15 O3_	- **NA**	16 O3_	16 O3_	17 O3_	17 O3_	18 O3_	20 O3_	20 O3_	21 O3_	20 O3_	21 O3_	21 O3_	19 O3_	18 O3_	16 O3_	15 O3_	14 O3_	15 O3_	21 O3_
20	14 O3_	14 O3_	14 O3_	12 O3_	11 O3_	- **NA**	9 O3_	10 O3_	12 O3_	15 O3_	16 O3_	17 O3_	17 O3_	16 O3_	- **NA**	19 O3_	18 O3_	19 O3_	20 O3_	20 O3_	21 O3_	21 O3_	21 O3_	21 O3_	21 O3_
21	21 O3_	21 O3_	21 O3_	21 O3_	- **NA**	19 O3_	18 O3_	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	21 O3_
22	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	16 O3_	16 O3_	18 O3_	20 O3_	23 O3_	25 O3_	27 O3_	25 O3_	23 O3_	23 O3_	24 O3_	26 O3_	25 O3_	22 O3_	18 O3_	20 O3_	21 O3_	27 O3_
23	20 O3_	18 O3_	- **NA**	15 O3_	13 O3_	13 PM2	13 O3_	14 O3_	15 O3_	15 O3_	16 O3_	18 O3_	20 O3_	21 O3_	24 O3_	24 O3_	24 O3_	24 O3_	24 O3_	23 O3_	18 O3_	15 O3_	12 O3_	9 O3_	24 O3_
24	9 PM2	- **NA**	13 O3_	15 O3_	14 O3_	15 O3_	15 O3_	15 O3_	15 O3_	17 O3_	19 O3_	20 O3_	21 O3_	21 O3_	18 O3_	17 O3_	18 O3_	19 O3_	18 O3_	18 O3_	17 O3_	16 O3_	16 O3_	15 O3_	21 O3_
25	- **NA**	15 O3_	14 O3_	13 O3_	13 O3_	13 O3_	13 O3_	14 O3_	14 O3_	15 O3_	15 O3_	15 O3_	15 O3_	18 O3_	21 O3_	22 O3_	23 O3_	23 O3_	24 O3_	24 O3_	**NA** **O3_**	21 O3_	17 O3_	- **NA**	24 O3_
26	9 O3_	6 O3_	4 O3_	3 PM2	6 PM2	7 PM2	12 O3_	17 O3_	20 O3_	21 O3_	22 O3_	23 O3_	24 O3_	24 O3_	25 O3_	24 O3_	25 O3_	27 O3_	28 O3_	28 O3_	21 O3_	15 O3_	- **NA**	10 O3_	28 O3_
27	8 O3_	8 O3_	6 O3_	8 PM2	7 PM2	11 PM2	15 O3_	18 O3_	20 O3_	25 O3_	26 O3_	29 O3_	30 O3_	30 O3_	30 O3_	32 O3_	32 O3_	33 O3_	33 O3_	33 O3_	22 O3_	- **NA**	17 O3_	18 O3_	33 O3_
28	21 O3_	16 O3_	12 O3_	21 PM2	14 O3_	17 O3_	- **NA**	20 O3_	22 O3_	29 O3_	29 O3_	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	- **NA**	32 O3_	31 O3_	- **NA**	23 O3_	22 O3_	22 O3_	32 O3_
29	23 O3_	21 O3_	20 O3_	20 O3_	19 O3_	14 O3_	13 O3_	17 O3_	18 O3_	21 O3_	22 O3_	23 O3_	24 O3_	26 O3_	30 O3_	31 O3_	32 O3_	32 O3_	28 O3_	- **NA**	22 O3_	23 O3_	22 O3_	22 O3_	32 O3_
30	21 O3_	16 O3_	15 O3_	11 O3_	11 O3_	12 O3_	13 O3_	15 O3_	13 O3_	13 O3_	12 O3_	15 O3_	16 O3_	15 O3_	16 O3_	17 O3_	18 O3_	18 O3_	- **NA**	17 O3_	12 O3_	7 O3_	6 O3_	4 O3_	21 O3_
31	3 PM2	4 PM2	4 PM2	5 O3_	5 O3_	8 O3_	9 O3_	14 O3_	15 O3_	19 O3_	22 O3_	23 O3_	24 O3_	25 O3_	25 O3_	25 O3_	23 O3_	- **NA**	19 O3_	18 O3_	18 O3_	16 O3_	13 O3_	9 O3_	25 O3_
PEAK	24 O3_	21 O3_	24 O3_	24 O3_	23 O3_	23 O3_	23 O3_	23 O3_	24 O3_	29 O3_	33 O3_	34 O3_	33 O3_	33 O3_	33 O3_	35 O3_	36 O3_	36 O3_	35 O3_	33 O3_	29 O3_	27 O3_	25 O3_	24 O3_	

STATUS FLAG CODES	NA - NOT APPLICABLE

V - VARIOUS

AQI CLASS	OZONE (O_3)					PARTICULATE MATTER 2.5 (PM2)					NITROGEN DIOXIDE (NO_2)					SULPHUR DIOXIDE (SO_2)					FREQUENCY	
	HRS	%	MAX AQI	HR	DAY	HRS	%	MAX AQI	HR	DAY	HRS	%	MAX AQI	HR	DAY	HRS	%	MAX AQI	HR	DAY	HRS	%
VERY POOR (101-255)	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%
POOR (51-100)	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%
FAIR (26-50)	145	19.5%	33	15,16	9	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	145	19.5%
GOOD (1-25)	498	66.9%	-	-	-	24	3.2%	16	1	11	0	0.0%	-	-	-	0	0.0%	-	-	-	522	70.2%
OVERALL	643	86.4%	-	-	-	24	3.2%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	667	89.7%
UNAVAILABLE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71	9.5%

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MAY 2008

SULPHUR DIOXIDE (SO_2) hourly averages in ppb

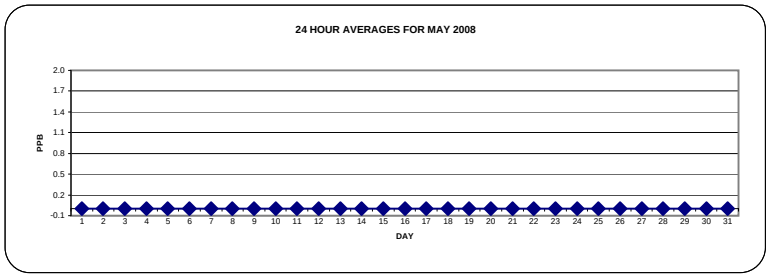
MST

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

STATUS FLAG CODES

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

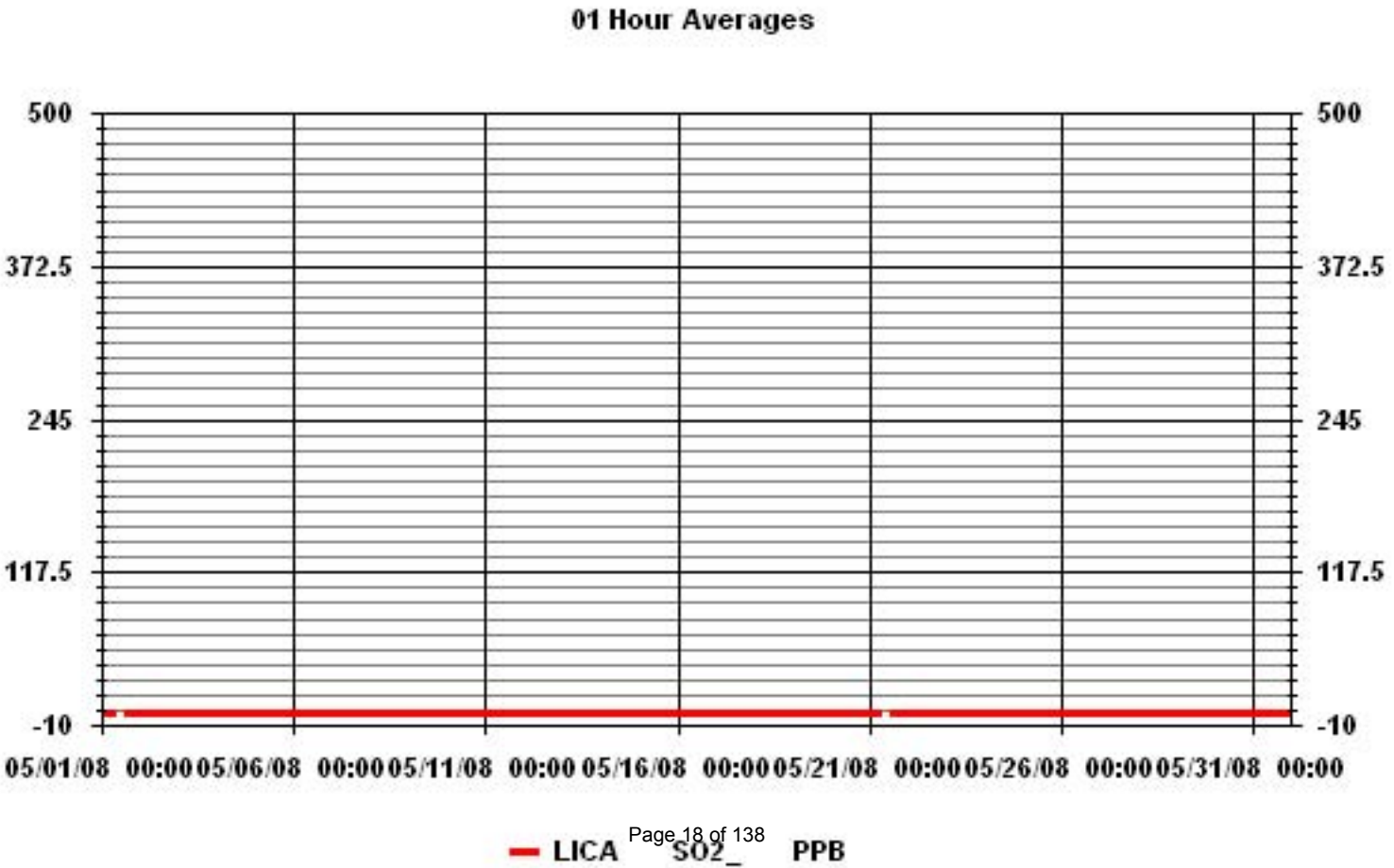
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB 24-HR 57 PPB



MONTHLY SUMMARY

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

IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	736	HRS
MONTHLY CALIBRATION TIME:	12	HRS	AMD OPERATION UPTIME:	98.9	%
STANDARD DEVIATION:	0.00		MONTHLY AVERAGE:	0.00	PPB


01 Hour Averages
500
372.5
245
117.5
-10
05/01/08 00:00
05/06/08 00:00
05/11/08 00:00
05/16/08 00:00
05/21/08 00:00
05/26/08 00:00
05/31/08 00:00
LICA SO2_ PPB

LICA
SO2_ / WDR Joint Frequency Distribution (Percent)

May 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	2.46	11.14	15.48	4.19	13.31	8.97	7.81	2.17	2.46	2.74	5.64	4.77	6.36	6.65	4.34	1.44	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	2.46	11.14	15.48	4.19	13.31	8.97	7.81	2.17	2.46	2.74	5.64	4.77	6.36	6.65	4.34	1.44	

Calm : .00 %

Total # Operational Hours : 691

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	20	17	77	107	29	92	62	54	15	17	19	39	33	44	46	30	10	691
<	60																	
<	110																	
<	170																	
<	340																	
>=	340																	
	Totals	17	77	107	29	92	62	54	15	17	19	39	33	44	46	30	10	

Calm : .00 %

Total # Operational Hours : 691

Logger : 01 Parameter : SO2_

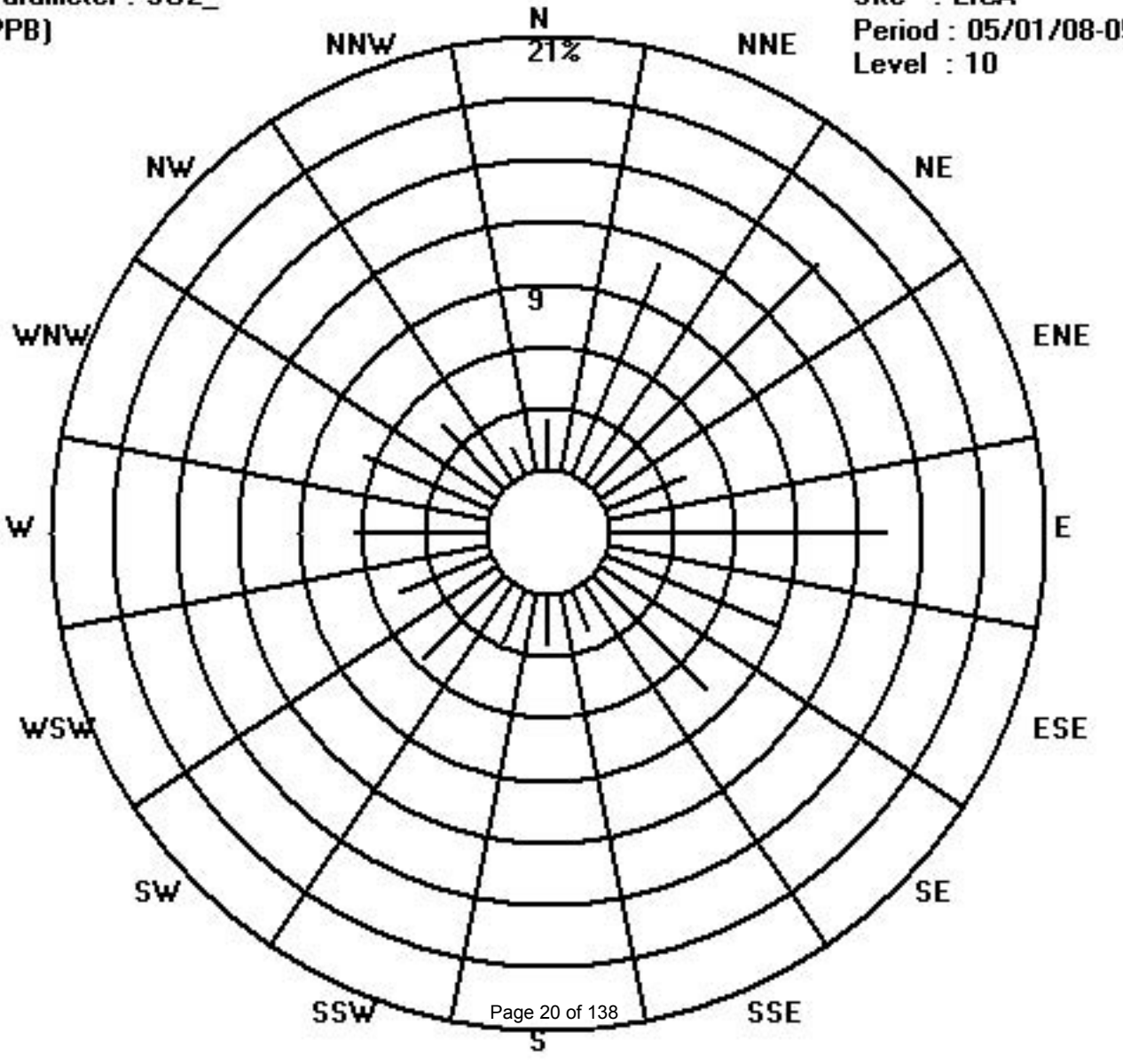
Site : LICA

Period : 05/01/08-05/31/08

Level : 10

Class Limits (PPB)

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



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MAY 2008

SULPHUR DIOXIDE MAX instantaneous maximum in ppb

MST

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

STATUS FLAG CODES

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

MONTHLY SUMMARY

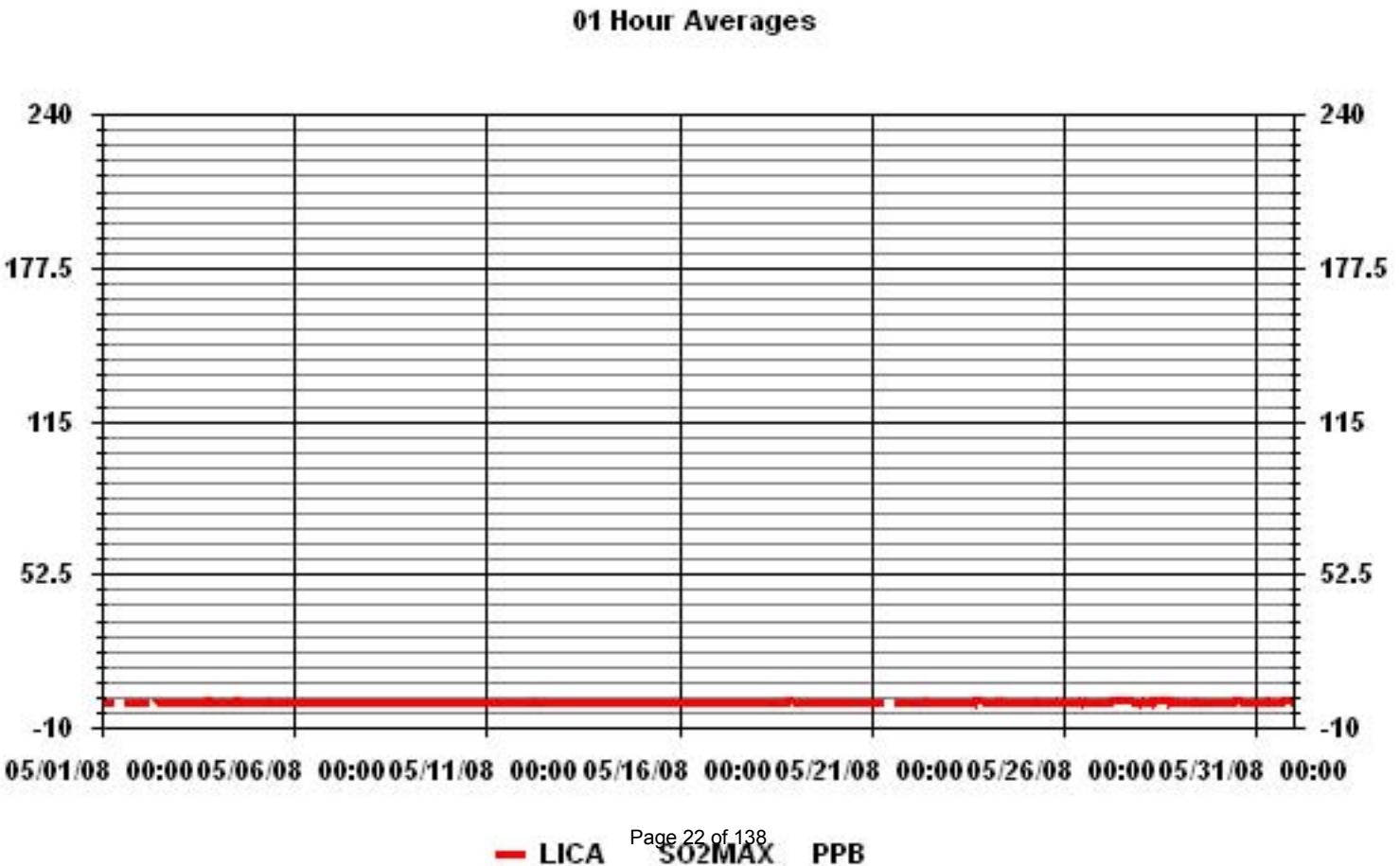
NUMBER OF NON-ZERO READINGS: 70

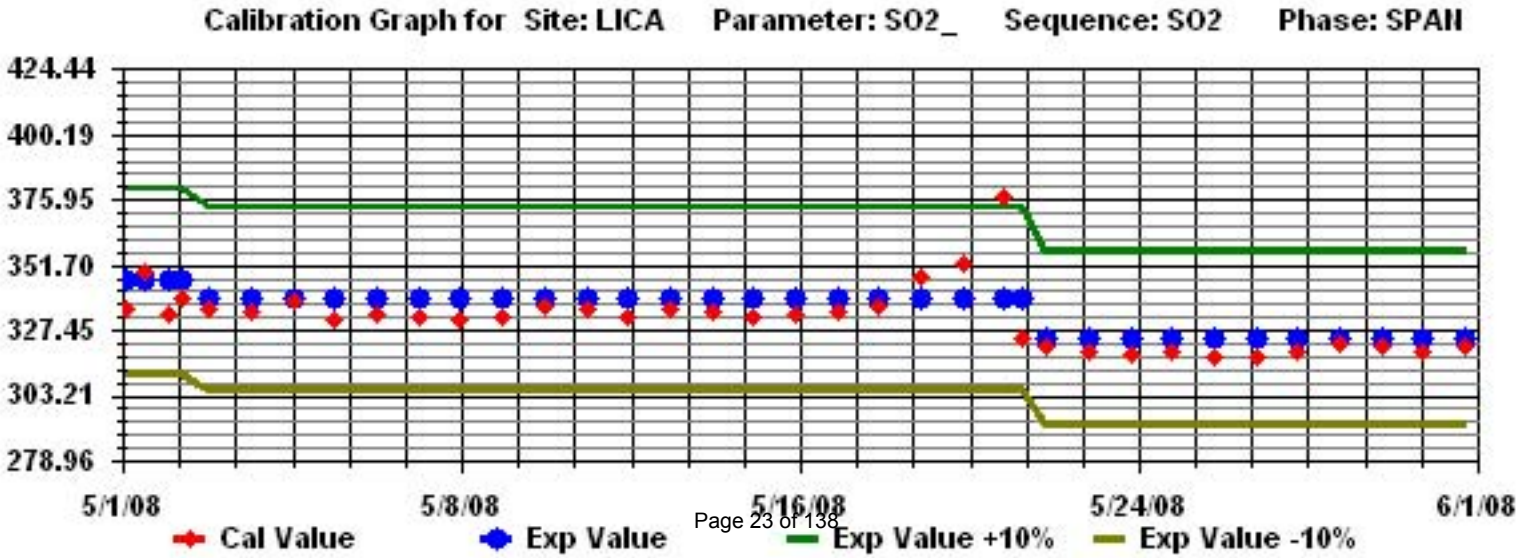
MAXIMUM INSTANTANEOUS VALUE: 1 PPB @ HOUR(S) VAR ON DAY(S) VAR

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 736 HRS

MONTHLY CALIBRATION TIME: 15 HRS

STANDARD DEVIATION: 0.30


01 Hour Averages
240
177.5
115
52.5
-10
05/01/08 00:00
05/06/08 00:00
05/11/08 00:00
05/16/08 00:00
05/21/08 00:00
05/26/08 00:00
05/31/08 00:00
LICA SO2MAX PPB


Calibration Graph for Site: LICA Parameter: SO2_ Sequence: SO2 Phase: SPAN
424.44
400.19
375.95
351.70
327.45
303.21
278.96
5/1/08
5/8/08
5/16/08
5/24/08
6/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Reduced Sulphur

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MAY 2008

TOTAL REDUCED SULPHUR (TRS) hourly averages in ppb

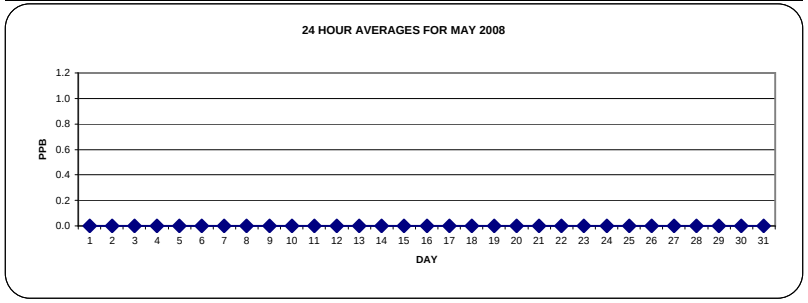
MST

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

STATUS FLAG CODES

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

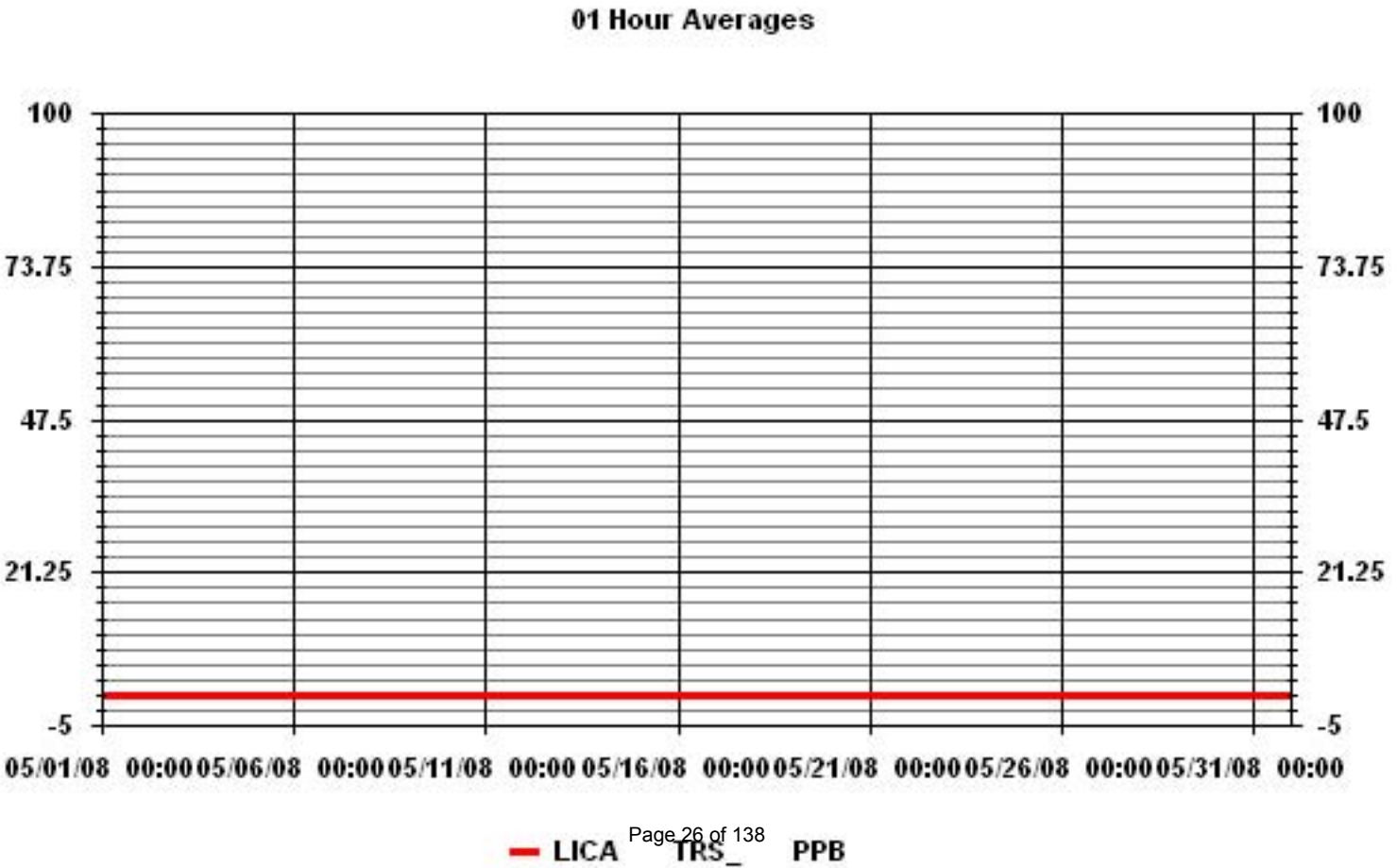
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB | 24-HR 57 PPB



MONTHLY SUMMARY

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

IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	743	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	0.00		MONTHLY AVERAGE:	0.00	PPB


01 Hour Averages
100
73.75
47.5
21.25
-5
05/01/08 00:00
05/06/08 00:00
05/11/08 00:00
05/16/08 00:00
05/21/08 00:00
05/26/08 00:00
05/31/08 00:00
LICA TRS_ PPB

LICA
TRS_ / WD Joint Frequency Distribution (Percent)

May 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	2.40	10.90	15.15	4.53	13.59	9.91	7.64	2.12	2.40	2.69	5.52	4.67	6.23	6.51	4.24	1.41	100.00
< 10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.40	10.90	15.15	4.53	13.59	9.91	7.64	2.12	2.40	2.69	5.52	4.67	6.23	6.51	4.24	1.41	

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	17	77	107	32	96	70	54	15	17	19	39	33	44	46	30	10	706
< 10																	
< 50																	
>= 50																	
Totals	17	77	107	32	96	70	54	15	17	19	39	33	44	46	30	10	

Calm : .00 %

Total # Operational Hours : 706

Logger : 01 Parameter : TRS_

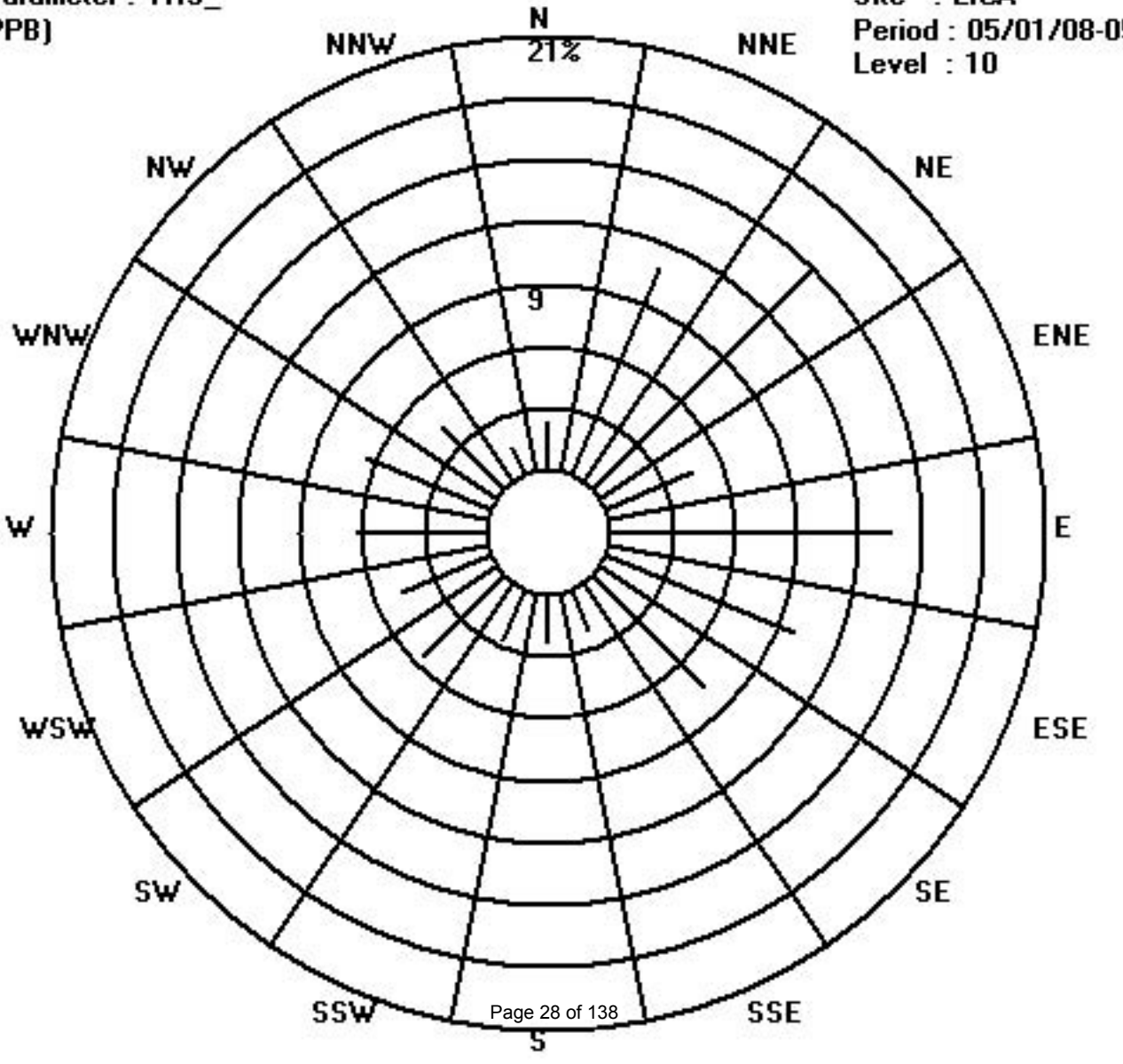
Class Limits (PPB)

>=	50
<	50
<	10
<	3

Site : LICA

Period : 05/01/08-05/31/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

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

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 75

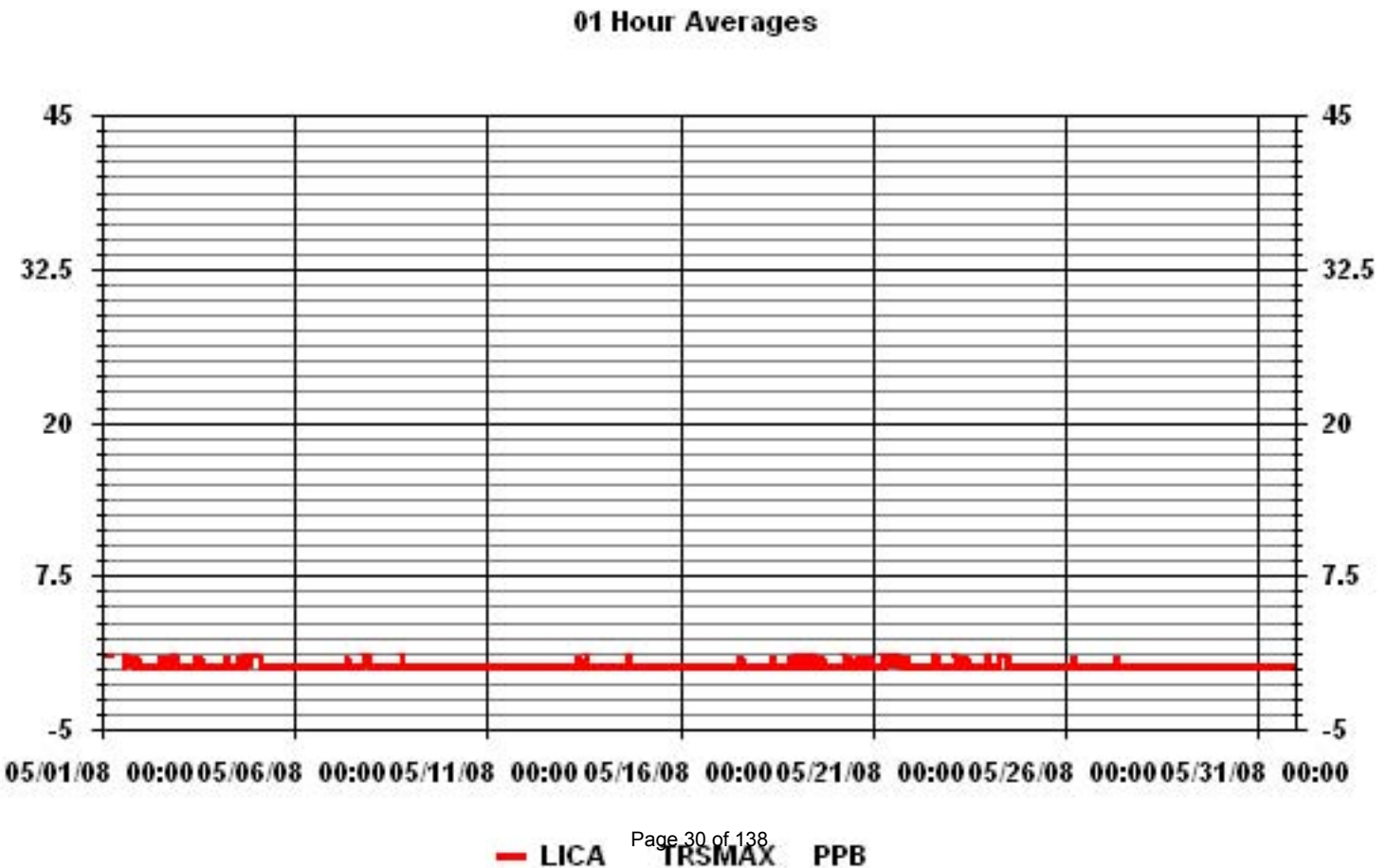
MAXIMUM INSTANTANEOUS VALUE: 1 PPB @ HOUR(S) VAR ON DAY(S) VAR

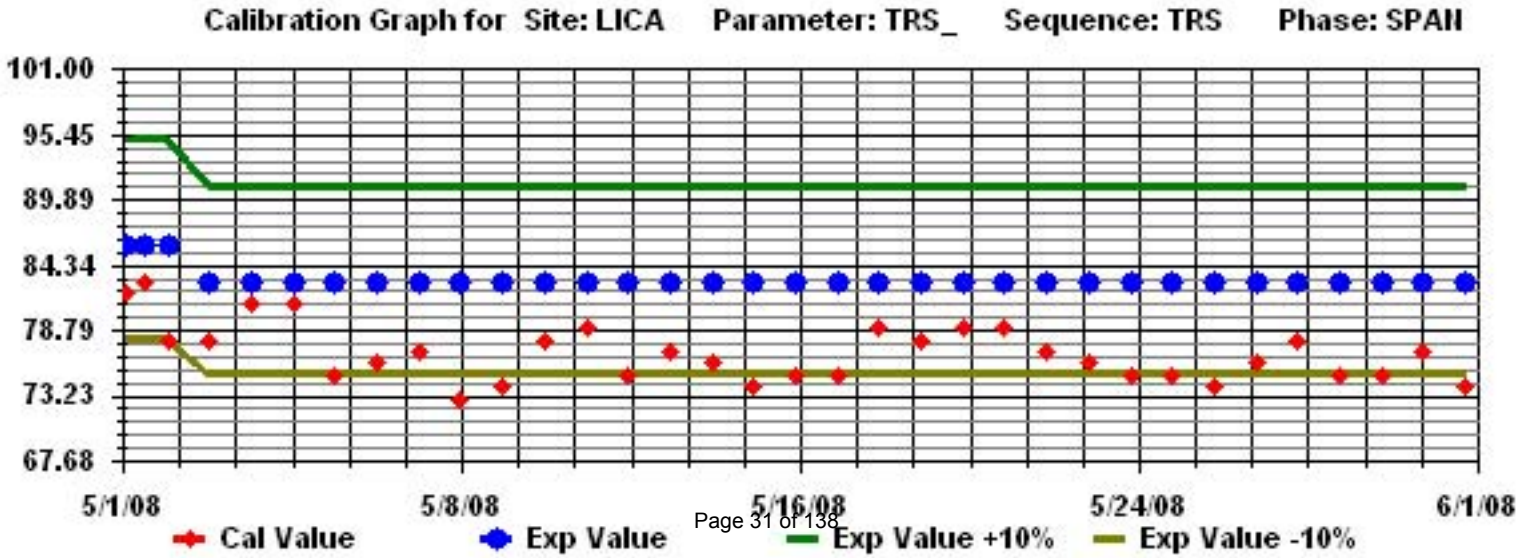
VAR - VARIOUS

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 742 HRS

MONTHLY CALIBRATION TIME: 6 HRS

STANDARD DEVIATION: 0.31


01 Hour Averages
45
32.5
20
7.5
-5
05/01/08 00:00
05/06/08 00:00
05/11/08 00:00
05/16/08 00:00
05/21/08 00:00
05/26/08 00:00
05/31/08 00:00
LICA TRSMAX PPB


Calibration Graph for Site: LICA Parameter: TRS_ Sequence: TRS Phase: SPAN
101.00
95.45
89.89
84.34
78.79
73.23
67.68
5/1/08
5/8/08
5/16/08
5/24/08
6/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MAY 2008

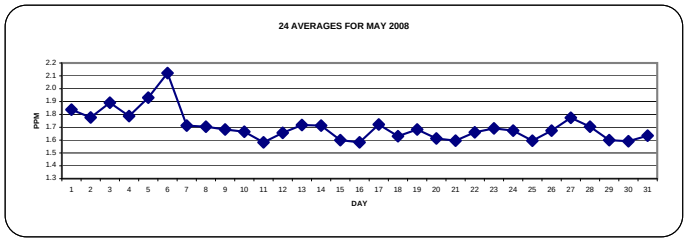
TOTAL HYDROCARBONS (THC) hourly averages in ppm

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	**IZS**	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	**C**	**C**	**C**	**C**	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.9	1.9	1.9	1.8	24
2	IZS	1.8	1.8	1.8	1.8	1.9	1.8	1.7	1.8	**M**	1.8	1.7	1.7	1.7	1.7	1.7	1.8	1.7	1.7	1.8	1.8	1.8	2	**IZS**	2.0	1.8	23
3	2.1	2.1	2.1	2.1	2.2	2.1	2.3	2.6	1.9	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	**IZS**	1.8	2.6	1.9	24
4	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.9	2	1.9	1.7	1.8	1.7	1.7	1.7	1.7	1.8	1.7	2	**IZS**	1.8	1.8	2.0	1.8	24
5	1.8	1.8	1.8	2.2	2.4	2.4	2.5	2.4	2	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	**IZS**	2	2	2	2.5	1.9	24
6	2.1	2	2.2	2.3	2.6	3.7	**6.6**	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	1.8	**6.6**	**2.1**	24
7	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	**IZS**	1.7	1.7	1.9	1.7	1.7	1.9	1.7	24
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	1.7	1.7	**IZS**	1.7	1.7	1.7	1.8	1.7	1.7	1.8	1.7	24
9	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	**IZS**	1.6	1.6	1.6	1.7	1.7	1.7	1.8	1.8	1.7	24
10	1.8	1.8	1.7	1.7	1.8	1.7	1.7	1.8	1.8	1.7	1.6	1.6	1.6	1.6	1.6	**IZS**	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.8	1.7	24
11	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5	**IZS**	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	24
12	1.6	1.6	1.6	1.6	1.8	1.7	2.1	1.6	1.6	1.6	1.6	1.6	1.6	**IZS**	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7	2.1	1.7	24
13	1.7	1.7	1.8	1.9	2	2	2	1.7	1.6	1.6	1.6	1.6	**IZS**	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.8	1.8	2.0	1.7	24
14	1.7	1.8	1.9	1.9	1.9	2	1.9	1.7	1.6	1.5	1.5	**IZS**	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.8	1.8	1.8	2.0	1.7	24
15	1.7	1.9	2.1	2	1.7	1.7	1.6	1.6	1.5	1.5	**IZS**	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.1	1.6	24
16	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	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	1.7	1.8	1.7	1.8	1.6	24
17	1.7	1.8	1.7	1.8	1.9	1.9	1.9	1.8	**IZS**	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.7	1.6	1.7	1.7	1.7	1.6	1.6	1.9	1.7	24
18	1.6	1.5	1.5	1.5	1.6	1.6	1.6	**IZS**	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.6	1.6	1.6	1.6	2	1.6	1.9	2.0	1.6	24
19	2	2.2	2	1.6	1.8	1.6	**IZS**	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	2.2	1.7	24
20	1.6	1.6	1.6	1.6	1.6	**IZS**	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.6	24
21	1.5	1.5	1.5	1.5	**IZS**	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.6	1.6	1.6	1.7	1.7	1.6	24
22	1.5	1.6	1.6	**IZS**	1.6	1.7	1.7	1.7	1.7	1.7	1.7	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	1.7	1.7	24
23	1.6	1.6	**IZS**	1.6	1.6	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	1.8	1.8	1.8	1.7	24
24	1.8	**IZS**	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.8	1.7	24
25	**IZS**	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	**IZS**	1.6	1.6	24
26	1.6	1.7	1.7	1.7	1.8	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.8	**IZS**	2	2.0	1.7	24
27	2	2	2	2.1	2.1	2.1	1.8	1.8	1.7	1.6	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	**IZS**	1.8	1.8	2.1	1.8	24
28	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.8	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	**IZS**	1.6	1.6	1.7	1.9	1.7	24
29	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5	**IZS**	1.6	1.5	1.5	1.5	1.7	1.6	24
30	1.6	1.7	1.8	1.9	1.8	1.7	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	**IZS**	1.5	1.5	1.6	1.6	1.7	1.9	1.6	24
31	1.8	1.8	1.9	1.8	1.8	1.9	2	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	**IZS**	1.5	1.5	1.5	1.6	1.6	1.6	2.0	1.6	24
HOURLY MAX	2.1	2.2	2.2	2.3	2.6	3.7	6.6	2.6	2.0	1.9	2.0	1.9	1.7	1.8	1.7	1.7	1.8	1.7	1.8	1.8	2.0	2.0	2.0	2.0			
HOURLY AVG	1.7	1.7	1.8	1.8	1.8	1.9	2.0	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7			

STATUS FLAG CODES

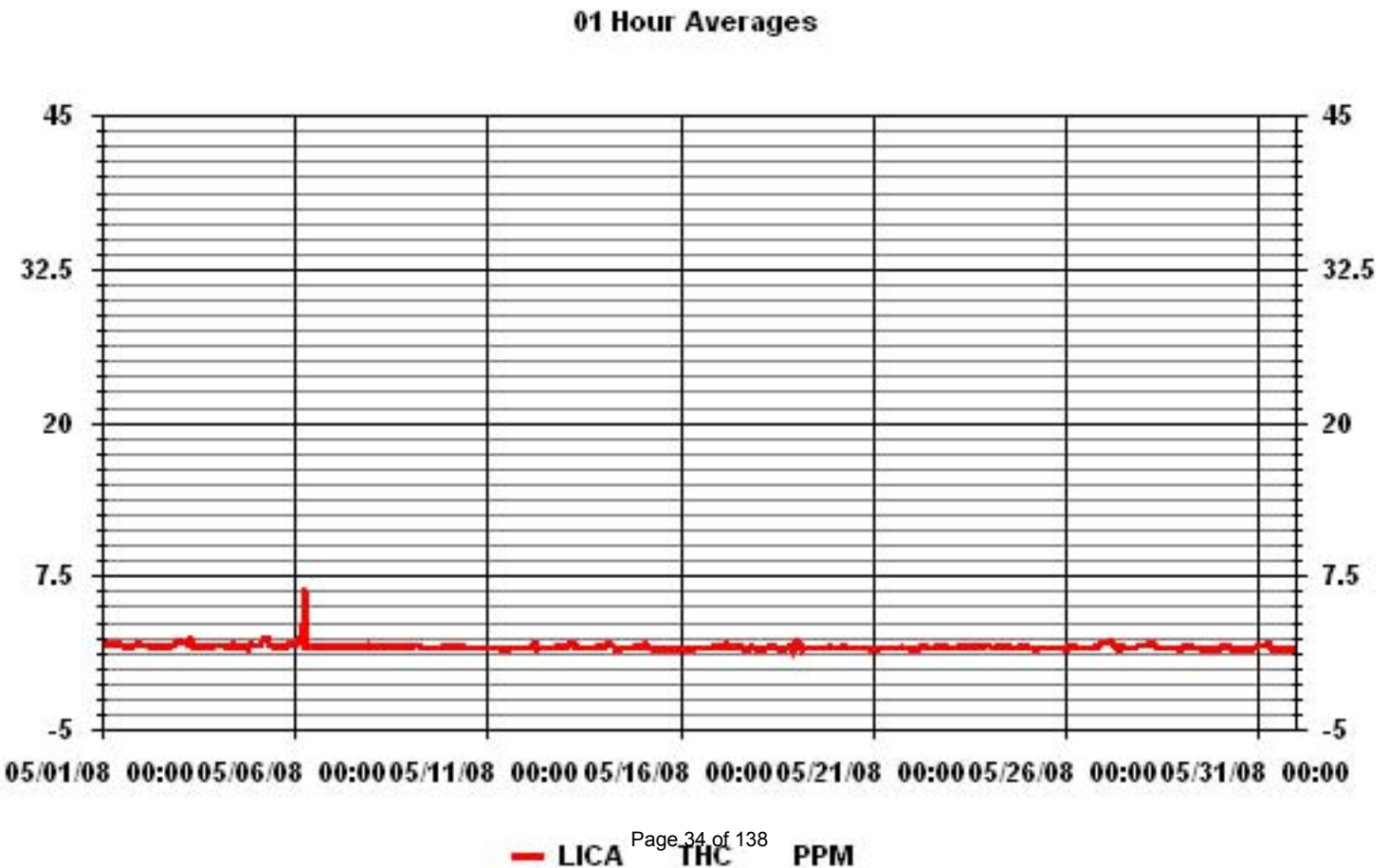
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE
BB	- BELOW BACKGROUND OF 1.5 PPM		



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	706					
MAXIMUM 1-HR AVERAGE:	6.6	PPM	@ HOUR(S)	7	ON DAY(S)	6
MAXIMUM 24-HR AVERAGE:	2.1	PPM			ON DAY(S)	6

IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	743	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	0.25		MONTHLY AVERAGE:	1.70	PPM


01 Hour Averages
45
32.5
20
7.5
-5
05/01/08 00:00
05/06/08 00:00
05/11/08 00:00
05/16/08 00:00
05/21/08 00:00
05/26/08 00:00
05/31/08 00:00
LICA THC PPM

LICA
THC / WD Joint Frequency Distribution (Percent)

May 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	2.40	10.90	15.15	4.53	13.59	9.91	7.64	2.12	2.40	2.69	5.52	4.67	6.09	6.51	4.10	1.41	99.71
< 10.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14	.00	.14	.00	.28
< 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.40	10.90	15.15	4.53	13.59	9.91	7.64	2.12	2.40	2.69	5.52	4.67	6.23	6.51	4.24	1.41	

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	17	77	107	32	96	70	54	15	17	19	39	33	43	46	29	10	704
< 10.0													1		1		2
< 50.0																	
>= 50.0																	
Totals	17	77	107	32	96	70	54	15	17	19	39	33	44	46	30	10	

Calm : .00 %

Total # Operational Hours : 706

Logger : 01 Parameter : THC

Class Limits (PPM)

>= 50.0

< 50.0

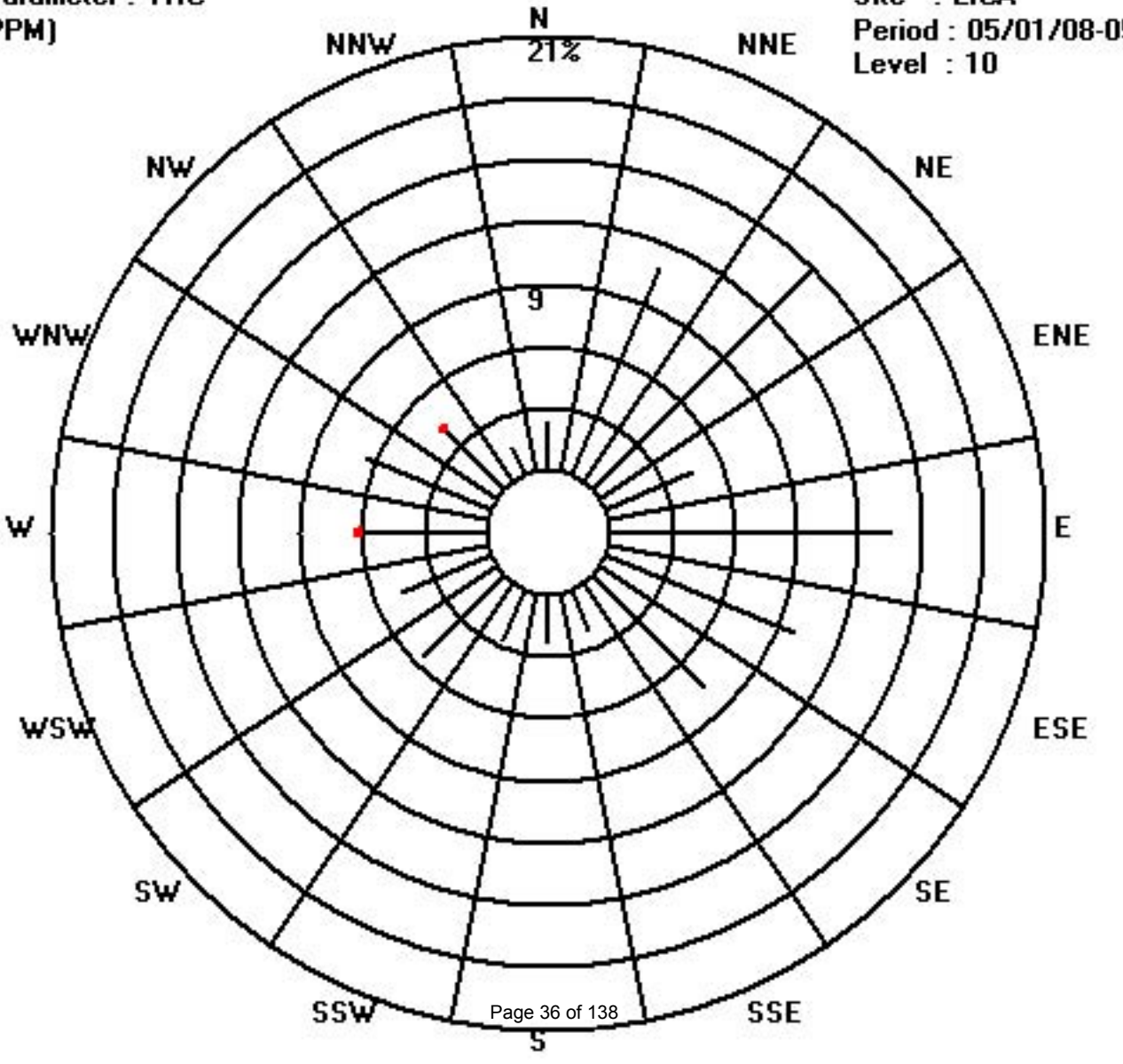
< 10.0

< 3.0

Site : LICA

Period : 05/01/08-05/31/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MAY 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	1.9	**IZS**	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	**C**	**C**	**C**	**C**	**C**	1.8	1.8	1.8	1.9	2	1.9	1.9	1.9	2	1.9	24
2	**IZS**	1.9	1.9	1.9	2	2	2	1.8	1.8	**N**	**N**	1.8	1.8	1.7	1.7	1.8	1.8	1.8	1.7	1.8	1.9	2	2.8	**IZS**	2.8	1.9	22
3	2.1	2.3	2.2	2.2	2.5	2.2	2.9	2.9	2.2	1.8	1.7	1.9	1.8	1.8	3	1.7	1.7	1.7	1.7	1.7	1.8	2	**IZS**	2	3	2.1	24
4	2	1.9	2	2	1.9	1.8	1.8	1.8	1.8	2	2.5	2.4	1.8	2	1.7	1.7	1.7	1.7	2.1	2	2.7	**IZS**	1.8	2	2.7	2.0	24
5	1.8	2.1	1.9	2.5	2.5	2.6	2.5	2.5	2.2	1.9	1.9	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.9	2.2	**IZS**	2.9	2.1	2.2	2.9	2.1	24
6	2.4	2.2	2.4	2.8	2.9	7.2	**8.5**	1.8	1.8	1.7	1.9	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	**IZS**	1.7	1.8	1.8	1.8	**8.5**	2.4	24
7	1.8	1.7	1.8	1.8	1.7	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.7	**IZS**	1.7	1.7	2.4	1.7	1.7	2.4	1.8	24
8	1.7	1.8	1.7	1.7	1.7	1.8	1.8	1.7	1.8	1.8	1.7	1.7	1.8	1.8	1.7	1.7	1.8	**IZS**	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8	24
9	1.8	1.8	1.8	1.8	1.9	1.8	1.8	1.8	1.7	1.8	1.7	1.7	1.7	1.6	1.6	1.6	**IZS**	1.6	1.7	1.7	1.7	1.7	1.8	1.9	1.9	1.7	24
10	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.6	1.6	1.7	1.7	1.7	**IZS**	1.7	1.6	1.6	1.6	1.6	1.7	1.7	1.6	1.9	1.7	24
11	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	**IZS**	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	24
12	1.6	1.6	1.6	1.9	2.3	1.8	3	1.7	1.6	1.7	1.8	1.8	1.6	**IZS**	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	3	1.7	24
13	1.7	1.8	1.9	2.1	2	2.1	2.1	1.8	1.7	1.6	1.6	1.6	**IZS**	1.6	1.6	1.6	1.6	1.5	1.6	1.8	1.7	1.8	1.7	1.8	2.1	1.8	24
14	1.8	2	2.1	1.9	2.1	2.1	2.1	1.8	1.7	1.6	1.7	**IZS**	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.8	1.8	1.8	2.1	1.8	24
15	2.1	2.1	2.2	2.2	1.8	1.7	1.7	1.6	1.6	1.5	**IZS**	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.2	1.7	24
16	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	**IZS**	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.9	2	2	2	1.6	24
17	1.8	1.9	1.8	1.8	2	2	2.1	2.1	**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	2.1	1.7	24
18	1.6	1.6	1.6	1.6	1.6	1.6	1.6	**IZS**	1.6	1.6	1.6	1.7	1.6	1.6	1.5	1.5	1.5	1.7	1.5	1.5	1.5	3	1.6	2.9	3	1.7	24
19	2.7	4.9	4.9	2	2.1	1.9	**IZS**	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.8	1.6	1.6	1.7	1.6	1.6	1.6	1.6	1.6	4.9	2.0	24
20	1.6	1.6	1.6	1.6	1.6	**IZS**	1.6	1.6	1.6	1.6	1.6	1.7	1.6	1.6	1.5	1.5	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.7	1.6	24
21	1.5	1.5	1.5	1.5	**IZS**	1.5	1.5	1.6	1.6	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.5	1.7	1.6	1.6	1.6	1.6	1.6	1.7	1.6	24
22	1.6	1.6	1.6	**IZS**	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.6	1.6	1.7	1.6	24
23	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	1.7	1.6	1.7	1.6	1.7	1.7	1.8	1.8	1.8	1.8	1.6	24
24	1.9	**IZS**	1.7	1.6	1.7	1.6	1.6	1.7	1.9	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	1.9	1.6	24
25	**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	1.7	1.6	1.6	1.6	1.6	1.7	**IZS**	1.7	1.6	24
26	1.7	1.8	1.8	1.8	1.8	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	1.7	1.7	1.8	1.9	**IZS**	2.1	2.1	1.7	24
27	2.1	2.1	2.1	2.3	2.2	2.2	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.9	**IZS**	1.9	1.8	2.3	1.9	24
28	1.8	1.8	1.9	2	2.1	2	2	1.9	1.9	1.7	1.6	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.7	**IZS**	1.6	1.7	1.7	2.1	1.8	24
29	1.7	1.8	1.7	1.8	1.8	1.9	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.8	1.6	1.6	1.6	1.6	1.6	**IZS**	1.6	1.6	1.6	1.6	1.9	1.7	24
30	1.7	1.7	1.9	1.9	1.9	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5	**IZS**	1.6	1.6	1.6	1.7	1.8	1.9	1.7	24
31	1.8	2	2	2	1.9	2.1	2.1	1.9	1.6	**1.6**	1.6	1.6	1.6	1.6	1.6	1.6	1.6	**IZS**	1.6	1.6	1.6	1.6	1.7	1.7	2.1	1.7	24
HOURLY MAX	3	5	5	3	3	7	9	3	2	2	3	2	2	2	3	2	2	2	2	2	3	3	3	3			
HOURLY AVG	1.8	1.9	1.9	1.9	1.9	2.0	2.1	1.8	1.7	1.7	1.7	1.7	1.6	1.7	1.7	1.6	1.6	1.6	1.7	1.7	1.7	1.8	1.8	1.8			

STATUS FLAG CODES

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

MONTHLY SUMMARY

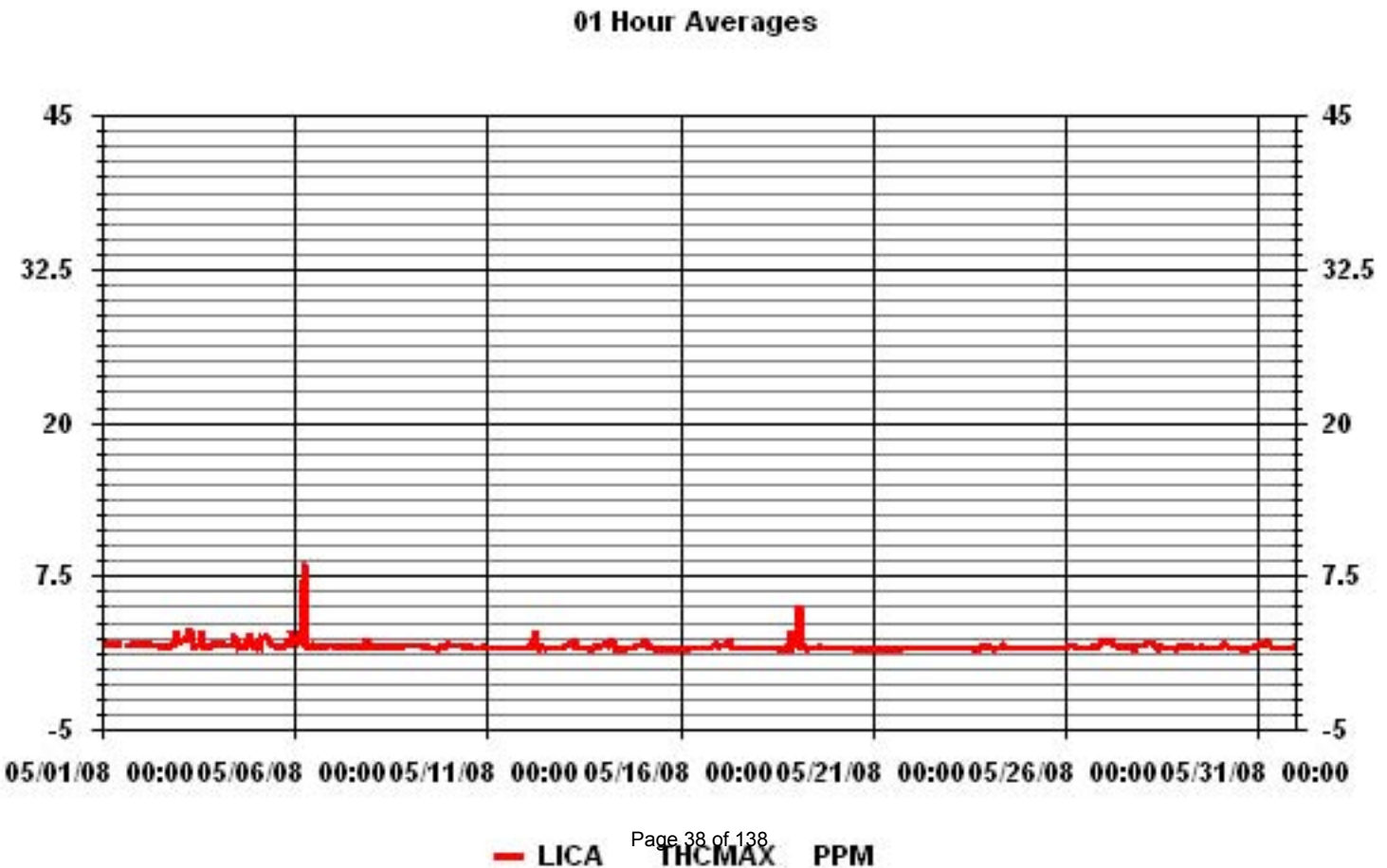
NUMBER OF NON-ZERO READINGS: 704

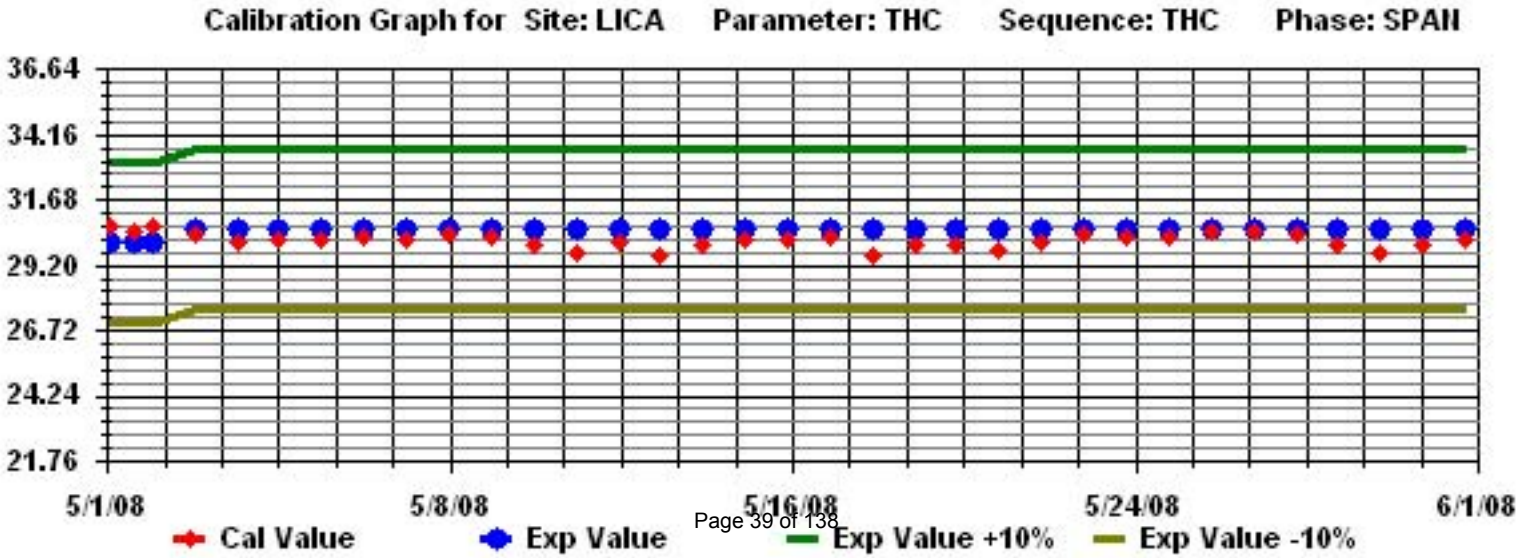
MAXIMUM INSTANTANEOUS VALUE: 8.5 PPM @ HOUR(S) 7 ON DAY(S) 6

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 742 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION: 0.44


01 Hour Averages
45
32.5
20
7.5
-5
05/01/08 00:00
05/06/08 00:00
05/11/08 00:00
05/16/08 00:00
05/21/08 00:00
05/26/08 00:00
05/31/08 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
5/1/08
5/8/08
5/16/08
5/24/08
6/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MAY 2008

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

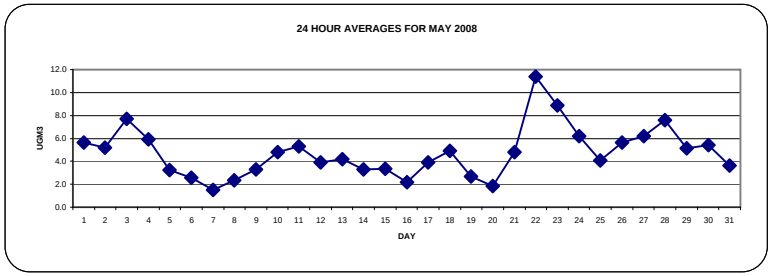
MST

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	4.7	3.7	4	4	4.1	3.4	3.3	4	2.7	4.4	5.6	5	5	4.8	5.1	5.2	5.1	4.6	5.8	9.3	11.9	8.2	12.6	8.8	12.6	5.6	24
2	5	3	3.3	2.1	3	2.6	1	3.3	4.9	3.4	1.2	0.2	0.9	3.4	4.4	4.2	3.8	2.9	4.4	7.2	15	13.3	16.8	15.4	16.8	5.2	24
3	11.6	10	8.3	8.6	9	10.4	6.5	6.3	3.5	2	3.5	2	5.9	4.2	5.3	4.8	6.3	7.4	9.3	10.6	11.3	13.2	11.9	13.3	13.3	7.7	24
4	15.5	10.6	10.2	5.5	3.8	3.4	4.2	4	4	7.6	5	6.6	10.9	10.5	3.3	5.4	14.2	0.4	4.7	1.8	6	1.8	0.8	1.2	15.5	5.9	24
5	0	0	0.5	3	0	4.7	4.9	2.4	0	0	0	4.3	0.7	2.1	3.4	9.6	3.1	2.2	6.1	8	6.8	2.6	6.9	5.8	9.6	3.2	24
6	3.3	3.1	2.3	2.3	2.9	8.8	7.3	2.3	3.2	1.8	3.5	1.2	0	0	0	1.3	0.9	1	2.4	4.2	2.4	1.7	1.2	5	8.8	2.6	24
7	2.3	0.8	1.4	1.9	1.4	1.8	0.9	0.6	0	0	0.6	0.5	0.3	0.5	0	0	1	3.1	3.5	3.4	1.9	2.5	3.1	4.9	4.9	1.5	24
8	1.7	1.9	1.2	0.3	0.5	0.6	0.7	0.8	0.8	0	0	0	0	0.5	2.7	2.6	3.8	4	5.7	5.8	8.2	4.1	6.4	3.9	8.2	2.3	24
9	3.7	3.2	2.4	2.7	2.7	2.8	3.2	2	2.3	0	0.6	0	0.1	0	0	0.7	1.9	1.3	3.2	3.7	8.9	11.1	14	9.2	14.0	3.3	24
10	6.9	3.6	3.6	2.5	3.5	6.4	6.4	0.8	1.8	0	0	2.8	2.7	4.8	5.9	6.3	6.8	6.6	7.3	9.9	11.2	9.2	4.3	2.5	11.2	4.8	24
11	3.1	3.5	3.8	4.9	3.1	3.2	3.4	4.6	6.1	7.6	6	3.6	2.9	5	7.4	9.5	7.2	5.2	5.6	7.2	7.2	6.7	5.2	5.8	9.5	5.3	24
12	12.1	4.3	4.6	5.4	5	3.3	4.4	0	0	4.6	1.5	3.9	6.5	7.9	0.9	0	0	3	3.6	3.5	9.4	3.2	2.8	3.4	12.1	3.9	24
13	3.1	3	3.4	4.2	2.3	6	2.6	1.4	4.8	2.4	0.2	3	6.3	1.3	6.9	4.1	5	3.2	6.1	7.3	6.9	7.4	4.8	4.1	7.4	4.2	24
14	4.6	4.1	3.2	1.5	4.5	5	1.9	0	0	0	0	0.4	0.7	0	1.5	6.7	0	3.7	4	3.8	11.2	7.4	8.5	6.3	11.2	3.3	24
15	5.3	0.8	1.8	3.2	6.4	9.2	6.5	3.1	3.1	1.5	0.3	0.1	0	0	0	0	0	1.8	1.6	5	3.7	6.2	14.5	5.7	14.5	3.3	24
16	2.1	2	0.9	1.6	2.8	1.7	0	0	0	0	0	0	1	0	1.3	1.7	1.9	3.1	2.5	4.3	4.5	11.2	8.7	0.6	11.2	2.2	24
17	7.6	7.2	6.4	8.3	7.6	6.4	8.3	**D**	0	0.3	0	1.1	1.8	1	2	1.7	2	3.2	2.3	4.5	5.8	4.5	3	4.8	8.3	3.9	23
18	1.5	1.5	1.6	2	0	4.6	0.7	3.3	1	2.2	5.1	6.5	10.7	6.8	2.5	1.6	8	12.6	10.4	10.7	8.4	8.2	3.3	4.3	12.6	4.9	24
19	4.7	1.6	4.3	3	4.5	5.4	3.1	0.8	0.3	1.9	2.4	1.2	1.3	1.3	0	0.6	0.2	1.3	0.2	7.6	6.2	5.2	2.9	3.8	7.6	2.7	24
20	2.3	2.2	2.2	3.9	2.4	1.2	1.4	0.6	0	0	0	0	2.8	0	**D**	0.7	3	2.6	1.5	1.1	1.9	3.2	6.5	2.9	6.5	1.8	23
21	1.8	3	6.4	6.1	7	5.1	4.1	5.1	**M**	**M**	**M**	**M**	**C**	**C**	**C**	**C**	**C**	**C**	**M**	**M**	**M**	**M**	**M**	**N**	7.0	4.8	14
22	**N**	**N**	**N**	**N**	**N**	**N**	**N**	15.5	9.7	15.5	12.8	9.7	15.7	8	11.8	12.4	10.7	12.3	10.9	10.1	7.6	5	15.6	9.8	15.7	**11.4**	17
23	9.3	11.2	6.6	4	10.8	15.7	10.3	6	5.2	9.7	7.9	10.4	9.1	5.3	9.7	10.7	12.9	8.7	5.9	11	4.8	10.1	10.2	7.3	15.7	8.9	24
24	10.8	8	3.9	7.1	5.6	6.6	6.9	8.6	10.8	6.3	11.7	3.3	7.1	4.8	3.3	8.7	4.5	5.6	3.4	3.7	5	8.4	0	4.2	11.7	6.2	24
25	1.2	6.4	3.9	2.9	1	3.5	4	4.5	5.6	5.9	7.6	0	7.8	0	2.5	3.8	4.1	3.9	1.1	7.7	**D**	4.2	7.1	5	7.8	4.1	23
26	5.5	0	1.8	3.7	6.8	7.8	4.2	9.7	2.4	0	13.5	0	1.4	3.4	3.6	8.8	4.6	17.3	5.3	6.3	8.5	6.5	6.8	8	17.3	5.7	24
27	7.4	6.1	6.1	9.8	8.8	13.4	0	11.3	8.6	9.7	5.4	6.1	0	10.2	8.1	1.9	0	12.8	7.9	6.8	0	0	8.1	0	13.4	6.2	24
28	10.3	1.4	3.5	**25.4**	11.9	10.5	**D**	8	5.3	18.2	2	**M**	**M**	**M**	**M**	**M**	**M**	**M**	2.7	4	1.8	6.1	5.8	4.8	**25.4**	7.6	18
29	4.1	4.2	4.2	4.1	5.5	11.7	9.7	6.8	2.8	2.1	4.6	2.5	2.9	2.6	2.4	3.6	4.7	6.3	7.1	7.4	11.3	6.4	3.6	3.1	11.7	5.2	24
30	6.4	7.4	10.3	11.6	11.7	10.4	8.3	8.4	8.9	7.7	7	4.9	6.9	5.6	0.9	0	0	0.7	3.4	0.2	3.4	2	1.2	3.3	11.7	5.4	24
31	3.7	4.3	4.7	5.3	5.5	3.8	2.3	3.8	3.7	4.7	4	1.7	2.9	2.8	2.5	2.2	2.7	4.8	3	3.2	4.1	2.6	3.6	5.7	5.7	3.7	24
HOURLY MAX	16	11	10	25	12	16	10	16	11	18	14	10	16	11	12	12	14	17	11	11	15	13	17	15			
HOURLY AVG	5.4	4.1	4.0	5.0	4.8	6.0	4.2	4.3	3.4	4.0	3.7	2.8	3.9	3.3	3.5	4.1	4.1	5.0	4.7	6.0	6.7	6.1	6.7	5.4			

STATUS FLAG CODES

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

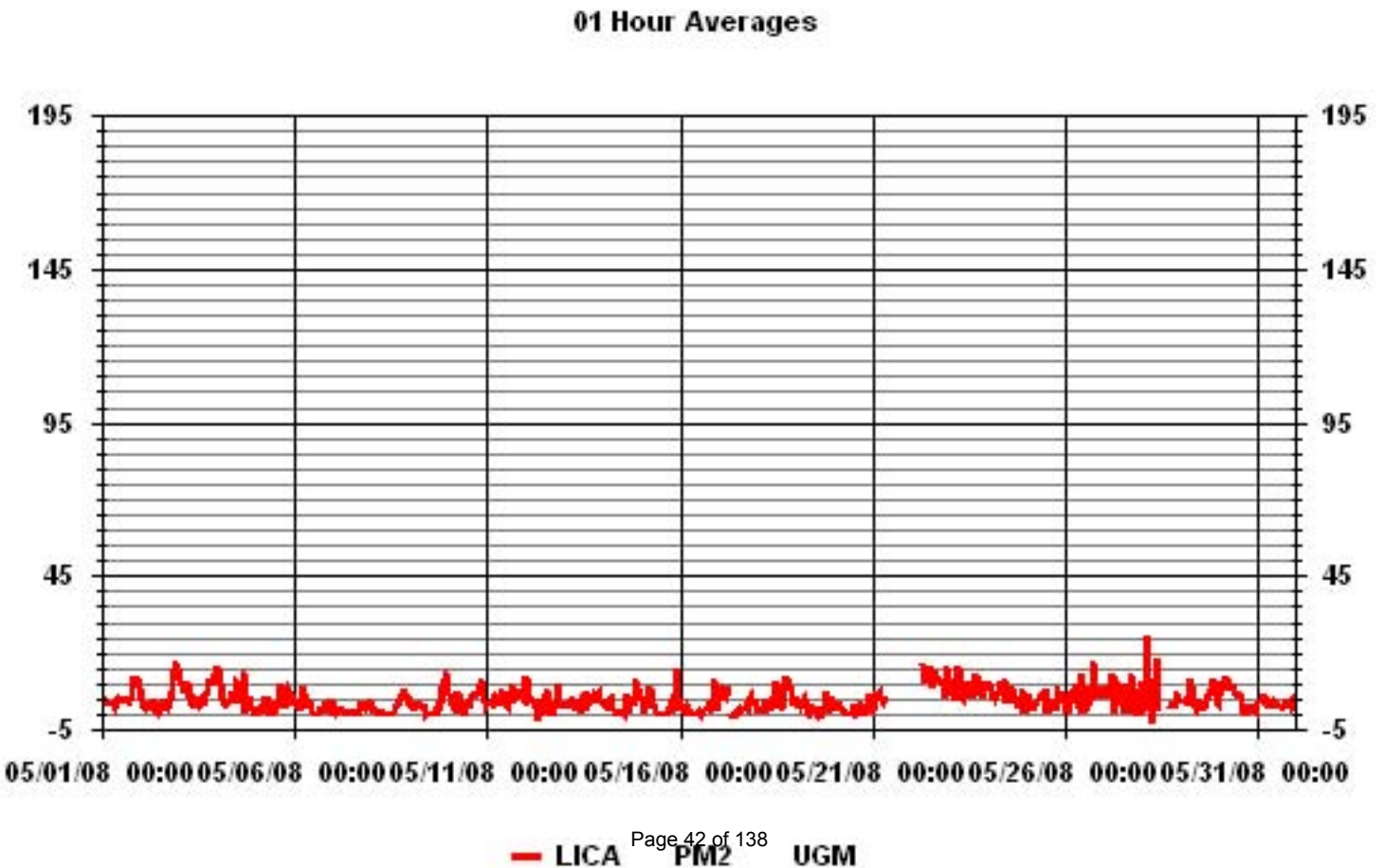
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR - PPB 24-HR 30 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	-				
NUMBER OF 24-HR EXCEEDENCES:	0	PROPOSED CANADA WIDE GUIDELINE			
NUMBER OF NON-ZERO READINGS:	642				
MAXIMUM 1-HR AVERAGE:	25.4	UG/M^3	@ HOUR(S) 4	ON DAY(S)	28
MAXIMUM 24-HR AVERAGE:	11.4	UG/M^3		ON DAY(S)	23

IZS CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	718	HRS
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME:	96.5	%
STANDARD DEVIATION:	3.69		MONTHLY AVERAGE:	4.64	UG/M^3


01 Hour Averages
195
145
95
45
-5
05/01/08 00:00
05/06/08 00:00
05/11/08 00:00
05/16/08 00:00
05/21/08 00:00
05/26/08 00:00
05/31/08 00:00
LICA PM2 UGM

LICA
PM2 / WD Joint Frequency Distribution (Percent)

May 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	2.39	11.11	15.18	4.64	13.92	9.00	6.75	1.96	2.53	2.67	5.90	4.78	6.46	6.89	4.36	1.40	100.00
< 60.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 80.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 120.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 240.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 240.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.39	11.11	15.18	4.64	13.92	9.00	6.75	1.96	2.53	2.67	5.90	4.78	6.46	6.89	4.36	1.40	

Calm : .00 %

Total # Operational Hours : 711

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 30.0	17	79	108	33	99	64	48	14	18	19	42	34	46	49	31	10	711
< 60.0																	
< 80.0																	
< 120.0																	
< 240.0																	
>= 240.0																	
Totals	17	79	108	33	99	64	48	14	18	19	42	34	46	49	31	10	

Calm : .00 %

Total # Operational Hours : 711

Logger : 01 Parameter : PM2

Class Limits (UG/M3)

>= 240.0

< 240.0

< 120.0

< 80.0

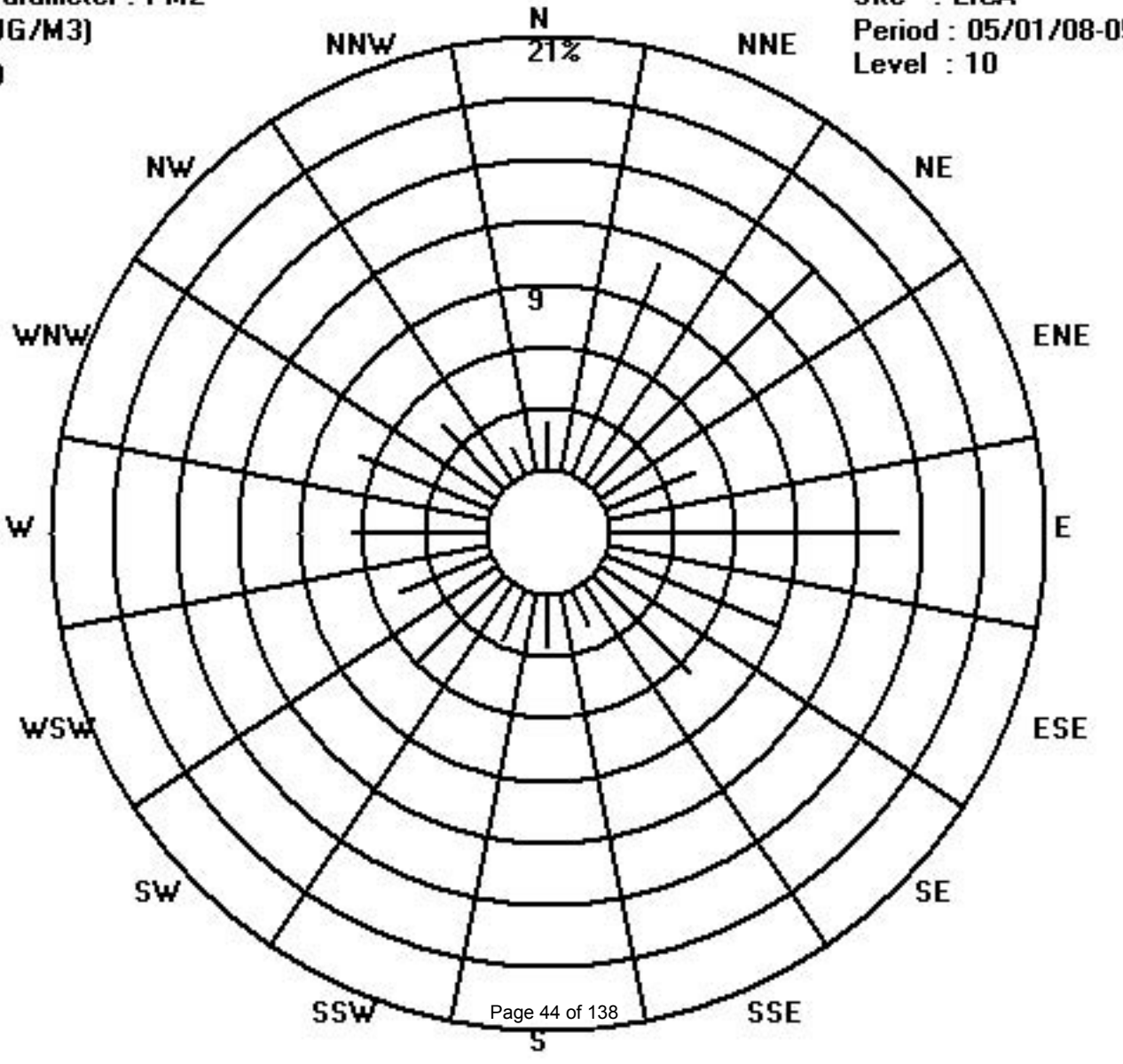
< 60.0

< 30.0

Site : LICA

Period : 05/01/08-05/31/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MAY 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	6.2	6.1	5.9	5.5	6	6.6	6.2	6.4	7.1	6.5	9.2	7.5	8.5	8.3	8	7.7	7.9	7	8.7	18.2	19.2	18.8	15	11	19.2	9.1	24
2	10.1	7.6	8.2	10	7.1	7.2	9.1	6.1	12	7.6	5.9	4.4	6.8	8.1	7.7	9.9	8.7	5.6	8.5	23	36.9	24.6	26.4	19.7	36.9	11.7	24
3	19	15.3	11	11.6	14.9	14.8	13	11.5	8.2	4.6	8.6	11.8	8.6	6.5	8.1	7.9	9.6	9.3	13.9	13.3	13.4	20.5	27.7	29.9	29.9	13.0	24
4	26.2	19.8	18.7	12.2	13.2	11.3	7.1	8.2	7	13.1	9.5	12.6	23.4	22.4	7.6	9	25.2	8.7	15	14.2	13.6	8	3.8	5.4	26.2	13.1	24
5	2.3	1.4	3.6	7	4.4	14.7	19	8.8	4.2	8	3.3	14.9	9.7	8.7	14	29.6	9	7	10.1	18.8	13.7	10.8	12.2	9	29.6	10.2	24
6	9.2	5.9	5.3	5.1	6.4	13.9	13.5	8.2	5.3	4.6	5.6	4.9	2.5	5.1	4.9	3.2	3.4	3.9	4.3	5.9	7	3.4	4.9	9	13.9	6.1	24
7	9	3.4	7.8	4.8	5.4	5.3	3.7	3.6	4.2	1.7	3.3	4.2	3.8	3.8	3.8	2.9	4.7	5.9	7.3	5.3	4	4.6	4.2	8.3	9	4.8	24
8	4.5	5.8	4.9	3.6	3.3	3.4	3.7	3.9	3.3	2.5	3	1.6	2.3	3.9	7.1	7.2	9.3	7.1	8.4	7.6	11.5	8.2	15.8	8.5	15.8	5.9	24
9	8.2	7.2	5.2	5.1	6.7	6.6	6.5	7	4.9	1.4	3.8	3.2	3.7	5	4.5	7.6	6.6	5.8	7	6.7	19.7	15.5	31.5	13	31.5	8.0	24
10	14.2	9.7	9.5	6.7	8.7	9.7	12.4	7	4.3	6.4	4.9	6.7	8.1	9.5	9.4	9.8	10.1	9.2	9.8	12.7	13.2	10.8	7.5	4.5	14.2	9.0	24
11	4.3	5.1	5.4	6.3	5.5	5.4	5.1	7.1	8.7	11.6	9.7	7.6	7.6	9.2	12.5	15.5	10.1	7.7	8.2	13.7	15.8	10	8	9.8	15.8	8.7	24
12	21.6	11.9	9.6	8.1	7.5	5.8	6.9	6.7	4.7	10.3	7.7	10.9	17.8	18.6	13	6.7	7.9	9.9	7.7	6.2	24.6	5.7	8.9	8	24.6	10.3	24
13	8.8	7.5	7.5	9.9	9.9	10.1	7.4	8.3	8.1	7.5	12.1	9.7	19.8	9.6	13.8	13.2	15.4	12.7	10.8	12	10.3	12.1	7.6	6.7	19.8	10.5	24
14	7	7.7	6.2	4.4	11.2	11.6	6.5	2.5	4.9	2.8	6.2	8.8	5	5.7	6.6	26.4	5	12.4	9.9	13.6	20.1	11.6	12.7	14.7	26.4	9.3	24
15	12.5	9.3	13.9	6.6	9.4	15.9	10.5	5.2	9.9	8.2	6.6	6.2	5.9	2.1	4.1	4.3	3.2	7.5	4.5	8.8	5.5	14.8	20	10.3	20	8.6	24
16	3.7	3.5	1.7	3.2	4.5	4	2.4	6.5	5.1	4.5	1.8	2.8	9.3	5.1	9.7	6.7	6.2	6.7	5.1	6.9	7.3	21.8	26.2	12.2	26.2	7.0	24
17	18.8	17.3	11.4	17.1	15.9	10.9	17.1	11.5	5.1	9.2	3	8.7	7	6.9	8.7	9.9	7.3	8.9	6.2	8.8	9.4	8.5	5.6	7.8	18.8	10.0	24
18	6.7	4.4	3.4	3.4	2	10.3	8.1	8.1	7.2	5.8	8.6	10.6	16.2	17	10.4	10.7	13.2	29.7	19.5	19.9	10.7	11.1	7.2	7.8	29.7	10.5	24
19	7.6	4.3	6.5	4.5	6.5	11.5	6.8	3.2	3.7	6	6.6	5.7	6.5	10.4	7	8.1	4.2	8.3	2.9	16.6	10.2	10.4	5.5	6.7	16.6	7.1	24
20	4.1	4.3	3.5	7	4.8	4.9	5.1	4.8	2.9	0.5	4.3	6.7	10	11.7	6.1	11.9	7.2	6.9	4.6	3.4	4.5	6.4	12.2	7.2	12.2	6.0	24
21	5	5.1	12.2	10.6	10.8	7.6	5.8	**M**	**M**	**M**	**M**	**M**	**C**	**C**	**C**	**C**	**C**	**C**	**M**	**M**	**M**	**M**	**M**	**N**	12.2	8.2	7
22	**N**	**N**	**N**	**N**	**N**	**N**	**N**	25.6	19.7	33.2	28.3	26	33.9	18.8	32.4	27.7	30.7	25.9	30.9	28.5	21.2	19.1	24.9	29.4	33.9	26.8	17
23	31.5	28.2	24.8	24.8	20.5	25.3	23.9	21.7	26.5	29.3	33	39.6	52.3	23.6	38.5	26.8	27.4	34.7	24.1	31.7	27.8	22	25.3	21.3	52.3	28.5	24
24	35.7	18.8	15	31.5	20.4	32.2	21.6	25.9	32.7	37.2	34.5	19.2	37.4	24.8	24.7	43.5	34.9	38	23.1	39	29.6	45.1	18.6	33.8	45.1	29.9	24
25	25.5	30.5	28.8	31.6	24	19.1	26.4	35.4	43.7	32.9	40.7	27.6	38.2	42.9	38.6	42.4	31.7	40.1	37.6	36.8	35.3	33.7	32.2	50.3	50.3	34.4	24
26	42.2	34.9	56.8	63.5	61.3	61.2	40.7	57	28.5	62.1	82.3	40.3	30.3	50.8	65.4	83.9	66.7	77.8	68.6	113.6	58.3	62.6	43	69.4	113.6	59.2	24
27	65.7	74.1	90.9	**114.7**	88.2	98.6	62	63	57.7	67.5	71.8	86.5	67.7	91.9	95.2	81.2	95.5	94.9	77.1	65.6	61.1	53.4	60.1	63.1	**114.7**	77.0	24
28	59.3	92.7	68.2	94.2	63.7	91	84.5	101.6	55.2	101.7	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	4.5	6.6	6.3	9.4	8.7	7.6	101.7	53.5	16
29	8.3	6.2	6.4	6.8	17.5	22.6	20.3	10.8	7.1	8.9	8.1	7.5	5	7.5	6.3	7.8	7.2	10	13	11.8	17.2	9.5	7.6	6.2	22.6	10.0	24
HOURLY MAX	66	93	91	115	88	99	85	102	58	102	82	87	68	92	95	84	96	95	77	114	61	63	60	69			
HOURLY AVG	17.0	16.0	16.2	18.6	16.4	19.3	16.3	17.0	14.0	17.7	15.6	14.7	16.6	16.2	17.3	19.3	17.3	18.6	16.1	20.3	18.8	17.6	17.3	17.5			

STATUS FLAG CODES

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

MONTHLY SUMMARY

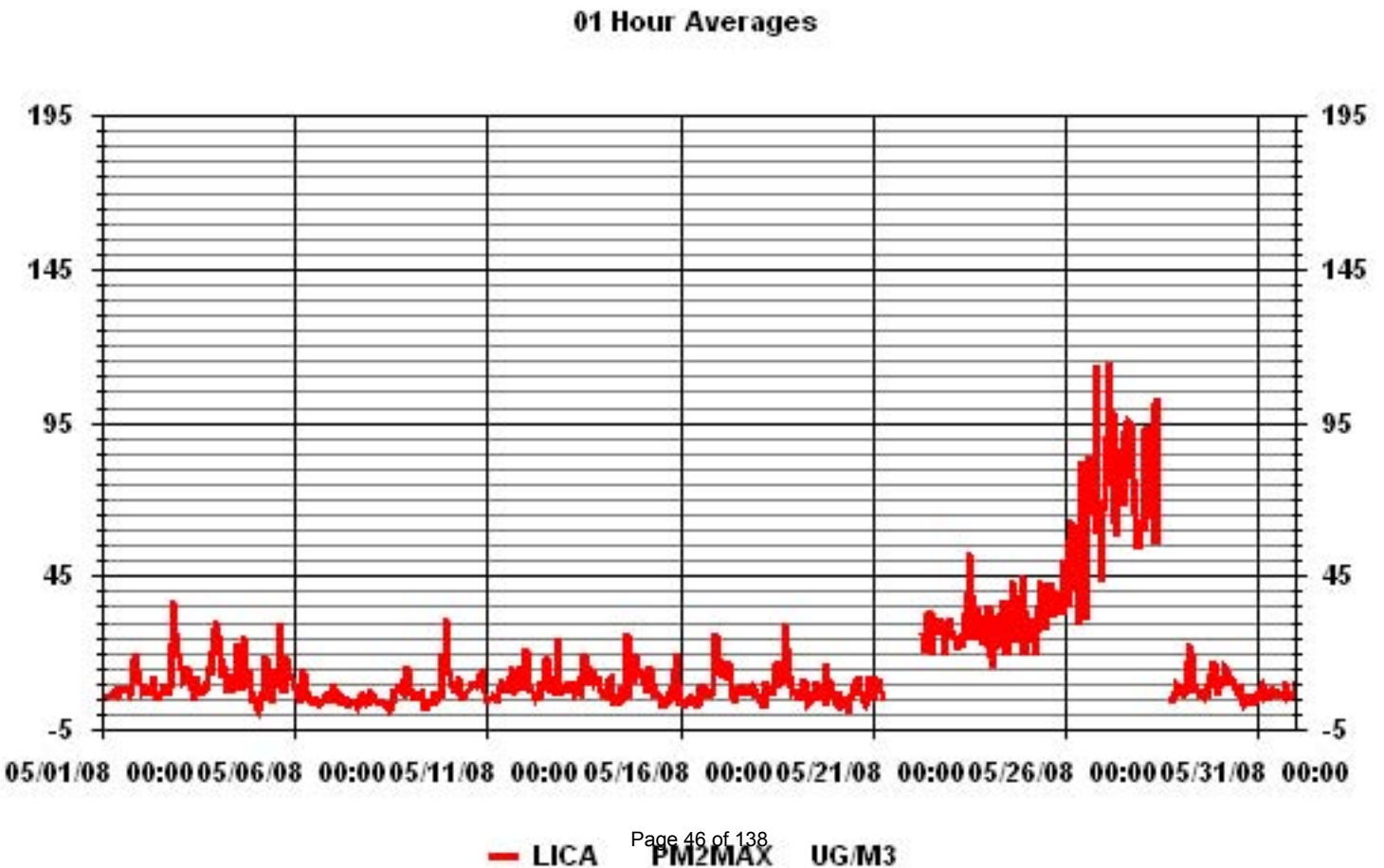
NUMBER OF NON-ZERO READINGS: 664

MAXIMUM INSTANTANEOUS VALUE: 114.7 UG/M^3 @ HOUR(S) 4 ON DAY(S) 27

IZS CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 664 HRS

MONTHLY CALIBRATION TIME: 6 HRS

STANDARD DEVIATION: 19.63


01 Hour Averages
195
145
95
45
-5
05/01/08 00:00
05/06/08 00:00
05/11/08 00:00
05/16/08 00:00
05/21/08 00:00
05/26/08 00:00
05/31/08 00:00
LICA PM2MAX UG/M3

Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MAY 2008

NITROGEN DIOXIDE hourly averages in ppb

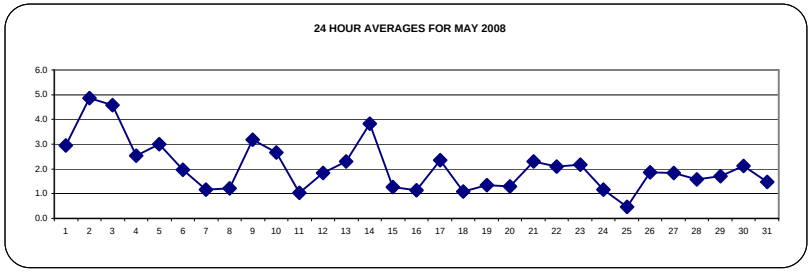
MST

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	**IZS**	1	1	2	1	1	2	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1	1	1	1	5	7	5	11	6	11	2.9	24
2	**IZS**	2	7	5	6	**19**	10	3	3	**M**	1	0	0	0	0	0	0	1	1	5	10	15	14	**IZS**	**19**	**4.9**	23
3	14	11	10	8	7	11	7	6	3	1	1	1	1	1	1	1	1	2	2	3	4	4	**IZS**	5	14	4.6	24
4	4	4	3	4	6	4	2	1	1	2	3	3	2	2	1	1	1	2	1	1	2	**IZS**	4	4	6	2.5	24
5	4	3	2	4	5	6	6	7	7	5	1	1	2	1	1	1	1	1	1	1	**IZS**	2	3	4	7	3.0	24
6	3	3	2	3	5	7	8	2	1	0	1	0	0	0	0	0	0	0	1	**IZS**	2	3	2	2	8	2.0	24
7	2	2	1	2	3	4	3	2	1	0	0	0	0	0	0	0	0	1	**IZS**	1	1	2	1	1	4	1.2	24
8	1	2	1	1	2	2	1	0	3	1	0	0	0	0	0	0	1	**IZS**	1	2	3	4	1	2	4	1.2	24
9	2	3	4	5	9	7	3	1	1	0	0	0	0	0	0	0	**IZS**	1	0	2	6	9	10	10	10	3.2	24
10	5	6	5	5	7	3	6	3	2	1	0	0	1	1	1	**IZS**	1	1	1	2	3	4	2	1	7	2.7	24
11	1	1	1	2	1	1	1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	2	1.0	24
12	1	1	1	2	3	3	6	2	0	1	1	1	1	**IZS**	1	1	1	1	1	1	5	4	2	2	6	1.8	24
13	2	2	2	2	5	4	5	3	3	2	1	1	**IZS**	1	2	1	1	1	1	1	2	3	5	3	5	2.3	24
14	3	3	8	4	4	6	6	4	2	0	0	**IZS**	0	0	0	0	0	1	2	3	9	13	12	8	13	3.8	24
15	5	3	4	3	3	3	3	2	1	0	**IZS**	1	0	0	0	0	0	0	0	0	0	0	0	1	5	1.3	24
16	0	0	1	0	0	1	1	1	1	**IZS**	0	0	0	0	0	0	0	0	0	0	2	5	7	7	7	1.1	24
17	7	5	4	4	5	7	5	3	**IZS**	1	0	0	0	0	0	0	0	1	2	2	4	2	1	1	7	2.3	24
18	1	1	1	1	0	1	1	**IZS**	2	1	1	2	1	1	0	0	0	1	1	1	1	3	2	2	3	1.1	24
19	4	2	3	2	3	2	**IZS**	0	0	0	1	1	1	1	0	1	1	1	1	2	1	2	1	1	4	1.3	24
20	1	1	1	1	2	**IZS**	3	2	1	1	1	1	2	2	1	1	2	1	1	1	1	1	1	1	3	1.3	24
21	1	1	1	1	**IZS**	2	2	3	3	2	2	3	3	3	2	1	1	1	4	4	3	4	3	3	4	2.3	24
22	2	1	1	**IZS**	2	3	2	2	2	1	2	2	1	1	1	1	1	1	1	2	6	7	4	2	7	2.1	24
23	2	1	**IZS**	1	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	3	7	7	4	5	7	2.2	24
24	5	**IZS**	2	2	2	2	2	2	2	1	1	0	0	1	1	1	1	1	1	0	0	0	0	0	5	1.2	24
25	**IZS**	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	0	1	2	1	2	**IZS**	2	0.5	24
26	1	2	3	5	5	7	5	1	0	0	0	0	0	0	0	1	1	0	0	1	3	4	**IZS**	4	7	1.9	24
27	3	3	3	2	3	2	2	2	1	1	0	0	0	1	1	1	1	1	1	1	4	**IZS**	6	3	6	1.8	24
28	1	1	2	2	3	3	3	2	2	1	1	1	1	1	0	0	1	0	1	1	**IZS**	5	2	2	5	1.6	24
29	1	1	1	1	2	3	6	3	2	1	1	2	1	1	1	1	1	1	1	**IZS**	3	2	2	1	6	1.7	24
30	2	4	4	4	4	3	2	1	2	1	1	2	1	1	1	0	0	0	**IZS**	1	4	5	2	4	5	2.1	24
31	3	4	2	2	2	3	2	2	2	2	0	0	0	0	0	0	0	**IZS**	0	0	0	2	4	4	4	1.5	24
HOURLY MAX	14	11	10	8	9	19	10	7	7	5	3	3	3	3	2	1	2	2	4	5	10	15	14	10			
HOURLY AVG	2.8	2.5	2.7	2.6	3.5	4.1	3.5	2.1	1.7	1.0	0.8	0.9	0.7	0.7	0.6	0.5	0.7	0.9	1.0	1.7	3.3	4.1	3.8	3.1			

STATUS FLAG CODES

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

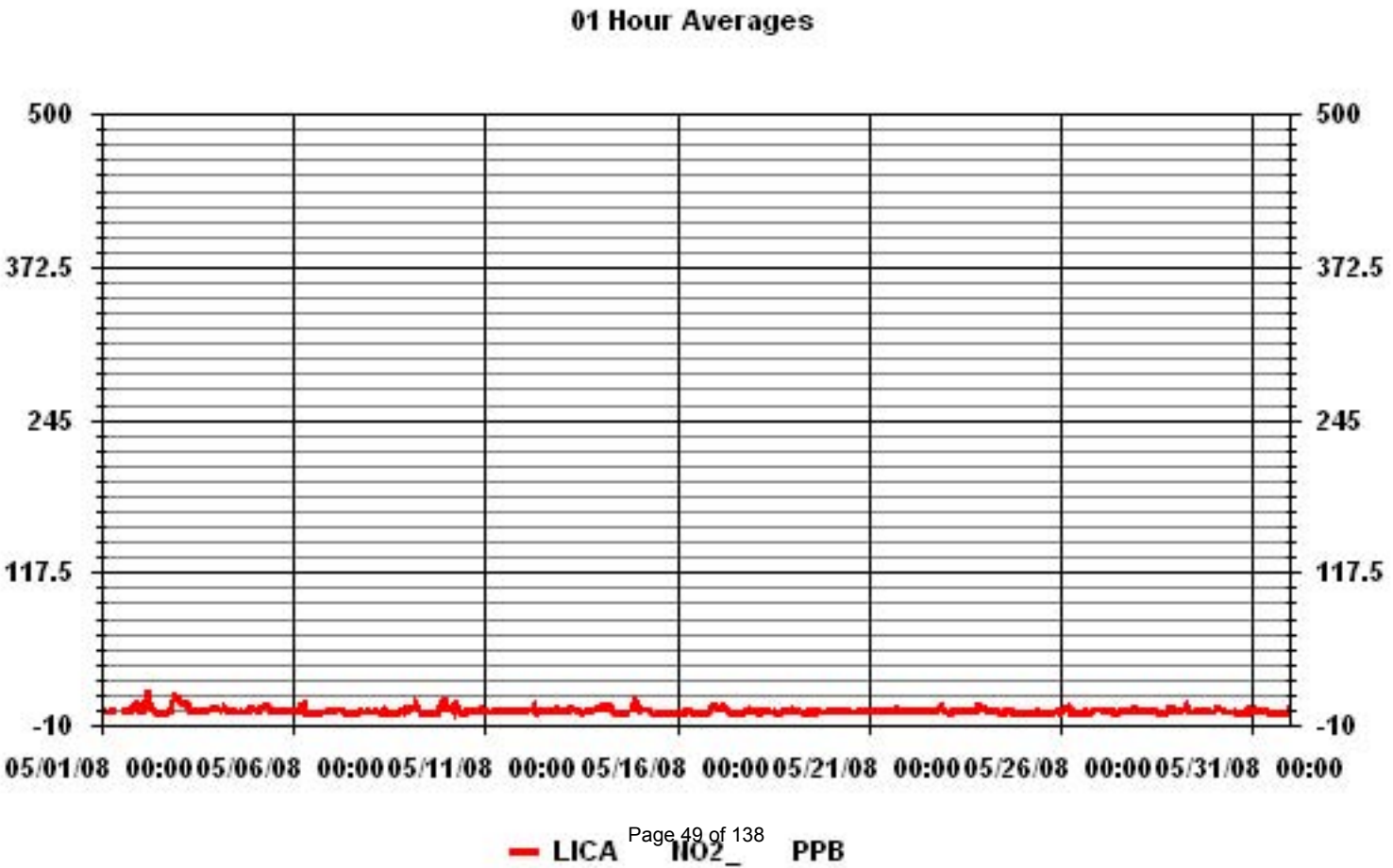
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 212 PPB 24-HR 106 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	566					
MAXIMUM 1-HR AVERAGE:	19	PPB	@ HOUR(S)	6	ON DAY(S)	2
MAXIMUM 24-HR AVERAGE:	4.9	PPB			ON DAY(S)	2

IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	743	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	2.32		MONTHLY AVERAGE:	2.06	PPB


01 Hour Averages
500
372.5
245
117.5
-10
05/01/08 00:00
05/06/08 00:00
05/11/08 00:00
05/16/08 00:00
05/21/08 00:00
05/26/08 00:00
05/31/08 00:00
LICA NO2_ PPB

LICA
NO2_ / WD Joint Frequency Distribution (Percent)

May 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	2.41	10.95	15.22	4.55	13.22	9.95	7.68	2.13	2.41	2.70	5.54	4.69	6.25	6.54	4.26	1.42	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
>=	210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	2.41	10.95	15.22	4.55	13.22	9.95	7.68	2.13	2.41	2.70	5.54	4.69	6.25	6.54	4.26	1.42	

Calm : .00 %

Total # Operational Hours : 703

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	17	77	107	32	93	70	54	15	17	19	39	33	44	46	30	10	703
<	110																	
<	210																	
>=	210																	
	Totals	17	77	107	32	93	70	54	15	17	19	39	33	44	46	30	10	

Calm : .00 %

Total # Operational Hours : 703

Logger : 01 Parameter : NO2_

Class Limits (PPB)

>= 210

< 210

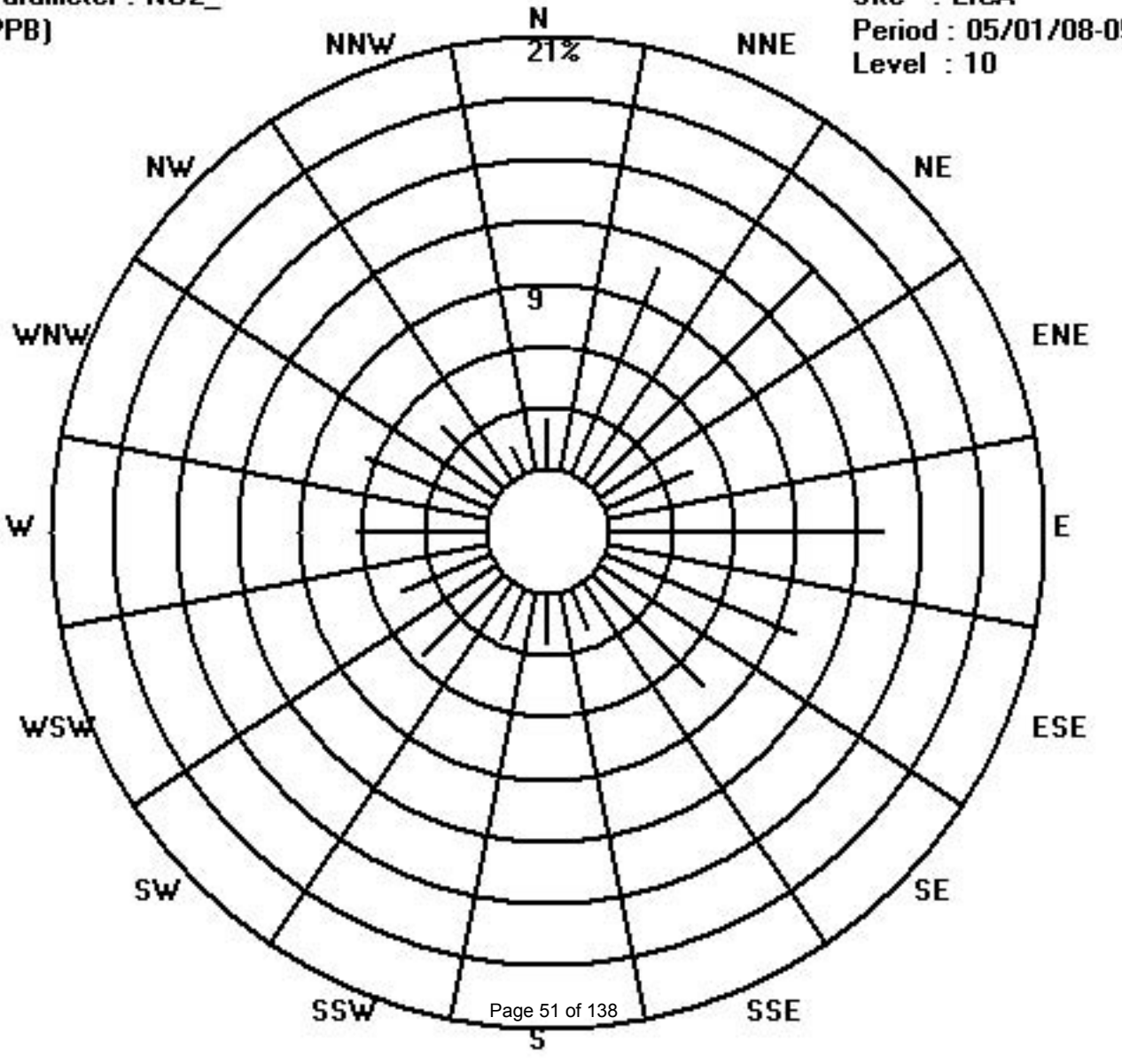
< 110

< 50

Site : LICA

Period : 05/01/08-05/31/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MAY 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	2	**IZS**	2	3	8	3	2	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2	2	4	9	13	10	16	16	16	6.6	24
2	**IZS**	3	10	25	21	**36**	22	5	7	**N**	**N**	3	11	2	1	1	2	6	1	16	18	26	23	**IZS**	**36**	12.0	22
3	17	16	13	10	9	15	12	7	6	2	5	1	3	4	2	1	3	7	3	6	7	6	**IZS**	9	17	7.1	24
4	7	7	5	13	14	5	4	2	2	5	5	6	4	3	2	2	2	4	4	3	5	**IZS**	5	8	14	5.1	24
5	8	7	7	6	8	7	10	9	10	10	2	2	4	5	3	2	3	2	1	2	**IZS**	7	7	9	10	5.7	24
6	6	7	4	4	12	11	11	6	2	1	1	1	1	1	2	3	3	2	2	**IZS**	4	4	3	4	12	4.1	24
7	4	3	2	10	11	7	4	6	3	2	1	1	8	4	1	2	3	5	**IZS**	3	5	5	2	3	11	4.1	24
8	2	5	2	2	9	6	3	3	8	6	3	1	2	6	2	5	12	**IZS**	3	3	12	10	2	4	12	4.8	24
9	5	12	9	10	17	9	6	3	3	5	1	1	3	1	1	2	**IZS**	6	5	13	10	13	14	12	17	7.0	24
10	8	12	9	8	10	7	13	11	4	3	1	1	3	3	2	**IZS**	2	2	2	4	5	5	2	2	13	5.2	24
11	1	1	3	4	3	4	2	2	2	2	1	3	3	11	**IZS**	2	2	2	2	3	4	3	2	2	11	2.8	24
12	1	2	2	4	4	4	8	5	2	3	2	3	6	**IZS**	3	3	1	1	1	2	11	13	4	3	13	3.8	24
13	2	2	3	3	16	7	6	6	7	8	2	5	**IZS**	4	13	5	3	2	2	2	5	8	8	5	16	5.4	24
14	5	5	11	6	6	7	10	30	3	1	2	**IZS**	1	1	1	7	2	5	10	12	24	19	16	12	30	8.5	24
15	7	4	4	4	3	3	5	4	2	1	**IZS**	8	2	1	1	1	1	0	1	1	1	1	1	1	8	2.5	24
16	1	1	1	1	1	2	2	2	2	**IZS**	1	1	1	0	1	1	1	0	1	1	4	8	9	8	9	2.2	24
17	9	7	6	5	8	8	8	8	**IZS**	1	3	2	3	2	3	2	1	4	7	5	7	4	5	1	9	4.7	24
18	1	1	1	1	1	1	3	**IZS**	5	2	4	3	4	4	2	3	1	6	8	1	1	5	5	4	8	2.9	24
19	5	5	5	3	5	7	**IZS**	1	3	1	1	1	1	1	1	7	2	2	3	2	3	3	2	2	7	2.9	24
20	2	1	3	2	4	**IZS**	7	7	5	4	5	2	8	6	5	2	11	3	2	2	2	2	2	2	11	3.9	24
21	1	1	1	2	**IZS**	2	3	20	10	5	4	6	15	28	11	4	5	2	7	6	6	7	4	4	28	6.7	24
22	3	2	2	**IZS**	5	9	4	5	8	3	15	4	7	7	11	2	2	10	4	8	9	10	8	3	15	6.1	24
23	4	2	**IZS**	3	6	6	4	2	3	2	3	4	2	2	1	2	4	5	3	7	10	12	7	19	19	4.9	24
24	7	**IZS**	4	3	5	4	13	9	10	2	4	3	1	5	4	3	2	2	8	1	1	1	1	1	13	4.1	24
25	**IZS**	1	1	1	1	2	2	2	1	1	1	9	3	0	1	0	1	11	2	3	4	3	4	**IZS**	11	2.5	24
26	4	4	4	8	7	17	13	11	3	2	1	2	8	1	1	2	1	1	1	1	12	6	**IZS**	7	17	5.1	24
27	6	4	6	5	5	3	4	5	2	2	1	1	2	1	1	1	1	1	2	3	14	**IZS**	18	5	18	4.0	24
28	2	2	4	3	9	5	4	7	3	1	1	2	4	1	2	1	3	1	7	2	**IZS**	27	10	5	27	4.6	24
29	2	2	1	2	12	11	14	8	4	2	7	12	6	3	2	2	2	2	2	**IZS**	10	3	4	2	14	5.0	24
30	3	6	5	6	6	3	3	2	7	1	2	3	2	1	1	1	1	1	**IZS**	4	7	7	4	7	7	3.6	24
31	5	7	4	3	3	5	4	4	2	4	1	1	1	1	2	2	1	**IZS**	2	1	1	5	7	7	7	3.2	24
HOURLY MAX	17	16	13	25	21	36	22	30	10	10	15	12	15	28	13	7	12	11	10	16	24	27	23	19			
HOURLY AVG	4.5	4.6	4.5	5.3	7.6	7.2	6.9	6.6	4.4	2.9	2.9	3.2	4.1	3.8	2.9	2.4	2.7	3.3	3.4	4.3	7.4	8.0	6.7	5.8			

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

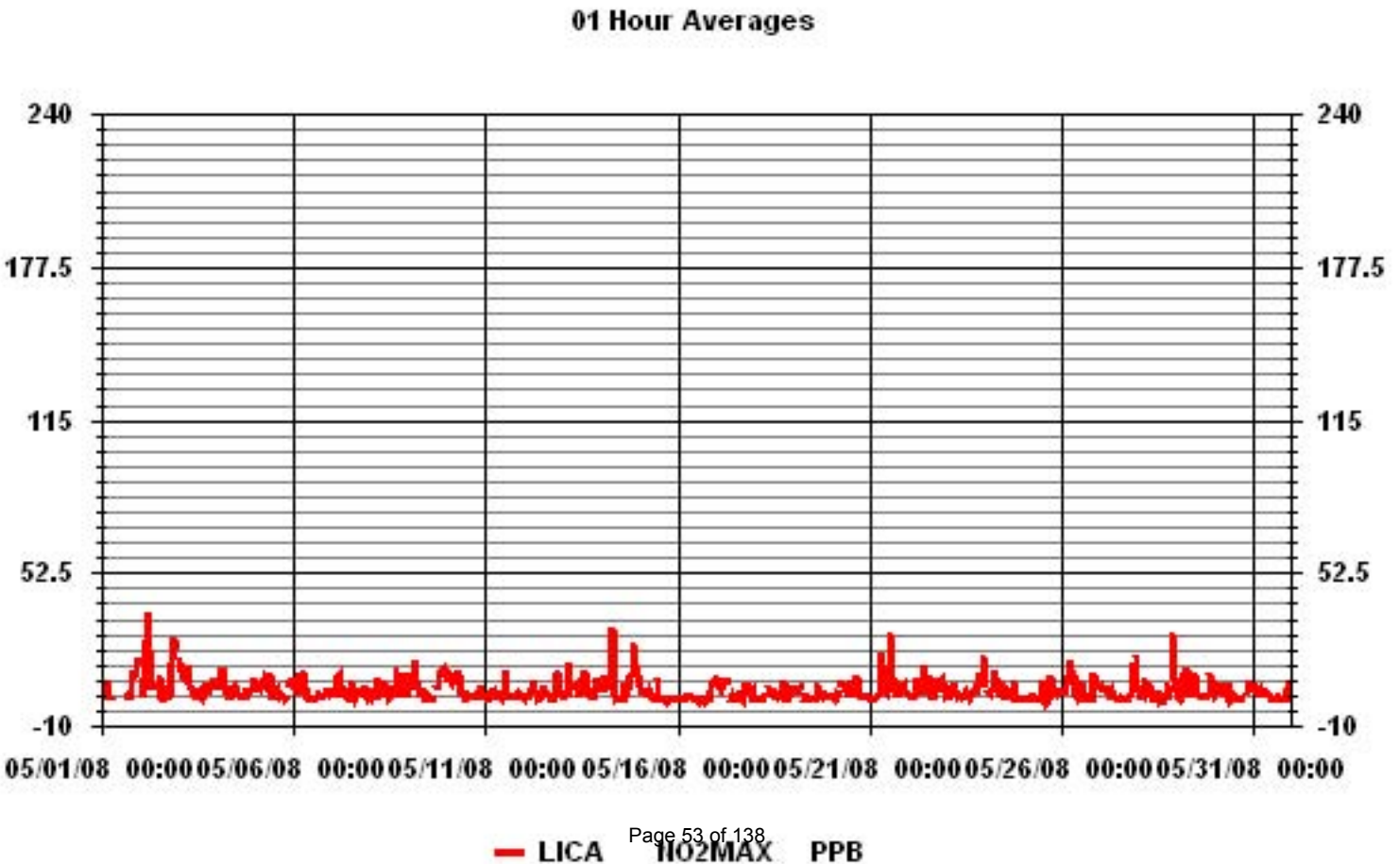
NUMBER OF NON-ZERO READINGS: 695

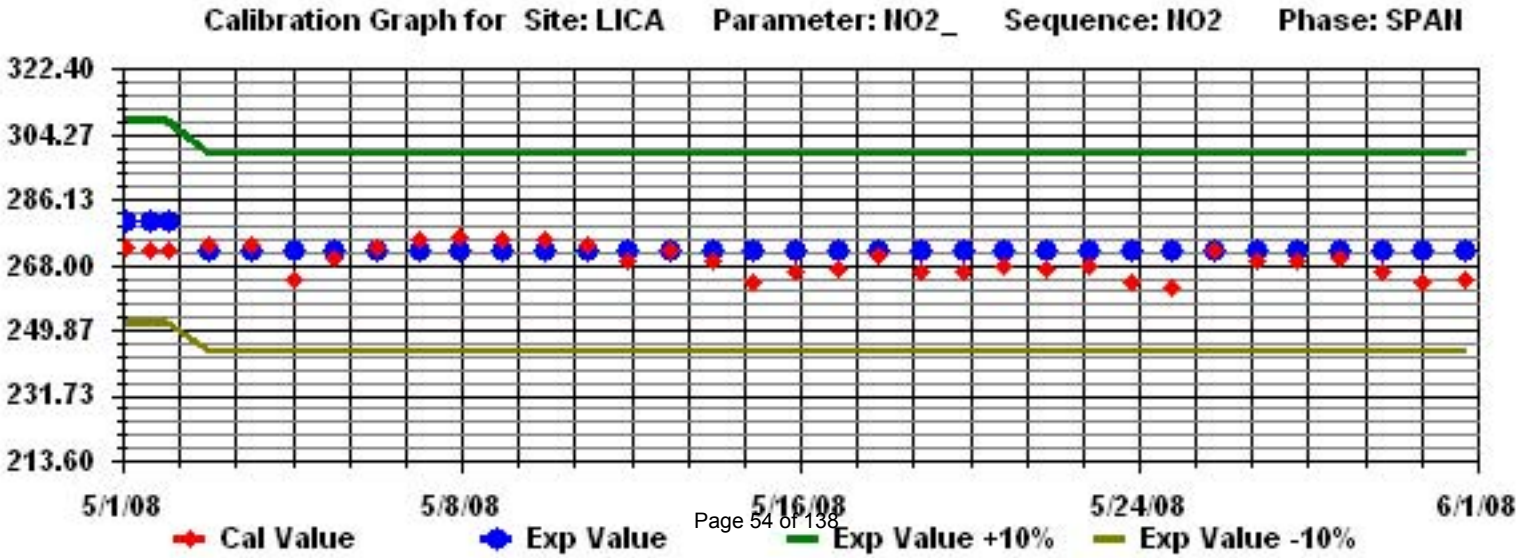
MAXIMUM INSTANTANEOUS VALUE: 36 PPB @ HOUR(S) 6 ON DAY(S) 2

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 742 HRS

MONTHLY CALIBRATION TIME: 9 HRS

STANDARD DEVIATION 4.51


01 Hour Averages
240
177.5
115
52.5
-10
05/01/08 00:00
05/06/08 00:00
05/11/08 00:00
05/16/08 00:00
05/21/08 00:00
05/26/08 00:00
05/31/08 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
5/1/08
5/8/08
5/16/08
5/24/08
6/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MAY 2008

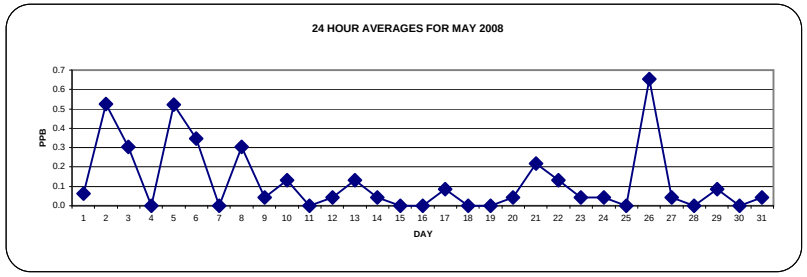
NITRIC OXIDE hourly averages in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	**IZS**	0	0	0	0	0	1	**C**	**C**	**C**	**C**	**C**	**C**	**C**	0	0	0	0	0	0	0	0	0	1	0.1	24
2	**IZS**	0	0	0	0	7	3	0	1	**M**	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	7	0.5	23
3	0	0	0	0	0	2	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	2	0.3	24
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0.0	24
5	0	0	0	0	0	3	3	2	3	1	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	3	0.5	24
6	0	0	0	0	1	4	2	1	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	4	0.3	24
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0.0	24
8	0	0	0	0	0	2	0	1	3	1	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	3	0.3	24
9	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	1	0.0	24
10	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	2	0.1	24
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0.0	24
12	0	0	0	0	0	0	1	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	1	0.0	24
13	0	0	0	0	1	1	1	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
14	0	0	0	0	0	0	0	1	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
15	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
16	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
17	0	0	0	0	0	0	1	1	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
18	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
19	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
20	0	0	0	0	0	**IZS**	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
21	0	0	0	0	**IZS**	0	0	1	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	2	0.2	24
22	0	0	0	**IZS**	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0.1	24
23	0	0	**IZS**	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
24	0	**IZS**	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
25	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0.0	24
26	0	0	0	0	2	**10**	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	**10**	**0.7**	24
27	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	1	0.0	24
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0.0	24
29	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	1	0.1	24
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0.0	24
31	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	1	0.0	24
HOURLY MAX	0	1	0	0	2	10	3	2	3	1	2	0	1	2	1	0	0	0	0	0	0	0	0	0			
HOURLY AVG	0.0	0.0	0.0	0.0	0.1	1.0	0.7	0.4	0.3	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	0.0			

STATUS FLAG CODES

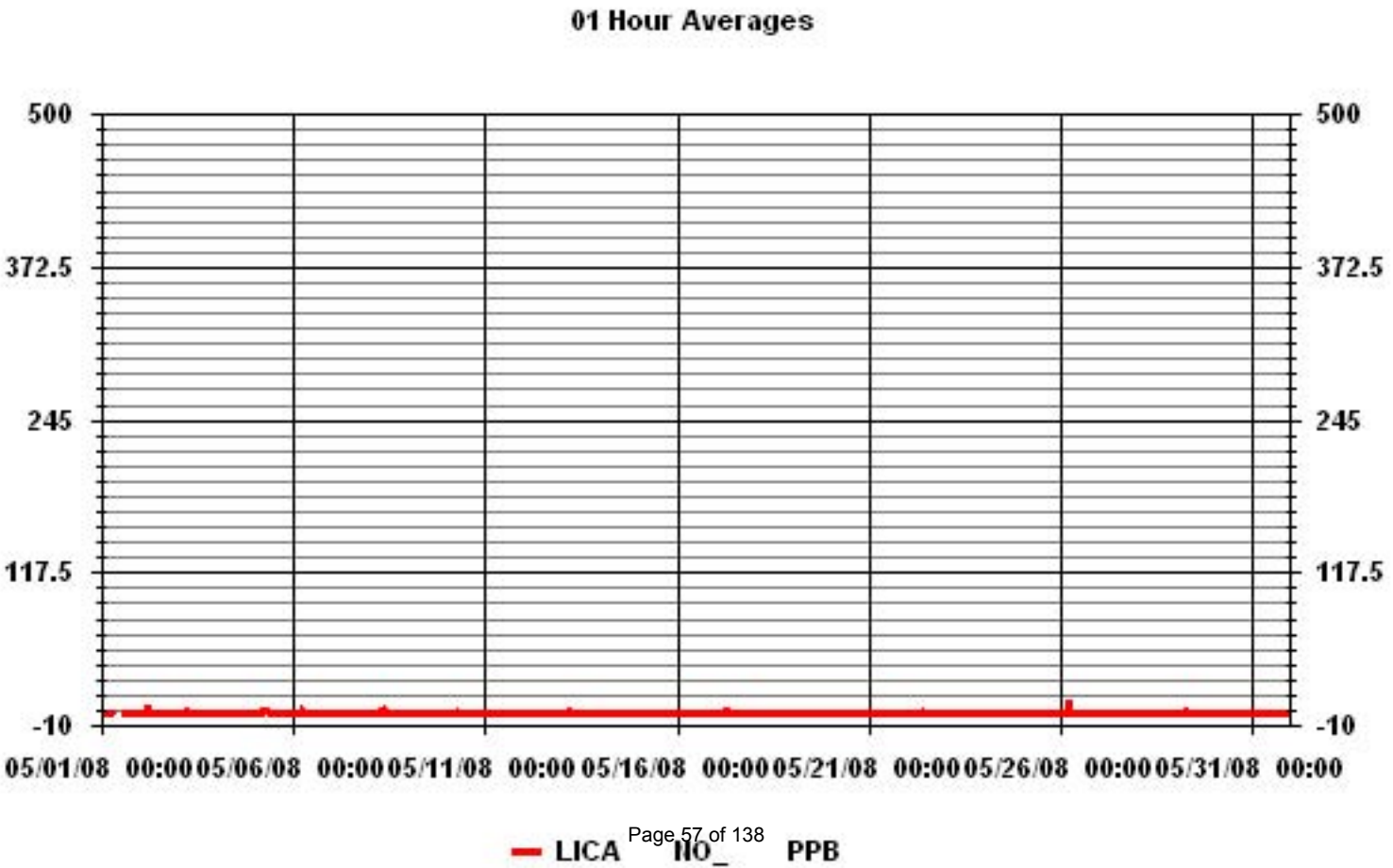
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	47					
MAXIMUM 1-HR AVERAGE:	10	PPB	@ HOUR(S)	6	ON DAY(S)	26
MAXIMUM 24-HR AVERAGE:	0.7	PPB			ON DAY(S)	26

IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	743	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	0.63		MONTHLY AVERAGE:	0.12	PPB


01 Hour Averages
500
372.5
245
117.5
-10
05/01/08 00:00
05/06/08 00:00
05/11/08 00:00
05/16/08 00:00
05/21/08 00:00
05/26/08 00:00
05/31/08 00:00
LICA NO_ PPB

LICA
NO_ / WD Joint Frequency Distribution (Percent)

May 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	2.41	10.95	15.22	4.55	13.22	9.95	7.68	2.13	2.41	2.70	5.54	4.69	6.25	6.54	4.26	1.42	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	2.41	10.95	15.22	4.55	13.22	9.95	7.68	2.13	2.41	2.70	5.54	4.69	6.25	6.54	4.26	1.42	

Calm : .00 %

Total # Operational Hours : 703

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	17	77	107	32	93	70	54	15	17	19	39	33	44	46	30	10	703
< 110																	
< 210																	
>= 210																	
Totals	17	77	107	32	93	70	54	15	17	19	39	33	44	46	30	10	

Calm : .00 %

Total # Operational Hours : 703

Logger : 01 Parameter : NO_

Class Limits (PPB)

>= 210

< 210

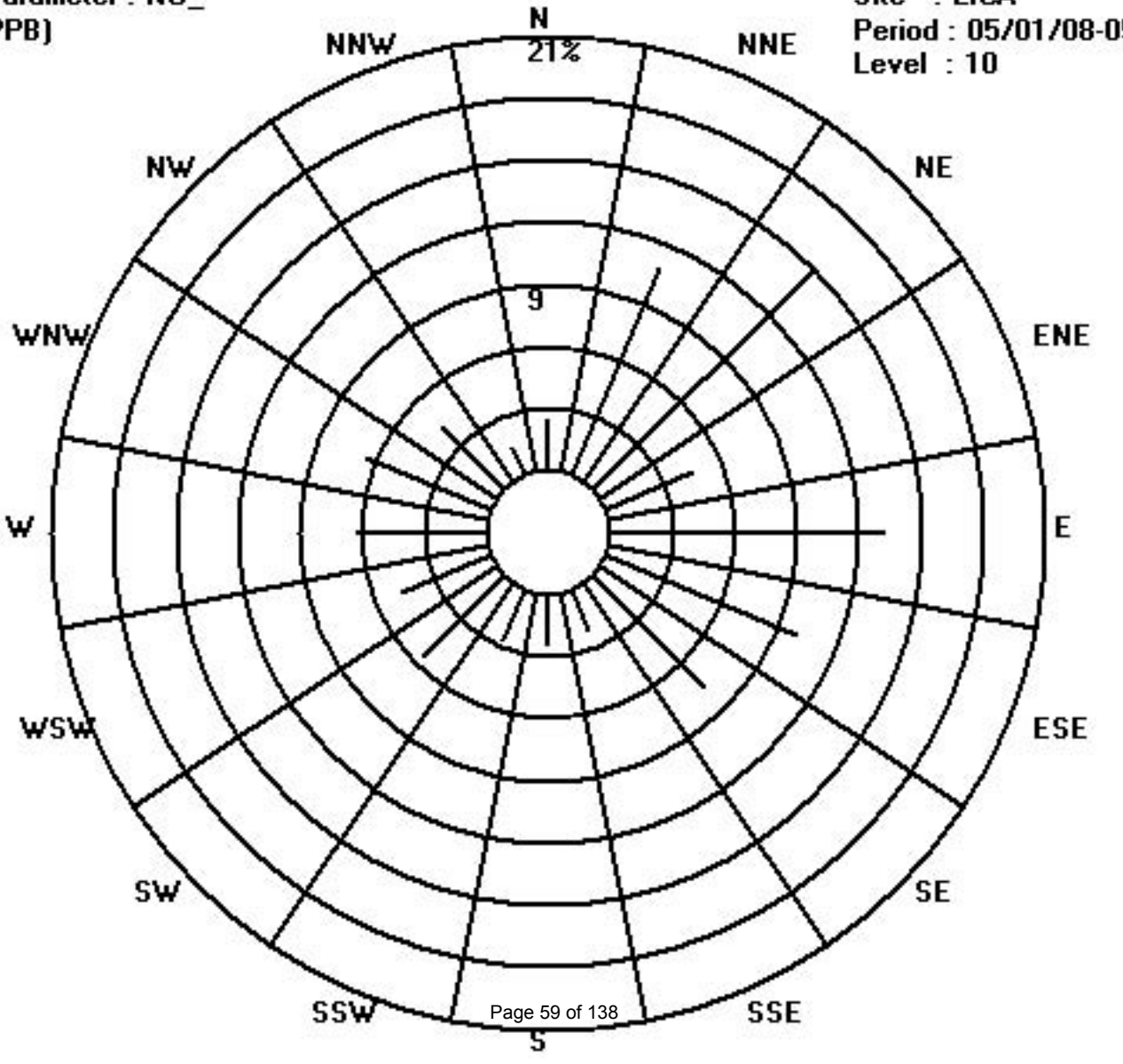
< 110

< 50

Site : LICA

Period : 05/01/08-05/31/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MAY 2008

NITRIC OXIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	**IZS**	0	0	2	0	0	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	2	2	4	2	0	0	0	1	4	0.9	24
2	**IZS**	0	1	6	4	22	10	4	4	**N**	**N**	4	0	0	0	0	0	4	0	0	0	6	3	**IZS**	22	3.4	22
3	0	0	0	0	0	3	4	2	2	0	2	1	1	0	0	1	1	1	0	0	0	0	**IZS**	0	4	0.8	24
4	0	0	0	0	0	0	0	4	0	0	1	2	0	0	1	5	0	0	0	0	0	**IZS**	0	0	5	0.6	24
5	0	0	6	0	7	6	12	4	4	3	0	0	1	1	0	0	2	25	0	0	**IZS**	1	0	1	25	3.2	24
6	0	0	1	0	7	10	4	11	0	0	0	0	0	0	0	1	0	0	5	**IZS**	0	0	0	0	11	1.7	24
7	0	0	0	1	1	0	1	2	1	0	0	0	4	4	0	4	0	2	**IZS**	0	1	3	0	0	4	1.0	24
8	0	0	0	0	5	4	2	22	7	8	1	1	0	3	2	2	3	**IZS**	0	0	5	0	0	0	22	2.8	24
9	0	3	2	0	2	1	2	1	1	2	0	0	18	0	2	2	**IZS**	3	1	8	0	0	2	0	18	2.2	24
10	1	0	0	1	0	1	8	7	3	1	0	3	4	3	0	**IZS**	0	0	0	0	0	0	0	0	8	1.4	24
11	0	0	0	2	0	1	0	1	0	1	0	4	5	4	**IZS**	0	0	1	0	0	1	0	0	0	5	0.9	24
12	0	0	0	0	0	0	1	1	0	0	0	1	5	**IZS**	0	0	0	0	0	0	0	2	0	0	5	0.4	24
13	0	0	0	0	18	2	2	2	2	0	0	0	**IZS**	1	1	0	0	0	0	0	0	0	0	0	18	1.2	24
14	0	0	0	0	0	0	1	18	0	0	2	**IZS**	0	0	0	2	0	0	3	2	6	0	1	0	18	1.5	24
15	0	0	0	0	0	0	0	1	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
16	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24
17	0	0	0	0	0	0	1	2	**IZS**	0	2	0	0	2	2	1	0	0	4	4	0	0	2	0	4	0.9	24
18	0	0	0	0	0	0	0	**IZS**	1	2	2	1	1	0	0	0	0	4	1	0	0	0	0	0	4	0.5	24
19	0	0	0	0	0	0	**IZS**	0	1	0	0	0	0	1	0	1	1	0	4	1	1	0	0	0	4	0.4	24
20	0	0	0	0	1	**IZS**	6	2	0	1	0	0	5	2	2	2	4	1	0	1	0	0	0	0	6	1.2	24
21	0	0	0	0	**IZS**	0	0	5	3	3	1	3	14	27	9	2	1	0	0	1	6	1	0	0	27	3.3	24
22	0	0	0	**IZS**	0	6	5	11	9	1	37	2	0	23	8	4	4	1	2	6	0	0	0	0	37	5.2	24
23	0	0	**IZS**	0	0	4	5	2	1	1	3	1	3	0	2	0	0	0	4	4	0	0	0	9	9	1.7	24
24	0	**IZS**	0	0	1	2	5	2	7	2	3	4	0	2	2	3	0	0	2	0	0	0	0	0	7	1.5	24
25	**IZS**	0	0	0	0	0	1	0	0	0	0	2	1	0	1	0	0	3	0	4	0	6	0	**IZS**	6	0.8	24
26	0	0	0	2	3	29	11	6	0	0	0	1	0	0	0	0	0	0	0	0	1	0	**IZS**	0	29	2.3	24
27	0	0	0	0	2	1	1	2	0	0	0	0	1	0	0	0	0	0	0	0	0	**IZS**	4	0	4	0.5	24
28	0	0	0	0	0	1	0	6	3	0	0	1	16	0	10	14	2	0	7	0	**IZS**	3	3	0	16	2.9	24
29	0	0	0	0	4	7	8	**47**	5	0	7	1	0	1	0	0	0	0	0	**IZS**	0	0	0	0	**47**	3.5	24
30	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	**IZS**	0	0	1	0	9	9	0.7	24
31	4	8	3	1	1	0	0	1	0	1	0	0	0	0	1	1	0	**IZS**	0	1	0	1	1	0	8	1.0	24
HOURLY MAX	4	8	6	6	18	29	12	47	9	8	37	4	18	27	10	14	4	25	7	8	6	6	4	9			
HOURLY AVG	0.2	0.4	0.4	0.4	1.9	3.3	3.0	5.7	2.1	0.9	2.2	1.1	2.7	2.6	1.5	1.6	0.7	1.6	1.3	1.2	0.7	0.8	0.6	0.7			

STATUS FLAG CODES

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

MONTHLY SUMMARY

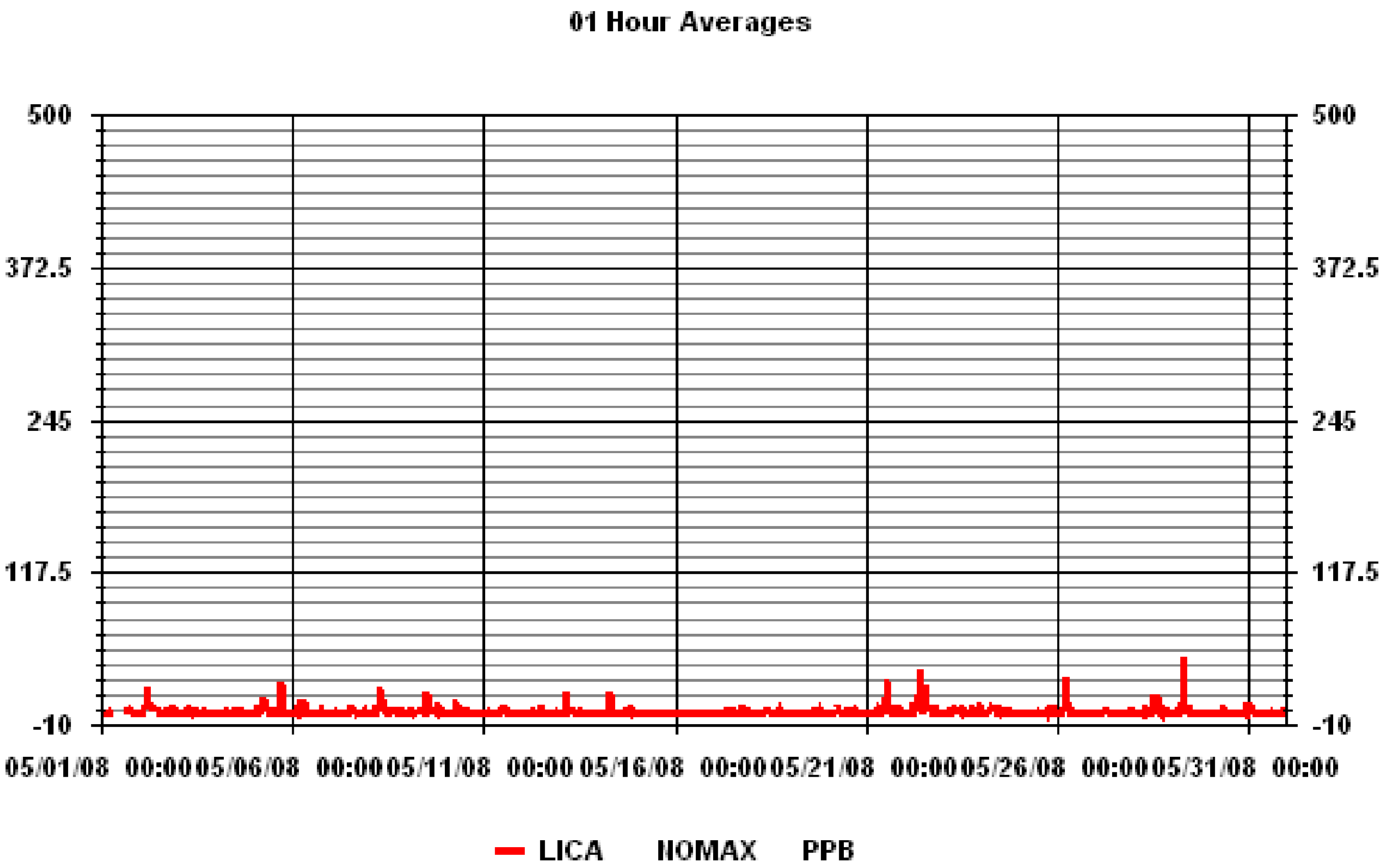
NUMBER OF NON-ZERO READINGS: 270

MAXIMUM INSTANTANEOUS VALUE: 47 PPB @ HOUR(S) 8 ON DAY(S) 29

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 742 HRS

MONTHLY CALIBRATION TIME: 9 HRS

STANDARD DEVIATION 3.95


01 Hour Averages
500
372.5
245
117.5
-10
05/01/08 00:00
05/06/08 00:00
05/11/08 00:00
05/16/08 00:00
05/21/08 00:00
05/26/08 00:00
05/31/08 00:00
LICA NOMAX PPB

Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MAY 2008

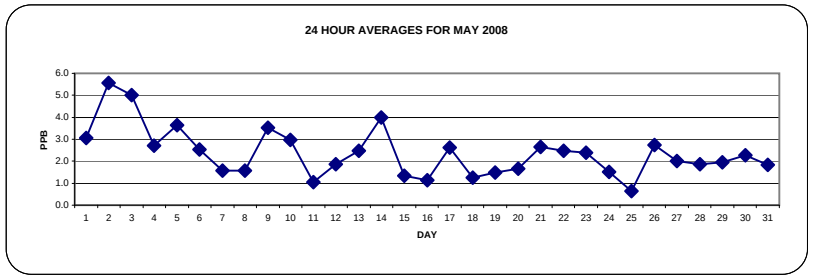
OXIDES OF NITROGEN hourly averages in ppb

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	**IZS**	0	0	2	1	1	4	**C**	**C**	**C**	**C**	**C**	**C**	**C**	1	1	1	2	5	8	5	11	6	11	3.1	24
2	**IZS**	2	7	5	6	**27**	13	3	5	**M**	1	1	0	0	0	0	1	1	1	5	10	15	14	**IZS**	**27**	**5.6**	23
3	14	11	10	8	7	14	9	8	5	2	1	1	1	1	1	1	1	2	2	3	4	4	**IZS**	5	14	5.0	24
4	4	4	3	4	6	4	3	1	2	3	3	3	2	2	2	1	1	2	1	1	2	**IZS**	4	4	6	2.7	24
5	4	3	3	4	6	9	10	9	10	6	1	1	2	1	1	1	1	1	1	1	**IZS**	2	3	4	10	3.7	24
6	3	3	2	3	7	12	10	3	1	1	1	1	0	0	0	0	0	1	1	**IZS**	2	3	2	2	12	2.5	24
7	2	2	1	3	3	5	3	3	2	0	0	0	1	1	0	1	1	1	**IZS**	1	2	2	1	1	5	1.6	24
8	1	2	1	1	2	4	1	1	6	2	0	0	0	0	0	1	1	**IZS**	1	2	3	4	1	2	6	1.6	24
9	2	3	5	5	9	8	4	2	1	1	0	0	0	0	0	1	**IZS**	1	0	3	6	9	11	10	11	3.5	24
10	6	6	5	6	7	3	8	4	3	2	0	0	1	1	1	**IZS**	1	1	1	2	3	4	2	1	8	3.0	24
11	1	1	1	2	1	1	1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	2	1.0	24
12	1	1	1	2	3	3	7	2	0	1	1	1	1	**IZS**	1	1	1	1	1	1	5	4	2	2	7	1.9	24
13	2	1	2	2	6	5	6	4	4	2	1	1	**IZS**	1	2	1	1	1	1	1	2	3	5	3	6	2.5	24
14	3	3	8	4	4	6	7	5	2	0	0	**IZS**	0	0	0	1	0	2	2	3	9	13	12	8	13	4.0	24
15	5	3	4	3	3	3	4	3	1	0	**IZS**	1	0	0	0	0	0	0	0	0	0	0	1	0	5	1.3	24
16	0	0	0	0	1	1	1	1	1	**IZS**	0	0	0	0	0	0	0	0	0	0	2	5	7	7	7	1.1	24
17	7	5	4	4	6	7	6	4	**IZS**	1	0	0	0	1	1	0	0	1	2	3	4	2	1	1	7	2.6	24
18	1	1	1	1	0	1	2	**IZS**	2	1	2	2	2	1	0	0	0	2	1	1	1	3	2	2	3	1.3	24
19	4	2	3	2	3	3	**IZS**	0	1	0	1	1	1	1	0	1	1	1	1	2	2	2	1	1	4	1.5	24
20	1	1	1	1	2	**IZS**	5	3	2	1	1	2	2	2	2	1	3	2	1	1	1	1	1	1	5	1.7	24
21	1	1	1	1	**IZS**	2	2	4	3	3	3	3	4	5	3	2	1	1	4	4	3	4	3	3	5	2.7	24
22	2	1	1	**IZS**	3	3	2	3	3	2	4	2	2	2	2	1	1	1	1	2	6	7	4	2	7	2.5	24
23	2	1	**IZS**	2	3	3	3	2	2	2	1	1	1	1	1	1	1	1	1	3	7	7	4	5	7	2.4	24
24	5	**IZS**	2	2	3	2	3	2	3	2	1	1	1	1	2	1	1	1	1	1	0	0	0	0	5	1.5	24
25	**IZS**	0	0	0	0	0	1	1	0	1	1	1	1	0	0	0	0	1	1	1	2	1	2	**IZS**	2	0.6	24
26	1	2	3	5	8	17	9	2	1	0	0	0	0	0	0	1	1	0	1	1	3	4	**IZS**	4	17	2.7	24
27	3	3	3	2	3	3	2	3	2	1	0	0	1	1	1	1	1	1	1	1	4	**IZS**	6	3	6	2.0	24
28	1	1	2	2	3	4	3	3	3	1	1	1	1	1	1	1	1	1	1	1	**IZS**	5	3	2	5	1.9	24
29	1	1	1	1	2	4	7	5	3	1	2	2	1	1	1	1	1	1	1	**IZS**	3	2	2	1	7	2.0	24
30	2	4	4	4	4	3	3	1	3	1	1	2	1	1	1	1	0	0	**IZS**	1	4	5	2	4	5	2.3	24
31	4	5	3	2	2	4	3	3	2	2	1	0	0	0	0	0	0	**IZS**	0	0	0	2	4	5	5	1.8	24
HOURLY MAX	14	11	10	8	9	27	13	9	10	6	4	3	4	5	3	2	3	2	4	5	10	15	14	10			
HOURLY AVG	2.9	2.5	2.7	2.7	3.8	5.4	4.6	3.0	2.6	1.4	1.0	1.0	0.9	0.9	0.8	0.8	0.8	1.0	1.1	1.8	3.4	4.1	3.9	3.1			

STATUS FLAG CODES

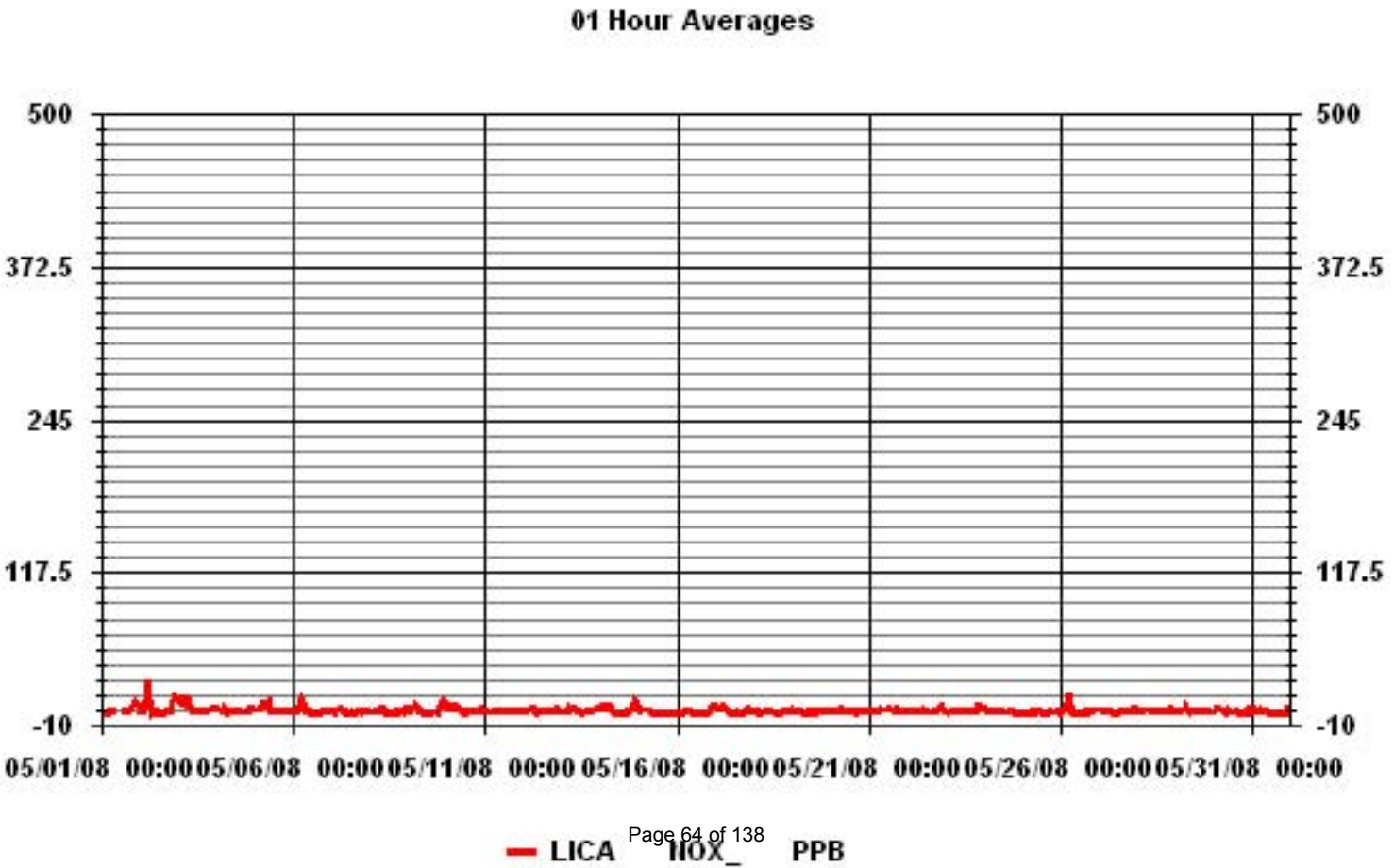
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	596					
MAXIMUM 1-HR AVERAGE:	27	PPB	@ HOUR(S)	6	ON DAY(S)	2
MAXIMUM 24-HR AVERAGE:	5.6	PPB			ON DAY(S)	2

IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	743	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	2.64		MONTHLY AVERAGE:	2.35	PPB


01 Hour Averages
500
372.5
245
117.5
-10
05/01/08 00:00
05/06/08 00:00
05/11/08 00:00
05/16/08 00:00
05/21/08 00:00
05/26/08 00:00
05/31/08 00:00
LICA NOX_ PPB

LICA
NOX_ / WD Joint Frequency Distribution (Percent)

May 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	2.41	10.95	15.22	4.55	13.22	9.95	7.68	2.13	2.41	2.70	5.54	4.69	6.25	6.54	4.26	1.42	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	2.41	10.95	15.22	4.55	13.22	9.95	7.68	2.13	2.41	2.70	5.54	4.69	6.25	6.54	4.26	1.42	

Calm : .00 %

Total # Operational Hours : 703

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	50	17	77	107	32	93	70	54	15	17	19	39	33	44	46	30	10	703
<	110																	
<	210																	
>=	210																	
	Totals	17	77	107	32	93	70	54	15	17	19	39	33	44	46	30	10	

Calm : .00 %

Total # Operational Hours : 703

Logger : 01 Parameter : NOX_

Class Limits (PPB)

>= 210

< 210

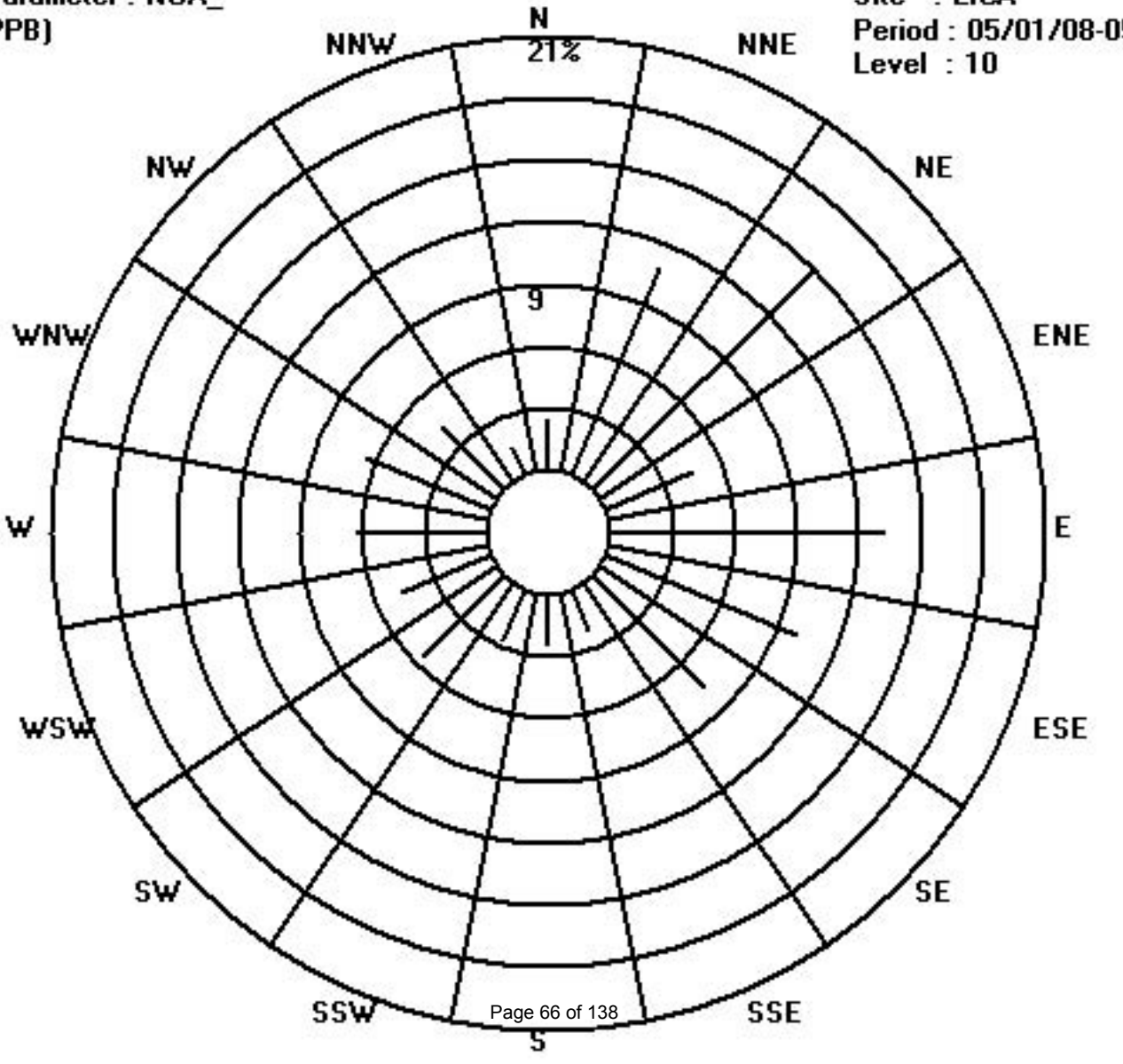
< 110

< 50

Site : LICA

Period : 05/01/08-05/31/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MAY 2008

OXIDES OF NITROGEN MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2	**IZS**	2	3	10	4	3	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	3	5	5	10	13	10	17	16	17	7.4	24
2	**IZS**	3	12	31	26	**59**	33	8	11	**N**	**N**	4	12	2	1	1	2	7	1	16	18	33	27	**IZS**	**59**	15.4	22
3	17	17	14	10	10	18	16	10	9	3	7	2	4	5	3	2	5	9	3	7	7	6	**IZS**	9	18	8.4	24
4	7	7	5	13	15	6	5	4	3	5	6	8	4	3	3	4	2	4	4	3	5	**IZS**	5	8	15	5.6	24
5	8	8	14	6	16	13	23	12	14	14	2	2	5	6	3	2	4	6	2	2	**IZS**	8	7	10	23	8.1	24
6	6	7	5	5	18	21	16	18	2	1	1	2	1	2	2	5	3	2	3	**IZS**	4	4	4	5	21	6.0	24
7	4	4	2	12	13	8	5	8	4	2	2	2	10	5	2	5	3	8	**IZS**	3	7	9	3	4	13	5.4	24
8	2	5	2	2	12	9	5	8	14	10	4	1	3	9	4	8	14	**IZS**	4	3	17	10	2	4	17	6.6	24
9	5	16	10	10	19	11	8	5	4	8	1	1	3	1	4	4	**IZS**	8	7	19	10	13	17	12	19	8.5	24
10	9	12	9	9	11	9	21	17	5	4	1	3	5	5	2	**IZS**	3	2	2	4	5	5	3	2	21	6.4	24
11	1	1	3	7	3	5	2	4	3	3	2	6	6	12	**IZS**	3	2	3	3	3	5	4	2	2	12	3.7	24
12	2	2	2	4	4	4	9	7	2	3	2	5	11	**IZS**	4	3	1	1	1	2	11	15	4	3	15	4.4	24
13	2	2	3	3	28	8	8	7	9	9	3	6	**IZS**	4	15	5	3	2	3	2	5	8	8	5	28	6.4	24
14	5	5	11	7	7	8	11	48	4	1	5	**IZS**	1	2	1	9	2	6	11	15	31	19	16	12	48	10.3	24
15	7	4	5	4	3	3	6	5	2	2	**IZS**	8	2	1	2	2	1	0	1	1	1	1	1	1	8	2.7	24
16	1	1	1	1	1	2	2	2	3	**IZS**	1	1	1	0	1	2	1	0	1	1	4	8	9	9	9	2.3	24
17	10	8	6	5	9	9	9	11	**IZS**	1	6	2	3	4	4	3	1	4	11	6	7	4	7	2	11	5.7	24
18	1	1	1	1	2	1	3	**IZS**	6	3	5	4	4	4	2	3	1	10	9	2	1	5	5	4	10	3.4	24
19	5	5	5	3	5	7	**IZS**	1	5	1	1	2	1	2	1	8	2	2	7	3	3	3	2	2	8	3.3	24
20	2	1	3	2	5	**IZS**	13	8	6	5	6	3	9	7	7	4	15	4	3	3	2	2	2	2	15	5.0	24
21	2	1	1	2	**IZS**	3	3	25	13	7	6	10	29	35	14	6	5	2	7	6	8	7	4	4	35	8.7	24
22	4	2	2	**IZS**	6	14	8	6	11	4	22	7	8	11	14	6	4	11	5	13	10	11	8	3	22	8.3	24
23	5	2	**IZS**	3	7	8	9	3	4	3	4	6	3	3	2	3	4	6	7	9	10	14	7	25	25	6.4	24
24	8	**IZS**	4	3	6	5	17	12	16	5	6	5	2	8	6	7	3	2	10	3	1	1	1	1	17	5.7	24
25	**IZS**	1	1	1	1	2	4	2	1	2	2	12	3	1	2	0	1	14	2	6	4	7	4	**IZS**	14	3.3	24
26	5	4	5	10	12	46	25	18	3	2	2	3	9	1	1	2	1	1	1	2	14	6	**IZS**	8	46	7.9	24
27	6	5	7	5	8	5	6	8	2	2	1	2	2	1	2	1	1	1	2	3	14	**IZS**	20	5	20	4.7	24
28	2	2	4	3	10	7	4	13	5	2	1	3	11	1	2	2	4	1	13	3	**IZS**	30	14	5	30	6.2	24
29	2	2	2	2	12	19	22	35	6	3	14	14	7	5	3	3	2	3	3	**IZS**	10	3	4	2	35	7.7	24
30	3	6	5	6	6	4	4	3	13	2	3	3	2	2	1	1	1	1	**IZS**	5	7	8	4	16	16	4.6	24
31	7	14	8	4	4	5	5	6	3	5	2	1	1	1	3	3	1	**IZS**	2	1	2	7	9	8	14	4.4	24
HOURLY MAX	17	17	14	31	28	59	33	48	16	14	22	14	29	35	15	9	15	14	13	19	31	33	27	25			
HOURLY AVG	4.8	5.1	5.1	5.9	9.6	10.8	10.2	10.8	6.3	4.0	4.2	4.4	5.6	4.9	3.8	3.7	3.2	4.3	4.6	5.4	8.1	9.0	7.4	6.5			

STATUS FLAG CODES

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

MONTHLY SUMMARY

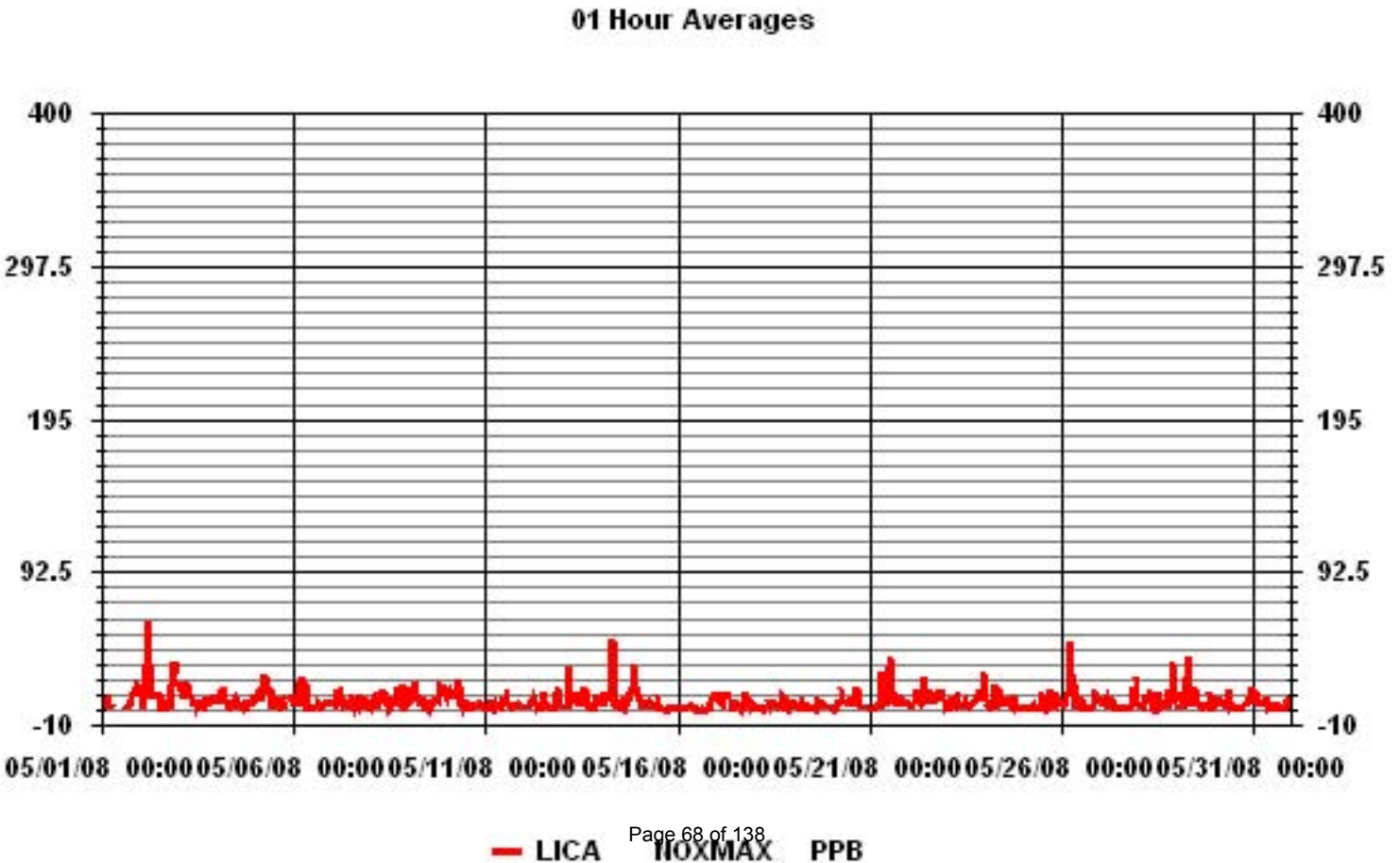
NUMBER OF NON-ZERO READINGS: 696

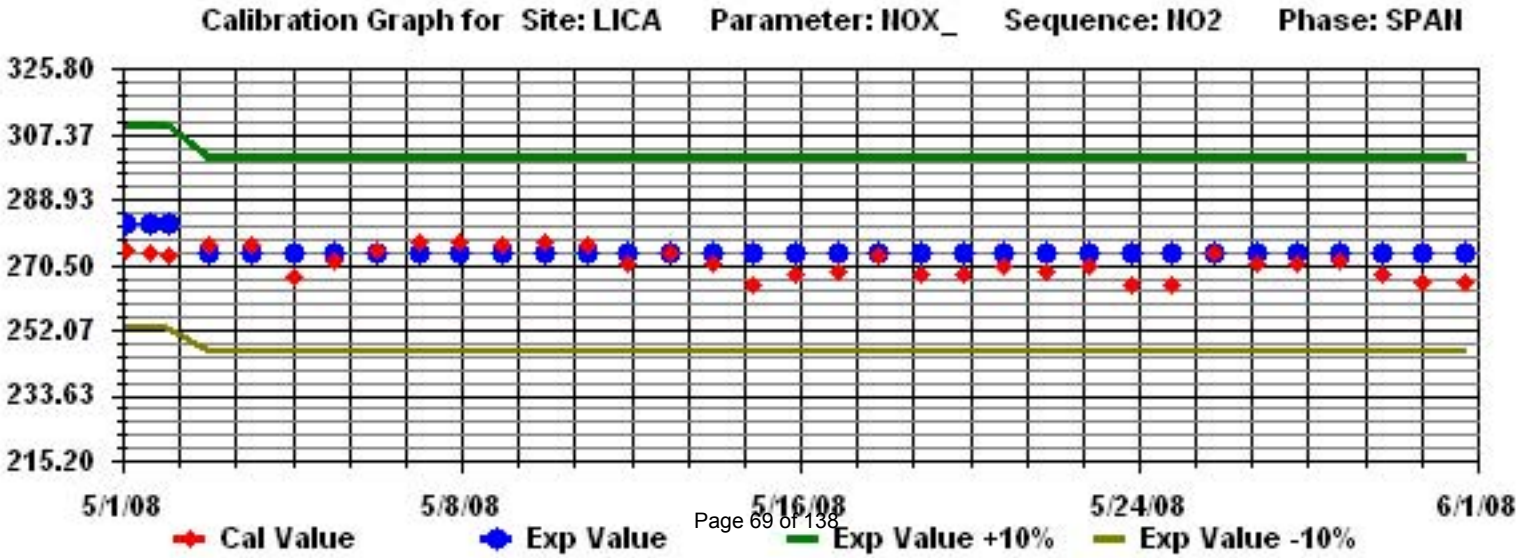
MAXIMUM INSTANTANEOUS VALUE: 59 PPB @ HOUR(S) 6 ON DAY(S) 2

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 742 HRS

MONTHLY CALIBRATION TIME: 9 HRS

STANDARD DEVIATION 6.28


01 Hour Averages
400
297.5
195
92.5
-10
05/01/08 00:00
05/06/08 00:00
05/11/08 00:00
05/16/08 00:00
05/21/08 00:00
05/26/08 00:00
05/31/08 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
5/1/08
5/8/08
5/16/08
5/24/08
6/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ozone

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MAY 2008

OZONE (O_3) hourly averages in ppb

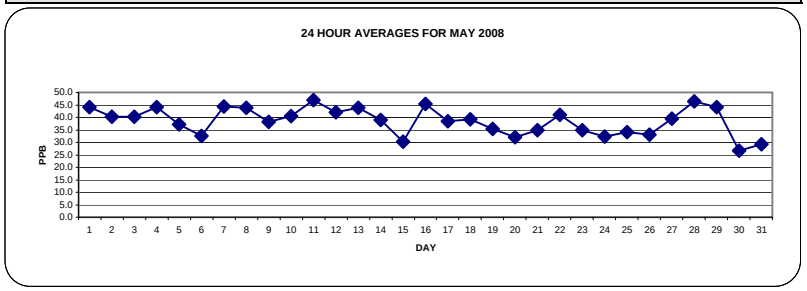
MST

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	48	**IZS**	48	47	46	46	46	44	44	45	45	47	48	48	49	52	52	52	51	45	36	36	21	21	52	44.2	24
2	**IZS**	24	21	22	19	14	30	40	40	**M**	47	52	57	59	60	61	60	59	59	51	34	23	14	**IZS**	61	40.3	23
3	9	10	9	8	12	11	24	33	40	49	55	59	59	59	60	61	62	61	60	58	55	43	**IZS**	29	62	40.3	24
4	26	25	25	25	31	34	42	45	47	46	49	51	57	58	59	58	56	55	54	54	46	**IZS**	37	33	59	44.0	24
5	23	12	10	13	10	4	18	27	33	42	50	52	51	57	58	57	58	60	59	57	**IZS**	47	34	23	60	37.2	24
6	15	15	11	7	4	4	18	36	37	40	45	45	46	45	48	45	44	45	44	**IZS**	40	39	42	34	48	32.6	24
7	28	35	35	37	38	37	41	42	44	47	47	46	46	46	49	52	53	50	**IZS**	51	50	50	50	46	53	44.3	24
8	40	35	34	34	32	30	30	30	31	36	43	46	52	56	59	60	61	**IZS**	59	56	52	47	44	43	61	43.9	24
9	43	39	35	27	26	30	34	36	36	41	46	46	47	51	51	53	**IZS**	54	51	45	32	23	18	12	54	38.1	24
10	16	13	14	13	10	15	22	33	37	43	55	56	58	58	58	**IZS**	62	63	61	55	53	52	46	41	63	40.6	24
11	41	41	41	41	41	40	39	40	43	45	48	51	53	54	**IZS**	53	52	52	53	53	52	50	50	47	54	**47.0**	24
12	40	37	38	38	29	31	29	36	43	43	47	47	49	**IZS**	52	52	54	54	54	52	38	34	38	35	54	42.2	24
13	34	28	36	29	13	11	22	42	47	52	59	61	**IZS**	59	58	60	59	58	56	53	49	42	40	43	61	44.0	24
14	43	39	27	18	24	31	34	39	42	48	50	**IZS**	52	53	56	55	54	52	52	48	32	18	15	16	56	39.0	24
15	15	23	33	36	38	35	32	32	31	30	**IZS**	30	30	29	28	28	30	32	33	32	31	31	30	29	38	30.3	24
16	29	30	30	30	29	29	32	39	45	**IZS**	54	55	56	58	60	62	**63**	**63**	62	59	53	42	28	33	**63**	45.3	24
17	24	21	20	19	13	13	16	37	**IZS**	49	52	53	51	51	51	53	52	51	49	46	41	41	41	39	53	38.4	24
18	38	38	37	37	37	37	35	**IZS**	34	35	35	36	39	42	41	41	38	42	52	47	45	37	38	40	52	39.2	24
19	36	41	39	38	34	29	**IZS**	31	32	33	33	36	39	39	42	40	41	42	38	35	31	29	28	29	42	35.4	24
20	28	27	27	24	21	**IZS**	18	20	24	30	32	33	33	32	35	37	36	38	39	40	41	41	42	41	42	32.1	24
21	41	42	42	41	**IZS**	37	36	**C**	**C**	**C**	**C**	36	37	36	41	40	44	38	24	24	25	28	26	25	44	34.9	24
22	36	38	37	**IZS**	34	32	33	32	31	35	39	45	50	52	50	46	45	48	51	49	43	35	40	41	52	41.0	24
23	40	36	**IZS**	30	25	24	25	28	29	30	32	36	39	41	47	48	47	47	48	45	36	30	24	18	48	35.0	24
24	13	**IZS**	26	29	28	29	29	30	30	34	38	39	41	41	35	34	35	37	36	35	34	32	31	29	41	32.4	24
25	**IZS**	29	27	26	26	25	25	27	27	29	29	29	29	35	41	43	45	46	47	47	44	42	34	**IZS**	47	34.2	24
26	18	11	8	4	3	3	23	33	39	42	44	46	47	47	50	47	49	52	53	53	42	30	**IZS**	19	53	33.2	24
27	16	15	12	11	7	11	30	35	40	50	51	55	56	56	56	58	58	60	60	59	44	**IZS**	34	36	60	39.6	24
28	41	31	23	26	27	33	37	39	44	55	55	56	57	58	60	60	60	59	58	57	**IZS**	46	44	43	60	46.5	24
29	46	42	40	39	37	27	26	33	36	42	44	46	47	51	56	57	58	58	54	**IZS**	44	45	43	44	58	44.1	24
30	42	32	29	22	22	23	26	29	26	26	24	29	32	29	31	34	35	36	**IZS**	33	24	14	11	7	42	26.8	24
31	6	3	6	9	10	15	18	27	29	37	44	46	47	49	50	50	46	**IZS**	37	36	35	32	25	17	50	29.3	24
HOURLY MAX	48	42	48	47	46	46	46	45	47	55	59	61	59	59	60	62	63	63	62	59	55	52	50	47			
HOURLY AVG	30.2	28.0	27.3	26.0	24.2	24.7	29.0	34.3	36.6	40.5	44.6	45.5	46.8	48.3	49.7	49.9	50.3	50.5	50.1	47.4	40.8	36.5	33.4	31.5			

STATUS FLAG CODES

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

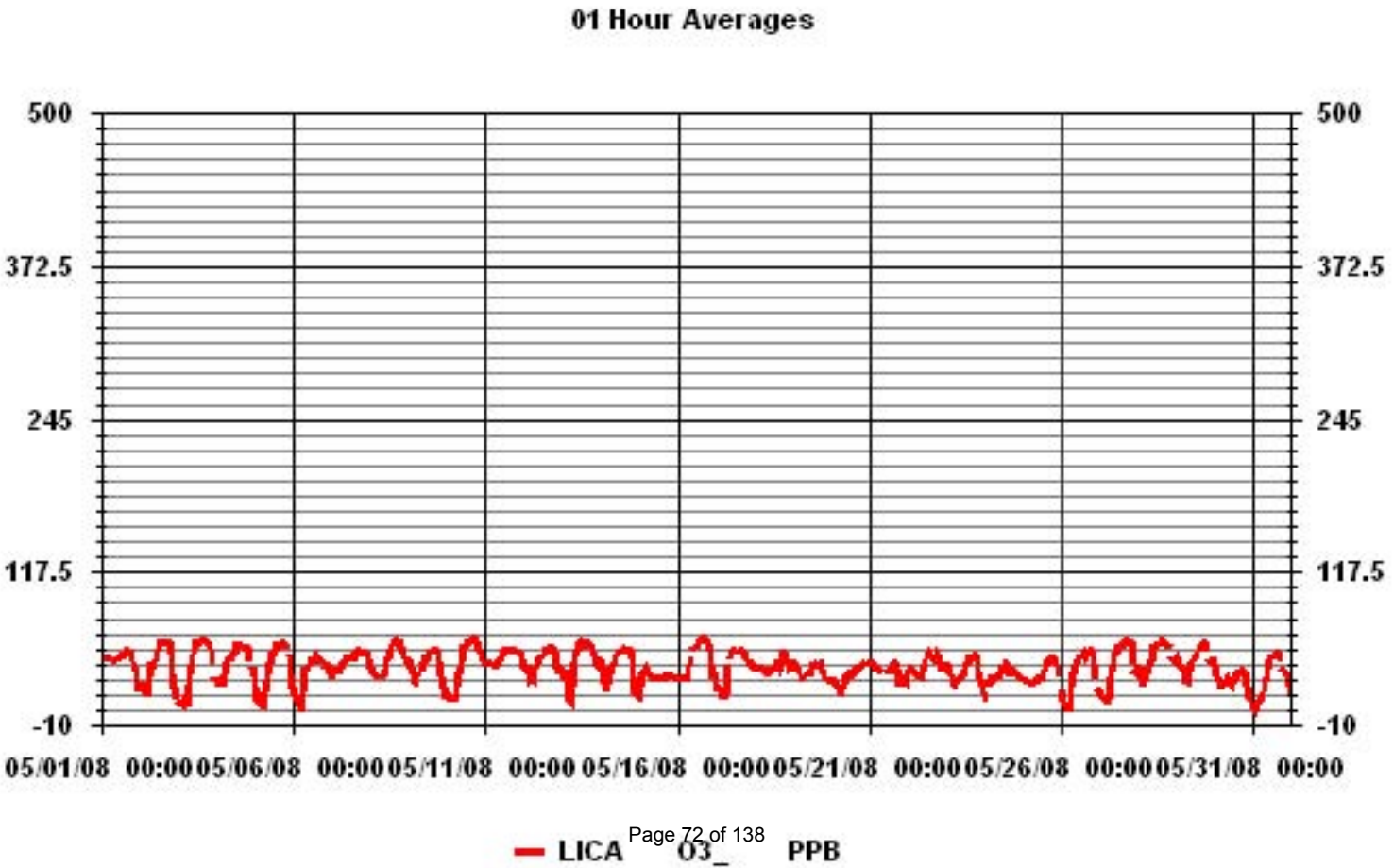
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 82 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	706					
MAXIMUM 1-HR AVERAGE:	63	PPB	@ HOUR(S)	17,18	ON DAY(S)	16
MAXIMUM 24-HR AVERAGE:	47.0	PPB			ON DAY(S)	11
					VAR-VARIOUS	

IZS CALIBRATION TIME:	33	HRS	OPERATIONAL TIME:	743	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME	99.9	%
STANDARD DEVIATION	13.36		MONTHLY AVERAGE	38.58	PPB


01 Hour Averages
500
372.5
245
117.5
-10
05/01/08 00:00
05/06/08 00:00
05/11/08 00:00
05/16/08 00:00
05/21/08 00:00
05/26/08 00:00
05/31/08 00:00
LICA O3_ PPB

LICA
O3_ / WD Joint Frequency Distribution (Percent)

May 2008

Distribution By % Of Samples

Logger Id : 01
Site Name : LICA
Parameter : O3_
Units : PPB

Wind Parameter : WD
Instrument Height : 10 Meters

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	1.55	8.64	10.05	3.25	12.60	8.78	5.52	.99	1.27	1.98	3.82	4.24	5.09	4.67	2.83	.99	76.34
< 110	.84	2.26	5.09	1.27	1.55	.56	2.12	1.13	1.13	.70	1.69	.42	1.13	1.84	1.41	.42	23.65
< 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	2.40	10.90	15.15	4.53	14.16	9.34	7.64	2.12	2.40	2.69	5.52	4.67	6.23	6.51	4.24	1.41	

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
< 50	11	61	71	23	89	62	39	7	9	14	27	30	36	33	20	7	539
< 110	6	16	36	9	11	4	15	8	8	5	12	3	8	13	10	3	167
< 210																	
>= 210																	
Totals	17	77	107	32	100	66	54	15	17	19	39	33	44	46	30	10	

Calm : .00 %

Total # Operational Hours : 706

Logger : 01 Parameter : 03_

Class Limits (PPB)

>= 210

< 210

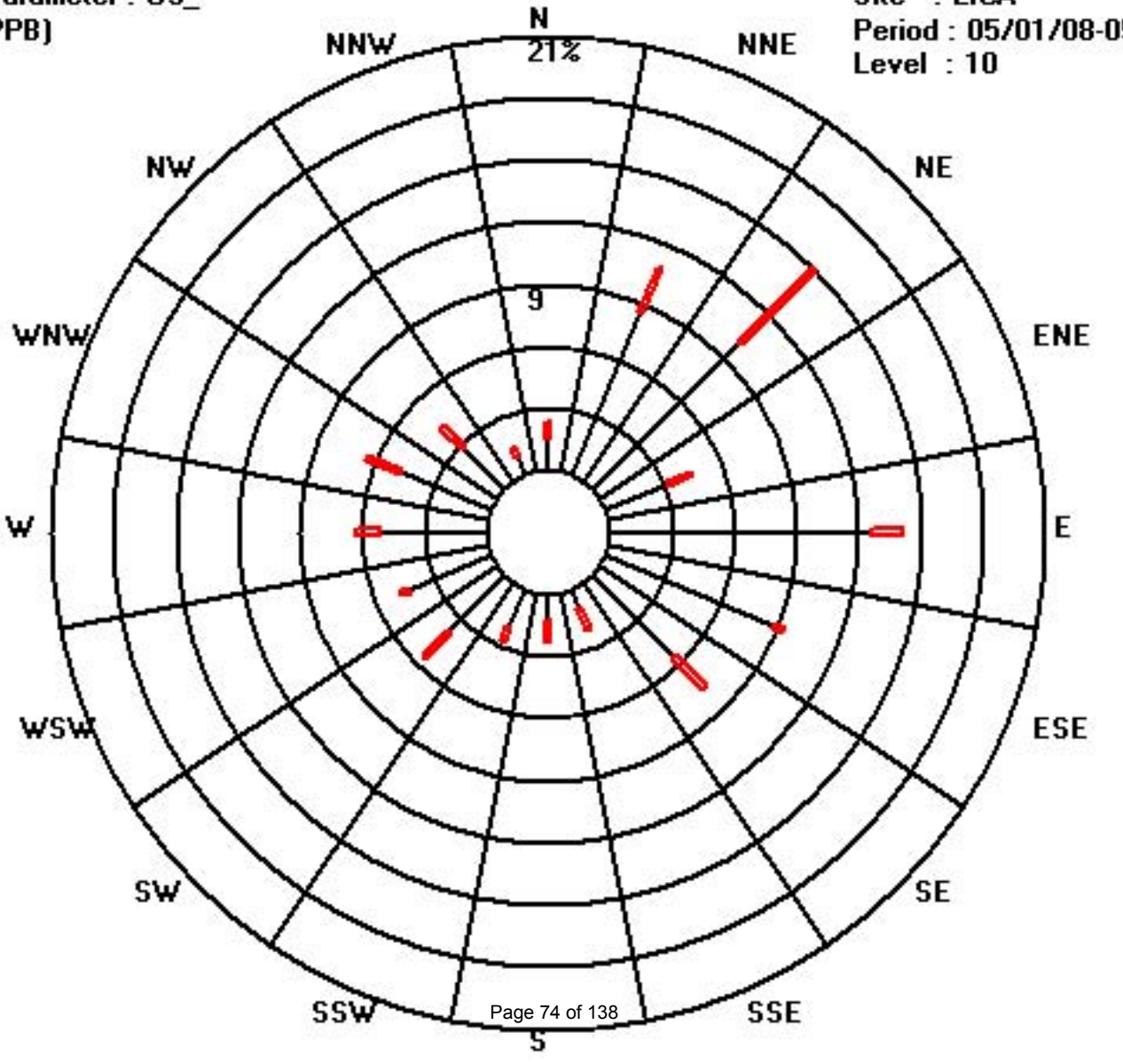
< 110

< 50

Site : LICA

Period : 05/01/08-05/31/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MAY 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	49	**IZS**	48	49	48	47	47	46	45	46	47	49	49	49	52	53	54	53	54	51	46	44	32	29	54	47.3	24
2	**IZS**	30	26	28	26	24	40	43	43	N	N	55	60	60	61	62	61	61	60	60	48	32	23	**IZS**	62	45.2	22
3	11	14	15	12	18	13	32	36	46	53	58	62	60	60	61	62	63	63	61	60	58	52	**IZS**	35	63	43.7	24
4	31	30	33	35	36	38	45	47	49	50	52	56	61	59	61	60	58	58	58	60	55	**IZS**	40	39	61	48.3	24
5	33	25	16	22	22	8	27	30	37	47	54	55	54	62	61	61	59	62	61	60	**IZS**	54	47	28	62	42.8	24
6	18	22	14	8	8	9	36	38	38	43	48	48	49	46	50	47	46	46	45	**IZS**	42	41	44	40	50	35.9	24
7	34	37	37	38	40	39	43	44	47	49	49	48	47	47	51	54	54	52	**IZS**	52	52	52	51	49	54	46.3	24
8	44	38	35	35	33	31	31	31	33	42	45	49	55	58	60	63	63	**IZS**	61	59	54	52	45	45	63	46.2	24
9	46	43	41	32	32	34	37	37	37	48	50	48	52	54	53	55	**IZS**	56	53	50	40	28	24	15	56	42.0	24
10	26	19	21	18	13	21	23	37	39	54	57	58	60	59	60	**IZS**	64	**65**	64	60	55	53	52	42	**65**	44.3	24
11	42	41	42	42	42	41	40	43	44	46	50	54	55	56	**IZS**	54	53	54	55	54	54	52	51	50	56	48.5	24
12	46	41	44	41	37	34	33	40	45	45	49	50	52	**IZS**	55	56	56	56	55	54	50	43	45	42	56	46.5	24
13	42	37	40	40	22	15	36	49	50	55	61	62	**IZS**	61	59	61	62	59	59	56	56	47	44	44	62	48.6	24
14	46	44	35	23	34	35	37	42	45	50	52	**IZS**	53	56	58	58	56	54	53	53	44	29	20	21	58	43.4	24
15	20	36	37	37	39	39	33	34	32	30	**IZS**	30	30	30	28	30	32	34	35	34	32	32	32	29	39	32.4	24
16	30	31	30	31	30	30	36	43	51	**IZS**	56	57	57	60	62	63	64	**65**	64	61	58	50	38	41	**65**	48.2	24
17	29	28	25	26	16	18	21	49	**IZS**	51	57	58	52	53	54	54	54	53	52	49	45	43	42	40	58	42.1	24
18	39	40	38	38	38	38	37	**IZS**	37	37	36	39	41	43	43	42	40	48	54	49	48	42	42	42	54	41.3	24
19	38	44	41	41	36	31	**IZS**	32	34	33	34	38	40	42	48	46	43	43	41	37	33	29	29	29	48	37.5	24
20	28	28	28	26	22	**IZS**	19	23	27	32	33	35	34	34	39	38	38	39	40	42	42	43	43	42	43	33.7	24
21	42	42	43	42	**IZS**	39	37	**C**	**C**	**C**	**C**	38	38	40	43	45	48	43	35	32	33	34	31	34	48	38.9	20
22	38	39	38	**IZS**	35	34	34	33	33	37	44	50	53	54	52	49	47	51	54	52	47	41	43	43	54	43.5	24
23	42	38	**IZS**	32	29	26	28	29	31	31	34	39	41	45	49	50	50	50	50	48	41	37	34	24	50	38.2	24
24	20	**IZS**	28	30	30	30	31	31	32	38	40	41	44	44	40	36	37	38	37	36	35	33	32	31	44	34.5	23
25	**IZS**	29	28	27	27	26	27	28	28	30	30	30	33	38	44	44	48	48	49	49	49	43	40	**IZS**	49	36.1	24
26	28	17	12	7	4	8	31	38	41	45	47	49	48	49	52	51	52	53	55	55	52	36	**IZS**	23	55	37.1	24
27	22	18	14	14	10	29	33	38	48	52	53	58	57	57	58	60	60	61	62	61	57	**IZS**	41	47	62	43.9	24
28	47	40	32	33	35	36	38	40	52	56	57	58	59	60	61	62	62	60	60	58	**IZS**	52	50	47	62	50.2	24
29	47	44	42	41	39	34	32	35	40	44	46	48	49	55	58	58	59	60	57	**IZS**	48	48	46	47	60	46.8	24
30	46	37	34	26	25	25	28	30	28	28	28	34	35	31	33	35	36	37	**IZS**	36	29	20	15	11	46	29.9	24
31	8	8	13	13	14	17	22	29	34	44	46	48	49	50	52	51	48	**IZS**	38	36	36	38	31	22	52	32.5	24
HOURLY MAX	49	44	48	49	48	47	47	49	52	56	61	62	61	62	62	63	64	65	64	61	58	54	52	50			
HOURLY AVG	34.2	32.4	31.0	29.6	28.0	28.3	33.1	37.1	39.5	43.4	46.9	48.1	48.9	50.4	51.9	52.0	52.2	52.5	52.5	50.5	46.2	41.4	38.2	35.6			

STATUS FLAG CODES

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

MONTHLY SUMMARY

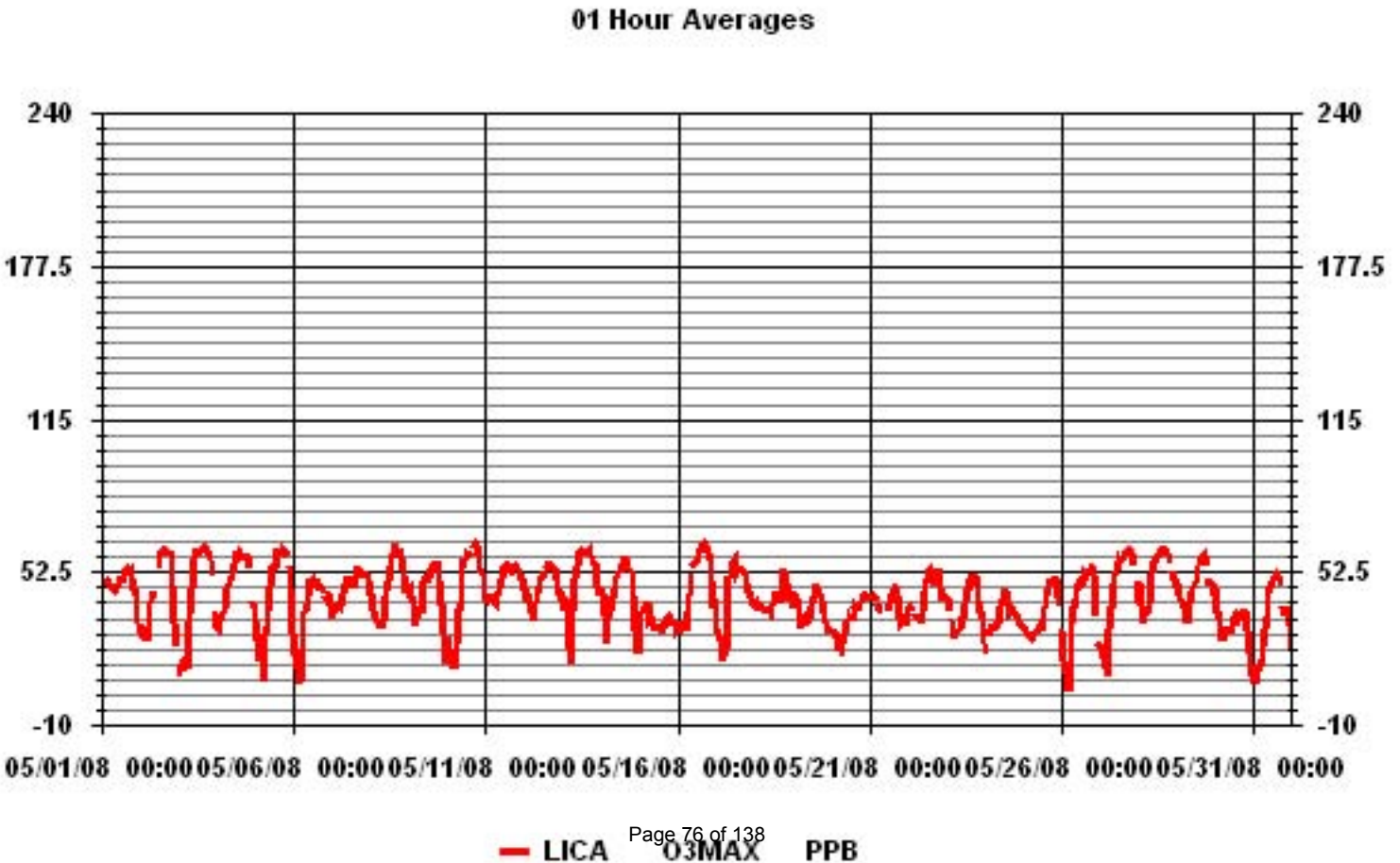
NUMBER OF NON-ZERO READINGS: 705

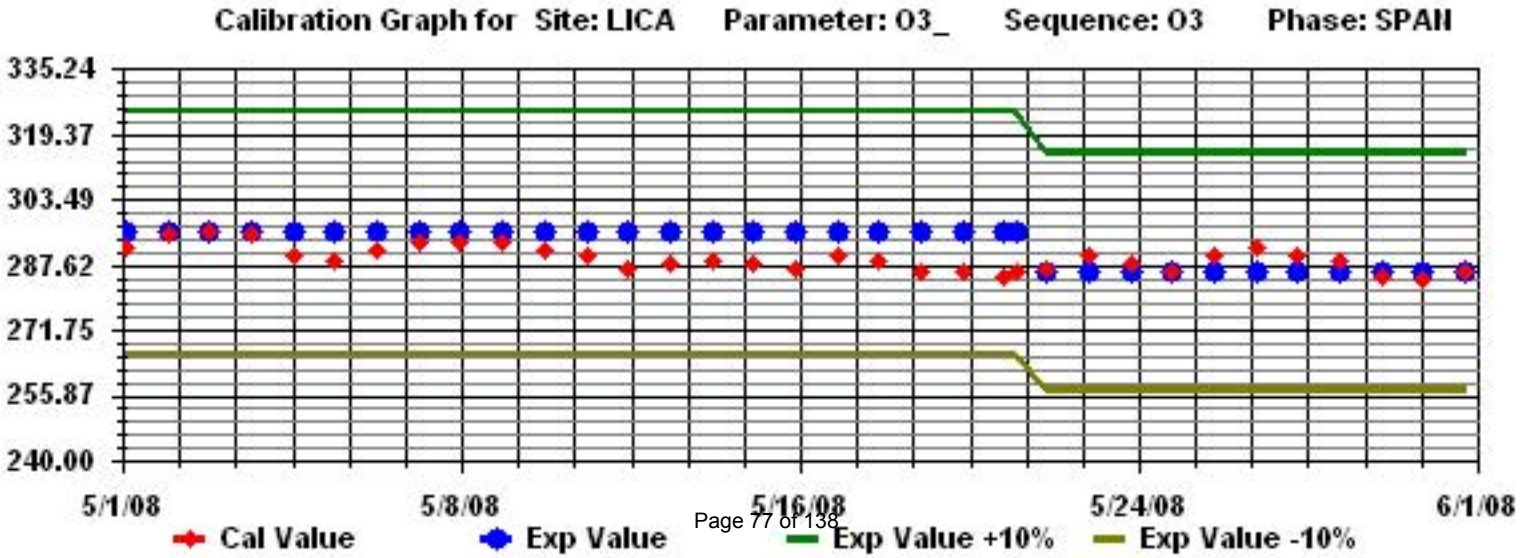
MAXIMUM INSTANTANEOUS VALUE: 65 PPB @ HOUR(S) 18 ON DAY(S) 10,16

IZS CALIBRATION TIME: 33 HRS OPERATIONAL TIME: 737 HRS

MONTHLY CALIBRATION TIME: 4 HRS

STANDARD DEVIATION 12.64


01 Hour Averages
240
177.5
115
52.5
-10
05/01/08 00:00
05/06/08 00:00
05/11/08 00:00
05/16/08 00:00
05/21/08 00:00
05/26/08 00:00
05/31/08 00:00
LICA O3MAX PPB


Calibration Graph for Site: LICA Parameter: O3_ Sequence: O3 Phase: SPAN
335.24
319.37
303.49
287.62
271.75
255.87
240.00
5/1/08
5/8/08
5/16/08
5/24/08
6/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ambient Temperature

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MAY 2008

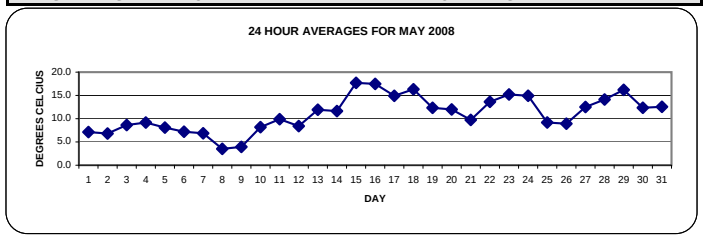
AMBIENT TEMPERATURE hourly averages (Degrees C)

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	6.5	5.7	5.2	4	3.2	2.9	3.4	4.1	4.7	6.3	8	9.4	10.4	11.5	12.5	13	13	13.1	12.3	9.8	6.7	3.7	1.5	0.2	13.1	7.1	24
2	-0.9	-1.7	-2.1	-2.1	-2.9	-1.6	2.7	5.2	6.8	8.8	10.8	11.7	13	13.6	14.3	14.5	14.9	14.9	15	12.5	7.5	4.4	2.6	1.5	15.0	6.8	24
3	0.1	-0.6	-1	-1.7	-1.7	-0.2	2.2	5.3	8.4	10.8	13	14.6	15.4	16.3	16.8	17	17.1	16.6	16.2	14.7	11.5	7.5	4.7	4.2	17.1	8.6	24
4	4.3	4.3	4.2	4.4	4.6	4.6	6.4	8.5	10.9	11.6	12.1	13.6	13.2	13.4	15	14.8	10.7	10.8	12.2	9.7	8.7	8.1	7.5	6.5	15.0	9.2	24
5	4.4	2.7	1.8	1.9	1.7	1	3.9	6.3	9.4	11.5	12.8	13.6	13	13.3	13.9	11.6	12.3	12.9	12.4	10.3	8.5	7.2	4.8	2.8	13.9	8.1	24
6	1.2	0.4	-0.1	-0.6	-1	0	3.4	5.7	6.6	8.3	10.3	11.6	12.5	12.9	13.4	13.5	13.3	13	12.3	10.4	8.5	7.2	6.1	3.8	13.5	7.2	24
7	1.7	2	2.4	2.1	1.8	2.1	3.9	5.1	7	9	9.4	10.6	11.2	11.5	11.5	11.5	11.4	10.9	9.8	8.1	7.2	6.2	4.8	3.5	11.5	6.9	24
8	2.4	0.6	-0.7	-0.8	-1.2	-0.7	-0.1	0.8	2.5	3.8	4.6	5.6	6.4	7.2	7.9	8.3	8.5	8.4	7.8	6.4	4.2	3.1	0.1	-0.6	8.5	3.5	24
9	-1.6	-2.1	-2.4	-3.1	**-3.2**	-1.8	0	1.8	3.7	5.2	6.2	7.1	7.9	8.6	9.5	10	10.2	10.4	10.3	9.2	5.5	2.4	0.8	0	10.4	3.9	24
10	-0.6	-1.2	-1.6	-2.3	-2.5	-1.2	2	5.9	8.4	11	12.6	13.5	13.9	14.3	14.1	14.6	14.2	14.9	14.4	13	11.2	10.3	9.3	8	14.9	8.2	24
11	7	6.1	5.3	4.7	4.5	5.3	6.5	8.1	10	11.8	13.2	14.7	15.2	15.7	13.6	12.6	12	11.2	11.6	11.2	10.5	9.7	8.7	8.2	15.7	9.9	24
12	7	5.9	5.8	5.6	5.3	5.4	5.8	7.8	8.6	9.4	9.8	10.5	10.1	6.3	9.5	11	13	13.6	12.8	12.3	8.7	6.2	6.4	5	13.6	8.4	24
13	3.9	2.6	4.7	3.9	2	2.5	5.8	10.5	12.8	15.4	17	18	17.4	17.9	18.3	17.8	17.8	17.4	16.9	15.9	14.3	11.6	10.9	10.9	18.3	11.9	24
14	10.5	9.2	7.3	4	3.7	5.4	7.7	10	12.1	14.4	15.1	14.8	15.5	16.2	17.2	17	17.1	16.7	17.1	16	11.6	8.6	6.7	5.3	17.2	11.6	24
15	4.5	6.6	8.9	9.5	10.5	11.2	12.5	14.6	16.3	18.1	19.8	20.7	21.8	23.5	24.8	**25.2**	25.1	24.7	24.1	22.9	21.5	20.3	19.4	18.4	**25.2**	**17.7**	24
16	17.6	16.8	16	14.9	13.8	14	15.1	16.3	17.4	18.4	19	19.8	20.5	21	21.2	21.3	21.6	21.5	21	19.8	17.4	13.9	10.3	10.8	21.6	17.5	24
17	8.2	6.4	6.4	7.3	7.1	7.9	9.4	12.2	14.7	16.6	17.3	17.9	18.8	20	20.5	20.9	21.1	20.7	20.2	19.3	17.4	16.5	15.9	15.3	21.1	14.9	24
18	14.4	14.2	13.7	13.4	12.7	13.1	11.8	12.5	14.2	14.7	16.3	17.9	20.4	23	24.2	23.1	22.4	20.9	16.9	15.1	14.9	14.5	14	13.4	24.2	16.3	24
19	12.1	11.1	10	9.3	8.4	8.2	6.4	7	8.6	10.4	12.5	14.5	15.6	16	16.6	17.1	17.3	17.2	16.1	15.5	13.5	12	10.9	9.8	17.3	12.3	24
20	9.2	9.2	9	8.5	8.1	8.1	8.2	9.1	10.4	11.7	12.6	12.7	12.8	14.5	15.6	15.6	15.9	16	14.9	14.3	13.8	13.4	12.6	11.5	16.0	12.0	24
21	11.3	11.2	10.8	9.2	8.3	7.6	7.3	7.5	7.8	8.7	8.9	9.9	11.1	12.9	13.9	13.9	12.4	9.9	9.3	9	8.6	8.5	7.6	8.2	13.9	9.7	24
22	9.9	10.1	9.6	9.3	8.8	8.3	8.2	8.4	9.2	11.4	14.4	16.3	17.7	18.6	19.2	19.5	19.7	19.3	18.8	17.6	15.7	13.2	12.4	11.4	19.7	13.6	24
23	10.7	10	9.4	8.9	8.1	9.9	11.2	12.1	13.7	14.7	15.7	17.8	19	20	20.8	21.4	21.7	22	21.4	20.7	17.9	15.1	12.7	9.9	22.0	15.2	24
24	8.7	8	7.8	7.3	7.6	9.3	10.9	12.4	14.2	17	**19.3**	20.2	20.9	21.4	21.2	21.3	20.8	19.4	19.4	16.4	15.7	14	13.1	11.8	21.4	14.9	24
25	11	10.3	9.3	8.7	8.3	7.6	7.3	6.9	6.5	6.4	6.9	7.8	8.4	10.9	12.3	12.8	13.4	13.3	12.8	11.7	9.5	8.3	6.3	3.6	13.4	9.2	24
26	1.8	0.1	-0.8	-1.5	-1.7	1.3	4.9	7.4	9	10.3	11.3	12.5	13.8	14.9	16.3	16.2	16.9	17.1	16.6	15.5	12.1	8.2	6.8	5.1	17.1	8.9	24
27	3.7	2.4	1.6	1	1.1	4.6	9	12.3	14.7	16.7	17.3	18	18.6	19.5	20.1	20	20.3	20	19.7	18.5	14.3	10.5	8.8	7.7	20.3	12.5	24
28	7.5	5.6	4.2	4.2	4.7	7.2	9.9	12.5	15.1	17.1	17.9	18.4	19.3	20.1	20.6	20.9	20.8	20.5	20.1	19	16.3	13.8	12	11.1	20.9	14.1	24
29	12	11.9	11.8	11.8	11.5	11.3	12.5	13	14.8	17.2	17.3	18.2	19.1	19.8	20.8	21.3	22.2	21.9	21.1	18.9	16.9	15.1	14.6	13.7	22.2	16.2	24
30	12.5	11.1	10.6	9.9	10.3	10.9	12.1	12.4	12.9	13.6	12.6	13.5	13.6	14	14.3	14.9	15.8	16	16	15.8	12.5	9	6.7	5.2	16.0	12.3	24
31	4.2	3.5	3.7	4.8	5.9	7.6	9.6	13.4	14.7	16.8	17.8	18.8	19.6	20	19.9	20	18.9	17.3	15.7	14	12	10.1	7.9	5	20.0	12.6	24
HOURLY MAX	17.6	16.8	16.0	14.9	13.8	14.0	15.1	16.3	17.4	18.4	19.8	20.7	21.8	23.5	24.8	25.2	25.1	24.7	24.1	22.9	21.5	20.3	19.4	18.4			
HOURLY AVG	6.6	5.9	5.5	5.0	4.8	5.5	7.1	8.9	10.5	12.2	13.3	14.3	15.0	15.8	16.4	16.5	16.5	16.2	15.7	14.3	12.1	10.1	8.6	7.5			

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

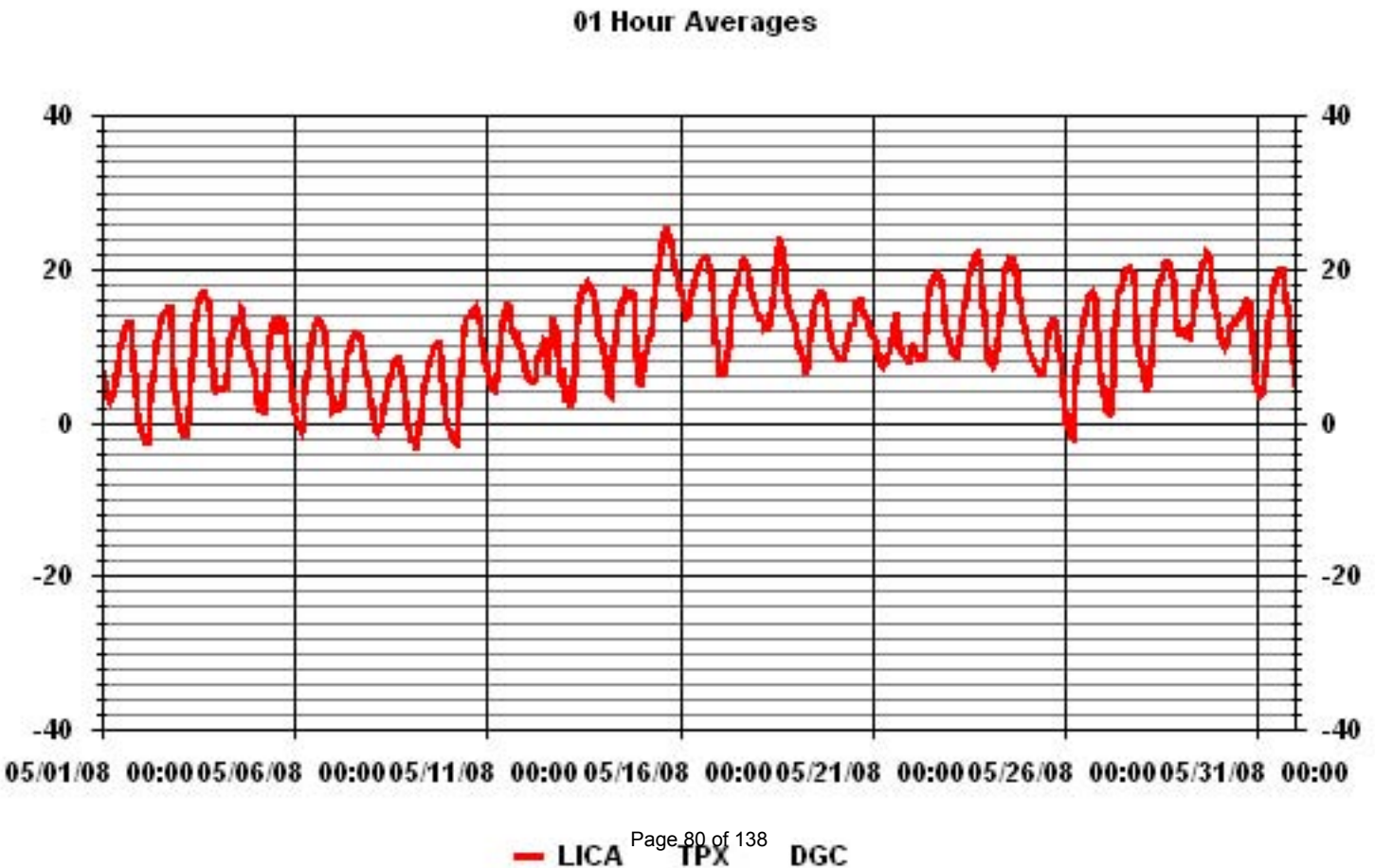


MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	*	-3.2	^{o}C	@ HOUR(S)	5	ON DAY(S)	9
MAXIMUM 1-HR AVERAGE:		25.2	^{o}C	@ HOUR(S)	16	ON DAY(S)	15
MAXIMUM 24-HR AVERAGE:		17.7	^{o}C			ON DAY(S)	15
						VAR-VARIOUS	

CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	744	HRS
			AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	6.02		MONTHLY AVERAGE:	11.01	^{o}C

*** Outside detection limits of sensor.**


01 Hour Averages
40
20
0
-20
-40
05/01/08 00:00
05/06/08 00:00
05/11/08 00:00
05/16/08 00:00
05/21/08 00:00
05/26/08 00:00
05/31/08 00:00
LICA TPX DGC

Relative Humidity

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MAY 2008

RELATIVE HUMIDITY hourly averages (%)

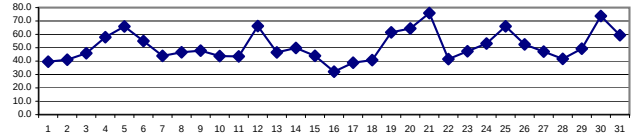
MST

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	41.3	41.0	40.4	41.9	43.6	43.4	40.9	39.5	39.2	37.0	34.8	32.2	31.0	29.2	28.0	27.2	26.7	26.2	27.6	35.6	47.7	55.7	67.3	72.4	72.4	39.6	24
2	77.0	78.3	75.1	72.6	78.1	68.2	46.0	35.9	32.5	28.3	23.1	18.7	15.2	14.9	15.4	16.3	16.2	16.2	17.3	21.1	40.1	49.3	63.0	66.1	78.3	41.0	24
3	74.7	81.0	81.2	86.8	86.8	78.8	64.2	50.9	39.4	30.4	25.0	19.8	21.1	20.7	20.3	19.9	19.7	21.1	22.5	25.4	32.4	49.5	63.0	66.8	86.8	45.9	24
4	67.3	69.7	72.3	67.6	62.2	60.4	51.8	45.0	38.6	38.3	36.4	33.2	36.3	44.5	38.8	40.4	66.2	67.6	56.8	68.9	77.3	81.4	82.1	85.8	85.8	57.9	24
5	91.6	93.4	94.2	**95.3**	94.2	94.9	89.7	82.1	66.5	52.6	44.3	40.6	42.6	38.9	36.9	51.8	46.2	40.9	41.5	55.0	64.1	66.0	75.5	82.9	**95.3**	65.9	24
6	88.8	90.0	93.4	92.3	93.5	91.1	80.8	67.5	60.7	52.1	47.0	40.9	31.5	30.4	26.3	27.5	28.2	28.1	29.8	36.1	41.2	44.2	43.4	54.9	93.5	55.0	24
7	65.8	63.9	63.0	66.6	69.2	66.9	57.2	52.2	46.4	38.5	36.5	33.3	32.1	31.3	28.9	25.6	24.8	28.1	32.8	36.2	35.6	35.7	38.5	45.0	69.2	43.9	24
8	55.9	66.0	74.8	75.7	78.2	76.0	72.5	66.8	59.3	53.7	46.8	38.7	29.5	24.0	21.3	20.9	19.0	18.9	21.2	24.9	32.3	35.8	52.1	54.5	78.2	46.6	24
9	61.4	67.6	69.8	74.4	73.8	69.7	65.3	59.0	52.2	44.1	38.4	35.6	33.5	28.6	25.6	23.5	23.2	21.7	23.8	28.8	43.9	53.8	61.9	68.2	74.4	47.8	24
10	75.6	77.6	80.2	82.2	82.0	78.5	66.5	49.4	42.6	34.2	21.8	21.2	20.5	21.5	23.6	23.6	24.5	23.9	25.1	29.1	34.4	36.6	36.6	39.5	82.2	43.8	24
11	43.0	47.5	51.1	54.1	54.6	51.1	48.1	45.1	40.6	36.9	34.7	30.6	27.6	24.9	31.1	37.6	40.2	41.4	39.7	42.8	47.2	53.8	58.6	62.2	62.2	43.5	24
12	79.8	92.5	92.6	90.6	93.8	90.9	87.2	66.8	56.2	57.2	55.6	54.7	56.3	83.2	64.9	54.1	39.6	36.2	39.5	41.8	57.9	67.1	62.5	67.7	93.8	66.2	24
13	72.2	79.5	70.2	76.3	86.2	84.5	71.9	50.7	42.6	35.0	26.0	22.6	24.0	23.5	23.6	23.7	24.0	25.7	27.6	32.7	38.5	48.7	52.6	53.5	86.2	46.5	24
14	57.7	64.4	73.0	84.1	85.2	79.1	68.6	55.7	46.3	37.0	34.0	35.1	31.5	29.3	24.6	26.8	26.9	28.4	28.7	31.3	48.3	58.6	67.0	74.1	85.2	49.8	24
15	78.6	69.0	54.8	51.6	53.3	60.1	64.4	59.1	53.8	48.6	43.7	40.8	37.5	32.1	28.0	26.1	25.0	25.0	26.2	29.5	32.7	35.6	38.1	40.9	78.6	43.9	24
16	42.8	44.0	46.3	49.7	53.6	53.0	48.5	39.8	32.0	26.0	20.7	19.1	18.4	16.3	15.4	15.0	15.2	15.5	16.5	19.0	24.0	37.3	56.6	45.9	56.6	32.1	24
17	57.7	66.4	65.2	68.4	71.0	68.7	67.4	43.8	30.1	25.7	23.0	21.8	22.2	21.6	21.8	21.7	22.1	23.8	24.6	27.2	32.5	33.6	34.9	36.0	71.0	38.8	24
18	37.1	37.0	40.1	40.1	41.7	40.4	45.4	45.6	42.6	40.6	39.7	37.8	33.8	29.3	23.4	23.8	26.0	31.7	44.0	55.0	54.2	56.1	56.2	56.5	56.5	40.8	24
19	62.5	62.7	68.6	73.6	78.6	81.5	92.6	86.9	76.7	68.7	61.5	54.9	49.9	46.8	42.2	40.7	38.3	38.2	41.9	48.2	58.4	64.2	67.5	70.6	92.6	61.5	24
20	73.1	73.4	75.0	81.0	86.1	86.3	85.1	80.4	72.9	63.3	58.8	59.9	63.0	57.2	47.7	46.3	47.8	49.1	51.7	52.3	52.9	54.4	60.3	67.3	86.3	64.4	24
21	65.3	62.8	64.1	76.7	83.4	88.6	89.2	89.2	84.9	78.4	78.3	72.3	66.0	57.5	46.9	50.6	53.8	80.1	92.1	92.8	92.3	86.3	88.4	81.5	92.8	**75.9**	24
22	58.0	51.1	52.1	52.5	53.5	54.8	54.8	54.4	53.8	48.9	41.5	35.3	31.9	28.2	25.5	27.1	26.2	23.2	24.2	27.7	33.4	43.4	45.2	49.3	58.0	41.5	24
23	51.5	56.8	60.6	64.6	69.4	64.5	61.2	58.6	54.9	53.4	49.5	42.2	37.5	34.3	31.0	29.4	29.1	26.6	25.3	28.0	37.2	46.5	56.8	67.9	69.4	47.4	24
24	74.0	74.4	73.3	74.2	73.3	68.4	64.9	60.7	56.3	47.2	40.2	37.0	33.7	31.5	34.0	34.9	35.1	35.9	35.8	48.8	52.7	59.0	61.7	67.9	74.4	53.1	24
25	71.2	75.7	81.8	86.6	88.8	93.3	94.1	92.8	93.2	90.3	85.0	79.0	73.5	58.4	45.5	38.2	32.8	30.8	32.4	31.8	37.3	44.1	55.8	71.5	94.1	66.0	24
26	80.4	86.2	90.0	90.0	90.5	82.0	66.2	54.7	42.5	36.9	35.2	32.1	29.5	27.9	23.4	27.4	26.8	27.1	27.8	30.5	43.7	64.6	68.6	75.9	90.5	52.5	24
27	80.2	85.1	88.1	90.8	89.8	82.3	68.5	52.0	42.0	28.7	28.7	24.4	24.2	24.3	21.6	21.0	20.8	20.3	20.3	22.5	36.9	48.6	52.3	56.7	90.8	47.1	24
28	57.6	66.7	73.5	71.9	69.8	59.8	53.7	49.5	42.7	31.0	31.3	30.8	28.9	26.1	24.0	23.1	20.7	21.2	21.4	24.8	32.7	40.3	47.0	52.0	73.5	41.7	24
29	50.9	53.7	56.2	57.0	60.1	67.1	63.1	59.7	52.6	42.3	40.8	38.7	36.9	34.1	29.6	29.5	28.0	29.9	34.2	43.7	57.7	71.1	71.7	74.1	74.1	49.3	24
30	80.6	87.2	89.5	91.8	91.3	88.3	84.1	84.2	83.0	81.7	87.5	76.7	68.8	65.4	60.8	53.4	47.6	44.8	43.3	45.0	61.8	78.0	85.2	88.4	91.8	73.7	24
31	90.9	91.9	93.3	93.0	91.0	86.9	81.1	66.4	60.8	52.4	44.3	36.6	32.6	31.2	27.9	25.2	30.0	37.9	45.0	48.7	52.1	57.2	67.4	81.4	93.3	59.4	24
HOURLY MAX	91.6	93.4	94.2	95.3	94.2	94.9	94.1	92.8	93.2	90.3	87.5	79.0	73.5	83.2	64.9	54.1	66.2	80.1	92.1	92.8	92.3	86.3	88.4	88.4			
HOURLY AVG	66.6	69.6	71.1	73.4	75.1	72.9	67.6	59.5	52.8	46.4	42.4	38.6	36.2	34.4	30.9	30.7	30.7	31.8	33.6	38.2	46.2	53.4	59.3	63.8			

STATUS FLAG CODES

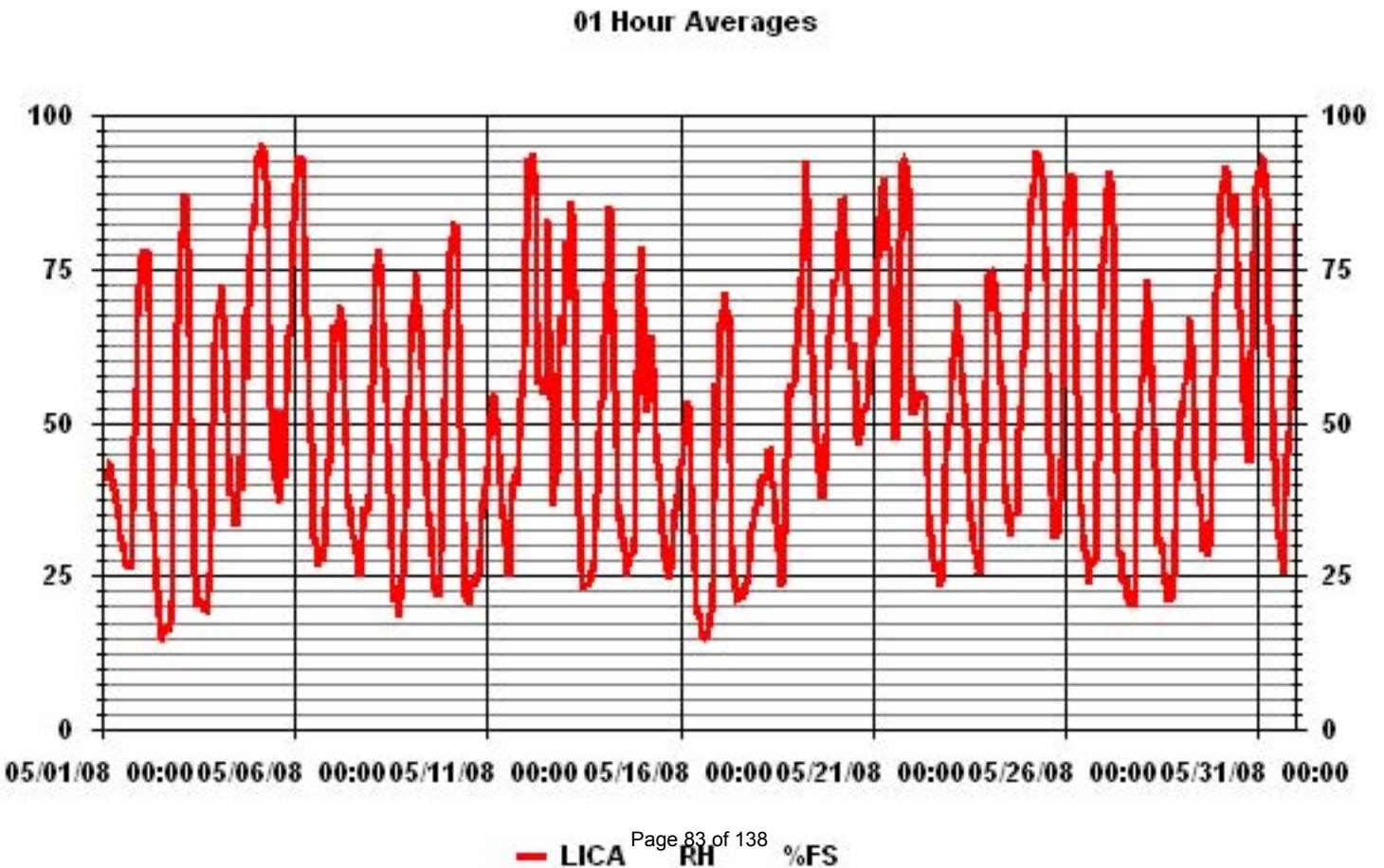
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

24 HOUR AVERAGES FOR MAY 2008



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	95.3	%	@ HOUR(S)	4	ON DAY(S)	5	
MAXIMUM 24-HR AVERAGE:	75.9	%			ON DAY(S)	21	
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:		744	HRS	
			AMD OPERATION UPTIME:		100.0	%	
STANDARD DEVIATION:	21.51		MONTHLY AVERAGE:		51.05	%	


01 Hour Averages
100
75
50
25
0
05/01/08 00:00
05/06/08 00:00
05/11/08 00:00
05/16/08 00:00
05/21/08 00:00
05/26/08 00:00
05/31/08 00:00
LICA RH %FS

Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MAY 2008

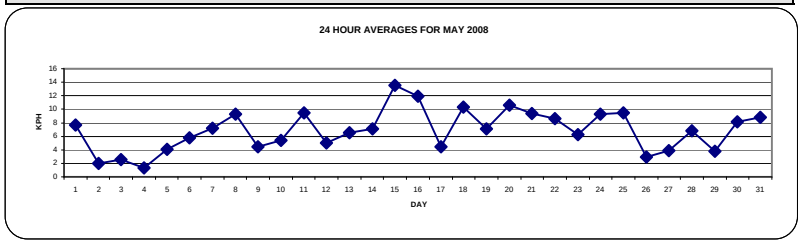
VECTOR WIND SPEED (WS) hourly averages (km/hr)

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	9.9	11.9	11.4	11.9	11	10.6	10	11.4	11.8	10	8.4	10.2	10.2	10.7	9	7.9	5.7	5.5	4.7	2.8	0.4	1.2	1.5	0.9	11.9	7.7	24
2	0.8	0.5	2.8	1.9	0.5	2.7	3.8	2.5	2.4	2.5	4.5	6.3	4.1	5.1	5	5.2	4	4.1	2.7	1.5	0.9	0.4	1	0.6	6.3	2	24
3	1.1	0.4	0.3	1.9	1.7	0.6	1.6	0.9	2.8	2.3	4	5.5	4.1	7.8	7.5	9.8	6.7	6.8	4	3.4	2.7	0.4	0.2	0.6	9.8	2.6	24
4	0.3	0	0.8	1.1	0.7	1.9	2.2	2.6	2.9	4.2	2.1	5.9	3.1	4.2	4.4	6.9	8.3	4.5	4.6	9.6	2.4	4.8	4.1	2.8	9.6	1.3	24
5	3.5	0.9	1.4	3.5	0.8	1.4	3.4	3.9	1.9	4.1	5.9	6.3	9.2	7.5	6.4	7.3	10	4.6	4.5	5.4	0.9	4.6	0.6	0.3	10.0	4.1	24
6	1.1	0.6	0.9	0.9	0	1.7	1.1	5.3	8.5	9.2	9.4	9.1	9.6	10.2	11.2	10.3	10.2	10	8.6	5.7	5.1	4.6	3.6	1.8	11.2	5.8	24
7	1.9	2.8	1.9	2.4	2.7	3.5	5.3	6	6.3	6.7	8.1	9.6	12.1	12.5	12.3	11.9	10	8.1	8.4	9.3	8.5	7.6	7.6	6.7	12.5	7.2	24
8	4.3	2.7	4.1	6.3	8.2	10.3	10.8	11.6	12.3	13.5	15.1	14.9	14.1	13.3	13.3	13.1	12.5	12	10.1	6.9	4.7	3.6	2.7	2.3	15.1	9.3	24
9	2.4	2.1	1.6	0.9	2.3	3.6	5.5	4.8	5.5	9.4	8.1	6.2	7	8.3	7.9	8.5	6.3	4.8	5	2.7	0.3	0.6	0.9	1.5	9.4	4.4	24
10	1.2	1.1	0.5	1.3	1.3	1.1	2.4	3.3	4.8	6.6	8.2	7.5	7.3	6.6	6	6.7	5.3	4.8	7.3	9.1	7.6	8.8	11.7	9.9	11.7	5.4	24
11	8.3	6.9	6.1	4.7	9	9	8.8	9.7	10	10.1	10.9	11.1	10.1	11	14	15.7	13.5	10.5	11.2	9.5	7.1	7.1	7.3	6.6	15.7	9.5	24
12	1.7	3.2	3.9	2.7	1.7	5.2	4.3	6.8	8.8	6.4	8.8	6.6	7.3	5.7	10.5	6.3	6.6	7.1	7.1	3.7	1.3	0.8	2.4	0.7	10.5	5.0	24
13	0.7	0.9	1.7	0.4	0.6	0.1	0.9	7.7	9.5	11.1	14.2	13.8	12.3	8.7	14.6	10.4	7.1	10.7	9.5	4.7	3.9	3.8	5.5	3.8	14.6	6.5	24
14	4.1	3	2.9	2.1	4.3	7	7.9	9.5	10.4	14.3	13.8	12.3	16.1	11.3	16.5	9.4	9.5	5.6	5.6	1.3	0.9	1.4	0.5	1	16.5	7.1	24
15	0.8	4	4	5.4	**5.6**	6.1	6.4	11	12.6	13.5	14.2	16.8	15.8	14.9	19.2	22.1	23.9	23.9	21.7	18.2	14.2	15.9	18.4	16.4	23.9	**13.5**	24
16	13.1	12	11.8	9.6	8.1	10.2	11	10	9.6	13.2	16.1	15.3	17.1	18.3	18.9	18.9	18.1	16.3	14.3	10.3	5.4	3	2.9	3.7	18.9	12.0	24
17	0.9	0.5	0.1	0.8	0.2	0.3	1.1	3.8	5.2	4.4	7.2	7.3	7.3	5.5	7	5.2	6.3	5.9	6.4	4.6	3.8	6.5	8.1	7.3	8.1	4.4	24
18	9	10.7	7.5	5.9	9.6	0.4	3.8	1.5	4.8	10.4	7.3	3.8	6.9	12.3	15.9	18.7	19.3	**25.4**	19.8	14.8	13.2	8.7	10.7	7.7	**25.4**	10.3	24
19	5.1	7	5.4	7.1	6.3	7.1	9	7.8	6.6	3.6	5.5	4.6	5.4	6.4	3.9	7.9	7.8	7.7	7.8	10.5	10.9	8.7	8.8	8.6	10.9	7.1	24
20	8.1	7.2	8.2	5.4	5.3	5.8	7.8	8.3	11.3	12.2	11.8	11.6	9.7	12.7	14.1	13.3	13.5	14.5	14.2	13.7	14	10.8	11.2	9.4	14.5	10.6	24
21	11.2	13.9	13.9	12.4	13.2	13.3	13.4	13.8	13.7	13.9	12.5	11.9	11.7	9	13.2	7.2	13.1	2.8	0.8	2.4	1	3.2	1.4	3	13.9	9.4	24
22	6.1	6.5	6.2	6.4	7.1	7.2	7.8	9.5	8.5	10.7	10.2	13.2	13.8	13.9	13.1	10.2	10.5	10.3	10.1	10.1	5	2.4	4.2	3.4	13.9	8.6	24
23	4	4.3	4.5	4.9	2.3	5.5	6.1	5.8	4.7	7	8.1	8.6	10.3	10.5	10.2	9.4	10.4	10.2	7.8	6.4	3.3	2.5	1.9	1.4	10.5	6.3	24
24	1.3	1.4	2.1	2.8	2.4	3.1	5.2	6.4	6.5	8.2	**10.2**	14.2	15.3	15.1	14.5	14.8	13.1	13.8	11.2	12.2	13.3	12.4	12.7	11	15.3	9.3	24
25	12.8	15.9	14	10.3	9.3	8	8.4	10	9.4	10.2	9	11.1	9	10.6	10	13.2	12	11.3	9.1	8.7	3.9	5.8	3.2	2.3	15.9	9.5	24
26	0.7	0.3	0.2	0.1	0	0.5	3	4.8	5.4	5.8	6.5	6.2	5.7	3.3	2	4.1	2.1	4.4	4.6	4.9	1.7	1.8	1.7	0.6	6.5	2.9	24
27	0.4	0.4	0.7	0.5	0.5	1.9	5	3.9	4.5	6.9	5.9	6.3	5.8	5.2	6.5	8	6.4	6.5	4.6	3.2	2	1.6	2.8	3.2	8.0	3.9	24
28	3.5	2.2	1.7	3.1	3.2	5.7	7.1	8.2	8.3	9.9	8.6	10.4	9.6	9.4	9.4	9.7	11.6	10.2	10.5	6.7	4.3	3.7	3.2	3.6	11.6	6.8	24
29	5.3	4.4	5	5.2	3.4	0.3	1.2	5.8	2.6	2.2	2.3	5.5	3.8	2.6	1.9	3.9	3.4	5.3	2.5	1.4	8	4.9	7.3	2.1	8.0	3.8	24
30	5.6	3.9	4.9	5.2	8.6	9	10.3	9.9	9.2	9.5	11.4	10.2	14.9	12.4	14.3	13	11.9	12	9	3.9	3.4	1.2	0.9	0.7	14.9	8.1	24
31	1.1	0.7	1	1.4	2	4.4	3.5	12.2	13.1	12.4	15.6	15.2	16.4	17.4	15.9	16.8	17.1	14.5	11.7	9.2	6.1	3.1	1	0.6	17.4	8.9	24
HOURLY MAX	13.1	15.9	14.0	12.4	13.2	13.3	13.4	13.8	13.7	14.3	16.1	16.8	17.1	18.3	19.2	22.1	23.9	25.4	21.7	18.2	14.2	15.9	18.4	16.4			
HOURLY AVG	4.2	4.3	4.2	4.1	4.3	4.8	5.7	7.1	7.5	8.5	9.2	9.6	9.8	9.8	10.6	10.5	10.2	9.5	8.4	7.0	5.2	4.7	4.8	4.0			

STATUS FLAG CODES

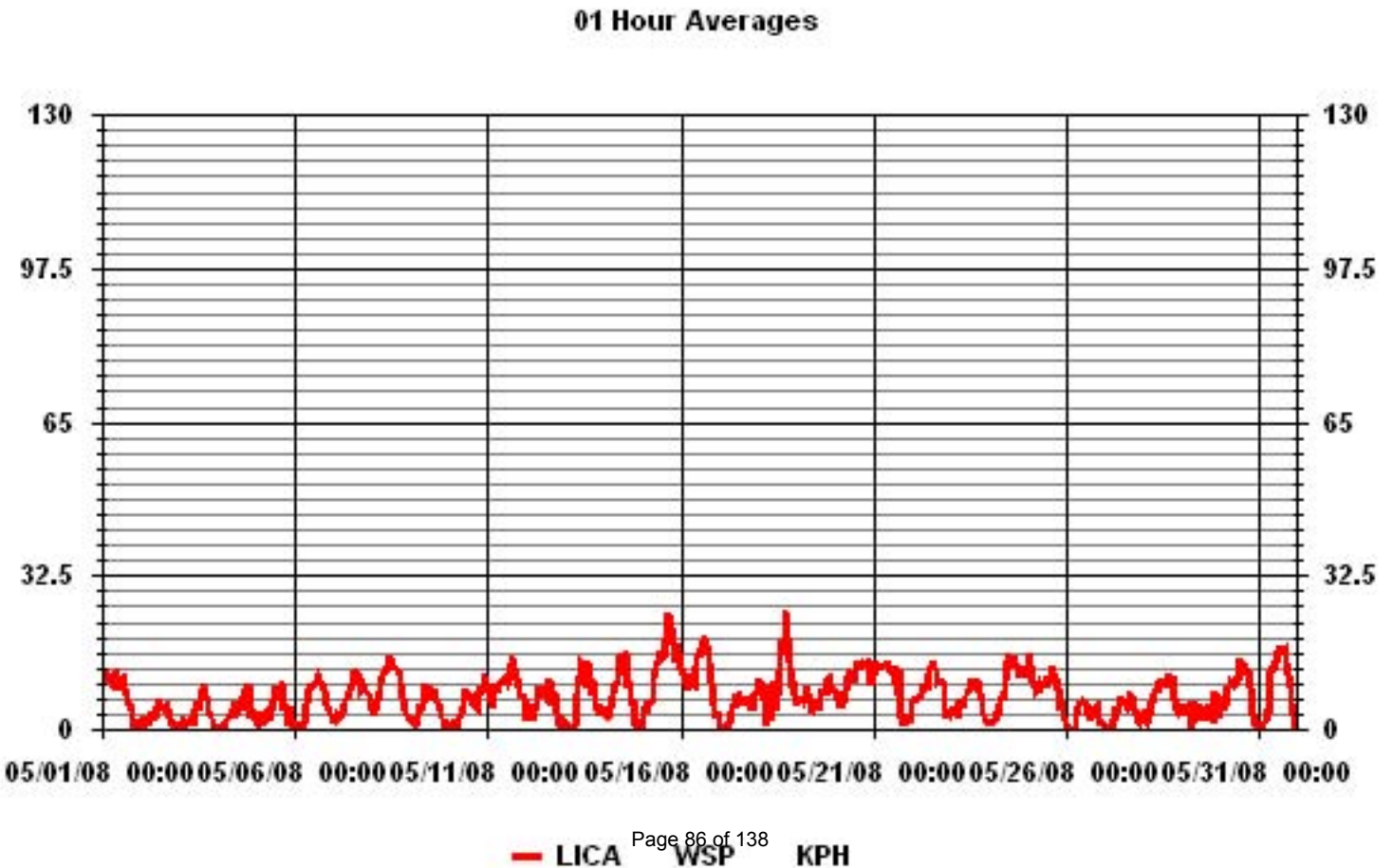
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



LAST CALIBRATION:	December-2006

MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	25.4	KPH	@ HOUR(S)	18	ON DAY(S)	18	
MAXIMUM 24-HR AVERAGE:	13.5	KPH			ON DAY(S)	15	
CALMS (≤ 0 KPH)	2.15	%	OPERATIONAL TIME:		744	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME		100.0	%	
STANDARD DEVIATION:	4.71		MONTHLY AVERAGE:		7.00	KPH	


01 Hour Averages
130
97.5
65
32.5
0
05/01/08 00:00
05/06/08 00:00
05/11/08 00:00
05/16/08 00:00
05/21/08 00:00
05/26/08 00:00
05/31/08 00:00
LICA WSP KPH

LICA
WSP / WD Joint Frequency Distribution (Percent)

May 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	.94	2.95	6.85	3.49	4.43	3.49	4.03	1.20	2.01	2.01	3.76	2.68	2.41	2.01	1.20	.80	44.35
<	12.0	1.20	4.70	6.98	.67	8.33	3.89	2.95	.94	.26	.40	1.47	1.20	1.34	1.47	1.47	.26	37.63
<	20.0	.13	3.22	.94	.00	.94	2.01	.40	.00	.00	.00	.26	.53	2.01	2.82	1.47	.40	15.18
<	29.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.40	.13	.13	.00	.67
<	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	2.28	10.88	14.78	4.16	13.70	9.40	7.39	2.15	2.28	2.41	5.51	4.43	6.18	6.45	4.30	1.47	

Calm : 2.15 %

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	7	22	51	26	33	26	30	9	15	15	28	20	18	15	9	6	330
<	12.0	9	35	52	5	62	29	22	7	2	3	11	9	10	11	11	2	280
<	20.0	1	24	7		7	15	3				2	4	15	21	11	3	113
<	29.0													3	1	1		5
<	39.0																	
>=	39.0																	
	Totals	17	81	110	31	102	70	55	16	17	18	41	33	46	48	32	11	

Calm : 2.15 %

Total # Operational Hours : 744

Logger : 01 Parameter : WSP

Class Limits (KPH)

>= 39.0

< 39.0

< 29.0

< 20.0

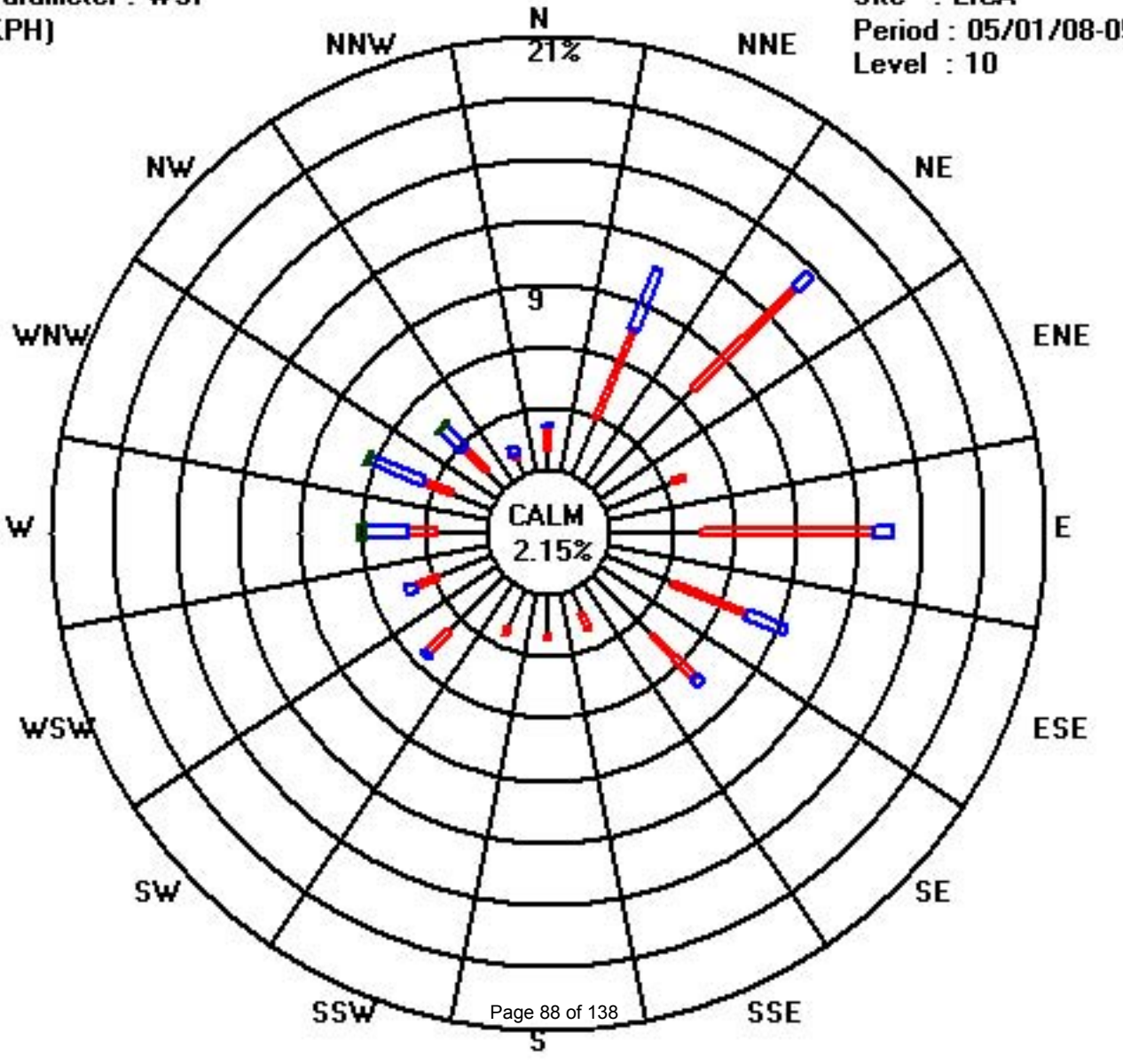
< 12.0

< 6.0

Site : LICA

Period : 05/01/08-05/31/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MAY 2008

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST

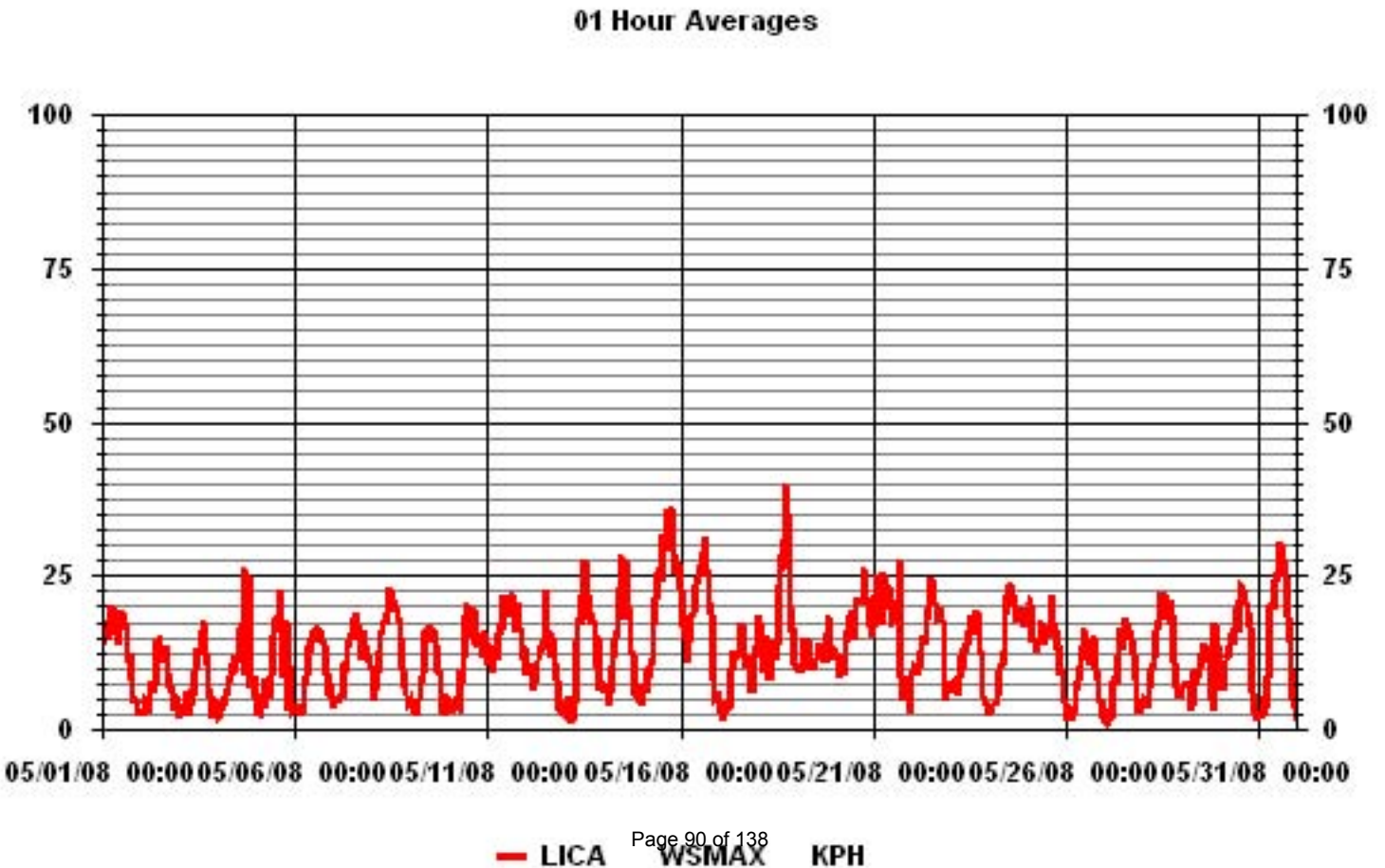
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.
DAY																									
1	14.4	17.5	15	17.6	14.3	17.7	20.2	17.9	17.2	15.8	13.8	16	19.5	17.8	17.5	16.6	11.7	11.9	8.2	5.7	4.2	5.1	2.8	2.8	20.2
2	2.6	2.6	4.8	4.5	2.4	5.2	7.8	7.4	5.9	7	14.2	14.5	11	12.6	11.1	13.6	13.1	9.4	7.1	6.4	2.8	5.8	3.3	1.9	14.5
3	2.8	2.8	3.2	4	6.3	2.3	3.7	4	6.6	5.3	9.4	12.6	12.5	12.9	15.9	17.9	12.8	10.8	6.7	5.6	5.5	2	2.6	4.9	17.9
4	2	2.3	3.2	3.9	5.1	6.6	5.5	7.7	8.7	10.2	10	11.9	10.9	15.9	15.7	17.5	26.2	9	9.4	25	7	7.6	7.9	5.7	26.2
5	5.4	2.9	2.7	5.7	3.9	3.5	8.2	6.9	5.1	8.7	15.3	17.9	15.8	18.7	20.7	22.8	14.1	8.2	12.5	17.8	2.8	10.2	3.2	3.5	22.8
6	3.8	3.5	3.6	2.2	2.8	4.1	7	8.6	13.5	12.6	14.6	15.9	14.2	16.4	17	15.1	16.2	14.5	13.9	9.3	9.1	6.5	6.7	5.5	17
7	3.5	4.7	4.8	4.3	5.8	5.2	10.6	9.1	11.1	13.2	14.4	15.7	17	17.8	18.8	17.4	15	11.4	12.4	16.1	13.8	12.1	11.1	10.2	18.8
8	10.1	4.6	6.3	9.3	12.7	15.6	16.1	17.7	17.1	19.1	22.9	22.8	19	21.1	20.1	19.9	17.4	18	15.1	9.9	7.2	5.9	4.1	4.4	22.9
9	4.9	3.9	3	2.1	4	4.8	8.1	8	9	15.8	16.5	14.1	16.7	14.5	16.6	15	13.8	9.8	9.3	5.5	3	2.5	5.6	3.2	16.7
10	3.8	2.8	4.2	4.5	3	3.9	3.7	9.1	8.8	11.5	18.7	20.5	19.7	14.9	16.6	19.6	14.3	13.5	15.8	14.1	11.6	12.8	16	14.2	20.5
11	11	10.8	12.5	9	12.7	12.4	15.4	15.5	16.7	16.7	22	20.5	18.3	21	20.5	22.2	20.4	15.8	19.2	20.6	17	11.9	12	13.6	22.2
12	8.7	9.3	10.1	10.9	6.4	7.5	8.2	11.2	12.9	12.9	14.2	12.7	22.6	14.2	16.2	11.5	12.9	14.8	11.2	8.2	3.5	3.2	4.3	2.9	22.6
13	2.5	2.2	5.2	2	2	1.2	4.2	14.5	18	16.9	21.9	25.2	27.4	19.4	22.1	18.7	18.8	17.6	17.3	9.8	15.4	6.3	7.9	7.2	27.4
14	7.9	5.9	6.9	3.9	6	10.2	11.6	14.8	16	23.1	21.2	28.4	24.6	17.6	27.4	20.2	18.7	13.2	12.3	6	5	7.1	7.2	4.6	28.4
15	4.2	7.3	5.7	9.9	8.3	10.4	11.4	17.1	21.1	21.4	25.5	26.4	24.1	31.6	30.3	30.1	36	33.6	36.3	29.5	28.7	25.8	25.3	27	36.3
16	23	16.4	19.1	14.8	10.9	14.3	16.4	18.2	19.1	23.4	23.8	24.7	26.6	25.9	28.9	31.2	24.9	26	20.9	19	8.2	4.9	5.2	6.3	31.2
17	3.7	2.9	1.5	3	4.3	3.3	3.6	9.5	9.7	12.6	11.9	12	12.3	13.3	17.2	14.1	12.1	10.2	11.5	7.8	5.9	11.7	12.9	12.7	17.2
18	18.6	17.8	11.8	9	13.7	15.1	8.9	8.1	10.2	14.2	13.7	11.1	13.7	23.3	25.8	28.4	30.7	**40**	35.5	26.4	20.2	15.9	17	10.8	**40**
19	9.5	10.3	9.4	10.5	9.5	14.2	14	14.8	13	10.2	10.2	10.4	11.4	13.6	13.4	13.4	12.5	11.6	11.5	15.7	18.6	13.8	12.8	12.9	18.6
20	12	11.7	12.4	8.5	9.2	8.8	11.8	14.1	16.2	18.6	19.4	18.1	14.4	20.2	21.1	20.3	21.2	20.6	26.4	21.7	20.9	20.6	17.1	15.1	26.4
21	16.7	21.8	25.1	17.9	17.6	17.5	25.7	19.5	20.1	23.4	20.8	20	17.5	17.7	20.7	21	27.6	8.8	4.9	5.7	8.7	6.2	2.5	6.1	27.6
22	9.5	10.3	9.8	8.6	11.7	11.4	13.7	15.2	13.9	18	19.6	22.3	24.7	21.2	20.8	18.6	19	19.2	17.4	17.9	7.9	4.8	6.5	7.2	24.7
23	6.8	6	7.7	8.2	5.3	8.5	11.7	13.3	9.6	12.7	13.9	15.8	17.4	18.6	17.1	15.5	19.3	16.9	13.1	12.5	5.5	4.9	4.3	2.4	19.3
24	3	3	3.9	4.1	4.2	5.5	9.4	10.8	10.3	12.9	18.4	21.9	23.2	23.7	19.9	22.2	18	17.9	18.3	19	18.6	19.7	17.4	17.3	23.7
25	19.7	21	20.6	14.7	14.4	12.3	14.3	14.6	17.8	16.7	13.6	15.4	16.3	16.1	21.5	21.4	17.6	16.6	12.8	13.9	8.8	9.9	5.2	4.7	21.5
26	4.2	1.3	2.1	1.4	3.2	3.1	6.5	7.9	10.2	11.4	13.5	16.5	15.1	13.9	10.5	12.6	10.7	15.4	10	8.1	4.6	4.2	4.8	2.1	16.5
27	1.7	1.2	1.6	3.3	1.5	7.6	8.4	7.3	12.1	16.6	13	16.4	18.2	17.4	15.8	15.9	15.1	14.7	12.3	8.3	4.1	2.5	4.1	5	18.2
28	4.6	3.9	3.9	5.2	6.8	9.7	10.5	11.8	16	17.5	21.6	21.6	17.7	22.1	19.3	18.2	18.6	20.9	18.9	11.2	7.1	6.2	5	5.9	22.1
29	6.8	6.9	7.5	7.5	7.4	3	3.9	9.1	9.3	8.7	9.5	12.4	9.9	12.8	14	11.6	10.7	12.3	4.9	3	17.2	12.3	13.8	7.5	17.2
30	9.3	6.1	9.7	11.2	12.4	11.9	15.7	14.7	13.7	16.6	19.6	15.6	21	23.3	22.9	21.1	20.9	19.5	16.8	8.8	6.1	3.1	2.1	2.2	23.3
31	2.6	2.5	2.1	4.7	4.5	8.4	8.6	20.1	20.4	19.6	24.2	25.6	26.3	30.5	25.4	28	24.9	25.4	18.6	14.5	10.2	5.2	4	2	30.5
PEAK	23.0	21.8	25.1	17.9	17.6	17.7	25.7	20.1	21.1	23.4	25.5	28.4	27.4	31.6	30.3	31.2	36.0	40.0	36.3	29.5	28.7	25.8	25.3	27.0	

STATUS FLAG CODES

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

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS READING	40	KPH	@ HOUR(S)	18
			ON DAY(S)	18


01 Hour Averages
100
75
50
25
0
05/01/08 00:00
05/06/08 00:00
05/11/08 00:00
05/16/08 00:00
05/21/08 00:00
05/26/08 00:00
05/31/08 00:00
LICA WSMAX KPH

Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

MAY 2008

VECTOR WIND DIRECTION (WD) hourly averages in degrees

MST

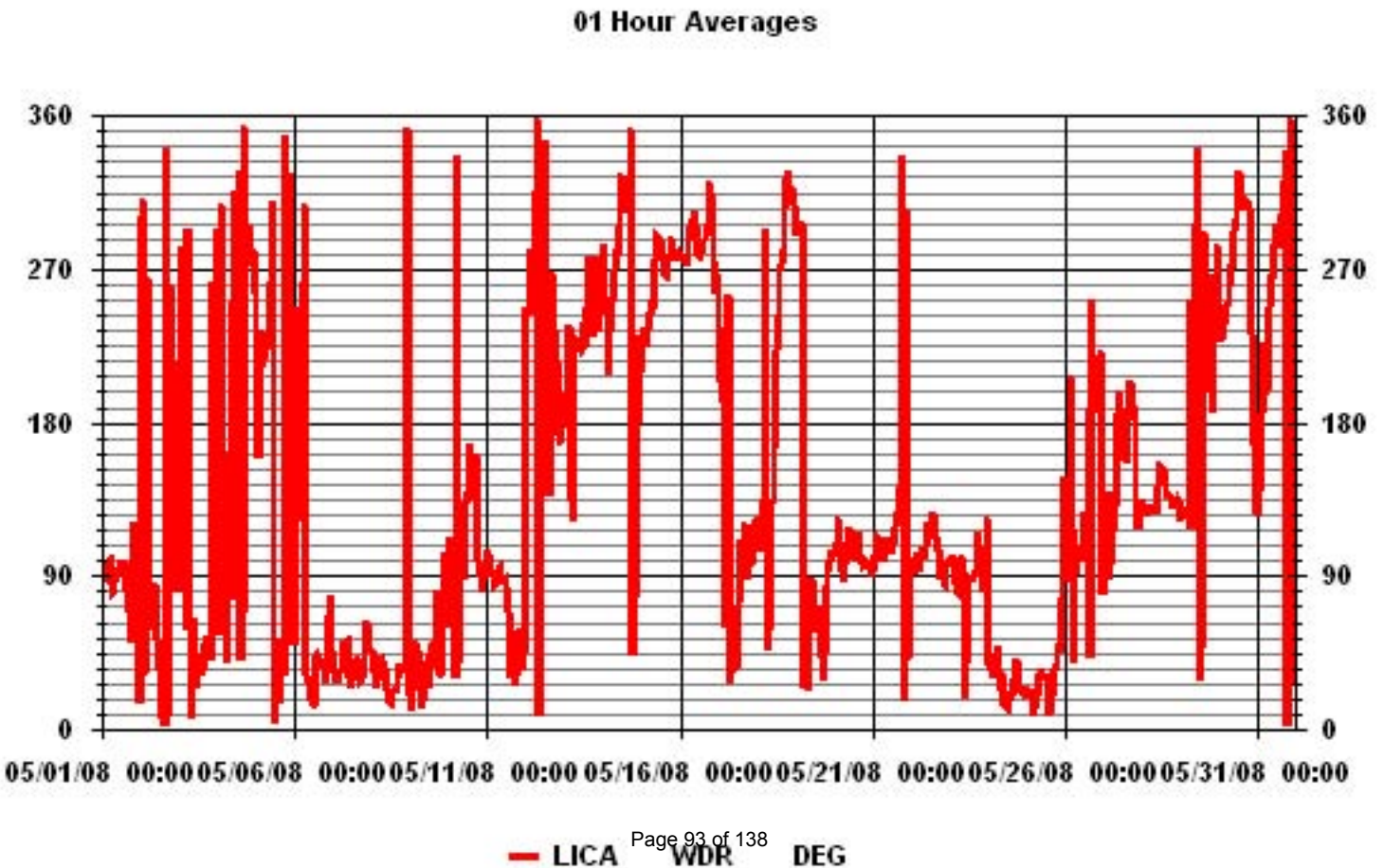
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUANDRANT	RDGS.
DAY																											
1	89	86	90	89	98	99	81	82	86	90	94	98	98	89	99	80	89	70	51	54	122	63	89	15	87	E	24
2	301	312	47	32	266	60	66	67	58	86	53	36	24	6	13	2	341	8	261	95	211	110	97	80	30	NNE	24
3	217	283	117	237	294	58	294	6	66	53	24	40	42	41	31	35	50	55	43	47	40	262	224	55	38	NE	24
4	294	59	308	60	56	39	67	163	154	250	316	75	315	328	40	54	355	69	281	297	283	272	281	256	335	NNW	24
5	227	159	189	234	212	217	223	228	262	241	310	3	50	16	54	15	44	31	348	299	274	326	51	51	353	N	24
6	247	209	239	244	121	263	308	33	28	22	19	16	13	43	45	43	36	40	39	27	54	67	78	48	33	NNE	24
7	34	37	27	36	34	34	52	46	51	52	31	24	29	37	41	43	38	29	30	34	46	63	53	45	39	NE	24
8	47	34	24	28	37	42	38	40	37	24	18	17	24	22	24	22	35	34	39	37	34	49	353	21	29	NNE	24
9	11	22	39	52	44	47	42	13	17	24	26	26	44	50	36	52	82	75	33	31	81	104	59	95	40	NE	24
10	113	82	85	39	30	336	39	122	117	87	133	139	133	168	139	155	138	161	99	91	81	85	88	93	111	ESE	24
11	105	103	89	93	84	85	88	95	96	91	88	89	85	70	31	33	35	25	31	58	54	59	34	45	66	ENE	24
12	248	242	277	281	243	297	316	359	7	336	315	258	346	218	137	229	268	248	235	216	173	167	197	177	274	W	24
13	185	193	208	237	135	122	231	228	227	226	222	223	239	224	248	277	251	231	233	277	261	233	253	277	237	SW	24
14	285	244	254	207	236	234	251	270	281	278	295	326	313	306	303	325	323	353	44	50	200	77	180	231	295	WNW	24
15	209	235	224	229	235	244	252	246	276	291	290	285	285	276	268	267	276	279	289	286	283	275	277	280	274	W	24
16	278	276	277	277	272	287	295	299	295	303	296	279	278	284	283	287	289	297	321	316	295	276	255	267	288	WNW	24
17	203	236	191	227	59	157	255	27	47	73	36	37	47	74	111	104	122	88	100	99	96	120	123	118	87	E	24
18	112	125	104	114	135	294	46	58	113	133	135	165	222	243	269	273	282	305	323	328	317	311	319	308	291	WNW	24
19	289	299	289	295	298	24	44	23	37	56	89	84	57	62	72	52	43	29	44	84	93	99	103	103	52	NE	24
20	105	109	125	107	109	94	86	97	108	116	116	104	102	99	110	116	103	97	98	101	98	98	95	89	103	ESE	24
21	92	102	116	106	102	101	98	110	109	112	108	104	104	108	119	127	130	142	337	16	305	50	41	83	106	ESE	24
22	93	93	100	104	93	100	106	100	102	121	107	112	119	125	125	114	104	106	90	89	85	84	97	97	106	ESE	24
23	101	96	102	87	81	80	96	102	91	18	39	80	89	88	88	93	94	116	101	90	80	107	101	124	88	E	24
24	39	35	45	30	43	37	49	22	34	13	**24**	14	13	17	19	20	30	40	40	23	23	22	21	24	24	NNE	24
25	24	19	21	23	8	12	20	33	29	35	33	29	33	8	16	9	20	35	39	50	45	77	115	148	27	NNE	24
26	102	86	93	208	118	38	90	108	104	100	100	127	109	113	189	41	252	185	217	216	186	219	222	78	130	SE	24
27	103	138	88	139	97	116	117	131	186	198	158	183	188	174	156	201	205	183	191	182	137	118	127	130	169	SSE	24
28	135	133	131	125	131	129	130	130	126	142	157	142	148	154	149	140	135	138	133	134	133	136	134	122	138	SE	24
29	126	130	128	130	125	252	117	126	134	297	341	67	28	47	292	198	268	235	209	186	235	267	284	242	178	S	24
30	231	228	248	237	249	251	260	273	271	292	299	313	327	325	309	304	312	311	306	302	233	167	145	128	289	WNW	24
31	126	139	186	227	201	198	199	247	267	264	285	297	282	295	302	310	322	339	3	3	359	27	63	221	299	WNW	24
HOURLY AVG	301	312	308	295	298	336	316	359	295	336	341	326	346	328	309	325	355	353	348	328	359	326	353	308			

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	98.88		AMD OPERATION UPTIME	100.0	%
			MONTHLY AVERAGE	285.00	DEG


01 Hour Averages
360
270
180
90
0
05/01/08 00:00
05/06/08 00:00
05/11/08 00:00
05/16/08 00:00
05/21/08 00:00
05/26/08 00:00
05/31/08 00:00
LICA WDR DEG

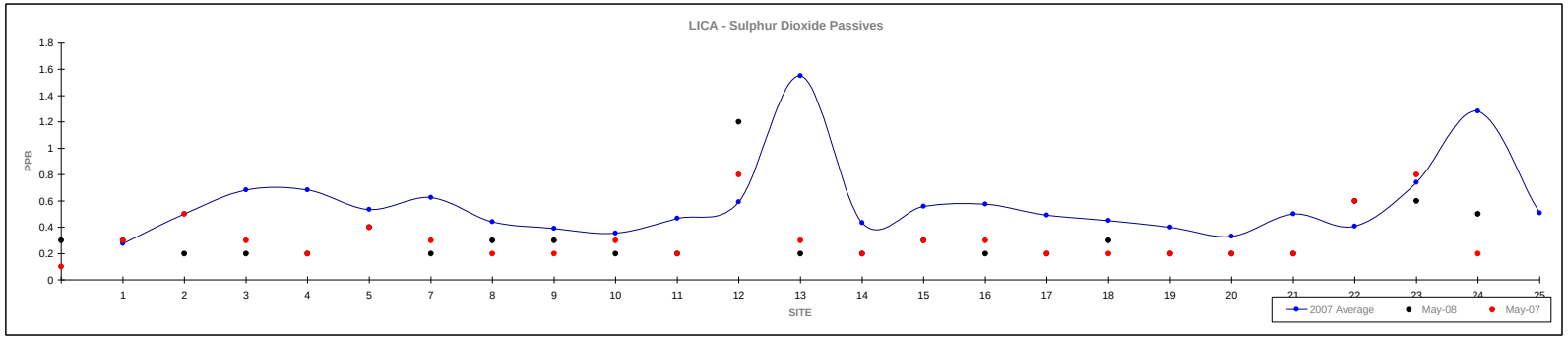
Non-Continuous Monitoring

Passive Summary Results for May 2008

Lakeland Industry & Community Association

Sulphur Dioxide
ppb

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

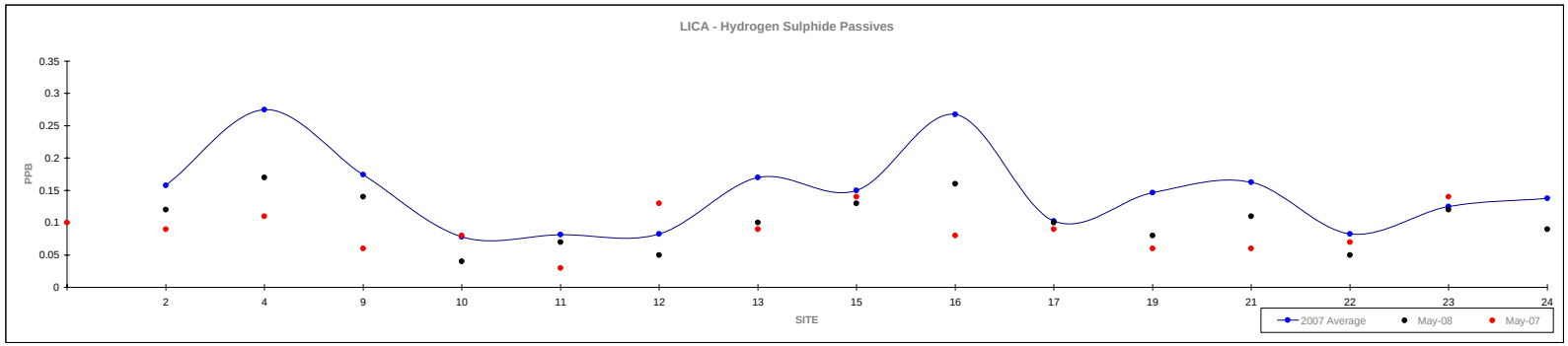


Passive Summary Results for May 2008

Lakeland Industry & Community Association

Hydrogen Sulphide
ppb

	2007															2008	
	2	**4**	**9**	**10**	**11**	**12**	**13**	**15**	**16**	**17**	**19**	**21**	**22**	**23**	**24**	**Reading**	**Site**
Mean	0.2	0.3	0.2	0.1	0.1	0.1	0.2	0.2	0.3	0.1	0.1	0.2	0.1	0.1	0.1	0.10	-
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	0.04	#10
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	0.17	#4

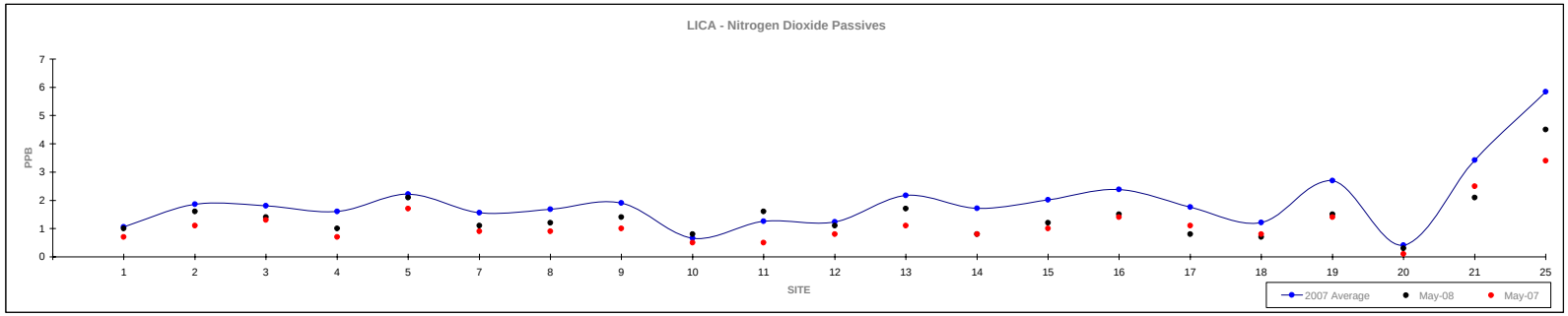


Passive Summary Results for May 2008

Lakeland Industry & Community Association

Nitrogen Dioxide
ppb

	2007																					2008	
	1	**2**	**3**	**4**	**5**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**25**	**Reading**	**Site**
Mean	1.1	1.9	1.8	1.6	2.2	1.6	1.7	1.9	0.7	1.3	1.2	2.2	1.7	2.0	2.4	1.8	1.2	2.7	0.4	3.4	5.8	1.4	-
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	#20
Maximum	4.1	3.5	4.0	3.8	5.3	3.6	3.8	3.9	1.4	3.2	2.5	5.3	3.4	4.5	4.8	3.9	3.0	5.8	1.2	6.4	10.7	4.5	#25

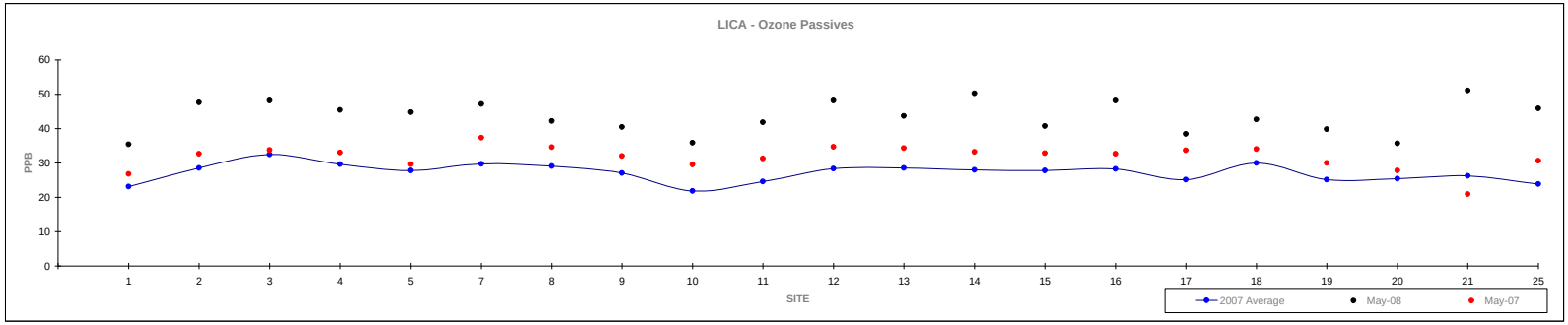


Passive Summary Results for May 2008

Lakeland Industry & Community Association

Ozone ppb

	2007																					2008	
	1	2	3	4	5	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	25	Reading	Site
Mean	23.1	28.5	32.5	29.6	27.8	29.7	29.0	27.0	21.9	24.6	28.3	28.5	28.0	27.8	28.3	25.2	30.0	25.2	25.5	26.2	23.8	43.5	-
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	35.4	#1
Maximum	37.3	41.1	51.4	48.0	46.3	42.3	44.1	44.6	29.5	33.6	41.2	38.6	39.9	41.6	44.7	38.6	46.5	39.2	39.0	41.6	33.2	51.1	#21



Calibration Reports

Cold Lake

Sulphur Dioxide

SO_2 Calibration Report

Station Information

Calibration Date	May 1, 2008	Previous Calibration	April 3, 2008
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:45	End Time (MST)	15:40
Reason:	Monthly Calibration		
Barometric Pressure	716 mmHg	Station Temperature	25 Deg C
Cal Gas	50.2 ppm	Cal Gas Expiry date	06/18/2009
DAS Output Voltage	0 - 10 Volts		

Equipment Information

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

Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0 - 500 ppb			
Sample Flow / Box Temp	725 ccm	OK Deg C	700 ccm	OK Deg C
HVPS / Lamp Setting	OK	856	OK	849
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	964	110	874

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	-1	N/A
5000	0	0	0	N/A
4960	40.2	404	407	0.9916
5000	0	0	0	N/A
4960	39.8	400	401	0.9965
5000	0	0	0	N/A
			Sum of Least Squares	2.0130
			New Correction Factor	0.0000

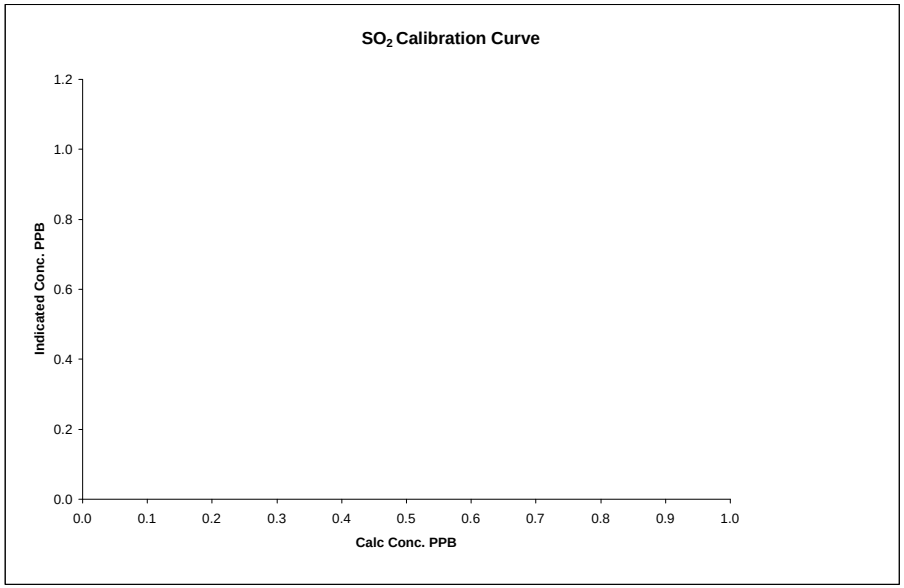
	Before Calibration	After Calibration
Auto Zero	-1	N/A
Auto Span	336	N/A
Sample Lines Connected		**YES**
Percent Change from Previous Calibration		N/A

Calibration Performed by: Shea Beaton

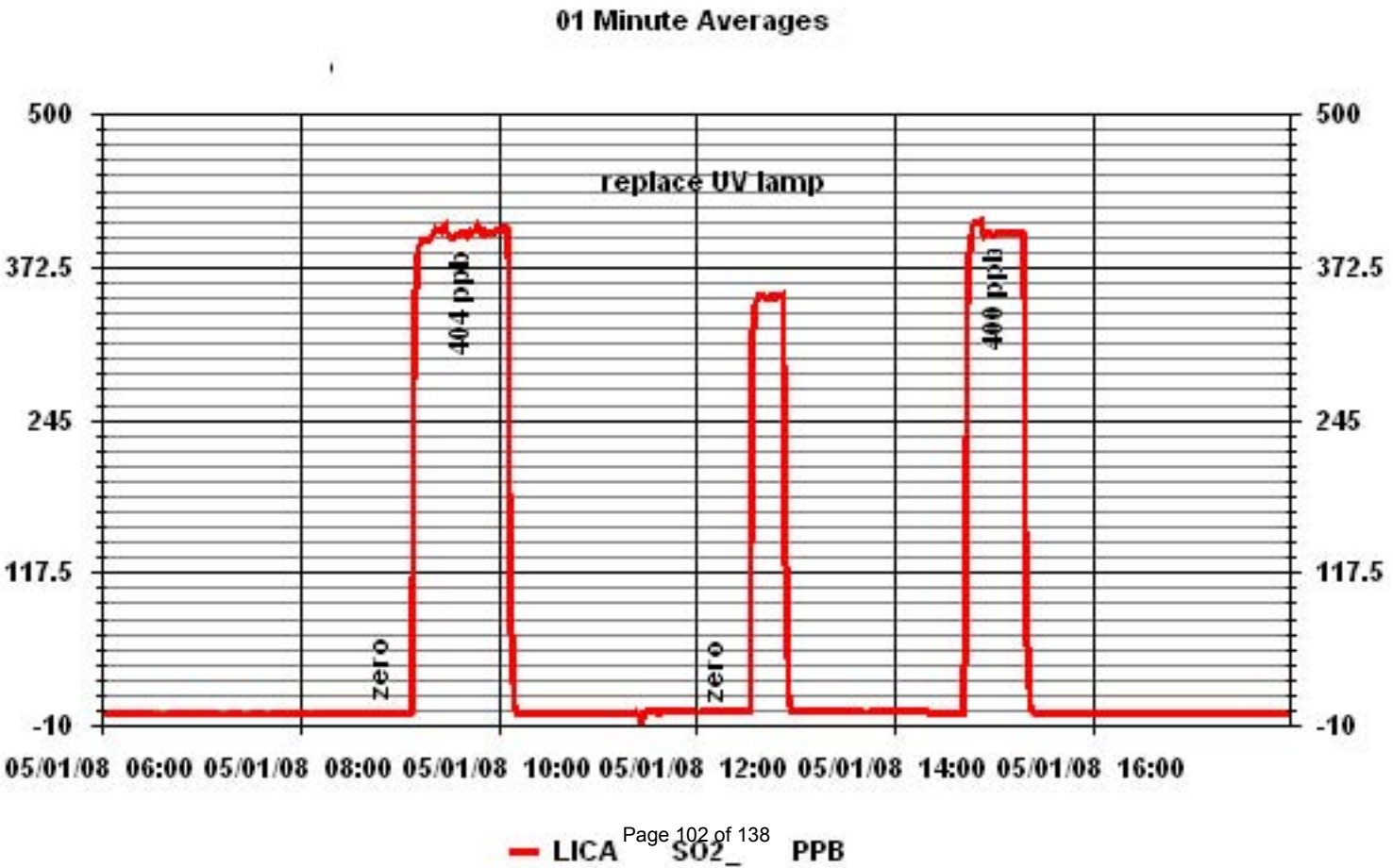
SO_2 Calibration Curve

Calibration Date	May 1, 2008		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:45	End Time (MST)	15:40

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



Notes: Replaced the UV lamp following the as found span point. 2 point Zero/Sapn adjustment started at 14:15 and ended at 15:40. Will allow the analyzer to stabilze overnight then perform a full calibration on May 2nd, 2008


01 Minute Averages
500
372.5
245
117.5
-10
replace UV lamp
404 ppb
400 ppb
zero
zero
05/01/08 06:00
05/01/08 08:00
05/01/08 10:00
05/01/08 12:00
05/01/08 14:00
05/01/08 16:00
LICA SO2_ PPB

SO_2 Calibration Report

Station Information

Calibration Date	May 2, 2008	Previous Calibration	April 3, 2008
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	5:55	End Time (MST)	9:20
Reason:	Post repair		
Barometric Pressure	719 mmHg	Station Temperature	24 Deg C
Cal Gas	50.2 ppm	Cal Gas Expiry date	06/18/2009
DAS Output Voltage	0 - 10 Volts		

Equipment Information

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

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range	0 - 500 ppb							
Sample Flow / Box Temp	725	ccm	OK	Deg C	700	ccm	OK	Deg C
HVPS / Lamp Setting	OK		849		OK		849	
PMT / RxCell Temp	OK	Deg C	OK	Deg C	OK	Deg C	OK	Deg C
Converter / IZS Temp	NA	Deg C	OK	Deg C	NA	Deg C	OK	Deg C
Offset / Slope	110		874		110		874	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	0	N/A
4960	39.8	400	405	0.9867
4980	19.9	200	202	0.9891
4999	10	100	101	0.9923
5000	0	0	0	N/A
			Sum of Least Squares	0.2353
			New Correction Factor	0.9867

	Before Calibration	After Calibration
Auto Zero	-1	-1
Auto Span	333	339
Sample Lines Connected		**YES**
Percent Change from Previous Calibration		1.0%

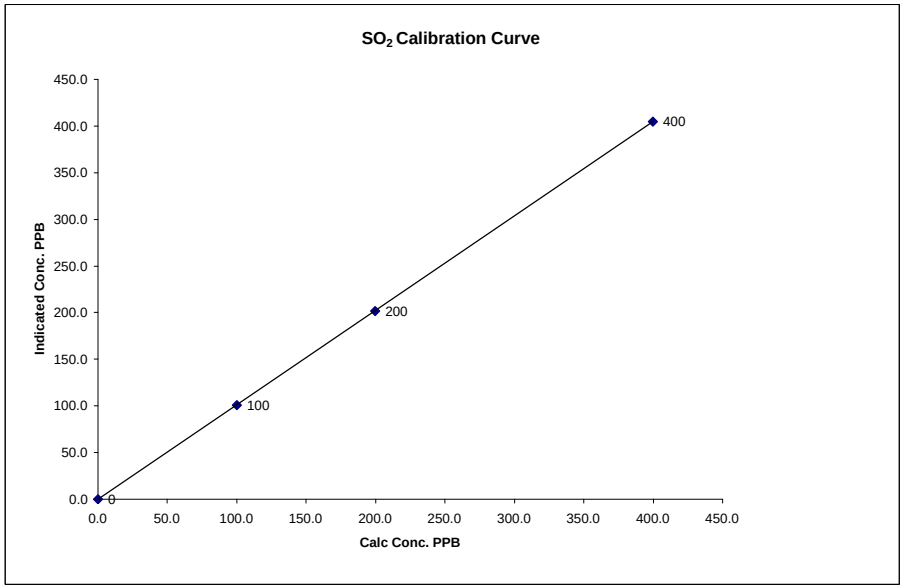
Calibration Performed by: Shea Beaton

SO_2 Calibration Curve

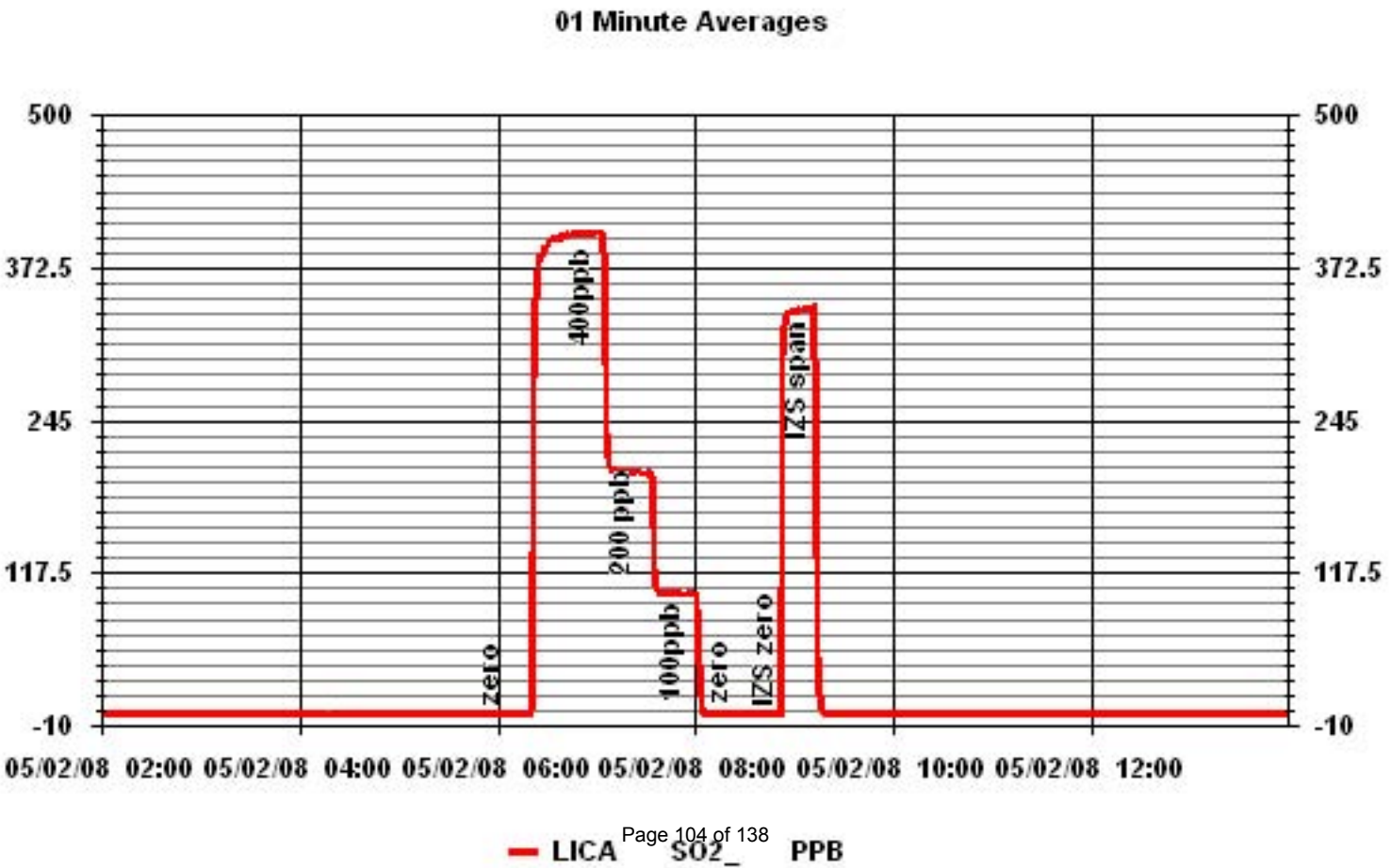
Calibration Date	May 2, 2008		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	5:55	End Time (MST)	9:20

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
100	101	0.9923
200	202	0.9891
400	405	0.9867

Correlation Coefficient	(≥ 0.995)	0.999997
Slope	(0.85 to 1.15)	1.013841
Intercept	(± 3% F.S.)	-0.327816



Notes: UV lamp was replaced on May 1st, 2008 anf the analyzer was allowed to stabilzed overnight.


01 Minute Averages
500
372.5
245
117.5
-10
zero
400ppb
200 ppb
100ppb
zero
IZS zero
IZS span
05/02/08 02:00
05/02/08 04:00
05/02/08 06:00
05/02/08 08:00
05/02/08 10:00
05/02/08 12:00
LICA SO2_ PPB

SO_2 Calibration Report

Station Information

Calibration Date	May 21, 2008	Previous Calibration	May 2, 2008
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:40	End Time (MST)	15:10
Reason:	Monthly Calibration		
Barometric Pressure	706 mmHg	Station Temperature	24 Deg C
Cal Gas	50.2 ppm	Cal Gas Expiry date	06/18/2009
DAS Output Voltage	0 - 10 Volts		

Equipment Information

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

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range	0 - 500 ppb							
Sample Flow / Box Temp	625	ccm	OK	Deg C	700	ccm	OK	Deg C
HVPS / Lamp Setting	OK		847		OK		849	
PMT / RxCell Temp	OK	Deg C	OK	Deg C	OK	Deg C	OK	Deg C
Converter / IZS Temp	NA	Deg C	OK	Deg C	NA	Deg C	OK	Deg C
Offset / Slope	110		874		106		844	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	-1	N/A
4975	40	400	406	0.9862
5000	0	0	0	N/A
4975	40	400	401	0.9985
4985	25	250	250	1.0020
4990	15	150	152	0.9898
5000	0	0	0	N/A
			Sum of Least Squares	0.3470
			New Correction Factor	0.9985

	Before Calibration	After Calibration
Auto Zero	-1	0
Auto Span	377	325
Sample Lines Connected		**YES**
Percent Change from Previous Calibration		-0.2%

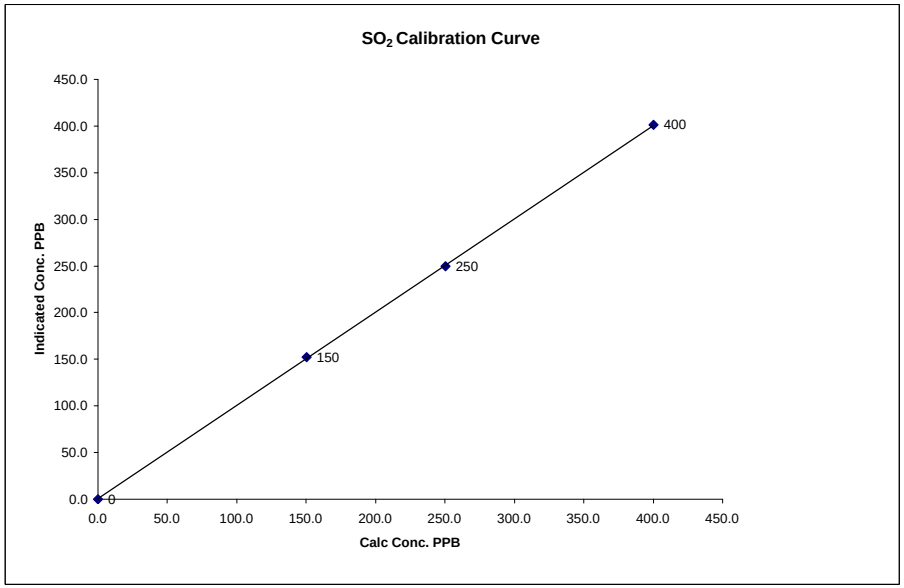
Calibration Performed by: Shea Beaton

SO_2 Calibration Curve

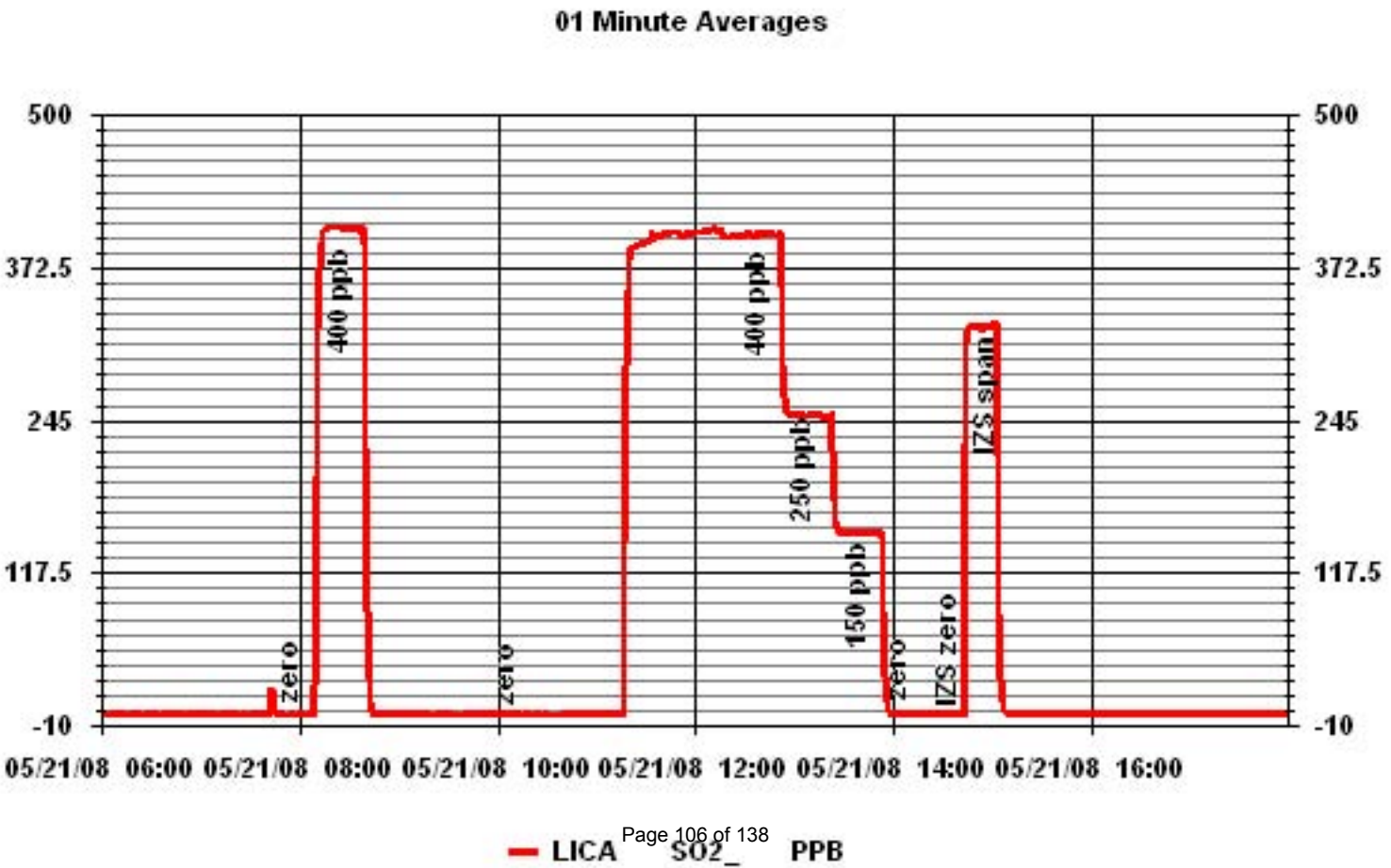
Calibration Date	May 21, 2008		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:40	End Time (MST)	15:10

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
150	152	0.9898
250	250	1.0020
400	401	0.9985

Correlation Coefficient	(≥ 0.995)	0.999973
Slope	(0.85 to 1.15)	1.000210
Intercept	(± 3% F.S.)	0.371059



Notes:


01 Minute Averages
500
372.5
245
117.5
-10
zero
400 ppb
zero
400 ppb
250 ppb
150 ppb
zero
IZS zero
IZS span
05/21/08 06:00
05/21/08 08:00
05/21/08 10:00
05/21/08 12:00
05/21/08 14:00
05/21/08 16:00
LICA SO2_ PPB

Total Reduced Sulphur

TRS Calibration Report

Station Information

Calibration Date	May 1, 2008	Previous Calibration	April 3, 2008
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:45	End Time (MST)	12:05
Reason:	Monthly Calibration		
Barometric Pressure	716 mm Hg	Station Temperature	25 Deg C
Cal Gas	10.2 ppm	Cal Gas Expiry date	07/03/2008
DAS Output Voltage	0 - 10 Volts		

Equipment Information

Analyzer Make / Model:	TECO 43A	S/N :	43A-35786-254	Method:	Fluorescent
Converter Make / Model:	CD Nova CDN 101	S/N :	250		
Calibrator Make / Model:	API 700	S/N :	690	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	263		
Flow Meter:	API 700	S/N :	690		

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range	0 -100 ppb							
Sample Flow / Box Temp	425	ccm	OK	Deg C	425	ccm	OK	Deg C
HVPS / Lamp Setting	OK		891		OK		892	
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	897		701		918		701	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	1	N/A
5000	0	0	0	#DIV/0!
4960	39.2	80	80	0.9998
4980	22.1	45	46	0.9797
4990	12.3	25	26	0.9646
5000	0	0	0	N/A
			Sum of Least Squares	0.9927
			New Correction Factor	0.9998

	Before Calibration	After Calibration
Auto Zero	1	0
Auto Span	83	84
Sample Lines Connected		YES
Percent Change from Previous Calibration		-1.2%

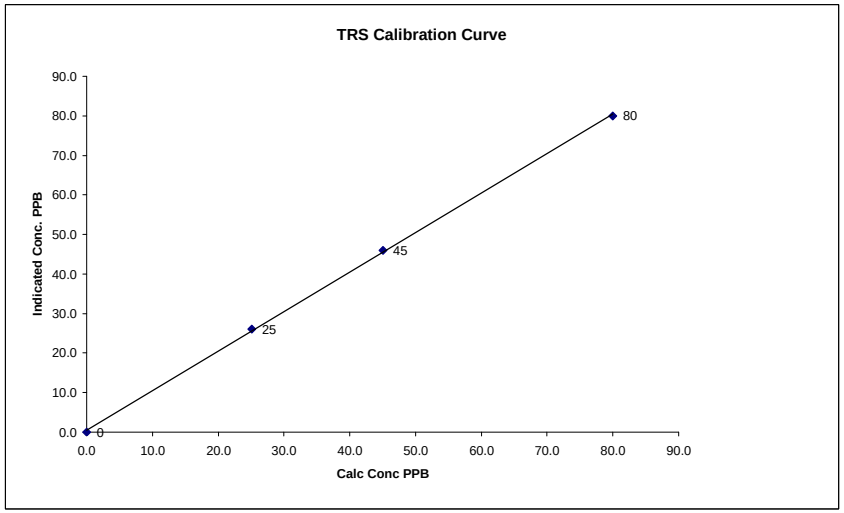
Calibration Performed by: Shea Beaton

TRS Calibration Curve

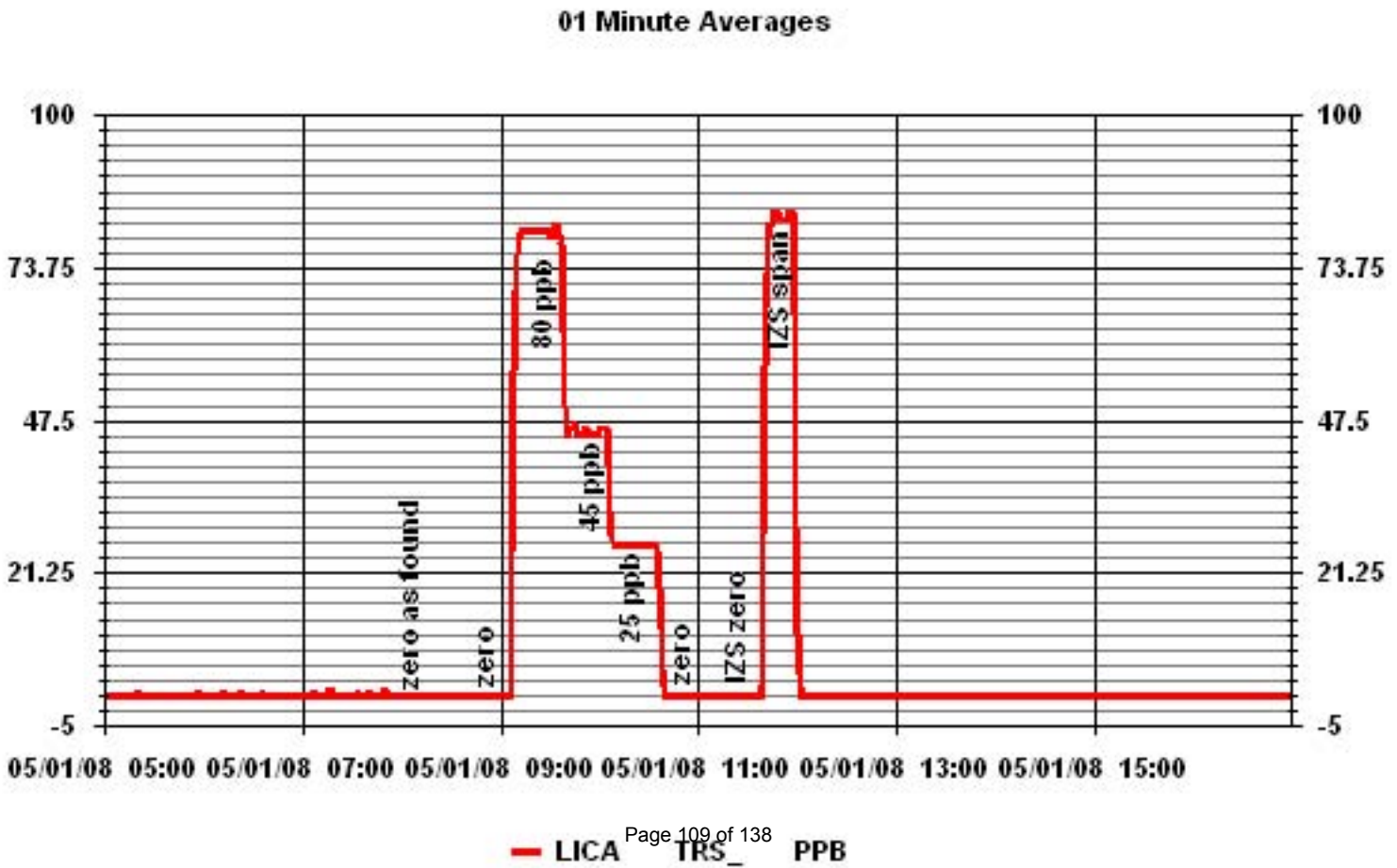
Calibration Date	May 1, 2008		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:45	End Time (MST)	12:05

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
25	26	0.9646
45	46	0.9797
80	80	0.9998

Correlation Coefficient	(≥ 0.995)	0.999755
Slope	(0.85 to 1.15)	0.998951
Intercept	(± 3% F.S.)	0.507796



Notes: Pump rebuild after as found points


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

Total Hydrocarbons

THC Calibration Report

Station Information

Calibration Date:	May 1, 2008	Previous Calibration	April 3, 2008
Company:	**Lakeland Industry and Community Association**		
Plant / Location:	**LICA1/Cold Lake**		
Start Time (MST)	11:20	End Time (MST)	15:05
Reason:	Monthly Calibration		
Barometric Pressure:	716 mmHg	Station Temperature:	25 Deg C
Calibrator:	API 700	S/N:	690
Cal Gas Concentration:	1010 ppm	Cal Gas Expiry Date:	Jan-10
DAS make & Model:	ESC 8832	S/N :	263
Output Voltage Range:	0 - 10 VDC		

Analyzer Information

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

Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0 - 50	ppm	0 - 50	ppm
Sample Pressure	6.5	psi	6.5	psi
Hydrogen Pressure	8.5	psi	8	psi
Air Pressure	18	psi	18	psi

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2000	0	0.0	0.1	N/A
2000	0	0.0	0.0	N/A
2000	80.0	38.8	39.4	0.9859
2000	80.0	38.8	38.9	0.9986
2000	40.0	19.8	19.4	1.0208
2000	20.0	10.0	9.6	1.0417
2000	0	0.0	0.0	N/A
			Correction Factor:	0.9986

Percent Change

Previous Calibration Correction Factor:	1.0038
Current Correction Factor Before Span Adjust:	0.9859
Percent Change:	1.8%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.1	0.0
Auto Span	30.7	30.6
Sample Lines Connected		**YES**

Cylinder Pressures		
Span	350 psi	
Hydrogen	600 psi	
Zero Air	unlimited psi	Maxxam-owned API 701 zero air supply with catalytic oxidizer

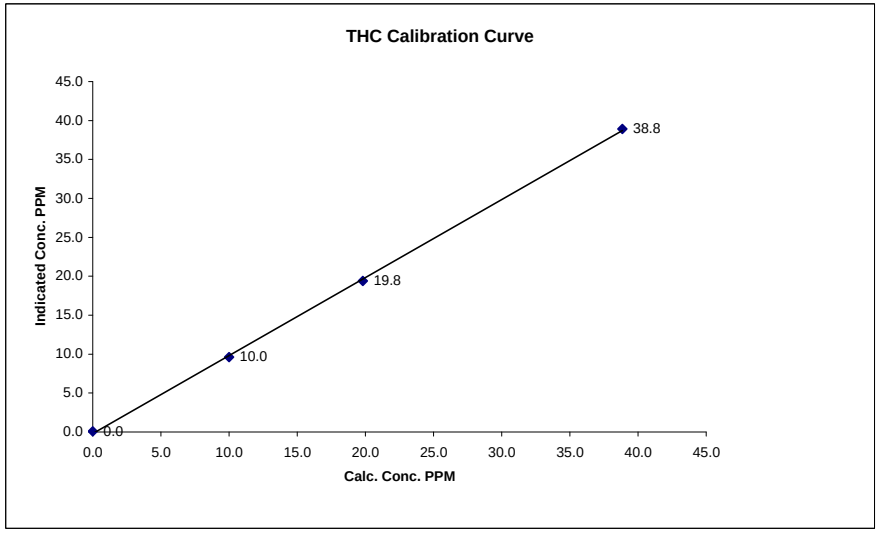
Calibration Performed by: Shea Beaton

THC Calibration Curve

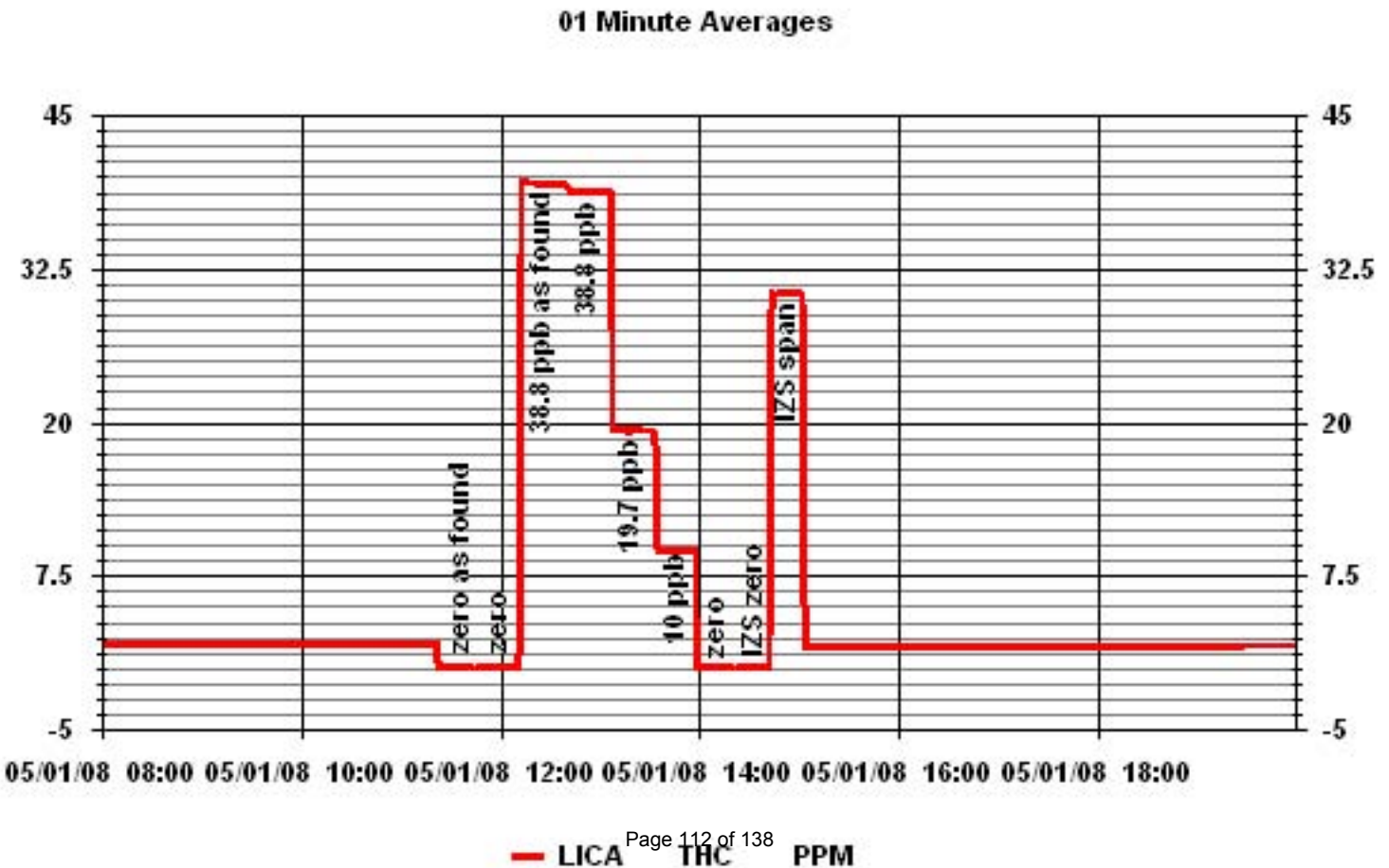
Calibration Date	May 1, 2008		
Company	**Lakeland Industry and Community Association**		
Plant / Location	**LICA1/Cold Lake**		
Start Time (MST)	11:20	End Time (MST)	15:05

Calculated Conc. ppm	Indicated Response ppm	Correction Factor
0.0	0.1	
10.0	9.6	1.0417
19.8	19.4	1.0208
38.8	38.9	0.9986

Correlation Coefficient	(≥ 0.995)	0.999723
Slope	(0.85 to 1.15)	1.001518
Intercept	(± 3% F.S.)	-0.188573



Notes:


01 Minute Averages
45
32.5
20
7.5
-5
zero as found
zero
38.8 ppb as found
38.8 ppb
19.7 ppb
10 ppb
zero
IZS zero
IZS span
05/01/08 08:00
05/01/08 10:00
05/01/08 12:00
05/01/08 14:00
05/01/08 16:00
05/01/08 18:00
LICA THC PPM

Particulate Matter 2.5

TEOM® Calibration

Station		Transfer Standard	
Date:	May 21, 2008	Make/Model:	Bios DC-2
Station Name:	LICA	Serial Number:	1193
Location:	Cold Lake - South	Cell s/n:	2272
Operator:	Maxxam Analytics	Thermometer s/n:	2178

Sampler		Set-up and current Sampler readings	
Make/Model	R & P Series 1400 a TEOM	F-Main Set Pt (l/min)	3.00
Unit #	AMU 1494	F-Aux Set Pt (l/min)	13.67
Control unit s/n	140AB213859701	Filter Load (%)	53
Transducer s/n	140AB213859701	K_o Factor	11095
Parameter	PM 2.5	Temp (^oC)	6.9
		Press (ATM)	0.929

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)**	36
F-Aux (l/min)	0.18		**(45-60 Sec)**	44

Temperature/Pressure

Measured Temp **(± 1 ^oC)**	7.5	**Δ ^oC**	0.6
Measured Press **(± 1.5% ATM)**	0.929	**Δ % ATM**	0.0%

Flow Audit

			Δ % from Set-pt
Indicated Main/Aux Flow (l/min)	3.00 / 13.61	**(± 2%)**	0.0% / 0.4%
Total Flow = Main + Aux (l/min)	16.61	**(± 2%)**	0.4%
Measured Total Flow (l/min)	16.01	**(± 1.0 l/min. (5.65%))**	3.7%
Measured Main Flow (l/min)	2.75	**(± 0.2 l/min. (6.25%))**	9.1%

Leak Check

		Actual leakage = Pump On - Pump Off
Main **(< 0.15 l/min)**	0.32	0.38
Aux **(< 0.15 l/min)**	0.18	0.36

K_o Factor

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

Start Time: 7:45 **Finish Time:** 22:00

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

Comments: Audit values for th Teo, piror to repair

Calibrator/s: Shea Beaton

TEOM® Calibration

Station		Transfer Standard	
Date:	May 21, 2008	Make/Model:	Bios DC-2
Station Name:	LICA	Serial Number:	1193
Location:	Cold Lake - South	Cell s/n:	2272
Operator:	Maxxam Analytics	Thermometer s/n:	2178

Sampler		Set-up and current Sampler readings	
Make/Model	R & P Series 1400 a TEOM	F-Main Set Pt (l/min)	3.00
Unit #	AMU 1494	F-Aux Set Pt (l/min)	13.67
Control unit s/n	140AB213859701	Filter Load (%)	20
Transducer s/n	140AB213859701	K_o Factor	11095
Parameter	PM 2.5	Temp (^oC)	14.2
		Press (ATM)	0.931

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)**	36
F-Aux (l/min)	0.18		**(45-60 Sec)**	44

Temperature/Pressure

Measured Temp **(± 1 ^oC)**	14..1	**Δ ^oC**	#VALUE!
Measured Press **(± 1.5% ATM)**	0.930	**Δ % ATM**	-0.1%

Flow Audit

			Δ % from Set-pt
Indicated Main/Aux Flow (l/min)	3.00 / 13.65	**(± 2%)**	0.0% / 0.1%
Total Flow = Main + Aux (l/min)	16.65	**(± 2%)**	0.1%
Measured Total Flow (l/min)	16.61	**(± 1.0 l/min. (5.65%))**	0.2%
Measured Main Flow (l/min)	3.05	**(± 0.2 l/min. (6.25%))**	-1.6%

Leak Check

		Actual leakage = Pump On - Pump Off
Main **(< 0.15 l/min)**	0.00	0.06
Aux **(< 0.15 l/min)**	0.00	0.18

K_o Factor

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

Start Time: **7:45** **Finish Time:** **22:00**

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

Comments: Audit values for the Teom after repair (rebuilt the pump, changed the flow adjust factors (main =0.98, aux = 0.970), replaced the Teom filter, repaired leaky fitting (90degree brass elbow on bottom of the mass transducer housing)), this is a temporary fix until the proper part can be obtained.

Calibrator/s: Shea Beaton

Nitrogen Dioxide

NOx - NO- NO_2 Calibration Report

Station Information

Calibration Date	May 1, 2008	Previous Calibration	April 14, 2008
Company	**Lakeland Ind & Comm. Assoc.**	Plant/Location	**LICA 1 - Cold Lake South**
Start Time (MST)	7:45	End Time (MST)	15:05
Reason:	Monthly Calibration		
Barometric Pressure	716 mmHg	Station Temperature	25.0 Deg C
Cal Gas Concentration	NOx 49.8 ppm NO 49.7 ppm	Cal Gas Expiry date	06/18/2009
DAS Output Voltage	0 - 5 Volts		

Equipment Information

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

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range			0 - 500	ppb				
Sample Flow/Conv. Temp	700	ccm	317	Deg C	700	ccm	317	Deg C
Ozone Flow / Vacuum	OK	ccm	192	"Hg-A	OK	ccm	192.9	"Hg-A
HVPS	-821		Volts		-821		Volts	
Rx/ Temp / PMT Temp	49.8	Deg C	-2.5	Deg C	49.9	Deg C	-2.5	Deg C
Box Temp / IZS Temp	28.2	Deg C	OK	Deg C	29.6	Deg C	OK	Deg C
Offset	4.3	NOx	3.8	NO	3.8	NOx	3.6	NO
Slope	1.005	NOx	0.947	NO	1.001	NOx	0.956	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	-1	0	N/A	N/A
5000	0	N/A	0	0	0	0	0	N/A	N/A
4959	40.2	N/A	400	400	398	396	2	1.0062	1.0092
4959	40.2	N/A	400	400	400	400	0	1.0011	0.9991
4974	25.2	N/A	251	251	250	250	0	1.0041	1.0021
4984	15.1	N/A	150	150	151	151	0	0.9962	0.9942
5000	N/A	N/A	0	0	0	0	0	N/A	N/A
								Converter Efficiency	
4959	40.2	N/A	400	400	400	401	-1	N/A	
4959	40.2	300	400	N/A	397	122	275	99%	
4959	40.2	250	400	N/A	398	164	234	99%	
4959	40.2	150	400	N/A	399	253	146	99%	
4959	40.2	N/A	400	400	400	400	1	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	1.0014	0.9994
Flows Checked on-site?	Yes	**No**	New Correction Factor	1.0011	0.9991
			Average Converter Efficiency	99%	

	Before Calibration				After Calibration			
Auto Zero	0	NOx	0	NO2	0	NOx	0	NO2
Auto Span	275	NOx	274	NO2	274	NOx	272	NO2
Sample Lines Connected					**YES**			
Percent Change from Previous Calibration					*NOx*	11.8%	*NO*	11.5%

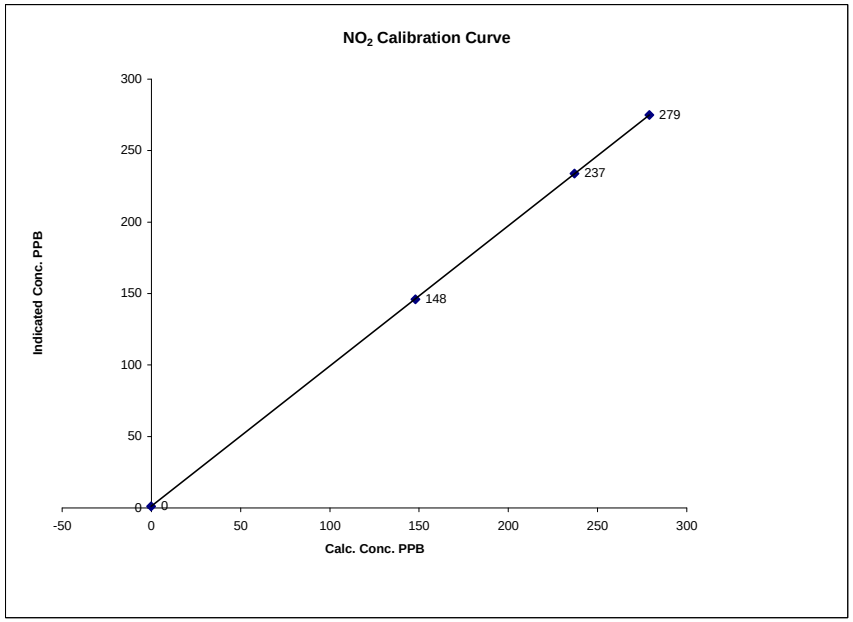
Calibration Performed by: Shea Beaton

NO_2 Calibration Curve

Calibration Date	May 1, 2008		
Company	**Lakeland Ind & Comm. Assoc.**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:45	End Time (MST)	15:05

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	1	N/A
148	146	1.0137
237	234	1.0128
279	275	1.0145

Correlation Coefficient	(≥ 0.995)	0.999994
Slope	(0.85 to 1.15)	0.981517
Intercept	(± 3% F.S.)	1.142790



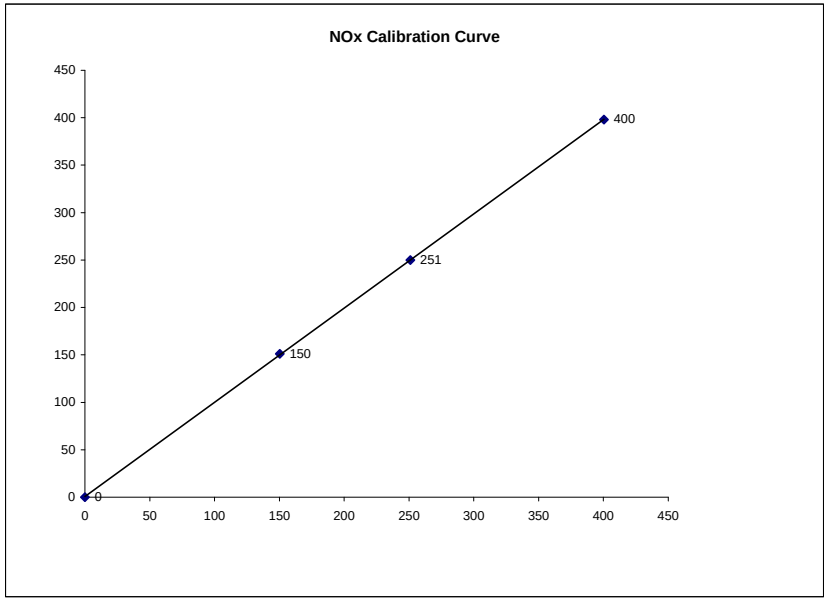
Notes:

NOx Calibration Curve

Calibration Date	May 1, 2008		
Company	**Lakeland Ind & Comm. Assoc.**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:45	End Time (MST)	15:05

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	N/A
150	151	0.9962
251	250	1.0041
400	398	1.0062

Correlation Coefficient	(≥ 0.995)	0.999983
Slope	(0.85 to 1.15)	0.993287
Intercept	(± 3% F.S.)	0.617926

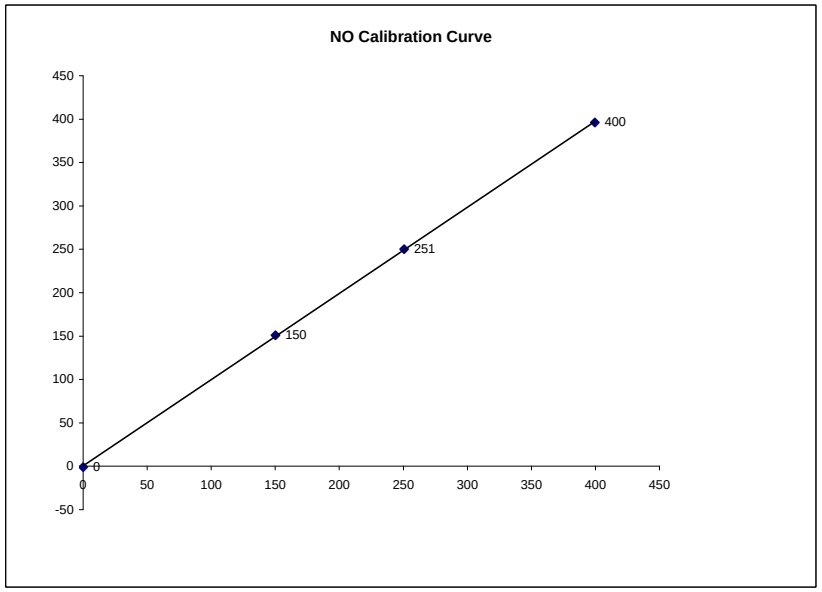


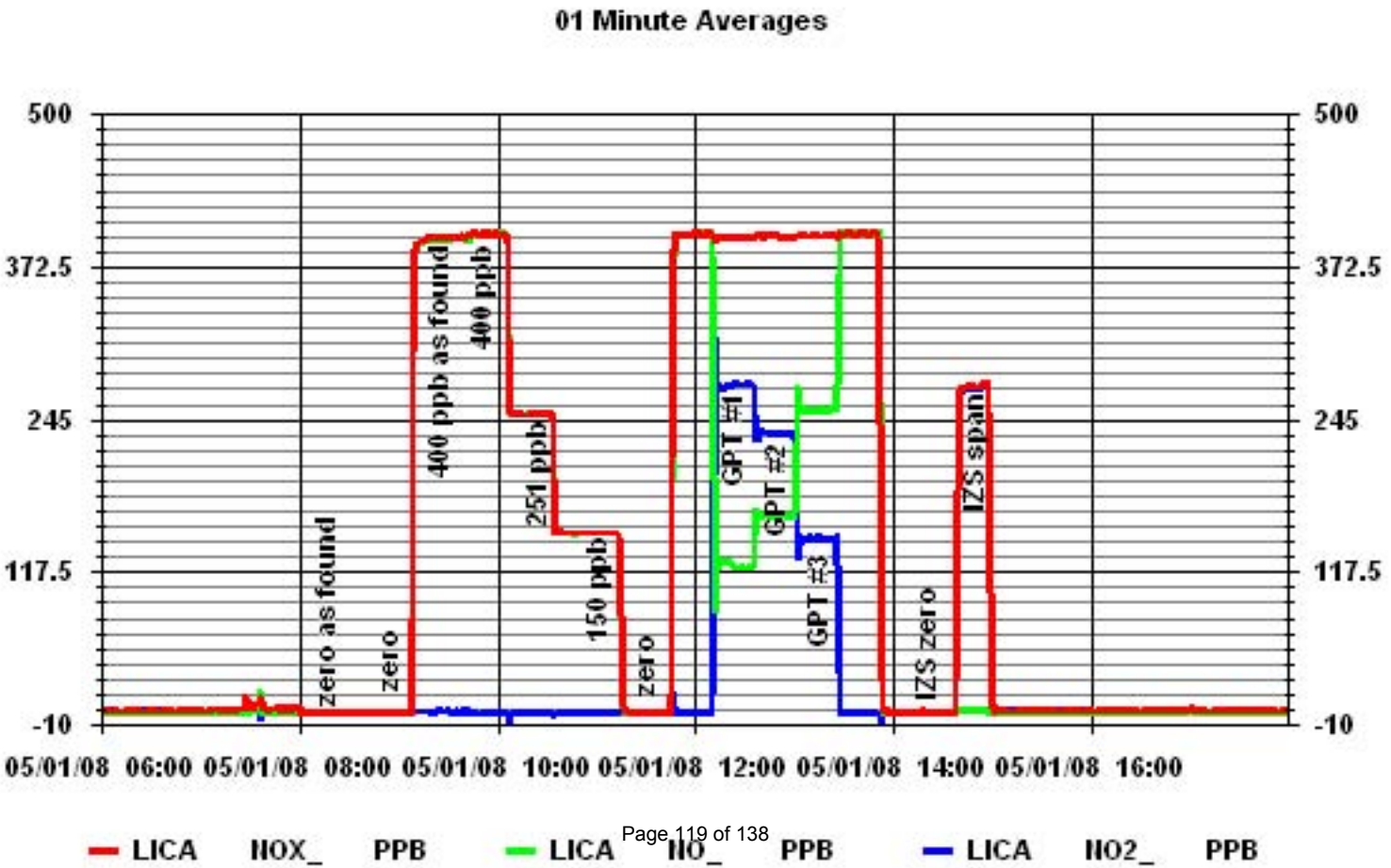
NO Calibration Curve

Calibration Date	May 1, 2008		
Company	**Lakeland Ind & Comm. Assoc.**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:45	End Time (MST)	15:05

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	-1	N/A
150	151	0.9942
251	250	1.0021
400	396	1.0092

Correlation Coefficient	(≥ 0.995)	0.999922
Slope	(0.85 to 1.15)	0.992941
Intercept	(± 3% F.S.)	0.337062




01 Minute Averages
500
372.5
245
117.5
-10
zero as found
zero
400 ppb as found
400 ppb
251 ppb
150 ppb
zero
GPT #1
GPT #2
GPT #3
IZS zero
IZS span
05/01/08 06:00
05/01/08 08:00
05/01/08 10:00
05/01/08 12:00
05/01/08 14:00
05/01/08 16:00
LICA NOX_ PPB
LICA NO_ PPB
LICA NO2_ PPB

Ozone

O_3 Calibration Report

Station Information

Calibration Date	May 21, 2008	Previous Calibration	April 21, 2008
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:40	End Time (MST)	10:55
Reason:		Monthly Calibration	
Barometric Pressure	706 mm Hg	Station Temperature	24 Deg C
DAS Output Voltage	0 - 10 Volts		

Equipment Information

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

Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0 - 500 ppb			
Bench Temp/ Pressure	29.9		30.5	
O_3 Set Level	29%		29%	
Bench Lamp/O3 Lamp				
Sample Flow A/B	0.735 LPM	0.748 LPM	0.735 LPM	0.748 LPM
Offset / Slope	0.7	1.049	0.7	1.049

Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	0	N/A
5000	400	382	383	0.9974
5000	200	193	192	1.0052
5000	100	94	94	1.0000
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	286	287
Sample Lines Connected		YES
Percent Change from Previous Calibration		1.0%

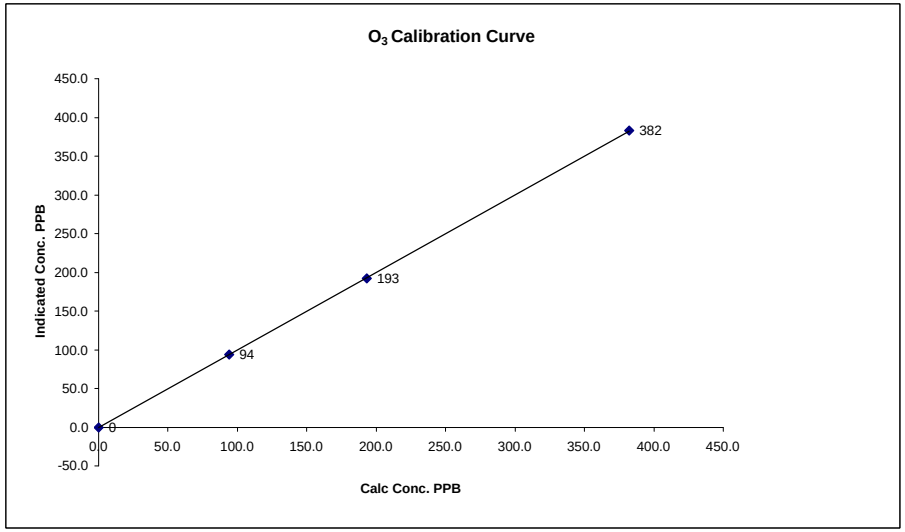
Calibration Performed by: Shea Beaton

O_3 Calibration Curve

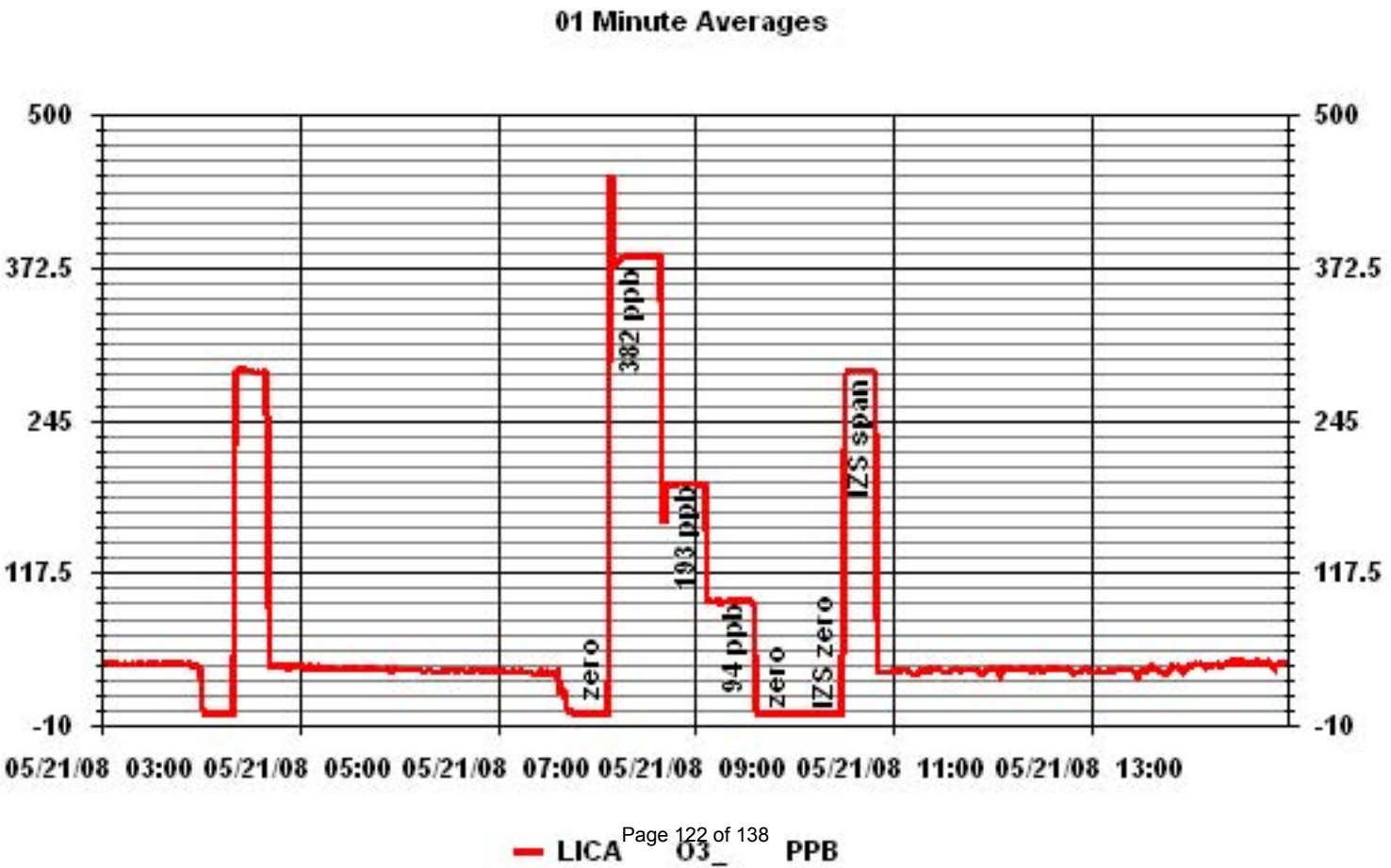
Calibration Date	May 21, 2008		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:40	End Time (MST)	10:55

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
94	94	1.0000
193	192	1.0052
382	383	0.9974

Correlation Coefficient	(≥ 0.995)	0.999981
Slope	(0.85 to 1.15)	1.002359
Intercept	(± 3% F.S.)	-0.394542



Notes:


01 Minute Averages
500
372.5
245
117.5
-10
zero
382 ppb
193 ppb
94 ppb
zero
IZS zero
IZS span
05/21/08 03:00
05/21/08 05:00
05/21/08 07:00
05/21/08 09:00
05/21/08 11:00
05/21/08 13:00
LICA O3_ PPB

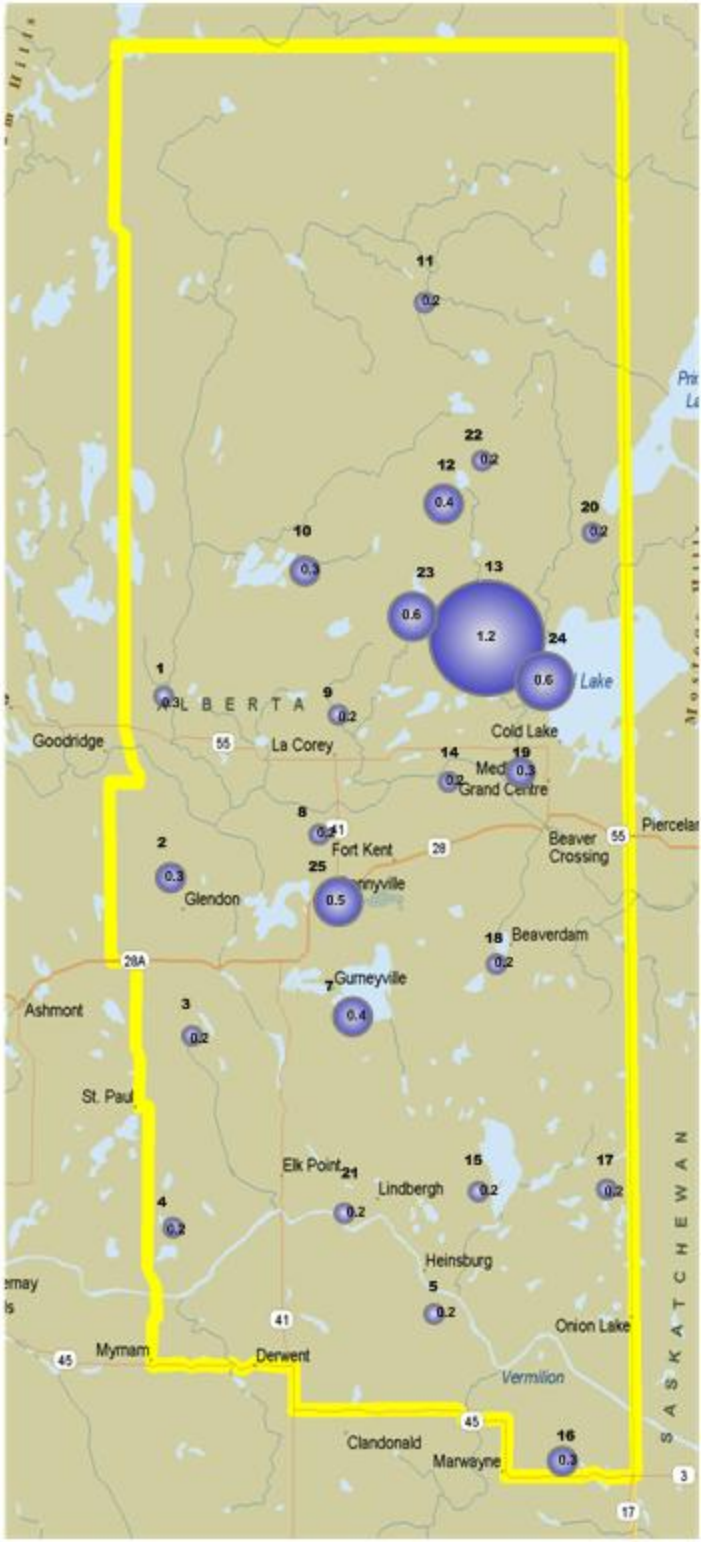
Passive Bubble Maps

Lakeland Industry & Community Association
SO_2 Passive Bubble Map

MAY 2008

PASSIVE STATIONS

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



Summary

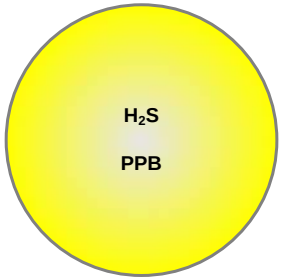
Minimum : 0.2 PPB – VARIOUS
Maximum: 1.2 PPB – Maskwa
Average: 0.3 PPB *Includes Duplicates

Lakeland Industry & Community Association
H_2S Passive Bubble Map

MAY 2008

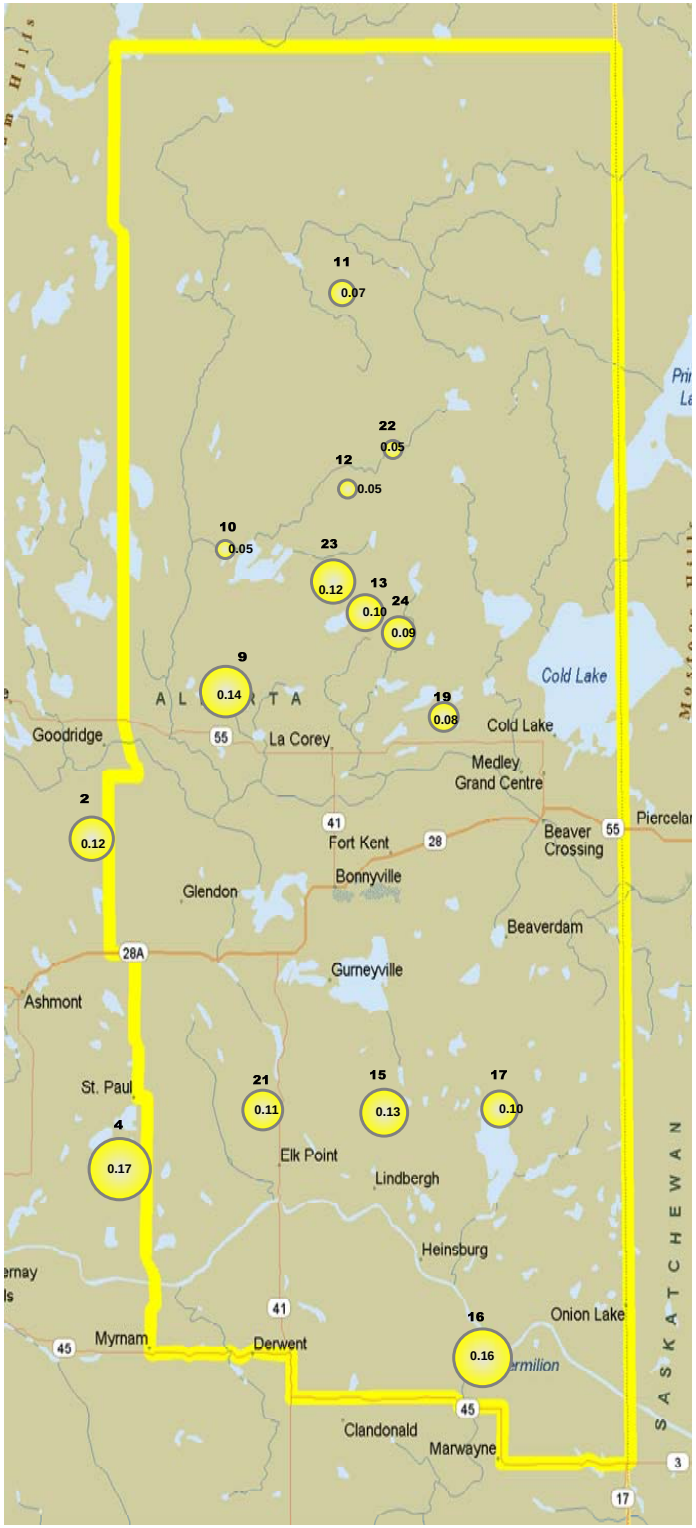
PASSIVE STATIONS

2 – Therien	0.12 PPB
4 – Lake Eliza	0.17 PPB
9 – La Corey	0.14 PPB
10 – Wolf Lake	0.04 PPB
10 A – Wolf Lake	0.05 PPB
11 – Foster Creek	0.07 PPB
11 A– Foster Creek	0.07 PPB
12 – Primrose	0.05 PPB
13 – Maskwa	0.10 PPB
15 – Frog Lake	0.13 PPB
16 – Clear Range	0.16 PPB
17 – Fishing Lake	0.10 PPB
19 – Cold Lake South	0.08 PPB
21 – Fort George	0.11 PPB
22 – Burnt Lake	0.05 PPB
23 – Mahihkan	0.12 PPB
24 – Hilda Lake	0.09 PPB



Summary

Minimum : 0.04 PPB – Wolf Lake
Maximum: 0.17 PPB – Lake Eliza
Average: 0.10 PPB *Includes Duplicates



Lakeland Industry & Community Association
NO_2 Passive Bubble Map

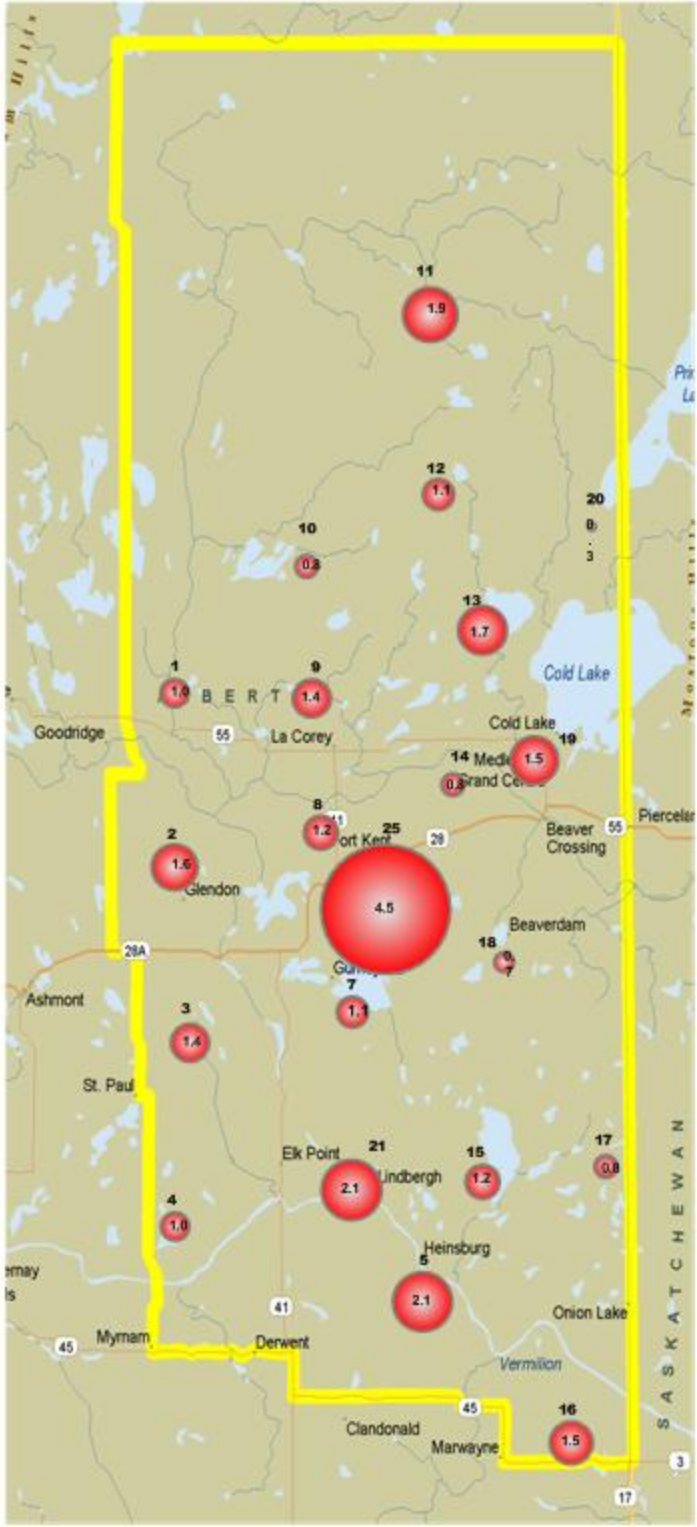
MAY 2008

PASSIVE STATIONS

1 – Sand River	1.0 PPB
2 – Therien	1.6 PPB
3 – Flat Lake	1.4 PPB
4 – Lake Eliza	1.0 PPB
5 – Telegraph Creek	2.1 PPB
7 – Muriel-Kehewin	1.1 PPB
8 – Dupre	1.2 PPB
9 – La Corey	1.4 PPB
10 – Wolf Lake	0.8 PPB
10A – Wolf Lake	0.8 PPB
11 – Foster Creek	1.6 PPB
11A – Foster Creek	2.2 PPB
12 – Primrose	1.1 PPB
13 – Maskwa	1.7 PPB
14 – Ardmore	0.8 PPB
15 – Frog Lake	1.2 PPB
16 – Clear Range	1.5 PPB
17 – Fishing Lake	0.8 PPB
18 – Beaverdam	0.7 PPB
19 – Cold Lake South	1.5 PPB
20 – Medley-Martineau	0.3 PPB
21 – Fort George	2.1 PPB
25 – Town of Bonnyville	4.5 PPB

Summary

Minimum : 0.3 PPB – Medley-Martineau
Maximum: 4.5 PPB – Town of Bonnyville
Average: 1.4 PPB *Includes Duplicates



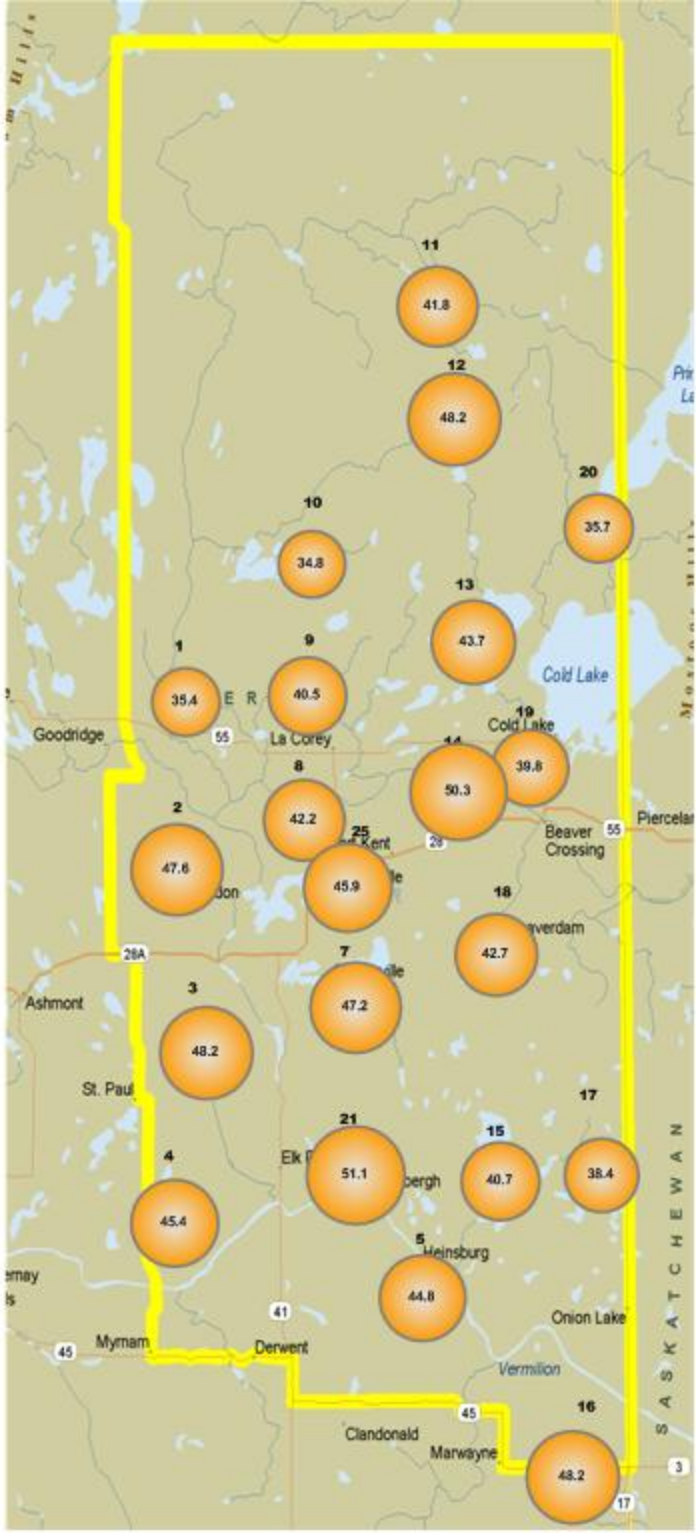
Lakeland Industry & Community Association
O_3 Passive Bubble Map

MAY 2008

PASSIVE STATIONS

1 – Sand River	35.4 PPB
2 – Therien	47.6 PPB
3 – Flat Lake	48.2 PPB
4 – Lake Eliza	45.4 PPB
5 – Telegraph Creek	44.8 PPB
7 – Muriel-Kehewin	47.2 PPB
8 – Dupre	42.2 PPB
9 – La Corey	40.5 PPB
10 – Wolf Lake	35.9 PPB
10A – Wolf Lake	33.7 PPB
11 – Foster Creek	41.8 PPB
11A – Foster Creek	41.7 PPB
12 – Primrose	48.2 PPB
13 – Maskwa	43.7 PPB
14 – Ardmore	50.3 PPB
15 – Frog Lake	40.7 PPB
16 – Clear Range	48.2 PPB
17 – Fishing Lake	38.4 PPB
18 – Beaverdam	42.7 PPB
19 – Cold Lake South	39.8 PPB
20 – Medley-Martineau	35.7 PPB
21 – Fort George	51.1 PPB
25 – Town of Bonnyville	45.9 PPB

O_3 PPB



Summary

Minimum : 35.4 PPB – Sand River
Maximum: 51.1 PPB – Fort George
Average: 43.5 PPB *Includes Duplicates

Passive Network Laboratory Analysis

Your Project #: 2008/04/28 - 2008/06/03
Site:LICA

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

Report Date: 2008/06/23

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A827183
Received: 2008/06/06, 14:05

Sample Matrix: Air
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
H2S Passive Analysis (1)	1	2008/06/23	2008/06/23		EDM SOP-0320
NO2 Passive Analysis (1)	1	2008/06/23	2008/06/23		EDM SOP-0318
O3 Passive Analysis (1)	1	2008/06/13	2008/06/23		EDM SOP-0317
SO2 Passive Analysis (1)	1	2008/06/20	2008/06/23		EDM SOP-0319

Sample Matrix: Air
Samples Received: 25

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
H2S Passive Analysis (1)	16	2008/06/23	2008/06/23		EDM SOP-0320
NO2 Passive Analysis (1)	22	2008/06/23	2008/06/23		EDM SOP-0318
O3 Passive Analysis (1)	22	2008/06/13	2008/06/23		EDM SOP-0317
SO2 Passive Analysis (1)	25	2008/06/20	2008/06/23		EDM SOP-0319

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

Encryption Key

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

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

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

Your Project #: 2008/04/28 - 2008/06/03
Site:LICA

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

Report Date: 2008/06/23

CERTIFICATE OF ANALYSIS

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

Total cover pages: 2

Maxxam Job #: A827183
Report Date: 2008/06/23

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2008/04/28 - 2008/06/03
Site Reference: LICA
Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		K12297		
Sampling Date		2008/04/28 13:05		
	Units	**10A**	**RDL**	**QC Batch**
Passive Montioring				
Calculated H2S	ppb	0.05	0.02	2386549
Calculated NO2	ppb	0.8	0.1	2386213
Calculated O3	ppb	33.7	0.1	2367988
Calculated SO2	ppb	0.3	0.1	2383605

RDL = Reportable Detection Limit

Maxxam Analytics Inc

Maxxam Job #: A827183
Report Date: 2008/06/23

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2008/04/28 - 2008/06/03
Site Reference: LICA
Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		K12277	K12278	K12279	K12280		
Sampling Date		2008/04/28 11:25	2008/04/28 10:50	2008/04/29 15:30	2008/04/29 14:45		
	Units	**1**	**2**	**3**	**4**	**RDL**	**QC Batch**
Passive Montioring							
Calculated H2S	ppb		0.12		0.17	0.02	2386549
Calculated NO2	ppb	1.0	1.6	1.4	1.0	0.1	2386213
Calculated O3	ppb	35.4	47.6	48.2	45.4	0.1	2367988
Calculated SO2	ppb	0.3	0.3	0.2	0.2	0.1	2383605

RDL = Reportable Detection Limit

Maxxam ID		K12281	K12282	K12283	K12284		
Sampling Date		2008/04/29 13:30	2008/04/29 16:20	2008/04/28 10:15	2008/04/28 12:30		
	Units	**5**	**7**	**8**	**9**	**RDL**	**QC Batch**
Passive Montioring							
Calculated H2S	ppb				0.14	0.02	2386549
Calculated NO2	ppb	2.1	1.1	1.2	1.4	0.1	2386213
Calculated O3	ppb	44.8	47.2	42.2	40.5	0.1	2367988
Calculated SO2	ppb	0.2	0.4	0.2	0.3	0.1	2383605

RDL = Reportable Detection Limit

Maxxam ID		K12285	K12286	K12287	K12288		
Sampling Date		2008/04/28 13:05	2008/04/28 14:35	2008/04/29 08:55	2008/04/28 16:50		
	Units	**10**	**11**	**12**	**13**	**RDL**	**QC Batch**
Passive Montioring							
Calculated H2S	ppb	0.04	0.07	0.05	0.10	0.02	2386549
Calculated NO2	ppb	0.8	1.6	1.1	1.7	0.1	2386213
Calculated O3	ppb	35.9	41.8	48.2	43.7	0.1	2367988
Calculated SO2	ppb	0.3	0.2	0.2	1.2	0.1	2383605

RDL = Reportable Detection Limit

Maxxam Job #: A827183
Report Date: 2008/06/23

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2008/04/28 - 2008/06/03
Site Reference: LICA
Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		K12289	K12290	K12291	K12292		
Sampling Date		2008/04/28 09:05	2008/04/29 11:50	2008/04/29 12:35	2008/04/29 11:10		
	Units	**14**	**15**	**16**	**17**	**RDL**	**QC Batch**
Passive Montioring							
Calculated H2S	ppb		0.13	0.16	0.10	0.02	2386549
Calculated NO2	ppb	0.8	1.2	1.5	0.8	0.1	2386213
Calculated O3	ppb	50.3	40.7	48.2	38.4	0.1	2367988
Calculated SO2	ppb	0.2	0.2	0.3	0.2	0.1	2383605

RDL = Reportable Detection Limit

Maxxam ID		K12293	K12294	K12295	K12296		
Sampling Date		2008/04/29 10:20	2008/04/29 06:50	2008/04/29 07:45	2008/04/29 14:00		
	Units	**18**	**19**	**20**	**21**	**RDL**	**QC Batch**
Passive Montioring							
Calculated H2S	ppb		0.08		0.11	0.02	2386549
Calculated NO2	ppb	0.7	1.5	0.3	2.1	0.1	2386213
Calculated O3	ppb	42.7	39.8	35.7	51.1	0.1	2367988
Calculated SO2	ppb	0.2	0.3	0.2	0.2	0.1	2383605

RDL = Reportable Detection Limit

Maxxam ID		K12298	K12305	K12312	K12316		
Sampling Date		2008/04/28 14:35	2008/04/28 15:45	2008/04/28 16:30	2008/04/28 17:10		
	Units	**11A**	**22**	**23**	**24**	**RDL**	**QC Batch**
Passive Montioring							
Calculated H2S	ppb	0.07	0.05	0.12	0.09	0.02	2386549
Calculated NO2	ppb	2.2				0.1	2386213
Calculated O3	ppb	41.7				0.1	2367988
Calculated SO2	ppb	0.3	0.2	0.6	0.6	0.1	2383605

RDL = Reportable Detection Limit

Maxxam Job #: A827183
Report Date: 2008/06/23

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2008/04/28 - 2008/06/03
Site Reference: LICA
Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		K12318		
Sampling Date		2008/04/28 09:55		
	Units	**25**	**RDL**	**QC Batch**
Passive Montioring				
Calculated NO2	ppb	4.5	0.1	2386213
Calculated O3	ppb	45.9	0.1	2367988
Calculated SO2	ppb	0.5	0.1	2383605

RDL = Reportable Detection Limit

General Comments

Results relate only to the items tested.

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Attention: MICHAEL BISAGA
Client Project #: 2008/04/28 - 2008/06/03
P.O. #:
Site Reference: LICA

Quality Assurance Report

Maxxam Job Number: PA827183

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2367988 LM1	Calibration Check	Calculated O3	2008/06/13		102	%	91 - 107
	SPIKE	Calculated O3	2008/06/13		100	%	N/A
	BLANK	Calculated O3	2008/06/13	0.2, RDL=0.1		ppb	
2383605 DF4	Calibration Check	Calculated SO2	2008/06/23		98	%	95 - 105
	SPIKE	Calculated SO2	2008/06/23		100	%	N/A
	BLANK	Calculated SO2	2008/06/20	<0.1		ppb	
2386213 DF4	Calibration Check	Calculated NO2	2008/06/23		101	%	76 - 118
	SPIKE	Calculated NO2	2008/06/23		100	%	N/A
	BLANK	Calculated NO2	2008/06/23	<0.1		ppb	
2386549 DF4	Calibration Check	Calculated H2S	2008/06/23		96	%	80 - 120
	SPIKE	Calculated H2S	2008/06/23		99	%	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	
$SO_2/NO_2/O_3$		1	04/28/08	11:25	06/02/08	10:20	
$H_2S/SO_2/NO_2/O_3$		2	04/28/08	10:50	06/02/08	09:50	
$SO_2/NO_2/O_3$		3	04/29/08	15:30	06/03/08	15:50	
$H_2S/SO_2/NO_2/O_3$		4	04/29/08	14:45	06/03/08	14:25	
$SO_2/NO_2/O_3$		5	04/29/08	13:30	06/03/08	13:10	
$SO_2/NO_2/O_3$		7	04/29/08	16:20	06/03/08	15:45	
$SO_2/NO_2/O_3$		8	04/28/08	10:15	06/02/08	09:15	
$H_2S/SO_2/NO_2/O_3$		9	04/28/08	12:30	06/02/08	11:05	
$H_2S/SO_2/NO_2/O_3$		10	04/28/08	13:05	06/02/08	11:40	
$H_2S/SO_2/NO_2/O_3$		11	04/28/08	14:35	06/02/08	13:20	
$H_2S/SO_2/NO_2/O_3$		12	04/29/08	08:55	06/02/08	15:05	
$H_2S/SO_2/NO_2/O_3$		13	04/28/08	16:50	06/02/08	16:05	
$SO_2/NO_2/O_3$		14	04/28/08	09:05	06/02/08	08:10	
$H_2S/SO_2/NO_2/O_3$		15	04/29/08	11:50	06/03/08	11:45	
$H_2S/SO_2/NO_2/O_3$		16	04/29/08	12:35	06/03/08	12:25	
$H_2S/SO_2/NO_2/O_3$		17	04/29/08	11:10	06/03/08	11:00	
$SO_2/NO_2/O_3$		18	04/29/08	10:20	06/03/08	10:05	
$H_2S/SO_2/NO_2/O_3$		19	04/29/08	06:50	06/02/08	07:10	
$SO_2/NO_2/O_3$		20	04/29/08	07:45	06/03/08	08:15	
$H_2S/SO_2/NO_2/O_3$		21	04/29/08	14:00	06/03/08	13:45	
H_2S/SO_2		22	04/28/08	15:45	06/02/08	14:45	
H_2S/SO_2		23	04/28/08	16:30	06/02/08	15:45	
H_2S/SO_2		24	04/28/08	17:10	06/02/08	16:25	
$SO_2/NO_2/O_3$		25	04/28/08	09:55	06/02/08	08:35	
$H_2S/SO_2/NO_2/O_3$		10A	04/28/08	13:05	06/02/08	11:40	
$H_2S/SO_2/NO_2/O_3$		11A	04/28/08	14:35	06/02/08	13:20	