Lakeland Industry & Community Association

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

Prepared By:

Maxxam Analytics Inc

Driven by Service and Science

October 22, 2008

Lakeland Industry & Community Association
Ambient Air Monitoring

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Introduction

The following Ambient Air Monitoring report was prepared for:

Mr. Mike Bisaga
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Bonnyville, Alberta
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Monitoring Location: Cold Lake
Data Period: SEPTEMBER 2008

The monthly ambient data report:

- Prepared by Lily Lin
- Reviewed by Craig Snider

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

Calibration Procedure

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

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

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

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

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

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

Continuous Ambient Monitoring – September 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	0.02	3	5	10	3.4	39(NE)	0.2	2,5	99.9
TRS (PPB)	-	-	-	-	0.02	1	VAR	VAR	VAR	VAR	0.3	14,15	95.7
NO_2 (PPB)	212	106	0	0	1.99	15	30	18	1.9	109(ESE)	4.1	30	99.9
NO (PPB)	-	-	-	-	0.69	19	7	VAR	VAR	VAR	3.8	30	99.9
NOx (PPB)	-	-	-	-	2.96	25	5	7	1.6	248(WSW)	8.3	30	99.9
O_3 (PPB)	82	-	0	-	16.33	36	2	14	7.9	211(SSW)	25.5	23	99.9
THC (PPM)	-	-	-	-	1.80	3.6	7	6	0.5	152(SSE)	2.2	7	96.8
PM 2.5 (UG/M^3)	-	30	-	0	2.13	12.6	18	7	1.3	214(SSW)	4.7	21	99.6
TEMPERATURE (DEG C)	-	-	-	-	9.77	23.1	30	15	7	350(N)	14.7	11	99.9
RELATIVE HUMIDITY (%)	-	-	-	-	72.19	99.1	4	7	4.7	243(WSW)	88.2	22	99.9
VECTOR WS (KPH)	-	-	-	-	5.44	19.9	18	15	-	276(W)	14.6	23	99.9
VECTOR WD (DEGREES)	-	-	-	-	255(WSW)	-	-	-	-	-	-	-	99.9

VAR-VARIOUS

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

Passive Ambient Monitoring Network – September 2008

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PASSIVE NETWORK			
NETWORK MAXIMUM			NETWORK AVERAGE
PARAMETER	STATION	READING (PPB)	READING (PPB)
NO_2	#28	3.7	1.4
SO_2	#14, #27	0.7	0.2
H_2S	#5	0.40	0.15
O_3	#8	23.30	18.11

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. There was one hour of data invalid due to powerfail on September 15th. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information.

Total Reduced Sulphur (PPB)

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

The monthly calibration was performed on September 4th. On September 11th, a replacement lamp was installed and the PMT gain was changed due to the low daily span reading occurring on September 10th, and the repair calibration was performed on the same day after the repair. The removal calibration was performed on September 15th in order to solve issues of the poor daily span readings. The technician attempted to install an AENV-owned replacement 450i analyzer and allowed it overnight to stable. However, on September 16th, the reading data from the 450i analyzer was determined not able to stabilize. Thus, the 43A analyzer was reinstalled and calibrated. The installation calibration result showed that all data were within the acceptable ranges. The Hydrogen cylinder was replaced on September 16th. There was one hour of data invalid due to powerfail on September 15th. When the power was restored to the TRS converter, a fault appeared on the temperature controller. Thus, the thermo-couple was replaced with the LICA-owned spare, and then the TRS converter was restarted. The inlet filter was changed before the monthly calibration was started. The SO2 scrubbing material and glass wool packing will be replaced when parts receive.

General Monthly Summary - Cold Lake

AQM STATION – LICA – COLD LAKE

Total HydroCarbon (PPM)

- Analyzer make / model -TECO 51C-LT

The analyzer was relighted on September 16th due to the powerfail occurred on the 15th. Because of the powerfail, there were 15 hours of data invalid. The total of 7 hours of data were also invalided as the concentrations fell below the historical background average of 1.5 ppm during this month. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information.

Nitrogen Dioxide (PPB)

- Analyzer make / model - TECO 42C

No operational issues during the month. There was one hour of data invalid due to powerfail on September 15th. The inlet filter was changed before the monthly calibration was started.

Ozone (PPB)

- Analyzer make / model - TECO 49I

No operational issues during the month. There was on hour of data invalid due to powerfail on September 15th. The inlet filter was changed before the monthly calibration was started.

Particulate Matter 2.5 (ug/m^3)

- Analyzer make / model - TEOM 1400A

No operational issues during the month. The Teom audit was performed on September 04th, 2008, and the flow adjust factors were changed on the Teom in order to bring the actual flows closer to the expected values. There was one hour of data invalid due to powerfail on September 15th. Two hours of data were invalidated as it was below –3.0 ug/m^3.

General Monthly Summary - Cold Lake

AQM STATION – LICA – COLD LAKE

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

- System make / model - MET ONE 50.5

No operational issues observed during the month. There was one hour of data invalid due to powerfail on September 15th. The wind system is reported as vector wind speed and vector wind direction.

Relative Humidity (PERCENT)

- System make / model - Rotronic Hygroclip-S3

There was one hour of data invalid due to powerfail on September 15th. No operational issues observed during the month.

Ambient Temperature (DEGC)

- System make / model - Rotronic Hygroclip-S3

There was one hour of data invalid due to powerfail on September 15th. No operational issues observed during the month.

Trailer Temperature (DEGC)

- System make / model - R&R 61

There was one hour of data invalid due to powerfail on September 15th. 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. All AQI values recorded in September were within the good range.

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*

SEPTEMBER 2008

AIR QUALITY INDEX (AQI)

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	1	1	1	0	0	1	3	4	6	7	11	12	13	13	13	12	-	11	8	4	3	2	1	2	13
	PM2	O3_	PM2	PM2	PM2	PM2	PM2	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	PM2	O3_	O3_	PM2	PM2	O3_
2	1	1	3	2	1	1	3	7	9	10	12	16	17	18	18	-	14	12	8	4	3	2	2	2	18
	PM2	PM2	PM2	PM2	PM2	O3_	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	PM2	PM2	PM2	PM2	PM2	PM2	O3_
3	3	2	2	3	4	5	6	7	5	5	9	9	14	16	-	15	13	10	8	5	3	2	3	2	16
	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
4	2	1	1	2	2	2	1	-	-	-	-	-	-	-	-	-	1	14	13	12	12	13	7	6	14
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
5	3	2	2	1	1	-	5	5	6	10	14	15	-	15	13	15	12	9	7	3	1	1	1	-	15
	O3_	O3_	O3_	O3_	O3_	**NA**	PM2	PM2	PM2	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_
6	1	1	3	5	4	3	4	5	5	7	9	-	10	10	10	10	10	9	5	2	1	1	-	-	10
	O3_	PM2	O3_	O3_	O3_	O3_	PM2	PM2	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	**NA**	O3_
7	-	0	-	0	1	2	3	6	3	5	-	12	14	15	14	14	14	12	8	6	4	6	3	2	15
	NA	PM2	**NA**	PM2	PM2	PM2	PM2	PM2	PM2	PM2	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
8	1	2	2	3	4	3	1	4	6	-	13	16	16	16	16	15	15	14	12	11	11	10	9	6	16
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	PM2	PM2	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
9	4	2	1	1	2	2	5	5	-	10	9	10	11	12	12	12	12	11	9	9	9	11	9	8	12
	O3_	O3_	PM2	O3_	PM2	PM2	PM2	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
10	7	6	3	1	2	3	3	-	4	6	11	12	13	13	13	13	13	13	8	5	7	8	9	10	13
	O3_	O3_	O3_	O3_	PM2	PM2	PM2	**NA**	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
11	11	11	11	11	9	10	-	8	9	11	13	15	16	15	16	16	16	16	13	6	7	8	9	12	16
	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
12	13	10	6	7	8	-	7	6	8	10	13	-	15	15	15	15	15	14	13	12	12	11	9	7	15
	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
13	4	2	1	1	-	1	4	5	4	6	8	10	11	12	13	13	14	13	9	4	4	3	3	4	14
	O3_	O3_	O3_	O3_	**NA**	O3_	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
14	2	1	1	-	3	3	3	5	7	9	12	13	14	14	15	15	15	14	11	6	4	5	7	5	15
	O3_	O3_	O3_	**NA**	PM2	PM2	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
15	4	2	-	1	1	1	4	5	9	12	15	17	17	17	17	17	16	-	14	9	5	4	2	2	17
	O3_	O3_	**NA**	O3_	PM2	O3_	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_
16	1	-	3	4	3	3	3	5	4	7	12	15	15	14	14	15	15	14	12	10	9	8	9	9	15
	O3_	**NA**	PM2	PM2	PM2	PM2	PM2	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
17	-	9	9	8	7	6	4	6	6	7	8	8	9	12	14	15	15	15	13	11	10	7	5	-	15
	NA	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_
18	2	1	1	2	2	2	4	11	10	11	15	17	17	17	18	18	17	17	15	13	13	14	-	5	18
	O3_	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_
19	4	4	8	8	7	8	8	8	10	11	11	11	11	11	11	11	12	11	10	9	9	-	10	10	12
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_
20	9	9	9	9	8	8	6	7	8	8	9	10	11	11	12	12	12	12	12	12	-	11	11	10	12
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_
21	10	10	9	8	9	9	8	8	8	9	10	11	12	12	13	13	12	12	11	-	10	10	11	12	13
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_
22	11	10	10	9	9	8	7	7	7	7	5	6	6	6	7	9	11	12	-	10	11	12	12	11	12
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_
23	12	12	13	14	13	13	11	10	10	11	13	14	14	15	16	15	15	-	13	14	13	13	13	12	16
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_
24	11	10	10	10	9	9	8	8	9	10	12	14	15	16	16	17	-	16	8	6	6	4	2	2	17
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	PM2	PM2	O3_
25	3	3	3	4	6	8	12	12	12	13	14	15	16	16	15	-	14	12	8	4	3	3	3	2	16
	PM2	PM2	PM2	PM2	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	PM2	O3_
26	2	2	3	3	3	3	4	3	5	9	-	13	13	13	-	13	12	10	10	10	11	11	12	12	13
	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	O3_	O3_	**NA**	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
27	12	12	12	12	11	11	11	11	11	11	11	11	12	-	12	12	11	11	13	12	16	16	14	12	16
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
28	10	10	11	10	10	9	8	8	8	12	15	15	-	14	14	14	14	12	8	4	3	8	11	9	15
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_
29	8	7	6	5	9	10	10	11	13	14	14	-	15	15	15	15	15	14	4	6	4	3	2	2	15
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	PM2	PM2	O3_
30	3	3	3	3	3	3	4	8	8	7	-	13	12	12	13	13	11	7	5	11	13	13	12	8	13
	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	PM2	**NA**	O3_	O3_	O3_	O3_	O3_	O3_	O3_	PM2	O3_	O3_	O3_	O3_	O3_	O3_
PEAK	13	12	13	14	13	13	12	12	13	14	15	17	17	18	18	18	17	17	15	14	16	16	14	12	
	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	O3_	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%	62	15	13	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%
FAIR (26-50)	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	0	0.0%
GOOD (1-25)	564	78.3%	-	-	-	108	15.0%	6	7	10	0	0.0%	-	-	-	0	0.0%	-	-	-	672	93.3%
OVERALL	564	78.3%	-	-	-	108	15.0%	-	-	-	0	0.0%	-	-	-	0	0.0%	-	-	-	672	93.3%
UNAVAILABLE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75	10.4%

Sulphur Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

SEPTEMBER 2008

SULPHUR DIOXIDE (SO_2) hourly averages in ppb

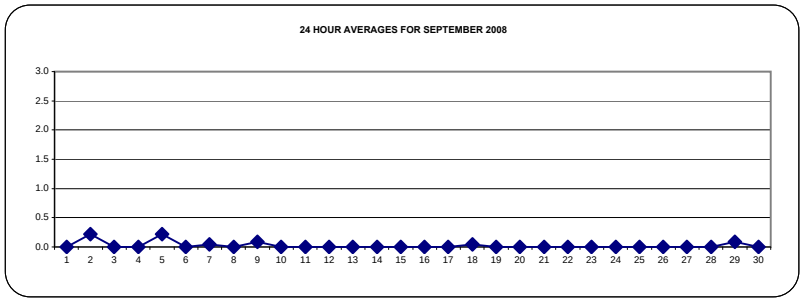
MST

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

STATUS FLAG CODES

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

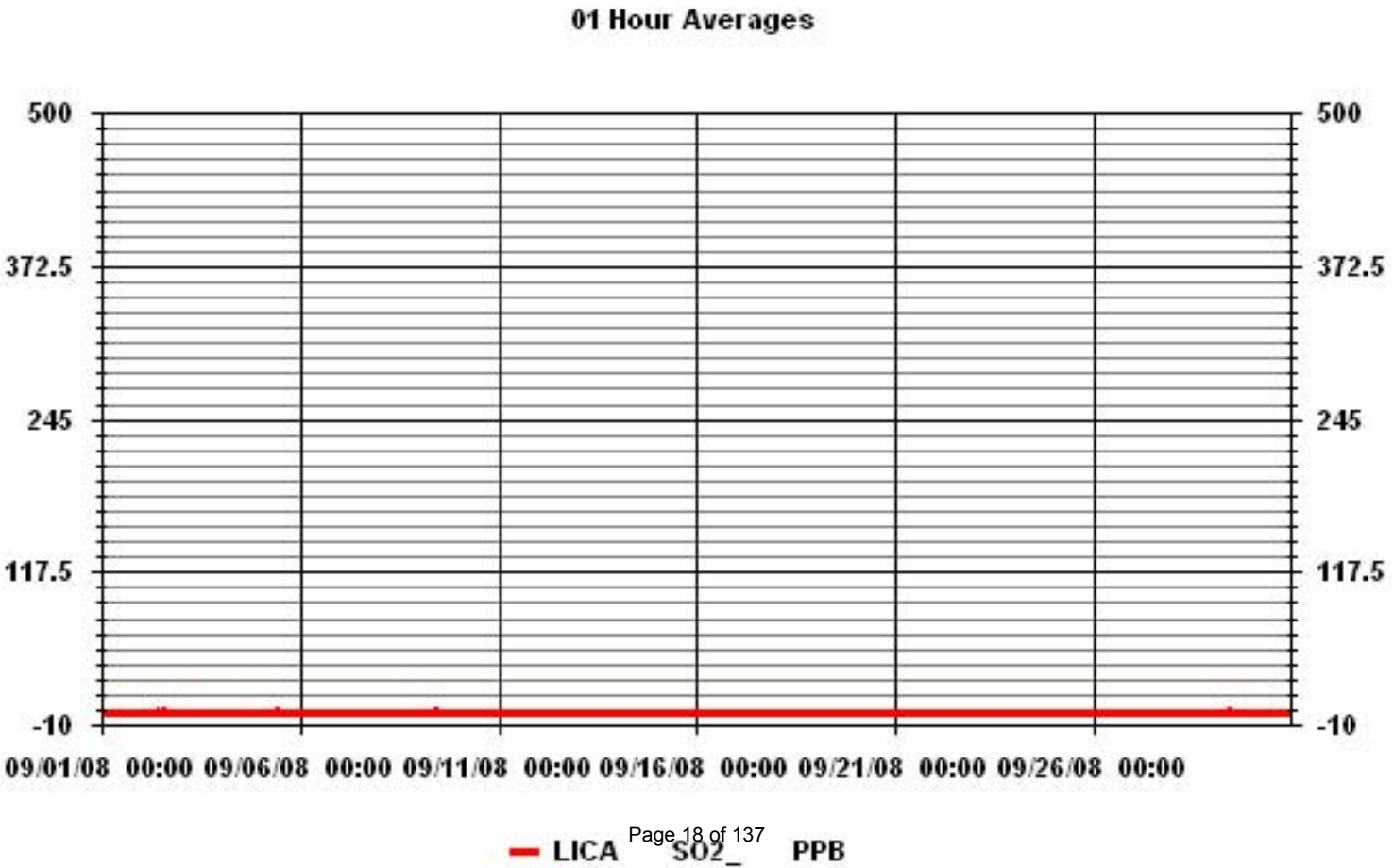
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB | 24-HR 57 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	13					
MAXIMUM 1-HR AVERAGE:	3	PPB	@ HOUR(S)	10	ON DAY(S)	5
MAXIMUM 24-HR AVERAGE:	0.2	PPB			ON DAY(S)	2,5

IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	719	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	0.19		MONTHLY AVERAGE:	0.02	PPB


01 Hour Averages
500
372.5
245
117.5
-10
09/01/08 00:00
09/06/08 00:00
09/11/08 00:00
09/16/08 00:00
09/21/08 00:00
09/26/08 00:00
LICA SO2_ PPB

LICA
SO2_ / WDR Joint Frequency Distribution (Percent)

September 2008

Distribution By % Of Samples

Logger Id : 01
Site Name : LICA
Parameter : SO2_
Units : PPB

Wind Parameter : WDR
Instrument Height : 10 Meters

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	1.60	2.77	3.50	2.77	7.60	7.74	6.72	4.53	4.97	5.11	13.45	15.05	11.25	6.28	4.82	1.75	100.00
< 60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 170	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	1.60	2.77	3.50	2.77	7.60	7.74	6.72	4.53	4.97	5.11	13.45	15.05	11.25	6.28	4.82	1.75	

Calm : .00 %

Total # Operational Hours : 684

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	11	19	24	19	52	53	46	31	34	35	92	103	77	43	33	12	684
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	11	19	24	19	52	53	46	31	34	35	92	103	77	43	33	12	

Calm : .00 %

Total # Operational Hours : 684

Logger : 01 Parameter : SO2_

Class Limits (PPB)

>= 340

< 340

< 170

< 110

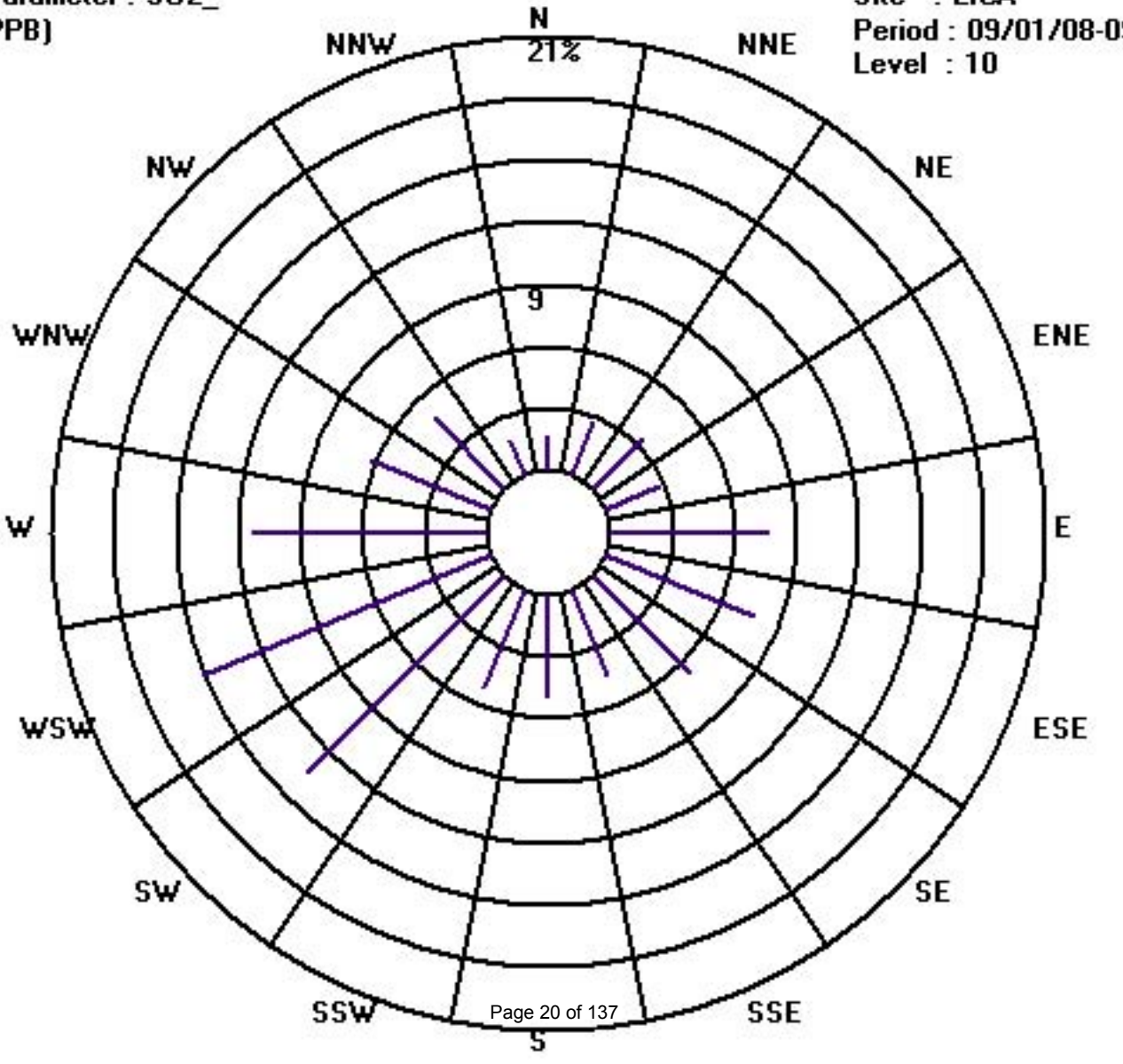
< 60

< 20

Site : LICA

Period : 09/01/08-09/30/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION -*COLD LAKE*

SEPTEMBER 2008

SULPHUR DIOXIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**IZS**	0	0	0	0	0	0	0	1	0.0	24
2	0	0	0	0	0	0	0	0	1	1	3	1	1	1	2	**IZS**	1	1	1	0	0	0	0	0	3	0.6	24
3	0	0	0	0	0	0	0	0	0	0	0	1	1	0	**IZS**	0	0	0	0	0	0	0	0	0	1	0.1	24
4	0	0	0	0	0	0	0	**C**	**C**	**C**	**C**	**C**	**1**	**IZS**	0	0	0	0	1	0	0	0	0	0	1	0.1	24
5	0	0	0	0	0	0	0	1	1	2	**4**	3	**IZS**	1	0	0	0	0	0	0	0	0	0	0	**4**	0.5	24
6	0	0	0	0	0	0	0	1	1	1	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24
7	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	2	2	1	1	0	0	0	0	2	0.3	24
8	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	1	1	0	1	0	0	0	0	0	0	1	0.1	24
9	0	0	0	0	0	0	0	1	**IZS**	2	2	2	1	0	0	1	2	0	0	0	0	0	0	0	2	0.5	24
10	0	0	0	0	0	0	0	**IZS**	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
11	0	0	0	0	0	0	**IZS**	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
12	0	0	0	0	0	**IZS**	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0.2	24
13	0	0	0	0	**IZS**	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
14	0	0	0	**IZS**	0	0	0	0	1	1	1	0	0	1	0	0	1	1	0	0	0	0	0	0	1	0.3	24
15	1	0	**IZS**	1	0	1	0	0	1	1	1	1	1	1	0	0	0	**P**	0	0	0	0	0	0	1	0.4	23
16	0	**IZS**	0	0	1	0	0	1	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0.2	24
17	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	**IZS**	1	0.0	24
18	0	0	0	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	1	1	2	**IZS**	0	2	0.4	24
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0.0	24
20	1	0	1	0	0	0	0	0	1	0	0	0	1	1	0	0	1	0	1	0	**IZS**	0	0	1	1	0.3	24
21	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	**IZS**	0	0	0	1	1	0.3	24
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0.0	24
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0.0	24
24	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	**IZS**	0	1	0	0	1	0	1	1	0.3	24
25	0	1	1	1	1	1	1	1	1	1	0	1	0	1	1	**IZS**	1	1	1	1	0	0	1	0	1	0.7	24
26	1	0	1	1	0	1	1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1	1	1	1	1	0.9	24
27	1	1	1	0	1	1	1	1	1	1	1	1	1	**IZS**	1	1	1	1	1	1	1	1	0	1	1	0.9	24
28	0	0	0	1	0	1	0	0	1	0	0	1	**IZS**	0	1	1	1	0	0	1	1	1	1	0	1	0.5	24
29	1	0	1	1	1	1	1	1	1	2	2	**IZS**	1	1	0	1	1	0	1	1	1	1	1	1	2	1.0	24
30	1	1	1	1	1	1	1	1	1	1	**IZS**	0	1	0	0	1	0	0	0	1	0	1	0	1	1	0.7	24
HOURLY MAX	1	1	1	1	1	1	1	1	1	2	4	3	1	1	2	1	2	2	1	1	1	2	1	1			
HOURLY AVG	0.2	0.1	0.2	0.3	0.2	0.2	0.2	0.4	0.5	0.6	0.7	0.6	0.5	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.2	0.3	0.1	0.2			

STATUS FLAG CODES

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

MONTHLY SUMMARY

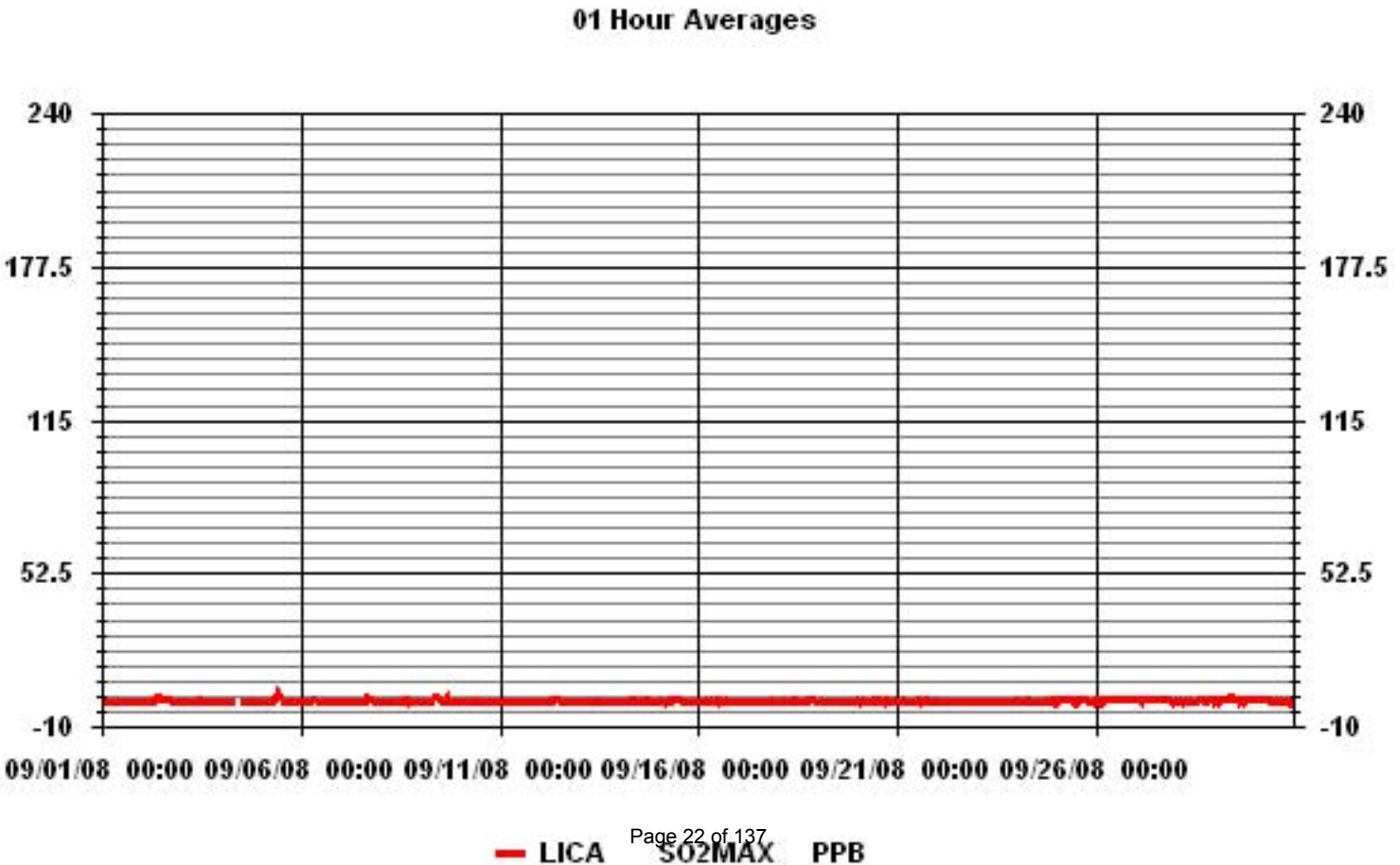
NUMBER OF NON-ZERO READINGS: 201

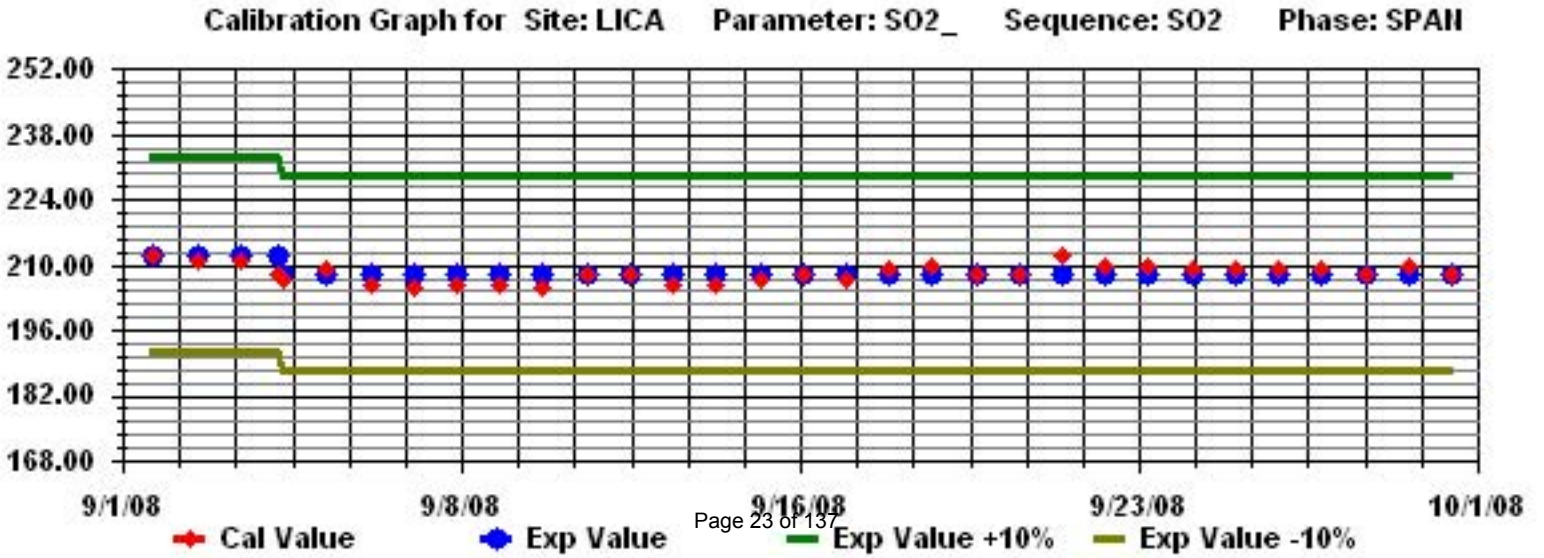
MAXIMUM INSTANTANEOUS VALUE: 4 PPB @ HOUR(S) 10 ON DAY(S) 5

IZS CALIBRATION TIME: 31 HRS OPERATIONAL TIME: 719 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION: 0.53


01 Hour Averages
240
177.5
115
52.5
-10
09/01/08 00:00
09/06/08 00:00
09/11/08 00:00
09/16/08 00:00
09/21/08 00:00
09/26/08 00:00
LICA SO2MAX PPB


Calibration Graph for Site: LICA Parameter: SO2_ Sequence: SO2 Phase: SPAN
252.00
238.00
224.00
210.00
196.00
182.00
168.00
9/1/08
9/8/08
9/16/08
9/23/08
10/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Reduced Sulphur

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

SEPTEMBER 2008

TOTAL REDUCED SULPHUR (TRS) hourly averages in ppb

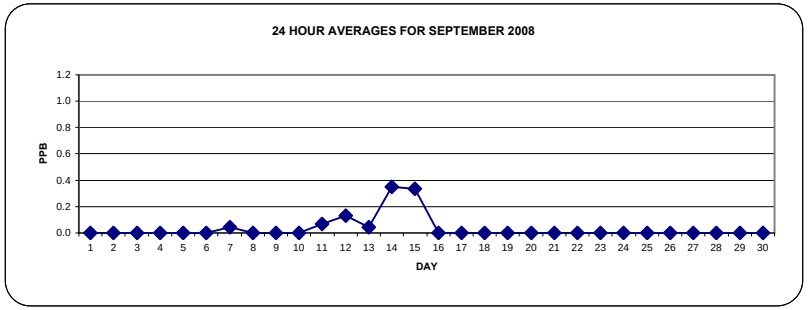
MST

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

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

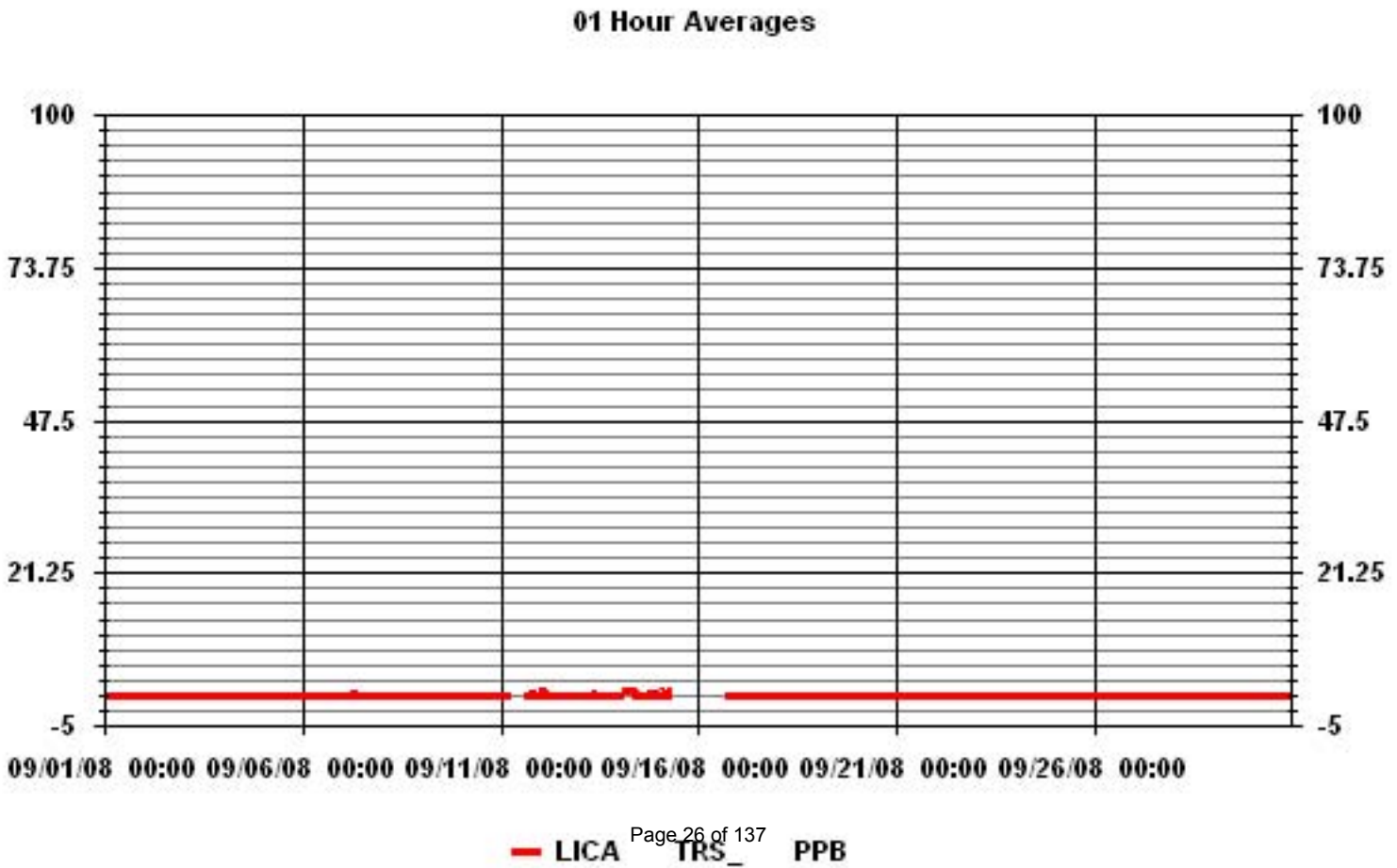
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 172 PPB | 24-HR 57 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	16					
MAXIMUM 1-HR AVERAGE:	1	PPB	@ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 24-HR AVERAGE:	0.3	PPB			ON DAY(S)	14,15
				VAR-VARIOUS		

IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:	689	HRS
MONTHLY CALIBRATION TIME:	16	HRS	AMD OPERATION UPTIME	95.7	%
STANDARD DEVIATION	0.16		MONTHLY AVERAGE	0.02	PPB


01 Hour Averages
100
73.75
47.5
21.25
-5
09/01/08 00:00
09/06/08 00:00
09/11/08 00:00
09/16/08 00:00
09/21/08 00:00
09/26/08 00:00
LICA TRS_ PPB

LICA
TRS_ / WD Joint Frequency Distribution (Percent)

September 2008

Distribution By % Of Samples

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

Wind Parameter : WD
Instrument Height : 10 Meters

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	1.55	2.64	3.42	2.48	8.08	8.24	7.15	4.66	5.13	4.97	13.37	14.61	10.88	5.90	4.97	1.86	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	1.55	2.64	3.42	2.48	8.08	8.24	7.15	4.66	5.13	4.97	13.37	14.61	10.88	5.90	4.97	1.86	

Calm : .00 %

Total # Operational Hours : 643

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3	10	17	22	16	52	53	46	30	33	32	86	94	70	38	32	12	643
< 10																	
< 50																	
>= 50																	
Totals	10	17	22	16	52	53	46	30	33	32	86	94	70	38	32	12	

Calm : .00 %

Total # Operational Hours : 643

Logger : 01 Parameter : TRS_

Class Limits (PPB)

>= 50

< 50

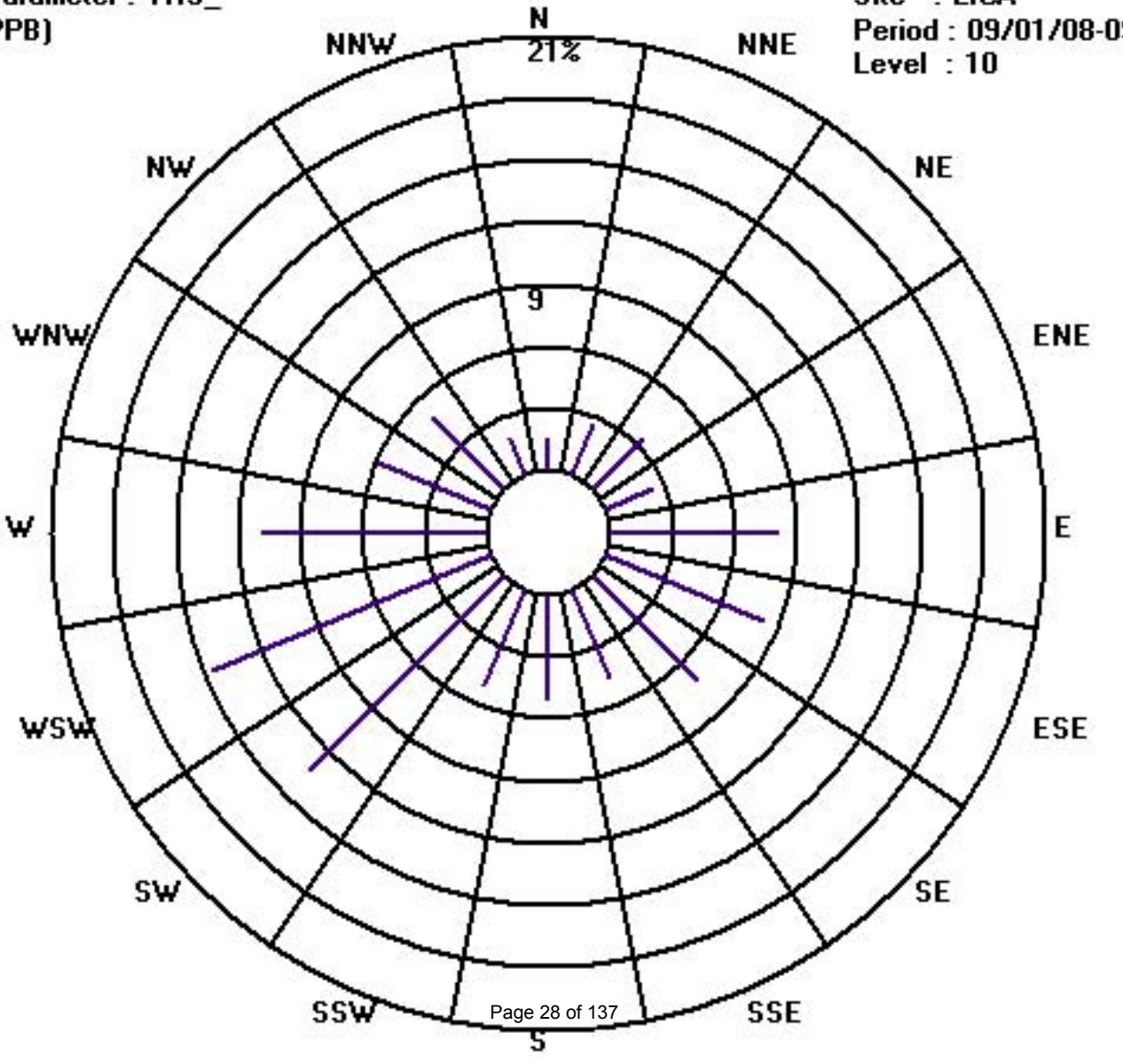
< 10

< 3

Site : LICA

Period : 09/01/08-09/30/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

JUNE 2008

TOTAL REDUCED SULPHUR MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY 24-HOUR		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0	0	0	0	0	0	0	0	1	0	1	1	0	0	1	0	IZS	0	0	1	0	1	0	0	1	0.3	24
2	0	0	0	1	1	1	0	1	1	1	0	0	0	1	0	IZS	0	0	1	1	0	0	0	1	1	0.4	24
3	0	0	0	1	1	1	1	1	1	1	1	1	0	0	IZS	1	1	1	0	0	1	1	1	1	1	0.7	24
4	0	0	0	0	0	0	0	C	C	C	C	0	0	IZS	0	0	1	0	0	0	0	0	0	0	1	0.1	24
5	0	1	0	0	0	0	0	1	1	0	0	0	IZS	1	0	0	1	0	0	0	0	0	0	0	1	0.2	24
6	0	0	0	1	1	0	0	0	0	0	0	IZS	0	0	0	0	0	1	1	0	0	0	1	0	1	0.2	24
7	0	0	0	0	0	1	1	1	2	1	IZS	0	1	0	1	0	0	0	0	0	0	0	0	0	2	0.3	24
8	0	0	0	1	1	1	1	1	1	IZS	1	0	0	0	1	0	0	1	1	0	0	0	0	0	1	0.4	24
9	0	0	0	0	0	0	0	1	IZS	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	1	0.2	24
10	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.0	24
11	0	0	0	0	0	1	IZS	1	M	M	C	C	C	C	C	C	C	1	1	1	1	2	1	1	2	0.7	22
12	1	1	2	1	2	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1	24
13	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
14	1	1	1	IZS	2	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.2	24
15	1	1	IZS	1	1	1	M	C	C	M	M	M	M	M	M	M	P	P	M	M	M	M	M	M	1	1.0	8
16	M	M	M	M	M	M	M	M	M	M	M	M	M	C	C	C	C	M	0	0	0	0	0	0	0	0.0	10
17	IZS	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	1	IZS	1	0.2	24
18	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	1	0.1	24
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0.0	24
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0.0	24
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0.0	24
22	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	1	0.0	24
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0.0	24
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0.0	24
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0.0	24
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0.0	24
27	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0.0	24
28	1	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
29	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	1	0	0	0	1	0.0	24
30	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0.0	24
HOURLY MAX	1	1	2	1	2	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	2	1	1			
HOURLY AVG	0.2	0.2	0.1	0.3	0.3	0.3	0.2	0.5	0.5	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2			

STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS: 160

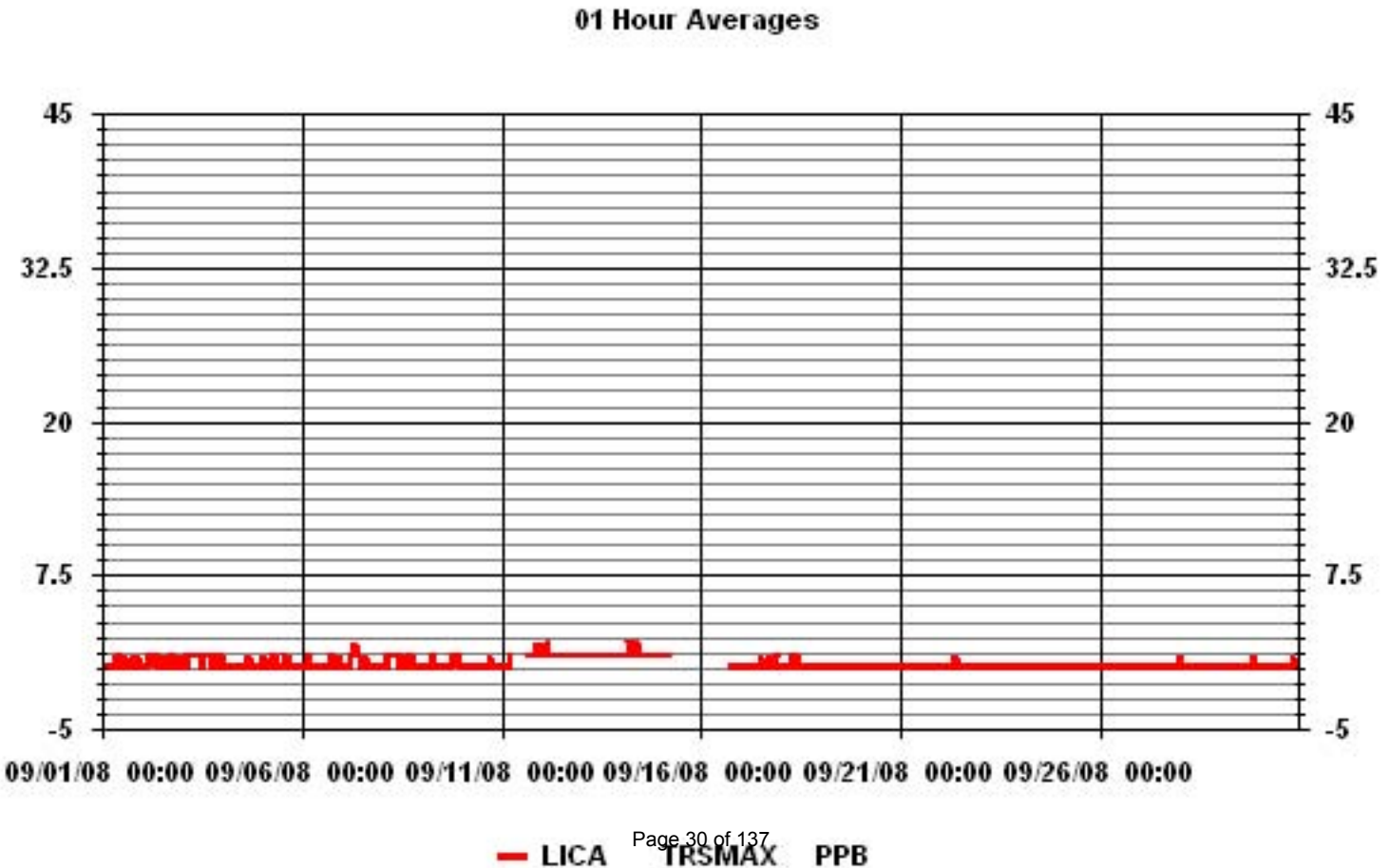
MAXIMUM INSTANTANEOUS VALUE: 2 PPB @ HOUR(S) VAR ON DAY(S) VAR

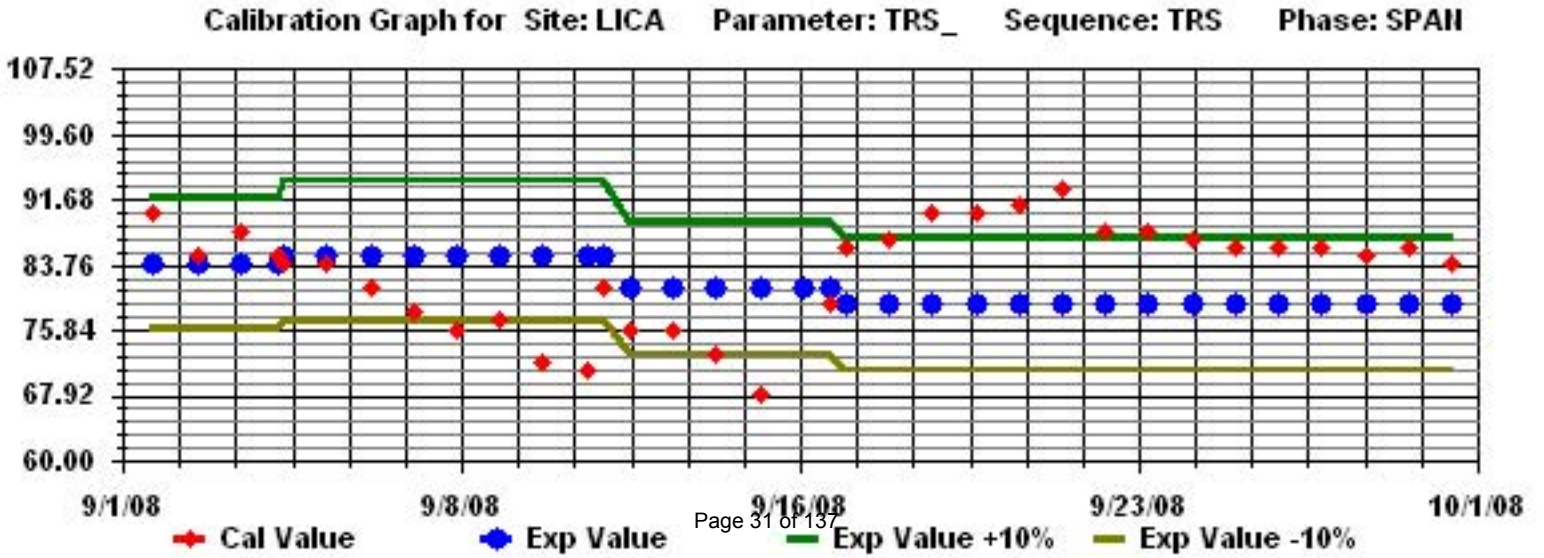
VAR - VARIOUS

IZS CALIBRATION TIME: 30 HRS OPERATIONAL TIME: 688 HRS

MONTHLY CALIBRATION TIME: 17 HRS

STANDARD DEVIATION: 0.47


01 Hour Averages
45
32.5
20
7.5
-5
09/01/08 00:00
09/06/08 00:00
09/11/08 00:00
09/16/08 00:00
09/21/08 00:00
09/26/08 00:00
LICA TRSMAX PPB


Calibration Graph for Site: LICA Parameter: TRS_ Sequence: TRS Phase: SPAN
107.52
99.60
91.68
83.76
75.84
67.92
60.00
9/1/08
9/8/08
9/16/08
9/23/08
10/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Total Hydrocarbons

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

SEPTEMBER 2008

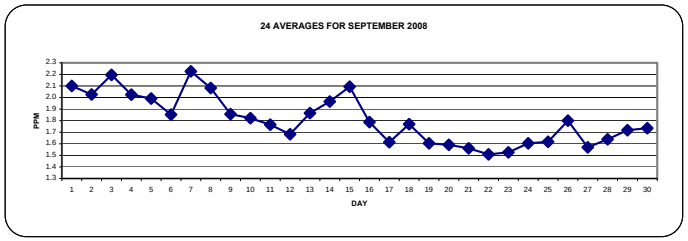
TOTAL HYDROCARBONS (THC) hourly averages in ppm

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2	2.1	2.2	2.4	2.6	2.8	2.9	2.9	2.6	2.1	1.9	1.8	1.8	1.8	1.8	1.7	**IZS**	1.8	1.8	1.8	1.8	1.9	1.9	1.9	2.9	2.1	24
2	2	2.1	2.1	2.1	2.3	2.4	2.3	2.3	2.3	2	2	1.9	1.8	1.8	1.8	**IZS**	1.8	1.8	1.8	1.9	1.9	2	2.1	2.1	2.4	2.0	24
3	2.2	2.2	2.3	2.4	2.6	2.8	3.1	3.2	3	2.4	2.1	2	1.8	1.8	**IZS**	1.7	1.7	1.7	1.7	1.8	1.8	1.9	2.1	2.2	3.2	2.2	24
4	2.2	2.2	2.3	2.4	2.5	2.5	2.5	2.5	2.1	1.9	**C**	**C**	**C**	**C**	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	2.5	2.0	24
5	1.8	1.9	2.1	2.3	2.5	2.5	2.6	2.7	2.5	1.8	**1.7**	1.7	**IZS**	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.9	2	1.9	2.7	2.0	24
6	2	2	2	2	2	2.1	2	1.9	1.8	1.8	1.7	**IZS**	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.9	1.9	1.9	2.1	1.9	24
7	2	2.2	2.5	2.9	2.9	3.2	**3.6**	3.2	2.7	2.6	**IZS**	1.9	1.9	1.8	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.9	1.9	1.9	**3.6**	**2.2**	24
8	2	2.1	2.4	2.5	2.7	3	2.9	2.7	2.4	**IZS**	1.8	1.7	1.8	1.8	1.8	1.8	1.7	1.8	1.8	1.9	1.8	1.8	1.8	1.9	3.0	2.1	24
9	1.9	1.9	2	2.1	2.3	2.4	2.6	2	**IZS**	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	2.6	1.9	24
10	1.7	1.7	1.8	2	2.2	2.1	2.1	**IZS**	1.9	1.8	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.9	1.9	1.9	2.2	1.8	24
11	1.9	1.9	1.9	1.9	1.9	1.8	**IZS**	1.9	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.7	1.6	1.7	1.7	1.7	1.8	1.8	1.9	1.7	1.9	1.8	24
12	1.6	1.7	1.7	1.7	1.7	**IZS**	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	1.8	1.8	1.7	24
13	1.8	1.8	1.9	2	**IZS**	2	2.3	2.4	2.2	1.9	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.9	1.9	2.4	1.9	24
14	1.9	2	2	**IZS**	2.2	2.4	2.4	2.1	2.1	1.9	1.8	1.9	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	2.1	2.4	2.6	2.6	2.0	24
15	2.8	2.7	**IZS**	2.7	2.5	2.5	2.2	2.2	2.1	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	**P**	**N**	**N**	**N**	**N**	**N**	**N**	2.8	2.1	17
16	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	2.2	1.9	1.7	1.7	1.7	1.7	1.7	1.7	**N**	**N**	**N**	**N**	**N**	**N**	**N**	2.2	1.8	8
17	**IZS**	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.6	1.7	1.7	**IZS**	1.7	1.6	24
18	1.9	1.8	1.9	2	2.2	2.3	2.3	2.3	2.1	1.8	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.5	**IZS**	1.7	2.3	1.8	24
19	1.8	1.7	1.6	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	**IZS**	1.6	1.6	1.8	1.6	24
20	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	1.5	1.6	1.6	1.6	1.6	1.6	**IZS**	1.6	1.5	1.6	1.6	1.6	24
21	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	1.5	1.5	1.6	1.5	1.6	**IZS**	1.6	1.6	1.5	1.5	1.6	1.6	24
22	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	**IZS**	1.5	1.5	1.5	1.5	1.5	1.6	1.5	24
23	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	1.5	1.5	1.5	1.5	**IZS**	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	24
24	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.5	1.6	**IZS**	1.5	1.6	1.6	1.6	1.6	1.7	1.9	1.9	1.6	24
25	1.8	1.8	1.8	1.9	1.7	1.6	1.5	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	**IZS**	1.5	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.9	1.6	24
26	1.8	1.9	2.1	2.1	2.2	2.2	2.2	2.2	2.1	1.8	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	2.2	1.8	24
27	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	**IZS**	1.5	1.5	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.6	1.6	1.6	24
28	1.6	1.7	1.6	1.7	1.6	1.7	1.7	1.7	1.7	1.6	1.6	1.6	**IZS**	1.6	1.6	1.6	1.5	1.6	1.6	1.7	1.7	1.7	1.7	1.6	1.7	1.6	24
29	1.7	1.7	1.8	1.9	2	2	1.9	2	2	1.9	1.7	**IZS**	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.7	1.8	2.0	1.7	24
30	1.8	1.9	1.9	1.9	**2**	**2**	2	2.1	2	1.9	**IZS**	1.6	1.6	1.6	1.5	1.5	1.5	1.6	1.7	1.6	1.5	1.5	1.6	1.6	2.1	1.7	24
HOURLY MAX	2.8	2.7	2.5	2.9	2.9	3.2	3.6	3.2	3.0	2.6	2.1	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	2.1	2.4	2.6			
HOURLY AVG	1.8	1.9	1.9	2.0	2.0	2.1	2.1	2.1	2.0	1.8	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.8	1.8			

STATUS FLAG CODES

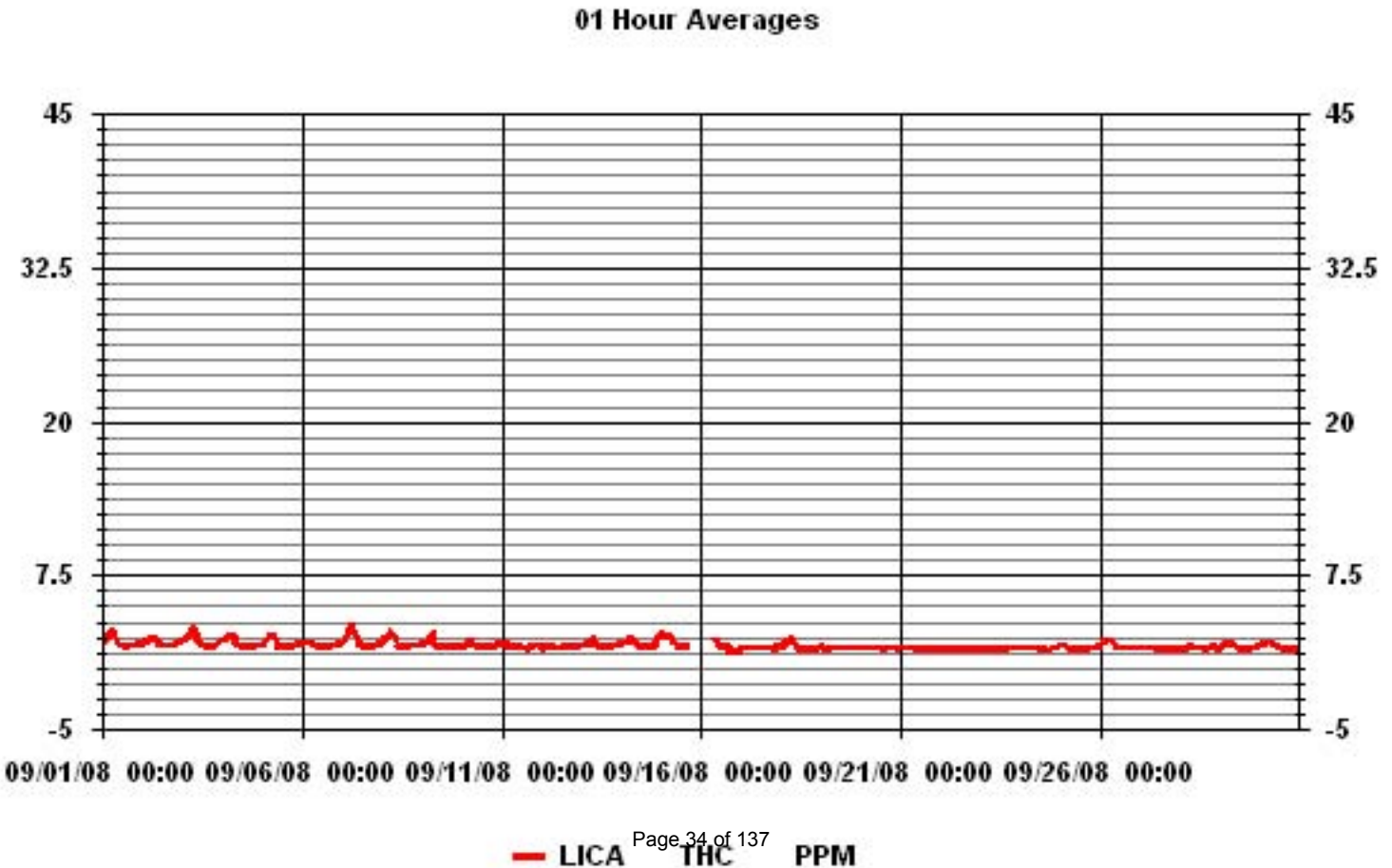
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE
BB	- BELOW BACKGROUND OF 1.5 PPM		



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	664					
MAXIMUM 1-HR AVERAGE:	3.6	PPM	@ HOUR(S)	6	ON DAY(S)	7
MAXIMUM 24-HR AVERAGE:	2.2	PPM			ON DAY(S)	7

IZS CALIBRATION TIME:	29	HRS	OPERATIONAL TIME:	697	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	96.8	%
STANDARD DEVIATION:	0.32		MONTHLY AVERAGE:	1.80	PPM


01 Hour Averages
45
32.5
20
7.5
-5
09/01/08 00:00
09/06/08 00:00
09/11/08 00:00
09/16/08 00:00
09/21/08 00:00
09/26/08 00:00
LICA THC PPM

LICA
THC / WD Joint Frequency Distribution (Percent)

September 2008

Distribution By % Of Samples

Logger Id : 01
Site Name : LICA
Parameter : THC
Units : PPM

Wind Parameter : WD
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3.0	1.63	2.82	3.57	2.82	7.73	7.88	6.69	4.31	4.76	4.76	12.94	15.17	11.16	6.10	4.76	1.78	98.95
<	10.0	.00	.00	.00	.00	.00	.00	.14	.14	.14	.14	.14	.00	.29	.00	.00	.00	1.04
<	50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	1.63	2.82	3.57	2.82	7.73	7.88	6.84	4.46	4.91	4.91	13.09	15.17	11.45	6.10	4.76	1.78	

Calm : .00 %

Total # Operational Hours : 672

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	3.0	11	19	24	19	52	53	45	29	32	32	87	102	75	41	32	12	665
<	10.0							1	1	1	1	1		2				7
<	50.0																	
>=	50.0																	
	Totals	11	19	24	19	52	53	46	30	33	33	88	102	77	41	32	12	

Calm : .00 %

Total # Operational Hours : 672

Logger : 01 Parameter : THC

Class Limits (PPM)

>= 50.0

< 50.0

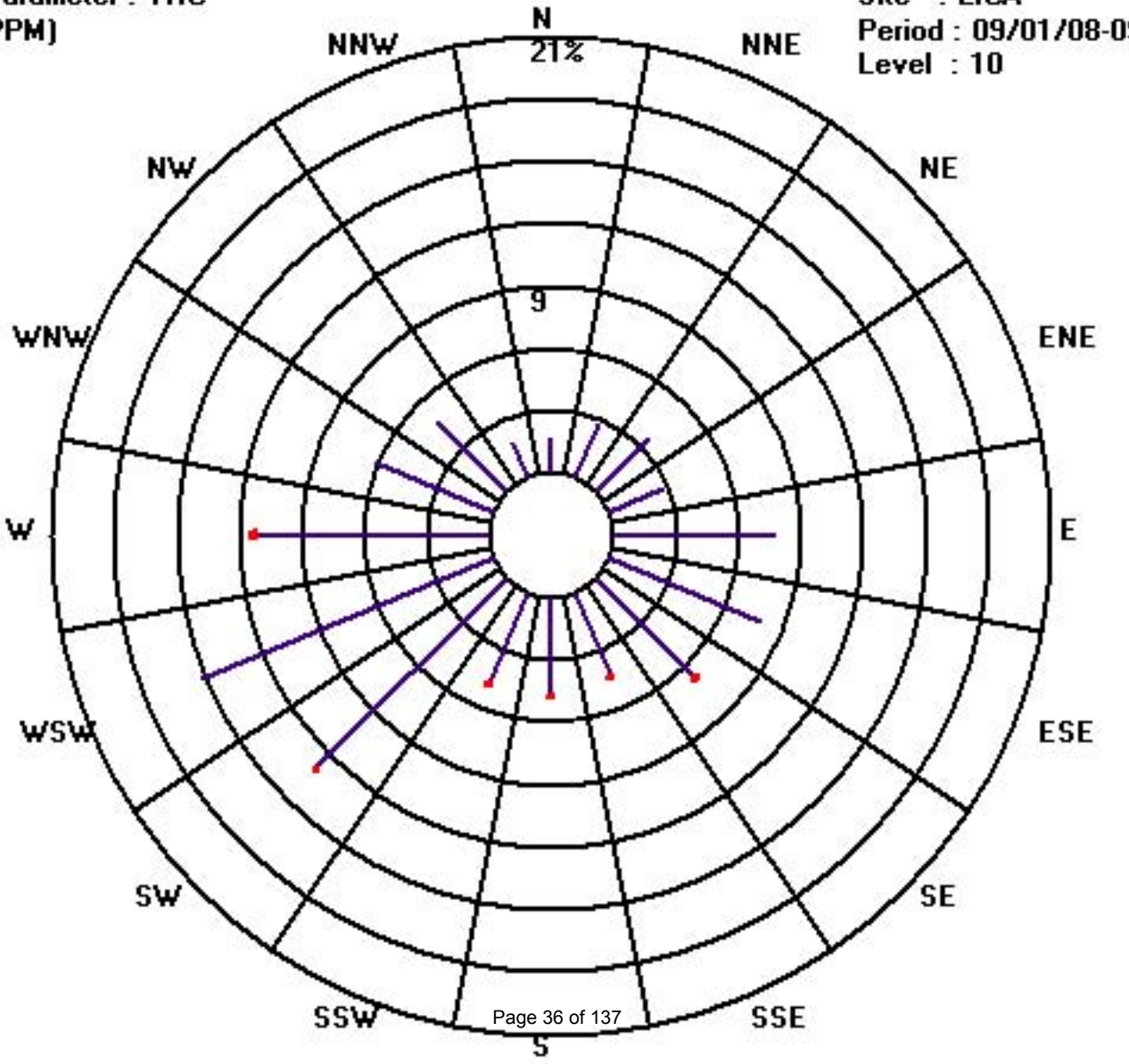
< 10.0

< 3.0

Site : LICA

Period : 09/01/08-09/30/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

SEPTEMBER 2008

TOTAL HYDROCARBONS MAX instantaneous maximum in ppm

MST

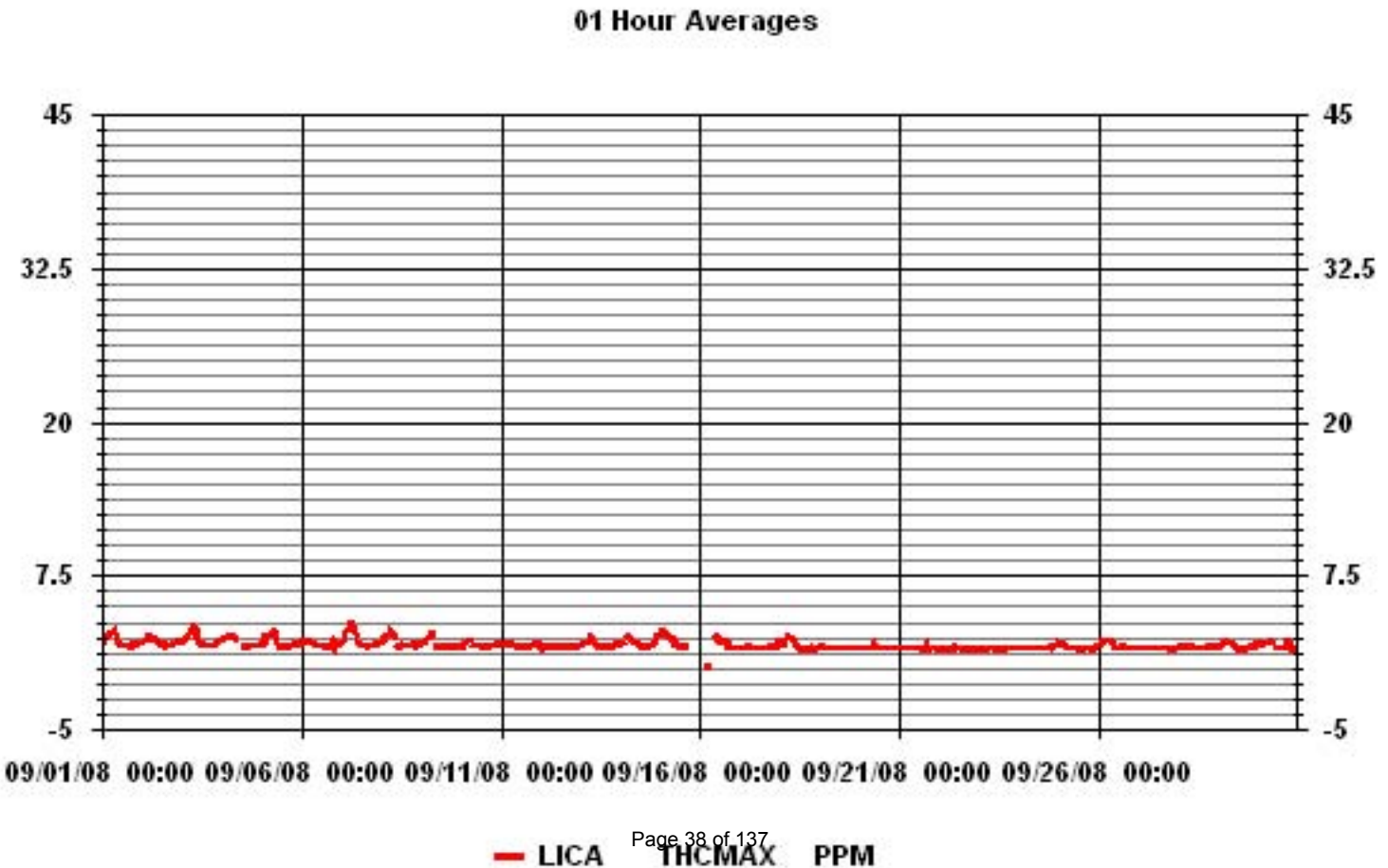
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2	2.2	2.4	2.6	2.7	2.8	2.9	3.1	2.9	2.2	2	1.9	1.8	1.8	1.8	1.8	**IZS**	1.8	1.9	1.9	1.9	2	2	2	3.1	2.2	24
2	2.1	2.2	2.2	2.2	2.5	2.5	2.5	2.4	2.4	2.1	2	2	1.9	2	1.8	**IZS**	1.8	1.8	1.9	2	2	2.1	2.3	2.2	2.5	2.1	24
3	2.3	2.2	2.4	2.5	2.8	3.1	3.3	3.3	3.2	2.6	2.2	2	2.1	1.9	**IZS**	1.8	1.8	1.8	1.8	1.8	1.8	2.1	2.2	2.2	3.3	2.3	24
4	2.3	2.3	2.4	2.4	2.6	2.5	2.6	2.6	2.3	**C**	**C**	**C**	**C**	**IZS**	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	2.6	2.1	24
5	1.9	2	2.5	2.5	2.6	2.6	2.8	3	2.8	2	1.7	1.7	**IZS**	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.9	2	2.1	2	3	2.1	24
6	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2	1.9	1.8	1.8	**IZS**	1.8	1.8	1.8	1.7	1.7	1.8	2.1	1.8	2.3	1.9	1.9	2	2.3	1.9	24
7	2.1	2.2	2.9	3	3.1	3.6	**3.7**	3.5	2.9	2.7	**IZS**	2	2	1.8	1.8	1.8	1.7	1.8	1.8	1.8	1.9	1.9	1.9	2	**3.7**	2.3	24
8	2.1	2.2	2.5	2.6	2.8	3.2	3.1	2.8	2.6	**IZS**	1.9	1.8	1.9	1.9	1.8	1.8	1.8	1.8	1.8	2	1.9	1.8	1.9	1.9	3.2	2.2	24
9	2	2	2.1	2.3	2.4	2.5	2.8	2.8	**IZS**	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.7	1.7	1.7	1.7	2.8	1.9	24
10	1.7	1.7	2	2.1	2.3	2.2	2.2	**IZS**	1.9	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.9	1.9	1.9	2.3	1.9	24
11	1.9	1.9	1.9	1.9	2	1.9	**IZS**	2	1.9	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.9	1.9	2	1.9	2	2	1.8	24
12	1.6	1.7	1.7	1.9	1.8	**IZS**	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.7	1.7	1.7	1.7	1.8	1.8	1.9	1.7	24
13	1.9	1.9	2	2.1	**IZS**	2.1	2.6	2.6	2.3	2	1.8	1.8	1.7	1.7	1.8	1.7	1.8	1.7	1.9	1.8	1.9	1.9	1.9	1.9	2.6	1.9	24
14	2	2	2.1	**IZS**	2.6	2.5	2.5	2.3	2.2	2.1	1.9	2	1.8	1.7	1.7	1.7	1.7	1.7	1.8	1.8	2	2.2	2.6	2.7	2.7	2.1	24
15	2.9	2.9	**IZS**	2.8	2.6	2.6	2.3	2.3	2.3	1.9	1.9	1.7	1.7	1.7	1.7	1.7	**P**	**P**	**N**	**N**	**N**	**N**	**N**	**N**	2.9	2.2	16
16	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	2.6	2.4	2.1	2.1	2.1	2.1	2.1	1.8	1.7	1.6	1.6	1.6	1.6	1.7	2.6	1.9	16
17	**IZS**	1.6	1.6	1.6	1.7	1.7	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.9	1.8	**IZS**	1.9	1.7	23
18	2.1	2.1	2	2.3	2.6	2.6	2.5	2.3	2.3	1.9	1.7	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.7	1.7	1.6	**IZS**	1.8	2.6	1.9	24
19	1.9	1.8	1.8	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	**IZS**	1.6	1.6	1.9	1.6	24
20	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.9	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	1.9	1.6	24
21	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	1.5	1.6	1.9	1.6	1.7	**IZS**	1.6	1.6	1.6	1.5	1.9	1.6	24
22	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.5	1.5	1.7	1.7	1.6	1.6	1.6	1.5	1.5	1.5	1.5	**IZS**	1.5	1.5	1.5	1.5	1.5	1.7	1.5	24
23	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	**IZS**	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	24
24	1.6	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	**IZS**	1.6	1.6	1.8	1.6	1.7	1.9	2.1	2.1	1.7	24
25	1.9	1.9	1.9	1.9	1.8	1.6	1.6	1.6	1.6	1.7	1.6	1.6	1.6	1.5	1.5	**IZS**	1.6	1.6	1.6	1.6	1.7	1.6	1.8	1.8	1.9	1.7	24
26	1.8	2.1	2.1	2.2	2.2	2.2	2.2	2.3	2.2	1.9	1.7	1.6	1.6	1.7	**IZS**	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	2.3	1.8	24
27	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**	1.7	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.6	1.6	1.7	1.6	24
28	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	**IZS**	1.6	1.6	1.6	1.6	1.6	1.7	1.8	1.8	1.8	1.7	1.7	1.8	1.7	24
29	1.7	1.8	1.9	2	2.1	2.1	2	2	2	2	1.8	**IZS**	1.6	1.5	1.5	1.6	1.5	1.6	1.6	1.7	1.7	1.7	1.9	1.9	2.1	1.8	24
30	1.9	1.9	1.9	2	2	2	2.1	2.2	2	2	**IZS**	1.6	1.6	1.6	1.6	1.6	1.6	1.7	2.3	1.7	1.6	1.5	1.6	1.7	2.3	1.8	24
HOURLY MAX	3	3	3	3	3	4	4	4	3	3	3	2	2	2	2	2	2	2	2	2	2	2	3	3			
HOURLY AVG	1.9	1.9	2.0	2.1	2.1	2.2	2.2	2.2	2.1	1.9	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.7	1.8	1.8	1.8	1.9			

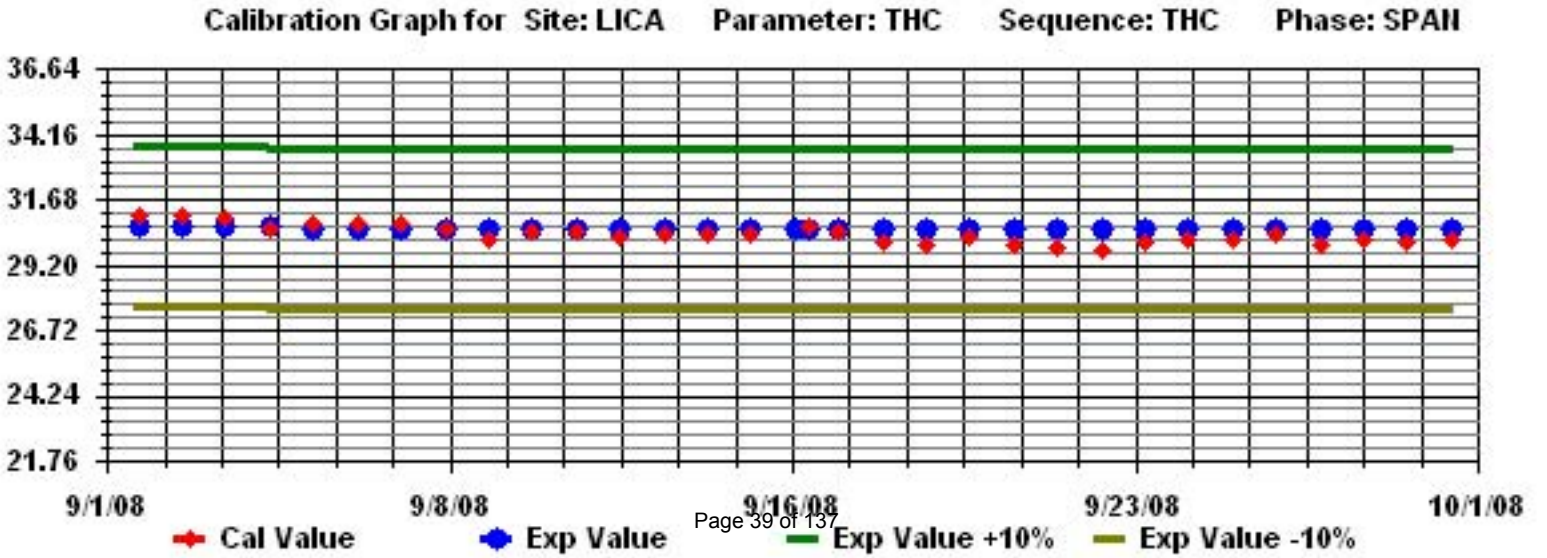
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	668					
MAXIMUM INSTANTANEOUS VALUE:	3.7	PPM	@ HOUR(S)	6	ON DAY(S)	7
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:		703	HRS
MONTHLY CALIBRATION TIME:	4	HRS				
STANDARD DEVIATION:	0.36					


01 Hour Averages
45
32.5
20
7.5
-5
09/01/08 00:00
09/06/08 00:00
09/11/08 00:00
09/16/08 00:00
09/21/08 00:00
09/26/08 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
9/1/08
9/8/08
9/16/08
9/23/08
10/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Particulate Matter 2.5

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

SEPTEMBER 2008

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

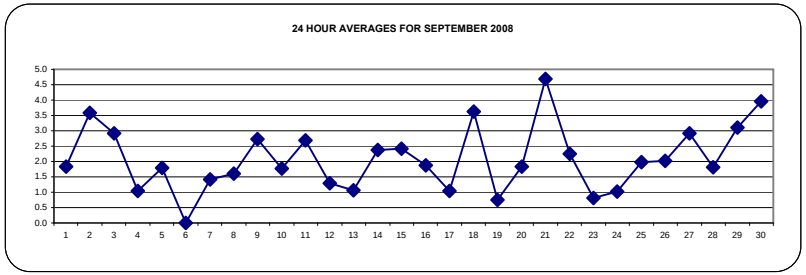
MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0.7	0.6	0.7	0.3	0.4	1.6	4	4.9	6.7	2.6	0	1.2	0	2.9	0.1	1	0.2	2.3	3	5.3	1.3	0.4	1.3	2.7	6.7	1.8	24
2	1	1.4	3.5	2.1	1.6	0.3	4	4.6	5	6.3	5	2.1	3.6	3.6	1	4.3	7.1	5	9	5.1	3.9	2.3	2	2.3	9.0	3.6	24
3	3.1	2.7	2.3	3.9	4.8	5.4	7	7.8	5.6	5	3.6	3.9	1.1	1.6	2.9	2.2	3.2	3.5	0.6	0	0	0	0	0	7.8	2.9	24
4	0	0	0.5	1.8	0.8	0.3	1.1	2.7	5.5	2.4	1.8	1.7	**C**	**C**	**C**	**C**	1.1	0.3	0	0.3	0.6	0	0	0	5.5	1.0	24
5	0	0	2.3	0	0	0	5.5	5.4	7.3	4.1	1.9	2.2	2.3	3.7	3.2	0	2.1	2.7	0.5	0	0	0	0	0	7.3	1.8	24
6	0.4	1.7	2.7	2.7	1.7	1.5	4.3	6	5.4	2.6	0	0	0	0.9	0.5	1	0.2	2.3	1.3	0.1	0.1	0.1	0	0	6.0	0.0	24
7	0	0.2	0	0.4	0.8	2.2	3.7	6.6	3.6	5.5	1.7	0	0.1	0	0.2	0	0.9	2.6	3	1.7	0.7	0	0	0	6.6	1.4	24
8	0	1.1	0	0	0	0	1.2	4.2	7	0.4	0.9	0	0	0.3	3.3	1.7	0.9	2.1	2.9	3.4	1.9	1.7	2.8	2.7	7.0	1.6	24
9	0.3	0	1.7	0	2.7	2.8	6.2	5.1	1.5	3.7	3.6	3.9	4.5	2.5	0.8	1.1	2.9	3.2	3.9	5.6	3	1.7	2.3	2.4	6.2	2.7	24
10	1.1	0	0	0	2	3.2	3.4	6.2	4.9	3.5	0.6	1.4	1	0	1.3	1.6	0	0	1.4	1.8	1.9	2.9	2.5	1.6	6.2	1.8	24
11	2.3	1.9	1.5	1.8	1.5	1.6	2.8	4.1	4.9	4.7	4.6	2.1	0	2.9	1.3	2.2	1.6	1.9	2.6	4.3	2.3	2.1	1.6	7.7	7.7	2.7	24
12	3.4	2.1	0.2	2.5	0	0	0.8	1.6	1.8	1.8	0	**N**	0	0	0	0	1	3.4	2.1	2.3	2.9	1.6	0.9	1.1	3.4	1.3	23
13	0.1	0	0	0	0	0.6	4.8	5.6	3.1	2.7	0	0.1	0.1	0	0	0	2.4	0	2	1.4	0.3	1.1	0.6	0.7	5.6	1.1	24
14	0	0	0	1.8	3.5	3	3.7	6.1	3.5	3.4	3.5	2.8	0.8	0.9	0	1.4	1.6	3.2	3	4.6	2.6	2.7	3.1	1.9	6.1	2.4	24
15	1	0.6	1.6	0.2	1.5	1.2	4.7	2.5	5.4	4.4	5	3.1	3.3	3.1	2.6	2	1.3	**P**	2.5	2.4	4.6	1.4	1	0	5.4	2.4	23
16	0.5	2.5	3.2	5.1	3.5	3.9	3.3	5.8	5.1	6.2	2.2	0	0	0	0	0.1	0.9	1	1.2	0.3	0.1	0	0	0	6.2	1.9	24
17	0	0	0	0	0	0	0.2	0.7	0	0	0.3	0.4	0	0	0.6	1.5	3.7	2.3	2.2	3.6	3.6	1.9	2.4	1.6	3.7	1.0	24
18	1	1.3	0.9	1.8	2.8	2.1	4.4	**12.6**	12.3	10.6	6.5	4.7	2.9	2.3	3	1.1	2.8	1.6	2.7	2.8	0.7	1.4	2.3	2.3	**12.6**	3.6	24
19	2.2	3	5.9	2.4	0.7	0	0	0.6	0	0	0	0	0	0	0	0.2	0	0.1	0.8	0.7	0.9	0.1	0.4	0	5.9	0.8	24
20	0	0	0	0	0	0	0.3	1.1	1.2	1.7	3	2.1	1.6	2.9	1.4	2.8	3.1	2.5	4.1	3.9	4	2.9	2.5	2.7	4.1	1.8	24
21	2	1.7	1.4	2	2.2	1.9	2.7	3	3.2	2.8	3.9	4.9	6.2	6.6	6.4	6.6	8.6	8.1	7.6	6.8	5.1	6.3	7.4	4.9	8.6	**4.7**	24
22	4.5	4.7	4	5.8	6.1	6.2	5	6.2	6.2	4.9	0	0	0	0	0	0	0	0	0	0.5	0	0	0	0	6.2	2.3	24
23	0.1	0	0.1	0	0.7	0.1	1.8	1.8	1.7	0.7	0	0.6	1.2	0.1	1.3	0.9	0.3	1.1	0.3	0.1	1.7	1.8	1.7	1.2	1.8	0.8	24
24	1.2	0	0.3	1	0.6	0.6	1.3	2.4	2.4	1.9	0.1	0	0	0	0	0.3	0	0	2.3	2.2	1.6	0.7	2.5	2.9	2.9	1.0	24
25	3.6	3	4	4.4	1.2	0.5	3.9	5.4	4.7	1.2	1	0	0.4	0	0	0	0.1	1.3	1.8	1.9	1.9	2.3	2.4	2.7	5.4	2.0	24
26	1.8	2.6	3.3	3.4	3.9	4	4.8	4	4.4	2.7	**N**	0	0	0	1	0.5	1.1	3.1	1.8	0.7	0.7	0.8	1.4	0.7	4.8	2.0	23
27	1.6	0.5	0.2	0.4	0.7	0.2	0.4	1.2	1.3	1.9	3.4	5	8	7.7	7.2	7	6.8	6.4	4.2	3	0	0.8	1.3	0.7	8.0	2.9	24
28	0.7	1.9	1.7	1.9	3	2.2	1.9	4	2.9	2.3	1.1	2.7	2.3	1.1	0.6	0.9	1.2	2.3	2.2	0.7	1.1	3.6	1	0	4.0	1.8	24
29	0	0.6	1.9	1	2.1	2.7	4.5	5.1	5.3	4.8	4	6.2	4.3	2.9	3	3.2	2.3	2.3	3.5	3.8	3.4	2.4	2.5	2.7	6.2	3.1	24
30	3.7	3.7	3.8	3.1	4.1	3.4	4.6	10.1	10	8.6	4.1	3	4.3	2.1	2.2	3.1	3.9	8.2	6.5	0	0	0.6	1.4	0.5	10.1	4.0	24
HOURLY MAX	5	5	6	6	6	6	7	13	12	11	7	6	8	8	7	7	9	8	9	7	5	6	7	8			
HOURLY AVG	1.2	1.3	1.6	1.7	1.8	1.7	3.2	4.6	4.4	3.4	2.1	1.9	1.7	1.7	1.5	1.6	2.0	2.5	2.6	2.3	1.7	1.5	1.6	1.5			

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

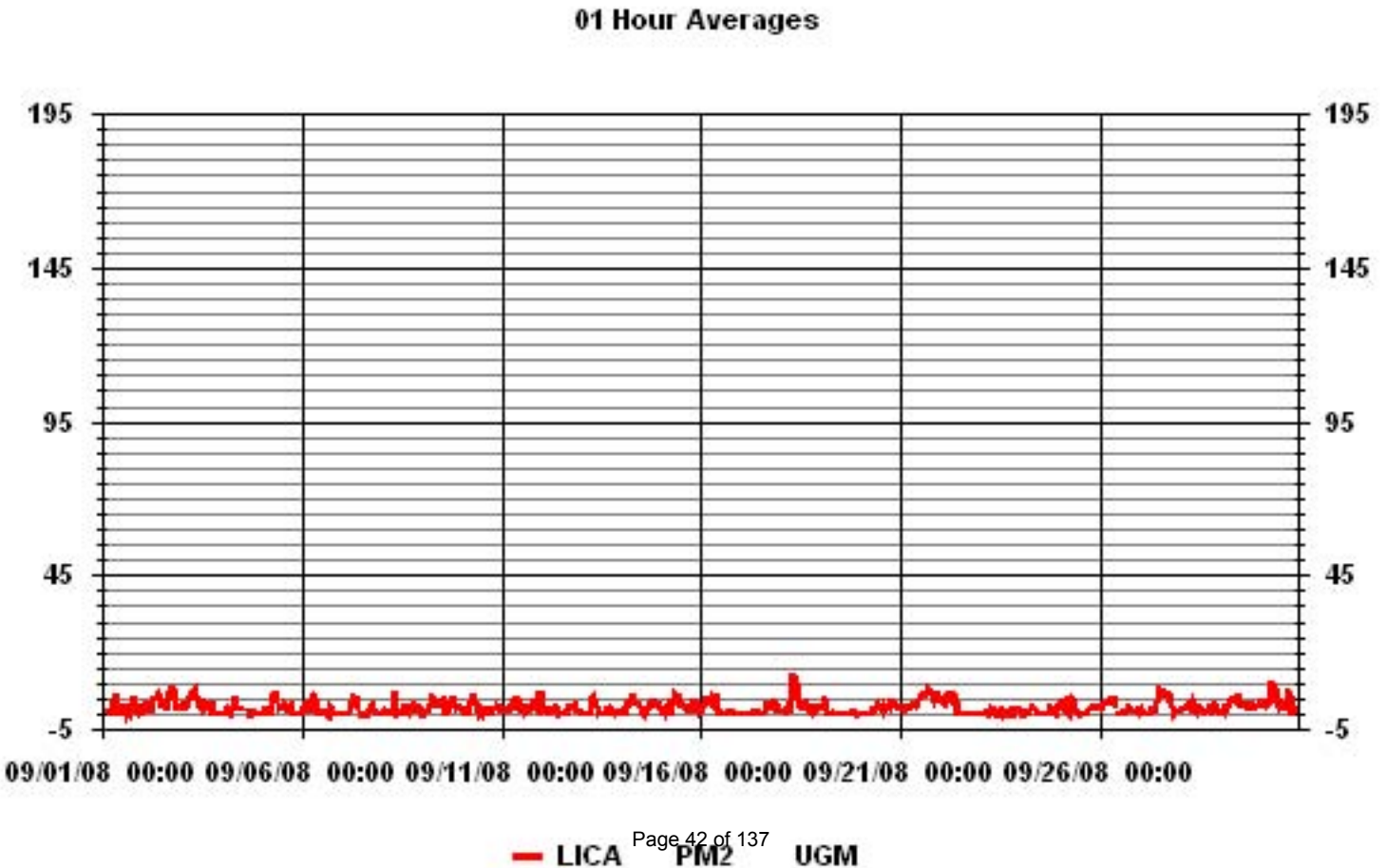
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR - PPB 24-HR 30 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	-					
NUMBER OF 24-HR EXCEEDENCES:	0	PROPOSED CANADA WIDE GUIDELINE				
NUMBER OF NON-ZERO READINGS:	570					
MAXIMUM 1-HR AVERAGE:	12.6	UG/M^3	@ HOUR(S)	7	ON DAY(S)	18
MAXIMUM 24-HR AVERAGE:	4.7	UG/M^3			ON DAY(S)	21

IZS CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	717	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	99.6	%
STANDARD DEVIATION:	2.09		MONTHLY AVERAGE:	2.13	UG/M^3


01 Hour Averages
195
145
95
45
-5
09/01/08 00:00
09/06/08 00:00
09/11/08 00:00
09/16/08 00:00
09/21/08 00:00
09/26/08 00:00
LICA PM2 UGM

LICA
PM2 / WD Joint Frequency Distribution (Percent)

September 2008

Distribution By % Of Samples

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

Wind Parameter : WD
Instrument Height : 10 Meters

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	30.0	1.68	2.80	3.50	2.80	7.71	7.85	6.59	4.20	4.76	5.32	13.32	15.14	11.92	5.75	4.76	1.82	100.00
<	60.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	80.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	120.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	240.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	240.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	1.68	2.80	3.50	2.80	7.71	7.85	6.59	4.20	4.76	5.32	13.32	15.14	11.92	5.75	4.76	1.82	

Calm : .00 %

Total # Operational Hours : 713

Distribution By Samples

Direction

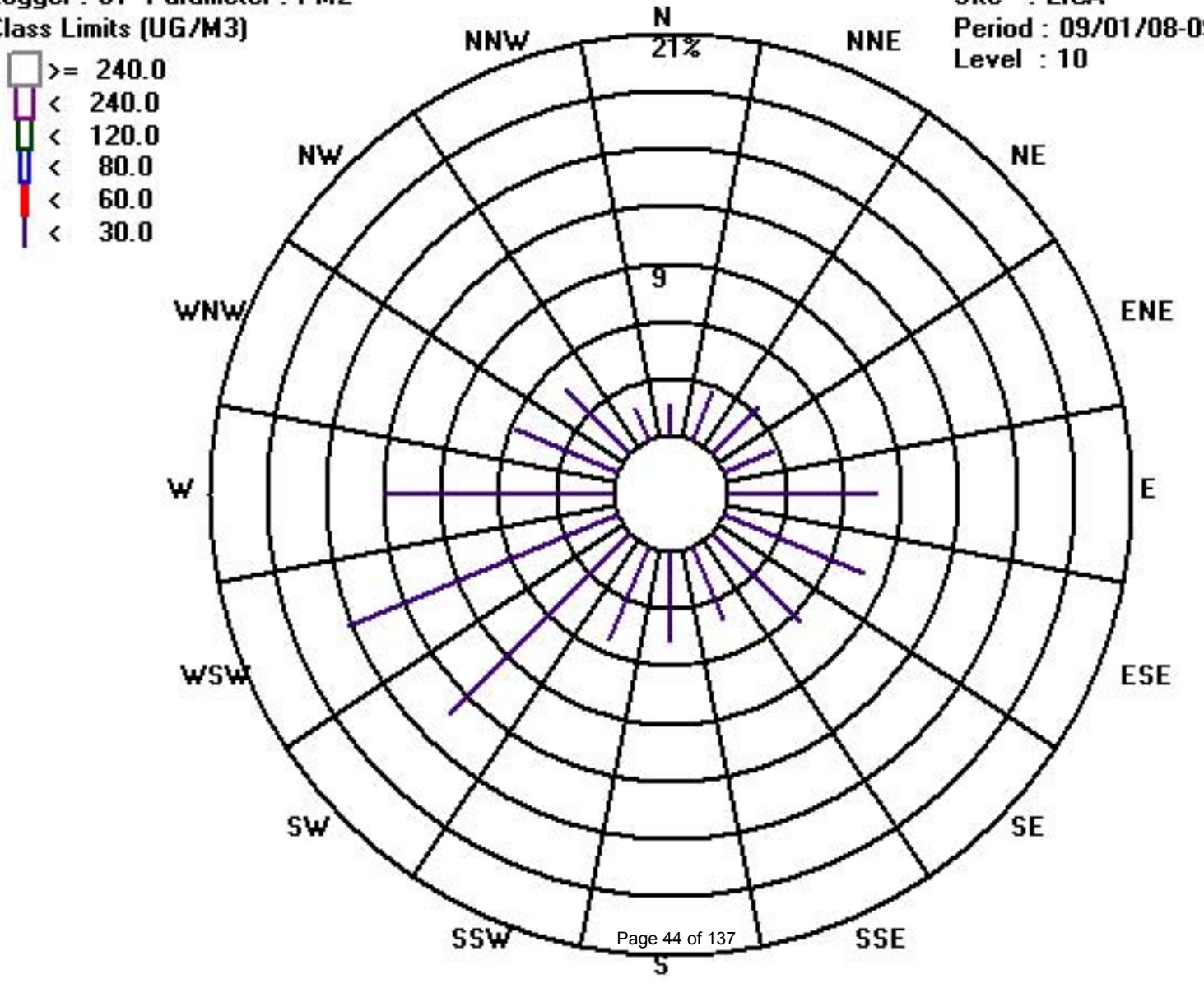
	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	30.0	12	20	25	20	55	56	47	30	34	38	95	108	85	41	34	13	713
<	60.0																	
<	80.0																	
<	120.0																	
<	240.0																	
>=	240.0																	
	Totals	12	20	25	20	55	56	47	30	34	38	95	108	85	41	34	13	

Calm : .00 %

Total # Operational Hours : 713

Logger : 01 Parameter : PM2
Class Limits (UG/M3)

Site : LICA
Period : 09/01/08-09/30/08
Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

SEPTEMBER 2008

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

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	5.8	5	5	4.9	4.1	6.2	9.1	8.8	10.3	7.4	2.6	7.9	6.1	11.8	6.3	6.3	5.4	9	7.4	8.2	3.6	2.9	4.3	4.7	11.8	6.4	24
2	3.8	4.3	6.9	4.2	4.1	3.6	10.2	9.3	9.8	8.5	8.4	5.4	8.8	10.1	3.4	9	13	9.7	14	7.6	6.2	4.8	3.6	4.6	14	7.2	24
3	5.6	4.9	5.9	9	8	8	9.5	11.2	11.2	13	6.4	7.6	5.5	5.5	7.3	4.9	5.4	8	3.3	1.5	1.8	3.5	2.1	0.5	13	6.2	24
4	1.6	4.3	4.1	4.3	5	5.5	7	6.1	9.7	6.3	6.4	13.4	**C**	**C**	**C**	**C**	**C**	4.7	3.3	4.3	5.4	1.1	1	2.4	13.4	5.0	24
5	1.6	2.4	6.4	2.1	0.8	3.1	11.4	8.1	11.7	6.8	4.4	4.6	6.5	6.9	9.2	2	6.1	6.5	5.5	3.7	2	2.1	2	3.8	11.7	5.0	24
6	5.2	7	7	6.1	5.8	5	D	M	M	8.2	1.5	2.7	4.2	3.2	4.3	3.6	4.6	7.6	6.9	2	1.5	1.6	1.1	3.3	8.2	0.0	24
7	2.7	3.4	3.4	3	4.4	4.7	7.1	11	8.2	13.4	4.8	3.8	5.3	3.8	4.7	1.9	3.8	4.6	5.3	2.9	2.6	2.9	-0.2	2.5	13.4	4.6	24
8	1.8	5.6	2.8	4.2	1.2	1.4	7.2	8.9	10.6	8.6	5.9	2.1	3.3	3.1	6.2	4.4	3.7	4.1	6	5.3	4.1	3.7	4.9	6.2	10.6	4.8	24
9	5.3	2.4	3.3	1.5	6	4.8	11.3	9.1	5.4	6	5.8	5.5	8.7	4.8	4.3	4.8	6.8	5.4	8.2	8.5	5.5	3.3	3.7	5.3	11.3	5.7	24
10	2.4	2.5	0.3	1.4	4.6	5.6	6.8	9.2	11.8	7.1	5.6	4.8	**N**	4.2	6.8	5.7	3.3	2.4	2.8	4.2	4.6	4.7	4.7	5.8	11.8	4.8	23
11	5	4.3	5.5	4.7	3.2	3.2	6	9.2	6.5	8.4	6.9	12.5	11.8	6	4.1	4.1	3.8	4.3	5.9	10.3	4.4	5.7	5	17.3	17.3	6.6	24
12	9.4	5.8	3.6	6.1	3.3	3.6	2.7	3.6	3.2	8.4	3	2.8	0.8	1.6	2	3.3	4.4	5.5	5.9	3.8	6.5	3.2	3.3	4.2	9.4	4.2	24
13	2.2	1.5	3.2	2.2	3.2	3.1	11.5	9.9	4.4	5.2	2.2	2.9	3.2	4.7	2.4	1.5	**22.4**	7.1	5.4	4.2	1.5	2.7	3	3.5	**22.4**	4.7	24
14	2.1	1.5	4.2	4.7	7.9	5.2	7.1	12.2	7.6	5.4	5	5.4	5	4.6	2	3.3	4.4	5.8	5.2	7.8	4.9	6.6	5.6	4.4	12.2	5.3	24
15	3.6	2.6	3.9	2.6	4.2	3.9	9.9	4.9	8	8.3	8.2	18	10.6	7.4	5.7	12.5	**P**	**P**	5.4	4.9	6.8	4.4	5.9	2.2	18	6.5	22
16	2.5	4.8	6.6	8.8	5.8	6.5	5.1	8.6	6.9	11	9.5	12.7	12.9	2.5	1.8	2.1	3.1	3.2	3.2	2.6	1.5	2	0.5	0.7	12.9	5.2	24
17	0.3	-0.3	0.3	0.8	2.9	2.5	6.8	2.7	2.8	3	2.1	3	0.9	2.2	3.1	4.3	6.5	5.3	5.4	5.7	5.4	4.9	8.4	9.2	9.2	3.7	24
18	2.5	2.5	3.4	3.5	5.5	4.9	9.1	18.7	15.9	13	9.9	8.1	7.9	6.8	6.9	4.4	5.5	4.9	5.5	4.7	2.1	3.6	4.2	4.3	18.7	6.6	24
19	4.1	8.2	9.1	6.4	3.4	3	2.9	2.1	0.8	3	1.1	1.4	1	2.2	3.9	2.6	1.4	1.8	2.5	1.9	3.3	2.4	2.1	1.6	9.1	3.0	24
20	2.1	2	2.6	1.4	1.6	2.5	3	3.8	3.2	3.3	5.5	4.2	3.8	6.9	5.4	5.4	5.1	4.6	6.2	5.7	5.8	4.8	4.2	4.4	6.9	4.1	24
21	3.6	3.1	3.4	3.5	4.1	3.2	4.6	4.8	5.7	4.7	6.7	7.1	9.2	9	8.7	9.1	12.2	13.5	10.4	9.1	6.9	8.4	13.5	8.1	13.5	7.2	24
22	6.1	9.3	7.5	8.2	8.2	8.8	7	8.3	7.6	9	2	2.5	1.1	0.3	0.8	0.2	0.3	0.8	0.9	2.4	2.2	2.5	0.7	1.5	9.3	4.1	24
23	0.9	0.9	2.5	1	2.6	2.1	3.6	4.8	3.4	3.1	1.9	4.8	4.6	2.7	4.9	5	2	4.2	2.3	2	3.1	4.3	3.2	2.7	5	3.0	24
24	3.6	2.2	1.6	3.3	3.6	2.4	2.8	4.6	4.7	3.6	1.5	1.4	1.3	2.2	1.6	3.1	1.2	2.6	5.2	4.2	3.4	3.4	5.2	4.7	5.2	3.1	24
25	6.5	5.7	6.7	6.8	5.9	3.5	6.2	12.9	8.8	3.3	4.4	1.8	1.9	1.9	2.3	2.5	2	4.7	3.7	4.4	4.6	5.7	4.4	5.6	12.9	4.8	24
26	4.4	5.5	6.5	5.7	5.6	6.2	6.9	6.2	5.9	5	1.5	1.1	3.4	1.9	4	3.2	4.8	5.2	3.9	2.9	3.5	3	3.7	2.2	6.9	4.3	24
27	3.6	2	2.1	2.1	2.4	2	2.7	3.7	3.2	3.6	10.1	8.4	10.5	11.5	10.1	10	9.2	8.2	7.1	4.8	3.4	2.1	3.6	2.7	11.5	5.4	24
28	2	3.9	3.1	4	4.5	5.1	3.7	7	4.4	4.9	3.7	4.7	5.9	4.4	3.2	3.1	3.9	6.9	4.3	3	3.9	6.8	5.8	1.8	7	4.3	24
29	2.3	3.9	4.1	3.5	4.1	4.3	5.8	6.9	9.8	6.3	6.3	9	7.3	5.3	5.2	6.9	5.7	5	5.2	8.8	5.5	4.2	5.4	5.3	9.8	5.7	24
HOURLY MAX	9	9	9	9	8	9	12	19	16	13	10	18	13	12	10	13	22	14	14	10	7	8	14	17			
HOURLY AVG	3.5	3.8	4.3	4.1	4.3	4.3	6.7	7.7	7.2	6.8	4.9	5.8	5.6	4.9	4.7	4.6	5.6	5.6	5.4	4.9	4.0	3.8	4.0	4.3			

STATUS FLAG CODES

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

MONTHLY SUMMARY

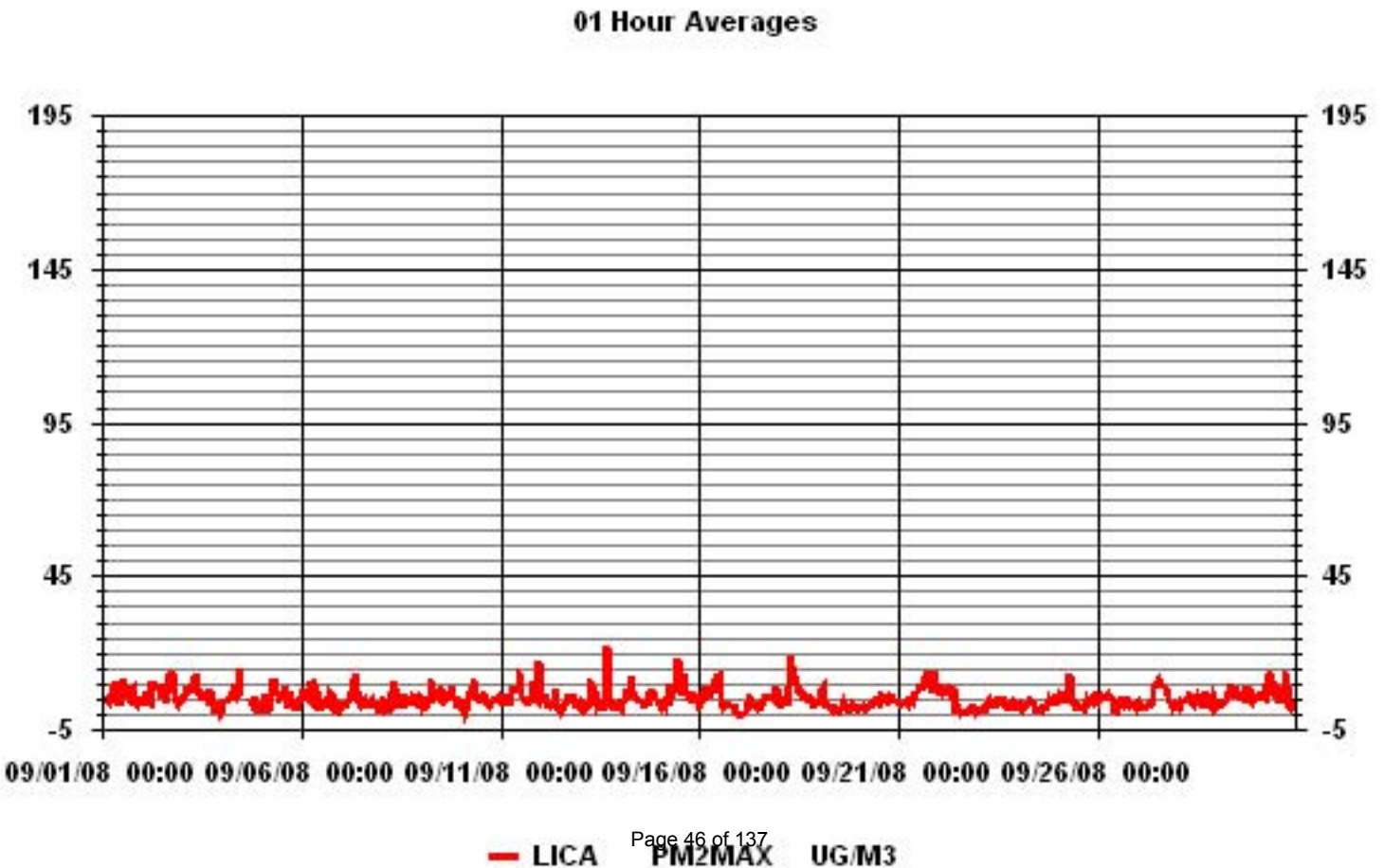
NUMBER OF NON-ZERO READINGS: 683

MAXIMUM INSTANTANEOUS VALUE: 22.4 UG/M^3 @ HOUR(S) 16 ON DAY(S) 13

IZS CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 693 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION: 2.97


01 Hour Averages
195
145
95
45
-5
09/01/08 00:00
09/06/08 00:00
09/11/08 00:00
09/16/08 00:00
09/21/08 00:00
09/26/08 00:00
LICA PM2MAX UG/M3

Nitrogen Dioxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

SEPTEMBER 2008

NITROGEN DIOXIDE hourly averages in ppb

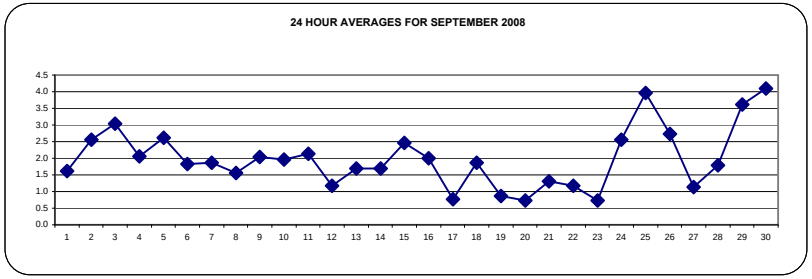
MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2	2	2	2	2	2	2	3	4	2	1	1	0	0	0	0	**IZS**	0	2	3	3	2	1	1	4	1.6	24
2	1	1	1	1	1	3	4	3	3	3	4	2	1	1	2	**IZS**	3	3	5	4	5	3	3	2	5	2.6	24
3	1	1	1	1	3	4	5	5	6	7	3	6	2	1	**IZS**	1	2	1	3	2	4	3	4	4	7	3.0	24
4	2	2	2	3	4	5	4	**C**	**C**	**C**	**C**	**C**	**C**	**IZS**	1	0	1	1	1	2	2	1	2	2	5	2.1	24
5	1	1	3	3	2	3	4	6	4	3	1	1	**IZS**	1	3	1	1	3	2	3	4	3	4	3	6	2.6	24
6	3	3	3	3	4	4	3	3	2	1	0	**IZS**	0	0	0	0	0	1	3	3	2	1	2	1	4	1.8	24
7	1	1	1	2	2	2	3	4	4	3	**IZS**	1	1	1	0	1	1	3	3	3	2	2	1	1	4	1.9	24
8	1	2	2	3	2	2	4	4	2	**IZS**	1	0	0	1	1	1	1	1	2	2	1	1	1	1	4	1.6	24
9	2	1	1	1	3	7	6	4	**IZS**	2	3	3	3	1	2	1	1	0	1	4	1	0	0	0	7	2.0	24
10	0	0	0	1	4	4	5	**IZS**	6	4	1	1	1	0	0	1	0	0	4	5	2	2	2	2	6	2.0	24
11	2	2	2	2	2	3	**IZS**	5	4	2	1	0	0	1	1	1	1	2	2	6	4	2	2	2	6	2.1	24
12	1	2	2	2	2	**IZS**	3	5	2	1	0	0	0	0	0	0	0	0	1	1	1	0	2	2	5	1.2	24
13	3	2	2	3	**IZS**	4	3	3	2	1	0	0	0	0	0	0	0	0	3	5	3	2	2	1	5	1.7	24
14	1	1	1	**IZS**	2	3	3	4	2	2	2	1	0	0	0	0	0	0	2	3	3	3	3	3	4	1.7	24
15	2	2	**IZS**	1	2	3	3	3	4	4	2	1	0	0	0	0	3	**P**	1	6	6	5	4	2	6	2.5	23
16	2	**IZS**	2	4	4	4	5	5	7	4	2	1	0	0	0	0	1	1	2	1	1	0	0	0	7	2.0	24
17	**IZS**	0	0	0	0	2	4	2	0	0	0	0	0	0	0	0	0	1	2	2	1	2	1	**IZS**	4	0.8	24
18	1	1	3	2	1	1	1	4	6	4	2	1	1	1	0	0	0	0	1	2	3	3	**IZS**	5	6	1.9	24
19	4	2	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	2	3	3	**IZS**	1	1	4	0.9	24
20	1	1	0	0	1	1	2	1	0	0	0	0	0	1	1	0	1	1	2	1	**IZS**	1	1	1	2	0.7	24
21	1	1	1	2	1	2	2	1	1	1	1	1	1	1	1	1	1	2	3	**IZS**	2	2	1	0	3	1.3	24
22	0	1	0	1	1	2	3	2	2	2	3	1	1	1	1	1	0	1	**IZS**	1	1	1	0	1	3	1.2	24
23	1	1	1	0	0	1	2	1	1	1	1	0	0	0	0	0	0	**IZS**	2	1	1	1	1	1	2	0.7	24
24	2	2	1	1	1	1	2	2	2	1	1	0	0	0	0	0	**IZS**	1	10	6	5	5	8	8	10	2.6	24
25	8	7	8	8	6	6	2	4	2	2	1	0	0	0	0	**IZS**	1	2	5	7	7	6	4	5	8	4.0	24
26	5	5	3	2	2	4	6	5	4	2	0	0	1	0	**IZS**	1	2	5	5	4	2	2	2	1	6	2.7	24
27	1	1	0	0	2	2	1	1	1	2	2	1	1	**IZS**	1	1	1	2	2	1	0	0	1	2	2	1.1	24
28	3	3	1	2	1	3	2	2	1	0	0	0	**IZS**	0	0	0	0	1	4	7	7	2	1	1	7	1.8	24
29	1	1	2	2	2	3	3	4	4	4	4	**IZS**	1	1	1	1	0	1	13	7	8	7	6	7	13	3.6	24
30	6	5	**5**	4	4	6	4	4	6	9	**IZS**	1	1	1	1	1	3	10	**15**	4	1	1	1	1	**15**	**4.1**	24
HOURLY MAX	8	7	8	8	6	7	6	6	7	9	4	6	3	1	3	1	3	10	15	7	8	7	8	8			
HOURLY AVG	2.0	1.9	1.8	1.9	2.1	3.0	3.2	3.3	2.9	2.4	1.3	0.9	0.6	0.5	0.6	0.5	0.9	1.6	3.6	3.4	2.9	2.2	2.1	2.1			

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

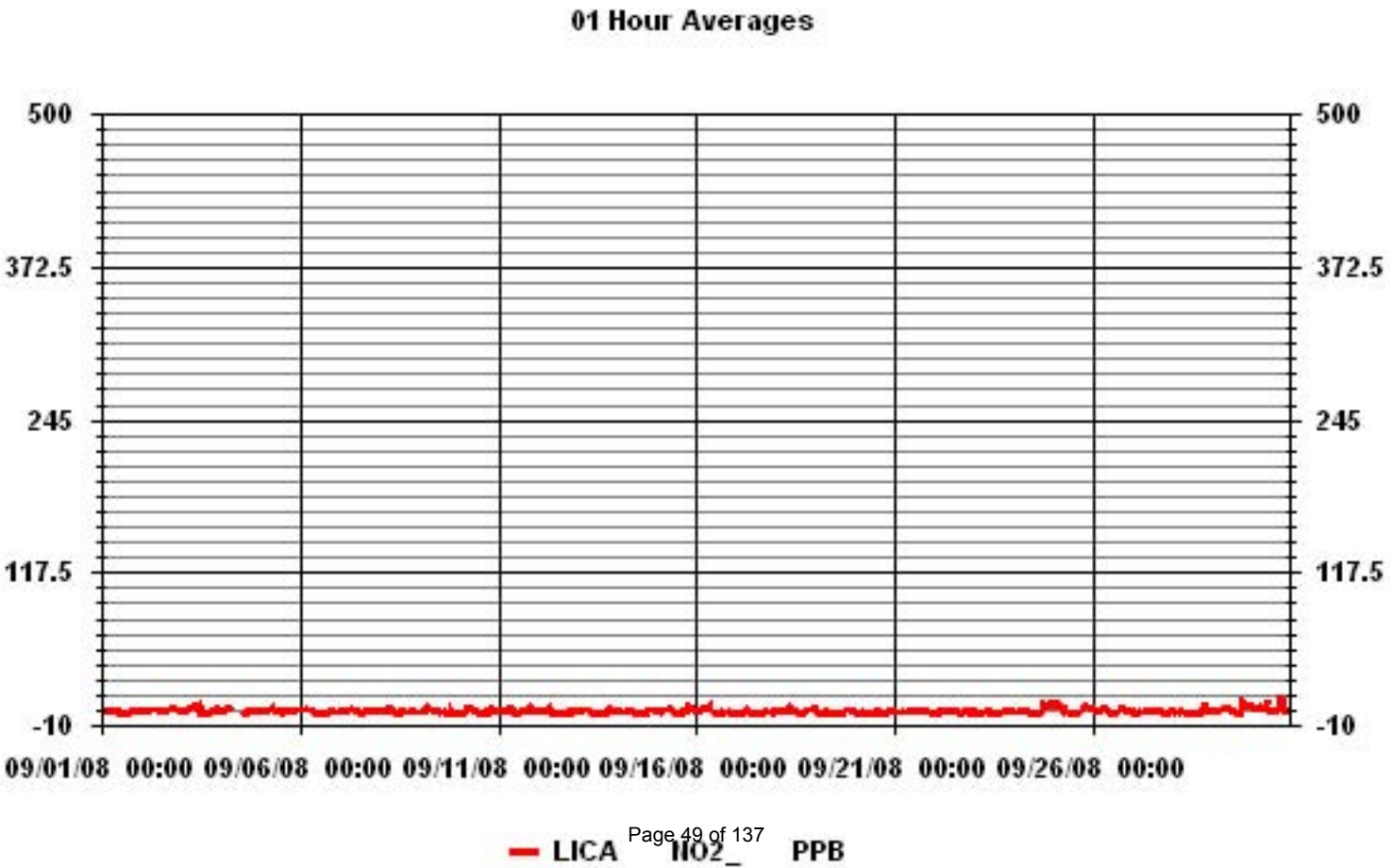
OBJECTIVE LIMIT: **ALBERTA ENVIRONMENT:** 1-HR 212 PPB | 24-HR 106 PPB



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF 24-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	546					
MAXIMUM 1-HR AVERAGE:	15	PPB	@ HOUR(S)	18	ON DAY(S)	30
MAXIMUM 24-HR AVERAGE:	4.1	PPB			ON DAY(S)	30

IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	719	HRS
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME	99.9	%
STANDARD DEVIATION	1.92		MONTHLY AVERAGE	1.99	PPB


01 Hour Averages
500
372.5
245
117.5
-10
09/01/08 00:00
09/06/08 00:00
09/11/08 00:00
09/16/08 00:00
09/21/08 00:00
09/26/08 00:00
LICA NO2_ PPB

LICA
NO2_ / WD Joint Frequency Distribution (Percent)

September 2008

Distribution By % Of Samples

Logger Id : 01
Site Name : LICA
Parameter : NO2_
Units : PPB

Wind Parameter : WD
Instrument Height : 10 Meters

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	1.61	2.78	3.51	2.78	7.62	7.77	6.74	4.54	4.98	5.13	13.48	15.10	11.29	6.15	4.69	1.75	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	1.61	2.78	3.51	2.78	7.62	7.77	6.74	4.54	4.98	5.13	13.48	15.10	11.29	6.15	4.69	1.75	

Calm : .00 %

Total # Operational Hours : 682

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	11	19	24	19	52	53	46	31	34	35	92	103	77	42	32	12	682
< 110																	
< 210																	
>= 210																	
Totals	11	19	24	19	52	53	46	31	34	35	92	103	77	42	32	12	

Calm : .00 %

Total # Operational Hours : 682

Logger : 01 Parameter : NO2_

Class Limits (PPB)

>= 210

< 210

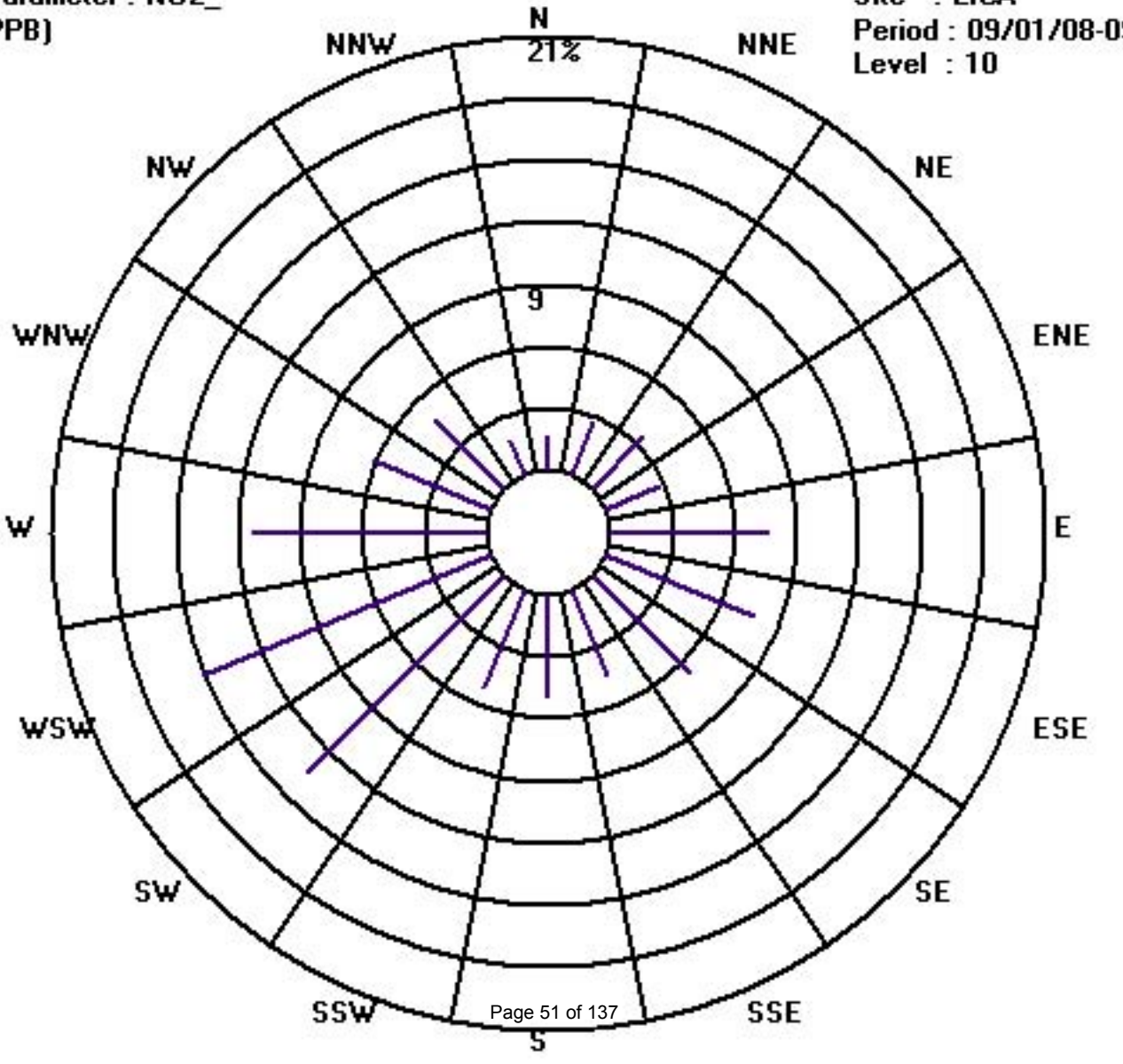
< 110

< 50

Site : LICA

Period : 09/01/08-09/30/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

SEPTEMBER 2008

NITROGEN DIOXIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	3	3	3	2	3	9	3	5	4	3	2	1	1	1	1	2	**IZS**	2	3	4	5	3	2	2	9	2.9	24
2	2	1	2	3	2	4	5	4	4	5	6	3	3	6	4	**IZS**	4	5	13	6	12	5	4	3	13	4.6	24
3	2	2	2	2	4	10	9	9	7	11	6	8	7	3	**IZS**	2	5	2	5	4	6	5	6	5	11	5.3	24
4	3	3	4	5	5	5	5	**C**	**C**	**C**	**C**	**C**	**C**	**C**	C	2	2	2	2	4	4	3	5	3	5	3.6	24
5	2	1	5	5	3	5	7	8	6	11	**5**	3	**IZS**	4	6	5	2	4	4	5	6	5	6	4	11	4.9	24
6	4	5	4	3	4	5	5	5	4	1	0	**IZS**	1	2	1	0	0	3	12	6	3	3	3	2	12	3.3	24
7	1	1	3	3	14	9	4	5	5	4	**IZS**	4	2	2	1	2	3	4	5	5	4	2	2	3	14	3.8	24
8	2	4	4	3	3	3	8	9	4	**IZS**	10	1	1	1	3	3	7	5	3	8	3	2	2	2	10	4.0	24
9	3	3	2	1	6	10	10	10	**IZS**	4	4	**42**	5	5	8	19	3	1	3	14	11	0	0	0	**42**	7.1	24
10	0	1	1	2	7	6	7	**IZS**	9	5	3	2	2	1	1	4	1	1	7	9	8	2	2	2	9	3.6	24
11	2	3	2	3	3	4	**IZS**	6	8	4	5	1	1	2	4	2	4	4	7	15	8	4	3	2	15	4.2	22
12	1	2	3	4	3	**IZS**	5	10	6	2	2	1	1	1	0	1	1	1	2	3	1	1	4	3	10	2.5	24
13	4	2	2	7	**IZS**	5	4	4	3	2	1	1	1	0	1	1	0	1	8	9	5	4	3	3	9	3.1	24
14	2	2	2	**IZS**	4	5	5	6	3	3	5	2	1	0	8	0	1	1	4	6	4	4	4	3	8	3.3	24
15	3	2	**IZS**	2	19	4	4	4	7	6	4	2	1	3	1	0	**P**	**P**	3	7	10	7	5	4	19	4.7	22
16	3	**IZS**	4	5	5	6	7	7	9	5	6	2	1	2	2	1	3	6	3	2	2	4	4	0	9	3.9	24
17	**IZS**	1	1	1	2	6	6	7	1	1	3	0	2	1	1	1	1	2	10	5	3	3	2	**IZS**	10	2.7	24
18	2	2	9	3	2	2	3	8	8	5	3	2	1	3	1	0	1	1	2	3	3	4	**IZS**	5	9	3.2	24
19	6	3	2	0	1	2	2	11	3	1	1	0	2	2	2	1	2	3	5	6	6	**IZS**	1	1	11	2.7	24
20	2	1	1	1	19	3	6	1	4	9	4	2	2	2	3	1	4	3	2	2	**IZS**	2	2	1	19	3.3	24
21	1	2	3	4	3	10	3	5	6	1	2	9	2	2	2	2	2	6	5	**IZS**	3	11	3	1	11	3.8	24
22	1	1	1	1	20	14	4	3	3	3	5	2	2	3	2	1	1	1	**IZS**	5	3	2	1	2	20	3.5	24
23	2	2	1	1	1	2	3	3	3	1	3	1	3	1	0	1	1	**IZS**	3	3	3	3	1	1	3	1.9	24
24	3	2	2	2	2	2	3	3	6	2	1	1	3	3	1	2	**IZS**	4	20	12	7	9	13	10	20	4.9	24
25	10	10	10	17	13	11	6	9	7	9	2	2	2	4	5	**IZS**	3	5	11	15	11	7	6	8	17	8.0	24
26	7	7	5	3	3	10	15	7	7	3	2	2	13	1	**IZS**	5	5	9	20	7	4	4	3	2	20	6.3	24
27	2	4	1	1	4	5	2	2	3	4	11	3	3	**IZS**	2	2	2	4	3	2	1	2	3	3	11	3.0	24
28	5	6	2	5	2	5	5	4	2	1	1	0	**IZS**	0	0	0	1	4	7	13	12	6	1	1	13	3.6	24
29	2	4	4	5	4	6	4	7	6	6	6	**IZS**	3	2	2	1	2	8	22	10	13	9	8	8	22	6.2	24
30	8	7	6	6	6	17	8	10	12	13	**IZS**	2	2	7	3	2	4	17	19	13	2	3	2	3	19	7.5	24
HOURLY MAX	10	10	10	17	20	17	15	11	12	13	11	42	13	7	8	19	7	17	22	15	13	11	13	10			
HOURLY AVG	3.0	3.0	3.1	3.4	5.8	6.4	5.4	6.1	5.4	4.5	3.8	3.7	2.5	2.3	2.4	2.3	2.4	3.9	7.3	7.0	5.6	4.1	3.5	3.0			

STATUS FLAG CODES

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

MONTHLY SUMMARY

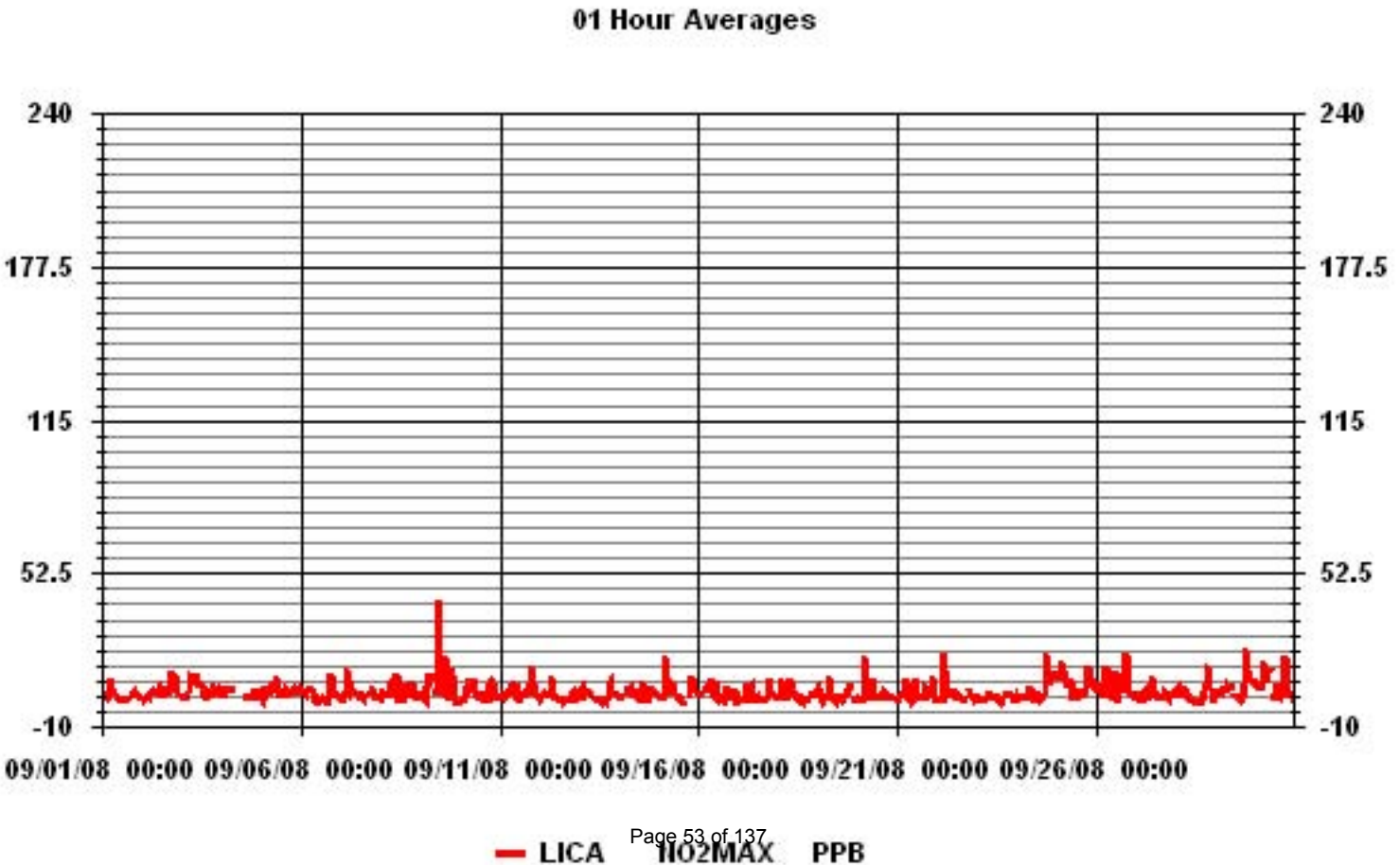
NUMBER OF NON-ZERO READINGS: 657

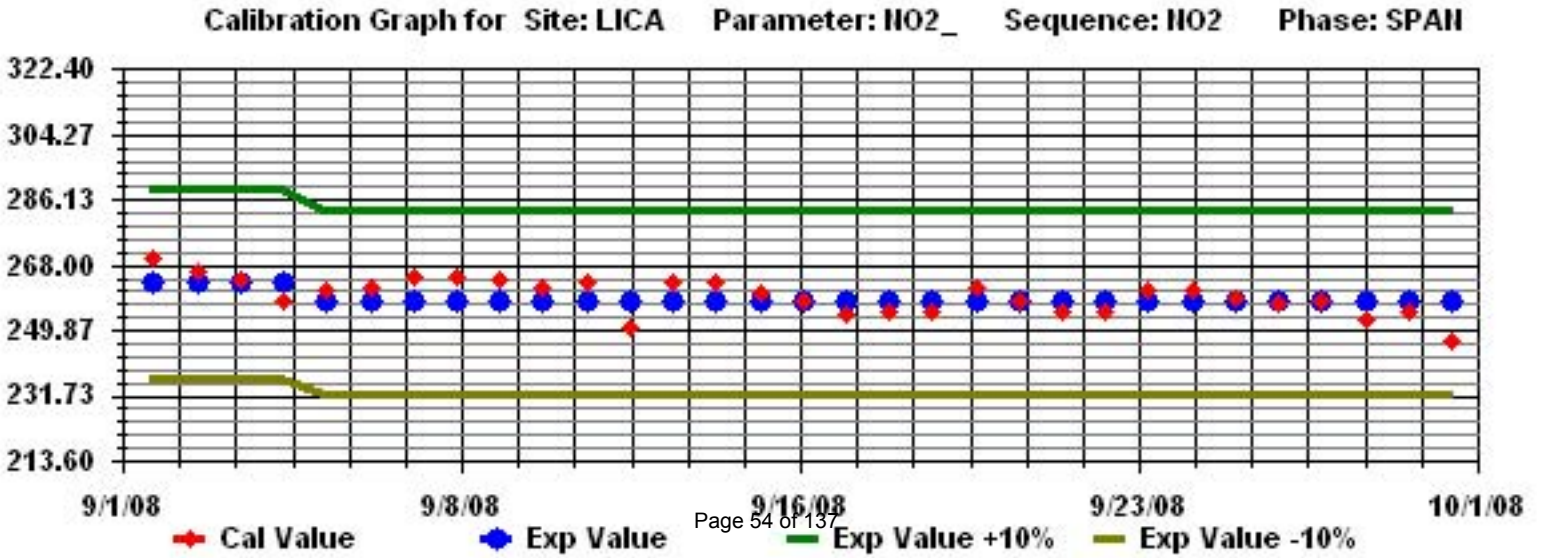
MAXIMUM INSTANTANEOUS VALUE: 42 PPB @ HOUR(S) 11 ON DAY(S) 9

IZS CALIBRATION TIME: 30 HRS OPERATIONAL TIME: 716 HRS

MONTHLY CALIBRATION TIME: 8 HRS

STANDARD DEVIATION: 3.78


01 Hour Averages
240
177.5
115
52.5
-10
09/01/08 00:00
09/06/08 00:00
09/11/08 00:00
09/16/08 00:00
09/21/08 00:00
09/26/08 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
9/1/08
9/8/08
9/16/08
9/23/08
10/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Nitric Oxide

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

SEPTEMBER 2008

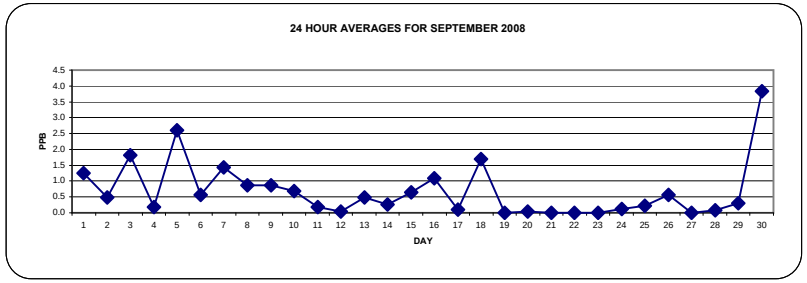
NITRIC OXIDE hourly averages in ppb

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	1	0	0	0	2	3	5	8	7	2	1	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	8	1.3	24
2	0	0	0	0	0	1	3	2	1	1	2	0	0	0	0	**IZS**	0	0	1	0	0	0	0	0	3	0.5	24
3	0	0	0	0	1	5	13	8	6	4	1	3	1	0	**IZS**	0	0	0	0	0	0	0	0	0	13	1.8	24
4	0	0	0	0	0	0	3	**C**	**C**	**C**	**C**	**C**	**C**	**IZS**	0	0	0	0	0	0	0	0	0	0	3	0.2	24
5	0	0	0	0	0	6	16	**19**	12	2	0	0	**IZS**	0	1	0	0	0	0	0	2	0	1	1	**19**	2.6	24
6	0	0	0	0	0	0	3	2	2	0	0	**IZS**	0	0	0	0	0	0	1	1	2	1	1	0	3	0.6	24
7	0	1	1	1	5	4	5	7	5	4	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	7	1.4	24
8	0	0	0	0	0	0	8	9	3	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0.9	24
9	0	0	0	0	0	1	6	2	**IZS**	0	1	2	1	0	1	1	0	0	0	4	1	0	0	0	6	0.9	24
10	0	0	0	0	0	1	3	**IZS**	8	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0.7	24
11	0	0	0	0	0	0	**IZS**	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2	24
12	0	0	0	0	0	**IZS**	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24
13	0	0	0	0	**IZS**	2	3	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.5	24
14	0	0	0	**IZS**	0	0	1	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.3	24
15	0	0	**IZS**	0	2	2	1	2	2	2	1	0	0	0	0	0	2	**P**	0	0	0	0	0	0	2	0.6	23
16	0	**IZS**	0	0	0	1	3	11	6	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	11	1.1	24
17	**IZS**	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	1	0.1	24
18	0	0	5	1	0	3	5	**19**	4	2	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	**19**	1.7	24
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0.0	24
20	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	1	0.0	24
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0.0	24
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0.0	24
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0.0	24
24	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	2	0	2	0.1	24
25	0	0	1	2	1	1	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	2	0.2	24
26	0	0	0	0	0	1	7	2	2	1	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	7	0.6	24
27	0	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	0	0	0	0	0	0.0	24
28	0	0	0	0	0	0	0	0	0	0	0	0	**IZS**	0	0	0	0	0	0	2	0	0	0	0	2	0.1	24
29	0	0	0	0	0	0	0	0	1	1	1	**IZS**	0	0	0	0	0	0	1	0	0	0	0	3	3	0.3	24
30	2	3	4	3	3	14	15	**19**	10	11	**IZS**	0	0	0	0	0	0	1	3	0	0	0	0	0	**19**	**3.8**	24
HOURLY MAX	2	3	5	3	5	14	16	19	12	11	2	3	1	0	1	1	2	1	3	4	2	1	2	3			
HOURLY AVG	0.1	0.1	0.4	0.2	0.5	1.6	3.5	4.2	2.7	1.4	0.4	0.2	0.1	0.0	0.1	0.0	0.1	0.0	0.2	0.2	0.2	0.0	0.1	0.1			

STATUS FLAG CODES

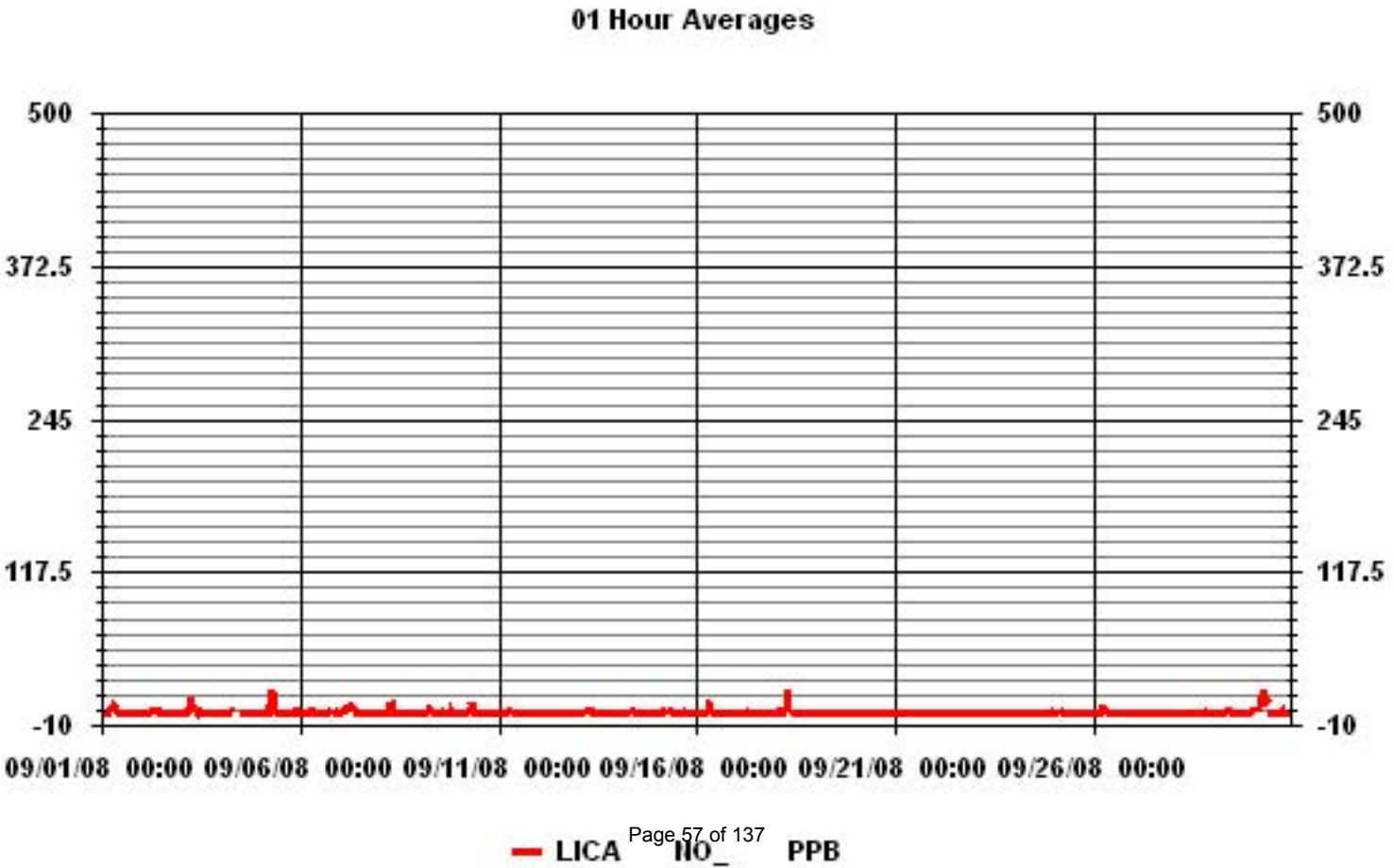
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	135					
MAXIMUM 1-HR AVERAGE:	19	PPB	@ HOUR(S)	VAR	ON DAY(S)	7
MAXIMUM 24-HR AVERAGE:	3.8	PPB			ON DAY(S)	30

IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	719	HRS
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME	99.9	%
STANDARD DEVIATION	2.21		MONTHLY AVERAGE	0.69	PPB


01 Hour Averages
500
372.5
245
117.5
-10
09/01/08 00:00
09/06/08 00:00
09/11/08 00:00
09/16/08 00:00
09/21/08 00:00
09/26/08 00:00
LICA NO_ PPB

LICA
NO_ / WD Joint Frequency Distribution (Percent)

September 2008

Distribution By % Of Samples

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

Wind Parameter : WD
Instrument Height : 10 Meters

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	1.61	2.78	3.51	2.78	7.62	7.77	6.74	4.54	4.98	5.13	13.48	15.10	11.29	6.15	4.69	1.75	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	1.61	2.78	3.51	2.78	7.62	7.77	6.74	4.54	4.98	5.13	13.48	15.10	11.29	6.15	4.69	1.75	

Calm : .00 %

Total # Operational Hours : 682

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	11	19	24	19	52	53	46	31	34	35	92	103	77	42	32	12	682
< 110																	
< 210																	
>= 210																	
Totals	11	19	24	19	52	53	46	31	34	35	92	103	77	42	32	12	

Calm : .00 %

Total # Operational Hours : 682

Logger : 01 Parameter : NO_

Class Limits (PPB)

>= 210

< 210

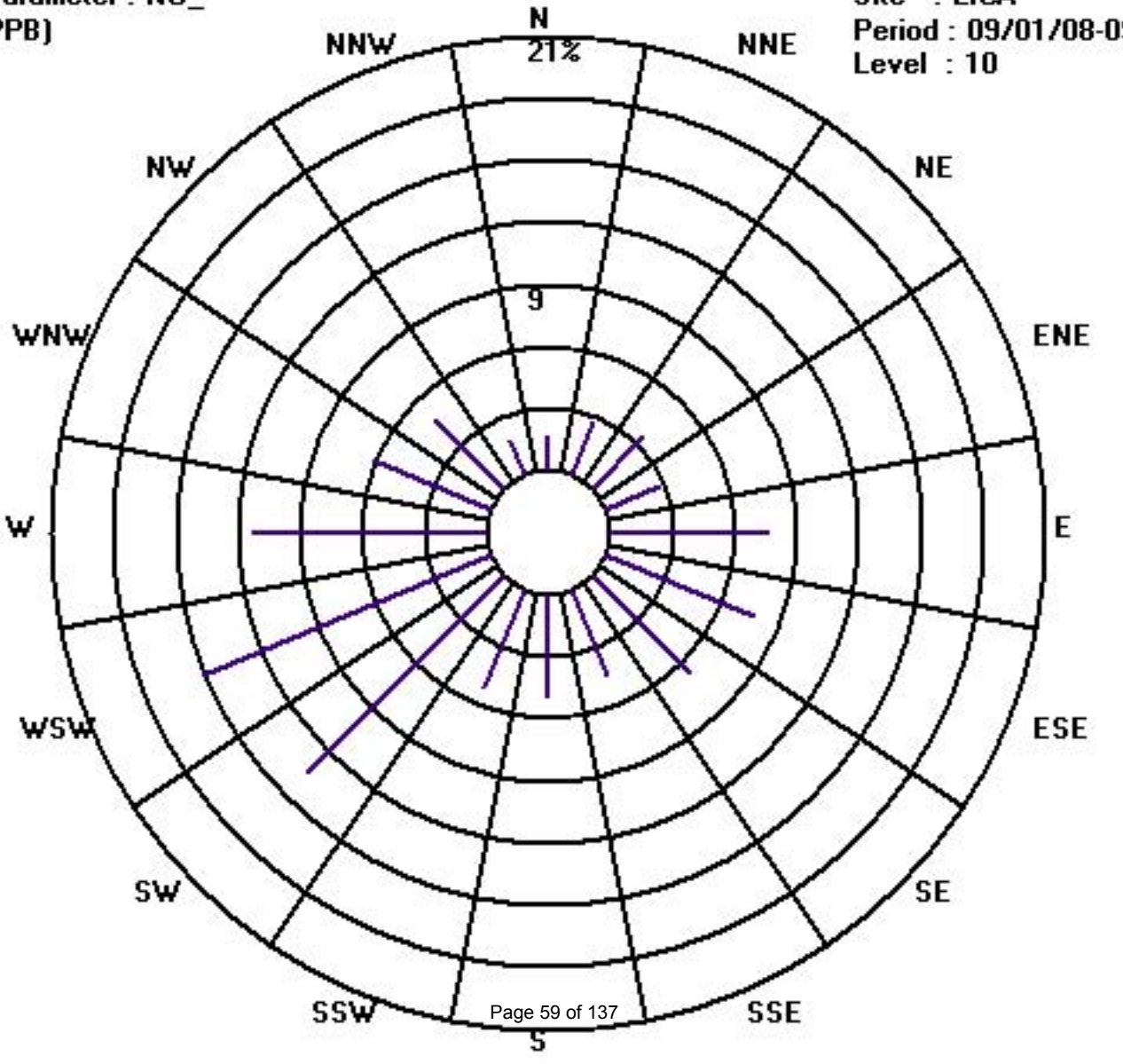
< 110

< 50

Site : LICA

Period : 09/01/08-09/30/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

SEPTEMBER 2008

NITRIC OXIDE MAX instantaneous maximum in ppb

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	2	0	3	1	3	13	6	11	9	4	1	0	0	0	0	0	IZS	1	1	0	0	1	0	0	13	2.4	24
2	0	0	0	0	0	2	6	4	4	1	3	1	2	11	1	IZS	0	8	9	0	13	0	1	1	13	2.9	24
3	1	1	1	0	2	16	26	22	8	5	7	4	5	2	IZS	0	1	0	0	0	1	2	0	0	26	4.5	24
4	1	2	0	0	4	1	4	C	C	C	C	C	C	C	C	0	0	0	0	1	0	0	0	0	4	0.8	24
5	0	0	0	0	4	14	30	24	21	7	3	1	IZS	0	2	1	0	0	0	1	10	2	2	4	30	5.5	24
6	1	1	1	0	0	0	6	5	3	1	0	IZS	0	1	0	0	0	0	10	9	13	2	5	1	13	2.6	24
7	0	2	2	2	81	16	10	9	5	6	IZS	6	1	1	0	0	0	0	0	0	0	0	0	1	81	6.2	24
8	1	1	1	0	0	0	16	16	5	IZS	7	2	0	0	1	1	2	7	2	4	10	0	0	0	16	3.3	24
9	0	0	0	0	1	2	13	8	IZS	1	1	42	4	2	10	24	0	0	7	44	19	0	0	0	44	7.7	24
10	0	0	0	0	1	4	8	IZS	18	8	2	0	0	0	0	3	0	0	0	2	2	0	0	0	18	2.1	24
11	0	0	0	0	0	0	IZS	4	5	3	2	0	0	0	1	0	1	0	1	13	2	0	0	0	13	1.4	24
12	0	0	0	0	0	IZS	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0.3	24
13	3	0	0	3	IZS	4	5	3	5	1	1	1	0	0	0	0	0	0	6	8	0	0	0	0	8	1.7	24
14	0	0	1	IZS	0	1	4	2	1	2	3	0	2	0	2	0	0	0	0	0	0	0	0	0	4	0.8	24
15	0	0	IZS	0	13	9	2	3	4	3	1	1	0	13	0	0	P	P	0	0	1	1	9	0	13	2.9	22
16	0	IZS	0	2	1	2	6	16	16	4	3	1	1	2	2	1	1	7	3	1	0	0	2	0	16	3.1	24
17	IZS	0	0	0	3	2	8	3	1	14	6	0	7	0	0	0	1	0	8	0	1	0	0	IZS	14	2.5	24
18	0	2	15	2	1	6	17	32	9	3	1	0	1	1	0	0	0	0	0	0	0	0	IZS	0	32	3.9	24
19	0	0	0	0	0	13	0	12	1	0	0	2	0	1	1	4	2	0	2	1	0	IZS	16	0	16	2.4	24
20	1	0	0	0	16	1	6	2	3	2	8	0	7	1	2	3	1	6	0	1	IZS	0	0	0	16	2.6	24
21	0	0	0	1	1	15	3	4	4	1	2	6	0	0	1	0	0	4	7	IZS	0	18	1	0	18	3.0	24
22	0	0	0	0	27	21	1	0	0	1	1	5	0	2	1	0	0	0	IZS	0	1	0	0	0	27	2.6	24
23	0	0	0	0	0	0	0	6	1	0	2	0	2	0	0	0	0	IZS	0	0	0	0	0	0	6	0.5	24
24	0	0	0	0	0	0	0	1	2	1	0	0	1	1	0	0	IZS	0	8	3	0	0	16	2	16	1.5	24
25	1	1	3	9	8	8	3	2	5	3	1	2	2	13	0	IZS	4	0	1	6	1	0	0	0	13	3.2	24
26	0	0	0	0	1	14	24	6	7	1	1	3	3	0	IZS	5	0	9	9	2	0	0	0	0	24	3.7	24
27	0	12	0	0	1	1	0	1	1	1	3	1	3	IZS	0	0	0	2	0	0	0	0	0	0	12	1.1	24
28	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	37	2	0	0	0	37	1.7	24
29	0	2	1	1	1	3	0	1	2	3	2	IZS	0	0	0	0	0	1	8	1	4	0	3	5	8	1.7	24
30	3	5	6	5	4	30	36	46	18	17	IZS	0	2	2	4	2	1	3	12	3	0	0	0	1	46	8.7	24
HOURLY MAX	3	12	15	9	81	30	36	46	21	17	8	42	7	13	10	24	4	9	12	44	19	18	16	5			
HOURLY AVG	0.5	1.0	1.2	0.9	6.0	6.8	8.3	8.8	5.7	3.3	2.4	2.9	1.6	1.9	1.0	1.6	0.5	1.7	3.2	4.7	2.8	0.9	1.9	0.5			

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

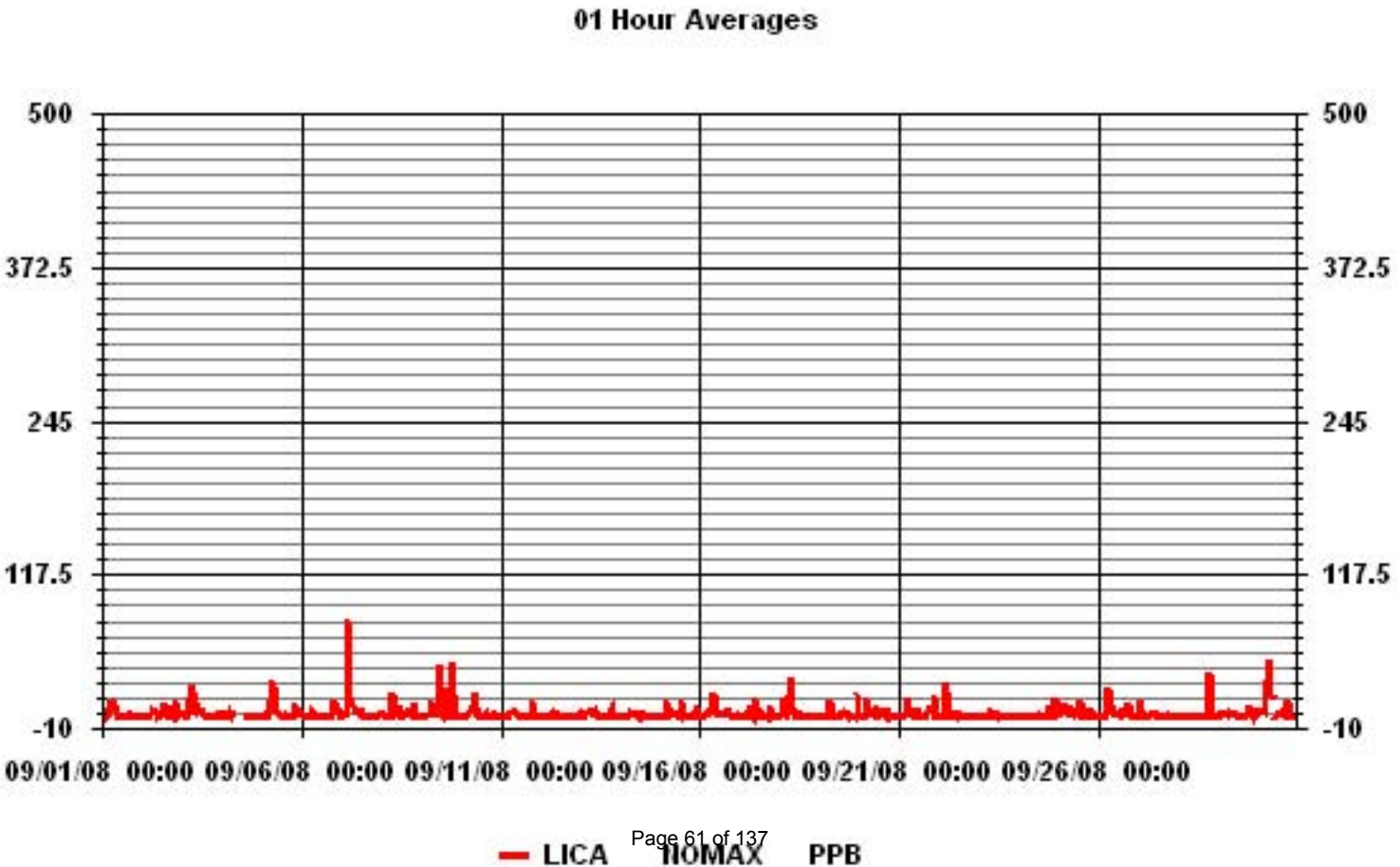
NUMBER OF NON-ZERO READINGS: 354

MAXIMUM INSTANTANEOUS VALUE: 81 PPB @ HOUR(S) 4 ON DAY(S) 7

IZS CALIBRATION TIME: 30 HRS OPERATIONAL TIME: 718 HRS

MONTHLY CALIBRATION TIME: 8 HRS

STANDARD DEVIATION: 6.49


01 Hour Averages
500
372.5
245
117.5
-10
09/01/08 00:00
09/06/08 00:00
09/11/08 00:00
09/16/08 00:00
09/21/08 00:00
09/26/08 00:00
LICA
NOMAX
PPB

Oxides of Nitrogen

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

SEPTEMBER 2008

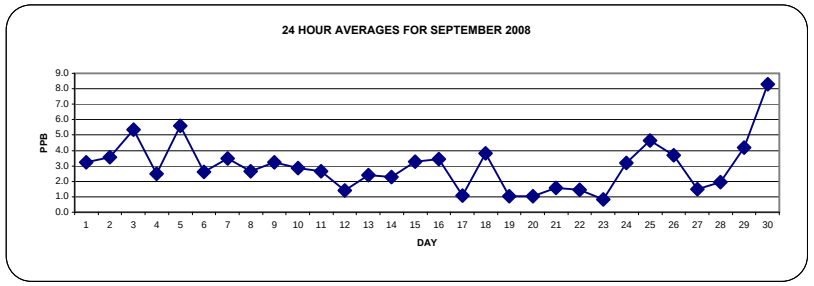
OXIDES OF NITROGEN hourly averages in ppb

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	3	2	3	3	4	6	8	12	11	4	2	1	0	0	0	1	**IZS**	0	2	3	3	2	2	2	12	3.2	24
2	1	1	1	2	2	4	8	6	5	4	6	2	2	2	2	**IZS**	3	4	6	5	6	4	3	3	8	3.6	24
3	2	2	2	2	4	9	19	13	12	11	5	9	3	2	**IZS**	2	2	2	3	3	4	4	4	4	19	5.3	24
4	3	2	2	4	5	5	8	**C**	**C**	**C**	**C**	**C**	**C**	**IZS**	1	0	1	1	1	2	2	1	2	2	8	2.5	24
5	1	1	3	3	3	10	21	**25**	17	6	**2**	1	**IZS**	1	4	1	1	3	2	4	7	4	5	4	**25**	5.6	24
6	3	3	3	3	4	4	7	6	5	1	0	**IZS**	0	0	0	0	0	1	4	5	4	2	3	2	7	2.6	24
7	1	2	3	3	7	7	8	11	9	7	**IZS**	2	1	1	0	1	1	3	3	3	2	2	1	2	11	3.5	24
8	1	2	2	3	2	2	12	14	6	**IZS**	1	0	1	1	1	1	1	2	2	2	2	1	1	1	14	2.7	24
9	2	1	2	1	4	8	12	7	**IZS**	2	4	6	4	2	3	3	1	0	1	8	3	0	0	0	12	3.2	24
10	0	0	0	1	5	6	8	**IZS**	14	7	2	2	1	0	1	1	0	0	4	6	2	2	2	2	14	2.9	24
11	2	2	2	2	2	3	**IZS**	7	6	3	2	1	1	1	1	2	1	2	3	7	5	2	2	2	7	2.7	24
12	1	2	2	2	2	**IZS**	4	6	3	1	1	0	1	0	0	0	0	0	1	1	1	0	2	2	6	1.4	24
13	3	2	2	3	**IZS**	6	7	6	5	2	1	1	0	0	0	0	0	1	3	5	3	2	2	1	7	2.4	24
14	1	2	2	**IZS**	2	3	4	6	4	4	3	2	0	0	0	0	0	1	2	4	3	3	3	3	6	2.3	24
15	2	2	**IZS**	1	4	6	4	5	7	6	3	1	1	1	0	0	3	**P**	1	6	7	5	4	3	7	3.3	23
16	2	**IZS**	2	4	4	5	8	17	13	7	4	1	1	0	1	1	1	2	2	1	1	1	1	0	17	3.4	24
17	**IZS**	0	0	0	0	2	6	3	1	1	1	0	0	0	0	0	0	1	2	2	2	2	1	**IZS**	6	1.1	24
18	1	1	9	3	2	5	7	24	10	6	3	1	1	1	0	0	0	0	1	2	3	3	**IZS**	5	24	3.8	24
19	4	2	1	0	0	0	1	2	1	0	0	0	0	0	0	0	1	2	2	3	3	**IZS**	1	1	4	1.0	24
20	1	1	0	0	1	1	2	1	1	1	1	1	1	1	1	1	1	2	2	1	**IZS**	1	1	1	2	1.0	24
21	1	1	1	2	2	2	2	2	2	1	1	2	1	1	1	1	1	2	3	**IZS**	2	3	1	1	3	1.6	24
22	0	1	0	1	2	3	3	3	2	2	3	2	1	2	1	1	1	1	**IZS**	1	1	1	0	1	3	1.4	24
23	1	1	1	0	0	1	2	2	1	1	1	0	1	0	0	0	0	**IZS**	2	1	1	1	1	1	2	0.8	24
24	2	2	1	1	1	1	2	3	3	2	1	1	1	1	0	1	**IZS**	1	11	7	5	6	11	9	11	3.2	24
25	8	8	10	11	8	7	3	4	3	3	1	1	0	1	0	**IZS**	1	2	6	8	7	6	4	5	11	4.7	24
26	6	5	3	2	2	6	14	8	6	3	1	0	1	0	**IZS**	1	3	6	5	4	3	3	2	1	14	3.7	24
27	1	1	1	0	2	2	1	2	2	2	3	2	2	**IZS**	1	1	2	2	2	1	0	1	1	2	3	1.5	24
28	3	3	1	2	1	3	2	2	2	0	0	0	**IZS**	0	0	0	0	1	4	9	7	3	1	1	9	2.0	24
29	1	2	3	2	2	3	3	4	5	6	6	**IZS**	1	1	1	1	0	1	14	7	9	8	6	10	14	4.2	24
30	8	9	9	8	7	20	20	24	17	20	**IZS**	1	2	2	1	2	4	11	18	4	1	1	1	1	24	**8.3**	24
HOURLY MAX	8	9	10	11	8	20	21	25	17	20	6	9	4	2	4	3	4	11	18	9	9	8	11	10			
HOURLY AVG	2.2	2.2	2.4	2.4	2.9	4.8	7.1	8.0	6.2	4.0	2.1	1.5	1.0	0.8	0.7	0.8	1.0	1.9	3.9	4.0	3.4	2.6	2.3	2.5			

STATUS FLAG CODES

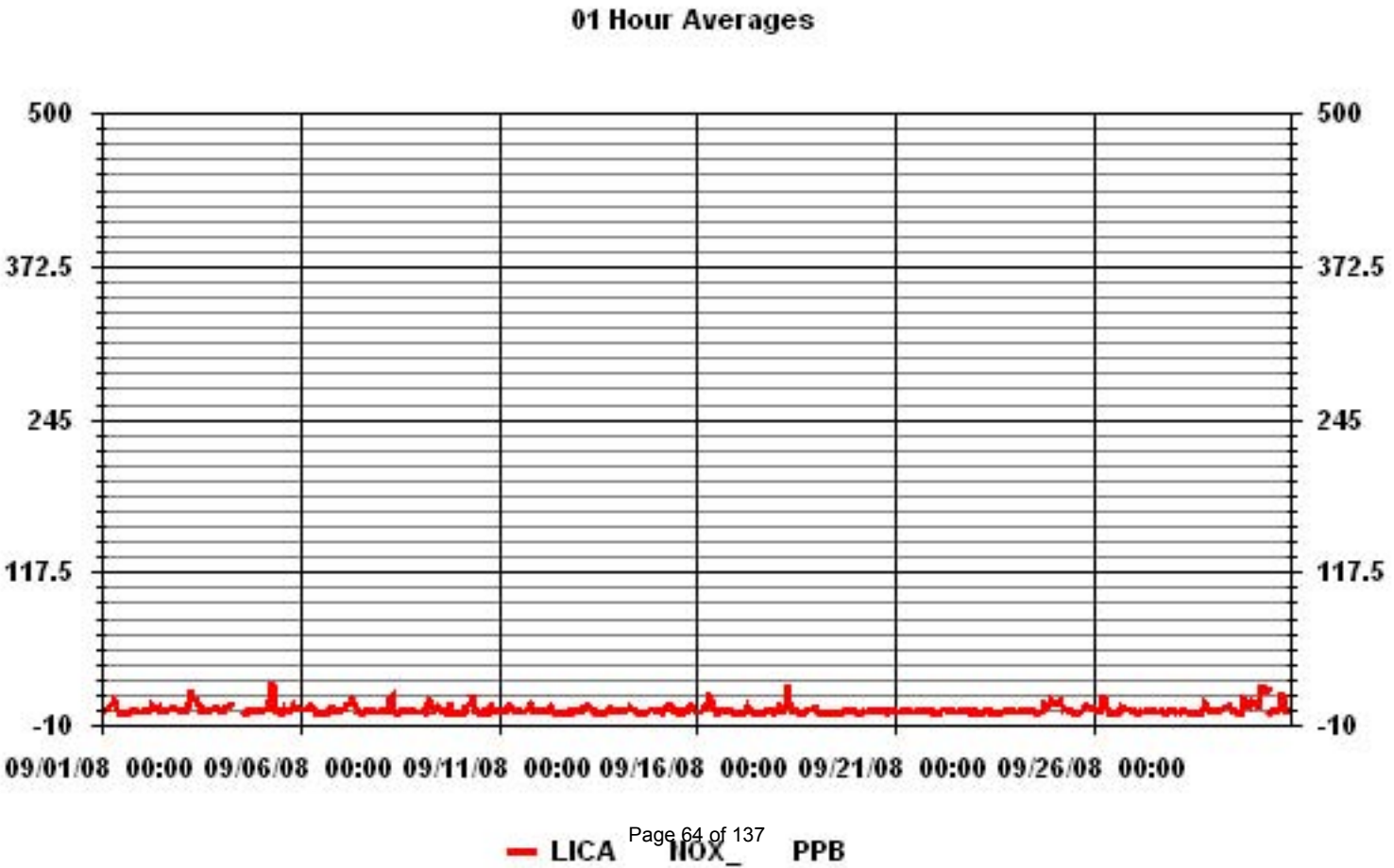
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	587					
MAXIMUM 1-HR AVERAGE:	25	PPB	@ HOUR(S)	7	ON DAY(S)	5
MAXIMUM 24-HR AVERAGE:	8.3	PPB			ON DAY(S)	30

IZS CALIBRATION TIME:	31	HRS	OPERATIONAL TIME:	719	HRS
MONTHLY CALIBRATION TIME:	6	HRS	AMD OPERATION UPTIME	99.9	%
STANDARD DEVIATION	3.53		MONTHLY AVERAGE	2.96	PPB


01 Hour Averages
500
372.5
245
117.5
-10
09/01/08 00:00
09/06/08 00:00
09/11/08 00:00
09/16/08 00:00
09/21/08 00:00
09/26/08 00:00
LICA NOX_ PPB

LICA
NOX_ / WD Joint Frequency Distribution (Percent)

September 2008

Distribution By % Of Samples

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

Wind Parameter : WD
Instrument Height : 10 Meters

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	1.61	2.78	3.51	2.78	7.62	7.77	6.74	4.54	4.98	5.13	13.48	15.10	11.29	6.15	4.69	1.75	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	1.61	2.78	3.51	2.78	7.62	7.77	6.74	4.54	4.98	5.13	13.48	15.10	11.29	6.15	4.69	1.75	

Calm : .00 %

Total # Operational Hours : 682

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	11	19	24	19	52	53	46	31	34	35	92	103	77	42	32	12	682
< 110																	
< 210																	
>= 210																	
Totals	11	19	24	19	52	53	46	31	34	35	92	103	77	42	32	12	

Calm : .00 %

Total # Operational Hours : 682

Logger : 01 Parameter : NOX_

Class Limits (PPB)

>= 210

< 210

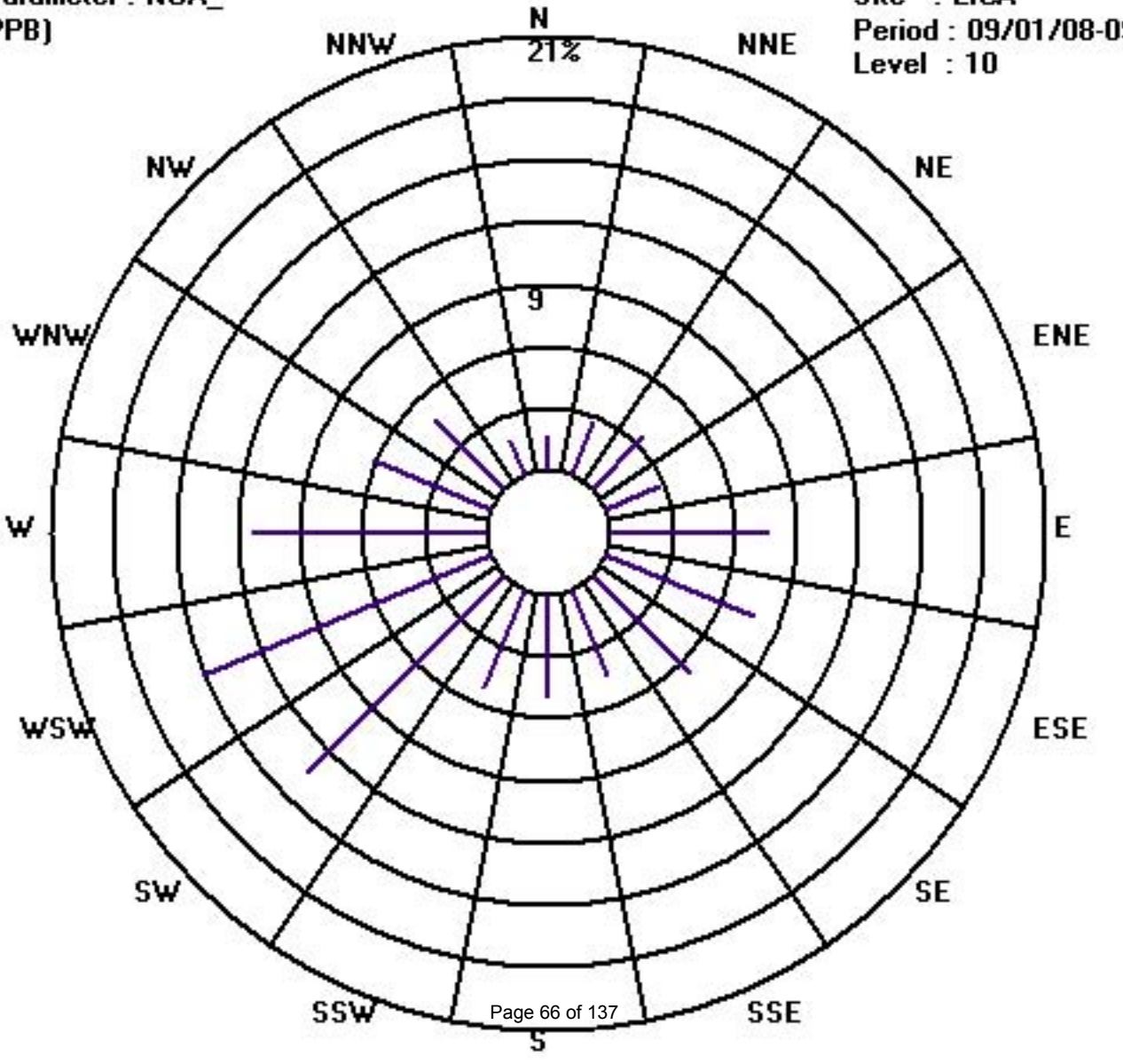
< 110

< 50

Site : LICA

Period : 09/01/08-09/30/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

SEPTEMBER 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	5	4	7	4	6	21	9	16	15	8	4	2	1	1	1	3	**IZS**	4	5	4	5	5	3	3	21	5.9	24
2	2	1	3	3	3	6	11	8	8	7	9	5	6	14	5	**IZS**	4	6	22	6	25	6	4	4	25	7.3	24
3	3	3	3	3	6	26	34	30	16	16	12	13	13	5	**IZS**	3	6	3	6	5	8	8	6	5	34	10.1	24
4	5	6	4	5	7	7	9	**C**	**C**	**C**	**C**	**C**	**C**	**C**	C	3	2	3	2	5	4	3	5	3	9	4.6	24
5	3	2	6	5	8	20	36	32	27	18	**7**	4	**IZS**	5	8	7	3	5	4	7	15	6	7	8	36	10.6	24
6	5	6	5	3	4	5	10	10	7	3	1	**IZS**	1	3	1	1	1	4	22	13	15	6	9	3	22	6.0	24
7	2	4	4	5	**83**	26	14	13	10	10	**IZS**	11	4	4	1	3	4	4	5	5	4	2	2	4	**83**	9.7	24
8	3	4	5	3	3	3	25	26	9	**IZS**	18	2	1	1	5	5	10	6	3	13	8	3	2	2	26	7.0	24
9	3	4	3	2	7	13	19	18	**IZS**	6	5	57	10	8	18	40	3	1	11	56	27	0	0	0	57	13.5	24
10	0	1	1	2	8	9	15	**IZS**	28	10	6	2	3	1	1	7	2	1	8	10	10	2	2	2	28	5.7	24
11	2	3	2	3	3	4	**IZS**	11	13	7	8	1	2	2	5	3	6	4	9	28	9	4	3	3	28	5.9	24
12	1	2	3	4	3	**IZS**	6	11	8	3	3	1	2	1	1	1	1	1	2	3	1	1	4	4	11	2.9	24
13	8	3	3	10	**IZS**	9	9	7	9	4	2	3	2	1	1	1	1	2	14	17	5	4	3	3	17	5.3	24
14	2	2	3	**IZS**	4	5	9	9	5	5	8	3	2	1	10	1	1	1	4	6	4	4	4	3	10	4.2	24
15	3	3	**IZS**	3	28	13	6	8	11	10	6	4	2	13	1	1	**P**	**P**	3	8	11	9	12	5	28	7.6	22
16	3	**IZS**	4	7	6	8	11	24	24	8	9	3	2	4	3	3	5	11	6	4	**2**	4	7	0	24	6.9	24
17	**IZS**	1	2	1	5	8	14	10	2	13	7	1	5	1	1	1	2	2	17	5	4	3	3	**IZS**	17	4.9	24
18	2	4	24	5	3	9	19	37	18	8	4	3	2	4	1	1	1	1	2	3	3	4	**IZS**	6	37	7.1	24
19	6	4	2	0	1	10	3	23	5	2	2	1	3	4	4	3	4	3	7	7	7	**IZS**	10	1	23	4.9	24
20	3	2	1	1	31	4	12	3	6	10	11	3	8	3	4	2	6	5	2	3	**IZS**	2	2	1	31	5.4	24
21	1	2	4	6	4	25	5	8	8	3	4	15	3	3	2	3	3	7	9	**IZS**	4	28	4	1	28	6.6	24
22	1	1	1	1	46	33	6	5	4	4	6	5	3	5	2	2	2	1	**IZS**	5	4	2	1	2	46	6.2	24
23	2	2	1	1	1	2	3	5	4	2	5	2	5	2	1	1	1	**IZS**	3	3	3	3	1	1	5	2.3	24
24	3	2	2	2	2	2	3	5	8	3	2	2	4	6	1	2	**IZS**	4	29	15	7	10	29	12	29	6.7	24
25	11	11	13	27	21	15	10	11	13	13	3	4	4	16	6	**IZS**	8	6	13	21	12	8	6	9	27	11.3	24
26	8	7	5	3	5	24	39	13	14	5	3	5	18	1	**IZS**	9	6	14	29	8	5	4	4	3	39	10.1	24
27	2	12	1	1	6	6	3	4	4	5	15	5	6	**IZS**	3	2	2	6	3	2	1	2	3	3	15	4.2	24
28	5	6	2	5	2	5	5	5	2	2	1	1	**IZS**	1	0	0	1	4	7	49	15	7	1	1	49	5.5	24
29	2	7	5	6	6	9	5	9	8	9	9	**IZS**	4	2	2	2	2	8	30	12	17	10	10	13	30	8.1	24
30	12	12	12	11	9	44	42	52	26	31	**IZS**	3	3	10	5	3	5	21	31	16	2	3	2	5	52	15.7	24
HOURLY MAX	12	12	24	27	83	44	42	52	28	31	18	57	18	16	18	40	10	21	31	56	27	28	29	13			
HOURLY AVG	3.7	4.2	4.5	4.6	11.1	12.8	13.5	14.8	11.1	8.0	6.3	6.0	4.4	4.4	3.4	4.0	3.4	4.9	10.6	11.7	8.2	5.3	5.1	3.8			

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

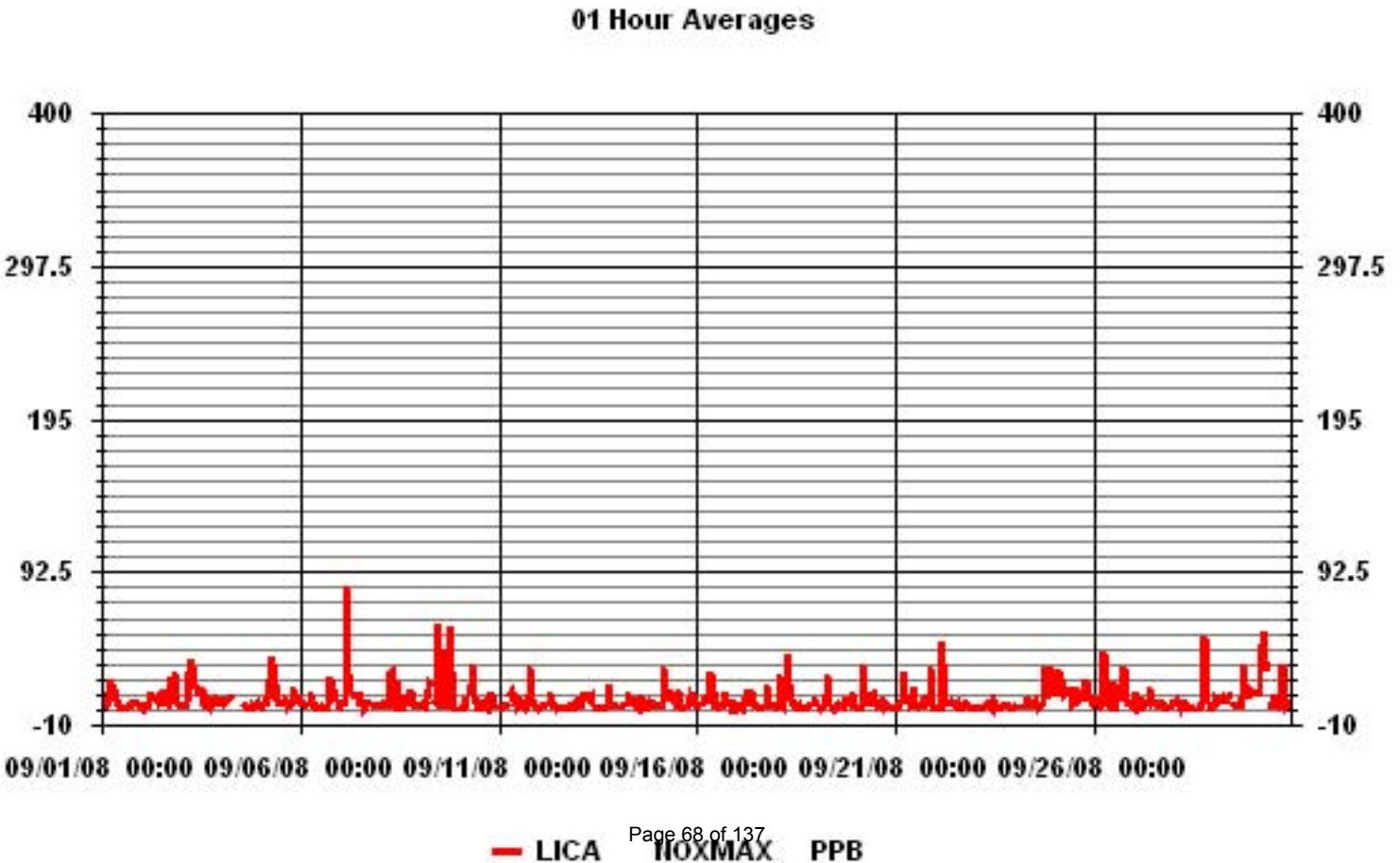
NUMBER OF NON-ZERO READINGS: 672

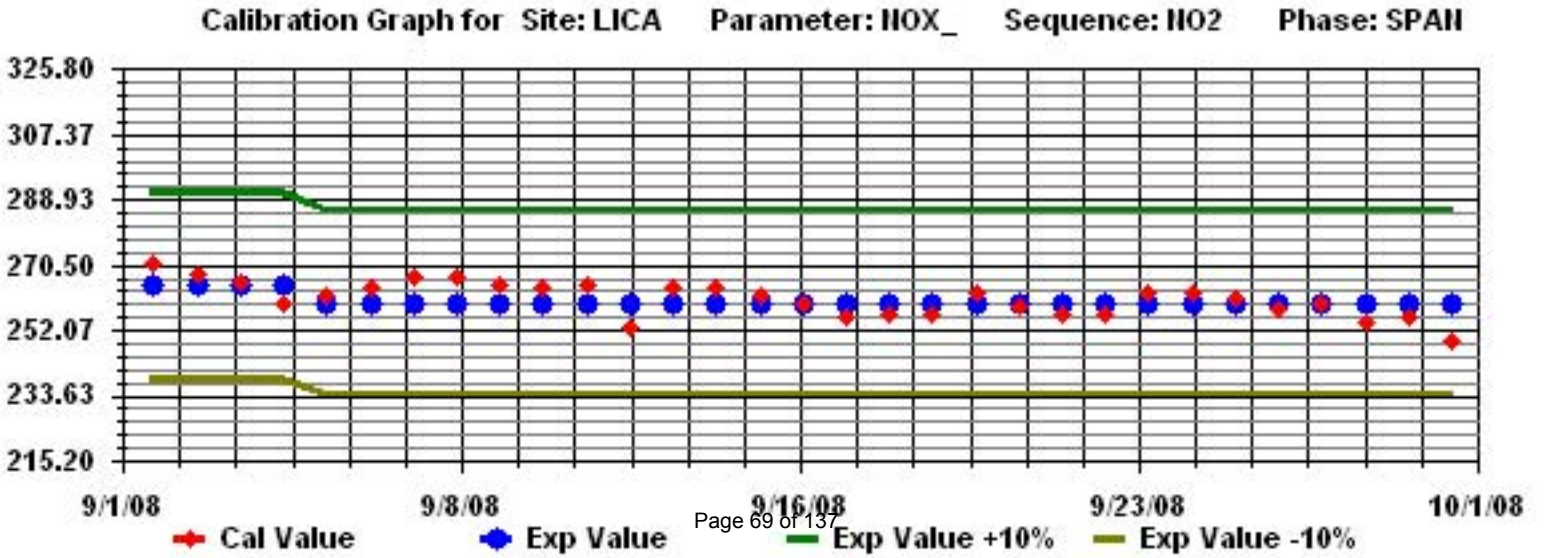
MAXIMUM INSTANTANEOUS VALUE: 83 PPB @ HOUR(S) 4 ON DAY(S) 7

IZS CALIBRATION TIME: 30 HRS OPERATIONAL TIME: 718 HRS

MONTHLY CALIBRATION TIME: 8 HRS

STANDARD DEVIATION: 8.48


01 Hour Averages
400
297.5
195
92.5
-10
09/01/08 00:00
09/06/08 00:00
09/11/08 00:00
09/16/08 00:00
09/21/08 00:00
09/26/08 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
9/1/08
9/8/08
9/16/08
9/23/08
10/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ozone

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

SEPTEMBER 2008

OZONE (O_3) hourly averages in ppb

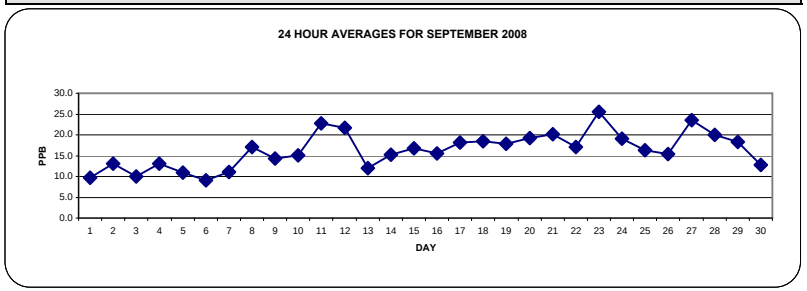
MST

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	0	1	0	0	0	0	1	2	4	13	22	24	26	26	26	24	**IZS**	21	15	8	5	4	1	1	26	9.7	24
2	1	1	1	1	2	2	2	13	18	20	23	32	33	35	**36**	**IZS**	28	24	14	7	4	3	1	0	**36**	13.1	24
3	0	0	0	0	0	0	0	2	7	9	17	17	28	32	**IZS**	30	25	20	16	10	5	4	5	4	32	10.0	24
4	3	1	1	4	3	3	2	4	8	13	19	25	27	**C**	**C**	**C**	**C**	28	25	23	23	25	14	11	28	13.1	24
5	6	3	4	2	1	0	0	1	5	20	27	30	**IZS**	30	26	30	24	18	13	6	2	2	1	0	30	10.9	24
6	1	1	5	9	7	5	3	7	9	14	18	**IZS**	20	20	19	19	20	17	9	3	1	1	0	0	20	9.0	24
7	0	0	0	0	0	0	1	2	4	8	**IZS**	23	27	29	28	27	28	24	15	11	8	12	6	3	29	11.1	24
8	2	3	3	6	7	5	2	3	8	**IZS**	26	32	32	32	31	30	29	27	23	22	21	20	18	11	32	17.1	24
9	7	4	2	1	3	1	2	9	**IZS**	19	18	20	21	23	24	24	23	22	18	17	17	21	18	15	24	14.3	24
10	14	12	5	2	1	2	3	**IZS**	5	12	22	24	25	26	26	25	26	25	16	9	14	16	18	20	26	15.1	24
11	21	21	21	21	18	19	**IZS**	15	17	22	26	30	31	30	32	31	32	32	26	11	13	15	17	24	32	22.8	24
12	25	20	12	14	15	**IZS**	14	12	15	20	26	29	30	29	29	30	29	27	26	23	23	22	17	13	30	21.7	24
13	8	3	1	1	**IZS**	1	2	6	8	12	16	19	22	23	25	26	27	26	18	8	7	6	5	7	27	12.0	24
14	3	2	1	**IZS**	2	3	2	10	14	18	23	26	28	28	29	29	29	28	22	12	7	10	14	10	29	15.2	24
15	7	4	**IZS**	1	0	2	7	10	17	23	29	34	34	34	34	33	31	**P**	27	17	10	7	4	3	34	16.7	23
16	2	**IZS**	1	1	1	0	0	0	4	14	24	30	30	28	28	29	30	27	23	19	17	16	17	17	30	15.6	24
17	**IZS**	18	18	15	14	12	8	11	12	13	15	16	18	23	28	30	30	29	25	22	20	13	10	**IZS**	30	18.2	24
18	4	2	0	0	0	0	0	2	13	21	29	33	33	34	35	35	34	33	30	26	26	27	**IZS**	9	35	18.5	24
19	7	8	15	16	13	15	16	16	19	21	21	21	21	21	21	22	23	22	19	18	18	**IZS**	20	19	23	17.9	24
20	18	17	17	17	16	15	12	14	15	15	17	19	21	22	24	24	24	24	23	24	**IZS**	22	21	20	24	19.2	24
21	20	19	18	16	17	17	16	16	16	18	20	21	23	23	25	25	24	23	21	**IZS**	20	19	22	23	25	20.1	24
22	22	20	19	17	17	16	13	14	14	14	9	11	12	11	13	18	21	23	**IZS**	20	21	23	23	22	23	17.1	24
23	23	23	25	27	25	26	22	19	20	22	25	28	28	30	31	30	29	**IZS**	26	27	25	25	26	24	31	**25.5**	24
24	21	19	19	19	17	17	15	16	18	20	24	27	30	31	32	33	**IZS**	31	15	12	11	7	3	2	33	19.1	24
25	3	1	1	1	12	16	24	24	23	25	27	30	31	31	30	**IZS**	28	24	15	8	6	5	6	4	31	16.3	24
26	2	4	5	4	4	3	1	5	9	18	26	26	26	26	**IZS**	26	23	19	19	20	21	21	23	23	26	15.4	24
27	23	23	24	24	22	22	22	22	21	21	21	22	23	**IZS**	23	23	22	21	25	24	31	31	27	23	31	23.5	24
28	20	19	21	19	19	17	16	15	16	23	30	29	**IZS**	27	28	28	28	24	15	7	5	15	21	17	30	20.0	24
29	16	13	11	10	18	19	19	21	25	27	28	**IZS**	30	30	30	30	30	27	8	11	7	5	4	1	30	18.3	24
30	1	0	0	0	0	0	0	1	6	12	**IZS**	25	24	24	25	25	22	14	6	21	25	25	23	16	25	12.8	24
HOURLY MAX	25	23	25	27	25	26	24	24	25	27	30	34	34	35	36	35	34	33	30	27	31	31	27	24			
HOURLY AVG	9.7	9.0	8.6	8.6	8.8	8.2	7.8	10.1	12.8	17.5	22.4	25.1	26.2	27.1	27.3	27.3	26.6	24.3	19.1	15.4	14.2	14.6	13.3	11.8			

STATUS FLAG CODES

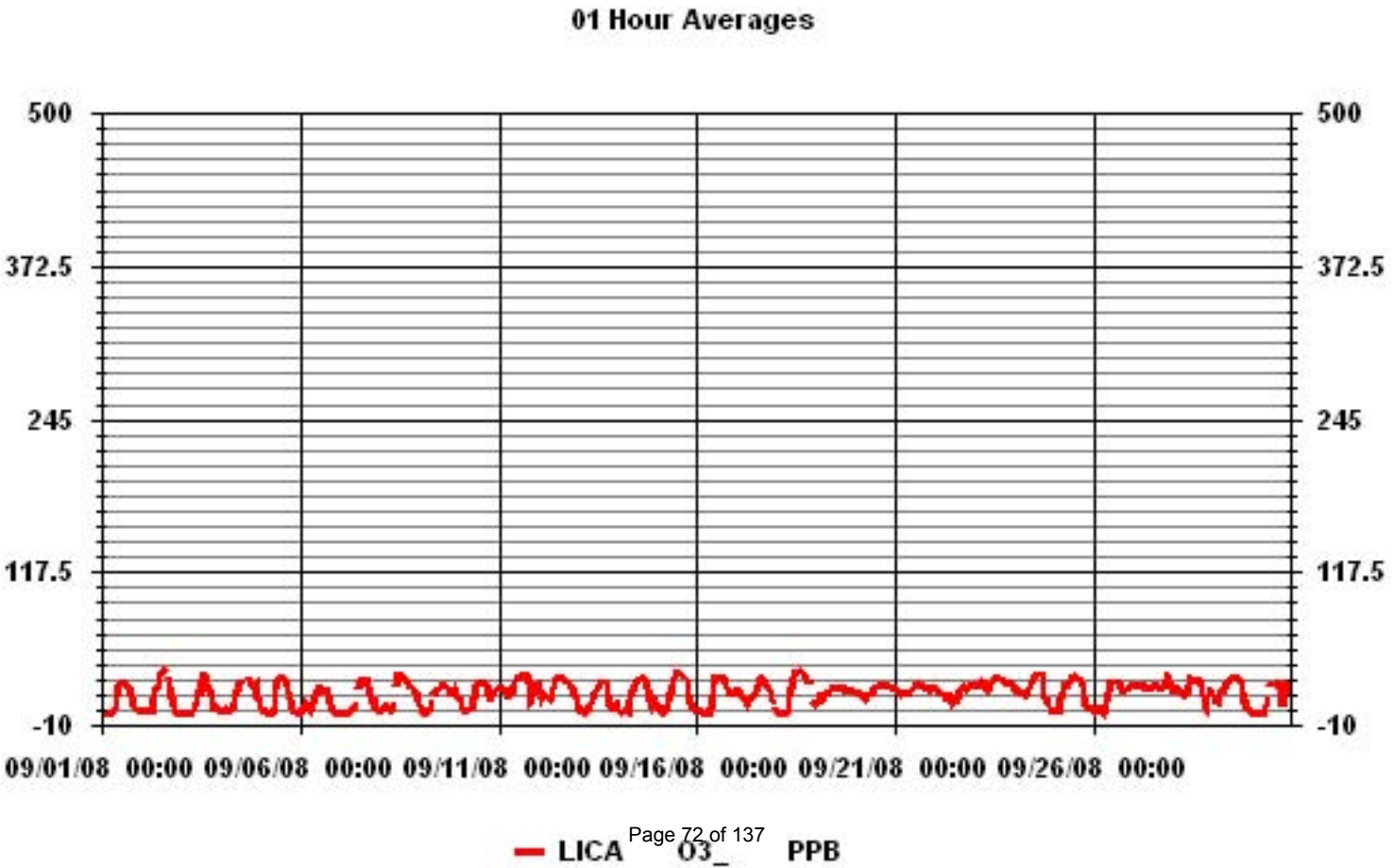
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

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



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0					
NUMBER OF NON-ZERO READINGS:	646					
MAXIMUM 1-HR AVERAGE:	36	PPB	@ HOUR(S)	14	ON DAY(S)	2
MAXIMUM 24-HR AVERAGE:	25.5	PPB			ON DAY(S)	23
					VAR-VARIOUS	
IZS CALIBRATION TIME:	30	HRS	OPERATIONAL TIME:		719	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME		99.9	%
STANDARD DEVIATION	10.00		MONTHLY AVERAGE		16.33	PPB


01 Hour Averages
500
372.5
245
117.5
-10
09/01/08 00:00
09/06/08 00:00
09/11/08 00:00
09/16/08 00:00
09/21/08 00:00
09/26/08 00:00
LICA O3_ PPB

LICA
O3_ / WD Joint Frequency Distribution (Percent)

September 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	1.60	2.77	3.50	2.77	7.59	7.73	6.71	4.52	4.96	5.10	13.43	15.32	11.24	6.13	4.81	1.75	100.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	1.60	2.77	3.50	2.77	7.59	7.73	6.71	4.52	4.96	5.10	13.43	15.32	11.24	6.13	4.81	1.75	

Calm : .00 %

Total # Operational Hours : 685

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	11	19	24	19	52	53	46	31	34	35	92	105	77	42	33	12	685
< 110																	
< 210																	
>= 210																	
Totals	11	19	24	19	52	53	46	31	34	35	92	105	77	42	33	12	

Calm : .00 %

Total # Operational Hours : 685

Logger : 01 Parameter : 03_

Class Limits (PPB)

>= 210

< 210

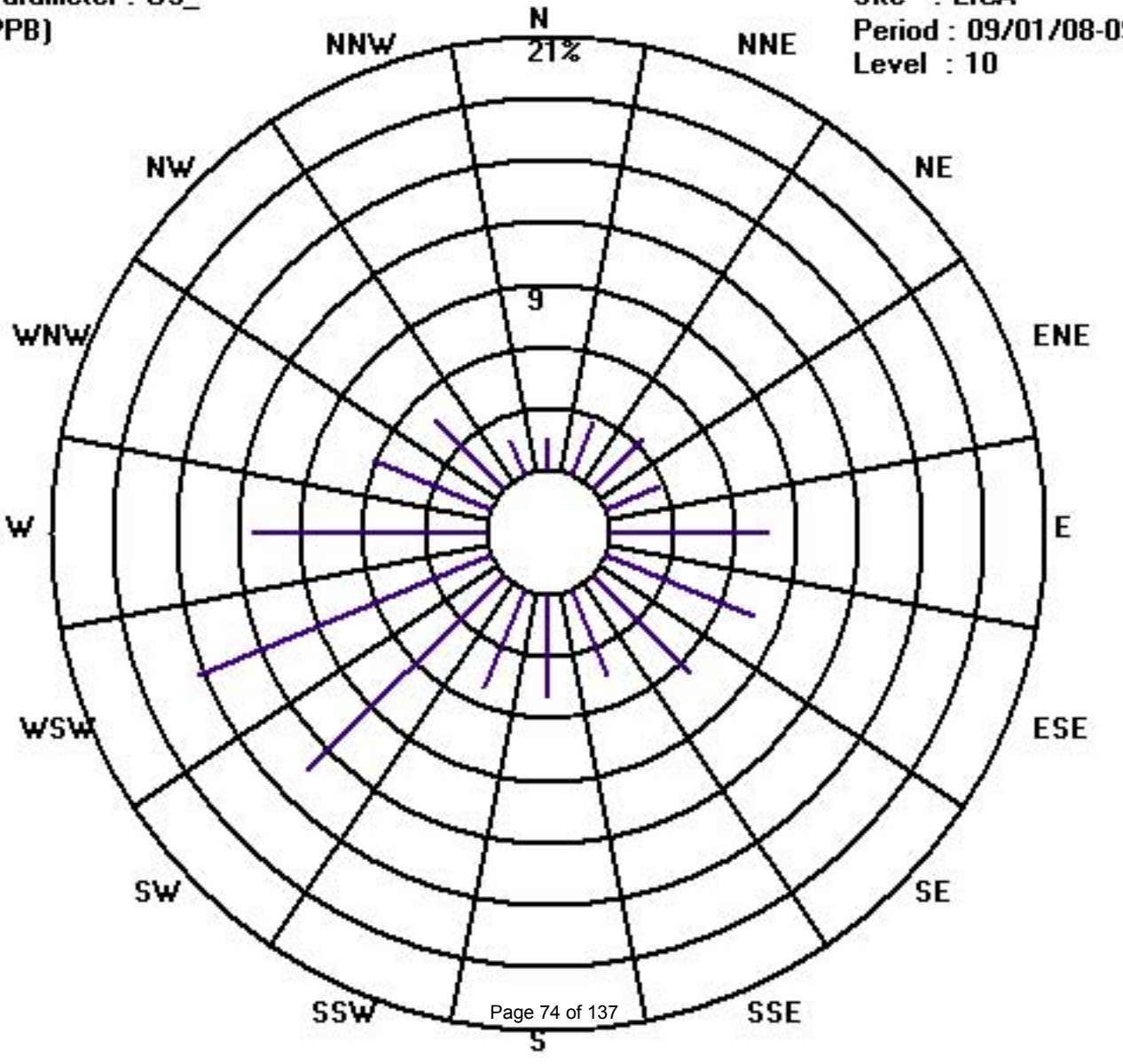
< 110

< 50

Site : LICA

Period : 09/01/08-09/30/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

SEPTEMBER 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	1	2	1	1	1	1	2	2	9	17	26	26	27	29	29	27	**IZS**	24	21	10	8	6	3	2	29	12.0	24
2	2	1	2	2	5	3	4	17	22	21	30	34	35	**37**	37	**IZS**	33	29	26	12	7	5	3	1	**37**	16.0	24
3	1	1	0	1	0	0	1	5	11	15	19	22	32	34	**IZS**	32	28	25	20	15	10	10	7	6	34	12.8	24
4	7	3	3	5	5	3	3	6	11	16	24	27	30	**C**	**C**	**C**	**C**	**C**	30	31	27	28	22	15	31	15.6	24
5	9	4	8	5	2	1	1	2	12	27	30	31	**IZS**	33	29	32	30	22	16	9	7	4	4	1	33	13.9	24
6	3	2	11	11	9	9	5	10	13	17	20	**IZS**	22	21	20	21	22	20	16	4	2	2	1	1	22	11.4	24
7	1	2	1	1	1	0	2	3	5	11	**IZS**	24	30	32	33	31	31	27	21	18	11	16	12	6	33	13.9	24
8	7	6	5	8	8	7	4	5	12	**IZS**	31	33	34	33	32	31	31	30	26	23	22	22	22	17	34	19.5	24
9	13	7	3	2	6	4	3	16	**IZS**	21	19	23	25	25	25	26	25	24	21	21	20	22	20	17	26	16.9	24
10	15	15	9	3	1	4	5	**IZS**	9	20	27	27	27	27	27	27	27	26	23	15	16	18	19	21	27	17.7	24
11	22	22	22	22	20	20	**IZS**	17	20	25	28	31	32	32	33	32	34	34	33	19	21	20	20	30	34	25.6	24
12	28	23	18	17	17	**IZS**	15	15	19	23	29	31	30	31	31	31	30	28	27	25	24	23	20	15	31	23.9	24
13	12	5	2	2	**IZS**	2	4	7	10	15	18	21	23	24	27	27	29	28	26	14	11	8	10	11	29	14.6	24
14	5	5	2	**IZS**	8	5	5	14	16	21	26	28	29	29	30	30	31	29	27	17	10	15	16	15	31	18.0	24
15	9	7	**IZS**	2	1	8	9	16	19	26	34	34	35	35	34	34	**P**	**P**	29	23	15	10	7	5	35	18.7	22
16	4	**IZS**	2	2	2	1	1	1	12	18	27	32	31	29	29	30	31	29	25	22	18	17	18	18	32	17.3	24
17	**IZS**	18	18	17	15	14	10	13	13	15	16	17	19	26	31	31	31	31	28	24	21	19	17	**IZS**	31	20.2	24
18	6	3	1	1	1	0	1	6	17	27	31	34	34	35	36	37	35	34	32	28	28	28	**IZS**	15	37	20.4	24
19	11	12	19	19	15	17	17	18	21	22	22	22	21	22	22	22	25	24	21	20	20	**IZS**	21	20	25	19.7	24
20	19	18	17	17	16	16	14	15	15	16	18	20	22	25	25	26	25	25	24	25	**IZS**	23	21	21	26	20.1	24
21	20	20	19	18	18	18	18	17	17	19	21	22	24	25	26	26	25	25	23	**IZS**	21	21	25	24	26	21.4	24
22	23	21	20	18	18	17	14	15	16	16	10	13	13	12	15	21	22	24	**IZS**	22	22	24	24	23	24	18.4	24
23	23	24	26	28	26	28	27	20	21	23	28	30	29	32	32	30	30	**IZS**	28	28	26	26	26	25	32	26.8	24
24	23	20	20	20	18	18	16	18	21	22	26	29	31	33	33	34	**IZS**	33	27	15	13	12	5	3	34	21.3	24
25	5	2	1	6	20	21	27	28	26	26	29	32	33	33	31	**IZS**	29	28	24	12	12	10	8	6	33	19.5	24
26	4	8	8	5	6	5	2	8	15	24	27	27	27	27	**IZS**	27	26	21	21	22	22	22	24	25	27	17.5	24
27	24	24	24	25	24	23	23	22	22	22	22	23	24	**IZS**	24	24	23	24	27	26	33	32	29	26	33	24.8	24
28	21	21	22	20	20	19	17	17	18	28	33	32	**IZS**	28	28	28	28	28	20	11	10	22	22	20	33	22.3	24
29	19	17	15	16	20	20	20	24	26	28	29	**IZS**	31	32	31	31	31	30	23	15	12	9	7	3	32	21.3	24
30	2	1	1	1	1	1	1	3	8	21	**IZS**	27	27	25	25	26	24	20	12	25	26	26	26	22	27	15.3	24
HOURLY MAX	28	24	26	28	26	28	27	28	26	28	34	34	35	37	37	37	35	34	33	31	33	32	29	30			
HOURLY AVG	11.7	10.8	10.3	10.2	10.5	9.8	9.3	12.4	15.7	20.8	25.0	26.9	27.8	28.8	28.7	28.7	28.3	26.7	24.0	19.0	17.1	17.2	15.8	14.3			

STATUS FLAG CODES

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

MONTHLY SUMMARY

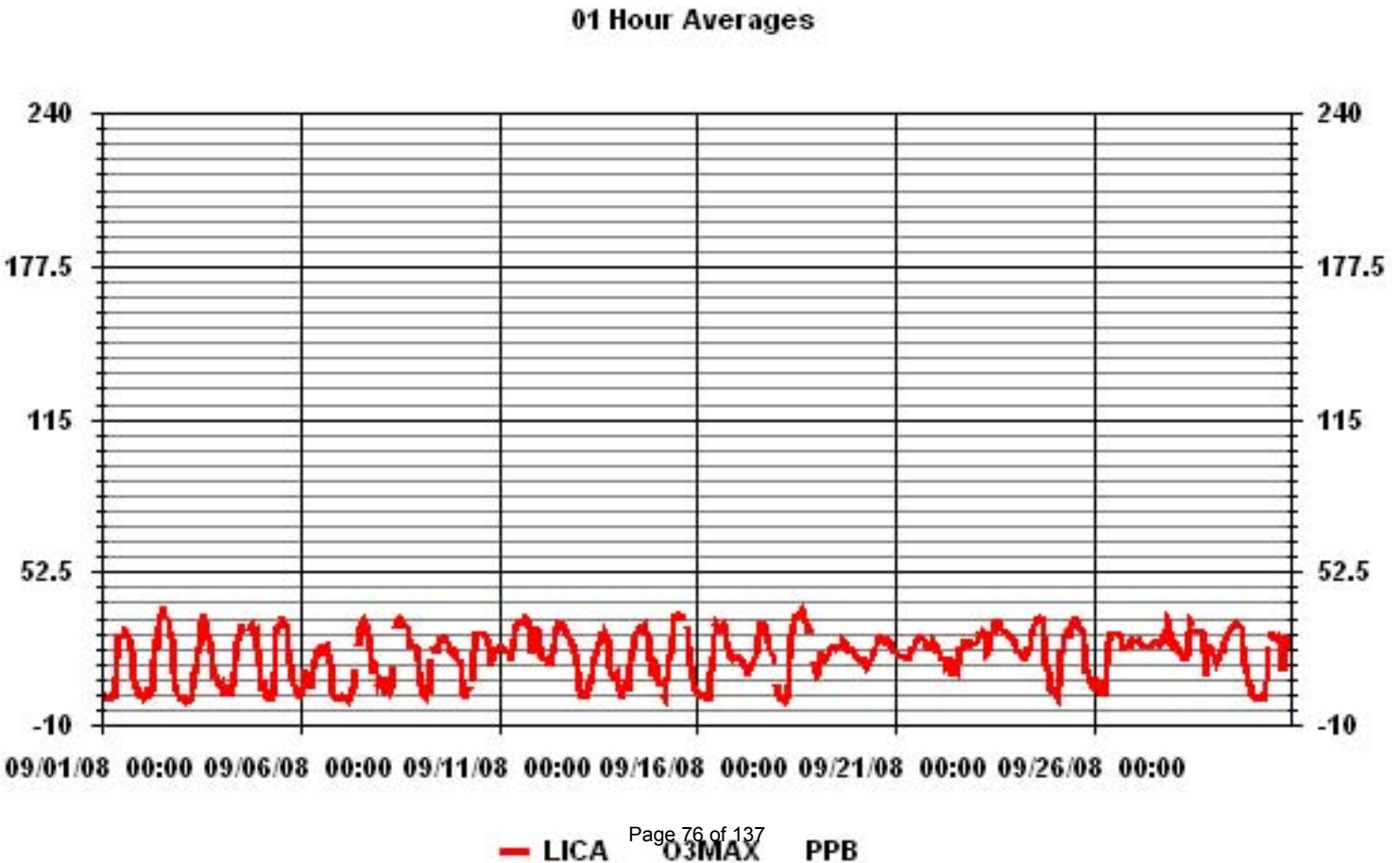
NUMBER OF NON-ZERO READINGS: 678

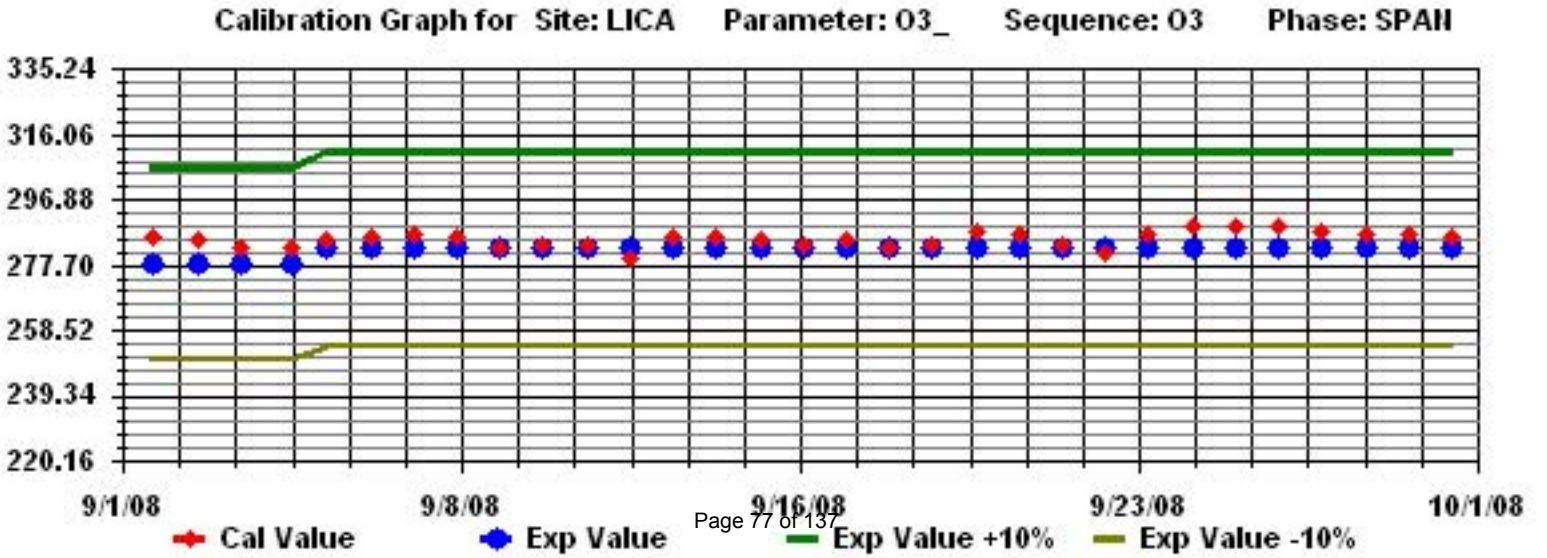
MAXIMUM INSTANTANEOUS VALUE: 37 PPB @ HOUR(S) 13 ON DAY(S) 2

IZS CALIBRATION TIME: 30 HRS OPERATIONAL TIME: 718 HRS

MONTHLY CALIBRATION TIME: 5 HRS

STANDARD DEVIATION: 9.91


01 Hour Averages
240
177.5
115
52.5
-10
09/01/08 00:00
09/06/08 00:00
09/11/08 00:00
09/16/08 00:00
09/21/08 00:00
09/26/08 00:00
LICA O3MAX PPB


Calibration Graph for Site: LICA Parameter: O3_ Sequence: O3 Phase: SPAN
335.24
316.06
296.88
277.70
258.52
239.34
220.16
9/1/08
9/8/08
9/16/08
9/23/08
10/1/08
Cal Value
Exp Value
Exp Value +10%
Exp Value -10%

Ambient Temperature

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

SEPTEMBER 2008

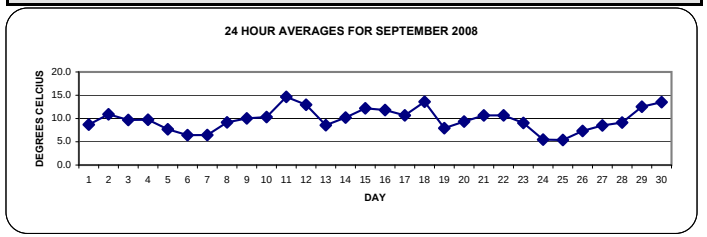
AMBIENT TEMPERATURE hourly averages (Degrees C)

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	2.9	2.6	2.7	**2.2**	1.5	1.3	1.9	4.1	7	10.3	12.8	14.4	15.3	16	16.1	16	16	15.5	14.7	10.7	7.7	6	5	5.8	16.1	8.7	24
2	5.6	4.7	5.3	5.7	5.9	5	4.7	8.6	10.8	13.1	15.3	16.4	16.7	18	17.9	17.2	16.3	16.4	16.5	11.7	9.4	8.2	6.7	5.6	18.0	10.9	24
3	5.1	4.6	3.7	3.5	4.7	5.4	6.4	7.9	11	12.8	14	14.7	15.8	16.9	16.5	13.6	12.9	12.3	11.3	9.7	8.5	7.3	7.3	6.5	16.9	9.7	24
4	5.3	4.1	4.1	5.4	5.6	5	4.6	5.5	7.6	10.6	13.5	15.1	16.1	14.6	16.4	13.9	15.4	15.3	13	10.4	10	9.6	7.2	5.4	16.4	9.7	24
5	4.5	3.1	3.8	3.5	2.1	1.2	2.8	5.4	9.7	13.2	14	14.6	14.9	12	9.1	11.4	11	10.9	10	7.7	6.4	5.2	4.7	3.2	14.9	7.7	24
6	2.7	2.9	4.3	5	4.2	3.1	2.4	4.6	6.1	8.7	9.4	10.3	11.2	11.2	11	10.7	11.6	10	8.9	5.7	4.4	3.3	1.9	0.7	11.6	6.4	24
7	-0.1	-0.8	-1.2	**-1.6**	**-1.6**	-1	0.7	3.5	5.3	8	11.3	13	14	13.9	13.6	13.3	11.9	11.1	10.3	9.5	7.7	6.4	4.4	3	14.0	6.4	24
8	1.8	2.1	2	2.1	1.5	0.7	0.2	1.8	5.5	10.2	13.1	14.6	15.1	15.6	15.7	14.9	15.2	14.7	13.8	12.9	12.5	12.1	11.4	10.5	15.7	9.2	24
9	9.4	7.5	6.8	5.8	5.5	5.5	6.2	7.5	8.1	9	10.3	11.4	12.9	14.2	14.6	14.5	14.3	13.3	12.3	10.9	10.5	10.5	10.1	9.6	14.6	10.0	24
10	8.8	7.7	5.9	4.2	3.9	5	5.9	7.1	8.7	10.3	11.9	13.3	14.4	15.2	16	16.1	15.9	15.4	12.8	9.9	9.4	9.6	10	10.2	16.1	10.3	24
11	10.3	10.6	10.6	10.3	8.9	8.7	8.7	10	12.9	15.6	18.1	20.5	21	20.9	21.3	20.5	21.1	20.6	17.8	13.7	12.3	11.8	11.9	13.5	21.3	**14.7**	24
12	13.9	13.6	12.8	12.4	12.2	11.8	11.3	11.3	12.2	13.4	14.5	15.6	16.5	17	17.2	17	16.1	14.3	13.3	11.4	10.4	9	7.6	6.2	17.2	13.0	24
13	4.9	3	1.9	1.4	0.9	0.9	1.5	4.5	7.3	10.5	13	14.5	15.5	15.6	16.6	16.9	16.8	16.1	12.5	8.7	7	5.6	5.2	4.7	16.9	8.6	24
14	3.5	2.2	1.4	1.3	2.6	3.8	4.4	7.5	10.1	12.8	14.9	16.4	17.6	18.2	18.4	18.7	18.1	17.4	14.4	10.1	7.7	7.8	8.6	7	18.7	10.2	24
15	5.6	4.7	4	3.3	3.5	3.8	5.3	8	11.2	14.8	18.2	20	21	21.7	22	21.9	21.6	**P**	18.4	14.6	11.8	9.7	8.2	7.2	22.0	12.2	23
16	6.2	5.8	6.8	7.5	8.2	8.6	9.1	9.7	11.1	13.8	16.4	16.5	16.4	16.8	17	16.9	16.8	16.2	14.1	12.6	11	9.7	8.7	7.7	17.0	11.8	24
17	6.7	6.2	5.9	5	4.5	4.2	4.2	5.7	7.3	9.1	11.4	13.5	14.9	16.3	18.1	18.8	18.7	18	15.6	13.6	12.4	9.9	8.6	7.6	18.8	10.7	24
18	6.1	5.6	4.9	4.1	4.2	3.6	4.2	7.4	11.9	15.9	19	20.9	22.3	22.8	22.7	22.3	21.9	21.1	18.9	16.6	15.6	14.5	11.9	7.9	22.8	13.6	24
19	6.6	5.8	7.7	8.3	8.1	7.6	7	6.8	6.7	6.3	7.4	8.4	9.4	9.8	10.2	11.3	11.8	10.8	9.1	7.6	6.8	6.3	5.7	4.7	11.8	7.9	24
20	4	3.6	3.4	3.6	3.2	3.1	2	3.7	5.2	6.9	9.7	12.3	13.9	15.7	16.7	16.8	16.5	15.6	14	12.9	11.9	10.9	9.7	9	16.8	9.3	24
21	8.2	7.5	6.8	5.7	5.7	5.3	5.2	5.8	7	8.7	10.8	12.4	13.8	14.6	15.8	15.9	15.6	15.1	13.6	12.8	12.1	11.8	12.7	13.1	15.9	10.7	24
22	12.8	12.6	12.4	11.9	12	12.3	12.2	12.6	12.9	12.7	11.2	11.5	10.9	10.4	9.9	9.5	9.1	9.1	8.9	8.4	8	8.3	8.2	8.5	12.9	10.7	24
23	8.5	8.6	8.5	8.5	8.5	8.3	7.9	7.4	7.9	8.9	10.2	11.2	11.5	11.6	11.7	12.2	12.1	11	9.7	8.8	7.6	6.5	5.6	4.4	12.2	9.0	24
24	3.3	2.5	2.2	2.1	1.7	1.4	1.3	2.8	5	7.1	9.3	10.6	11.6	12.3	12.5	12.7	12.3	11.3	6.6	3.2	1.1	0	-0.8	-0.8	12.7	5.5	24
25	0.2	0.6	1.4	2.1	5	5.9	6	6.5	6.6	6.5	7	7.8	8.5	9.3	10.1	10.5	10.5	9.9	5.8	2.8	1.1	1.5	1.9	1.8	10.5	5.4	24
26	1.7	1.9	2.5	2.7	3	3.1	3.4	4.3	6.2	9	10.9	10.8	10.8	11	11.3	11.1	10.8	10.4	9.3	8.9	8.2	7.8	8.3	8.3	11.3	7.3	24
27	8.4	8.3	8.3	8.1	7.4	6.7	6.4	6.2	6.4	6.8	7.6	8.6	10.2	10.7	10.2	10.8	10.5	10	9.2	9.3	9.4	8.9	8.3	7.6	10.8	8.5	24
28	6.9	7.1	7.2	7.2	7.7	7.7	6.9	6.7	8.9	10.6	11.3	11.5	12.1	13.4	14.1	14.8	15	13.7	9.3	6.2	4.6	5.4	6.3	4.5	15.0	9.1	24
29	3.8	3.2	4	4.6	6	6.6	6.9	7.9	10.4	13.6	16.9	19.9	21.6	22.7	22.8	23	22.4	20.9	15.8	12.4	10.6	9.5	8.1	7.2	23.0	12.5	24
30	6.1	5.6	4.9	4.3	3.7	3.5	3.3	5.4	11.2	15.1	18.7	21.2	21.3	22.3	23.1	**23.1**	22.9	20.8	16.3	16.4	15.7	14.8	13.7	11	**23.1**	13.5	24
HOURLY MAX	13.9	13.6	12.8	12.4	12.2	12.3	12.2	12.6	12.9	15.9	19.0	21.2	22.3	22.8	23.1	23.1	22.9	21.1	18.9	16.6	15.7	14.8	13.7	13.5			
HOURLY AVG	5.8	5.3	5.2	5.0	5.0	4.9	5.1	6.5	8.6	10.8	12.7	14.1	14.9	15.4	15.6	15.5	15.4	14.4	12.5	10.3	9.1	8.3	7.6	6.7			

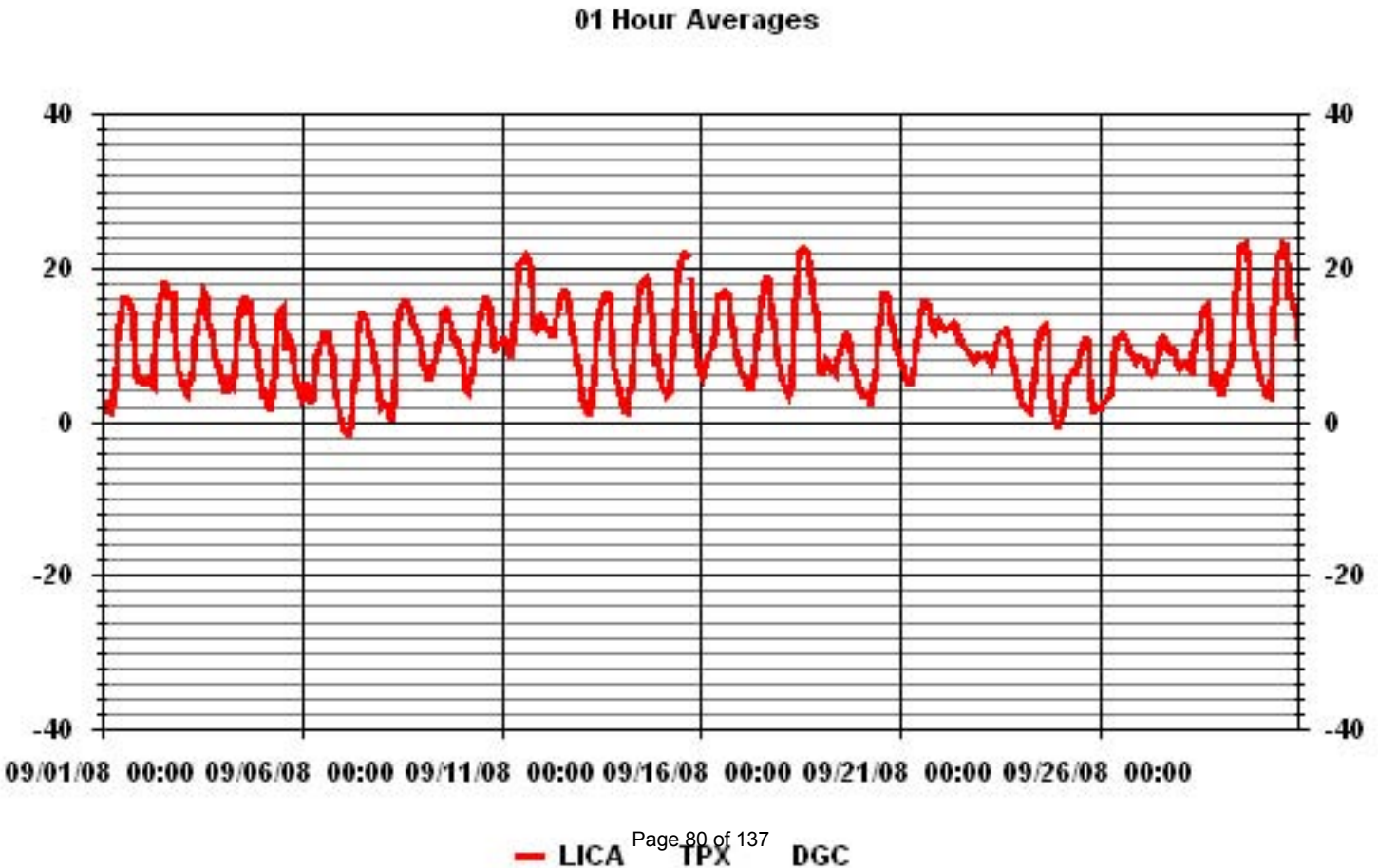
STATUS FLAG CODES

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



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-1.6	^{o}C	@ HOUR(S)	3,4	ON DAY(S)	7	
MAXIMUM 1-HR AVERAGE:	23.1	^{o}C	@ HOUR(S)	15	ON DAY(S)	30	
MAXIMUM 24-HR AVERAGE:	14.7	^{o}C			ON DAY(S)	11	
					VAR-VARIOUS		
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:		719	HRS	
			AMD OPERATION UPTIME:		99.9	%	
STANDARD DEVIATION:	5.23		MONTHLY AVERAGE:		9.77	^{o}C	


01 Hour Averages
40
20
0
-20
-40
09/01/08 00:00
09/06/08 00:00
09/11/08 00:00
09/16/08 00:00
09/21/08 00:00
09/26/08 00:00
LICA TPX DGC

Relative Humidity

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

SEPTEMBER 2008

RELATIVE HUMIDITY hourly averages (%)

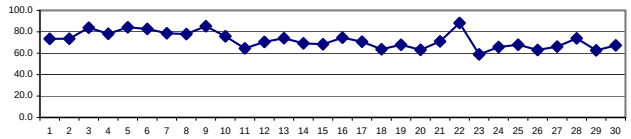
MST

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	93.2	93.9	93.4	93.6	94.5	94.2	94.1	93.2	85.9	71.9	56.4	49.3	44.2	42.9	40.6	41.5	40.4	47.2	57.8	77.2	85.5	89.9	91.5	90.5	94.5	73.5	24
2	91.7	93.3	93.8	93.1	94.0	94.3	92.9	77.5	69.6	64.0	55.8	47.2	45.5	41.2	37.5	43.2	54.9	57.5	66.3	83.9	89.2	91.6	93.6	93.2	94.3	73.5	24
3	93.5	93.7	93.7	94.1	94.0	94.8	94.0	91.2	77.9	73.4	67.4	64.6	55.2	52.4	55.6	73.8	80.5	89.6	91.8	94.7	96.1	96.9	97.1	96.9	97.1	83.9	24
4	96.5	96.5	97.2	97.9	97.9	98.2	98.7	**99.1**	98.7	88.9	71.7	60.2	52.4	57.1	47.1	53.6	51.5	53.2	62.7	72.0	73.3	73.8	86.1	91.6	**99.1**	78.2	24
5	92.9	94.2	95.3	95.0	95.1	94.6	94.8	93.0	81.3	66.1	57.4	52.1	51.2	65.5	88.7	72.0	79.1	83.1	88.5	95.6	95.9	96.2	96.6	96.5	96.6	84.2	24
6	96.8	97.3	97.3	95.4	95.9	96.6	96.5	94.7	92.9	79.9	70.9	61.4	56.3	56.5	58.6	63.3	57.5	70.5	79.2	91.4	93.5	94.4	94.5	94.5	97.3	82.7	24
7	94.5	94.9	95.0	94.6	94.4	94.5	94.0	92.1	91.8	81.5	67.5	55.8	49.3	47.8	47.4	49.7	56.2	65.0	75.4	80.7	88.1	89.6	93.3	94.1	95.0	78.6	24
8	94.3	96.0	97.2	97.8	97.7	97.7	97.7	98.1	97.5	79.1	62.7	52.3	51.5	52.6	53.6	59.9	57.9	61.9	68.9	74.0	74.7	76.7	81.3	88.4	98.1	77.9	24
9	92.4	95.1	95.7	95.4	95.8	96.5	96.4	97.0	95.5	92.9	85.2	79.4	72.9	66.9	62.7	61.9	65.5	71.6	81.7	90.1	89.6	87.2	88.7	90.1	97.0	85.3	24
10	90.4	92.2	95.3	95.9	96.6	97.1	96.5	94.8	89.0	80.1	67.1	62.1	57.6	51.9	49.5	49.7	47.1	49.3	65.2	79.3	79.6	78.4	77.7	76.7	97.1	75.8	24
11	74.7	72.8	72.1	72.2	76.3	75.4	75.9	73.4	66.1	58.5	51.9	44.6	43.7	44.3	42.0	45.8	44.3	45.9	59.8	78.2	81.4	84.2	82.9	81.9	84.2	64.5	24
12	86.7	89.2	95.3	92.7	91.1	90.5	91.0	91.3	88.4	79.4	66.0	53.7	44.7	39.3	33.6	33.8	37.5	51.4	55.2	63.4	69.5	77.1	84.0	89.1	95.3	70.6	24
13	92.1	94.2	94.8	95.4	95.2	95.6	95.2	92.1	85.4	73.6	59.7	51.7	47.8	47.2	42.2	40.4	39.0	41.8	60.1	77.4	84.5	89.2	90.5	91.4	95.6	74.0	24
14	93.1	94.4	94.1	94.0	94.5	93.0	92.9	80.8	69.9	60.1	51.5	47.5	40.5	37.0	34.9	34.1	37.0	42.2	56.3	77.4	87.0	84.1	79.7	86.1	94.5	69.3	24
15	91.4	92.8	92.3	93.5	93.4	94.1	91.0	78.9	66.4	53.8	43.1	38.3	36.3	35.2	35.9	36.7	37.8	**P**	50.5	65.4	77.8	86.5	89.9	91.5	94.1	68.4	23
16	93.0	94.1	92.3	92.8	94.8	96.0	96.4	97.0	95.3	85.4	70.1	60.6	57.2	51.1	48.5	47.7	47.6	49.8	59.3	64.9	68.7	73.7	74.9	77.9	97.0	74.5	24
17	79.8	78.3	78.7	83.9	88.2	90.1	90.0	84.7	79.6	74.3	66.8	60.6	56.1	50.9	44.1	42.2	44.8	49.1	58.1	66.4	71.5	82.9	87.2	89.9	90.1	70.8	24
18	92.9	92.2	92.2	93.6	94.3	94.9	94.2	86.9	79.3	64.8	49.3	42.5	35.8	34.2	34.5	33.4	34.7	36.6	43.5	51.6	51.3	51.7	63.0	82.3	94.9	63.7	24
19	85.8	87.7	88.5	86.0	81.5	79.0	76.2	77.4	74.9	71.8	63.3	59.3	57.0	54.6	53.7	50.7	46.2	50.6	58.7	62.7	62.4	64.2	66.2	71.0	88.5	67.9	24
20	75.1	77.2	78.7	78.2	79.2	79.0	83.1	76.5	71.8	68.0	61.0	53.2	48.2	43.8	40.8	40.8	42.4	45.2	52.6	56.2	60.4	65.0	68.7	71.6	83.1	63.2	24
21	74.7	76.6	79.3	82.7	81.9	82.3	82.3	79.3	74.8	69.2	62.5	59.3	57.5	55.6	52.7	54.1	57.6	60.8	69.1	74.5	78.6	81.1	79.7	79.3	82.7	71.1	24
22	81.3	85.6	86.5	93.1	95.7	96.1	96.3	96.4	95.6	95.5	97.0	94.3	94.1	92.5	88.6	86.7	83.0	78.9	76.3	81.1	84.8	80.0	80.8	77.6	97.0	**88.2**	24
23	74.6	72.1	71.7	68.4	68.4	66.9	70.0	72.5	67.5	62.1	53.1	47.3	46.3	45.1	44.3	41.5	40.3	43.6	47.2	48.6	55.0	62.2	69.1	76.0	76.0	58.9	24
24	82.0	84.7	85.8	86.2	88.0	88.0	87.6	82.2	73.0	65.5	54.8	45.7	37.9	33.6	31.4	30.6	31.8	34.5	55.8	69.7	77.5	81.4	83.7	87.2	88.0	65.8	24
25	83.7	84.9	84.0	84.3	66.8	58.7	68.2	67.1	68.7	72.2	70.8	63.2	59.8	54.1	48.3	42.5	38.2	43.0	63.9	75.7	81.9	83.1	82.6	84.7	84.9	67.9	24
26	86.5	85.3	85.4	87.5	87.3	88.4	88.8	86.0	80.5	66.6	46.0	41.5	41.9	40.9	41.3	42.3	44.8	48.1	52.3	52.8	54.7	56.1	54.1	54.4	88.8	63.1	24
27	54.6	55.1	53.3	52.4	55.0	58.4	59.0	60.1	61.5	62.8	63.8	65.1	62.9	63.6	67.6	66.5	69.6	74.0	84.1	83.0	73.9	76.3	81.8	84.2	84.2	66.2	24
28	85.4	84.4	83.8	83.0	81.4	82.2	85.6	87.5	79.9	69.5	63.0	62.6	61.0	55.2	50.6	48.0	48.4	55.9	74.9	84.1	87.6	85.4	84.2	90.0	90.0	73.9	24
29	89.8	88.6	85.3	84.9	74.8	70.9	70.5	66.8	54.8	46.1	40.2	37.1	37.4	35.8	36.0	36.1	37.5	42.9	61.4	72.3	79.5	82.0	86.2	87.4	89.8	62.7	24
30	90.7	91.2	91.1	91.0	93.0	92.5	92.6	88.0	72.8	63.8	51.8	44.3	46.6	43.6	41.3	41.5	44.1	51.2	67.0	58.3	58.1	60.7	65.7	75.5	93.0	67.4	24
HOURLY MAX	96.8	97.3	97.3	97.9	97.9	98.2	98.7	99.1	98.7	95.5	97.0	94.3	94.1	92.5	88.7	86.7	83.0	89.6	91.8	95.6	96.1	96.9	97.1	96.9			
HOURLY AVG	86.8	87.6	88.0	88.3	87.9	87.7	88.1	85.2	79.5	71.4	61.6	55.2	51.6	49.7	48.5	48.8	49.9	55.0	64.8	73.4	77.1	79.4	81.8	84.7			

STATUS FLAG CODES

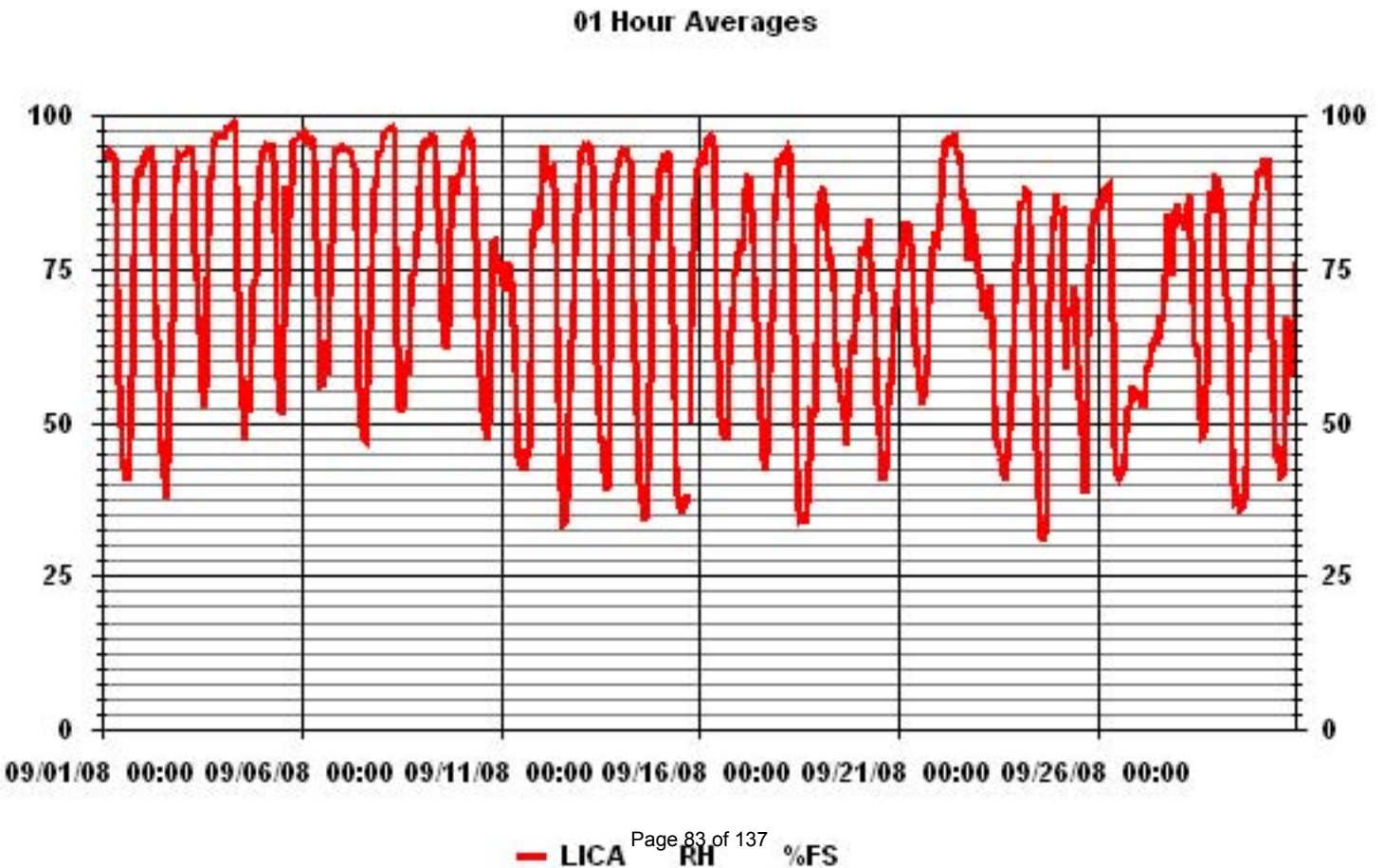
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE

24 HOUR AVERAGES FOR SEPTEMBER 2008



MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	99.1	%	@ HOUR(S)	7	ON DAY(S)	4	
MAXIMUM 24-HR AVERAGE:	88.2	%			ON DAY(S)	22	
CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:		719	HRS	
			AMD OPERATION UPTIME:		99.9	%	
STANDARD DEVIATION:	18.99		MONTHLY AVERAGE:		72.19	%	


01 Hour Averages
100
75
50
25
0
09/01/08 00:00
09/06/08 00:00
09/11/08 00:00
09/16/08 00:00
09/21/08 00:00
09/26/08 00:00
LICA RH %FS

Vector Wind Speed

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

SEPTEMBER 2008

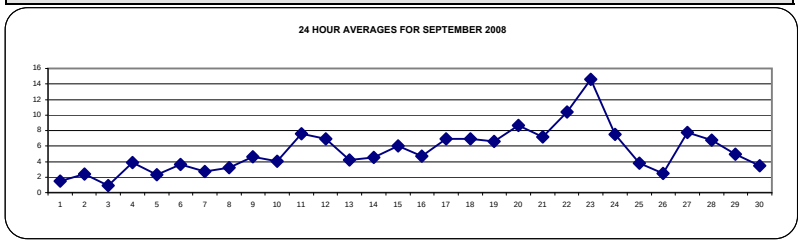
VECTOR WIND SPEED (WS) hourly averages (km/hr)

MST

HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	24-HOUR	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.	AVG.	RDGS.
DAY																											
1	0.8	0.6	0	0.9	0.7	0.1	0.1	1.9	1.5	0.6	1.8	3.7	6.2	5.5	4.5	8.8	6.3	3.6	2.1	0.4	0.9	0.6	0.4	0.4	8.8	1.5	24
2	0.5	0.3	0.4	1.1	0.6	1.2	0.9	4	3.9	3.5	4.6	7.7	8.6	7.8	7.9	5	1	1.3	0.5	1.3	0.4	0.3	0.5	0.3	8.6	2.4	24
3	0.7	0.6	0.3	1	0.5	0.3	0.7	2.5	2.4	0.5	2.1	3.8	2	3.5	5.5	2.6	2.7	0.8	2.3	2.5	0.9	2.3	2.5	2.6	5.5	0.9	24
4	0.6	0.1	1.7	2.4	2.6	4.7	5.6	4.7	5.9	6.3	6.6	7.1	6.8	5.9	8.5	7.1	7	5.5	6.2	0.9	5.3	3.7	0.4	0.9	8.5	3.9	24
5	0.7	1.2	2.3	0.7	0.4	0.4	0.6	1.6	0.2	1	3.4	3	1.1	10.5	4.1	5.8	2.9	2.8	2.2	3.6	1.1	2.4	1.6	2.1	10.5	2.3	24
6	2.7	1.3	2.6	4.2	3.7	3.6	2.1	5.1	4.7	7.7	7.3	7.6	6.3	3.5	5.1	5.8	5.7	2.9	1.2	0.8	0.4	0.4	0.9	1.1	7.7	3.6	24
7	0.4	0.8	1	1.5	0.3	0.7	0.5	1.1	1.1	2.5	3.2	5.4	6.3	7.8	7.8	7.8	4.5	2.9	1.1	0.8	2	3.7	0.8	0.6	7.8	2.7	24
8	0.9	1.2	0.8	2.6	2.1	1	0.8	1.2	0.3	2.7	4.4	5.4	5.6	7.2	6.5	4.7	4.3	3.4	4.4	6.8	6.1	2.1	0.9	1.1	7.2	3.2	24
9	0.5	0.6	0.5	0.7	3.4	3.2	3.3	6.3	7.6	6.5	7	3.9	2.6	3.3	7.8	8.6	6.6	8.3	5	3.5	5.6	5.1	5.6	5.3	8.6	4.6	24
10	6.6	2.4	1.7	1.9	1.5	1.8	1.2	1.7	3.2	1.7	4.4	5	6.7	7.6	7.5	8.3	10.3	7	2.2	2.2	3	2.4	3	3.6	10.3	4.0	24
11	3.5	3.8	3.8	4.3	4.9	5.3	5.8	6.4	7.3	9.5	11.4	16.1	15.9	14.8	17.6	13	11.9	9.7	2.8	1.1	1.4	0.7	1.2	9.8	17.6	7.6	24
12	7.3	6.4	1.7	5.6	4.5	4.9	5.8	4.8	6.3	9.1	7.9	10.7	9.9	10	10.6	10.6	9.7	8.6	6.7	5.8	5.9	5.5	3.6	4.6	10.7	6.9	24
13	1.4	1.3	2.3	3.3	1.7	1.8	2.5	4.8	5.2	7.3	8.1	8.3	9.3	8.5	8.7	8.1	7.5	4.7	2.4	1.7	0.7	0.1	0.2	0.7	9.3	4.2	24
14	0.1	0.6	0.6	0.6	1.1	0.5	0.7	4.2	5	5.7	6.6	7.2	9.6	10.4	10.4	10.3	9.5	6.1	2.3	1	2.3	5.1	5.6	4.1	10.4	4.6	24
15	1.9	1.2	0.2	0.5	0.3	0.8	1.8	2.7	8.6	10.4	12.7	15.5	17.1	14.7	13.9	12.6	11.5	**P**	4.8	3.5	1.2	0.6	0.6	0.7	17.1	6.0	23
16	0.5	0.5	0.4	0.7	0.4	1.3	0.7	1.7	1.2	2.1	6.6	8.8	8.1	9.6	7.7	8.3	7.6	7.5	5.2	7.3	6.7	6.7	7	6.1	9.6	4.7	24
17	6.1	7.2	5.7	4	6.7	5.1	3.7	6	10.1	10.2	11.8	11.4	12.3	13.9	13.7	10.1	6	4.6	5.7	4.5	4.9	0.3	1	0.5	13.9	6.9	24
18	1.2	0.3	0.4	0.7	0.2	0.7	0.3	1.3	6.3	7.5	9.6	12.9	17	18.6	17	**19.6**	13.4	9.6	6.2	5.4	7.9	5.9	2.6	1.5	**19.6**	6.9	24
19	0.5	0.4	3.1	6.8	8.9	6.8	5.9	7.1	10.2	9.2	9.4	8.1	8.7	8.8	8.1	7.1	7.4	8.4	5.6	5	6.5	6.4	5.4	4.7	10.2	6.6	24
20	4.8	4.2	6	10.5	12.3	8.9	5.7	8	11.1	8.9	9.3	9.7	10.2	9.7	12	11.7	10.2	9.1	7.4	8.9	10	6.6	7.2	5.8	12.3	8.7	24
21	5.2	5.6	4.5	3.9	7.3	6.4	5.4	7.6	8.4	8.5	7.9	7.7	10.6	11	9.4	9.5	8	8.1	5.6	5.1	4.3	3.7	6.8	10.9	11.0	7.1	24
22	10.2	7.4	7.2	8.1	10.6	7.5	6.5	6.3	7.1	4	5.3	9	12.4	12.5	14.1	14.2	14.6	13.5	15.1	11.8	12.3	12.7	13.8	12.7	15.1	10.4	24
23	12.3	14.3	13.6	14.8	14.9	13.8	15	15.1	17.8	18.1	19.6	19.9	18.4	18.8	16.4	16.5	18	13.9	11.2	10.4	11.1	8.9	8.9	7.7	19.9	**14.6**	24
24	6.5	7.4	7.8	8	8.1	8.7	8.2	9.1	11.2	10.6	13.5	15.2	14	13.2	12.9	9.8	8.1	4.6	0.7	0.7	0.3	0.3	0.4	0.1	15.2	7.5	24
25	0.4	0.2	0.3	0.6	3.5	3.1	7	5.7	6.5	7.6	7.8	8.5	7.7	5.9	7	7.2	6	2.2	1.2	0.3	0.4	0.3	0.6	0.6	8.5	3.8	24
26	0.4	0.7	0.6	0.2	0.3	0.3	0.6	1	2.1	0.4	2.6	2.7	3.3	2.3	3.5	3.5	1.9	3.2	4.7	4.8	4.8	4.8	4.9	5.4	5.4	2.5	24
27	7.4	8.9	8.6	8.9	5.6	7	8.5	8	7.7	8.5	9.7	10.9	6.2	5.4	6.4	1.8	3.9	5.5	8.1	9.2	15.3	9.2	7.8	7.4	15.3	7.7	24
28	8.6	7	7.5	8.1	7.6	6.1	5.4	5	9.3	12.6	11.4	10.8	10.4	11.6	10.8	9.5	4.6	0.3	0.5	0.9	1.7	5	5.3	1.6	12.6	6.7	24
29	3.5	1.2	0.4	0.8	2.5	2.8	2	3.2	6.7	9.3	9.4	10.1	14.1	12.4	12.3	11.7	9.8	3.3	0.8	0.8	0.9	0.2	0.4	0.4	14.1	5.0	24
30	1.3	0.5	0.1	0.3	1.1	0.3	0.4	0.8	0.7	2.1	5.2	5.9	6.8	7.6	8	7	3.8	1.6	1.9	6.6	6.6	7.4	5.3	1.4	8.0	3.4	24
HOURLY MAX	12.3	14.3	13.6	14.8	14.9	13.8	15.0	15.1	17.8	18.1	19.6	19.9	18.4	18.8	17.6	19.6	18.0	13.9	15.1	11.8	15.3	12.7	13.8	12.7			
HOURLY AVG	3.3	2.9	2.9	3.6	3.9	3.6	3.6	4.6	6.0	6.5	7.7	8.7	9.1	9.4	9.5	8.9	7.5	5.6	4.2	3.9	4.4	3.8	3.5	3.5			

STATUS FLAG CODES

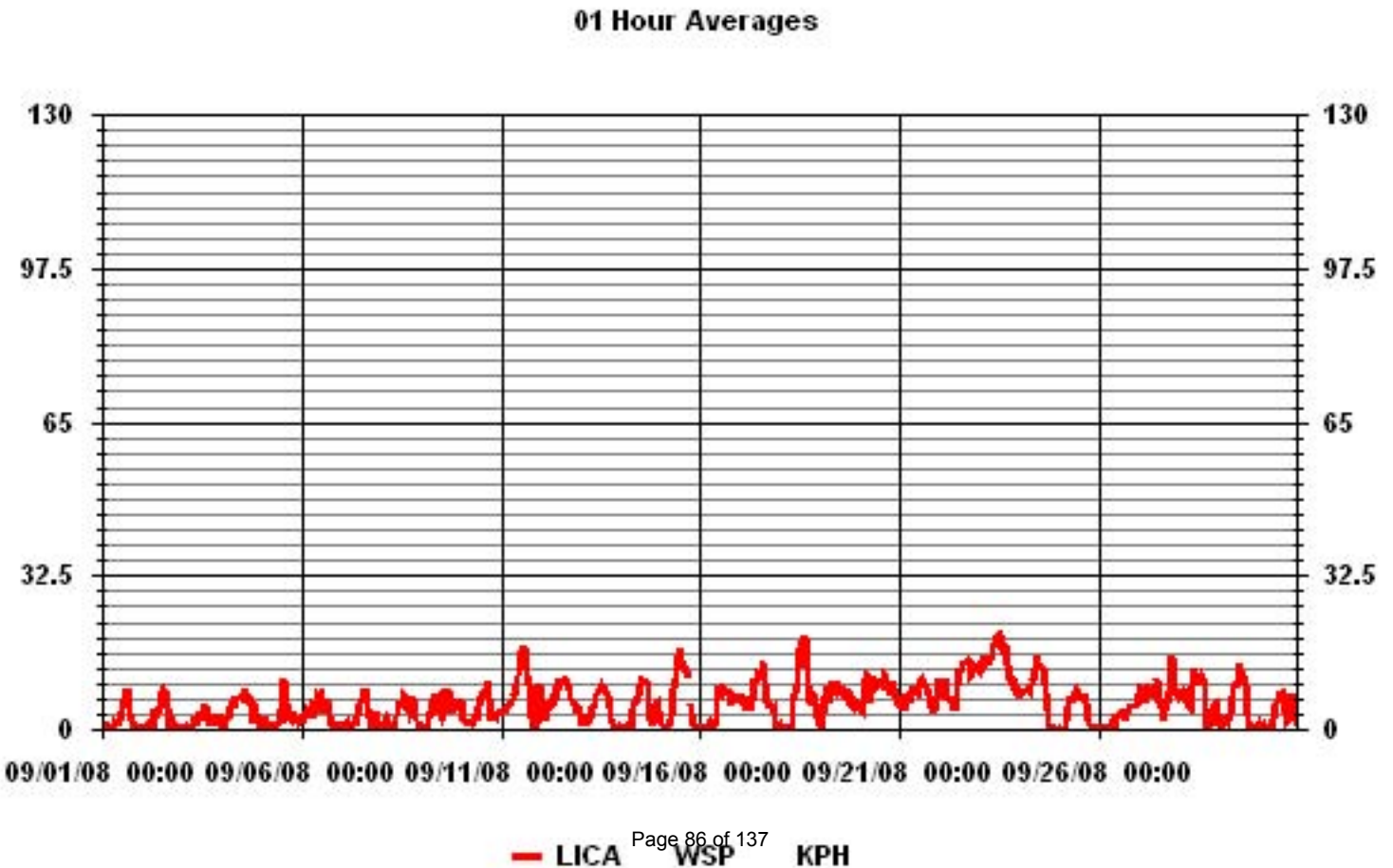
S	- OUT OF SERVICE	IZS	- IZS - DAILY ZERO/SPAN CHECK
N	- INVALID DATA	M	- MISSING DATA
D	- INSTRUMENT DRIFT	P	- POWER FAILURE
C	- CALIBRATION	NA	- NOT APPLICABLE



LAST CALIBRATION: December-2006

MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	19.9	KPH	@ HOUR(S)	15	ON DAY(S)	18	
MAXIMUM 24-HR AVERAGE:	14.6	KPH			ON DAY(S)	23	
CALMS (≤ 0 KPH)	4.84	%	OPERATIONAL TIME:		719	HRS	
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME		99.9	%	
STANDARD DEVIATION:	4.31		MONTHLY AVERAGE:		5.44	KPH	


01 Hour Averages
130
97.5
65
32.5
0
09/01/08 00:00
09/06/08 00:00
09/11/08 00:00
09/16/08 00:00
09/21/08 00:00
09/26/08 00:00
LICA WSP KPH

LICA
WSP / WD Joint Frequency Distribution (Percent)

September 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	.69	1.11	1.52	1.11	2.50	3.33	4.31	4.17	3.89	3.89	9.31	7.64	3.61	2.78	1.94	.97	52.85
<	12.0	.97	1.66	1.80	1.39	4.58	3.75	1.39	.13	.13	.41	3.33	4.45	3.75	2.36	2.78	.69	33.65
<	20.0	.00	.00	.00	.00	.00	.27	.41	.00	.00	.00	.00	2.64	4.31	.83	.00	.00	8.48
<	29.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>=	39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Totals	1.66	2.78	3.33	2.50	7.09	7.37	6.11	4.31	4.03	4.31	12.65	14.74	11.68	5.98	4.72	1.66	

Calm : 5.00 %

Total # Operational Hours : 719

Distribution By Samples

Direction

	Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
<	6.0	5	8	11	8	18	24	31	30	28	28	67	55	26	20	14	7	380
<	12.0	7	12	13	10	33	27	10	1	1	3	24	32	27	17	20	5	242
<	20.0						2	3					19	31	6			61
<	29.0																	
<	39.0																	
>=	39.0																	
	Totals	12	20	24	18	51	53	44	31	29	31	91	106	84	43	34	12	

Calm : 5.00 %

Total # Operational Hours : 719

Logger : 01 Parameter : WSP

Class Limits (KPH)

>= 39.0

< 39.0

< 29.0

< 20.0

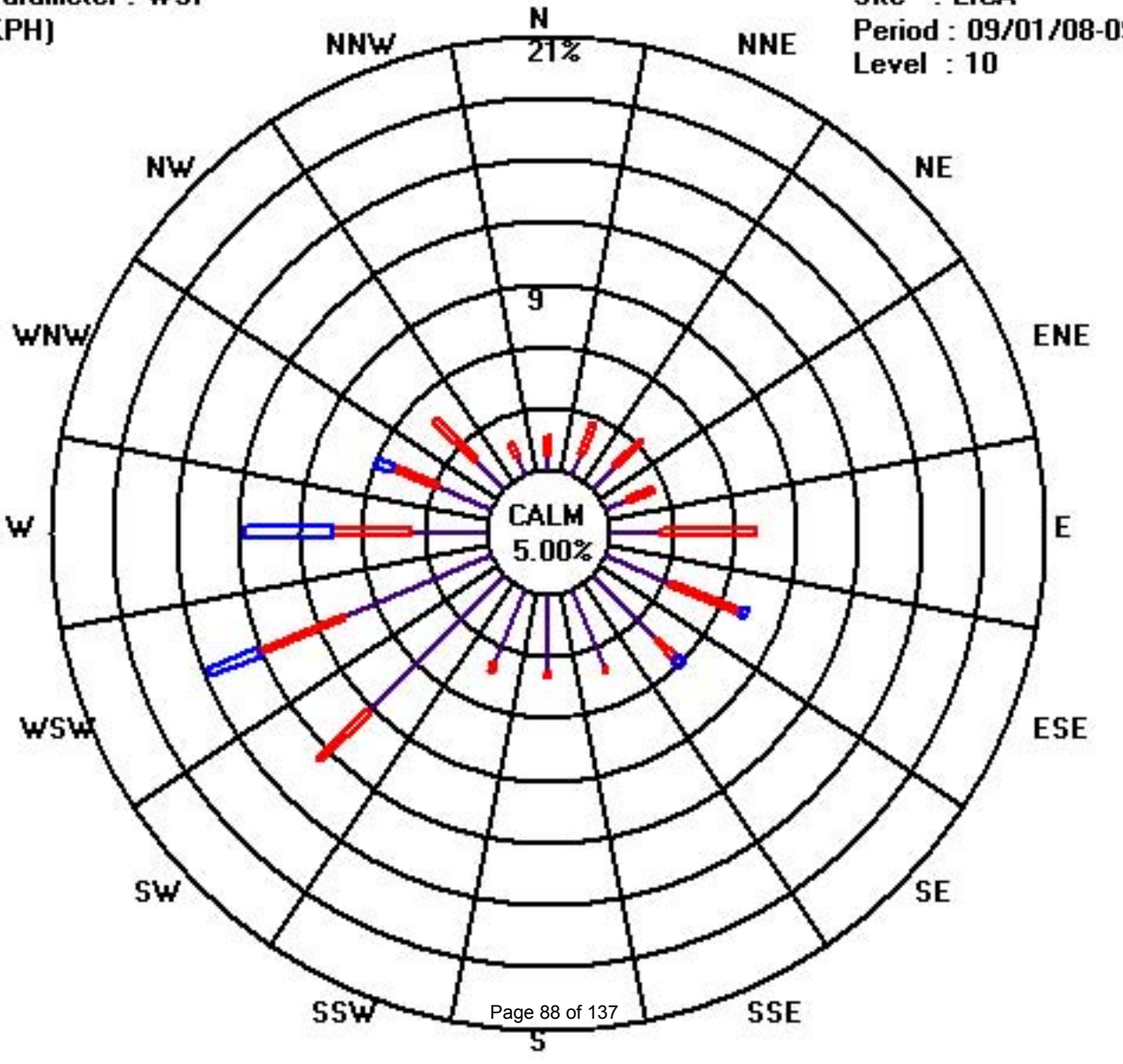
< 12.0

< 6.0

Site : LICA

Period : 09/01/08-09/30/08

Level : 10



LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

SEPTEMBER 2008

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

MST

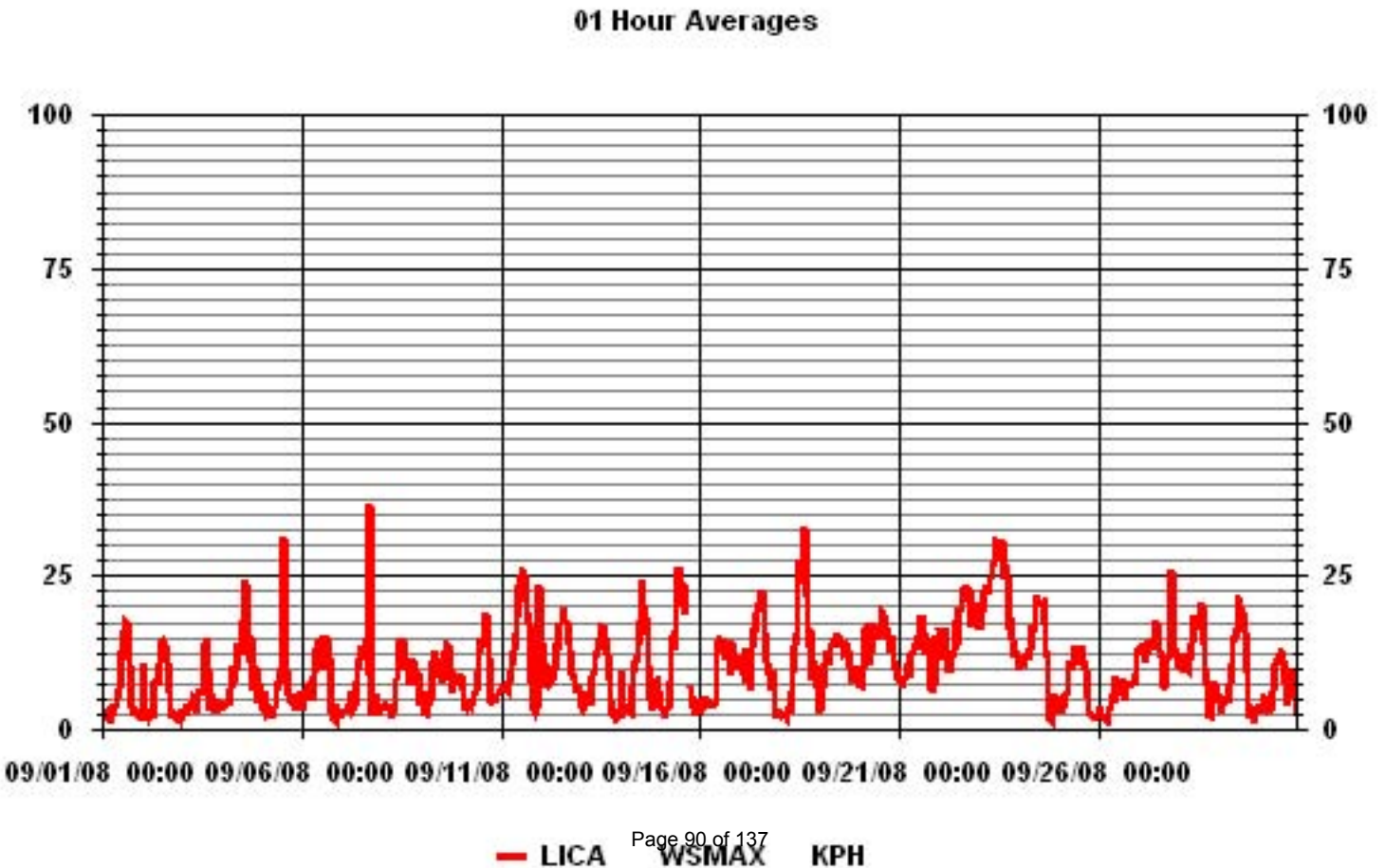
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	MAX.
DAY																									
1	3.1	1.5	2.2	2.9	3.2	1.2	2.1	3.4	3.6	5	6.7	12.7	16.1	13	17.7	17.4	11.7	10.5	3.8	2.2	3.7	2.2	2	2	17.7
2	2.8	10.7	2.3	3	1.9	2.3	2.3	7.5	7.9	7.2	10.6	14.5	13.9	14.5	13.9	11.3	6.3	3.3	1.9	2.6	2.1	2.5	2.2	1.7	14.5
3	2.8	2.9	2.3	3.6	3.5	4	3.7	5.5	5.2	2.7	5.3	6.5	5.6	10.7	14	14.9	9.7	2.9	5.8	4.1	2.6	5.1	4	4	14.9
4	2.9	4.6	4	4.2	4.2	6.7	10.1	7.5	9.6	9.9	13.9	13.4	12.2	17.7	24.5	23.8	13.9	10.6	15.4	6.2	10.2	9.9	4.3	7.5	24.5
5	3.6	3.2	6.1	3	3.4	2.7	2.6	3.6	3.8	6.3	7.8	9.1	8.8	31.2	10.4	9.8	5.7	4.6	4	5.8	3.5	3.4	3.7	3.8	31.2
6	6.2	3.1	6.5	6.9	5.7	5.3	4.6	8.5	9.3	13.1	14.3	14.6	13	9.7	10.1	15.2	14.7	11.8	3.1	2.1	1.7	4	3.3	2.4	15.2
7	1.8	3.1	3.2	3.2	3.9	3.8	6.1	3.4	3.8	7.6	9.7	11.3	13.5	12.7	11.7	14.8	8.9	**36.8**	2.8	2.1	4.5	5.6	3.1	2.9	**36.8**
8	3.8	3.1	4.2	4.2	3.3	4.1	1.8	2.9	2.9	8	9.6	13.6	13.3	14.6	13.7	9.6	10.9	7.1	9.5	11.7	8.8	6.9	9.3	3.9	14.6
9	4.5	3	3.1	2.9	6.2	4.5	4.9	10.9	12.6	10.4	11.7	8.8	7.5	8.1	12.7	14.5	12	14.1	10	5.7	8.7	7.9	8.3	7.7	14.5
10	8.9	6.7	4	4.3	3.6	4.2	3.8	5	5.8	6.3	9.6	12.5	14.9	14	14.6	19	15.2	11.9	4.8	4.6	4.9	4.8	5.5	6.5	19
11	5.8	7.4	6.3	7	6.5	7.7	9.4	10.5	12.9	15.5	18.3	23.3	25.2	26.3	25.3	20.9	19.4	17.3	7.8	3.2	3.8	2.9	3.5	23.6	26.3
12	16.2	14.3	6.5	10.8	8.9	9.3	7.6	7.9	9.5	13.8	12.9	17.4	16.8	19	19.6	17.7	17.5	14.2	13.1	9.2	8.5	7.6	5.9	7	19.6
13	3.9	3.3	3.8	6.2	5.2	4.8	4.7	8.7	9.4	11.9	12.9	14.7	17.4	15.7	16.9	15	12.4	8.2	5	2.7	2.2	1.2	2.5	2.2	17.4
14	1.8	9.5	2.5	3.5	3.4	3.4	3.1	7	9.3	10.9	11.7	13.8	17.7	24.2	20.7	18.6	15.6	10.7	4.9	3.5	3.6	7.6	7.9	6.4	24.2
15	3.8	3.6	2.6	1.7	3.4	3.6	7.8	15.2	13	16	19.9	25.9	26	23	23.8	19.1	**P**	**P**	6.7	5.6	3.7	2.1	3.5	4.8	26
16	3.4	3.1	3.9	5.3	3.5	5	3.5	4	3.9	4.7	12.4	14.3	15.1	14.3	12.5	14.9	11.1	13.1	8.9	14.5	10.5	10.5	11.8	9.7	15.1
17	10.7	11.9	9.1	7.6	13	9.6	6.3	13.3	15.9	16	18.9	20.5	22	22.7	20.1	16	11.1	9	7.8	6.5	9.5	1.6	3.3	2.8	22.7
18	2.8	2.2	2.5	2.5	2	3.2	3.2	6	9.2	13.7	15.5	23.4	27.5	26.6	25.2	32.8	21.8	13.1	16.4	7.7	11.6	10.5	7	3.3	32.8
19	3.1	3.2	6.5	10.7	12.3	12.2	10.4	14	14.9	13.5	15.2	15.1	13.5	14.2	12.2	12.5	14.4	13.2	10.3	7.3	10.4	9.7	9	8.1	15.2
20	7.6	7.4	10.1	16.4	16.8	16.4	10.6	12.4	17.1	15.9	14.5	16.6	15.8	15.3	19.2	18.9	16.7	14.9	12.4	13.4	15.3	11.4	10.1	8.4	19.2
21	8.1	8.1	6.8	7.8	10.5	10.4	8.3	12.2	12.7	13.7	13	15.2	18	18.1	15.3	16.2	12.2	14.7	8	6.9	6.1	7	15.4	14.4	18.1
22	16.4	12.4	12.2	12.1	16.6	11	9.3	10	11.7	12.8	17.9	13.7	19.5	19.6	22.8	22.7	23.4	20.5	23.2	16.8	17.5	20.1	19.8	16.8	23.4
23	16.7	20.2	20	22.6	23.5	22.1	23.5	24.5	26.6	27.2	31.3	28.4	28	28.3	31	24.5	27.3	25.2	16.3	18.7	14.8	11.9	12.9	11.9	31.3
24	9.7	10.2	11.3	11	12.1	12.5	11.4	13	16.7	16	20.1	21.8	21.2	20.5	20.7	17.2	13.1	11.8	2	1.6	1.3	3	5.9	2.8	21.8
25	4.9	2.8	3.3	3.5	5.5	6.3	11.3	10.8	9.4	12.9	12.9	12.6	13.5	10.4	13.7	11.4	9.8	5.5	2.8	2.6	2.4	2.1	1.9	2.1	13.7
26	3.3	3.4	2.3	2.3	2	1.7	3.2	3.6	5.6	4.2	8.6	7.4	6.5	7	7.7	8.3	4.5	7.5	6.7	7.6	7.5	7.5	8.9	12.2	12.2
27	12.8	13.5	14.1	12.5	10.7	12	14.5	13.8	14.7	13	15.2	17.8	13.5	13	12.1	7.1	6.6	12.1	11.3	20.3	25.9	16.2	11.7	12.1	25.9
28	10.4	10.1	11	12.4	10.3	9.7	9.4	11.4	14.1	18	18.1	17.5	16.4	19.1	20.7	14.2	10.1	7.5	2.3	2.1	3.6	7.5	8	4.4	20.7
29	6.2	4.5	2.6	3.7	4.7	5.3	4.3	7.4	10.5	14.1	15.1	16.6	21.9	20.1	18.5	19.2	16.2	9.7	1.8	4.2	2.7	1.2	2	2.5	21.9
30	4.2	2.6	3.6	5.9	2.8	3.9	3	3.3	2.8	6.2	10.5	11.2	10.3	12.3	13.3	11.3	7.8	3.8	4.9	8.8	8	10	8.9	2.9	13.3
PEAK	16.7	20.2	20.0	22.6	23.5	22.1	23.5	24.5	26.6	27.2	31.3	28.4	28.0	31.2	31.0	32.8	27.3	36.8	23.2	20.3	25.9	20.1	19.8	23.6	

STATUS FLAG CODES

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

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS READING	36.8	KPH	@ HOUR(S)	17
			ON DAY(S)	7


01 Hour Averages
100
75
50
25
0
09/01/08 00:00
09/06/08 00:00
09/11/08 00:00
09/16/08 00:00
09/21/08 00:00
09/26/08 00:00
LICA WSMAX KPH

Vector Wind Direction

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - *COLD LAKE*

SEPTEMBER 2008

VECTOR WIND DIRECTION (WD) hourly averages in degrees

MST

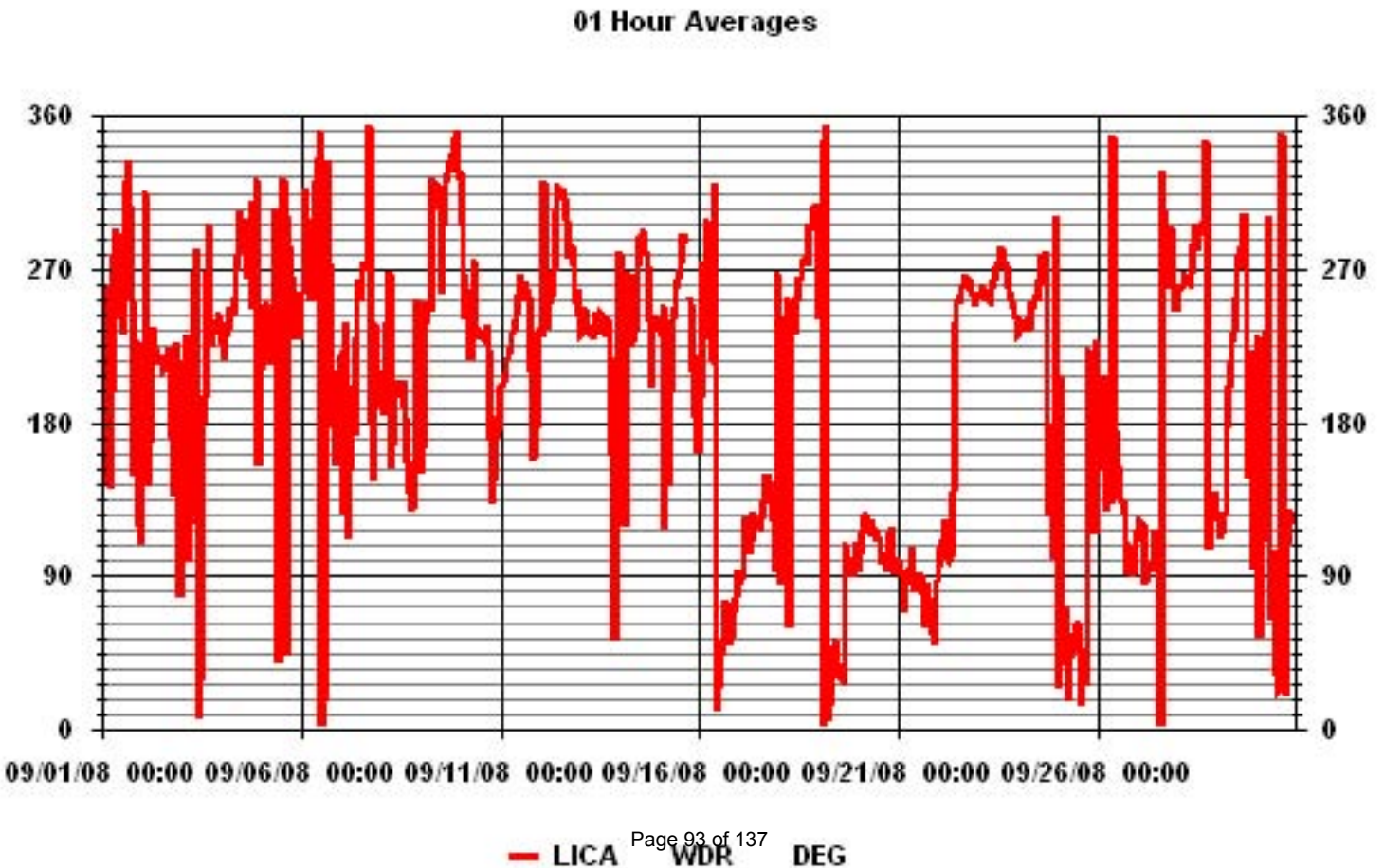
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR	24-HOUR AVG	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	AVG.	QUANDRANT	RDGS.
DAY																											
1	179	143	259	235	177	141	197	278	293	276	261	241	291	231	320	320	333	309	252	148	160	229	120	109	285	WNW	24
2	168	215	316	143	209	168	223	235	225	220	214	216	219	210	211	215	224	170	219	137	199	227	204	77	212	SW	24
3	216	182	201	232	98	120	140	215	269	282	6	83	29	180	195	269	297	241	224	232	238	232	244	236	225	SW	24
4	227	216	230	239	235	248	246	243	253	269	279	304	297	283	300	264	272	281	310	246	275	323	154	184	274	W	24
5	211	235	249	251	232	214	235	248	306	67	39	53	101	323	55	43	301	284	267	243	229	246	238	229	306	NW	24
6	256	257	318	300	295	289	250	281	278	322	335	352	1	22	16	334	329	274	192	178	167	155	211	220	317	NW	24
7	203	222	126	239	112	201	152	175	172	230	264	251	257	270	274	269	316	355	179	145	238	235	206	188	257	WSW	24
8	211	184	194	238	249	268	153	166	173	202	195	205	201	202	190	183	158	139	128	130	131	162	252	161	179	S	24
9	150	165	223	238	251	249	245	323	317	305	320	311	255	295	305	320	326	334	338	335	326	346	351	322	315	NW	24
10	327	296	269	241	258	252	216	244	276	236	229	235	229	233	230	229	237	224	170	132	145	170	181	180	231	SW	24
11	201	202	204	209	217	220	224	232	236	234	243	255	266	261	251	262	259	255	210	158	172	159	176	232	242	WSW	24
12	235	234	321	285	235	265	250	254	269	306	320	317	314	310	317	313	299	276	285	284	273	254	255	244	286	WNW	24
13	232	233	234	247	235	237	232	230	230	240	244	231	245	244	233	231	242	237	190	162	159	52	218	268	235	SW	24
14	280	229	162	118	246	269	224	233	228	233	267	271	289	290	294	280	280	273	241	201	236	243	238	235	264	W	24
15	237	237	249	117	204	143	220	197	240	247	258	264	269	273	291	289	288	**P**	252	250	210	182	201	162	264	W	23
16	219	195	274	242	300	229	288	218	217	320	11	24	25	44	52	59	75	57	50	55	56	68	77	93	51	NE	24
17	85	89	90	120	125	110	103	110	128	126	121	121	120	124	133	141	150	148	133	126	127	92	146	268	122	ESE	24
18	181	85	106	232	241	254	59	214	235	232	253	251	266	263	275	276	277	271	296	293	305	305	308	241	268	W	24
19	277	300	2	346	355	5	12	14	44	48	53	33	31	31	30	39	110	91	98	92	89	100	109	104	47	NE	24
20	92	103	116	125	127	117	116	120	123	120	118	110	113	97	104	97	99	92	99	116	119	101	92	94	109	ESE	24
21	101	94	90	68	90	87	88	95	107	87	81	89	84	92	80	60	67	86	65	62	56	49	77	87	82	E	24
22	95	106	101	111	123	115	102	100	102	139	238	252	249	255	259	260	266	260	265	258	255	250	250	256	237	SW	24
23	254	254	261	258	251	258	253	252	259	264	262	271	274	270	283	281	275	272	260	258	252	248	244	242	262	W	24
24	232	233	240	238	237	233	239	238	248	248	255	251	264	259	279	268	277	280	171	124	180	100	161	301	251	WSW	24
25	24	208	101	65	73	38	17	42	46	44	56	61	63	49	14	35	40	25	224	178	165	180	114	228	45	NE	24
26	177	152	193	194	208	128	182	166	132	349	168	177	135	154	135	134	127	90	109	97	95	90	103	110	121	ESE	24
27	117	122	122	121	85	87	94	98	92	95	97	117	103	13	1	328	306	259	262	267	295	271	250	245	109	E	24
28	251	257	261	258	268	260	263	262	267	284	296	285	281	296	290	298	294	346	126	105	111	129	130	140	273	W	24
29	129	124	111	115	126	126	177	201	217	228	233	254	275	274	283	289	301	301	147	188	223	189	93	162	256	WSW	24
30	232	54	199	110	218	128	234	301	69	64	106	102	33	22	23	350	335	19	109	127	127	126	124	123	71	ENE	24
HOURLY AVG	327	300	321	346	355	289	288	323	317	349	335	352	314	323	320	350	335	355	338	335	326	346	351	322			

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:	719	HRS
STANDARD DEVIATION	84.28		AMD OPERATION UPTIME	99.9	%
			MONTHLY AVERAGE	255	DEG


01 Hour Averages
360
270
180
90
0
09/01/08 00:00
09/06/08 00:00
09/11/08 00:00
09/16/08 00:00
09/21/08 00:00
09/26/08 00:00
LICA WDR DEG

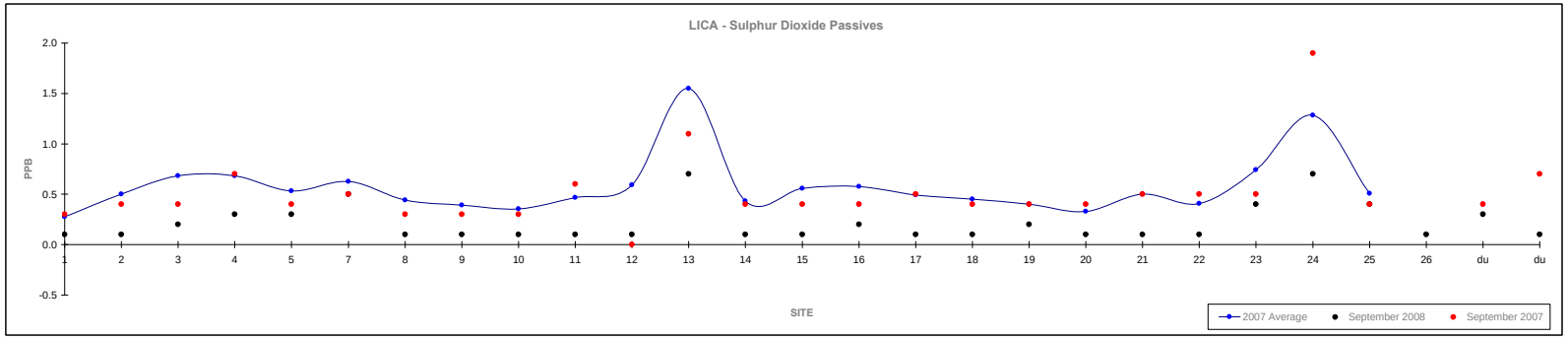
Non-Continuous Monitoring

Passive Summary Results for September 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	0.2	-
Minimum	0.1	0.3	0.4	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.8	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.5	0.2	0.0	0.1	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	0.7	#14, #27

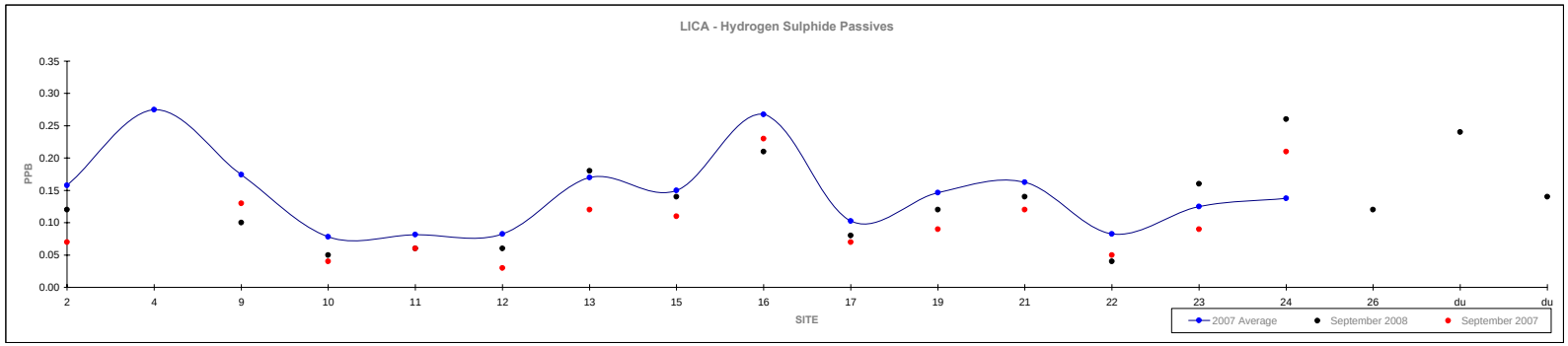


Passive Summary Results for September 2008

Lakeland Industry & Community Association

Hydrogen Sulphide
ppb

	2007															2008	
	3	5	10	11	12	13	14	16	17	18	22	24	25	26	27	Reading	Site
Mean	0.2	0.3	0.2	0.1	0.1	0.1	0.2	0.2	0.3	0.1	0.1	0.2	0.1	0.1	0.1	0.15	-
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	#25
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	0.40	#5

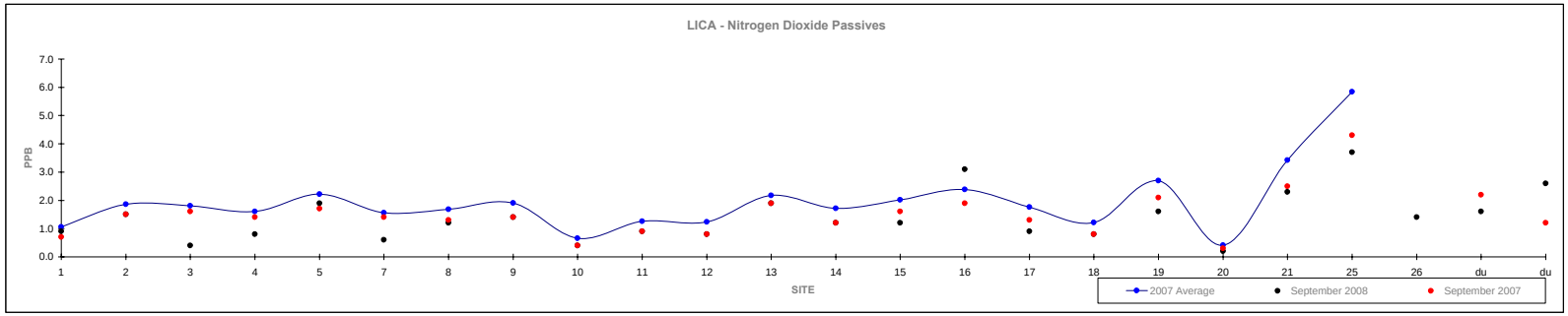


Passive Summary Results for September 2008

Lakeland Industry & Community Association

Nitrogen Dioxide
ppb

	2007																					2008	
	2	**3**	**4**	**5**	**6**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**22**	**23**	**24**	**28**	**Reading**	**Site**
Mean	1.1	1.9	1.8	1.6	2.2	1.6	1.7	1.9	0.7	1.3	1.2	2.2	1.7	2.0	2.4	1.8	1.2	2.7	0.4	3.4	5.8	1.4	-
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	0.2	#23
Maximum	4.1	3.5	4.0	3.8	5.3	3.6	3.8	3.9	1.4	3.2	2.5	5.3	3.4	4.5	4.8	3.9	3.0	5.8	1.2	6.4	10.7	3.7	#28

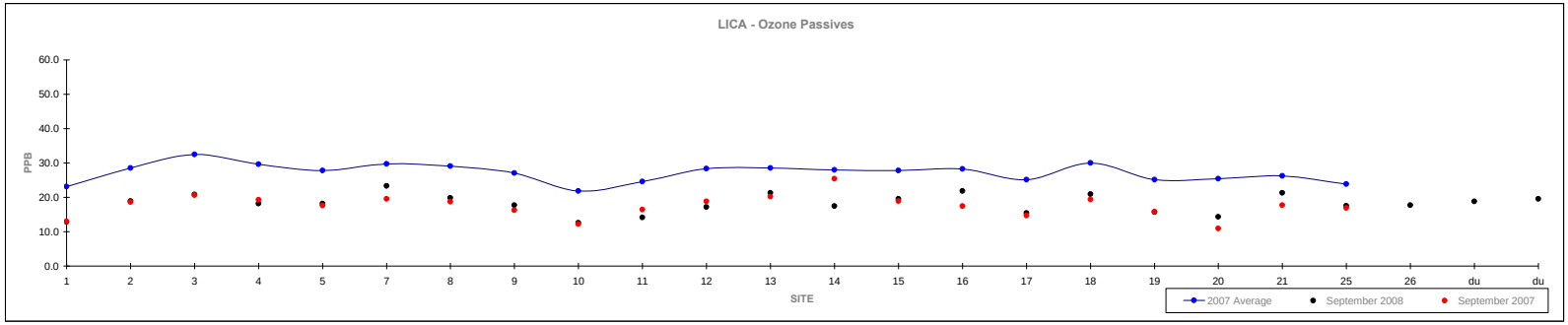


Passive Summary Results for September 2008

Lakeland Industry & Community Association

Ozone ppb

	2007																					2008	
	2	3	4	5	6	8	9	10	11	12	13	14	15	16	17	18	19	22	23	24	28	Reading	Site
Mean	23.1	28.5	32.5	29.6	27.8	29.7	29.0	27.0	21.9	24.6	28.3	28.5	28.0	27.8	28.3	25.2	30.0	25.2	25.5	26.2	23.8	18.1	-
Minimum	12.9	18.6	20.6	19.3	17.6	19.5	18.7	16.2	12.2	15.3	16.8	19.9	19.0	18.9	17.4	14.7	19.4	15.8	10.9	17.7	16.9	12.6	#11
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	23.3	#8



Calibration Reports

Cold Lake

Sulphur Dioxide

SO_2 Calibration Report

Station Information

Calibration Date	September 4, 2008	Previous Calibration	August 1, 2008
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:05	End Time (MST)	11:10
Reason:	Monthly Calibration		
Barometric Pressure	714 mmHg	Station Temperature	24 Deg C
Cal Gas	52.2 ppm	Cal Gas Expiry date	March 12, 2010
DAS Output Voltage	0 - 10 Volts		

Equipment Information

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

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range	0 - 500 ppb							
Sample Flow / Box Temp	700	ccm	OK	Deg C	700	ccm	OK	Deg C
HVPS / Lamp Setting	OK		825		OK		828	
PMT / RxCell Temp	OK	Deg C	OK	Deg C	OK	Deg C	OK	Deg C
Converter / IZS Temp	NA	Deg C	OK	Deg C	NA	Deg C	OK	Deg C
Offset / Slope	104		960		104		920	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	0	N/A
4961.1	38.9	406	408	0.9954
4961.1	38.9	406	405	1.0028
4975.7	24.3	254	253	1.0027
4985.4	14.6	152	152	1.0028
5000	0	0	0	N/A
			Sum of Least Squares	1.0028
			New Correction Factor	1.0028

	Before Calibration	After Calibration
Auto Zero	-1	0
Auto Span	212	208
Sample Lines Connected		**YES**
Percent Change from Previous Calibration		-0.2%

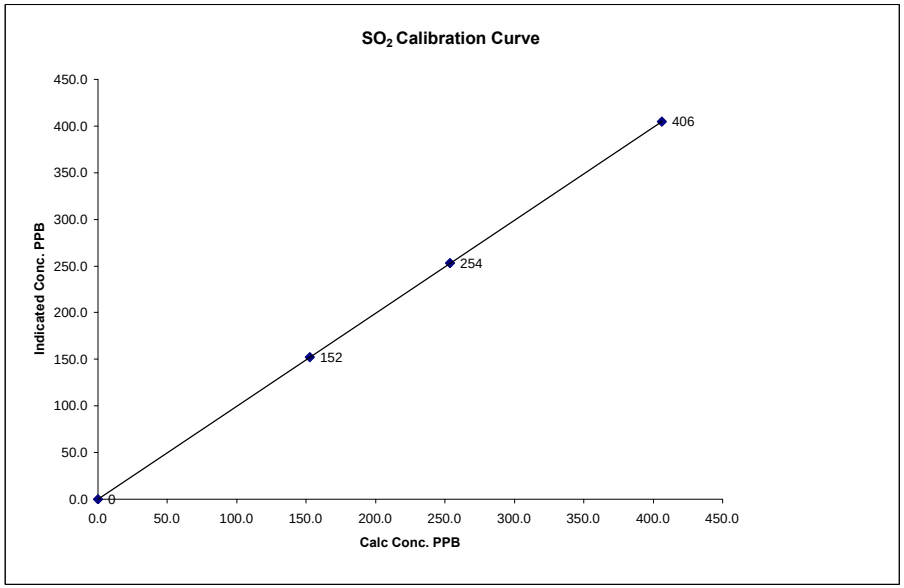
Calibration Performed by: Shea Beaton

SO_2 Calibration Curve

Calibration Date	September 4, 2008		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:05	End Time (MST)	11:10

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
152	152	1.0028
254	253	1.0027
406	405	1.0028

Correlation Coefficient	(≥ 0.995)	1.000000
Slope	(0.85 to 1.15)	0.997258
Intercept	(± 3% F.S.)	-0.001207



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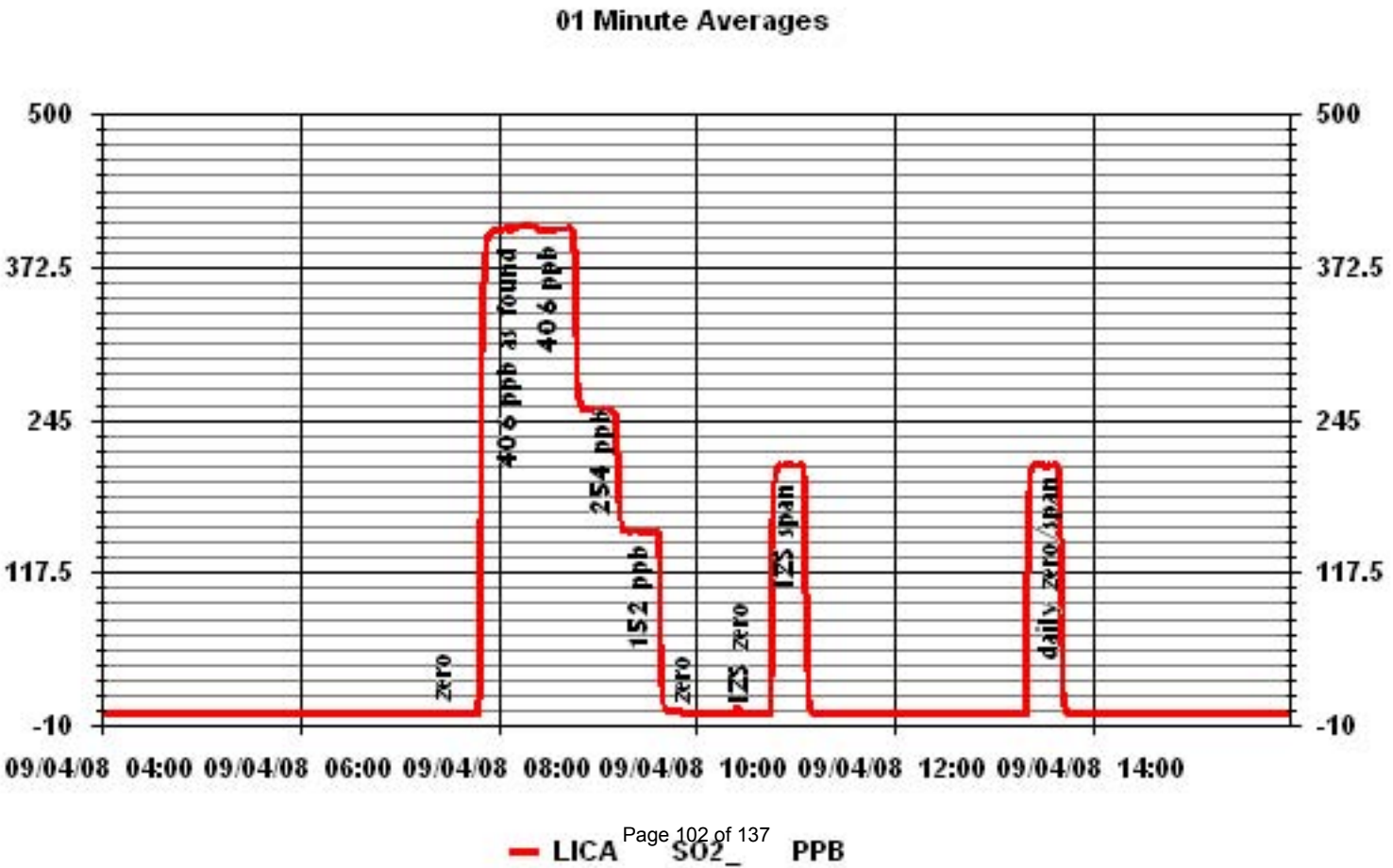

01 Minute Averages
500
372.5
245
117.5
-10
zero
406 ppb as found
406 ppb
254 ppb
152 ppb
zero
zero
125 span
125 span
daily zero/span
09/04/08 04:00
09/04/08 06:00
09/04/08 08:00
09/04/08 10:00
09/04/08 12:00
09/04/08 14:00
LICA SO2_ PPB

Total Reduced Sulphur

TRS Calibration Report

Station Information

Calibration Date	September 4, 2008	Previous Calibration	August 1, 2008
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:05	End Time (MST)	10:30
Reason:	Monthly Calibration		
Barometric Pressure	714 mm Hg	Station Temperature	24 Deg C
Cal Gas	10.6 ppm	Cal Gas Expiry date	April 3, 2009
DAS Output Voltage	0 - 10 Volts		

Equipment Information

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

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range	0 -100 ppb							
Sample Flow / Box Temp	425	ccm	OK	Deg C	425	ccm	OK	Deg C
HVPS / Lamp Setting	OK		885		OK		886	
PMT / RxCell Temp	OK	Deg C	OK	Deg C	OK	Deg C	OK	Deg C
Converter / IZS Temp	850	Deg C	OK	Deg C	850	Deg C	OK	Deg C
Offset / Slope	918		992		918		992	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	0	N/A
4962.3	37.8	80	80	1.0017
4978.8	21.2	45	45	0.9988
4988.2	11.8	25	24	1.0423
5000	0	0	0	N/A
			Sum of Least Squares	1.0037
			New Correction Factor	1.0017

	Before Calibration	After Calibration
Auto Zero	0	0
Auto Span	88	86
Sample Lines Connected		YES
Percent Change from Previous Calibration		1.3%

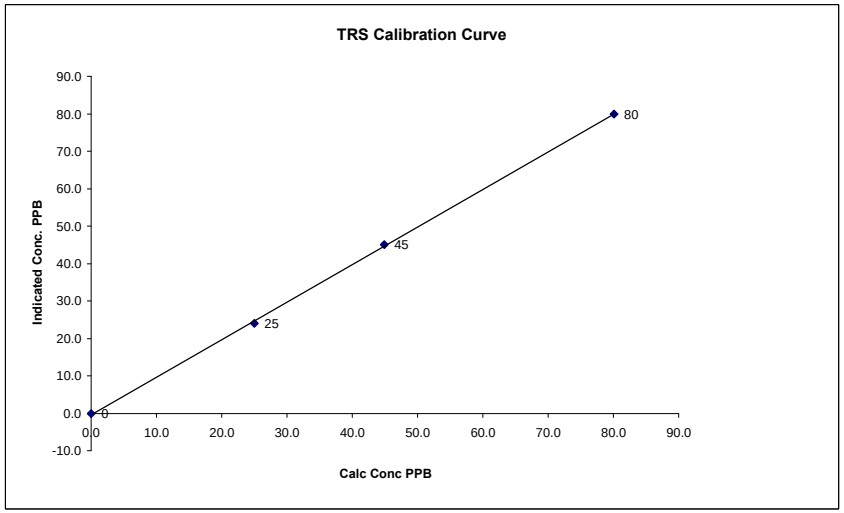
Calibration Performed by: Shea Beaton

TRS Calibration Curve

Calibration Date	September 4, 2008		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:05	End Time (MST)	10:30

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
25	24	1.0423
45	45	0.9988
80	80	1.0017

Correlation Coefficient	(≥ 0.995)	0.999786
Slope	(0.85 to 1.15)	1.002153
Intercept	(± 3% F.S.)	-0.354393



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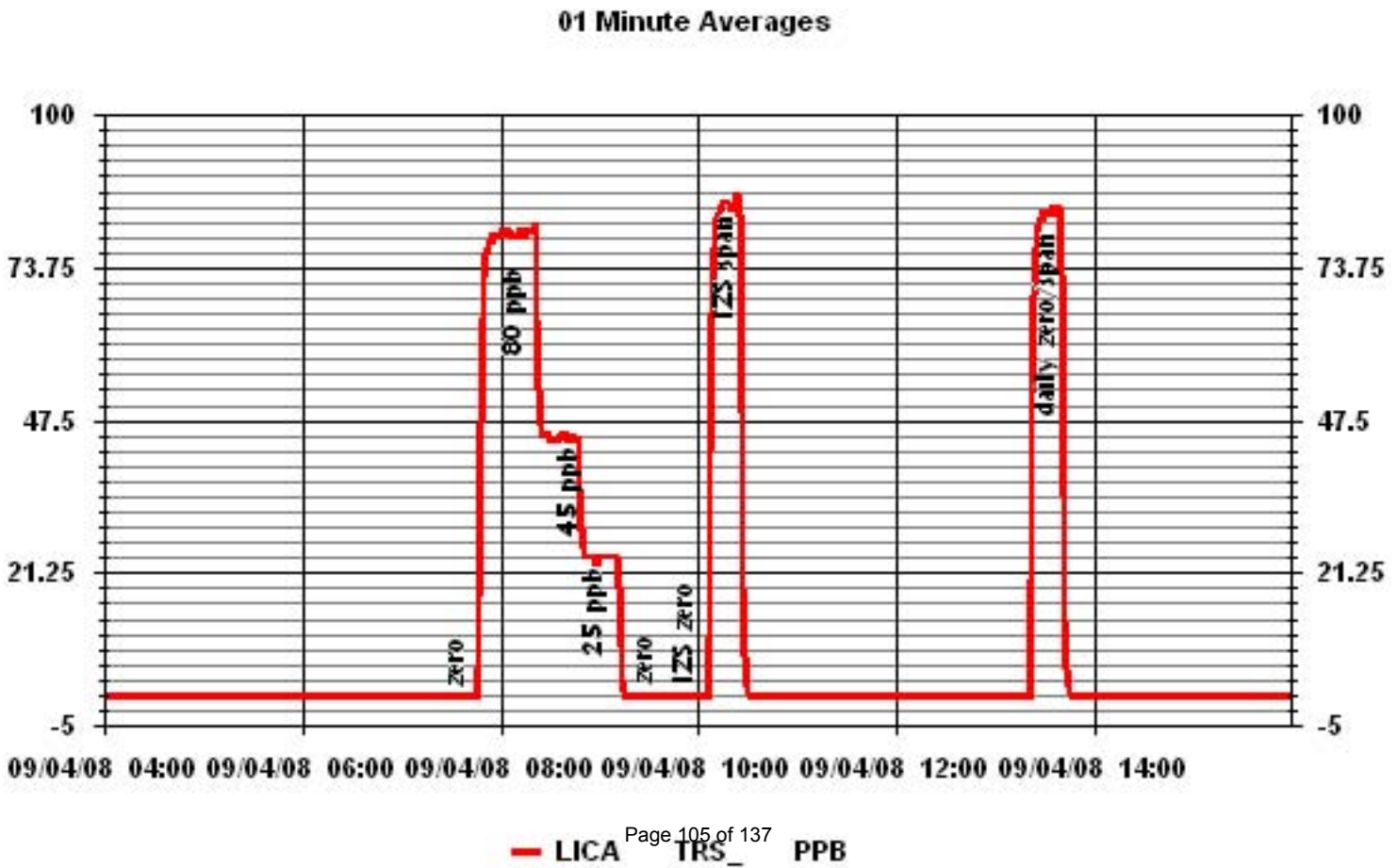

01 Minute Averages
100
73.75
47.5
21.25
-5
zero
80 ppb
45 ppb
25 ppb
zero
IZS zero
IZS span
daily zero/span
09/04/08 04:00
09/04/08 06:00
09/04/08 08:00
09/04/08 10:00
09/04/08 12:00
09/04/08 14:00
LICA TRS_ PPB

TRS Calibration Report

Station Information

Calibration Date	September 11, 2008	Previous Calibration	September 4, 2008
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	8:30	End Time (MST)	16:10
Reason:	Repair Calibration		
Barometric Pressure	708 mm Hg	Station Temperature	24 Deg C
Cal Gas	10.6 ppm	Cal Gas Expiry date	April 3, 2009
DAS Output Voltage	0 - 10 Volts		

Equipment Information

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

Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0 -100 ppb			
Sample Flow / Box Temp	425 ccm	OK Deg C	425 ccm	OK Deg C
HVPS / Lamp Setting	OK	886	OK	891
PMT / RxCell Temp	OK Deg C	OK Deg C	OK Deg C	OK Deg C
Converter / IZS Temp	850 Deg C	OK Deg C	850 Deg C	OK Deg C
Offset / Slope	918	992	981	852

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	0	N/A
4962.3	37.7	80	73	1.0948
5000	0	0	1	N/A
4962.3	37.7	80	81	0.9867
4981.1	18.9	40	39	1.0274
4990.4	9.6	20	20	1.0176
5000	0	0	1	N/A
			Sum of Least Squares	0.9957
			New Correction Factor	0.9867

	Before Calibration	After Calibration
Auto Zero	0	1
Auto Span	72	78
Sample Lines Connected		YES
Percent Change from Previous Calibration		1.5%

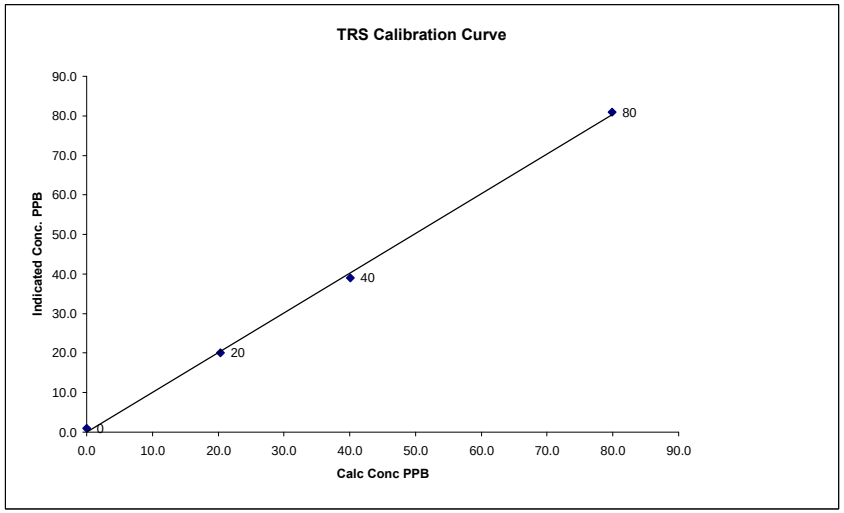
Calibration Performed by: Shea Beaton

TRS Calibration Curve

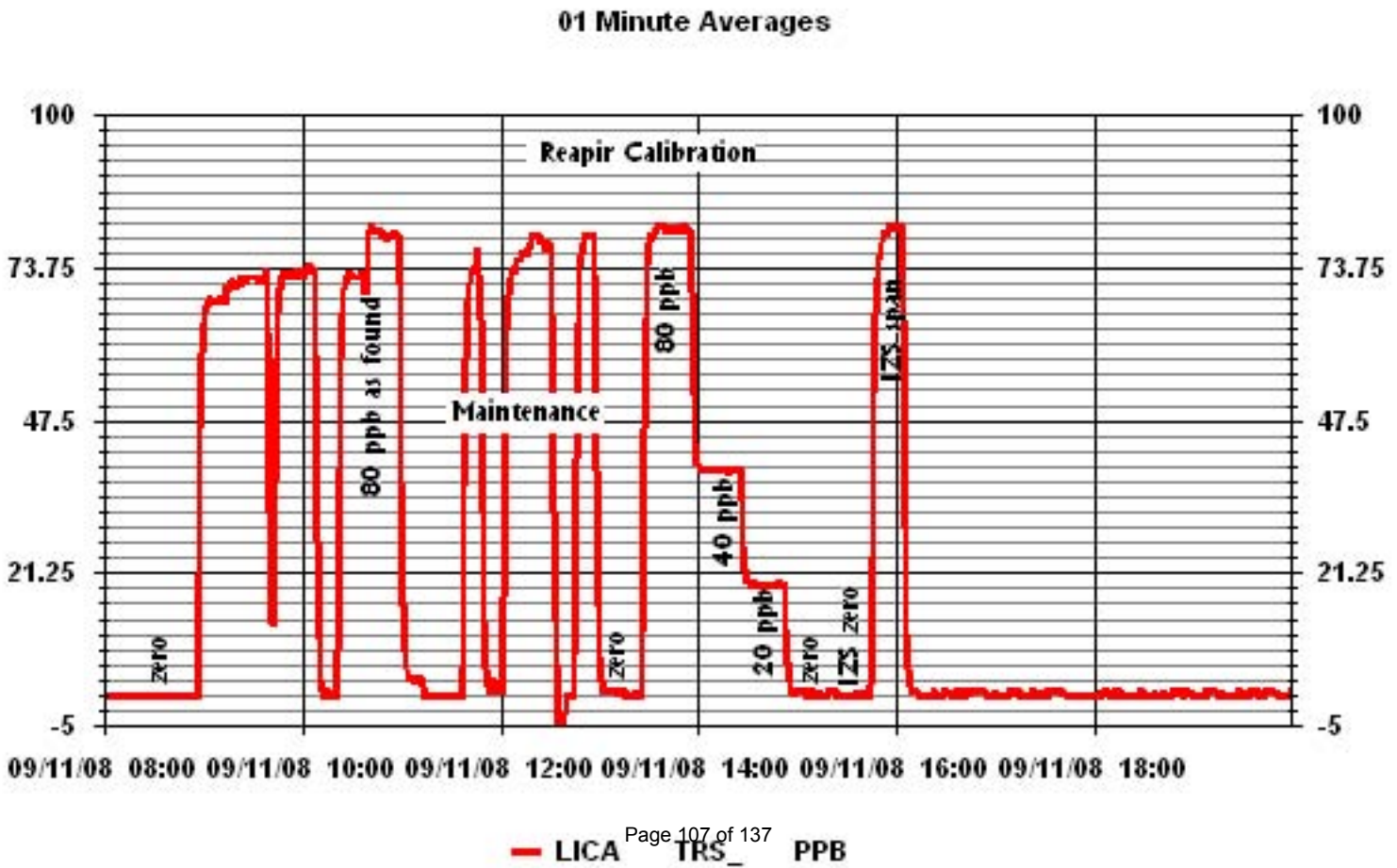
Calibration Date	September 11, 2008		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	8:30	End Time (MST)	16:10

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	1	n/a
20	20	1.0176
40	39	1.0274
80	81	0.9867

Correlation Coefficient	(≥ 0.995)	0.999070
Slope	(0.85 to 1.15)	1.003739
Intercept	(± 3% F.S.)	0.032804



Notes: Following the as found points, the flow, pump and lamp voltage were checked and a leak check was done. The lamp was changed and the PMT gain and lamp voltage were adjusted. The analyzer was then calibrated.


01 Minute Averages
100
73.75
47.5
21.25
-5
Reapir Calibration
Maintenance
zero
80 ppb as found
80 ppb
40 ppb
20 ppb
zero
IZS zero
IZS span
09/11/08 08:00
09/11/08 10:00
09/11/08 12:00
09/11/08 14:00
09/11/08 16:00
09/11/08 18:00
LICA TRS_ PPB

TRS Calibration Report

Station Information

Calibration Date	September 15, 2008	Previous Calibration	September 11, 2008
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	6:55	End Time (MST)	9:25
Reason:		Removal Calibration	
Barometric Pressure	708 mm Hg	Station Temperature	24 Deg C
Cal Gas	10.6 ppm	Cal Gas Expiry date	April 3, 2009
DAS Output Voltage	0 - 10 Volts		

Equipment Information

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

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range	0 -100 ppb							
Sample Flow / Box Temp	425	ccm	OK	Deg C	425	ccm	OK	Deg C
HVPS / Lamp Setting	OK		886		OK		888	
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	981		852		981		852	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	1	N/A
4962.3	37.7	80	75	1.0657
4981.1	18.9	40	35	1.1448
4962.3	9.6	20	17	1.2039
4981.1	0	0	1	N/A
			Sum of Least Squares	1.0862
			New Correction Factor	1.0657

	Before Calibration	After Calibration
Auto Zero	1	-
Auto Span	69	-
Sample Lines Connected		YES
Percent Change from Previous Calibration		-7.4%

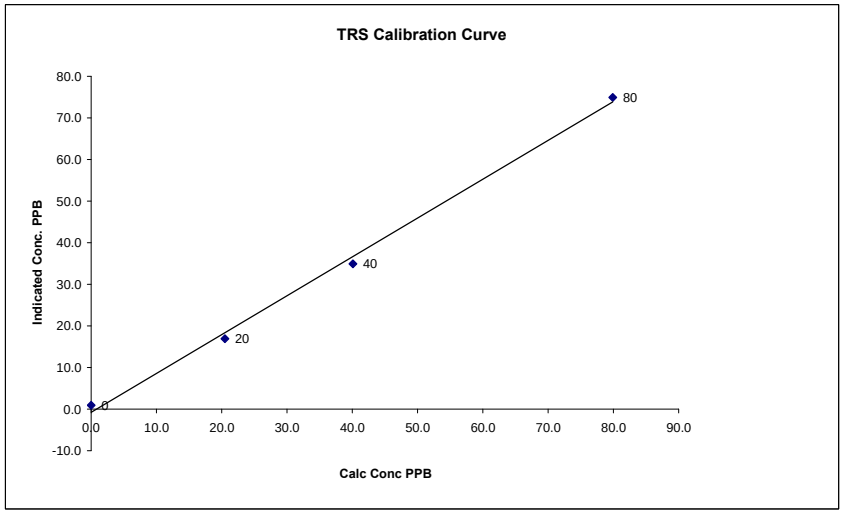
Calibration Performed by: Shea Beaton

TRS Calibration Curve

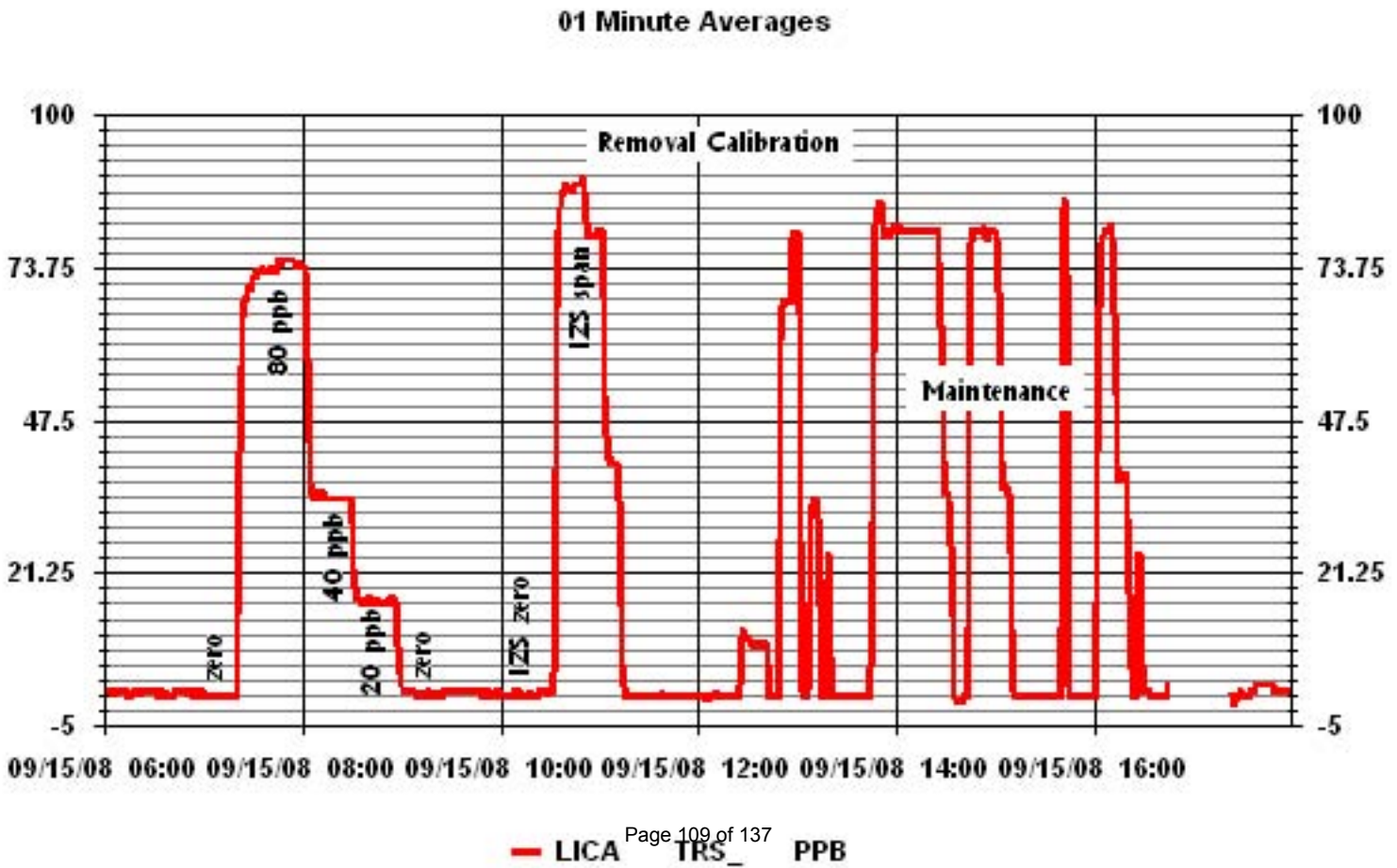
Calibration Date	September 15, 2008		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	6:55	End Time (MST)	9:25

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	1	n/a
20	17	1.2039
40	35	1.1448
80	75	1.0657

Correlation Coefficient	(≥ 0.995)	0.997065
Slope	(0.85 to 1.15)	0.933887
Intercept	(± 3% F.S.)	-0.793205



Notes:


01 Minute Averages
Removal Calibration
Maintenance
zero
80 ppb
40 ppb
20 ppb
zero
IZS zero
IZS span
100
73.75
47.5
21.25
-5
09/15/08 06:00
09/15/08 08:00
09/15/08 10:00
09/15/08 12:00
09/15/08 14:00
09/15/08 16:00
LICA TRS_ PPB

TRS Calibration Report

Station Information

Calibration Date	September 15, 2008	Previous Calibration	September 11, 2008
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	13:45	End Time (MST)	16:40
Reason:		Installation Calibration	
Barometric Pressure	708 mm Hg	Station Temperature	24 Deg C
Cal Gas	10.6 ppm	Cal Gas Expiry date	April 3, 2009
DAS Output Voltage	0 - 10 Volts		

Equipment Information

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

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range	0 -100 ppb							
Sample Flow / Box Temp	425	ccm	OK	Deg C	425	ccm	OK	Deg C
HVPS / Lamp Setting	OK		886		OK		886	
PMT / RxCell Temp	OK	Deg C	OK	Deg C	OK	Deg C	OK	Deg C
Converter / IZS Temp	850	Deg C	OK	Deg C	850	Deg C	OK	Deg C
Offset / Slope	981		852		951		803	

Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	0	N/A
4962.2	37.8	80	80	1.0017
4978.8	21.2	45	44	1.0215
4988.2	11.8	25	24	1.0423
5000	0	0	0	N/A
			Sum of Least Squares	1.0088
			New Correction Factor	1.0017

	Before Calibration	After Calibration
Auto Zero	-	0
Auto Span	-	79
Sample Lines Connected		YES
Percent Change from Previous Calibration		-

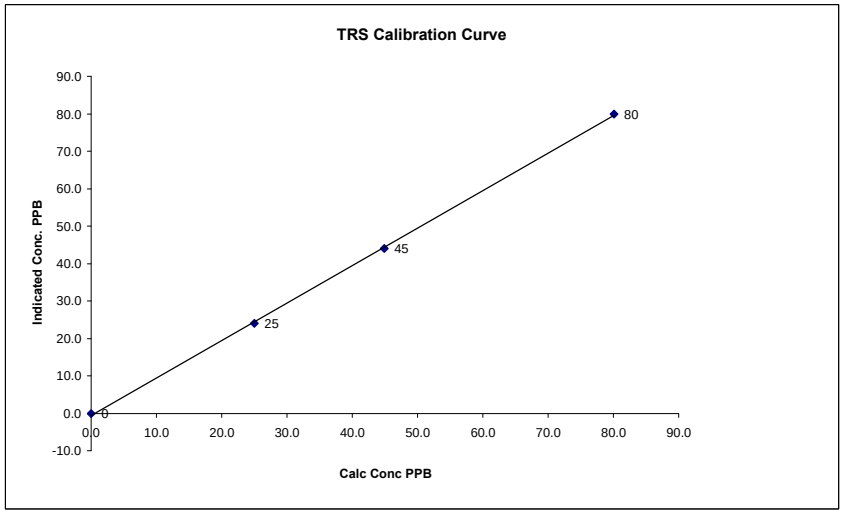
Calibration Performed by: Shea Beaton

TRS Calibration Curve

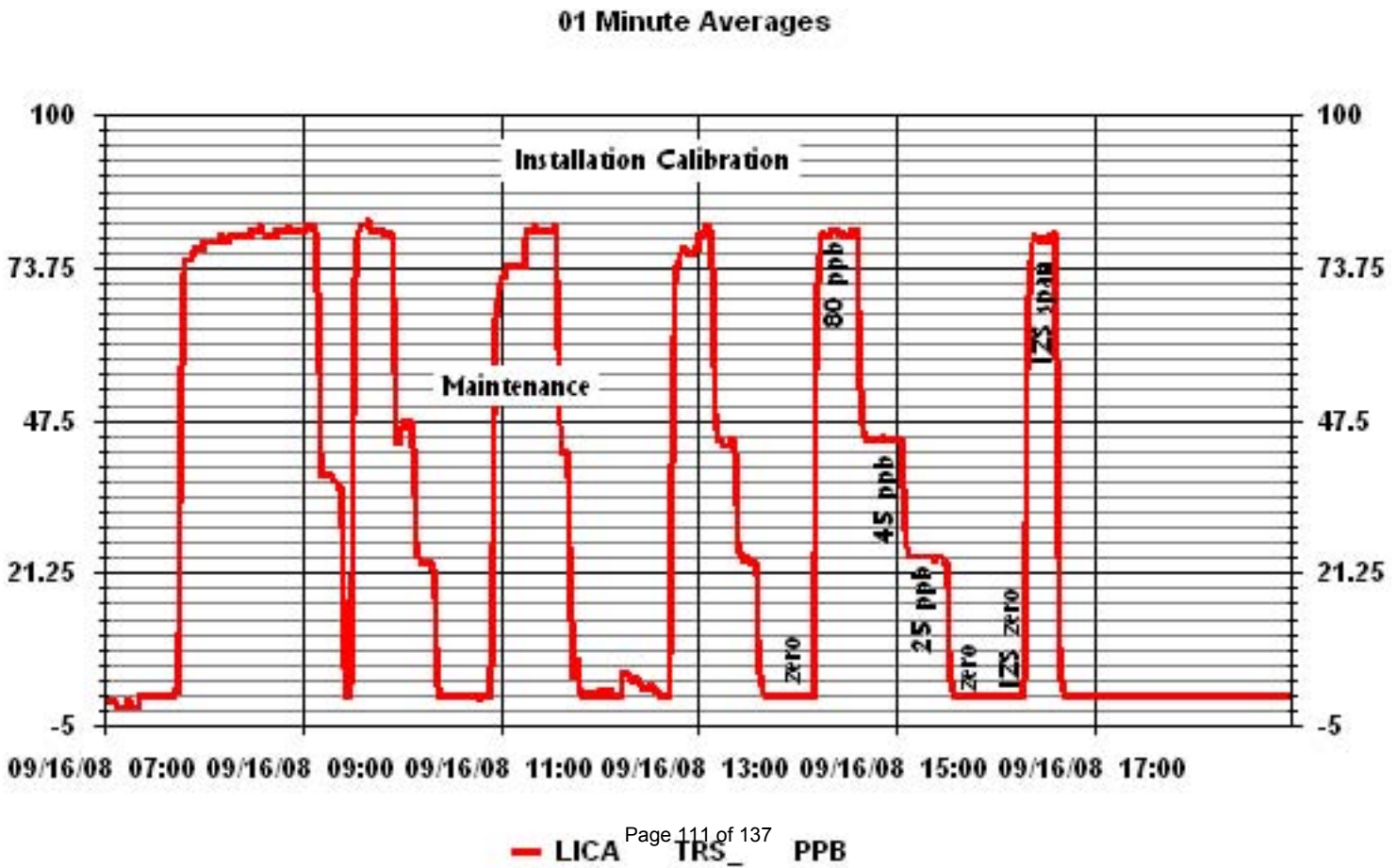
Calibration Date	September 15, 2008		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	13:45	End Time (MST)	16:40

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
25	24	1.0423
45	44	1.0215
80	80	1.0017

Correlation Coefficient	(≥ 0.995)	0.999754
Slope	(0.85 to 1.15)	0.999973
Intercept	(± 3% F.S.)	-0.523000



Notes:


01 Minute Averages
100
73.75
47.5
21.25
-5
Installation Calibration
Maintenance
zero
80 ppb
45 ppb
25 ppb
zero
LZS zero
LZS span
09/16/08 07:00
09/16/08 09:00
09/16/08 11:00
09/16/08 13:00
09/16/08 15:00
09/16/08 17:00
LICA TRS_ PPB

Total Hydrocarbons

THC Calibration Report

Station Information

Calibration Date:	September 4, 2008	Previous Calibration	August 25, 2008
Company:	**Lakeland Industry and Community Association**		
Plant / Location:	**LICA1/Cold Lake**		
Start Time (MST)	9:45	End Time (MST)	13:20
Reason:	Repaired Calibration		
Barometric Pressure:	714 mmHg	Station Temperature:	24 Deg C
Calibrator:	API 700	S/N:	831
Cal Gas Concentration:	1000 ppm	Cal Gas Expiry Date:	2/22/2011
DAS make & Model:	ESC 8832	S/N :	263
Output Voltage Range:	0 - 10 VDC		

Analyzer Information

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

Analyzer Settings

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

Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
2000	0	0.0	0.0	N/A
2000	80.0	38.5	38.9	0.9887
2000	80.0	38.5	38.5	0.9990
2000	40.0	19.6	19.6	1.0004
2000	20.0	9.9	9.8	1.0103
2000	0	0.0	0.0	N/A
			Correction Factor:	0.9990

Percent Change

Previous Calibration Correction Factor:	1.0143
Current Correction Factor Before Span Adjust:	0.9990
Percent Change:	1.5%

IZS Calibration Data

	Before Calibration	After Calibration
Auto Zero	0.0	0.0
Auto Span	31.1	30.6
Sample Lines Connected		**YES**

Cylinder Pressures			
Span	400	psi	
Hydrogen	700	psi	
Zero Air	unlimited	psi	Maxxam-owned API 701 zero air supply with catalytic oxidizer

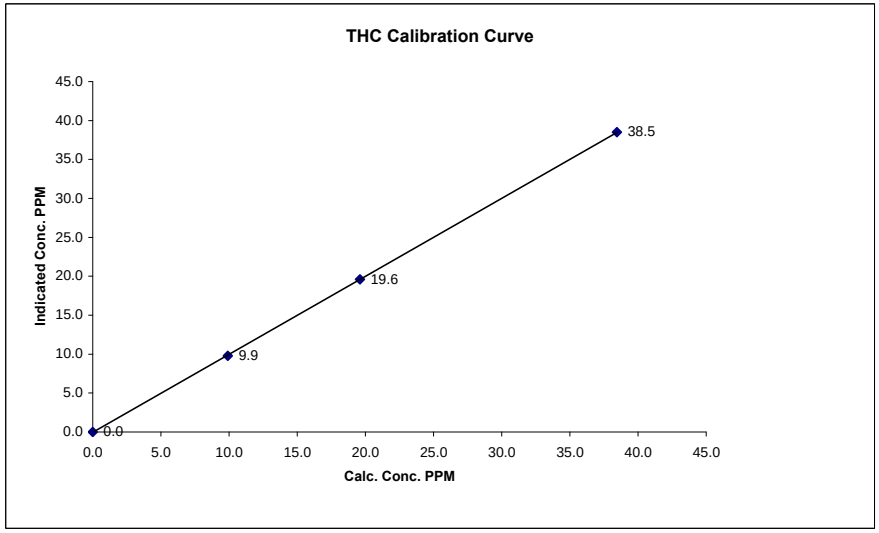
Calibration Performed by: Shea Beaton

THC Calibration Curve

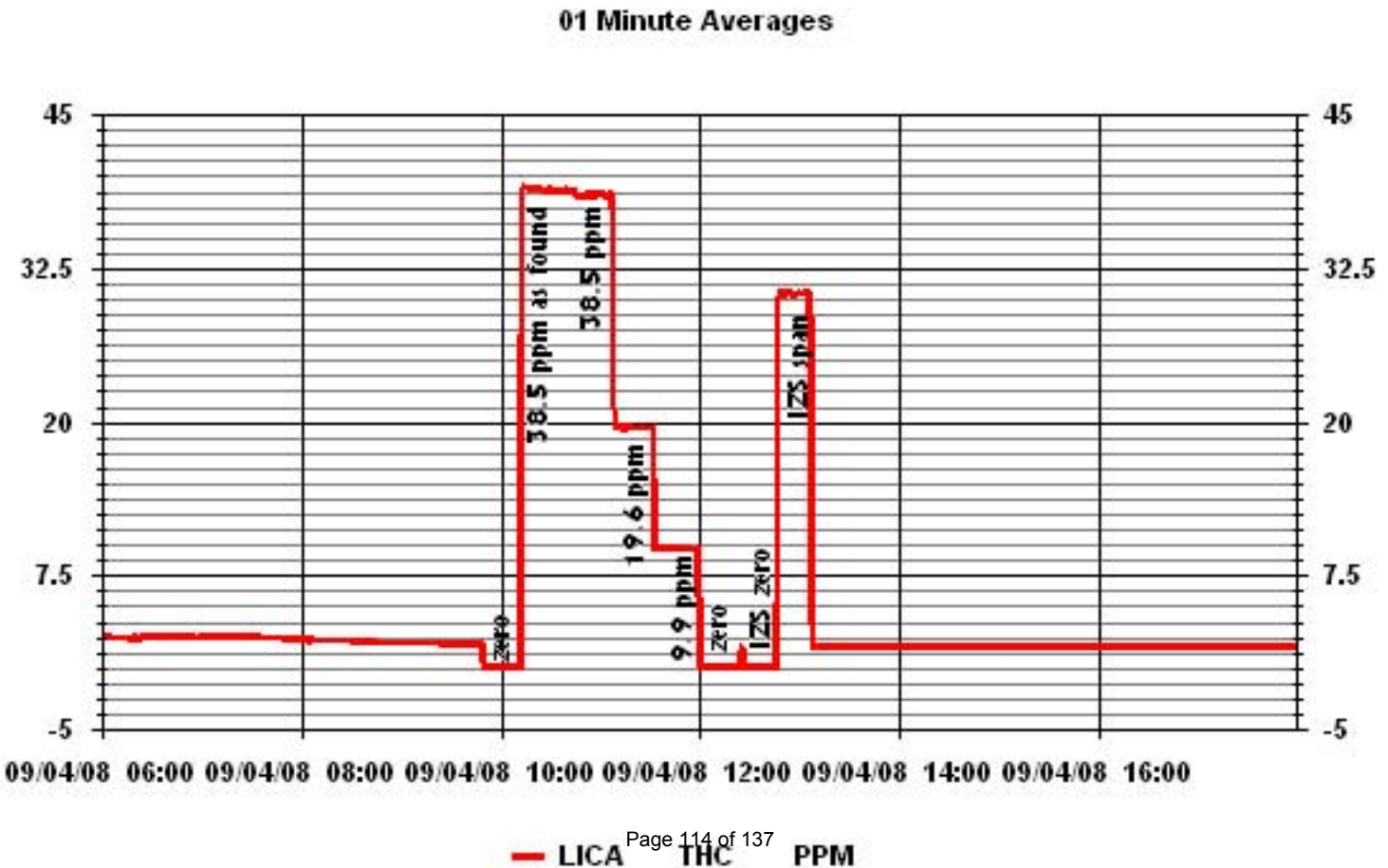
Calibration Date	September 4, 2008		
Company	**Lakeland Industry and Community Association**		
Plant / Location	**LICA1/Cold Lake**		
Start Time (MST)	9:45	End Time (MST)	13:20

Calculated Conc. ppm	Indicated Response ppm	Correction Factor
0.0	0.0	
9.9	9.8	1.0103
19.6	19.6	1.0004
38.5	38.5	0.9990

Correlation Coefficient	(≥ 0.995)	0.999991
Slope	(0.85 to 1.15)	1.001886
Intercept	(± 3% F.S.)	-0.049636



Notes:


01 Minute Averages
45
32.5
20
7.5
-5
zero
38.5 ppm as found
38.5 ppm
19.6 ppm
9.9 ppm
zero
IZS zero
IZS span
09/04/08 06:00
09/04/08 08:00
09/04/08 10:00
09/04/08 12:00
09/04/08 14:00
09/04/08 16:00
LICA THC PPM

Particulate Matter 2.5

TEOM® Calibration

Station		Transfer Standard	
Date:	September 4, 2008	Make/Model:	Bios DC-2
Station Name:	LICA 1	Serial Number:	1193
Location:	Cold Lake - South	Cell s/n:	2272
Operator:	LICA	Thermometer s/n:	2178

Sampler		Set-up and current Sampler readings	
Make/Model	R & P Series 1400 a TEOM	F-Main Set Pt (l/min)	3.00
Unit #	AMU 1494	F-Aux Set Pt (l/min)	13.67
Control unit s/n	140AB229030002	Filter Load (%)	20%
Transducer s/n	140AB229030002	K_o Factor	11095
Parameter	PM 2.5	Temp (^oC)	15.1
		Press (ATM)	0.940

Note: Tolerances are noted as BOLD in Brackets

Calibration

Zero flow

	Pump Off		Pump On (Time to reach set points)	
F-Main (l/min)	0.11		**(45-60 Sec)**	39
F-Aux (l/min)	0.09		**(45-60 Sec)**	47

Temperature/Pressure

Measured Temp **(± 1 ^oC)**	15.4	**Δ ^oC**	0.3
Measured Press **(± 1.5% ATM)**	0.940	**Δ % ATM**	0.0%

Flow Audit

			Δ % from Set-pt
Indicated Main/Aux Flow (l/min)	2.99 / 13.63	**(± 2%)**	0.3% / 0.3%
Total Flow = Main + Aux (l/min)	16.62	**(± 2%)**	0.3%
Measured Total Flow (l/min)	17.15	**(± 1.0 l/min. (5.65%))**	-3.1%
Measured Main Flow (l/min)	3.12	**(± 0.2 l/min. (6.25%))**	-4.2%

Leak Check

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

K_o Factor

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

Start Time: 12:30 **Finish Time:** 16:10

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

Comments: Changed flow adjust factors in order to bring actual flows closer to expected. Main F-adj is now 0.640, main flow is now 3.00. Aux F-adj is now 0.972, and total flow is now 16.62.

Calibrator/s: Shea Beaton

Nitrogen Dioxide

NOx - NO- NO_2 Calibration Report

Station Information

Calibration Date	September 4, 2008	Previous Calibration	August 25, 2008
Company	**Lakeland Ind & Comm. Assoc.**	Plant/Location	**LICA 1 - Cold Lake South**
Start Time (MST)	7:05	End Time (MST)	14:05
Reason:	Re-Calibration		
Barometric Pressure	714 mmHg	Station Temperature	24.0 Deg C
Cal Gas Concentration	NOx 52 ppm NO 51.5 ppm	Cal Gas Expiry date	March 12, 2010
DAS Output Voltage	0 - 5 Volts		

Equipment Information

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

Analyzer Settings

	Before Calibration				After Calibration			
Concentration Range			0 - 500	ppb				
Sample Flow/Conv. Temp	752	ccm	318	Deg C	750	ccm	317	Deg C
Ozone Flow / Vacuum	OK	ccm	166.2	"Hg-A	OK	ccm	165	"Hg-A
HVPS	-821		Volts		-821		Volts	
Rx/ Temp / PMT Temp	49.8	Deg C	-2.4	Deg C	49.5	Deg C	-2.5	Deg C
Box Temp / IZS Temp	28.2	Deg C	OK	Deg C	28.7	Deg C	OK	Deg C
Offset	3.3	NOx	3.1	NO	3.3	NOx	3.1	NO
Slope	1.011	NOx	0.831	NO	1.011	NOx	0.831	NO

Gas Phase Titration Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O3 Set Point	Calculated Concentration		Indicated Concentration			Correction Factor	
			NOx	NO	NOx	NO	NO2	NOx	NO
5000	0	N/A	0	0	0	0	0	N/A	N/A
4961	38.9	N/A	405	401	412	408	4	0.9819	0.9820
4961	38.9	N/A	405	401	404	401	4	1.0014	0.9992
4976	24.3	N/A	253	250	253	250	2	0.9989	1.0012
4985	14.6	N/A	152	150	152	151	1	0.9989	0.9959
5000	0	N/A	0	0	0	0	0	N/A	N/A
								Converter Efficiency	
4961	38.9	N/A	405	401	405	401	5	N/A	
4961	38.9	300	405	N/A	402	124	278	99%	
4961	38.9	200	405	N/A	403	205	199	99%	
4961	38.9	100	405	N/A	404	302	102	98%	
4961	38.9	N/A	405	401	405	401	4	N/A	
			1					Correction Factor	
5000	N/A	N/A	0	0	1	0	0	N/A	N/A
Linearity OK?			**Yes**	No	Sum of Least Squares			1.0005	0.9994
Flows Checked on-site?			Yes	**No**	New Correction Factor			1.0014	0.9992
					Average Converter Efficiency			99%	

	Before Calibration				After Calibration			
Auto Zero	1	NOx	1	NO2	1	NOx	1	NO2
Auto Span	266	NOx	265	NO2	260	NOx	258	NO2
Sample Lines Connected							**YES**	
Percent Change from Previous Calibration					*NOx*	-0.2%	*NO*	0.0%

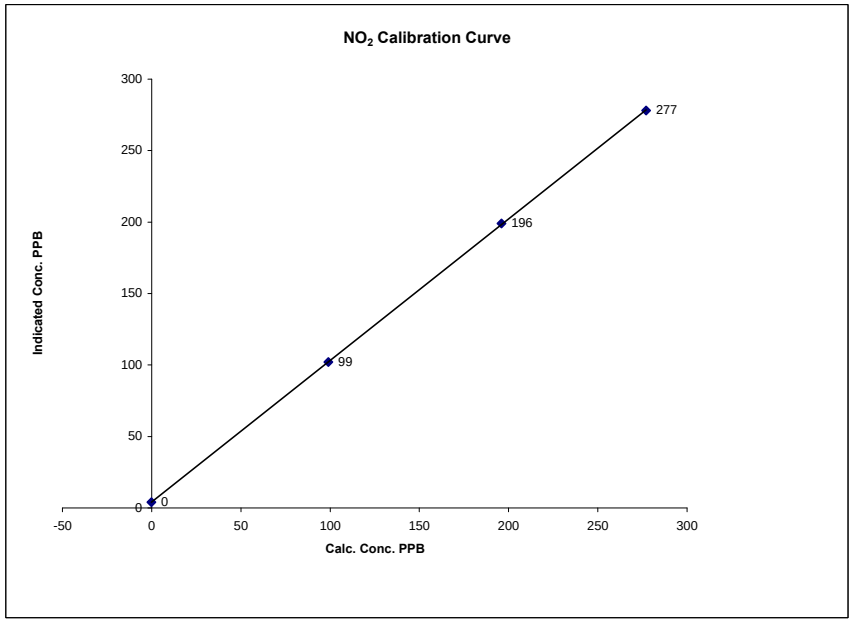
Calibration Performed by: Shea Beaton

NO_2 Calibration Curve

Calibration Date	September 4, 2008		
Company	**Lakeland Ind & Comm. Assoc.**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:05	End Time (MST)	14:05

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	4	N/A
99	102	0.9706
196	199	0.9849
277	278	0.9964

Correlation Coefficient	(≥ 0.995)	0.999981
Slope	(0.85 to 1.15)	0.990147
Intercept	(± 3% F.S.)	4.183712



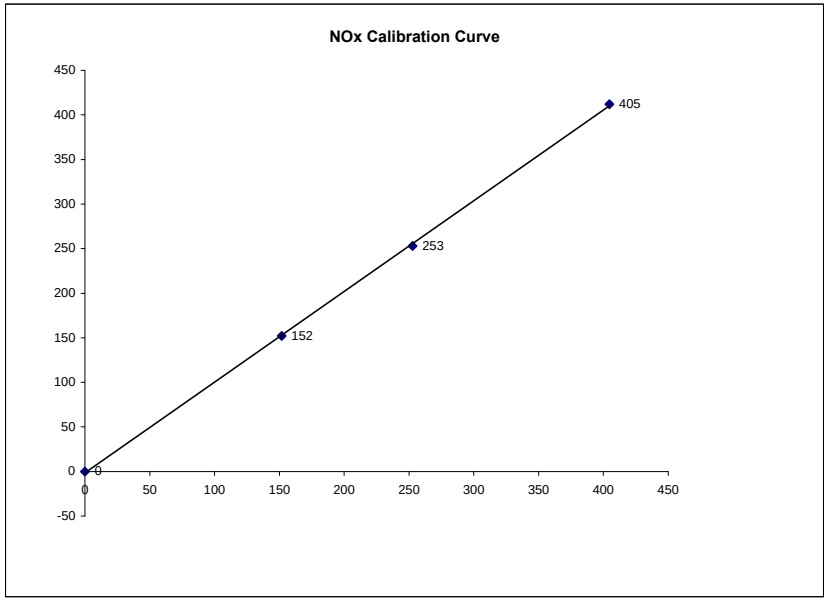
Notes:

NOx Calibration Curve

Calibration Date	September 4, 2008		
Company	**Lakeland Ind & Comm. Assoc.**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:05	End Time (MST)	14:05

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	N/A
152	152	0.9989
253	253	0.9989
405	412	0.9819

Correlation Coefficient	(≥ 0.995)	0.999848
Slope	(0.85 to 1.15)	1.017383
Intercept	(± 3% F.S.)	-1.546320

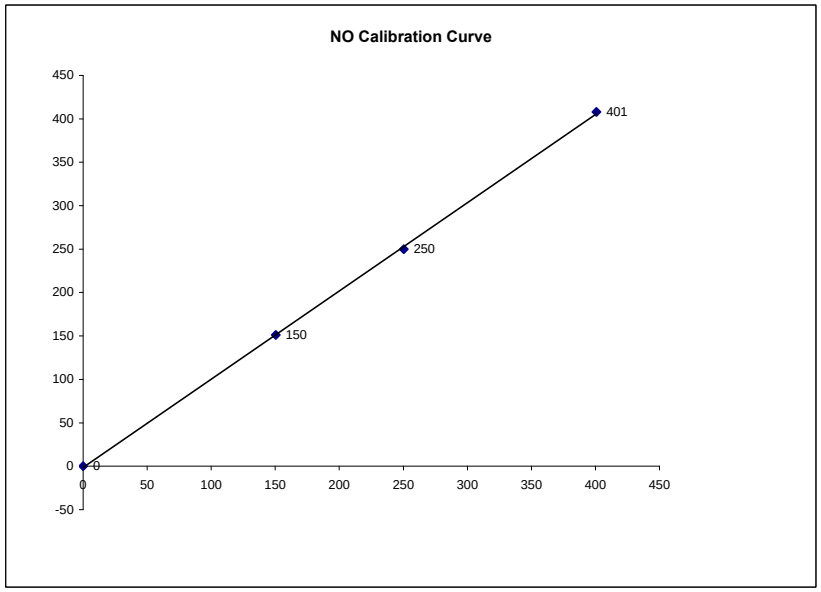


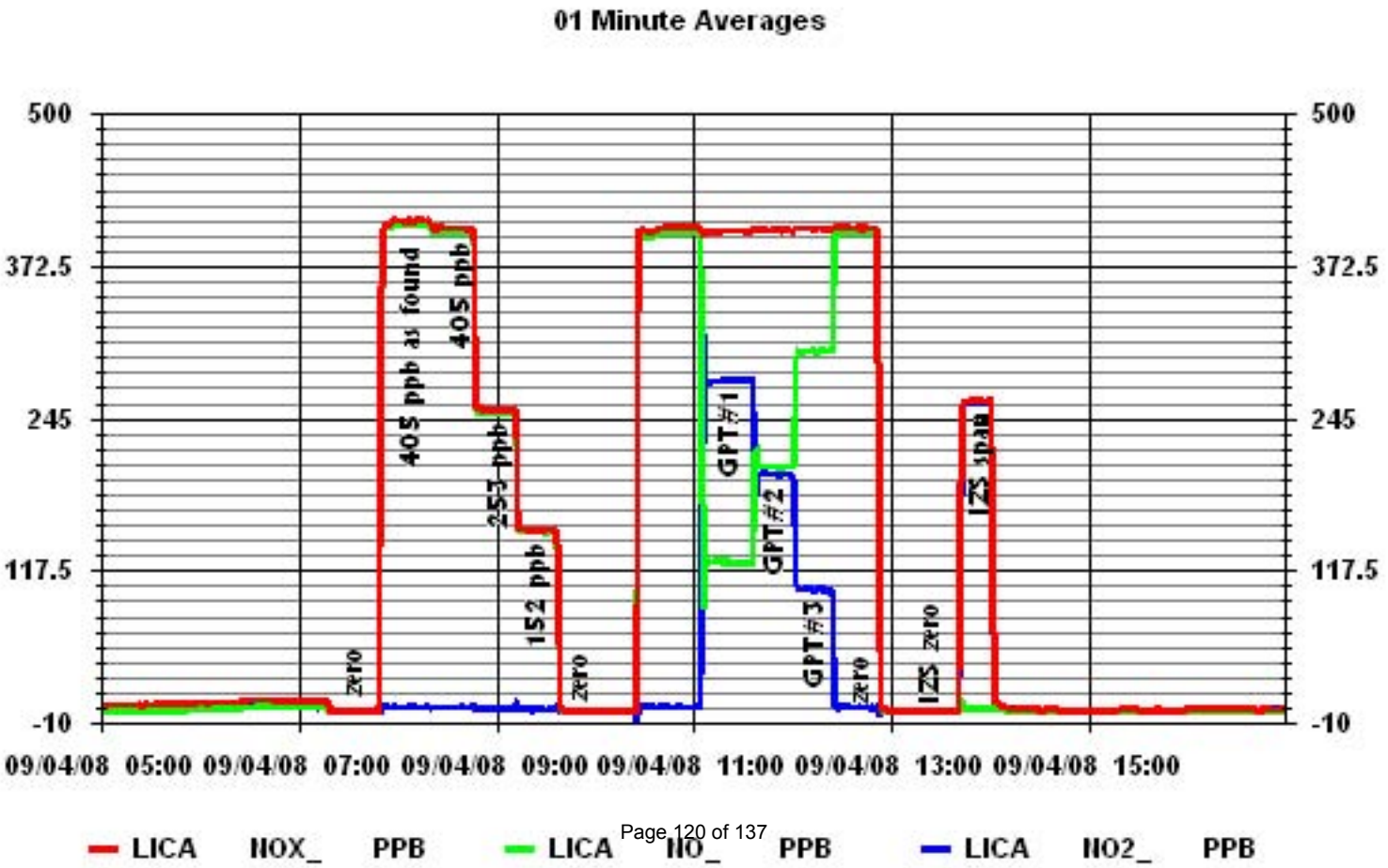
NO Calibration Curve

Calibration Date	September 4, 2008		
Company	**Lakeland Ind & Comm. Assoc.**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	7:05	End Time (MST)	14:05

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	N/A
150	151	0.9959
250	250	1.0012
401	408	0.9820

Correlation Coefficient	(≥ 0.995)	0.999821
Slope	(0.85 to 1.15)	1.016690
Intercept	(± 3% F.S.)	-1.428638




01 Minute Averages
500
372.5
245
117.5
-10
zero
405 ppb as found
405 ppb
253 ppb
152 ppb
zero
GPT#1
GPT#2
GPT#3
zero
IZS zero
IZS span
09/04/08 05:00
09/04/08 07:00
09/04/08 09:00
09/04/08 11:00
09/04/08 13:00
09/04/08 15:00
LICA NOX_ PPB
LICA NO_ PPB
LICA NO2_ PPB

Ozone

O_3 Calibration Report

Station Information

Calibration Date	September 4, 2008	Previous Calibration	August 1, 2008
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	13:20	End Time (MST)	17:10
Reason:		Monthly Calibration	
Barometric Pressure	714 mm Hg	Station Temperature	24 Deg C
DAS Output Voltage	0 - 10 Volts		

Equipment Information

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

Analyzer Settings

	Before Calibration		After Calibration	
Concentration Range	0 - 500 ppb			
Bench Temp/ Pressure	28.4	Deg C	29.2	Deg C
O_3 Set Level	29%		29%	
Bench Lamp/O3 Lamp				
Sample Flow A/B	0.742 LPM	0.756 LPM	0.743 LPM	0.755 LPM
Offset / Slope	0.7	1.046	0.7	1.046

Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
5000	0	0	0	N/A
5000	400	393	393	1.0000
5000	200	196	198	0.9899
5000	100	94	97	0.9691
5000	0	0	0	N/A
			Sum of Least Squares	N/A
			New Correction Factor	1.0000

	Before Calibration	After Calibration
Auto Zero	0	0
Auto Span	284	283
Sample Lines Connected		YES
Percent Change from Previous Calibration		-1.0%

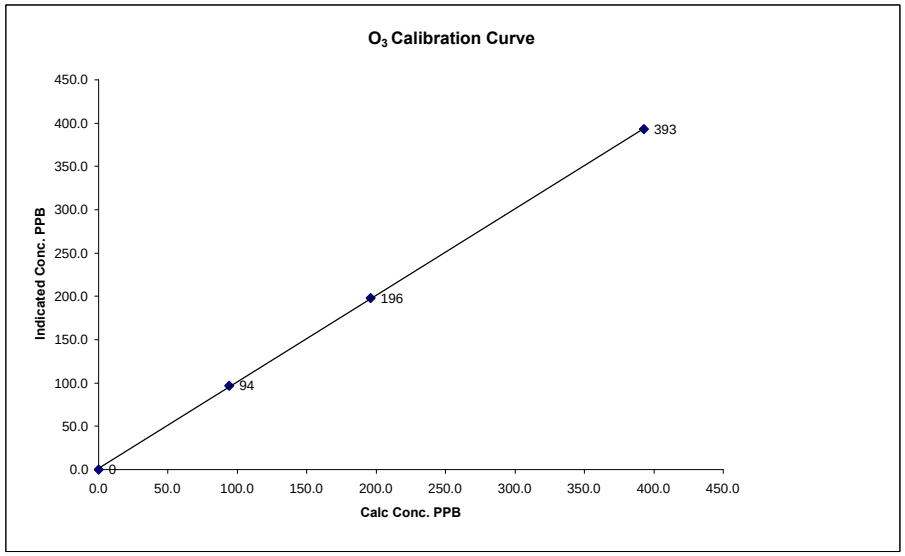
Calibration Performed by: Shea Beaton

O_3 Calibration Curve

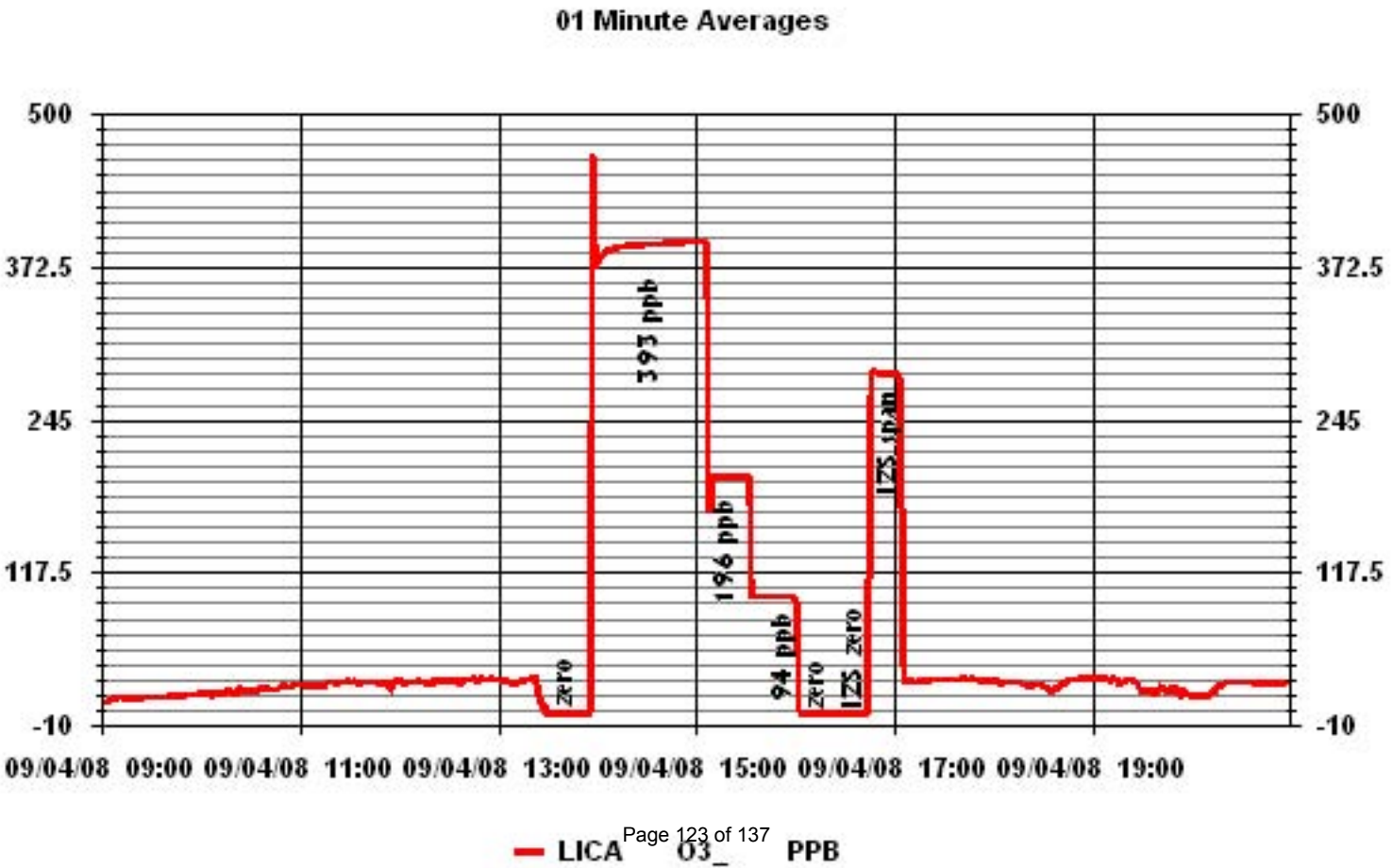
Calibration Date	September 4, 2008		
Company	**Lakeland Industry & Community Association**		
Plant / Location	**LICA 1 - Cold Lake South**		
Start Time (MST)	13:20	End Time (MST)	17:10

Calculated Conc. ppb	Indicated Response ppb	Correction Factor
0	0	n/a
94	97	0.9691
196	198	0.9899
393	393	1.0000

Correlation Coefficient	(≥ 0.995)	0.999925
Slope	(0.85 to 1.15)	0.997887
Intercept	(± 3% F.S.)	1.610752



Notes: pressure =706.8 mmHg , Bench Lamp = 53.6, O3 Lamp = 67.6
During the as found span, the wrong ozone concentration was sent to the analyzer, problem fixed.


01 Minute Averages
500
372.5
245
117.5
-10
zero
393 ppb
196 ppb
94 ppb
zero
IZS zero
IZS span
09/04/08 09:00
09/04/08 11:00
09/04/08 13:00
09/04/08 15:00
09/04/08 17:00
09/04/08 19:00
LICA O3_ PPB

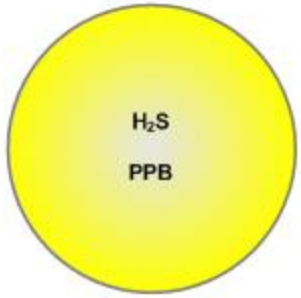
Passive Bubble Maps

Lakeland Industry & Community Association
H_2S Passive Bubble Map

SEPTEMBER 2008

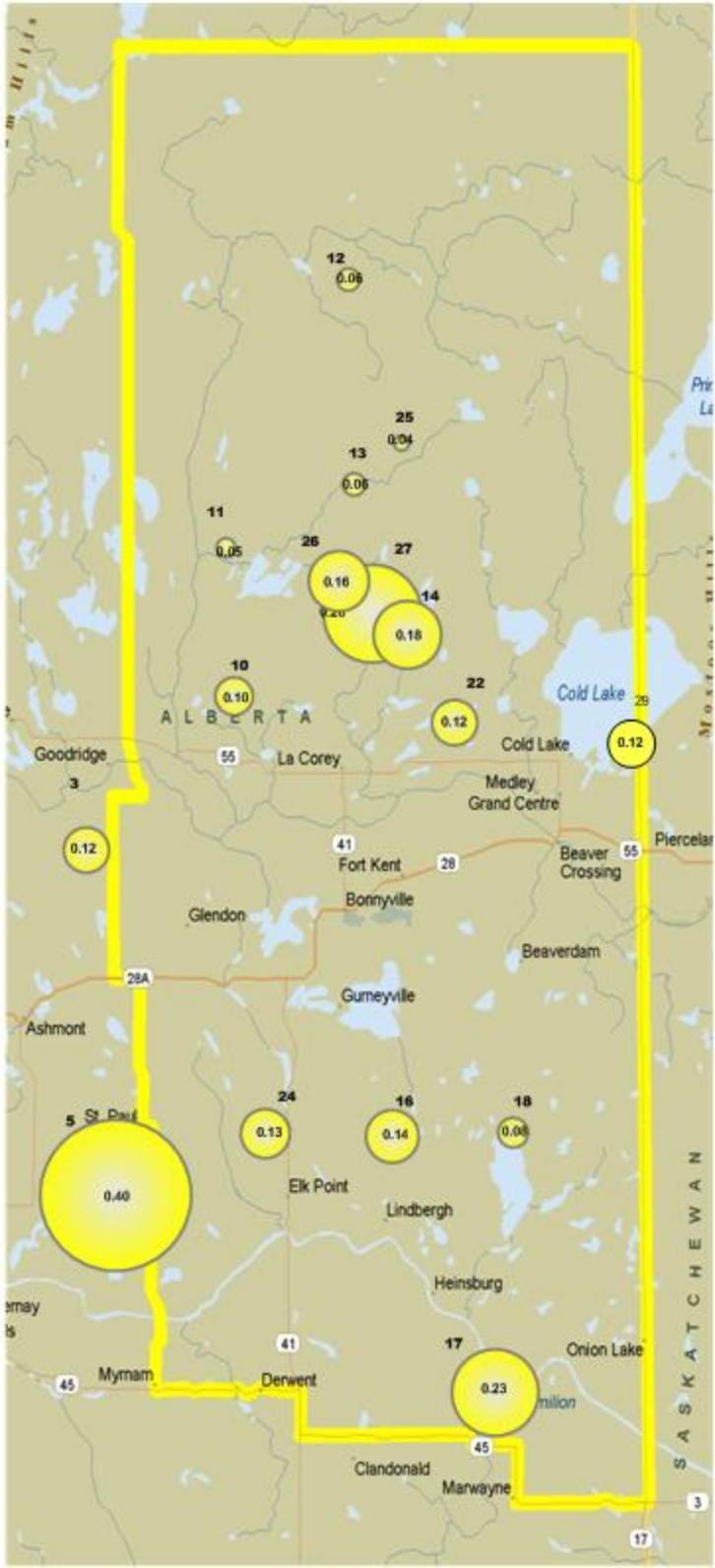
PASSIVE STATIONS

3 – Therien	0.12 PPB
5 – Lake Eliza	0.40 PPB
10 – La Corey	0.10 PPB
11 – Wolf Lake	0.05 PPB
12 – Foster Creek	0.06 PPB
13 – Primrose	0.06 PPB
14 – Maskwa	0.18 PPB
16 – Frog Lake	0.14 PPB
17 – Clear Range	0.21 PPB
17A – Clear Range	0.24 PPB
18 – Fishing Lake	0.08 PPB
22 – Cold Lake South	0.12 PPB
24 – Fort George	0.14 PPB
24A – Fort George	0.14 PPB
25 – Burnt Lake	0.04 PPB
26 – Mahihkan	0.16 PPB
27 – Hilda Lake	0.26 PPB
29 – Cold Lake South 2	0.12 PPB



Summary

Minimum : 0.04PPB – Burnt Lake
Maximum: 0.40 PPB –Lake Eliza
Average: 0.15 PPB *Includes Duplicates

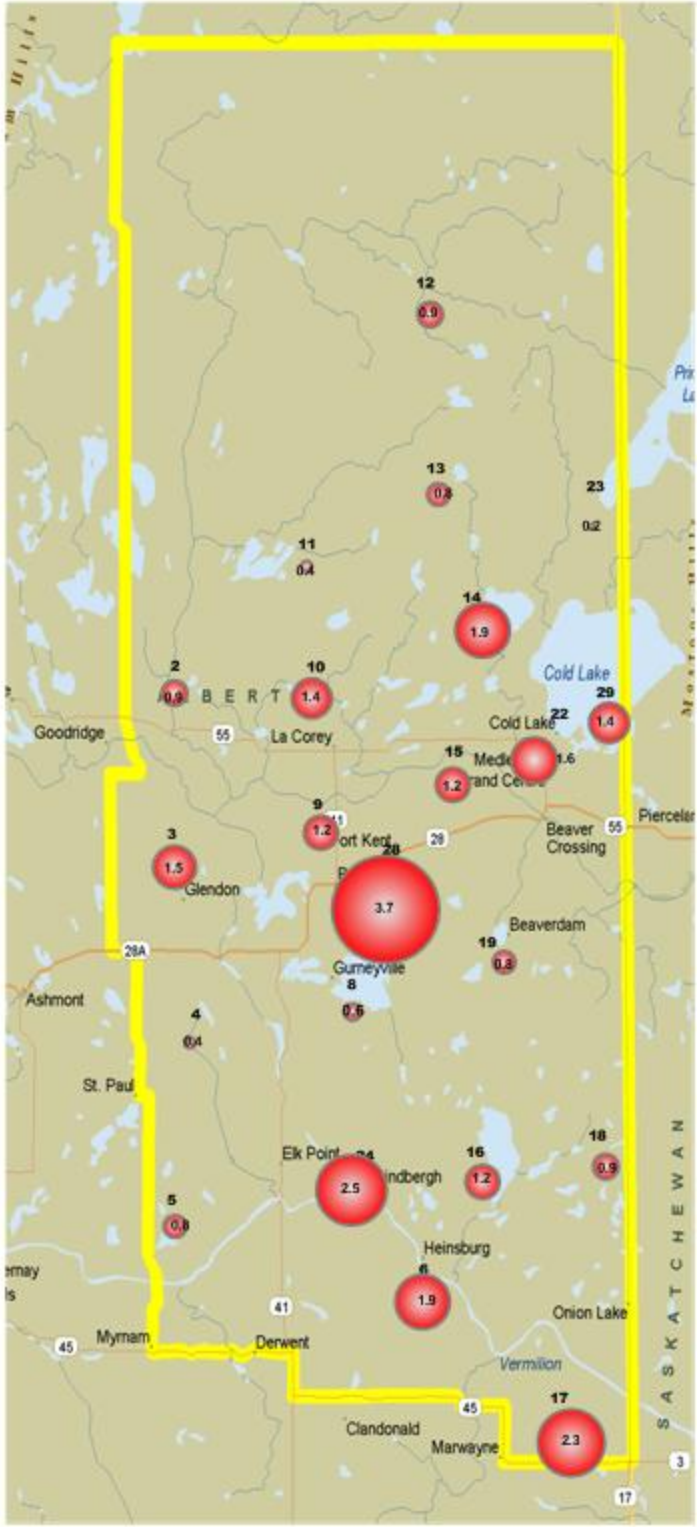


Lakeland Industry & Community Association
NO_2 Passive Bubble Map

SEPTEMBER 2008

PASSIVE STATIONS

2 – Sand River	0.9 PPB
3 – Therien	1.5 PPB
4 – Flat Lake	0.4 PPB
5 – Lake Eliza	0.8 PPB
6 – Telegraph Creek	1.9 PPB
8 – Muriel-Kehewin	0.6 PPB
9 – Dupre	1.2 PPB
10 – La Corey	1.4 PPB
11 – Wolf Lake	0.4 PPB
12 – Foster Creek	0.9 PPB
13 – Primrose	0.8 PPB
14 – Maskwa	1.9 PPB
15 – Ardmore	1.2 PPB
16 – Frog Lake	1.2 PPB
17 – Clear Range	3.1 PPB
17A – Clear Range	1.6 PPB
18 – Fishing Lake	0.9 PPB
19 – Beaverdam	0.8 PPB
22 – Cold Lake South	1.6 PPB
23 – Medley-Martineau	0.2 PPB
24 – Fort George	2.3 PPB
24A – Fort George	2.6 PPB
28 – Town of Bonnyville	3.7 PPB
29 – Cold Lake South 2	1.4 PPB



Summary

Minimum : 0.2 PPB – Medley-Martineau
Maximum: 3.7 PPB – Town of Bonnyville
Average: 1.4 PPB *Includes Duplicates

Lakeland Industry & Community Association
O_3 Passive Bubble Map

SEPTEMBER 2008

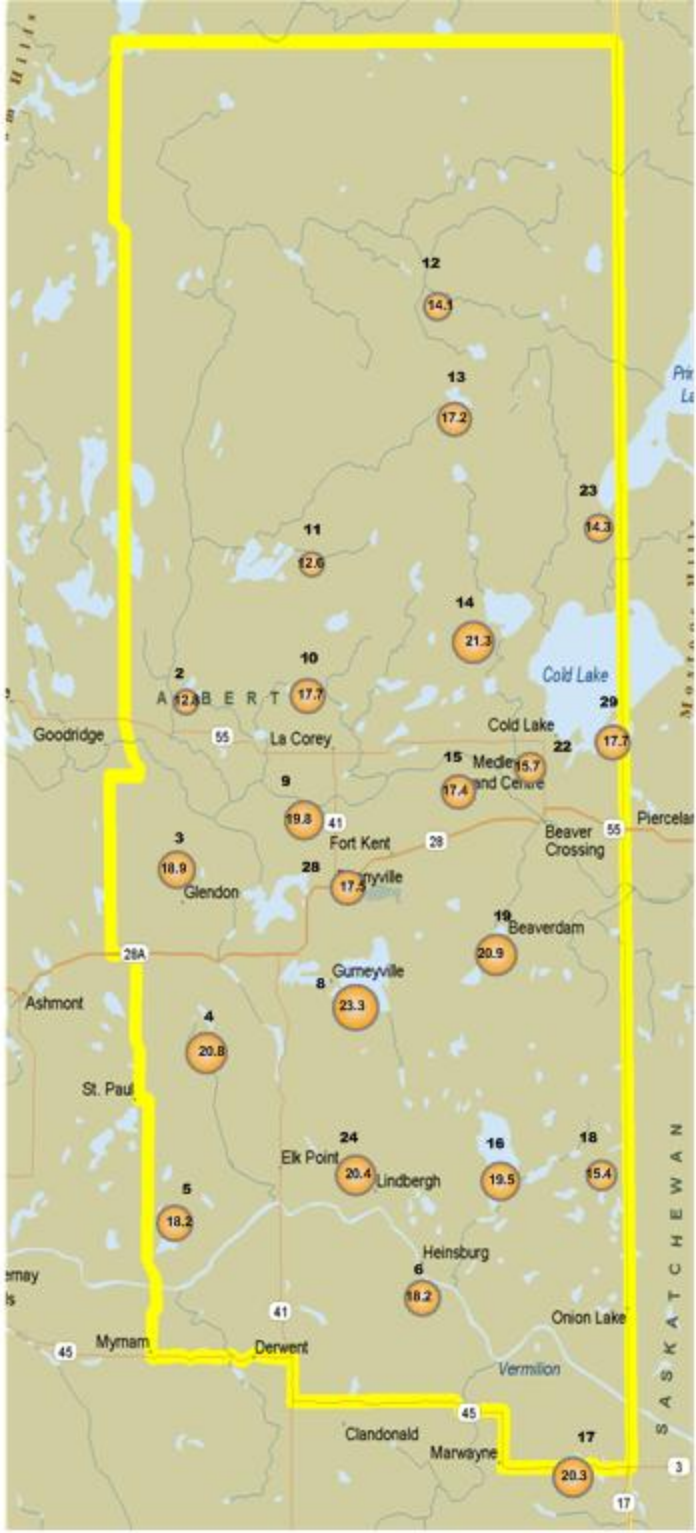
PASSIVE STATIONS

2 – Sand River	12.8 PPB
3 – Therien	18.9 PPB
4 – Flat Lake	20.8 PPB
5 – Lake Eliza	18.2 PPB
6 – Telegraph Creek	18.2 PPB
8 – Muriel-Kehewin	23.3 PPB
9 – Dupre	19.8 PPB
10 – La Corey	17.7 PPB
11 – Wolf Lake	12.6 PPB
12 – Foster Creek	14.1 PPB
13 – Primrose	17.2 PPB
14 – Maskwa	21.3 PPB
15 – Ardmore	17.4 PPB
16 – Frog Lake	19.5 PPB
17 – Clear Range	21.8 PPB
17A – Clear Range	18.8 PPB
18 – Fishing Lake	15.4 PPB
19 – Beaverdam	20.9 PPB
22 – Cold Lake South	15.7 PPB
23 – Medley-Martineau	14.3 PPB
24 – Fort George	21.3 PPB
24A – Fort George	19.5 PPB
28 – Town of Bonnyville	17.5 PPB
29 – Cold Lake South 2	17.7 PPB

O_3 PPB

Summary

Minimum : 12.6 PPB –Wolf Lake
Maximum: 23.3 PPB –Muriel-Kehewin
Average: 18.11 PPB *Includes Duplicates

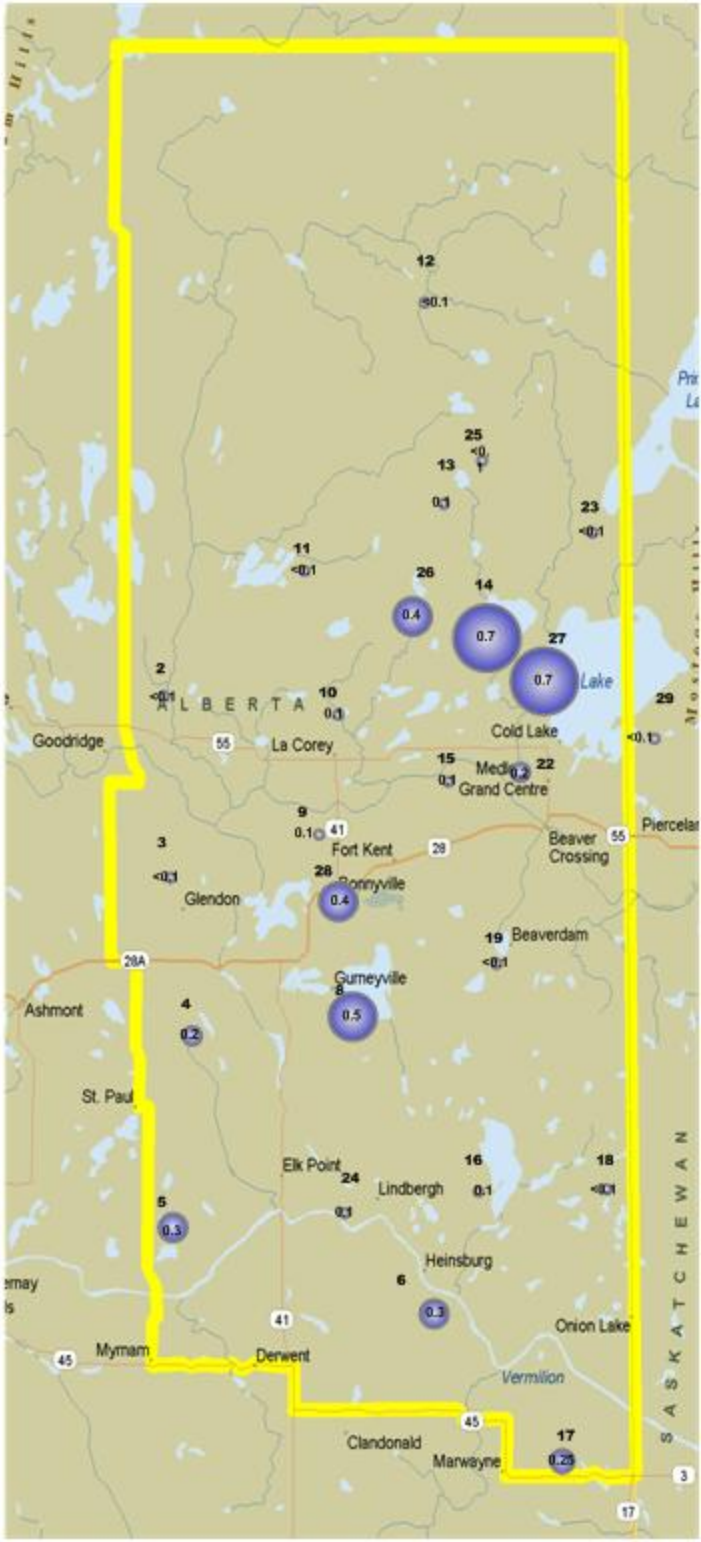


Lakeland Industry & Community Association
SO_2 Passive Bubble Map

SEPTEMBER 2008

PASSIVE STATIONS

2 – Sand River	<0.1PPB
3 – Therien	<0.1PPB
4 – Flat Lake	0.2 PPB
5 – Lake Eliza	0.3 PPB
6 – Telegraph Creek	0.3 PPB
8 – Muriel-Kehewin	0.5 PPB
9 – Dupre	0.1 PPB
10 – La Corey	0.1 PPB
11 – Wolf Lake	<0.1PPB
12 – Foster Creek	<0.1PPB
13 – Primrose	0.1 PPB
14 – Maskwa	0.7 PPB
15 – Ardmore	0.1 PPB
16 – Frog Lake	0.1 PPB
17 – Clear Range	0.2 PPB
17A – Clear Range	0.3 PPB
18 – Fishing Lake	<0.1PPB
19 – Beaverdam	<0.1PPB
22 – Cold Lake South	0.2 PPB
23 – Medley-Martineau	<0.1PPB
24 – Fort George	0.1 PPB
24A – Fort George	0.1 PPB
25 – Burnt Lake	<0.1PPB
26 – Mahihkan	0.4 PPB
27 – Hilda Lake	0.7 PPB
28 – Town of Bonnyville	0.4 PPB
29 – Cold Lake South 2	<0.1PPB



Summary

Minimum :< 0.1 PPB – VARIOUS
Maximum: 0.7 PPB – Maskwa, and Hilda Lake
Average: 0.2 PPB *Includes Duplicates

Passive Network Laboratory Analysis

Your Project #: 2008/08/28 - 2008/09/27
Site:LICA

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

Report Date: 2008/10/20

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A851907
Received: 2008/10/01, 11:12

Sample Matrix: Air
Samples Received: 27

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
H2S Passive Analysis (1)	18	2008/10/06	2008/10/20		EDM SOP-0320
NO2 Passive Analysis (1)	24	2008/10/06	2008/10/20		EDM SOP-0318
O3 Passive Analysis (1)	24	2008/10/03	2008/10/20		EDM SOP-0317
SO2 Passive Analysis (1)	27	2008/10/06	2008/10/20		EDM SOP-0319

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

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

Encryption Key

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

LEVI MANCHAK,
Email:
Phone# (780) 378-8500

==========
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

Total cover pages: 1

Maxxam Job #: A851907
Report Date: 2008/10/20

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2008/08/28 - 2008/09/27
Site Reference: LICA
Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		L89621	L89622	L89623	L89624		
Sampling Date		2008/08/28 09:10	2008/08/28 08:40	2008/08/29 13:20	2008/08/29 12:45		
	Units	**1**	**2**	**3**	**4**	**RDL**	**QC Batch**
Passive Monitoring							
Calculated H2S	ppb		0.12		0.40	0.02	2631382
Calculated NO2	ppb	0.9	1.5	0.4	0.8	0.1	2631319
Calculated O3	ppb	12.8	18.9	20.8	18.2	0.1	2626421
Calculated SO2	ppb	<0.1	<0.1	0.2	0.3	0.1	2631385

RDL = Reportable Detection Limit

Maxxam ID		L89625	L89626	L89627	L89628		
Sampling Date		2008/08/29 11:20	2008/08/29 14:05	2008/08/28 08:00	2008/08/28 10:10		
	Units	**5**	**7**	**8**	**9**	**RDL**	**QC Batch**
Passive Monitoring							
Calculated H2S	ppb				0.10	0.02	2631382
Calculated NO2	ppb	1.9	0.6	1.2	1.4	0.1	2631319
Calculated O3	ppb	18.2	23.3	19.8	17.7	0.1	2626421
Calculated SO2	ppb	0.3	0.5	0.1	0.1	0.1	2631385

RDL = Reportable Detection Limit

Maxxam ID		L89629	L89630	L89631	L89632		
Sampling Date		2008/08/28 10:50	2008/08/28 12:05	2008/08/28 13:30	2008/08/28 15:15		
	Units	**10**	**11**	**12**	**13**	**RDL**	**QC Batch**
Passive Monitoring							
Calculated H2S	ppb	0.05	0.06	0.06	0.18	0.02	2631382
Calculated NO2	ppb	0.4	0.9	0.8	1.9	0.1	2631319
Calculated O3	ppb	12.6	14.1	17.2	21.3	0.1	2626421
Calculated SO2	ppb	<0.1	<0.1	0.1	0.7	0.1	2631385

RDL = Reportable Detection Limit

Maxxam Job #: A851907
Report Date: 2008/10/20

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2008/08/28 - 2008/09/27
Site Reference: LICA
Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		L89633	L89634	L89635	L89636		
Sampling Date		2008/08/28 07:10	2008/08/29 09:45	2008/08/29 10:30	2008/08/29 09:05		
	Units	**14**	**15**	**16**	**17**	**RDL**	**QC Batch**
Passive Monitoring							
Calculated H2S	ppb		0.14	0.21	0.08	0.02	2631382
Calculated NO2	ppb	1.2	1.2	3.1	0.9	0.1	2631319
Calculated O3	ppb	17.4	19.5	21.8	15.4	0.1	2626421
Calculated SO2	ppb	0.1	0.1	0.2	<0.1	0.1	2631385

RDL = Reportable Detection Limit

Maxxam ID		L89637	L89638	L89639	L89640		
Sampling Date		2008/08/29 08:15	2008/08/28 08:05	2008/08/28 17:10	2008/08/29 12:05		
	Units	**18**	**19**	**20**	**21**	**RDL**	**QC Batch**
Passive Monitoring							
Calculated H2S	ppb		0.12		0.14	0.02	2631382
Calculated NO2	ppb	0.8	1.6	0.2	2.3	0.1	2631319
Calculated O3	ppb	20.9	15.7	14.3	21.3	0.1	2626421
Calculated SO2	ppb	<0.1	0.2	<0.1	0.1	0.1	2631385

RDL = Reportable Detection Limit

Maxxam ID		L89643	L89646	L89649	L89650		
Sampling Date		2008/08/28 13:10	2008/08/28 15:05	2008/08/28 16:20	2008/08/28 07:40		
	Units	**22**	**23**	**24**	**25**	**RDL**	**QC Batch**
Passive Monitoring							
Calculated H2S	ppb	0.04	0.16	0.26		0.02	2631382
Calculated NO2	ppb				3.7	0.1	2631319
Calculated O3	ppb				17.5	0.1	2626421
Calculated SO2	ppb	<0.1	0.4	0.7	0.4	0.1	2631385

RDL = Reportable Detection Limit

Maxxam Job #: A851907
Report Date: 2008/10/20

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Client Project #: 2008/08/28 - 2008/09/27
Site Reference: LICA
Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		L89651	L89652	L89653		
Sampling Date		2008/08/28 08:00	2008/08/29 10:30	2008/08/29 12:05		
	Units	**26**	**16A**	**21A**	**RDL**	**QC Batch**
Passive Monitoring						
Calculated H2S	ppb	0.12	0.24	0.14	0.02	2631382
Calculated NO2	ppb	1.4	1.6	2.6	0.1	2631319
Calculated O3	ppb	17.7	18.8	19.5	0.1	2626421
Calculated SO2	ppb	<0.1	0.3	0.1	0.1	2631385

RDL = Reportable Detection Limit

General Comments

Results relate only to the items tested.

LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION
Attention: MICHAEL BISAGA
Client Project #: 2008/08/28 - 2008/09/27
P.O. #:
Site Reference: LICA

Quality Assurance Report

Maxxam Job Number: PA851907

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2626421 LM1	Calibration Check	Calculated O3	2008/10/03		103	%	91 - 107
	SPIKE	Calculated O3	2008/10/03		103	%	N/A
	BLANK	Calculated O3	2008/10/03	<0.1		ppb	
2631319 DF4	Calibration Check	Calculated NO2	2008/10/06		100	%	76 - 118
	SPIKE	Calculated NO2	2008/10/06		104	%	N/A
	BLANK	Calculated NO2	2008/10/06	<0.1		ppb	
2631382 TM5	Calibration Check	Calculated H2S	2008/10/17		101	%	80 - 120
	SPIKE	Calculated H2S	2008/10/17		102	%	N/A
2631385 DF4	Calibration Check	Calculated SO2	2008/10/06		102	%	95 - 105
	SPIKE	Calculated SO2	2008/10/06		101	%	N/A
	BLANK	Calculated SO2	2008/10/06	<0.1		ppb	

N/A = Not Applicable

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

Passive Field Data

Field Notes

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