

July 24, 2007

**Lakeland Industry & Community Association**

Box 8237  
5006-50 Avenue  
Bonnyville, Alberta  
T9N 2J5

**ATTENTION: Mr. Mike Bisaga**

**REFERENCE: Ambient Air Monitoring Report For June 2007**

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Maxxam Analytics Inc. is pleased to submit this report of data collected at the Ambient Air Monitoring Station located at the Lakeland Industry & Community Assoc. Cold Lake site for the month of June 2007.

Included is a summary of the monthly continuous and hourly average reports, equipment calibration reports, as well as a brief description of the calibration procedure. The passive network data are also included in this report.

During the month of June 2007 the following proceedings were noted:

**Cold Lake South Site**

- All analyzers and wind systems were all above 90% uptime objective for the month.
- All data was within Provincial objectives for the month.
- All data was corrected using daily zero calibration data. Furthermore the PM 2.5 data was corrected using Alberta Environment correction standards.
- The PM 2.5 was unstable for 17 hours during the month the data was subsequently invalidated.
- A leak check was completed on the TRS analyzer and no leaks were detected.
- Changed the o-rings in the particulate sample heads, a total of 9 o-rings were replaced.
- Cleaned sample manifold.
- The THC was calibrated on June 6<sup>th</sup> and 8<sup>th</sup> in order to test two different gas cylinders; the results were the same response for both cylinders.
- The technician responded on June 9<sup>th</sup> to an increased daily span for the NO<sub>x</sub> analyzer. After investigating the problem was found not with the analyzer but with a leak in the zero airflow through the internal span system. No data was invalidated.
- On June 13<sup>th</sup> the technician was checking on a sudden decrease in the baseline readings for the NO<sub>x</sub> analyzer. It was found that the analyzer automatically reset the internal settings. As this is a re-occurring problem, the manufacturer suggested cleaning the circuit boards. This suggested maintenance was completed and the analyzer re-calibrated. Data was invalidated back to the last valid span. As a result, 28 hours of data was invalidated.
- An investigation of low daily spans on June 22<sup>nd</sup> for both the NO<sub>x</sub> and SO<sub>2</sub> analyzers found that the output voltage of the SO<sub>2</sub> analyzer was incorrect, the technician introduced

gas into the analyzer and found the analyzer to be reading properly but that the output to the data system was about half of what it should be. The output was changed from #1 to #2 and the analyzer re-calibrated. The output board should be replaced if a part can be found for the analyzer. Data was subsequently invalidated back to the last valid span.

- The initial investigation for the NO<sub>x</sub> analyzer found that the ozone flow was restricted, following the manufacturers advice, the sintered filter was cleaned and the flow was increased minimally, the analyzer was re-calibrated and will be monitored. As a result, data was invalidated back to the last valid span.

### Passive Network

A summary of the passive monitoring are reported as follows:

- Monitoring period averages for O<sub>3</sub> ranged from 18.9 – 28.3 ppb.
- Monitoring period averages for SO<sub>2</sub> ranged from 0.2 – 0.9 ppb.
- Monitoring period averages for NO<sub>2</sub> ranged from <0.1 – 3.3 ppb.
- Monitoring period averages for H<sub>2</sub>S ranged from 0.04 – 0.45 ppb.
- Site #12 shelter was replaced.

Please feel free to contact either of Craig Snider at (403) 219-3689 or Darren Morissette (403)-219-3661, should you have any questions concerning this report.

Sincerely,

Maxxam Analytics Inc.

Prepared by:



Reviewed by:



Darren Morissette, CEPIT  
Senior Technologist

Craig Snider, CET  
Ambient Manager

**Lakeland Industry & Community Association**  
Cold Lake Monitoring Site  
Ambient Air Monitoring  
Data Report  
For  
June 2007

Prepared By:

**MAXXAM ANALYTICS INC.**

# **Lakeland Industry & Community Assoc.**

## **COLD LAKE**

### **AMBIENT AIR MONITORING STATION**

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## **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*.

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

## MONTHLY CONTINUOUS DATA SUMMARY

### COLD LAKE

**Continuous Ambient Monitoring – June 2007**

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION COLD LAKE SITE					MAXIMUM VALUES					OPERATIONAL TIME (PERCENT)	
					1-HOUR				24-HOUR		
PARAMETER	OBJECTIVES		EXCEEDENCES		MONTHLY AVERAGE	READING	DAY	HOUR	READING	DAY	
	1-HR	24-HR	1-HR	24-HR							
SO <sub>2</sub> (PPB)	172	57	0	0	0.00	2	7	8	0.1	7	95.0
TRS (PPB)	-	-	-	-	0.03	1	VAR	VAR	0.3	1	100.0
NO <sub>2</sub> (PPB)	212	106	0	0	1.82	15	1	11	4.6	1	91.3
NO (PPB)	-	-	-	-	0.17	14	1	11	1.9	1	91.3
NO <sub>x</sub> (PPB)	-	-	-	-	2.09	29	1	11	6.5	1	91.3
O <sub>3</sub> (PPB)	82	-	0	-	28.13	62	2	15	38.1	2	100.0
THC (PPM)	-	-	-	-	1.89	3.5	8	22	2.1	7,18,20	100.0
PM 2.5 (UG/M <sup>3</sup> )	-	30	-	0	4.59	21.3	2	6	10.8	2	97.6
TEMPERATURE (DEG C)	-	-	-	-	14.01	28.3	2	15,16	21	2	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	68.86	98.9	12	6	92.4	12	100.0
VECTOR WS (KPH)	-	-	-	-	6.02	19.8	19	10	10.6	29	100.0
VECTOR WD (DEGREES)	-	-	-	-	ESE	-	-	-	-	-	100.0

**LAKELAND INDUSTRY & COMMUNITY ASSOCIATION  
Passive Ambient Monitoring Network – June 2007**

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION PASSIVE NETWORK			
NETWORK MAXIMUM (PPB)		NETWORK AVERAGE (PPB)	
PARAMETER	STATION	READING	READING
NO <sub>2</sub>	25	3.3	<1.1
SO <sub>2</sub>	13A	0.9	0.3
H <sub>2</sub> S	16	0.45	0.15
O <sub>3</sub>	3	28.3	24.7

## **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

S02

- Analyzer make / model TECO 43A

The daily spans were found to be low on June 22<sup>nd</sup>; a technician investigated the problem and determined that the #1 output from the analyzer was not functioning properly. The As Found points were excellent according to the analyzer display but the data system display half the value. The technician changed the output to #2 and re-calibrated the analyzer. It is recommended to replace the output board if replacement boards are available for purchase. As a result data was invalidated back to the last valid span on June 20<sup>th</sup>. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information. There were two hours of power failures during the month; the data was subsequently invalidated.

TRS

- Analyzer make / model TECO 43A  
CD NOVA CDN 101 H<sub>2</sub>S Converter

No operational issues during the month. A leak check was performed on the analyzer and no problems were found. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information.

THC

- Analyzer make / model TECO 51C-LT

No operational issues during the month. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information. It was agreed to with the LICA Program Manager to invalidate all data, after zero correction, which falls below the historical background average of 1.5 ppm. As a result 0 hours of data was invalidated and the uptime was at 100.0%. The methane span gas cylinder was changed out on June 19<sup>th</sup>, 2007.

## **NOx**

- Analyzer make / model

TECO 42

On June 9<sup>th</sup> an investigation of a low span on the analyzer found a small leak in the zero airflow going through the external permeation oven. This was determined to be the main cause of the low span values. No data was invalidated as a result as the analyzer was found to be working properly. On June 13<sup>th</sup> and investigation of the analyzer revealed that the internal settings of the analyzer reset automatically. The As Found points were low. This is a re-occurring issue with the analyzer, the manufacturer is unsure the reason why but they suggested to clean the circuit boards and the inside of the analyzer. All maintenance was completed. As a result data was invalidated back to the last valid span, a total of 28 hours. Another investigation of low daily spans on June 22<sup>nd</sup> revealed that the ozone flow in the reaction chamber was low. Cleaning of the sintered filter resulted in the flow showing a marginal increase. As a result data was invalidated back to the last valid span, a total of 36 hours. The parameters for this analyzer were above the 90% uptime target for the month. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information.

## **O<sub>3</sub>**

- Analyzer make / model

TECO 49

No operational issues observed during the month. The inlet filter was changed before the monthly calibration was started. Data was corrected using daily zero information.

## **PM 2.5**

- Analyzer make / model

TEOM 1400A

No operational issues observed during the month. During the monthly audit of the equipment the technician adjusted the flows in order that the measured flows and indicated flows were similar. Also the o-rings in the sample inlet were replaced. Data for the month was corrected using Alberta Environment standards. There were 17 hours of instability during the month; the data was subsequently invalidated.

## **Wind Speed & Direction**

- System make / model

MET ONE 50.5

No operational issues observed during the month. The wind system is reported as vector wind speed and vector wind direction. There were two hours of power failures during the month; the data was subsequently invalidated.

## **Relative Humidity**

- System make / model

Rotronic Hygroclip-S3

No operational issues observed during the month.

**Temperature**

- System make / model Rotronic Hygroclip-S3
- 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.

**Air Quality Index (AQI)**

The AQI data was adjusted to reflect regular monthly calibrations, maintenance, downtime and daily calibrations. Due to the downtime of the NO<sub>x</sub> analyzer the AQI was affected during the periods June 12<sup>th</sup> – 14<sup>th</sup> and June 20<sup>th</sup> – 22<sup>nd</sup>.

**Trailer**

General comments from technician during monthly calibration:

- Glass sample manifold cleaned.

**Passive Network**

- Site #12 shelter was replaced.

**LICA - COLD LAKE SITE**

**MONTHLY SUMMARIES,**

**GRAPHS**

**&**

**WIND ROSES**

# **AIR QUALITY INDEX**

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2007

## AIR QUALITY INDEX (AQI)

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 MAX.	
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00		
DAY																										
1	7	6	5	5	8	14	9	15	16	23	26	30	29	29	NA	30	31	29	25	21	15	14	21	16	31	
	O3	O3	PM2	PM2	PM2	PM2	PM2	O3	O3	O3	O3	O3	O3	O3	-	O3										
2	18	15	10	11	12	18	18	21	26	29	31	33	NA	35	30	29	29	26	22	21	15	13	12	35		
	O3	O3	PM2	PM2	PM2	PM2	PM2	O3	O3	O3	O3	O3	O3	O3	-	O3										
3	8	11	12	9	12	13	16	18	18	18	19	20	NA	22	22	22	22	22	20	18	12	9	11	11	22	
	PM2	PM2	O3	PM2	PM2	PM2	O3	O3	O3	O3	O3	O3	O3	O3	-	O3										
4	12	11	11	10	11	12	13	13	13	14	14	14	NA	15	15	15	16	16	15	14	14	14	15	16	16	
	O3	O3	O3	O3	O3	-	O3																			
5	15	14	14	11	8	10	12	12	12	NA	13	15	18	18	18	16	14	14	15	15	14	11	14	16	18	
	O3	O3	O3	O3	O3	-	O3																			
6	15	14	14	15	14	14	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	24	25	25	23	17	12	25	
	O3	O3	O3	O3	O3	-	O3																			
7	10	9	6	5	5	8	9	NA	NA	NA	NA	NA	NA	27	26	27	28	28	28	27	23	21	19	17	28	
	O3	O3	O3	O3	O3	PM2	PM2	O3	-	-	-	-	-	O3												
8	17	18	18	19	18	16	15	NA	NA	NA	NA	NA	NA	19	17	18	17	18	16	14	12	10	12	19		
	O3	-	-	-	-	-	O3	PM2	PM2	PM2																
9	14	16	14	19	18	17	NA	17	16	16	16	NA	NA	NA	NA	NA	22	22	22	22	20	19	17	18	22	
	PM2	PM2	O3	O3	O3	O3	O3	O3	-	O3	O3	O3	O3	O3	-	-	O3									
10	18	17	17	17	16	NA	15	15	15	16	18	18	16	15	15	15	15	15	15	12	10	14	16	17	18	
	O3	-	O3	O3	O3	O3	O3	-	O3																	
11	18	16	15	14	NA	12	13	12	12	12	10	10	9	9	9	9	10	9	9	7	8	8	6	4	18	
	O3	-	O3	O3	O3	O3	O3	-	O3																	
12	6	6	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6							
	O3	O3	O3	O3	O3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	O3	
13	NA	NA	NA	NA	NA	NA	NA	NA	NA	19	19	NA	22	17	9	4										
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	O3	O3	-	O3	O3	O3	O3	O3	O3	
14	5	NA	2	2	5	9	10	12	18	19	19	21	23	23	24	22	23	24	23	20	13	13	14	13	24	
	O3	-	PM2	PM2	PM2	PM2	PM2	PM2	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	
15	NA	11	NA	NA	2	7	9	11	13	15	15	16	NA	NA	NA	19	19	19	19	18	14	9	7	NA	19	
	-	O3	-	-	PM2	PM2	PM2	O3	O3	O3	O3	O3	O3	O3	-	-	O3	-								
16	4	4	6	6	8	10	11	10	9	8	10	17	19	20	20	20	20	17	19	20	17	13	8	NA	6	
	O3	PM2	PM2	PM2	PM2	PM2	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	PM2	
17	6	4	3	2	7	7	14	14	14	14	16	17	20	20	20	20	19	18	15	12	12	NA	6	5	20	
	PM2	PM2	PM2	O3	PM2	PM2	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	PM2	
18	3	3	6	5	9	12	10	14	16	17	18	20	22	22	22	22	23	22	22	20	NA	13	15	14	23	
	O3	PM2	PM2	PM2	PM2	PM2	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	
19	16	14	15	13	12	12	13	13	15	16	17	18	19	19	19	19	19	20	19	19	NA	12	9	7	5	
	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3											
20	3	4	1	1	7	12	9	12	16	18	19	21	22	23	22	22	21	21	21	NA	NA	NA	NA	NA	23	
	O3	O3	O3	O3	O3	PM2	PM2	PM2	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3		
21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA											
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA											
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	O3	O3	O3	O3	O3			
23	15	12	12	13	13	16	17	19	21	19	21	23	27	24	20	20	NA	24	22	22	19	16	NA	12	10	
	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3											
24	5	2	1	1	4	12	8	13	16	NA	19	18	18	19	19	NA	19	20	21	20	17	14	14	16	21	
	O3	O3	O3	O3	O3	PM2	PM2	PM2	O3	O3	O3	-	O3													
25	17	15	17	14	12	15	17	11	9	8	7	7	7	NA	NA	18	21	21	17	13	13	14	12	NA	21	
	O3	O3	O3	O3	O3	O3	-	O3																		
26	13	13	13	12	12	12	11	11	11	10	10	NA	10	10	10	10	10	10	10	10	10	10	10	10	10	
	O3	O3	O3	O3	O3	O3	-	O3																		
27	-	-	-	-	-	PM2	PM2	PM2	O3	O3	O3	-	O3													
	12	12	13	13	12	13	13	14	16	NA	20	20	20	20	21	20	19	19	17	14	14	12	14	21		
28	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3											
29	16	17	16	15	14	13	12	13	NA	12	12	13	14	14	14	14	15	16	16	17	18	18	17	18		
	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3	O3											
30	17	16	15	13	12	10	10	9	NA	22	26	24	NA	24	24	23	22	NA	22	19	12	8	8	11	26	
	O3	-	O3	O3	O3	-	O3	O3	O3	O3	-	O3	O3	O3	O3	O3										
PEAK	18	18	18	19	18	18	18	19	21	26	29	31	33	29	35	30	31	29	27	25	23	23	19	21	19	35

## **STATUS FLAG CODES**

NA - NOT APPLICABLE

#### AQI SUMMARY

AQI SUMMARY							
AQI CLASS	O3	PM 2.5	NO2	SO2	FREQ		
<b>VERY POOR</b> <b>(101 - 255)</b>	0 hrs 0.00%	0 hrs 0.00%	0 hrs 0.00%	0 hrs 0.00%	0 hrs 0.00%	0 hrs 0.00%	0 hrs 0.00%
<b>POOR</b> <b>(51 - 100)</b>	0 hrs 0.00%	0 hrs 0.00%	0 hrs 0.00%	0 hrs 0.00%	0 hrs 0.00%	0 hrs 0.00%	0 hrs 0.00%
<b>FAIR</b> <b>(26 - 50)</b>	25 hrs 3.47%	0 hrs 0.00%	0 hrs 0.00%	0 hrs 0.00%	0 hrs 0.00%	25 hrs 3.47%	
<b>GOOD</b> <b>(1 - 25)</b>	494 hrs 68.61%	51 hrs 7.08%	0 hrs 0.00%	0 hrs 0.00%	0 hrs 0.00%	545 hrs 75.69%	
<b>OVERALL</b>	519 hrs 72.08%	51 hrs 7.08%	0 hrs 0.00%	0 hrs 0.00%	0 hrs 0.00%	570 hrs 79.17%	
<b>UNAVAILABLE</b>	-	-	-	-	-	150 hrs	20.83%



**SO<sub>2</sub>**

**LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE**

JUNE 2007

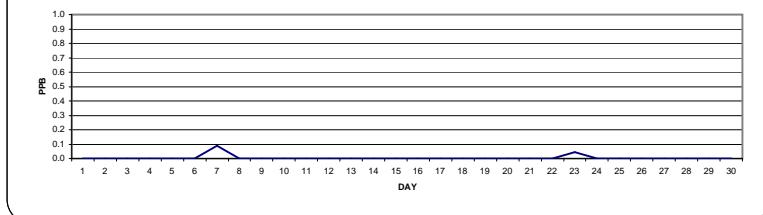
**SULPHUR DIOXIDE (SO<sub>2</sub>)** hourly averages in ppb

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

**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

24 HOUR AVERAGES FOR JUNE 2007



**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:	2
MAXIMUM 1-HR AVERAGE:	2 PPB @ HOUR(S) 8 ON DAY(S) 7
MAXIMUM 24-HR AVERAGE:	0.1 PPB ON DAY(S) 7

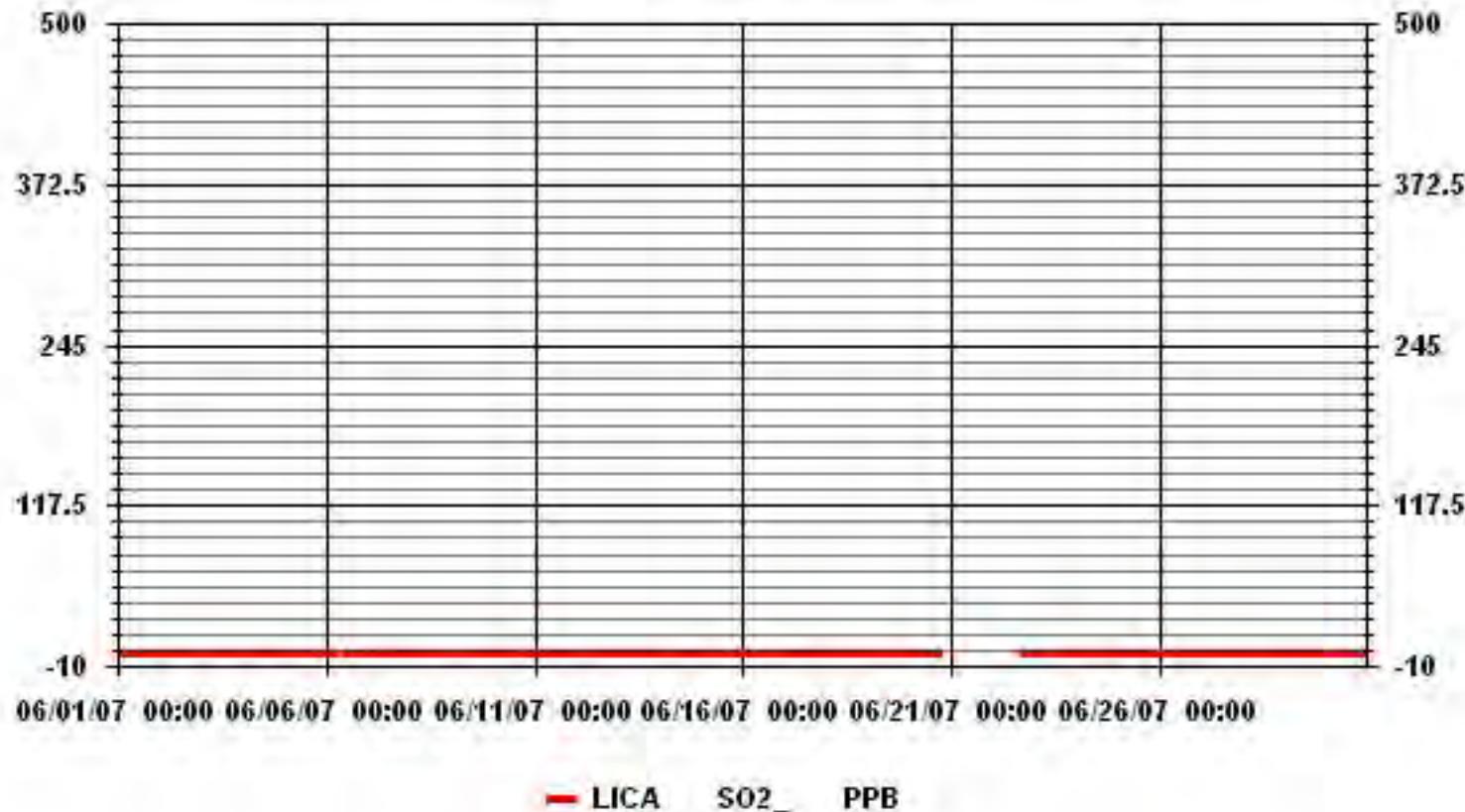
Izs Calibration Time: 30 HRS Operational Time: 684 HRS

Monthly Calibration Time: 12 HRS AMD Operation Uptime: 95.0 %

Standard Deviation: 0.09 Monthly Average: 0.00 PPB

**MOUNTAIN STANDARD TIME**

### 01 Hour Averages



**LICA**  
**SO2\_ / WD Joint Frequency Distribution (Percent)**

June 2007

**Distribution By % Of Samples**

Logger Id : 01  
Site Name : LICA  
Parameter : SO2\_  
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
< 20	2.80	8.56	12.46	7.63	10.59	10.12	7.94	.77	1.24	2.49	7.16	9.34	7.47	3.27	3.27	4.82	100.00
< 60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 110	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 170	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 340	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.80	8.56	12.46	7.63	10.59	10.12	7.94	.77	1.24	2.49	7.16	9.34	7.47	3.27	3.27	4.82	

Calm : .00 %

Total # Operational Hours : 642

**Distribution By Samples**

**Direction**

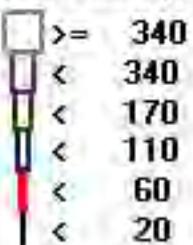
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 20	18	55	80	49	68	65	51	5	8	16	46	60	48	21	21	31	642
< 60																	
< 110																	
< 170																	
< 340																	
>= 340																	
Totals	18	55	80	49	68	65	51	5	8	16	46	60	48	21	21	31	

Calm : .00 %

Total # Operational Hours : 642

Logger : 01 Parameter : SO2

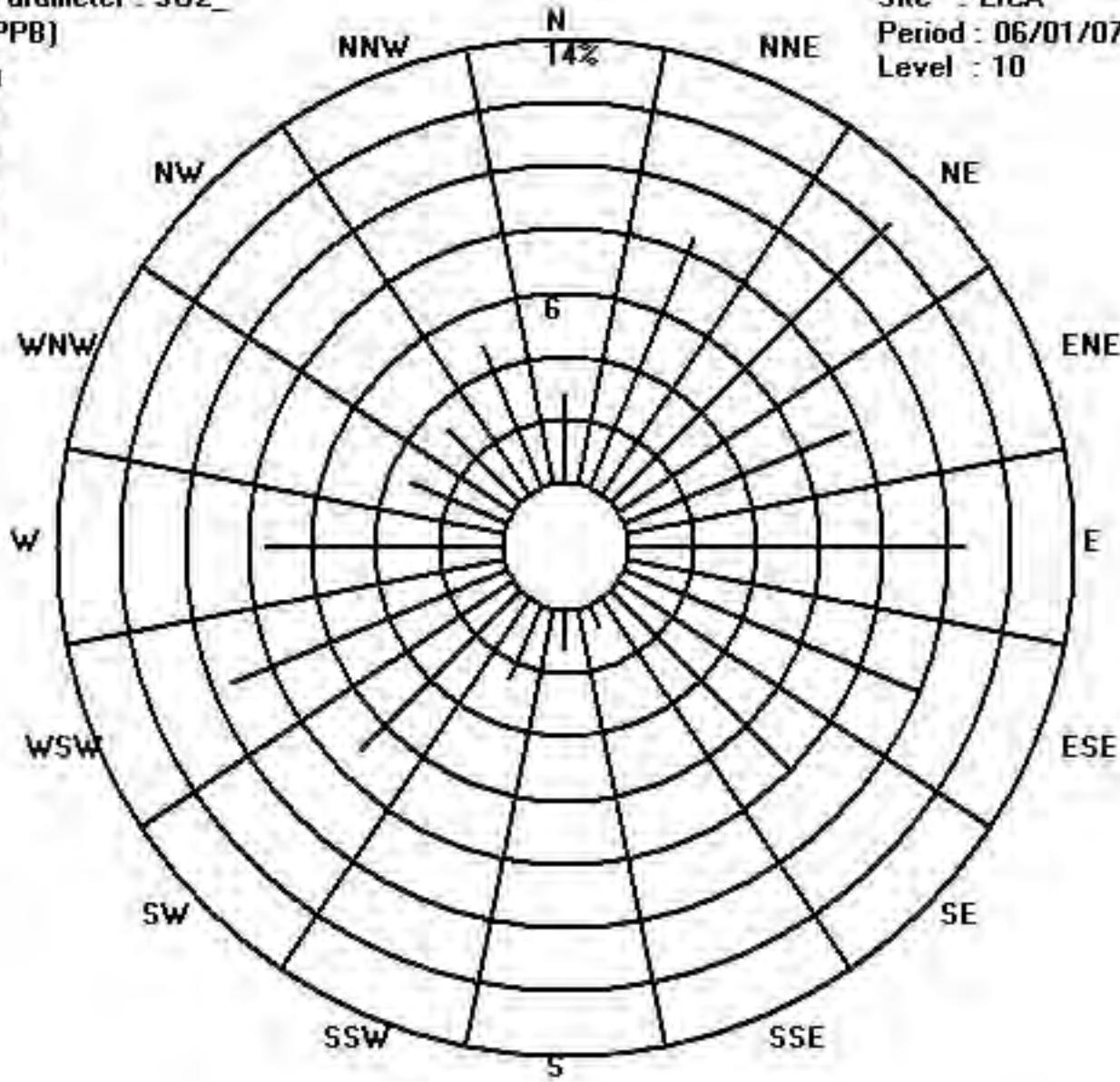
Class Limits (PPB)



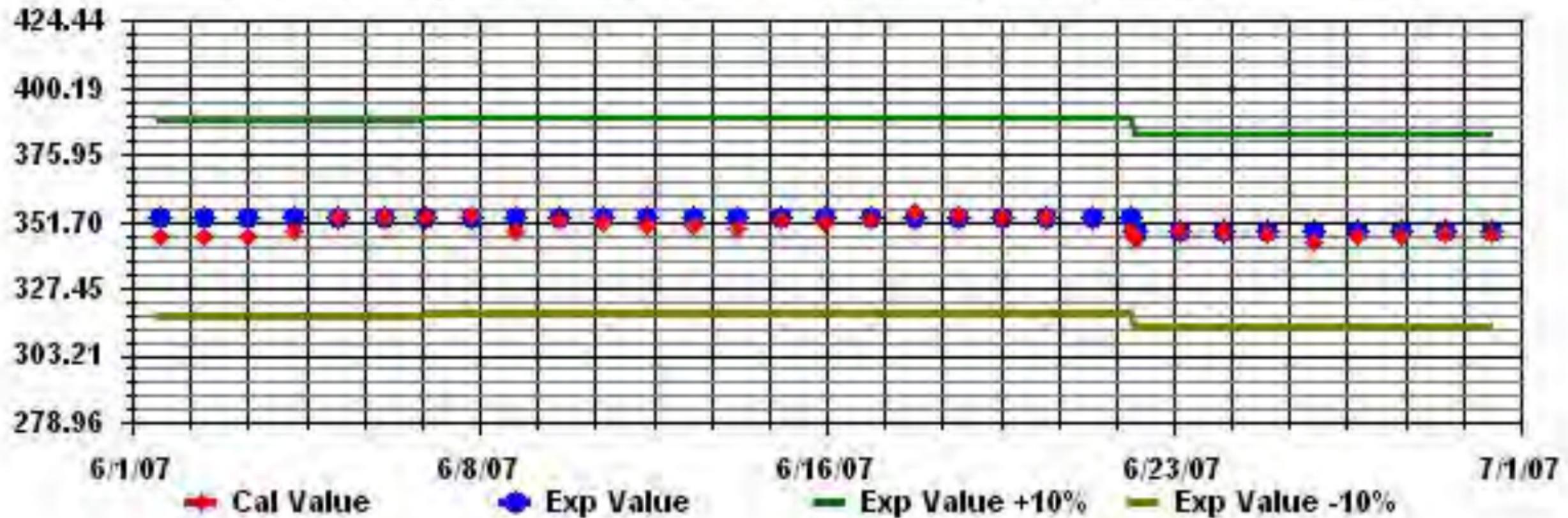
Site : LICA

Period : 06/01/07-06/30/07

Level : 10



Calibration Graph for Site: LICA Parameter: SO2\_ Sequence: SO2 Phase: SPAN



# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2007

SULPHUR DIOXIDE MAX instantaneous maximum in ppt

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

### 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

### MONTHLY SUMMARY

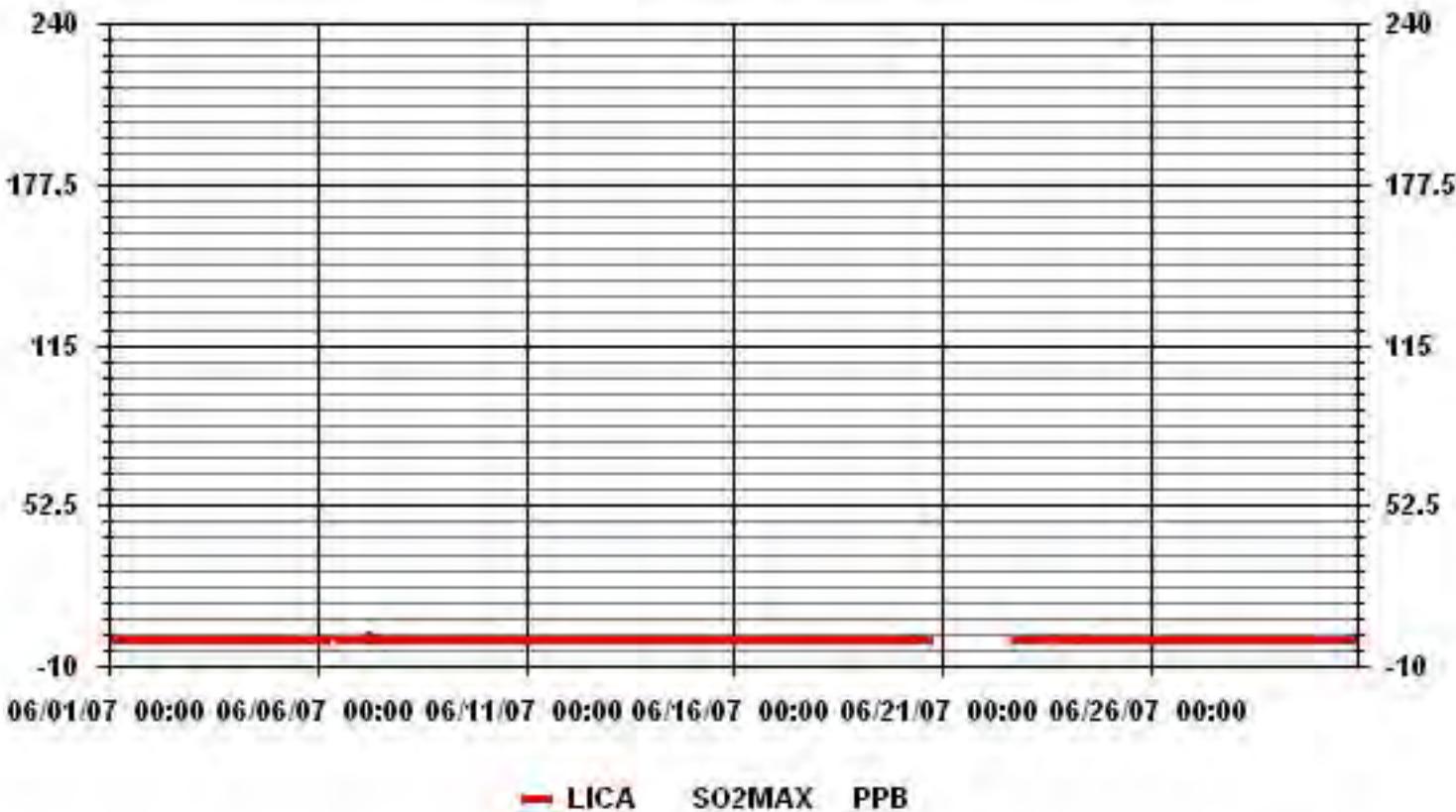
NUMBER OF NON-ZERO READINGS:	13
MAXIMUM INSTANTANEOUS VALUE:	2 PPB @ HOUR(S) 7,8,10,10 ON DAY(S) 7,24

Izs Calibration Time:	30 HRS	Operational Time:	684 HRS
Monthly Calibration Time:	12 HRS		

### MOUNTAIN STANDARD TIME



### 01 Hour Averages



**TRS**

**LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE**

JUNE 2007

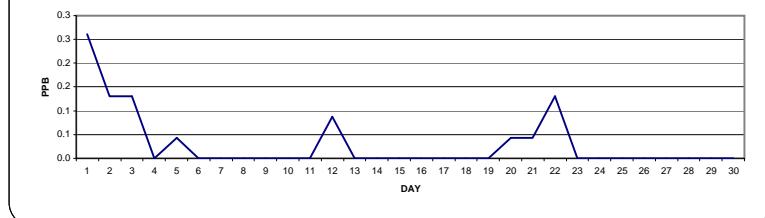
**TOTAL REDUCED SULPHUR (TRS)** hourly averages in ppb

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

**24 HOUR AVERAGES FOR JUNE 2007**



**OBJECTIVE LIMIT:**

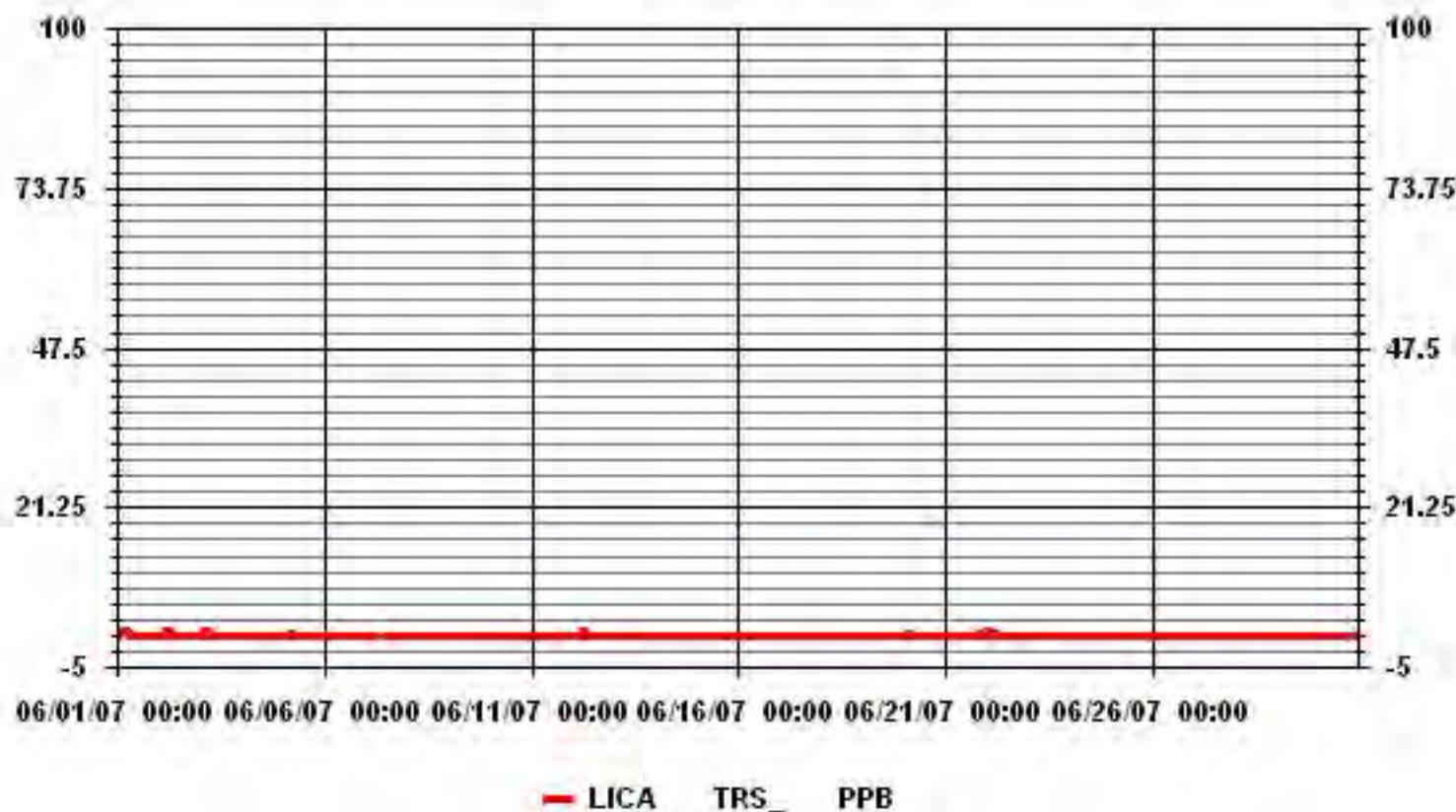
ALBERTA ENVIRONMENT: 1-HR 172 PPB 24-HR 57 PPB

**MONTHLY SUMMARY**

NUMBER OF 1-HR EXCEEDENCES:	0
NUMBER OF 24-HR EXCEEDENCES:	0
<b>NUMBER OF NON-ZERO READINGS:</b>	
MAXIMUM 1-HR AVERAGE:	1 PPB @ HOUR(S) VARIOUS ON DAY(S) VAR
MAXIMUM 24-HR AVERAGE:	0.3 PPB ON DAY(S) 1
<b>Izs CALIBRATION TIME:</b>	
Izs CALIBRATION TIME:	31 HRS OPERATIONAL TIME: 720 HRS
MONTHLY CALIBRATION TIME:	4 HRS AMD OPERATION UPTIME: 100.0 %
STANDARD DEVIATION:	0.17 MONTHLY AVERAGE: 0.03 PPB

**MOUNTAIN STANDARD TIME**

### 01 Hour Averages



**LICA**  
**TRS\_ / WD Joint Frequency Distribution (Percent)**

June 2007

**Distribution By % Of Samples**

Logger Id : 01  
 Site Name : LICA  
 Parameter : TRS\_  
 Units : PPB

Wind Parameter : WD  
 Instrument Height : 10 Meters

**Direction**

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq	
< 3	2.77	8.32	12.26	7.15	10.07	10.51	8.90	1.02	1.60	2.62	7.44	8.90	7.29	2.91	3.35	4.81	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	
<b>Totals</b>	<b>2.77</b>	<b>8.32</b>	<b>12.26</b>	<b>7.15</b>	<b>10.07</b>	<b>10.51</b>	<b>8.90</b>	<b>1.02</b>	<b>1.60</b>	<b>2.62</b>	<b>7.44</b>	<b>8.90</b>	<b>7.29</b>	<b>2.91</b>	<b>3.35</b>	<b>4.81</b>		

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	
< 3	19	57	84	49	69	72	61	7	11	18	51	61	50	20	23	33	685	
< 10																		
< 50																		
>= 50																		
<b>Totals</b>	<b>19</b>	<b>57</b>	<b>84</b>	<b>49</b>	<b>69</b>	<b>72</b>	<b>61</b>	<b>7</b>	<b>11</b>	<b>18</b>	<b>51</b>	<b>61</b>	<b>50</b>	<b>20</b>	<b>23</b>	<b>33</b>		

Calm : .00 %

Total # Operational Hours : 685

Logger : 01 Parameter : TRS\_

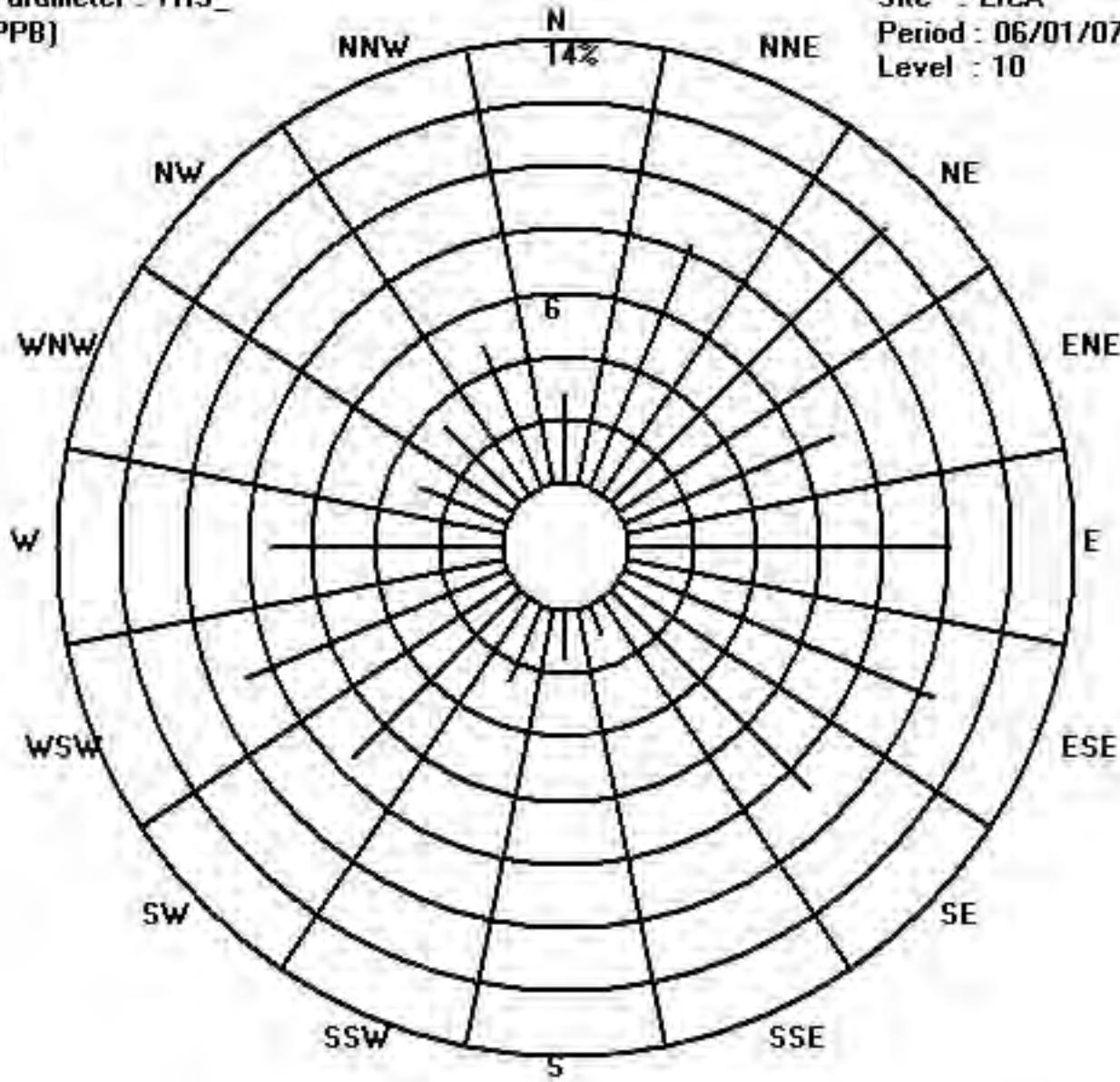
Class Limits (PPB)



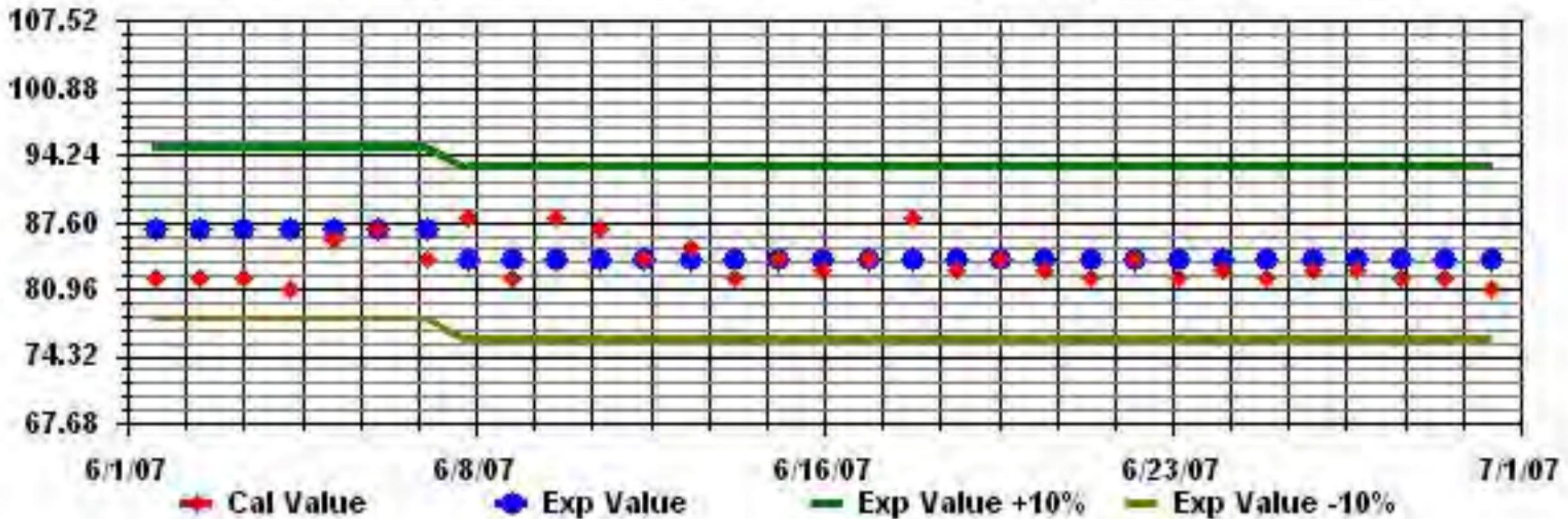
Site : LICA

Period : 06/01/07-06/30/07

Level : 10



Calibration Graph for Site: LICA Parameter: TRS\_ Sequence: TRS Phase: SPAN



# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2007

## TOTAL REDUCED SULPHUR MAX instantaneous maximum in ppt

HOUR START HOUR END	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	23:00 0:00	DAILY MAX. MAX.	24-HOUR AVG.	RDGS.	
DAY																												
1	1	2	1	2	2	3	2	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	3	1.3	24	
2	1	1	1	1	2	1	2	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	2	1.1	24	
3	1	1	1	2	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	2	1.0	24	
4	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1.0	24	
5	1	1	1	1	1	2	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	2	1.0	24	
6	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1.0	24	
7	1	1	1	1	1	1	2	C	C	C	C	C	C	IZS	1	1	1	1	1	1	1	1	1	1	1	2	1.1	24
8	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
9	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24
10	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24	
11	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24	
12	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24	
13	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24	
14	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24	
15	IZS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24		
16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24		
17	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24		
18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24		
19	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24		
20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	24		
21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.0	24		
22	1	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1.1	24	
23	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1.0	24
24	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1.0	24
25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1.0	24
26	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1.0	24
27	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1.0	24
28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1.0	24
29	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1.0	24
30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	1	1	1	1.0	24
HOURLY MAX	1	2	1	2	2	3	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1			
HOURLY AVG	1.0	1.1	1.0	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	IZS	1	1	1	1	1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	

### 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

### MONTHLY SUMMARY

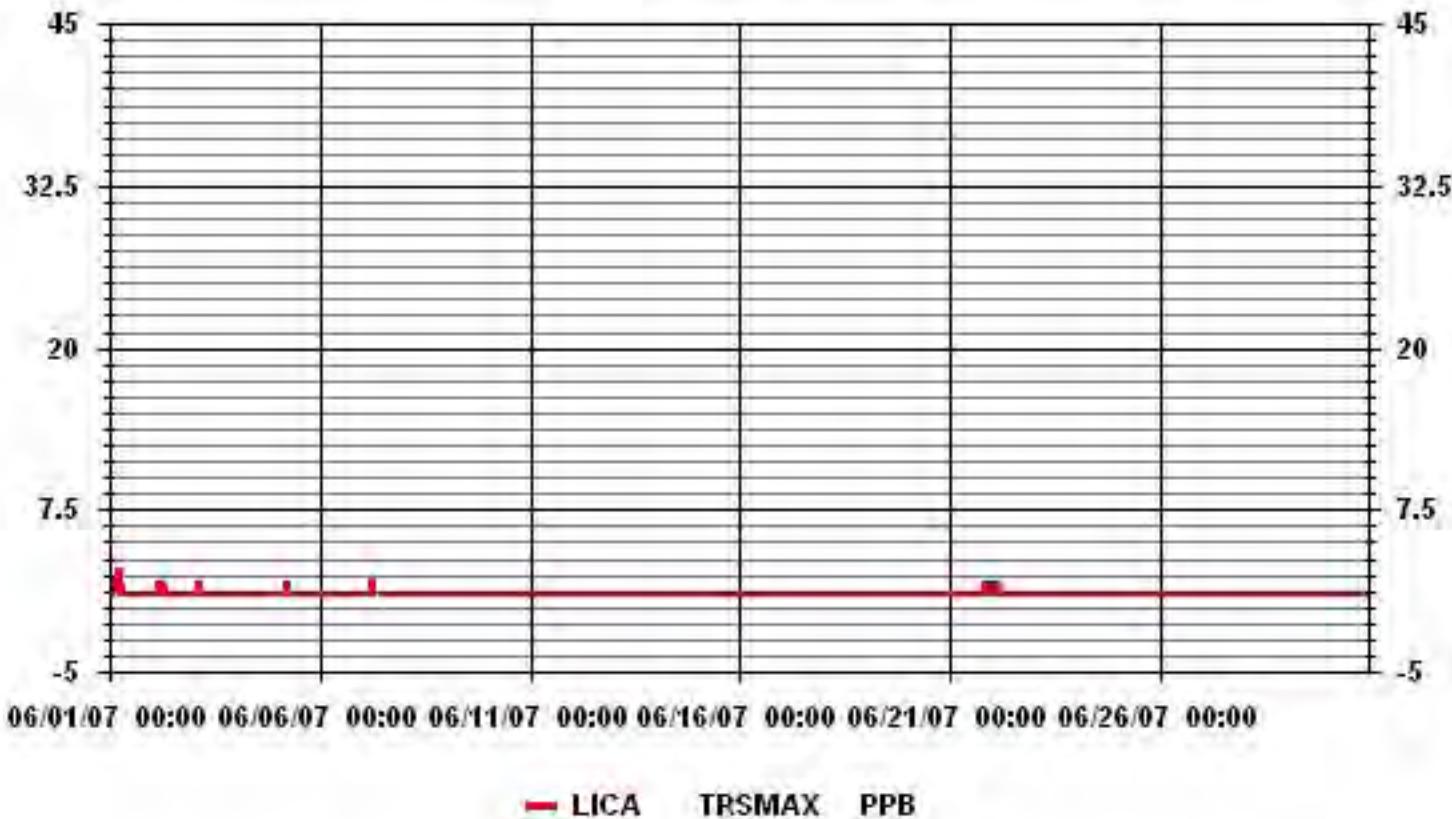
NUMBER OF NON-ZERO READINGS:	685
MAXIMUM INSTANTANEOUS VALUE:	3 PPB @ HOUR(S) 6 ON DAY(S) 1

IZS CALIBRATION TIME:	31 HRS	OPERATIONAL TIME:	720 HRS
MONTHLY CALIBRATION TIME:	4 HRS		

### MOUNTAIN STANDARD TIME



### 01 Hour Averages



# **THC**

**LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE**

JUNE 2007

**TOTAL HYDROCARBONS (THC) hourly averages in ppm**

HOUR START HOUR END	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	DAILY MAX.	
DAY																									
1	2.4	2.3	2.2	2.2	2.1	2.2	2.2	2.3	2.3	1.8	1.7	1.7	1.7	1.7	IZS	1.8	1.8	1.8	1.8	1.9	2.3	1.8	2	2.4	
2	1.9	2.2	2.6	2.5	2.1	2.5	2.1	1.9	1.9	1.8	1.8	1.8	1.8	1.8	IZS	1.8	1.8	1.8	1.8	2.1	1.9	2	2.5	2.4	
3	2.3	2.5	2.7	2.6	2.5	2.4	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	IZS	1.7	1.7	1.7	1.7	1.8	2.3	2.6	2	1.8	
4	1.8	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	IZS	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	
5	1.8	1.9	1.9	2.1	2.3	2	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	IZS	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	
6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	IZS	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	2.8	
7	2.9	2.9	2.4	2.8	2.1	2.4	2.6	2.2	IZS	C	C	C	C	IZS	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.9	2	2	
8	1.9	1.9	1.9	1.8	1.9	1.8	C	C	IZS	1.7	1.7	1.7	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	3.5	2.7	
9	2.4	2	1.8	1.7	1.7	1.7	IZS	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	2.4	
10	1.7	1.7	1.7	1.7	1.7	IZS	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	
11	1.7	1.7	1.7	1.7	IZS	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.9	2	2.2	
12	2.4	2.3	2.6	IZS	2.7	2.3	2.3	2.2	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.7	1.9	1.7	
13	1.7	1.7	IZS	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.9	2.3	2.6	2.7	
14	2.6	IZS	3.4	2.5	2.7	2.4	2.5	2.3	2	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	2.5	1.9	1.7	3.4	
15	IZS	1.7	2.2	3	2.6	2.2	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	2.1	1.9	IZS	3.0
16	2.1	2.1	2.3	2	1.9	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.9	1.9	2.3	
17	2.3	2.1	2.4	2.9	2.6	2	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	2	2	IZS	3.2	
18	2.5	3.3	3	2.8	3.3	2.3	1.9	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	2.3	
19	1.8	1.9	1.8	1.9	1.9	1.8	1.7	C	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	IZS	2.4	2.7	3	
20	2.7	2.8	3	3.1	2.9	2.2	2	1.8	1.8	1.7	1.7	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.8	IZS	1.8	1.9	1.9	1.9	
21	1.9	1.9	1.9	2	2	2	2	1.9	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.9	2.5	2.3		
22	2.6	3	2.9	3.2	2.7	2.4	2.3	2.2	2	1.9	1.9	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	3.2	
23	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.7	1.7	1.7	1.6	1.7	1.7	IZS	1.7	1.7	1.7	1.7	1.7	1.9	2.1	1.7	
24	2.3	2.2	2.1	3	2.9	2.7	2.3	2.1	1.8	1.7	1.7	1.7	1.7	1.7	1.7	IZS	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.7	
25	1.7	1.8	1.7	1.8	1.8	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8	IZS	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	
26	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	IZS	1.7	1.7	1.7	1.7	1.7	1.8	1.8	2.9	
27	2.5	2.1	2.5	2.8	2.2	2	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	IZS	1.8	1.9	1.9	1.8	1.8	1.8	1.8	2		
28	1.9	1.8	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	IZS	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.9		
29	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	IZS	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.8		
30	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	IZS	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	2.0		
HOURLY MAX	2.9	3.3	3.4	3.2	3.3	2.7	2.6	2.3	2.3	1.9	1.9	1.8	1.8	1.9	1.9	1.9	1.8	1.8	1.8	2.1	2.5	3.5	3.2	3.3	
HOURLY AVG	2.1	2.1	2.2	2.2	2.2	2.0	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.7	IZS	1.7	1.7	1.7	1.7	1.7	1.8	1.9	2.1	

**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
BB	- BELOW BACKGROUND OF 1.5 PPM		

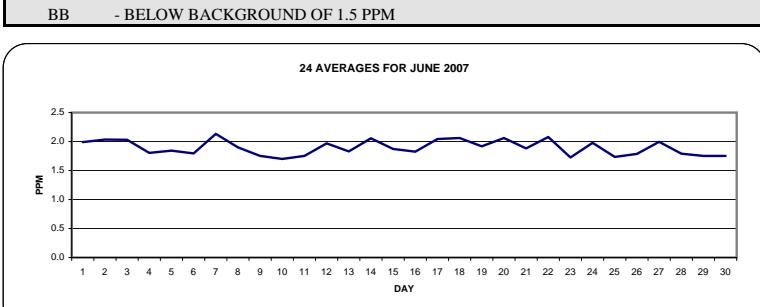
**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS: 681

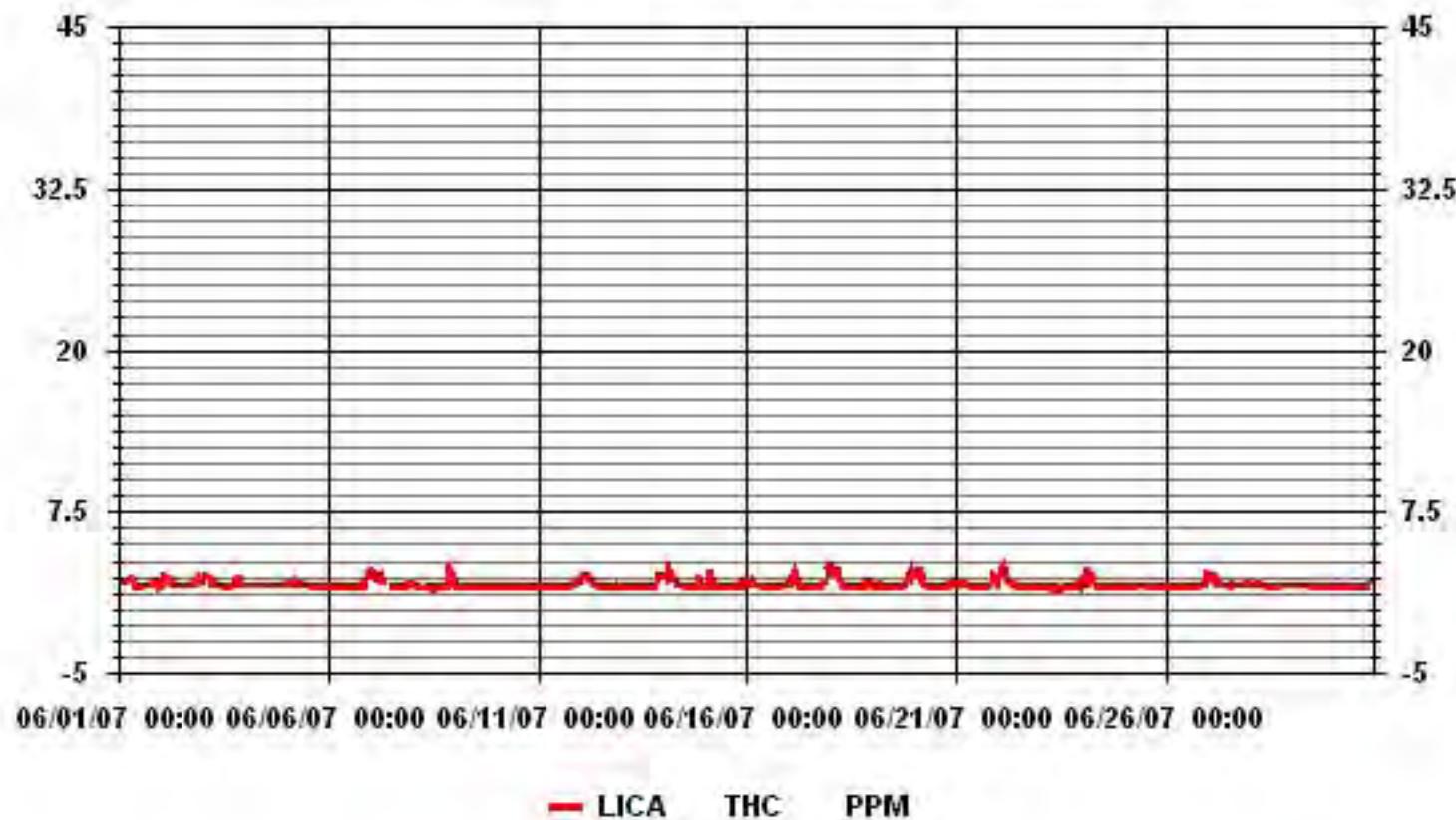
MAXIMUM 1-HR AVERAGE: 3.5 PPM @ HOUR(S) 22 ON D/  
MAXIMUM 24-HR AVERAGE: 2.1 PPM ON D/

IZS CALIBRATION TIME: 32 HRS OPERATIONAL TIME:  
MONTHLY CALIBRATION TIME: 7 HRS AMD OPERATION UPTIME:  
STANDARD DEVIATION: 0.33 MONTHLY AVERAGE:

**MOUNTAIN STANDARD TIME**



### 01 Hour Averages



**LICA**  
**THC / WD Joint Frequency Distribution (Percent)**

June 2007

**Distribution By % Of Samples**

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

Wind Parameter : WD  
 Instrument Height : 10 Meters

**Direction**

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	2.79	8.37	12.33	7.19	10.13	10.57	9.10	.88	1.46	2.64	6.46	8.37	6.75	2.64	3.37	4.84	97.94
< 10.0	.00	.00	.00	.00	.00	.00	.00	.14	.14	.00	1.02	.58	.00	.14	.00	.00	2.05
< 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 50.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.79	8.37	12.33	7.19	10.13	10.57	9.10	1.02	1.61	2.64	7.48	8.95	6.75	2.79	3.37	4.84	

Calm : .00 %

Total # Operational Hours : 681

**Distribution By Samples**

**Direction**

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 3.0	19	57	84	49	69	72	62	6	10	18	44	57	46	18	23	33	667
< 10.0								1	1		7	4		1			14
< 50.0																	
>= 50.0																	
Totals	19	57	84	49	69	72	62	7	11	18	51	61	46	19	23	33	

Calm : .00 %

Total # Operational Hours : 681

Logger : 01 Parameter : THC

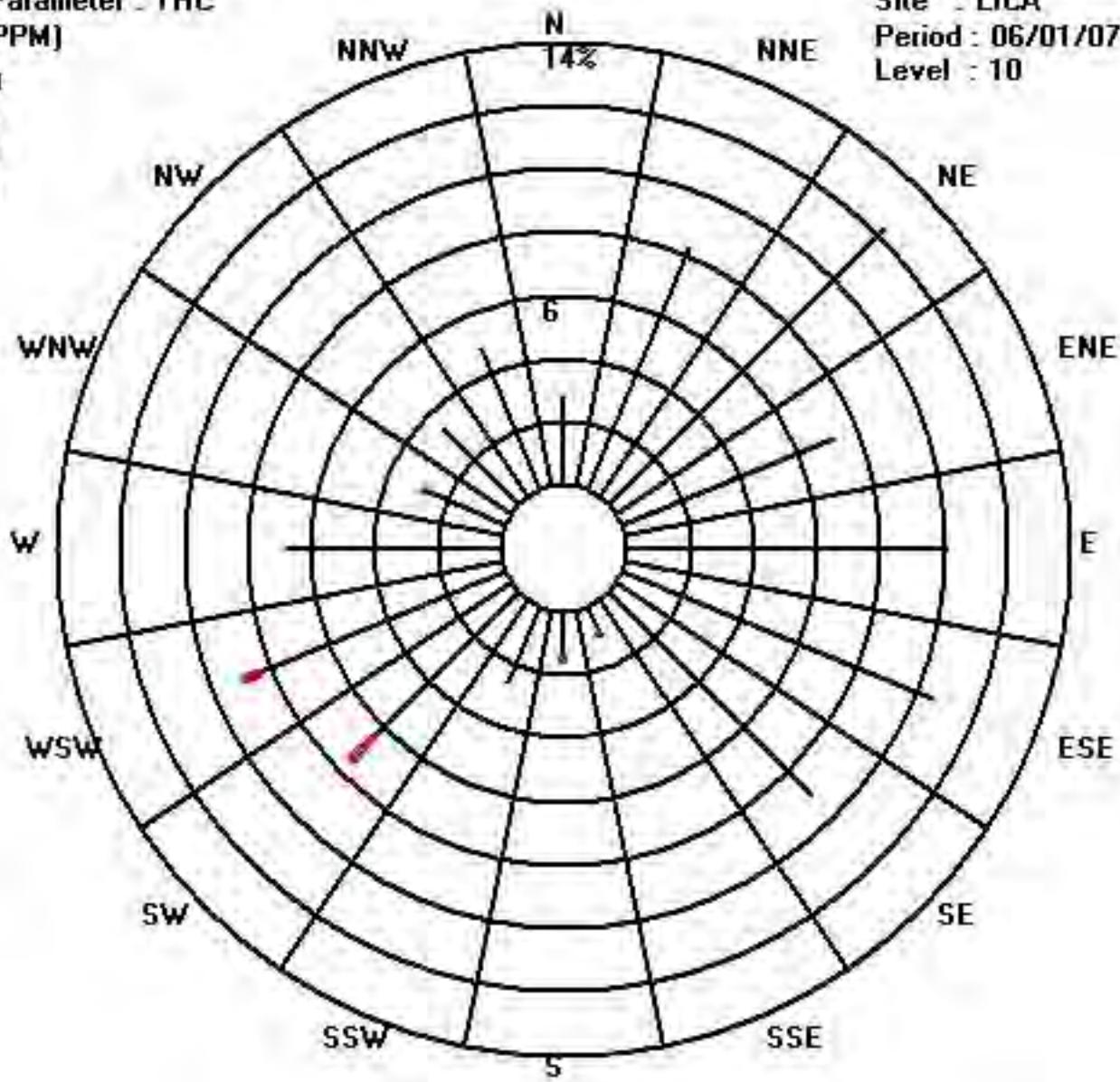
Class Limits (PPM)



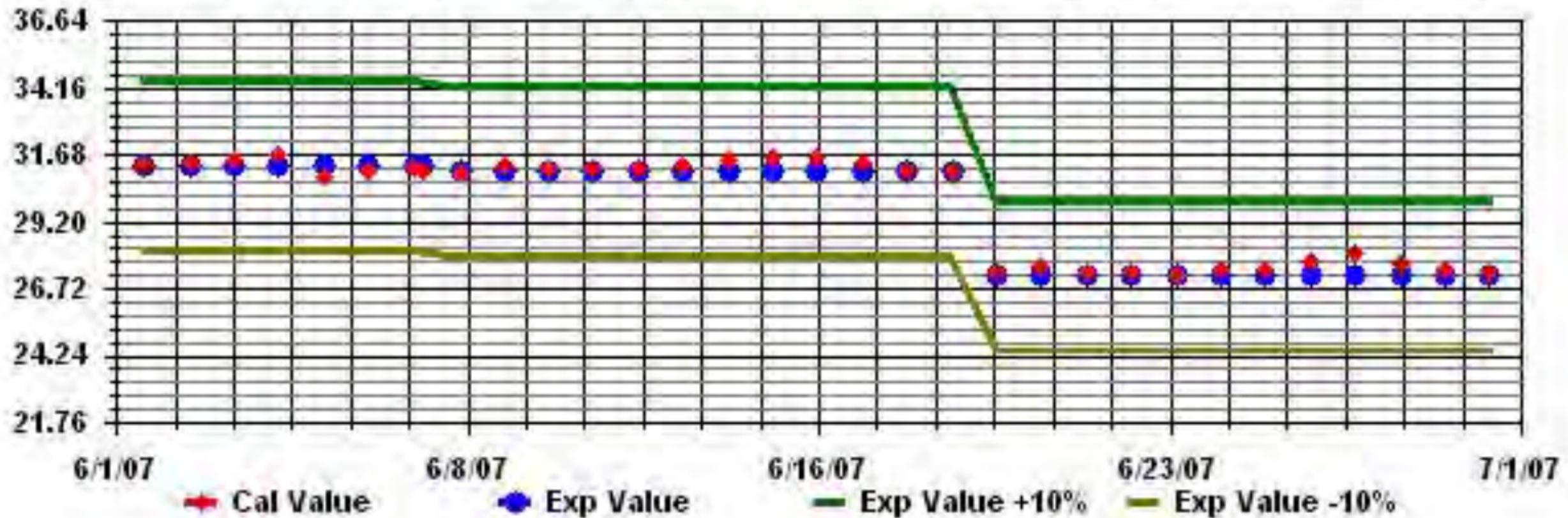
Site : LICA

Period : 06/01/07-06/30/07

Level : 10



Calibration Graph for Site: LICA Parameter: THC Sequence: THC Phase: SPAII



# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2007

## TOTAL HYDROCARBONS MAX instantaneous maximum in ppm

HOUR START HOUR END	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	DAILY MAX.	24-HOUR AVG.	RDGS.	
<b>DAY</b>																											
1	3.5	3.3	2.6	2.5	2.4	2.5	2.4	2.6	2.6	2.3	2.1	2	2	2.6	<b>IZS</b>	1.9	1.8	1.8	1.8	1.9	2.6	4	2.1	2.6	4	2.4	24
2	3.2	3.5	4.1	4	3.5	4	2.5	2	2	1.9	1.8	1.8	1.8	<b>IZS</b>	1.8	1.8	1.8	1.8	1.9	4	2.1	2.7	3.9	3.4	4.1	2.7	24
3	3	3.2	4.3	3	3.3	2.9	2	1.8	1.8	1.9	1.9	1.8	<b>IZS</b>	1.8	1.8	1.8	1.8	1.8	1.8	3.5	3.4	2.2	2	4.3	2.4	24	
4	1.9	2.2	2	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	<b>IZS</b>	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	1.8	1.8	2.2	24	
5	1.8	1.9	2	3.5	2.9	2.2	2.7	1.9	1.9	1.9	<b>IZS</b>	1.9	1.9	1.8	1.8	1.8	1.9	1.8	1.8	1.8	1.9	1.8	1.7	3.5	2.0	24	
6	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.7	<b>IZS</b>	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.8	3.6	4.9	4.9	2.0	24	
7	4	4.2	3.2	4.7	3	2.8	2.8	2.5	<b>IZS</b>	C	C	C	<b>IZS</b>	1.7	1.7	1.8	1.7	1.7	1.9	2	2.1	2.1	2.1	4.7	2.6	24	
8	2	2	2	1.9	1.9	1.9	<b>C</b>	C	<b>IZS</b>	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	4.5	3.4	3.2	4.5	2.1	24	
9	3.1	2.2	2.1	1.7	1.7	1.7	<b>IZS</b>	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.7	1.7	1.8	1.9	1.8	1.7	3.1	1.8	24	
10	1.7	1.7	1.7	1.7	1.8	<b>IZS</b>	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.9	1.7	1.7	1.7	1.8	1.8	1.7	1.7	1.7	1.7	1.9	1.7	24	
11	1.7	1.7	1.8	1.7	<b>IZS</b>	2	1.7	1.8	1.7	1.7	1.7	1.7	1.8	1.7	1.7	1.7	1.7	1.8	1.9	1.8	2.2	3.1	3.1	1.8	24		
12	3.1	3.4	4.4	<b>IZS</b>	3.5	2.5	2.4	2.4	2.1	1.8	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.8	1.8	2.1	1.9	1.7	4.4	2.2	24		
13	1.7	1.8	<b>IZS</b>	1.8	1.8	1.8	1.8	1.8	1.7	2	1.8	2.5	2.2	1.8	1.9	1.8	1.7	1.7	3.1	3.5	4.6	3.4	4.6	2.2	24		
14	3.2	<b>IZS</b>	4.3	3.1	4.7	2.8	2.6	2.5	2.1	2	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.8	1.8	1.8	4.2	4.1	1.7	4.7	2.5	24	
15	<b>IZS</b>	1.8	4.9	4.6	3.9	3.4	1.8	1.7	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	3.9	2.6	<b>IZS</b>	4.9	2.4	24		
16	2.8	2.5	3.1	2.2	2.4	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.8	1.8	1.7	1.9	1.8	2	2.2	<b>IZS</b>	2.2	3.1	2.0	24	
17	3.1	2.3	4.9	5	3.8	2.4	1.8	1.7	1.7	1.9	1.7	1.7	1.7	1.8	1.8	1.8	2.2	3.1	4.5	<b>IZS</b>	5.3	6.9	6.9	2.8	24		
18	3.4	6	4.8	3.6	4.7	2.7	2.3	1.8	1.7	1.8	1.7	1.7	1.7	1.7	1.9	1.7	1.9	1.8	2.6	<b>IZS</b>	2.8	2.4	2.4	6	2.6	24	
19	2.1	2.2	1.9	2	1.9	2.1	1.8	<b>C</b>	1.7	1.7	1.7	1.7	1.7	1.8	1.7	1.7	1.8	1.8	<b>IZS</b>	3.1	5	4.5	3.8	5	2.2	24	
20	4.2	5.6	5.8	<b>8.8</b>	3.9	2.4	2.1	1.9	1.8	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	<b>IZS</b>	1.9	2.8	2.1	2.1	2.4	8.8	2.8	24	
21	2.1	1.9	2.4	2.5	2.1	2.1	2	1.9	1.8	1.7	1.7	1.8	1.8	1.7	1.7	1.8	<b>IZS</b>	2	2.4	2.2	4.4	2.7	4.4	2.2	24		
22	5.8	4.6	4.7	6.2	3.7	2.9	2.5	2.3	2.2	2	2.1	1.9	1.8	1.7	1.7	<b>IZS</b>	1.9	1.8	1.8	1.8	1.7	1.7	6.2	2.6	24		
23	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	<b>IZS</b>	1.7	1.7	1.7	1.7	1.7	2.8	3.8	3.2	3.8	1.9	24		
24	3.4	3.1	2.4	5.4	4.2	3.3	2.6	2.6	2.1	1.8	1.8	1.8	1.8	<b>IZS</b>	1.7	1.7	1.8	1.8	1.9	1.9	1.9	1.8	1.8	5.4	2.4	24	
25	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	<b>IZS</b>	1.7	1.7	1.7	1.7	1.8	1.7	1.7	1.7	1.7	1.9	1.8	24		
26	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	<b>IZS</b>	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	4.4	4	4.4	2.0	24		
27	2.9	2.3	4.4	4.4	2.4	2.5	1.9	1.9	1.9	1.8	<b>IZS</b>	1.9	1.9	1.9	2	1.9	1.9	1.8	1.9	2.2	2.6	2.2	2.1	4.4	2.3	24	
28	1.9	1.9	1.9	1.9	2	1.9	2	1.9	1.9	<b>IZS</b>	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.1	1.8	1.8	1.9	1.9	2.1	1.9	24		
29	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	<b>IZS</b>	1.8	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.9	1.8	24		
30	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	<b>IZS</b>	1.9	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.9	2.9	2.8	2.2	2.3	2.9	1.9	24	
HOURLY MAX	6	6	6	9	5	4	3	3	3	2	2	2	3	3	2	2	2	2	4	5	5	5	7				
HOURLY AVG	2.6	2.6	3.0	3.1	2.7	2.3	2.1	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.0	2.3	2.7	2.7	2.6				

### STATUS FLAG CODES

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

### MONTHLY SUMMARY

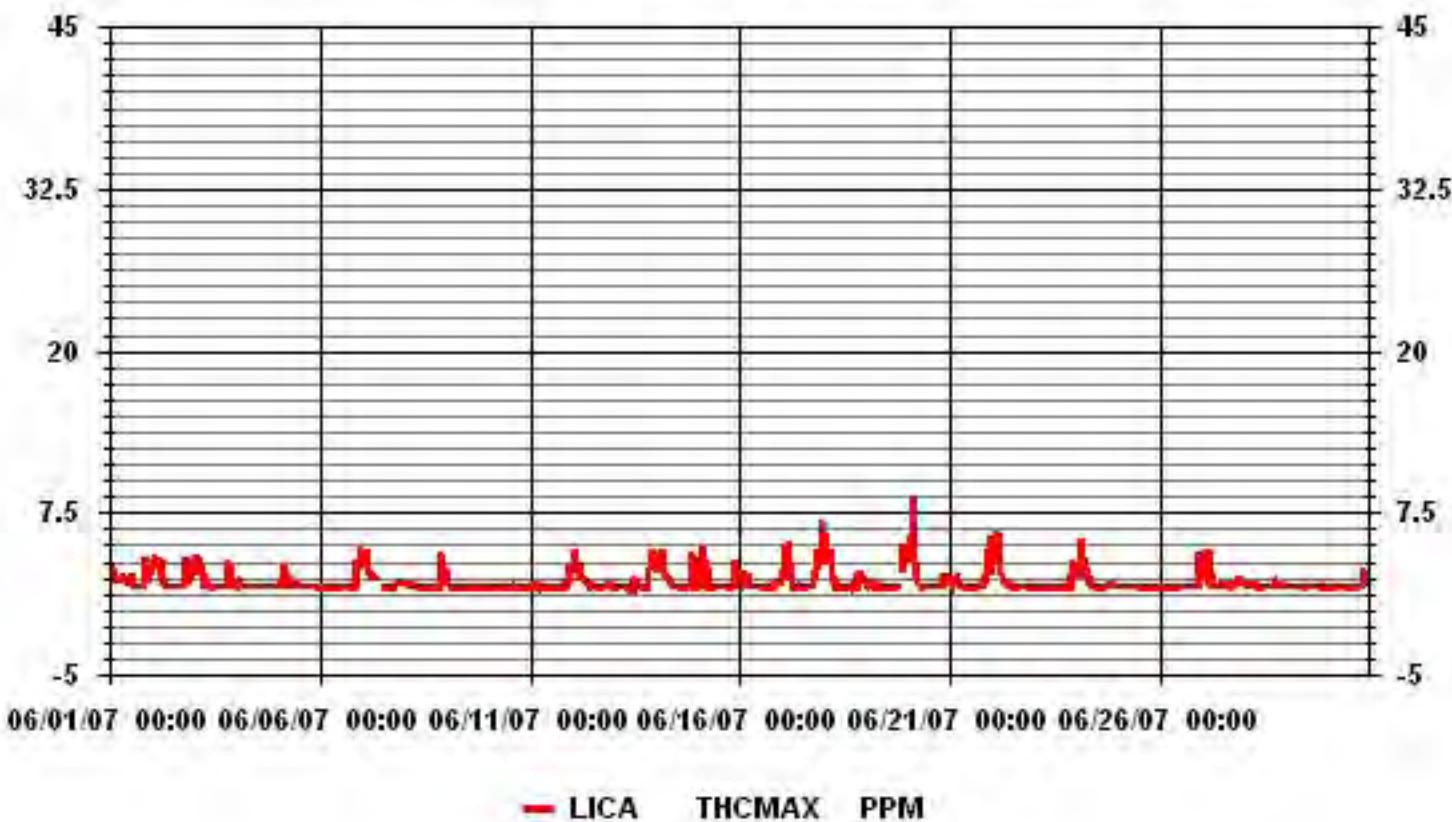
NUMBER OF NON-ZERO READINGS:	681
MAXIMUM INSTANTANEOUS VALUE:	8.8 PPM @ HOUR(S) 4 ON DAY(S) 20

Izs Calibration Time:	32 HRS	Operational Time:	720 HRS
Monthly Calibration Time:	7 HRS		
Standard Deviation:	0.86		

### MOUNTAIN STANDARD TIME



### 01 Hour Averages



# **PARTICULATE MATTER**

## **2.5**

**LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE**

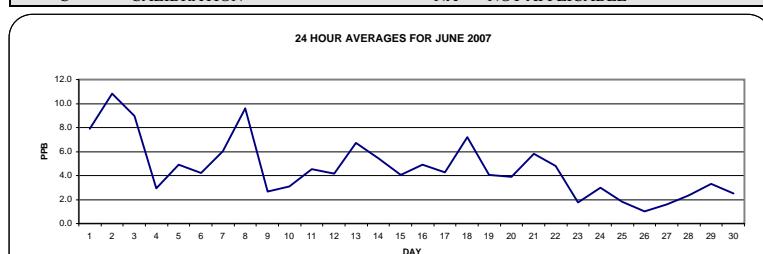
JUNE 2007

**PARTICULATE MATTER 2.5 (PM2.5)** hourly averages in ug/n<sup>3</sup>

HOUR START HOUR END	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	23:00 0:00	DAILY MAX.	24-HOUR AVG.	RDGS.
DAY																											
1	5.1	5.7	5.4	5.8	9.7	16.7	10.4	12.5	11.2	2.3	6.1	1.2	4.7	7	6.2	7.9	8.3	5.6	7.1	8.9	12.4	11.4	8.5	9.8	16.7	7.9	24
2	11.5	14.2	11.8	13.7	13.9	21.3	21.1	15.4	13	9.1	6.5	7.9	8.5	5.6	3.8	6	5.5	5.2	10.2	9.6	7.9	14.2	13.1	10.7	21.3	10.8	24
3	9.9	13.2	11.9	11.3	14	15	10.4	10.7	4.8	3.1	4.7	6.4	5.1	5.1	9.4	7.9	5.9	9.5	11.2	10.7	14.2	10.6	5.8	4	15.0	9.0	24
4	2.5	3.2	0	1.2	3.6	0	3	3.5	5.5	5.5	5.3	5.7	5.9	5	3.8	2	2.1	3.6	3.2	2.2	2.5	1.3	0	0	5.9	2.9	24
5	1.7	3.5	2.5	3.7	3.1	4.3	5.4	4.4	5.5	7	6.2	6	7.5	7.4	10	5.4	4.4	5.4	0	4.8	5	6.3	3.9	4	10.0	4.9	24
6	4.8	3.9	3.4	6.7	10.7	4.2	6.8	3.2	0.1	0	0	2.2	4.1	3.9	6.9	4	1.5	2.2	1.8	6.6	6.9	8.2	4.5	5.1	10.7	4.2	24
7	3.8	2.2	0.9	1.9	4.7	9.3	5.6	C	C	C	C	C	7.3	6.1	9.1	7.1	8.3	4.7	4.9	6.4	7.1	9.2	8	8	9.3	6.0	24
8	8	8.1	10.8	10.9	11.9	13.4	15.6	C	C	C	C	C	2.2	10.3	1.4	0	1.9	10.3	15.2	13.4	13.9	11.9	13.8	15.6	9.6	24	
9	16.2	18.7	9.3	1.3	4.1	2.1	0.5	0	0	0	0	D	0	D	0	0	0	0	0.7	0.6	1.3	4.2	0	0	18.7	2.7	22
10	0	0.7	0	0.9	1.7	1.4	0.3	1.8	1.9	0.1	2.5	3.1	8.5	6.1	3.7	3.4	3.5	4.5	6.9	5.1	7.9	3.3	3.7	2.8	8.5	3.1	24
11	5.1	5.9	6.2	6.4	9.2	4.7	5.8	7.5	7.2	7.3	6.5	6.5	5.1	3.8	2.5	1.6	0.4	2	1.5	2	3.1	3.5	5.3	0	9.2	4.5	24
12	2.2	0.6	0.1	0	4.6	9.5	13.7	10.6	13.5	5.5	2.5	7.8	D	8.5	6.3	1.2	2.1	1.4	0	0	0.5	0.6	1.7	3.3	13.7	4.2	23
13	5	4.9	3.8	6.4	7.4	7.5	7	7	9.1	12.1	11.8	12.1	10.5	4.3	2.3	2.9	16.7	10.1	D	1.9	6	2.7	1.9	1.5	16.7	6.7	23
14	0.9	1.8	2.4	2.6	6.5	10.6	3.6	5.9	7.1	1	5.9	2.3	6.4	7.8	8.5	5.8	8.8	8	9.8	9.2	8.8	4.8	2.6	0	10.6	5.5	24
15	0	0	D	D	2.7	8	0.4	0	0	0.6	2.6	1.2	C	C	1.8	6.4	11.9	14.1	11.5	3.8	2.5	4.3	5.3	14.1	4.1	22	
16	4.5	4.6	7.5	7	9.4	2.9	1.4	0.9	1.6	4.7	6.2	2.8	3.4	2.7	0	1.3	5.1	2.4	6.1	9.3	9.4	8.8	8.9	7.5	9.4	4.9	24
17	7.4	4.9	3.8	2.2	8.2	2.2	0	0.5	1	1.8	0.7	0.5	0	3.3	3.7	6	5.1	7.1	11.7	5.8	7.3	6	7.4	6.2	11.7	4.3	24
18	2.8	4	6.7	5.7	10.5	14.1	4.3	1.2	5.9	1.1	1.2	11.3	12.4	13.4	11.4	14.5	12.7	4.3	8.6	9.8	7	1.4	4.7	4.3	14.5	7.2	24
19	2.2	2.8	1.7	2	2.6	1.1	0	0	0	2.6	4.1	5.2	9.9	7.7	7.9	6.6	7.2	9.3	7.9	5.6	7	1.9	1.9	0.4	9.9	4.1	24
20	0.2	0	0.4	0	8.5	13.8	4.9	6	0.3	3.1	6.1	3.2	2.4	3.4	3.1	3.1	2.1	3.9	3.1	7.3	9.2	2.8	3.4	2.6	13.8	3.9	24
21	2.8	1.7	4.2	6	6.4	6.9	9.2	4.1	2.1	1.7	9.1	3.3	8.9	11.5	3.8	7.8	10.2	8.6	7.5	18.5	0	D	0	0	18.5	5.8	23
22	0	1	0.1	0	4.3	19.2	15.6	12.1	0.3	D	7.6	0.6	D	D	0	0	1.1	4	5	9.1	4.8	11	0.9	3.8	19.2	4.8	21
23	2.2	0	0	5.4	0	1.8	0	0	2.9	3.6	4.9	1.4	3.3	0.4	4.1	3.2	0	0.8	0	2	0.8	D	3.2	0	5.4	1.7	23
24	0	0	0	1.1	4.3	14.8	3.6	1.8	1.7	D	4.6	0	1.3	0	0	4.6	0.1	2.1	3.4	7	9.4	3.2	0.1	5	14.8	3.0	23
25	2.4	2.3	1.3	2.2	2.5	3.5	3.2	5.5	4.6	4.4	2.3	2.7	0.2	0	D	0	0	0	1.7	1	0	0	0	D	5.5	1.8	22
26	0	0	0.8	0.1	1	1.2	1.5	1.7	1.7	1.3	1.7	0.6	2.1	0.3	1	2.6	0.2	0	1.2	1.7	2	0	D	0	2.6	1.0	23
27	0	0	0	0	4.2	7.8	6.9	0	3.3	0	0	0.2	1.9	2.1	0.8	2.5	1.1	1.4	1.3	3.1	2.3	0	0	0	7.8	1.6	24
28	3	0	0	0	0	1.6	2.4	4.2	6.6	3.2	2	1.2	3.1	1.3	3	0	3.4	0	4.6	5.4	6.9	2.7	2	0	6.9	2.4	24
29	0	0	0.2	2.1	1.9	2.1	2.7	6.6	7	6.8	6.8	8.1	6.7	3.4	5.9	5.8	2.5	2.2	3.4	0	0	0	0	3.2	8.1	3.3	24
30	6	0	0.1	0	4.5	5.4	3.8	10.4	8.3	0	0	D	0	0.2	0	0.6	D	1.6	6.9	5.7	1.5	0.2	0	10.4	2.5	22	
HOURLY MAX	16	19	12	14	14	21	15	14	12	12	12	12	12	13	11	15	17	12	14	19	14	14	13	14			
HOURLY AVG	3.7	3.6	3.4	3.7	5.9	7.5	5.6	4.9	4.5	3.4	4.2	3.8	5.2	4.5	4.6	3.9	4.2	4.2	5.1	6.2	5.8	4.9	3.7	3.5			

**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



**NUMBER OF 1-HR EXCEEDENCES:**

-

PROPOSED GUIDELINE

**NUMBER OF NON-ZERO READINGS:**

587

**MAXIMUM 1-HR AVERAGE:**

21.3

UG/M<sup>3</sup>

@ HOUR(S)

6

ON DAY(S)

2

**MAXIMUM 24-HR AVERAGE:**

10.8

UG/M<sup>3</sup>

ON DAY(S)

2

**Izs CALIBRATION TIME:**

0

HRS

OPERATIONAL TIME:

703

HRS

**MONTHLY CALIBRATION TIME:**

14

HRS

AMD OPERATION UPTIME:

97.6

%

**STANDARD DEVIATION:**

4.10

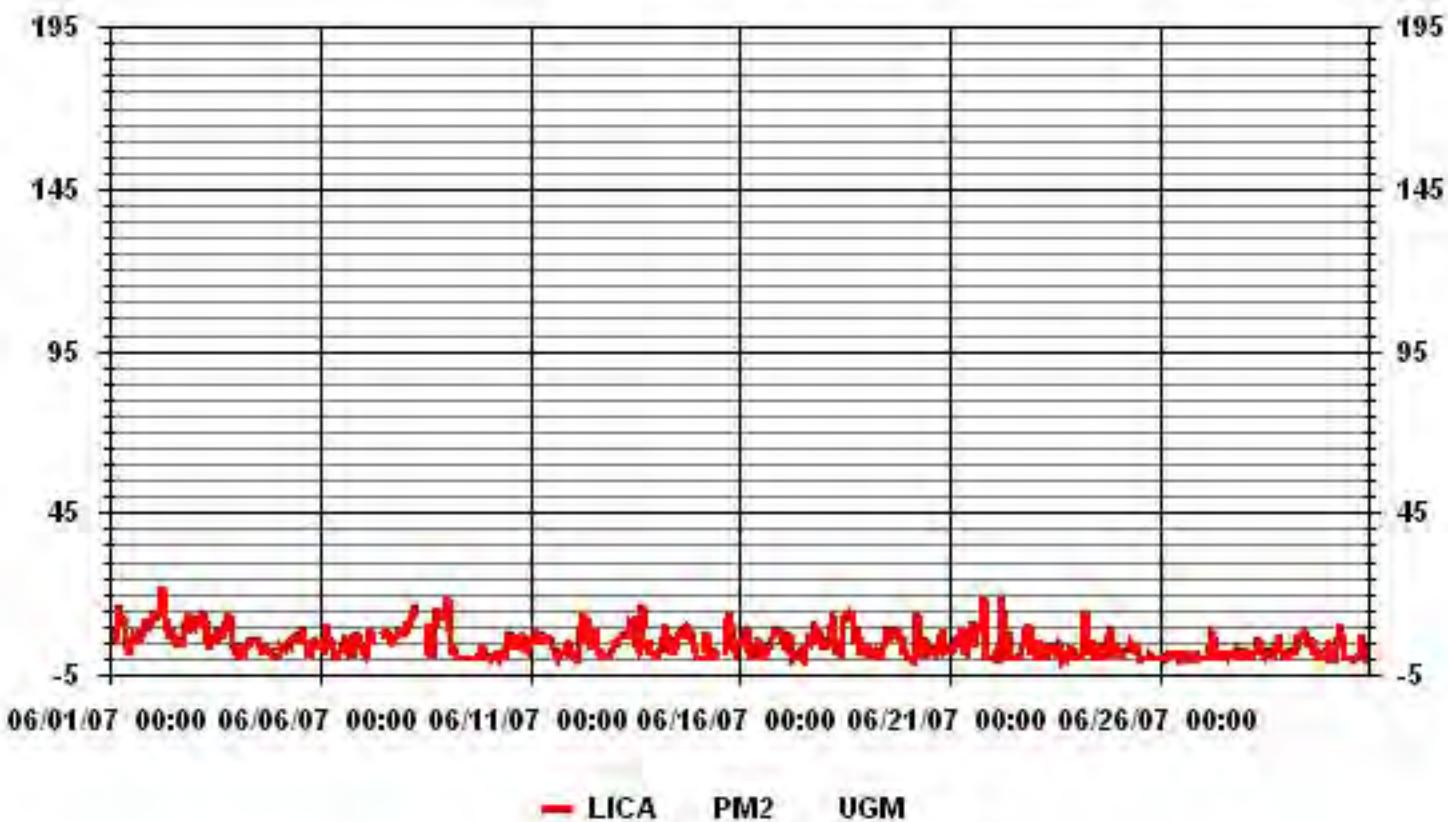
MONTHLY AVERAGE:

4.59

UG/M<sup>3</sup>

**MOUNTAIN STANDARD TIME**

### 01 Hour Averages



**LICA**  
**PM2 / WD Joint Frequency Distribution (Percent)**

June 2007

**Distribution By % Of Samples**

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

Wind Parameter : WD  
Instrument Height : 10 Meters

**Direction**

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 30.0	2.75	8.56	12.19	7.54	10.30	10.88	8.99	1.01	1.88	2.32	7.40	8.85	7.25	2.46	3.04	4.49	100.00
< 60.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 80.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 120.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
< 240.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
>= 240.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Totals	2.75	8.56	12.19	7.54	10.30	10.88	8.99	1.01	1.88	2.32	7.40	8.85	7.25	2.46	3.04	4.49	

Calm : .00 %

Total # Operational Hours : 689

**Distribution By Samples**

**Direction**

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 30.0	19	59	84	52	71	75	62	7	13	16	51	61	50	17	21	31	689
< 60.0																	
< 80.0																	
< 120.0																	
< 240.0																	
>= 240.0																	
Totals	19	59	84	52	71	75	62	7	13	16	51	61	50	17	21	31	

Calm : .00 %

Total # Operational Hours : 689

Logger : 01 Parameter : PM2

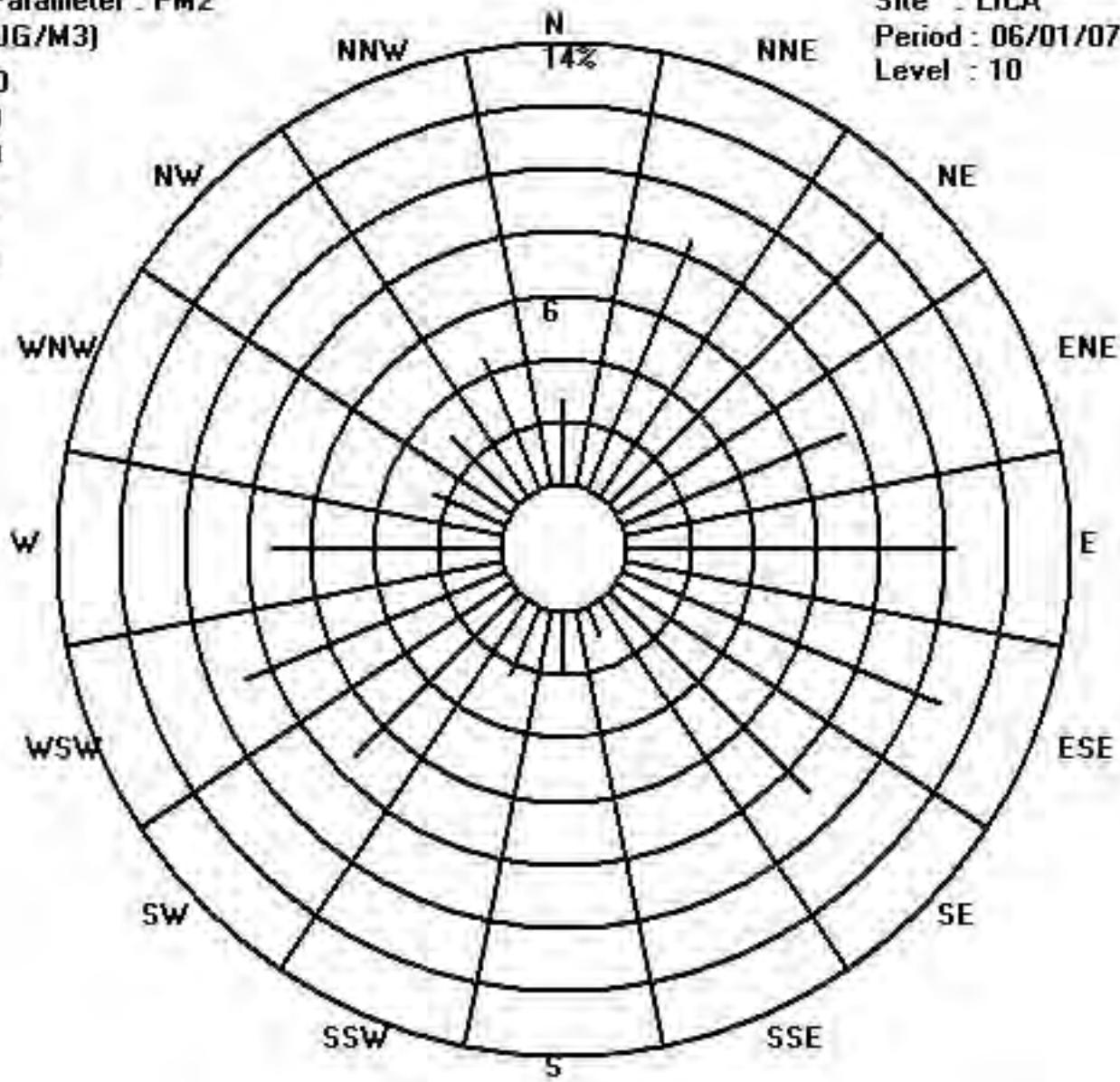
Class Limits (UG/M3)



Site : LICA

Period : 06/01/07-06/30/07

Level : 10



# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2007

## PARTICULATE MATTER 2.5 MAX instantaneous maximum in ug/m<sup>3</sup>

HOUR START HOUR END	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	23:00 0:00	DAILY MAX.	24-HOUR AVG.	RDGS.
DAY																											
1	7.7	8.5	7.8	7.6	19.8	22.7	15.8	15.9	16.9	7.8	13.8	10.2	10.1	10.7	11.6	15.4	16.9	10.1	12.1	19.8	18.4	20.9	15	14.6	22.7	13.8	24
2	15.4	21.6	14.6	16.3	16.2	28.6	24.9	20.1	22.8	17.3	16	17.7	16.5	11.8	11.4	15.8	15.7	11.2	23.3	26.3	16.8	22.2	20.2	17.2	28.6	18.3	24
3	16	18.7	16	14.6	21.2	18.7	17.8	13.5	10.9	9.1	11.3	13.3	11.8	9.3	13.8	13.9	10.1	13.3	15.4	12.9	21.6	17.7	7.5	9.5	21.6	14.1	24
4	4	5	4	3.9	5.5	5.8	6.4	6.6	7.7	9.6	10.9	9.7	9.5	9.6	7.9	8.2	6.4	5.7	6.4	5.6	4.7	4.5	0.4	0.7	10.9	6.2	24
5	3.4	6.1	4.6	7.5	6.9	6.7	8	8	10	9.3	10.9	13.2	13.8	13.6	14.5	9.1	9.8	8.2	6.2	7.8	7.4	9.1	6.2	5.4	14.5	8.6	24
6	6.2	5.7	5.6	10.3	12.8	10	13.6	6.7	4.5	4.4	6.1	6	7.7	7.7	9.8	8.3	4.5	5.2	6.4	10.7	11.7	16.1	9.8	10.2	16.1	8.3	24
7	7.3	6.3	5.6	5.8	13.9	15.1	C	C	C	C	C	12.5	10	14.2	10.7	16.6	9.3	9.7	10.3	9.8	12.1	9.6	10.2	16.6	10.5	24	
8	11.6	11.1	13.3	14	14.4	15.1	18.6	C	C	C	C	C	9.7	31	15.8	6.6	7.9	16	19.2	18.4	22.9	14.2	17.4	31	15.4	24	
9	20	20.6	18.4	4.5	8.7	5.6	5.7	1.5	2.2	2.8	0.6	D	2	D	2.3	2.8	1.2	3.1	4.7	4.6	4.5	10.5	3.7	1.1	20.6	6.0	22
10	2.3	2.9	1.3	3.5	3.7	3.7	3.6	4	5.1	2.4	5.2	9.5	13.4	14.7	13.4	8.6	8.9	7.4	10.7	8.4	12.9	5.4	5.6	4.8	14.7	6.7	24
11	6.9	8.6	8.3	8.2	13	6.8	9.7	10.2	9.2	9.8	10.3	9	9.8	7.8	7.9	4.7	5.3	8.2	4.6	5.1	6.2	7.2	8.4	4.7	13	7.9	24
12	5.4	5.2	3	0.6	8.9	13.8	20.8	39.7	21	13.8	16.6	24.2	D	15	12.1	5.4	4.1	4.4	1.4	0	2.4	2.5	3.4	5.5	39.7	10.0	23
13	6.6	6.6	6.4	8.4	10.5	9.7	11	11.2	16.1	20	21.8	24.4	19	15.7	11.3	9.1	25.5	20.7	D	5.8	16.1	6.4	7.3	5.9	25.5	12.8	23
14	5.2	3	4.8	6.2	15.4	16.1	9.1	11.9	15	9	14.6	9	17.3	19.4	19	14.5	13.2	16.2	13.1	16.8	18.1	11.1	6.1	2	19.4	11.9	24
15	2.3	0.8	D	D	8.9	11.4	7.3	2.4	2.5	5.7	11.2	8.2	C	C	10.2	11.6	26.7	31.5	21.8	21	4.1	9	8.4	31.5	10.8	22	
16	7.1	10.6	10	9.5	12.4	8.3	5.9	7.8	7.4	10.7	17	15	14.3	13.9	14.5	9.1	13.7	19.2	16.6	15.3	18.7	19.3	12.5	13	19.3	12.6	24
17	11.9	9	10.5	3.7	10.8	14.4	13.5	8.2	5.8	7.9	7.6	8.4	10.7	11.1	11.9	9.6	11.1	13	22.1	20.2	15.2	13.4	13.6	10.5	22.1	11.4	24
18	7.1	6.7	10.9	9.8	23.5	30.9	15.6	7.9	11.3	12.2	13.2	19.4	21.9	20.1	18.9	36.7	36.6	19.6	15.7	24.9	24.4	8.9	8.5	7.7	36.7	17.2	24
19	6.7	6.4	3.6	4	4.1	4.1	2.8	3	5.8	16	16.5	19.5	23	15.6	13.3	11.9	16.1	19	12.5	10.7	11.6	7.1	5.5	4.2	23	10.1	24
20	2.9	3.7	3.5	6.3	13.8	19.5	15.5	12.2	7.3	13.5	12.8	10.3	9.5	10.5	10.9	13.8	11.6	12.7	10.8	13	23.9	10.1	6.6	5.7	23.9	10.9	24
21	5.7	3.8	8	20.4	21.8	12.3	15.5	11.7	10.6	16.2	15.1	13	26	28.1	27.1	15.6	32.2	32.1	20.2	47.3	10.8	D	7.3	3.7	47.3	17.6	23
22	0.7	3.5	3.3	2.3	12.7	31.9	26.7	28.1	18.3	D	20.7	18.9	D	D	7.2	13.3	13.4	16.3	15.7	12.7	10.8	21	6.4	9.5	31.9	14.0	21
23	5.4	2	3.1	14.1	2.2	7.6	7	8.4	10.1	13.4	11.2	6.2	16.5	12.8	16.9	22.7	11.7	9.8	6.6	10.6	D	6.6	2.9	22.7	9.5	23	
24	0.6	0	0.2	4.2	9.2	22.1	15	10.5	14.1	D	11.4	9.2	14.6	12.1	20.7	26.2	9.3	11.3	9.7	14.7	46.4	8.2	4.8	7.1	46.4	12.2	23
25	4.2	4.1	3.5	5.1	6.6	6.3	6.6	9.3	7.9	7.8	5.4	7.1	4.2	3	D	5	2.5	1.3	7.5	4.2	0.5	2	1.4	D	9.3	4.8	22
26	1.4	1.7	2.7	0.9	3.1	2.4	4.8	4.6	7.9	5.9	7.5	6.6	8.2	2.8	4.7	7.2	2.9	5.2	5.7	5	9.7	1.8	D	0	9.7	4.5	23
27	0.5	4.1	4.1	5.2	17.5	16.8	11.4	7.2	12	10.1	10.1	7.7	11.3	8.5	9.5	11.2	8.7	10.2	9.2	5.6	6.1	3.2	1.9	1.6	17.5	8.1	24
28	5.6	4.2	0	0.5	1	4.2	8.5	11.3	15.2	12.1	10.8	13.2	19.9	9	11.5	9.3	10.3	13.4	10.3	11.2	12.2	6.2	4.3	3.3	19.9	8.6	24
29	1.3	3.2	5.9	4.5	4.7	7.5	9.1	13.3	12.9	11.5	12.2	14.2	14.5	13.2	16	12.6	10.5	9.3	8.2	4.8	3	5.1	6.1	10.8	16	8.9	24
30	13.1	3.2	1.8	3.1	17.9	8.2	16.4	15.1	13.1	14.4	10.3	7.2	D	13.7	9.1	8.2	14.3	D	10.6	14	43	10.7	4.8	6.6	43	11.8	22
HOURLY MAX	20	22	18	20	24	32	27	40	23	20	22	24	26	28	31	37	37	32	32	47	46	23	20	17			
HOURLY AVG	6.5	6.6	6.4	7.1	11.4	12.9	12.0	11.1	10.8	10.5	11.8	12.2	13.5	12.2	13.3	12.2	12.0	12.1	11.8	13.0	14.6	10.3	7.5	7.0			

### 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

### MONTHLY SUMMARY

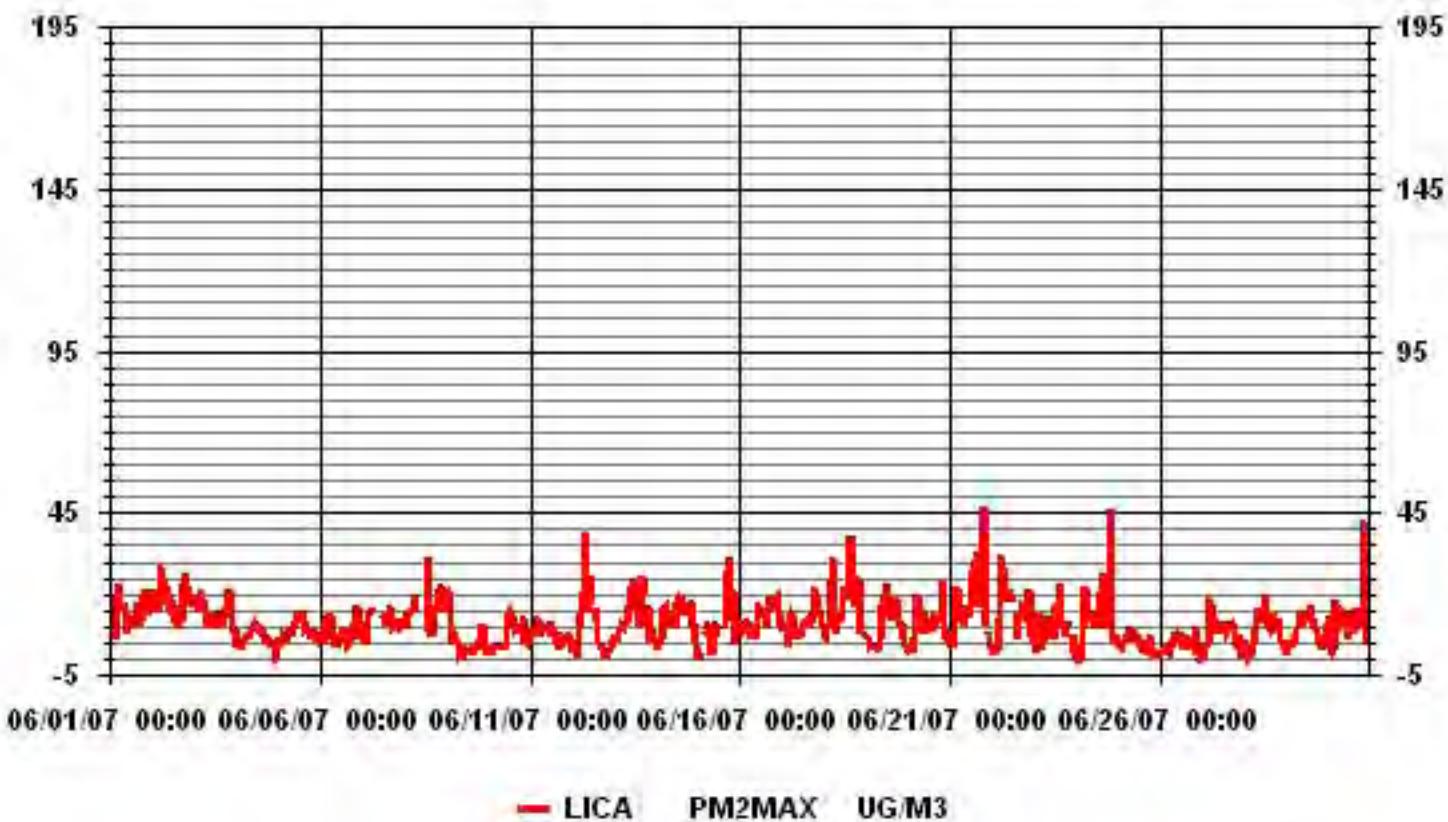
NUMBER OF NON-ZERO READINGS:	684
MAXIMUM INSTANTANEOUS VALUE:	47.3 UG/M <sup>3</sup> @ HOUR(S) 20 ON DAY(S) 21

Izs CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	703 HRS
MONTHLY CALIBRATION TIME:	15 HRS		

### MOUNTAIN STANDARD TIME



### 01 Hour Averages



**NO<sub>2</sub>**

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2007

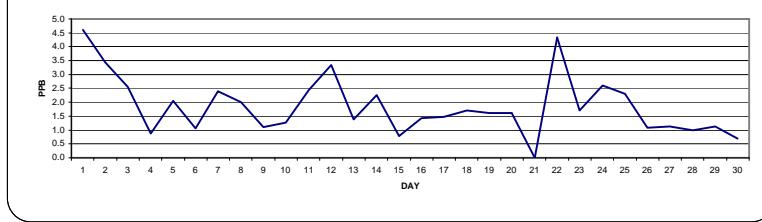
NITROGEN DIOXIDE hourly averages in ppb

HOUR START HOUR END	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	23:00 0:00	DAILY MAX.	24-HOUR AVG.	RDGs.	
DAY																												
1	3	2	3	3	3	6	9	8	7	9	15	1	4	2	IZS	1	2	2	2	4	8	5	2	5	15	4.6	24	
2	5	4	5	3	4	4	6	5	5	2	2	1	2	IZS	1	2	2	1	2	3	4	6	5	5	6	3.4	24	
3	6	5	5	6	5	4	1	1	0	1	1	0	IZS	1	1	1	0	1	1	2	6	6	3	2	6	2.6	24	
4	1	1	1	1	1	1	1	1	1	0	IZS	1	1	1	0	1	1	1	1	1	1	1	1	0	1	0.9	24	
5	0	1	1	2	3	6	4	3	3	3	IZS	2	2	2	1	1	1	1	1	2	4	1	1	1	6	2.0	24	
6	0	1	1	0	1	2	1	C	C	C	C	IZS	1	0	0	0	1	1	1	3	3	3	2	3	1.1	24		
7	2	1	2	4	3	5	8	7	IZS	2	1	0	1	0	0	0	0	1	2	3	4	5	4	8	2.4	24		
8	4	3	4	2	2	3	3	IZS	1	0	1	1	0	1	1	0	0	0	1	2	5	5	5	5	5	2.0	24	
9	4	4	1	0	1	1	IZS	1	1	0	0	0	C	C	IZS	0	0	0	0	2	2	3	2	0	4	1.1	24	
10	0	0	0	0	0	0	IZS	1	1	1	1	1	1	1	1	1	1	3	4	3	3	2	2	4	1.3	24		
11	1	2	2	2	IZS	5	3	4	2	2	3	2	3	1	1	1	1	1	2	4	3	3	4	4	5	2.4	24	
12	3	4	3	IZS	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	4	3.3	4		
13	S	S	S	S	S	S	S	C	C	C	C	C	C	C	IZS	2	1	0	0	2	2	2	2	2	2	1	1.4	17
14	1	IZS	3	2	3	4	6	5	6	2	1	2	1	1	1	1	1	1	2	2	3	2	1	1	6	2.3	24	
15	IZS	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	2	2	3	2	IZS	3	0.8	24	
16	1	1	1	2	2	1	1	1	2	2	1	1	1	0	0	0	1	1	1	1	3	4	4	4	1.4	24		
17	3	4	2	1	2	1	1	1	1	1	1	1	0	0	1	1	1	1	1	2	2	IZS	3	3	4	1.5	24	
18	3	3	2	2	3	5	4	1	0	1	1	0	0	1	1	1	1	1	1	1	1	IZS	3	2	2	5	1.7	24
19	2	2	2	2	2	2	1	1	1	0	1	1	1	1	0	1	1	1	1	1	IZS	3	4	3	4	4	1.6	24
20	3	3	2	2	4	3	3	2	1	1	1	1	1	1	0	0	0	IZS	S	S	S	S	S	S	4	1.6	19	
21	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	NA	NA	0			
22	S	S	S	S	S	S	S	C	C	C	C	C	C	C	C	IZS	5	5	6	4	3	3	6	4.3	17			
23	2	2	2	1	2	1	2	1	1	1	1	1	1	1	2	IZS	3	2	2	2	2	3	2	3	1.7	24		
24	3	3	2	2	2	2	4	9	4	3	2	1	1	1	1	IZS	2	1	2	2	3	4	4	3	1	9	2.6	24
25	1	2	2	2	2	2	2	1	2	3	3	4	3	IZS	2	2	2	2	4	4	4	2	1	1	4	2.3	24	
26	1	1	0	0	0	0	1	2	1	1	1	1	1	1	1	IZS	1	1	1	1	2	3	2	2	3	1.1	24	
27	1	3	2	1	2	1	1	0	1	0	0	0	IZS	1	0	0	1	0	1	1	1	3	2	3	3	1.1	24	
28	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	IZS	1	1	1	1	1	1	1	1	2	1.0	24	
29	1	1	1	1	1	2	1	1	1	1	IZS	2	2	1	1	1	1	1	1	1	1	1	1	1	2	1.1	24	
30	1	0	0	0	1	0	0	1	IZS	2	1	1	0	0	0	0	0	0	0	1	2	3	2	1	0.7	24		
HOURLY MAX	6	5	5	6	5	6	9	8	7	9	15	4	4	2	2	2	3	2	5	5	8	6	5	5				
HOURLY AVG	2.0	2.1	1.9	1.7	2.0	2.6	2.8	2.3	1.8	1.6	1.7	1.1	1.2	0.9	0.8	0.8	0.9	0.9	1.4	2.0	2.8	3.2	2.5	2.3				

### 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

### 24 HOUR AVERAGES FOR JUNE 2007



### OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT: 1-HR 212 PPB 24-HR 106 PPB

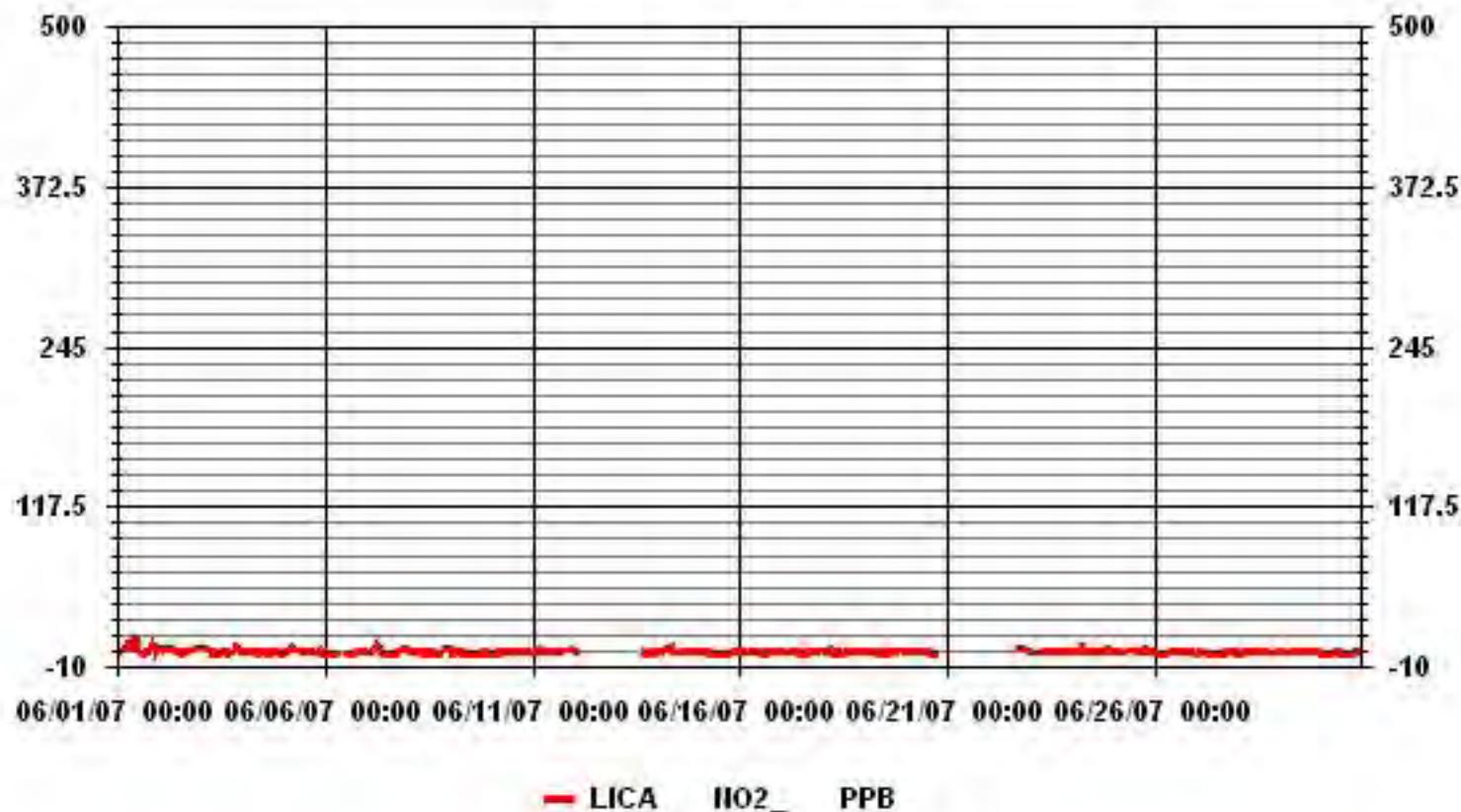
### MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDENCES:	0
NUMBER OF 24-HR EXCEEDENCES:	0
NUMBER OF NON-ZERO READINGS:	516
MAXIMUM 1-HR AVERAGE:	15 PPB @ HOUR(S) 11 ON DAY(S) 1
MAXIMUM 24-HR AVERAGE:	4.6 PPB
Izs Calibration Time:	31 HRS
Operational Time:	657 HRS
Monthly Calibration Time:	25 HRS
AMD Operation Uptime:	91.3 %
Standard Deviation:	1.65
Monthly Average:	1.82 PPB

**Maxxam**  
Analytics Inc

MOUNTAIN STANDARD TIME

### 01 Hour Averages



**LICA**  
**NO2\_ / WD Joint Frequency Distribution (Percent)**

June 2007

**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	3.00	8.83	12.50	8.16	11.16	10.66	8.00	.83	1.16	2.66	7.00	8.16	6.16	3.00	3.50	5.16	100.00
< 110	.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	
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
Totals	3.00	8.83	12.50	8.16	11.16	10.66	8.00	.83	1.16	2.66	7.00	8.16	6.16	3.00	3.50	5.16	

Calm : .00 %

Total # Operational Hours : 600

**Distribution By Samples**

**Direction**

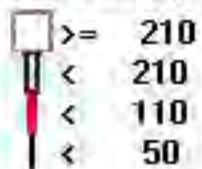
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	18	53	75	49	67	64	48	5	7	16	42	49	37	18	21	31	600
< 110																	
< 210																	
>= 210																	
Totals	18	53	75	49	67	64	48	5	7	16	42	49	37	18	21	31	

Calm : .00 %

Total # Operational Hours : 600

Logger : 01 Parameter : NO<sub>2</sub>

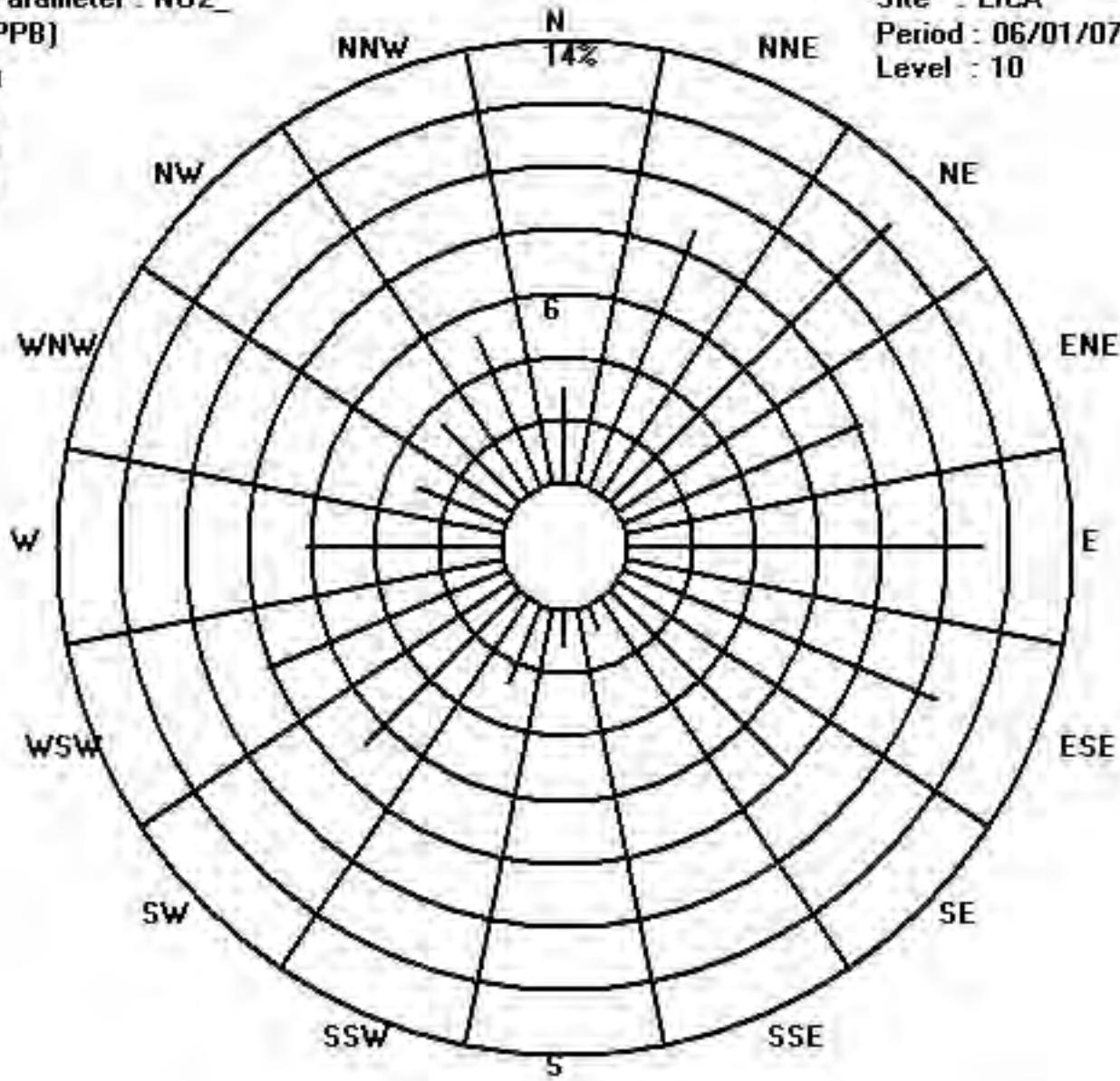
Class Limits (PPB)



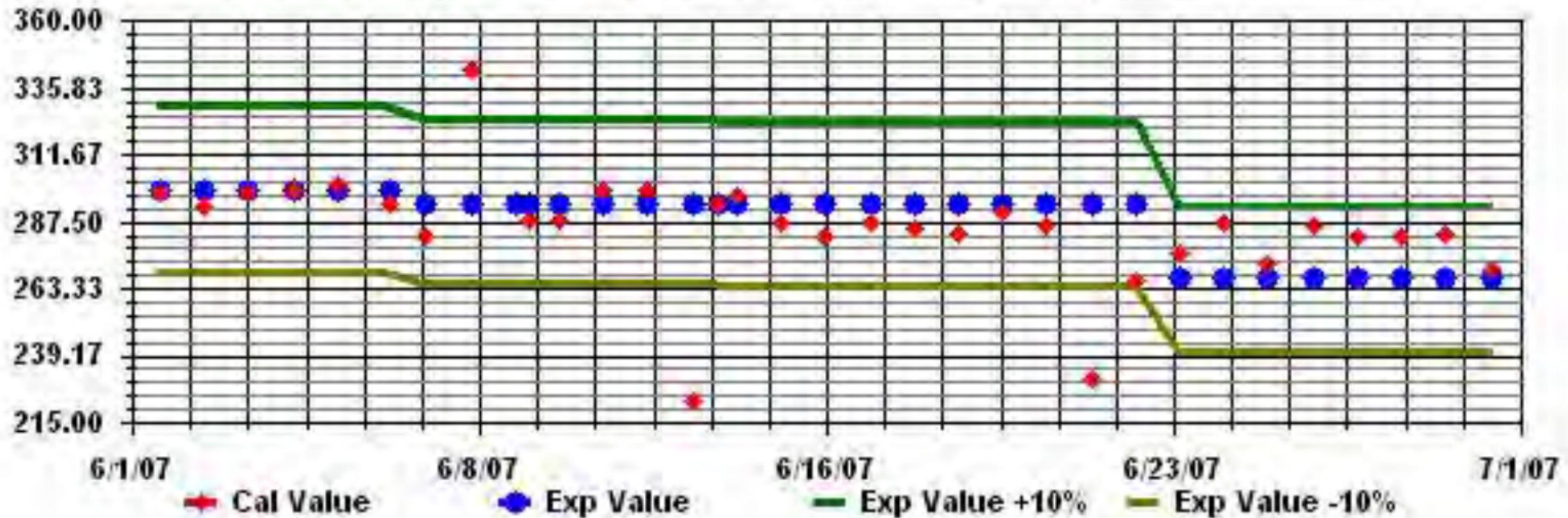
Site : LICA

Period : 06/01/07-06/30/07

Level : 10



Calibration Graph for Site: LICA Parameter: NO2\_ Sequence: NO2 Phase: SPAN



**LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE**

JUNE 2007

**NITROGEN DIOXIDE MAX** instantaneous maximum in ppt

HOUR START HOUR END	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	23:00 0:00	DAILY MAX.	24-HOUR AVG.	RDGS.	
DAY																												
1	6	7	5	4	9	14	14	17	14	173	243	2	142	61	IZS	3	3	4	8	15	15	10	10	10	243	34.3	24	
2	10	6	8	6	12	7	6	6	10	3	7	5	2	IZS	3	9	11	10	4	7	6	12	10	8	12	7.3	24	
3	13	8	8	7	7	2	1	1	1	1	2	IZS	1	4	2	2	2	2	4	15	9	8	5	15	4.9	24		
4	1	3	1	2	4	5	3	5	1	1	1	IZS	8	6	12	3	29	3	5	3	6	3	2	1	29	4.7	24	
5	1	1	1	11	8	12	5	5	5	20	IZS	5	10	7	4	3	3	2	2	11	11	8	5	1	20	6.1	24	
6	1	1	1	1	3	8	8	C	C	C	C	IZS	6	3	2	3	2	9	3	10	6	3	10	4.1	24			
7	6	2	5	6	3	9	9	11	IZS	4	2	1	2	0	1	1	0	2	6	5	5	6	5	11	4.0	24		
8	6	8	5	2	2	4	3	IZS	2	1	1	1	1	2	3	1	2	0	0	1	4	7	7	6	8	3.0	24	
9	5	6	5	0	2	11	IZS	6	9	1	5	1	C	C	IZS	3	3	2	6	22	13	4	4	0	22	5.4	24	
10	0	0	0	0	1	IZS	1	2	2	2	5	2	2	5	7	4	3	2	8	7	5	4	3	3	8	3.0	24	
11	2	2	2	2	3	IZS	11	4	16	3	6	7	4	7	3	1	4	1	2	3	7	4	5	4	4	16	4.6	24
12	4	4	4	4	IZS	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	4	4.0	4		
13	S	S	S	S	S	S	S	S	C	C	C	C	C	C	IZS	3	2	1	1	6	6	6	3	4	6	3.3	17	
14	3	IZS	4	3	20	7	9	8	10	4	2	3	3	5	5	1	2	1	2	3	7	7	2	1	20	4.9	24	
15	IZS	2	3	5	4	2	3	3	2	1	1	3	4	1	1	1	3	1	4	4	3	6	3	IZS	6	2.7	24	
16	3	3	3	3	3	2	1	1	4	4	4	1	4	1	1	2	4	3	2	3	5	8	IZS	6	8	3.1	24	
17	5	5	3	1	3	3	1	3	1	4	1	3	1	4	3	3	10	5	1	4	4	IZS	11	4	11	3.6	24	
18	4	3	3	4	4	9	8	7	1	2	3	1	1	1	1	3	1	1	4	5	IZS	4	3	3	9	3.3	24	
19	4	3	3	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	IZS	5	7	6	5	7	2.5	24
20	4	4	3	3	6	4	3	3	3	1	1	1	1	1	4	3	5	4	1	IZS	S	S	S	S	S	6	3.0	19
21	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	NA	NA	0			
22	S	S	S	S	S	S	S	C	C	C	C	C	C	C	IZS	6	7	7	7	6	4	4	7	5.7	17			
23	3	2	2	2	2	2	1	1	2	2	1	1	1	3	IZS	3	3	3	2	2	3	4	2	4	2.1	24		
24	5	3	2	3	3	7	10	6	4	3	2	2	1	1	IZS	2	2	2	2	4	4	4	4	1	10	3.3	24	
25	2	2	2	2	3	3	2	3	3	4	4	4	3	IZS	4	2	3	3	6	7	6	3	1	1	7	3.1	24	
26	1	1	1	1	1	5	4	1	1	1	IZS	9	4	6	4	4	7	14	4	9	3	3	14	3.7	24			
27	2	4	3	2	4	3	1	2	16	1	2	IZS	3	1	3	4	1	12	10	1	2	11	3	9	16	4.3	24	
28	1	1	1	1	9	2	6	5	3	20	IZS	1	6	10	3	5	4	3	2	13	3	4	4	20	4.9	24		
29	1	1	1	1	1	3	3	4	IZS	7	3	3	3	4	2	1	1	3	3	3	1	1	7	2.4	24			
30	1	1	1	1	1	1	1	1	IZS	3	1	1	1	1	2	1	1	1	3	9	8	4	3	9	2.1	24		
HOURLY MAX	13	8	8	11	20	14	14	17	16	173	243	5	142	61	12	9	29	12	10	22	15	12	11	10				
HOURLY AVG	3.6	3.2	3.0	3.0	4.7	5.6	4.5	5.0	4.4	10.9	13.2	2.1	9.4	5.8	3.3	3.0	4.1	2.8	3.6	6.0	6.4	6.3	4.7	3.7				

**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

**MONTHLY SUMMARY**

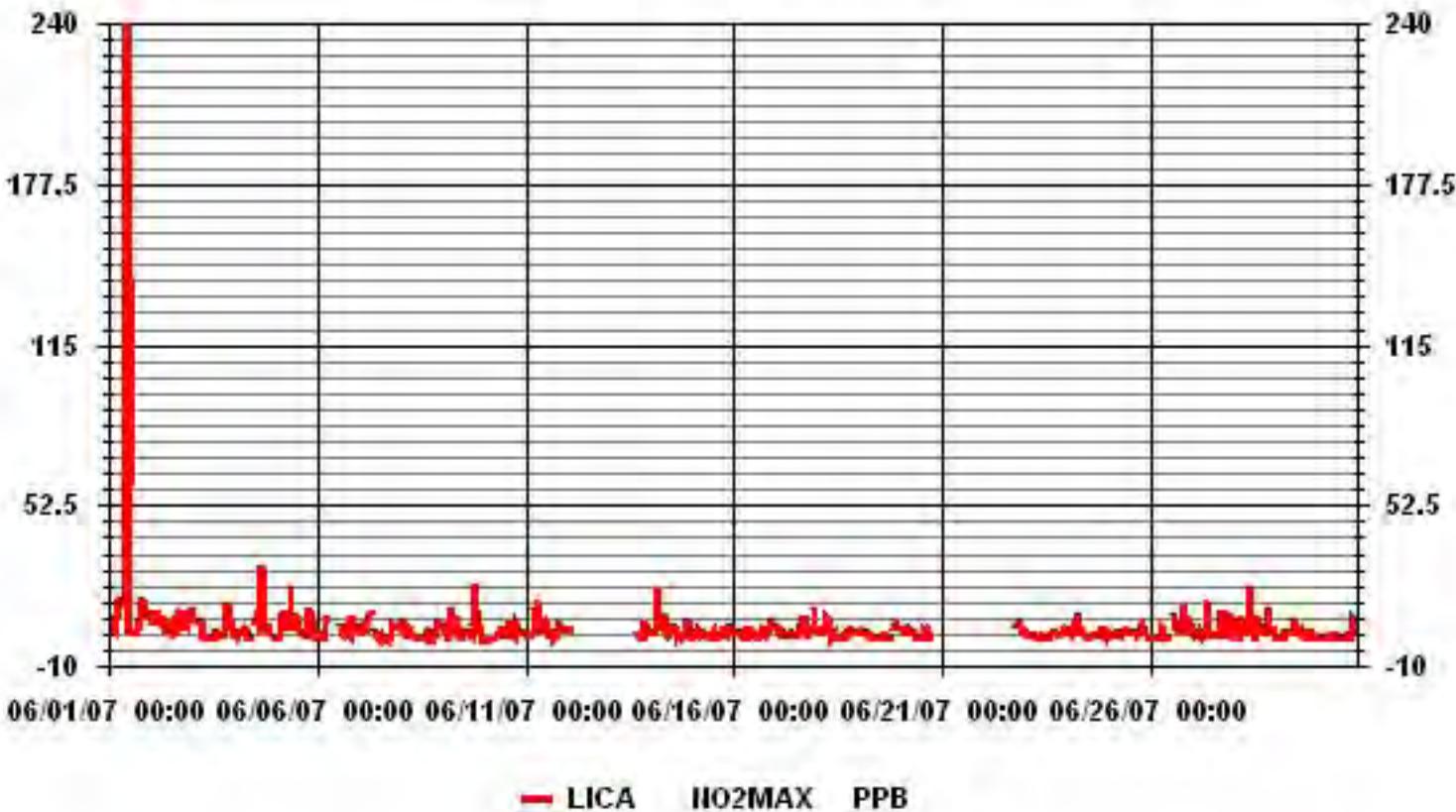
NUMBER OF NON-ZERO READINGS:	590
MAXIMUM INSTANTANEOUS VALUE:	243 PPB @ HOUR(S) 11 ON DAY(S) 1

Izs Calibration Time:	31 HRS	Operational Time:	657 HRS
Monthly Calibration Time:	25 HRS		
Standard Deviation:	13.82		

**MOUNTAIN STANDARD TIME**



### 01 Hour Averages



**NO**

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2007

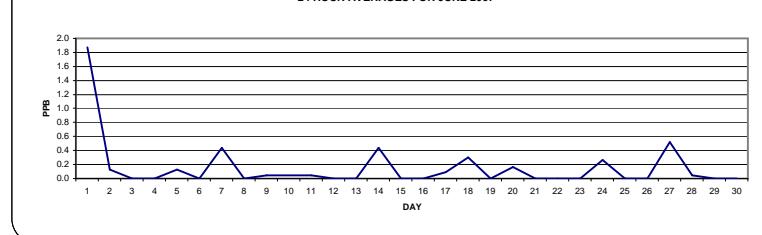
NITRIC OXIDE hourly averages in ppt

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 MAX.	24-HOUR AVG.	RDGS.		
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00					
DAY																													
1	0	0	0	0	1	5	4	2	2	4	14	0	1	10	IZS	0	0	0	0	0	0	0	0	0	0	14	1.9	24	
2	0	0	0	0	0	1	1	0	1	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	1	0.1	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	0.0	24	
4	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	0.0	24	
5	0	0	0	0	0	1	0	0	0	1	IZS	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24		
6	0	0	0	0	0	0	C	C	C	C	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24		
7	0	0	0	0	0	2	4	4	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0.4	24		
8	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		
9	0	1	0	0	0	0	IZS	0	0	0	0	C	C	IZS	0	0	0	0	0	0	0	0	0	0	1	0.1	24		
10	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24		
11	0	0	0	0	0	IZS	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	24		
12	0	0	0	0	IZS	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	0	0.0	4		
13	S	S	S	S	S	S	S	C	C	C	C	C	C	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0.0	17	
14	0	IZS	0	0	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.4	24		
15	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	0.0	24		
16	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		
17	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	1	0	0.1	24		
18	0	0	0	0	3	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0.3	24		
19	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		
20	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	S	S	S	S		
21	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	NA	NA	0	0			
22	S	S	S	S	S	S	S	C	C	C	C	C	C	C	IZS	0	0	0	0	0	0	0	0	0	0	0	0	0.0	17
23	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	0.0	24	
24	0	0	0	0	1	1	3	1	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	3	0.3	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	0.0	24	
26	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	0.0	24	
27	0	1	1	3	5	1	1	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	0	0	0	5	0.5	24		
28	0	0	0	0	0	0	0	0	1	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	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	24			
HOURLY MAX	0	1	1	3	5	5	4	4	2	4	14	0	1	10	0	0	0	0	0	1	0	0	0	1	0				
HOURLY AVG	0.0	0.1	0.0	0.2	0.6	0.8	0.6	0.4	0.2	0.2	0.7	0.0	0.1	0.5	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

### 24 HOUR AVERAGES FOR JUNE 2007

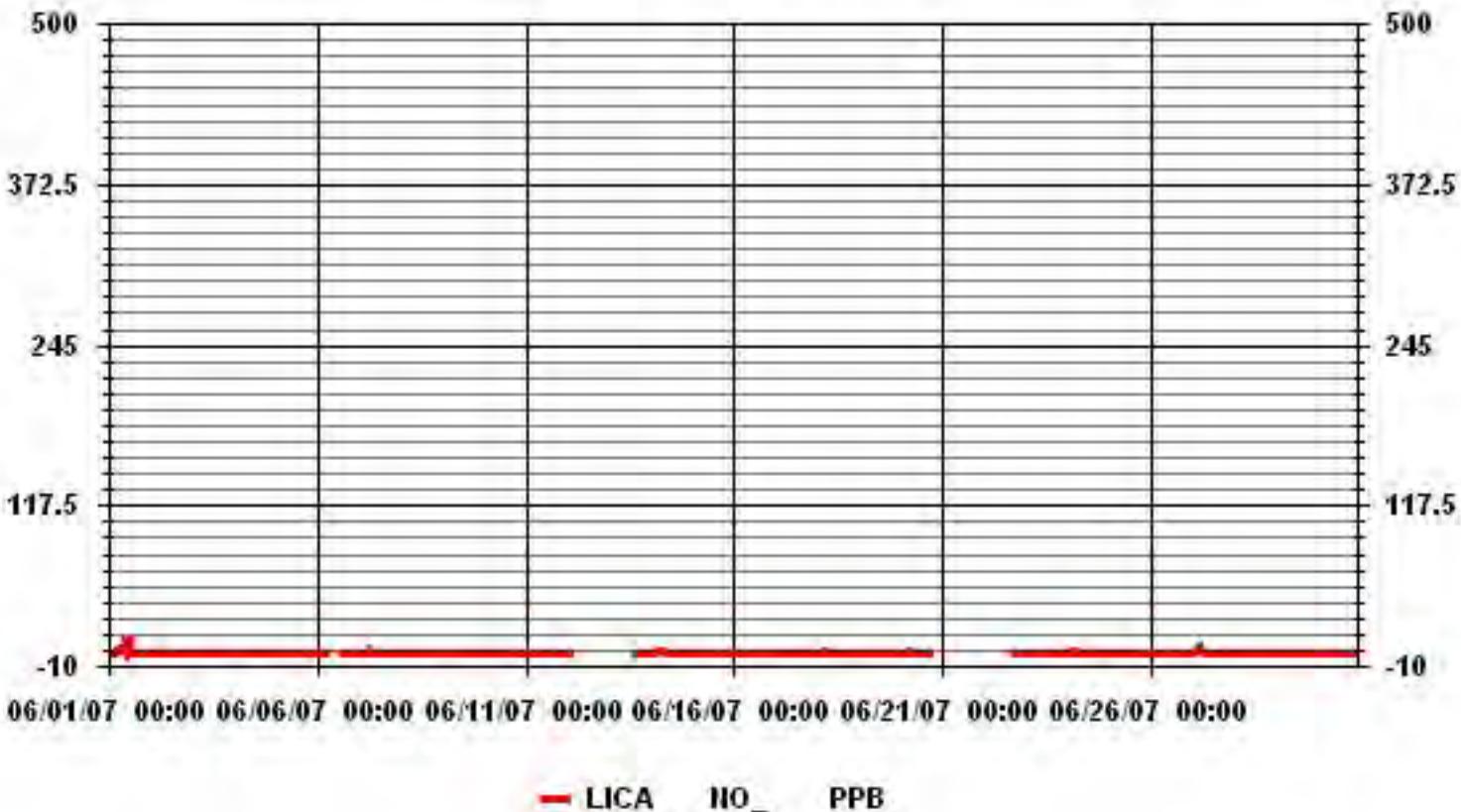


### MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	45
MAXIMUM 1-HR AVERAGE:	14 PPB
MAXIMUM 24-HR AVERAGE:	1.9 PPB
IZS CALIBRATION TIME:	31 HRS
MONTHLY CALIBRATION TIME:	25 HRS
STANDARD DEVIATION:	0.90
OPERATIONAL TIME:	657 HRS
AMD OPERATION UPTIME:	91.3 %
MONTHLY AVERAGE:	0.17 PPB

### MOUNTAIN STANDARD TIME

### 01 Hour Averages



**LICA**  
NO\_ / WD Joint Frequency Distribution (Percent)

June 2007

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	3.00	8.83	12.50	8.16	11.16	10.66	8.00	.83	1.16	2.66	7.00	8.16	6.16	3.00	3.50	5.16	100.00
< 110	.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	
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
Totals	3.00	8.83	12.50	8.16	11.16	10.66	8.00	.83	1.16	2.66	7.00	8.16	6.16	3.00	3.50	5.16	

Calm : .00 %

Total # Operational Hours : 600

Distribution By Samples

Direction

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	18	53	75	49	67	64	48	5	7	16	42	49	37	18	21	31	600
< 110																	
< 210																	
>= 210																	
Totals	18	53	75	49	67	64	48	5	7	16	42	49	37	18	21	31	

Calm : .00 %

Total # Operational Hours : 600

Logger : 01 Parameter : NO<sub>x</sub>

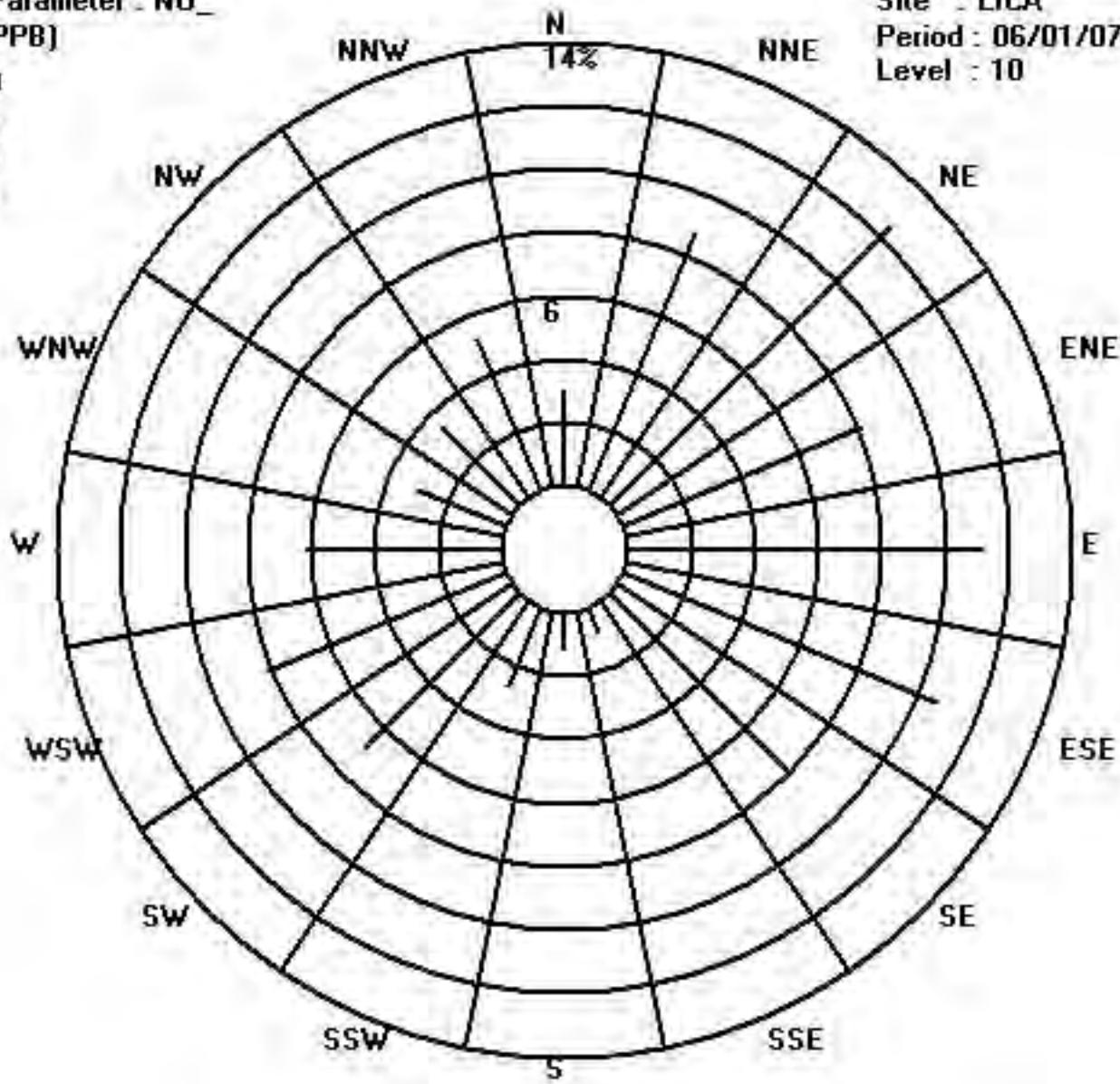
Class Limits (PPB)



Site : LICA

Period : 06/01/07-06/30/07

Level : 10



# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2007

NITRIC OXIDE MAX instantaneous maximum in ppt

HOUR START HOUR END	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	23:00 0:00	DAILY MAX.	24-HOUR AVG.	RDGS.			
DAY																														
1	0	0	0	2	8	13	12	5	5	48	88	0	19	487	IZS	0	1	0	0	47	0	1	0	0	0	487	32.0	24		
2	0	0	1	0	7	4	2	1	42	0	6	0	0	IZS	0	4	5	1	0	0	0	1	0	2	42	3.3	24			
3	2	2	0	0	0	1	0	0	2	1	0	6	IZS	0	2	1	19	1	0	0	1	0	14	14	19	2.9	24			
4	0	0	0	0	0	3	2	4	4	2	1	IZS	5	3	3	0	9	1	1	1	5	2	0	0	9	2.0	24			
5	0	0	0	1	2	40	5	3	1	38	IZS	5	29	4	1	2	7	0	0	1	1	0	0	0	40	6.1	24			
6	0	0	0	0	1	1	2	C	C	C	C	IZS	3	5	3	22	0	3	1	0	1	0	0	0	22	2.5	24			
7	2	0	0	0	0	12	5	18	IZS	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	18	1.7	24			
8	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	1	0	0	0	0	0	0	2	2	3	3	0.3	24			
9	4	3	1	0	0	3	IZS	2	5	1	5	1	C	C	IZS	0	5	2	5	5	28	0	0	0	0	28	3.5	24		
10	0	0	0	0	1	IZS	0	1	0	1	5	0	0	2	9	1	6	0	3	4	1	0	0	1	9	1.5	24			
11	0	0	0	1	IZS	4	1	5	2	3	22	1	3	4	0	3	3	0	0	0	0	0	0	0	22	2.3	24			
12	0	0	0	IZS	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	0.0	4				
13	S	S	S	S	S	S	S	C	C	C	C	C	C	IZS	0	3	0	0	0	0	0	0	0	0	0	3	0.4	17		
14	I	IZS	1	0	75	6	7	5	4	1	0	0	0	0	2	4	0	0	0	0	0	0	0	0	75	4.6	24			
15	IZS	0	1	8	3	3	1	3	3	0	0	9	3	6	3	1	1	0	3	3	0	1	0	IZS	9	2.4	24			
16	0	4	4	0	1	0	0	0	4	4	4	1	1	0	0	1	4	0	0	6	0	0	0	IZS	0	1.5	24			
17	0	1	0	0	2	2	0	5	1	3	0	0	0	1	1	8	1	5	3	0	0	0	0	IZS	57	0	57			
18	0	0	1	2	6	9	6	3	0	4	6	0	0	0	0	0	0	0	3	3	IZS	0	0	0	9	1.9	24			
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	0	0	0	0	2	0.1	24			
20	0	0	1	3	3	1	2	1	3	0	0	0	0	0	10	0	0	3	1	0	IZS	S	S	S	S	S	10	1.6	19	
21	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	NA	NA	0				
22	S	S	S	S	S	S	S	C	C	C	C	C	C	C	C	C	C	C	C	IZS	0	0	0	0	0	0	0.0	17		
23	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			
24	0	0	0	1	2	4	2	0	0	0	0	0	0	0	0	IZS	0	0	0	0	0	0	0	0	4	0.4	24			
25	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	IZS	0	0	0	0	0	0	0	0	1	0.0	24			
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IZS	7	2	1	7	5	6	8	3	8	0	1	8	2.1	24
27	1	3	3	7	12	6	5	1	1	4	1	IZS	1	3	4	15	12	5	1	3	0	3	0	5	15	4.2	24			
28	0	0	0	0	12	1	4	47	9	25	IZS	0	5	1	3	2	0	2	0	0	0	0	0	0	47	5.0	24			
29	0	0	0	0	0	1	0	4	3	IZS	7	2	1	0	8	1	1	3	4	0	1	2	0	0	8	1.7	24			
30	0	0	0	0	0	0	0	0	0	IZS	0	0	1	0	0	1	1	0	0	0	0	0	0	1	6	0.4	24			
HOURLY MAX	4	4	4	8	75	40	12	47	42	48	88	9	29	487	9	15	19	22	6	47	28	8	57	14						
HOURLY AVG	0.4	0.5	0.5	1.0	5.4	4.6	2.2	4.5	3.9	5.6	6.3	1.2	3.1	24.1	2.2	1.8	3.4	1.7	1.0	3.2	1.8	0.8	2.8	1.0						

### 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

### MONTHLY SUMMARY

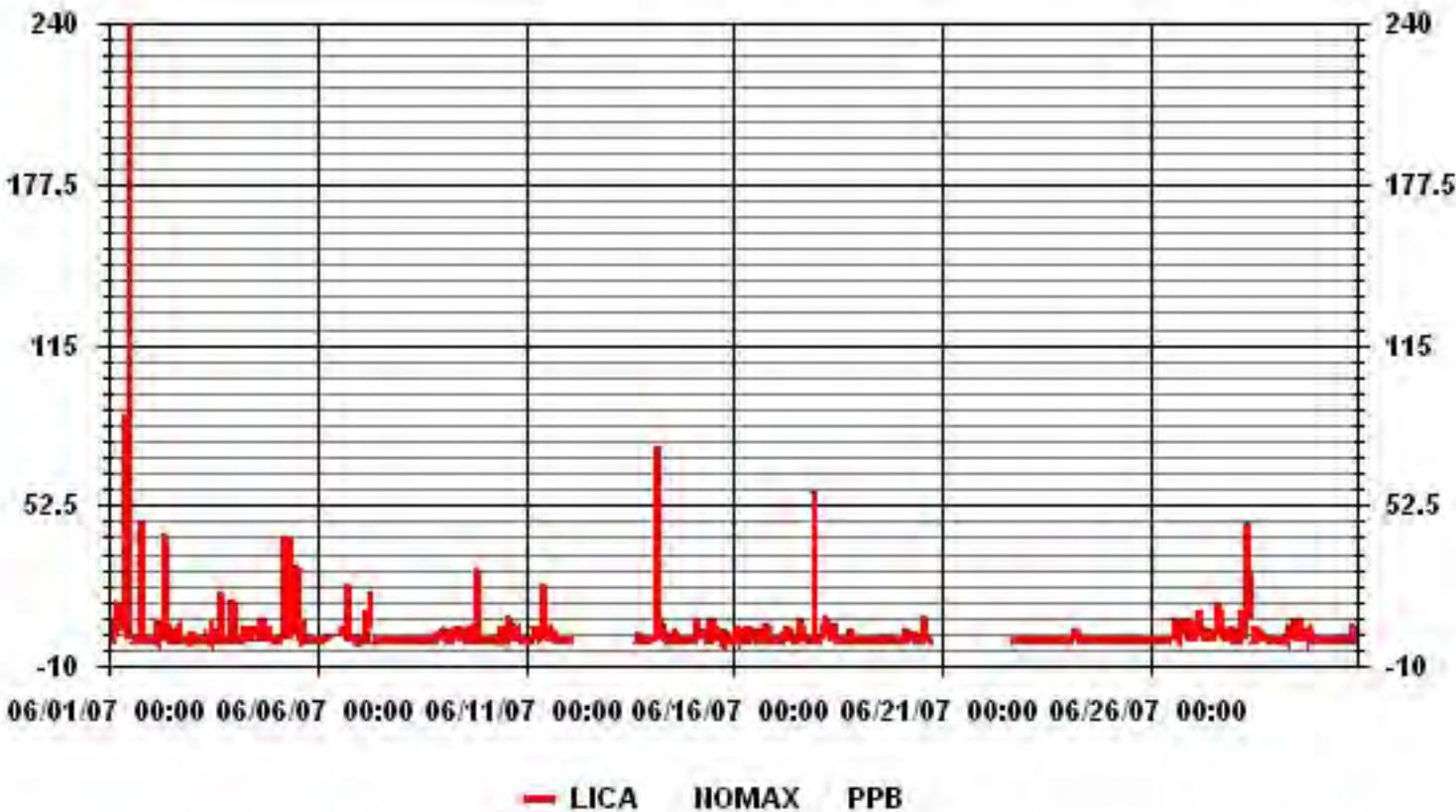
NUMBER OF NON-ZERO READINGS:	263
MAXIMUM INSTANTANEOUS VALUE:	487 PPB @ HOUR(S) 14 ON DAY(S) 1

Izs Calibration Time:	31 HRS	Operational Time:	657 HRS
Monthly Calibration Time:	25 HRS		

### MOUNTAIN STANDARD TIME



### 01 Hour Averages



**NO<sub>x</sub>**

**LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE**

JUNE 2007

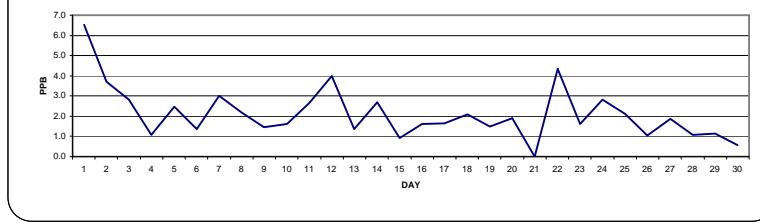
**OXIDES OF NITROGEN** hourly averages in ppb

HOUR START HOUR END	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	23:00 0:00	DAILY MAX.	24-HOUR AVG.	RDGS.			
DAY																														
1	3	3	3	4	4	12	13	10	9	14	29	2	6	5	IZS	2	2	2	2	5	8	5	2	5	29	<b>6.5</b>	24			
2	5	4	5	3	5	5	7	5	6	2	2	2	2	IZS	2	2	2	1	2	3	4	6	5	5	7	3.7	24			
3	6	6	5	6	5	5	1	1	1	1	1	1	1	IZS	1	1	1	1	1	2	6	6	4	2	6	2.8	24			
4	1	1	1	1	1	2	1	2	1	1	1	1	IZS	1	1	1	1	1	1	1	1	2	1	1	0	2	1.1	24		
5	0	1	1	2	3	7	5	4	4	5	IZS	3	3	2	2	2	1	1	1	2	2	4	1	1	7	2.5	24			
6	1	1	1	1	1	2	1	C	C	C	C	C	IZS	1	1	1	1	1	1	1	1	3	3	2	3	1.4	24			
7	3	1	2	5	3	8	12	11	IZS	2	1	1	1	0	0	0	0	0	1	2	3	4	5	4	12	3.0	24			
8	4	4	4	2	2	3	3	IZS	1	0	1	1	1	1	1	1	1	0	0	1	2	6	6	5	6	2.2	24			
9	5	6	1	0	1	1	IZS	1	1	1	1	0	C	C	IZS	0	0	0	1	2	3	3	2	0	6	1.5	24			
10	0	0	0	0	0	0	IZS	1	1	1	2	2	1	2	2	2	2	1	3	5	3	3	2	2	5	1.6	24			
11	1	2	2	2	IZS	5	3	4	2	2	3	4	3	4	2	1	1	1	1	2	4	3	3	4	4	5	2.7	24		
12	4	4	4	IZS	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	4	4.0	4				
13	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	2	1.4	17				
14	1	IZS	3	2	5	6	8	7	9	3	2	2	2	1	1	0	1	1	1	2	1	3	2	0	9	2.7	24			
15	IZS	1	1	1	2	2	1	1	1	0	0	0	0	0	0	0	0	0	0	1	2	2	3	2	IZS	3	0.9	24		
16	1	1	2	2	2	1	1	1	3	2	2	1	1	1	0	0	0	1	1	1	2	3	4	IZS	4	4	1.6	24		
17	3	4	2	1	3	2	1	1	1	1	1	1	1	1	1	0	1	1	1	0	2	2	IZS	5	3	5	1.7	24		
18	3	3	3	3	6	9	6	1	0	1	1	0	0	0	0	0	1	1	1	1	1	1	IZS	3	2	2	9	2.1	24	
19	1	2	2	2	2	2	1	1	1	0	1	0	1	0	0	1	1	1	1	1	1	IZS	3	4	3	4	4	1.5	24	
20	3	3	2	3	5	4	4	3	1	1	1	1	1	1	0	0	0	0	IZS	S	S	S	S	S	S	5	1.9	19		
21	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	NA	NA	0				
22	S	S	S	S	S	S	S	C	C	C	C	C	C	C	C	C	C	C	IZS	5	5	6	4	3	3	6	4.3	17		
23	2	2	2	1	2	1	1	1	1	1	1	1	1	1	1	2	IZS	3	2	2	1	2	2	3	2	3	1.6	24		
24	4	3	3	3	4	8	10	4	3	2	1	1	1	1	1	1	IZS	1	1	1	2	2	4	3	2	1	10	2.8	24	
25	1	2	2	2	2	2	2	1	2	3	3	4	3	4	3	IZS	2	1	1	2	4	4	3	1	1	4	2.1	24		
26	0	0	0	0	0	0	2	2	0	1	1	1	1	1	1	1	IZS	1	0	1	1	0	1	1	1	1	2	3	1.0	24
27	2	4	3	5	7	3	2	1	1	0	0	0	IZS	1	0	1	1	0	1	1	1	1	3	2	3	7	1.9	24		
28	1	0	0	0	1	2	1	2	1	2	IZS	1	1	1	1	1	1	1	1	1	1	2	1	1	2	1.1	24			
29	1	0	1	0	1	2	2	1	1	1	IZS	2	2	2	1	1	1	1	1	1	1	1	1	1	0	2	1.1	24		
30	0	0	0	0	0	0	0	0	0	0	IZS	2	1	1	0	0	0	0	0	0	1	2	3	2	1	0.6	24			
HOURLY MAX	6	6	5	6	7	12	13	11	9	14	29	4	6	5	2	2	3	2	5	5	8	6	6	5						
HOURLY AVG	2.2	2.2	2.0	2.0	2.7	3.8	3.6	2.8	2.2	2.1	2.6	1.3	1.6	1.0	1.0	0.8	1.0	0.9	1.4	2.0	2.9	3.2	2.6	2.3						

**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

**24 HOUR AVERAGES FOR JUNE 2007**



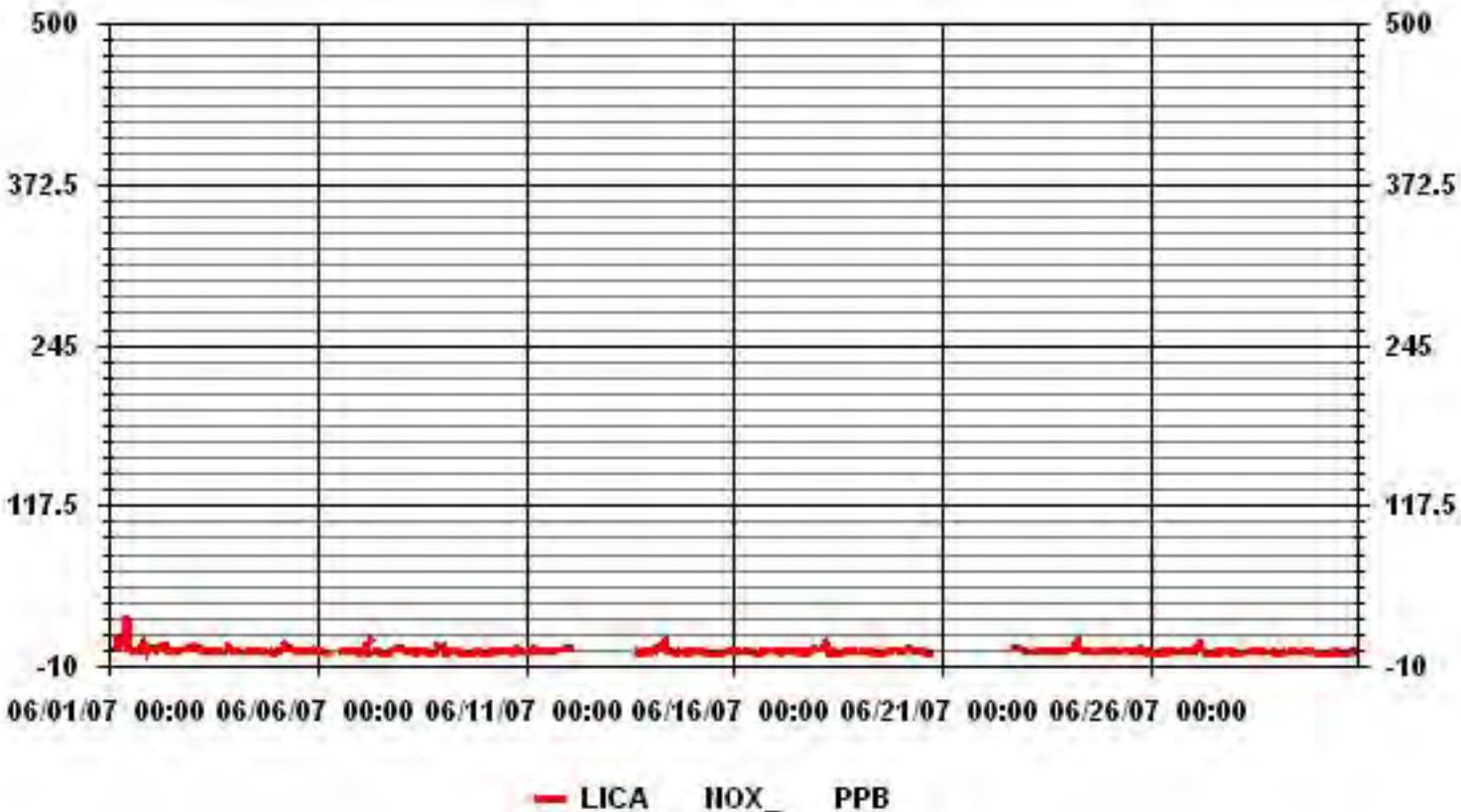
**MONTHLY SUMMARY**

NUMBER OF NON-ZERO READINGS:	517
MAXIMUM 1-HR AVERAGE:	29 PPB
MAXIMUM 24-HR AVERAGE:	6.5 PPB

IZS CALIBRATION TIME:	31 HRS	OPERATIONAL TIME:	657 HRS
MONTHLY CALIBRATION TIME:	18 HRS	AMD OPERATION UPTIME:	91.3 %
STANDARD DEVIATION:	2.26	MONTHLY AVERAGE:	2.09 PPB

**MOUNTAIN STANDARD TIME**

### 01 Hour Averages



**LICA**  
**NOX\_ / WD Joint Frequency Distribution (Percent)**

June 2007

**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	3.00	8.83	12.50	8.16	11.16	10.66	8.00	.83	1.16	2.66	7.00	8.16	6.16	3.00	3.50	5.16	100.00
< 110	.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	
>= 210	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
<b>Totals</b>	<b>3.00</b>	<b>8.83</b>	<b>12.50</b>	<b>8.16</b>	<b>11.16</b>	<b>10.66</b>	<b>8.00</b>	<b>.83</b>	<b>1.16</b>	<b>2.66</b>	<b>7.00</b>	<b>8.16</b>	<b>6.16</b>	<b>3.00</b>	<b>3.50</b>	<b>5.16</b>	

Calm : .00 %

Total # Operational Hours : 600

**Distribution By Samples**

**Direction**

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	18	53	75	49	67	64	48	5	7	16	42	49	37	18	21	31	600
< 110																	
< 210																	
>= 210																	
<b>Totals</b>	<b>18</b>	<b>53</b>	<b>75</b>	<b>49</b>	<b>67</b>	<b>64</b>	<b>48</b>	<b>5</b>	<b>7</b>	<b>16</b>	<b>42</b>	<b>49</b>	<b>37</b>	<b>18</b>	<b>21</b>	<b>31</b>	

Calm : .00 %

Total # Operational Hours : 600

Logger : 01 Parameter : NOX

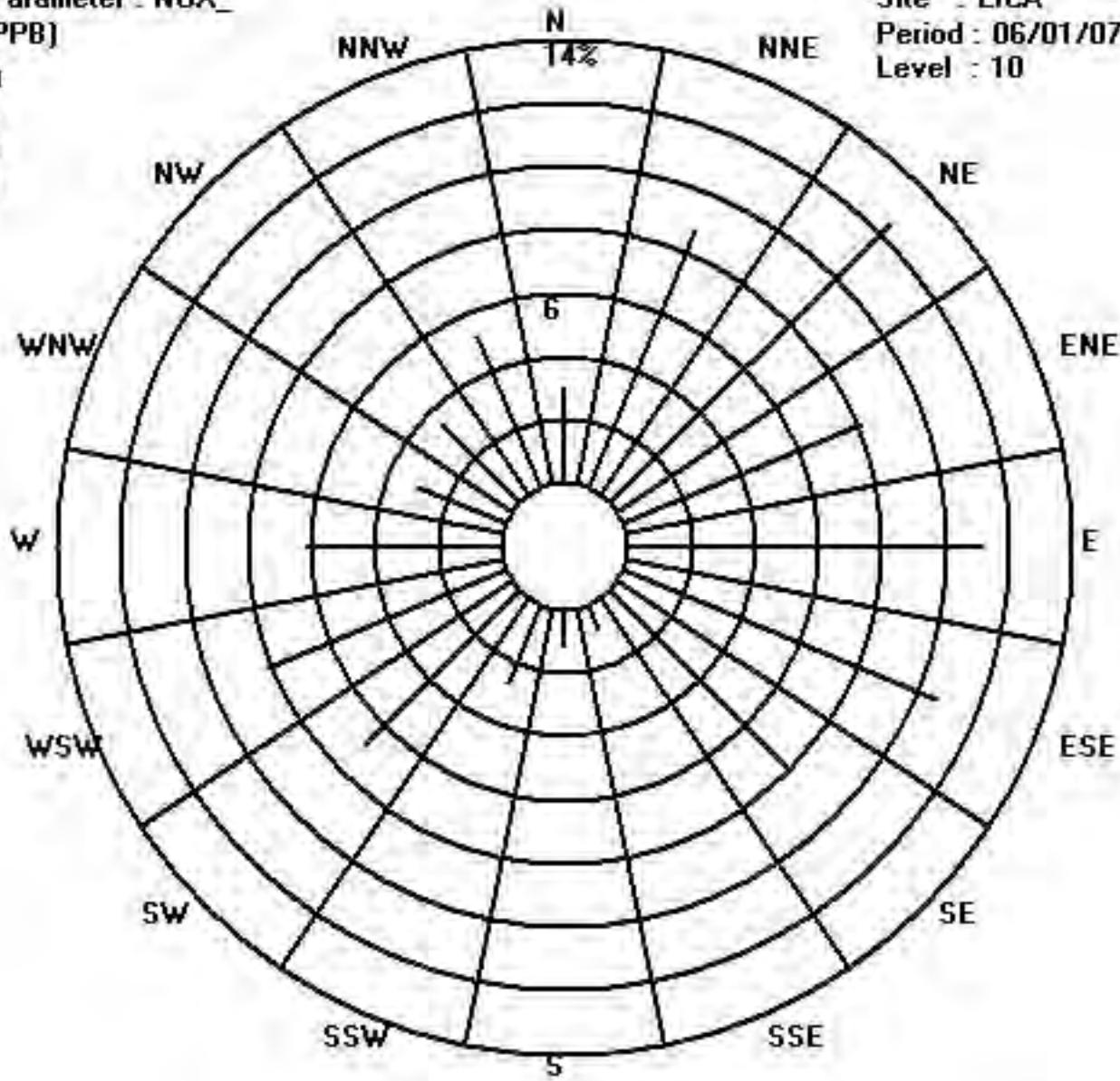
Class Limits (PPB)

- >= 210
- < 210
- < 110
- < 50

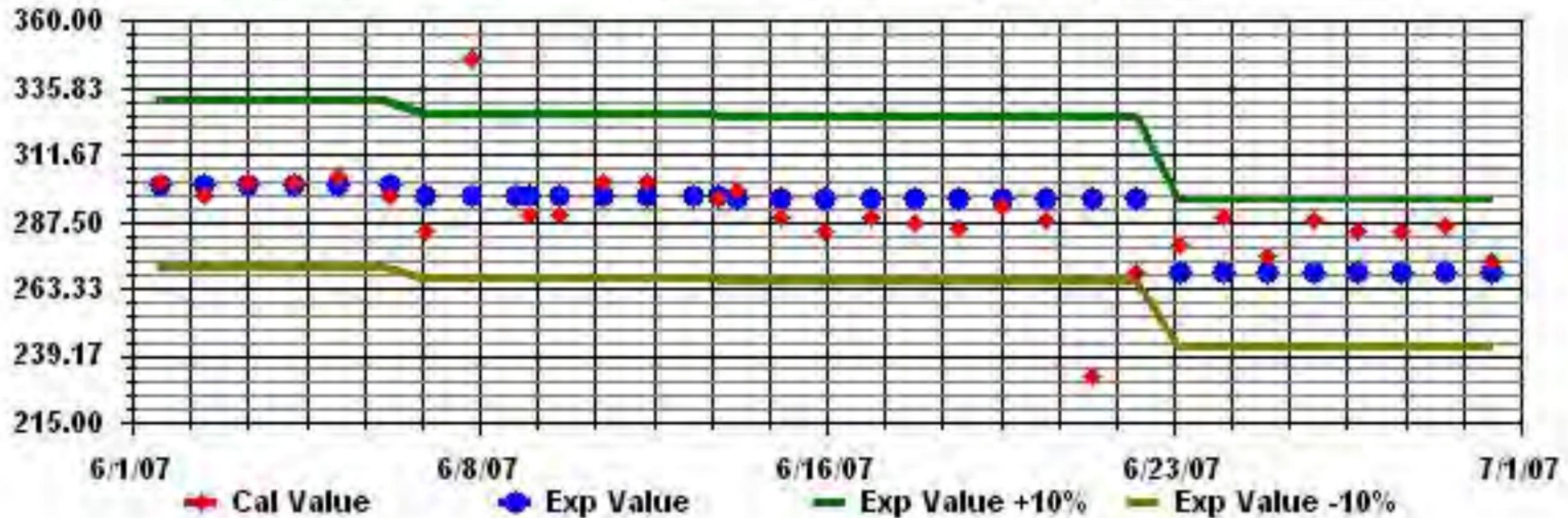
Site : LICA

Period : 06/01/07-06/30/07

Level : 10



Calibration Graph for Site: LICA Parameter: HOX\_ Sequence: HO2 Phase: SPAN



# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2007

OXIDES OF NITROGEN MAX instantaneous maximum in ppt

HOUR START HOUR END	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	23:00 0:00	DAILY MAX.	24-HOUR AVG.	RDGS.	
DAY																												
1	6	8	6	6	17	27	26	22	20	175	287	2	152	79	IZS	3	4	5	9	56	15	11	10	10	287	41.6	24	
2	10	6	9	7	19	10	9	8	12	4	8	6	2	IZS	4	11	14	11	4	7	7	12	11	10	19	8.7	24	
3	16	11	8	8	7	9	2	2	3	2	1	7	IZS	2	6	3	4	3	3	4	16	10	17	17	17	7.0	24	
4	1	3	1	2	4	8	6	9	4	3	1	IZS	13	7	13	3	33	4	6	4	9	6	3	1	33	6.3	24	
5	1	1	1	13	10	43	6	6	6	29	IZS	7	11	8	5	4	4	2	4	12	12	8	5	1	43	8.7	24	
6	1	2	1	1	5	9	8	C	C	C	C	IZS	9	4	5	5	3	13	4	10	7	4	13	5.4	24			
7	8	3	5	6	4	20	15	22	IZS	5	3	1	2	1	1	1	0	2	6	5	5	6	5	22	5.5	24		
8	6	8	5	2	2	4	4	IZS	2	1	2	2	2	4	3	1	2	1	0	1	5	9	9	8	9	3.6	24	
9	8	8	6	0	2	14	IZS	9	14	3	8	2	C	C	IZS	4	7	3	10	28	29	4	4	0	29	8.2	24	
10	0	0	0	0	2	IZS	1	3	2	3	8	3	3	7	13	5	9	2	11	10	6	4	3	4	13	4.3	24	
11	2	2	3	4	IZS	16	5	21	5	8	16	5	10	6	1	6	4	2	4	8	4	5	5	4	21	6.3	24	
12	4	4	5	IZS	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	5	4.3	4		
13	S	S	S	S	S	S	S	C	C	C	C	C	C	C	IZS	3	4	1	1	6	6	4	3	6	3.5	17		
14	4	IZS	4	3	95	12	16	13	14	6	3	3	3	7	10	1	2	2	2	3	8	7	3	1	95	9.7	24	
15	IZS	2	4	12	8	5	4	5	5	1	1	7	4	4	3	1	4	1	6	6	3	3	8	4	IZS	12	4.5	24
16	3	7	7	3	4	2	1	2	7	6	8	3	5	1	1	3	5	3	2	4	6	9	IZS	6	9	4.3	24	
17	5	7	3	2	5	4	2	7	2	6	2	4	3	5	9	3	13	7	1	4	4	IZS	59	4	59	7.0	24	
18	4	4	4	6	11	16	14	11	1	3	6	2	1	1	1	2	3	1	5	8	IZS	5	3	3	16	5.0	24	
19	3	3	3	3	4	3	3	3	1	1	1	1	1	1	0	4	1	1	1	IZS	5	7	6	5	7	2.7	24	
20	4	4	3	6	9	6	5	4	4	2	2	1	1	5	3	7	5	0	IZS	S	S	S	S	S	9	3.9	19	
21	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	NA	NA	0			
22	S	S	S	S	S	S	S	C	C	C	C	C	C	C	IZS	6	7	7	6	3	4	7	5.5	17				
23	3	2	2	2	2	2	1	1	1	1	1	1	1	1	3	IZS	3	3	3	2	2	3	4	2	4	2.0	24	
24	5	3	3	4	5	9	12	6	4	3	1	2	1	1	IZS	2	2	2	2	4	4	4	4	1	12	3.7	24	
25	1	2	2	2	3	3	2	3	3	4	5	4	4	IZS	4	2	3	3	6	7	6	3	1	1	7	3.2	24	
26	1	0	0	0	0	6	5	1	1	1	1	1	1	IZS	12	4	7	7	6	14	22	6	18	3	3	22	5.1	24
27	3	6	5	9	15	9	4	3	17	4	3	IZS	4	3	6	11	5	18	12	2	3	14	4	13	18	7.5	24	
28	1	0	0	0	16	4	11	30	10	45	IZS	1	7	12	6	7	6	4	4	3	13	3	5	5	45	8.4	24	
29	1	1	1	1	1	3	8	7	IZS	13	5	3	3	4	5	3	3	3	3	3	3	1	1	13	3.4	24		
30	0	0	1	1	1	1	1	IZS	3	2	3	1	1	1	3	4	1	1	3	15	8	3	4	15	2.6	24		
HOURLY MAX	16	11	9	13	95	43	26	30	20	175	287	7	152	79	13	11	33	18	14	56	29	18	59	17				
HOURLY AVG	3.9	3.7	3.4	4.0	10.0	9.6	6.8	8.5	6.3	13.3	16.6	3.2	10.6	7.8	4.8	4.1	5.8	3.6	4.6	8.8	7.8	7.2	7.2	4.6				

### 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

### MONTHLY SUMMARY

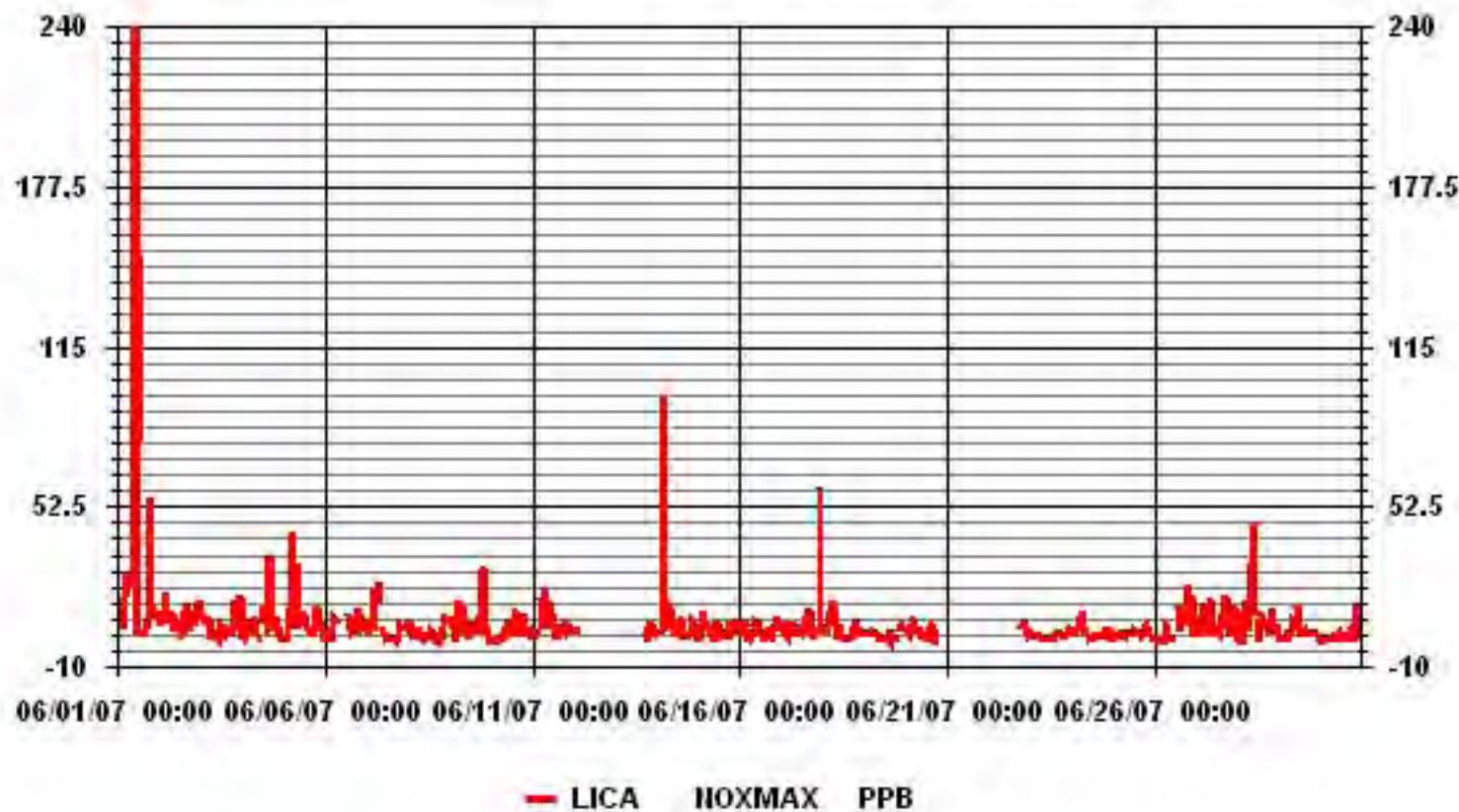
NUMBER OF NON-ZERO READINGS:	580
MAXIMUM INSTANTANEOUS VALUE:	287 PPB @ HOUR(S) 11 ON DAY(S) 1

Izs Calibration Time:	31 HRS	Operational Time:	657 HRS
Monthly Calibration Time:	25 HRS		
Standard Deviation:	16.54		

### MOUNTAIN STANDARD TIME



### 01 Hour Averages



O<sub>3</sub>

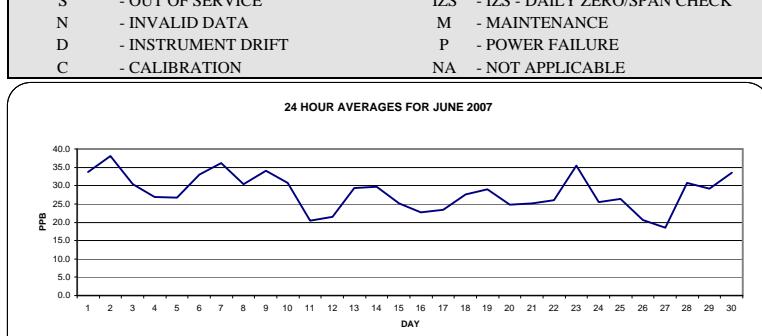
**LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE**

JUNE 2007

**OZONE (O<sub>3</sub>)** hourly averages in ppb

HOUR START HOUR END	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	23:00 0:00	DAILY MAX.	24-HOUR AVG.	RDGS.			
	DAY	1	13	12	7	4	3	4	18	29	32	46	51	56	55	Izs	56	57	55	50	42	30	27	42	31	57	33.7	24		
	1	13	12	7	4	3	4	18	29	32	46	51	56	55	55	Izs	56	57	55	50	42	30	27	42	31	57	33.7	24		
	2	35	29	18	14	10	8	19	35	42	51	55	57	60	Izs	62	56	55	55	51	44	41	29	26	24	62	38.1	24		
	3	16	19	23	16	18	16	31	36	36	35	38	39	Izs	43	44	44	44	43	40	36	24	17	21	22	44	30.5	24		
	4	24	22	22	19	21	23	25	25	26	27	28	Izs	29	30	30	31	32	31	30	28	27	27	29	32	32	26.9	24		
	5	30	28	27	21	15	20	23	24	23	Izs	26	30	35	36	32	28	28	29	29	27	22	28	31	36	26.7	24			
	6	29	28	28	29	28	28	29	26	29	Izs	32	34	C	C	C	Izs	47	50	50	46	33	23	24	50	33.0	24			
	7	20	18	12	9	9	11	17	25	Izs	53	51	50	52	51	53	53	53	52	46	41	37	34	34	53	36.2	24			
	8	34	36	36	37	35	32	30	Izs	34	40	38	35	34	38	34	35	34	35	32	28	24	10	6	4	40	30.5	24		
	9	4	1	28	37	35	34	Izs	33	32	31	32	36	39	41	43	43	43	44	43	40	37	33	36	37	44	34.0	24		
	10	36	34	34	33	31	Izs	29	29	32	35	35	32	30	31	30	29	29	23	20	27	31	33	35	36	30.7	24			
	11	35	32	30	27	Izs	23	25	23	24	23	19	20	18	17	18	19	18	18	14	15	16	11	8	35	20.5	24			
	12	12	11	8	Izs	1	7	9	15	26	25	33	33	40	30	25	32	30	24	22	20	19	22	26	25	40	21.5	24		
	13	24	21	Izs	18	17	18	19	23	30	36	36	37	38	39	41	41	38	38	44	43	34	18	12	8	44	29.3	24		
	14	9	Izs	3	4	2	7	19	24	36	38	38	41	45	45	48	43	45	47	45	40	25	26	27	25	48	29.7	24		
	15	Izs	21	13	7	3	8	17	21	26	29	29	31	34	35	36	38	38	37	35	28	17	13	Izs	38	25.1	24			
	16	8	5	4	3	8	20	22	20	17	16	20	20	33	38	39	40	39	34	37	39	33	25	15	Izs	7	40	22.7	24	
	17	7	3	5	4	2	13	27	28	27	28	31	34	40	40	39	38	35	30	23	23	Izs	11	9	40	23.3	24			
	18	6	5	3	1	1	7	19	28	31	33	35	40	43	44	43	44	43	45	43	39	Izs	25	29	27	45	27.6	24		
	19	32	28	29	25	24	24	25	26	29	31	33	35	37	37	37	38	39	38	37	Izs	23	18	13	9	39	29.0	24		
	20	6	7	2	1	4	10	17	24	31	35	37	41	44	45	44	41	41	42	Izs	37	19	18	14	12	45	24.9	24		
	21	21	29	26	24	17	19	21	26	30	33	34	33	31	37	41	42	Izs	34	28	13	3	2	1	42	25.1	24			
	22	0	0	1	1	1	2	6	9	21	33	29	31	35	44	51	55	Izs	51	46	40	36	33	40	33	55	26.0	24		
	23	29	24	24	25	26	32	34	38	41	38	42	45	52	48	40	Izs	47	44	43	38	31	30	23	20	52	35.4	24		
	24	9	4	2	1	2	5	16	25	32	35	37	36	36	37	Izs	38	40	42	40	34	27	31	32	42	25.6	24			
	25	34	29	33	27	23	29	33	22	17	15	14	13	Izs	28	35	41	41	34	25	25	28	23	24	41	26.3	24			
	26	25	25	24	23	23	22	21	21	21	20	19	Izs	19	19	20	28	28	27	23	14	5	2	28	20.6	24				
	27	0	0	0	0	7	11	14	16	21	21	26	Izs	29	31	33	34	35	35	33	27	13	15	10	35	18.5	24			
	28	23	24	25	25	24	26	26	25	27	31	Izs	39	40	40	39	41	39	38	37	33	28	27	23	27	41	30.7	24		
	29	32	33	32	30	28	25	24	24	25	Izs	24	24	25	27	27	29	31	32	32	34	35	35	34	35	29.1	24			
	30	33	32	29	26	24	20	19	18	Izs	43	51	47	46	47	47	45	44	43	43	38	24	16	16	21	51	33.6	24		
	HOURLY MAX	36	36	36	37	35	34	34	42	53	55	57	60	55	62	56	57	55	52	50	46	37	42	37						
	HOURLY AVG	20.2	19.3	18.2	17.0	15.0	17.3	21.8	24.7	28.2	32.2	33.9	35.7	37.5	37.7	38.0	38.9	38.5	39.1	37.5	33.6	27.7	23.0	22.3	21.0					

**24 HOUR AVERAGES FOR JUNE 2007**



**NUMBER OF 1-HR EXCEEDENCES:**

0

**NUMBER OF NON-ZERO READINGS:**

678

**MAXIMUM 1-HR AVERAGE:**

62 PPB

@ HOUR(S)

15

ON DAY(S)

2

**MAXIMUM 24-HR AVERAGE:**

38.1 PPB

ON DAY(S)

2

**Izs Calibration Time:**

32 HRS

Operational Time:

720 HRS

**Monthly Calibration Time:**

3 HRS

AMD Operation Uptime:

100.0 %

**Standard Deviation:**

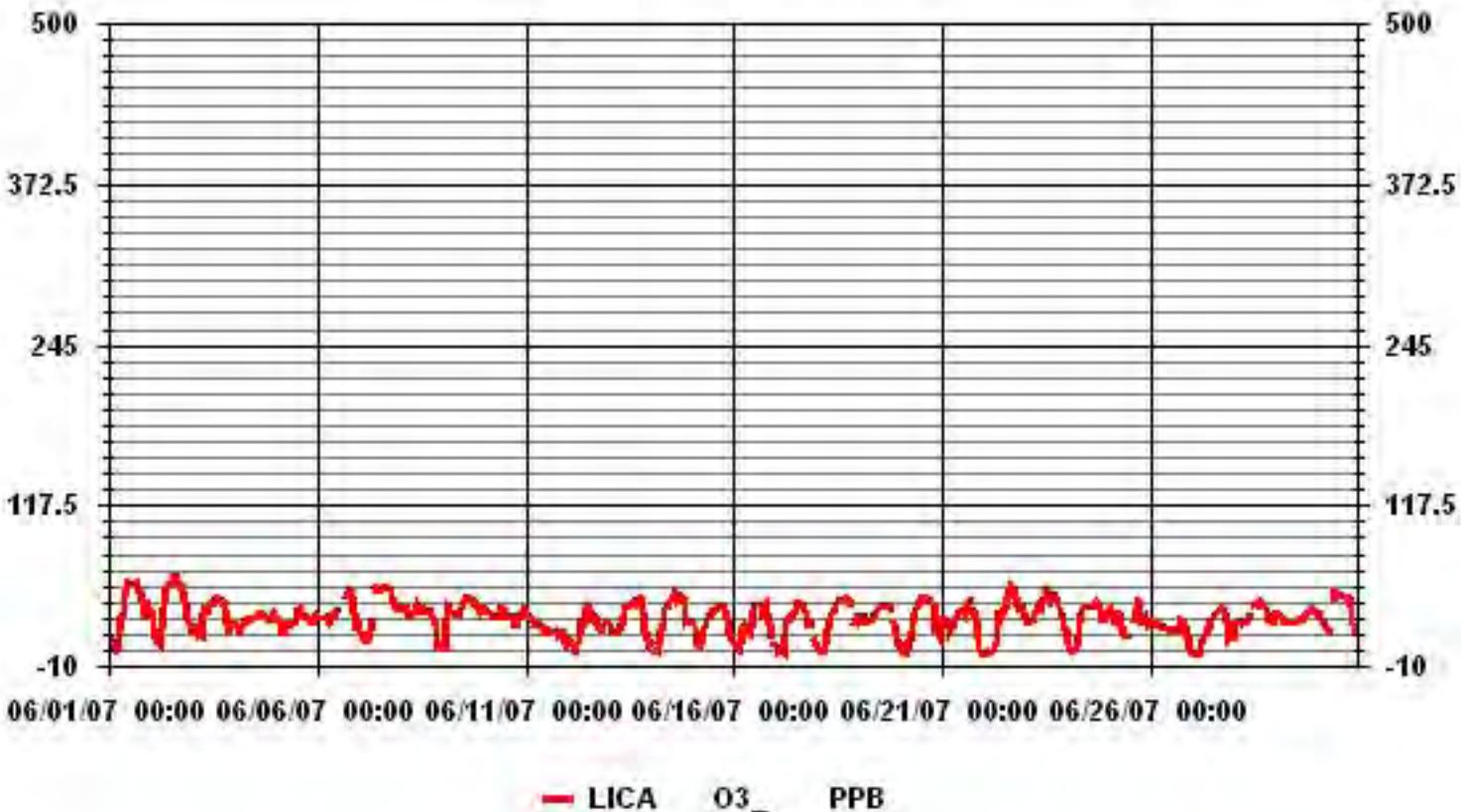
12.69

Monthly Average:

28.13 PPB

**MOUNTAIN STANDARD TIME**

### 01 Hour Averages



**LICA**  
**O3\_ / WD Joint Frequency Distribution (Percent)**

June 2007

**Distribution By % Of Samples**

Logger Id : 01  
 Site Name : LICA  
 Parameter : O3\_  
 Units : PPB

Wind Parameter : WD  
 Instrument Height : 10 Meters

**Direction**

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	2.77	7.59	10.94	6.86	10.07	10.21	8.90	1.02	1.60	2.33	7.29	8.32	6.42	2.91	3.35	4.37	95.03
< 110	.00	.72	.87	.14	.00	.29	.14	.00	.00	.29	.14	.58	1.02	.29	.00	.43	4.96
< 210	.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	
Totals	2.77	8.32	11.82	7.00	10.07	10.51	9.05	1.02	1.60	2.62	7.44	8.90	7.44	3.21	3.35	4.81	

Calm : .00 %

Total # Operational Hours : 685

**Distribution By Samples**

**Direction**

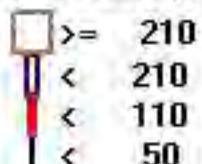
Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 50	19	52	75	47	69	70	61	7	11	16	50	57	44	20	23	30	651
< 110		5	6	1		2	1			2	1	4	7	2		3	34
< 210																	
>= 210																	
Totals	19	57	81	48	69	72	62	7	11	18	51	61	51	22	23	33	

Calm : .00 %

Total # Operational Hours : 685

Logger : 01 Parameter : 03

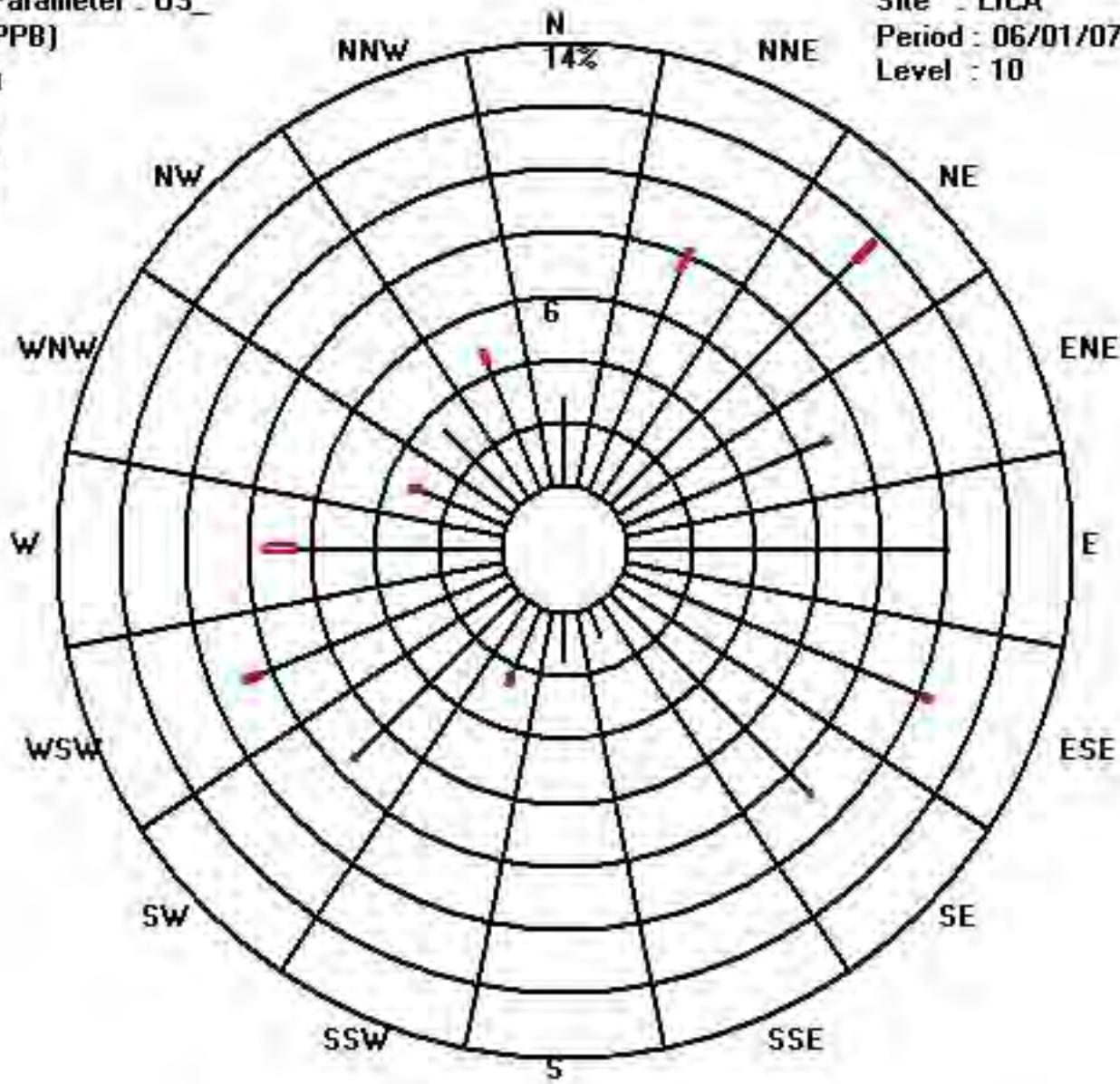
Class Limits (PPB)



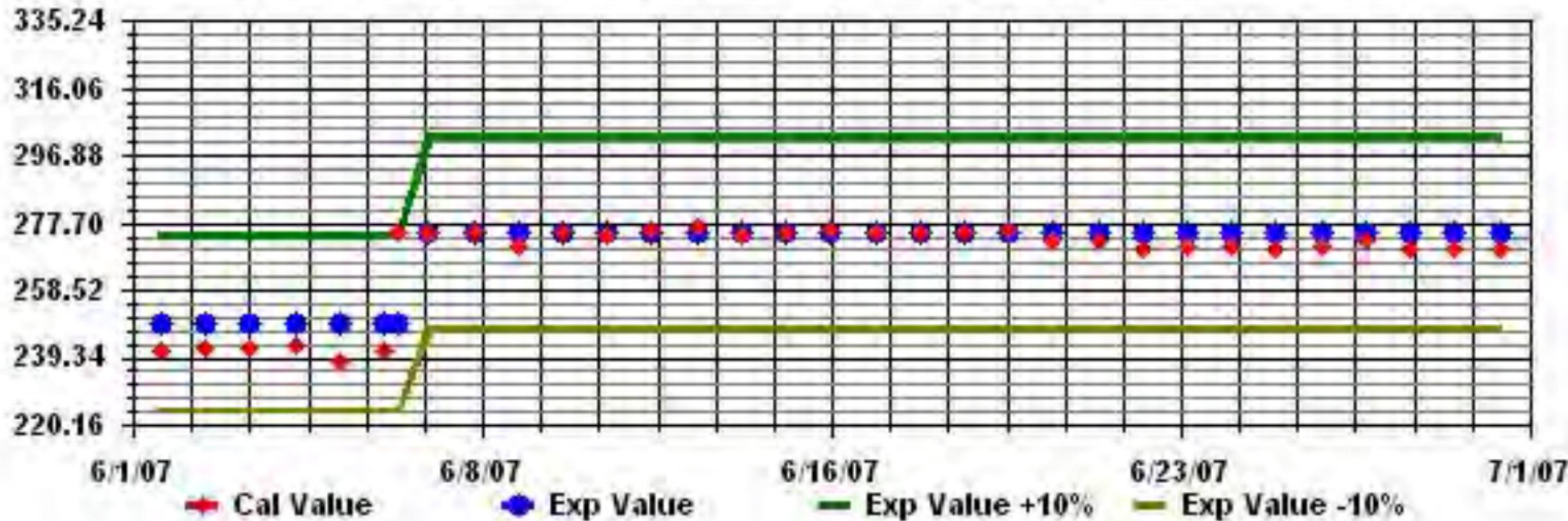
Site : LICA

Period : 06/01/07-06/30/07

Level : 10



Calibration Graph for Site: LICA Parameter: 03\_ Sequence: 03 Phase: SPAll



# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2007

OZONE MAX instantaneous maximum in ppb

HOUR START HOUR END	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	23:00 0:00	DAILY MAX.	24-HOUR AVG.	RDGS.	
DAY																												
1	25	19	11	8	6	8	27	35	41	55	58	59	59	62	IZS	58	58	57	55	49	39	41	46	40	62	39.8	24	
2	39	35	24	24	18	11	28	41	51	53	58	60	63	IZS	67	62	57	57	55	50	47	39	34	31	67	43.7	24	
3	21	27	28	21	22	23	35	38	38	41	41	IZS	45	45	45	46	45	43	40	35	23	24	25	46	34.3	24		
4	26	26	24	22	23	27	27	28	29	29	IZS	31	32	32	33	33	32	31	30	28	28	31	33	33	28.8	24		
5	32	30	28	27	22	25	25	26	25	IZS	30	33	39	36	30	30	32	32	29	26	32	32	39	29.8	24			
6	31	29	29	32	31	32	32	29	31	IZS	35	36	C	C	IZS	50	52	52	50	47	29	30	52	36.6	24			
7	28	26	19	12	12	14	21	35	IZS	56	54	53	54	54	55	55	55	54	49	45	39	36	36	39.9	24			
8	37	38	39	39	37	34	31	IZS	40	41	40	39	39	40	39	37	40	39	36	31	27	21	9	7	41	33.9	24	
9	6	3	36	39	38	37	IZS	35	33	33	37	41	42	46	45	45	45	46	46	44	40	38	41	39	46	37.2	24	
10	38	36	35	35	33	IZS	30	30	32	35	37	36	35	33	34	32	31	31	27	23	31	34	36	37	38	33.1	24	
11	37	35	31	29	IZS	26	27	25	26	22	21	20	18	19	20	21	21	18	20	24	13	10	37	23.0	24			
12	14	13	12	IZS	4	9	12	22	31	30	37	39	46	44	32	35	33	26	24	22	21	26	28	28	46	25.6	24	
13	25	24	IZS	19	18	19	22	28	36	39	39	41	41	44	45	43	42	41	46	45	44	24	22	14	46	33.1	24	
14	15	IZS	6	10	5	13	30	40	43	42	41	47	49	48	52	46	48	50	49	43	37	31	29	27	52	34.8	24	
15	IZS	23	20	10	6	12	21	24	34	32	33	34	38	39	39	41	40	40	41	40	34	28	20	IZS	41	29.5	24	
16	15	11	8	6	14	23	24	23	20	18	25	41	42	41	44	43	37	41	44	38	31	23	IZS	13	44	27.2	24	
17	16	7	10	7	3	25	30	32	29	31	34	40	42	42	42	42	40	39	36	29	29	IZS	15	13	42	27.5	24	
18	9	6	4	5	4	10	25	33	33	35	40	44	47	47	46	48	47	47	48	42	IZS	33	31	32	48	31.1	24	
19	34	31	30	30	26	26	26	26	30	31	33	35	38	39	39	40	41	40	39	IZS	32	27	17	13	41	32.0	24	
20	10	11	3	3	7	14	22	27	36	39	39	45	48	47	47	45	43	45	IZS	41	31	27	20	19	48	29.1	24	
21	30	30	29	28	23	21	25	30	33	35	36	36	36	33	42	44	46	IZS	39	42	24	9	7	6	46	29.7	24	
22	1	1	3	2	1	4	8	13	33	39	32	33	42	50	57	62	IZS	56	50	44	38	36	44	38	62	29.9	24	
23	31	28	27	28	32	35	40	42	45	41	47	50	54	54	45	IZS	51	48	45	42	35	35	28	27	54	39.6	24	
24	16	8	5	2	3	10	22	28	36	39	39	39	41	41	IZS	42	44	45	45	38	32	31	33	45	29.1	24		
25	36	34	35	31	27	35	36	28	19	16	17	15	15	15	IZS	40	41	46	47	46	31	29	30	27	26	47	30.7	24
26	26	26	25	24	24	23	23	22	22	21	21	IZS	20	21	21	22	32	32	29	27	20	12	4	32	22.7	24		
27	1	1	1	1	2	10	14	15	20	25	29	IZS	32	34	36	37	37	38	37	35	32	21	21	38	21.7	24		
28	26	26	26	26	28	27	27	30	36	IZS	41	42	42	41	43	42	40	40	36	32	30	26	31	43	33.2	24		
29	34	35	33	32	30	28	25	25	26	IZS	26	26	27	29	29	31	33	33	37	37	36	36	37	30.9	24			
30	34	33	31	28	26	23	20	21	IZS	51	54	53	48	49	49	47	47	46	45	42	33	25	23	28	54	37.2	24	
HOURLY MAX	39	38	39	39	38	37	40	42	51	56	58	60	63	62	67	62	58	57	55	52	50	47	46	40				
HOURLY AVG	23.9	22.5	21.1	20.0	18.0	20.9	25.3	28.7	32.2	35.5	37.0	39.3	40.8	41.2	41.5	41.9	41.2	42.0	41.1	37.6	33.4	29.4	26.6	25.1				

### 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

### MONTHLY SUMMARY

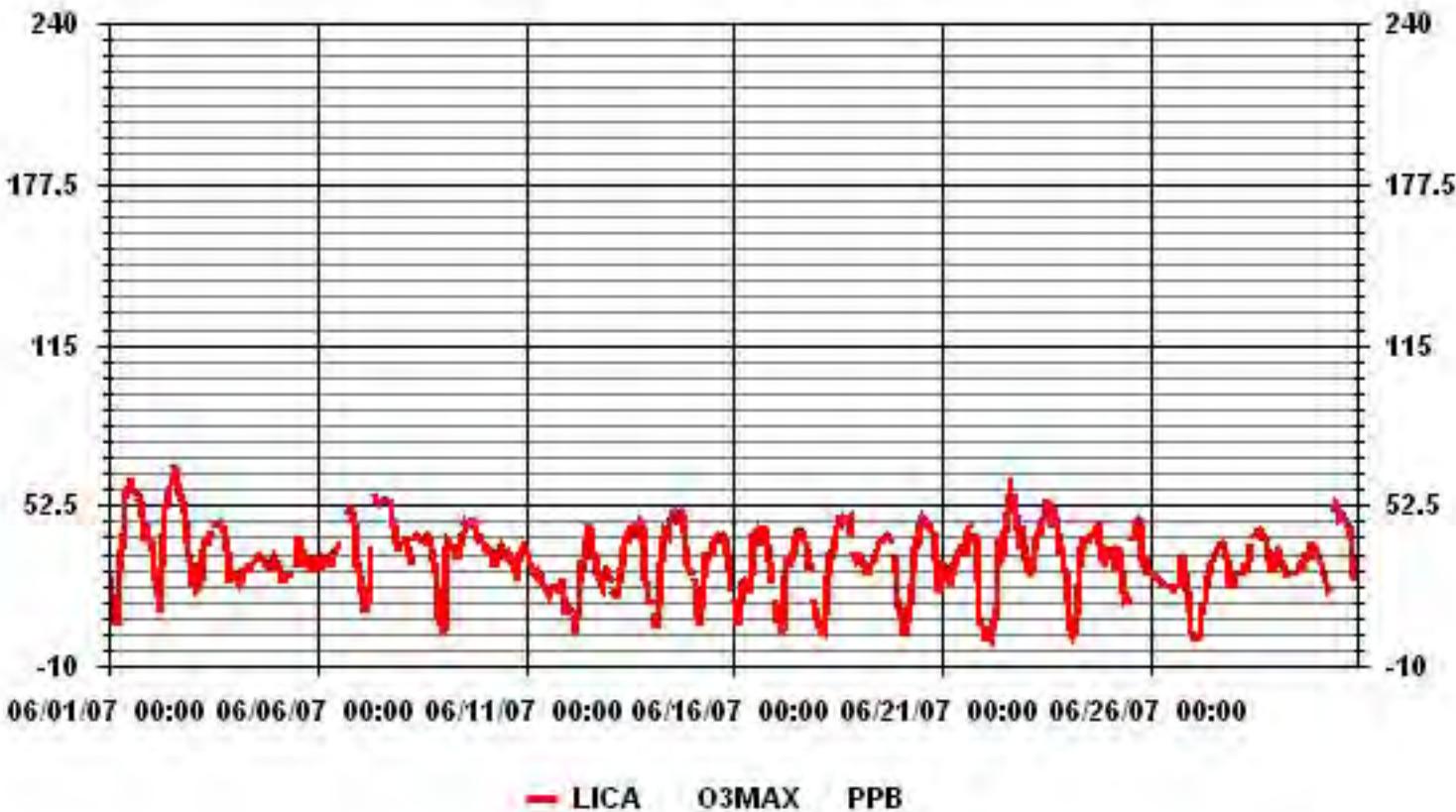
NUMBER OF NON-ZERO READINGS:	685
MAXIMUM INSTANTANEOUS VALUE:	67 PPB @ HOUR(S) 15 ON DAY(S) 2

Izs Calibration Time:	32 HRS	Operational Time:	720 HRS
Monthly Calibration Time:	3 HRS		
Standard Deviation:	12.70		

### MOUNTAIN STANDARD TIME



### 01 Hour Averages



# **VECTOR WIND SPEED**

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2007

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

HOUR START HOUR END	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	23:00 0:00	DAILY MAX.	24-HOUR AVG.	RDGS.
DAY																											
1	0.2	0.1	0.3	0.2	0.5	0.6	1.1	4.3	4.8	7.9	8.1	6.5	4.4	4.1	4.4	3.2	8.1	8.4	5.8	2.3	0.9	2.7	3.6	0.7	8.4	1.2	24
2	4	1.9	0.6	1.2	0.8	0.7	0.8	3.1	3.6	3.8	3.7	3.7	4	3.9	5.2	10.3	8.2	1.8	1.8	1.6	2	1.9	3.2	10.3	1.2	24	
3	0.8	3.3	3.1	0.4	1	2.3	7.2	9.8	11.2	12.5	12.6	7.9	8.1	8.6	9.6	8	8.5	7.1	5.2	3.8	1.4	0.5	1.6	1.7	12.6	4.9	24
4	2.9	2.2	2.9	2.1	4.4	5.9	8.9	9.1	8.6	8.9	9.1	8.6	9.2	8.5	7.4	8.2	8.2	7.8	9.1	7.6	6.1	9	10	10.6	10.6	6.5	24
5	7.3	3.9	3.9	1.6	1.2	3.4	4	5.3	5.7	4.9	4.7	5.1	5.9	6.2	7.7	12.4	14.8	12.5	11.4	11	7.5	2.8	7.1	6.5	14.8	6.5	24
6	4.3	4.8	3.6	5.4	4.3	5.9	8.4	10	9.4	11.1	11	12	11	10.7	10.2	8.9	8	7.3	7.4	4.7	2.4	1.8	0.2	1.3	12.0	6.8	24
7	1.3	1.3	0.4	1.7	0.6	2.4	2.9	1.6	2.4	9.5	11.3	8.8	8.8	11.4	10.6	12	12.1	11.2	11.8	6.8	4.8	4.9	5.7	6.3	12.1	6.3	24
8	6.5	8.9	8.1	5.4	6	5.1	6.8	9.8	14	16.7	12.9	11	8.7	9.4	9.7	10.4	12.2	8.2	10.1	3.7	2.8	2.4	1.1	0.4	16.7	7.9	24
9	0.5	0.6	6.4	8.3	5.6	8.3	9.5	8.3	7.6	7.4	8.5	6.5	6.5	8.6	8.1	8	6.1	5.4	4.5	5.1	5.1	2.7	7.8	10.5	10.5	6.5	24
10	8.3	7.7	7.6	8.8	9.2	8	8.6	7.8	8.9	10.8	10.4	8.1	7.3	5.9	6.6	5.9	5.7	5.2	2.6	3.7	5.1	5	5.4	5.3	10.8	7.0	24
11	4.5	4.6	5.6	4.8	1.6	5	8.3	4.6	4.8	5.2	4.2	4.4	4.9	4.4	5.4	4.7	3.2	5.9	7.2	6.6	6.5	4.3	5.3	2.9	8.3	5.0	24
12	3.5	3.6	2	0.6	0.4	1.1	1.4	2.4	0.7	3.4	6.3	4	8.5	10.9	9.7	10.9	11.2	9.2	7.2	7.2	7.7	10.2	10.5	11.2	5.9	24	
13	10.2	10.5	9.2	9.6	10.7	10.8	11.9	14.5	12	13.8	13.5	13.5	13.6	13.2	14.5	10.9	11.2	12.2	13.9	11.2	1.6	1	0.1	0.6	14.5	10.2	24
14	0.1	0.4	1.2	0.1	0.3	1.1	3.6	5.1	2	3.4	5.2	4.4	3.5	10.9	11.8	8.1	6.1	7.4	4.6	1.8	1.5	3.3	5.2	4.3	11.8	4.0	24
15	2.5	3.3	0.3	0.7	1.2	1.8	2.9	4.1	5.9	4.5	5	6.1	5.8	6.7	4.6	5.2	4.6	10.7	8.1	2.2	5.2	0.4	1.1	1.1	10.7	3.9	24
16	0.7	0.3	0.3	0.9	1.6	2.9	3.9	4	3.7	3.4	3.5	3	2.8	3.4	4.5	7.4	4.9	2.7	4.3	3.9	1.9	0.9	1	0.4	7.4	2.8	24
17	0.6	1	0.6	1.8	0.1	2	3.6	3.4	4.7	6.1	5.7	7.1	8.3	7.2	7.5	5.8	4	3.9	3	3.9	2.6	2.9	1.6	1	8.3	3.7	24
18	1.2	1.7	1.6	0.4	1.1	2.5	3.4	5.6	7.3	7.6	6.1	5.7	3.8	2.6	6.9	2.1	3.2	3.1	2.6	1.7	1.8	3.6	4.6	7.1	7.6	3.6	24
19	5.7	4.4	6.9	6.4	6.2	8.6	14.7	18.8	18.7	19.8	16.8	17.3	14.6	11.5	10	6.1	1.7	4.2	4.3	2.6	3.2	2.8	1.5	19.8	8.7	24	
20	1.3	2.4	0.2	0.4	3.3	3.1	4.2	6.9	7.1	3.1	1	1.7	1.8	3.6	1.6	1.7	2.6	4.4	4.1	2	0.8	0.8	0.4	0.7	7.1	2.5	24
21	5.5	6	4.5	1.4	3	5.2	3.9	9.7	13.5	14.9	12.4	17.2	11.4	6.6	7.6	8.8	2.4	4.6	1.8	2.9	0.1	0.3	0.8	0.8	17.2	6.1	24
22	0.1	0.8	0.5	0.5	0.2	0.6	1.7	1.7	1.7	3.6	8.9	12.7	11	6	4.1	4.2	4.2	5.5	6.5	4.4	3.6	4.4	4.9	4.1	12.7	4.0	24
23	3.4	3.4	2.5	4.6	7.3	9	11.3	11.4	13.8	8.9	13.6	12.5	13.3	8.1	6.1	9	9.5	7	8.2	6.2	3.2	4.5	3.7	3.3	13.8	7.7	24
24	2.5	0.8	0.6	0.2	1.1	0.7	2.4	2.8	4.1	5.9	7	7.6	8.3	8.1	7	7.8	7.7	5.4	4.2	2.3	2.8	2.8	7.1	7.9	8.3	4.5	24
25	5.3	3.3	4.1	5.4	4.6	6.8	6.9	9	3.9	4.7	4	3.2	4.3	5.3	5.2	4.9	3.5	4.8	3.5	2.3	4.8	5.4	9.1	11.6	11.6	5.2	24
26	11.6	12.7	12.2	10.3	10.7	11.1	10.1	11	9.6	10.3	10	9.1	7.3	6.9	6	6.6	7.3	7.6	5.3	4.9	4.2	2.3	0.5	0.4	12.7	7.8	24
27	0.5	0.8	0.1	0.5	1.1	4.8	6.5	8.7	8.3	8.1	8.7	9	10	8.2	8.8	7.6	8.1	8.8	9.2	7.6	4	2.2	2.4	2.1	10.0	5.7	24
28	5.2	7.1	5.9	6	6.6	8.3	9.5	9.1	8.2	10.1	12	12.9	12.3	12.7	13.1	13.1	11.8	12	9.3	5.9	6.6	5.7	2.5	3.4	13.1	8.7	24
29	4.4	8.2	9.3	6.7	7.9	9	9.9	11.9	12	11.9	11.9	10.5	11.4	13	10.2	10.7	13.2	14.9	12.7	10.2	12	10	11.3	10.1	14.9	10.6	24
30	11.1	9.8	10.1	10.8	14.5	9.7	11	9.8	7.2	11.2	13.1	13.7	16.9	16.2	16.2	13.9	10.7	8.6	7.3	2.9	1.4	2.3	2.8	5.5	16.9	9.9	24
HOURLY MAX	11.6	12.7	12.2	10.8	14.5	11.1	14.7	18.8	18.7	19.8	16.8	17.3	16.9	16.2	16.2	13.9	14.8	14.9	13.9	11.2	12.0	10.0	11.3	11.6			
HOURLY AVG	3.9	4.0	3.8	3.6	3.9	4.9	6.3	7.4	7.5	8.4	8.7	8.5	8.2	8.1	7.9	7.7	7.5	7.5	6.6	4.8	3.7	3.4	4.1	4.2			

#### 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

LAST CALIBRATION:

NA

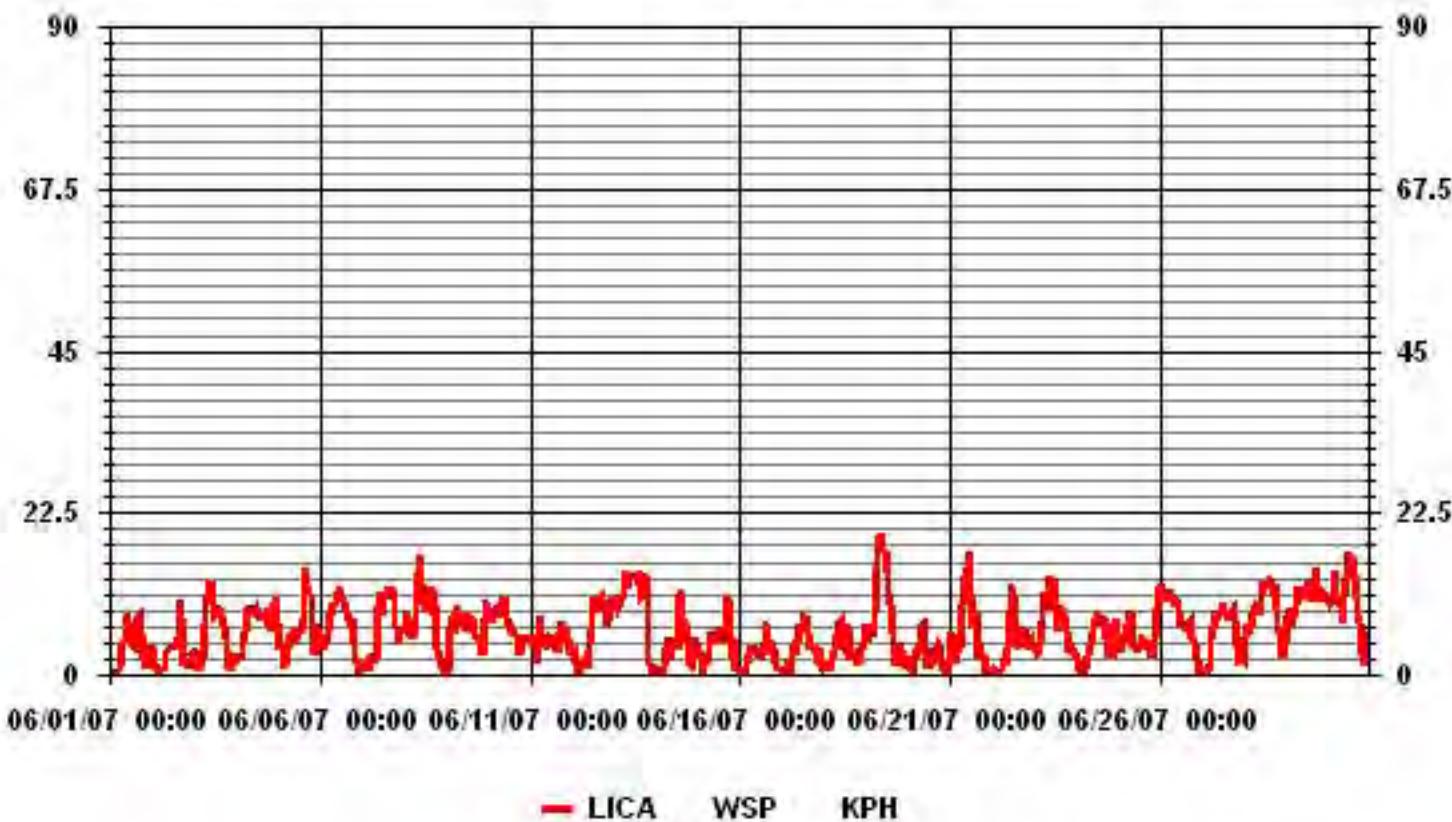
#### MONTHLY SUMMARY

MAXIMUM 1-HR AVERAGE:	19.8	KPH	@ HOUR(S)	10	ON DAY(S)	19
MAXIMUM 24-HR AVERAGE:	10.6	KPH			ON DAY(S)	29
CALMS (<= 0 KPH)	2.78	%	OPERATIONAL TIME:			
MONTHLY CALIBRATION TIME:	0	HRS	AMD OPERATION UPTIME			
STANDARD DEVIATION	3.97		MONTHLY AVERAGE			
			720	HRS		
			100.0	%		
			6.02	KPH		

#### MOUNTAIN STANDARD TIME



### 01 Hour Averages



**LICA**  
**WSP / WD Joint Frequency Distribution (Percent)**

June 2007

**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	2.08	4.58	5.83	5.00	4.72	3.88	3.88	.69	1.52	1.94	5.27	4.16	3.75	1.25	.83	1.94	51.38
< 12.0	.41	3.88	5.41	1.94	4.72	5.27	3.75	.00	.13	.00	1.25	3.61	2.08	1.25	1.52	2.22	37.50
< 20.0	.27	.00	.69	.27	.27	1.38	.83	.00	.00	.00	.55	.69	1.66	.55	.83	.27	8.33
< 29.0	.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	
>= 39.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
<b>Totals</b>	<b>2.77</b>	<b>8.47</b>	<b>11.94</b>	<b>7.22</b>	<b>9.72</b>	<b>10.55</b>	<b>8.47</b>	<b>.69</b>	<b>1.66</b>	<b>1.94</b>	<b>7.08</b>	<b>8.47</b>	<b>7.50</b>	<b>3.05</b>	<b>3.19</b>	<b>4.44</b>	

Calm : 2.77 %

Total # Operational Hours : 720

**Distribution By Samples**

**Direction**

Limit	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Freq
< 6.0	15	33	42	36	34	28	28	5	11	14	38	30	27	9	6	14	370
< 12.0	3	28	39	14	34	38	27		1		9	26	15	9	11	16	270
< 20.0	2		5	2	2	10	6			4	5	12	4	6	2	60	
< 29.0																	
< 39.0																	
>= 39.0																	
<b>Totals</b>	<b>20</b>	<b>61</b>	<b>86</b>	<b>52</b>	<b>70</b>	<b>76</b>	<b>61</b>	<b>5</b>	<b>12</b>	<b>14</b>	<b>51</b>	<b>61</b>	<b>54</b>	<b>22</b>	<b>23</b>	<b>32</b>	

Calm : 2.77 %

Total # Operational Hours : 720

Logger : 01 Parameter : WSP

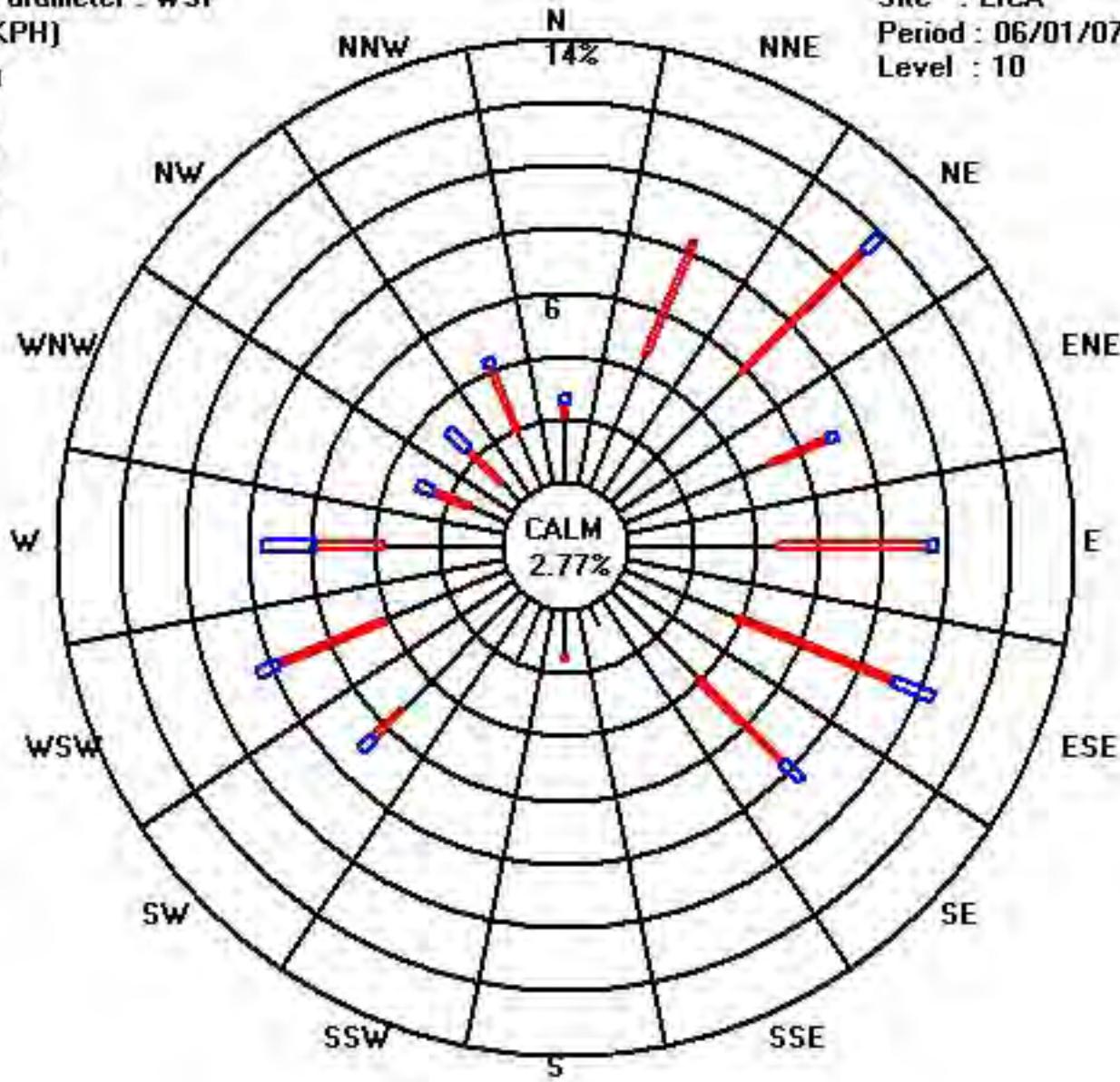
Class Limits (KPH)



Site : LICA

Period : 06/01/07-06/30/07

Level : 10



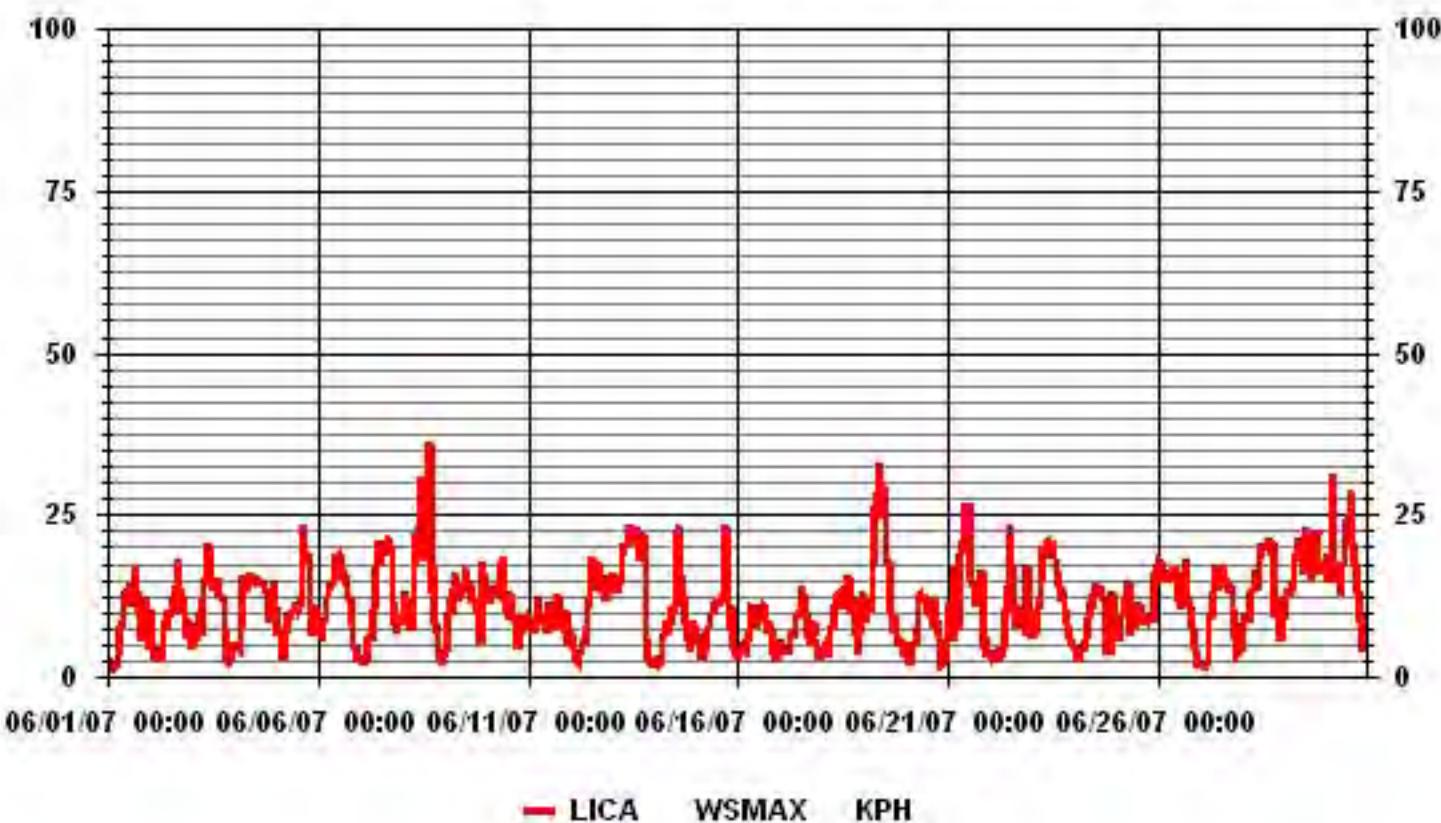
LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2007

VECTOR WIND SPEED MAX instantaneous maximum in km/hr

HOUR START HOUR END	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	DAILY MAX.		
DAY																										
1	2	2.9	1.9	1.2	1.4	1.6	3.5	7.7	8.7	13	12.6	13.4	14.2	10.9	11.5	13.7	16.9	13.4	10.5	5.6	7	12.2	10	4.4	16.9	
	W	WNW	WNW	ESE	NE	ENE	WSW	SW	WSW	SW	W	SW	SE	WSW	NE	NNE	NE	ENE	WNW	W	WNW	E	NE			
2	6.2	10.1	2.6	5	3.1	2.8	3	3.6	8.1	7.9	10.4	9.8	10	12.5	14	10.5	18.2	14.1	9.5	12.5	9.4	6.7	6.8	8.8	18.2	
	SE	WNW	SW	WNW	NE	WNW	NW	ENE	SE	ESE	SE	SE	NE	WNW	WNW	ENE	N	NNE	WNW	NW	SE	SW	WSW	N		
3	4.2	6.3	5.7	6.2	9.7	6.3	11.9	14.5	15.2	20	20	14.5	13.4	14.9	15	13	13.1	12.7	12	7.5	2.7	2.3	2.7	3.7	20	
	ENE	WSW	SW	SSW	N	NNW	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	ENE	NE	NE	NNW	NE	NNE	NE		
4	5.3	4.4	4.5	4.2	7.4	15.5	13.7	15	14	14.3	16.1	15.1	14.8	15.4	15.2	14.8	14.4	14.3	12.9	13.5	8.1	12.5	12.5	14.8	16.1	
	N	N	N	NE	NE	E	E	ESE	E	E	E	SE	-	SE	ESE	SE	SE	E								
5	11.1	6.8	6.9	3.8	2.4	7.5	6.8	9.7	9.2	9.7	10.1	11.4	10.4	11	12.4	19.8	23.6	19.5	19.2	17.7	11.6	6.3	11.1	10.7	23.6	
	-	SE	SE	ESE	ESE	E	E	ESE	SE	SE	NE	E	NNE	NNE	-	ENE	E	E	E	E	NE	ENE	-			
6	6.8	7.2	5.5	8.6	8.8	12.4	13.7	14.5	14.9	18.8	18.2	18.8	18.3	15	15.5	14.6	12.1	12	8.3	4.2	5	2.2	3.2	18.8		
	ENE	NE	NNE	ENE	-	NE	NE	NE	NNE	NNE	N	NNE	NE	NE	NE	E	NNE	NE	NNE	N	NNW	SE	SSW	VARIOUS		
7	2.9	2.4	1.7	3.2	2.1	5.9	6.5	5.4	10.2	17	20.5	20.3	17	21	19.7	19.1	22	18.8	20.1	11.8	8.3	6.6	8.4	8.9	22	
	SW	SW	SW	-	SSW	E	WSW	WNW	W	WNW	WNW	WNW	WNW	WNW	WNW	-	WNW	WSW	WSW	SW	SW	WSW	-			
8	8.8	13.3	12.2	9.8	9.4	7	10.5	17.1	22.3	22.8	24	30.9	20.2	18	27.4	25.2	36.3	13	17.3	8.4	6.9	3.7	2.9	1.7	36.3	
	-	WSW	WSW	WSW	WSW	W	W	NW	NW	WSW	-	NNW	NNW	NW	NW	NW	NW	NNW	NNW	NW	SW	SE	NW			
9	3.1	4	9.8	11.9	9.5	13.5	16	11.5	13.1	12.1	14.4	13.1	16.1	15.7	14.8	14.4	11.1	12.2	10.5	10.2	9.8	5	17.6	16.6	17.6	
	-	NE	ENE	ENE	NE	ENE	N	NE	NE	E	NE	E	ENE	ENE	E	ENE	E	ENE								
10	13.8	13.2	11.4	12.4	14	12.7	13.5	13	13.7	17.8	18.4	12.5	10.5	8.9	13.1	9.8	8.7	7.7	4.4	6.6	7.8	9.2	8.4	9.1	18.4	
	E	E	E	E	ESE	ESE	E	E	E	E	E	ENE	NE	NE	NE	NE	NE	NE	E	E	E	E	E	E		
11	8.3	7.9	8.6	8.4	6.7	12.1	12	9	9.8	8.5	7.6	7.5	11.6	7.4	8.5	7.8	7.4	12.6	11.4	10	9.8	6.7	10.1	4.9	12.6	
	E	E	ENE	E	ENE	E	E	E	E	E	E	NE	NW	NW	N	W	WSW	WSW	-	SSW	SSW	SSW	W			
12	5.8	6.9	4.6	2.7	2.3	3.7	3.8	5.9	5.1	8	11.8	11.7	16.1	18.4	13.4	15.3	17.8	15.3	14.6	13.5	12.3	12.3	15.5	15.7	18.4	
	WSW	SSW	SW	SW	NE	SE	ESE	NW	ESE	SE	E	WSW	SSW	SW	WSW	W	WSW									
13	13.6	16.1	13.4	12.9	14.6	14.6	18.6	20.6	19.8	23.5	21.3	23.5	20.5	22	23.1	18.7	18.6	19	22.2	19.1	6	3.1	2	2.8	23.5	
	W	WSW	WSW	WSW	WSW	WSW	WSW	W	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	N	N	NE	NE	SE	NNW				
14	1.3	2.2	3.4	2	2.2	5.9	6.4	8.7	6.8	7.8	10.8	10.3	11	22.7	23.4	15.9	10.6	12.7	8.4	5.8	3.7	5.9	8.7	8	23.4	
	W	ESE	SW	SW	NW	W	WSW	W	WSW	W	WSW	WNW	NW	NW	NNW	NW	WSW	NNE	WNW	NNE	NE	NE	N			
15	7.1	5.6	4.6	3	3	3.7	7	7.7	9.8	10.2	9.7	11.2	11.7	11.5	12.2	12.1	23.5	14.8	7.2	11.1	4.7	4	3.4	23.5		
	NNE	NE	SW	SSW	SW	WNW	N	N	NNE	NNE	NE	ENE	N	NNE	NNE	N	NNE	N	NNE	ESE	SSE	NE	-	NW		
16	2.7	3.8	4.6	3.9	3.7	5.7	6.8	7.5	10.7	10.4	7.6	10.9	9.2	9.8	11.5	11.3	8.6	6.5	8.4	7.8	3.9	3.6	2.4	3	11.5	
	SSE	NW	NNE	SE	N	NE	NNE	NE	E	WNW	NNE	SE	SE	ESE	N	NNE	-	NE	ENE	E	NNE	N	ENE	NNW	N	
17	5.9	5.3	4.4	4.6	3.3	4.2	6.6	6.6	6.5	8.8	9.3	10.3	14	11.4	12.9	10.3	6.3	5.7	4.7	8.6	6.1	4.5	3.4	3.2	14	
	SE	SE	SSW	WNW	SE	NNE	NE	NNE	N	NNE	NE	NE	NE	NE	NE	ENE	ENE	NNW	NNW	WNW	WNW	SW	SW	NE		
18	4.1	3.5	3.5	3	6.3	7.9	7	11.1	12.7	13	11	12.4	10.5	11.5	15	15.6	10.1	9.9	12.2	6.8	3.5	7.2	6.8	13	15.6	
	SW	SW	WSW	WSW	WNW	WNW	NW	NW	N	N	N	N	N	N	N	NE	SE	WSW	W	WSW	N	NE	SSW	SW	WSW	
19	11.4	8.3	10.7	12	10.1	17	26.4	28.2	29.3	32.8	24.5	29.8	26.8	17.8	18.2	10.5	7.7	7.9	9.6	6.5	4.6	5.9	3.8	3.6	32.8	
	-	WSW	WSW	SW	WSW	WSW	WSW	W	-	W	W	WNW	NNW	NW	N	N	NNW	SSW	WSW	SW	WSW	W	W	W		
20	3.5	5.4	2	2.6	5.5	4.9	7.6	12.7	13	12	11.1	12.8	9.8	10.7	9.4	7.7	11.5	9.1	6.3	1.8	2.8	2.3	13			
	SSW	WSW	NNE	SW	WSW	W	W	NW	NW	E	SE	W	WNW	NE	SE	SSW	SW	SW	SE	SE	ESE	WSW				
21	11.6	10.5	7.3	5.5	17	10.2	6.9	18.9	20.8	21.1	26.3	26.5	26.6	15.2	14.2	14.8	10.9	13.9	12.9	16.5	4.7	2.8	6	3.7	26.6	
	SE	SE	SE	W	ESE	ESE	ESE	ESE	ESE	ESE	SE	N	NNW	-	SW	SSW	ESE	NW								
22	3.1	4	2.8	2.7	3.9	2.9	4.5	3.7	4.2	10.1	14.1	23.3	17.9	13	9.5	7.6	8.7	10.3	9.9	7.9	6.4	17.2	8.6	6.9	23.3	
	SW	SE	SW	WSW	NW	SSE	SW	SSW	WNW	W	WNW	NW	NW	NW	NW	ESE	N	NE	NE	ENE	E	NW	NE	ESE	NNW	
23	5.9	8.9	6.5	10.2	12.1	14.4	20.2	19.4	19.8	21	21.4	18.2	20.9	18.5	14.9	15.2	14.3	11.8	13.1	10.5	8.3	6.3	5.8	5	21.4	
	NE	E	E	ENE	NE	NNE	NNE	E	E	-	SE	N	NNW	NNW	NW	NW	NW	NW	NNW	NNW	WNW	WNW	WSW	WSW		
24	4.5	2.4	2.9	2.4	4.5	4.4	5.5	5.9	9.2	11.1	11	12.5	13.8	13.8	13.2	13.5	12.8	12	8.1	3.4	4.9	4.6	13.3	11.5	13.8	
	WSW	SSE	ESE	SE	SW	WSW	WNW	W	N	N	NE	-	NE	ENE	E	ENE	ESE	SE	SSE	SE	NNE	E	E	SE	VARIOUS	
25	9.1	5.8	6.4	9.5	10	11.9	12.4	14.9	6.2	9.1	7.5	10.2	10.1	11.4	10.6	7.8	9.3	9.1	8.6	9.1	10	8.4	16	17	17	
	ESE	ENE	ENE	E	E	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE		
26	18.1	17.8	18.2	14.6	15.2	15.4	14.7	16.5	14.3	17	15.8	16.4	12.1	10.7	11.3	11.5	18.2	12.6	11.2	7.5	8	4.5	2.2	2.3	18.2	
	N	N	N	NNW	-	NNW	NNW	N	NNW	NNW	N	N	NNE	ESE	ESE	SE	SW	NNE								
27	1.3	2.3	1.2	2	2.6	9.2	9.3	13.1	17.2	14.5	14.1	13.5	16.3	17.4	15.6	14	13	14.5	13.4	10.6	6.2	3.5	3.9	4	17.4	
	SE	NE	NE	ENE	ENE	ESE	ESE	-	SE	SE	ESE	ESE	SE	E	SE											
28	8.2	9.3	9	9.3																						

### 01 Hour Averages



# **VECTOR WIND DIRECTION**

# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2007

## VECTOR WIND DIRECTION (WD) hourly averages in degrees

HOUR START HOUR END	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	23:00 0:00	24-HOUR AVG.	24-HOUR AVG QUADRANT	RDGS.	
DAY																												
1	304	297	28	93	84	44	242	226	252	240	246	238	209	198	258	248	18	33	38	76	158	267	294	127	261	W	24	
2	121	262	208	155	66	261	76	41	121	138	116	119	72	21	346	52	17	24	341	280	15	128	226	241	54	NE	24	
3	67	237	246	180	327	333	32	40	39	51	58	50	47	32	43	37	30	40	35	27	333	25	42	43	39	NE	24	
4	15	21	29	47	43	70	89	104	94	89	87	88	119	121	116	129	128	113	115	119	120	127	128	127	105	ESE	24	
5	128	125	117	116	102	103	91	95	95	93	93	124	83	74	61	39	44	65	82	84	81	66	50	60	77	ENE	24	
6	45	46	43	54	42	59	40	33	29	26	34	35	22	44	50	56	68	43	42	27	6	333	139	237	39	NE	24	
7	219	237	187	233	198	218	215	127	272	291	293	266	269	275	274	271	281	269	256	247	235	237	238	239	263	W	24	
8	246	248	256	261	261	262	265	272	289	307	299	270	293	330	313	310	318	343	327	318	290	231	217	137	291	WNW	24	
9	208	22	42	48	45	50	51	47	36	36	38	40	33	44	40	63	75	78	64	95	79	77	84	97	55	NE	24	
10	102	96	99	99	108	106	91	85	83	87	82	68	61	40	46	39	53	55	53	59	85	83	92	99	81	E	24	
11	90	90	85	81	73	87	92	94	91	74	38	12	64	332	331	3	338	279	258	258	255	230	214	210	53	NE	24	
12	236	220	230	236	130	138	171	269	271	137	118	85	290	245	234	249	249	237	234	220	241	236	252	264	240	WSW	24	
13	267	261	260	248	250	248	248	251	264	271	276	275	267	278	293	289	265	272	322	345	355	190	144	150	272	W	24	
14	200	109	220	216	261	215	246	274	230	255	269	242	256	310	342	314	287	294	259	333	260	358	32	41	297	WNW	24	
15	36	36	206	221	229	283	6	27	36	16	21	34	29	40	6	27	13	332	15	47	131	46	7	294	19	NNE	24	
16	226	183	54	109	3	38	28	28	59	354	34	96	126	96	15	14	21	16	64	54	24	34	57	88	38	NE	24	
17	252	78	212	252	331	30	35	28	12	26	40	44	48	44	48	53	66	4	318	282	271	271	229	242	26	NNE	24	
18	176	230	240	78	243	257	314	3	12	40	75	34	71	104	119	189	282	263	276	26	177	216	227	234	358	N	24	
19	237	233	244	225	239	231	247	256	265	277	267	302	311	293	322	15	343	226	233	249	222	246	233	225	268	W	24	
20	196	247	257	296	246	256	266	304	337	19	202	263	273	43	67	198	213	207	218	176	158	212	92	103	262	W	24	
21	126	130	136	128	186	116	136	122	122	121	125	125	124	106	140	134	133	21	10	326	246	193	106	53	122	ESE	24	
22	158	216	266	180	228	228	224	232	298	268	278	307	332	342	52	34	18	47	60	65	72	333	59	65	351	N	24	
23	61	75	358	300	30	18	54	33	39	23	308	337	348	341	326	318	324	320	308	292	266	251	256	254	345	NNW	24	
24	232	153	124	162	210	266	264	269	348	17	43	44	65	70	62	119	119	122	139	121	29	51	89	99	77	ENE	24	
25	109	70	80	87	72	99	104	127	123	111	94	96	76	355	309	314	340	359	88	82	72	18	19	18	62	ENE	24	
26	12	5	358	344	334	337	338	349	341	343	350	353	18	19	20	32	42	55	52	71	92	120	122	4	N	24		
27	126	81	204	64	71	122	125	129	128	120	130	133	120	124	129	127	125	126	130	127	132	128	118	102	125	SE	24	
28	126	127	125	125	117	119	118	121	105	113	122	123	125	131	125	125	121	116	107	111	103	125	97	105	119	ESE	24	
29	106	87	103	101	89	78	85	91	112	104	87	90	92	96	102	102	101	117	122	106	105	104	88	99	99	E	24	
30	99	102	114	96	104	128	118	133	174	222	218	228	231	241	242	235	242	242	236	189	144	144	118	131	185	S	24	
HOURLY AVG	304	297	358	344	334	337	338	349	348	354	350	353	348	355	346	318	343	359	341	345	355	358	294	294				

### 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

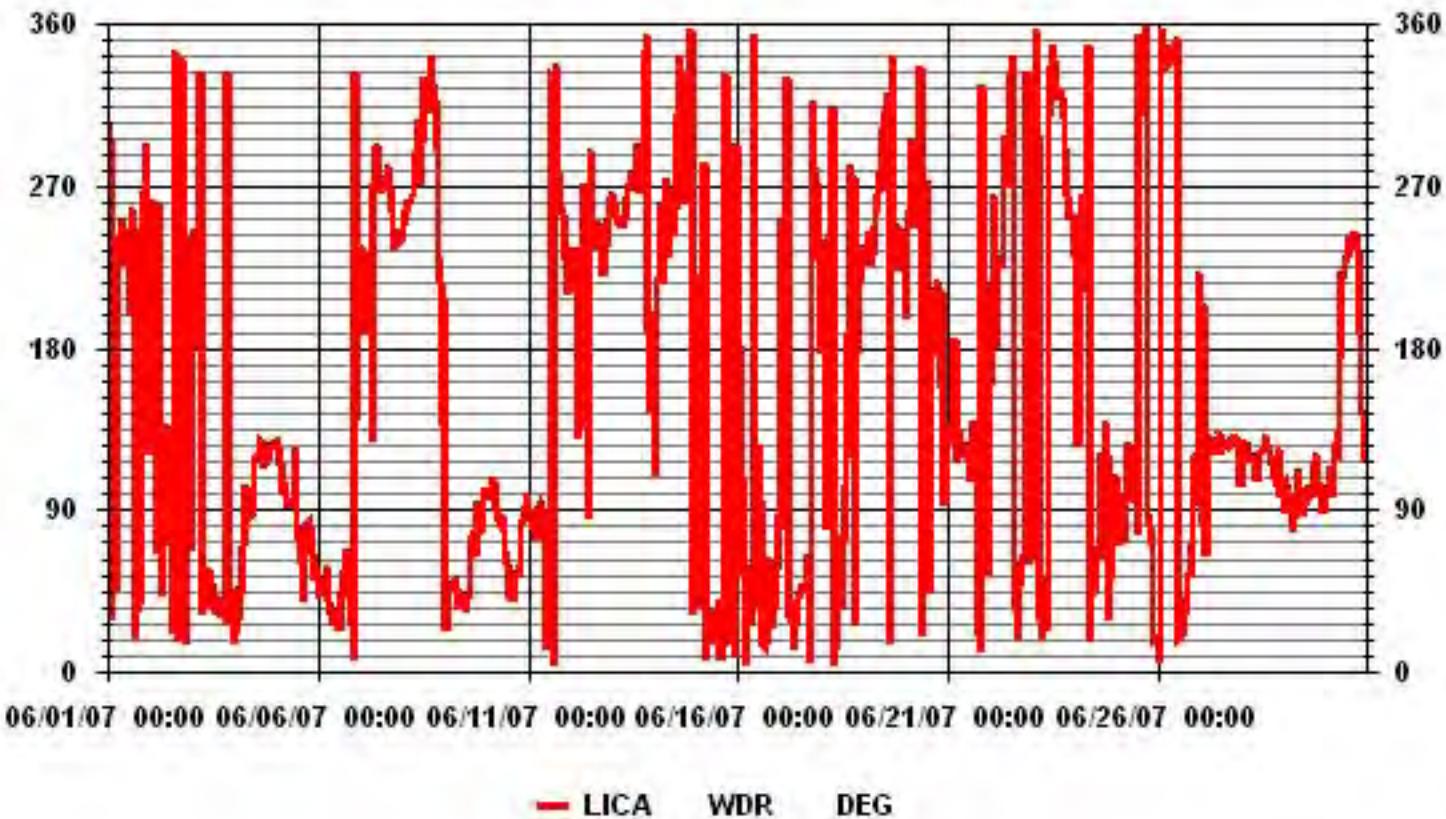
LAST CALIBRATION: NA  
DECLINATION : 19 DEGREES FROM MAGNETIC NORTH

MONTHLY CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	720 HRS
STANDARD DEVIATION	101.25	AMD OPERATION UPTIME	100.0 %
		MONTHLY AVERAGE	123.00 DEG



MOUNTAIN STANDARD TIME

### 01 Hour Averages



# LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2007

## STANDARD DEVIATION WIND DIRECTION (STDWDIR) hourly averages in degrees

HOUR START HOUR END	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	23:00 0:00
<b>DAY</b>																								
1	71	40	57	58	41	47	45	24	30	26	26	33	48	47	46	54	37	21	25	25	26	53	24	29
2	14	40	61	54	47	70	62	75	43	50	45	59	43	58	62	36	20	23	45	41	45	37	59	40
3	60	37	21	45	62	43	21	21	20	21	22	26	28	28	25	23	24	25	22	20	31	58	30	37
4	20	29	23	27	21	21	23	23	24	25	24	24	24	24	33	29	22	23	19	16	14	12	12	12
5	11	24	26	37	27	24	24	25	23	28	24	29	26	26	25	18	19	20	19	17	17	17	17	18
6	16	16	18	20	19	20	21	20	22	22	26	23	26	26	23	28	29	26	22	22	26	46	69	41
7	27	23	50	31	28	21	28	57	62	28	27	31	40	27	28	25	26	23	17	15	17	18	16	14
8	13	13	16	18	17	20	19	21	19	23	22	31	30	30	30	27	34	32	46	21	18	25	18	20
9	49	61	22	19	19	19	20	21	24	27	28	35	38	30	30	27	34	32	46	21	18	25	18	20
10	21	21	21	21	20	21	20	18	18	20	19	20	17	17	19	19	19	19	19	17	19	19	19	21
11	19	20	16	19	47	18	19	25	24	20	21	19	44	22	17	20	26	21	17	17	16	21	19	24
12	22	19	23	39	41	60	56	35	74	47	32	34	40	24	21	17	16	19	21	24	18	18	17	19
13	18	18	17	16	15	17	16	17	21	22	22	21	20	22	20	22	21	21	19	18	49	41	58	33
14	52	53	30	57	53	59	21	28	60	45	33	42	55	28	22	21	21	22	20	32	26	24	23	20
15	25	17	34	46	42	24	44	32	27	40	43	35	38	36	49	40	40	23	25	49	20	59	35	31
16	25	72	84	36	50	28	34	24	26	42	31	60	63	59	58	24	26	40	42	21	24	43	37	56
17	43	47	47	30	51	35	23	23	20	20	20	19	23	22	21	24	19	12	16	16	16	19	22	57
18	35	36	44	62	48	34	28	21	21	23	32	40	51	78	40	65	52	47	47	56	23	23	20	18
19	19	20	17	20	20	21	18	19	20	22	20	21	22	21	19	27	69	55	31	16	16	12	9	27
20	35	14	74	56	14	19	24	24	30	54	63	53	45	49	56	40	51	44	34	25	22	41	70	57
21	16	11	20	46	29	21	28	16	16	17	33	15	46	47	26	20	57	43	68	45	74	53	71	67
22	44	38	64	35	44	33	39	34	45	33	21	19	19	40	46	37	33	27	21	19	20	26	22	19
23	23	21	25	23	19	22	23	25	19	24	17	17	22	26	28	23	22	17	18	19	20	11	15	14
24	21	44	64	58	45	27	32	34	40	36	27	28	24	24	32	28	25	28	17	15	29	17	18	21
25	20	21	20	24	21	22	22	16	20	20	24	51	39	22	14	20	45	33	38	33	21	19	23	19
26	20	19	18	20	17	18	19	20	24	21	20	22	23	21	27	20	22	20	22	21	20	21	58	71
27	52	26	60	54	30	18	15	16	24	19	25	22	21	32	26	25	21	19	14	11	9	12	10	13
28	10	10	11	11	14	15	17	19	23	23	19	19	20	19	17	17	18	19	21	20	20	14	17	20
29	22	18	21	22	18	19	21	21	21	22	22	20	19	21	21	20	17	16	19	19	19	17	20	
30	21	21	19	20	23	15	18	20	35	25	24	24	22	22	20	21	22	25	20	27	27	29	12	12

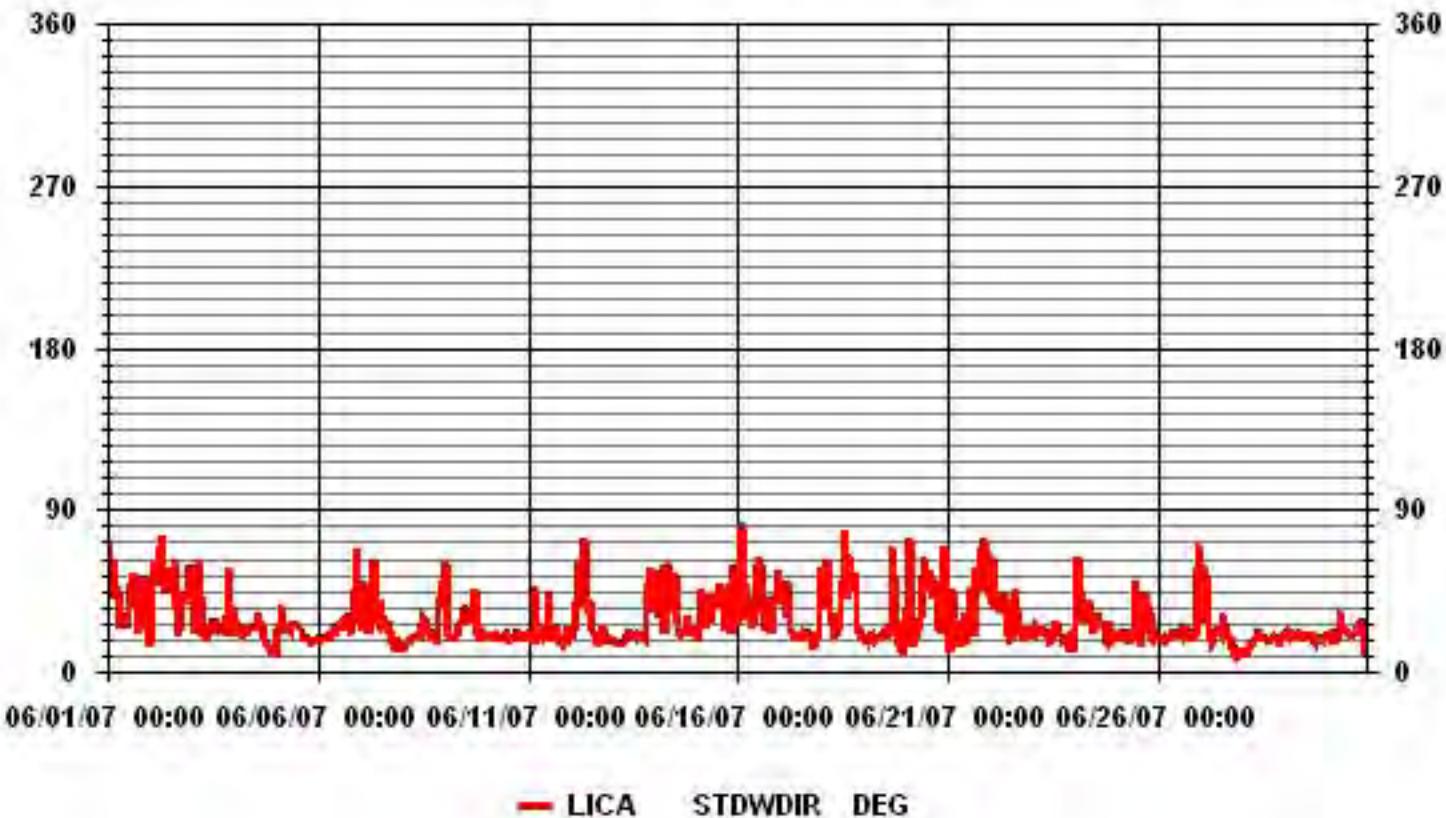
### STATUS FLAG CODES

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

LAST CALIBRATION: NA

CALIBRATION TIME: 0 HRS OPERATIONAL TIME: 720 HRS

### 01 Hour Averages



# **TEMPERATURE**

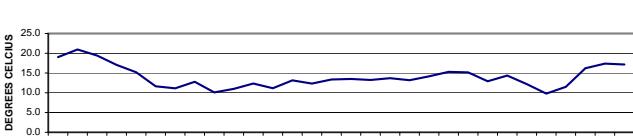
LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2007

AMBIENT TEMPERATURE hourly averages (Degrees C)

	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 MAX.	24-HOUR AVG.	RDGS.	
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	0:00			
HOUR END	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00				
DAY																												
1	10.2	9.5	8.7	7.8	7.7	11.4	15.5	17.3	20.4	22.9	24.3	25.3	26.1	26.6	27.1	27.2	25.1	24.5	23.7	22.1	18.8	17.7	19.4	17.3	27.2	19.0	24	
2	17.4	16.1	13.5	12	11.7	12.7	17.7	20.9	22.4	23.8	25.1	26.3	26.9	27.6	28.3	28.3	26.9	25.9	24.8	23.1	22	18.2	15.9	15.4	28.3	21.0	24	
3	14.3	14.8	15.7	15.1	15.2	15.6	17.9	18.9	19.8	20.5	21.5	22.8	23.7	24.3	24.8	24.3	24.8	24.4	23.5	21.8	18.5	15.3	14.7	14	24.8	19.4	24	
4	13.7	12.4	11.8	10.6	11.1	13.1	13.9	14.7	16	17.2	18.6	19.6	20.4	21.2	21.8	22.2	22.4	22.2	21.5	20	18	16.5	15.4	14.9	22.4	17.1	24	
5	13.8	13.6	13.8	12	10.9	13.5	14.6	14.9	15	15.4	15.3	16.4	17.8	19.8	20.8	18.9	17.3	16.3	15.9	15.3	14.8	13.4	12.8	12.4	20.8	15.2	24	
6	11.1	9.9	9	8.6	8.8	9.8	10.3	10.2	11.1	11.9	12.9	13.9	14.5	15	15.4	15.5	15.5	15.4	14.8	13.9	12.8	9.1	5.7	4.1	15.5	11.6	24	
7	2.8	1.6	0.6	-0.1	-0.1	2.6	5.4	9.5	12.1	13.6	14.3	15.3	15.9	16.9	17.4	17.6	17.9	18.3	17.8	16.5	14.8	13.2	12	11.3	18.3	11.1	24	
8	11.1	11.2	11.6	10.9	10.8	10.7	12.1	13.9	15.9	16.4	16.9	16.3	16	14.1	13.6	14.1	13.5	14.4	13.8	13	9	7.1	5.8	16.9	12.8	24		
9	4.7	4.2	6.2	7	6.7	6.6	6.9	7.1	8.2	9.1	10.7	12.1	12.9	13.9	14.3	14.8	15.3	15.2	14.4	13.1	11.2	10.8	10.2	15.3	10.1	24		
10	9.5	8.7	8.4	9.1	8.9	8.7	8.9	9.2	9.5	10.8	11.2	11.8	11.3	11.7	12.4	12.4	12.5	13.1	13.3	13.3	12.6	12.1	12.1	13.3	11.0	24		
11	11.9	11.4	11.2	11.2	11.3	12	12.5	12.6	12.8	12.3	11.5	11.7	11.8	12.3	12.6	12.9	13	13.9	13.4	13	12.7	12.4	11.8	13.9	12.3	24		
12	10.6	9.6	8.5	6.9	6.5	7.7	9.5	12.1	14.4	15.7	17	17.5	11.7	11.5	11.1	11.2	10.7	10.2	10.2	10.3	10.6	11	17.5	11.1	24			
13	10.9	10.7	10	9.6	10	10.4	11.1	12.1	14	14.9	15.4	16.3	16.8	17.4	17.9	18.1	17.5	17.4	16.7	14.3	11.7	8.6	6.9	6.7	18.1	13.1	24	
14	6.1	5.1	4.3	3.9	4	7.2	9.9	11.8	14.3	15.6	15.8	16.5	18	16.8	16.1	15.5	16	17.2	17.1	16.1	13.7	11.7	12.1	11.2	18.0	12.3	24	
15	9.9	9.4	7.6	5.6	5	7.9	10.9	12.2	13.6	15.5	17.2	18.5	19.5	20.2	20.7	20.9	19.7	12.3	13.2	11.9	10.7	9.8	9.4	20.9	13.4	24		
16	9.3	8.4	8.7	8.8	9.5	10.1	9.9	10.1	10.4	10.6	12.5	15.7	17.5	18.4	19	18.6	17.9	19	18.4	16.4	13.4	11.5	10.7	19.0	13.5	24		
17	9.8	9.3	8.7	7.6	7.9	10.3	12.4	13.2	13.7	14.6	15.6	16.1	16.6	17.1	17.4	17.2	17.1	16.8	15.8	14.9	13.8	12.4	10.4	9.1	17.4	13.2	24	
18	7.8	6.5	6	6.2	6	8.6	13	13.1	13.1	14.5	16	17.3	18.2	19.1	19.3	18.8	17.3	19.2	18.7	17.1	14.1	12.6	13	13.1	19.3	13.7	24	
19	13.5	12.1	11.6	10.9	11	11.4	12.4	13.5	14.2	14.2	12.6	14	14.6	14.8	15	14.8	15.3	15.6	15.7	15	12.9	11.5	10.4	9.4	15.7	13.2	24	
20	8.7	8.2	7	6.1	6.8	9.4	11.7	13.4	14.8	15.9	16.8	17.9	18.2	18.6	18.9	18.9	18.9	18.6	18.6	15.6	12.7	11.7	10.2	20.2	14.2	24		
21	11.3	12	11.6	11.8	10.4	10.5	12.3	13.7	14.7	16.5	16.8	15.2	16.4	17.6	20.2	21.4	22.1	19.7	20.8	17.6	16.3	14.3	12.5	11.3	22.1	15.3	24	
22	10.2	8.9	8.5	7.4	7	9.6	12.3	14.3	17.1	18.3	17.1	16.2	17.5	19.3	20.6	20.6	20.6	20.2	19.6	18.7	18	15	13.7	13.2	20.6	15.2	24	
23	13.1	12.8	12.9	12.5	11.9	12.1	11.7	11.6	11.5	11.7	11.6	12	13.9	14.5	14.2	14.7	15.6	15	15.3	15	14	11.7	10.8	9.9	15.6	12.9	24	
24	8.2	6.9	5.8	5.3	5.4	8.2	11.1	13.6	15.3	16.3	16.7	17.1	17.5	18	18.9	19.1	19.4	19.7	18.9	17.9	17.1	16	16.5	15.6	19.7	14.4	24	
25	14.1	13	12.8	12.5	11.8	12.1	13.2	13.3	12.6	13	13.2	13.2	12.8	12.8	12	11.8	11.2	10.9	11.2	11.6	11.4	11	11	10.1	14.1	12.2	24	
26	9.6	9.4	9.1	8.6	8.5	8.5	8.6	9.1	9.5	10	10.5	11.2	11.4	11.2	11.7	11.3	11.2	10.9	11.6	11.8	10.7	8.5	6.7	5.4	11.8	9.8	24	
27	4.6	4.1	3.5	3.1	3.7	5.7	7.8	10	11.9	12.7	13.4	13.8	14.9	15.9	16.7	17	17.4	17.6	17.5	16.5	14.7	12.1	11.2	10.2	17.6	11.5	24	
28	10.6	10.4	9.9	9.5	9.6	11	12.2	13.7	15.8	18	19.3	20	20.6	21	20.8	20.7	20.8	20.4	20.1	19.2	18.3	17	15.3	14.6	21.0	16.2	24	
29	14.5	14.1	13.8	13.6	13.3	13.4	13.9	15.2	16.5	17.6	18.5	19	19.9	20.7	21.1	21	21.1	20.4	19.8	19.4	18.8	18.6	17.3	15.6	21.1	17.4	24	
30	14	13.1	12.9	12.9	13.2	13.7	14.2	15.6	17.4	18	19.5	20.5	20.4	21.1	21.1	20.9	21.1	21.5	21.4	20.2	17.6	14.7	13.5	13.1	21.5	17.2	24	
HOURLY MAX		17.4	16.1	15.7	15.1	15.2	15.6	17.9	20.9	22.4	23.8	25.1	26.3	26.9	27.6	28.3	28.3	26.9	25.9	24.8	23.1	22.0	18.6	19.4	17.3			
HOURLY AVG		10.6	9.9	9.5	8.9	8.8	10.2	11.8	13.0	14.2	15.2	15.9	16.5	17.1	17.7	18.1	18.0	17.9	17.8	17.4	16.4	15.0	13.1	12.1	11.3			

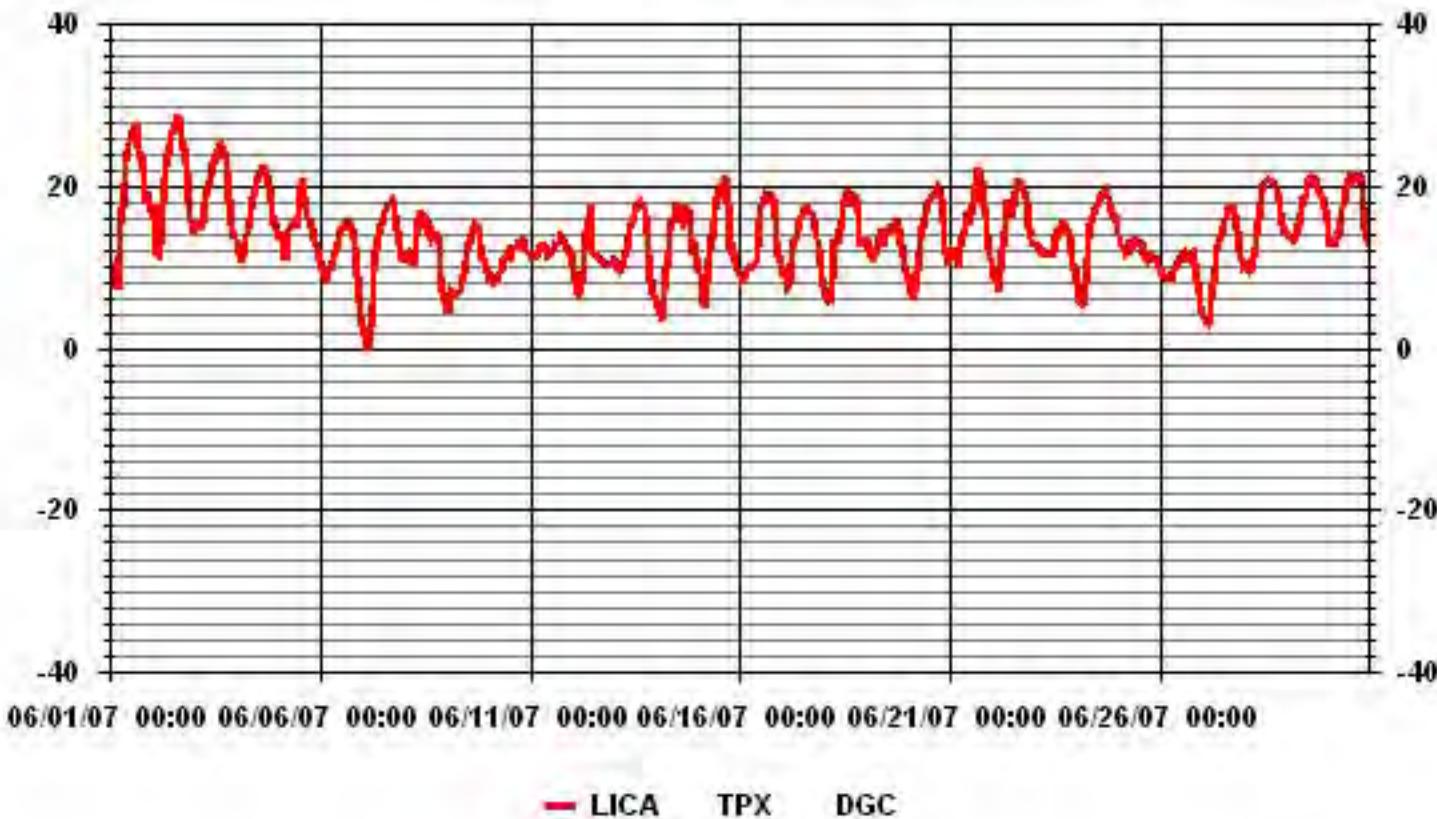
24 HOUR AVERAGES FOR JUNE 2007



MOUNTAIN STANDARD TIME

CALIBRATION TIME:	0 HRS	OPERATIONAL TIME:	720 HRS
AMD OPERATION UPTIME:	100.0 %	MONTHLY AVERAGE:	14.01 °C
STANDARD DEVIATION:	4.74		

### 01 Hour Averages



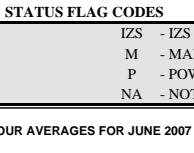
# **RELATIVE HUMIDITY**

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION - COLD LAKE

JUNE 2007

RELATIVE HUMIDITY hourly averages (%)

HOUR START HOUR END	0:00 1:00	1:00 2:00	2:00 3:00	3:00 4:00	4:00 5:00	5:00 6:00	6:00 7:00	7:00 8:00	8:00 9:00	9:00 10:00	10:00 11:00	11:00 12:00	12:00 13:00	13:00 14:00	14:00 15:00	15:00 16:00	16:00 17:00	17:00 18:00	18:00 19:00	19:00 20:00	20:00 21:00	21:00 22:00	22:00 23:00	23:00 0:00	DAILY MAX.	24-HOUR AVG.	RDGS.
DAY																											
1	90.1	90.7	90.9	92.0	90.9	79.0	68.5	64.0	56.7	45.4	39.5	35.6	32.2	30.4	30.4	31.3	37.4	38.0	39.8	46.2	60.7	66.9	56.7	68.4	92.0	57.6	24
2	67.6	75.9	87.0	91.0	90.4	88.4	70.8	58.9	53.0	46.0	40.9	37.3	35.3	32.4	26.8	26.1	28.6	29.4	36.2	44.0	46.6	62.6	72.8	75.0	91.0	55.1	24
3	78.1	77.2	74.4	77.8	77.2	78.7	63.8	59.1	53.6	46.7	43.2	40.8	38.1	34.8	34.7	36.8	33.8	33.8	36.1	40.5	56.5	69.4	67.1	67.7	78.7	55.0	24
4	66.6	73.9	74.5	79.7	79.8	66.9	59.3	57.8	54.4	51.4	47.8	44.7	42.6	40.5	38.8	37.6	36.0	36.5	39.2	44.1	49.4	52.3	51.9	48.9	79.8	53.1	24
5	53.4	58.2	60.7	70.8	75.7	63.5	61.4	60.7	62.9	63.5	65.5	61.7	57.6	54.7	53.2	59.0	62.8	67.2	63.1	62.6	65.2	72.5	70.9	70.4	75.7	63.2	24
6	76.3	80.2	80.0	78.9	78.8	68.3	63.0	64.7	54.6	46.7	40.8	36.8	35.4	30.4	29.0	28.8	28.1	28.5	33.4	40.4	57.7	72.3	78.7	80.2	52.5	24	
7	83.9	87.6	88.9	91.0	90.0	80.6	69.0	52.8	38.7	30.3	27.9	27.9	26.4	25.2	25.1	24.1	24.1	24.2	25.6	31.9	40.2	46.1	49.7	54.5	91.0	48.6	24
8	56.7	56.7	58.5	64.2	67.2	71.7	71.1	62.9	46.6	44.0	46.2	63.1	56.3	52.0	72.2	73.0	69.3	67.1	62.3	69.6	73.6	90.2	92.6	93.5	65.9	24	
9	94.2	94.0	78.0	66.1	70.1	70.3	70.9	68.1	67.7	64.3	59.1	49.3	41.6	36.6	32.4	31.7	30.5	29.5	31.1	34.2	37.9	46.7	43.1	39.3	94.2	53.6	24
10	40.3	44.6	44.5	42.4	46.3	49.1	48.7	49.8	51.5	47.0	46.8	48.9	64.6	71.8	70.4	72.1	74.8	77.0	80.2	82.0	83.0	81.4	79.1	74.7	83.0	61.3	24
11	74.6	77.8	79.5	81.3	84.6	80.6	77.3	78.9	81.1	87.2	94.9	96.3	97.1	96.9	96.1	95.3	94.7	90.8	90.2	92.4	93.7	97.0	97.3	97.3	88.7	24	
12	97.9	98.2	98.1	98.0	98.4	98.9	98.7	92.5	82.7	77.1	68.5	68.3	87.8	93.3	95.4	94.8	93.9	95.5	95.7	96.6	97.3	97.8	97.5	95.5	98.9	92.4	24
13	94.3	93.8	94.8	95.7	95.2	94.6	91.7	86.1	74.1	63.5	59.7	56.7	52.3	48.1	42.0	41.1	50.0	53.2	40.0	47.1	60.2	80.8	87.7	88.9	95.7	70.5	24
14	91.0	93.3	94.6	95.5	94.7	88.0	78.1	71.7	60.4	52.2	52.1	47.6	44.3	50.1	53.6	57.0	53.8	49.1	53.4	59.3	75.7	79.8	76.0	78.3	95.5	68.7	24
15	82.9	83.1	90.4	94.9	93.9	88.0	79.9	72.2	62.7	54.7	49.9	44.7	39.7	37.0	35.9	34.6	35.8	49.9	86.3	85.2	91.0	94.4	96.7	96.9	70.0	24	
16	97.5	97.9	98.1	98.1	91.5	90.7	90.5	91.0	92.9	86.8	70.2	61.4	56.5	50.9	47.0	51.4	45.8	46.9	51.9	63.3	80.2	86.7	90.2	98.1	76.5	24	
17	93.9	94.1	95.6	96.9	94.9	80.7	66.4	64.4	63.3	58.4	53.7	49.7	39.7	38.6	38.2	38.6	39.6	44.7	55.4	64.1	66.2	72.7	83.9	90.3	96.9	66.0	24
18	91.6	94.4	94.8	93.6	94.0	86.7	68.3	63.8	60.7	52.1	43.3	40.0	38.1	37.6	38.3	41.2	53.9	43.2	48.0	58.5	75.6	77.7	73.9	76.7	94.8	64.4	24
19	74.6	84.7	86.1	89.5	89.5	86.5	78.3	76.7	61.0	58.9	71.8	60.4	58.6	56.2	54.1	55.7	54.0	54.5	54.9	59.8	73.5	77.9	84.5	89.3	70.1	24	
20	91.0	92.6	94.1	95.1	96.1	89.6	79.1	69.8	56.7	49.6	47.2	42.7	41.1	40.6	40.2	39.3	38.1	37.3	39.8	47.3	66.6	76.1	79.7	84.8	96.1	63.9	24
21	78.1	73.1	74.1	75.5	90.7	93.7	90.4	83.9	76.9	67.7	67.4	78.9	74.2	74.5	63.0	58.9	58.6	70.1	64.4	86.9	94.9	97.8	97.9	98.3	78.7	24	
22	98.1	98.5	98.7	98.6	98.7	96.8	93.6	91.0	78.5	63.5	70.8	73.7	64.9	52.6	45.3	41.2	41.6	43.3	47.5	57.1	60.9	80.2	88.2	98.7	73.6	24	
23	88.5	88.8	85.7	88.9	92.9	92.9	93.8	93.6	93.9	90.6	94.7	94.1	85.5	79.2	85.1	81.2	72.9	75.1	72.6	73.2	78.6	82.6	87.4	91.2	94.7	86.0	24
24	95.8	96.4	96.4	96.4	96.4	91.7	84.3	75.0	68.5	55.4	53.5	52.0	50.3	44.1	40.2	43.9	42.8	40.9	43.5	51.1	61.9	65.2	59.5	65.4	96.9	65.5	24
25	74.0	80.8	82.1	84.5	88.0	88.4	84.4	86.7	94.9	94.6	94.8	95.9	97.3	97.5	95.8	95.5	96.0	97.1	96.1	96.0	94.7	95.4	95.5	94.4	97.5	91.7	24
26	94.5	94.4	95.0	96.4	95.1	92.7	91.2	89.5	86.7	86.7	85.6	82.1	78.3	78.7	79.7	81.3	77.6	74.7	74.4	80.1	89.7	94.9	95.9	96.4	86.1	24	
27	96.3	96.4	96.3	96.5	95.8	95.8	92.0	83.5	77.3	72.0	67.2	65.6	62.6	59.6	57.4	56.9	56.5	55.6	56.8	62.9	73.4	86.3	88.6	91.7	96.5	76.8	24
28	89.3	89.0	88.6	88.1	86.0	79.0	75.5	72.5	67.0	60.4	56.2	52.1	51.2	50.2	51.5	49.9	50.8	52.3	52.1	58.1	65.0	69.6	77.0	77.2	89.3	67.0	24
29	74.5	74.3	76.2	78.0	79.7	79.8	78.2	74.7	72.0	70.7	69.7	70.6	69.1	66.2	66.1	67.5	67.1	66.9	67.0	67.3	66.8	64.3	69.1	78.1	79.8	71.4	24
30	89.5	94.8	96.0	96.5	96.2	96.2	95.4	93.2	86.2	78.2	64.9	56.4	50.9	46.6	46.3	45.0	42.1	41.0	50.1	67.0	80.0	83.3	82.7	96.5	71.9	24	
HOURLY MAX	98.1	98.5	98.7	98.6	98.7	98.9	98.7	93.6	94.9	94.6	94.9	96.3	97.3	97.5	96.1	95.5	96.0	97.1	96.1	96.6	97.3	97.8	97.9	98.3			
HOURLY AVG	82.5	84.5	85.1	86.4	87.5	83.6	77.8	73.3	67.8	62.4	60.2	58.0	55.8	53.8	52.9	52.9	53.4	53.9	55.6	60.9	68.7	76.3	78.6	80.7	96.5	71.9	24

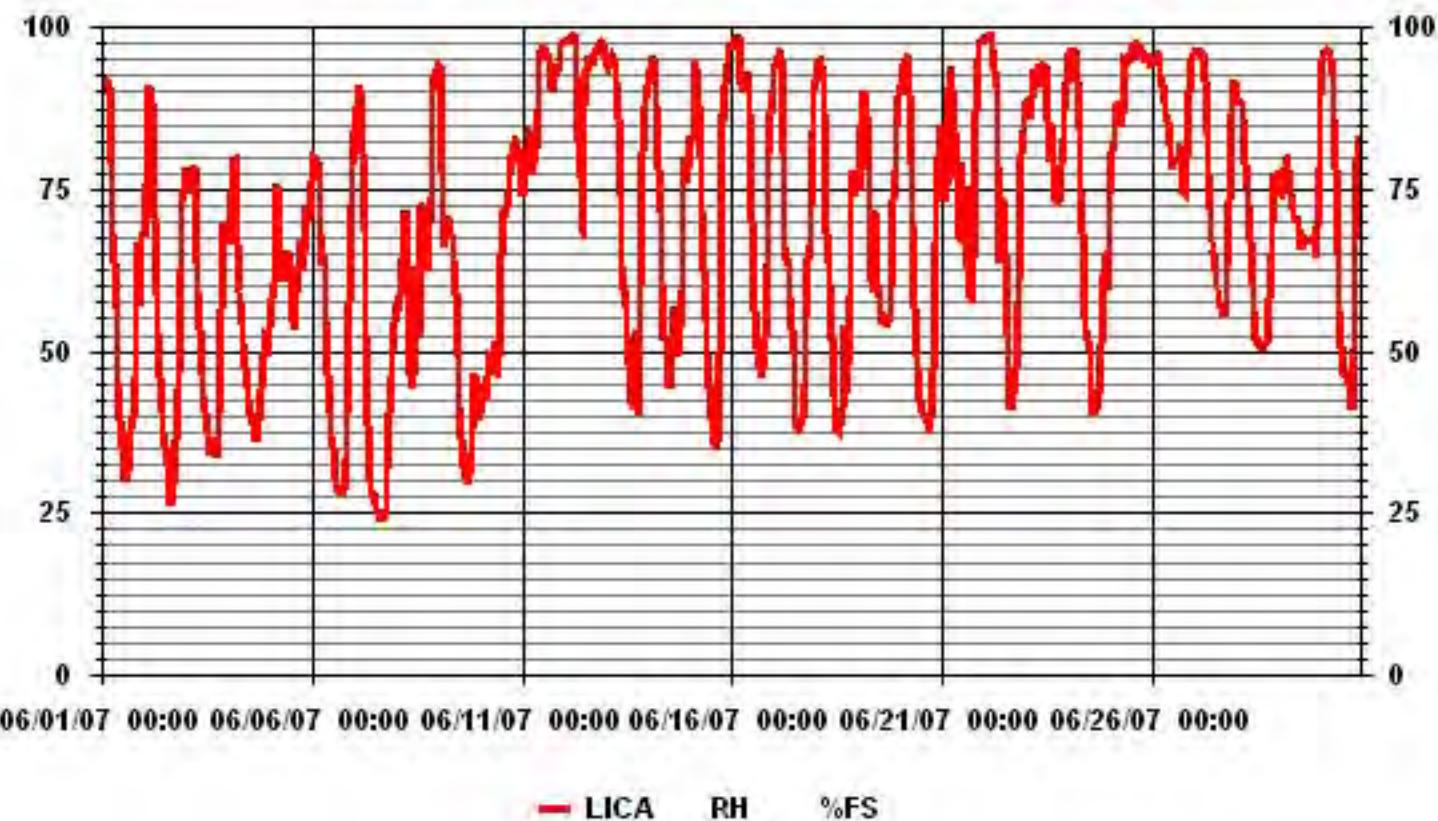


MAXIMUM 1-HR AVERAGE:	98.9	%	@ HOUR(S)	6	ON DAY(S)	12
MAXIMUM 24-HR AVERAGE:	92.4	%			ON DAY(S)	12

CALIBRATION TIME:	0	HRS	OPERATIONAL TIME:	720	HRS
AMD OPERATION UPTIME:			100.0	%	
STANDARD DEVIATION:	20.63		MONTHLY AVERAGE:	68.86	%

MOUNTAIN STANDARD TIME

### 01 Hour Averages



**JUNE 2007**  
**CALIBRATION REPORTS**

**LICA – COLD LAKE**

**SO<sub>2</sub>**

## SO<sub>2</sub> Calibration Report

### Station Information

Calibration Date	June 6, 2007	Previous Calibration	May 1, 2007
Company	<b>Lakeland Industry &amp; Community Association</b>		
Plant / Location	<b>LICA 1 - Cold Lake South</b>		
Start Time (MST)	7:20	End Time (MST)	11:15
Reason:	Monthly Calibration		
Barometric Pressure	705	mmHg	Station Temperature 23 Deg C
Cal Gas	47.6	ppm	Cal Gas Expiry date 06/23/2007
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:	API 700	S/N :	690	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	263		
Flow Meter:	API 700	S/N :	690		

### Analyzer Settings

Concentration Range	Before Calibration			After Calibration		
	0 - 500 ppb					
Sample Flow / Box Temp	725 ccm	OK	Deg C	725 ccm	OK	Deg C
HVPS / Lamp Setting	OK	843		OK	845	
PMT / RxCell Temp	OK Deg C	OK	50	OK Deg C	OK	Deg C
Converter / IZS Temp	NA Deg C	OK	40	NA Deg C	OK	Deg C
Offset / Slope	98	896		98	918	

### Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
ZERO	ZERO	0	-1	N/A
4961	38.3	365	361	1.0102
4961	38.3	365	365	0.9991
4976	23.9	228	228	0.9979
4985	14.4	137	136	1.0081
ZERO	ZERO	0	-1	N/A
			Sum of Least Squares	0.9996
			New Correction Factor	0.9991

### Before Calibration

### After Calibration

Auto Zero	0	0
Auto Span	353	353
Sample Lines Connected		<b>YES</b>
Percent Change from Previous Calibration		-1.0%

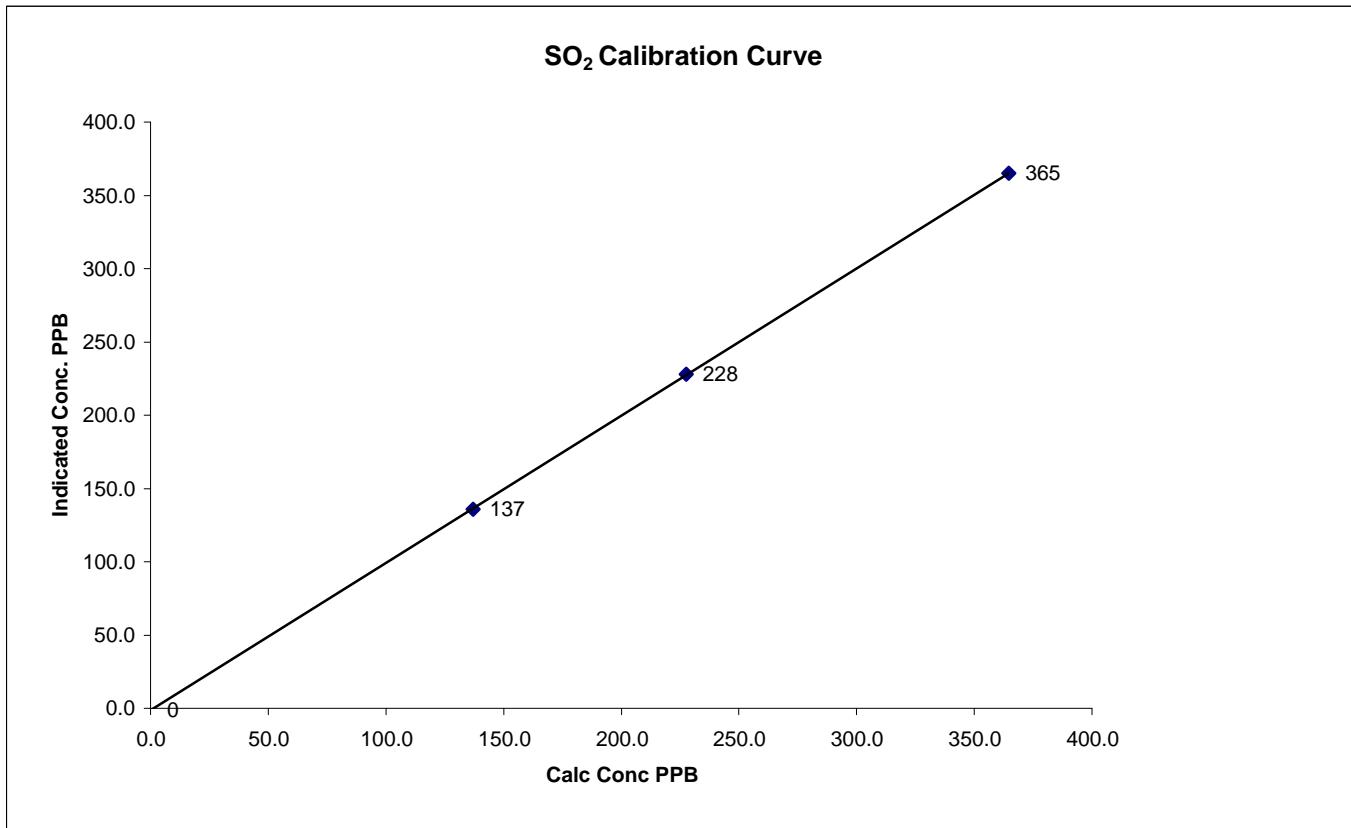
Notes: During the as found span point, gas flow to the analyzer was temporarily halted.

Calibration Performed by: Shea Beaton

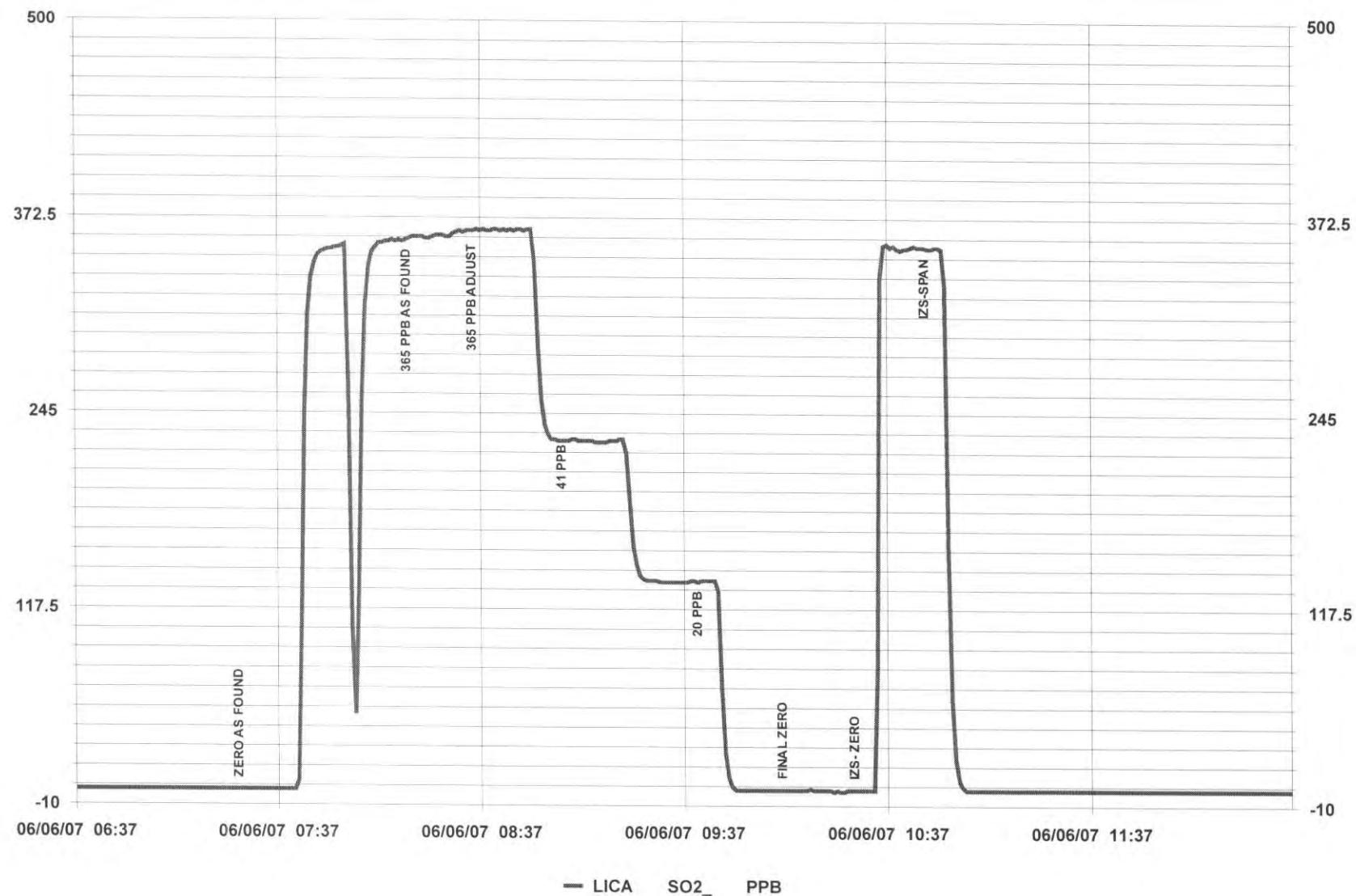
## SO<sub>2</sub> Calibration Curve

Calibration Date	June 6, 2007		
Company	<b>Lakeland Industry &amp; Community Association</b>		
Plant / Location	<b>LICA 1 - Cold Lake South</b>		
Start Time (MST)	7:20	End Time (MST)	11:15

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient	(≥ 0.995) (0.85 to 1.15)	0.999990
			Slope	(± 3% F.S.)	1.004450
0	-1	n/a			
137	136	1.0081			
228	228	0.9979			
365	365	0.9991			



01 Minute Averages



## SO<sub>2</sub> Calibration Report

### Station Information

Calibration Date	June 22, 2007	Previous Calibration	June 6, 2007
Company	<b>Lakeland Industry &amp; Community Association</b>		
Plant / Location	<b>LICA 1 - Cold Lake South</b>		
Start Time (MST)	7:25	End Time (MST)	14:05
Reason:	Repair Calibration		
Barometric Pressure	7.25	mmHg	Station Temperature 24 Deg C
Cal Gas	49	ppm	Cal Gas Expiry date 10/14/2007
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:	API 700	S/N :	690	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	263		
Flow Meter:	API 700	S/N :	690		

### Analyzer Settings

Concentration Range	Before Calibration				After Calibration			
	0 - 500		ppb	Deg C	845		Deg C	
Sample Flow / Box Temp	725	ccm	OK	Deg C	725	ccm	OK	Deg C
HVPS / Lamp Setting	OK		841		OK		845	
PMT / RxCell Temp	OK	Deg C	OK	50	OK	Deg C	OK	Deg C
Converter / IZS Temp	NA	Deg C	OK	40	NA	Deg C	OK	Deg C
Offset / Slope	98		918		98		879	

### Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
ZERO	ZERO	0	1	N/A
4959	40.8	400	209	1.9132
ZERO	ZERO	0	0	N/A
4959	40.8	400	401	0.9971
4979	20.4	200	200	0.9997
4989	10.2	100	100	0.9998
ZERO	ZERO	0	0	N/A
Sum of Least Squares				0.9978
New Correction Factor				0.9971

### Before Calibration

### After Calibration

Auto Zero	0	0
Auto Span	201	348
Sample Lines Connected		YES
Percent Change from Previous Calibration		-47.8%

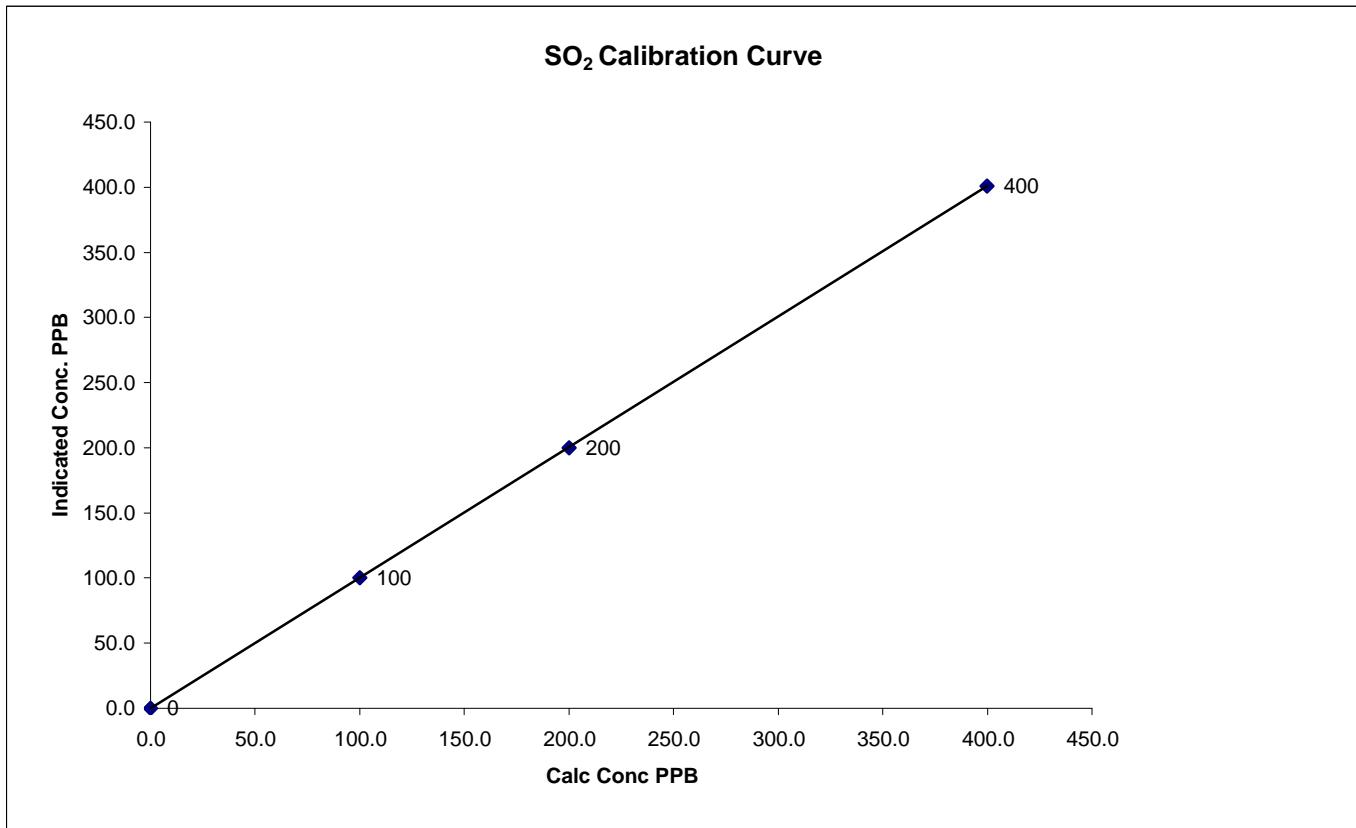
Notes: As found span point read 209 ppb on the DAS, but the analyzer was reading correct (403) ppb  
 Switched analog outs from output 1 to 2, calibrated output 2, calibrated analyzer. Problem with  
 the output board, output 1 no longer functioning properly

Calibration Performed by: Shea Beaton

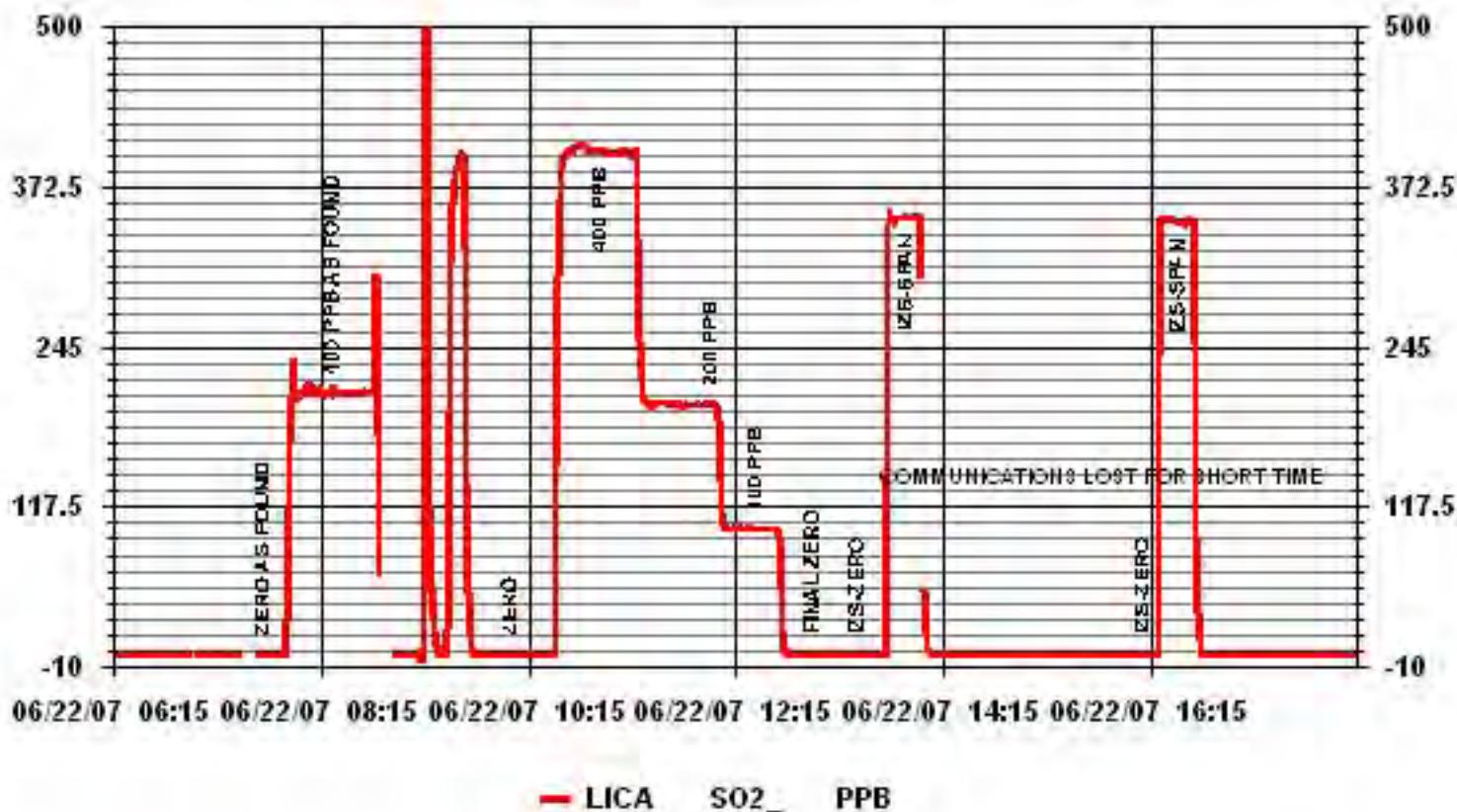
## SO<sub>2</sub> Calibration Curve

Calibration Date	June 22, 2007		
Company	<b>Lakeland Industry &amp; Community Association</b>		
Plant / Location	<b>LICA 1 - Cold Lake South</b>		
Start Time (MST)	7:25	End Time (MST)	14:05

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient	(≥ 0.995) (0.85 to 1.15)	0.999998
			Slope	(± 3% F.S.)	1.002938
			Intercept		-0.208010
0	0	n/a			
100	100	0.9998			
200	200	0.9997			
400	401	0.9971			



### 01 Minute Averages



**TRS**

## TRS Calibration Report

### Station Information

Calibration Date	June 7, 2007	Previous Calibration	May 1, 2007
<b>Lakeland Industry &amp; Community Association</b>			
<b>LICA 1 - Cold Lake South</b>			
Start Time (MST)	6:55	End Time (MST)	11:30
Reason: Monthly Calibration			
Barometric Pressure	708 mm Hg	Station Temperature	23 Deg C
Cal Gas	10.2 ppm	Cal Gas Expiry date	09/05/2007
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			
	0 - 100		ppb	Deg C	ccm	OK	Deg C	
Concentration Range	400	ccm	OK	Deg C	400	OK	Deg C	
Sample Flow / Box Temp	OK		886		OK		885	
HVPS / Lamp Setting	OK	Deg C	OK	Deg C	OK	Deg C	OK	Deg C
PMT / RxCell Temp	850	Deg C	OK	Deg C	850	Deg C	OK	Deg C
Converter / IZS Temp	820		828		820		836	
Offset / Slope								

### Calibration Data

Dilution Flow Rate	Source Gas Flow Rate	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
ZERO	ZERO	0	0	N/A
5000	40	81	80	1.0119
ZERO	ZERO	0	0	N/A
5000	40	81	81	0.9994
5000	20	41	41	0.9912
5000	10	20	20	1.0180
ZERO	ZERO	0	0	N/A
Sum of Least Squares				0.9987
New Correction Factor				0.9994

### Before Calibration

### After Calibration

Auto Zero	0	0
Auto Span	87	84
Sample Lines Connected		YES
Percent Change from Previous Calibration		-1.2%

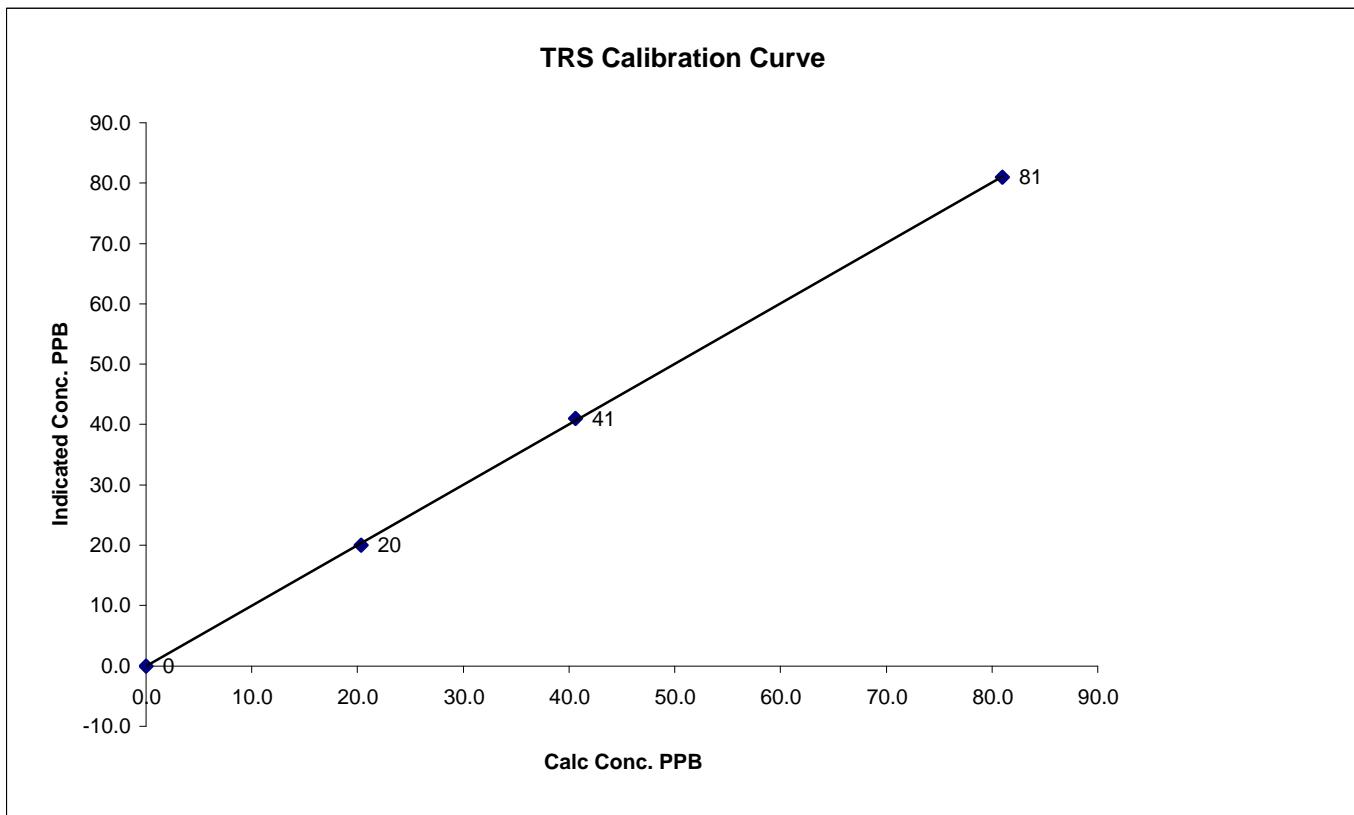
Notes: Performed leak check on analyzer after as-found points, no leaks evident

Calibration Performed by: Shea Beaton

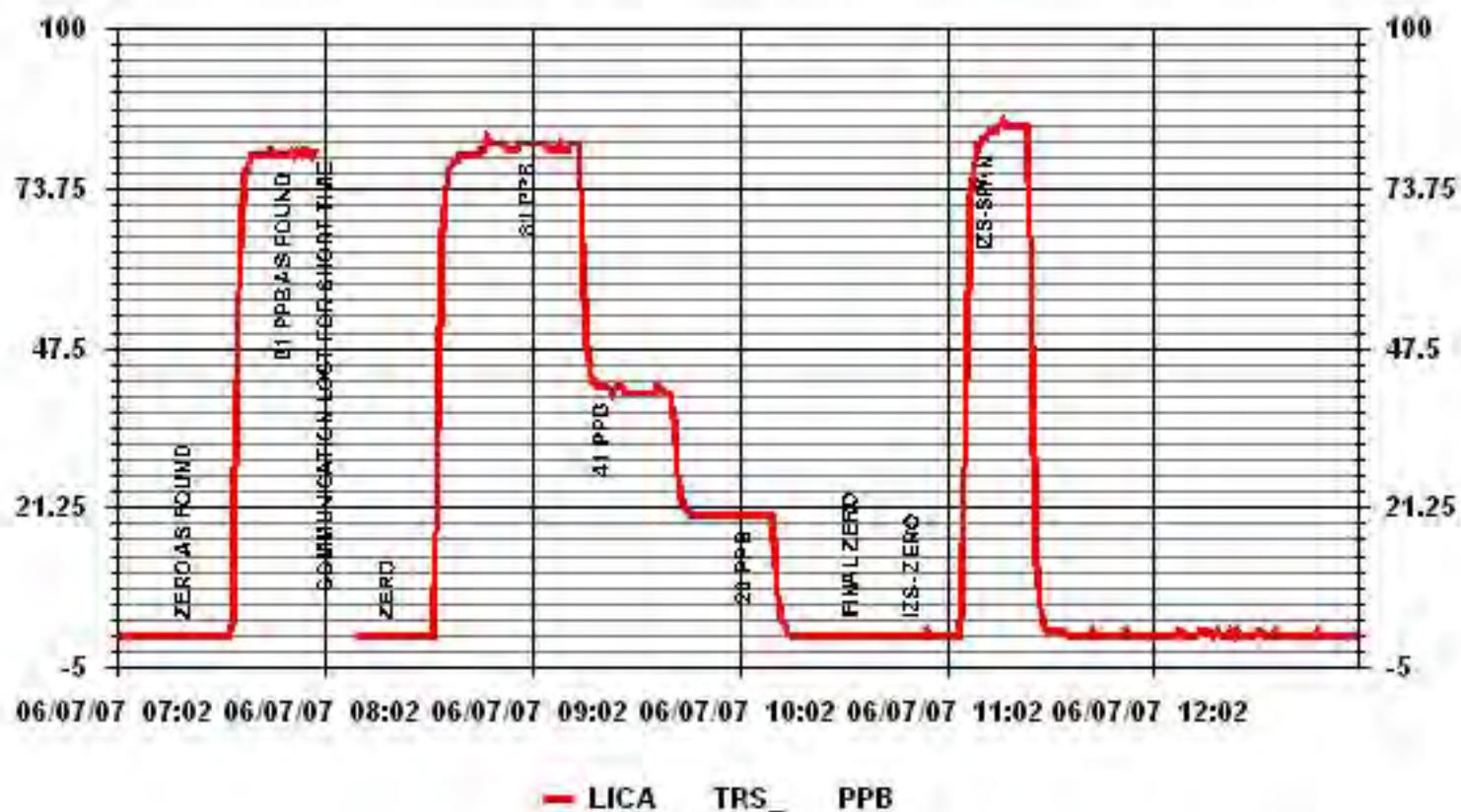
### TRS Calibration Curve

Calibration Date	June 7, 2007		
Company	<b>Lakeland Industry &amp; Community Association</b>		
Plant / Location	<b>LICA 1 - Cold Lake South</b>		
Start Time (MST)	6:55	End Time (MST)	11:30

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient	(≥ 0.995) (0.85 to 1.15) (± 3% F.S.)	0.999934 1.002643 -0.081078
0	0	n/a			
20	20	1.0180			
41	41	0.9912			
81	81	0.9994			



### 01 Minute Averages



# **THC**

## THC Calibration Report

### Station Information

Calibration Date:	June 7, 2007	Previous Calibration	May 1, 2007
Company: <b>Lakeland Industry and Community Association</b>			
Plant / Location: <b>LICA1/Cold Lake</b>			
Start Time (MST)	9:30	End Time (MST)	NA
Reason: Monthly Calibration			
Barometric Pressure:	708 mmHg	Station Temperature:	23 Deg C
Calibrator:	API 700	S/N:	690
Cal Gas Concentration:	1010 ppm	Cal Gas Expiry Date:	Jan-10
DAS make & Model:	ESC 8832	S/N :	263
Output Voltage Range:	0 - 10 VDC		

### Analyzer Information

Make / Model	TECO 51C-LT	S/N :	51CLT-42740-8718	Method	Flame Ionization
<b>Analyzer Settings</b>					

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

### Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
ZERO	ZERO	0.0	0.1	N/A
ZERO	ZERO	0.0	0.0	N/A
2000	80.0	38.8	38.9	0.9986
2000	80.0	38.8	38.9	0.9986
2000	45.0	22.2	21.6	1.0289
2000	20.0	10.0	9.5	1.0526
ZERO	ZERO	0.0	0.0	N/A
			Correction Factor:	0.9986

### Percent Change

Previous Calibration Correction Factor:	0.9961
Current Correction Factor Before Span Adjust:	0.9986
Percent Change:	-0.3%

### IZS Calibration Data

	Before Calibration		After Calibration
Auto Zero	0.1		0.0
Auto Span	31.3		31.1
Sample Lines Connected			YES

Notes:	Cylinder Pressures	
Span	350 psi	
Hydrogen	1750 psi	
Zero Air	Maxxam-owned API 701 zero air supply with catalytic oxidizer	

Calibration Performed by: \_\_\_\_\_ Shea Beaton \_\_\_\_\_

## THC Calibration Curve

Calibration Date

June 7, 2007

Company

Lakeland Industry and Community Association

Plant / Location

LICA1/Cold Lake

Start Time

(MST)

9:30

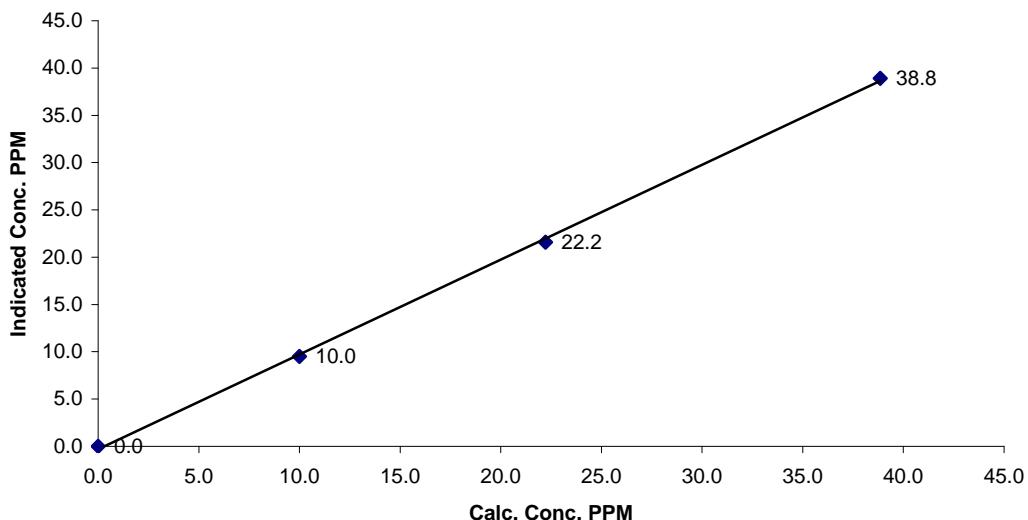
End Time

(MST)

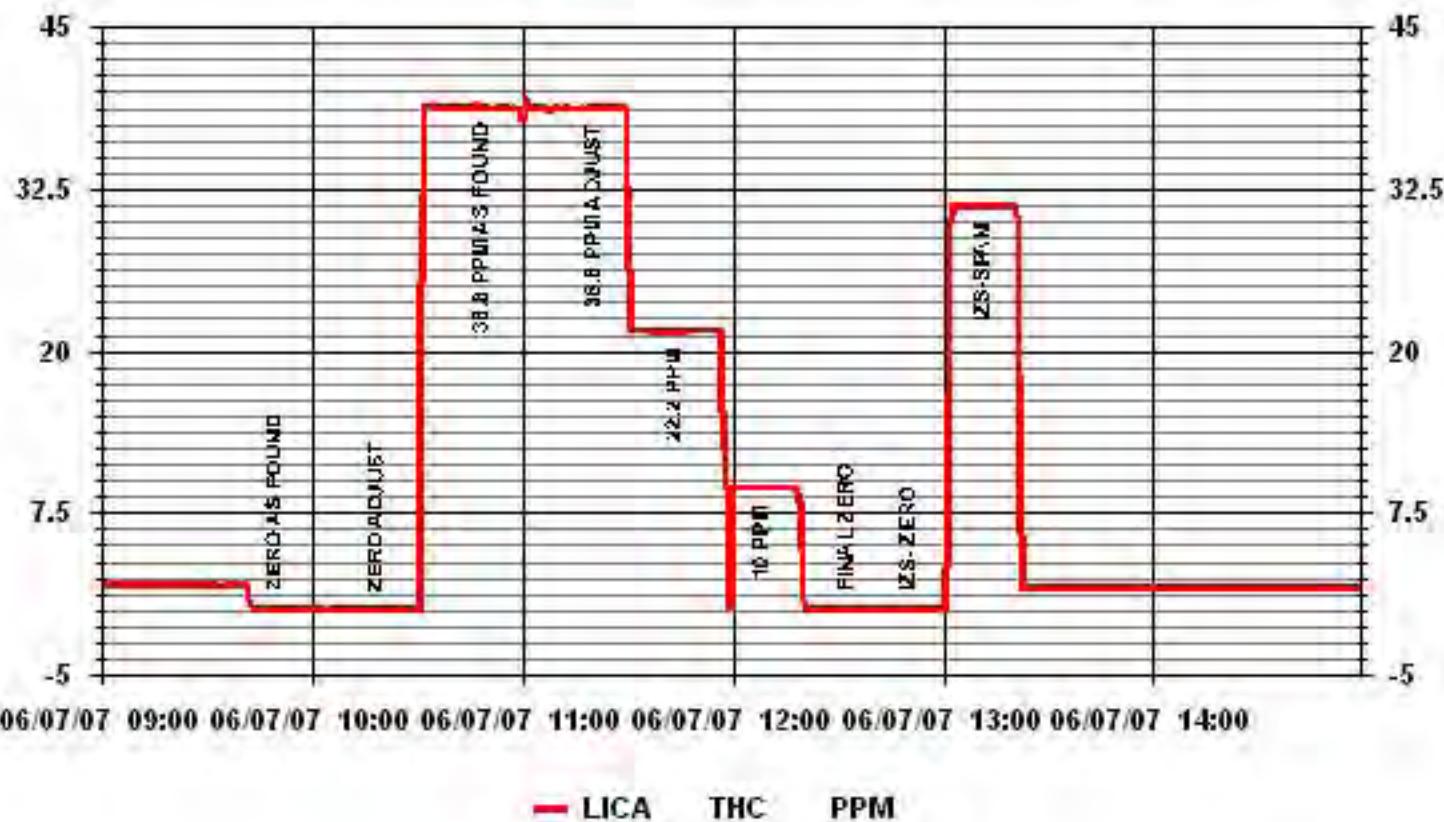
NA

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient ( $\geq 0.995$ )	0.999585
			Slope (0.85 to 1.15)	1.002658
			Intercept ( $\pm 3\%$ F.S.)	-0.315004
0.0	0.0			
10.0	9.5	1.0526		
22.2	21.6	1.0289		
38.8	38.9	0.9986		

THC Calibration Curve



### 01 Minute Averages



## THC Calibration Report

### Station Information

Calibration Date:	June 8, 2007	Previous Calibration	June 7, 2007
Company:	<b>Lakeland Industry and Community Association</b>		
Plant / Location:	<b>LICA1/Cold Lake</b>		
Start Time (MST)	5:50	End Time (MST)	9:00
Reason:	Monthly Calibration		
Barometric Pressure:	705 mmHg	Station Temperature:	23 Deg C
Calibrator:	API 700	S/N:	690
Cal Gas Concentration:	998 ppm	Cal Gas Expiry Date:	Mar-08
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
<b>Analyzer Settings</b>					

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

### Calibration Data

Dilution Flow	Source Gas Flow	Calculated Concentration	Indicated Concentration	Correction Factor
ZERO	ZERO	0.0	0.0	N/A
2000	80.0	38.4	38.6	0.9944
2000	80.0	38.4	38.4	0.9996
2000	45.0	22.0	21.4	1.0262
2000	20.0	9.9	9.3	1.0625
ZERO	ZERO	0.0	0.0	N/A
			Correction Factor:	0.9996

### Percent Change

Previous Calibration Correction Factor:	0.9986
Current Correction Factor Before Span Adjust:	0.9944
Percent Change:	0.4%

### IZS Calibration Data

	Before Calibration		After Calibration
Auto Zero	0.0		0.0
Auto Span	31.1		31.1
Sample Lines Connected			<b>YES</b>

Notes:	Cylinder Pressures	
Span	350 psi	
Hydrogen	1750 psi	
Zero Air	Maxxam-owned API 701 zero air supply with catalytic oxidizer	

Calibration Performed by: Shea Beaton

## THC Calibration Curve

Calibration Date

June 8, 2007

Company

Lakeland Industry and Community Association

Plant / Location

LICA1/Cold Lake

Start Time

(MST)

5:50

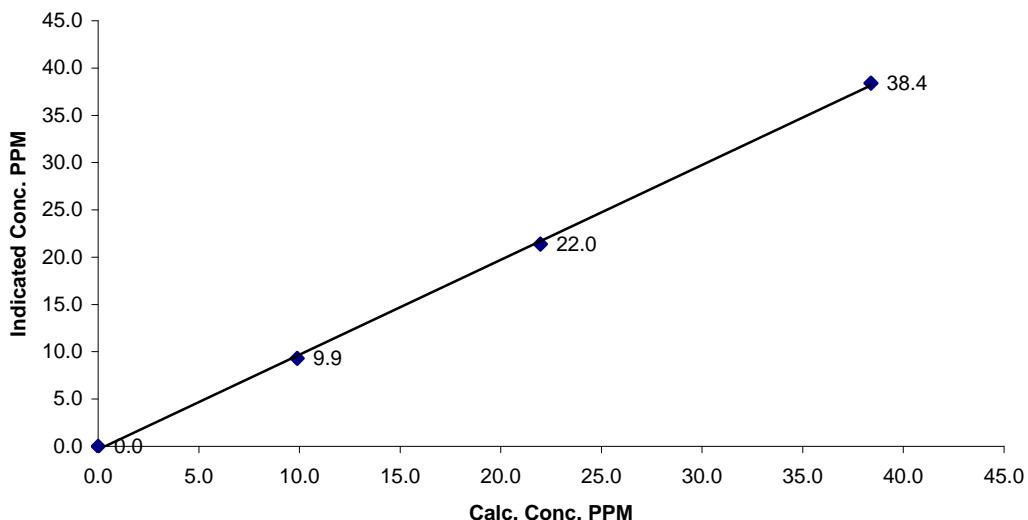
End Time

(MST)

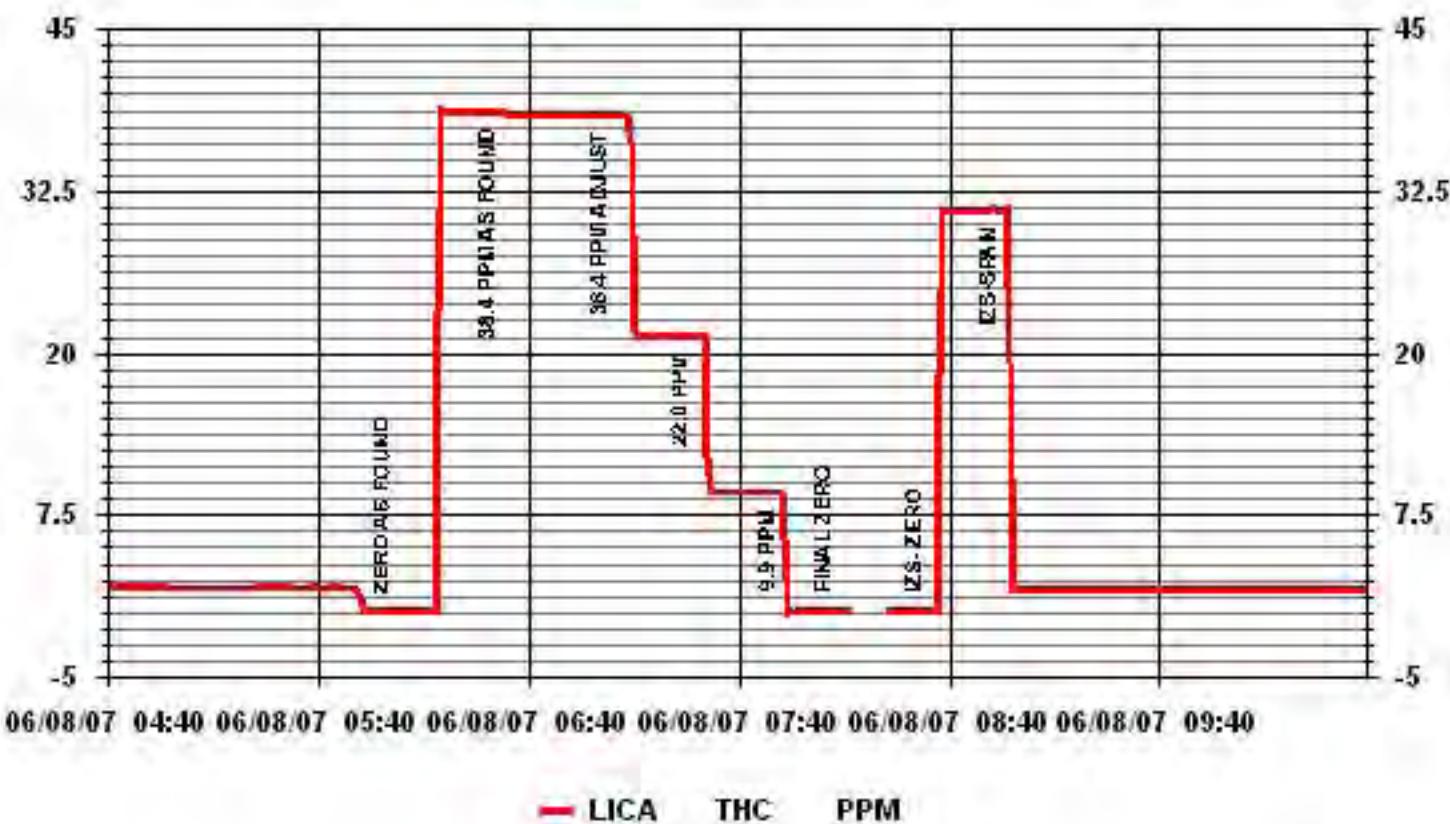
9:00

Calculated Conc. ppm	Indicated Response ppm	Correction Factor	Correlation Coefficient ( $\geq 0.995$ )	0.999602
0.0	0.0			
9.9	9.3	1.0625		
22.0	21.4	1.0262		
38.4	38.4	0.9996		

THC Calibration Curve



### 01 Minute Averages



# **PARTICULATE MATTER**

## **2.5**

## TEOM® Calibration

### Station

Date: June 7, 2007  
 Station Name: LICA  
 Location: Cold Lake - South  
 Operator: Maxxam Analytics

### Transfer Standard

Make/Model: Bios DC-2  
 Serial Number: 1193  
 Cell s/n: 2272  
 Thermometer s/n: 2178

### Sampler

Make/Model R & P Series 1400 a TEOM  
 Unit # AMU 1494  
 Control unit s/n 140AB213859701  
 Transducer s/n 140AB213859701  
 Parameter PM 2.5

### Set-up and current Sampler readings

F-Main Set Pt (l/min)	3.00
F-Aux Set Pt (l/min)	13.67
Filter Load (%)	35
K <sub>o</sub> Factor	11095
Temp (°C)	10.5
Press (ATM)	0.937

### Conversion from mmHg or "Hg to ATM (Atmospheres)

$$\text{ATM} = (\text{mmHg}) \times (1.316 \times 10^{-3}) \quad \text{or} \quad \text{ATM} = ("Hg) \times (3.34207 \times 10^{-2})$$

**Note:** Tolerances are noted as **BOLD** in Brackets

### Calibration

#### **Zero flow**

##### **Pump Off**

F-Main (l/min) 0.00  
 F-Aux (l/min) 0.00

##### **Pump On (Time to reach set points)**

**(45-60 Sec)** 37  
**(45-60 Sec)** 54

#### **Temperature/Pressure**

Measured Temp ( $\pm 1^\circ\text{C}$ ) 9.6  
 Measured Press ( $\pm 1.5\%$  ATM) 0.932

$\Delta^\circ\text{C}$  -0.9  
 $\Delta \% \text{ ATM}$  -0.5%

#### **Flow Audit**

Indicated Main/Aux Flow (l/min) 3.00 / 13.64  
 Total Flow = Main + Aux (l/min) 16.64  
 Measured Total Flow (l/min) 16.92  
 Measured Main Flow (l/min) 2.99

$\Delta \% \text{ from Set-pt}$

<b>(<math>\pm 2\%</math>)</b>	0.0%	/	0.2%
<b>(<math>\pm 2\%</math>)</b>	0.2%		
<b>(<math>\pm 1.0 \text{ l/min. (5.65\%)}</math>)</b>	-1.7%		
<b>(<math>\pm 0.2 \text{ l/min. (6.25\%)}</math>)</b>	0.3%		

#### **Leak Check**

Main (< 0.15 l/min) NA  
 Aux (< 0.15 l/min) NA

**Actual leakage = Pump On - Pump Off**

NA

NA

#### **K<sub>o</sub> Factor**

Measured NA  
 K<sub>o</sub> Difference ( $\pm 2.5\%$ ) NA

**Start Time:** 7:00

**Finish Time:**

12:15

**Sample Inlet Cleaned:**

YES

**Sample Inlet Connected:**

YES

**Comments:** Fadj Main=0.980 Fadj Aux=0.970 before audit

Changed Fadj aux in order to bring the measured total flow closer to the indicated total flow.

Fadj aux now at 0.945 total measured flow at 16.68 lpm. Adjusted temperature sensor.

Replaced o-rings in PM 10 and 2.5 Inlets.

**Calibrator/s:**

Shea Beaton

## TEOM® Calibration

<u>Station</u>		<u>Transfer Standard</u>
Date:	June 15, 2007	Make/Model: Bios DC-2
Station Name:	LICA	Serial Number: 1193
Location:	Cold Lake - South	Cell s/n: 2272
Operator:	Maxxam Analytics	Thermometer s/n: 2178
<u>Sampler</u>		<u>Set-up and current Sampler readings</u>
Make/Model	R & P Series 1400 a TEOM	F-Main Set Pt (l/min) 3.00
Unit #	AMU 1494	F-Aux Set Pt (l/min) 13.67
Control unit s/n	140AB213859701	Filter Load (%) 36
Transducer s/n	140AB213859701	K <sub>o</sub> Factor 11095
Parameter	PM 2.5	Temp (°C) 21.3
		Press (ATM) 0.944

### Conversion from mmHg or "Hg to ATM (Atmospheres)

$$\text{ATM} = (\text{mmHg}) \times (1.316 \times 10^{-3}) \quad \text{or} \quad \text{ATM} = ("Hg) \times (3.34207 \times 10^{-2})$$

**Note: Tolerances are noted as BOLD in Brackets**

### Calibration

<b>Zero flow</b>		<b>Pump Off</b>		<b>Pump On (Time to reach set points)</b>	
F-Main (l/min)	0.00	(45-60 Sec)	42		
F-Aux (l/min)	0.00	(45-60 Sec)	57		
<b>Temperature/Pressure</b>					
Measured Temp ( $\pm 1^\circ\text{C}$ ) 20.6					
Measured Press ( $\pm 1.5\%$ ATM) 0.940					
<b>Flow Audit</b>					
Indicated Main/Aux Flow (l/min)	3.00 / 13.64	$\Delta$ °C	-0.7		
Total Flow = Main + Aux (l/min)	16.64	$\Delta$ % ATM	-0.4%		
Measured Total Flow (l/min)	16.22	<b>Δ % from Set-pt</b>			
Measured Main Flow (l/min)	2.94	( $\pm 2\%$ )	0.0%	/	0.2%
<b>Leak Check</b>					
Main (< 0.15 l/min)	0.01	( $\pm 2\%$ )	0.2%		
Aux (< 0.15 l/min)	0.01	( $\pm 1.0$ l/min. (5.65%))	2.6%		
<b>K<sub>o</sub> Factor</b>					
Measured	NA	( $\pm 0.2$ l/min. (6.25%))	2.0%		
K <sub>o</sub> Difference ( $\pm 2.5\%$ )	NA	<b>Actual leakage = Pump On - Pump Off</b>			
Start Time:	12:40	Finish Time:	14:20		
Sample Inlet Cleaned:	YES	Sample Inlet Connected:	YES		
Comments:	Fadj Main=0.980 Fadj Aux=0.945 before audit Audit done to verify operation of TEOM. Changed Fadj aux to 0.965 to bring measured total flow closer to indicated total flow. Total flow after adjustment is 16.50 lpm.				

**Calibrator/s:** Shea Beaton

**NO<sub>2</sub>**

# NOx - NO- NO<sub>2</sub> Calibration Report

## Station Information

Calibration Date	June 6, 2007	Previous Calibration	May 15, 2007
Company	<b>Lakeland Ind &amp; Comm. Assoc.</b>	Plant/Location	<b>LICA 1 - Cold Lake South</b>
Start Time (MST)	7:15	End Time (MST)	13:45
Reason:			
Barometric Pressure	705 mmHg	Station Temperature	23.0 Deg C
Cal Gas Concentration	NOx 52.7 ppm	NO 52.2 ppm	Cal Gas Expiry date 23/06/2008
DAS Output Voltage	0 - 5 Volts		

### Equipment Information

Analyzer Make / Model:	TECO 42	S/N :	42-33684-247	Method:	Chemiluminescent
Calibrator Make / Model:	API 700	S/N:	690		
DAS Make / Model:	ESC 8832	S/N :	263		
Flow Meter:	BIOS Dry Cal - DC 2	S/N :	1193		

### Analyzer Settings

Concentration Range	Before Calibration				After Calibration			
	595	ccm	332	Deg C	0 - 500	ppb	333	Deg C
Sample Flow/Conv. Temp	OK	ccm	-22.5	"Hg-A	596	ccm	-22.5	"Hg-A
Ozone Flow / Vacuum	OK	ccm	-22.5	"Hg-A	OK	ccm	-22.5	"Hg-A
HVPS	OK	Volts			OK	Volts		
Rx/ Temp / PMT Temp	50.4	Deg C	-2.9	Deg C	50.5	Deg C	-2.9	Deg C
Box Temp / IZS Temp	32	Deg C	OK	Deg C	32.8	Deg C	OK	Deg C
Offset	3.6	NOx	3.4	NO	3.5	NOx	3.3	NO
Slope	1.006	NOx	1.341	NO	1.006	NOx	1.298	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
ZERO	N/A	N/A	0	0	0	0	0	N/A	N/A
4961	38.3	N/A	404	400	418	414	4	0.9659	0.9660
4961	38.3	N/A	404	400	403	400	3	1.0018	0.9998
								Converter Efficiency	
4961	38.3	300	404	400	402	399	3		
4961	38.3	300	404	N/A	409	25	383		102%
4961	38.3	200	404	N/A	405	142	263		101%
4961	38.3	150	404	N/A	403	270	133		101%
4961	38.3	N/A	404	400	401	397	4		N/A
								Correction Factor	
4976	23.9	N/A	252	250	247	246	1	1.0199	1.0143
4985	14.4	N/A	152	150	145	144	1	1.0469	1.0441
ZERO	N/A	N/A	0	0	0	0	0	N/A	N/A
								Linearly OK?	
								Yes	No
								Flows Checked on-site?	
								Yes	No
								Sum of Least Squares	
								1.0104	1.0074
								1.0018	0.9998
								New Correction Factor	
								Average Converter Efficiency	
								101%	

Auto Zero	Before Calibration				After Calibration			
	0	NOx	0	NO2	0	NOx	0	NO2
Auto Span	304	NOx	301	NO2	297	NOx	294	NO2
Sample Lines Connected								
Percent Change from Previous Calibration								

During as found span point gas flow to analyzer was temporarily halted.

Calibration Performed by: Shea Beaton

## NO<sub>2</sub> Calibration Curve

Calibration Date  
Company  
Plant / Location  
Start Time (MST)

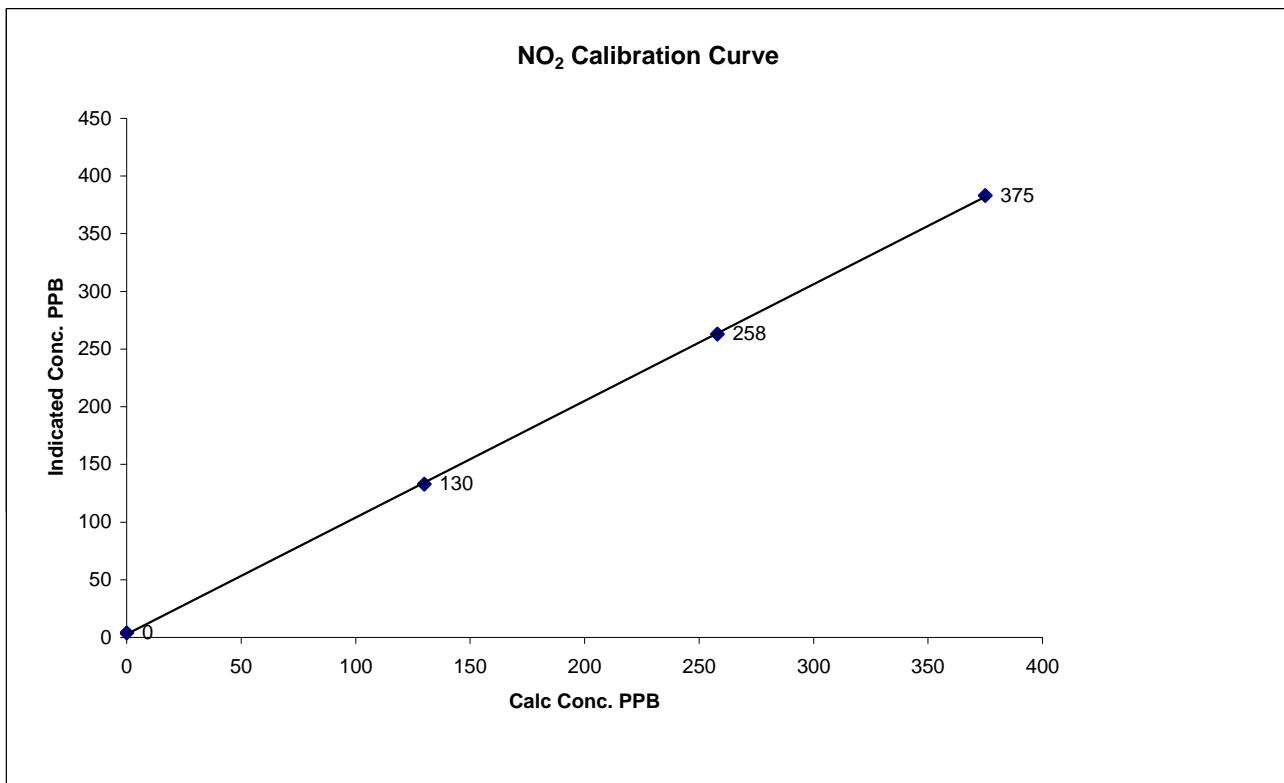
June 6, 2007

**Lakeland Ind & Comm. Assoc.**  
**LICA 1 - Cold Lake South**

7:15

End Time (MST) 13:45

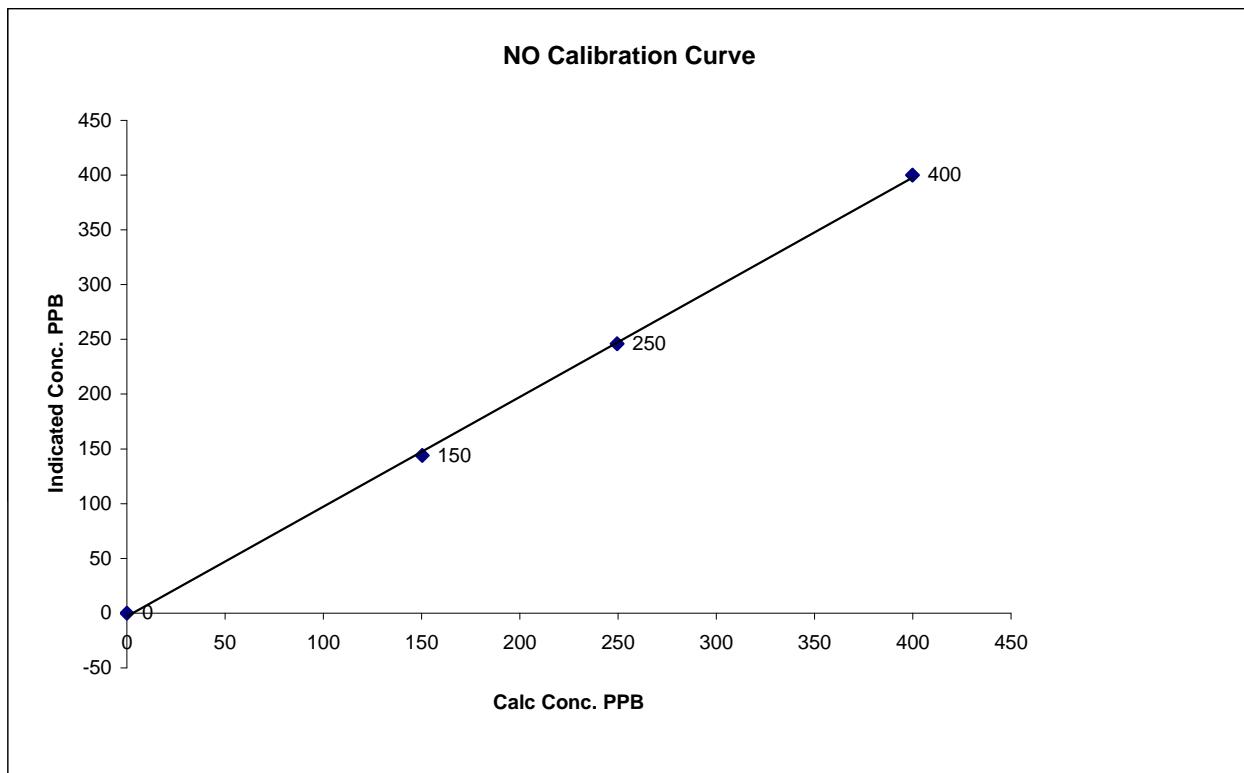
Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient ( $\geq 0.995$ ) (0.85 to 1.15)	Slope Intercept ( $\pm 3\%$ F.S.)
0	4	N/A		
130	133	0.9774		
258	263	0.9810		
375	383	0.9791	0.999944 1.011013 2.899356	



## NO Calibration Curve

Calibration Date	June 6, 2007		
Company	Lakeland Ind & Comm. Assoc.		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	7:15	End Time (MST)	13:45

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient ( $\geq 0.995$ ) Slope Intercept	0.999665 1.001873 -2.820188
0	0	N/A		
150	144	1.0441		
250	246	1.0143		
400	400	0.9998		



## NOx Calibration Curve

Calibration Date  
Company  
Plant / Location  
Start Time (MST)

June 6, 2007

Lakeland Ind & Comm. Assoc.

LICA 1 - Cold Lake South

7:15

End Time (MST)

13:45

Calculated Conc.

ppb

0

152

252

404

Indicated Response

ppb

0

145

247

403

Correction Factor

N/A

1.0469

1.0199

1.0018

Correlation Coefficient

( $\geq 0.995$ )

(0.85 to 1.15)

( $\pm 3\%$  F.S.)

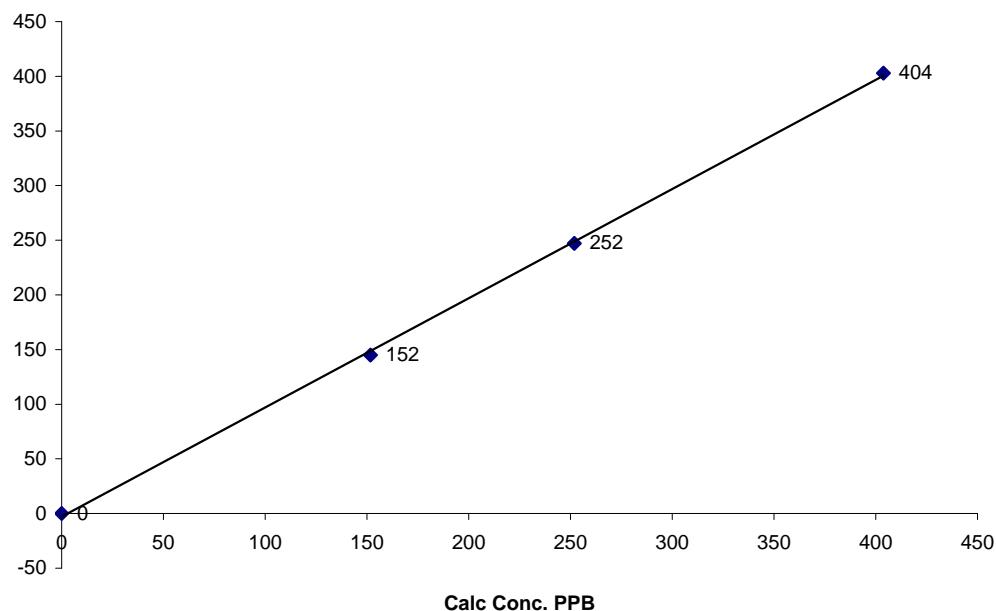
0.999629

0.999367

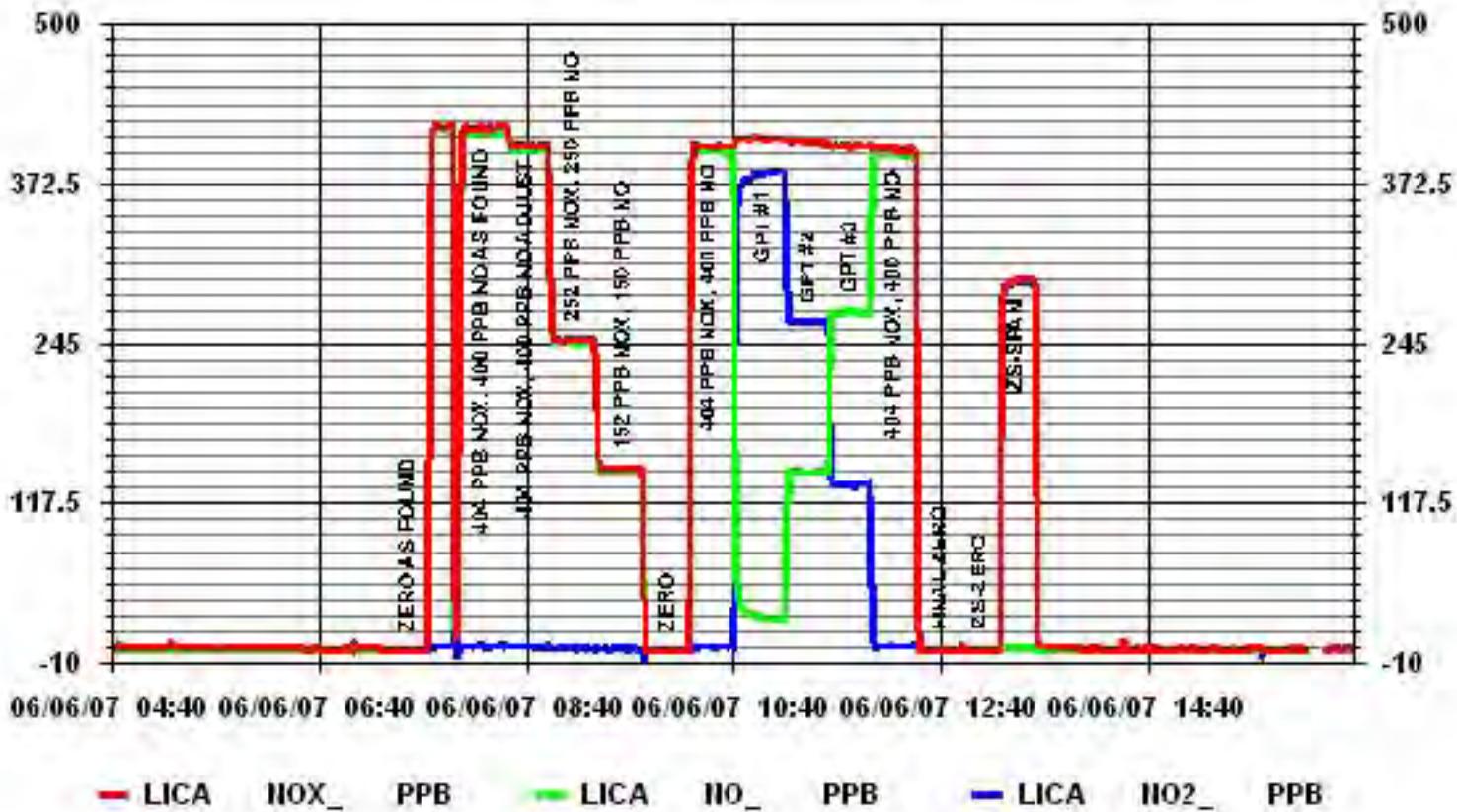
-2.983256

Indicated Conc. PPB

### NOx Calibration Curve



### 01 Minute Averages



## **NOx - NO- NO<sub>2</sub> Calibration Report**

### **Station Information**

Calibration Date	June 9, 2007	Previous Calibration	June 6, 2007
Company	<b>Lakeland Ind &amp; Comm. Assoc.</b>	Plant/Location	<b>LICA 1 - Cold Lake South</b>
Start Time (MST)	12:00	End Time (MST)	14:30
Reason:	Single Point Check		
Barometric Pressure	710 mmHg	Station Temperature	23.0 Deg C
Cal Gas Concentration	NOx 52.7 ppm	NO 52.2 ppm	Cal Gas Expiry date 23/06/2008
DAS Output Voltage	0 - 5 Volts		

## **Equipment Information**

Analyzer Make / Model:	TECO 42	S/N :	42-33684-247	Method:	Chemiluminescent
Calibrator Make / Model:	API 700	S/N:	690		
DAS Make / Model:	ESC 8832	S/N :	263		
Flow Meter:	BIOS Dry Cal - DC 2	S/N :	1193		

## **Analyzer Settings**

	Before Calibration				After Calibration			
			0 - 500					
Concentration Range					ppb			
Sample Flow/Conv. Temp	595	ccm	332	Deg C	596	ccm	333	Deg C
Ozone Flow / Vacuum	OK	ccm	-22.5	"Hg-A	OK	ccm	-22.5	"Hg-A
HVPS	OK		Volts	OK		Volts		
Rx/ Temp / PMT Temp	50.5	Deg C	-2.9	Deg C	50.5	Deg C	-2.9	Deg C
Box Temp / IZS Temp	32	Deg C	OK	Deg C	32.8	Deg C	OK	Deg C
Offset	3.5	NOx	3.3	NO	3.5	NOx	3.3	NO
Slope	1.006	NOx	1.298	NO	1.006	NOx	1.298	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	
ZERO	N/A	N/A	0	0	0	0	0	N/A	N/A	
4961	38.3	N/A	404	400	400	396	3	1.0093	1.0099	
ZERO	N/A	N/A	0		0	0	0	N/A	N/A	

	Before Calibration		Average Converter Efficiency		After Calibration	
Auto Zero	0	NOx	0	NO2	0	NOx
Auto Span	400	NOx	397	NO2	290	NOx
Sample Lines Connected						
Percent Change from Previous Calibration						
		NOx	-0.7%	NO	-1.0%	

## Single Point check due to increasing daily span values

### Percent Change from Previous Calibration

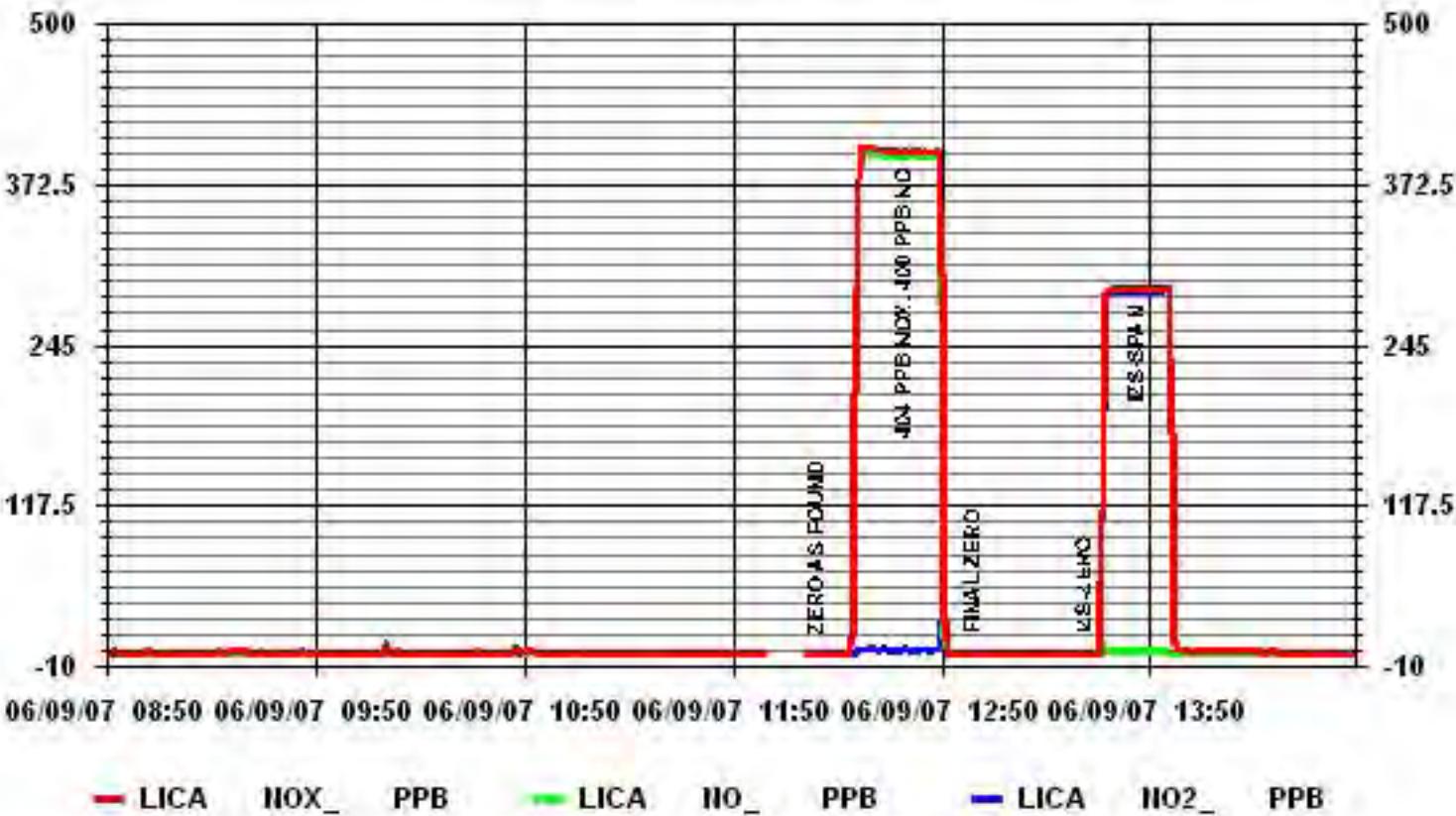
check due to increasing daily span values

## Single Point check due to increasing daily span values

#### Calibration Performed by:

Shea Beaton

### 01 Minute Averages



# NOx - NO- NO<sub>2</sub> Calibration Report

## Station Information

Calibration Date	June 13, 2007	Previous Calibration	June 9, 2007
Company	<b>Lakeland Ind &amp; Comm. Assoc.</b>	Plant/Location	<b>LICA 1 - Cold Lake South</b>
Start Time (MST)	8:45	End Time (MST)	15:50
Post Reset Calibration			
Barometric Pressure	709 mmHg	Station Temperature	24.0 Deg C
Cal Gas Concentration	NOx 52.7 ppm	NO 52.2 ppm	Cal Gas Expiry date 23/06/2008
DAS Output Voltage	0 - 5 Volts		

### Equipment Information

Analyzer Make / Model:	TECO 42	S/N :	42-33684-247	Method:	Chemiluminescent
Calibrator Make / Model:	Environics 2000	S/N:	1991		
DAS Make / Model:	ESC 8832	S/N :	263		
Flow Meter:	BIOS Dry Cal - DC 2	S/N :	1193		

### Analyzer Settings

Concentration Range	Before Calibration				After Calibration			
	598	ccm	332	Deg C	0 - 500	ppb	332	Deg C
Sample Flow/Conv. Temp	OK	ccm	-22.5	"Hg-A	594	ccm	332	Deg C
Ozone Flow / Vacuum	OK	ccm	-22.5	"Hg-A	OK	ccm	-22.5	"Hg-A
HVPS	OK	Volts			OK	Volts		
Rx/ Temp / PMT Temp	50.5	Deg C	-2.9	Deg C	50.4	Deg C	-2.8	Deg C
Box Temp / IZS Temp	32.6	Deg C	OK	Deg C	29.3	Deg C	OK	Deg C
Offset	0	NOx	0	NO	3.7	NOx	3.6	NO
Slope	1	NOx	1	NO	1.008	NOx	1.296	NO

### Gas Phase Titration Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O <sub>3</sub> Set Point	Calculated Concentration		Indicated Concentration			Correction Factor	
			NOx	NO	NOx	NO	NO <sub>2</sub>	NOx	NO
ZERO	N/A	N/A	0	0	-11	-11	0	N/A	N/A
4961	38.3	N/A	404		284	283	0	1.4216	1.4131
ZERO	N/A	N/A	0	0	0	0	0	N/A	N/A
4961	38.3	N/A	404		405	401	4	0.9969	0.9973
								Converter Efficiency	
4961	38.3	300	404	N/A	410	122	287	101%	
4961	38.3	200	404	N/A	409	203	206	102%	
4961	38.3	150	404	N/A	407	302	105	102%	
4961	38.3	N/A	404	400	406	402	4	N/A	
								Correction Factor	
4976	23.9	N/A	252	250	251	248	2	1.0036	1.0061
4985	14.4	N/A	152	150	148	147	1	1.0256	1.0228
ZERO	N/A	N/A	0	0	0	0	0	N/A	N/A
Linearity OK?		<b>Yes</b>	No	Sum of Least Squares				1.0012	1.0018
Flows Checked on-site?		Yes	<b>No</b>	New Correction Factor				0.9969	0.9973
				Average Converter Efficiency				102%	

	Before Calibration				After Calibration			
	Auto Zero	-11	NOx	0	NO <sub>2</sub>	0	NOx	0
Auto Span	192	NOx	223	NO <sub>2</sub>	296	NOx	294	NO <sub>2</sub>
Sample Lines Connected								

Percent Change from Previous Calibration

As found zero on analyzer actually reading -32 for NO and NOx

Calibration Performed by: Shea Beaton

## NO<sub>2</sub> Calibration Curve

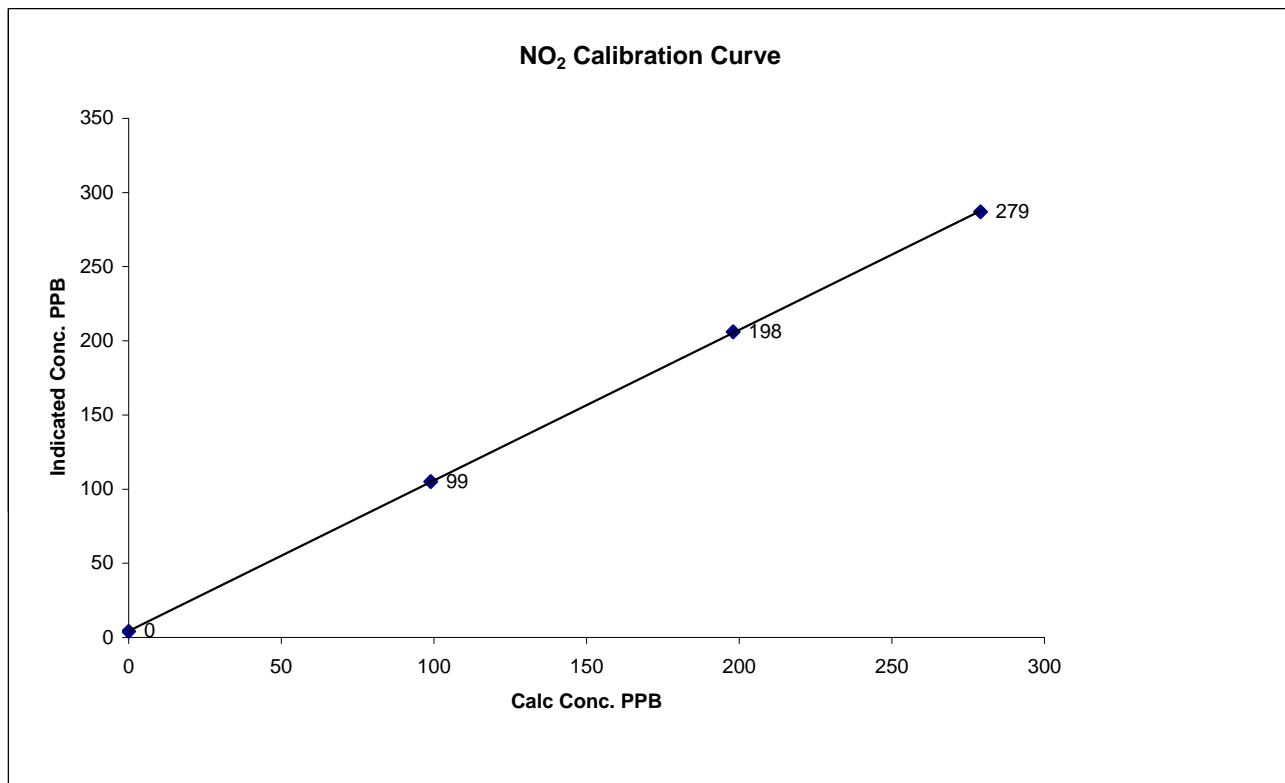
Calibration Date  
Company  
Plant / Location  
Start Time (MST)

June 13, 2007

**Lakeland Ind & Comm. Assoc.**  
**LICA 1 - Cold Lake South**

End Time (MST) 15:50

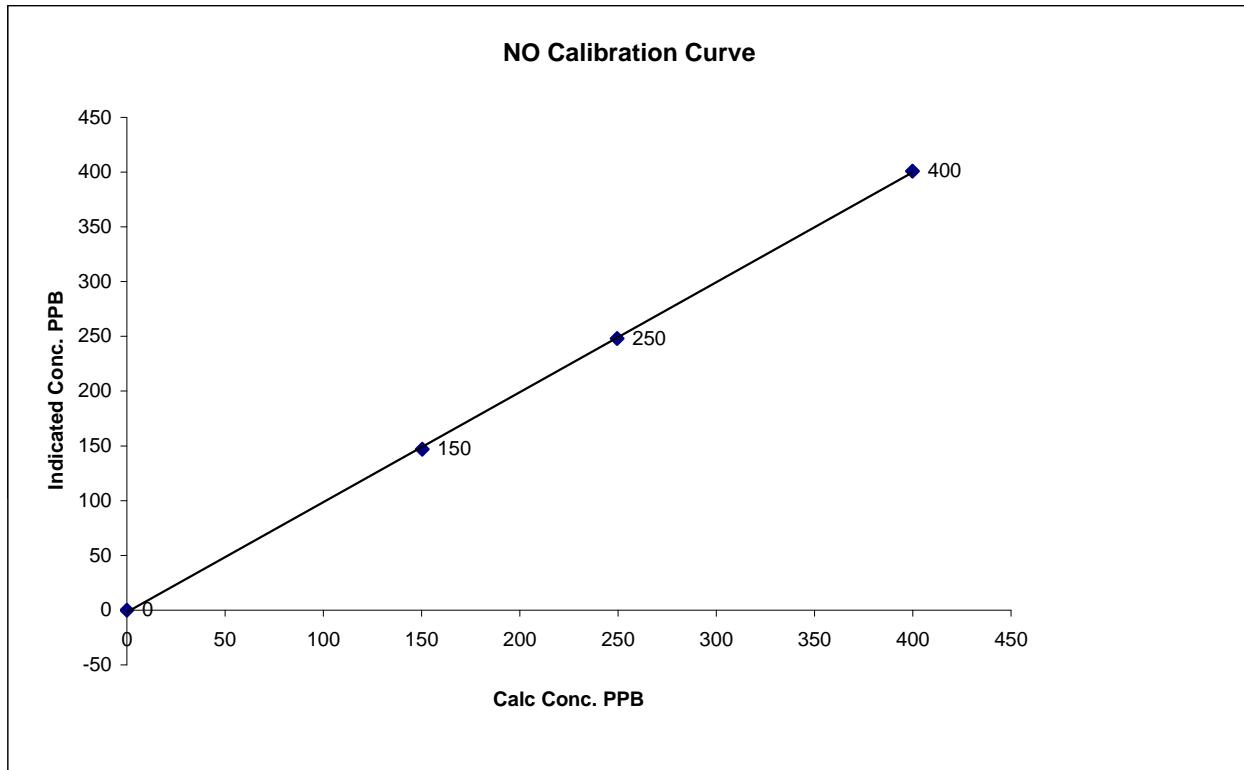
Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient ( $\geq 0.995$ ) (0.85 to 1.15)	Slope Intercept ( $\pm 3\%$ F.S.)
0	4	N/A		
99	105	0.9429		
198	206	0.9612		
279	287	0.9721	0.999980 1.015170 4.315498	



## NO Calibration Curve

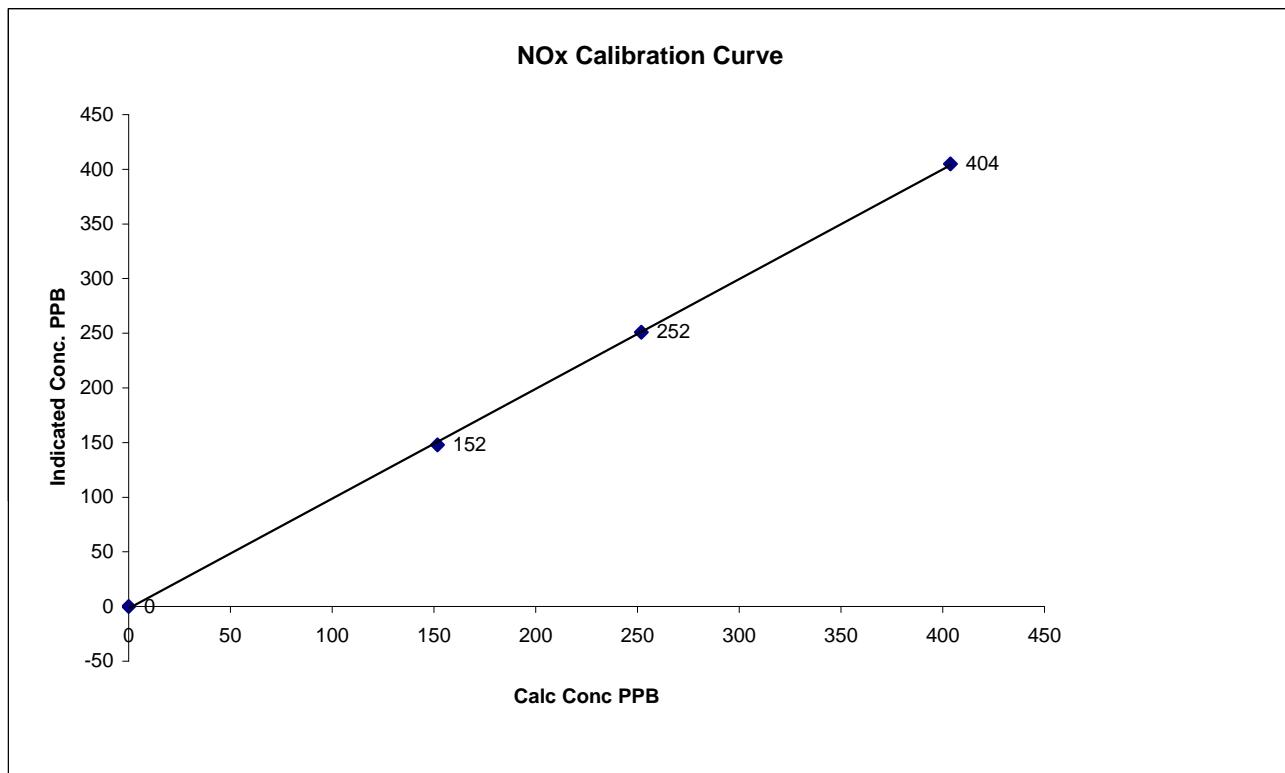
Calibration Date	June 13, 2007		
Company	Lakeland Ind & Comm. Assoc.		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	8:45	End Time (MST)	15:50

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient ( $\geq 0.995$ ) Slope ( $0.85$ to $1.15$ ) Intercept ( $\pm 3\%$ F.S.)	0.999882 1.003644 -1.674327
0	0	N/A		
150	147	1.0228		
250	248	1.0061		
400	401	0.9973		

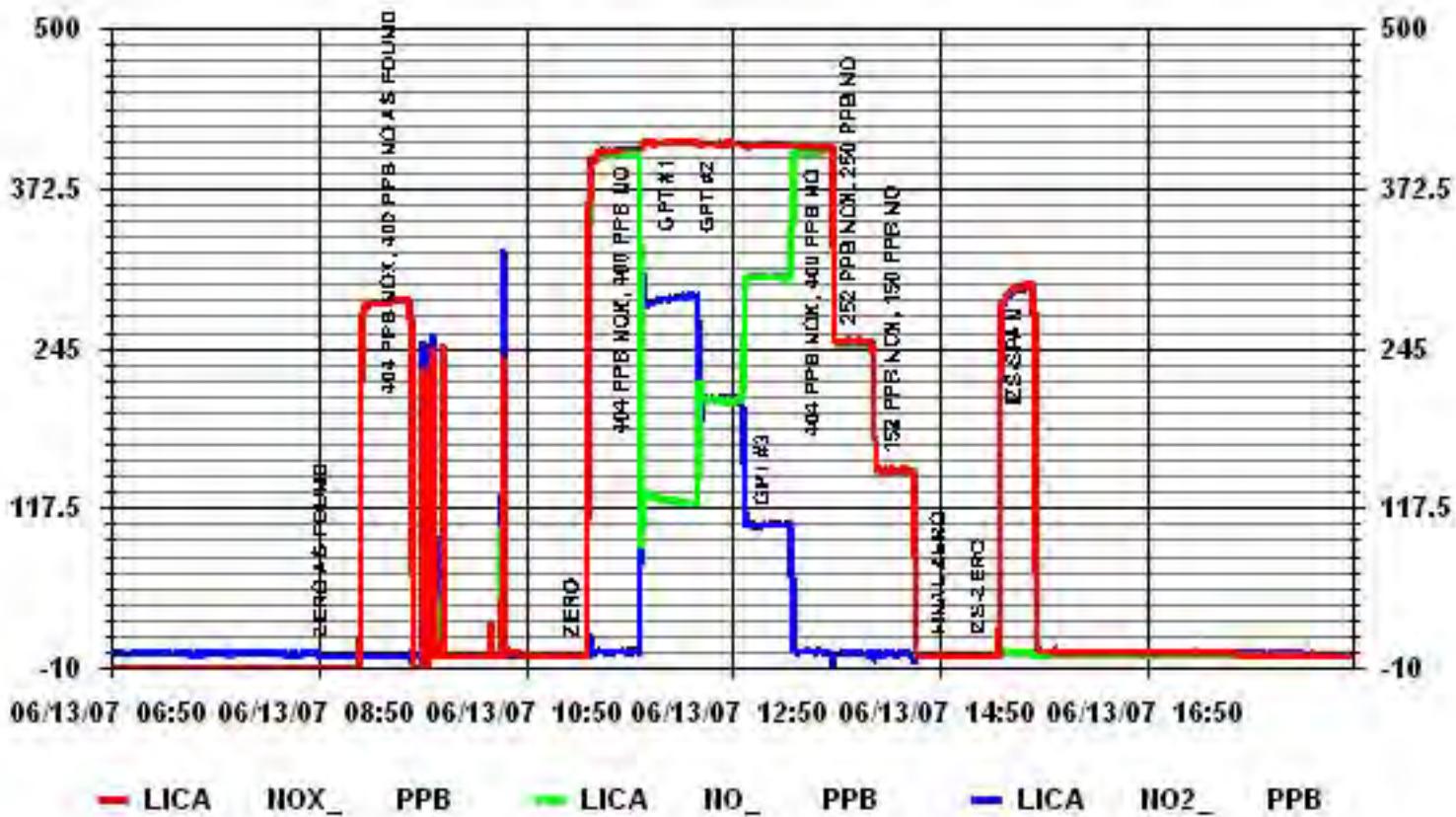


## NOx Calibration Curve

Calibration Date	June 13, 2007		
Company	<b>Lakeland Ind &amp; Comm. Assoc.</b>		
Plant / Location	<b>LICA 1 - Cold Lake South</b>		
Start Time (MST)	8:45	End Time (MST)	15:50
Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient  ( $\geq 0.995$ ) (0.85 to 1.15)  Slope Intercept ( $\pm 3\%$ F.S.)
0	0	N/A	0.999862 1.004612 -1.791991
152	148	1.0256	
252	251	1.0036	
404	405	0.9969	



### 01 Minute Averages



## NOx - NO- NO<sub>2</sub> Calibration Report

### Station Information

Calibration Date	June 22, 2007	Previous Calibration	June 13, 2007
Company	Lakeland Ind & Comm. Assoc.	Plant/Location	LICA 1 - Cold Lake South
Start Time (MST)	7:25	End Time (MST)	14:25
Reason:	Repair/Calibration		
Barometric Pressure	710 mmHg	Station Temperature	24.0 Deg C
Cal Gas Concentration	NOx 52.1 ppm	NO 52 ppm	Cal Gas Expiry date 10/14/2007
DAS Output Voltage	0 - 5 Volts		

### Equipment Information

Analyzer Make / Model:	TECO 42	S/N :	42-33684-247	Method:	Chemiluminescent
Calibrator Make / Model:	Environics 2000	S/N:	1991		
DAS Make / Model:	ESC 8832	S/N :	263		
Flow Meter:	BIOS Dry Cal - DC 2	S/N :	1193		

### Analyzer Settings

Concentration Range	Before Calibration				After Calibration			
	0 - 500		ppb		0 - 500		ppb	
Sample Flow/Conv. Temp	527 ccm	332	Deg C	569	ccm	333	Deg C	
Ozone Flow / Vacuum	40 ccm	-23	"Hg-A	69	ccm	-22.5	"Hg-A	
HVPS	OK	Volts		OK	Volts			
Rx/ Temp / PMT Temp	50.4 Deg C	-3	Deg C	50.4	Deg C	-2.9	Deg C	
Box Temp / IZS Temp	30.8 Deg C	OK	Deg C	31.6	Deg C	OK	Deg C	
Offset	3.7 NOx	3.6	NO	3.7	NOx	3.5	NO	
Slope	1.008 NOx	1.296	NO	1.002	NOx	1.279	NO	

### Gas Phase Titration Calibration Data

Dilution Air Flow Rate	Source Flow Rate	O <sub>3</sub> Set Point	Calculated Concentration		Indicated Concentration			Correction Factor	
			NOx	NO	NOx	NO	NO <sub>2</sub>	NOx	NO
ZERO	N/A	N/A	0	0	0	0	0	N/A	N/A
4961	38.5	N/A	401	400	-	-	-	-	-
ZERO	N/A	N/A	0	0	0	0	0	N/A	N/A
4961	38.5	N/A	401	400	400	399	0	1.0030	1.0036
								Converter Efficiency	
4961	38.5	300	401	N/A	405	125	280	102%	
4961	38.5	200	401	N/A	404	204	199	102%	
4961	38.5	150	401	N/A	402	301	100	102%	
4961	38.5	N/A	401	400	399	398	1	N/A	
								Correction Factor	
4976	24.1	N/A	251	251	247	246	1	1.0167	1.0188
4985	14.4	N/A	150	150	147	146	0	1.0209	1.0259
ZERO	N/A	N/A	0	0	0	0	0	N/A	N/A
Linearity OK?		Yes	No	Sum of Least Squares			1.0081	1.0095	
Flows Checked on-site?		Yes	No	New Correction Factor			1.0030	1.0036	
				Average Converter Efficiency			102%		

	Before Calibration				After Calibration			
	Auto Zero	0 NOx	0 NO <sub>2</sub>	0 NO <sub>2</sub>	0 NOx	0 NO <sub>2</sub>	0 NO <sub>2</sub>	0 NO <sub>2</sub>
Auto Span	233	NOx	231	NO <sub>2</sub>	269	NOx	268	NO <sub>2</sub>
Sample Lines Connected					YES			
Percent Change from Previous Calibration					NOx	-29.0%	NO	-28.5%

As Found span did not stabilize

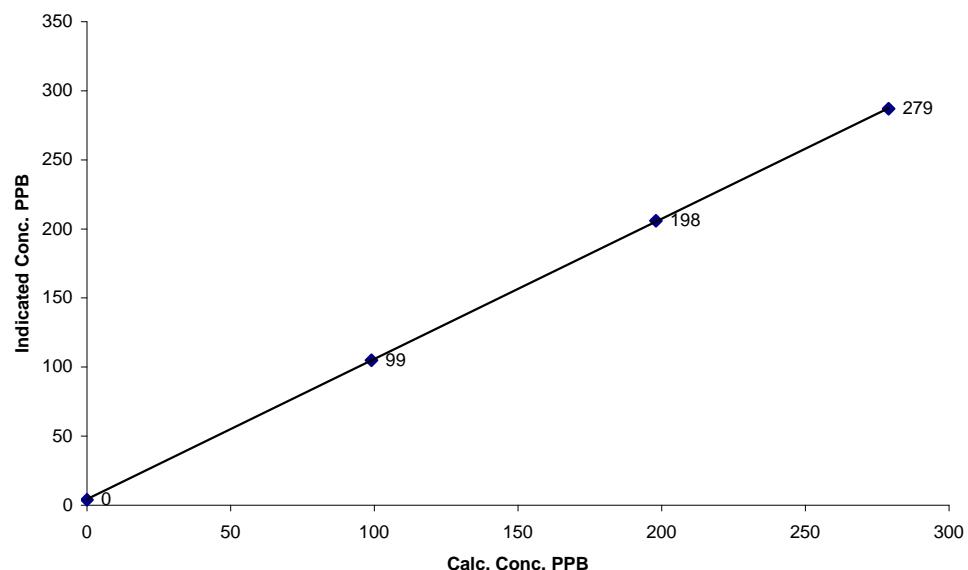
Calibration Performed by: Shea Beaton

### NO<sub>2</sub> Calibration Curve

Calibration Date	June 22, 2007		
Company	<b>Lakeland Ind &amp; Comm. Assoc.</b>		
Plant / Location	<b>LICA 1 - Cold Lake South</b>		
Start Time (MST)	7:25	End Time (MST)	14:25

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient ( $\geq 0.995$ ) Slope Intercept	0.999989 1.018360 0.647401
0	1	N/A		
98	100	0.9800		
195	199	0.9799		
274	280	0.9786		

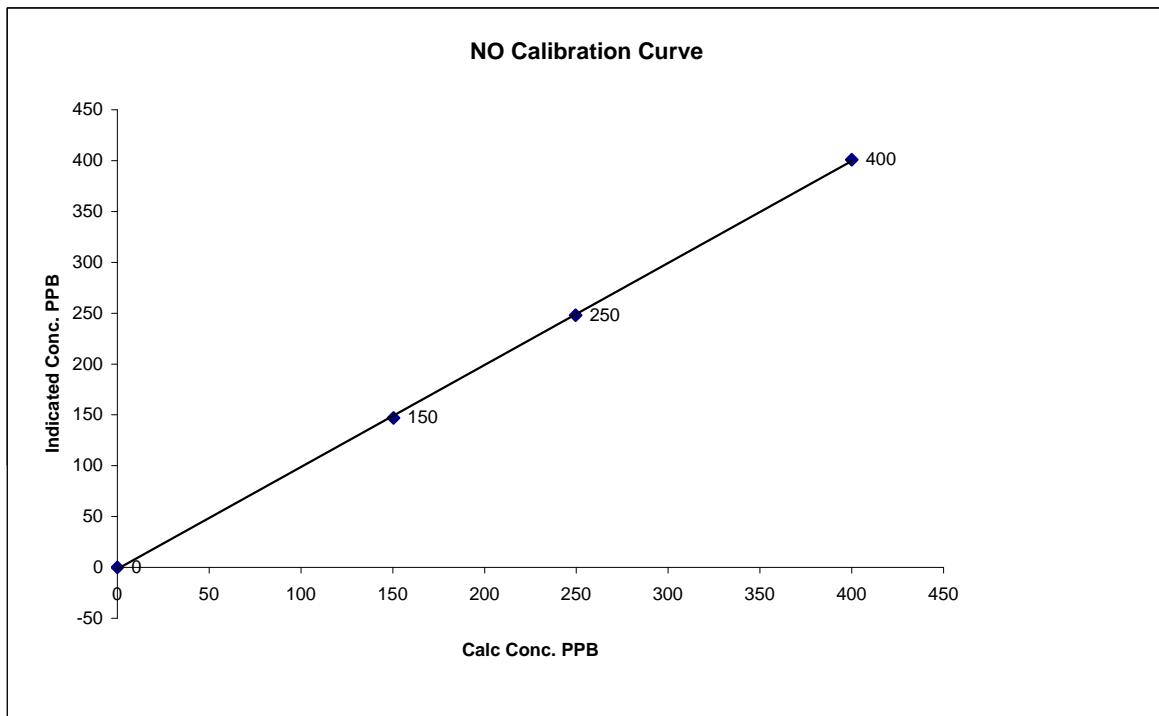
**NO<sub>2</sub> Calibration Curve**



## NO Calibration Curve

Calibration Date	June 22, 2007		
Company	Lakeland Ind & Comm. Assoc.		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	7:25	End Time (MST)	14:25

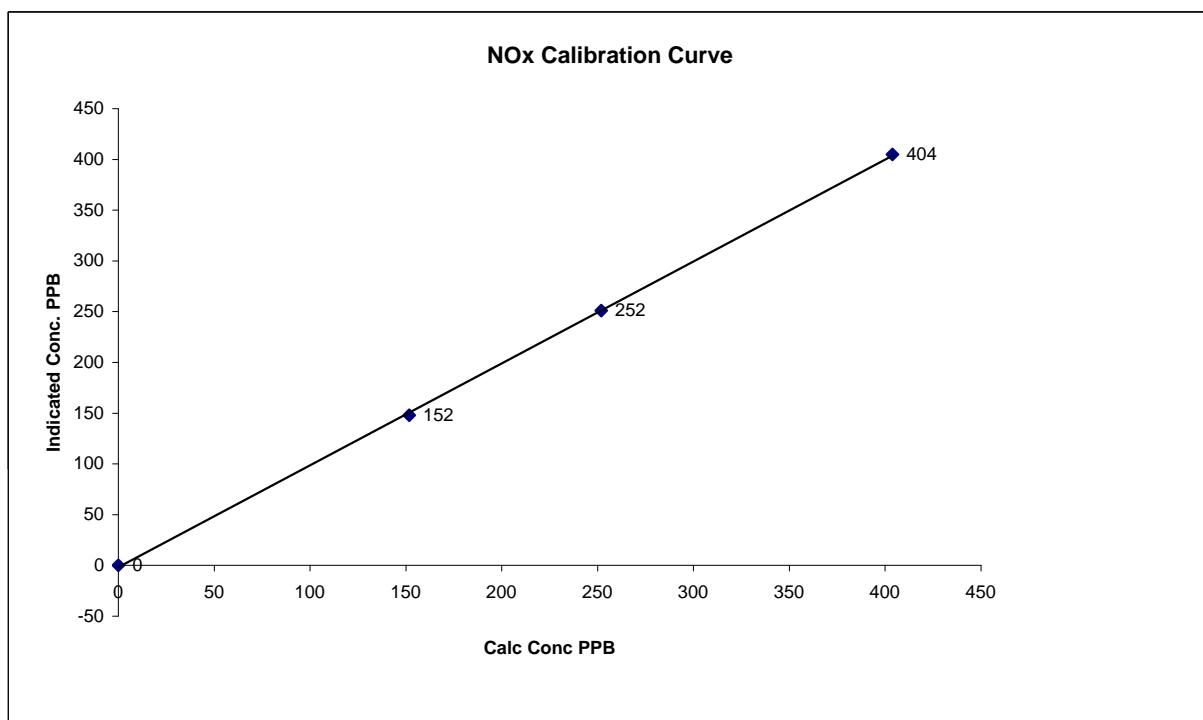
Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient ( $\geq 0.995$ ) Slope Intercept	0.999855 0.996112 -1.684829
0	0	N/A		
150	146	1.0259		
251	246	1.0188		
400	399	1.0036		



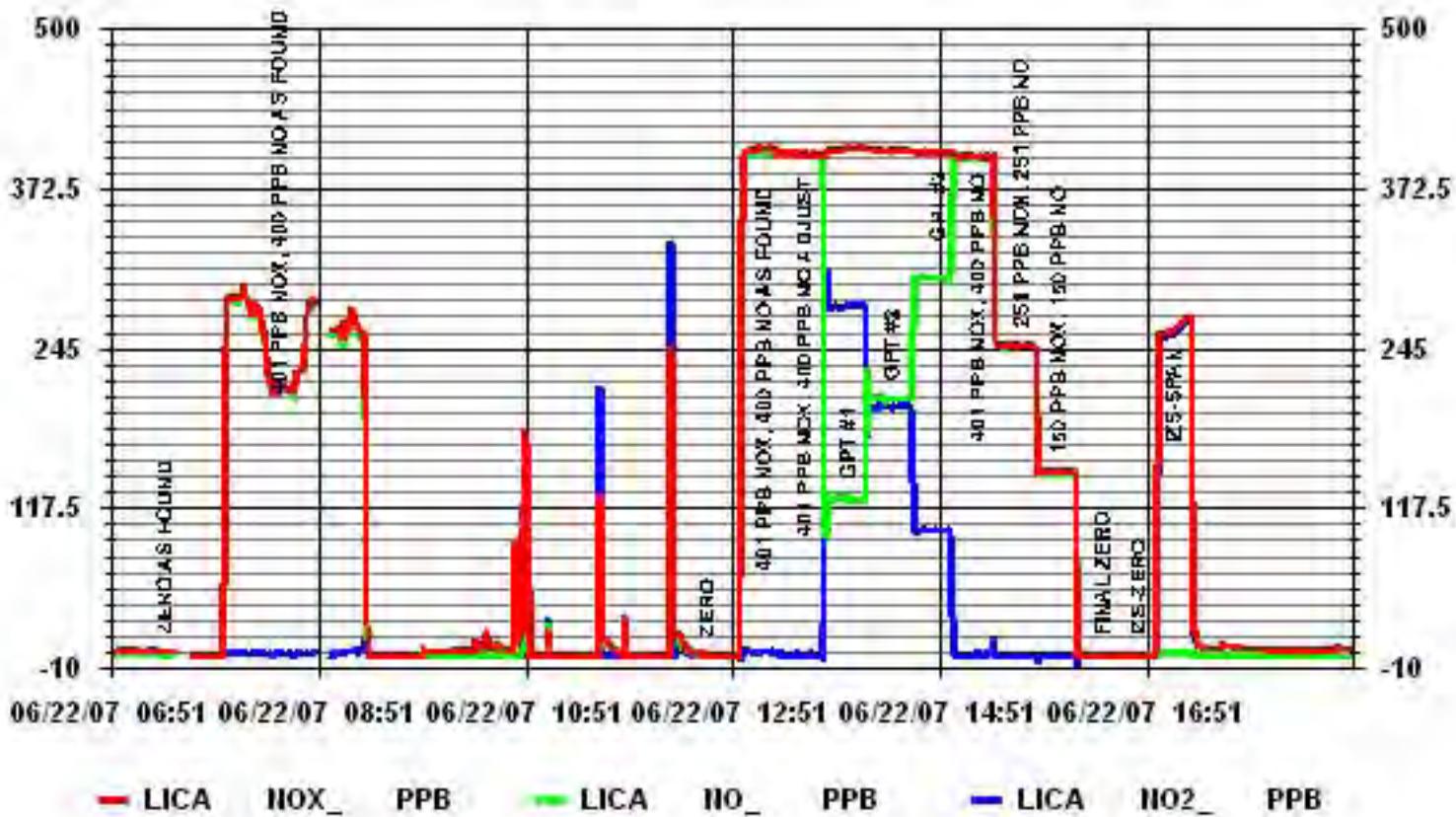
### NOx Calibration Curve

Calibration Date	June 22, 2007		
Company	<u>Lakeland Ind &amp; Comm. Assoc.</u>		
Plant / Location	LICA 1 - Cold Lake South		
Start Time (MST)	7:25	End Time (MST)	14:25

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient ( $\geq 0.995$ ) Slope Intercept	0.999892 0.996544 -1.404971
0	0	N/A		
150	147	1.0209		
251	247	1.0167		
401	400	1.0030		



### 01 Minute Averages



# OZONE

## O<sub>3</sub> Calibration Report

### Station Information

Calibration Date	June 6, 2007	Previous Calibration	May 1, 2007
Company	<b>Lakeland Industry &amp; Community Association</b>		
Plant / Location	<b>LICA 1 - Cold Lake South</b>		
Start Time (MST)	13:00	End Time (MST)	16:55
Reason:		Monthly Calibration	
Barometric Pressure	705 mm Hg	Station Temperature	23 Deg C
DAS Output Voltage	0 - 10 Volts		

### Equipment Information

Analyzer Make / Model:	TECO 49	S/N :	AOM-13892-143	Method:	Fluorescent
Calibrator Make / Model:	API 700	S/N :	690	Method:	Dilution
DAS Make / Model:	ESC 8832	S/N :	263		
Flow Meter:	API 700	S/N :	690		

### Analyzer Settings

	Before Calibration		After Calibration	
	Concentration Range	0 - 500	ppb	
Box Temp	OK		OK	
O <sub>3</sub> Set Level	3.75		3.75	
Sample Flow A/B	1 LPM	1 LPM	1 LPM	1 LPM
Offset / Slope	51	610	50	580

### Calibration Data

Dilution Flow Rate	Ozone Set Point	Calculated Concentration	Indicated Conc. (DAS)	Correction Factor
ZERO	ZERO	0	1	N/A
5000	300	374	307	1.2182
ZERO	ZERO	0	0	N/A
5000	300	374	374	1.0000
5000	200	257	256	1.0039
5000	100	129	128	1.0078
ZERO	ZERO	0	0	N/A
Sum of Least Squares				N/A
New Correction Factor				1.0000

### Before Calibration

### After Calibration

Auto Zero	1	0
Auto Span	241	275
Sample Lines Connected		YES
Percent Change from Previous Calibration		-18.2%

Notes: Actuated p/t transducers

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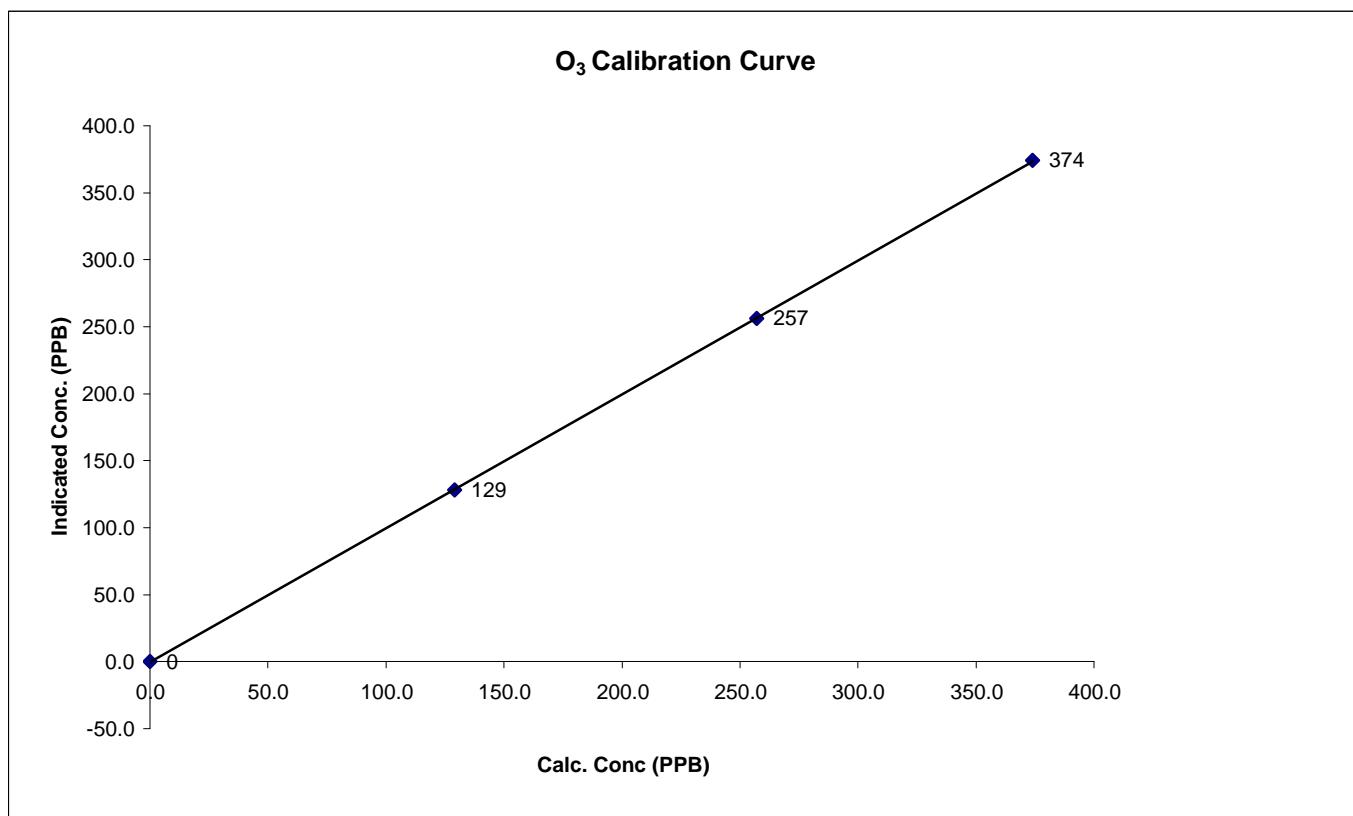
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Calibration Performed by: Shea Beaton

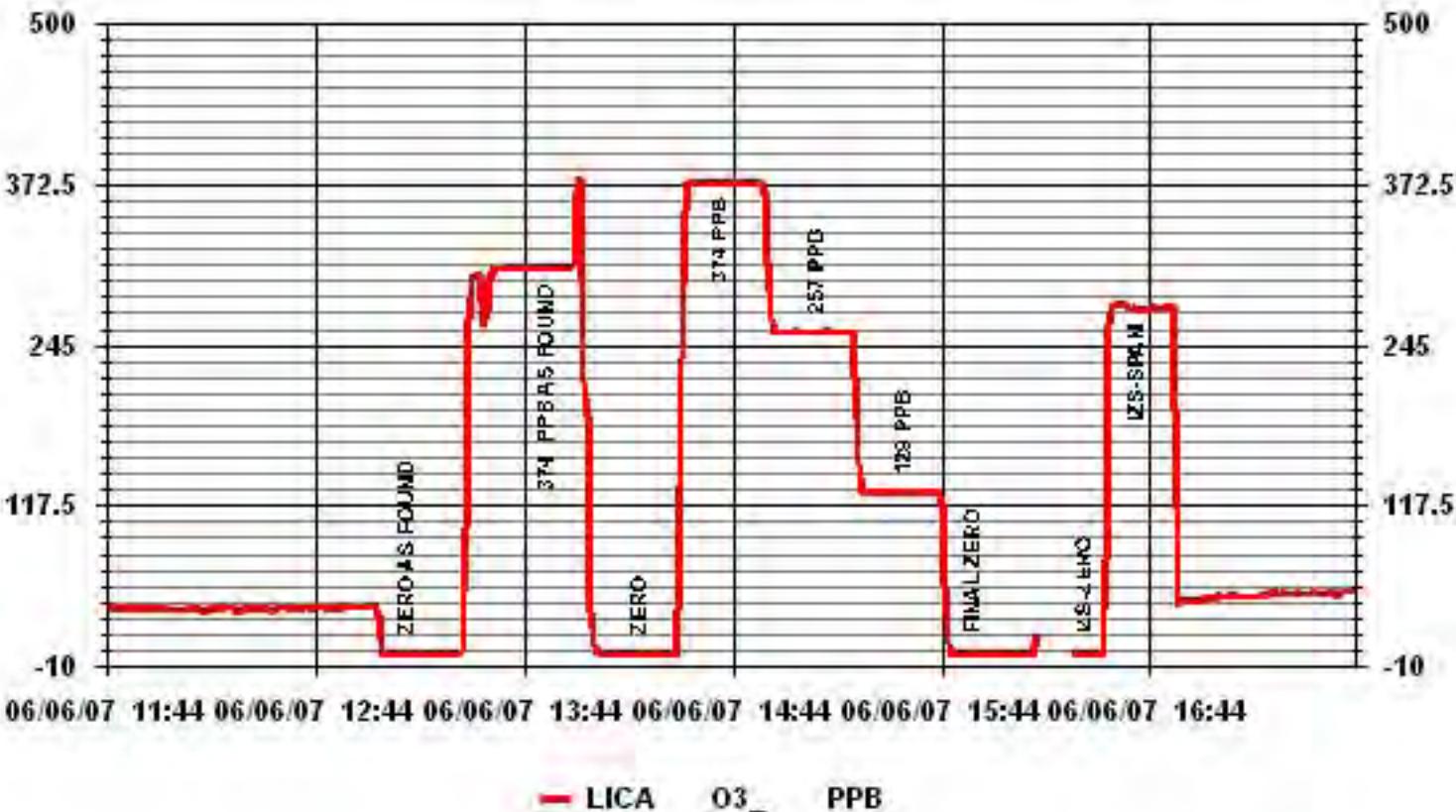
### O<sub>3</sub> Calibration Curve

Calibration Date	June 6, 2007		
Company	<b>Lakeland Industry &amp; Community Association</b>		
Plant / Location	<b>LICA 1 - Cold Lake South</b>		
Start Time (MST)	13:00	End Time (MST)	16:55

Calculated Conc. ppb	Indicated Response ppb	Correction Factor	Correlation Coefficient	(≥ 0.995) (0.85 to 1.15)	0.999987
			Slope	(± 3% F.S.)	0.999923
			Intercept		-0.485416
0	0	n/a			
129	128	1.0078			
257	256	1.0039			
374	374	1.0000			



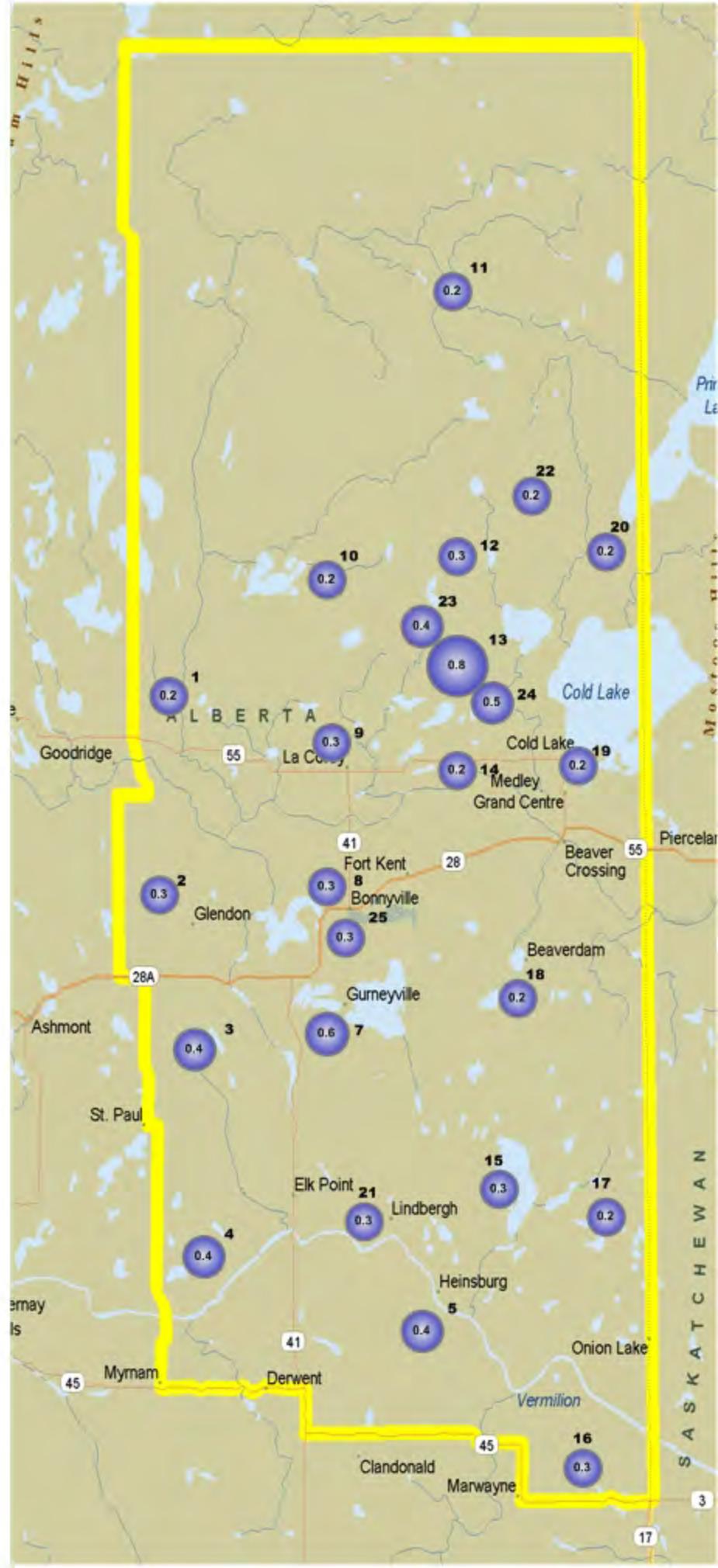
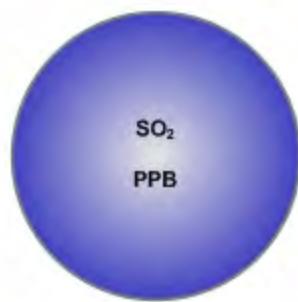
### 01 Minute Averages



**JUNE 2007**  
**LICA**  
**PASSIVE BUBBLE MAPS**

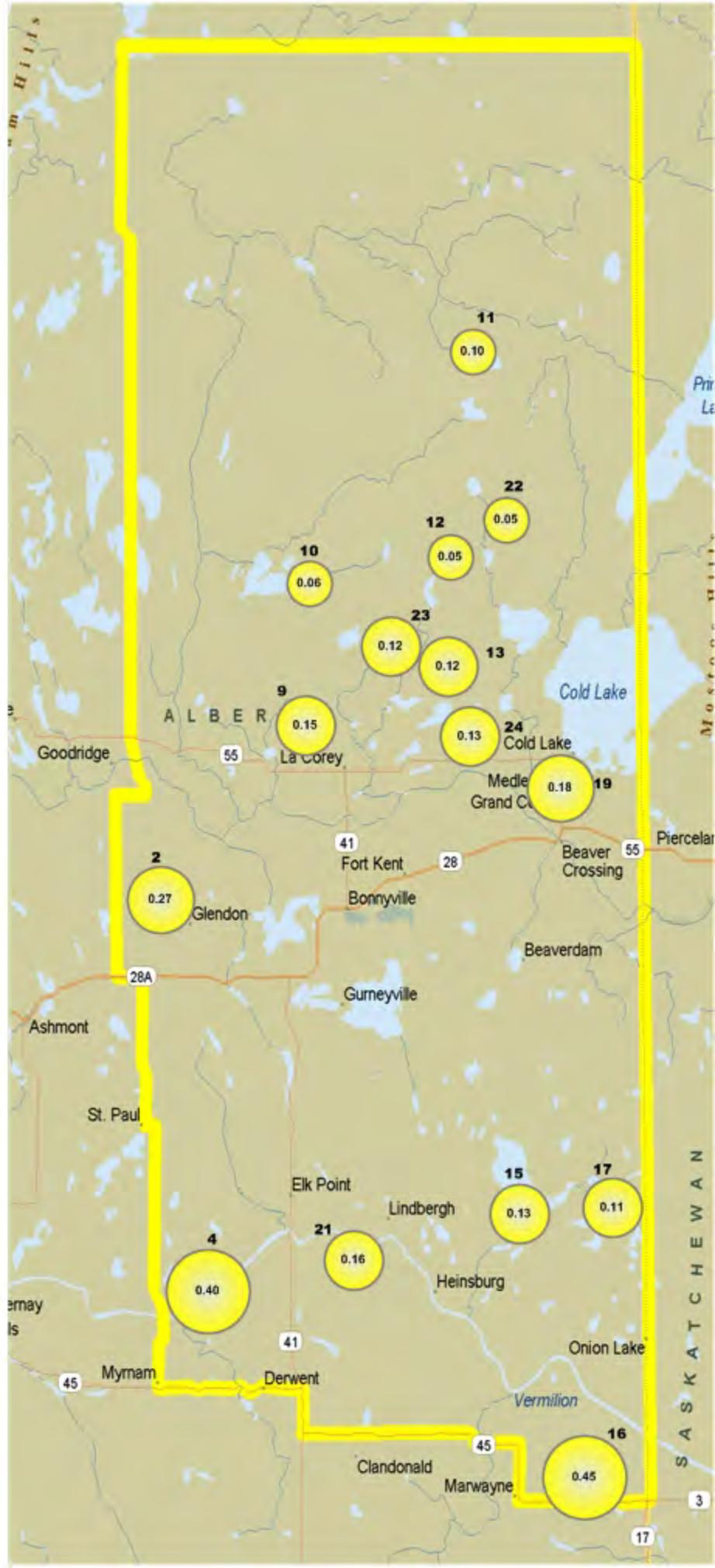
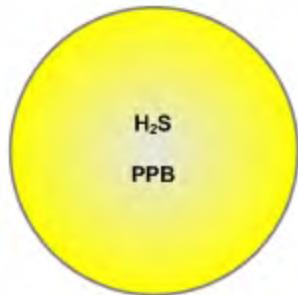
## PASSIVE BUBBLE MAP

June 2007



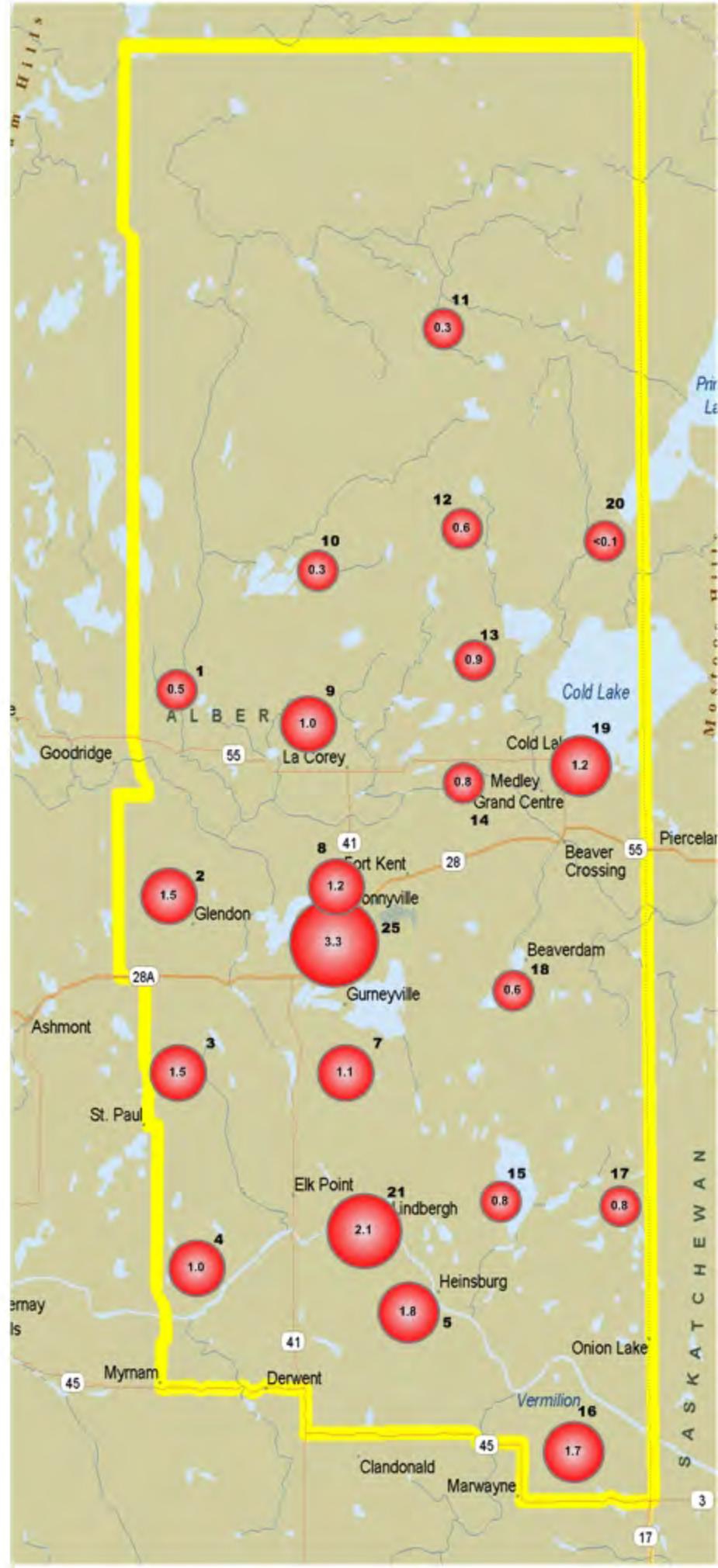
## PASSIVE BUBBLE MAP

June 2007



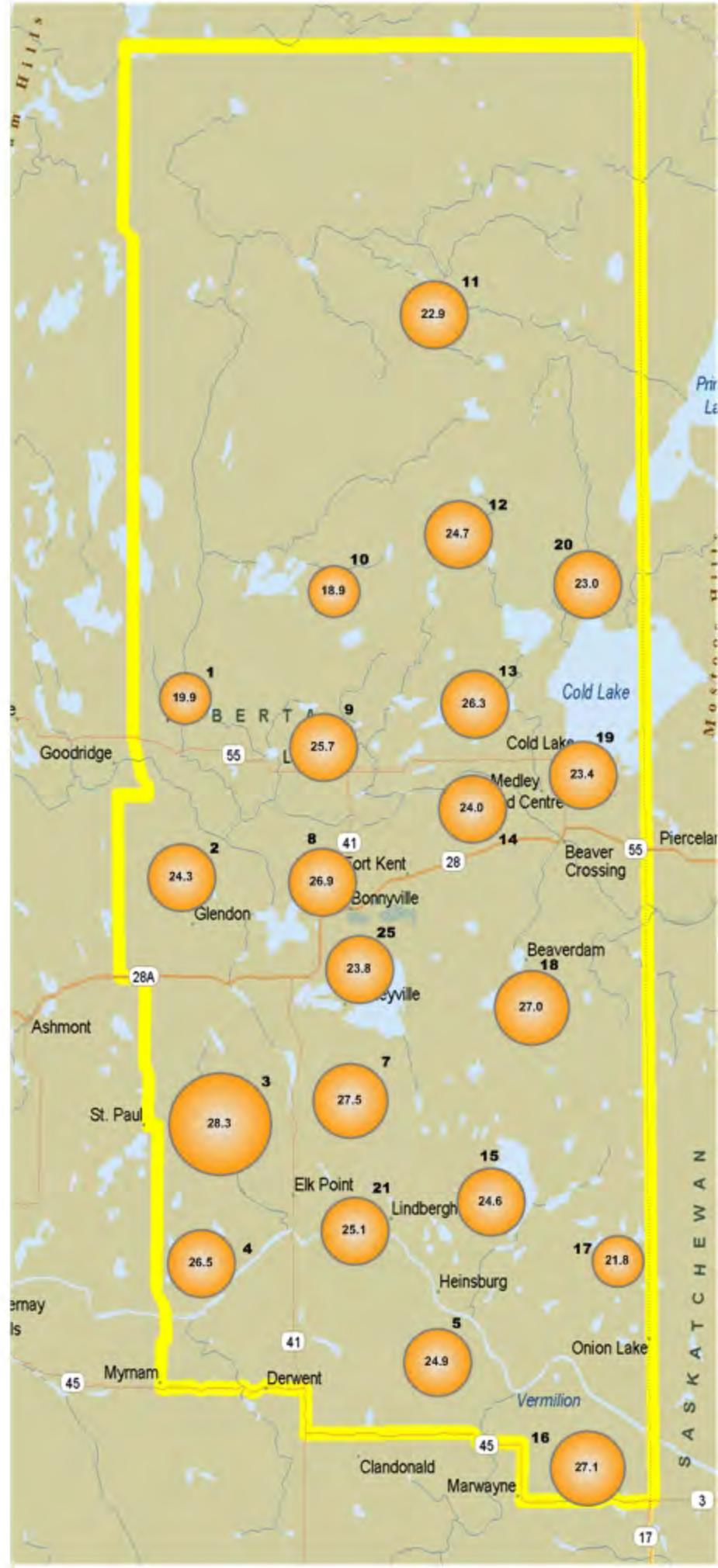
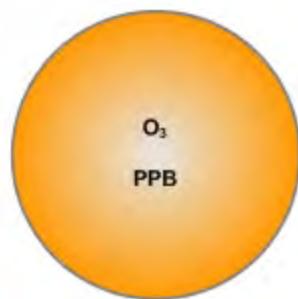
## PASSIVE BUBBLE MAP

June 2007



## PASSIVE BUBBLE MAP

June 2007



**JUNE 2007**

**LICA PASSIVE NETWORK**

**LAB ANALYSIS**

**Attention: MICHAEL BISAGA**

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

**Report Date: 2007/07/20**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: A728917**

**Received: 2007/07/03, 15:44**

Sample Matrix: Air

# Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
H2S Passive Analysis (1)	1	2007/07/20	2007/07/20		EDM SOP-0320
NO2 Passive Analysis (1)	1	2007/07/20	2007/07/20		EDM SOP-0318
O3 Passive Analysis (1)	1	2007/07/20	2007/07/20		EDM SOP-0317
SO2 Passive Analysis (1)	1	2007/07/20	2007/07/20		EDM SOP-0319

Sample Matrix: Air

# Samples Received: 25

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
H2S Passive Analysis (1)	16	2007/07/20	2007/07/20		EDM SOP-0320
NO2 Passive Analysis (1)	22	2007/07/20	2007/07/20		EDM SOP-0318
O3 Passive Analysis (1)	22	2007/07/20	2007/07/20		EDM SOP-0317
SO2 Passive Analysis (1)	25	2007/07/20	2007/07/20		EDM SOP-0319

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

**Encryption Key**

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

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

=====

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

**Attention: MICHAEL BISAGA**

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

**Report Date: 2007/07/20**

**CERTIFICATE OF ANALYSIS**

-2-

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

Total cover pages: 2

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



LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION  
Attention: MICHAEL BISAGA  
Client Project #: JUNE 2007  
P.O. #:  
Site Reference: LICA

Maxxam Job Number : PA728917  
Report Date : 2007/07/20

Sample Description	Set Number	Matrix	Date Sampled	Calculated H2S ppb	Calculated NO2 ppb	Calculated O3 ppb
1	F87404	Air	2007/05/29	N/A	0.5	19.9
2	F87405	Air	2007/05/29	0.27	1.5	24.3
3	F87406	Air	2007/05/30	N/A	1.5	28.3
4	F87407	Air	2007/05/30	0.40	1.0	26.5
5	F87408	Air	2007/05/30	N/A	1.8	24.9
7	F87409	Air	2007/05/30	N/A	1.1	27.5
8	F87410	Air	2007/05/29	N/A	1.2	26.9
9	F87411	Air	2007/05/29	0.15	1.0	25.7
10	F87412	Air	2007/05/29	0.06	0.3	18.9
11	F87413	Air	2007/05/29	0.10	0.3	22.9
12	F87414	Air	2007/05/29	0.05	0.2	23.8
13	F87415	Air	2007/05/29	0.09	0.9	27.3
14	F87417	Air	2007/05/29	N/A	0.8	24.0
15	F87418	Air	2007/05/30	0.13	0.8	24.6
16	F87419	Air	2007/05/30	0.45	1.7	27.1
17	F87420	Air	2007/05/30	0.11	0.8	21.8
18	F87421	Air	2007/05/30	N/A	0.6	27.0
19	F87422	Air	2007/05/30	0.18	1.2	23.4
20	F87423	Air	2007/05/29	N/A	<0.1	23.0
21	F87424	Air	2007/05/30	0.16	2.1	25.1
12A	F87425	Air	2007/05/29	0.04	0.9	25.6
13A	F87426	Air	2007/05/29	0.14	0.8	25.2
22	F87429	Air	2007/05/29	0.05	N/A	N/A
23	F87430	Air	2007/05/29	0.12	N/A	N/A
24	F87431	Air	2007/05/29	0.13	N/A	N/A
25	F87432	Air	2007/05/29	N/A	3.3	23.8



LAKELAND INDUSTRY AND COMMUNITY ASSOCIATION  
Attention: MICHAEL BISAGA  
Client Project #: JUNE 2007  
P.O. #:  
Site Reference: LICA

Maxxam Job Number : PA728917  
Report Date : 2007/07/20

Sample Description	Set Number	Matrix	Date Sampled	Calculated SO2 ppb
1	F87404	Air	2007/05/29	0.2
2	F87405	Air	2007/05/29	0.3
3	F87406	Air	2007/05/30	0.4
4	F87407	Air	2007/05/30	0.4
5	F87408	Air	2007/05/30	0.4
7	F87409	Air	2007/05/30	0.6
8	F87410	Air	2007/05/29	0.3
9	F87411	Air	2007/05/29	0.3
10	F87412	Air	2007/05/29	0.2
11	F87413	Air	2007/05/29	0.2
12	F87414	Air	2007/05/29	0.3
13	F87415	Air	2007/05/29	0.7
14	F87417	Air	2007/05/29	0.2
15	F87418	Air	2007/05/30	0.3
16	F87419	Air	2007/05/30	0.3
17	F87420	Air	2007/05/30	0.2
18	F87421	Air	2007/05/30	0.2
19	F87422	Air	2007/05/30	0.2
20	F87423	Air	2007/05/29	0.2
21	F87424	Air	2007/05/30	0.3
12A	F87425	Air	2007/05/29	0.3
13A	F87426	Air	2007/05/29	0.9
22	F87429	Air	2007/05/29	0.2
23	F87430	Air	2007/05/29	0.4
24	F87431	Air	2007/05/29	0.5
25	F87432	Air	2007/05/29	0.3

### Quality Assurance Report

Maxxam Job Number: PA728917

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1744578 KR	Calibration Check	Calculated H2S	2007/07/20		115	%	80 - 120
	SPIKE	Calculated H2S	2007/07/20		94	%	N/A
1744579 DF4	Calibration Check	Calculated NO2	2007/07/20		99	%	76 - 118
	SPIKE	Calculated NO2	2007/07/20		101	%	N/A
	BLANK	Calculated NO2	2007/07/20	<0.1		ppb	
1744580 LM1	Calibration Check	Calculated O3	2007/07/20		98	%	91 - 107
	SPIKE	Calculated O3	2007/07/20		99	%	N/A
	BLANK	Calculated O3	2007/07/20	0.2, RDL=0.1		ppb	
1744585 DF4	Calibration Check	Calculated SO2	2007/07/20		97	%	95 - 105
	SPIKE	Calculated SO2	2007/07/20		100	%	N/A
	BLANK	Calculated SO2	2007/07/20	<0.1		ppb	

N/A = Not Applicable

**JUNE 2007**  
**PASSIVE FIELD DATA**

**LAKELAND INDUSTRY & COMMUNITY ASSOCIATION  
PASSIVE FIELD DATA**

SAMPLER	ID	START		END		NOTES
		DATE	TIME	DATE	TIME	
SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	1	05/29/07	8:55	06/27/07	9:40	
H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	2	05/29/07	8:20	06/27/07	9:05	
SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	3	05/30/07	15:00	06/28/07	14:00	
H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	4	05/30/07	14:00	06/28/07	13:20	
SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	5	05/30/07	12:35	06/28/07	11:50	
SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	7	05/30/07	15:40	06/28/07	14:50	
SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	8	05/29/07	7:45	06/27/07	8:30	
H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	9	05/29/07	12:55	06/27/07	13:15	
H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	10	05/29/07	10:00	06/27/07	10:40	
H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	11	05/29/07	11:30	06/27/07	11:55	
H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	12	05/29/07	14:30	06/27/07	14:45	
H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	13	05/29/07	15:40	06/27/07	15:50	
SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	14	05/29/07	6:40	06/27/07	7:40	
H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	15	05/30/07	10:50	06/28/07	10:15	
H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	16	05/30/07	11:50	06/28/07	11:05	
H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	17	05/30/07	10:05	06/28/07	9:25	
SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	18	05/30/07	9:10	06/28/07	8:20	
H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	19	05/30/07	16:40	06/27/07	18:15	
SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	20	05/29/07	17:20	06/27/07	17:20	
H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	21	05/30/07	13:10	06/28/07	12:25	
H <sub>2</sub> S/SO <sub>2</sub>	22	05/29/07	14:15	06/27/07	14:30	
H <sub>2</sub> S/SO <sub>2</sub>	23	05/29/07	15:25	06/27/07	15:35	
H <sub>2</sub> S/SO <sub>2</sub>	24	05/29/07	16:15	06/27/07	16:15	
SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	25	05/29/07	7:20	06/27/07	8:10	
H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	12A	05/29/07	14:30	06/27/07	14:45	
H <sub>2</sub> S/SO <sub>2</sub> /NO <sub>2</sub> /O <sub>3</sub>	13A	05/29/07	15:40	06/27/07	15:50	